

TECHNICAL MANUAL

MAINTENANCE

OPERATOR LEVEL

**2½-TON, 6X6, M44A1 AND M44A2 SERIES TRUCKS
(MULTIFUEL)**

Chapter 1
General
Maintenance
Information

Chapter 2
Equipment
Group
Maintenance

TRUCK, CARGO: M35A1,
M35A2, M35A2C, M36A2; TRUCK,
TANK, FUEL: M49A1C, M49A2C; TRUCK, TANK,
WATER: M50A1, M50A2, M50A3; TRUCK, VAN,
SHOP: M109A2, M109A3; TRUCK, REPAIR SHOP:
M185A2, M185A3; TRUCK, TRACTOR: M275A1,
M275A2; TRUCK, DUMP: M342A2; TRUCK,
MAINTENANCE, PIPELINE CONSTRUCTION:
M756A2; TRUCK, MAINTENANCE,
EARTH BORING AND POLESETTING: M764

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
SEPTEMBER 1980

WARNING

EXHAUST GASES CAN BE DEADLY

Exposure to exhaust gases 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 the exhaust fumes of fuel burning heaters and internal combustion engines, and becomes dangerously concentrated under conditions of inadequate ventilation. The following precautions must be observed to insure the safety of personnel whenever fuel burning heater(s) or engine of any vehicle is operated for maintenance purposes or tactical use.

Do not operate heater or engine of vehicle in an enclosed area unless it is adequately ventilated.

Do not idle engine for long periods without maintaining adequate ventilation in personnel compartments.

Do not drive any vehicle with inspection plates or cover plates removed unless necessary for maintenance purposes.

Be alert at all times during vehicle operation for exhaust odors and exposure symptoms. If either are present, immediately ventilate personnel compartments. If symptoms persist, remove affected personnel from vehicle and treat as follows: expose to fresh air; keep warm ; do not permit physical exercise; if necessary, administer artificial respiration.

If exposed, seek prompt medical attention for possible delayed onset of acute lung congestion. Administer oxygen if available.

The best defense against exhaust gas poisoning is adequate ventilation.

WARNING

Serious or fatal injury to personnel may result if the following instructions are not complied with.

Use extreme care when removing radiator cap, especially when temperature gage shows above 180°F.

Always wear leather gloves when handling winch cable. Never allow cable to slip through hands. Do not operate winch with less than four turns of cable on drum.

Do not drive truck until the low air pressure warning buzzer is silent and the air pressure gage shows at least 65 PSI. This is the minimum pressure required for safe braking action.

Do not use hand throttle to drive the vehicle.

Do not park truck with front transmission gearshift lever in gear.

If your vehicle class number is greater than the bridge class number, do not cross.

CHANGE
NO. 1

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
Washington D.C., 26 February 1992

TECHNICAL MANUAL

MAINTENANCE

OPERATOR LEVEL

2 1/2-TON, 6X6, M44A1 AND M44A2 SERIES TRUCKS (MULTIFUEL)

TRUCK, CARGO: M35A1
M35A2, M35A2C, M36A2; TRUCK,
TANK, FUEL: M49A1C, M49A2C; TRUCK, TANK,
WATER: M50A1, M50A2, M50A3; TRUCK, VAN,
SHOP: M109A2, M109A3; TRUCK, REPAIR SHOP:
M185A2, M185A3; TRUCK, TRACTOR: M275A1,
M275A2; TRUCK DUMP: M342A2; TRUCK,
MAINTENANCE, PIPELINE CONSTRUCTION:
M756A2; TRUCK, MAINTENANCE,
EARTH BORING AND POLESETTING: M764

TM 9-2320-209-10-4, dated 26 September 1980 is changed as follows:

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

Remove Pages

none
2-9 and 2-10
2-33 and 2-34

Insert Pages

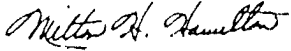
b (c blank)
2-9 and 2-10
2-33 and 2-34

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

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Official:



MILTON H. HAMILTON
*Administrative Assistant to the
Secretary of the Army*

00573

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

By Order of the Secretary of the Air Force:

MERRILL A. McPEAK
*General, United States Air Force
Chief of Staff*

CHARLES C. McDONALD
*General, United States Air Force
Commander, Air Force Logistics Command*

Distribution:

To be distributed in accordance with DA Form 12-38-E, Block 0509, Operator maintenance requirements for TM 9-2320-209-10-4.

WARNINGS (CONT)

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

Wear safety glasses or goggles when checking batteries. Always check electrolyte level with engine stopped. Do not smoke or use exposed flame when checking battery; explosive gases are present and severe injury to personnel can result.

Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry contacts battery positive terminal and ground, a direct short will result in instant heating of tools, causing damage to equipment and injury to personnel.

TECHNICAL MANUAL
NO. 9-2320-209-10-4
TECHNICAL ORDER
NO. 36A12-1B-1091-4

DEPARTMENTS OF THE ARMY
AND
THE AIR FORCE
Washington, DC, 26 September 1980

TECHNICAL MANUAL

MAINTENANCE

OPERATOR LEVEL

**2½- TON, 6x6, M44A1 AND M44A2 SERIES TRUCKS
(MULTIFUEL)**

Model		NSN without Winch	NSN with Winch
Truck, Cargo	M35A1	2320-00-542-5633	2320-00-542-5634
	M35A2	2320-00-077-1616	2320-00-077-1617
	M35A2C	2320-00-926-0873	2320-00-926-0875
	M36A2	2320-00-077-1618	2320-00-077-1619
Truck, Tank, Fuel	M49A1C	2320-00-440-3349	2320-00-440-3346
	M49A2C	2320-00-077-1631	2320-00-077-1632
Truck, Tank, Water	M50A1	2320-00-440-8307	2320-00-440-8305
	M50A2	2320-00-077-1633	2320-00-077-1634
	M50A3	2320-00-937-4036	2320-00-937-5264
Truck, Van, Shop	M109A2	2320-00-440-8313	2320-00-440-8308
	M109A3	2320-00-077-1636	2320-00-077-1637
Truck, Repair Shop	M185A2	4940-00-987-8799	4940-00-987-8800
	M185A3	4940-00-077-1638	4940-00-077-1639
Truck, Tractor	M275A1	2320-00-446-2479	
	M275A2	2320-00-077-1640	2320-00-077-1641
Truck, Dump	M342A2	2320-00-077-1643	2320-00-077-1644
Truck, Maintenance, Pipeline Construction	M756A2		2320-00-904-3277
Truck, Maintenance, Earth Boring and Polesetting	M764		2320-00-937-5980

Current as of 1 February 1980

*This manual, together with TM 9-2320-209-10-1, 26 September 1980;
TM 9-2320-209-10-2, 26 September 1980; and TM 9-2320-209-10-3, 26 September 1980,
supersedes TM 9-2320-209-10/1, 29 October 1976.

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

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

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CHAPTER 1

GENERAL MAINTENANCE INFORMATION

1-1. SCOPE. This volume of the technical manual covers maintenance tasks, authorized at the operator's level of maintenance, for the 2 1/2-ton, 6 x 6, M44A1 and M44A2 series trucks that have multifuel engines. The tasks given in this volume do not include those maintenance tasks done on a scheduled basis (PMCS).

1-2. GENERAL MAINTENANCE. The following technical manuals have general information for this type of equipment. Refer to these manuals if you need more information.

a. For operation and maintenance in cold weather (0 to -65° F), refer to FM 9-207.

b. For deep water fording, refer to TM 9-238.

c. For care and use of handtools and measuring tools, refer to TM 9-243.

1-3. CLEANING. General cleaning information for this type of equipment is given in TM 9-247.

1-4. LUBRICATING. Refer to LO 9-2320-209-12/1 for materials to be used and instructions for lubrication of the equipment covered in this technical manual.

CHAPTER 2

EQUIPMENT GROUP MAINTENANCE

Section I. SCOPE

2-1. **EQUIPMENT ITEMS COVERED.** This chapter gives equipment maintenance procedures for which there are authorized corrective maintenance tasks at operator's level. Procedures are given in equipment functional groups by sections and include the following tasks:

- Access to Engine Compartment
- Air Cleaner Filter Element Removal and Replacement
- Jacking Procedure
- Spare Wheel Removal and Replacement
- Front and Outer Rear Wheels Removal and Replacement
- Inner Rear Wheels Removal and Replacement
- Battery Inspection
- Front Winch Shear Pin Removal and Replacement
- Rear Winch Shear Pin Removal and Replacement (Truck M756A2)
- Rear Winch Shear Pin Removal and Replacement (Truck M764)
- Cab Cover Removal and Replacement
- Bow and Tarp Kits Installation and Removal

2-2. **EQUIPMENT ITEMS NOT COVERED.** All equipment items for which corrective maintenance is authorized at operator's maintenance level are covered in this chapter except for the Portable Decontaminating Apparatus. Refer to TM 3-4230-204-12 & P for operating and maintenance instructions for this equipment.

Section II. ENGINE EQUIPMENT ITEMS MAINTENANCE

2-3. ACCESS TO ENGINE COMPARTMENT.

TOOLS: None

SUPPLIES: None

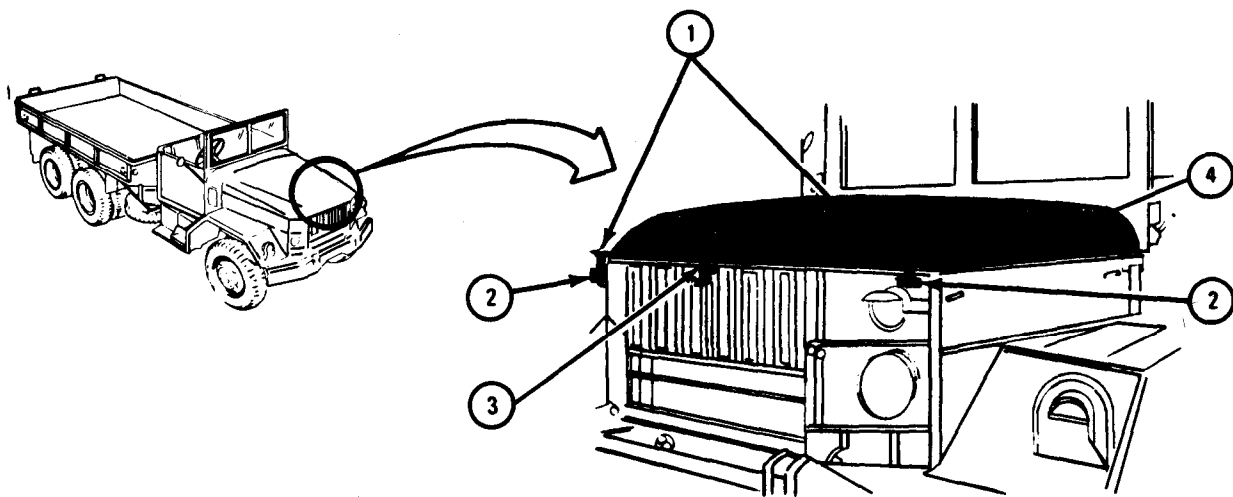
PERSONNEL: One

EQUIPMENT CONDITION: Truck parked, engine off and cool, handbrake set.

a. Open Hood and Side Panels.

FRAME 1

1. Pull up on each hood holddown latch (1) until they clear each hood catch (2).
 2. Push and hold in hood latch (3) .
 3. Lift hood (4) and let go of hood latch (3).
- GO TO FRAME 2

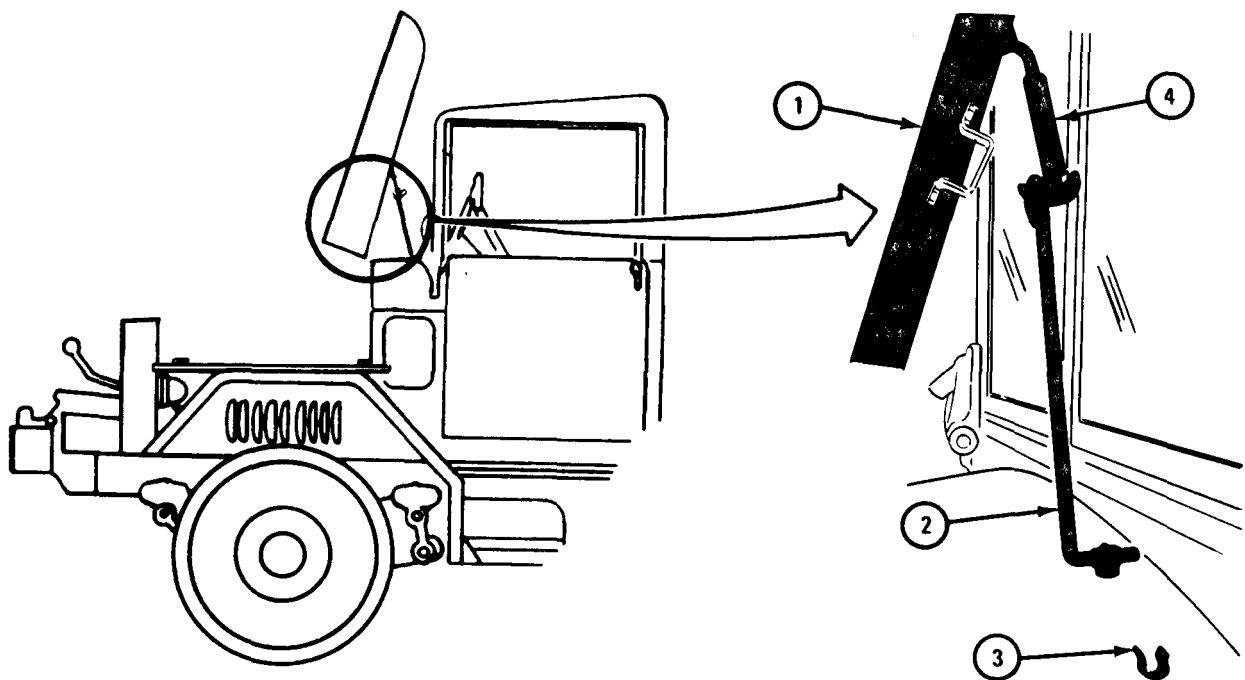


TA 045527

FRAME 2

1. Raise hood (1) to position shown.
2. Pull hood support hook (2) out of storage clip (3).
3. Swing hood support hook (2) up and join support hook with latch (4), as shown.

GO TO FRAME 3

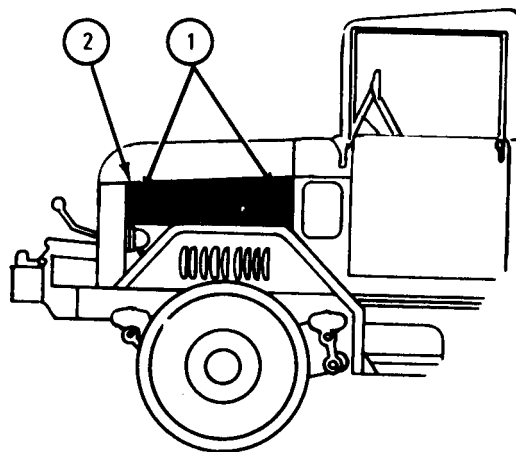
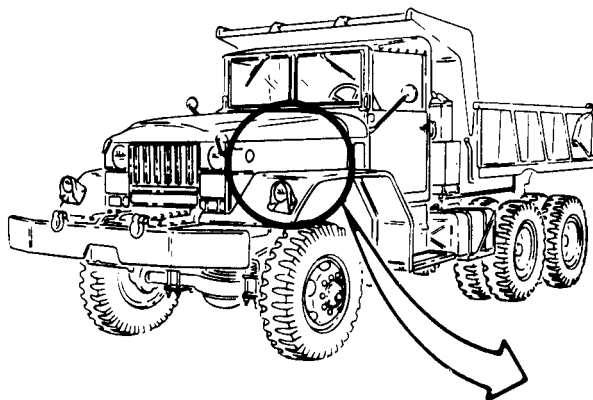


TA 045528

FRAME 3

1. Turn two side panel latches (1) to up position.
2. Lower left side panel (2).

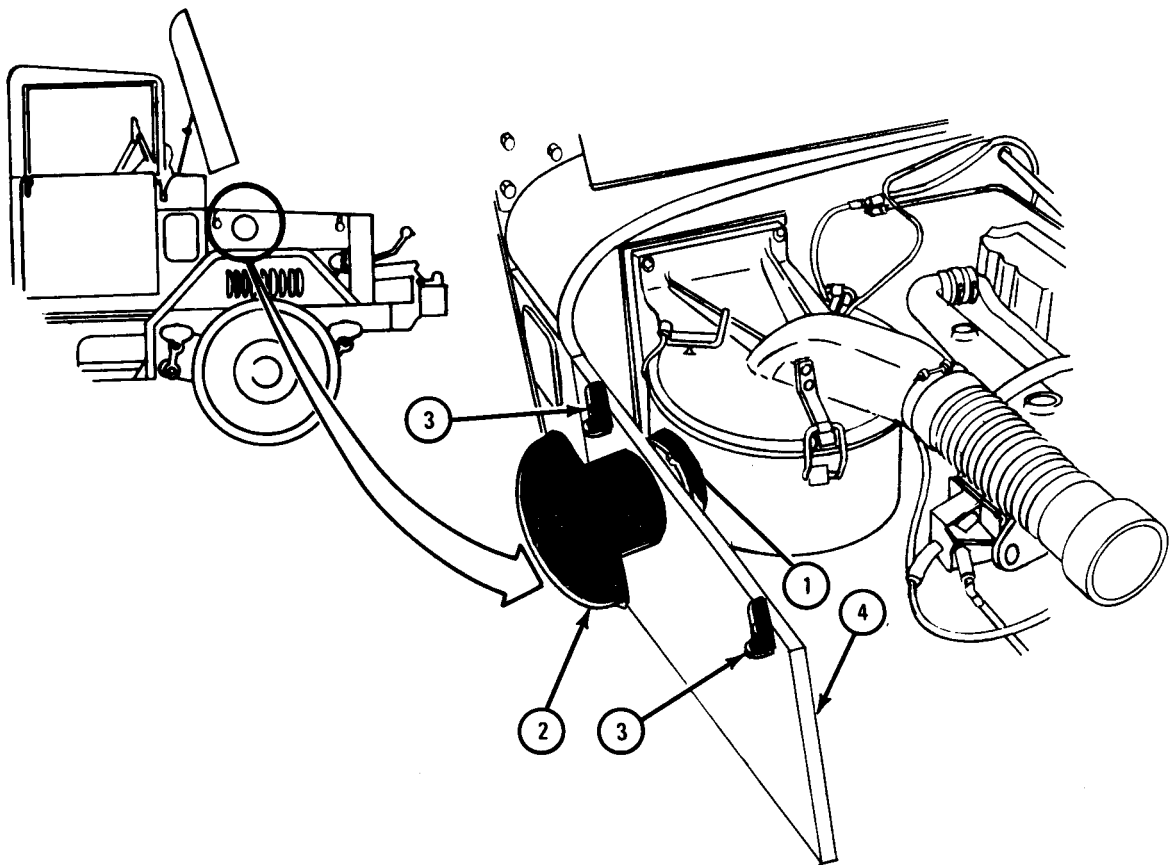
GO TO FRAME 4



TA 045529

FRAME 4

1. Loosen clamp (1) and take off air cleaner rain hood (2).
 2. Turn two side panel latches (3) to up position and lower right side panel (4).
- END OF TASK



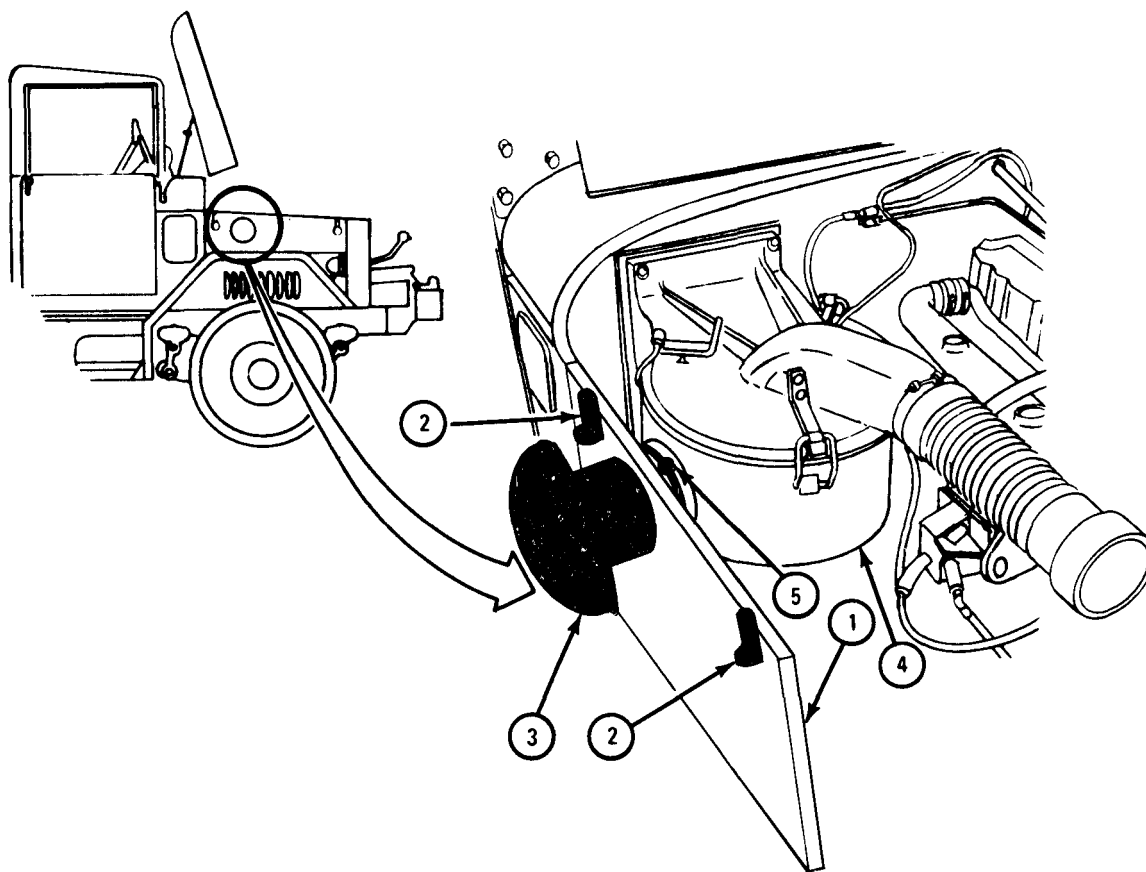
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b. Close Hood and Side Panels.

FRAME 1

1. Raise right side panel (1). Turn two side panel latches (2) to down position to lock right side panel (1) in place.
2. Slide air cleaner rain hood (3) through hole in right side panel (1) onto air cleaner (4).
3. Tighten clamp (5).

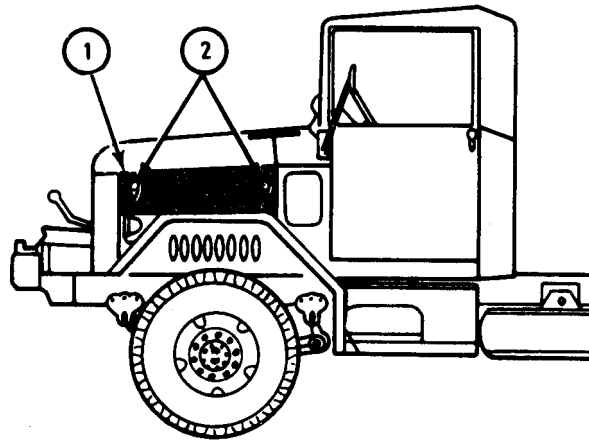
GO TO FRAME 2



TA 045531

FRAME 2

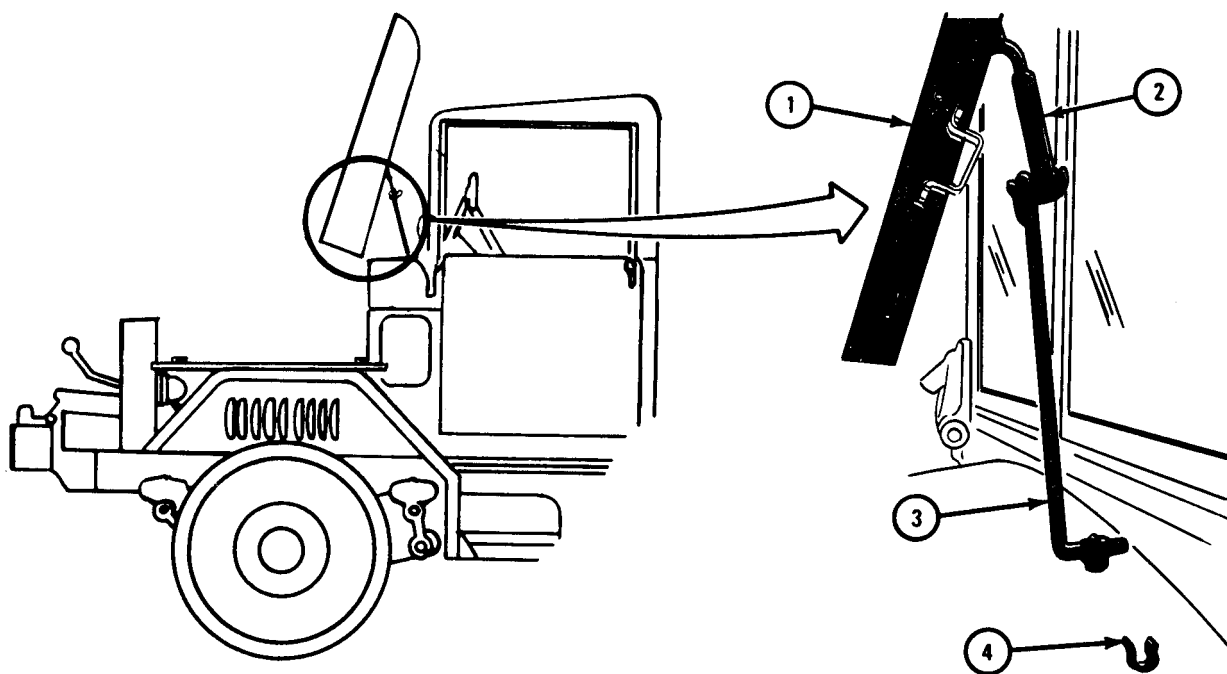
1. Raise left side panel (1).
 2. Turn two side panel latches (2) to down position.
- GO TO FRAME 3



TA 045532

FRAME 3

1. Push back on hood (1) so that latch (2) clears support hook (3).
 2. Hold hood (1) and swing support hook (3) down into storage clip (4).
- GO TO FRAME 4

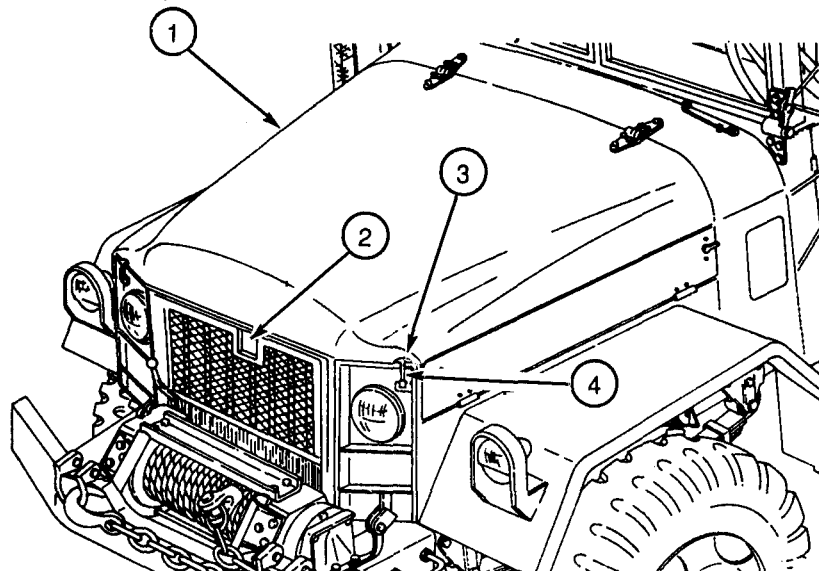
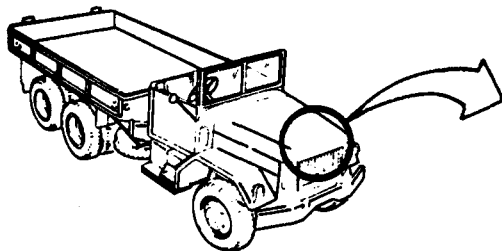


TA 045533

FRAME 4

1. Push down on hood (1) to lock hood latch (2).
2. Pull up on each hood holddown latch (3) and join them to hood catches (4).

END OF TASK



Section III. FUEL SYSTEM EQUIPMENT ITEMS MAINTENANCE

2-4. AIR CLEANER ELEMENT REMOVAL AND REPLACEMENT.

TOOLS: 1/2-inch wrench (2)

SUPPLIES: None

PERSONNEL: One

EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

WARNING

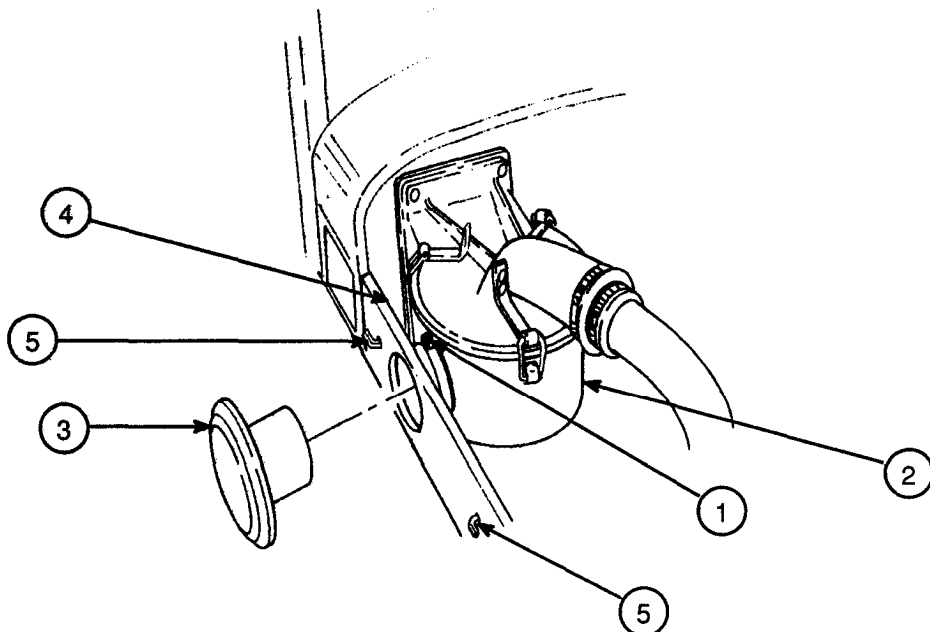
If NBC exposure is suspected, all air filter media should be handled by personnel wearing protective equipment. Consult your unit NBC Officer or NBC NCO for appropriate handling or disposal instructions.

a. Removal.

FRAME 1

1. Using wrenches, unscrew clamp (1). Pull clamp off of air cleaner (2).
2. Pull air cleaner rain hood (3) out of hood right side panel (4).
3. Turn two latches (5) to up position and lower hood right side panel.

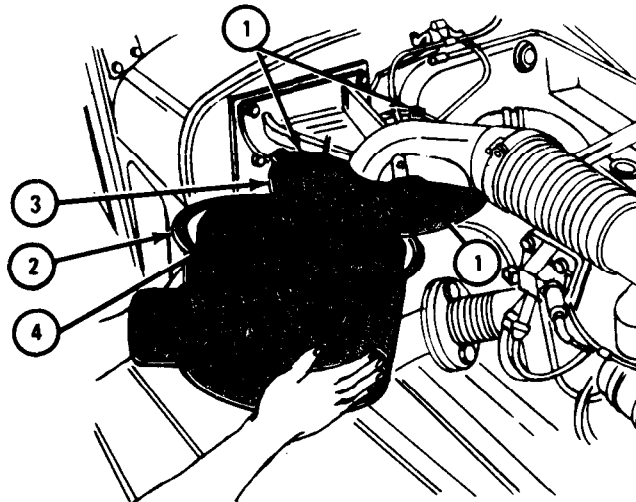
GO TO FRAME 2



FRAME 2

1. Unsnap three pop-up type clamps (1) holding air cleaner (2) to support bracket (3). Hold air cleaner so it does not fall when last clamp is unsnapped.
2. Pull air cleaner (2) down and away from support bracket (3).
3. Lift air cleaner (2) out of engine compartment.
4. Pull air cleaner filter element (4) up and out of air cleaner (2).

END OF TASK



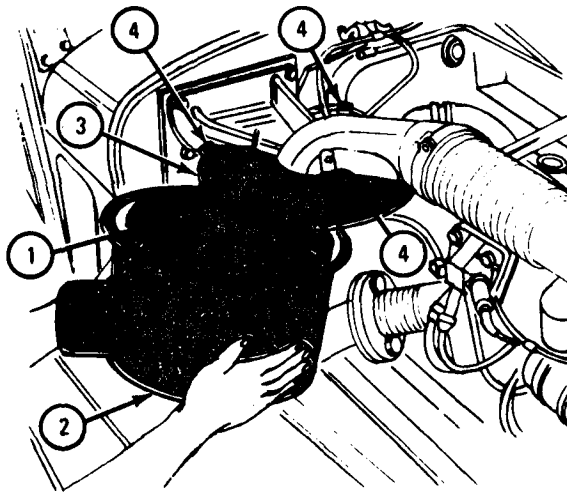
TA 045427

c. Replacement.

FRAME 1

1. Place air cleaner filter element (1) into air cleaner (2).
2. Place air cleaner (2) on support bracket (3) in engine compartment.
3. Use one hand to hold air cleaner (2) on support bracket (3).
4. Using other hand, close three pop-up type clamps (4) to hold air cleaner (2) in place.

GO TO FRAME 2



TA 045428

FRAME 2

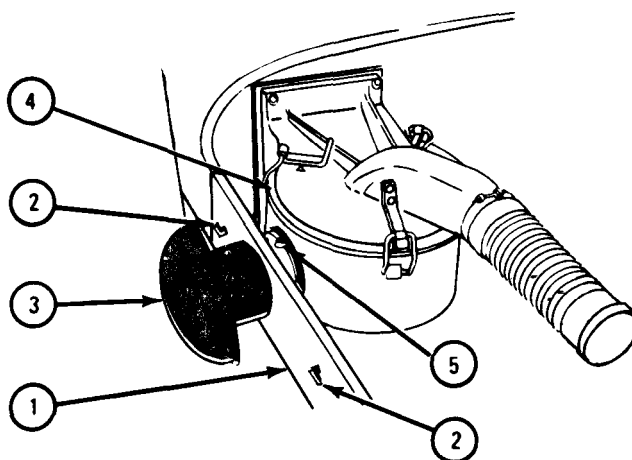
1. Raise hood right side panel (1). Turn two latches (2) to side position to lock panel in place.
2. Place air cleaner rain hood (3) through hole in side panel (1). Check that air cleaner rain hood flange mates with flange on air cleaner (4).
3. Place screw-type clamp (5) around flanges of air cleaner rain hood (3) and air cleaner (4).
4. Using wrenches, tighten screw-type clamp (5).

NOTE

Follow-on Maintenance Action Required:

Close hood. Refer to para 2-3.

END OF TASK



TA 045429

Section III. WHEELS EQUIPMENT ITEMS MAINTENANCE

2-5. JACKING PROCEDURE.

NOTE

This task is the same for all wheels. This task is shown for the left rear-rear wheel.

TOOLS : Hydraulic screw jack with handle

SUPPLIES : Wood block

PERSONNEL: One

EQUIPMENT CONDITION : Truck parked, engine off, handbrake set, wheels choked.

WARNING

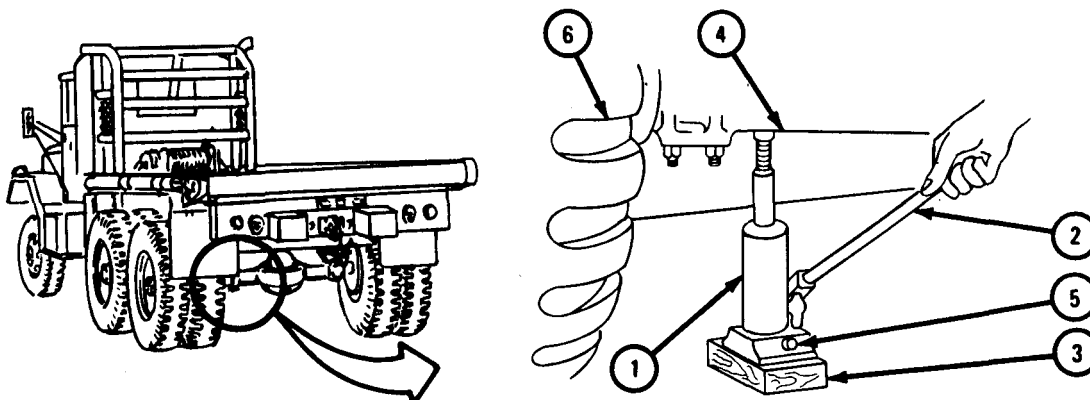
Never get underneath truck that is held up by jack only. Jack may slip, causing truck to fall and resulting in severe injury to personnel.

a. Raising Truck.

FRAME 2

1. Take hydraulic screw jack (1) and handle (2) out of stowage compartment above left running board.
2. Put wood block (3) on ground under axle housing (4) and put screw jack (1) on wood block.
3. Turn out screw jack (1) until it touches axle housing (4).
4. Using slotted end of jack handle (2), turn bleeder valve (5) to the right. Put jack handle in screw jack (1).
5. Moving jack handle (2) up and down, raise wheel assembly (6) off ground.

END OF TASK



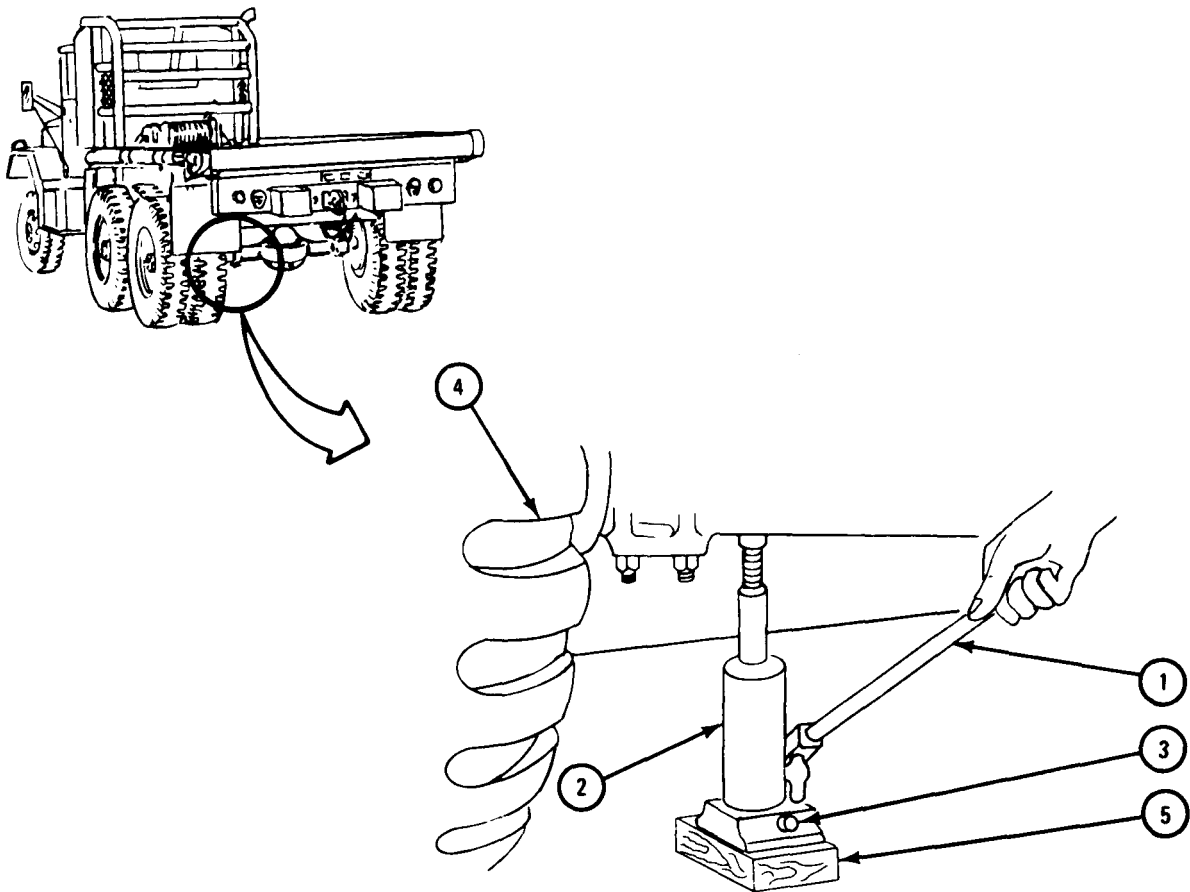
TA 083976

b. Lowering Truck.

FRAME 1

1. Take jack handle (1) out of hydraulic screw jack (2).
2. Using slotted end of jack handle (1), turn bleeder valve (3) to the left.
3. When wheel assembly (4) is firmly on ground, take screw jack (2) out from under truck. Take wood block (5) away from truck.
4. Put screw jack (2) and handle (1) into stowage compartment above left running board.

END OF TASK



TA 083977

2-6. SPARE WHEEL REMOVAL AND REPLACEMENT.

TOOLS : Wheel stud nut wrench
1 1/2-inch wrench
13/16-inch wrench

SUPPLIES : None

PERSONNEL: Two

EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

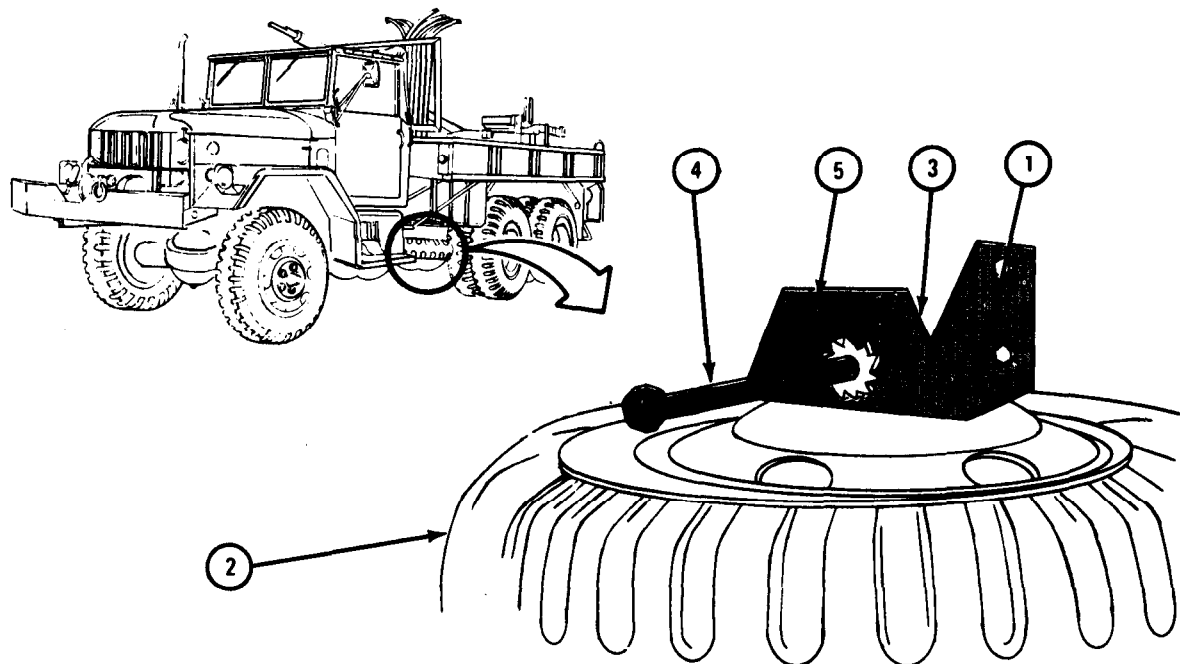
a. Removal.

(1) All trucks except M342A2, M275A1, and M275A2.

FRAME 1

1. Using wheel stud nut wrench, loosen two nuts (1).
2. Turn spare wheel (2) about 1 inch to left to aline nuts (1) with hole in bracket (3).
3. Using wheel stud nut wrench, turn shaft (4) to right slightly.
4. Lift up pawl (5).
5. Using wheel stud nut wrench, turn shaft (4) to left until spare wheel (2) is on ground.

GO TO FRAME 2

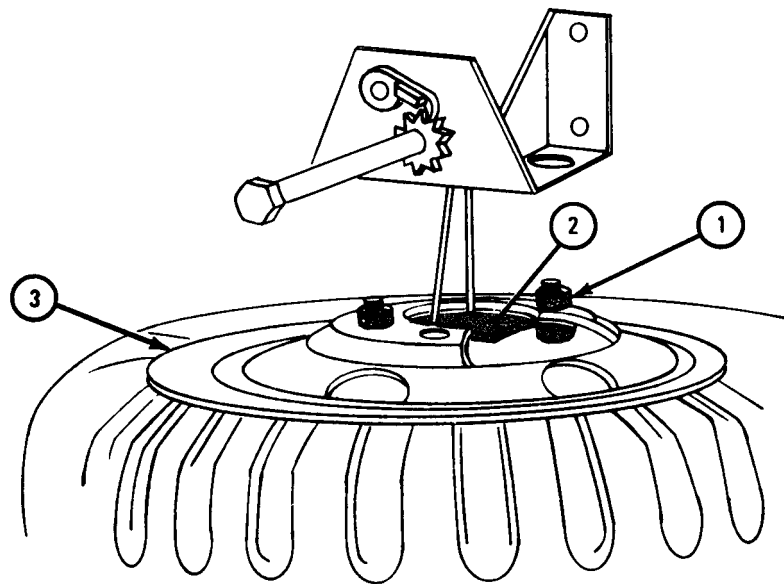


TA 082001

FRAME 2

1. Using wheel stud nut wrench, unscrew and takeoff two nuts (1).
2. Take plate (2) out of spare wheel (3).

END OF TASK



TA 082002

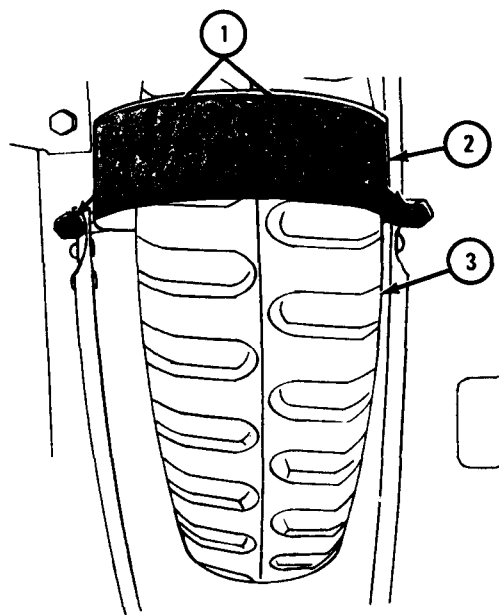
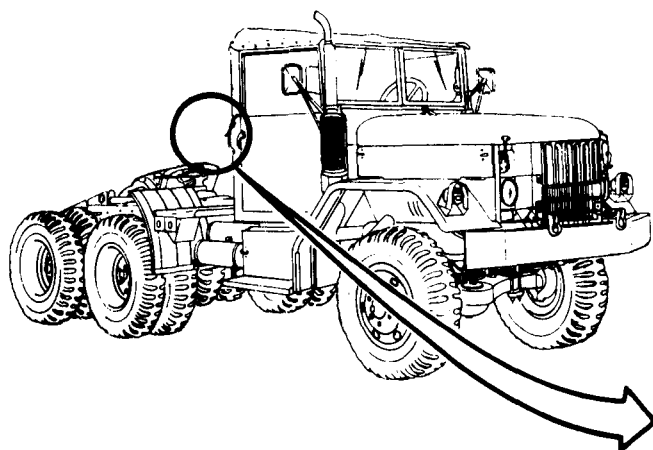
(2) Trucks M342A2, M275A1, and M275A2.

FRAME 1

1. Using 13/16-inch wrench, unscrew and take off two tie rod nuts (1).
2. Swing open retaining bar (2).
3. Lift up and take out spare wheel (3).

Soldiers
A and B

END OF TASK



TA 082005

b. Replacement.

(1) Trucks M342A2, M275A1, and M275A2.

FRAME 1

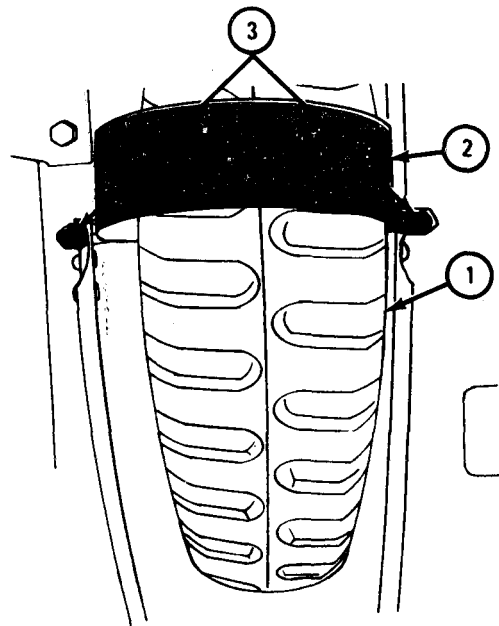
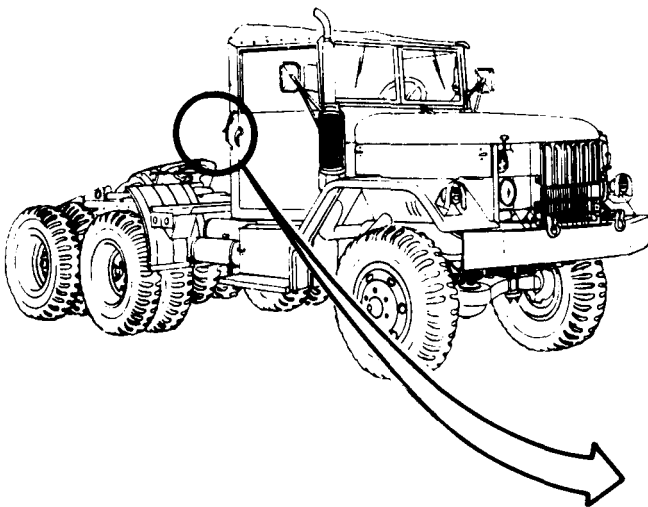
Soldiers 1. Lift up and put spare wheel (1) in place.

A and B

2. Close retaining bar (2).

3. Using 13/16-inch wrench, screw on and tighten two tie rod nuts (3).

END OF TASK



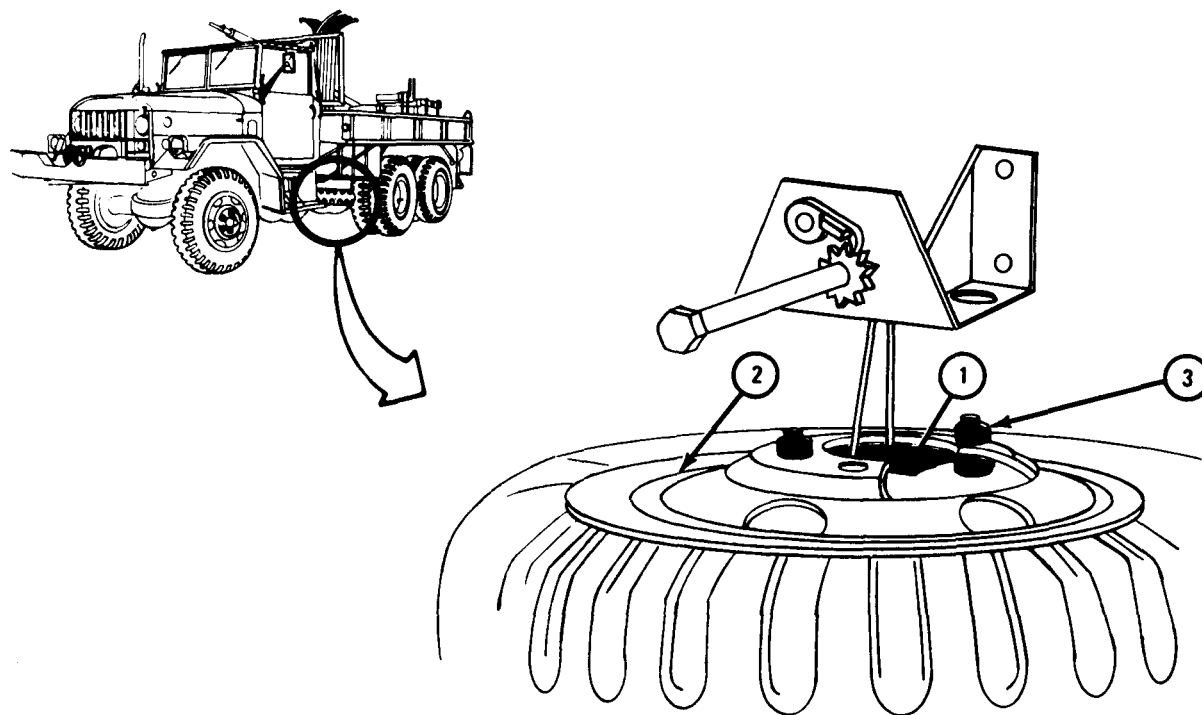
TA 082006

(2) All trucks except M342A2, M275A1, and M275A2.

FRAME 1

1. Put plate (1) in place in spare wheel (2).
2. Screw in but do not tighten two screws and nuts (3).

GO TO FRAME 2

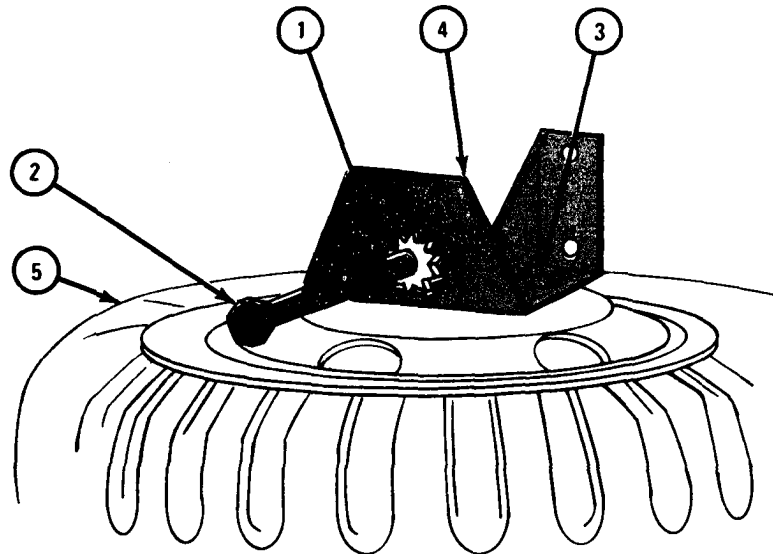


TA 082003

FRAME 2

1. Push down pawl (1).
2. Using wheel stud nut wrench, turn shaft (2) to right until nuts (3) go through holes in bracket (4).
3. Turn spare wheel (5) about 1 inch to right.
4. Using 1 1/2-inch wrench, tighten two nuts (3).

END OF TASK



TA 082004

2-7. FRONT AND OUTER REAR WHEELS REMOVAL AND REPLACEMENT.

NOTE

The following tasks are the same for both front wheels and all four outer rear wheels.

TOOLS : Wheel stud nut wrench and handle
Hydraulic screw jack with handle

SUPPLIES: None

PERSONNEL: One

EQUIPMENT CONDITION: Truck parked on level ground, engine off, handbrake set, wheels chocked.

- a. Preliminary Procedure. Remove spare wheel if needed to replace damaged wheel. Refer to para 2-6.
- b. Removal.

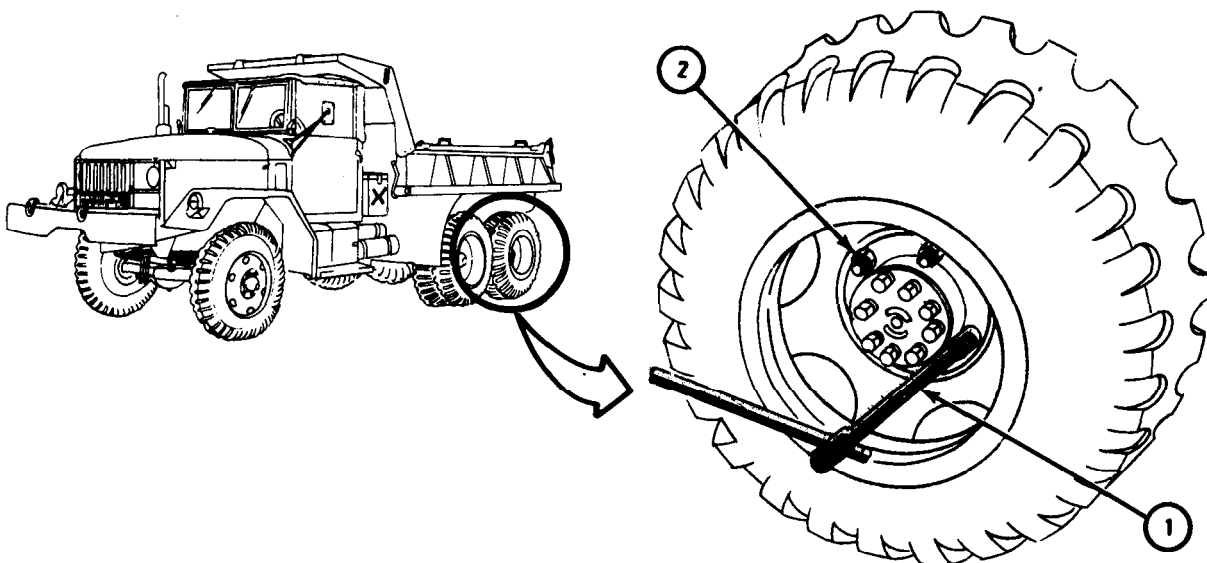
FRAME 1

1. Using wheel stud nut wrench (1), loosen six wheel stud nuts (2). Do not take off wheel stud nuts.

NOTE

Wheel stud nuts (2) on left side have left hand threads and must be turned to the right to loosen them. Wheel stud nuts on right side have right hand threads and must be turned to the left to loosen them. Studs and nuts are stamped (L) left and (R) right.

GO TO FRAME 2



TA 045536

FRAME 2

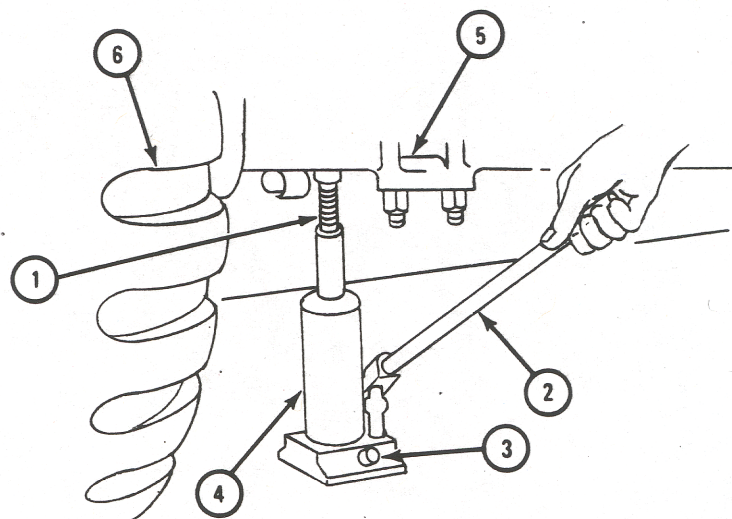
1. Turn out jack screw (1) about three inches.
2. Using slotted end of jack handle (2), turn bleeder valve (3) to right to close it.
3. Put hydraulic jack (4) under axle housing (5) near wheel assembly (6) to be taken off. Put jack handle (2) into hydraulic jack.

NOTE

Put wood block between jack base and ground if truck is on loose or soft ground.

4. Move jack handle (2) up and down until wheel assembly (6) is off ground.

GO TO FRAME 3



TA 045537

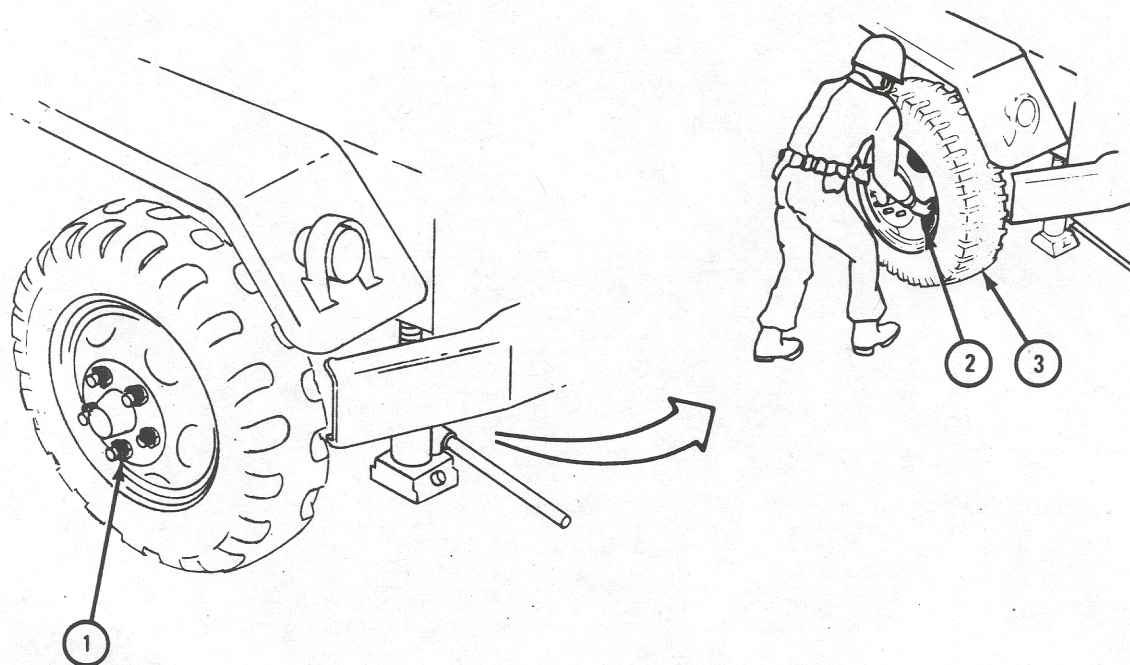
FRAME 3

CAUTION

Do not slide wheel assembly on threaded studs. Sliding wheel assembly may damage threads.

1. Using wheel stud nut wrench, unscrew and take off wheel stud nuts (1).
2. Put fingers through vent holes (2) and grip wheel (3) as shown. Lift up on wheel, pull it toward you, and take it off.

END OF TASK



TA 045538

c. Replacement.

FRAME 1

CAUTION

Do not slide wheel assembly on threaded studs. Sliding wheel assembly may damage threads.

1. Lift wheel assembly (1) up and onto wheel studs (2). On front wheel, make sure that one of the ventilating holes lines up with brake inspection plate (3).

NOTE

Threads of rear dual tires should be matched as closely as possible. Valves on rear tires must be opposite each other (180° apart). Ventilation holes in outer wheel should be directly aligned with ventilation holes in inner wheel.

CAUTION

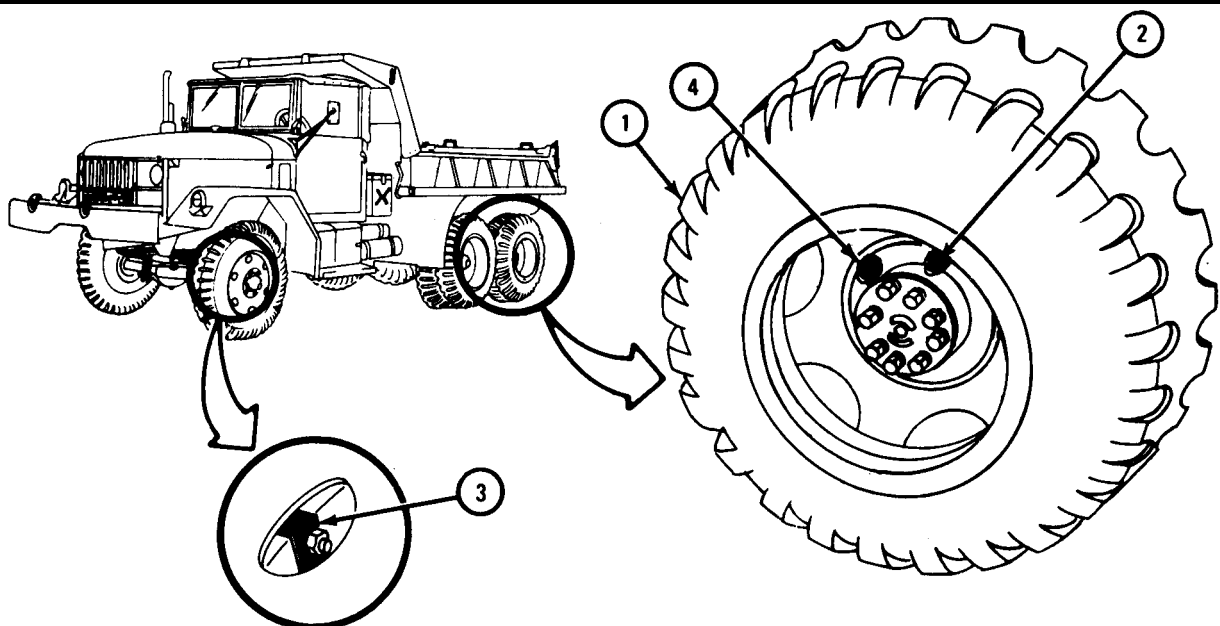
When putting on wheel nuts be sure to put the curved (ball seat) surface of the nuts toward wheel.

NOTE

Nuts have left-hand threads on left wheel assembly and right-hand threads on right wheel assembly. Studs and nuts are stamped (L) left and (R) right.

2. Screw on and hand tighten six nuts (4) on wheel studs (2).

GO TO FRAME 2

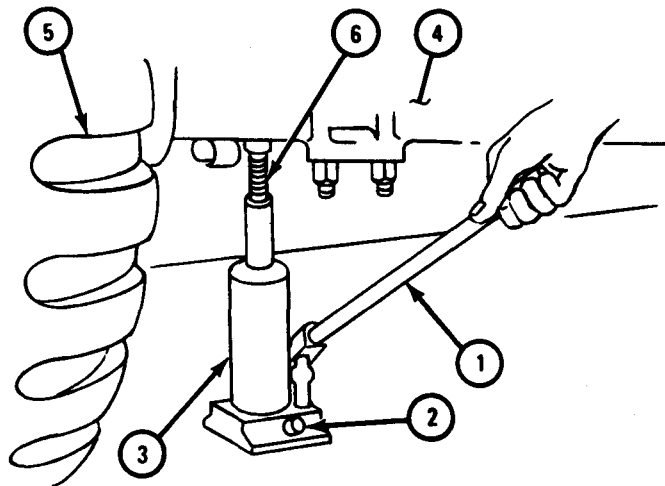


TA 045539

FRAME 2

1. Using slotted end of jack handle (1), turn bleeder valve (2) to left to open it.
2. Take hydraulic jack (3) from under axle housing (4) when tire (5) rests on ground.
3. Turn jack screw (6) into jack (3).

GO TO FRAME 3



TA 045540

FRAME 3

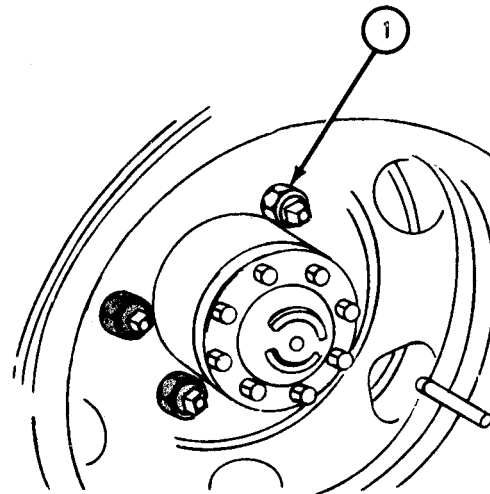
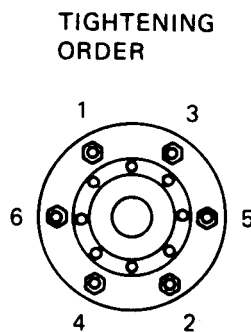
1. Using wheel stud nut wrench, tighten wheel stud nuts (1) in the order shown. As soon as you can, take truck to organizational maintenance and have wheel stud nuts torqued to 325 to 350 pound-feet.

NOTE

Follow-on Maintenance Action Required:

1. If damaged wheel was replaced, take damaged wheel to organizational maintenance shop for repair or replacement as soon as possible.
2. If damaged wheel cannot be taken immediately to organizational maintenance, store damaged wheel on spare wheel mounting bracket. Refer to para 2-6.

END OF TASK



TA 045541

2-8. INNER REAR WHEELS REMOVAL AND REPLACEMENT.

NOTE

This task is the same for all four inner rear wheels.

TOOLS : Wheel stud nut wrench
Hydraulic screw jack with handle

SUPPLIES: None

EQUIPMENT CONDITION : Truck parked on level ground, engine off, handbrake set, wheels chocked.

a. Preliminary Procedures.

(1) Remove spare wheel if needed to replace damaged wheel. Refer to para 2-6.

(2) Jack up truck and remove outer rear wheel. Refer to para 2-7.

b. Removal.

FRAME 1

1. Using square end of wheel stud nut wrench (1), unscrew and take off six inner wheel nuts (2).

CAUTION

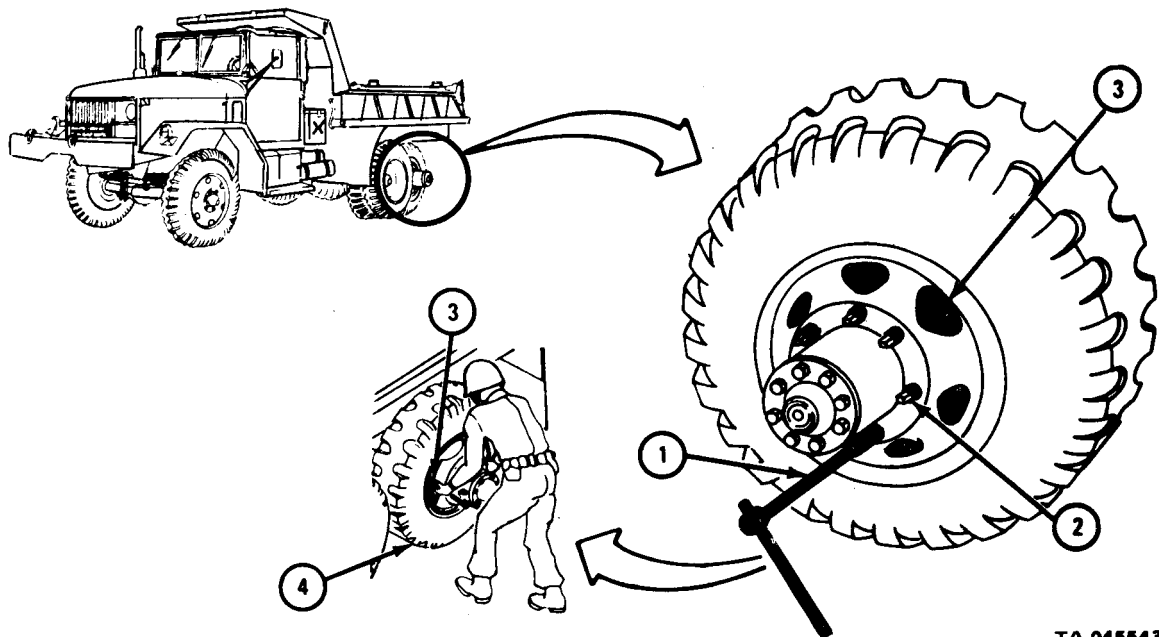
Do not slide wheel assembly on threaded studs. Sliding wheel assembly may damage threads.

NOTE

Nuts have left-hand threads on left wheel assembly and right-hand threads on right wheel assembly. Studs and nuts are stamped (L) left and (R) right.

2. Put fingers through vent holes (3) and grip wheel (4) wheel, pull it toward you, and take it off.

END OF TASK



c. Replacement.

FRAME 1

1. Check that truck is jacked up at wheel to be replaced.

CAUTION

Do not slide wheel assembly on threaded studs. Sliding wheel assembly may damage threads.

NOTE

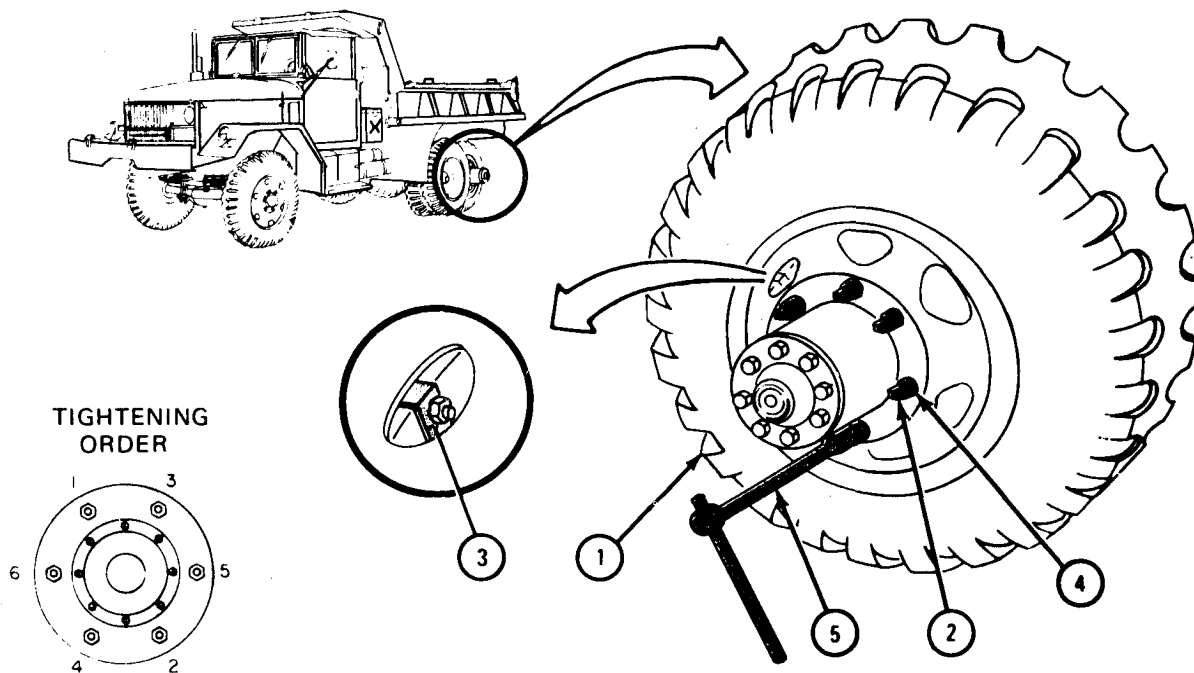
Treads of rear dual wheels tires should be matched as closely as possible.

2. Lift wheel assembly (1) up and onto wheel studs (2). Make sure that one of the ventilation holes lines up with brake inspection plate (3) .

NOTE

Nuts have left-hand threads on left wheel assembly and right-hand threads on right wheel assembly. Stud and nuts are stamped (L) left and (R) right.

3. Screw on and hand tighten six nuts (4) on wheel studs (2).
4. Using square end of wheel stud nut wrench (5), tighten nuts (4) in order shown. As soon as you can, take truck to organizational maintenance and have wheel stud nuts torqued to 325 to 350 pound-feet.
5. Put on outer rear wheel and jack down truck. Refer to para 2-7.



TA 045544

FRAME 2

NOTE

Follow-on Maintenance Action Required:

1. If damaged wheel was replaced, take damaged wheel to organizational maintenance shop for repair or replacement as soon as possible.
2. If damaged wheel cannot be taken immediately to organizational maintenance, store damaged wheel on spare mounting bracket. Refer to para 2-6.

END OF TASK

Section IV. ELECTRICAL EQUIPMENT ITEMS MAINTENANCE

2-9. BATTERY INSPECTION.

TOOLS : 9/16-inch open end wrench (2)
1/2-inch open end wrench (2)

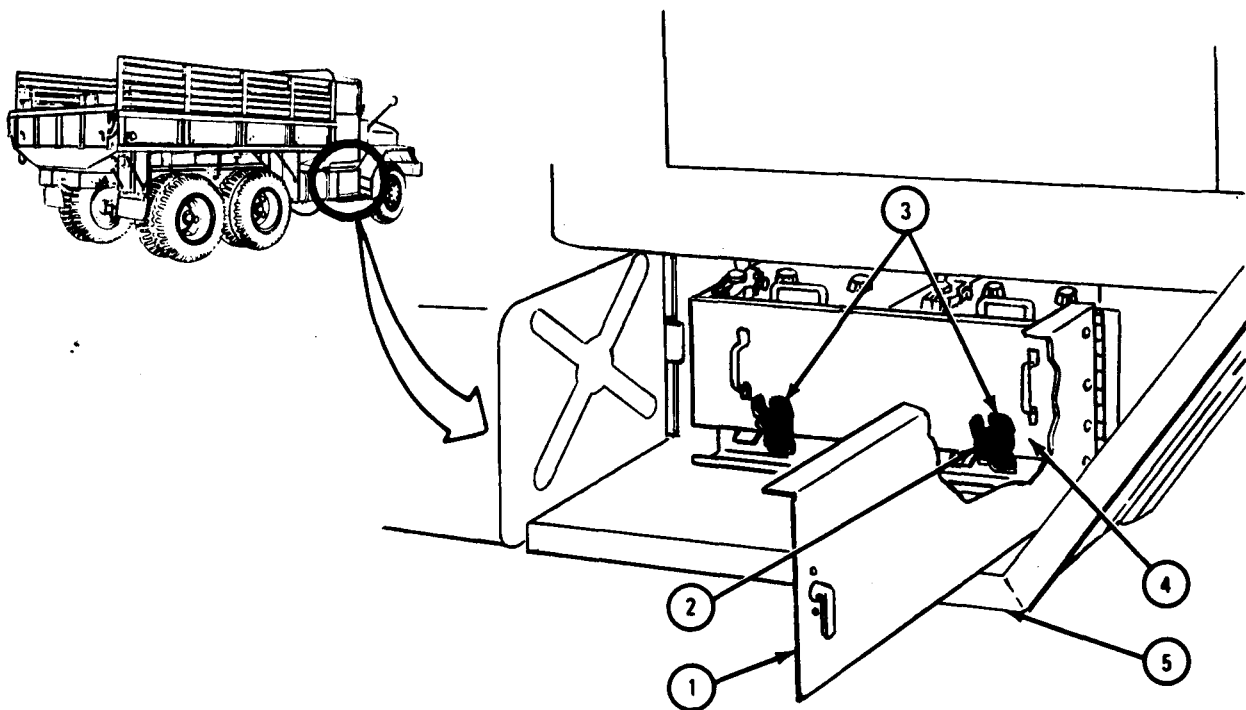
SUPPLIES: None

PERSONNEL: One

EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

FRAME 1

1. Open battery compartment door (1).
 2. Loosen two thumbscrews (2) and push clamps (3) down to clear battery box (4).
 3. Pull battery box (4) out onto running board (5).
- GO TO FRAME 2



TA 047162

FRAME 2

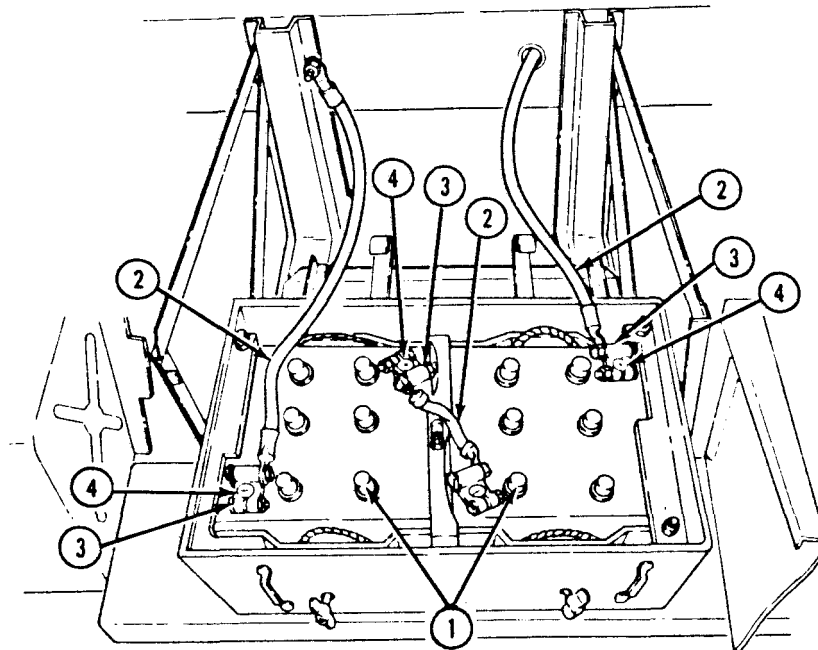
WARNING

Wear safety glasses or goggles when checking batteries. Always check electrolyte level with engine stopped. Do not smoke or use exposed flame when checking battery explosive gases are present and severe injury to personnel can result.

Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry contacts battery positive terminal and ground, a direct short will result in instant heating of tools, causing damage to equipment and injury to personnel.

1. Unscrew and take off 12 battery filler caps (1).
2. Check the electrolyte level in each cell. Electrolyte level should be to the level/split ring in the battery filler opening. If fluid is low, fill with distilled water to the level ring. If fluid is boiling, notify next higher maintenance.
3. Screw on and tighten 12 battery filler caps (1).
4. Check tightness of cables (2) to clamps (3) and clamps (2) to terminal posts (4). Tighten connections if needed.

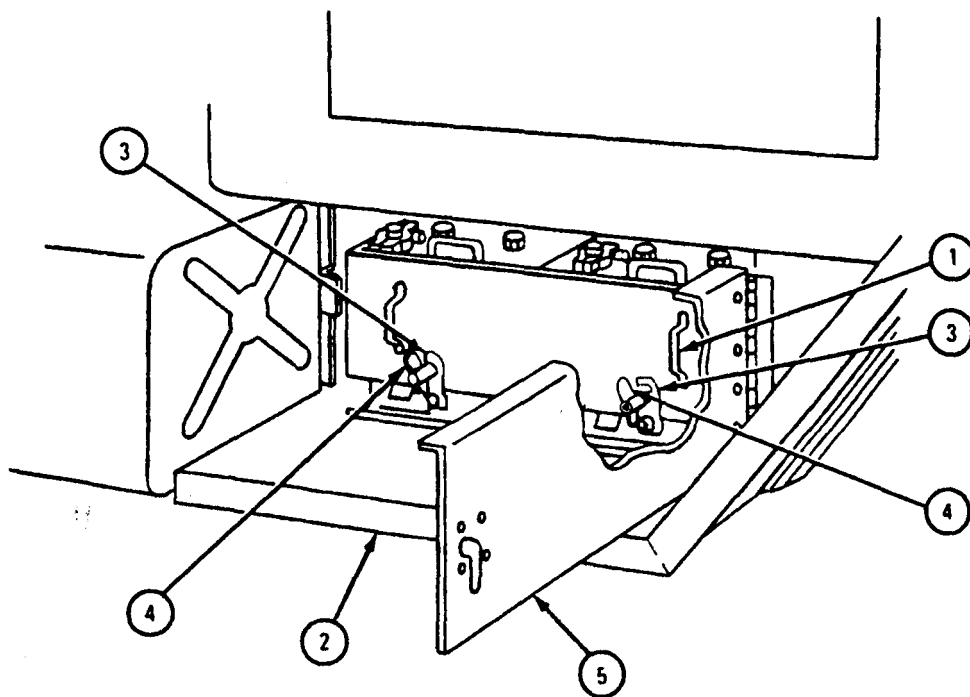
GO TO FRAME 3



FRAME 3

1. Push battery box (1) off of running board (2) into battery compartment.
2. Latch two clamps (3) on thumbscrews (4) and tighten thumbscrews.
3. Close and latch battery compartment door (5).

END OF TASK



TA 047169

Section V. WINCH EQUIPMENT ITEMS MAINTENANCE

2-10. FRONT WINCH SHEAR PIN REMOVAL AND REPLACEMENT.

TOOLS: 1/4-inch drift punch
Ballpeen hammer, light
Pliers

SUPPLIES: Artillery and automotive grease, type GAA, MIL-G-10924
Cotter pin (2)

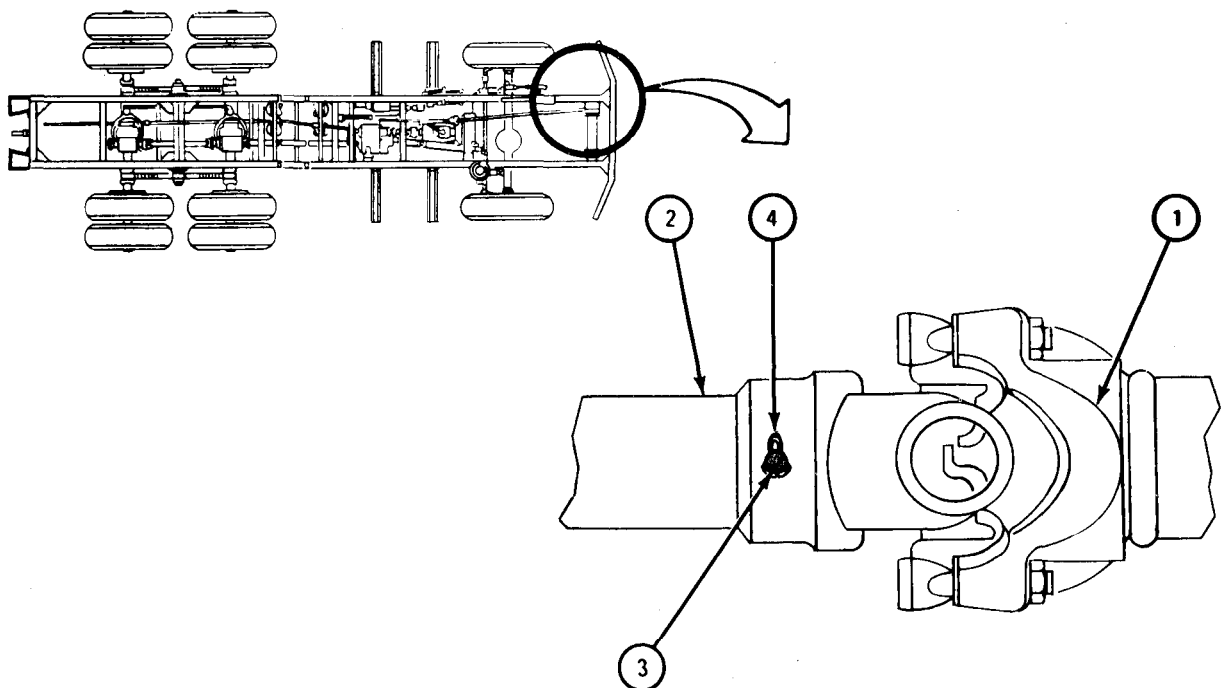
PERSONNEL: One

EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

a. Removal.

FRAME 1

1. Working under front left side of truck, find universal joint (1).
 2. Turn universal joint (1) on winch drive shaft (2) until shear pin (3) can be seen.
 3. Using pliers, take out two cotter pins (4), one on each end of shear pin (3).
- GO TO FRAME 2

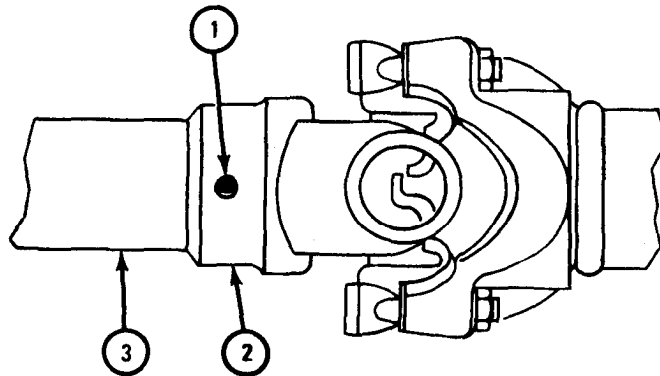


TA 045441

FRAME 2

1. Using hammer and drift punch, tap out shear pin (1).
2. If shear pin (1) has broken off, line up hole in yoke (2) with hole in winch drive shaft (3).
3. Using hammer and drift punch, tap out any remaining pieces of shear pin (1).

END OF TASK



TA 045442

b. Replacement.

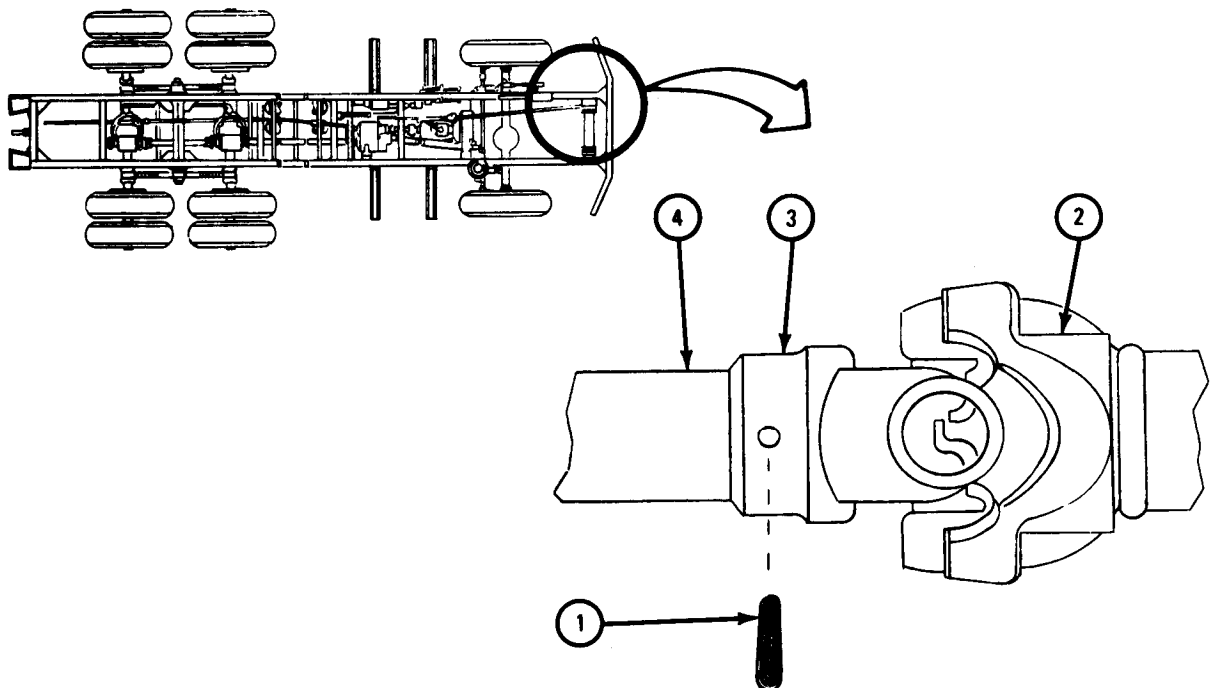
FRAME 1

WARNING

Never use rivets, bolts, steel pins, or any other type metal pin in place of shear pin (1). Make sure you use the correct part number aluminum shear pin only. Damage to the equipment and injury to personnel can happen if wrong shear pin is used.

1. Spread a small amount of grease around a new shear pin (1).
2. Working under front left side, find universal joint (2).
3. Aline hole in yoke (3) with hole in winch drive shaft (4) and put in shear pin (1).

GO TO FRAME 2

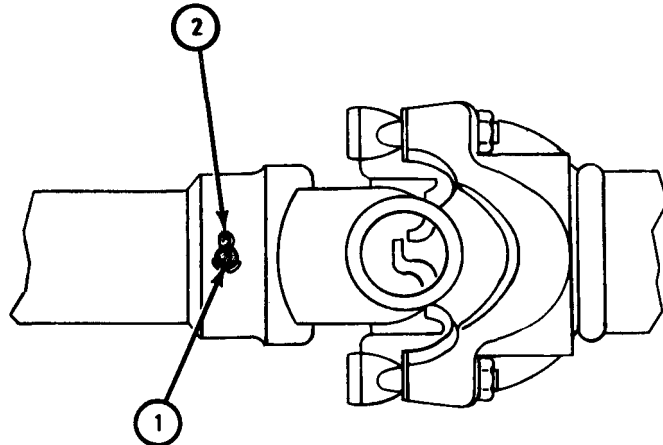


TA 045443

FRAME 2

1. Using hammer and drift punch, tap in shear pin (1).
2. Place cotter pins (2) in holes in each end of shear pin (1). Using pliers, bend back ends of cotter pins.

END OF TASK



TA 045444

2-11. REAR WINCH SHEAR PIN REMOVAL AND REPLACEMENT (TRUCK M756A2).

TOOLS: Pliers
Flat-tip screwdriver

SUPPLIES: Artillery and automotive grease, type GAA, MIL-G-10924
Straight headed shear pin
Cotter pin

PERSONNEL: One

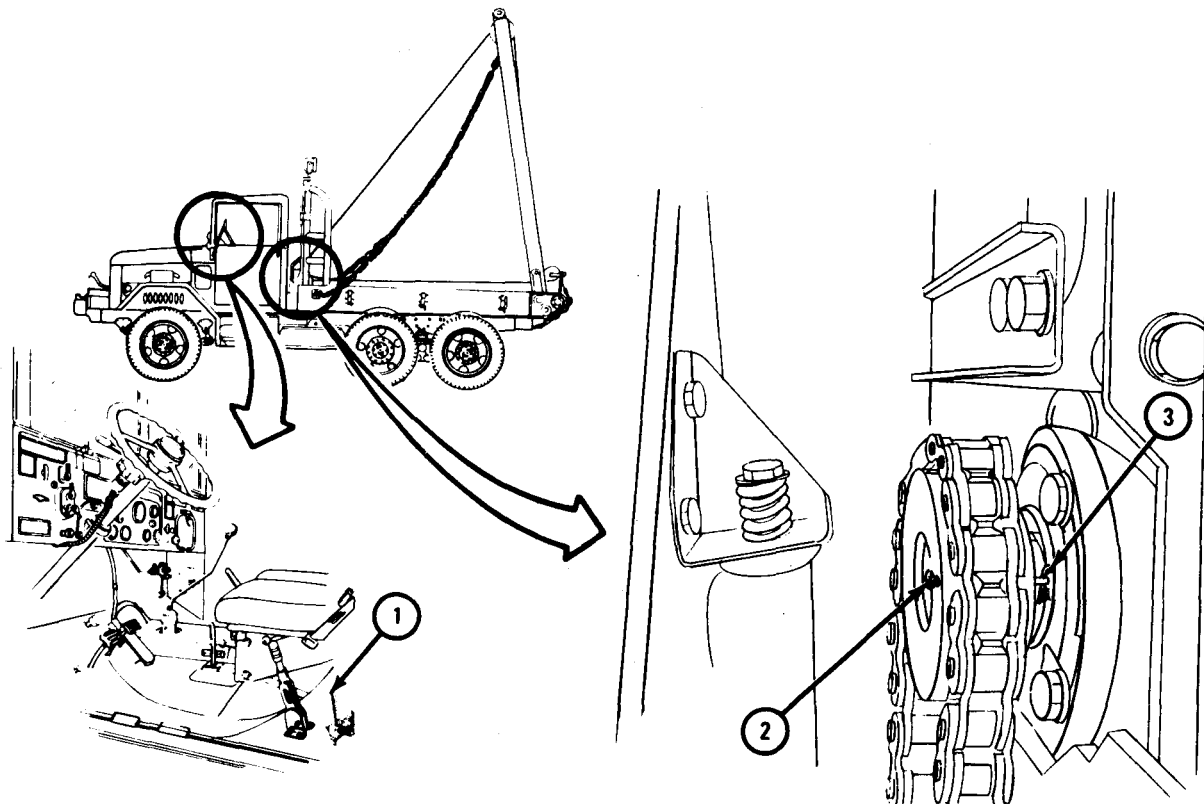
EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

a. Removal.

FRAME 1

1. Put transfer power takeoff lever (1) in disengaged (down) position.
2. If shear pin (2) is broken, using screwdriver, pry up head end. Using pliers, pull out both ends of broken shear pin.
3. If shear pin is not broken, using pliers, take out cotter pin (3). Using screwdriver, pry up head of shear pin (2) and using pliers, pull out shear pin.

END OF TASK



TA 045445

b. Replacement.

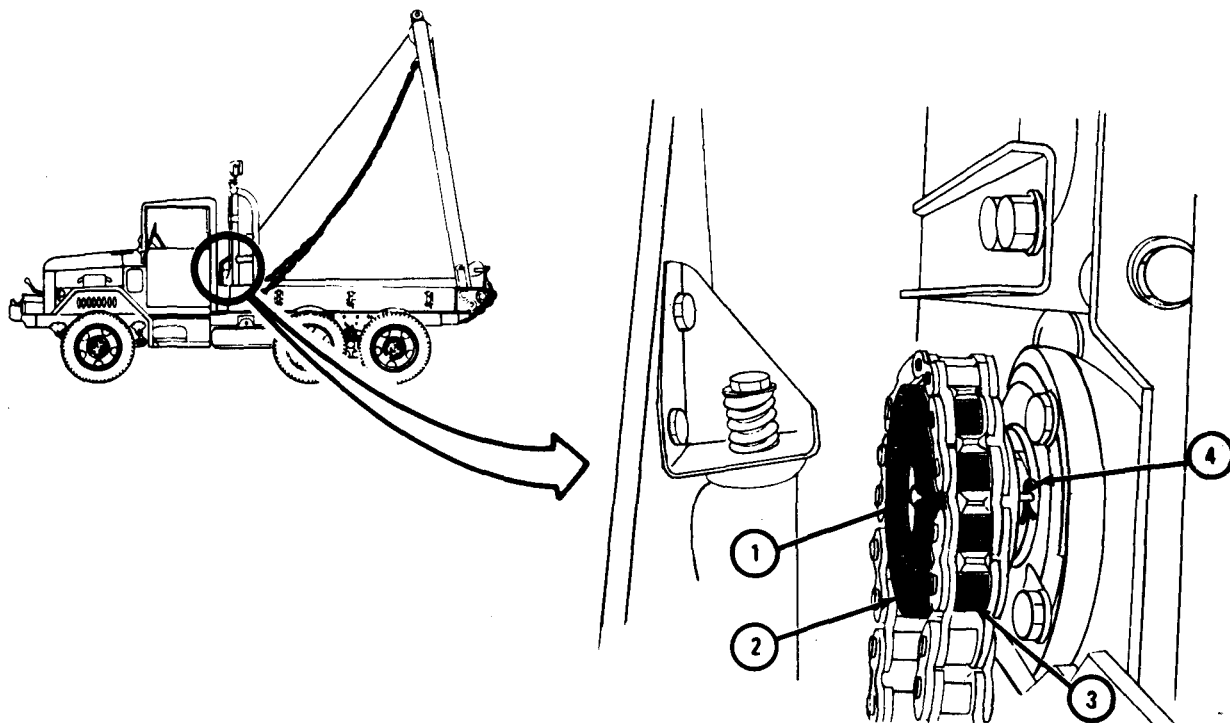
FRAME 1

WARNING

Never use rivets, bolts, steel pins, or any other type of metal pin in place of shear pin (1). Make sure you use the correct part number aluminum shear pin only. Damage to the equipment and injury to personnel can happen if wrong shear pin is used.

1. Spread small amount of grease on shear pin (1).
2. Put and hold shear pin (1) in hole in drive sprocket hub (2).
3. Turn sprocket (3) until shear pin (1) slides all the way in.
4. Using pliers, put cotter pin (4) through hole in shear pin (1) and bend open ends of cotter pin.

END OF TASK



TA 045446

2-12. REAR WINCH SHEAR PIN REMOVAL AND REPLACEMENT (MODEL M764).

TOOLS: Pliers
 Ballpeen hammer, light
 1/4-inch Drift punch

SUPPLIES: Artillery and automotive grease, type GAA, MIL-G-10924

PERSONNEL: One

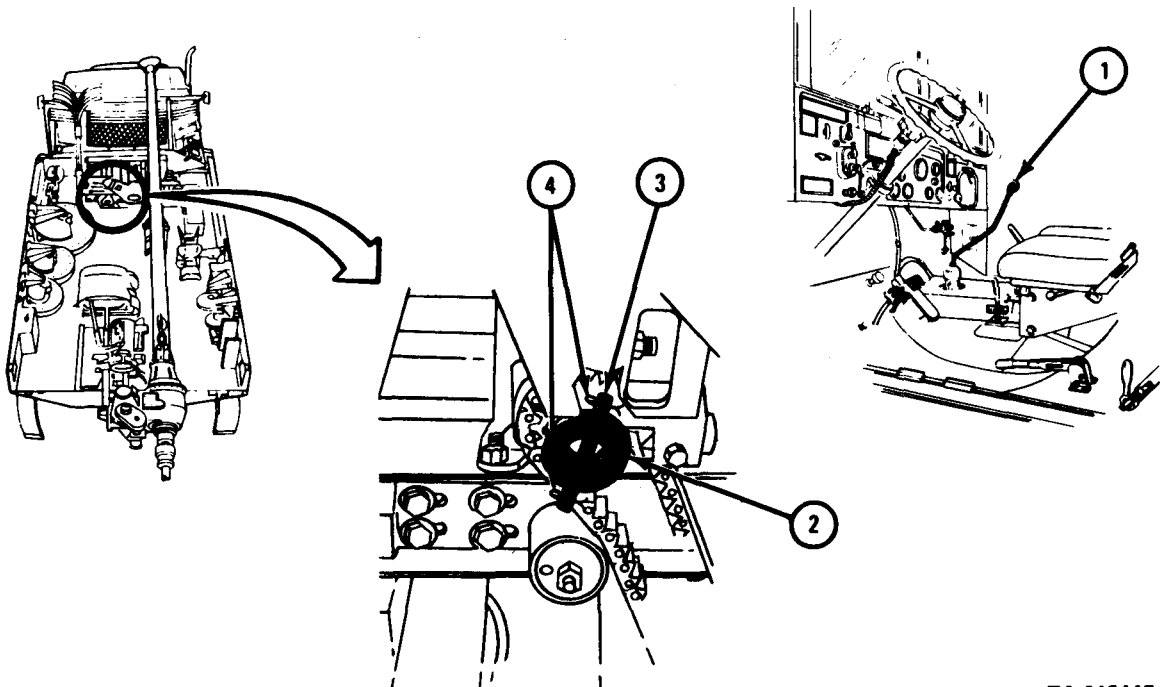
EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

a. Removal.

FRAME 1

1. Place FRONT TRANSMISSION gear shift lever (1) in N position.
2. Turn drive sprocket (2) until ends of shear pin (3) can be seen.
3. Using pliers, take out cotter pin (4) at each end of shear pin (3).
4. Using drift punch and hammer, drive out shear pin (3). If shear pin was broken off, using drift punch and hammer, drive out broken pin and any pieces of pin.

END OF TASK



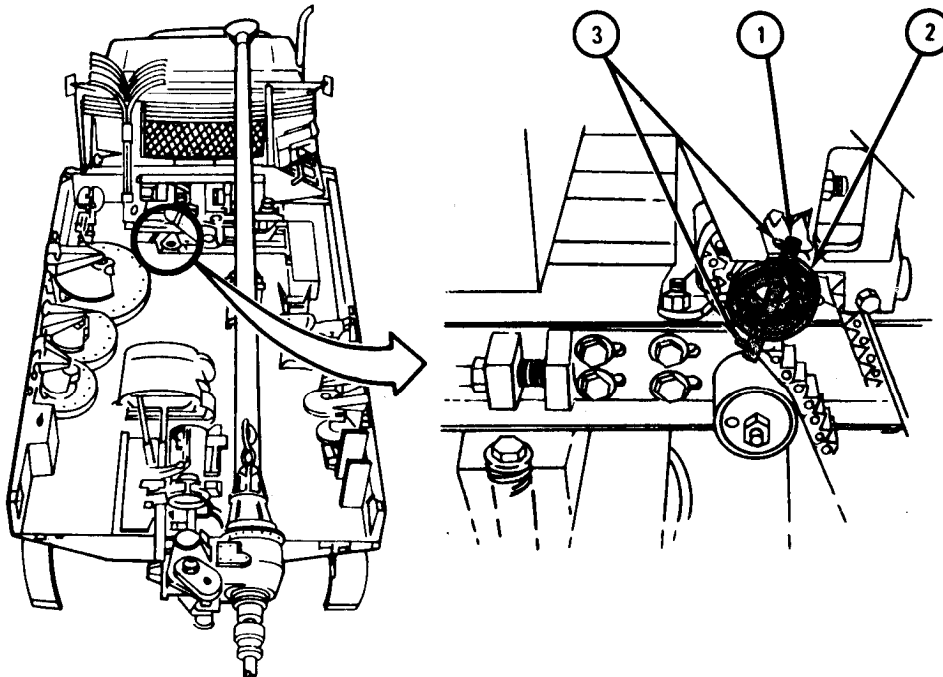
TA 045447

b. Replacement.**FRAME 1****WARNING**

Never use rivets, bolts, steel pins, or any other type metal pin in place of shear pin (1). Make sure you use the correct part number aluminum shear pin only. Damage to the equipment and injury to personnel can happen if wrong shear pin is used.

1. Spread a small amount of grease around new shear pin (1).
2. Turn drive sprocket (2) until shear pin (1) holes line up. Put in shear pin.
3. Using drift punch and hammer, tap in shear pin (1) until cotter pin holes on each end of pin can be seen.
4. Using pliers, put in cotter pin (3) in each end of shear pin (1). Bend back ends of cotter pins.

END OF TASK



TA 045448

Section VI. BODY EQUIPMENT ITEMS MAINTENANCE

2-13. CAB COVER REMOVAL AND REPLACEMENT.

TOOLS: None

SUPPLIES: None

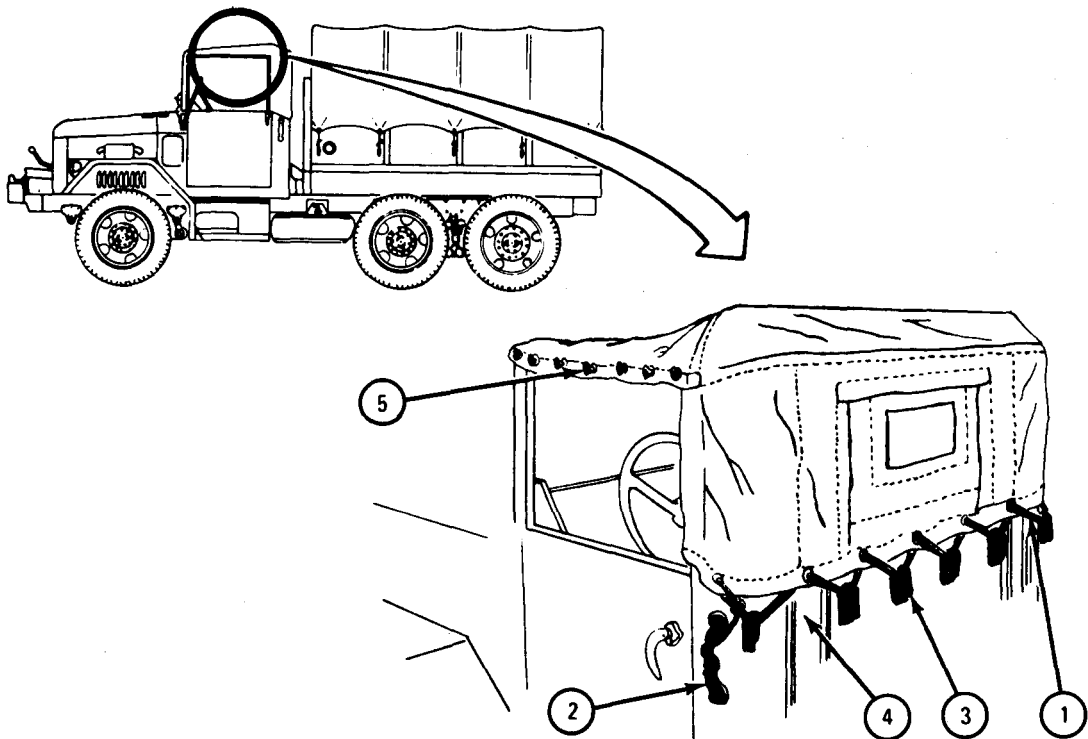
PERSONNEL: One

EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

a. Removal.

FRAME 1

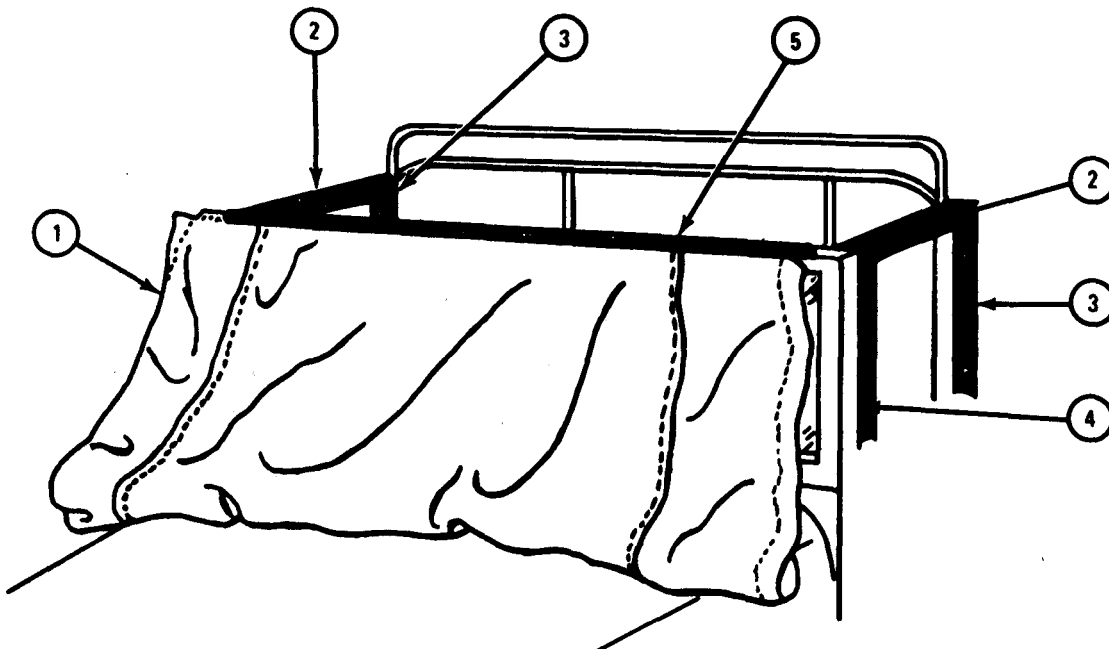
1. Untie lashing rope (1) from two side handles (2), and six hooks (3) at rear of cab (4).
 2. Turn 14 fastener studs (5) to up position.
- GO TO FRAME 2



TA 045430

FRAME 2

1. Lift cover (1) from side roof rails (2) and slide it from channel in pillar posts (3).
 2. Fold cover (1) over windshield (4) and slide cover from windshield channel (5).
- GO TO FRAME 3

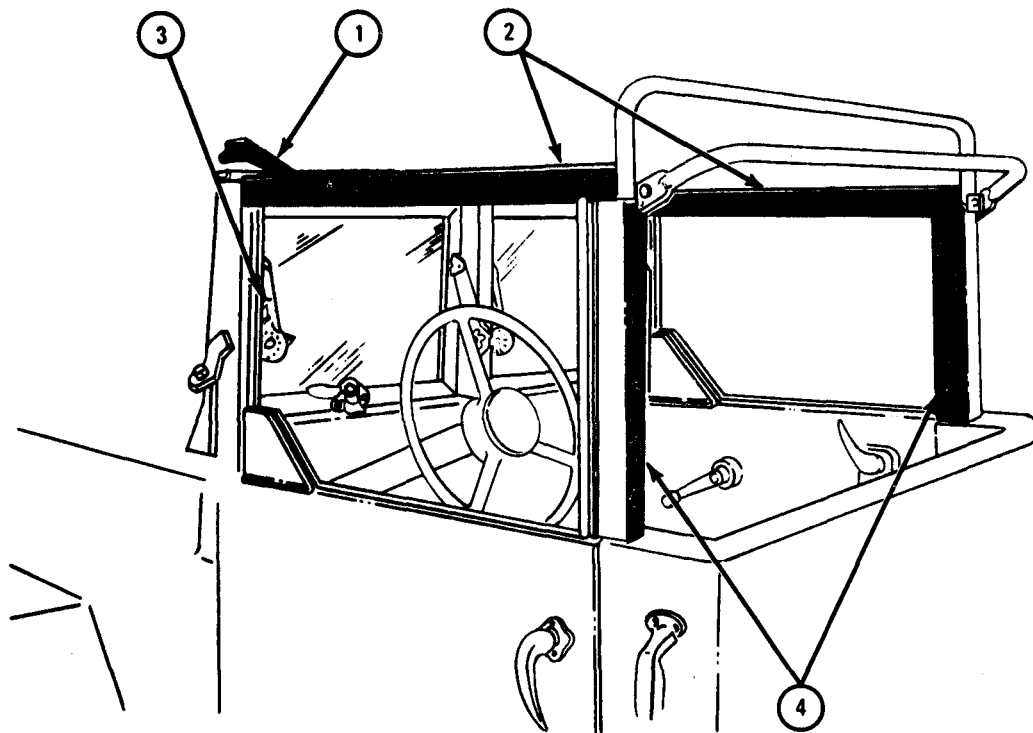


TA 045431

FRAME 3

1. Pull up two fasteners (1) to set side roof rails (2) free from windshield assembly (3).
2. Fold side roof rails (2) in and down toward pillar posts (4).

GO TO FRAME 4

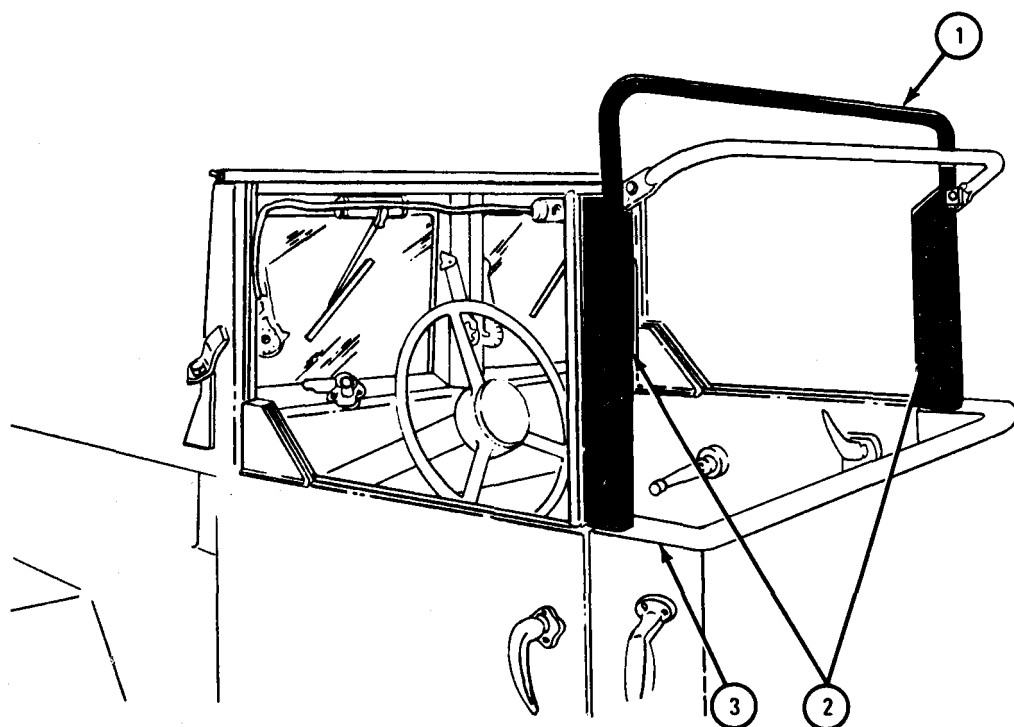


TA 045432

F R A M E 4

1. Pull crossbar (1) and pillar posts (2) out of cab frame (3).

GO TO FRAME 5



TA 045433

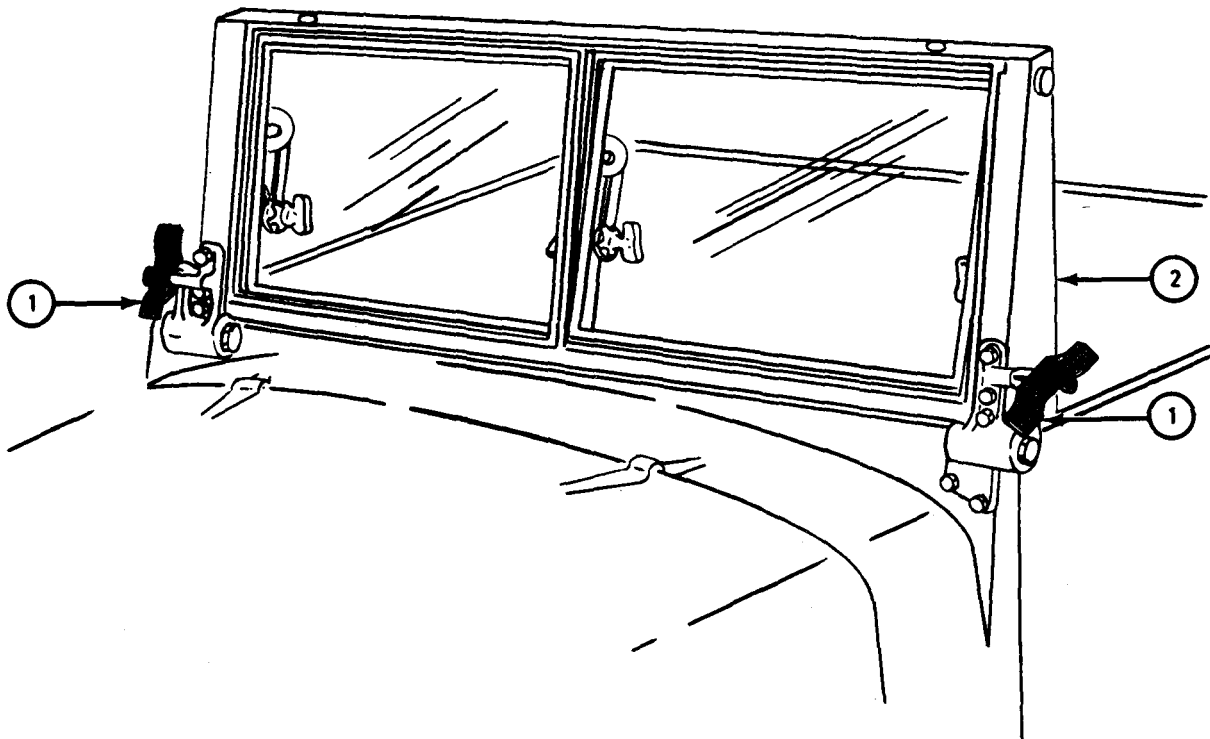
FRAME 5

CAUTION

The inner frame must be closed before lowering the windshield or the windshield will get damaged.

1. Loosen knobs (1) on right and left side of windshield frame (2) by turning them to the left.

TO FRAME 6

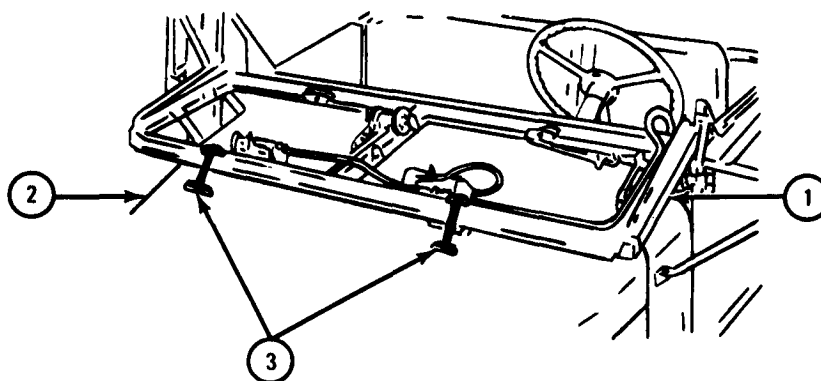


TA 045434

FRAME 6

1. Push windshield (1) forward toward hood (2), and make it fast with windshield catches (3).

END OF TASK



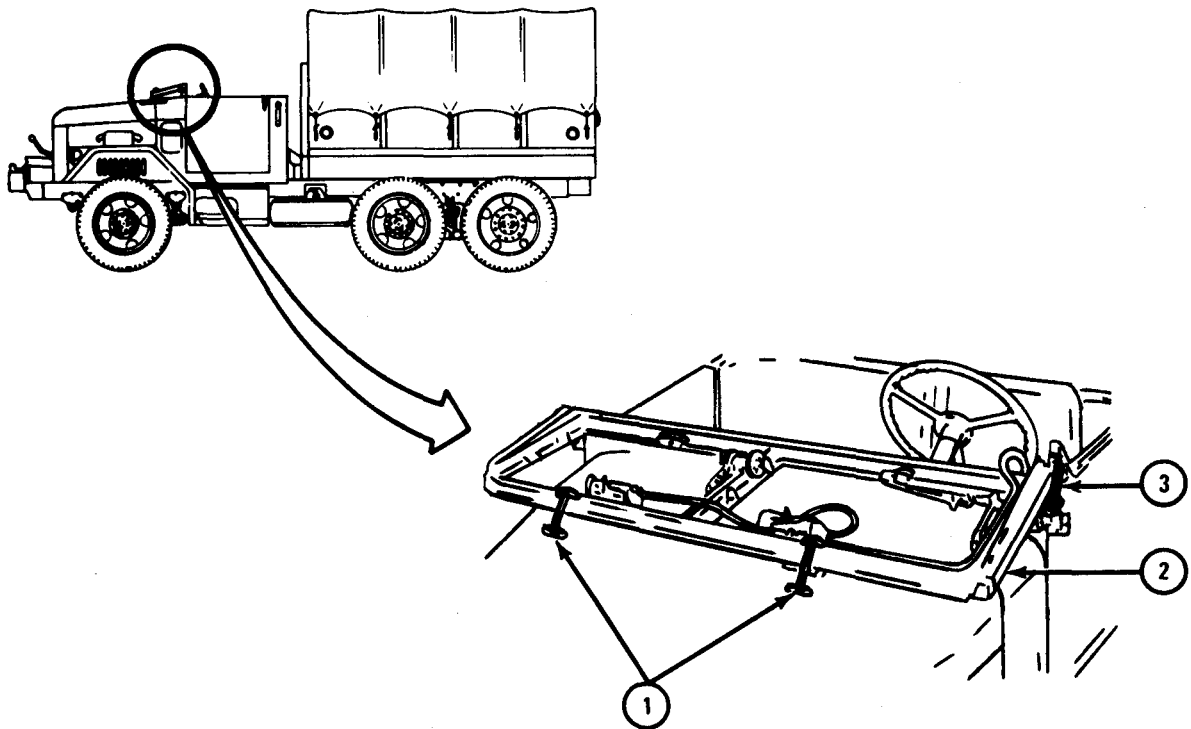
TA 045435

b. Replacement.

FRAME 1

1. Pull back windshield catches (1).
2. Raise windshield assembly (2) into place.
3. Tighten two knobs (3) by turning them to the right.

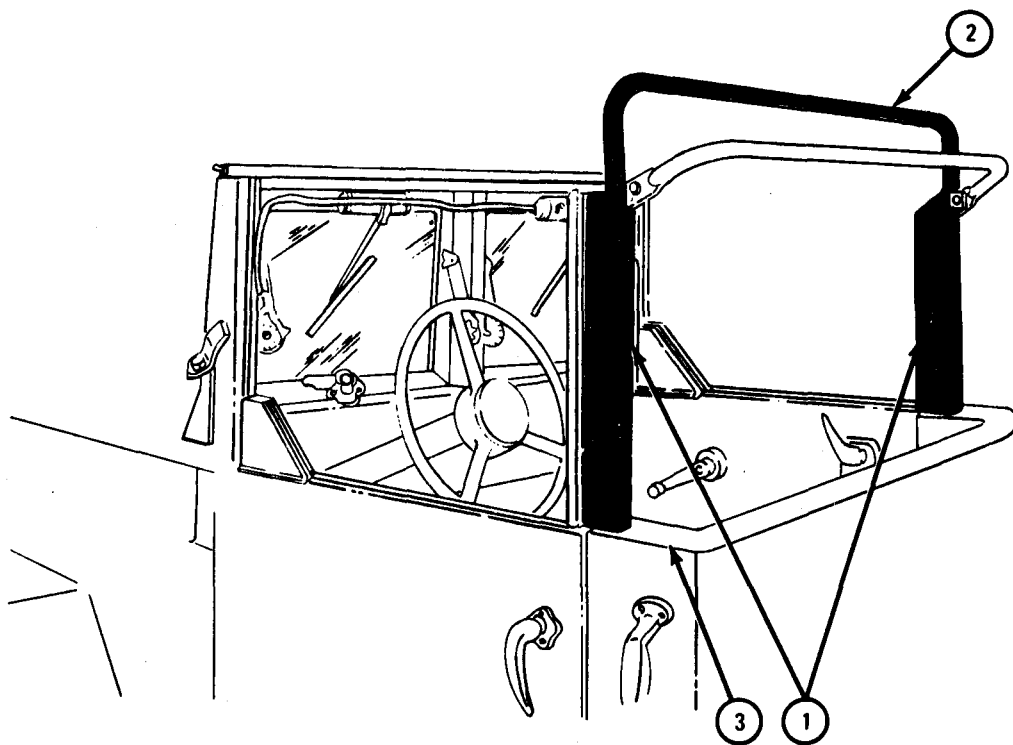
GO TO FRAME 2



TA 045436

FRAME 2

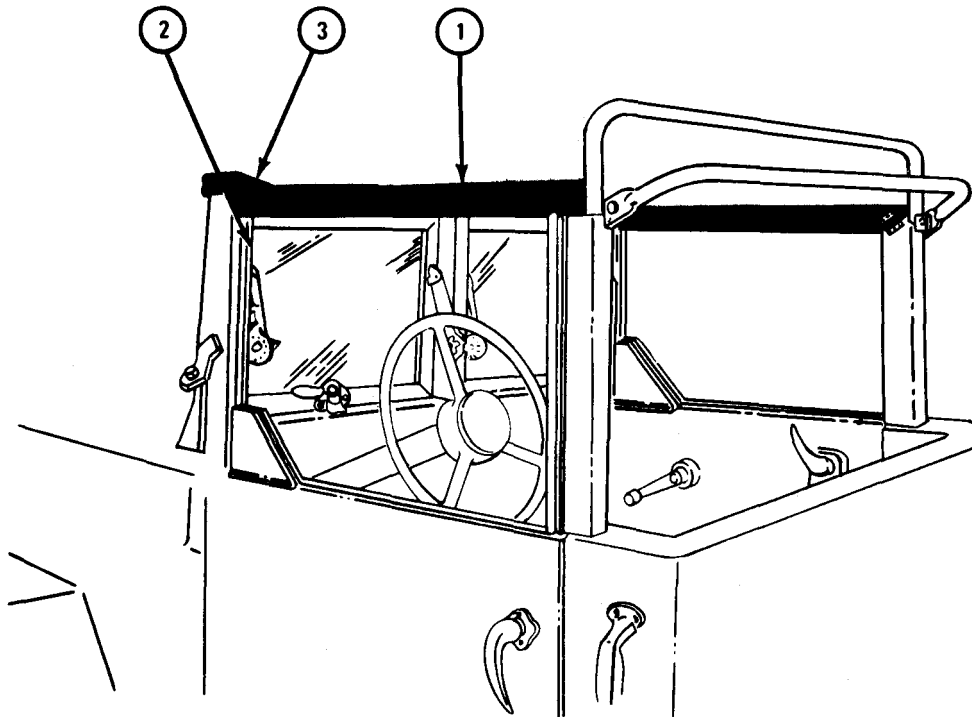
1. Put pillar posts (1) and crossbar (2) down into cab frame (3).
- GO TO FRAME 3



TA 045437

FRAME 3

1. Pull up side roof rails (1) to meet windshield assembly (2).
 2. Push down two fasteners (3) to lock side roof rails (1) to windshield assembly (2).
- GO TO FRAME 4

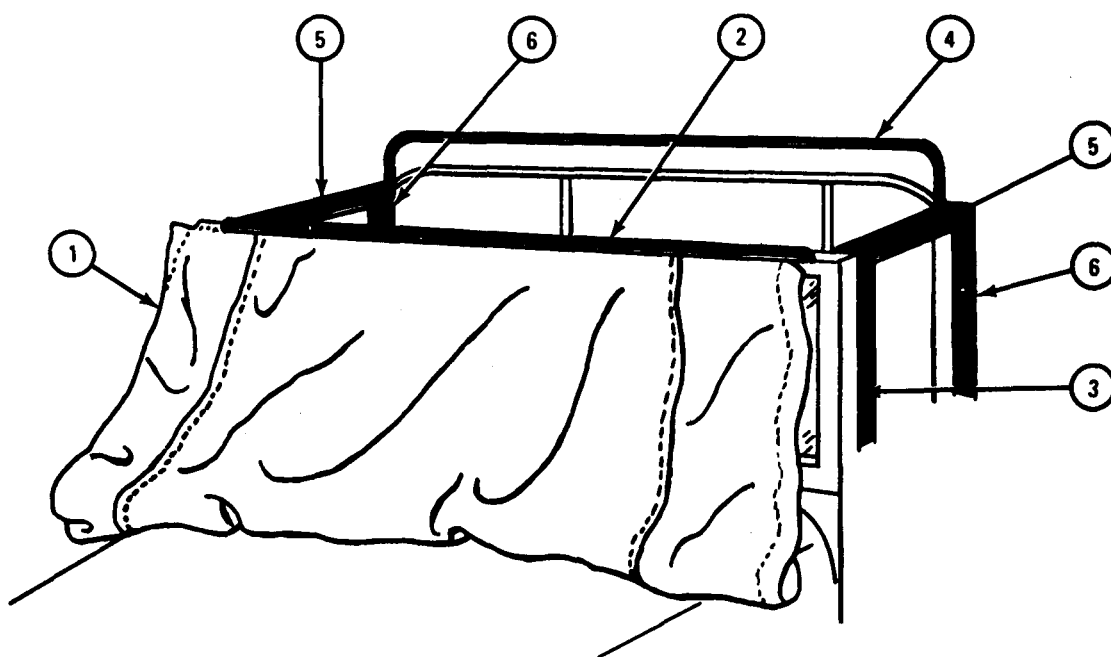


TA 045438

FRAME 4

1. Slide cover (1) into windshield channel (2).
2. Pull cover (1) over windshield (3) to meet crossbar (4).
3. Place cover (1) into side rails (5).
4. Slide cover (1) into channel in pillar posts (6).

GO TO FRAME 5

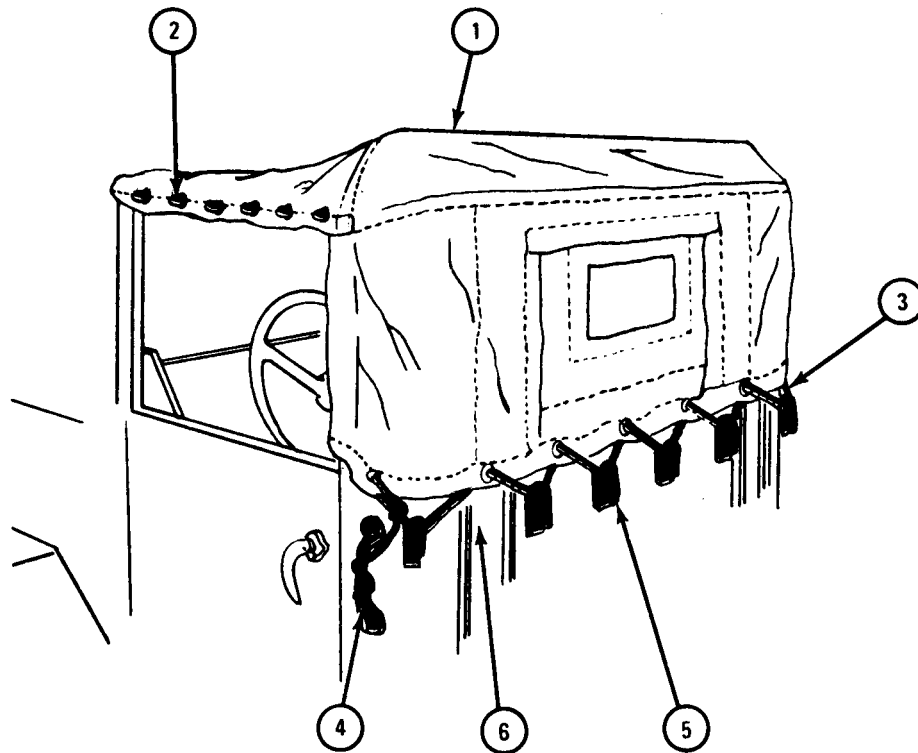


TA 045439

FRAME 5

1. Put cover (1) onto 14 fastener studs (2).
2. Turn 14 fasteners (2) so they are in a side-to-side position, as shown.
3. Tie lashing rope (3) to side handles (4) and hooks (5) at rear of cab (6).

END OF TASK



TA 045440

Section VII. SPECIAL PURPOSE KITS EQUIPMENT ITEMS MAINTENANCE

2-14. BOW AND TARP KITS INSTALLATION AND REMOVAL.

TOOLS: Cross-tip screwdriver (Phillips type)

SUPPLIES: Chalk

PERSONNEL: Two

EQUIPMENT CONDITION: Truck parked, engine off, handbrake set.

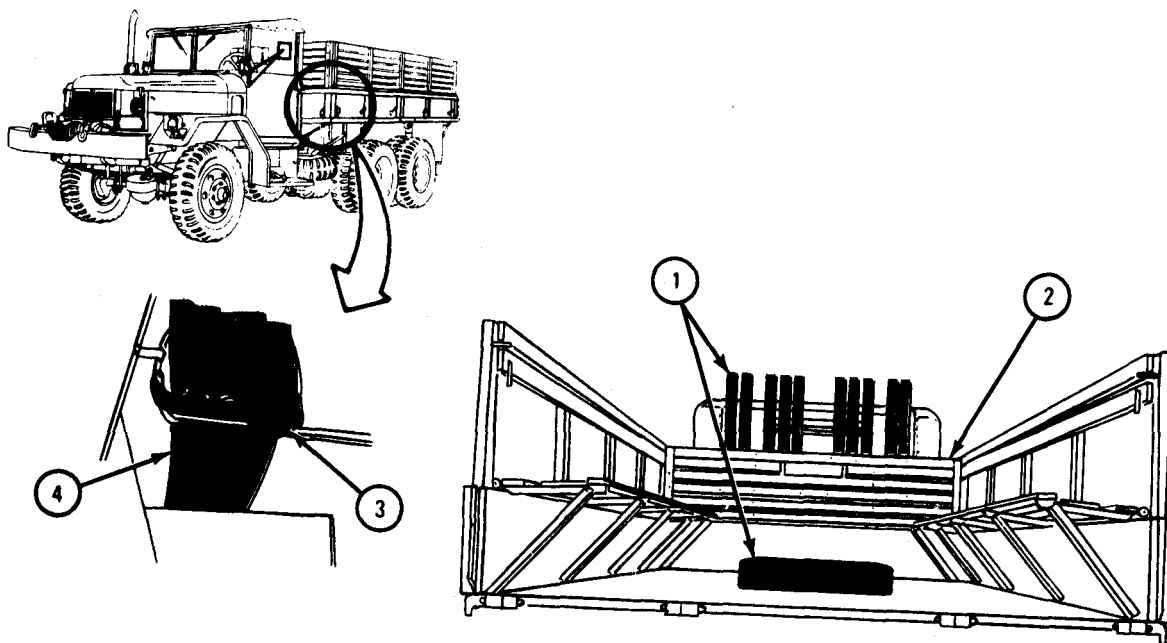
CAUTION

Do not fold or stow paulin or end curtains if they are wet. When folding, make sure surface they are spread on is dry. Canvas can be damaged if it is stowed while wet.

a. Installation of Bow Assemblies.

FRAME 1

1. On cargo trucks with dropsides, take corner and stake assemblies (1) out of storage sockets in front of rack (2). On trucks without dropsides, take corner and stowage assemblies (1) from storage area on truck bed.
 2. Unbuckle two straps (3), one on each side of truck, and take out bows (4).
- GO TO FRAME 2

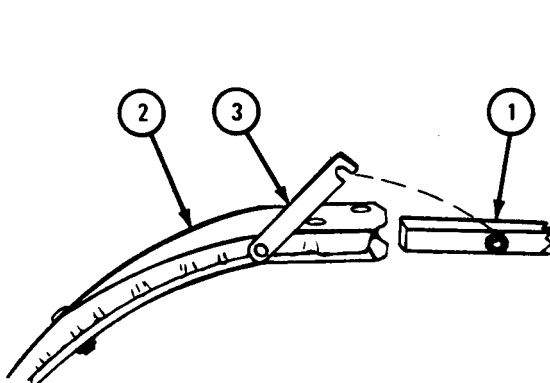
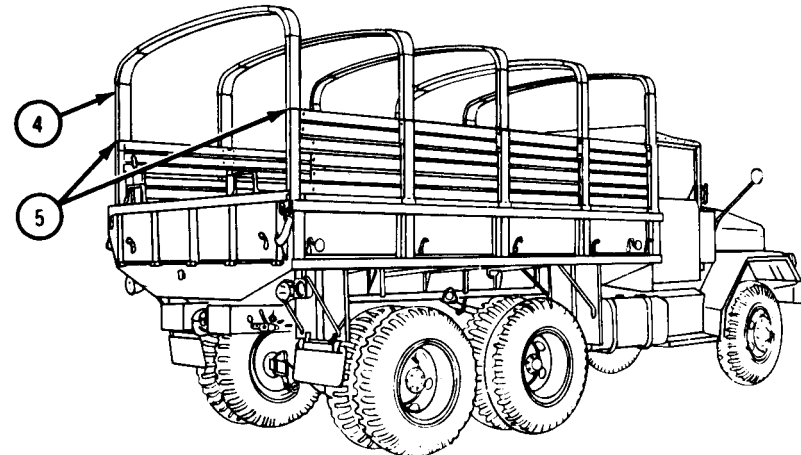
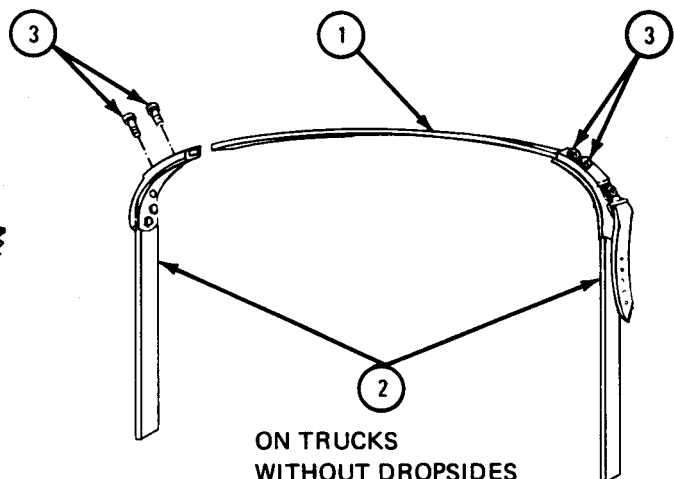


TA 084009

FRAME 2

1. On trucks without dropsides:
 - (a) Put bow (1) in place in two corner and stake assemblies (2) and aline holes.
 - (b) Using screwdriver, screw in and tighten two screws (3) on each corner and stake assembly (2).
2. On trucks with dropsides:
 - (a) Put bow (1) in place in corner and stake assemblies (2).
 - (b) Push down on hinged clip (3), to lock bow (1) in place.
3. Put bow assembly (4) in place in sockets (5).
4. Do steps 1 through 3 again, as required, for other bow assemblies.

END OF TASK

ON TRUCKS
WITH DROPSIDESON TRUCKS
WITHOUT DROPSIDES

TA 084010

b. Installation of End Curtains.

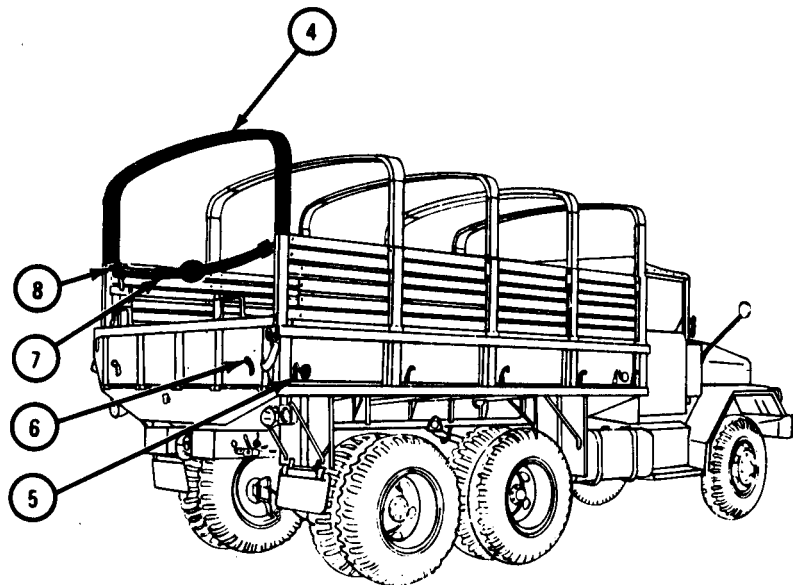
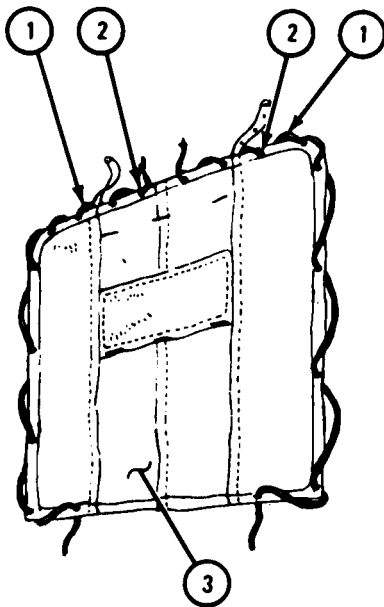
1. Put two lashing ropes (1) through center two eyelets (2) on rear end curtain (3) and pull them through until knots at ends of lashing ropes are against eyelets.
2. Put rear end curtain (3) in place on bow (4).
3. Lace one lashing rope (1) around bow (4) and through all eyelets (2) on one side of rear end curtain (3). Do the same thing with other lashing rope.
4. Loop lashing rope (1) around hook (5) and pull lashing rope tight and tie it onto hook (6). Do the same thing with other lashing rope.

NOTE

Do not tie or lash bottom of rear end curtain when carrying passengers.

5. Join safety strap (7) to two eyelets (8) on top of side rail ends.
6. Do steps 1 through 4 again for front end curtain.

END OF TASK



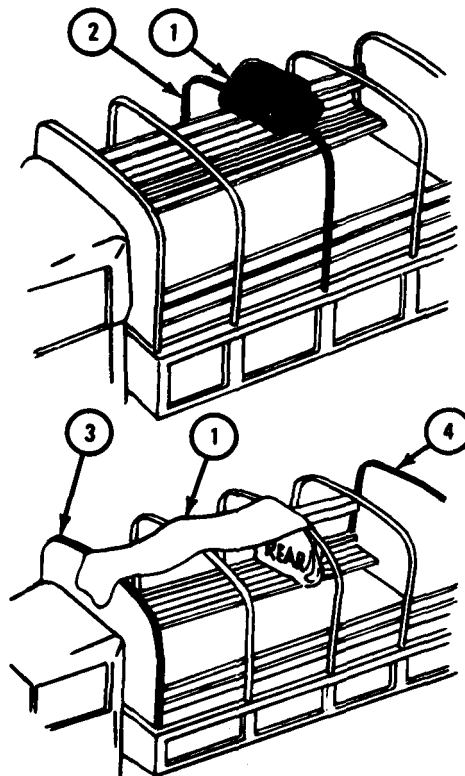
TA 084011

c. Installation of Paulin.

FRAME 1

- Soldiers A and B 1. Put paulin (1) on middle of center bow (2) with the word FRONT on top and open end facing to rear of truck as shown.
- Soldier A 2. Hold paulin (1) so it does not fall or slide.
- Soldier B 3. Unfold end of paulin (1) marked FRONT to front bow (3) and let it hang over bow as shown.
4. Hold paulin (1) in place on bows so that it does not move.
- Soldier A 5. Unfold end of paulin marked REAR to rear bow (4) and let it hang over bow.

GO TO FRAME 2



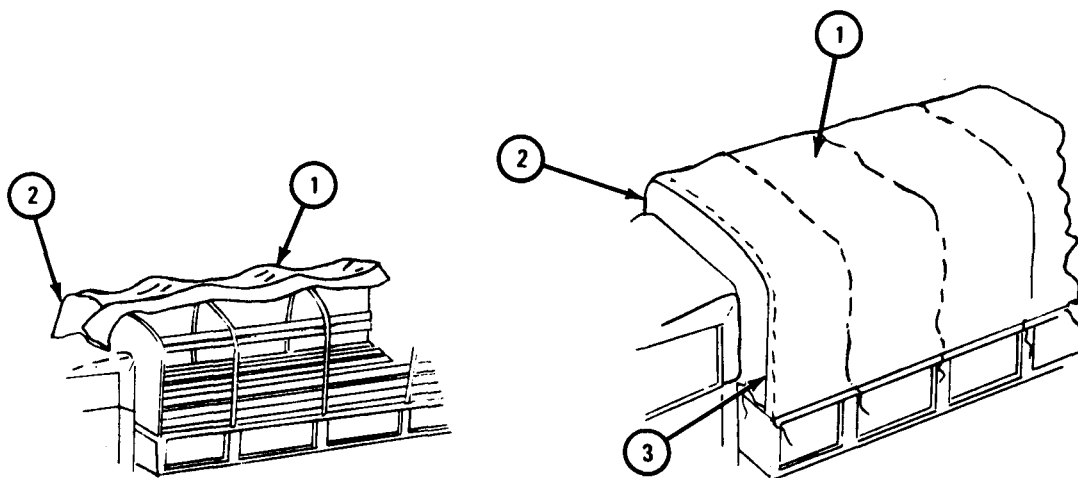
TA 082010

FRAME 2

Soldier A 1. Hold paulin (1) so that it does not move on bows.

Soldier B 2. Unfold side (2) of paulin (1), then unfold side (3).

GO TO FRAME 3



TA 082011

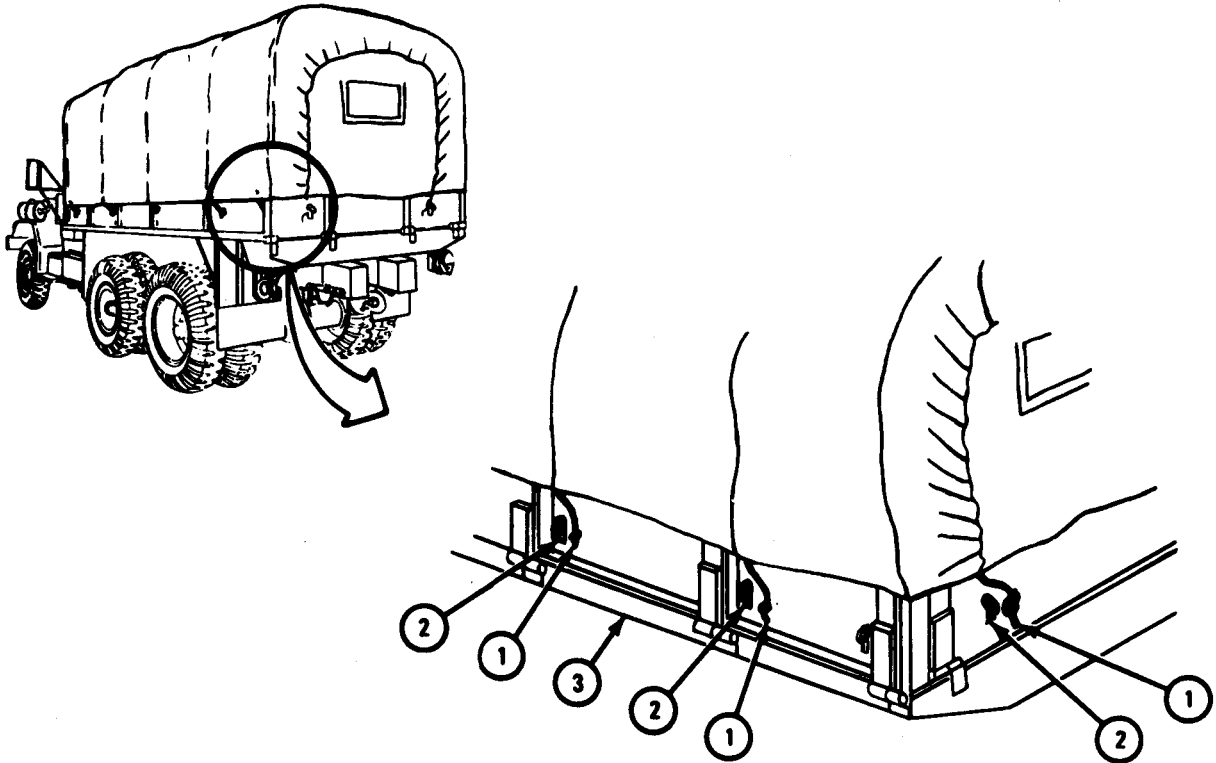
FRAME 3

CAUTION

If lashing ropes are tied too tightly, paulin will tear.

1. Pull all lashing ropes (1) until they are snug and tie ropes to hooks (2) on four sides of truck body (3).

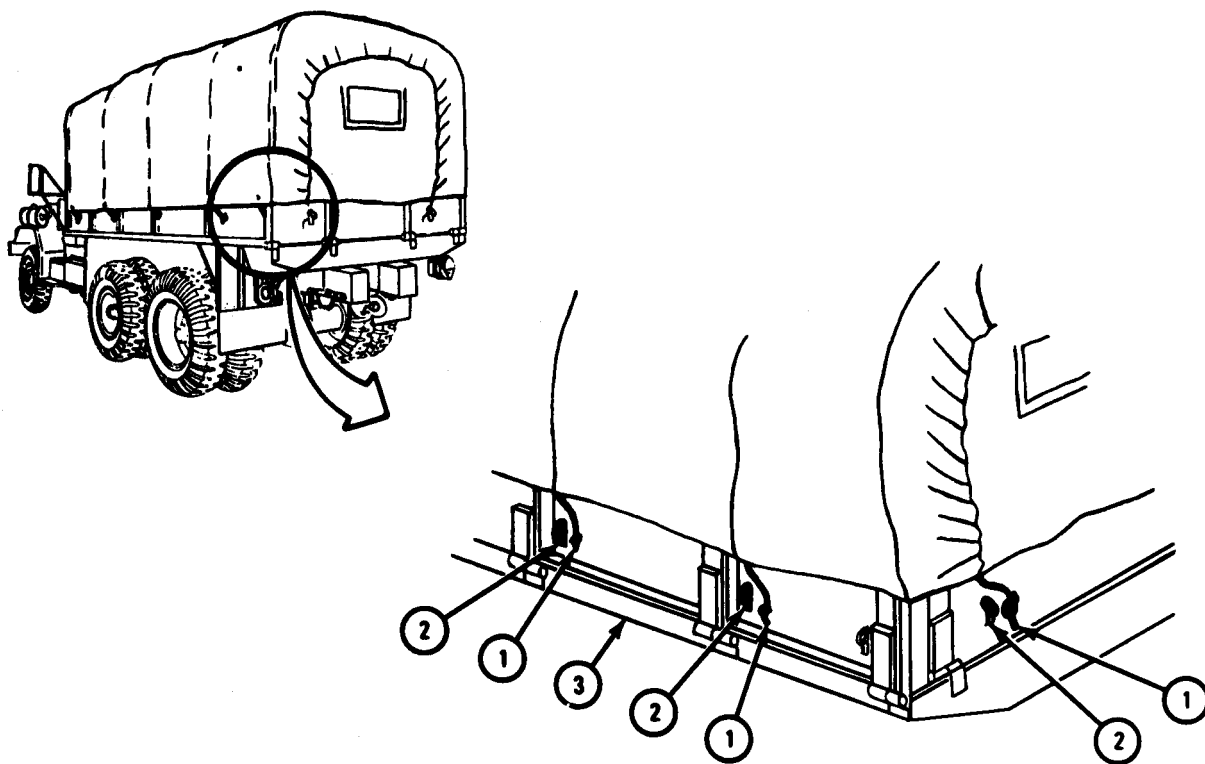
END OF TASK



TA 084012

FRAME 1

1. Untie all lashing ropes (1) from hooks (2) on four sides of truck body (3).
- GO TO FRAME 2

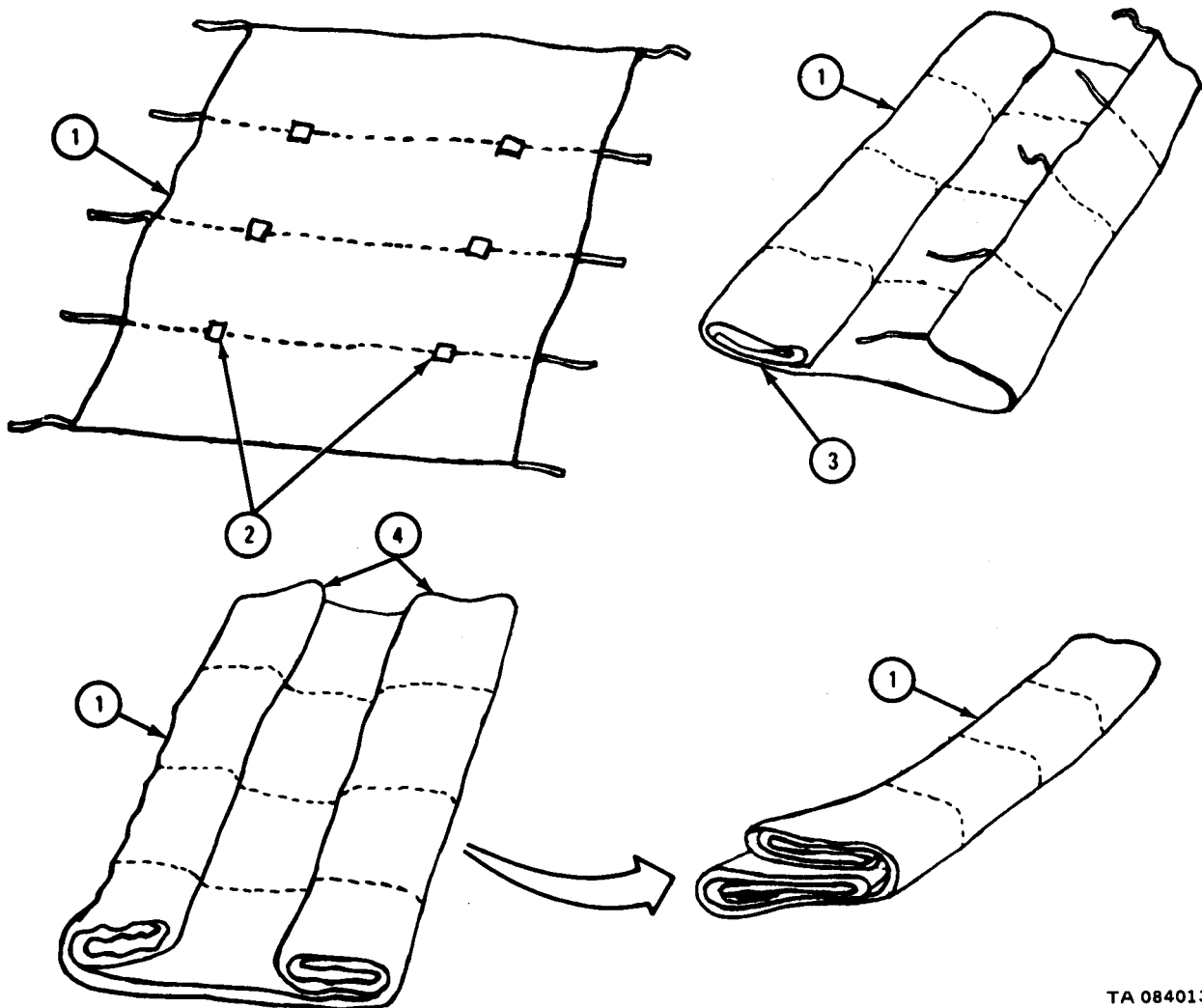


TA 084012

FRAME 2

- Soldiers A and B
1. Take push (1) off truck and spread it out on a flat dry surface, with buckles (2) up.
 2. Starting from one side of paulin (1), fold it to center, making each fold (3) about two feet wide.
 3. Do step 2 again on other side of paulin (1) until two sides (4) meet.
 4. Fold one side (4) of paulin (1) over the other.

GO TO FRAME 3

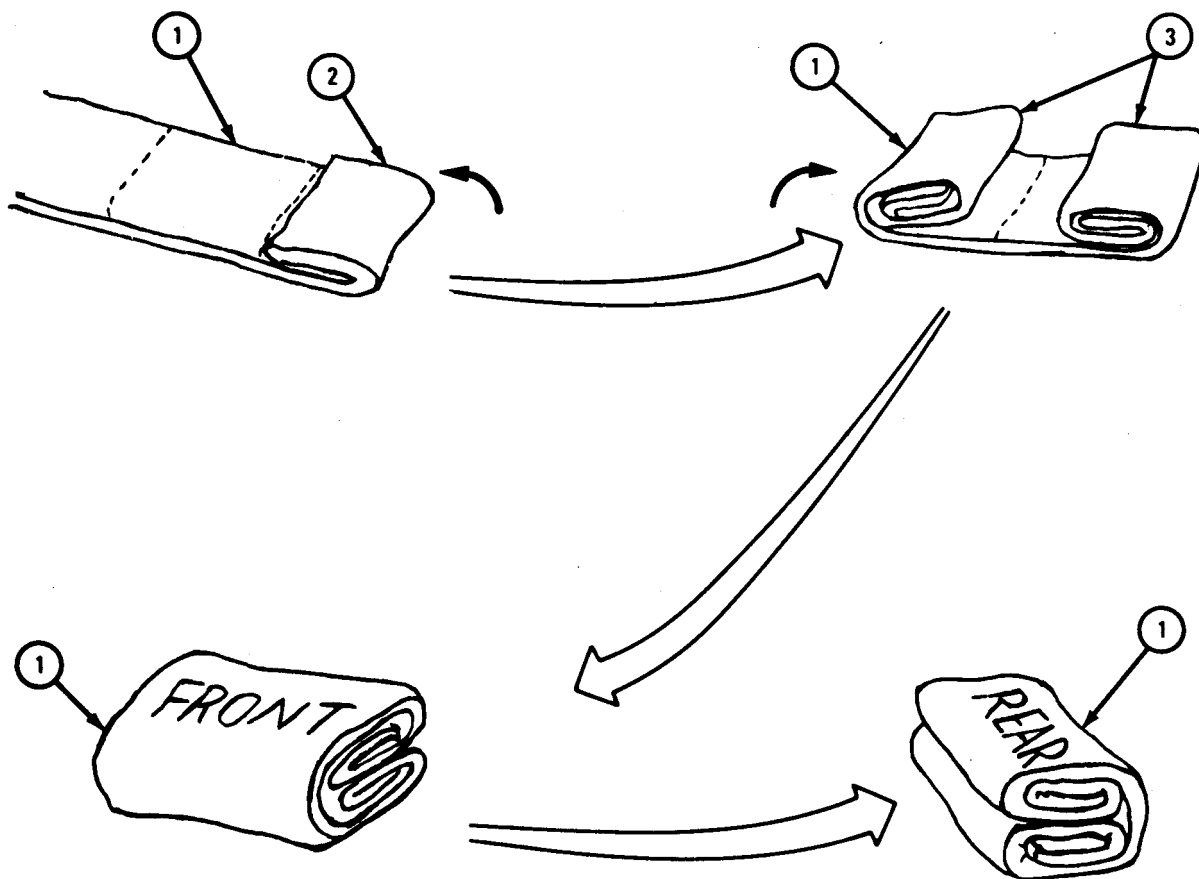


TA 084013

FRAME 3

- Soldiers A and B
1. Starting from front or back of paulin (1), fold end to center, making each fold (2) about two feet wide.
 2. Do step 1 again on the other side of paulin (1) until two ends (3) meet. Fold one end over the other.
 3. Put front end of paulin (1) up. Using chalk, mark FRONT on paulin. Turn paulin over and mark REAR on the other side.
 4. Stow paulin.

END OF TASK



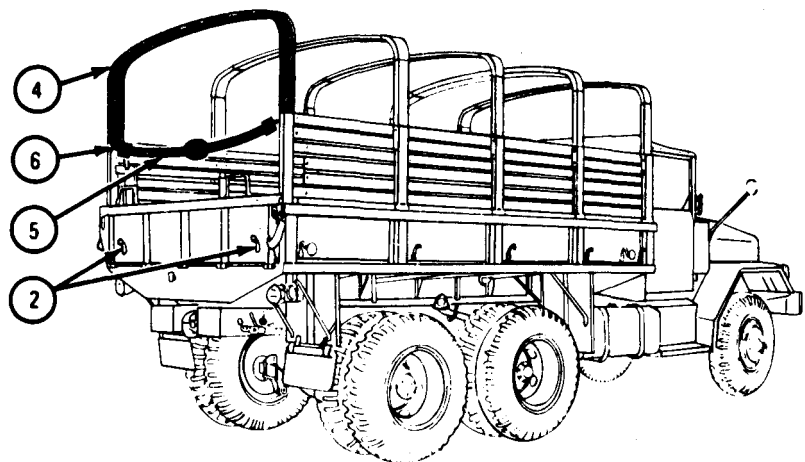
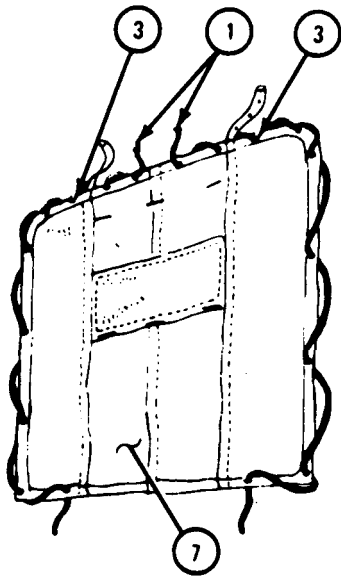
TA 084014

e. Removal of End Curtains.

FRAME 1

1. Untie two lashing ropes (1) from two hooks (2).
2. Unwind lashing ropes (1) from rear end curtain eyelets (3) and end bow (4) and take out two lashing ropes.
3. Take safety strap (5) out of two eyelets (6). Put end curtain (7) on a flat dry surface and put coiled ropes (1) on rear end curtain. Fold end curtain to about same size as folded paulin.
4. Do steps 1 through 3 again for front end curtain.
5. Stow end curtains with paulin.

END OF TASK

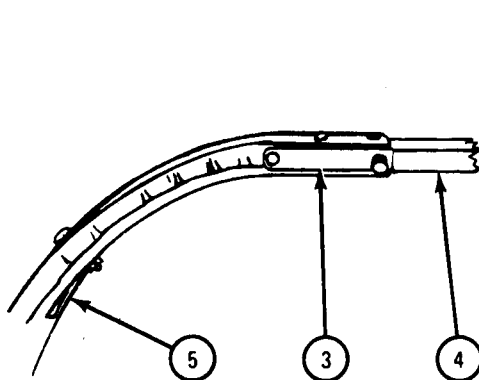
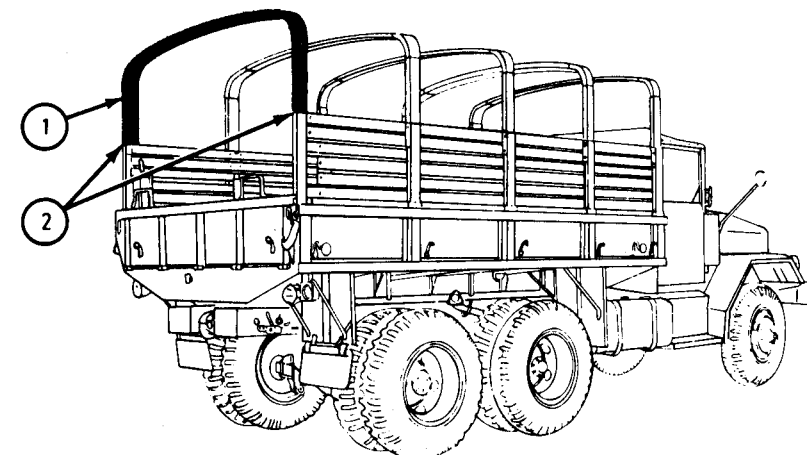


TA 084015

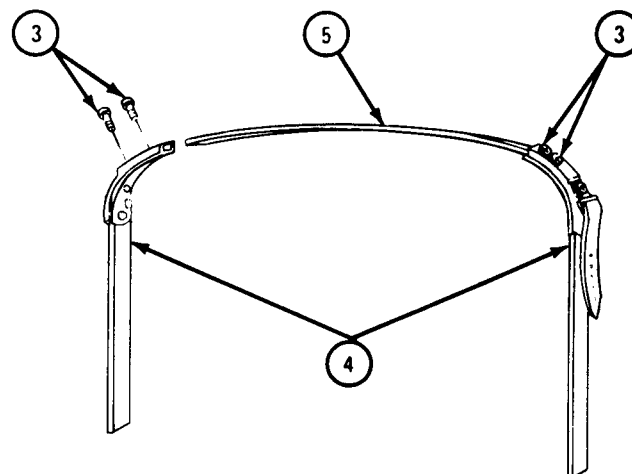
f. Removal of Bow Assemblies.

FRAME 1

1. Lift bow assembly (1) out of two sockets (2).
 2. On trucks without dropsides:
 - (a) Using screwdriver, unscrew and take out two screws (3) from two corner and stake assemblies (4).
 - (b) Pull bow (5) out of two corner and stake assemblies (4).
 3. (a) On trucks with dropsides. pushup on hinged clip (3) to unlock bow (4).
 - (b) Take bow (4) out of corner and stake assemblies (5).
 4. Do steps 1 through 3 again, as required, for other bow assemblies.
- GO TO FRAME 2



ON TRUCKS
WITH DROPSIDES



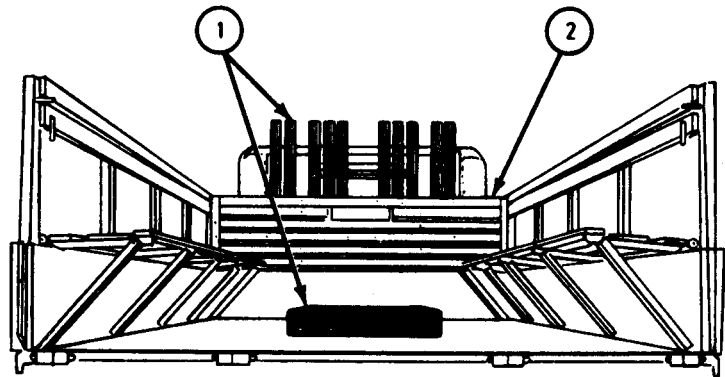
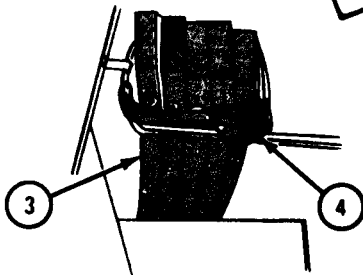
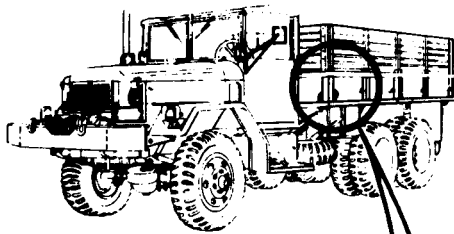
ON TRUCKS
WITHOUT DROPSIDES

TA 084016

FRAME 2

1. On trucks with dropsides, stow corner and stake assemblies (1) in storage sockets at front end of truck body in front of rack (2) as shown. On trucks without dropsides stow corner and stake assemblies on truck bed.
2. Stow bows (3) under cargo body. over the frame. Using two straps (4), one on each side of the truck. strap bows together.

END OF TASK



TA 084017

By Order of the Secretaries of the Army and the Air Force:

Official:

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

J. C. PENNINGTON
Major General, United States Army
The Adjutant General

Official:

LEW ALLEN, JR., General, USAF
Chief of Staff

VAN L. CRAWFORD, JR., Colonel, USAF
Director of Administration

Distribution:

To be distributed in accordance with DA Form 12-32,
Operator Maintenance requirements for 2-1/2 Ton Truck
Cargo, and 2-1/2 Ton Truck Van.



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TM 9-2320-209-10-4

PUBLICATION DATE

26 Sep 80

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MAINTENANCE MANUAL

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PAGE NO	PARA- GRAPH	FIGURE NO	TABLE NO
2-11	2-4 b		
2-18	2-6 a(2)		
2-43	2-13 a		

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

FRAME 2, step 1

Add a second sentence to read "Hold
air cleaner so it does not fall when
last clamp is unrapped."

FRAME 1, step 3. Lift up and take out
spare wheel (3). Should be changed to
add a second soldier since wheel is
very heavy.

FRAME 1, step 2. Turn 12 fastener studs (5)
to up position. Should be changed to 14
fasteners.

SAMPLE

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER

SP4 Jane Idone Autovon 222-2224

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Jane Idone

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TEAR ALONG PERFORATED LINE

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1,000 Millimeters = 39.37 Inches
 1 Kilo Meter = 1,000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1,000 Milligrams = 0.035 Ounces
 1 Kilogram = 1,000 Grams = 2.2 Lb
 1 Metric Ton = 1,000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1,000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

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

CUBIC MEASURE

1 Cu Centimeter = 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
 $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds Per Square Inch	Kilopascals	6.895
Miles Per Gallon	Kilometers Per Liter	0.425
Miles Per Hour	Kilometers Per Hour	1.609
TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Millimeters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds Per Square Inch	0.145
Kilometers Per Liter	Miles Per Gallon	2.354
Kilometers Per Hour	Miles Per Hour	0.621

