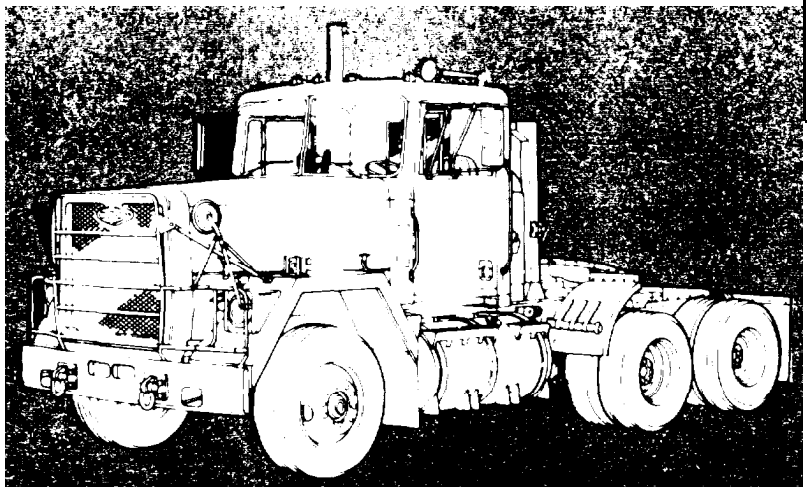
TM 9-2320-283-10

OPERATOR'S MANUAL

TRUCK TRACTOR, LINE HAUL,

50,000 GVXR, 6X4,

M915A1 (NSN 2320-01-125-2640)



This copy is a reprint which includes current pages from Changes 1 thru 3.

HEADQUARTERS

DEPARTMENT OF THE ARMY

JUNE 1983

TA 236632

CHANGE

NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 7 June 1993

OPERATOR'S

TRUCK TRACTOR, LINE HAUL, 50,000 GVWR 6 X 4, M915A1 (NSN 2320-01-125-2640)

TM 9-2320-283-10, 27 June 1933, is changed as follows:

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3. **The Preventive Maintenance Checks and Services have been completely replaced; no change bars or pointing hands will appear on pages 2-33 through 2-54.6.**

Remove Pages	Insert Pages
2-45 and 2-46	2-45 and 2-46

4. File this change sheet in front of the publication for references purposes.

By Order of the Secretary of the Army:

Official:

Milton H. Hamilton

MILTON H. HAMILTON
Administrative Assistant to the
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04445

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

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To be distributed in accordance with DA Form 12-38-E (Block 0321) requirements for TM 9-2320-283-10.

Approved for public release; distribution is unlimited.

CHANGE

NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 5 December 1991

OPERATOR'S MANUAL

**TRUCK TRACTOR, LINE HAUL,
50,000 GVWR 6 X 4,
M915A1 (NSN 2320-01-125-2640)**

TM 9-2320-283-10, 27 June 1983, is changed as follows:

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2-33 through 2-54	2-33 through 2-54.10

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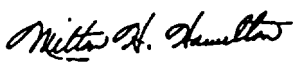

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Change

No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 2 November 1989

OPERATORS MANUAL
TRUCK, TRACTOR, LINE HAUL,
50,000 GVWR, 6X4
M915Al (NSN 2320-01-125-2640)

TM 9-2320-283-10, 27 June 1983, is changed as follows:

1. Remove old pages and insert new pages as indicated below.
2. New or changed material is indicated by a vertical bar in the margin of the page.

Remove Pages	Insert Page
c and d	c and d
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1-7 and 1-8	1-7 and 1-8
2-55 and 2-56	2-55 and 2-56
2-85 and 2-86	2-85 and 2-86

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General, United States Army
Chief of Staff

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-37-R, Operator maintenance requirements for Truck, Tractor, Line Haul, 6x4, 50,000 GVWR, M0151A1.

WARNING

EXHAUST GASES CAN BE DEADLY

Exhaust gases can produce symptoms of headache, dizziness, loss of muscular control or coma. Permanent brain damage or death can result from severe exposure. You can insure your safety by following these rules:

- DON'T operate the engine in an enclosed area unless it is properly ventilated.
- DON'T drive with any of your truck's inspection plates, cover plates, or the hood off unless necessary for maintenance purposes.

If you notice exhaust odors or exposure symptoms, IMMEDIATELY VENTILATE the cab. If the symptoms persist, remove the affected personnel and treat them as follows:

- Expose them to fresh air.
- Keep them warm.
- DON'T PERMIT PHYSICAL EXERCISE. If necessary, give artifical respiration. See FM 21-11.

FILING THE RADIATOR

Let radiator cool before removing cap. Remove radiator can in two steps. First, place a thick cloth over the cap and slowly rotate cap left to its first stop; pause, and let pressure escape from cooling system. Then rotate cap farther left until you can remove it. Failure to follow this procedure can result in serious burns.

LIFTING THE TRUCK

Improper use of lifting equipment and attachment of cables to the truck can result in serious personnel injury and equipment damage. OBSERVE ALL STANDARD RILES OF SAFETY.

WARNING

EXHAUST PIPE AND MUFFLER

During normal operation the exhaust pipe and muffler can become very hot. Be careful not to touch these components with your bare hands. Do not allow your body to come in contact with the pipe or muffler. Exhaust system components may be hot enough to cause serious burns.

PARKING

Never use the parking brake for normal braking.

BACKING OPERATIONS

Do not permit anyone to stand directly behind your tractor or the semitrailer during the coupling procedure. Failure to follow this warning can result in injury to personnel.

DIESEL FUEL HANDLING

When filling the fuel tank with diesel fuel be sure the hose nozzle or container contacts the filler tube on the fuel tank to carry off static electricity. DO NOT SMOKE OR PERMIT ANY OPEN FLAME IN THE AREA OF THE TRUCK WHILE YOU ARE SERVICING THE DIESEL FUEL SYSTEM. Failure to follow this warning can result equipment

COOLING FAN

When working in the engine compartment with the engine running, stay clear of the cooling fan. The fan engage automatically at any time and could cause serious injury.

WARNING

SPARE WHEEL AND TIRE

Use caution when raising or lowering the spare wheel and tire. It is very heavy, and if it should fall on a crew member, it could cause serious injury.

HOOD SAFETY LATCH

After raising hood, insert the S-shaped safety hook through two matching holes in the prop channels to prevent the hood from falling accidentally.

JACKING UP THE TRUCK

The hydraulic jack is intended only for lifting the truck, not for supporting the vehicle for performing maintenance. Do not get under the truck after it is raised unless it is properly supported with blocks or jack stands. FAILURE TO OBSERVE THIS WARNING CAN RESULT IN SERIOUS INJURY.

SLIDING FIFTH WHEEL CONTROL

To prevent unintentional fifth wheel movement during vehicle operation, ALWAYS BE SURE CAB MOUNTED SLIDING FIFTH WHEEL CONTROL IS IN THE LOCK POSITION before vehicle is moved. To prove fifth wheel is locked in position when coupled to a trailer, place transmission selector lever in FIRST GEAR (1), release park brakes, service brakes, apply trailer brake hand control, and tap accelerator pedal. This will cause the tractor mounted fifth wheel to be pulled sharply against the trailer mounted king pin. Set park brakes and shift selector lever back to NEUTRAL (N). Leave the cab and make a visual check of the fifth wheel sliding plate to verify it has not moved from the position selected. This will also verify the trailer king pin is securely locked into the fifth wheel jaws. The control should also be in the lock position any time the tractor is to be operated, even when not towing a trailer. NEVER MOVE CONTROL TO THE UNLOCK POSITION DURING NORMAL VEHICLE OPERATION AS LOSS OF CONTROL CAN RESULT.

WARNING

SEAT BELTS

- **Use of seat belts while operating your vehicle is mandatory as an aid in preventing personal injury in event of an accident.**

- **The companion seat belt has nonlocking retractors. For proper use, webbing must first be completely extended from the nonlocking retractor device. All excess webbing must then be adjusted at the buckle.**

- **This vehicle 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 Command, ATTN: AMSTA-CM-S, Warren, MI 48397-5000.**

TECHNICAL MANUAL

No. 9-2320-283-10

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 27 June 1983

OPERATOR'S MANUAL

TRUCK TRACTOR, LINE HAUL, 50,000 GVWR, 6X4, M915A1 (NSN 2320-01-1252640)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual to Commander, US Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, Michigan 48090. A reply will be furnished directly to you.

TABLE OF CONTENTS

HOW TO USE THIS MANUAL

This manual is designed to help you to operate and maintain the M915A1 truck tractor. Listed below are special features which have been included to make it easier to locate and to use the information you need.

- A front cover Table of Contents is provided, giving you a quick reference to chapters and sections that you will be using often.
- Warnings, subject headings, procedural steps, and certain other modules of information are highlighted in bold print or red as a visual aid for you.
- Upper case type is used to emphasize statements of particular importance.

FOLLOW THESE GUIDELINES WHEN YOU USE THIS MANUAL:

- Read all warnings and cautions.
- Within a chapter or section, boxed headings are used to help categorize the material and to assist in finding subjects quickly.
- The driver should read through this manual and become familiar with the content before attempting to operate the truck.

Equipment description herein is non-metric and does not require metric conversion, common or special tools. Metric units are, therefore, not supplied. Tactical instructions, for sake of clarity, will also remain non-metric.

WARNING

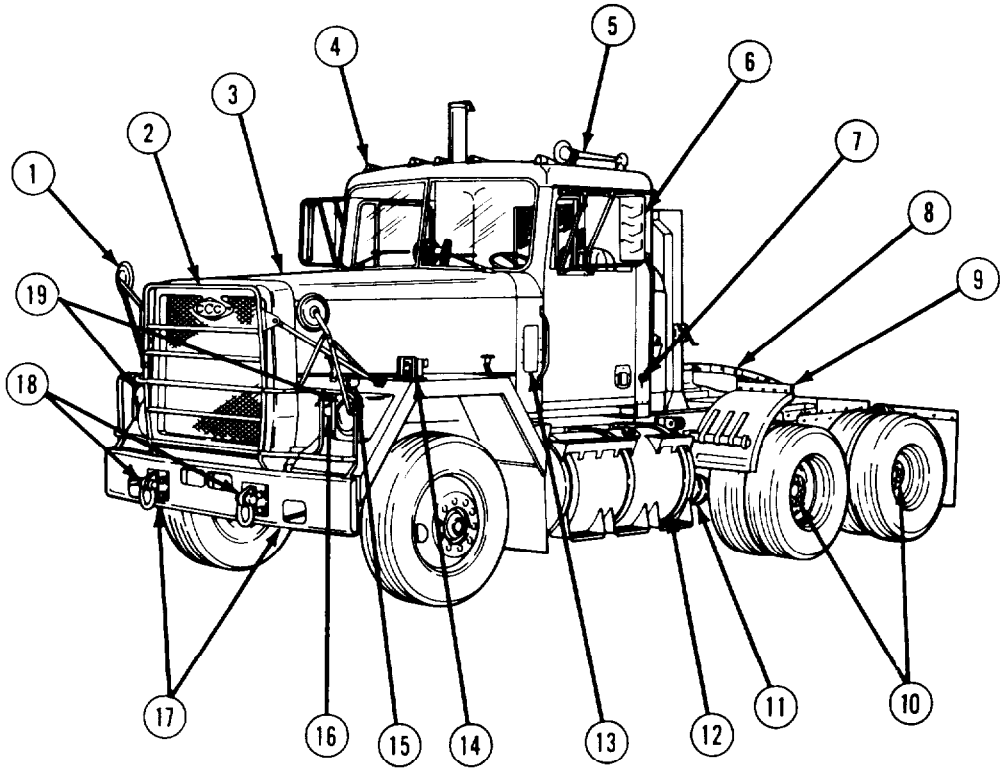
This vehicle has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited IAW AR 70-1 without written approval from the Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-CM-S, Warren, MI 48397-5000.

CHAPTER 1

INTRODUCTION

INDEX

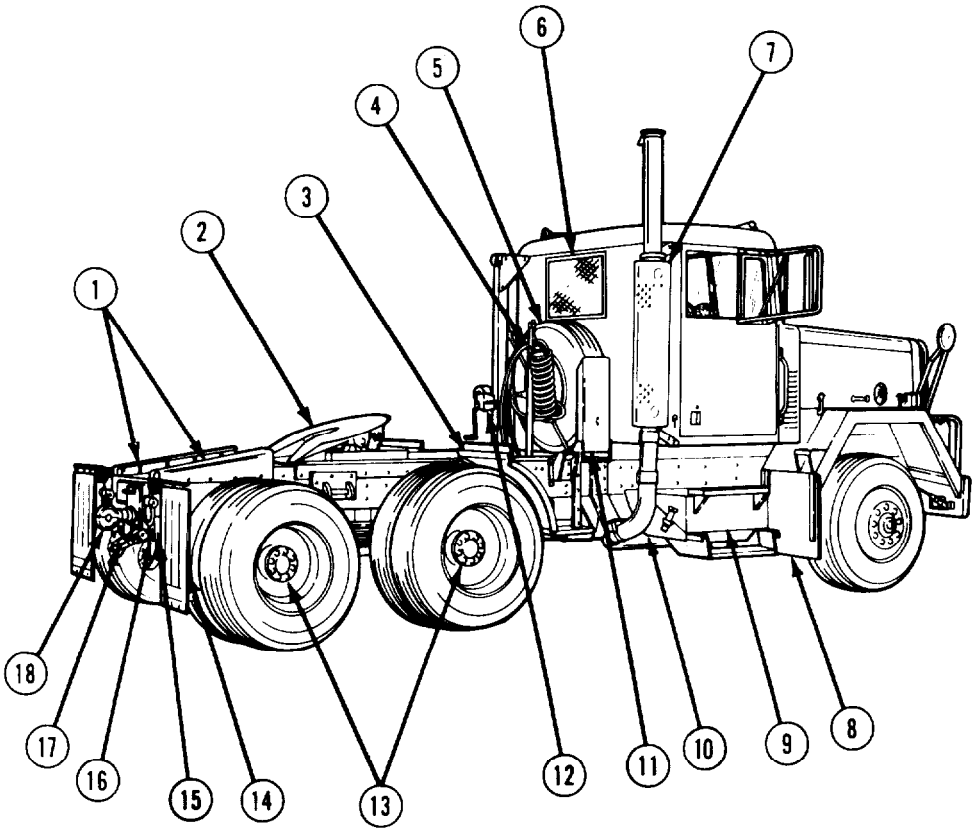
Section I. GENERAL INFORMATION



1 FRONT SPOTTER MIRRORS
2 BRUSH GUARD
3 NTC-400 BIG CAM III DIESEL ENGINE
4 CLEARANCE LAMPS
5 AIR HORN
6 SIDE MIRRORS
7 WORK LAMP RECEPTACLES
8 CAB CONTROLLED FIFTH WHEEL
9 FORWARD REAR AXLE QUARTER FENDER
10 DRIVING AXLES
11 AIR DRYER
12 FUEL TANK
13 FRESH AIR VENTS
14 TURN SIGNAL LAMPS
15 BLACKOUT MARKER LAMPS
16 BLACKOUT DRIVE LAMP
17 FRONT AIR LINE CONNECTORS
18 TOWING EYES SERVICE HEADLAMPS

Figure 1-1. M915A1 - Left Front View.

TA 236633



1 TRAILER RAMPS
2 CAB CONTROLLED FIFTH WHEEL
3 FORWARD-REAR AXLE QUARTER FENDER
4 AIR HOSE TENDER
5 SPARE WHEEL & TIRE
6 SLIDING REAR CAB WINDOW & STONE SHIELD
7 EXHAUST MUFFLER
8 FRONT WHEEL MUD FLAPS
9 BATTERIES BOX
10 HT 754CRD FIVE SPEED AUTOMATIC TRANSMISSION
11 SPARE WHEEL & TIRE CARRIER
12 SPARE WHEEL & TIRE HOIST
13 DRIVING AXLES
14 REAR WHEEL MUD FLAPS
15 BLACKOUT TAIL AND STOPLAMPS
16 SERVICE TAIL AND STOPLAMPS
17 REAR AIR LINE CONNECTORS
18 TOWING PINTLE

Figure 1-2. M915A1 - Right Rear View. TA 236634

1-1. Scope.

This operator's manual is for use in operating and maintaining the M915A1 line haul truck tractor. This vehicle is used to tow the M-872 Trailer with a towed load capacity of 30,000 Ibs (on the King Pin).

1-2. Maintenance Forms and Records.

Every mission begins and ends with the paperwork. There isn't much of it, but you have to keep it up. The forms and records you will fill out have several uses. They are a permanent record of the services, repairs, and modifications made on your carrier. They are reports to organizational maintenance and to your commander. And they are a checklist for you when you want to know what is wrong with the carrier after its last use, and whether those faults have been fixed. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-756, The Army Maintenance Management System (TAMMS).

1-3. Hand Receipt (-HR) Manuals.

This manual has a companion document with a TM number followed by "-HR" (which stands for Hand Receipt). The TM 9-2320-283-10-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i.e., COEI, Bll, and AAL) you must account for. As an aid to property accountability, additional -HR manuals may be requisitioned from the following source in accordance with procedures in Chapter 3, AR 310-2:

Commander, Baltimore Adjutant General Publications Center
2800 Eastern Blvd.
Baltimore, MD 21220

1-4. Reporting Equipment Improvement Recommendations (EIR's).

If your M915A1 Truck 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 an SF 368 (Quality Deficiency Report). Mail it to us at:

Commander, U.S. Army Tank-Automotive Command
ATTN: DRSTA-MP
Warren, Michigan 48090

We'll send you a reply.

1-5. Warranty Information.

The M915A1 Trucks are warranted by AM General Corporation in accordance with TB 9-2300-295-15/20 for a period of 15 months from date of acceptance, as shown on the Material Inspection and Receiving Report (DD Form 250), or 12,000 miles road travel, whichever occurs first. Report all defects in material or workmanship to your supervisor, who will take appropriate action through your Organizational Maintenance Shop.

1-6. Nomenclature.

COMMON TERM	OFFICIAL NAME
• Engine Coolant	-Antifreeze, ethylene glycol mixture
• Cold Start system	- Ether quick-start system
• Jake brake, Jacobs@ brake	- Engine retarder
• Cable	-Wire rope
• Glad Hand	- Quick disconnect coupling
• Pogo Stick	-Air hose tender

1-7. Abbreviations.

CID	Cubic Inch Displacement
EIR's	Equipment Improvement Recommendations
F	Fahrenheit
FWD	Forward
GCWR	Gross Combination Weight Rating
GVW	Gross Vehicle Weight
GVWR	Gross Vehicle Weight Rating
hp	Horsepower
KP	King Pin
lbs	pounds
mph	miles per hour
N/A	Not Applicable
PM	Preventive Maintenance
PMCS	Preventive Maintenance Checks and Services

(A)	PMCS	After Operation Preventive Maintenance Checks and Services
(B)	PMCS	Before Operation Preventive Maintenance Checks and Services
(D)	PMCS	During Operation Preventive Maintenance Checks and Services
(M)	PMCS	Monthly Preventive Maintenance Checks and Services
(W)	PMCS	Weekly Preventive Maintenance Checks and Services
	psi	pounds per square inch
	rpm	revolutions per minute
	vdc	volts direct current

Section II. EQUIPMENT DESCRIPTION

1-8. Equipment Purposes, Capabilities and Features.

WARNING

This vehicle 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 Command, ATTN: AMSTA-CM-S, Warren, MI 48397-5000.

PURPOSE

- The M915A1 is a line haul truck tractor used to haul semitrailers such as the M-872, on Class I good roads only with a maximum load of 30,000 pounds on 5th wheel.

CAPABILITIES AND FEATURES

- The M915A1 truck tractor is capable of operation in temperatures from - 25°F to 125°F and to -50°F with Arctic engine and personnel heater kits installed.

- While operating on Class I good roads, the M915A1 tractor can maintain a speed of 55 mph on level roads and 25 mph while ascending a 3.0 percent grade at Gross Combination Weight Rating (GCWR).

- The M915A1 can climb a 17 percent grade at GCWR in both forward and reverse directions (adequate traction assumed). It is capable of operating on side slopes up to 10 percent where adequate traction is available.

- The M915A1 truck tractor can ford hard bottom water crossings up to 20 inches deep for 5 minutes without damage or requiring maintenance before operations con continue.

- Average cruising ranges at GCWR with a full tank of fuel (118 gallons) will vary based on many conditions. During on highway use under full power at 2100 rpm with 373 to 400 hp, the fuel rate will be 20.5 to 21.4 gallons per hour. Varying loads, prolonged idle, offroad driving, and climatic conditions will affect the rate of fuel consumption. Traveling at an average of 40 miles per hour (mph) at rated GCWR will result in a 300 mile operating range with full fuel tank.

- The vehicle clearance circle, wall to wall, is 72.00 feet. Curb to curb vehicle clearance circle is 69.00 feet.

1-9. Performance Data.

Performance data for the M915A1 truck tractor is listed in table 1 - 1.

Table 1-1. Performance Data

ITEM	DATA
DIMENSIONS	
Length (overall chassis)	262.00 in.
(overall w/M-872 Trailer)	55.00 ft.
Width (overall, including mirrors)	124.00 in.
(overall, mirrors folded)	96.00 in.
Height (over stack, empty)	142.00 in.
(over horn, empty)	115.50 in.
Ground Clearance	10.40 in.
Wheelbase	167.00 in.
Turning Radius	53.50 ft.
Drive	6 x 4
ANGLE OF APPROACH	38.00 degrees
WEIGHTS	
Curb	19,720.00 lbs
Gross Vehicle Weight Rating	50,000.00 lbs*
Gross Combination Weight Rating	105,000.00 lbs
Front Axle (empty)	9,730.00 lbs
Front Axle (loaded)	11,580.00 lbs
Front Axle (rated capacity)	13,000.00 lbs
Rear Axles (empty) (Combined)	9,100.00 lbs
Rear Axles (loaded) (Combined)	36,540.00 lbs
Rear Axles (rated capacity - tandem)	40,000.00 lbs
*Tire Load Limit to 50,000 lbs GVW	
PERFORMANCE	
Drawbar Pull (max) (at 0.7 coefficient)	20,541.00 lbs
Maximum Towed Load (w/M872 Trailer) (28,400.00 lbs KP)	54,000.000 lbs
Maximum Speed Forward (at 2,100 RPM-5th Gear)	58.00 MPH
Minimum Sustained Speed (at 800/1200 RPM)	1.50/2.00 MPH
Speed on Grade (3.90% grade)	25.00 MPH
Maximum Grade (at GCWR)	19.90%
Maximum Side Slope (w/adequate tractive surface)	10.00%
Maximum Fording Depth (hardbottom water crossing)	20.00 in.

Table 1-1. Performance Data - Continued

ITEM	DATA
CAPACITIES	
Engine Oil (refill capacity includes filters)	44.00 qts
Engine Filters (refill capacity)	4.75 qts
Cooling System (refill capacity)	17.25 gal.
Fuel (Tank Capacity)	118.00 gal.
(usable capacity)	112.00 gal.
Power Steering Reservoir	2.00 qts
Front Axle	N/A
Transmission Oil	8.00 gal.
Rear Axle (fwd/rear)	40/36 pts
OPERATING MODE	ON ROAD
OPERATING TEMPERATURES	
Without Additional Kits	-25°F to +125°F
With Arctic Kit	-50°F to +125°F
ENGINE	
Make	Cummins
Model	NTC-400 Big Cam III
Type	4-Stroke, in-line Diesel
Cylinders	6
Displacement	855 CID
Compression Ratio	14.0:1
Torque (gross at 1,300 rpm)	1,250.00 lb-ft
Maximum Horsepower (@2,100 RPM)	400
Maximum Governed Speed (Load)	2,100 RPM
(No Load)	2,460 RPM
Oil Filter (Type)	Full Flow & By-Pass Spin On Replacement Elements (engine mounted)
(Quantity)	2

Table 1-1. Performance Data - Continued

ITEM	DATA
FUEL SYSTEM	
Type	Diesel Injection
Tank Quantity	1
Tank Type	Cylinder, 26 in. dia, Aluminum
Air Cleaner (Type)	Dry Element
(Quantity)	1
COOLING SYSTEM	
Radiator Working Pressure	9 psi
ELECTRICAL SYSTEM	
Type	Basic 12-volt, 24-volt Cranking
Alternator	12/24 Volt, 85/15 Amps
Circuit Breakers	Resettable (recycling for headlamps)
Batteries (type)	Maintenance-free
(quantity)	4
(volts)	12 ea
(connection)	Series/parallel
(capacity)	950 Cold cranking amps @ 0°F @ 24-volts
TRANSMISSION AND TORQUE CONVERTER	
Make	Detroit Diesel Allison
Model (transmission)	HT 754 CRD
(torque converter)	TC 498, Lock-up type
Type	5-Speed, Fully Automatic
Shifter	Remote Control Cable
TIRES (Tactical Tires, if used, should replace commercial tires on all drive wheels)	
Type	Radial ply, on road (tubeless)
Size	11.00 in. x 22.50 in. (11R22.5)
Weight (with wheel)	208.00 lbs.
Rated Capacity (single/dual) (on road)	6,040.00/5,300.00 lbs
Load Range/Ply Rating	G/14
Air Pressure (maximum cold) (Front)	105 psi
(Rear)	95 psi

Table 1-1. Performance Data - Continued

ITEM	DATA
STEERING	
Ratio	20.4:1
Gear Type	Ross Integral Power
Actuation	Hydraulic Power Booster
Power Steering Pump (Gear Driven)	Eaton B165R
FIFTH WHEEL	
Type/Travel	Cab Controlled-Air Lock Sliding/ 12.00 in.
Rated Capacity	40,000 lbs Vert.; 150,000 lbs Drawbar
Plate Diameter/Oscillation	36.00 in./fore and aft
Pitch (fore/aft)	15/10 degrees
King Pin size	2.0 in.
PINTLE	
Make/Model	Holland/No. 760
Rated Capacity	25.00 Tons
AXLES	
Front (Make)	Eaton
(Type/Model)	I-Beam/EFA 13F3
(Capacity at Ground)	13,000.00 lbs
(Steering Angle)	40 degrees
Rear (Make)	Eaton
(Type/Model) (Forward-Rear)	Tandem/DS-401P
(Rear-Rear)	RS-401
(Capacity at Ground)	40,000.00 lbs
(Gear Ratio)	4.33:1
(Differential Lockup)	Air Control
(Lubrication)	Pressure
(Lube Capacity-fwd/rear)	40/36 pts
BRAKE SYSTEM	
Actuation	Air-mechanical (S-Cam)
Fail-Safe (spring brakes)	Forward-Rear (2)
Pressure Range	65-150 psi

Table 1-1 Performance Data - Continued

ITEM	DATA
WHEELS	
Make/Model	Firestone/27404
Quantity	11
Size (dia x rim width)	22.50 in. x 8.25 in.
No. of Studs/Bolt Circle	10/11.25 in.
Stud Size	1.125 in. dia.
Rated Capacity (on road)	7,000.00 lbs
TOWING AND LIFTING EYES	
Quantity	12
Maximum Load Capacity (Each-up to 45° angle from long. axis)	60,000.00 lbs
CAB	
Make	AM General Corporation
Type	2-Passenger, all steel, w/butterfly hood
ACCESSORIES -	Fifth Wheel Mounted Recovery Kit
-	Arctic Heater Kit-Engine (optional) (Fuel Fired) (See TB 9-2320-283-14)
	Arctic Heater Kit - Personnel (optional) (Fuel Fired) (See TB 9-2320-283-14)
-	Tool Box - (1) under passenger seat and center of cab
—	Air Horn - (1) on cab top
—	Heater/Defroster - Fresh Air Type (Standard)

CHAPTER 2

OPERATING INSTRUCTIONS

INDEX

Page

INDEX (Continued)

Page

OPERATION UNDER UNUSUAL CONDITIONS

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

This section shows the location and describes the function and use of controls and indicators you will use in operating the M915A1 vehicle. Separate illustrations and keys are provided for the following groups of controls and indicators:

- Instrument panel — Figure 2-1 thru Figure 2-6
- Cab floor-mounted foot controls — Figure 2-7
- Transmission range selector control and sliding fifth wheel control — Figure 2-8
- Steering wheel and column-mounted controls — Figure 2-9
- Seat adjustment controls — Figure 2-10
- Additional cab controls — Figure 2-11

YOU SHOULD KNOW THE LOCATION AND UNDERSTAND THE PROPER USE OF EVERY CONTROL AND INDICATOR BEFORE OPERATING YOUR TRUCK. USE THIS SECTION TO LEARN OR TO REFRESH YOUR MEMORY ABOUT EACH OF THE CONTROLS AND INDICATORS YOU WILL BE USING WHILE OPERATING THE TRUCK.

2-1. Instrument Panel Controls and Indicators.

Figure 2-1 shows the entire instrument panel and identifies the major sections by name. A separate figure and key is provided for each individual panel section. (See Figures 2-2 thru 2-6).

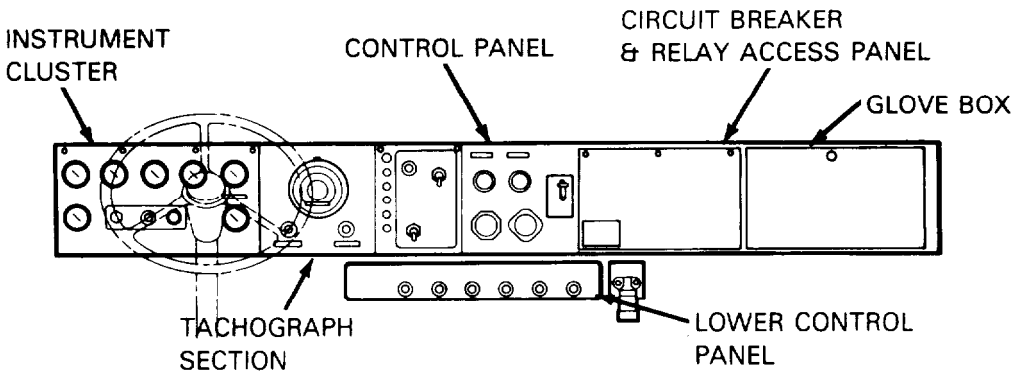


Figure 2-7. Instrument Panel. TA 236635

INSTRUMENT CLUSTER

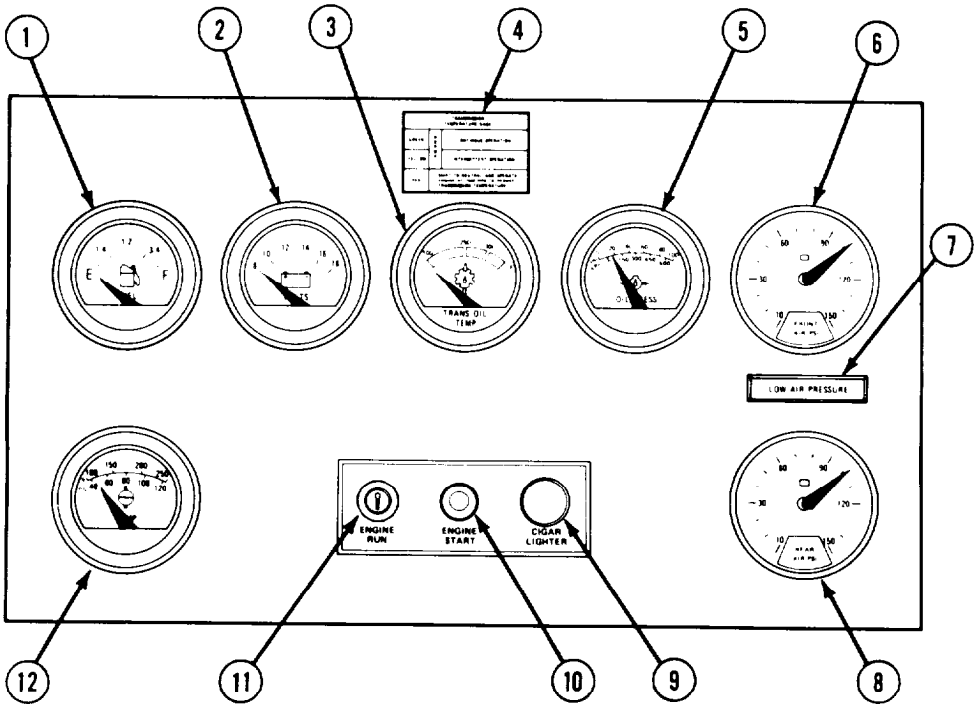
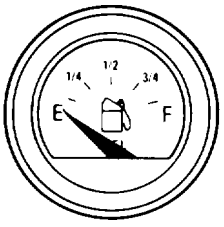


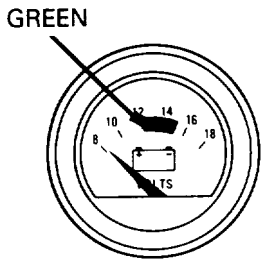
Figure 2-2. Instrument Cluster.

KEY TO INSTRUMENT CLUSTER	
1	**FUEL SUPPLY GAGE** Indicates the amount of fuel you have when the ENGINE RUN switch is turned to ON. 

TA 236636

KEY TO INSTRUMENT CLUSTER (Continued)

2 VOLTMETER



indicates degree of battery charge or discharge in volts.

Below 11 volts:

Indicates a low battery or possible malfunction. Stop the truck and report the problem to Organizational Maintenance.

Above 15 volts:

Indicates the batteries are being overcharged due to a malfunction. Report the problem to Organizational Maintenance as soon as possible.

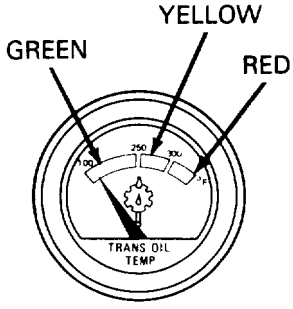
Between 11 and 12 volts:

Indicates battery is undercharged. Turn off all electrical circuits (if possible) and run engine at highest rpm permitted for the existing conditions. The voltmeter should indicate charge in the green area. If not, report to Organizational Maintenance.

12 to 15 volts (Green Area) :

Indicates normal operating range.

3 TRANSMISSION OIL TEMPERATURE GAGE



Registers transmission oil temperature in degrees Fahrenheit and Centigrade. Normal operating range on the Fahrenheit scale is 100oF to 250°F. Dial Face is also color coded for temperature ranges. See Key item 4 for Transmission Oil Temperature Gage Interpretation Decal.

TA 236637

KEY TO INSTRUMENT CLUSTER (Continued)

4 TRANSMISSION OIL TEMPERATURE GAGE INTERPRETATION DECAL

CAUTION

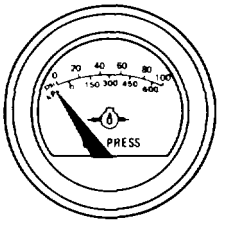
If transmission temperature rises to 300°F (red band) stop vehicle in a safe place, shift to NEUTRAL, and operate engine at 1,500 RPM to reduce transmission temperature to below 300°F (yellow or green band). If temperature cannot be lowered to a safe operating level (below 300°F/yellow or green band). during 3 minutes of idle at 1,500 RPM, stop engine and advise Organizational Maintenance. Continued vehicle operation with the gage indicating 300°F or above (red band) will cause transmission damage.

TRANSMISSION TEMPERATURE GAGE		
GREEN	NORMAL	CONTINOUS OPERATION
YELLOW	NORMAL	INTERMITTEN OPERATION
RED	SHIFT TO NEUTRAL AND OPERATE ENGINE AT 1500 RPM TO REDUCE TRANSMISSION TEMPERATURE	

5 ENGINE OIL PRESSURE GAGE

CAUTION

At 1,700-2,100 rpm, the minimum engine oil pressure for safe operation is 30 psi. If, in this rpm range, the gage does not show at least 30 psi, stop the engine immediately and investigate the cause.



Registers engine oil pressure in pounds per square inch (psi) and kilopascals (kPa). Idle minimum is 10 psi. At rated engine speed (2,100 rpm), normal range is 35-50 psi.

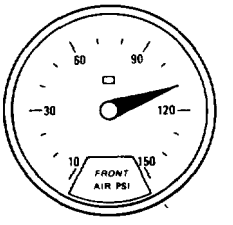
TA 236638

KEY TO INSTRUMENT CLUSTER (Continued)

6 AIR PRESSURE GAGE

CAUTION

Pressures below the normal operating range indicate a loss in air supply. This will result in a limited number of times the brakes can be applied before losing front wheel brakes.



At the first sign of pressure loss or if excessive pressure is noted, STOP THE TRUCK AND INVESTIGATE THE CAUSE.

Registers air pressure (in psi) in the front brake system. Normal operating range is 105-140 psi.

7 LOW AIR PRESSURE WARNING LAMP

CAUTION

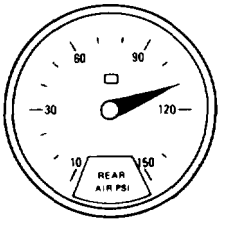
If this lamp comes on a buzzer sounds while you are driving, stop immediately and investigate the cause.

Red warning lamp will light and buzzer will sound when either front or rear air system pressure is between 64 to 76 psi and below.

8 AIR PRESSURE GAGE

CAUTION

Pressures below the normal operating range indicates a loss in air supply and will result in a limited number of times the brakes can be applied before the forward rear axle emergency park/spring brakes are automactically activated. At the first sign of pressure loss or lift excessive pressure is noted STOP THE TRUCK AND INVESTIGATE THE CAUSE.



Registers air pressure (in psi) in the rear brake system. Normal operating range is 105-140 psi.

TA 236639

KEY TO INSTRUMENT CLUSTER (Continued)

9 CIGAR LIGHTER

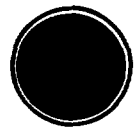
Press to engage heating element. Lighter will disengage automatically when hot.

10 ENGINE START BUTTON

CAUTION

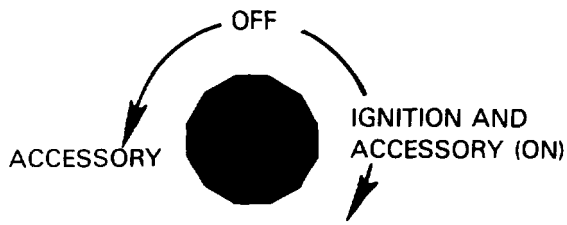
DO NOT press the button for more than 15 seconds at any one time. Allow 2 minute intervals between attempts to start. DO NOT press the button while the engine is running.

Press button to energize starter solenoid. The ENG TEMP lamp will come on while the button is depressed. Release button when engine starts.



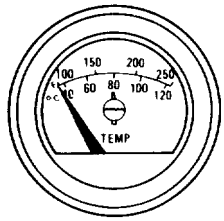
11 ENGINE RUN SWITCH

Rotate key to the right to turn this switch to the ON position. Low oil pressure warning lamp and park brake lamp will illuminate. If air pressure is below 60 psi, the low air pressure warning buzzer and lamp will also come on. After the engine is started, and systems have become operational, low oil pressure warning lamp, low air pressure warning lamp and low air pressure warning buzzer will go off, The park brake lamp will remain on until the park brake is released. Turn the key to the center (vertical) position to turn all systems off.



TA 236640

KEY TO INSTRUMENT CLUSTER (Continued)	
12	**ENGINE WATER TEMPERATURE GAGE** **CAUTION** If this gage shows temperatures above 220°F shut off the engine immediately and refer to the troubleshooting procedures. Do not re-start engine until coolant temperatures is within operating limits. Registers engine coolant temperature in degrees Fahrenheit and Centigrade. Normal range is 180° to 200°F.



TACHOGRAPH SECTION OF INSTRUMENT PANEL

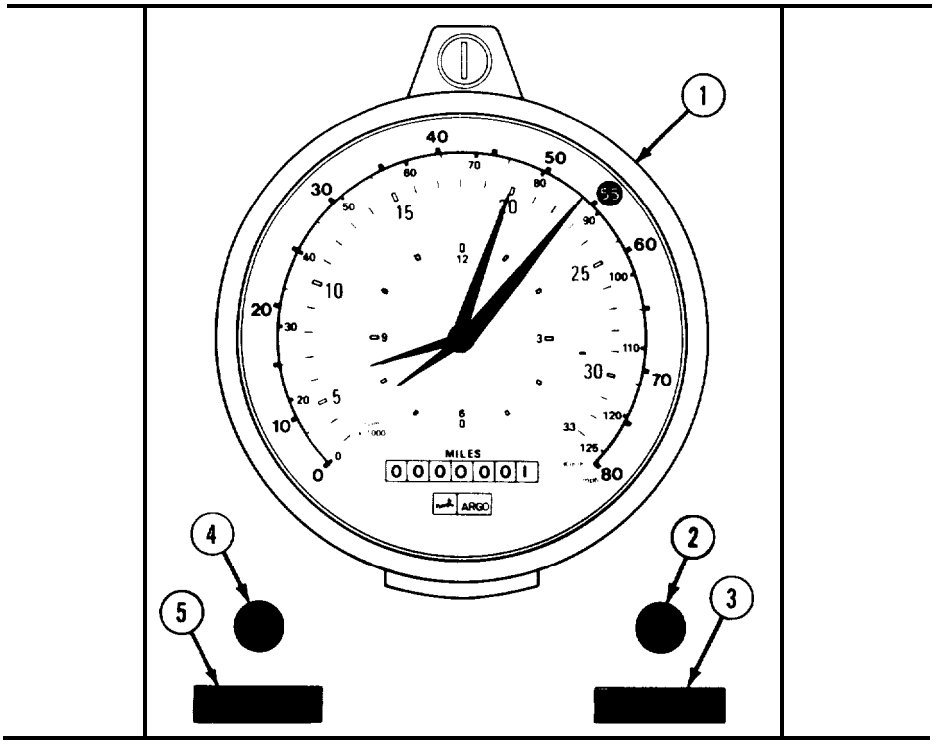


Figure 2-3. Tachograph Section of Instrument Panel. TA 236641

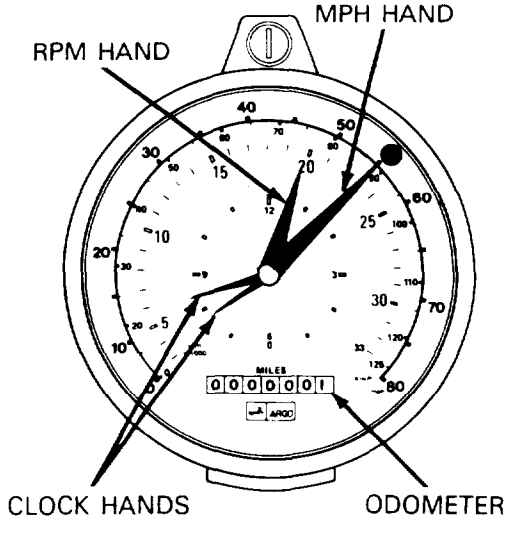
KEY TO TACHOGRAPH SECTION OF INSTRUMENT PANEL

1 **TACHOGRAPH**

CAUTION

Do not operate vehicle without a tachograph disk installed.

Registers truck ground speed (mph/kph hand), engine speed (rpm hand), and distance traveled (odometer). The other two hands are clock hands. The tachograph records data on a 7-day graph for a permanent record.



2 **CLEARANCE LAMPS PUSHBUTTON**

Press this button to flash the truck and trailer clearance and marker lamps on and off. The CLEARANCE LAMP Indicator (key item 3) will come on whenever the headlamps switch is in either ON position.

3 **CLEARANCE LAMPS INDICATOR**

This lamp will illuminate when the headlamp switch is pulled out to either the first or second position. Intensity of the light may be varied by rotating the headlamp switch knob. Its purpose is to aid in locating the clearance lamps pushbutton at night.

4 **ETHER QUICK-START PUSHBUTTON**

CAUTION

Do not use this button without first reading throughly the cold weather starting procedure chapter 2, section III, paragraph 2-11.

Press and release this button to inject ether for cold weather starting.

TA 236642

KEY TO TACHOGRAPH SECTION OF INSTRUMENT PANEL (Continued)	
5	**ETHER QUICK-START INDICATOR LAMP** This lamp will illuminate when the headlamp switch is pulled out to either the first or second position. Intensity of the light may be varied by rotating the headlamp switch knob. Its purpose is to aid in locating the ether quick-start pushbutton at night. ETHER

CONTROL PANEL

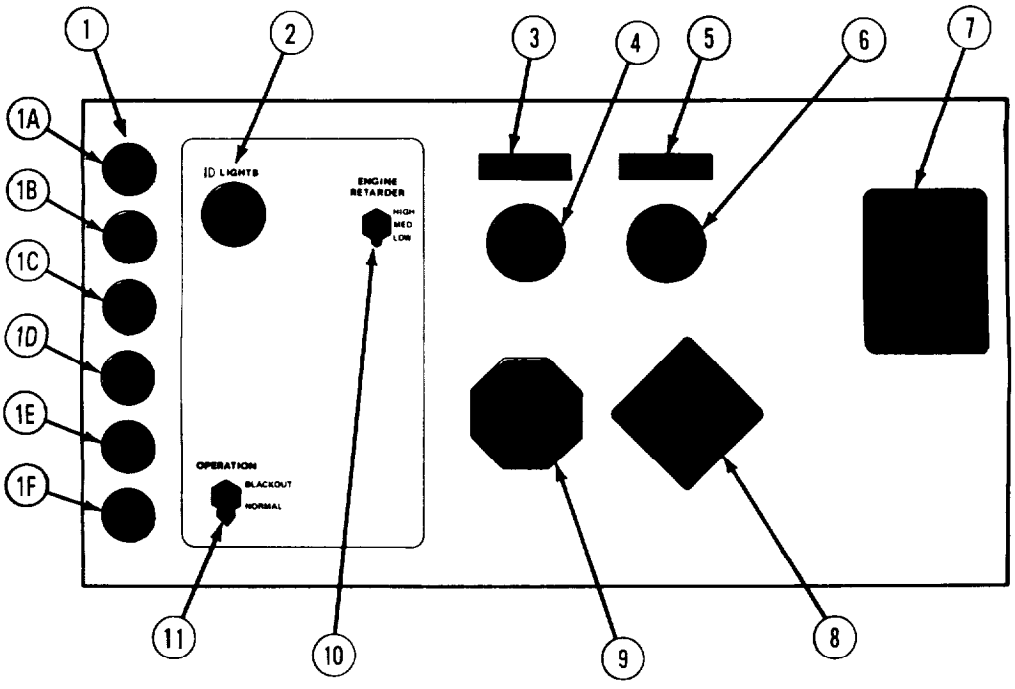


Figure 2-4. Control Panel.

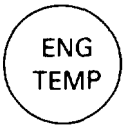
TA 236643

KEY TO CONTROL PANEL

1 **WARNING AND INDICATOR LAMPS**

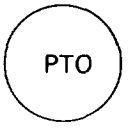
A. ENGINE OIL WARNING LAMP
Red lamp comes on when engine oil pressure is below engine operating limits. Lamp comes on when oil pressure drops below 10 psi.

B. ENGINE TEMPERATURE WARNING LAMP
This red lamp comes on when the engine cooling system temperature is above operating limits. The lamp comes on when engine temperature exceeds 220°F.



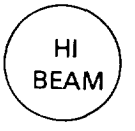
C. DIFFERENTIAL LOCKOUT INDICATOR LAMP
Red lamp indicates when interaxle differential lockout switch is in LOCK position and driveline locking system is engaged.

D. PTO INDICATOR LAMP
Not used on M915A1 Vehicle.



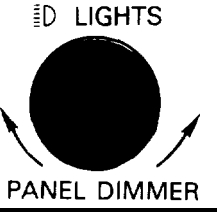
E. PARK BRAKE INDICATOR LAMP
The red PARK BRAKE indicator comes on when the park brake control (see item 8) is actuated.

F. HIGH BEAM INDICATOR LAMP
This blue lamp comes on when the dimmer switch is set for high beam service lamps.



2 **HEADLAMPS SWITCH KNOB**

Pull knob halfway out to turn on the marker lamps, tail lamps, and instrument panel lamps, or all the way out to operate headlamps, tail lamps, marker lamps, and instrument panel lamps. The switch also turns on clearance lamps in either position.



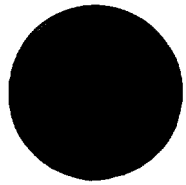
3 **WIPER INDICATOR LAMP**

The wiper indicator comes on when you pull out the headlamp switch to either the first or second position. The indicator lamp is white and can be dimmed by rotating the headlamps switch knob. Its purpose is to aid in locating the wiper control at night.

KEY TO CONTROL PANEL (Continued)

4 WIPER CONTROL KNOB

Pull the knob out to turn on wipers. Rotate the switch knob for HI and LOW operation. Push in the knob to turn the wipers off.

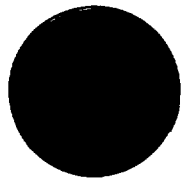


5 WASHER INDICATOR LAMP

The washer indicator comes on when you pull out the headlamps switch to either the first or second position. The indicator is white and can be dimmed by rotating the headlamps switch knob. Its purpose is to aid in locating the washer control knob at night.

6 WASHER CONTROL KNOB

Press the knob to spray cleaning solvent on the windshield. Release the button to stop spray.

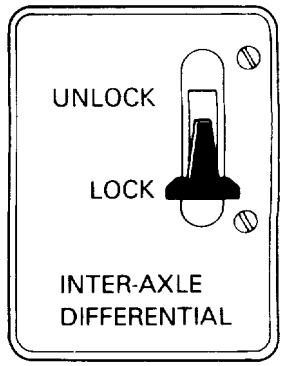


7 DIFFERENTIAL LOCK/UNLOCK CONTROL

CAUTION

Do not place switch in the lock position while the truck is moving or any wheel is spinning.

Controls inter-axle differential lockup. In poor traction conditions (ice, snow, etc.), stop the truck and place switch in the LOCK position to lockup the drive line. When traction is back to normal, place switch in the UNLOCK position while the truck is moving. Use the UNLOCK position for all normal driving conditions.



NOTE

The differential lockout indicator will come on when the control is in the lock position.

TA 236645

KEY TO CONTROL PANEL (Continued)

8 PARK BRAKE CONTROL

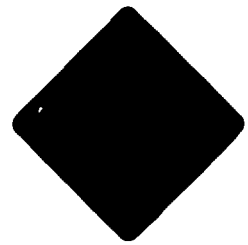
WARNING

Never use the parking brake for normal braking.

Pull out to apply parking brakes; push in to release parking brakes.

NOTE

The Park Brake Indicator will come on when the control is in the applied position.

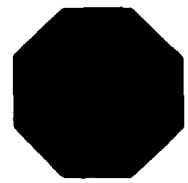


9 TRAILER AIR SUPPLY CONTROL

Supplies air to trailer air reservoirs. Push in to supply air to (charge) trailer reservoirs after releasing PARK BRAKE. Pull out to shut off air to trailer. When PARK BRAKE Control is applied (pulled out), TRAILER AIR SUPPLY CONTROL will automatically pop-out.

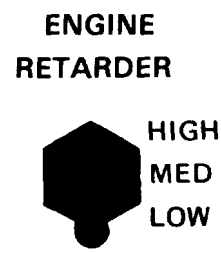
CAUTION

If tractor air system pressure drops to 60 PSI, the trailer air supply protection valve will trip, fully applying trailer spring brakes. Brakes will not release until more than 60 psi is reached.



10 ENGINE RETARDER SELECTION SWITCH

Selects the number of engine cylinders desired for the braking action. HIGH position provides maximum engine braking (6 cylinders), MED position provides braking on 4 cylinders, and LOW position provides braking on 2 cylinders.



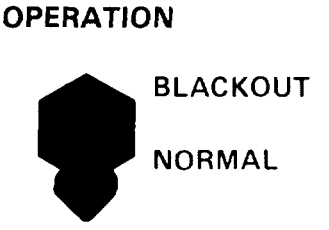
TA 236708

KEY TO CONTROL PANEL (Continued)

11 **OPERATION SWITCH**

CAUTION

Do not leave the Operation switch in the BLACK OUT position for extended periods without the engine running. The batteries can run down and cause starting problems. Pull out and place this switch in the up (BLACK-OUT) position and pull out headlamps switch to 1st position to turn on front and rear black-out marker lamps. Pull headlamps switch to the 2nd position to turn on blackout drive lamp. Blackout brake lamps will operate with headlamps switch in either position. With the Operation switch in the up (Blackout) position, the switch automatically locks out all regular service lamps, electric horn, and backup lamps. Return the Operation switch to the down (NORMAL) position to turn off blackout lamps and restore regular service lamps.



NOTE

Pull the switch lever toward you to move it to either position. This prevents accidental engagement or disengagement of the service lamps.

LOWER CONTROL PANEL

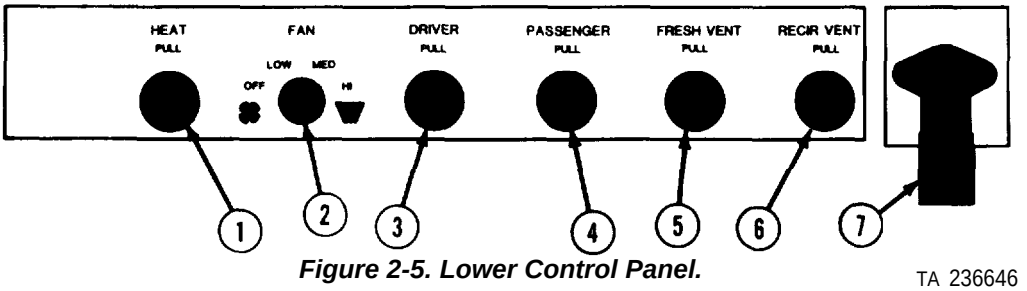
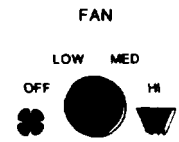
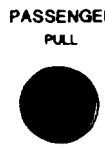
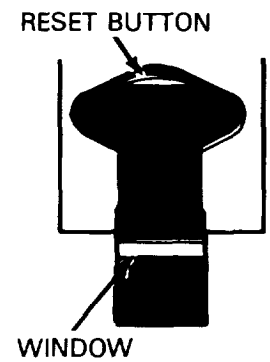


Figure 2-5. Lower Control Panel.

TA 236646

KEY TO LOWER CONTROL PANEL

1	**HEAT CONTROL KNOB** Pull out to increase heater output temperature; push in to decrease output temperature.	
2	**HEATER FAN SPEED SWITCH** Rotate right (3 positions) for LOW, MED, and HIGH fan speeds. Turn full left to turn off.	
3	**HEATER AIR CONTROL (DRIVER)** Pull out to divert heater air to the driver's side of the cab. Push in to close vents.	
4	**HEATER AIR CONTROL (PASSENGER)** Pull out to divert heater air to the passenger's side of the cab. Push in to close vent.	
5	**FRESH AIR VENT** Pull out to receive fresh air in the passenger's side of the cab; push in to close the fresh air vent.	
6	**RECIRCULATION VENT** Pull out to circulate cab air through the heater; push in to close the vent.	
7	**AIR FILTER RESTRICTION INDICATOR** When air cleaner air flow is adequate, the window on this indicator will show green. If the air flow is restricted, the window will show red. After air filter has been cleaned, push reset button to reset filter indicator. **NOTE** Air cleaner maintenance is required when red shows in the window. Notify Organizational Maintenance.	

TA 236647

CIRCUIT BREAKER AND RELAY ACCESS PANEL

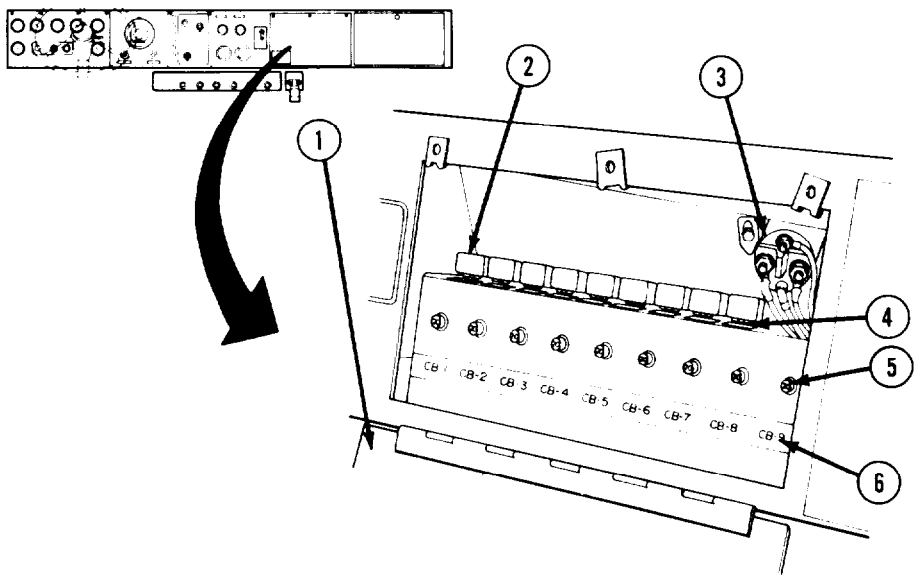
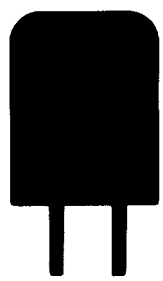
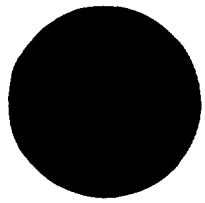


Figure 2-6. Circuit Breaker and Relay Access Panel.

KEY TO CIRCUIT BREAKER AND RELAY ACCESS PANEL	
1	**ACCESS PANEL DOOR** There are three quarter-turn slotted head screws which retain the door in the closed position. To open, as shown, use a flat tip screwdriver and turn the screws one quarter-turn to the left and swing door down. To close, raise door and turn screws one quarter-turn to the right.
2	**BLACKOUT LAMP SYSTEM AND TRAILER 24 VOLT RELAYS** When switches controlling Normal Mode tractor and trailer lamps, or Blackout Mode lamps are selected, the appropriate relays are energized to provide 12 Volt or 24 Volt power as required. Also, prevents Normal lamps from being illuminated when operating in the Blackout lamps mode. If a problem is experienced in one of these lamp systems, notify Organizational Maintenance. There are nine relays in the panel. 

TA 236648

KEY TO CIRCUIT BREAKER AND RELAY ACCESS PANEL (Continued)

3	**STARTER RELAY** With engine RUN switch on, transmission range selector in NEUTRAL, and engine START button depressed, the relay energizes and closes the starter solenoid circuit. If a problem is experienced in activating the starter motor in your truck, notify Organizational Maintenance for troubleshooting and replacement as required. 
4	**RELAY IDENTIFICATION** Below each relay is an identification decal which will assist Organizational Maintenance personnel in troubleshooting and correcting electrical system problems related to the relays. Each decal identifies the functions controlled by the relay which it is alined under.
5	**PUSH BUTTON RESET-TABLE CIRCUIT BREAKERS** There are nine resettable circuit breakers in the panel. A tenth circuit breaker, which automatically recycles if there is an overload, protects the NORMAL service headlamps system. It is located elsewhere. If, during vehicle operation, an electrical component stops functioning (for example both windshield defroster fans stop) pull safely to the side of the road. Open the access panel door and check to see if one of the pushbuttons has popped out. If so, press the button in and check to see if the defroster fans operate. If the button remains in and the fans function, close the panel door and continue vehicle operation. If the pushbutton pops out a second time, there is an overload or short in the particular system being protected by that circuit breaker. If safe vehicle operation can continue without use of the affected electrical item, complete your mission and notify Organizational Maintenance for troubleshooting and correction. If the vehicle cannot be safely operated, secure vehicle and advise Organizational Maintenance. The nine resettable circuit breakers are each rated at 20 AMPS.
6	**CIRCUIT BREAKER IDENTIFICATION** A decal placed below the nine resettable pushbutton circuit breakers identifies them by number. If a circuit breaker pops out and cannot be reset, Organizational Maintenance will use this decal to identify the affected electrical circuits so that correction can be made.

TA 236649

2-2. Cab Floor-mounted Controls.

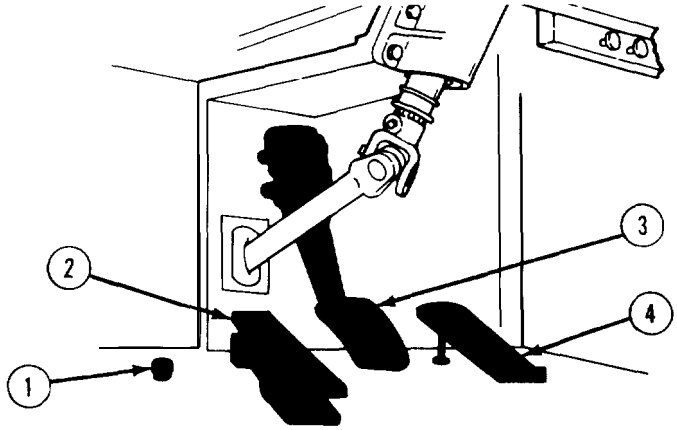


Figure 2-7. Cab Floor-mounted Foot Controls.

KEY TO FLOOR-MOUNTED FOOT CONTROLS	
1	**HEADLAMP DIMMER SWITCH** Push all the way down with your foot and release to switch headlamps to high beam. Push all the way down and release again to dim headlamps. **NOTE** High beam indicator will come on when the headlamps are working in the high beam position.
2	**ENGINE RETARDER FOOT SWITCH** Depress foot pedal which activates the switch to engage engine retarder. Release foot pedal to disengage engine retarder. The accelerator pedal must be full up before the foot switch will operate. Select the desired retarding range using the engine retarder selection switch located on the control panel.
3	**SERVICE BRAKE PEDAL** Push down with your foot to apply service brakes on your truck. If your truck is properly coupled to a trailer, the trailer service brakes will also be applied when you use your truck's service brake pedal.
4	**ACCELERATOR PEDAL** Push down gradually with your foot to start truck moving or to increase engine speed.

TA 236650

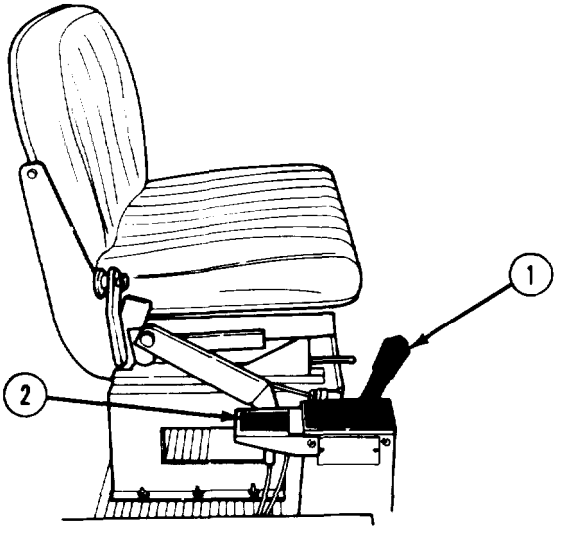


Figure 2-8. Transmission Range Selector Control and Sliding Fifth Wheel Control.

KEY TO TRANSMISSION RANGE SELECTOR CONTROL AND SLIDING FIFTH WHEEL CONTROL

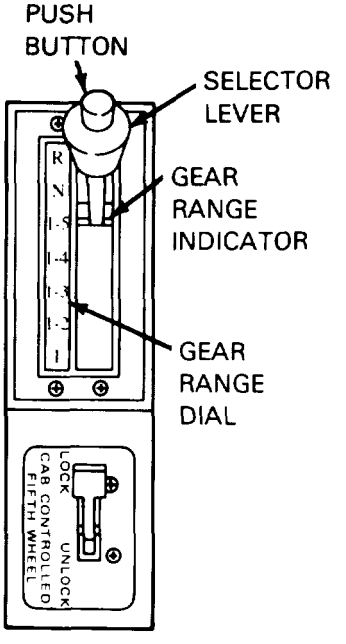
1 **TRANSMISSION RANGE SELECTOR CONTROL**

CAUTION

Use the service brakes to hold truck while stopped on a grade. DO NOT USE THE TRANSMISSION TO HOLD THE TRUCK as this will cause the transmission oil temperature to become excessively high and will result in severe overheat damage to the transmission.

CAUTION

DO NOT ALLOW YOUR VEHICLE TO COAST IN NEUTRAL. This can result in severe transmission damage and loss of normal engine braking.



TA 236651

KEY TO TRANSMISSION RANGE SELECTOR CONTROL AND SLIDING FIFTH WHEEL CONTROL (Continued)

CAUTION

Failure to disconnect the transmission to forward-rear axle propeller shaft or lift the rear driving wheels before pushing or towing the vehicle can cause serious transmission damage. The engine cannot be started by pushing or towing.

CAUTION

If transmission oil temperature gage indicates a temperature of 300°F or greater (red band), stop vehicle in a safe place, shift to NEUTRAL, and operate engine at 1,500 RPM to reduce transmission temperature to below 300°F (yellow or green band). If temperture cannot be lowered during 3-minutes of idle at 1,500 RPM, stop engine and advise Organizational Maintenance.

NOTE

The button on top of the shift control knob must always be depressed to move the lever except when manually upshifting from position 1-2 to 1-3, 1-3 to 1-4, or 1-4 to 1-5. When the lever has fully engaged the desired position, the button will pop-up.

With the park brake applied, depress Selector lever button and move selector lever to NEUTRAL (N) to start the engine. The engine will not start with the selector lever in another position. Apply service brakes, release Park Brake, depress button, and move selector lever to REVERSE (R) to back up. Depress button and move selector lever to aline with the desired gear range. For operation at night, the gear range dial and gear range indicator are illuminated.

In all forward gear ranges, the vehicle will start in FIRST GEAR (1) and automatically upshift to the highest gear shown for the gear range selected. For example, in gear range 1-5, the vehicle will start in FIRST GEAR (1) and upshift automatically thru SECOND GEAR (2). THIRD GEAR (3), FOURTH GEAR (4), and FIFTH GEAR (5). If gear range 1-3 is selected, the transmission will automatically upshift from FIRST GEAR (1) thru SECOND GEAR (2) and into THIRD GEAR. It will not upshift beyond THIRD GEAR until the selector lever is manually moved to a higher gear range.

KEY TO TRANSMISSION RANGE SELECTOR CONTROL AND SLIDING FIFTH WHEEL CONTROL (Continued)

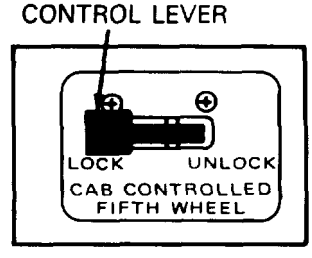
Automatic upshift and downshift points are influenced by the pressure of your foot on the accelerator pedal. For example, when the accelerator pedal is fully depressed, the transmission will automatically upshift near the governed speed of the engine (2,100 rpm). A partially depressed accelerator pedal will cause upshifts to occur at a lower engine speed.

Manual downshifts by depressing the button and moving the selector lever, should be avoided when the vehicle is above the maximum speed obtainable in the next lower gear. If a downshift or shift to REVERSE (R) is made at too high a speed, the transmission hydraulic system automatically prevents he shift from taking place until a safe lower speed is reached. Normally, service brakes and the engine retarder should be used, as needed, to slow the vehicle to an acceptable speed where the transmission may be downshifted, if needed.

2 **SLIDING FIFTH WHEEL CONTROL**

WARNING

To prevent unintentional fifth wheel movement during vehicle operation, ALWAYS BE SURE CAB CONTROLLED SLIDING FIFTH WHEEL LEVER IS IN THE LOCK POSITION before vehicle is moved. To prove fifth wheel is locked in position when coupled to a trailer, place transmission selector lever in FIRST GEAR (1), release park brakes and service brakes, apply trailer brake hand control, and tap accelerator pedal. This will cause the tractor mounted fifth wheel to be pulled sharply against the trailer mounted king pin. Set park brakes, release trailer brake hand control, and shift selector lever back to NEUTRAL (N). Leave the cab and make a visual check of the fifth wheel sliding plate to verify it has not moved from the position selected. This will also verify the trailer king pin is securely locked into the fifth wheel jaws. The control should also be in the LOCK position any time the tractor is to be operation even when not towing a trailer. NEVER MOVE CONTROL TO THE UNLOCK POSITION DURING NORMAL VEHICLE OPERATION AS LOSS OF CONTROL CAN RESULT.



TA 236652

KEY TO TRANSMISSION RANGE SELECTOR CONTROL AND SLIDING FIFTH WHEEL CONTROL (Continued)	
2	**SLIDING FIFTH WHEEL CONTROL (Continued)** This control is located in cab on a bracket fastened to the rear of the transmission range selector. With the trailer king pin locked into the fifth wheel jaws, inter-vehicular connections made, and trailer landing gear UP, set the control lever to the UNLOCK position, apply the trailer brake hand control and drive vehicle forward to slide fifth wheel and trailer king pin toward the rear. A total 12-inches of travel fore and aft is available. Normal position of the fifth wheel is at a point on the centerline of the rear tandem axles (See CAUTION decal and NORMAL location arrows on both sides of the fifth wheel assembly). The sliding feature allows adjustment of trailer and cargo weight (when scales are available), within vehicle capacity, to prevent overloading of the tractor and trailer axles. Each time the fifth wheel position is adjusted and before normal operation, the control must be moved to the LOCK position to prevent unintentional fifth wheel and trailer movement fore and aft.

2-3. STEERING WHEEL AND COLUMN-MOUNTED CONTROLS.

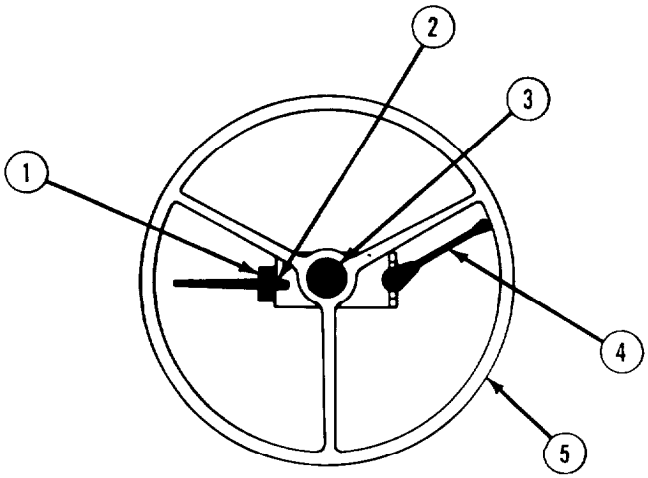


Figure 2-9. Steering Wheel and Column-mounted Controls. TA 236653

KEY TO STEERING WHEEL AND COLUMN-MOUNTED CONTROLS	
1	**HAZARD SWITCH** Pull out to turn on emergency flashers. Push turn signal lever up or down and return it to center to turn off emergency flashers.
2	**TURN SIGNAL LEVER** Push up to turn on right turn signal. Pull down to turn on left turn signal. Return to center position when turn is completed.
3	**HORN BUTTON** Push button to sound electric horn.
4	**TRAILER BRAKE HAND CONTROL** **CAUTION** After use, always return this control to its OFF/UP position, or trailer brakes will burn up. Pull down to apply trailer brakes only. Use for stopping on slick surfaces and to help keep trailer from jackknifing. It can also be used on grades, when at a standstill. This way the vehicle will not roll backward when moving the right foot from the standard brake over to the accelerator pedal. Be sure to return control to its OFF position (all the way up).
5	**STEERING WHEEL** **CAUTION** Do not hold the steering wheel in full steer position for more than 10 seconds as the pump fluid will overheat and could cause equipment damage. Rotate right to turn front wheels to the right. Rotate left to turn front wheels to the left.

2-4. SEAT ADJUSTMENT CONTROLS.

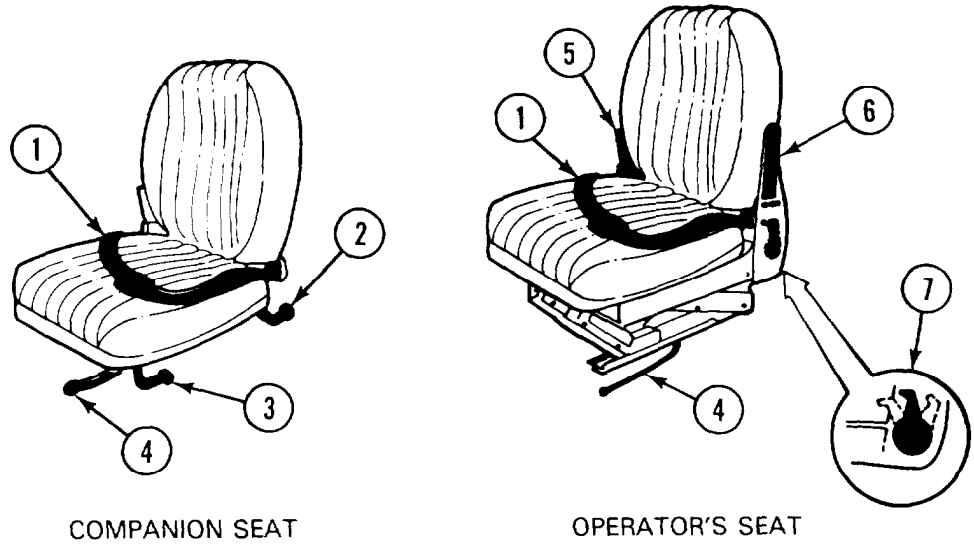


Figure 2-10. Seat Adjustment Controls.

KEY TO SEAT ADJUSTMENT CONTROLS

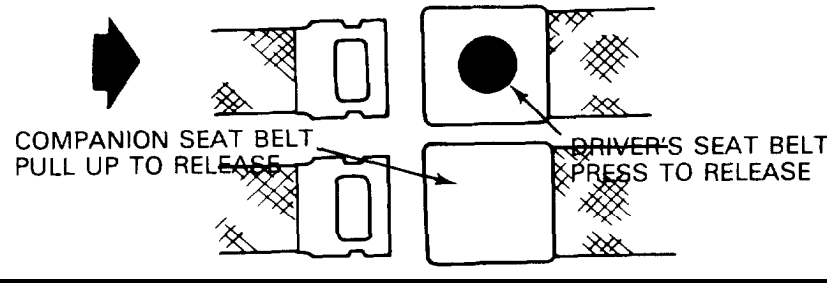
1. SEAT BELT ADJUSTMENT - COMPANION AND OPERATOR'S SEAT

WARNING

Use of seat belts while operating or riding in the M915A1 truck tractor is mandatory as an aid in preventing personal injury in the event of an accident.

Seat belts should be adjusted for a snug fit with the buckle securely fastened to prevent injury in the event of an accident. To adjust length of belt for fit, slip the belt through the buckle until it fits snugly with the other end of the seat belt snapped into the buckle. To release, press the center of the buckle on the driver's seat belt, or pull up on companion seat belt buckle.

- The companion seat belt must be completely extended from the nonlocking retractor device. All excess webbing must then be adjusted at the buckle.

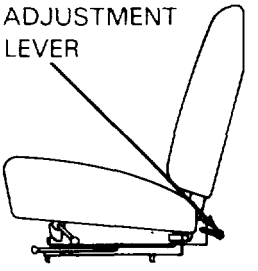


TA 236654

KEY TO SEAT ADJUSTMENT CONTROLS (Continued)

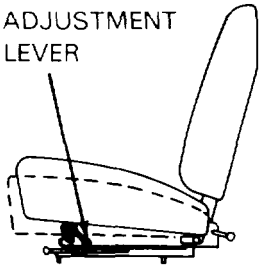
2 **BACKREST ANGLE ADJUSTMENT CONTROL - COMPANION SEAT**

Backrest may, be adjusted to 3 different angle positions. Push lever down to raise backrest cushion to desired position and release lever to lock in position. Pull lever up to lower backrest cushion.



3 **SEAT CUSHION TILT ADJUSTMENT CONTROL - COMPANION SEAT**

Forward edge of seat cushion may be tilted to 3 different angle positions. Push lever down to raise forward edge of seat. Pull lever up to lower seat cushion.

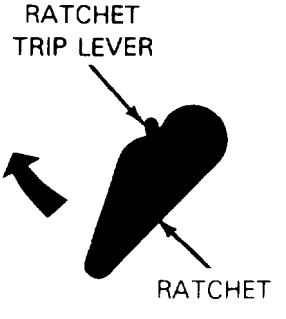


4 **FORWARD AND BACKWARD SEAT ADJUSTMENT CONTROL - COMPANION AND OPERATOR'S SEAT**

Pull out on the lever to move either seat forward or backward to adjust for individual leg length. The companion seat can be moved a total of 4 inches, while the operator's seat may be moved a total of 6 inches. Releasing the lever locks the seat in position chosen.

5 **RIDE LEVEL ADJUSTMENT - OPERATOR'S SEAT**

Use this control to adjust the torsion bar preload for your weight. To increase preload, while seated push ratchet trip lever up and operate the ratchet handle in the up and down direction until the indicator (item 7) is flush with the seat side frame as shown in the inset in Figure 2-10. To lower preload, while seated push ratchet trip lever down and operate ratchet handle in the up and down direction until the indicator is flush with the seat side frame.



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KEY TO SEAT ADJUSTMENT CONTROLS (Continued)	
6	**BACKREST ANGLE ADJUSTMENT CONTROL - OPERATOR'S SEAT (located inside left frame upright)** The backrest may be adjusted to three different angles for personal comfort. Lift up on the backrest and tilt it in the position desired. When lowered, the backrest will lock in one of three positions.
7	**RIDE LEVEL INDICATOR -OPERATOR'S SEAT (located inside left frame upright)** This device indicates when the seat preload is adjusted properly for your weight using the ride level adjustment described in item 5. The tip of the indicator will be flush with the edge of the frame when the preload is correct as shown in the inset view in Figure 2-10.

2-5. ADDITIONAL CAB CONTROLS.

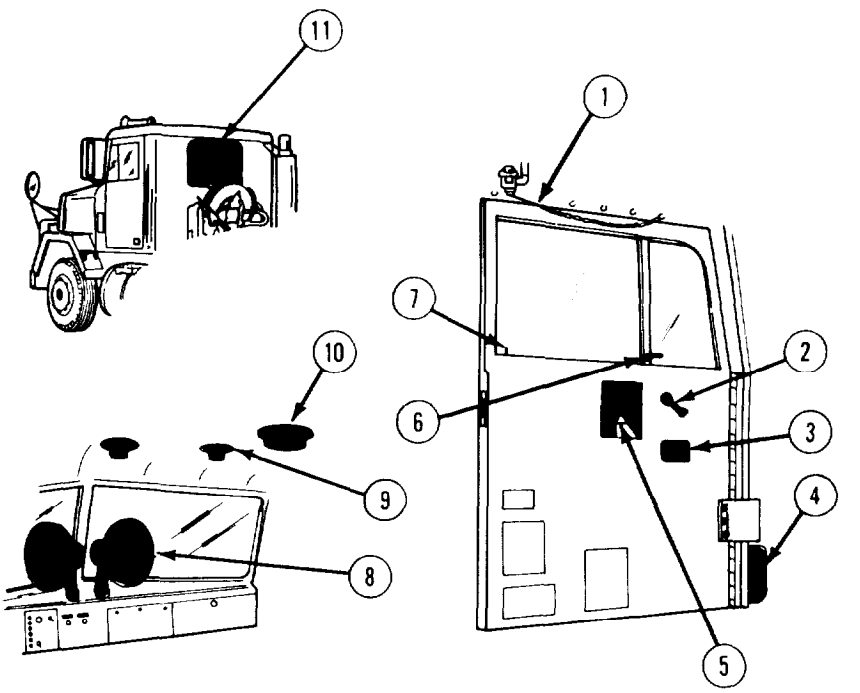


Figure 2-77. Additional Cab Controls. TA 236656

KEY TO ADDITIONAL CAB CONTROLS	
1	**AIR HORN CHAIN** Pull downward to sound air horn; release to silence air horn.
2	**CAB DOOR WINDOW GLASS REGULATOR HANDLE (one on each door)** Rotate left regulator clockwise to lower left window glass, counterclockwise to raise left window glass. Rotate right regulator counterclockwise to lower right window glass, clockwise to raise right window glass.
3	**ASH TRAY** Top flips up.
4	**DRIVERS FRESH AIR VENT** Push handle forward to scoop fresh outside air in. Pull back to exhaust inside air. Center position is closed.
5	**CAB DOOR INSIDE HANDLE (one on each door)** Pull handle to open cab door from the inside. **NOTE** Door lock will release when door is opened from inside.
6	**CAB VENT WINDOW HANDLE (one on each vent window)** Raise lever to unlock window. Then push outward on handle to open vent window. Pull inward to close vent window.
7	**DOOR LOCK KNOBS** Push down to lock doors. Pull up to unlock doors. They will unlock automatically when door handle inside is pulled, or the door is unlocked with a key from outside.

KEY TO ADDITIONAL CONTROLS (Continued)	
8	**DEFROSTER FANS (one for each windshield section)** Turn knob at base to the right (clockwise) to operate fan at high speed. Turn further to the right to operate fan at slower speeds. Turn knob all the way to the left (counterclockwise) to turn fan OFF. Fan may be swiveled on its base to direct air flow as required by conditions.
9	**MAP LAMPS (one for each cab crew member)** Push rocker switch on lamp base to turn ON. Push other side of rocker switch to turn OFF. Lamp socket may be swiveled to direct light as needed.
10	**DOME LAMP** Push button in on lamp base to turn light on. Push again to turn light off. Provides general overall illumination of the cab interior.
11	**REAR SLIDING WINDOW WITH STONE SHIELD** Squeeze at center of latch and slide window toward passenger side of cab to open and return to close.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

INDEX

INDEX (Continued)

INDEX (Continued)

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

2-6. Maintenance Forms and Records.

Every mission begins and ends with the paperwork. There isn't much of it, but you have to keep it up. The forms and records you fill out have several uses. They are a permanent record of the services, repairs, and modifications made on your vehicle. They are reports to organizational maintenance and to your commander. And they are a checklist for you when you want to know what is wrong with the vehicle after its last use, and whether those faults have been fixed. For the information you need on forms and records, see TM 38-750.

2-7. Preventive Maintenance Checks and Services (see Table 2-1).

a. Before checks and services (B) of preventative maintenance must be performed prior to placing vehicle or its components in operation.

b. During checks and services(D) of preventative maintenance will be performed while the vehicle or its components, systems are in operation.

c. After checks and services (A) of preventative maintenance are performed upon completion of mission.

d. Weekly checks and services(W) of preventative maintenance are performed once every seven days.

e. Monthly checks and services (M) of preventative maintenance are performed every 30 days.

f. If something doesn't work, troubleshoot it with the instructions in this manual or notify your supervisor.

g. Always do your PREVENTIVE MAINTENANCE in the same order, so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.

h. If anything looks wrong and you can't fix it, write it on your DA form 2404. If you find something seriously wrong, report it to organizational maintenance RIGHT NOW.

i. When you do your PREVENTIVE MAINTENANCE, take along the tools you need to make all the checks. You always need a rag or two.

GENERAL MAINTENANCE PROCEDURES

Keep it clean - Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use drycleaning solvent (SD-2) on all metal surfaces. Use soap and water when you clean rubber or plastic materials.

Bolts, nuts and screws - Check them all for obvious looseness; missing, bent or broken condition. You can't try them all with a tool, of course. But look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it, or report it to organizational maintenance.

Welds - Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to organizational maintenance.

Electric wires and connectors - Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and make sure the wires are in good shape.

Hoses and fluid lines - Look for wear, damage, and leaks, and make sure clamps and fittings are tight. Wet spots show leaks, of course. But a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector tighten it. If something is broken or worn out, report it to organizational maintenance.

Fluid leakage - It is necessary for you to know how fluid leakage affects the status of your vehicle. The following are definitions of the types/classes of leakage an operator or crew member needs to know to be able to determine the status of his/her vehicle. Learn, then be familiar with them and REMEMBER - WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR!

DEFINITIONS FOR OPERATOR/CREW PMCS

CAUTION

EQUIPMENT OPERATION IS ALLOWABLE WITH MINOR LEAKAGES (CLASS I OR II). OF COURSE, CONSIDERATION MUST BE GIVEN TO THE FLUID CAPACITY IN THE ITEM/SYSTEM BEING CHECKED/INSPECTED. WHEN IN DOUBT, NOTIFY YOUR SUPERVISOR.

WHEN OPERATING WITH CLASS I OR II LEAKS, CONTINUE TO CHECK FLUID LEVELS AS REQUIRED IN YOUR PMCS.

CLASS III LEAKS SHOULD BE REPORTED TO YOUR SUPERVISOR OR TO ORGANIZATIONAL MAINTENANCE.

CLASS I. Seepage of fluid as indicated by wetness or discoloration not great enough to form drops.

CLASS II. Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked/inspected.

CLASS III. Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

NOTE

Item number column shall be used as a source of item numbers for the TM Number column on DA Form 2404, Equipment, Inspection and Maintenance Worksheet in recording results of PMCS.

Within designated interval, these checks are to be performed in the order listed.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			WARNING **Always Remember The CAUTIONS, WARNINGS AND NOTES Before Operating This Vehicle And Prior to PMCS.** Perform all PMCS checks if: a. You are the assigned driver but have not operated the vehicle since the last weekly inspection. b. You are operating the vehicle for the first time.	
1	Before	Exterior Left Front	DRIVER Visually check left front tires for under inflation.	Tire is missing or unserviceable.
2	Before	Fuel Heater	DRIVER Check fuel heater for leaks a damage. **NOTE** Fuel Heater is located below driver's side door and above fuel tank.	Class III leakage is evident.

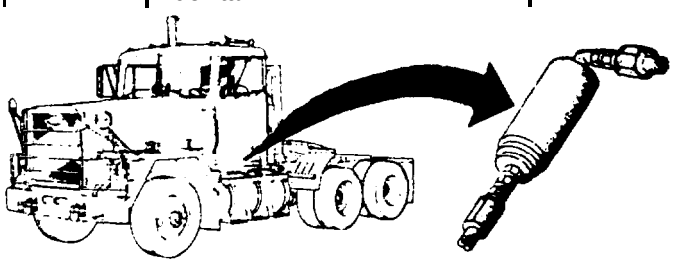


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Itern No.	Interval	Location: Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
3	Before	Trailer Coupling Air Hoses and Connec-tors	DRIVER Inspect inter-vehicle tractor to trailer air hoses for cracking or damaged connectors. Inspect trailer electrical connectors.	Hose(s) or couplers missing/leaking, cou-pler(s) unserviceable; intervehicle cable missing or damaged.

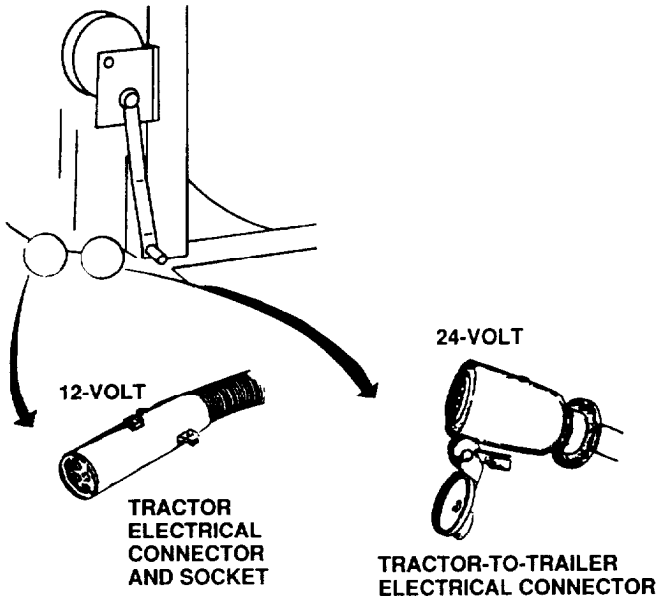


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
4	Before	Fifth Wheel and Ramps	a. Check that lockjaw pins do not protrude more than 1/16" above surface of top plate, or have any lateral or vertical movement.	a. Lockjaw pin extends more than 1/16" or has lateral or vertical movement.
			b. Check for bent, worn, broken or missing parts.	b. Bent, worn, broken or missing parts.
			c. Check slide track for damage and free movement of fifth wheel assembly.	

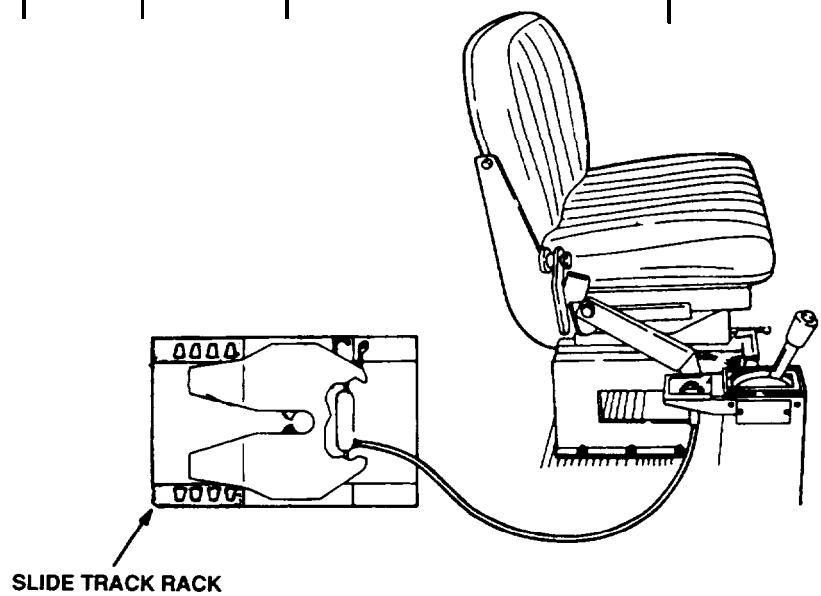


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
4	Before	Fifth Wheel and Ramps Continued	d. Check the primary and secondary release handles for operation and damage.	d. Primary or secondary release handles are damaged or do not function.
			NOTE Air lines and cylinder are located under fifth wheel top plate.	
			e. Check air lines and air cylinder for damage.	e. Any air leak.

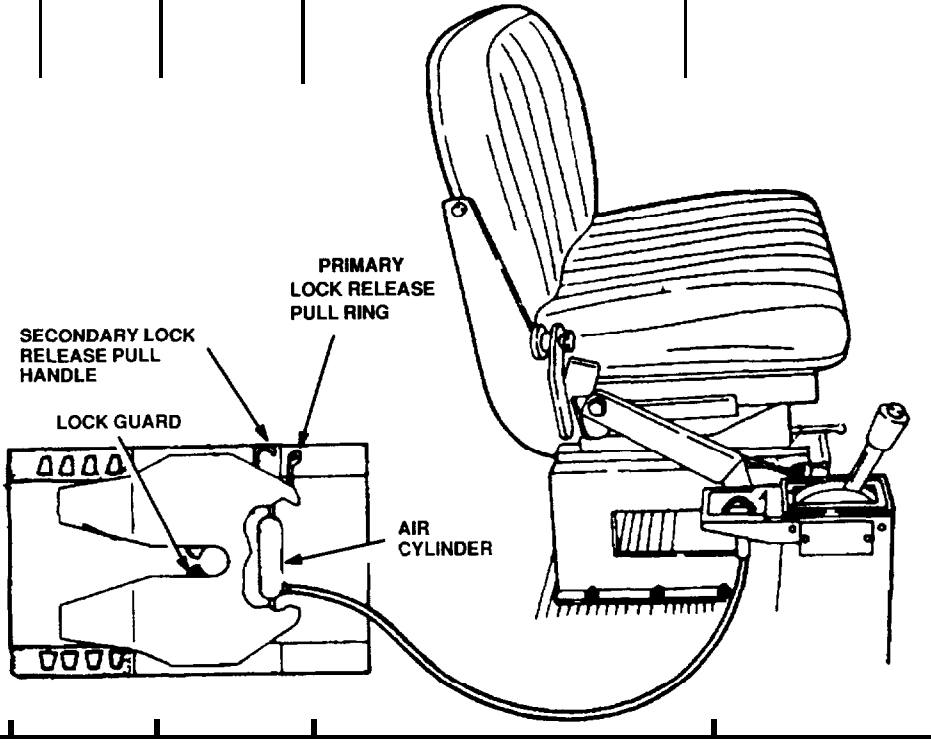


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
5	Before	Left Side and Rear of Vehicle Under Vehicle	a. Look under vehicle for obvious fluid leaks such as oil, water and fuel. **NOTE** If leakage is detected, further investigation is required to determine location and cause of leak.	a. Class III leaks are evident.
			b. Visually check left side tires.	b. Any tire(s) missing or unserviceable.
			c. Check that mud flaps are in place and intact.	
			DRIVER	
6	Before	Right Side and Front Tires	Visually check tires for underinflation.	Any tire is missing or unserviceable.
			DRIVER	
7	Before	Front of Vehicle	Look under vehicle for obvious fluid leaks such as oil, fuel and water. **NOTE** If leakage is detected, further investigation is needed to determine the location and cause of the leak.	Any Class III leak evident.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location / Item to Check/ Service	Crewmember / Procedure	Not Fully Mission Capable If:
8	Before	Wind-shield Wipers/ Blades	DRIVER Check windshield for any cracks that would impair vision. Check wiper arms and blades for presence and damage. **NOTE** Cracked or broken windshield may violate AR 385-55.	

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

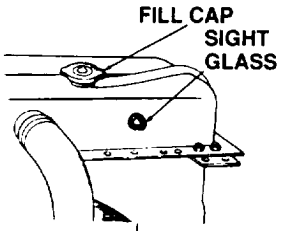
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
9	Before	Cooling System	DRIVER **WARNING** **Raise the hood to the highest point, then slowly lower the hood until the prop locks up. Inspect condition of support and brackets. After raising the hood, insert the s-shaped hook through the two matching holes in the prop channel to prevent the hood from accidently falling. Reverse this procedure to lower the hood.** **If engine has been running, let radiator cool before removing cap. Remove cap in two steps. First, place a thick cloth over the cap and slowly rotate cap to its first stop, pause and let pressure escape from cooling system. Then rotate cap further until you can remove it. Failure to follow this procedure can result in serious burns.**	
			Check coolant level in radiator sight glass. If level is low, add a mixture of antifreeze and clean water to bring coolant to proper level (check with organizational maintenance for the proper mixture).	Class III leaks evident.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location: Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
10	Before	Cab Fire Extinguisher	DRIVER a. Check for missing or damaged fire extinguisher under dashboard on driver's side. b. Checkgage for proper pressure of about 150 psi (1034 kPa). Make sure mounting is secure. c. Check for damaged or missing seal.	a. Fire extinguisher missing or damaged. b. Pressure gage needle in RECHARGE area. c. Seal damaged or missing.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
11	Before	Interior of Vehicle	Check seat and seat belt for proper adjustment and ability to lock, security of pins and bolts and tears. **NOTE** Missing, torn or inoperative seat belt may be in violation of AR 385-55.	
			DRIVER	
12	Before	Controls and Instruments	**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 instructions.** **NOTE** The engine must be running to perform the following checks.	
			a. Start engine. **CAUTION** **A sudden rise in temperature during engine warm up indicates defective cooling system.**	a. Engine will not start.
			b. Check air cleaner indicator. If in red, clean filter and reset.	b. Air cleaner indicator stays in red.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
12	Before	Controls and Instruments	c. Check voltmeter needle. Should be in green area (normal operating range 12 to 15 volts).	c. Readings above or below the green area.
		Continued	d. Check transmission oil temperature gage (should read 120°F to 250°F for normal operating range; may not read at low temperature).	d. Oil temperature exceeds 250°F.
			e. Check air pressure gage (front and rear). Normal range is 95 to 125 psi. Make sure warning light and buzzer is operational.	e. Reads less than 60 psi. Warning light and/or buzzer stays on or not operational.
			f. Check engine water temperature gage (normal range is 160° - 22°F) with engine warmed up.	f. Temperature gage reads less than 160° or exceeds 220°F. after engine warms up.
			g. Check engine oil pressure gage 35 to 50 psi at high idle.	g. Reads less than 10 psi at idle.

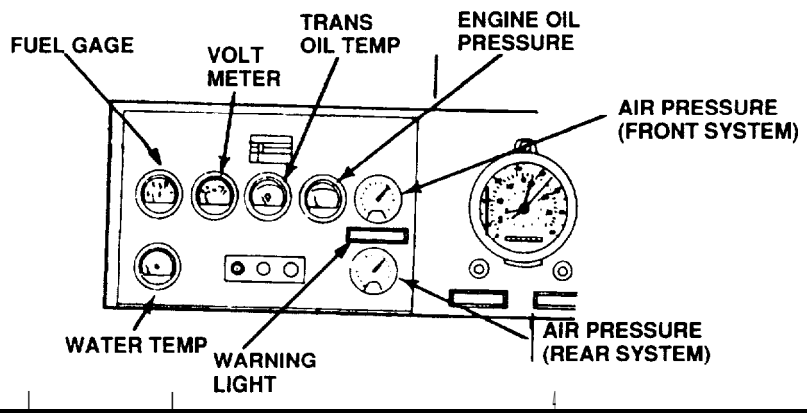


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
12	Before	Controls and Instruments	h. Check transmission and ratio selector. Shift in all ranges observing unusual stiffness, abnormal operation or binding.	h. Transmission or ratio selector inoperative or binding.
		Continued	i. Check engine retarder for braking ability.	i. Engine retarder is inoperable.
			j. Check steering response.	j. Steering binds or is unresponsive.
			k. Listen for leakage in exhaust system.	k. Pipe, clamp or hardware damaged or missing.
			I. Check tachograph rpm needle for proper response to throttle. Check idle speed 580 to 650 rpm.	I. Tachograph indicates less than 580 rpm or more than 650 rpm at idle.
			m. Check parking brake; pull out to apply, push in to release. With parking brake applied, place transmission in gear. Vehicle should not move.	m. Parking brake is inoperative.
			n. Check service brakes for pulling, grabbing or other abnormal operation by moving vehicle approximately 10 feet.	n. Brakes do not stop vehicle.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

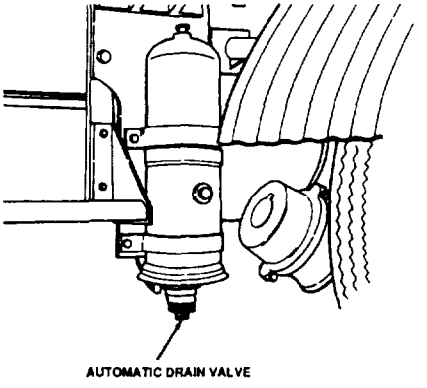
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
13	Before	Air Dryer	Check automatic drain valve operation. With engine running and air pressure reaches 120 psi, a sharp burst of air will be heard at the drain valve each time the compressor unloads.	Automatic drain valve inoperative.
			 	
13.1	Before	Trailer Brakes	**NOTE** Perform this check with the trailer empty and the trailer loaded after the tractor/trailer are coupled.	
			a. Check for air leaks at the intervehicular connecting hoses, relay valve and air reservoirs.	Any air leaks are present.
			b. Apply trailer brakes only and attempted to move the tractor /trailer combination.	Brakes fail to hold tractor/trailer combination from moving.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
14	During	Steering/ Swaying	Observe any unusual sway, dip, or unstable handling.	Handling is unstable.
15	During	Gages	Monitor all gages and warning buzzers during operation.	Any gage not functioning properly.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location: Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
16	After	Turbo-charger	Driver When you shut down the engine, listen to the turbocharger for rattling noises.	Unusual or rattling noises or a defective turbocharger.
17	After	Exterior of Vehicle (Left Side)	DRIVER Check left side view and spotter mirrors and arms.	

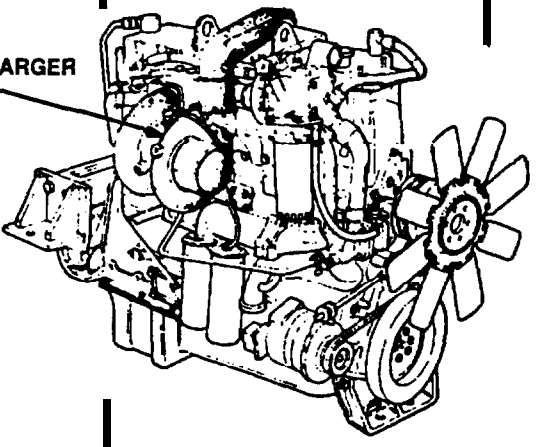


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

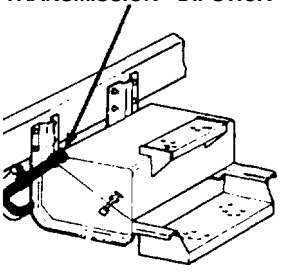
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
18	After	Trans-mission	DRIVER With transmission temperature gage between 120° and 250°F while idling in neutral with Drake applied, remove dipstick and check oil level. Should read between high and low mark on the hot run band. If be-ow the low mark on the hot run band, add oil to bring level to mid-point of band. About one quart will raise level from bot-tom line to middle of band. The above method is preferred but oil level may be checked with transmission temperature below 120°F by reading the cold run band on the dipstick. TRANSMISSION DIPSTICK 	

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
19	After	Fuel Filter	DRIVER Check for leaks or damage. **CAUTION** **If one quart or more of fuel must be drained from fuel filter before fuel is clear, fuel tank and fuel system must be inspected carefully. Report fuel contamination to organizational maintenance.** **NOTE** With engine running open drain on bottom of filter. Drain fuel into suitable container until fuel runs clear. Close drain securely. Dispose of fuel in accordance with local requirements,	Class III leakage is evident.

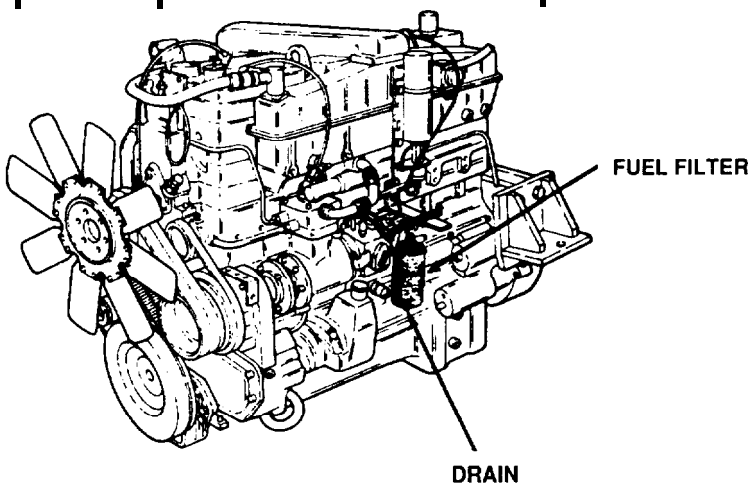


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
20	After	Left Front, Left Side, Rear and Right Side, Right Front	a. Check for obvious damage to vehicle.	a. Any damage that would prevent operation.
			b. Check under vehicle for signs of leaks.	b. Class III leaks.
			c. Visually check left side tires or under-inflation, cracks, gouges or bulges. Remove all penetrating objects.	c. Any tire is missing or unserviceable if there is evidence of cuts, gouges and bulges which would result in tire failure during operation.
			DRIVER	
21	After	Exterior of Vehicle (Right Side)	a. Check right side view mirror and arm for damage.	

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
22	After	Engine Oil Level	DRIVER Check the level gage for proper level. The gage should be between the low and high marks. DO NOT OVERFILL.	Engine has used excessive amount of oil (more than one quart in 100 miles).

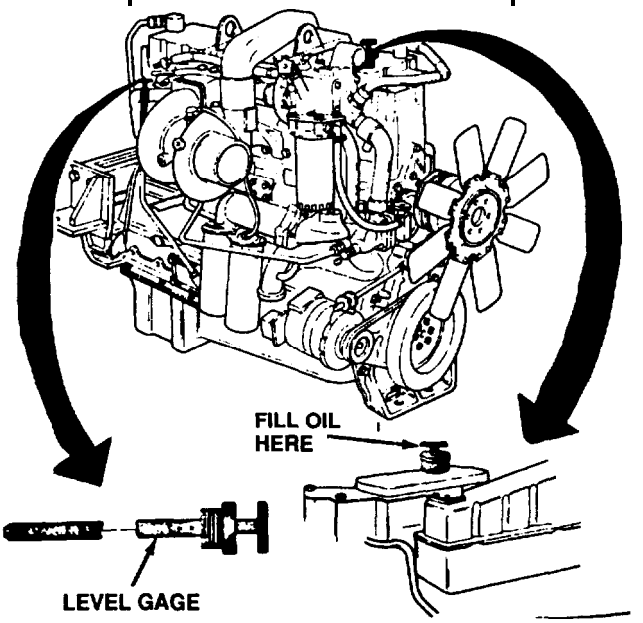


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
23	After	Power Train (Engine, Transmission and Transfer)	a. Check for fluid leakage and damage.	a. Any Class III leak of oil, fuel, or coolant.
			(Oil Filters)	
			b. Check for obvious signs of leakage.	b. Any Class III oil leaks.
			(Radiator)	
			c. Visually check for obvious coolant leakage, damaged or leaking hoses or damaged mounting brackets.	c. Any Class III leak or damaged mounting brackets are evident.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
2	After	Drive Belts and Fan	a. Check for frayed/cracked belts.	a. Any drive belt is broken, cracked to the belt fiber, has more than one crack (1/8 inch in depth or 50% of belt thickness), has frays more than 2 inches longer or excessive play.
			b. Check belt adjustment. Deflection should not be more than about 1/2 inch. If belts are loose, notify organizational maintenance.	

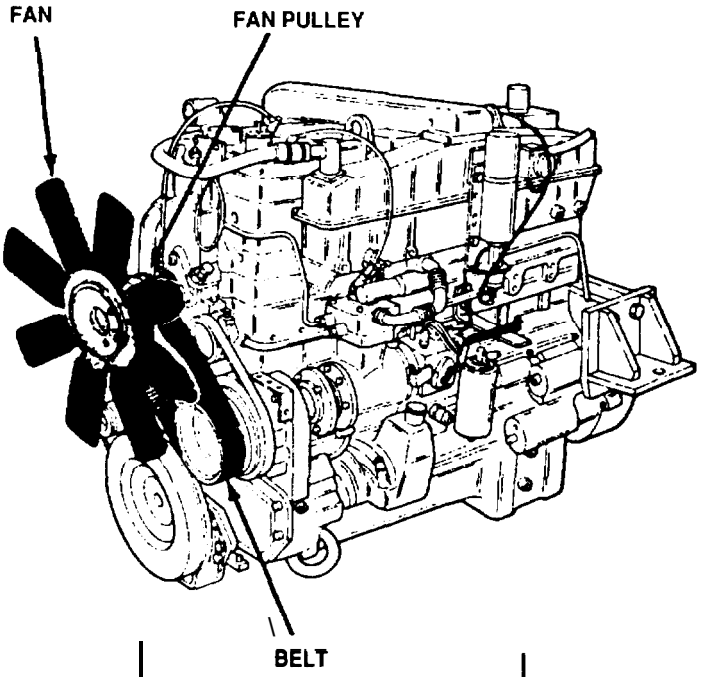


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location / Item to Check/ Service	Crewmember / Procedure	Not Fully Mission Capable If:
24	After	Drive Belts and Fan Continued	DRIVER c. Check pulley for damage or cracks.	c. Any pulley damaged or cracked.
			(Water Pump) d. Check for any obvious coolant leakage or damage.	d. Any Class Ill coolant leak or damage is evident.
			(Air Compressor) e. Check for obvious signs of oil leakage or damage (oil in air tanks).	e. Any Class III oil leak or damage is evident.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location: Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
5	After	Fan Clutch and Actuator	DRIVER **WARNING** **Engine must be off to perform this check.** a. Check the fan clutch for damage. Look for loose attaching bolts.	a. Damage or loose hardware.
			b. Inspect hoses for looseness at the fittings and inspect for air leaks, fraying, cracks and abrasions.	b. Air leaks are observed.
			c. Check fan clutch actuator for signs of leaks and loose hose connections.	c. Air leakage from the exhaust port when engine temperature is below 185°F.

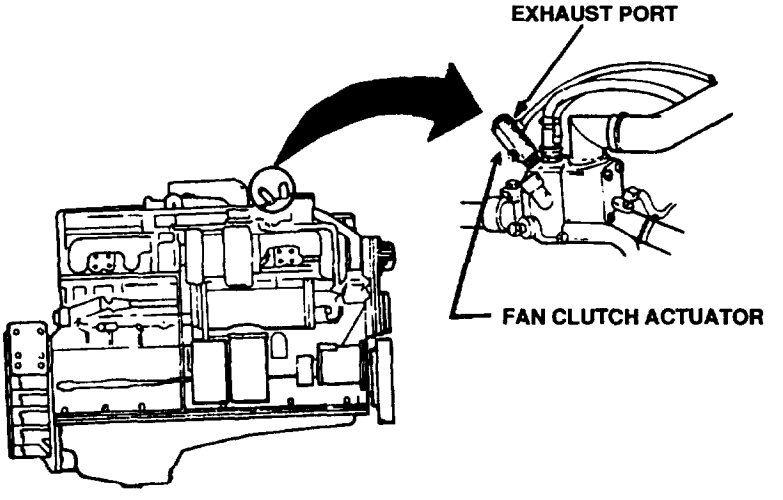
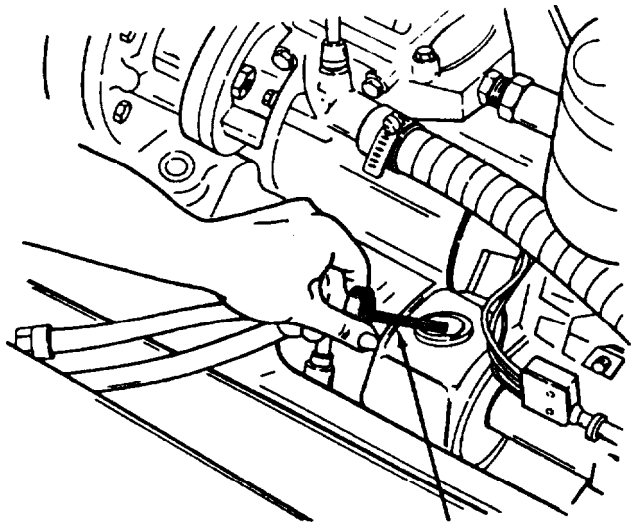


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
			DRIVER	
26	After	Horns	Check operation of horns if tactical situation permits. **NOTE** Operation of vehicles with inoperative horn may violate AR 385-55.	
			DRIVER	
27	After	Lights	Check operation of headlights, taillights, turn signals, brake lights, and blackout lights. **NOTE** Operation of vehicles with malfunctioning lights may violate AR 385-55.	
			DRIVER	
28	After	Air Reservoir and System	Drain air reservoirscompletely Check air lines and reservoirs for leaks and damage. **NOTE** Vehicles should not have an automatic drain valve. Check vehicle and manually drain tank.	Any leaking or damaged air lines or reservoirs or oil coming from air tanks.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
29	Weekly	Steering Pump and Reservoir	**CAUTION** **DO NOT OVERFILL** Check pump for leakage. Inspect pump hoses for deterioration and leaks. Inspect for loose mounting or damage. With fluid hot and engine off, check fluid level in the steering pump for proper level. If level is low, add fluid to bring level to full mark on dipstick.	Any damage to hoses or mounting. Class III leak evident.



DIPSTICK AND CAP

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
30	Weekly	Ether Quick-Start Assembly	Inspect mounting for loose hardware. Check lines, fittings and canister for damage.	Any reservoir damaged or leaking.

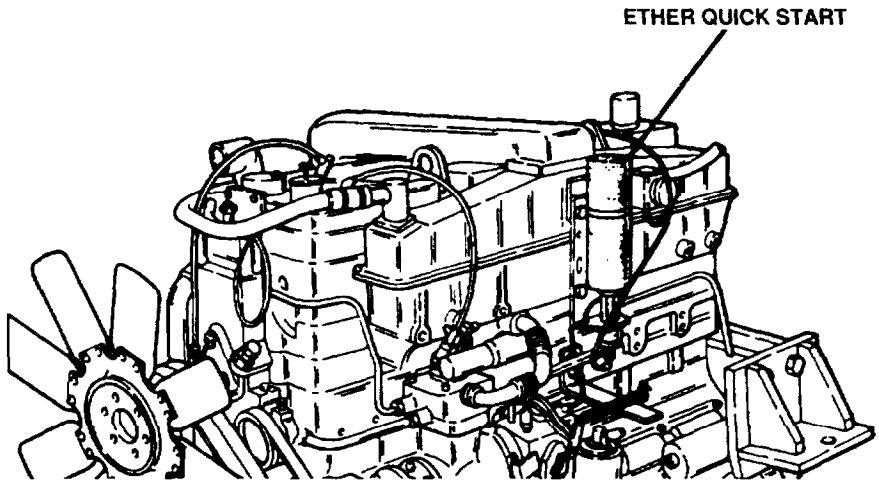


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
31	Weekly	Tires	a. Check tire tread depth. Tread should not be worn beyond the level of the wear bar. b. Check for correct air pressure: Front - 105 psi, Rear - 95 psi.	Tire worn to or beyond wear bar.
32	Weekly	Wheels, Studs and Nuts	Ensure all wheel stud nuts are tight using wheel stud nut wrench and handle.	Any wheel stud is missing or stud nut is loose.
33	Weekly	Air System	With air system charged and engine off check air lines and fittings for leaks and damage.	Any reservoir or fine damaged or leaking.
34	Weekly	Frame	Visually inspect frame side rails, crossmembers, cab supports and underbody supports for loose or missing bolts and cracked or broken welds.	Loose or broken side rails, cab supports, crossmembers, missing bolts or broken welds.
35	Weekly	Fuel Tank	Check fuel tank, lines and fittings for leakage.	Class III leakage evident.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
36	Weekly	Trailer Coupling:	a. Check electrical connectors and cable for damage. b. Check trailer air lines for damage (front and rear).	a. Electrical cable missing or damaged. b. Air lines leaking or damaged.

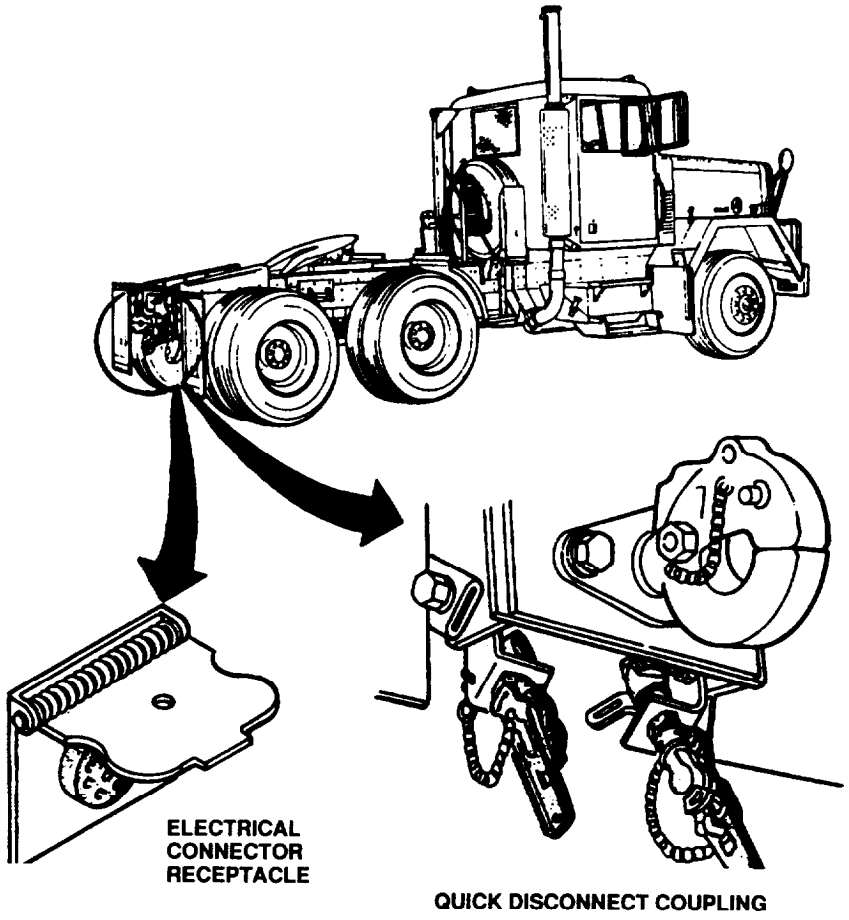


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
37	Weekly	Spare Tire Davit	Check spare tire davit for proper operation.	
38	Weekly	Exhaust System	**WARNING** **Do not touch hot exhaust pipes with bare hands. Severe burns will result.** Inspect exhaust stack and muffler for obvious damage and/or leaks and rusted through conditions.	Pipe, clamp or hose damaged or missing.

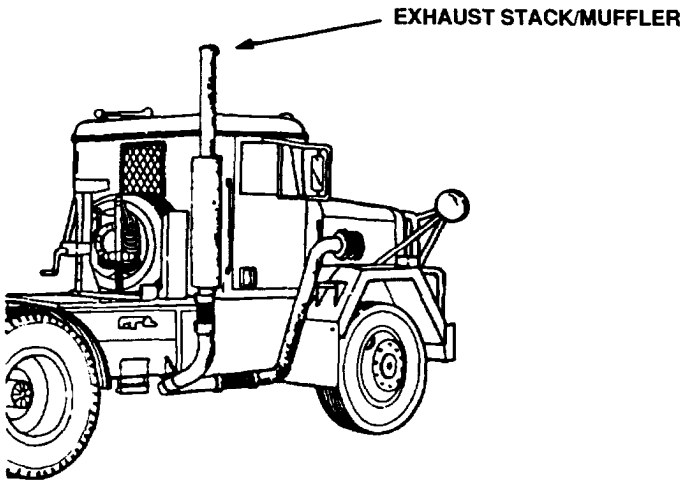


Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

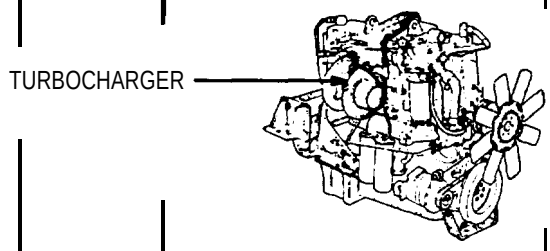
Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
39	Weekly	Batteries	**WARNING** ● **Don't smoke, have open flames, or make sparks around the batteries, especially if the caps are off. Batteries can explode and cause injury or death.** ● **Remove ail jewelry such as rings, dog tags, bracelets, etc. If jewelry or tools contact battery terminal, a direct short may occur resulting In instant heating, damage to equipment and injury to personnel.** Check electrolyte level. Electrolyte should be filled to the level/split ring in the battery filler opening (vent). If fluid is low, fill with distilled water to the level ring. Run vehicle at least 15 minutes to charge battery. If fluid is gassing (boiling) notify organizational maintenance.	Battery is unserviceable, missing, leaking; terminals or cables are loose, corroded or hold downs are not secure.

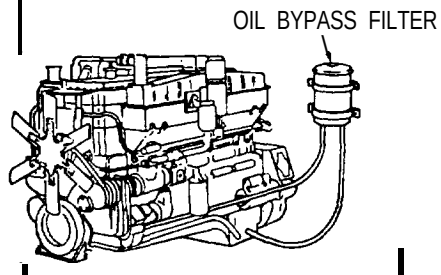
Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
40	Weekly	Air Cleaner	**WARNING** **If NBC exposure is suspected, ail air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal instructions.** Empty automatic dust unloader.	Dust unloader missing/damaged.
41	Weekly	Body	Check for any rusted through condition or damage that would affect operation of the vehicle.	
42	Weekly	Cab	a. Visually inspect the cab mounts for cracks, breaks and damage. UNDER HOOD CHECKS **WARNING** **After raising the hood, insert the s-shaped hook through the two matching holes in the prop channel to prevent the hood from accidently failing.** b. Check for doors, latches and auxillary equipment for proper operation.	a. Cab mounts or welds cracked or broken.

Table 2-1. Preventive Maintenance Checks and Services for Model M915A1

Item No.	Interval	Location / Item to Check/ Service	Crewmember Procedure	Not Fully Mission Capable If:
43	Weekly	Cooling System	Check for leaks, damaged fins, loose or damaged hoses, debris or dirt in radiator fins.	Class III leakage evident.
44	Weekly	Turbocharger	Inspect oil lines and fittings for signs of leaks or damage. Check air intake and exhaust ducts for loose bolts and clamps. Look for signs of hose damage.	Class III leaks evident. Damage to intake or exhaust ducts.
45	Weekly	Oil Bypass Filter	Check lines and fittings for leaks, looseness and damage.	Class III leakage evident.





Section III. OPERATION UNDER USUAL CONDITIONS

2-8. General.

This section covers the procedures you will normally be using in operating the M915A1 truck tractor. Specific instructions are given for starting, driving the truck, operating its components, stopping, parking, and shutting down the vehicle. Throughout this section, guidelines are given for adjusting control settings and driving techniques as well as the specific operating procedures so that you will be able to readily respond to different situations when you are operating your truck.

2-9. Assembly and Preparation for Use.

BEFORE YOU OPERATE YOUR TRUCK

KNOW HOW TO USE THE FEATURES OF YOUR TRUCK IN THE SAFEST AND MOST EFFICIENT WAYS TO ACCOMPLISH YOUR MISSION.

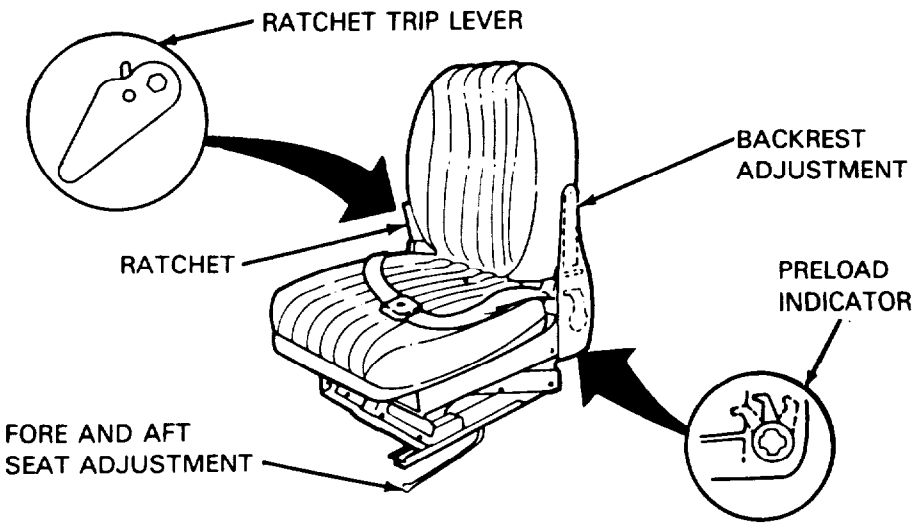
KNOW YOUR OPERATOR'S CONTROLS AND INDICATORS BEFORE STARTING AND DRIVING YOUR TRUCK.

WARNING

This vehicle has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited LAW AR 70-1 without written approval from the Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-CM-S, Warren, MI 48397-5000.

a. PERFORM (B) PMCS.

b. While sitting in your seat, adjust it as necessary for comfort and to ensure that all controls are within easy reach.



1. Ride Level Adjustment. While seated, pull up on the ratchet trip lever and operate the ratchet up and down to increase preload. Push ratchet trip lever down and operate ratchet to decrease preload. The seat will adjust to weights from 130 to 275 pounds. When properly adjusted, the preload indicator will be as shown in the figure, with the tip of the indicator flush with the seat frame.

2. Backrest Angle Adjustment. Lift up on backrest and tilt forward or backward. Lower the backrest so that it engages one of three notched positions.

3. Forward and Backward Seat Adjustment. Pull out on lever (towards door) and move seat forward or backward to adjust for your leg length. Seat may be moved forward or back 6 inches.

4. Fasten seat belt and adjust for proper fit. Make sure companion seat belt is used if sameone is sitting there.

2-10. Starting and Warmup (at temperatures of +32°F and above).

a. MAKE SURE YOU APPLY THE PARKING BRAKE. Pull out to set brake. Push in to release brake.

NOTE

This truck has a neutral safety switch which prevents the engine from being started if the transmission is in gear,

b. PLACE THE TRANSMISSION RANGE SELECTOR IN THE NEUTRAL (N) POSITION.

c. TURN THE ENGINE RUN SWITCH TO THE ON POSITION. The low air pressure buzzer should sound and the following warning lamps should illuminate:

- ENG OIL (low Oil Pressure)
- LOW AIR PRESSURE
- PARK BRAKE

d. Make sure the cab controlled sliding fifth wheel valve lever is in the LOCK position and the differential lock/unlock control is set to UNLOCK. The DIFF LOCK OUT lamp will be lit if the differential control is in the LOCK position,

e. Make sure that all accessories are turned off and that the engine retarder system is disengaged (foot off pedal).

WARNING

The companion seat belt has nonlocking retractors. For proper use webbing must first be completely extended from the nonlocking retractor device. All excess webbing must then be adjusted at the buckle.

CAUTION

If the engine fails to start within 15 seconds, release the START button and allow the starting motor to cool for two minutes before you try again to start the engine. Never depress the START button while the starting motor is still running from the previous try. If the engine fails to start after four attempts, refer to Table 3-1, Troubleshooting Procedures. Failure to follow these precautions can result in serious damage to the starting motor.

f. Press the START button while slightly depressing the accelerator pedal. The engine should start. The engine temperature warning lamp should illuminate when the starter button is depressed. Do not depress Engine Start button for more than 15 seconds with two minute intervals between crankings.

CAUTION

During warmup do not operate the engine above 1000 rpm until normal engine idle speed oil pressure is indicated on the Engine Oil Pressure gage. this allows time for oil circulation to reach the turbocharger and for engine parts to warm up gradually. (Minimum oil pressure at idle is 10 psi).

g. After the engine starts, maintain an idle speed of 580 to 650 rpm.

CAUTION

If there is no indication of oil pressure after 10 seconds at idle, shut down the engine immediately by turning the key switch to OFF and refer to Table 3-1 for troubleshooting and corrective action. DO NOT ATTEMPT TO RESTART THE ENGINE UNTIL THE PROBLEM HAS BEEN CORRECTED.

h. While performing step g., observe the oil pressure gage. At low idle speed the gage should indicate at least 10 psi at normal operating temperature.

i. Observe all instruments for proper indications. Also, observe warning lamps for the following:

The ENG OIL (Low Oil Pressure) Warning lamp should go off.

The Low Air Pressure warning lamp and buzzer should go off.

The Park Brake warning lamp should remain on until the Park Brake is released. Don't release the park brake until Low Air Pressure lamp and buzzer shut Off.

2-11. Cold Weather Starting (at temperatures below + 32°F).

a. PERFORM (B) PMCS and install winter front over radiator grille.

b. While sitting in your seat, adjust it as necessary for comfort and to ensure that all controls are within easy reach (refer to paragraph 2-9).

c. MAKE SURE YOU APPLY THE PARKING BRAKE.

N O T E

The engine cannot be started by pushing or towing the truck.

N O T E

The truck has a neutral safety switch which prevents the engine from being started if the transmission is in gear.

d. PLACE THE TRANSMISSION RANGE SELECTOR IN THE NEUTRAL (N) POSITION.

e. Make sure all accessories are turned off and the engine retarder system is disengaged (foot off pedal).

f. TURN THE KEY SWITCH TO THE ON POSITION. The low air pressure buzzer should sound and the following warning lamps should illuminate:

ENG OIL (Low Oil Pressure)

LOW AIR PRESSURE

PARK BRAKE

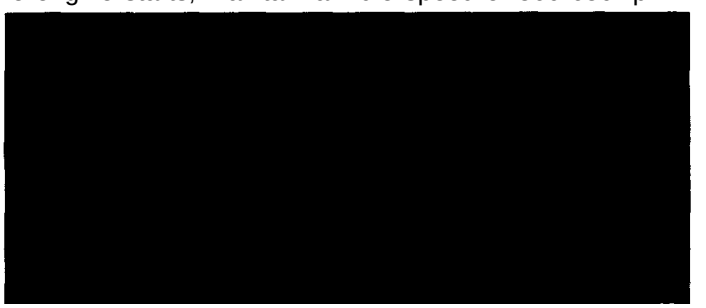
CAUTION

Never press the ETHER QUICK-START button without cranking the engine. A build up of ether fumes in the intake manifold system can result in combustion in the manifold.

g. Depress the accelerator slightly while pressing the START button.

h. Press the ETHER QUICK-START button for 4 to 5 seconds and release to automatically inject a set amount of ether into the intake manifold while cranking the engine. At temperatures below O°F it may be necessary to repeat steps g and h.

i. After the engine starts, maintain an idle speed of 560-650 rpm.



j. While performing step i, observe the oil pressure gage. At low idle speed the gage should indicate at least 10 psi at normal operating temperature.

k. Observe all instruments for proper indications. Also, observe warning lamps for the following:

The ENG OIL (Low Oil Pressure) warning lamp should go off.

The Low Air Pressure warning lamp and buzzer should go off.

The Park Brake warning lamp should remain on until the Park Brake is released. Don't release the park brake until the low air pressure lamp and buzzer shut off.

2-12. Driving.

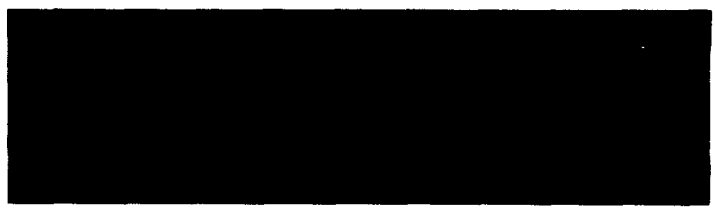
PUTTING YOUR TRUCK IN MOTION

a. Check gages to ensure that the truck is ready for operation.

- Engine oil pressure is at least 10 psi at low idle speed; a cold engine will read higher.
- Water temperatures is 160°F (180°F if pulling a load).
- Air pressure is 105 - 140 psi. At pressures below 60 psi the brakes will not release.
- The low air pressure warning lamp and buzzer should go off.
- Voltmeter should indicate normal (mid-range on the dial).
- Fuel gage should indicate that there is sufficient fuel for the intended mission.

b. Turn on lamps, as appropriate, for existing conditions.

c. Depress transmission selector lever pushbutton and move selector lever until gear range indicator alines with the desired position on the gear range dial. The vehicle will always start in 1st Gear and automatically shift up to the highest gear shown for the range selected. Use the 1-5 gear range for all normal driving conditions. For further information on gear range choices, see USE OF TRANSMISSION GEAR RANGE SELECTOR POSITIONS which follows.



d. RELEASE PARKING BRAKE by pushing in on parking brake control.

e. TO MOVE TRUCK FORWARD, GRADUALLY DEPRESS ACCELERATOR PEDAL.

USE OF TRANSMISSION GEAR RANGE SELECTOR POSITIONS

[redacted]

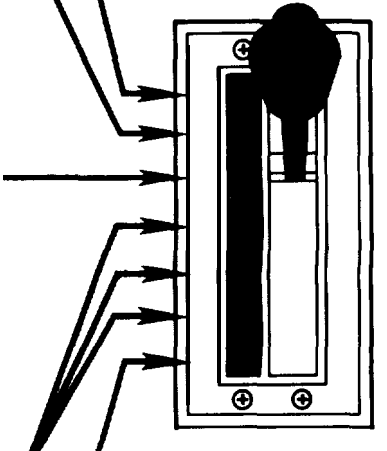
- (R) Use this position to back the vehicle. Completely stop the vehicle before shifting from a forward gear to reverse or from reverse to forward. Reverse operation provides the greatest tractive advantage. Reverse has only one gear.

- (N) Use this position when you start the engine. If the engine starts in another position the neutral safety switch is malfunctioning. Use neutral when the vehicle will be left unattended while the engine is running-ALWAYS APPLY THE PARKING BRAKE.

- (1-5) This position is used for all normal driving conditions. The vehicle will start in 1st gear and as the accelerator is depressed, the transmission will up shift to 2nd gear, 3rd gear, 4th gear, and 5th gear automatically. As the vehicle slows down, the transmission will downshift to the correct gear automatically.

- (1-4,1-3,1-2) Occasionally the road, load, or traffic conditions will make it desirable to limit the automatic shifting to a lower range. When conditions return to normal, move the range selector back to (1-5).

- (1) This is low gear - use this position when pulling through mud and snow or driving on steep grades. Maximum engine braking is accomplished in this position.



TA 236674

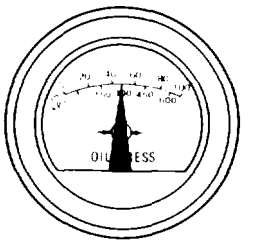
BASIC DRIVING GUIDELINES

- AVOID UNNECESSARY ENGINE IDLING

- During long engine idling periods, the engine coolant temperature will fall below the normal operating range. The incomplete combustion of fuel in a cold engine will cause crankcase dilution, formation of lacquer or gummy deposits on the valves, pistons, and rings, and rapid accumulation of sludge in the engine. When prolonged engine idling is absolutely necessary, maintain at least 800 rpm.

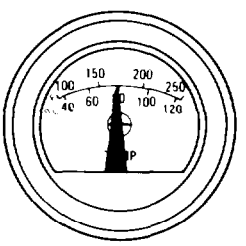
FREQUENTLY CHECK GAGES AND INDICATORS

During normal driving conditions, at engine rpm range from 1800-2100 rpm, engine oil pressure should be in a range from 35-50 psi.

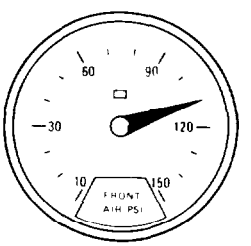


ENGINE OIL PRESSURE

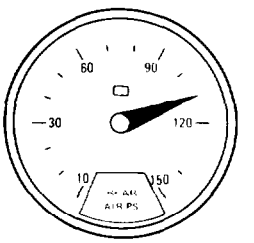
Engine water temperature should be above 160°F at the low end and up to 212°F at the high end (normal water temperature should be from 180°F to 200°F). If temperature reaches 220°F, shut down the engine and investigate the cause. The air pressure gages should register at least 90 psi. (The low air pressure warning lamp and buzzer come on at about 70 psi and below.) Normal operating range is 105-140 psi.



ENGINE WATER TEMPERATURE



AIR PRESSURE GAGE-FRONT

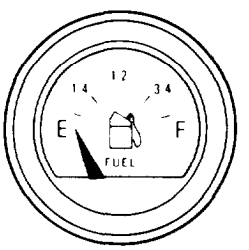


AIR PRESSURE GAGE-REAR

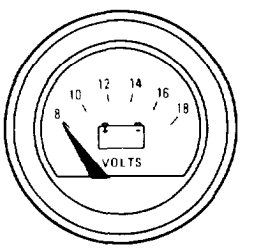
TA 236675

The transmission oil temperature gage should register a normal operating temperature range of 100°F to 250°F. Check the battery voltmeter (normal range is 12 to 15 volts) and the fuel gage frequently. Check the rpm readings on the tachograph for the appropriate ranges, as illustrated and described in further detail on following pages.

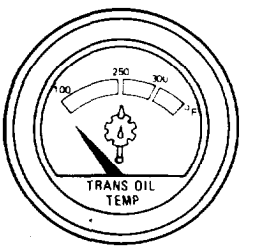
If the gages or indicators show any abnormal conditions, bring the truck to a safe stop, shut down the engine, and investigate the cause of the trouble.



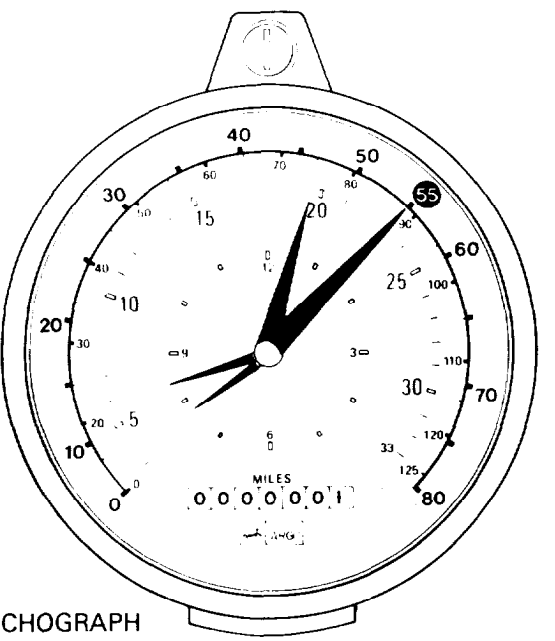
FUEL GAGE



VOLTMETER



TRANSMISSION OIL TEMPERATURE GAGE



TACHOGRAPH

TA 236676

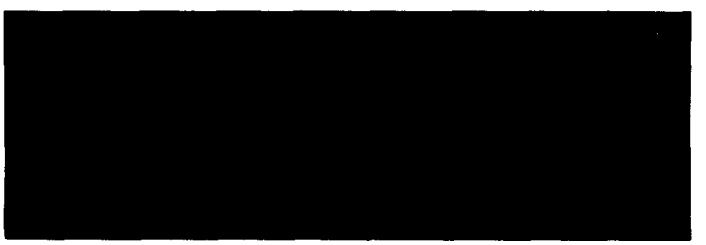
- OPTIMUM USE OF ENGINE RPM

It is not necessary to operate the engine at maximum rpm in order to get good performance. The engine will perform efficiently at the low and middle speed ranges and offer a definite fuel advantage at these reduced speeds. Control rpm through proper accelerator usage and by allowing the automatic transmission to tailor gear selection and engine speed to the load requirements and road speed desired.

The operator who insists on running in low gear at top rpm when restricted to 25 or 30 miles per hour is wasting fuel and creating noise unnecessarily.

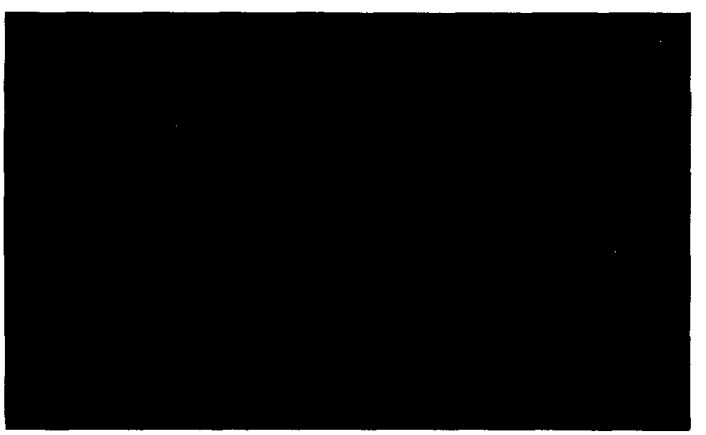
For all normal driving situations, use gear range 1-5 and let the automatic transmission select the proper gear for any given condition.

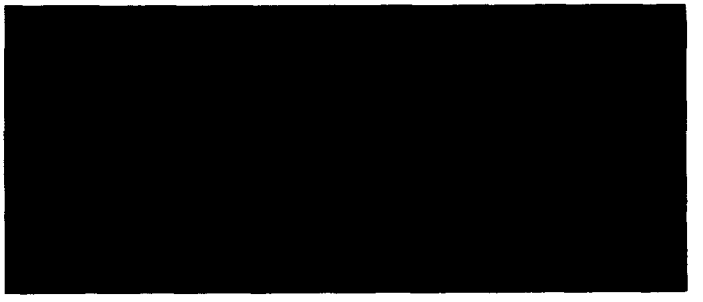
- AVOID OVERSTEERING



Become familiar with the steering characteristics of the truck before attempting maneuvers in limited space.

- DRIVE EFFICIENTLY AND ECONOMICALLY





a. Driving at Highway Speed:

When driving conditions permit, maintain the legal highway speed in gear range 1-5. This permits running the engine below governed speed (preferably 10 to 20 percent below governed speed). This is the engine's cruising range and it affords better fuel economy than higher engine speeds. Recommended normal highway cruising range is 1,800 to 1,900 rpm.

Operate in the economy range at full throttle if you are satisfied with the way the vehicle performs, However, there are times when hilly terrain, high winds or other conditions make it impractical to operate without reserve power. Such conditions are better met if the truck is operated in a lower gear range such as 1-4 where reserve power is available for changes in terrain, wind, and traffic conditions.

b. Driving in the City:

Operate the truck in gear range 1-5 or 1-4 for normal city driving. This will keep engine rpm's to a minimum and give greatest fuel economy. If traffic, road, or load conditions are extreme, you may find it desirable to limit the automatic upshifting to a lower gear range. In such cases, you may use gear range 1-3, but upshift by moving the shift lever to 1-4 or 1-5 as soon as conditions allow, for best economy.

The transmission can be downshifted or upshifted manually, even at full throttle. Although there is no speed limitation on upshifting, there is on downshifting and Reverse. Manual downshifting should be avoided when the vehicle is above the maximum speed attainable in the next lower gear. Protection against improper downshifts and reverse shifts is provided, however, in the design of the transmission hydraulic system. If a downshift or reverse shift is made manually at too high a speed, the hydraulic system automatically prevents the shift from taking place until a safe lower speed is reached.

c. Hauling Uphill:

The engine works hardest when moving a loaded truck up a grade. Proper use of gear ranges will shorten the time on hills.

Unless the hill is extreme, begin in gear range 1-5, and depress the accelerator pedal all the way downward. Keep it there as the truck moves up the grade. If there is enough power to maintain a satisfactory road speed, remain in this gear range and allow the transmission to upshift automatically.

If the hill causes a steady decrease in speed and engine rpm approaches 1,700, manually downshift the range selector lever to the next lower range (1-4). Continue to downshift in this manner (1-3, 1-2, 1) to match the power demands of the grade. Once the hill has been topped, return the gear range selector to the 1-5 position.

For starting on maximum grades with maximum load, start in gear range 1, depress accelerator pedal to floor, and manually upshift the lever one range at a time, shifting when engine speed approaches 2,000 rpm.

d. Using the Engine as a Braking Force:

Your truck is equipped with an engine retarder system which enables the engine to act as a brake. The engine retarder should be used for descending grades, in-city traffic or in any situation where slowing is required but excessive use of the service brakes is not desirable. An example of this is wet or icy pavement. The following procedures should be applied when appropriate:

1. Preset the ENGINE RETARDER switch on the instrument panel for the amount of engine retarding you expect to need. Then all you have to do to obtain the degree of engine retarding you need is remove your foot completely from the accelerator pedal and press the engine retarder foot switch pedal.

2. Keep the truck in a gear range that gives you the rated rpm. The engine retarder provides the most braking this way.

3. When starting a downgrade, select the gear range you would most likely use if you were climbing that same grade. If too much braking occurs select a lower setting with the ENGINE RETARDER switch or shift to a higher gear range. If not enough braking, select a higher setting with the ENGINE RETARDER switch or shift to a lower gear range.

4. The engine retarder is very effective on ice, snow or slick roads by selecting a higher than normal gear range for the road speed. This will reduce rpm and provide lower engine braking. But first try selecting a lower setting with the ENGINE RETARDER switch. Engagement of differential lockup may also be helpful on slick surfaces (refer to instructions on using the Interaxle Differential Lock-up system).

REVIEW OF DRIVING GUIDELINES

a. After prolonged engine idle, run the engine up to full rpm momentarily to clean engine.

b. The most practical engine rpm cruising speed for the highway is one that permits the legal road speed and also fuel economy. The recommended cruising range for the highway is 1,800 to 1,900 rpm.

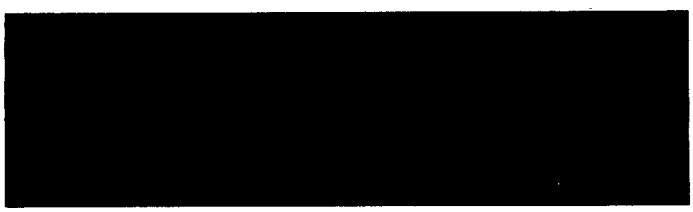
c. In the city and other reduced speed zones, match engine speed to the lower load requirement to conserve fuel and lower vehicle noise level. Select a gear range that permits operating in the area of not less than 1,500 rpm.

d. When manually downshifting for power on a grade, wait for your shift points before making the shift. You will save both time and fuel if you do. If you maintain a satisfactory engine speed on a grade in your cruising gear, it is not necessary to downshift at all.

e. Avoid overspeeding the engine. Never allow the engine to be pushed above governed rpm when rolling down a grade.

f. Progressive downshifting, when starting down grade from the top of a hill, will provide better control around curves and turns, and will save brakes.

USING TRAILER BRAKE HAND CONTROL



Use the trailer brake hand control to help avoid jackknifing. This control will apply the trailer brakes only. To apply the trailer brakes, pull down on the control. Be sure to return the control to its off position (all the way up) when you have finished using it.

USING THE INTERAXLE DIFFERENTIAL LOCKUP

Interaxle differential lockup provides additional traction by applying full torque to both rear axles. This feature should be used any time tractive conditions are poor, e.g., rainy or icy pavement.

The Differential Lock/Unlock control is located on the instrument panel to the right of the driver. Use the following instructions to engage and disengage the system.

Engage:

1. Pull to the side of the road and stop the truck, but leave engine running.
2. Place the Differential Lock/Unlock control in the LOCK position.
3. Observe that the Differential Lockout indicator lamp comes on. The truck is now ready for operation.

Disengage:

1. Remove your foot from the accelerator pedal.
2. Place the Differential Lock/Unlock control in the UNLOCK position.
3. Observe that the Differential Lockup indicator lamp goes off. The system is now disengaged.

2-13. Stopping the Truck and Shutting Down the Engine.

a. LIFT YOUR FOOT OFF ACCELERATOR PEDAL and let reduction in engine rpm and automatic downshifting of transmission help to slow truck.

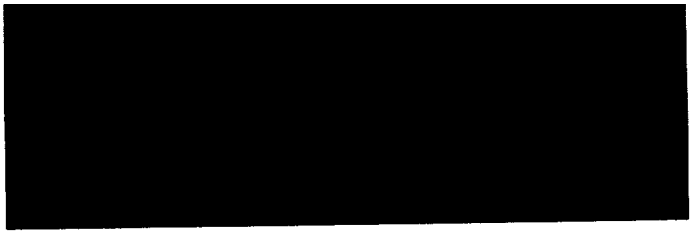
b. APPLY SERVICE BRAKES to bring truck to a normal, complete stop.

c. When truck is completely stopped, SHIFT TRANSMISSION RANGE SELECTOR TO NEUTRAL AND APPLY PARKING BRAKES.

d. Idle engine for at least 3 minutes as indicated in CAUTION.

e. TURN OFF ENGINE RUN SWITCH.

2-14. Parking.



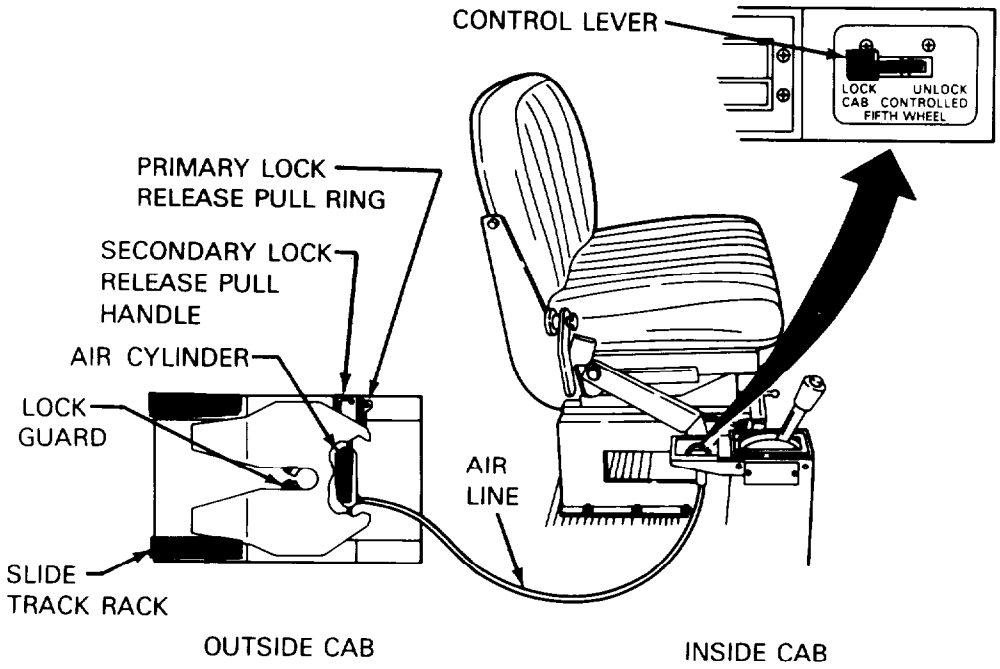
a. Stop truck.

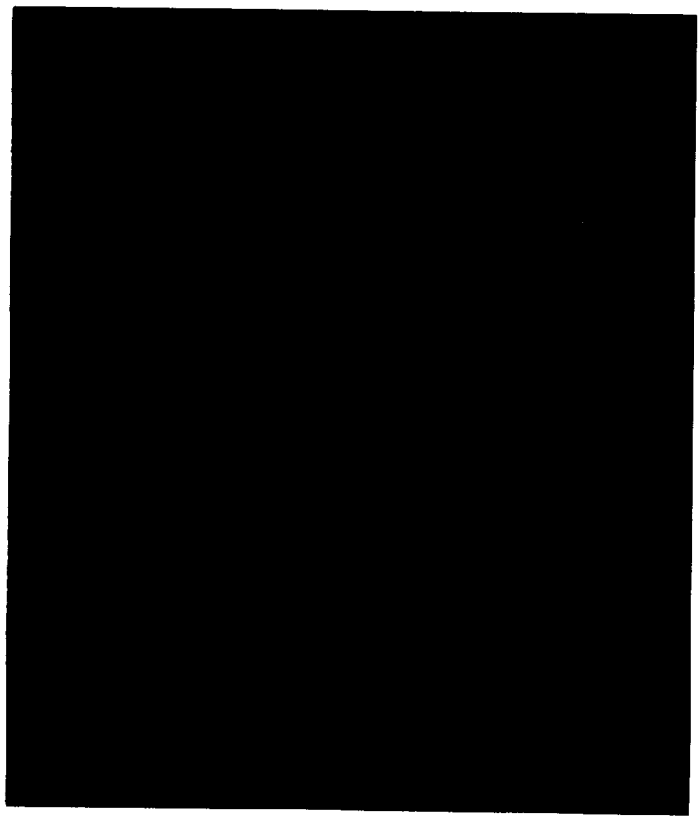
b. Pull PARKING BRAKE control knob.

c. If truck is parked on normal surfaces, parking brakes will provide sufficient holding force.

2-15. Fifth Wheel.

The M915A1 truck tractor is equipped with a cab controlled sliding fifth wheel for use with trailers having a 2-inch diameter kingpin. The fifth wheel is 36 inches in diameter and can oscillate, or pitch, 15 degrees fore and aft. Rated vertical load capacity is 40,000 Ibs. Drawbar pull capacity is 150,000 Ibs. There are two manual kingpin lock releases on the left side of the fifth wheel as shown. To uncouple the trailer kingpin from the fifth wheel, first pull the Primary Lock Release Pull Ring, then pull the Secondary Lock Release Handle.


CONTROL LEVER
LOCK UNLOCK
CAB CONTROLLED
FIFTH WHEEL
PRIMARY LOCK
RELEASE PULL RING
SECONDARY LOCK
RELEASE PULL
HANDLE
AIR CYLINDER
LOCK
GUARD
AIR
LINE
SLIDE
TRACK RACK
OUTSIDE CAB
INSIDE CAB



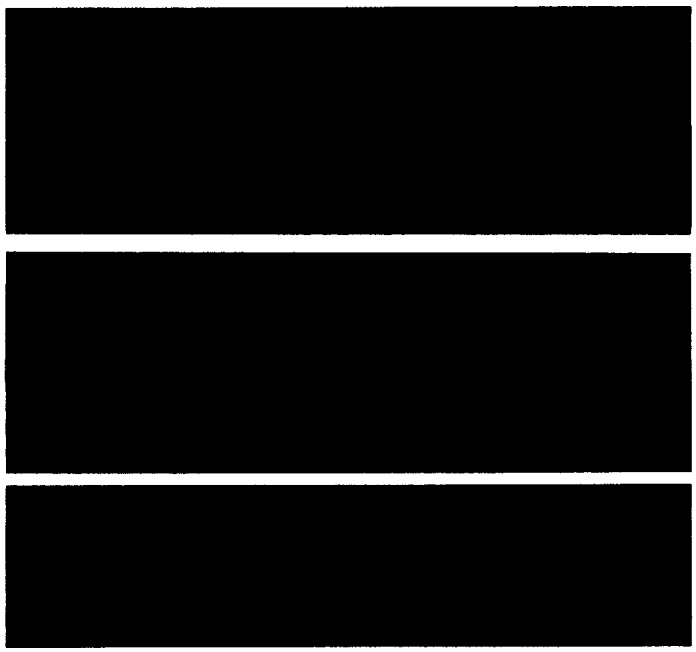
TA 236677

Moving the fifth wheel control lever inside the cab to the UNLOCK position operates an air cylinder under the fifth wheel which allows it to travel on the slide track rack a total of 12 inches forward or backward. This feature allows for adjustment of amount of cargo load carried by the rear tandem axles, within rated capacity.

With a trailer coupled to the fifth wheel and the control in the UNLOCK position, adjustment is made by driving forward or backward slowly with the trailer brake hand control applied. After sliding adjustment is made, move the fifth wheel control lever to the LOCK position and release the trailer brake hand control.

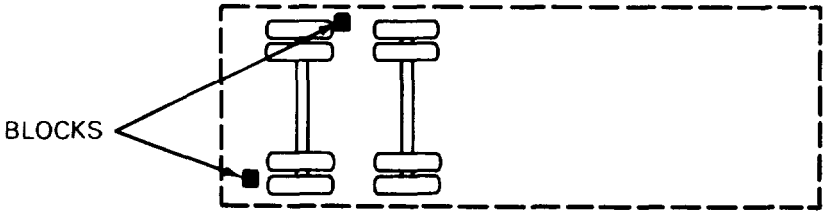
Use of the sliding fifth wheel for axle weight distribution requires scales to determine the weight being placed on each axle of the tractor and trailer. The normal position of the sliding fifth wheel is mid-way between the two rear tandem axles of the tractor with an unloaded or loaded trailer. From this starting position, weight on the front axle of the tractor can be increased by moving the sliding fifth wheel forward, and decreased by moving the sliding fifth wheel backward. See NORMAL LOCATION decals on both sides of the fifth wheel assembly for correct positioning when towing the M-872 trailer.

2-16. Coupling and Uncoupling.



USE OF CHOCK BLOCKS WHEN COUPLING

Remove chock blocks from their brackets and place them firmly behind the wheels on both sides of the semitrailer. On level ground, wheels of one axle should be blocked; if one side is blocked at the tire's front, the opposite side should be blocked at the tire's rear.



EQUIPMENT CHECKS

Check out your equipment as follows before backing under the semitrailer.

a. Visually check the fifth wheel for cracked, damaged or missing parts,

b. Check mountings for good condition and mounting bolts for tightness.

c. Check that all moving parts and top of fifth wheel are properly lubricated.

d. Check the lock guard for proper operation. Have it replaced if it is damaged or missing. Make sure both Primary Lock Release Pull Ring and Secondary Lock Release Handle are pulled out and lock guard is open to accept the trailer kingpin.

e. Be sure that the fifth wheel ramps are down level with, or slightly below the angle of the pickup ramps.

f. Prepare the semitrailer for coupling. Adjust the trailer height so that the fifth wheel picks up the trailer on the fifth wheel ramps.

g. Be sure fifth wheel air slide control is set to the LOCK position

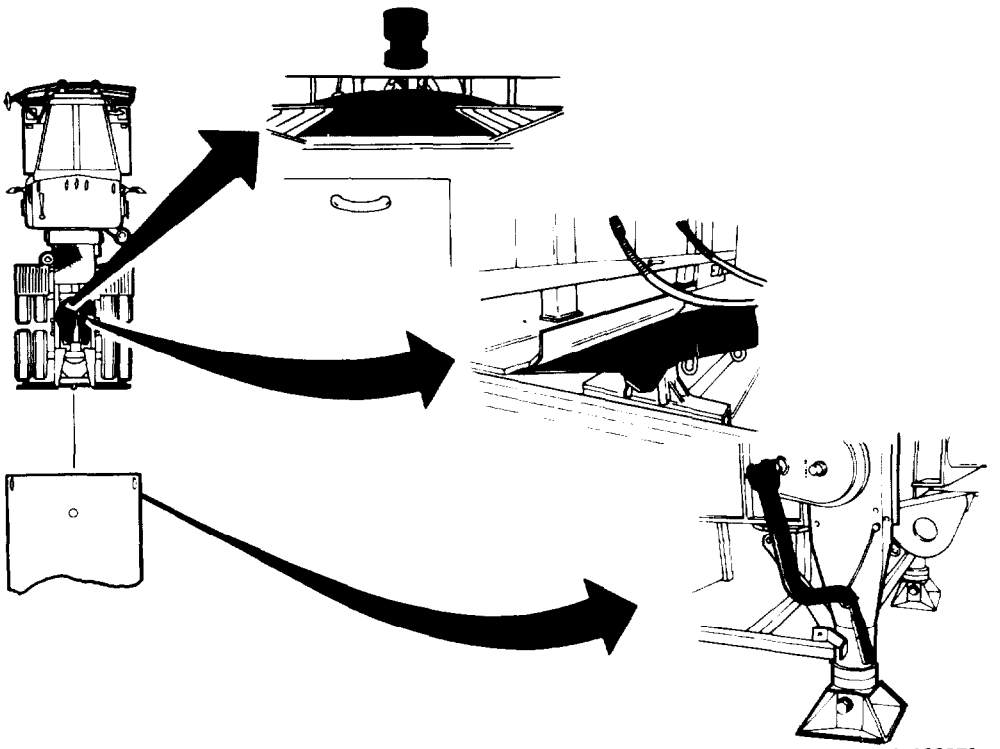
TA 236678

BACKING TOWARD THE SEMITRAILER AND COUPLING

a. Make sure your tractor is alined straight in front of the semitrailer.

b. Slowly back your truck under the semitrailer gooseneck so that the gooseneck contacts the fifth wheel guide ramps with the semitrailer kingpin centered as closely as possible in the throat of the fifth wheel. Stop, shift to Neutral, and apply Park Brake. Verify correct alinement as shown.

c. Make sure you have contact with the semitrailer and the fifth wheel ramps. If the kingpin comes in too high, it will not engage in the fifth wheel correctly.



TA 236679

d. Connect air hoses then enter cab and push in on the trailer air supply control knob and set the trailer brake hand control. See MAKING SEMITRAILER CONNECTIONS which follows.

e. Release park brake control, shift to Reverse (R) and back up slowly until the fifth wheel locks firmly to the kingpin. Shift range selector to First Gear (1) and pull against the load with the trailer brake hand control set. This will apply pressure against the kingpin and provide a test to insure a secure coupling.

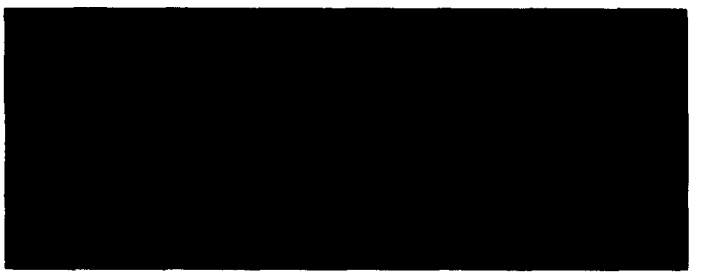
f. Shift range selector to Neutral (N) and apply park brake control. Leave cab and verify that the primary and secondary release controls on the fifth wheel are IN.

g. The kingpin must be in the locks. You should not be able to see daylight between the upper fifth wheel plate of the semitrailer and the fifth wheel.

h. Be sure the kingpin is not hooked over the front of the fifth wheel.

i. Lift and secure the semitrailer landing gear and stow the crank handle in its holder as shown.

MAKING SEMITRAILER CONNECTIONS



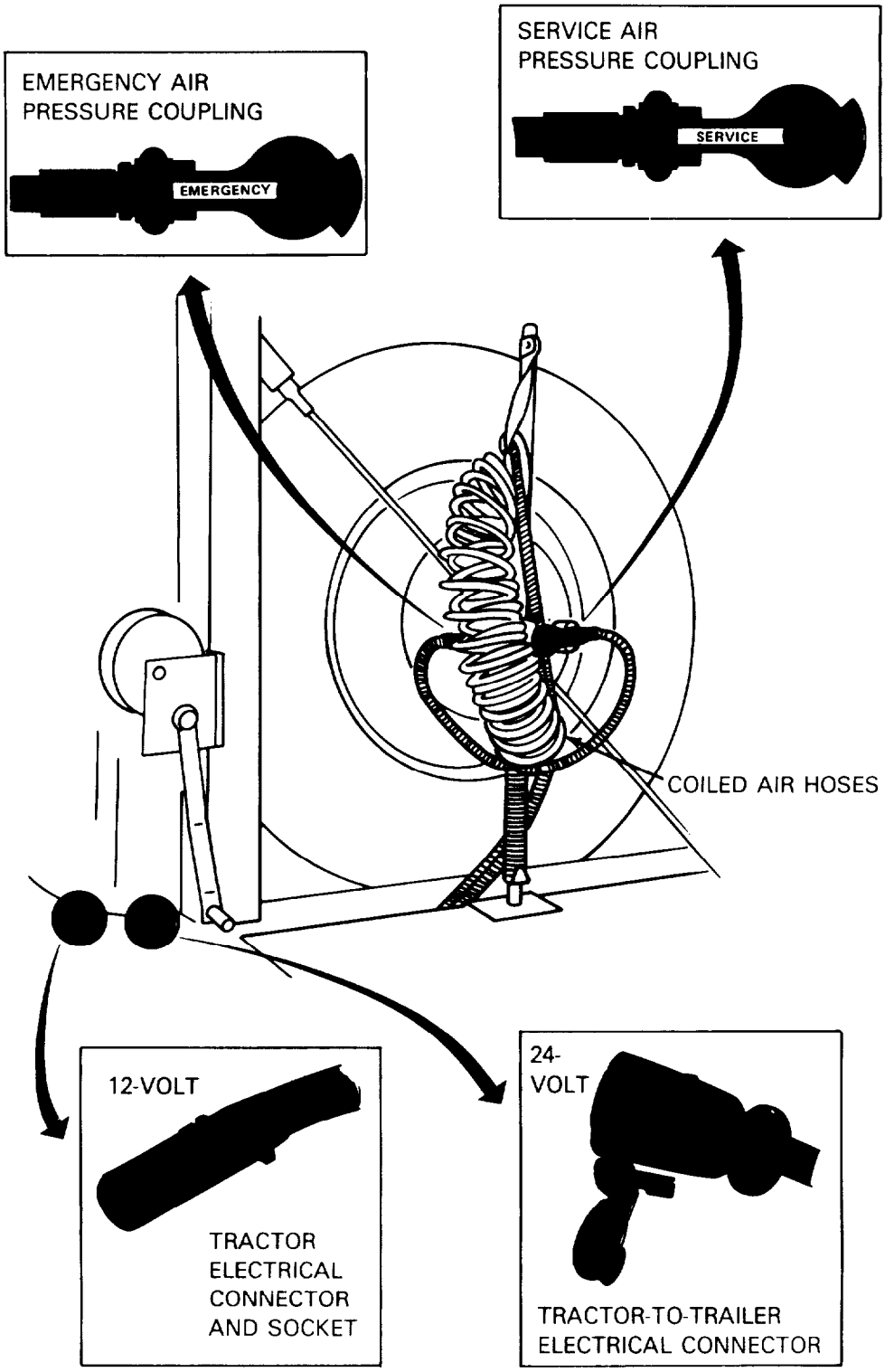
a. Connect the appropriate electrical cable (12v for NORMAL Service Lamps and/or 24v for BLACKOUT Lamp operation).

b. Check operation of semitrailer lights.

c. Check operation of semitrailer brakes using the hand control in the cab.

d. Check all tires.

e. Make sure that the air supply is adequate before you start out.


EMERGENCY AIR
PRESSURE COUPLING
EMERGENCY
SERVICE AIR
PRESSURE COUPLING
SERVICE
COILED AIR HOSES
12-VOLT
TRACTOR
ELECTRICAL
CONNECTOR
AND SOCKET
24-
VOLT
TRACTOR-TO-TRAILER
ELECTRICAL CONNECTOR

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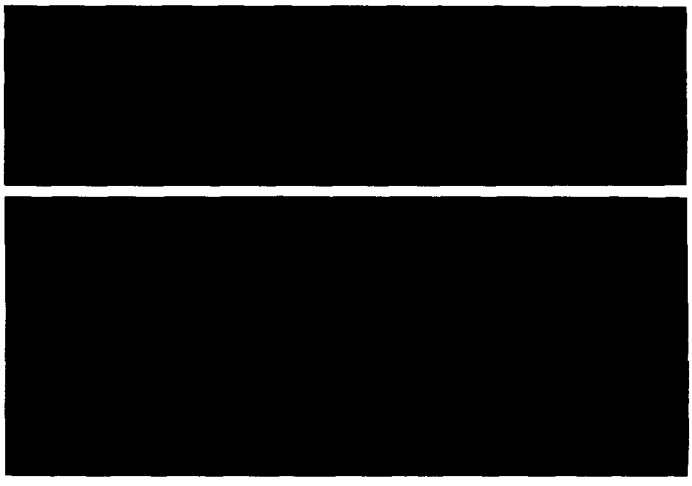
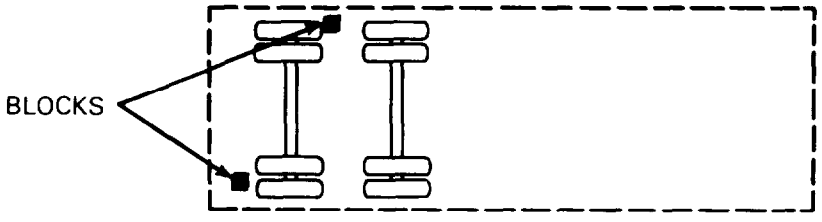
USE OF CHOCK BLOCKS WHEN UNCOUPLING)





UNCOUPLING FROM THE SEMITRAILER

a. Shift range selector to Neutral (N) and apply parking brake. Verify that parking brake indicator lamp comes on. This will keep your tractor from running out from under the semitrailer when you unlock the fifth wheel.

b. Pull out the trailer air supply valve.

c. Leave cab and block trailer wheels with chocks as previously explained.

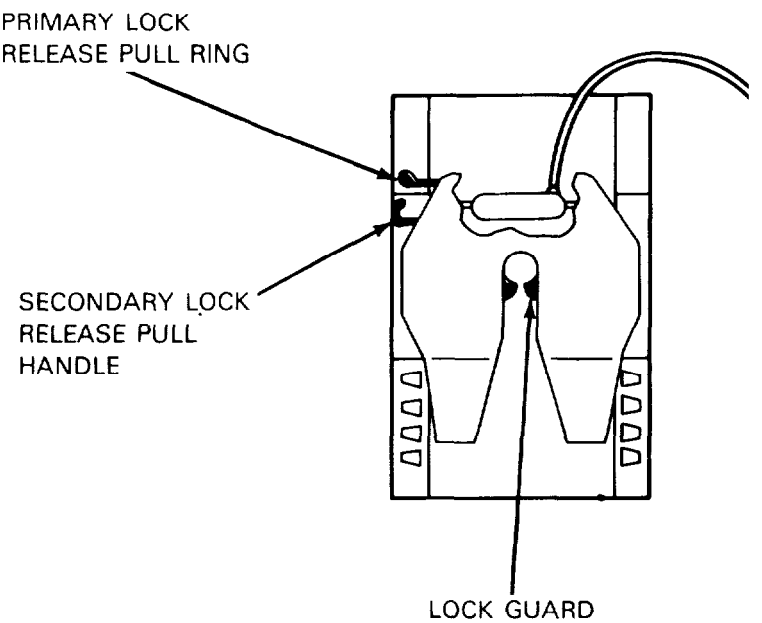
d. Lower the semitrailer landing gear until the bases or wheels touch the ground. Then, turn the crank two more revolutions so that when the trailer is uncoupled, it will not drop down sharply and will be nearly level.

e. Disconnect and secure the trailer air hoses and lamp cable(s).

TA 236681

f. Unlock the fifth wheel by first pulling the primary lock release pull ring. Then, pull the secondary lock release handle out.

g. Enter cab and slowly pull the truck forward until the trailer kingpin is free from the lock guard and the landing gear is supporting the trailer weight. Then,stop and pause for a moment. Do not pull all the way out from under the trailer yet to ensure the landing gear will support the trailer. If it collapses, the rear frame area of your truck will be able to catch the front of the trailer before equipment damage occurs.



h. Have a crew member observe semitrailer kingpin to make sure it clears properly during separation of the vehicles. Make sure the kingpin will clear the rear frame crossmember when you pull the tractor out from under the trailer.

i. Pull slowly forward allowing the semitrailer gooseneck and kingpin to totally clear the rear frame area of your tractor.

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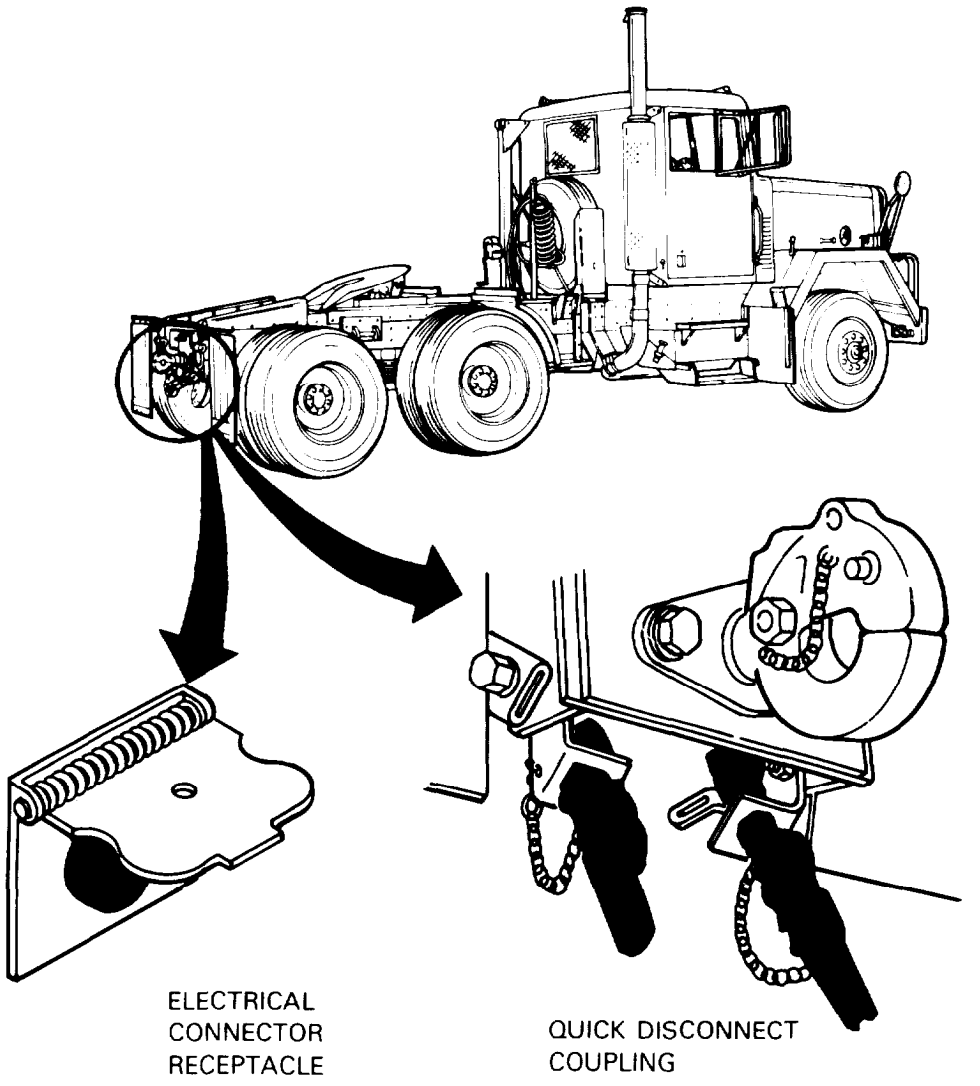
PINTLE TOWING

Trailer Connections

1. Attach trailer or tow bar to the pintle hook.

2. Connect the intervehicular electric cable from receptacle on rear of truck to the trailer.

3. Connect air hoses from quick disconnect couplings (“glad hands”) at rear of truck to trailer or vehicle being towed.



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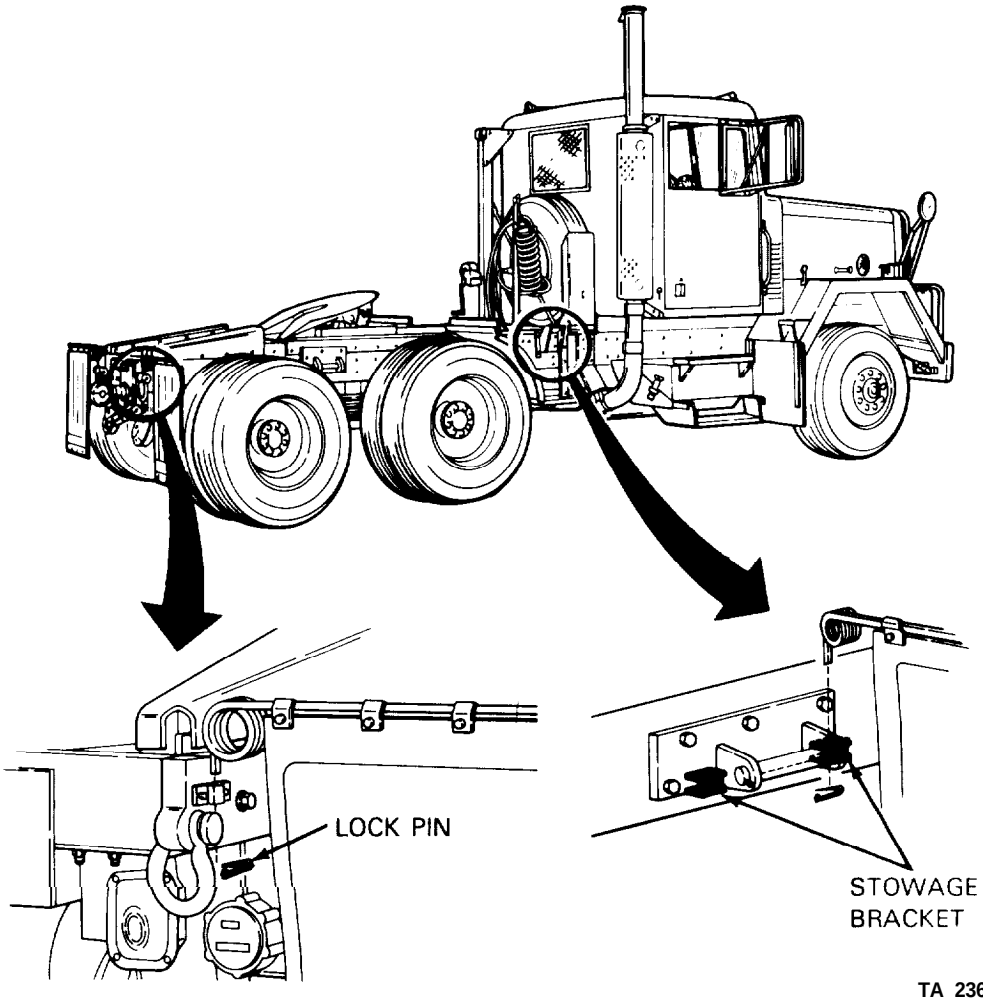
MUD FLAP STOWAGE

If you are using an M915A1 to tow an M127 trailer, you must remove the rear mud flaps from their normal location and stow them in brackets provided.

1. **Remove the lock pin from each mud flap.**
2. **Remove the mud flaps by pulling up. You may have to tap upward on the spring with a hammer or similar tool.**
3. **Insert the mud flaps in the stowage bracket on the right hand frame rail.**
4. **Insert lock pins.**
5. **When towing operations are complete reinstall the mud flaps, with lock pins, in normal position.**



TA 236664

2-17. Operation of Auxiliary Equipment.

TOWING PINTLE

a. To open pintle:

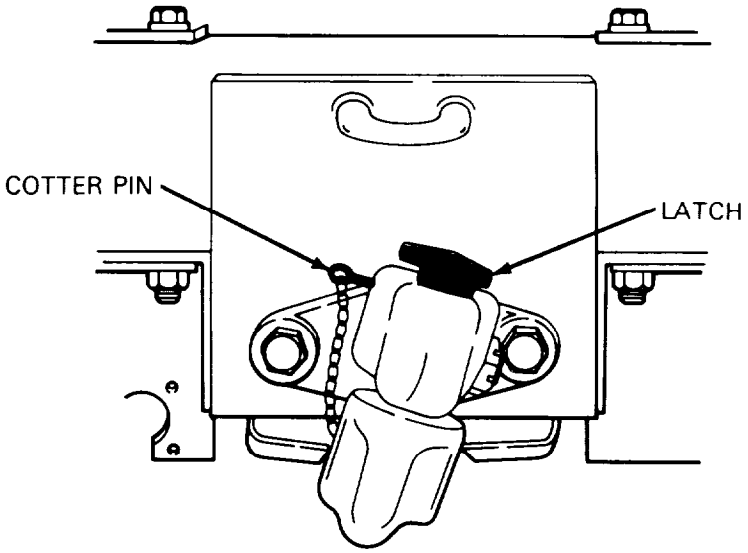
Remove cotter pin.

Engage latch and lock in open position.

b. To close and secure pintle:

Push lock down. Latch will engage in closed position.

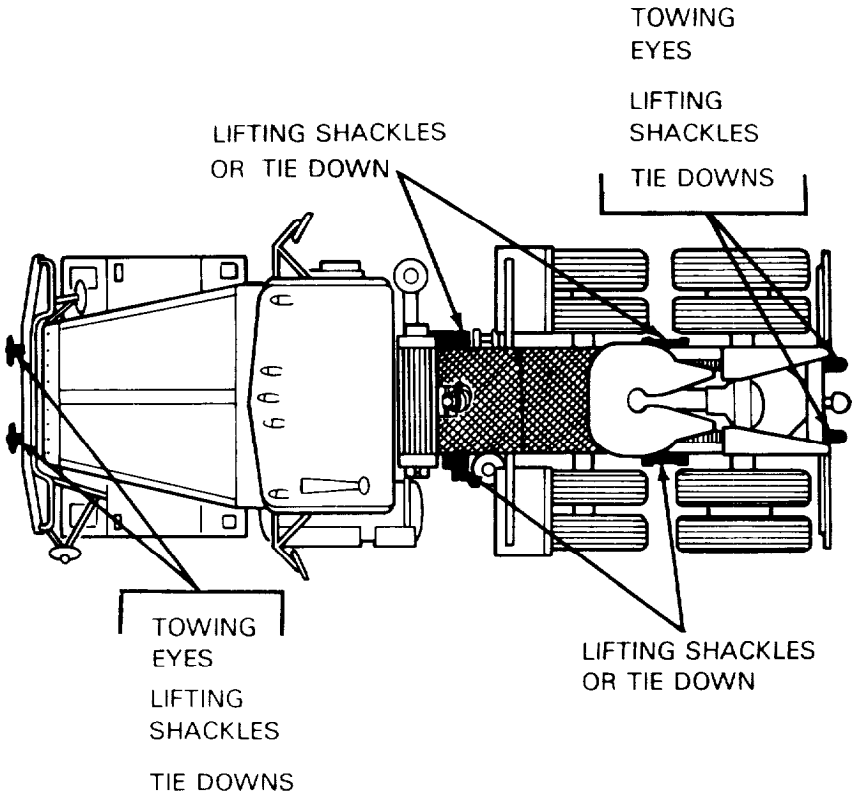
Insert cotter pin to secure lock.



TIE DOWNS AND LIFTING SHACKLES

a. To lift the truck by crane or other means, attach a lifting sling of suitable strength to designated lifting shackles. Lift the truck slowly and have observers watch for any signs of cable failure, unusual load shifts and obstructions.

b. During air or sea transport, secure the truck by attaching cables to the designated tie down points.



PORTABLE FIRE EXTINGUISHERS

To operate:

a. Remove from bracket located at the rear of tool box to the left of the passenger seat.

b. Hold extinguisher upright. Point nozzle toward base of fire and pull safety pin.

c. Press top lever, discharging chemical at base of fire. Use a side-to-side motion.

d. After using fire extinguisher, notify Organizational Maintenance that you need a replacement for the used extinguisher.

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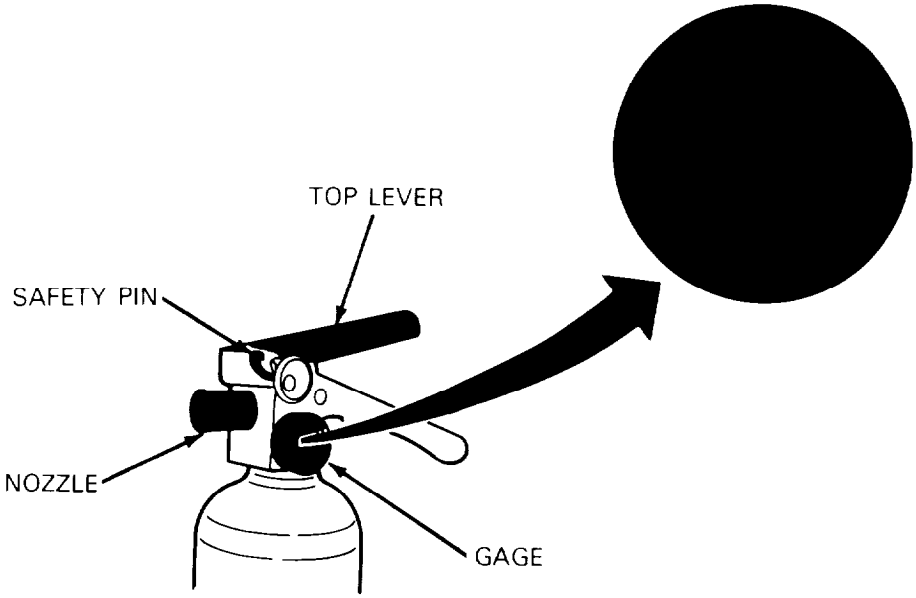
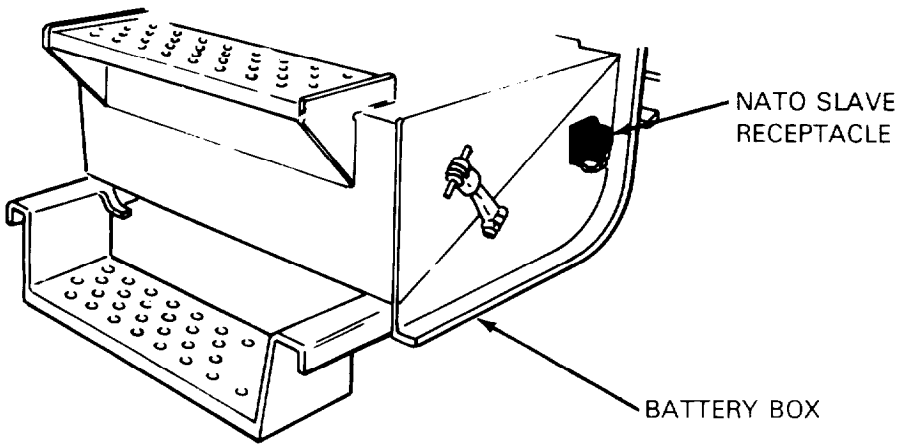


NATO SLAVE RECEPTACLE

The NATO slave receptacle is mounted on the side of the battery box toward the front of the truck. This receptacle is used primarily as a cable connection for jump starting your truck or another truck.



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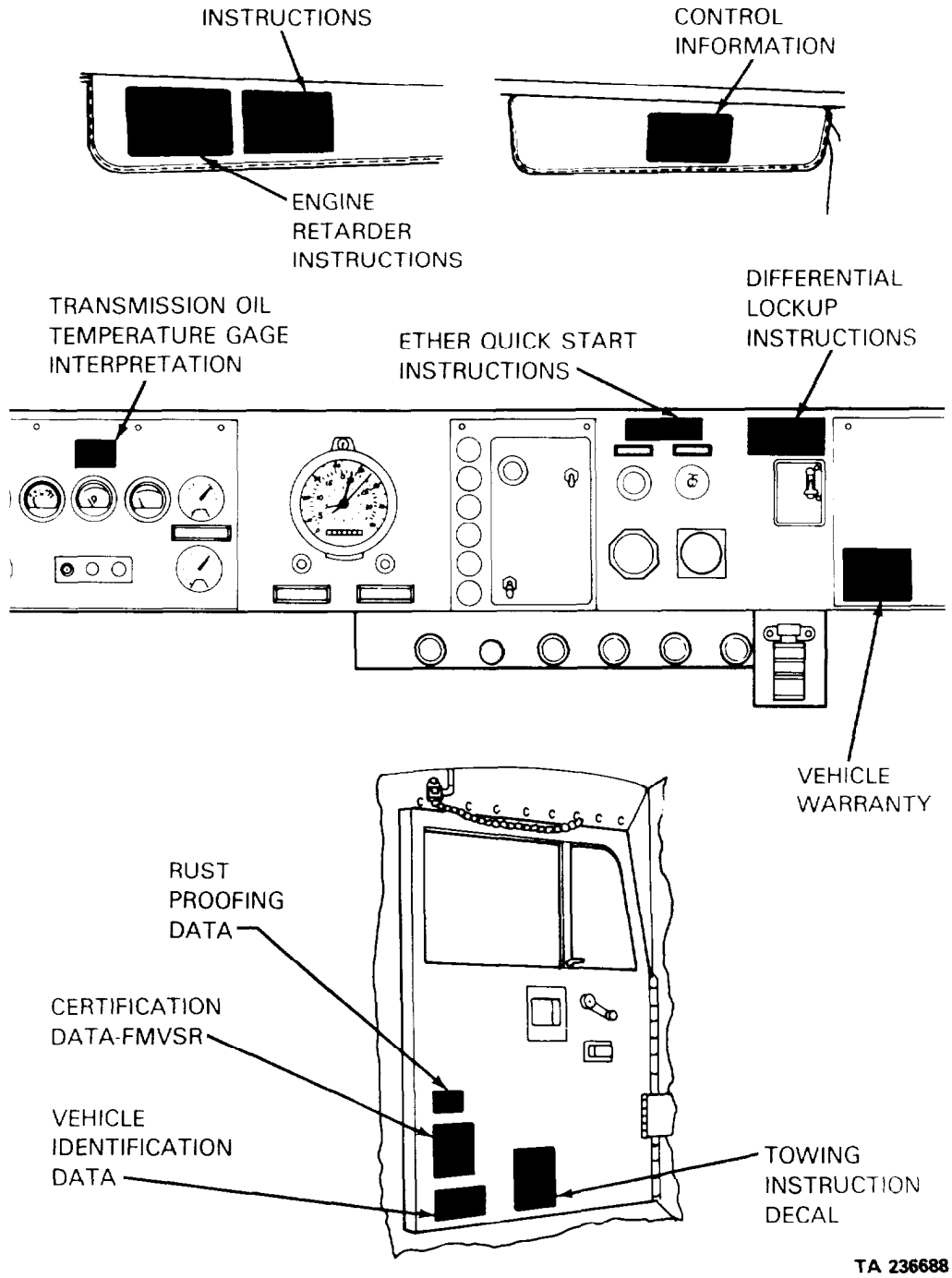
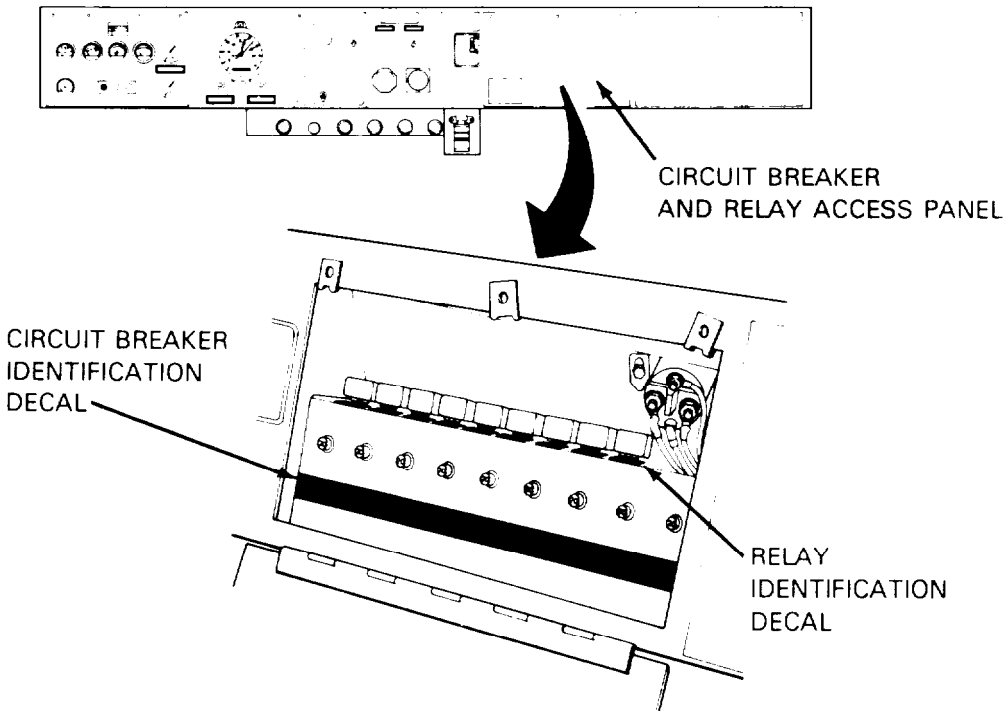
2-18. Decals, Data Plates and Instruction Plates.

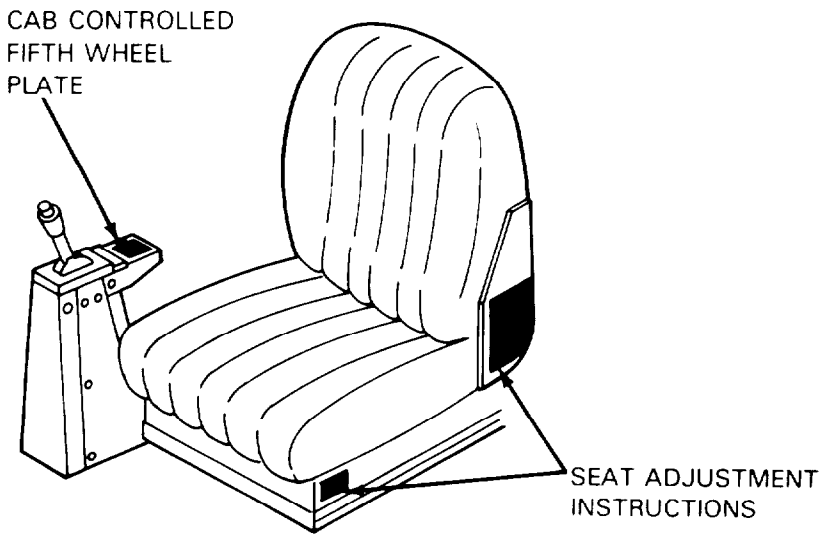
a. Cab Interior.



a. Cab Interior (Continued).



b. Transmission Range Selector and Operator's Seat.



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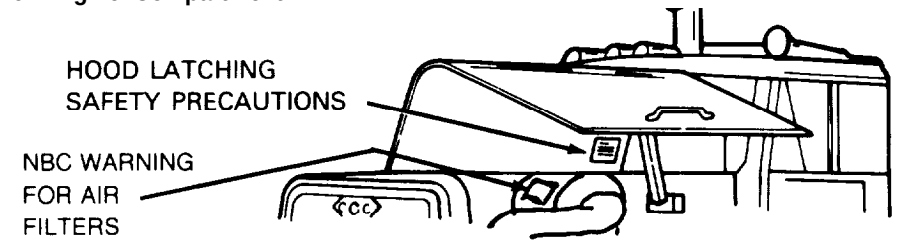
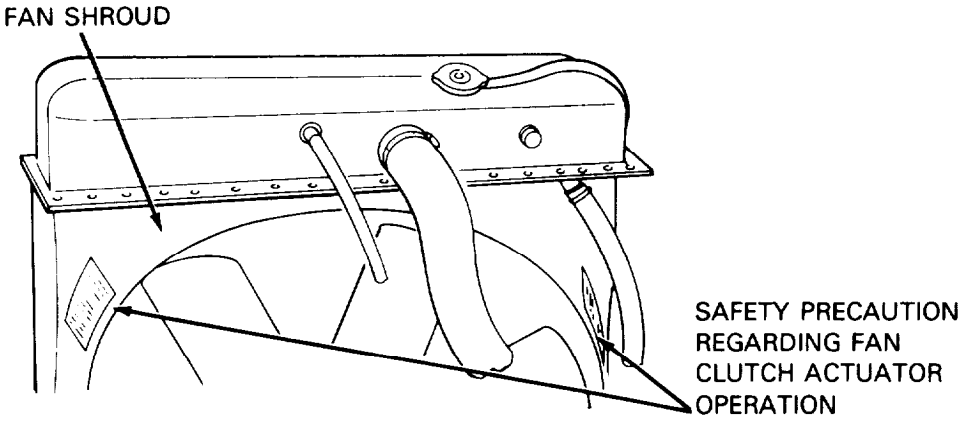
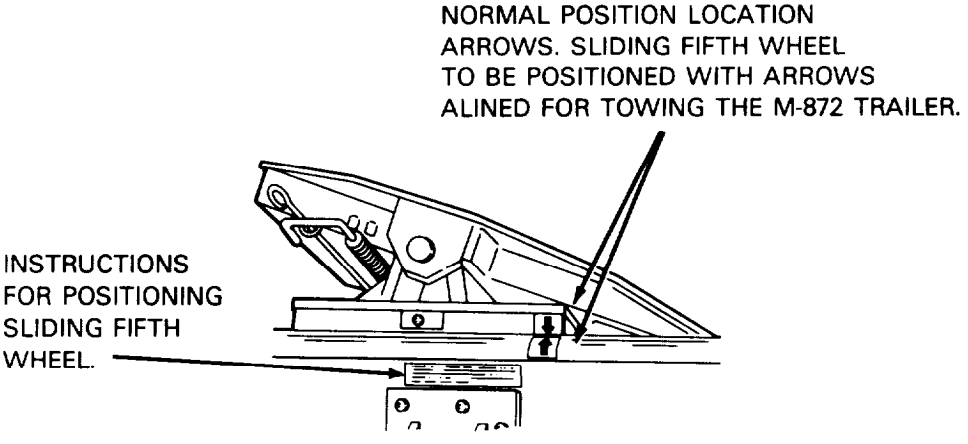
c. Engine Compartment.





d. Fifth Wheel Assembly (both sides).



Section IV. OPERATION UNDER UNUSUAL CONDITIONS

WARNING

This vehicle 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 Command, ATTN: AMSTA-CM-S, Warren, MI 48397-5000.

This section covers many of the unusual conditions you may have to deal with while operating the M915A1 truck tractor. YOU SHOULD BECOME FAMILIAR WITH THIS SECTION AND WITH THE REFERENCED PUBLICATIONS. FM 55-30 CONTAINS IMPORTANT INFORMATION ON DRIVER SELECTION AND TRAINING. FM 21-305 PROVIDES BASIC INSTRUCTION FOR OPERATORS OF WHEELED VEHICLES. You should use the material in these manuals along with the guidelines in this section to help you operate the M915A1 property under unusual conditions.

2-19. Extreme Cold Weather.

The M915A1 truck tractor, like other vehicles, needs special attention and care during periods of extreme cold weather. Remember that in extreme cold:

- Lubricants thicken.
- Batteries may lose power or freeze.
- Electrical insulation can crack causing short circuits.
- Fuel may not combine properly with air to form the necessary mixture for starting the engine.
- Metals and other materials may become hard or brittle.
- The cooling system requires adequate protection from extreme cold.
- Fuels, lubricants, and antifreeze compounds require special storage, handling, and use.

You should READ AND BECOME FAMILIAR WITH THE MATERIAL IN THE FOLLOWING PUBLICATIONS. They cover information you will need to know for operating a vehicle in extreme cold.

- TB 750-651
- FM 9-207
- TM 750-254
- FM 31-70
- FM 31-71

When you operate the M915A1 truck tractor in extreme cold, keep in mind the problems characteristic of operation in cold weather, and make sure your truck is adequately prepared and protected for the existing weather conditions. Follow these guidelines when you operate the M915A1 truck in conditions of extreme cold.

ARCTIC WINTERIZATION KIT

See TB9-2320-283-14 for complete information.

STARTING OUT

- Be careful when you first start your truck. USE YOUR COLD WEATHER STARTING PROCEDURE (paragraph 2-11), AND GIVE THE ENGINE TIME TO REACH AN OPERATING TEMPERATURE RANGE OF AT LEAST 140°F to 160°F.

- Adjust the amount of winter front coverage over the radiator grille to maintain a normal coolant operating range of 180° to 200°F.

- START DRIVING VERY SLOWLY. Be alert for the possibilities that TIRES MAY BE FROZEN TO THE GROUND, frozen in the shape of flat spots, or that one or more BRAKE SHOES MAY BE FROZEN and require preheating (notify Organizational Maintenance, if necessary).

- DRIVE VERY SLOWLY FOR ABOUT 100 YARDS, being careful not to let the engine stall. By starting out slowly and carefully you will be able to detect any initial problems caused by the cold weather, and your truck's fluids and components will have a little extra warmup time.

PARKING

- If you shut down your truck for a short period, PARK IN A SHELTERED AREA OUT OF THE WIND. If there is no shelter available, park so that truck does not face into the wind. Install the winter front.

- IF YOU PARK YOUR TRUCK FOR A LONG SHUTDOWN PERIOD, TRY TO PARK ON HIGH GROUND, AND USE PLANKS OR BRUSH TO MAKE A RAISED AND RELATIVELY DRY SURFACE FOR THE TRUCK'S TIRES IN CASE WEATHER CONDITIONS WORSEN. KEEP THE TIRES OUT OF SNOW, WATER, ICE, AND MUD, IF POSSIBLE.

- CLEAN YOUR TRUCK OF SNOW, ICE, AND MUD as soon as possible after shutdown.

- IF YOUR TRUCK WILL BE PARKED FOR A LONG PERIOD OF TIME during cold weather, have Organizational Maintenance personnel REMOVE BATTERIES AND STORE THEM IN A WARM PLACE. Fill fuel tank to guard against condensation. Drain any accumulated water from air reservoirs and fuel filter. Install the winter front.

MAKE SURE TIRES ARE PROPERLY INFLATED.

Have Organizational Maintenance personnel CHECK AND SERVICE THE COOLING SYSTEM to make sure your truck is adequately protected against extreme cold. Make sure that transmission is in neutral and that the truck's tires are blocked before you leave the area.

POWER STEERING

The power steering system incorporates a cooler designed to reduce power steering fluid temperatures during normal or unusually warm conditions. In extremely cold weather, the cooler becomes restrictive and must be by-passed to prevent over pressure and possible rupture of the cooler. NOTIFY ORGANIZATIONAL MAINENANCE TO PERFORM THIS MAINTENANCE WHEN 0°F TEMPERATURE OR BELOW IS EXPECTED.

2-20. Extreme Hot Weather.

During very hot weather you must watch for and guard against your truck overheating. You may have to alter your driving procedures, remembering that the following types of operation can cause the truck to overheat:

- Continuous high speeds.
- Long, hard pulls.
- Continuous use of low gear ranges on steep grades or in soft terrain.

WHEN YOU OPERATE THE TRUCK IN EXTREME HOT WEATHER

- Check water and transmission temperature gages and STOP YOUR TRUCK IF YOU NOTE ANY UNUSUALLY HIGH TEMPERATURE READING. Let the truck cool down.
- CHECK THE COOLING SYSTEM, AIR CLEANER, ENGINE OIL LEVEL, AND RADIATOR FINS FREQUENTLY. PERFORM NECESSARY SERVICES AND NOTIFY ORGANIZATIONAL MAINTENANCE OF ANY UNUSUAL GAGE READINGS OR OTHER PROBLEMS.
- SHORTEN DIFFERENTIAL OIL CHANGE INTERVAL, REFER TO LO 9-2320-283-12.

PROTECTING YOUR TRUCK WHEN You PARK IT

- PARK YOUR TRUCK UNDER COVER, IF POSSIBLE. This will help protect it against the effects of sun, sand, and dust, IF NO SHELTER IS AVAILABLE, COVER TRUCK WITH TARPAULINS. If you don't have enough tarps to cover the entire truck, ARRANGE TARPS AROUND ENGINE COMPARTMENT AND OVER RADIATOR to keep out sand and dust. COVER WINDOW GLASS to protect against sandblasting.

- CHECK TIRES and make sure all tires are inflated to proper pressures,

- CHECK FREQUENTLY FOR RUST AND FUNGUS GROWTH, both of which are common problems in hot, humid weather. CLEAN AND LUBRICATE YOUR TRUCK to help prevent deterioration.

2-21. Unusual Terrain.

BECOME FAMILIAR WITH THE PROCEDURES IN FM 21-305 for driving on unusual terrain. The M915A1 is not designed or intended for off-road use. If, however, you should find the adverse conditions described in this paragraph unavoidable, the recommended procedures given should be applied.

- In areas WHERE THE GROUND SURFACE PROVIDES POOR TRACTION, MOVE THE DIFFERENTIAL LOCK/UNLOCK LEVER TO THE LOCK POSITION (See instructions in paragraph 2-12).

- When you engage the locking system, driving axles receive equal torque.

- Use the differential lock/unlock control as needed for better traction. Disengage differential lockup when conditions are back to normal. For instructions on operating the inter-axle differential lockup system refer to paragraph 2-12.

WOODS AND ROCKY TERRAIN

- MAKE SURE YOUR TRUCK CAN CLEAR ANY GROUND OBSTRUCTIONS LIKE STUMPS OR ROCKS BEFORE YOU DRIVE OVER THEM. Such objects can damage components underneath the truck. Try to avoid hanging limbs which might cause damage.

- If you must drive over very rocky terrain, BE SURE YOU HAVE A SPARE WHEEL AND TIRE, since there will be a greater chance of tire punctures.

MUD OR OTHER SOFT SURFACES

- Before you enter mud or other soft surfaces, check the conditions, and SELECT THE TRANSMISSION GEAR RANGE THAT YOU JUDGE APPROPRIATE TO GET YOUR TRUCK THROUGH the area. Enter the soft area at a medium speed for the gear range you have selected.

- MAINTAIN A STEADY PRESSURE ON ACCELERATOR PEDAL to keep your truck rolling until you reach solid ground again. Do not accelerate to the point of spinning the wheels.

- IF YOUR TRUCK GETS STUCK, TRY TO PULL OUT SLOWLY IN A LOW GEAR RANGE. YOU MAY HAVE TO PLACE BOARDS, BRUSH OR SIMILAR MATERIAL UNDER TIRES TO PROVIDE TRACTION.

SAND

If you operate the M915A1 in sand:

- MAINTAIN STEADY, EVEN MOVEMENT WITH THE TRANSMISSION IN LOWER GEAR RANGES. Try to keep your truck rolling without straining the engine and power train.

- If you get stuck, ADJUST TIRE PRESSURE to gain additional traction. Reduce pressure in the front tires to 50 psi and reduce pressure in the rear tires to 45 psi. After you have the truck out, inflate all tires to normal pressure.

- IF THE TRUCK BOGS DOWN even though you have reduced tire pressure, PLACE BOARDS, BRUSH, CANVAS, OR SIMILAR MATERIALS UNDER AND IN FRONT OF TIRES AFTER SHOVELING A CLEAR PATH AHEAD OF EACH TIRE. This should provide better traction.

- IF THESE EFFORTS FAIL and it becomes evident that you cannot free the truck under its own power, HAVE ANOTHER VEHICLE TOW YOUR TRUCK OUT. WHENEVER YOU OPERATE THE M915A1 IN SANDY OR DUSTY AREAS, YOU SHOULD:

  1. MAKE SURE EACH TIRE HAS A VALVE CAP.

  2. CHECK ENGINE AND TRANSMISSION TEMPERATURE AND ENGINE OIL PRESSURE GAGES FREQUENTLY.

  3. IF YOUR TRUCK OVERHEATS, STOP AND FIND OUT WHY. Service or notify Organizational Maintenance, if necessary.

  4. Make sure engine oil level tuba and transmission fluid level/filler tube are cleared before you remove the dipsticks to check fluids. CLEAN ACCUMULATIONS OF SAND AND DIRT FROM AROUND ANY FLUID FILLER LOCATIONS BEFORE YOU CHECK OR ADD FLUIDS.

  5. CLEAN SPOUTS OF FUEL CONTAINERS AND AREAS AROUND FILLER CAP ON FUEL TANK BEFORE YOU ADD FUEL. UNDER EXTREME SANDY OR DUSTY CONDITIONS, FILTER FUEL WHEN YOU FILL TANK.

  6. WHEN YOU PARK THE TRUCK OVERNIGHT OR FOR ANY EXTENDED PERIOD in cold temperature, PARK SO THAT REAR OF TRUCK FACES TOWARD THE WIND, IF POSSIBLE, OR COVER THE RADIATOR AND ALL WINDOW GLASS WITH CANVAS.

SNOW AND ICE

If you have to operate the M915A1 truck in snow or on icy surfaces, follow the guidelines below:

DRIVING

- ACCELERATE SLOWLY to avoid spinning the tires.
- DRIVE AT SLOWER SPEEDS.
- GIVE SIGNALS SOONER.
- LIGHTLY APPLY BRAKES ONCE OR TWICE TO GIVE EARLY WARNING OF INTENTION TO STOP. This will also help to avoid skidding.
- MAINTAIN AT LEAST DOUBLE THE NORMAL DISTANCE FROM THE VEHICLE AHEAD.
- KEEP WINDSHIELDS, WINDOWS, MIRRORS, HEADLAMPS, STOPLAMPS, AND BODY LAMPS CLEAN AND FREE OF SNOW AND ICE. Use defrosters and fans to help keep glass free of snow and ice.
- DESCEND MODERATE GRADES IN THE GEAR RANGE YOU WOULD NORMALLY USE TO ASCEND THE SAME GRADE. ON STEEP OR VERY SLIPPERY GRADES, LOCK DIFFERENTIAL, USE AT LEAST ONE GEAR RANGE LOWER AND ACTIVATE ENGINE RETARDING SYSTEM.
- After driving through slush or water, drive slowly and test the brakes. Keep driving slowly, maintaining moderate pressure on the service brake pedal to create a slight drag. When you are sure that your brakes are dried out and operating properly, resume normal speed.
- If you come to a difficult stretch of road, stop and inspect it carefully before driving on it. SELECT THE TRANSMISSION GEAR RANGE THAT YOU FEEL IS MOST LIKELY TO GET YOU OVER THAT STRETCH OF ROAD AND LOCK DIFFERENTIAL.
- If tires start spinning, stop, back up, and try again. If necessary, try rocking out by locking the differential, shifting to gear range 1-5 and accelerating lightly. Shift into reverse when your truck's forward motion stops. Repeat this alternate shifting and acceleration until your truck can use the momentum created by the rocking motion to rock out of the slippery area. Make every effort not to spin tires and do not exceed 800-900 engine rpm.

STOPPING

- EASE UP ON ACCELERATOR, leaving truck in gear range already selected.
- LIGHTLY APPLY BRAKES ONCE OR TWICE, using engine brake to full advantage for braking effect. If towing a trailer, lightly apply trailer brake hand control first before applying service brakes. This will help slow your vehicle and prevent trailer jackknifing.
- Always AVOID SUDDEN BRAKING on slick,roads; this can cause your truck to skid and trailer to jackknife.

PARKING

IF YOU HAVE TO PARK THE TRUCK ON AN ICY, SLUSHY, WET OR MUDDY SURFACE, PLACE BOARDS, BRUSH OR OTHER MATERIAL THAT WILL PROVIDE TRACTION UNDERNEATH TIRES. This will guard against tires freezing to the ground or becoming pocketed in ice, and will provide some traction when your truck is started and moving again.

Instead of setting parking brake, BLOCK TIRES AND LEAVE TRANSMISSION IN NEUTRAL.

2-22. Fording.

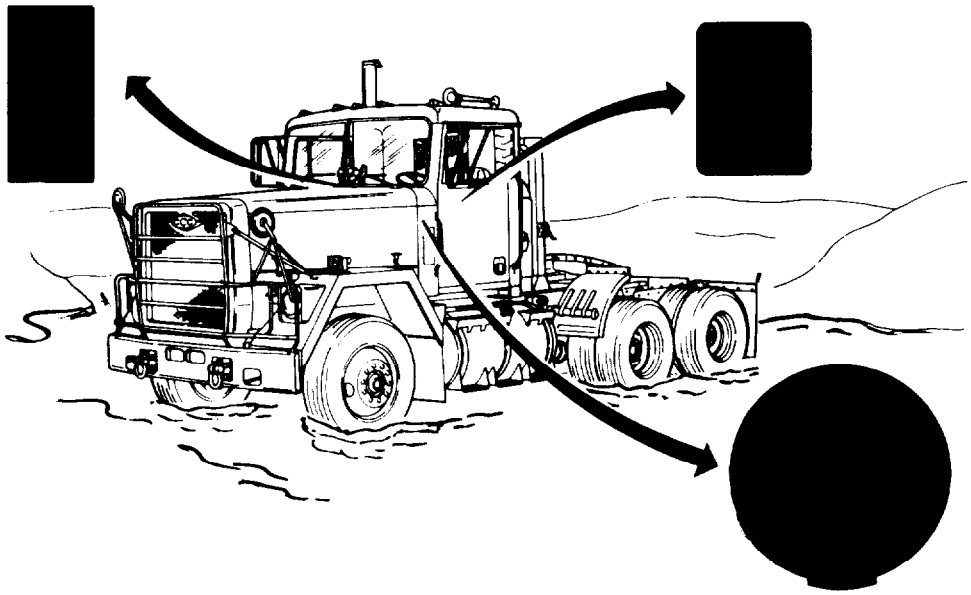
BEFORE FORDING

Before you attempt fording with the M915A1 truck tractor, check the bottom surface condition of the water body. Make sure the bottom surface is hard enough that you can ford without exceeding the maximum fording depth of 20 inches. If the bottom surface is too soft, do not attempt fording. Ford to the maximum depth for short periods or short distances only.

- MAKE SURE ENGINE IS OPERATING PROPERLY before entering water.
- LUBRICATE UNPAINTED SURFACES to guard against rust and deterioration.
- ENGAGE DRIVELINE LOCKING SYSTEM. Move differential lock/unlock control to the LOCK position.

DURING FORDING

- PUT TRANSMISSION IN A LOW GEAR RANGE. ENTER WATER SLOWLY.
- FORD AT SPEEDS OF NO MORE THAN 3-4 MPH.
- WHEN YOUR TRUCK EMERGES FROM WATER, APPLY BRAKES A FEW TIMES TO HELP DRY OUT BRAKE LININGS. Make sure brakes are working properly before driving truck at normal speeds.



AFTER FORDING

During fording, water may enter your truck or its components. This water may have contaminated the fluid systems. You must make sure that any accumulated water is removed from your truck before it has a chance to cause damage to any systems, surfaces or equipment of the truck. As soon as possible after fording, CHECK YOUR TRUCK USING THE FOLLOWING GUIDELINES:

- LET THE ENGINE RUN FOR AWHILE to drive out any accumulated water.
- DRAIN OR DRY ANY AREAS ON YOUR TRUCK WHERE WATER HAS ACCUMULATED.
- CHECK EACH FLUID SYSTEM IN YOUR TRUCK for evidence of water contamination. If you find water in one or more fluid systems, notify Organizational Maintenance to drain, flush, and refill the contaminated system.
- REFER TO LO 9-2320-283-12. Notify Organizational Maintenance that an after-fording lubrication is needed.
- If necessary, NOTIFY ORGANIZATIONAL MAINTENANCE OF ANY SERVICE OR REPAIRS YOUR TRUCK NEEDS before you return it to normal use. (Refer to after-fording maintenance procedures in chapter 3).

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2-23. Manually Compressing the Spring Brake Power Springs.

[redacted]

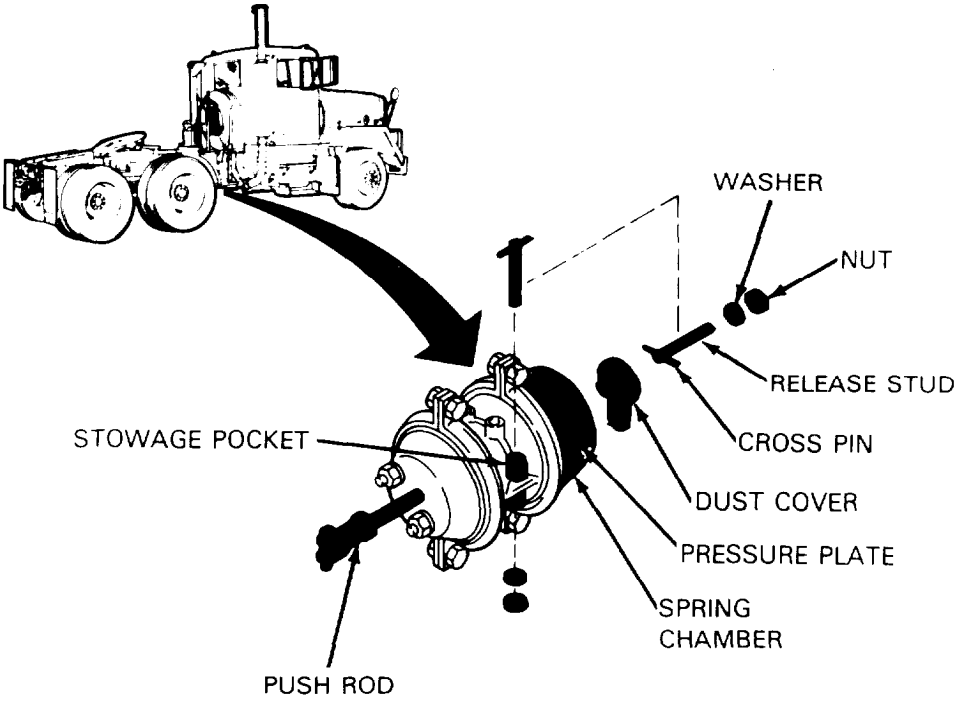
In the event of an air system pressure loss, spring brake units on the forward-rear axle will apply the forward-rear axle brakes. If the truck must be moved and there is not enough air system pressure to compress the power spring in the spring brake chambers and release the brakes, you will have to do this manually. The truck has two spring brakes.

To compress the power spring in each unit:

1. Using the adjustable wrench (See appendix B), remove the nut, washer and release stud from the stowage pocket of the failed chamber.

2. Remove cap (dust-cover) from spring chamber.

3. Insert the cross-pin end of the release stud into the opening (under the cap) in the spring chamber.



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4. After the release stud has been inserted far enough to engage the pressure plate, turn the release stud ¼ turn to lock the cross-pin into the pressure plate.

5. Install the washer and nut (used in stowage) on the release stud.

6. Tighten nut until 2½ to 2¾ inches of the release stud remains above the nut. Spring brake is then fully caged.

2-24. Manually Releasing (Resetting) the Spring Brake Power Springs.

If the power springs in the spring brake chambers have been compressed, they should be reset before the truck is returned to service.

To reset the spring brakes:

1. Remove the nut and washer from the release stud.

2. Disengage the cross-pin from the pressure plate and remove the release stud from the spring chamber.

3. Replace cap over the hole in the spring chamber.

4. Insert release stud in the stowage pocket and install the washer and nut.

2-25. Towing the M915A1 Truck Tractor.

If the truck must be towed with the rear wheels on the ground, notify Organizational Maintenance to send a wrecker or tow vehicle and a TM 9-2320-283-20 maintenance manual and tools needed to disconnect the transmission-to-forward rear axle prop shaft or to pull the rear axle shafts. Refer to FM 21-305 for general guidelines on vehicle recovery and use of warning kits and signals. FM 21-305, FM 20-22 and the following procedures provide instructions for towing.

[redacted]

Preparation for towing:

1. If possible, tow with the rear wheels suspended. This will eliminate the need for removal of prop shaft or axle shafts.

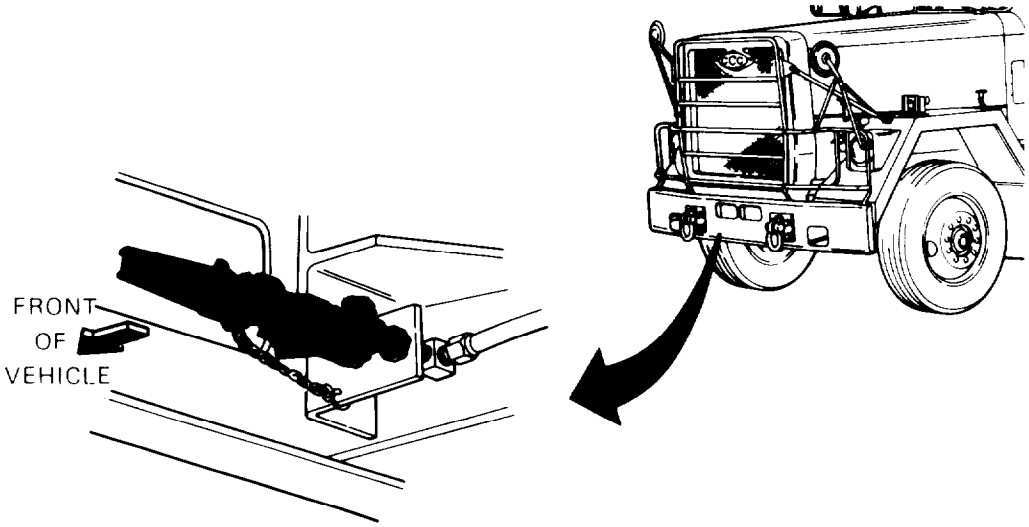
2. If the vehicle must be towed with the rear wheels on the ground, set the inter-axle differential control to the UNLOCK position (see paragraph 2-12) and remove the transmission-t&forward rear axle prop shaft at the universal joints. After removal of the prop shaft, secure the prop shaft to the truck undercarriage.

3. If for some reason the prop shaft cannot be removed as described in step 2, remove all four axle shafts from the two rear axle assemblies. Secure the axle shafts to the vehicle so as to prevent damage.

Use of tow bar:

[redacted]

1. INSTALL MEDIUM DUTY TOWBAR (NSN 2540-00-378-2012) at pintle of towing vehicle and at towing eyes of truck tractor. MAKE SURE TOWING DEVICE IS LONG ENOUGH TO allow for complete turning radius.



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2. To maintain a supply of air for brake operation, connect air pressure hoses between the truck and the towing vehicle. Quick disconnect couplings are provided in the bumper for this purpose.

3. PLACE TRANSMISSION IN NEUTRAL, RELEASE PARKING BRAKES, and turn on appropriate lights.

4. TOWING VEHICLE SPEED WITH PROP OR AXLE SHAFTS REMOVED (DISTANCES BEYOND ½ MILE) SHOULD BE RESTRICTED TO A MAXIMUM OF 15 MPH ON PRIMARY ROADS AND 8 MPH ON SECONDARY ROADS.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

INDEX

Section I. LUBRICATION INSTRUCTIONS

For complete information on your responsibilities in lubricating the M915A1 truck tractor, REFER TO THE LUBRICATION INSTRUCTIONS IN LO 9-2320-283-12. The lube order will show you the lubrication points, explain what lubrication to use, and tell you the proper interval for lubricating each point.

Section II. TROUBLESHOOTING PROCEDURES

SYMPTOM INDEX

SYMPTOM INDEX (Continued)

The table lists the common malfunctions which you may find during the operation or maintenance of the M915A1 truck tractor or its components. You should perform the tests/inspections, and corrective actions, in the order listed.

The manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. IF A MALFUNCTION IS NOT LISTED OR IS NOT CORRECTED BY LISTED CORRECTIVE ACTIONS, NOTIFY YOUR SUPERVISOR.

Table 3-1. Troubleshooting

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
AIR SYSTEM AND BRAKES
1. AIR RESERVOIR PRESSURE LOW (WARNING LAMP AND BUZZER ARE ON).
Step 1. Check that all reservoir draincocks are closed. Close all draincocks.
Step 2. If tractor is not coupled to a trailer, check that trailer air supply control is pulled out (OFF). Pull trailer air supply control out.
Step 3. Check for possible air leaks at air reservoirs, hoses, fittings, and at intervehicular air hose connections. Notify Organizational Maintenance of any leaks.
Step 4. If tractor is coupled to semitrailer, and your tests and inspections of truck do not reveal any trouble with truck air system, troubleshoot semitrailer. If your tests, inspections, and corrective actions for both tractor and semitrailer do not solve the low air pressure problem, notify Organizational Maintenance.
2. AIR SYSTEM LOSES PRESSURE DURING TRUCK OPERATION OR LOW AIR PRESSURE WARNING LAMP AND BUZZER COME ON DURING TRUCK OPERATION.
Step 1. Make sure that trailer air supply control is pulled out, operate engine until warning lamp and buzzer go off, and release parking brake. Stop engine and note reservoir pressure. Fully depress and hold service brake pedal for 2 minutes. Have crew member check for leaks. Reservoir pressure loss during 2-minute period should not exceed 5 psi. Close any open reservoir drains; make sure that trailer air supply control is pulled out. If you find any other leaks, notify Organizational Maintenance.
Step 2. If pressure loss in test above does not exceed 5 psi in 2 minutes, push in trailer air supply control to charge semitrailer air reservoirs and repeat the test procedure. Have crew member check semitrailer for leaks. Pressure loss should not exceed 5 psi in 2 minutes. Note any semitrailer air leaks. If reservoir pressure loss exceeds 5 psi in 2 minutes, troubleshoot the semitrailer.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
3. TRAILER BRAKES WILL NOT APPLY WHEN BRAKE PEDAL IS USED OR HAND CONTROL ON STEERING COLUMN IS USED. Check to make sure that both intervehicular air hoses are connected securely to semitrailer connections (refer to paragraph 2-16). Connect air hoses securely to semitrailer. Charge trailer air system by pushing in trailer air supply control. If trouble continues, notify Organizational Maintenance.
4. **TRAILER BRAKES WILL NOT RELEASE.** Step 1. Check to make sure that trailer brake hand control is in OFF position. Move control to OFF position (refer to paragraph 2-3). Step 2. Check to make sure that trailer air supply control is pushed in (charging position). If necessary, push in trailer air supply control. Step 3. Check to make sure that both intervehicular air hoses (service to service and emergency to emergency) are securely connected between tractor and semitrailer. If necessary, connect hoses securely (refer to paragraph 2-16). Step 4. Check for obvious leaks in tractor air system (reservoirs, lines, intervehicular hoses). If you find any leaks in tractor air system, notify Organizational Maintenance. If you find no evidence of leaks or damage in truck components, troubleshoot semitrailer.
DRIVELINE AIR CONTROL SYSTEM
5. **DRIVELINE WILL NOT DISENGAGE (INDICATOR LAMP STAYS ON) WHEN DIFFERENTIAL LOCK/UNLOCK IS MOVED TO THE UNLOCK POSITION.** Step 1. Make sure you have given system time to disengage. Leave LOCK/UNLOCK control in UNLOCK position and wait for lamp to go off (refer to paragraph 2-1). Step 2. If LOCK indicator lamp stays on after you have given system time to disengage, excessive driveline windup may have occurred. Back up slowly, and check to see whether LOCK indicator lamp goes off. If indicator lamp remains on, notify Organizational Maintenance.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
SLIDING FIFTH WHEEL AIR CONTROL SYSTEM
6. FIFTH WHEEL CANNOT BE LOCKED IN DESIRED POSITION WHEN LOCK/ UNLOCK CONTROL IS MOVED TO THE LOCK POSITION. (TRACTOR COUPLED TO TRAILER). Step 1. Check for obstructions (dirt/grease buildup or debris) between fifth wheel plate and slide track rack. Clean or remove objects from area as necessary and again check, Step 2. Make sure you have given air cylinder time to react. Leave LOCK/UNLOCK control in LOCK position, wait for 10 seconds, and again check (refer to paragraph 2-2). Step 3. If fifth wheel still will not lock after you have given air cylinder time to react/lock, fifth wheel may be hung-up between segments of slide track rack. Move LOCK/UNLOCK control to UNLOCK position, apply trailer brake hand control and place gear range selector in (1) or (R). Move tractor slowly forward or backward, an inch or two, stop and shift range selector to NEUTRAL (N). Move fifth wheel control to the LOCK position and check to see if fifth wheel is now locked. Release trailer brake hand control. Step 4. If fifth wheel still will not lock in position after Test Steps 1., 2., and 3.. check air line connections at cab mounted control and at air cylinder under fifth wheel plate. Check for sound of escaping air and loose fitting connections. If you find any leaks in air system connections at control or air cylinder, notify Organizational Maintenance.
7. FIFTH WHEEL CANNOT BE UNLOCKED FROM PREVIOUS POSITION WHEN CONTROL IS MOVED TO THE UNLOCK POSITION. (TRACTOR COUPLED TO TRAILER). Step 1. Check for obstructions (dirt/grease buildup or debris) between fifth wheel plate and slide track rack. Clean or remove objects from area as necessary and again check to see if fifth wheel position can be adjusted.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
Step 2. Make sure you have given air cylinder time to react. Leave LOCK/UNLOCK control in UNLOCK position and wait for cylinder to unlock (refer to paragraph 2-2). Step 3. If fifth wheel position still cannot be adjusted after you have completed Steps 1. and 2.. fifth wheel may be hung-up between segments of slide track rack. Move LOCK/UNLOCK control to UNLOCK position, apply trailer brake hand control, and shift range selector to (1) or (R). Tap accelerator pedal to jog fifth wheel-to-slide track rack connection. Shift to NEUTRAL (N) and check to see if fifth wheel is now unlocked. Release trailer brake hand control. Step 4. If fifth wheel position still cannot be adjusted after you have completed previous steps, check air line connections at cab mounted control and at air cylinder under fifth wheel plate. Check for sound of escaping air and loose fittings. If you find any leaks in air system connection fittings at control or air cylinder, notify Organizational Maintenance.
ELECTRICAL SYSTEM
8. ONE OR MORE OF THE ELECTRICAL SYSTEMS NOT WORKING. Step 1. Check to make sure appropriate switch(es) are in the ON position and if a lamp system that the blackout switch is in NORMAL position. If tractor is coupled to semitrailer and problem is with semitrailer lamp system, check to make sure that intervehicular cable is connected securely between tractor and semitrailer. Put appropriate switch(es) in the ON position. If necessary, securely connect intervehicular cable. Step 2. Check to make sure that none of the resettable circuit breakers have popped out indicating a momentary overload or short circuit. Open access panel and reset any circuit breakers which have popped out, by pushing in. Then recheck electrical system which was not operating. If resetting fails to correct the problem or the breaker button again pops out, notify Organizational Maintenance. Step 3. Troubleshoot semitrailer. If your tests, inspections, and corrective actions fail to solve problem, notify Organizational Maintenance.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
ENGINE
9. ENGINE FAILS TO CRANK WHEN STARTER BUTTON IS DEPRESSED.
Step 1. Check to make sure the engine run key switch is in the ON (right) position. Move switch to ON position.
Step 2. Check to make sure transmission range selector lever is in NEUTRAL (N) position. Move selector lever to N.
Step 3. Inspect for dirty, loose or broken battery cables. Clean dirty cables, Tighten loose connections at batteries, ground, and starter. If cables are broken, notify Organizational Maintenance for replacement.
Step 4. Engine still fails to crank. Notify Organizational Maintenance.
Step 5. Check battery indicators, they should be green. If they are dark or yellow, notify Organizational Maintenance.
10. ENGINE CRANKS BUT FAILS TO START.
Step 1. Check to make sure fuel tank has fuel. Fill fuel tank, if required.
Step 2. Check air filter restriction gage. If gage indicates restriction (registers red instead of green), notify Organizational Maintenance.
Step 3. Check to make sure you are using ether starting aid (quick start) correctly (if temperature is below 32°F). Follow the proper cold weather starting procedures using ether starting aid (refer to paragraph 2-11).
11. ENGINE STARTS, BUT MISFIRES OR RUNS ROUGHLY AFTER PROPER WARMUP PERIOD.
Refer to Step 2 under Malfunction 10.
12. ENGINE DOES NOT IDLE PROPERLY.
If idle is uneven, or if engine dies after starting, refer to Steps 2 and 3 under Malfunction 10.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
13. ENGINE COOLANT TEMPERATURE GAGE INDICATES ENGINE IS OVERHEATING (TEMPERATURE EXCEEDS 210°F).

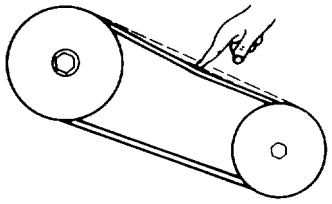
Step 1. Check coolant level in radiator. Sight glass should be full.
Add coolant to fill radiator to proper level (refer to Paragraph 3-3).

Step 2. Check for leaks in system.
If you find leaks, notify Organizational Maintenance.

Step 3. Check to make sure radiator cooling fins are free of mud, ice, snow or debris.
Remove any material clogging radiator. Shine flashlight through engine side and note light at radiator. Make sure cooling fins are not clogged.

Step 4. Check cooling fan drive belts for looseness.

1/2 INCH OR LESS



If belts are loose, notify Organizational Maintenance.

Step 5. Check to make sure engine oil is at proper level on dipstick.
Add oil, if necessary (refer to paragraph 2-7).

Step 6. Check to make sure transmission fluid is at proper level on dipstick.
Check transmission oil temperature gage (refer to paragraph 2-7).
Add fluid, if necessary.

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Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
14. ENGINE DOES NOT DEVELOP FULL POWER,
Step 1. Refer to Step 2 in Malfunction 10. Step 2. Notify Organizational Maintenance for further engine troubleshooting and service interval maintenance.
15. LOW OR NO ENGINE OIL PRESSURE (ENGINE OIL PRESSURE GAGE SHOULD REGISTER OIL PRESSURE WITHIN 10 TO 15 SECONDS AFTER ENGINE STARTS).
Check engine oil level. Add oil to maintain proper level. If this does not solve oil pressure problems, notify Organizational Maintenance.
16. EXCESSIVE ENGINE OIL CONSUMPTION.
Inspect engine for loose oil lines or leaks. Notify Organizational Maintenance of any leaks.
17. EXCESSIVE EXHAUST SMOKE (AT NORMAL OPERATING RANGE OF 180°F - 200°F).
Step 1. Check air cleaner restriction indicator. If indicator shows red, notify Organizational Maintenance. Step 2. Open fuel tank filler cap and check for obvious fuel contamination. If fuel is so contaminated that you can see dirt or other foreign matter, notify Organizational Maintenance. If you smell unburned fuel in or around the engine/cab area, notify Organizational Maintenance.
18. ENGINE RETARDER DOES NOT REDUCE TRUCK SPEED.
Step 1. Check to make sure the engine retarder system is engaged. Press down on the engine retarder foot pedal and take your foot completely off the accelerator pedal. Step 2. Notify Organizational Maintenance if you are operating retarder control properly, but retarder system is not slowing your vehicle.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
EXHAUST SYSTEM
19. EXCESSIVE EXHAUST NOISE OR FUMES NOTED IN OR NEAR CAB. Step 1. Check exhaust manifold, pipes, flex tubes, muffler and stack for leaks and rusted-through areas with engine running. If any leaks are found, notify Organizational Maintenance for replacement of rusted leaking parts. Step 2. Check exhaust system clamps for leakage with engine running. If leaks are noted, have Organizational Maintenance re-torque clamp hardware or replace with new clamps.
STEERING
20. HARD STEERING, SHIMMY OR WANDERING. **NOTE** Check tire pressure when tires are cold. Step 1. Check to make sure tires are properly inflated. Front 105 psi Rear 95 psi Step 2. Check for worn, loose or damaged parts of front axle or suspension. Check steering linkage, wheels, and truck frame. If you find any problems, notify Organizational Maintenance. Step 3. Check for loose lug nuts. Tighten lug nuts and notify Organizational Maintenance to have lug nuts torqued. Step 4. Check for loose or damaged shock absorbers. Notify Organizational Maintenance for loose or damaged shock absorbers. Step 5. Check power steering fluid reservoir for proper fluid level. Add fluid if necessary (refer to LO 9-2320-283-12).
21. TRUCK STEERING SLOW TO RESPOND OR INTERMITTENT. Step 1. Check power steering fluid reservoir for proper fluid level. Add fluid if necessary (refer to LO 9-2320-283-12).

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
Step 2. Check for proper operation of power steering. With truck standing still, turn wheels from stop to stop and hold against each stop for 5 seconds. Repeat this several times. If steering problem continues, notify Organizational Maintenance.
TRANSMISSION
22. FOAMY FLUID ON TRANSMISSION DIPSTICK.
Check level on dipstick with engine at idle and truck on level ground. If transmission temperature is 100-250°F and fluid level is about the HOT RUN band or if temperature is below 100°F and fluid level is above COLD RUN band, notify Organizational Maintenance.
23. SLOW OR ERRATIC TRANSMISSION ENGAGEMENT.
Check dipstick to make sure fluid is at proper level (refer to LO 9-2320-283-12). If fluid is sufficient, notify Organizational Maintenance.
24. TRANSMISSION FLUID TEMPERATURE GAGE INDICATES FLUID IS OVERHEATING DURING NORMAL OPERATION. NORMAL OPERATING TEMPERATURE RANGE IS 100°F TO 250°F.
Step 1. Check transmission fluid level on dipstick. Notify Organizational Maintenance if additional fluid is required.
Step 2. Check dipstick for evidence of foamy fluid. Refer to Malfunction 22.
Step 3. Check dipstick for evidence of discoloration that could indicate water/antifreeze in fluid. If there is discoloration of fluid, notify Organizational Maintenance.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
25. FLUID LEAKING FROM TRANSMISSION BREATHER. Check for evidence of foamy fluid on transmission dipstick. Refer to Malfunction 22.
WHEELS, TIRES AND HUBS
26. WHEEL WOBBLES. Step 1. Check wheel for loose or missing lug nuts. Tighten loose nuts; notify Organizational Maintenance to torque nuts properly. If any lug is broken or missing, notify Organizational Maintenance. Step 2. Check to see if wheel is bent. If wheel is bent, change wheel and tire assembly. Notify Organizational Maintenance that a replacement tire is needed. Step 3. Check for loose, worn or damaged components. Notify Organizational Maintenance of any suspension problems.
27. TRUCK WANDERS OR PULLS TO ONE SIDE ON LEVEL PAVEMENT. **NOTE** Check tire pressure when tires are cold. Step 1. Check tire pressure. Front 105 psi Rear 95 psi Step 2. Check to make sure that all tires are of the proper size and type. If tires are not properly matched, and if more than one tire is involved, notify Organizational Maintenance. If only one tire is improper and the spare tire is of the correct size and type, replace improper wheel and tire assembly with the spare and notify Organizational Maintenance that a replacement is needed. Step 3. Check for loose or damaged steering gear/linkage. If you find evidence of any problems, notify Organizational Maintenance.

Table 3-1. Troubleshooting - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
28. TIRES WORN UNEVENLY OR EXCESSIVELY. Step 1. Check cold tire pressure. Inflate or deflate tires to proper pressure. Step 2. Inspect for bent wheel rims. If a rim is bent, replace that wheel and tire assembly (refer to paragraph 3-4). Step 3. Check for loose wheel; worn, loose or damaged suspension components. Tighten nuts on loose wheel; notify Organizational Maintenance to properly torque wheel. Also, notify Organizational Maintenance for any suspension damage (refer to paragraph 3-4).

Section III. MAINTENANCE PROCEDURES

3-1. Cleaning Your Truck.

EXTERIOR

- Never wipe off dirt when truck is dry.
- Never wash truck in direct sunlight or if the truck exterior is hot to touch.
- Wash your truck often using cold or warm water (never use hot water or any strong detergent). Do not use abrasives to remove mud and dirt from your truck.
- While cleaning truck, look closely for evidence of rust or corrosion, bare metal or other exterior damage. If you find any problems, notify Organizational Maintenance to treat affected areas.

INTERIOR

- Remove loose dust and dirt from cab interior components.
- Clean upholstery and seatbelts using a mild solution of warm water and soap (never use solvents or abrasives). Wipe dry all areas that you have washed.

3-2. Fuel Tank.

WARNING

When filling the fuel tank with diesel fuel be sure the hose or nozzle or container contacts the filter tube on the fuel tank to carry off static electricity, Do not smoke or permit any open flame in the area of the truck while you are servicing the diesel fuel system. Failure to follow this warning can result in equipment damage or injury to personnel.

FILLING

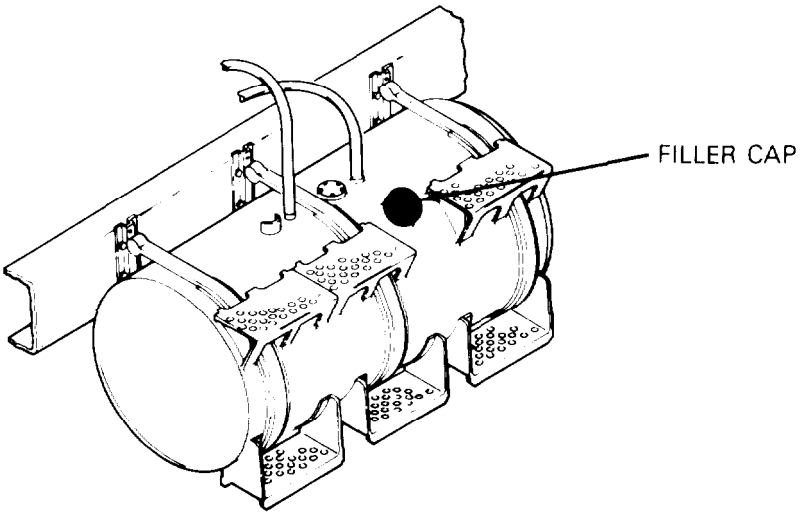
a. SHUT DOWN ENGINE

b. WIPE OFF DIRT AROUND FILLER CAP AND OPENING.

c. REMOVE CAP.

d. FILL TANK

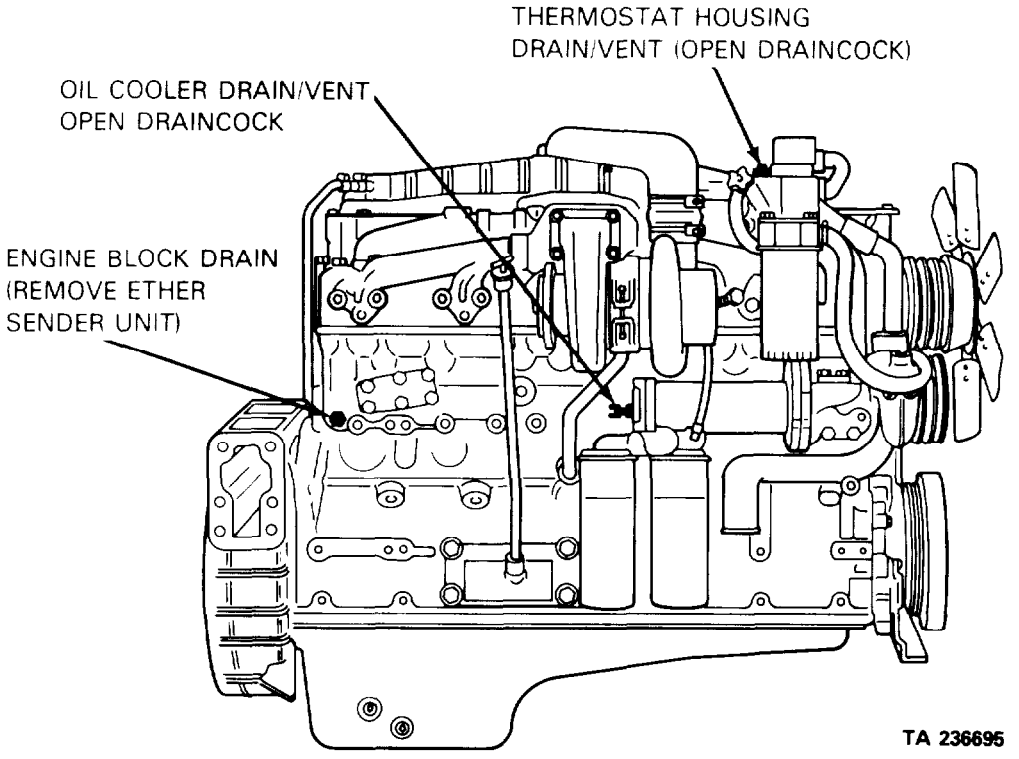
e. INSTALL FILLER CAP.



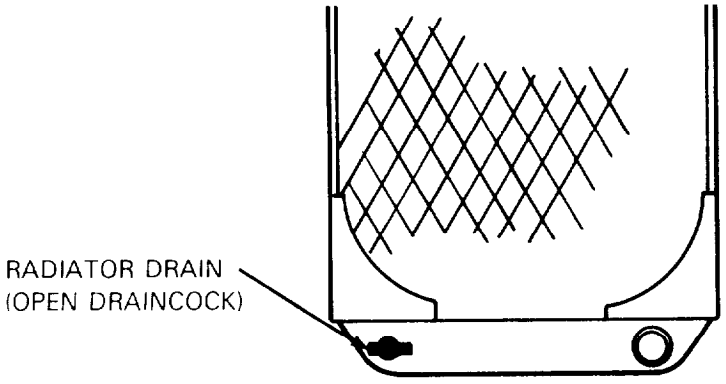
3-3. Cooling System.

DRAIN LOCATIONS

- Engine has three drains as shown. Two of these also serve as vents to allow trapped air to escape when refilling the cooling system.



- Radiator has one drain location at lower left hand side (right side if facing the truck). The draincock faces toward the engine on the back side of the radiator bottom tank.



DRAINING COOLING SYSTEM

WARNING

Let radiator cool before removing cap. Remove radiator cap in two steps. First, place a thick cloth over the cap and slowly rotate cap left to its first stop; pause, and let pressure escape from cooling system. Then push cap down and rotate cap farther left until you can remove it. Failure to follow this procedure can result in serious burns.

a. TURN RADIATOR CAP TO THE LEFT AND REMOVE.

b. TURN DRAINCOCKS AT THERMOSTAT HOUSING, OIL COOLER, AND RADIATOR TO THE LEFT TO OPEN.

c. WORKING FROM BEHIND THE RIGHT FRONT WHEEL (left as seen by facing the truck), UNDERNEATH THE VEHICLE, REACH UP AND PULL THE WIRE CONNECTOR FROM THE ETHER SENDER UNIT.

d. USING ADJUSTABLE WRENCH (SEE APPENDIX B), TURN ETHER SENDER TO THE LEFT TO REMOVE FROM ENGINE BLOCK DRAIN PORT.

e. ALLOW ALL OLD COOLANT TO DRAIN.

FILLING EMPTY SYSTEM

Fill the system with a mixture of clean water and ethylene glycol base permanent type antifreeze (Check with Organizational Maintenance for the proper mixture of water and antifreeze plus thread sealer for the ether sender unit).

a. APPLY THREAD SEALER (SEE APPENDIX D) TO ETHER SENDER UNIT AND INSTALL ETHER SENDER UNIT IN ENGINE BLOCK DRAIN PORT BY TURNING TO THE RIGHT, TIGHTEN USING ADJUSTABLE WRENCH (SEE APPENDIX B), AND INSTALL WIRE CONNECTOR. CLOSE RADIATOR DRAINCOCK, AND OPEN DRAINCOCK VENTS AT THERMOSTAT HOUSING AND OIL COOLER.

b. POUR COOLANT INTO RADIATOR FILLER NECK UNTIL SIGHT GLASS IS FULL AND COOLANT FLOWS FROM THE TWO DRAINCOCK VENTS. CLOSE TWO DRAINCOCK VENTS.

c. START ENGINE AND ALLOW IT TO REACH NORMAL OPERATING TEMPERATURE (180°F TO 200°F).

d. RECHECK COOLANT LEVEL.

e. PUT ON RADIATOR CAP.

f. CHECK FOR LEAKS.

ADDING COOLANT TO PARTLY FILLED SYSTEM

WARNING

Let radiator cool before removing cap. Remove radiator cap in two steps. First, place a thick cloth over the cap and slowly rotate cap left to its first stop; pause, and let pressure escape from cooling system. Then rotate cap farther left until you can remove it. Failure to follow this procedure can result in serious burns.

a. REMOVE RADIATOR CAP.

b. OPEN THE DRAINCOCK VENT AT THE THERMOSTAT HOUSING.

c. ADD COOLANT UNTIL RADIATOR SIGHT GLASS IS FULL AND COOLANT FLOWS FROM DRAINCOCK VENT AT THE THERMOSTAT HOUSING. CLOSE DRAINCOCK VENT.

d. PUT ON RADIATOR CAP.

e. CHECK FOR LEAKS

3-4. Changing a Wheel and Tire Assembly.

GENERAL

WARNING

Use caution when lifting or handling a wheel and tire assembly. It is very heavy and could cause injury if improperly lifted or if it should fall on you.

a. In case of a flat, stop the truck where there will be no hazard to other traffic or to the crew members changing the tire. Notify Organizational Maintenance as soon as possible so the spare wheel lug nuts can be torqued and the flat tire can be repaired and returned to service.

b. A spare wheel and tire assembly is provided on the M915A1 truck tractor. A tire hoist is provided to raise and lower the spare wheel and tire assembly from the stowed position.

c. When changing tires, do not substitute type or size tire unless all tires on the truck can be converted. Keep all tires the same.

d. Tire changing requires two people: one to operate the winch and a second to handle the tire being winched up or down.

USING THE SPARE TIRE HOIST AND RACK

WARNING

When lowering the spare, the brake disk will get hot. Do NOT TOUCH IT. You can get burned.

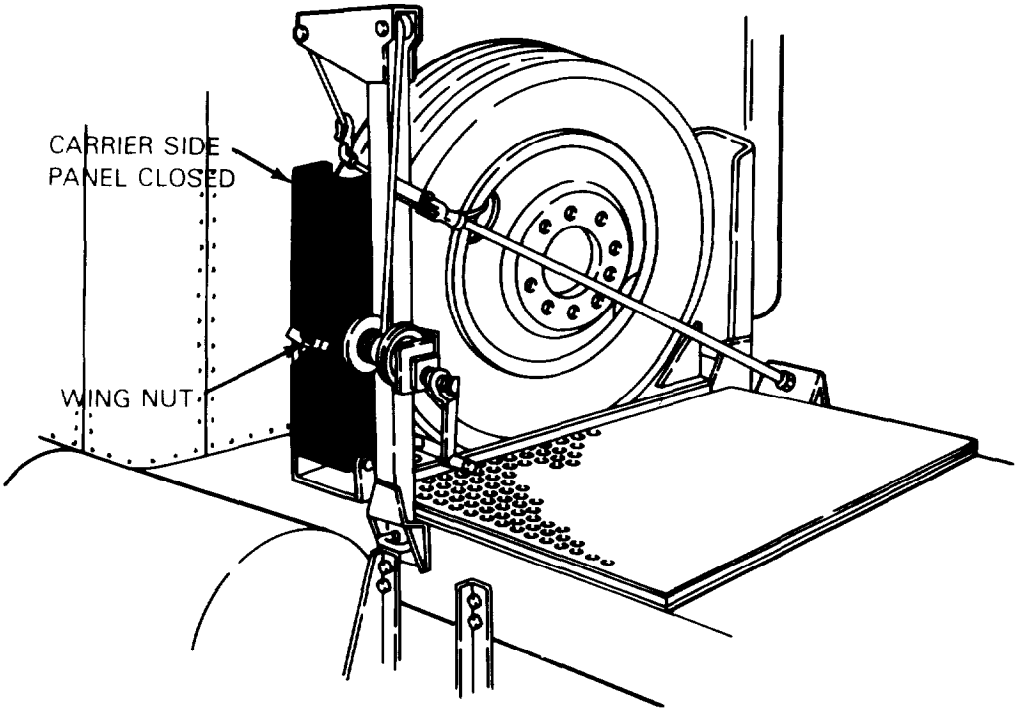
WARNING

When paying out cable from the hoist, LEAVE FOUR FULL TURNS OF CABLE ON THE HOIST DRUM. Otherwise, a load on the cable could pull it loose from the drum and cause injury to personnel.

CAUTION

If the brake starts smoking or shows other signs of overheating, stop operation and allow 15 minutes for brake to cool.

a. Remove the Spare Wheel and Tire.



1. With the spare still mounted in the tire carrier, run the end of the cable through a wheel opening, wrap it around the tire and secure the snap back to the cable.

WARNING

The winch automatically brakes when pressure is taken off the handle regardless of which direction it is being turned. If slack is needed to secure the cable around the wheel and tire, you must pull on the cable and turn the handle in the counterclockwise (lower) direction at the same time. Do not pay out more cable than is needed.

2. Remove tractor to trailer electrical cable at tractor.

3. Remove spare from the tire carrier by removing the wing nut and lowering the carrier side panel. Then remove the bolt. The spare can then be lifted on the side panel and moved out far enough to clear the truck for lowering.

4. Take up slack in the cable by turning the handle in the clockwise (raise) direction.

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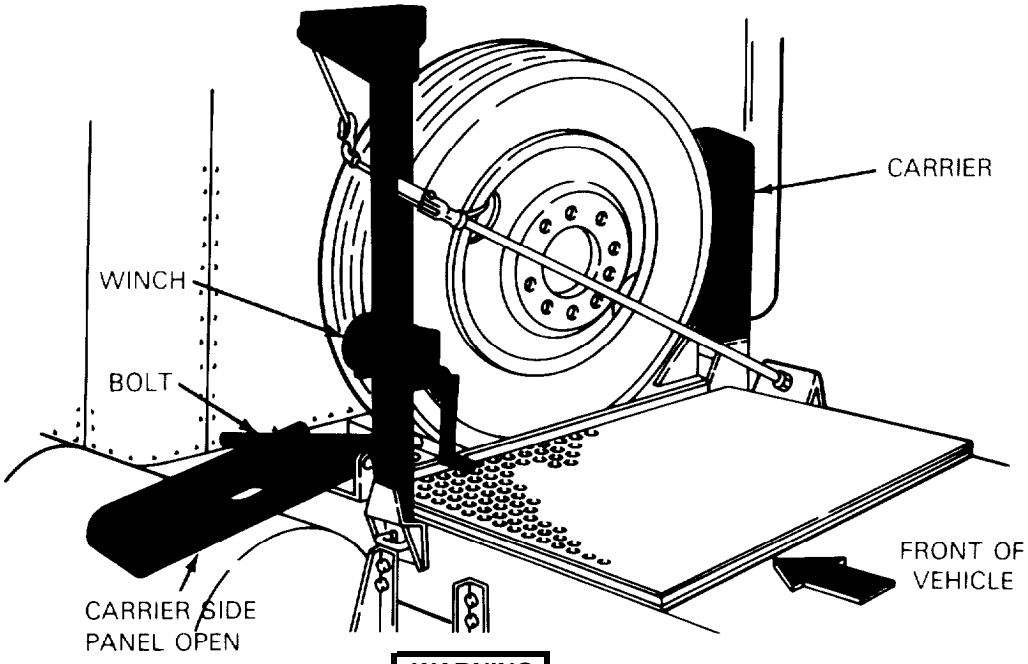

WARNING

When paying out cable from the hoist, LEAVE FOUR FULL TURNS OF CABLE ON THE HOIST DRUM. Otherwise, a load on the cable could pull it loose from the drum and cause injury to personnel.

5. Turn the handle counterclockwise to lower the spare. To stop the winch at any point, turn the handle in the clockwise (raise) direction until you hear two clicks from the internal ratchet then release the handle. The brake will automatically engage.

NOTE

Do not continue turning handle counterclockwise (lower) if cable is not paying out, otherwise handle will unscrew and the winch will become inoperative.

6. As cable unwinds, guide the tire so it doesn't suddenly drop from the truck, otherwise the cable may snap. As the tire lowers, guide it between the fuel tank and the fender. Lower the tire to the ground.

NOTE

If your hand should slip off the handle while lowering then spare, the brake will automatically engage.

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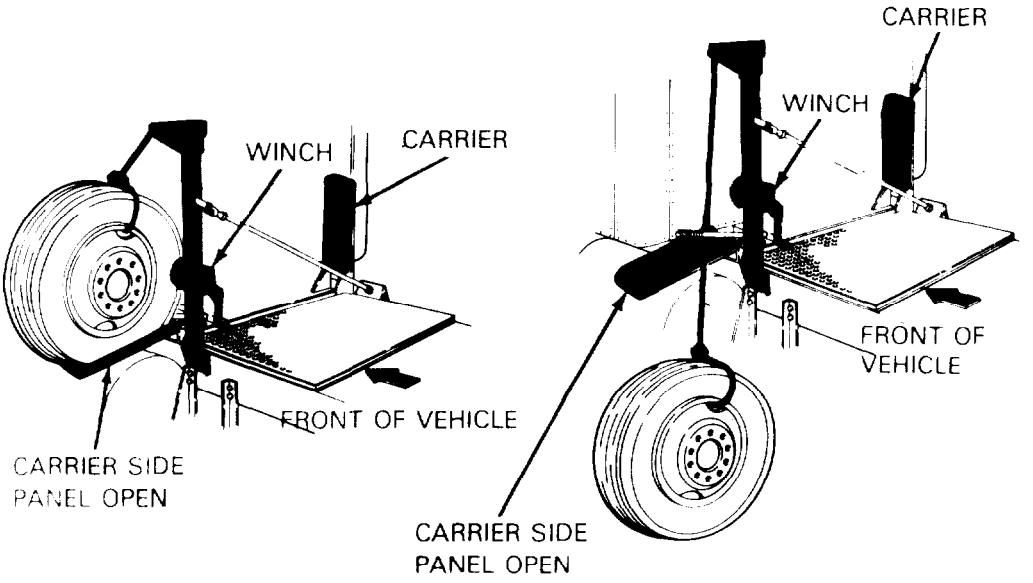

7. When the wheel and tire assembly is on the ground, detach the cable and leave it paved out in readiness for lifting the flat.

b. Secure the flat tire and wheel in the stowed position.

1. Secure the hoist cable to the wheel and tire assembly by inserting the hook through the opening in the wheel opposite the valve stem, wrapping the cable around the tire, and attaching the hook to the cable.

2. To raise the wheel and tire assembly, turn the hoist crank clockwise (raise). You will hear a clicking sound made by the internal ratchet. If you stop turning the handle or if your hand should slip off the handle, the brake will apply automatically and hold the load.

3. With one person operating the winch and the other guiding the tire, raise the tire and wheel assembly high enough to clear the lowered carrier side panel. Keep the tire away from the truck while raising it. Push it toward the center of the carrier, raise the side panel and secure with the bolt and wing nut. Connect electrical cable at tractor.

4. After the tire and wheel has been secured, the cable may be slightly loose but should remain attached to the wheel.

5. Crank handle must be in the 12 o'clock or 6 o'clock position when not in use to avoid possible interference with trailer.

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JACKING PROCEDURES

WARNING

The hydraulic jack is intended only for lifting the truck, not for supporting the vehicle for performing maintenance. Do not get under the truck after it is raised unless it is properly supported with blocks or jack stands. Failure to observe this warning can result in serious injury.

WARNING

To prevent vehicle movement during jacking operations, apply parking brake and block opposite end wheels. If changing a front tire, block at back of rear-rear axle tires. If changing any rear tire, block at front of front tires.

Instructions for Operating the Jack:

1. TO RAISE JACK RAM, use slotted end of two piece handle to rotate RELEASE VALVE in jack base FIRMLY TO THE RIGHT.

2. INSERT TWO PIECE HANDLE IN JACK SOCKET AND PUMP THE HANDLE TO RAISE JACK RAM.

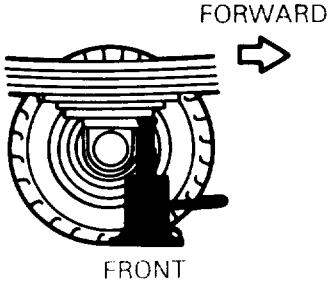
3. TO LOWER JACK RAM, ROTATE RELEASE VALVE SLOWLY TO THE LEFT.

Jack Placement:

Front Axle -

1. Place the jack so the jack ram is under the first small spring leaf just forward of the axle. Unscrew the jack ram (counterclockwise) all the way out (about 3-1/2 inches).

2. Raise the jack ram by pumping the handle until the tire clears the ground.



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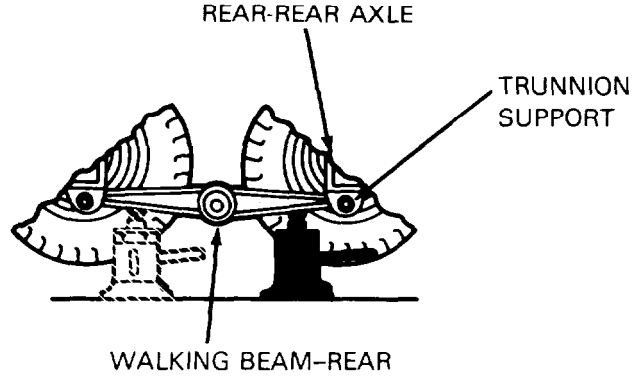
Rear and Rear-Rear Axles -

1. Pace the jack under the walking beam inboard of the walking beam trunnion support at either the forward-rear or rear-rear axle based on wheel to be removed. Turn the jack ram at the top approximately 2-1/2 inches out (counterclockwise) to contact walking beam.

2. Raise the jack ram by pumping the handle until both duals clear the ground.



WHEEL REMOVAL AND INSTALLATION

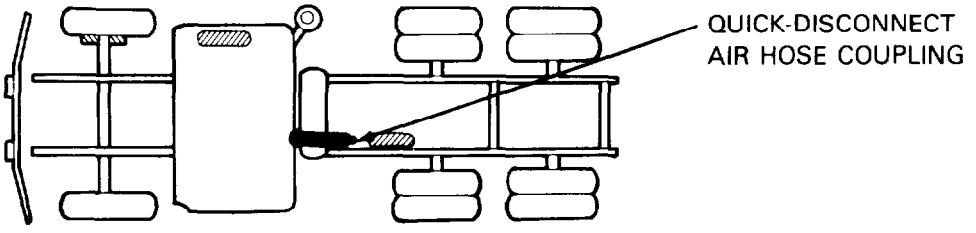
1. CHECK TO MAKE SURE THAT TIRE TO BE INSTALLED HAS PROPER COLD AIR PRESSURE.

   Front - 105 psi
   Rear - 95 psi

If necessary, put air in tires using the pneumatic hose which is stowed in the tool box. A quick-disconnect fitting is provided at the rear of the supply air reservoir for this purpose. Use your tire pressure gage, also stowed in the tool box, to verify correct tire pressure.

2. HAVE SPARE WHEEL AND TIRE ASSEMBLY READY FOR QUICK INSTALLATION.

3. CHECK TO MAKE SURE THAT TRUCK WILL NOT ROLL WHEN AXLE IS RAISED. Block tires and set parking brake to prevent truck from rolling.



NOTE

All wheel nuts on hubs on the left side of the truck have left-hand threads (rotate nuts to the right to loosen, to the left to tighten). All wheel nuts on hubs on the right side of the truck have right-hand threads (rotate nuts left to loosen, right to tighten).

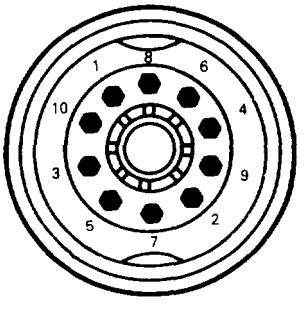
4. BREAK LOOSE ALL NUTS OF WHEEL TO BE REMOVED.

5. POSITION THE JACK AS INSTRUCTED IN THE JACKING PROCEDURE, THEN RAISE THE AXLE UNTIL THE TIRE CLEARS THE GROUND.

6. REMOVE NUTS FROM WHEEL AND REMOVE OUTER WHEEL AND TIRE ASSEMBLY FROM HUB. INNER DUAL WHEEL AND TIRE ASSEMBLY ON A REAR AXLE CAN NOW BE REMOVED IF REQUIRED.

7. MOUNT SPARE WHEEL AND TIRE ASSEMBLY ON HUB AND INSTALL NUTS. (IF INSTALLING INNER DUAL WHEEL AND TIRE ASSEMBLY, MOUNT IT ON HUB FIRST, THEN MOUNT OUTER WHEEL AND TIRE ASSEMBLY ON HUB SO INNER VALVE STEMS ARE VISIBLE; AND INSTALL NUTS.) RUN NUTS UP SNUGLY BUT DO NOT COMPLETE TIGHTENING AT THIS TIME.

8. LOWER TRUCK. ALTERNATELY TIGHTEN NUTS AS SHOWN. You will not be able to overtighten the nuts due to the size wheel studs and length of the wrench handle. Notify Organizational Maintenance to properly torque the nuts.



9. STOW HYDRAULIC JACK IN TOOL COMPARTMENT UNDER PASSENGER SEAT.

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3-5. Batteries

Four 12-volt batteries connected in series-parallel supply the 12-volt electrical system of the M915A1 truck tractor and provide 24 volts for the starter motor and blackout lamp system. Check the batteries as described below.

WARNING

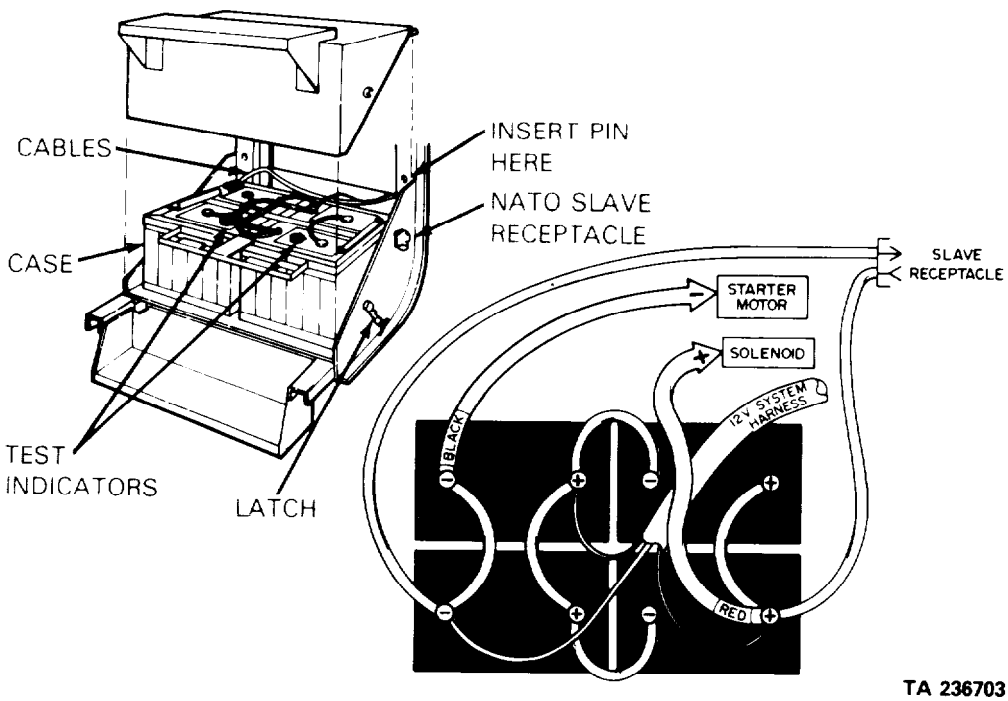
Never wear jewelry while working on batteries or any electrical systems. Metal jewelry could cause a short circuit.

CAUTION

Always checks to make sure that the batteries are connected as shown in the illustration (series-parallel). Incorrectly connected batteries can cause severe damage to the truck's electrical system. Notify Organizational Maintenance if batteries are not connected correctly.

- LATCHES

Unfasten to remove battery box cover, then pull straight toward you to clear location pins.



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- CABLES AND CONNECTIONS

Check all cables. Make sure they are in good condition. Check connections at terminals. Make sure they are secure. Also make sure cable clamps, terminals and battery tops are clean.

- CASES

Check battery cases. Make sure none is leaking. If you find leakage, notify Organizational Maintenance. Clean all affected areas.

- TEST INDICATORS

Check test indicators for green color. If any is completely dark or shows a yellow color, notify Organizational Maintenance.

Section IV. MAINTENANCE UNDER UNUSUAL CONDITIONS

3-6. Extreme Cold Weather.

BASIC GUIDELINES

- In extreme cold weather, it is essential that your truck be in top condition, or it will be very difficult to get the truck started (if it is in poor condition, it may not start at all). Always make sure that you have carefully performed your PMCS, and be sure to report any problems to Organizational Maintenance.

- Always give the engine extra time to reach its operating temperature range of 180°F to 200°F.

- For detailed guidance on antifreeze protection, lubrication, electrical system service, and other maintenance requirements for extreme cold weather operations, refer to FM9-207.

3-7. Extreme Hot or Humid Weather.

HOT WEATHER

- Check the engine coolant level frequently; make sure that you maintain coolant at proper level. Check cooling system (radiator, hoses, lines) for possible leaks, and notify Organizational Maintenance of any problems.

- Check tires frequently to make sure that each tire is inflated to the proper pressure (but be very careful not to overinflate tires). Wait until tires are cool before you adjust their pressures.

HUMID WEATHER.

- Hot, damp weather can cause your truck's materials to deteriorate. Watch for evidence of corrosion and rust on metals, and for mildew, mold or fungus growth on fabrics. Clean affected areas carefully and, if necessary, notify Organizational Maintenance of any needed parts.

3-8. After Fording.

CHECKING AND CLEANING YOUR TRUCK

- Always check for sand and mud after you have forded water with the M915A1 truck tractor. Thoroughly clean the truck. If the fording depth was 21 inches or more, notify Organizational Maintenance and request after-fording maintenance on your truck.

- If your truck has been operated in salt water, let the exterior dry, then check it for evidence of salt accumulation. Use a clean, damp cloth to immediately remove all salt accumulation.

- If the salt water fording depth was 21 inches or more, notify Organizational Maintenance that your truck needs after-fording maintenance and that you were operating your truck in salt water.

3-9. After Operating on Unusual Terrain.

CHECKING AND CLEANING YOUR TRUCK

- After operating your truck in mud, clean all accumulated mud from your truck. Check and clean radiator if mud is stuck in cooling fins.

- If you have been operating in sandy or dusty areas, frequently check the air cleaner restriction indicator and the air cleaner element, radiator cooling fins, and all fluids in your truck's systems. If you find sand or dirt in any fluid, notify Organizational Maintenance. Any time you have operated your truck in sandy or dusty areas, notify Organizational Maintenance that your truck needs special servicing because of operation in sand or dust.

APPENDIX A

REFERENCES

A-1. Publication Indexes.

Consolidated index of Army Publications and Blank Forms . . . . . DA Pam 310-1
U.S. Army Equipment index of Modification Work Orders . . . . . DA Pam 750-10

A-2. Forms.

The following forms pertain to this material. (Refer to DA Pamphlet 310-1 for index of blank forms).
Standard Form 46, US Government Motor Vehicle Operator's Identification Card.
Standard Form 91, Operator Report of Motor Vehicle Accidents.
Recommended Changes to DA Publications and Blank Forms (DA Form 2028).

Refer to TM 38-750, The Army Maintenance Managmenet Systems (TAMMS), for instructions on the use of maintenance forms pertaining to this material.

A-3. Other Publications.

The following publications contain information pertinent to the major item of material and associated equipment.

a. Operating Vehicle.

Army Motor Transport Units and Operations . . . . . FM 55-30
Manual for the Wheeled Vehicle Driver . . . . . FM 21-305

b. Maintenance and Repair.

Lubrication Order for M915A1 Truck Tractor . . . . LO 9-2320-283-12
Organizational Maintenance for M915A1 Truck Tractor . . . TM 9-2320-283-20
Organizational Maintenance Repair Parts and Special Tools List for M915A1 Truck Tractor . . . . . TM 9-2320-283-20P
Direct Support and General Support Maintenance Manual for M915A1 Truck Tractor. . . . . TM 9-2320-283-34
Direct and General Support Repair Parts and Special Tools List for M915A1 Truck Tractor. . . . . TM 9-2320-283-34P

APPENDIX A (Continued)

Direct and General Support Maintenance Manual and Repair Parts and Special Tools List for Diesel Engine in M915A1 Truck Tractor . . . . . TM 9-2815-225-34&P
Organizational Care, Maintenance and Repair of Pneumatic Tires, Inner Tubes, and Radial Tires. . . . . TM 9-2610-200-20
Description, Use, Bonding Techniques, and Properties of Adhesives. . . . . TB ORD 1032
Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materiels Including Chemicals. . . . . TM 9-247
Metal Body Repair and Related Operations . . . . . FM 43-2
Welding Theory and Application . . . . . TM 9-237
Painting Instructions for Field Use . . . . . TM 43-0139
Inspection, Care, and Maintenance of Antifriction Bearings. . . . . TM 9-214
Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems . . . . . TB 750-651
Cooling Systems: Tactical Vehicles. . . . . TM 750-254

c. Cold Weather Operation and Maintenance.

Basic Cold Weather Manual . . . . . FM 31-70
Northern Operations . . . . . FM 31-71
Operation and Maintenance of Ordnance Materiel in Extreme Cold Weather (0° to -65°F) . . . . . FM 9-207.
M915A1 Winterization Kit . . . . . TB 9-2320-283-14

d. Decontamination.

Chemical, Biological, and Radiological (CBR) Decontamination. . . . . TM 3-220
NBC(Nuclear, Biological, and Chemical) Defense . . . . . FM 21-40

e. General.

Principles of Automotive Vehicles . . . . . TM 9-8000
Camouflage . . . . . FM 5-20
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use . . . . . TM 750-244-6
Administrative Storage of Equipment . . . . . TM 740-90-1
Vehicle Recovery Operations . . . . . FM 20-22

f. Warranty, M915A1 . . . . . TB 9-2300-295-15/20

APPENDIX B

COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST

SECTION I. INTRODUCTION

B-1. Scope.

This appendix lists integral components of and basic issue items for the M915A1 Truck Tractor to help you inventory items required for safe and efficient operation.

B-2. General.

The Components of End Item and Basic Issue Items Lists are divided into the following sections:

a. Section II, Components of End Item (None Authorized for M915A1).

b. Section III, Basic Issue Items. These are the minimum essential items required to place the M915A1 truck tractor in operation, to operate it, and to perform emergency repairs. Although shipped separately packed, BII must accompany the M915A1 truck tractor during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/MTOE authorization of the end item. The Bll items listed in this appendix are located on the vehicle for you in Appendix E.

B-3. Explanation of Columns.

The following provides an explanation of columns found in the tabular listings.

a. Column (1) - Illustration Number (Illus Number). This column indicates the number of the illustration in which the item is shown.

b. Column (2) - National Stock Number. Indicates the National Stock Number assigned to the item and will be used for requisitioning purposes.

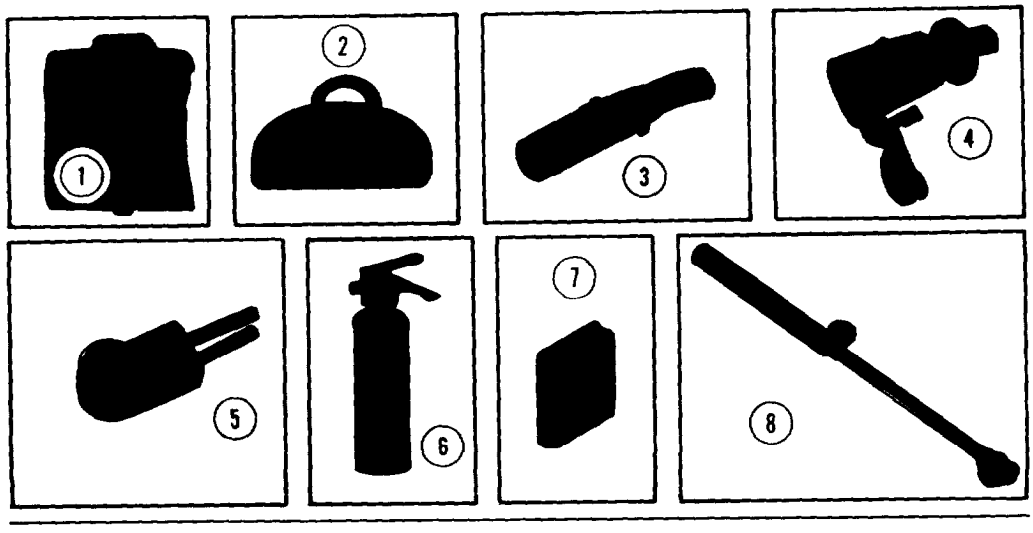
c. Column (3) - Description. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

d. Column (4) - Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea., in., pr).

e. Column (5) - Quantity required (Qty rqr). Indicates the quantity of the item authorized to be used with/on the equipment.

SECTION II. COMPONENTS OF END ITEM

None authorized for M915A1 Truck Tractor.



SECTION III. BASIC ISSUE ITEMS

(1) Illus Number	(2) National Stock Number	(3) Description FSCM and Part Number	(4) U/M	(5) Qty rqr
1	2540-00-670-2459	Bag, Pamphlet (19207) 7961712	Ea	1
2	5140-00-473-6256	Bag, Tool (34623) 11655979	Ea	1
3	2920-01-082-6214	Cable, 12 Volt, 12 Foot, 7-pin (34623) MA73-20001	Ea	1
4	2590-01-082-3172	Cable, 24 Volt, 12 foot (34623) MA 365-2000	Ea	1
5	6150-01-022-6004	Cable, Slave (19207) 11682336-1	Ea	1
6	4210-00-270-4512	Extinguisher, Fire (19207) 7714780	Ea	1
7	7510-00-889-3494	Folder, Equipment Record (19207) 11677003	Ea	1
8	4910-00-204-2644	Gage, Tire Pressure 10-120 psi (26759) 7007624	Ea	1

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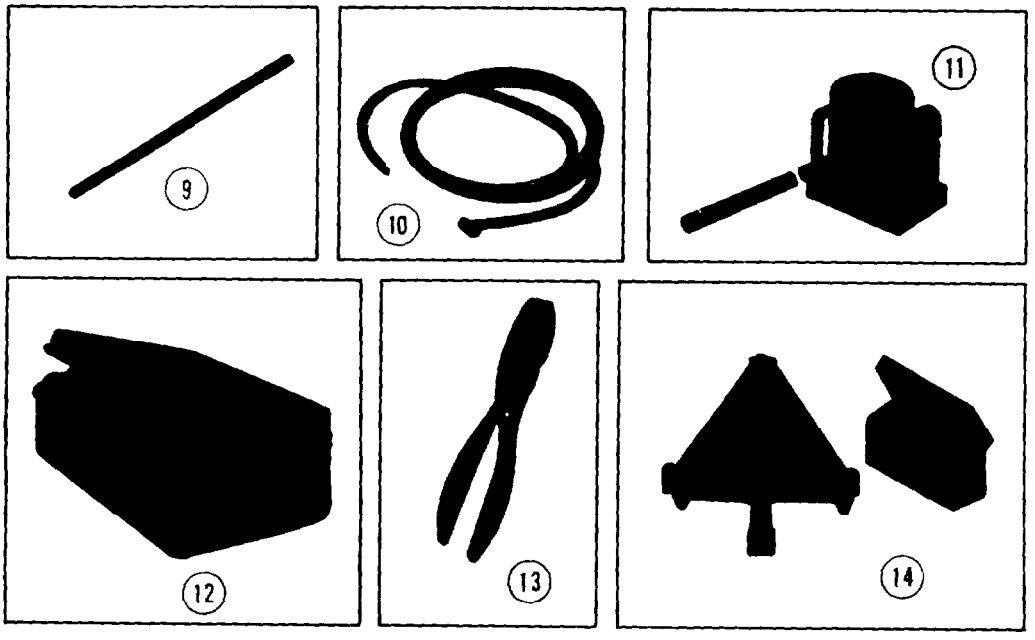

SECTION III. BASIC ISSUE ITEMS (Continued)

(1) Illus Number	(2) National Stock Number	(3) Description FSCM and Part Number	(4) U/M	(5) Qty rqr
9	5120-01-084-3298	Handle, Wrench (34623) 967556	Ea	1
10	4720-01-119-5206	Hose, Tire Inflation (34623) MB 145-20065	Ea	1
11	5120-00-224-7330	Jack, Hydraulic 12-Ton (04720) 0120	Ea	1
12	6545-00-922-1200	Kit, First Aid (19207) 11677011	Ea	1
13	5120-00-494-1911	Pliers, Slip Joint, 8-inch (19207) 11655775-3	Ea	1
14	9905-01-090-9819	Reflectors, Vehicle (34623) 950	Ea	1

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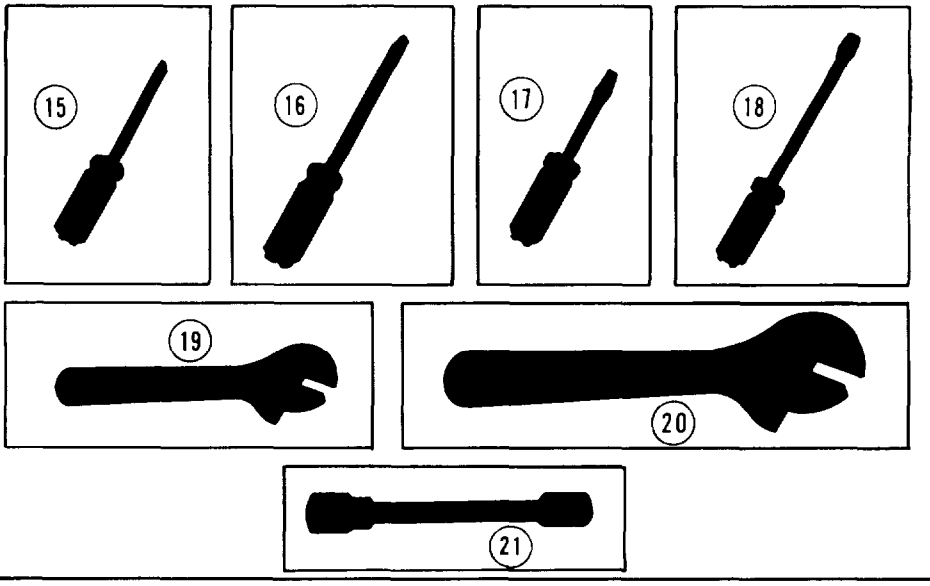

SECTION III. BASIC ISSUE ITEMS (Continued)

(1) Illus Number	(2) National Stock Number	(3) Description FSCM and Part Number	(4) U/M	(5) Qty rqr
15	5120-00-234-8913	Screwdriver, Cross Tip, 4-inch (96906) MS 15224-5	Ea	1
16	5120-00-224-7375	Screwdriver, Cross-Tip 8-inch (55719) RGP84	Ea	1
17	5120-00-222-8852	Screwdriver, Flat-Tip, 4-inch (77948) 225498	Ea	1
18	5120-00-278-1280	Screwdriver, Flat-Tip, 8-inch (96906) MS 15219-2	Ea	1
19	5120-00-240-5328	Wrench, Adjustable, 8-inch (96906) MS 15461-3	Ea	1
20	5120-00-264-3796	Wrench, Adjustable, 12-inch (96906) MS 15461-5	Ea	1
21	5120-01-088-2471	Wrench, Lug (19207) 41-W-3838-40	Ea	1

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APPENDIX C

ADDITIONAL AUTHORIZATION LIST

SECTION I. INTRODUCTION

C-1. Scope.

This appendix lists additional items you are authorized for the support of the M915A1 Truck Tractor.

C-2. General.

This list identifies items that do not have to accompany the M915A1 Truck Tractor and that do not have to be turned in with it. These items are all authorized to you by MTOE.

C-3. Explanation of Listing.

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name.

SECTION II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION FSCM & PART NO.	NOMENCLATURE	(3) U/M	(4) QTY AUTH
5110-00-293-2336	(19207) 6150925	Ax: SG L-BIT 4-16-40-Wt 35.5 In. to 36.5 In. Long	Ea	
2540-00-933-6935	(96906) MS 500055-23	Chains, Tire: 11:00-24 Tire	Pr	2
4730-00-126-8443	(31009) 295460-C91	Coupling, Hose	Ea	1
5120-00-288-6574	(19207) 11677021	Handle: Mattock-Pick 35.5 In. to 36.5 In. Long	Ea	1
4720-00-740-9662	(19207) 7409662	Hose : Air Connection	Ea	2
5120-00-243-2395	(19207) 11677022	Mattock: Pick Typ 5 Lb W/O Handle	Ea	1
5120-00-293-3336	(81348) GGG-5-326	Shovel: Hand RD-PT D-HDL, Short Size 2	Ea	1
2540-00-378-2012	(19207) 8383002	Towbar: Medium Duty Composed of:	Ea	1
5340-00-545-2337	(19207) 8724449	Clevis	Ea	2
5315-00-539-9174	(19207) 10929861	Pin	Ea	2
5315-00-350-4326	(19207) 5213744	Pin, Locking	Ea	2
5510-00-491-0307	(19207) CPR-103023-2	Block: Hydraulic Jack Support, Wood, 4 x 8 x 9 In.	Ea	1

APPENDIX D

EXPENDABLE SUPPLIES AND MATERIALS LIST

SECTION I. INTRODUCTION

D-1. Scope.

This appendix lists expendable supplies and materials you will need to operate and maintain the M915A1 Truck Tractor. These items are authorized to you by CTA 50-970. Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

D-2. Explanation of Columns.

a. Column (1) - Item number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, Item 5, Appendix D").

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew

O - Organizational Maintenance

F - Direct Support Maintenance

H - General Support Maintenance

c. Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parenthesis followed by the part number.

e. Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C		Grease, Automotive and Artillery, GAA MIL-G-10924C	
		9150-00-065-0029	2-1/2 oz.tube	oz.
		9150-00-935-1017	14-oz.cartridge	oz.
		9150-00-190-0904	1-lb can	lb
		9150-00-190-0905	5-lb can	lb
		9150-00-190-0907	35-lb can	lb
		9150-00-190-7369	120-lb drum	lb
2	C		Oil, Fuel: Diesel, Arctic A DFA	
		9150-00-286-5283	Bulk	gal.
		9150-00-286-5282	5-gal.drum	gal.
		9150-00-286-5284	55-gal.drum, 16-gage	gal.
		9150-00-286-5285	55-gal.drum, 18-gage	gal.
3	C		Oil, Fuel: Diesel, Regular DF-2, VV-F-800	
		9140-00-286-5294	Bulk	gal.
		9140-00-286-5295	5-gal.can	gal.
		9140-00-286-5296	55-gal.drum, 16-gage	gal.
		9140-00-286-5297	55-gal.drum, 18-gage	gal.

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST (Continued)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
4	C		Oil, Fuel: Diesel, Winter DF-1, VV-F-800	
		9140-00-286-5286	Bulk	gal.
		9140-00-286-5287	5-gal.can	gal.
		9140-00-286-5288	55-gal.drum, 16-gage	gal.
		9140-00-286-5289	55-gal.drum, 18-gage	gal.
5	C		Oil, Lubricating: OE/HDO-10 MIL-L-2104C	
		9150-00-189-6727	1-qt can	qt
		9150-00-186-6618	5-gal.drum	gal.
		9150-00-265-9429	55-gal.drum, 16-gage	gal.
		9150-00-191-2772	55-gal.drum, 18-gage	gal.
		9150-00-183-7807	Bulk	gal.
6	C		Oil, Lubricating: OE/HDO-30 MIL-L-2104C	
		9150-00-186-6681	1-qt can	qt
		9150-00-188-9858	5-gal.drum	gal.
		9150-00-265-9436	55-gal.drum, 16-gage	gal.
		9150-00-189-6729	55-gal.drum, 18-gage	gal.
		9150-00-183-7808	Bulk	gal.

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST (Continued)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
7	C		Oil, Lubricating: OE/HDO-50 MIL-L-2104C	
		9150-00-265-9440	1-qt can	qt
		9150-00-265-9442	5-gal.drum	gal.
		9150-00-265-9441	55-gal.drum	gal.
8	C		Oil, Lubricating: Ice Subzero OEA, MIL-L-46167	
		9150-004024478	1-qt can	qt
		9150-00-402-2372	5-gal.drum	gal.
		9150-00491-7197	55-gal.drum	gal.
9	C		Oil, Lubricating, Multi-viscosity: 10W/30, MIL-L-46152	
		9150-00-186-6699	1-qt can	qt
		9150-99-256-6411	5-gal.drum	gal.
		9150-00-186-6703	55-gal.drum	gal.
10	C		Dexron® ATF	
		9150-00-698-2382	1-qt can	qt
		9150-00-057-4959	5-gal.drum	gal.
11	C	N/A	Solution, Soap	N/A
12	C		Windshield, Cleaning Compound for	
		6850-00-926-2275	1-pt can	pt

APPENDIX E

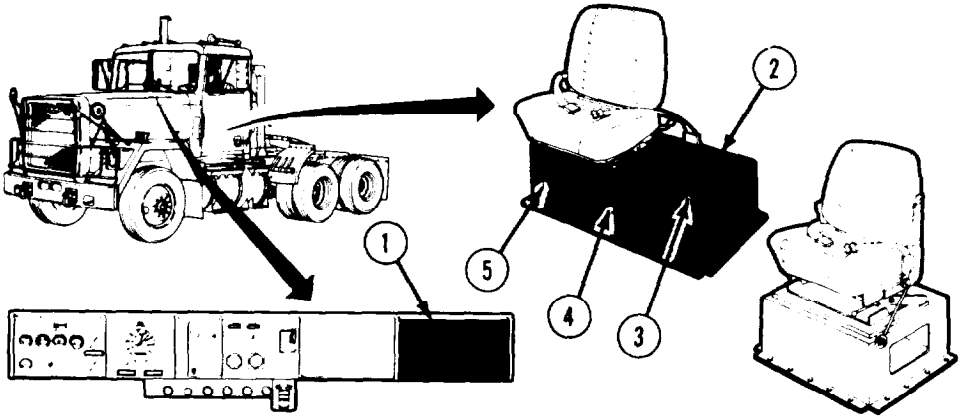
STOWAGE AND SIGN GUIDE

E-1. Scope.

This appendix shows the locations for stowage of equipment and material required to be carried on the M915A1 Truck Tractor.

E-2. General.

The pictures which follow show the location of Basic Issue Items, listed in Appendix B. Decals and plates locations are shown in Chapter 2 of this manual, in paragraph 2-18. The item numbers on the pictures which follow indicate the five areas inside your truck where Basic Issue Items, listed in Appendix B, are stowed. The tabular listing below the pictures gives you the stowage area name, Bll illustration number, and BII description.



STOWAGE LOCATION NUMBER	STOWAGE LOCATION DESCRIPTION	BIIL ILLUS NUMBER	BII DESCRIPTION
1	Glove Box - Inside	1	Pamphlet Bag
		7	Equipment Record Folder
2	Tool Box - Outside Back	6	Fire Extinguisher
3	Tool Box - Inside Center	11	Hydraulic Jack
4	Tool Box - Outside Front	12	First Aid Kit
5	Tool Box - Inside Under Companion Seat	2	Tool Bag
		3	12-Volt Cable
		4	24-Volt Cable
		5	Slave Cable
		8	Tire Pressure Gage
		9	Wrench Handle
		10	Tire Inflation Hose
		13	Slip Joint Pliers
		14	Vehicle Reflector
		15	Cross Tip Screwdriver, 4-inch
		16	Cross Tip Screwdriver, 8-inch
		17	Flat Tip Screwdriver, 4-inch
		18	Flat Tip Screwdriver, 8-inch
		19	Adjustable Wrench, 8-inch
		20	Adjustable Wrench, 12-inch
		21	Lug Wrench

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ALPHABETICAL INDEX

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)
your address goes here

DATE SENT
Put today's date

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 9-2320-283-1C	27 June 83	OPERATOR MANUAL, M915A1 Series Trucks

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARAGRAPH	FIGURE NO	TABLE NO
2-59			

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Step 1 of engaging interaxle differential lockup says to pull off the road and stop the truck. This could mean to turn the engine off.

Should read:

1. Pull to the side of the road and stop the truck, leave the engine running.

SAMPLE

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER
JOHN DOE, PFC AVN XXX-XXXX

SIGN HERE
John Doe, PFC

DA FORM 1 JUL 79 2028-2 PREVIOUS EDITIONS ARE OBSOLETE

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DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 9-2320-283-10	27 June 83	OPERATOR MANUAL, M915A1 Series Trucks

BE EXACT . . . PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE

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REVERSE OF DA FORM 2028-2

TEAR ALONG PERFORATED LINE

FILL IN YOUR UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS

Commander
US Army Tank-Automotive Materiel Readiness Command
ATTN: DRSTA-MB
Warren, MI 48090

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PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 9-2320-283-10	27 June 83	OPERATOR MANUAL, M915A1 Series Trucks

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER		PUBLICATION TITLE
TM 9-2320-283-10	27 June 83	OPERATOR MANUAL M915A1 Series Trucks

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARAGRAPH	FIGURE NO	TABLE NO

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER

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P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS

REVERSE OF DA FORM 2028-2

TEAR ALONG PERFORATED LINE

FILL IN YOUR UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS

COMMANDER
US ARMY TANK-AUTOMOTIVE MATERIEL READINESS COMMAND
ATTN: DRSTA-MB
WARREN, MI 48090

By Order of the Secretary of the Army :

E.C. MEYERS
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
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The Adjutant General

Distribution

To be distributed in accordance with DA Form 12-38, (qty rqr block No 330). Operator maintenance requirements for Truck, Tractor, Line Haul, 6 x 4, 14-ton, M915A1.

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

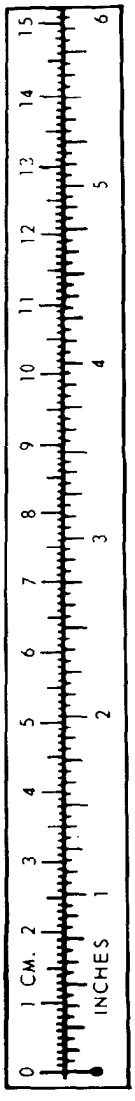
TEMPERATURE

$5/9\,(^0F - 32) = {}^0C$
212^0 Fahrenheit is equivalent to 100^0 Celsius
90^0 Fahrenheit is equivalent to 32.2^0 Celsius
32^0 Fahrenheit is equivalent to 0^0 Celsius
$9/5\,C^0 + 32 = F^0$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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