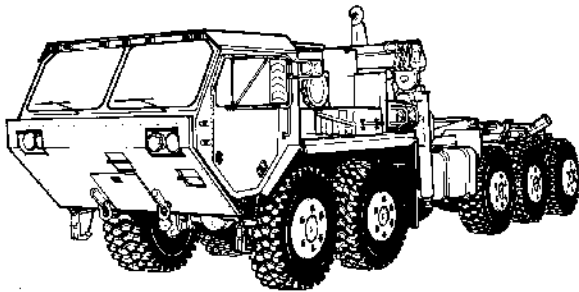


TM 9-2320-364-10

THIS MANUAL SUPERSEDES TM 9-2320-364-10 DATED 25 FEB 1994, INCLUDING ALL
CHANGES.

OPERATOR'S MANUAL



**TRUCK, TRACTOR, M1074
AND M1075 PALLETIZED
LOAD SYSTEM (PLS)
NSN 2320-01-304-2277
NSN 2320-01-304-2278**

HOW TO USE THIS MANUAL

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DISTRIBUTION RESTRICTION

Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1999

WARNING

This truck has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited IAW AR 70-1 without written approval from the Commander, U.S. Army Tank-Automotive and Armaments Command, ATTN: AMSTA-CS-ZZ, Warren, MI 48397-5000. Failure to comply could result in injury or death to personnel.

WARNING

Engine must be shut off and parking brake set before performing PMCS walkaround. Severe injury to personnel may result.

WARNING

Keep fingers clear of top of lift-hook or injury to personnel could result.

WARNING

Before performing the next step, ensure that no personnel are in front of truck. Be ready to apply the service brake. Operator must remain in cab while performing this check to prevent possible serious injury or death to other personnel.

WARNING

Ensure air pressure is between 110 to 125 psi (758 to 861 kPa) or injury to personnel may result.

WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.

WARNING

Do not remove the radiator cap when the engine is hot; steam and hot coolant can escape and burn personnel.

WARNING

The exhaust pipe and muffler are very hot during truck operation. Do not touch these parts with bare hands, or allow body to come in contact with exhaust pipe or muffler. Exhaust system parts can cause serious burns.

WARNING

Parking brake must be set before checking transmission fluid. Failure to comply may result in injury to personnel.

WARNING

Transmission fluid may be hot and can cause severe burns.

WARNING

Radiator coolant can be extremely hot and cause severe burns.

WARNING

Use extreme caution when checking radiator hoses and clamps or injury to personnel may result.

WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep fire extinguisher within easy reach when working with fuel. Do not work on fuel system when engine is hot. Fuel can be ignited by hot engine.

WARNING

Lead-acid battery gases can explode. Do not smoke, have open flames, or make sparks around a battery, especially if caps are off. If a battery is gassing, it can explode and cause injury to personnel.

WARNING

Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits a direct short may result. Damage to equipment, injury or death to personnel may occur.

WARNING

Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.

WARNING

Keep hands and feet away from outrigger jacks while operating lever to avoid injury.

WARNING

Always use outrigger jack control valve on the same side of the truck as the outrigger jack being extended into outrigger pad or serious injury or death may result.

WARNING

Care must be taken when disconnecting HOIST load hook from hook block tiedown. A swinging hook block can cause serious injury or death to personnel.

WARNING

Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.

WARNING

Load hook must not extend beyond attaching point of load. When lifting load, boom will deflect slightly and load radius will increase depending on length of boom and weight of load. Boom deflection may cause load to swing out and cause injury or death to personnel and/or damage to equipment.

WARNING

Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.

WARNING

Wire rope can become frayed or contain broken wires. Wear heavy leather-palmed work gloves when handling wire rope. Frayed or broken wires can injure hands.

WARNING

Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through glove and cut hand.

WARNING

Ensure REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch is in OFF position and switch guard is closed before connecting REMOTE CONTROL UNIT. Crane moving out of control could cause serious injury or death.

WARNING

If electrical power fails during crane operation, move switch on remote control unit to SHUTDOWN position. Serious injury could result from uncontrolled moving parts.

WARNING

Always use seat belts when operating truck. Failure to use seat belt can result in serious injury in case of accident.

WARNING

When operating truck at speeds of 55 mph (89 km/hr) with windows down, or when operating crane, hearing protection must be worn or hearing loss may result.

WARNING

Ensure that all personnel are clear of truck before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start engine. Failure to do so could result in serious injury or death to personnel.

WARNING

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slick surfaces can cause truck to skid and cause injury or death to personnel.

WARNING

If EMERGENCY STEER light illuminates when driving, immediately pull truck over to side of road and stop, serious injury or death could result.

WARNING

Driver has limited vision to rear. Ground guide is required when driving truck in reverse to prevent possible injury.

WARNING

Do not park truck on steep grades. Serious injury to personnel could result.

WARNING

Do not touch exhaust section of arctic heater with bare hands; injury to personnel will result.

WARNING

Do not touch hot exhaust system with bare hands; injury to personnel will result.

WARNING

- If NBC exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal procedures.
- Protective mask and filter unit will not protect against carbon monoxide.

WARNING**CARBON MONOXIDE (EXHAUST GAS) CAN KILL YOU**

Carbon monoxide is a colorless, odorless, DEADLY POISONOUS gas and when breathed deprives body of oxygen and causes SUFFOCATION. Breathing air with carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Permanent BRAIN DAMAGE or DEATH can result from severe exposure.

The following precautions **MUST** be followed to ensure personnel are safe whenever arctic heater or engine is operated for any purpose. Injury to personnel may result.

- **DO NOT** operate arctic heater or engine of truck in enclosed area without adequate ventilation.
- **DO NOT** drive any truck with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.
- **NEVER** sleep in a truck when the heater is operating or the engine is idling.
- **BE ALERT** at all times during truck operation for exhaust symptoms. If either are present, **IMMEDIATELY EVACUATE AND VENTILATE** the area. Affected personnel treatment shall be: expose to fresh air; keep warm; **DO NOT PERMIT PHYSICAL EXERCISE**; if necessary, give artificial respiration as described in FM 21-11 and get medical attention.
- **BE AWARE**; neither the gas particulate filter unit nor field protection mask for nuclear-biological-chemical protection will protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS GOOD VENTILATION

WARNING

Spring clip on filter assembly air intake must be pulled so intake holes are open for gas particulate filter system to work. Failure to pull out clip may result in death to personnel.

WARNING

Under arctic conditions, danger of frostbite exists. Mask can be put on, but air duct hose socket should not be connected to mask canister until M-3 heater has been on for 15 minutes. Failure to follow proper procedures may cause serious injury to personnel.

WARNING

Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.

WARNING

Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

WARNING

When loading or unloading flatracks on uneven ground (side slope or downgrades up to ten degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

WARNING

Ensure that flatrack runners contact LHS rear rollers correctly. Failure to contact flatrack runners correctly could result in serious injury or death to personnel and damage to equipment.

WARNING

Never drive with NO TRANS light illuminated. An illuminated lights means LHS is not fully stowed. The load could break loose causing serious injury or death to personnel.

WARNING

Trailer wheels must be chocked during transfer operations or serious injury or death could result.

WARNING

When operating PLS truck with PLS trailer, the heaviest loaded flatrack must always be placed on the truck, otherwise adverse handling and/or braking may result, causing injury to personnel or death.

WARNING

Ensure trailer air system is charged before beginning transfer, or flatrack locks may not properly engage. Serious injury or death could result to personnel.

WARNING

Ensure trailer air system is pressurized before beginning transfer, or flatrack locks may not properly disengage. Serious injury or death could result to personnel and damage to equipment may result.

WARNING

Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

WARNING

Use caution when handling outrigger pads. Sharp edges can injure hands.

WARNING

Keep hands and feet away from outrigger jack cylinders and outrigger pads while operating outrigger jack levers to avoid injury to personnel.

WARNING

Outrigger jack cylinders must be extended to remove enough weight from the suspension so that the tires do not bulge, or truck could roll over, causing serious injury or death.

WARNING

Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.

WARNING

Operator must keep control of load at all times. If necessary, attach cargo tiedowns to load for use as a control tether. Load moving out of control could cause serious injury or death.

WARNING

When operating two control levers at the same time, if one function is held wide open and “dead-headed” (i.e. cylinder is fully extended) and another function is operated, the second function can operate at a greater than normal speed, which could cause loss of control and serious injury or death to personnel.

WARNING

Ensure there are at least two wraps of cable on hoist drum at all times. Serious injury or death could result if cable comes off hoist drum while lifting load.

WARNING

Shut off and remove REMOTE CONTROL UNIT from around neck and shoulders prior to climbing on truck, flatrack or load or serious injury or death to personnel may result.

WARNING

Operator should use REMOTE CONTROL UNIT if the load or boom will pass overhead. Load or boom could fall, causing serious injury or death.

WARNING

Always wear heavy gloves when handling cables. Never let cable run through hands; frayed cables can cut. Never operate winch with less than five wraps of cable on winch drum. Serious injury or death could result if cable comes off drum while winching.

WARNING

Avoid quick, jerking winch operation. Keep other personnel well away from truck involved in winching operation. A snapped cable or shifting load can cause serious injury or death.

WARNING

Do not operate winch while personnel are working on or around cable guides. Severe injury to arms, hands, and fingers may result if cable moves while working with cable and cable guides.

WARNING

Keep all personnel clear of area near cable when tension is on cable. If winch cable breaks, it can cause severe injury or death.

WARNING

Do not use winch to reel clevis end of cable through roller guides. Clevis may catch on roller guide and cause cable or roller guide to break. Broken cables or roller guides can cause serious injury or death.

WARNING

Keep all personnel clear of winch area when winch is reeling in cable. If hands are caught in winch or cable, or if cable breaks under tension, severe injury or death could occur.

WARNING

Do not reel in cable too tightly or injury to personnel may occur if too much tension is applied to eyelet.

WARNING

Do not reel in cable too tightly. If too much tension is applied, cable or eyelet can break, or winch may be damaged. Broken cables or roller guides can cause serious injury or death.

WARNING

Do not touch extremely cold metal (below -26 degrees F [-32 degrees C]). Bare skin may freeze to cold metal and cause injury to personnel.

WARNING

Do not ford water unless depth is known. Water deeper than 4 ft. (1.2 m) may enter truck causing personnel injury or equipment damage.

WARNING

The disabled PLS truck being towed, must have no load or less load than the PLS towing truck. Failure to follow proper procedures may cause serious injury or death.

WARNING

If brakes on disabled truck must be manually released, ensure that the wheels of the disabled truck are chocked prior to manually releasing the brakes. Failure to chock wheels could cause serious injury or death to personnel.

WARNING

Wheels on disabled truck must be chocked prior to disconnecting from towing vehicle. Failure to chock wheels on disabled truck could cause serious injury or death to personnel.

WARNING

Tow bar weighs 330 lbs. (150 kg). Use suitable lifting device or assistants to lift tow bar. Failure to comply could cause serious injury or death to personnel.

WARNING

Components are extremely hot. Use caution when performing the following procedure to avoid injury.

WARNING

Do not put hands near coupler while aligning clevis and tow bar with coupler jaw. If towing vehicle moves suddenly it may cause serious injury.

WARNING

Operation at speeds over 15 mph (24 km/h) on paved road can be achieved when the operator determines that the truck being towed and the terrain allow safe operation. Under no condition can speeds over 35 mph (55 km/h) on paved road and 15 mph (24 km/h) off-road be allowed. Loss of control can cause serious injury or death to personnel. Excessive speed can cause damage to truck being towed.

WARNING

Tow bar weighs 330 lbs. (150 kg). Personnel must stand clear of towbar while disconnecting. Towbar will drop to the ground as towing truck pulls forward. Failure to follow proper procedures can cause serious injury to personnel.

WARNING

Brake chamber contains a spring that is under great pressure. To prevent injury or death, never work directly behind brake chamber. Do not disassemble brake chamber.

WARNING

Chock the truck wheels with chock blocks between Axle No. 3 and 4 on both sides of the truck. Failure to chock the wheels could result in severe injury or death.

WARNING

Battery acid (electrolyte) is extremely harmful. Always wear safety goggles and rubber gloves, and do not smoke when performing maintenance on batteries. Injury will result if acid contacts skin or eyes. Wear rubber apron to prevent clothing from being damaged.

WARNING

Operating the truck with an air pressure system loss is dangerous. The truck has reduced braking capability. Operating truck with loss of air pressure may cause serious injury or death to personnel.

WARNING

Steep terrain, slippery conditions, and other hazardous driving factors must be considered before attempting to drive in an emergency situation. Failure to comply may result in injury or death to personnel.

WARNING

If air pressure gage reads approximately 45 psi (310 kPa) or less, spring brakes will be fully applied automatically causing possible loss of control. Serious injury or death may result.

WARNING

Maximum braking requires 90 psi (621 kPa) or more air pressure. If air pressure drops below 90 psi (621 kPa), braking ability will be reduced. If air pressure continues to drop air system is malfunctioning. Brake failure may result causing injury or death to personnel.

WARNING

After caging brakes, truck brakes will be inoperative possibly causing injury or death to personnel.

WARNING

Hydraulic fluid is under great pressure. Engines on both trucks must be shut off while disconnecting hydraulic lines. Failure to do so could cause serious injury or death to personnel.

WARNING

M1077 flatrack weighs 3,200 lbs. (1,453 kg). M1077A1 flatrack weighs 3,900 lbs. (1,771 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

WARNING

Lift-hook weighs 150 lbs. (68 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

WARNING

Personnel must stand clear of flatrack and lift-hook areas during manual unload procedures or injury to personnel may result.

WARNING

Brackets weigh 80 lbs. (36 kg). Use an assistant to prevent injury to personnel.

WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a system height of 17 ft. two in. (5.22 m) with ISO container. Serious injury or death to personnel could result from contact with electrical power lines.

WARNING

Radiator, radiator cap, coolant, and hoses are very hot and pressurized during truck operation. Let radiator cool before checking hoses. Failure to do so may result in serious burns to personnel.

WARNING

Hot hydraulic oil may cause serious burns.

WARNING

Driver must not exceed maximum speed for tire pressure selected or unsafe handling or tire damage may result.

WARNING

When the wire is cut and the override valve is pushed in, the crane overload safety features do not function. Make sure outrigger jacks are firmly in place or injury to personnel or equipment damage could result.

WARNING

Operator will have limited visibility of load when using the manual controls. Use a ground guide to relay signals to the operator. Boom and load moving out of control could cause serious injury or death.

WARNING

Park truck in safe area, out of traffic, where there is no danger to personnel changing tire assembly. Park truck on hard, level ground.

WARNING

Crew member should steady the tire during removal. Falling tire may cause injury to personnel.

WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death:

- Keep fuel away from open flame or any spark (ignition source).
- Keep at least a B-C fire extinguisher within easy reach when working with fuel or on a fuel system.
- Do not work on fuel system when engine is hot; fuel can be ignited by a hot engine.
- Clean fuel tank to purge any flammable liquid or vapors before welding, grinding or using any heat producing device near the fuel tank.
- When refueling, stop truck, shut down engine, and apply parking brake. Ensure no open flame in near area. Never smoke. Never add fuel with engine running. Do not have driver seated when adding fuel. After fuel is added, securely close reservoir cap; a loose cap can cause a fuel leak or be a fire hazard. Before starting truck, check that no fuel is spilled on or around truck.

WARNING

Stand clear of tire when raising or lowering or injury to personnel may result.

WARNING

Do not let tire hang in midair for long period of time. Place tire on carrier or on ground as soon as possible. Tire is very heavy and could cause serious injury if it falls.

WARNING

Do not loosen or remove outer bolt circle nuts on wheel. Outer bolt circle holds wheel assembly together. Tire is under pressure and loosening these nuts can cause the tire to blow apart. Severe injury or death may occur.

WARNING

Keep hands away from the inside of the rim while removing tire or injury to personnel may result.

WARNING

Tire assembly weighs 500 lbs. (227 kg). Do not try to lift or catch tire assembly. Injury to personnel could result.

WARNING

Tire assembly is very heavy 500 lbs. (227 kg). Do not try to lift or catch tire assembly. Injury to personnel could result.

WARNING

Jack is under heavy pressure, keep hand clear while raising or lowering jack slowly to avoid injury to personnel.

WARNING

Do not lower jack too quickly as tire could fall causing serious injury or death.

WARNING

Spare tire air pressure must be checked properly or serious injury or death may result.

WARNING

Do not allow heated parts of arctic heater to contact hoses and wires of truck. Failure to comply could result in injury to personnel or damage to equipment.

WARNING

When operating crane, hearing protection must be worn or hearing loss may result.

WARNING

- Drycleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles, face shield, and gloves; use only in a well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breathe vapors. Keep away from heat or flame. Never smoke when using solvent. The flashpoint for Type II Drycleaning Solvent is 140 degrees F (60 degrees C) and Type III Drycleaning Solvent is 200 degrees F (93 degrees C). Failure to do so may result in injury or death to personnel.
- If personnel become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts skin or clothes, flush with cold water. If solvent contacts eyes, immediately flush eyes with water and get immediate medical attention.

WARNING

Ensure engine is OFF and truck parking brake is ON before preparing PLS truck for container mode. Failure to comply may result in injury or death to personnel.

WARNING

Speed limits posted on curves reflect speeds that are considered safe for automobiles. Heavy trucks with a high center of gravity can roll over at these speed limits. Use caution and reduce your speed limits. Use caution and reduce your speed below the posted limit before entering a curve. Failure to comply may result in vehicle crash and injury or death to personnel.

WARNING

Ensure fingers and hands are not between strut front and rear halves. Fingers and hands could become pinched during assembly causing injury to personnel.

WARNING

Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

t

WARNING

Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.

WARNING

Lifting frame must be unloaded on a flat level surface. Failure to comply may result in lifting frame tipping over unexpectedly causing injury or death to personnel.

WARNING

Both right and left side flipper brackets and flipper bracket lockplates must engage pivot pin on hook arm. Failure to comply will result in lifting frame falling off of hook arm and could cause injury or death to personnel.

WARNING

Hands may get pinched when installing container guide into slider. Hold container guides by outer edges of plate to avoid pinching between container guides and slider. Failure to comply may result in injury to personnel.

WARNING

Ensure lifting frame is free of snow, ice, and mud when installing on LHS. Lifting frame may be unbalanced and may cause injury or death to personnel.

WARNING

When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

WARNING

Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

WARNING

Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.

WARNING

Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

WARNING

Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.

WARNING

Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

WARNING

Ensure that all tension has been relieved between LHS hook and lifting frame prior to unlocking lifting frame lower container locks. Stay clear of lifting frame when unlocking lifting frame lower container locks as lifting frame may separate from container unexpectedly. Failure to comply may result in serious injury or death to personnel.

WARNING

Maximum permissible gross container weight is 35,000 lbs.(15,890 kg).

WARNING

Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.

WARNING

Do not stand between lifting frame and container. Truck could roll crushing personnel between them causing serious injury or death.

WARNING

Do not allow lifting frame to contact the ground when slide arm upper front hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

WARNING

Do not allow lifting frame to contact the ground when slide arm 6 foot hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

WARNING

Ensure not to hold on to front of slider when stowing. Hands and fingers may be pinched between front of slider and hard lift bracket causing injury to personnel.

WARNING

Lifting frame must be properly secured to HA pivot pin.

WARNING

Flipper bracket and flipper bracket lock plate must be properly locked to pivot pin before operating LHS to stow lifting frame. Failure to comply could cause lifting frame to become unhooked and cause injury or death to personnel.

WARNING

Before stowing lifting frame on truck, ensure paddles are rotated to engage position, bumper support rotated forward, slide arms stowed and rear container locks are stowed on lifting frame.

WARNING

Do not put hands, arms or any body parts under container when positioning chock blocks. Failure to comply may result in injury or death to personnel.

WARNING

Do not allow lifting frame to contact the ground. Failure to comply may result in the lifting frame disengaging the LHS hook arm which could result in damage to equipment and injury or death to personnel.

WARNING

Lifting frame and hook weigh 1750 lbs. (793 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

WARNING

These simplified procedures are to be used only as a guide. Full procedures for operation of the container handling unit (CHU) are to be followed as authored in (Para 2-32 through 2-43).

WARNING

Do not back up truck without ground guide. Limited vision can lead to truck damage and injury to personnel.

WARNING

The disabled truck being towed must have no load or less load than the towing truck or personal injury or death may result.

WARNING

When towed disabled truck does not have braking capability, stopping distances will increase greatly. Do not exceed 25 mph (40 km/h) on paved surfaces or injury or death may result.

x

WARNING

Extreme caution must be used when towing PLS off road. Side slopes and steep grades can cause loss of control resulting in injury or death. Under these conditions, speeds over 15 mph (24 km/h) will not be allowed. Injury or death may result. Excessive speed can cause damage to disabled truck.

WARNING

Ensure operator, objects and other personnel are clear of LHS and truck during LHS operation or serious injury or death could result to personnel.

WARNING

Keep all personnel away from rear of flatrack and chains while attempting to disengage the load locks. Chains will be under great tension and could unhook or fail, resulting in serious injury or death.

WARNING

Hold end of air hose when connecting to quick-disconnect coupling. Air hose is under pressure and can fly out at fast rate of speed causing injury to personnel.

WARNING

Before inflating or deflating, stand out of the trajectory area or personal injury or death may result.

WARNING

If the tire is underinflated or overinflated, or there is obvious or suspected damage on the tire or wheel components, the tire must be completely deflated by removing the valve core from the valve stem or personal injury or death may result.

WARNING

Lift-hook weighs 150 lbs. (68 kg). Attach suitable lifting device prior to removal or installation to prevent possible injury to personnel.

WARNING

Park truck, set parking brake, stop engine and chock tires before doing Step 3 or serious injury or death to personnel could result.

WARNING

Tire air pressure must be checked properly or serious injury or death may result.

WARNING

Stand clear of tire when raising or lowering.

WARNING

Ladder is only intended for use on the PLS. The two hooks on the ladder must be installed in the holes located on top of the fender prior to use. Using the ladder for other applications could result in serious injury to personnel.

WARNING

Ensure that ladder is clean and free of debris or personnel may slip and cause injury.

WARNING

Keep hands and fingers clear of ladder rungs and sides when placing ladder in the stowed position or injury to personnel may result.

WARNING

Use only impact sockets and impact extensions with air wrench. Failure to comply could result in injury to personnel and damage to equipment. Safety goggles must be worn when operating air wrench.

WARNING

Components are extremely hot. Use caution when performing the following procedure to avoid injury.

Z

LIST OF EFFECTIVE PAGES

Insert latest changed pages. Destroy superseded pages.

NOTE

The portion of the text effected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by a shadowed or screened areas, or by miniature pointing hands.

Dates of issue for original and changed pages are:

Original .. 0 ... 25 February 1994 Revision 1 0 1 August 1999

TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 1102 CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Title	0	F-4 Blank	0		
Blank	0	G-1 - G-31	0		
a - z	0	G-32 Blank	0		
A	0	INDEX-1 -			
B Blank	0	INDEX-8	0		
i - iii	0				
iv Blank	0				
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A-1 - A-2	0				
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B-16 Blank	0				
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E-10 Blank	0				
F-1 - F-3	0				

* Zero In This Column Indicates An Original Page.

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TRUCK, TRACTOR, M1074 and M1075 PALLETIZED LOADING SYSTEM (PLS) (NSN 2320-01-304-2277) (NSN 2320-01-304-2278)

Current as of 01 August 1999

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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* This manual supersedes TM 9-2320-364-10, 25 February 1994.

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HOW TO USE THIS MANUAL

This manual is designed to help operate and maintain the Model M1074 and M1075 Tractor Truck, NSN 2320-01-304-2277 and 2320-01-304-2278. Listed below are some of the features included in this manual to help locate and use the needed information:

- A front cover Table of Contents is provided for quick reference to chapters and sections that will be used often.
- Warning, caution and note headings, subject headings and other essential information are printed in bold type making them easier to see.
- In addition to text, there are exploded-view illustrations showing how to take a component off and put it back on. Cleaning and inspection criteria are also included where necessary.
- Chapter 1 of this manual describes the PLS and provides equipment data.
- Chapter 2 of this manual covers Operator's Controls and Indicators, Preventive Maintenance and Operating Instructions.
- Chapter 3 of this manual covers instructions for Troubleshooting and Unscheduled Maintenance.
- Appendix A covers the References used in this manual.
- Appendix B covers the Components of End Item (COEI) and Basic Issue Items (BII) Lists.
- Appendix C covers the Additional Authorized List (AAL) of items authorized for the PLS.
- Appendix D covers the Expendable and Durable Items List for the PLS.
- Appendix E covers the stowage and sign guide for the PLS.
- Appendix F covers the On-Truck equipment loading plan for the PLS.
- Appendix G covers the Operator's Lubrication requirements for the PLS.
- An Alphabetical Index is provided to help locate items in the text.

Follow these guidelines when using this manual:

- The operator must read through this manual and become familiar with the contents before attempting to operate the PLS.
- Read all WARNINGS and CAUTIONS before performing any procedure.

CHAPTER 1

INTRODUCTION

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Section I. GENERAL INFORMATION

1-1. SCOPE.

This manual is provided to maximize use of the Palletized Load System (PLS) by presenting operation and operator performed maintenance instructions. Read these instructions thoroughly before operating the truck. This manual is used for operation of the Palletized Load System M1074 and M1075 series, hereafter called the truck, and associated equipment. M1074 series trucks are similar to M1075 except for the addition of a Material Handling Crane (MHC), and Self-Recovery Winch (SRW) Kit. Models are listed on page 1-2.

1-1. SCOPE (CONT).

MODEL	DESCRIPTION
M1074	Cargo truck equipped with a Load Handling System (LHS) capable of self-loading and unloading. The truck is also equipped with a Material Handling Crane (MHC). See Figure 1-1.
M1075	Cargo truck equipped with a Load Handling System (LHS) capable of self-loading and unloading. See Figure 1-2.
M1076	Palletized Load System Trailer (PLST) is designed specifically for Palletized Load System. The trailer can be loaded directly from the truck using the Load Handling System (LHS) and Flatrack M1077. See Figure 1-3.
M1077	The flatrack is designed specifically for use with the Palletized Load System (PLS). The flatrack is used as a movable cargo bed for the truck and Palletized Load System Trailer (PLST). See Figure 1-4.

1-2. MAINTENANCE FORMS AND RECORDS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS) (Maintenance Management UPDATE).

1-3. CORROSION PREVENTION AND CONTROL (CPC).

The PLS has a total service life of ten years which allows for extended periods of operation in a corrosive environment. A corrosive environment includes exposure to high humidity, salt spray, road-deicing chemicals, gravel, and atmospheric contamination. No action beyond normal washing and repair of damaged areas is necessary to control corrosion. To prevent moisture accumulation, drain holes are provided on structural and sheet metal areas where necessary. Stowage boxes are provided with seals and baffled drains.

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

Refer to TM 750-244-6, Procedures for Destruction of Tank Automotive Equipment to Prevent Enemy Use.

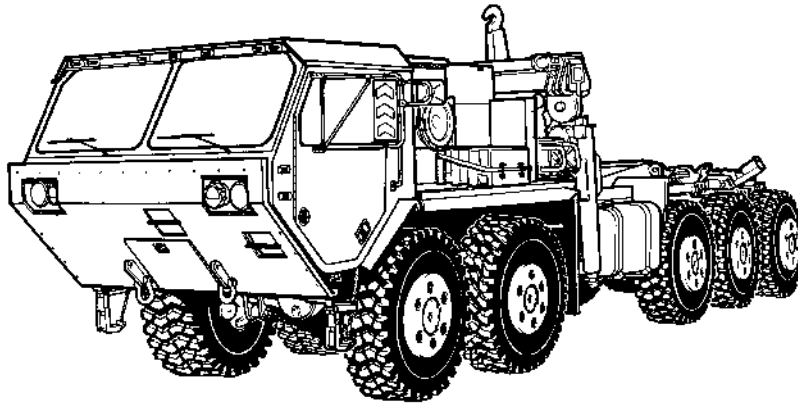
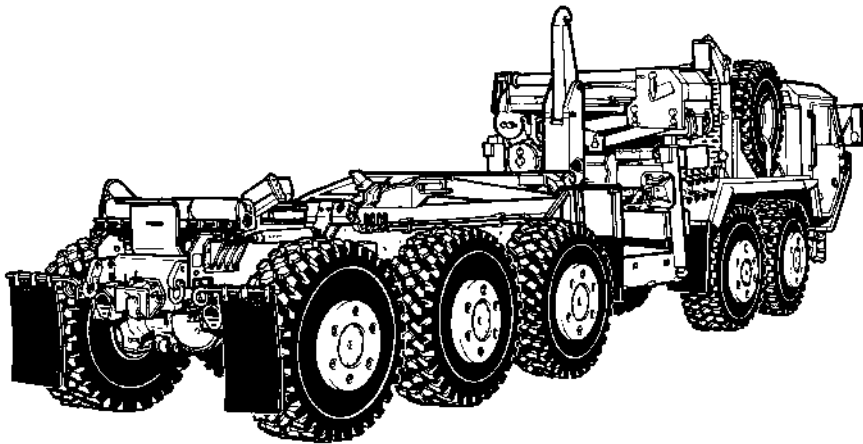
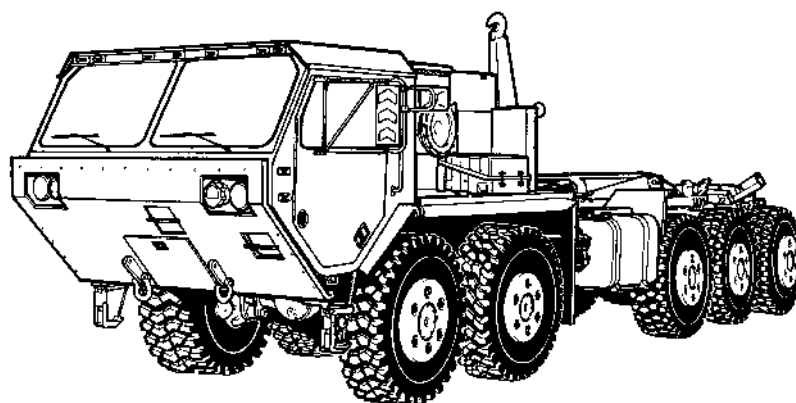
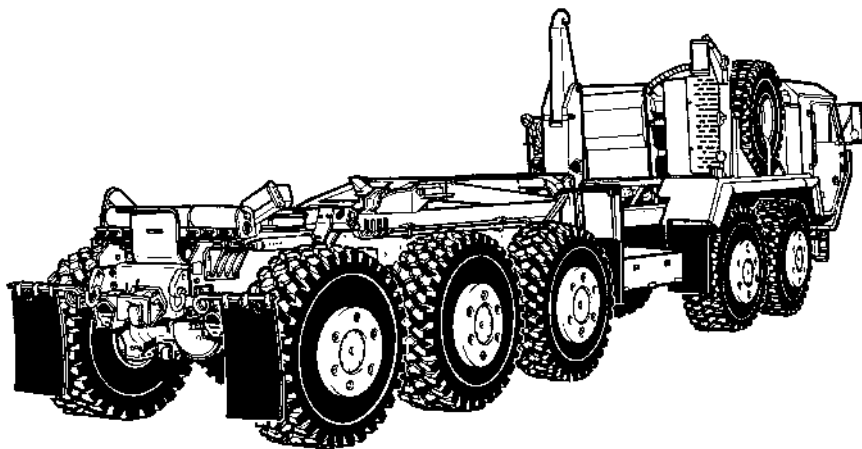


Figure 1-1. M1074 Palletized Load System Truck (With Crane)



**Figure 1-2. M1075 Palletized Load System Truck (Without Crane)
(Without Container Handling Unit)**

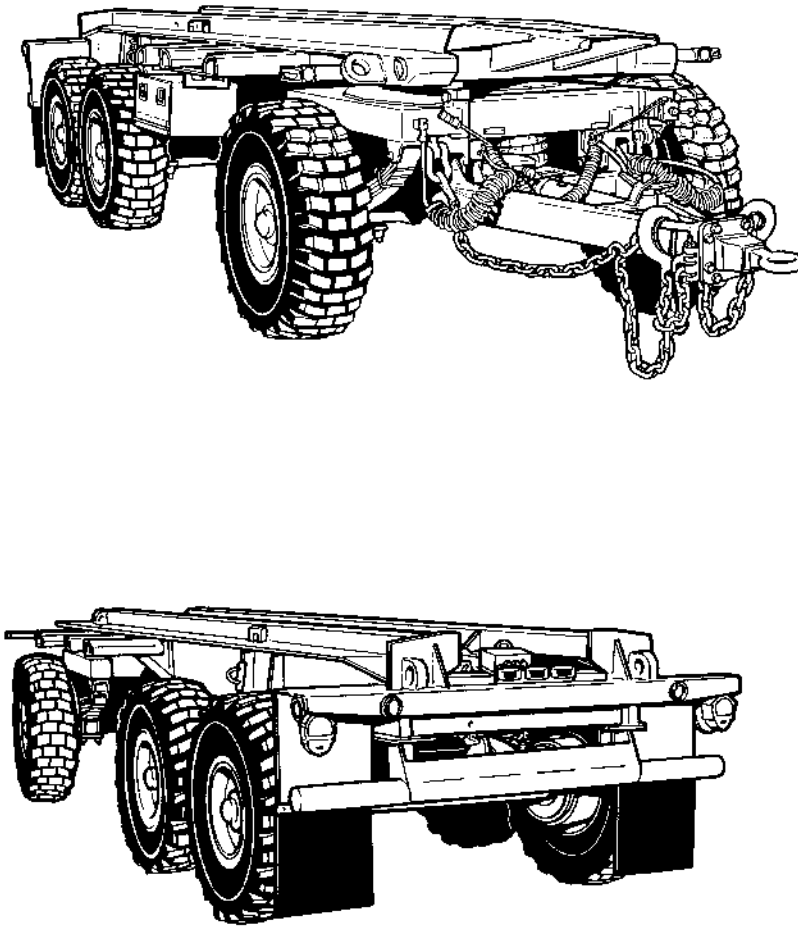


Figure 1-3. M1076 Palletized Load System Trailer (PLST)

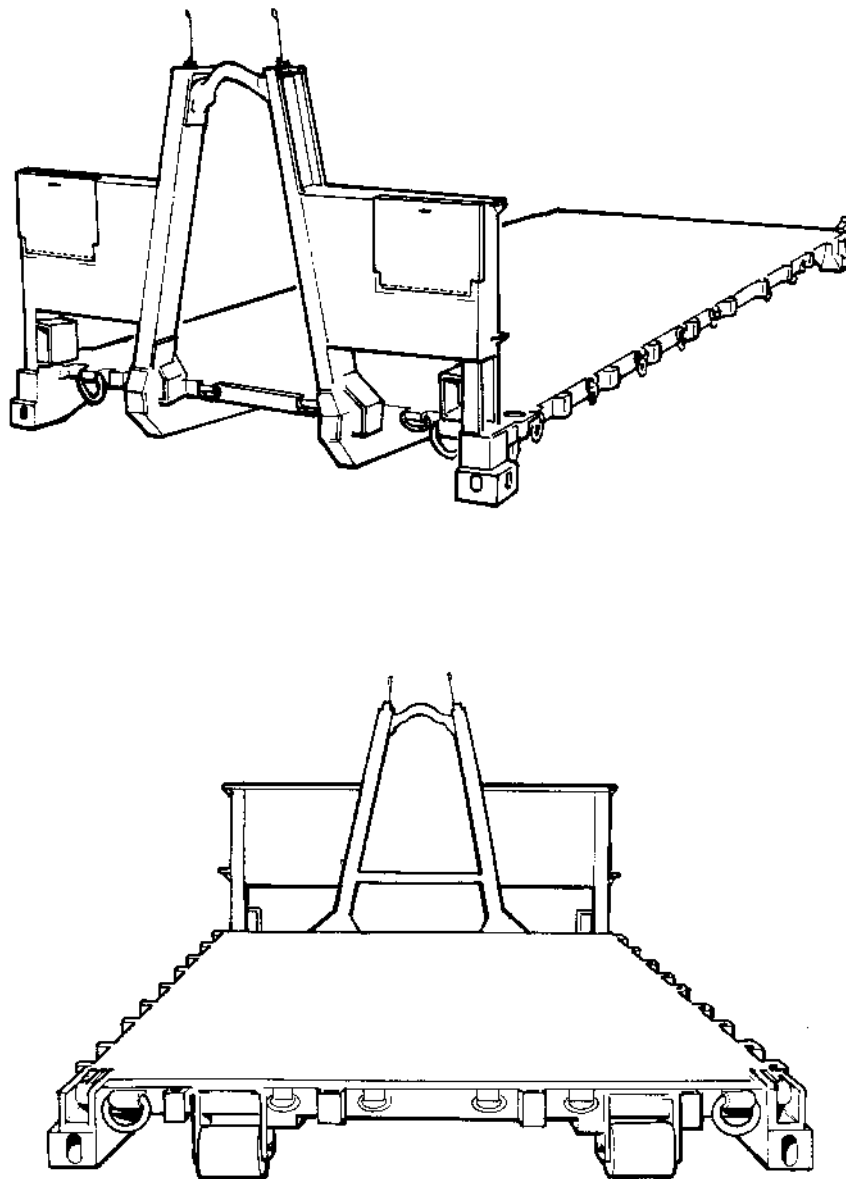


Figure 1-4. M1077 Flatrack

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your Palletized Load System needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on a SF 368 (Product Quality Deficiency Report). Mail it to us at: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E-MPA, Warren, MI 48397-5000. We'll send you a reply.

1-6. WARRANTY INFORMATION.

The PLS is warranted by Oshkosh Truck Corporation for 12 months. For complete information covering this warranty refer to TB 9-2320-364-15, Warranty Procedures for Truck, Tractor, M1074 and M1075, Palletized Load System (PLS) NSN 2320-01-304-2277 and 2320-01-304-2278.

1-7. NOMENCLATURE CROSS-REFERENCE LIST.

This listing includes nomenclature cross-reference list and a list of abbreviations used in this manual.

a. Nomenclature Cross-Reference List

Common Name	Official Nomenclature
Engine Coolant	- Antifreeze, ethylene glycol mixture
Cold Start System	- Ether quick start system
Cable	- Wire rope
Glad Hand	- Quick disconnect air coupling
Throttle Pedal	- Throttle control
Service Brake Pedal	- Brake pedal
Jake Brake	- Engine brake

1-8. LIST OF ABBREVIATIONS.

AAL	.....	Additional Authorization List
amp	.....	Amperes
AOAP	.....	Army Oil Analysis Program
ATEC	.....	Allison Transmission Electronic Control
BII	.....	Basic Issue Item
C	.....	Centigrade

1-8. LIST OF ABBREVIATIONS (CONT).

CBR	Chemical, Biological, Radiological
CCA	Cold Cranking Amps
CCW	Counterclockwise
CHU	Container Handling Unit
CID	Cubic Inch Displacement
CKT	Circuit
cm	Centimeter
COEI	Components of End Item
CTA	Common Table of Allowance
CTIS	Central Tire Inflation System
cu in.	Cubic Inch
CW	Clockwise
DA	Department of the Army
DDC	Detroit Diesel Corporation
DDEC II	Detroit Diesel Electronic Control II
DDEC III	Detroit Diesel Electronic Control III
ECU	Electronic Control Unit
EIR	Equipment Improvement Recommendation
F	Fahrenheit
FR	Flatrack
ft.	Foot
GAWR	Gross Axle Weight Rating
GCWR	Gross Combination Weight Rating
GFM	Government Furnished Material
GPFU	Gas Particulate Filter Unit
GPM	Gallons per Minute
GVW	Gross Truck Weight
Hcg	Horizontal Location of Center of Gravity
HD	Heavy Duty
hp	Horsepower
in.	Inch
ISO	International Standards Organization
LHS	Load Handling System
JTA	Joint Tables of Allowances
kg	Kilogram
km/h	Kilometer Per Hour
kPa	Kilopascal
kw	Kilowatt
L	Liter
lb-ft.	Pound-Foot
lb-in.	Pound-Inch
lb.	Pound
m	Meter
MHC	Material Handling Crane

ml	.....	Mile
ml/rev	.....	Milliliter per Revolution
mm	.....	Millimeter
mph	.....	Miles Per Hour
NBC	.....	Nuclear, Biological, Chemical
OTC	.....	Oshkosh Truck Corporation
PLS	.....	Palletized Load System
PLST	.....	Palletized Load System Trailer
PMCS	.....	Preventive Maintenance Checks and Services
psi	.....	Pound-Force Per Square Inch
pt.	.....	Pint
PTO	.....	Power Takeoff
RFI	.....	Radio-Frequency Interference
rpm	.....	Revolutions Per Minute
SAE	.....	Society of Automotive Engineers
SRW	.....	Self-Recovery Winch
STE/ICE	.....	Simplified Test Equipment/Internal Combustion Engine
STD	.....	Standard
TAMMS	.....	The Army Maintenance Management System
TDA	.....	Tables of Distribution and Allowance
TM	.....	Technical Manual
Vcg	.....	Vertical Location of Center of Gravity
vdc	.....	Volts Direct Current
XHD	.....	Extra Heavy-Duty

Section II. EQUIPMENT DESCRIPTION

1-9. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES.

a. Characteristics. The PLS is an ammunition-hauling tactical wheeled truck and trailer combination with integral self-load/unload capability using PLS Flatrack (FR). There are two PLS configurations both with duplicate payload capacity and towing capability. One design incorporates a Material Handling Crane (MHC) (Figure 1-1). The other design does not have a MHC (Figure 1-2). Both trucks may have an accompanying towed PLS Trailer (PLST) (Figure 1-3). Major subsystems of truck are: cab, engine, transmission, drive train, suspension, electrical system, hydraulic system, pneumatic system, MHC, Load Handling System (LHS) and Central Tire Inflation System (CTIS).

1-9. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES (CONT).

b. Capabilities.

(1) All models are capable of operating in temperatures from –25 to 120 degrees F (–32 to 49 degrees C) and to –50 degrees F (–46 degrees C) with the arctic kit installed.

(2) All models can ford water up to 48 in. (1219 mm) deep for five minutes without damage or requiring maintenance before operation can continue.

(3) Normal operating range for truck is 225 miles (362 km) based on 100 gallons (379 L) of fuel and 137,250 lb GCWR, traveling over mixed terrain. Varying loads, prolonged idle, use of the MHC, use of the LHS, off-road driving and climatic conditions affect operating range.

(4) All models are provided with sufficient tiedown points located so that the truck can be restrained in all directions during air transport. All models are capable of transport by highway, rail and sea.

c. Features.

(1) Eight cylinder, V-type, two cycle, fuel injected, electronically controlled, turbocharged diesel engine.

(2) Push button automatic transmission with one reverse speed and five forward speeds.

(3) High/low range transfer case.

(4) CTIS with four preset tire air pressures for positive traction in areas of unimproved road surfaces.

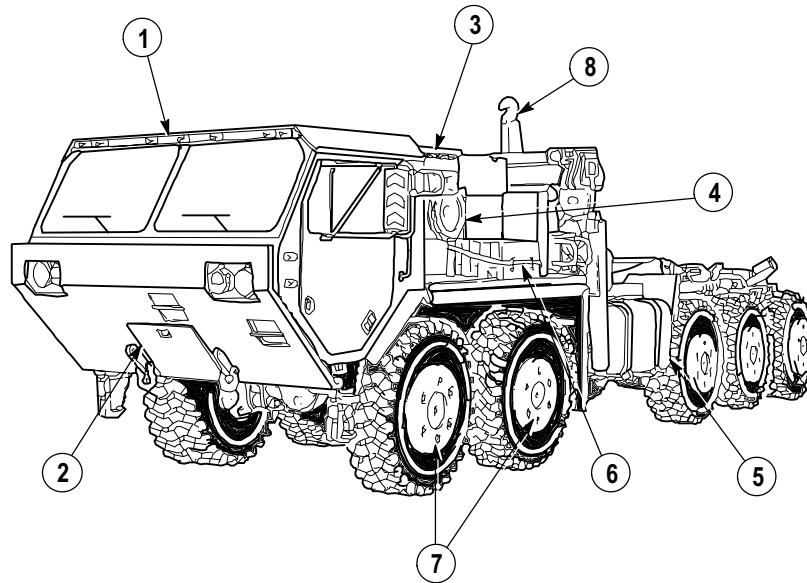
(5) Power steering system consists of basic steering system with a hydraulic boost. An emergency hydraulic steering pump is provided in case of primary system failure.

(6) Fuel system includes one main fuel tank, auxiliary fuel tank (if equipped), fuel lines, electric priming fuel pump, fuel water separator, fuel pump, secondary fuel filter and fuel injectors.

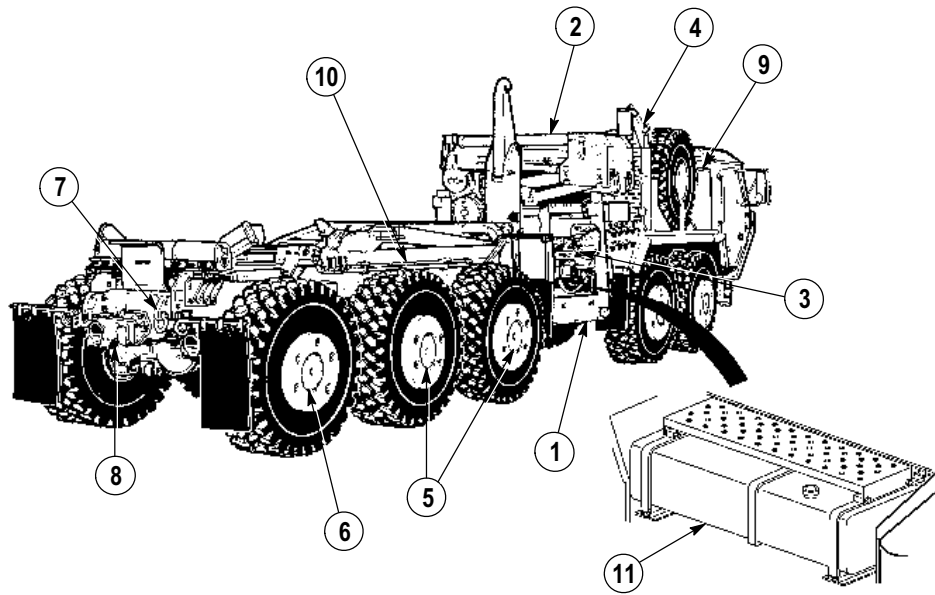
- (7) Two front and two rear towing eyes.
- (8) Manual-release-type rear self-guided coupler allows towing of trailer.
- (9) Radio frequency interference suppression to permit voice radio communications during all phases of operation.
- (10) SRW kit (optional) aides in truck self-recovery.
- (11) LHS enables a single operator to load a flatrack to a truck and or a trailer.
- (12) MHC enables a single operator to load/unload the flatrack on or off the truck. A remote control is provided for ease of use.
- (13) The sideboard kit and tiedowns on the flatrack allow the truck to carry bulk loads.
- (14) Multiple warning lights, gages and buzzers protect the systems from damage by warning the operator about unsafe operating conditions.
- (15) Cab mounted circuit breakers protect electrical system from damage and can be reset from cab.
- (16) In the event of hydraulic failure the PLS hydraulic system may be operated by connecting it to another PLS hydraulic system.
- (17) MHC and LHS have backup systems in the event of hydraulic or electrical system failure.
- (18) Each truck is fitted for a Gas Particulate Filter Unit (GPFU) that would mount in the cab.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

Major components and accessories found on PLS are illustrated and described below.



1. **PERSONNEL CAB.** Provides protection from weather for crew and truck controls, gages and indicators.
2. **FRONT ACCESS COVER.** Provides access to hydraulic pumps, arctic heater and air reservoir.
3. **ENGINE COMPARTMENT.** Engine supplies power to move truck and operate equipment and accessories.
4. **AIR CLEANER.** Filters out dust and debris from air entering air induction system.
5. **MAIN FUEL TANK.** Stores fuel used to operate engine. Receives excess fuel not used by engine's fuel injection system.
6. **BATTERY BOX.** Houses and protects four storage batteries.
7. **AXLES NO. 1 AND 2.** Controls direction of truck when in motion. Transmits power to hubs to turn wheels.
8. **LOAD HANDLING SYSTEM (LHS).** Loads/unloads flatrack on truck and Palletized Load System Trailer (PLST).



1. **STOWAGE BOXES.** Used to stow Basic Issue Items (BII).
2. **MATERIAL HANDLING CRANE (MHC).** If equipped; used to load and unload cargo.
3. **SELF-RECOVERY WINCH (SRW).** If equipped; used to pull truck out of mired conditions.
4. **SPARE TIRE DAVIT.** Used to raise/lower spare tire to ground.
5. **AXLES NO. 3 AND 4.** Transmits power to hubs to turn wheels.
6. **AXLE NO. 5.** Controls direction of truck when in motion. Transmits power to hubs to turn wheels.
7. **TOWING EYES.** Attachment points for safety chains, towing shackles and towing.
8. **GLADHANDS.** Couples air supply to trailer.
9. **HYDRAULIC RESERVOIR.** Stores, cools and filters oil in hydraulic systems.
10. **ACCESS LADDER.** Used by crew to check oil or perform other tasks requiring access to parts of truck out of normal reach.
11. **AUXILIARY FUEL TANK.** If equipped; stores additional fuel to increase truck's operational range.

1-11. EQUIPMENT DATA.

Refer to the following tables for specific equipment data.

Table 1-1. Dimensions

Item	Specification
Width	96 in. (243.8 cm)
Height (maximum hook height)	129 in. (327.7 cm)
(with ISO container)	174 in. (442 cm)
Curb Weight	
M1075 w/o Material Handling Crane and w/ Self-Recovery Winch	50,000 lb. (22,700 kg)
M1074 w/ Material Handling Crane and Self-Recovery Winch	55,000 lb. (24,970 kg)
Gross Truck Weight	88,000 lb. (39,952 kg)
Gross Combination Weight	137,520 lb. (62,434 kg)
Length	
w/o Flatrack	35 ft. (10.7 m)
w/ Flatrack	36 ft. (11 m)
w/ Flatrack and ISO container	36 ft. 8 in. (11.2 m)
Wheelbase	224 in. (568.9 cm)
Ground Clearance	24 in. (61 cm)
Center of Gravity	See shipping data plate on left rear outside of cab
w/ Self-Recovery Winch	Hcg 100 in. (254 cm) Vcg 46.0 in. (117 cm)
w/ Material Handling Crane and Self-Recovery Winch	Hcg 97 in. (246 cm) Vcg 48.0 in. (122 cm)
w/ Container Handling Unit	Hcg 103 in. (262 cm) Vcg 48 in. (122 cm)
Container Handling Unit Stowed	Hcg 102 in. (259 cm) Vcg 48 in. (122 cm)

SHIPPING DATA			
CURB			
GVW			
MODEL: M1075		CURB WT LBS	GVWR LBS
FRONT AXLES:		HEIGHT:	129 IN
REAR AXLES:		WIDTH:	96 IN
		LENGTH:	36 FT
NOTE: USE SHACKLES SUPPLIED ON VEHICLE AT LIFT POINTS.			

Figure 1-5. Center of Gravity

Table 1-2. Weight Distribution

Item	M1075 w/o Crane w/ Self-Recovery Winch	M1074 w/ Crane and Self-Recovery Winch	TBD W/ Container Handling Unit and Self-Recovery Winch
Front Tandem Axles - Curb	26,670 lb. (12,108 kg)	30,200 lb. (13,711 kg)	27,560 lb (12,512 Kg)
Front Tandem Axles - Loaded	28,560 lb. (12,966 kg)	32,110 lb. (14,578 kg)	32,320 lb (14,673 kg)
Rear Tridem Axles - Curb	23,330 lb. (10,592 kg)	24,800 lb. (11,259 kg)	25,440 lb (11,550 kg)
Rear Tridem Axles - Loaded	54,440 lb. (24,716 kg)	55,890 lb. (25,374 kg)	55,680 lb (25,279 kg)

1-11. EQUIPMENT DATA (CONT).**Table 1-3. Performance**

Item	Specification
Cruising range at GCWR with auxiliary fuel tank	225 ml (362 km) 400 ml (644 km)
Maximum sustained forward speed (at 2100 rpm)	
5th Gear	55 mph (88 km/h)
4th Gear	39 mph (63 km/h)
3rd Gear	27 mph (43 km/h)
2nd Gear	17 mph (27 km/h)
1st Gear	10 mph (16 km/h)
Speed on 2 percent grade at GCWR	35 mph (56 km/h)
GVW	50 mph (80 km/h)
Speed on 30 percent grade at GCWR	3 mph (5 km/h)
GVW	4 mph (6 km/h)
Maximum grade at GCWR	30 percent
GVW	50 percent
Maximum side slope with adequate traction surface	30 percent
Maximum towed speed (level tow) (for up to 100 miles on level, paved road)	35 mph (56 km/h)
Approach angle	40 degrees
Departure angle	60 degrees

Table 1-4. Load Classification Chart

Truck Condition	M1075	M1074
Unloaded truck	22	25
w/ unloaded M1076 trailer	28	30
Loaded truck	39	41
w/ loaded M1076 trailer	62	66
w/ unloaded M1076 trailer	43	46

Table 1-5. Capacities

Item	Specification
Engine Oil w/ Filter	32 qt. (30 L)
Cooling System	100 qt. (95 L)
Transmission w/ Filter	39.5 qt. (37.4 L)
Front Tandem Axle No. 1 Carrier	33 pt. (16 L)
Axle No. 2 Carrier	36 pt. (17 L)
Rear Tridem Axle No. 3 Carrier	41 pt. (19 L)
Axle No. 4 Carrier	40 pt. (19 L)
Axle No. 5 Carrier	32 pt. (15 L)
Wheel Ends	3.0 pt. (1.4 L)
Hydraulic Reservoir w/ Filters	234 qt. (221 L)
Power Steering Reservoir	34 qt. (32 L)
Fuel Tank (Main)	100 gal. (379 L)
Fuel Tank (Auxiliary)	85 gal. (322 L)
Transfer Case	10.5 qt. (9.9 L)
Radiator	96 qt. (91 L)
Windshield Wiper Fluid	3 qt. (2.8 L)
On and Off Road w/ Arctic Kit	–50 to 120 degrees F (–46 to 49 degrees C)
w/o Arctic Kit	–25 to 120 degrees F (–32 to 49 degrees C)

1-11. EQUIPMENT DATA (CONT).**Table 1-6. Engine Configuration**

Item	Specification
Make	Detroit Diesel
Model	8V92TA (DDEC II and DDEC III)
Type	2 stroke, V type diesel
Cylinders	8
Bore	4.82 in. (123 mm)
Stroke	5 in. (127 mm)
Displacement	736 CID (12 L)
Torque (at 1200 rpm)	1470 lb-ft. (1993 N·m)
Maximum Brake Horsepower (at 2000 to 2100 rpm)	SAE 500 (670 kw)
Maximum Governed Engine Speed	
Loaded	2050 to 2150 rpm
Unloaded	2175 to 2275 rpm
Oil Filter	
Type	Full flow, spin on
Quantity	1

Table 1-7. Fuel System Configuration

Item	Specification
Type	Diesel injection (electronically controlled)
Tank Quantity	Single or two if equipped with auxiliary fuel tank
Air Cleaner Type	60 hr Military
Element Quantity	1 primary, 1 secondary

Table 1-8. Cooling System

Item	Specification
Radiator Working Pressure	7 psi (48 kPa)

Table 1-9. Electrical System

Item	Specification
Voltage	12/24 dual voltage
Alternator	14 volts
System Amps	145/200
Voltage	14/28
Ground	Neg
Rotation	Reversible
Rpm Rated Output	5000
Maximum	8000
Drive Type	Pulley
Regulator, Cycling, External	14/28 volts
RFI Suppression Ability	YES
Batteries	
Number of	4
Voltage (each)	12-volts
Connection	Series - parallel
Capacity (at 20 hour rate)	900 amp
Reserve Capacity	
(each, at 80 degree F (27 degree C))	180 minutes
Cold Cranking Amps	
(each, at 0 degree F (-18 degree C))	575 CCA
Amp Hours	
(each, at 20 hour rate)	100 amp
Starter	12 volts solenoid attached

Table 1-10. Transmission

Item	Specification
Make	Allison
Model	CLT-755
Type	Automatic
Number of Speeds	
Forward	5
Reverse	1

1-11. EQUIPMENT DATA (CONT).**Table 1-11. Transfer Case**

Item	Specification
Make	OTC
Model	55000 Series
Type	Automatic
Ratios	0.958:1, 2.464:1

Table 1-12. Axles

Item	Front Tandem	Rear Tridem
Make	Rockwell SVI 5 MR Hub Reduction	
Maximum Load Capacity	16.5 k GAWR	18.25 k GAWR

Table 1-13. Brake System

Item	Specification
Actuation	Air
Number of Brake Chambers	14
Pressure Range	60 to 125 psi (414 to 861 kPa)

Table 1-14. Wheels

Item	Specification
Type	2 piece bolt together with beadlock
Quantity	10
Spare Wheel Quantity	1
Rim Size	10 by 20 in.
Stud Quantity Per Wheel	10

Table 1-15. Tires

Item	Specification
Type	Tubeless
Quantity	10
Spare Wheel Quantity	1
Tread Type	Radial traction, non-directional
Size	16.00 R20
Load Range	M
Tire Pressure	Controlled by CTIS

Table 1-16. Tire Pressure (Cold)

Driving Condition	Front	Rear
Highway	65 psi (448 kPa)	75 psi (517 kPa)
Cross-country	34 psi (234 kPa)	38 psi (262 kPa)
Mud, sand and snow	20 psi (138 kPa)	23 psi (159 kPa)
Emergency	15 psi (103 kPa)	18 psi (124 kPa)
Spare	75 psi (517 kPa)	

Table 1-17. Steering System

Specification
Three gears with integrated hydraulic power assist

Table 1-18. Self-Guided Coupler

Item	Specification	
Type	Manual release	
Maximum Load Capacity	Pulling	Vertical
	100,000 (45,400 kg)	20,000 lb. (9080 kg)

1-11. EQUIPMENT DATA (CONT).**Table 1-19. Towing Eyes**

Item	Specification
Quantity	4 (2 front, 2 rear)
Maximum Load Capacity (each)	60,000 lb. (27,240 kg)

Table 1-20. Cab

Item	Specification
Windshield	Tinted, 2 piece, safety glass
Personnel Capacity	2

Table 1-21. Material Handling Crane (MHC)

Item	Specification
Make	Grove
Model	PLS
Maximum Capacity At boom length of 22.5 ft. (6.86 m)	3,900 lb. (1771 kg)

Table 1-22. Container Handling Unit (CHU)

Item	Specification
Make	OTC
Model	CHU
Maximum Capacity	35,000 lb (15,890 kg)

Table 1-23. Self-Recovery Winch (SRW)

Item	Specification
Make	DP Manufacturing
Model	20K
Wire Rope - Diameter	5/8 in. (15.9 mm)
- Length	200 ft. (61 m)
Line Pull - 1st layer (five wraps minimum)	20,000 lb. (9080 kg)
- 2nd layer	18,000 lb. (8172 kg)
- 3rd layer	16,360 lb. (7427 kg)
- 4th layer	15,000 lb. (6810 kg)
- 5th layer	13,850 lb. (6288 kg)

Table 1-24. Load Handling System (LHS)

Item	Specification
Make	OTC
Model	MK V

Table 1-25. Hydraulic Pump and Auxiliary Drive

Item	Specification
Pump Model	PVE35
Rated Speed	2200 rpm
Maximum Speed	2400 rpm
Rated Outlet Pressure Maximum	3625 psi (24,994 kPa)
Rated Temperature	225 degrees F (107 degrees C)
Theoretical Displacement	73.7 ml/rev

1-11. EQUIPMENT DATA (CONT).**Table 1-26. Air System**

Item	Specification
Air Compressor	
Model	Bendix TU-FLO 1400
Number of Cylinders	4
Cylinder Configuration	In-line
Stroke	1.810 in.
Displacement Rotating at 1250 rpm	31 CFM
Maximum Rpm Water Cooled	3000 rpm
Maximum Discharge Air Temperature	400 degrees F (204 degrees C)
Minimum Pressure Required to Unload (Naturally aspirated)	60 psi (414 kPa)
Minimum Oil Pressure Required at:	
Engine Idling Speed	15 psi (103 kPa)
Maximum Governed Engine Speed	15 psi (103 kPa)
Air Dryer	Midland
Truck Air System	
Total Volume	7577 cu. in. (124,164 cc)
Air Pressure	125 ± 4 psi (862 kPa ± 28 kPa)

Table 1-27. Auxiliary Equipment

Item	Manufacturer
Container Handling Unit	OTC
Material Handling Crane	Grove Model PLS
Flatrack	OTC Model - PLS US Army
Side Board Kit	OTC
Trailer	OTC
Arctic Kit	OTC
Chemical Alarm	GFM
Decontamination Unit	GFM
Gas Particulate Filter Unit	GFM
Machine Gun Kit	OTC
Radio Installation Kit	OTC

1-11. EQUIPMENT DATA (CONT).**CAUTION**

These are guidelines for operation, and may not be applicable under all circumstances. Refer to applicable paragraph in this manual for specific operating procedures to avoid damage to equipment.

NOTE

- Vehicle is operated at full payload.
- Grades are off road.

Table 1-28. Recommended Modes of Operation

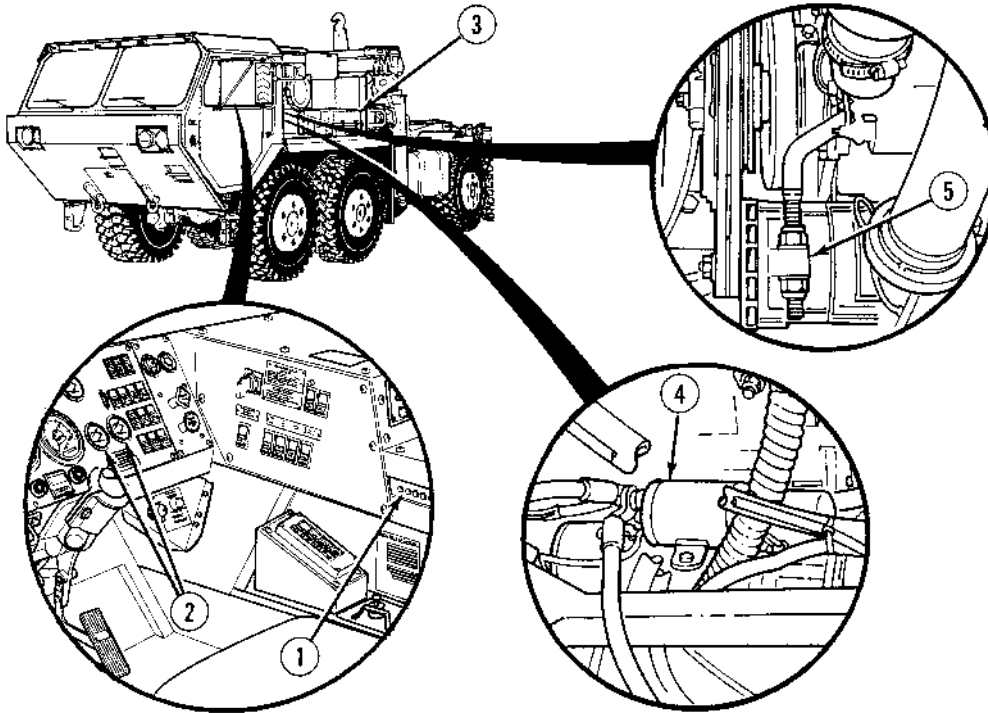
Road Condition	CTIS Setting				Transfer Case Setting			Resulting Axle Lockup		
	Hwy	CC	M/S/S	Emer	High	Low	Locked	Open	Side - Side	Axle - Axle
Highway	X				X			X		
Gravel/Dirt		X			X			X		
Mud/Sand/Snow No Wheel Spin			X			X				X
Mud/Sand/Snow With Wheel Spin			X			X	X			X
Mud/Sand/Snow With Wheel Spin				X		X	X		X	X
Fording-Hard Bottom		X				X				
Fording-Soft Bottom No Wheel Spin			X			X	X			X
Fording-Soft Bottom With Wheel Spin				X		X	X		X	X
Grade-Slight		X			X			X		
Grade-Moderate < Or = 15%		X				X		X		
Grade-Steep > 15 %			X			X	X			X
Grade-Steep With Wheel Spin				X		X	X		X	X

Section III. PRINCIPLES OF OPERATION

1-12. SYSTEMS INTRODUCTION.

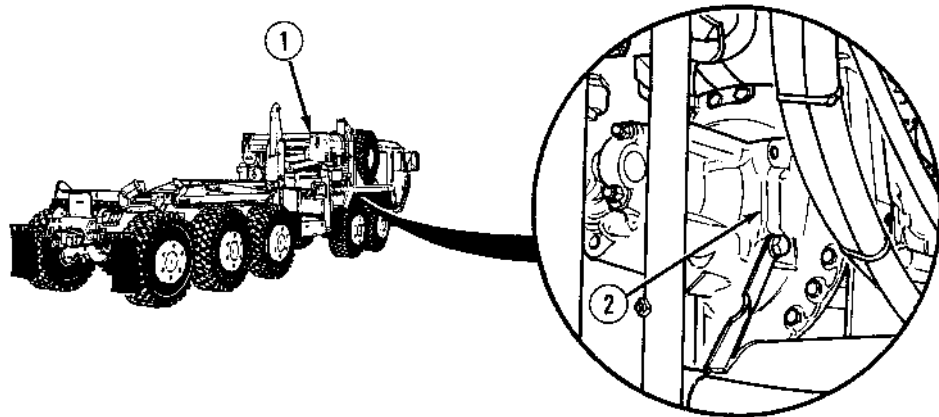
This section provides a basic explanation of major systems on the PLS. Detailed operation information is provided in Chapter 2.

1-13. ELECTRICAL SYSTEM.

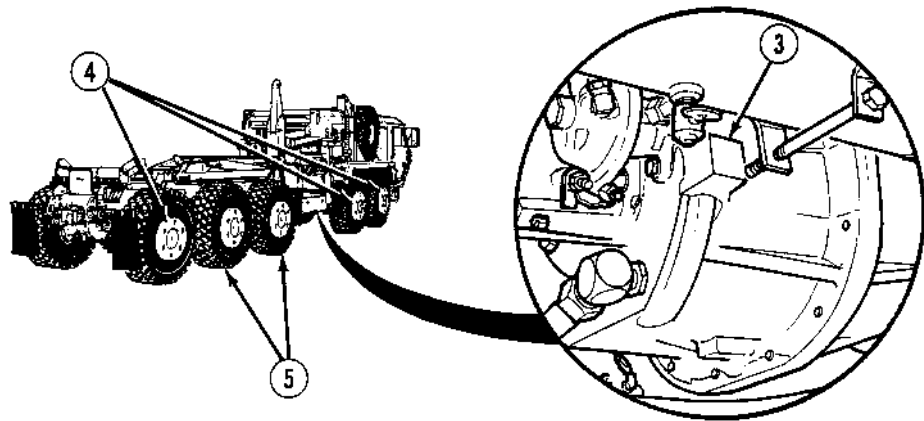


The 24 vdc electrical system is waterproof, has reverse polarity protection and incorporates a 12 vdc lighting subsystem. Manual resetting circuit breakers (1) are used throughout system and all circuits are identified. Voltages for the electrical system are indicated by voltmeters (2) located on the dash panel inside the drivers compartment (there are two gages, one for 12-volt and one for 24-volt). Circuit breakers located in the cab protect the main circuits. Electrical power is provided by four 12-volt series-parallel connected batteries (3). A heavy duty starting motor (4) is mounted on the engine flywheel housing and provides cranking power necessary for starting the engine. The 145 amp or 200 amp alternator (5) maintains battery charging and electrical equipment operation.

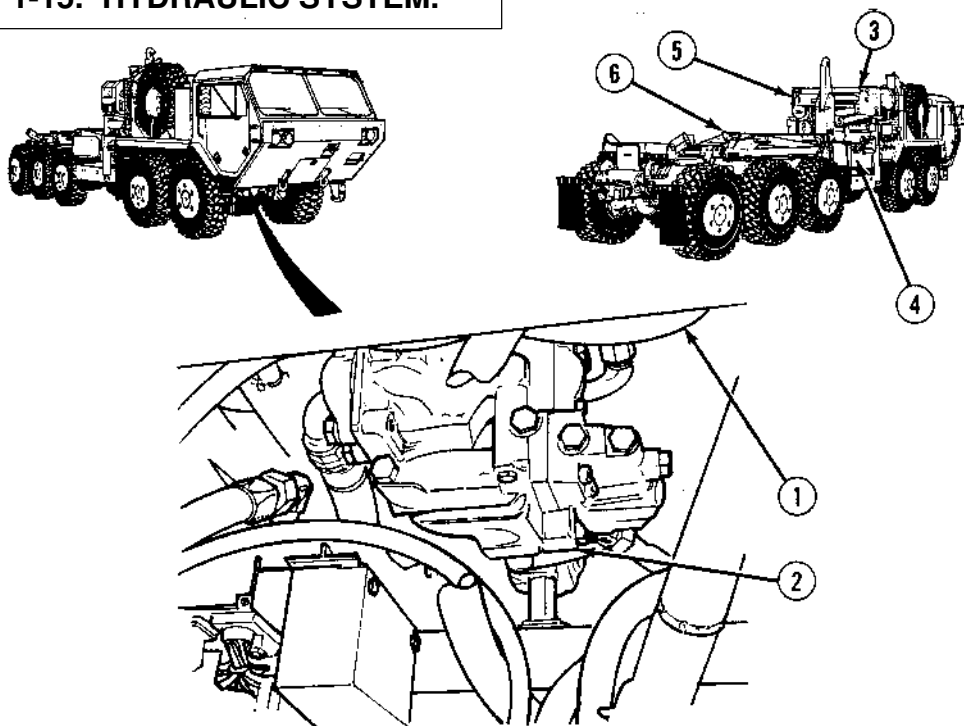
1-14. ENGINE AND DRIVETRAIN.



The truck is equipped with a eight cylinder, V type, two cycle, fuel injected, electronically controlled, turbocharged diesel engine (1). This engine is rated at 500 HP and has a five speed push button automatic transmission (2). The truck transfer case (3) has two speeds and a 30/70 differential. The truck has ten wheel drive capability with five driving axles. Axles No. 1, 2 and 5 (4), drive and steer. Axles No. 3 and 4 (5) are drive axles only.

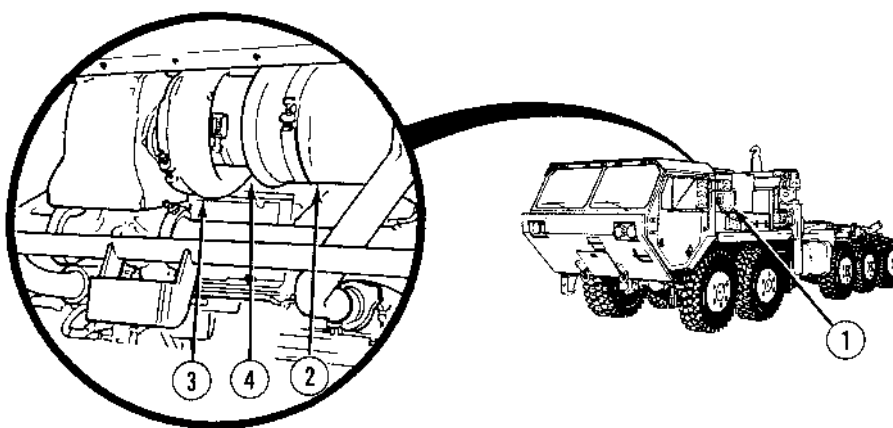


1-15. HYDRAULIC SYSTEM.



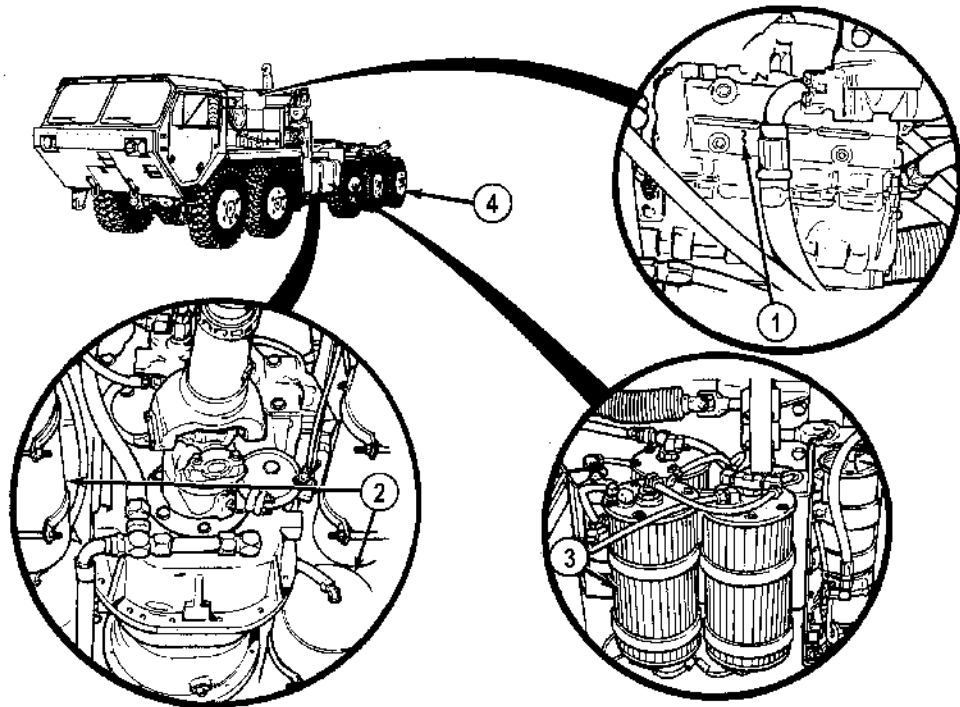
Two hydraulic pumps mounted in front of the engine provide power for two separate hydraulic systems. The front pump (1) provides power for the steering system. The rear pump (2) provides power for the cooling fan (3), SRW (4), MHC (5) and LHS (6). The pumps are connected together and appear like one unit.

1-16. AIR SYSTEM.

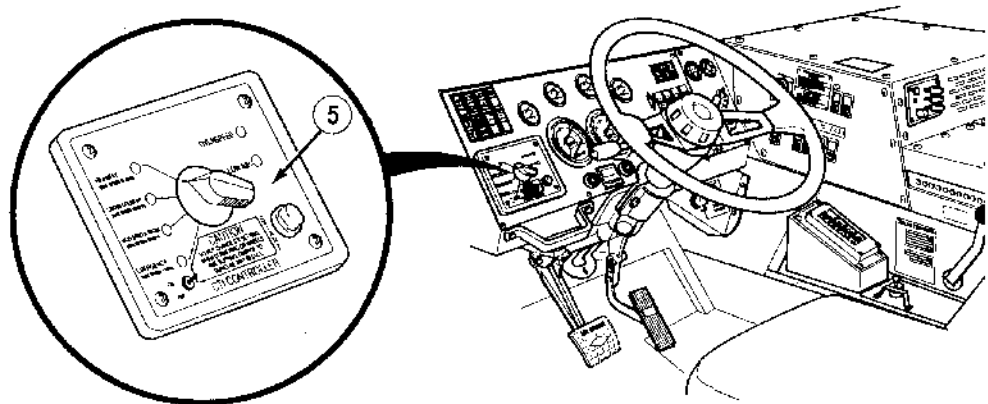


a. Air Intake System. The air intake system consists of a dry-type air cleaner (1), ducts (2), turbocharger (3) and engine blower (4).

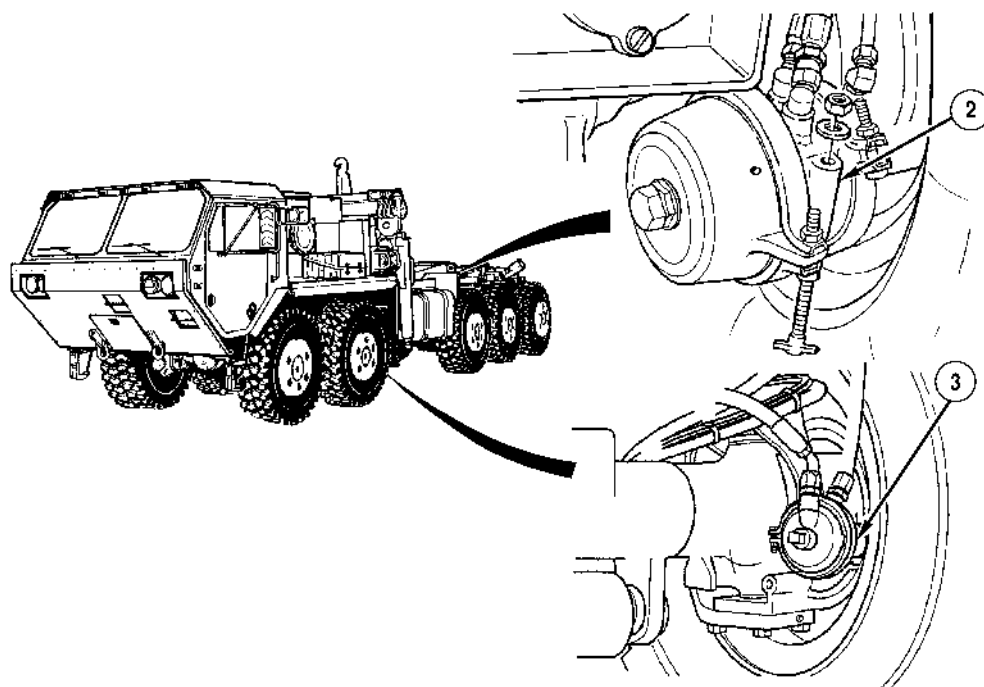
1-16. AIR SYSTEM (CONT).



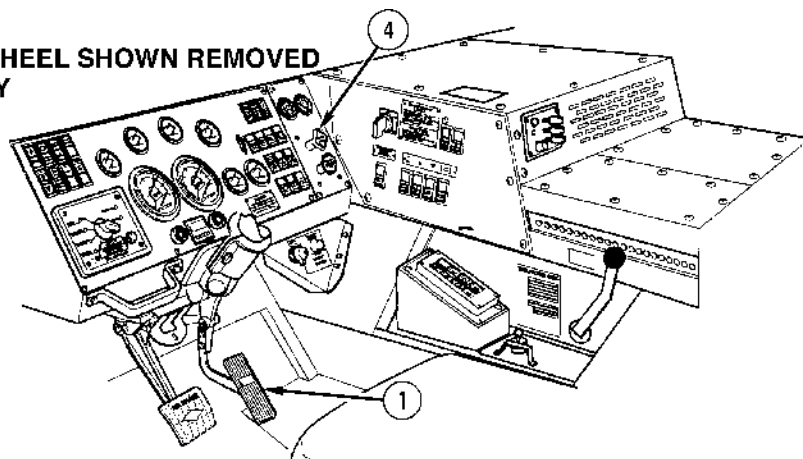
b. Air System. The air system consists of an engine-driven air compressor (1) and five air reservoirs (2). The air dryer (3) removes dirt and moisture from pressurized air. The brakes (4), CTIS and Axle No. 3 axle air suspension are operated by the air system.



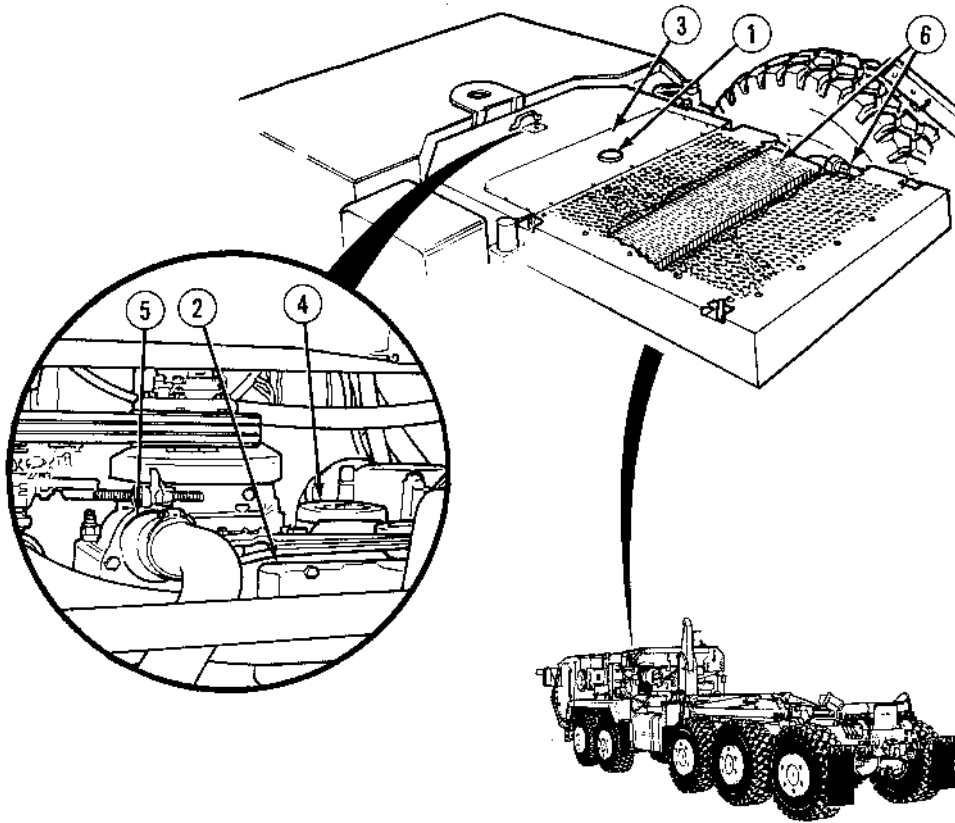
c. Central Tire Inflation System (CTIS). The CTIS controller (5) is designed to adjust the pressure of all ten tires on the truck and control axle lock-up for different traction conditions.



STEERING WHEEL SHOWN REMOVED
FOR CLARITY

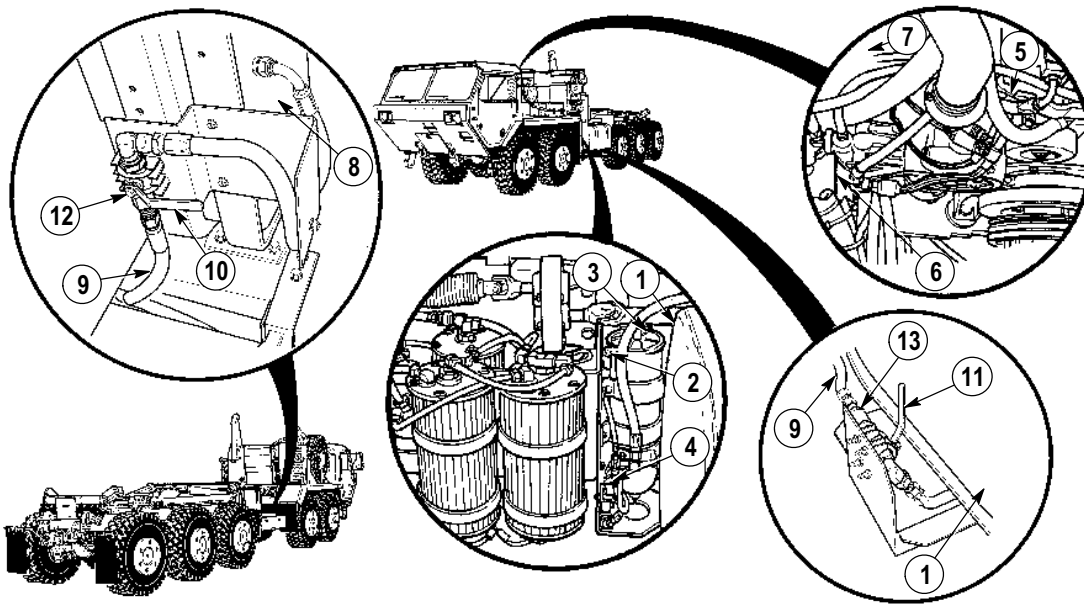


d. Brake System. The main brake system components consist of the service brake pedal (1), six brake chambers (2) on axles # 3, # 4 and # 5, eight brake chambers (3) on axles #1 and #2, and a parking brake valve (4). When the service brake pedal (1) is depressed, air is supplied to all the brake chambers (2) and (3), applying the service brakes. The parking brake valve (4), applies or releases the rear axle (parking) brakes. When air pressure in the brake system drops below 30 psi (207 kPa), the rear brake chambers (2) automatically apply.

1-17. COOLING SYSTEM.

The pressure-type cooling system protects the engine by removing the heat generated during combustion process. Pressure within the cooling system is limited by a pressure release in the radiator filler cap (1). The hot coolant flows from the engine (2) to the radiator tank (3) and through the radiator core where a stream of air removes heat. This stream of air is drawn through the core by the fan. A water pump (4) draws coolant from the radiator and pushes it through the engine, repeating the cooling process. Thermostats (5) mounted in each coolant outlet elbow, remain closed until the coolant approaches a predetermined temperature when they open. When coolant temperature drops below thermostat rating, the thermostats close. An air vent line between the radiator and water pump inlet removes any air trapped in the engine when the cooling system is being filled. A heat exchanger is mounted in the rear radiator tank for cooling the transmission oil. An air to oil cooler (6) mounted atop the core, cools the hydraulic oil.

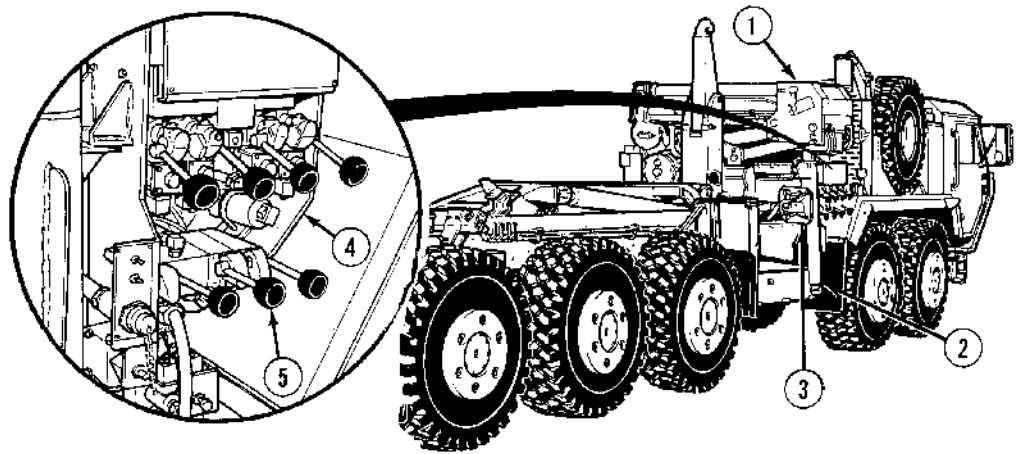
1-18. FUEL SYSTEM.



Fuel is drawn from the main fuel tank (1), passes through the electrical priming fuel pump (2) and the fuel/water separator (3). A fuel shut off valve (4) controls the flow of fuel to the engine. A mechanical fuel pump (5) pumps the fuel through the secondary filter (6) to the engine (7). Excess fuel from the engine is returned to the main fuel tank through the return line. The fuel/water separator removes water and large solid particles from the fuel. The smaller particles are removed by a secondary filter before they can enter the engine fuel injectors.

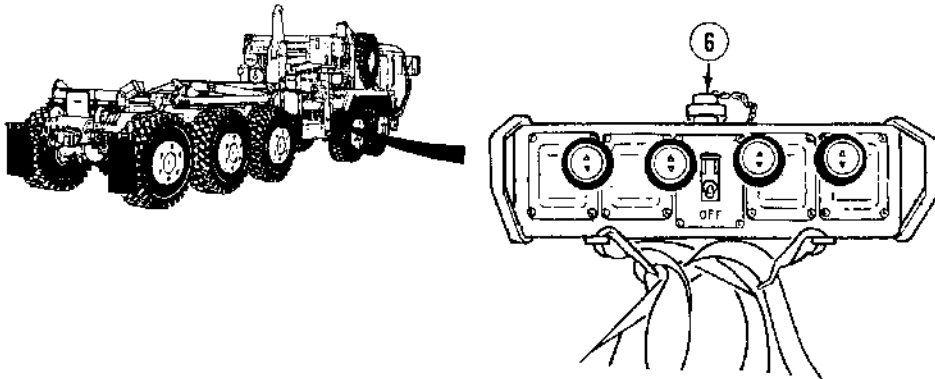
Trucks equipped with an auxiliary fuel tank (8) will bottom fill the main fuel tank (1) through a crossover fuel line (9) found under the truck. Shutoff valves (10) and (11) between the tanks shut off fuel flow during filling and side slope operations. Check valves (12) and (13) prevent fuel spilling if crossover line is damaged.

1-19. MATERIAL HANDLING CRANE (MHC).



a. Crane. The truck MHC (1) is fully hydraulic and is powered by the truck hydraulic system. The MHC is capable of lifting up to 5,400 lb. (2,449 kg) load at a 16.5 ft. (5 m) radius and a 3,900 lb. (1,770 kg) load at a 22 ft. (6.7 m) radius. The crane can load/unload pallets from either side of the truck. Truck stability and leveling is accomplished with the left and right side hydraulically operated outrigger jacks (2). Jacks can level the truck when it is inclined up to a seven percent side slope. The outrigger pads (3) are attached to the outrigger jacks by means of retaining pins and are stowed on the crane base. The pads swivel 360 degrees when installed on the jacks. Safety switches are installed in the outrigger jacks to prevent crane operations until the outrigger jacks are set in place.

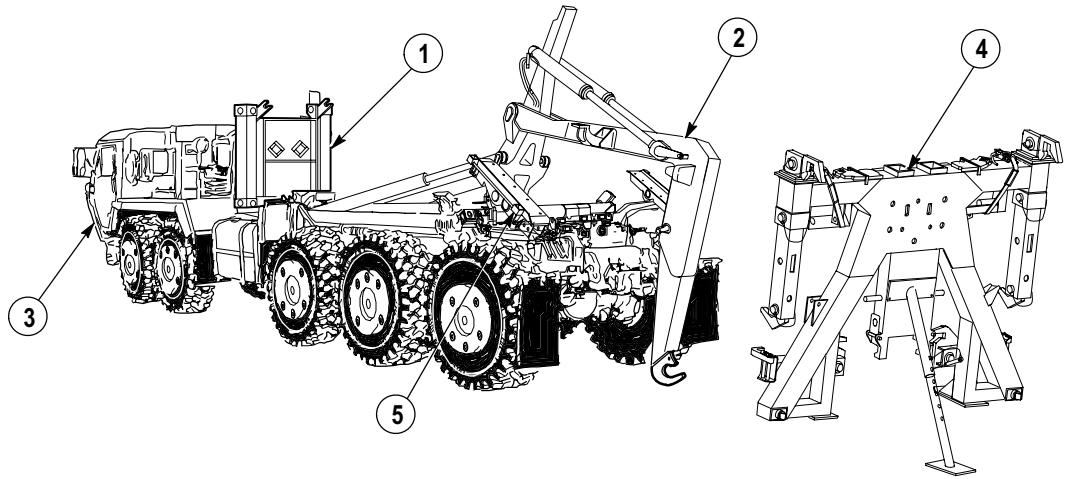
b. Fixed Controls. All crane controls and indicators (4) are located on the passenger side of the truck. The controls are accessible to the operator while standing on the ground. Control valves, both crane and outrigger jack, automatically return to the neutral position should operator inadvertently or intentionally release control. The outrigger jacks (2) can be controlled from either side of the truck with outrigger jack controls (5). Outrigger jack manual control valves are also duplicated on the driver's side of truck.



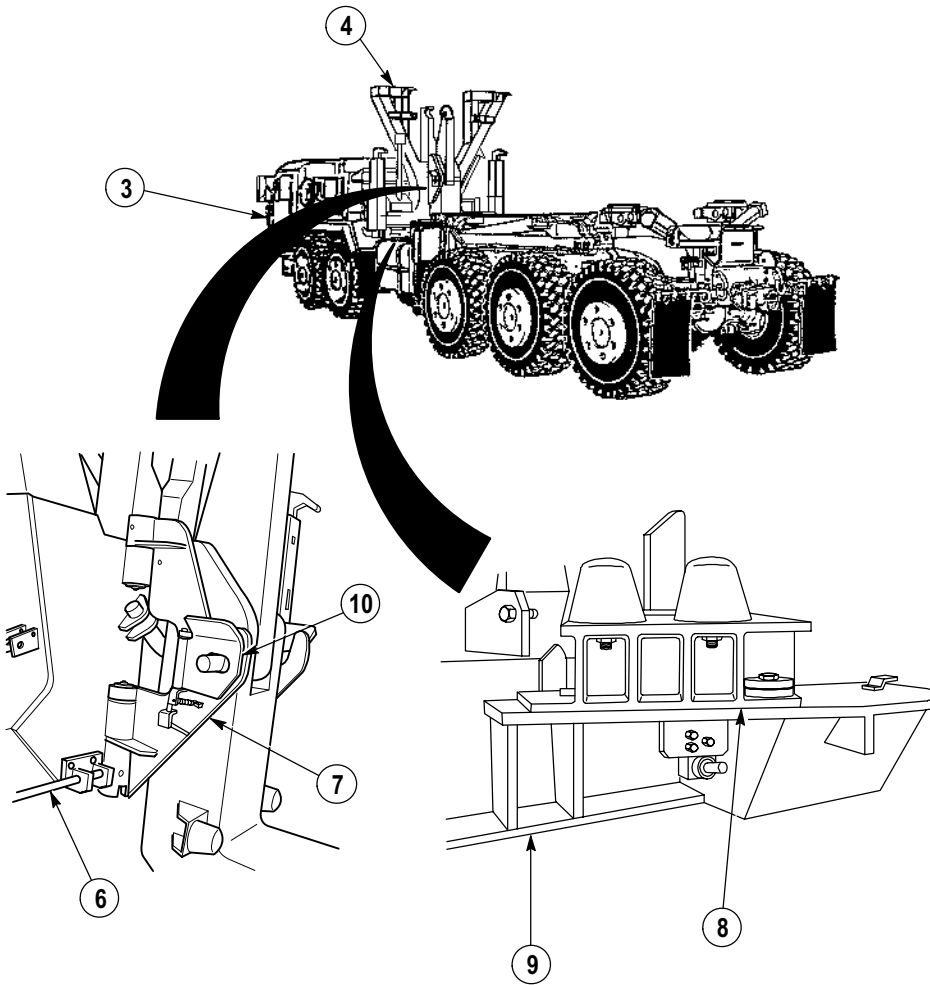
c. Remote Control. The remote control system (6) is designed to operate the crane while standing away from the truck. The operator can operate the remote control anywhere within 35 ft. (10.7 m) of the crane base. The remote control is provided with an emergency shutdown capability and designed so that when activated, all remote control crane functions cease and engine speed is reduced to idle. The remote control functions match the control levers on the fixed control excluding mast and outrigger jack controls.

d. Overload Shutdown. The crane is provided with an overload shutdown which prevents structural overloading. Two block and overload conditions are sensed through line-pull of the hoist. A preprogrammed microprocessor that is constantly comparing boom angle, boom length and hoist line pull, activates solenoid valves to prevent telescope out, lift up, lift down, and hoist up functions when unit is overloaded or two-blocked. During an overload condition the crane's functions cease except for hoist down, telescope in and swing in either direction. The outrigger jack and mast functions are still operational.

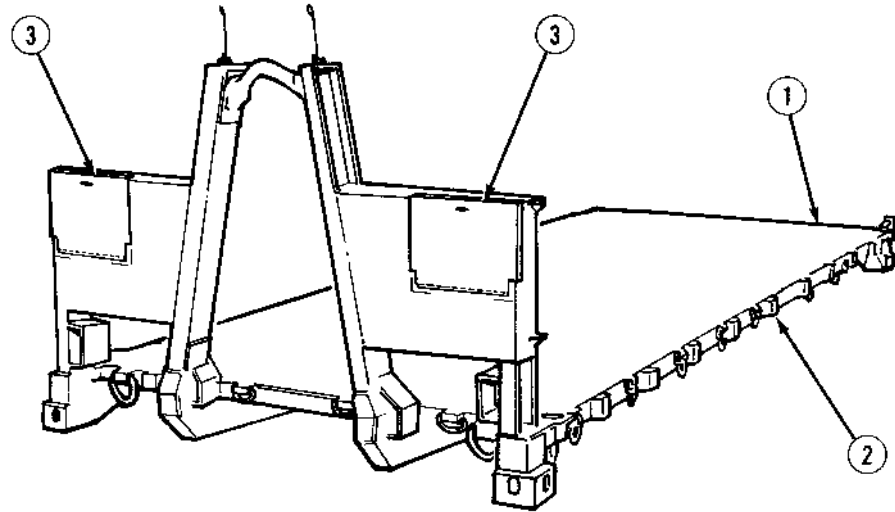
1-20. CONTAINER HANDLING UNIT (CHU).



a. Container Handling Unit (CHU). CHU (1) utilizes the LHS (2) to load and unload ISO containers onto the truck (3). The CHU consists of a lifting frame (4) which is hooked by the LHS and is attached to a ISO container. The rear slider assembly (5) guides the container onto the truck (3). Operation between container mode and flatrack is available. Safety switches are installed to prevent opposing operations. Maximum permissible gross container weight is 35,000 lbs (15,890 kg).

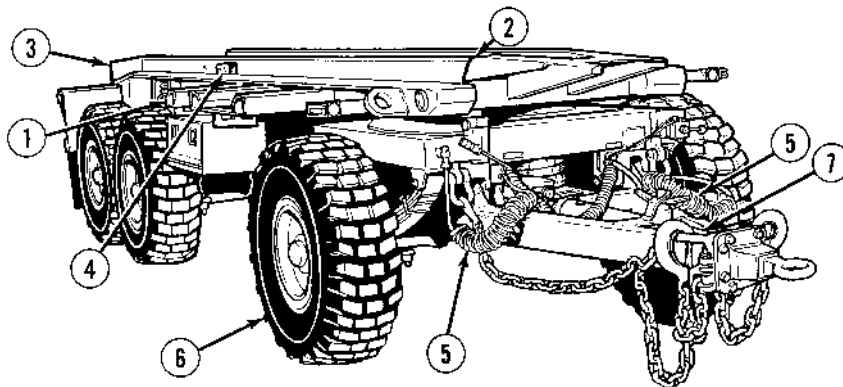


b. Fixed Controls. CHU controls for stowing and unstowing lifting frame (4) are located on both sides of truck (3). Flipper lock pin handles (6) are located on the lifting frame (4) and allow locking the flipper brackets (7) in open and closed position. Air control valves (8) located on front support assemblies (9) rotate flipper brackets and flipper bracket lock plates (10) from the open and closed position.

1-21. FLATRACK (FR).

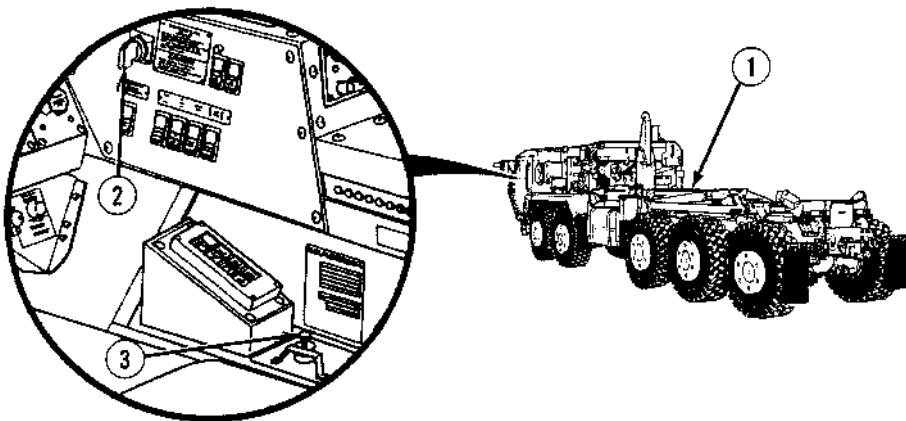
The FR (1) M1077 accommodates a 33,000 lbs. (15 metric tons) payload and M1077A1 accommodates a 32,300 lbs. (14.6 metric tons) payload during all modes of transportation and during all specified load/unload operations. During Load Handling System (LHS) load/unload operations the FR can accommodate a full payload. The M1077 has an empty weight of 3,200 lbs. (1,453 kg) and M1077A1 has an empty weight of 3,900 lbs. (1,771 kg) both without side boards. The FR can accommodate palletized, break bulk and 20 ft. (6.1 m) ISO container payloads. Stake pockets (2) are used to contain and hold cargo side rails. Stowage boxes (3) are used for storing straps, cargo nets, etc.

1-22. PALLETIZED LOAD SYSTEM TRAILER (PLST).

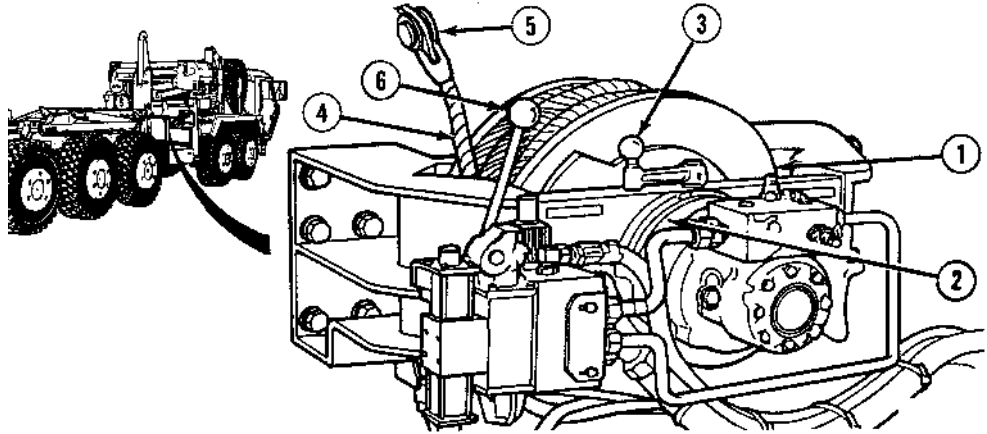


The PLST (1) is a three axle trailer designed to carry a Flatrack (FR) with a 16.5 ton payload. It can accommodate both full and partial loaded flatracks. The guides (2) laterally position the FR on the trailer rear stops (3). These stops prevent FR from sliding rearward. The FR locks (4) engage and secure the FR to the PLST. The intervehicular connecting cables (5) attach to the towing truck. The spare tire carrier is behind the first axle (6). The PLST is equipped with a two position adjustable drawbar (7).

1-23. LOAD HANDLING SYSTEM (LHS).



The truck is equipped with a LHS (1) used to load/unload flatracks. The LHS is fully hydraulic, powered by the truck hydraulic system, and is operated by a hydraulic selector switch (2) and a joystick (3), located to driver's right in the truck cab.

1-24. SELF-RECOVERY WINCH KIT (SRW).

When specified, the truck is equipped with a SRW (1) which is capable of forward and rearward deployment. The winch is equipped with a holding brake (2) to safely deploy and hold a full rated load of winch. The winch brake is automatic and is fully engaged anytime the winch is stopped or not in use. It is fully released during operation. A clutch (3) allows for the manual unspooling of the winch. The cable (4) is equipped with a clevis end (5). The winch is controllable from the driver's position with cab controls and at the winch itself with a manual control lever (6). All controls revert to neutral when released.

CHAPTER 2

OPERATING INSTRUCTIONS

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Section I. DESCRIPTIONS AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2-1. PREPARATION FOR USE.

WARNING

This truck has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited IAW AR 70-1 without written approval from the Commander, U.S. Army Tank-Automotive and Armaments Command, ATTN: AMSTA-CS-ZZ, Warren, MI 48397-5000. Failure to comply could result in injury or death to personnel.

When a truck is first received by the using organization, it is the responsibility of the officer-in-charge to determine whether it has been properly prepared for service by the supplier. It is also the responsibility of the officer-in-charge to be sure the truck is in condition to perform its functions. Unit Maintenance will provide any additional service required to bring the truck to operating standards. Before operating the truck, the operator must become familiar with the truck controls and indicators as described in this chapter.

2-2. KNOW YOUR CONTROLS AND INDICATORS.

This section shows the location and describes the use of controls and indicators used to operate M1074 and M1075 series vehicles. Controls and indicators described in this section are the same for all vehicles, except where otherwise indicated.

Know location and proper use of every control and indicator before operating the vehicle. Use this section to learn about each control and indicator to be used. Separate illustrations with keys are provided for each group of controls and indicators.

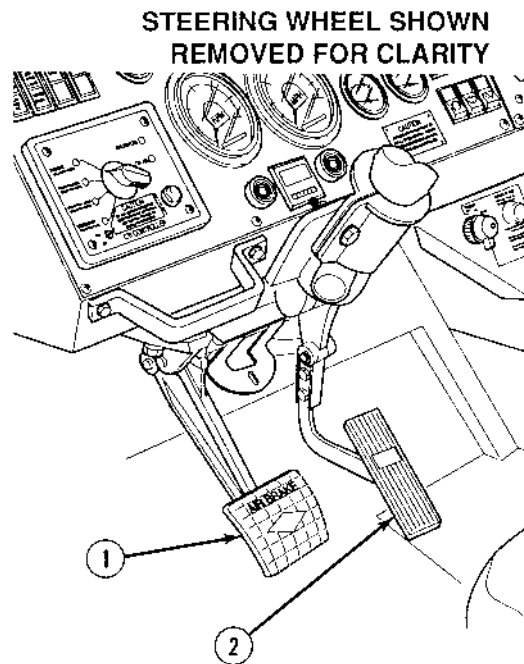
2-3. LOCATION AND USE OF CONTROLS AND INDICATORS.

Figure 2-1. Cab-Mounted Foot Controls

Key	Control or Indicator	Function
1	Service Brake Pedal	Applies service brakes. If truck is properly coupled to a trailer, trailer service brakes will operate when truck service brakes are applied.
2	Throttle Control	Controls engine speed.

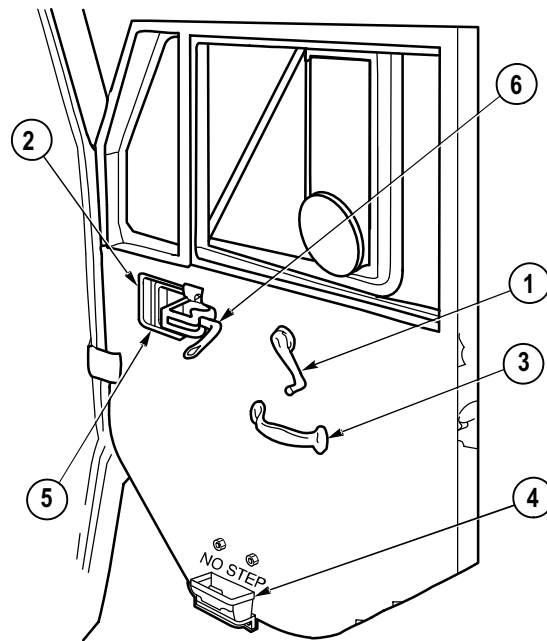


Figure 2-2. Cab Door Controls

Key	Control or Indicator	Function
1	Cab Door Window Glass Crank	Rotate left crank counterclockwise (CCW) to lower left window glass; clockwise (CW) to raise left window glass. Rotate right crank clockwise to lower right window glass; counterclockwise to raise right window glass.
2	Cab Door Inside Handle (one on each door)	Pull to open cab door from inside of cab.
3	Cab Door Pull Handle (one on each door)	Pull to close cab door from inside of cab.
4	Lower Rifle Mount (right side only)	Holds butt of rifle.
5	Top Rifle Mount (right side only)	Holds hand guard of rifle.
6	Rifle Mount Handle (right side only)	Secures upper hand guard of rifle.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

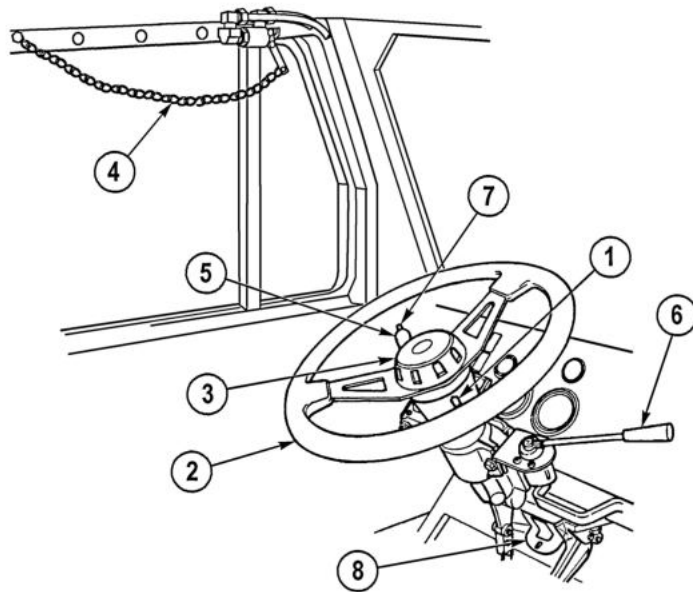


Figure 2-3. Steering Column Mounted Controls

Key	Control or Indicator	Function
1	Emergency Flasher Control	To turn on hazard warning flashers, push button in. To turn hazard warning flashers off, pull button out.
2	Steering Wheel	Controls direction of truck.
3	Horn Button	Sounds electric horn when pressed.
4	Horn Chain (If Equipped)	Sounds air horn when pulled.
5	Turn Signal Lever	Push up to signal right turn. Pull down to signal left turn. When turn is completed the lever will automatically return to off position.
6	Trailer Handbrake Control	Applies and releases trailer service brakes only (separate from truck service brakes). Not used during normal operation. Can be used for coupling and uncoupling trailers without spring brakes.
7	Dimmer Button	Press button to raise or lower headlight beams. High beam indicator on dash will light (blue) when high beams are on.
8	Steering Wheel Lock	Provides attachment point for padlock to prevent steering.

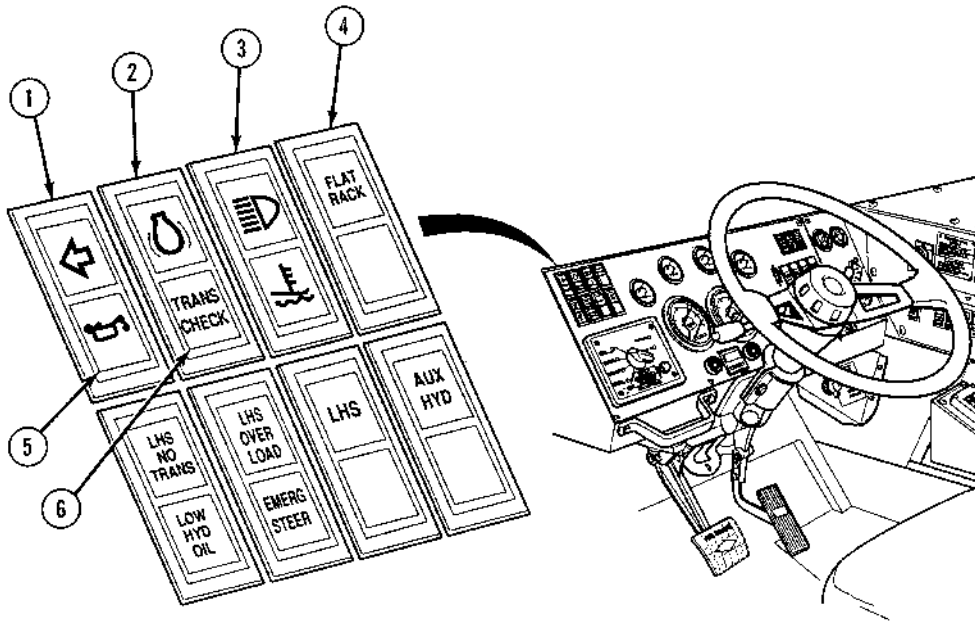


Figure 2-4. Instrument Panel Controls and Indicators

Key	Control or Indicator	Function
1	Left Turn Indicator	Flashes (green) when the left turn signal is on.
2	Engine Brake	Lights (green) when the engine brake on-off switch is in on position.
3	High Beam Indicator	Lights (blue) when the truck headlights are on high beam.
4	Trailer Flatrack Unlocked	Lights (red) when the trailer flatrack is not locked.
5	Engine Low Oil Pressure	Lights (red) when the engine oil pressure is below 5 psi (34 kPa).
6	Transmission Check	Lights (yellow) when the transmission fluid temperature is above 270 degrees F (132 degrees C).

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

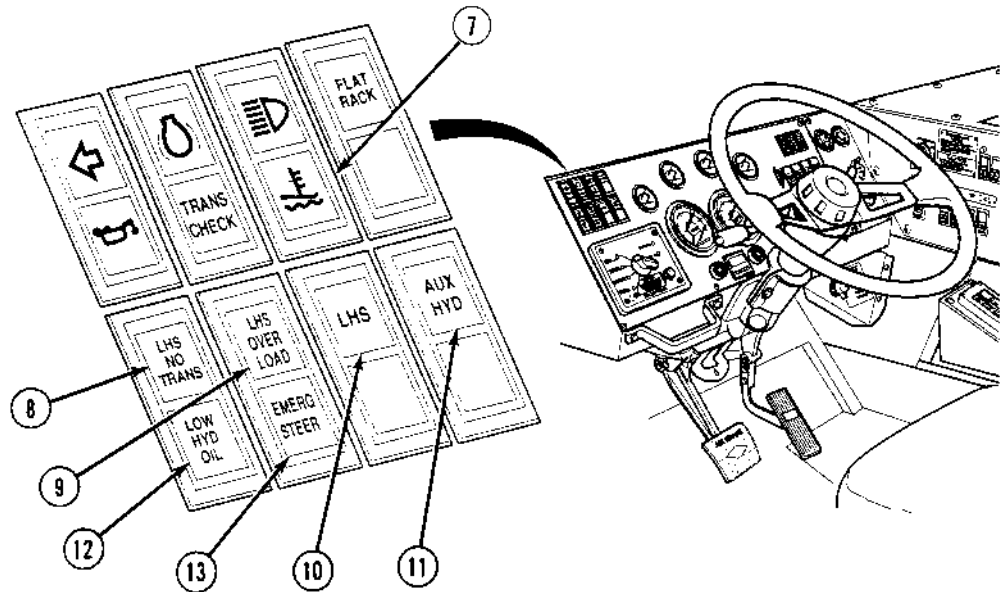


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
7	High Water Temperature	Lights (red) when the engine coolant temperature is above 230 degrees F (110 degrees C).
8	LHS NO TRANSIT	Lights (red) when the LHS is not correctly stowed on the truck.
9	LHS OVERLOAD	Lights (yellow) when there is a warning of overload 34,500 to 35,000 lb. (15,663-15,890 kg).
10	LHS	Lights (green) when the LHS is activated, in AUTO, MAN H.A. and MAN M.F. mode.
11	AUX HYD	Lights (green) when the auxiliary hydraulic is in use.
12	LOW HYD OIL	Lights (red) and buzzer will sound when the auxiliary hydraulic fluid level is below 25.75 gal. (97.46 L).
13	EMERG STEER	Lights (red) when the emergency steering system is activated.

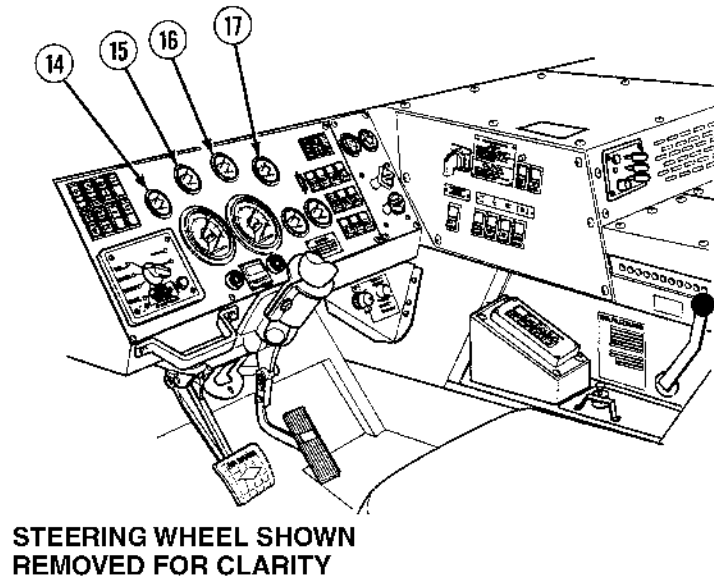


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
14	OIL PRESS Gage	Shows the engine oil pressure (in psi and kPa).
15	WATER TEMP Gage	Shows the engine coolant temperature (in degrees F and degrees C).
16	TRANS TEMP Gage	Shows the transmission fluid temperature (in degrees F and degrees C).
17	FUEL Gage	Shows the amount of fuel in main fuel tank.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

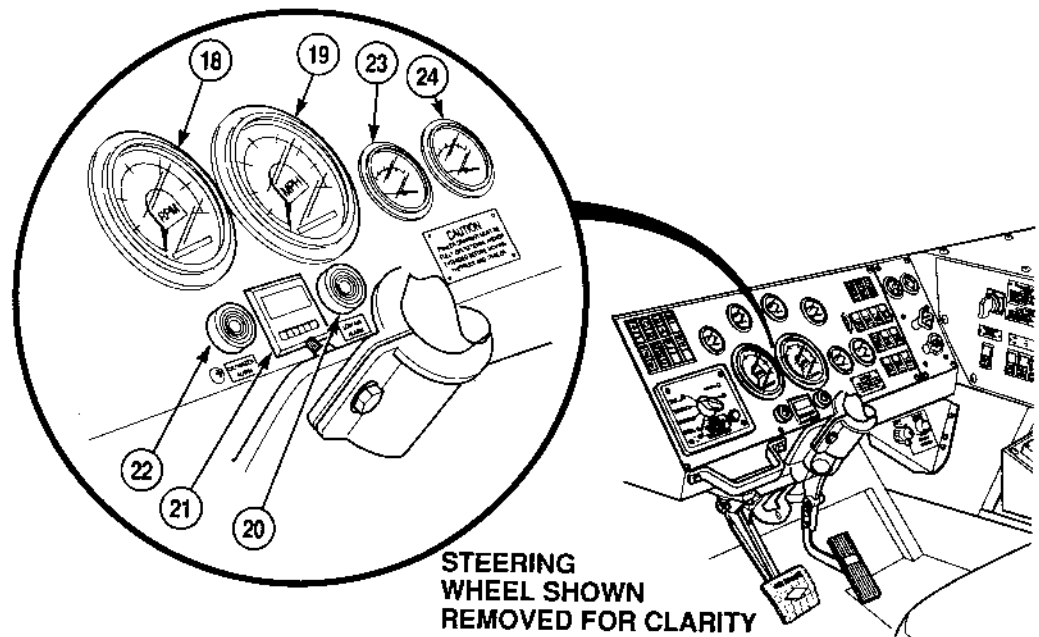


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
18	Tachometer/Hourmeter	Shows the engine operating speed (rpm x 100) and total operating time (HOURS).
19	Speedometer/Odometer	Shows the truck traveling speed (in mph and km/h) and total miles traveled.
20	Low Air/Hydraulic Oil Alarm	Intermittent buzzer sounds when the air system pressure is below 60 psi (414 kPa) or the hydraulic oil level is below 25.75 gal. (97.461).
21	Odometer (kilometer)	Shows the total kilometers traveled.
22	Oil/Water Alarm	Steady buzzer sounds when the engine oil pressure is below five psi (34 kPa) or when engine coolant temperature is above 230 degrees F (110 degrees C).
23	Voltmeter (12V)	Shows the state of charge of the batteries and voltage level in the 12-volt system (13-15v).
24	Voltmeter (24V)	Shows the state of charge of the batteries and voltage level in the 24-volt system (26-30v).

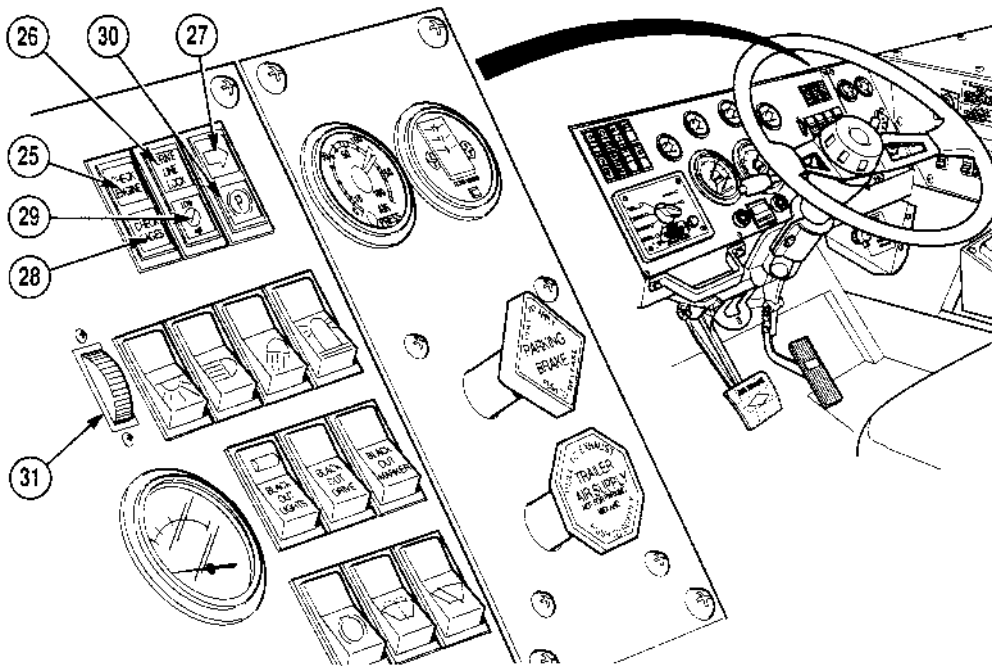


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
25	Check Engine	Lights (orange) to indicate an engine problem.
26	Drive Line Lock	Lights (yellow) to indicate drive line lockup when the transfer case is in low range and the CTIS is set at emergency position.
27	Right Turn Indicator	Flashes (green) when the right turn signal is on.
28	Check Gages	Lights (orange) when a problem exists in the engine that may cause damage. If light comes on check the gages.
29	Low Air	Lights (red) when the system air pressure is below 60 psi (414 kPa).
30	Parking Brake Indicator	Lights (red) when the parking brake is on.
31	Rheostat Switch	Controls brightness/dimness of the instrument panel lights.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

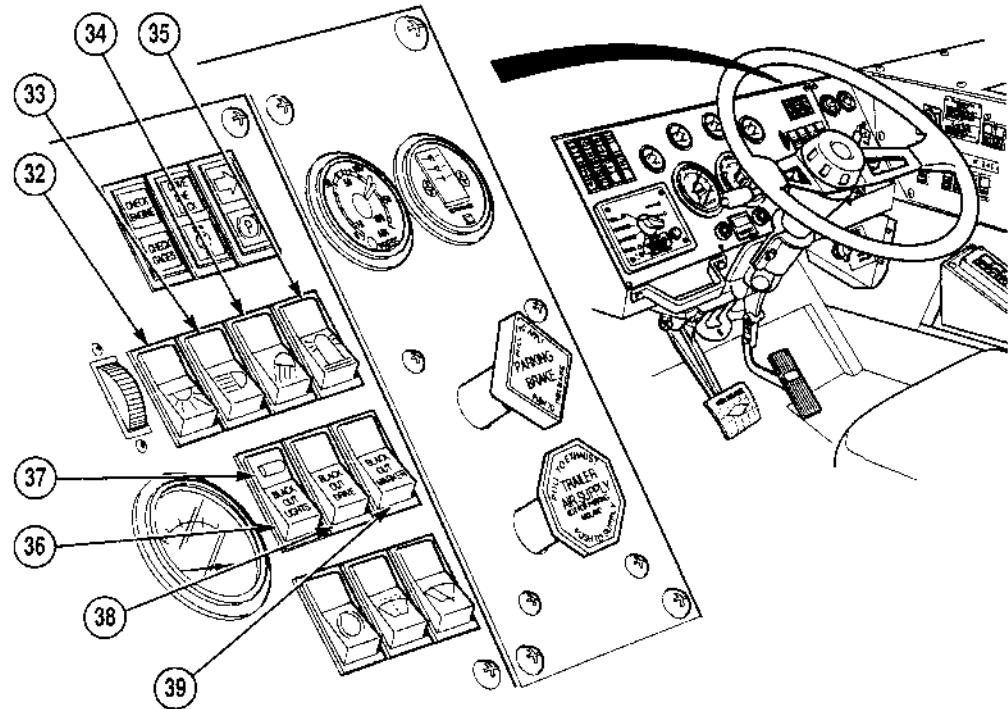


Figure 2-4. Instrument Panel Controls And Indicators - CONT.

Key	Control or Indicator	Function
32	Dome Light Switch	Turns the dome light on and off.
33	Headlight/Clearance Light Switch	Turns the headlights and clearance lights on and off. Center position is clearance lights and down position is service drive.
34	Work Light Switch	Provides the power to work lights.
35	Beacon Light Switch	Turns the beacon light on and off.
36	Blackout Light Selector Switch	Selects between normal and blackout mode for night driving under blackout conditions. The vehicle's back-up alarm will automatically deactivate in the blackout mode.
37	Blackout Light Switch Lock	Must be pushed down while operating the switch.
38	Blackout Drive Switch	Turns the blackout drive lights on and off.
39	Blackout Marker Switch	Turns the blackout marker lights on and off.

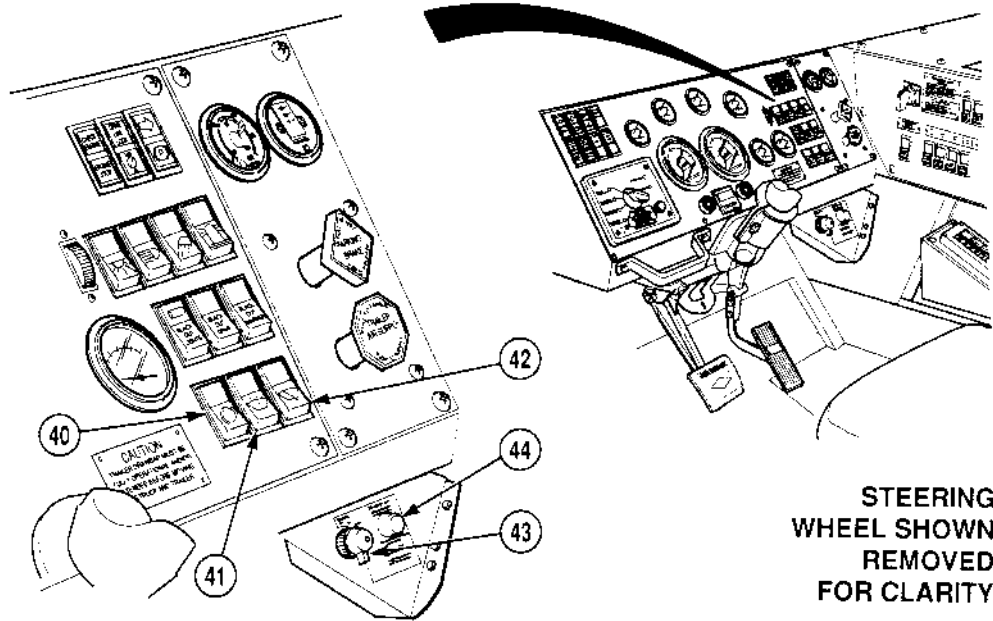


Figure 2-4. Instrument Panel Controls and Indicators - CONT.

Key	Control or Indicator	Function
40	Engine Brake Switch	Turns on or shuts off the electric power to the engine brake. Center position is LOW and down position is HIGH.
41	Windshield Washer Switch	Controls the spray of cleaning fluid on the windshield.
42	Windshield Wiper Switch	Controls operation of the windshield wipers. Center position is LOW, down position is HIGH.
43	Engine Switch ON/OFF/START	Straight up is OFF position; ON position operates the electrical system. START position operates the engine cranking circuit.
44	Ether Start Switch	Injects ether into the engine intake manifold for cold weather starting.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

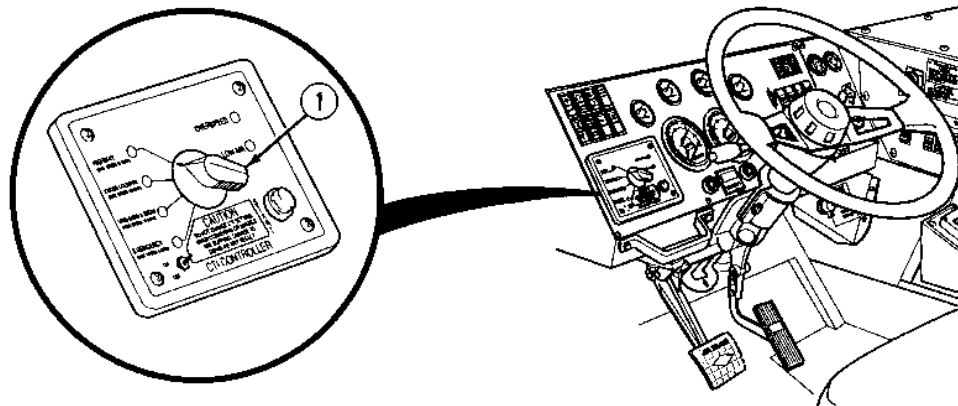


Figure 2-5. CTIS Controller Controls and Indicators

Key	Control or Indicator	Function
1	Rotary Selection Switch (CTIS)	<div style="border: 1px dashed black; padding: 5px; text-align: center; margin-bottom: 10px;">CAUTION</div> <ul style="list-style-type: none"> Do not change CTIS settings when cornering or wheels are slipping. Damage to drive line may result. CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressure may not match driving speeds, resulting in unsafe driving conditions or tire damage. <p>NOTE</p> <ul style="list-style-type: none"> The rotatory selection switch will still operate the drive line functions even if the CTIS ON/OFF switch is set to OFF. If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated.

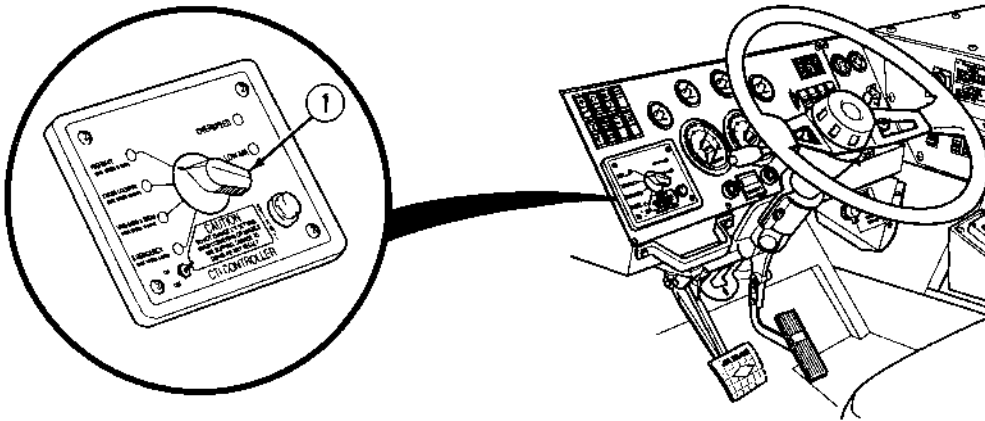


Figure 2-5. CTIS Controller Controls and Indicators – CONT.

Key	Control or Indicator	Function
1	Rotary Selection Switch (CTIS) - (Continued)	<p>Selects one of four tire pressures and drive line lock up for maximum traction and minimum tire wear under various conditions and speed limits as follows:</p> <ul style="list-style-type: none"> • Highway - 55 mph (88 km/h) • Cross Country - 40 mph (64 km/h) • Mud, sand, and snow - 12 mph (19 km/h) • Emergency - five mph (8 km/h) <div style="text-align: center; border: 1px dashed black; padding: 5px; margin: 10px 0;"> CAUTION </div> <ul style="list-style-type: none"> • Do not change CTIS settings when cornering or wheels are slipping. Damage to drive line may result. • CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressure may not match driving speeds, resulting in unsafe driving conditions or tire damage.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

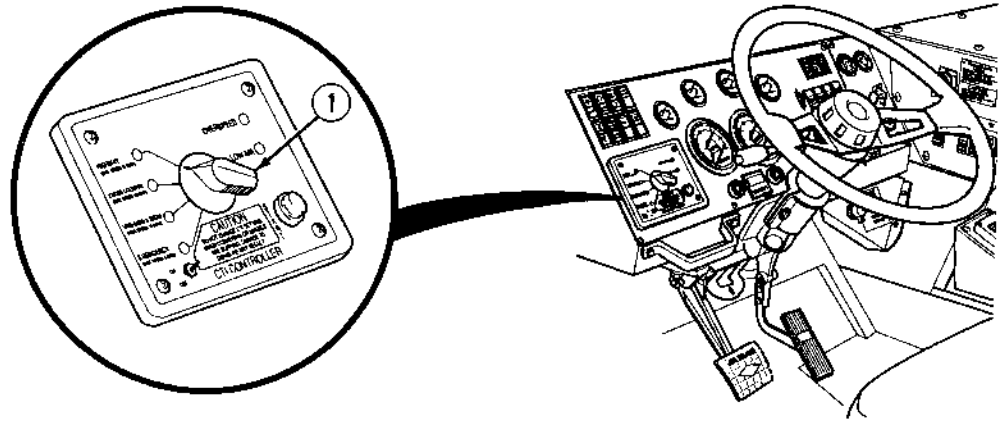


Figure 2-5. CTIS Controller Controls and Indicators – CONT.

Key	Control or Indicator	Function
1	Rotary Selection Switch (CTIS) - (Continued)	<p>NOTE</p> <ul style="list-style-type: none"> The rotatory selection switch will still operate the drive line functions even if the CTIS ON/OFF switch is set to OFF. If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated. <p>A green LED at each of the four positions will stay lit continuously if the CTIS and driveline lockup are in proper operating mode. Slow flashing indicates acceptable change. Rapid flashing indicates unacceptable operating parameters and requires corrective action by the operator.</p>

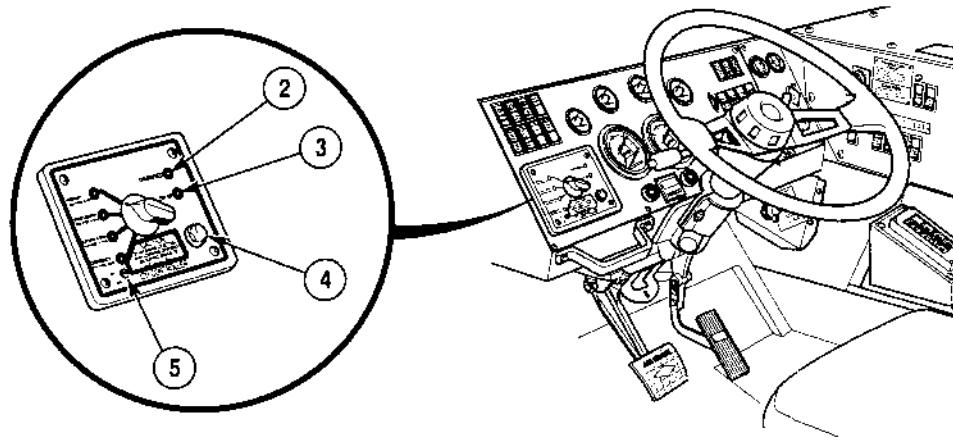


Figure 2-5. CTIS Controller Controls and Indicators - CONT.

Key	Control or Indicator	Function
2	Overspeed Indicator	Lights (amber) when truck average speed for one minute exceeds the speed limit for rotary selector switch (CTIS) setting.
3	Low Air Indicator	Lights solid (red) to warn of low pressure in truck air system. This condition causes CTIS to shut down giving truck brake system priority to the available air pressure. CTIS will automatically resume operation when air pressure builds up to about 110 psi (758 kPa). Light will flash if CTIS has detected a leak in the tires, hoses, fittings, air connections, wheel seals, or is malfunctioning.
4	Start Switch	Press (and hold for one second) this push button switch to start operation of CTIS.
5	ON/OFF Switch	Turn switch to ON position for normal CTIS operation. Driveline lockup function will still operate with switch in OFF position.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

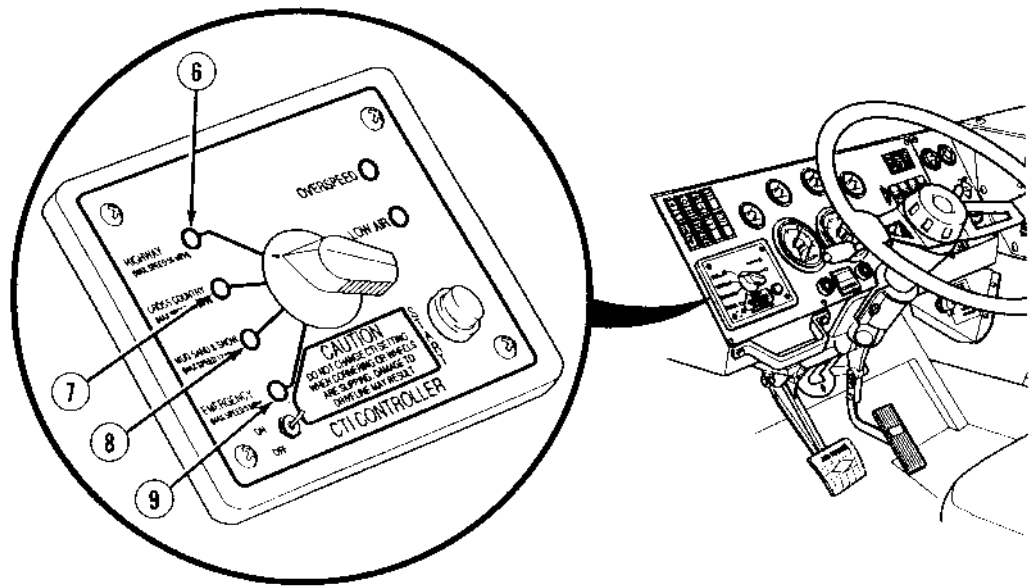


Figure 2-5. CTIS Controller Controls and Indicators - CONT.

Key	Control or Indicator	Function
6	HIGHWAY	Inflates tires to HIGHWAY pressure (Para 2-24).
7	CROSS COUNTRY	Inflates tires to CROSS COUNTRY pressure (Para 2-24).
8	MUD, SAND AND SNOW	Inflates tires to MUD, SAND AND SNOW pressure (Para 2-24). Interaxles differentials will lock causing Axles No. 1 and 2 to turn at the same rate and Axles No. 3, 4 and 5 to turn at the same rate.
9	EMERGENCY	Inflates tires to EMERGENCY pressures (Para 2-24). Interaxle differentials will lock, causing Axles No. 1 and 2 to turn at the same rate and Axles No. 3, 4 and 5 to turn at the same rate. Side to side differential lock up will also occur if the transfer case lever is set to LOW range.

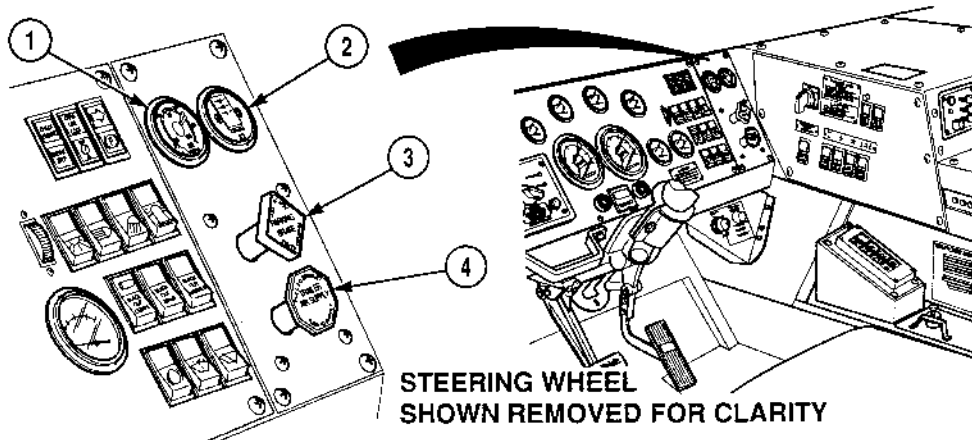


Figure 2-6. Air Panel Controls and Indicators

Key	Control or Indicator	Function
1	Air Pressure Gage	Shows the air pressure (in psi and kPa) in both sections of the air brake system. Green needle shows the front brake air reservoir pressure. Red needle shows the rear brake air reservoir pressure.
2	Air Filter Restriction Indicator	Shows the condition of the air filter. Vacuum in H ₂ O window shows degree of restriction. Indicator should read less than 20 in. (5.0 kPa) for normal operation. If indicator latches at 20 in. (5.0 kPa) during operation, truck may continue to operate until mission is completed. Air filter must be replaced prior to next mission. Push the button to reset.
3	PARKING BRAKE Control	Push to release the truck brakes, pull to apply the truck brakes. Automatically applies the parking brakes if air pressure goes below 35 psi (241 kPa).
4	TRAILER AIR SUPPLY Control	Push to supply air to the trailer air system. Pull to shut off the trailer air.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

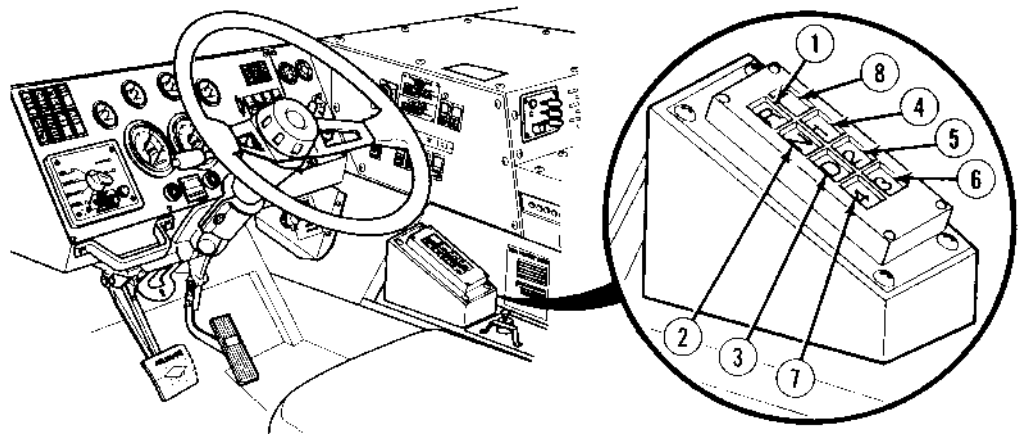


Figure 2-7. Transmission Range Selector Controls

Key	Control or Indicator	Function
1	R	Reverse for backing the truck.
2	N	Neutral, use this position when starting the engine, parking the truck, or if the truck is left unattended while the engine is running with the parking brake applied during crane operation.
3	D	Drive, use this position for all normal driving conditions. The transmission will upshift and downshift automatically. Transmission will start in second gear (low range only) or first gear (high range only).
4	1	Low gear hold, provides the greatest torque and maximum engine braking effect.
5	2	Second gear hold, use when pulling through mud or snow.
6	3	Restricts upshifts to no higher than 3rd gear.
7	4	Restricts upshifts to no higher than 4th gear.
8	DO NOT SHIFT	Indicates (lights red) the operating condition under which shifting would cause damage to the equipment.

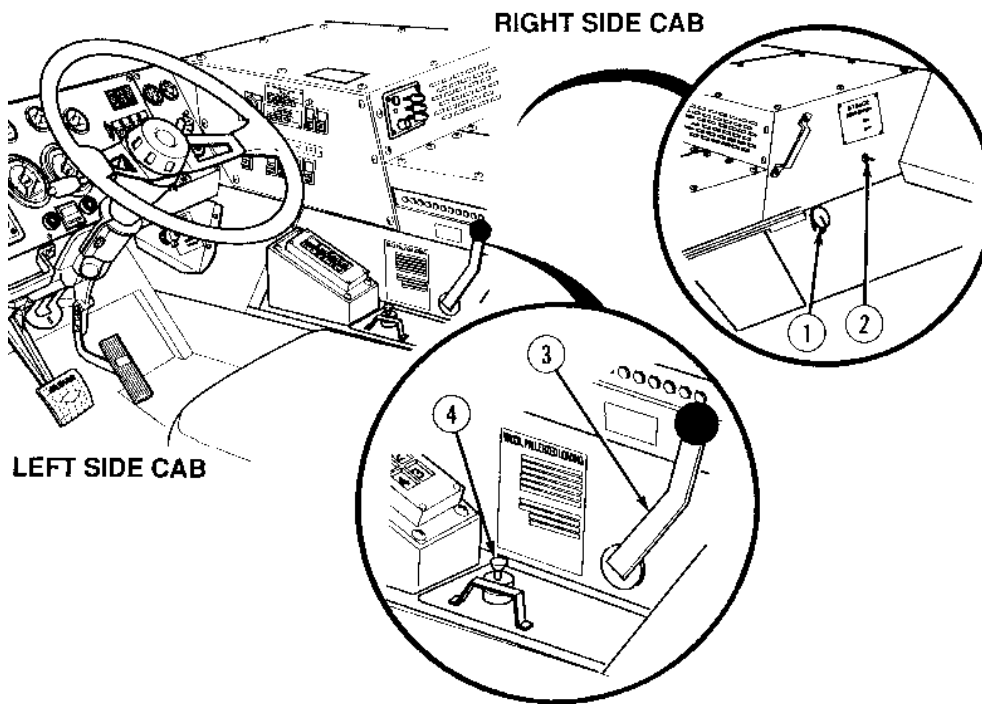


Figure 2-8. Tunnel Panel Controls

Key	Control or Indicator	Function
1	STE/ICE-R Receptacle	For connecting Simplified Test Equipment/Internal Combustion Engine-Reprogrammable (STE/ICE-R).
2	STE/ICE-R ZERO OFFSET Switch	Resets the instrument connected to the STE/ICE-R receptacle switch to zero.
3	TRANSFER CASE Shift Lever	Used to select high (HI) or low (LO) range. Center position is neutral.
4	LHS Load/Unload Joystick	Operates the LHS for loading and unloading.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

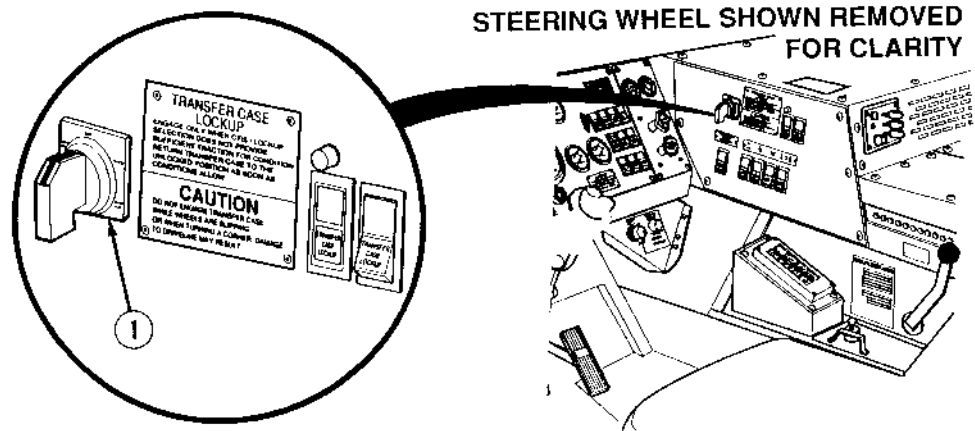


Figure 2-9. Side Panel Assembly Controls and Indicators

Key	Control or Indicator	Function
1	Hydraulic Selector Switch	<p>Selects hydraulic power for LHS, Crane, or Self-Recovery Winch. Selects the mode of operation for LHS.</p> <p>CAUTION</p> <p>Always have selector switch in OFF position when driving down the road or damage to equipment may result.</p> <ul style="list-style-type: none"> • OFF, all hydraulic systems are turned off. • Automatic (AUTO) LHS, hydraulic circuit is activated and system will automatically respond to joystick movement by the operator.

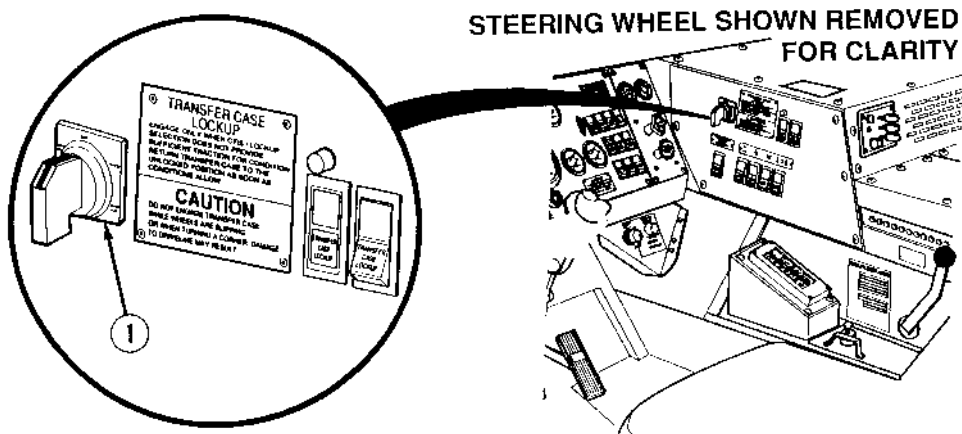


Figure 2-9. Side Panel Assembly Controls and Indicators - CONT.

Key	Control or Indicator	Function
1	Hydraulic Selector Switch - Cont.	<ul style="list-style-type: none"> • Manual Hook Arm (MAN H.A.) LHS manual hook arm setting is used when automatic sequencing is not operating. This setting bypasses the automatic sequencing circuit to manually operate the Hook Arm only. • Manual Main Frame (MAN M.F.) LHS manual main frame setting is used when automatic sequencing is not operating. This setting bypasses the automatic sequencing system to operate the Main Frame only. • Manual Transport (MAN TRANS) if auto sequence has electrical failure, this position must be selected if the truck is to travel. • Crane/Self-Recovery Winch (CRANE/SRW) used to switch hydraulic power to either the Crane or Winch.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

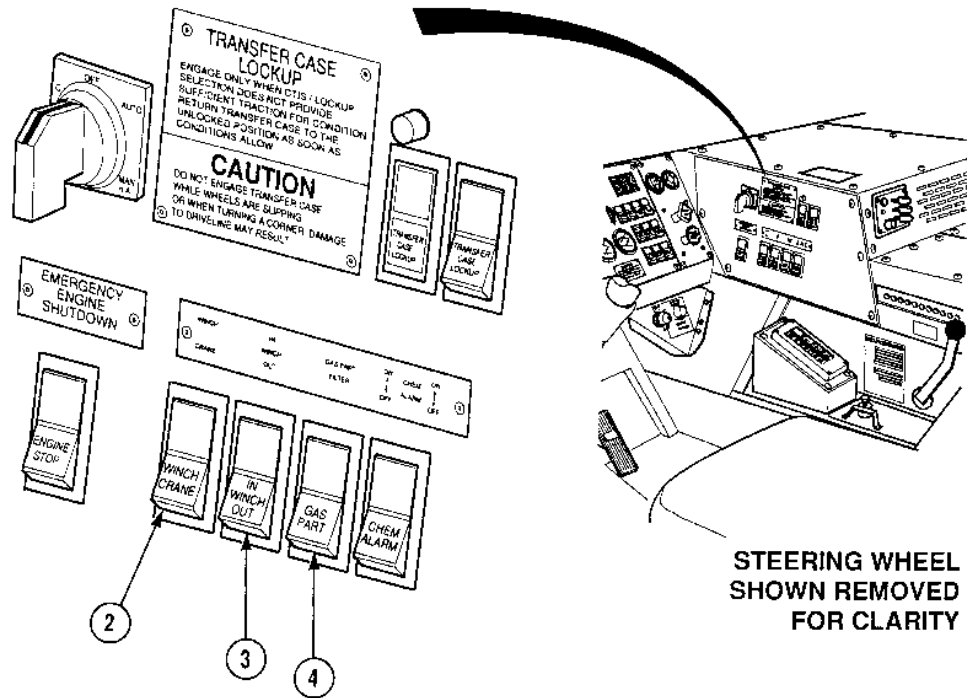


Figure 2-9. Side Panel Assembly Controls and Indicators - CONT.

Key	Control or Indicator	Function
2	WINCH/CRANE Switch	Allows the operator to select SRW or Crane individually when the truck is equipped with both kits.
3	WINCH IN/OUT Switch	Press the switch to control SRW operation from inside the cab when the truck is equipped with SRW kit. IN position pulls the cable in. OUT position feeds the cable out.
4	Gas Particulate Filter Unit (GPFU) Switch	Turns gas particulate filter on or off when the truck is so equipped.

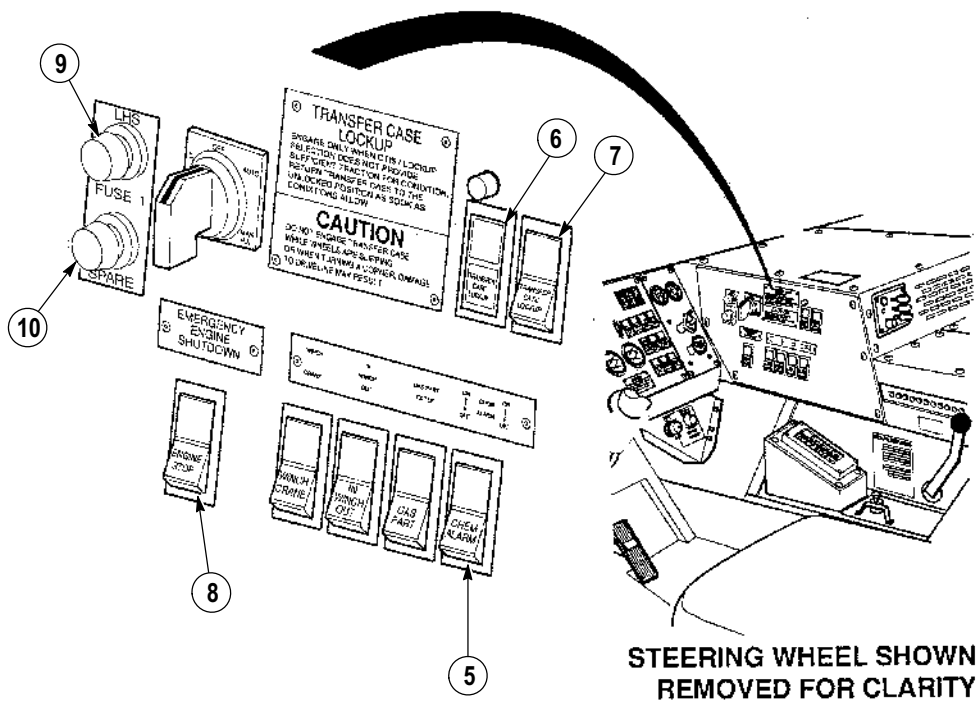


Figure 2-9. Side Panel Assembly Controls and Indicators - CONT.

Key	Control or Indicator	Function
5	Chemical Alarm Switch	Arms chemical alarm system when the truck is so equipped.
6	Transfer Case Lockup Indicator	Lights (amber) when the transfer case is in locked position.
7	Transfer Case Lockup ON/OFF Switch	Locks or unlocks the transfer case.
8	Emergency Engine Shutdown (ENGINE STOP)	Shuts down the engine in the event of Engine ON/OFF/START switch (Figure 2-4, Item 43) failure.
9	LHS Fuse	Protects the LHS controller (joystick) from an over voltage condition (If equipped).
10	Spare LHS Fuse	Holds spare fuse (If equipped).

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

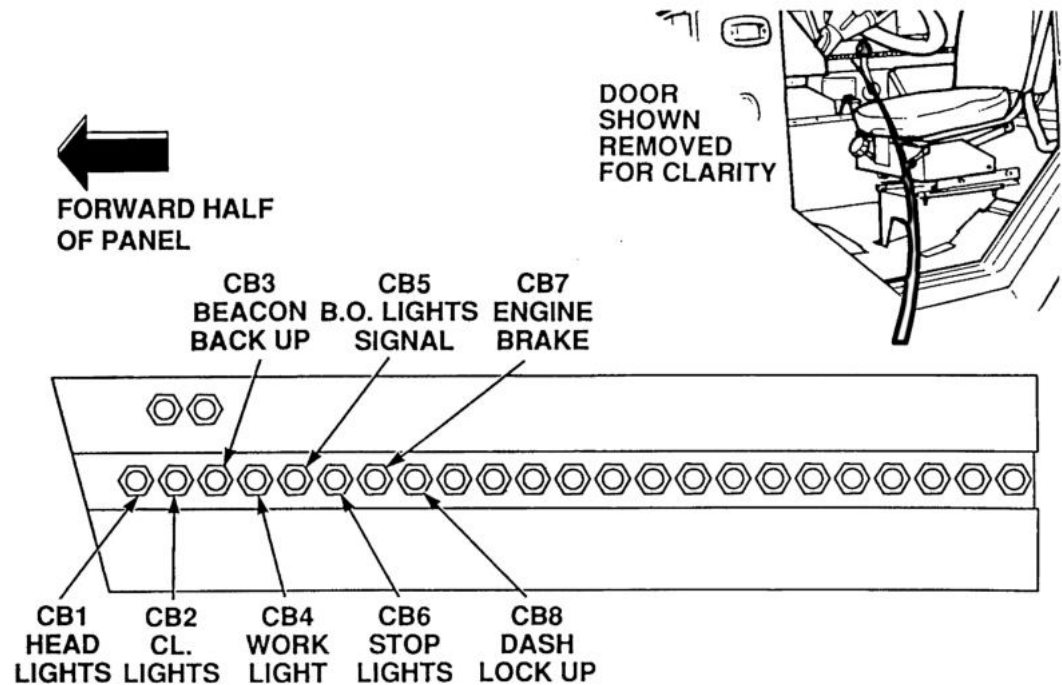


Figure 2-10. Circuit Breakers

Circuit Breaker	Supplies	Circuit Protection For
<p align="center">NOTE</p> <p align="center">Circuit breakers pop out when tripped. Push breakers in to reset.</p>		
CB1	12 volts	Headlights
CB2	12 volts	Clearance, ID Side Marker Lights
CB3	12 volts	Beacon, Backup Light, Horn
CB4	12 volts	Work Lights
CB5	12 volts	B.O. Lights, Turn Signals
CB6	12 volts	Stop Light
CB7	12 volts	Engine Brake
CB8	12 volts	Fuel Water/Separator Inter Axle, Diff Lock, Dash Lights

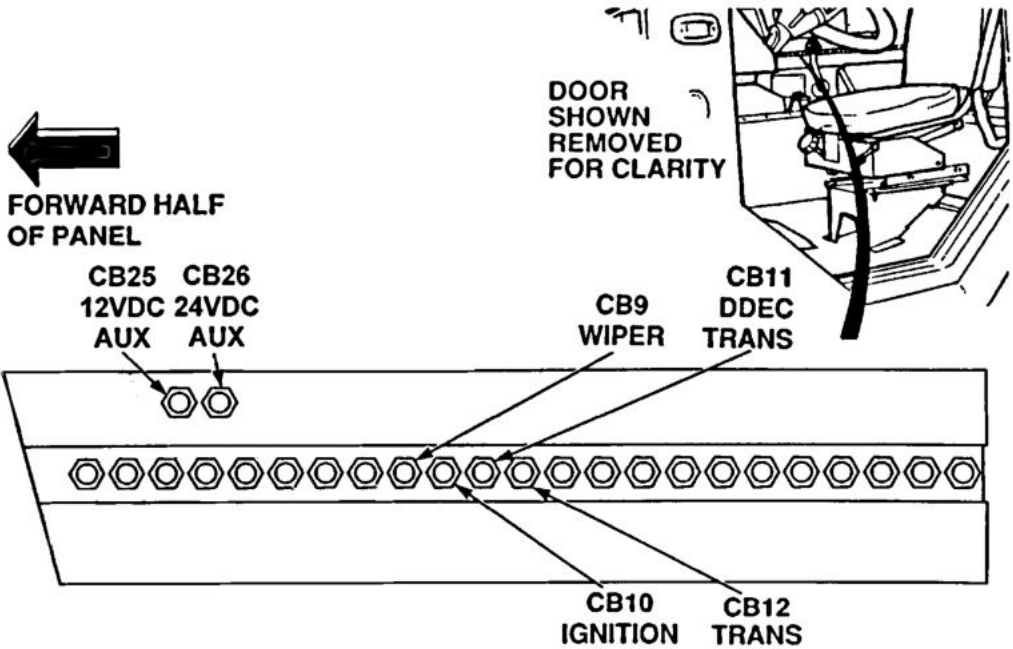


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
NOTE Circuit breakers pop out when tripped. Push breakers in to reset.		
CB9	12 volts	Windshield Wipers
CB10	12 volts	Ignition
CB11	12 volts	DDEC/TRANS
CB12	12 volts	Transmission
CB25	12 volts	Auxiliary (If Equipped)
CB26	24 volts	Auxiliary (If Equipped)

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

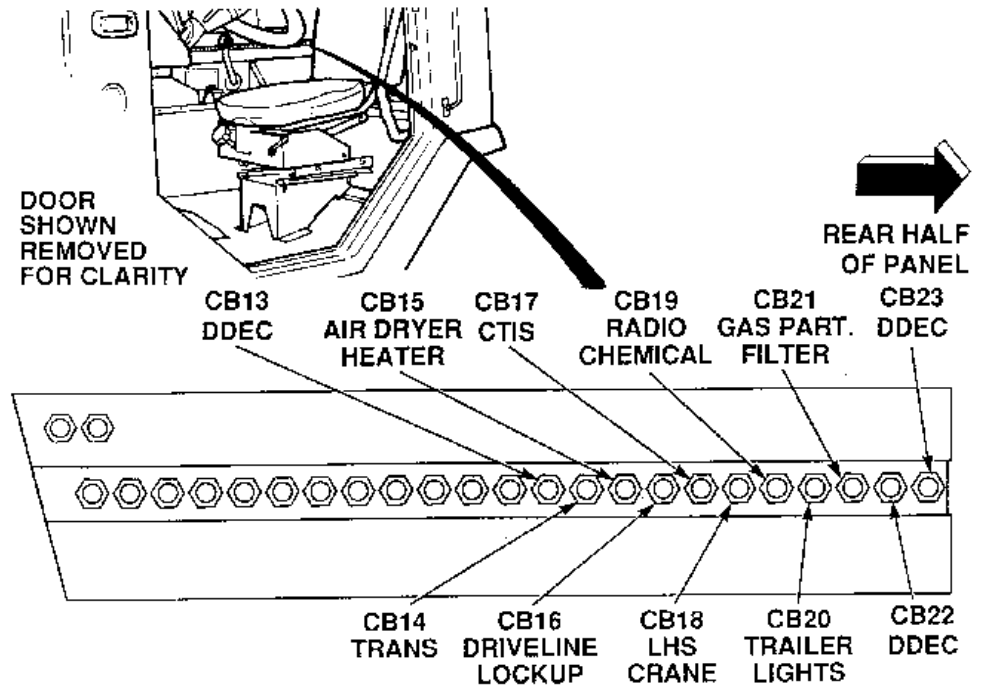


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
<p>NOTE</p> <p>Circuit breakers pop out when tripped. Push breakers in to reset.</p>		
CB13	12 volts	DDEC
CB14	12 volts	Transmission
CB15	24 volts	Heater
CB16	24 volts	Inter Axle/Diff Relay
CB17	24 volts	CTIS
CB18	24 volts	LHS/Crane
CB19	24 volts	Chemical Alarm/Radio
CB20	24 volts	Trailer Lighting/Horn
CB21	24 volts	Gas Particulate Filter/Air Heater
CB22	12 volts	DDEC
CB23	12 volts	DDEC

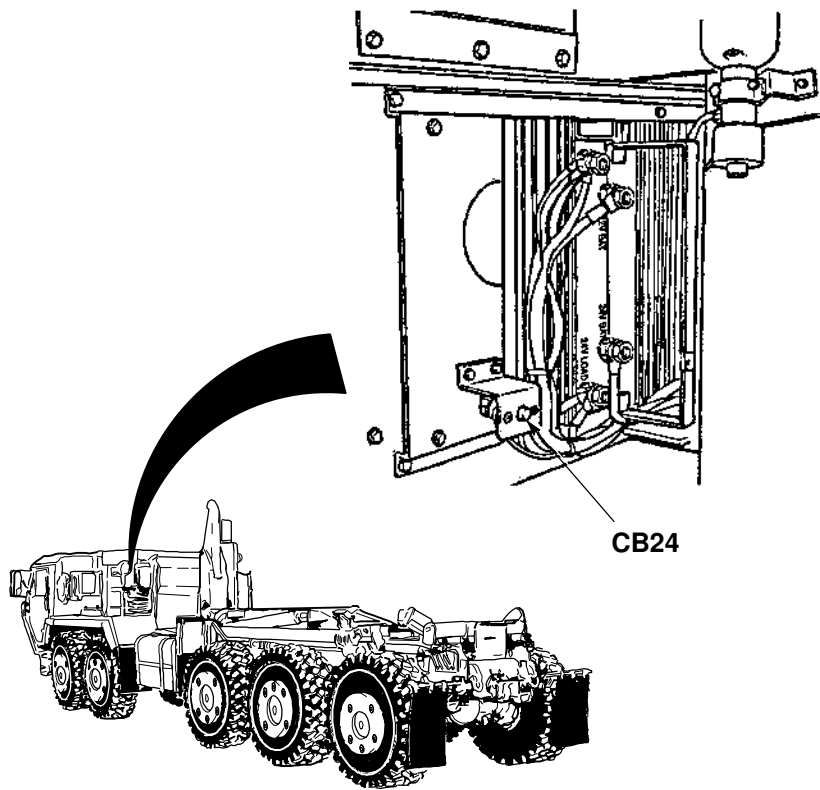


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
CB24	24 volts	Fuel Pump

NOTE

Circuit breakers pop out when tripped.
Push breakers in to reset.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

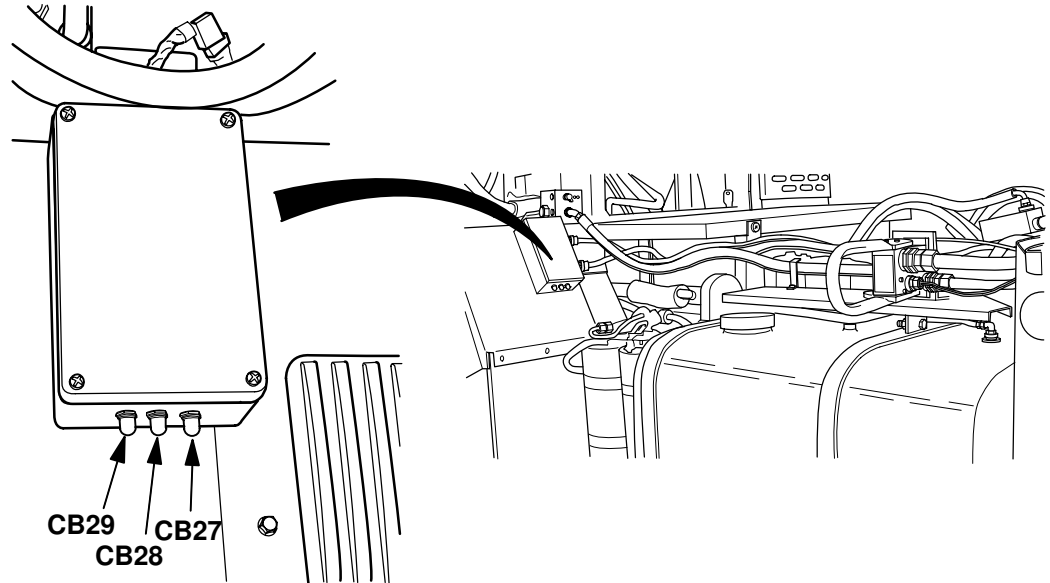


Figure 2-10. Circuit Breakers - CONT.

Circuit Breaker	Supplies	Circuit Protection For
<p>NOTE</p> <p>Circuit breakers pop out when tripped. Push breakers in to reset.</p>		
CB27	12 volts	Power Interface Source (If equipped)
CB28	24 volts	Power Interface Source (If equipped)
CB29	24 volts	Interface Interlock (If equipped)

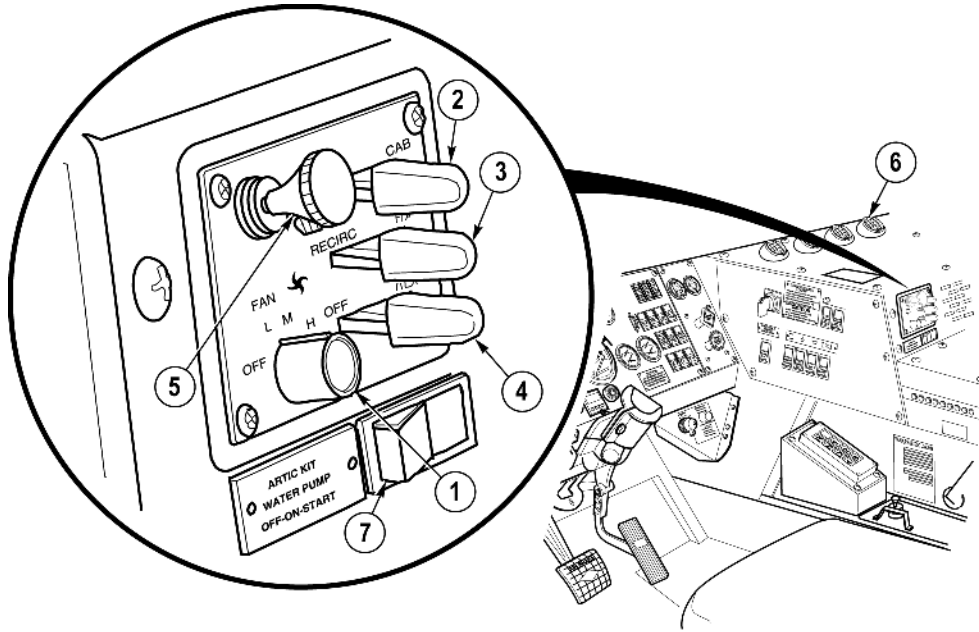


Figure 2-11. Heater Controls and Indicators

Key	Control or Indicator	Function
1	FAN Control	Controls speed of the heater fan.
2	DEFROST	Controls amount of air blown on the windshield or cab floor.
3	AIR Control	Controls amount of outside air entering the cab through fresh air vent.
4	HEAT Control	Controls amount of hot air entering the cab.
5	Cab Ventilator	Controls amount of air blown from the blower vents.
6	Blower Vents	Controls direction of air flow.
7	Arctic Heater Switch	Turns ON/OFF power to the arctic heater pump (if equipped).

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

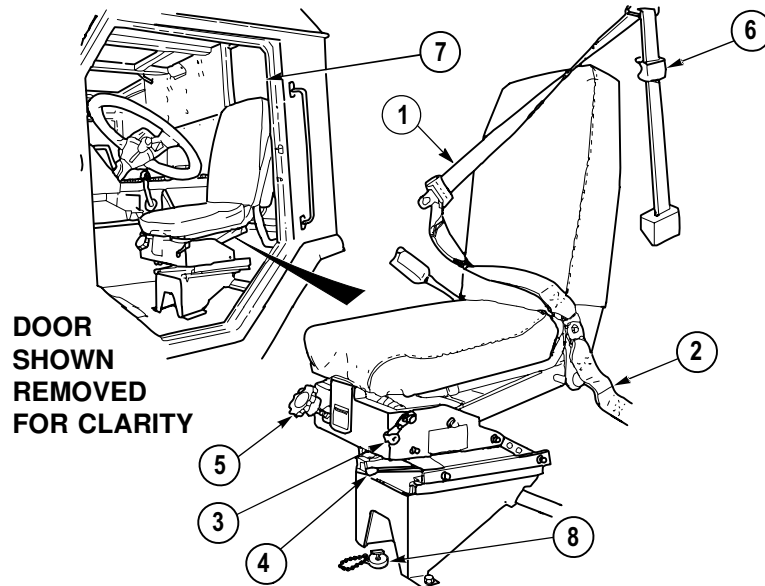


Figure 2-12. Operator and Crew Seat Adjustment Controls

Key	Control or Indicator	Function
1	Seat Belt/Shoulder Belt	Secures personnel in the seat (controls on both seats are the same).
2	Seat Connector Strap	Secures seat to the cab frame.
3	Height Adjustment Control	Use to adjust the seat height.
4	Forward/Backward Adjustment Control	Use to move the seat forward or backward on slides.
5	Ride Adjustment Control	Use to adjust the seat tension and ride firmness.
6	Shoulder Harness Latch	Use to adjust the shoulder harness.
7	Cargo Net	Use to store chemical and biological warfare gear or personal items, one behind each seat. MHC cable stored behind passenger seat.
8	Cab Floor Drain	Use to drain out water from cab.

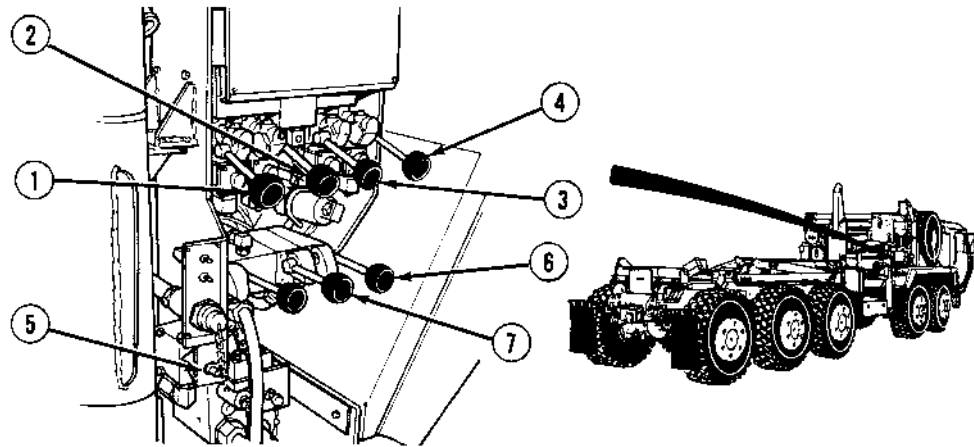


Figure 2-13. Right Hand Crane and Outrigger Jack Control Panel

Key	Control or Indicator	Function
1	SWING Control Lever	Moves boom clockwise and counterclockwise.
2	TELESCOPE Control Lever	<div style="border: 1px dashed black; padding: 5px; text-align: center; margin-bottom: 10px;">CAUTION</div> <p>TELESCOPE and HOIST control levers should be operated at the same time or hook block will contact boom tip and cause damage.</p> <p>Move TELESCOPE control lever to OUT position to extend the boom. Move TELESCOPE control lever to IN position to retract the boom.</p>
3	BOOM Lift Control Lever	Raises and lowers the boom.
4	HOIST Control Lever	Reels in and pays out the cable.
5	MHC MAIN HYDRAULIC PRESSURE MANUAL OVERRIDE	Provides emergency hydraulic power when electrical power fails that results in loss of outrigger jack and crane function.
6	RH O/R JACK Control Lever	Lowest and raises the right outrigger jack.
7	MAST Control Lever	Raises the mast to operating position and lowers the mast to stowage position.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

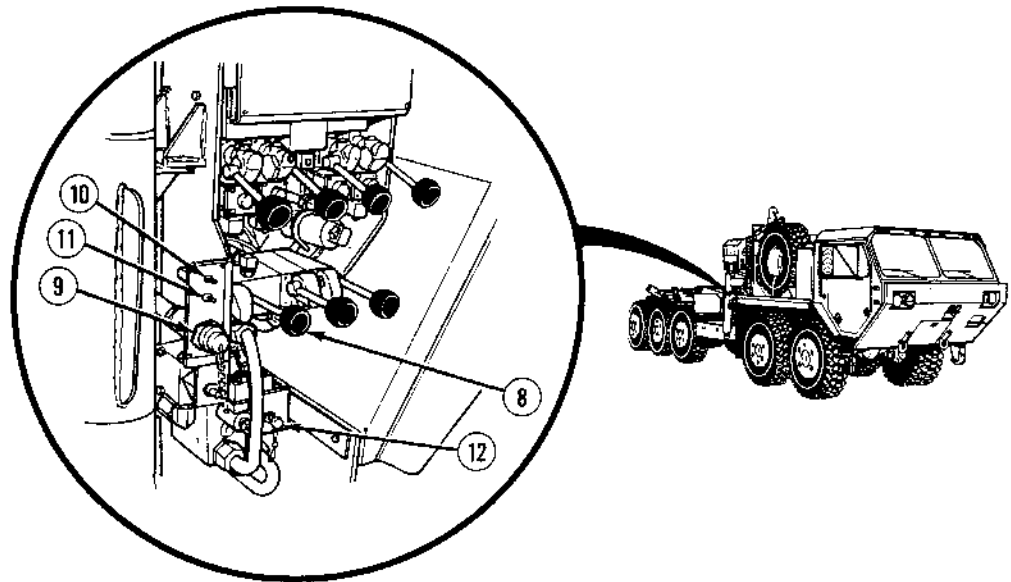


Figure 2-13. Right Hand Crane and Outrigger Jack Control Panel - CONT.

Key	Control or Indicator	Function
8	LH O/R JACK Control	Lowens and raises the left outrigger jack.
9	RH Remote Control Hookup	Connection for the remote control when used on RH side.
10	Main Power Switch	Provides electrical power to the crane and outrigger jacks. Protects crane electrical systems.
11	High Idle Switch	Raises and latches the truck engine speed at high idle for crane operation.
12	MHC SYSTEM HYDRAULIC PRESSURE MANUAL OVERRIDE	Remove safety wire then push in and hold to allow manual override to function when the outrigger jack safety circuit has failed (outrigger jacks are deployed but crane boom, telescope, swing and hoist functions do not operate).

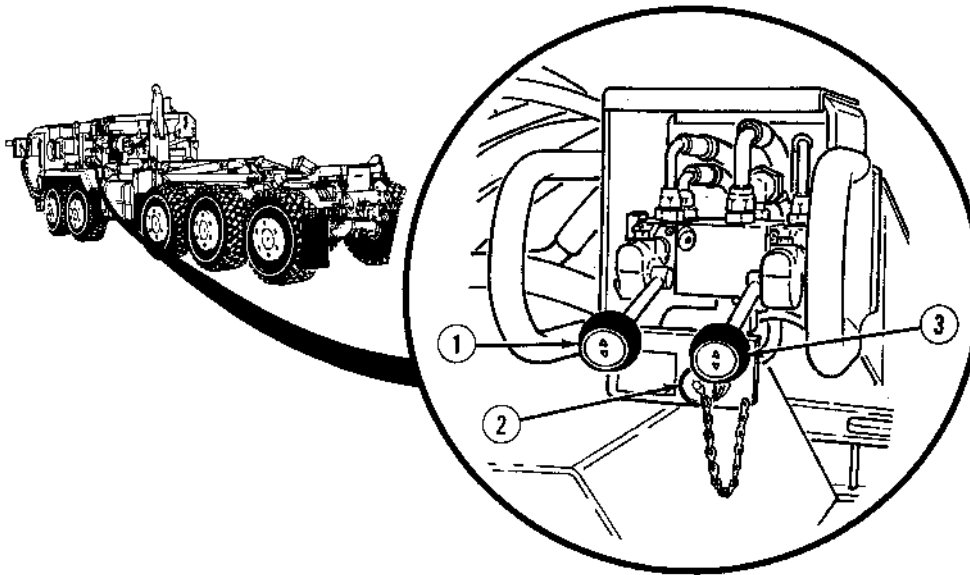


Figure 2-14. Drivers Side Outrigger Jack Control Panel

Key	Control or Indicator	Function
1	LH O/R JACK Control	Lowers and raises the left outrigger jack.
2	LH Remote Control Hookup	Connection for the remote control when used on LH side.
3	RH O/R JACK Control Lever	Lowers and raises the right outrigger jack.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

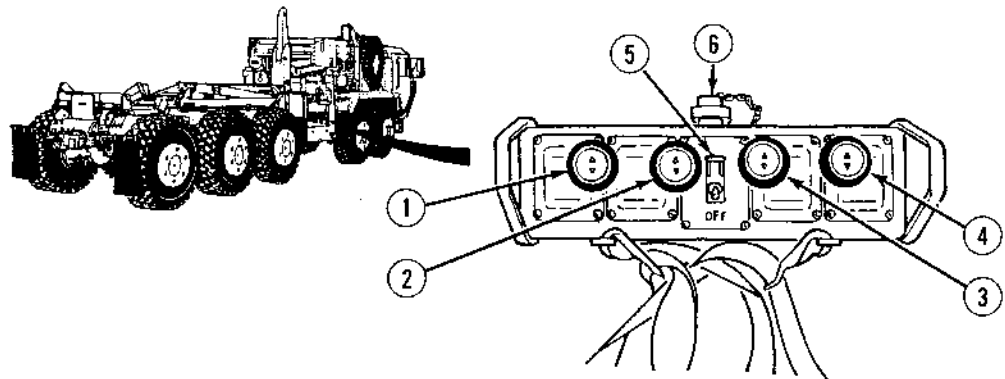


Figure 2-15. Crane Remote Control Unit

Key	Control or Indicator	Function
1	SWING Control Lever	Moves crane clockwise and counterclockwise.
2	TELESCOPE Control Lever	<div style="text-align: center;">CAUTION</div> <p>TELESCOPE and HOIST control levers should be operated at the same time or hook block will contact boom tip and cause damage.</p> <p>Move TELESCOPE control lever to OUT position to extend the boom. Move TELESCOPE control lever to IN position to retract the boom.</p>
3	BOOM Control Lever	Raises and lowers the boom.
4	HOIST Control Lever	Reels in and pays out the cable.
5	REMOTE CONTROL UNIT ON/OFF/EMERGENCY STOP Switch	Supplies and shuts off electrical power to the crane and controls truck engine speed from REMOTE CONTROL UNIT. Also provides crane EMERGENCY STOP/TRUCK IDLE CONDITION.
6	REMOTE Hookup Wire Outlet	Allows cable hookup between the crane and remote.

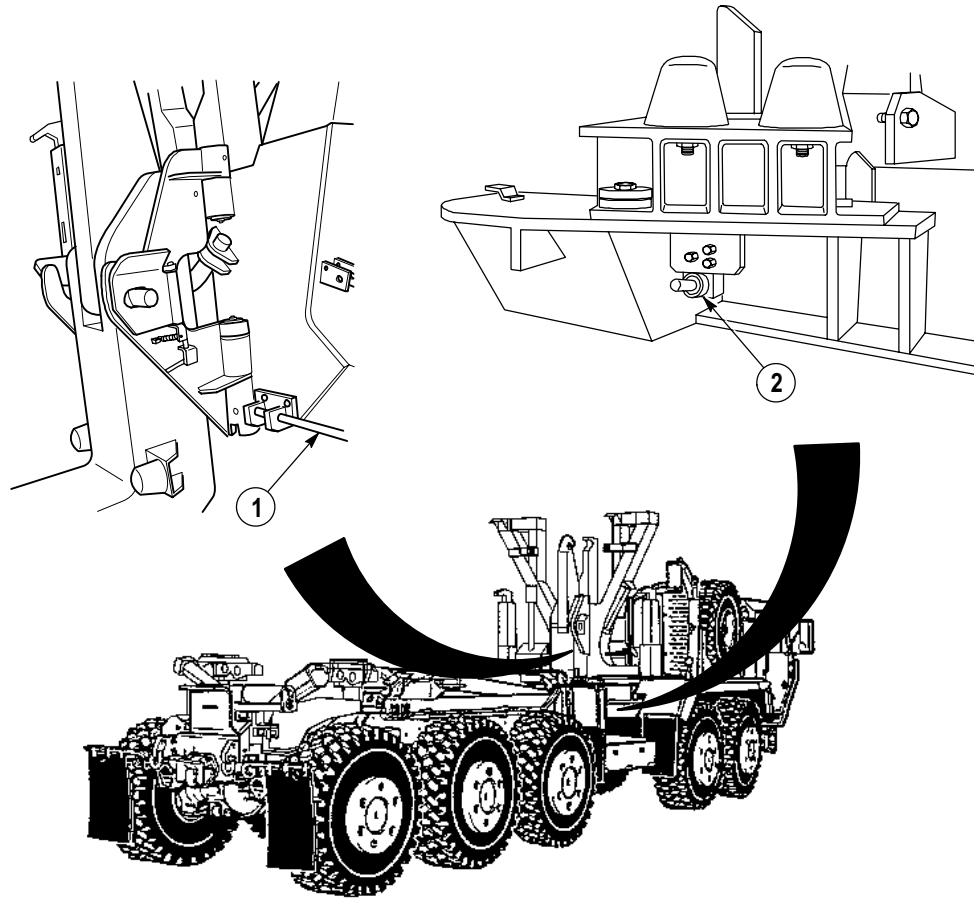


Figure 2-16. Right Hand Container Handling Unit Controls

Key	Control or Indicator	Function
1	Flipper Lock Pin Handle (RH)	Locks flipper bracket in locked or unlocked position.
2	Air Control Valve (RH)	Operates air cylinder to paddle that rotates flipper bracket when lifting frame is in stowed position.

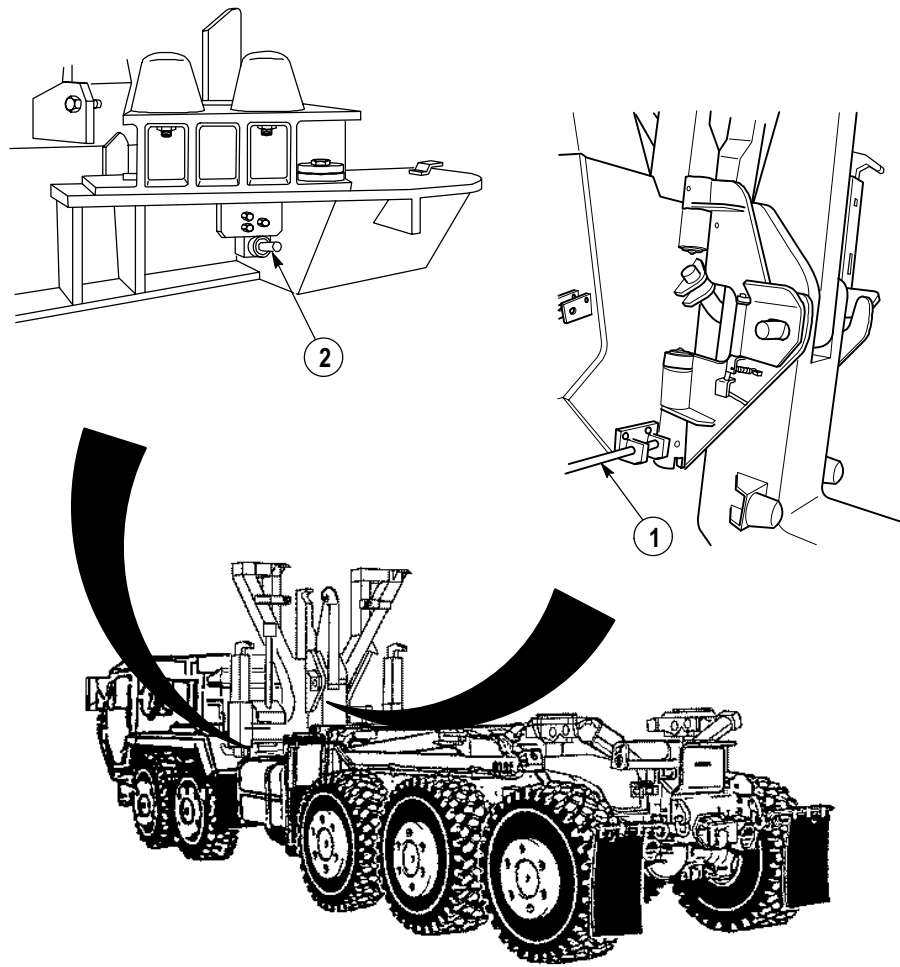
**2-3. LOCATION AND USE OF CONTROLS AND INDICATORS
(CONT).**

Figure 2-17. Left Hand Container Handling Unit Controls

Key	Control or Indicator	Function
1	Flipper Lock Pin Handle (LH)	Locks flipper bracket in locked or unlocked position.
2	Air Control Valves (LH)	Operates air cylinder to paddle that rotates flipper bracket when lifting frame is in stowed position.

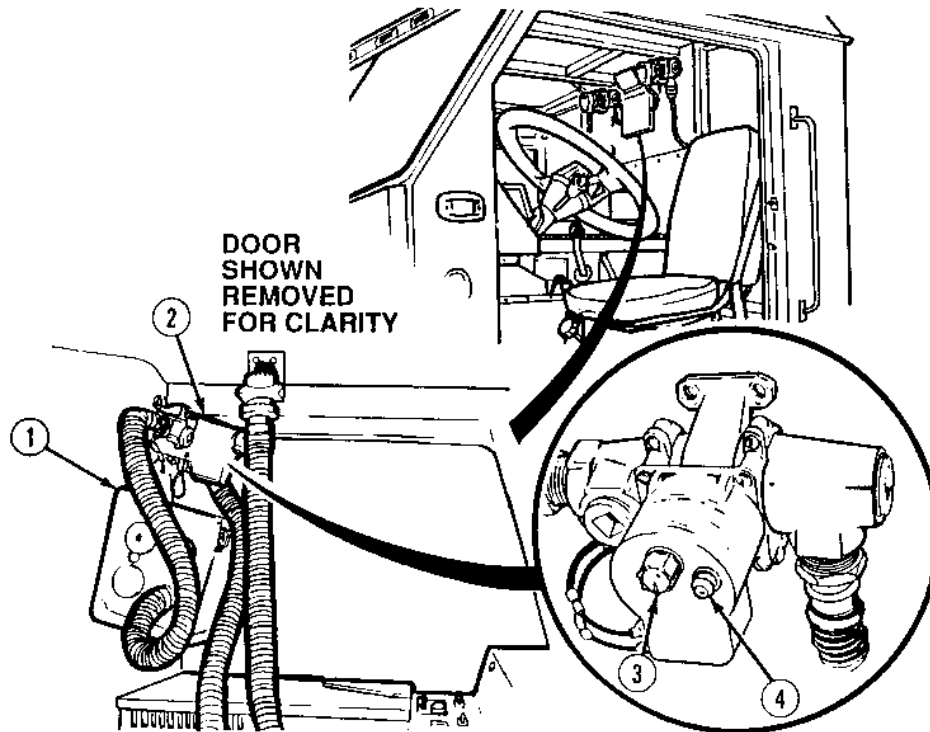


Figure 2-18. Gas Particulate Filter Unit (GPFU) Kit

Key	Control or Indicator	Function
1	Gas Particulate Filter Unit (GPFU)	Filters nuclear, biological and chemical (NBC) contaminants from the air.
2	M-3 Heater	Warms the air entering protective mask.
3	M-3 Heater Control Knob	Turn CW for warmer air. Turn CCW for cooler air. Turn to OFF to shut off heater.
4	M-3 Heater Indicator Light	Lights when the heater is operating.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

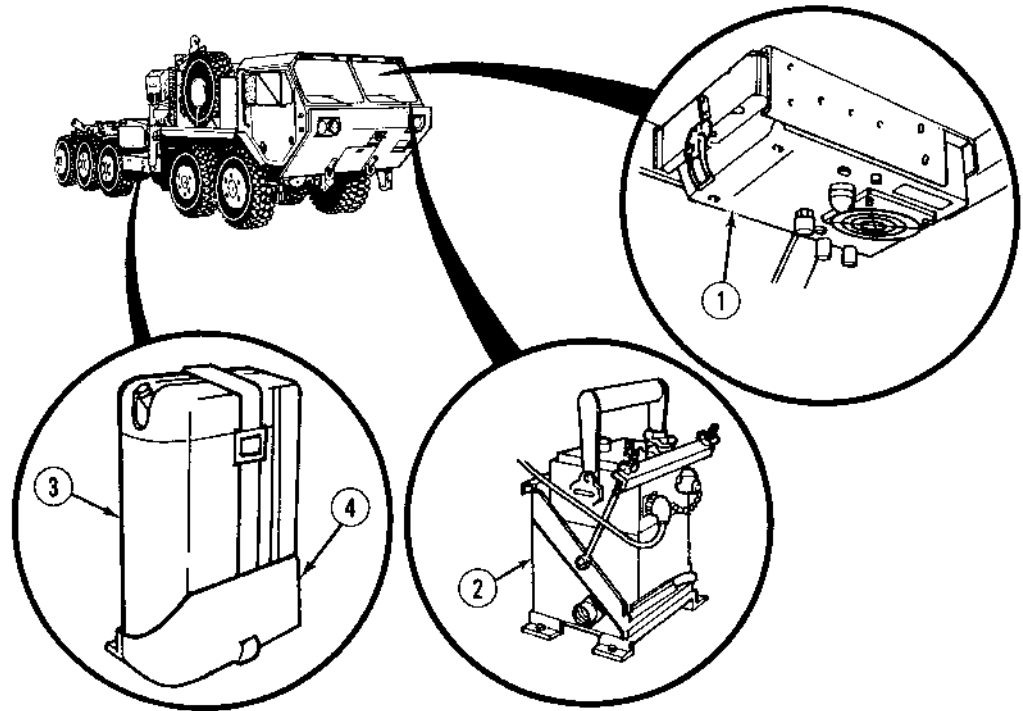


Figure 2-19. M-8 Chemical Alarm and Decontamination Unit Kits

Key	Control or Indicator	Function
1	M-8 Chemical Alarm	Sounds the alarm when chemicals are detected.
2	Chemical Detector	Detects the presence of chemicals in air.
3	M-13 Decontamination Unit	Holds and dispenses the decontaminant.
4	Decontamination Unit Mount	Holds the decontamination unit.

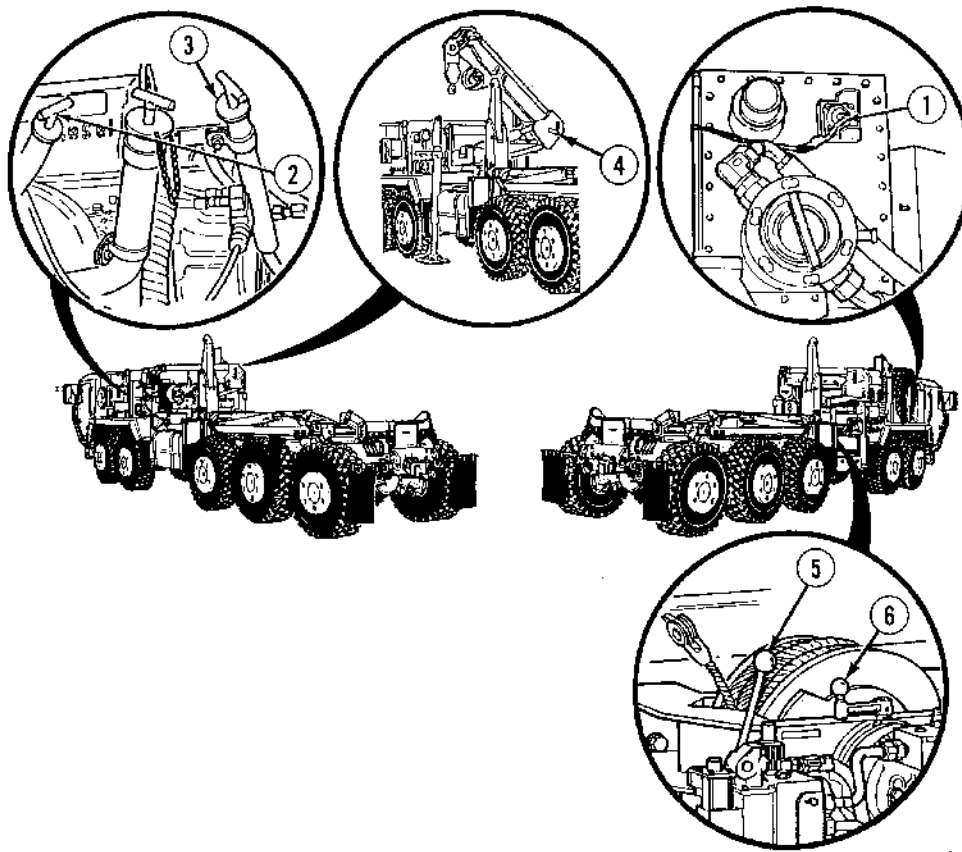


Figure 2-20. Exterior Mounted Controls and Indicators

Key	Control or Indicator	Function
1	Hydraulic Reservoir Gage	Indicates hydraulic oil level in the main reservoir.
2	Engine Oil Dipstick	Indicates the engine oil level.
3	Transmission Oil Dipstick	Indicates the transmission oil level.
4	Boom Angle Indicator	Indicates the angle of boom inclination.
5	Self-Recovery Winch Control Lever	Pays the cable in or out.
6	Self-Recovery Winch Clutch	Engages and disengages the winch clutch control to allow free spooling of the winch.

**2-3. LOCATION AND USE OF CONTROLS AND INDICATORS
(CONT).**

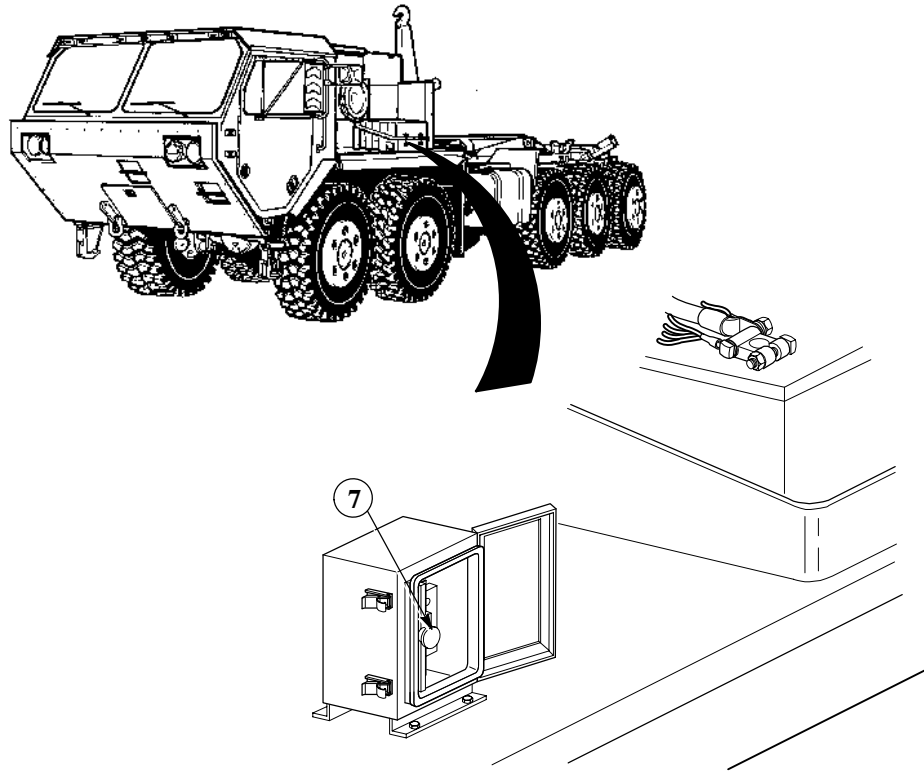


Figure 2-20. Exterior Mounted Controls and Indicators - CONT.

Key	Control or Indicator	Function
7	Battery Disconnect Switch (If equipped)	Disconnects the batteries prior to long term storage and during maintenance actions.

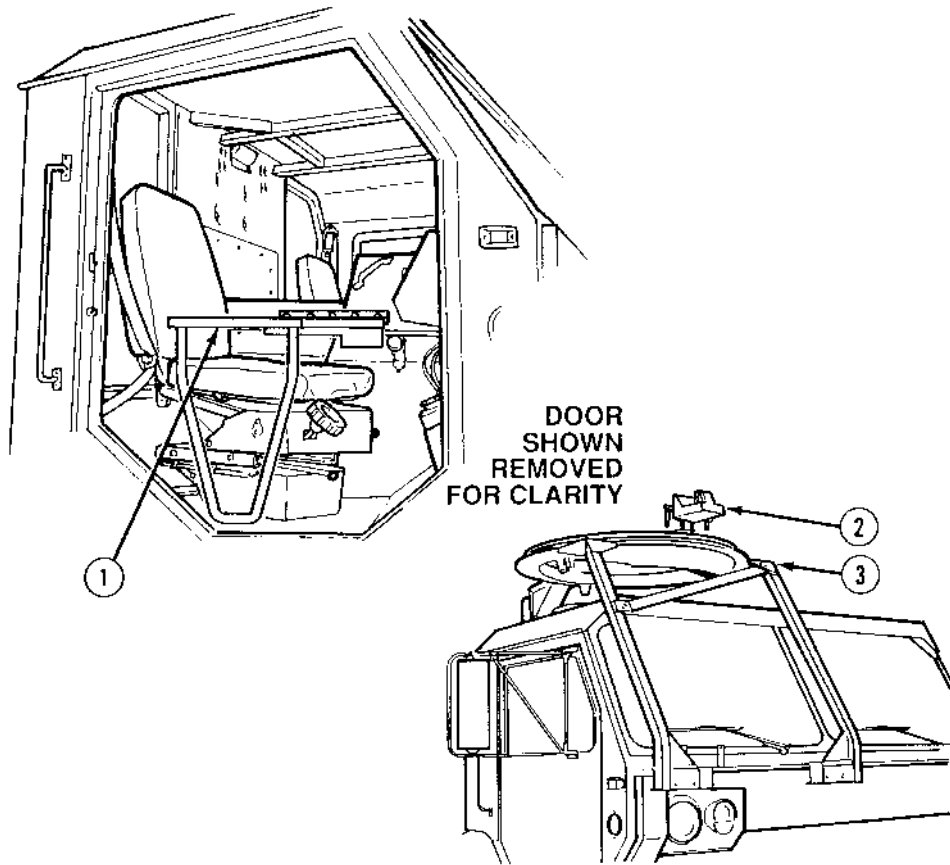


Figure 2-21. Machine Gun Mount Kit

Key	Control or Indicator	Function
1	Machine Gun Operator Platform	Supports the machine gun operator.
2	Machine Gun Mount	Secures the machine gun to machine gun ring.
3	Machine Gun Ring	Allows the machine gun to turn 360°.

2-3. LOCATION AND USE OF CONTROLS AND INDICATORS (CONT).

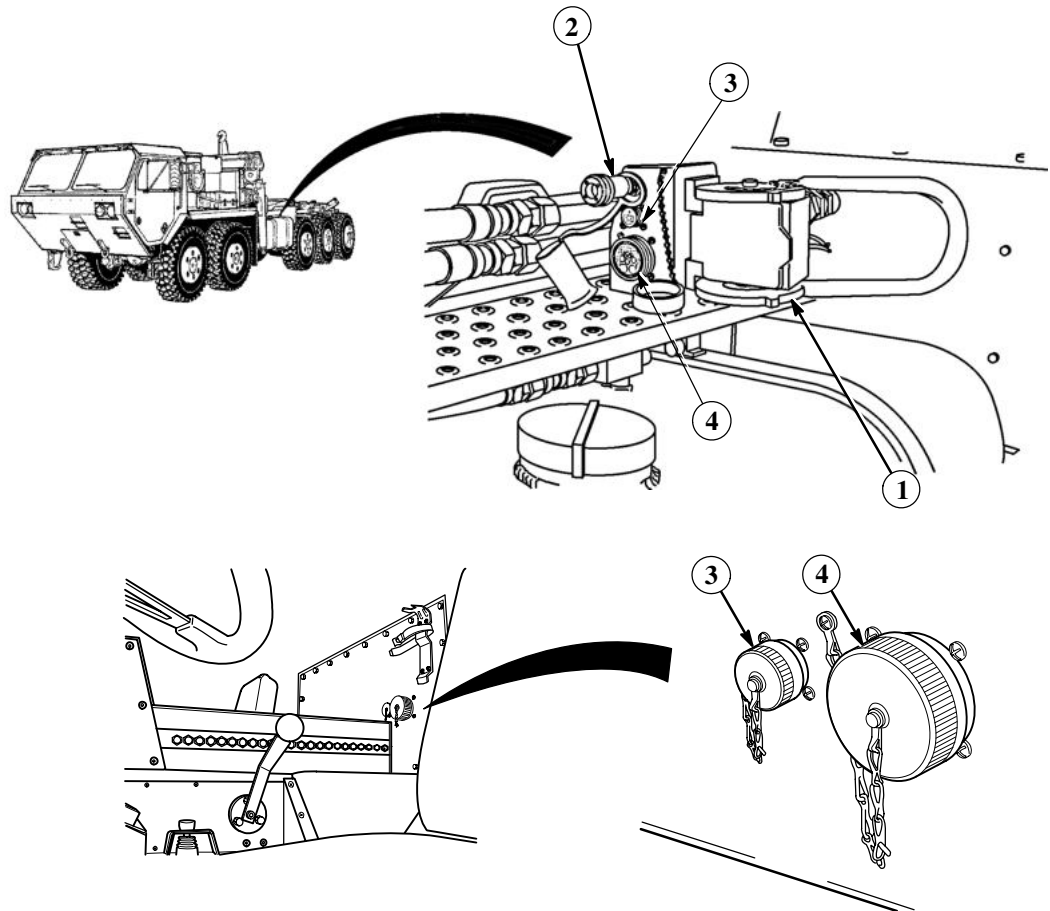


Figure 2-22. Power Interface Kit (If Equipped)

Key	Control or Indicator	Function
1	Power Interface Hydraulic Quick Disconnect	Connection that supplies hydraulic fluid pressure to an engineering mission module.
2	Power Interface Air Quick Disconnect	Connection that supplies air pressure to an engineering mission module.
3	Power Interface Electrical Connector (5 pin)	Connection to auxillary equipment high idle circuit of an engineering module.
4	Power Interface Electrical Connector (23 pin)	Connection that supplies electrical power to an engineering mission module.

2-4. DECALS AND INSTRUCTION PLATES.

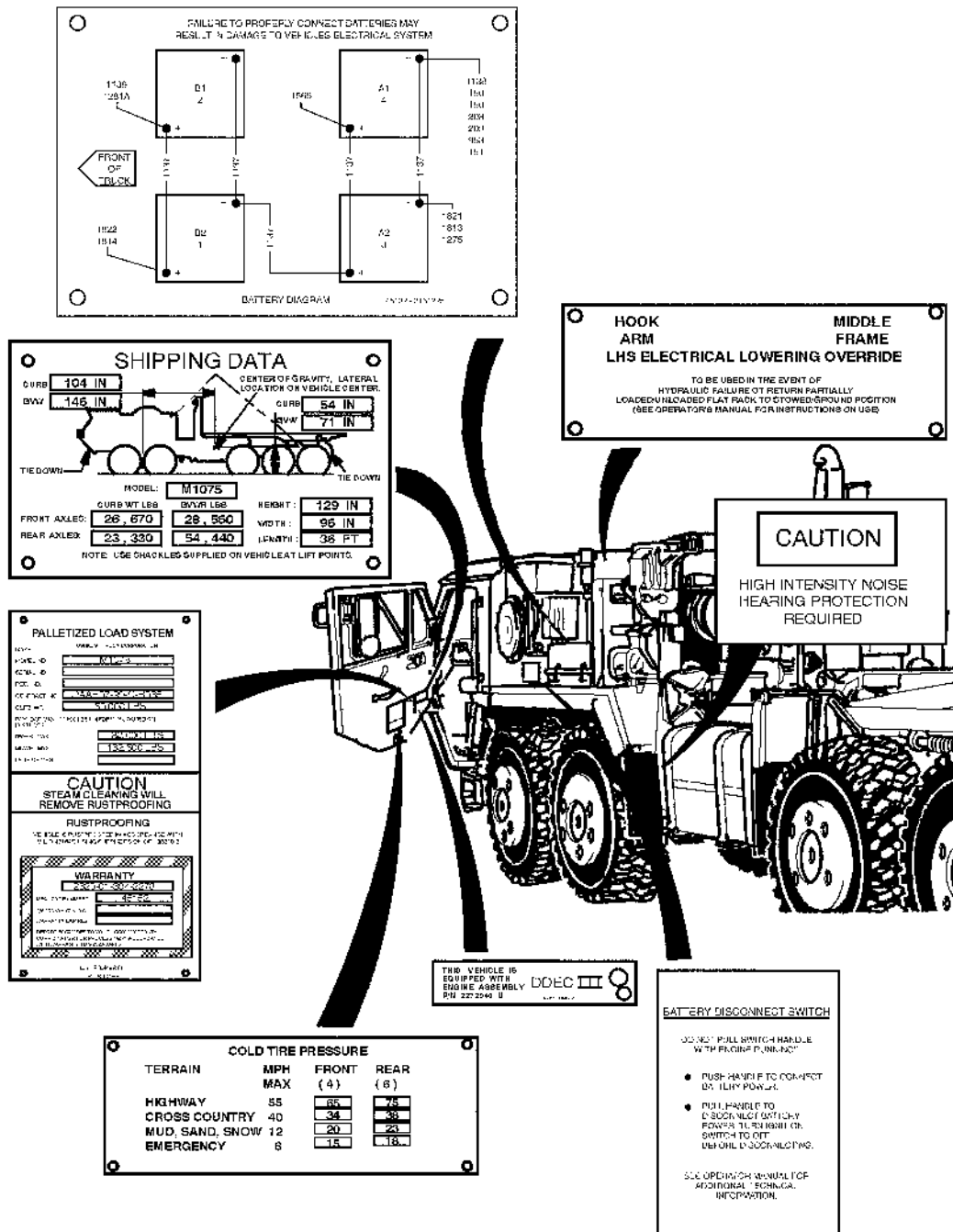


Figure 2-23. Decals and Instruction Plates

2-4. DECALS AND INSTRUCTION PLATES (CONT).



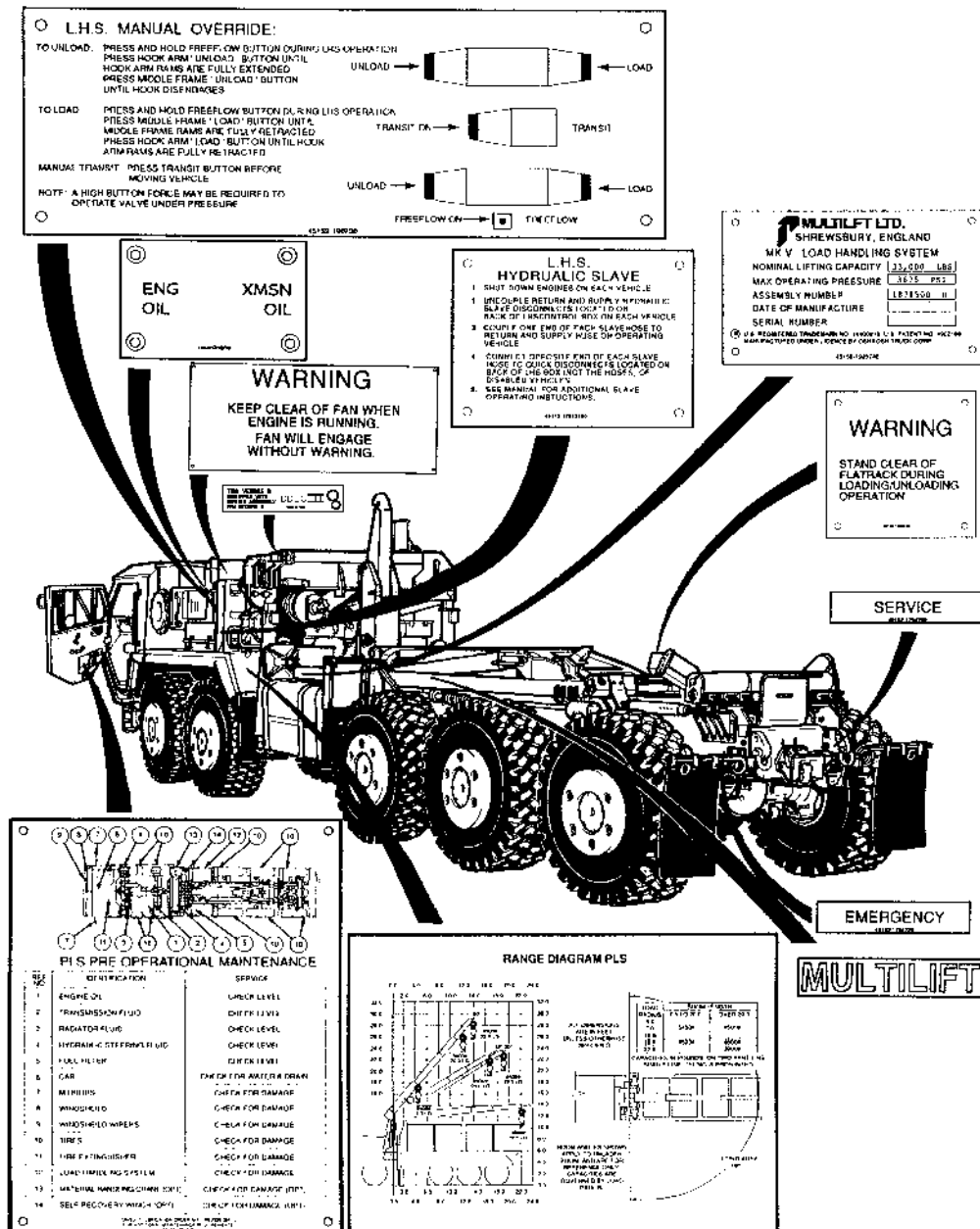


Figure 2-23. Decals and Instruction Plates - CONT.



2-4. DECALS AND INSTRUCTION PLATES (CONT).

2-4. DECALS AND INSTRUCTION PLATES (CONT).

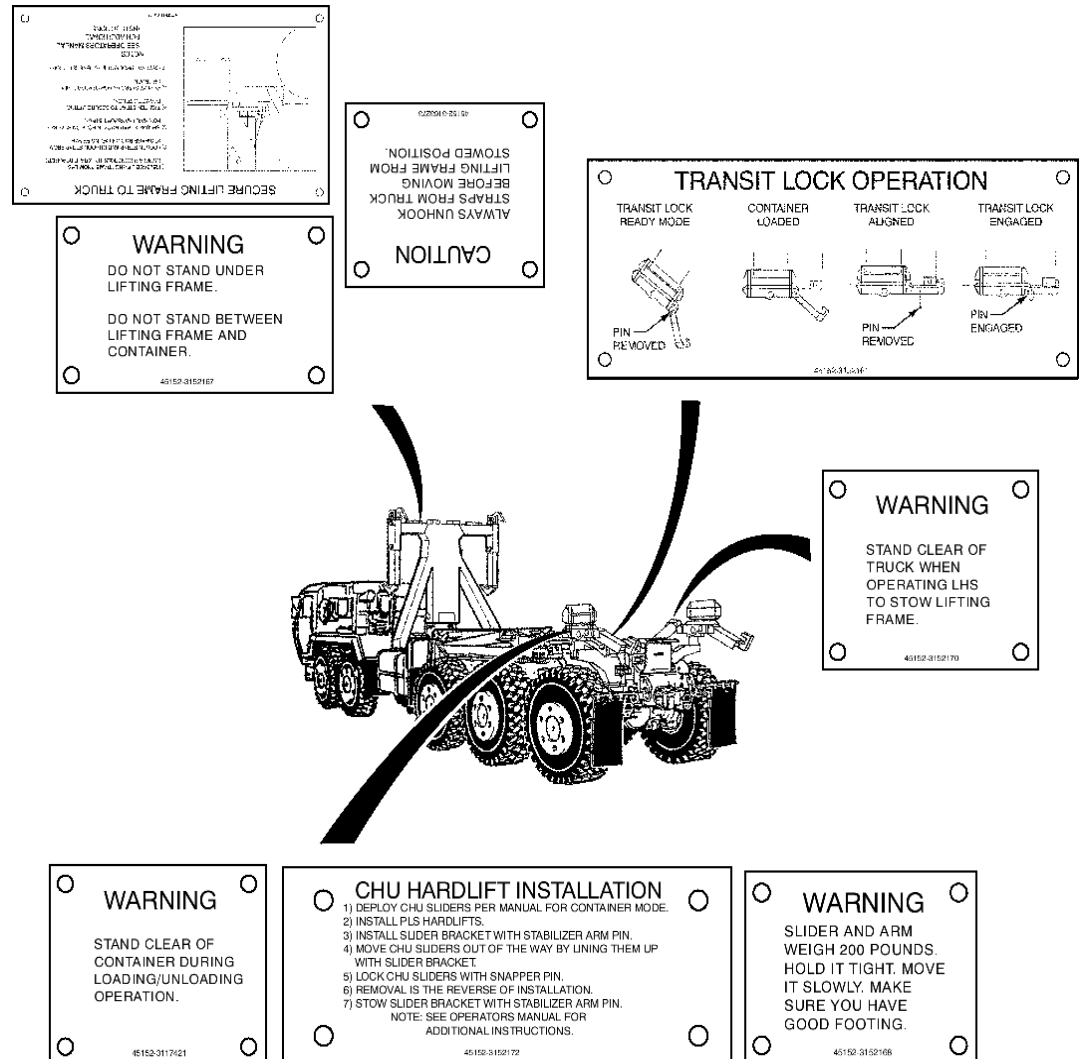


Figure 2-23. Decals and Instruction Plates - CONT.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-5. GENERAL.

This section contains PMCS requirements for the truck. The PMCS tables contain checks and services necessary to ensure that the truck is ready for operation. Not all trucks are equipped with crane or self-recovery winch. Using PMCS tables, perform maintenance at specified intervals.

a. *Cleaning Instructions and Precautions.* During PMCS keep the following general maintenance procedures in mind:

- (1) *Cleanliness.* Dirt, grease, oil and debris may cause or cover a serious problem. Clean all metal surfaces.
- (2) *Bolts, nuts and screws.* Check bolts, nuts and screws for obvious looseness, missing, bent, or broken condition. Look for chipped paint, bare metal, or rust around boltheads. If any part seems loose, tighten it, or have the part repaired or replaced.
- (3) *Welds.* Look for loose or chipped paint, rust, or gaps on welds. If a bad weld is found, notify Unit Maintenance.
- (4) *Electrical wires and connectors.* Look for cracked or broken insulation, bare wires and loose or broken connectors. Tighten loose connectors and make sure wires are in good shape. If a wire or connector is bad, notify Unit Maintenance.
- (5) *Fluid lines and fittings.* Look for wear, damage and leaks, and make sure clamps and fittings are tight. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out and can not be fixed with tools available, notify Unit Maintenance.
- (6) *Air system components.* Look for worn, damaged or leaking components. Make sure clamps and fittings are tight. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, either repair or replace it, or notify Unit Maintenance.

2-6. WARNINGS AND CAUTIONS.

Always observe the warnings and cautions appearing in your PMCS table. Warnings and cautions appear before applicable procedures. You must observe these warnings and cautions to prevent serious injury to yourself and others or prevent equipment from being damaged.

2-7. EXPLANATION OF TABLE ENTRIES.

a. Item Number Column. Items in this column are for reference. When completing DA Form 2404 (Equipment Inspection and Maintenance Worksheet), include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must do the checks and services for the intervals listed.

b. Interval Column. This column describes when, and how often, the check is to be made. Thus, if a given check is performed before operation, the word Before is opposite the check in the Interval column.

- (1) Perform the (Before) CHECKS before operating truck.
- (2) Perform the (During) CHECKS while operating truck. During operation means to monitor truck and its related components while being operated.
- (3) Perform the (After) CHECKS right after operating the truck.
- (4) Perform the (Weekly) CHECKS once a week.
- (5) Perform the (Monthly) CHECKS once a month.

c. Item To Be Inspected Column. The items listed in this column are divided into groups indicating the portion of the equipment of which they are a part, i.e. front, left, engine. Under these groupings a few common words are used to identify the specific item being checked.

d. Procedures Column. This column contains a brief description of the procedure by which the check is performed.

e. Equipment Is Not Fully Mission Capable If: Column. This column contains the criteria that causes the equipment to be classified as NOT READY/NOT AVAILABLE because of inability to perform its primary mission. An entry in this column will:

- (1) Identify conditions that will make the equipment not ready/available for readiness reporting purposes.

2-8. SHORTENED MAINTENANCE INTERVALS.

Extreme weather conditions, periods of high use, or combat conditions may dictate that PMCS is performed more often than is required in the PMCS Tables.

2-9. LUBRICATION REQUIREMENTS.

For lubrication requirements and procedures, refer to Appendix G.

2-10. LEAKAGE CLASSIFICATION AND DEFINITION.

CAUTION

Equipment operation is allowable with minor leak (Class I or II). Consideration must be given to the fluid capacity in the item/system being checked/inspected. When in doubt, notify the supervisor. When operating with Class I or II leaks, continue to check fluid levels as required in the PMCS. Class III leaks should be repaired using tools available, if possible. If not, use "Not Fully Mission Capable" column criteria.

NOTE

- If leakage is detected, further investigation is needed to determine the location and cause of the leak. If there is any doubt, contact your supervisor or Unit Maintenance.
- Diesel engine slobber is an inherent condition of two cycle diesel engines when engines are allowed to idle for prolonged periods of time. This characteristic may be incorrectly interpreted as a Class III leak. Check engine oil level. If there is any doubt, consult with your supervisor or Unit Maintenance.

a. Class I. Leakage of fluid as indicated by wetness or discoloration not great enough to form drops.

b. Class II. Leakage of fluid great enough to form drops but not enough to cause drops that fall from item being checked/inspected.

c. Class III. Leakage of fluid great enough to form drops that fall from the item being checked/inspected. Try to fix leak using tools available.

2-11. OPERATOR'S PREVENTIVE MAINTENANCE CHECKS AND SERVICES TABLES.

WARNING

Engine must be shut off and parking brake set before performing PMCS walkaround. Severe injury to personnel may result.

Refer to Tables 2-1 through 2-5 for Operator's Preventive Maintenance Checks and Services (PMCS) for all M1074 and M1075 trucks. This routing diagram (Figure 2-24) will be of help to complete the PMCS. It shows the general path an operator will follow to complete the PMCS.

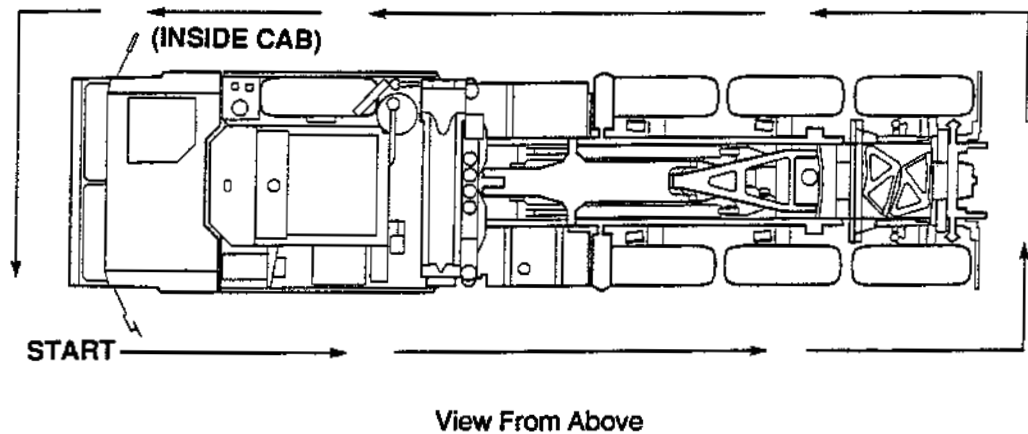


Figure 2-24. PMCS Walkaround

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/ Service		
<div>NOTE</div> <ul style="list-style-type: none">• If leakage is detected, further investigation is needed to determine the location and cause of the leak. If there is any doubt, contact your supervisor or Unit Maintenance.• Diesel engine slobber is an inherent condition of two cycle diesel engines when engines are allowed to idle for prolonged periods of time. This characteristic may be incorrectly interpreted as a Class III leak. Check engine oil level. If there is any doubt, consult with your supervisor or Unit Maintenance.				
1	Before	Leaks	Check underneath truck for evidence of obvious fluid leakage.	Class III leak is evident.
2	Before	Cab	Visually check left side of cab for obvious damage that would impair operation.	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

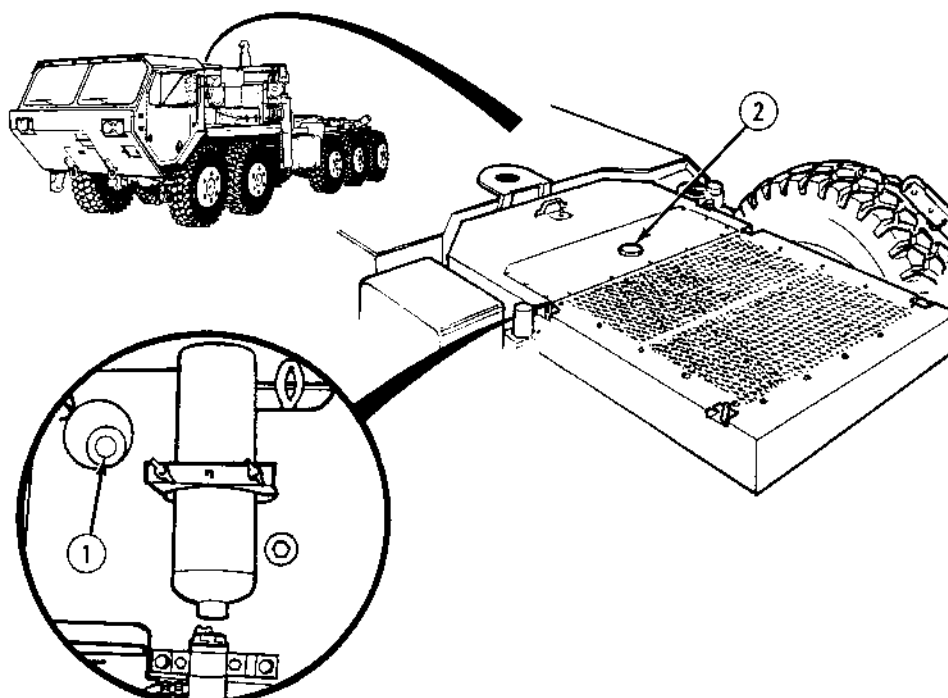
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<div></div>				
3	Before	Radiator Coolant	Check that coolant is visible in sight glass (1). Sight glass will show green when full. If fluid is not visible, open radiator cap (2) and check to see if coolant is visible.	Coolant not visible in sight glass or more than 1 1/2 in. (3.8 cm) below filler neck.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

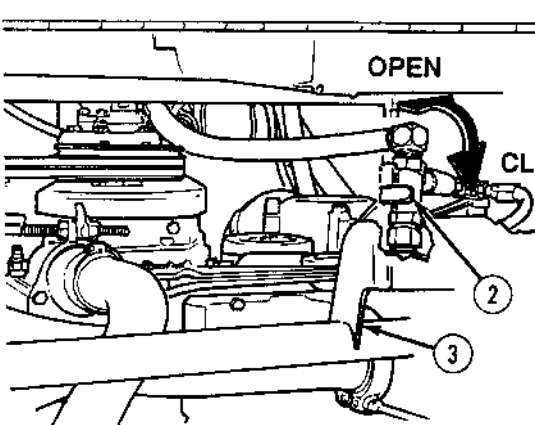

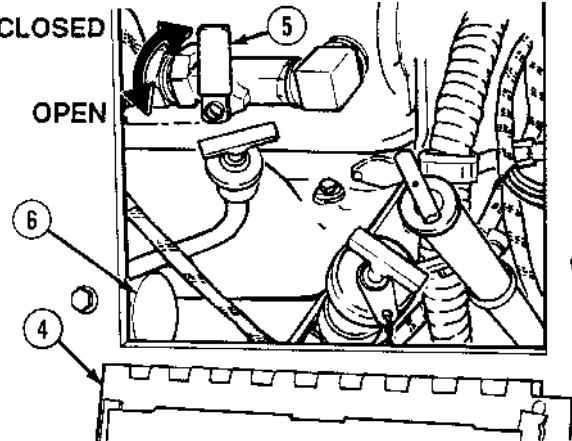
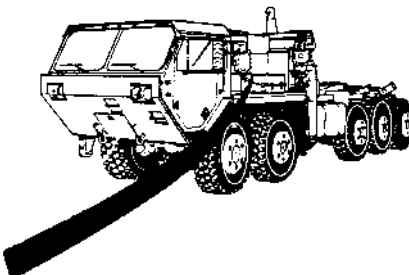
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
		  <p>NOTE</p> <p>Ladder is required for the following check.</p>		
4	Before	Arctic Heater Kit	(a) Open engine access cover (1). (b) Open valve (2) at front right thermostat housing (3).	
		 		
			(c) Open side access cover (4) and open valve (5) above starter (6).	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

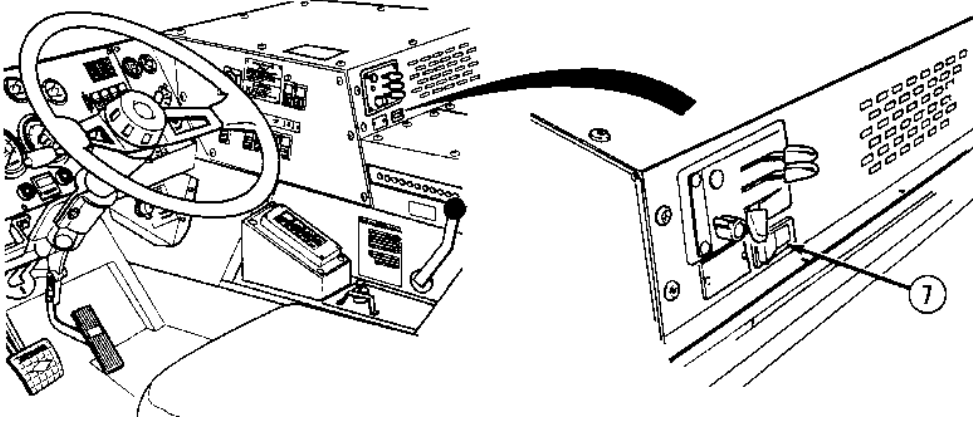
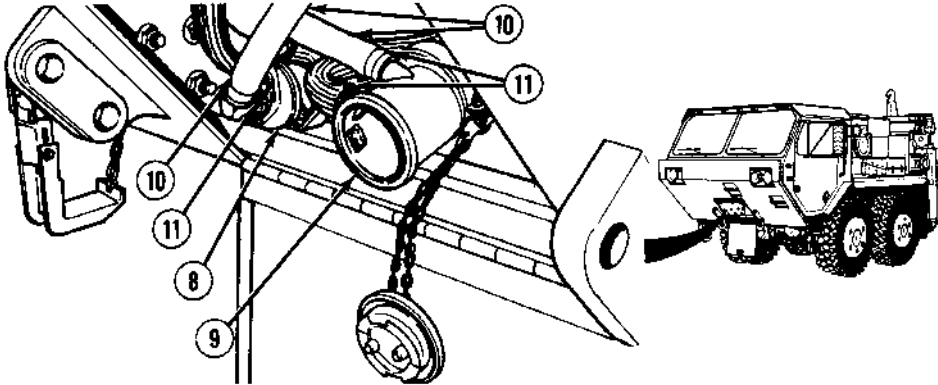
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
4	Before	Arctic Heater Kit - Cont.		Coolant pump not operating.
			(d) Place arctic heater switch (7) to the ON position. Audible sound from pump indicates coolant pump is operating.	
				<p>Damage present that would prevent proper operation.</p> <p>Class III leak is evident.</p>
			(e) Check coolant pump (8) and water jacket (9) for security of mounting and obvious damage.	
			(f) Check coolant pump (8) for unusual noise.	
			(g) Check coolant hoses (10) for leaks, cuts, loose clamps (11) and other obvious damage.	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

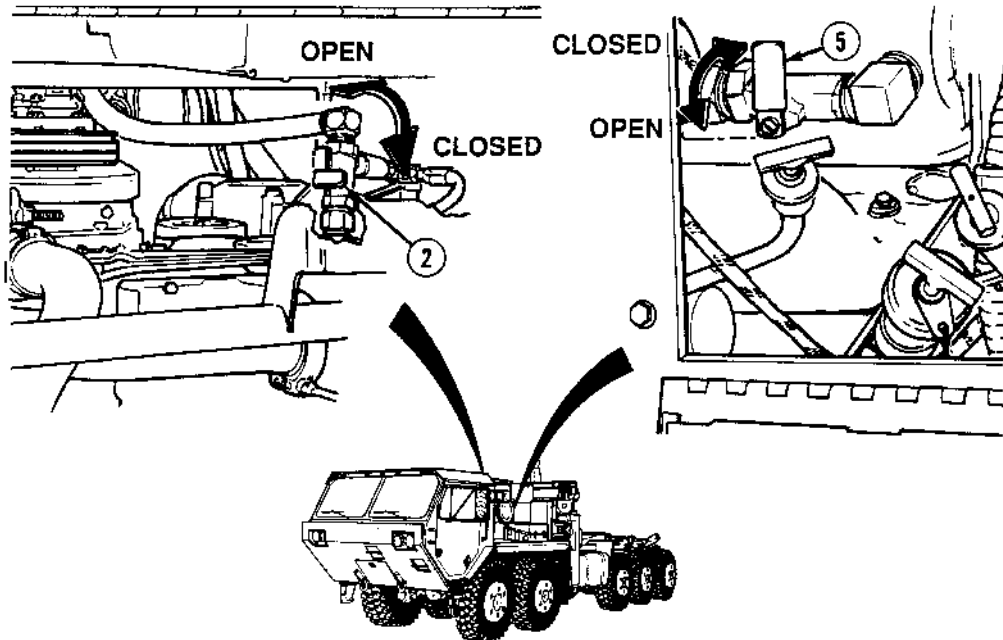
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
4	Before	Arctic Heater Kit - Cont.		Class III leak is evident.
			(h) Check valves (2) and (5) for leaks. Close valves (2) and (5).	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

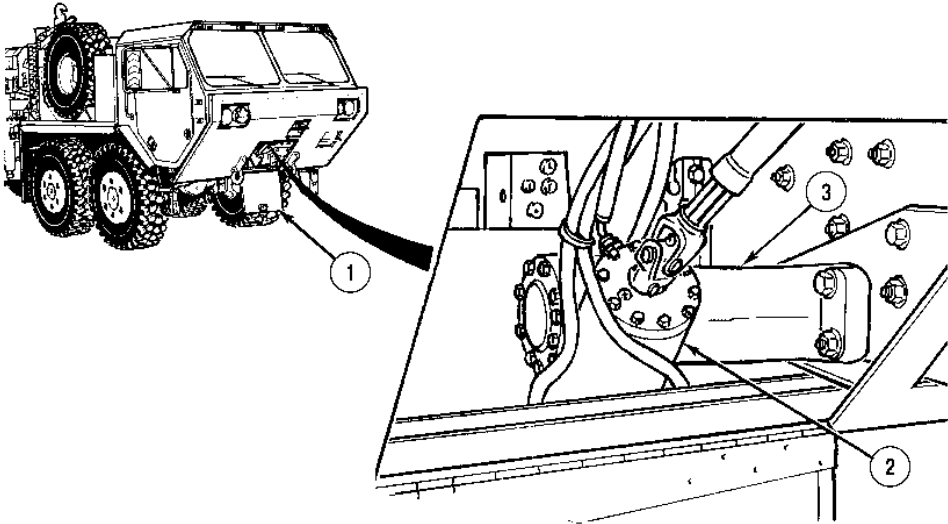
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<p style="text-align: center;">NOTE</p> <p>If front steering gear is loose, notify Unit Maintenance to have mounting screws re-torqued (TM 9-2320-364-20).</p>				
5	Before	Steering Gear (Front)	Open front access cover (1) and check front steering gear assembly (2) for loose or missing screws. Check if front steering gear assembly has been chafing or pivoting on front steering gear assembly mounting bracket (3).	Front steering gear assembly is loose or if screws are missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

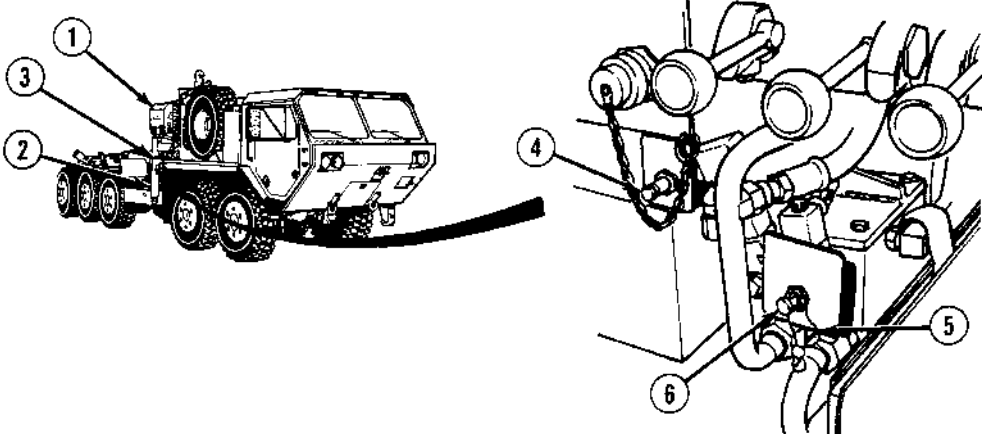
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
 <p>The diagram shows a vehicle with a Material Handling Crane (MHC) mounted on its rear. Callout 1 points to the crane itself. Callout 2 points to the left outrigger jack. Callout 3 points to the valve banks. Callout 4 points to the MHC MAIN HYDRAULIC PRESSURE MANUAL OVERRIDE valve. Callout 5 points to the safety wire and seal on the MHC SYSTEM HYDRAULIC PRESSURE MANUAL OVERRIDE button. Callout 6 points to the MHC SYSTEM HYDRAULIC PRESSURE MANUAL OVERRIDE button.</p>				
<p style="text-align: center;">NOTE</p> <p>Make the following check if the Material Handling Crane (MHC) is installed.</p>				
6	Before	Material Handling Crane (MHC)	<p>Check crane (1) for obvious damage and loose parts. Check left and right outrigger jacks (2) and valve banks (3) for damage, leaks, missing and loose parts. Check if MHC MAIN HYDRAULIC PRESSURE MANUAL OVERRIDE valve (4) is pushed in and locked. Check that safety wire and seal (5) are present on MHC SYSTEM HYDRAULIC PRESSURE MANUAL OVERRIDE button (6).</p>	Class III leak is evident. Crane is damaged or parts are missing.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

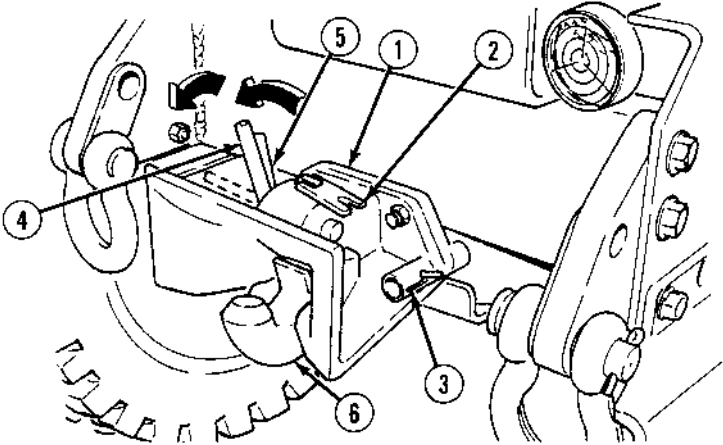
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
7	Before	Self-Guided Coupler	 <p>Check self-guided coupler (1) for obvious damage and presence of the safety latch (2).</p> <p>(a) Disengage swivel lock (3) and swivel self-guided coupler (1).</p> <p>(b) Engage swivel lock (3).</p> <p>(c) Open safety latch (2) away from hook lock (4).</p> <p>(d) Pull out on hook lock catch (5) and pull out on hook lock (4) to release hook (6).</p> <p>(e) Push up on hook.</p> <p style="text-align: center;">WARNING</p> <p>Keep fingers clear of top of lift-hook or injury to personnel could result.</p> <p>(f) Close safety latch.</p>	Self-guided coupler is damaged or loose. Safety latch is missing. Self-guided coupler does not rotate freely.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

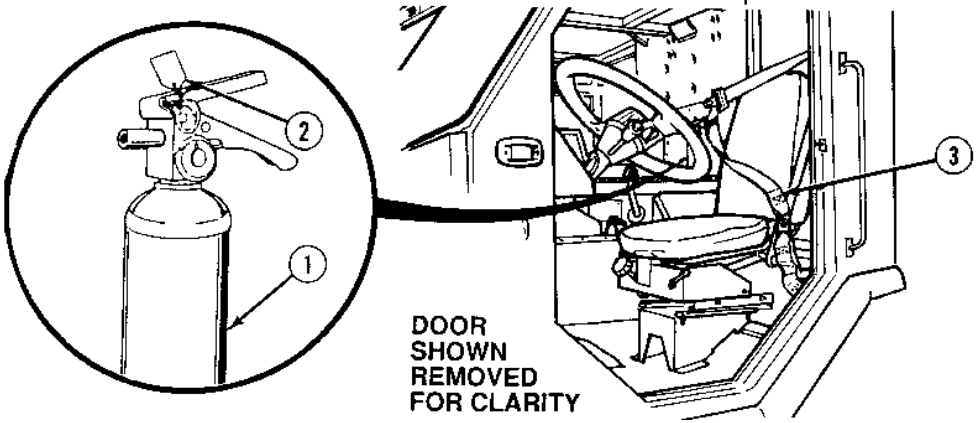
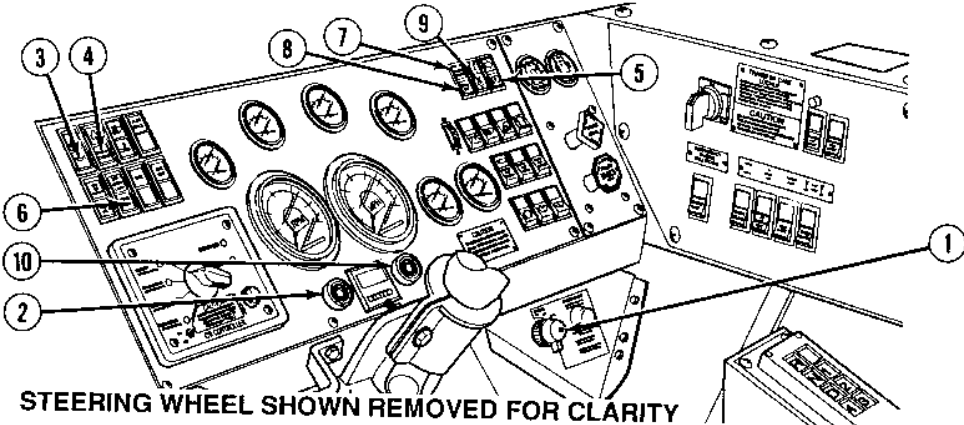
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
8	Before	Cab	Visually check right side of cab for obvious damage that would impair operation.	
 <p>DOOR SHOWN REMOVED FOR CLARITY</p>				
9	Before	Fire Extinguisher	Check for missing, damaged and loose fire extinguisher (1). Check for proper pressure/seal (2) condition.	Fire extinguisher is missing, or damaged. Pressure gage needle in red area or seal is broken.
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Operation of truck without seat belts may violate AR 385-55.</p>				
10	Before	Seat Belts	Check seat belts (3) for proper operation.	Seat belts do not operate properly.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

The following checks must be made with the ignition switch in the ON position.

11	Before	Controls and Indicators	<p>(a) Turn ignition switch (1) to ON position.</p> <p>(b) Oil/water alarm (2) buzzes, LOW OIL pressure light (3), TRANS CHECK light (4), PARKING BRAKE light (5) and EMERGENCY STEERING light (6) will light. The CHECK ENGINE light (7) and CHECK GAGES light (8) will light for approximately five seconds and then go out.</p> <p>(c) LOW AIR PRESSURE light (9) will light and LOW AIR PRESSURE warning intermittent buzzer (10) will sound if air pressure is below 60 psi (413 kPa).</p>	<p>Buzzer inoperative.</p> <p>Buzzer does not sound below 60 psi (413 kPa).</p>
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Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

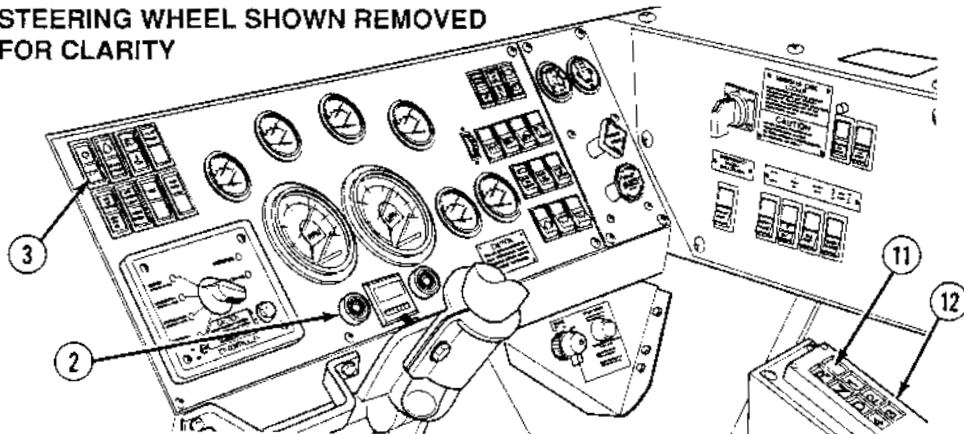
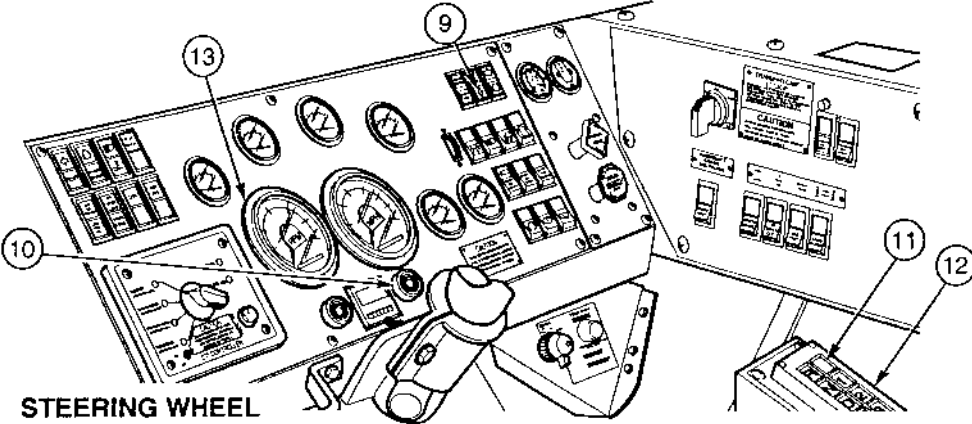
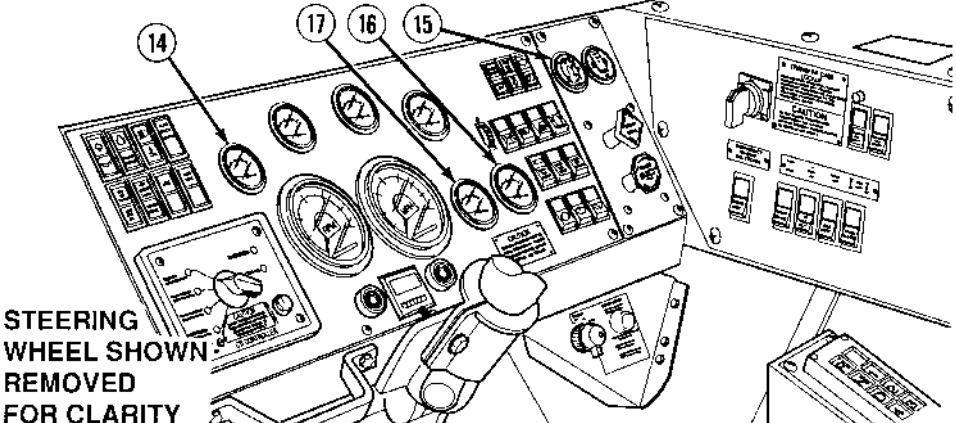
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
STEERING WHEEL SHOWN REMOVED FOR CLARITY				
				
11	Before	Controls and Indicators - Cont.	<p>(d) DO NOT SHIFT light (11) will flash and beep briefly. A light will appear on the TRANSMISSION RANGE SELECTOR (12) indicating what range the transmission is in. The transmission should be in Neutral (N) position.</p> <p>(e) All other gages, lights and switches will light with their convenience illumination.</p>	
NOTE				
The following checks must be made while the engine is running.				
			<p>(f) Start engine.</p> <p>(g) Oil/water alarm (2) and LOW OIL pressure light (3) will shut off.</p>	<p>Engine will not start.</p> <p>Light stays on.</p>

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
 <p>STEERING WHEEL SHOWN REMOVED FOR CLARITY</p>				
11	Before	Controls and Indicators - Cont.	<p>(h) LOW AIR PRESSURE light (9) and LOW AIR PRESSURE warning intermittent buzzer (10) will sound and then turn off when pressure is above 60 psi (414 kPa).</p> <p>(i) DO NOT SHIFT light (11) will flash briefly and then extinguish. A light will appear on the TRANSMISSION RANGE SELECTOR (12) indicating what range the transmission is in. The transmission should be in Neutral (N) position at start.</p> <p>(j) Tachometer (13) must indicate correct idle of 625 to 675 rpm.</p>	<p>Buzzer does not sound below 60 psi (414 kPa).</p> <p>Tachometer does not indicate between 625 and 675 rpm.</p>

**Table 2-1. Operator's Preventive Maintenance Checks
and Services (Before) - CONT.**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

Cold engines may have slightly higher oil pressure reading than a hot engine.

11	Before	Controls and Indicators - Cont.	<p>(k) Check oil pressure gage (14). Pressure gage must read between 40 to 80 psi (276 to 552 kPa) with engine speeds between 1800 and 2100 rpm. Minimum pressure for safe operation is 30 psi (207 kPa). At idle, minimum oil pressure should not be less than five psi (34 kPa).</p> <p>(l) Check that the AIR PRESS gage (15) is within the normal operating range of 110 to 125 psi (758 to 862 kPa).</p> <p>(m) Check battery gages (16 & 17) for normal voltage output of 26 to 30 volts and 13 to 15 volts.</p>	<p>Engine oil pressure is not within allowable pressures, and engine oil warning light lights or warning buzzer sounds.</p> <p>Air pressure is not within limits or warning buzzer sounds.</p> <p>Voltage is not between the proper operating ranges.</p>
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Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

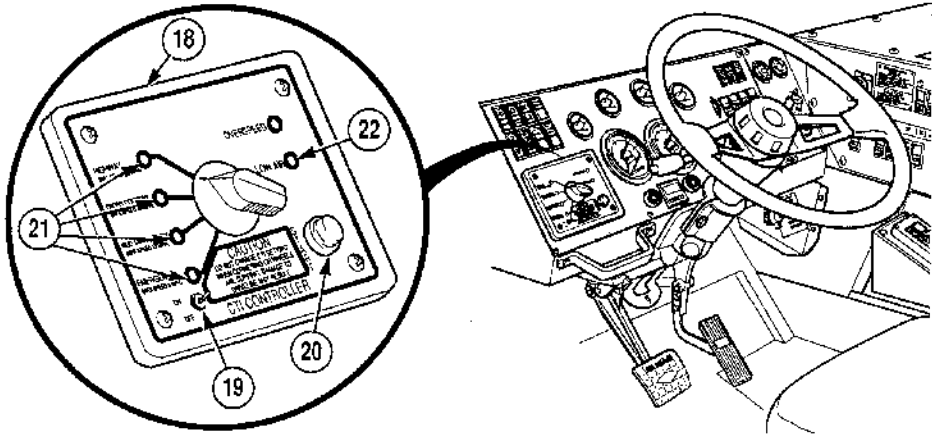
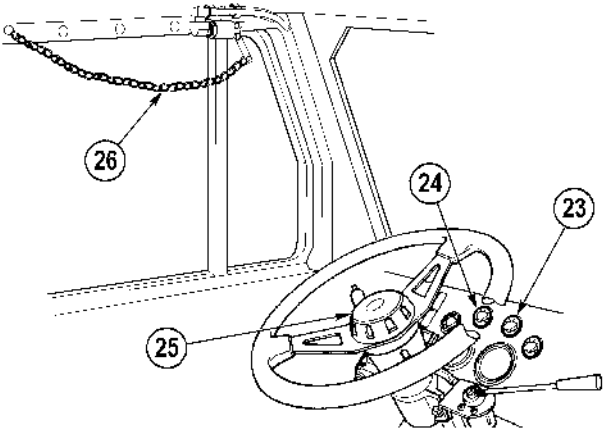
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
11	Before	Controls and Indicators - Cont.	<p>(n) Check the CTIS (18) for proper operation.</p> <ol style="list-style-type: none"> (1) Place CTIS ON/OFF switch (19) to ON position. (2) Press START button (20) and hold for one second. (3) Lights (21) will light momentarily and go out. (4) A solid LOW AIR light (22) will illuminate if trucks air system pressure is too low. A flashing LOW AIR light indicates a CTIS leak or malfunction. (5) Lights (21) will blink when tires are filling and will stay steady when tires are filled to desired setting. 	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



The diagram shows a steering wheel and dashboard area. Callout 23 points to a gauge on the right side of the dashboard. Callout 24 points to a gauge on the left side of the dashboard. Callout 25 points to a horn button on the steering wheel. Callout 26 points to a chain or cable mechanism on the left side of the vehicle.

11	Before	Controls and Indicators - Cont.	<p>(o) Check transmission oil temperature gage (23). Normal operating TRANS TEMP gage reading is between 180 to 220 degrees F (82 to 104 degrees C).</p> <p>NOTE</p> <p>At idle speed, automatic transmission may not reach normal operating temperature. Gage may not register until oil is hot.</p>	Gage is inoperable or reads over 300 degrees F (149 degrees C).
			<p>(p) Check water temperature gage (24) for proper water temperature range between 180 to 230 degrees F (82 to 110 degrees C).</p> <p>(q) Check for proper operation of electric horn (25).</p> <p>(r) Check for proper operation of air horn (26) (if equipped).</p> <p>(s) Remove wheel chocks.</p> <p>NOTE</p> <p>At idle, engine may not reach 180 degrees F (82 degrees C) water temperature.</p>	Water temperature gage inoperable or exceeds 230 degrees F (110 degrees C) at idle or warning buzzer sounds.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

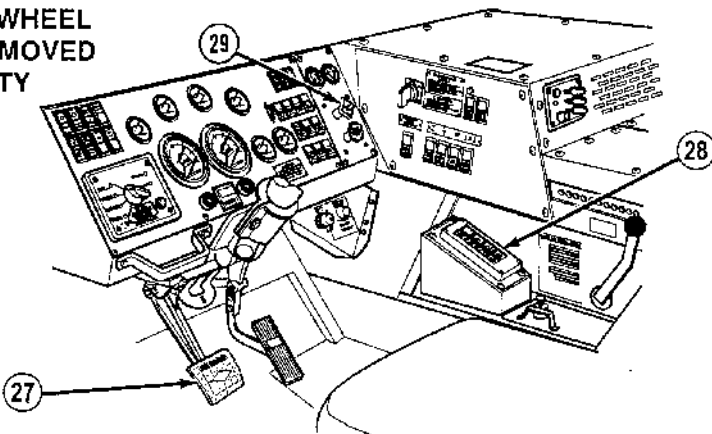
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<div>STEERING WHEEL SHOWN REMOVED FOR CLARITY</div> 				
11	Before	Controls and Indicators - Cont.	<p>(t) Check for proper operation of transmission.</p> <ol style="list-style-type: none">(1) Apply service brake pedal (27).(2) Place transmission range selector switch (28) in Drive (D).(3) Release parking brake (29).(4) Release service brake pedal (27). Allow truck to move forward approximately two ft. (61 cm).(5) Apply service brake pedal (27).(6) Place transmission selector switch (28) in Reverse (R).(7) Release service brake pedal (27) and allow truck to move backwards approximately two ft. (61 cm).(8) Apply service brake pedal (27).	Truck will not move in forward or reverse.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

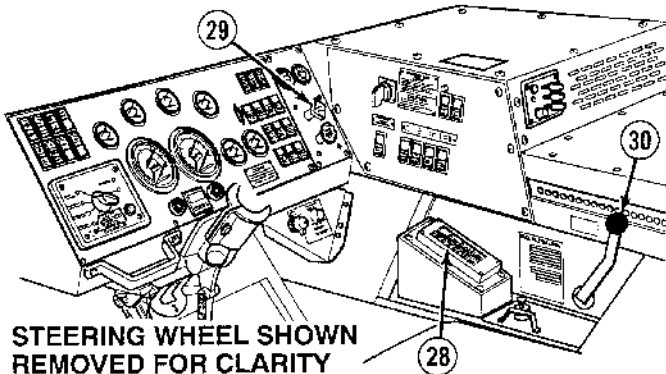
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
 <p>STEERING WHEEL SHOWN REMOVED FOR CLARITY</p>				
11	Before	Controls and Indicators - Cont.	<p>(9) Place transmission range selector switch (28) in Neutral (N).</p> <p>(10) Set parking brake (29).</p>	
<p>NOTE</p> <p>Transfer case may be hard to shift and get into gear. If this condition exists, move truck forward slightly, apply brake and place transmission to Neutral (N), prior to attempting to shift transfer case again.</p>				
			<p>(u) Check transfer case shift lever (30) to be sure it will shift to HI (HI) and LOW (LO) range.</p> <p>(1) Place transmission range selector switch (28) in Neutral (N).</p> <p>(2) Move transfer case shift lever (30) to LOW (LO) and then to HI (HI).</p>	Transfer case does not operate in range required for mission.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		

STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

Transfer case may be hard to shift and get into gear. If this condition exists, move truck forward slightly, apply brake and place transmission to Neutral (N), prior to attempting to shift transfer again.

11	Before	Controls and Indicators - Cont.	<p>(v) Check ENGINE BRAKE SWITCH (31) for operation. Place transfer case shift lever in Neutral (N) and transmission in Drive (D). Set ENGINE BRAKE SWITCH (31) to high position, engine brake light (32) will light, accelerate engine to approximately 1800 rpm for five seconds. Quickly release the throttle pedal. Decompression of engine will be heard in the exhaust tone. Place transmission in Neutral (N) and transfer case shift lever in HI (HI).</p> <p>(w) Check operation of the trailer air supply control (33).</p>	<p>Engine brake is operative.</p> <p>Trailer air supply does not operate properly.</p>
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Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

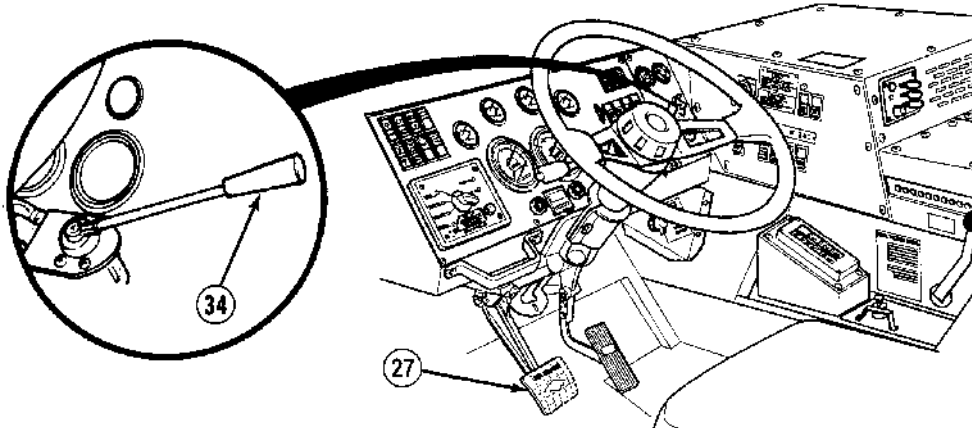
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<div>WARNING</div> <p>Before performing the next step, ensure that no personnel are in front of truck. Be ready to apply the service brake. Operator must remain in cab while performing this check to prevent possible serious injury or death to other personnel.</p> <div>NOTE</div> <ul style="list-style-type: none">Check trailer brake hand control only if a trailer is attached to the truck and truck air lines are attached to trailer air lines or test will not be correct.Ensure air pressure is between 110 to 125 psi (758 to 861 kPa).				
11	Before	Controls and Indicators - Cont.	(x) Check operation of trailer handbrake control (34). (1) With engine at idle, apply service brake pedal (27). (2) Engage transmission range selector to Drive (D).	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

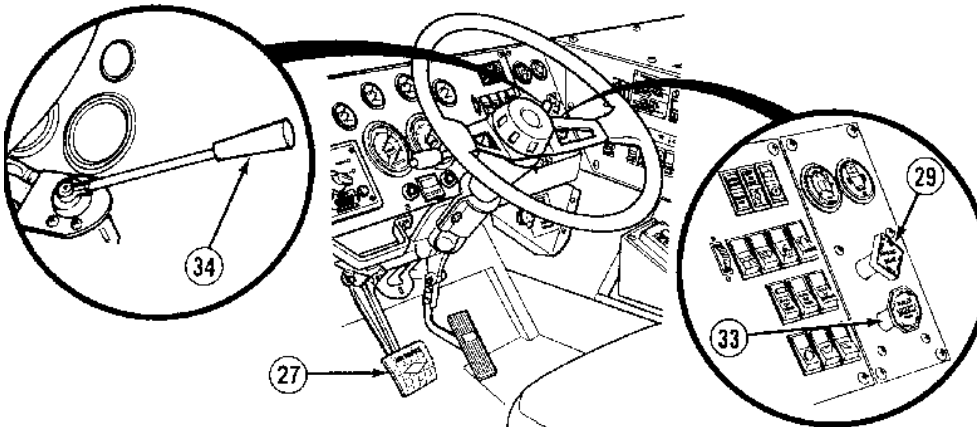
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
11	Before	Controls and Indicators - Cont.	<p>(3) Fully apply trailer handbrake control (34) by pulling downward.</p> <p>(4) Release service brake pedal (27).</p> <p>(5) Gradually increase engine speed to 1000 rpm.</p> <p>(6) Trailer brakes should hold truck in place.</p> <p>(7) Reduce engine rpm to idle.</p> <p>(8) Apply service brake pedal (27).</p> <p>(9) Release trailer handbrake (34).</p> <p>(10) Apply parking brake (29) and pull out trailer air supply control (33).</p> <p>(11) Engage transmission range selector to Neutral (N).</p>	Trailer brakes do not hold truck in place.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

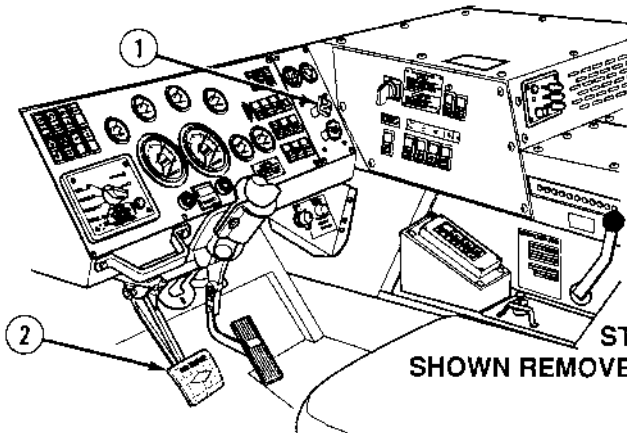
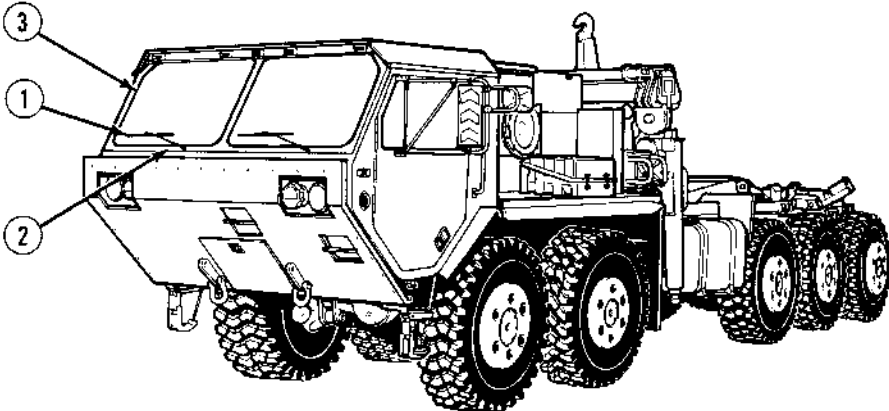
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
12	Before	Service and Parking Brake	 <p>STEERING WHEEL SHOWN REMOVED FOR CLARITY</p> <div>WARNING</div> <ul style="list-style-type: none">Before performing the next step, ensure that no personnel are in front of truck. Be ready to apply the service brake. Operator must remain in cab while performing this check to prevent possible serious injury or death to other personnel.Ensure air pressure is between 110 to 125 psi (758 to 861 kPa) or injury to personnel may result.	Truck moves.
			(a) Check for proper operation of parking brake (1). With engine at idle, apply parking brake and engage transmission in Drive (D). Increase engine speed slowly to 1000 rpm. Truck should not move. (b) Check brakes by moving truck approximately 60 ft. (18.3 m) and steadily apply service brake pedal (2). Truck should stop smoothly without noticeable side pull and vibration. Place transmission in neutral.	Service brakes do not operate properly or pull to either side.

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



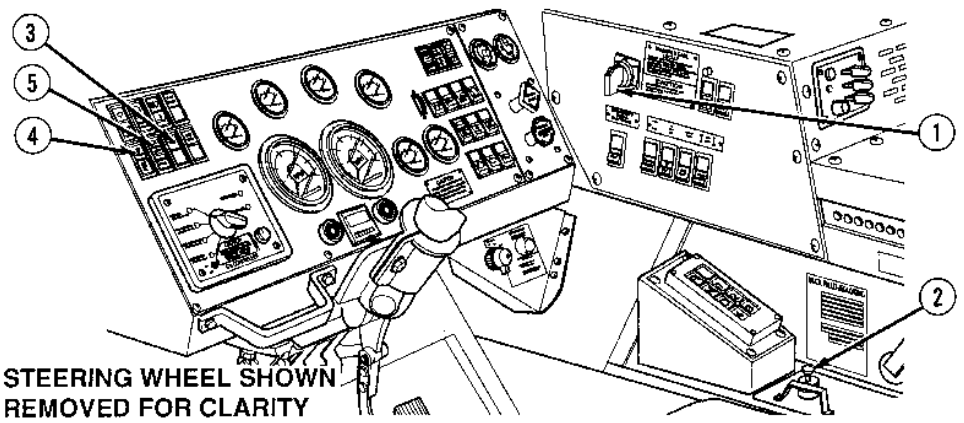
NOTE

Operation of truck with inoperative windshield wipers or cracked windshield may violate AR 385-55.

13	Before	Wiper Arms and Blades	(a) Check that wiper arms (1) operate and blades are serviceable. (b) Check windshield washer (2) for proper operation.	
14	Before	Windshield	Check for cracked windshield (3).	

Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



STEERING WHEEL SHOWN REMOVED FOR CLARITY

WARNING

Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. two in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.

15	Before	Load Handling System (LHS) Controls	<p>(a) Check for proper operation of hydraulic selector switch (1) and joystick control (2). Verify by placing hydraulic selector switch (1) in the AUTO position.</p> <p>(b) Pull joystick (2) to rear to raise LHS approximately one to two ft. (0.305 to 0.609 m). LHS light (3) will light green and LHS NO TRANS light (4) will light red. LHS OVERLOAD light (5) may light yellow if system is overloaded.</p> <p>(c) Push joystick (2) forward and lower to transport position. LHS NO TRANS light will go out.</p>	LHS will not operate.
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Table 2-1. Operator's Preventive Maintenance Checks and Services (Before) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
15	Before	<div> <p>STEERING WHEEL SHOWN REMOVED FOR CLARITY</p> </div> <div> </div> <p>Load Handling System (LHS) Controls - Cont.</p>	<p>(d) Turn hydraulic selector switch (1) to OFF. LHS light (3) will go out.</p> <p>(e) Shut OFF engine.</p>	

Table 2-2. Operator's Preventive Maintenance Checks and Services (During)

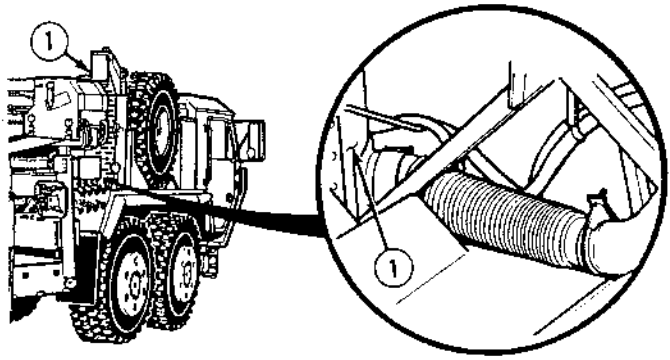
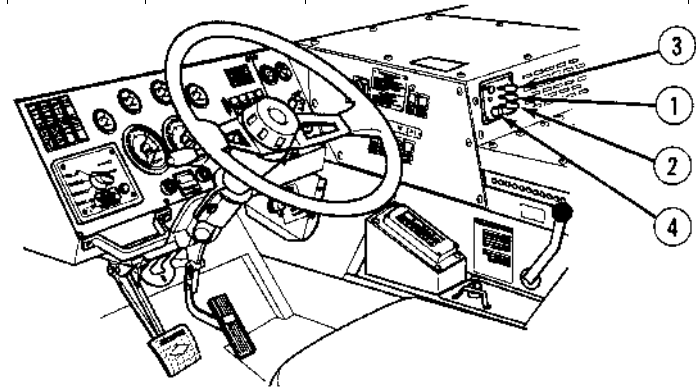
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
			<div>WARNING</div> <p>The exhaust pipe and muffler are very hot during truck operation. Do not touch these parts with bare hands, or allow body to come in contact with exhaust pipe or muffler. Exhaust system parts can cause serious burns.</p>	
16	During	Exhaust System	Listen to exhaust system (1) for leaks.	Muffler or exhaust pipes are leaking exhaust fumes.
				
17	During	Heater/Fan	Check operation of the AIR (1), HEAT (2), DEFROST (3) controls and FAN switch (4).	

Table 2-2. Operator's Preventive Maintenance Checks and Services (During) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		

18	During	Controls and Indicators	Monitor all the gages, warning lights, and warning buzzers, during operation.	Warning lights or buzzers indicate a malfunction and immediate corrective action by the operator will not correct the problem.
19	During	Steering System	Turn steering wheel (1) to the left and right in a steady motion, and check for binding.	Hard to steer or steering binds.
20	During	Turbo-charger	Listen for unusual noise and vibration in turbocharger (2).	Unusual noise or vibration is noted.
21	During	Engine	Listen for unusual noise, misfiring and rough idling of engine (3). Engine rpm must be between 625 and 750 rpm at idle.	Engine is idling rough, misfiring or makes unusual noise. Tachometer does not indicate between 625 and 750 rpm.

Table 2-2. Operator's Preventive Maintenance Checks and Services (During) - CONT.

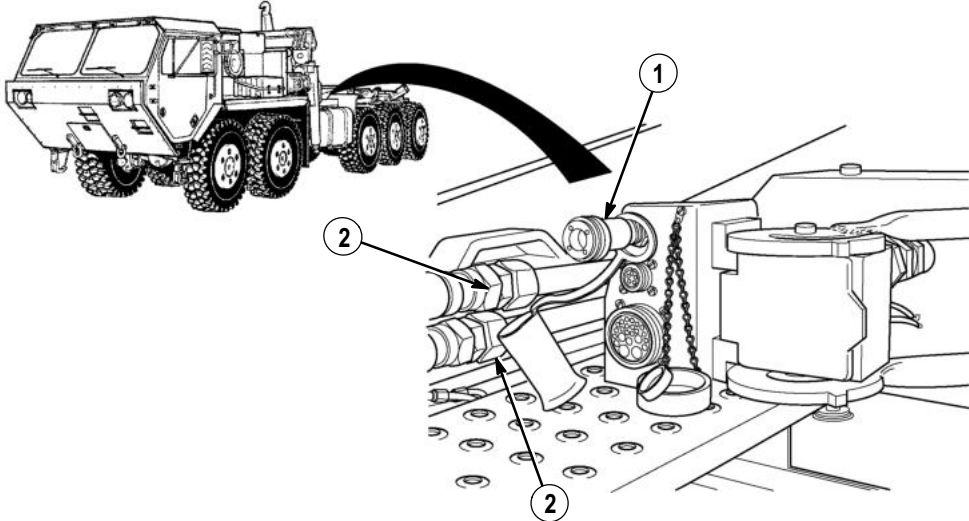
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
22	During	Interface Kit (If Equipped)	Listen for air leaks during pneumatic (1) operation. Visually check hydraulic hoses and fittings (2) for leaks during hydraulic operation.	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After)

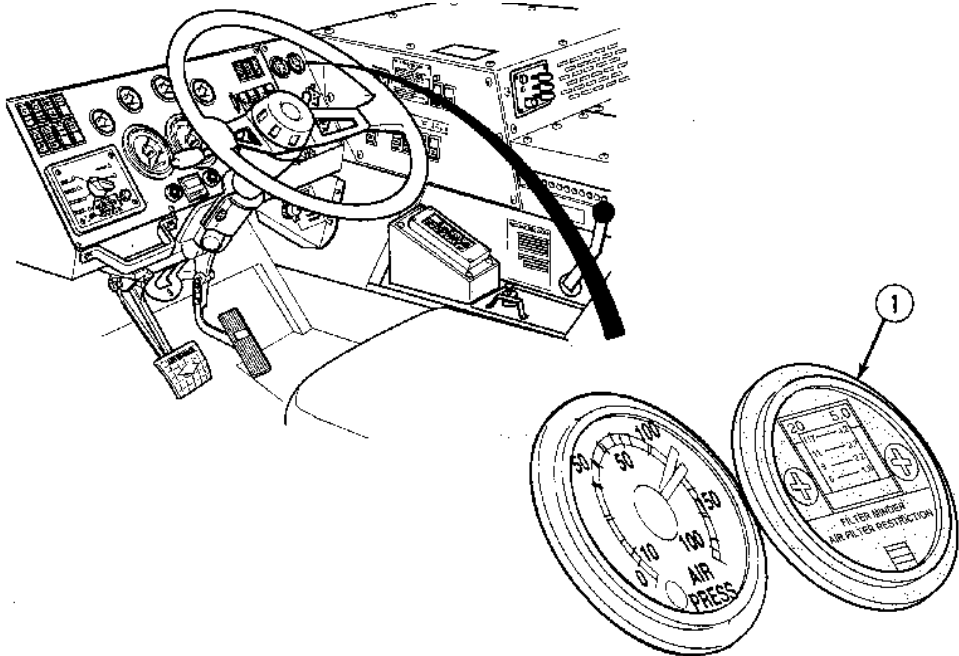
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
23	After	Air Filter Restriction Indicator	Check that air filter restriction indicator (1) reads less than 20 in. (5.0 kPa).	Indicator reads 20 in. (5.0 kPa).

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

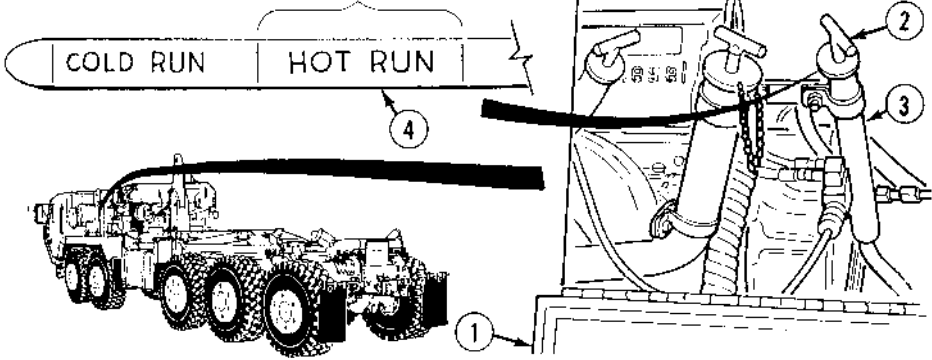
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<div></div> <div><div>WARNING</div><ul style="list-style-type: none">• Parking brake must be set before checking transmission fluid. Failure to comply may result in injury to personnel.• Transmission fluid may be hot and can cause severe burns.<div>NOTE<p>Ladder is required for the following check.</p></div></div>				
24	After	Transmission	<div>Ensure temperature has reached 180 to 220 degrees F (82 to 104 degrees C). With engine idling and transmission in Neutral (N).</div> <div>(a) Open panel (1).</div> <div>(b) Remove dipstick (2) from transmission fill and check tube (3) and check oil level. If oil level registered in the HOT RUN band (4), the quantity of oil in transmission is safe for operating the truck. If it registers on or below bottom line or above topline (overfull) of HOT RUN band, notify Unit Maintenance.</div> <div>(c) Fill as required. Shut off engine.</div>	

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

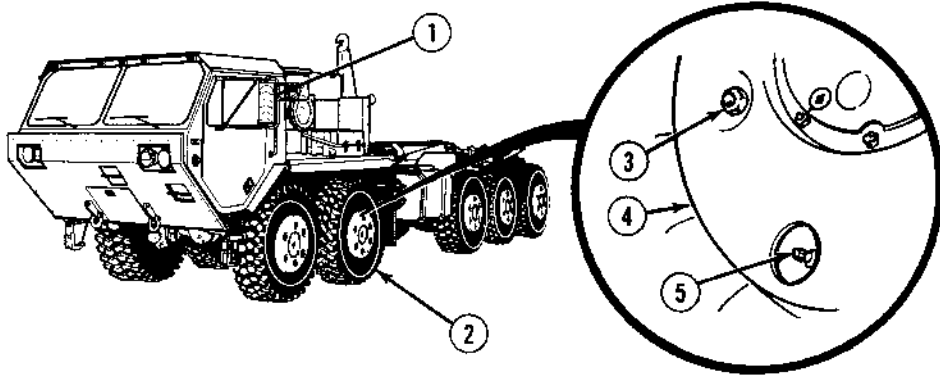
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/ Service		
				
25	After	Mirror (Left)	Check for cracked and missing mirror (1).	
<p style="text-align: center;">NOTE</p> <p>If leakage is detected, further investigation is needed to determine the location and cause of the leak. If there is any doubt, contact your supervisor or Unit Maintenance.</p>				
26	After	Leaks	Check underneath truck for evidence of fluid leakage.	Class III leak is evident.
27	After	Tires, Nuts, and Wheel Covers (Left Front Axles No. 1 & 2)	Check tires (2) for cuts, gouges cracks and foreign objects. Check for missing wheel cover mounting nuts (3), missing wheel covers (4) and missing valve stem caps (5).	Tires missing, deflated, or unserviceable. Two or more nuts are missing from the same wheel. One or more wheel covers are missing.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

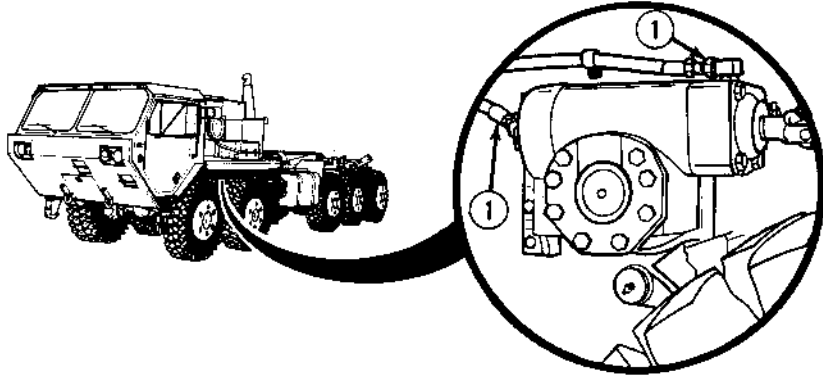
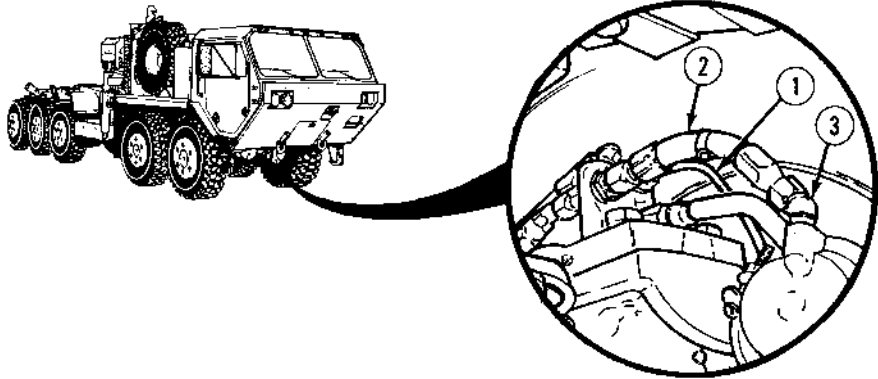
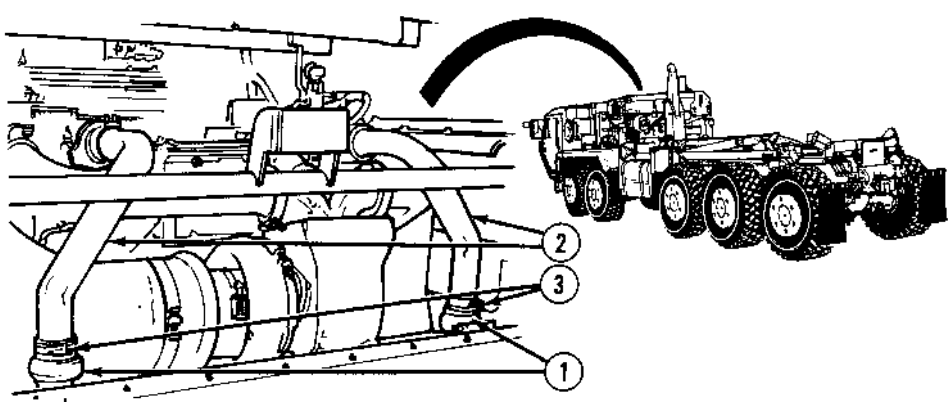
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
28	After	Power Steering Hoses and Fittings		Class III leak is evident. Obvious damage to hoses or fittings.
29	After	Air Lines Hoses, Fittings and Axle Vent Tubing (Left Side Axles No. 1 & 2)		Axle vent tubing is kinked/damaged. Air lines or hoses have leaks, cracks or kinks.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



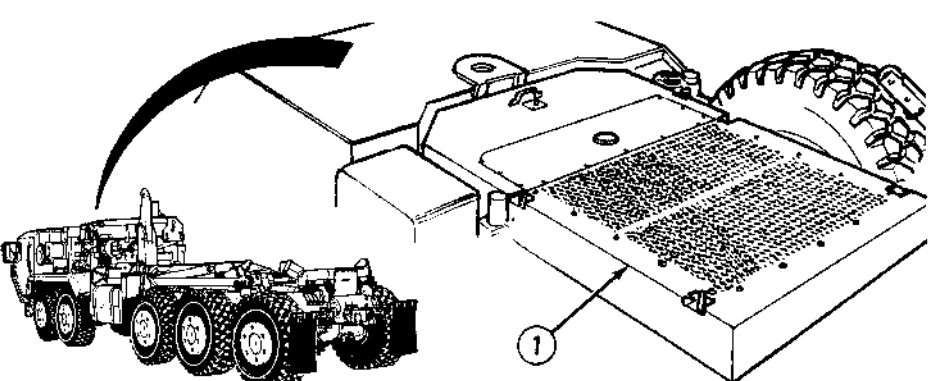
WARNING

- Radiator coolant can be extremely hot and cause severe burns.
- Use extreme caution when checking radiator hoses and clamps or injury to personnel may result.

NOTE

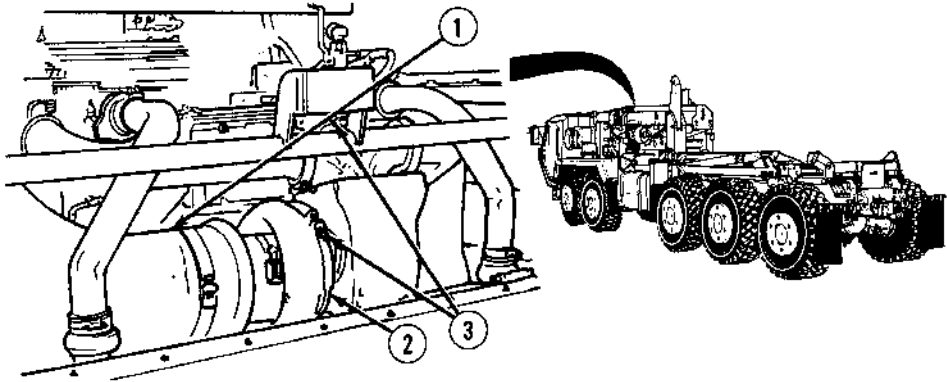
Ladder is required for the following check.

30	After	Radiator Hoses and Clamps	Check radiator hoses (1), piping (2) for leaks, and clamps (3) for looseness.	Class III leak is evident.
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31	After	Radiator	Check radiator (1) for leaks.	Class III leak is evident.
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Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
32	After	Air Intake Tubing	Check air intake tubing (1).	Tubing is bent or kinked.
<div style="text-align: center;">WARNING</div> <p>Components are extremely hot. Use caution when performing the following procedure to avoid injury.</p>				
33	After	Turbo-charger	Visually check for leaks and/or damage to turbocharger (2) lines and fittings (3).	Class III leak is evident. Lines or fittings are damaged.

**Table 2-3. Operator's Preventive Maintenance Checks
and Services (After) - CONT.**

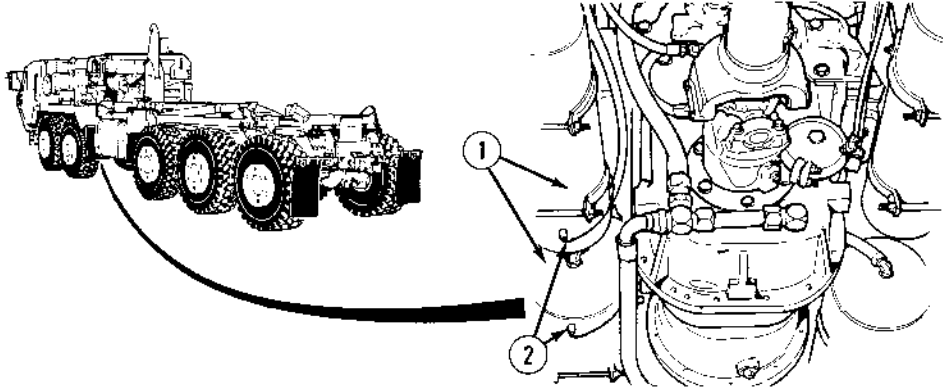
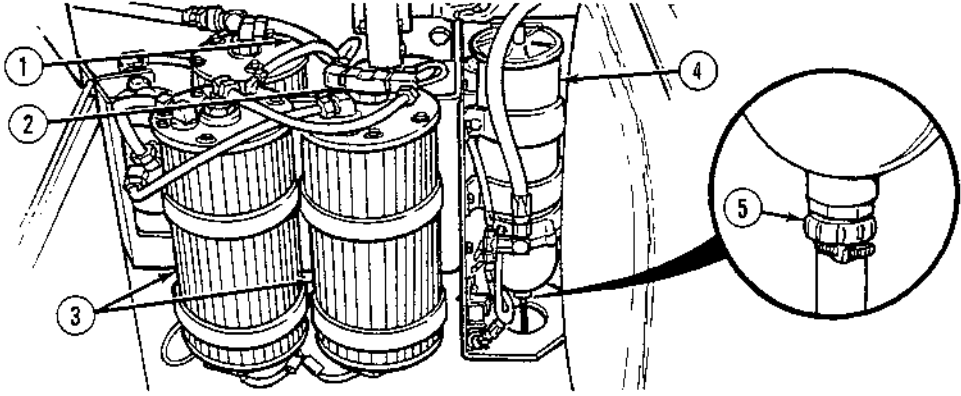
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
34	After	Left Side Air Reservoirs	Check air reservoirs (1) for leaks and damage. Pull cable (2) and drain reservoirs until no water comes out of system.	Reservoirs leaking air.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		

AIR DRYER GUARD SHOWN REMOVED FOR CLARITY (IF EQUIPPED)



35	After	Air Lines Fittings	Check air line hoses (1) fittings (2) for leaks, damage, cracks and kinks.	Air lines or hoses have leaks, cracks or kinks.
36	After	Air Dryer	Check air dryers (3) for loose parts, air leaks and damage.	Air dryer is damaged, has loose parts or leaks.
<div style="text-align: center;"> <div style="border: 2px solid black; padding: 5px; display: inline-block;">CAUTION</div> <p>Do not overtighten drain cock or damage to equipment will result.</p> </div>				
37	After	Fuel/Water Separator	Check fuel/water separator (4) for leaks and damage. Open drain cock (5) and drain water into suitable container (approximately one pt.).	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

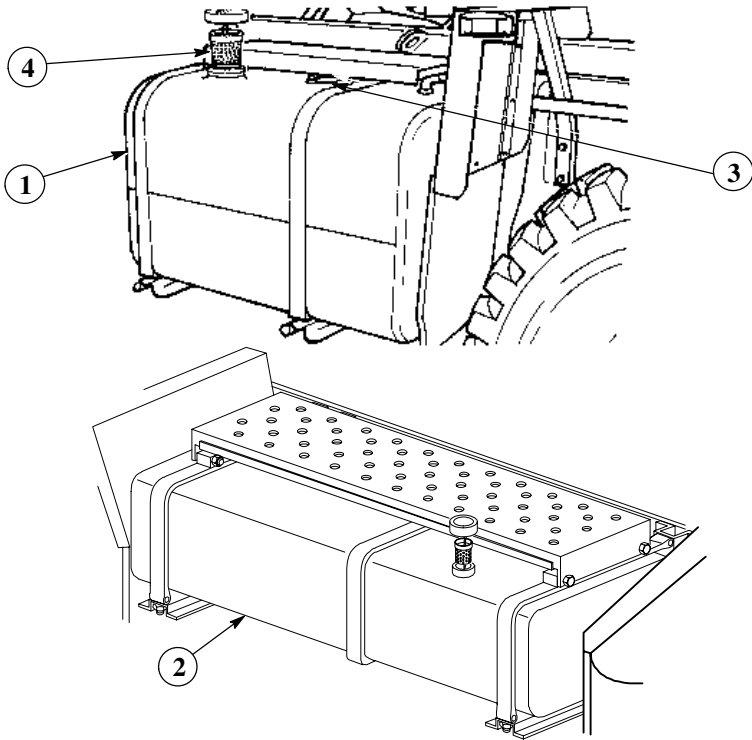
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
38	After	Fuel Tank(s), Hoses and Fittings		
			<div>WARNING</div> <p>Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep fire extinguisher within easy reach when working with fuel. Do not work on fuel system when engine is hot. Fuel can be ignited by hot engine.</p>	Class III leak is evident. Cracks that will impair operation are present.
			Check main fuel tank (1), auxiliary fuel tank (if equipped) (2), hoses (3) and fittings for leaks and cracks. Check fuel strainer (4) for debris and damage.	

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

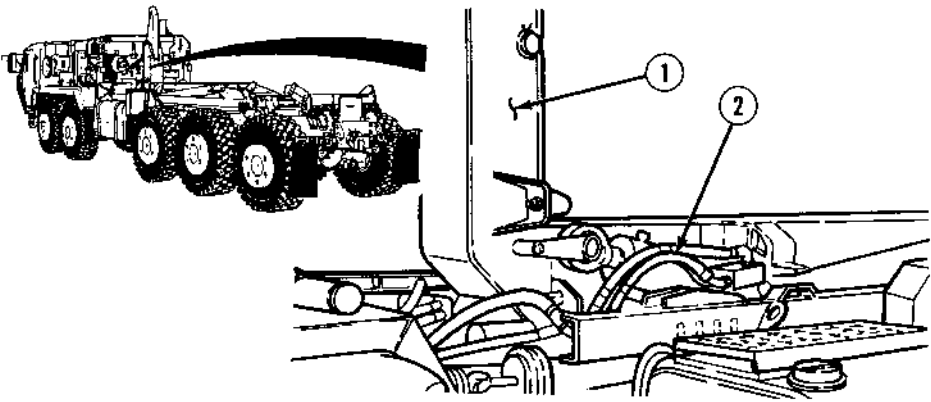
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
39	After	Load Handling System (LHS)	Check LHS (1) for loose and missing parts.	Parts are missing.
40	After	Load Handling System (LHS)	Visually check hydraulic lines and hoses (2), for leaks. Visually check for cracked and kinked lines.	Class III leak is evident. Cracks or kinks that will impair operation are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

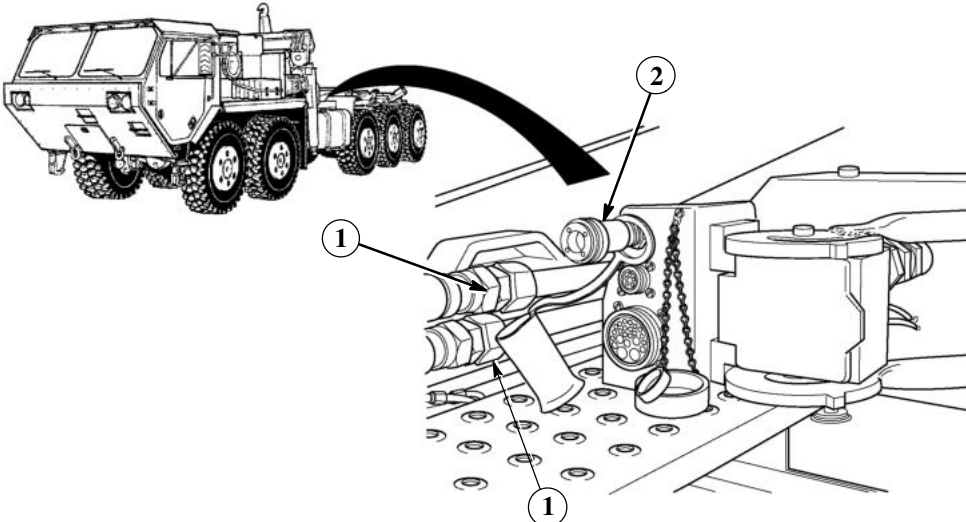
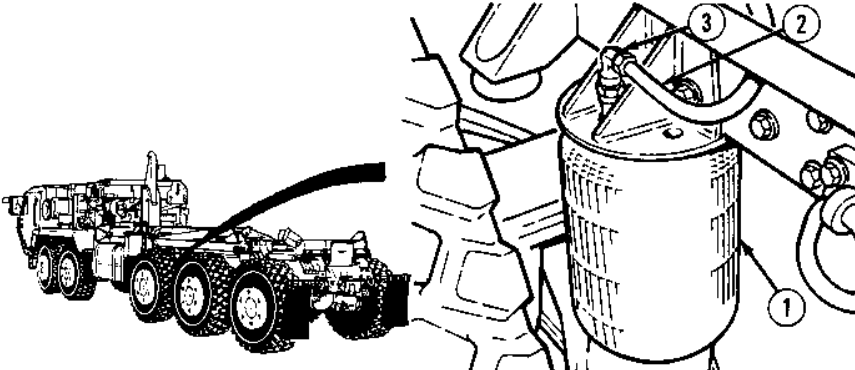
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
41	After	Interface Kit (If Equipped)		Class III leak is evident. Cracks or kinks that will impair operation are present. Air lines leaking or damaged.
			Visually check condition of hoses and fittings (1) for leaks and obvious damage. Visually check air lines and fittings (2) for leaks or damage.	
42	After	Air Bag Axle No. 3 (Left Side)		Air bag will not hold air.
			Check air bag (1), tubing (2), and fitting (3) for leaks and damage.	

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

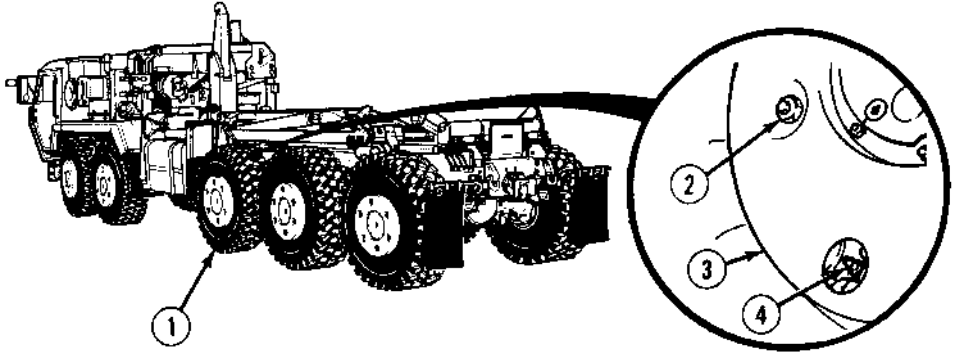
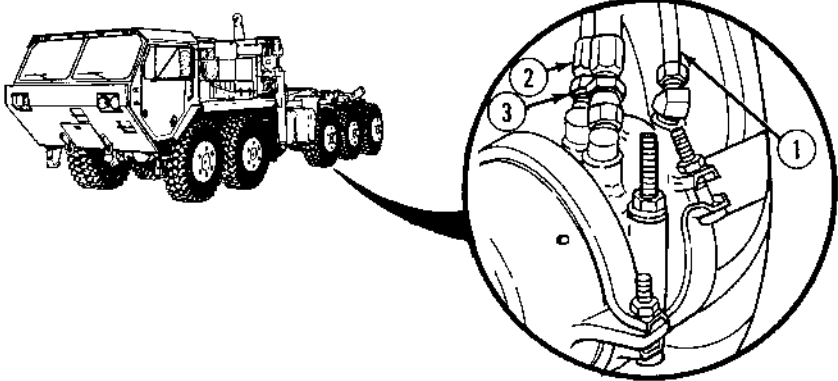
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
43	After	Tires, Nuts, and Wheel Covers (Left Side Axles No. 3, 4 & 5)		Tires missing, deflated, or unserviceable. Two or more nuts are missing from the same wheel. One or more wheel covers are missing.
44	After	Air Lines Hoses and Fittings (Left Side, Axles No. 3, 4 & 5) Axle Vent Tubing (Left Side Axle No. 5)		Axle vent tubing is kinked or damaged. Air lines or hoses have leaks, cracks, or kinks.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

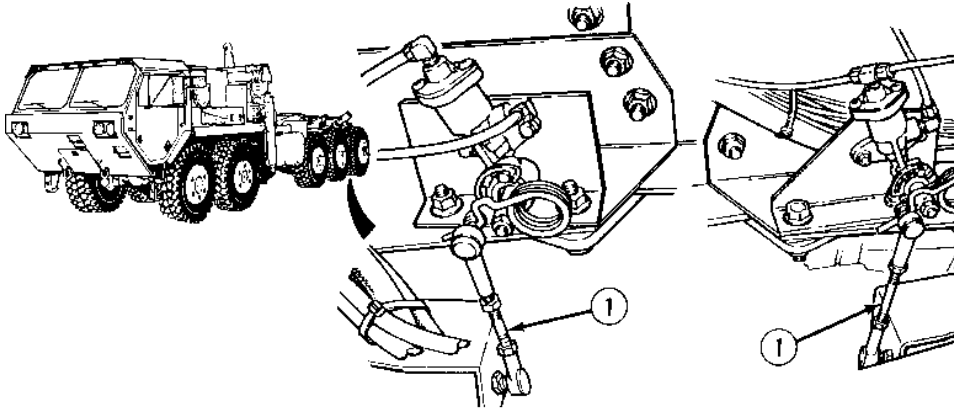
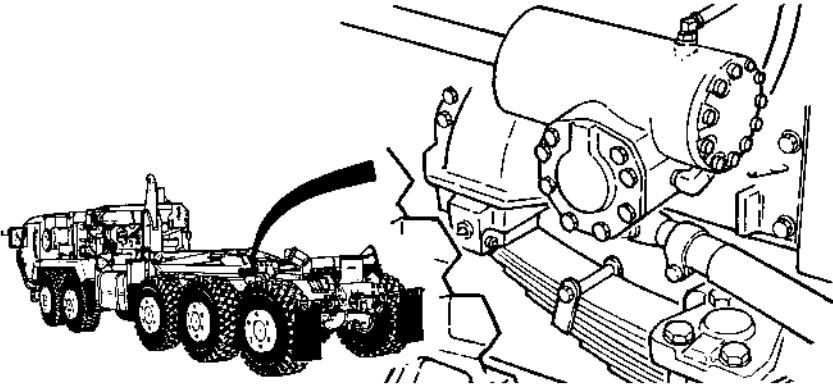
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
45	After	Ride Height Control Linkages (Axle No. 5)	Check for damage to linkages (1).	Linkages are bent or broken.
				
46	After	Steering Hydraulic Fittings and Hoses	Check for leaking hydraulic steering fittings and hoses. Check for dents, cracks, and kinks that would impair operation.	Class III leak is evident. Cracks, dents or kinks that will impair operation are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

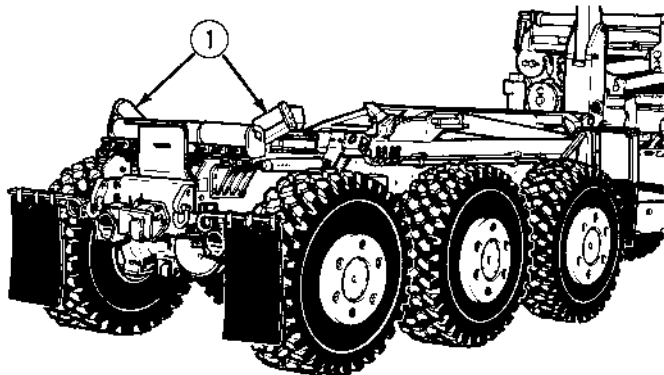
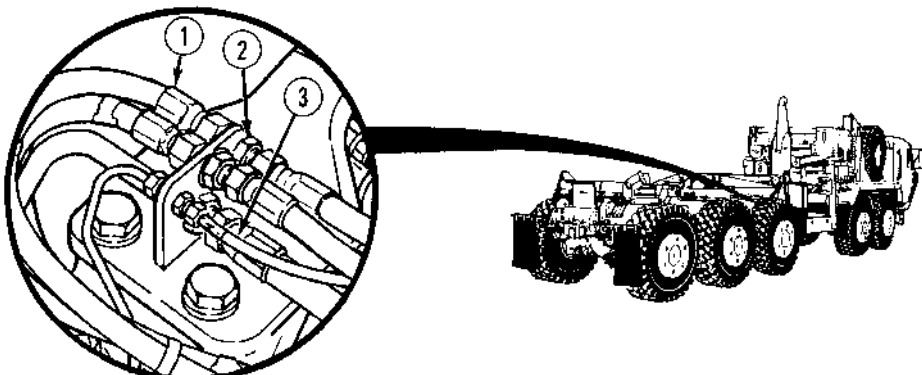
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/ Service		
				
47	After	Load Handling System (LHS) Rollers	Check LHS rollers (1) for damage and binding.	Rollers broken, missing or inoperable.
				
48	After	Air Lines, Hoses, and Fittings (Right Side Axles No. 3, 4 & 5) Axle Vent Tubing Right Side (Axle No. 5)	Check air line hoses (1) and fittings (2) for leaks, dents, cracks, and kinks. Check axle vent tubing (3) for kinks and damage.	Air lines or hoses have leaks, cracks or kinks. Axle vent tubing kinked or cracked.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

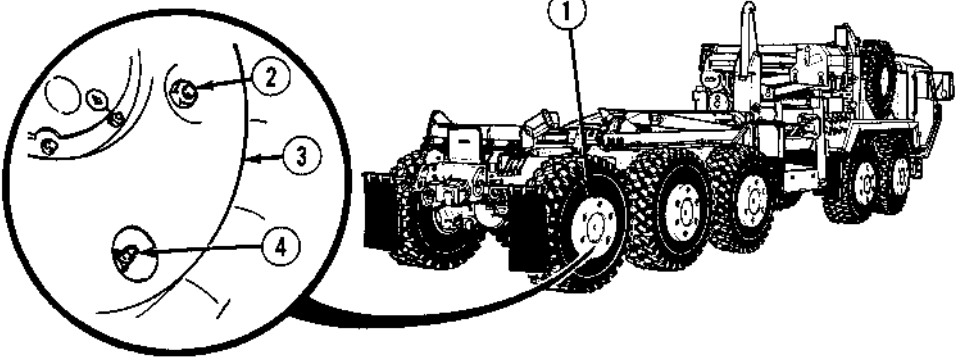
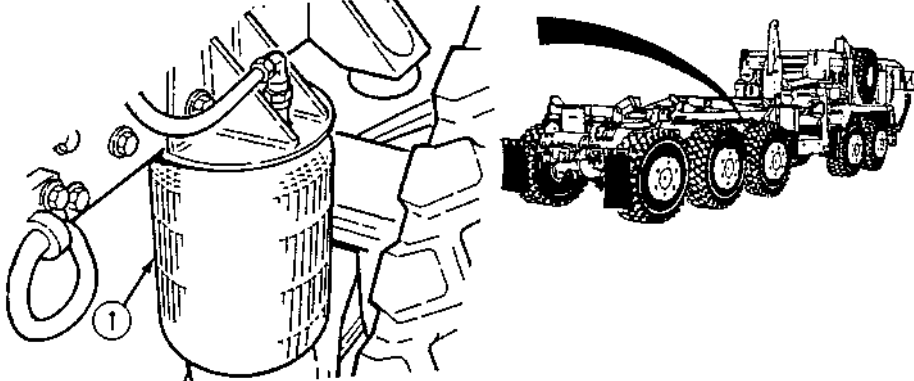
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
49	After	Tires, Nuts, and Wheel Covers (Right Rear Axles No. 3, 4 & 5)	 <p>Check tires (1) for cuts, gouges, cracks and foreign objects. Check for missing wheel cover mounting nuts (2) and missing wheel covers (3) and missing valve stem caps (4).</p>	Tires missing, deflated, or unserviceable. Two or more nuts are missing from the same wheel, or wheel covers are missing.
50	After	Air Bag (Right Side Axle No. 3)	 <p>Check air bag (1) tube and fitting for leaks and damage.</p>	Air bag will not hold air.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

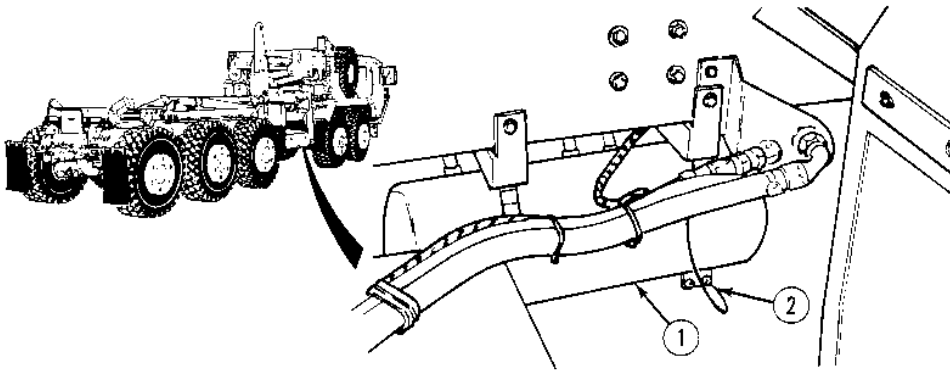
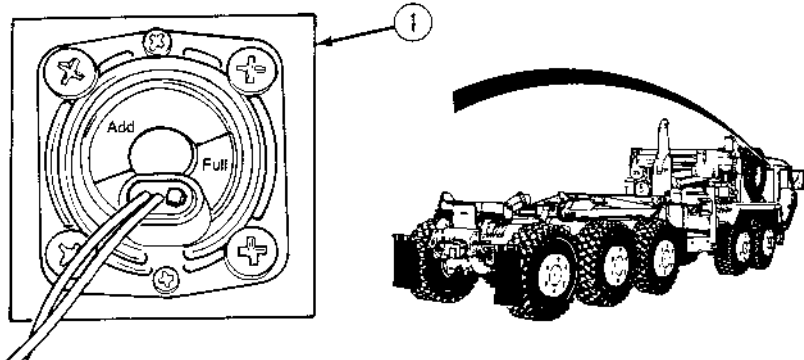
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
51	After	Right Side Air Reservoirs	Check that air reservoirs (1), are secure and there are no air leaks and damage. Pull cable (2) and drain reservoir until all water is drained.	Air leaks are present.
				
<p>NOTE</p> <ul style="list-style-type: none"> Load Handling System and crane (if equipped) must be in stowed position when taking reservoir fluid level reading, or incorrect fluid level reading will be obtained. The ladder is needed for the following procedures. 				
52	After	Hydraulic Reservoir	Check hydraulic reservoir fluid level indicator (1). If oil level is within the FULL band, the quantity of hydraulic oil is safe for operation.	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

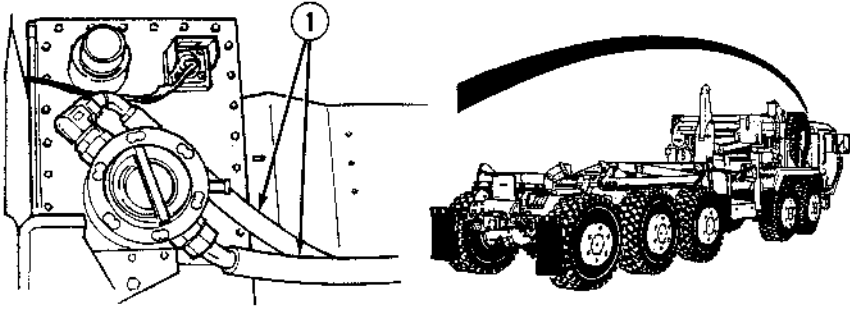
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
53	After	Hydraulic Lines and Hoses	 <p>Check for leaking and damaged hydraulic lines and hoses (1).</p>	Class III leak is evident. Cracks, or kinks that will impair operation are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

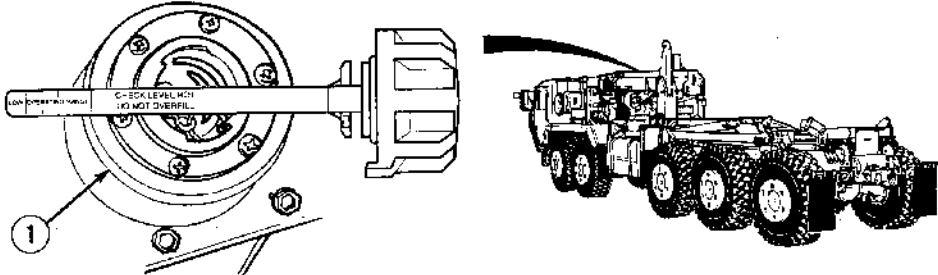
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<div></div>				
<div><div>WARNING</div><p>Hydraulic oil may be hot and cause serious burns.</p><div>CAUTION</div><p>When installing breather cap, ensure that tether chain lowers into reservoir hole, or damage to breather cap gasket will result.</p></div>				
54	After	Power Steering Reservoir	While hydraulic fluid is still hot, check steering hydraulic fluid reservoir (1) for the proper fluid level. If level is below the 3/4 mark in the OPERATING RANGE, notify Unit Maintenance to determine where fluid is leaking. If no leaks are found, fill as required. Check for damage, cracks and leaking fluid.	Class III leak is evident. Cracked or broken reservoir is present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

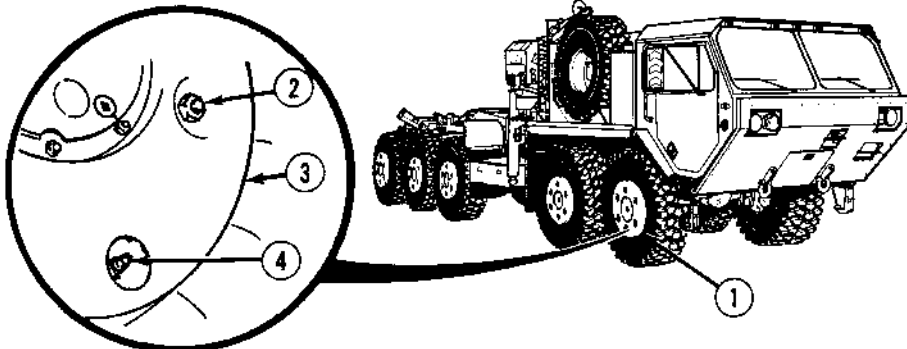
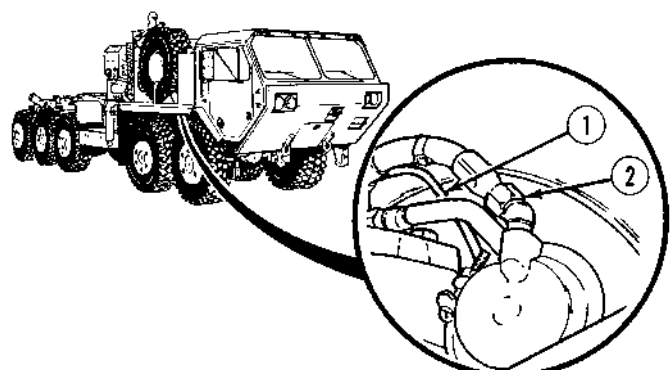
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
55	After	Tires, Nuts, and Wheel Covers (Right Front Axles No. 1 & 2)	Check tires (1) for cuts, gouges, cracks and foreign objects. Check for missing wheel cover mounting nuts (2), missing wheel covers (3) and missing valve stem caps (4).	Tires missing, deflated or unserviceable. Two or more nuts are missing from the same wheel. One or more wheel covers are missing.
				
56	After	Air Lines and Vent Tubing (Right Front Axles No. 1 & 2)	Check axle vent tubing (1) for obvious damage, and air line hoses and fittings (2) for leaks, cracks, and kinks.	Axle vent tubing has cracks or kinks that would impair operation. Air lines or hoses have leaks, cracks, or kinks that would impair operation.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

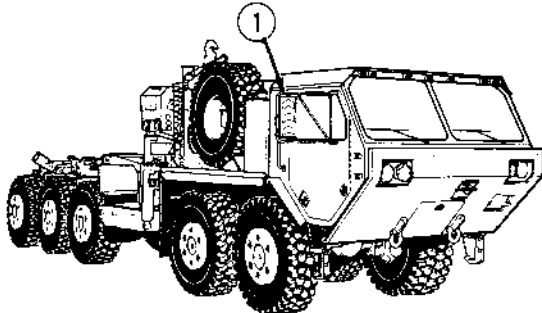
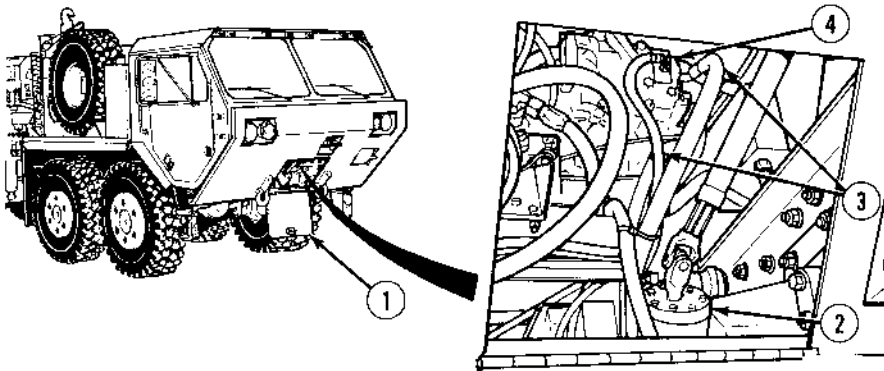
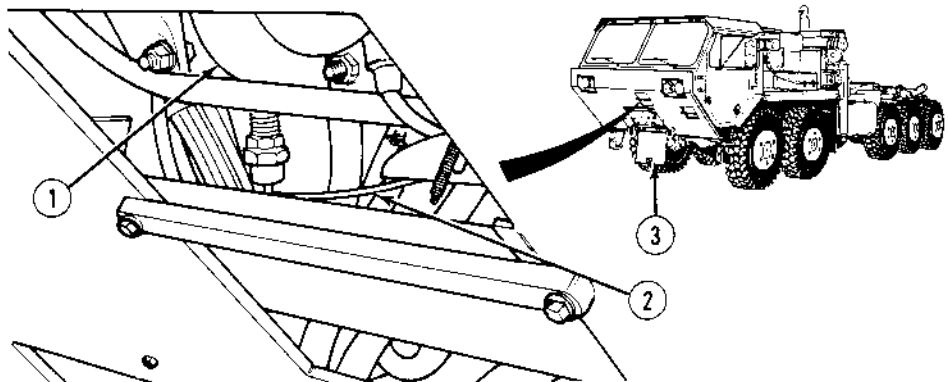
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
57	After	Mirror (Right)	Check mirrors (1) for cracks and missing mirrors.	
				
58	After	Steering Gear (Front)	Open front access cover (1) and check front steering gear assembly (2) for leaking fittings and hoses.	Class III leak is evident.
59	After	Air Lines and Fittings (Front)	Check air lines and fittings (3) for leaks and damage.	Air leaks or kinked air lines that impair operation are present.
60	After	Hydraulic Pump, Hoses and Fittings (Front)	Check hydraulic pump (4), fittings and hoses for cracks or leaks.	Class III leak is evident. Cracked or broken fittings or hoses are present.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
61	After	Air Reservoir (Front)	Check air reservoir (1) for leaks and damage. Pull cable (2) and drain any water that may be present. Close front access cover (3).	Air reservoir leaking.

**Table 2-3. Operator's Preventive Maintenance Checks
and Services (After) - CONT.**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
62	After	Engine Oil Level	Check that engine oil level is between Low (L) and Full (F) on the dipstick (1). If below Low (L) fill as required. Close access panel (2).	

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

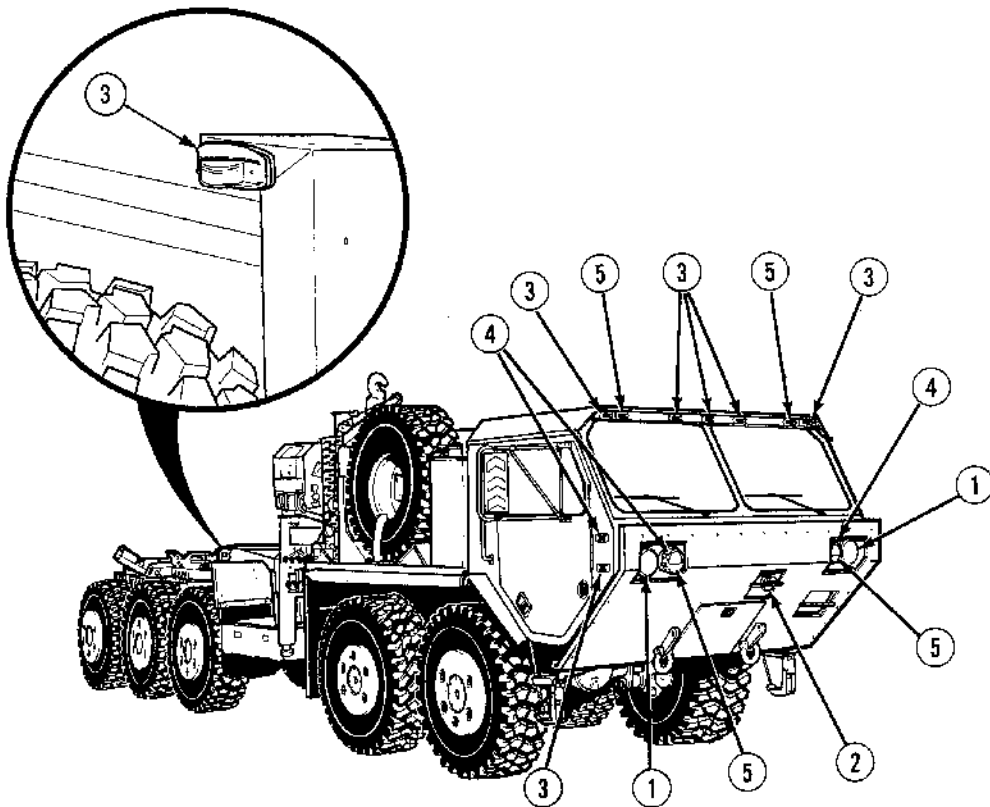
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
63	After	Front Lights	 <p style="text-align: center;">NOTE</p> <ul style="list-style-type: none"> • Operation of truck with inoperative headlights and or clearance lamps may violate AR 385-55. • An assistant may be used to check lights outside of cab. 	
		Front Lights	Operate switches in cab as required and check operation of headlights (1), blackout drive (2), clearance lights (3), turn signal/emergency flasher (4) and blackout marker lights (5) for broken and burnt out lamps and broken lenses.	

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

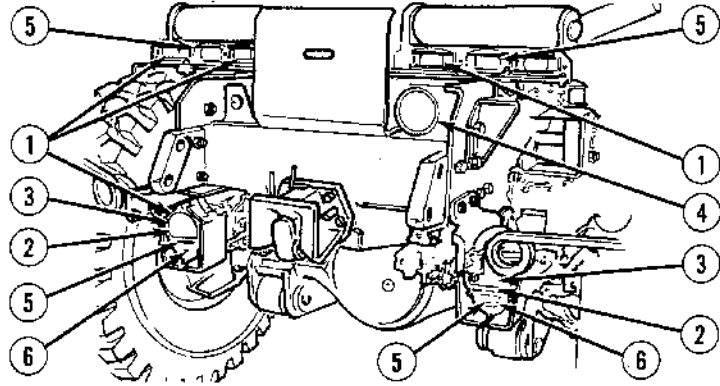
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<p style="text-align: center;">NOTE</p> <ul style="list-style-type: none">• Operation of truck with inoperative headlights and or clearance lamps may violate AR 385-55.• An assistant may be used to check lights outside of cab.				
64	After	Rear Lights	Operate switches in cab and check operation of clearance lights (1), turn signals/emergency flashers (2), stop lights (3), backup light (4), blackout marker (5) and blackout brake (6) lights for burnt, missing lamps and broken lenses.	
65	After	Leaks	Check underneath truck for fluid leaks (fuel, oil or coolant).	Class III leak is evident.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
66	After	Lifting Frame (LF)	(a) If truck is equipped with Container Handling Unit (CHU), check lifting frame (1) for missing or damaged lockpin (2).	Parts are damaged or missing.
			(b) Check flipper lock pin handle (3), flipper bracket (4), flipper bracket lockplate (5) and pin (6) for damage and/or rotate freely.	Parts are damaged or missing.

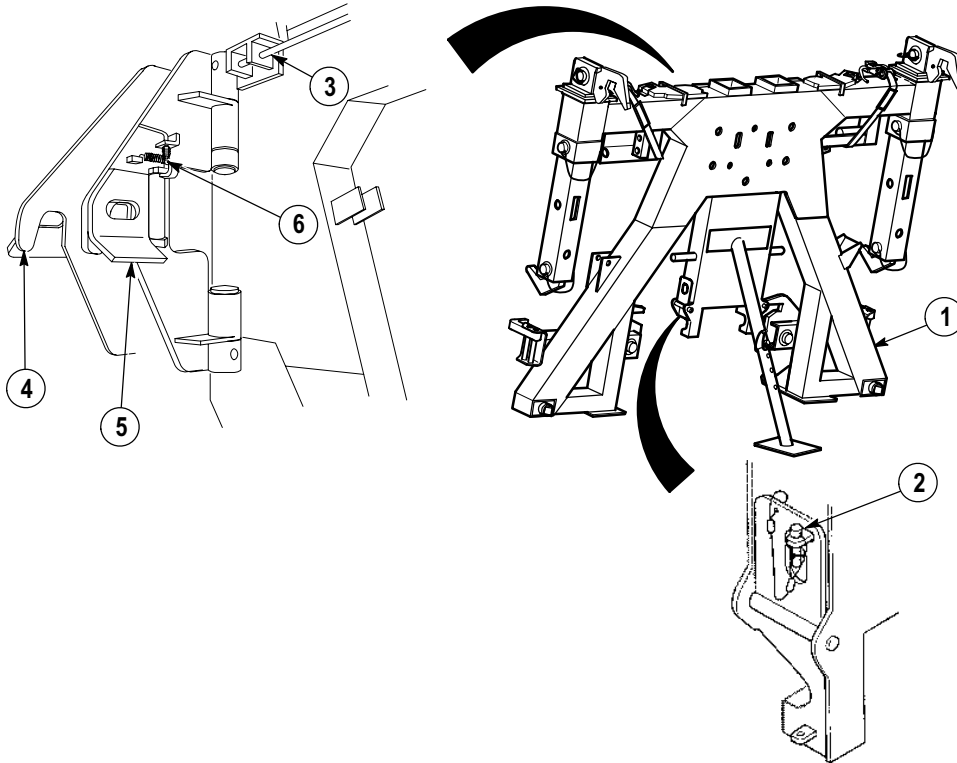


Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

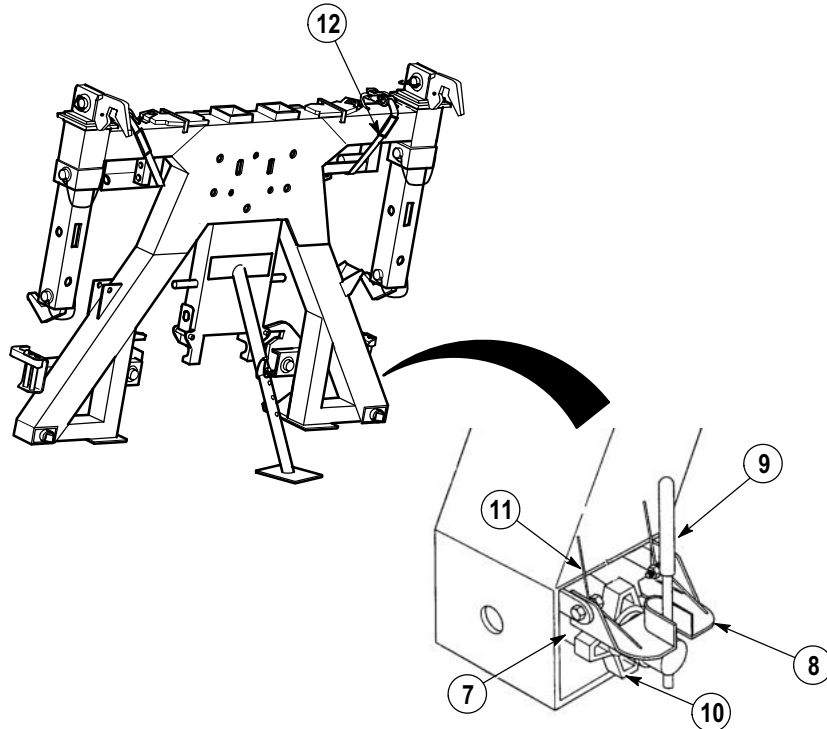
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
66	After	Lifting Frame (LF) - (Cont)	(c) Check container locks (7) for damage and/or rotate freely. (d) Check for damaged or missing handle lock (8), handle (9), hand nut (10) or spring (11).	Parts are damaged or missing. Parts are damaged or missing.
67	After	Stow Straps (LF)	If truck is equipped with Container Handling Unit (CHU), check for damaged or missing stow straps (12).	Parts are damaged or missing.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
68	After	Hooks	If truck is equipped with Container Handling Unit (CHU), check standard hooks (1), six foot hooks (2), half height hooks (3), and hooks (4) for missing or damaged pins (5), and lock pins (6).	Parts are damaged or missing.

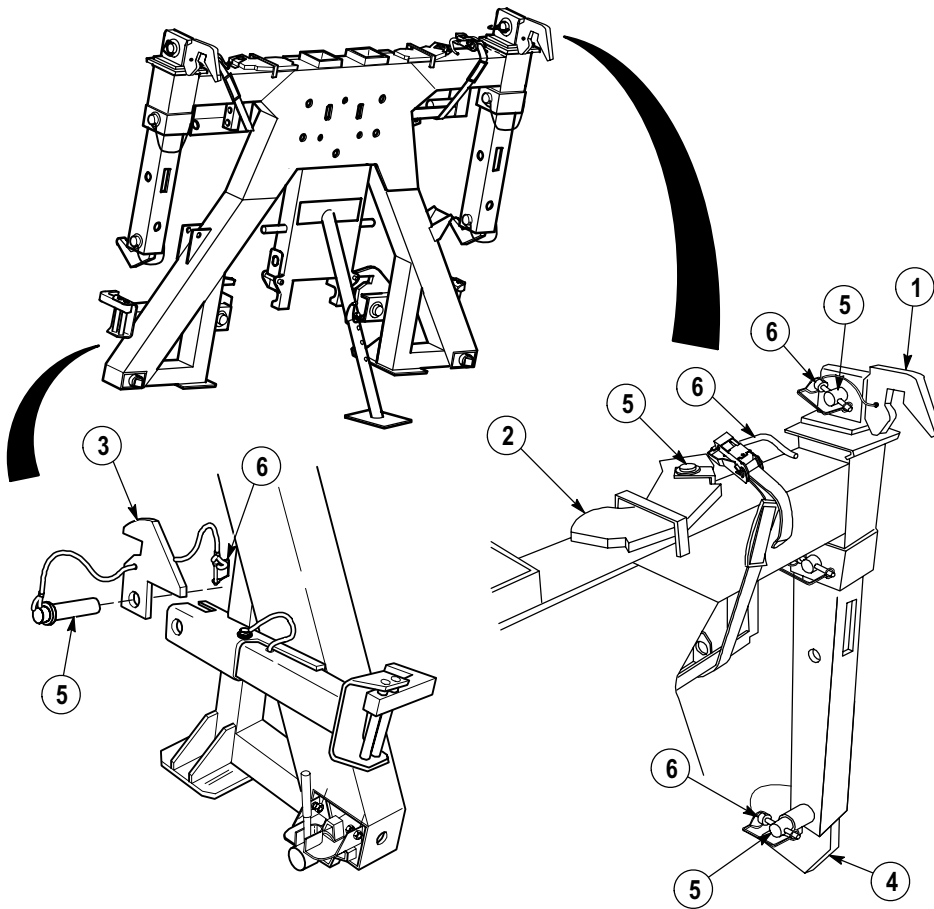


Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

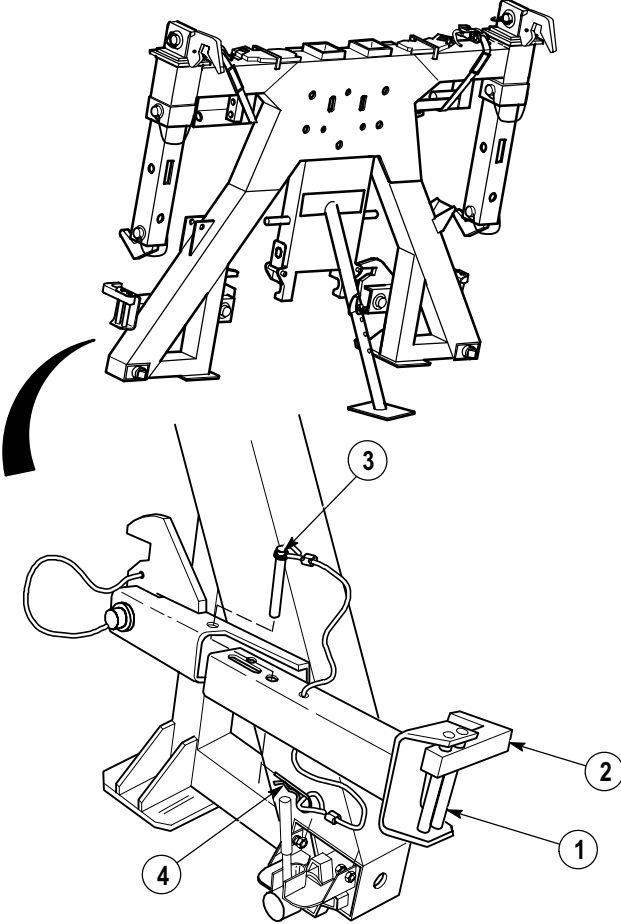
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
69	After	Rear Container Locks		Parts are damaged or missing.
				Parts are damaged or missing.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

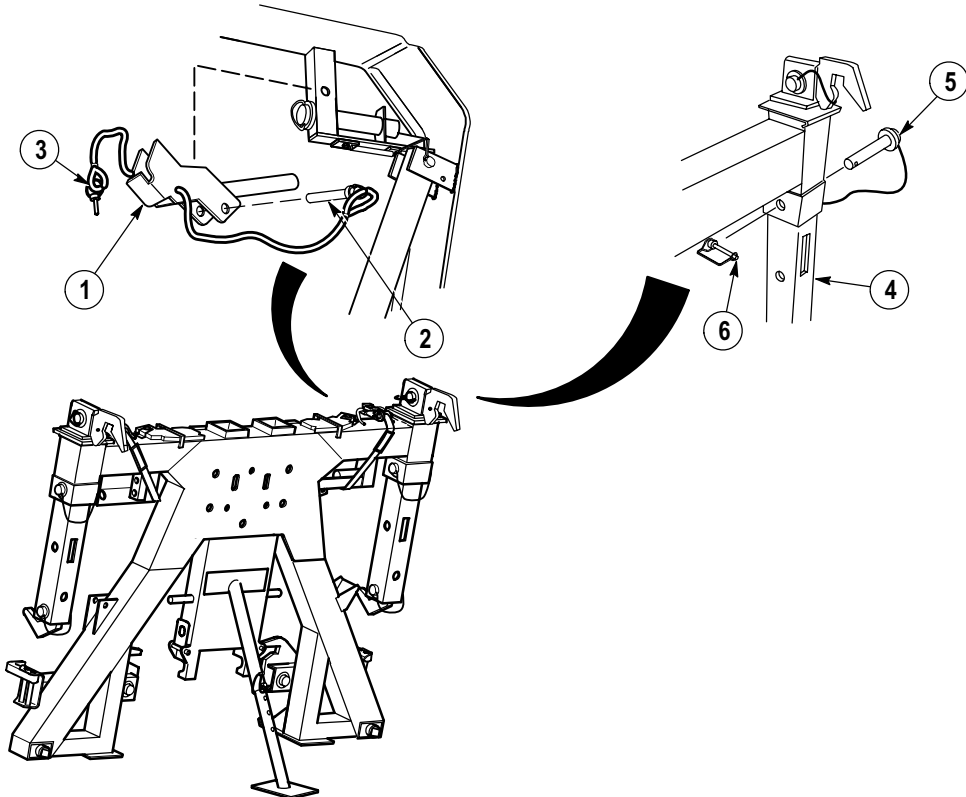
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
70	After	Bail Bar Lock	If truck is equipped with Container Handling Unit (CHU), check bail bar lock (1) for missing or damaged pin (2), and lock pin (3).	Parts are damaged or missing.
71	After	Slide Arm Weldments	(a) If truck is equipped with Container Handling Unit (CHU), ensure slide arm weldments (4) rotate freely. (b) Check for missing or damaged pins (5), and lock pins (6).	Parts are damaged or missing.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		

72	After	Rear Sliders, Pivot Lock Pin and Container Lock Pivot Pin	<p>(a) If truck is equipped with Container Handling Unit (CHU), ensure rear sliders (1) rotate freely.</p> <p>(b) Check pivot lock (2) for missing or damaged parts and proper operation.</p> <p>(c) Check container lock pivot pins (3) for damaged parts and proper operation.</p>	<p>Parts are damaged or missing.</p> <p>Parts are damaged or missing.</p> <p>Parts are damaged or missing.</p>
73	After	Container Guides	If truck is equipped with Container Handling Unit (CHU), check container guides (4) for missing or damaged lock pins (5).	Parts are damaged or missing.

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

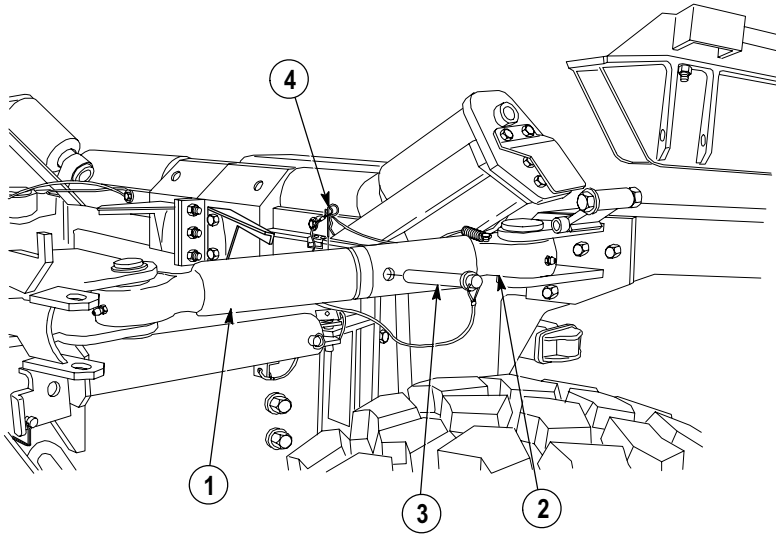
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
74	After	Long and Short Strut	<p>(a) If truck is equipped with Container Handling Unit (CHU), ensure long strut (1) and short strut (2) rotate freely.</p> <p>(b) Check for missing or damaged pins (3), and lock pins (4).</p>	<p>Parts are damaged or missing.</p> <p>Parts are damaged or missing.</p>

Table 2-3. Operator's Preventive Maintenance Checks and Services (After) - CONT.

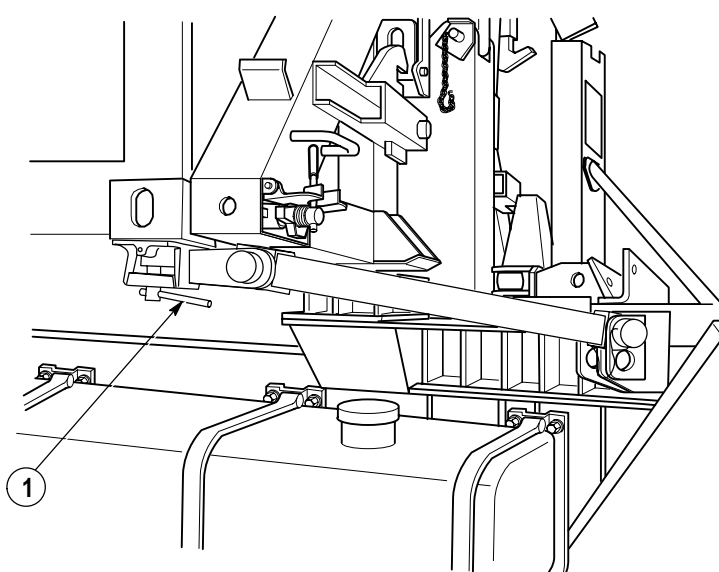
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
75	After	Rail Container Locks	Check rail container locks (1) for damage and/or rotate freely.	Parts are damaged or missing.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly)

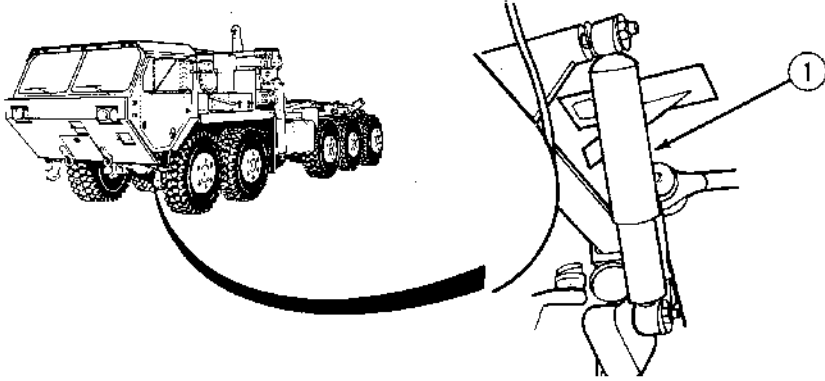
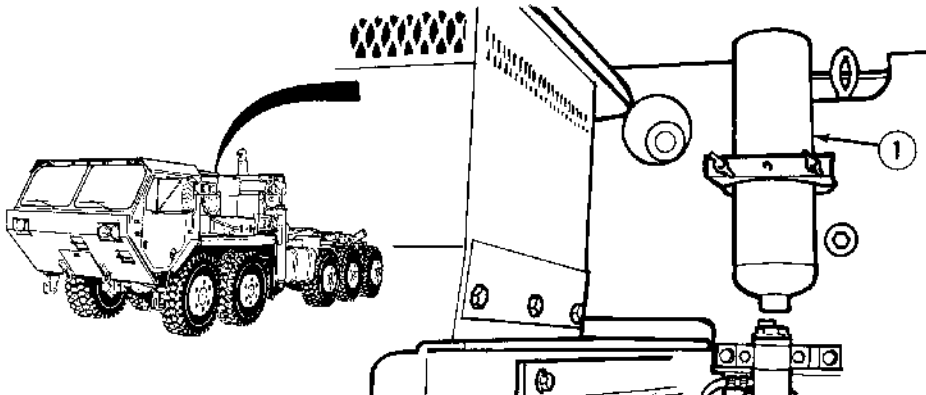
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
76	Weekly	Shock Absorbers (Left Side Axles No. 1 & 2)	 <p>Check shock absorbers (1) for leaks and damage.</p>	Damage to shocks that impairs truck operation.
77	Weekly	Ether Starting Aid	 <p>NOTE</p> <ul style="list-style-type: none"> Perform the following check only as required during cold weather operation. The ladder is needed for the following checks. <p>Check hardware, mounts and canister of ether starting aid (1).</p>	

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

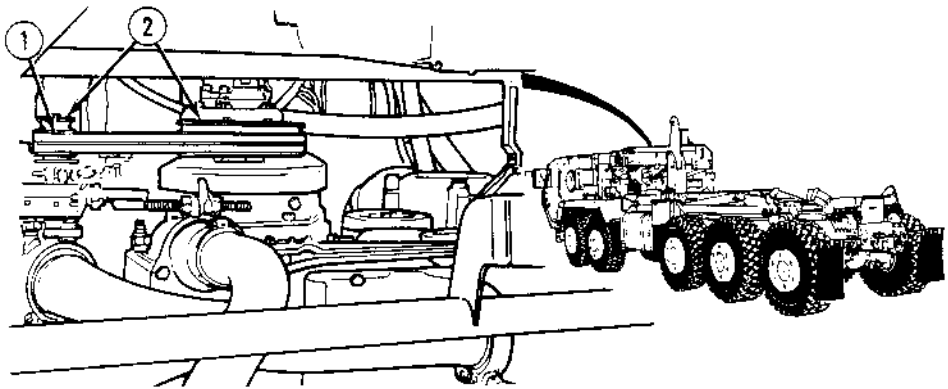
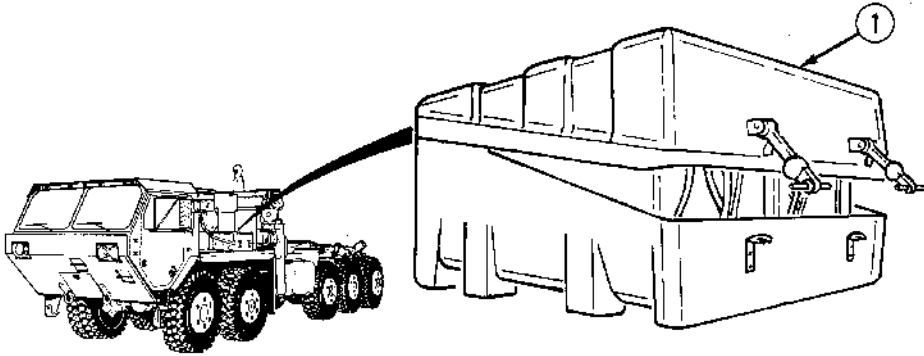
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Engine panel must be open for item 78.</p>				
78	Weekly	Alternator Belts	<p>(a) Check alternator belts (1) for cracking, fraying, and breaks. Check for tightness. Play should be about 1/2 in. (13 mm).</p> <p>(b) Check pulleys (2) for cracks and damage. Close access panel.</p>	<p>Any belt is broken or cracked to the belt fiber, has more than one crack (1/8 in. [3.2 mm] in depth or 50 percent of belt thickness) or has frays more than two in. (51 mm) long. Any pulleys cracked or damaged.</p>

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



WARNING

79	Weekly	Battery Box	Remove battery box cover (1) and check for cracks and damage.	Battery box has damage that could allow battery box to separate from fender.

NOTE

Perform Item 80(a) only if truck has not been run for the last five days or longer.				
80	Weekly	Batteries	(a) Perform before interval check, Item 11(a) through 11(n) and idle truck for 15 minutes on high idle.	Batteries will not accept a charge.

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.


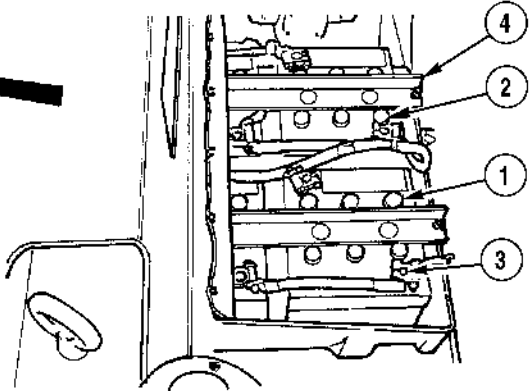
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:					
		Item to Check/Service							
<div><div></div><div></div></div> <div><div><div>WARNING</div><div><ul style="list-style-type: none">• Lead-acid battery gases can explode. Do not smoke, have open flames, or make sparks around a battery, especially if caps are off. If a battery is gassing, it can explode and cause injury to personnel• Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact positive electrical circuits a direct short may result. Damage to equipment, injury or death to personnel may occur.</div></div></div> <table><tr><td>80</td><td>Weekly</td><td>Batteries - (Cont).</td><td>(b) Visually check for missing battery caps (1). Check electrolyte level. Electrolyte should be filled to approximately 1/8 in. (3.2 mm) below level/split ring in the battery filler opening (vent). Visually inspect batteries for cracked and leaking casing (2), broken, loose, burned, and corroded terminal posts (3), loose, or missing hold downs (4). Install battery box cover.</td><td>Battery is unserviceable, missing, leaking, terminals or cables are loose, corroded, burnt, or hold downs are not secure.</td></tr></table>					80	Weekly	Batteries - (Cont).	(b) Visually check for missing battery caps (1). Check electrolyte level. Electrolyte should be filled to approximately 1/8 in. (3.2 mm) below level/split ring in the battery filler opening (vent). Visually inspect batteries for cracked and leaking casing (2), broken, loose, burned, and corroded terminal posts (3), loose, or missing hold downs (4). Install battery box cover.	Battery is unserviceable, missing, leaking, terminals or cables are loose, corroded, burnt, or hold downs are not secure.
80	Weekly	Batteries - (Cont).	(b) Visually check for missing battery caps (1). Check electrolyte level. Electrolyte should be filled to approximately 1/8 in. (3.2 mm) below level/split ring in the battery filler opening (vent). Visually inspect batteries for cracked and leaking casing (2), broken, loose, burned, and corroded terminal posts (3), loose, or missing hold downs (4). Install battery box cover.	Battery is unserviceable, missing, leaking, terminals or cables are loose, corroded, burnt, or hold downs are not secure.					

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

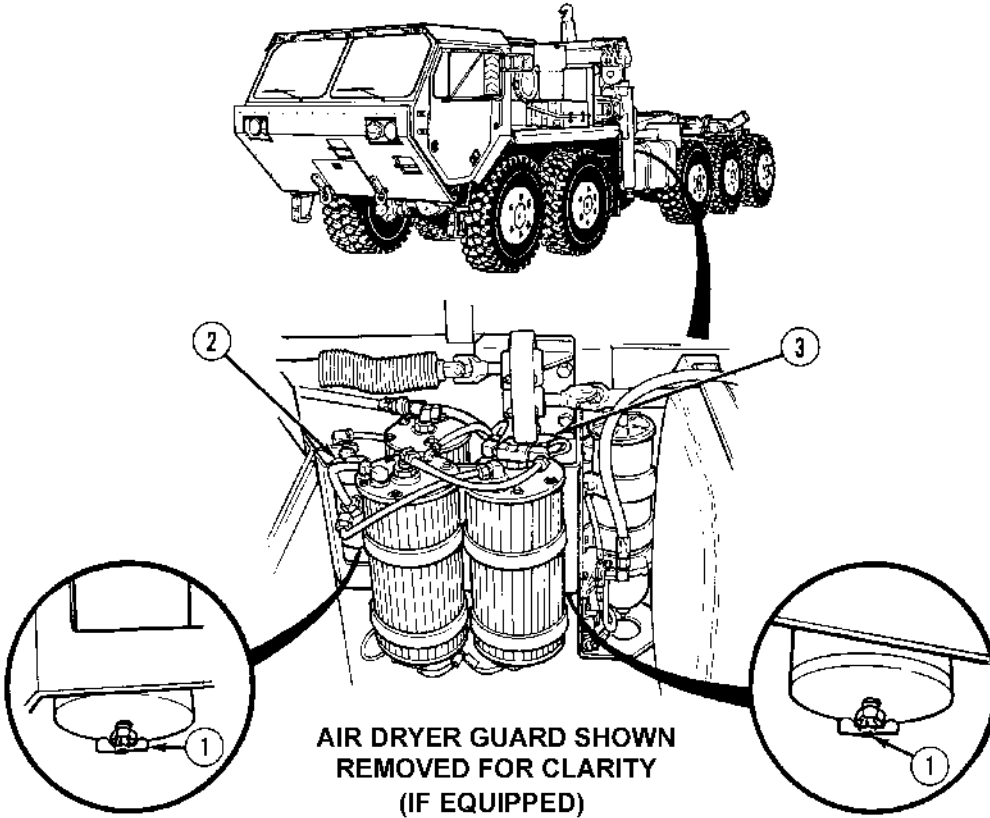
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
 <p>AIR DRYER GUARD SHOWN REMOVED FOR CLARITY (IF EQUIPPED)</p> <p>NOTE</p> <ul style="list-style-type: none"> • A small amount of oil out of drain is normal. If a steady stream of oil out of drain is detected or if in doubt, notify supervisor or Unit Maintenance. • If either coalescing filter or purge tank can not be drained, drain all other reservoirs. Complete the mission and at the first opportunity, notify Unit Maintenance to repair the problem. 				
81	Weekly	Coalescing Filter and Purge Tank	Open drains (1) and drain coalescing filter (2) and the purge tank (3). Close drains.	

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.


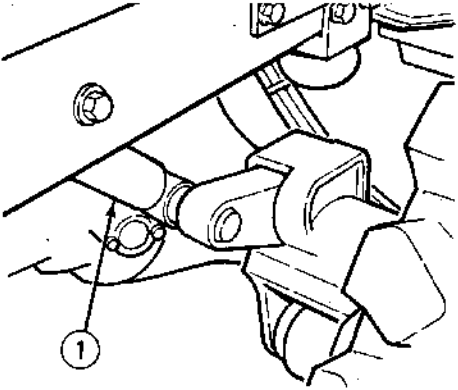
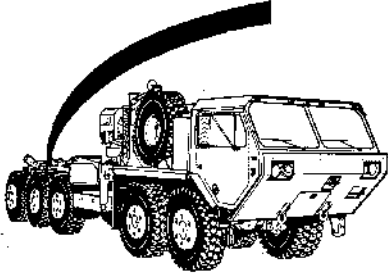
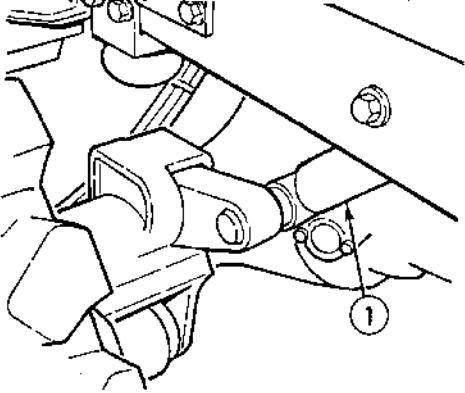
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
82	Weekly	Shock Absorbers (Left Side Axles No. 3 & 4)	 	Damage to shocks that impairs truck operation.
			Check shock absorbers (1) for leaks and damage.	
83	Weekly	Shock Absorbers (Right Side Axles No. 3 & 4)	 	Damage to shocks that impairs truck operation.
			Check shock absorbers (1) for leaks and damage.	

Table 2-4. Operator's Preventive Maintenance Checks and Services (Weekly) - CONT.

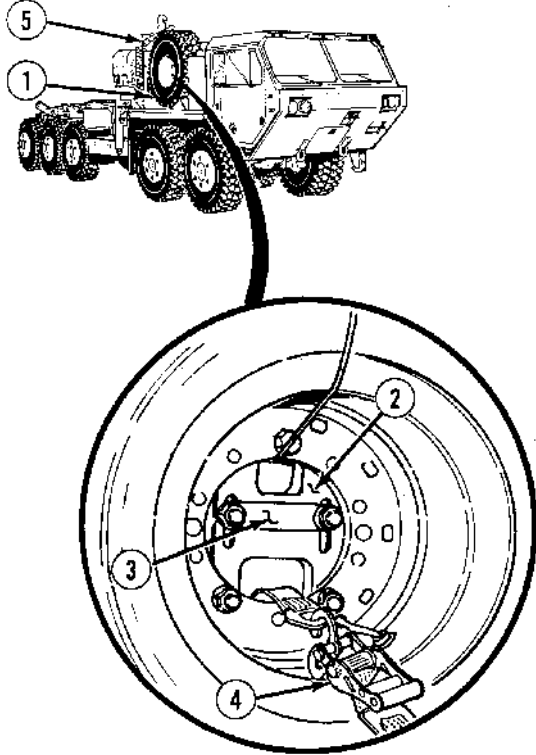
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
84	Weekly	Tire Davit, Spare Tire Mounting Bracket and Ratchet Strap	 <p>WARNING</p> <p>Spare tire air pressure must be checked properly or serious injury or death may result.</p> <p>NOTE</p> <p>The ladder is needed for the following procedure.</p> <p>Check that spare tire (1) pressure is 75 psi (517 kPa). Adjust pressure if required (Para 2-57j). Check spare tire for cuts, gouges, cracks, and foreign objects. Check spare tire mounting bracket (2), plate (3), ratchet strap (4) and davit (5) for missing parts, looseness and obvious damage.</p>	Spare tire missing, deflated, or unserviceable. Mounting bracket or plate missing, one or more nuts or ratchet strap missing, loose or unserviceable.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly)

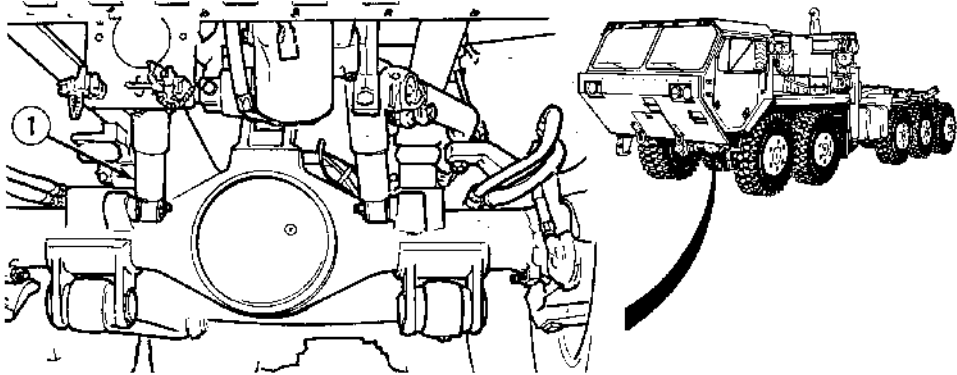
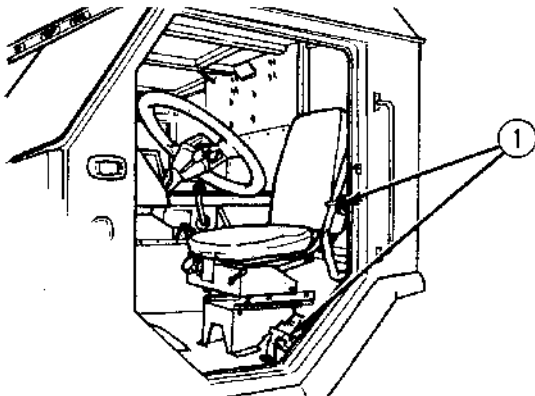
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
85	Weekly	Shock Absorbers (Right Side Axles No. 1 & 2)	Check shock absorbers (1) for leaks and damage.	Damage to shocks that impairs truck operation.
				
86	Monthly	Rifle Mounts	Check rifle mounts (1) for damage and security.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		

NOTE

Take truck to Unit Maintenance to have wheel cover nuts properly tightened.

87	Monthly	Studs and Wheel Nuts, (Left Side Axles)	Remove wheel covers. Check for missing, cracked and broken studs (1) and wheel nuts (2). Check for damage to CTIS hoses (3) and valves (4). Install wheel covers.	Two or more studs, or nuts, are missing from the same wheel.
88	Monthly	Mudflaps	Check mudflaps (5) for missing parts, torn rubber and bent mountings (6).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

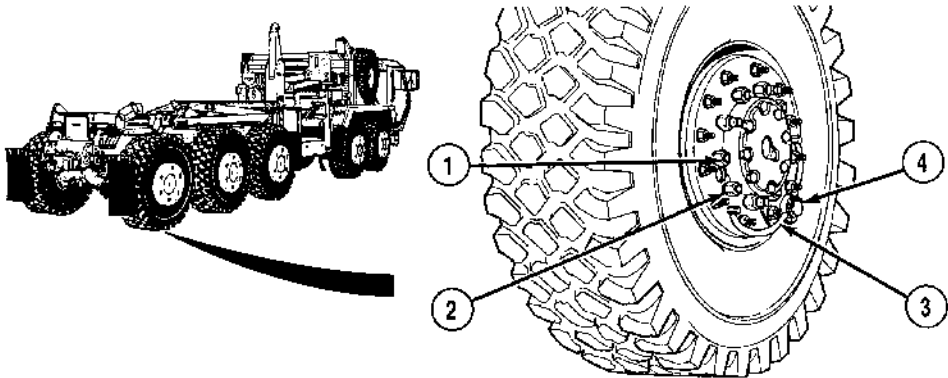
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<p style="text-align: center;">NOTE</p> <p>Take truck to Unit Maintenance to have wheel cover nuts properly tightened.</p>				
89	Monthly	Studs, and Wheel Nuts, (Right Side Axles)	Remove wheel covers. Check for missing, cracked and broken studs (1) and wheel nuts (2). Check for damage to CTIS hoses (3) and valve (4). Install wheel covers.	Two or more studs, or nuts, are missing from the same wheel.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

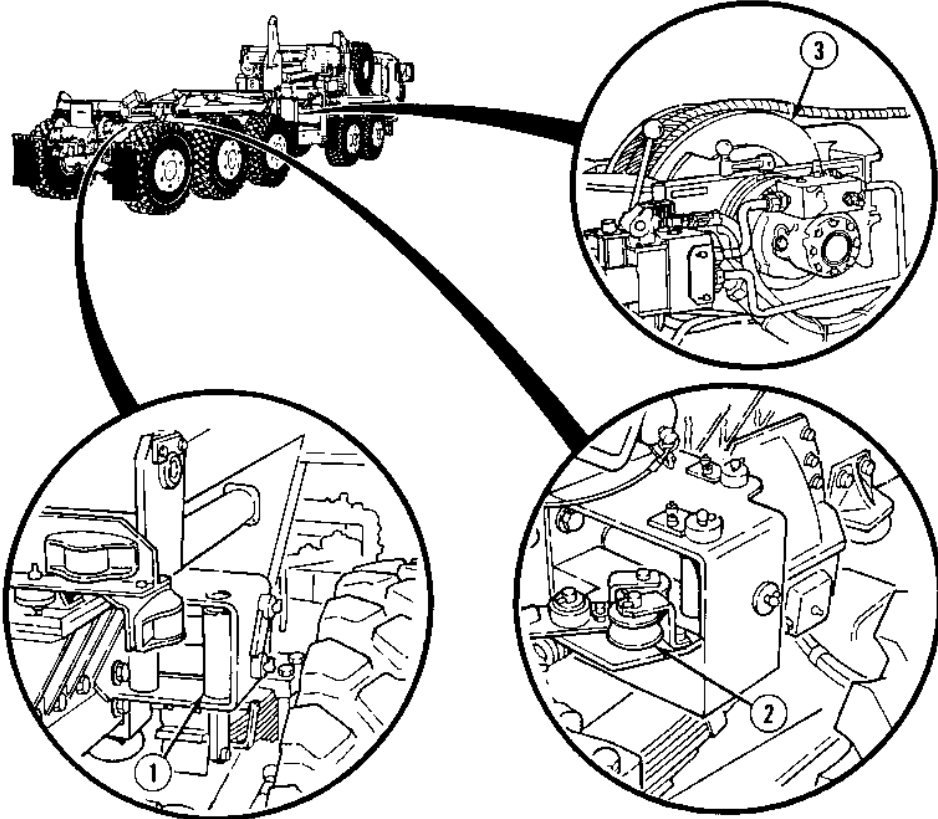
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
90	Monthly	Self-Recovery Winch (SRW) and Rear Cable Guides	If installed, check for damage to SRW cable guides (1), tensioners (2). Check for obvious damage to SRW (3).	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

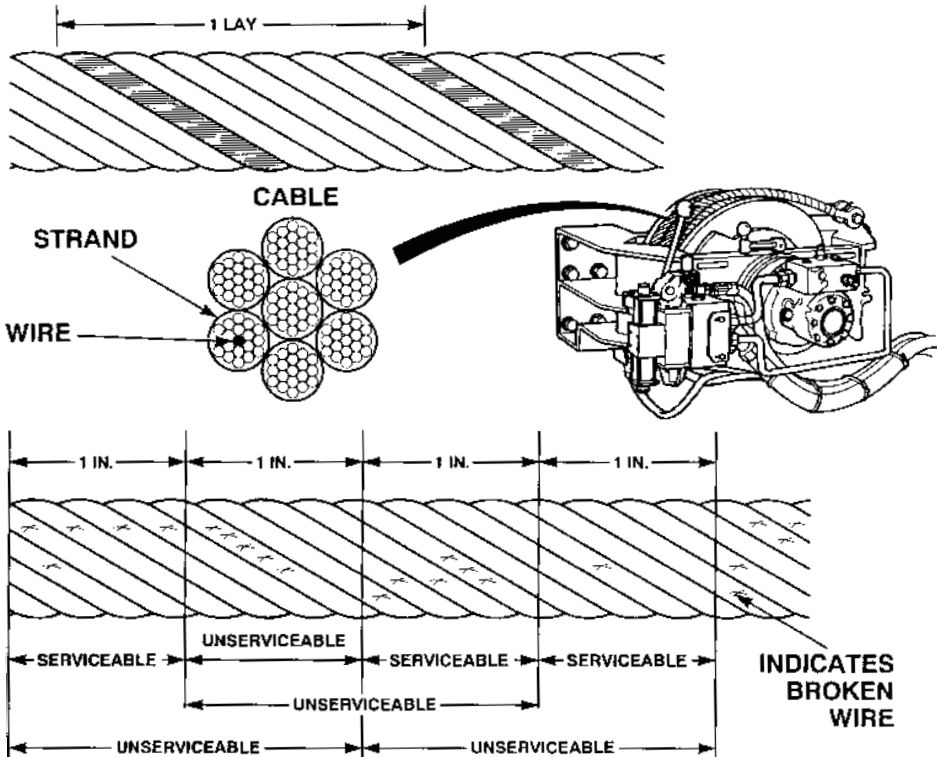
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<p style="text-align: center;">NOTE</p> <ul style="list-style-type: none">Weak points in the cable and points where the greatest stress occur must be inspected carefully.Worn spots will show up as shiny flattened spots on the strands.				
91	Monthly	SRW Cable	(a) Inspect winch cable. (b) Inspect for worn spots.	Cable is frayed, kinked, worn or corroded. Outer wires are reduced in diameter by one-fourth.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

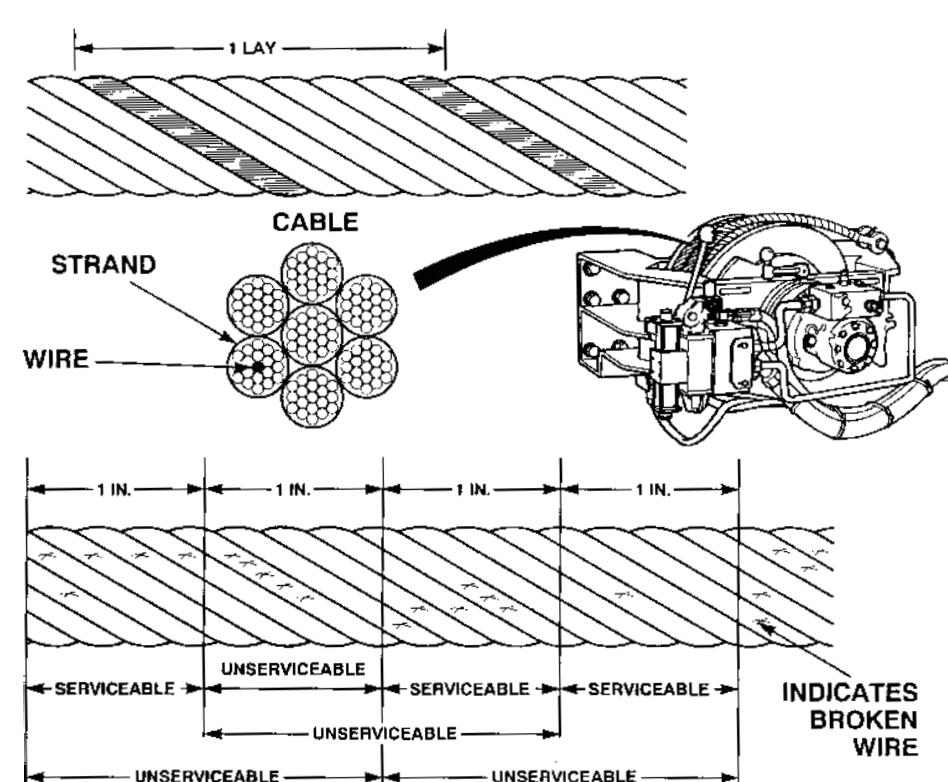
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
91	Monthly	SRW Cable - (Cont).	(c) Inspect broken wires to determine if it is a single broken wire or several broken wires.	Individual wires are broken next to one another; six randomly distributed broken wires in one lay (the distance in which the strands make one complete turn around the cable); or three broken wires in one lay.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

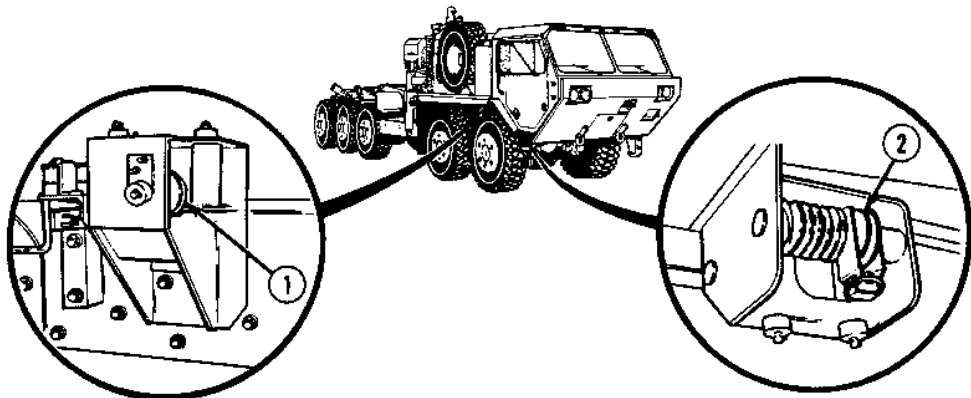
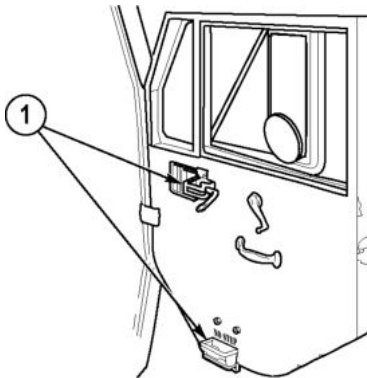
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
92	Monthly	SRW Front Cable Guides	If installed, check for damage to front cable guides (1) and tensioners (2).	
				
93	Monthly	Rifle Mounts	Check rifle mounts (1) for damage and security.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		

DOOR SHOWN REMOVED FOR CLARITY

1

2

3

94	Monthly	Gas Particulate Filter Unit (GPFU)	Check Gas Particulate Filter Unit (GPFU) (1) (if equipped), and particulate filter hoses for cuts, tears, cracks and other damage.	
<p style="text-align: center;">NOTE</p> <p>Gas Particulate Filter Unit must be in operation to perform the following check.</p>				
95	Monthly	GPFU Heater	Check GPFU heater control knob (2) by turning clockwise to make sure indicator lights (3) come on. Warm air flow should be present. Shut off GPFU heater.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

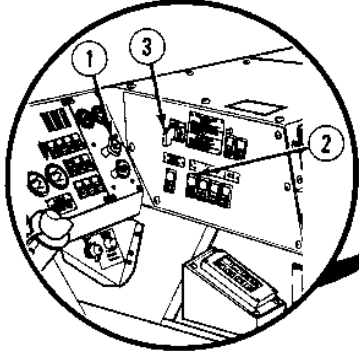
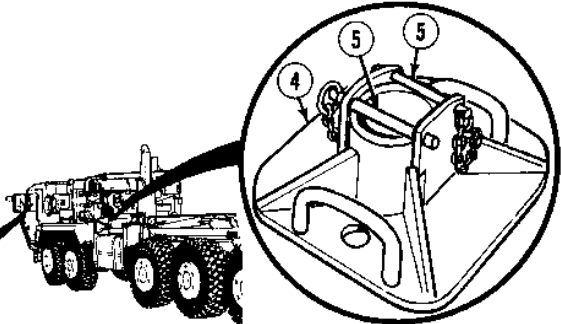
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<div><div></div><div></div></div>				
<div><div><div>WARNING</div><p>Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.</p></div></div>				
96	Monthly	Outrigger Jacks	<div><div>(a) Set parking brake (1).</div><div>(b) Start engine.</div><div>(c) If truck has self-recovery winch push SRW/CRANE switch (2) to the CRANE position.</div><div>(d) Set hydraulic selector switch (3) to CRANE/SRW.</div><div>(e) Set outrigger pads (4). Check that each pad has two retaining pins (5).</div></div>	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

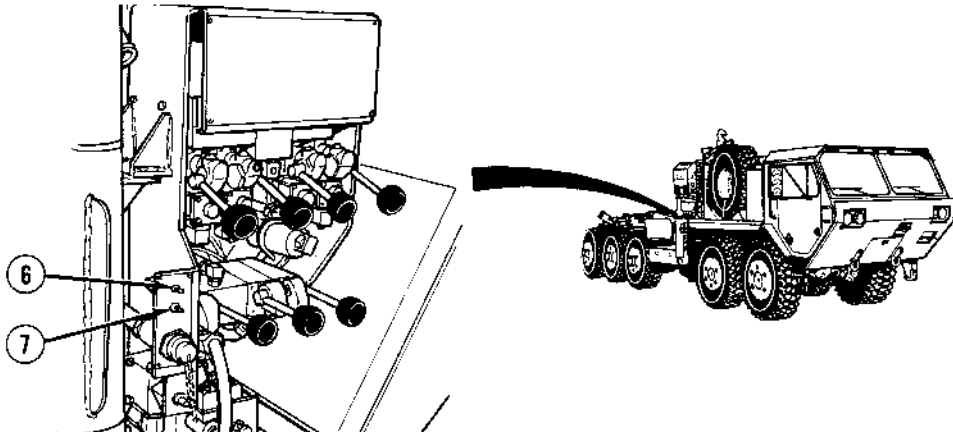
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<p style="text-align: center;">NOTE</p> <ul style="list-style-type: none">Adjust outrigger pad position as required so ball end will lower into pad socket.Crane will not operate unless outrigger jacks are firmly in place.				
96	Monthly	Outrigger Jacks - Cont.	(f) Turn crane POWER switch (6) to latch position. (g) Turn engine HIGH-IDLE switch (7) to LATCH and release.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

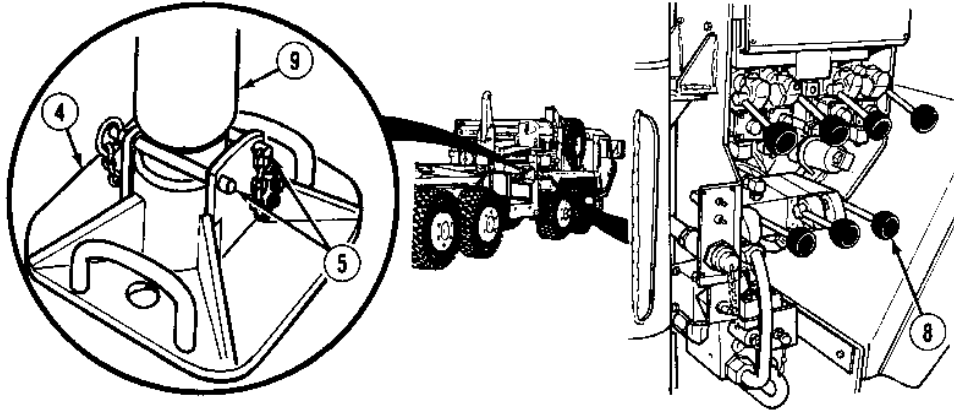
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<div></div>				
<div><div>WARNING</div><div><ul style="list-style-type: none">• Keep hands and feet away from outrigger jacks while operating lever to avoid injury.• Always use outrigger jack control valve on the same side of the truck as the outrigger jack being extended into outrigger pad or serious injury or death may result.</div></div>				
<div>NOTE</div> <div>Crane will not operate unless outrigger jacks are firmly in place.</div>				
96	Monthly	Outrigger Jacks - Cont.	(h) Move RH O/R JACK control lever (8) to DOWN position and lower outrigger jack cylinder (9) until ball end firmly seats in outrigger pad (4). Install retaining pins (5). Check that outrigger jack cylinder (9) comes down and lowers to the pad until truck weight is off suspension just enough so tires still have firm contact with the ground but do not bulge from weight.	Outrigger jacks will not extend.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

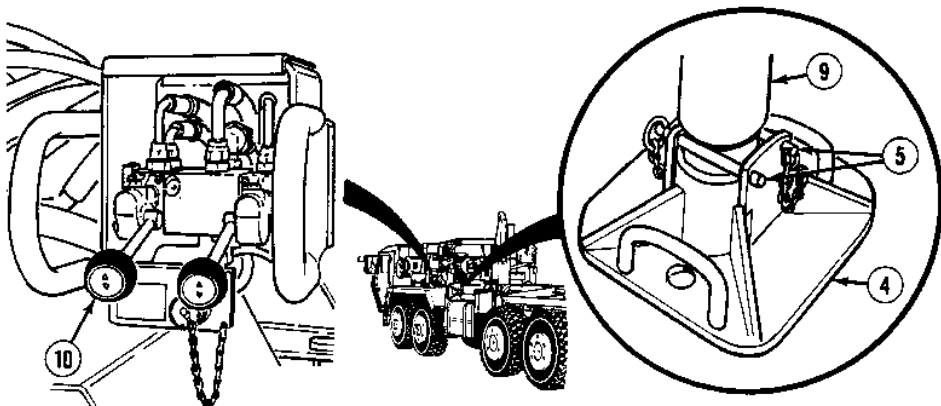
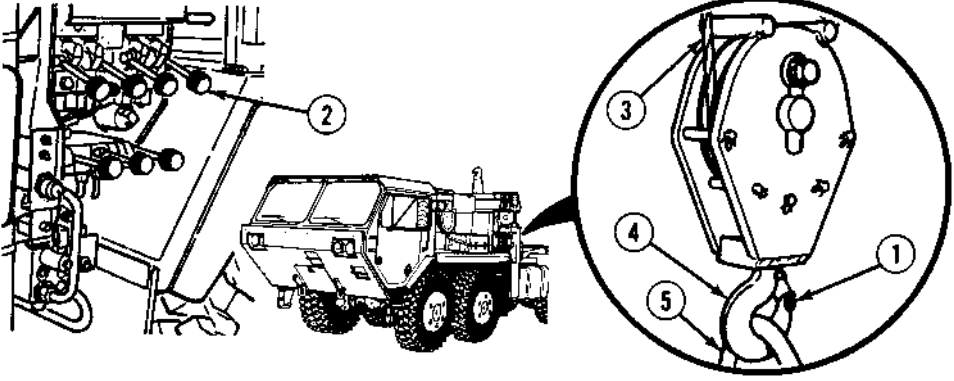
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
 <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> WARNING </div> <ul style="list-style-type: none"> • Keep hands and feet away from outrigger jacks while operating lever to avoid injury. • Always use outrigger jack control valve on the same side of the truck as the outrigger jack being extended into outrigger pad or serious injury or death may result. <div style="text-align: center; margin-top: 10px;"> NOTE </div> <p>Crane will not operate unless outrigger jacks are firmly in place.</p>				
96	Monthly	Outrigger Jacks - Cont.	(i) Move to drivers side of truck, and move LH O/R JACK control lever (10) to DOWN position and lower outrigger jack cylinder (9) until ball end firmly seats in outrigger pad (4). Install retaining pins (5). Check that outrigger jack cylinder (9) comes down and lowers to the pad until truck weight is off suspension just enough so tires still have firm contact with the ground but do not bulge from weight.	Outrigger jacks will not extend.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



97	Monthly	Crane Control Levers	<div style="text-align: center; border: 1px solid black; padding: 5px; margin-bottom: 10px;">WARNING</div> <p>Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.</p> <p>(a) Remove locking pin (1).</p> <p>(b) Move HOIST control lever (2) to DOWN position and lower hoist cable (3) about 12 in. (305 mm).</p>	Cable will not pay out.
			<div style="text-align: center; border: 1px solid black; padding: 5px; margin-bottom: 10px;">WARNING</div> <p>Care must be taken when disconnecting HOIST load hook from hook block tiedown. A swinging hook block can cause serious injury or death to personnel.</p> <p>(c) Disconnect load hook (4) from hook block tie down (5).</p> <p>(d) Check load hook (4) for cracks. Hook will have to be replaced if cracked.</p>	Hook is cracked.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

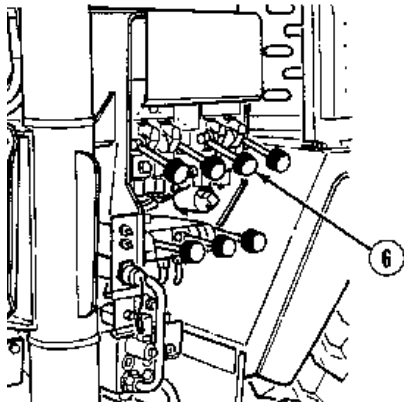
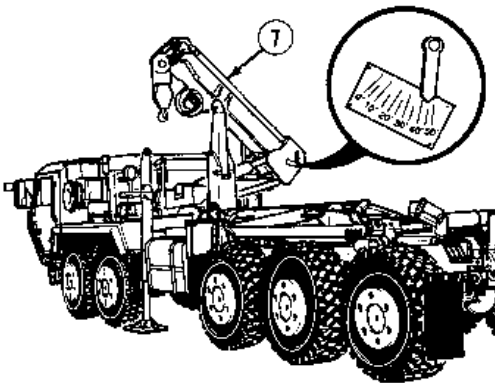
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
		 		
<div style="border: 2px solid black; padding: 5px; width: fit-content; margin: 0 auto;">WARNING</div> <ul style="list-style-type: none"> • Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact. • Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death. • Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death. 				
<div style="border: 2px dashed black; padding: 5px; width: fit-content; margin: 0 auto;">CAUTION</div> <ul style="list-style-type: none"> • Do not hit outrigger jack with load hook or damage to equipment may occur. • Do not swing crane until boom is at 0 degrees and mast is fully extended or damage to equipment may occur. 				
97	Monthly	Crane Control Levers - (Cont).	(e) Move BOOM control lever (6) to UP position until boom (7) is at 45 degree angle as shown on boom indicator.	Boom will not raise.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

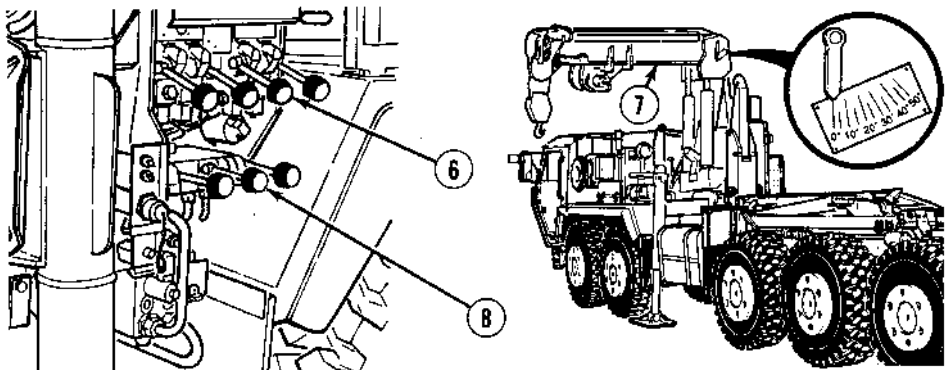
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
<div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;">WARNING</div> <p>Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.</p>				
97	Monthly	Crane Control Levers - (Cont).	<p>(f) Move MAST control lever (8) to UP position until mast cylinder is fully extended.</p> <p>(g) Move BOOM control lever (6) to raise boom (7) until boom indicator reads 0 degrees.</p>	Mast will not raise.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

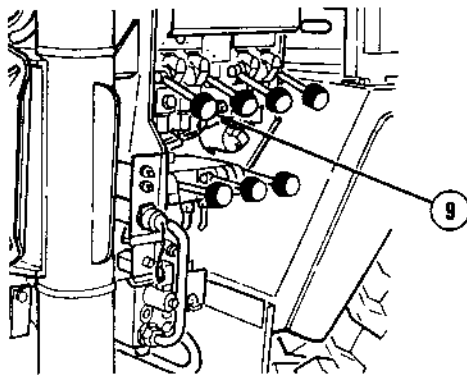
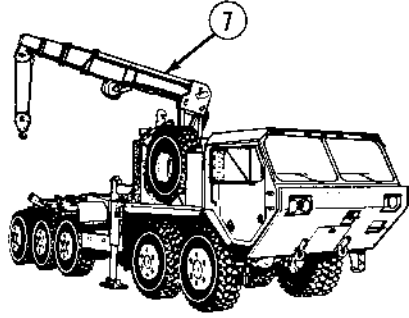
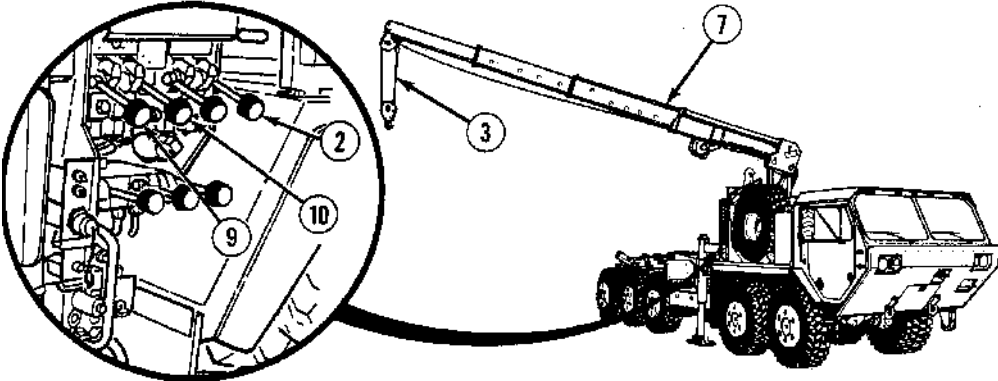
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/ Service		
<div><div></div><div></div><div><div>WARNING</div><p>Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.</p><div>CAUTION</div><ul style="list-style-type: none">• Boom must be above truck side for clearance to avoid damage to truck or boom.• Boom must be horizontal or above for clearance over LHS hook arm to avoid damage to boom or hook arm.<div>NOTE<p>Rotation of crane is limited to 180 degrees.</p></div></div></div>				
97	Monthly	Crane Control Levers - (Cont).	(h) Move SWING control lever (9) to CCW position to move boom (7) counterclockwise. Check that boom does not move clockwise.	Boom will not swing or moves in wrong direction.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		

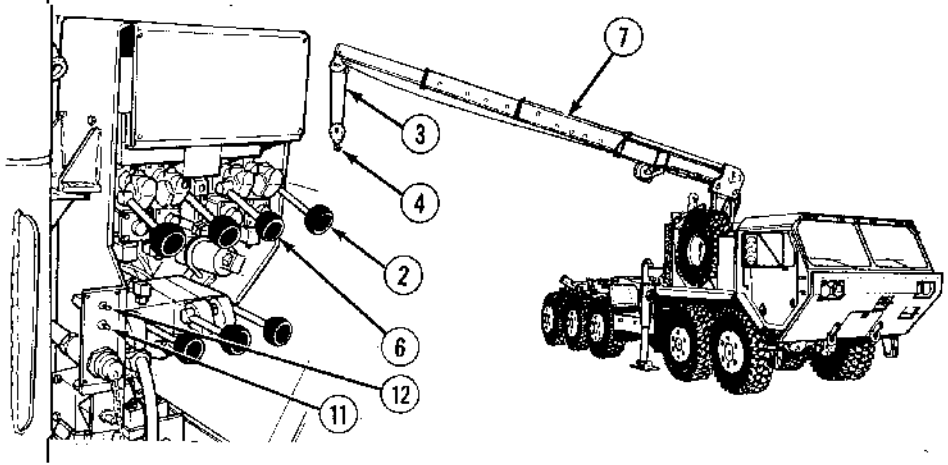


97	Monthly	Crane Control Levers - (Cont).	<p>(i) Move SWING control lever (9) to clockwise position to move boom (7) clockwise. Check that boom does not turn counterclockwise.</p> <p>(j) Rotate boom counterclockwise to right side of truck, between outrigger jack and LHS hook.</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;">CAUTION</div> <ul style="list-style-type: none"> Keep hook block at least two ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Wait six seconds for power to return and check crane for damage. Do not let cable unwind and become slack or cable may get tangled on drum. 	
			NOTE	
			<ul style="list-style-type: none"> Operate TELESCOPE and HOIST levers at the same time. Crane movements from one lever may be slower than other when operating two levers together. 	

			<p>(k) Move TELESCOPE control lever (10) to OUT position to extend boom (7) while moving HOIST control lever (2) to DOWN position to pay out cable (3).</p>	Boom will not telescope.
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Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

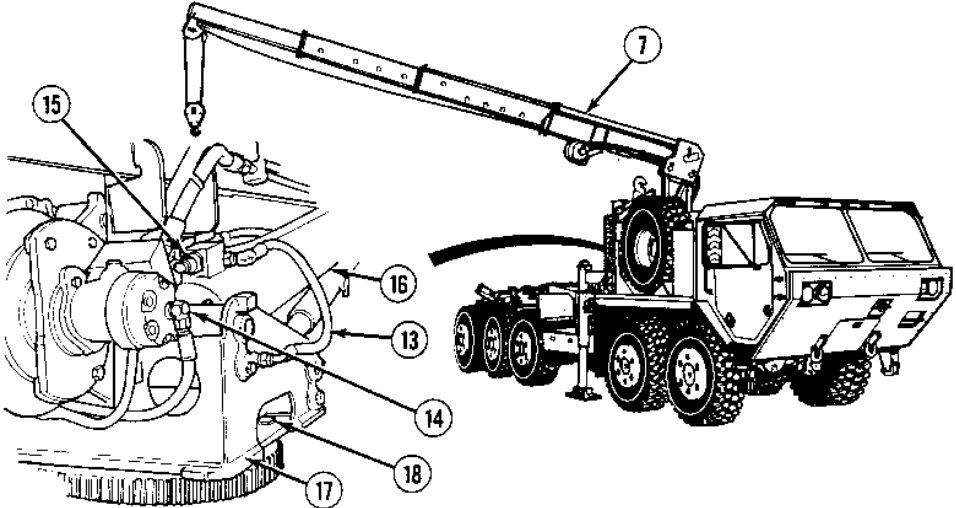
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



97	Monthly	Crane Control Levers - (Cont).	(l) Move BOOM control lever (6) to up position until boom (7) is at 45 degree angle.	
			<div style="text-align: center; border: 1px dashed black; padding: 5px; margin: 10px 0;">CAUTION</div> <p>Do not let cable unwind and become slack or cable may get tangled on drum.</p> <div style="display: flex; justify-content: space-between;"> <div> <p>(m) Move HOIST control lever (2) to down position to pay out cable (3) until hook (4) touches ground. Observe that the cable moves freely.</p> <p>(n) Move BOOM control lever (6) to down position and lower boom as far as possible to allow cable to lay on ground.</p> <p>(o) Turn engine HIGH-IDLE switch (11) to UNLATCH.</p> <p>(p) Turn crane POWER switch (12) to OFF.</p> </div> <div> <p>Hoist will not respond to controls.</p> </div> </div>	

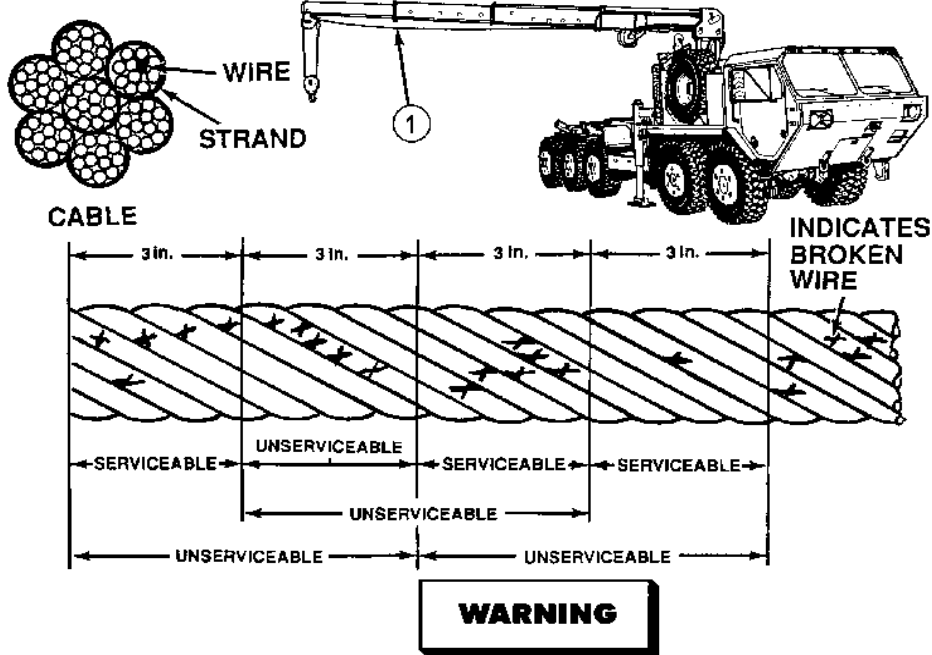
Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



97	Monthly	Crane Control Levers - (Cont).	(q) Check first, second, third, and fourth extensions of boom (7) for broken welds and obvious damage.	
			<div style="border: 2px solid black; padding: 5px; text-align: center; margin: 10px 0;">WARNING</div> <p>Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury to death.</p> <div style="display: flex; justify-content: space-between;"> <div> <p>(r) Check all hoses (13), fittings (14), valves (15) and cylinders (16) for signs of leaks.</p> <p>(s) Check for cracked and broken welds (17).</p> <p>(t) Check turntable bearing bolts (18) for obvious looseness.</p> </div> <div> <p>Class III leak is evident.</p> </div> </div>	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
98	Monthly	Hoist Cable	<div></div> <div><ul style="list-style-type: none">Wire rope can become frayed or contain broken wires. Wear heavy leather-palmed work gloves when handling wire rope. Frayed or broken wires can injure hands.Never let moving wire rope slide through hands, even when wearing gloves. A broken wire could cut through glove and cut hand.</div>	Hoist cable has more than three broken wires per three in. section on same strand. The maximum number of broken wires shall not occur in any two consecutive three in. sections of cable. That is, if six wires are broken in one three in. section of cable, none would be allowed in the next consecutive three in. section.

Hoist cable has more than three broken wires per three in. section on same strand. The maximum number of broken wires shall not occur in any two consecutive three in. sections of cable. That is, if six wires are broken in one three in. section of cable, none would be allowed in the next consecutive three in. section.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

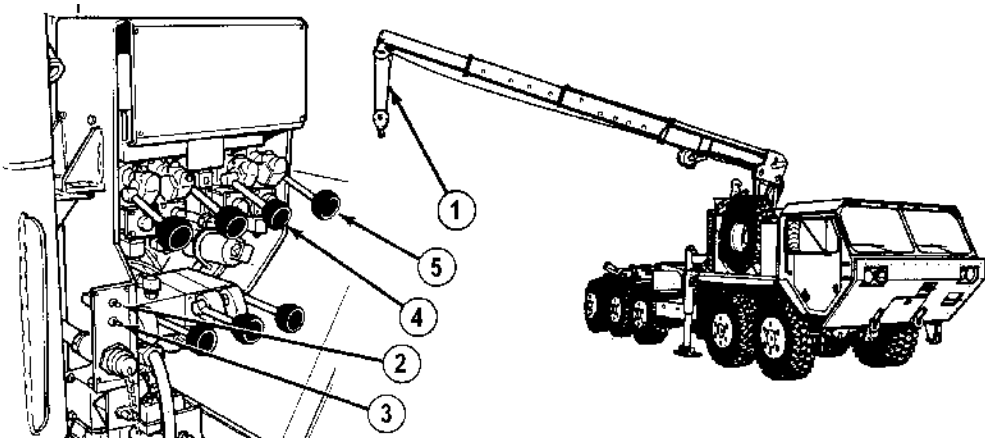
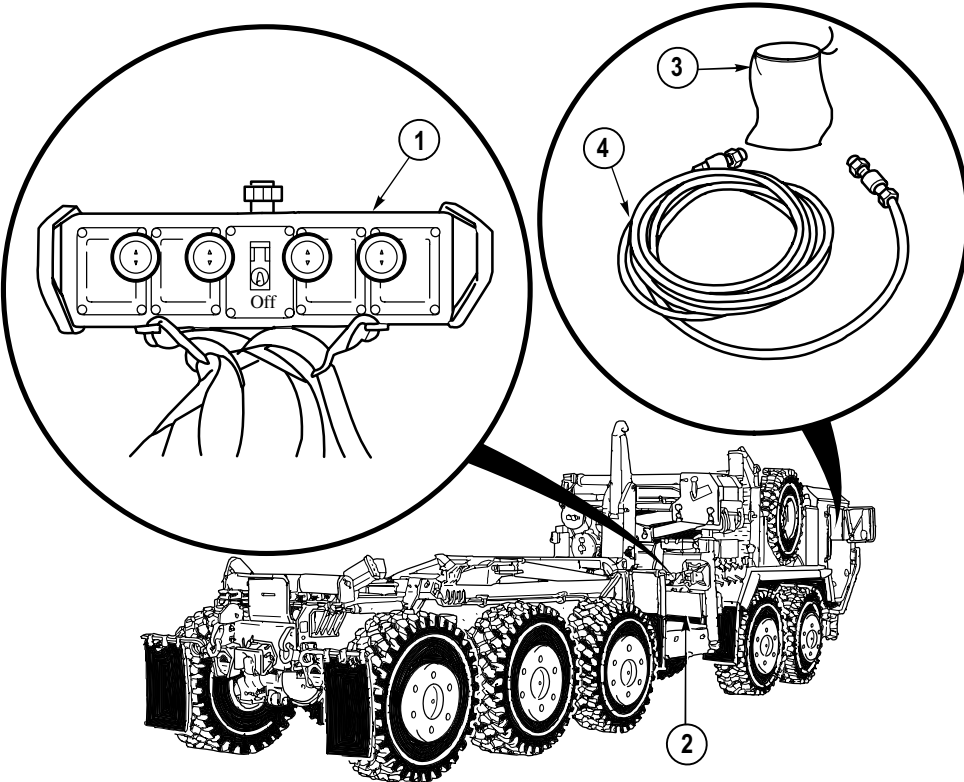
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/ Service		
				
98	Monthly	Hoist Cable - (Cont).	<div><div>CAUTION</div><p>Do not let cable become slack or cable may become tangled on drum and damage to drum may occur.</p><p>(b) Turn crane POWER switch (2) to ON.</p><p>(c) Turn engine HIGH-IDLE switch (3) to LATCH.</p><p>(d) Move BOOM control lever (4) to UP position until boom is at 45 degrees and cable is off ground.</p><p>(e) Move HOIST control lever (5) in UP position to reel in cable (1) and check cable for kinks and uneven winding as it moves.</p><p>(f) Turn engine HIGH-IDLE switch (3) to UNLATCH.</p></div>	Hoist cable is kinked.

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
99	Monthly	Crane Remote Controls	 <p>The diagram illustrates the location of the crane remote controls on a vehicle. A circular inset shows a close-up of the Remote Control Unit (1), which has four buttons and an 'Off' switch. Another circular inset shows a coiled remote control cable (4) inside a bag (3). A third circular inset shows the stowage box (2) on the vehicle. Arrows indicate the removal of the Remote Control Unit (1) from the stowage box (2) and the removal of the remote control cable bag (3) and cable (4) from the stowage box (2).</p>	

- (a) Remove REMOTE CONTROL UNIT (1) from stowage box (2).
- (b) Check crane REMOTE CONTROL UNIT (1) for obvious damage.
- (c) Remove remote control cable bag (3) from behind passenger seat.
- (d) Remove remote control cable (4) from remote control cable bag (3).

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

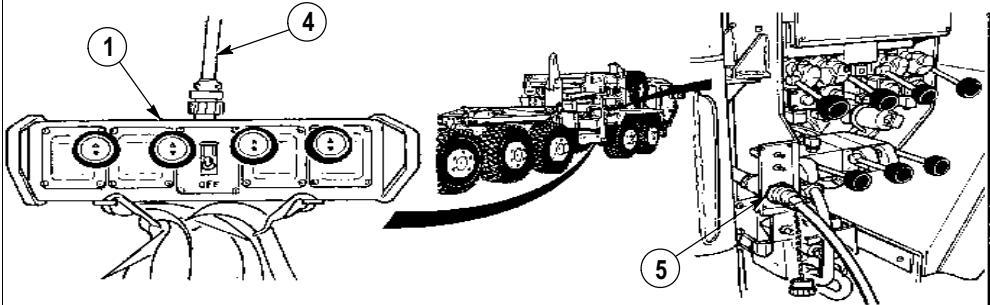
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<div></div>				
<div><div>WARNING</div><p>Ensure REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch is in OFF position and switch guard is closed before connecting REMOTE CONTROL UNIT. Crane moving out of control could cause serious injury or death.</p></div>				
99	Monthly	Crane Remote Controls - (Cont).	(e) Remove protective caps from cable (4), REMOTE CONTROL (1) and REMOTE CONTROL OUTLET (5). Connect REMOTE CONTROL UNIT (1) to RH REMOTE CONTROL OUTLET (5) with cable (4). Connect protective caps.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

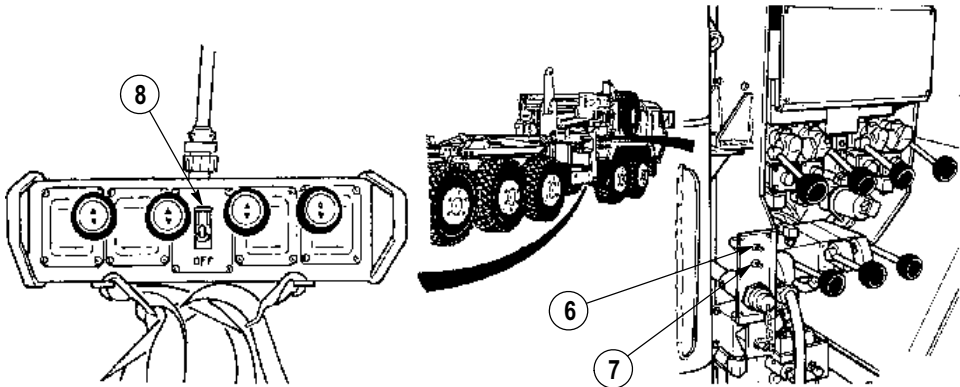
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
99	Monthly	Crane Remote Controls - (Cont).		
			<div><div>WARNING</div><p>Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.</p></div> <p>(f) Check that crane POWER (6) and ENGINE HIGH IDLE/ON/OFF/LATCH (7) does not operate when REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch (8) is in OFF position.</p> <p>(g) Check that remote control does not operate when REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch (8) is in OFF position.</p> <p>(h) Turn REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch (8) to ON position. Engine rpm should audibly increase.</p>	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

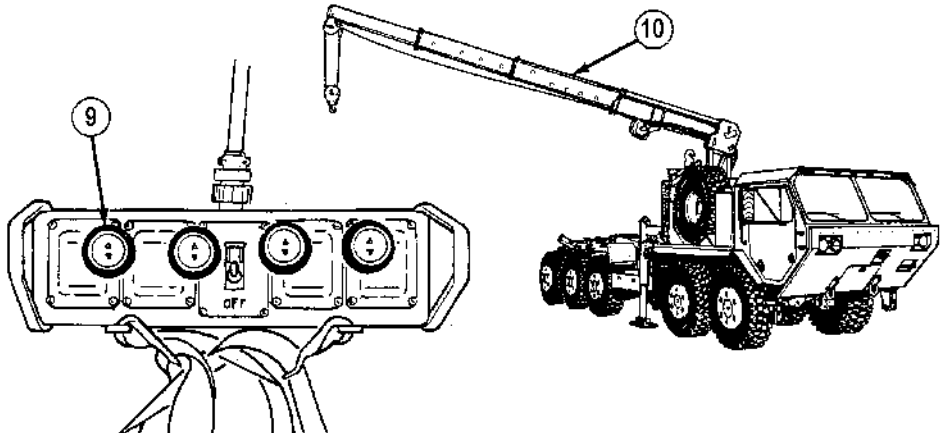
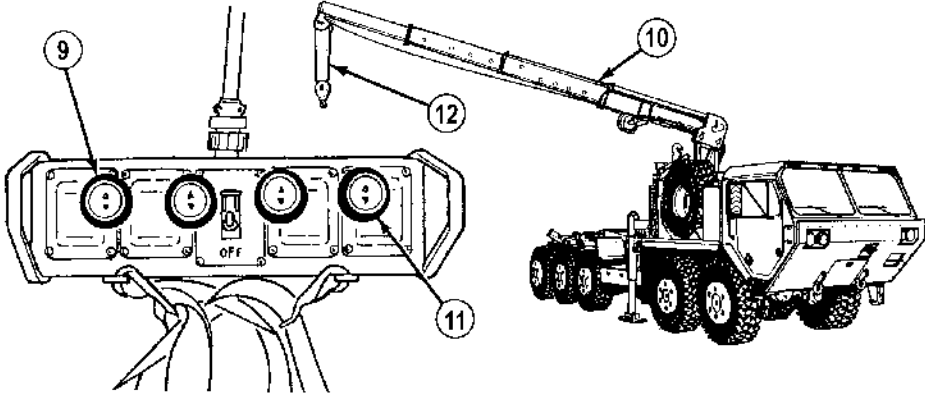
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
		 <div style="text-align: center; border: 2px solid black; padding: 5px; margin: 10px 0;">WARNING</div> <ul style="list-style-type: none"> • Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death. • If electrical power fails during crane operation, move switch on remote control unit to SHUTDOWN position. Serious injury could result from uncontrolled moving parts. <div style="text-align: center; border: 2px dashed black; padding: 5px; margin: 10px 0;">CAUTION</div> <p>Boom must be horizontal or above for clearance over LHS hook arm to avoid damage to truck boom or hook arm.</p> <div style="text-align: center; margin: 10px 0;">NOTE</div> <p>Operate control levers with light even pressure. Moving lever slightly will cause slow movement of crane. Moving lever to full travel will cause faster movement of crane. Rotation of the crane is limited to 180 degrees.</p>		
99	Monthly	Crane Remote Controls - (Cont).	(i) Move SWING control lever (9) in CCW position to turn boom (10) counterclockwise. Be sure boom rotates counterclockwise.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		



99	Monthly	Crane Remote Controls - (Cont).	<p>(j) Move SWING control lever (9) to CW position to turn boom (10) clockwise. Be sure boom turns in the clockwise direction.</p> <div style="border: 2px solid black; padding: 5px; text-align: center; margin: 10px 0;">WARNING</div> <p>Keep boom clear of all electrical lines and obstacles while operating crane. Serious injury or death could result on contact.</p> <div style="border: 2px dashed black; padding: 5px; text-align: center; margin: 10px 0;">CAUTION</div> <ul style="list-style-type: none"> Keep hook block at least two ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Wait six seconds for power to return and check crane for damage. Do not let cable become slack or cable may get tangled on drum. <p>(k) Move HOIST control lever (11) to DOWN position to pay out cable (12) approximately two ft. (0.61 m). Move HOIST control lever (11) to UP position to take up cable (12).</p>	
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Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

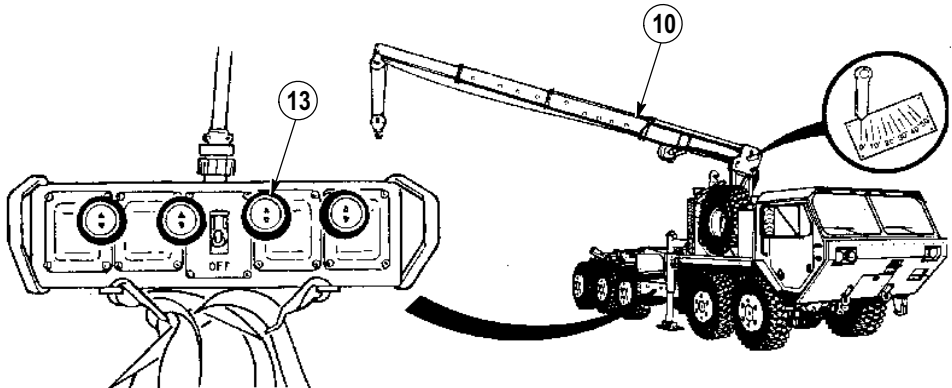
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
99	Monthly	Crane Remote Controls - (Cont).	(I) Move BOOM control lever (13) to UP position to raise boom (10). Move BOOM control lever (13) to DOWN position to lower boom (10) to 0 degrees on boom angle indicator.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

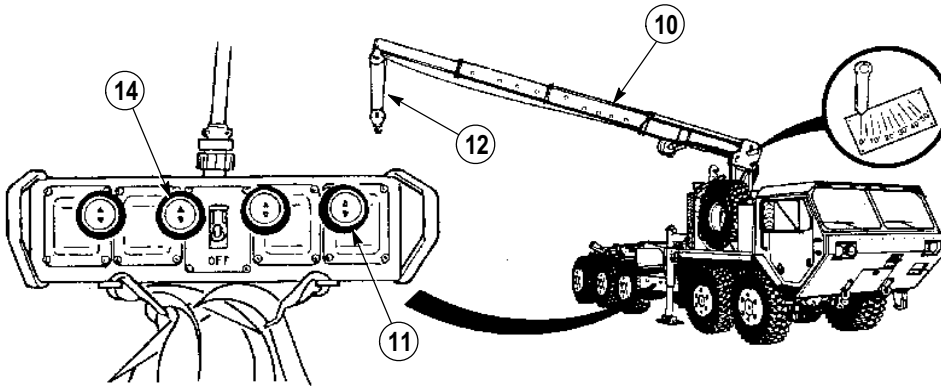
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
99	Monthly	Crane Remote Controls - (Cont).	<div></div> <div><div>CAUTION</div><ul style="list-style-type: none">Keep hook block at least two ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Wait six seconds for power to return and check crane for damage.Do not let cable become slack or cable may get tangled on drum or damage may occur.<div>NOTE</div><ul style="list-style-type: none">When using telescope, operate TELESCOPE and HOIST levers at the same time.Crane movement from one lever may be slower than other when operating two levers together.</div>	
			(m) Move TELESCOPE control lever (14) to IN position to retract boom (10) approximately two ft. (0.61 m) while moving HOIST control lever (11) in UP position to reel in cable (12). Check that cable reels in.	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

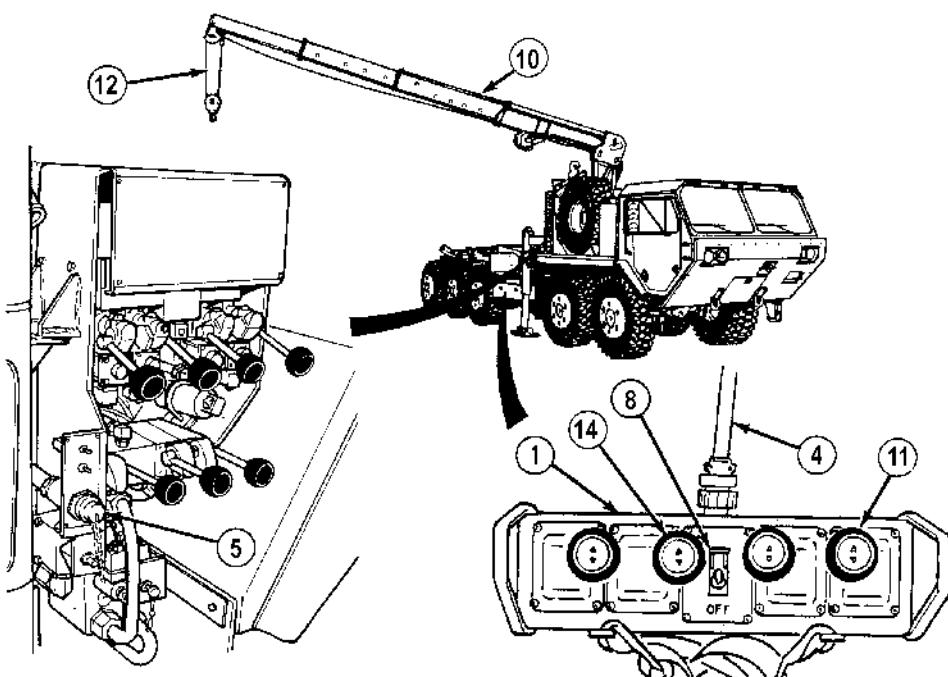
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
99	Monthly	Crane Remote Controls - (Cont).	<p>(n) Move TELESCOPE control lever (14) to OUT position to extend boom (10) while moving HOIST control lever (11) to DOWN position to pay out cable (12).</p> <p>(o) Shut off REMOTE CONTROL/EMERGENCY STOP/ON/OFF POWER switch (8).</p> <p>(p) Disconnect protective caps and REMOTE CONTROL (1) and cable (4) from RH Remote Control Hookup (5).</p> <p>(q) Install protective cap to RH REMOTE CONTROL OUTLET (5).</p>	

Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

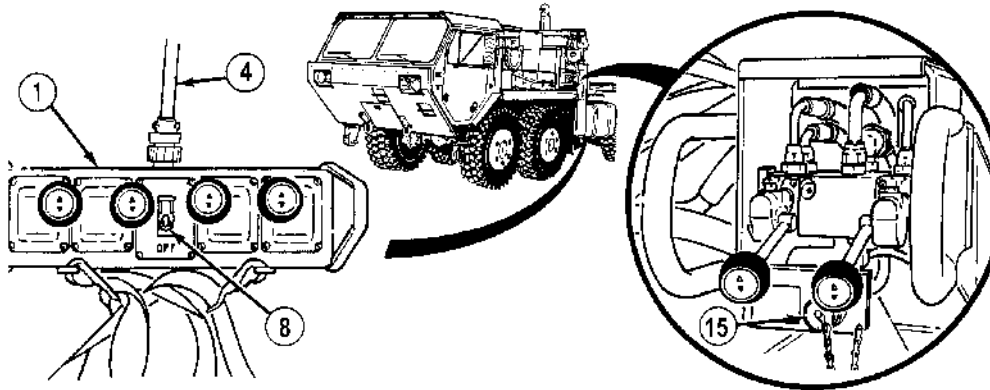
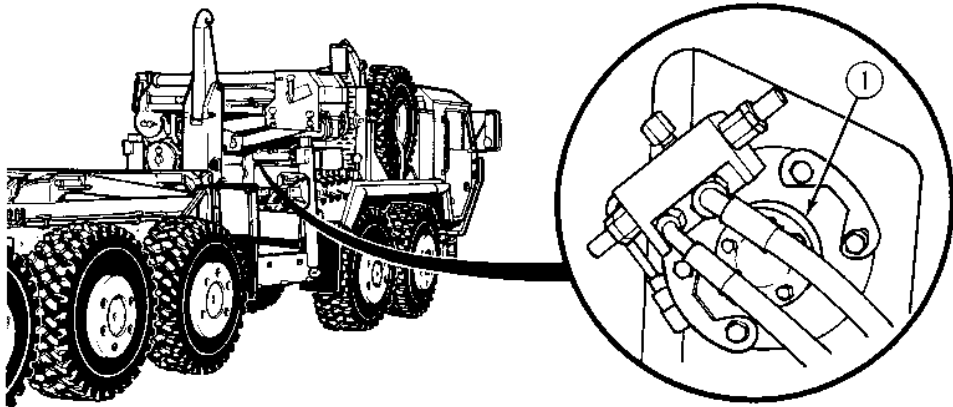
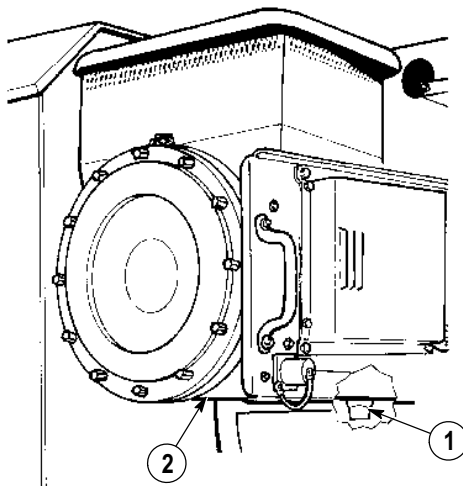
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
99	Monthly	Crane Remote Controls - (Cont).	<p>(r) Remove protective cap from LH REMOTE CONTROL outlet (15).</p> <p>(s) Repeat Steps (f) through (o) and check operation of crane remote control levers.</p> <p>(t) Shut off REMOTE CONTROL/ EMERGENCY STOP/ON/OFF POWER switch (8).</p> <p>(u) Disconnect protective caps and REMOTE CONTROL (1) and cable (4) from LH REMOTE CONTROL OUTLET (15).</p> <p>(v) Install protective caps to cable (4) and LH REMOTE CONTROL outlet (15).</p> <p>(w) Disconnect and stow REMOTE CONTROL UNIT (1) and cable (4).</p> <p>(x) Stow crane (Para 2-30).</p> <p>(y) Stow outrigger jacks (Para 2-30).</p>	

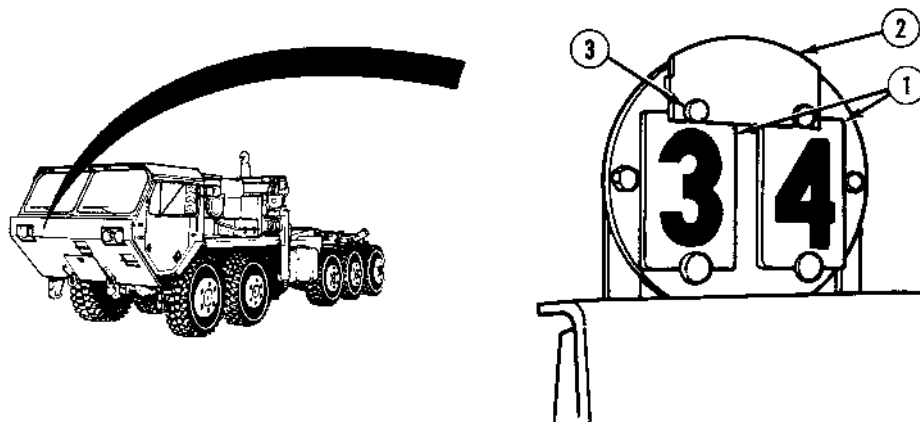
Table 2-5. Operator's Preventive Maintenance Checks and Services (Monthly) - CONT.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
				
100	Monthly	Crane Swing Gear and Motor	Check for loose and leaking connections and mountings around crane swing gear motor (1).	Class III leak is evident.
				
101	Monthly	Air Filter	Squeeze bleeder valve (1) to allow removal of dirt and moisture from housing (2).	

Section III. OPERATION UNDER USUAL CONDITIONS

2-12. PREPARATION FOR OPERATION.

a. Change Truck Weight Indicator.

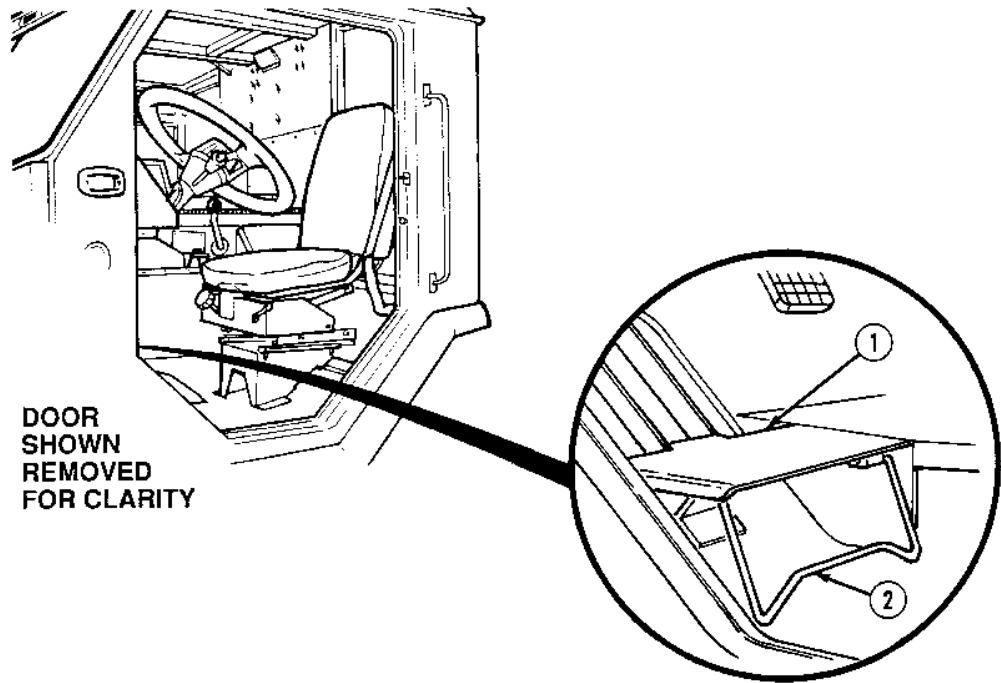


NOTE

- There are five number plates on each side.
- Refer to Table 1-4 for information as to the correct numbers to place in the indicator.

- (1) Press in on number plates (1).
- (2) Push lockplate (2) up and off of one lockpin (3).
- (3) Remove number plates (1).
- (4) Select new numbers.
- (5) Install number plates (1). Slide lockplate (2) on lockpin (3).
- (6) Push down number plates (1). Slide lockplate (2) on lockpin (3).

2-12. PREPARATION FOR OPERATION (CONT).



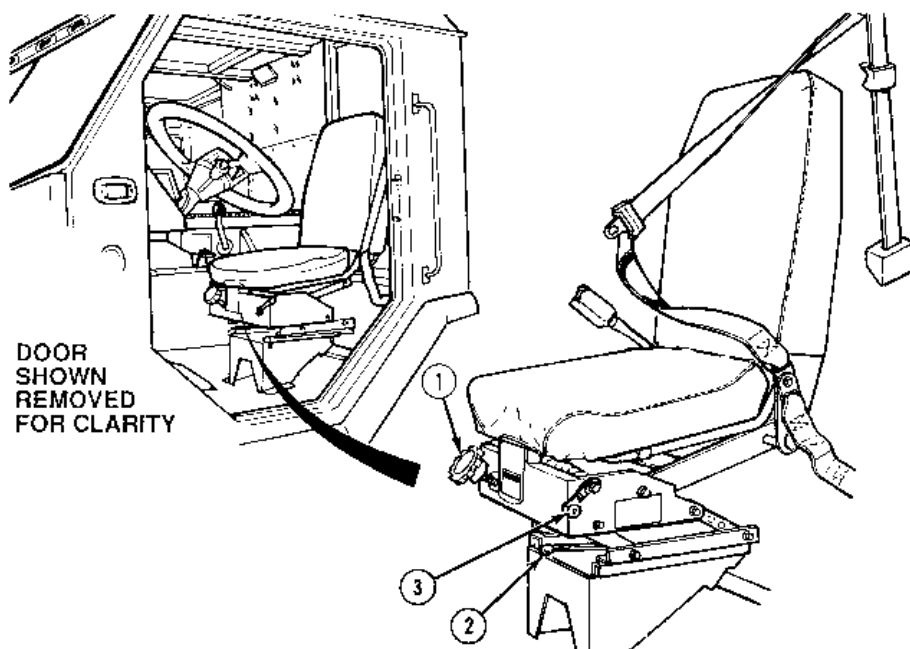
b. Install Foot Rest.

- (1) Lift foot rest (1) up.
- (2) Pull foot rest leg (2) outward until it contacts the bottom of foot rest.
- (3) Lower foot rest (1) to floor.

c. Stow Foot Rest.

- (1) Lift foot rest (1) up.
- (2) Push foot rest leg (2) under foot rest (1) until it contacts bottom of the foot rest.
- (3) Lower foot rest (1) to floor.

d. *Adjust Seat.*



WARNING

Assure all items stored in cargo net are below top of cargo net or injury to personnel may result.

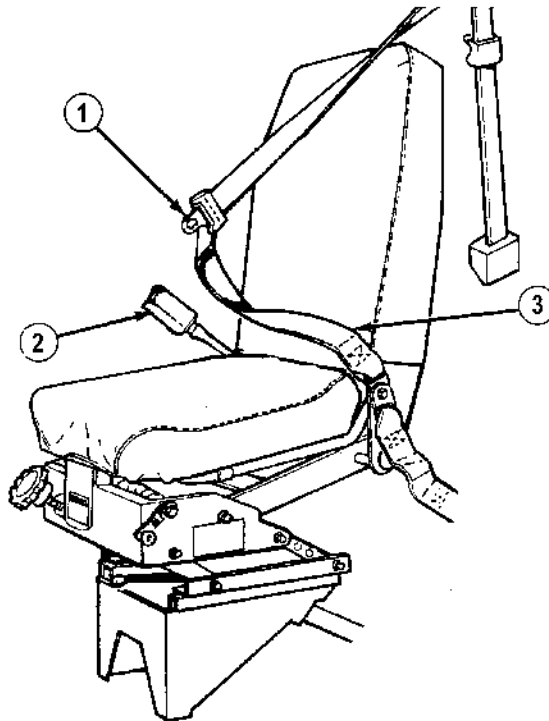
NOTE

Sit in seat to make the following adjustments.

- (1) Turn knob (1) to control cushion firmness.
- (2) Push lever (2) toward drivers cab door to release seat lock. Move seat forward or backward.
- (3) Release lever (2) to lock seat in place.
- (4) Pull lever (3) upward and lift self off seat to raise seat.
- (5) Pull lever (3) upward and push down on the seat to lower seat.
- (6) Release lever (3) to lock seat in place.

2-12. PREPARATION FOR OPERATION (CONT).

e. Operate Seat Belt.



WARNING

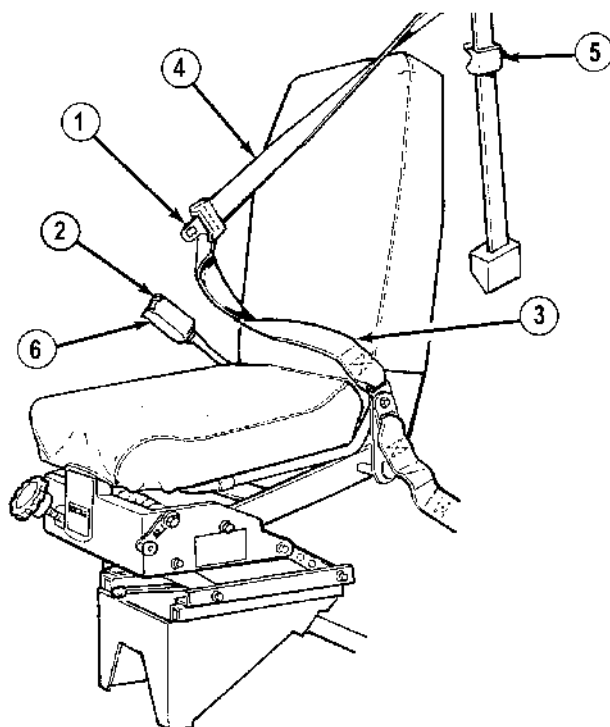
Always use seat belts when operating truck. Failure to use seat belt can result in serious injury in case of accident.

NOTE

The seat belt/shoulder belt is two belts combined together.

The belt below the buckle is the seat belt, the belt above the buckle is the shoulder belt.

- (1) Push seat belt/shoulder belt clip (1) into buckle (2) until a click is heard.
- (2) Place seat belt (3) as low on hips as possible.



NOTE

Seat belt does not have self-adjusting lock. Take slack out of seat belt by pulling on shoulder belt end. Adjust shoulder belt until snug against chest (no more than one inch away).

- (3) Pull shoulder belt (4) until the seat belt (3) fits snug at drivers hips.
- (4) Adjust shoulder belt (4) length by releasing latch (5) and adjusting shoulder belt no more than one inch away from chest. Engage latch to hold adjustment.
- (5) To release the seat belt/shoulder belt clip (1), push in release button (6) and pull clip from buckle (2).

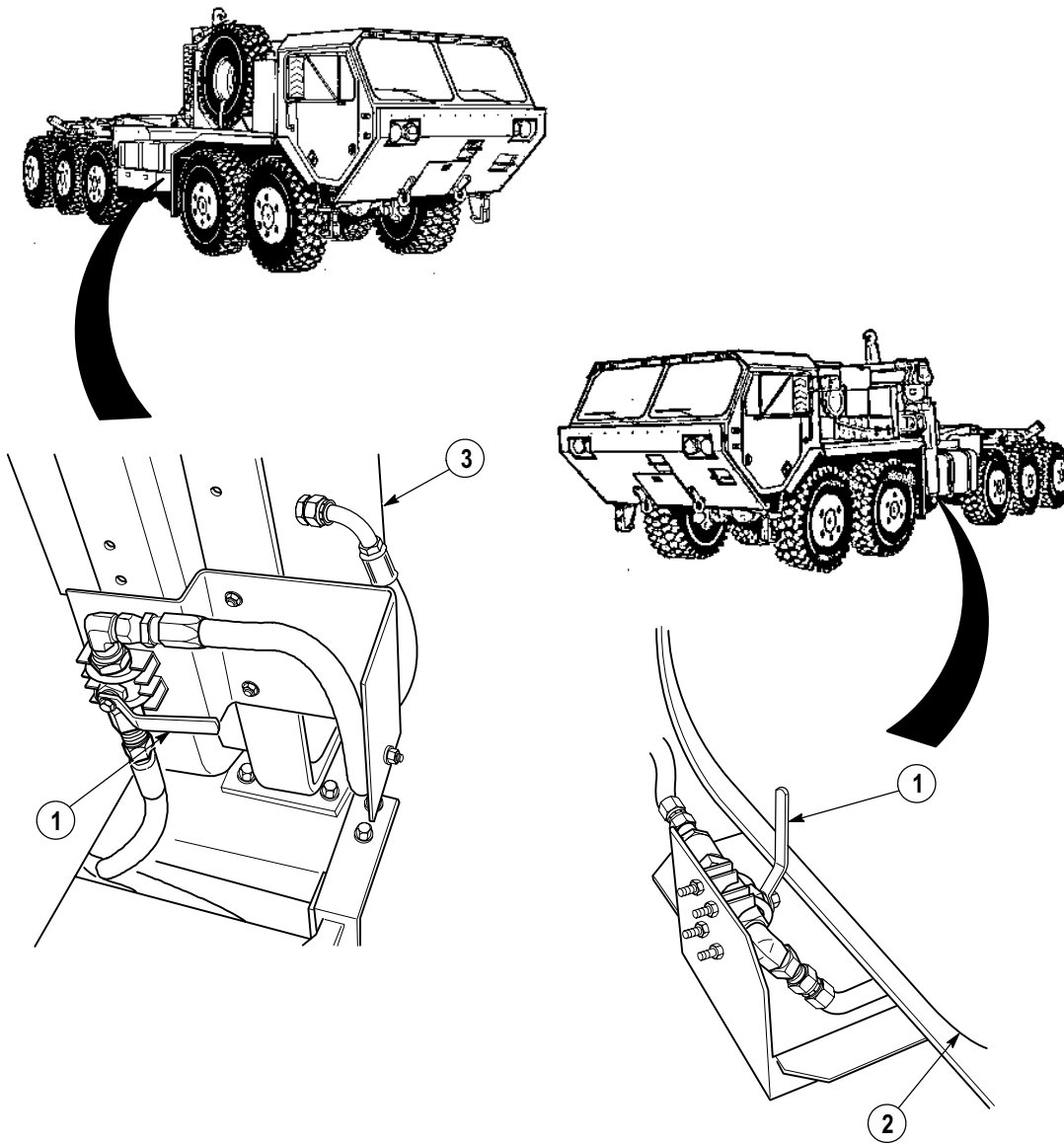
2-13. FILLING MAIN FUEL TANK WHEN EQUIPPED WITH AUXILIARY FUEL TANK.

WARNING

Fuel is very flammable and can explode easily. To avoid serious injury or death:

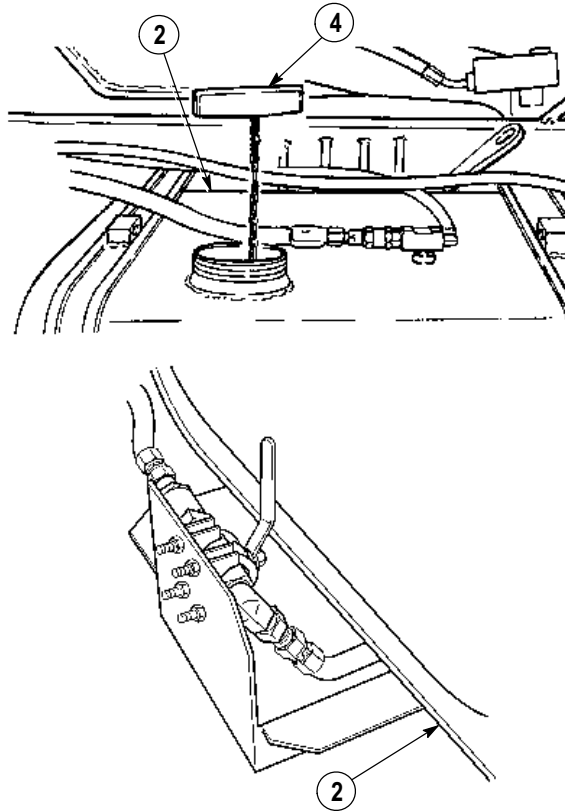
- Keep fuel away from open flame or any spark (ignition source).
- Keep at least a B-C fire extinguisher within easy reach when working with fuel or on a fuel system.
- Do not work on fuel system when engine is hot; fuel can be ignited by a hot engine.
- Clean fuel tank to purge any flammable liquid or vapors before welding, grinding or using any heat producing device near the fuel tank.
- When refueling, stop truck, shut down engine, and apply parking brake. Ensure truck is properly grounded. Ensure no open flame is near area. Never smoke. Never add fuel with engine running. Do not have driver seated when adding fuel. After fuel is added, securely close reservoir cap; a loose cap can cause a fuel leak or be a fire hazard. Before starting truck, check that no fuel is spilled on or around truck.

- a.** Shut off engine (Para 2-23).



- b.** Close fuel shutoff valves (1) on main fuel tank (2) and auxiliary fuel tank (3).

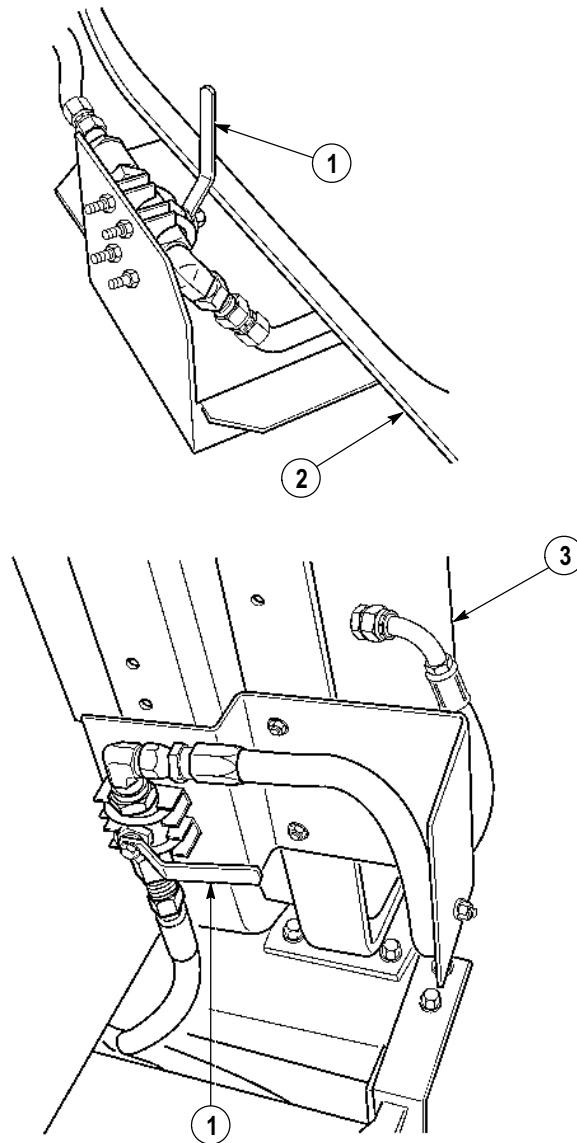
**2-13. FILLING MAIN FUEL TANK WHEN EQUIPPED WITH
AUXILIARY FUEL TANK (CONT).**



NOTE

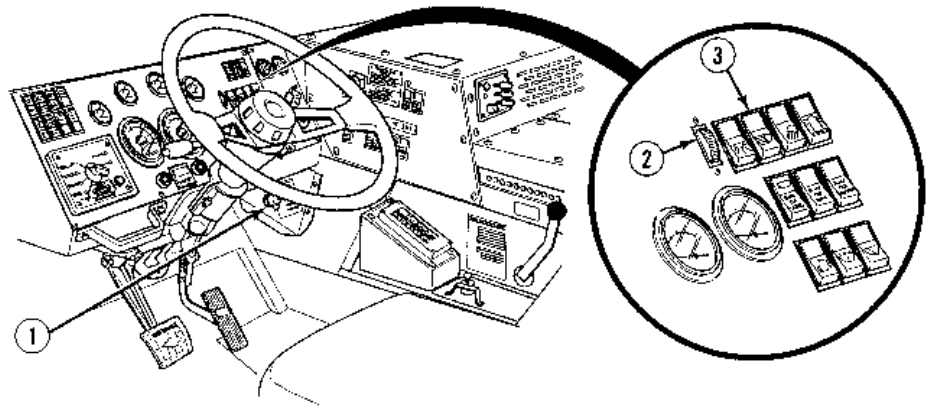
Steps are identical for main fuel tank and auxiliary fuel tank. Main fuel tank is illustrated.

- c.** Clean away debris on/near fuel filler cap (4) of main fuel tank (2).
- d.** Remove fuel filler cap (4) from main fuel tank (2) slowly.
- e.** Properly ground truck.
- f.** Fill main fuel tank (2).
- g.** Remove ground from truck.
- h.** Replace fuel filler cap (4) on main fuel tank (2).



- i.* Repeat Steps **c.** through **h.** for filling auxiliary fuel tank (3).
- j.* Open fuel shutoff valves (1) on main fuel tank (2) and auxiliary fuel tank (3).

2-14. OPERATING LIGHTS.

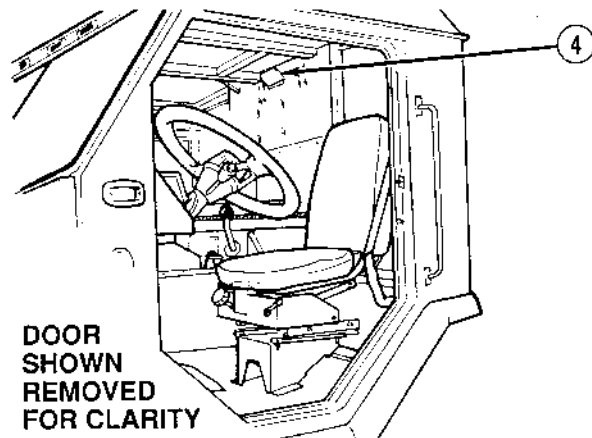


- a.** Turn the ignition switch (1) to ON position.

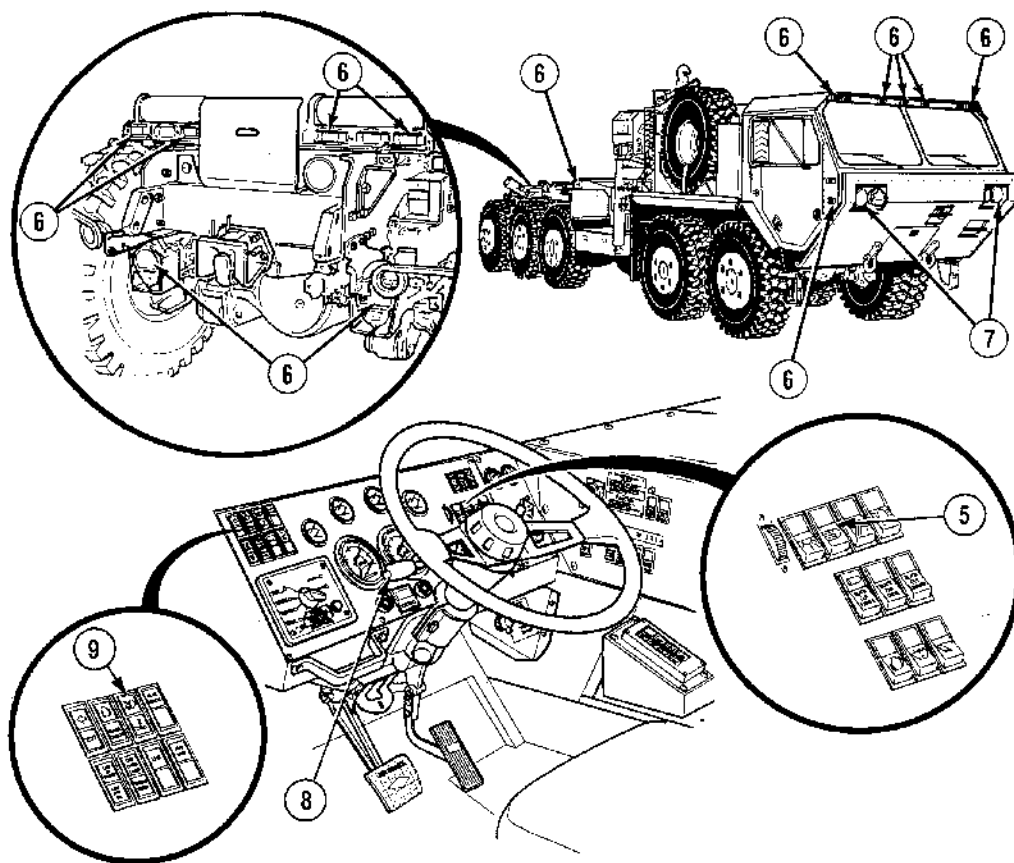
NOTE

- The blackout lights switch must be in OFF position for internal and external lights to operate.
- Use the rocker switches on the instrument panel to check the operation of the lights in Steps **b.** through **k.**

- b.** Turn rheostat switch (2) up or down to adjust brightness of instrument panel lights.



- c.** Push the dome light switch (3) down to turn dome light (4) ON, and up to turn dome light OFF.

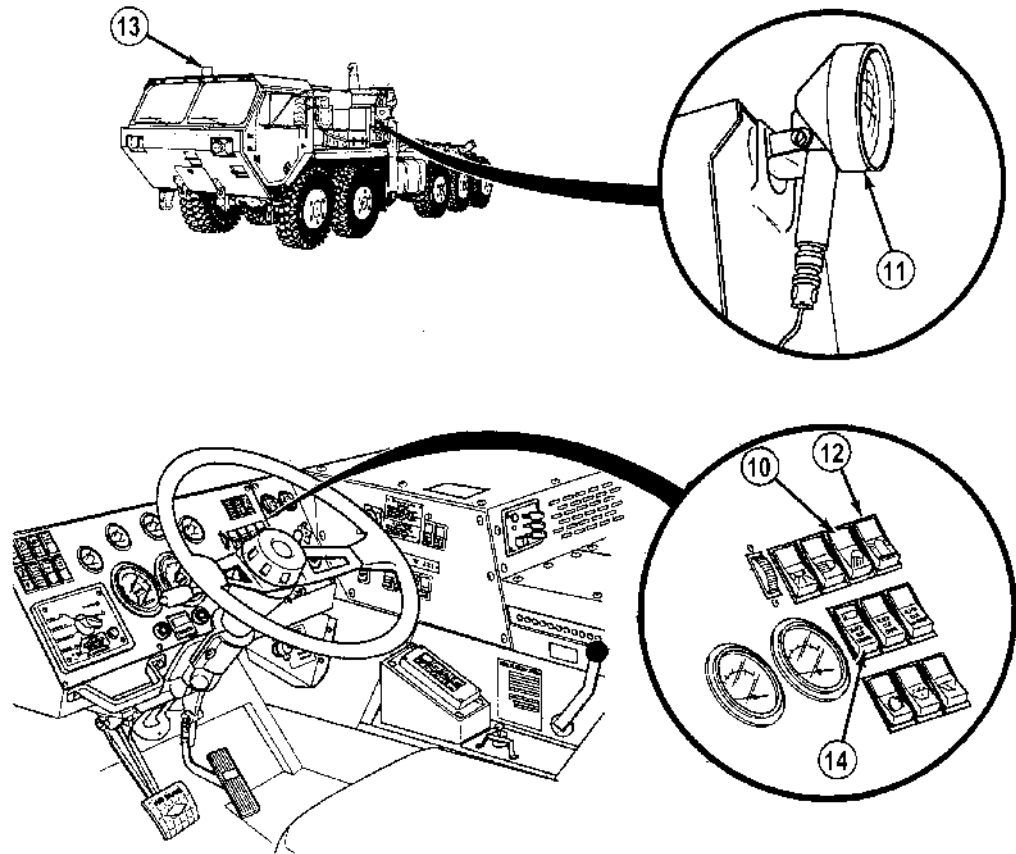


NOTE

The headlight/clearance light switch has three positions: OFF is the top part of rocker switch pushed in, clearance lights is the middle position and headlights with clearance lights is the bottom part of rocker switch pushed in.

- d.** Push the headlight/clearance lights switch (5) to middle position to turn clearance lights (6) on, and up to turn clearance lights off.
- e.** Push the headlight/clearance lights switch (5) all the way down to turn headlights/clearance lights on. Push switch all the way up to turn headlights/clearance lights off. With headlights (7) on, press dimmer switch (8) (located on end of signal lever) to select high or low beam. High beam indicator (9), will light when high beam is on.

2-14. OPERATING LIGHTS (CONT).



NOTE

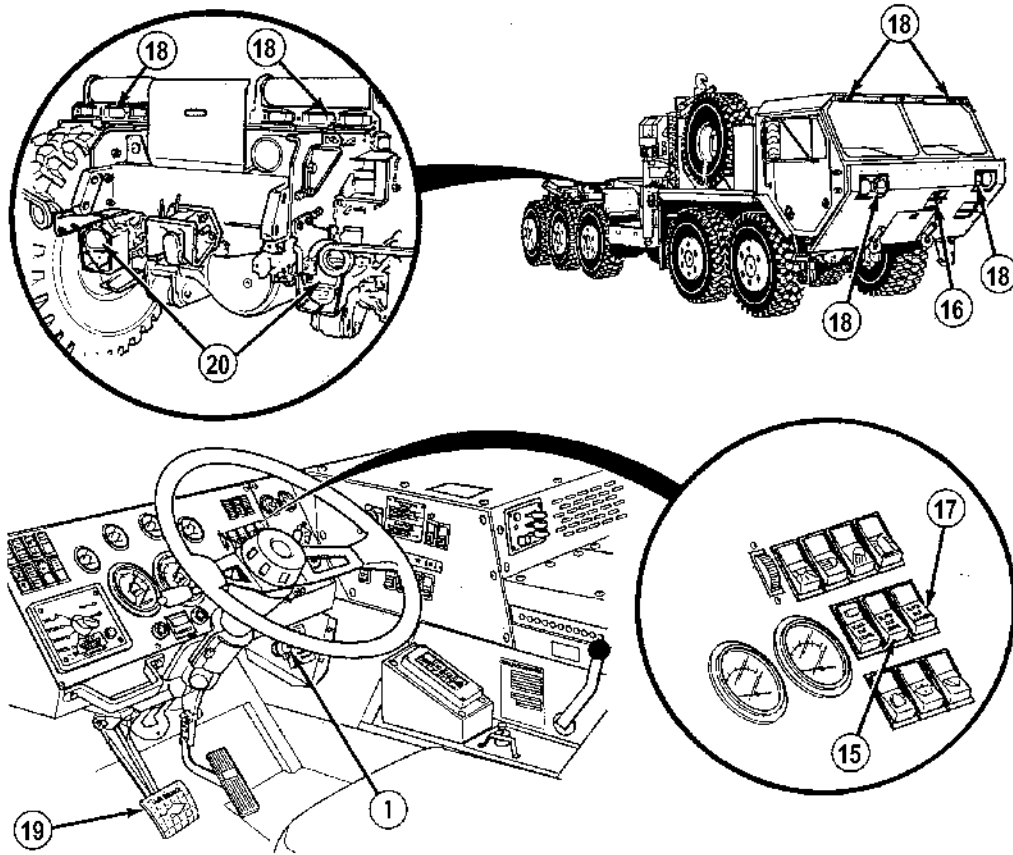
Work light switch should be in the ON position.

- f.* Push the work light switch (10) down to turn work lights (11) on, up to turn work light off.
- g.* Push the beacon light switch (12) down to turn beacon light (13) (if equipped) on, up to turn beacon light off.

NOTE

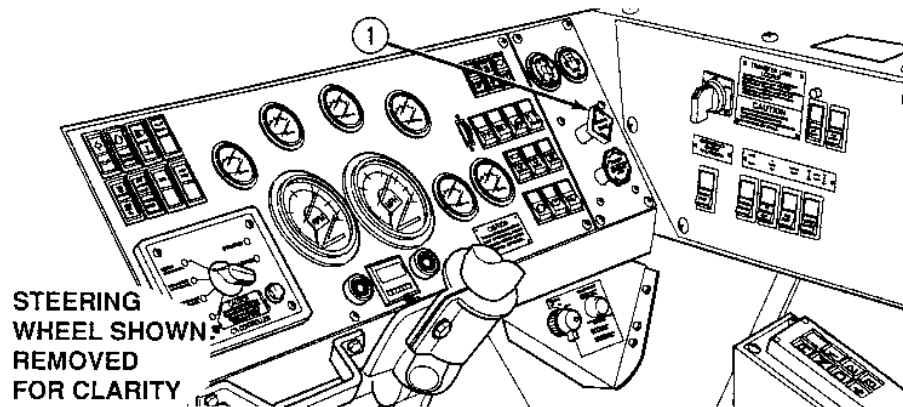
Backup alarm can be locked out by having black out selector switch in on position for daylight tactical situations.

- h.* Push switch lock on upper part of blackout selector switch (14) down while pushing bottom part of blackout selector switch in.
- i.* Push the blackout selector switch (14) down to put lighting system in blackout mode, up to turn off.



- j.* Push the blackout drive lights switch (15) down to turn blackout drive lights (16) on, up to turn blackout drive lights off.
- k.* Push the blackout marker lights switch (17) down to turn blackout marker lights (18) on, up to turn blackout marker lights off.
- l.* Press the service brake pedal (19) and check operation of stoplights (20).
- m.* Turn the ignition switch (1) to OFF position.

2-15. NORMAL STARTING.



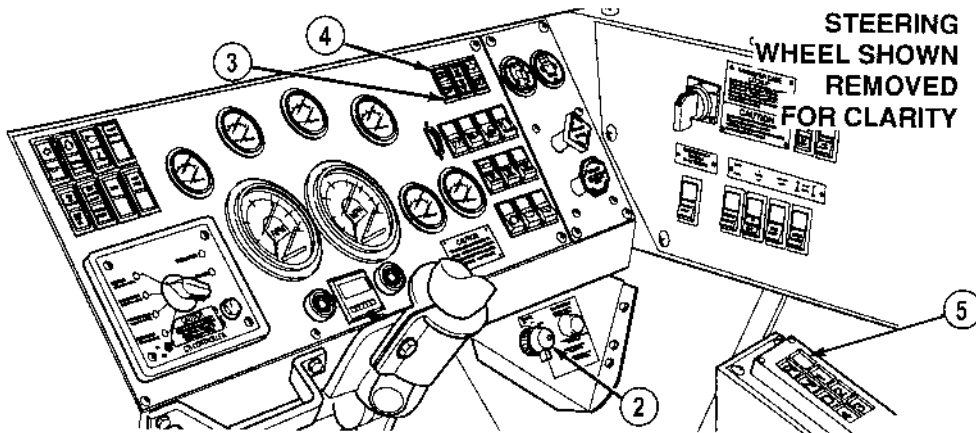
CAUTION

Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat causing damage to equipment.

NOTE

For cold weather starting, refer to Para 2-50 Operate Truck in Cold Environment +45 degrees F to -25 degrees F (-7 degrees C to -32 degrees C) or Para 2-51 Operate Truck in Extreme Cold Environment Below -26 degrees F (-32 degrees C).

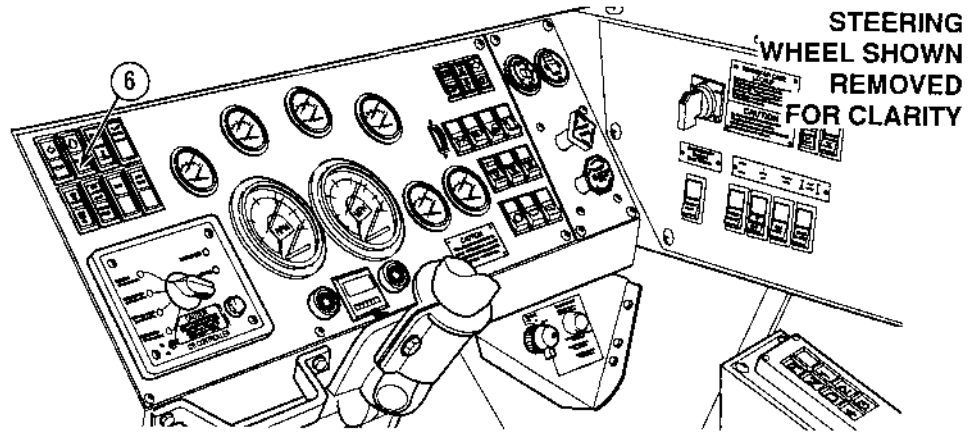
- a. Pull out the PARKING BRAKE control (1).



CAUTION

- CHECK GAGES indicator will light (Orange) to warn driver when a potential engine failure (e.g., low oil pressure, low coolant, coolant overheating, etc.) has occurred while operating vehicle. Notify Unit Maintenance.
 - CHECK ENGINE indicator will light (Orange) to warn driver of failures that will not critically damage engine. Truck should be serviced as soon as possible.
 - CHECK GAGES and CHECK ENGINE indicators will light and warning alarm will sound for approximately five seconds when ENGINE switch is positioned to ON. Do not attempt to start engine if CHECK GAGES or CHECK ENGINE indicators remain lit after approximately five seconds.
 - DO NOT SHIFT indicator will flash red to warn driver of a potentially serious problem with the transmission, and that shift selection has been limited.
 - DO NOT SHIFT indicator will flash for approximately five seconds when ENGINE switch is positioned to ON, then go off.
- b.** Turn the ENGINE switch (2) to ON. Observe CHECK GAGES, CHECK ENGINE and DO NOT SHIFT indicators (3), (4) and (5). Refer to Troubleshooting Symptoms Para 3-3 if CHECK GAGES, CHECK ENGINE or DO NOT SHIFT indicators remain lit after approximately five seconds. Notify Unit Maintenance if any indicators fail to light up.

2-15. NORMAL STARTING (CONT).

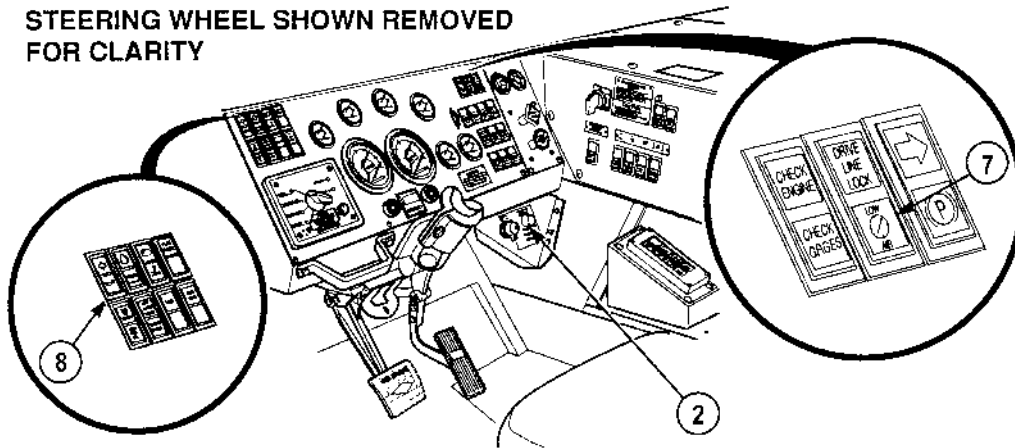


CAUTION

TRANS CHECK indicator will light (Orange) as a bulb and system check until engine has started.

- c. Check that TRANS CHECK indicator (6) remains on. Notify Unit Maintenance if indicator is not on.

STEERING WHEEL SHOWN REMOVED
FOR CLARITY



WARNING

Ensure that all personnel are clear of truck before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start engine. Failure to do so could result in serious injury or death to personnel.

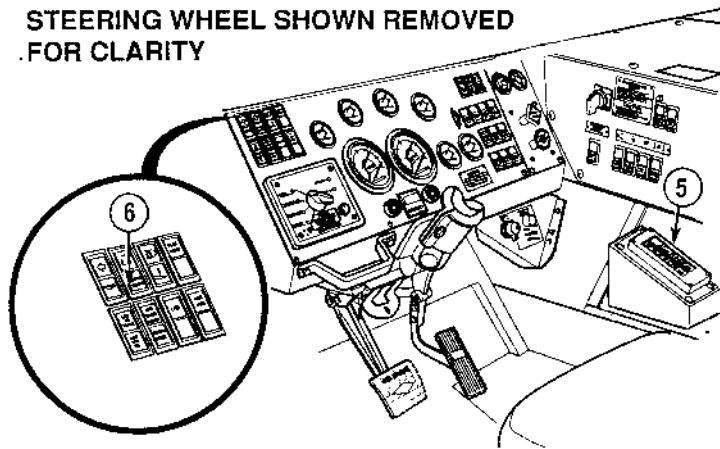
CAUTION

- If engine fails to start after five (15 second) start attempts, refer to Troubleshooting Symptoms Para 3-3 or equipment damage may occur.
- Do not turn ENGINE switch to START position while engine is rotating, or damage to equipment may result.

NOTE

- Check engine lamp will illuminate for 10 to 15 seconds after start-up.
 - If engine fails to start, the ENGINE switch must be turned to OFF position, prior to the next start attempt. This will disengage an Engine Restart Interlock which prevents starter engagement from the ON position.
- d. Turn the ENGINE switch (2) to START for about 15 seconds or until engine starts. When engine starts, release switch. ENGINE switch will spring back to ON position. If engine fails to start, wait 15 seconds before next start attempt to allow starter to cool. Air pressure indicator (7) and oil pressure lamp (8) may light and buzzer may sound briefly.

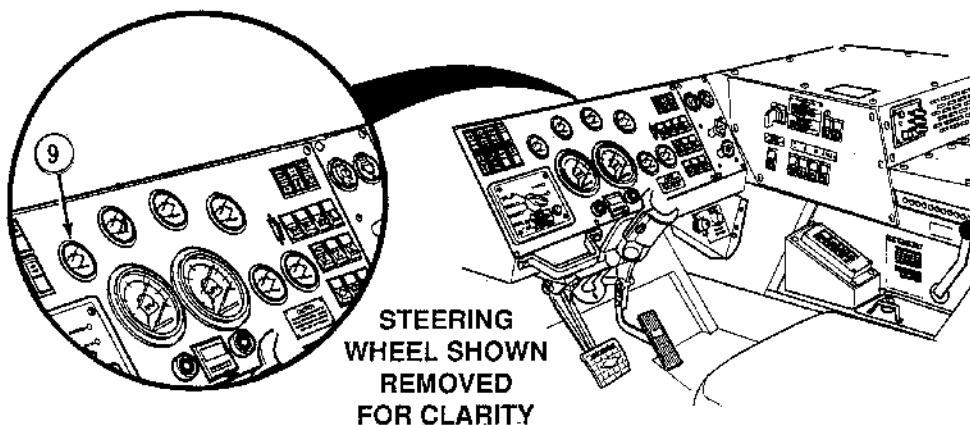
2-15. NORMAL STARTING (CONT).



CAUTION

TRANS CHECK indicator will go off at engine start-up. If TRANS CHECK indicator remains on, transmission has a problem that will not critically damage the transmission.

- e. Observe TRANS CHECK (6) and DO NOT SHIFT (5) indicators. Refer to Troubleshooting Symptoms Para 3-3 if DO NOT SHIFT or TRANS CHECK indicators remain lit after engine is running.

**CAUTION**

If OIL PRESS gage does not show engine oil pressure within 10 to 15 seconds after starting engine, shut down engine immediately and refer to Troubleshooting Symptoms Para 3-3. Lack of lubrication may damage engine.

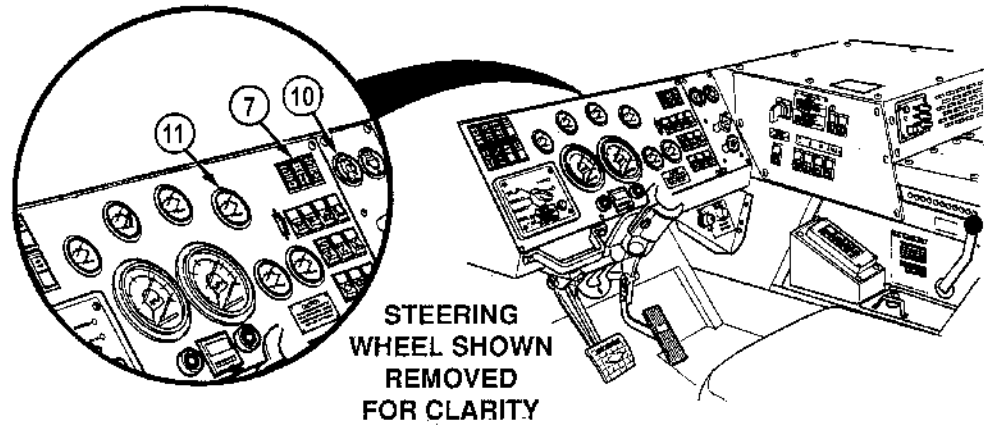
- f.** Check that OIL PRESS gage (9) reads 5 to 10 psi (34 to 69 kPa) during idle and 40 to 60 psi (276 to 414 kPa) during normal operation.

CAUTION

Do not operate engine above 1000 rpm during warm-up until OIL PRESS gage indicates 25 to 30 psi (172 to 207 kPa) at 800 to 1000 rpm. OIL PRESS gage should indicate 50 to 70 psi (345 to 483 kPa) when engine operates at 1800 to 2100 rpm. Lack of lubrication may damage engine.

- g.** Run engine at 800 to 1000 rpm for about three minutes.

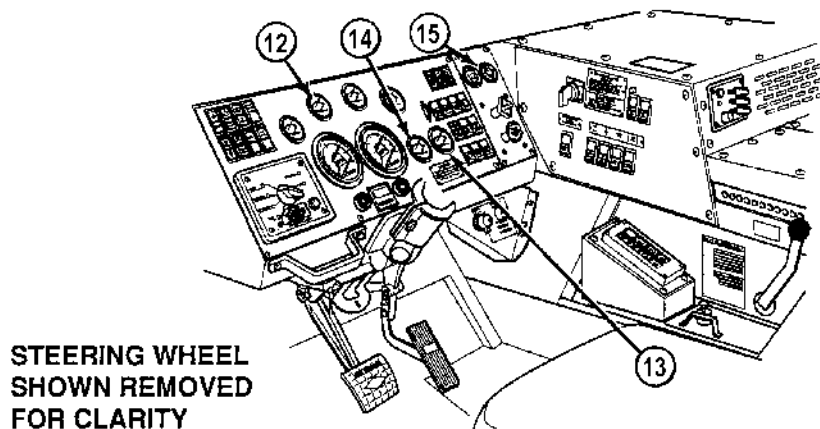
2-15. NORMAL STARTING (CONT).



NOTE

If red and green needles on the AIR PRESS gage do not read 60 to 125 psi (414 to 862 kPa) after warm-up, shut off engine and notify Unit Maintenance.

- h.* Check that the AIR PRESS gage (10) reads 60 to 125 psi (414 to 862 kPa). Air pressure indicator (7) will light and buzzer will sound until air pressure is greater than 60 psi (414 kPa).
- i.* Check that FUEL gage (11) shows enough fuel to complete mission.

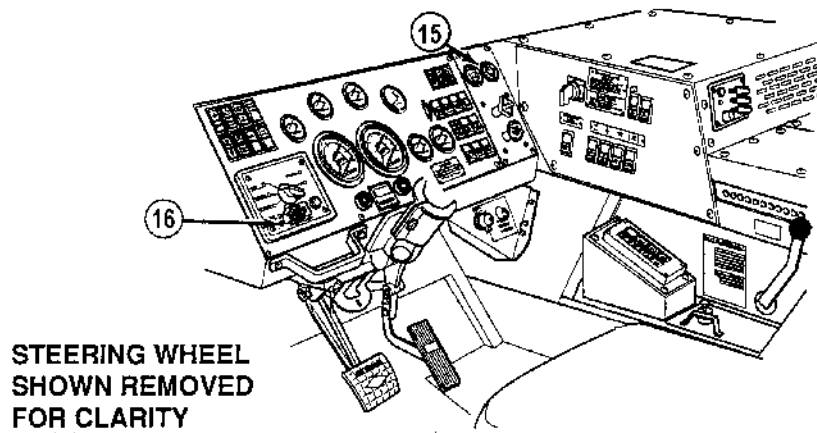


NOTE

WATER TEMP gage may not show reading at engine idle.

- j.* Check that the WATER TEMP gage (12) does not read over 210 degrees F (99 degrees C).
- k.* Check that 24-volt BATTERY gage (13) reads between 26 to 28 volts.
- l.* Check that 12-volt BATTERY gage (14) reads between 13 to 14 volts.
- m.* Check that the air filter restriction indicator (15) reads less than 17 inches (4.2 kPa).

2-15. NORMAL STARTING (CONT).



NOTE

Truck may be operated until air filter restriction indicator reads up to a maximum of 20 inches (5.0 kPa) with a loss of performance and fuel economy.

- n.* If the air filter restriction indicator (15) reads 17 inches (4.2 kPa) or more, notify Unit Maintenance to change air filter element.

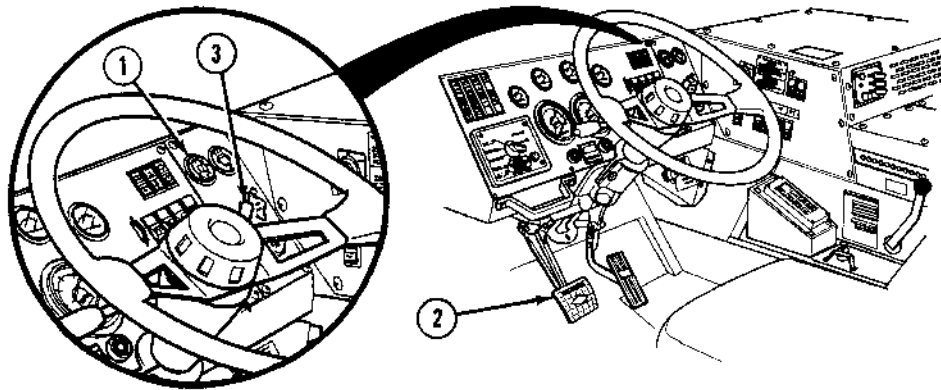
WARNING

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

NOTE

CTIS lights will briefly flash and then extinguish when the CTIS is turned on. A steady green light will remain at the position the CTIS is set.

- o.* Check that CTIS ON/OFF switch (16) is set to ON.

2-16. BRAKES.**a. Operate Service Brakes.****WARNING**

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

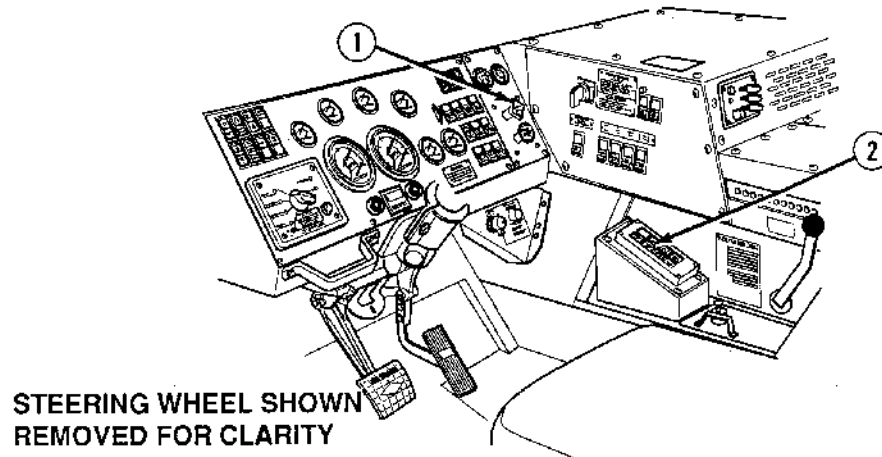
- (1) Ensure the AIR PRESS gage (1) reads at least 100 psi (690 kPa).
- (2) Push down and hold the service brake pedal (2) as needed to slow or stop truck.

b. Operate Trailer Handbrake.**NOTE**

When service brake pedal is pressed, both truck and trailer brakes will be applied.

Pull down trailer handbrake control (3) during trailer connect/disconnect operations, if required, to apply trailer brakes only. Release trailer handbrake control to release trailer brakes.

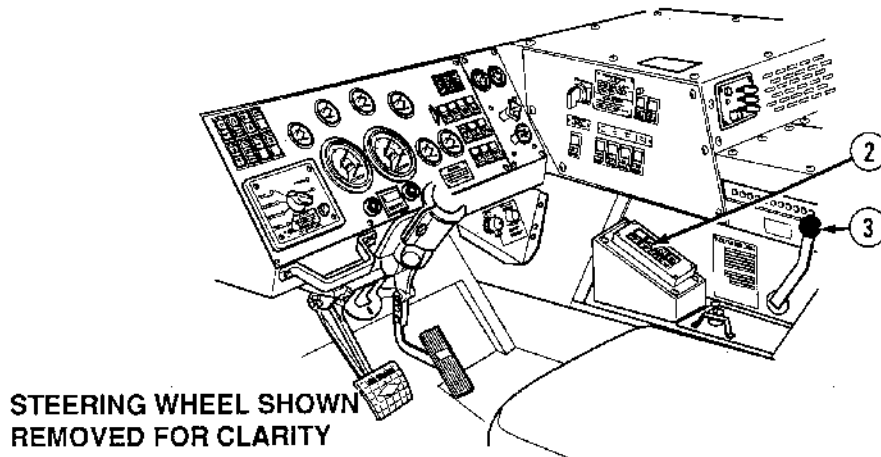
2-17. OPERATING TRANSMISSION AND TRANSFER CASE.



- a.* Start engine (Para 2-15).
- b.* Ensure the PARKING BRAKE control (1) is pushed in.
- c.* Ensure the transmission range selector (2) is set to Neutral (N).

CAUTION

- Do not force TRANSFER CASE shift lever. Lever may be difficult to shift if there is drive line windup. Using excessive force on shift lever may cause damage to shift linkage or change linkage adjustment.
- Do not move TRANSFER CASE shift lever when truck is moving, or when transmission is in gear. Severe damage to drive line may result.



NOTE

- Transfer case has High, Neutral and Low ranges. The operator must ensure the transfer case is in the proper range before proceeding.
- If TRANSFER CASE shift lever is hard to move, push in button and set transmission range selector to Drive (D) then back to Neutral (N). If transfer case will not shift, select Reverse (R) then Neutral (N) and try to shift the TRANSFER CASE lever again. If transfer case will still not shift, select Drive (D) then back to Neutral (N).

d. Select transfer case range:

NOTE

Refer to Table 1-28 for additional information.

- (1) Set TRANSFER CASE shift lever (3) to H (HI) for highway driving (CTIS set to HIGHWAY) and secondary roads (CTIS set to cross-country).
- (2) Set TRANSFER CASE shift lever (3) to L (LO) for adverse off-road driving and steep grades (CTIS set to MUD, SAND and SNOW or EMERGENCY).

e. Push in buttons to set the transmission range selector (2) to desired position.

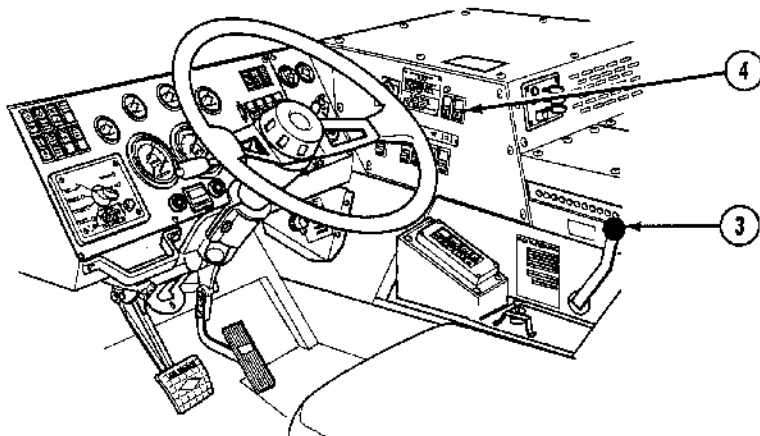
2-17. OPERATING TRANSMISSION AND TRANSFER CASE (CONT).

- (1) Use Reverse (R) to move truck backwards.
- (2) Use Neutral (N) to:
 - (a) Start engine
 - (b) Park truck
 - (c) Shift transfer case
 - (d) Operate the LHS
 - (e) Operate auxiliary equipment.
- (3) Use Drive (D) to:
 - (a) Drive in normal conditions
 - (b) Move forward from a stop
 - (c) Drive in off-road conditions.
- (4) Use 4, 3, or 2 (Fourth, Third or Second range) to:
 - (a) Drive in off-road conditions
 - (b) Drive in city traffic
 - (c) Drive in other conditions as needed. Refer to engine brake operation.

NOTE

Selection of first range limits speed.

- (5) Use 1 (First range) when:
 - (a) Maximum pulling power is required
 - (b) Negotiating steep grades.



f. Select transfer case range:

- (1) Set the TRANSFER CASE shift lever (3) to H (HI) for highway driving and secondary roads.
- (2) Set the TRANSFER CASE shift lever (3) to L (LO) for adverse off-road driving and steep grades.

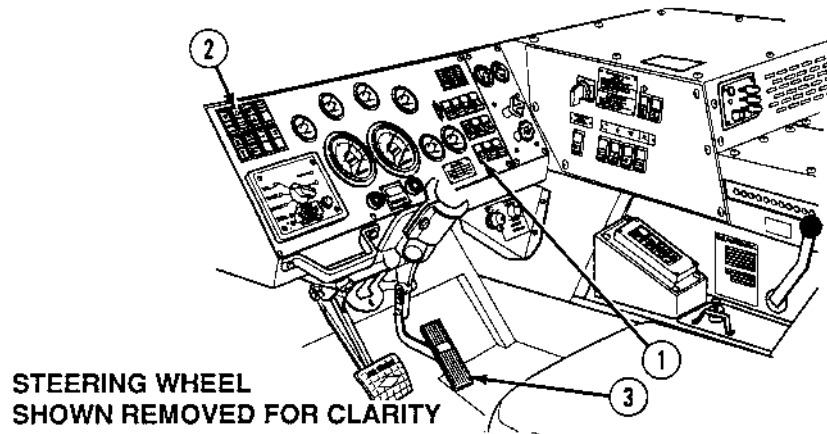
g. Select transfer case lockup. Refer to Table 1-28.

CAUTION

Do not engage transfer case lockup while wheels are slipping or when turning a corner. Damage to driveline may result.

- (1) Push TRANSFER CASE LOCKUP switch (4).
- (2) Decelerate for approximately two seconds to allow transfer case lockup to engage.
- (3) To disengage TRANSFER CASE LOCKUP, push in TRANSFER CASE LOCKUP switch (4) to allow transfer case lockup to disengage.

2-18. OPERATING ENGINE BRAKE.



WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slick surfaces can cause truck to skid and cause injury or death to personnel.

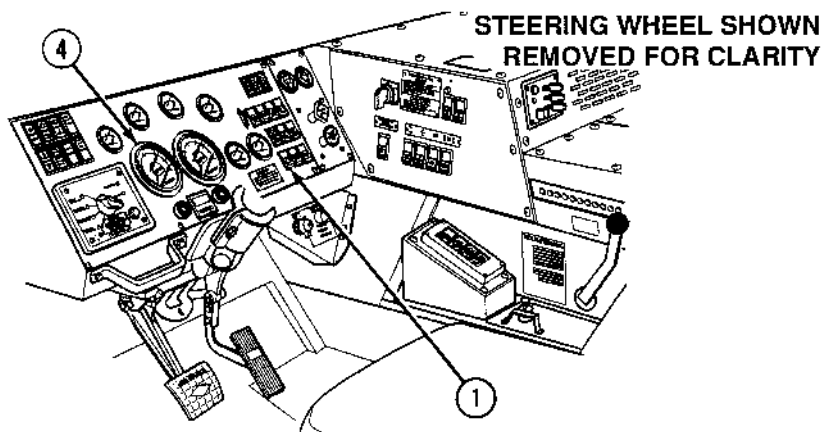
NOTE

- Use engine brake only when additional braking is required (i.e. descending grades).
 - Wheel brakes must be used in addition to engine brakes for maximum braking.
 - The engine brake switch has three positions: OFF (Top Position), LOW (Center Position), and HIGH (Bottom Position).
- a.** Set the ENGINE BRAKE switch (1) to LOW, indicator light (2) will light.

NOTE

Engine brake does not operate below 1000 rpm.

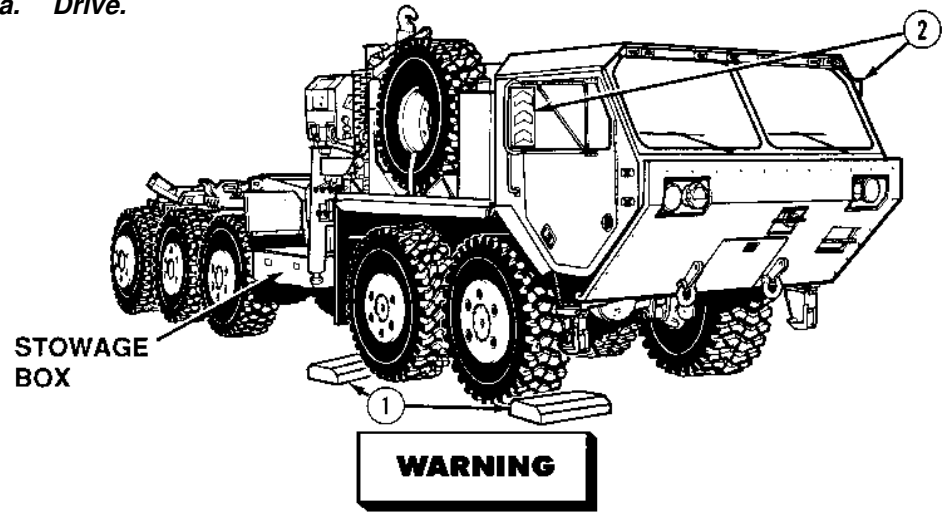
- b.** Lift foot off the throttle control (3). Engine brake will automatically slow truck.



- c.** The transmission will select the optimum gear when using the engine brake. It should keep the rpm between 1650 and 2100. At 2100 rpm the engine brake will give its peak retarding horsepower.
- d.** Optimum braking occurs with engine between 1650 and 2100 rpm. Select appropriate transmission range and engine brake to maintain desired effect. Do not over “rev” engine during braking.
- e.** If more braking is required, set ENGINE BRAKE switch (1) to HIGH.
- f.** Check that tachometer (4) reads between 1650 and 2100 rpm whenever engine brake is used.

2-19. ON-ROAD DRIVING PROCEDURES.

a. Drive.

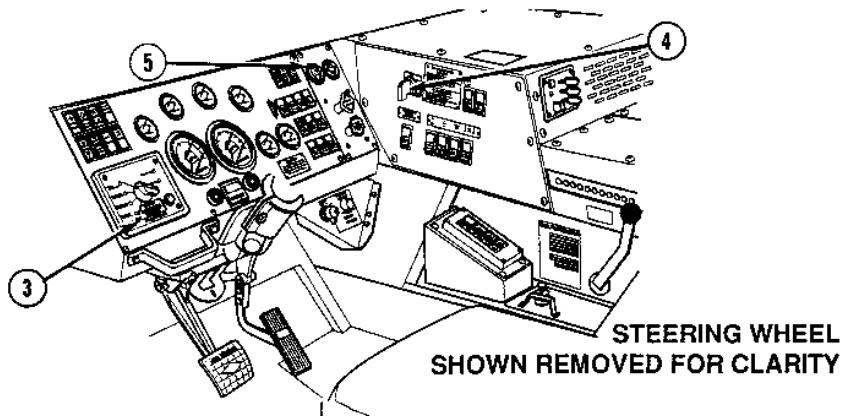


- Speed limits posted on curves reflect speeds that are considered safe for automobiles. Heavy trucks with a high center of gravity can roll over at these speed limits. Use caution and reduce your speed below the posted limit before entering a curve. Failure to comply may result in vehicle crash and injury or death to personnel.
- When operating truck at speeds of 55 mph (89 km/hr) with windows down, or when operating crane, hearing protection must be worn or hearing loss may result.

NOTE

If truck has less than 500 miles (805 km), check controls and indicators more often during operation and listen for unusual noises or vibrations. Refer to Troubleshooting Symptoms Para 3-3, if you encounter any problems.

- (1) Remove and stow wheel chocks (1) in storage box.
- (2) Ensure Material Handling Crane (MHC) and outrigger jacks are secured in stowed position.
- (3) Adjust each rear view mirror (2) so back of truck and view of road can be seen.
- (4) Adjust foot rest if required (Para 2-12).
- (5) Adjust seat as needed (Para 2-12).
- (6) Adjust seat belt as needed (Para 2-12).


WARNING

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

- (7) Push on CTIS ON/OFF switch (3) on ON position.

CAUTION

During driving operations, LHS mode selector must be placed in OFF position or hydraulic system overheating will result.

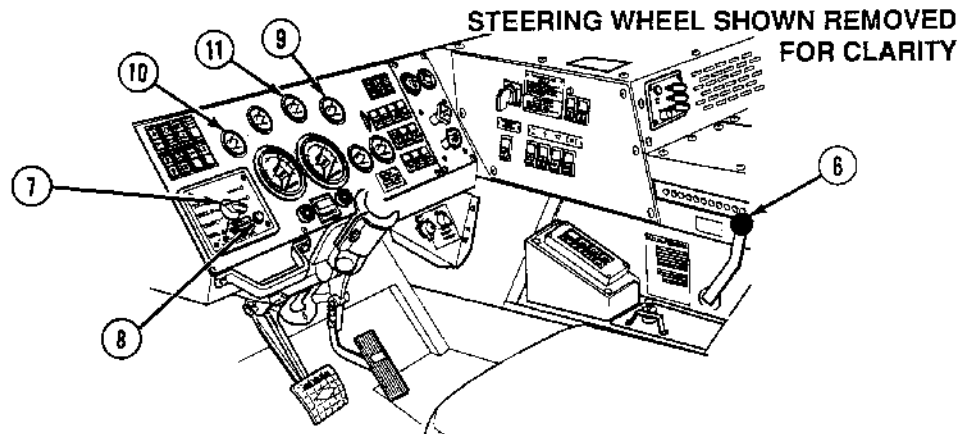
- (8) Ensure hydraulic selector switch (4) is in the OFF position.
- (9) Start engine (Para 2-15).
- (10) Turn on lights as needed (Para 2-14).

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

- (11) Ensure the needles in AIR PRESS gage (5) read at least 100 psi (690 kPa) before driving truck.

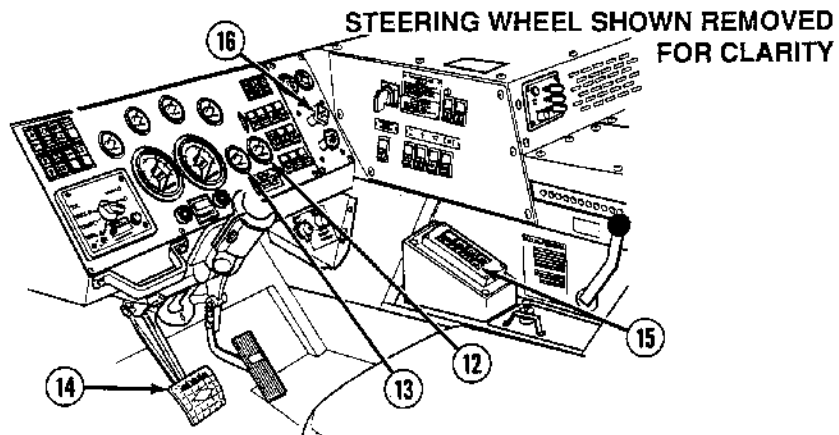
2-19. ON-ROAD DRIVING PROCEDURES (CONT).



- (12) Set the TRANSFER CASE shift lever (6) to the appropriate range (Para 2-17).

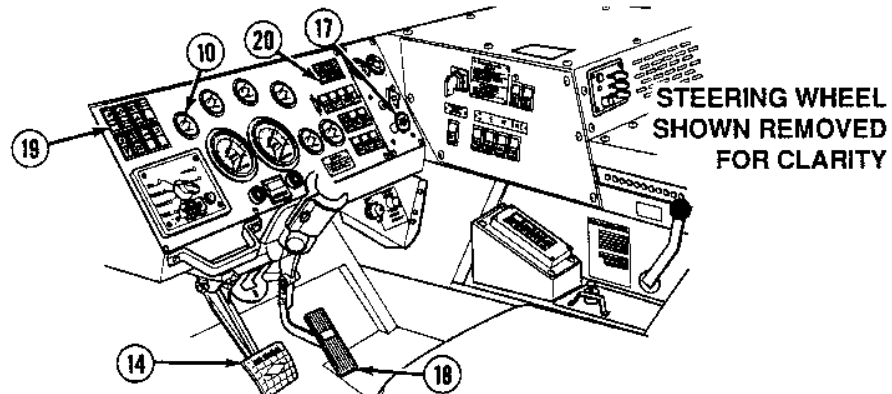
NOTE

- CTIS may not engage properly if CTIS START switch is pressed too quickly.
 - For a detailed explanation of the CTIS, refer to Para 2-24.
 - Allow time for CTIS adjustment.
- (13) Set the CTIS rotary selector switch (7) to the appropriate position. Press and hold CTIS START switch (8) for approximately one second.
- (14) Check that the FUEL gage (9) shows enough fuel to complete mission.
- (15) Check that the OIL PRESS gage (10) reads 5 to 10 psi (34 to 69 kPa) during idle or 40 to 60 psi (276 to 414 kPa) above idle.
- (16) Check that the TRANS TEMP (transmission temperature) gage (11) reads 180 to 220 degrees F (82 to 104 degrees C) after transmission has warmed up.



- (17) Check that the 24-volt battery gage (12) reads 26 to 30 volts.
- (18) Check that the 12-volt battery gage (13) reads 13 to 15 volts.
- (19) Apply the service brake pedal (14) and press transmission range selector (15) button to appropriate range. Use Drive (D) for normal highway and use 4, 3, 2 or 1 for off road, steep grades or slippery conditions.
- (20) Push in the parking brake control (16) to release brakes.

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



- (21) If the trailer is attached to truck, push in trailer air supply control (17).
- (22) Release the service brake pedal (14) and slowly press down on throttle control (18) until truck reaches desired speed.

CAUTION

- Do not hold steering wheel at full left or full right for longer than ten seconds. Oil overheating and pump damage can result.
- The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure, to prevent damage to tires.

NOTE

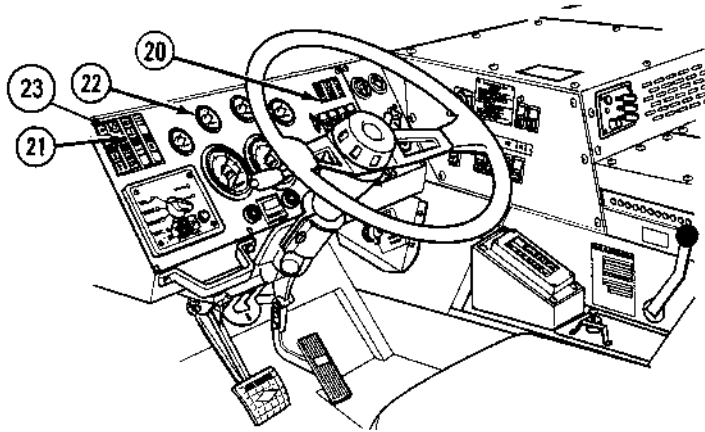
Check controls and indicators often during truck operation.

- (23) Accelerate, brake and steer as required.

NOTE

Engine oil pressure has three monitoring systems, (oil light, CHECK GAGES light, and oil pressure gage) if two of the three systems, indicate a problem, park truck, shut down engine and notify Unit Maintenance. If only one system indicates a problem, and the other two indicate normal, proceed with mission and then notify Unit Maintenance.

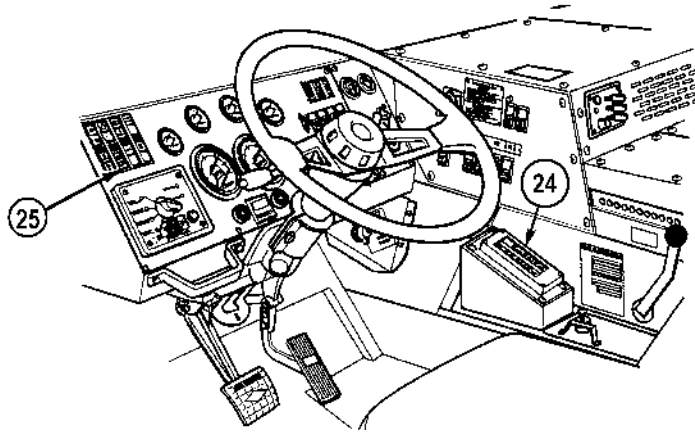
- (24) Check the engine oil pressure by monitoring oil light (19), CHECK GAGES light (20) and OIL PRESS gage (10).



NOTE

- Engine coolant temperature has three monitoring systems, (water light, CHECK GAGES light, and water temperature gage) if two of the three systems indicate a problem, park truck and idle engine at 800 to 1000 rpm until water temperature cools down, if water temperature does not cool down notify Unit Maintenance.
 - If only one system indicates a problem, and the other two indicate normal, proceed with mission and then notify Unit Maintenance.
- (25) Check the engine coolant temperature by monitoring water light (21), CHECK GAGES light (20), and WATER TEMP gage (22).
- (26) If the CHECK GAGES light (20) illuminates other than at startup, there is a problem in the engine that could cause damage to the engine. Check for low oil pressure or high water temperature. If indications are normal, continue the mission. Notify Unit Maintenance at completion of mission.
- (27) If the TRANS CHECK light (23) illuminates other than at startup, there is a potential problem in the transmission and transmission may need to be serviced. Check for correct oil level or high transmission oil temperature. If indications are normal, continue the mission. Notify Unit Maintenance at completion of mission.

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



CAUTION

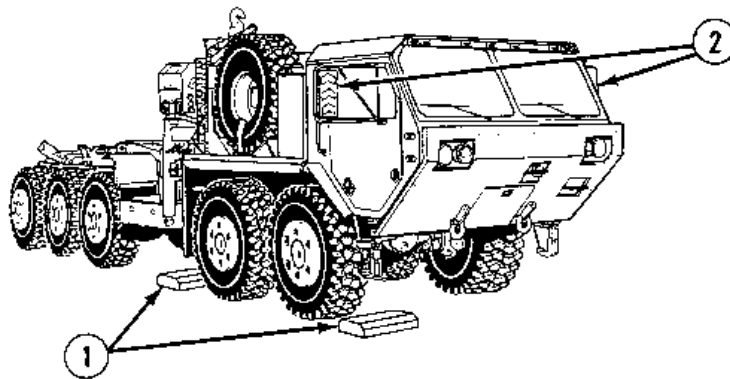
DO NOT SHIFT light will illuminate when there is a problem with the transmission that can cause serious damage and possible failure of the transmission.

- (28) If the DO NOT SHIFT light (24) illuminates while driving, find a safe place to pull over and stop. Refer to Troubleshooting Symptoms Para 3-3 in this manual.

WARNING

If EMERGENCY STEER light illuminates when driving, immediately pull truck over to side of road and stop, serious injury or death could result.

- (29) If EMERGENCY STEER light (25) illuminates, there is a problem in the primary hydraulic steering system, and the emergency steering back up hydraulic system has been activated. As truck speed gets below approximately 15 mph (24 km/hr), increased steering effort will be required to steer truck, notify Unit Maintenance.

b. Reverse.

CAUTION

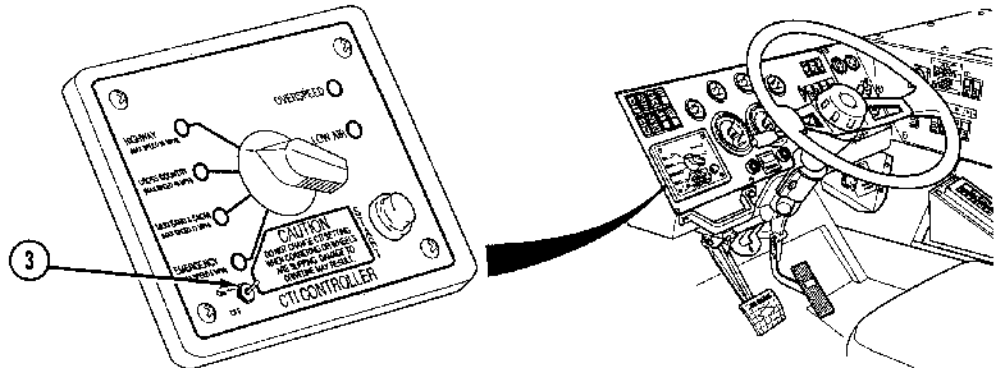
- Backing the truck and trailer for minor repositioning is permitted without locking the turntable, provided caution is used when backing up. Failure to keep the trailer and truck aligned while backing up could result in the trailer jackknifing, possibly causing severe drawbar and truck damage.
 - Trailer turntable must be unlocked after completing backing operations. Failure to unlock turntable will result in a sheared pin or damaged trailer.
- (1) If trailer is attached to truck, lock turntable on trailer (TM 9-2330-385-14).
- (2) Remove and stow wheel chocks (1).

CAUTION

Mirrors should be folded in before backing out of an enclosed area. Damage to equipment may result.

- (3) Turn each rear view mirror (2) so back of truck and view of road can be seen.
- (4) Adjust foot rest if required (Para 2-12).
- (5) Adjust seat as needed (Para 2-12).

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



- (6) Adjust seat belt as needed (Para 2-12).
- (7) Start engine (Para 2-15).

CAUTION

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds, resulting in unsafe driving conditions or tire damage.

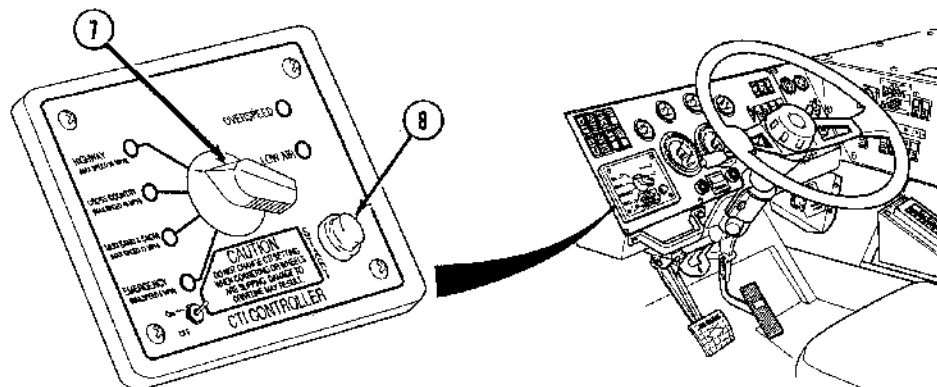
NOTE

If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).

- (8) Ensure the CTIS ON/OFF switch (3) is in the ON position (Para 2-24).

NOTE

- CTIS may not engage properly if CTIS START switch is pressed too quickly.
- For a detailed explanation of the CTIS, refer to Para 2-24.
- Allow time for CTIS adjustment.



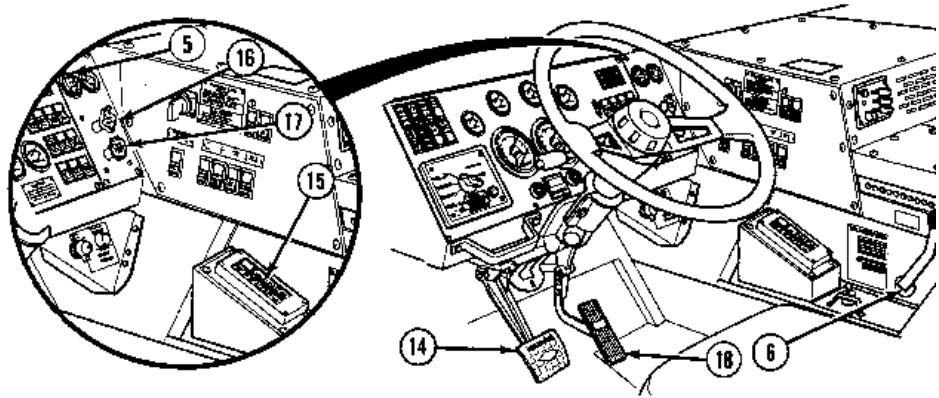
- (9) Set the CTIS rotary selector switch (7) to the appropriate position. Press and hold CTIS START switch (8) for approximately one second.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

- (10) Turn on lights as required (Para 2-14).
- (11) Check gages and indicators for normal readings (Para 2-19).

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



- (12) Check that AIR PRESS gage (5) reads at least 100 psi (690 kPa).

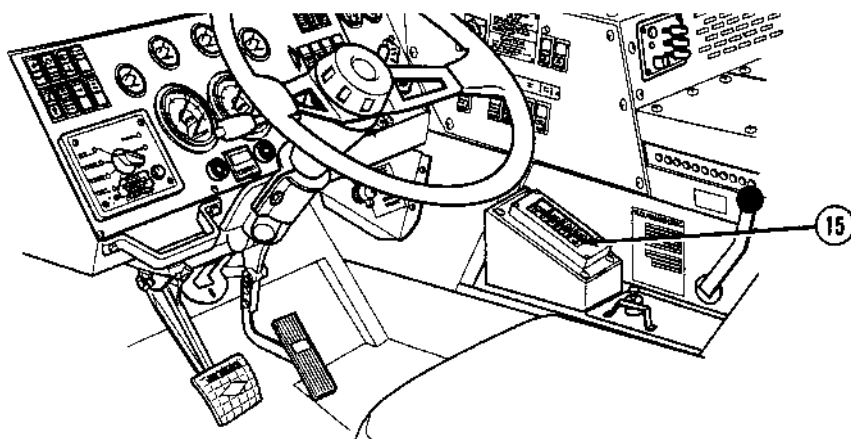
WARNING

Driver has limited vision to rear. Ground guide is required when driving truck in reverse to prevent possible injury.

CAUTION

Do not move TRANSFER CASE shift lever (6) when truck is moving or when transmission is in gear. Severe damage to drive line will result.

- (13) Set the TRANSFER CASE shift lever (6) to desired range (Para 2-17).
- (14) Apply service brake pedal (14) and press the transmission range selector (15) button Reverse (R).
- (15) Push in the parking brake control (16).
- (16) If trailer is attached to the truck, push in the trailer air supply control (17).
- (17) Release the service brake pedal (14) and slowly press down on throttle control (18).
- (18) Follow direction from ground guide.



CAUTION

Do not hold steering wheel at full left or full right position for longer than ten seconds. Oil overheating and pump damage can result.

- (19) Accelerate, brake and steer as required.

c. Slippery Conditions On Road or Off Road.

WARNING

Apply engine brake only when truck tires have good traction. Use of engine brake on slippery surface can cause truck to skid and cause injury to personnel.

CAUTION

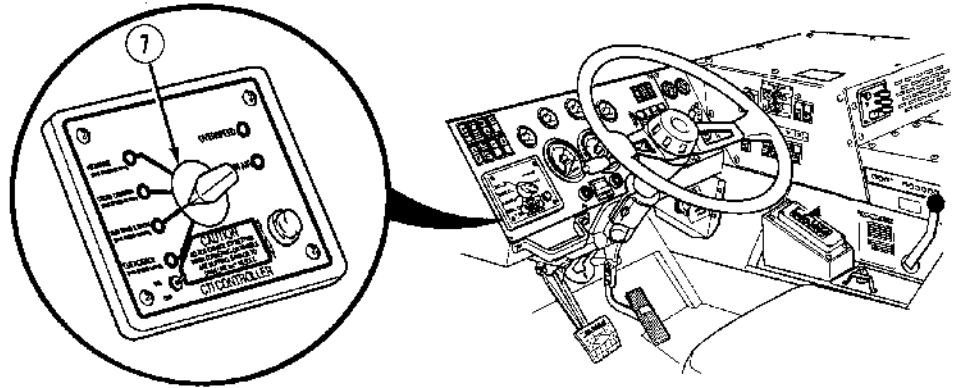
Do not change setting of the CTIS rotary selector switch while the wheels are in a slip condition. Severe damage to drive train will result.

NOTE

A lower range will give better control on slick or icy roads as well as on steep downgrades.

- (1) Manually downshift the transmission range selector (15) to match driving conditions.

2-19. ON-ROAD DRIVING PROCEDURES (CONT).



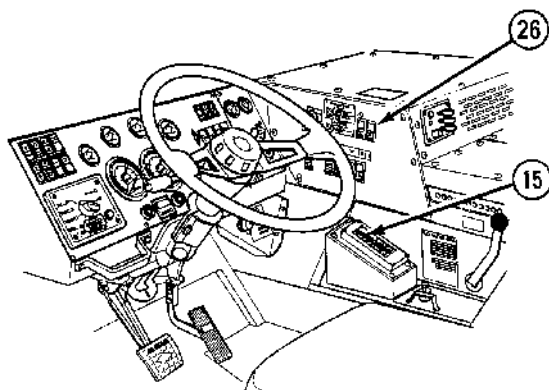
CAUTION

When using EMERGENCY position on CTIS, top speed should not exceed five mph (eight km/h) and distance travelled should not exceed five miles (eight km). Care must be exercised as steering response is limited due to full drive line lock-up or damage to equipment may result. Refer to Table 2-1.

NOTE

Refer to Table 1-28 for additional information.

- (2) For maximum traction under adverse conditions, set the CTIS rotary selector switch (7) to MUD, SAND, AND SNOW position, or if conditions warrant, to the EMERGENCY position.

**CAUTION**

Do not engage transfer case lockup while wheels are slipping or when turning a corner. Damage to drive line may result.

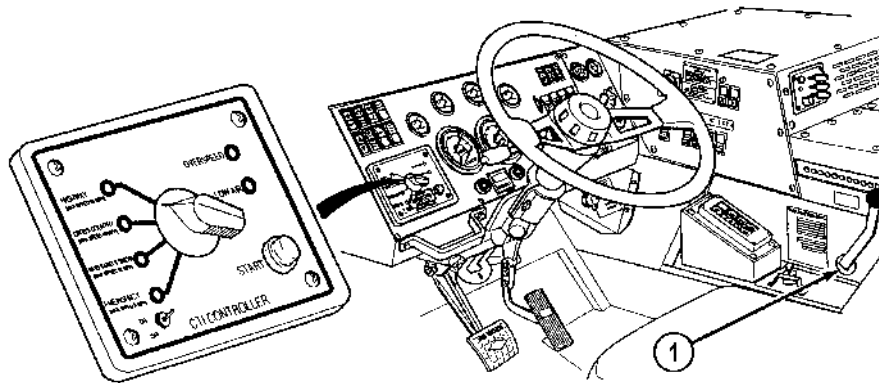
- (3) Engage the TRANSFER CASE LOCK-UP (26) as required. Refer to Table 1-28.

CAUTION

Increased tire and drive line wear will occur when the transfer case is locked.

- (4) When conditions improve or grade is crested, return the transmission range selector (15) to normal position, and push the TRANSFER CASE LOCK-UP switch (26) to the unlock position.
- (5) If CTIS EMERGENCY was selected, back truck up approximately 5 to 10 ft. (1.5 to 3 m) to relieve drive line loading.

2-20. OFF-ROAD DRIVING PROCEDURES.



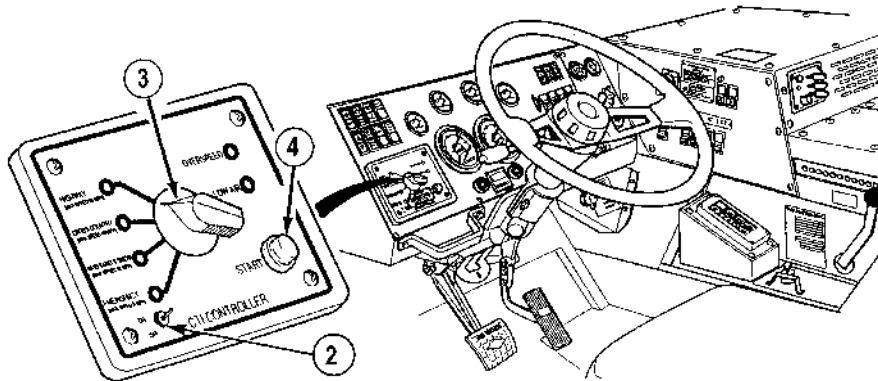
WARNING

- Speed limits posted on curves reflect speeds that are considered safe for automobiles. Heavy trucks with a high center of gravity can roll over at these speed limits. Use caution and reduce your speed below the posted limit before entering a curve. Failure to comply may result in vehicle crash and injury or death to personnel.
- The PLS center of gravity (CG) can be higher during Engineering Mission Module (EMM) operations than for other PLS operations. A higher CG limits cornering and side slope capabilities. Use extreme caution during cornering and side slope operations when an EMM is loaded onto PLS truck. Failure to comply may result in vehicle rollover causing injury or death to personnel.

CAUTION

Before operating off-road, mud flaps need to be pinned on storage hook located on mud flap bracket. If a steep slope is encountered and mud flaps are not pinned, damage can result.

- a.** Place transfer case lever (1) in proper range (Para 2-17).



WARNING

CTIS ON/OFF switch should be in ON position at all times. Overspeed protection will not operate if switch is in OFF position and tire pressures may not match driving speeds. Failure to follow these instructions may result in unsafe driving conditions or tire failure causing serious injury or death to personnel.

NOTE

If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).

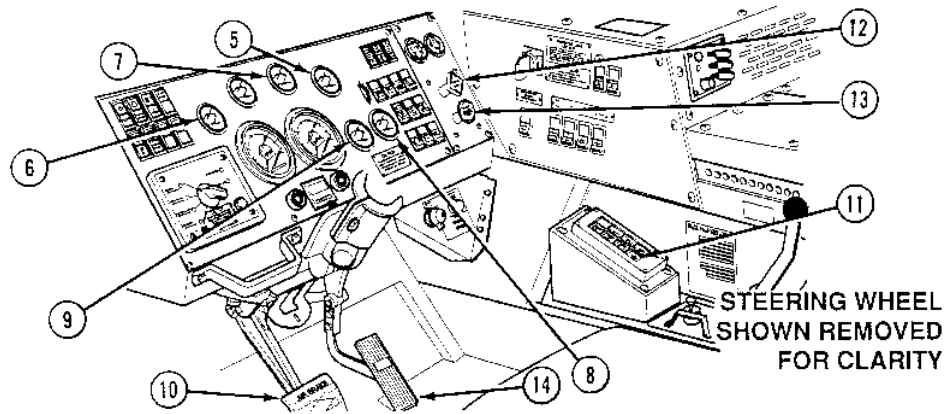
- b.** Push CTIS ON/OFF switch (2) to ON position.

NOTE

- CTIS may not engage properly if CTIS START button is pressed too quickly.
- For a detailed explanation of the CTIS, refer to Para 2-24.
- Allow time for CTIS adjustment.

- c.** Set CTIS rotary selector switch (3) to desired position. Refer to Table 1-28. Press and hold CTIS START button (4) for approximately one second (Para 2-24).

2-20. OFF-ROAD DRIVING PROCEDURES (CONT).



- d.* Check that the FUEL gage (5) shows enough fuel to complete mission.
- e.* Check that the OIL PRESS gage (6) reads 5 to 10 psi (34 to 69 kPa) during idle or 40 to 60 psi (276 to 414 kPa) above idle.
- f.* Check that the TRANS TEMP (transmission temperature) gage (7) reads 180 to 220 degrees F (82 to 104 degrees C) after transmission has warmed up.
- g.* Check that the 24-volt battery gage (8) reads 26 to 30 volts.
- h.* Check that the 12-volt battery gage (9) reads 13 to 15 volts.
- i.* Apply the service brake pedal (10) and press the transmission range selector (11) button to appropriate range. Drive (D) for normal highway and 4, 3, 2 or 1 for off road, steep grades or slippery conditions.
- j.* Push in the parking brake control (12) to release brakes.
- k.* If the trailer is attached to truck, push in trailer air supply control (13).
- l.* Release the service brake pedal (10) and slowly press down on the throttle control (14) until truck reaches desired speed.

CAUTION

- Do not hold steering wheel at full left or full right for longer than ten seconds. Oil overheating and pump damage can result.
- The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure to prevent damage to tire.

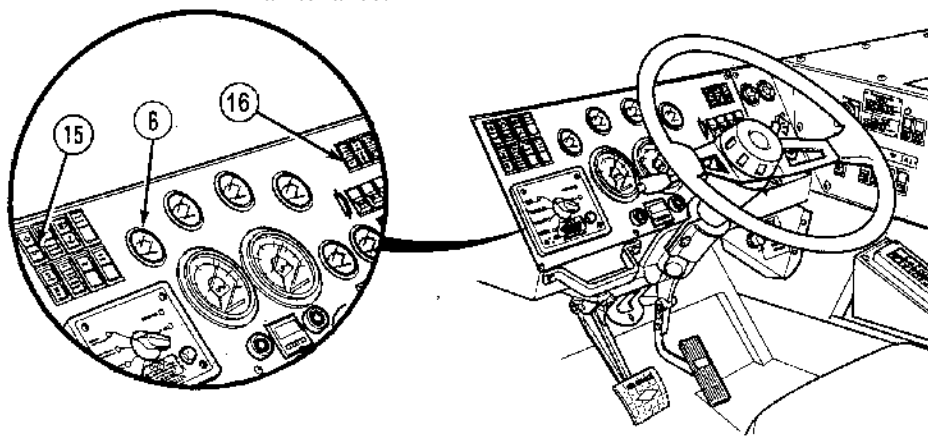
NOTE

Check controls and indicators often during truck operation.

m. Accelerate, brake and steer as required.

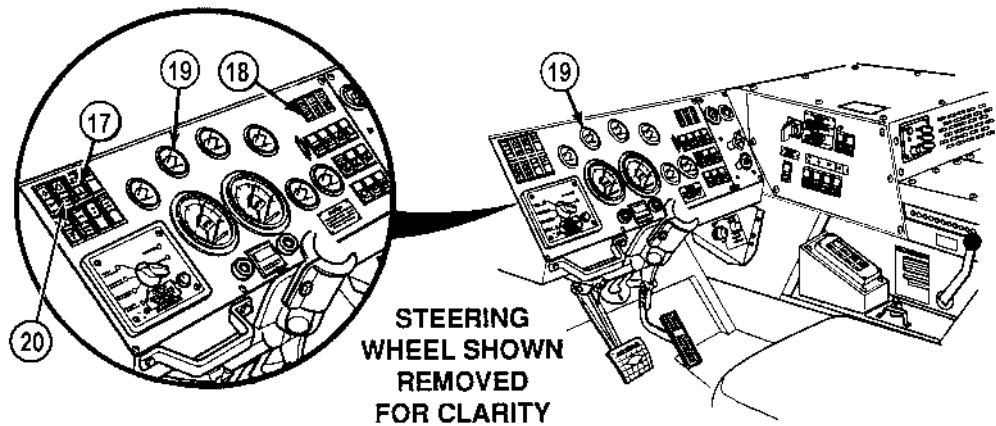
NOTE

Engine oil pressure has three monitoring systems, (oil light, CHECK GAGES light, and oil pressure gage). If two of the three systems indicate a problem, park truck, shut down engine and notify Unit Maintenance. If only one system indicates a problem and the other two indicate normal, proceed with mission and then notify Unit Maintenance.



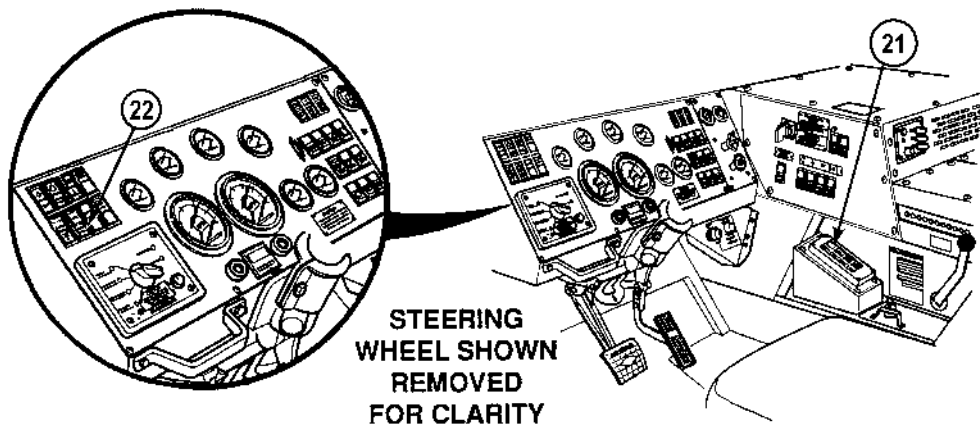
n. Check the engine oil pressure by monitoring oil light (15), CHECK GAGES light (16) and OIL PRESS gage (6).

2-20. OFF-ROAD DRIVING PROCEDURES (CONT).



NOTE

- Engine coolant temperature has three monitoring systems, (water light, CHECK GAGES light, and water temperature gage). If two of the three systems indicate a problem, park truck and idle engine at 800 to 1000 rpm until water temperature cools down. If water temperature does not cool down, notify Unit Maintenance.
 - If only one system indicates a problem and the other two indicate normal, proceed with mission and then notify Unit Maintenance.
- o.* Check the engine coolant temperature by monitoring water light (17), CHECK GAGES light (18), and WATER TEMP gage (19).
 - p.* If the CHECK GAGES light (18) illuminates other than at startup, there is a problem in the engine that could cause damage to the engine. Check for low oil pressure or high water temperature. If indications are normal, continue mission. Notify Unit Maintenance at completion of mission.
 - q.* If the TRANS CHECK light (20) illuminates other than at startup, there is a potential problem in the transmission and transmission may need to be serviced. Check for correct oil level or high transmission oil temperature. If indications are normal, continue the mission. Notify Unit Maintenance at completion of mission.

**CAUTION**

DO NOT SHIFT light will illuminate when there is a problem with the transmission that can cause serious damage and possible failure of the transmission.

- r. If the DO NOT SHIFT light (21) illuminates while driving, find a safe place to pull over and stop. Refer to Troubleshooting Symptoms Para 3-3 in this manual.

WARNING

If EMERGENCY STEER light illuminates when driving, immediately pull truck over to side of road and stop. Serious injury or death could result.

- s. If the EMERGENCY STEER light (22) illuminates, there is a problem in the primary hydraulic steering system, and the emergency steering back up hydraulic system has been activated. As truck speed gets below approximately 15 mph (24 km/hr) increased steering effort will be required to steer truck. Notify Unit Maintenance.

2-21. OPERATING ON STEEP GRADES.

WARNING

- Speed limits posted on curves reflect speeds that are considered safe for automobiles. Heavy trucks with a high center of gravity can roll over at these speed limits. Use caution and reduce your speed below the posted limit before entering a curve. Failure to comply may result in vehicle crash and injury or death to personnel.
- The PLS center of gravity (CG) can be higher during Engineering Mission Module (EMM) operations than for other PLS operations. A higher CG limits cornering and side slope capabilities. Use extreme caution during cornering and side slope operations when an EMM is loaded onto PLS truck. Failure to comply may result in vehicle rollover causing injury or death to personnel.

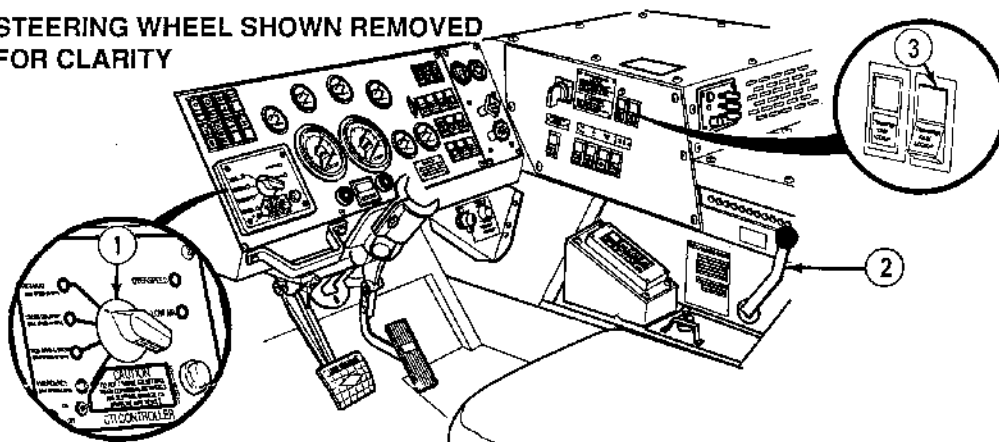
CAUTION

Before operating off-road, mud flaps need to be pinned on storage hook located on mud flap bracket. If a steep slope is encountered and mud flaps are not pinned, damage can result.

NOTE

If performing side slope operations, close fuel shutoff valves between main fuel tank and auxiliary fuel tank (Para 2-13).

STEERING WHEEL SHOWN REMOVED
FOR CLARITY



a. Driving Up Moderate to Steep Grades.

- (1) Check that the CTIS rotary selector switch (1) and transfer case shift lever (2) setting matches terrain conditions (Para 2-24) and refer to Table 1-28.

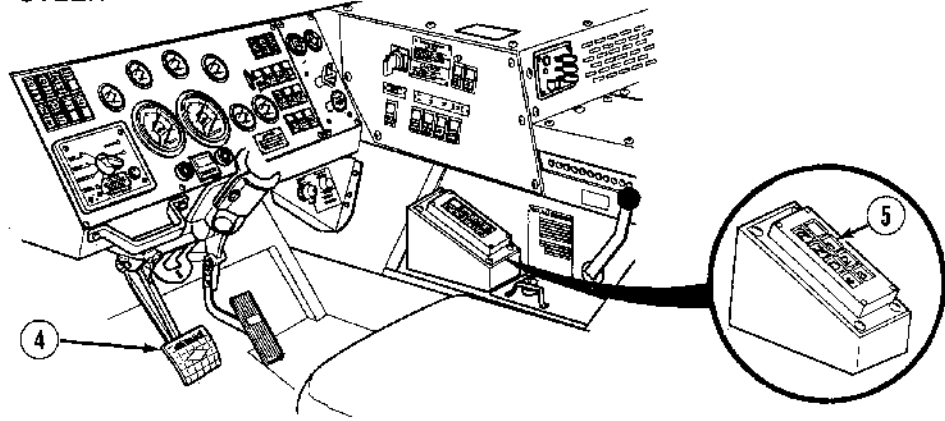
CAUTION

Do not engage transfer case lockup while wheels are slipping or when turning a corner. Damage to driveline may result.

- (2) Engage TRANSFER CASE LOCK-UP (3) on approaching the grade and decelerate for approximately two seconds to allow TRANSFER CASE LOCKUP to engage.

2-21. OPERATING ON STEEP GRADES (CONT).

STEERING WHEEL SHOWN REMOVED FOR CLARITY

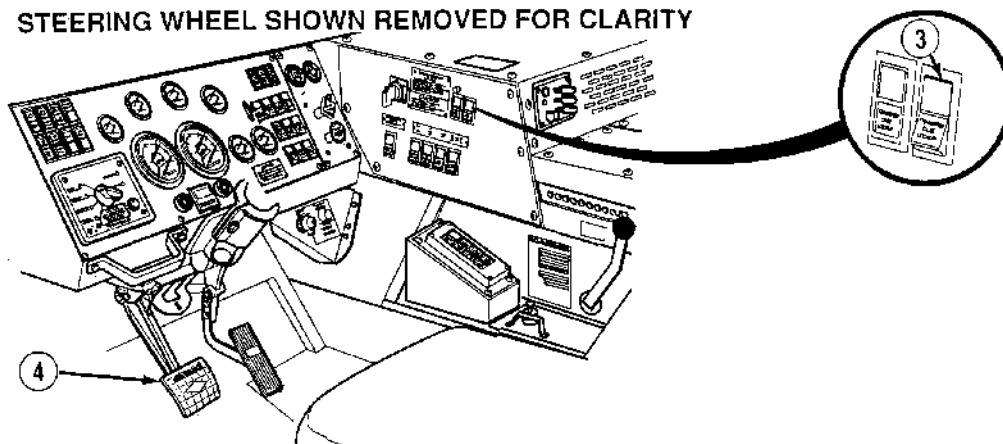


CAUTION

Do not shift transmission into first gear while truck is moving.
Severe damage to drive line will result.

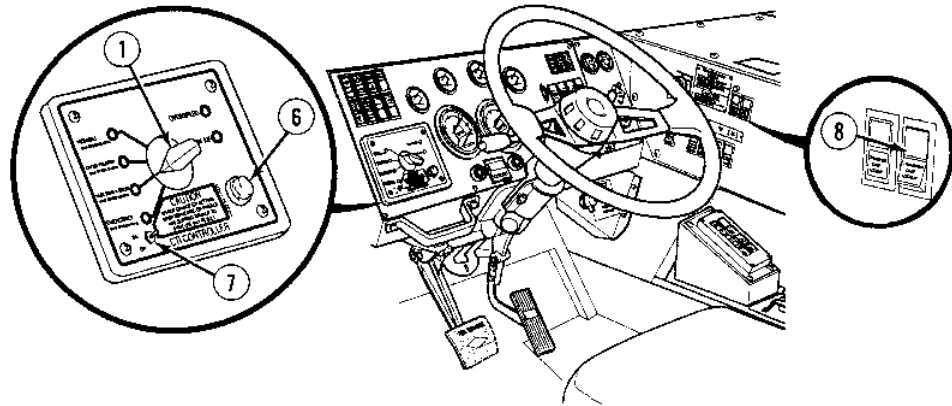
- (3) Apply the service brake pedal (4) and place the transmission selector (5) in first gear if encountering an extreme grade (greater than 15 percent). If grades are less than 15 percent, all other gear selections are acceptable while climbing.

STEERING WHEEL SHOWN REMOVED FOR CLARITY

**CAUTION**

Excessive wheel slippage while traveling up a steep upgrade could cause drive line damage. When wheel slippage is detected, immediately stop the truck.

- (4) Proceed up the grade by releasing service brake pedal (4) and gradually applying throttle as traction allows. If wheels start to slip, stop truck and go to Step (7).
- (5) After reaching the top of the grade, stop the truck and unlock transfer case (3). Select appropriate transmission gear, transfer case range and CTIS setting for the terrain.
- (6) If CTIS EMERGENCY was selected, back truck up approximately five to ten ft. (1.5 to 3 m) to relieve drive line loading.

2-21. OPERATING ON STEEP GRADES (CONT).**NOTE**

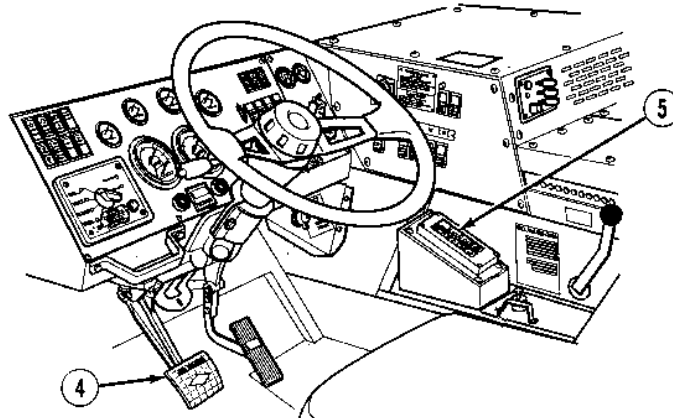
- CTIS may not engage properly if CTIS START button is pressed too quickly.
- For a detailed explanation of the CTIS, refer to Para 2-24.
- Allow time for CTIS adjustment.

- (7) With truck stopped, turn CTIS rotary selector switch (1) to MUD, SAND AND SNOW and then press and hold the START switch (6) for approximately one second. When the CTIS indicator light (7) remains solid green gradually apply the throttle and release brakes as traction allows. If wheels start to slip, stop the truck and go to Step (8).

CAUTION

When using EMERGENCY position on CTIS, top speed should not exceed five mph and distance travelled should not exceed five miles. Care must be exercised, as steering response is limited due to full drive line lock-up, or damage to equipment may result.

- (8) With the truck stopped, turn the CTIS rotary selector switch (1) to EMERGENCY. Do not press the START button. Gradually apply the throttle control and release brakes as traction allows.
- (9) After reaching the top of the grade, stop the truck and disengage the TRANSFER CASE LOCK-UP (8). Select the appropriate transmission gear and the CTIS setting for the terrain.

b. Driving Down Steep Grades.**CAUTION**

- Do not allow speed to go above 2100 rpm when driving downhill or damage to engine can result.
- Engine brake operates best when engine speed is between 1650 and 2100 rpm. Transmission torque converter lockup will disengage below 1650 rpm resulting in loss of engine braking.

- (1) Adjust transmission range selector (5) as needed.

WARNING

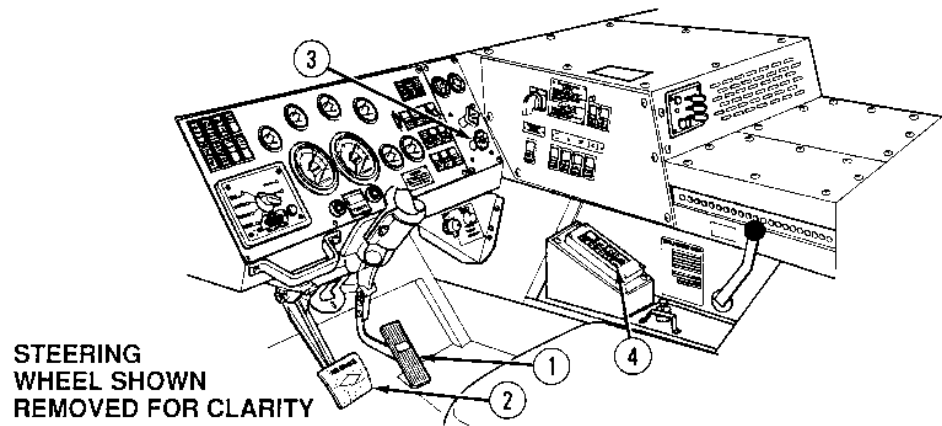
Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application when pressure drops below 45 psi (310 kPa). Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

CAUTION

If pulling trailer during periods of heavy braking, trailer brakes may over adjust and cause trailer brakes to drag when brake drums cool down. If this occurs, notify Unit Maintenance. Failure to comply may result in damage to equipment.

- (2) Use service brake (4) as needed to control truck speed.
- (3) Use engine brake as needed (Para 2-18).

2-22. PARKING TRUCK.



WARNING

Do not park truck on steep grades. Serious injury to personnel could result.

- a.** Lift foot off of the throttle control (1). Let transmission automatic downshift slow truck.

WARNING

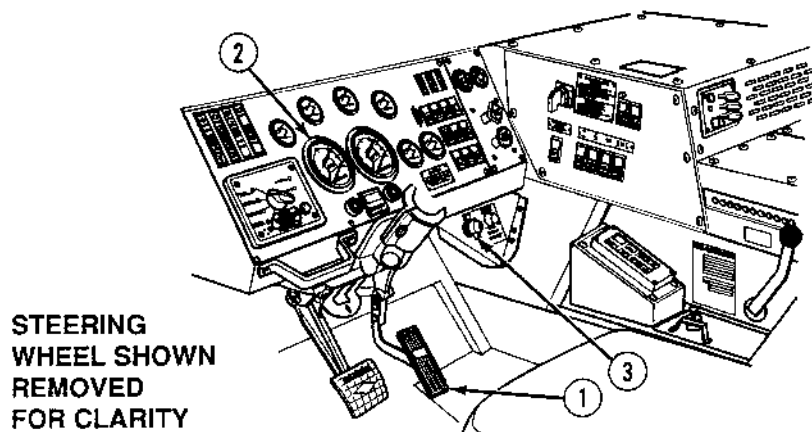
Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

- b.** Push down on the service brake pedal (2) until truck comes to complete stop.

WARNING

Do not park truck on steep grade. Serious injury to personnel could result.

- c.** Pull out the PARKING BRAKE control (3).
- d.** Press transmission range selector button (4) to Neutral (N).
- e.** Align the front tires in straight-ahead position.
- f.** Chock wheels.

2-23. SHUTTING OFF ENGINE.

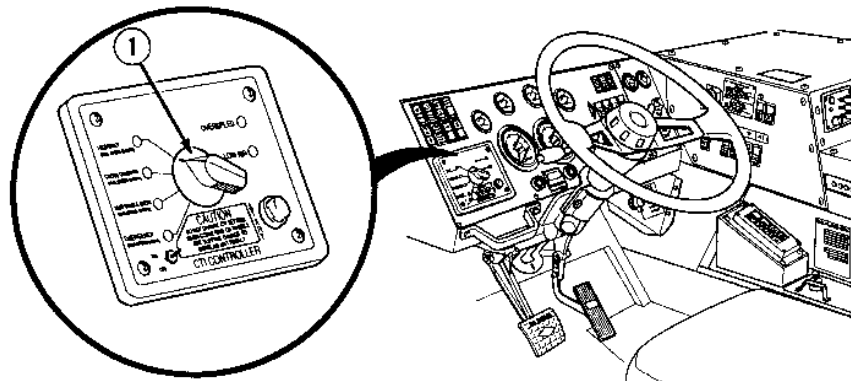
- a.** Park truck (Para 2-22).

CAUTION

Before shutting down engine, increase tachometer to 800 to 1000 rpm at no-load for three to five minutes to allow turbocharger to slow down and cool off. Turbocharger may be damaged if not allowed to cool off.

- b.** Push down and hold throttle control (1) until tachometer (2) reads 800 to 1000 rpm.
- c.** Run engine at 800 to 1000 rpm for three to five minutes.
- d.** Lift foot off throttle control (1).
- e.** Turn engine OFF/ON/START switch (3) to OFF.

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS).



CAUTION

- The CTIS system should not be used to maintain tire pressure in a leaking tire.
- Do not use compressed air from sources other than the truck air system. Moisture and/or contaminants entering system will affect reliability.
- Do not operate truck if hub cap is removed from wheel assembly, damage to wheel valves or hoses may result.

NOTE

If the CTIS system can maintain tire pressure in one or more leaking tires, the mission can be completed before repairs are made.

a. General.

- (1) The PLS Central Tire Inflation System (CTIS) (1) is designed to improve traction under different driving conditions and to maximize mobility without sacrificing tire life. It will automatically adjust the pressure in all the tires to correspond to the rotary selector switch position selected and activated by the operator.

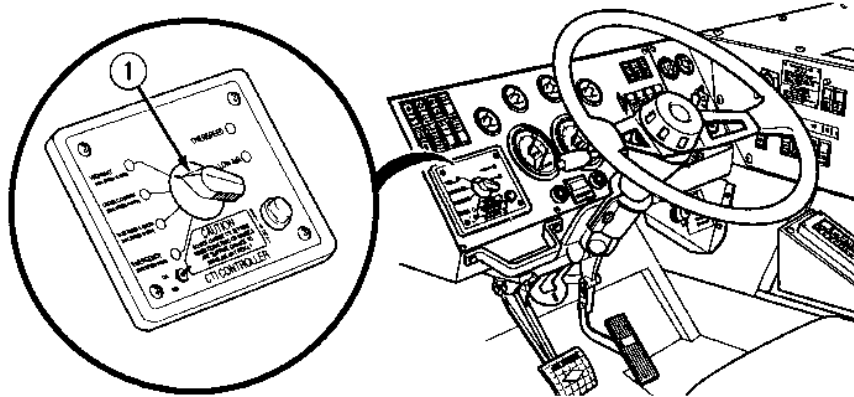
- (2) The CTIS has four possible settings, HIGHWAY, CROSS COUNTRY, MUD, SAND AND SNOW and EMERGENCY. Each has a maximum allowable speed. MUD, SAND AND SNOW setting and EMERGENCY setting have axle lockup modes.
- (3) The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure.

Table 2-6. CTIS Maximum Allowable Speeds and Lockup Modes

SETTING	SPEED LIMIT	LOCKUP MODE
1. HIGHWAY	55 mph (88 km/h)	No lockup.
2. CROSS COUNTRY	40 mph (64 km/h)	No lockup.
3. MUD, SAND AND SNOW	12 mph (19 km/h)	Interaxle differentials lockup. (Axles one and two rotate at the same rate.) (Axles three, four and five rotate at the same rate.) (Tires on each axle may rotate independently.)
4. EMERGENCY	5 mph (8 km/h)	Interaxle differentials lockup. (Axles one and two rotate at the same rate.) (Axles, three, four and five rotate at the same rate.) Side-to-side axle differentials lockup only when transfer case is shifted to low range. (Causes the tire on each axle to rotate at the same rate.)

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).

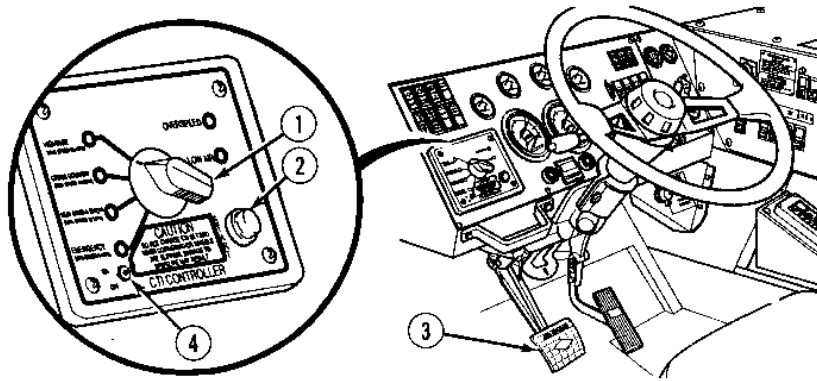
b. Operation.



- (1) The CTIS rotary selector switch (1) directly controls the driveline axle lockup selection as shown above regardless of speed, LED indication or CTIS being ON or OFF. The CTIS system is operational only when the ignition switch is on.

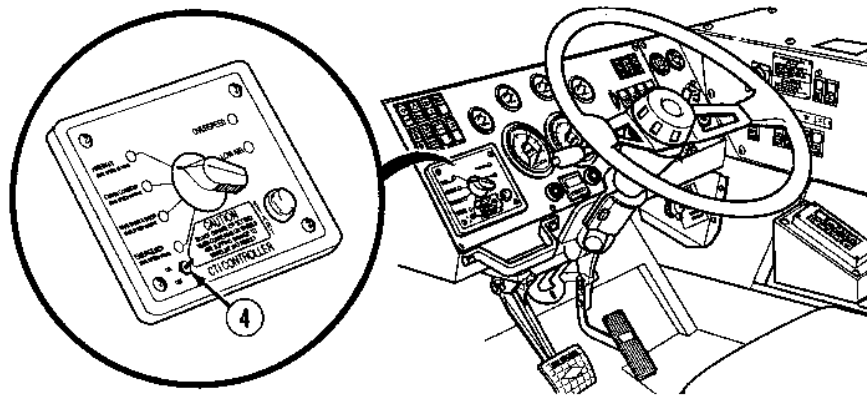
CAUTION

- Do not move the rotary selector switch to change CTIS setting while the wheels are slipping or turning a corner. Damage to driveline may result.
- The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure.



NOTE

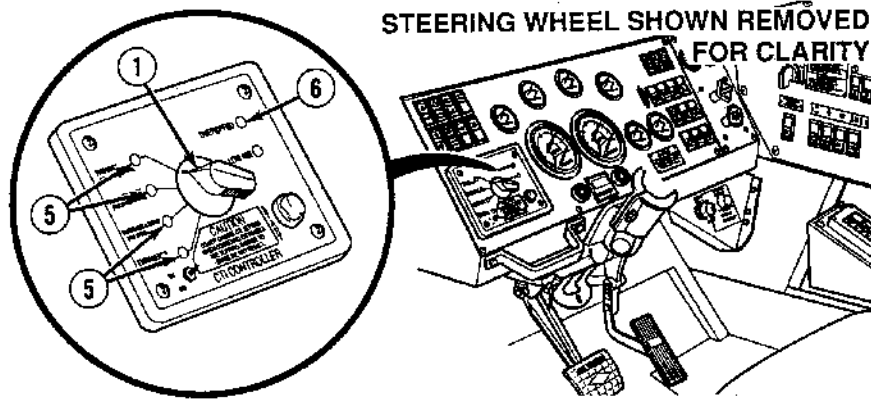
- Select the proper CTIS setting before entering an area where poor traction conditions are likely to occur.
 - To allow faster inflation time when truck is parked with engine running, transmission in neutral and parking brake applied, it may be necessary to increase engine speed to approximately 2100 rpm.
 - If the CTIS malfunctions, turn the ON/OFF switch to OFF, then turn to ON. This action will reset the controller and may eliminate the problem.
 - If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).
- (2) The CTIS rotary selector switch (1) setting may be changed by the operator with the truck stationary or moving. This action will engage a new driveline axle lockup mode. This does not change the CTIS setting unless the CTIS START button (2) is pressed to initiate the change. To change the CTIS selector rotary switch setting while moving, drive the truck in a straight line and momentarily let up on the throttle control (3). This allows driveline axle lockups to engage. The CTIS ON/OFF switch (4) is used to turn the CTIS ON/OFF. Normally the CTIS will be left in the ON position. CTIS ON/OFF switch should be turned to OFF position when a CTIS system failure occurs.

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).

- (3) The CTIS controller performs a speed sensing operation which computes the average truck speed during a one minute period. The average speed is compared to the maximum speed allowed for the current setting, and if the average speed exceeds the allowed maximum speed the CTIS is automatically engaged to inflate the tires to the next higher setting. Driveline axle lockup is not affected by automatic CTIS engagement. Driveline axle lockup for interaxle differential and side to side axle lockup is engaged through the CTIS rotary selector switch. The driveline axle lockup function will still work when the CTIS ON/OFF switch (4) is turned to the OFF position. Transfer case lockup is controlled by a separate switch located on the side panel.

Table 2-7. CTIS Maximum Air Pressure Settings (Cold or Hot)

SETTING	FRONT WHEELS	REAR WHEELS
1. HIGHWAY	65 psi (448 kPa)	75 psi (517 kPa)
2. CROSS COUNTRY	34 psi (234 kPa)	38 psi (262 kPa)
3. MUD, SAND AND SNOW	20 psi (138 kPa)	23 psi (159 kPa)
4. EMERGENCY	15 psi (103 kPa)	18 psi (124 kPa)

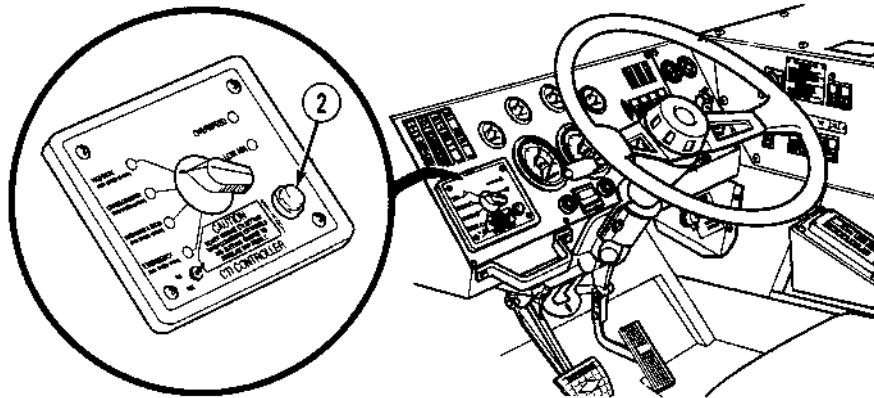


CAUTION

The CTIS rotary selector switch setting should always correspond to the lighted setting. If the light and switch positions do not match, the operator must take steps to correct the situation. Failure to comply could cause unexpected adjustment of tire pressures, which may result in damage to equipment.

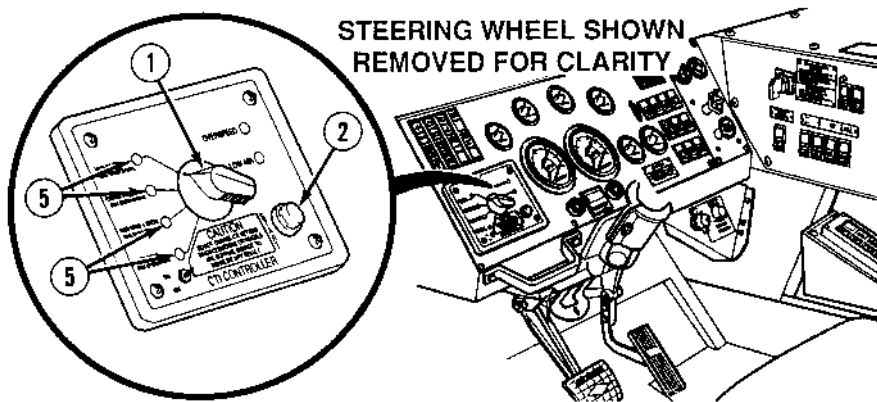
- (4) A steady green light (5) at the initial switch setting is normal when the CTIS is inflated to selected level. Also, the driveline lock up selection is engaged for this setting. If no changes in the CTIS setting occur during a 60 minute period, a check cycle is initiated by the controller to check the air pressure in the tires and adjust the pressure as required.
- (5) If the average truck speed exceeds the speed limit of the setting for a period of one minute, the amber overspeed light (6) will begin to flash slowly. At the same time the amber overspeed light starts to flash, the CTIS will be activated to inflate the truck tires to the next higher setting.
 - (a) While the CTIS is inflating, the green light at the next higher level setting will also flash slowly until the next higher setting is reached.
 - (b) When the next higher CTIS setting is reached, the amber overspeed light will stop flashing and be extinguished. The green light indicating the new CTIS setting will begin to flash rapidly. This indicates to the operator that the CTIS setting and driveline lockup setting no longer match.
 - (c) If CTIS setting and driveline lockup do not match, operator must perform one of the following:
 - 1 Move CTIS rotary selector switch (1) to the lighted position to match driveline lockup to tire pressure.

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).



- 2 Reduce speed and press the CTIS START button (2) for at least one second to lower tire pressure to match CTIS rotary selector switch setting.
- (6) If the average truck speed is allowed to exceed the new CTIS setting for another minute, the CTIS will again activate to inflate the tires to next higher setting.
- (7) If the truck continues to overspeed, the CTIS will automatically adjust the tire pressure up to the next higher setting until highway setting is achieved.
- (8) If the truck has been overspeeding and the CTIS has engaged to inflate to the next higher setting, decreasing the speed will not automatically lower the tire pressure. The operator must reduce speed and press the CTIS START button (2).
- (9) The CTIS will automatically turn off and the red LOW AIR light will light solid if the truck air pressure drops below a predetermined level (approximately 90 psi (621 kPa)) to provide priority to the brake system. It will automatically resume operation when the air pressure builds up to a higher setting (approximately 110 psi (758 kPa)). The driveline lockup setting is not affected when the CTIS shuts off due to a low air pressure condition.

c. *Operating Procedures.*



CAUTION

Do not move the CTIS rotary selector switch while the wheels are slipping or turning a corner. Damage to driveline may result.

NOTE

- Select the proper CTIS setting before entering an area where poor traction conditions are likely to occur.
- If truck is stopped during CTIS mode change, an increase in engine rpm is required to provide adequate air supply. An increase in rpm is generally not required during normal operation.

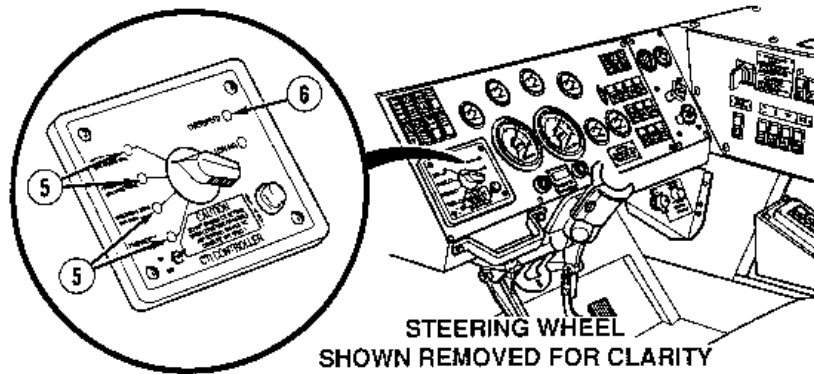
- (1) Set CTIS rotary selector switch (1) for correct driveline lockup and tire pressure to match anticipated driving conditions. See Table 1-28.
- (2) Start truck (Para 2-15).

NOTE

CTIS may not engage properly if CTIS START button is pressed too quickly.

- (3) Press and hold CTIS START button (2) on the controller for approximately one second to activate the CTIS system.
- (4) Observe green lights (5) on controller to check system operation.

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).



CAUTION

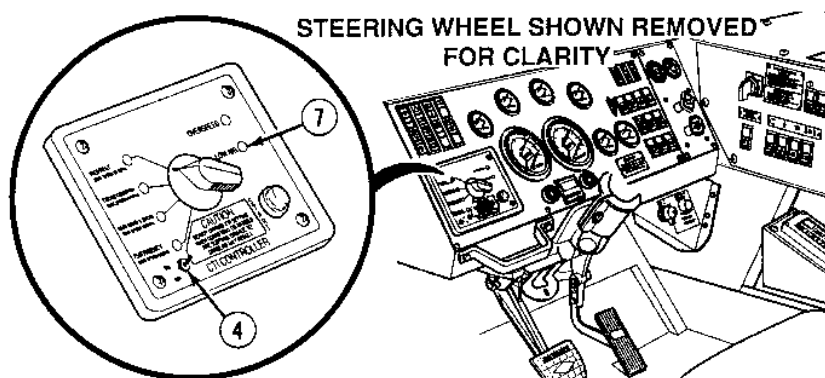
The CTIS rotary selector switch setting should always correspond to the lighted setting. If the light and switch positions do not match, the operator must take steps to correct the situation. Failure to comply may result in damage to equipment.

- (a) A continuous green light (5) indicates the CTIS and driveline lockup are both in proper operating mode and CTIS pressure check/adjustment cycle has been completed.
- (b) A flashing green light (5) indicates the CTIS is in the process of checking/adjusting the tire pressure.

CAUTION

The CTIS increases tire inflation pressure when truck speed exceeds the allowable speed for each setting. When an increase in speed is required, maintain the lower speed until the tires are re-inflated to the correct pressure. Failure to comply may result in damage to equipment.

- (c) A rapidly flashing green light (5) indicates the CTIS rotary selector switch and tire pressure do not match and requires the operator to take corrective action.
- (d) The amber overspeed light (6) begins to flash when an overspeed condition has been present for one minute and continues to flash along with the green light until the new CTIS setting is reached.



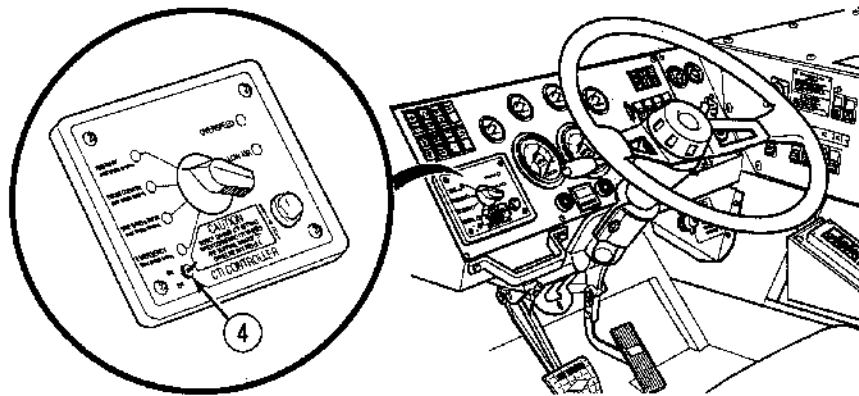
- (e) A solid red low air light (7) indicates the CTIS has turned off due to a low air pressure in the braking system.

NOTE

The CTIS automatically checks for moderate to large leaks or air loss. This will safeguard against all of the tires going flat when one of the tires has blown and the CTIS is turned ON.

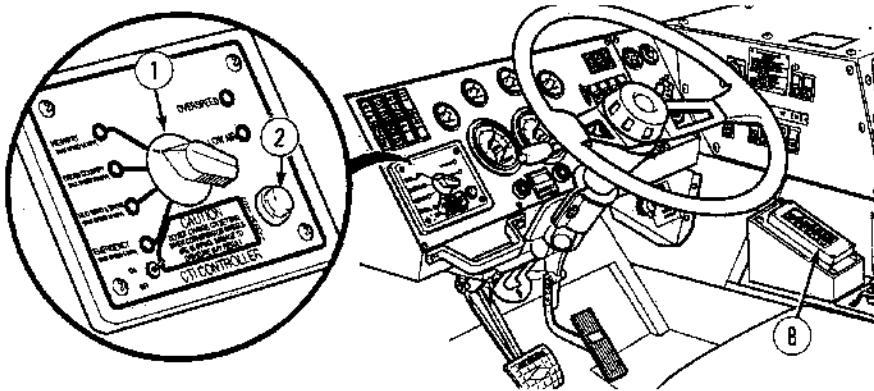
- (f) If a moderate to large leak is detected after about 30 seconds, the red low air light (7) will flash to confirm the leak. Turn the CTIS ON/OFF switch (4) to OFF and test entire system for air leak.
- 1 If no leak is found, restart the CTIS. If the air leak is still present, the red low air light (7) will again flash after 30 seconds, only allowing time for searching leaky connections. This cycle for detecting leaks may be repeated many times.

2-24. CENTRAL TIRE INFLATION SYSTEM (CTIS) (CONT).



NOTE

- If the CTIS malfunctions, turn the ON/OFF switch to OFF, then to ON. This action will reset the controller and may eliminate the problem.
 - With CTIS manually disabled, the truck can still be operated normally (as if the truck were not CTIS equipped) to complete mission before repairs are made.
 - Intermittent manual ON/OFF operation of the CTIS system to inflate or deflate tires may still be available to the operator and can be used to complete mission before repairs are made.
 - If it becomes necessary to disable the CTIS, the tires will have to be manually inflated or deflated (Para 2-57j).
 - If a Class III oil leak develops from a wheel valve, turn CTIS ON/OFF switch to OFF position and complete the mission. Notify Unit Maintenance.
- (5) If it becomes necessary to disable the CTIS, turn the CTIS ON/OFF switch (4) to OFF.

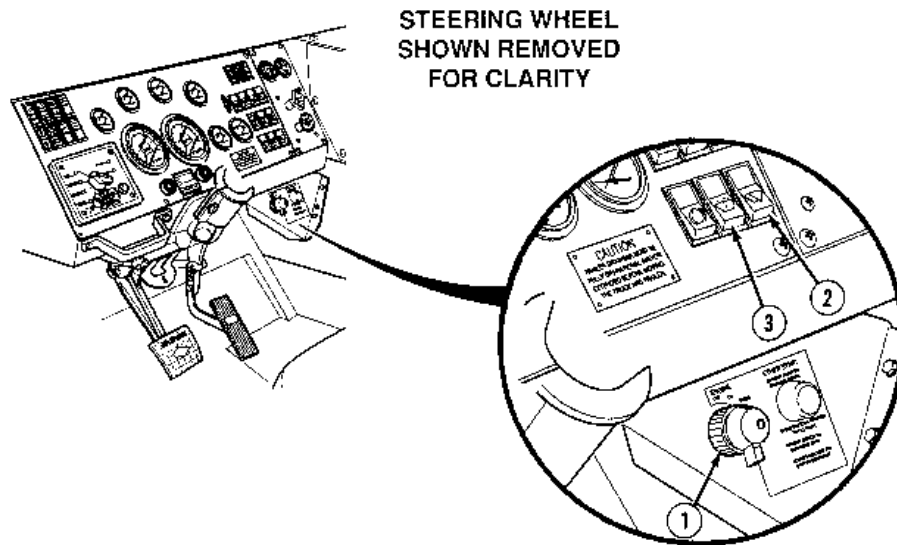


CAUTION

When using EMERGENCY position on CTIS, top speed should not exceed five mph (8 km/h) and distance travelled should not exceed five miles (8 km). Care must be exercised as steering response is limited due to full drive line lockup. Failure to comply may cause damage to equipment.

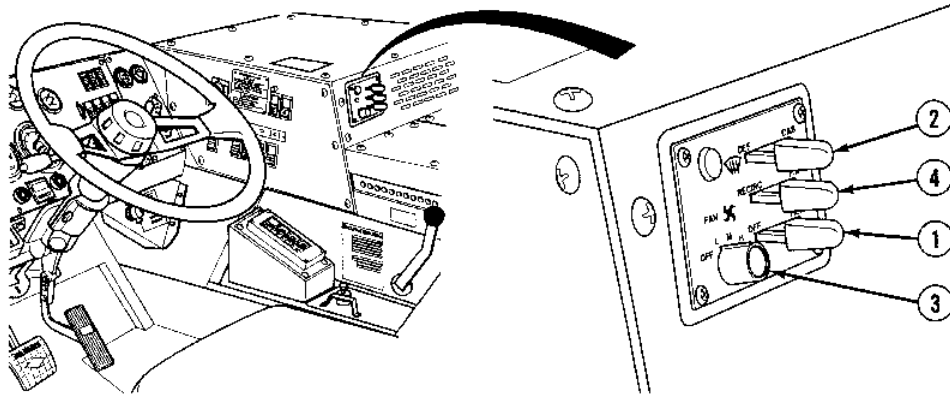
- (6) When changing setting from EMERGENCY to any other CTIS setting, the truck must be stopped and drive line loading relieved.
 - (a) Stop truck.
 - (b) Set transmission range selector (8) to Neutral (N).
 - (c) Turn CTIS rotary selector switch (1) to new position and press START button (2) for one second to activate CTIS.
 - (d) Set transmission range selector (8) to Reverse (R).
 - (e) Back up approximately 5 to 10 ft. (1.5 to 3 m) to relieve driveline loading and then bring truck to stop.
 - (f) Press transmission range selector (8) to Neutral (N) and then to 3, 2 or 1 depending on ground conditions.

2-25. WINDSHIELD WIPERS.



- a.** Turn Engine ON/OFF/START switch (1) to ON position (Para 2-15).
- b.** Turn the Windshield Wipers ON/OFF.
 - (1) Press the WIPER switch (2) to middle position for low speed and down position for high speed.
 - (2) Press the WIPER switch (2) to up position to stop windshield wipers.
- c.** Operate Windshield Washer.
 - (1) Press and hold the WASHER switch (3) down to spray cleaning fluid on windshield.
 - (2) Release the WASHER switch (3) to stop washer spray.

2-26. PERSONNEL HEATER.



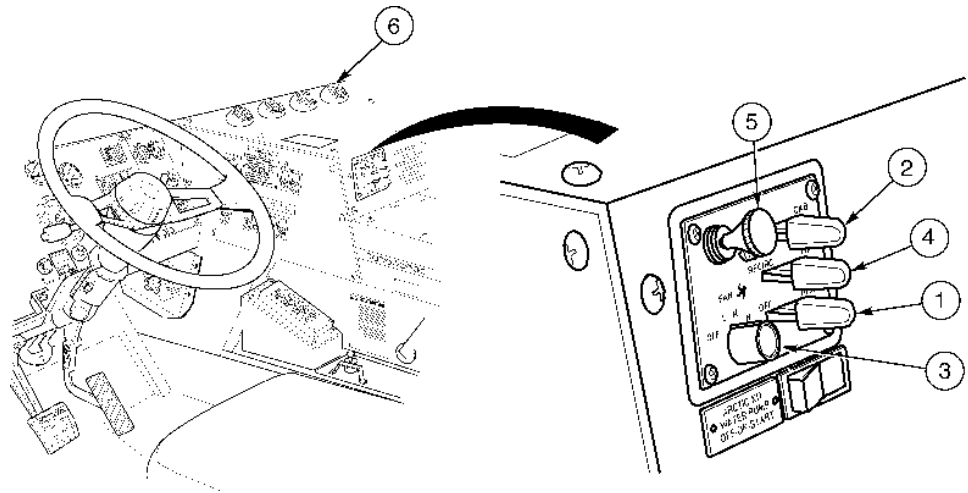
- a. Start truck (Para 2-15).
- b. Turn Heater ON/OFF.

NOTE

Heater temperature is controlled by position of HEAT lever. Temperature will be very warm when HEAT lever is pushed all the way to the right. Temperature will go down as HEAT lever is pulled to the left.

- (1) Push the HEAT control lever (1) to desired position.
- (2) Push the DEFROST lever (2) to the right to send air to the floor of the cab.
- (3) Set the FAN control switch (3) to LO, MEDIUM or HI airflow.
- (4) Push the AIR control lever (4) to the right to add outside air for cab ventilation.
- (5) Pull the AIR control lever (4) to the left if re-circulated air for the cab is desired.
- (6) Pull the HEAT control lever (1) to the left to decrease heat.
- (7) Set the FAN control switch (3) to OFF.

2-26. PERSONNEL HEATER (CONT).

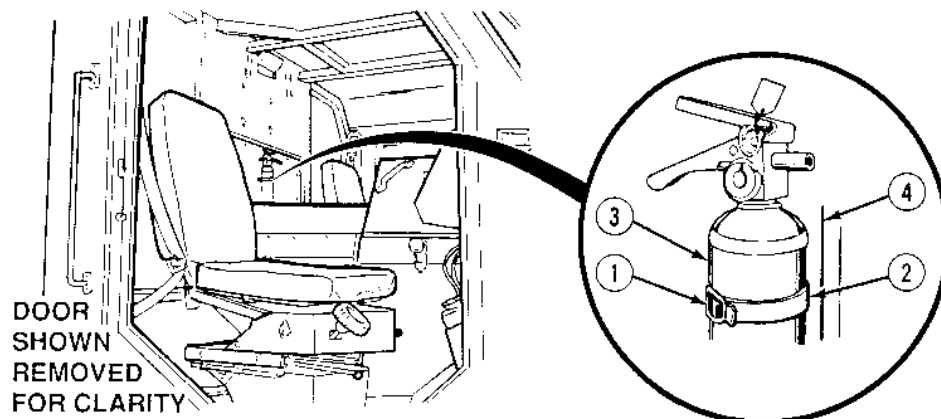


c. Turn Windshield Defrost ON/OFF.

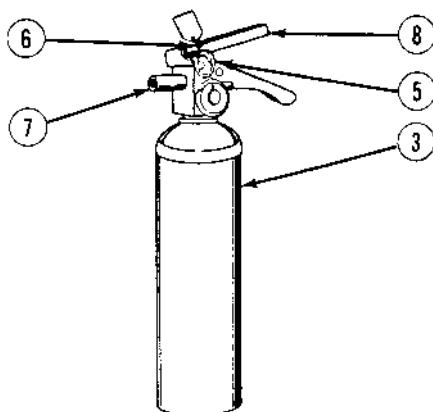
- (1) Pull the DEFROST control lever (2) to the left to add more air flow to the windshield.
- (2) Set the FAN control switch (3) to LO, MEDIUM, or HI position.
- (3) Set the FAN control switch (3) to OFF.

d. Turn Cab Ventilator ON/OFF.

- (1) Push the HEAT control lever (1) to OFF position.
- (2) Push the AIR control lever (4) to RECIRC position.
- (3) Push the DEFROST lever (2) to DEF position.
- (4) Pull the cab ventilator knob (5) out (approximately 1.5 in. [4 cm]).
- (5) Set the FAN control switch (3) to LO, MEDIUM, or HI position.
- (6) Rotate four blower vents (6) for desired air flow.
- (7) Set the FAN control switch (3) to OFF.

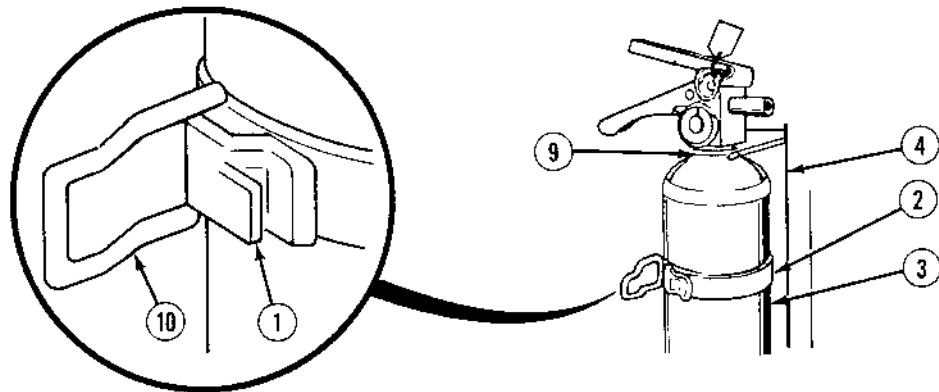
2-27. FIRE EXTINGUISHER.

- a.** Release the clamp (1) and open strap (2).
- b.** Pull the fire extinguisher (3) straight out and off bracket (4).



- c.** Hold the fire extinguisher (3) upright and pull safety pin (5) to break plastic tie (6).
- d.** Point nozzle (7) at base of fire.
- e.** Press down on stop lever (8) and spray in a side-to-side motion at base of fire.

2-27. FIRE EXTINGUISHER (CONT).



- f.* Replace the fire extinguisher after use.
- g.* Put the neck (9) of fire extinguisher (3) on bracket (4).
- h.* Put the clamp (1) on hook (10).
- i.* Push down on the clamp (1) to secure strap (2).

2-28. AUXILIARY EQUIPMENT.**a. Arctic Heater.****WARNING****CARBON MONOXIDE (EXHAUST GAS) CAN KILL YOU**

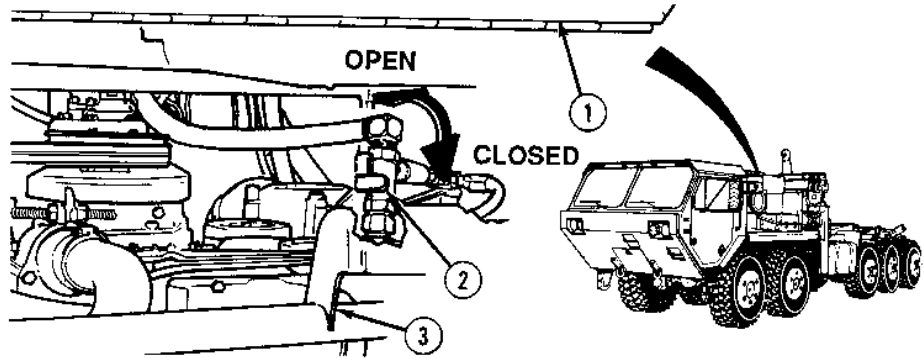
Carbon monoxide is a colorless, odorless, DEADLY POISONOUS gas and when breathed deprives body of oxygen and causes SUFFOCATION. Breathing air with carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, a sleepy feeling, and coma. Permanent BRAIN DAMAGE or DEATH can result from severe exposure.

The following precautions MUST be followed to ensure personnel are safe whenever arctic heater or engine is operated for any purpose. Injury to personnel may result.

- DO NOT operate arctic heater or engine of truck in enclosed area without adequate ventilation.
- DO NOT drive any truck with inspection plates, cover plates, or engine compartment doors removed unless necessary for maintenance purposes.
- NEVER sleep in a truck when the heater is operating or the engine is idling.
- BE ALERT at all times during truck operation for exhaust symptoms. If either are present, IMMEDIATELY EVACUATE AND VENTILATE the area. Affected personnel treatment shall be: expose to fresh air; keep warm; DO NOT PERMIT PHYSICAL EXERCISE; if necessary, give artificial respiration as described in FM 21-11 and get medical attention.
- BE AWARE; neither the gas particulate filter unit nor field protection mask for nuclear-biological-chemical protection will protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS GOOD VENTILATION

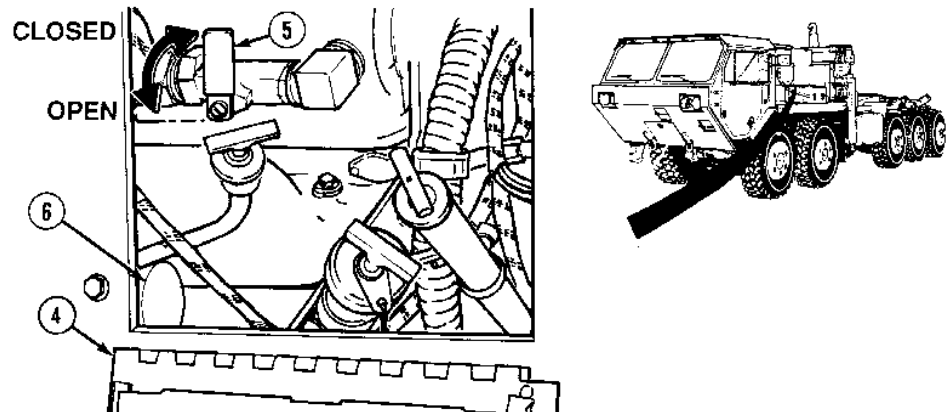
2-28. AUXILIARY EQUIPMENT (CONT).



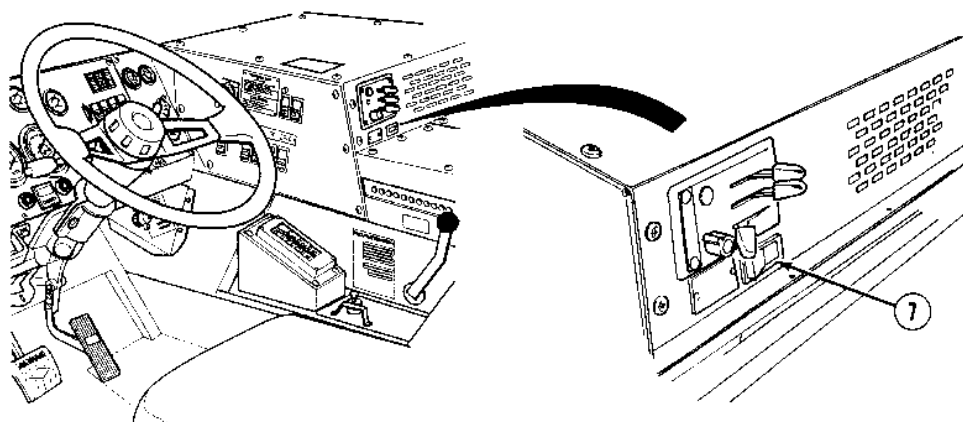
CAUTION

Both valves in Steps (1) and (2) must be open during arctic heater operation or damage to equipment may result.

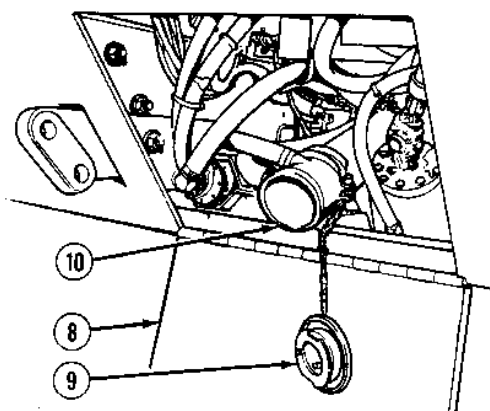
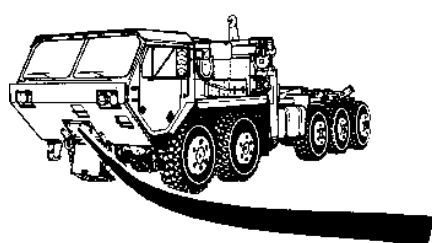
- (1) Open the engine access cover (1) and open valve (2) at front right thermostat housing (3). Close engine access cover (1).



- (2) Open the side access cover (4) and open valve (5) above starter (6). Close the cover (4).



- (3) To run the coolant circulating pump from within cab, press the arctic heater switch (7) to the ON position.



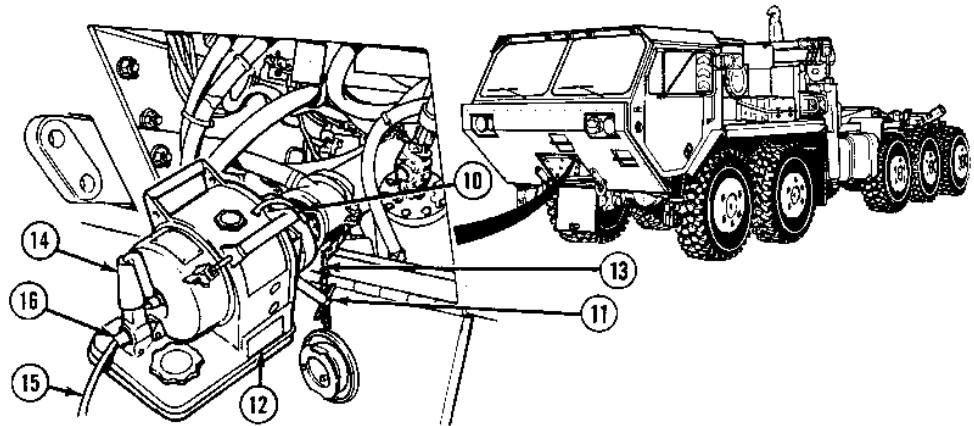
- (4) Open front access cover (8).

WARNING

Do not allow heated parts of arctic heater to contact hoses and wires of truck. Failure to comply could result in injury to personnel or damage to equipment.

- (5) To install the arctic heater into water jacket:
 - (a) Remove the cover (9) from water jacket (10).

2-28. AUXILIARY EQUIPMENT (CONT).

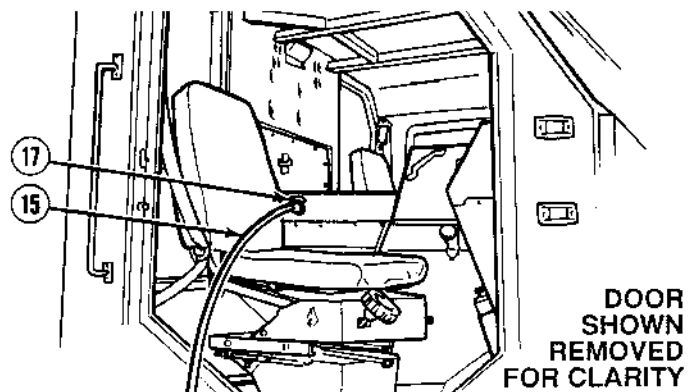


- (b) Turn wingnut (11) on arctic heater (12) counterclockwise to open.
- (c) Check the gasket (13) for proper placement and for damage.
- (d) Insert the arctic heater (12) into water jacket (10) with hand pump lever (14) in a vertical position.
- (e) Tighten the wingnut (11) clockwise.

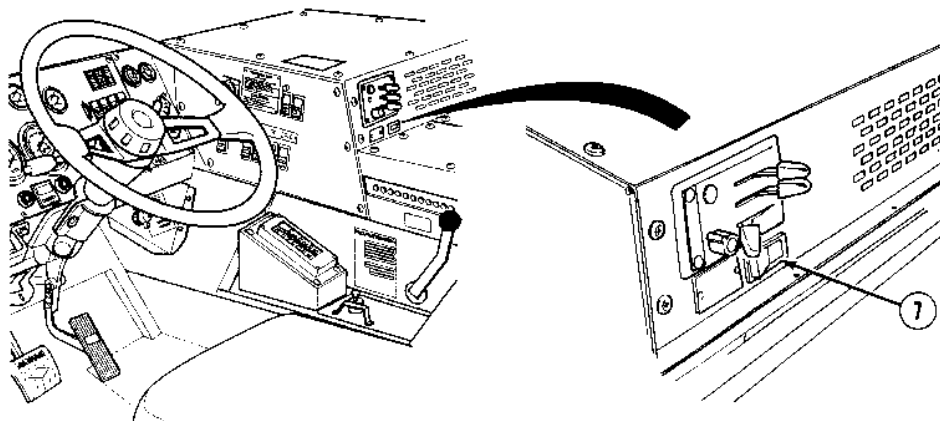
CAUTION

Battery voltage must be identical to voltage shown on hand pump lever or damage to equipment may result.

- (f) Ensure heater (12) is set to 24 volts and plug cable (15) into starting cable connector (16) on arctic heater (12).



- (g) Plug cable (15) into arctic heater receptacle (17) on tunnel panel inside cab (passenger side).
- (6) To start and operate the arctic heater, refer to TM 9-8662.
- (7) Operate the arctic heater for approximately 35 minutes to warm engine properly.

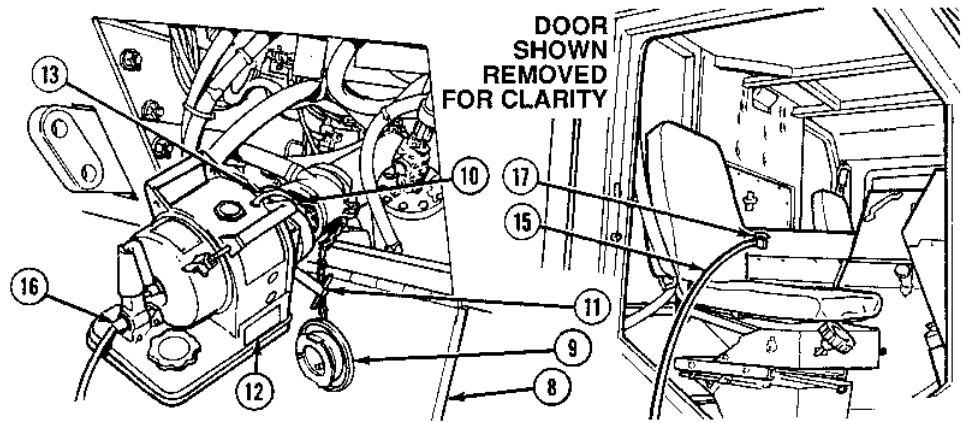


WARNING

Do not allow heated parts of arctic heater to contact hoses and wires of truck. Failure to comply could result in injury to personnel or damage to equipment.

- (8) To remove heater from the water jacket:
 - (a) To shut down coolant circulating pump, press the arctic heater switch (7) to the OFF position.

2-28. AUXILIARY EQUIPMENT (CONT).

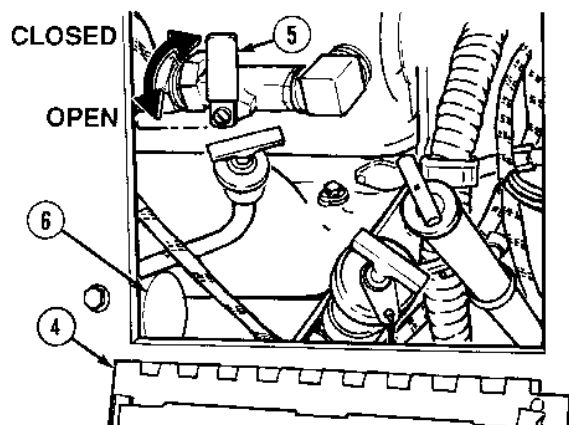


- (b) Remove cable (15) from arctic heater receptacle (17) and starting cable connector (16).
- (c) Loosen the wingnut (11).

WARNING

Do not touch exhaust section of arctic heater with bare hands; injury to personnel will result.

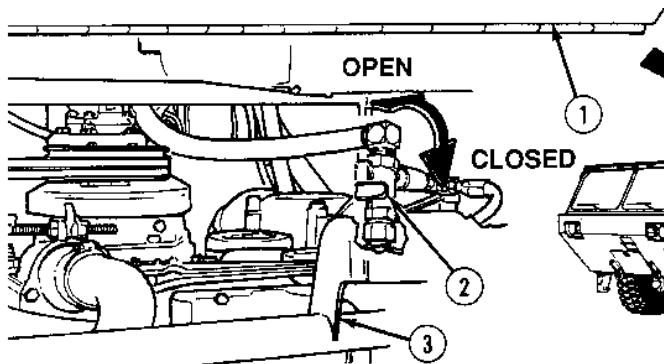
- (d) Remove the arctic heater (12) with gasket (13) from water jacket (10).
- (e) Install the cover (9) on water jacket (10).
- (f) Turn the wingnut (11) clockwise to close.
- (g) Close the front access cover (8).



WARNING

Do not touch hot exhaust system with bare hands; injury to personnel will result.

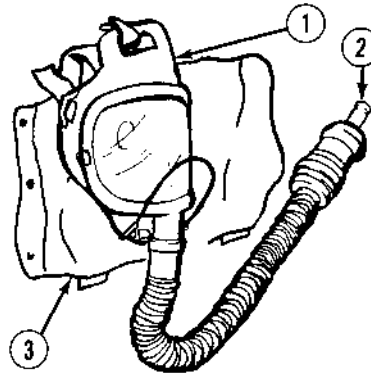
- (9) Open the side access cover (4) and close valve (5) above starter (6). Close the side access cover (4).



- (10) Open the engine access cover (1) and close valve (2) at front right thermostat housing (3). Close the engine access cover (1).

2-28. AUXILIARY EQUIPMENT (CONT).

b. Gas Particulate Filter Unit (GPFU).



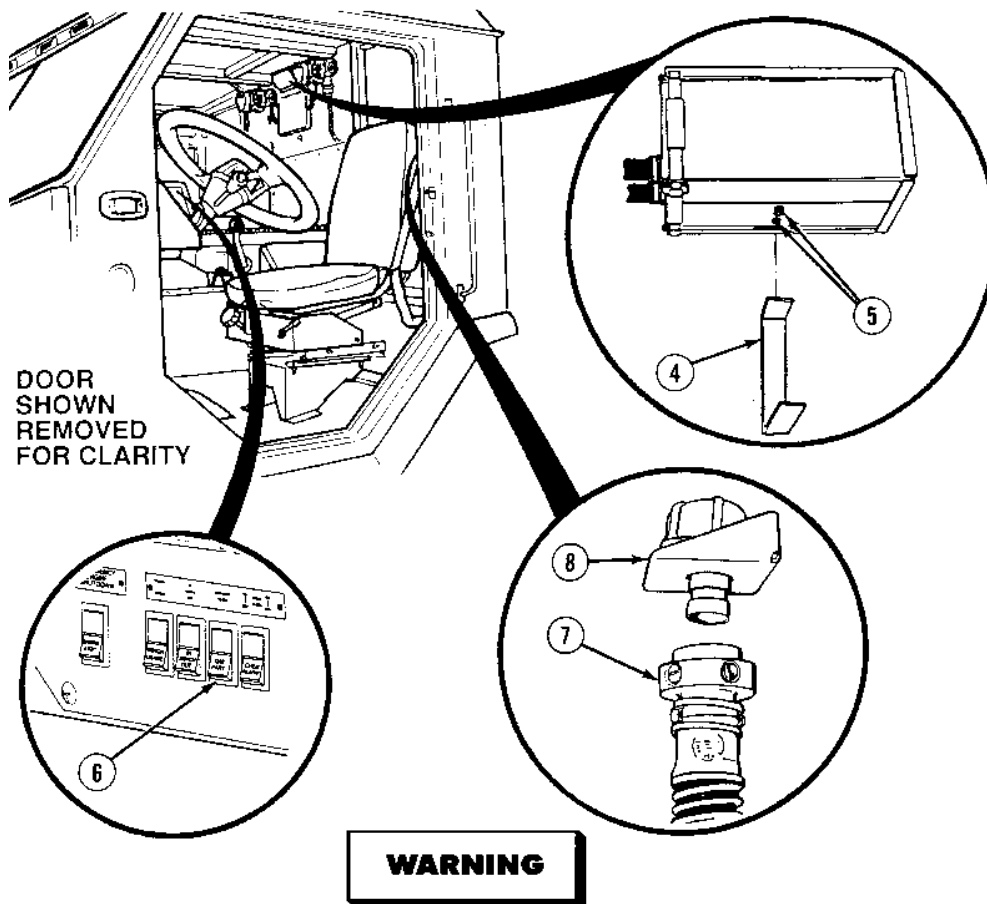
WARNING

- If NBC exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal procedures.
- Protective mask and filter unit will not protect against carbon monoxide.

NOTE

- Perform Steps (1) through (9) only when under Nuclear, Biological, or Chemical (NBC) attack or when ordered to do so.
- For detailed information concerning protective mask refer to TM 3-4240-280-10.
- There are two M-3 heaters, hoses and air duct sockets.

- (1) Remove protective mask (1) and canister (2) from pouch (3).
- (2) Put on protective mask (1).
- (3) Clear and seal protective mask (1).



Spring clip on filter assembly air intake must be pulled so intake holes are open for gas particulate filter system to work. Failure to pull out clip may result in death to personnel.

NOTE

Spring clip must be repositioned on filter assembly air intake so intake holes are open for gas particulate filter system to work. Clip is repositioned through bottom of bracket.

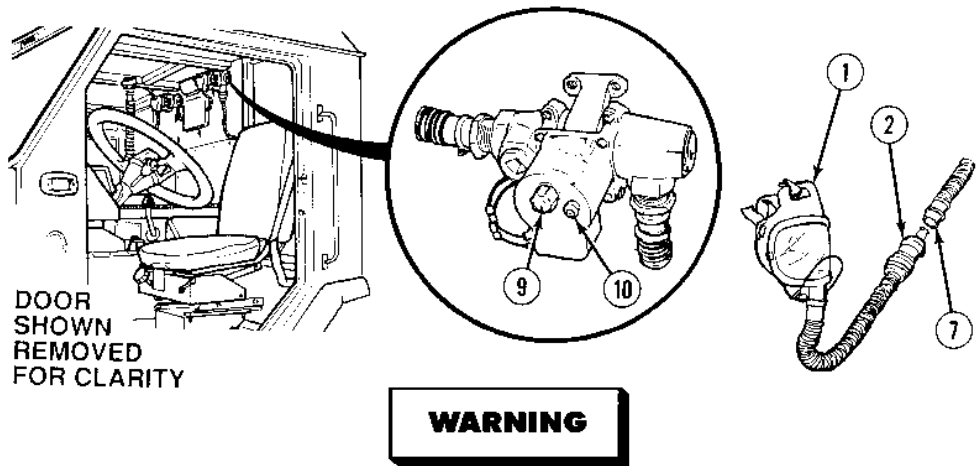
- (4) Pull down on spring clip (4) to uncover intake holes (5).
- (5) Set gas particulate filter switch (6) to ON.

NOTE

One mount is located to left of drivers seat at roof brace. Second mount is located on middle cab roof brace to left of passenger seat.

- (6) Disconnect two air duct hose breakaway sockets (7) from mounts (8).

2-28. AUXILIARY EQUIPMENT (CONT).



Under arctic conditions, danger of frostbite exists. Mask can be put on, but air duct hose socket should not be connected to mask canister until M-3 heater has been on for 15 minutes. Failure to follow proper procedures may cause serious injury to personnel.

- (7) Connect two air duct hose breakaway sockets (7) to canisters (2) of protective masks (1) and breathe through masks.

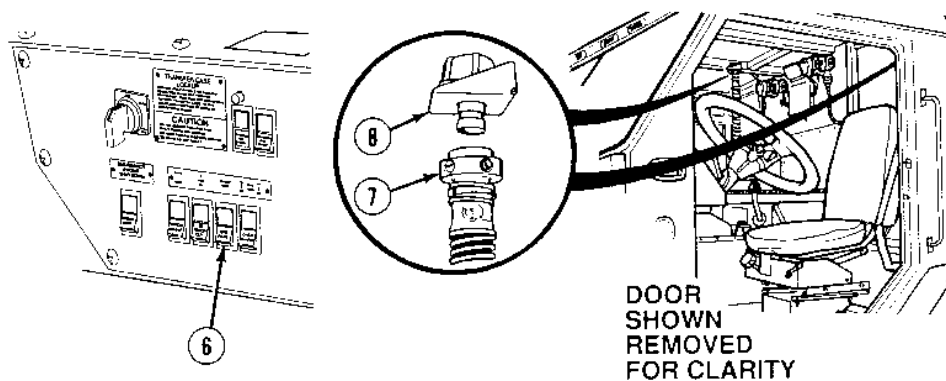
NOTE

- There are two M-3 heaters. Both are the same.
 - Heater indicator light will go off and on during normal heater operation.
- (8) If air is too cold to breathe comfortably, turn knob (9) clockwise until heater indicator (10) lights. To adjust temperature:
 - (a) Turn knob (9) clockwise for warmer air.
 - (b) Turn knob (9) counterclockwise for cooler air.
 - (9) When heater is no longer needed, turn control knob (9) counterclockwise to OFF position.

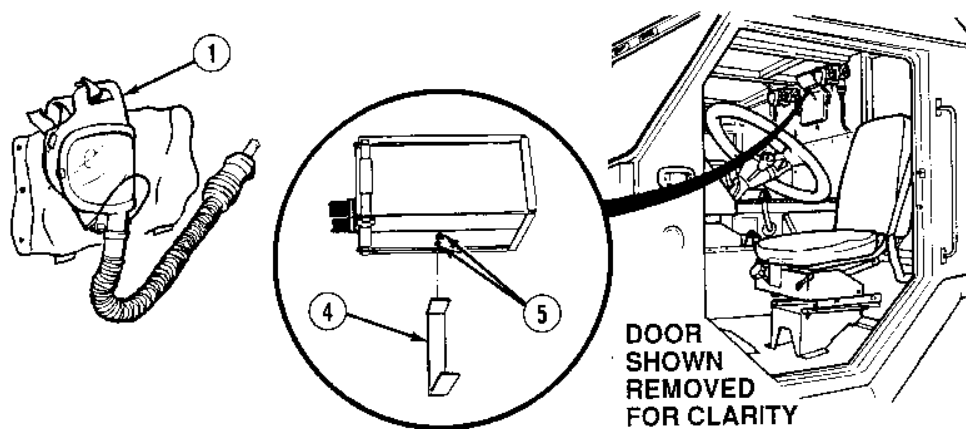
NOTE

Perform Steps (10) through (14) only when NBC attack is over or when ordered to do so.

- (10) When protective masks (1) are no longer needed, disconnect air duct hose breakaway sockets (7) from canisters (2).



- (11) Connect two air duct hose breakaway sockets (7) to mounts (8).
- (12) Press gas particulate filter (6) switch to OFF.

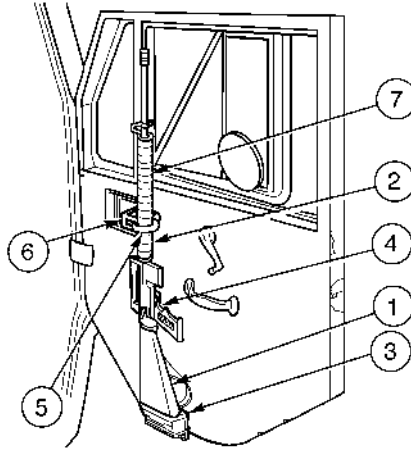


- (13) Push up on spring clip (4) to cover intake holes (5).
- (14) Remove and stow protective mask (1).

2-28. AUXILIARY EQUIPMENT (CONT).

c. Rifle Mount.

- (1) Stow rifle in stowage mount.



- (a) Position butt (1) of M-16 rifle (2) in lower mount (3) with trigger guard (4) toward rear of truck.
 - (b) Pull the handle (5) of top mount (6) toward middle of cab.
 - (c) Place the heat guard (7) of M-16 rifle (2) in top mount (6).
 - (d) Push the handle (5) across heat guard (7).
 - (e) Check that M-16 rifle (2) is held tightly.
- (2) Remove rifle from stowage mount.
 - (a) Pull the handle (5) of top mount (6) down and toward middle of cab.
 - (b) Remove the heat guard (7) of M-16 rifle (2) from top mount (6).
 - (c) Remove the butt (1) of M-16 rifle (2) from lower mount (3).

d. Chemical Alarm: Refer to TM 3-6665-225-12 for operating instructions.

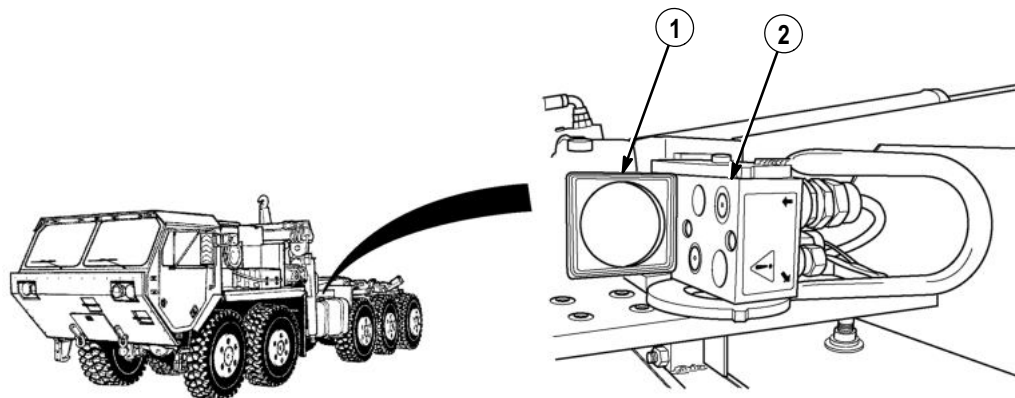
e. Decontamination Unit: Refer to TM 3-4230-214-12&P for operating instructions.

f. Radio: Refer to TM 11-5820-498-12 for operating instructions.

g. Machine Gun Mount: Refer to TM 9-1005-245-14 for operating instructions.

h. Power Interface Kit.

- (1) Connect to power interface kit.

**WARNING**

- Hydraulic fluid is under great pressure. Engine on truck must be shut off while connecting hydraulic lines. Failure to do so could cause serious injury or death to personnel.
- Hot hydraulic oil may cause serious burns.

CAUTION

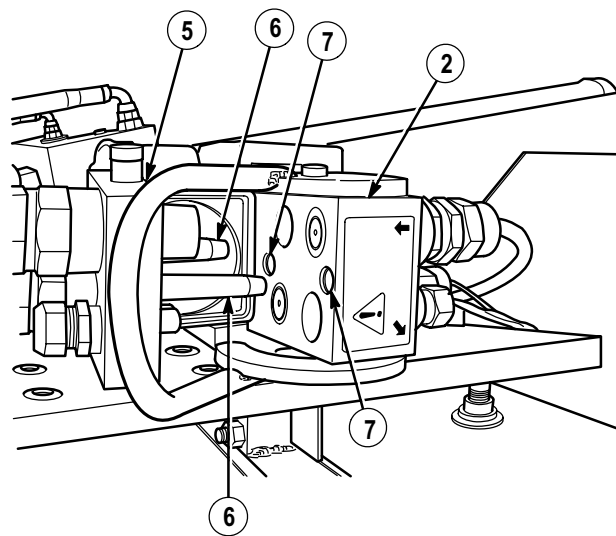
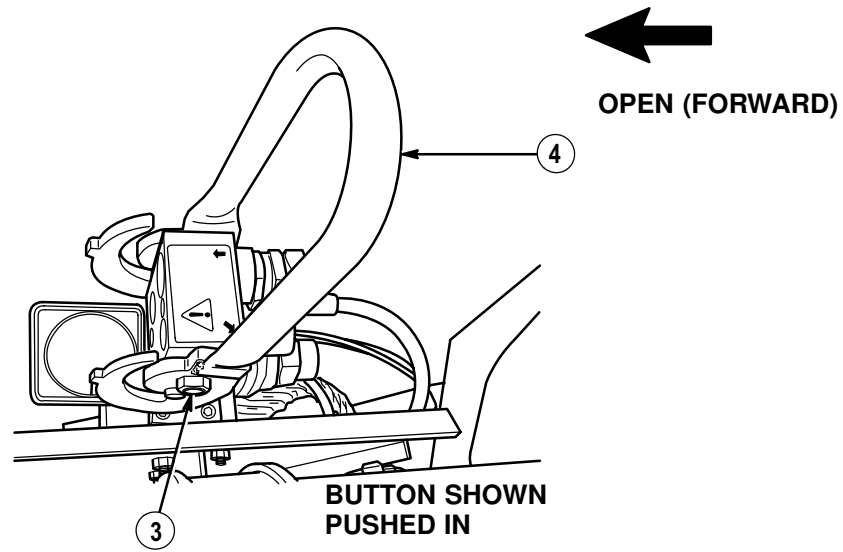
To prevent hydraulic contamination, keep hydraulic quick disconnects clean or damage to hydraulic system may result.

NOTE

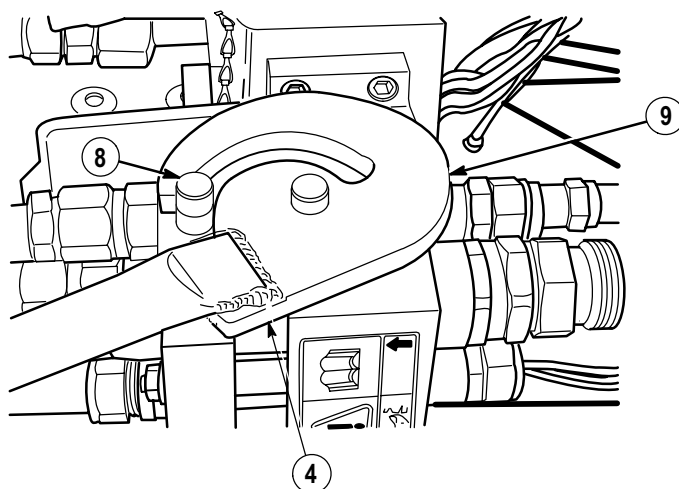
Air, electric, and hydraulic connections are shown. Not all modules will require all three hook-ups.

- (a) Shut OFF engine (Para 2-23).
- (b) Open dust cover (1) on female quick disconnect (2).

2-28. AUXILIARY EQUIPMENT (CONT).

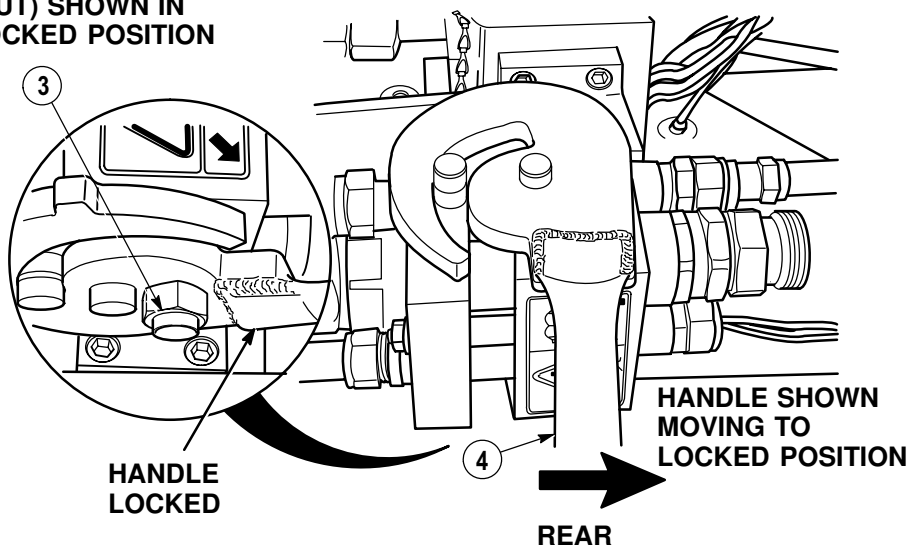


- (c) Push in safety lock button (3) and rotate lever (4) to open (forward) position.
- (d) Position male quick disconnect (5) with female quick disconnect (2) and slide two guide pins (6) into guide pin slots (7).



- (e) Align pins (8) in hook (9) of lever (4).

**SAFETY LOCK BUTTON
(OUT) SHOWN IN
LOCKED POSITION**



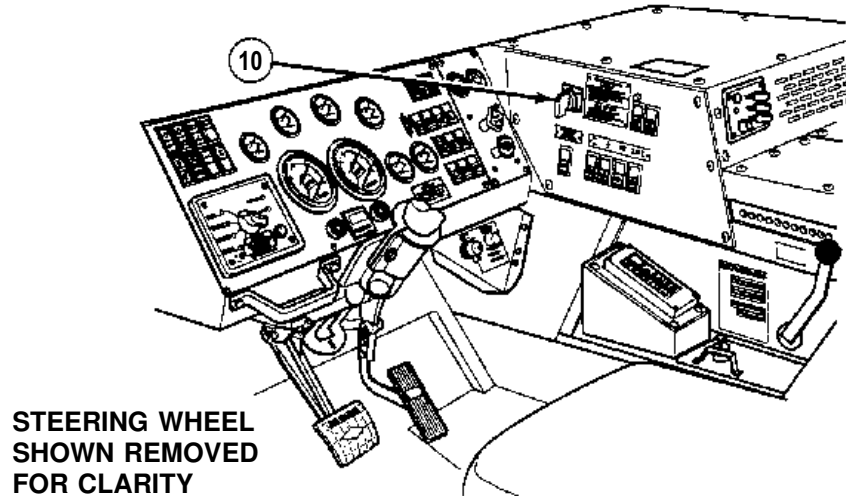
NOTE

There is not a power interface kit ON/OFF switch. The power interface kit is operative when lever is rotated to the locked position connecting male quick disconnect to female quick disconnect with safety lock button locked and when hydraulic selector switch is set to CRANE/SRW.

- (f) Rotate lever (4) to locked (rear) position until safety lock button (3) locks.

2-28. AUXILIARY EQUIPMENT (CONT).

- (g) Start engine (Para 2-15).



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (h) Set the hydraulic selector switch (10) to CRANE/SRW position.

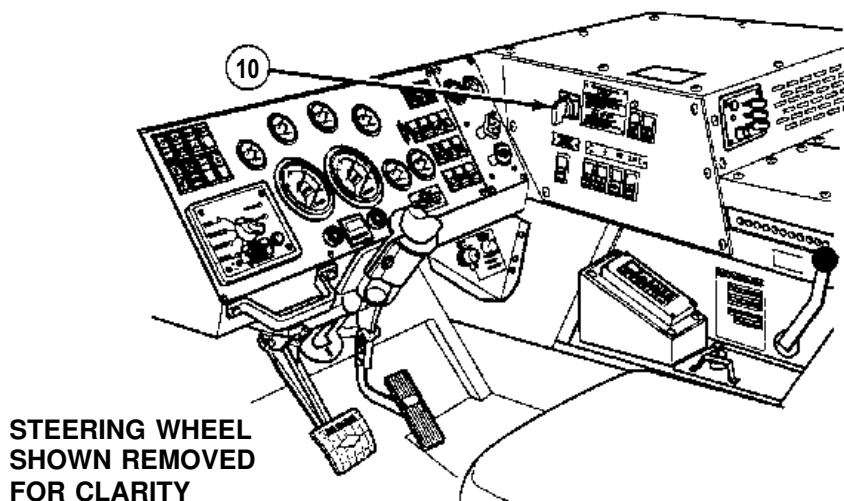
- (2) Disconnect from Power Interface Kit.

WARNING

- Hydraulic fluid is under great pressure. Engine on truck must be shut off while connecting hydraulic lines. Failure to do so could cause serious injury or death to personnel.
- Hot hydraulic oil may cause serious burns.
- When disconnecting block, the hydraulic fluid will be under great pressure. Ensure to have a firm grip on female quick disconnect and lever to avoid an uncontrolled disconnect that could cause injury to personnel and damage to equipment.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

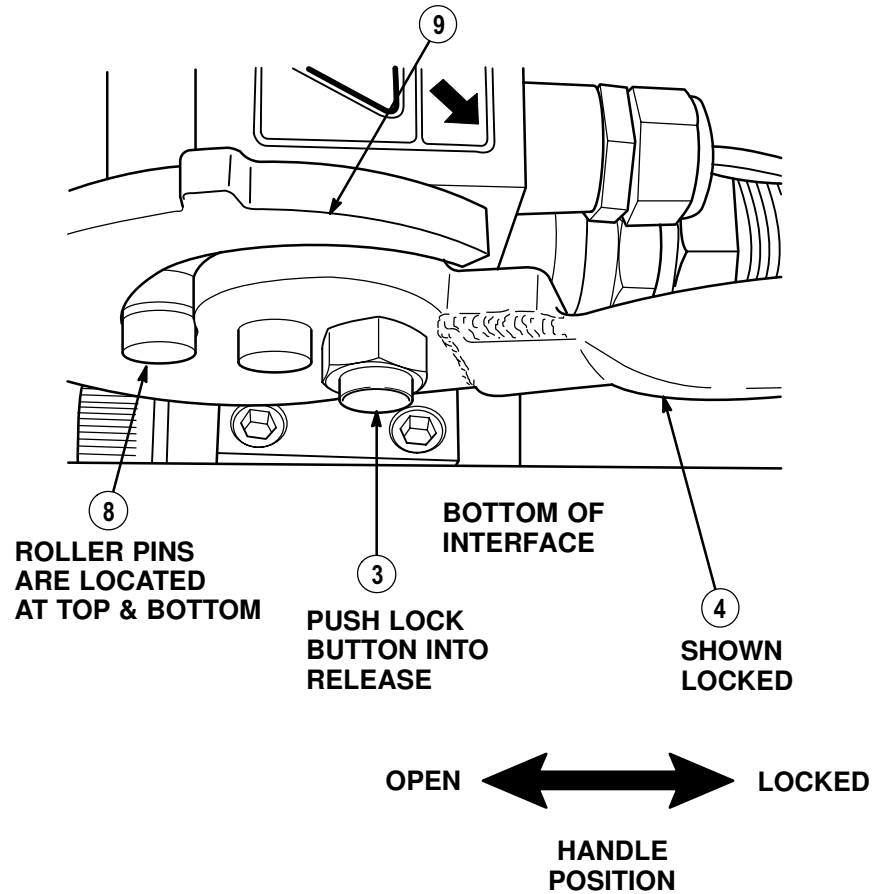


- (a) Set the hydraulic selector switch (10) in OFF position.
- (b) Shut OFF engine (Para 2-23).

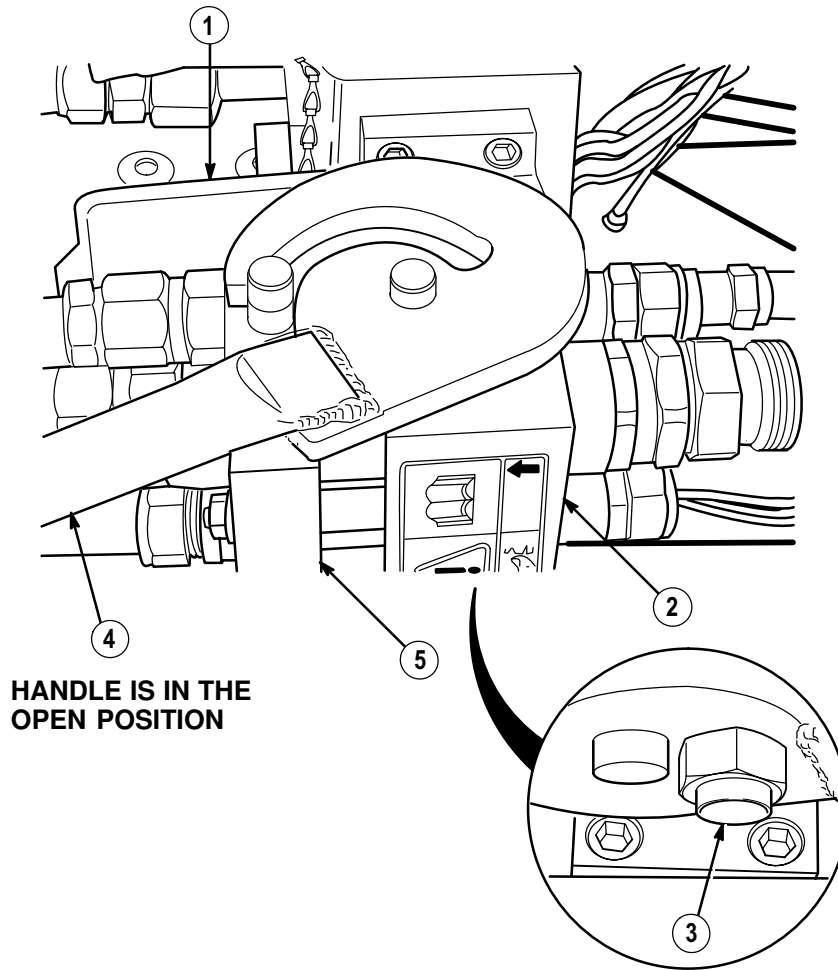
2-28. AUXILIARY EQUIPMENT (CONT).

NOTE

Male quick disconnect will be loose when pins clear the hook of lever.



- (c) Push in safety lock button (3) and rotate lever (4) to the open (forward) position to release pins (8) from the hook (9) of lever (4).

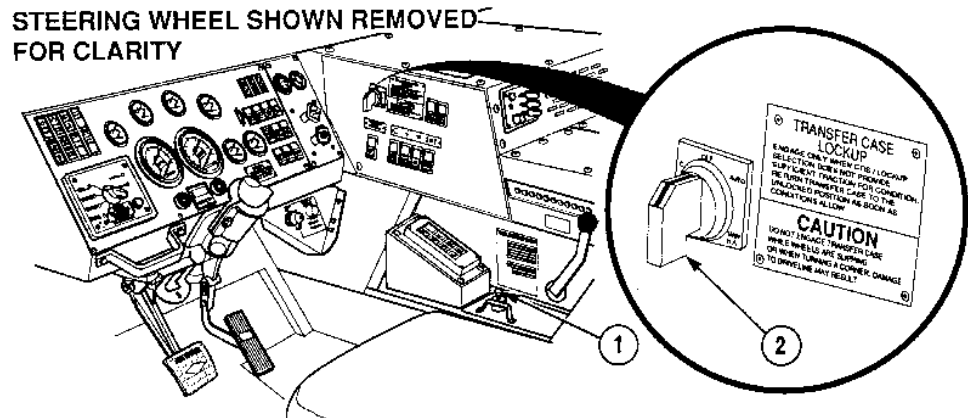


- (d) Remove male quick disconnect (5) from female quick disconnect (2) and position out of way.
- (e) Close dust cover (1) on female quick disconnect (2).
- (f) Rotate lever (4) to locked (rear) position until safety lock button (3) locks.

END OF TASK

2-29. LOAD HANDLING SYSTEM (LHS).

a. Controls and Indicators.



CAUTION

- Before starting any LHS operations, clean all operating components of snow, ice, sand or mud or damage to equipment may result.
- Before starting any LHS operations, adjust extension mirror to monitor LHS operations or damage to equipment may result.
- If terrain is deeply rutted, soft soil, etc., mud flaps must be pinned up before beginning LHS operations or damage to mud flaps may result.
- If LHS had previously been used in Manual Mode and not completely stowed in Auto Mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

(1) Joystick (1) controls operations of loading (LOAD) and unloading (UNLOAD) of flatracks.

(2) Hydraulic Selector Switch (2).

CAUTION

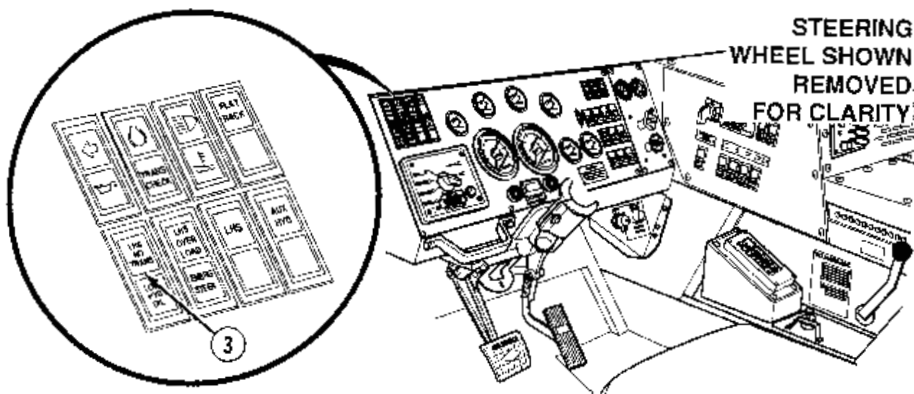
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(a) OFF POSITION: Joystick (1) not operational (LHS transit mode).

CAUTION

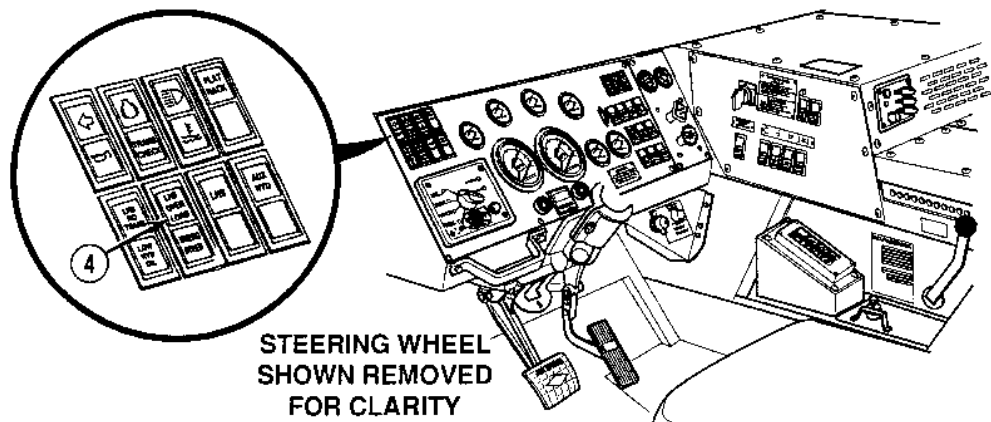
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (b) **AUTO POSITION:** For normal pick-up and off-loading sequence of flatrack.
 - (c) **MANUAL HOOK ARM (MAN H.A.) POSITION:** For picking-up and off-loading use on trailer, docks and in event of failure of automatic hook arm electronic circuits.
 - (d) **MANUAL MAIN FRAME (MAN M.F.) POSITION:** For picking-up and off-loading on trailers, docks and in the event of failure of automatic main frame electronic circuits.
 - (e) **MANUAL TRANSIT (MAN TRANS) POSITION:** Used when automatic circuits have failed and MAN H.A. and MAN M.F. are operated. This position must be selected if truck is to travel.
 - (f) **CRANE/SRW:** Used to switch hydraulic power to either crane or winch, in this position the LHS free flow valve is closed and the LHS section of the hydraulic system is isolated.
- (3) Warning Lights.



- (a) **LHS No Transit (3)** illuminates when LHS is not correctly stowed in transport position.

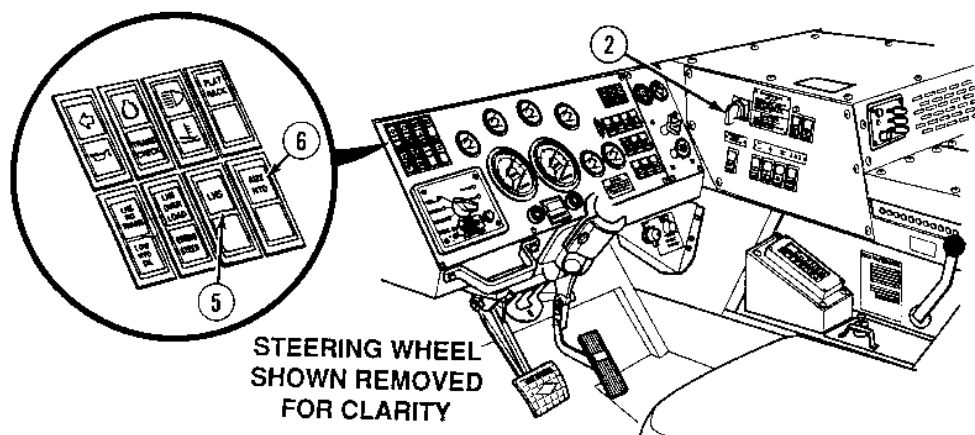
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

To reset LHS Overload, return load to start position and release joystick switch.

- (b) LHS Overload light (4) (yellow) is located on the driver's dash panel and illuminates whenever main hydraulic relief valve is opened during loading or unloading. When light illuminates, driver will be warned that LHS has reached an overload condition or that hydraulic system is lifting very near maximum capacity. Overload light will come on any time main relief valve is cracked open; therefore, load or unload operation may not come to a complete stop, but light will come on momentarily. This situation would indicate that system is lifting near maximum capacity. If the LHS is overloaded, the light illuminates and the system is automatically blocked out. Offload/onload flatrack and attempt second operation. If, during this second attempt, the LHS shuts down, stop operation and redistribute weight or reduce payload before attempting load or unload.



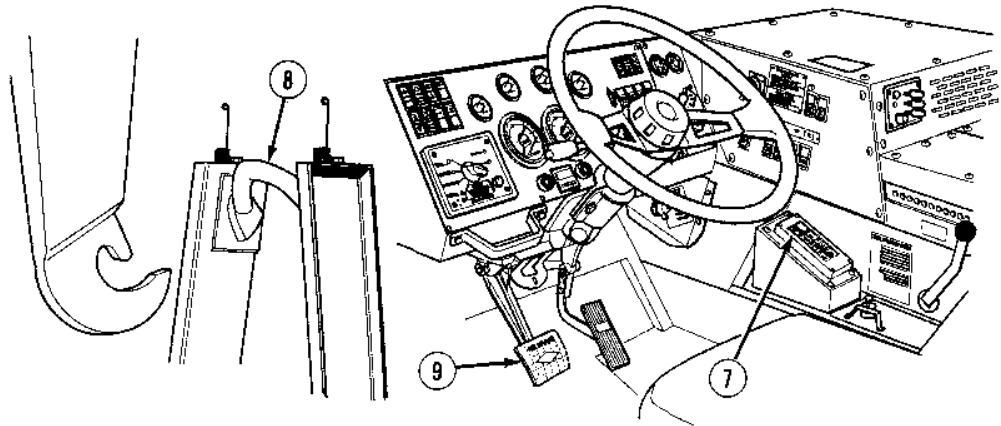
CAUTION

Overload protection system on PLS protects LHS and flatrack from structural damage during loading or unloading. This system does not protect truck chassis from being overloaded by means of a crane, forklift, or excessively loaded flatracks. Truck chassis is designed to carry an evenly distributed 16.5 ton (14,982 kg) payload. Operator is responsible to know what payload weighs.

- (c) LHS (5): Illuminates when rotary hydraulic selector switch (2) is in positions AUTO, MAN H.A., or MAN M.F.
- (d) Auxiliary Hydraulics (6): Illuminates when hydraulic selector switch (2) is in CRANE/SRW position.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

b. Picking Up a Flatrack in Auto Mode.



CAUTION

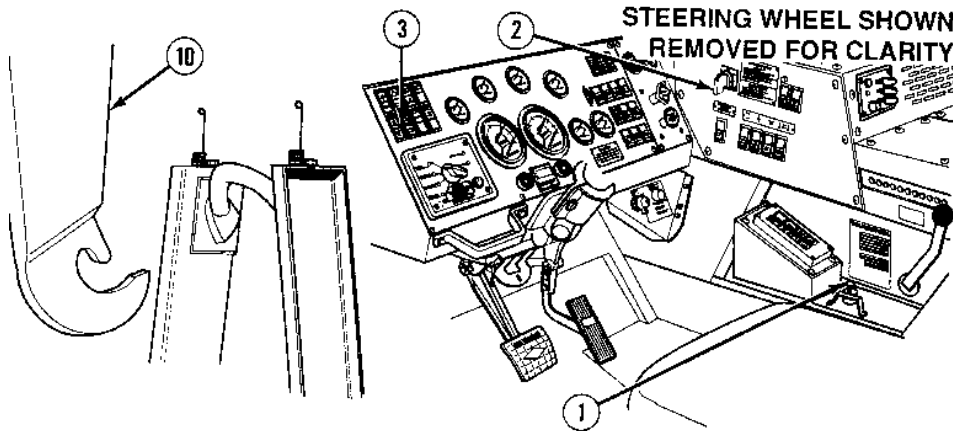
If LHS had previously been used in Manual Mode and not completely stowed in Auto Mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

- (1) Start truck (Para 2-15).

NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1,500 rpm to reduce loading and unloading times.

- (2) Set transmission range selector (7) to Reverse (R) and back truck up to flatrack. Stop at approximately five ft. (1.5 m) from hook-bar (8). Check for overhead obstructions and firmness of the ground.
- (3) Apply service brake pedal (9) and set transmission range selector (7) to Neutral (N).



WARNING

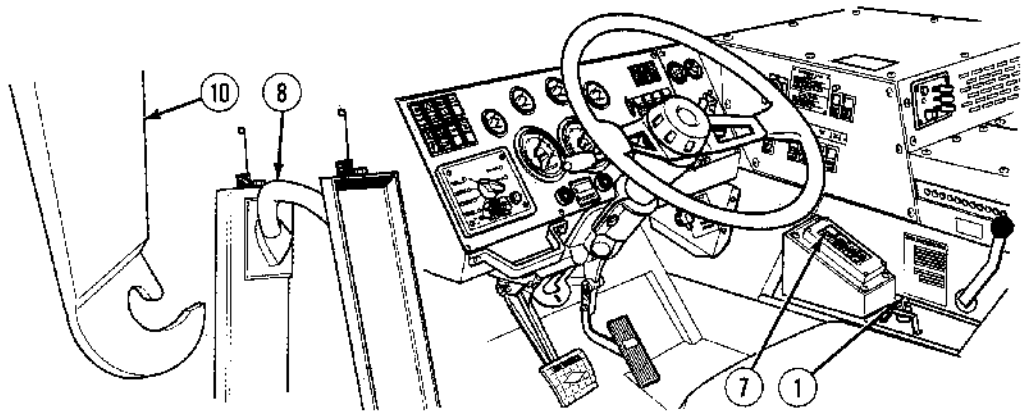
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. two in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (4) Turn hydraulic selector switch (2) to AUTO.
- (5) Move joystick (1) to UNLOAD. Lift-hook (10) will raise and begin to move rearwards. LHS NO TRANS lamp (3) will illuminate to indicate hook arm is up and load lock has been cleared.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

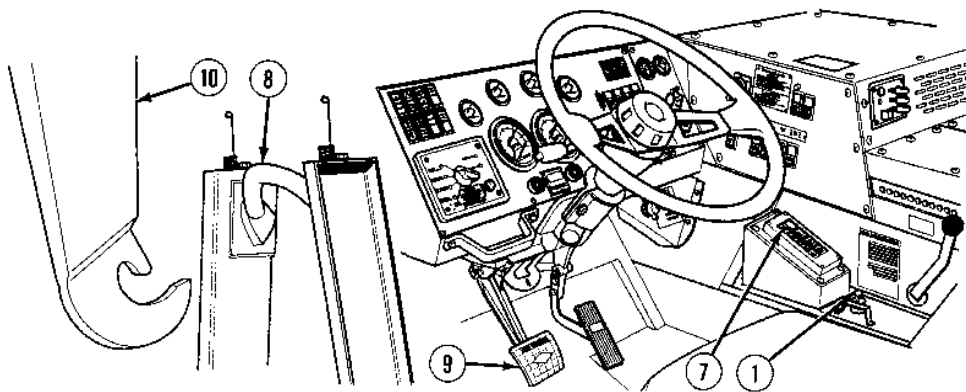
To fully view lift-hook relation to hook-bar, it may be necessary to observe position from outside the cab.

- (6) Continue to unload until lift-hook (10) has moved to below level of flatrack hook-bar (8).
- (7) Release joystick (1).
- (8) Set the transmission range selector (7) to Reverse (R) and back truck up to flatrack, aligning truck and flatrack as straight as possible with lift-hook (10) to middle of hook-bar (8) until lift-hook (10) contacts hook-bar. Be sure lift-hook tip is positioned below bottom of hook-bar (8).

CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

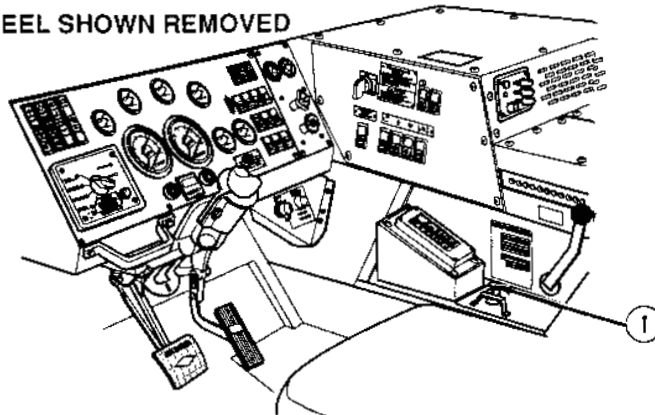
- (9) Move the joystick (1) to LOAD to raise lift-hook (10) and engage hook-bar (8).



- (10) If lift-hook (10) fails to engage the hook-bar (8):
- (a) Release the joystick (1).
 - (b) Set the transmission range selector (7) to Drive (D), release service brake pedal (9) and move truck forward to clear flatrack.
 - (c) Move the joystick (1) to UNLOAD until lift-hook (10) is below level of hook-bar (8).
 - (d) Repeat Steps (6) through (9).
- (11) When correctly engaged, set the transmission range selector (7) to Neutral (N) and release service brake pedal (9).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

STEERING WHEEL SHOWN REMOVED
FOR CLARITY



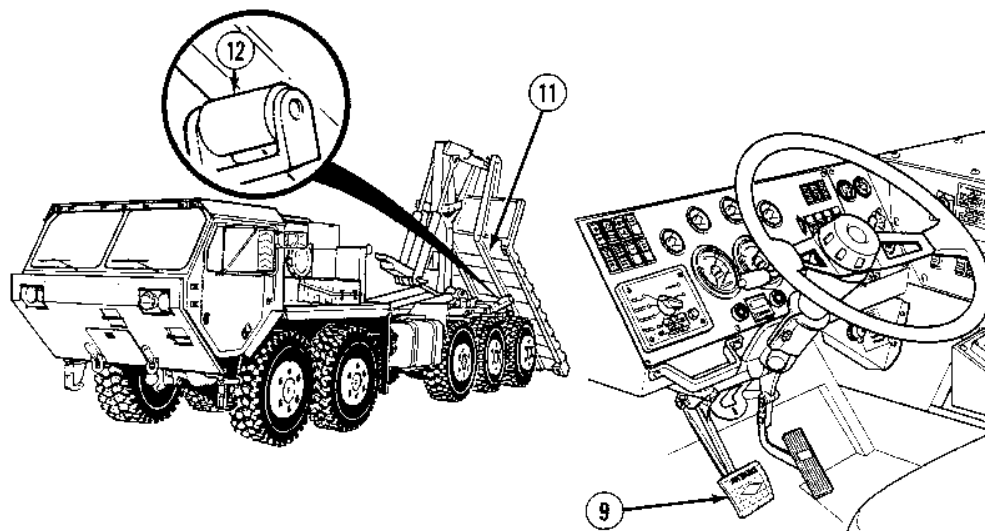
WARNING

When loading or unloading flatracks on uneven ground (side slope or downgrades up to 10 degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,972 kg). If any of these conditions exist, operator must redistribute or reduce the payload or damage to equipment may occur.
- Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.
- If LHS overload lamp illuminates and, normal operation has stopped. Return load to original position and redistribute or reduce payload weight or equipment damage may occur.
- Ensure that parking brake is not applied before starting load sequence or damage to equipment may occur.

(12) Move joystick (1) to LOAD, allowing truck to be pulled under flatrack.

**WARNING**

Ensure that flatrack runners contact LHS rear rollers correctly. Failure to contact flatrack runners correctly could result in serious injury or death to personnel and damage to equipment.

NOTE

Overload warning light may illuminate when lifting flatrack from unusual conditions.

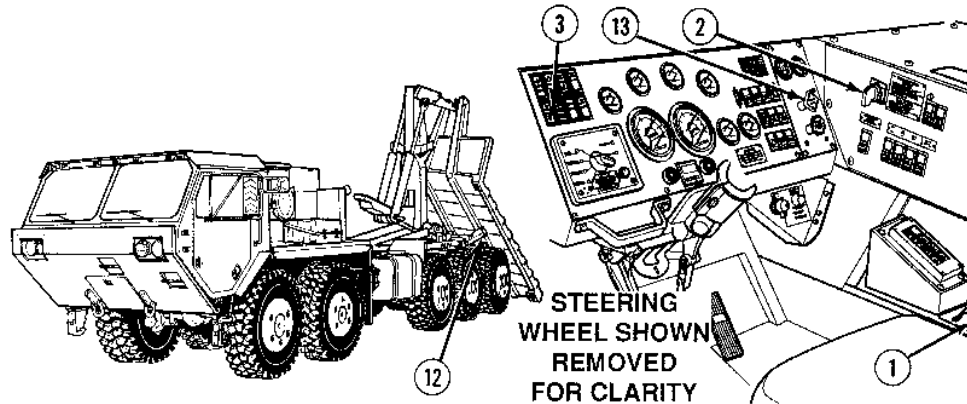
- (13) As load is lifted, truck will be pulled under flatrack. Some steering wheel adjustment may have to be made to ensure that flatrack runners (11) will contact rear rollers (12).

CAUTION

Reduce engine speed to idle before flatrack main rails contact rear rollers or damage to flatrack may result.

- (14) As flatrack contacts rear rollers (12), reduce engine speed and apply service brake pedal (9).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

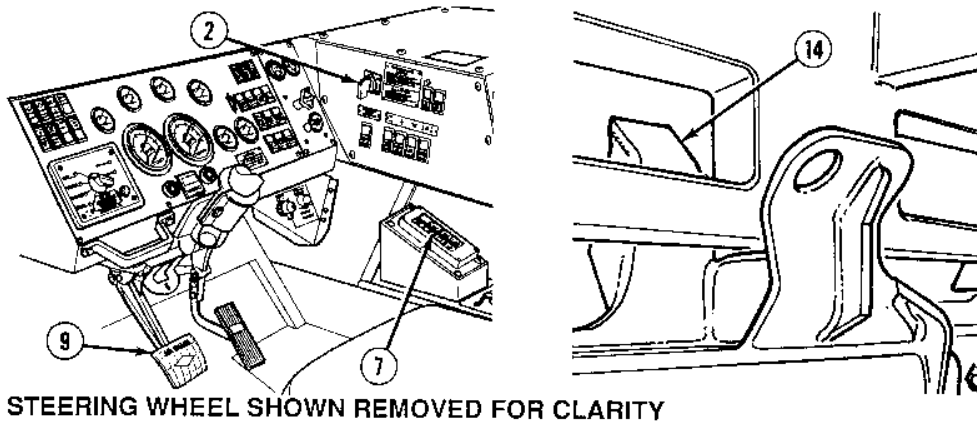
If flatrack is being loaded in soft soil conditions, perform Steps (14) a through c, then continue with Step (15).

- (a) Release joystick (1). Set hydraulic selector switch (2) to MAN H.A.
- (b) Move joystick (1) to LOAD until flatrack is approximately 2 ft. (0.61 m) off the ground. Release joystick.
- (c) Set hydraulic selector switch (2) to AUTO. Resume normal AUTO operations.

NOTE

Engine speed will require increasing and decreasing in the following steps to facilitate performance.

- (15) After flatrack contacts rear rollers (12), increase engine speed to approximately 1500 rpm until flatrack is nearly loaded. Reduce engine speed to idle.
- (16) Continue loading until engage flatrack is fully loaded and LHS NO TRANS lamp (3) extinguishes.
- (17) Release joystick (1).
- (18) Apply parking brake (13).



STEERING WHEEL SHOWN REMOVED FOR CLARITY

NOTE

If flatrack is not engaged in load locks, raise flatrack slightly and lower again. Flatrack should set completely and engage load locks.

- (19) Inspect that both load locks (14) have engaged and flatrack is completely down on truck.

CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat.

- (20) Turn hydraulic selector switch (2) to OFF.

c. Off-Loading Flatrack in Auto Mode.

- (1) Check area for sufficient operating room at front and rear of truck. Check overhead clearance and ground conditions.
- (2) Apply service brake pedal (9) and set transmission range selector (7) to Neutral (N).

CAUTION

Ensure parking brake is not applied during unload sequence or damage to equipment may result.

- (3) Set hydraulic selector switch (2) to AUTO.

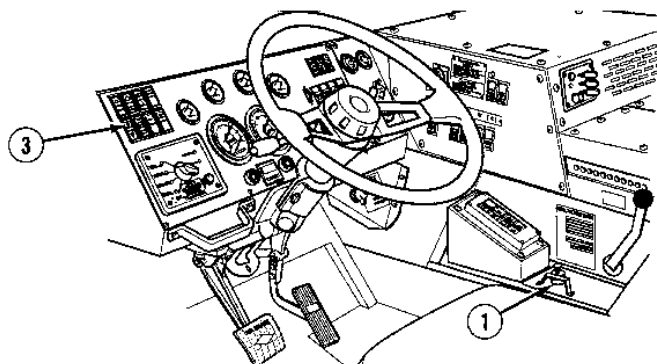
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

WARNING

- When loading or unloading flatracks on uneven ground (side slope or down grades up to 10 degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

CAUTION

- Check that ground conditions where flatrack will be placed can support the flatrack weight or damage to flatrack or LHS may result.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.



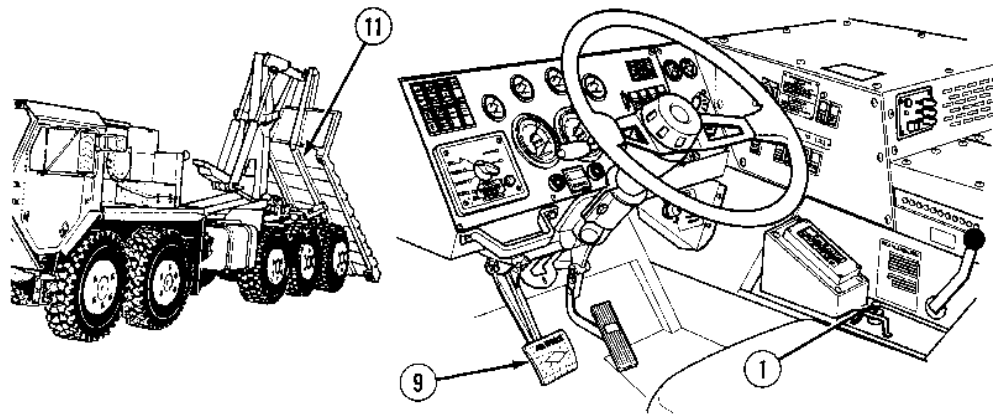
- (4) Move joystick (1) to UNLOAD. Flatrack will start to move rearwards. LHS NO TRANS lamp (3) will illuminate. Maintain engine speed at idle until front of flatrack raises approximately one ft. (30.5 cm).

NOTE

Loading and unloading times are controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

- (5) Continue to unload until rear suspension starts to lift and back edge of flatrack touches ground.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



- (6) Release service brake pedal (9) and allow grounded flatrack to push the truck straight forward from under flatrack and clear.
- (7) As front of flatrack approaches within approximately 8 in. (203.2 cm) of ground, decrease engine speed to idle and apply service brake pedal.

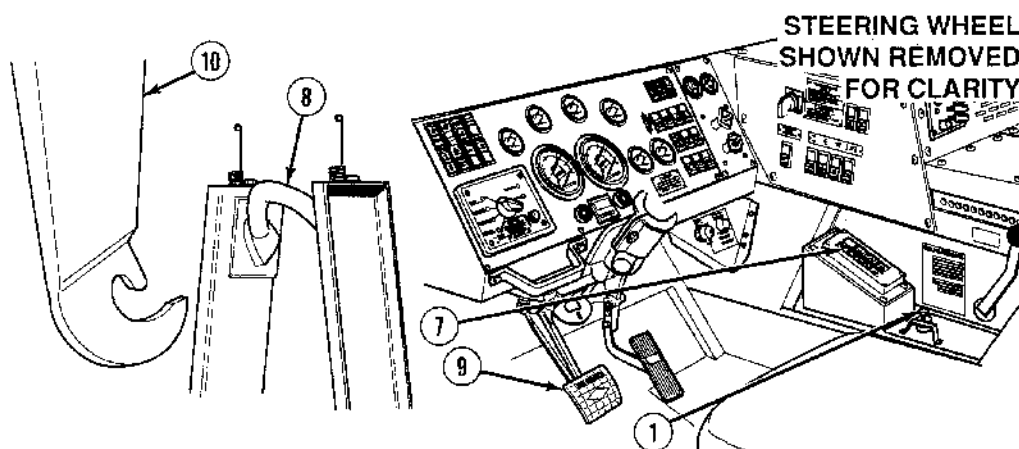
CAUTION

Once truck's rear suspension has been relieved of flatrack load, do not continue in UNLOAD position as possibility of jacking up rear of truck with hook arm may occur and damage to equipment may result.

NOTE

If flatrack is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) to allow truck to move out from under flatrack.

- (8) Continue off-loading until flatrack runners (11) are on ground and rear suspension is unloaded.
- (9) Release joystick (1) when flatrack runners (11) are resting on ground.

**CAUTION**

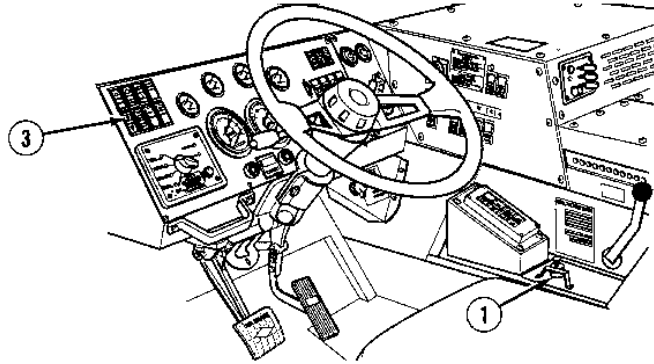
Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

NOTE

Engine speed should be set at idle. However, slight increase in engine speed may be necessary depending on terrain.

- (10) Set the transmission range selector (7) to Drive (D) and release service brake pedal (9).
- (11) Move joystick (1) to LOAD momentarily and then to UNLOAD to let lift-hook (10) disengage from hook-bar (8). Repeat Step (11) until hook disengages.
- (12) Move truck forward approximately 5 ft. (1.5 m).
- (13) Stop truck and set transmission range selector (7) to Neutral (N).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

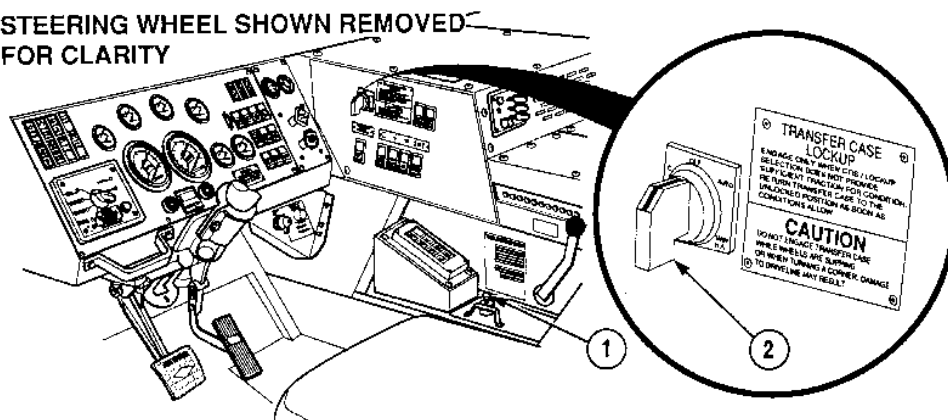
Never drive with NO TRANS light illuminated. An illuminated light means load locks are not engaged and LHS is not fully stowed.

NOTE

Hook arm does not need to be fully stowed if more transfer operations are going to be made.

- (14) Move joystick (1) to LOAD until LHS is in transit position. LHS NO TRANS lamp (3) will extinguish indicating LHS is in transport position.

STEERING WHEEL SHOWN REMOVED
FOR CLARITY

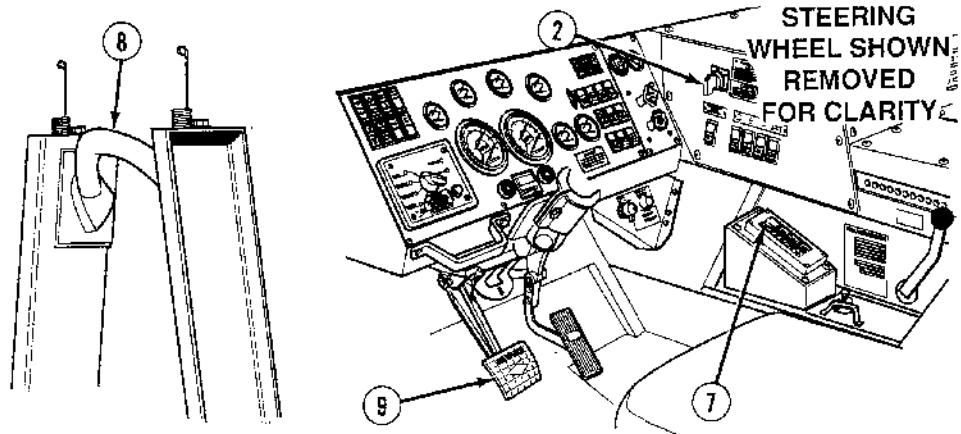


CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- Hydraulic selector switch must be in OFF position before driving or hydraulic system could overheat causing damage to equipment.

(15) Release joystick (1) and turn hydraulic selector switch (2) to OFF.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

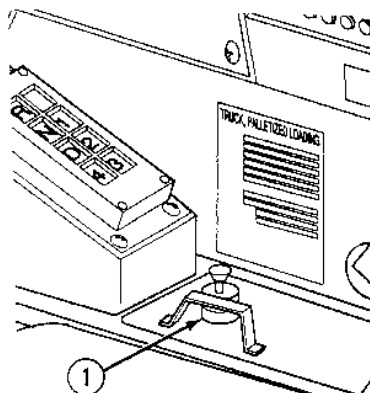
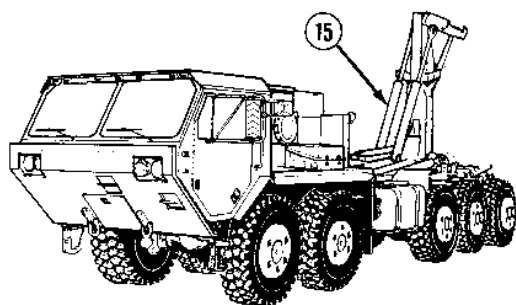


d. *Picking Up a Flatrack in Manual Mode.*

- (1) Set the transmission range selector (7) to Reverse (R) and back truck up to the flatrack. Stop approximately 5 ft. (1.5 meters) from hook-bar (8). Check for overhead obstructions and firmness of ground.
- (2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

CAUTION

- To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.
 - Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.
- (3) Turn the hydraulic selector switch (2) to MAN H.A.



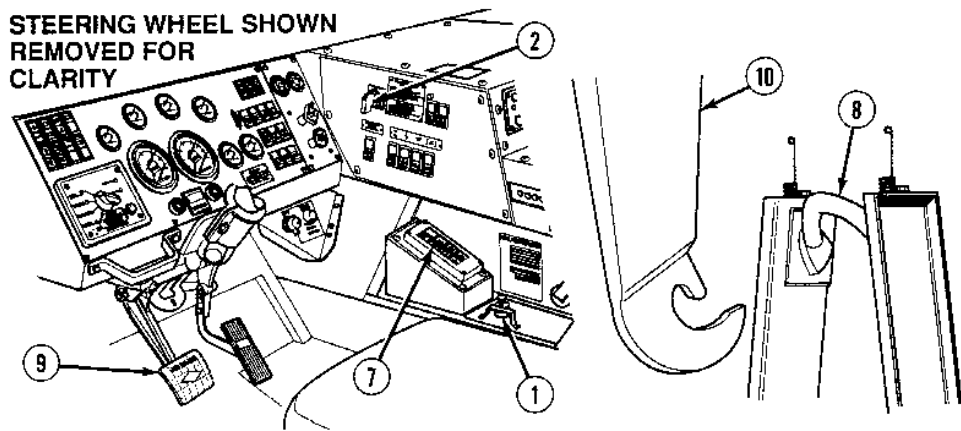
WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

NOTE

- Overload warning light will come on when hook arm cylinders are fully extended and joystick is activated.
 - Loading and unloading times are controlled by engine speed. Engine speed can be increased to 1500 rpm to reduce loading and unloading times.
- (4) Move joystick (1) to UNLOAD and hold until hook arm cylinders (15) are fully extended.
 - (5) Release joystick (1).

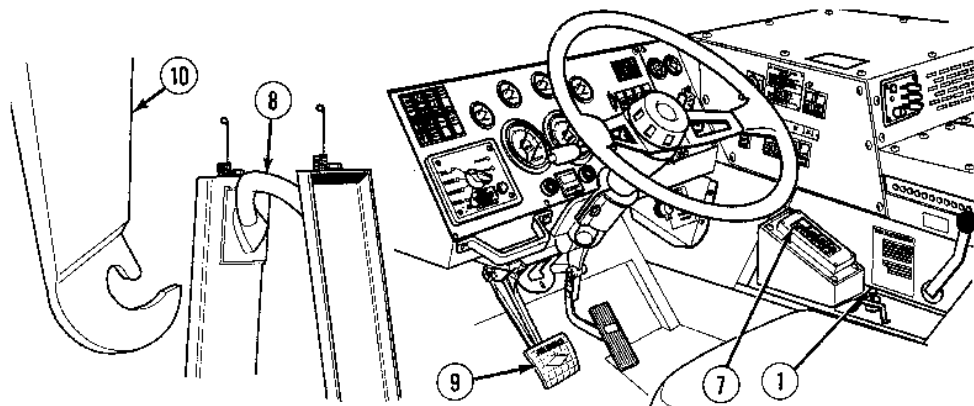
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- To avoid equipment damage, ensure that main frame cylinders do not complete full extension while operating at engine speeds above idle.
- Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.
- If LHS had previously been used in Manual Mode and not completely stowed in Auto Mode, the hook arm cylinders must be completely extended or the LHS must be completely stowed using Auto Mode before the flatrack can be loaded. Failure to comply may result in damage to the truck and flatrack.

- (6) Turn hydraulic selector switch (2) to MAN M.F.
- (7) Move joystick (1) to UNLOAD and hold until lift-hook (10) has moved below level of flatrack hook-bar (8).
- (8) Apply service brake pedal (9) and set transmission range selector (7) to Reverse (R) and back truck up to flatrack, aligning truck and flatrack as straight as possible with lift-hook (10) to the middle of hook-bar (8).



(9) Stop truck when lift-hook (10) touches flatrack.

(10) Leave truck in reverse gear with engine at idle.

CAUTION

- Ensure parking brake is not applied during unload sequence or damage to equipment may result.
- Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

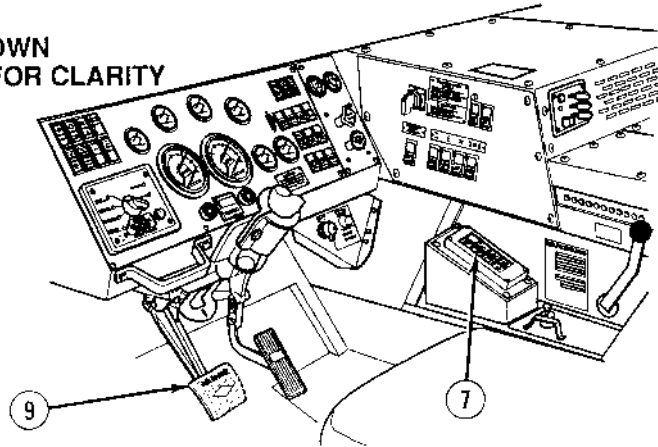
(11) Move joystick (1) to LOAD to engage lift-hook (10) and hook-bar (8).

(12) If lift-hook (10) fails to engage hook-bar (8):

- (a) Release joystick (1).
- (b) Set transmission range selector (7) to Drive (D), release service brake pedal (9) and move truck forward just clear of flatrack.
- (c) Move joystick (1) to UNLOAD until lift-hook (10) is below level of hook-bar (8).
- (d) Repeat Steps (8) through (11).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

STEERING
WHEEL SHOWN
REMOVED FOR CLARITY

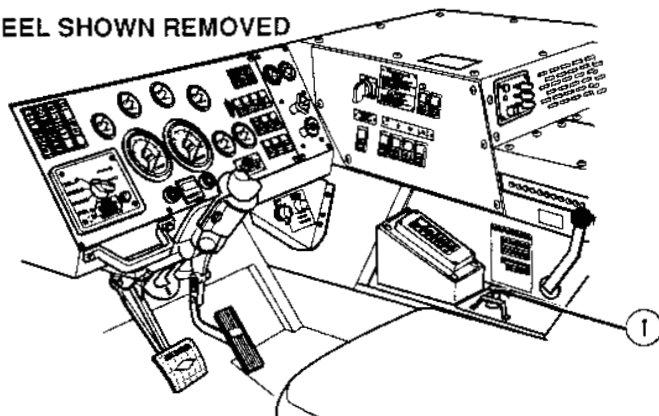


WARNING

- When loading or unloading flatracks on uneven ground (side slope or downgrades up to 10 degrees) it may be necessary to apply truck service brakes to prevent truck roll away, or severe injury or death could result.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

(13) Set transmission range selector (7) to Neutral (N) and release service brake pedal (9).

STEERING WHEEL SHOWN REMOVED
FOR CLARITY

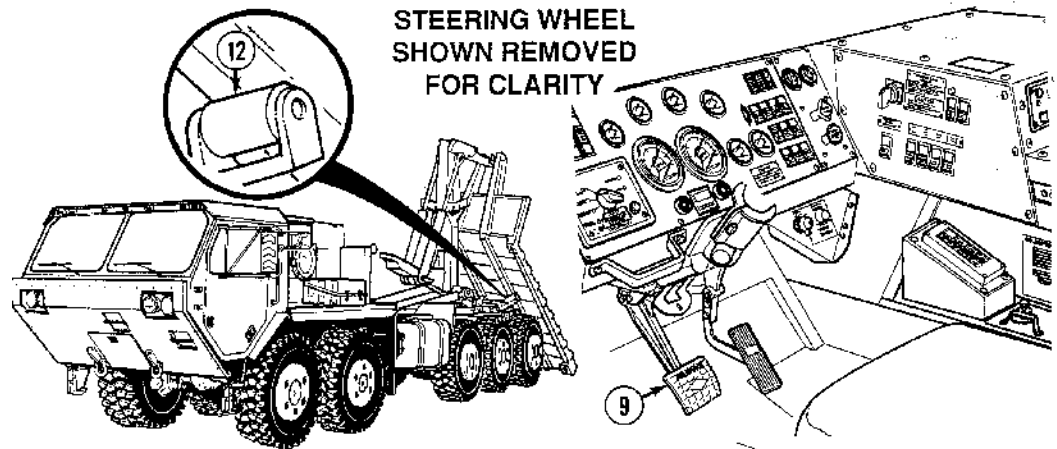


CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,969 kg). If any of these conditions exist, operator must redistribute or reduce payload or damage to equipment may result.
- Ensure that parking brake is not applied before starting load sequence or damage to equipment may result.

(14) Move joystick (1) to LOAD, allowing truck to be pulled under flatrack.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



WARNING

Ensure that flatrack runners contact LHS rear rollers correctly. Failure to contact flatrack runners correctly could result in serious injury or death to personnel and damage to equipment.

CAUTION

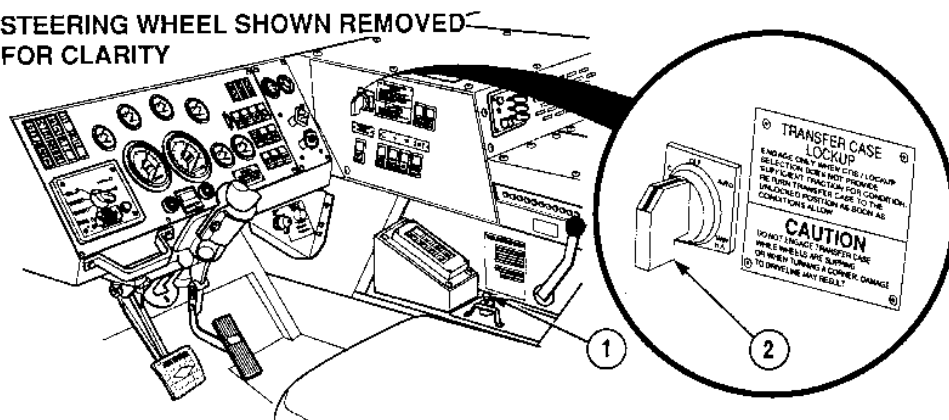
Reduce engine speed to idle before flatrack main rails contact rear rollers. Damage to flatrack may result.

NOTE

- As load is lifted, truck will be pulled under the flatrack. Some steering adjustment may have to be made to ensure that flatrack runners will contact rear rollers.
- If flatrack is being loaded in soft soil conditions, perform Steps (15) a through c, then continue with Step (16).

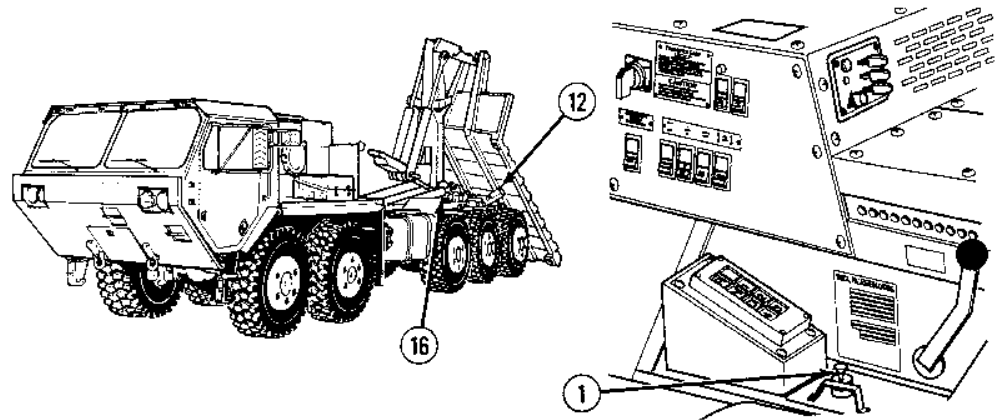
- (15) Before flatrack contacts rear rollers (12), reduce engine speed and apply service brake pedal (9).

STEERING WHEEL SHOWN REMOVED
FOR CLARITY



- (a) Release the joystick (1). Set hydraulic selector switch (2) to MAN H.A.
- (b) Move the joystick (1) to LOAD until flatrack is approximately 2 ft. (0.61 m) off the ground. Release joystick.
- (c) Set the hydraulic selector switch (2) to MAN M.F. operations.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

To avoid equipment damage, visually check that main frame cylinders do not complete full retraction while operating at engine speeds above idle.

NOTE

Engine speed will require increasing and decreasing in the following steps.

- (16) After flatrack contacts rear rollers (12), increase engine speed to approximately 1500 rpm until main frame cylinders (16) have nearly completed full retraction.

CAUTION

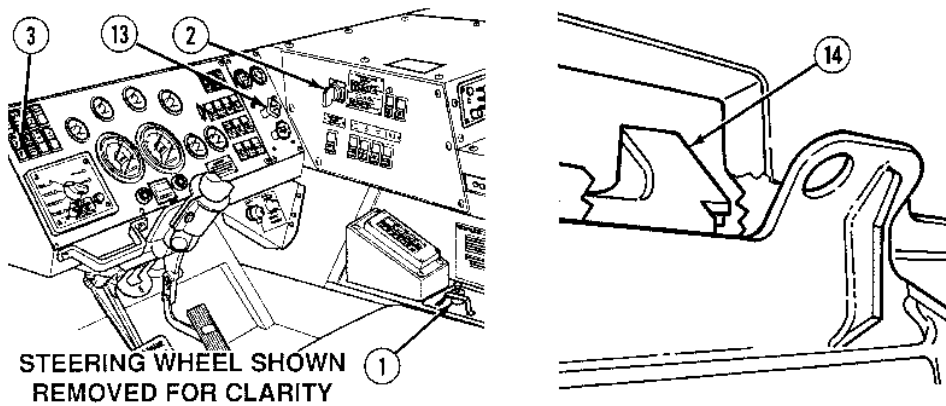
Failure to reduce engine speed to idle could result in severe damage to LHS components.

- (17) Reduce engine speed to idle and continue loading until main frame cylinders are fully retracted.

NOTE

Overload warning light will come on when main frame cylinders are fully retracted and joystick is activated.

- (18) Release the joystick (1).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

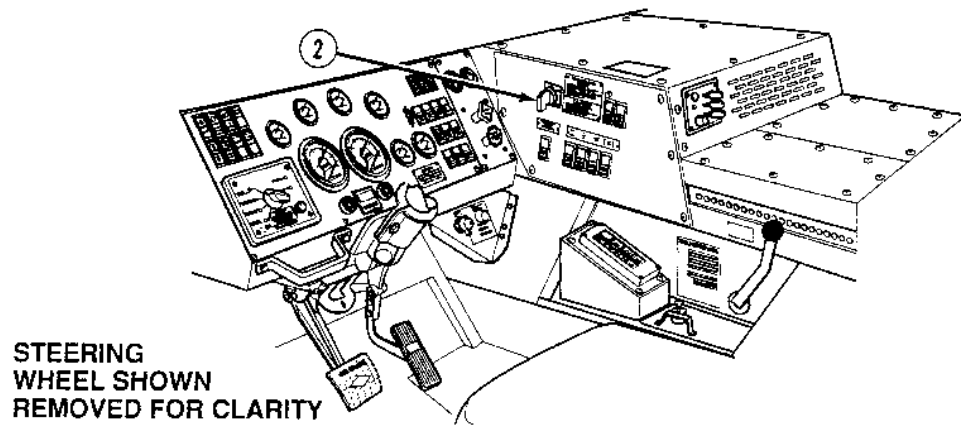
- (19) Turn the hydraulic selector switch (2) to MAN H.A.

CAUTION

Failure to reduce engine speed to idle could result in severe damage to LHS components.

- (20) Move the joystick (1) to LOAD position and increase engine speed until flatrack is nearly loaded, then reduce speed to idle.
- (21) Continue to load until LHS and flatrack is in transit position. LHS NO TRANS light (3) will extinguish.
- (22) Release joystick (1).
- (23) Apply parking brakes (13).
- (24) Inspect that load locks (14) have engaged and flatrack is fully down on truck.

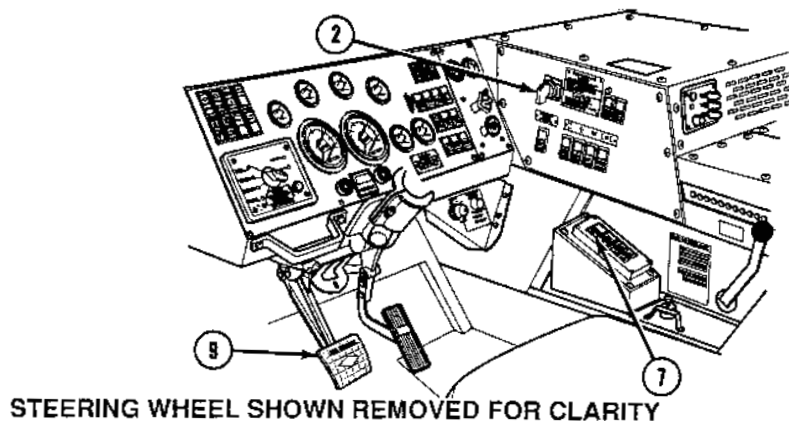
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

- Hydraulic selector switch must remain MAN TRANS while truck is travelling or damage to equipment may result.
- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

(25) Turn the hydraulic selector switch (2) to MAN TRANS.



e. Off-Loading Flatrack in Manual Mode.

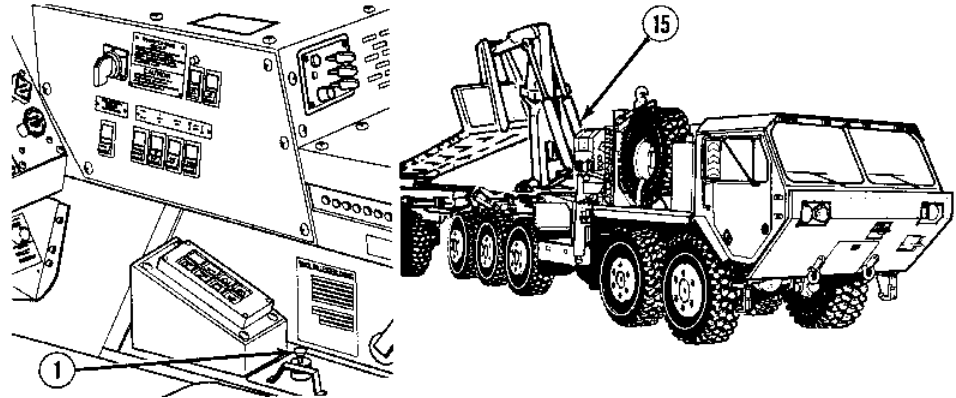
- (1) Check for sufficient operating room at front and rear of truck. Check overhead clearance and ground conditions.
- (2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

CAUTION

Manual mode is used mainly in event of a failure of control electrical system. Greater care must be exercised during operation of MANUAL mode for correct cycle of events to occur or damage to equipment may result.

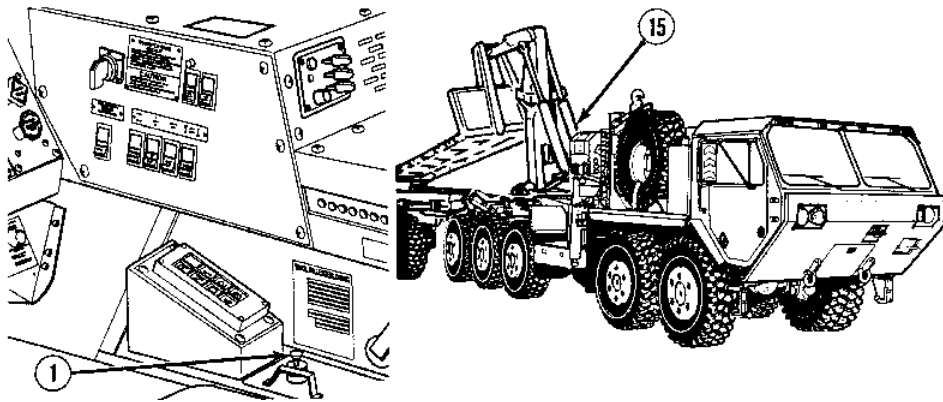
- (3) Turn the hydraulic selector switch (2) to MAN H.A.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

**CAUTION**

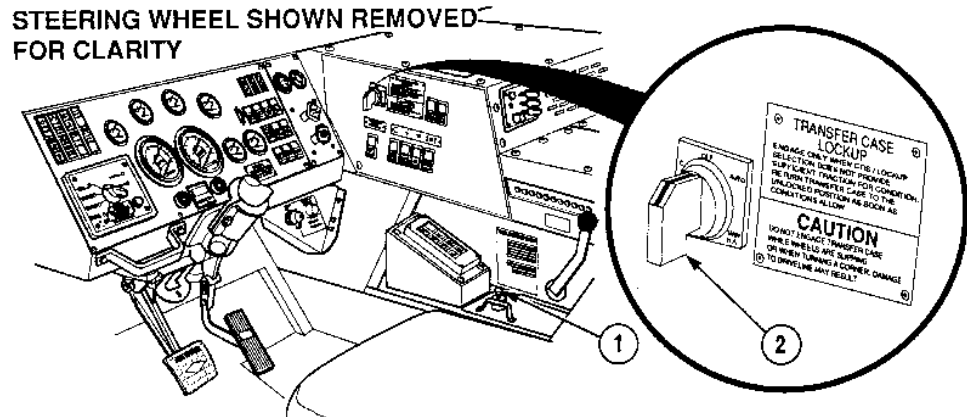
- Reduce speed to idle in last 12 in. (30 cm) of travel to prevent damage to cylinder.
 - To avoid equipment damage, insure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.
 - Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.
- (4) Move the joystick (1) to UNLOAD until hook arm cylinders (15) have fully extended. Maintain engine speed at idle for approximately the first 18 in. (46 cm) and last 6 in. (15 cm) of movement.

NOTE

When hook arm cylinders are fully extended and joystick activated, overload warning light will illuminate.

- (5) Release the joystick (1).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

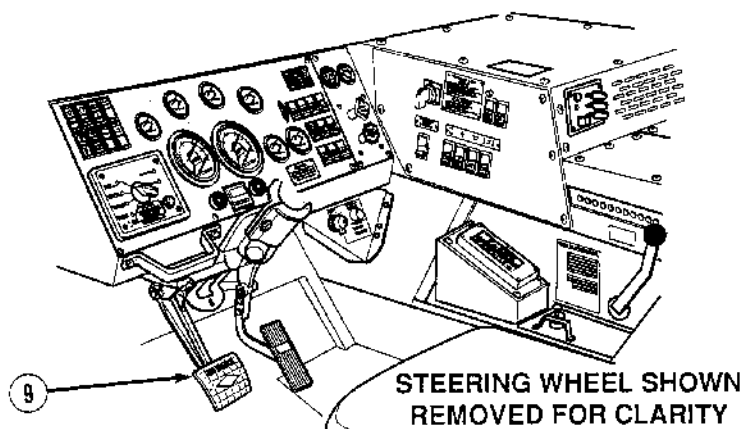


CAUTION

- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.
- Ensure parking brake is released before starting the unload sequence or damage to equipment may result.

(6) Turn the hydraulic selector switch (2) to MAN M.F.

(7) Move the joystick (1) to UNLOAD.

**WARNING**

When loading or unloading flatracks on uneven ground (side slope or down grades up to 10 degrees), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

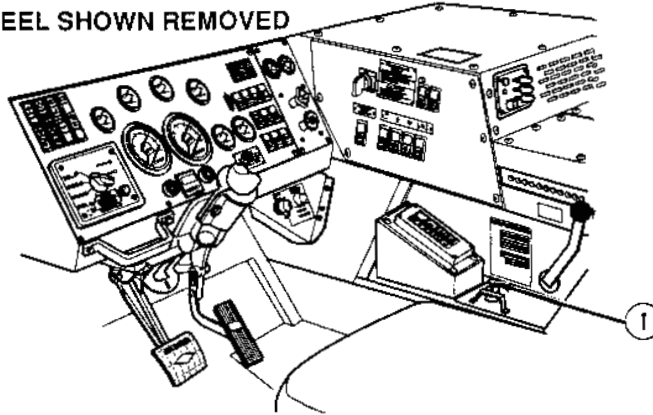
NOTE

If flatrack is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) to allow truck to move out from under flatrack.

- (8) When back edge of flatrack touches ground, release service brake pedal (9) allowing truck to be pushed straight from under flatrack.
- (9) Continue off-loading until front of flatrack is within 8 in. (203.2 cm) of ground, decrease engine speed to idle and apply service brake pedal (9).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

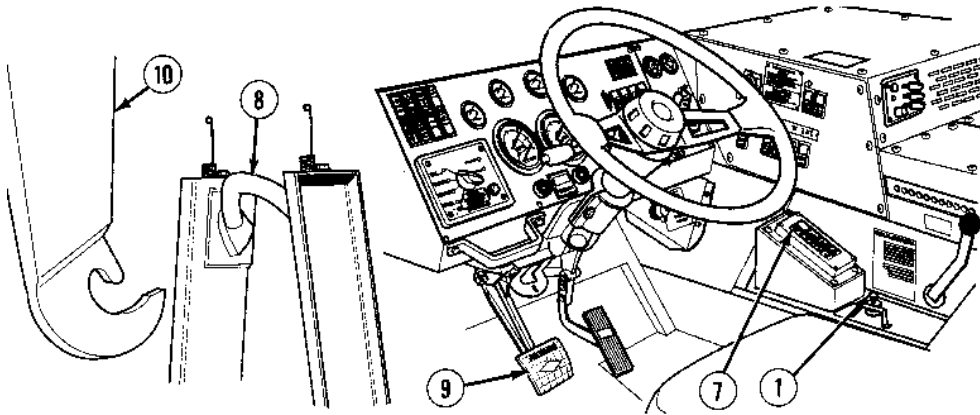
STEERING WHEEL SHOWN REMOVED
FOR CLARITY



CAUTION

Once suspension has been relieved of flatrack load, do not continue in UNLOAD position or rear of truck could jack up with hook arm and equipment damage may result.

- (10) Continue off-loading until flatrack is on ground and rear suspension is unloaded.
- (11) Release joystick (1).



NOTE

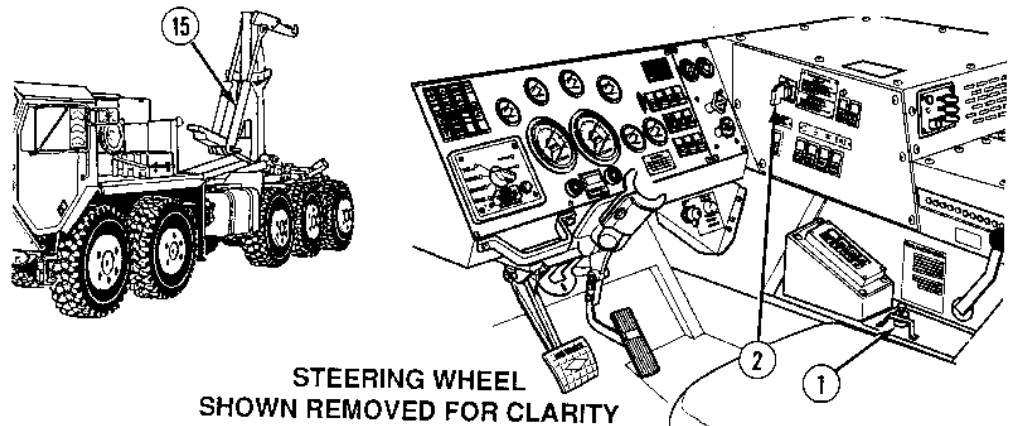
Engine speed should be set at idle. However, slight increase in engine speed may be necessary depending on terrain.

- (12) Set transmission range selector (7) to Drive (D) and release service brake pedal (9).
- (13) Move the joystick (1) to LOAD momentarily and then to UNLOAD to let lift-hook (10) disengage from hook-bar (8). Repeat Step (13) until lift-hook disengages.
- (14) Move the truck forward approximately 5 ft. (1.5 m).
- (15) Stop the truck and set the transmission range selector (7) to Neutral (N).

CAUTION

- To avoid equipment damage, visually check that main frame cylinders have completed full retraction.
 - Reduce speed to idle in last 12 in. (30 cm) of travel to prevent damage to cylinders.
- (16) Move the joystick (1) to LOAD and hold in this position until main frame cylinders are fully retracted.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (17) Turn the hydraulic selector switch (2) to MAN H.A.
- (18) Hold the joystick (1) in LOAD position until the hook arm cylinders (15) are fully retracted.
- (19) Release joystick (1).

WARNING

Never drive with NO TRANS light illuminated. An illuminated lights means LHS is not fully stowed. The load could break loose causing serious injury or death to personnel.

CAUTION

Hydraulic selector switch must remain in MAN TRANS while truck is traveling or hydraulic system will overheat.

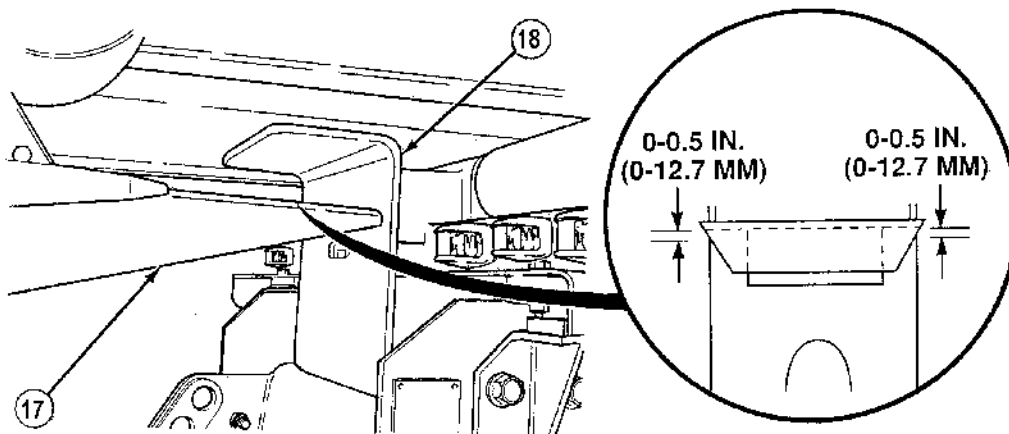
- (20) Turn hydraulic selector switch (2) to MAN TRANS.

f. *Normal Transfer of Flatrack to Trailer.***WARNING**

- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
- Trailer wheels must be chocked during transfer operations or serious injury or death could result.

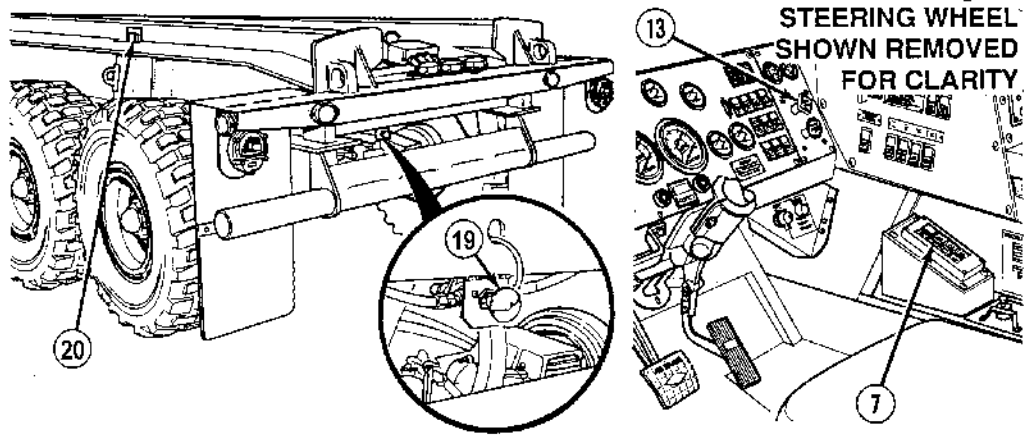
CAUTION

- Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
- Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 in. (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.



- (1) Back up truck so that trailer bumper (17) is under flange and contacts truck bumper stop (18).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



- (2) Apply parking brakes (13) and set transmission range selector (7) to Neutral (N).

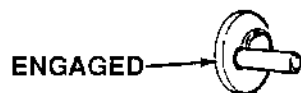
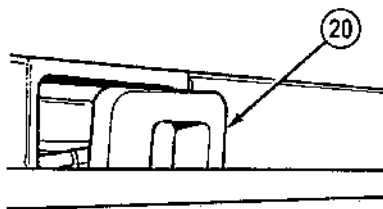
WARNING

- When operating PLS truck with PLS trailer, the heaviest loaded flatrack must always be placed on the truck, otherwise adverse handling and/or braking may result, causing injury or death to personnel.
- Ensure trailer air system is charged before beginning transfer, or flatrack locks may not properly engage. Serious injury or death could result to personnel.

CAUTION

There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack locks can occur while attempting to load flatrack on trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks, use manual flatrack lock retract procedure (TM 9-2330-385-14).

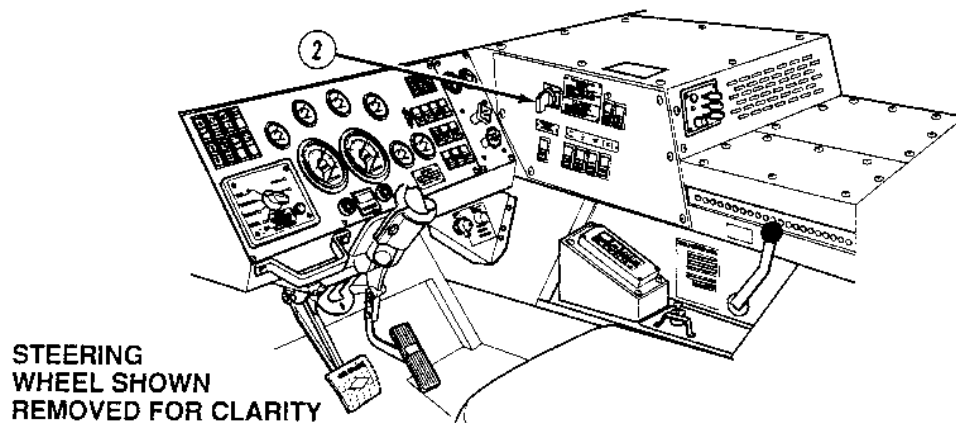
- (3) Push in on knob (19) and retract flatrack locks (20) on trailer.



CAUTION

Ensure both flatrack locks are fully retracted or damage to equipment may result.

- (4) Inspect that both flatrack locks (20) are fully retracted.

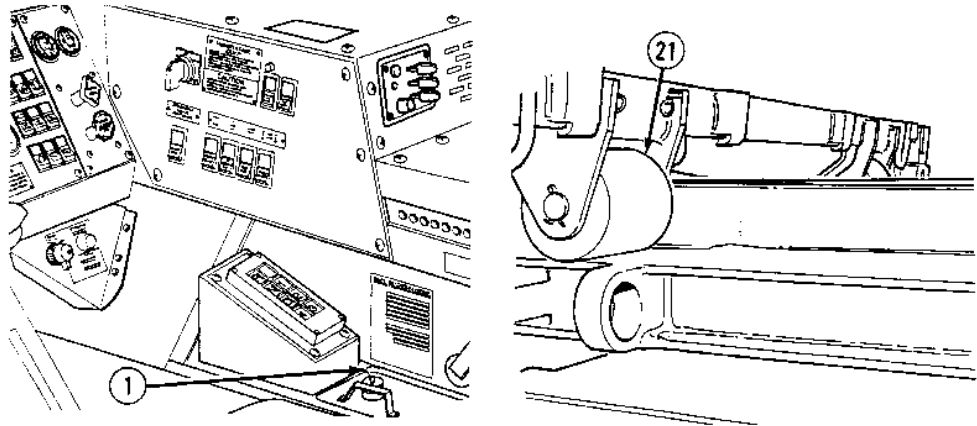


CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (5) Turn hydraulic selector switch (2) to AUTO.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

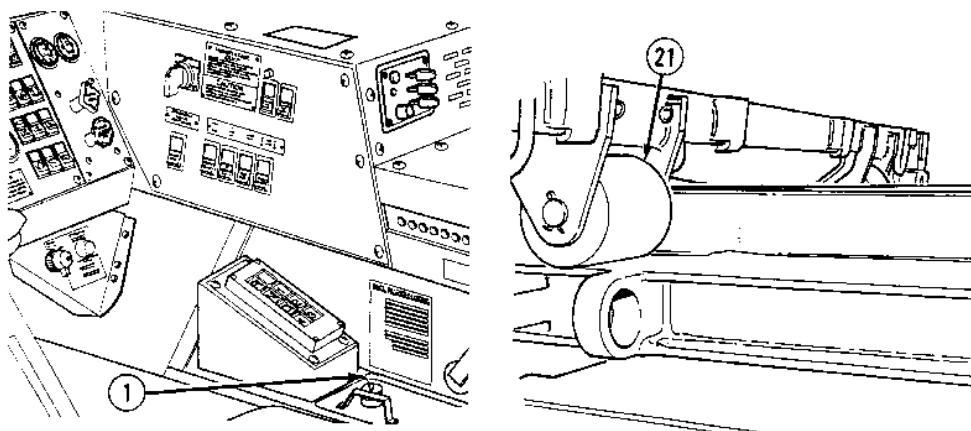


WARNING

- When loading or unloading flattracks on uneven ground (side slope or downgrades up to 10 degrees) it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Trailer wheels must be chocked during transfer operations or serious injury or death could result.

CAUTION

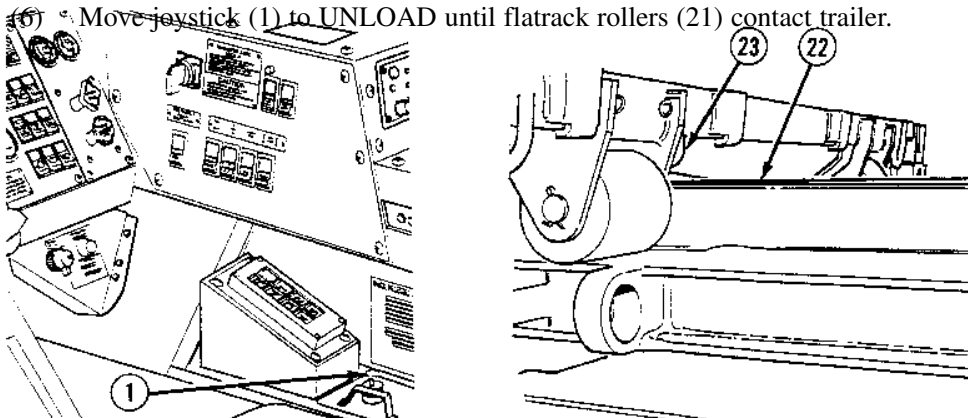
- Load must be evenly distributed on flatrack. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.



NOTE

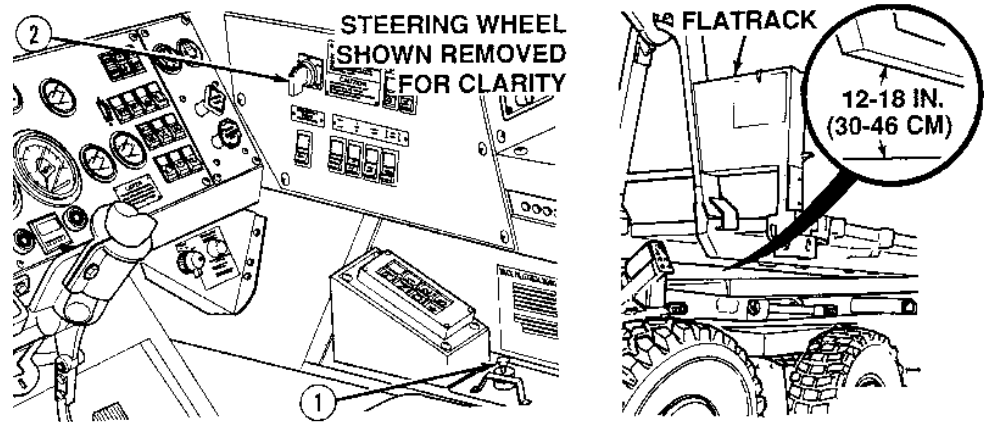
The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

(6) Move joystick (1) to UNLOAD until flatrack rollers (21) contact trailer.



- (7) Release the joystick (1).
- (8) Inspect and verify trailer guides (22) are lined up between flatrack main rails (23).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

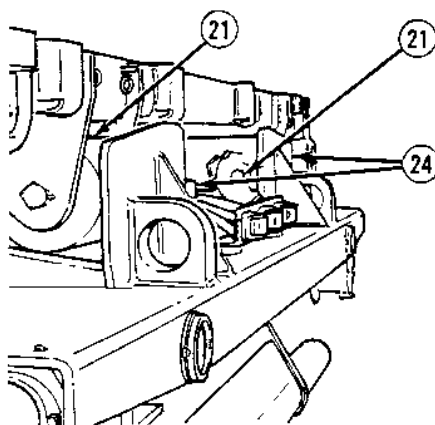
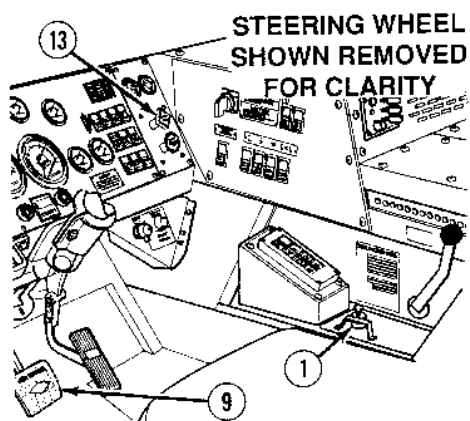
If not aligned, perform Step (8). If aligned, go to Step (9).

- (9) If not aligned:
 - (a) Move joystick (1) to LOAD.
 - (b) When flatrack is fully reloaded, release joystick (1).
 - (c) Repeat Steps (5) through (7).
- (10) Move the joystick (1) to UNLOAD until flatrack is seated on trailer.
- (11) Release the joystick (1).

CAUTION

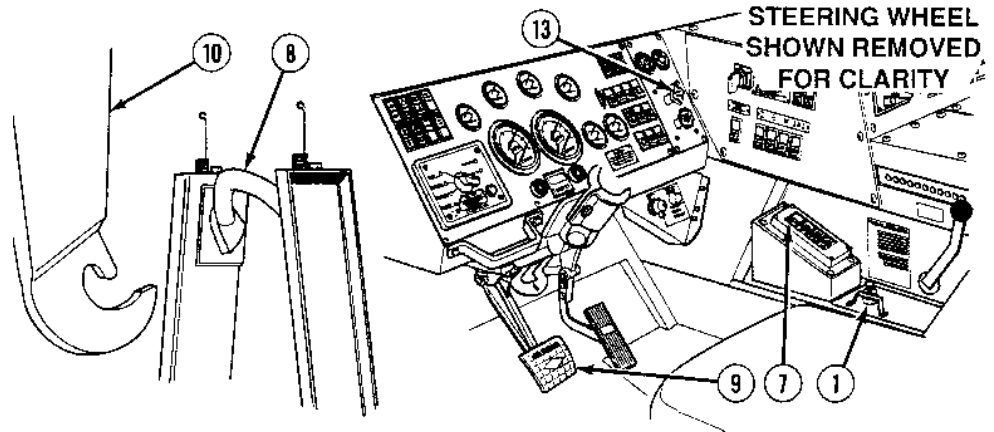
Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (12) Turn the hydraulic selector switch (2) to MAN H.A.
- (13) Move the joystick (1) to LOAD until front of flatrack is raised approximately 12 to 18 in. (30 to 46 cm) above trailer deck height.
- (14) Turn the hydraulic selector switch (2) to MAN M.F.



- (15) Move the joystick (1) to UNLOAD until flatrack rollers (21) contact rear trailer stops (24) and front of flatrack guides are seated on trailer.
- (16) Release the joystick (1).
- (17) Inspect that rear rollers (21) on flatrack have contacted rear trailer stops (24).
- (18) Apply the service brake pedal (9).
- (19) Release truck parking brakes (13).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

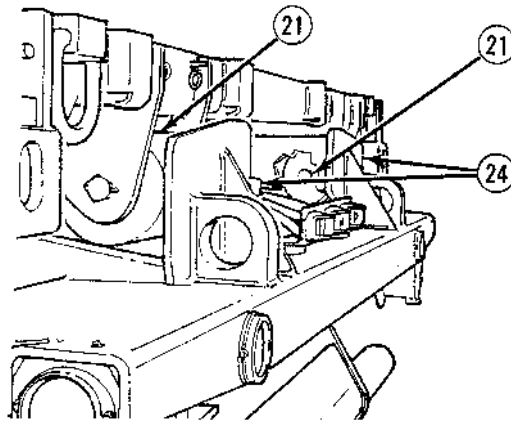
It may be necessary to repeat Steps (19) through (21) several times to clear hook arm from hook bar.

- (20) Move the joystick (1) to LOAD to allow top of lift-hook (10) to clear hook-bar (8).

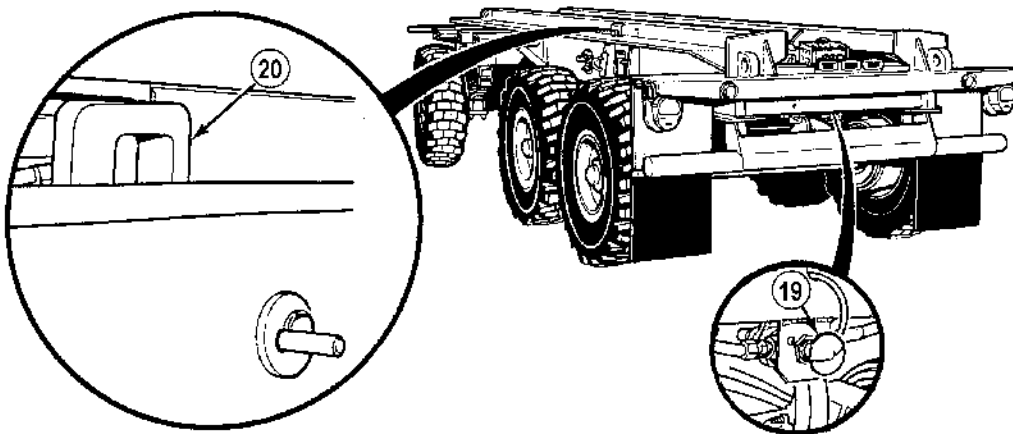
NOTE

Do not move truck forward more than 3 in. (76.2 mm) to prevent flatrack from pulling away from stops.

- (21) Place transmission range selector (7) in Drive (D). Release service brake pedal (9) and move truck forward approximately 3 in. (76.2 mm). Apply service brake pedal (9).
- (22) Move the joystick (1) to UNLOAD to disengage lift-hook (10) from hook-bar (8).
- (23) Set transmission range selector (7) to Neutral (N) and apply truck parking brakes (13).

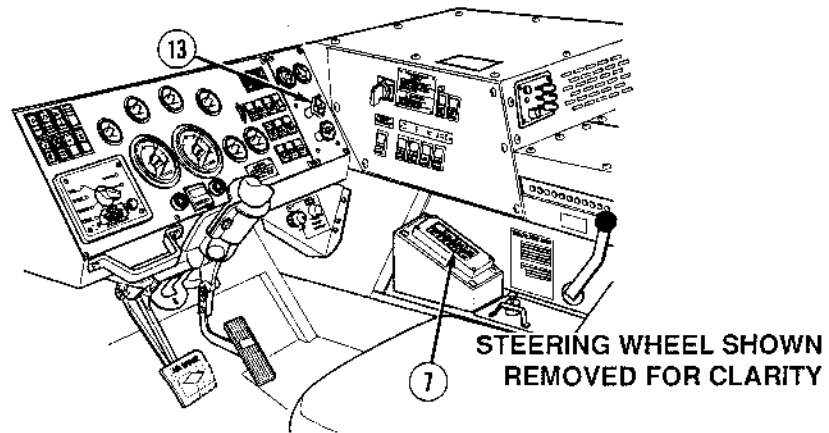


- (24) Inspect that rear flatrack rollers (21) have contacted trailer stops (24).

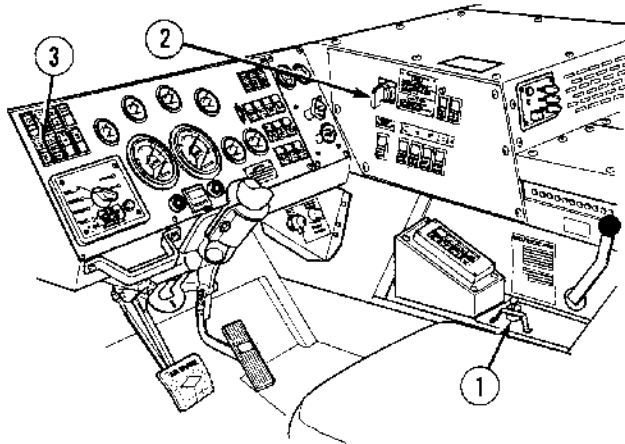


- (25) Pull knob (19) and engage flatrack locks (20).
- (26) Inspect that flatrack locks (20) are engaged.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



- (27) Release the parking brake (13).
- (28) Set the transmission range selector (7) to Drive (D).
- (29) Move the truck forward approximately 5 ft. (1.5 m).
- (30) Apply the truck parking brakes (13) and set transmission range selector (7) to Neutral (N).

**WARNING**

Never drive with NO TRANS light illuminated. An illuminated light means LHS is not fully stowed. The load could brake loose causing serious injury or death to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

NOTE

Hook arm does not need to be fully stowed if more transfer operations are going to be made.

- (31) Turn the hydraulic selector switch (2) to AUTO.
- (32) Move the joystick (1) to LOAD and retract LHS until LHS NO TRANS light (3) is extinguished.

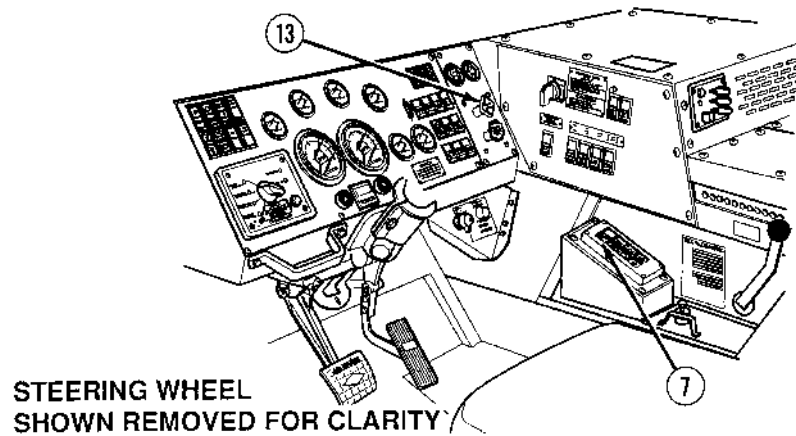
CAUTION

Hydraulic selector switch must be in OFF position before driving or hydraulic system can overheat causing damage to equipment.

- (33) Turn hydraulic selector switch (2) to OFF.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

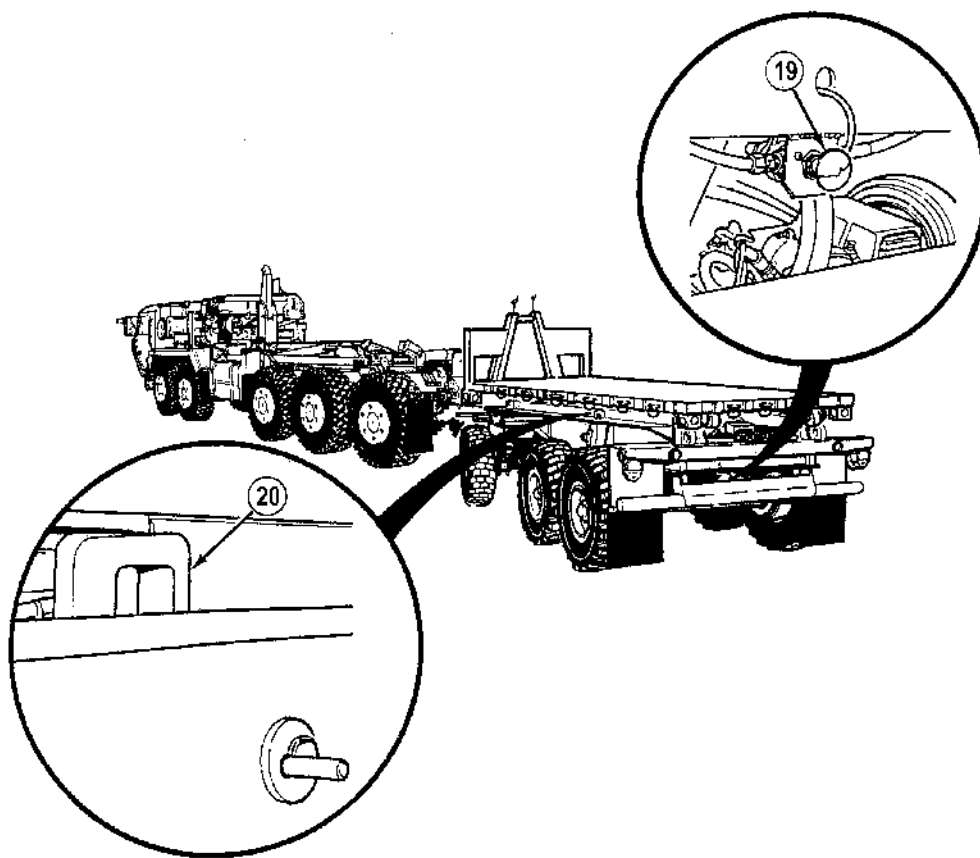
g. Normal Removal of Flatrack From Trailer.



CAUTION

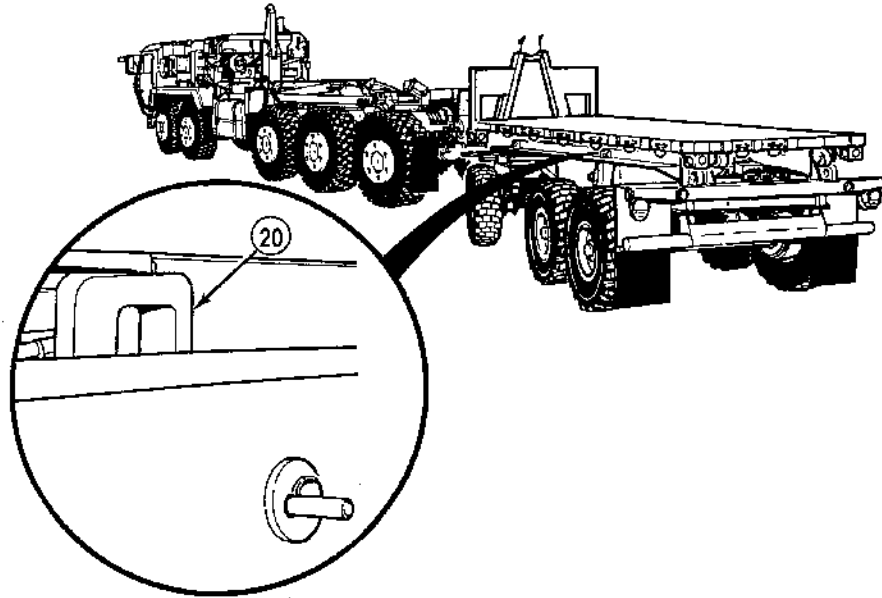
Load must be evenly distributed on pallet. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

- (1) Back the truck up in line with trailer and stop approximately 5 ft. (1.5 m) from trailer.
- (2) Apply parking brake (13) and place transmission range selector (7) in Neutral (N).

**CAUTION**

- There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack lock can occur while attempting to remove flatrack from trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks use manual flatrack lock retract procedure (TM 9-2330-385-14).
 - Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
 - Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- (3) Push the knob (19) on trailer to retract flatrack locks (20).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

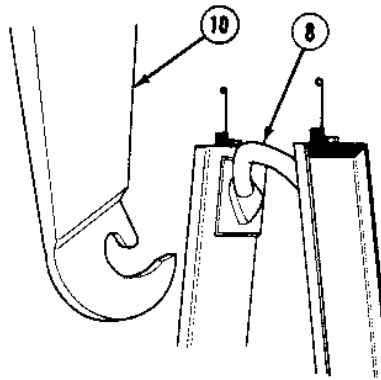
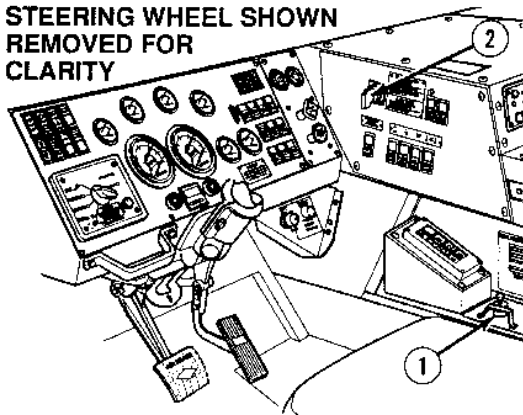


CAUTION

Ensure both flatrack locks are fully retracted or damage to equipment may result.

- (4) Inspect that both flatrack locks (20) are fully retracted.

STEERING WHEEL SHOWN
REMOVED FOR
CLARITY



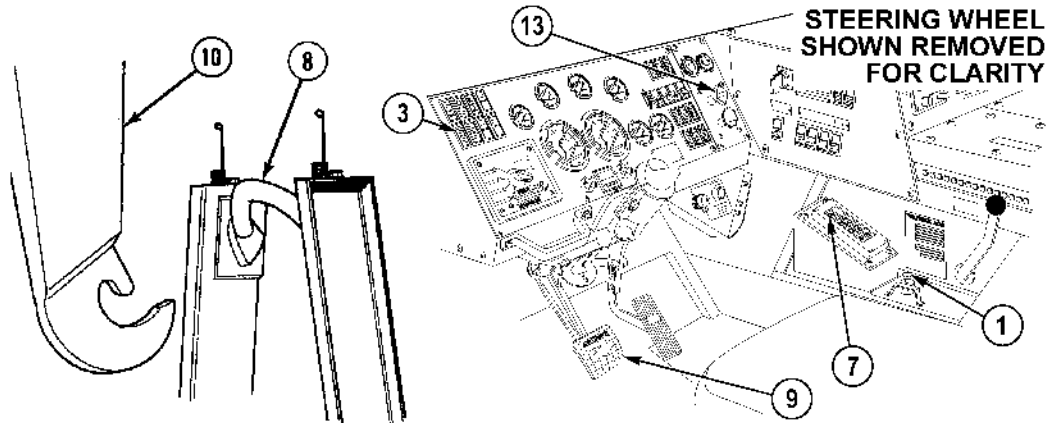
WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
- Trailer wheels must be chocked during transfer operations or serious injury or death could result.

CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
 - Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.
- (5) Turn the hydraulic selector switch (2) to AUTO.
 - (6) Move the joystick (1) to UNLOAD until lift-hook (10) has moved just below level of flatrack hook-bar (8).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

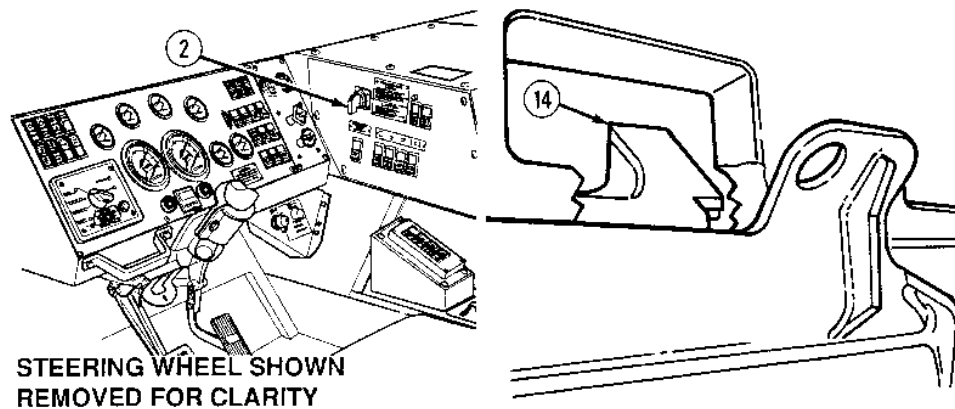


- (7) Apply service brake pedal (9) and release parking brake (13).
- (8) Set transmission range selector (7) to Reverse (R), release service brake pedal (9), and back truck up until lift-hook (10) contacts hook-bar (8).
- (9) Set the transmission range selector (7) to Neutral (N) and apply truck parking brake (13).

NOTE

Loading and unloading times are controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

- (10) Move joystick (1) to LOAD and engage lift-hook (10) into hook-bar (8).
- (11) Continue loading flatrack onto truck until the LHS NO TRANS light (3) is extinguished indicating LHS is in transportation position.
- (12) Apply parking brake (13) and set the transmission range selector (7) to Neutral (N).



NOTE

If load locks do not engage, raise flatrack slightly and lower again. Flatrack should seat completely and engage load locks.

- (13) Inspect that the load locks (14) are engaged and flatrack is completely down on truck.

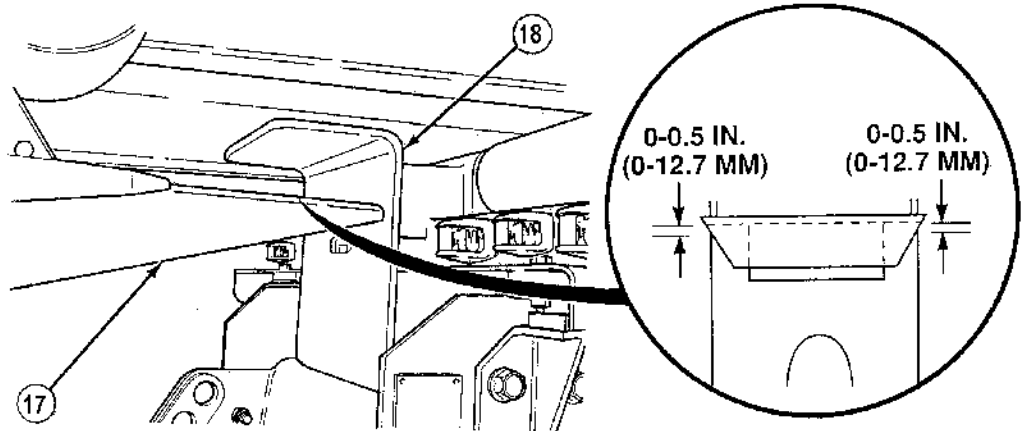
CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (14) Turn hydraulic selector switch (2) to OFF.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

h. Transfer of Flatrack to Trailer in Manual Mode.



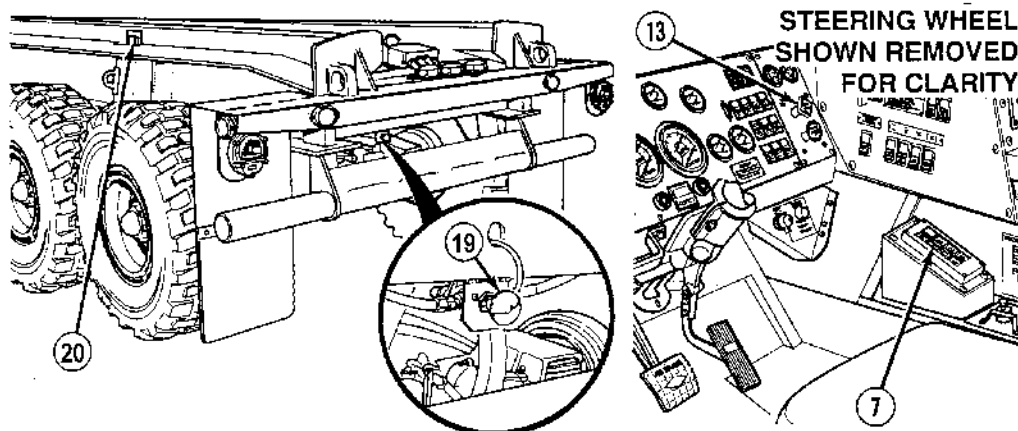
WARNING

Trailer wheels must be chocked during transfer operations or serious injury or death could result.

CAUTION

- Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.
- Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
- Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 in. (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.

- (1) Back up the truck so that trailer bumper (17) is under flange and contacts truck bumper stop (18).



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

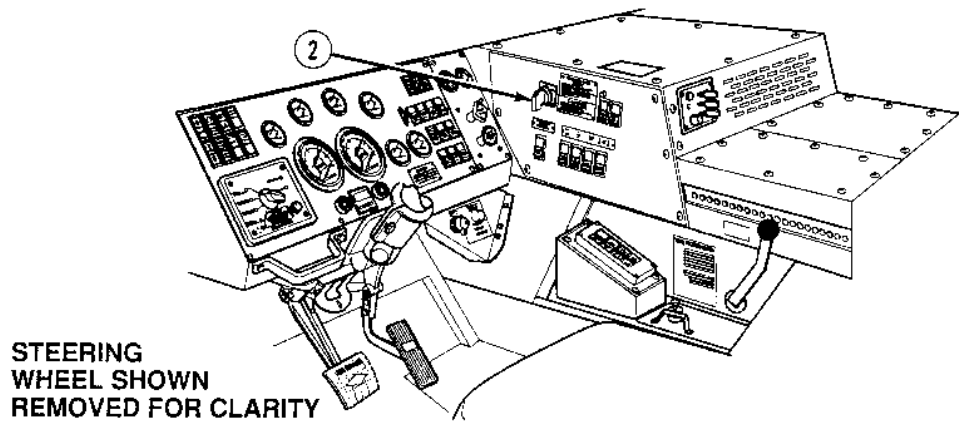
- (2) Set the parking brake (13) and place transmission range selector switch (7) in Neutral (N).

WARNING

Ensure trailer air system is pressurized before beginning transfer, or flatrack locks may not properly engage. Serious injury or death could result to personnel and damage to equipment may result.

- (3) Push in knob (19) and retract flatrack locks (20).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



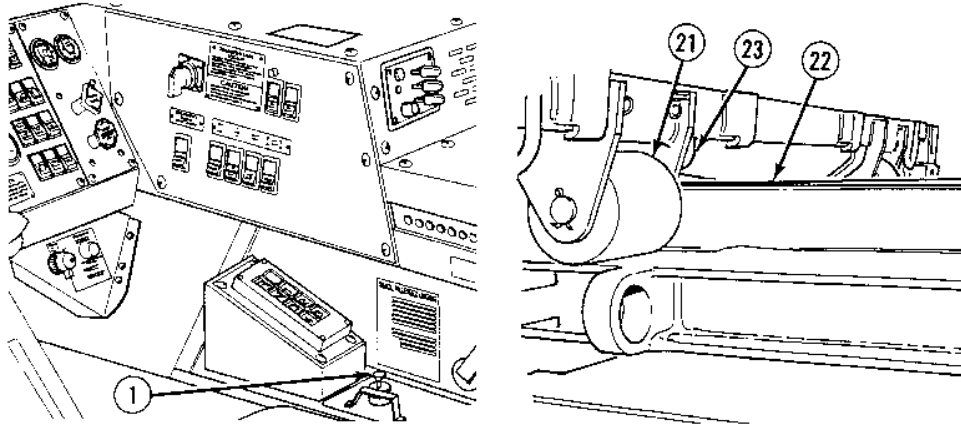
CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Load must be evenly distributed on flatrack pallet. Uneven load distribution may cause LHS Overload indicator to give false signals and cause LHS to operate incorrectly.

NOTE

The time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

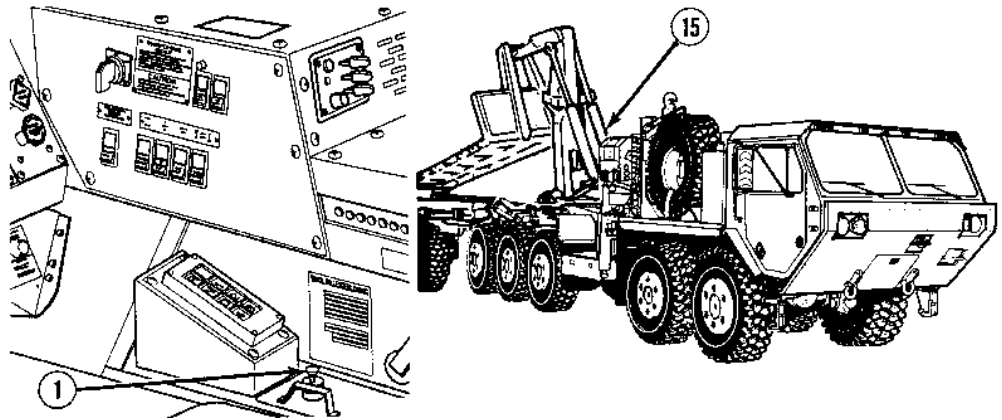
- (4) Turn the hydraulic selector switch (2) to MAN H.A.



WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
 - Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
 - Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
 - Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.
- (5) Move the joystick (1) to UNLOAD until flatrack rollers (21) contact trailer.
 - (6) Release the joystick (1).
 - (7) Inspect and verify that trailer guides (22) are between flatrack main rails (23).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



(8) If not aligned:

- (a) Move joystick (1) to LOAD.
- (b) When flatrack is completely reloaded onto truck, release joystick (1).
- (c) Repeat Steps (4) through (6).

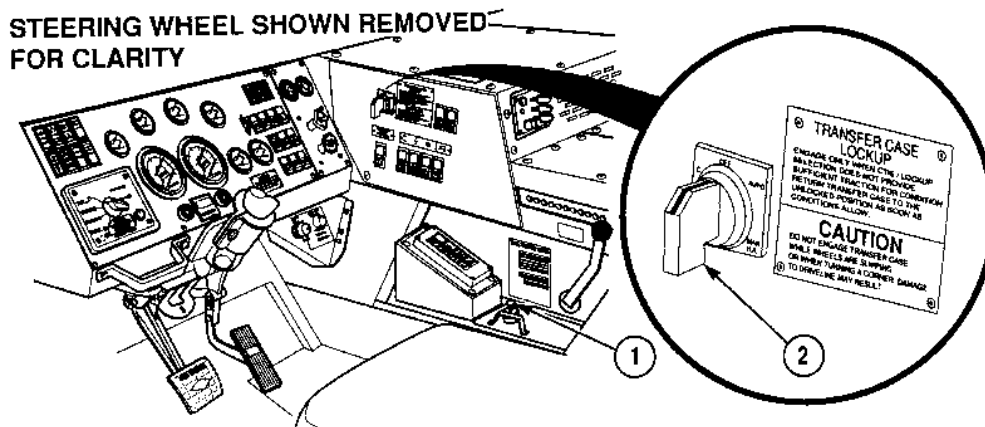
CAUTION

- To avoid equipment damage, visually check that hook arm cylinders have fully extended.
- To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.

NOTE

Overload warning light will come on when hook arm cylinders are fully extended and joystick is activated.

- (9) Move the joystick (1) to UNLOAD and hold until hook arm cylinders (15) are fully extended.



- (10) Release the joystick (1).

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

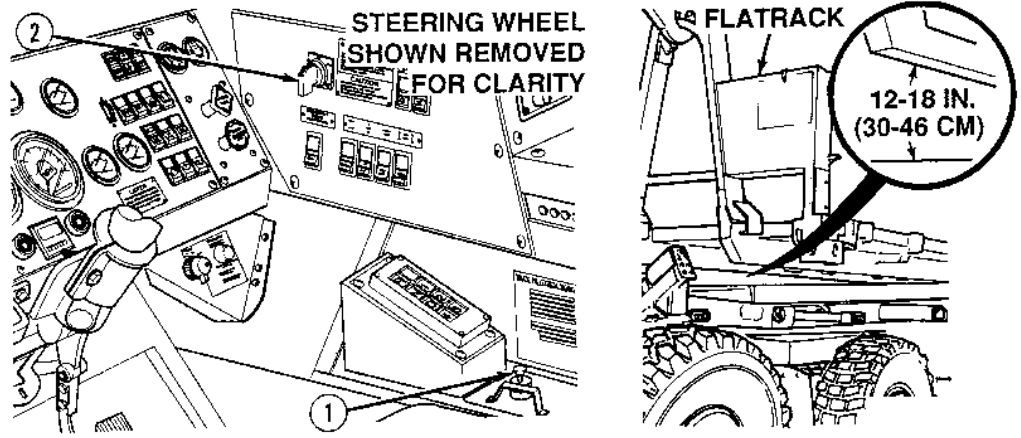
- (11) Turn the hydraulic selector switch (2) to MAN M.F.
- (12) Move the joystick (1) to UNLOAD until front of flatrack is completely seated on trailer.
- (13) Release the joystick (1).

CAUTION

Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.

- (14) Turn the hydraulic selector switch (2) to MAN H.A.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

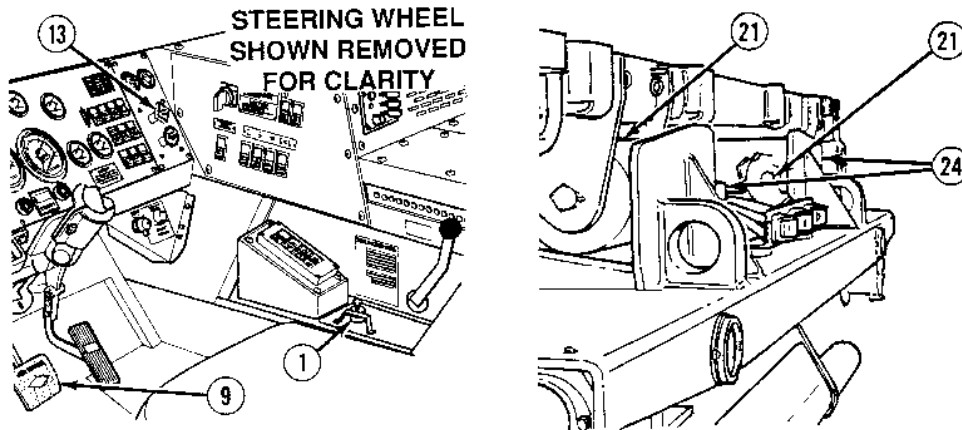


- (15) Move joystick (1) to LOAD until front of flatrack is raised approximately 12 to 18 in. (30 to 46 cm) above trailer deck height.

CAUTION

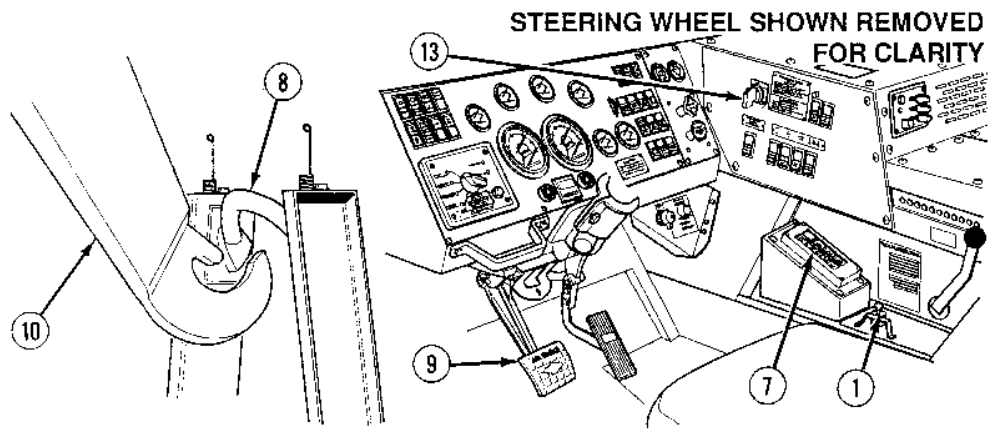
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (16) Turn the hydraulic selector switch (2) to MAN M.F.



- (17) Move the joystick (1) to UNLOAD until flatrack rollers (21) contact trailer stops (24) and front of flatrack guides are seated on trailer.
- (18) Release the joystick (1).
- (19) Inspect that rear flatrack rollers (21) on flatrack have contacted trailer stops (24).
- (20) Apply the service brake pedal (9).
- (21) Release truck parking brakes (13).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



NOTE

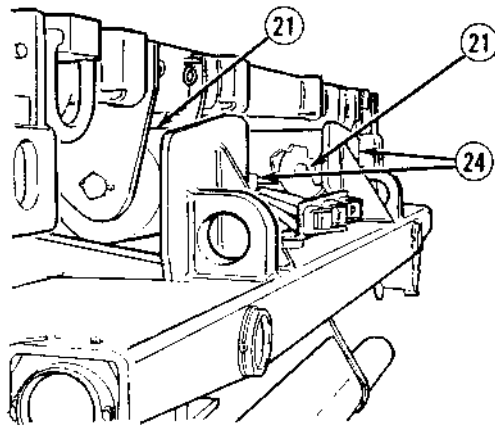
It may be necessary to repeat the following step several times to clear lift-hook from hook-bar.

- (22) Move the joystick (1) to LOAD to allow top of lift-hook (10) to clear hook-bar (8).

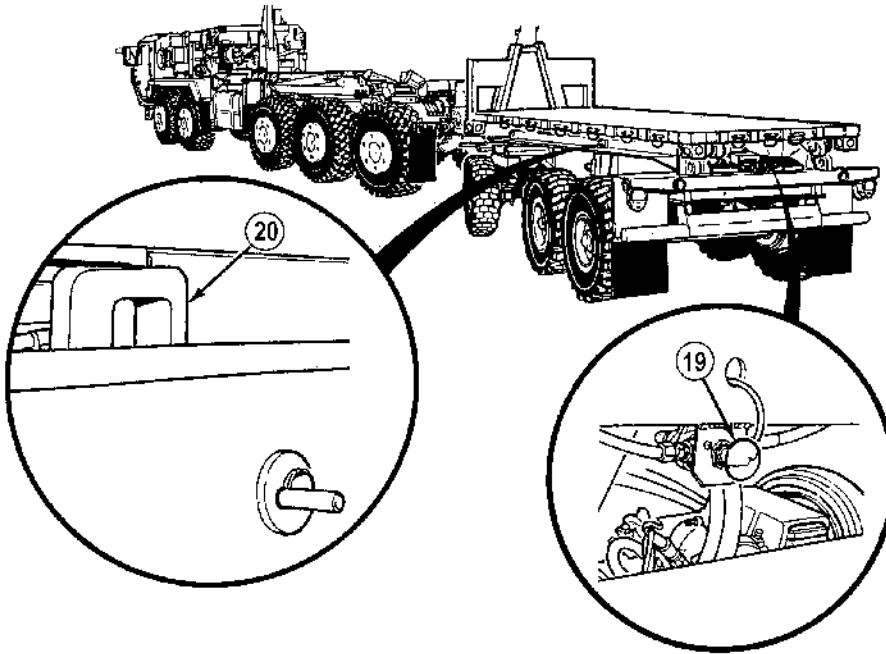
NOTE

Do not move truck forward more than 3 in. (76.2 mm) to prevent flatrack from pulling away from stops.

- (23) Release the service brake pedal (9) and place transmission range selector (7) in Drive (D) and move truck forward approximately 3 in. (76.2 mm). Apply service brake pedal (9).
- (24) Move the joystick (1) to UNLOAD to disengage lift-hook (10) from hook-bar (8).
- (25) Set the transmission range selector (7) to Neutral (N) and apply the parking brakes (13).

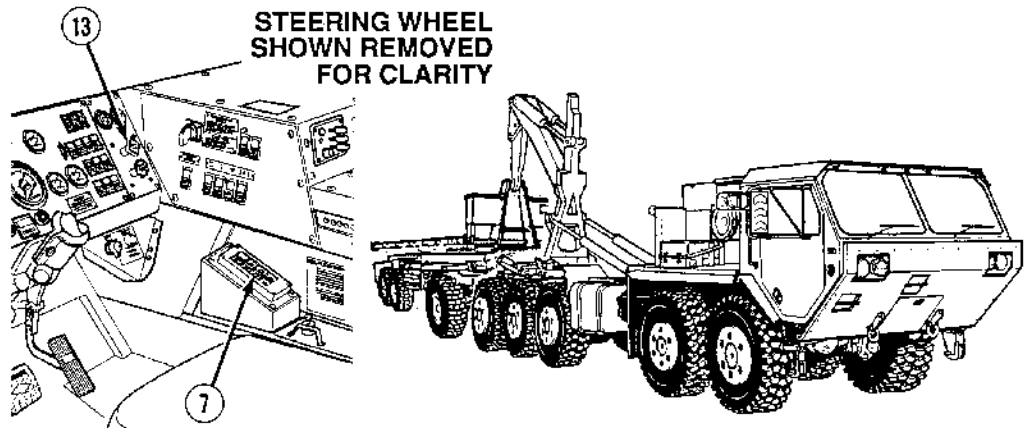


- (26) Inspect that rear flatrack rollers (21) have contacted trailer stops (24).



- (27) Pull knob (19) and engage flatrack locks (20).
- (28) Inspect that flatrack locks (20) are engaged.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



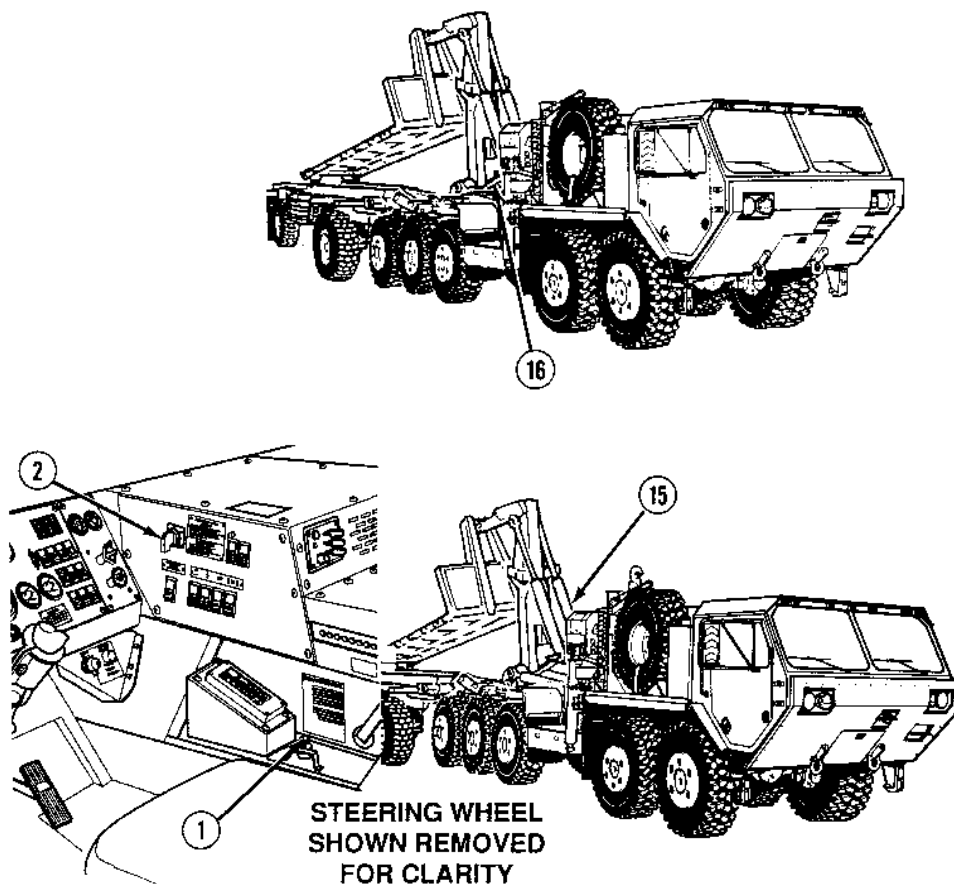
- (29) Release the parking brake (13).
- (30) Set the transmission range selector (7) to Drive (D).
- (31) Move the truck forward approximately 5 ft. (1.5 m).
- (32) Apply the truck parking brakes (13) and set the transmission range selector (7) to Neutral (N).

WARNING

Never drive with NO TRANS light illuminated. An illuminated lights means LHS is not fully stowed. The load could break loose causing serious injury or death to personnel.

NOTE

Overload warning light will come on when main frame cylinders are fully extended or fully retracted and joystick is being activated.



- (33) Move the joystick (1) to LOAD and hold in this position until main frame cylinders (16) are fully retracted.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (34) Turn the hydraulic selector switch (2) to MAN H.A.

NOTE

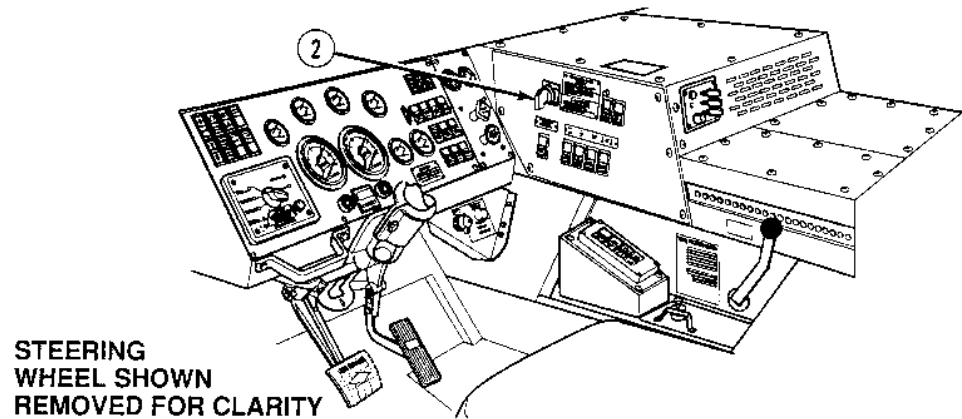
Overload warning light will come on when hook arm cylinders are fully extended or retracted and joystick is being activated.

- (35) Hold the joystick (1) in LOAD position until the hook arm cylinders (15) are fully retracted.

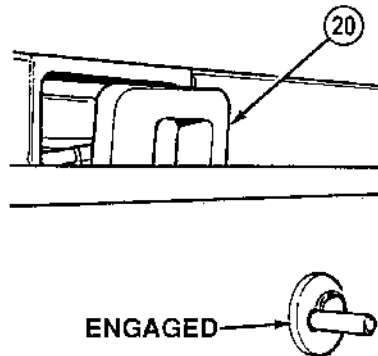
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

CAUTION

- Hydraulic selector switch must remain in MAN TRANS while truck is traveling or hydraulic system will overheat causing damage to truck.
- Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

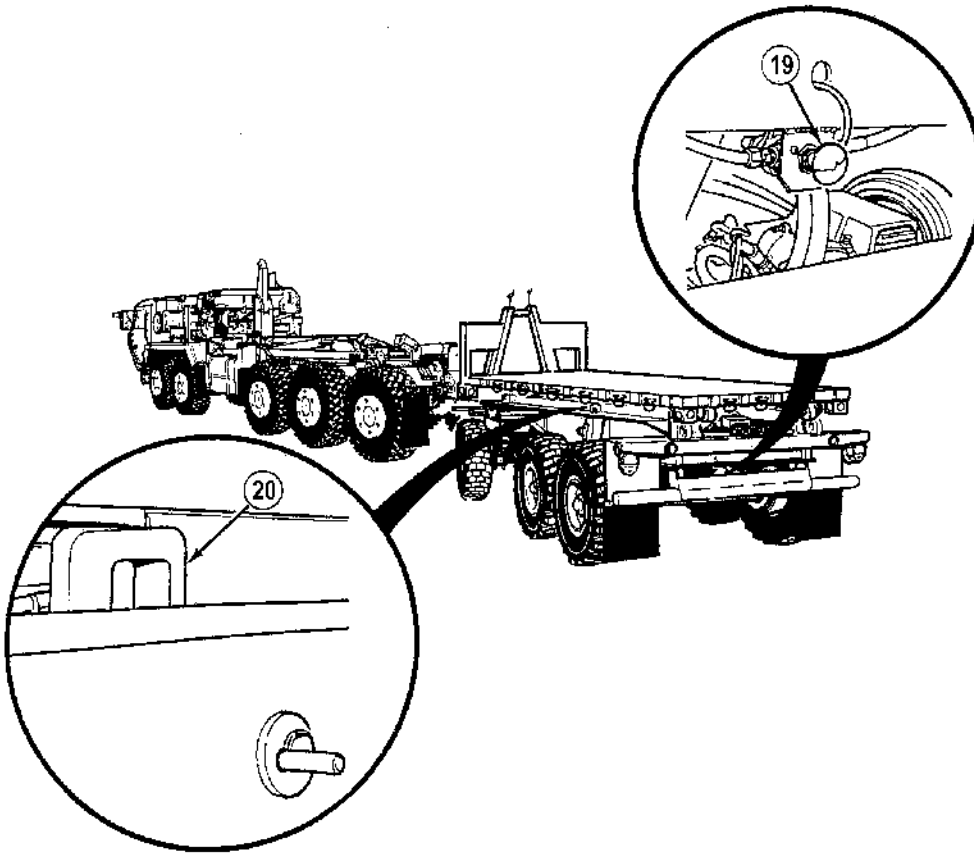


- (36) Turn the hydraulic selector switch (2) to MAN TRANS.



- (37) Inspect that flat track is completely seated and load locks (20) are engaged.

i. Removing Flatrack From Trailer in Manual Mode.

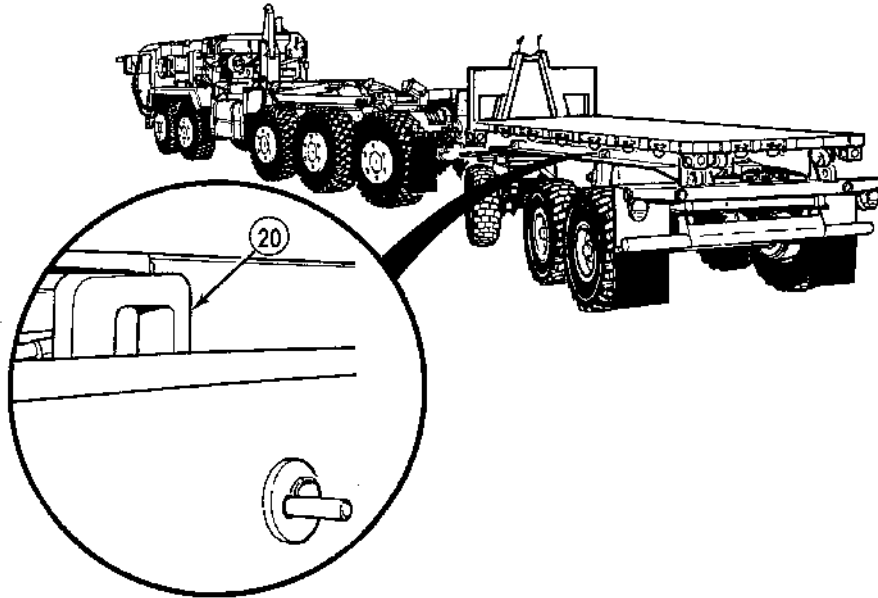


CAUTION

- There must be sufficient air pressure in trailer air system to retract flatrack locks or damage to flatrack lock can occur while attempting to remove flatrack from trailer. If not, use truck to charge trailer air system using trailer air charging hose. If air system cannot retract flatrack locks, use manual flatrack lock retract procedure (TM 9-2330-385-14).
- Ensure air lines and cables are properly stowed to prevent damage to equipment (TM 9-2330-385-14).
- Ensure that trailer drawbar is down against the ground during transfer operations or damage to equipment may result.

(1) Push the knob (19) on trailer to retract flatrack locks (20).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

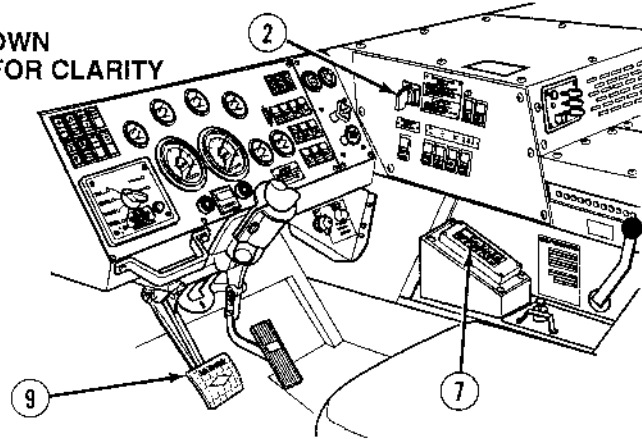


CAUTION

Ensure both flatrack locks are fully retracted or damage to equipment may result.

- (2) Inspect that both flatrack locks (20) are fully retracted.

STEERING
WHEEL SHOWN
REMOVED FOR CLARITY



- (3) Back truck up in line with trailer and stop approximately 5 ft. (1.5 m) from trailer.
- (4) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

WARNING

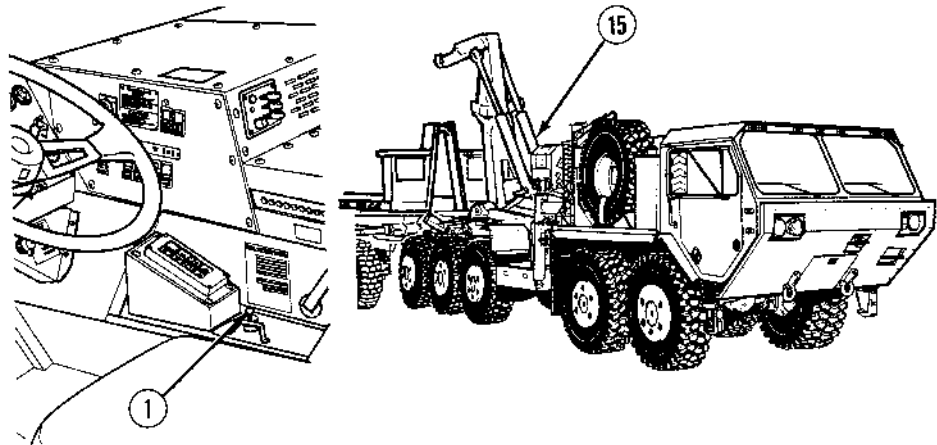
- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (5) Turn the hydraulic selector switch (2) to MAN H.A.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



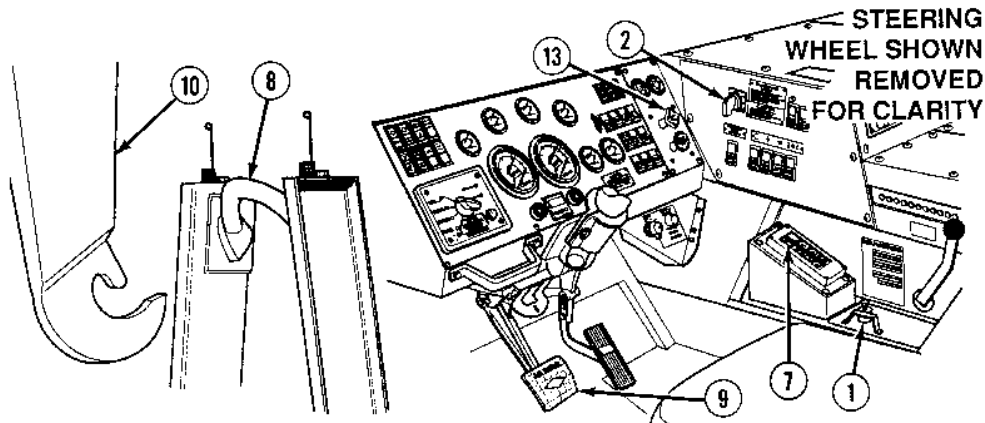
CAUTION

- To avoid equipment damage, visually check that hook arm cylinders have completed full extension.
- To avoid equipment damage, ensure that hook arm cylinders do not complete full extension while operating at engine speeds above idle.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

NOTE

- Overload warning light will come on when arm cylinders are fully extended and joystick is activated.
- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

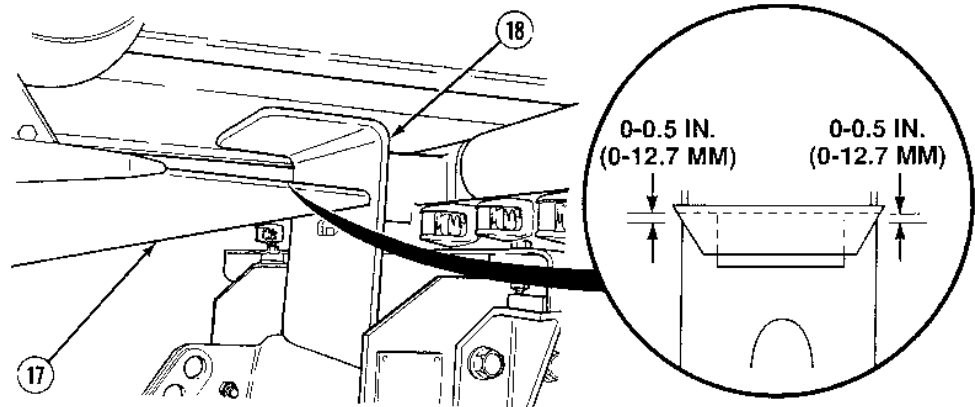
- (6) Move the joystick (1) to UNLOAD and hold until hook arm cylinders (15) are fully extended.

**CAUTION**

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (7) Release the joystick (1) and turn hydraulic selector switch (2) to MAN M.F.
- (8) Move the joystick (1) to UNLOAD and hold until lift-hook (10) has moved below level at flatrack hook-bar (8).
- (9) Set transmission range selector (7) to Reverse (R) and release service brake pedal (9). Back truck up until lift-hook (10) contacts hook-bar (8).
- (10) Apply the parking brake (13).

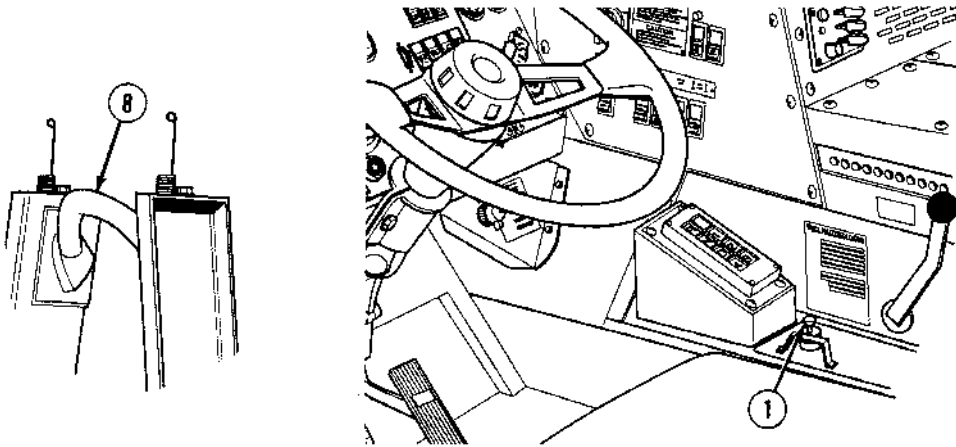
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

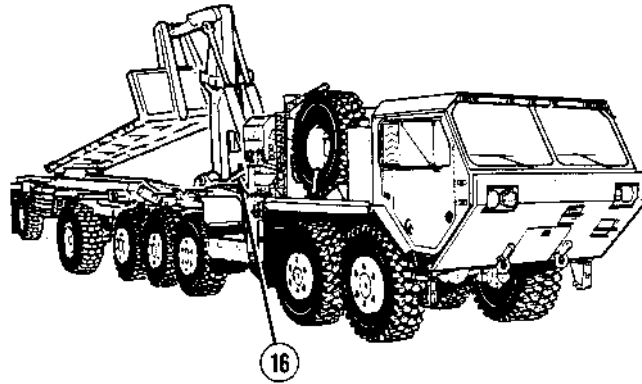
- Ensure that trailer drawbar is down against the ground or damage to equipment may result.
- Both of the trailer bumper points must be under the truck bumper stop flange and at least one of the bumper points must contact the bumper stop. The trailer bumper point not contacting the truck bumper stop cannot exceed 0.5 in. (12.7 mm) or flatrack will miss main rail guides and equipment damage may result.

(11) Check that trailer bumper (17) is under flange of truck bumper stop (18).



- (12) Move joystick (1) to LOAD and engage hook-bar (8).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



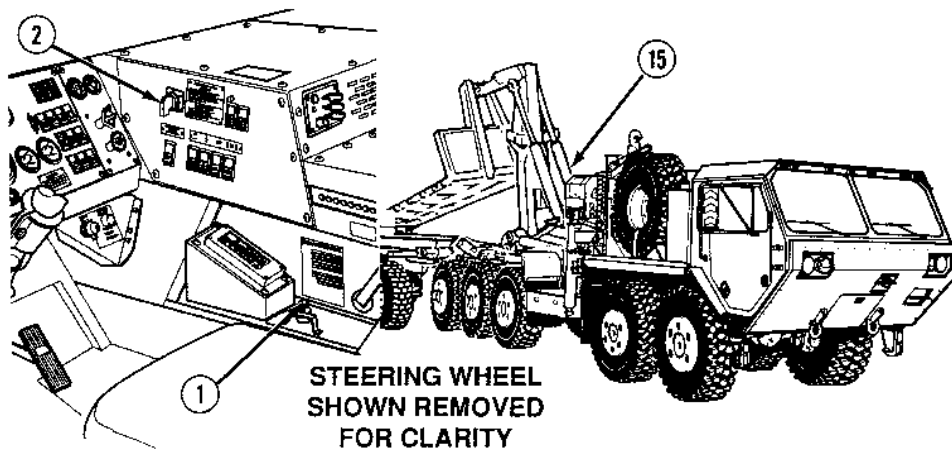
CAUTION

- To avoid equipment damage, visually check that hook arm cylinders have completed full movement.
- To avoid equipment damage, ensure that hook arm cylinders do not complete full movement while operating at engine speeds above idle.

NOTE

Overload warning light will come on when main frame cylinders are fully extended and joystick is being activated.

- (13) Continue to load in MAN M.F. mode until the main frame cylinders (16) are fully retracted.

**CAUTION**

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (14) Turn the hydraulic selector switch (2) to MAN H.A.

WARNING

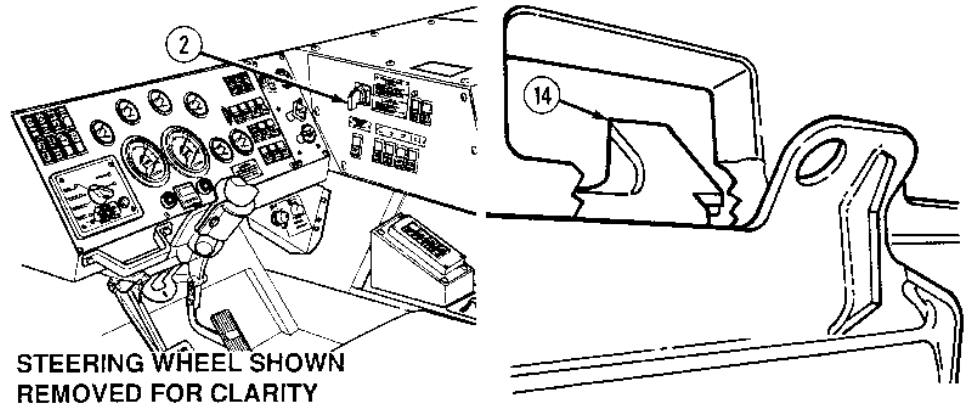
Never drive with NO TRANS light illuminated. An illuminated light means LHS is not fully stowed. The load could break loose causing serious personal injury or death to personnel.

NOTE

Overload warning light will come on when hook arm cylinders are fully extended and retracted and joystick is being activated.

- (15) Hold the joystick (1) in LOAD position until hook arm cylinders (15) are fully retracted.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

NOTE

Hydraulic selector switch must remain in MAN TRANS while truck is traveling.

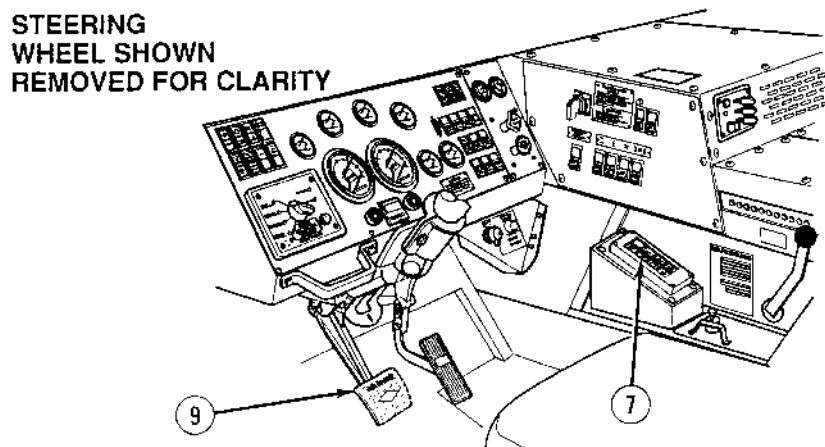
- (16) Turn hydraulic selector switch (2) to MAN TRANS.

NOTE

If load locks do not engage, raise flatrack slightly and lower again. Flatrack should seat completely and engage load locks.

- (17) Inspect that load locks (14) are engaged and flatrack is fully loaded on truck.

- j. *Loading Flatrack With or Without Rollers from Dock Area or Bay (Not to Exceed Truck Chassis Height).*

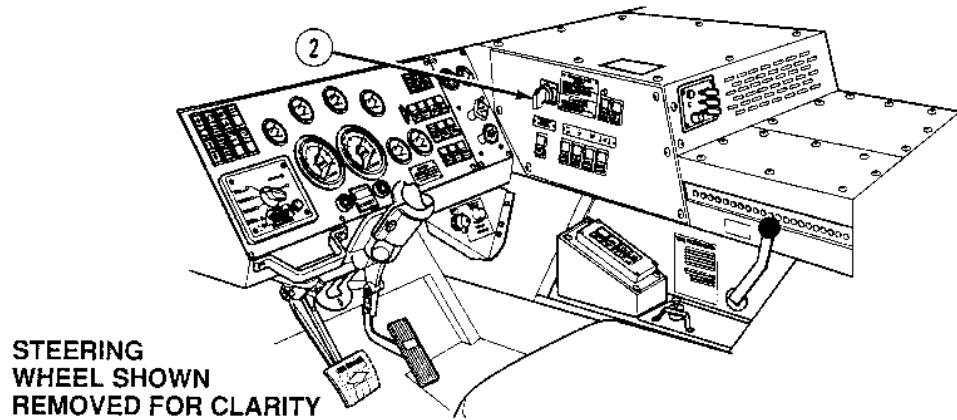


CAUTION

Do not back up to loading docks in which the height of the dock exceeds the height of bottom of the flatrack on the truck, or damage to equipment may result.

- (1) Position truck approximately 5 ft. (1.5 m) from front of flatrack.
- (2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



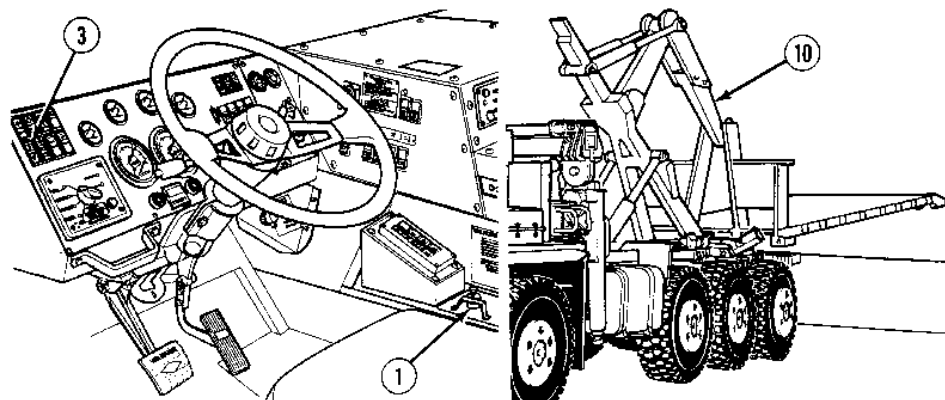
CAUTION

Set engine speed at idle before selecting LHS mode or damage to equipment may result.

NOTE

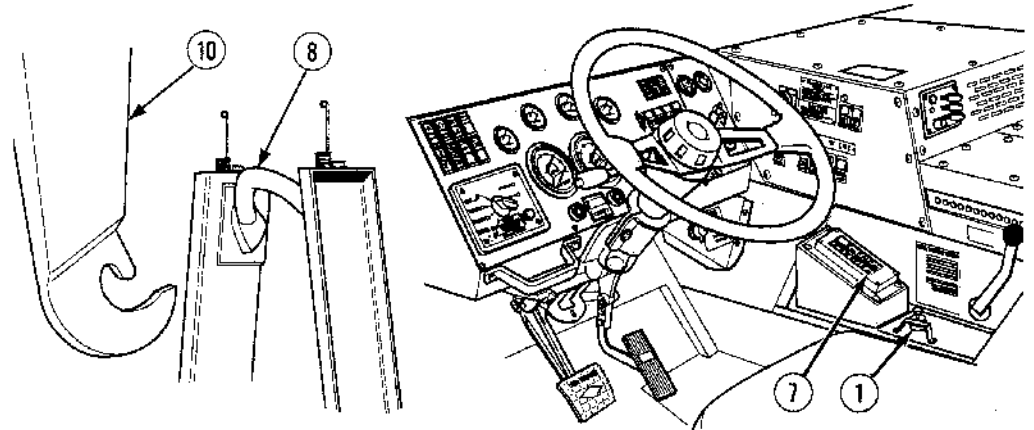
When loading or unloading flatrack from dock or bay area presence of rollers on rear of flatrack will aid in operation. Procedure can be accomplished using hydraulic selector switch in AUTO or MAN H.A. and MAN M.F. operation. Refer to Para 2-29d and e for movement of LHS in MANUAL mode.

- (3) Turn the hydraulic selector switch (2) to MANUAL or AUTO as required.

**WARNING**

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
 - Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
 - Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.
- (4) Move the joystick (1) to UNLOAD. Lift-hook (10) will raise and begin to move rearwards. LHS NO TRANS lamp (3) will illuminate to indicate load locks have been cleared.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



- (5) When the lift-hook (10) has moved below level of flatrack hook-bar (8), set transmission range selector (7) to Reverse (R) and back truck to flatrack while aligning truck to flatrack as straight as possible (± 10 degrees) with lift-hook (10) in middle of hook-bar (8) until lift-hook contacts hook-bar.
- (6) Set transmission range selector (7) to Neutral (N).

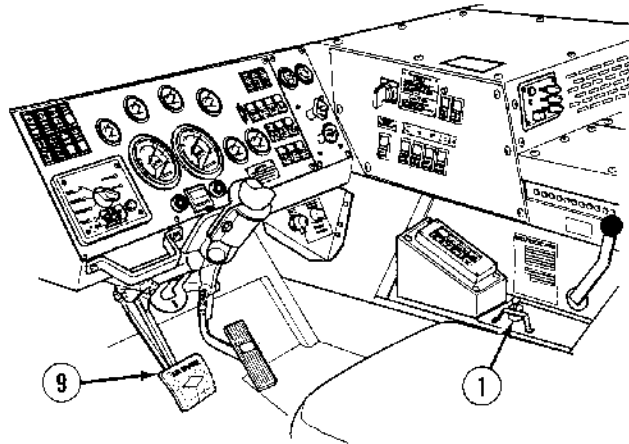
CAUTION

Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

NOTE

Slight misalignment (up to 10 degrees) will not prevent hook from attaching to flatrack.

- (7) Move the joystick (1) to LOAD, engaging lift-hook (10) in hook-bar (8) and lift slightly.

**CAUTION**

If flatrack does not move freely, do not attempt to drag any further or damage to equipment may occur.

NOTE

If flatrack is misaligned, perform Step (8).

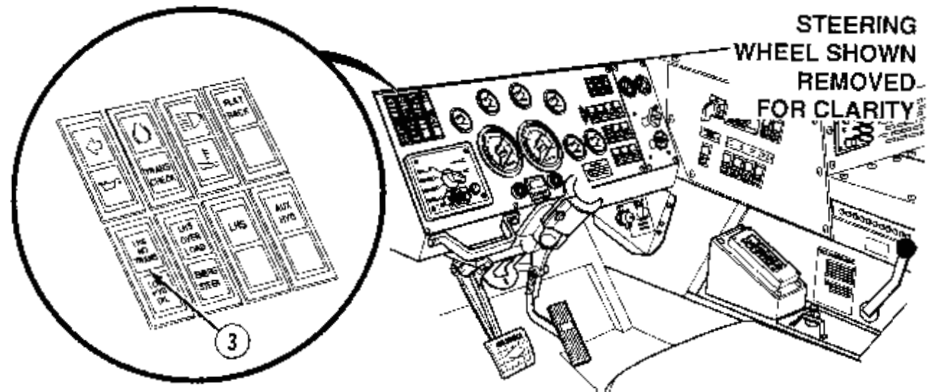
- (8) Lift flatrack 6 to 12 in. (15 to 30 cm) and attempt to drag flatrack forward 6 to 8 ft. (18 to 24 m) until aligned with truck.

CAUTION

Flatrack must be in contact with rear roller assembly on rear of truck before flatrack rear edge comes off loading bay or dock. Failure to contact rear roller assembly will overload LHS components and may damage truck.

- (9) Release the service brake pedal (9) and allow truck to be pulled toward dock or bay until approximately 6 in. (15 cm) away.
- (10) Apply the service brake pedal (9) and move joystick (1) to LOAD.

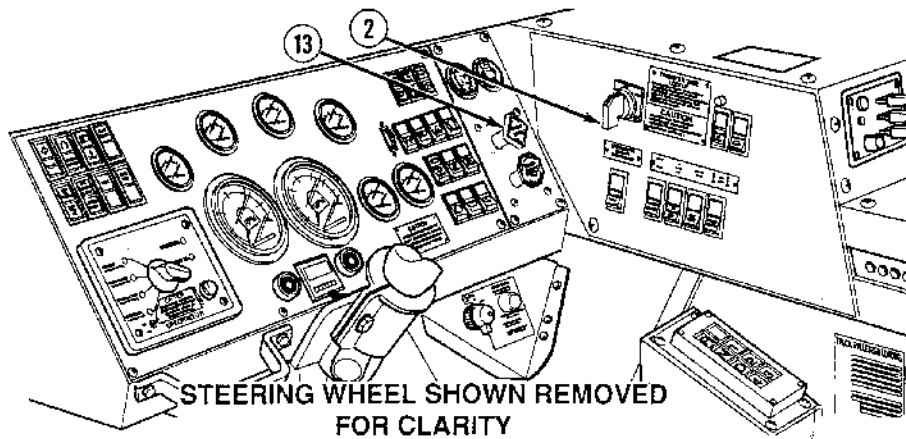
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

- If LHS Overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing its maximum capacity. In this situation, operator should determine if payload is evenly distributed on flatrack or if flatrack load exceeds 16.5 tons (14,969 kg). If any of these conditions exist, operator must redistribute or reduce payload or damage to equipment may result.
- If LHS Overload lamp illuminates and, normal operation has stopped. Return load to original position and redistribute or reduce payload weight or damage to equipment may result.
- Load must be evenly distributed on the pallet. Uneven load distribution may cause LHS overload indicator to give false signals and cause LHS to operate incorrectly. Damage to equipment may result.

- (11) Continue loading until LHS NO TRANS (3) light is extinguished indicating LHS load locks have engaged.

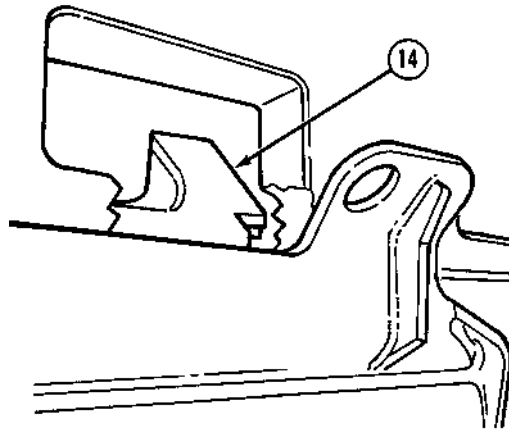


CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (12) Turn the hydraulic selector switch (2) to OFF or MAN TRANS as required.
- (13) Apply the parking brake (13).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).

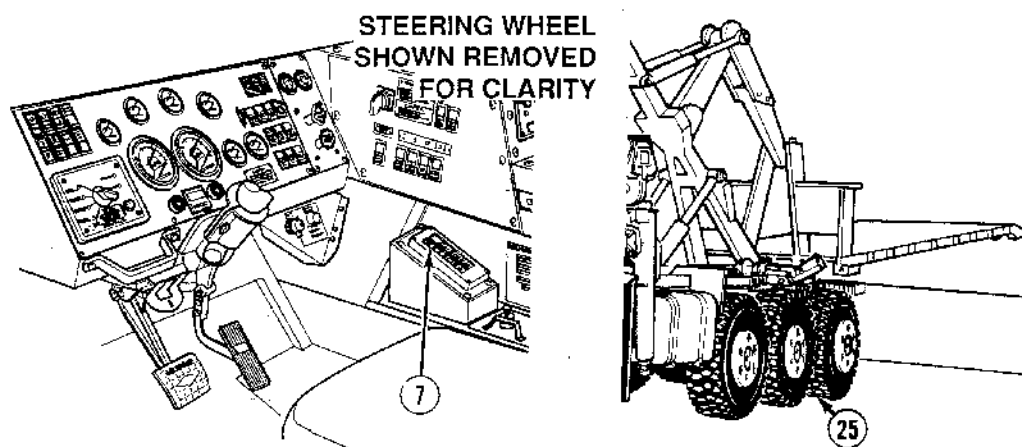


NOTE

If load locks do not engage raise flatrack slightly and lower again. Flatrack should seat fully and engage load locks.

- (14) Inspect that load locks (14) are engaged and flatrack is fully seated on truck.

- k. **Unloading Flatrack With or Without Rollers Onto Dock Area or Bay (Not Exceeding Truck Chassis Height).**



CAUTION

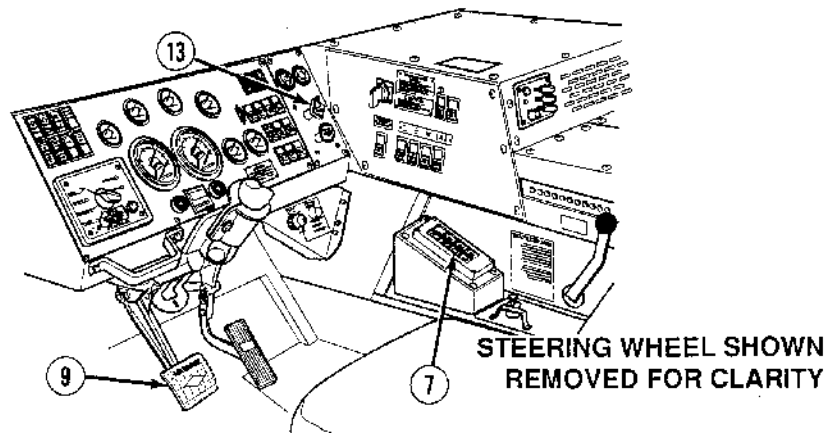
Do not back up to loading docks in which the height of the dock exceeds the height of bottom of the flatrack on the truck, or damage to equipment may result.

NOTE

When loading or unloading flatrack from dock or bay area, presence of rollers on rear of flatrack will aid in operation. Procedure can be accomplished using hydraulic selector switch in AUTO or MAN H.A. and MAN M.F. operation. Refer to Para 2-29d and e for movement of LHS in MANUAL mode.

- (1) Set the transmission range selector (7) to Reverse (R) and back truck to dock. Stop truck when rear tires (25) are approximately 6 in. (15 cm) from dock.

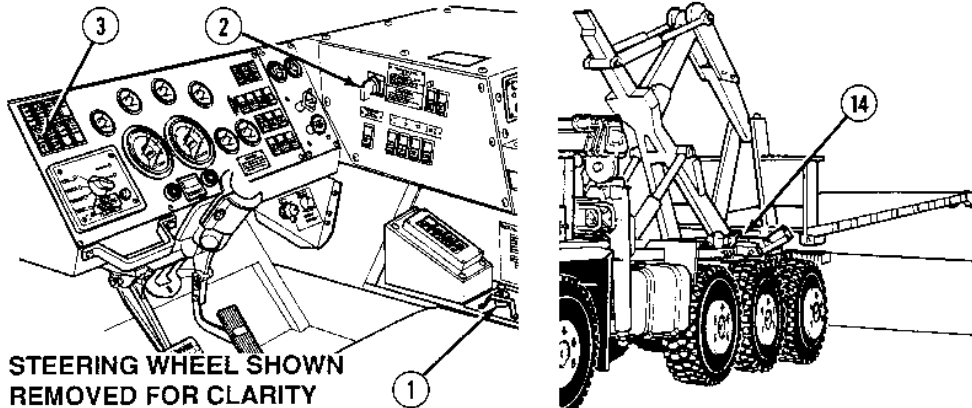
2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



WARNING

- Check for overhead power lines or other obstructions before attempting LHS operation. LHS reaches a height of 17 ft. 2 in. (5.22 m) with ISO container. Serious injury or death could result from contact with electrical power lines.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a flatrack. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS and flatrack or serious injury or death could result to personnel.

- (2) Apply the service brake pedal (9) and set transmission range selector (7) to Neutral (N) and apply parking brake (13).



CAUTION

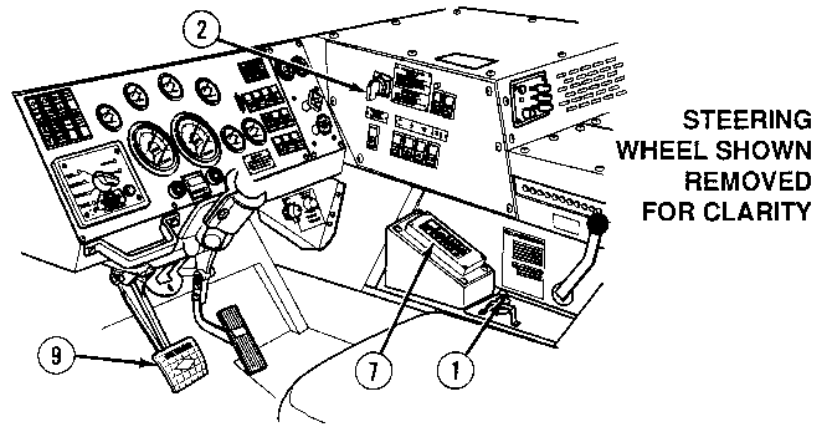
- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Ensure rail transport locking pins are disengaged before unloading flatrack. Rail transport locking pins are used for rail transport only. Failure to comply may result in damage to equipment.

- (3) Turn the hydraulic selector switch (2) to AUTO or MANUAL mode.
- (4) Move joystick (1) to UNLOAD. Flatrack will raise and begin to move rearwards. LHS NO TRANS lamp (3) will illuminate to indicate load locks (14) have been cleared.

CAUTION

- Do not back truck to push flatrack onto dock or bay. Damage to equipment will result.
 - Do not use Reverse (R) to back up truck while hook arm is attached to flatrack or damage to LHS will occur.
- (5) As load continues rearward, flatrack will contact dock and flatrack will be pushed rearward onto dock or bay.
 - (6) Release the joystick (1).

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



CAUTION

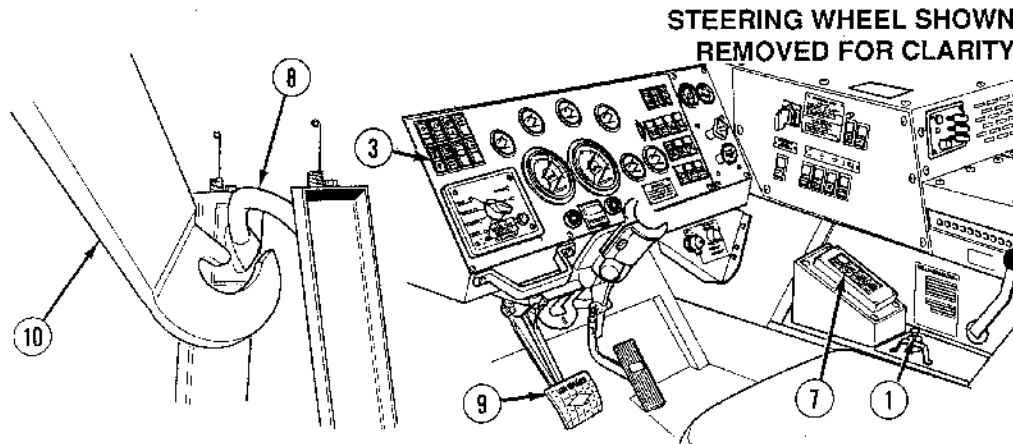
Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (7) Turn the hydraulic selector switch (2) to MAN H.A.
- (8) Move joystick (1) to LOAD until front of flatrack is raised approximately 15 in. (38 cm) above dock or bay.
- (9) Turn the hydraulic selector switch (2) to MAN M.F.
- (10) Move the joystick (1) to UNLOAD until flatrack is positioned on dock or bay.
- (11) Release the joystick (1).

CAUTION

Before moving truck ensure hook is not engaged to hook-bar or damage to equipment may result.

- (12) Apply the service brake pedal (9).
- (13) Set the transmission range selector (7) to Drive (D).



NOTE

It may be necessary to repeat Steps (14) through (17) several times to clear hook arm from hook bar.

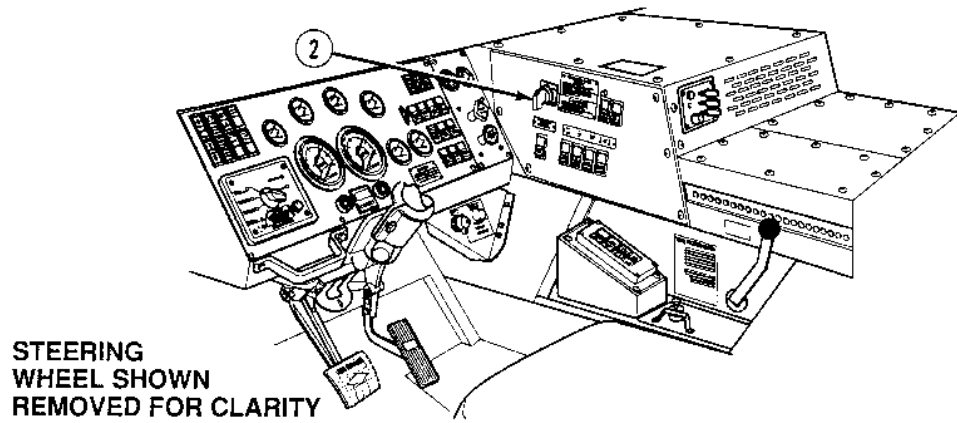
- (14) Move the joystick (1) to LOAD to allow top of lift-hook (10) to clear hook-bar (8).

NOTE

Do not move truck forward more than 3 in. (76.2 mm) to prevent flatrack from pulling over edge of dock.

- (15) Release the service brake pedal (9) and place transmission range selector (7) in Drive (D).
- (16) Move truck forward approximately 3 in. (76.2 mm) and apply service brake pedal (9).
- (17) Move the joystick (1) to UNLOAD to disengage hook from hook-bar (8).
- (18) Release the service brake pedal (9) and move the truck forward approximately 5 ft. (1.5 m).
- (19) Apply service brake pedal (9).
- (20) Move joystick (1) to LOAD until LHS NO TRANS light (3) is extinguished indicating LHS is completely stowed.

2-29. LOAD HANDLING SYSTEM (LHS) (CONT).



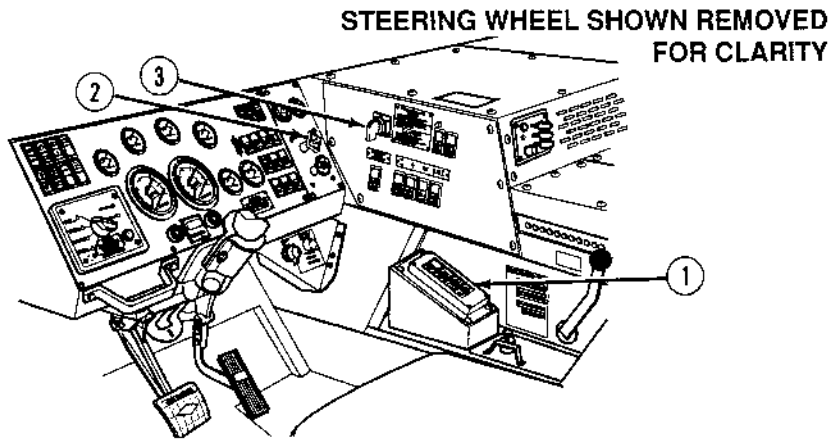
CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (21) Turn hydraulic selector switch (2) to OFF.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS).

a. Prepare Crane For Use.



- (1) Start engine (Para 2-15).

NOTE

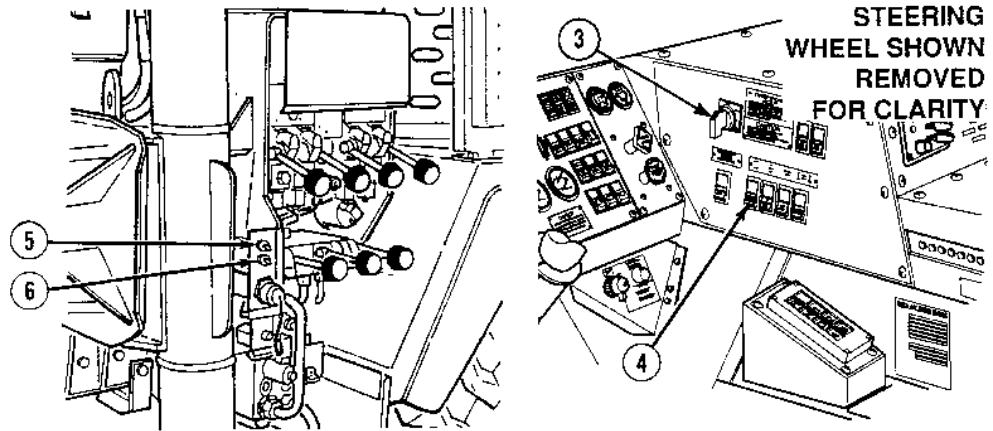
- If the ground is not level, outrigger jacks can be used to level the truck on up to a seven percent side slope.
 - If outrigger pads do not stay in firm contact with ground, crane functions will not operate.
- (2) Position truck on level ground so all loading and unloading can be done from one position.
 - (3) Put transmission range selector (1) in Neutral (N) position and pull PARKING BRAKE control knob (2) out.

CAUTION

Hydraulic selector switch must be in OFF position before moving selector switch to prevent equipment damage.

- (4) Ensure the hydraulic selector switch (3) is in OFF position.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



WARNING

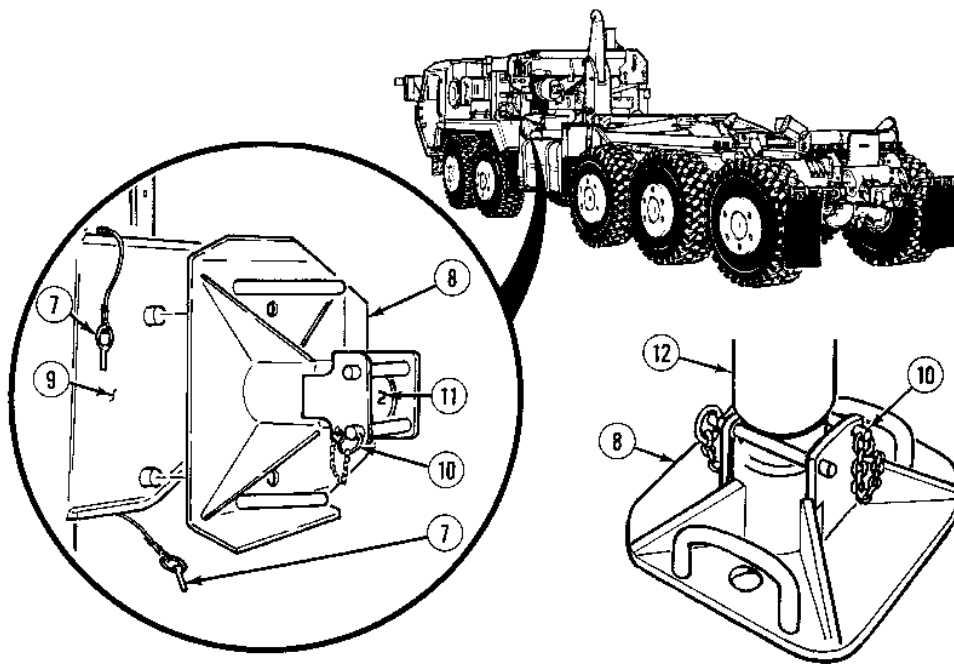
When operating truck at speeds of 55 mph (89 km/hr) with windows down, or when operating crane, hearing protection must be worn or hearing loss may result.

- (5) Push the SRW/CRANE switch (4) to the CRANE position for crane operation.

CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (6) Set the hydraulic selector switch (3) to CRANE/SRW position.
- (7) Set the CRANE MAIN POWER switch (5) to ON position.
- (8) Push the ENGINE HIGH IDLE LATCH switch (6) to LATCH and release.

b. Outrigger Jacks Setup.**WARNING**

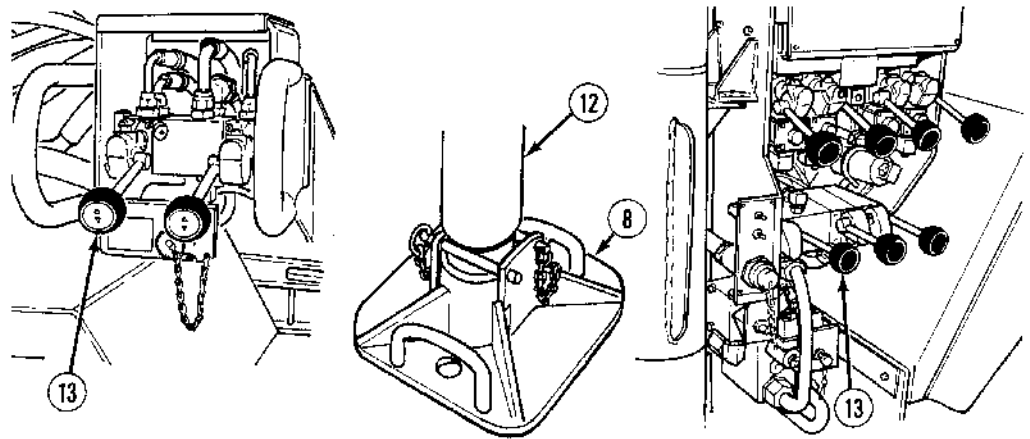
Use caution when handling outrigger pads. Sharp edges can injure hands.

NOTE

Both outrigger pads are the same. Left side is shown.

- (1) Remove two safety pins (7) and remove outrigger pad (8) from crane subframe (9).
- (2) Remove two retaining pins (10) from outrigger pad (8).
- (3) Clean all of the foreign material from socket (11) in outrigger pad (8) and from rod end of outrigger jack cylinder (12).
- (4) Position the outrigger pad (8) directly below outrigger jack cylinder (12).
- (5) Repeat Steps (1) through (4) to set up the outrigger pad (8) on other side.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

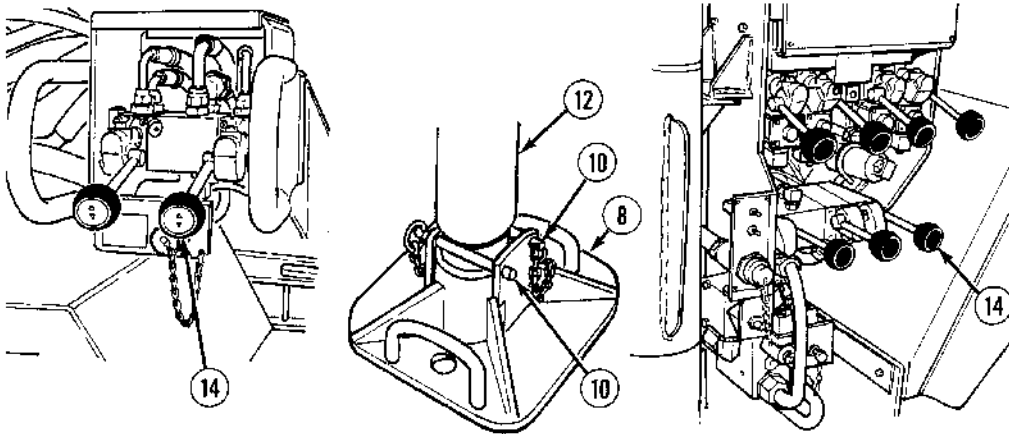


WARNING

- Always use outrigger jack control valve on the same side of the truck as the outrigger jack is being extended or serious personnel injury or death may result.
- Keep hands and feet away from outrigger jack cylinders and outrigger pads while operating outrigger jack levers to avoid injury to personnel.

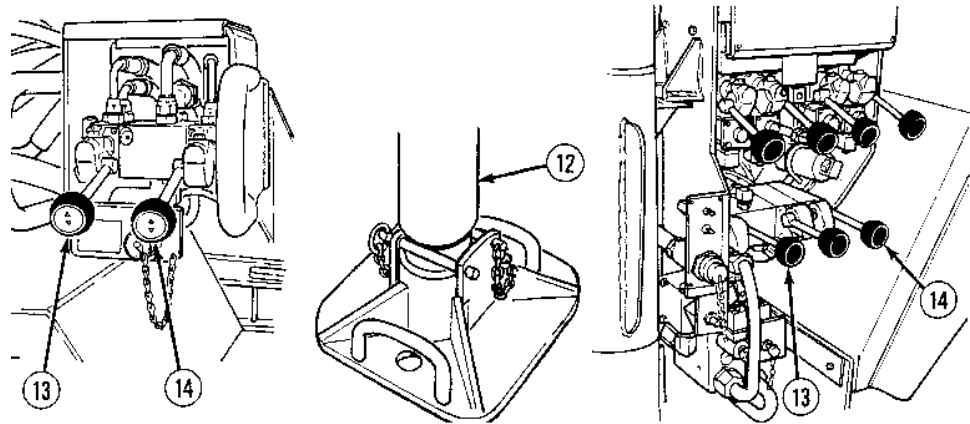
NOTE

- Adjust outrigger pad position as required so ball end will lower into pad socket.
 - Outrigger jacks will come down slower with light pressure on lever. Pushing lever to full travel will cause faster movement.
- (6) Move left outrigger jack (LH O/R JACK) control lever (13) (on left side of truck) to DOWN position and lower outrigger jack cylinder (12) until ball end is seated in outrigger pad (8).



- (7) Install retaining pins (10) in outrigger pad (8).
- (8) Move right outrigger jack (RH O/R JACK) control lever (14) (on right side of truck) to DOWN position and lower outrigger jack cylinder (12) until ball end is seated in outrigger pad (8).
- (9) Install retaining pins (10) in outrigger pad (8).

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



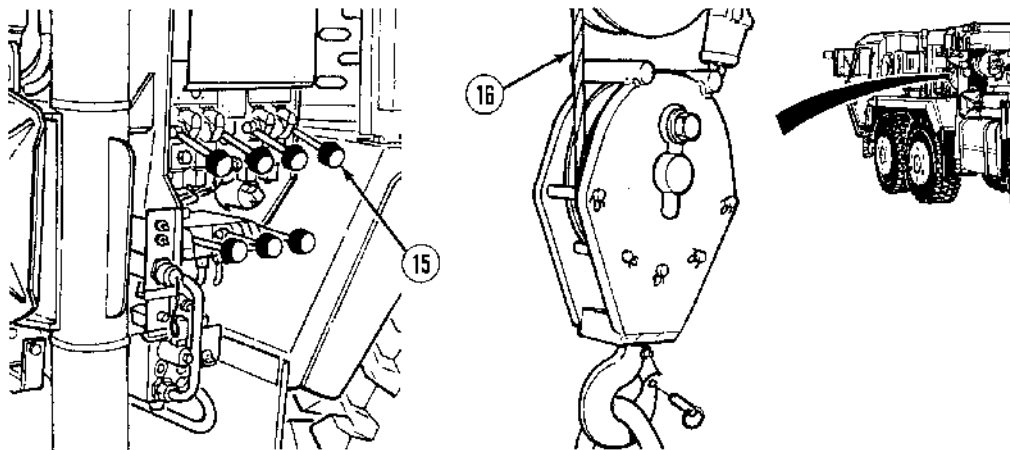
WARNING

Outrigger jack cylinders must be extended to remove enough weight from the suspension so that the tires do not bulge, or truck could roll over, causing serious injury or death.

NOTE

- Operate left and right outrigger jack (LH O/R JACK and RH O/R JACK) control levers at same time.
 - Crane movement from one lever may be slower than the other when operating two levers together.
 - Truck weight should be off suspension at least until tires do not bulge from weight of truck.
 - Outrigger jacks must properly support truck or crane functions will not operate.
 - If outrigger jacks depress into ground beyond outrigger pad retaining pins, reposition truck.
- (10) Move left outrigger jack (LH O/R JACK) and right outrigger jack (RH O/R JACK) control levers (13) and (14) to DOWN position. Lower left and right outrigger jack cylinders (12) until truck weight is off suspension. Extend jacks individually as necessary to level the truck side-to-side.

c. *Raise and Operating Crane.*

**WARNING**

- Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.
- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.

CAUTION

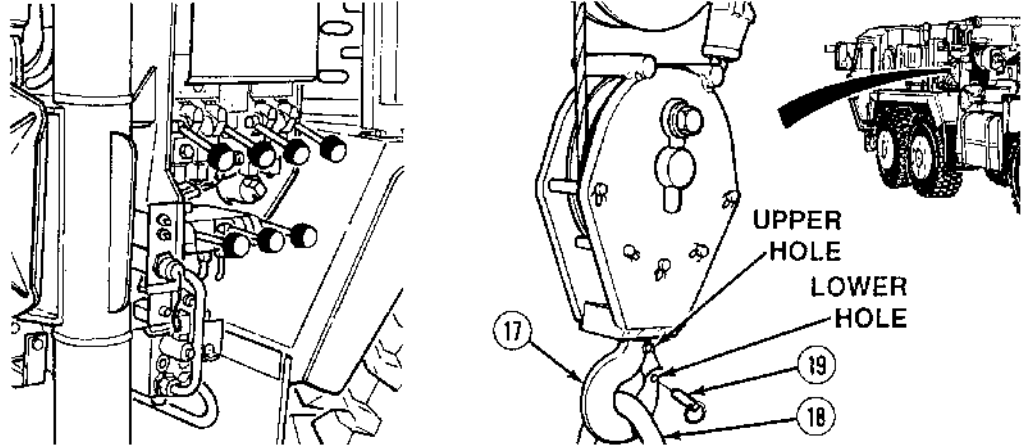
Do not let cable unwind and become slack or cable may get tangled on hoist drum.

NOTE

Crane will not operate unless outrigger jacks are firmly in place.

- (1) Move HOIST control lever (15) to DOWN position and lower hoist cable (16) approximately 4 in. (101.6 mm).

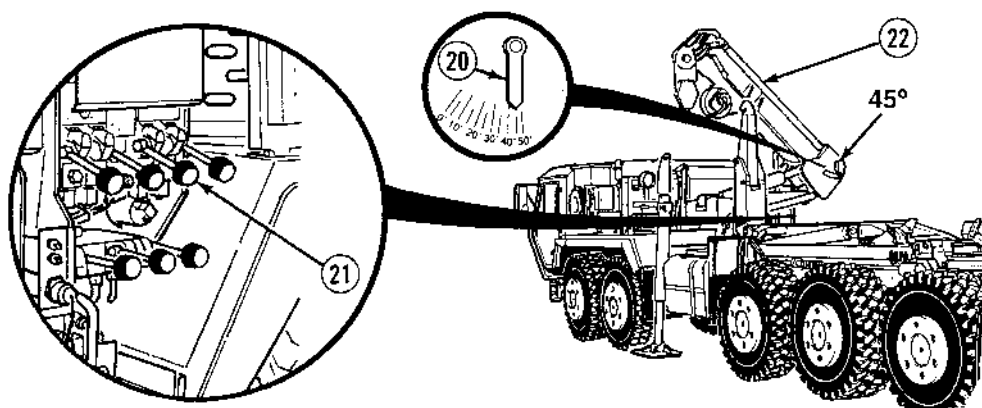
2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



WARNING

Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.

- (2) Pull lock pin (19) from lower hole and install in upper hole.
- (3) Disconnect load hook (17) from hook block tiedown (18).

**WARNING**

- Do not operate crane unless both outrigger jacks are properly set up. Truck could turn over causing serious injury or death.
- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.

CAUTION

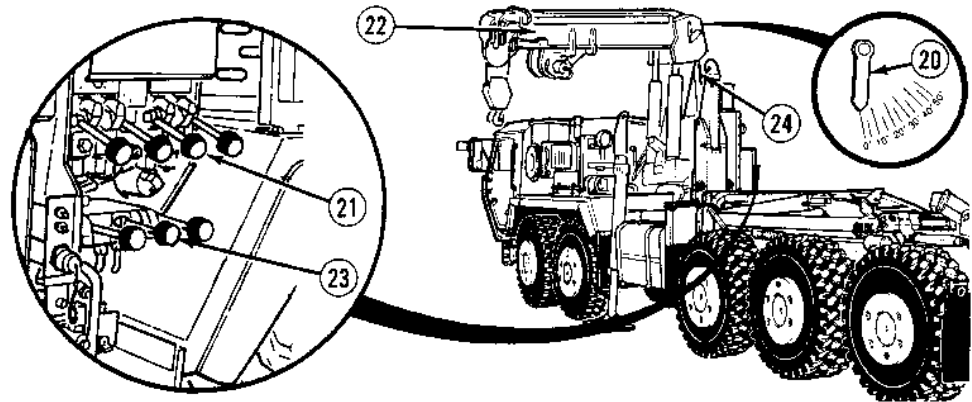
Do not operate mast control lever until boom is raised approximately 45 degrees. Otherwise, boom nose can be driven down into crane structure and damage will result.

NOTE

Mast will not erect if boom angle is significantly greater than 45 degrees.

- (4) Observe boom angle indicator (20) and operate BOOM control lever (21) in UP position until boom (22) is approximately 45 degrees above horizontal.

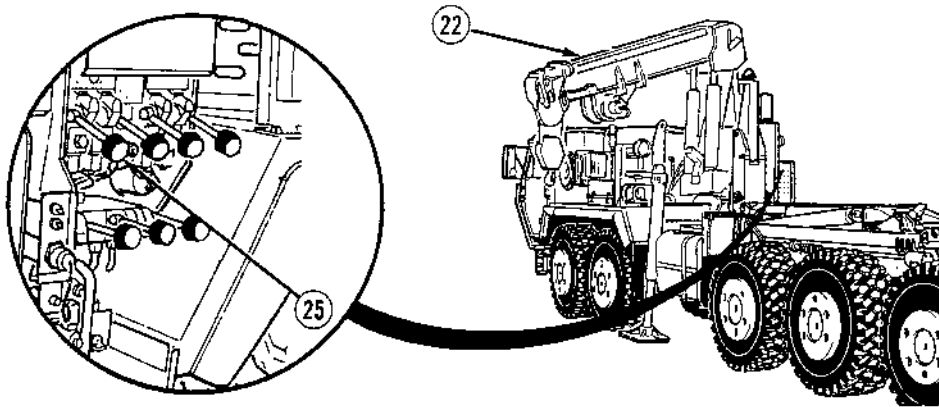
**2-30. MATERIAL HANDLING CRANE (MHC) OPERATION
(MANUAL CONTROLS) (CONT).**



CAUTION

Failure to extend mast fully before load is lifted may result in mast cylinder seal damage.

- (5) Operate MAST control lever (23) in UP position until mast (24) is fully extended and boom (22) is approximately in a horizontal position.
- (6) Move BOOM lever (21) until indicator (20) reads 0 degrees.

**WARNING**

- Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.
- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slowly enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Operator must keep control of load at all times. If necessary, attach cargo tiedowns to load for use as a control tether. Load moving out of control could cause serious injury or death.

CAUTION

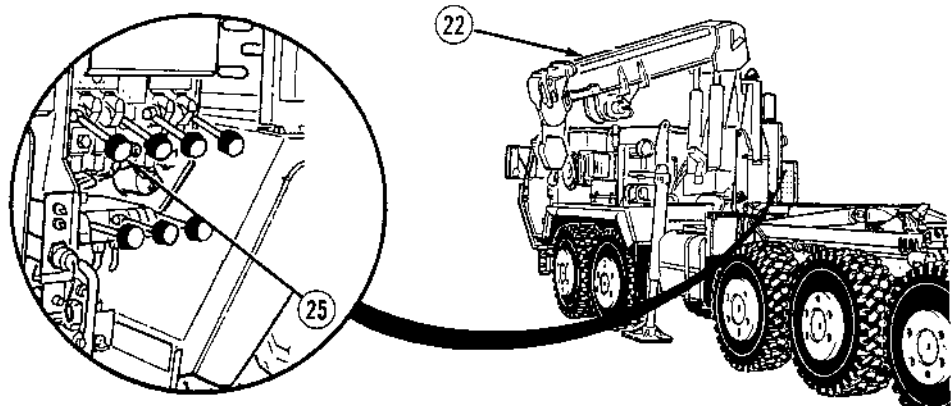
Boom must be above hook arm, flatrack and truck load for clearance. Hitting obstacles with boom may cause damage to boom or truck.

NOTE

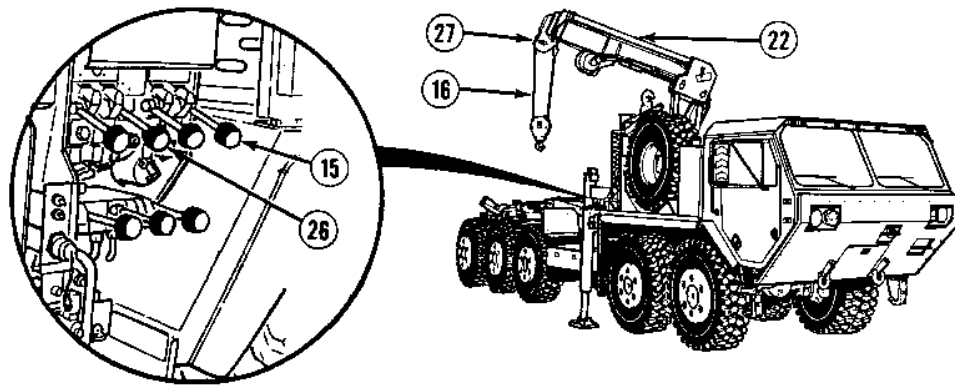
Operate control levers with light, even pressure. Moving lever slightly will cause slow movement of crane. Moving lever to full travel will cause faster movement of crane.

- (7) Move SWING control lever (25) to CCW position to move boom (22) counterclockwise.

**2-30. MATERIAL HANDLING CRANE (MHC) OPERATION
(MANUAL CONTROLS) (CONT).**



- (8) Move SWING control lever (25) to CW position to move boom (22) clockwise.



WARNING

When operating two control levers at the same time, if one function is held wide open and “dead-headed” (i.e. cylinder is fully extended) and another function is operated, the second function can operate at a greater than normal speed, which could cause loss of control and serious injury or death to personnel.

CAUTION

- Keep hook block at least 2 ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Lower hook block and wait six seconds for power to return, then check crane for damage.
- Do not jerk TELESCOPE control lever or load may bounce causing possible damage to crane or load and causing overload shutdown system to activate.
- Do not let cable unwind and become slack or cable may get tangled on drum and cause damage to drum.

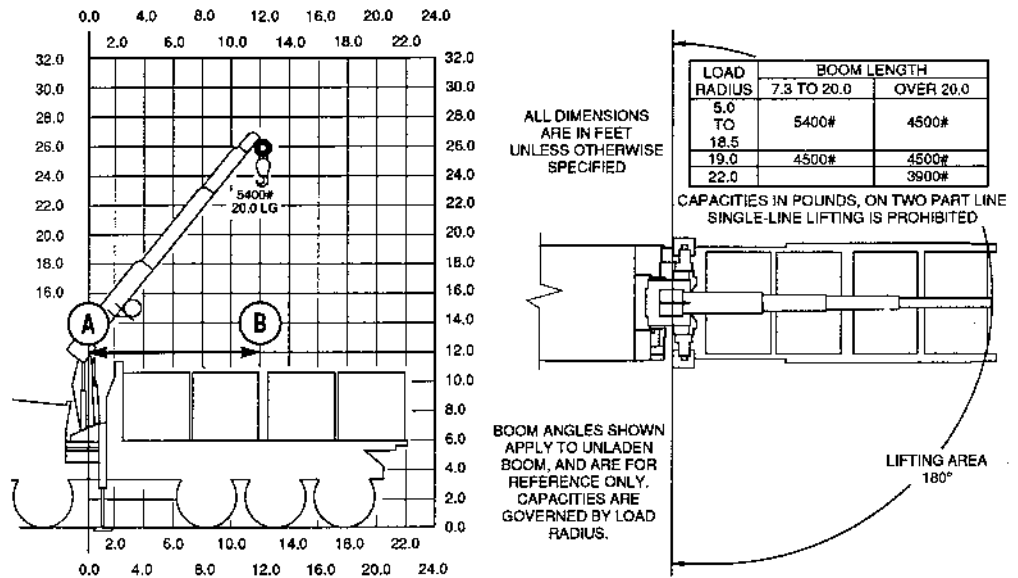
NOTE

TELESCOPE and HOIST control levers should be operated at same time.

- (9) Move TELESCOPE control lever (26) to OUT position to extend boom (22) while moving HOIST control lever (15) to DOWN position to pay out hoist cable (16). This prevents hook block from contacting boom nose (27).

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

RANGE DIAGRAM PLS



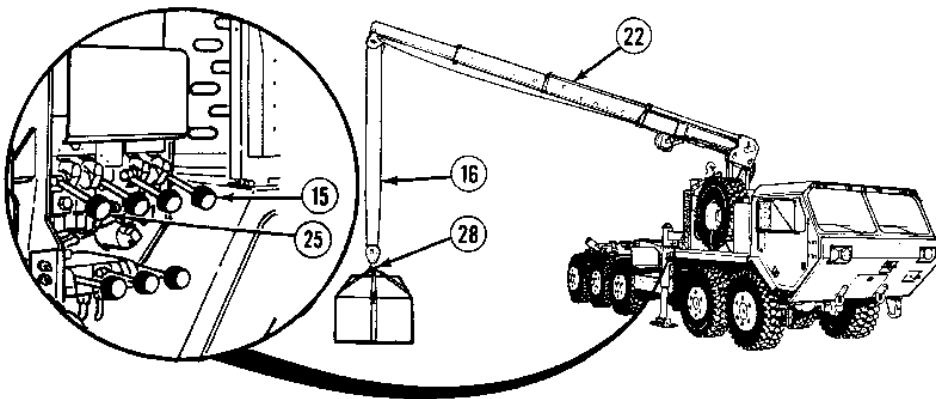
CAUTION

Do not attempt to lift more than maximum load rating as shown in RANGE DIAGRAM. Exceeding load ratings will cause damage to equipment.

NOTE

- Boom length is indicated on side of boom as it is extended.
- Load radius is measured from MHC pivot point to load hook. (Measurement must be taken parallel to truck, point A to point B.)
- Numbers along top and bottom of diagram refer to load radius. Numbers along side of diagram refer to working height. For example: Boom length is at 20 ft. (6 m) as indicated on side of boom. Load radius is 12 ft. (4 m) as measured from point A to point B. Chart on right indicates a maximum lift of 5,400 lbs. (2,452 kg).

- (10) Refer to RANGE DIAGRAM data plate above RH Crane Control Panel to move boom to correct load radius before connecting to load.

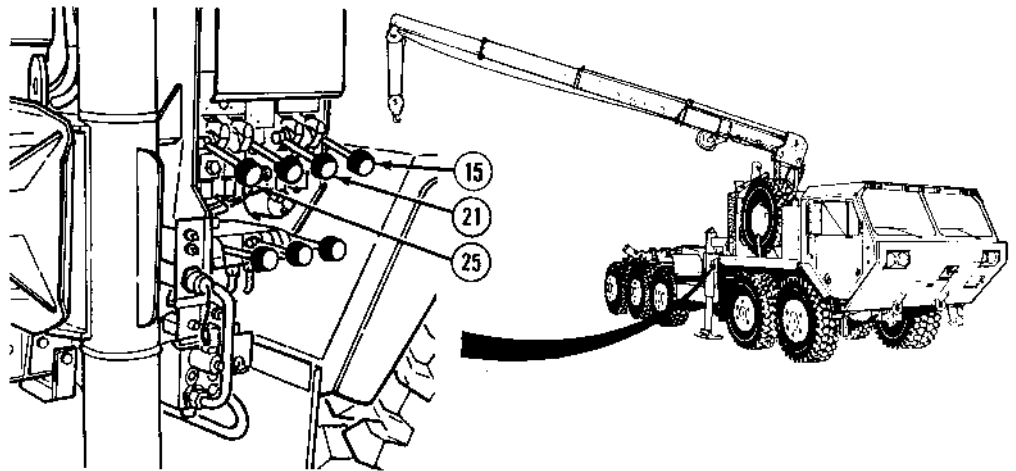
d. Raise and Lower Load.**WARNING**

- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Load hook must not extend beyond attaching point of load. When lifting load, boom will deflect slightly and load radius will increase depending on length of boom and weight of load. Boom deflection may cause load to swing out and cause injury or death to personnel and/or damage to equipment.

CAUTION

- Do not let cable become slack or cable may get tangled on drum.
 - Do not drag load on ground or damage to crane may result.
- (1) Operate the SWING control lever (25) and center end of boom (22) directly over load.
 - (2) Operate the HOIST control lever (15) to raise or lower hoist cable (16) and connect load hook (28) to load.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

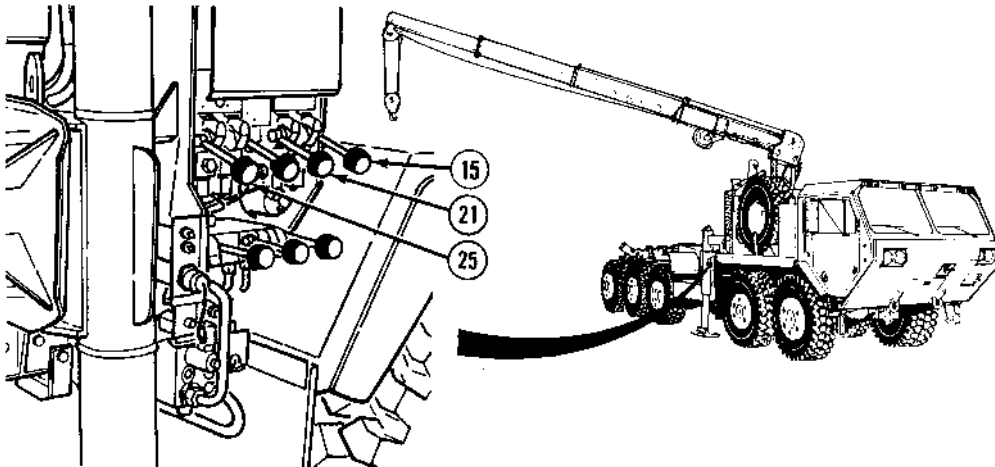


WARNING

Ensure there are at least two wraps of cable on hoist drum at all times. Serious injury or death could result if cable comes off hoist drum while lifting load.

CAUTION

- Do not jerk HOIST control lever or load will bounce causing possible damage to crane or load, and causing overload shutdown to operate.
- Use the PLS range diagram and know the weight of the load before hoisting the load, or equipment damage may result.

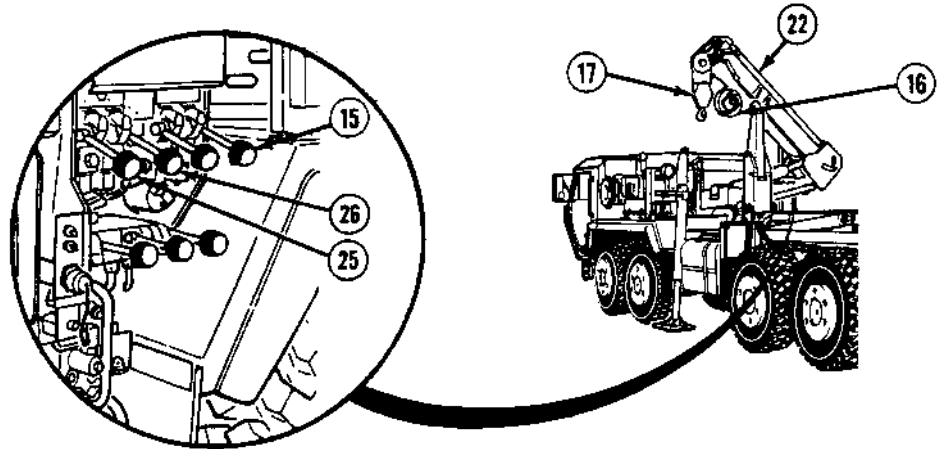


NOTE

- When crane is overloaded, the overload shutdown system will automatically shut off power to Telescope Boom Out, Boom Up Boom Down and Hoist Up functions. Overload condition can be corrected by using Hoist Down function to lower load to ground or other supporting surface. All crane functions will be restored in about six seconds, after overload condition is eliminated.
 - It is normal for fluctuation of the engine rpm to occur whenever a change in load on the engine occurs.
- (3) Move HOIST control lever (15) to UP position to lift load. Move BOOM control lever (21) to UP position to raise load and bring load closer to crane. Use SWING control lever (25) to rotate crane to desired location to deposit load.
 - (4) Move HOIST control lever (15) to DOWN position to lower load. Move BOOM control lever (21) to DOWN position (telescope function can also be used to adjust the load position for setting down) to lower load and move load away from crane.
 - (5) Shut down crane (Para 2-30e).

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

e. Shut Down Crane.



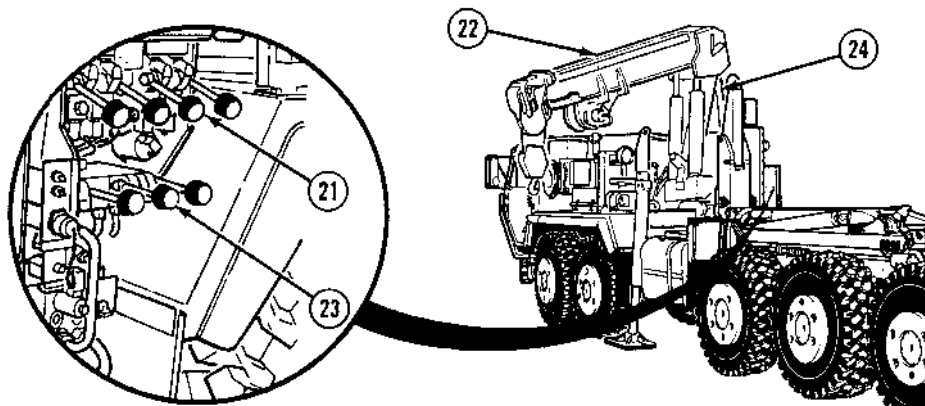
CAUTION

- If the crane main power switch has been temporarily turned OFF following crane operations, repower the crane and reset engine high idle according to instructions (Para 2-30a). Otherwise, proceed as follows:
- Leave approximately 2 ft. (0.61 m) of cable between boom sheave and hook block when reeling in cable or damage to equipment could result.
- Do not let cable unwind and become slack or cable may get tangled on drum and cause damage to drum.

NOTE

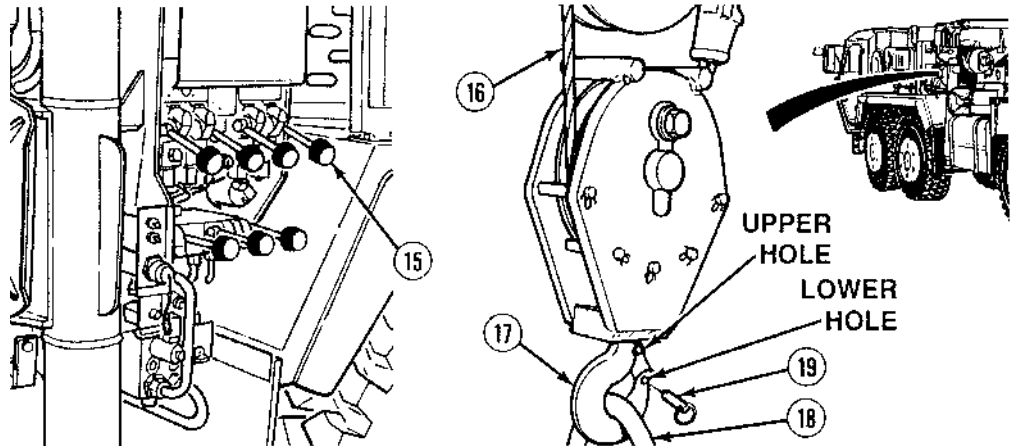
TELESCOPE and HOIST control levers should be operated at same time.

- (1) Move the TELESCOPE control lever (26) to IN position to pull boom extensions (22) in and move HOIST control lever (15) to UP position to reel in hoist cable (16) until boom extensions are fully retracted and load hook (17) hangs approximately 8 in. (203.2 mm) below boom nose.
- (2) Operate the SWING control lever (25) to align hook block with hook block tiedown.

**CAUTION**

- Boom must rest on rest pad when transporting truck. If not, damage to truck can result.
 - When lowering mast, boom must align with hook and hook block tiedown or mast may contact muffler and boom may contact LHS hook arm, flatrack or truck. Damage to truck may result.
 - Do not lower mast and boom at the same time. Mast must be completely folded down before lowering boom, otherwise boom nose will be driven down into the crane structure and damage will result.
- (3) Move the MAST control lever (23) to DOWN position to lower mast (24) until mast is completely folded down.
- (4) Move the BOOM control lever (21) to DOWN position until boom (22) comes to rest on mast rest pad.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).

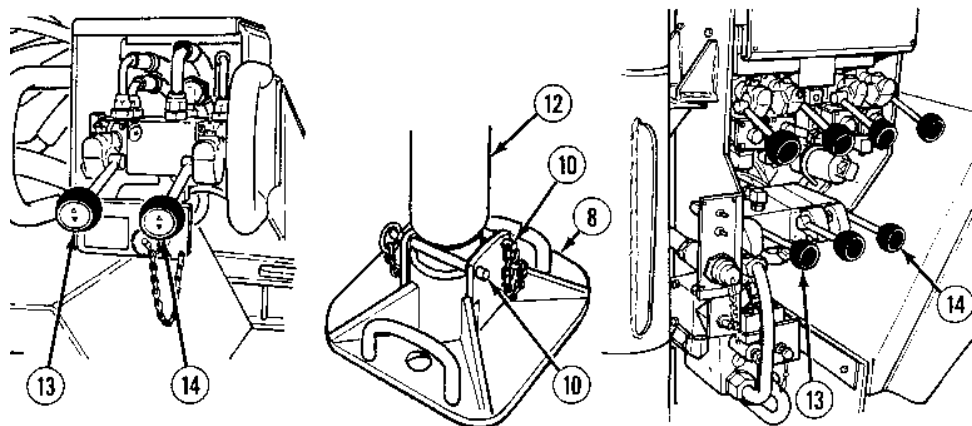


CAUTION

If hoist cable has excessive tension when crane is stowed, boom nose will contact hook block during driving operations and damage will result.

- (5) Connect load hook (17) to hook block tiedown (18). Remove pin (19) from upper hole and install in lower hole. Move HOIST control lever (15) to UP position to remove slack from hoist cable (16).

f. Stow Outrigger Jacks.



- (1) Remove two retaining pins (10) from each outrigger pad (8).

WARNING

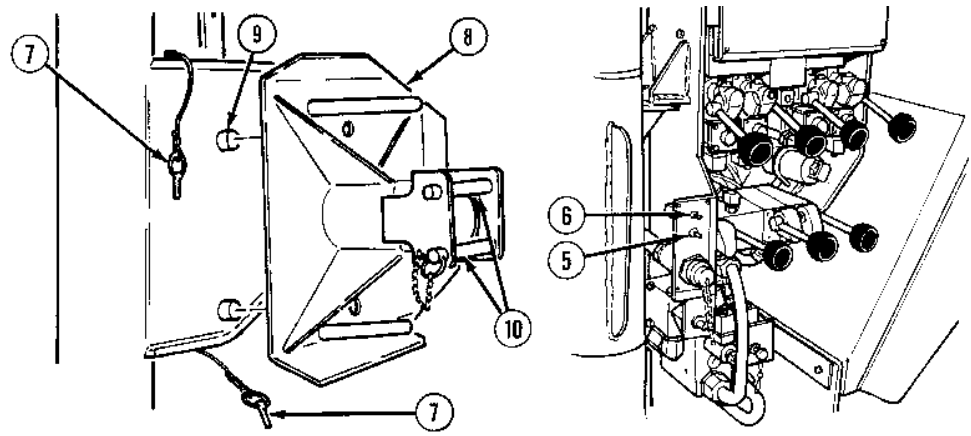
Keep hands and feet away from outrigger jack cylinders and outrigger pads while operating outrigger jack levers to avoid injury to personnel.

NOTE

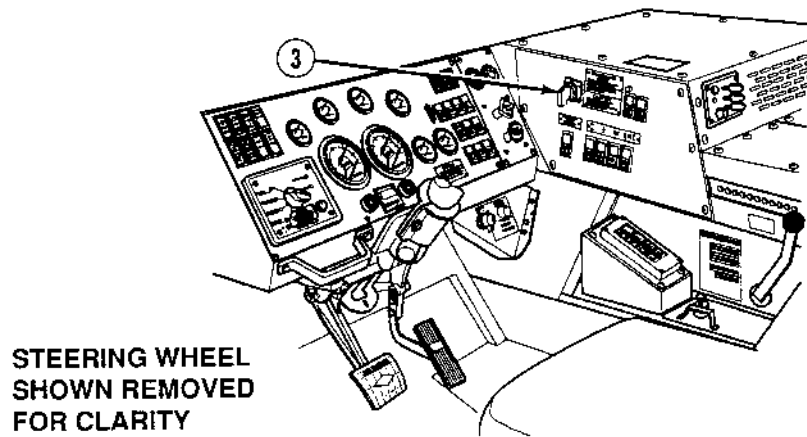
Operate left and right outrigger jack (LH O/R JACK and RH O/R JACK) levers at the same time until both outrigger jack cylinders are out of pads.

- (2) Move the left outrigger jack (LH O/R JACK) and right outrigger jack (RH O/R JACK) control levers (13) and (14) to UP position to retract outrigger jack cylinders (12) completely.

2-30. MATERIAL HANDLING CRANE (MHC) OPERATION (MANUAL CONTROLS) (CONT).



- (3) Install two retaining pins (10) in outrigger jack pads (8).
- (4) Stow the outrigger jack pads (8) on crane subframe (9).
- (5) Install the safety pins (7) through crane subframe (9).
- (6) Push the ENGINE HIGH IDLE latch switch (6) to UNLATCH position and release.
- (7) Turn the crane main power switch (5) to OFF position.



CAUTION

Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.

- (8) Set the hydraulic selector switch (3) in OFF position.
- (9) Shut off engine (Para 2-15).

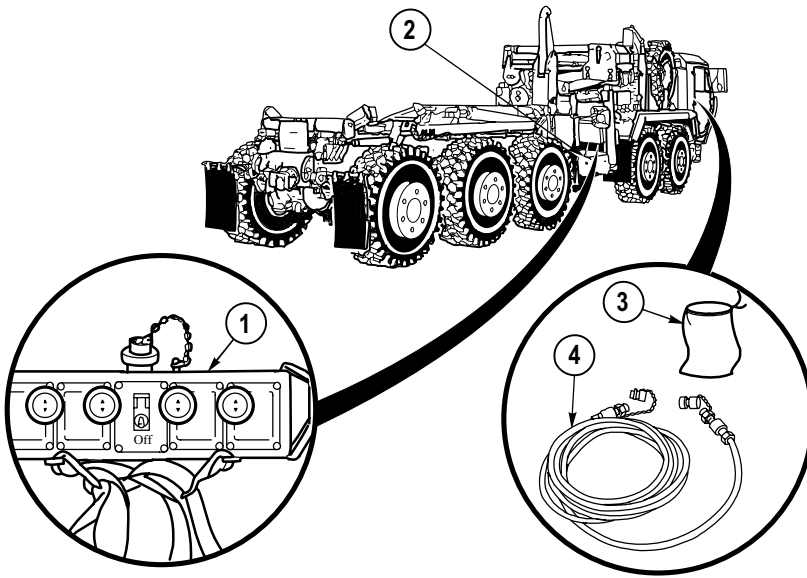
2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROL).

a. Set Up Remote Control Unit.

WARNING

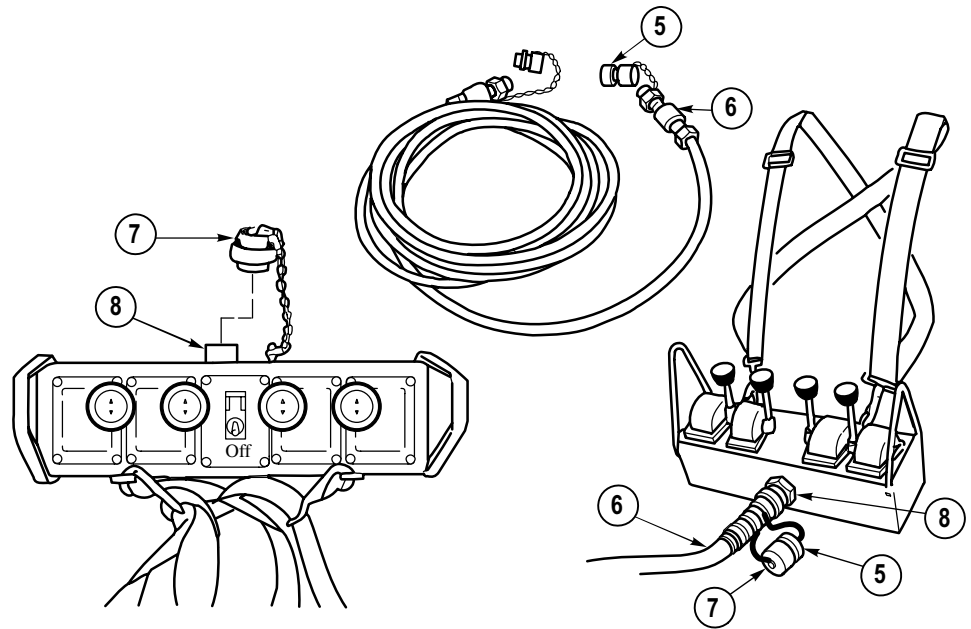
- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.
- When operating crane, hearing protection must be worn or hearing loss may result.

- (1) Prepare crane for use (Para 2-30).
- (2) Set up outrigger jacks (Para 2-30).
- (3) Raise crane to operating position (Para 2-30).



- (4) Remove the REMOTE CONTROL UNIT (1) from stowage box (2).
- (5) Remove remote control cable bag (3) from behind passenger seat.
- (6) Remove remote control cable (4) from bag (3).

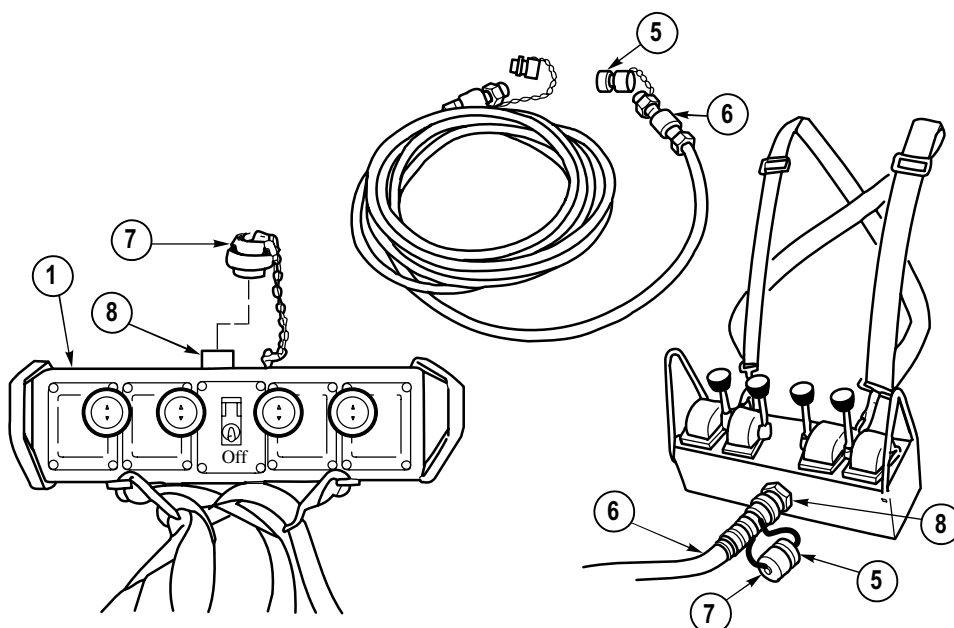
2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



CAUTION

Covers should be removed from cable and remote just before they are hooked together to avoid contamination.

- (7) Remove the cover (5) from cable connector (6) and cover (7) from REMOTE CONTROL UNIT receptacle (8).


WARNING

Shut off and remove REMOTE CONTROL UNIT from around neck and shoulders prior to climbing on truck, flatrack or load or serious injury or death to personnel may result.

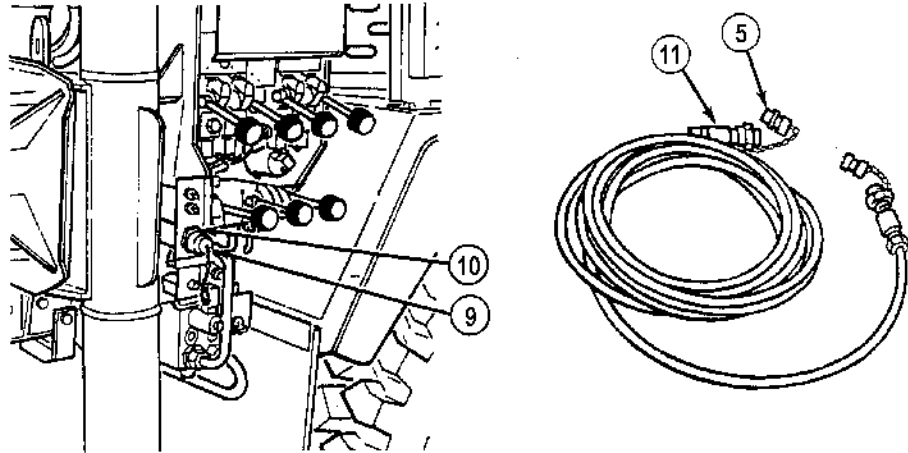
NOTE

REMOTE CONTROL UNIT straps may be crisscrossed in either front or rear for operator comfort.

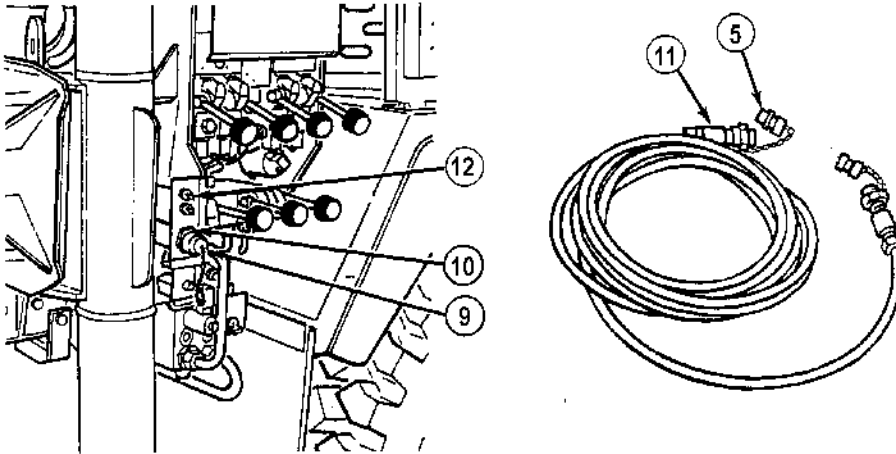
- (8) Position the REMOTE CONTROL UNIT strap around neck and over shoulders to wear REMOTE CONTROL UNIT (1).
- (9) Connect the cable connector (6) to REMOTE CONTROL UNIT receptacle (8).
- (10) Connect the cover (7) of REMOTE CONTROL UNIT receptacle (8) to the cover (5) of cable connector (6).

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

b. Connect Remote Control Unit to Right Hand Outlet.



- (1) Remove cover (9) from RH REMOTE CONTROL CONNECTOR outlet (10) and remove cover (5) from other end of cable connector (11).



WARNING

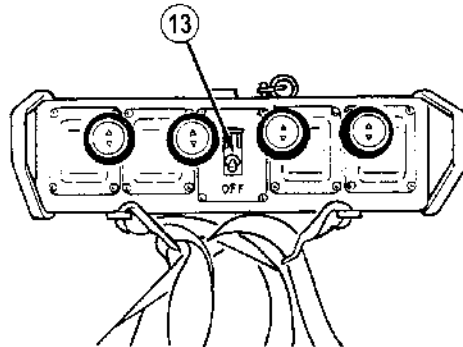
- Ensure REMOTE CONTROL/EMERGENCY STOP/ON/OFF power switch is in OFF position, switch guard is closed, control levers rotate freely and are in the neutral position before connecting REMOTE CONTROL UNIT. Crane moving out of control could cause serious injury or death.
- If electrical power fails during crane operation, move switch on REMOTE CONTROL UNIT to SHUTDOWN position. Serious injury could result from uncontrolled moving parts.

NOTE

Idle speed will decrease when REMOTE CONTROL UNIT is plugged in.

- (2) Connect the cable connector (11) to RH REMOTE CONTROL CONNECTOR outlet (10).
- (3) Connect the cover (9) of RH REMOTE CONTROL CONNECTOR outlet (10) to the cover (5) from cable connector (11).
- (4) Ensure crane power switch (12) is ON.

**2-31. MATERIAL HANDLING CRANE (MHC) OPERATION
(REMOTE CONTROLS) (CONT).**

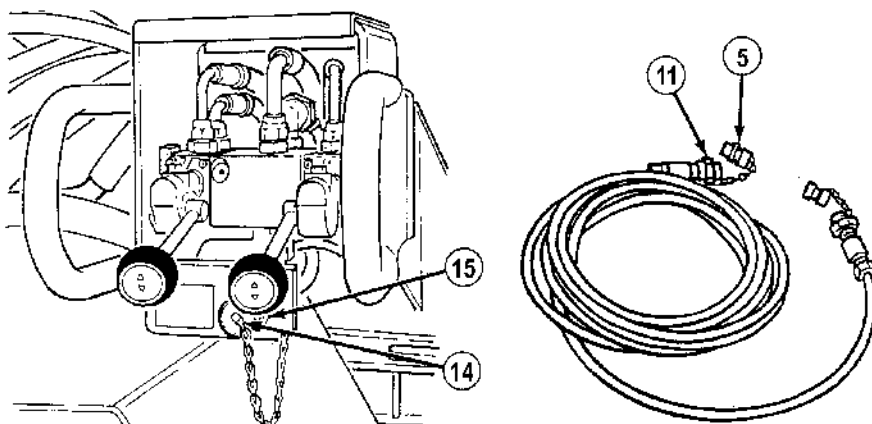


NOTE

- Closing the switch guard of the EMERGENCY STOP ON/OFF switch will activate the emergency stop.
- Turning switch to ON will automatically engage high idle.

- (5) Set the REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) to ON position.

c. *Connect Remote Control Unit to Left Hand Outlet.*



CAUTION

Covers should be removed from cable and REMOTE CONTROL UNIT just before they are connected to avoid contamination.

- (1) Remove cover (14) from LH REMOTE CONTROL outlet (15) and remove cover (5) from other end of cable connector (11).
- (2) Refer to Para 2-31b Steps (2) through (4) to prepare REMOTE CONTROL UNIT for operation.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

d. Rotate and Telescope Boom.

WARNING

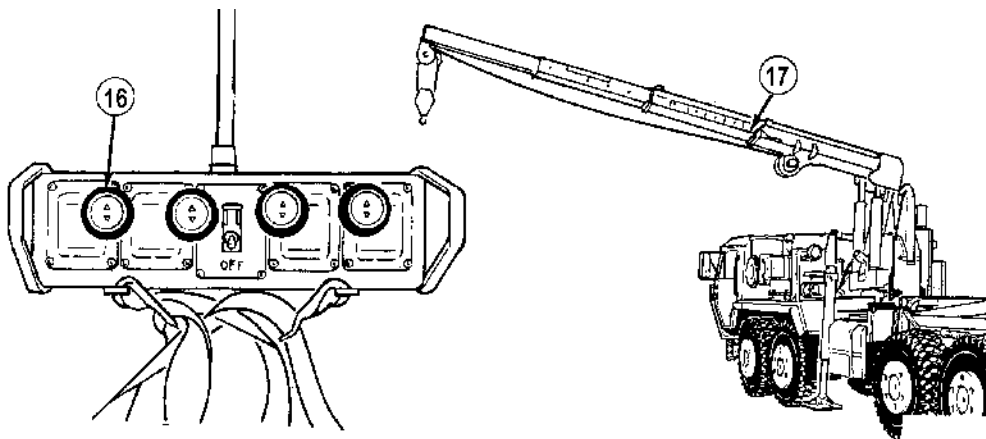
- Operator should be stationed to be able to see load at all times during crane operation. Operate crane from RH or LH remote control station if load is not visible from main crane control panel. Boom and load moving out of control could cause serious injury or death.
- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operate crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Operator must keep control of load at all times. If necessary, attach cargo tiedowns to load for use as a control tether. Load moving out of control could cause serious injury or death.
- Keep boom clear of all electrical lines and other obstacles while operating crane. Serious injury or death could result upon contact.

CAUTION

Boom must be above truck hook arm, flatrack and truck load for clearance. Hitting obstacles with boom may cause damage to boom or truck.

NOTE

Operate control levers with light, even pressure. Moving lever slightly will cause slow movement of crane. Moving lever to full travel will cause faster movement of crane.



- (1) Move the SWING control lever (16) to CCW position to move boom (17) counterclockwise.
- (2) Move the SWING control lever (16) to CW position to move boom (17) clockwise.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

WARNING

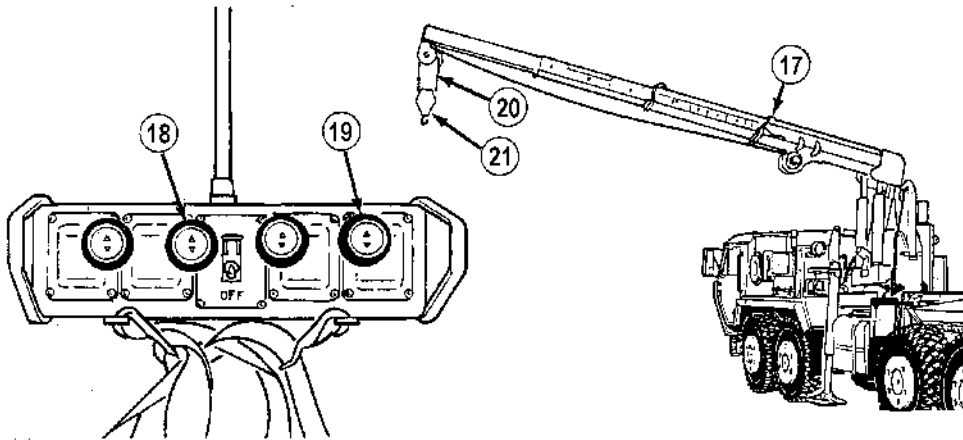
When operating two control levers at the same time, if one function is held wide open and “dead-headed” (i.e., cylinder is fully extended) and another function is operated, the second function can operate at a greater than normal speed, which could cause loss of control and serious injury or death to personnel.

CAUTION

Keep hook block at least 2 ft. (0.61 m) from end of boom. If hook block hits end of boom it may damage cable or hook block and crane will lose control functions. Lower hook block and wait six seconds for power to return. Check crane for damage.

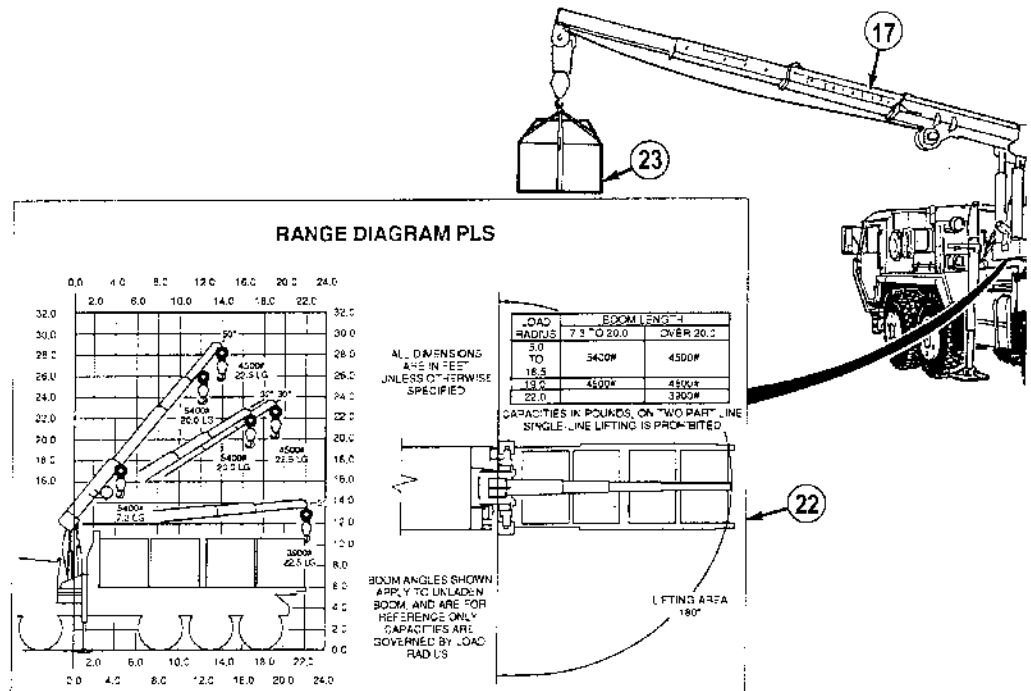
NOTE

- When crane is overloaded, the overload shutdown system will automatically shut off power to Telescope Boom Out, Boom Up, Boom Down and Hoist Up functions.
- TELESCOPE and HOIST control levers should be operated at same time.
- Crane movement from one lever may be slower than other when operating two levers together.



- (3) Move TELESCOPE control lever (18) to OUT position to extend boom (17) while moving HOIST control lever (19) to DOWN position to pay out cable (20). This prevents hook block (21) from contacting boom nose.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



CAUTION

- Do not attempt to lift more than maximum load rating as shown on RANGE DIAGRAM. Exceeding load ratings could cause damage to equipment.
- Operator must keep control of load at all times. If necessary, attach cargo tie down straps to load for use as a control tether. Load moving out of control could cause serious injury or death.

NOTE

Refer to the RANGE DIAGRAM data plate above RH Crane Control Panel or rear of left front fender.

- Move boom (17) to correct radius as shown on data plate (22) before connecting to load (23).

e. Raise and Lower Load.

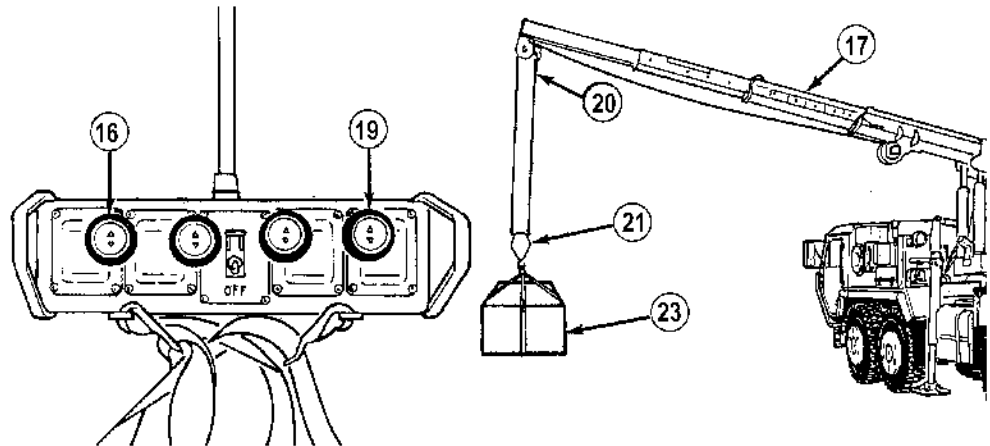
WARNING

- Load hook must not extend beyond attaching point of load. When lifting load, boom will deflect slightly and load radius will increase depending on length of boom and weight of load. Boom deflection may cause load to swing out and cause injury or death to personnel and/or damage to equipment.
- Ensure that area is clear of personnel before moving SWING control lever. Boom should be swung slow enough so crane operator has complete control. If operator cannot see load during operation, operator crane from REMOTE CONTROL UNIT. Boom moving out of control could cause serious injury or death.
- Operator should use REMOTE CONTROL UNIT if the load will pass overhead. Load could fall, causing serious injury or death.

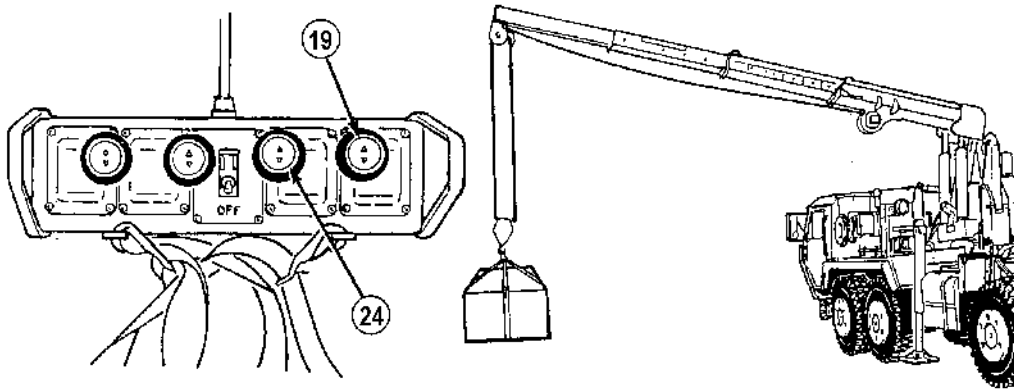
CAUTION

- Do not let cable become slack. Cable may get tangled on drum and damage cable.
- Do not drag load sideways on ground. Dragging load could cause damage to crane.

**2-31. MATERIAL HANDLING CRANE (MHC) OPERATION
(REMOTE CONTROLS) (CONT).**



- (1) Operate the SWING control lever (16) and center end of boom (17) directly over load (23).
- (2) Operate the HOIST control lever (19) to raise or lower cable (20) and connect hook (21) to load (23).

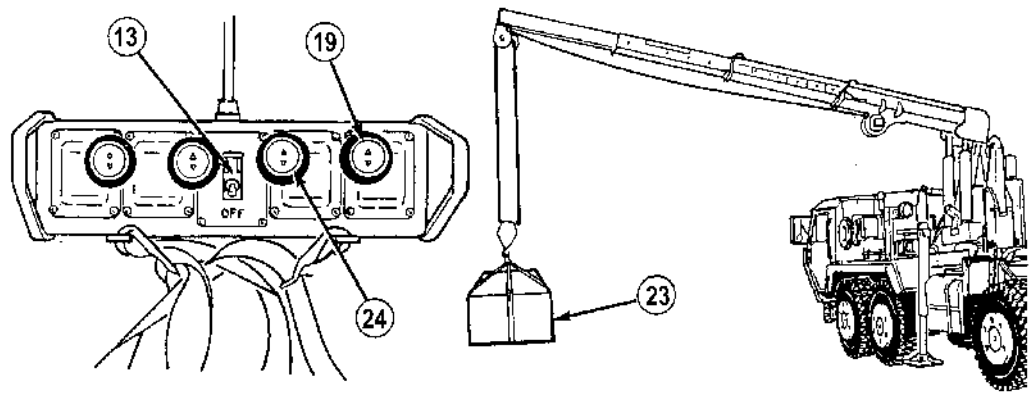
**WARNING**

Ensure there are at least two wraps of cable on hoist drum at all times. Serious injury or death could result if cable comes off hoist drum while lifting load.

CAUTION

- Do not jerk HOIST control lever or load will bounce, causing possible damage to crane or load, and causing overload shutdown to operate.
 - Do not attempt to lift more than maximum load rating as shown on RANGE DIAGRAM. Exceeding load ratings could cause damage to equipment.
- (3) Move the HOIST control lever (19) to UP position to lift load. Move BOOM control lever (24) to UP position to raise load higher and bring load closer to crane.

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



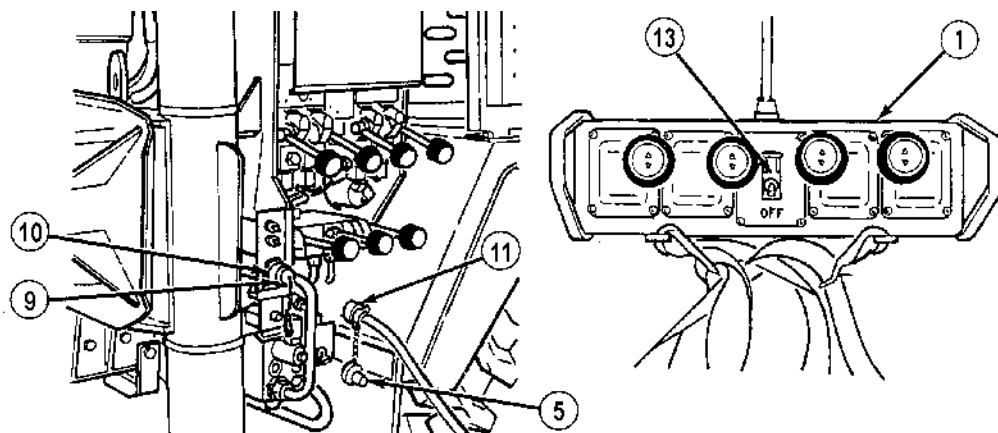
- (4) Move the HOIST control lever (19) to DOWN position to lower the load. Move BOOM control lever (24) to DOWN position to lower load further and move load away from crane as necessary.
- (5) Lower load (23) until properly positioned.

WARNING

Shut off and remove REMOTE CONTROL UNIT from around neck and shoulders prior to climbing on truck, flatrack or load or serious injury or death to personnel may result.

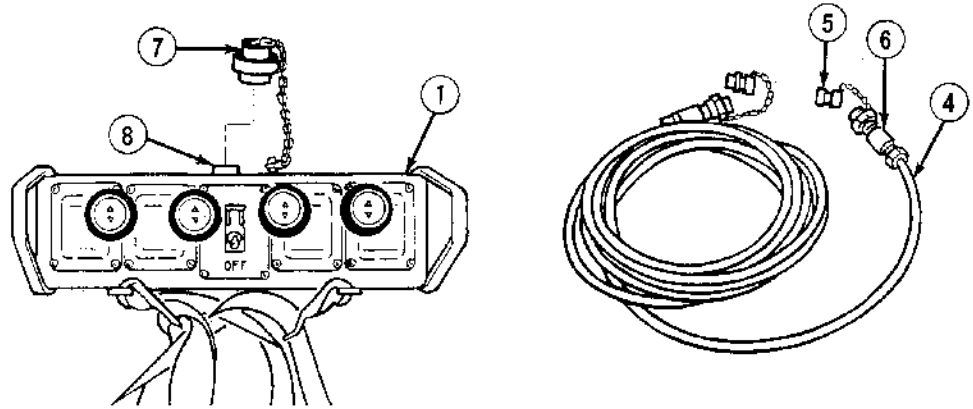
- (6) Turn REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) to OFF and disconnect load (23).

f. Disconnect Remote Control From RH Outlet.



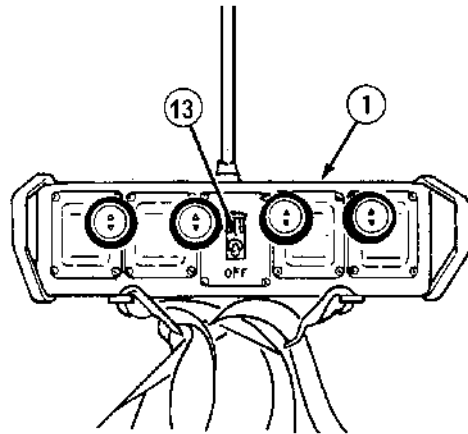
- (1) Put the REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) on REMOTE CONTROL UNIT (1) in OFF position.
- (2) Disconnect cover (9) from cover (5).
- (3) Disconnect the cable connector (11) from RH REMOTE CONTROL CONNECTOR outlet (10) and install cover (9) on outlet. Install cover (5) on cable connector (11).

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).

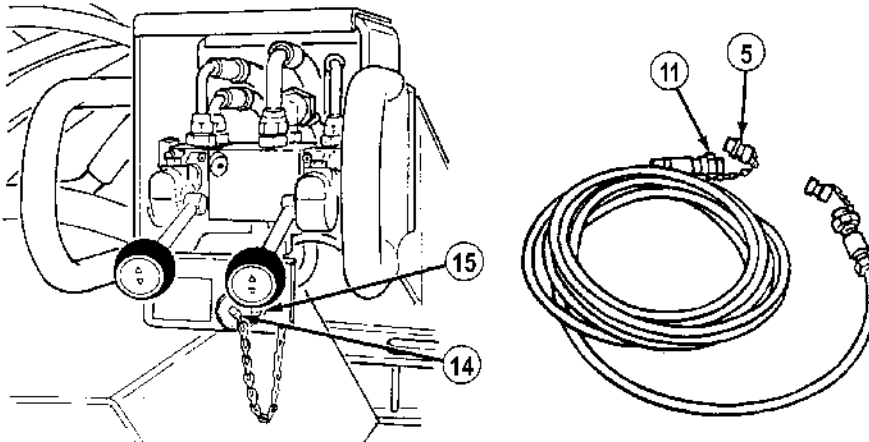


- (4) Disconnect cover (7) from cover (5).
- (5) Disconnect the cable connector (6) from REMOTE CONTROL UNIT receptacle (8) and install cover (7) on receptacle.
- (6) Replace covers (5) on cable connector (6).
- (7) Place REMOTE CONTROL UNIT (1) and coiled cable (4) in stowage box.
- (8) Shut down the crane, (Para 2-30).

g. Disconnect Remote Control Unit From LH Outlet.

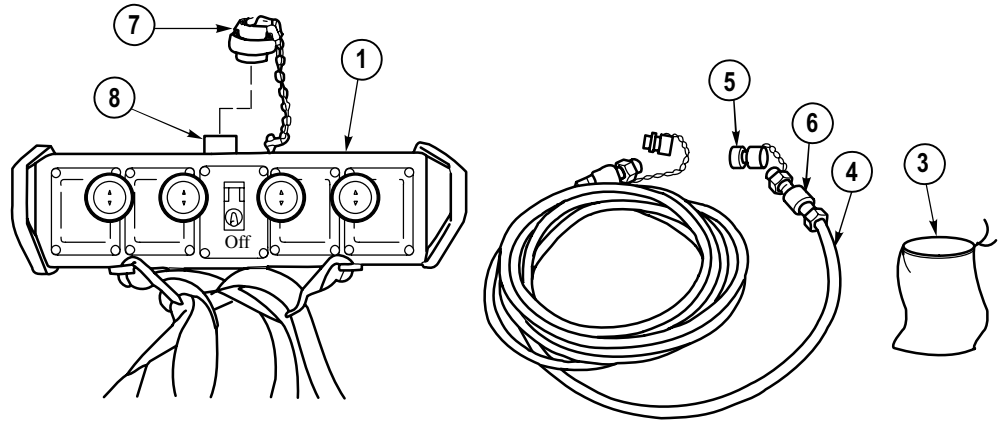


- (1) Set REMOTE CONTROL EMERGENCY STOP ON/OFF power switch (13) on REMOTE CONTROL UNIT (1) to OFF position.

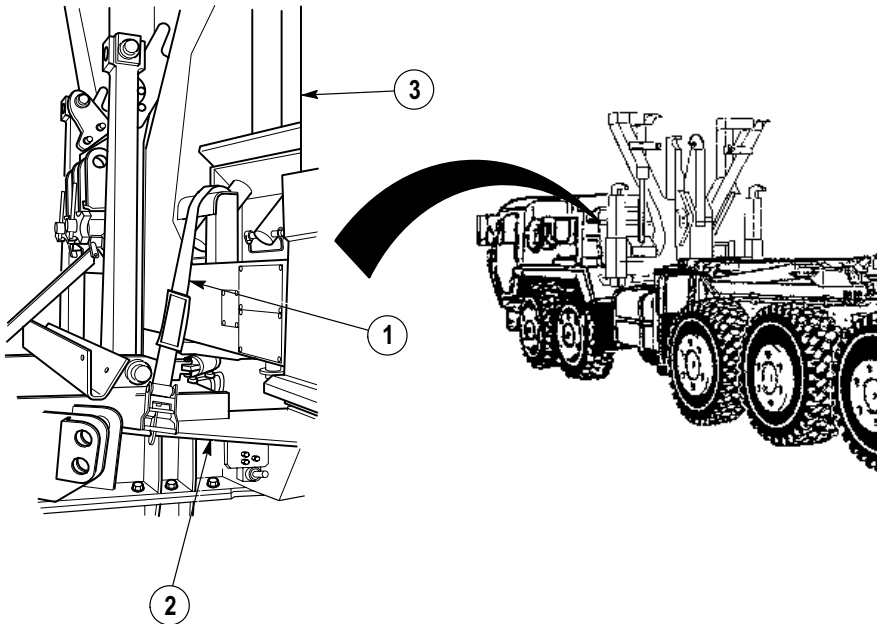


- (2) Disconnect cover (14) from cover (5).
- (3) Disconnect the cable connector plug (11) from LH REMOTE CONTROL CONNECTOR outlet (15) and install cover (14) on outlet.
- (4) Install cover (5) on cable connector plug (11).

2-31. MATERIAL HANDLING CRANE (MHC) OPERATION (REMOTE CONTROLS) (CONT).



- (5) Disconnect cover (7) from cover (5).
- (6) Disconnect the cable connector (6) from REMOTE CONTROL UNIT receptacle (8) and install cover (7) on receptacle.
- (7) Install cover (5) on cable connector (6).
- (8) Place the REMOTE CONTROL UNIT (1) in stowage box.
- (9) Place remote control cable (4) in bag (3).
- (10) Place remote control cable bag (3) behind passenger seat.
- (11) Shut down the crane (Para 2-30).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE.**a. Preparation for Container Mode.****WARNING**

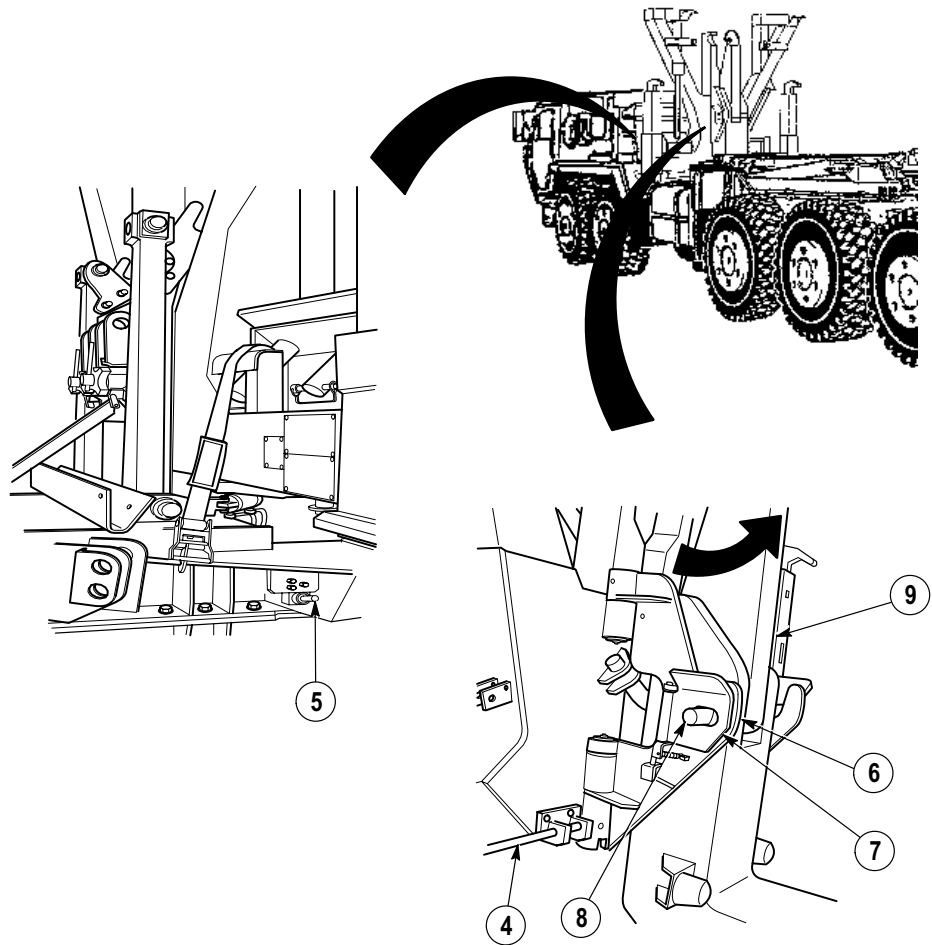
- Check for overhead power lines or other obstructions before attempting CHU operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Ensure engine is OFF and truck parking brake is ON before preparing PLS truck for container mode. Failure to comply may result in injury or death to personnel.

NOTE

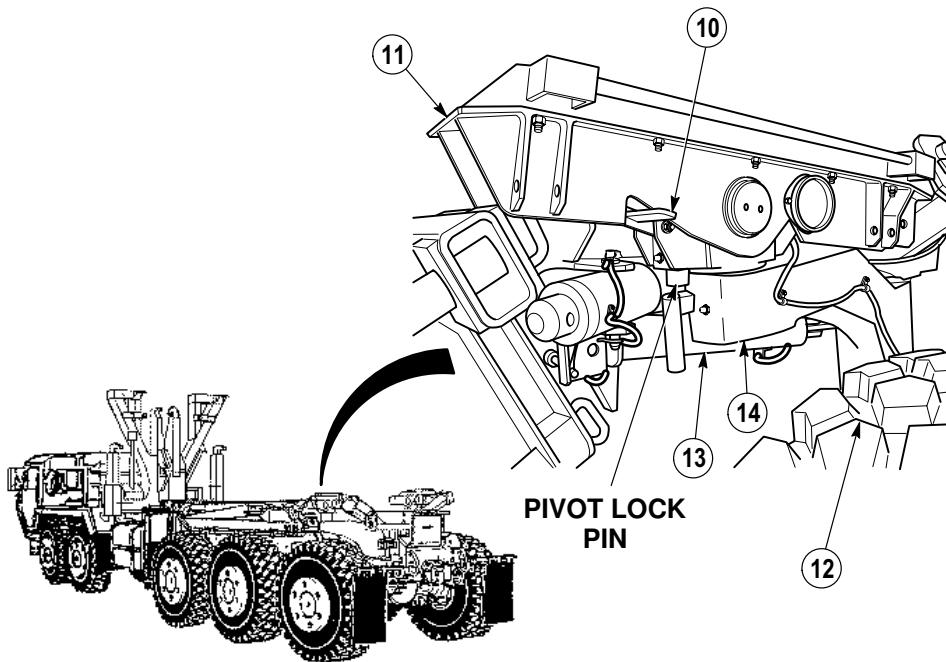
There are two straps and flipper lock assemblies on lifting frame. Left side is shown.

- (1) Remove strap (1) from rod on front support assembly (2).
- (2) Stow strap (1) on lifting frame (3) stowbar.

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



- (3) Pull flipper lock pin handle (4) out and lift air valve lever (5) up to rotate flipper bracket (6) and flipper bracket lock plate (7) on pivot pin (8).
- (4) Release flipper lock pin handle (4).
- (5) Ensure flipper bracket (6) is positioned over pivot pin (8) on hook arm (9).
- (6) Ensure flipper lock pin handle (4) is engaged in flipper bracket (6).



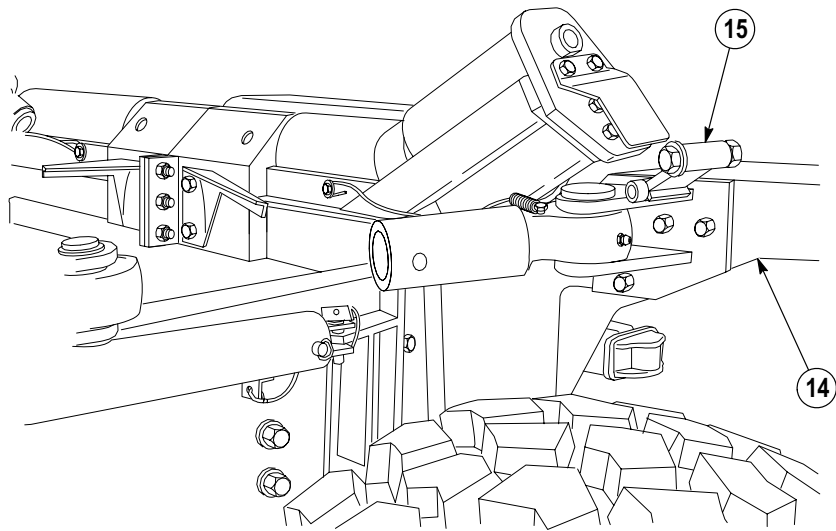
- (7) Repeat Steps (3) through (6) if flipper bracket and flipper bracket lock plate are not completely engaged over pivot pin.
- (8) Repeat Steps (1) through (7) for right side flipper lock.

NOTE

There are two strut and slider assemblies. Left side is shown.

- (9) Pull down pivot lock pin handle (10) and rotate rear slider (11) over tire (12) until pivot lock pin locks.
- (10) Lift rear of slider (11) and using handle (13) rotate slider arm (14) outward.

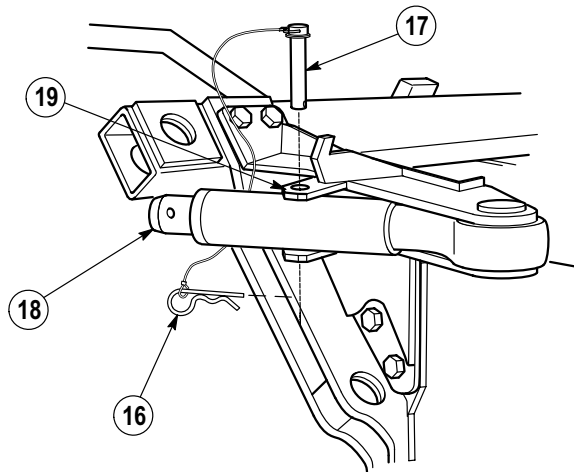
2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



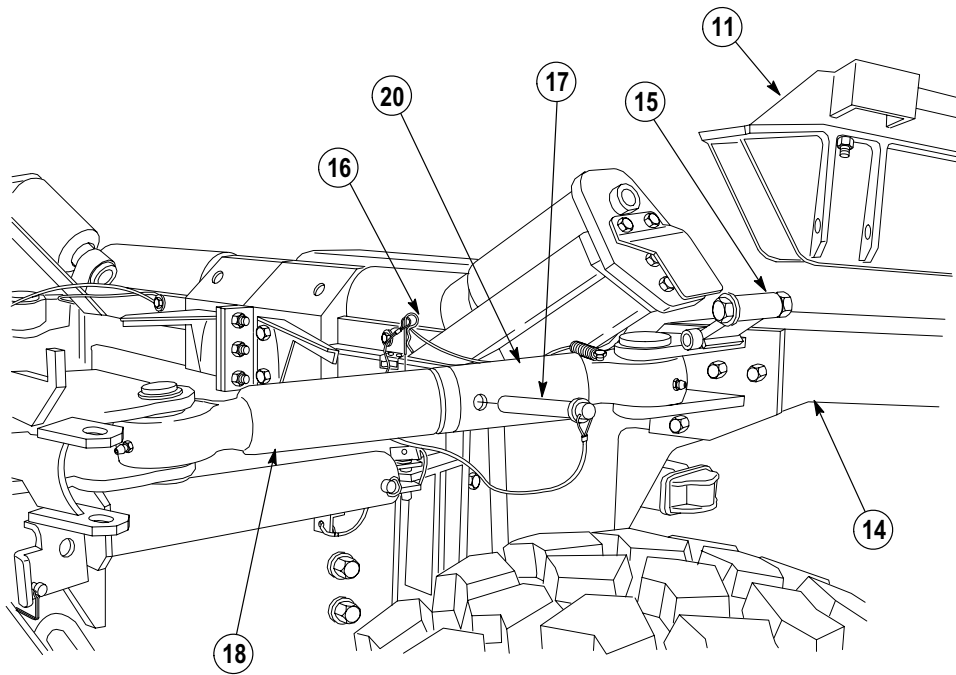
WARNING

Ensure fingers and hands are not between strut front and rear halves. Fingers and hands could become pinched during assembly causing injury to personnel.

- (11) Rotate flip lock (15) up to hold slider arm (14). Release slider arm.



- (12) Remove lock pin (16) and pin (17) from long strut (18) and strut bracket (19).



- (13) Align long strut (18) with short strut (20).
- (14) Rotate slider arm (14) out with handle and disengage flip lock (15) by rotating it down.
- (15) Position long strut (18) into short strut (20) and install pin (17) and lock pin (16). Ensure slider (11) is in straight ahead position.
- (16) Repeat Steps (9) through (15) for right side.

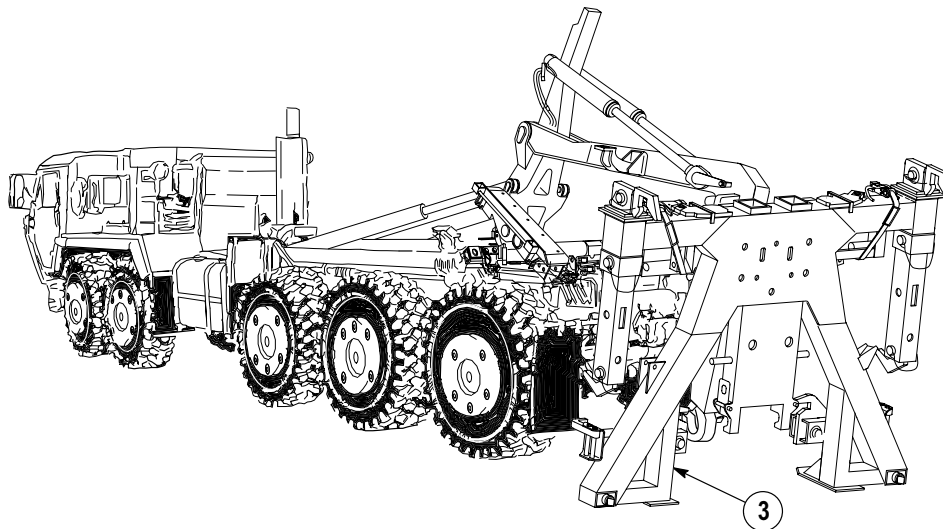
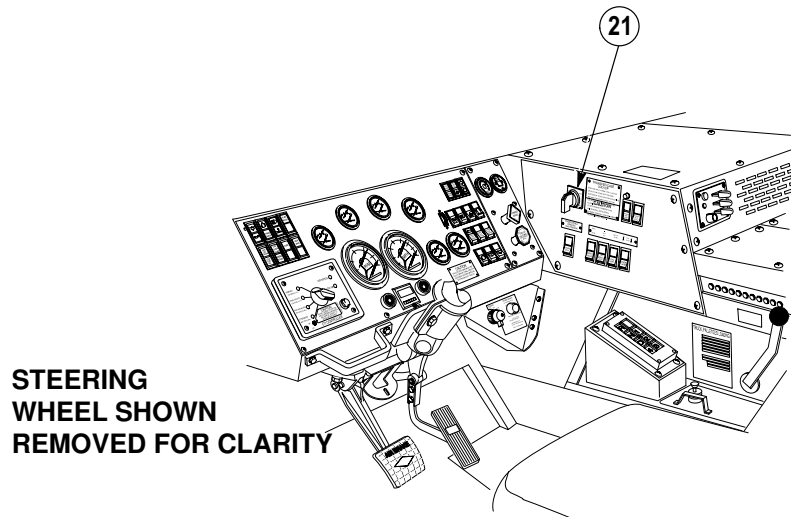
2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

WARNING

- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Lifting frame must be unloaded on a flat level surface. Failure to comply may result in lifting frame tipping over unexpectedly causing injury or death to personnel.
- Both right and left side flipper brackets and flipper bracket lockplates must engage pivot pin on hook arm. Failure to comply will result in lifting frame falling off of hook arm and could cause injury or death to personnel.

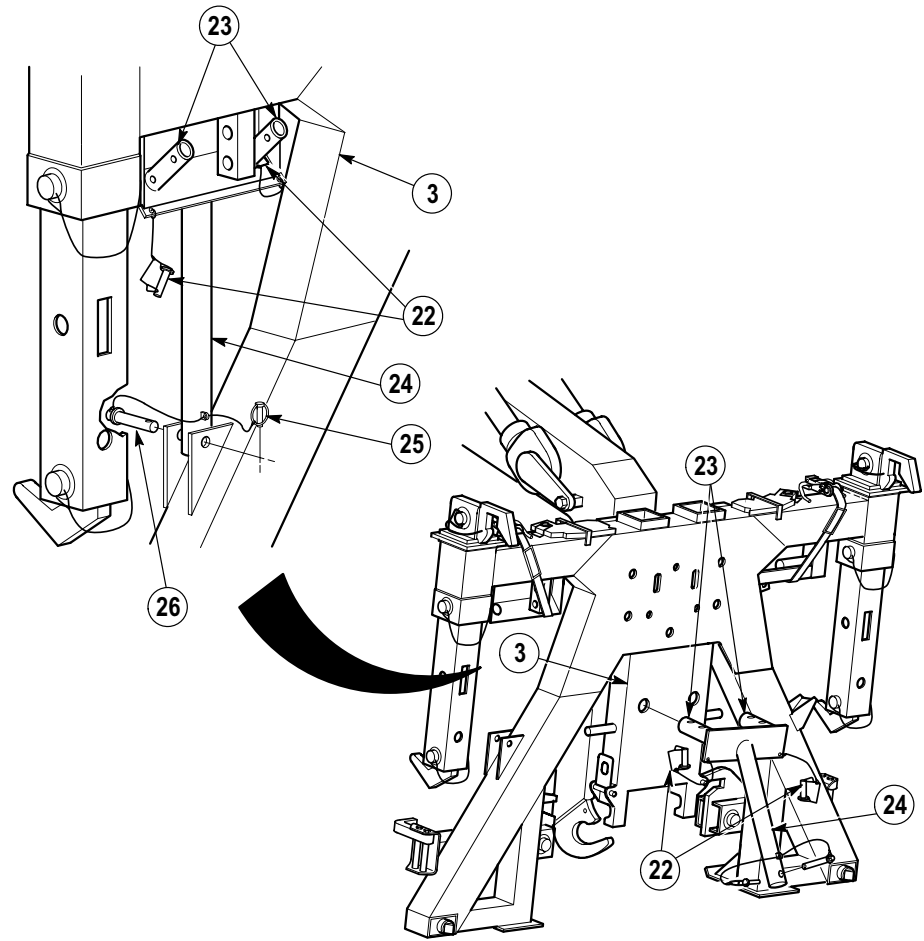
CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

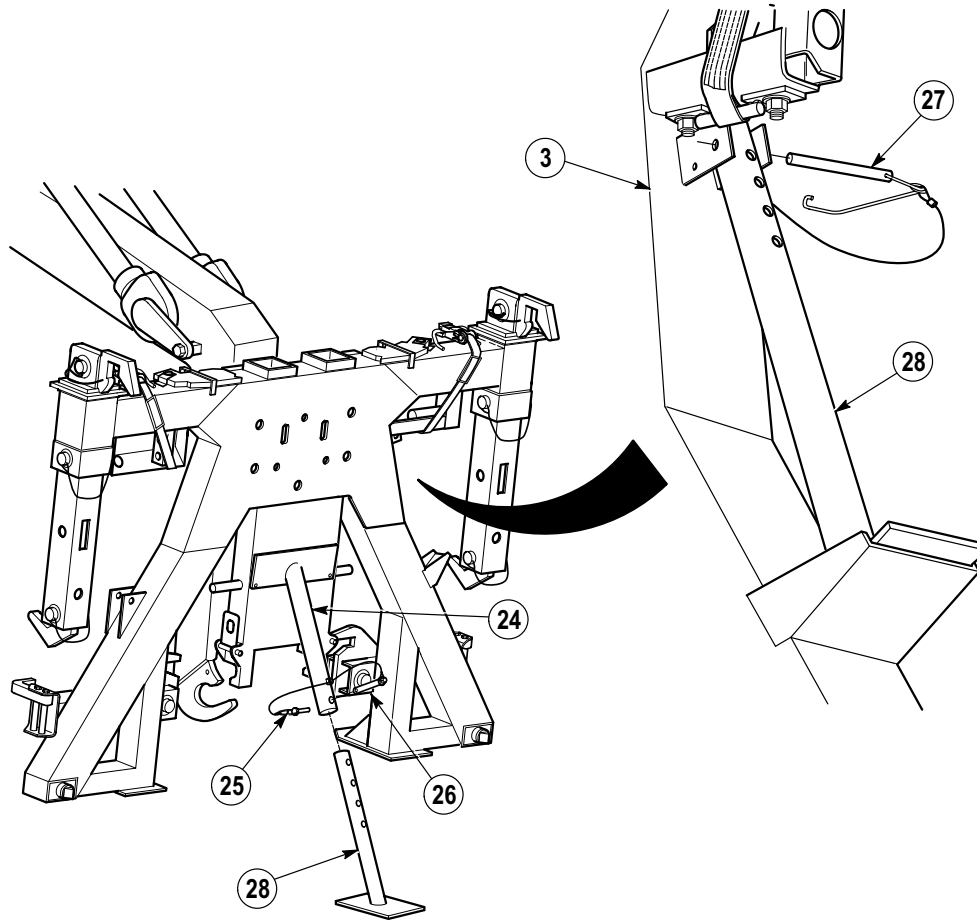


- (17) Turn hydraulic selector switch (21) to auto.
- (18) Operate LHS in AUTO mode until lifting frame (3) stops.
- (19) Turn hydraulic selector switch (21) to MAN H.A. mode and lower until lifting frame is approximately 12 in. (30 cm) from the ground.

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



- (20) Remove two lock pins (22), pins (23) from upper support leg (24).
- (21) Remove lock pin (25), pin (26) and upper support leg (24) from stowage bracket on lifting frame (3).
- (22) Position two pins (23) on upper support leg (24) through two lower holes on lifting frame (3).
- (23) Install two lock pins (22) in pins (23) on upper support leg (24) and front side of lifting frame (3).



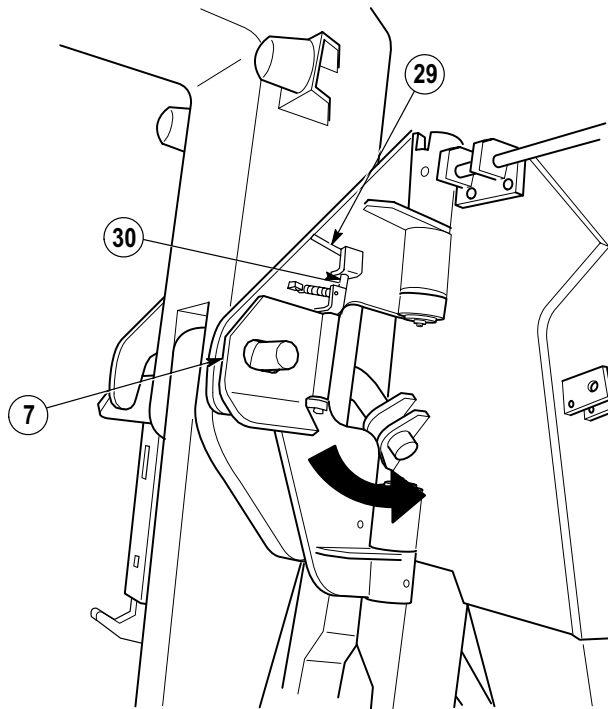
- (24) Remove lock pin (27) and lower support leg (28) from stowage bracket on lifting frame (3).
- (25) Position lower support leg (28) in upper support leg (24).

NOTE

Other support leg pin hole positions may be used if ground is uneven.

- (26) Align hole in upper support leg (24) with second hole from bottom on lower support leg (28) and install pin (26) and lock pin (25).
- (27) Install lock pin (27) in stowage bracket on lifting frame (3).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

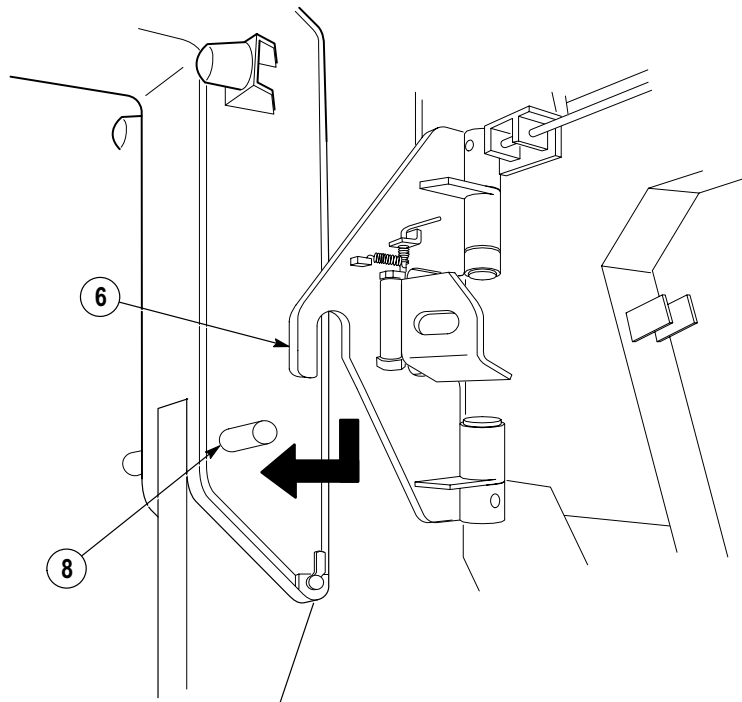
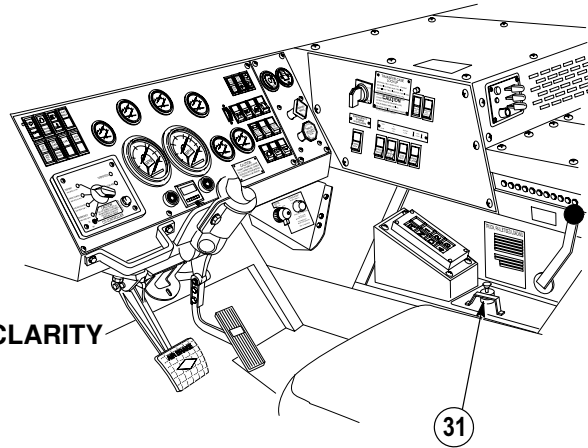


NOTE

- If ground is soft, jacking plate from truck BII or similar item may be positioned under support leg pad to prevent lifting frame from sinking in ground.
- There are two flipper bracket lock plates on lifting frame. Left side is shown.

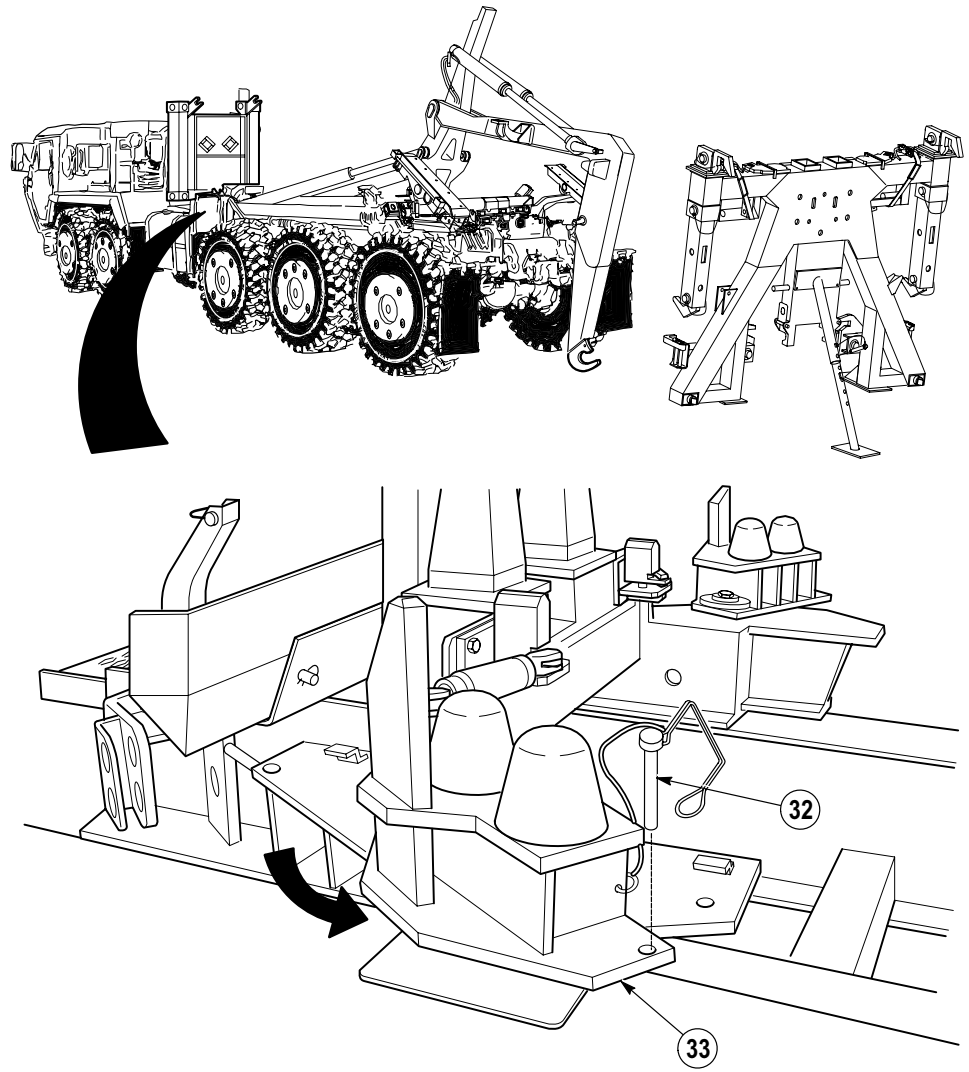
- (28) Lift pin handle (29) and release pin (30).
- (29) Rotate flipper bracket lock plate (7) out to unlocked position and release pin handle (29).
- (30) Ensure pin (30) is locked in flipper bracket lock plate (7).
- (31) Repeat Steps (28) through (30) for right side.

**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**



- (32) With hydraulic selector switch still in MAN H.A. mode, move joystick (31) to UNLOAD until LHS stops and pivot pin (8) is below flipper bracket (6).
- (33) Drive truck ahead approximately 12 in. (30 cm).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



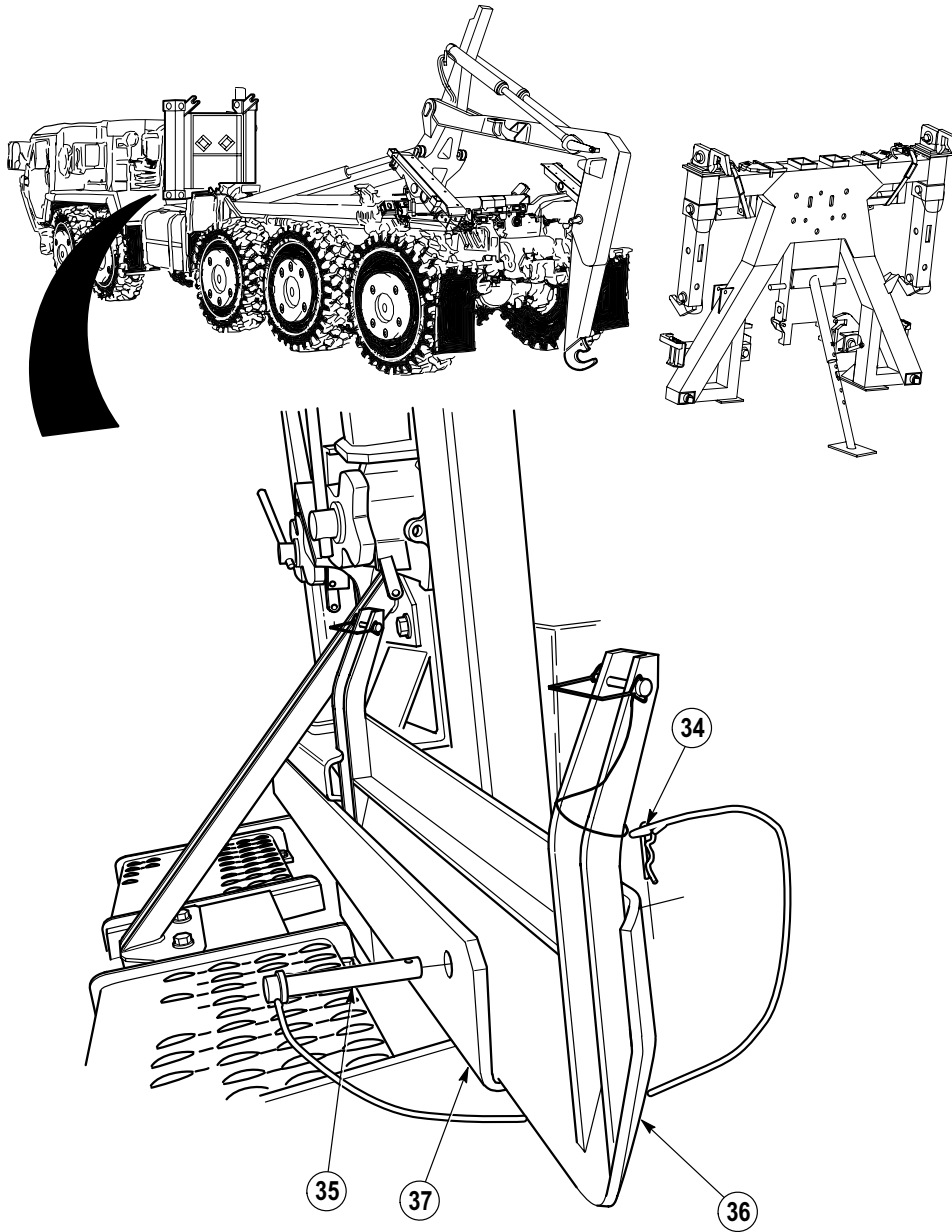
NOTE

- There are two bumper supports and container guides. Left side is shown.
- Bumper support is in container mode when bumper support is positioned completely over bracket, toward rear of truck.

(34) Remove lock pin (32) from bumper support (33).

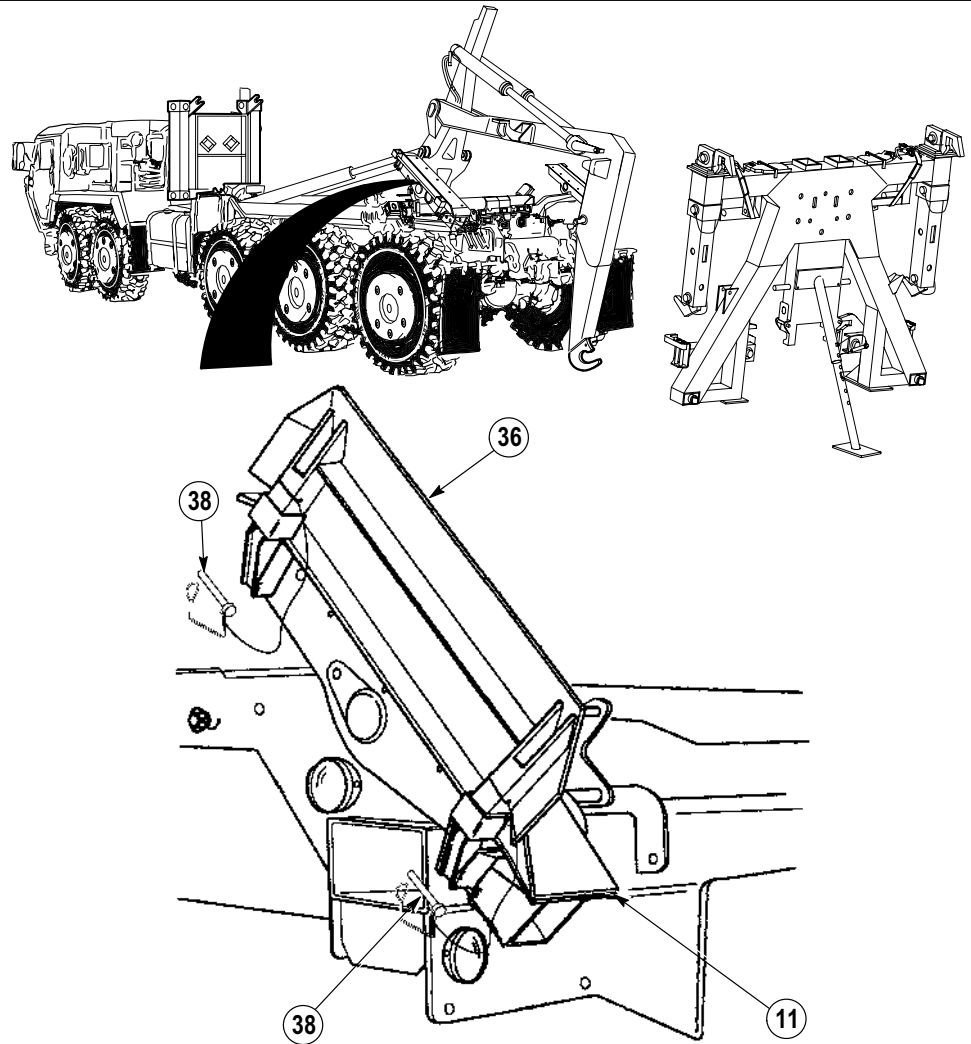
(35) Rotate bumper support (33) approximately 180 degrees toward rear of truck.

(36) Install lock pin (32) in bumper support (33).



- (37) Remove lock pin (34), pin (35) and container guide (36) from stowage bracket (37).
- (38) Install pin (35) and lock pin (34) in stowage bracket (37).

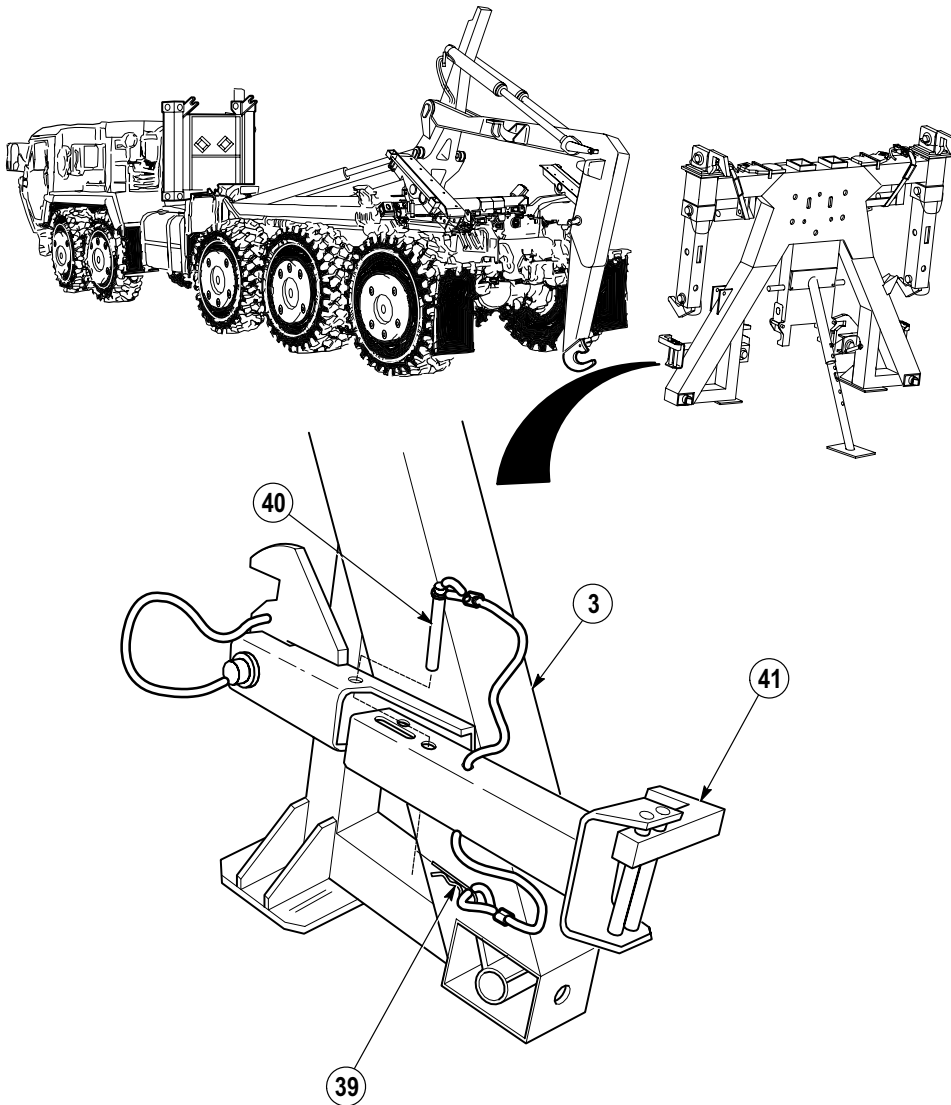
2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



WARNING

Hands may get pinched when installing container guide into slider. Hold container guides by outer edges of plate to avoid pinching between container guides and slider. Failure to comply may result in injury to personnel.

- (39) Remove two lock pins (38) from container guide (36).
- (40) Position container guide (36) in slider (11) and install two lock pins (38).



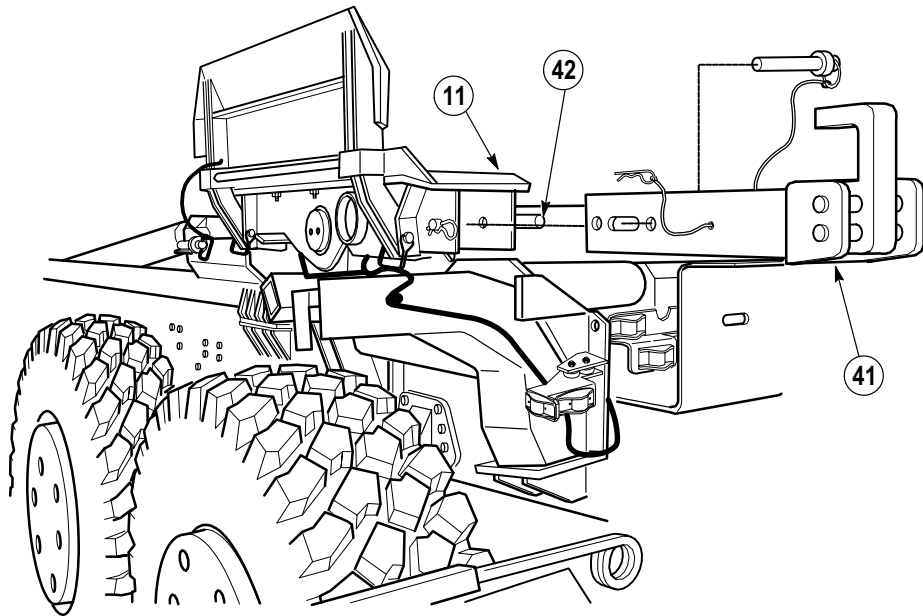
- (41) Repeat Steps (34) through (40) for right side.

NOTE

There are two rear container locks on lifting frame. Left side is shown.

- (42) Remove lock pin (39), pin (40) and rear container lock (41) from stowage bracket on lifting frame (3).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



- (43) Turn lock handle (42) on slider (11) forward to unlock position.

NOTE

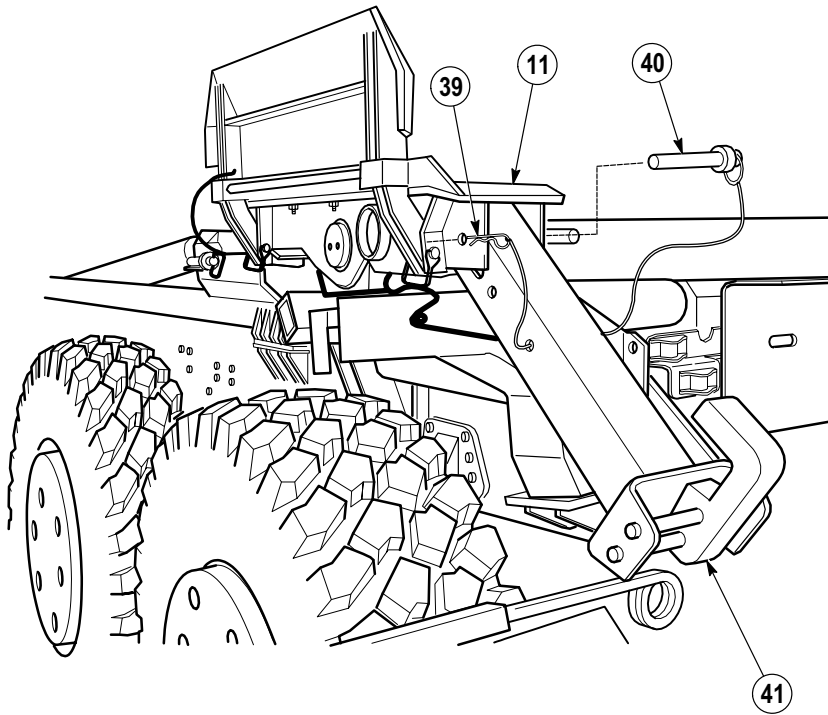
Hook in rear container lock faces up.

- (44) Position rear container lock (41) in opening of slider (11).

NOTE

Ensure rear container lock pivot pin is in slot of rear container lock.

- (45) Turn lock handle (42) on slider (11) back to locked position.



- (46) Pull rear container lock (41) out to ready mode (down position).

NOTE

Pin is properly installed in hole farthest back on slider.

- (47) Install pin (40) and lock pin (39) in slider (11) and rear container lock (41).
 (48) Repeat Steps (42) through (47) for right side.

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

WARNING

- Lifting frame weighs 1,600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.
- Sliders must be deployed before operating LHS in container mode for proper LHS cycle. Failure to comply will result in hook arm extending too far and lifting frame may contact rear of truck. Lifting frame could become unhooked and cause injury or death to personnel.
- Ensure lifting frame is free of snow, ice, and mud when installing on LHS. Lifting frame may be unbalanced and may cause injury or death to personnel.

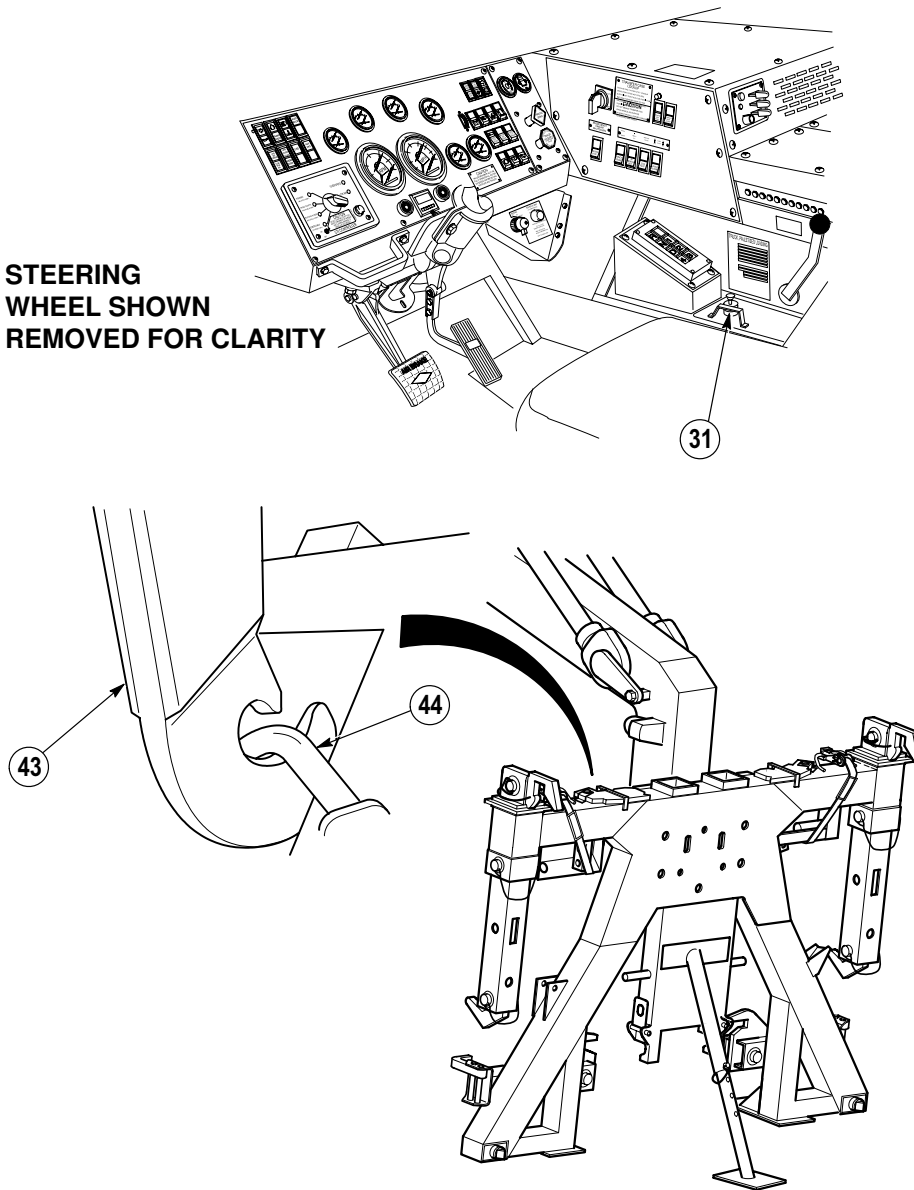
CAUTION

Ensure hydraulic selector switch is in MAN H.A. when performing Step (49). Failure to comply may result in damage to equipment.

NOTE

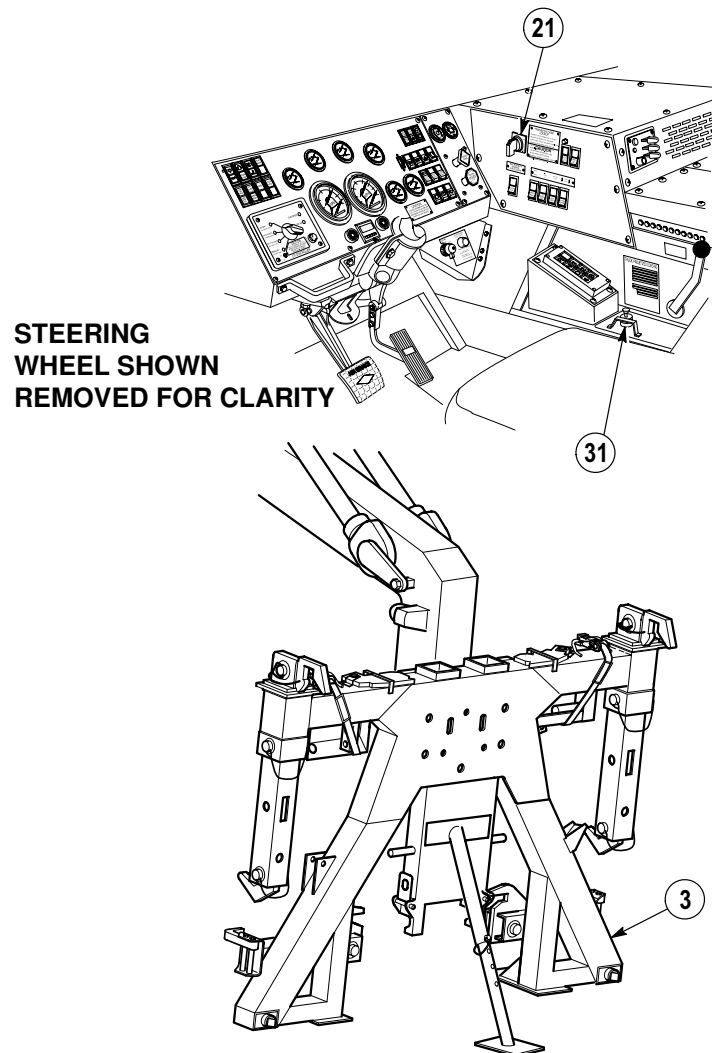
- For detailed instructions on how to operate the LHS on the PLS truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-Loading Flatrack in Auto Mode”.

**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**



- (49) With hydraulic selector switch still in MAN H.A. mode, move joystick (31) to LOAD until hook (43) is below hook bar (44). Release joystick.
- (50) Back up truck and engage hook bar (44) with hook (43).

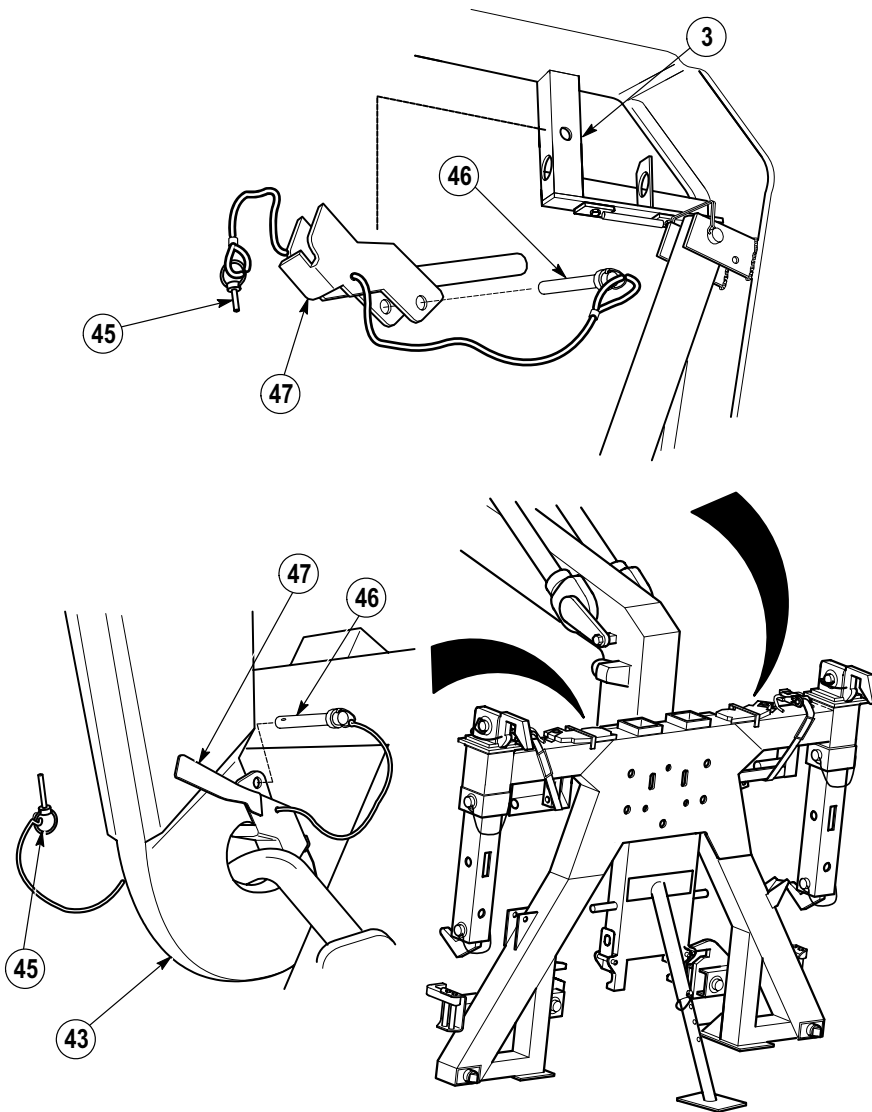
2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



CAUTION

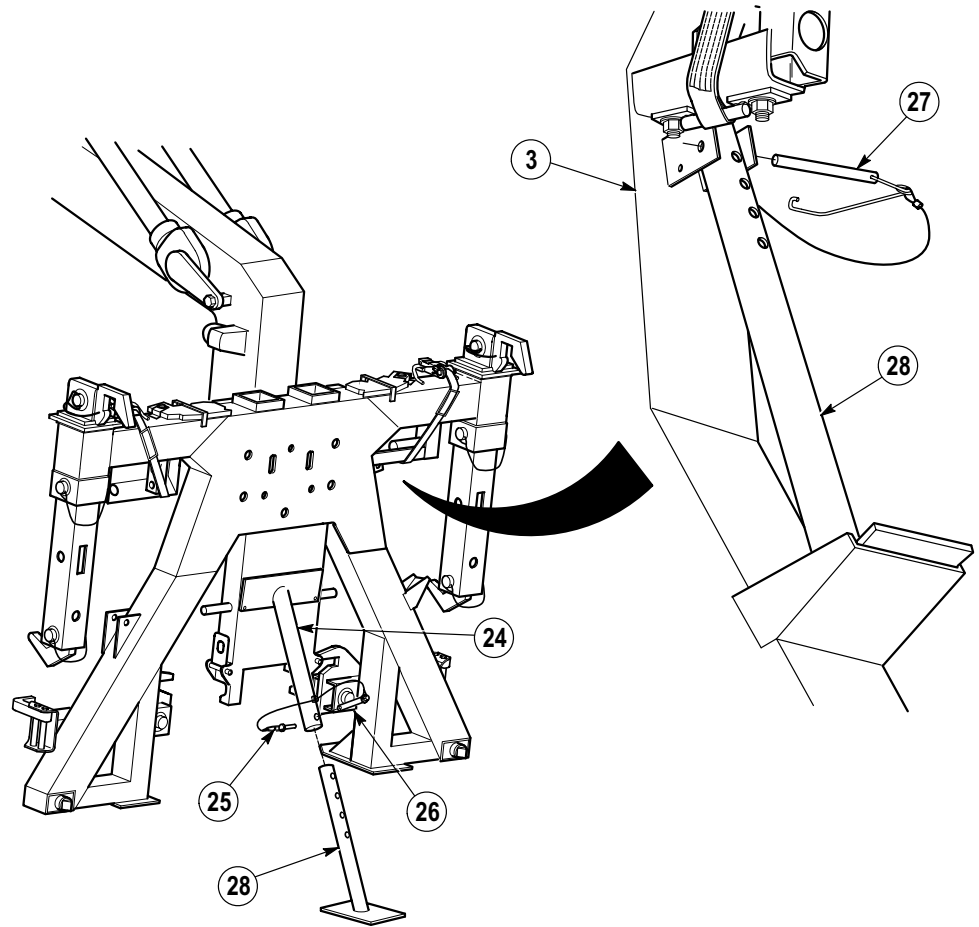
Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (51) Turn hydraulic selector switch (21) to AUTO mode.
- (52) Move joystick (31) to LOAD and raise lifting frame (3) approximately 12 in. (30 cm) off of ground. Release joystick.

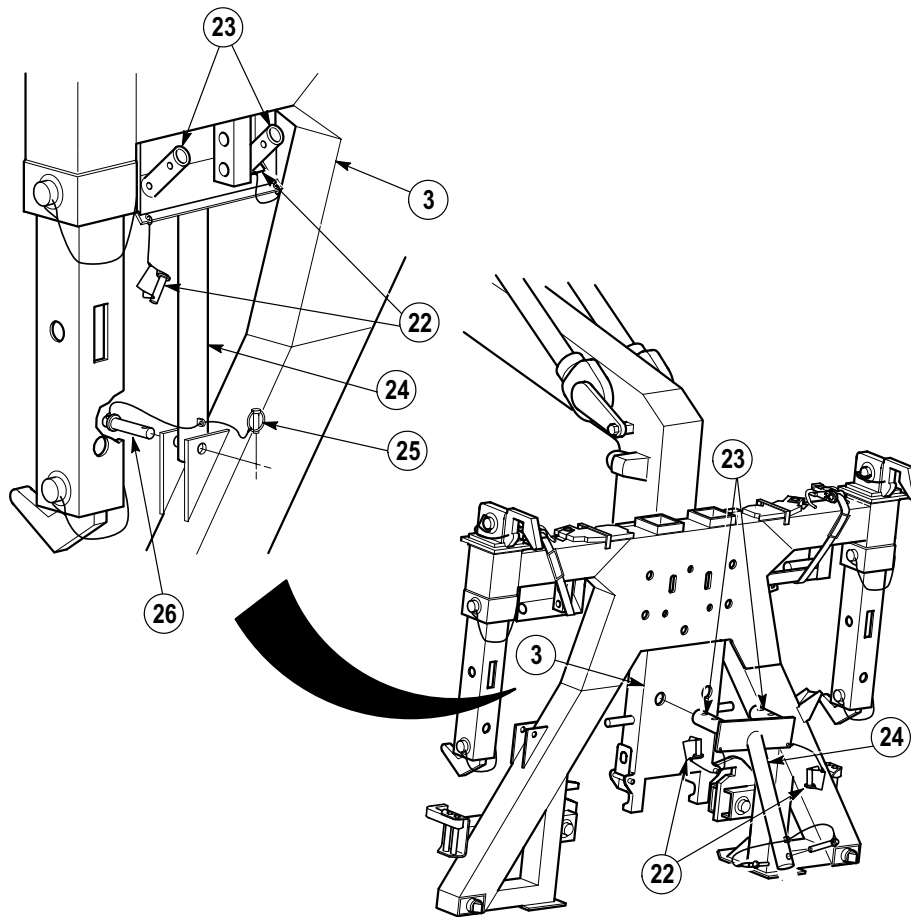


- (53) Remove lock pin (45), pin (46) and bail bar lock (47) from stowage bracket on lifting frame (3).
- (54) Install bail bar lock (47) on hook (43) with pin (46) and lock pin (45).

2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).

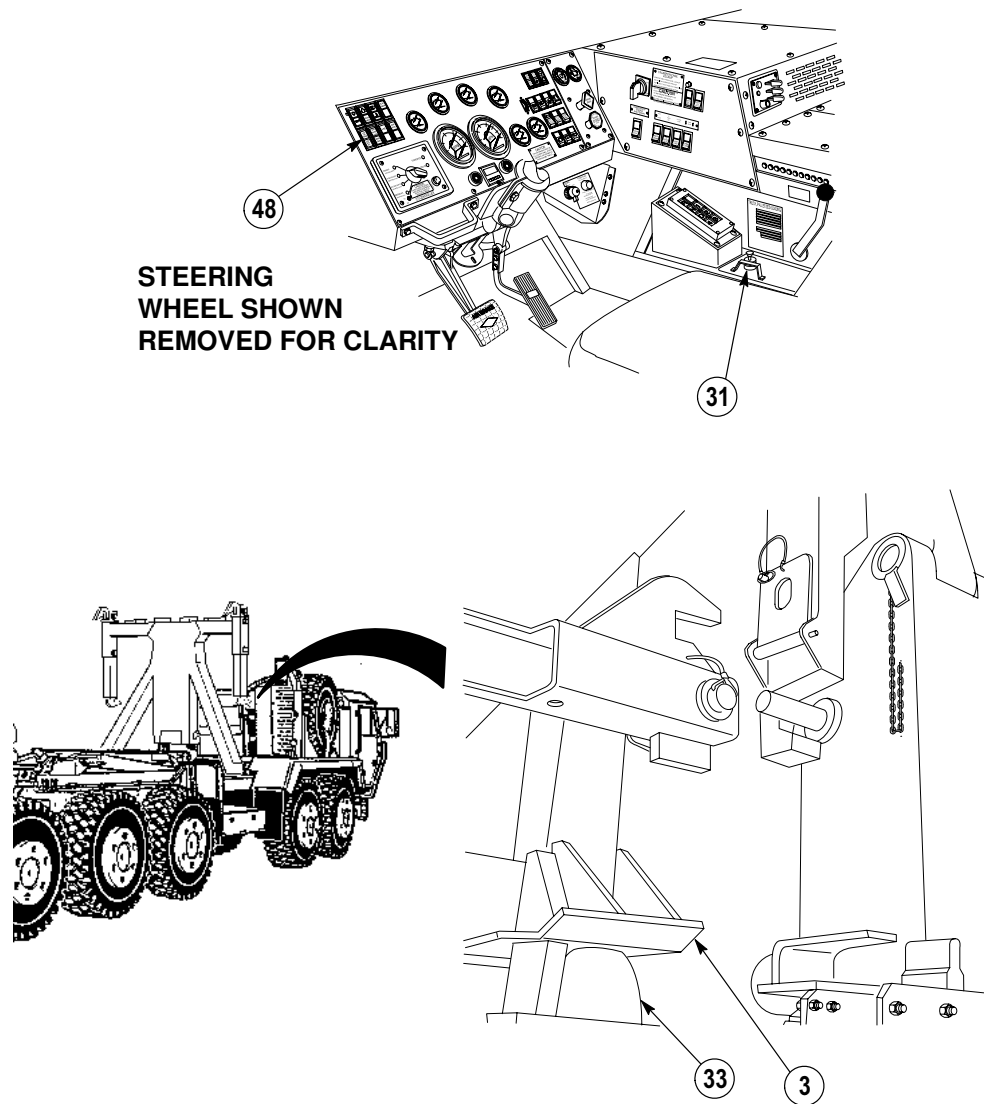


- (55) Support lower support leg (28) and remove lock pin (25) and pin (26).
- (56) Remove lower support leg (28) from upper support leg (24).
- (57) Remove lock pin (27) from stowage bracket on lifting frame (3).
- (58) Position lower support leg (28) in stowage bracket on lifting frame (3) and install lock pin (27).



- (59) Support upper support leg (24) and remove two lock pins (22) from pins (23).
- (60) Remove upper support leg (24) from lifting frame (3).
- (61) Position upper support leg (24) in stowage bracket on lifting frame (3) and install two lock pins (22) on pins (23).
- (62) Install pin (26) and lock pin (25) and upper support leg (24) to stowage bracket on lifting frame (3).

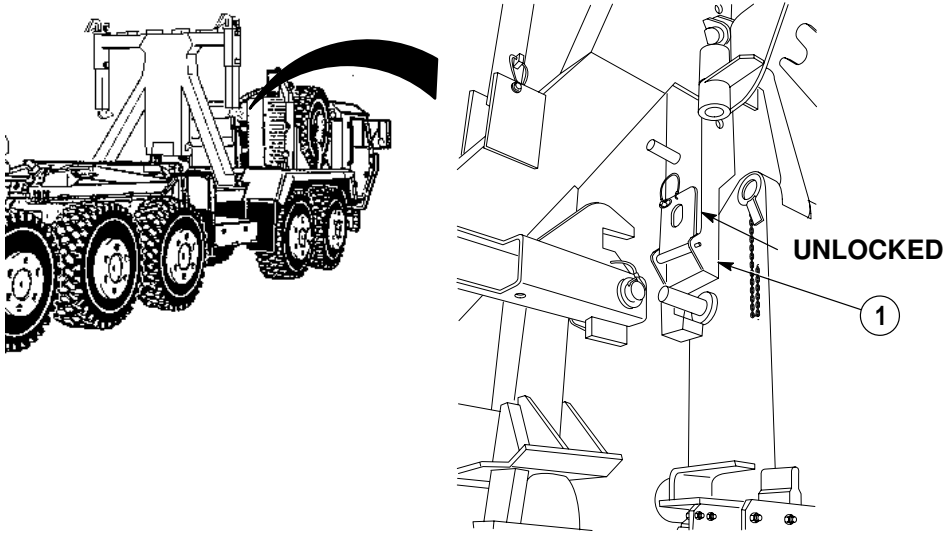
2-32. PREPARING PLS TRUCK FOR CONTAINER MODE (CONT).



- (63) Move joystick (31) to LOAD until LHS NO TRANS light (48) goes out and lifting frame (3) is positioned on bumper supports (33).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF).

a. Loading



WARNING

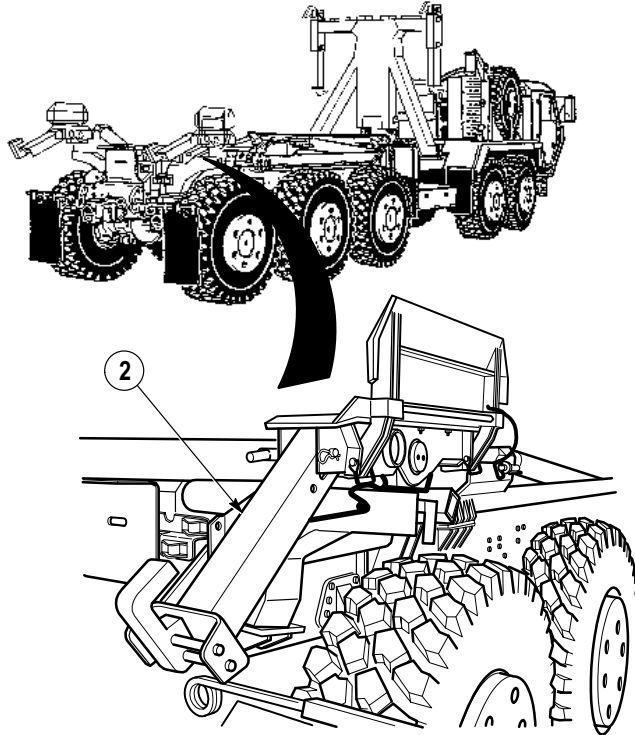
Lifting frame weighs 1600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

CAUTION

Ensure lifting frame is in the unlocked position before attempting to load a container to truck. Failure to comply will result in damage to equipment.

- (1) Ensure lifting frame (1) is in container mode (Para 2-32) and unlocked (Para 2-37).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

Ensure truck is in container mode before attempting to load a container to truck. Failure to comply will result in damage to equipment.

- (2) Ensure truck is in container mode, refer to (Para 2-32).
- (3) Ensure rear container lock (2) is in ready mode, refer to (Para 2-32).

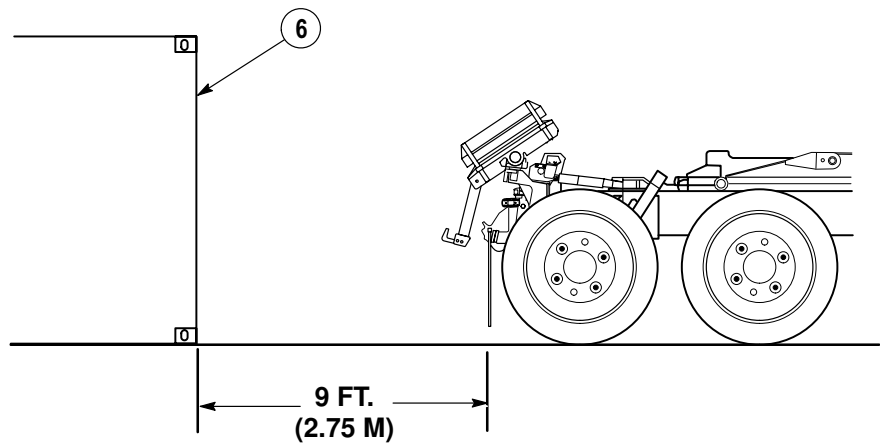
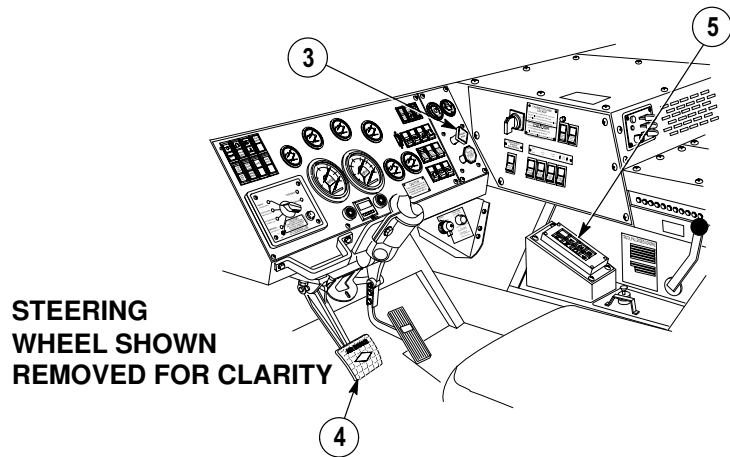
WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Maximum permissible gross container weight is 35,000 lbs. (15,890 kg).
- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.
- Do not stand between lifting frame and container. Truck could roll crushing personnel between them causing serious injury or death.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

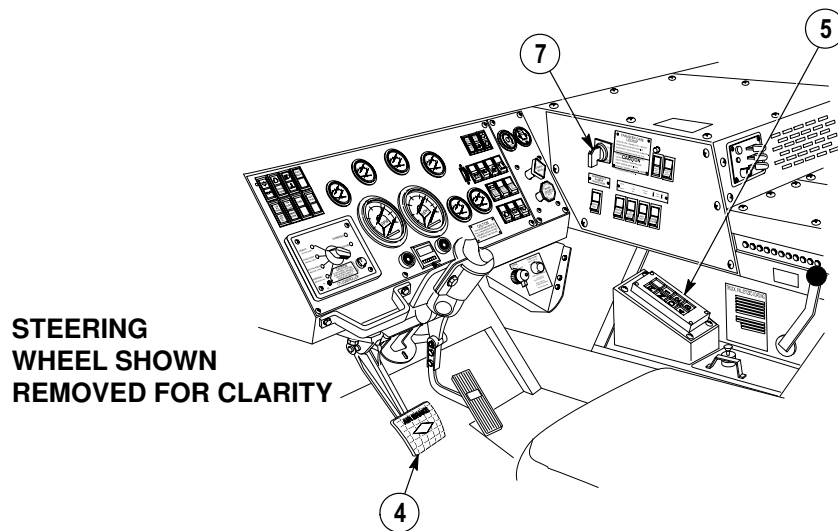
NOTE

- For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.
- Rear mud flaps may be pinned up to provide better visibility of lifting frame lower container locks.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



- (4) Start engine (Para 2-15).
- (5) Push in parking brake knob (3), apply service brake pedal (4), and set transmission range selector (5) to Reverse (R).
- (6) Release service brake pedal (4) and position rear of truck within 9 ft. (2.75 m) of front of container (6), aligning centerline of truck within 2 in. (5 cm) of container centerline.



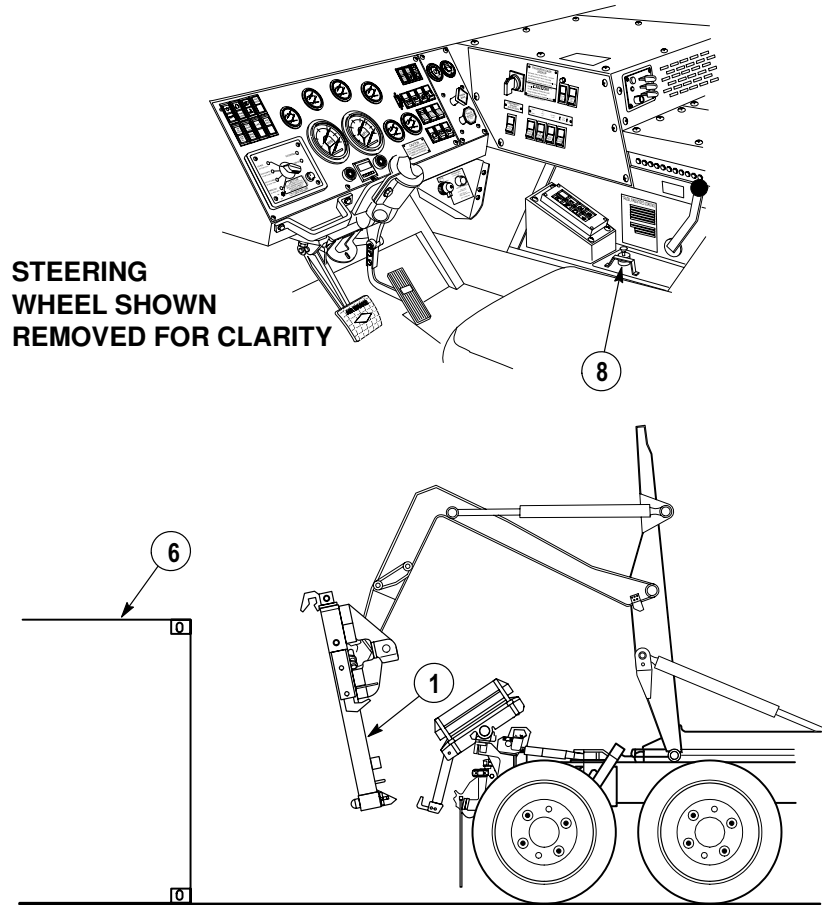
- (7) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (8) Turn hydraulic selector switch (7) to AUTO.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

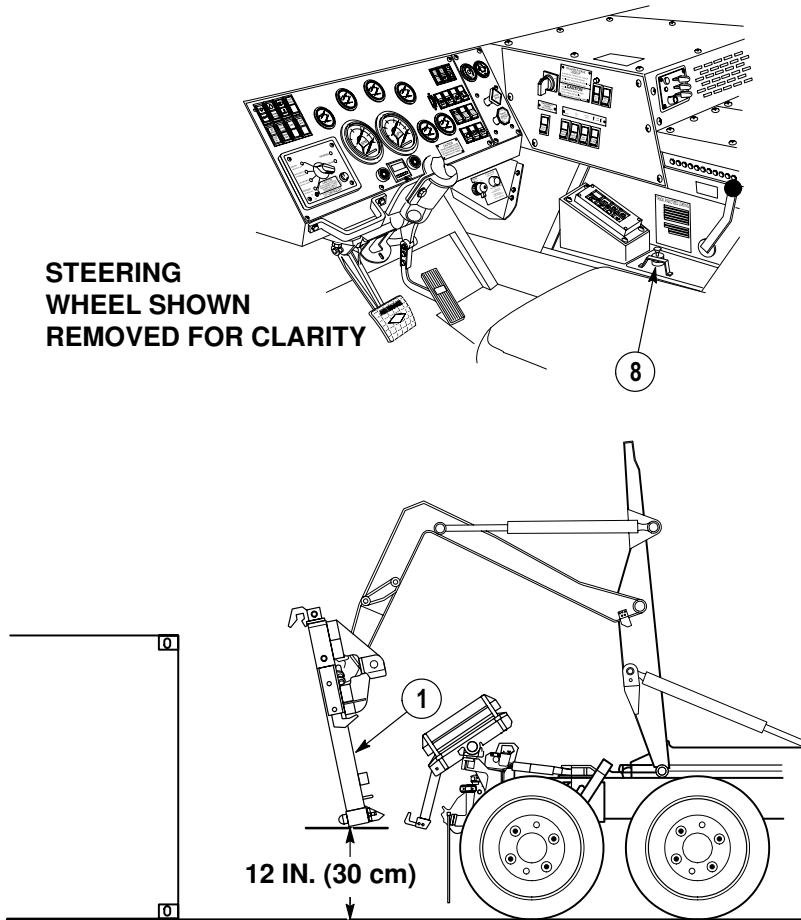


CAUTION

On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Return hydraulic selector to AUTO and continue (UNLOAD) operation. Repeat as required. Failure to comply may result in damage to equipment.

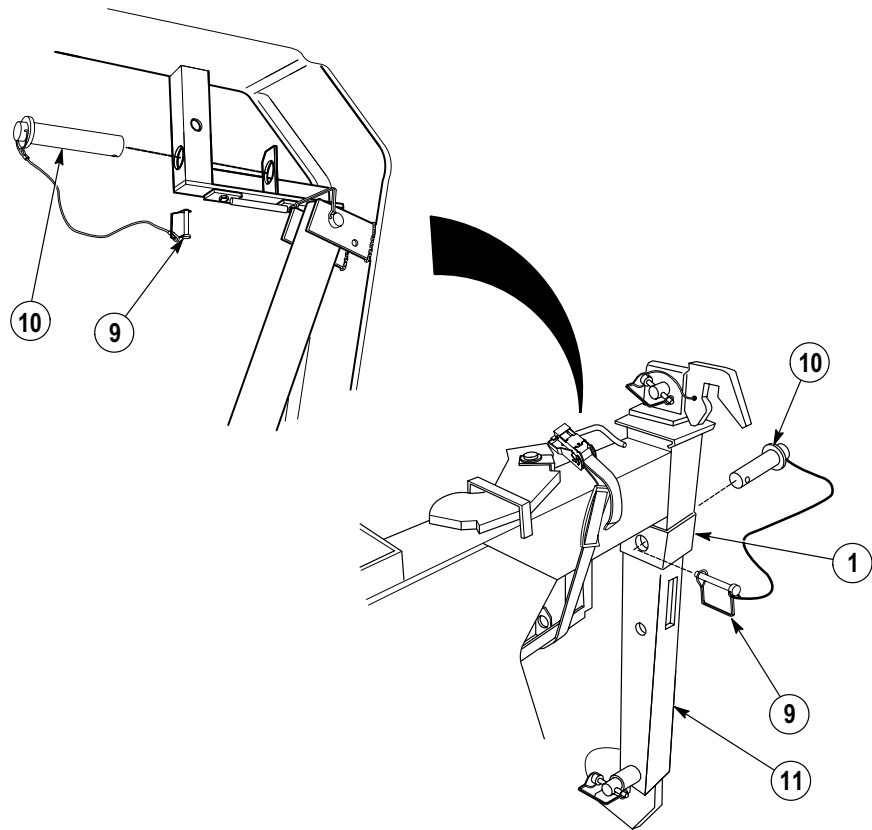
- (9) Move joystick (8) to UNLOAD position until lifting frame (1) is positioned in front of container (6).

**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**



- (10) Operate LHS in AUTO mode until lifting frame (1) is approximately 12 in. (30 cm) off of ground.
- (11) Release joystick (8).
- (12) Shut off engine (Para 2-23).

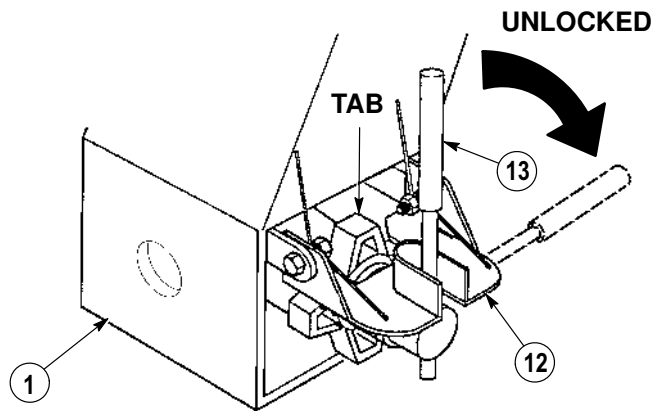
2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

- Refer to the lifting frame data plate for the proper configuration needed for the height of each container being loaded.
- There are two slide arms. Right side shown.

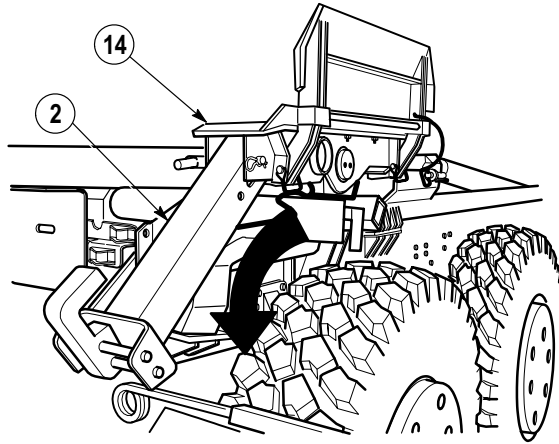
- (13) Remove lock pin (9) and pin (10) from lifting frame (1) and slide arm (11) upper hole.
- (14) Install pin (10) and lock pin (9) in stow position on lifting frame (1).
- (15) Repeat Steps (13) and (14) for left side.



NOTE

- There are two lifting frame lower container locks and rear sliders. Right side shown.
 - Ensure lifting frame lower container lock handle is positioned in slot on handle lock plate.
 - Ensure tab on handnut faces up.
- (16) Raise handle lock plate (12) and rotate lower container lock handle (13) towards center of lifting frame (1) to unlocked position.
- (17) Release handle lock plate (12) on lifting frame (1).
- (18) Repeat Steps (16) and (17) for left side.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



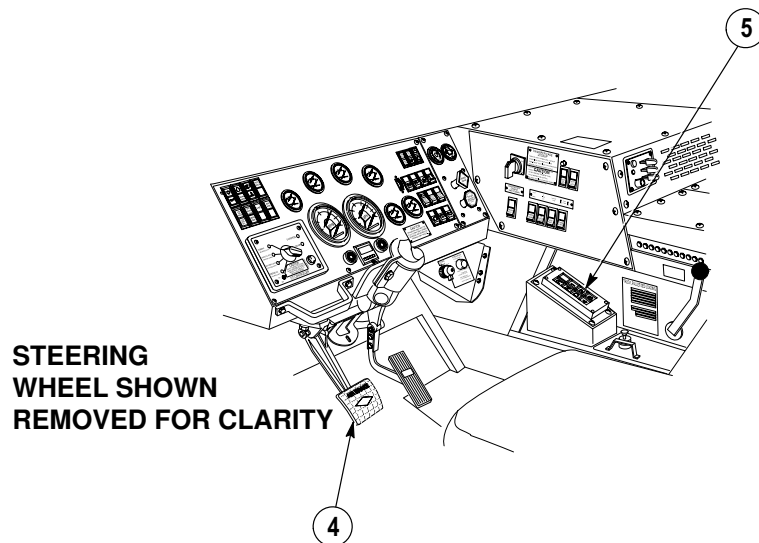
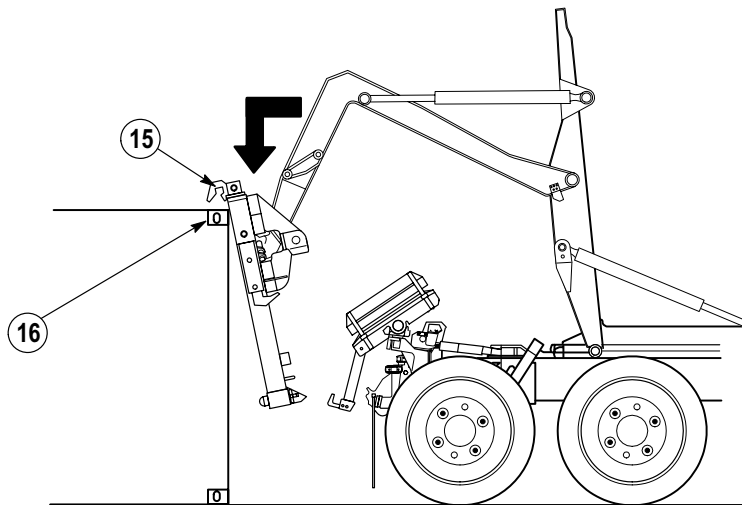
CAUTION

Ensure sliders are clear of debris and surfaces are properly greased or damage to equipment may result.

NOTE

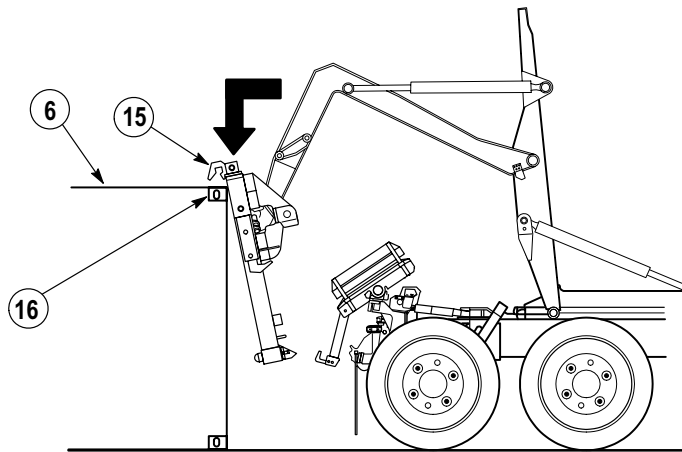
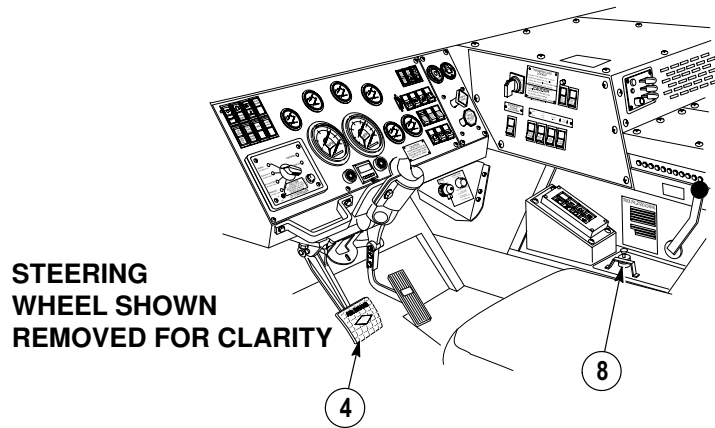
There are two rear sliders and container locks. Right side shown.

- (19) Rotate slider (14) so rear of slider faces down.
- (20) Ensure rear container lock (2) is in ready mode or down position (Para 2-32).
- (21) Repeat Steps (19) and (20) for left side.
- (22) Start engine (Para 2-15).



- (23) Position slide arm upper front hooks (15) just above and in front of container upper corner castings (16).
- (24) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

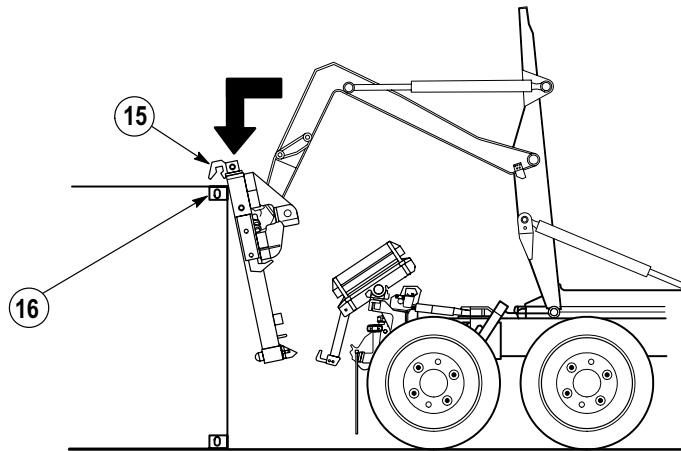
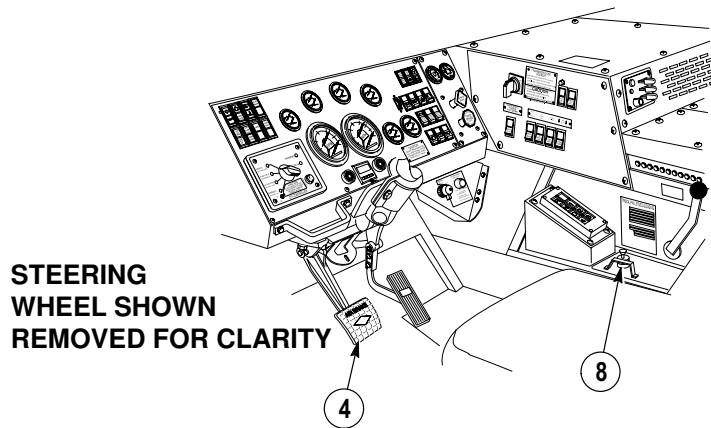
2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



WARNING

Do not allow lifting frame to contact the ground when slide arm upper front hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

- (25) Release service brake pedal (4) and slowly back up to approximately 12 in. (30 cm) from front of container (6).
- (26) Apply service brake pedal (4), move joystick (8) to LOAD and raise lifting frame until front hooks (15) are above container upper front corner castings (16).



CAUTION

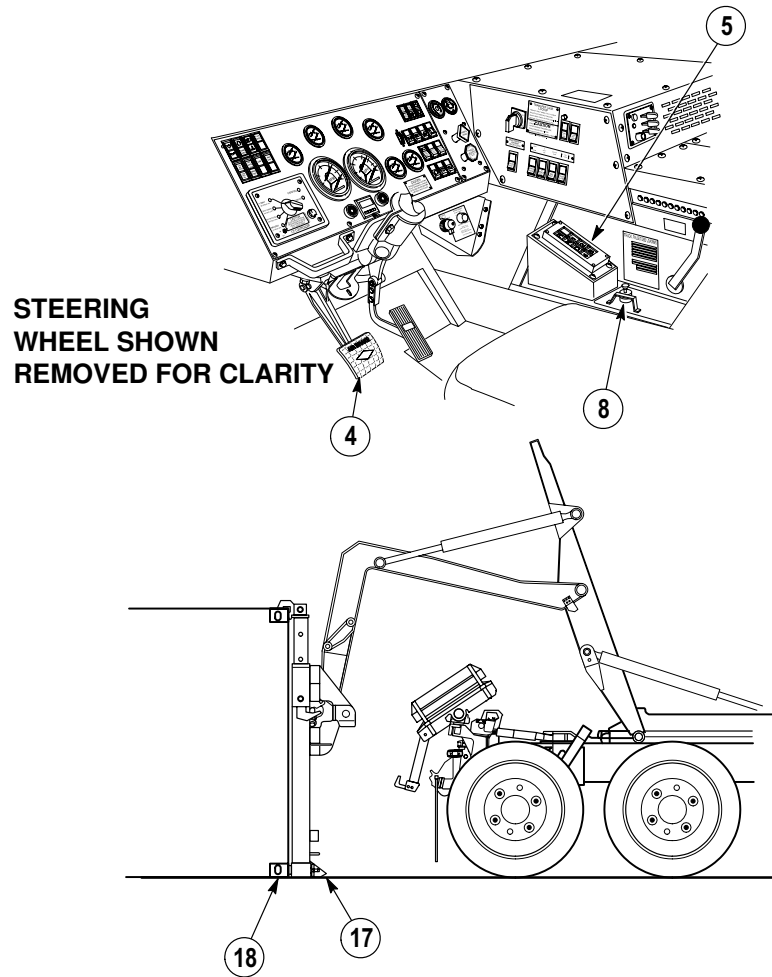
Ensure slide arm upper front hooks are fully engaged with container upper corner castings. Failure to comply may result in damage to equipment.

NOTE

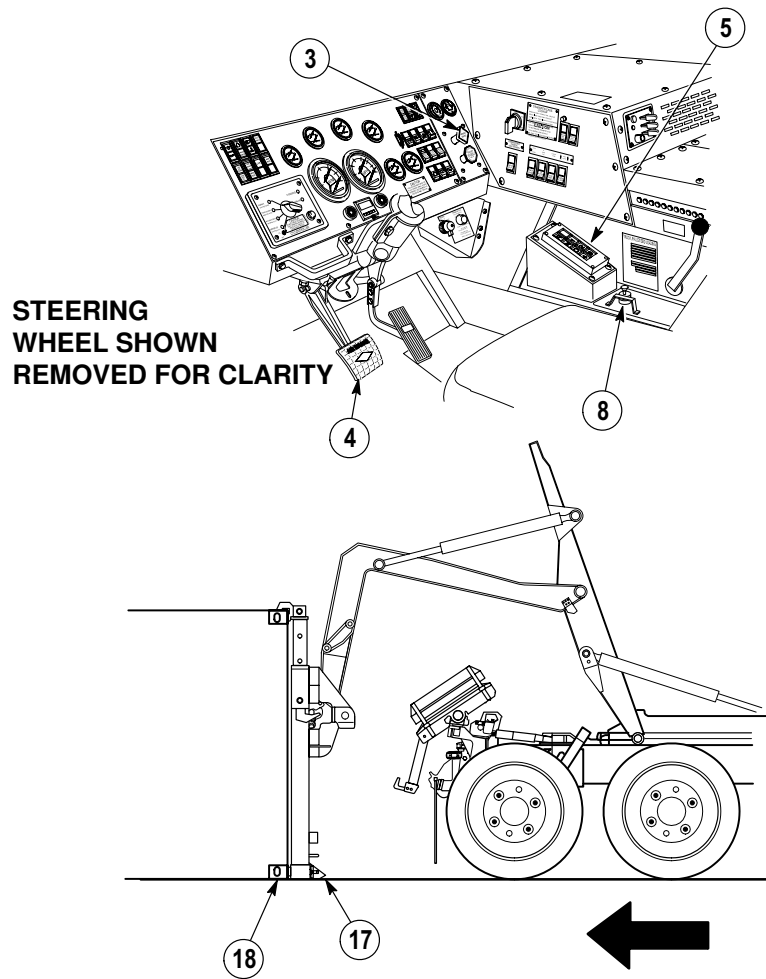
To get upper hooks to properly seat it may be necessary to drive truck forward slightly.

- (27) Release service brake pedal (4) and moving joystick (8) to UNLOAD, lower slide arm upper front hooks (15) into container upper front corner castings (16).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

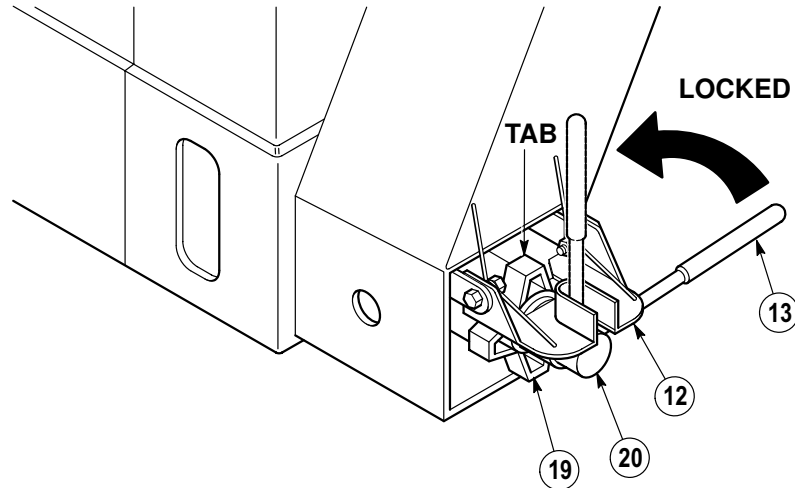


- (28) Apply service brake pedal (4) and set transmission range selector (5) to Drive (D).
- (29) Release service brake pedal (4) and move truck forward approximately 12 in. (30 cm).
- (30) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).
- (31) Move joystick (8) to UNLOAD until lower container locks (17) are aligned with container lower front corner castings (18).



- (32) Continue backing up truck until lower container locks (17) are seated in container lower front corner castings (18). Apply service brake pedal (4) and release joystick (8).
- (33) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



CAUTION

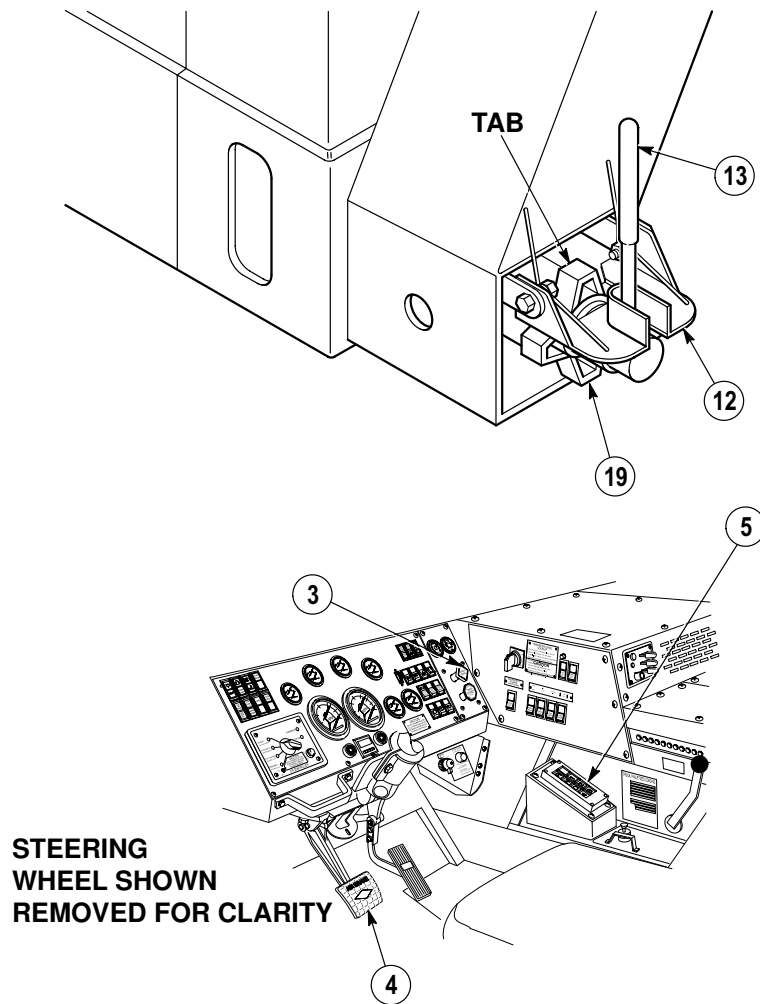
Ensure lower container locks are fully engaged with container lower front corner castings. Failure to comply may result in damage to equipment.

NOTE

- To get container lock handle to rotate, it may be necessary to loosen handnut.
- There are two lower container locks. Right side shown.
- After tightening handnut, it may be necessary to loosen handnut slightly to align tab with handle lock plate.
- Ensure lower container lock handle is secured in slot on handle lock plate.

(34) Hold handle lock plate (12) up and rotate lower container lock handle (13) up in the locked position.

(35) Turn handnut (19) clockwise and tighten stem (20).



NOTE

Ensure tab on handnut faces up.

- (36) Lower handle lock plate (12) over lower container lock handle (13) and handnut (19) tab.
- (37) Repeat Steps (34) through (36) for left side.
- (38) Set the transmission range selector (5) in Neutral (N), push in parking brake knob (3) to release parking brakes and release service brake pedal (4).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

WARNING

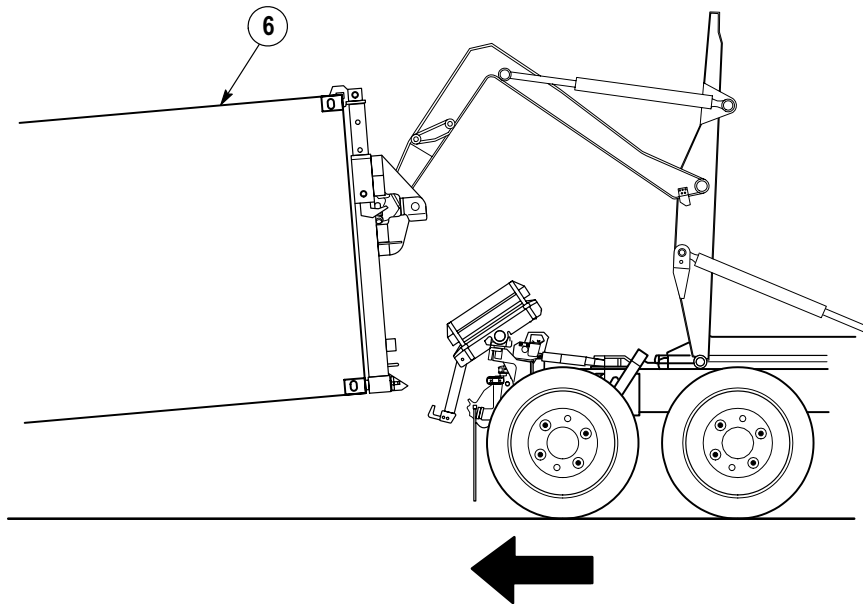
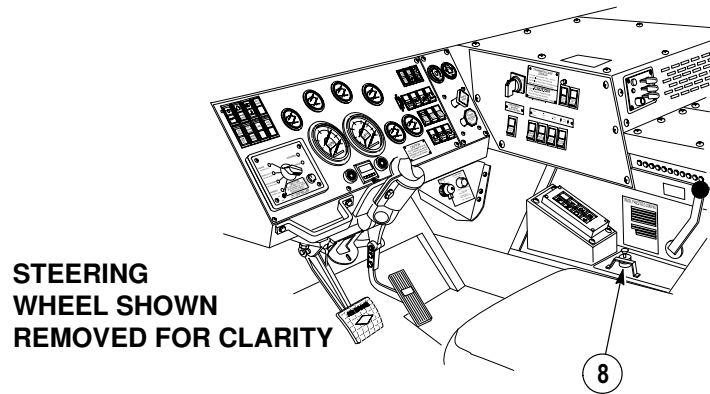
When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

CAUTION

- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should notify supervisor if it appears payload is unevenly distributed in container or if container load exceeds 35,000 lbs. (15,890 kg). If any of these conditions exist, payload must be redistributed or reduced or damage to equipment may result.
- Load must be evenly distributed in the container. Uneven load distribution may cause the LHS overload indicator to give false signals and cause the LHS to operate incorrectly. Damage to equipment may result.
- If LHS overload lamp illuminates and normal operation has stopped, return load to original position and notify supervisor to have payload redistributed or weight reduced. Failure to comply may result in damage to equipment.
- Ensure parking brake is not applied before starting load sequence or damage to equipment may occur.

NOTE

- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.
- If container is extremely light or empty, it may be necessary to place transmission range selector to Reverse (R) and allow truck to roll under container.



- (39) Move joystick (8) to LOAD, allowing truck to be pulled under container (6).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

WARNING

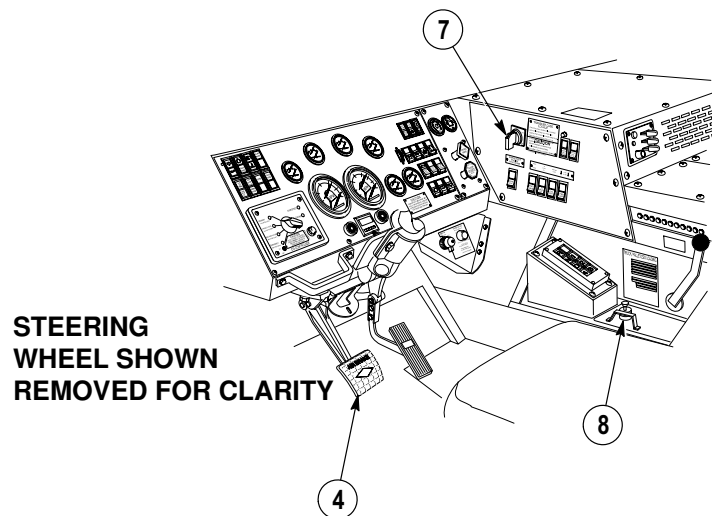
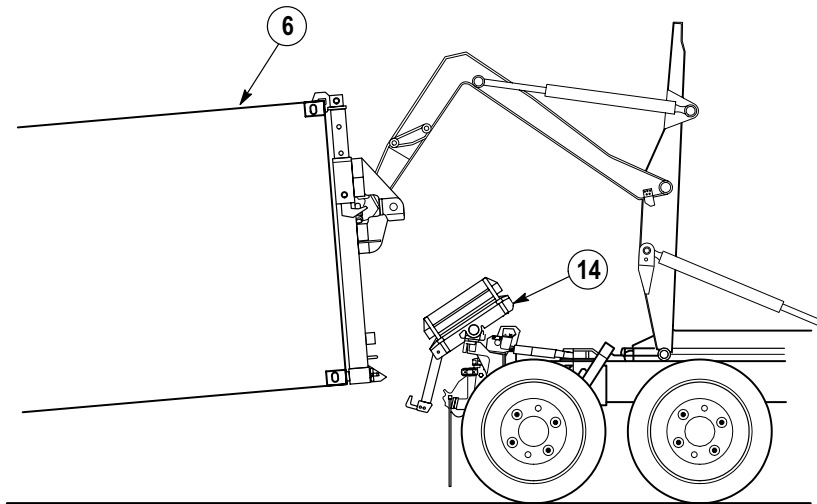
Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

CAUTION

Reduce engine speed to idle before container contacts rear sliders or damage to equipment may result.

NOTE

- LHS overload lamp may illuminate when lifting container from unusual conditions.
- As load is lifted, truck will be pulled under container. Some steering wheel adjustment may have to be made to ensure that container contacts rear sliders correctly and is between guides.



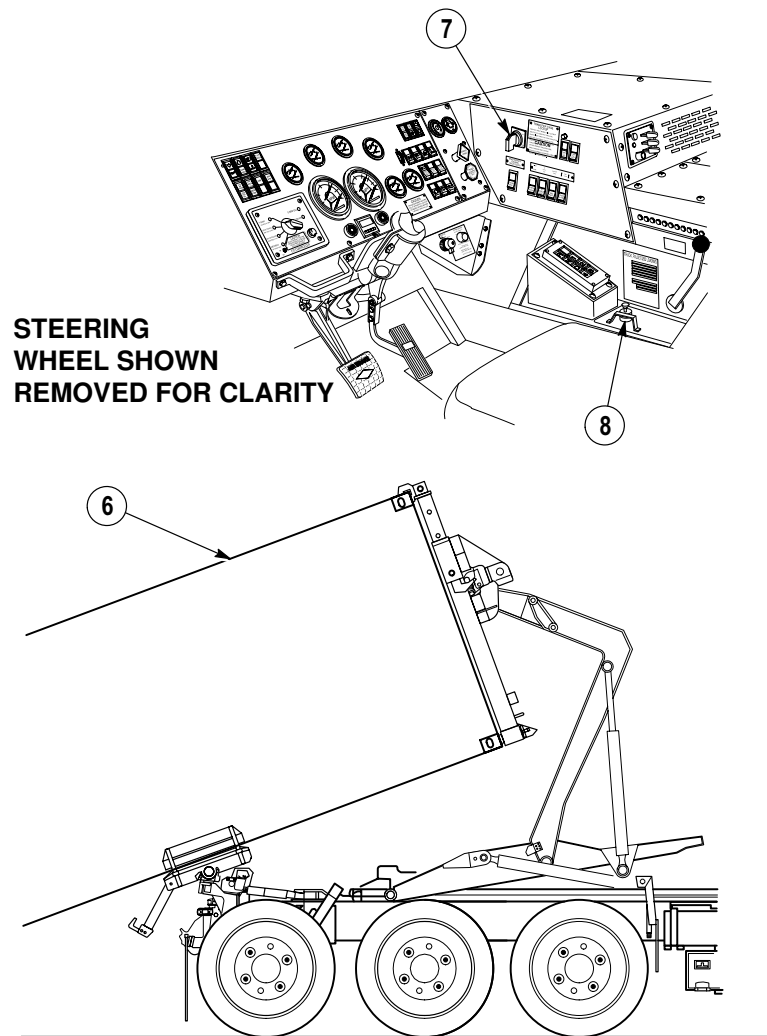
- (40) As container (6) contacts rear sliders (14), reduce engine speed to idle and apply service brake pedal (4).

NOTE

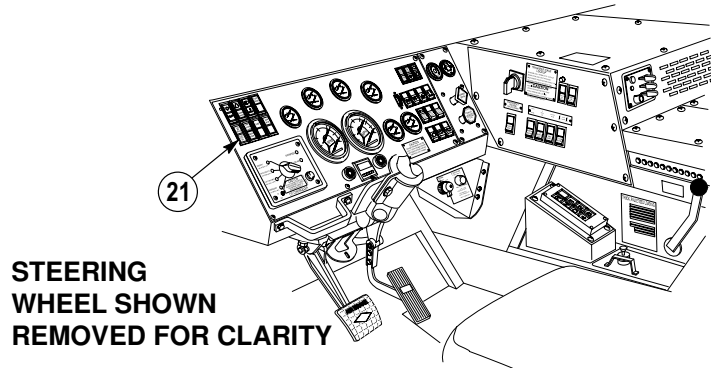
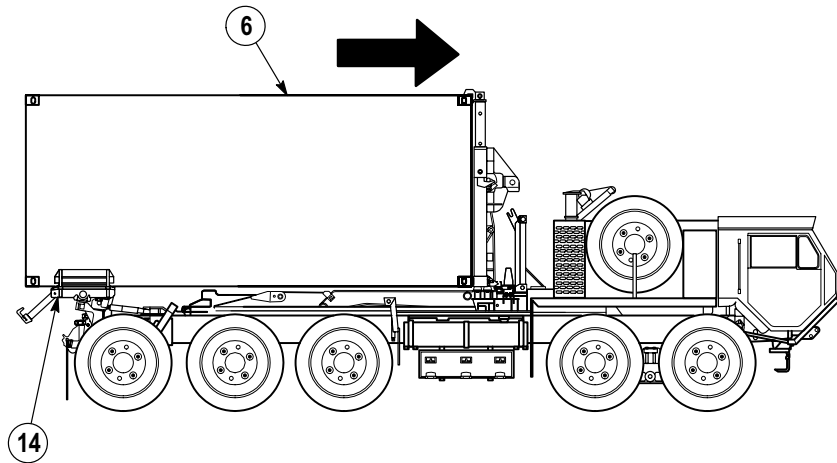
If container is being loaded in soft soil conditions, perform Steps (41) through (43).

- (41) Release joystick (8). Set hydraulic selector switch (7) to MAN H.A.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



- (42) Move joystick (8) to LOAD until container (6) is approximately 2 ft. (0.61 m) off the ground. Release joystick.
- (43) Set hydraulic selector switch (7) to AUTO. Resume normal AUTO operations.

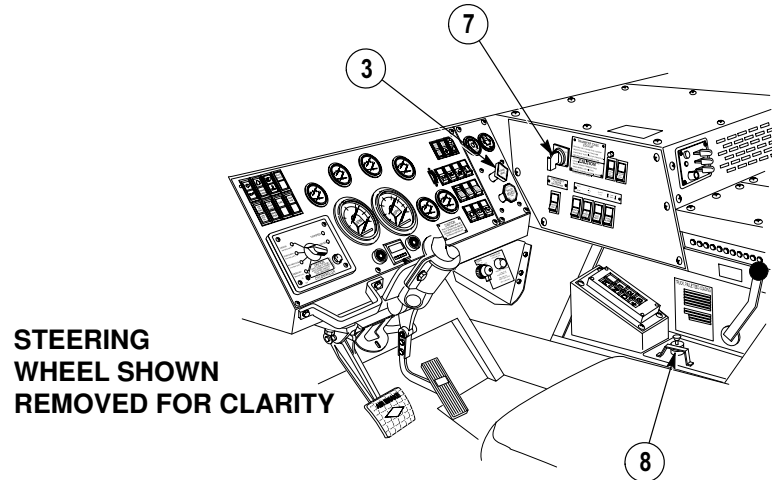


NOTE

Engine speed may be increased and decreased to ease loading.

- (44) After container (6) contacts rear sliders (14), increase engine speed to approximately 1500 rpm until container is almost loaded. Reduce engine speed to idle.
- (45) Continue loading until container (6) is fully loaded and LHS NO TRANS lamp (21) goes out.

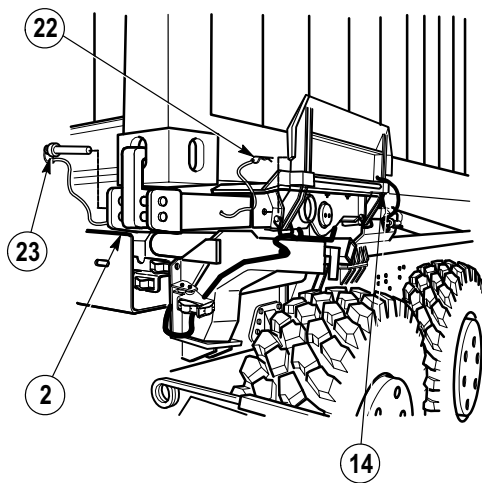
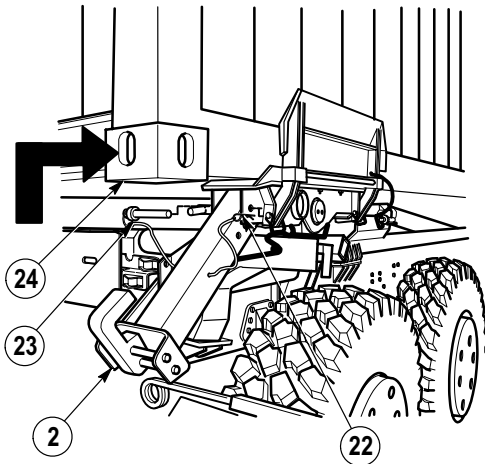
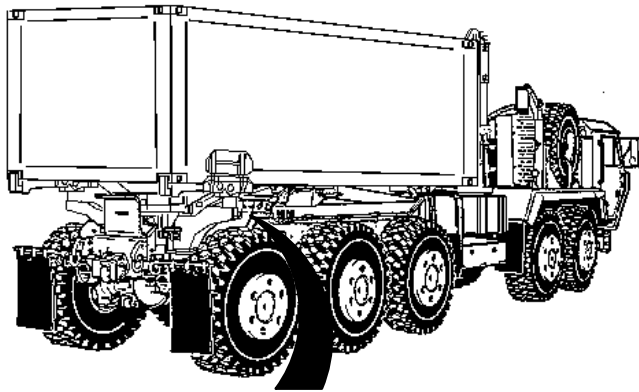
2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



- (46) Release joystick (8).
- (47) Pull out parking brake knob (3) to apply parking brake.

CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
 - Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.
- (48) Turn hydraulic selector switch (7) to OFF.
 - (49) Shut off engine (Para 2-23).



NOTE

- There are two rear container locks. Right side shown.
- If container is not centered and transit locks cannot be installed and pinned, repeat Steps (39) through (49) to reposition container.

- (50) Support rear container lock (2) and remove lock pin (22) and pin (23).
- (51) Rotate rear container lock (2) up and position into container lower rear corner casting (24).
- (52) Install pin (23) and lock pin (22) in rear container lock (2) and slider (14).
- (53) Perform Steps (50) through (52) for left side.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

b. Unloading

WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

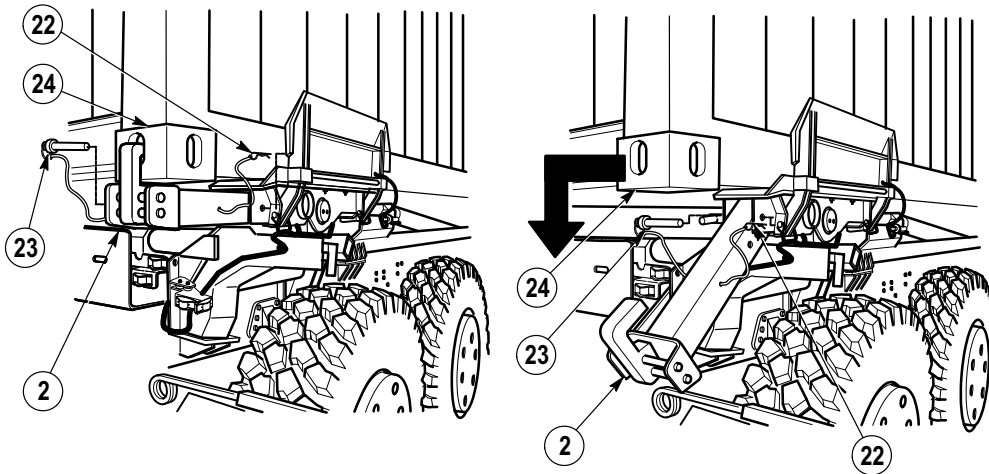
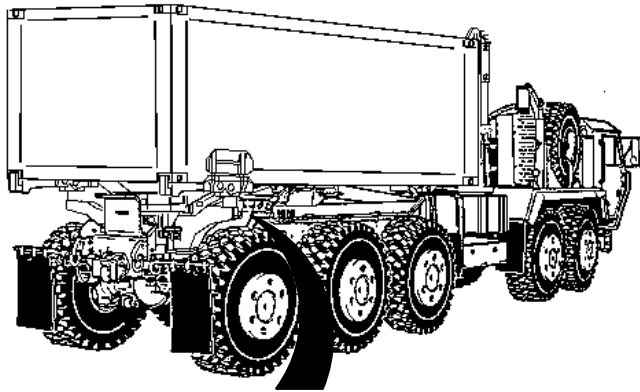
CAUTION

Check that ground conditions where container will be placed can support the container weight or damage to the container, lifting frame or LHS may result.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) "LHS Controls and Indicators", (Para 2-29b.) "Picking-up a Flatrack in Auto Mode", and (Para 2-29c.) "Off-loading a Flatrack in Auto Mode".

- (1) Check area for operating room at front and rear of truck. Check overhead clearance and ground conditions.

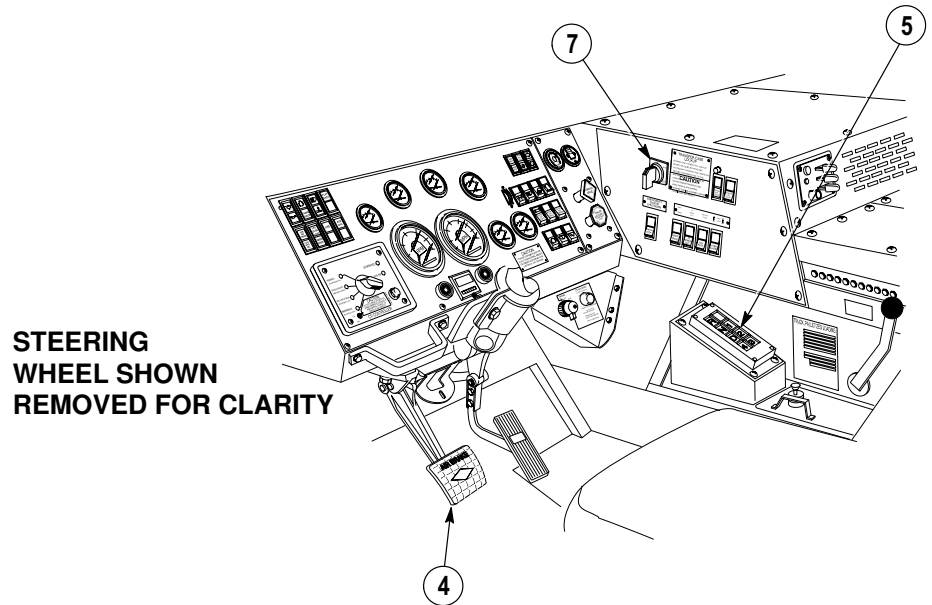


NOTE

There are two rear container locks. Right side shown.

- (2) Remove lock pin (22), pin (23) and rear container lock (2) from lower rear corner casting (24).
- (3) Rotate rear container lock (2) in down position and install pin (23) and lock pin (22).
- (4) Perform Steps (2) and (3) for left side.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

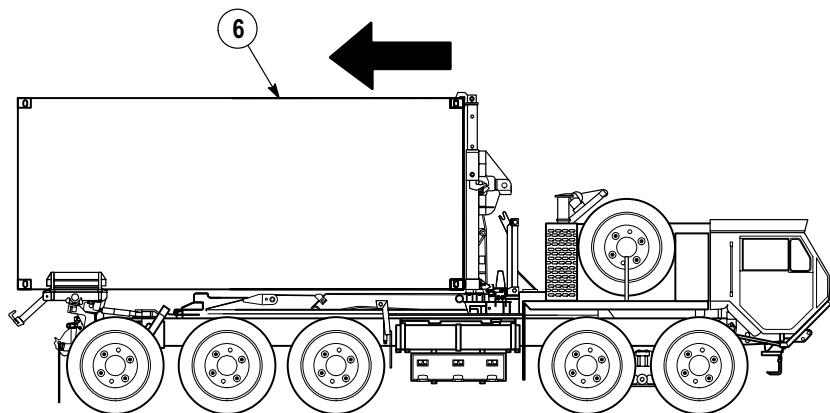
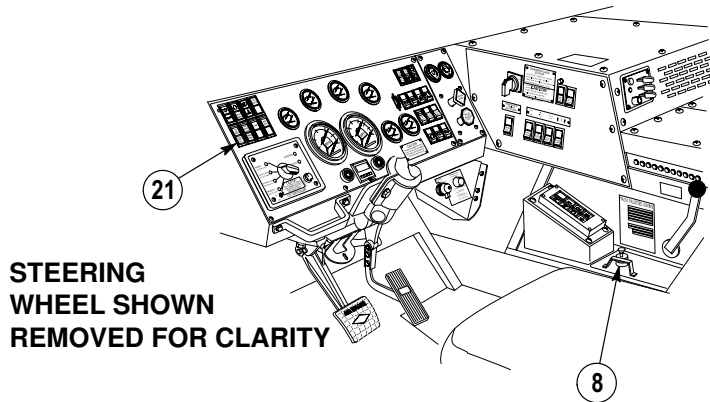


- (5) Start engine (Para 2-15).
- (6) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (7) Turn hydraulic selector switch (7) to AUTO.

**WARNING**

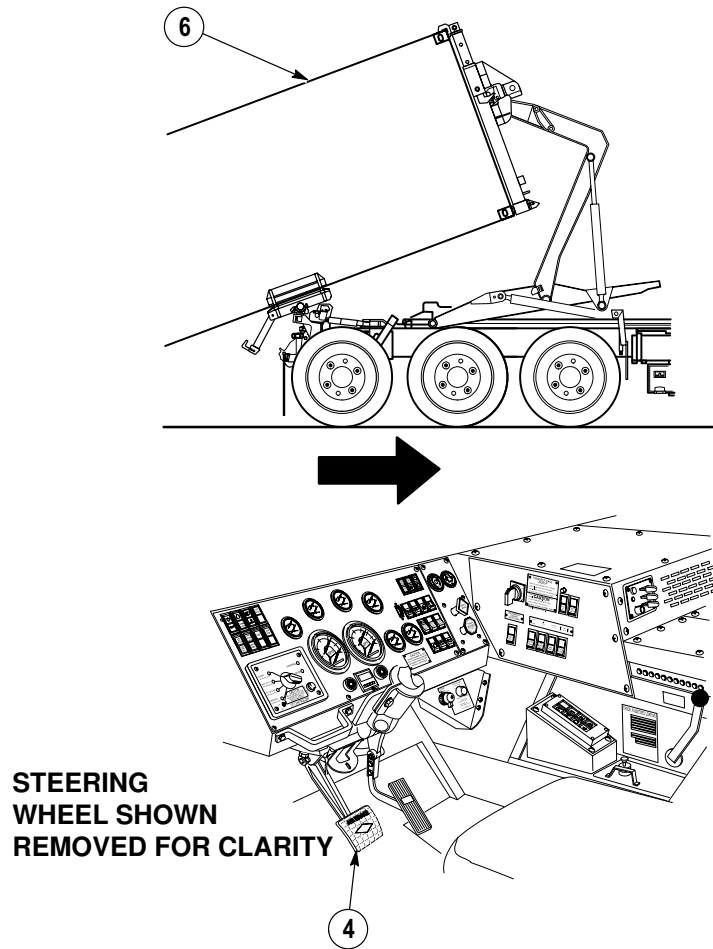
When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

NOTE

LHS will not operate and unload if rear container locks are engaged.

- (8) Move joystick (8) to UNLOAD. Container (6) will start to move rearward. LHS NO TRANS lamp (21) will illuminate. Maintain engine speed at idle until front of container raises approximately 12 in. (30 cm).

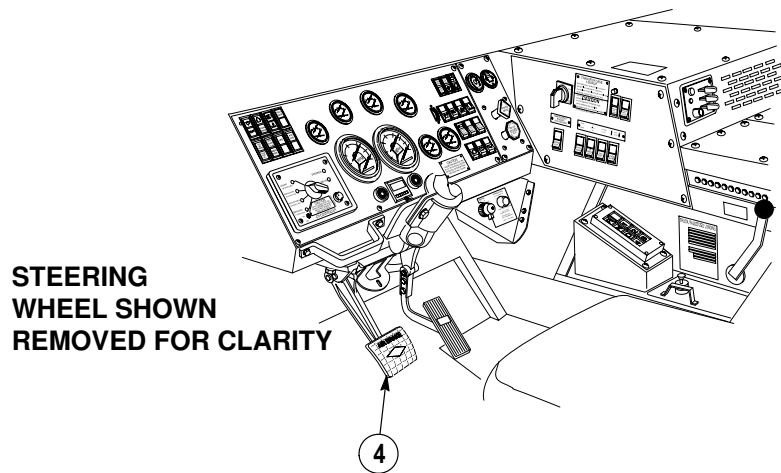
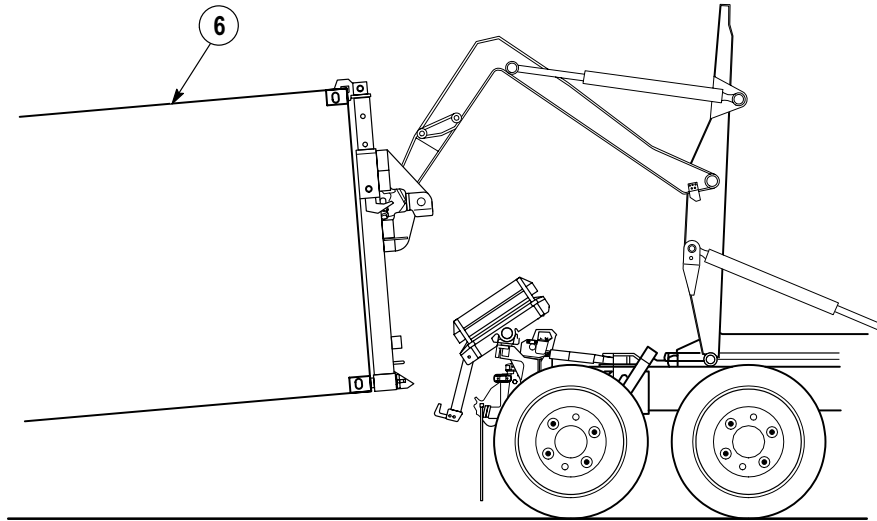
2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

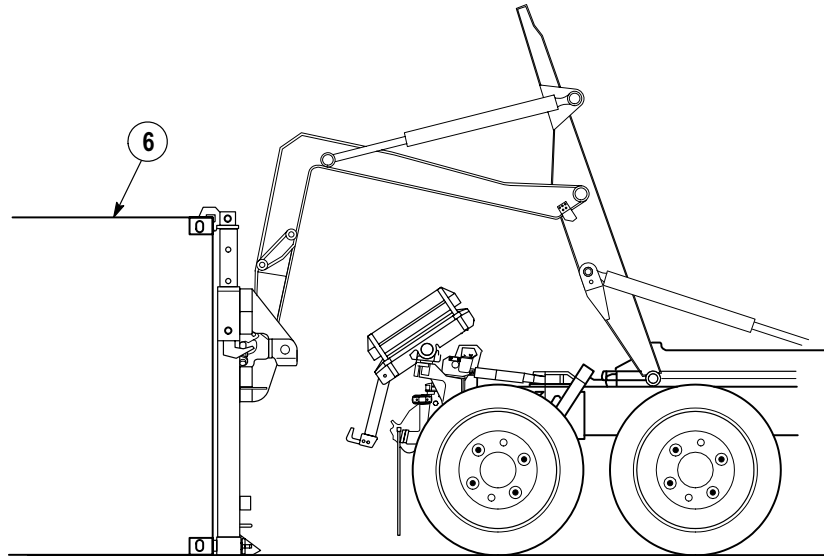
The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

- (9) Continue to unload container (6) until back edge of container touches ground.
- (10) Release service brake pedal (4) and allow container (6) to push truck forward from under container.



- (11) As front of container (6) approaches within approximately 8 in. (20.3 cm) of ground, decrease engine speed to idle and apply service brake pedal (4).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



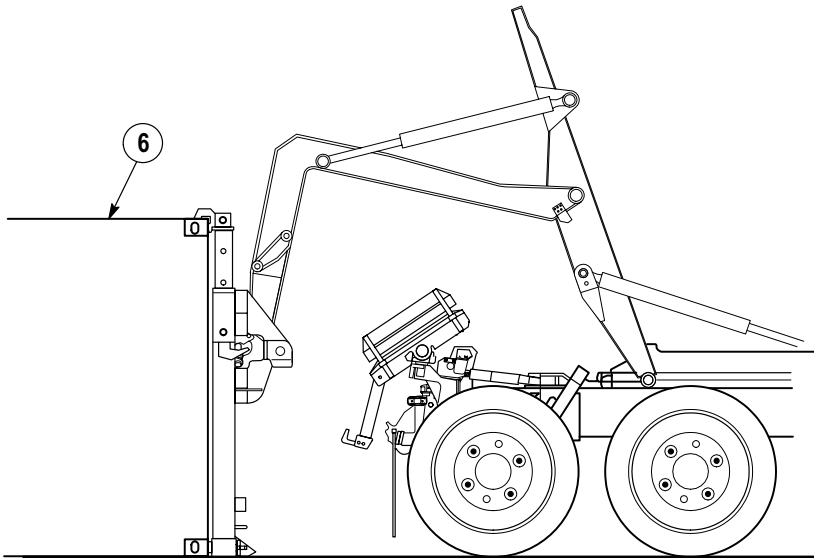
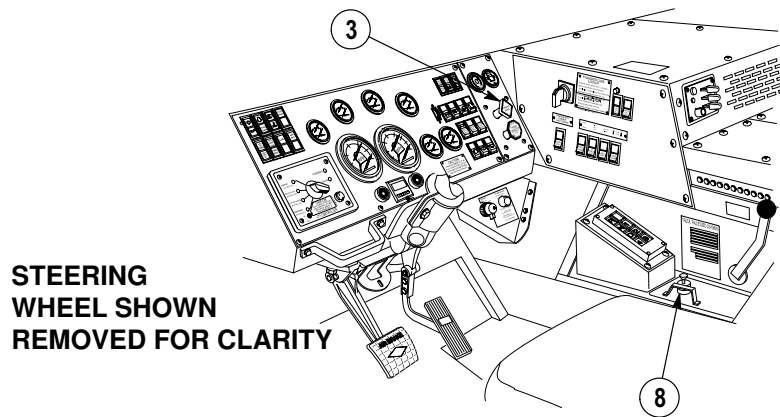
CAUTION

Once truck's rear suspension has been relieved of container load, do not continue in UNLOAD position as possibility of jacking up the rear of truck with hook arm may occur and damage to equipment may result.

NOTE

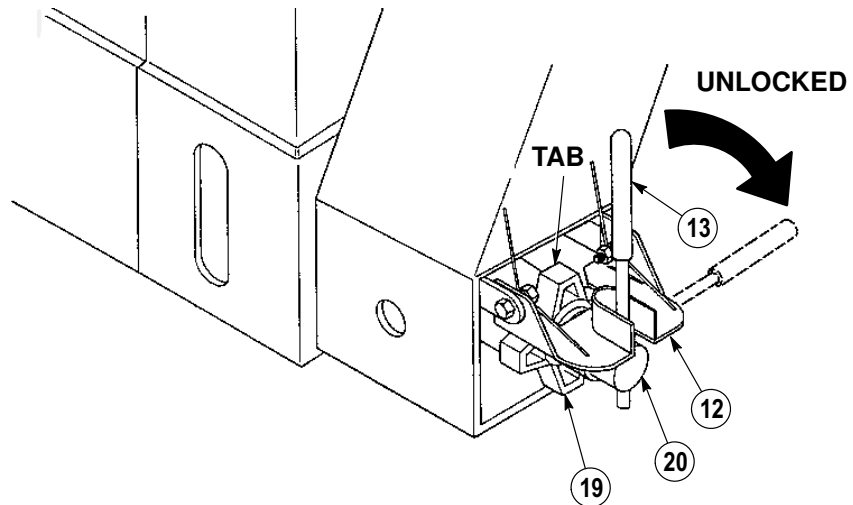
If container is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) and allow truck to move out from under container.

- (12) Continue unloading until bottom of container (6) is on ground and rear suspension is unloaded.



- (13) Release joystick (8) when container (6) is resting on ground.
- (14) Pull out parking brake knob (3) to apply parking brakes.

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



WARNING

Ensure that all tension has been relieved between LHS hook and lifting frame prior to unlocking lifting frame lower container locks. Stay clear of lifting frame when unlocking lifting frame lower container locks as lifting frame may separate from container unexpectedly. Failure to comply may result in serious injury or death to personnel.

NOTE

There are two lifting frame lower container locks. Right side shown.

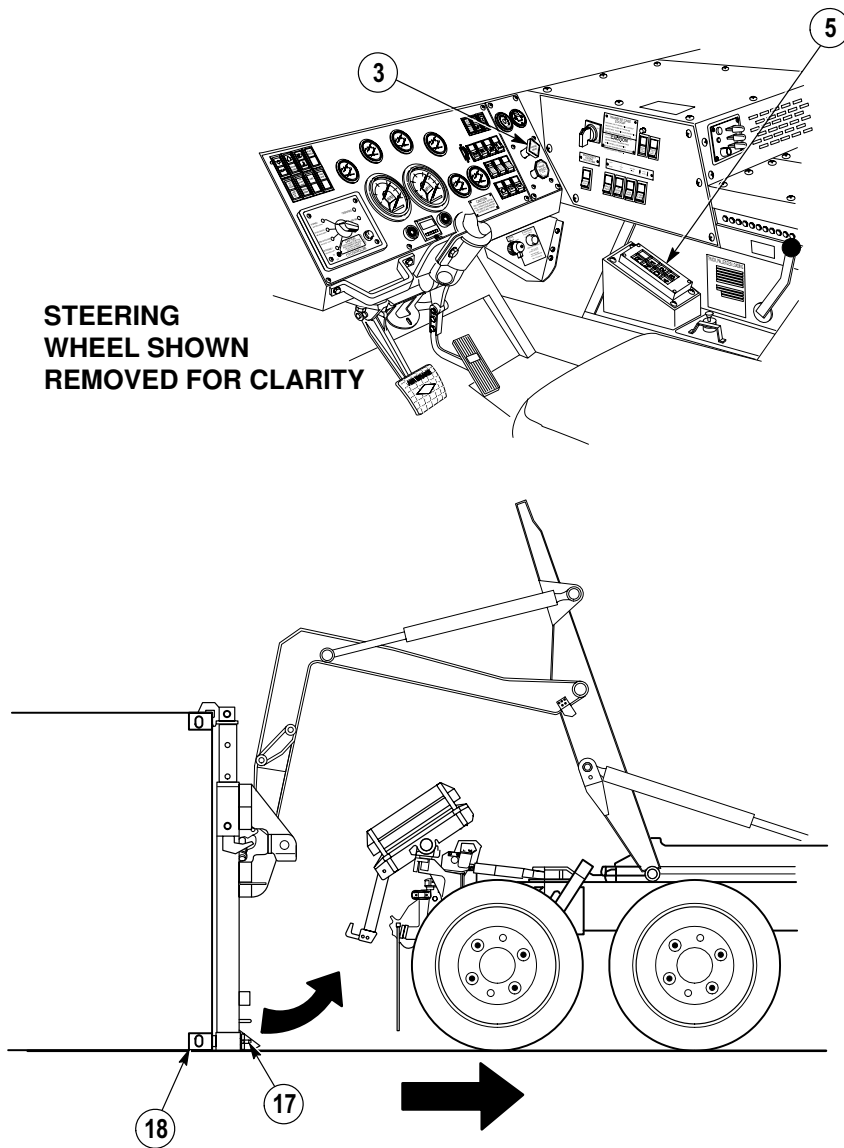
- (15) Raise handle lock plate (12) and turn handnut (19) counterclockwise and loosen stem (20).

NOTE

Ensure tab on handnut faces up.

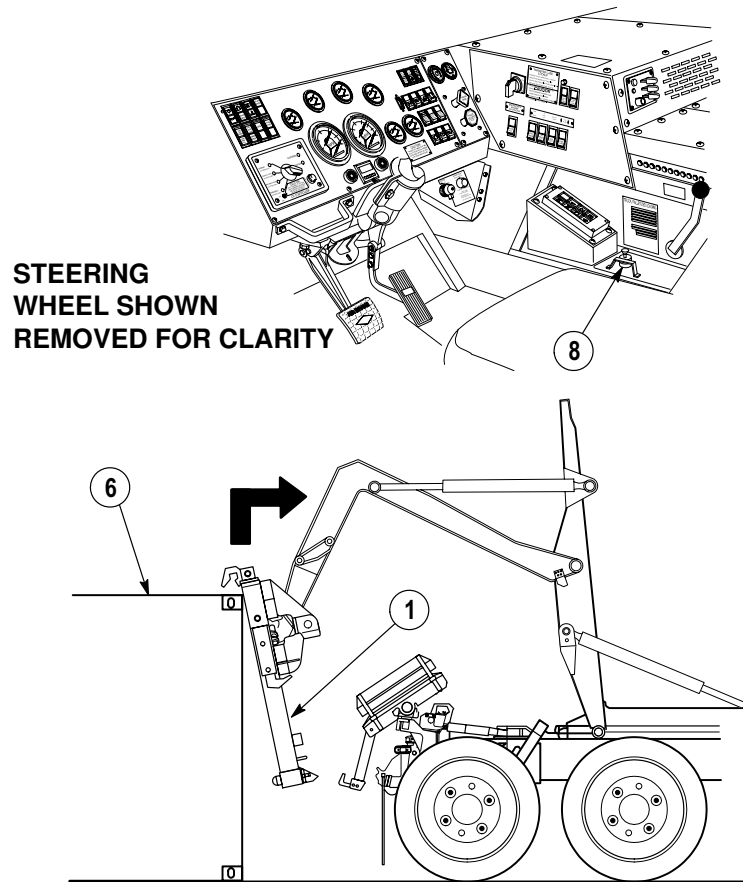
- (16) Rotate lower container lock handle (13) towards center of truck to unlocked position.
- (17) Turn handnut (19) clockwise and tighten stem (20).
- (18) Release handle lock plate (12) over container lock handle and handnut (19) tab.

**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**



- (19) Repeat Steps (15) through (18) for left side.
- (20) Push in parking brake knob (3) and release parking brakes. Set transmission range selector (5) to Drive (D).
- (21) Move truck forward until lower container locks (17) disengage from lower front corner castings (18) approximately 4 to 6 in. (10 to 15 cm).

2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



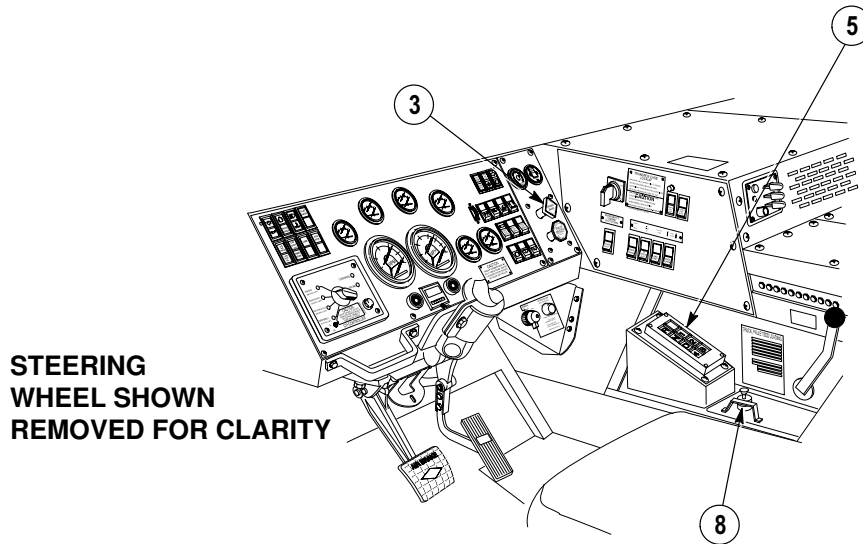
CAUTION

Ensure that the slide arm upper front hooks are completely disengaged and do not hang up in container upper corner castings when retracting LHS. Failure to comply may result in damage to the slide arm upper front hooks and/or container.

NOTE

It may be necessary to move the truck forward or backward slightly to get the slide arm upper front hooks to disengage.

- (22) Move joystick (8) to LOAD position until lifting frame (1) is disengaged from container (6).

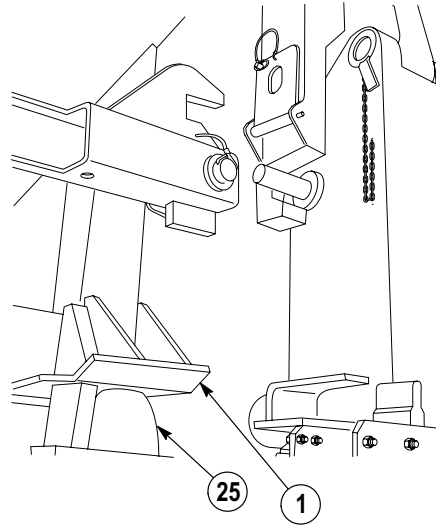
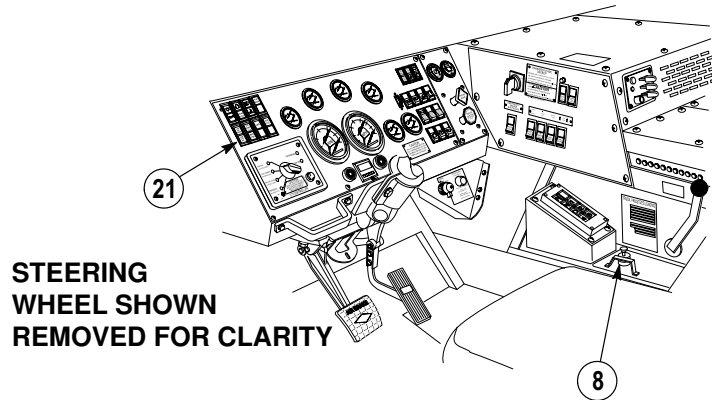


- (23) Release joystick (8).
- (24) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

CAUTION

- On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Switch hydraulic selector to MAN M.F. and retract the mainframe until the lifting frame clears the rear sliders. Return hydraulic selector to AUTO and continue (LOAD) operation. Failure to comply may result in damage to equipment.
- Never drive with LHS NO TRANS lamp illuminated. An illuminated lamp means that the LHS is not fully stowed. Failure to comply may result in damage to equipment.

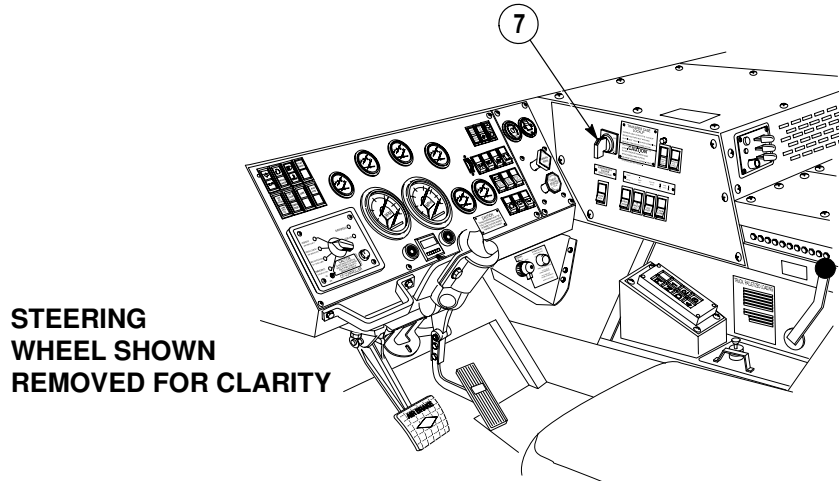
2-33. LOADING AND UNLOADING CONTAINER (82 INCHES (208 CM) OR TALLER) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

- (25) Move joystick (8) to LOAD position until LHS is fully retracted and lifting frame (1) is positioned on bumper supports (25). LHS NO TRANS lamp (21) will go out indicating LHS is in transport position.
- (26) Release joystick (8).



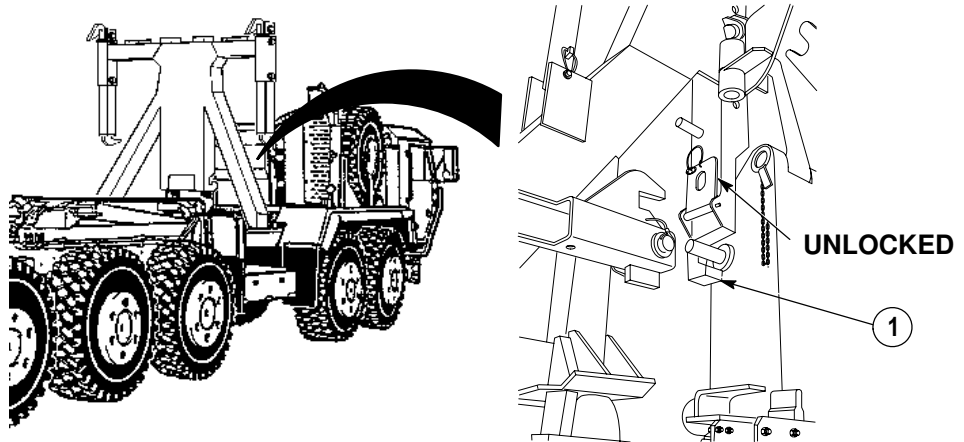
CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(27) Turn hydraulic selector switch (7) to OFF.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF).

a. Loading



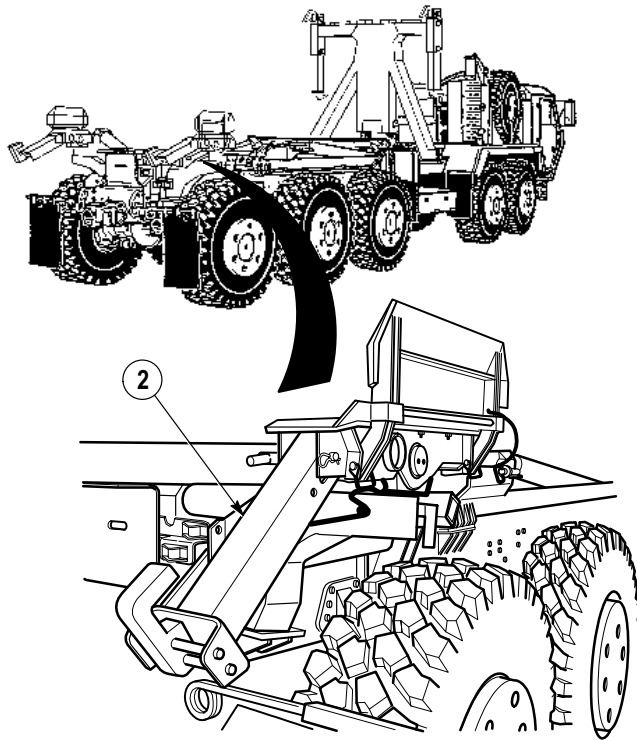
WARNING

Lifting frame weighs 1600 lbs. (725 kg). Personnel must stay clear when installing or removing lifting frame to LHS hook arm hook. Failure to comply may result in injury or death to personnel.

CAUTION

Ensure lifting frame is in the unlocked position before attempting to load a container to truck. Failure to comply will result in damage to equipment.

- (1) Ensure lifting frame (1) is in container mode (Para 2-32) and unlocked (Para 2-37).

**CAUTION**

Ensure truck is in container mode before attempting to load a container to truck. Failure to comply will result in damage to equipment.

- (2) Ensure truck is in container mode, refer to (Para 2-32).
- (3) Ensure rear container lock (2) is in ready mode, refer to (Para 2-32).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

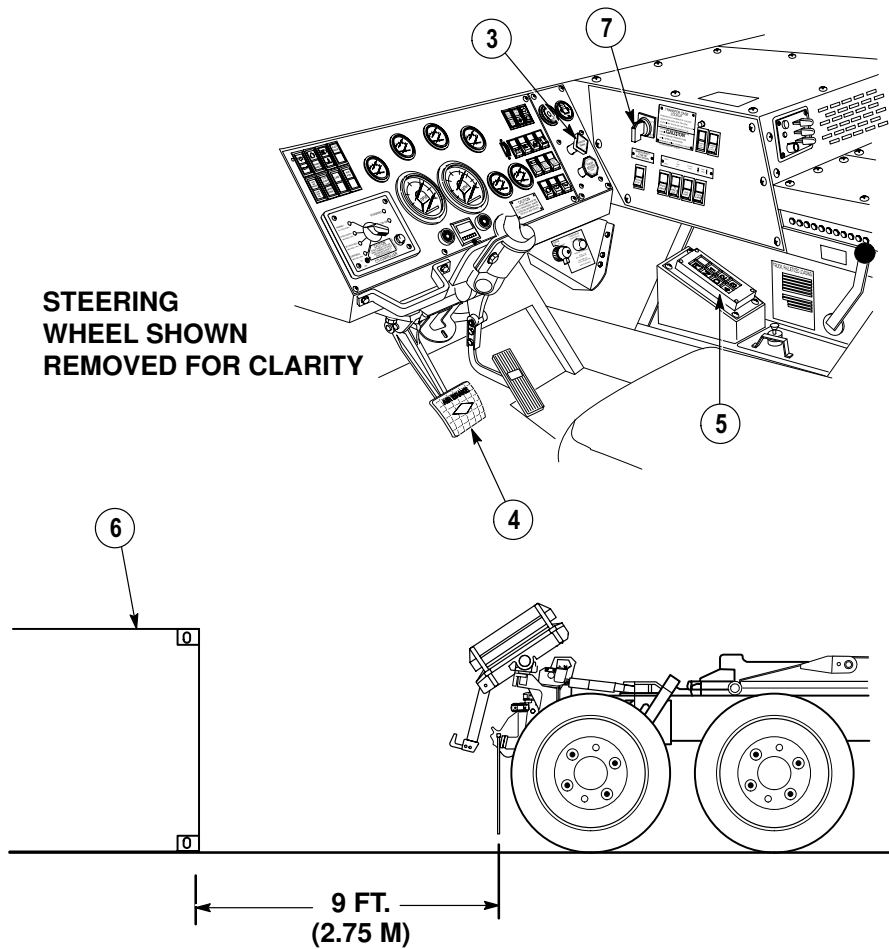
WARNING

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Maximum permissible gross container weight is 35,000 lbs. (15,890 kg).
- Use caution when working around lifting frame. Lifting frame may swing unexpectedly when not attached to container. Failure to comply may result in injury or death to personnel.
- Do not stand between lifting frame and container. Truck could roll crushing personnel between them causing serious injury or death.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.

NOTE

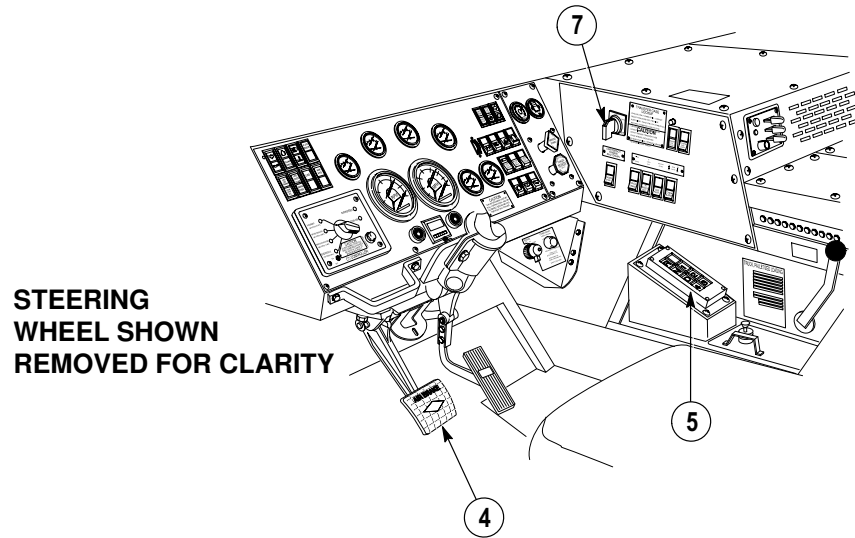
- For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) “LHS Controls and Indicators”, (Para 2-29b.) “Picking-up a Flatrack in Auto Mode”, and (Para 2-29c.) “Off-loading a Flatrack in Auto Mode”.
- Rear mud flaps may be pinned up to provide better visibility of lifting frame lower container locks.

(4) Start engine (Para 2-15).



- (5) Push in parking brake knob (3), apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).
- (6) Release service brake pedal (4) and position rear of truck within 9 ft. (2.75 m) of front of container (6), aligning centerline of truck within 2 in. (5 cm) of container centerline.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



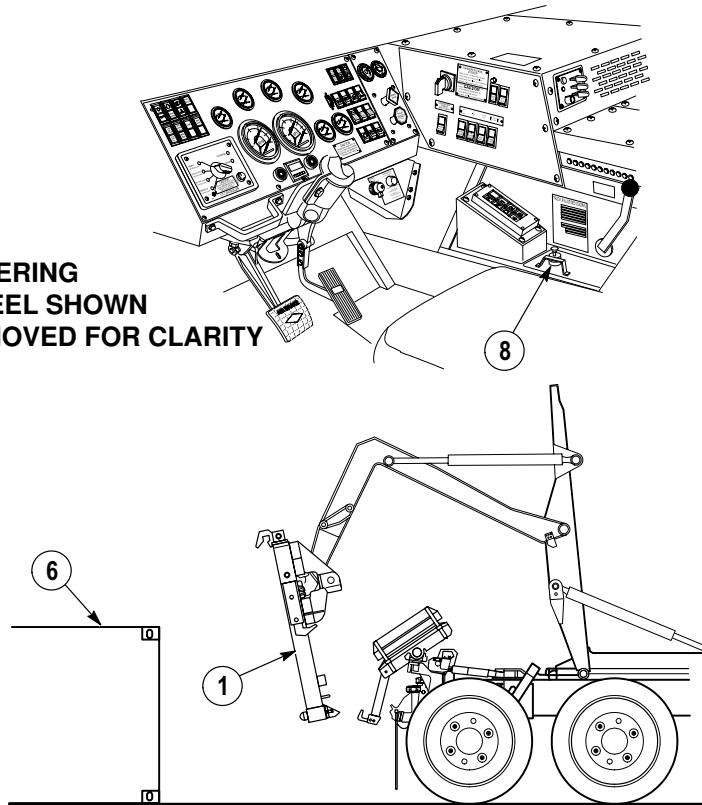
- (7) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (8) Turn hydraulic selector switch (7) to AUTO.

**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**

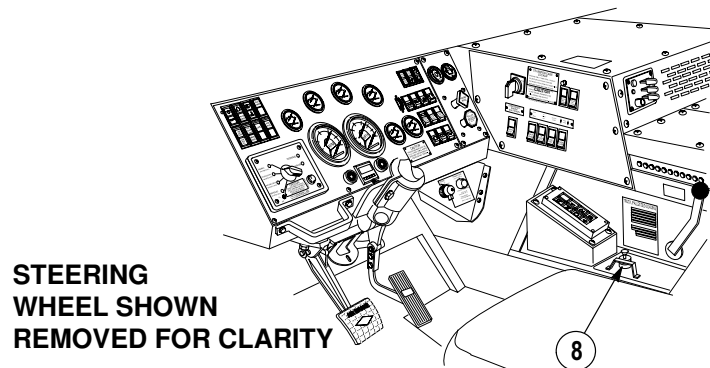
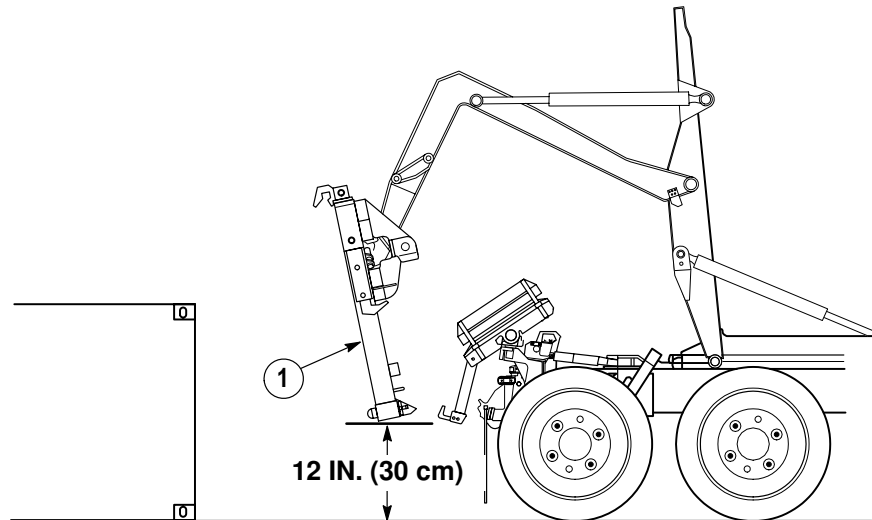


CAUTION

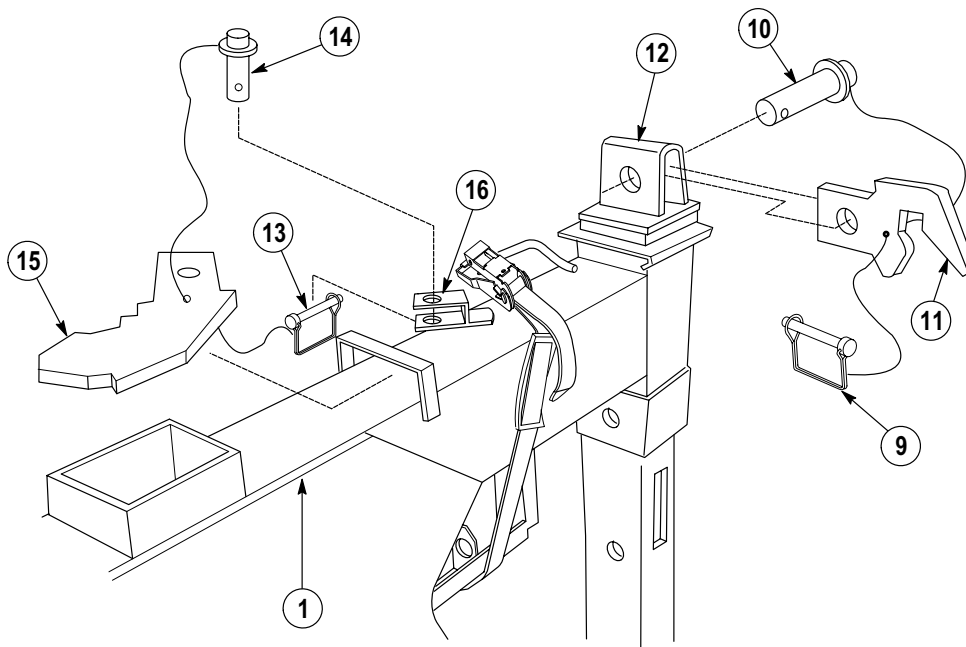
On steep downgrades, contact is possible between the lifting frame lower legs and the rear sliders during empty LHS cycles. If contact appears likely, switch hydraulic selector to MAN H.A. and retract (LOAD) hook arm a few inches. Return hydraulic selector to AUTO and continue (UNLOAD) operation. Repeat as required. Failure to comply may result in damage to equipment.

- (9) Move joystick (8) to UNLOAD position until lifting frame (1) is positioned in front of container (6).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



- (10) Operate LHS in AUTO mode until lifting frame (1) is approximately 12 in. (30 cm) off of ground.
- (11) Release joystick (8).
- (12) Shut off engine (Para 2-23).

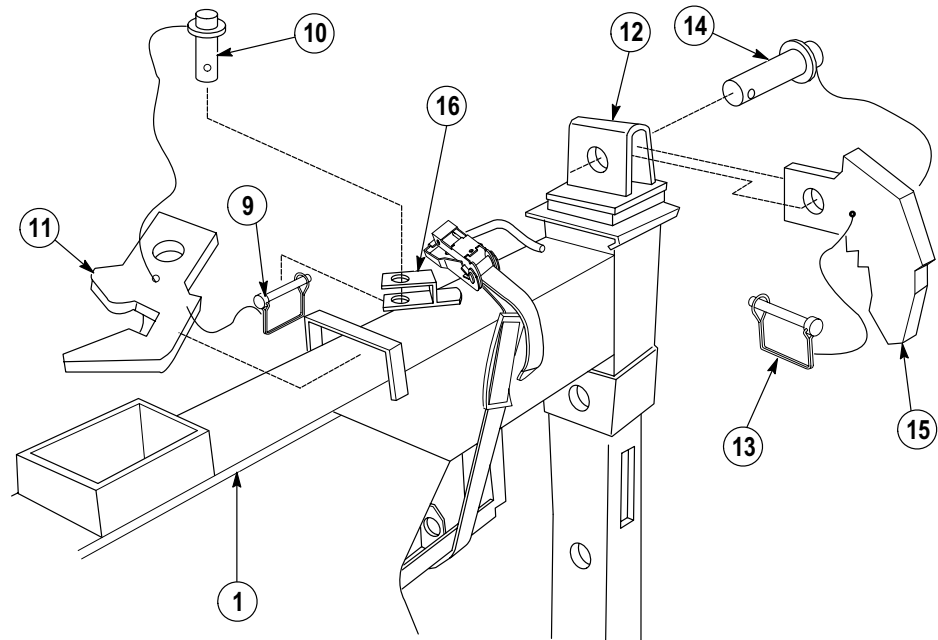


NOTE

- Refer to the lifting frame data plate for the proper configuration needed for the height of each container being loaded.
- There are two slide arms. Right side shown.

- (13) Remove lock pin (9), pin (10) and standard hook (11) from slide arm (12).
- (14) Remove lock pin (13), pin (14) and 6 foot hook (15) from stowage bracket (16) on lifting frame (1).

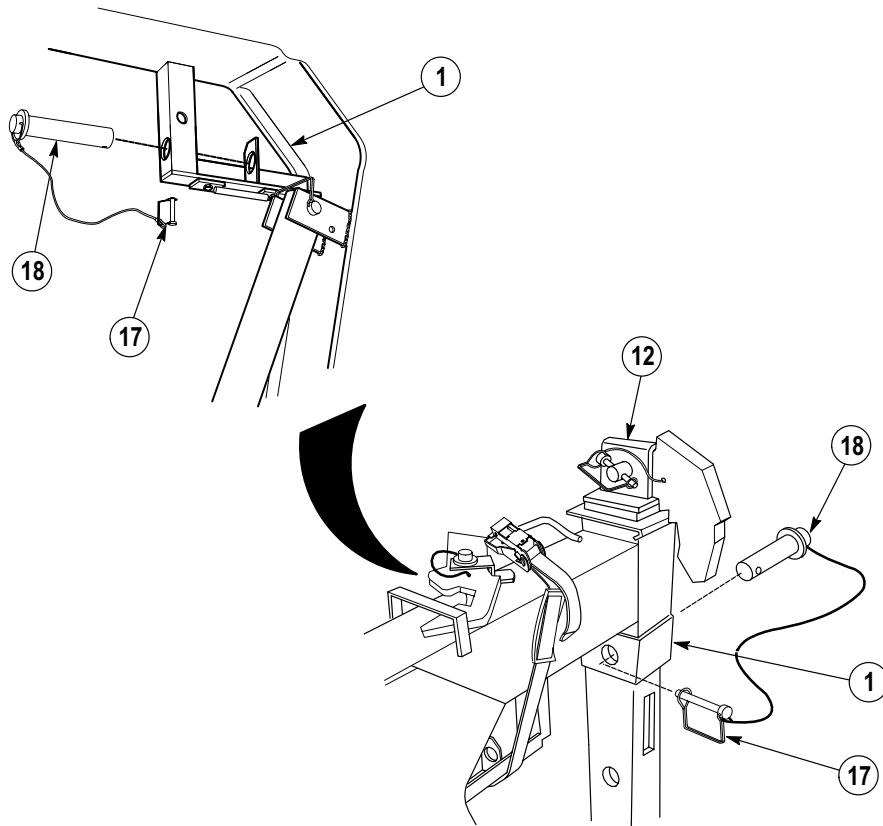
2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

Ensure 6 foot hook faces down when installed.

- (15) Install 6 foot hook (15), pin (14) and lock pin (13) in slide arm (12).
- (16) Install standard hook (11), pin (10) and lock pin (9) in stowage bracket (16) on lifting frame (1).

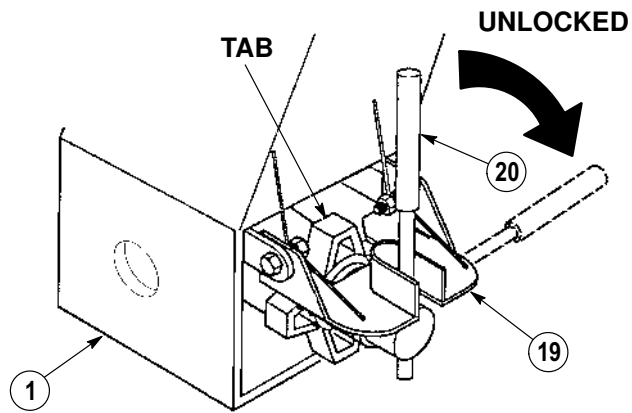


NOTE

If pin is in stowed position, perform Steps (17) and (18).

- (17) Remove lock pin (17) and pin (18) from stow position on lifting frame (1).
- (18) Install pin (18) and lock pin (17) in lifting frame (1) and slide arm (12) in upper hole.
- (19) Repeat Steps (13) through (18) for left side.

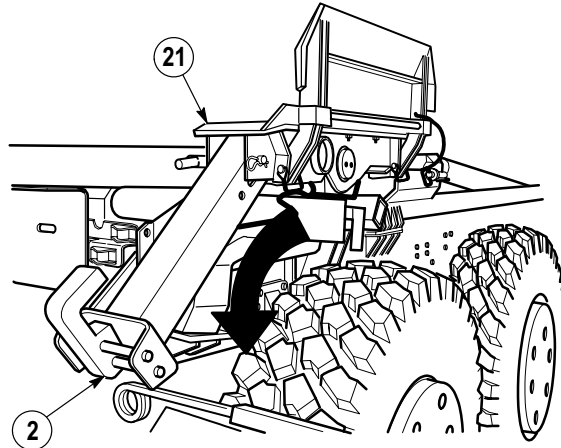
2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

- There are two lifting frame lower container locks. Right side shown.
- Ensure lifting frame lower container lock handle is positioned in slot on handle lock plate.
- Ensure tab on handnut faces up.

- (20) Raise handle lock plate (19) and rotate lower container lock handle (20) towards center of lifting frame (1) to unlocked position.
- (21) Release handle lock plate (19) on lifting frame (1).
- (22) Repeat Steps (20) and (21) for left side.

**CAUTION**

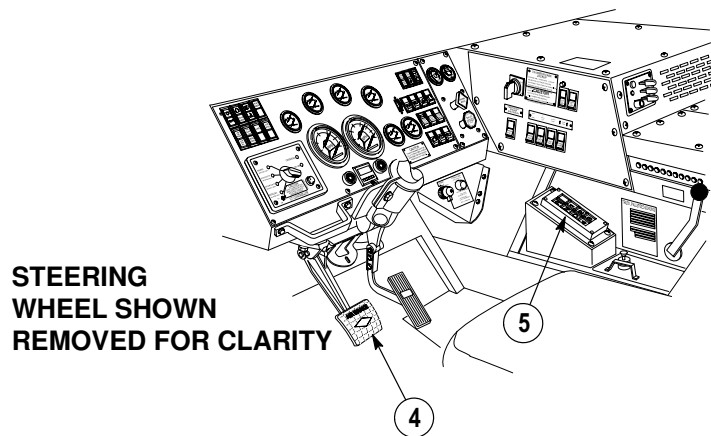
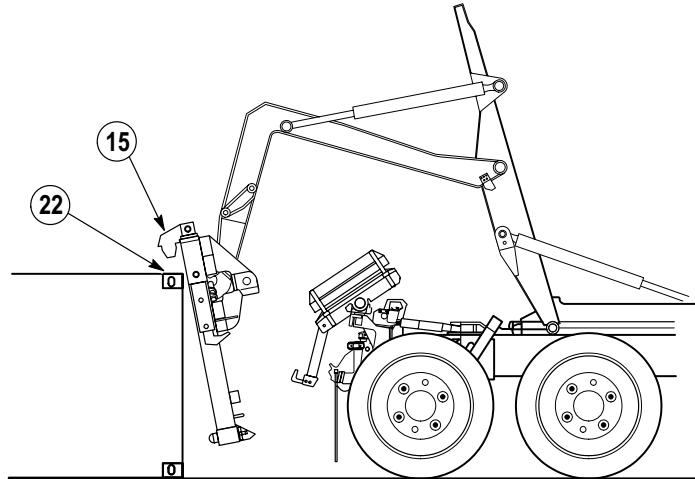
Ensure sliders are clear of debris and surfaces are properly greased or damage to equipment may result.

NOTE

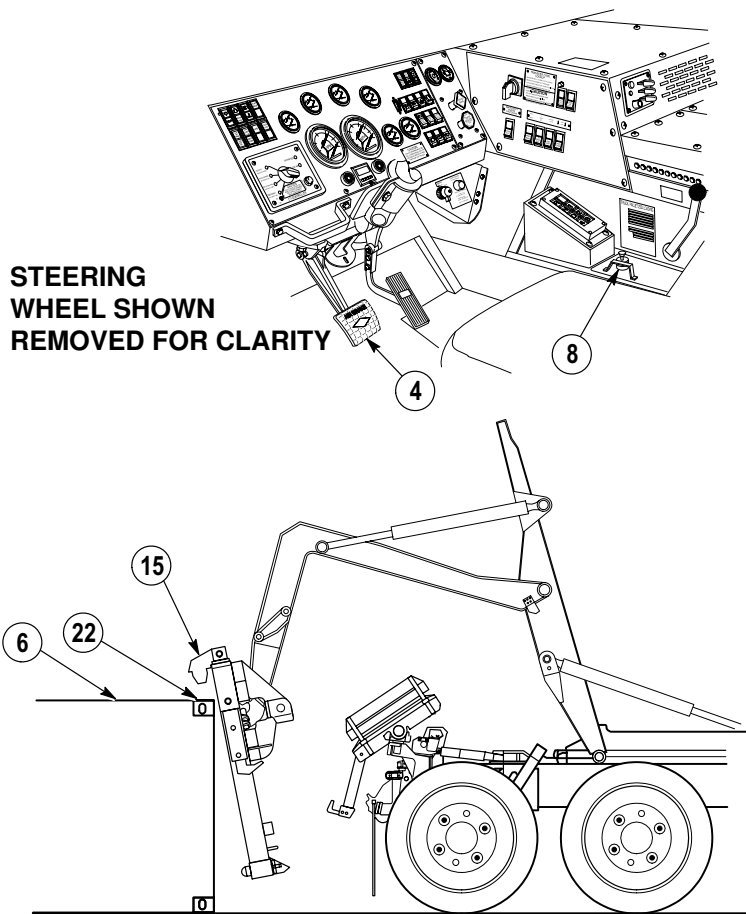
There are two rear sliders and container locks. Right side shown.

- (23) Rotate slider (21) so rear of slider faces down.
- (24) Ensure rear container lock (2) is in ready mode or down position (Para 2-32).
- (25) Repeat Steps (23) and (24) for left side.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



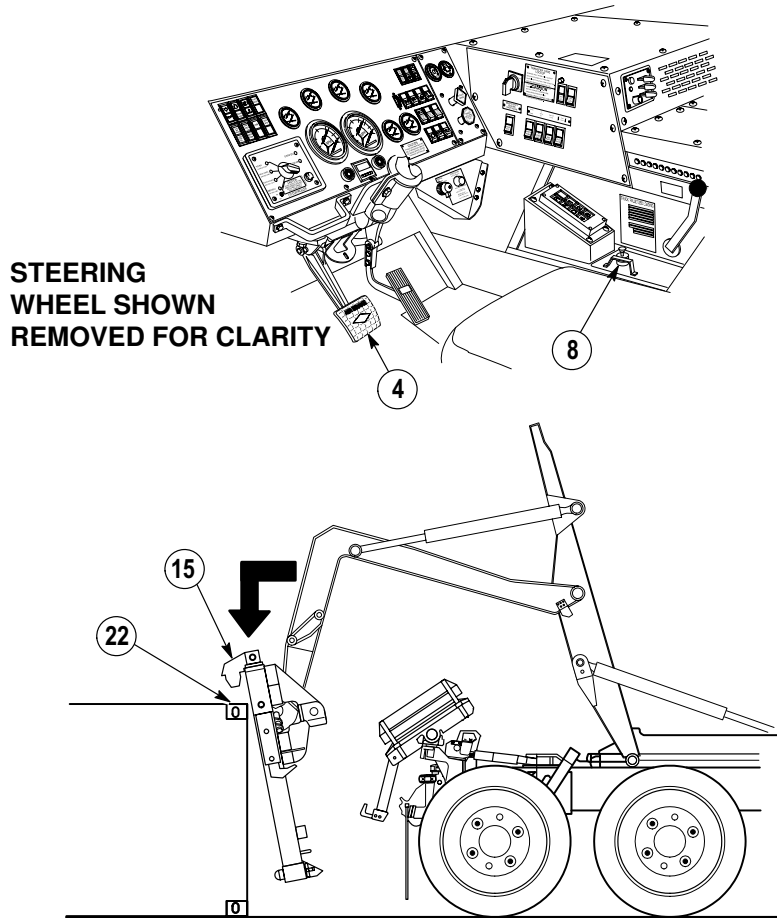
- (26) Start engine (Para 2-15).
- (27) Position slide arm 6 foot hooks (15) just above and in front of container upper corner castings (22).
- (28) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

**WARNING**

Do not allow lifting frame to contact the ground when slide arm 6 foot hooks are not engaged with container upper corner castings. Failure to comply may result in damage to equipment and injury or death to personnel.

- (29) Release service brake pedal (4) and slowly back up to approximately 12 in. (30 cm) from front of container (6).
- (30) Apply service brake pedal (4), move joystick (8) to LOAD and raise lifting frame until slide arm 6 foot hooks (15) are above container upper front corner castings (22).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



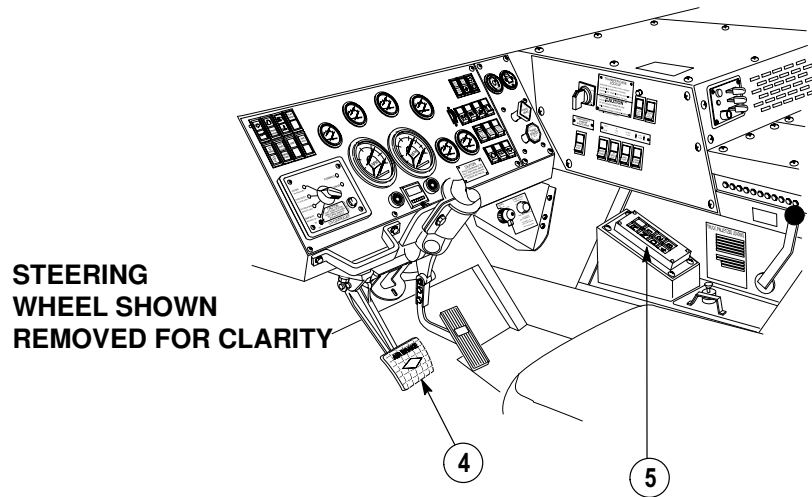
CAUTION

Ensure slide arm 6 foot hooks are fully engaged with container upper corner castings. Failure to comply may result in damage to equipment.

NOTE

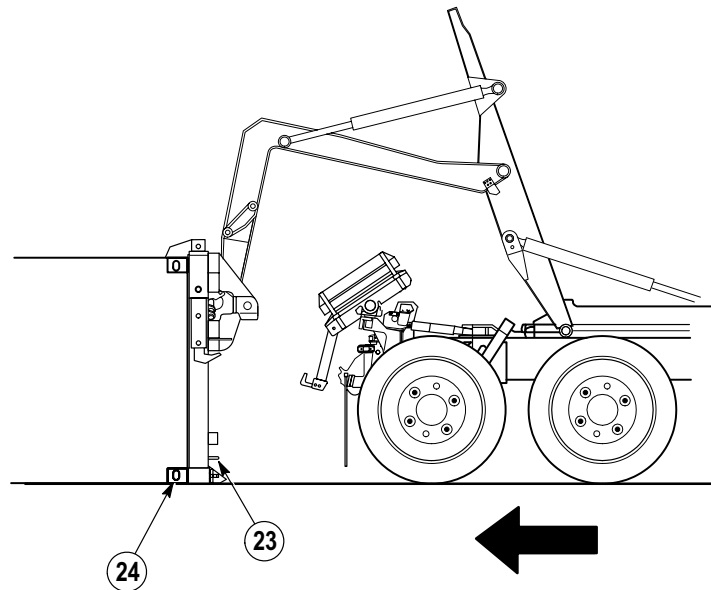
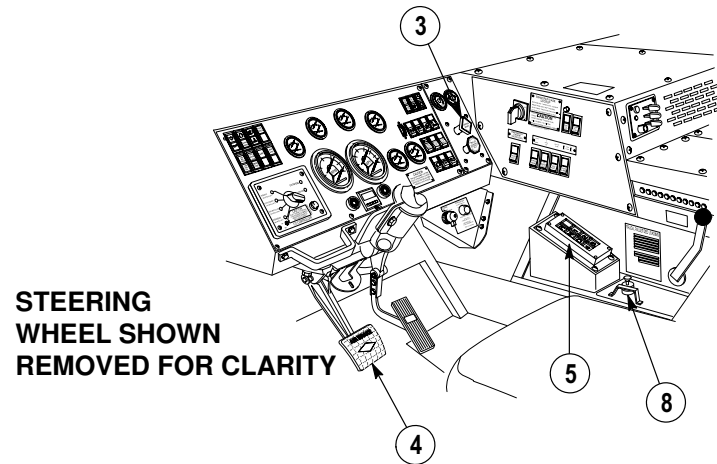
To get slide arm 6 foot hooks to properly seat it may be necessary to drive truck forward slightly.

- (31) Release service brake pedal (4) and moving joystick (8) to UNLOAD, lower slide arm 6 foot hooks (15) into container upper front corner castings (22).

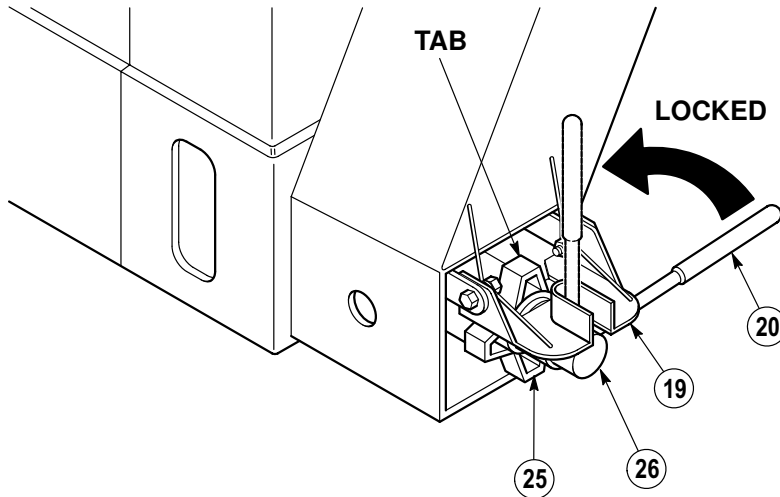


- (32) Apply service brake pedal (4) and set transmission range selector (5) to Reverse (R).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



- (33) Continue backing up truck until lower container locks (23) are seated in container lower front corner castings (24). Apply service brake pedal (4) and release joystick (8).
- (34) Set transmission range selector (5) to Neutral (N) and pull out parking brake knob (3) to apply parking brakes.

**CAUTION**

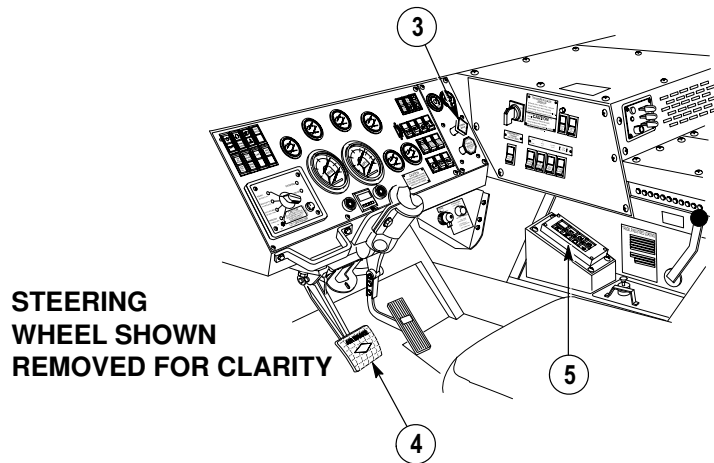
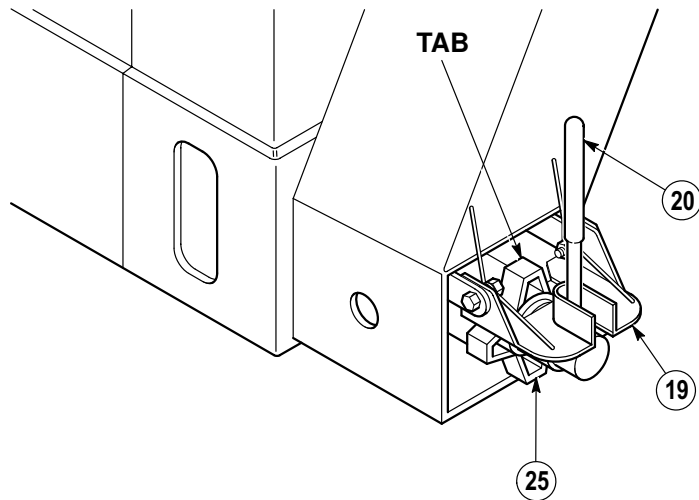
Ensure lower container locks are fully engaged with container lower front corner castings. Failure to comply may result in damage to equipment.

NOTE

- To get container lock handle to rotate, it may be necessary to loosen handnut.
- There are two lower container locks. Right side shown.
- After tightening handnut, it may be necessary to loosen handnut slightly to align tab with handle lock plate.
- Ensure lower container lock handle is secured in slot on handle lock plate.

- (35) Hold handle lock plate (19) up and rotate lower container lock handle (20) up in the locked position.
- (36) Turn handnut (25) clockwise and tighten stem (26).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

Ensure tab on handnut faces up.

- (37) Lower handle lock plate (19) over lower container lock handle (20) and handnut (25) tab.
- (38) Repeat Steps (35) through (37) for left side.
- (39) Set the transmission range selector (5) in Neutral (N), push in parking brake knob (3) to release parking brakes and release service brake pedal (4).

WARNING

When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

CAUTION

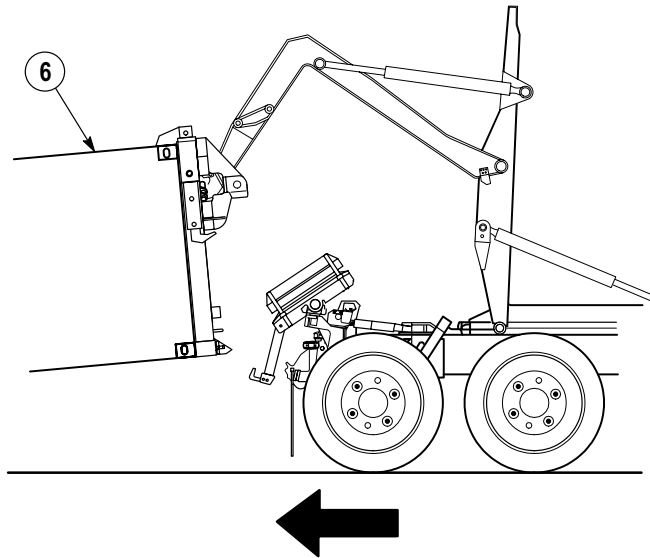
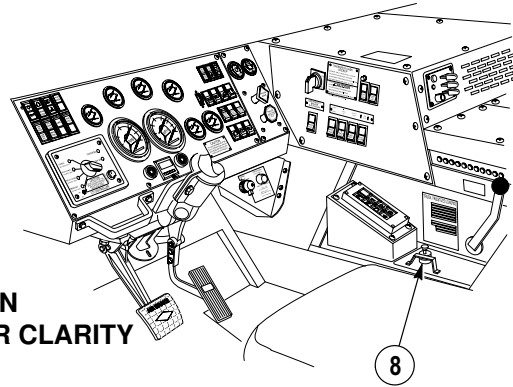
- If LHS overload lamp illuminates but loading operation continues, operator is cautioned that LHS is nearing maximum capacity. In this situation operator should notify supervisor if it appears payload is unevenly distributed in container or if container load exceeds 35,000 lbs. (15,890 kg). If any of these conditions exist, payload must be redistributed or reduced or damage to equipment may result.
- Load must be evenly distributed in the container. Uneven load distribution may cause the LHS overload indicator to give false signals and cause the LHS to operate incorrectly. Damage to equipment may result.
- If LHS overload lamp illuminates and normal operation has stopped, return load to original position and notify supervisor to have payload redistributed or weight reduced. Failure to comply may result in damage to equipment.
- Ensure parking brake is not applied before starting load sequence or damage to equipment may occur.

NOTE

- The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.
- If container is extremely light or empty, it may be necessary to place transmission range selector to Reverse (R) and allow truck to roll under container.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**



(40) Move joystick (8) to LOAD, allowing truck to be pulled under container (6).

WARNING

Ensure that container has contacted rear sliders correctly and is between guides. Failure to comply may result in serious injury or death to personnel and damage to equipment.

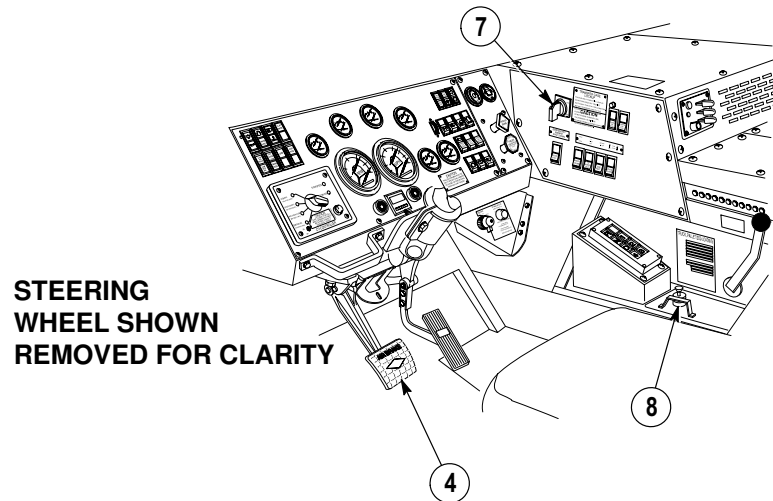
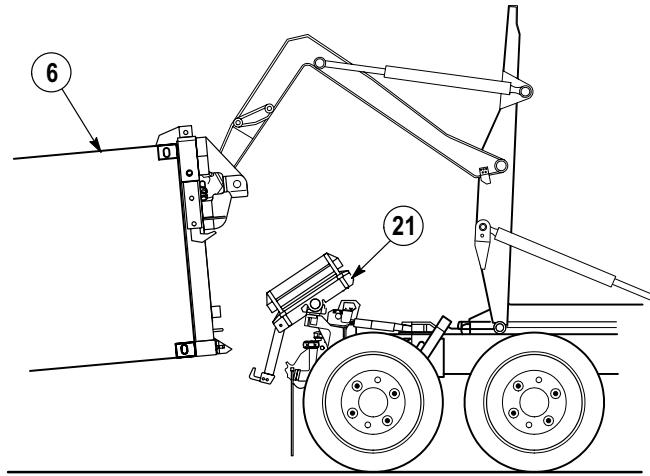
CAUTION

Reduce engine speed to idle before container contacts rear sliders or damage to equipment may result.

NOTE

- LHS overload lamp may illuminate when lifting container from unusual conditions.
- As load is lifted, truck will be pulled under container. Some steering wheel adjustment may have to be made to ensure that container contacts rear sliders correctly and is between guides.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

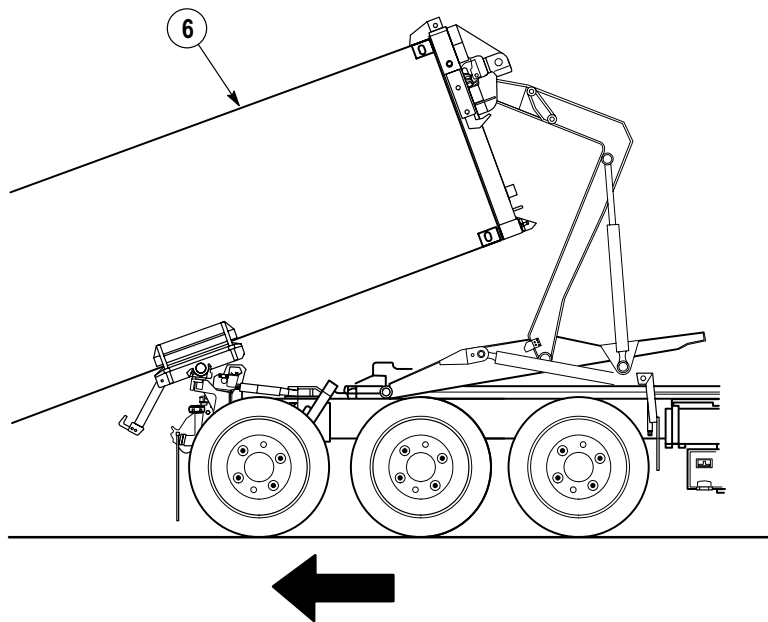
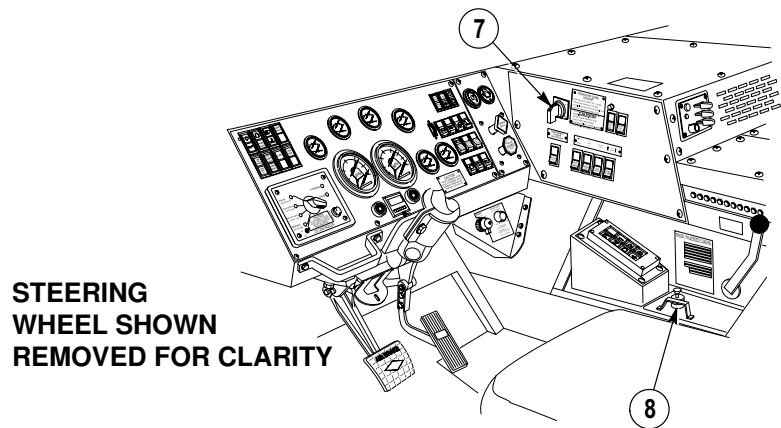


- (41) As container (6) contacts rear sliders (21), reduce engine speed to idle and apply service brake pedal (4).

NOTE

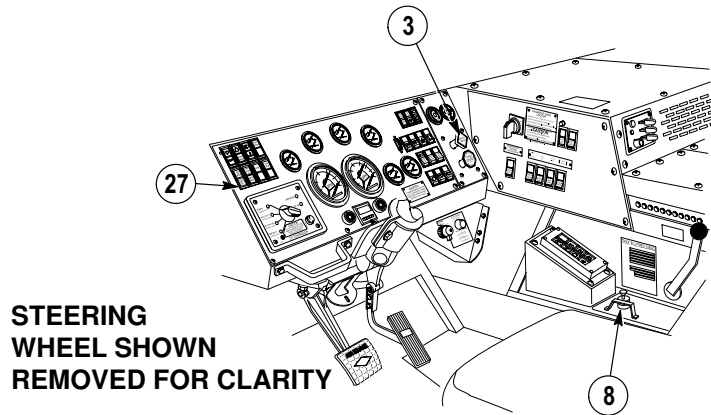
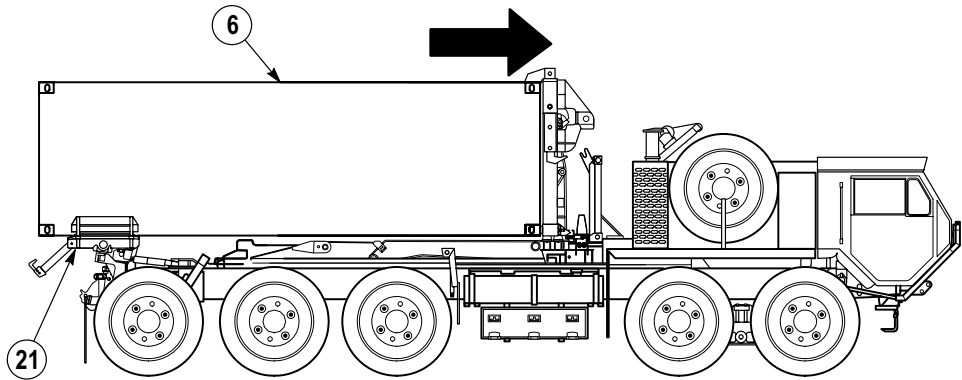
If container is being loaded in soft soil conditions, perform Steps (42) through (44).

- (42) Release joystick (8). Set hydraulic selector switch (7) to MAN H.A.



- (43) Move joystick (8) to LOAD until container (6) is approximately 2 ft. (0.61 m) off the ground. Release joystick.
- (44) Set hydraulic selector switch (7) to AUTO. Resume normal AUTO operations.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).

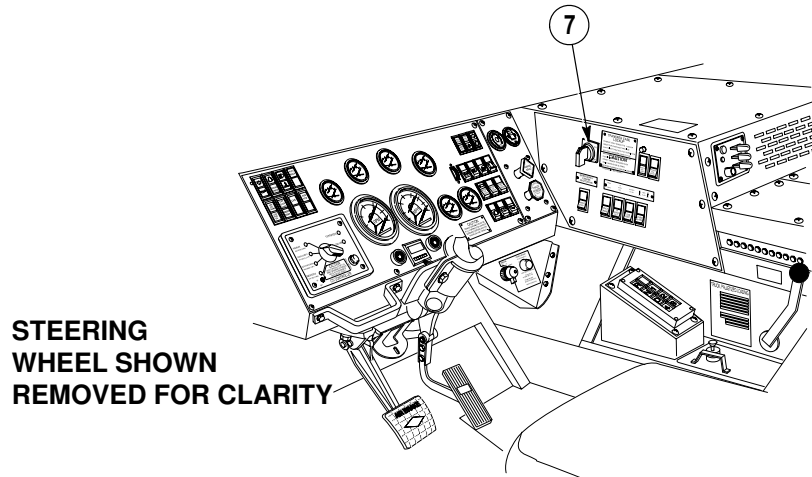


**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**

NOTE

Engine speed may be increased and decreased to ease loading.

- (45) After container (6) contacts rear sliders (21), increase engine speed to approximately 1500 rpm until container is almost loaded. Reduce engine speed to idle.
- (46) Continue loading until container (6) is fully loaded and LHS NO TRANS lamp (27) goes out.
- (47) Release joystick (8).
- (48) Pull out parking brake knob (3) and apply parking brake.



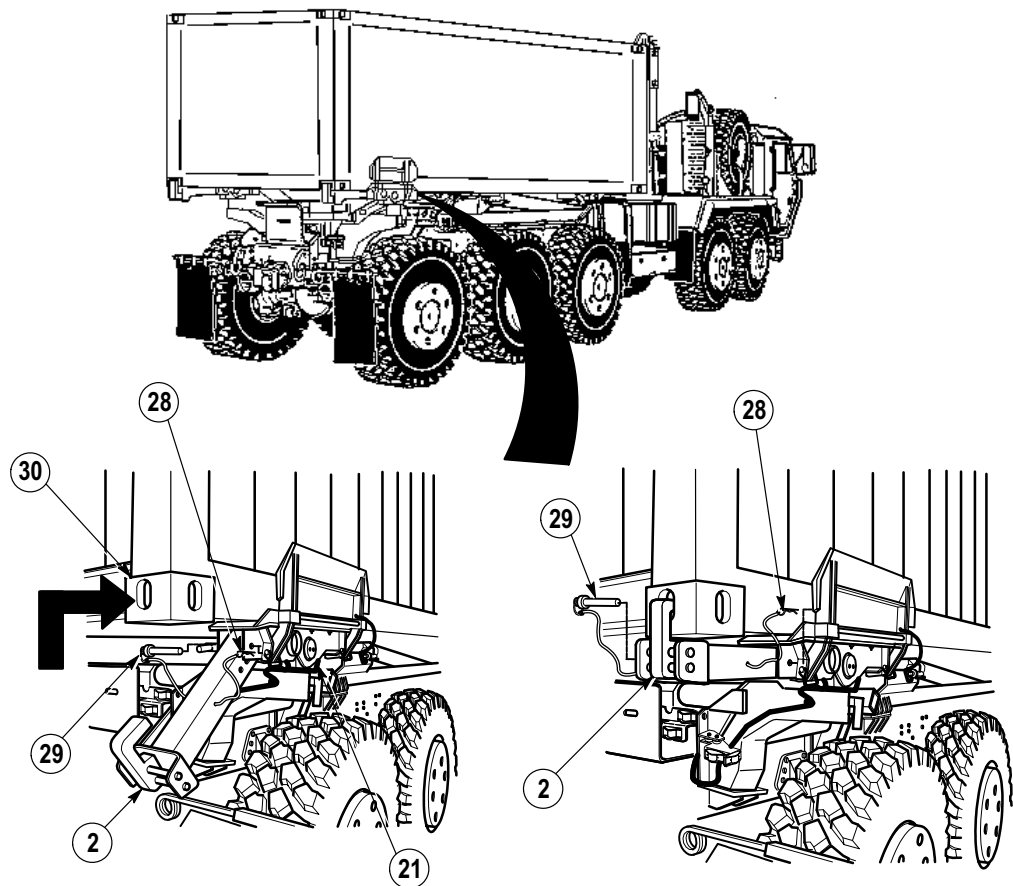
CAUTION

- Engine speed must be at idle before using hydraulic selector switch or damage to equipment may result.
- Hydraulic selector switch must be in the OFF position before driving truck or hydraulic system could overheat.

(49) Turn hydraulic selector switch (7) to OFF.

(50) Shut off engine (Para 2-23).

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

- There are two rear container locks. Right side shown.
- If container is not centered and transit locks cannot be installed and pinned, repeat Steps (40) through (50) to reposition container.

- (51) Support rear container lock (2) and remove lock pin (28) and pin (29).
- (52) Rotate rear container lock (2) up and position into container lower rear corner casting (30).
- (53) Install pin (29) and lock pin (28) in rear container lock (2) and slider (21).
- (54) Perform Step (51) through (53) for left side.

b. Unloading**WARNING**

- Check for overhead power lines or other obstructions before attempting LHS operations. LHS reaches a height of 18 ft. (5.5 m). Injury or death could result if LHS contacts power lines.
- Do not attempt loading or unloading operations on a side slope greater than 5 degrees and/or fore/aft slope greater than 20 percent. Before attempting loading or unloading operations on slopes you must determine if ground surface conditions permit safe loading or unloading operations. Slopes that contain snow, ice, loose gravel or sand may not permit safe loading or unloading.
- Check ground conditions for firmness and extreme sideways inclination before picking-up or off-loading a container. Any ground instability beneath road wheels could cause serious injury or death to personnel.
- Prior to and during any load or unload cycle, all personnel should stay clear of LHS, lifting frame, and container or serious injury or death may result.

CAUTION

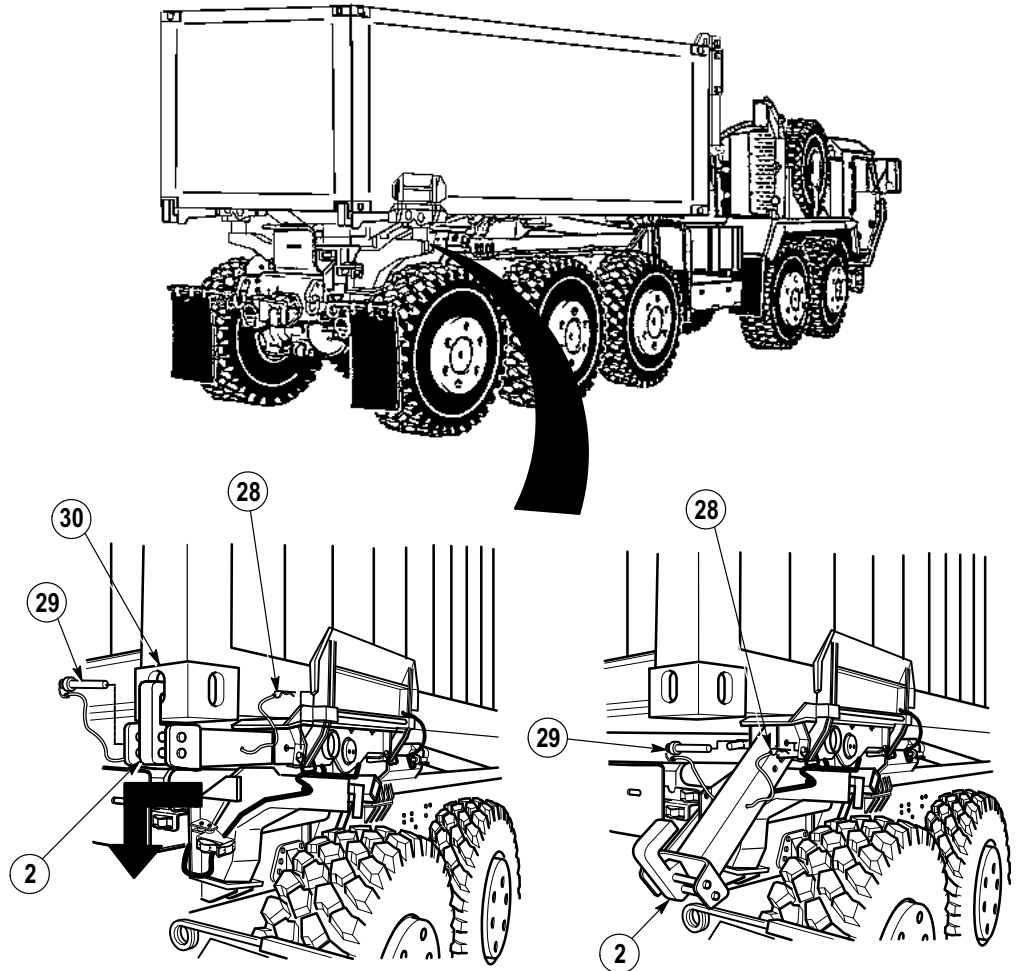
Check that ground conditions where container will be placed can support the container weight or damage to the container, lifting frame or LHS may result.

NOTE

For detailed instructions on how to operate the LHS on the truck, refer to (Para 2-29a.) "LHS Controls and Indicators", (Para 2-29b.) "Picking-up a Flatrack in Auto Mode", and (Para 2-29c.) "Off-loading a Flatrack in Auto Mode".

- (1) Check area for operating room at front and rear of truck. Check overhead clearance and ground conditions.

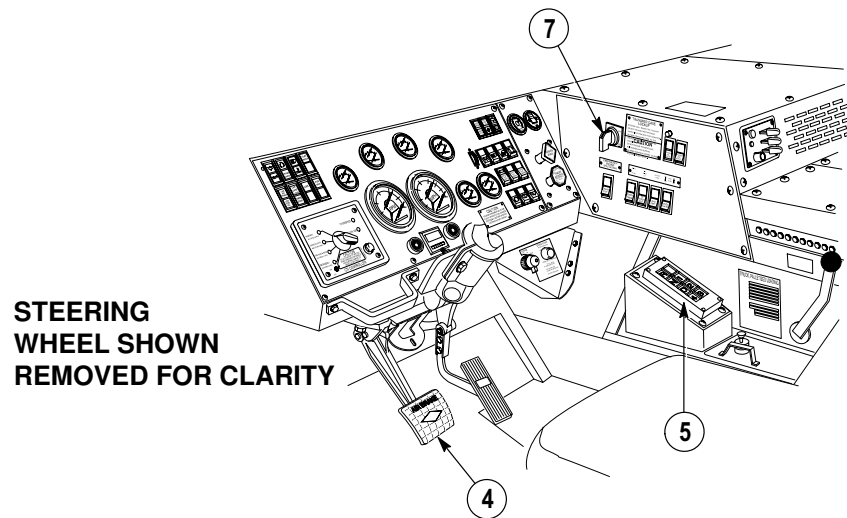
2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



NOTE

There are two rear container locks. Right side shown.

- (2) Remove lock pin (28), pin (29) and rear container lock (2) from lower rear corner casting (30).
- (3) Rotate rear container lock (2) in down position and install pin (29) and lock pin (28).
- (4) Perform Steps (2) and (3) for left side.



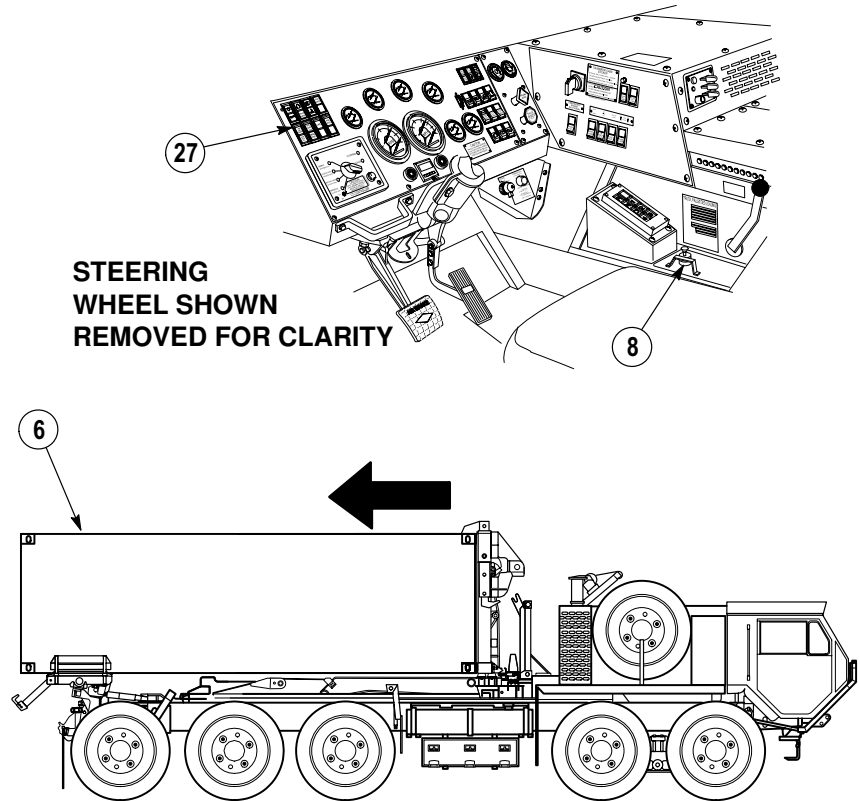
- (5) Start engine (Para 2-15).
- (6) Apply service brake pedal (4) and set transmission range selector (5) to Neutral (N).

CAUTION

Engine speed must be at idle before using hydraulic selector switch, or damage to equipment may result.

- (7) Turn hydraulic selector switch (7) to AUTO.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



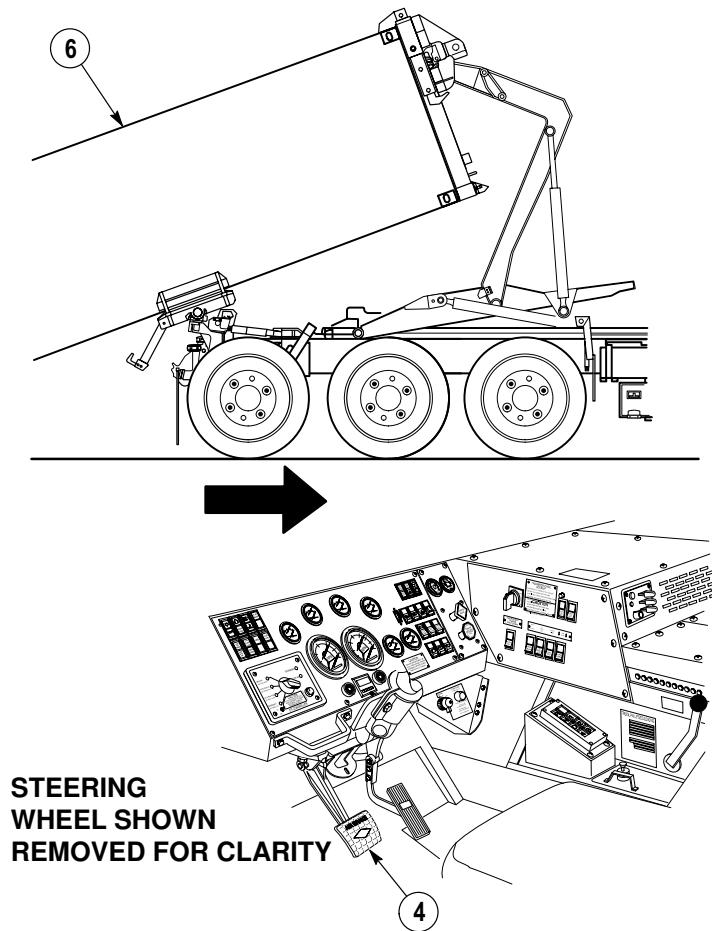
WARNING

When loading or unloading containers on uneven ground (side slope up to 5 degrees and downgrades up to 20 percent), it may be necessary to apply truck service brakes to prevent truck roll away or severe injury or death could result.

NOTE

LHS will not operate and unload if rear container locks are engaged.

- (8) Move joystick (8) to UNLOAD. Container (6) will start to move rearward. LHS NO TRANS lamp (27) will illuminate. Maintain engine speed at idle until front of container raises approximately 12 in. (30 cm).

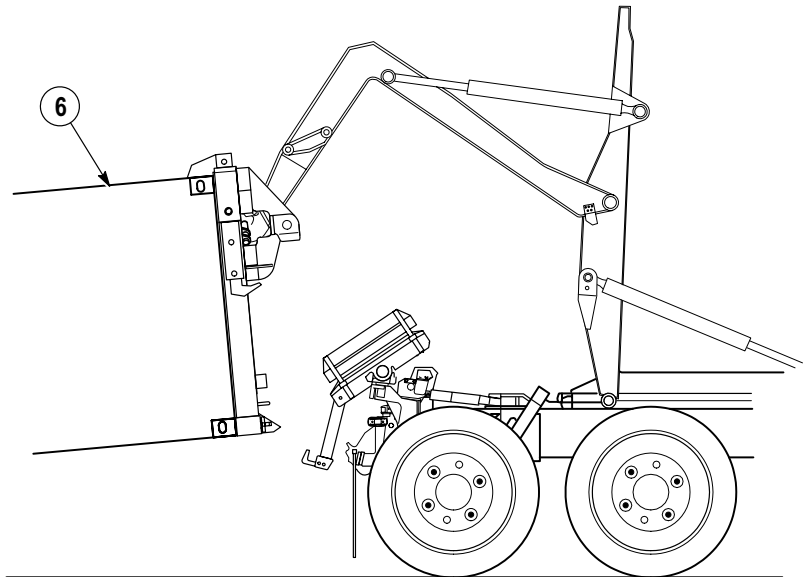


NOTE

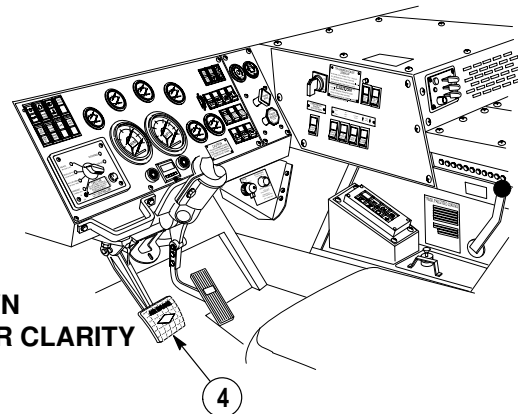
The amount of time to load and unload is controlled by engine speed. Engine speed can be increased to approximately 1500 rpm to reduce loading and unloading times.

- (9) Continue to unload container (6) until back edge of container touches ground.
- (10) Release service brake pedal (4) and allow container (6) to push truck forward from under container.

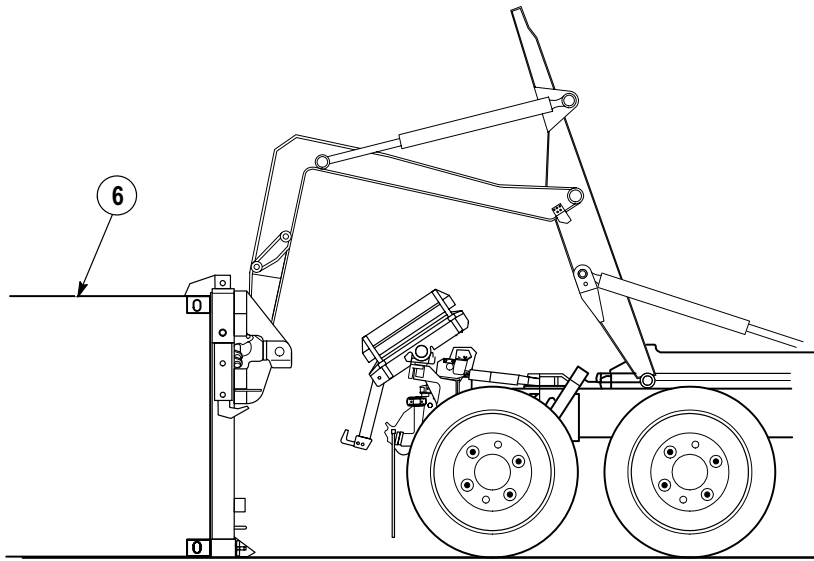
2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



**STEERING
WHEEL SHOWN
REMOVED FOR CLARITY**



- (11) As front of container (6) approaches within approximately 8 in. (20.3 cm) of ground, decrease engine speed to idle and apply service brake pedal (4).

**CAUTION**

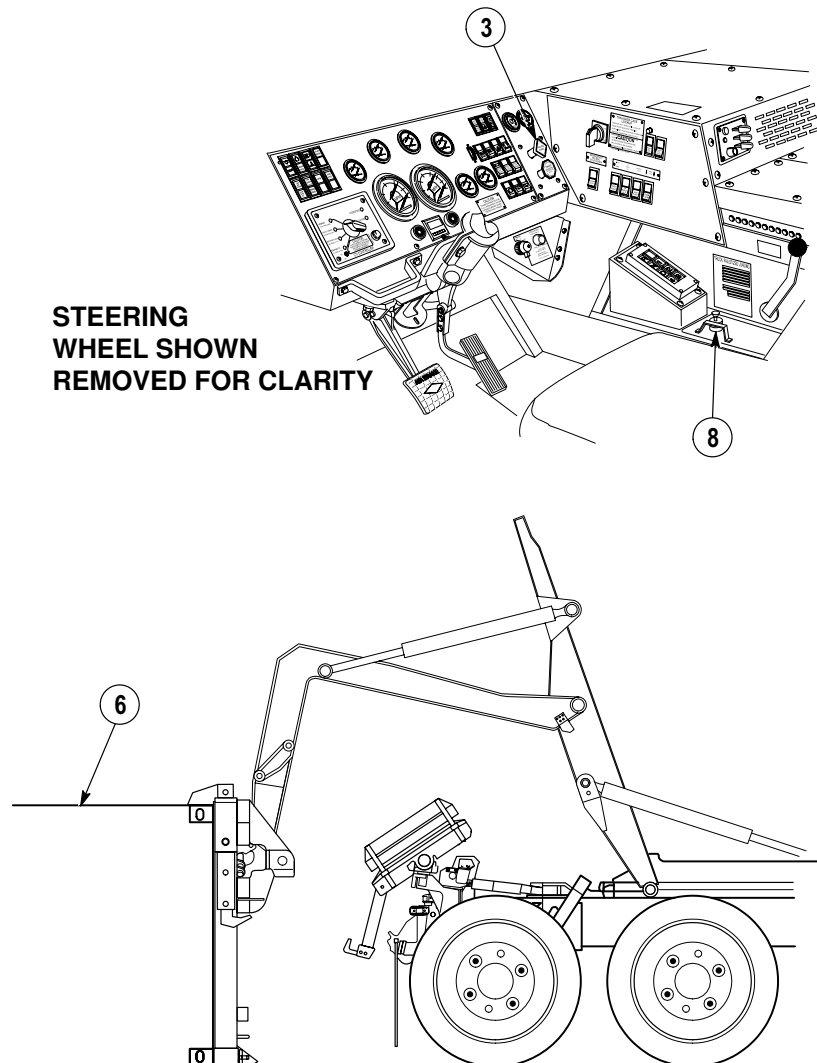
Once truck's rear suspension has been relieved of container load, do not continue in UNLOAD position as possibility of jacking up the rear of truck with hook arm may occur and damage to equipment may result.

NOTE

If container is extremely light or empty, it may be necessary to place transmission range selector to Drive (D) and allow truck to move out from under container.

- (12) Continue unloading until bottom of container (6) is on ground and rear suspension is unloaded.

2-34. LOADING AND UNLOADING CONTAINER (72 INCHES (183 CM) TALL) TO PLS TRUCK USING LIFTING FRAME (LF) (CONT).



- (13) Release joystick (8) when container (6) is resting on ground.
- (14) Pull out parking brake knob (3) to apply parking brakes.