

***ARMY TM 9-2320-302-10 AIR FORCE TO 36A12-1C-1600-1**

TECHNICAL MANUAL OPERATOR'S MANUAL FOR

TRUCK, TRACTOR, LINE HAUL:

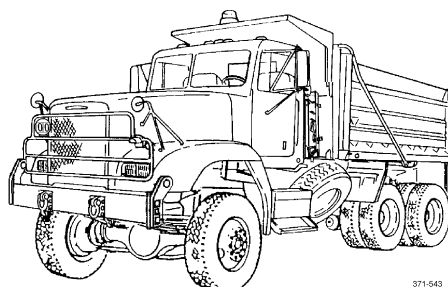
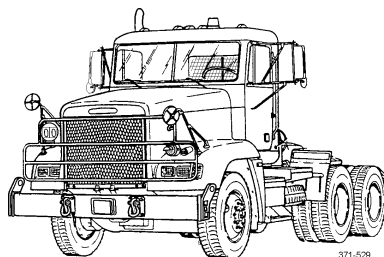
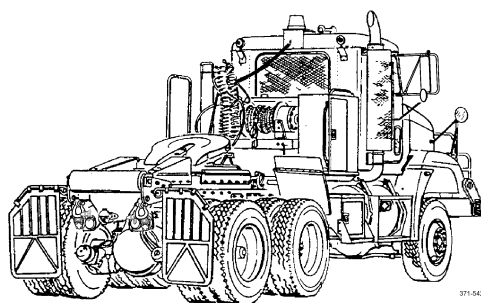
**52,000 GVWR, 6 X 4, M915A3
NSN 2320-01-432-4847 (EIC: B4L)**

**TRUCK, TRACTOR, LIGHT EQUIPMENT
TRANSPORTER (LET):**

**68,000 GVWR, 6 X 6, W/WINCH, M916A3
NSN 2320-01-488-6962 (EIC: B4P)**

TRUCK, DUMP, HEAVY CHASSIS:

**68,000 GVWR, 6 X 6, 14 CU YD, ON-OFF HIGHWAY
M917A2 NSN 3805-01-488-7442 (EIC: BPB)
M917A2 W/MCS NSN 3805-01-488-6963 (EIC: BA4)**



***SUPERSEDE NOTICE** - This manual supersedes TM 9-2320-302-10, dated 28 May 2001.

DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

**HEADQUARTERS, DEPARTMENTS OF THE
ARMY AND AIR FORCE
DECEMBER 2005**

WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death to personnel. Also included are explanations of safety and hazardous materials icons used within the technical manual.



BIOLOGICAL - abstract symbol bug shows that a material may contain bacteria or viruses that present a danger to life or health.



CHEMICAL - drops of liquid on hand shows that the material will cause burns or irritation to human skin or tissue.



EAR PROTECTION - headphones over ears shows that noise level will harm ears.



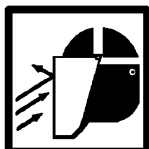
ELECTRICAL - electrical wire to arm with electricity symbol running through human body shows that shock hazard is present.



EYE PROTECTION - person with goggles shows that the material will injure the eyes.



FIRE - flame shows that a material may ignite and cause burns.



FLYING PARTICLES - arrows bouncing off face with face shield shows that particles flying through the air will harm face.

TM 9-2320-302-10



HEAVY OBJECT - human figure stooping over heavy object shows physical injury potential from improper lifting technique.



HEAVY PARTS - hand with heavy object on top shows that heavy parts can crush and harm.



HEAVY PARTS - heavy object on human figure shows that heavy parts present a danger to life or limb.



HOT AREA - hand over object radiating heat shows that part is hot and can burn.



VAPOR - human figure in a cloud shows that material vapors present a danger to life or health.

FOR INFORMATION ON FIRST AID, REFER TO FM 4-25.11.



WARNING

CARBON MONOXIDE (EXHAUST GASES) CAN KILL!

- Carbon monoxide is a colorless, odorless, deadly poison which, when breathed, deprives the body of oxygen and causes suffocation. Exposure to air containing carbon monoxide produces symptoms of headache, dizziness, loss of muscular control, apparent drowsiness, and coma. Permanent brain damage or death can result from severe exposure.
 - Carbon monoxide occurs in exhaust fumes of internal combustion engines. Carbon monoxide can become dangerously concentrated under conditions of inadequate ventilation. The following precautions must be observed to ensure safety of personnel when engine of truck is operated.
1. DO NOT operate vehicle in an enclosed area unless exhaust is vented to outside atmosphere.
 2. DO NOT drive truck with inspection plates or cover plates removed.
 3. BE ALERT for exhaust poisoning symptoms. They are:
 - Headache
 - Dizziness
 - Sleepiness
 - Loss of muscular control
 4. If you see another person with exhaust poisoning symptoms:
 - Remove person from area.
 - Expose to fresh air.
 - Keep person warm.
 - Do not permit physical exercise.
 - Administer cardiopulmonary resuscitation (CPR), if necessary.
 - Notify a medic.
 5. BE AWARE. The field protective mask for nuclear-biological-chemical (NBC) protection will not protect you from carbon monoxide poisoning.

The Best Defense Against Carbon Monoxide Poisoning Is Good Ventilation!



WARNING
BATTERIES

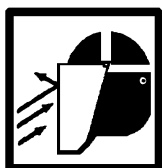


- To avoid eye injury, eye protection is required when working around batteries. DO NOT smoke, use open flame, make sparks or create other ignition sources around batteries. If a battery is giving off gases, it can explode and cause injury to personnel. Remove all jewelry such as rings, ID tags, watches, and bracelets. If jewelry or a tool contacts a battery terminal, a direct short will result in instant heating, injury to personnel, and damage to equipment.
- Sulfuric acid contained in batteries can cause serious burns. Always wear goggles, gloves, and apron. If battery corrosion or electrolyte makes contact with skin, eyes, or clothing, take immediate action to stop the corrosive burning effects. Failure to follow these procedures may result in death or serious injury to personnel.
 - a. **Eyes.** Flush with cold water for no less than 15 minutes and seek medical attention immediately.
 - b. **Skin.** Flush with large amounts of cold water until all acid is removed. Seek medical attention as required.
 - c. **Internal.** If corrosion or electrolyte is ingested, drink large amounts of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Seek medical attention immediately.
 - d. **Clothing/Equipment.** Wash area with large amounts of cold water. Neutralize acid with baking soda or household ammonia.

WARNING

BRAKES

- DO NOT use trailer handbrake to prevent trailer from jackknifing because this may cause trailer to jackknife. Modern airbrake systems are designed to deliver the right amount of air to all wheels to stop vehicle without jackknifing. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- DO NOT use trailer handbrake as primary brake to keep tension on coupling system. This will cause undue tension on brakes and coupling which could result in injury to personnel or damage to equipment. Prevent problems with slack in fifth wheel by using good braking habits and adjusting coupling and braking systems properly.
- When caging brakes, block wheels to keep truck from moving when brakes are released. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- DO NOT use engine brake if road surfaces are slippery. Use of engine brake on wet, icy, or snow-covered roads could result in loss of vehicle control. Failure to follow this warning could result in death or injury to personnel or damage to equipment.
- Brake chamber contains spring under great pressure. To prevent personnel injury, never work directly behind chamber. If caging bolt will not engage properly, spring may be broken.
- DO NOT remove clamp ring around spring brake chamber. It is under tension and can cause personnel injury if released.
- When spring brakes are applied, vehicle will stop quickly which could result in injury to personnel. Also, vehicle cannot be driven again until malfunction is repaired and enough air supply is present for operation of service brakes.



WARNING

COMPRESSED AIR

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel.



WARNING

CTIS OPERATION (M916A3, M917A2, AND M917A2 W/MCS)

Always wear eye protection and drain all air from wet tank before disconnecting CTIS air lines, hoses or fittings. Residual air in tire(s) and air line(s) will be expelled even though tire(s) is flat. Failure to follow this warning could cause serious eye injury.



WARNING

DIESEL FUEL HANDLING

- DO NOT smoke or permit any open flame in area of truck while you are servicing diesel fuel system. Be sure hose nozzle is grounded against filler tube during refueling to prevent static electricity. Failure to follow this warning may result in injury to personnel or equipment damage.
- Auxiliary heater, if equipped, must be switched to OFF while refueling. Fuel may ignite, causing injury or death to personnel and damage to vehicle.
- DO NOT perform fuel system checks, inspections or maintenance while smoking or near fire, flames or sparks. Fuel may ignite, causing injury or death to personnel and damage to vehicle.
- Personnel must wear fuel-resistant gloves when handling fuels. If exposed to fuel, promptly wash exposed skin and change fuel-soaked clothing.



WARNING

ETHER QUICK-START SYSTEM

Ether is highly flammable and explosive. DO NOT perform ether quick-start system checks or inspections while smoking or near fire, flame or sparks. Failure to follow this warning may cause a fire and explosion, causing serious injury or death to personnel.



WARNING

FIRE EXTINGUISHER

Discharging large quantities of dry chemical fire extinguisher in cab may result in temporary breathing difficulty during and immediately after the discharge event. If at all possible, discharge fire extinguisher from outside the cab. Avoid unnecessary contact during use and cleanup. Contact local medical personnel to determine necessary personal protective equipment to wear during cleanup.



WARNING

HEARING PROTECTION

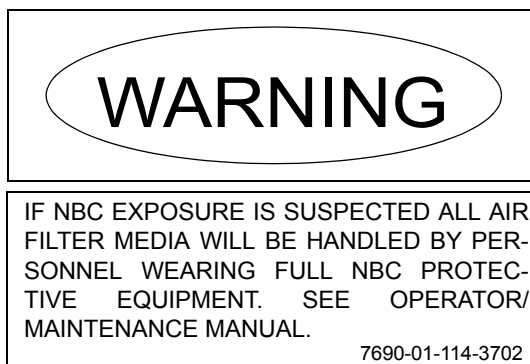
Hearing protection is required when operating vehicle at more than 40 mph (64 kph) with windows open for an extended period of time. Hearing protection is also required when personnel are within 5.2 ft (1.57 m) of vehicle when operating at low engine idle (600 rpm) and within 16.5 ft (5 m) of vehicle when operating at high idle (1600 rpm). Failure to follow this warning may result in hearing damage.



WARNING

NBC EXPOSURE

If NBC exposure is suspected, all air cleaner media should be handled by personnel wearing protective equipment. Consult your NBC Officer or NBC NCO for appropriate handling or disposal procedures.



To order this NBC decal use:

National Stock Number (NSN) - 7690-01-114-3702

Part Number (PN) - 12296626

Commercial and Government Entity Code (CAGEC) - 19207



WARNING

***PRESSURIZED HYDRAULIC SYSTEM
(M916A3, M917A2 AND M917A2 W/MCS)***

To prevent serious burns, relieve system pressure and then remove hydraulic cap slowly.



WARNING

NCGARS RADIO

DO NOT make contact with any bare metal/wire surface of active SINCGARS antenna elements. Failure to follow this warning could result in radio frequency (RF) shock or burn.



WARNING

SLAVE STARTING

- When slave starting truck, use NATO slave cable that DOES NOT have loose or missing insulation.
- DO NOT proceed if suitable cable is not available.
- DO NOT use civilian-type jumper cables.
- Failure to follow this warning could result in injury.

WARNING

TIRE CHANGING

Whenever wheel lug nuts require tightening or a wheel has been removed and replaced, lug nuts must be tightened to the required torque. Failure to follow this warning may result in serious injury to personnel and damage to equipment.

WARNING

TOWING

Brakes will be released when air is applied to a disabled vehicle. DO NOT connect air lines to a disabled vehicle without first blocking wheels and connecting tow bar between vehicles. Failure to follow this warning could result in death or injury to personnel and damage to equipment.

WARNING

TRUCK OPERATION

- BE ALERT for personnel in area while operating truck. Always check to ensure area is clear of personnel and obstructions before moving out. Failure to follow this warning may result in serious injury or death to personnel.
- Use of seat belts while operating vehicle is mandatory. Fasten belt BEFORE driving. Trying to fasten three-point belt while driving creates a hazardous condition. Failure to follow this warning may result in death or injury to personnel.
- Serious injury may result if head clearance is not adequate while sitting in seat. Before driving or riding in vehicle, ensure there is adequate clearance at maximum upward travel of seat.
- Check Engine button is used for diagnostic purposes only. DO NOT push Check Engine button during vehicle operation because engine will slow down to an idle, which could cause hazardous operating conditions. Return to operating mode by releasing accelerator pedal and allowing engine to return to idle speed. Failure to follow this warning may result in death or injury to personnel.
- Ensure that steering wheel adjustment control lever is in locked (neutral) position before driving truck. NEVER try to adjust tilt or height of steering wheel while driving. Failure to follow this warning may cause death or injury to personnel.
- Use caution when coupling to or uncoupling from semitrailer. BE ALERT for personnel in area. Ensure that hands, arms, and body are clear of potential pinch points. Failure to follow this warning may result in injury to personnel.
- Operating truck with an underinflated or defective tire may lead to tire failure and loss of steering control. Injury to personnel or damage to equipment may result.
- This vehicle has been designed to operate safely and efficiently within the limits specified in this TM. Operation beyond these limits is prohibited in accordance with AR 70-1 without written approval from: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-DSA-FP-IM, Warren, MI 48397-5000.
- If vehicle is left with engine running, vehicle can move suddenly causing serious injury or death to personnel or damage to equipment.

WARNING

WHOLE-BODY VIBRATION

When coupled to a semitrailer, DO NOT exceed 35 mph (56 kph) on secondary (gravel) roads. Failure to follow this warning could result in injury.

WARNING

WATER DISTRIBUTOR TOWING (M916A3)

- DO NOT tow 6,000 gallon water distributors with a partial load except when in use on construction sites and at a maximum speed of 10 mph. When towing outside of construction sites, either drain water distributor empty (preferred) or fill to capacity. Failure to follow this warning could result in unsafe driving conditions causing serious injury or death to personnel and damage to equipment.
- When towing 6,000 gallon water distributor, fifth wheel must be in rear setting (LOAD HAUL-172) and travel lockout must be engaged to prevent side-to-side oscillation of water distributor. Failure to follow this warning could result in unsafe driving conditions causing serious injury or death to personnel and damage to equipment.

WARNING

WINCH OPERATION (M916A3)

- Always wear heavy gloves when handling winch cable. Never allow cable to run through hands; frayed cable can cut you. Never operate winch with less than four turns of cable on drum. Keep cable coils tight and close together on drum while winching. Failure to follow this warning may result in injury to personnel.
- Hearing protection is required for operator and personnel working around winch station during operation.
- DO NOT use winch for moving or lifting people. Serious injury could result.

WARNING

WORK SAFETY



- Use caution when lifting or handling wheel and tire assembly. It is heavy and could cause injury if improperly lifted or if it falls on you.



- Hydraulic jack is intended only for lifting truck, not for supporting vehicle to perform maintenance. DO NOT get under truck after it is raised unless it is properly supported with blocks or jackstands. Failure to observe this warning may result in death or injury to personnel.

- Ensure air flow valve lever is in full horizontal position. Failure to follow this warning could result in loss of trailer or truck brakes.



- Lifting cables, chains, hooks, and slings used for lifting truck must be in good condition and of suitable capacity. Failure to follow this warning may result in injury or death to personnel and damage to equipment.



- Improper use of lifting equipment and improper attachment of cables to vehicle can result in serious injury to personnel and equipment damage. Observe all standard rules of safety.



- ALWAYS install hood prop after opening hood. Failure to follow this warning could result in severe injury to personnel.

ARMY TM 9-2320-302-10
AIR FORCE TO 36A12-1C-1600-1

CHANGE
No. 1

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND AIR FORCE
WASHINGTON, D.C., 30 December 2010

TECHNICAL MANUAL

OPERATOR'S MANUAL

FOR

TRUCK, TRACTOR, LINE HAUL:
52,000 GVWR, 6 x 4, M915A3
(NSN 2320-01-432-4847) (EIC: B4L)

TRUCK, TRACTOR, LIGHT EQUIPMENT
TRANSPORTER (LET):
68,000 GVWR, 6 x 6, W/WINCH, M916A3
(NSN 2320-01-488-6962) (EIC: B4P)

TRUCK, DUMP, HEAVY CHASSIS:
68,000 GVWR, 6 x 6, 14 CU YD, ON-OFF HIGHWAY
M917A2 (NSN 3805-01-488-7442) (EIC: BPB)
M917A2 W/MCS (NSN 3805-01-488-6963) (EIC: BA4)

DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

TM 9-2320-302-10, 30 December 2005, is updated as follows:

1. File this sheet in front of the publication for reference purposes.
2. New or updated material is indicated by a vertical bar in the outer margin of the page and by a vertical bar adjacent to the art.
3. Remove old pages and insert new pages as indicated below:

Remove Pages

Front Cover
A/(B Blank)
i thru v/(vi Blank)
DA Form 2028 Sample
DA Form 2028 (three copies)

Insert Pages

Front Cover
A/(B Blank)
i thru v/(vi Blank)
DA Form 2028 Sample
DA Form 2028 (four copies)

4. Replace the following work packages with their revised version.

Work Package Number


WP 0001 00
WP 0002 00
WP 0003 00
WP 0004 00
WP 0005 00
WP 0007 00
WP 0012 00
WP 0013 00
WP 0014 00
WP 0017 00

ARMY TM 9-2320-302-10
AIR FORCE TO 36A12-1C-1600-1

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:


JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
1033604

By Order of the Secretary of the Air Force:

DUNCAN J. MCNABB
General, United States Air Force
Vice Chief of Staff

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BRUCE CARLSON
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Commander, Air Force Materiel Command

DISTRIBUTION:

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ARMY TM 9-2320-302-10
AIR FORCE TO 36A12-1C-1600-1

LIST OF EFFECTIVE PAGES/WORK PACKAGES

Dates of issue for original and change pages/work packages are:

Original	30 December 2005
Change 1	30 December 2010

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 42 AND TOTAL NUMBER OF WORK PACKAGES IS 21 CONSISTING OF THE FOLLOWING:

Page/WP No.	*Change No.
Front Cover (Back Blank)	1
a to k/(l Blank)	0
i thru v/(vi Blank)	1
WP 0001 00 to WP 0005 00	1
WP 0006 00	0
WP 0007 00	1
WP 0008 00 to 0011 00	0
WP 0012 00 to 0014 00	1
WP 0015 00 to 0016 00	0
WP 0017 00	1
WP 0018 00 to 0021 00	0
Index -1 to Index-7/(Index-8 Blank)	0
Authentication Page (Back Blank)	0
Sample DA Form 2028	1
Blank DA Form 2028	1
Metric Conversion Chart	0
Back Cover	0

* Zero in this column indicates an original page or work package.

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***ARMY TM 9-2320-302-10
AIR FORCE TO 36A12-1C-1600-1**

**HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND AIR FORCE
WASHINGTON, D.C., 30 December 2005**

**TECHNICAL MANUAL
OPERATOR'S MANUAL**

FOR

**TRUCK, TRACTOR, LINE HAUL:
52,000 GVWR, 6 X 4, M915A3
NSN 2320-01-432-4847 (EIC: B4L)**

**TRUCK, TRACTOR, LIGHT EQUIPMENT
TRANSPORTER (LET):
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**TRUCK, DUMP, HEAVY CHASSIS:
68,000 GVWR, 6 X 6, 14 CU YD, ON-OFF HIGHWAY
M917A2 NSN 3805-01-488-7442 (EIC: BPB)
M917A2 W/MCS NSN 3805-01-488-6963 (EIC: BA4)**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any errors, or if you would like to recommend any improvements to the procedures in this publication, please let us know. The preferred method is to:

(A) Army - Submit your DA Form 2028 (Recommended Changes to Publications and Blank Forms) through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <https://aeprs.ria.army.mil>. The DA Form 2028 is located under the Public Applications section in the AEPS Public Home Page. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, e-mail, or fax your comments or DA Form 2028 directly to the U.S. Army TACOM Life Cycle Management Command. The postal mail address is U.S. Army TACOM Life Cycle Management Command, ATTN: AMSTA-LC-LMPP/TECH PUBS, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The e-mail address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

(F) Air Force - By Air Force AFTO Form 22 directly to 580 CBSS/GBLCA, ATTN: M-Series IPT, 460 Richard Ray Blvd., Ste. 200, Robins AFB, GA 31098-1813. You may also send in your recommended changes via electronic mail or by fax. Our fax number is DSN 472-1849 and Commercial 478-222-1849. Our e-mail address is 580CBSS.mseriesipt@robins.af.mil. A reply will be furnished to you.

***SUPERSEDEURE NOTICE** - This manual supersedes TM 9-2320-302-10, dated 28 May 2001.

DISTRIBUTION STATEMENT A - Approved for public release; distribution is unlimited.

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HOW TO USE THIS MANUAL

INTRODUCTION

1. This manual is designed to help you operate the M915 Family of Vehicles and perform operator troubleshooting and maintenance on the equipment.
2. This manual is written in Work Package format:
 - a. Chapters divide the manual into major categories of information (e.g., *Introductory Information with Theory of Operation*, *Operating Instructions*, *Operator Troubleshooting*, *Operator Maintenance Instructions*, and *Supporting Information*).
 - b. Each Chapter is divided into Work Packages, which are identified by a 6-digit number (e.g. 0001 00, 0002 00, etc.) located on the upper right-hand corner of each page. The Work Package page number (e.g. 0001 00-1, 0001 00-2, etc.) is located centered at the bottom of each page.
 - c. If a Change Package is issued to this manual, added Work Packages use the 5th and 6th digits of their number to indicate new material. For instance, Work Packages inserted between WP 0001 00 and WP 0002 00 are numbered WP 0001 01, WP 0001 02, etc.
3. Scan thru this manual to become familiar with its organization and contents before attempting to operate or maintain the equipment.
4. This manual covers the following models:
 - a. M915A3 Tractor Truck (Old Model)
 - b. M915A3 Tractor Truck (New Model)
 - c. M916A3 Tractor Truck
 - d. M917A2 Dump Truck
 - e. M917A2 w/MCS Dump Truck
5. The terms M915A3 (Old Model) and M915A3 (New Model) will be used when model differences must be identified.
 - a. M915A3 (Old Model) = Serial #'s up to H77205 and vehicle J64175 only.
 - b. M915A3 (New Model) = Serial #'s starting with J21548.

CONTENTS OF THIS MANUAL

1. A *Warning Summary* is located at the beginning of this manual. Become familiar with these warnings before operating or performing operator troubleshooting or maintenance on the vehicle.
2. A *Table of Contents*, located in the front of the manual, lists all Chapters and Work Packages in the publication.
 - a. The Table of Contents also provides *Reporting Errors and Recommending Improvements* information and DA Form 2028 addresses, for the submittal of corrections to this manual.

CONTENTS OF THIS MANUAL - CONTINUED

- b. If you cannot find what you are looking for in the Table of Contents, refer to the alphabetical *Index* at the back of the manual.
3. Chapter 1, *Introductory Information with Theory of Information*, provides general information on the manual and the equipment.
4. Chapter 2, *Operating Instructions*, explains and illustrates all operator controls and indicators, and describes how to perform all operating procedures for the M915 Family of Vehicles: *Operation Under Usual Conditions and Operation Under Unusual Conditions*.
5. Chapter 3 covers all *Operator Troubleshooting*. WP 0009 00 is a *Troubleshooting Symptom Index*. If the vehicle malfunctions, this index should always be consulted to locate the appropriate troubleshooting procedure.
6. Chapter 4 covers all *Operator Maintenance Instructions*: Major areas covered are *Preventive Maintenance Checks and Services (PMCS)* and operator level maintenance tasks.
7. Chapter 5 covers *Supporting Information: References, Components of End Item (COEI) and Basic Issue Items (BII) Lists, Additional Authorization List (AAL), and Expendable and Durable Items List*.

FEATURES OF THIS MANUAL

1. WARNINGS, CAUTIONS, NOTES, subject headings, and other important information are highlighted in **BOLD** print as a visual aid.

WARNING

A WARNING indicates a hazard which may result in death or serious injury.

CAUTION

A CAUTION is a reminder of safety practices or directs attention to usage practices that may result in damage to equipment.

NOTE

A NOTE is a statement containing information that will make the procedures easier to perform.

2. Statements and words of particular interest may be printed in CAPITAL LETTERS to create emphasis.
 3. Within a procedural step, reference may be made to another Work Package in this manual or to another manual. These references indicate where you should look for more complete information.
 - a. If you are told: "Perform *After* Operation PMCS (WP 0012 00)", go to Work Package 0012 00 in this manual for *After* Operation PMCS.

FEATURES OF THIS MANUAL - CONTINUED

- b. If you are told: “Refer to FM 21-305 for General Guidelines on vehicle recovery”, go to FM 21-305, which is listed in the *References* Work Package, for complete information on vehicle recovery.
4. Illustrations are placed after, and as close to, the procedural steps to which they apply. Callouts placed on the art may be text or numbers, or both; whichever method is easier for the soldier.
5. Numbers located at lower right corner of art (e.g. 342-001, 342-002, 371-001, 371-002, etc.) are art control numbers and are used for tracking purposes. Disregard these numbers.
6. Dashed leader lines used in illustrations indicate that called out items are not visible in the view depicted (i.e. they are located within the structure).
7. Technical instructions include metric units as well as standard units. For your reference, a *Metric Conversion Chart* is located on the inside back cover of the manual.

NOTE

If at any time you are unsure how to use this manual or you cannot locate the information you need, notify your supervisor.

TM 9-2320-302-10

CHAPTER 1
GENERAL INFORMATION, EQUIPMENT DESCRIPTION,
AND THEORY OF OPERATION

GENERAL INFORMATION

0001 00**SCOPE****1. Type of Manual.**

- a. This manual is for use in operating and maintaining the M915 Family of Vehicles, to include the chassis of the M917A2 and M917A2 w/MCS (Material Control System) dump truck.
- b. For operation and maintenance of the M917A2 and M917A2 w/MCS dump truck body, refer to TM 5-3805-264-14&P.

2. Equipment Name and Model Number.

- a. Truck, Tractor, Line Haul: 52,000 GVWR, 6 X 4, M915A3.
- b. Truck, Tractor, Light Equipment Transporter (LET): 68,000 GVWR, 6 X 6, w/Winch, M916A3.
- c. Truck, Dump, Heavy, Chassis: 68,000 GVWR, 6 X 6, 14 Cu Yd, On-Off Highway, M917A2 and M917A2 w/MCS.

3. Purpose of Equipment.

- a. The M915A3 truck tractor is a 6 X 4 prime mover of semitrailers used primarily to transport containers, bulk cargo, and petroleum products over primary and secondary roads under worldwide climatic conditions in a military environment.
- b. The M916A3 truck tractor is a 6 X 6 prime mover of low-bed semitrailers used primarily to transport heavy engineer equipment over primary and secondary roads, and off-road, under worldwide climatic conditions.
- c. The M917A2 and M917A2 w/MCS are 6 X 6 dump trucks used to transport, dump, or spread asphalt, aggregate, dirt, and similar materials over primary and secondary roads and off-road.

MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, *Functional User's Manual for the Army Maintenance Management System (TAMMS)*, as contained in the Maintenance Management Update.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRS)

If your 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 Form 368 (*Product Quality Deficiency Report*). Mail it to us at: Commander, U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-LC-LMIT, Rock Island, Illinois 61299-7630. We'll send you a reply.

GENERAL INFORMATION - CONTINUED

0001 00

CORROSION PREVENTION AND CONTROL (CPC)

1. Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.
2. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.
3. If a corrosion problem is identified, it can be reported using SF Form 368 (*Product Quality Deficiency Report*). Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750.

OZONE DEPLETING SUBSTANCES (ODS)

Listing to be provided by requiring activity.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

For destruction of Army materiel to prevent enemy use, refer to TM 750-244-6.

PREPARATION FOR STORAGE OR SHIPMENT

Before loading M915A3/M967A2 tractor-trailer combination onto a Roll-on/Roll-off (RO/RO) ship, contact unit maintenance to remove fuel tank step assembly.

- Before loading any M915A3/Trailer combination, contact Unit Maintenance to remove fifth wheel stops.

For additional preparation for storage or shipment procedures, refer to TM 9-2320-302-20.

WARRANTY INFORMATION

The vehicle is warranted by Freightliner Corporation in accordance with TB 9-2320-302-15. Warranty starts on the date found in block 23, DA Form 2408-9 in the logbook. Report all defects in material or workmanship to your supervisor, who will take appropriate action.

NOMENCLATURE CROSS-REFERENCE LIST

COMMON NAME

OFFICIAL NOMENCLATURE

Cold Start System	Ether Quick-Start System
Engine Coolant	Antifreeze, Ethylene Glycol Mixture
Gladhand	Quick Disconnect Coupling
Jake Brake	Engine Brake
Komfort Loc®	Seat Belt Adjustment
TufTrac	Rear Suspension System

GENERAL INFORMATION - CONTINUED**0001 00****LIST OF ABBREVIATIONS****NOTE**

Refer to ASME Y14.38-1999 for standard abbreviations.

ABBREVIATION	DEFINITION
AAL.....	Additional Authorization List
ABS.....	Anti-Lock Brake System
AWD.....	All Wheel Drive
BII.....	Basic Issue Items
C.....	Centigrade or Celsius
CID.....	Cubic Inch Displacement
cm.....	Centimeter
COEI.....	Components of End Item
CTIS.....	Central Tire Inflation System
CWS.....	Collision Warning System
DRL.....	Daytime Running Lights
ECU.....	Electronic Control Unit
F.....	Fahrenheit
GCWR.....	Gross Combination Weight Rating
GVWR.....	Gross Vehicle Weight Rating
kg.....	Kilogram
km.....	Kilometer
kPa.....	Kilopascal
kph.....	Kilometers per Hour
kW.....	Kilowatt
l.....	Liter
lb.....	Pound
lb-ft.....	Pound foot
LED.....	Light Emitting Diode
lph.....	Liters per Hour
m.....	Meter
MCS.....	Material Control System
mm.....	Millimeter
Nm.....	Newton Meter

GENERAL INFORMATION - CONTINUED

0001 00***LIST OF ABBREVIATIONS - CONTINUED***

PMCS	Preventive Maintenance Checks and Services
psi	Pounds per Square Inch
PTO	Power Take-Off
rpm	Revolutions per Minute
SINCGARS	Single Channel Ground/Airborne Radio System
TMDE	Test, Measurement, and Diagnostic Equipment

EQUIPMENT DESCRIPTION AND DATA**0002 00*****EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES*****1. Characteristics.**

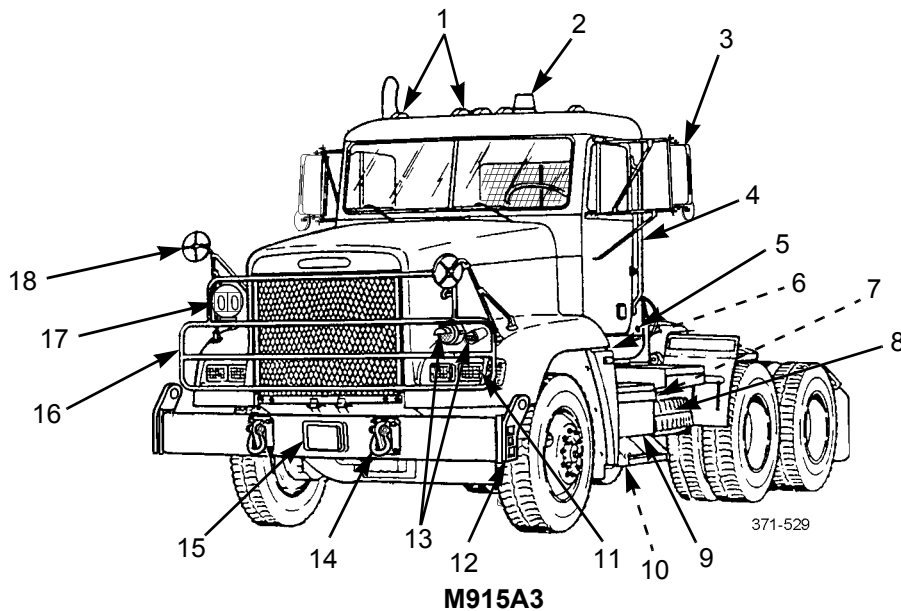
- a. The M915A3 truck is used to transport M871 and M872 semitrailers, M967/M969 5000 gallon fuel tankers and M1062 7500 gallon fuel tanker on line haul missions. It has a Gross Vehicle Weight Rating (GVWR) of 52,000 lb (23,608 kg) and is equipped with a two-way oscillating, sliding fifth wheel compatible with a two-inch kingpin. Maximum towed load on kingpin is 30,000 lb (13,620 kg).
- b. The M916A3 truck is used to transport M870, M870A1, M870A2, and M870A3 and M172A1 semitrailers loaded with heavy engineer equipment, 60PRS and WD6S 6,000 gallon water distributors over primary and secondary roads and trails. It has a GVWR of 68,000 lb (30,872 kg) and is equipped with a 45,000 lb (20,430 kg) winch, a tail roller, and a four-way oscillating, sliding fifth wheel compatible with a 3 1/2-inch kingpin. Maximum towed load on kingpin is 40,000 lb (18,160 kg). It is equipped with a CTIS which allows operation across a wide variety of terrain.
- c. The M917A2 and M917A2 w/MCS dump trucks have a GVWR of 68,000 lb (30,872 kg), a 14 cu yd (10.7 m³) dump body capacity, and an 18.5 ton (16.8 metric ton) load capability. They are equipped with a CTIS which allows operation across a wide variety of terrain.

2. Capabilities and Features.

- a. While operating on Class I roads, a fully loaded M915A3 can maintain a speed of 65 mph (105 kph) on level roads and 25 mph (40 kph) while ascending a 3 percent grade. It has a minimum turning diameter, curb-to-curb, of 53 ft 9 in (16.4 m).
- b. While operating on Class I roads, a fully loaded M916A3 can maintain a speed of 60 mph (96.5 kph) on level roads and 25 mph (40 kph) while ascending a 3 percent grade. It has a transmission-mounted PTO which powers the winch.
- c. While operating on Class I roads, M917A2 and M917A2 w/MCS can maintain a speed of 55 mph (88 kph) on level roads and 25 mph (40 kph) while ascending a 3 percent grade. They have a transmission-mounted PTO which powers the dump body (TM 5-3805-264-14&P).
- d. Average cruising ranges at Gross Combination Weight Rating (GCWR) with a full tank of fuel will vary based on conditions (e.g., varying loads, prolonged idle, PTO usage, off-road driving, and climatic conditions). Cruising range is optimally 400 miles (644 km).
- e. All vehicles are equipped with an instrument panel mounted speedometer and tachometer which register truck ground speed and engine speed.
- f. The following capabilities and features are common to all models:
 - (1) air-activated front and rear non-asbestos cam brakes with a four-channel anti-lock brake system (ABS) to provide significantly improved handling and braking during emergency stops;

EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00*****EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES - CONTINUED***

- (2) operation in temperatures from -25°F (-32°C) to +125°F (+52°C), and to -40°F (-40°C) with arctic kit installed;
 - (3) start and climb capability of a 20 percent grade at GCWR in both forward and reverse directions;
 - (4) fording capability up to 20 in. (51 cm) deep for 5 minutes without damage or requiring maintenance before operations can continue;
 - (5) two-passenger aluminum corrosion-proof cab with a 90 degree tilt-forward hood for service accessibility;
 - (6) six cylinder, 12.7 liter, 430 horsepower, in-line diesel engine built by Detroit Diesel.
- g. M916A3, M917A2, and M917A2 w/MCS are equipped with Central Tire Inflation System (CTIS).
 - h. M915A3 and M916A3 are equipped with a Collision Warning System (CWS) that warns the driver of potentially dangerous driving situations by activating visual and audible alerts.
 - i. When operating in arctic conditions, all vehicles can be equipped with an arctic heater mounted under the cab, above the battery box. This provides heat for the cab and engine cooling system. The arctic heater may be operated prior to starting the engine to provide preheating of engine block.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

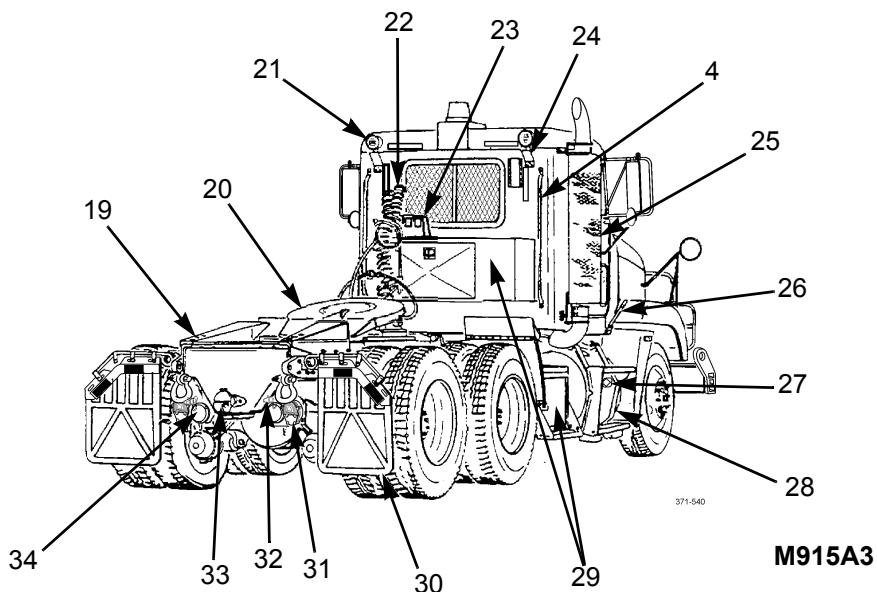
EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00****LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED**

KEY	COMPONENT	DESCRIPTION
1	Marker Clearance Lights	Indicate outline of truck.
2	Beacon Warning Light	Alerts other vehicles of presence of truck.
3	Side Mirrors w/Spotter Mirrors	Provide driver with a view of sides of truck and semitrailer, if towing.
4	Grabhandles	Provide a hand hold for personnel climbing on truck.
5	Utility Power Receptacle	Supplies power for work lights. Located on both sides of truck.
6	Air Horn	Provides an audible alert.
7	Master Battery Switch	Connects batteries to vehicle electrical system.
8	Spare Wheel and Tire	Extra wheel and tire used in case of a flat tire.
9	Battery Box and Steps	Holds vehicle batteries and provides steps to access cab.
10	NATO Slave Receptacle	Provides connection point for NATO cable to slave start vehicle.
11	Front Service Lights	Include headlights, turn signals, and daytime running lights (DRL).
12	Bumper Extensions	Provide adjustable attachment point for overhead sling.
13	Blackout Lights	Used during blackout conditions. Include marker and drive lights.
14	Towing Eyes	Provide attachment points for towing device.
15	CWS Antenna	Forward looking collision warning system antenna.
16	Brush Guard	Protects front of hood and components under hood from damage.
17	Military Classification Sign	Placard used to display military weight classification.
18	Spotting Mirrors	Provide added visibility to right side and front of truck.

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



KEY	COMPONENT	DESCRIPTION
4	Grabhandles	Provide a hand hold for personnel climbing on truck.
19	Ramp	Sloped surface serves as an approach to fifth wheel and facilitates coupling of semitrailer.
20	Fifth Wheel	Coupling device for semitrailers with kingpins.
21	Utility Lights	Illuminate area in back of cab. There is one light on each side of cab.
22	Air Lines	Provide air supply for trailer brakes.
23	Intervehicular Receptacles	M915A3 (Old Model) contains 12-volt, 24-volt, and trailer ABS receptacles. M915A3 (New Model) contains 12-volt and 24-volt receptacles.
24	Antenna Mount	Mount for radio antenna.
25	Exhaust Muffler	Deadens noise of engine exhaust.
26	Hood Latch	Locks hood closed. Located on both sides of hood.

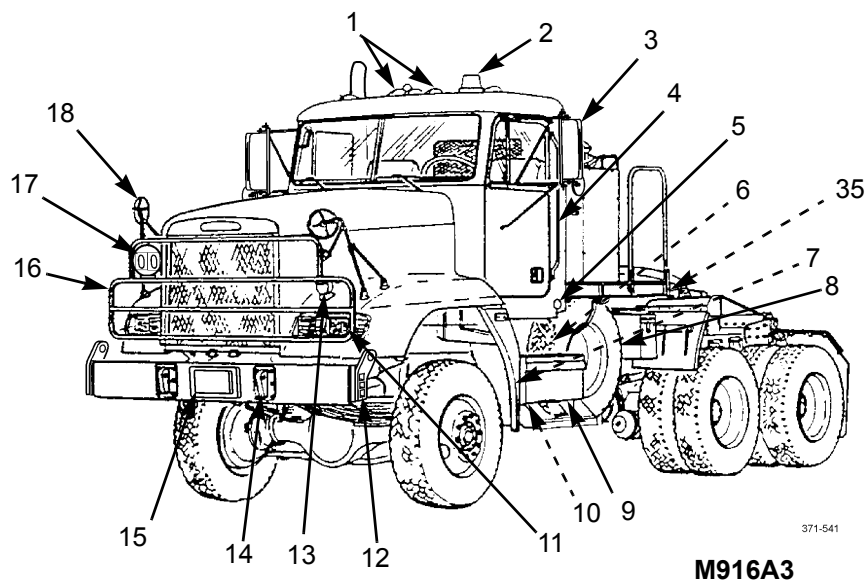
EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00****LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED**

KEY	COMPONENT	DESCRIPTION
27	CWS Side Sensor	Side looking collision warning system sensor.
28	Fuel Tank	Holds fuel. Steps mounted to tank provide access to cab.
29	Storage Boxes	Provide stowage area for BII and other items.
30	Mud Flaps	Prevent water and debris from spraying up on passers by or towed semitrailer.
31	Taillights	Contain composite tail, stop, blackout, and turn signal lights.
32	Trailer Gladhands	Provide air supply for pintle-towed trailers.
33	Pintle Hook	Coupling device for trailers with lunettes.
34	Backup Lights	Light comes on when R (Reverse) is selected.

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



M916A3

KEY	COMPONENT	DESCRIPTION
1	Marker Clearance Lights	Indicate outline of truck.
2	Beacon Warning Light	Alerts other vehicles of presence of truck.
3	Side Mirrors w/Spotter Mirrors	Provide driver with a view of sides of truck and semitrailer, if towing.
4	Grabhandles	Provide a hand hold for personnel climbing on truck.
5	Utility Power Receptacle	Supplies power for work lights. Located on both sides of truck.
6	Air Horn	Provides an audible alert.
35	Trailer Hydraulic Couplings	Provide connection points for hydraulic lines between truck and hydraulically equipped trailers.
7	Master Battery Switch	Connects batteries to vehicle electrical system.
8	Spare Wheel and Tire	Extra wheel and tire used in case of a flat tire.
9	Battery Box and Steps	Holds vehicle batteries and provides steps to access cab.
10	NATO Slave Receptacle	Provides connection point for NATO cable to slave start vehicle.

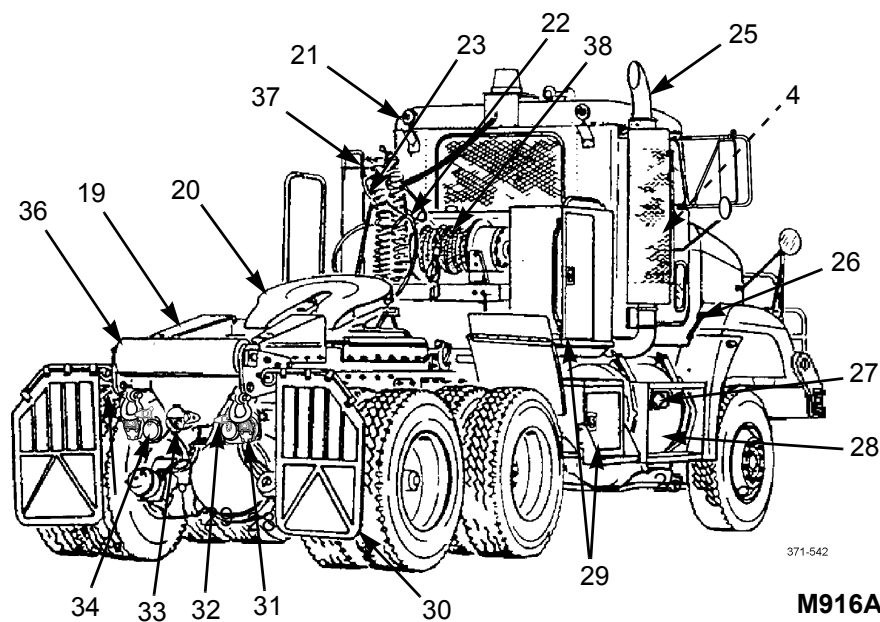
EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00****LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED**

KEY	COMPONENT	DESCRIPTION
11	Front Service Lights	Include headlights, turn signals, and daytime running lights (DRL).
12	Bumper Extensions	Provide adjustable attachment point for overhead sling.
13	Blackout Lights	Used during blackout conditions. Include marker and drive lights.
14	Towing Eyes	Provide attachment points for towing device.
15	CWS Antenna	Forward looking collision warning system antenna.
16	Brush Guard	Protects front of hood and components under hood from damage.
17	Military Classification Sign	Placard used to display military weight classification.
18	Spotting Mirrors	Provide added visibility to right side and front of truck.

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



M916A3

KEY	COMPONENT	DESCRIPTION
4	Grabhandles	Provide a hand hold for personnel climbing on truck.
19	Ramp	Sloped surface and roller serves as an approach to fifth wheel and facilitates coupling of semitrailer.
20	Fifth Wheel	Coupling device for semitrailers with kingpins.
21	Utility Lights	Illuminate area in back of cab. There is one light on each side of cab.
22	Air Lines	Provide air supply for trailer brakes.
23	Intervehicular Receptacles	Contains 12-volt and 24-volt receptacles.
25	Exhaust Muffler	Deadens noise of engine exhaust.
26	Hood Latch	Locks hood closed. Located on both sides of hood.
27	CWS Side Sensor	Side looking collision warning system sensor.

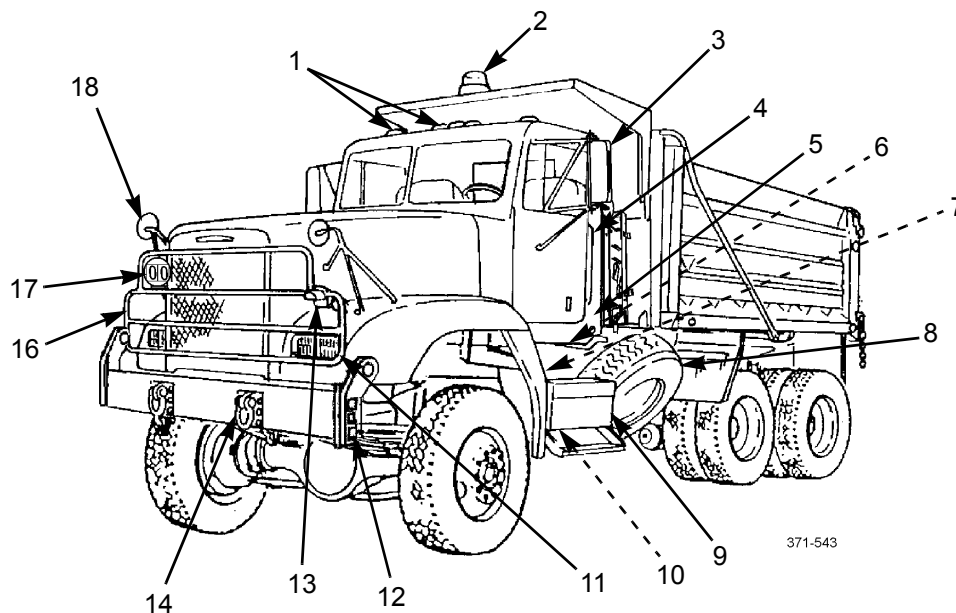
EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00****LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED**

KEY	COMPONENT	DESCRIPTION
28	Fuel Tank	Holds fuel. Steps mounted to tank provide access to cab.
29	Storage Boxes	Provide stowage area for BII and other items.
30	Mud Flaps	Prevent water and debris from spraying up on passers by or towed semitrailer.
31	Taillights	Contain composite tail, stop, blackout, and turn signal lights.
32	Trailer Gladhands	Provide air supply for trailer brakes.
33	Pintle Hook	Coupling device for trailers with lunettes.
34	Backup Lights	Lights come on when R (Reverse) is selected.
36	Roller	Roller serves as an approach to fifth wheel and facilitates coupling of semitrailer.
37	Winch Controls	Operate winch.
38	Hydraulic Winch	Powered by PTO to perform winching operations.

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



M917A2

KEY	COMPONENT	DESCRIPTION
1	Marker Clearance Lights	Indicate outline of truck.
2	Beacon Warning Light	Alerts other vehicles of presence of truck.
3	Side Mirrors w/Spotter Mirrors	Provide driver with a view of sides of truck and trailer, if towing.
4	Grabhandles	Provide a hand hold for personnel climbing on truck.
5	Utility Power Receptacle	Supplies power for work lights. Located on both sides of truck.
6	Air Horn	Provides an audible alert.
7	Master Battery Switch	Connects batteries to vehicle electrical system.
8	Spare Wheel and Tire	Extra wheel and tire used in case of a flat tire.
9	Battery Box and Steps	Holds vehicle batteries and provides steps to access cab.
10	NATO Slave Receptacle	Provides connection point for NATO cable to slave start vehicle.

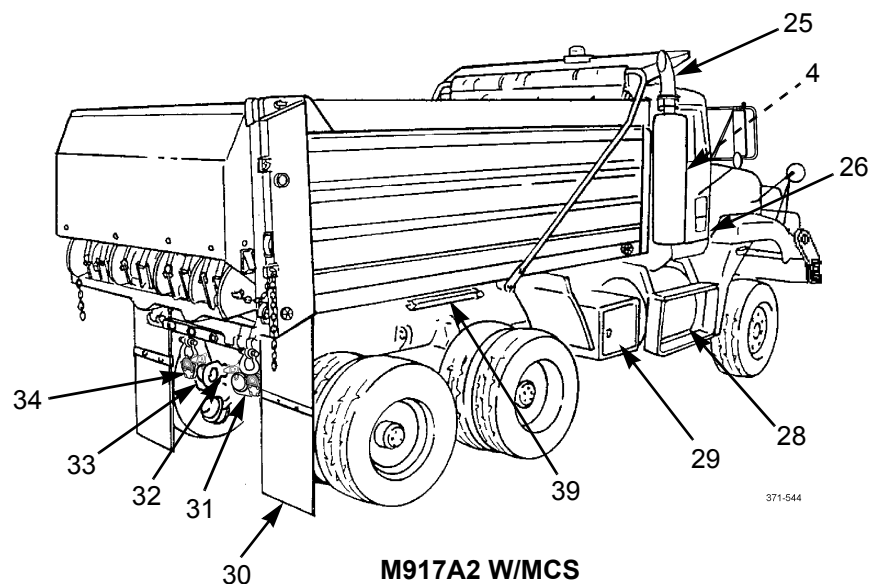
EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00****LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED**

KEY	COMPONENT	DESCRIPTION
11	Front Service Lights	Include headlights, turn signals, and daytime running lights (DRL).
12	Bumper Extensions	Provide adjustable attachment point for overhead slings.
13	Blackout Lights	Used during blackout conditions. Include marker and drive lights.
14	Towing Eyes	Provide attachment points for towing device.
16	Brush Guard	Protects front of hood and components under hood from damage.
17	Military Classification Sign	Placard used to display military weight classification.
18	Spotting Mirrors	Provide added visibility to right side and front of truck.

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS - CONTINUED



KEY	COMPONENT	DESCRIPTION
4	Grabhandles	Provide a hand hold for personnel climbing on truck.
25	Exhaust Muffler	Deadens noise of engine exhaust.
26	Hood Latch	Locks hood closed. Located on both sides of hood.
28	Fuel Tank	Holds fuel. Steps mounted to tank provide access to cab.
29	Storage Box	Provides stowage area for BII and other items.
30	Mud Flaps	Prevent water and debris from spraying up on passers by or towed semitrailer.
31	Taillights	Contain composite tail, stop, blackout, and turn signal lights.
32	Trailer Gladhands	Provide air supply for trailer brakes.
33	Pintle Hook	Coupling device for trailers with lunettes.
34	Backup Lights	Lights come on when R (Reverse) is selected.
39	Body Prop	Supports dump body in raised position.

EQUIPMENT DESCRIPTION AND DATA - CONTINUED**0002 00****DIFFERENCE BETWEEN MODELS**

ITEM	VEHICLE MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Transfer Case			X	X	X
Driving Front Axle			X	X	X
Central Tire Inflation System			X	X	X
2-Way Sliding Fifth Wheel	X	X			
4-Way Oscillating Fifth Wheel			X		
Hydraulic Winch			X		
Air Deflector Bracket	X	X	X		
Collision Warning System	X	X	X		
Mirrors (Heated/ Remote)	Heated Only	X	X	X	X
Propeller Shafts (Prelube)		X	X	X	X
Power Take-Off			X	X	X
Voltage Regulator (Alternator Mounted)		X	X	X	X

EQUIPMENT DATA

ITEM	VEHICLE MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Manufacturer:	Freightliner	Freightliner	Freightliner	Freightliner	Freightliner
Dimensions:					
Length (Overall)	276.0 in (701 cm)	276.0 in (701 cm)	290 in (736.6 cm)	303.8 in (771.7 cm)	316.25 in (803.3 cm)

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Dimensions - Continued:					
Height (Overall)	118 in (300 cm)	118 in (300 cm)	128 in (325 cm)	128 in (325 cm)	128 in (325 cm)
Width (Overall)	100 in (254 cm)	100 in (254 cm)	102 in (259.1 cm)	102 in (259.1 cm)	102 in (259.1 cm)
Wheelbase	162 in (411 cm)	162 in (411 cm)	174 in (442 cm)	179 in (455 cm)	179 in (455 cm)
Ground Clearance	9 in (23 cm)	9 in (23 cm)	9 in (23 cm)	9 in (23 cm)	9 in (23 cm)
Angle of Approach	27 degrees	27 degrees	37.5 degrees	37.5 degrees	37.5 degrees
Weights:					
Curb	19,080 lb (8,662 kg)	19,080 lb (8,662 kg)	26,900 lb (12,212.6 kg)	30,600 lb (13,892.4 kg)	32,618 lb (14,808.6 kg)
GVWR	52,000 lb (23,608 kg)	52,000 lb (23,608 kg)	68,000 lb (30,872 kg)	68,000 lb (30,872 kg)	68,000 lb (30,872 kg)
		or 54,000 lb (24,494 kg) w/AOA Prep			
GCWR	105,000 lb (46,670 kg)	105,000 lb (46,670 kg)	130,000 lb (59,020 kg) (M870/ M870A1/ M870A2/ M870A3) 134,000 lb (60,836 kg)	68,000 lb (30,872 kg)	68,000 lb (30,872 kg)
Front Axle (Loaded)	12,000 lb (5,448 kg)	12,000 lb (5,448 kg)	16,000 lb (7,264 kg)	16,000 lb (7,264 kg)	16,000 lb (7,264 kg)
Front Axle (Loaded) w/AOA Prep		14,000 lb (6,350 kg)	18,500 lb (8,391 kg)	18,500 lb (8,391 kg)	18,500 lb (8,391 kg)
Rear Axle (Loaded)	40,000 lb (18,160 kg)	40,000 lb (18,160 kg)	52,000 lb (23,608 kg)	52,000 lb (23,608 kg)	52,000 lb (23,608 kg)

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Capacities:					
Engine Oil (Refill w/Filters)	41 qt (38.81 l)	41 qt (38.81 l)	41 qt (38.81 l)	41 qt (38.81 l)	41 qt (38.81 l)
Cooling System	65 qt (61.5 l)	65 qt (61.5 l)	65 qt (61.5 l)	65 qt (61.5 l)	65 qt (61.5 l)
Power Steering Reservoir	2 qt (1.9 l)	2 qt (1.9 l)	2 qt (1.9 l)	2 qt (1.9 l)	2 qt (1.9 l)
Fuel Tank	100 gal (378.5 l)	100 gal (378.5 l)	100 gal (378.5 l)	100 gal (378.5 l)	100 gal (378.5 l)
Transmission	51 qt (48 l)	51 qt (48 l)	53 qt (49.3 l)	53 qt (49.3 l)	53 qt (49.3 l)
Rear Axle (Forward/Rear)	13/14.5 qt (12.3/13.7 l)	13/14.5 qt (12.3/13.7 l)	22 qt (20.8 l)	22 qt (20.8 l)	22 qt (20.8 l)
Front Drive Axle	N/A	N/A			
Carrier			11.62 qt (10.99 l)	11.62 qt (10.99 l)	11.62 qt (10.99 l)
Wheel End			1.06 qt (1.0 l)	1.06 qt (1.0 l)	1.06 qt (1.0 l)
Transfer Case	N/A	N/A	3.5 qt (3.3 l)	3.5 qt (3.3 l)	3.5 qt (3.3 l)
Winch Reservoir	N/A	N/A	42 gal (159.0 l)	N/A	N/A
Winch Drum	N/A	N/A	5 qt (4.7 l)	N/A	N/A
Engine:					
Manufacturer	Detroit Diesel	Detroit Diesel	Detroit Diesel	Detroit Diesel	Detroit Diesel
Type	4-stroke, in- line turbo- charged diesel	4-stroke, in- line turbo- charged diesel	4-stroke, in- line turbo- charged diesel	4-stroke, in- line turbo- charged diesel	4-stroke, in- line turbo- charged diesel
Model	DDEC IV	DDEC IV	DDEC IV	DDEC IV	DDEC IV
Cylinders	6	6	6	6	6

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Engine - Continued:					
Displacement	755 CID (12.7 l)	755 CID (12.7 l)	755 CID (12.7 l)	755 CID (12.7 l)	755 CID (12.7 l)
Torque @ 1200 rpm	1,450 lb-ft (1,966 Nm)	1,450 lb-ft (1,966 Nm)	1,450 lb-ft (1,966 Nm)	1,450 lb-ft (1,966 Nm)	1,450 lb-ft (1,966 Nm)
Maximum Horsepower @ 2100 rpm	430 (320.6 kW)	430 (320.6 kW)	430 (320.6 kW)	430 (320.6 kW)	430 (320.6 kW)
Maximum Governed Speed	2,100 rpm	2,100 rpm	2,100 rpm	2,100 rpm	2,100 rpm
Oil Filter Type	2 full flow, replaceable elements	2 full flow, reusable elements	2 full flow, reusable elements	2 full flow, reusable elements	2 full flow, reusable elements
Oil Filter Quantity	2	2	2	2	2
Fuel System:					
Type	diesel fuel injected	diesel fuel injected	diesel fuel injected	diesel fuel injected	diesel fuel injected
Fuel Filter Type	1 primary, 1 secondary, replaceable elements	1 primary, 1 secondary, replaceable elements	1 primary, 1 secondary, replaceable elements	1 primary, 1 secondary, replaceable elements	1 primary, 1 secondary, replaceable elements
Air Cleaner:					
Type	dry element	dry element	dry element	dry element	dry element
Quantity	1	1	1	1	1
Cooling System:					
Radiator Working Pressure	10 psi (69 kPa)	10 psi (69 kPa)	10 psi (69 kPa)	10 psi (69 kPa)	10 psi (69 kPa)
Coolant Inhibitor Filter	1 replaceable element	1 replaceable element	1 replaceable element	1 replaceable element	1 replaceable element

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Electrical System:					
Type	dual 12/24 V	dual 12/24 V	dual 12/24 V	dual 12/24 V	dual 12/24 V
Alternator	140 amp	140 or 200 amp	140 or 200 amp	140 or 200 amp	140 or 200 amp
Batteries:					
Quantity	4	4	4	4	4
Voltage	12 volt	12 volt	12 volt	12 volt	12 volt
Transmission:					
Manufacturer	Allison	Allison	Allison	Allison	Allison
Model	HD 4560P (WTEC III)	HD 4560P (WTEC III) or 4500SP (GEN 4)	HD 4070P (WTEC III) or 4700SP (GEN 4)	HD 4070P (WTEC III) or 4700SP (GEN 4)	HD 4070P (WTEC III) or 4700SP (GEN 4)
Type	6-speed automatic	5-speed automatic	7-speed automatic	7-speed automatic	7-speed automatic
Shift Selector	pushbutton	pushbutton	pushbutton	pushbutton	pushbutton
Transfer Case:					
Manufacturer	N/A	N/A	Meritor T-2119D	Meritor T-2119D	Meritor T-2119D
Type			1-speed	1-speed	1-speed
Front Axle:					
Manufacturer	Meritor	Meritor	Meritor	Meritor	Meritor
Type	I-beam, FF961	I-beam, FF961	planetary	planetary	planetary
Maximum Steering Angle	50 degrees	50 degrees	38 degrees	38 degrees	38 degrees

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Rear Axle (Tandem):					
Manufacturer	Meritor RT 40-145P	Meritor RT 40-145P	Meritor RT 52-160P	Meritor RT 52-160P	Meritor RT 52-160P
Rated Capacity	40,000 lb (18,160 kg)	40,000 (18,160 kg)	52,000 (23,608 kg)	52,000 (23,608 kg)	52,000 (23,608 kg)
Ratio	5.29:1	4.88:1	4.89:1	4.89:1	4.89:1
Brake System:					
Interaxle	bevel gear	bevel gear	bevel gear	bevel gear	bevel gear
Differential	air controlled	air controlled	air controlled	air controlled	air controlled
Traction Control					
Actuation	air- mechanical	air- mechanical	air- mechanical	air- mechanical	air- mechanical
Pressure Range	60-120 psi (414-827 kPa)	60-120 psi (414-827 kPa)	60-120 psi (414-827 kPa)	60-120 psi (414-827 kPa)	60-120 psi (414-827 kPa)
Airbrake Chambers: Service	2 - front axle	2 - front axle	2 - front axle	2 - front axle	2 - front axle
Failsafe (Spring)	4 - forward- rear and rear- rear axles	4 - forward- rear and rear- rear axles	4 - forward- rear and rear- rear axles	4 - forward- rear and rear- rear axles	4 - forward- rear and rear- rear axles
ABS (Anti-Lock Brake System):					
Type	4-channel, Version D	4-channel, Version E	4-channel, Version E	4-channel, Version E	4-channel, Version E
Location	front and rear-rear axle	front and rear-rear axle	front and rear-rear axle	front and rear-rear axle	front and rear-rear axle
Wheels:					
Size:					
Front	22.5 x 8.25 in	22.5 x 8.25 in	22.5 x 9.0 in	22.5 x 12.25 in	22.5 x 12.25 in

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Wheels - Continued:					
Rear/Spare	22.5 x 8.25 in	22.5 x 8.25 in	22.5 x 9.0 in	22.5 x 9.0 in	22.5 x 9.0 in
Number of Studs/ Stud Size	10/M22 in	10/M22 in	10/M22 in	10/M22 in	10/M22 in
Tires:					
Type	tubeless radial on- highway	tubeless radial on/off road	tubeless radial on/off road	tubeless radial on/off road	tubeless radial on/off road
Size	11R22.5/ XZE	W/out AOA Prep Front/Rear: 11R22.5/ XZE	W/out AOA Prep Front: 385/ 65R22.5J XZY	W/out AOA Prep Front: 385/ 65R22.5J XZY	W/out AOA Prep Front: 385/ 65R22.5J XZY
Ply Rating		W/AOA Prep Front: 12R22.5/ XZE	W/AOA Prep Front: 425/ 65R22.5J XZY3	W/AOA Prep Front: 425/ 65R22.5J XZY3	W/AOA Prep Front: 425/ 65R22.5J XZY3
		Rear: 11R22.5/ XZE	Rear: 315/ 80R22.5/ XDY-3	Rear: 315/ 80R22.5/ XZY-3	Rear: 315/ 80R22.5/ XZY-3
	14PR	W/out AOA Prep 14PR	W/out AOA Prep 20PR	W/out AOA Prep Front: 18 PR	W/out AOA Prep Front: 18 PR
		W/AOA Prep Front: 16 PR	W/AOA Prep Front: 18PR	W/out AOA Prep Front: 18 PR	W/out AOA Prep Front: 18 PR
Load Range		Rear: 14 PR	Rear: 20 PR	Rear: 20 PR	Rear: 20 PR
	G	G	L	Front: J Rear: L	Front: J Rear: L

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Inflation Pressure:					
Front W/out AOA Prep	100 psi (690 kPa)	100 psi (690 kPa)	90 psi (621 kPa)	90 psi (621 kPa)	90 psi (621 kPa)
Front W/AOA Prep	120 psi (827 kPa)	120 psi (827 kPa)	120 psi (827 kPa)	120 psi (827 kPa)	120 psi (827 kPa)
Rear W/out AOA Prep	100 psi (690 kPa)	100 psi (690 kPa)	90 psi (621 kPa)	90 psi (621 kPa)	90 psi (621 kPa)
Rear W/AOA Prep	105 psi (724 kPa)	105 psi (724 kPa)	130 psi (896 kPa)	130 psi (896 kPa)	130 psi (896 kPa)
Spare W/out AOA Prep	100 psi (690 kPa)	100 psi (690 kPa)	90 psi (621 kPa)	90 psi (621 kPa)	90 psi (621 kPa)
Spare W/AOA Prep	120 psi (827 kPa)	120 psi (827 kPa)	120 psi (827 kPa)	120 psi (827 kPa)	120 psi (827 kPa)
Steering:					
Manufacturer	TRW	TRW	TRW	TRW	TRW
Steering Gear Type	TAS 65	TAS 65	TAS 85	TAS 85	TAS 85
Actuation	hydraulic power booster	hydraulic power booster	hydraulic power booster	hydraulic power booster	hydraulic power booster
Power Steering Pump	Eaton B165R	TRW	TRW	TRW	TRW
Turning Diameter	53 ft 9 in (16.4 m)	53 ft 9 in (16.4 m)	59 ft 6 in (18.1 m)	59 ft 6 in (18.1 m)	59 ft 6 in (18.1 m)
Steering Column and Wheel:					
Type	tilt, telescope	tilt, telescope	tilt, telescope	tilt, telescope	tilt, telescope
Tilt Range	15 degrees	15 degrees	15 degrees	15 degrees	15 degrees
Telescoping Range	2 5/8 in (67 mm)	2 5/8 in (67 mm)	2 5/8 in (67 mm)	2 5/8 in (67 mm)	2 5/8 in (67 mm)

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Suspension:					
Front	Taper-leaf spring w/shock absorbers	Taper-leaf spring w/shock absorbers	Taper-leaf spring w/shock absorbers	Taper-leaf spring w/shock absorbers	Taper-leaf spring w/shock absorbers
Rear	TufTrac w/shock absorbers	TufTrac w/shock absorbers	TufTrac w/shock absorbers	TufTrac w/shock absorbers	TufTrac w/shock absorbers
Towing Attachments:					
Pintle Hook:					
Manufacturer	Holland	Holland	Holland	Holland	Holland
Model	No. 760	No. 760	No. 760	No. 760	No. 760
Rated Capacity	30 tons (27.2 metric tons)	30 tons (27.2 metric tons)	30 tons (27.2 metric tons)	30 tons (27.2 metric tons)	30 tons (27.2 metric tons)
Quantity	2 front, 2 rear	2 front, 2 rear	2 front, 2 rear	2 front, 2 rear	2 front, 2 rear
Maximum Load Capacity, Each (Up to 45 Angle Front Long. Axis)	60,000 lb (27,240 kg)	60,000 lb (27,240 kg)	60,000 lb (27,240 kg)	60,000 lb (27,240 kg)	60,000 lb (27,240 kg)

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Towing					
Attachments - Continued:					
Towing Eyes:					
Fifth Wheel:					
Manufacturer	Holland	Holland	Holland	N/A	N/A
Type	36 in (91.4 cm) diameter, 2-way oscillating	36 in (91.4 cm) diameter, 2-way oscillating	36 in (91.4 cm) diameter, 4-way oscillating	N/A	N/A
Capacity	30,000 lb (13,620 kg)	30,000 lb (13,620 kg)	40,000 lb (18,160 kg)	N/A	N/A
Height (Empty)	51 in (129.5 cm)	51 in (129.5 cm)	64 in (162.6 cm)	N/A	N/A
Pitch (Fwd/Aft)	15/10	15/10	15/10	N/A	N/A
Kingpin Size	2 in (5.1 cm)	2 in (5.1 cm)	3.5 in (8.9 cm)	N/A	N/A
Cab:					
Manufacturer	Freightliner	Freightliner	Freightliner	Freightliner	Freightliner
Construction	aluminum	aluminum	aluminum	aluminum	aluminum
Type	2-passenger, tilt-forward hood	2-passenger, tilt-forward hood	2-passenger, tilt-forward hood	2-passenger, tilt-forward hood	2-passenger, tilt-forward hood
Air Deflector (If Equipped)	adjustable	adjustable	adjustable	N/A	N/A

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Accessories:					
Utility Light	2 fixed, top rear of cab	2 fixed, top rear of cab	2 fixed, top rear of cab	N/A	N/A
Air Horn	1, under cab	1, under cab	1, under cab	1, under cab	1, under cab
Mirrors	Heated	Heated w/re- mote control	Heated w/re- mote control	Heated w/re- mote control	Heated w/re- mote control
Military Load Classification:					
Vehicle w/o Trailer	8	8	12	12 (unloaded/ loaded)	12 (unloaded/ loaded)
Vehicle w/Trailer:					
M871	14/35 (unloaded/ loaded)	14/35 (unloaded/ loaded)	N/A	N/A	N/A
M872	14/46 (unloaded/ loaded)	14/46 (unloaded/ loaded)	N/A	N/A	N/A
M1062	11/34 (unloaded/ loaded)	11/34 (unloaded/ loaded)	N/A	N/A	N/A
M172	N/A	N/A	16/38 (unloaded/ loaded)	N/A	N/A
M870, M870A1, M870A2, M870A3	N/A	N/A	17/54 (unloaded/ loaded)	N/A	N/A
60PRS	N/A	N/A	23 (unloaded/ loaded)	N/A	N/A
WD6S	N/A	N/A	23 (unloaded/ loaded)	N/A	N/A

EQUIPMENT DESCRIPTION AND DATA - CONTINUED

0002 00

EQUIPMENT DATA - CONTINUED

DATA	MODEL				
	M915A3 (J21547 AND BELOW)	M915A3 (J21548 AND ABOVE)	M916A3	M917A2	M917A2 W/MCS
Military Load Classification - Continued:					
M967	13/29 (unloaded/ loaded)	13/29 (unloaded/ loaded)			
M969	14/30 (unloaded/ loaded)	14/30 (unloaded/ loaded)			

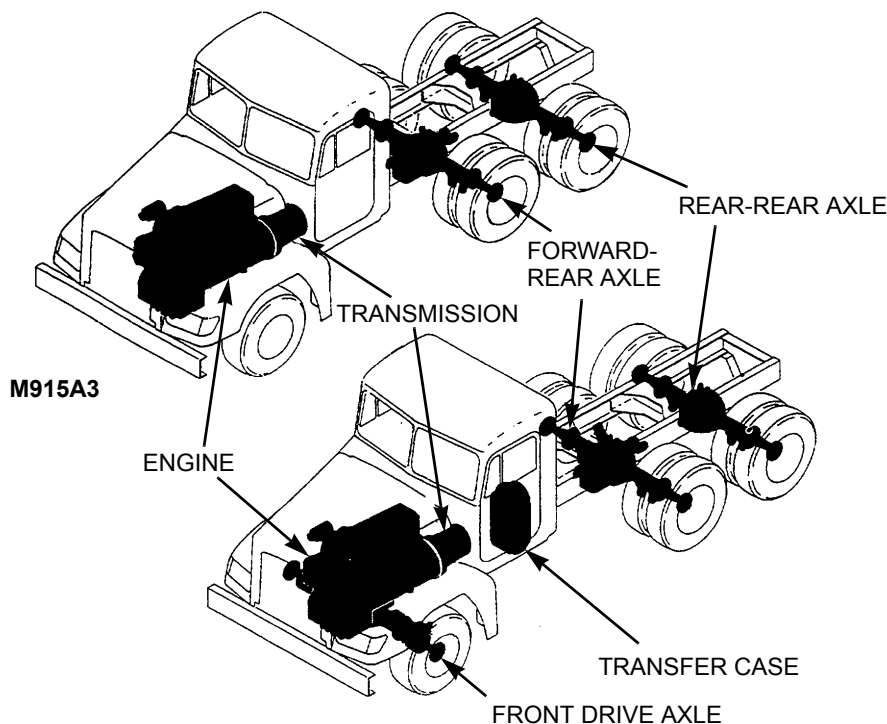
END OF WORK PACKAGE

THEORY OF OPERATION**0003 00****INTRODUCTION**

1. All vehicles consist of the following functional systems: drive train, fuel system, exhaust system, cooling system, electrical system, air system, brake system, steering system, traction control system, suspension system, and air conditioning system.
2. M915A3 and M916A3 have a Collision Warning System (CWS).
3. M916A3, M917A2, and M917A2 w/MCS have a hydraulic system and Central Tire Inflation System (CTIS).
4. This work package explains how the components and systems of the M915 Family of Vehicles work together. A functional description is provided for each major component and system.

DRIVE TRAIN

1. The drive trains of the M915A3 consist of a DDEC IV engine and HD 4560P 6-speed or 4500SP (GEN 4) automatic transmission connected to RT40-145P rear tandem axles.
2. The drive trains of the M916A3, M917A2, and M917A2 w/MCS consist of a DDEC IV engine and a 7-speed automatic transmission (HD 4070P or 4700SP) connected thru a T-2119D transfer case to RT52-160P rear tandem axles and a planetary front drive axle. The axles receive power through a transfer case from the transmission and engine. Axles are modified to incorporate CTIS plumbing.

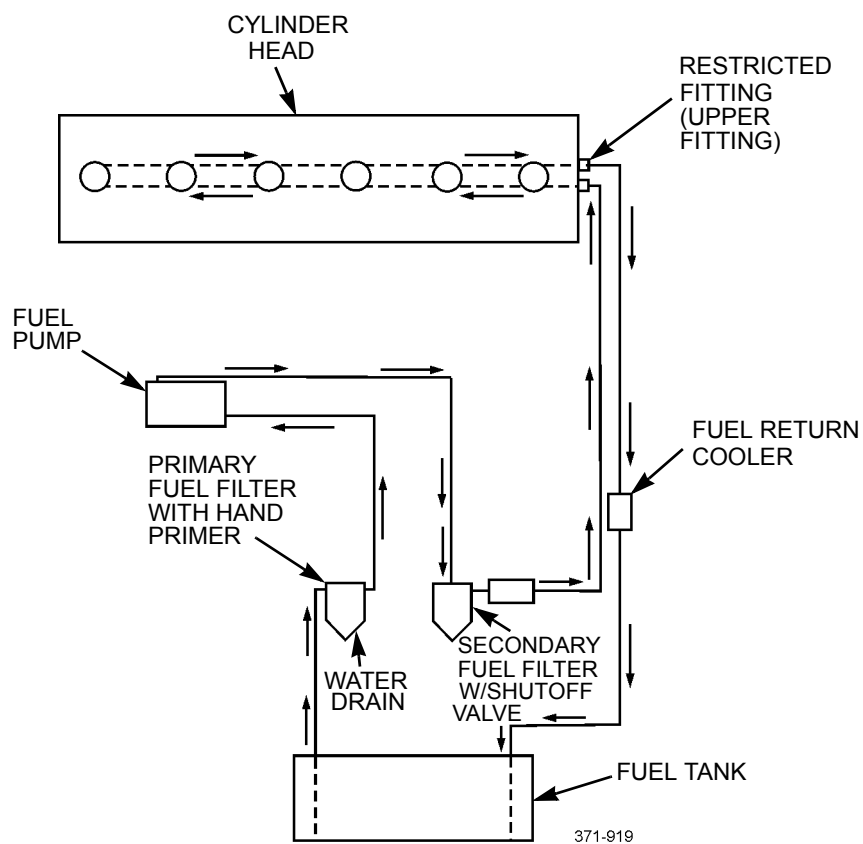
**M916A3, M917A2, AND M917A2 W/MCS**

THEORY OF OPERATION - CONTINUED

0003 00

FUEL SYSTEM

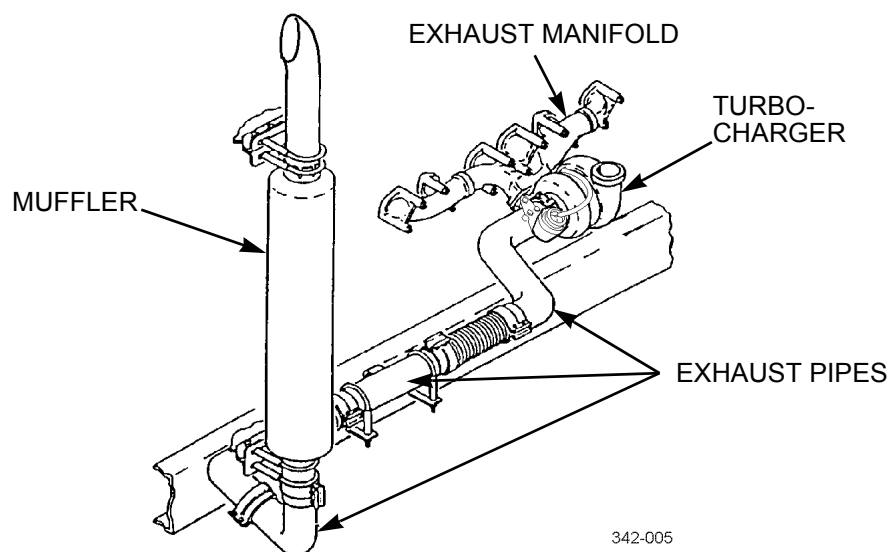
1. Fuel to power the engine is pumped out of the fuel tank by an engine-mounted fuel pump. The engine fuel system consists of one electronic unit injector per cylinder, a transfer pump, low-pressure fuel lines, primary and secondary fuel filters, and fuel shutoff valve.
2. The engine is governed by an electronic control system. The system controls idle speed and limits engine maximum speed. The driver controls engine speed through the position of the electronic throttle position sensor (foot pedal).
3. Fuel filters are spin-on types. The primary fuel filter has a hand fuel primer pump and a water drain.
4. Fuel may be drained from the tank through the drain port located on the bottom of the tank.
5. There is a computer-controlled ether quick-start system for use in cold weather.
6. For M916A3 and M917A2, fuel not utilized exits the engine, passes through a fuel return cooler, and is returned to the fuel tank.



THEORY OF OPERATION - CONTINUED

0003 00***EXHAUST SYSTEM***

The exhaust system removes exhaust gases from the engine through the exhaust manifold and turbocharger. The gases flow into exhaust pipes and a muffler to the atmosphere above the cab.



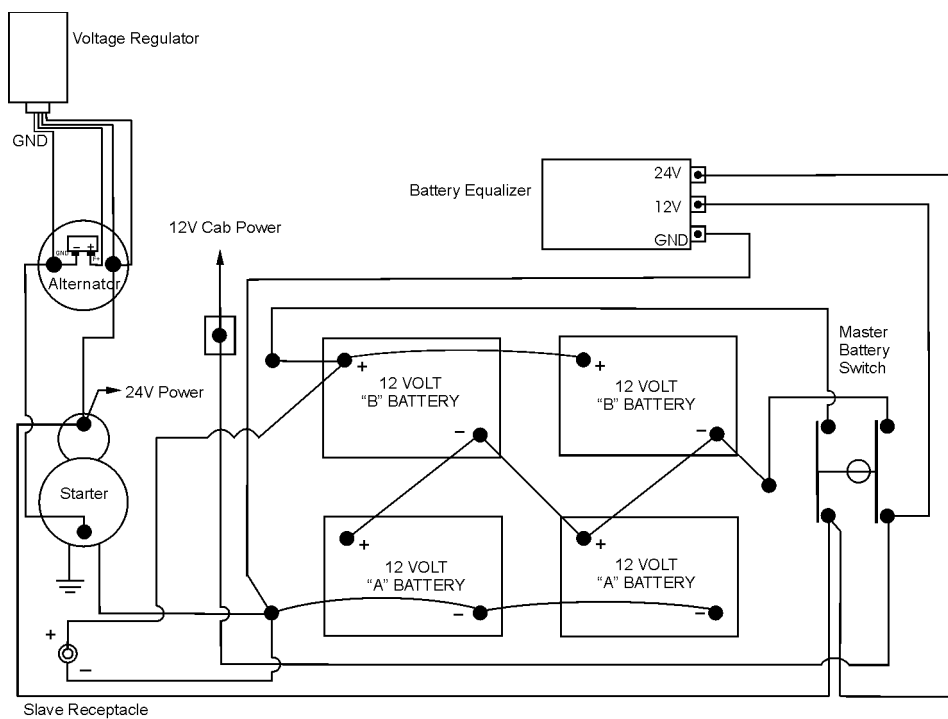
0003 00-4

THEORY OF OPERATION - CONTINUED

0003 00

ELECTRICAL SYSTEM

1. Four 12-volt batteries connected in series-parallel supply the 12-volt electrical system and provide 24 volts for the starter motor, blackout lights, accessories, and trailer connectors.
2. The system is charged by a 140 or 200 amp alternator.
3. A voltage regulator, mounted on the firewall (M915A3 Old Model), or on the alternator (M915A3 New Model, M916A3, M917A2), regulates the system voltage.



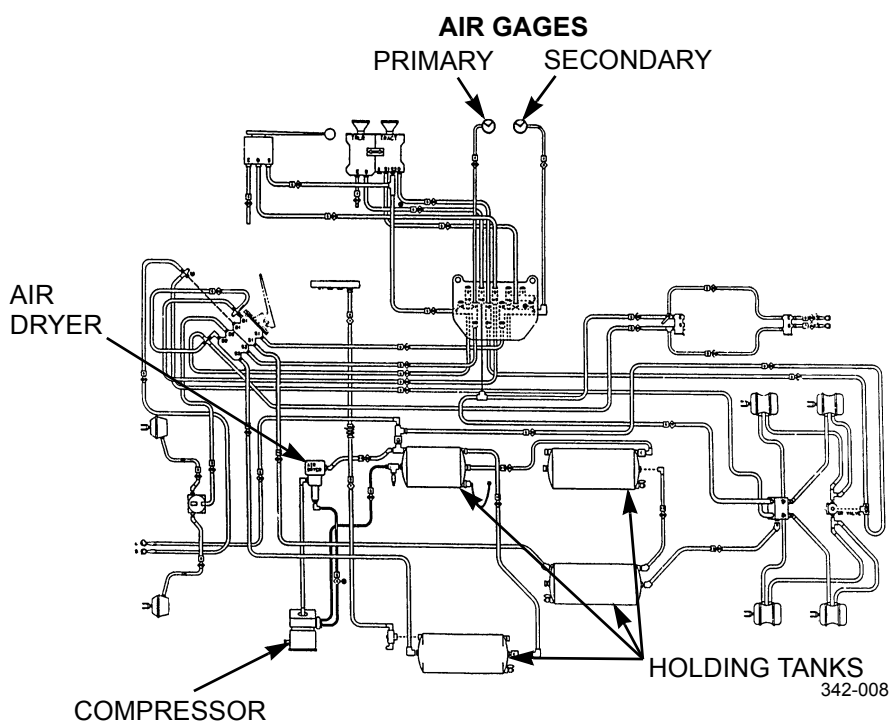
371-041

THEORY OF OPERATION - CONTINUED

0003 00

AIR SYSTEM

The air system consists of the air compressor, air dryer, air reservoirs, and various air lines. Also included in the air system are air pressure gages, located on the instrument panel, for monitoring air pressure for safe operation of all air-operated components of the vehicle. Each air tank has an automatic air/water evacuation valve. The primary air tank (wet tank) has a pull lanyard attached for manual evacuation.

**BRAKE SYSTEM**

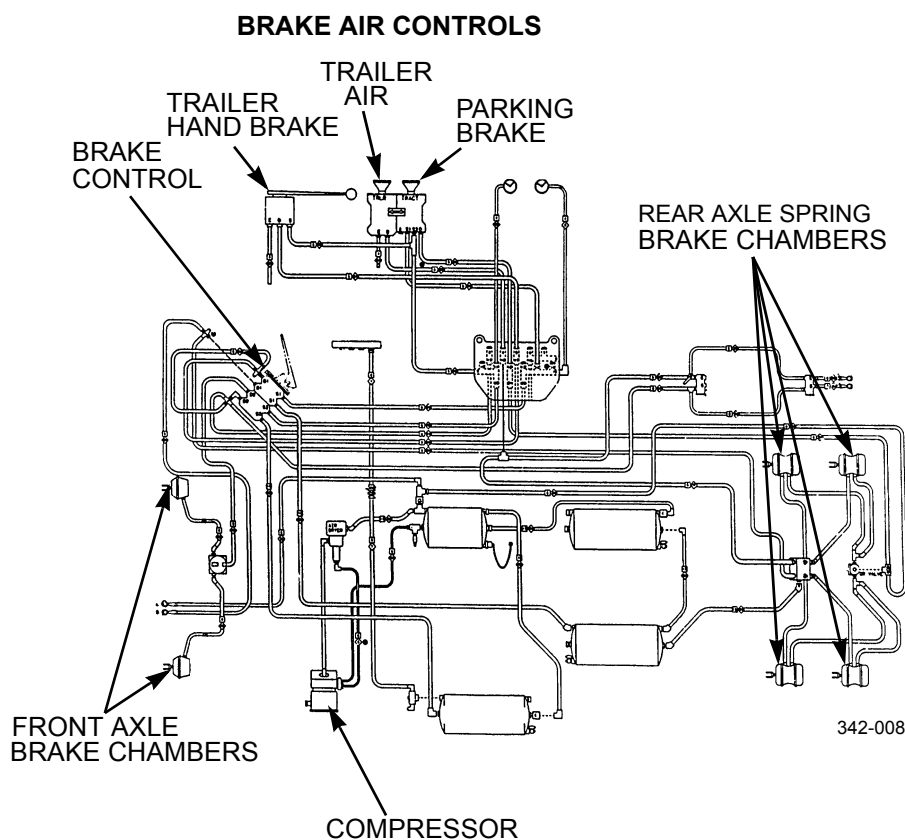
1. The dual air brake system consists of two independent air brake systems that use a single set of brake controls. Each system has its own reservoirs, plumbing, and brake chambers. The primary system operates the service brakes on the rear axle and the secondary system operates the service brakes on the front axle. On tractor-trailer configurations, service brake signals from both systems are sent to the trailer.
2. Loss of air pressure in the primary system causes the spring parking brakes to apply and stop the vehicle. Front brakes will continue to be operated by secondary system air pressure. In addition, trailer brakes will be operated by the secondary system. Loss of secondary system air pressure causes the front axle brakes to become inoperative. Rear service brakes and trailer brakes will be operated by the primary system.

THEORY OF OPERATION - CONTINUED

0003 00

BRAKE SYSTEM - CONTINUED

3. The warning light and buzzer inside the cab are activated if air pressure drops below 64 psi (441 kPa) in either brake system. If this happens, check air pressure gages to determine which system has low air pressure. Although vehicle speed can be reduced using the foot brake control pedal, either the front or rear service brakes will not operate, resulting in a longer stopping distance. Bring vehicle to a safe stop and have the air system repaired before continuing.
4. If the primary brake system becomes inoperative, the spring parking brakes automatically apply when air pressure drops to 45-35 psi (310-241 kPa).
5. All vehicles have a four-channel anti-lock brake system (ABS) and cam-operated service brakes with non-asbestos brakeshoes.
6. All vehicles have automatically adjusting slack adjusters. On all axles, brake chambers have a stroke alert indicator which allows the operator to monitor brakeshoe wear.

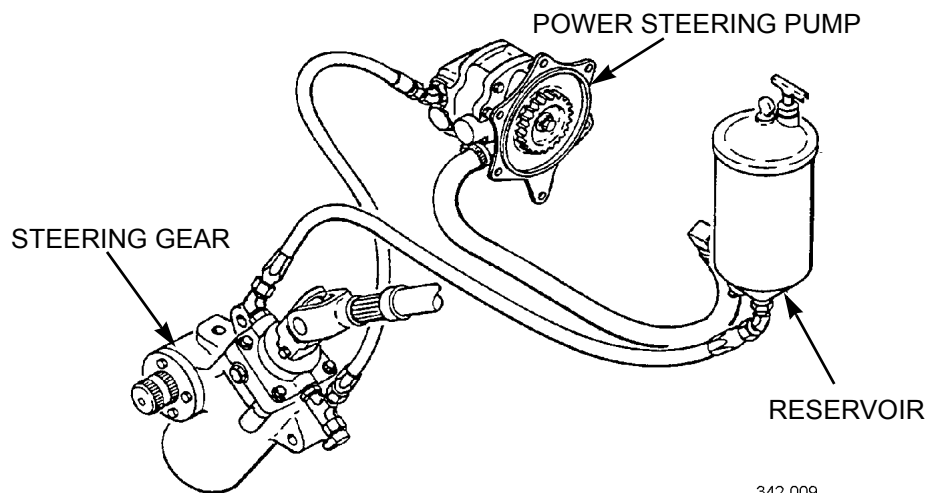


THEORY OF OPERATION - CONTINUED

0003 00

STEERING SYSTEM

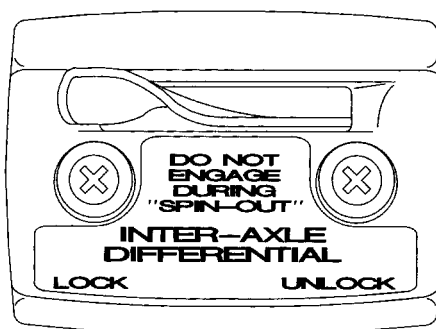
1. The power steering system consists of an integral steering gear (which includes a manual steering mechanism and hydraulic control valve), hydraulic hoses, power steering pump, reservoir, and other components.
2. The power steering pump, driven by the engine, provides the power-assist for the steering system.



342-009

TRACTION CONTROL SYSTEM

For M915A3, the inter-axle differential lock is controlled by the air operated lever labeled INTER-AXLE DIFFERENTIAL on the driver's instrument panel. Under normal driving conditions, the control lever should be in the UNLOCK position. During poor driving conditions the control lever may be moved to the LOCK position to improve traction. When the inter-axle differential lock is applied, the drive shaft becomes a solid connection between the two rear axles. For M916A3, M917A2, and M917A2 w/MCS, all-wheel drive can be selected on transmission shift tower. This engages front driving axle.

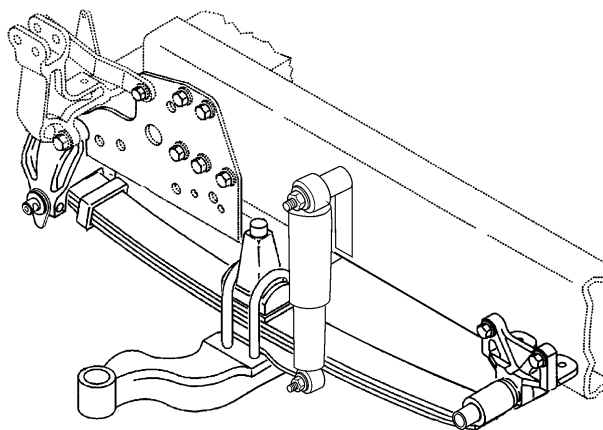


342-158

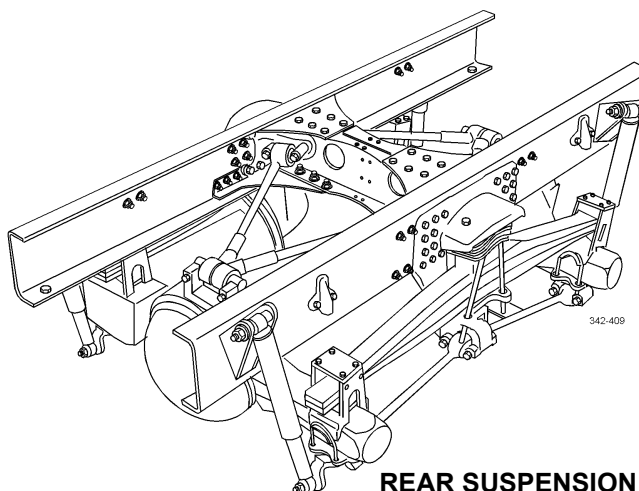
THEORY OF OPERATION - CONTINUED

0003 00**SUSPENSION SYSTEM**

1. The front suspension system consists of taper-leaf springs and one shock absorber per side.
2. The rear suspension system consists of parabolic taper-leaf springs and two shock absorbers per side and an arrangement of torque rods.
3. The suspension system is designed to provide a high degree of ground clearance and articulation while maintaining an equal load over each wheel. Ride characteristics are similar, whether loaded or unloaded.
4. Some vehicles are equipped with an upgraded suspension to support the weight of add-on armor. Check the vehicle data plate on driver's door to see if your vehicle is prepped to receive AOA. If prepped, the data plate will read, "AOA Prep."

**FRONT SUSPENSION**

371-068

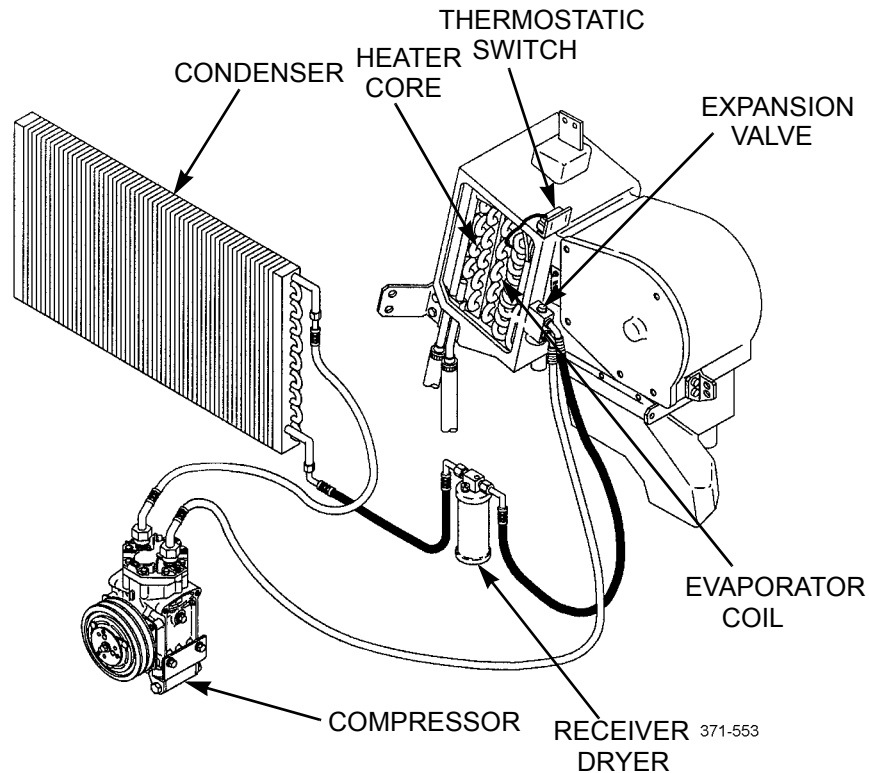
**REAR SUSPENSION**

342-409

THEORY OF OPERATION - CONTINUED

0003 00**AIR CONDITIONING SYSTEM**

1. The air conditioning unit is part of the heater and is mounted under the glove compartment. It is a single unit consisting of a heater core, air conditioning evaporator coil, blower motor, control valves, condenser, and air ducts.
2. The system is turned on by the mode control lever on instrument panel in cab. The four-speed blower knob controls air flow rate.
3. An even cab temperature is maintained by controlling the coolant flow through the heater core, or refrigerant flow through the evaporator coil.

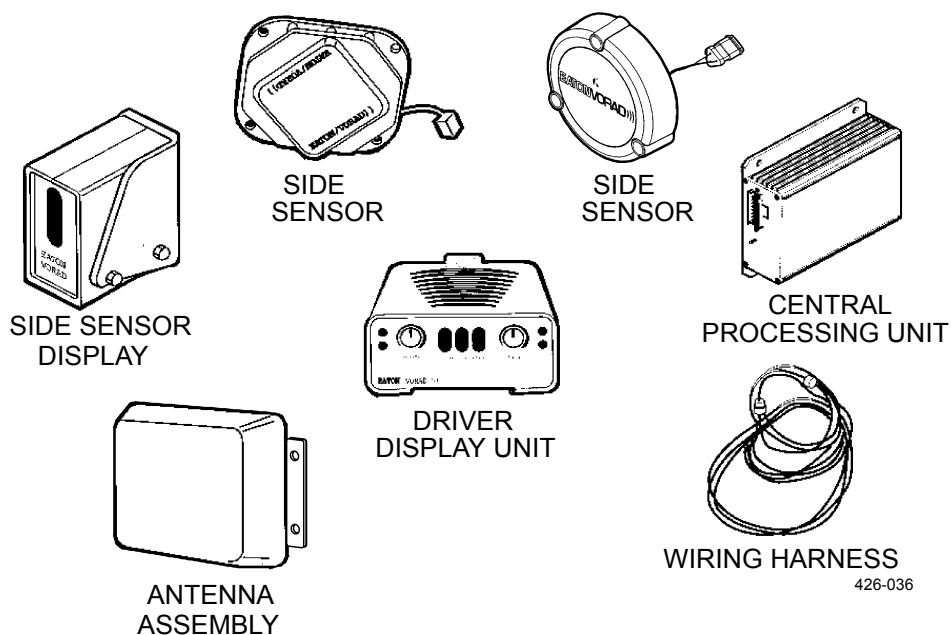


THEORY OF OPERATION - CONTINUED

0003 00

COLLISION WARNING SYSTEM (CWS) (M915A3 AND M916A3)

1. The CWS consists of an antenna assembly, central processing unit, driver display unit, side sensor, side sensor display, and wiring harness.
2. The CWS is a forward and side looking radar system that transmits and receives signals reflected off of objects to the front and side of the tractor.
3. The forward looking antenna assembly determines distance, azimuth, and approximate speed of vehicle forward of the tractor and sends signals through the central processing unit to the driver's display unit.
4. The side sensor detects vehicles or objects from two to ten feet, moving or stationary, alongside the tractor and sends signals through the central processing unit to the side sensor display.

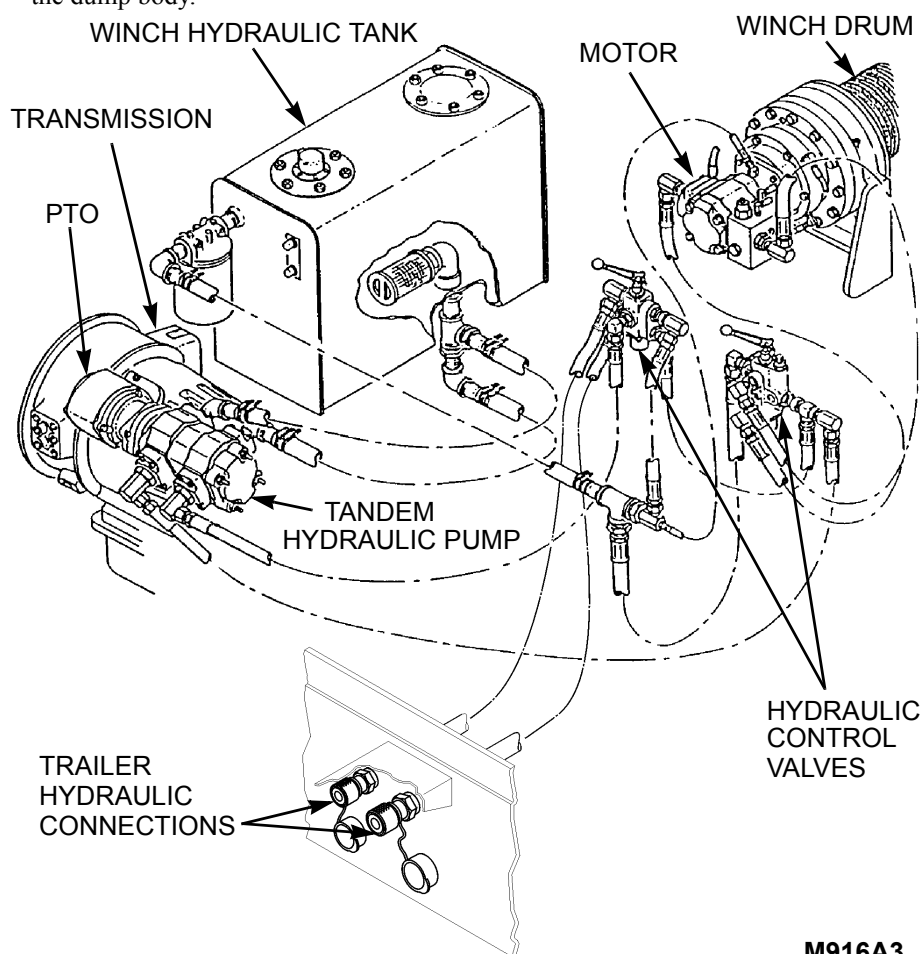


THEORY OF OPERATION - CONTINUED

0003 00

HYDRAULIC SYSTEM (M916A3, M917A2, AND M917A2 W/MCS)

1. The M916A3 has a hydraulic system that is used to supply hydraulic power to the winch motor and hydraulic fluid to trailers equipped with a hydraulic system. The hydraulic system is comprised of a 50-gallon frame-mounted tank and a hydraulic pump driven by a transmission-mounted PTO.
2. With the engine running and the PTO engaged, the hydraulic pump takes fluid from the tank and delivers it to the winch control valve bank. The valve bank consists of a speed/auxiliary circuit control valve and a direction control valve.
3. The M917A2 and M917A2 w/MCS hydraulic system is used to raise and lower the dump body (TM 5-3805-264-14&P).
4. With the engine running and the PTO engaged, the hydraulic pump takes fluid from the reservoir and delivers it to the dump body control valve. Depending on the position of the hydraulic control lever, the control valve delivers fluid to the cylinder to raise or lower the dump body.



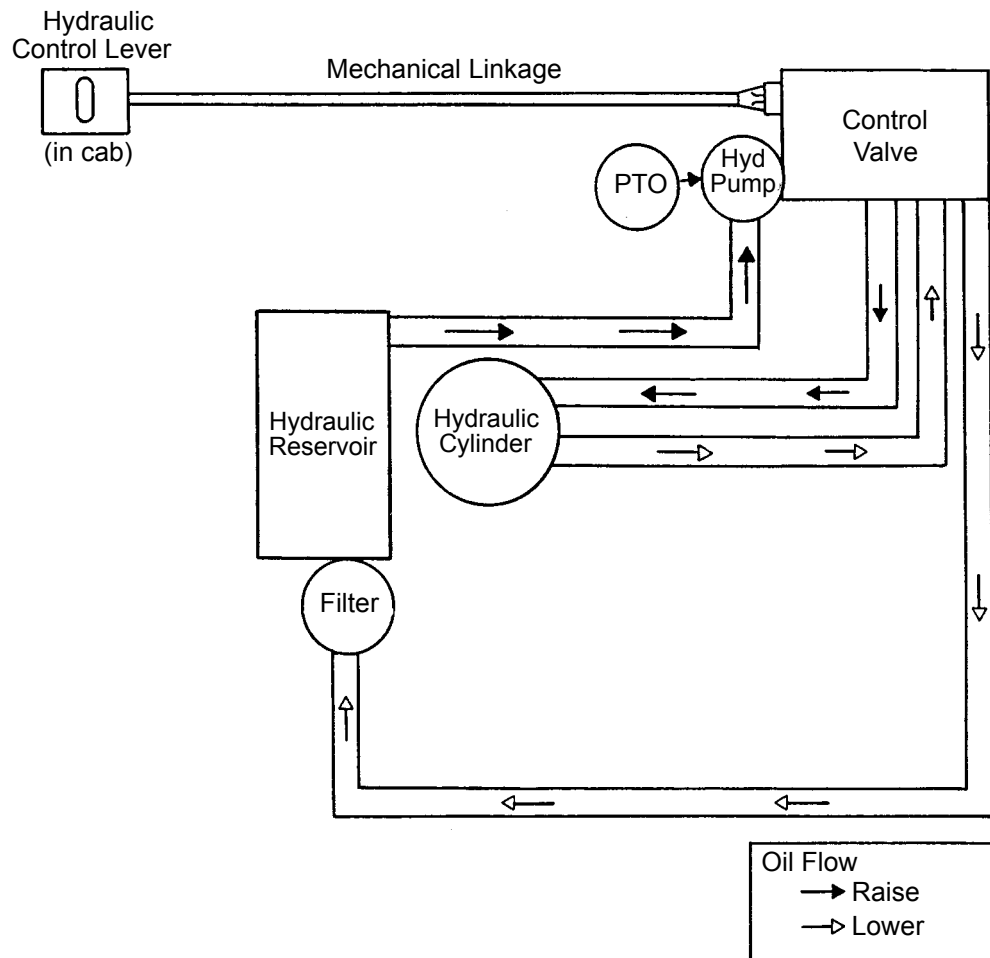
371-512

M916A3

THEORY OF OPERATION - CONTINUED

0003 00

HYDRAULIC SYSTEM (M916A3, M917A2, AND M917A2 W/MCS) - CONTINUED



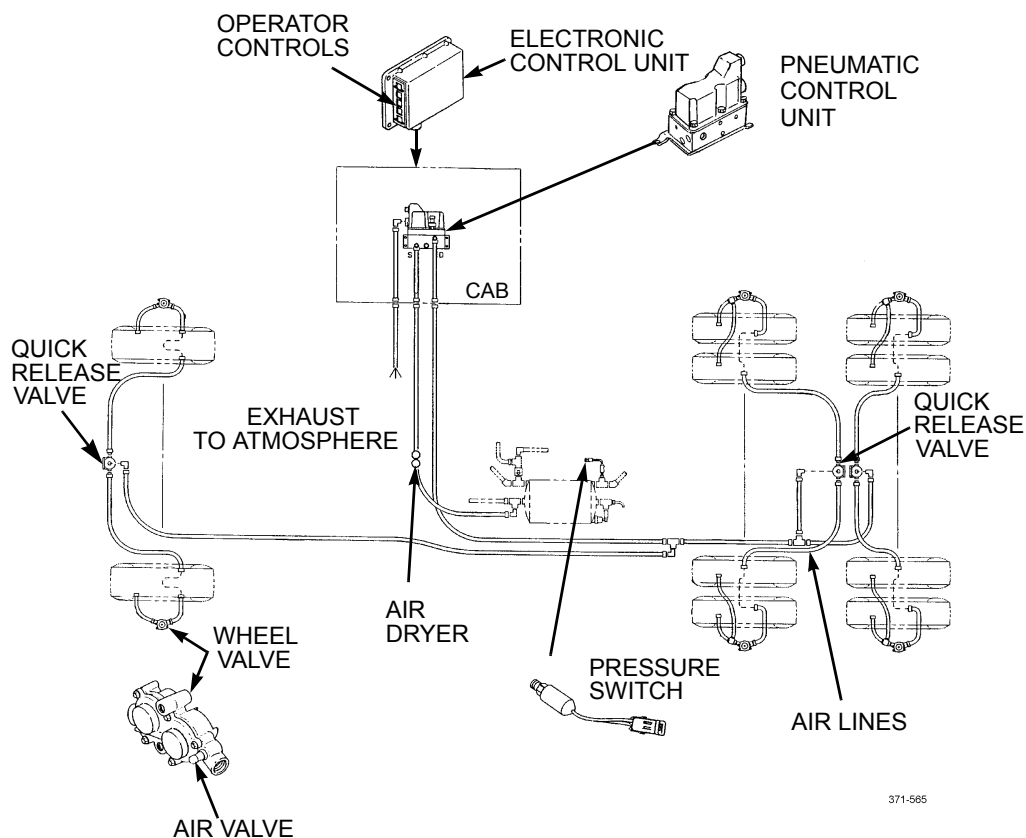
M917A2 AND M917A2 W/MCS

THEORY OF OPERATION - CONTINUED

0003 00

**CENTRAL TIRE INFLATION SYSTEM (CTIS)
(M916A3, M917A2, AND M917A2 W/MCS)**

1. The operator uses CTIS to regulate tire pressure at all wheels. This allows operation of the truck on all road surfaces and across a wide variety of terrain, including off-road, when the vehicle is stuck due to extreme conditions (ice, snow, mud), and when a tire has a slow leak due to a minor puncture or other damage.
2. CTIS uses air from the vehicle air system. Air is routed to the wheels via a dedicated pneumatic system plumbed from the vehicle's wet tank.
3. An Electronic Control Unit (ECU) is mounted to the shift tower inside the cab. An operator selector panel is built into the ECU, allowing operator entry of system commands/instructions.



THEORY OF OPERATION - CONTINUED**0003 00*****CENTRAL TIRE INFLATION SYSTEM (CTIS)
(M916A3, M917A2, AND M917A2 W/MCS) - CONTINUED***

4. Four terrain settings may be selected: HIGHWAY (HWY); CROSS-COUNTRY (X-C); SAND; EMERGENCY (EMER); and the RUN FLAT mode. If tire damage is minimal (e.g., a minor puncture or slow leak), selecting RUN FLAT causes CTIS to monitor tire pressure every fifteen seconds and re-inflate the tire.
5. Tire pressure can be manually checked and air added to tires through a conventional air valve located at each wheel valve.
6. When a non-CTIS equipped tire is installed, upon vehicle startup, the CTIS will attempt to inflate the tire. The system will recycle every 10 seconds for approximately 60 seconds then shutdown. Existing tire pressure in all CTIS equipped tires will remain the same.
7. Major components of the CTIS are:

COMPONENT	FUNCTION
Electronic Control Unit (ECU)/Operator Selector Panel	Contains microprocessor that controls the system and operator selector panel.
Pneumatic Control Unit	Directs air pressure through air lines to the wheel valves, according to ECU commands.
Air Dryer	Separates moisture and filters impurities from compressed air system before air enters the CTIS.
Pressure Switch	Acts as a brake priority switch by preventing CTIS from consuming air until the air brake system has a minimum of 120 psi (827 kPa) of air.
Speed Sensor	Transmission ECU senses vehicle speed and signals the CTIS ECU to automatically inflate tires when vehicle speed exceeds by 10 mph (16 kph) the top speed setting for the selected mode.
Quick Release Valves	Allow air from PCU to inflate or vent air during deflation.
Wheel Valves	Isolate air pressure in tire during normal operation and for tire removal. Air valve on wheel valve allows for inflation and deflation using standard manual inflation equipment.

END OF WORK PACKAGE

TM 9-2320-302-10

CHAPTER 2

OPERATOR INSTRUCTIONS

DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS	0004 00
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GENERAL

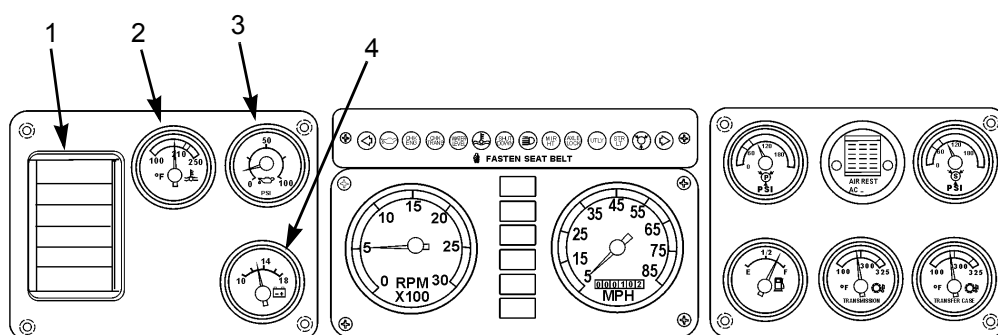
Do not attempt to operate the M915 Family of Vehicles until becoming familiar with the location and use of all controls and indicators. This work package describes all operator controls and indicators.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

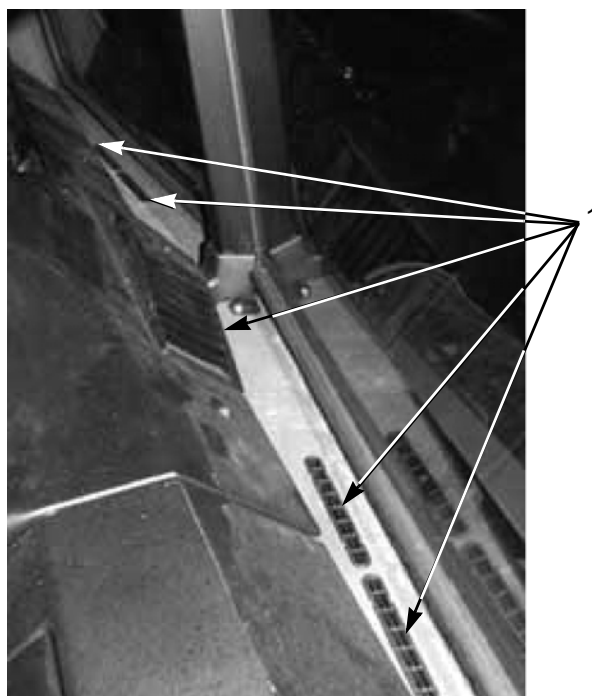
INSTRUMENT PANEL

1. **Instrument Cluster.**
 - a. **Left Gage Panel.**



371-086

(M917A2 PANEL SHOWN)



371-086

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED

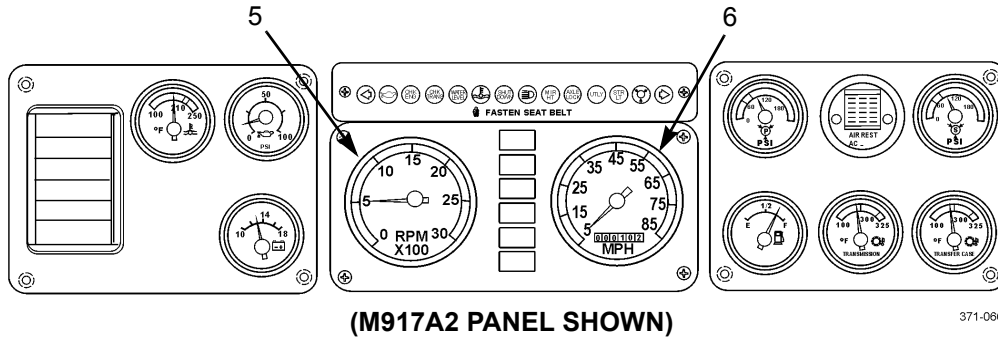
KEY	CONTROL OR INDICATOR	FUNCTION
1	Air Vents	Vent air into cab from heater/ventilator and air conditioner. Louvered openings are adjustable. Defrost vents next to windshield are not adjustable.
2	Engine Water Temperature Gage	Registers engine coolant temperature in degrees Fahrenheit. Normal range is in green band. If needle goes into yellow band or red band, stop and investigate cause.
3	Engine Oil Pressure Gage	Registers engine oil pressure in psi (kPa). Normal pressure at rated speed (1200 rpm) is 50-70 psi (345-483 kPa). Pressure at idle speed (600 rpm) is 15 psi (100 kPa) minimum.
4	Voltmeter	<p>Indicates rate of battery charge or discharge in volts.</p> <p>(a) RED BAND (Left). Indicates a possible malfunction. Stop and report problem to Unit Maintenance.</p> <p>(b) YELLOW BAND. Indicates batteries are undercharged. Turn off all electrical circuits, if possible, and run engine at highest rpm permitted for existing conditions. If reading is still not in green band, notify Unit Maintenance.</p> <p>(c) GREEN BAND. Indicates normal operating range.</p> <p>(d) RED BAND (Right). Indicates batteries are being overcharged. Notify Unit Maintenance.</p>

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED

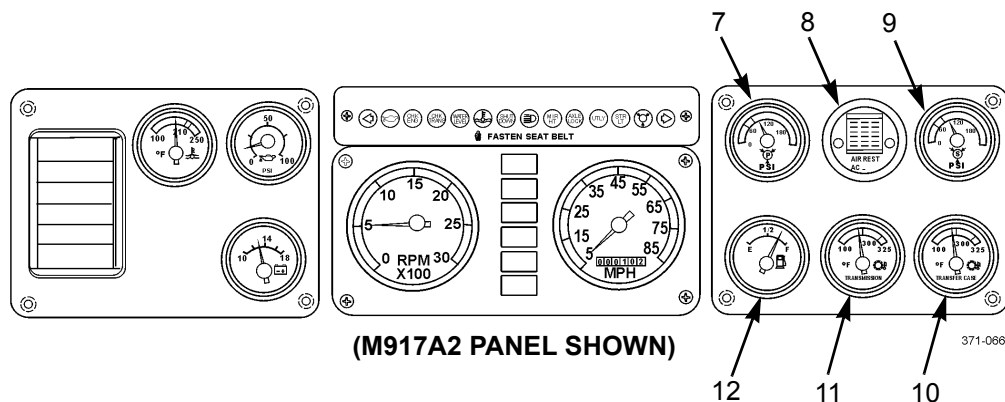
b. Center Gage Panel.



KEY	CONTROL OR INDICATOR	FUNCTION
5	Tachometer	Registers engine speed in rpm. Maximum governed speed is 2100 rpm. Idle speed is 600 rpm.
6	Speedometer/ Odometer	Registers vehicle ground speed in mph/kph (speedometer) and distance traveled (seven-digit odometer) in miles.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

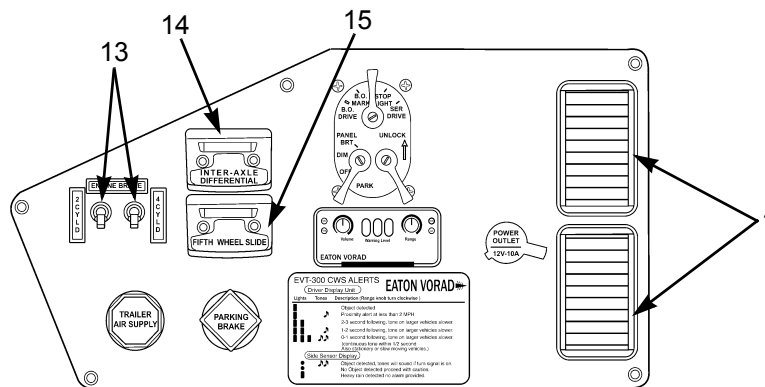
0004 00

INSTRUMENT PANEL - CONTINUED
c. Right Gage Panel.


KEY	CONTROL OR INDICATOR	FUNCTION
7	Primary Air Pressure Gage	Registers air pressure (in psi) in rear brake system. Normal operating range is in green band.
8	Air Cleaner Restriction Indicator Gage	Indicates air cleaner air flow is adequate if gage is in clear band. If restricted, gage will go into red band. Push yellow reset button to reset after air cleaner has been replaced.
9	Secondary Air Pressure Gage	Registers air pressure (in psi) in front brake system. Normal operating range is in green band.
10	Transfer Case Oil Temperature Gage (All except M915A3)	Indicates oil temperature in transfer case. Normal range is in green band. If needle goes into yellow band or red band, stop and investigate cause.
11	Transmission Oil Temperature Gage	Indicates oil temperature in transmission. Normal range is in green band. If needle goes into yellow band or red band, stop and investigate cause.
12	Fuel Gage	Indicates amount of fuel in fuel tank when ignition switch is turned ON.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED
2. Upper Right Dash Panel.


M915A3

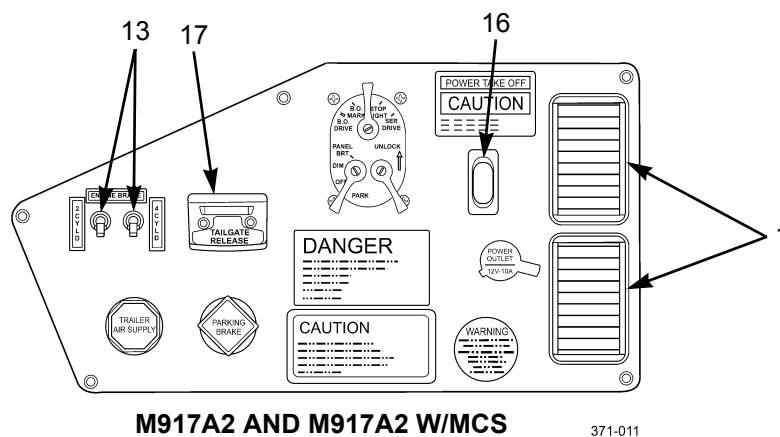
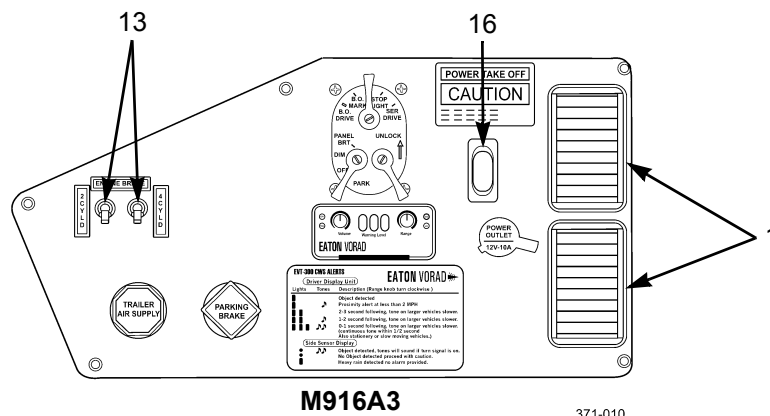
371-009

KEY	CONTROL OR INDICATOR	FUNCTION
1	Air Vents	Vent air into cab from heater/ventilator/defroster and air conditioner. Louvered openings are adjustable.
13	Engine (Jake) Brake Selection Switches	Select number of engine cylinders desired for braking action (two, four, or six cylinders). Turn on left switch for two cylinders, right switch for four cylinders, and both switches for all six cylinders.
14	Inter-axle Differential Control Valve Lever	Locks and unlocks driveline based on changing driving conditions. (a) LOCK. In poor traction conditions, stop vehicle and place lever in LOCK position to lock up driveline. (b) UNLOCK. When conditions are back to normal, move lever to UNLOCK while vehicle is moving.
15	Fifth Wheel Slide Control Valve Lever	Disengages and engages two slide locking plungers to allow repositioning of sliding fifth wheel from inside cab. LOCK position engages slide locking plungers and locks fifth wheel to baseplate. UNLOCK position disengages slide locking plungers to allow changes to total length of tractor-trailer and changes to axle loads.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS - CONTINUED

0004 00

INSTRUMENT PANEL - CONTINUED

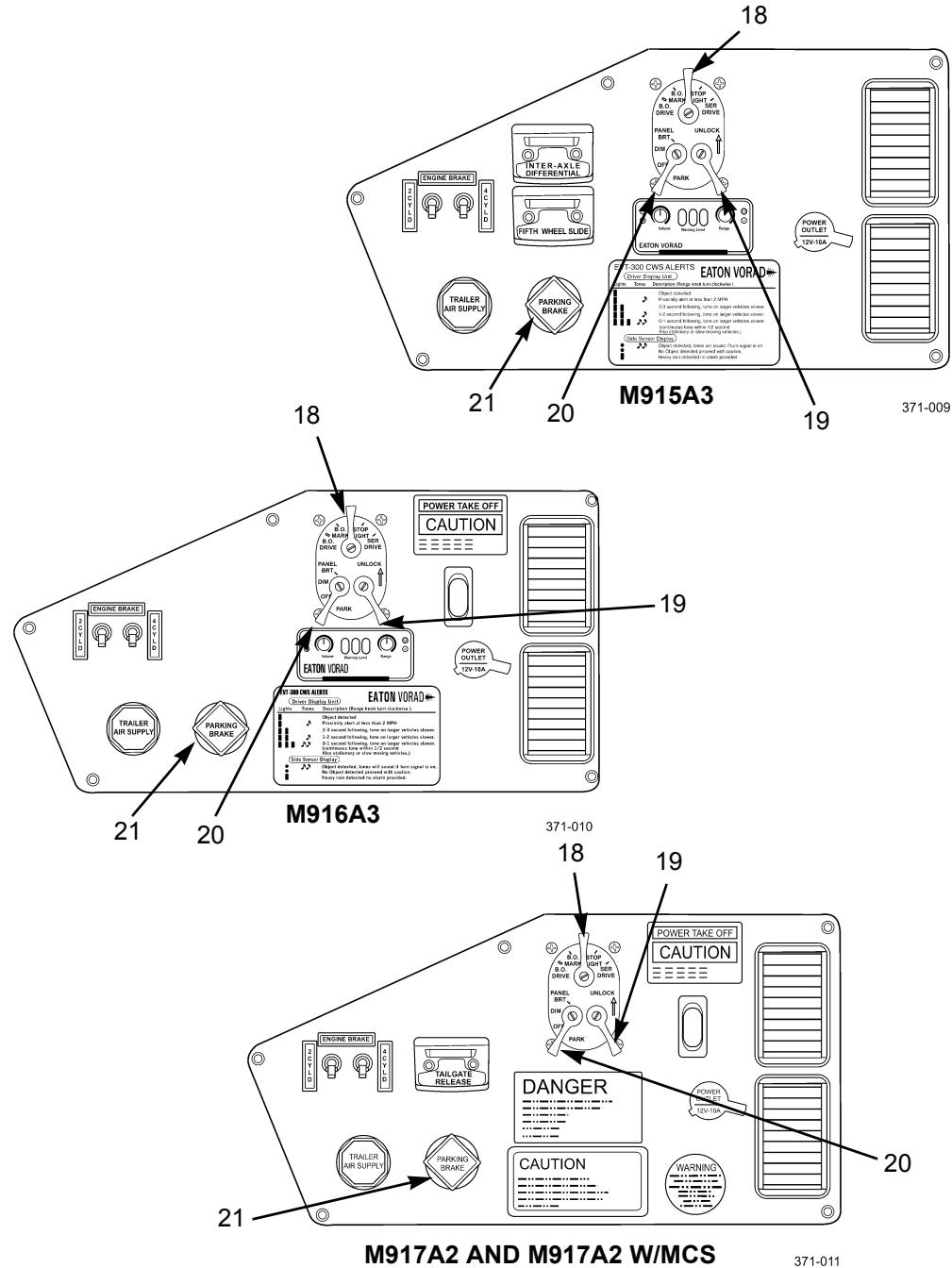


KEY	CONTROL OR INDICATOR	FUNCTION
16	PTO Switch	Engages PTO. Positions are ON and OFF. PTO will not operate unless main light switch is in SER DRIVE or STOP LIGHT position (M917A2, M917A2 w/MCS). Light in switch comes on when PTO is ON.
17	Tailgate Release	Unlocks and locks dump body tailgate (TM 5-3805-264-14&P).

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

INSTRUMENT PANEL - CONTINUED



**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

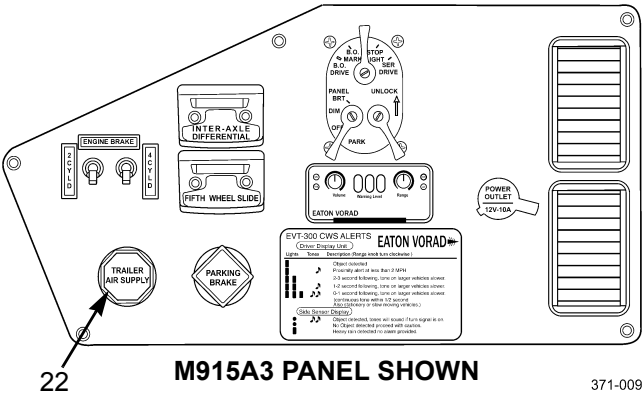
INSTRUMENT PANEL - CONTINUED

KEY	CONTROL OR INDICATOR	FUNCTION
18	Main Light Switch	<p>Five-position switch that will operate with ignition off. To engage, mechanical switch must be held in UNLOCK position (up). Switch positions are:</p> <ul style="list-style-type: none"> (a) BO MARKER. Blackout marker/tail lights and blackout stop lights function. No other lights, electrical horn or CWS (M916A3, M917A2) function. Dump body (M917A2) cannot be raised. (b) BO DRIVE. Same as BO MARKER position, but blackout drive light and trailer circuit also function. (c) OFF. No lights or electrical horn function. (d) STOP LIGHT. Electrical horn and all separately controlled lights function except blackout stop lights. Daytime Running Lights (DRL) operate when parking brake is released. Powers up Collision Warning System (CWS). No marker or drive lights function. (e) SER DRIVE. Same as STOP LIGHT position, but headlight and "non-blackout" marker/tail lights function.
19	Mechanical Switch	<p>Spring-loaded, two-position switch. Switch positions are:</p> <ul style="list-style-type: none"> (a) LOCK. Down position prevents movement of main light switch. (b) UNLOCK. Up position enables movement of main light switch. Hold lever in UNLOCK position and move main light switch to desired position.
20	Auxiliary Switch	<p>Four-position switch. Will not function if main light switch is OFF. Switch positions are:</p> <ul style="list-style-type: none"> (a) PANEL BRT. Bright panel lights function unless main light switch is in OFF, BO DRIVE, or BO MARKER positions. (b) DIM. Same as PANEL BRT position, but panel lights dimmer switch may dim lights. (c) OFF. Panel lights do not function. (d) PARK. When main light switch is in SER DRIVE position, headlights are deactivated, leaving all service marker/tail lights functioning.
21	Parking Brake Control	<p>Yellow diamond-shaped knob operates parking brake valve. Pull out to apply and push in to release parking brake. When released, daytime running lights (DRL) will come on.</p>

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

INSTRUMENT PANEL - CONTINUED

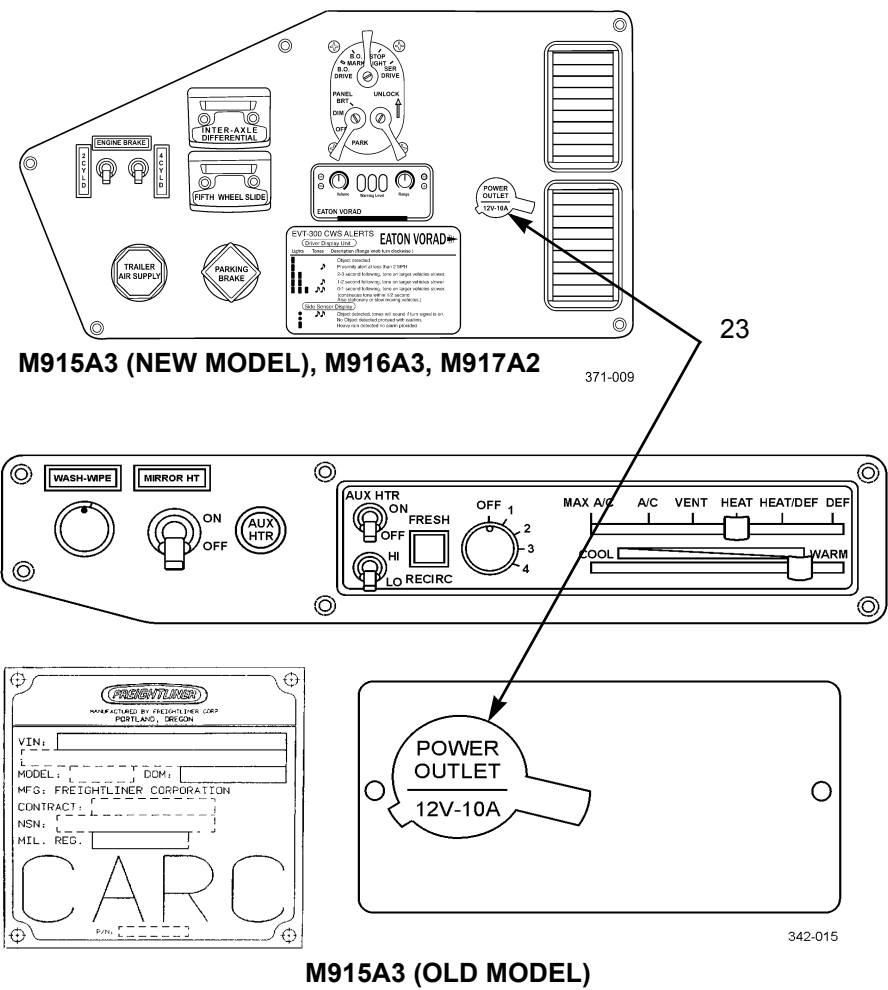


KEY	CONTROL OR INDICATOR	FUNCTION
22	Trailer Air Supply Control	Red octagonal-shaped knob supplies air to trailer air reservoirs. Push in to supply trailer air and release trailer spring brakes. Pull out to evacuate air supply and apply trailer spring brakes.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

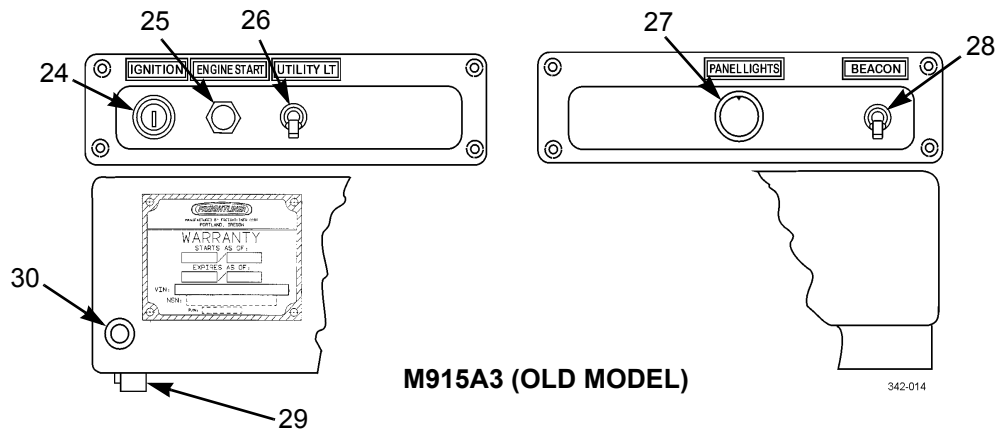
INSTRUMENT PANEL - CONTINUED



KEY	CONTROL OR INDICATOR	FUNCTION
23	12V Power Outlet	Used to connect 12VDC appliances to vehicle electrical system.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

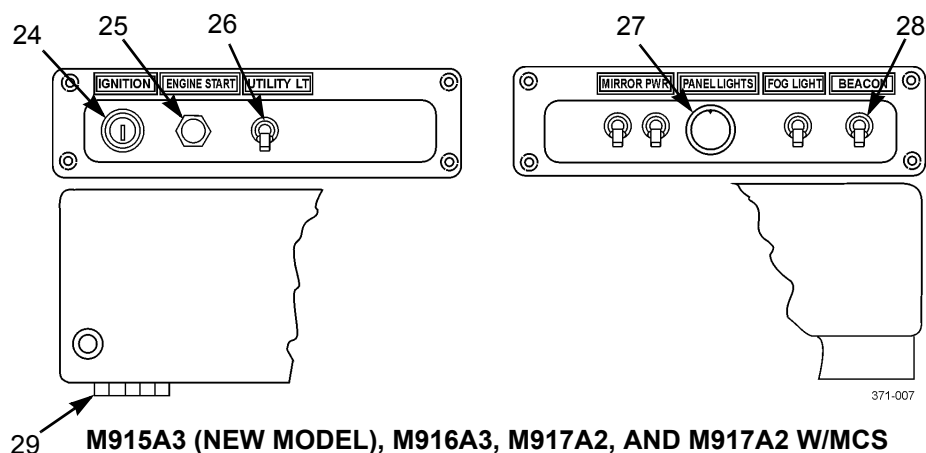
0004 00

INSTRUMENT PANEL - CONTINUED
3. Lower Control Panel.


KEY	CONTROL OR INDICATOR	FUNCTION
24	Ignition Switch	Operates gages/switches/sending units, instrument panel lights, and engine start. Turn key in switch clockwise to ON position. Turn key counterclockwise to activate accessories. Turn key to center vertical position to turn all systems OFF.
25	Engine Start Button	Press to energize starter solenoid. Release button as soon as engine starts.
26	Utility Light Switch	ON/OFF toggle switch controls utility lights mounted on back of cab. Up position is ON. Down position is OFF.
27	Panel Lights Control Knob	Brightens or dims instrument panel lights. Military light auxiliary switch must be in DIM position. Turn clockwise to brighten and counterclockwise to dim. Turn fully counterclockwise to shut off panel lights.
28	Beacon Light Switch	ON/OFF toggle switch controls warning light on top of vehicle. Up position is ON. Down position is OFF.
29	Diagnostic Connector	Used by maintenance personnel to connect TMDE to fault isolate vehicle systems.
30	Check Engine (CHK ENG) Button	Used by maintenance personnel <u>ONLY</u> for engine diagnostic purposes.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

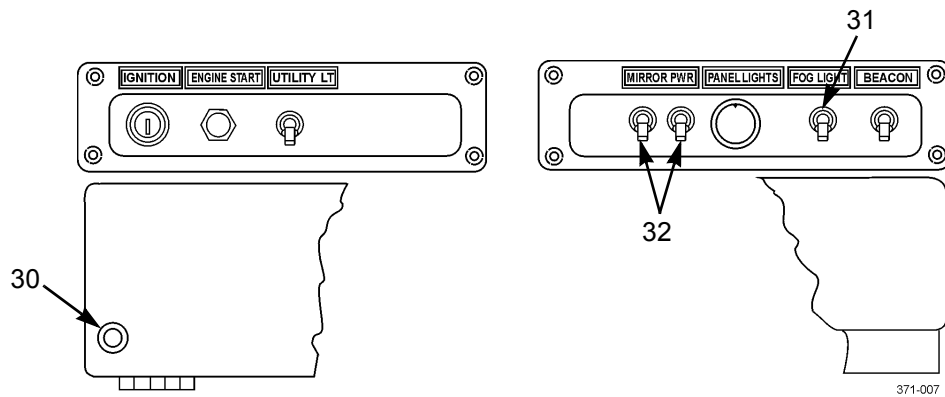
INSTRUMENT PANEL - CONTINUED


KEY	CONTROL OR INDICATOR	FUNCTION
24	Ignition Switch	Operates gages/switches/sending units, instrument panel lights, and engine start. Turn key in switch clockwise to ON position. Turn key counterclockwise to activate accessories. Turn key to center vertical position to turn all systems OFF.
25	Engine Start Button	Press to energize starter solenoid. Release button as soon as engine starts.
26	Utility Light Switch (M915A3 New Model, M916A3)	ON/OFF toggle switch controls utility lights mounted on back of cab. Up position is ON. Down position is OFF.
27	Panel Lights Control Knob	Brightens or dims instrument panel lights. Military light auxiliary switch must be in DIM position. Turn clockwise to brighten and counterclockwise to dim. Turn fully counterclockwise to shut off panel lights.
28	Beacon Light Switch	ON/OFF toggle switch controls warning light on top of vehicle. Up position is ON. Down position is OFF.
29	Diagnostic Connector	Used by maintenance personnel to connect TMDE to fault isolate vehicle systems.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED

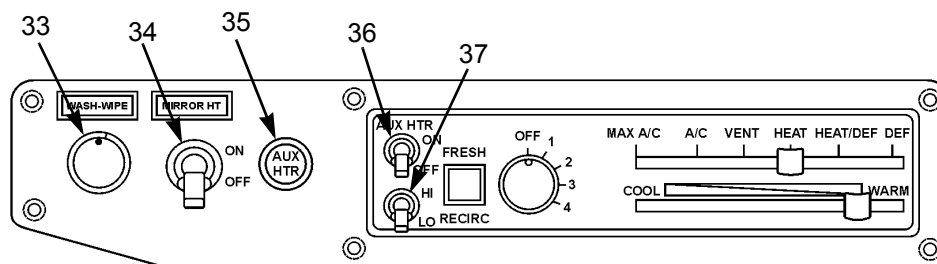


M915A3 (NEW MODEL), M916A3, M917A2, AND M917A2 W/MCS

KEY	CONTROL OR INDICATOR	FUNCTION
30	Engine Check (ENG CHK) Button	Used by maintenance personnel <u>ONLY</u> for engine diagnostic purposes.
31	Fog Light Switch (If Equipped)	ON/OFF toggle switch controls fog lights. Up position is ON. Down position is OFF.
32	Mirror Power Switches	Controls in and out mirror movement. Can be operated with ignition off. Left hand switch is for driver side mirror. Right hand switch is for passenger side mirror. Move switch up to move mirrors out. Move switch down to move mirrors in.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

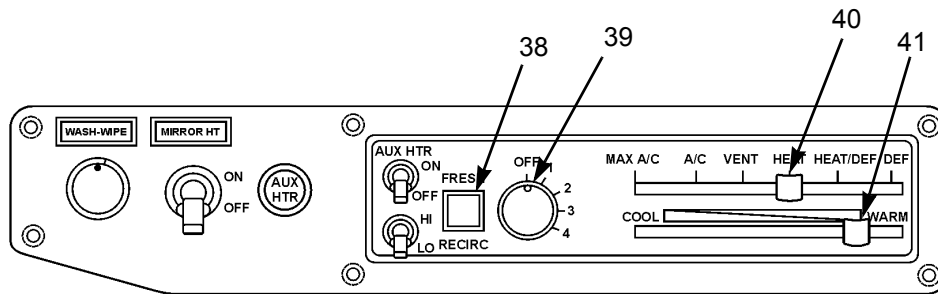
INSTRUMENT PANEL - CONTINUED
4. Lower Right Dash Panel.


371-051

KEY	CONTROL OR INDICATOR	FUNCTION
33	Wiper/Washer Control Knob	Turns windshield wipers on/off. Turn clockwise one click for delayed wiper speed, two clicks for normal wiper speed, and three clicks for fast wiper speed. Counterclockwise is OFF. To wash windshield, press knob in to spray water and to turn wipers on.
34	Mirror Heat Switch	ON/OFF toggle switch controls mirror heat for defrosting. Up position is ON. Down position is OFF.
35	Auxiliary Heater Indicator Light (If Equipped)	Lights up when arctic heater burner is lit.
36	Auxiliary Heater Control Switch (If Equipped)	Operates arctic heater. Positions are ON and OFF. When set to ON, a green light integrated into switch is illuminated.
37	HI-LO Switch (If Equipped)	Controls rate of heating for arctic heater. If set at HI, heater burner will go on when coolant temperature at inlet to heater is 167°F (75°C). LO is suitable for standby operation.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

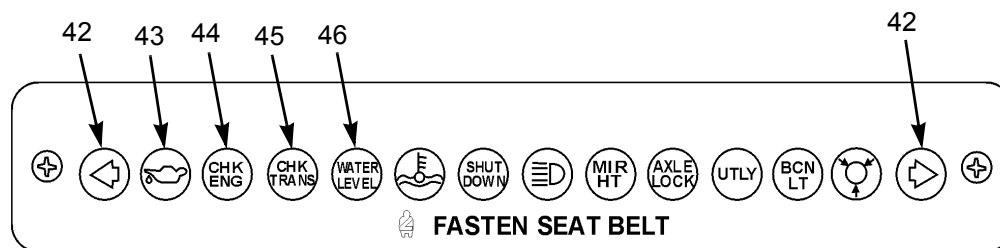
INSTRUMENT PANEL - CONTINUED


371-051

KEY	CONTROL OR INDICATOR	FUNCTION
38	FRESH/RECIRC Air Button	Allows A/C, VENT, and HEAT modes to be used with recirculated or fresh air. When mode control lever is at HEAT/DEF or DEF, system draws in fresh air regardless of button setting. When MAX A/C is selected, system draws recirculated air regardless of button setting.
39	Fan Knob	Controls four-speed fan. Positions are OFF, 1, 2, 3, and 4. Position 4 is maximum fan speed.
40	Mode Control Lever	Allows selection of modes of operation. Modes are MAX A/C, A/C, VENT, HEAT, HEAT/DEF, and DEF. Lever must be set to HEAT for arctic heater to operate.
41	Temperature Control Lever	Allows selection of a full range of temperatures from COOL to WARM.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED
5. Indicator and Warning Lamps.


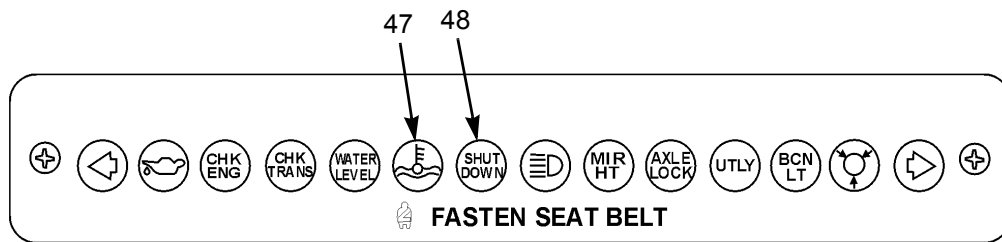
371-042

KEY	CONTROL OR INDICATOR	FUNCTION
42	Turn Signal Indicators	Left/right green light flashes whenever outside turn signal lights are flashing. Both lights flash when four-way flashers are on.
43	Engine Oil Warning Light	Red light comes on and warning buzzer sounds when engine oil pressure is below 5 psi (34 kPa). When operating in blackout mode, only warning buzzer will sound.
44	Check Engine (CHK ENG) Light	Yellow light comes on for approximately five seconds when ignition switch is turned on. Light stays on if there is an engine malfunction.
45	Check Transmission (CHK TRANS) Warning Light	Red light comes on and a warning buzzer sounds when transmission temperature reaches 325°F (163°C). When operating in blackout mode, only warning buzzer will sound.
46	WATER LEVEL Light	Red light comes on and a warning buzzer sounds when engine coolant system level requires fluid. When operating in blackout mode, only warning buzzer will sound.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED

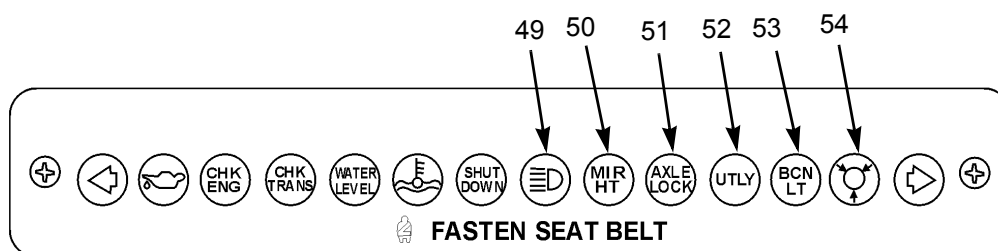


371-042

KEY	CONTROL OR INDICATOR	FUNCTION
47	Engine Temperature Warning Light	Red light comes on and a warning buzzer sounds when engine coolant temperature is above 225°F (106°C). When operating in blackout mode, only warning buzzer will sound.
48	SHUT DOWN Light	Red light comes on for approximately five seconds when ignition switch is turned on. Light stays on when problems such as low oil pressure, low coolant, or overheating occur in engine, making it unsafe for further operation.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED


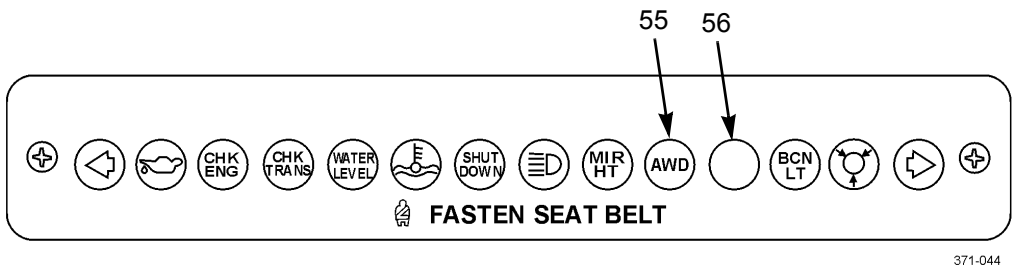
371-042

KEY	CONTROL OR INDICATOR	FUNCTION
49	High Beam Indicator Light	Green light comes on when high beam headlights are on.
50	Mirror Heater (MIR HT) Indicator Light	Amber light comes on when mirror heater (defroster) switch is turned ON.
51	AXLE LOCK Light (M915A3)	Amber light comes on when inter-axle differential control valve lever is set to LOCK position.
52	Utility (UTLY) Light (M915A3, M916A3)	Amber light comes on when utility light switch is turned ON.
53	Beacon Light (BCN LT)	Beacon light comes on when beacon light switch is turned ON.
54	Low Air Pressure Warning Light	Red light comes on and warning buzzer sounds when air pressure in either section of dual system falls below 65 psi (448 kPa). When operating in blackout mode, only warning buzzer will sound.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

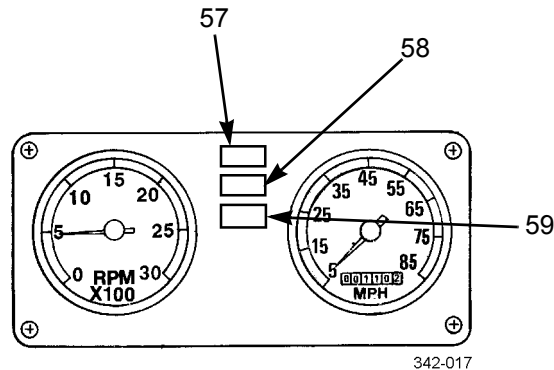
INSTRUMENT PANEL - CONTINUED



KEY	CONTROL OR INDICATOR	FUNCTION
55	All Wheel Drive (AWD) Indicator Light (M916A3, M917A2, and M917A2 w/MCS)	Amber light comes on when 1st gear is selected on transmission or transfer case is engaged.
56	Not Used (M917A2 and M917A2 w/MCS)	None.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

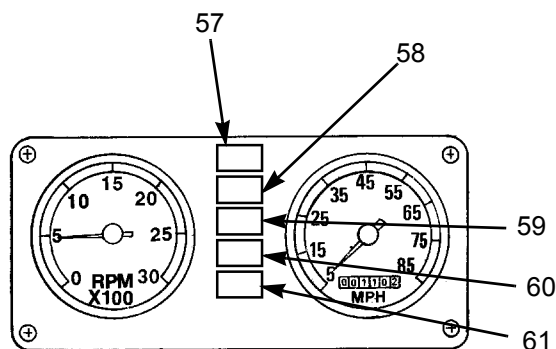
0004 00

INSTRUMENT PANEL - CONTINUED6. **Indicator and Warning Lamps.**

KEY	CONTROL OR INDICATOR	FUNCTION
57	Parking Brake Indicator Light	Red light comes on when parking brake is activated.
58	Tractor ABS (TRAC ABS) Indicator Light	Red light comes on when ignition is turned ON. Light goes out after 5-10 second self-test if ABS components are working.
59	Trailer ABS Indicator Light	When coupled to ABS-equipped trailer, red light comes on when ignition is turned ON. Light goes out after 5-10 second self-test if ABS components are working.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

INSTRUMENT PANEL - CONTINUED


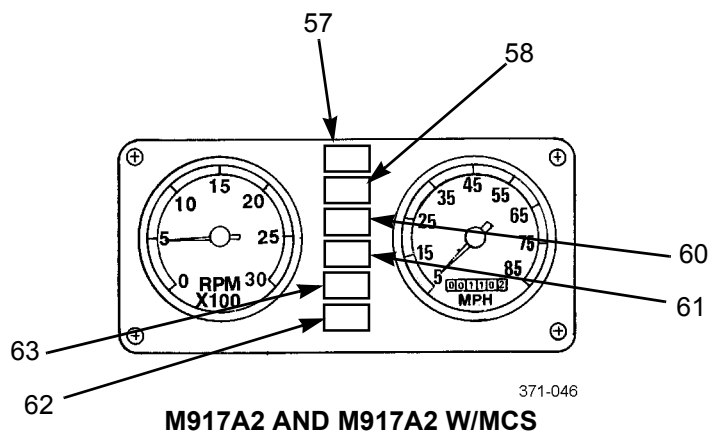
M916A3

371-045

KEY	CONTROL OR INDICATOR	FUNCTION
57	Parking Brake Indicator Light	Red light comes on when parking brake is activated.
58	Tractor ABS (TRAC ABS) Indicator Light	Red light comes on when ignition is turned ON. Light goes out after 5-10 second self-test if ABS components are working. Light blinks when vehicle is in all-wheel drive.
59	Trailer ABS Indicator Light	When coupled to ABS-equipped trailer, red light comes on when ignition is turned ON. Light goes out after 5-10 second self-test if ABS components are working.
60	PTO Engage Indicator Light	Indicates when PTO is turned on.
61	Reduce MPH Indicator Light	Red light comes on when truck is travelling too fast for tire pressure selected by CTIS.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

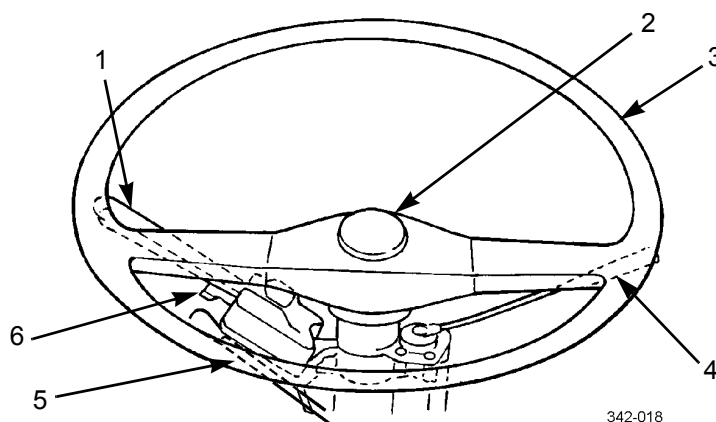
0004 00

INSTRUMENT PANEL - CONTINUED


KEY	CONTROL OR INDICATOR	FUNCTION
57	Parking Brake Indicator Light	Red light comes on when parking brake is activated.
58	Tractor ABS (TRAC ABS) Indicator Light	Red light comes on when ignition is turned ON. Light goes out after 5-10 second self-test if ABS components are working. Light blinks when vehicle is in all-wheel drive.
60	PTO Engage Indicator Light	Indicates when PTO is turned on.
61	Reduce MPH Indicator Light	Red light comes on when dump truck is travelling too fast for tire pressure selected by CTIS.
62	Body Lock Indicator Light	Red light comes on when dump body transport lock is locked.
63	Body Up Indicator Light	Red light comes on when dump body is raised.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

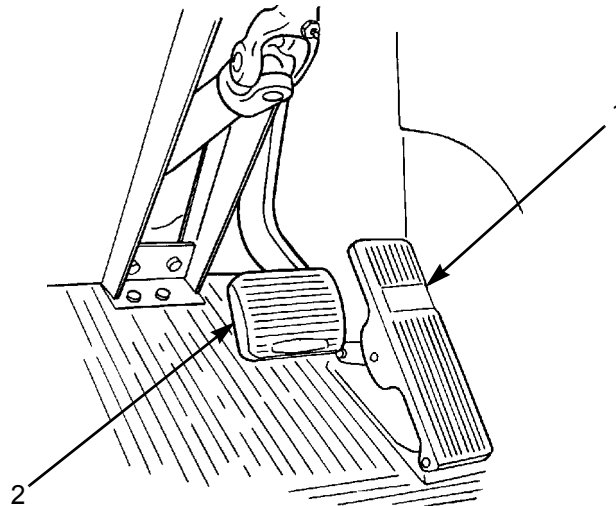
0004 00

STEERING WHEEL AND COLUMN-MOUNTED CONTROLS


KEY	CONTROL OR INDICATOR	FUNCTION
1	Turn Signal Lever/ Headlight Dimmer Switch	Move lever forward for right turn signal, rearward for left turn signal, and center for off. Lift end of turn signal lever to turn on high beams. Lift lever again to turn high beams off.
2	Electric Horn	Push to activate. Use instead of air horn in normal city driving.
3	Steering Wheel	Turn clockwise to turn vehicle right and counterclockwise to turn vehicle left.
4	Trailer Brake Hand Control Valve Lever	When pulled rearward, activates trailer brakes and brake lights on tractor and trailer. Used only for coupling and uncoupling.
5	Steering Wheel Adjustment Control Lever	Push down on lever to change tilt of steering column and wheel. Release lever to lock tilt adjustment in position. To adjust height of steering wheel, pull up on lever. Release lever to lock height adjustment in position.
6	Hazard Signal Switch	Located under the turn signal. Move switch out (left) to activate hazard lights. Move turn signal lever forward or rearward to deactivate hazard lights.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

CAB FLOOR MOUNTED CONTROLS

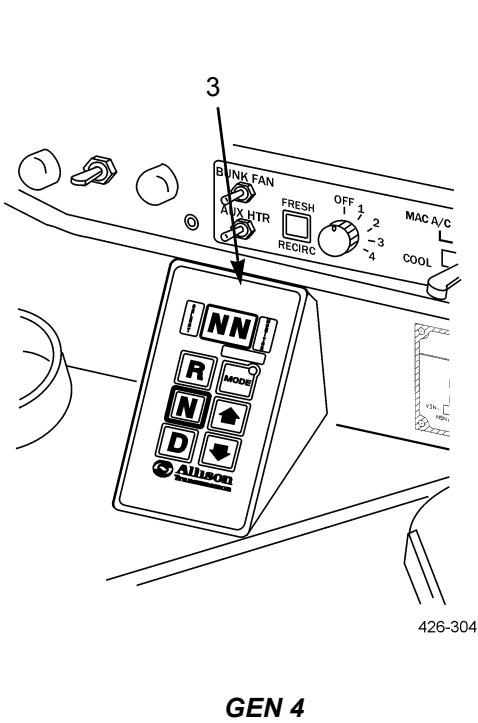
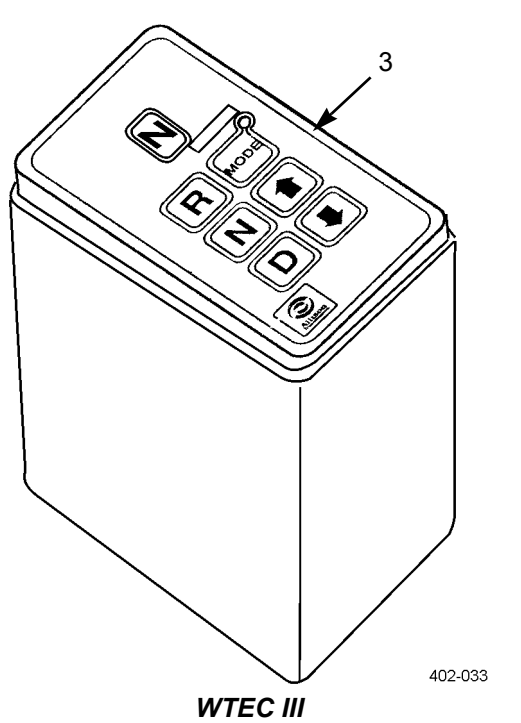
342-019

KEY	CONTROL OR INDICATOR	FUNCTION
1	Accelerator Pedal	Depress to increase engine speed. Release to decrease engine speed.
2	Brake Pedal	Depress to apply service brakes on truck and, if properly coupled to a trailer, trailer service brakes. Release to release service brakes.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

CAB FLOOR MOUNTED CONTROLS - CONTINUED

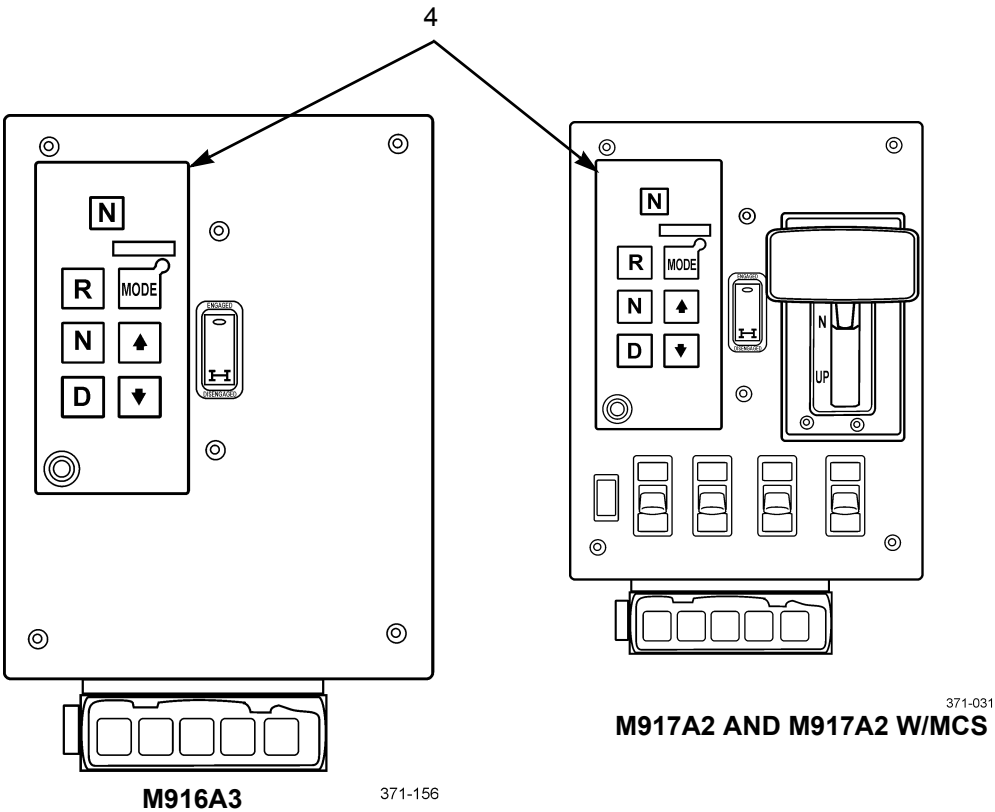


NOTE

WTEC III Shift Selector may also be dash mounted.

KEY	CONTROL OR INDICATOR	FUNCTION
3	Transmission Pushbutton Shift Selector	Shifts 6-speed (WTEC III) or 5-speed (Gen 4) automatic transmission. Range select positions are R (Reverse), N (Neutral), and D (Drive). In D, selection of a specific gear can be accomplished by pressing up or down arrow pushbuttons; shifting can also be done automatically. MODE button and arrows are for selection of 6th gear (WTEC III), electronic fluid level check (Gen 4), and Unit Maintenance functions.

CAB FLOOR MOUNTED CONTROLS - CONTINUED



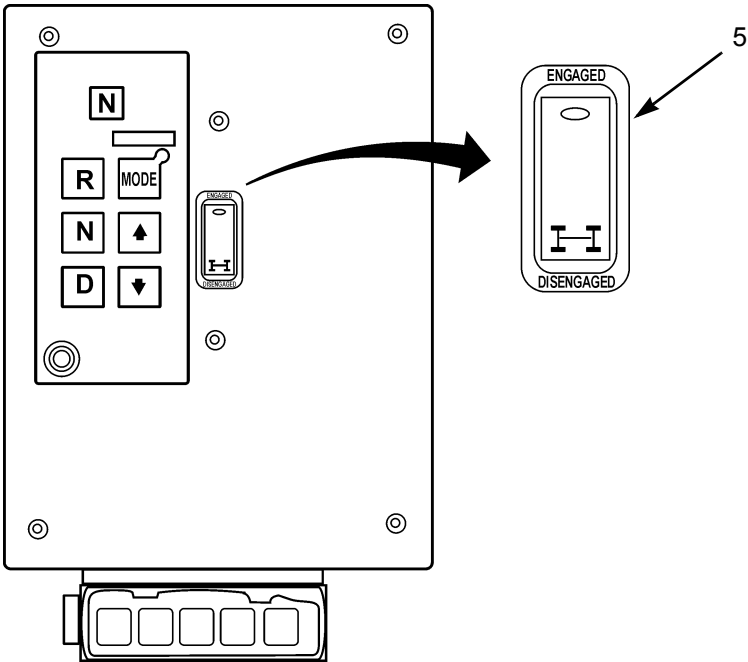
WTEC III Display Shown

KEY	CONTROL OR INDICATOR	FUNCTION
4	Transmission Pushbutton Shift Selector	Shifts 7-speed automatic transmission. Range select positions are R (Reverse), N (Neutral), and D (Drive). In D, selection of a specific gear can be accomplished by pressing up or down arrow pushbuttons or shifting can be done automatically. D is for gears 2 thru 7. At a stop, 1st gear can be selected by pressing down arrow pushbutton. MODE button changes shift point from 2000 rpm to 1700 rpm. MODE button and arrow pushbuttons also activate electronic fluid level check.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

CAB FLOOR MOUNTED CONTROLS - CONTINUED

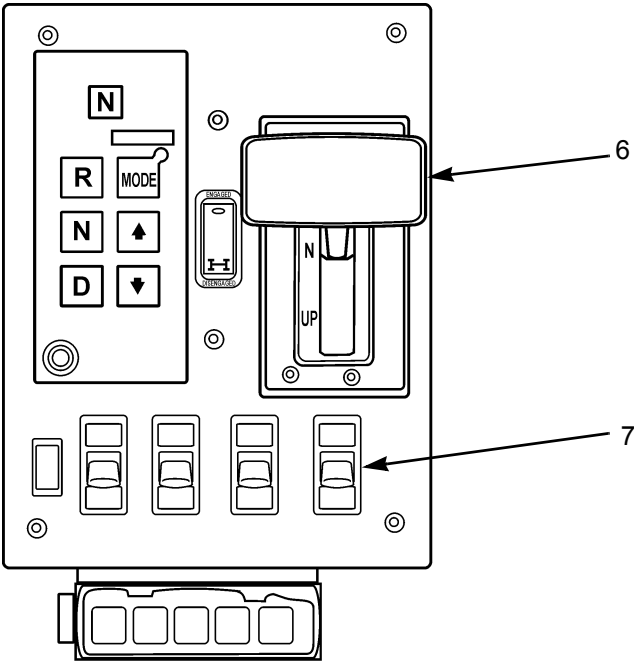


371-032

M916A3 PANEL SHOWN

KEY	CONTROL OR INDICATOR	FUNCTION
5	All-Wheel Drive Switch (M916A3, M917A2, and M917A2 w/MCS)	Engages and disengages front driving axle and can be switched at speeds of 25 mph or less. Positions are ENGAGE and DISENGAGE. Light in switch comes on when front driving axle is engaged.

CAB FLOOR MOUNTED CONTROLS - CONTINUED



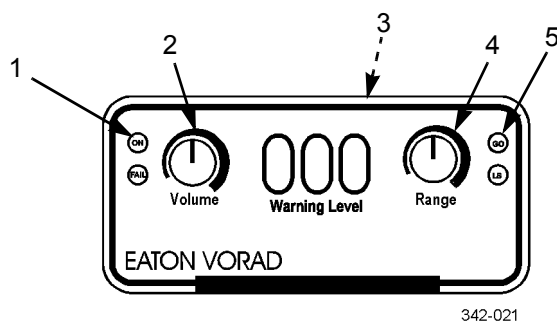
371-031

M917A2 AND M917A2 W/MCS

KEY	CONTROL OR INDICATOR	FUNCTION
6	Hydraulic Control Lever	Controls raising and lowering of dump body (TM 5-3805-264-14&P). PTO switch must be on and main light switch must be in SER DRIVE or STOP LIGHT. If main light switch is in blackout mode, lever will not operate to raise dump body.
7	MCS Control Unit	Controls operation of MCS tailgate (TM 5-3805-264-14&P).

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

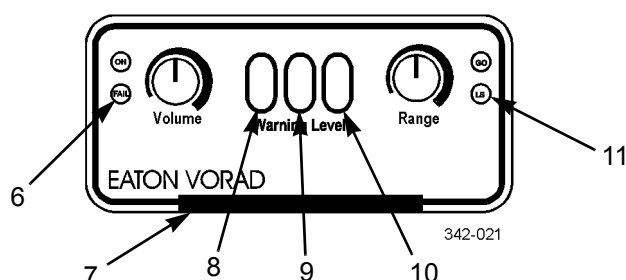
0004 00

COLLISION WARNING SYSTEM (CWS) (M915A3 AND M916A3)
1. Driver's Display Unit.


KEY	CONTROL OR INDICATOR	FUNCTION
1	Green, Power On	Illuminates when ignition is turned on, military light switch is in STOP LT or SER DRIVE, and the power-on LED test is complete.
2	Volume Control and Power On/Off	When pushed in until a distinctive click is felt, turns the power ON or OFF. Adjusts the volume of the driver display unit speaker. Activates "Failure Display Mode" blink codes when the knob is pressed and held for five seconds and released.
3	Speaker	Located under the top cover of the driver display unit. Sounds audible tones to alert the driver of a possible hazard. May be set to limit the volume to a minimum level.
4	Range Control and Accident Recorder Selection	When rotated, this control provides detection range adjustment of the first alert between 3 and 2.125 seconds. Function may be configured to prevent range adjustment control. Accident Reconstruction is initiated by pushing and holding this knob for 5 seconds thereby freezing the most recent data in half of the allocated memory.
5	Green, Smart Cruise/Accident Reconstruction	Light comes on during power-up and LED test. Function not used.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

**COLLISION WARNING SYSTEM (CWS)
(M915A3 AND M916A3) - CONTINUED**


KEY	CONTROL OR INDICATOR	FUNCTION
6	Red, System Failure	Lights when a problem has been detected in the forward looking radar system. A pattern of flashes blink out the faults that are stored in memory when activated by holding in the volume control knob for five seconds.
7	Driver's Identification Card Slot	Not Used.
8	Yellow	This indicator illuminates when an object is detected within the system's maximum range. Maximum range is 350 feet on straight roads and is reduced on curved roads by the road turn radius. It also illuminates when the proximity alarm threshold is crossed.
9	Orange, Accompanied with Yellow	This indicator illuminates when an object is detected within a 3 second interval of vehicle opening or closing, 1 to 2 seconds following interval with vehicle opening and no tone, and 1 to 2 seconds following interval with vehicle closing accompanied by a tone.
10	Red, Accompanied with Yellow and Orange	This indicator illuminates when an object is detected at <1 second with vehicle opening and no tone with vehicle closing accompanied by audible tones. At a 1/2 second or less following interval opening and closing, the tones are repeated, twice per second.
11	Light Sensor	Photo sensor that senses ambient lighting and adjusts intensity of the indicator lights accordingly (i.e., increases brightness of indicator lights in daytime and decreases brightness of indicator lights at nighttime).

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

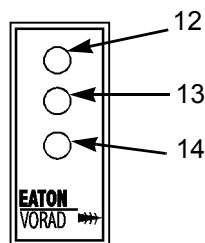
***COLLISION WARNING SYSTEM (CWS)
(M915A3 AND M916A3) - CONTINUED***

Miscellaneous Tones.

LIGHT/TONES	DESCRIPTION
Fail, One Low Tone	Sounded when the system diagnostics detect a failure.
One Tone	Each time the volume control is turned a single tone is sounded.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

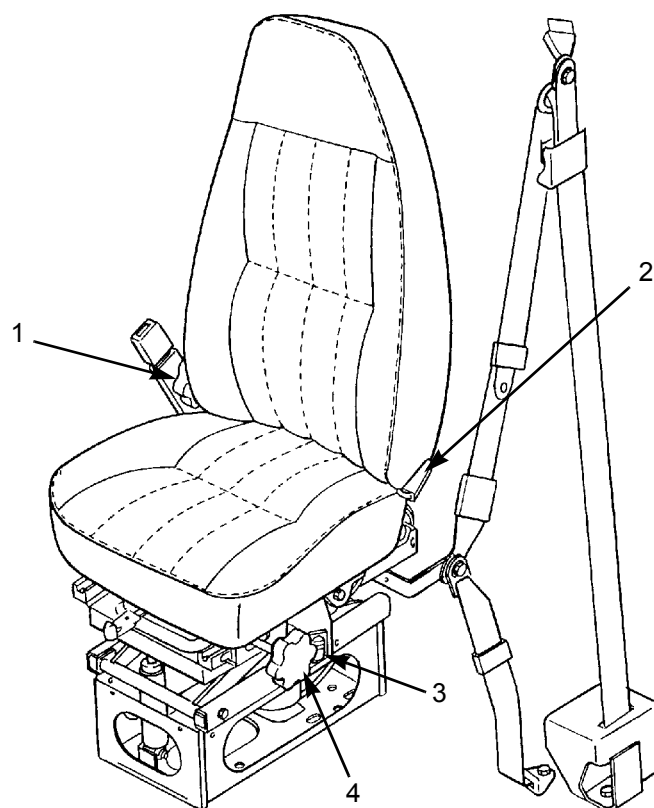
**COLLISION WARNING SYSTEM (CWS)
(M915A3 AND M916A3) - CONTINUED**
2. Side Sensor Display.


342-022

KEY	CONTROL OR INDICATOR	FUNCTION
12	Red, Vehicle Detected	Indicator light that illuminates after objects have been detected by the side sensor. When the right turn signal is activated and the side sensor detects an object, the red indicator light comes on and the driver display unit speaker sounds a double tone. The tone is sounded only once per activation of the turn signal. Lights if a failure of the side sensor occurs and if the criteria for heavy rain is met.
13	Light Sensor	Photo sensor that senses ambient light and adjusts intensity of the indicator lights accordingly (i.e., increases brightness of indicator lights in daytime and decreases brightness of indicator lights at nighttime).
14	Yellow, No Vehicle Detected	Indicator light stays on when no objects are detected by the side sensor.
12/14	Red and Yellow	Lights come on simultaneously to indicate the side sensor is temporarily unable to detect objects in heavy rain.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

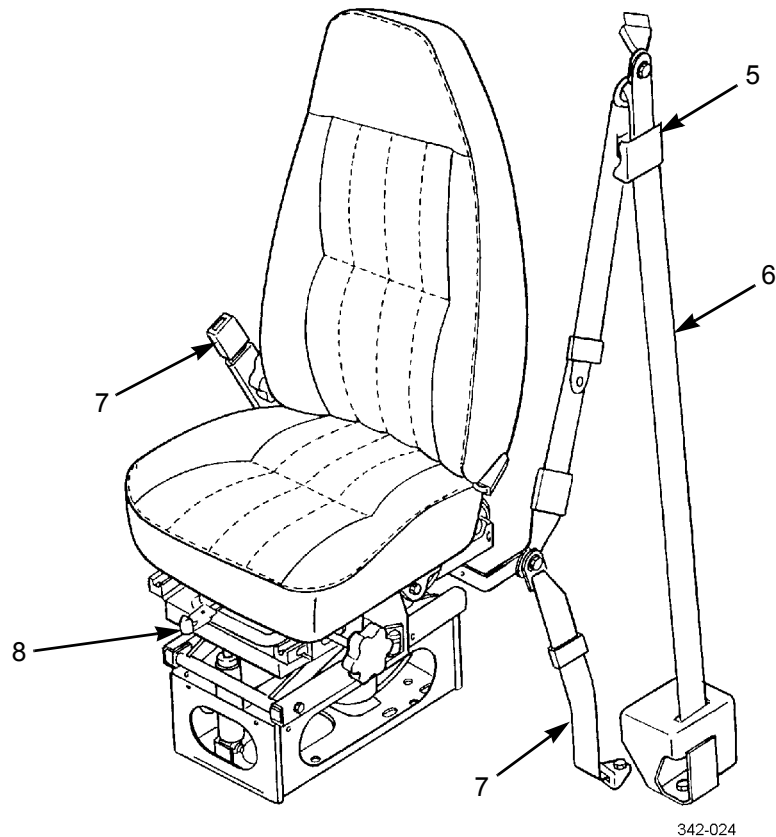
SEAT CONTROLS

342-024

KEY	CONTROL OR INDICATOR	FUNCTION
1	Lumbar Adjustment Knob	Controls lumbar support in seat. Rotate knob forward to increase and rearward to decrease lumbar support.
2	Seat Back Adjustment Lever	Adjusts seat back angle. Apply or remove pressure from seat back and hold lever rearward to adjust.
3	Seat Height Adjustment Control Valve	Press top of rocker switch to raise seat and bottom of rocker switch to lower seat. Vehicle air pressure must be above 60 psi (414 kPa) to operate lever.
4	Seat Cushion Tilt Adjustment Knob	Rotate knob to increase or decrease seat cushion tilt.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

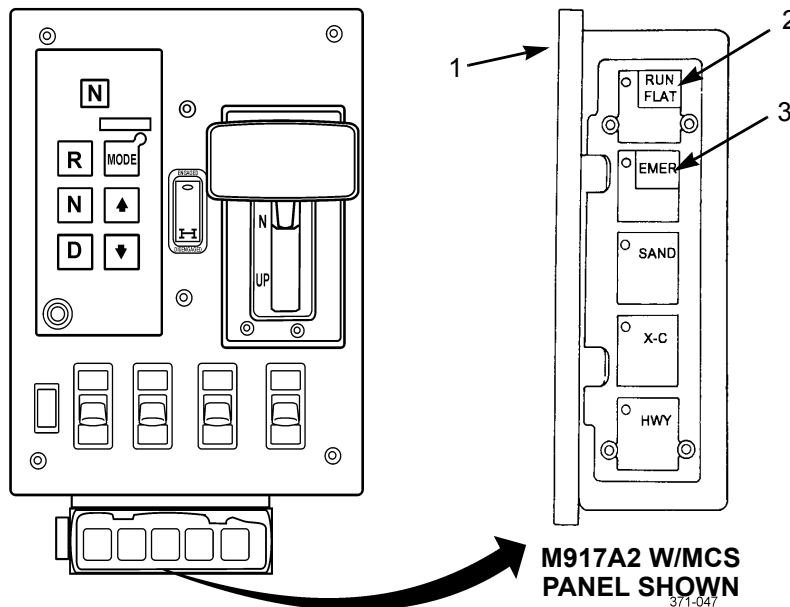
0004 00

SEAT CONTROLS - CONTINUED


KEY	CONTROL OR INDICATOR	FUNCTION
5	Komfort Loc	Adjusts length of chest section of seat belt.
6	Seat Belt	Three-point belt locks into tether belt.
7	Tether Belts	Adjustable belts located on both sides of seat. In board tether belt provides lock for seat belt.
8	Fore and Aft Seat Adjustment Lever	Three-position lever moves seat forward or backward. Right position locks seat in place. Moving lever all the way left adjusts seat. Traveling position is center position which provides a shock-absorbing effect.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

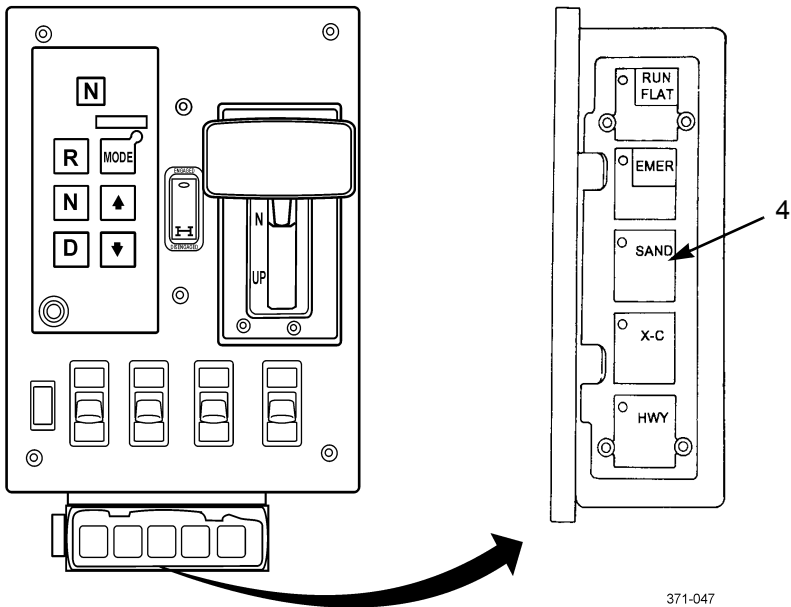
**CENTRAL TIRE INFLATION SYSTEM (CTIS)
(M916A3, M917A2 AND M917A2 W/MCS)**


KEY	CONTROL OR INDICATOR	FUNCTION
1	Selector Panel	Displays CTIS information and allows entry of system commands. Has four preset tire pressure mode keys and a run flat selector. Each selector push button is back-lit and has an annunciator or system status light. This light flashes while pressures are being checked or changed and is lit steadily when selected pressure has been reached.
2	RUN FLAT Selector	Press key to check tire pressures and to inflate damaged tire every 15 seconds. Annunciator light will flash on and off in this mode. Run flat operation is limited to ten minutes unless re-selected. Press key a second time to de-select.
3	EMER (Emergency) Mode Key	Press key to select 30 psi (207 kPa) tire pressures for operation in extreme terrain conditions where maximum traction is required, up to a maximum speed of 10 mph (16 kph). REDUCE MPH indicator light on center dash panel will always illuminate in this mode. Operation in EMER mode is limited to 10 minutes. After 10 minutes, CTIS will inflate to SAND setting unless driver re-selects EMER.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

CENTRAL TIRE INFLATION SYSTEM (CTIS)
(M916A3, M917A2, AND M917A2 W/MCS) - CONTINUED

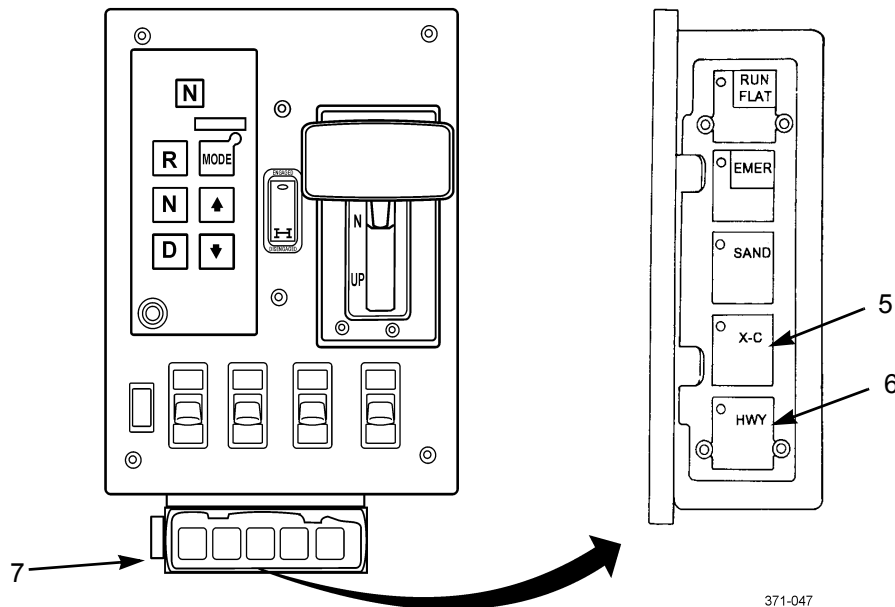


M917A2 W/MCS PANEL SHOWN

KEY	CONTROL OR INDICATOR	FUNCTION
4	SAND Mode Key	Press key to select 40 psi (276 kPa) tire pressures for operation in sand, snow, and mud up to a maximum speed of 25 mph (40 kph). If 25 mph overspeed is exceeded for more than one minute, REDUCE MPH indicator light on center dash panel will flash. If exceeded for more than two minutes, CTIS will automatically inflate to cross-country (X-C) setting. There is no time limit for operation in this mode.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

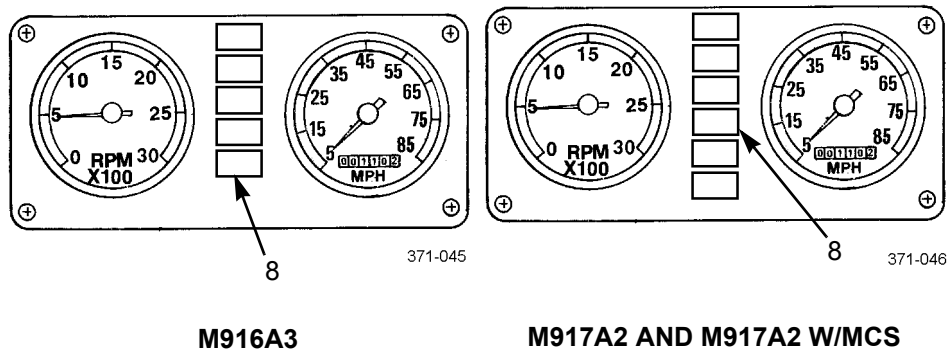
**CENTRAL TIRE INFLATION SYSTEM (CTIS)
(M916A3, M917A2, AND M917A2 W/MCS) - CONTINUED**

M917A2 W/MCS PANEL SHOWN

KEY	CONTROL OR INDICATOR	FUNCTION
5	X-C (Cross-Country) Mode Key	Press key to select 55 psi (379 kPa) tire pressures for operation on non-paved secondary roads and unimproved surfaces up to a maximum speed of 40 mph (64 kph). If 40 mph overspeed is exceeded for more than one minute, REDUCE MPH indicator light on center dash panel will flash. If exceeded for more than two minutes, CTIS will automatically inflate to highway setting. There is no time limit for operation in this mode.
6	HWY (Highway) Mode Key	Press key to select 90 psi (621 kPa) tire pressures for normal operation on improved paved surfaces up to a maximum speed of 60 mph (97 kph). There is no time limit for operation in this mode.
7	Electronic Control Unit (ECU)	The control center for CTIS.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

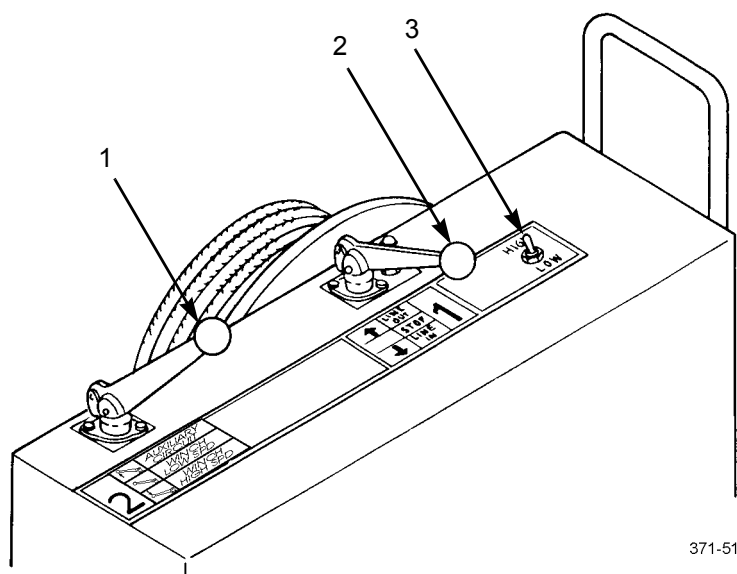
CENTRAL TIRE INFLATION SYSTEM (CTIS)
(M916A3, M917A2, AND M917A2 W/MCS) - CONTINUED



KEY	CONTROL OR INDICATOR	FUNCTION
8	REDUCE MPH Indicator Light	Red light indicates when vehicle is traveling too fast for tire pressure selected by CTIS. The following overspeed values cause light to come on: Highway - 60 mph (97 kph) Cross-Country - 40 mph (64 kph) Sand - 25 mph (40 kph) Emergency - Light always on Run Flat - No light

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

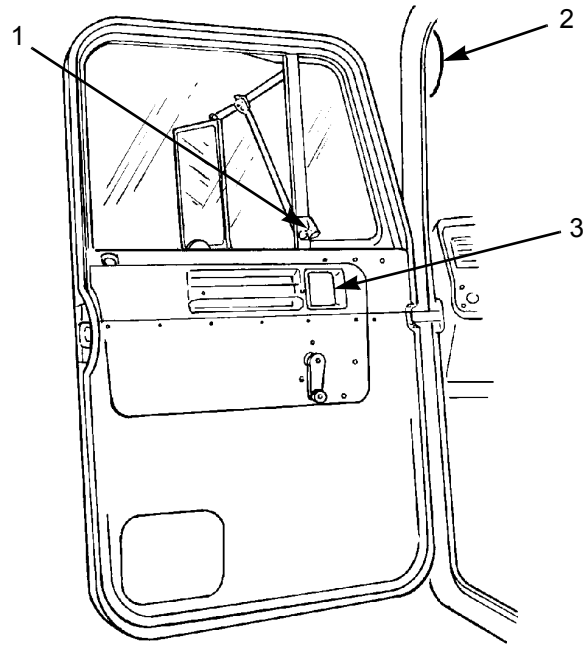
WINCH CONTROLS (M916A3)


371-510

KEY	CONTROL OR INDICATOR	FUNCTION
1	Winch Speed/Auxiliary Circuit Control	Three-position lever controls winch speed and hydraulic fluid flow to trailer. Push lever down for fast winch operation. Release lever for slow operation. Raise lever to supply hydraulic fluid to trailer.
2	Line Control	Place lever in STOP position to apply drum brake and stop winch. Move lever to LINE OUT position to release drum brake and pay out winch cable. Move lever to LINE IN position to reel in cable.
3	Engine RPM Control	Two-position toggle switch controls engine speed. Move toggle switch to HIGH to increase engine speed by 1000 rpm. Move switch to LOW to decrease engine speed.

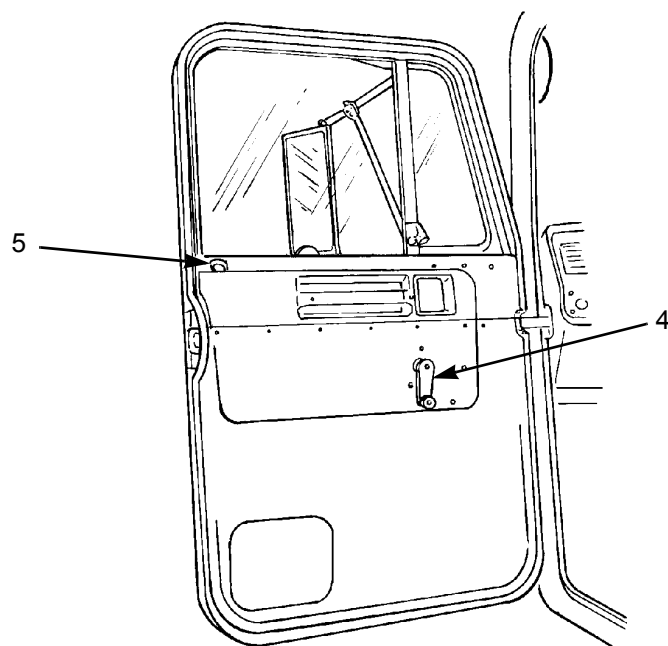
**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

ADDITIONAL CONTROLS AND INDICATORS

371-530

KEY	CONTROL OR INDICATOR	FUNCTION
1	Cab Vent Window Handle	Push button and raise handle to unlock window. Push out on handle to open window. Pull handle in to close window. Lower handle to lock window.
2	Air Horn Cable	Pull cable to activate air horn. Release cable to deactivate air horn.
3	Door Opening Handle	Pull handle to open cab door.

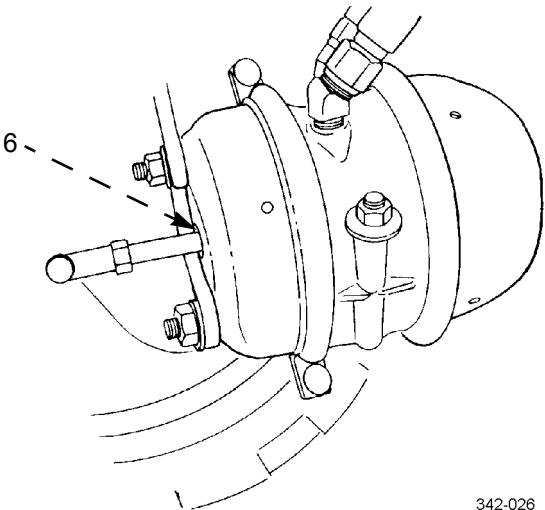
**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED****0004 00****ADDITIONAL CONTROLS AND INDICATORS - CONTINUED**

371-530

KEY	CONTROL OR INDICATOR	FUNCTION
4	Door Window Glass Regulator Handle	Turn driver side handle clockwise to lower window and counterclockwise to raise window. Turn passenger side handle counterclockwise to lower window and clockwise to raise window.
5	Door Lock Button	Push button down to lock door. To unlock, either pull door opening handle or unlock from outside with ignition key.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS - CONTINUED	0004 00
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ADDITIONAL CONTROLS AND INDICATORS - CONTINUED



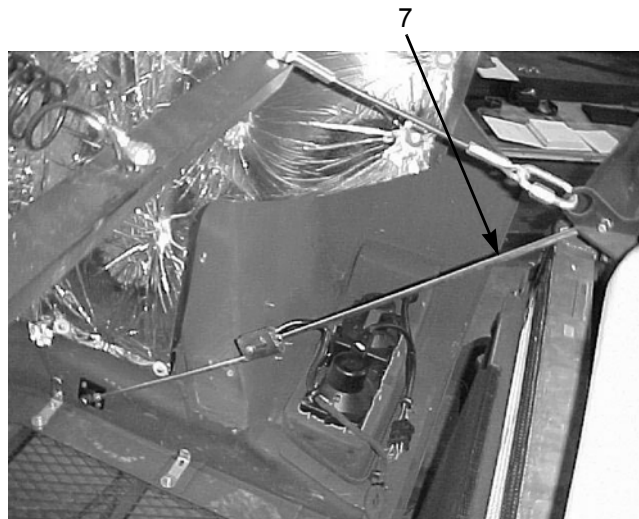
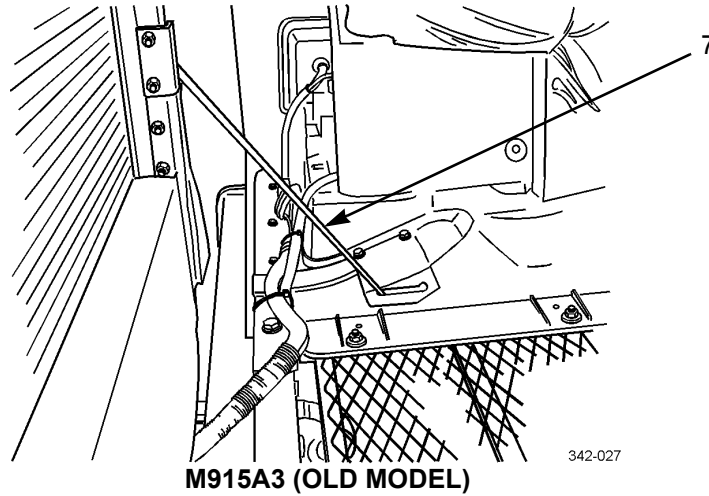
342-026

KEY	CONTROL OR INDICATOR	FUNCTION
6	Stroke Alert Indicator	Bright orange band painted on service pushrod of all brake chambers. When visible, notify Unit Maintenance to perform stroke adjustment or major brake service.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

ADDITIONAL CONTROLS AND INDICATORS - CONTINUED



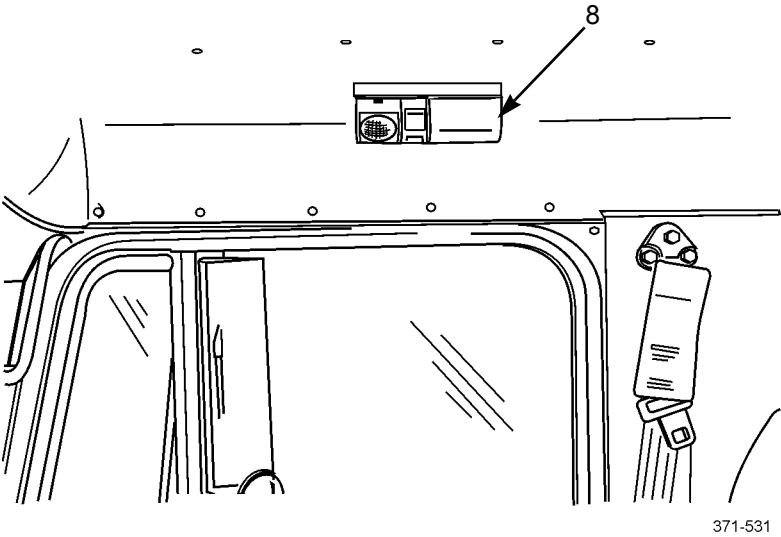
M915A3 (NEW MODEL), M916A3, M917A2

KEY	CONTROL OR INDICATOR	FUNCTION
7	Hood Prop	When installed, prevents hood from accidentally closing.

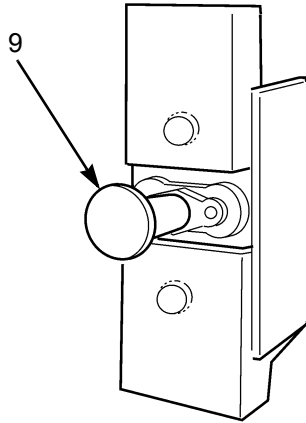
DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

0004 00

ADDITIONAL CONTROLS AND INDICATORS - CONTINUED

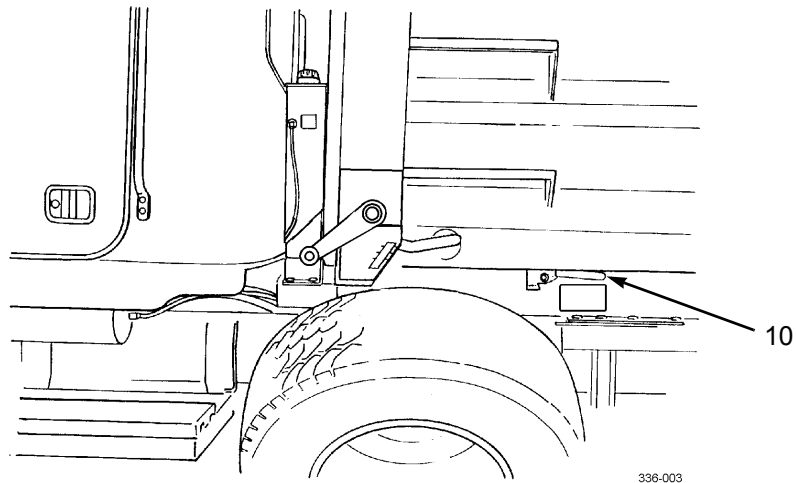


KEY	CONTROL OR INDICATOR	FUNCTION
8	Interior Lights	Provide interior cab lighting.

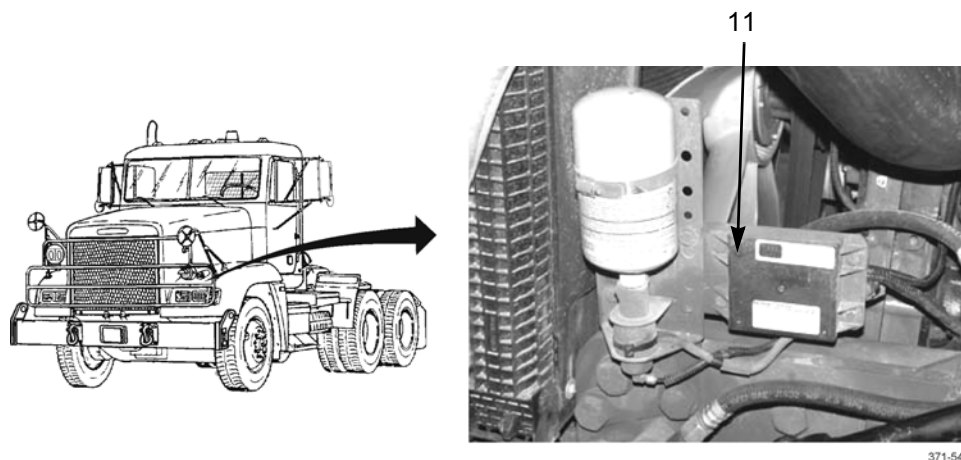
**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED****0004 00****ADDITIONAL CONTROLS AND INDICATORS - CONTINUED**

371-003

KEY	CONTROL OR INDICATOR	FUNCTION
9	Master Battery Switch	Connects batteries to vehicle electrical system. Push in for ON, pull out for OFF. When off, yellow band is visible on switch. For M915A3, switch is located on rear of battery box. For M916A3, M917A2, and M917A2 w/MCS, switch is located forward of battery box.

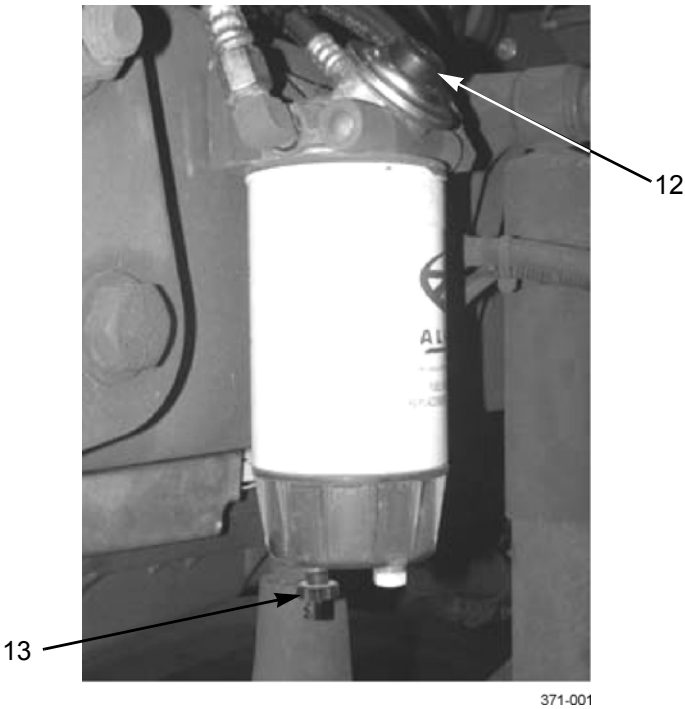
**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED****0004 00****ADDITIONAL CONTROLS AND INDICATORS - CONTINUED**

KEY	CONTROL OR INDICATOR	FUNCTION
10	Transport Lock (M917A2 and M917A2 w/MCS)	Locks dump body to truck frame when dump truck is being transported. Locked position is at six o'clock. Normally left at three o'clock unlocked position. DO NOT raise dump body if body (transport) lock indicator light on instrument panel indicates dump body is locked (TM 5-3805-264-14&P).

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED****0004 00****ADDITIONAL CONTROLS AND INDICATORS - CONTINUED**

KEY	CONTROL OR INDICATOR	FUNCTION
11	Ether Control Relay Indicator Light	Red light comes on when automatic ether injection system canister is empty.

ADDITIONAL CONTROLS AND INDICATORS - CONTINUED

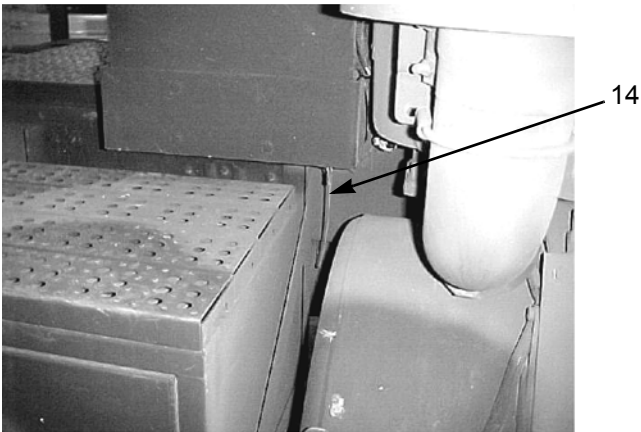


KEY	CONTROL OR INDICATOR	FUNCTION
12	Fuel/Water Separator Pump Valve	Used to prime fuel system in the event engine fails to start.
13	Drain Valve	Used to drain water and sediment from fuel system.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

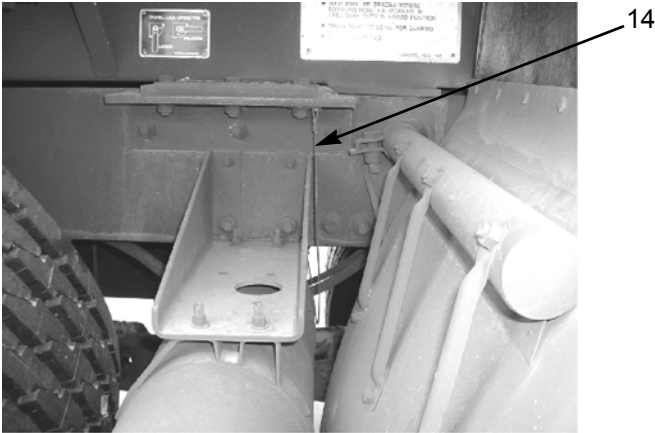
0004 00

ADDITIONAL CONTROLS AND INDICATORS - CONTINUED



M915A3

371-054

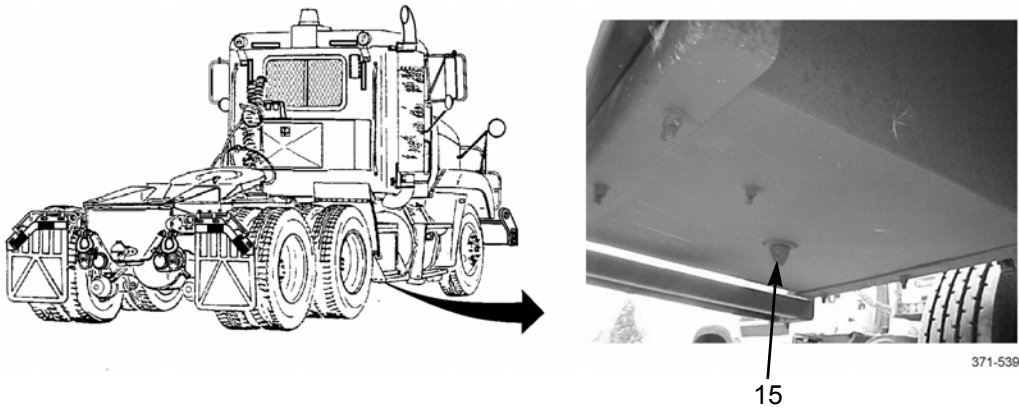
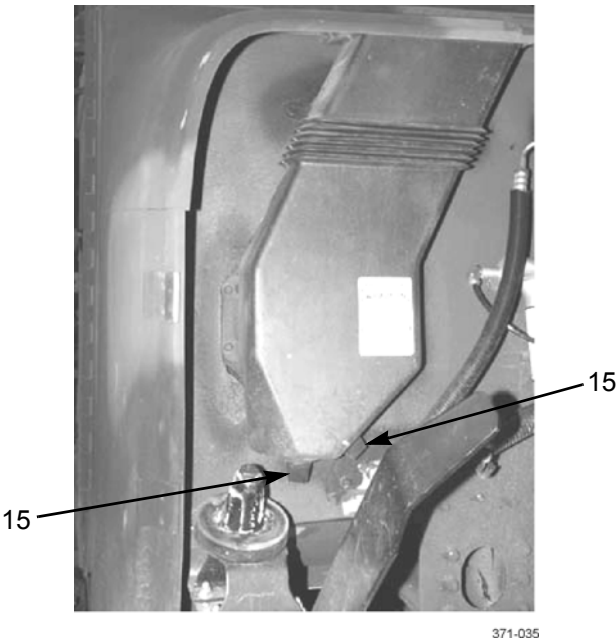


M916A3, M917A2

371-509

KEY	CONTROL OR INDICATOR	FUNCTION
14	Primary Air Tank Pull Lanyard	Used to manually evacuate primary air tank.

ADDITIONAL CONTROLS AND INDICATORS - CONTINUED

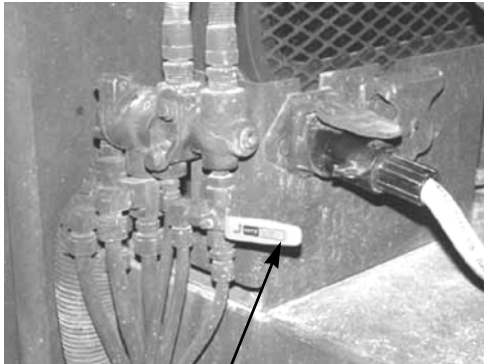


KEY	CONTROL OR INDICATOR	FUNCTION
15	Drain Bulbs	Squeeze rubber bulb to drain accumulated moisture and dirt.

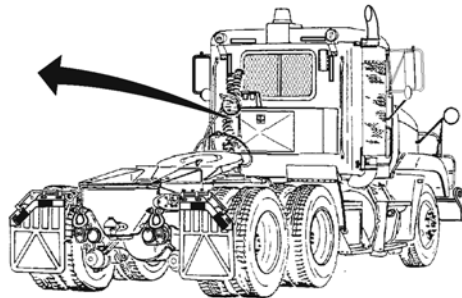
**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00

ADDITIONAL CONTROLS AND INDICATORS - CONTINUED



16



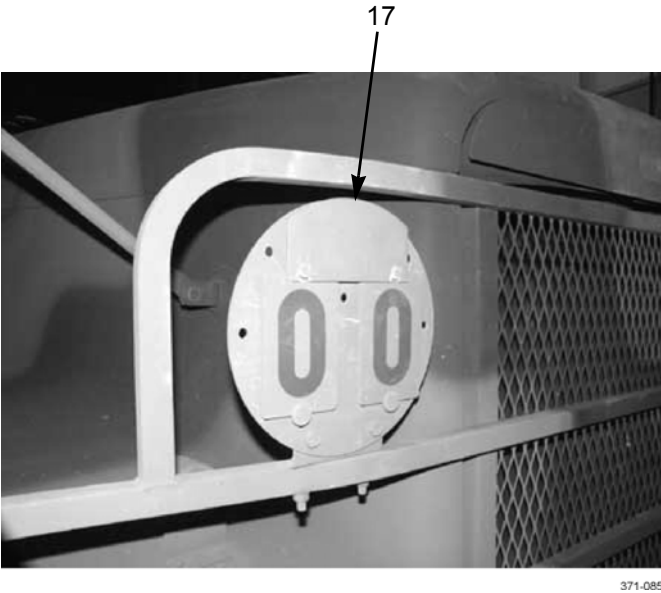
371-547

KEY	CONTROL OR INDICATOR	FUNCTION
16	Air Flow Valve Lever (M915A3, M916A3)	When lever is in horizontal position, air flow is directed to both rear emergency and service air hose gladhands. When lever is in vertical position, air flow is directed to rear emergency gladhand only.

DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED

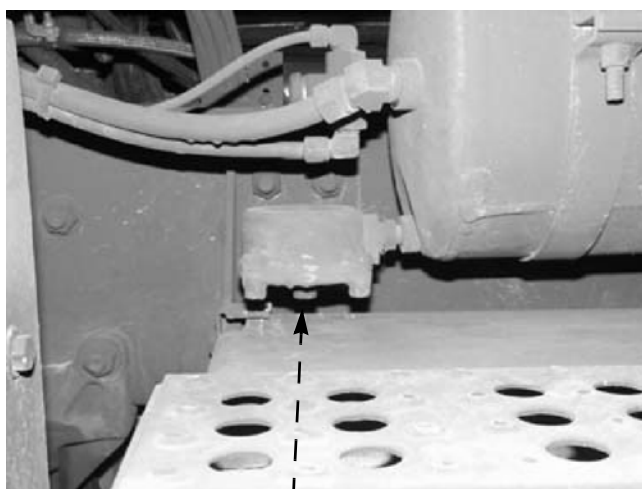
0004 00

ADDITIONAL CONTROLS AND INDICATORS - CONTINUED



KEY	CONTROL OR INDICATOR	FUNCTION
17	Military Classification Sign	Removable number placards mount to sign bracket.

**DESCRIPTION AND USE OF OPERATOR'S CONTROLS
AND INDICATORS - CONTINUED**

0004 00**ADDITIONAL CONTROLS AND INDICATORS - CONTINUED**

371-027

18

KEY	CONTROL OR INDICATOR	FUNCTION
18	Auto Drain Valves (M915A3 New Model, M916A3, M917A2)	Mounted on each air reservoir. Depress rubber pin to manually evacuate.

END OF WORK PACKAGE

GENERAL**WARNING**

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

This work package contains instructions for safely operating the M915 Family of Vehicles under usual conditions. Unusual conditions are defined and described in WP 0006 00.

INITIAL ADJUSTMENTS, DAILY CHECKS, AND SELF-TESTS

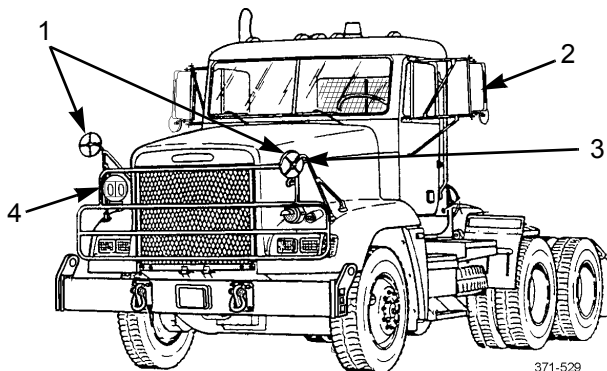
1. Place master battery switch to ON.
2. Perform *Before* operation Preventive Maintenance Checks and Services (PMCS) (Chapter 4, WP 0012 00).
3. Change military load classification (4), if necessary.

CAUTION

DO NOT attempt to adjust spotter mirrors without loosening screws. Damage to mirror frame or attaching screw may become loose resulting in loss of spotter mirror.

NOTE

- Adjust left mirror so driver can see front of vehicle.
 - Adjust right mirror so driver can see right side of vehicle from front to rear.
4. Adjust spotter mirrors (1) by loosening three screws (3) and moving spotter mirror to desired position. Tighten three screws.



371-529

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**INITIAL ADJUSTMENTS, DAILY CHECKS, AND SELF-TESTS - CONTINUED****WARNING**

Serious injury may result if head clearance is not adequate while sitting in seat. Before driving or riding in vehicle, ensure there is adequate clearance at maximum upward travel of seat.

5. Occupy and adjust seat. Check spotter mirrors adjustment.

WARNING

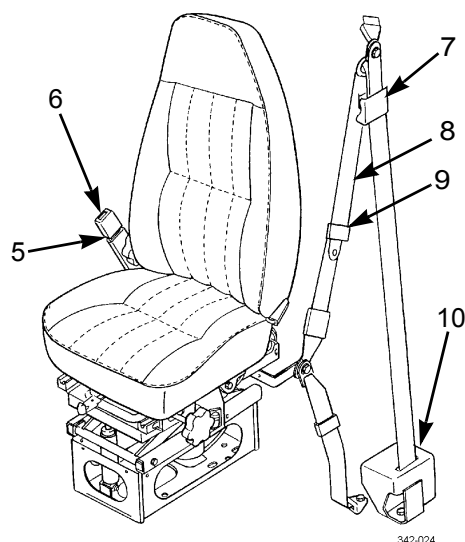
Ensure that steering wheel adjustment control lever is in locked (neutral) position before driving truck. NEVER try to adjust tilt or height of steering wheel while driving. Failure to follow this warning may cause death or injury to personnel.

6. For M915A3 (Old Model), manually adjust side mirrors (2). For all other models, adjust side mirrors using mirror power switches on instrument panel.

WARNING

Use of seat belts while operating vehicle is mandatory. Fasten belt BEFORE driving. Trying to fasten three-point seat belt while driving creates a hazardous condition. Failure to follow this warning may result in death or injury to personnel.

7. Adjust steering wheel.
8. Adjust tether belt.
 - a. Loosen tether belt (5) and turn buckle (6) at a right angle to webbing. Pull buckle away from inner webbing.
 - b. Tighten tether belt (5) to proper tension. Ensure that movement of seat suspension is not restricted.

INITIAL ADJUSTMENTS, DAILY CHECKS, AND SELF-TESTS - CONTINUED

9. Fasten seat belt.
 - a. Slowly pull link (9) out of retractor (10) and across lap far enough to engage buckle (5). If retractor locks too soon, allow belt to retract slightly and then pull slowly.
 - b. Push link (9) into buckle (6).
 - c. Position shoulder strap (8) diagonally across chest.

NOTE

- If engaging Komfort Loc®, allow no more than 1 in. (2.5 cm) between chest and shoulder strap.
 - Komfort Loc® will automatically release if pressure is applied to shoulder strap.
- d. If desired, engage Komfort Loc® by pulling on shoulder strap (8) and pressing Komfort Loc® lever (7) up.
 - e. To release seat belt, press release button on buckle (6). If Komfort Loc® lever (7) was engaged, give shoulder strap (8) a quick downward tug to release.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**START ENGINE****NOTE**

Refer to WP 0004 00 for the location of instrument panel controls and indicators.

1. Ensure that parking brake is applied.
2. Ensure that all accessories are off, engine brake switches are OFF (down), and inter-axle differential control valve lever is in UNLOCK position (M915A3).

NOTE

Low air warning light and buzzer will stay on if air pressure is below green band. Warning light and buzzer will go off after engine is started and 60 psi in air system is achieved.

3. Turn ignition switch to ON position.
4. Warning buzzer, engine oil warning, CHK ENG, CHK TRANS, engine temperature warning, SHUTDOWN, low air pressure warning, PARK BRAKE (if applied), and ABS light(s) will come on. CWS side sensor red light will remain on until main light is placed in STOP LIGHT or SER DRIVE position.
5. ABS light(s) will go off after passing a 5-10 second self-test.
6. If no malfunctions exist, engine oil warning, CHK ENG, engine temperature warning lights and buzzer will go off after approximately 7 seconds.

CAUTION

DO NOT operate starter motor for more than 30 seconds at a time. After 30 seconds, allow starter motor to cool for at least two minutes before attempting to start engine again. Excessive heating of starter motor may result in damage or early starter failure.

NOTE

Engines radiate electrical emissions when running and can interfere with communications equipment. Stay at least 1.5 meters away from communications equipment with engine running.

7. Press engine start button.
8. When engine starts, release engine start button. If engine fails to start, perform troubleshooting.
9. If no malfunctions exist, CHK TRANS light will go off.

CAUTION

DO NOT run engine above idle speed until oil pressure gage indicates at least 15 psi (103 kPa) at idle speed. Failure to follow caution may result in engine damage.

10. DO NOT run engine above 600 rpm until minimum oil pressure, 15 psi (103 kPa), is indicated on engine oil pressure gage.

OPERATION UNDER USUAL CONDITIONS - CONTINUED**0005 00****START ENGINE - CONTINUED**

11. Monitor gages and indicators. If, after ten seconds, there is no indication of oil pressure, shut down engine and perform troubleshooting.

POWER UP COLLISION WARNING SYSTEM (M915A3, M916A3)**NOTE**

When engine is running and operating within 9.5 meters of communications equipment, collision warning system (CWS) may not operate properly.

1. Turn main light switch to STOP LIGHT or SER DRIVE position.
2. One tone will be heard and driver side sensor display lights will illuminate for approximately 15 seconds.
3. After self-test, green power on light on driver's display should remain on.
4. Side sensor display should have appropriate light(s) on.

POWER
ON LIGHT



342-021

OPERATE TRANSMISSION (WTEC III)

1. **Transmission Ranges.**
 - a. R (Reverse) is used to back the vehicle. Vehicle must be brought to a complete stop before shifting from a forward range to R or vice versa. Light on panel will illuminate and the digital display will display R when reverse is attained.

CAUTION

DO NOT allow truck to coast in N (Neutral). This can result in severe transmission damage. When in N, engine braking is not available.

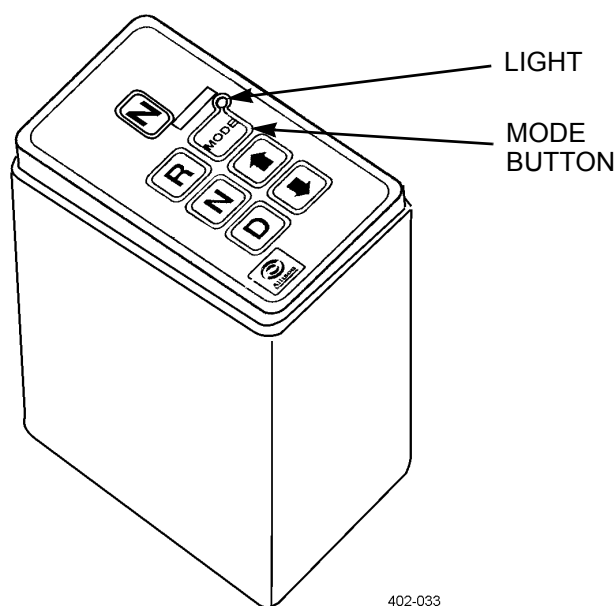
NOTE

Transmission automatically selects NEUTRAL and P/Mode (Power) when starting vehicle.

- b. N (Neutral) is the normal transmission position when vehicle is not in use. Use N to start engine, to check vehicle accessories, and for extended periods of engine idling. Light on panel will illuminate and the digital display will display N when transmission is in neutral.

OPERATE TRANSMISSION (WTEC III) - CONTINUED

- c. Two modes, E/Mode (Economy) and P/Mode (Power), are available depending on the load. If traveling without a load or with a light load on flat roads, E/Mode will automatically shift the transmission from 1st thru 6th gear at 1700 rpm. If traveling with a heavy load, P/Mode will automatically shift the transmission from 1st thru 5th gear at 2000 rpm. Press MODE button to change from P/Mode to E/Mode. Light will illuminate. Press MODE button then D (Drive) to select 6th gear in P/Mode. To change from P/Mode to E/Mode, press MODE button or restart engine.



402-033

- d. When placed in D (Drive), the transmission starts out in 1st gear and automatically progresses to the 5th gear. Press MODE button then D (Drive) to select 6th gear. During slowdown, transmission automatically downshifts. Light on panel illuminates and the digital display shows the highest forward gear attainable.
- (1) To select a specific forward gear, press the up or down arrow pushbuttons.

NOTE

Even when a lower gear is selected, transmission may not downshift until vehicle speed is reduced.

- (2) The digital display shows the selected gear.
- (3) The greater the need for engine power or engine braking power, the lower the gear selection should be.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

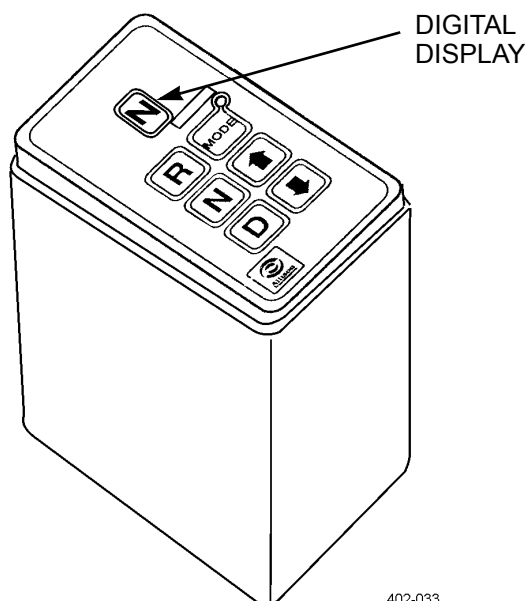
0005 00

OPERATE TRANSMISSION (WTEC III) - CONTINUED

- (4) Use 2nd or 3rd gears when road, load, or traffic conditions make it preferable to use lower gears.
- (5) 1st gear is the low gear used for pulling through mud, snow or going up steep grades. This position also offers maximum engine braking power.
- (6) When conditions improve, return vehicle to D (Drive).

2. Operation.

- a. Depress brake pedal and hold.
- b. Release parking brake.
- c. Release trailer brakes, if towing.
- d. Press transmission shift selector pushbutton to desired range.
- e. Select P/Mode, if desired.
- f. Release brake pedal and begin to move vehicle.
- g. As required, select a specific forward gear using up or down arrow pushbuttons.



402-033

OPERATE TRANSMISSION (GEN 4)1. **Transmission Ranges.**

- a. **R (Reverse).** R (Reverse) is used to back up the vehicle. Vehicle must be brought to a complete stop before shifting from a forward range to R or vice versa. Light on panel will illuminate and right hand indicator on digital display will display R when reverse is attained.

CAUTION

DO NOT allow truck to coast in N (Neutral). This can result in severe transmission damage. When in N, engine braking is not available.

- b. **N (Neutral).** N (Neutral) is normal position when vehicle is not in use. Use N to start engine, to check vehicle accessories, and for extended periods of engine idling. Light on panel will illuminate and right hand indicator on digital display will display N when transmission is in neutral. Transmission Control Module (TCM) automatically selects NEUTRAL when starting vehicle.



426-312

- c. **D (Drive).** When placed in D (Drive), the transmission starts out in 1st gear and automatically progresses to the 5th gear. During slowdown, transmission automatically downshifts. Light on panel will illuminate and right hand indicator on digital display will display highest forward gear attainable.
 - (1) To select a specific forward gear, press the up or down arrow pushbuttons.

OPERATE TRANSMISSION (GEN 4) - CONTINUED**NOTE**

Even when a lower gear is selected, transmission may not downshift until vehicle speed is reduced.

- (2) The right hand indicator on the digital display will display the selected gear.
- (3) The greater the need for engine power or engine braking power, the lower the gear selection should be.
- (4) Gears 2, 3, 4, and 5. Use 2nd, 3rd, 4th, or 5th gear when road, load, or traffic conditions make it preferable to use lower gears.
- (5) Gear 1. 1st gear is the lowest gear used for pulling through mud, snow, or going up steep grades. This position also offers maximum engine braking power.
- (6) When conditions improve, return vehicle to Drive (D).

2. Operation.

- a. Depress brake pedal and hold.
- b. Release parking brake.
- c. Release trailers brakes, if towing.
- d. Press transmission shift selector pushbutton to desired range.
- e. Release brake pedal and begin to move vehicle.
- f. As required, select a specific forward gear using up or down arrow pushbuttons.

Electronic Transmission Fluid Level Check**NOTE**

If equipped, transmission fluid level can be checked electronically.

- 1. Park on level ground.
- 2. Place transmission in N (Neutral).
- 3. Set parking brake.
- 4. Idle for two minutes.
- 5. Simultaneously press up and down arrow pushbuttons.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00

OPERATE TRANSMISSION (GEN 4) - CONTINUED**Electronic Transmission Fluid Level Check - Continued****NOTE**

The fluid level check may be delayed until the following conditions are met. Indication of a delayed fluid level check is “-” in display followed by a numerical display.

- Transmission fluid is above 140°F (60°C) and below 220°F (104°C)
- Transmission in N (Neutral)
- Vehicle has been stationary for two minutes
- Engine is at idle
- Transmission output shaft is stopped

Table 1. Fluid Check Codes.

Display	Status
WTEC III	
-d#	Check delayed
o,L,-,o K	Level is correct
o,L,-,LO#	Level is low by # of quarts
o,L,-,HI#	Level is high by # of quarts
GEN 4	
oL OK	Fluid level is correct.
oL Lo 01	Fluid level is 1 quart low
oL HI 01	Fluid level is 1 quart high
Additional codes will appear if the vehicle is not in correct posture for electronic check to be performed.	

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00

OPERATE TRANSMISSION (GEN 4) - CONTINUED**Electronic Transmission Fluid Level Check - Continued****Table 2. Additional Codes.**

Display	Status
WTEC III	
o,L,-,0,X	Idle time less than two minutes
o,L,-,5,9	Engine RPM is too high
o,L,-,6,5	Transmission not in neutral
o,L,-,7,0	Oil temperature too low
o,L,-,7,9	Oil temperature too high
o,L,-,8,9	Vehicle is moving
Action	
o,L,-,5,0	Notify Unit Maintenance
o,L,-,9,5	Notify Unit Maintenance
GEN 4	
oL-59	Engine RPM too high
oL-65	N (Neutral) not selected
oL-70	Oil temperature too low
oL-79	Oil temperature too high
oL-89	Output shaft rotation
oL-95	Sensor failure
Action	
oL-50	Notify Unit Maintenance
oL-95	Notify Unit Maintenance

To exit fluid level display mode, press any range button on pushbutton shift selector.

OPERATE TRANSMISSION (M916A3, M917A2, AND M917A2 W/MCS)**1. Transmission Ranges.**

- a. R (Reverse) is used to back up the vehicle. Vehicle must be brought to a complete stop before shifting from a forward range to R or vice versa. Light on panel will illuminate and the digital display will display R when reverse is attained.

CAUTION

DO NOT allow truck to coast in N (Neutral). This can result in severe transmission damage. When in N, engine braking is not available.

NOTE

Transmission automatically selects NEUTRAL when starting vehicle.

- b. N (Neutral) is the normal transmission position when vehicle is not in use. Use N to start engine, to check vehicle accessories, and for extended periods of engine idling. Light on panel will illuminate and the digital display will display N when transmission is in neutral.
- c. When placed in D (Drive), the transmission starts out in 2nd gear and automatically progresses to the 7th gear. Press down arrow pushbutton while stopped or not exceeding 5 mph to select 1st gear.
 - (1) To select a specific forward gear, press the up or down arrow pushbuttons.

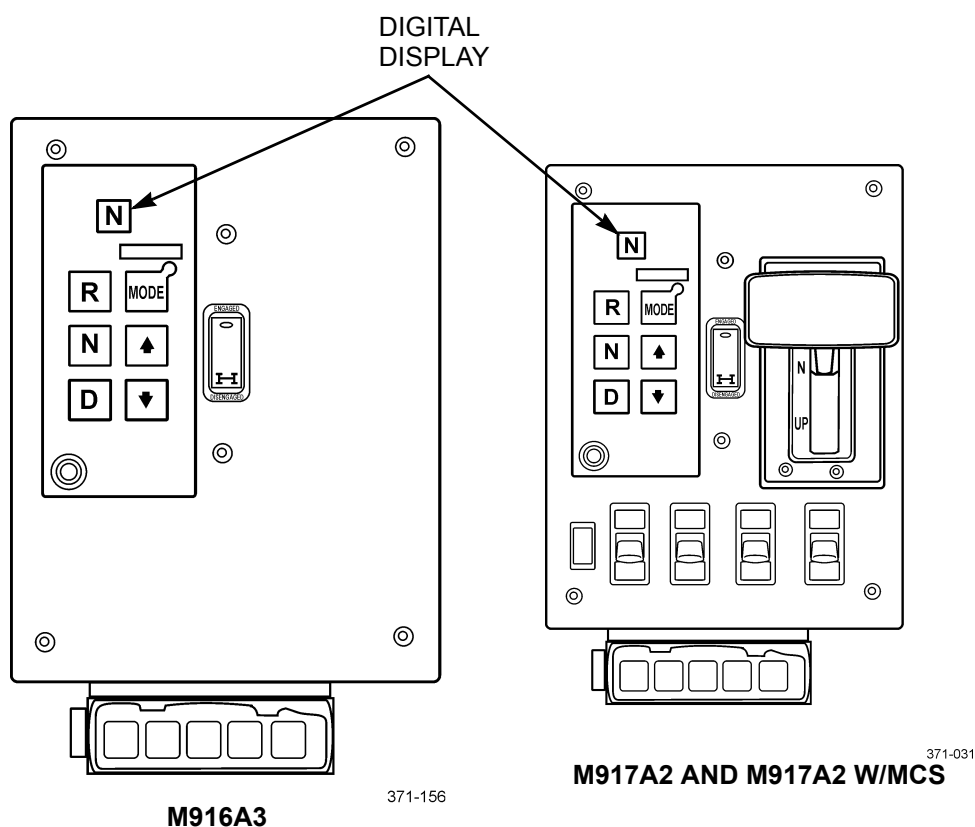
NOTE

Even when a lower gear is selected, transmission may not downshift until vehicle speed is reduced.

- (2) The digital display shows the selected gear.
- (3) The greater the need for engine power or engine braking power, the lower the gear selection should be.
- (4) Use 2nd or 3rd gears when road, load or traffic conditions make it preferable to use lower gears.
- (5) 1st gear is the low gear used for pulling through mud, snow or going up steep grades. This position also offers maximum engine braking power.
- (6) When conditions improve, return vehicle to D (Drive).

OPERATE TRANSMISSION**(M916A3, M917A2, AND M917A2 W/MCS) - CONTINUED**

- d. The MODE button controls the primary and secondary shifting of the transmission. When D (Drive) is selected, the transmission is in primary mode which shifts gears at 2000 rpm. This mode should be used when traveling with heavy loads or climbing hills. Press the mode button at any time and transmission will change to secondary mode (mode light illuminated) which reduces the shifting point to 1700 rpm. This mode should be used when traveling with a light load or on flat level surfaces.

2. **Operation.**

- a. Depress brake pedal and hold.
- b. Release parking brake.
- c. Release trailer brakes, if towing.
- d. Press transmission shift selector pushbutton to desired range.
- e. Release brake pedal and begin to move vehicle.
- f. As required, select a specific forward gear using up or down arrow pushbuttons.

DRIVING TIPS**WARNING**

BE ALERT for personnel in area while operating truck. Always check to ensure area is clear of personnel and obstructions before moving out. Failure to follow this warning may result in serious injury or death to personnel.

CAUTION

Governed speed is 2100 rpm. If engine is allowed to exceed governed speed, serious engine or transmission damage may result.

1. **Check Gages and Indicators Frequently.** If gage or indicator shows an abnormal reading or warning light comes on, bring vehicle to a safe stop, shut down engine, and investigate cause.

CAUTION

Steering wheel should not be held at full steer for more than 10 seconds. This could result in overheating of oil, loss of oil from power steering reservoir, and pump gear damage.

2. **Avoid Over Steering.** Become familiar with steering characteristics of vehicle before attempting maneuvers in limited space.
3. **Drive Efficiently and Economically.**
 - a. Drive at highway speed. Recommended normal highway cruising range is 1800 - 1900 rpm. If operating on hilly terrain, in high winds or in other conditions that make it impractical to operate without reserve power, operate vehicle in lower gear.
 - b. When slowing for posted speed zones, remain in D (Drive) position and reduce engine rpm.
 - c. When driving uphill (under load), proper use of gears shortens time on hills and minimizes amount of shifting. As vehicle starts uphill, press accelerator pedal as required to maintain speed.

WARNING

DO NOT use engine brake if road surfaces are slippery. Use of engine brake on wet, icy or snow-covered roads could result in loss of vehicle control. Failure to follow this warning could result in death or injury to personnel or damage to equipment.

- d. Use engine as a braking force. The vehicle is equipped with an engine braking system that enables the engine to act as a brake. The engine brake should be used for descending grades and is most effective between 1750 - 2100 rpm.

OPERATION UNDER USUAL CONDITIONS - CONTINUED**0005 00****DRIVING TIPS - CONTINUED**

- (1) If maximum engine braking is required, move both engine brake selection switches up to engage six cylinders.
 - (2) If less than maximum engine braking is required, move left engine brake selection switch up and right engine brake selection switch down to engage two cylinders, or left engine brake selection switch down and right engine brake selection switch up to engage four cylinders.
- e. When downhill braking:
- (1) Select a gear that allows engine, with engine brake applied, to control vehicle speed with engine rpm at or below 2100 rpm without applying service brakes. As downgrade is approached, progressively select a gear that, when combined with engine brake, allows you to maintain engine speed of 1750 - 2100 rpm.
 - (2) As engine speed exceeds 2100 rpm, use service brakes to slow engine speed to 1650 rpm, release engine brake, downshift one gear, and apply engine brake. Repeat this procedure until engine speed can be maintained at 1750 - 2100 rpm.

CAUTION

Excessive use of service brake to control downhill speed will result in loss of braking power due to heat build-up.

- (3) If you experience a total loss of braking due to heat build-up, apply engine brake (six cylinders), upshift as engine speed approaches 2100 rpm, and in (D) Drive position continue to apply engine brake and maintain directional control of vehicle.

CAUTION

Care must be exercised if tractor or trailer ABS light comes on while driving, possibly indicating an ABS malfunction. Although the regular/normal vehicle system is still fully operational, you should continue in a safe manner and reduce speed to 40 mph (64 kph), until the mission is complete. When the mission is complete, report to Unit Maintenance to clear the ABS fault and restore full ABS capabilities.

- (4) The anti-lock brake system (ABS) helps in controlling wheel lockup and tire skidding during an emergency.

4. **Engage Inter-axle Differential As Required (M915A3).**

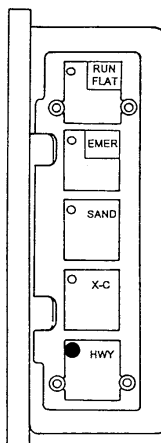
CAUTION

DO NOT actuate inter-axle differential control valve while moving or tires are spinning. DO NOT operate vehicle continuously with inter-axle differential control valve locked during extended good road conditions. Damage to axle gearing and excessive tire wear could result.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**DRIVING TIPS - CONTINUED**

- a. If a difficult stretch of road approaches, stop and inspect it carefully before driving on it. Select transmission gear range that best suits road condition and place inter-axle differential control valve lever to LOCK position.
 - b. To lock inter-axle, bring vehicle to a safe stop and move inter-axle differential control valve lever to LOCK position. Proceed over poor road conditions with caution.
 - c. To unlock inter-axle, place inter-axle differential control valve lever to UNLOCK position and remove foot from accelerator.
5. **Operate All-Wheel Drive As Required (M916A3, M917A2, and M917A2 w/MCS).**
 - a. While at a stop, all-wheel drive can be engaged by selecting 1st gear or R (Reverse) on pushbutton shift selector.
 - b. While in D (Drive) and moving at speeds of 25 mph or less, place All-Wheel Drive switch on shift tower to ENGAGE position.
 - c. All-wheel drive can be disengaged anytime.
6. **Operate CTIS (M916A3, M917A2, and M917A2 w/MCS).**
 - a. **CTIS Selector Panel Display Summary.**
 - (1) Single Mode Light on Solid. Indicates pressure has been achieved for that mode, CTIS is inactive, and wheel valves are closed. A flashing single mode light indicates CTIS is working to achieve pressure associated with that mode.

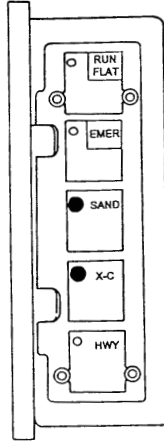


OPERATION UNDER USUAL CONDITIONS - CONTINUED

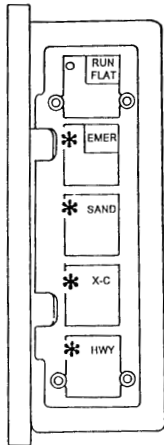
0005 00

DRIVING TIPS - CONTINUED

- (2) Two Mode Lights on Solid. CTIS has shut off with tire pressure between two mode settings. Perform troubleshooting.



- (3) Four Mode Lights Flashing. CTIS has shut off and is waiting for operator instruction. Perform troubleshooting.

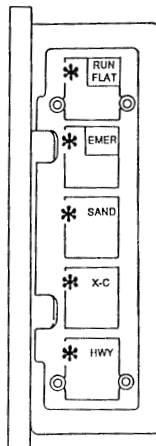


OPERATION UNDER USUAL CONDITIONS - CONTINUED

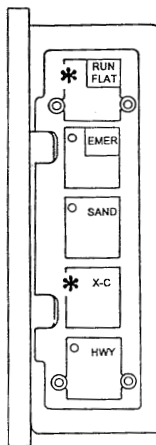
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DRIVING TIPS - CONTINUED

- (4) Five Mode Lights Flashing. CTIS has shut off due to fault detection of CTIS component. Perform troubleshooting.



- (5) RUN FLAT Flashing (with a mode light). RUN FLAT is selected. Tire pressures are checked at more frequent intervals.



- (6) No Mode Lights. Indicates inadequate vehicle power. Perform troubleshooting.
- (7) Lights Sequentially Flashing. Indicates configuration error. Perform troubleshooting.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**DRIVING TIPS - CONTINUED****b. CTIS Operation.****NOTE**

Before operating CTIS, become familiar with CTIS principles of operation and CTIS controls and indicators.

- (1) When engine is started, tire pressures are pressures LAST ACHIEVED when vehicle was operated (i.e., cross-country pressures achieved, HWY selected and pressures not achieved, vehicle shut down). Upon restart, system will default to cross-country.
- (2) Tire pressures may be checked at any time by pressing mode key for selected mode. CTIS automatically performs inflation or deflation as required.
- (3) Press HWY (Highway) mode key to operate on improved road surfaces. Do not exceed 60 mph (97 kph) or reduce MPH indicator light will come on. Vehicle speed should be reduced at this time.
- (4) Press X-C (Cross-country) mode key to operate on nonpaved secondary roads and unimproved surfaces. Do not exceed 40 mph (64 kph) or reduce MPH indicator light will come on. Vehicle speed should be reduced at this time. If overspeed is exceeded for more than one minute, CTIS will automatically inflate to highway setting.
- (5) Press SAND mode key to operate in sand, snow, and mud. Do not exceed 25 mph (40 kph) or reduce MPH indicator light will come on. Vehicle speed should be reduced at this time. If overspeed is exceeded for more than one minute, CTIS will automatically inflate to cross-country setting.

CAUTION

When resuming operation on highway surfaces, be sure to reset CTIS selector panel to higher tire pressures. Operating vehicle with underinflated tires will cause premature tire wear or damage to tires.

- (6) Reset CTIS to higher tire pressures as required.

DRIVING**WARNING**

Hearing protection is required when operating vehicle at more than 40 mph (64 kph) with windows open for an extended period of time. Hearing protection is also required when personnel are within 5.2 ft (1.57 m) of vehicle when operating at low engine idle (600 rpm) and within 16.5 ft (5 m) of vehicle when operating at high idle (1600 rpm). Failure to follow this warning may result in hearing damage.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**DRIVING - CONTINUED**

1. Perform initial adjustments, daily checks, and self-tests.
2. Start engine and allow truck to warm up.
3. Turn on lights, as necessary.
4. Ensure CWS (M915A3, M916A3) self-tests (WP 0005 00).
5. With service brake applied, release tractor parking brake.
6. Select transmission gear.

WARNING

When coupled to a semitrailer, DO NOT exceed 35 mph (56 kph) on secondary (gravel) roads. Failure to follow this warning could result in injury.

7. Move truck gradually by depressing accelerator.

CAUTION

During long engine idling periods, engine coolant temperature will fall below normal operating range. The incomplete combustion of fuel in a cold engine will cause crankcase dilution, formation of lacquer or gummy deposits on valves, pistons, and rings, and rapid accumulation of engine sludge.

8. Avoid unnecessary engine idling.

CAUTION

Care must be exercised if tractor or trailer ABS light comes on while driving, possibly indicating an ABS malfunction. Although the regular/normal vehicle system is still fully operational, you should continue in a safe manner and reduce speed to 40 mph (64 kph), until the mission is complete. When the mission is complete, report to Unit Maintenance to clear the ABS fault and restore full ABS capabilities.

NOTE

If, during operation, low air pressure warning light comes on, stop vehicle, shut down engine, and investigate cause.

9. Check gages and indicators frequently.
10. Operate engine brakes, as required.
11. Operate inter-axle differential (M915A3), as required.
12. Operate all-wheel drive (M916A3, M917A2, and M917A2 w/MCS), as required.
13. Operate CTIS (M916A3, M917A2, and M917A2 w/MCS).
14. Stop vehicle by applying long even pressure to service brakes. Do not pump brakes.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**DRIVING - CONTINUED**

15. After vehicle is at a complete stop, place transmission in N (Neutral) and pull parking brake control knob OUT. Ensure parking brake light comes on.

WARNING

If vehicle is left with engine running, vehicle can move suddenly causing serious injury or death to personnel or damage to equipment.

16. If you must leave vehicle with engine running, DO NOT leave vehicle without doing the following:
 - a. Ensure transmission is in N (Neutral).
 - b. Apply truck parking brake and trailer brakes (if coupled).
 - c. Chock wheels and take any other steps to keep vehicle from moving.

SHUT DOWN ENGINE**CAUTION**

Improper engine shutdown could damage turbocharger.

1. Run engine at idle for four to five minutes.
2. Turn all accessories off and place engine brake system switches in OFF (down) position.
3. Move ignition switch to OFF position. Wait 10 seconds before placing master battery switch off.
4. Perform *After* operation PMCS (WP 0012 00).

NOTE

Master battery switch MUST be kept in OFF position upon mission completion. Onboard ECUs will drain battery power if switch is left on. Failure to follow this note could result in insufficient power to start vehicle.

5. Place master battery switch to OFF.

OPERATE SLIDING FIFTH WHEEL (M915A3)/COUPLE TO SEMITRAILER**CAUTION**

- The M915A3 is designed to be used with M871, M872 semitrailers and M967/M969 5000 gallon and M1062 7500 gallon fuel tankers only. Other semitrailers may cause equipment damage.
- Semitrailer wheels must be blocked and semitrailer brakes locked to prevent damage to tractor or semitrailer by uncontrolled sliding of fifth wheel.
- If towing M871 semitrailer or M967/M969/M1062 fuel tankers, rear mud flaps must be removed and stowed in brackets provided. Failure to do so will cause equipment damage.
- Tractor trucks have the capability to turn greater than 90°. Care must be taken to avoid hitting semitrailer with tractor when turning more than 90°.
- Operator must use caution when cresting hills which cause the tractor truck to have a nose down angle greater than 4° with respect to towed semitrailer. Damage to vehicle or loss of control could occur.

NOTE

Start position for coupling is with fifth wheel jaws unlocked (open), fifth wheel in LOAD position, and fifth wheel slide control lever in LOCKED position.

1. Block semitrailer wheels.

WARNING

DO NOT use trailer handbrake as primary brake to keep tension on coupling system. This will cause undue tension on brakes and coupling which could result in injury to personnel or damage to equipment. Prevent problems with slack in fifth wheel by using good braking habits and adjusting coupling and braking systems properly.

2. Ensure that fifth wheel ramps are level with, or are slightly below, the angle of the pickup ramps.

OPERATE SLIDING FIFTH WHEEL (M915A3)/COUPLE TO SEMITRAILER**WARNING**

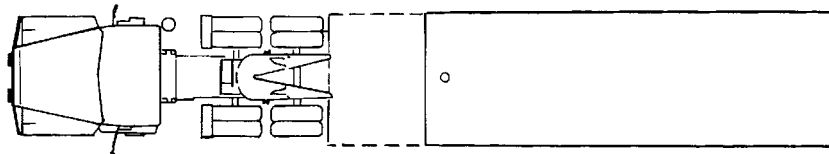
Use caution when coupling to semitrailer. BE ALERT for personnel in area. Ensure that hands, arms, and body are clear of potential pinch points. Failure to follow this warning may result in injury to personnel.

CAUTION

Be careful not to run kingpin up fifth wheel ramps as this can damage kingpin and/or fifth wheel.

NOTE

- Truck and semitrailer must be aligned.
- Use a ground guide if one is available.



342-032

PROPER ALIGNMENT WITH SEMITRAILER**CAUTION**

Fifth wheel teflon inserts and trailer kingpin plate must be clean and free of lubricant prior to coupling. Failure to follow this caution could cause damage.

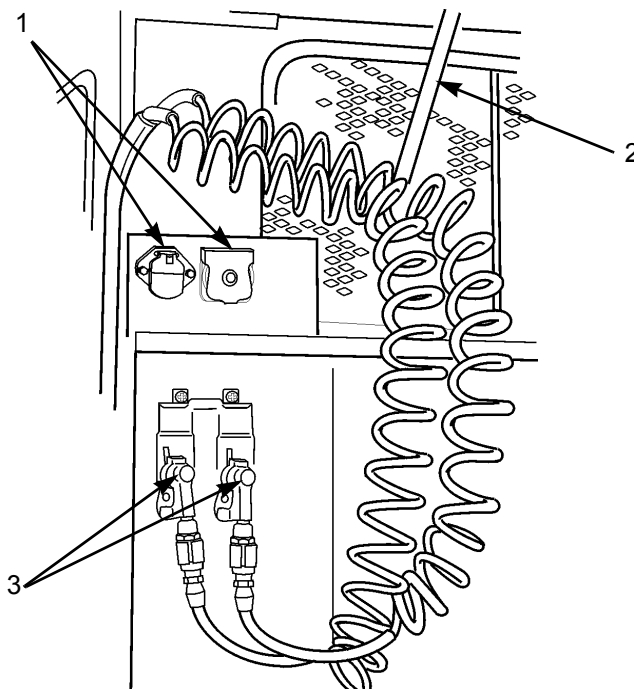
3. Slowly back tractor under semitrailer kingpin plate. Stop when kingpin plate is touching guide ramps. Semitrailer kingpin should be centered as closely as possible in throat of fifth wheel.
4. Ensure that semitrailer is picked up with fifth wheel ramps. If kingpin comes in too high, it will not engage in fifth wheel correctly. Adjust semitrailer if needed.
5. Remove tether (2) from air hoses (3).
6. Remove air hoses (3) from bracket.

NOTE

One 12-volt light cable and one 24-volt light cable are stored in tool box.

**OPERATE SLIDING FIFTH WHEEL (M915A3)/COUPLE
TO SEMITRAILER - CONTINUED**

7. Remove 12V or 24V intervehicular electrical cable from tool box.

**M915A3 (NEW MODEL) SHOWN**

8. Connect air hoses (3) to trailer.
9. Connect intervehicular electrical cable to appropriate receptacle (1).
10. Push trailer air supply control knob (8) IN, and set trailer control valve hand brake.
- 10.1 If trailer is ABS-equipped, connect ABS electrical cable (M915A3 Old Model).

CAUTION

Backing SLOWLY helps to prevent hitting too hard in coupling and damaging kingpin.

11. Back up slowly until fifth wheel locks firmly to kingpin.
12. Check kingpin connection and fifth wheel slide locks by pulling tractor gently forward against locked semitrailer brakes or blocked wheels. As resistance is felt, select transmission shift selector R (Reverse) pushbutton and gently back tractor to verify fifth wheel slide locks in both directions. When resistance is felt, select transmission shift selector N (Neutral) pushbutton and set parking brake.
13. Visually check that fifth wheel jaws close around kingpin.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00

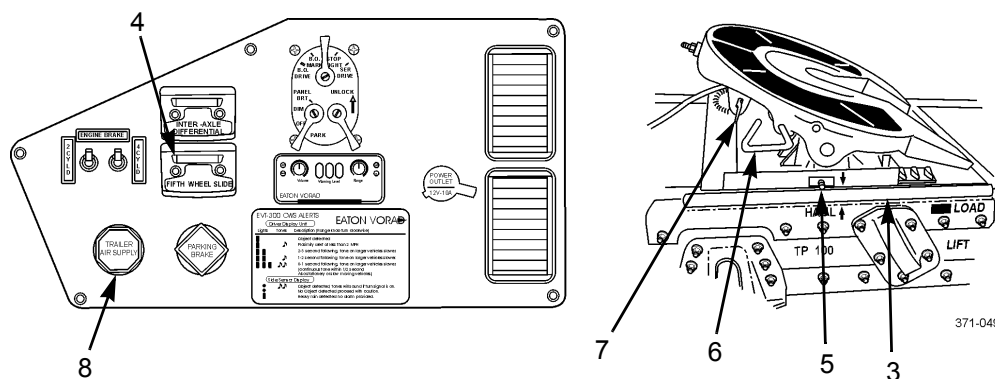
OPERATE SLIDING FIFTH WHEEL (M915A3)/COUPLE TO SEMITRAILER - CONTINUED

14. Place fifth wheel slide control lever (4) to UNLOCKED position to disengage two slide locking plungers (5).

CAUTION

M967/M969 fuel tankers must be hauled with fifth wheel placed two notches rearward from HAUL position. Failure to follow this caution will cause equipment damage.

15. For M967/M969 fuel tankers, drive tractor backward and place fifth wheel two notches from HAUL position.
16. For all other trailers, drive tractor backward to position fifth wheel in HAUL position.

**CAUTION**

DO NOT operate vehicle if slide locking plungers are not fully engaged and landing gear is not fully retracted. This could result in damage to tractor, semitrailer, and landing gear.

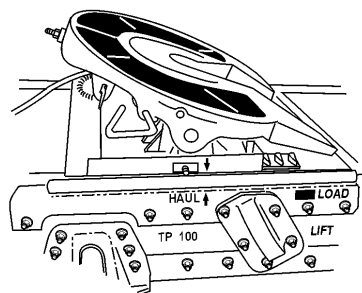
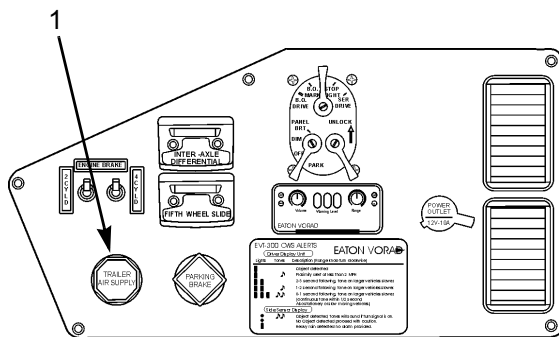
17. Place fifth wheel slide control lever (4) to LOCKED position to engage slide locking plungers. Ensure slide locking plungers (5) engage.
18. Verify that primary lock release handle (6) and secondary lock release handle (7) are in.
19. Check semitrailer lights.
20. Stow wheel blocks.
21. Lift and secure semitrailer landing gear and stow float pads.

OPERATE SLIDING FIFTH WHEEL (M915A3)/UNCOUPLE FROM SEMITRAILER**WARNING**

Use caution when uncoupling from semitrailer. BE ALERT for personnel in area. Ensure that hands, arms, and body are clear of potential pinch points. Failure to follow this warning may result in injury to personnel.

NOTE

- Truck and semitrailer must be aligned.
 - Use a ground guide if one is available.
1. Stop truck and semitrailer.
 2. Shift transmission into N (Neutral).
 3. Block semitrailer wheels.
 4. Pull semitrailer air supply valve (1) OUT.



371-049

5. Apply parking brake.

CAUTION

Lower landing gear until a small space can be seen between bottom of trailer and fifth wheel lube plates. Damage will occur if trailer edge drags across fifth wheel lube plates.

6. Place float pads under semitrailer landing gear and lower landing gear.
7. Set semitrailer hand brake control valve and close semitrailer air supply valve.

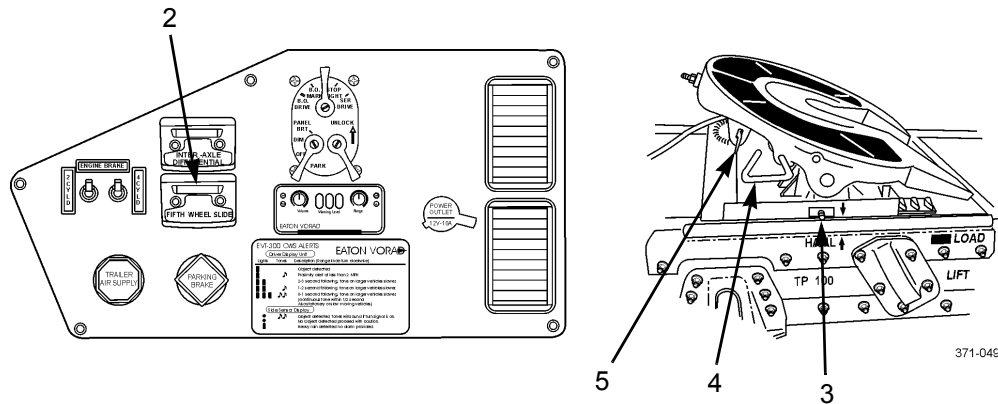
OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00

OPERATE SLIDING FIFTH WHEEL (M915A3)/UNCOUPLE FROM SEMITRAILER - CONTINUED**CAUTION**

To prevent damage to air hoses and electrical cables between trailer couplings, ensure air hose and cable ends are placed in storage bracket.

8. Disconnect and stow semitrailer air hoses and intervehicular cable.
9. Connect tether to air hoses.
10. If connected, disconnect and stow ABS electrical cable (M915A3 Old Model).
11. Place fifth wheel slide control lever (2) to UNLOCKED position.
12. Drive tractor forward to position fifth wheel to LOAD position.
13. Place fifth wheel slide control lever (2) to LOCKED position. Ensure slide locking plungers (3) engage.
14. Pull secondary lock release handle (5) out and lift to engage catch.
15. Pull primary lock release handle (4) out.
16. Release parking brake and slowly pull forward until semitrailer clears fifth wheel.
17. Stop and set parking brake.



OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00***OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (ALL EXCEPT M870)*****WARNING**

- DO NOT tow 6,000 gallon water distributors with a partial load except when in use on construction sites and at a maximum speed of 10 mph. When towing outside of construction sites, TRAILERS MUST BE EMPTY OR FULL. Either drain water distributor empty (preferred) or fill to capacity. MAXIMUM SPEEDS FOR BOTH TRAILERS ARE: HIGHWAY 55 MPH, GRAVEL/DIRT 30 MPH, OFF-ROAD 5 MPH. Failure to follow this warning could result in unsafe driving conditions causing serious injury or death to personnel and damage to equipment.
- When towing model WD6S 6,000 gallon water distributor, fifth wheel must be in rear setting (LOAD HAUL-M172). For model 60PRS, fifth wheel must be at rear setting (LOAD HAUL - M172) to load and front setting (HAUL M870) to tow. For all models, travel lockout must be engaged to prevent side-to-side oscillation of water distributor. Failure to follow this warning could result in unsafe driving conditions causing serious injury or death to personnel and damage to equipment.

CAUTION

- The M916A3 is designed to be used with M870 and M172 semitrailers and models 60PRS and WD6S water distributors. Other semitrailers may cause equipment damage.
- Semitrailer wheels must be blocked and semitrailer brakes locked to prevent damage to tractor or semitrailer by uncontrolled sliding of fifth wheel.
- Tractor trucks have the capability to turn greater than 90°. Care must be taken to avoid hitting semitrailer with tractor when turning more than 90°.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (ALL EXCEPT M870) - CONTINUED**

1. Block trailer wheels.

WARNING

Do not use trailer handbrake as primary brake to keep tension uncoupling system. This will cause undue tension on brakes and coupling which could result in injury to personnel or damage to equipment. Prevent problems with slack in fifth wheel by using good braking habits and adjusting coupling and braking systems properly.

2. Make sure secondary lock release handle is pulled OUT.
3. Ensure that fifth wheel ramps are level with, or are slightly below, the angle of the pickup ramps.

**WARNING**

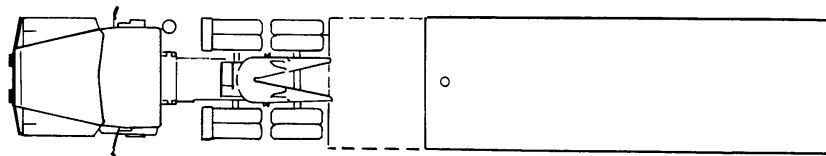
Use caution when coupling to semitrailer. BE ALERT for personnel in area. Ensure that hands, arms, and body are clear of potential pinch points. Failure to follow this warning may result in injury to personnel.

CAUTION

Be careful not to run king pin into tail roller or up fifth wheel ramps as this can damage king pin and/or fifth wheel.

NOTE

- Truck and trailer must be aligned.
- Use a ground guide if one is available.



**PROPER ALIGNMENT WITH
SEMITRAILER**

OPERATION UNDER USUAL CONDITIONS - CONTINUED

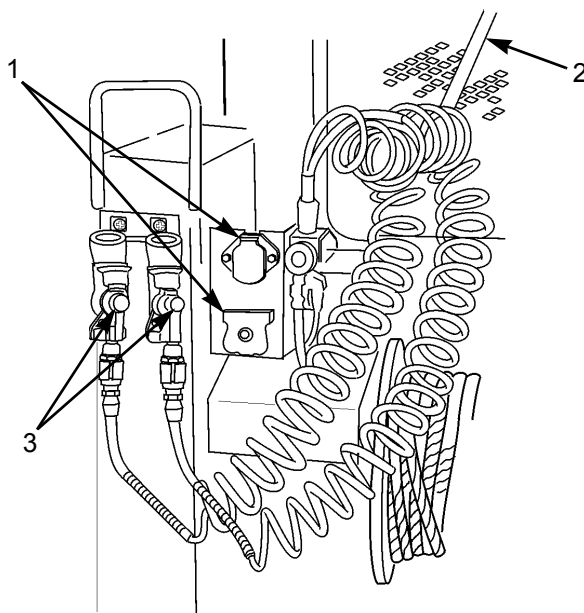
0005 00**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (ALL EXCEPT M870) - CONTINUED**

4. Slowly back tractor under semitrailer kingpin plate or gooseneck. Stop when kingpin plate or gooseneck is touching guide ramps. Semitrailer kingpin should be centered as closely as possible in throat of fifth wheel.
5. Ensure that semitrailer is picked up with fifth wheel ramps. If kingpin comes in too low, it will hit tail roller or too high, it will not engage in fifth wheel correctly. Adjust semitrailer if needed.
7. Remove tether (2) from air hoses (3).

NOTE

One 12-volt light cable and one 24-volt light cable are stored in tool box.

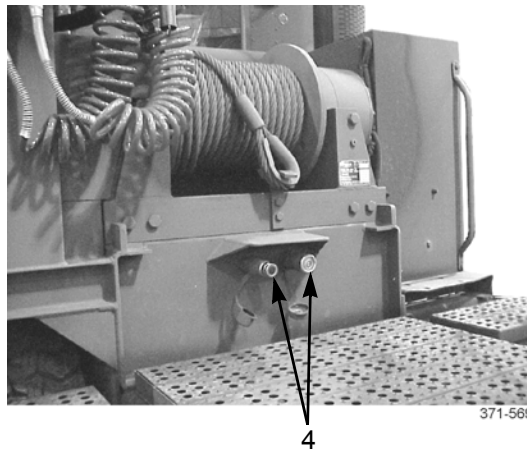
8. Remove air hoses (3) from bracket.
9. Remove 12V or 24V intervehicular electrical cable from tool box.



371-015

***OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (ALL EXCEPT M870) - CONTINUED***

10. Connect air hoses (3) to trailer.
11. Connect intervehicular electrical cable to appropriate receptacle (1).
12. If trailer is equipped with a hydraulic system, connect hydraulic lines to trailer couplings and couplings (4) at winch station.



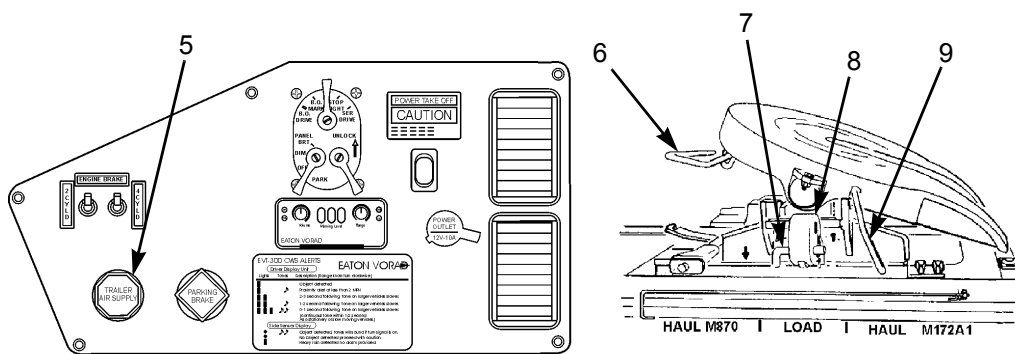
OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (ALL EXCEPT M870) - CONTINUED****CAUTION**

Backing SLOWLY helps to prevent hitting too hard in coupling and damaging king pin.

13. Back up slowly until fifth wheel locks firmly to kingpin.
14. Push trailer air supply control knob (5) IN, and set trailer control valve hand brake.
15. Pull secondary lock release handle (6) releasing the primary lock release handle (9).
16. When operating off-road, release fifth wheel (oscillating) travel lockout by removing locking pin (7), lowering lockout (8), and reinserting locking pin, allowing fifth wheel to oscillate side-to-side.



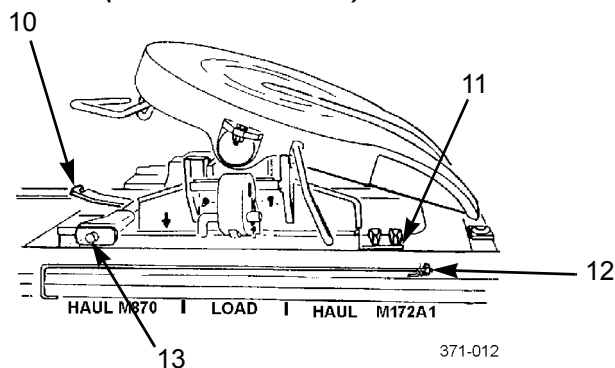
371-048

WARNING

Handle must be used when operating release lever. Failure to do so could result in injury to personnel.

17. Using handle (12), pull locking release lever (10) and release two slide locking plungers (13). Ensure that plungers release. If plungers did not release, lower landing gear to relieve pressure and allow fifth wheel to slide more easily.
18. Drive tractor slowly forward or backward to position fifth wheel.
19. After sliding to desired position, engage two slide locking plungers (13) by using handle (12) to trip release lever (10) and allow plungers to retract.
20. Visually check that two slide locking plungers (13) are retracted and fully engaged. It may be necessary to leave trailer brakes locked and move tractor slightly to engage plungers in rack teeth (11).
21. If lowered, raise landing gear to fully retracted position and stow float pads.

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (ALL EXCEPT M870) - CONTINUED**



22. Check kingpin connection and fifth wheel slide locks by pulling tractor gently forward against locked trailer brakes or blocked wheels. As resistance is felt, put transmission selector lever in reverse and gently back tractor to verify fifth wheel slide locks in both directions. When resistance is felt, put transmission selector lever in Neutral (N) and set parking brake.
23. Verify that lock release handles (6 and 7) are in.
24. Check semitrailer lights.
25. Stow wheel blocks.

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
UNCUPLE FROM SEMITRAILER (ALL EXCEPT M870)**



WARNING

Use caution when uncoupling from truck. BE ALERT for personnel in area. Ensure that hands, arms, and body are clear of potential pinch points. Failure to follow this warning may result in injury to personnel.

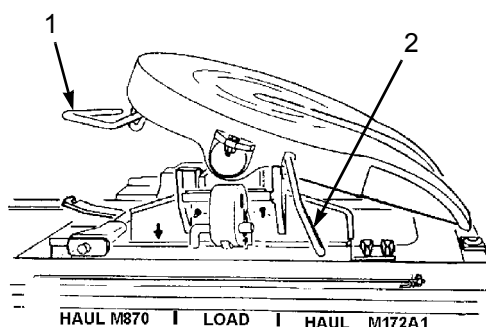
NOTE

- Truck and trailer must be aligned.
 - Use a ground guide if one is available.
1. Stop truck and trailer.
 2. Shift transmission into N (Neutral).
 3. Block wheels.
 4. Pull trailer air supply valve OUT.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00***OPERATE SLIDING FIFTH WHEEL (M916A3)/
UNCOUPLE FROM SEMITRAILER (ALL EXCEPT M870) - CONTINUED***

5. Apply parking brake.
6. Place float pads under semitrailer landing gear and lower landing gear.
7. Set trailer hand brake control valve and close trailer air supply valve.
8. Disconnect and stow trailer air hoses and intervehicular electrical cable.
9. Connect tether to air hoses.
10. Disconnect trailer hydraulic lines (if connected).
11. Pull secondary lock release handle (1) out and raise to engage hooks on fifth wheel housing.
12. Pull primary lock release handle (2) out and hook on fifth wheel housing.



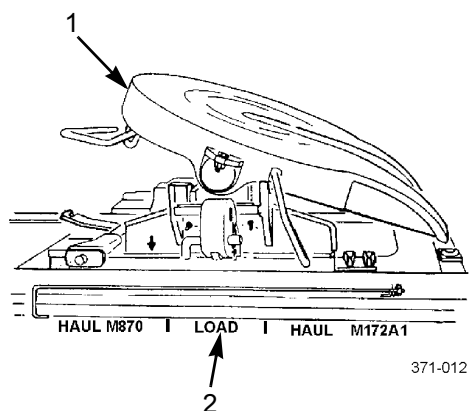
371-012

14. Slowly pull truck forward until semitrailer is supported by landing gear.
15. Have a crew member observe semitrailer kingpin to ensure that it clears during separation of tractor and semitrailer. Ensure kingpin clears tail roller when tractor is pulled forward.
16. Pull tractor slowly forward until tractor clears semitrailer.

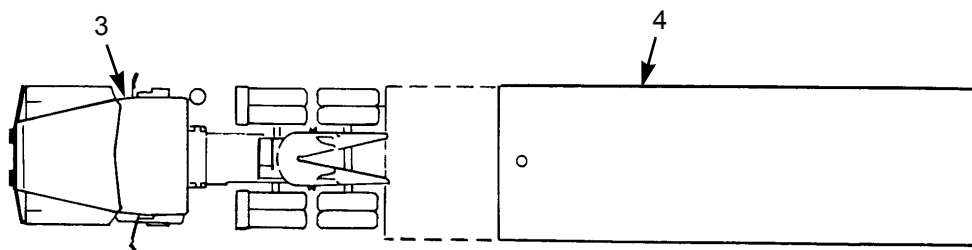
**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (M870)****CAUTION**

Tractor trucks have the capability to turn greater than 90 degrees. Care must be taken to avoid hitting semitrailer with tractor when turning more than 90 degrees.

1. Ensure fifth wheel (1) is in LOAD (2) position and tilted back with jaws open.

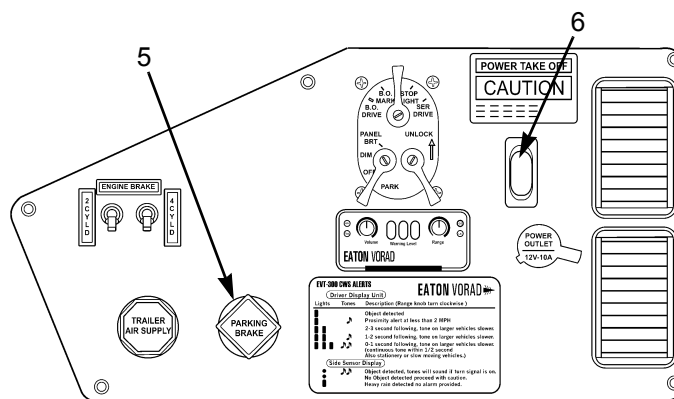


2. Chock semitrailer (4) wheels.
3. Using a ground guide, position tractor (3) squarely with semitrailer (4). Check that outer left edge of tractor tires are aligned with left edge of semitrailer.



**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (M870) - CONTINUED**

4. Place transmission in N (Neutral), engage PTO (6), and apply tractor parking brake (5).



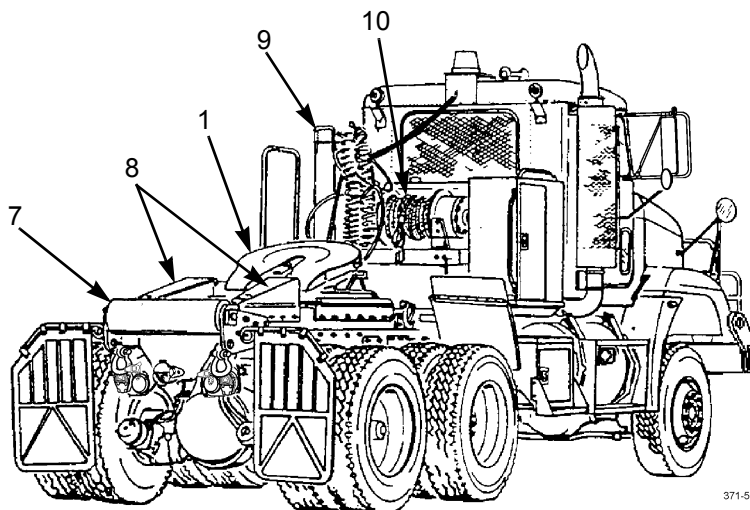
371-010



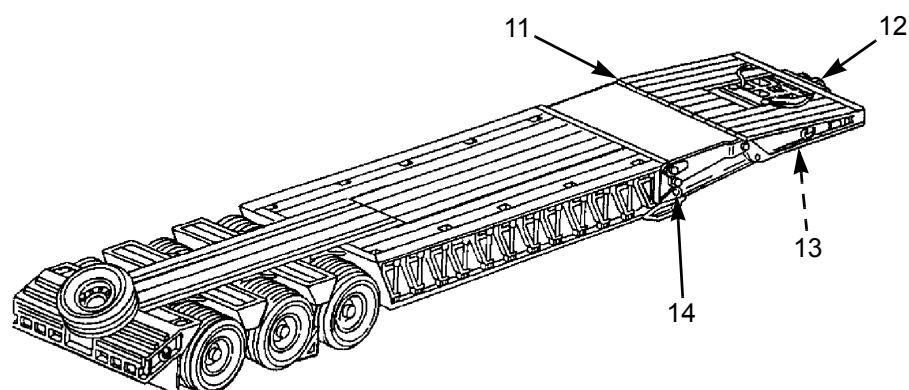
WARNING

Use caution when coupling to semitrailer. BE ALERT for personnel in area. Ensure that hands, arms, and body are clear of potential pinch points. Failure to follow this warning may result in injury to personnel.

5. At winch control station (9), pay out winch cable (10) and attach to clevis (12) on goose-neck (11).

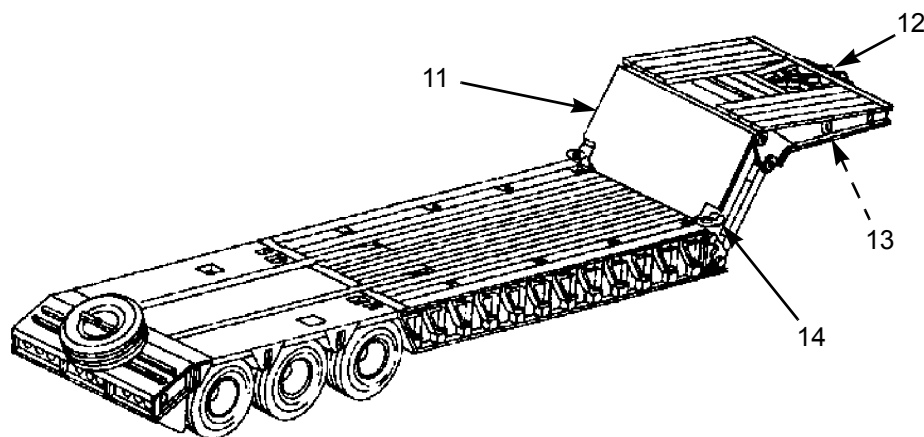


371-542

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (M870) - CONTINUED**

371-557

6. Release tractor parking brake (5). This will allow tractor to be pulled rearward and under semitrailer as it is raised onto fifth wheel ramps (8).
7. Carefully pay in winch cable (10) raising semitrailer gooseneck (11) onto tractor tail roller (7) and ramps (8).
8. Ensure that kingpin (13) and fifth wheel (1) are aligned.



371-558

OPERATION UNDER USUAL CONDITIONS - CONTINUED

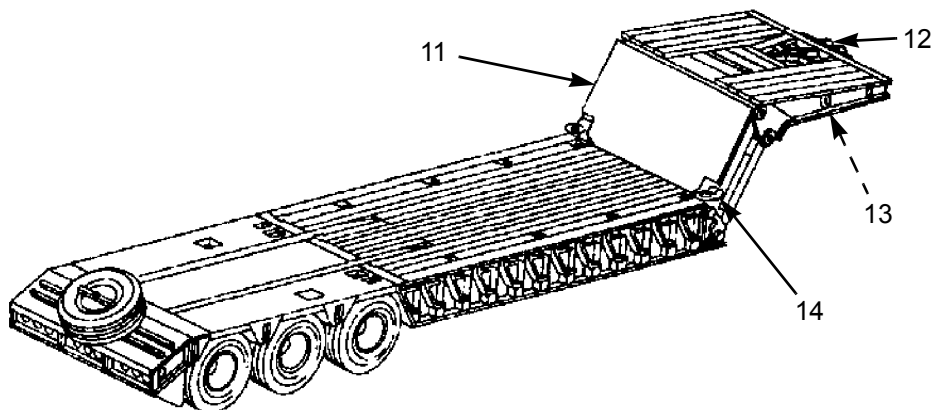
0005 00

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (M870) - CONTINUED**

**WARNING**

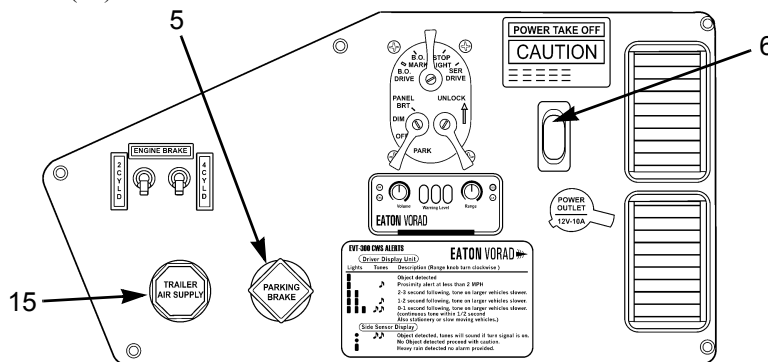
DO NOT go under nose of semitrailer until it is supported by tractor. Failure to follow this warning could result in serious injury to personnel.

9. Continue winching until kingpin (13) is locked into fifth wheel (1).
10. Install gooseneck pivot pins (14).
11. Disconnect winch cable (10) from clevis (12) on gooseneck (11). Stow winch cable.

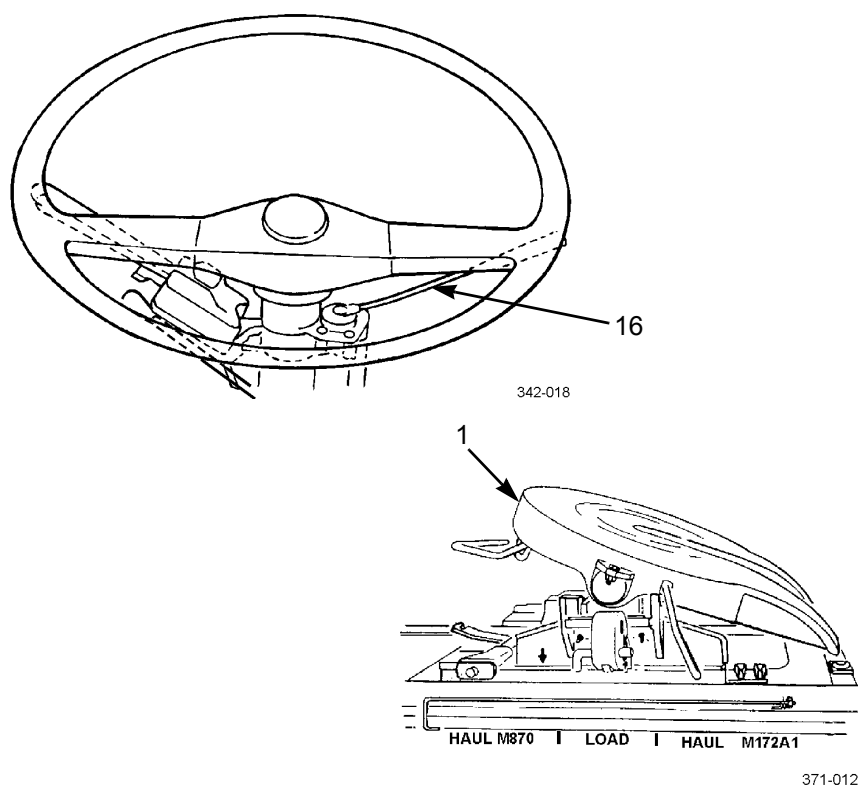


371-558

12. Disengage PTO (6).
13. Apply tractor parking brake (5) and shutdown engine.
14. Connect air lines and electrical cable to semitrailer.
15. Start engine, push in trailer air supply knob (15), and check function of trailer brake hand control valve (16).



371-010

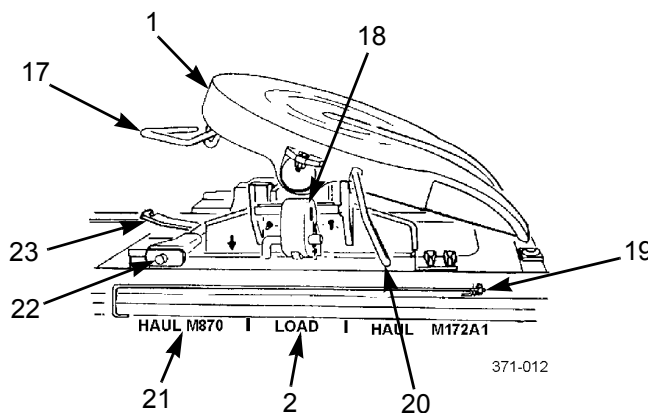
**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (M870) - CONTINUED**

16. Check kingpin connection and fifth wheel slide locks by pulling tractor gently forward against locked semitrailer brakes or chocked wheels until resistance is felt.
17. Once resistance is felt, gently back tractor until same resistance is felt.
18. Place transmission in N (Neutral), apply tractor parking brake (16) and shutdown engine.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**OPERATE SLIDING FIFTH WHEEL (M916A3)/
COUPLE TO SEMITRAILER (M870) - CONTINUED**

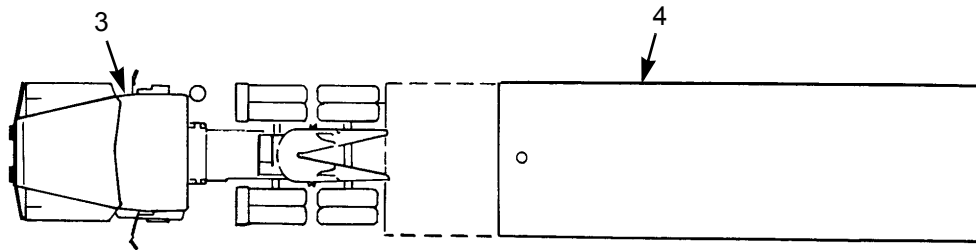
19. Visually inspect coupling by ensuring fifth wheel lock control handles (17 and 20) have moved to locked position.
20. Ensure fifth wheel jaws engage kingpin shank and not kingpin head.
21. Ensure there is no space between fifth wheel and kingpin plate.
22. Ensure there is adequate clearance between top of tractor driving wheels and nose of semitrailer.
23. Ensure there is adequate clearance between rear of tractor frame and semitrailer goose-neck to accommodate swing of frame during sharp cornering.
24. Using handle (19), release fifth wheel slide locking plungers (22) by pulling on release lever (23).
25. Ensure both plungers (22) disengage.
26. Drive tractor slowly rearward to position fifth wheel in HAUL M870 (21) position.
27. Engage fifth wheel slide locking plungers (22) by tripping release lever (23).
28. Ensure both plungers (22) are fully retracted and engaged.
29. Check fifth wheel lockout (18) for damage and positioning. It must be OUT for off-road operations and IN for on-road operations.



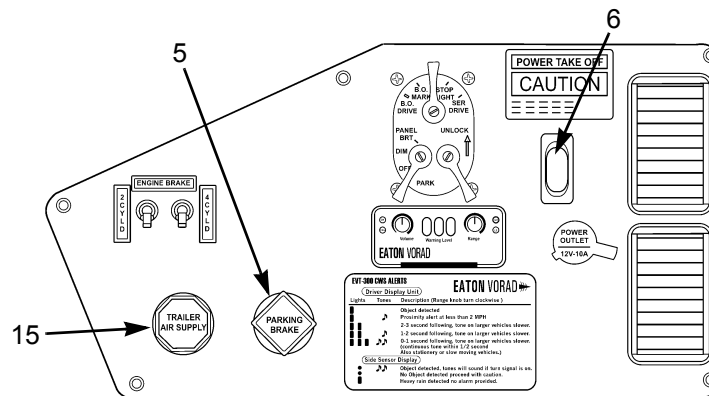
30. Remove chock blocks from semitrailer.

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
UNCOUPLE FROM SEMITRAILER (M870)**

1. Using a ground guide, position tractor (3) on level ground and squarely with semitrailer (4).



2. Release slide locking plungers (22). Ensure that both plungers have released.
3. Drive tractor forward slowly to position fifth wheel (1) in LOAD (2) position.
4. When fifth wheel (1) is in desired position, engage slide locking plungers (22) by tripping release lever (23) allowing plungers to retract. Ensure both plungers are fully retracted and fully engaged.
5. Apply trailer brake air control valve (15).



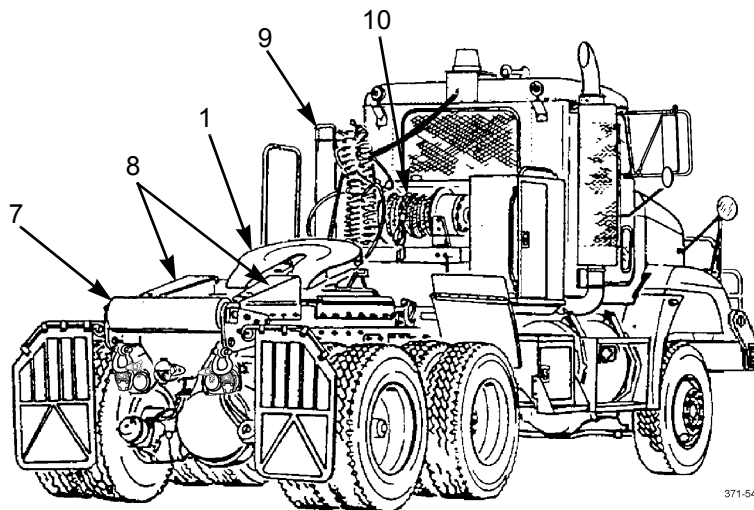
371-010

6. Gently back up to ease pressure on kingpin.
7. Apply tractor parking brake (5).
8. Place transmission in N (Neutral) and shutdown engine.
9. Chock semitrailer wheels on one side in front and one side in rear of tires.
10. Disconnect air lines and electrical cable from semitrailer and stow on tractor.

OPERATION UNDER USUAL CONDITIONS - CONTINUED

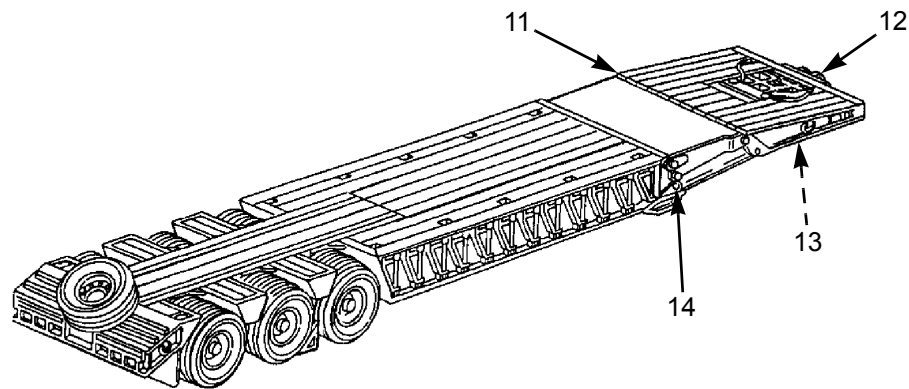
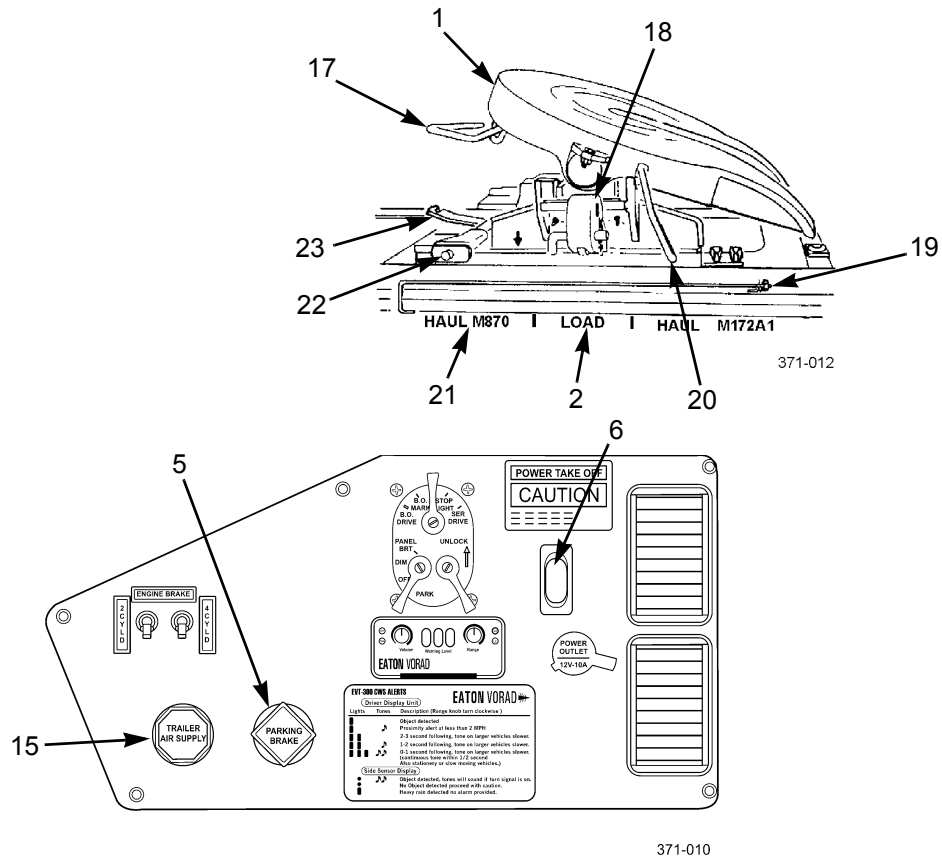
0005 00***OPERATE SLIDING FIFTH WHEEL (M916A3)/
UNCOUPLE FROM SEMITRAILER (M870) - CONTINUED***

11. Pull fifth wheel primary lock release handle (20).
12. Pull fifth wheel secondary lock release handle (17) keeping legs and feet clear of wheels. If handle will not move, release tractor parking brake (5) and back gently to release pressure. Apply tractor parking brake. Latch should now release.
13. Start engine and engage PTO (6).



14. At winch control station (9), pay out winch cable (10) and attach to clevis (12) on gooseneck (11).
15. Remove both gooseneck pivot pins (14).
16. Slowly pull tractor forward while assistant pays out winch cable (10).
17. Lower semitrailer and extend gooseneck (11) to ground.

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
UNCOUPLE FROM SEMITRAILER (M870) - CONTINUED**

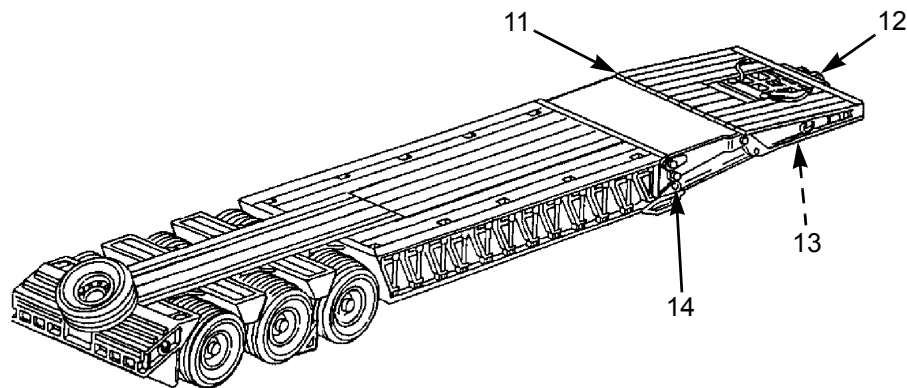
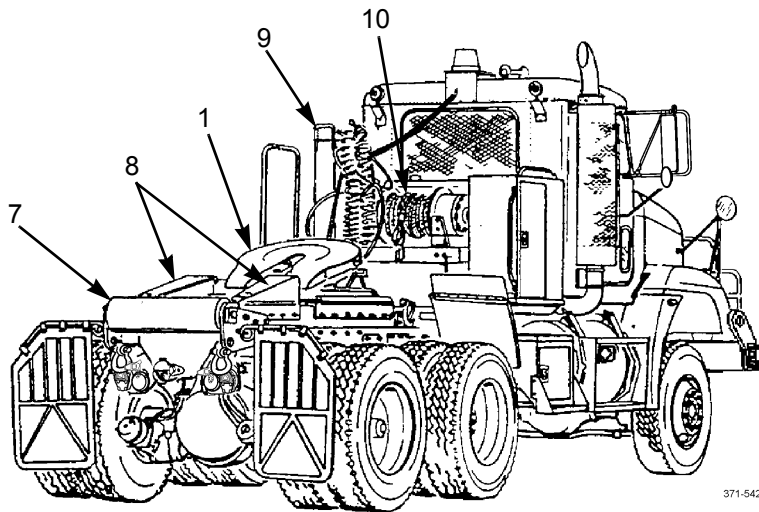


OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
UNCOUPLE FROM SEMITRAILER (M870) - CONTINUED**

18. DO NOT allow too much slack in winch cable (10) so semitrailer does not slide too rapidly off of fifth wheel (1) and over ramps (8) and tail roller (7). When semitrailer drops below tail roller, tendency is for gooseneck (11) to slide forward into rear of tractor.
19. Set tractor parking brake (5) and place transmission in N (Neutral).
20. Disconnect winch cable (10) from clevis (12) on gooseneck (11).
21. Pay in and stow winch cable (10).

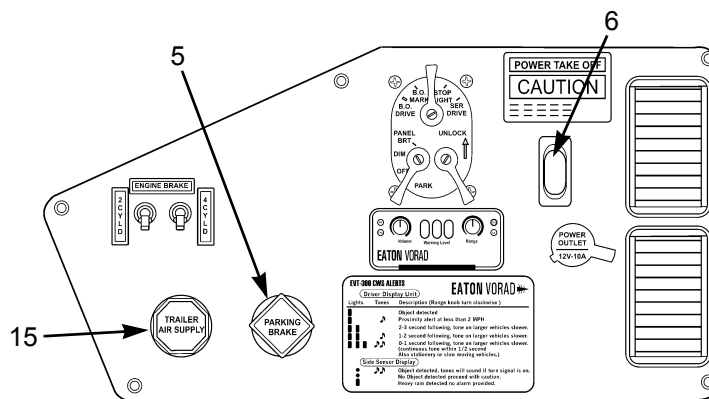


OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00

**OPERATE SLIDING FIFTH WHEEL (M916A3)/
UNCOUPLE FROM SEMITRAILER (M870) - CONTINUED**

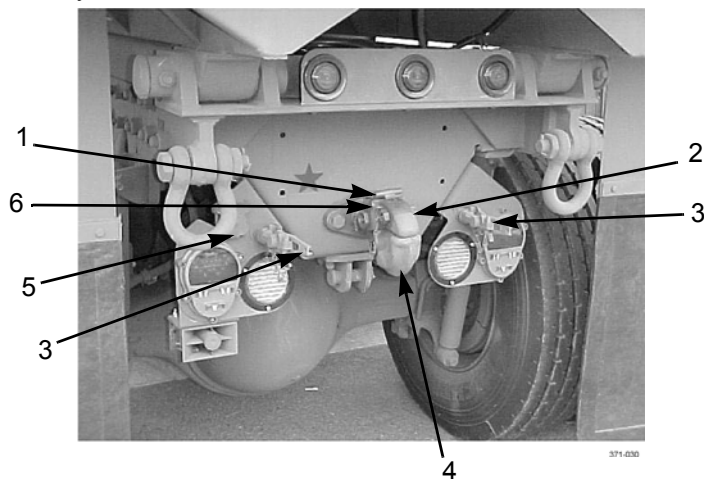
22. Disengage PTO (6) and shut down engine.



371-010

PINTLE TOWING PROCEDURES

1. Block trailer wheels.
2. Remove cotter pin (6), engage latch (1), and lift lock (2) to open position.
3. Connect trailer to pintle hook (4).
4. Push lock (2) down ensuring latch (1) engages and install cotter pin (6).
5. Connect intervehicular electrical cable from trailer to tractor receptacle (5).
6. Connect air hoses from trailer to quick-disconnect couplings (3) at rear of vehicle.
7. Connect safety chains.



371-030

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**PINTLE TOWING PROCEDURES - CONTINUED****WARNING**

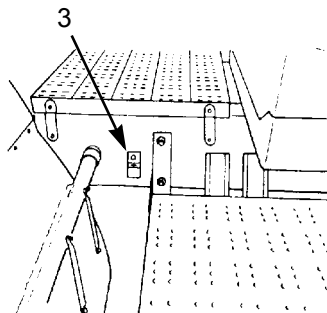
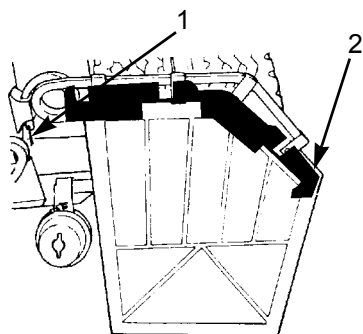
Ensure air flow valve lever is in full horizontal position. Failure to follow this warning could result in loss of trailer or truck brakes.

8. Push in trailer air supply knob on instrument panel.
9. Remove wheel blocks from trailer.

MUD FLAP STOWAGE (M915A3 AND M916A3)**CAUTION**

If towing M871 or M872 semitrailer or M967/M969/M1062 fuel tankers, rear mud flaps must be removed and stowed in brackets. Failure to follow this caution may result in equipment damage.

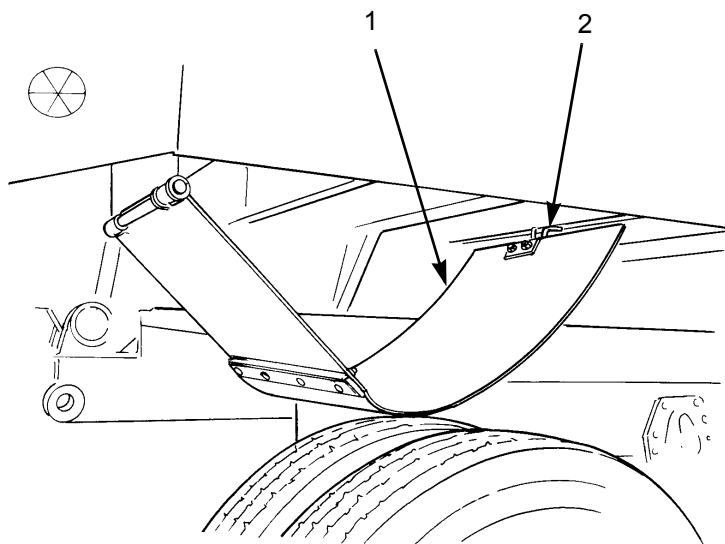
1. Remove lock pin (1).
2. Pull up on mud flap (2) and remove. Tap spring upward with hammer as required.
3. Place mud flap (2) in stowage bracket (3) and insert lock pin (1).
4. When towing operations are complete, remove lock pin (1) and mud flap (2) from stowage bracket (3).
5. Position mud flap (2) on vehicle and install lock pin (1).



342-033

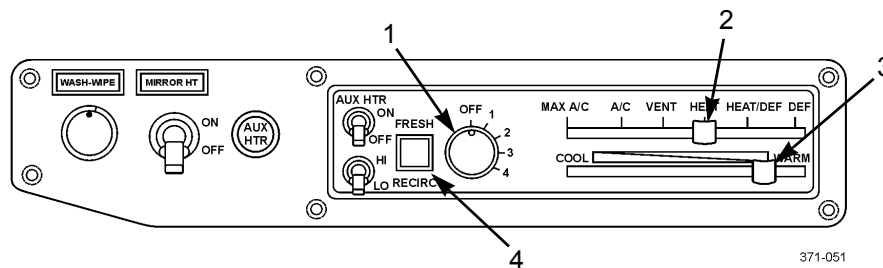
MUD FLAP STOWAGE (M917A2 AND M917A2 W/MCS)

Attach loop on bottom of mud flap (1) to hook (2) on underside of dump body.

**OPERATE HEATER AND DEFROSTER****NOTE**

Heater and defroster obtain heat from engine as it runs. If engine is not running, heat will not be available for these functions.

1. Start engine and bring truck to normal operating temperature.
2. Slide mode control lever (2) to desired position.
3. Slide temperature control lever (3) to desired temperature range.
4. Rotate fan switch (1) to adjust fan speed from slower to faster, as desired.
5. Press FRESH/RECIRC air button (4) to desired setting.



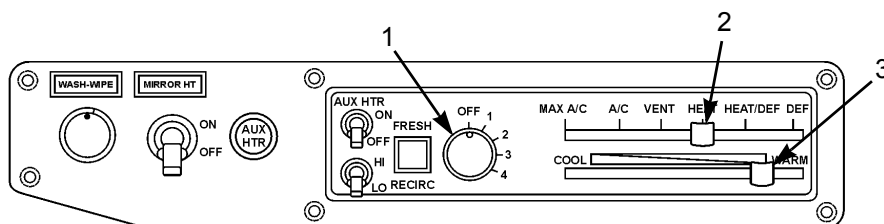
OPERATION UNDER USUAL CONDITIONS - CONTINUED**0005 00****OPERATE AIR CONDITIONER**

1. If cab is hot inside, open windows and allow hot air to vent.
2. Move mode control lever (2) to VENT and turn fan switch (1) to OFF position.
3. Start engine.

NOTE

If outside air is dusty or smoky, mode control lever should be set to MAX A/C and windows and vents closed to prevent drawing dust or smoke into cab.

4. Move mode control lever (2) to A/C. With control at A/C, fresh air is drawn into cab. With control at MAX A/C, air inside cab is recirculated.
5. Move temperature control lever (3) to COOL.



371-051

6. Turn fan switch (1) to 4 (highest speed).
7. As soon as cool air is flowing from dashboard vents, close windows.
8. Adjust temperature control lever (3) and fan switch (1) as required.

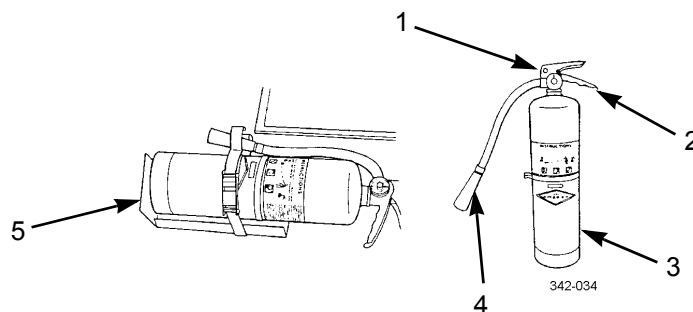
OPERATE PORTABLE FIRE EXTINGUISHER**WARNING**

Discharging large quantities of dry chemical fire extinguisher in cab may result in temporary breathing difficulty during and immediately after the discharge event. If at all possible, discharge fire extinguisher from outside the cab. Avoid unnecessary contact during use and cleanup. Contact local medical personnel to determine necessary personal protective equipment to wear during cleanup.

NOTE

This is a type B and C fire extinguisher. Use on oil and electrical fires only.

1. Remove fire extinguisher (3) from bracket (5) next to shift tower.
2. Hold fire extinguisher (3) upright. Point nozzle (4) toward base of fire. Break seal and pull safety pin (1).
3. Squeeze lever (2), discharging chemical at base of fire. Use a side-to-side motion to spread chemical. After using fire extinguisher, notify Unit Maintenance.



OPERATION UNDER USUAL CONDITIONS - CONTINUED

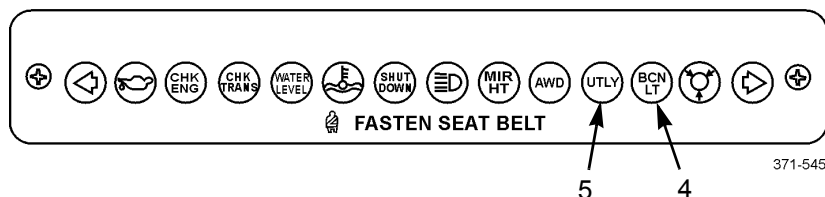
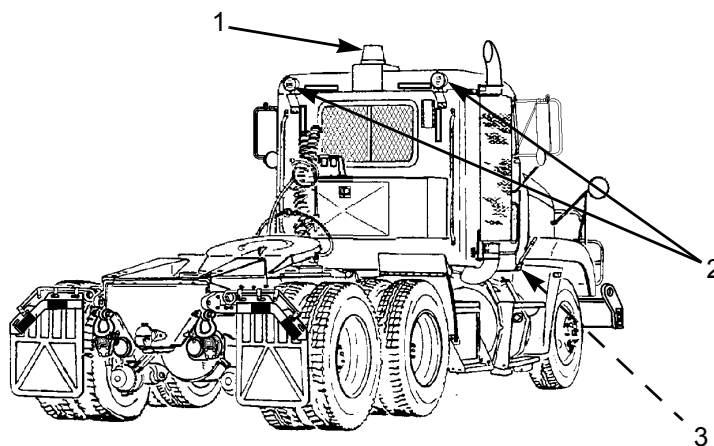
0005 00

OPERATE LIGHTS**NOTE**

If engine is not running, ignition switch must be in ON position for lights to operate.

1. **Operate Beacon Light.**

- a. Place ignition key in ACCESSORY or ON position and main light switch to STOP LIGHT.
- b. Move beacon light switch up to turn on beacon light (1). BCN LT indicator (4) should come on.
- c. Move beacon light switch down. BCN LT indicator (4) should go off.
- d. Place main light switch and ignition key in OFF position.

2. **Operate Work Lights.**

- a. Connect work light plug into receptacle (3) on either side of cab or dash.
- b. Place ignition key in ACCESSORY position and main light switch in STOP LIGHT or SER DRIVE position to apply power to receptacle.
- c. Position ignition key in OFF position and disconnect work light plug from receptacle (3).

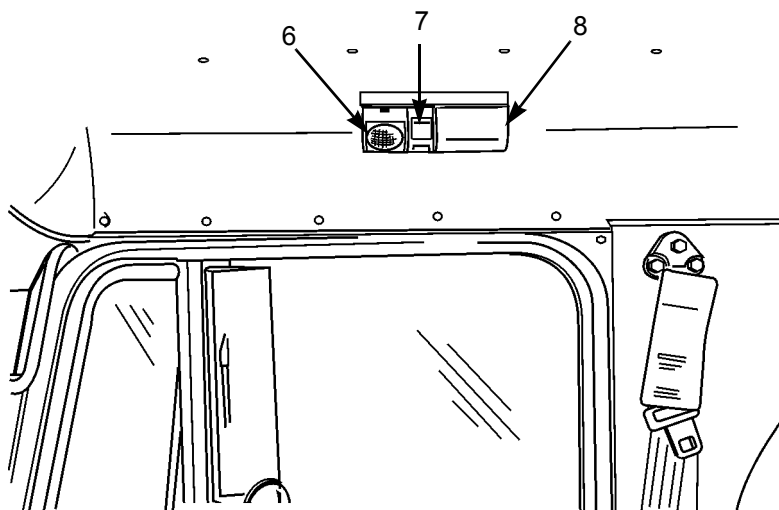
OPERATE LIGHTS - CONTINUED3. **Operate Utility Lights (M915A3 and M916A3).**

- a. Place ignition key in ACCESSORY position and main light switch in STOP LIGHT or SER DRIVE position.
- b. Move utility light switch up to turn utility lights (2) on. UTLY light indicator (5) should come on.
- c. Move utility light switch down. UTLY light indicator (5) should go off.
- d. Place ignition key in OFF position.

4. **Operate Interior Lights.****NOTE**

Interior lights DO NOT come on when cab door is opened.

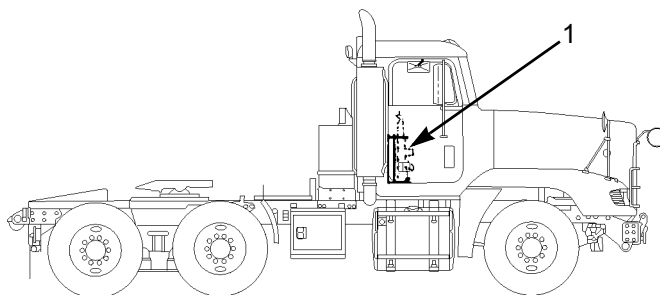
- a. Turn main light switch to STOP LIGHT.
- b. Slide thumb switch (7) down on driver's side and up on passenger side to turn on maplight (6) only.
- c. Slide thumb switch (7) up on driver's side and down on passenger side to turn on domelight (8) and map light (6).
- d. Place main light switch in OFF position.



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RIFLE MOUNTING KIT

Two rifle mounting kits (1) are located between seats on cab wall.



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OPERATE POWER TAKE-OFF (PTO) (M916A3, M917A2, AND M917A2 W/MCS)**1. Engage PTO.****CAUTION**

Do not shift transmission with PTO engaged. Gears stop during shifting, which could cause excessive loading of PTO.

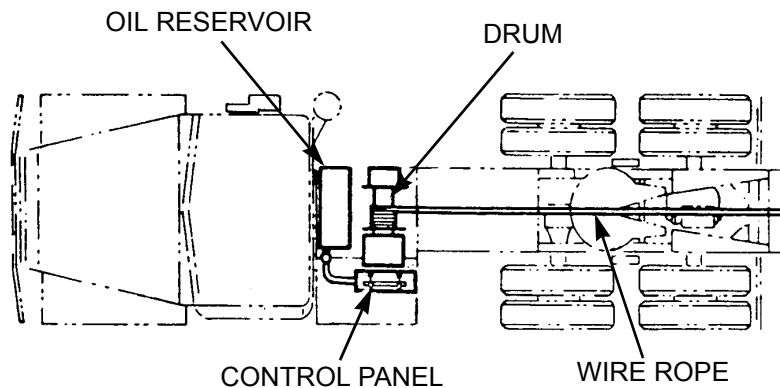
- a. Place transmission selector lever in neutral (N).
- b. Operate engine at low idle and set parking brake.
- c. On M917A2 and M917A2 w/MCS, ensure main light switch is in STOP LIGHT or SER DRIVE position.
- d. Place PTO switch on upper right dash to ON position. PTO ENGAGE light on dash and light on switch should come on.
- e. On M916A3, operate winch or trailer hydraulics.
- f. On M917A2 and M917A2 w/MCS, operate hydraulic control lever (TM 5-3805-264-14&P).

2. Shut Down PTO.

- a. On M916A3, release winch controls. If engine rpm was raised, reduce rpm using throttle control switch.
- b. On M917A2 and M917A2 w/MCS, place hydraulic control lever in N (Neutral) (TM 5-3805-264-14&P).
- c. Place PTO switch to OFF position. PTO ENGAGE light on dash and light on switch will go out.

OPERATE WINCH (M916A3)**1. General.**

- a. M916A3 tractors are equipped with a full hydraulic winch mounted on the frame behind the cab. The winch has a fail safe spring-loaded brake that automatically sets any time the winch control valve is in neutral or there is a power failure (hydraulic pressure drops to less than 200 psi).
- b. The winch operates at 2100 psi hydraulic pressure from a dual pump driven by a PTO on the transmission. The rated capacity of the winch is 45,000 lb (20,250 kg). For more information, refer to TM 5-725.



- c. The winch operator's station is located on left side of the tractor behind the cab. The operator stands on the platform provided and operates the winch using the controls on top of control panel.

**WARNING**

- Always wear heavy gloves when handling winch cable. Never allow cable to run through hands; frayed cables can cut you. Never operate winch with less than four turns of cable on drum. Keep cable coils tight and close together on drum while winching. Failure to follow this warning may result in injury to personnel.
- Hearing protection is required for operator and personnel working around winch station during operation.
- DO NOT use winch for moving or lifting people. Serious injury could result.

OPERATE WINCH (M916A3) - CONTINUED**CAUTION**

Keep trailer air supply and hydraulic hoses away from wire rope to prevent damage to hoses.

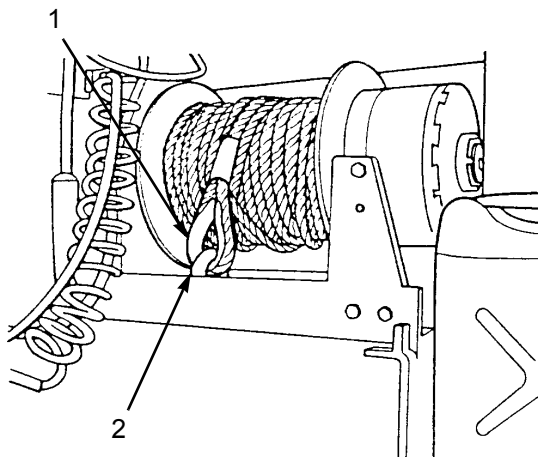
NOTE

Rated winch pull is set by limiting hydraulic system relief valve pressure to maximum of 2500 psi, which provides 45,000 lb (20,250 kg) pull on bare drum. As winch drum is loaded with wire rope, effective line pull is reduced. The line per cable layer with 7/8-inch wire rope is:

1st layer 45,000 lb (20,250 kg)
2nd layer 39,265 lb (17,810 kg)
3rd layer 34,775 lb (15,773 kg)
4th layer 31,210 lb (14,156 kg)
5th layer 28,310 lb (12,841 kg)

2. Operate Winch.

- a. Engage PTO.
- b. Have a crew member disconnect wire rope eye (1) from anchor (2).



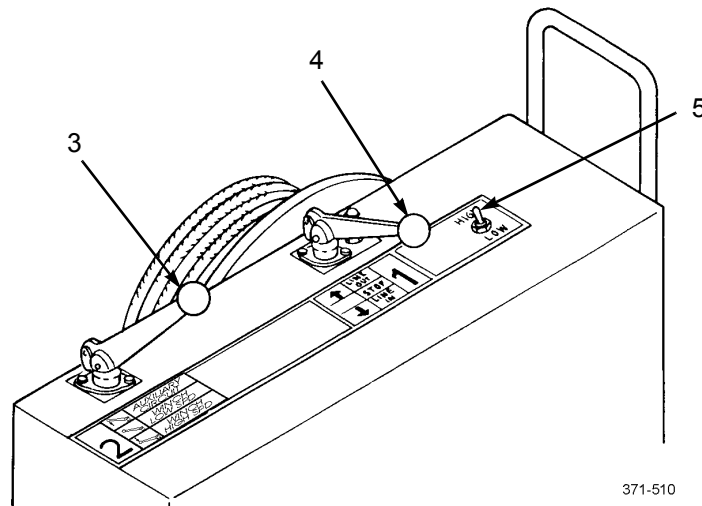
- c. To pay out wire rope, pull up and hold line control lever (4) in LINE OUT position. Winch unwinds in low speed. Have crew member walk end of wire rope out.

NOTE

High-speed winch operation is only recommended for paying out wire rope or taking up slack.

OPERATION UNDER USUAL CONDITIONS - CONTINUED**0005 00****OPERATE WINCH (M916A3) - CONTINUED**

- d. To run winch at high speed, set engine RPM control (5) to HIGH and push down and hold speed control/auxiliary circuit lever (3).
- e. When desired amount of line has been payed out, stop winch by releasing both control levers. Set engine RPM control (5) to LOW.



- f. Direct crew member to disconnect wire rope from payload.
- g. Have crew member pull on wire rope and keep fairly taut and start rewinding drum by pushing down on winch line control lever (4).
- h. Ensure that wire rope winds neatly onto drum without tangling, kinking, twisting or overlapping. Ensure that coils on drum are tight and close together.
- i. Direct crew member to signal when enough slack has been taken up to anchor the eye.
- j. Have a crew member anchor wire rope eye (1) to anchor (2).
- k. Shut down PTO.

OPERATE TRAILER HYDRAULICS (M916A3)

1. Connect hydraulic lines between tractor and trailer.
2. Engage PTO.
3. Place speed control/auxiliary circuit lever (3) in auxiliary circuit position.
4. Operate trailer hydraulics (see trailer TM).
5. When trailer hydraulic operations are complete, return speed control/auxiliary circuit lever (3) to center position.
6. Disengage PTO.
7. Disconnect hydraulic lines between tractor and trailer.

PREPARATION FOR TRANSPORT**WARNING**

- Lifting cables, chains, hooks, and slings used for lifting truck must be in good condition and of suitable capacity. Failure to follow this warning may result in injury or death to personnel and damage to equipment.
- Improper use of lifting equipment and improper attachment of cables to vehicle can result in serious personnel injury and equipment damage. Observe all standard rules of safety.
- Front extendable bumper is for overhead sling use only. It is not intended to be used to tow or extract a mired vehicle. DO NOT extend the bumper more than one adjustment hole. ALWAYS have both pins engaging the bumper and bumper extension on each side. Failure to follow this warning could result in injury to personnel and damage to equipment.

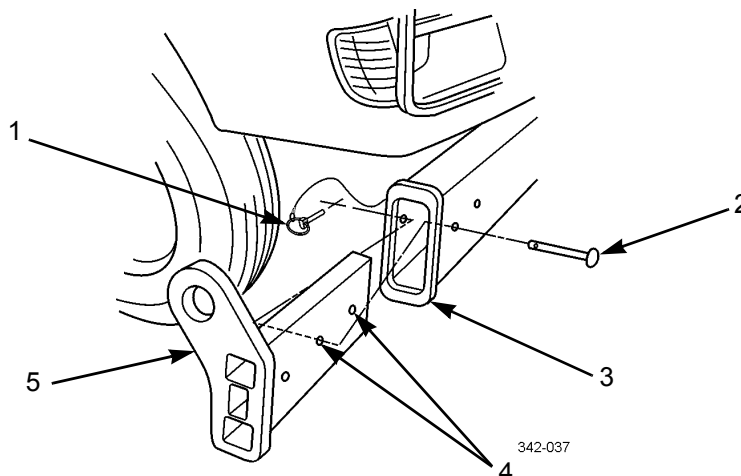
CAUTION

DO NOT attempt to overhead lift vehicle without extending front bumper one adjustment hole. Failure to follow this caution will result in damage to cab.

NOTE

Both left and right side bumper extensions are adjusted in the same manner. Right side is shown.

1. Remove two retaining pins (1) and straight pins (2) from front bumper (3).
2. Position bumper extension (5) in front bumper (3) so straight pins (2) will engage two inside adjustment holes (4) on bumper extension.
3. Install two straight pins (2) and retaining pins (1) in front bumper (3).

PREPARATION FOR TRANSPORT - CONTINUED

4. To lift vehicle, attach suitable lifting device to lifting shackles and bumper extensions. Lift vehicle slowly and have observers watch for any signs of cable failure, unusual load shifts, and obstructions.
5. During transport, secure vehicle by attaching cables to tiedown points.

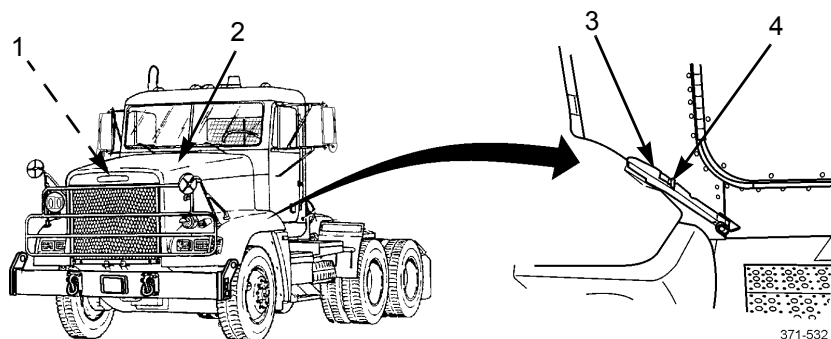
OPERATE TILTABLE HOOD**1. Open Tiltable Hood.**

- a. Unlock hood retaining strap (3) from hood locking bracket (4).
- b. Repeat step a. for opposite side.

CAUTION

DO NOT attempt to open hood from side. ALWAYS use hand slot located at top-front center of hood to rotate hood to open position. Failure to follow this caution could result in equipment damage.

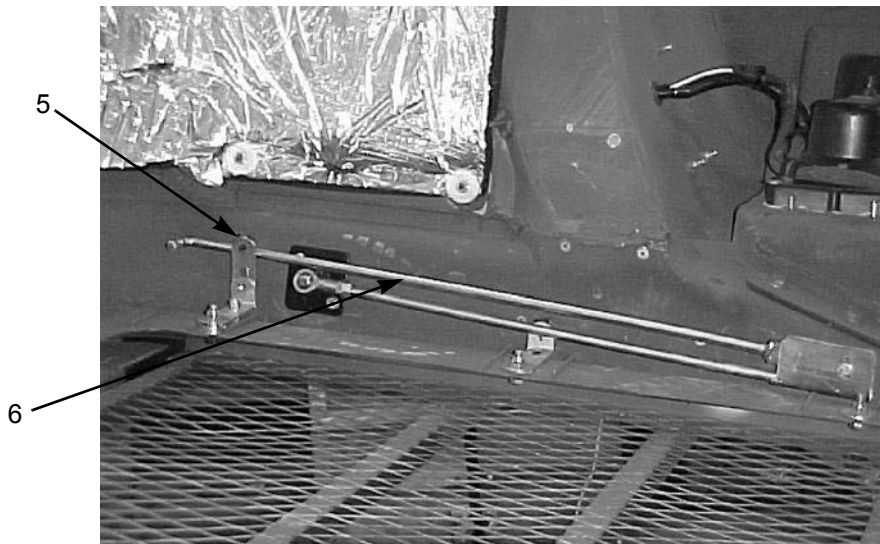
- c. Grasp hand slot (1) at top-front center of hood (2) and rotate hood to open position.



OPERATE TILTABLE HOOD - CONTINUED**WARNING**

ALWAYS install hood prop after opening hood. Failure to follow this warning could result in severe injury to personnel.

- d. Remove hood prop rod (6) from bracket (5).



M915A3 (NEW MODEL), M916A3, M917A2

371-023

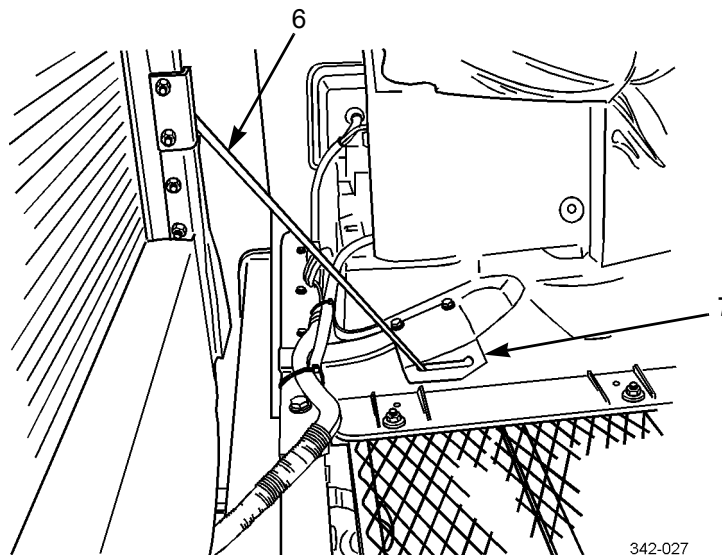
OPERATE TILTABLE HOOD - CONTINUED

- e. Rotate and install hood prop rod (6) end in slot in bracket (7).



371-024

M915A3 (NEW MODEL), M916A3, M917A2



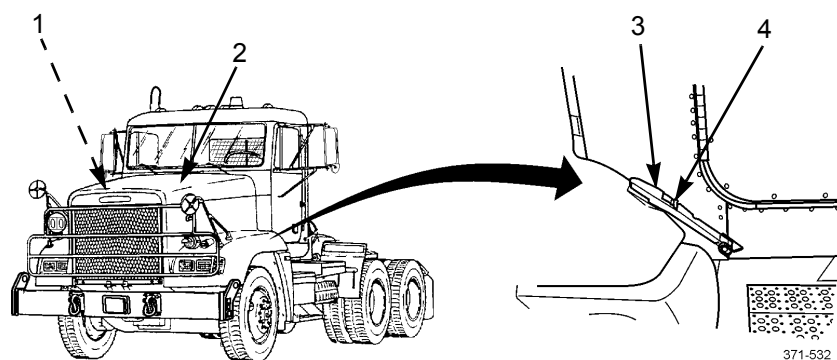
342-027

M915A3 (OLD MODEL)

OPERATION UNDER USUAL CONDITIONS - CONTINUED

0005 00**OPERATE TILTABLE HOOD - CONTINUED****2. Close Tilttable Hood.**

- a. Remove hood prop rod (6) end from bracket (7).
- b. Rotate hood prop rod (6) and secure in bracket (5).
- c. Grasp hand slot (1) at top front center of hood (2) and lower hood to closed position.
- d. Lock retaining strap (3) on hood locking bracket (4).
- e. Repeat step d. for opposite side.

**END OF WORK PACKAGE**

OPERATION UNDER UNUSUAL CONDITIONS

0006 00**GENERAL****WARNING**

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

1. This work package contains instructions for safely operating the M915 Family of Vehicles under unusual conditions. In addition to normal preventive maintenance, special care must be taken to keep truck operational in extreme temperatures and other environmental conditions.
2. Refer to FM 21-300 and FM 21-305 for additional information.

SLAVE START TRUCK**WARNING**

- When slave starting truck, use NATO slave cable that DOES NOT have loose or missing insulation.
- DO NOT proceed if suitable cable is not available.
- DO NOT use civilian-type jumper cables.
- Failure to follow this warning could result in injury.

CAUTION

- DO NOT operate starter motor for more than 30 seconds at a time. After 30 seconds, allow starter motor to cool for at least two minutes before attempting to start engine again. Excessive heating of starter motor may result in damage or early starter failure.
- Under no circumstances can the truck be started by being towed or pushed. Failure to follow this caution will cause damage to transmission.
- Ensure there is no contact between vehicles when slave starting. Failure to follow this caution could result in equipment damage.

NOTE

- Before slave starting, ensure that checks have been made to determine whether problem is low or dead battery.
- If vehicle is different than vehicle being slave started, refer to Operator's Manual for that vehicle for any special slave starting procedures.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

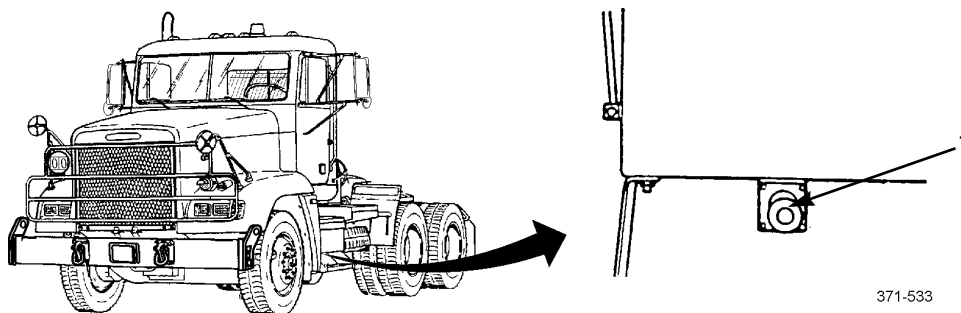
0006 00**SLAVE START TRUCK - CONTINUED**

1. Connect NATO slave cable to receptacle (1) on “dead” vehicle.
2. Connect other end of NATO slave cable to receptacle on “live” vehicle.
3. Place master battery switch on “dead” vehicle to ON.
4. Start engine of “live” vehicle and run at 1000 rpm until voltmeter of “dead” vehicle is in green band. Stop engine and remove NATO slave cable from receptacle.

CAUTION

Ensure voltmeter of “dead” vehicle is in GREEN band before pushing starter button. Failure to follow caution may result in damage to batteries.

5. Start engine of “dead” vehicle (WP 0005 00). If engine will not start, notify Unit Maintenance.

**TOW TRUCK**

1. **General.**
 - a. Notify Unit Maintenance to send recovery vehicle and tools required to disconnect propeller shafts.
 - b. Refer to FM 21-305 for general guidelines on vehicle recovery and use of warning kits and signals. Refer to FM 20-22 for additional information.

CAUTION

Propeller shafts must be disconnected and inter-axle lockout control valve lever must be in UNLOCK position before towing truck with all wheels on the ground. Failure to follow this caution may result in transmission damage.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

0006 00**TOW TRUCK - CONTINUED**

- c. When towing truck with front axle and rear tandem on ground, ensure that inter-axle lockout control valve lever is in UNLOCK position. Ensure that universal joint on rear of propeller shaft (at the input to the forward-rear axle) is disconnected and tied to vehicle undercarriage.
- d. When front axle of truck being towed is lifted off the ground, disconnect universal joint on propeller shaft (at the input to the forward-rear axle) and tie it to vehicle undercarriage.
- e. When rear tandem axles of truck being towed are lifted off ground, ensure inter-axle lockout control valve lever is in UNLOCKED position.

2. Towing Procedures.**WARNING**

Brakes will be released when air is applied to a disabled vehicle. DO NOT connect air lines to a disabled vehicle without first blocking wheels and connecting tow bar between vehicles. Failure to follow this warning could result in death or injury to personnel and damage to equipment.

NOTE

Towing vehicle speed should not exceed 15 mph (24 kph) on primary roads and 8 mph (13 kph) on secondary roads. For cross-country towing, all tires of disabled truck should be on ground.

- a. Install medium duty tow bar at towing vehicle pintle and disabled truck towing eyes. Ensure tow bar is long enough to allow complete turning radius.
- b. Connect air supply hoses between disabled truck and towing vehicle.
- c. Release parking brakes and turn appropriate lights on.

CAGE AND UNCAGE BRAKES

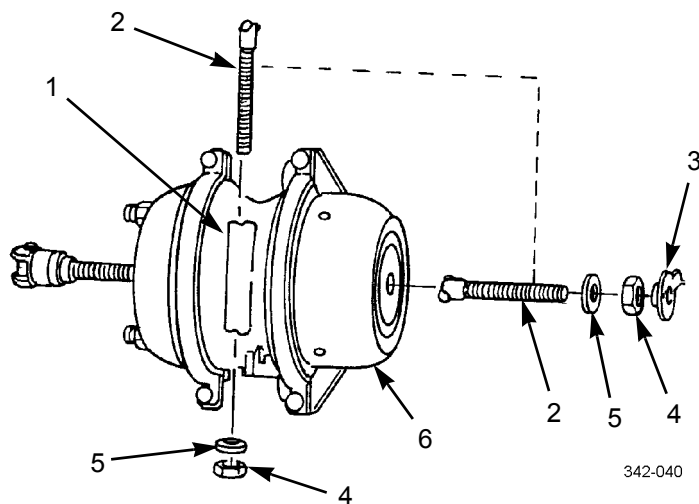
- 1. **Cage Brakes.** In the event of an air pressure loss, spring brakes on the tandem rear axles will apply the brakes. If the vehicle must be towed and there is not enough air system pressure to compress the power spring in the spring brake chambers to release the brakes, compress them manually. Each vehicle has four spring brakes.

CAGE AND UNCAGE BRAKES - CONTINUED**WARNING**

- Brake chamber contains spring under great pressure. To prevent personnel injury, never work directly behind chamber. If caging bolt will not engage properly, spring may be broken.
 - DO NOT remove clamp ring around spring brake chamber. It is under tension and can cause personnel injury if released.
 - When spring brakes are applied, vehicle will stop quickly which could result in injury to personnel. Also, vehicle cannot be driven again until malfunction is repaired and enough air is present for operation of service brakes.
 - When caging brakes, block wheels to keep truck from moving when brakes are released. Failure to follow this warning may result in death or injury to personnel or damage to equipment.
- a. Block wheels.
 - b. Remove cap (3).
 - c. Remove nut (4), washer (5), and release stud (2) from stowage pocket (1).
 - d. Insert cross-pin end of release stud (2) into opening where cap (3) was removed.
 - e. To engage cross-pin, rotate release stud (2) until cross-pin end goes into slot inside of spring chamber (6). Turn release stud clockwise $\frac{1}{4}$ turn; cross-pin is now engaged.
 - f. Install washer (5) and nut (4) on release stud (2).
 - g. Install cap (3).
 - h. Tighten nut (4) until approximately 3 in. (7.6 cm) of release stud (2) shows above nut. Spring brake is fully released.

2. Uncage Brakes.

- a. Block wheels.
- b. Remove cap (3).
- c. Remove nut (4) and washer (5) from release stud (2).
- d. Turn release stud (2) counterclockwise $\frac{1}{4}$ turn and remove release stud from spring chamber (6).
- e. Insert release stud (2) into stowage pocket (1) and install washer (5) and nut (4) on release stud.
- f. Install cap (3).

CAGE AND UNCAGE BRAKES - CONTINUED**OPERATE IN EXTREME COLD****1. General.**

- a. Extreme cold causes many problems:
 - (1) Lubricants thicken or congeal.
 - (2) Batteries may freeze or lose their electrical efficiency.
 - (3) Fuel may not readily atomize for combustion.
 - (4) Various materials become hard, brittle, and easily damaged.
 - (5) Cooling system requires adequate protection from extreme cold.
 - (6) Fuels, lubricants, and antifreeze compounds require special storage, handling, and use.
- b. Refer to FM 9-207 for additional information.
- c. All vehicles assigned to arctic regions are equipped with an auxiliary arctic heater kit to protect vehicle systems from freeze damage, enable easier starting by providing engine block preheating, and boost cab heat output. Refer to subparagraphs 2 and 3 for operation of arctic heater.
- d. When starting out:
 - (1) After starting in cold weather, allow engine time to reach operating temperature range of 120-140°F (48-59°C). Be alert that tires may be frozen to ground.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED**0006 00****OPERATE IN EXTREME COLD - CONTINUED**

- (2) Start driving very slowly for about 100 yards (91.4 m). Be alert for signs that tires may have flat spots or that one or more brake shoes may be frozen and require preheating. Notify Unit Maintenance as required.
- e. Parking.
 - (1) If vehicle will be parked for a short period, park in a sheltered area out of wind. If shelter is not available, park vehicle so it does not face into the wind.
 - (2) If vehicle will be parked for a long shutdown period, try to park on high ground and use planks or brush to make a raised and relatively dry surface. Keep tires out of snow, water, ice, and mud, if possible.
 - (3) Clean snow, ice, and mud from vehicle as soon as possible after shutdown.
 - (4) If vehicle will be parked for a long period of time, have Unit Maintenance remove and store batteries. Fill fuel tank to guard against condensation and drain any accumulated water from air reservoirs and fuel filters.
 - (5) Ensure tires are properly inflated.
 - (6) Have Unit Maintenance check and service cooling system to ensure truck is adequately protected against extreme cold. Ensure transmission is in N (NEUTRAL) position and vehicle tires are blocked.
2. **Operate Arctic Heater to Preheat Engine (If Equipped).**

NOTE

- Arctic heater is used to provide engine preheating for engine startup in extreme cold. It is also used to provide personnel heat. When heater is required to preheat engine coolant and engine block before startup, it should be turned on 1/2-1 hour before engine is started.
 - Auxiliary heater (AUX HTR) indicator light illuminates only when burner is lit. Indicator light turns on and off automatically.
 - During auxiliary heater operation, watch battery indicator. If necessary, start engine to charge batteries.
- a. Place master battery switch to ON.
 - b. Turn all electrical equipment in cab OFF (i.e., heated mirrors, defroster blower, personnel heater blower, etc.).
 - c. Push auxiliary heater coolant flow control knob IN (located on the radio support bracket).
 - d. Place heater mode control lever (3) to HEAT.
 - e. Turn ignition switch to the accessory position (counterclockwise).

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

0006 00**OPERATE IN EXTREME COLD - CONTINUED**3. **Operate Arctic Heater to Heat Cab (If Equipped).****NOTE**

- Arctic heater is used to provide engine preheating for engine startup in extreme cold. It is also used to provide personnel heat. When heater is required to preheat engine coolant and engine block before startup, it should be turned on 1/2-1 hour before engine is started.
 - Auxiliary heater (AUX HTR) indicator light illuminates only when burner is lit. Indicator light turns on and off automatically.
 - During auxiliary heater operation, watch battery indicator. If necessary, start engine to charge batteries.
- a. Place master battery switch to ON.
 - b. Turn all electrical equipment in cab OFF (i.e., heated mirrors, defroster blower, personnel heater blower, etc.).
 - c. Push auxiliary heater coolant flow control knob OUT (located on the radio support bracket).
 - d. Place heater mode control lever (3) to HEAT.
 - e. Turn ignition switch to the accessory position (counterclockwise).
 - f. Place AUX HTR switch (2) in ON position. Green light in switch will illuminate. AUX HTR light (1) will light when combustion starts after approximately 50 seconds.

NOTE

If HI-LO switch is set to HI position, heater will automatically switch to low heat when temperature of coolant at heater inlet reaches 176°F (80°C). LO position is suitable when heater operates over an extended period.

- g. Place HI-LO switch (4) to desired setting.
- h. To turn auxiliary heater off, place AUX HTR switch (2) to OFF position. Heater burner will stop and AUX HTR light will go out within a few minutes. Blower will continue to run for approximately 90 seconds.

OPERATE IN EXTREME HEAT

1. **General.** During very hot weather, driving procedures may require altering to prevent vehicle overheating. Avoid continuous high speeds, long, hard pulls, and continuous operation in soft terrain.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED**0006 00****OPERATE IN EXTREME HEAT - CONTINUED****2. Driving Vehicle.**

- a. Check water temperature gage and stop if temperature is unusually high. Allow vehicle to cool down.
- b. Check cooling system, air cleaner, air cleaner restriction indicator, engine oil level, and radiator fins frequently. Perform necessary services and notify Unit Maintenance of any unusual gage readings or problems.
- c. Notify Unit Maintenance to shorten differential oil change interval.

3. Parking Vehicle.

- a. Park vehicle under cover, if possible. If shelter is not available, cover vehicle with tarpaulins. If there aren't enough tarps to cover entire vehicle, arrange tarps around engine compartment and over radiator to keep sand and dust out. Cover window glass to protect against sand blasting.
- b. Ensure that all tires are inflated to proper pressure.
- c. Check frequently for rust and fungus growth. Clean and lubricate vehicle to help prevent deterioration.

- 4. **Battery Electrolyte Levels.** Whenever ambient temperature exceeds 90°F (32°C), check electrolyte level in each cell. If low, notify Unit Maintenance.

OPERATE IN MUD OR SOFT SURFACES

- 1. Before entering mud or other soft surfaces, check conditions, stop vehicle, and select appropriate transmission gear range. For M915A3, place inter-axle differential control valve lever in LOCK position. For M916A3, M917A2, and M917A2 w/MCS, engage transfer case. Enter soft area at a medium speed for gear range selected.
- 2. For M916A3, M917A2, and M917A2 w/MCS, select appropriate tire pressure on CTIS selector panel (WP 0005 00).
- 3. Maintain steady pressure on accelerator pedal to keep vehicle rolling until solid ground is reached. Do not accelerate to point where wheels spin. Do not stop, if possible.
- 4. If vehicle gets stuck, try to pull out slowly in a low gear. Boards, brush or similar materials may be placed under tires to provide traction.
- 5. If M916A3, M917A2 or M917A2 w/MCS gets stuck, select emergency (EMER) on CTIS selector panel to reduce tire pressures to 30 psi (207 kPa). DO NOT exceed 10 mph (16 kph). Operation in this mode is limited to 10 minutes unless reselected. Reset to higher tire pressures when vehicle is freed.
- 6. If M916A3 remains stuck and is not coupled to a trailer, winch may be used. Attach winch cable to another vehicle or heavy object that will not move under load.
- 7. When vehicle reaches hard surface, place inter-axle lockout control valve lever in UNLOCK position (M915A3) or disengage transfer case (M916A3, M917A2, or M917A2 w/MCS).
- 8. Notify Unit Maintenance to clean and inspect propeller shafts for proper lubrication.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

0006 00**FORDING**

1. **General.**
 - a. Maximum fording depth is 20 in. (50.8 cm).
 - b. Ford to maximum depth for short periods and short distances only. Vehicles can ford to maximum depth for five minutes without requiring maintenance to continue operation.
2. **Before Fording.**
 - a. Check bottom surface of water to ensure it is hard enough to be forded without exceeding maximum fording depth.
 - b. Ensure that engine is operating properly.
 - c. Lubricate unpainted surfaces to guard against rust and deterioration.
 - d. For M915A3, place inter-axle lockout control valve lever in LOCK position. For M916A3, M917A2, and M917A2 w/MCS, engage transfer case.
3. **During Fording.**
 - a. Place transmission in a low gear and enter water slowly.
 - b. Ford at speeds of 3-4 mph (5-6 kph).
4. **After Fording.**
 - a. When vehicle emerges from water, apply brakes a few times to dry brake linings. Ensure that brakes are working properly before driving at normal speeds.
 - b. For M915A3, place inter-axle lockout control valve lever in UNLOCK position. For M916A3, M917A2, and M917A2 w/MCS, disengage transfer case.
 - c. Allow engine to run for awhile to drive out any accumulated water.
 - d. Drain or dry any area where water has accumulated.
 - e. Check all fluids for signs of contamination and for proper levels (WP 0017 00).
 - f. If vehicle has been operated in salt water, rinse undercarriage immediately. Allow exterior to dry and check for evidence of salt accumulation. Use a clean, damp cloth to immediately remove all salt accumulation.
 - g. Notify Unit Maintenance that after-fording lubrication is required.

OPERATE IN SANDY OR DUSTY CONDITIONS

1. Maintain steady, even movement with transmission in lower gears with inter-axle lockout control valve lever in LOCK position (M915A3) or transfer case engaged (M916A3, M917A2, M917A2 w/MCS). Try to keep vehicle rolling without straining engine and powertrain.
2. If vehicle gets stuck, reduce tire pressure to gain additional traction. Reduce pressure in front tires to 50 psi (345 kPa) and pressure in rear tires to 45 psi (310 kPa). For M916A3, M917A2 or M917A2 w/MCS, select appropriate tire pressure on CTIS selector panel (WP 0005 00). Inflate tires to normal pressures once vehicle is freed.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED**0006 00****OPERATE IN SANDY OR DUSTY CONDITIONS - CONTINUED**

3. If vehicle bogs down, after tire pressure has been reduced, place boards, brush, canvas, or similar materials under and in front of tires after shoveling a clear path ahead of each tire. This should improve traction.
4. If these efforts fail and it becomes evident that vehicle will not free itself, have another vehicle tow stuck vehicle (WP 0006 00).
5. Whenever operating in sandy or dusty areas, you should:
 - a. Ensure each tire has a valve cap.
 - b. Check engine and transmission temperature and engine oil pressure frequently.
 - c. If vehicle overheats, stop and find out why. Service vehicle or notify Unit Maintenance, as necessary.
 - d. Ensure engine oil filler tube and transmission fluid filler tube are cleaned before dipsticks are removed to check fluid levels. Clean accumulations of sand and dirt from around any fluid filler location before checking or adding fluids.
 - e. Clean spouts of fuel containers and areas around filler caps on fuel tank before adding fuel. Under extremely sandy or dusty conditions, filter fuel when filling tanks.
 - f. Cover window glass to protect against sand blasting.
 - g. Notify Unit Maintenance to clean, inspect, and lubricate propeller shafts more frequently.

OPERATE IN WOODS OR ON ROCKY TERRAIN**CAUTION**

Original equipment tires will heat up on primary road surfaces and become more susceptible to damage when entering secondary road/gravel/rocky surfaces. If mission requires driving on both primary and secondary road surfaces, off-road tires should be installed. Ensure to maintain tire set integrity by not mixing original equipment tires with off-road tires. Failure to follow this caution could cause equipment damage.

1. Ensure vehicle can clear any obstructions and try to avoid low hanging tree limbs which might cause damage.
2. Ensure spare wheel and tire assembly is available.

OPERATE ON SNOW AND ICE

1. **General.**
 - a. When driving:
 - (1) Accelerate slowly to avoid spinning tires. For M916A3, M917A2 or M917A2 w/MCS, select appropriate tire pressure on CTIS selector panel (WP 0005 00).

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

0006 00**OPERATE ON SNOW AND ICE - CONTINUED**

- (2) Drive at slower speeds.
- (3) Give signals sooner.
- (4) Apply brakes sooner to give early warning of intention to stop. This also helps to avoid skidding.
- (5) Maintain double the normal distance from the vehicle ahead.
- (6) Keep windshields, windows, mirrors, headlights, stoplights, body lights, and collision warning system (CWS) (M915A3 and M916A3) antenna and side sensor clean and free of snow and ice. Use defroster to help keep windshield and window glass free of snow and ice.
- (7) Descend moderate grades in gear normally used for ascending same grade. On steep or very slippery grades, place inter-axle lockout control valve lever in LOCK position (M915A3) or engage transfer case (M916A3, M917A2, and M917A2 w/MCS) and use at least one gear lower.
- (8) After driving through slush or water, drive slowly and test brakes. Keep driving slowly, maintaining moderate pressure on service brake pedal to create a slight drag. When brakes are dry and operating properly, resume normal speed.
- (9) If a difficult stretch of road approaches, stop and inspect it carefully before driving on it. Select transmission gear range that best suits road condition and place inter-axle lockout control valve lever in LOCK position (M915A3) or engage transfer case (M916A3, M917A2, and M917A2 w/MCS).

NOTE

Shifts from N (Neutral) to D (Drive) or to R (Reverse) cannot occur if engine speed is above idle. Reduce engine speed to idle and shift again.

- (10) If vehicle becomes stuck or tires start spinning, it may be possible to rock vehicle out. Place inter-axle lockout control valve lever in LOCK position (M915A3) or engage transfer case (M916A3, M917A2, and M917A2 w/MCS) and shift transmission to D (Drive). Apply light, steady throttle (never full throttle). When vehicle has moved as far as it will go, apply service brakes and allow engine to return to idle speed. Shift transmission to R (Reverse). Again, apply light, steady throttle and allow vehicle to move rearward as far as it will go. Apply service brakes and allow engine to return to idle speed. This procedure can be continued as long as each directional shift moves vehicle a greater distance. If not, vehicle should be towed from its position.
- b. When stopping:
- (1) Ease up on accelerator, leaving vehicle in gear.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

0006 00**OPERATE ON SNOW AND ICE - CONTINUED**

- (2) Apply service brakes lightly and evenly. DO NOT pump service brake pedal.

WARNING

DO NOT use engine brake if road surfaces are slippery. Using engine brake on wet, icy, or snow-covered roads could result in loss of vehicle control. Failure to follow this warning could result in death or injury to personnel or damage to equipment.

- (3) Always avoid sudden braking and use of engine brake on slick roads.

CAUTION

Care must be exercised if tractor or trailer ABS light comes on while driving, possibly indicating an ABS malfunction. Although the regular/normal vehicle system is still fully operational, continue in a safe manner and reduce speed to 40 mph (64 kph) until mission is complete. When mission is complete, notify Unit Maintenance to troubleshoot ABS fault and restore full ABS capabilities.

- (4) During emergency or reduced traction stops, press brake pedal fully until vehicle comes to a safe stop. DO NOT PUMP brake pedal. With brake pedal fully depressed, ABS controls all wheels to provide steering control and a reduced braking distance.
- c. If parking on icy, slushy, wet, or muddy surfaces, place boards, brush, or other materials that would provide traction underneath tires. This guards against tires freezing to the ground or becoming pocketed in ice, and provides some traction when vehicle is started and moving again.

2. **Install Tire Chains.**

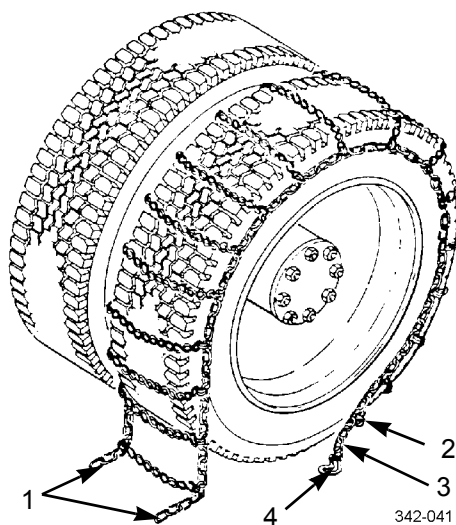
CAUTION

For M916A3 and M917A2, ensure HWY (Highway) mode is selected on CTIS when operating with tire chains. Deflating tires will cause loss of chains and possible equipment damage.

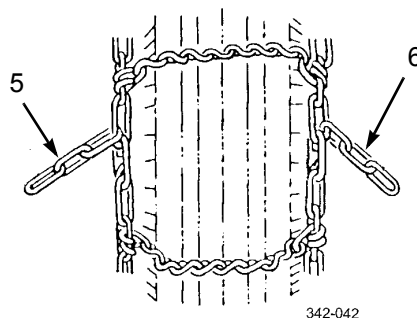
- a. Lay chains flat on ground alongside tire to be mounted. Untangle any cross chains.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED**0006 00****OPERATE ON SNOW AND ICE - CONTINUED**

- b. Open all cams (4) to longest spacing.
- c. Pick up rear side chains (1) (no cams) and place over top of tire.
- d. Tuck last crossmember (2) against bottom of tire with loose side chain (3) sticking out away from tire.
- e. Roll vehicle in direction of last crossmember (2) (approximately 1/4 tire revolution).



- f. Pull inside side chain (5) snug and hook into appropriate link to hold snug.
- g. Pull outside side chain (6) snug and hook.

**NOTE**

Hooks must be even. Same number of loose links must appear on each side of chain. If uneven, loosen outside hook and rehook both inside and outside hooks until they are even.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

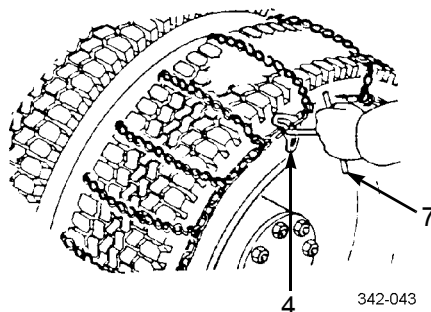
0006 00**OPERATE ON SNOW AND ICE - CONTINUED**

- h. Close cams (4) by inserting key (7) in slot and rotating 180 degrees clockwise. Start with cam closest to side chain hook.

NOTE

All four cams should not have to be locked for chain to be tight.

- i. If additional tightening is required, tighten cam on opposite side of tire. Continue tightening cams as required.
- j. If all four cams are tight and chain is not tight, loosen all four cams and reslug side chain at fastener hook until no more than three cams require adjustment.
- k. Drive approximately 1/2 mile and readjust chains as required.

**DISCONNECT/CONNECT DAYTIME RUNNING LIGHTS (DRL)**

- 1. **Disconnect Daytime Running Lights (DRL).**
 - a. Open hood (WP 0005 00).

NOTE

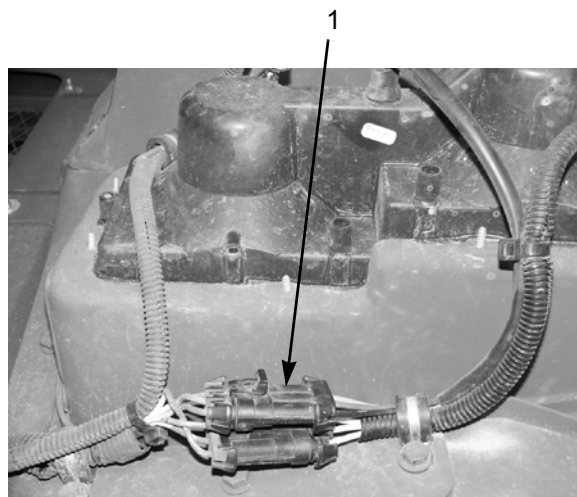
Perform steps b and c at each headlight. Right side is illustrated.

- b. Remove tiedown strap.

OPERATION UNDER UNUSUAL CONDITIONS - CONTINUED

0006 00***DISCONNECT/CONNECT DAYTIME RUNNING LIGHTS (DRL) - CONTINUED***

- c. Disconnect connector (1) with black (22D), red (21D), and green (GND) leads.
- d. Close hood (WP 0005 00).



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2. Connect Daytime Running Lights (DRL).

- a. Open hood (WP 0005 00).

NOTE

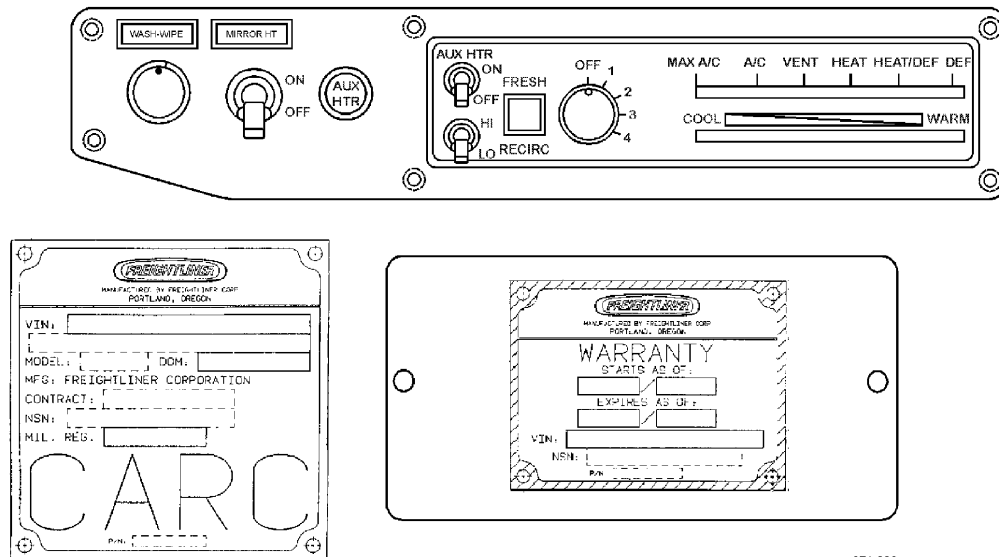
Perform steps b and c at each headlight. Right side is illustrated.

- b. Connect connector (1) with black (22D), red (21D), and green (GND) leads.
- c. Install tiedown strap.
- d. Close hood (WP 0005 00).

END OF WORK PACKAGE

STOWAGE AND DECAL/DATA PLATE GUIDE**0007 00****SCOPE**

1. This work package shows the location for stowage of equipment and material required to be carried on the M915 Family of Vehicles.
2. This work package also includes illustrations showing the location of all decals, data plates, and stencils.

DECALS AND PLATES

371-006

STOWAGE AND DECAL/DATA PLATE GUIDE - CONTINUED

0007 00

DECALS AND PLATES - CONTINUED

COMPONENT DATA - M915A3

MANUFACTURED BY: FREIGHTLINER CORP.
PORTLAND, OREGON

MANUFACTURED BY: FREIGHTLINER CORP.
CONTRACT: DAAE07-96-C-X076
VEHICLE MODEL NUMBER: M915A3

NOTE: USE VEHICLE IDENTIFICATION NUMBER WHEN ORDERING PARTS.
WHEELBASE: 162.00 INCHES

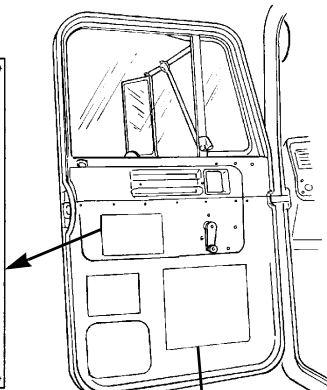
ENGINE MODEL: DETROIT DIESEL SERIES 60
TRANS MODEL MAIN: ALLISON AUTOMATIC HD4560P
FRONT AXLE MODEL: ROCKWELL FF-961
REAR AXLE MODEL: ROCKWELL RT-40-145P
GVWR: 52,000 LBS.

ENGINE NO.: S01-26473-000
TRANS NO.: S07-16495-022
FRONT AXLE NO.: S10-12024-000
REAR AXLE NO.: S11-23277-529
RATIO: 5.9 TO 1

VEHICLE NOISE EMISSION CONTROL INFORMATION

THIS VEHICLE IS EXEMPT FROM THE PROHIBITIONS OF SECTION 10(A)(1), (2), (3), AND (D) OF THE NOISE CONTROL ACT OF 1972.

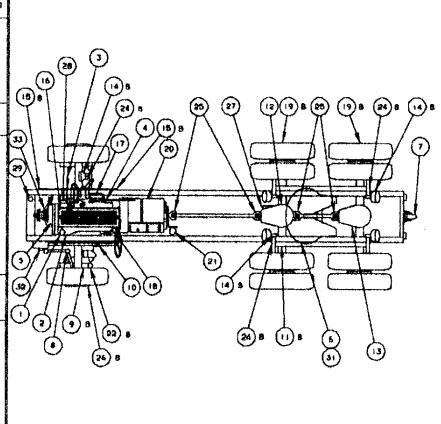
FIG. 24-10047-1000



LUBRICATION DATA - M915A3

MANUFACTURED BY: FREIGHTLINER CORP.
PORTLAND, OREGON

INTERVAL (MILES)	ITEM	IDENTIFICATION	SERVICE	LUBE POINTS	LUBRICANT
DAILY	1	-PARK/STRO REAR DIPSTICK	C/F		DE/HOO
DAILY	2	-FUEL FILTER PRIMARY	CH		DE/HOO
DAILY	3	-OIL LEVEL DIPSTICK	C/F		DE/HOO
DAILY	4	-TRANSMISSION DIPSTICK	C/F		DE/HOO
DAILY	26	-FRONT WHEEL BEARING	C/F		SO
DAILY	29	-RADIATOR COOLANT	C/F		
OC	16	-CRANKCASE	D/F		DE/HOO
8	32	-STRO GEAR SHAFT BUSHING	L	1	DAA
5,000/A	6	-FIFTH WHEEL	L	2	DAA
5,000/A	31	-FIFTH WHEEL SLIDE & PLUNGER	L	4	DAA
5,000/S	7	-PONTILE HOOK	L	4	DAA
5,000/S	9	-DRAW LINK	L	2	DAA
5,000/S	10	-STRO SHAFT U JOINT & SPLINE	L	3	DAA
5,000/S	11	-REAR AXLE SPRING	L	2	DAA
5,000/S	12	-FORWARD REAR AXLE DIFF.	C/F		SO
5,000/S	13	-REAR REAR AXLE DIFF.	C/F		SO
5,000/S	14	-CAMSHAFT SLACK ADJUSTERS	L	5	DAA
5,000/S	15	-FRONT AXLE SPRING	L	5	DAA
10,000	2	-FUEL FILTER PRIMARY	CH		DE/HOO
10,000	18	-FUEL FILTER SECONDARY	CH		DE/HOO
10,000/S	9	-FRONT WHEEL KNUCKLE	L	4	DAA
20,000/A	17	-OIL FILTER FULL FLOW	CH		DE/HOO
20,000/A	20	-OIL FILTER BYPASS	CH		DE/HOO
20,000/OC	20	-TRANSMISSION	D/F		DE/HOO
20,000/A	21	-TRANSMISSION FILTER	CH		DE/HOO
20,000/A	1	-PARK/STRO RESERVOIR	D/F		DE/HOO
20,000/A	1	-PARK/STRO FILTER	CH		DE/HOO
20,000/S	22	-TIE ROD	L	2	DAA
20,000/S	24	-CAMSHAFT ROLLER JOURNALS AND BUSHINGS	L	5	DAA
20,000/S	25	-DRIVELINE UNIVERSAL JOINT, SLIP YOKES AND UPLINE	L	10	DAA
75,000/A	26	-FRONT WHEEL BEARINGS	L/A/L		SO
75,000/A	27	-FORWARD REAR AXLE OIL FILTER	CH		DE/HOO
75,000/A	12	-FORWARD REAR AXLE DIFF.	C/F		DE/HOO
75,000/A	13	-REAR REAR AXLE DIFF.	C/F		DE/HOO
75,000/A	33	-PULLEY FAN DRIVE	L	1	DAA
75,000/A	5	-TACH DRIVE	L/A/L	1	DAA
75,000/A	19	-REAR WHEEL BEARINGS	L/A/L		DAA



LUBRICATION KEY

C = CHECK
F = FILL
O = OIL
L = LUBRICATE
CH = CHANGE
I = INSPECT
A = ADJUST

DE/HOO = LUBRICATING OIL, INTERNAL COMBUSTION TACTICAL SERVICE, (MIL-L-2104).
DAA = GREASE, AUTOMOTIVE AND ARTILLERY, (MIL-B-10924).
SO = LUBRICATING OIL, GEAR, MULTIPURPOSE, (MIL-L-2105).
B = ITEM APPEARS ON BOTH SIDES OF TRUCK
OC = OIL CONDITION
* SEE OPERATORS MANUAL FOR DETAILS

TIRE AND RIM DATA

	DAW	UOM	TIRES	RIMS	PRI COLD
FRONT AXLE STEEL TIRES	12,000	LB	MCH 14P11220	22.5 X 8.25	100
REAR AXLE JUAL TIRES	20,000	LB	MCH 14P11220	22.5 X 8.25	100

NOTE: TO VALIDATE WARRANTY, INITIAL SERVICE MUST BE PERFORMED AT 5,000 MILES. SERVICE INTERVALS SHOWN ABOVE BEGIN THEREAFTER. REFER TO INSTRUCTIONAL MANUAL FOR COMPLETE INFORMATION REGARDING LUBRICATION OF VEHICLE.

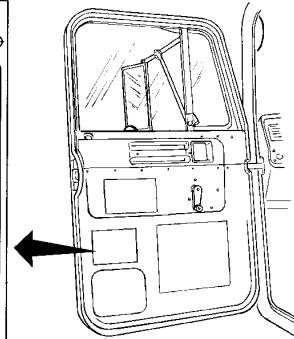
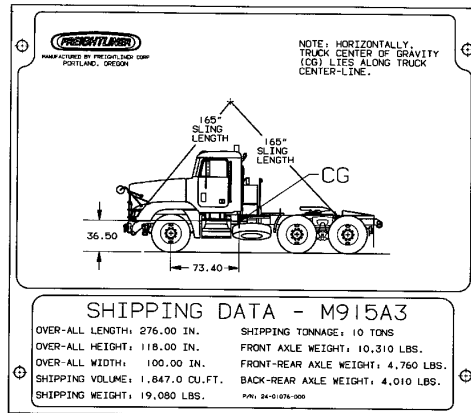
FIG. 24-10048-0001

371-534

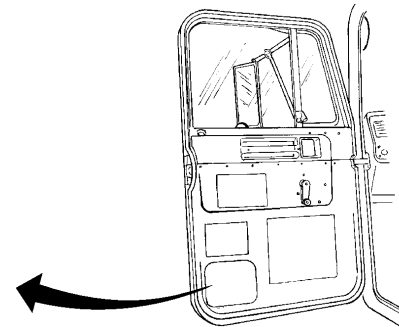
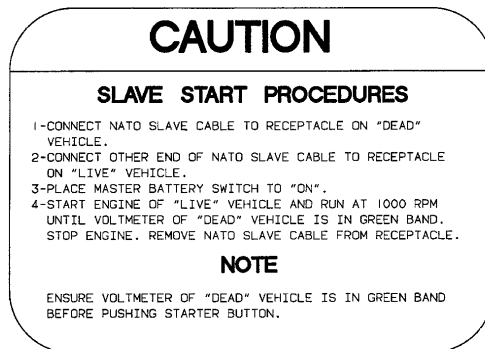
STOWAGE AND DECAL/DATA PLATE GUIDE - CONTINUED

0007 00

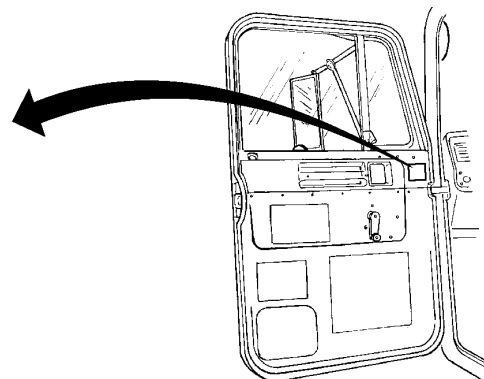
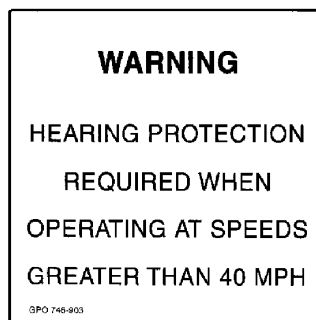
DECALS AND PLATES - CONTINUED



371-535



371-538

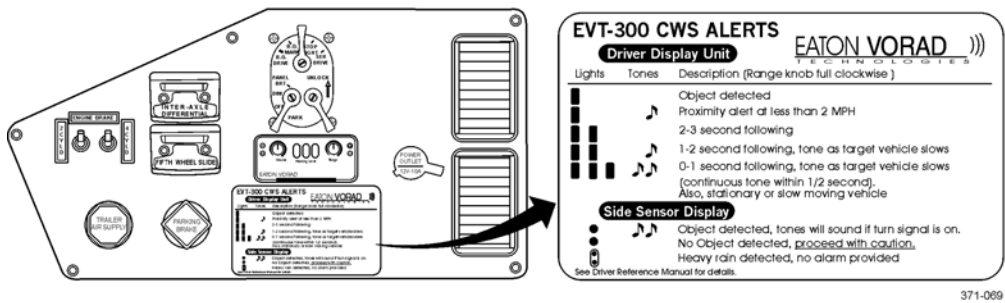


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DECALS AND PLATES - CONTINUED



371-019



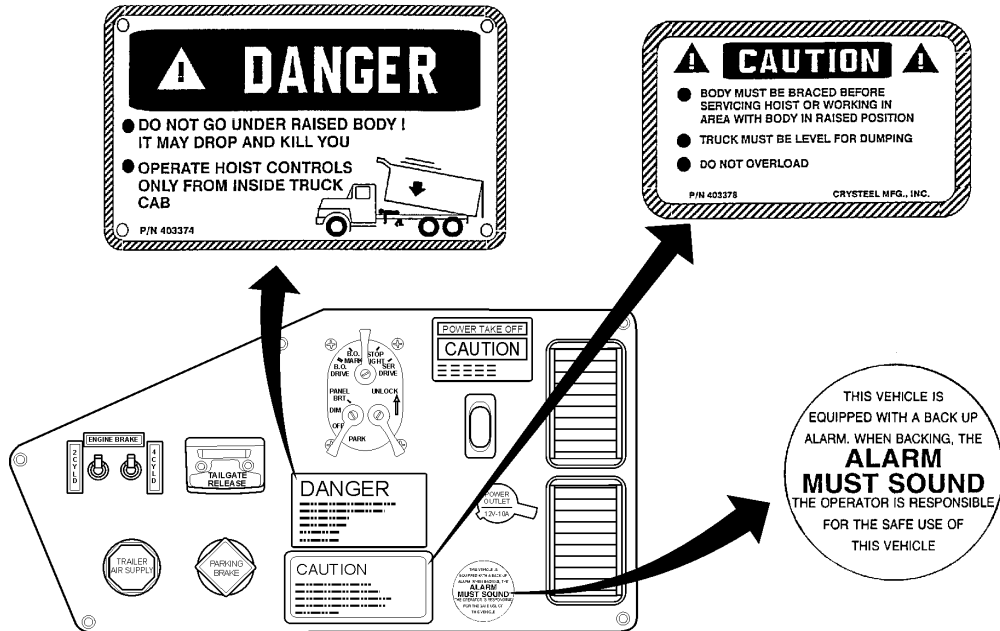
371-009

M915A3 AND M916A3

STOWAGE AND DECAL/DATA PLATE GUIDE - CONTINUED

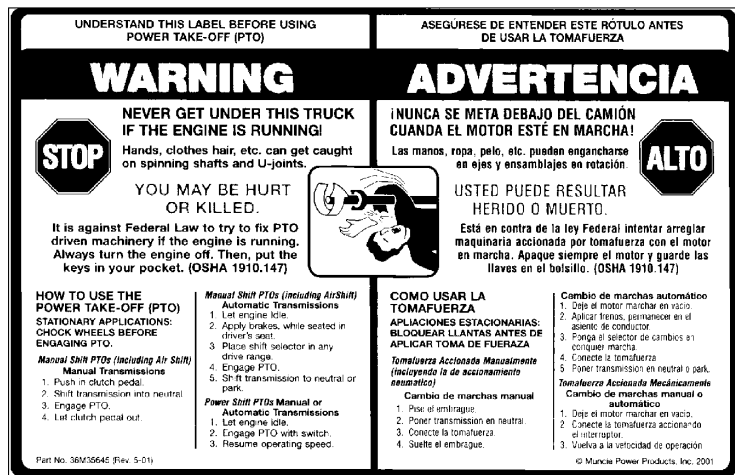
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DECALS AND PLATES - CONTINUED



M917A2

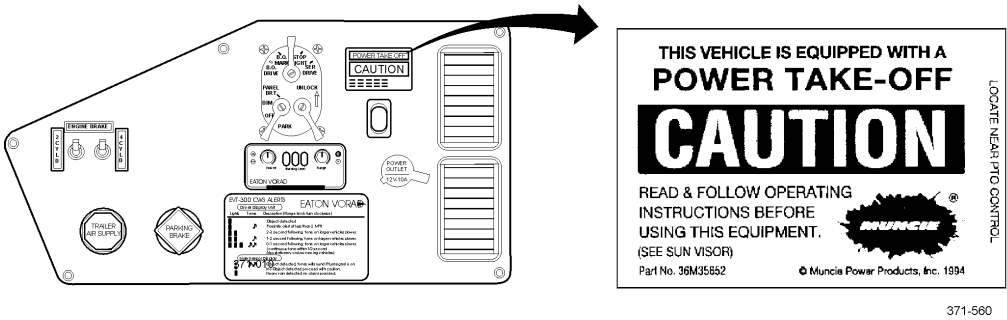
371-072



LOCATED ON DRIVER'S SUN VISOR

M916A3 AND M917A2

DECALS AND PLATES - CONTINUED



371-560

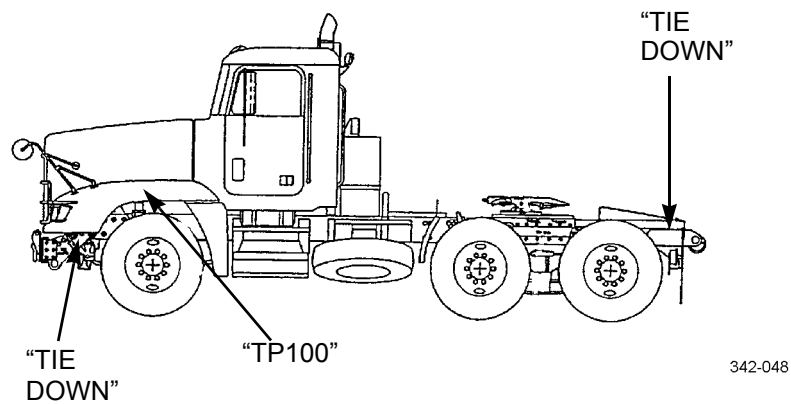
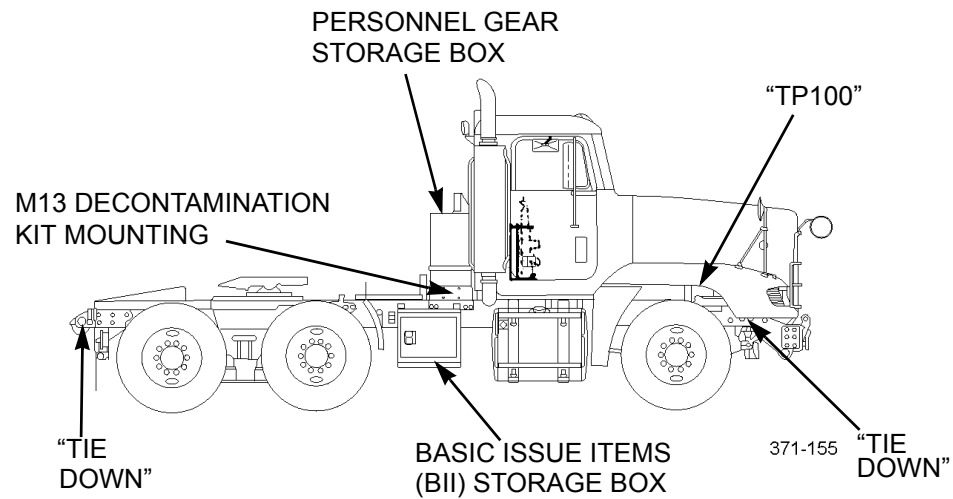
M916A3 AND M917A2



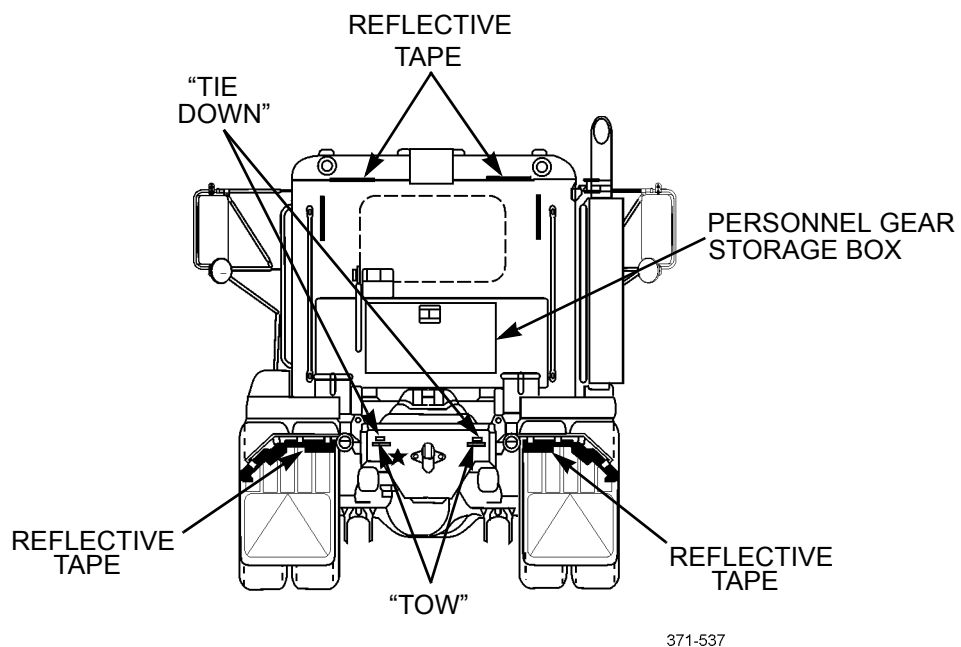
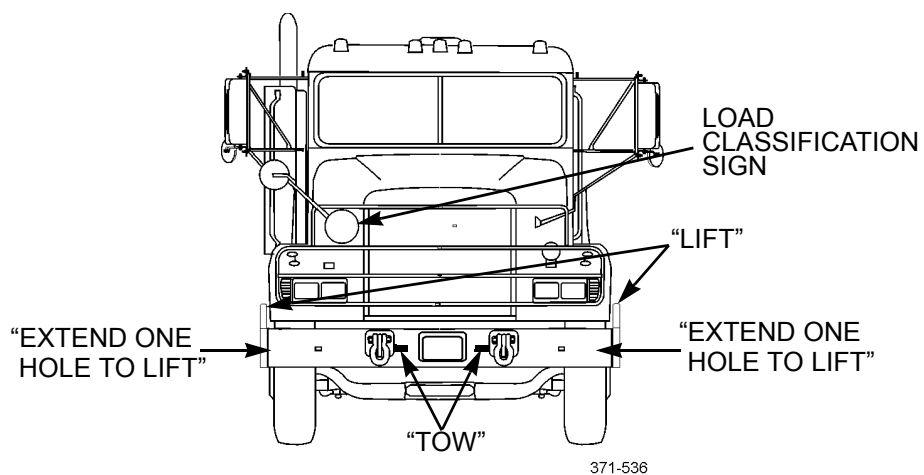
LEFT SIDE OF FIFTH WHEEL

426-172

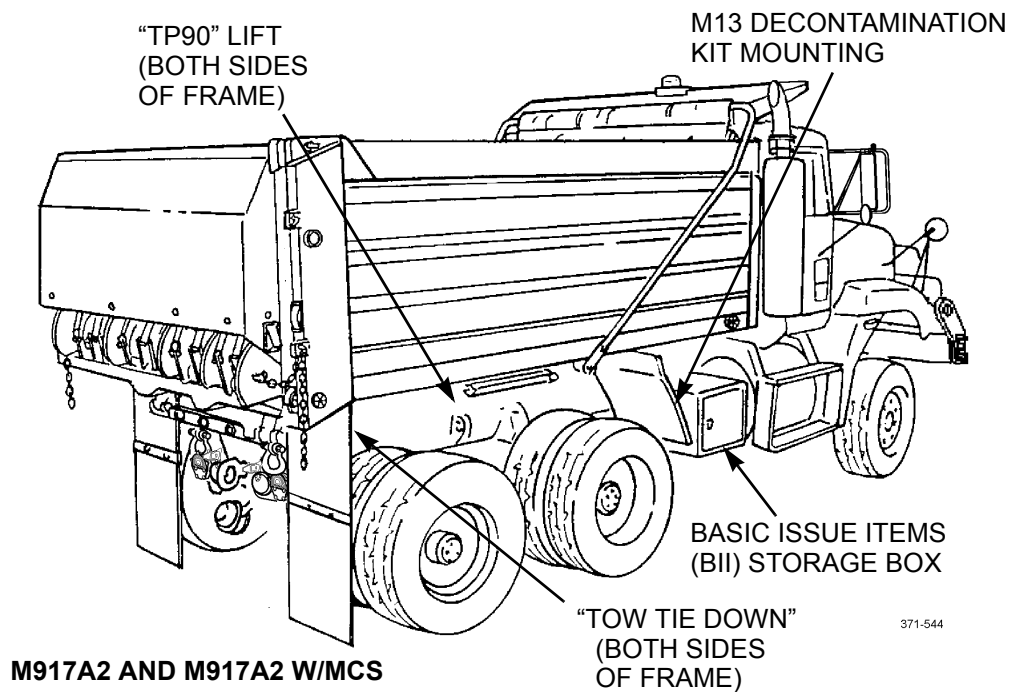
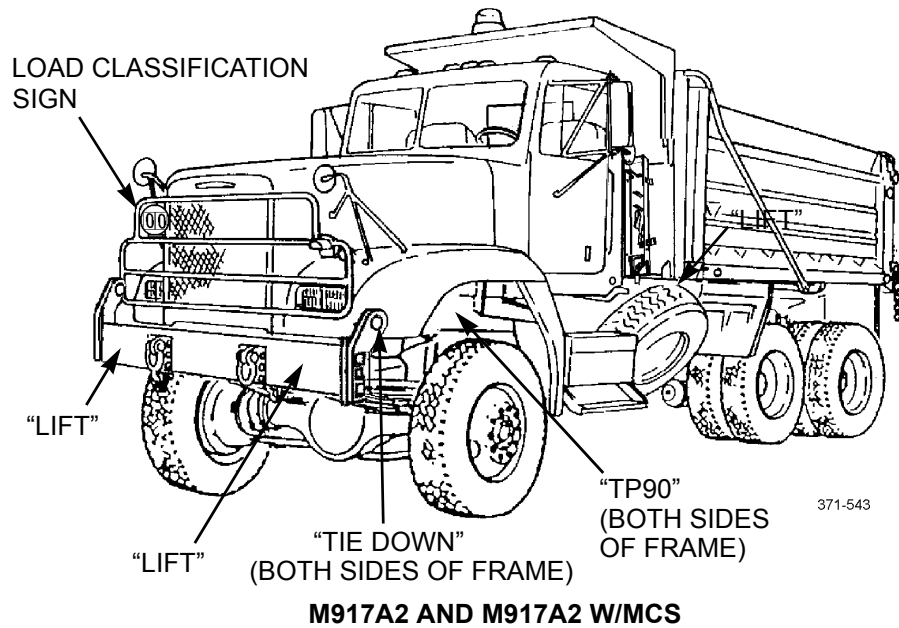
STOWAGE AND STENCILS



STOWAGE AND STENCILS - CONTINUED



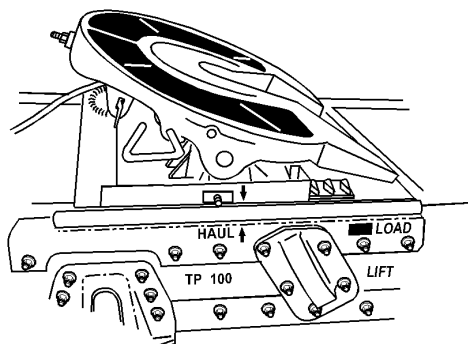
STOWAGE AND STENCILS - CONTINUED



STOWAGE AND DECAL/DATA PLATE GUIDE - CONTINUED

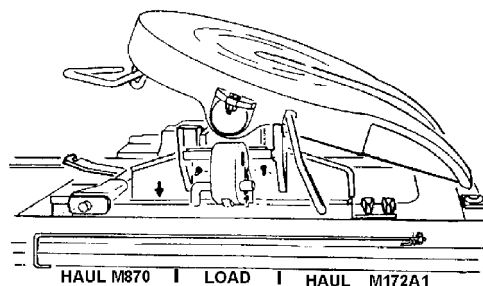
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STOWAGE AND STENCILS - CONTINUED



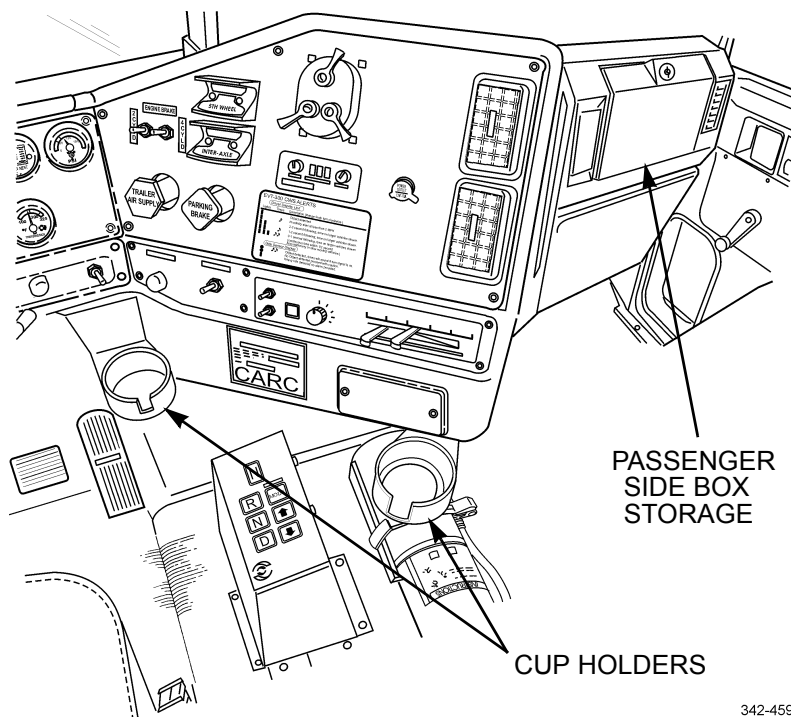
M915A3

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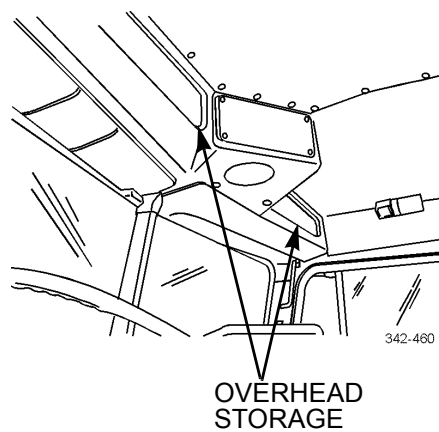
M916A3

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STOWAGE AND STENCILS - CONTINUED



END OF WORK PACKAGE

TM 9-2320-302-10

CHAPTER 3
OPERATOR TROUBLESHOOTING

TROUBLESHOOTING INSTRUCTIONS

0008 00**GENERAL**

1. This chapter provides information for identifying and correcting malfunctions which may develop while operating the M915 Family of Vehicles.
2. The Troubleshooting Symptom Index in WP 0009 00 lists common malfunctions which may occur and refers you to the proper page in WP 0010 00, Table 1 for a troubleshooting procedure.
3. If you are unsure of the location of an item mentioned in troubleshooting, refer to WP 0002 00 or WP 0004 00.
4. Before performing troubleshooting, read and follow all safety instructions found in the Warning Summary at the front of this manual.
5. The Troubleshooting Symptom Index 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 the listed corrective actions, notify your supervisor.
6. When troubleshooting a malfunction:
 - a. Locate the symptom or symptoms in WP 0009 00 that best describe the malfunction.
 - b. Turn to the page in WP 0010 00, Table 1 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: MALFUNCTION, TEST OR INSPECTION (in step number order), and CORRECTIVE ACTION.
 - c. Perform each step in the order listed until the malfunction is corrected. DO NOT perform any maintenance task unless the troubleshooting procedure tells you to do so.

EXPLANATION OF COLUMNS

The columns in WP 0010 00, Table 1 are defined as follows:

1. **MALFUNCTION.** A visual or operational indication that something is wrong with the equipment.
2. **TEST OR INSPECTION.** A procedure to isolate the problem in a system or component.
3. **CORRECTIVE ACTION.** A procedure to correct the problem.

END OF WORK PACKAGE

TROUBLESHOOTING SYMPTOM INDEX **0009 00**

Malfunction/Symptom **Troubleshooting Procedure**

AIR SYSTEM AND BRAKES

1. Air Reservoir Pressure Low (Warning Light and Buzzer are ON).....0010 00-1
2. Air System Loses Pressure During Vehicle Operation or Low
Air Pressure Warning Light and Buzzer Come On During
Vehicle Operation0010 00-1
3. Trailer Brakes Will Not Apply When Pedal or Hand Control on
Steering Column is Used0010 00-2
4. Trailer Brakes Will Not Release0010 00-2

CTIS (M916A3, M917A2, AND M917A2 W/MCS)

1. CTIS Selector Panel Indicates Five Lights Flashing0010 00-3
2. CTIS Selector Panel Indicates Four Mode Lights Flashing0010 00-4
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Malfunction/Symptom **Troubleshooting Procedure**

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END OF WORK PACKAGE

TROUBLESHOOTING PROCEDURES

0010 00

Table 1. Troubleshooting Procedures.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
AIR SYSTEM AND BRAKES		
1. Air Reservoir Pressure Low (Warning Light and Buzzer are ON).	1. Ensure air tank drain valve(s) are closed.	Close drain valve(s).
	2. If vehicle is not coupled to a semitrailer, check position of trailer air supply control knob.	Pull knob out (OFF).
2. Air System Loses Pressure During Vehicle Operation or Low Air Pressure Warning Light and Buzzer Come On During Vehicle Operation.	3. Start engine and check for air leaks at air reservoirs, hoses, fittings, and intervehicular air hose connections.	If air leaks are present, notify Unit Maintenance.
	4. Perform semitrailer troubleshooting.	
NOTE		
Any change in pressure on brake pedal will cause a change in air pressure reading.		

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. Air System Loses Pressure During Vehicle Operation or Low Air Pressure Warning Light and Buzzer Come On During Vehicle Operation - Continued.	1. Safely stop vehicle.	Ensure primary air reservoir drain is closed. If leaks are present, notify Unit Maintenance.
	2. Ensure trailer air supply control knob is pulled out (OFF). Operate engine until warning light and buzzer go off and release parking brake. Stop engine and note reservoir pressure. Fully press and hold service brake pedal for two minutes. Have crewmember check for leaks. Reservoir pressure loss during two minute period should not exceed 5 psi (34 kPa).	
NOTE		
Any change in pressure on brake pedal will cause a change in air pressure reading.		
3. Trailer Brakes Will Not Apply When Pedal or Hand Control on Steering Column is Used.	3. Push trailer air supply control knob in (ON) to charge semitrailer air reservoirs and repeat step 2.	If air leaks are present or reservoir pressure loss exceeds 5 psi (34 kPa) in two minutes, refer to trailer TM.
	4. Check semitrailer for leaks. Pressure loss should not exceed 5 psi (34 kPa) in two minutes.	
	1. Check for system air pressure.	Connect air hoses.
	2. Check intervehicular air hoses for proper connections to semitrailer.	

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
4. Trailer Brakes Will Not Release.	1. Check position of trailer brake hand control.	Move control to forward (OFF) position.
	2. Check position of trailer air supply control knob.	Push knob in (ON).
	3. Check intervehicular air hoses for proper connections.	Connect air hoses.
	4. Check for leaks or damage to vehicle components.	If leaks are not found and vehicle components are not damaged, refer to trailer TM.
CTIS (M916A3, M917A2, AND M917A2 W/MCS)		
1. CTIS Selector Panel Indicates Five Lights Flashing.	1. Check that trailer air supply control valve is OFF (valve out).	Pull valve out (OFF).
	2. Check condition of tires.	If tire has a slow leak or minor puncture, select RUN FLAT on CTIS selector panel and continue operation. Change tire as soon as tactical situation permits.
	3. Check for broken or kinked air lines.	If air lines are broken or kinked, notify Unit Maintenance.
	4. Excessive air seal leakage during cold weather startup can occur. If tires are not damaged, continue operation.	Continue to operate vehicle. Condition should correct itself as seals warm-up. If condition does not correct itself, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. CTIS Selector Panel Indicates Four Mode Lights Flashing.	1. Check condition of tires.	If tire has a slow leak or minor puncture, select RUN FLAT on CTIS selector panel and continue operation. Change tire as soon as tactical situation permits.
	2. Check that trailer air supply control valve is OFF (valve out).	Pull valve out (OFF).
	3. Check for broken or kinked air lines.	If air lines are broken or kinked, notify Unit Maintenance.
	4. Excessive air seal leakage during cold weather startup can occur. If tires are not damaged, continue operation.	Continue to operate vehicle. Condition should correct itself as seals warm-up. If condition does not correct itself, notify Unit Maintenance.
3. CTIS Selector Panel Indicates Two Mode Lights on Solid.	1. Press any mode key and attempt a pressure change.	If pressure change is successful, continue mission.
	2. Check trailer air supply control valve is OFF (valve out).	Pull valve out (OFF).
	3. Check for broken or kinked air lines.	If air lines are broken or kinked, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<i>COLLISION WARNING SYSTEM (CWS) (M915A3 AND M916A3)</i>		
1. System Failure Light is On.	Check antenna for cleanliness and damage.	Clean antenna. If antenna is damaged, notify Unit Maintenance.
2. Side Sensor Failure Light is On.	Check side sensor for cleanliness and damage.	1. Clean side sensor. 2. Check for signal by waving hand in front of side sensor. 3. If side sensor is damaged or signal is not received, notify Unit Maintenance.
<i>DRIVELINE SYSTEM</i>		
Driveline Will Not Disengage When Inter-axle Differential Control Valve Lever is Moved to UNLOCK Position.	Excessive driveline windup may have occurred. Back truck up slowly.	If driveline does not disengage, notify Unit Maintenance.
<i>ELECTRICAL SYSTEM</i>		
One or More Lighting Systems Not Working.	1. Check position of main light switch. If vehicle is coupled to semitrailer and problem is with semitrailer lighting system, check intervehicular cable connection. 2. Refer to trailer TM.	Place main light switch to BO Drive, STOP LIGHT, or SER DRIVE position. Connect inter-vehicular cables if coupled to trailer.
<i>ENGINE</i>		
1. Engine Coolant Temperature Gage Indicates Engine is Overheating.	1. Check coolant level in expansion tank.	If low, add coolant.

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. Engine Coolant Temperature Gage Indicates Engine is Overheating - Continued.	2. Check system for leaks.	If leaks are found, notify Unit Maintenance.
	3. Check if A/C condenser is free of mud, snow, ice, or debris.	Remove anything that blocks or impedes cooling.
	4. Check cooling fan drive belt for looseness.	If belt is loose, notify Unit Maintenance.
	5. Check engine oil level.	If engine oil is low, fill to correct level (WP 0017 00).
	6. Check transmission fluid level.	If transmission fluid level is low, fill to correct level (WP 0017 00).
2. Engine Cranks but Fails to Start.	1. Check fuel gage with ignition switch in ON position.	If empty, add fuel. If fuel is available, prime fuel system (WP 0004 00).
	2. Check air cleaner restriction indicator.	If indicator is not clear, notify Unit Maintenance.
	3. If operating in temperature below 32°F (0°C), check indicator light on ether control relay.	If red indicator light is on, notify Unit Maintenance.
3. Engine Does Not Develop Full Power.	Check air cleaner restriction indicator.	If indicator is not clear, notify Unit Maintenance.
4. Engine Does Not Idle Properly.	1. Check air cleaner restriction indicator.	If indicator is not clear, notify Unit Maintenance.
	2. If operating in temperature below 32°F (0°C), check indicator light on ether control relay.	If red indicator light is on, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00


Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
5. Engine Fails to Crank When Starter Button is Pressed.	<ol style="list-style-type: none"> 1. Check position of master battery switch. 2. Check position of ignition switch. 3. Check selection of transmission shift selector pushbuttons. 4. Check for dirty, loose, or damaged battery cables. 	<p>Place master battery switch in ON position.</p> <p>Place ignition switch in ON position.</p> <p>Select transmission shift selector N (Neutral) pushbutton.</p> <p>Clean dirty cables. Tighten loose connections at batteries, ground, and starter. If cable is damaged notify Unit Maintenance.</p>
6. Engine Starts but Misfires or Runs Rough After Proper Warmup Period.	<ol style="list-style-type: none"> 1. Check air cleaner restriction indicator. 2. Check fuel/water separator for moisture. 	<p>If indicator is not clear, notify Unit Maintenance.</p> <p>If moisture is present, open fuel/water separator drain valve.</p>
7. Excessive Engine Oil Consumption.	Check for loose oil lines and oil leaks.	If oil lines are loose or leaks are found, notify Unit Maintenance.
8. Excessive Exhaust Smoke (At Normal Engine Operating Speed).	<ol style="list-style-type: none"> 1. Check air cleaner restriction indicator. 2. Check for water in fuel. 	<p>If indicator is not clear, notify Unit Maintenance.</p> <p>Drain fuel filters (WP 0012 00).</p>
9. Low or No Engine Oil Pressure.	Check engine oil level.	If engine oil is low, fill to correct level (WP 0017 00).
FIFTH WHEEL		
1. Difficult to Uncouple from Trailer.	<ol style="list-style-type: none"> 1. Check that secondary lock is released. 2. Check that tractor is not putting pressure against locks. 	<p>Release secondary lock.</p> <p>Lock trailer brakes and back tractor against kingpin. Lock tractor brakes and pull lock release handle.</p>

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. Difficult to Couple to Trailer.	<ol style="list-style-type: none"> 1. Check that locks are not closed. 2. Check for dirt, grime, or any other debris that would interfere with lock operation. 	<p>Pull release handle and verify that locks are open.</p> <p>Lubricate fifth wheel IAW lubrication instructions (WP 0017 00).</p>
HYDRAULICS (M916A3)		
1. Winch Drum Will Not Operate.	<ol style="list-style-type: none"> 1. Check position of PTO switch and that PTO indicator light is ON. 2. Check position of engine speed switch on winch control console. 3. Check position of speed control/auxiliary circuit lever on winch control console. 4. Check if winch drum is free from any debris that would prevent it from turning. 	<p>Place PTO switch in ON position and ensure PTO indicator light is lit.</p> <p>Place engine speed switch to HIGH position.</p> <p>Ensure lever is not in auxiliary circuit position.</p> <p>Remove any debris that blocks winch drum.</p>
 WARNING DO NOT remove fill cap when hydraulic fluid is hot. Hydraulic tank is pressurized to 5 psi (34 kPa). Remove cap slowly to prevent burns.		
2. Winch Unusually Noisy When Operating.	<ol style="list-style-type: none"> 5. Check hydraulic fluid level. <p>Check that cable is not twisted, tangled or causing drum to bind.</p>	<p>If hydraulic fluid is low, fill to correct level.</p> <p>Pay out or take up cable and straighten.</p>
3. Trailer Hydraulics Will Not Operate.	<ol style="list-style-type: none"> 1. Check hydraulic connection between tractor/trailer for leaks or damage. 2. Ensure speed control/auxiliary circuit lever is in proper position. 	<p>Replace leaking or damaged hose (Notify Unit Maintenance).</p> <p>Place lever in auxiliary circuit position (WP 0005 00).</p>

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. Trailer Hydraulics Will Not Operate - Continued.	3. Ensure PTO switch is in ON position.	Place PTO switch in ON position (WP 0005 00). If trailer hydraulics still do not operate, troubleshoot trailer (see applicable trailer TM).
POWER TAKE-OFF (PTO) (M916A3, M917A2, AND M917A2 W/MCS)		
PTO Does Not Engage.	1. Check position of PTO switch and that indicator light is ON. 2. Check position of main light switch (M917A2/M917A2 w/MCS). 2.1 Check position of dump body transport lock (M917A2 and M917A2 w/MCS).	Place PTO switch in ON position and ensure indicator light comes ON. Place switch in STOP LIGHT or SER DRIVE position. Unlock dump body transport lock.
STEERING		
1. Hard Steering, Shimmy or Wandering.		
NOTE		
Check tire pressure when tires are cold.		
	1. Check that tires are properly inflated. 2. Check for loose lug nuts. 3. Check for worn, loose, or damaged parts on front axle or suspension. Check steering linkage, wheels, and vehicle frame for worn, loose, or damaged parts.	Inflate tires to proper pressure (WP 0012 00). Tighten loose lug nuts and notify Unit Maintenance to apply proper torque. If worn, loose, or damaged parts are found, notify Unit Maintenance.
2. Vehicle Steering Slow or Intermittent to Respond.	Check power steering fluid level.	If power steering fluid is low, fill to correct level (WP 0017 00).

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
TRANSMISSION		
1. Slow or Erratic Transmission Engagement.	Check transmission fluid level.	If transmission fluid is low, fill to correct level (WP 0017 00).
2. Transmission Fluid Temperature Gage Indicates Fluid is Overheating During Normal Operation.	1. Ensure proper transmission range is selected for vehicle operation. 2. Check transmission fluid level. 3. Check transmission fluid dipstick for discoloration that would indicate water/coolant in fluid.	Select proper transmission range. If transmission fluid is low, fill to correct level (WP 0017 00). If dipstick is discolored, notify Unit Maintenance.
WHEELS AND TIRES		
1. Tires Worn Unevenly or Excessively.	1. Check tires for proper pressure. 2. Check for bent wheel rims. 3. Check for loose lug nuts.	Inflate tires to proper pressure (WP 0012 00). If rim is bent, replace wheel and tire assembly (WP 0014 00). Notify Unit Maintenance to apply proper torque. Tighten loose lug nuts and notify Unit Maintenance to apply proper torque.
2. Vehicle Wanders or Pulls to One Side on Level Pavement.	1. Check tires for proper pressure. 2. Check that tires are proper size and type.	Inflate tires to proper pressure (WP 0012 00). If one tire is mismatched and spare matches, replace mismatched tire with spare. If one or more tires are mismatched, notify Unit Maintenance.

TROUBLESHOOTING PROCEDURES - CONTINUED

0010 00

Table 1. Troubleshooting Procedures - Continued.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
3. Wheel Wobbles.	1. Check for loose or missing lug nuts. 2. Check for bent wheel rims.	Tighten loose lug nuts and notify Unit Maintenance to apply proper torque. If lug nuts are missing, notify Unit Maintenance. If rim is bent, replace wheel and tire assembly (WP 0014 00). Notify Unit Maintenance to apply proper torque.

END OF WORK PACKAGE

TM 9-2320-302-10

CHAPTER 4
OPERATOR MAINTENANCE INSTRUCTIONS

**PREVENTIVE MAINTENANCE CHECKS
AND SERVICES (PMCS) INTRODUCTION**

0011 00

GENERAL

To ensure that the M915 Family of Vehicles are ready for operation at all times, they must be inspected on a regular basis so that defects may be found and corrected before they result in serious damage, equipment failure, or injury to personnel. Table 1 in WP 0012 00 contains systematic instructions on inspections, adjustments, and corrections to be performed by the operator/crew to keep the equipment in good operating condition and ready for its primary mission.

EXPLANATION OF TABLE ENTRIES

1. **Item Number (Item No.) Column.** Numbers in this column are for reference. When completing DA Form 2404 or DA Form 5988-E (*Equipment Inspection and Maintenance Worksheet*), include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must perform checks and services for the interval listed.
2. **Interval Column.** This column tells you when you must perform the procedure in the procedure column.
 - a. *Before* procedures must be done immediately before you operate the truck.
 - b. *During* procedures must be done while you are operating the truck.
 - c. *After* procedures must be done immediately after you have operated the truck.
 - d. *Weekly* procedures must be done once each week.
 - e. *Monthly* procedures must be done once each month.
3. **Location, Item To Check/Service Column.** This column provides the location and item to be checked or serviced. The item location is underlined.

NOTE

The WARNINGS and CAUTIONS appearing in your PMCS table should always be observed. WARNINGS and CAUTIONS appear before applicable procedures. You must observe these WARNINGS to prevent serious injury to yourself and others, and CAUTIONS to prevent your equipment from being damaged.

4. **Procedure Column.** This column gives the procedure you must perform to check or service the item listed in the Item To Check/Service column to know if the equipment is ready or available for its intended mission or for operation. You must perform the procedure at the time stated in the interval column.
5. **Not Fully Mission Capable If: Column.** Information in this column tells you what faults keep your equipment from being capable of performing its primary mission. If you make check and service procedures that show faults listed in this column, the equipment is not mission-capable. Follow standard operating procedures for maintaining the equipment or reporting equipment failure.

**PREVENTIVE MAINTENANCE CHECKS
AND SERVICES (PMCS) INTRODUCTION - CONTINUED**

0011 00**GENERAL PMCS PROCEDURES**

1. Always perform PMCS 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. If the truck does not perform as required, refer to the appropriate troubleshooting symptom in WP 0009 00.
2. If anything looks wrong and you can't fix it, write it on your DA Form 2404 or DA Form 5988-E. If you find something seriously wrong, IMMEDIATELY report it to your supervisor.
3. Before performing preventive maintenance block wheels (Item 7, WP 0019 00). Read all the checks required for the applicable interval and prepare all the tools you need to make all the checks. You'll always need a rag (Item 16, WP 0021 00) or two.
 - a. **Keep It Clean.** Dirt, grease, oil, and debris get in the way and may cover up a serious problem. Clean as you work and as needed. Use detergent (Item 5, WP 0021 00) and water when you clean metal, rubber, plastic, and painted surfaces.
 - b. **Rust and Corrosion.** Check metal parts for rust and corrosion. If any bare metal or corrosion exists, clean and apply a light coat of lubricating oil (Item 4, WP 0021 00). Report it to your supervisor.
 - c. **Bolts, Nuts, and Screws.** Check bolts, nuts, and screws for obvious looseness, missing, bent, or broken condition. You can't try them all with a tool, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it.
 - d. **Welds.** Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to your supervisor.
 - e. **Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and ensure that the wires are in good condition.
 - f. **Hoses and Fluid Lines.** Look for wear, damage, and signs of leaks. Ensure that clamps and fittings are tight. Wet spots indicate leaks, but a stain around a fitting or connector can also 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 your supervisor.
 - g. **Fluid Leakage.** It is necessary for you to know how fluid leakage affects the status of the M915 Family of Vehicles. Following are types/classes of leakage you need to know to be able to determine the status of your truck. Learn these leakage definitions and remember - when in doubt, notify your supervisor.

**PREVENTIVE MAINTENANCE CHECKS
AND SERVICES (PMCS) INTRODUCTION - CONTINUED**

0011 00

GENERAL PMCS PROCEDURES - CONTINUED

CAUTION

- Equipment operation is allowed with minor leakages (Class I or II). Consideration must be given to 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 the PMCS.
- Class III leaks should be reported immediately to your supervisor.

Leakage Definitions for PMCS

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 item being checked/inspected.

END OF WORK PACKAGE

PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

0012 00

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/ Service		
1	Before		NOTE <ul style="list-style-type: none">Review all WARNINGS, CAUTIONs, and NOTES before performing PMCS and operating the truck.Perform all PMCS checks if:<ul style="list-style-type: none">You are the assigned operator but have not operated the truck since the last weekly inspection.You are operating the truck for the first time.This PMCS includes preventive maintenance, checks, and services for the chassis of an M917A2 and M917A2 w/MCS dump truck. Refer to TM 5-3805-264-14&P for PMCS on the dump truck body.	
		FRONT AND LEFT SIDE		
		Overall View	NOTE <p>If leakage is detected, further investigation is required to determine location and cause of leak.</p> <ul style="list-style-type: none">a. Check under truck for evidence of fluid leakage such as oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2).b. Check truck for obvious damage that would impair operation.c. Check tires for defects, underinflation or loose or missing wheel studs or lug nuts.	<ul style="list-style-type: none">Class III oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2) leaks are evident.Damage that would impair operation is evident.Tire is missing, deflated, unserviceable or two or more wheel studs or lug nuts are missing.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

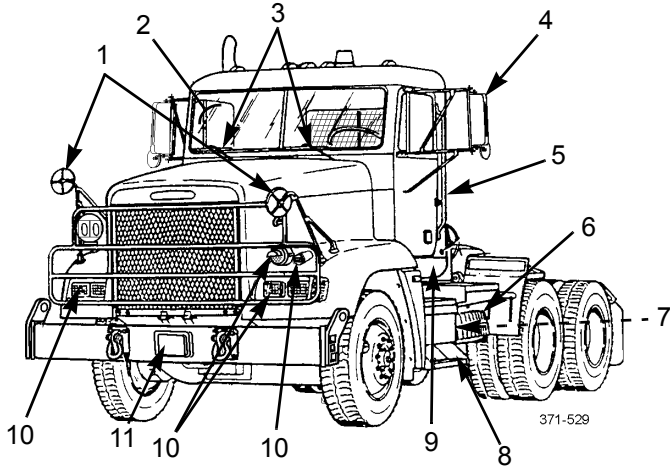
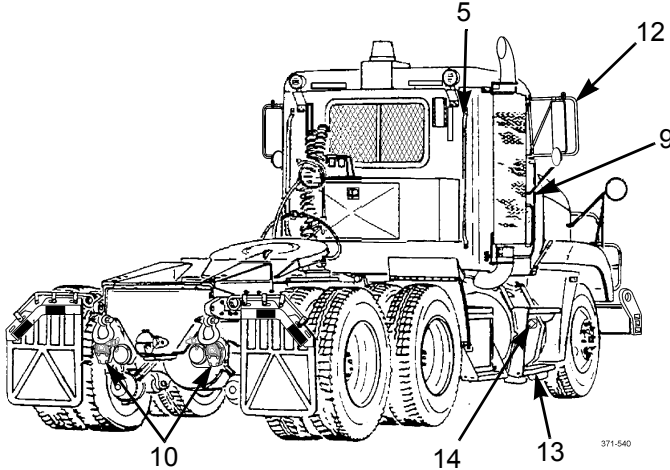
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
2	Before	Cab Exterior	Check for damage to lights (10), spotting mirrors (1), side mirror (4), windshield (2), windshield wipers and blades (3), cab door (9), grab-handle (5), battery box and steps (8), master battery switch (7), and collision warning system (CWS) antenna (11) (M915A3 and M916A3).	Damage that would interfere with visibility and impair operation is evident.
3	Before	Spare Wheel and Tire	Check for presence and condition of spare wheel and tire (6).	
 <p align="center">371-529</p>				
		REAR AND RIGHT SIDE		
			<p align="center">NOTE</p> <p>If leakage is detected, further investigation is required to determine location and cause of leak.</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
4	Before	Overall View	<p>a. Check under truck for evidence of fluid leakage such as oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2).</p> <p>b. Check truck for obvious damage that would impair operation.</p> <p>c. Check tires for defects, underinflation or loose or missing wheel studs or lug nuts.</p>	<p>Class III oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2) leaks are evident.</p> <p>Damage that would impair operation is evident.</p> <p>Tire is missing, deflated, unserviceable or two or more wheel studs or lug nuts are missing.</p>
5	Before	Cab Exterior	Check for damage to lights (10), side mirror (12), cab door (9), grabhandles (5), steps (13), and CWS side sensor (14) (M915A3 and M916A3).	Damage that would interfere with visibility and impair operation is evident.



The diagram shows a side profile of the cab of an M915 family vehicle. Numbered callouts point to specific components: 5 points to a grabhandle on the roof; 9 points to the cab door; 10 points to a light on the front; 12 points to a side mirror; 13 points to a step on the side; and 14 points to a CWS side sensor. A small number '371-540' is visible near the bottom right of the diagram.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
6	Before	CAB INTERIOR	<p>NOTE</p> <p>Refer to WP 0004 00 for the location of all gages, switches, and indicator lights.</p> <p>Check for damage to gages, switches, and indicator and warning lights.</p>	Any gage is broken or unreadable.
		Instrument Panel		
7	Before	Fire Extinguisher	a. Check for missing or damaged fire extinguisher (15).	Fire extinguisher is missing or damaged.
			b. Check gage (16) for proper pressure of approximately 150 psi (1034 kPa).	Pressure gage needle is in recharge area.
			c. Check for damaged or missing seal (17).	Seal is broken or missing.

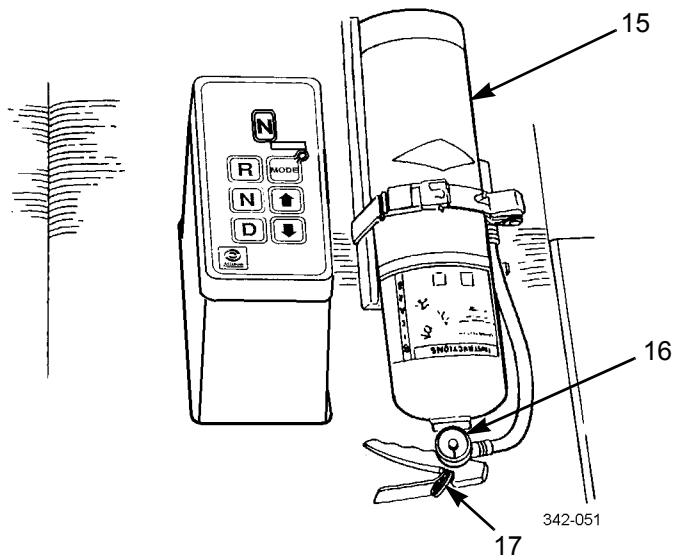


Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

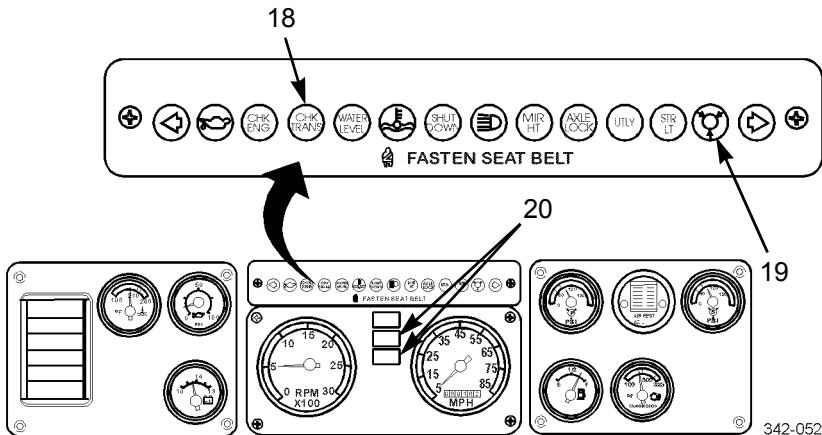
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
8	Before	Engine Startup	<p>a. Start engine (WP 0005 00). Verify that CHK TRANS light (18), low air pressure warning light (19) and warning buzzer turn off.</p> <p align="center">CAUTION</p> <p>Care must be exercised if tractor or trailer ABS light comes on while driving, possibly indicating an ABS malfunction. Although the regular/normal vehicle system is still fully operational, you should continue in a safe manner and reduce speed to 40 mph (64 kph), until the mission is complete. When the mission is complete, report to Unit Maintenance to clear the ABS fault and restore full ABS capabilities.</p> <p>b. Check that ABS indicator light(s) (20) turn off after 5-10 second self-test.</p>	<p>Engine will not start. Low air pressure, CHK TRANS light, or warning buzzer stay on.</p> <p>Any warning light stays on.</p>
				
			<p align="center">NOTE</p> <p>DO NOT run engine above idle speed until oil pressure gage indicates at least 15 psi (103 kPa) at idle speed.</p> <p>c. Check engine rpm on tachometer.</p>	<p>At idle, engine speed is not less than 600 rpm.</p>

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
9	Before	Seats and Seat Belts	<div><div>NOTE</div><div>If truck has not been operated since last weekly inspection or is being operated by a new driver for first time, perform transmission cold oil check (WP 0016 00).</div><div>a. Check seats (22) and seat belts (21) for security of mounting and damage.</div></div> <div><div>NOTE</div><div>All adjustments should be made while seated. Air pressure gage must indicate a minimum of 60 psi (414 kPa) to adjust height of seat.</div><div>b. Check for proper operation of seat height adjustment valve lever (24) and fore and aft seat adjustment lever (26). Check for proper operation of lumbar adjustment knob (27), seat back adjustment lever (23), and seat tilt knob (25).</div></div>	<div>Seat belts are not serviceable.</div> <div>Seat missing or inoperative.</div>

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

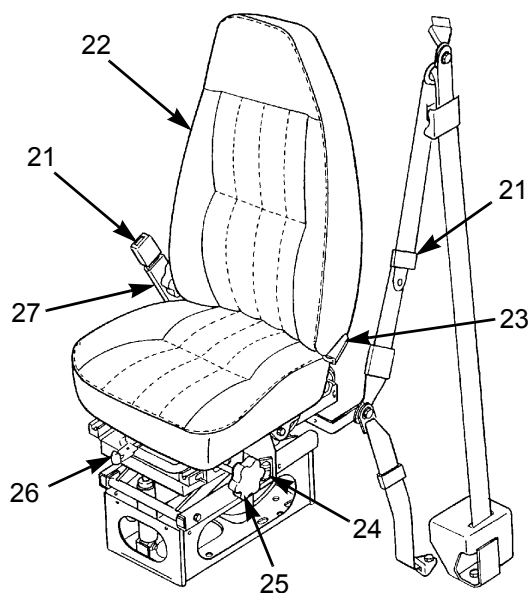
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
9 (Con't)	Before	Seats and Seat Belts		
<div><p>342-024</p></div>				
10	Before	Steering Wheel	Adjust tilt and height of steering wheel.	Steering wheel does not lock into adjusted position.
11	Before	Side Mirrors	Adjust side mirrors as required.	
12	Before	Instrument Panel Gages and Indicator and Warning Lights	<div><div>CAUTION</div><div>At 1700-2100 rpm, minimum engine oil pressure for safe operation is 15 psi (103 kPa). If gage does not show at least 15 psi (103 kPa), shut down engine and notify supervisor. All warning lights should go out in approximately 7 seconds. Failure to follow this caution will damage engine.</div><div>a. Check oil pressure gage. Reading should be 15-50 psi (103-344 kPa) at idle.</div></div>	Gage reading is not within limits.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
12 (Con't)	Before	Instrument Panel Gages and Indicator and Warning Lights	b. Check primary and secondary air pressure gages for 90-120 psi (621-827 kPa) (green band). c. Check that voltmeter registers within green band. d. Check that fuel supply gage registers and indicates adequate fuel for mission. e. Check air cleaner restriction indicator. f. On M916A3, M917A2, and M917A2 w/MCS, verify that CTIS system is operational (WP 0005 00).	Gage reads less than 65 psi (448 kPa) (yellow band), warning buzzer stays on, or gage is not operating. Needle is in yellow or red band. Gage is in red band. Mission requires use of CTIS and CTIS is inoperative.
13	Before	Parking Brake	With service brake pedal depressed, transmission in D (Drive), and engine at idle, pull parking brake valve out and release service brake pedal. Vehicle should not move.	Vehicle moves with parking brake applied.
14	Before	Service Brakes	With transmission in D (Drive), release parking brake and apply service brakes. Vehicle should not move.	Vehicle moves with service brakes applied.
15	Before	Trailer Brakes	<p align="center">NOTE</p> Perform this check with trailer after tractor/trailer are coupled. a. Listen for air leaks at intervehicular connecting hoses, relay valve, and air reservoirs. b. Apply trailer brakes only and attempt to move tractor/trailer combination.	Any air leaks are present. Brakes fail to hold tractor/trailer combination from moving.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/ Service		
			CAUTION	
			Care must be exercised if tractor or trailer ABS light comes on while driving, possibly indicating an ABS malfunction. Although the regular/normal vehicle system is still fully operational, you should continue in a safe manner and reduce speed to 40 mph (64 kph), until the mission is complete. When the mission is complete, report to Unit Maintenance to clear the ABS fault and restore full ABS capabilities.	
16	Before	Fifth Wheel	Ensure fifth wheel stops are in place unless performing RO/RO operations.	Fifth wheel stops are not in place.
17	During	Instrument Panel/ CWS Displays (M915A3, M916A3)	a. Monitor all gages and indicator and warning lights. Check that engine coolant and transmission oil temperature gages register within normal range (green band). b. Monitor indicator lights on driver's display unit and side sensor display. If system fail light illuminates, continue mission and turn CWS off. Notify supervisor.	Any red warning light except ABS light(s) stays on.
18	During	Brakes	a. Check brakes for pulling or grabbing. b. Check that brake pedal is firm and does not fully depress to floor.	Brakes pull or grab. Brake pedal is spongy or depresses fully to floor.
19	During	Steering	Check for smooth steering without pulling to one side or excessive play [more than 2½ in. (6.4 cm)] in steering wheel.	Steering is erratic, pulls or has excessive play.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
20	During	Power Train	Check for unusual noise or vibration from engine, transmission, drive shafts, axles, and wheels.	Unusual noise or vibration is present.
21	During	Air Conditioner	<p align="center">NOTE</p> <p>Perform the following inspection only if air conditioner is required due to climatic conditions.</p> <p>Turn air conditioner on and set blower to maximum cooling speed settings. Wait five minutes to allow temperature to stabilize. Check outlet ducts for cool air. If air is not cooler than ambient temperature, notify supervisor.</p>	
22	During	Winch (M916A3)	<p align="center">WARNING</p> <p>Always wear heavy gloves when handling winch wire rope. Never allow cable to run through hands, as injury may result.</p> <p>a. Check cable for kinks, frays, and breaks in wire. Check for inadequate lubrication or corrosion. As required, clean and lubricate cable when mission is complete.</p> <p>b. Check winch for proper control response.</p>	<p>Cable is damaged or missing.</p> <p>There is not control response.</p>
23	After	Overall Leakage	<p align="center">NOTE</p> <p>If leakage is detected, further investigation is required to determine location and cause of leak.</p> <p>Be alert for evidence of fluid leakage.</p>	Class III oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2) leaks are evident.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
24	After	FRONT AND LEFT SIDE		
		Overall View		
			<p align="center">NOTE</p> <p>If leakage is detected, further investigation is required to determine location and cause of leak.</p> <p>a. Check under truck for evidence of fluid leakage such as oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2).</p> <p>b. Check front gladhands for damage. Ensure that gladhand vent holes are not plugged. Ensure that dummy couplings are installed.</p> <p>c. Check truck for obvious damage that would impair operation.</p> <p>d. Check for damage to front service and blackout lights and marker clearance lights.</p> <p>e. Check CWS antenna and side sensor (M915A3 and M916A3) for obvious damage.</p>	<p>Class III oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2) leaks are evident.</p> <p>Damage that would impair operation is evident.</p> <p>Lights are damaged.</p>

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

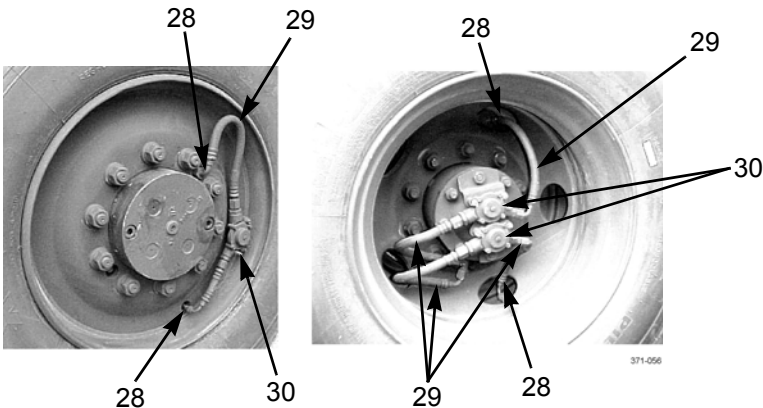
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
25	After	Wheels and Tires	<p align="center">WARNING</p> <p>Operating truck with an underinflated or defective tire may lead to tire failure and loss of steering control. Injury to personnel or damage to equipment may result.</p> <p>a. Check tires for defects, underinflation or loose or missing wheel studs or lug nuts.</p> <p>b. For M916A3, M917A2, and M917A2 w/MCS, check for damage to CTIS hoses (29), wheel valves (30), and fittings (28) at wheels.</p>	<p>Tire is missing, deflated, unserviceable or two or more wheel studs or lug nuts are missing.</p> <p>CTIS components are damaged.</p>
				
26	After	Front Axle Wheel Bearings (M915A3)	<p>Check that lubricating oil is visible in sight glass (32) and rubber plug (31) is installed. Oil level should be even with FULL line on cap. If oil is not even with FULL line, remove plug and add until level is even with FULL line (WP 0017 00).</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

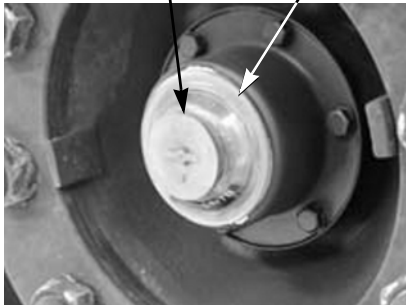

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/ Service		
26 (Con't)	After	Front Axle Wheel Bearings (M915A3)		
<div><div>31</div><div>32</div></div> <div>426-301</div>				
27	After	Power Steering Reservoir	With fluid at operating temperature and engine running, remove dipstick (33) and check level of power steering fluid in reservoir (34). Add fluid as required if level is below add mark (WP 0017 00).	
<div><div>33</div><div>34</div></div> <div>426-193a</div>				

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
28	After	Fuel Filter	<div> </div> <p>WARNING</p> <p>DO NOT perform fuel system checks, inspections or maintenance while smoking or near fire, flames or sparks. Fuel may ignite, causing injury or death to personnel and damage to vehicle.</p> <p>If water or sediment is visible, turn drain knob (36) counterclockwise and drain all water from fuel filter (35). Turn knob clockwise to close.</p>	

36

371-001

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
29	After	Intervehicular Air Hoses and Electrical Connectors (M915A3 and M916A3)	Check for presence and general condition of intervehicular air hoses (39), gladhands (38), gladhand preformed packings (40), and electrical connectors (37). Check air hose retainer (41) for damage.	Electrical connector or gladhand is damaged.

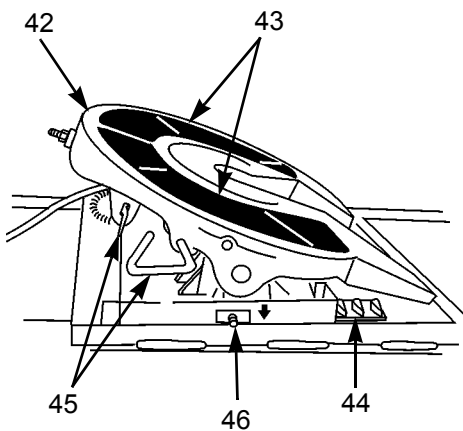
**M915A3
(OLD MODEL)**

**M915A3
(NEW MODEL)**

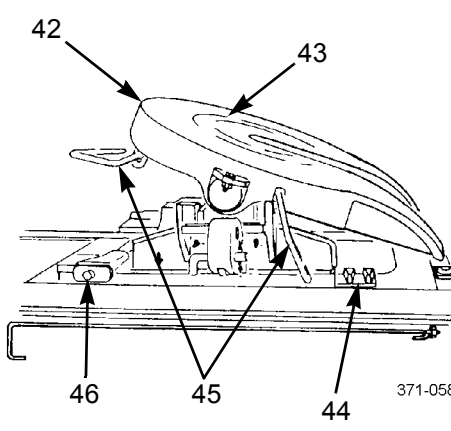
M916A3

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
30	After	Fifth Wheel	<p>a. Check fifth wheel lube plates (M915A3) (42) for severe chips, wear, cracks, gouges or bends. Check if 25% or more of lube plate coating is missing from one or both plates due to normal wear or damage.</p> <p>b. Check for operation and damage to lock release levers (45), slide locking plungers (46), slide rails (44), and fifth wheel plate (43).</p>	<p>One or both lube plates are loose, missing or damaged.</p> <p>Lock release levers do not operate. Locking jaw mechanism is cracked or worn.</p>



M915A3



M916A3

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
31	After	Winch (M916A3)	<p>a. Inspect winch reservoir (51), lines and fittings, drum, and controls for leaks or damage.</p> <div> </div> <p>WARNING</p> <p>To prevent burns, use caution when removing fill cap of hydraulic reservoir when hydraulic fluid is hot. Avoid contact with hot hydraulic oil. Use extreme care when filling hydraulic reservoir. Failure to follow this warning may result in injury to personnel.</p> <p>b. Check level of oil in reservoir (51). Level is low if not visible or if just visible in lower sight indicator (47). Add oil (Item 11 or 12, WP 0021 00) as required by removing filler cap (49) and adding oil until visible in top sight indicator (48). Ensure that strainer (50) is clean before installing filler cap.</p>	Damage that would impair operation or Class III leaks are evident.

The diagram illustrates the maintenance steps for the winch hydraulic reservoir. On the left, a side view of the reservoir shows the sight glass (47) and the sight indicator (48). A label indicates the 'OIL LEVEL' with 'FULL' and 'LOW' markers. An arrow points from the sight indicator to the filler cap (49) on the right. The filler cap (49) is shown being removed, revealing the strainer (50) and the reservoir (51).

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
32	After	Hydraulic Reservoir (M917A2/M917A2 w/MCS)	<div> </div> <p>WARNING</p> <p>To prevent burns, use caution when removing fill cap of hydraulic reservoir when hydraulic fluid is hot. Avoid contact with hot hydraulic oil. Use extreme care when filling hydraulic reservoir. Failure to follow this warning may result in injury to personnel.</p> <p>a. With engine off and dump body lowered, check sight tube (52) to determine level of hydraulic oil in reservoir (55). Level should be even with FULL mark on oil level decal (54). If level is low, remove fill cap (53). Remove any debris from strainer with a clean rag. Add oil (Item 11 or 12, WP 0021 00) through fill cap opening until level is even with FULL mark on decal. Install fill cap.</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

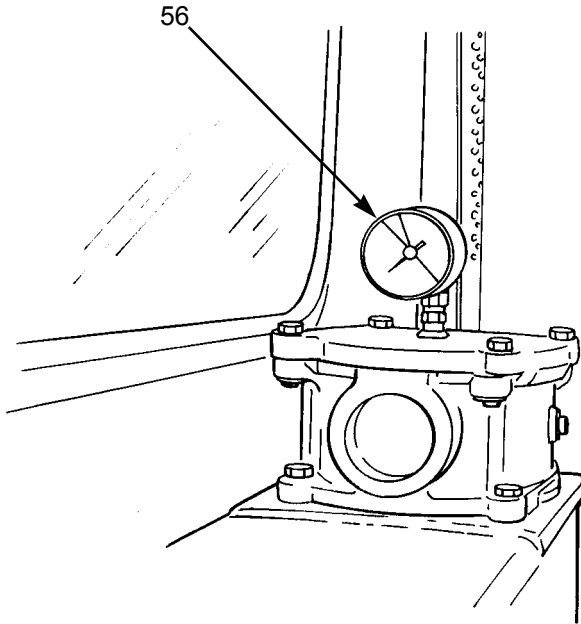
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
32 (Con't)	After	Hydraulic Reservoir (M917A2/M917A2 w/MCS)	b. Run engine at idle speed and engage PTO. Check filter service indicator gage (56). If gage needle is in RED zone, hydraulic oil filter element needs replacing. Notify Unit Maintenance.	
				
33	After	<div>REAR AND RIGHT SIDE</div> <div>Overall View</div>	a. Check under truck for evidence of fluid leakage such as oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2).	Class III oil, coolant, fuel, or hydraulic fluid (M916A3, M917A2) leaks are evident.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
33 (Con't)	After	Overall View	b. Check rear gladhands for damage. Ensure that glad-hand vent holes are not plugged. Ensure that dummy couplings are installed. c. Check truck for obvious damage that would impair operation. d. Check for damage to rear service and blackout lights and marker clearance lights. e. Check for damage to exhaust system components. Ensure that components are securely mounted and are not leaking.	Damage that would impair operation is evident. Lights are damaged. Pipe, clamp or hardware damaged or missing.
34	After	Wheels and Tires	<p align="center">WARNING</p> <p>Operating truck with an underinflated or defective tire may lead to tire failure and loss of steering control. Injury to personnel or damage to equipment may result.</p> a. Check all tires for defects, underinflation or loose or missing wheel studs or lug nuts. b. For M916A3, M917A2, and M917A2 w/MCS, check for damage to CTIS hoses (58), wheel valves (59), and fittings (57) at wheels.	Tire is missing, deflated, unserviceable or two or more wheel studs or lug nuts are missing.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

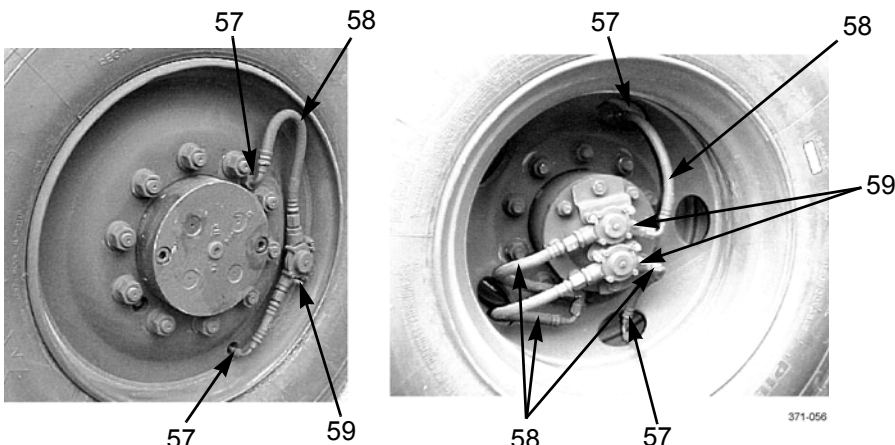

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
34 (Con't)	After	Wheels and Tires		
35	After	Backup Alarm (M917A2 and M917A2 w/MCS)	Check condition and operation of backup alarm (60).	Alarm does not sound when R (Reverse) is selected.
				
36	After	Fifth Wheel Ramps	Check for damage to fifth wheel ramps (61) and roller (62) (M916A3).	Damage that prevents coupling is present.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

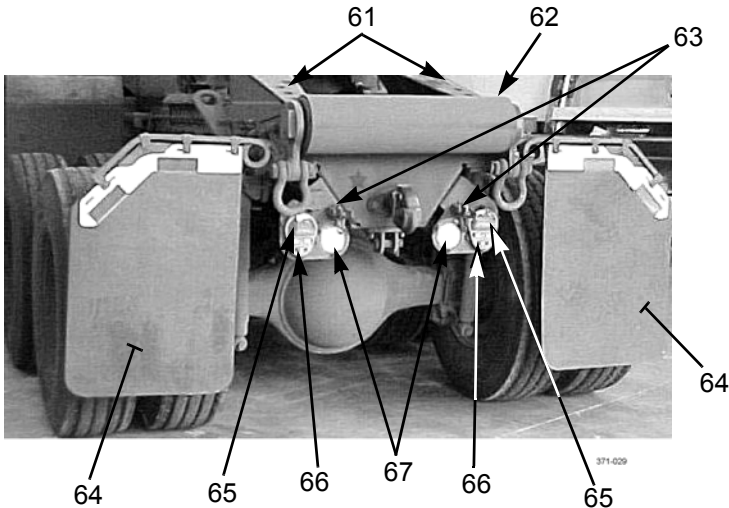

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
37	After	Rear Lights	Check operation of taillights (65), blackout lights (66), and backup lights (67).	Taillights do not operate.
38	After	Trailer Gladhands	Check for presence of dummy couplings and damage to trailer gladhands (63).	Damage that prevents air from applying trailer brakes when coupled.
39	After	Mud Flaps	Check for presence and general condition of mud flaps (64).	Mud flaps are missing.
				
40	After	Fuel Tank	 <p>WARNING</p> <p>DO NOT smoke or permit any open flame in area of truck while servicing diesel fuel system. Be sure hose nozzle is grounded against filler tube during refueling to prevent static electricity. Failure to follow this warning may result in injury to personnel or equipment damage.</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

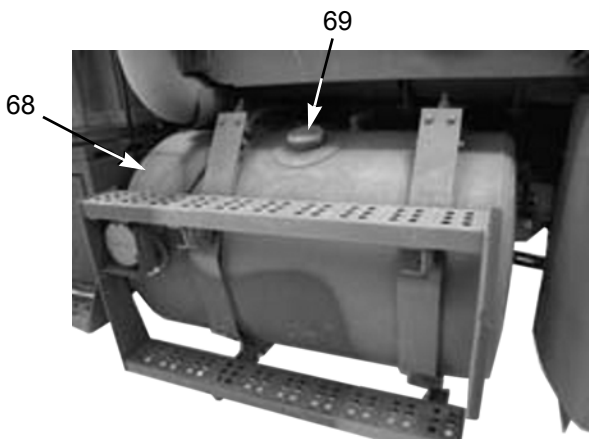
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
40 (Con't)	After	Fuel Tank	a. Check for presence and condition of fuel filler cap (69). b. Check fuel tank (68) for leaks, damaged, and security of mounting.	Filler cap is missing or damaged. Class III fuel leaks are evident.
		 <p align="right">426-186</p>		
			c. Removed fuel tank filler cap (69) and fill tank (68) to holes [approximately 3 in. (7.6 cm)] in filler neck. Ensure that filler cap is free of debris and other material that could interfere with air venting. Install filler cap.	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
41	After	Front Axle Wheel Bearings (M915A3)	<p>Check that lubricating oil is visible in sight glass (71) and rubber plug (70) is installed. Oil level should be even with FULL line on cap. If oil is not even with FULL line, remove plug and add until level is even with FULL line (WP 0017 00).</p> <div> </div> <p align="right">426-301</p>	
42	After	Transmission	<p>Perform electronic transmission fluid level check (if equipped) (WP 0005 00) using pushbutton selector or perform hot oil check (WP 0017 00).</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

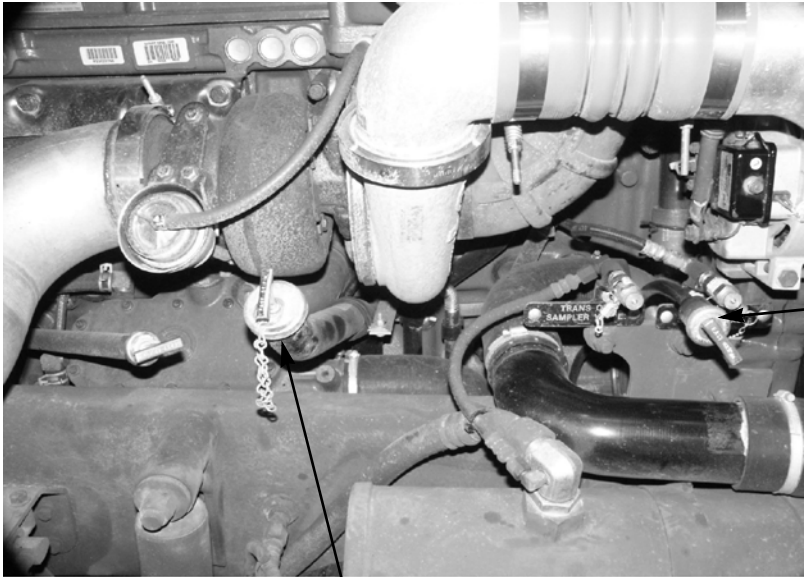
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
43	After	Engine Crankcase	<p>NOTE</p> <p>To ensure an accurate reading, vehicle must be parked on level ground. Wait 10 minutes after shutting down engine to allow oil to drain into crankcase.</p> <p>Remove dipstick (72) and check level of engine oil. Safe operating level is between ADD and FULL marks on dipstick. If level is low, add oil through filler opening (73) until level on dipstick is correct (WP 0017 00).</p>	
				

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/ Service		
44	After	Radiator	Check that coolant level is between FULL/ADD lines on expansion tank (74). Add coolant as required (WP 0017 00).	
<div> </div> <div>371-019</div>				
45	After	Horns	<p align="center">NOTE</p> <p>Vehicle operation with inoperative horn may violate AR 385-55.</p> <p>If situation permits, check operation of electrical and air horns.</p>	
46	After	Accessory Items	Verify that windshield wipers, washer, heater/ventilator/ defroster and air conditioner operate. Add windshield washer fluid as required (WP 0017 00).	Wipers do not operate.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
47	After	Lights	NOTE Vehicle operation with damaged or inoperative head-lights or stoplights may violate AR 385-55. a. Check for presence and operation of service drive, turn signal, blackout marker, blackout drive, and marker clearance lights. b. Check operation of tail-lights/stoplights/backup lights. Depress brake pedal approximately ¼ in. (6.4 mm). Tail/stoplights should come on.	
48	After	Front Axle Stops	Check for loose, missing or damaged front axle stops.	Service drive lights do not operate (night time only). Taillights do not operate (night time only).

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

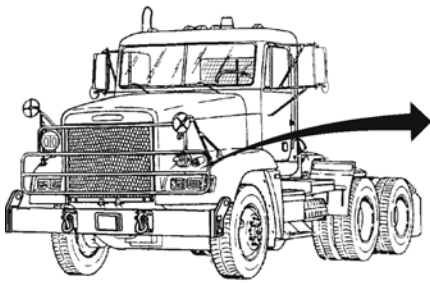
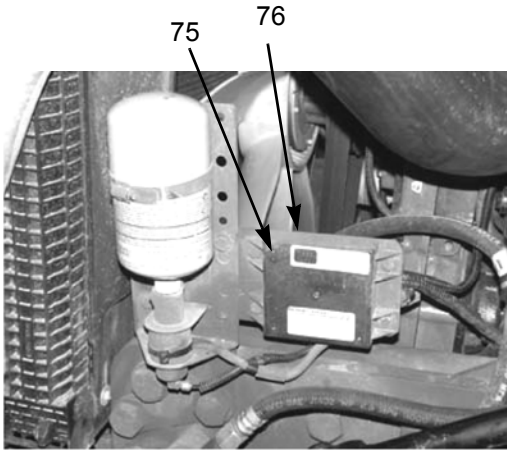
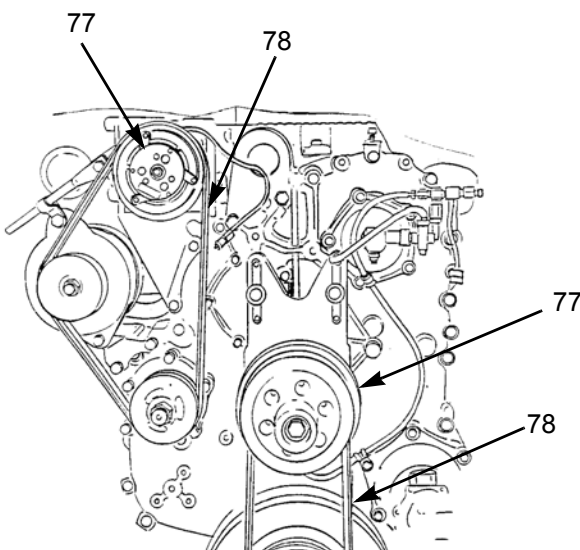
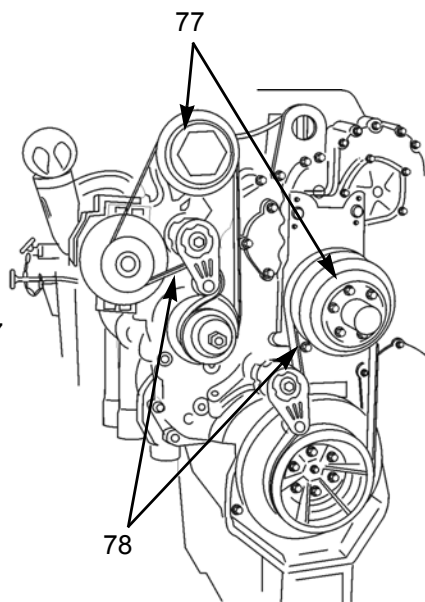
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
49	After	Ether Quick-start System	<div> </div> <p>WARNING</p> <p>Ether is highly flammable and explosive. DO NOT perform ether quick-start system checks or inspections while smoking or near fire, flame or sparks. Failure to follow this warning may cause a fire and explosion, causing serious injury or death to personnel.</p> <p>Check for loose connections and damage to lines, fittings, and canister. Be alert for the odor of leaking ether. Check that red indicator light (75) on ether control relay (76) is not on.</p>	<p>Damage or leakage is evident. If red indicator light is on, notify Unit Maintenance.</p>
			 <p style="text-align: right;">371-546</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
50	Weekly	FRONT AND LEFT SIDE	<p>a. Check for loose, missing, broken, frayed or cracked drive belts (78). Notify supervisor if loose drive belts are suspected.</p> <p>b. Check for damaged pulleys (77).</p>	<p>Any drive belt is loose, missing, broken, cracked to the belt fiber, has more than one crack 1/8 in. (3.2 mm) in depth, or has frays more than 2 in. (5.1 cm) long.</p> <p>Pulley is damaged.</p>
		Drive Belts		



M915A3 (OLD MODEL)



M915A3 (NEW MODEL),
M916A3, M917A2)

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
51	Weekly	Windshield Washer Reservoir	Check level of fluid in reservoir located in engine compartment below driver windshield on left firewall. Add windshield cleaning compound (Item 3, WP 0021 00) as required.	
52	Weekly	Front Wheel and Tire	<p align="center">WARNING</p> <p>Operating truck with an underinflated or defective tire may lead to tire failure and loss of steering control. Injury to personnel or damage to equipment may result.</p> <p align="center">NOTE</p> <p>M916A3, M917A2, and M917A2 w/MCS CTIS must be in highway (HWY) mode for this check.</p> <p>a. Check pressure in tires and adjust as required:</p> <p>M915A3 - 100 psi (690 kPa) M916A3 - 90 psi (621 kPa) M917A2/M917A2 w/MCS - 90 psi (621 kPa)</p> <p>b. Ensure all wheel stud lug nuts are tight, using wheel stud lug nut wrench and handle.</p>	
53	Weekly	Spare Wheel and Tire	<p>c. Check wheel for cracks, breaks or bends.</p> <p>a. Check pressure in tire and adjust as required:</p> <p>M915A3 - 100 psi (690 kPa) M916A3 - 90 psi (621 kPa) M917A2/M917A2 w/MCS - 90 psi (621 kPa)</p> <p>b. Check wheel for cracks, breaks or bends.</p>	<p>Two or more wheel studs are missing or lug nuts are loose.</p> <p>Wheel is cracked, broken or bent.</p> <p>Wheel is cracked, broken or bent.</p>

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
54	Weekly	Forward-rear and Rear-rear Wheels and Tires	<p align="center">WARNING</p> <p>Operating truck with an underinflated or defective tire may lead to tire failure and loss of steering control. Injury to personnel or damage to equipment may result.</p> <p align="center">NOTE</p> <p>M916A3, M917A2, and M917A2 w/MCS CTIS must be in highway (HWY) mode for this check.</p> <p>a. Check pressure in tires and adjust as required:</p> <p>M915A3 - 100 psi (690 kPa) M916A3 - 90 psi (621 kPa) M917A2/M917A2 w/MCS - 90 psi (621 kPa)</p> <p>b. Ensure all wheel stud lug nuts are tight, using wheel stud lug nut wrench and handle.</p> <p>c. Check wheel for cracks, breaks or bends.</p>	<p>Two or more wheel studs are missing or lug nuts are loose.</p> <p>Wheel is cracked, broken or bent.</p>
		UNDER VEHICLE		
55	Weekly	Steering Components	Check front axle steering components for cracks, breaks, loose connections or other damage.	Any steering component is cracked, broken or loose.
56	Weekly	Propeller Shafts (All except M915A3)	Check rubber boots for tears, cracks or deterioration.	Any rubber boot is torn, cracked or deteriorated.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

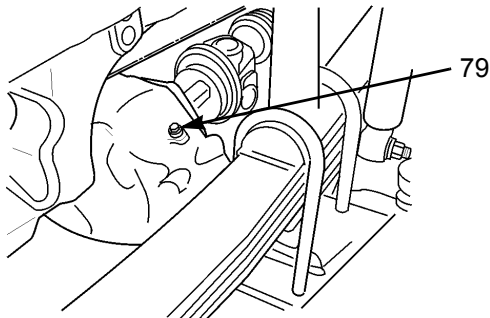
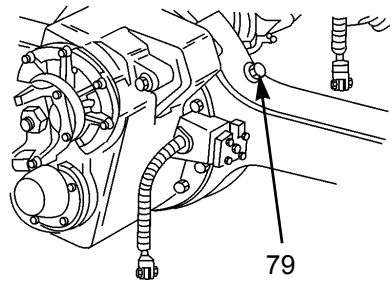
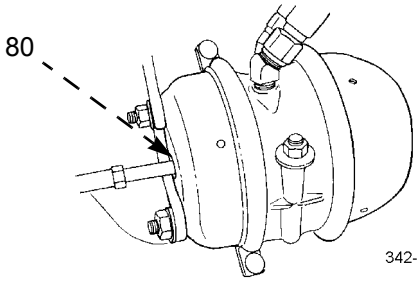
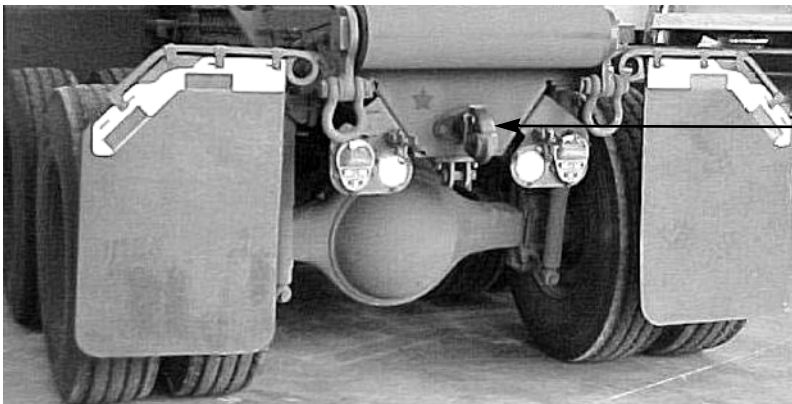
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
57	Weekly	Axle Breathers	<p>NOTE</p> <p>Perform the following service at all axles except the M915A3 front axles.</p> <p>Without removing breather vent (79), check for a clogged vent. Clean with detergent (Item 4, WP 0021 00) as required to remove dirt and grease.</p>	
<div style="display: flex; justify-content: space-around; align-items: flex-end;">   </div> <p style="text-align: right; font-size: small;">371-060</p>				
58	Weekly	Brake Chambers	<p>NOTE</p> <p>Perform the following check at all axles.</p> <p>Check brake chamber service pushrod to see if stroke alert indicator (orange band) (80) is visible.</p>	Stroke alert indicator is visible.
<div style="display: flex; justify-content: center; align-items: flex-end;">  </div> <p style="text-align: right; font-size: small;">342-063</p>				

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
59	Weekly	REAR AND RIGHT SIDE	Check pintle hook (81) for looseness, damaged locking mechanism, and presence of cotter pin.	
		Pintle Hook		



81

371-029

60	Weekly	Rear-rear and Forward-rear Wheels and Tires	WARNING	
			<p>Operating truck with an underinflated or defective tire may lead to tire failure and loss of steering control. Damage to equipment or injury to personnel may result.</p> <p>NOTE</p> <p>M916A3, M917A2, and M917A2 w/MCS CTIS must be in highway (HWY) mode for this check.</p> <p>a. Check pressure in tires and adjust as required:</p> <p>M915A3 - 100 psi (690 kPa)</p> <p>M916A3 - 90 psi (690 kPa)</p> <p>M917A2/M917A2 w/MCS - 90 psi (621 kPa)</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.


Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
60 (Con't)	Weekly	Rear-rear and Forward-rear Wheels and Tires	b. Ensure all wheel stud lug nuts are tight, using wheel stud lug nut wrench and handle c. Check wheel for cracks, breaks or bends.	Two or more wheel studs are missing or lug nuts are loose. Wheel is cracked, broken or bent.
61	Weekly	Front Wheel and Tire	<p align="center">WARNING</p> <p>Operating truck with an underinflated or defective tire may lead to tire failure and loss of steering control. Damage to equipment or injury to personnel may result.</p> <p align="center">NOTE</p> <p>M916A3, M917A2, and M917A2 w/MCS CTIS must be in highway (HWY) mode for this check.</p> a. Check pressure in tires and adjust as required: M915A3 - 100 psi (691 kPa) M916A3 - 90 psi (621 kPa) M917A2/M917A2 w/MCS - 90 psi (621 kPa)	
62	Weekly	Exhaust System	b. Ensure all wheel stud lug nuts are tight, using wheel stud lug nut wrench and handle c. Check wheel for cracks, breaks or bends.	Two or more wheel studs are missing or lug nuts are loose. Wheel is cracked, broken or bent.
			 <p align="center">WARNING</p> <p>DO NOT touch hot exhaust pipe with bare hands. Severe burns will result.</p> <p align="center">NOTE</p> <p>Operation of vehicle with damaged exhaust may violate AR385-55.</p>	

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
62 (Con't)	Weekly	Exhaust System	Inspect exhaust stack and muffler for damaged pipes, missing clamps, obvious damage, and rusted-through conditions that create exhaust leaks.	Pipes, clamps or hardware damaged or missing that have caused exhaust leaks.
63	Weekly	CTIS (M916A3, M917A2, and M917A2 w/MCS)	<p>a. With engine running, select RUN FLAT key (83). Check system for air leaks.</p> <p>b. With engine running, select one inflate and one deflate mode on selector panel (82). Check that tires inflate and deflate.</p> <p>c. While driving, select EMER mode key (84) and check that instrument panel REDUCE MPH indicator light comes on.</p>	Mission requires use of CTIS and CTIS is inoperative.

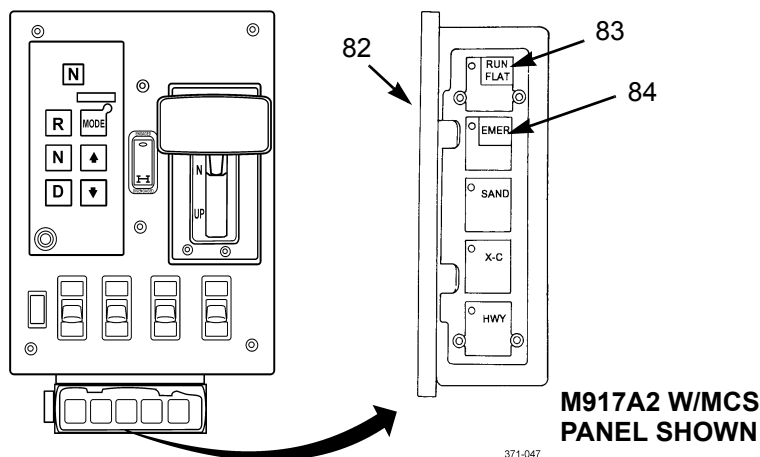



Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
64	Weekly	CAB INTERIOR	Check operation and general condition of cab doors and windows.	
		Doors and Windows		
		OVER-ALL VEHICLE		
65	Monthly	Undercarriage, Frame, Cab, and Propeller Shafts	a. Check for obvious damage to frame and undercarriage. b. Check propeller shafts and U-joints for loose or broken bolts and nuts. c. Check rubber boots for tears, cracks or deterioration.	Any loose or broken frame side rails, crossmembers, broken welds or broken bolts are found. Mounting bolts and nuts are loose or missing. Any rubber boot is torn, cracked or deteriorated.
66	Monthly	Air System	a. Check all air lines, fittings, and valves for looseness or damage. Ensure vent hole (85) in each dummy coupling is free of dirt or debris.	Any air lines, fittings, or valves are loose or damaged. Any dummy coupling vent hole is clogged.



85

371-067

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

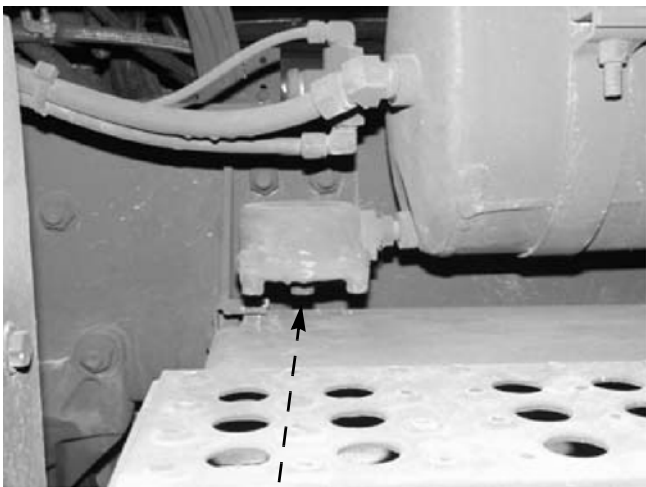
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
67 (Con't)	Monthly	Air System	b. On each tank, press rubber pin (86) on automatic drain valve to release air.	
				
67	Monthly	Hydraulic System (M916A3)	<p>a. Check winch reservoir, drum, hydraulic controls, lines, and fittings for looseness, leaks or signs of other damage.</p> <p>b. Check trailer hydraulic couplings for damage. Ensure couplings are free of dirt and debris. Ensure protective caps are present and installed.</p>	<p>Any hydraulic components are loose, leaking, or damaged.</p> <p>Mission requires use of trailer hydraulics.</p>
68	Monthly	Hydraulic System (M917A2/M917A2 w/MCS)	Check hydraulic reservoir, lines, and fittings for looseness, leaks or signs of other damage.	Any hydraulic components are loose, leaking or damaged.

Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.



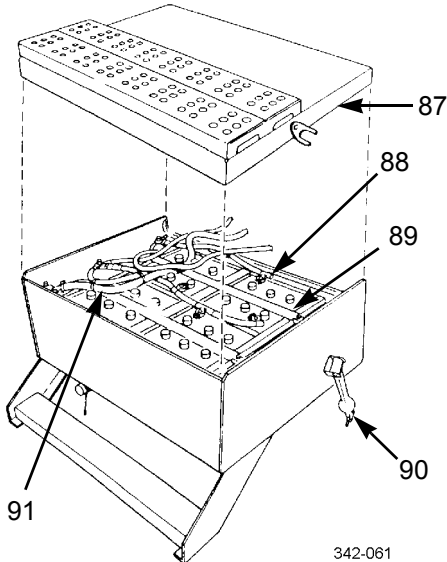
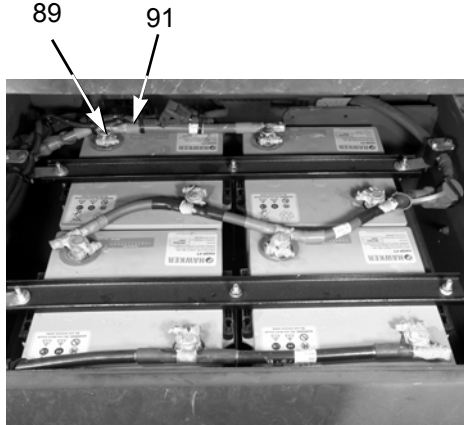
Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
69	Monthly	Air Conditioning	Check air conditioner operation. Operate for at least five minutes to help prevent drying and cracking of tubing seals and reduce refrigerant leaks in the system.	
70	Monthly	Fire Extinguisher	Remove fire extinguisher from bracket and shake vigorously to loosen powdered agent that settles to the bottom.	
71	Monthly	Batteries	<div style="display: flex; align-items: center;">   <div style="margin-left: 10px;"> <p>WARNING</p> <p>To avoid eye injury, eye protection is required when working around batteries. DO NOT smoke, use open flame, make sparks or create other ignition sources around batteries. If a battery is giving off gases, it can explode and cause injury to personnel. Remove all jewelry such as rings, ID tags, watches, and bracelets. If jewelry or a tool contacts a battery terminal, a direct short will result in instant heating, injury to personnel, and damage to equipment.</p> <p align="center">CAUTION</p> <p>To reduce battery damage, check battery compartment for corrosion (greenish/white powder) and do not jerk or pull on battery cables during visual inspection.</p> <div style="display: flex;"> <div style="flex: 1;"> <p>a. Release latches (90) and remove cover (87). Check battery compartment for damaged or missing batteries.</p> <p>b. On standard batteries, check for damaged or missing filler caps (88).</p> <p>c. For Hawker batteries, check for damaged, raised, or missing vent caps</p> </div> <div style="flex: 1; border-left: 1px solid black; padding-left: 10px;"> <p>One or more batteries are damaged or missing. Latches are missing or damaged.</p> <p>One or more filler caps are damaged or missing.</p> <p>Vent caps are damaged, raised, or missing.</p> </div> </div> </div> </div>	

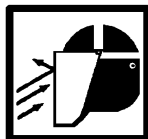
Table 1. Preventive Maintenance Checks and Services (PMCS) for M915 Family of Vehicles - Continued.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable If:
		Item To Check/Service		
71 (Con't)	Monthly	Batteries	<p>d. Check for missing, broken, split, or frayed cables (91).</p> <p>e. Check for damaged terminal posts (89).</p> <p>f. Check for rust and corrosion.</p> <p>g. Check for cleanliness.</p> <p>h. Report any problems to Unit Maintenance.</p>	<p>Cables are missing, broken, split or frayed.</p> <p>Terminal posts are damaged.</p>
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>342-061</p> </div> <div style="text-align: center;">  <p>426-321</p> </div> </div>				

END OF WORK PACKAGE

TRUCK CLEANING AND REFUELING INSTRUCTIONS

0013 00

**WARNING**

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel.

CAUTION

DO NOT use high pressure water to clean inside of cab or engine compartment. DO NOT direct spray at ANY electrical components. Damage to electrical system may result.

1. **Exterior.**

While cleaning vehicle, look closely for evidence of rust or corrosion, bare metal, or other exterior damage. If any problems are found, notify Unit Maintenance to treat affected areas.

2. **Interior.**

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

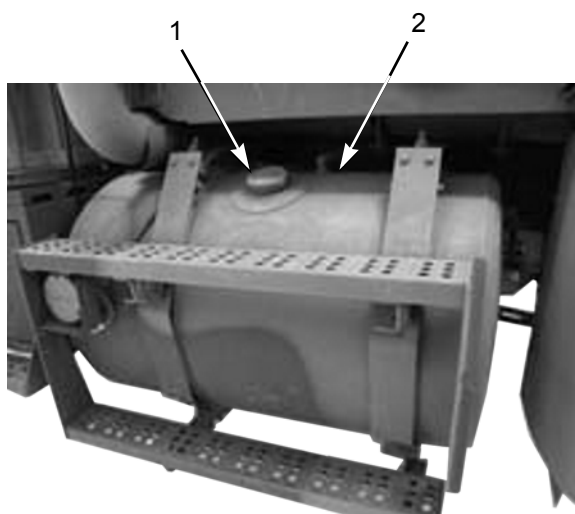
3. **Refueling.****WARNING**

- DO NOT smoke or permit any open flame in area of truck while servicing diesel fuel system. Be sure hose nozzle is grounded against filler tube during refueling to prevent static electricity. Failure to follow this warning may result in injury to personnel or equipment damage.
- Auxiliary heater, if equipped, must be switched to OFF while refueling. Fuel may ignite, causing injury or death to personnel and damage to vehicle.

TRUCK CLEANING AND REFUELING INSTRUCTIONS - CONTINUED

0013 00**NOTE**

- Place portable fire extinguisher within reach prior to refueling.
 - DO NOT overfill fuel tank.
 - If fuel starts foaming from fuel tank, stop IMMEDIATELY to avoid fuel spillage.
- a. Shut down engine.
 - b. Place master switch in OFF position.
 - c. Ensure that auxiliary heater, if equipped, is switched to OFF.
 - d. Wipe off dirt on and around fuel filler cap (1).
 - e. Remove filler cap (1) by rotating cap counterclockwise.
 - f. Fill tank (2) to holes [approximately 3 in. (7.6 cm)] in filler neck.
 - g. Install filler cap (1) by rotating cap clockwise as far as it will go.



426-186

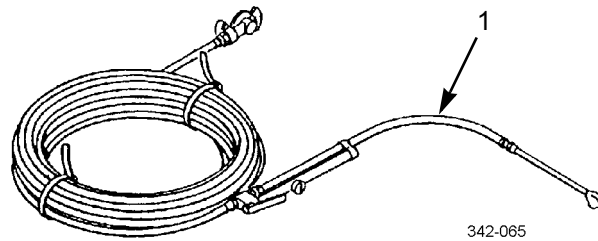
END OF WORK PACKAGE

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS

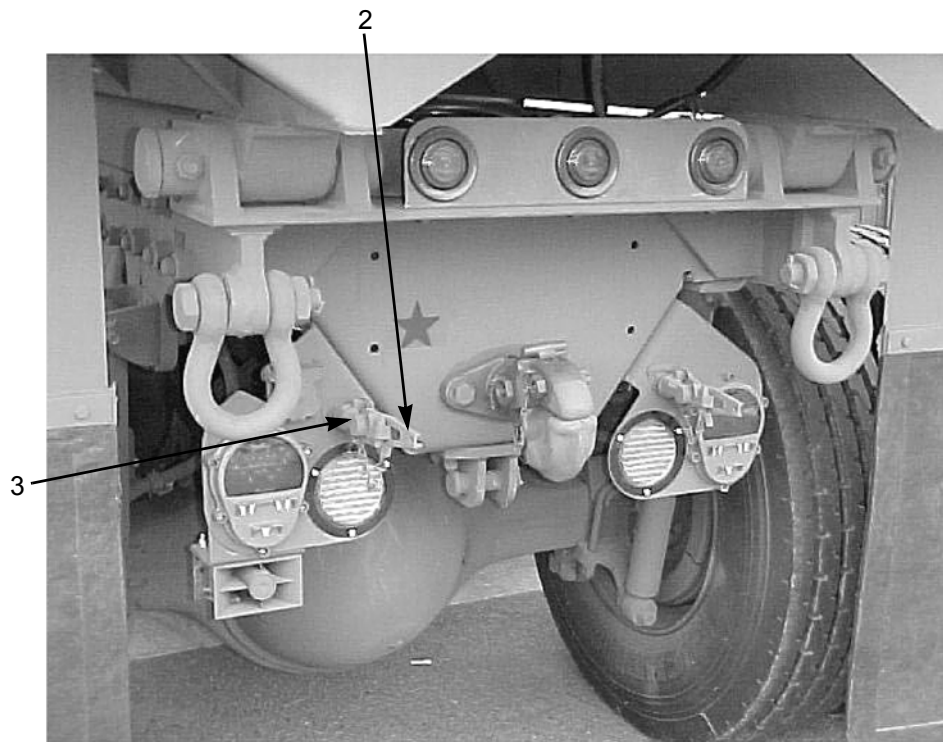
0014 00

WHEEL AND TIRE MAINTENANCE

1. Remove pneumatic hose (1) with gage from BII storage box.



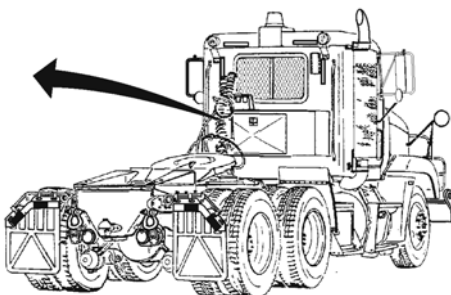
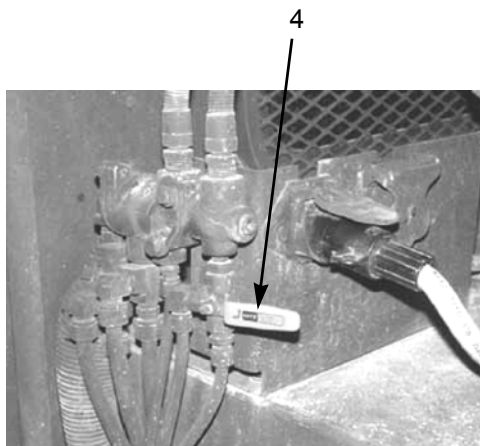
2. Remove dummy coupling (2). Connect pneumatic hose (1) to emergency gladhand (red) (3) on left rear of vehicle.



371-030

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED**0014 00****WHEEL AND TIRE MAINTENANCE - CONTINUED**

3. Start engine. Push in (ON) trailer air supply control valve.
4. Rotate air flow valve lever (4) to vertical position (M915A3, M916A3).



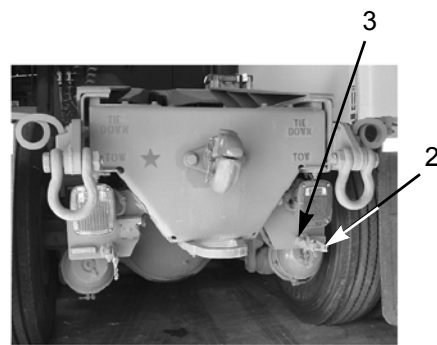
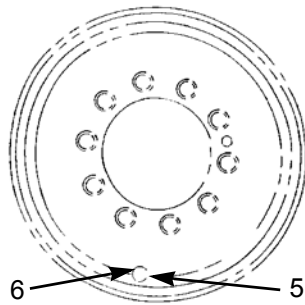
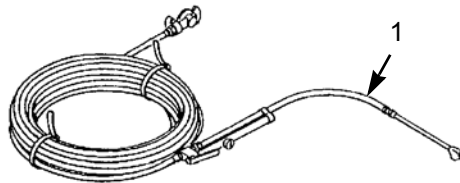
371-547

NOTE

For M916A3, M917A2, and M917A2 w/MCS, valve stem is located on CTIS wheel valve.

5. Remove valve stem cap (5) and connect pneumatic hose (1) to valve stem (6).
6. Add air until desired pressure is reached.
7. Remove pneumatic hose (1) from valve stem (6) and install valve stem cap (5).
8. Rotate air flow valve lever (4) to horizontal position (M915A3, M916A3).
9. Pull out (OFF) trailer air supply control valve on dash. Shut down engine.
10. Disconnect pneumatic hose (1) from emergency gladhand (3) and return to BII storage box.
11. Install dummy coupling (2) on emergency gladhand (3).

WHEEL AND TIRE MAINTENANCE - CONTINUED



402-067

OPERATION OF SPARE WHEEL AND TIRE ASSEMBLY CARRIER



WARNING



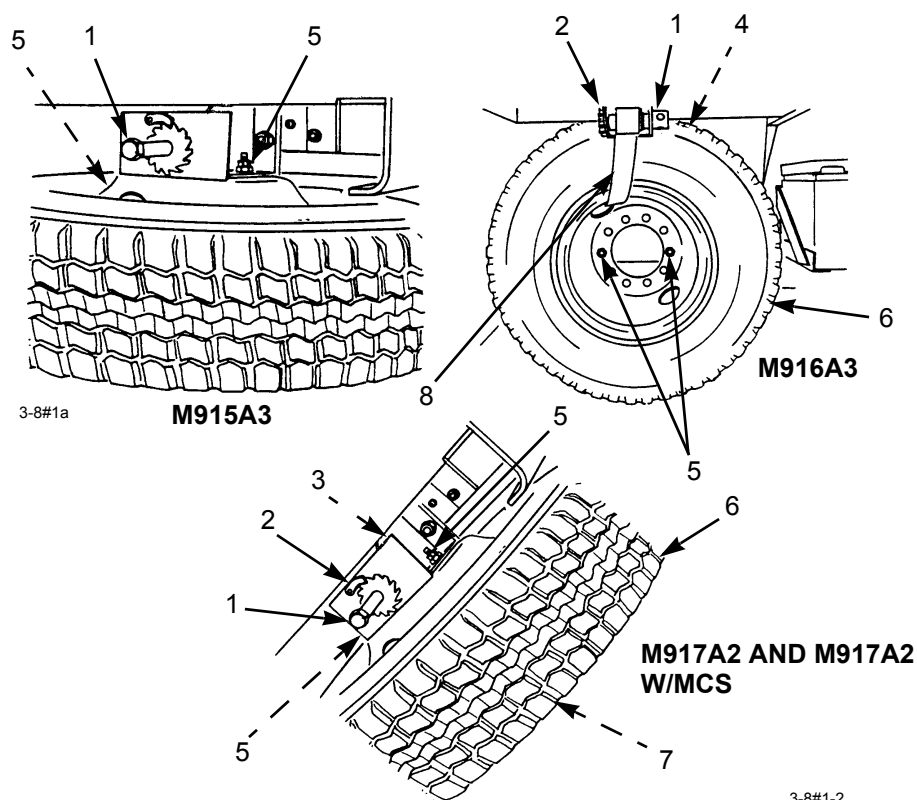
Use caution when lifting or handling wheel and tire assembly. It is heavy and could cause injury if improperly lifted or if it falls on you.

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00

OPERATION OF SPARE WHEEL AND TIRE ASSEMBLY CARRIER - CONTINUED**1. Remove Spare Wheel and Tire Assembly from Carrier.**

- a. Ensure pawl (2) engages gear shaft (1) and remove nuts (5).
- b. Turn gear shaft (1) clockwise slightly and disengage pawl (2) from gear shaft. Swing pawl out of way.
- c. Slowly rotate gear shaft (1) counterclockwise one notch (for M915A3 new, 1/4 turn).



- d. For M915A3, M917A2, and M917A2 w/MCS, support spare wheel and tire assembly (6) and remove wheel clamp plate (7). For M916A3, support spare wheel and tire assembly (6) and disengage D-ring (4) on upper end of support strap (8).

NOTE

Keep tire in upright position after removal so it can be rolled into position. DO NOT allow tire to fall or lay flat on ground. If tire falls or is laid flat on ground, assistance will be required to raise tire to upright position.

- e. Repeat steps b. and c. until spare wheel and tire assembly is lowered to ground.

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

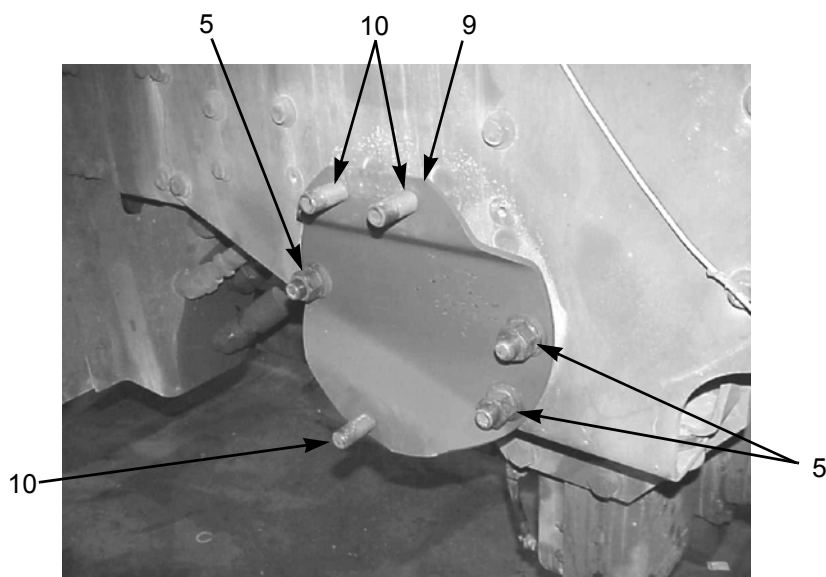
0014 00**OPERATION OF SPARE WHEEL AND TIRE ASSEMBLY CARRIER - CONTINUED****2. Install Spare Wheel and Tire Assembly on Carrier.**

- a. For M915A3, M917A2, and M917A2 w/MCS, secure hoist cable (3) by inserting wheel clamp plate (7) through wheel opening.
- b. For M916A3, wrap support strap (8) around spare wheel and tire assembly (6) and attach D-ring (4) to hook on frame rail.

NOTE

For M916A3, perform steps c. and d. when mounting a flat front tire to the spare wheel and tire carrier.

- c. Remove spare tire adapter (9) from BII box.
- d. Install spare tire adapter (9) on spare wheel and tire carrier with nuts (5).



371-513

- e. Turn gear shaft (1) clockwise until spare wheel and tire assembly (6) is raised to stowed position.
- f. Engage pawl (2) on gear shaft (1).
- g. Install nuts (supplied with adapter) on studs (10) to secure wheel assembly to adapter.

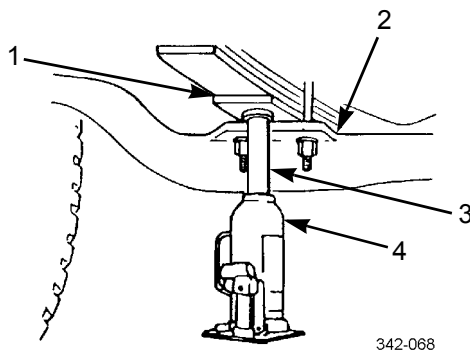
WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00**WHEEL AND TIRE ASSEMBLY REPLACEMENT (M915A3)****NOTE**

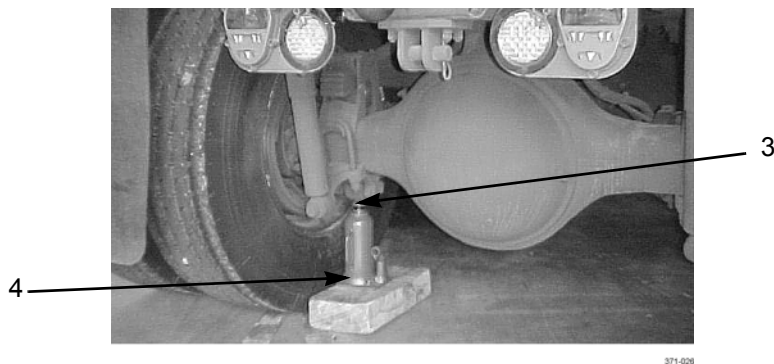
When changing tires, DO NOT substitute type or size tire unless all tires on the vehicle can be converted. Keep all tires the same size and type.

1. Placement of Jack.

- a. For front tire replacement, place jack (4) so jack ram (3) is under first small leaf (1) just forward of axle (2).



- b. For rear tire replacement, place jack (4) so jack ram (3) is under axle housing as near to wheels to be removed as possible.

**2. Remove Wheel and Tire Assembly.**

- a. Park vehicle so that one hub-pilot pad on wheel and tire to be replaced is at 12 o'clock position.
- b. Block wheels.
- c. Remove spare wheel and tire assembly from carrier.

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00

WHEEL AND TIRE ASSEMBLY REPLACEMENT (M915A3) - CONTINUED

- d. Loosen top and bottom wheel nuts, and remove remaining eight wheel lug nuts.
- e. Place jack in position.

**WARNING**

Hydraulic jack is intended only for lifting truck, not for supporting vehicle to perform maintenance. DO NOT get under truck after it is raised unless it is properly supported with blocks or jackstands. Failure to observe this warning may result in death or injury to personnel.

- f. Raise jack until tire(s) clears ground.
- g. Remove top and bottom wheel lug nuts.

**WARNING**

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

CAUTION

Wheel center hole and hub pilot have close tolerances. If wheel is not kept square to hub, it could bind during removal and damage stud threads or pilot pads. Keep wheel square to hub during removal.

NOTE

Keep tire in upright position after removal so it can be rolled into position. DO NOT allow tire to fall or lay flat on ground. If tire falls or is laid flat on ground, assistance will be required to raise tire to upright position.

- h. Remove wheel and tire assembly using care not to allow assembly to drop on or drag across stud threads.
3. **Install Wheel and Tire Assembly.**
- a. Inflate spare tire to proper pressure.
 - b. Clean hub and wheel mounting surfaces on all disc faces of dual wheels.

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00

WHEEL AND TIRE ASSEMBLY REPLACEMENT (M915A3) - CONTINUED**WARNING**

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

CAUTION

Wheel center hole and hub pilot have close tolerances. If wheel is not kept square to hub, it could bind during installation and damage stud threads or pilot pads. Keep wheel square to hub during installation.

NOTE

Before installing wheels, ensure that drum is positioned on raised step of pilot pad. One of hub pilot pads must be at top location. To help keep drum in place, it may be necessary to adjust brakes before installing wheels.

- c. Place one pilot pad in top-center position and position wheel assembly (inner wheel assembly of rear axles) on hub using care not to allow assembly to drop on or drag across stud threads.

NOTE

Install wheel assembly so that balance weight(s) on wheels are 180° opposite of balance weight(s) on brake drum. If this causes valve stems to be in the same wheel hole on rear wheel assemblies, mount outer wheel so that outer wheel balance weight(s) are on same side as brake drum balance weight(s).

- d. On rear axles, mount outer wheel against inner wheel in accordance with step c. Ensure that pilot pad is still centered at top.

CAUTION

On both sides of vehicle, wheel lug nuts have right-hand threads. DO NOT attempt to install a similar size SAE nut on a stud. Failure to follow this caution will result in damage to stud and nut.

- e. Install and handtighten wheel lug nuts on top and bottom studs.
- f. Install and handtighten eight wheel lug nuts on remaining studs.
- g. Lower and remove jack.

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

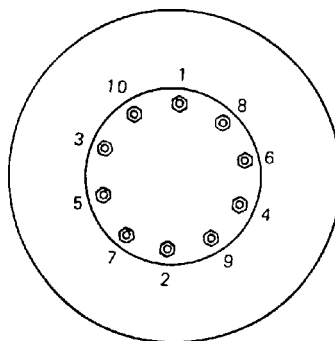
0014 00

WHEEL AND TIRE ASSEMBLY REPLACEMENT (M915A3) - CONTINUED**WARNING**

Whenever wheel lug nuts require tightening or a wheel has been removed and replaced, lug nuts must be tightened to the required torque. Failure to follow this warning may result in serious injury to personnel and damage to equipment.

NOTE

- Tighten wheel nuts with wheel wrench. After 25 miles (40 km), retighten wheel nuts. Within next 75 miles (121 km), have Unit Maintenance torque wheel nuts to proper torque.
 - Tightening pattern is identical for all wheel assemblies.
- h. Tighten wheel lug nuts according to tightening pattern.



342-070

WHEEL LUG NUT TIGHTENING PATTERN

- i. Notify Unit Maintenance as soon as possible to apply proper torque.
- j. Stow defective tire in spare wheel and tire carrier and have it replaced or repaired as soon as possible.
- k. Remove wheel blocks.

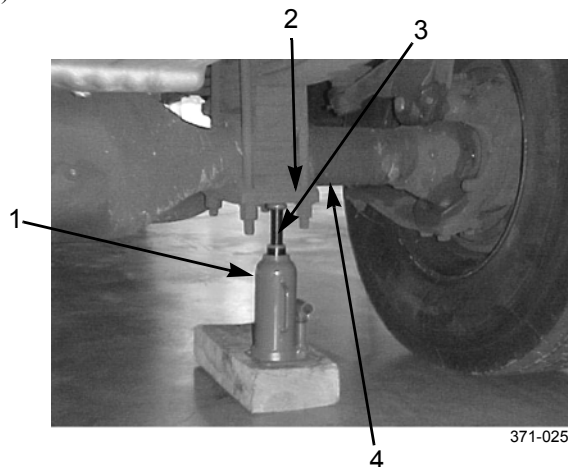
**FRONT WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS)**

1. **Remove Front Wheel and Tire Assembly.**
 - a. Stop engine.
 - b. Block wheels.

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00**FRONT WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED**

- c. Position jack (1) so jack ram (3) is centered on bracket plate (2) under front steering axle (4).

**WARNING**

Always wear eye protection and drain all air from wet tank before disconnecting CTIS air lines, hoses or fittings. Residual air in tire(s) and air line(s) will be expelled even though tire(s) is flat. Failure to follow this warning could cause serious eye injury.

- d. Disconnect hose (7) from fitting (6).
e. Disconnect connector (8) from wheel valve (9).
f. Remove spare wheel and tire from carrier.
g. Loosen wheel nuts on wheel to be removed.

**WARNING**

Hydraulic jack is intended only for lifting truck, not for supporting vehicle to perform maintenance. Do not get under truck after it is raised unless it is properly supported with blocks or jackstands. Failure to observe this warning may result in death or injury to personnel.

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00

**FRONT WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED**

- h. Raise jack until tire clears ground.

**WARNING**

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

NOTE

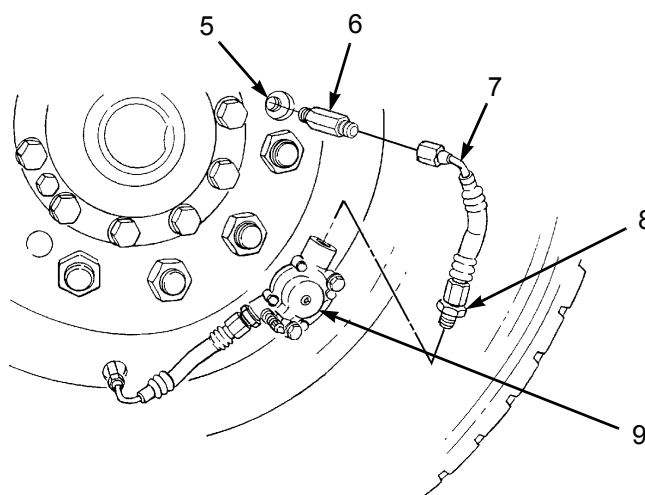
Keep tire in upright position after removal so it can be rolled into position. DO NOT allow tire to fall or lay flat on ground. If tire falls or is laid flat on ground, assistance will be required to raise tire to upright position.

- i. Remove wheel nuts and wheel and tire assembly.

NOTE

Because spare wheel is not designed to connect CTIS components, fitting (6) should be stored temporarily in glove box.

- j. Remove fitting (6) from hub air port (5).



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WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00

**FRONT WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED****2. Install Front Wheel and Tire Assembly.**

- a. Connect fitting (6) to hub air port (5).

**WARNING**

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

- b. Position wheel and tire assembly on wheel hub ensuring hole in wheel aligns with hub air port (5).
- c. Install and handtighten wheel nuts.
- d. Lower and remove jack.
- e. Connect connector (8) to wheel valve (9).

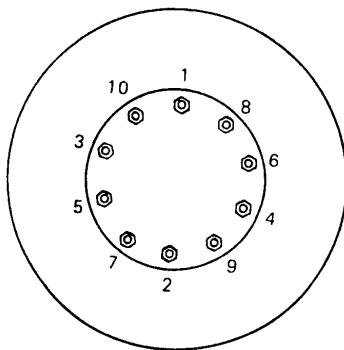
NOTE

Ensure hose is not kinked after connecting to elbow. Rotate elbow, if necessary.

- f. Connect hose (7) to fitting (6).

NOTE

- Tighten wheel nuts with wheel wrench. After 25 miles (40 km), retighten wheel nuts. Within next 75 miles (121 km), have Unit Maintenance torque wheel nuts to proper torque.
 - Tightening pattern is identical for all wheel assemblies.
- g. Tighten wheel nuts according to wheel tightening pattern.

**WHEEL NUT TIGHTENING PATTERN**

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00**FRONT WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED**

- h. Stow defective tire in spare wheel and tire carrier and have it replaced or repaired as soon as possible.
- i. Notify Unit Maintenance as soon as possible to apply proper torque.

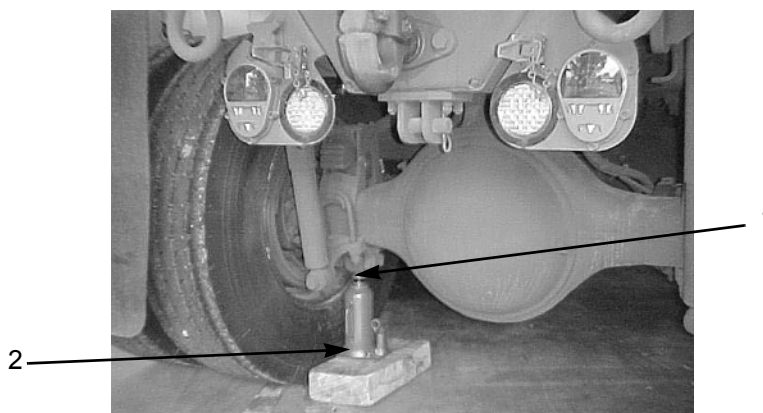
NOTE

After installation, a CTIS equipped tire can be inflated either manually or using the CTIS. A non-CTIS equipped tire must be inflated manually.

- j. Inflate tire to desired pressure.
- k. Remove wheel blocks.

**REAR WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS)**

- 1. **Remove Rear Wheel and Tire Assembly.**
 - a. Stop engine.
 - b. Position jack (2) so jack ram (1) is under axle housing as near to wheels to be removed as possible.



**REAR WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED**

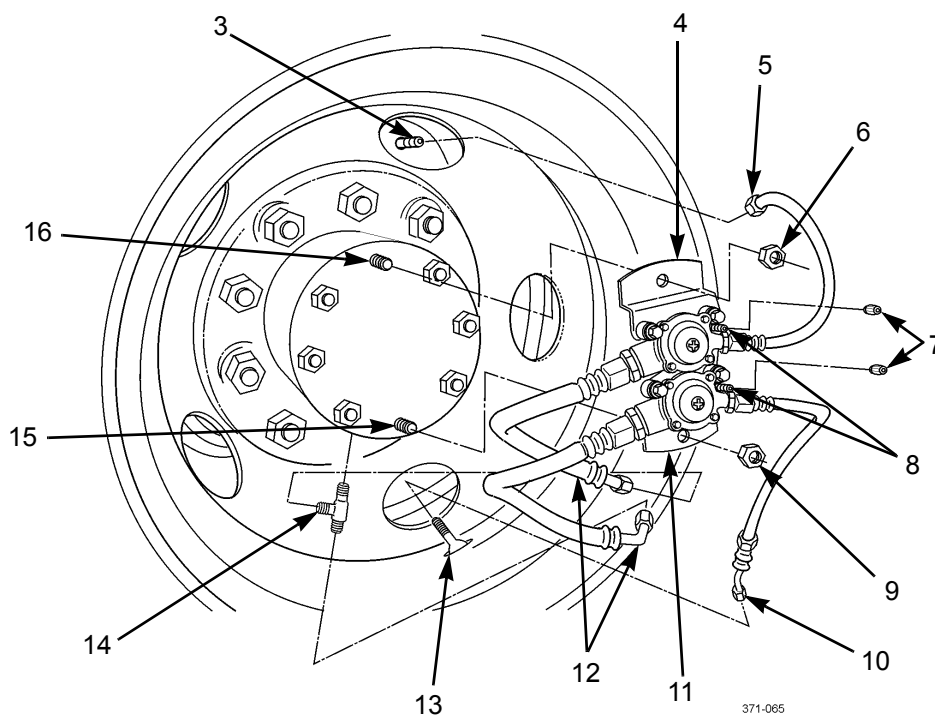
- c. Remove valve stem caps (7) from wheel valves (8) and deflate both tires by pressing on valve stem.



WARNING

Always wear eye protection and drain all air from wet tank before disconnecting CTIS air lines, hoses or fittings. Residual air in tire(s) and air line(s) will be expelled even though tire(s) is flat. Failure to follow this warning could cause serious eye injury.

- d. Disconnect hoses (12) from hub air port connector (14) and remove hub air port connector from hub air port.
- e. Disconnect hose (10) from outer wheel valve stem (13).
- f. Disconnect hose (5) from inner wheel valve stem (3).
- g. Remove hub nut (9) and bracket with outer wheel valve (11) and hoses attached.
- h. Remove hub nut (6) and bracket with inner wheel valve (4) and hoses attached.
- i. Block wheels.



371-065

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED**0014 00****REAR WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED****NOTE**

If replacing inner rear tire, loosen both outer and inner wheel nuts.

- j. Loosen, but do not remove, wheel nuts.

**WARNING**

Hydraulic jack is intended only for lifting truck, not for supporting vehicle to perform maintenance. Do not get under truck after it is raised unless it is properly supported with blocks or jackstands. Failure to observe this warning may result in death or injury to personnel.

- k. Raise jack until tires clear ground.

**WARNING**

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

NOTE

Keep tire in upright position after removal so it can be rolled into position. DO NOT allow tire to fall or lay flat on ground. If tire falls or is laid flat on ground, assistance will be required to raise tire to upright position.

- k.1 Remove outer tire wheel nuts and wheel and tire assembly.
- l. If replacing inner rear tire, remove spacer, wheel nuts, and wheel and tire assembly.
2. **Install Rear Wheel and Tire Assembly.**
 - a. Obtain a deflated replacement wheel and tire assembly ensuring valve stem cap and valve stem core are removed.

**WARNING**

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

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00**REAR WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED**

- b. Position inner wheel and tire assembly on wheel hub. Install wheel nuts and handtighten.
- c. Install spacer.
- d. Position outer wheel and tire assembly on wheel hub with valve stem (13) 180° from inner wheel valve stem. Install wheel nuts and handtighten.
- e. Lower and remove jack.

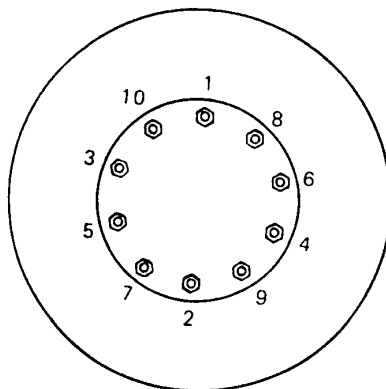
WARNING

Whenever inner and/or outer wheel lug nuts require tightening or a wheel has been removed and replaced, lug nuts must be torqued to the required torque. Failure to follow this warning may result in serious injury to personnel and damage to equipment.

NOTE

Tightening pattern is identical for all wheel assemblies.

- f. Have Unit Maintenance apply proper torque to wheel nuts.

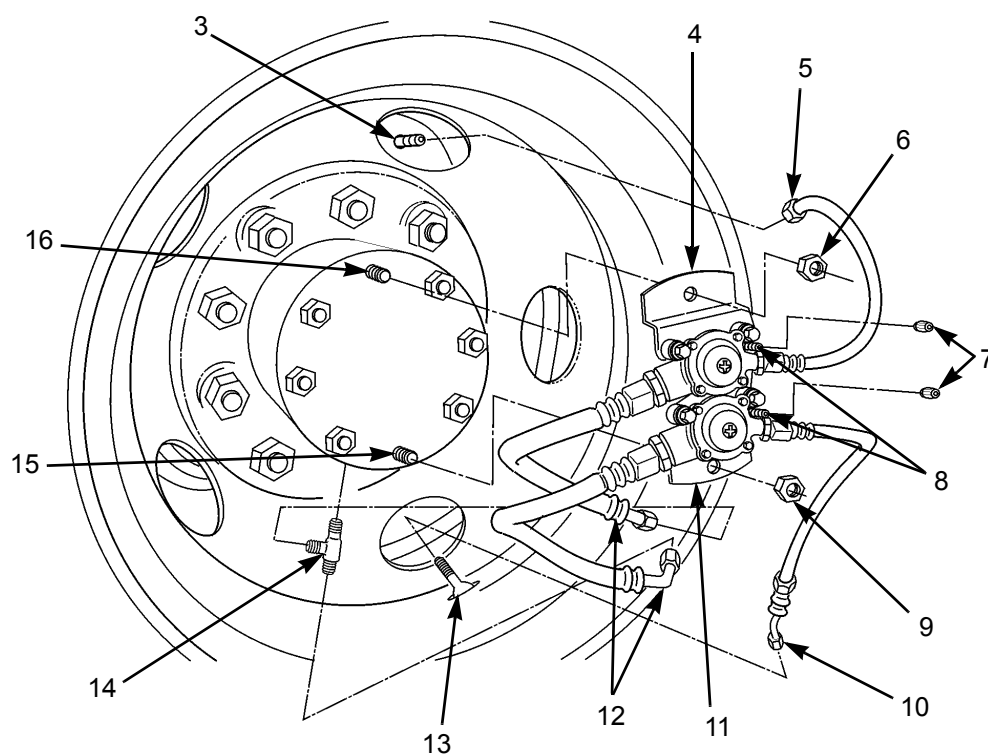
**WHEEL NUT TIGHTENING PATTERN**

- g. Position bracket with inner wheel valve (4) and hoses attached on wheel hub stud (16).
- h. Install nut (6) and have Unit Maintenance apply proper torque.
- i. Position bracket with outer wheel valve (11) and hoses attached on wheel hub stud (15).

WHEEL AND TIRE MAINTENANCE INSTRUCTIONS - CONTINUED

0014 00**REAR WHEEL AND TIRE ASSEMBLY REPLACEMENT
(M916A3, M917A2 AND M917A2 W/MCS) - CONTINUED**

- j. Install nut (9) and have Unit Maintenance apply proper torque.
- k. Install hub air port connector (14) to hub air port.
- l. Connect hoses (12) to hub air port connector (14).
- m. Connect outer wheel valve hose (10) to outer wheel valve (13).
- n. Connect inner wheel valves hose (5) to inner wheel valve stem (3).
- o. Remove wheel blocks.
- p. Inflate tires using CTIS or manual tire inflation procedure.
- q. Install valve stem caps (7) on wheel valves (8).



371-065

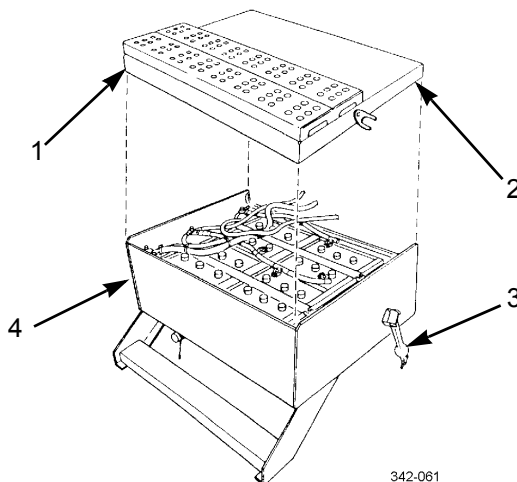
END OF WORK PACKAGE

BATTERY BOX COVER REPLACEMENT

0015 00

**WARNING**

- To avoid eye injury, eye protection is required when working around batteries. DO NOT smoke, use open flame, make sparks, or create other ignition sources around batteries. If a battery is giving off gases, it can explode and cause injury to personnel. Remove all jewelry such as rings, ID tags, watches, and bracelets. If jewelry or a tool contacts a battery terminal, a direct short will result in instant heating, injury to personnel, and damage to equipment.
 - Sulfuric acid contained in batteries can cause serious burns. If battery corrosion or electrolyte makes contact with skin, eyes, or clothing, take immediate action to stop the corrosive burning effects. Failure to follow these procedures may result in death or serious injury to personnel.
 - a. Eyes. Flush with cold water for no less than 15 minutes and seek medical attention immediately.
 - b. Skin. Flush with large amounts of cold water until all acid is removed. Seek medical attention as required.
 - c. Internal. If corrosion or electrolyte is ingested, drink large amounts of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Seek medical attention immediately.
 - d. Clothing/Equipment. Wash area with large amounts of cold water. Neutralize acid with baking soda or household ammonia.
1. Unfasten two latches (3) and slide battery box cover (2) outboard from battery box (4).
 2. Slide battery box cover (2) on battery box (4) with step (1) outboard. Fasten two latches (3).



342-061

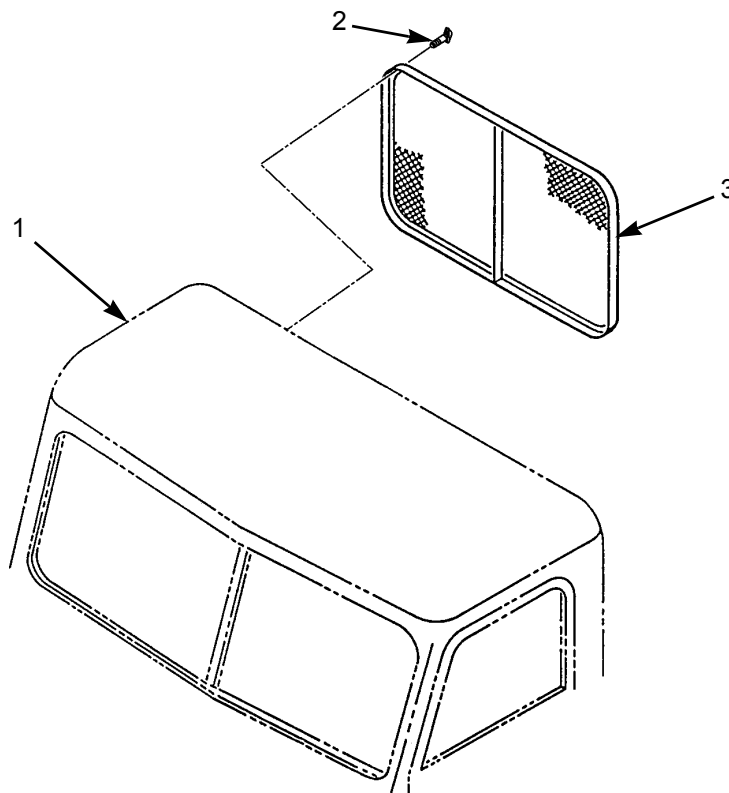
END OF WORK PACKAGE**0015 00-1/(0015 00-2 Blank)**

REAR WINDOW GUARD REPLACEMENT (M915A3, M916A3)

0016 00

REAR WINDOW GUARD REPLACEMENT

1. Remove four thumb screws (2) and guard (3) from cab (1).
2. Position guard (3) on cab (1) and install four thumb screws (2).



371-406

END OF WORK PACKAGE

LUBRICATION INSTRUCTIONS

0017 00**GENERAL****NOTE**

These instructions are mandatory.

1. The M915 Family of Vehicles must receive lubrication with approved lubricants at recommended intervals in order to be mission-ready at all times.
2. The Lubrication Chart shows lubrication points, items to be lubricated, the required lubricants, and recommended intervals for lubrication by the operator/crew. Any special lubrication instructions required for specific components are contained in the NOTES section of the chart.
3. The KEY and CHARTs A thru E provide information needed to select the proper lubricant for various temperature ranges and uses, and identify the interval.
4. Recommended intervals are based on normal conditions of operation, temperature, and humidity. When operating under extreme conditions, lubricants should always be changed more frequently. When in doubt, notify your supervisor.

SPECIFIC LUBRICATION INSTRUCTIONS

1. Keep all lubricants in a closed container and store in a clean, dry place away from extreme heat. Keep container covers clean and do not allow dust, dirt, or other foreign material to mix with lubricants. Keep lubrication equipment clean and ready for use.
2. Maintain a record of lubrication performed and report any problems noted during lubrication. Refer to DA Pam 738-750 for maintenance forms and procedures to record and report any findings.
3. Keep all external parts of equipment not requiring lubrication free of lubricants. After lubrication, wipe off excess lubricant to prevent accumulation of foreign matter.
4. Refer to FM 9-207 for lubrication instructions in cold weather.

LUBRICATION CHART

M915 FAMILY OF VEHICLES

This Lubrication Chart is for the operator/crew (C). Lubrication intervals (on-condition or hard time) are based on normal operation. Lubricate more during constant use and less during inactive periods. Use correct grade of lubricant for seasonal temperature expected.

For equipment under manufacturer's warranty, hard time oil service intervals shall be followed. Intervals shall be shortened if lubricants are known to be contaminated or if operation is under adverse conditions (e.g., longer than usual operating hours, extended idling periods, extreme dust, etc.).

Clean area around lubrication points with detergent (Item 4, WP 0021 00) or equivalent before lubricating equipment. After lubrication, wipe off excess lubricant to prevent accumulation of foreign matter.

Dashed leader line indicates lubrication on both sides of vehicle.

M915 FAMILY OF VEHICLES

LUBRICANT • INTERVAL INTERVAL • LUBRICANT

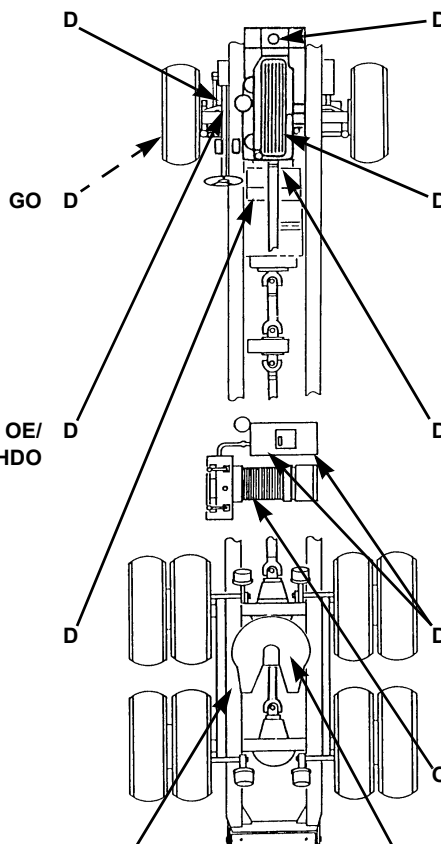
Primary Fuel
Filter
Drain Moisture
(C)
(See View A)

Wheel
Bearings
(M915A3)
Check and Fill
(C)
(See View B &
Note 1)

Power
Steering Reser-
voir
Check & Fill (C)
See View C &
Note 2)

Windshield
Washer Fluid
Check & Fill (C)
See View H

Fifth Wheel
(M915A3)
(See View J &
Note 8) (C)



Radiator
Check & Fill (C)
(See Note 3)

OE/
HDO Engine Crank-
case
Check & Fill (C)
(See View D &
Note 4)

OE/
HDO Transmission
Check & Fill (C)
(See View E &
Note 5)

OE/
HDO Winch Reservoir
(M916A3)
Check & Fill (C)
(See View I &
Note 7)

GAA Winch Cable
(M916A3)
(See Note 7) (C)

GAA OC/
OE/ W
HDO

OC/ GAA
W OE/
HDO Fifth Wheel
(M916A3)
(See View K &
Note 9) (C)

- KEY -

- KEY -

Lubricant/ Component	Refill Capacity	Expected Temperatures*			Intervals
		+6°F to +122°F (-14°C to +50°C)	-4°F to +50°F (-20°C to +10°C)	-67°F to +32°F (-55°C to 0°C)	
OE/HDO (MIL-L-2104) Lubricating Oil, ICE, Tactical					D - Daily W - Weekly OC - On Condition
OEA (MIL-L-46167) Lubricating Oil, ICE, Arctic					
Engine Crankcase w/Filters	41 Qt (38.8 l)	See Chart A			
Transmission (M915A3)	51 Qt (48 l)	See Chart B			
Transmission (M916A3, M917A2)	53 Qt (49.3 l)	See Chart B			
Power Steering Reservoir	2 Qt (1.9 l)	See Chart A			
Winch Reservoir (M916A3)	42 Gal. (159 l)	See Chart E			
Oil Can Points	As Req'd	See Chart A			
GO (MIL-PRF-2105) Lubricating Oil, Gear, Multipurpose					
Front Axle Wheel Bearings (M915A3)	As Req'd	See Chart C			
GAA (MIL-G-10924) Grease, Automotive and Artillery					
Fifth Wheel (M916A3)	As Req'd	All Temperatures			
Winch Cable (M916A3)	As Req'd	All Temperatures			
ANTIFREEZE (MIL-A-46153) Ethylene Glycol, Inhibited, Heavy Duty					
Antifreeze (MIL-A-11755) Ethylene Glycol, Arc- tic Grade					
Engine Radiator	65 Qt (61.5 l)	See Chart D			
* For Arctic Operation, refer to FM 9-207.					

Table 1. CHART A-ENGINE, POWER STEERING, AND OIL CAN POINTS

Lubricant	EXPECTED TEMPERATURES																				
	°F	-70	-60	-50	-40	-30	-20	-10	0	+10	+20	+30	+40	+50	+60	+70	+80	+90	+100	+120	
	°C	-57	-51	-46	-40	-34	-29	-23	-18	-12	-7	-1	+4	+10	+16	+21	+27	+32	+38	+49	
OE/HDO (MIL-L-2104)	Lubricating Oil, ICE, Tactical																				
OEA (MIL-L-46167)	Lubricating Oil, ICE, Arctic																				
OE/HDO- 15/40 (0 - 1236)																					
OE/HDO-10* (0 - 237)																					
OE/HDO-30 (0 - 238)																					
OE/HDO-40 (N/A)																					
OEA * (0 - 183)																					

*If OEA lubricant is required to meet the low expected-temperature range, OEA lubricant is to be used in lieu of OE/HDO-10 lubricant for all expected temperatures where OE/HDO-10 is specified.

Table 2. CHART B-TRANSMISSION

Lubricant	EXPECTED TEMPERATURES																			
	°F	-70	-60	-50	-40	-30	-20	-10	0	+10	+20	+30	+40	+50	+60	+70	+80	+90	+100	+120
	°C	-57	-51	-46	-40	-34	-29	-23	-18	-12	-7	-1	+4	+10	+16	+21	+27	+32	+38	+49
OE/HDO (MIL-L-2104)	Lubricating Oil, ICE, Tactical																			
OEA (MIL-L-46167)	Lubricating Oil, ICE, Arctic																			
OE/HDO-15/40 (0 - 1236)																				
OE/HDO-10 * (0 - 237)																				
OEA * (0 - 183)																				

*If OEA lubricant is required to meet the low expected-temperature range, OEA lubricant is to be used in lieu of OE/HDO-15/40 lubricant for all expected temperatures where OE/HDO-10 and OE/HDO-15/40 are specified.

Table 3. CHART C-FRONT AXLE WHEEL BEARINGS (M915A3)

Lubricant	EXPECTED TEMPERATURES																			
	°F	-70	-60	-50	-40	-30	-20	-10	0	+10	+20	+30	+40	+50	+60	+70	+80	+90	+100	+120
	°C	-57	-51	-46	-40	-34	-29	-23	-18	-12	-7	-1	+4	+10	+16	+21	+27	+32	+38	+49
GO (MIL-PRF-2105)	Lubricating Oil, Gear, Multipurpose																			
GO-75 (0 - 186)																				
GO-80/90 (0 - 226)																				
GO-85/140 (0 - 228)																				

Table 4. CHART D-ANTIFREEZE

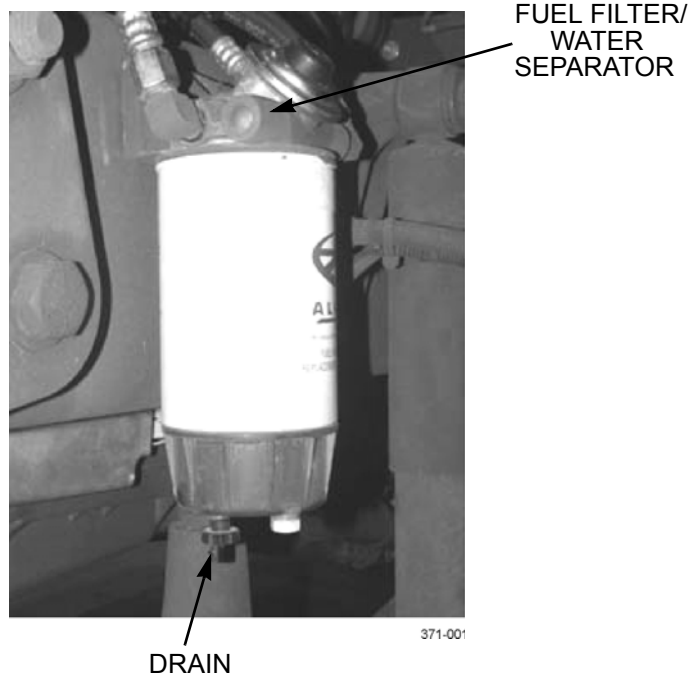
Lubricant	EXPECTED TEMPERATURES																			
	°F	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	+10	+20	+30	+40	+50	+60	+70	+80	+90
	°C	-68	-62	-57	-51	-46	-40	-34	-29	-23	-18	-12	-7	-1	+4	+10	+16	+21	+27	+32
MIL-A-46153	Antifreeze, Ethylene Glycol, Inhibited, Heavy Duty																			
MIL-A-11755	Antifreeze, Arctic Grade																			
MIL-A-46153																				
MIL-A-11755																				

Table 5. CHART E— M916A3 WINCH RESERVOIR

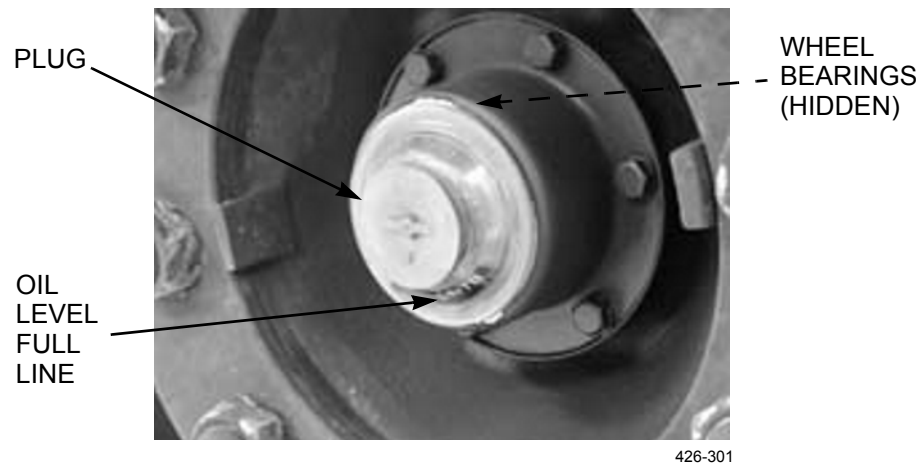
Lubricant	EXPECTED TEMPERATURES																				
	°F	-70	-60	-50	-40	-30	-20	-10	0	+10	+20	+30	+40	+50	+60	+70	+80	+90	+100	+120	
	°C	-57	-51	-46	-40	-34	-29	-23	-18	-12	-7	-1	+4	+10	+16	+21	+27	+32	+38	+49	
OE/HDO (MIL-L-2104)	Lubricating Oil, ICE, Tactical																				
OEA (MIL-L-46167)	Lubricating Oil, ICE, Arctic																				
OE/HDO-10* (0 - 237)																					
OEA * (0 - 183)																					

*If OEA lubricant is required to meet the low expected-temperature range, OEA lubricant is to be used in lieu of OE/HDO-10 lubricant for all expected temperatures where OE/HDO-10 is specified.

VIEW A-FUEL FILTER/WATER SEPARATOR



**VIEW B-FRONT AXLE WHEEL BEARINGS
(M915A3)**



VIEW C-POWER STEERING RESERVOIR

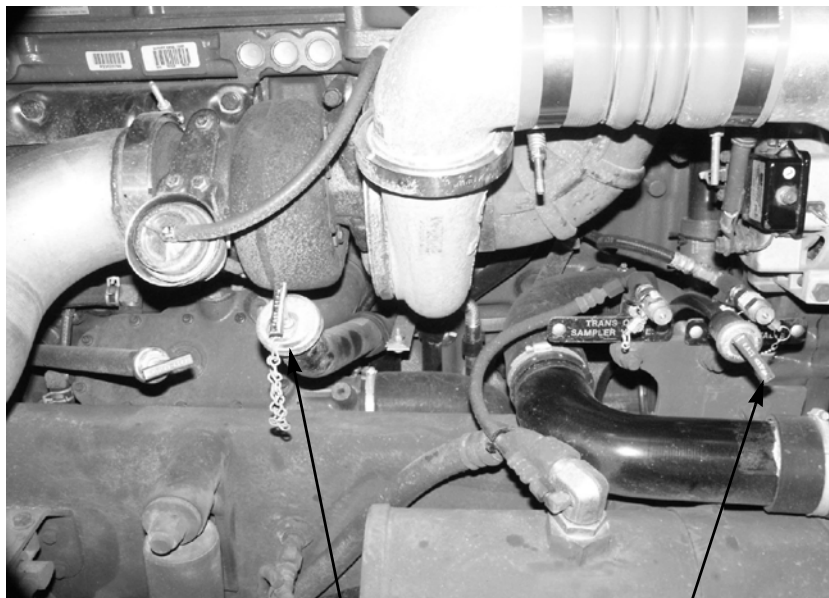


FILL AND
CHECK

POWER
STEERING
RESERVOIR

426-193a

VIEW D-ENGINE CRANKCASE

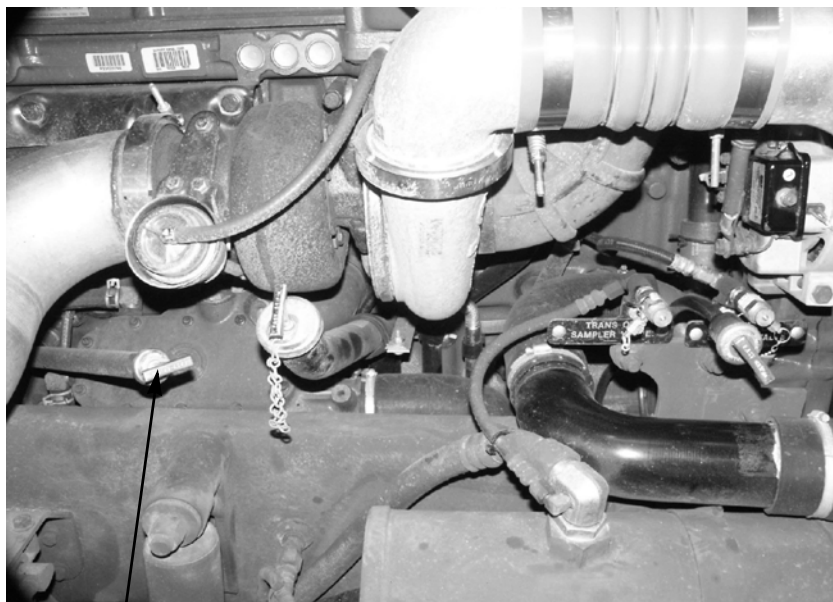


371-021

ENGINE
OIL FILL

ENGINE
OIL CHECK

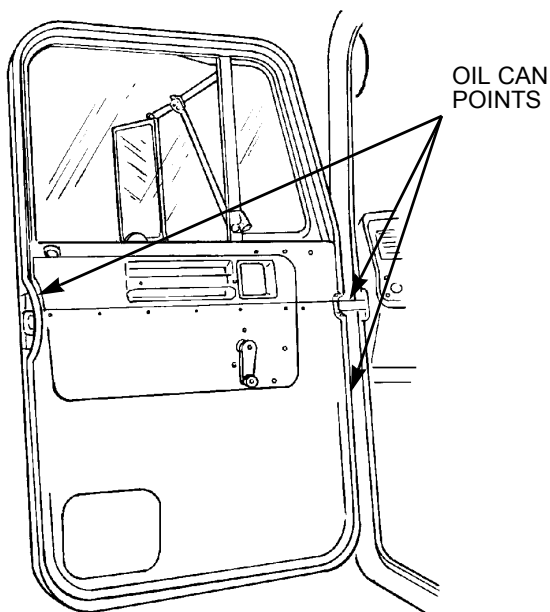
VIEW E-TRANSMISSION



TRANSMISSION OIL
CHECK AND FILL

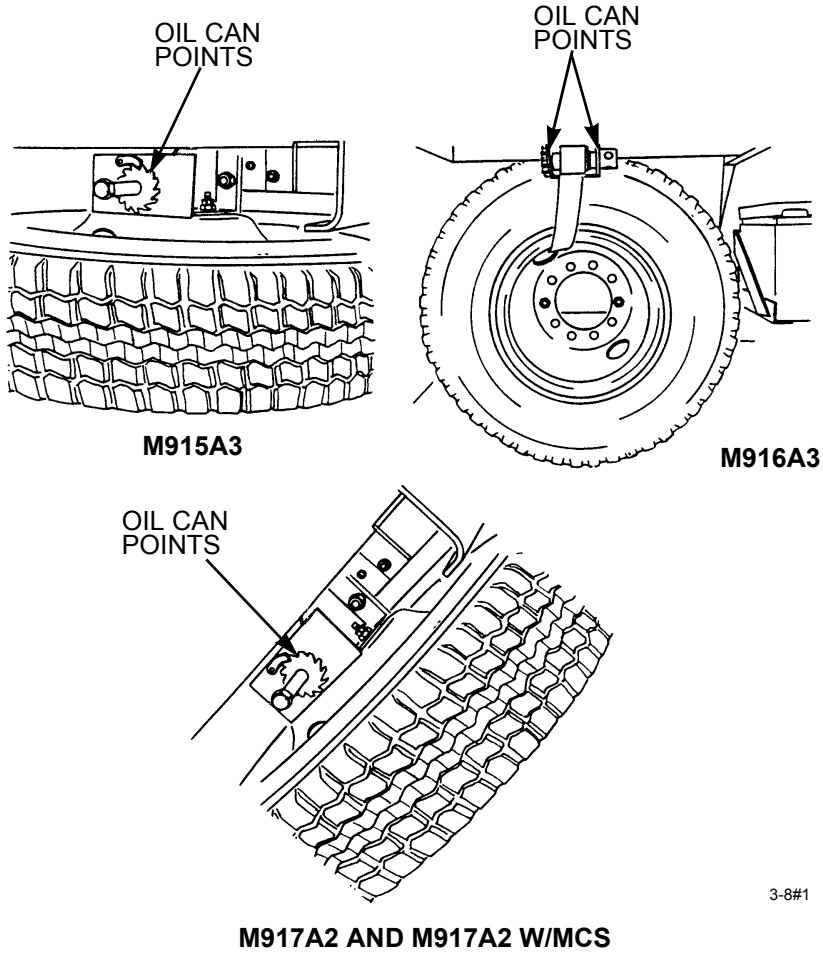
371-021

VIEW F-CAB DOOR

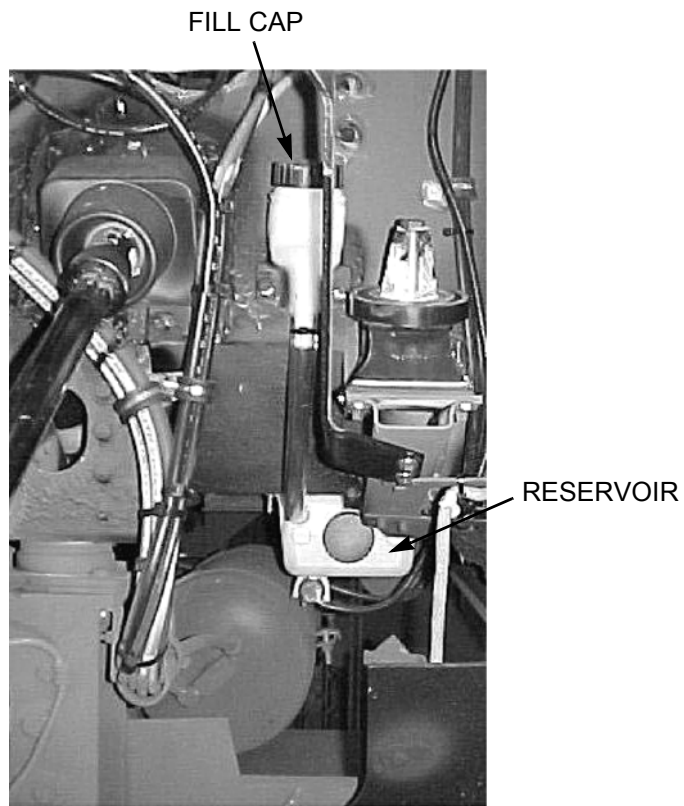


371-530

VIEW G-SPARE WHEEL AND TIRE CARRIER

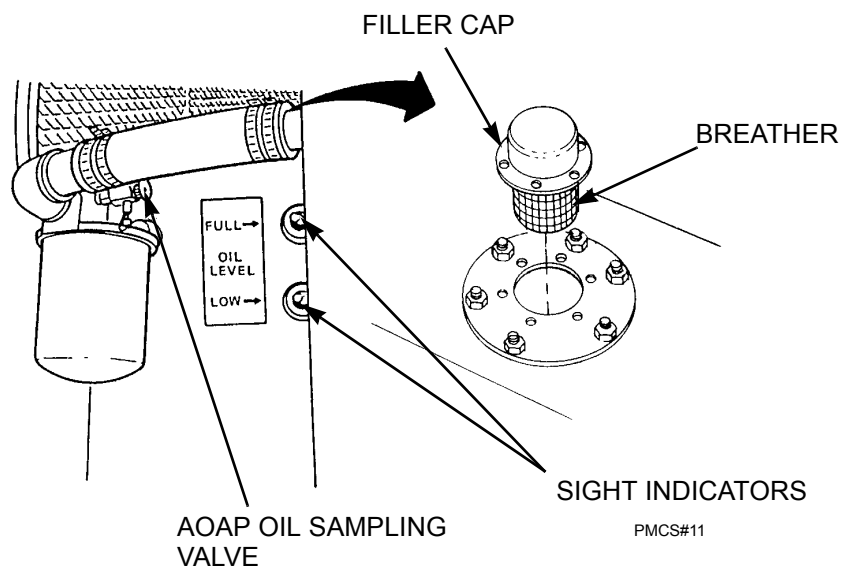


VIEW H-WINDSHIELD WASHER



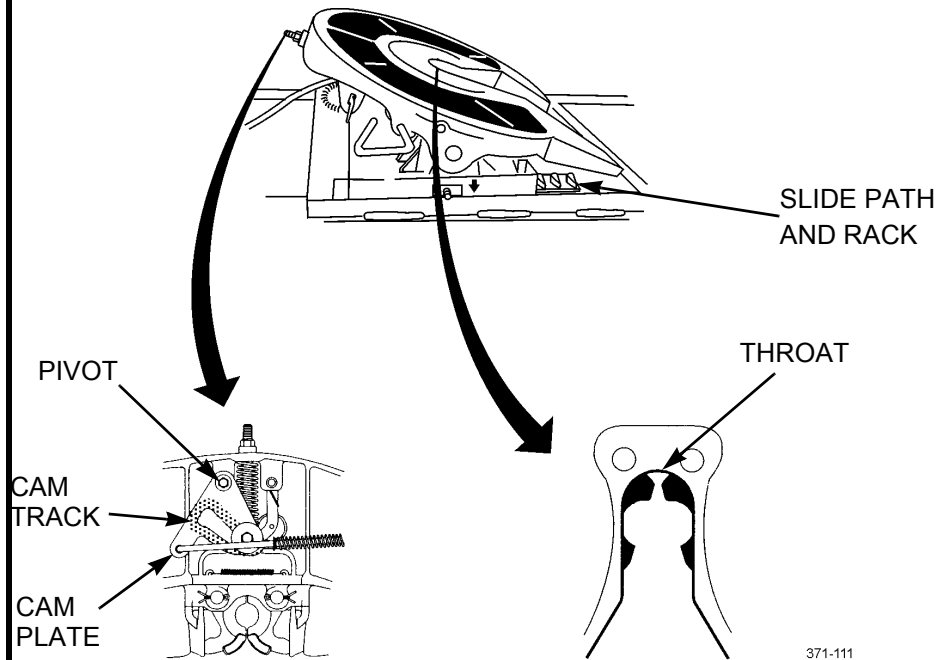
371-033

VIEW I- M916A3 WINCH RESERVOIR

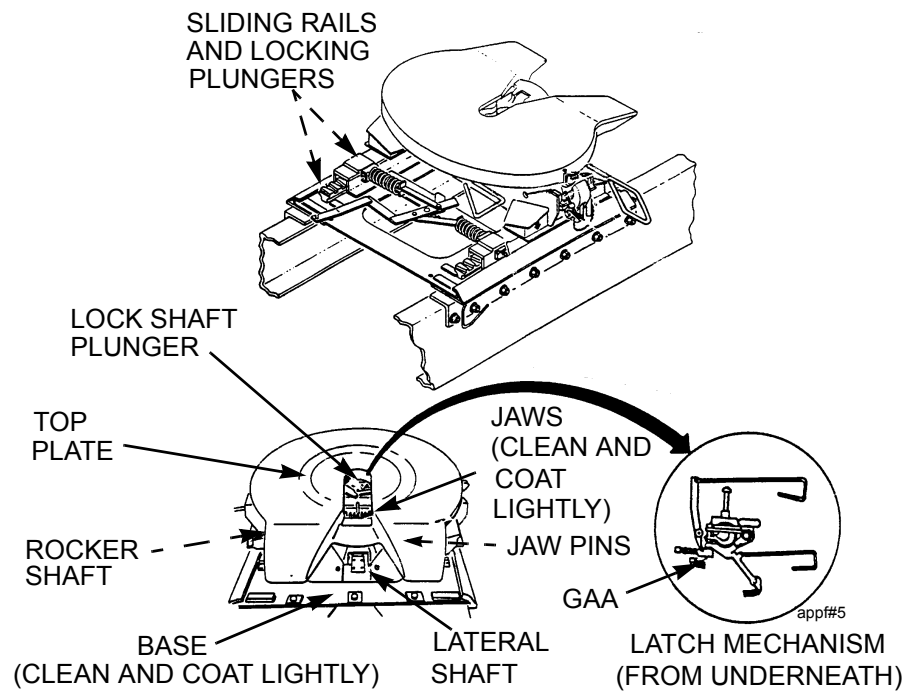


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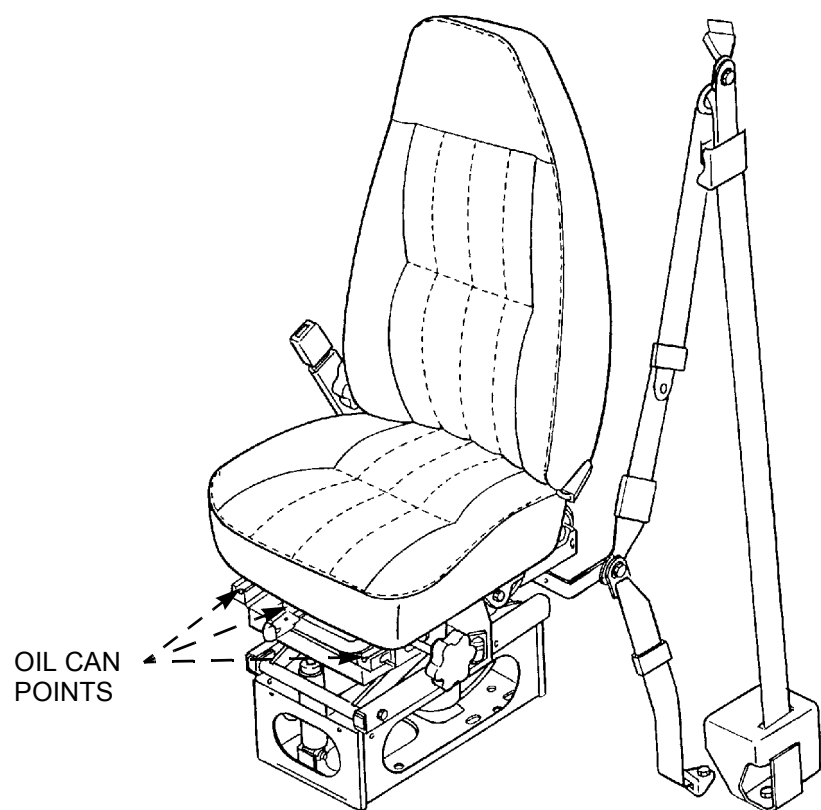
VIEW J - M915A3 FIFTH WHEEL



VIEW K- M916A3 FIFTH WHEEL



VIEW L- SEATS



342-024

NOTES:

1. **FRONT AXLE WHEEL BEARINGS (M915A3).** Daily, check that level of gear lubricating oil is visible in sight glass. Oil level should be even with FULL line on cap. If oil is not even with FULL line, remove rubber plug and add GO until level is even with FULL line. Install rubber plug.
2. **POWER STEERING RESERVOIR.** Daily, with engine running and fluid at operating temperature, remove dipstick from reservoir and check level of lubricating oil on dipstick. As required, add OE/HDO to bring level above the ADD mark on dipstick.
3. **RADIATOR.** Daily, with engine cool, check level of coolant in expansion tank. As required, add coolant to correct level. Check for oil in coolant. If oil is suspected, notify Unit Maintenance.
4. **ENGINE CRANKCASE.** Daily, check level of lubricating oil. Wait 10 minutes after shutting down engine to allow oil to drain back into crankcase. To ensure an accurate reading, vehicle must be parked on level ground. Safe operating level is between ADD and FULL marks on dipstick. As required, add OE/HDO through filler opening. DO NOT overfill.
5. **TRANSMISSION.**

CAUTION

- Transmission must not be operated for extended periods of time until a Hot Check has verified proper fluid level. Transmission damage can result from extended operation at improper fluid level conditions.
- If water is suspected in transmission oil (oil is cloudy, gray, pink, or strawberry color) notify Unit Maintenance.

COLD OIL CHECK (COLD RUN BAND). Run engine for one minute at idle speed. Idle engine in N (Neutral) until transmission reaches 60°-120°F (16°-49°C). Shift transmission to D (Drive), to R (Reverse), and return to N (Neutral). Remove dipstick from oil filler tube, wipe clean, and check oil level. Oil registering in the COLD RUN band indicates a sufficient quantity of oil to safely operate transmission until temperature reaches 160°-200°F (71°-93°C). If fluid level is not within COLD RUN band, add or drain fluid to bring level within the band. When temperature reaches 160°-200°F (71°-93°C), a hot oil check **MUST** be performed.

HOT OIL CHECK (HOT RUN BAND). Hot oil check can be performed two ways. If equipped, perform electronic transmission fluid check (WP 0005 00). If not electronically equipped, be sure temperature is between 140°F (60°C) and 220°F (104°C). With truck on level ground, engine idling, and transmission in N (Neutral), remove dipstick from oil filler tube, wipe clean, and check oil level. If oil registers in the HOT RUN band, quantity of oil in transmission is safe for operating vehicle. If fluid level registers on or below the bottom line of the HOT RUN band, add required amount of oil to bring oil level to the middle of the HOT RUN band.

6. **OIL CAN POINTS.** On-condition or weekly, lubricate sparingly with OE/HDO: door hinges and latches (View F); spare wheel and tire carrier ratchet gear shaft (View G), and driver and passenger seat adjusters and sliding tracks (View L).

7. **M916A3 WINCH:**

HYDRAULIC RESERVOIR. Daily, check level of lubricating oil in reservoir. Level is low if not visible or just visible in lower sight indicator. To add oil, remove filler cap and add OE/HDO until level is visible in top sight indicator. Before reinstalling filler cap, remove any debris from filler cap strainer. Notify Unit Maintenance to change oil if oil appears milky or contains metallic particles.



WARNING

- Always wear heavy gloves when you handle winch wire rope. Never allow wire- rope to run through your hand as broken wires can cause injury.
- Hearing protection is required for operator and all personnel working on or around winch station during operation.

WINCH CABLE. On-condition, clean and lubricate cable. Unwind cable and soak in clean OE/HDO overnight. Clean with a brush. Wipe off excess oil. Coat with GAA before rewinding cable on drum.

8. **FIFTH WHEEL (M915A3).** Weekly or on-condition, apply GAA to lock jaws and front of throat. Clean and lubricate slide path and rack, pivot, cam track, and cam plate with detergent and OE/HDO. Ensure lube plates are free of lubricant, dirt, and debris.
9. **FIFTH WHEEL (M916A3).** Weekly or on-condition, apply GAA to top plate, latch mechanism, slider rails, and locking plungers. Clean and lubricate moving parts on underside with detergent and OE/HDO.

END OF WORK PACKAGE

TM 9-2320-302-10

CHAPTER 5
SUPPORTING INFORMATION

REFERENCES

0018 00

SCOPE

This work package lists all forms, field manuals, technical manuals, and other publications referenced in this manual which apply to the operation of the M915 Family of Vehicles.

PUBLICATION INDEXES

The following indexes should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual.

Consolidated Index of Army Publications and Blank Forms	DA Pam 25-30
Functional User's Manual for the Army Maintenance Management System	DA Pam 738-750
U.S. Army Equipment Index of Modification Work Orders	DA Pam 750-10

FORMS

Refer to DA Pam 738-750, *The Army Maintenance Management System (TAMMS)*, for instructions on the use of maintenance forms.

Equipment Inspection and Maintenance Worksheet.	DA Form 2404
	DA Form 5988-E
Equipment Log Assembly (Records)	DA Form 2408
Product Quality Deficiency Report.	SF Form 368
Recommended Changes to Equipment Technical Publications	DA Form 2028-2
Recommended Changes to Publications and Blank Forms	DA Form 2028

FIELD MANUALS

Basic Cold Weather Manual	FM 31-70
Camouflage	FM 5-20
Desert Operations	FM 90-3
Driver Selection and Training (Wheeled Vehicles)	FM 21-300
First Aid Manual	FM 4-25.11
Manual for the Wheeled Vehicle Driver	FM 21-305
NBC Contamination Avoidance	FM 3-3
NBC Decontamination	FM 3-5
NBC Protection	FM 3-4
Northern Operations	FM 31-71
Recovery and Battlefield Damage Assessment and Repair	FM 9-43-2
Rigging Techniques, Procedures, and Applications	FM 5-125

REFERENCES - CONTINUED**0018 00****TECHNICAL MANUALS**

- Operator's, Organizational, Direct Support and General Support
Maintenance Manual for Lead-acid Storage Batteries TM 9-6140-200-14
- Operator's, Unit, Direct Support Maintenance Manual
with RPSTL for M917A2 and M917A2 w/MCS Dump
Truck Body TM 5-3805-264-14&P
- Operator's, Unit, Direct Support, and General Support
Maintenance Manual (Including Repair Parts and Special
Tools List) for Semitrailer, Lowbed: 40 Ton Construction
Equipment Transporter, M870/M870A1 TM 5-2330-378-14&P
- Operator's, Unit, Direct Support, and General Support
Maintenance Manual with RPSTL for 6,000 Gallon
Semitrailer Water Distributor Model WD6S TM 5-3825-225-14&P
- Operator's, Unit, Direct Support, and General Support
Maintenance Manual with RPSTL for 6,000 Gallon
Water Distributor Model 60 PRS TM 5-3825-229-14&P
- Operator's, Unit, Direct Support and General Support Maintenance
Manual for Care, Maintenance, Repair and Inspection of
Pneumatic Tires and Inner Tubes TM 9-2620-200-14
- Operator's, Unit, Direct Support, and General Support
Maintenance Manual (Including Repair Parts and Special
Tools List) for Semitrailer, Flatbed: Breakbulk/Container
Transporter, 34 Ton M872/M872A1/M872A2/M872A3 TM 9-2330-358-14&P
- Operator's, Unit, Direct Support, and General Support
Maintenance Manual (Including Repair Parts and Special
Tools List) for Semitrailer, Tactical, Dual Purpose
Breakbulk/Container Transporter, 22 ½ Ton
M871/M871A1 TM 9-2330-359-14&P
- Operator's, Unit, Direct Support, and General Support
Maintenance Manual (Including Repair Parts and Special
Tools List) for Semitrailer, Tank, Fuel, 7500 Gallon,
M1062 TM 9-2330-384-14&P
- Operator's, Unit, Direct Support, and General Support
Maintenance Manual (Including Repair Parts and Special
Tools List) for Self-Loading and Off-Loading Trailer, M1143 TM 9-2330-331-14&P

REFERENCES - CONTINUED

0018 00

TECHNICAL MANUALS - CONTINUED

Operator's, Unit, Direct Support, and General Support
Maintenance Manual (Including Repair Parts and Special
Tools List) for Semitrailer, Tank, Fuel, 5000 Gallon,
M967/M969. TM 9-2330-356-14&P

Operator's, Unit, Direct Support, and General Support
Maintenance Manual for Semitrailer, 15 to 25 Ton,
4-wheel, M172A1 TM 9-2330-211-14&P

Principles of Automotive Vehicles TM 9-8000

Procedures for Destruction of Tank-automotive Equipment to
Prevent Enemy Use TM 750-244-6

Rigging TM 5-725

TECHNICAL BULLETINS

CARC Spot Painting. TB 43-0242

Rust Proofing Procedures for Truck, Utility. TB 43-0213

Warranty Bulletin for M915 Family of Vehicles TB 9-2320-302-15

OTHER PUBLICATIONS

Abbreviations and Acronyms ASME Y14.38-1999

Army Medical Department Expendable/Durable Items CTA 8-100

Expendable/Durable Items (Except Medical, Class V
Repair Parts and Heraldic Items). CTA 50-970

Prevention of Motor Vehicle Accidents AR 385-55

END OF WORK PACKAGE

**COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE
ITEMS (BII) LISTS**

0019 00

SCOPE

This work package lists COEI and BII for the M915 Family of Vehicles to help you inventory items for safe and efficient operation of the equipment.

GENERAL

The COEI and BII information is divided into the following lists:

1. **Components of End Item (COEI).** This list is for information purposes only and is not authority to requisition replacements. These items are part of the M915 Family of Vehicles. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.
2. **Basic Issue Items.** These essential items are required to place the M915 Family of Vehicles in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the M915 Family of Vehicles during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the TOE/MTOE. Illustrations are furnished to help you identify the items.

EXPLANATION OF COLUMNS IN THE COEI AND BII LISTS

1. **Column (1) - Illus Number.** Gives you the number of the item illustrated.
2. **Column (2) - National Stock Number (NSN).** Indicates the stock number of the item to be used for requisitioning purposes.
3. **Column (3) - Description, CAGEC, and Part Number.** Indicates the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COEI and BII is also included in this column. The last line below the description is the CAGEC (Commercial and Government Entity Code) (in parentheses) and the part number.

5A3	M915A3
6A3	M916A3
7A2	M917A2
7E2	M917A2 w/MCS
5. **Column (5) - Unit of Measure (U/M).** Indicates the physical measurement or count of the item as issued per the National Stock Number shown in Column (2).
6. **Column (6) - Qty Rqr.** Indicates the quantity required.

**COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE
ITEMS (BII) LISTS - CONTINUED**

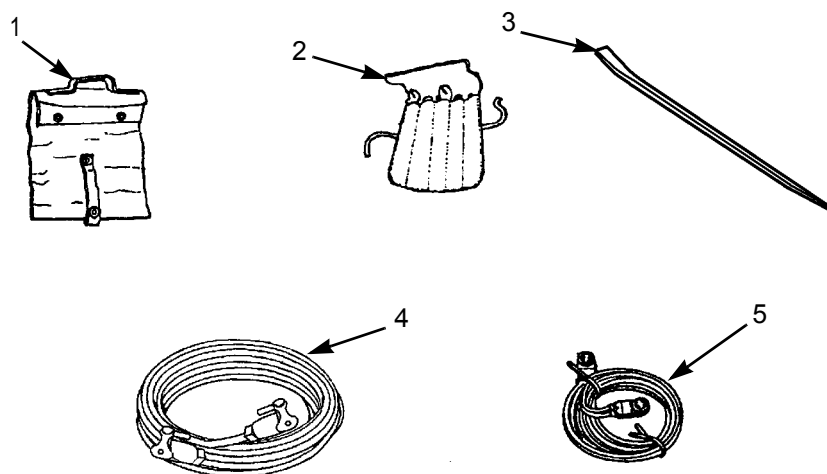
0019 00

Table 1. Components of End Item List.

(1) Illus Number	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) Usable on Code	(5) U/M	(6) Qty Rqr
		None			

**COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE
ITEMS (BII) LISTS - CONTINUED**

0019 00



371-522

Table 2. Basic Issue Items List.

(1) Illus Number	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) Usable on Code	(5) U/M	(6) Qty Rqr
1	2540-00-670-2459	BAG ASSY, PAMPHLET (in cab glove box) (19207) 11676920		ea	1
2	5140-00-356-8471	BAG, TOOL (in BII storage box) (19204) 7541507		ea	1
3	5120-01-486-2075	BAR, PRY (in BII Storage Box) (1CV05) 2120	6A3	ea	1
4	6150-00-772-8814	CABLE ASSY: 24 Volt, 12 Ft (in BII storage box) (19207) 7728814	5A3,6A3	ea	1
5	6150-01-022-6004	CABLE, POWER: NATO (in BII storage box) (19207) 11682336-1		ea	1

**COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE
ITEMS (BII) LISTS - CONTINUED**

0019 00

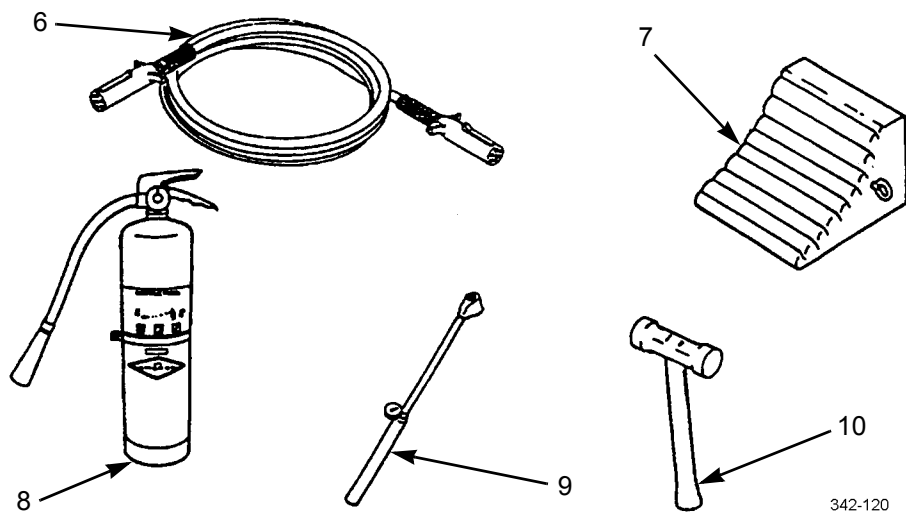


Table 2. Basic Issue Items List - Continued.

(1) Illus Number	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) Usable on Code	(5) U/M	(6) Qty Rqr
6	6150-01-478-6510	CABLE ASSY, POWER: 12 Volt, 12 Ft (in BII storage box) (64678) PHM-42FL40-144	5A3,6A3	ea	1
7	2540-00-678-3469	CHOCK, WHEEL (in BII storage box) (58536) A-A-52475-1		ea	2
8	4210-01-338-6064	EXTINGUISHER, FIRE (on cab floor) (54905) 447		ea	1
9	4910-01-003-9599	GAGE, TIRE PRESSURE (in tool bag) (19207) 7974576-1		ea	1
10	5120-00-242-3915	HAMMER, HAND (in BII storage box) (80063) SMC133095		ea	1

**COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE
ITEMS (BII) LISTS - CONTINUED**

0019 00

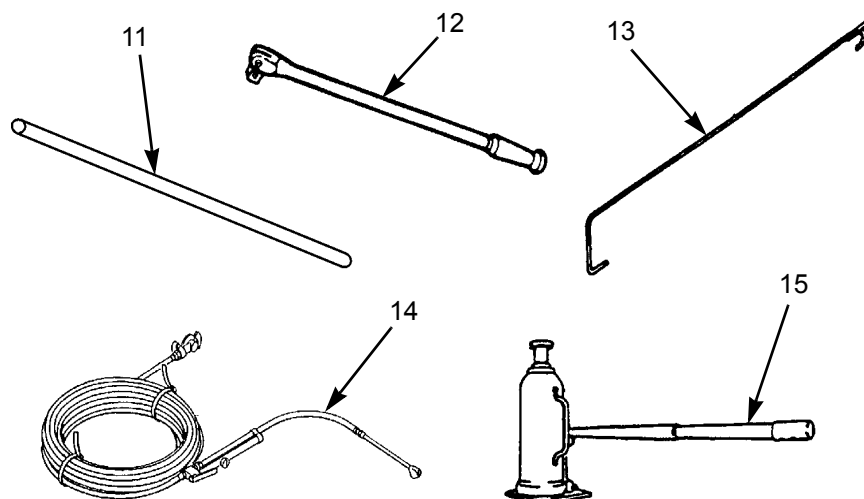
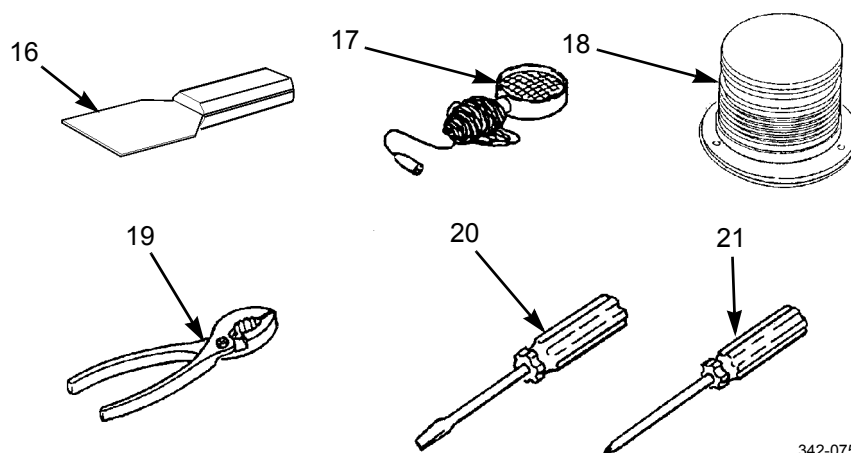


Table 2. Basic Issue Items List - Continued.

(1) Illus Number	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) Usable on Code	(5) U/M	(6) Qty Rqr
11	5120-00-243-2419	HANDLE, LUG WRENCH (in BII storage box) (19207) 6196147		ea	1
12	5120-00-221-7958	HANDLE, WRENCH (in BII storage box) (19207) 6169933	5A3	ea	1
13	5340-01-328-4444	HOOK (on side of 5th wheel) (74410) XA-0756	6A3	ea	1
14	4910-01-407-2953	HOSE PNEUMATIC: Tire Inflation with Gauge, 40 Ft (in BII storage box) (19207) 11677140-7		ea	1
15	5120-01-146-8096	JACK, HYDRAULIC: 12 Ton w/2-Piece Handle (in BII storage box) (63704) 28961		ea	1

**COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE
ITEMS (BII) LISTS - CONTINUED**

0019 00



342-075

Table 2. Basic Issue Items List - Continued.

(1) Illus Number	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) Usable on Code	(5) U/M	(6) Qty Rqr
16	5110-00-223-8827	KNIFE, SCRAPING: 3 inch blade (in tool bag) (80204) PD5110-00-223-8827	5A3	ea	1
17	6220-01-327-3225	LAMP UNIT, VEHICULAR: 12 Volt, 25 Ft Cord (in BII storage box) (78422) 1401152		ea	2
18	6220-01-495-2851	LIGHT, WARNING (66654) SY22011H-A		ea	1
19	5120-01-398-7966	PLIERS, SLIPJOINT (in tool bag) (96508) J26		ea	1
20	5120-00-227-7356	SCREWDRIVER, FLAT TIP (in tool bag) (64067) 5120-00-227-7356		ea	1
21	5120-00-234-8913	SCREWDRIVER, CROSSTIP (in tool bag) (19207) 11655777-12		ea	1

**COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE
ITEMS (BII) LISTS - CONTINUED**

0019 00

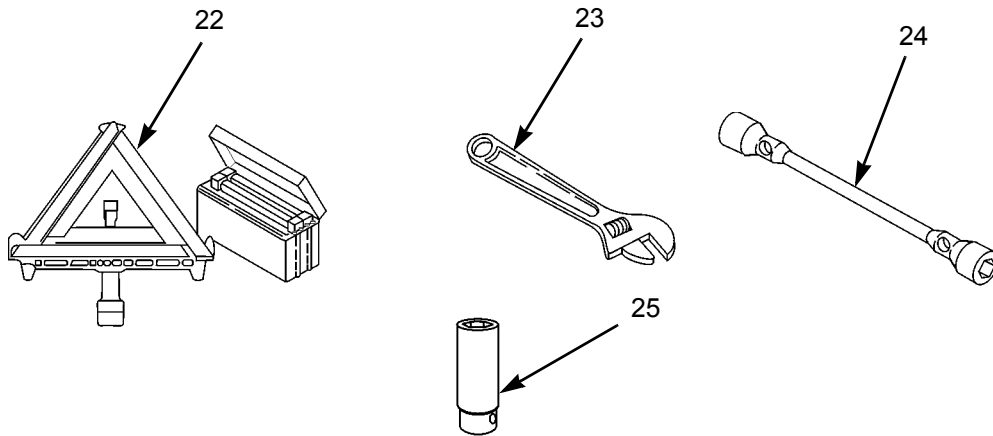


Table 2. Basic Issue Items List - Continued.

(1) Illus Number	(2) National Stock Number	(3) Description, CAGEC, and Part Number	(4) Usable on Code	(5) U/M	(6) Qty Rqr
22	9905-00-148-9546	WARNING DEVICE KIT (in BII storage box) (19207) 11669000		ea	1
23	5120-00-240-5328	WRENCH, ADJUSTABLE: 8 in (in tool bag) (19207) 11655778-3		ea	1
24	5120-01-484-3896	WRENCH, SOCKET (in BII storage box) (64678) BUD/19951		ea	1
25	5130-00-714-0600	WRENCH, SOCKET, 15/16 (in BII storage box) (1CV05) 7330H		ea	1

END OF WORK PACKAGE

ADDITIONAL AUTHORIZATION LIST (AAL)**0020 00****SCOPE**

This work package lists additional items you are authorized for the support of the M915 Family of Vehicles.

GENERAL

This list identifies items that do not have to accompany the M915 Family of Vehicles and that do not have to be turned in with it. These items are authorized to you by CTA, MTOE TDA, or JTA.

EXPLANATION OF COLUMNS IN THE AAL

1. **Column (1) - National Stock Number (NSN).** Identifies the stock number of the item to be used for requisitioning purposes.
2. **Column (2) - Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N).** Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The last line below the description is the CAGEC (in parentheses) and the part number.
3. **Column (3) - Usable on Code.** When applicable, gives you a code if the item you need is not the same for different models of equipment.

5A3	M915A3
6A3	M916A3
7A2	M917A2
7E2	M917A2 w/MCS
4. **Column (4) - Unit of Measure (U/M).** Indicates the physical measurement or count of the item as issued per the National Stock Number shown in Column (1).
5. **Column (5) - Qty Recm.** Indicates the quantity recommended.

ADDITIONAL AUTHORIZATION LIST (AAL) - CONTINUED

0020 00

Table 1. Additional Authorization List.

(1) National Stock Number	(2) Description, CAGEC, and Part Number	(3) Usable on Code	(4) U/M	(5) Qty Recm
6130-01-449-7594	ANALYZER, CHARGER: Battery (09GZS) VC-5		ea	1
5110-00-293-2336	AXE, SINGLE BIT: 4-16-HD Wt, 35.5- 36.5 in. Long (19207) 6150925		ea	1
7510-00-889-3494	BINDER, LOOSELEAF (19207) 11677003		ea	1
5510-00-491-0306	BLOCK, WOOD: 4X8X9 in. (19207) CPR103023-1		ea	1
5510-00-491-0307	BLOCK, WOOD: 7X8X9 in. (19207) CPR103023-2		ea	1
5340-01-345-4676	BRACKET, MOUNTING: Decontamination Kit (64678) 681 899 01 K0		ea	1
2540-01-453-0497	CHAINS, TIRE (80535) 2245	5A3	pr	2
2540-01-396-1914	CHAINS, TIRE (80535) 002-2749	6A3 7A2	pr	2
5340-00-545-2337	CLEVIS, ROD END Part of Tow Bar 2540-01-267-2912 (19207) 8724449		ea	2
4230-01-133-4124	DECONTAMINATION APPARATUS (81361) E5-51-527		ea	1
8415-00-268-7859	GLOVES, WELDER'S (58536) A-A-50022	6A3	pr	1
5120-00-288-6574	HANDLE, MATTOCK-PICK: 35.5-36.5 in. Long (19207) 11677021		ea	1
5895-01-361-7606	INSTALLATION KIT, SINGGARS (80063) A3104086	5A3	ea	1
2530-01-479-4198	KIT, AIR DEFLECTOR (64678) 681 790 02 K0	5A3,6A3	ea	1

ADDITIONAL AUTHORIZATION LIST (AAL) - CONTINUED

0020 00

Table 1. Additional Authorization List - Continued.

(1) National Stock Number	(2) Description, CAGEC, and Part Number	(3) Usable on Code	(4) U/M	(5) Qty Recm
2540-01-479-2467	KIT, ARCTIC HEATER (64678) 681 830 10 K2	5A3,6A3	ea	1
	KIT, FENDER (64678) A22-53823-000	5A3	ea	1
	KIT, FENDER (64678) A22-53824-000	6A3	ea	1
6545-00-922-1200	KIT, FIRST AID (19207) 11677011		ea	1
1005-01-439-9229	KIT, RIFLE MOUNTING (64678) 681 816 00 K2		ea	1
5120-00-243-2395	MATTOCK: 5 Lb Without Handle (19207) 11677022		ea	1
5340-00-158-3805	PADLOCK (58536) AA59487-2S	5A3 6A3 7A2	ea ea ea	4 7 3
5315-00-539-9174	PIN Part of Tow Bar 2540-01-267-2912 (19207) 10929861		ea	1
5315-00-350-4326	PIN, LOCKING Part of Tow Bar 2540-01-267-2912 (19207) 5213744		ea	1
5120-00-293-3336	SHOVEL, HAND: Rd-Pt, D-Hdl, Short Size 2 (19207) 11655784	5A3,6A3	ea	1
2610-01-506-0388	TIRES,OFF-ROAD: XZY-2, 11R22.5, H (12195) 97624	5A3	ea	11
2540-01-267-2912	TOW BAR: Medium Duty (19207) 12322663		ea	1

END OF WORK PACKAGE

EXPENDABLE AND DURABLE ITEMS LIST

0021 00**SCOPE**

This work package lists expendable and durable items that you will need to operate and maintain the M915 Family of Vehicles. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, *Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items)*, or CTA 8-100, *Army Medical Department Expendable/Durable Items*.

EXPLANATION OF COLUMNS IN THE EXPENDABLE/DURABLE ITEMS LIST

1. **Column (1) - Item Number.** This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item [e.g., detergent (Item 4, WP 0021 00)].
2. **Column (2) - Level.** This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
3. **Column (3) - National Stock Number (NSN).** This is the NSN assigned to the item which you can use to requisition it.
4. **Column (4) - Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N).** This provides the other information you need to identify the item.
5. **Column (5) - Unit of Measure (U/M).** This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0021 00

Table 1. Expendable and Durable Items List.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description CAGEC, and Part Number	(5) U/M
1	C	6850-01-441-3218 6850-00-181-7933 6850-01-441-3223	ANTIFREEZE: Permanent, Ethylene Glycol, Inhibited (58536) AA52624-1-A 1 Gallon Bottle 5 Gallon Can 55 Gallon Drum	gl gl gl
2	C	6850-01-441-3248	ANTIFREEZE: Permanent, Type: Arctic Grade (58536) A-A-52624 55 Gallon Drum	gl
3	C	6850-00-926-2275	COMPOUND: Cleaning, Windshield (0FTT5) 0854-000 16 Ounce Can	oz
4	C	7930-00-282-9699	DETERGENT: General Purpose, Liquid (83421) 7930-00-282-9699 1 Gallon Can	gl
5	C	9140-00-286-5295 9140-00-286-5296 9140-00-286-5297	FUEL: Diesel, DF-2 Grade (81346) ASTM D 975 5 Gallon Can DF-1 Grade 55 Gallon Drum, 16 Gage 55 Gallon Drum, 18 Gage	gl gl gl

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0021 00

Table 1. Expendable and Durable Items List - Continued.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description CAGEC, and Part Number	(5) U/M
6	C	9130-01-031-5816	FUEL, TURBINE: Aviation (81349) MILT83133 GR JP8	gl
7	C		GREASE: Automotive and Artillery, GAA (81349) M-10924-A	
		9150-01-197-7693	14 Ounce Cartridge	oz
		9150-01-197-7688	2 1/4 Ounce Tube	oz
		9150-01-197-7690	2 1/4 Pound Can	lb
		9150-01-197-7692	35 Pound Pail	lb
		9150-01-197-7691	120 Pound Drum	lb
8	C		OIL: Lubricating GO 75 (81349) M2105-1-75W	
		9150-01-035-5390	1 Quart Can	qt
		9150-01-035-5391	5 Gallon Can	gl
9	C		OIL: Lubricating, Gear, Multipurpose, GO 80/90 (81349) M2105-1-80W90	
		9150-01-035-5392	1 Quart Can	qt
		9150-01-035-5395	5 Gallon Can	gl
		9150-01-035-5394	55 Gallon Drum, 16 Gage	gl
10	C		OIL, Lubricating GO 85/140 (81349) M2105-1-85W140	
		9150-01-048-4591	1 Quart Can	qt
		9150-01-035-5395	5 Gallon Can	gl
		9150-01-035-5396	55 Gallon Drum	gl

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0021 00

Table 1. Expendable and Durable Item List - Continued.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description CAGEC, and Part Number	(5) U/M
11	C	9150-00-402-4478 9150-00-402-2372 9150-00-491-7197	OIL: Lubricating, Internal Combustion Engine, Arctic, OEA (81349) MIL-PRF-46167 1 Quart Can 5 Gallon Drum 55 Gallon Drum	qt gl gl
12	C	9150-00-189-6727 9150-00-186-6668 9150-00-191-2772	OIL, Lubricating, Internal Combustion Engine, OE/HDO 10 (81349) M2104-1-10W 1 Quart Can 5 Gallon Can 55 Gallon Drum	qt gl gl
13	C	9150-01-152-4117 9150-01-152-4118 9150-01-152-4119	OIL:, Lubricating, Engine, OE/HDO 15W/40 (81349) M2104-5-15W40 1 Quart Can 5 Gallon Can 55 Gallon Drum	qt gl gl
14	C	9150-00-186-6681 9150-00-188-9858 9150-00-189-6729	OIL: Lubricating, Internal Combustion Engine, OE/HDO 30 (81349) M2104-1-30W 1 Quart Can 5 Gallon Can 55 Gallon Drum	qt gl gl

EXPENDABLE AND DURABLE ITEMS LIST - CONTINUED

0021 00

Table 1. Expendable and Durable Items List - Continued.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Item Name, Description CAGEC, and Part Number	(5) U/M
15	C	9150-00-189-6730 9150-00-188-9862	OIL: Lubricating, Internal Combustion Engine, OE/HDO 40 (81349) MIL-PRF-2104 1 Quart Can 55 Gallon Drum	qt gl
16	C	7920-00-205-1711	RAG: Wiping (64067) 7920-00-205-1711 50 Pound Bale	lb
17	C	9390-00-174-2322	TAPE: Reflective, 2 Inches Wide (81346) ASTM D4956 1800 Inch Roll	in

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PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS									
PUBLICATION/FORM NUMBER TM 9-2320-302-10, C 001						DATE 30 Dec 10		Title Operator's Manual for M915 FOV	
ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).			
<i>*Reference to line numbers within the paragraph or subparagraph.</i>									
TYPED NAME, GRADE OR TITLE Your Name				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			Signature Your Signature		

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PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION	
<div style="font-size: 100px; opacity: 0.5;">SAMPLE</div>									
PART III – REMARKS (Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)									
TYPED NAME, GRADE OR TITLE Your Name				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE Your Signature		

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By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:


SANDRA R. RILEY
Administrative Assistant to the
Secretary of the Army
0409203

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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 Pounds 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 = 0.0386 Sq Miles Cubic Measure 1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet Temperature $5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$ 212° Fahrenheit is equivalent to 100° Celsius 90° Fahrenheit is equivalent to 32.2° Celsius 32° Fahrenheit is equivalent to 0° Celsius $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$
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APPROXIMATE CONVERSION FACTORS

To Change	To	Multiply By	To Change	To	Multiply By
Inches	Centimeters	2.540	Centimeters	Inches	0.394
Feet	Meters	0.305	Meters	Feet	3.280
Yards	Meters	0.914	Meters	Yards	1.094
Miles	Kilometers	1.609	Kilometers	Miles	0.621
Sq Inches	Sq Centimeters	6.451	Sq Centimeters	Sq Inches	0.155
Sq Feet	Sq Meters	0.093	Sq Meters	Sq Feet	10.764
Sq Yards	Sq Meters	0.836	Sq Meters	Sq Yards	1.196
Sq Miles	Sq Kilometers	2.590	Sq Kilometers	Sq Miles	0.386
Acres	Sq Hectometers	0.405	Sq Hectometers	Acres	2.471
Cubic Feet	Cubic Meters	0.028	Cubic Meters	Cubic Feet	35.315
Cubic Yards	Cubic Meters	0.765	Cubic Meters	Cubic Yards	1.308
Fluid Ounces	Milliliters	29.573	Milliliters	Fluid Ounces	0.034
Pints	Liters	0.473	Liters	Pints	2.113
Quarts	Liters	0.946	Liters	Quarts	1.057
Gallons	Liters	3.785	Liters	Gallons	0.264
Ounces	Grams	28.349	Grams	Ounces	0.035
Pounds	Kilograms	0.454	Kilograms	Pounds	2.205
Short Tons	Metric Tons	0.907	Metric Tons	Short Tons	1.102
Pound-Feet	Newton-Meters	1.356	Newton-Meters	Pound-Feet	0.738
Pounds per Sq Inch	Kilopascals	6.895	Kilopascals	Pounds per Sq Inch	0.145
Miles per Gallon	Kilometers per Liter	0.425	Kilometers per Liter	Miles per Gallon	2.354
Miles per Hour	Kilometers per Hour	1.609	Kilometers per Hour	Miles per Hour	0.621

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