

Summary Report for Individual Task  
551-88M-1662  
Change a Tire on a Wheeled Vehicle or Trailer  
Status: Approved

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**Distribution Restriction:** Approved for public release; distribution is unlimited.

**Destruction Notice:** None

**Foreign Disclosure: FD5** - This product/publication has been reviewed by the product developers in coordination with the Fort Lee, VA foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

**Condition:** In an operational environment, given a tactical wheeled vehicle (2.5-ton or larger) and associated pintle-connected trailer or semitrailer with a tire to replace, applicable basic issue items (BII), tools, and assistance as needed.

Some iterations of this task should be performed in MOPP 4.

**Standard:** Replace a tire/wheel assembly on a 2.5-ton (or larger) tactical wheeled vehicle and a pintle-connected trailer or semitrailer without injury to personnel or damage to equipment, all in accordance with applicable references.

**Special Condition:** This task requires two personnel for vehicles 2.5-ton and larger. A 5-Ton MTV, M1083A1 Cargo truck is used merely as a sample vehicle. Strictly follow the guidance in the vehicle TM if different vehicle is used for this task. Assumptions: - Vehicle Parked on Level ground - Engine shut down - Wheels chocked - Cab raised

**Safety Risk:** Medium

**MOPP 4:** Sometimes

### Task Statements

**Cue:** Your unit maintenance has received a new set of replacement tires for your assigned vehicle and trailer. The maintenance supervisor has directed that all spare tire assemblies be placed on the vehicle so that new tires may be used as spares.

## DANGER

Soldiers must be aware of the inherent dangers of working in and around tactical wheeled vehicles. Hot surfaces, sharp, moving objects such as fan blades, slippery surfaces, and excessively loud noises are all dangers. These dangers are also applicable to hazardous cargo being transported (as applicable). Each Soldier should take every precaution not to become a victim of these dangers by following regulatory guidance and risk management rules.

## WARNING

Adhere to all WARNING statements in the referenced technical manuals for the procedures identified for this task.

## CAUTION

Ahere to all CAUTION statements in the referenced technical manuals for the procedures identified for this task.

**Remarks:** None

**Notes:** Ensure assistance is provided to handle larger-heavy tire-wheel assemblies. If tire davit is provided, its use is MANDATORY to remove and replace spare tire assembly.

### Performance Steps

1. Make preparations for tire/wheel assembly replacement.
  - a. Position vehicle or trailer on as level ground as possible.
  - b. Chock wheels opposite from flat to prevent inadvertent movement.
  - c. Gather all necessary tools to complete the tire-change.
  - d. Remove spare tire from stowage location using vehicle-mounted spare tire davit and assistance from another crewmember.
    - (1) Release latch on ratchet.
    - (2) Lift ratched and release strap.
    - (3) Remove strap from ratchet.
    - (4) Disconnect safety chain from spare tire retainer.
    - (5) Place ratchet in down position.
    - (6) Remove strap and safety chain from spare tire retainer.
    - (7) Lower cab.
    - (8) Move SPARE TIRE knob to LOWER position.
    - (9) Position FUNCTION SELECT knob to the SPARE TIRE.

### WARNING

Tire weighs approximately 350 lbs. If treads of tire catch on TOOL BOX during lowering, raise tire and pull tire away from TOOL BOX and continue lowering. Use extreme care when handling tire. Failure to comply may result in injury to personnel.

### CAUTION

Use caution when lowering tire to prevent damage to Central Tire Inflation System wheel valve. Failure to comply may result in damage to equipment.

- (10) Press and hold PUMP knob to lower spare tire to ground.

Note: Use back-up hydraulic pump if temperature is below -25 degrees F or if pressing PUMP knob does not lower tire to ground.

- (11) Disconnect one end of chain from spare tire retainer lift arm.
- (12) Pull chain through hole in spare tire.

(13) Hook chain to spare tire retainer lift arm.

e. Ensure spare tire is inflated to correct pressure.

f. If vehicle is equipped with Central Tire Inflation System (CTIS), ensure all components are removed and replaced according to the vehicle technical manual (TM). Steps may vary between front and rear tires.

Note: DO NOT use the CTIS to attempt to maintain air pressure in a flat tire.

2. Remove defective/flat tire/wheel assembly from vehicle or trailer.

a. If CTIS equipped, remove system lines and fittings as directed in the applicable TM.

b. Using a lifting device, slightly raise vehicle or trailer until weight is off the tire but tire still contacts the ground.

Note: Depending on consistency of ground surface, it may be necessary to support lifting jack with a solid object such as thick boarding or plating that can sustain the partial weight of the vehicle or trailer/semitrailer.

If replacing front tire, position hydraulic jack and adapter under axle, unscrew jack ram until jack adapter touches axle.

(1) Remove hydraulic jack, handle, and jack adapter from tool box.

(2) Position hydraulic jack under saddle of leaf spring.

(3) Unscrew jack ram until it touches saddle.

c. Using lug wrench, slightly loosen lug nuts in a crisscross pattern.

Note: Studs and lugnuts on left side of vehicle have left-hand threads. Turn lugnuts to right to loosen, and to left to tighten.

Studs on right side of vehicle have a right-hand threads. Turn lugnuts to left to loosen, and to right to tighten.

d. Raise vehicle or trailer high enough to remove and replace wheel/tire assembly. Use hydraulic jack (BII) or other suitable lifting device. If using hydraulic jack, be sure base of jack is supported by thick wood or other materials so that jack will not sink into the ground under vehicle weight.

## CAUTION

Do not drag tire across studs during removal. Failure to comply may result in damage to equipment.

e. Finish loosening all 10 lugnuts and remove wheel/tire assembly.

f. Lay disabled wheel/tire assembly out of the way in such a manner that will prevent it from falling and injuring personnel or damaging other equipment.

g. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.

3. Replace tire/wheel assembly.

a. With assistance, lift spare tire/wheel assembly into position onto hub.

(1) Roll spare tire up to hub.

(2) Align CTIS hose with hollow wheel stud.

(3) Align 10 holes in wheel with studs.

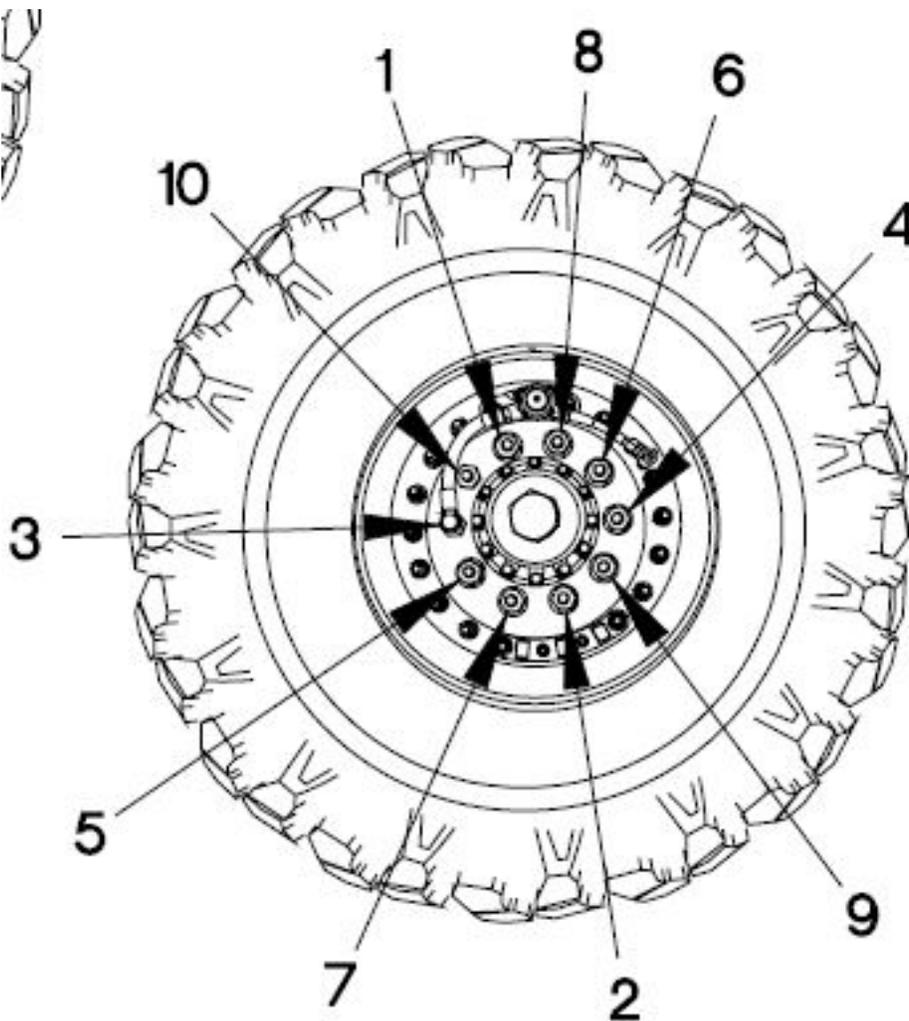
(4) Install wheel on hub.

## WARNING

### WARNING

DO NOT ALLOW VEHICLE WEIGHT TO REST ON LUG STUDS WITHOUT ENSURING LUG NUTS ARE FULLY TIGHTENED. FAILURE TO COMPLY MAY SNAP ONE OR MORE LUG STUDS AND CAUSE VEHICLE TO COLLAPSE WHICH CAN CAUSE INJURY OR DEATH TO PERSONNEL AND/OR DAMAGING WHEEL HUB OR WHEEL.

b. Secure all lug nuts hand tight.



## TIGHTENING SEQUENCE

Tightening sequence  
Indicates lugnut tightening sequence

c. Fully tighten lug nuts in a crisscross pattern. If necessary, lower vehicle until tire touches the ground to prevent tire from turning.

- d. Lower the vehicle or trailer to the ground.
- e. Recheck tightness of all lug nuts.
- f. If CTIS equipped, ensure all lines and fittings are re-connected. Exercise the CTIS to ensure there are no leaks.
  - (1) Install CTIS hose on hollow wheel stud with two washers and banjo bolt.
  - (2) Position rim cover on wheel with four washers and bolts.
- g. If CTIS equipped, notify organizational maintenance as soon as possible to ensure all CTIS lines and fittings are reinstalled properly and tested.
- h. Notify field maintenance to torque four rim cover bolts to 71-95 lb-ft.
- i. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.

## **WARNING**

Handle tire with care. Tire may have exposed broken metal cords or sharp debris in it. Failure to comply may result in injury to personnel.

Tire weighs approximately 350 lbs. Use care when handling tire. Failure to comply may result in injury to personnel.

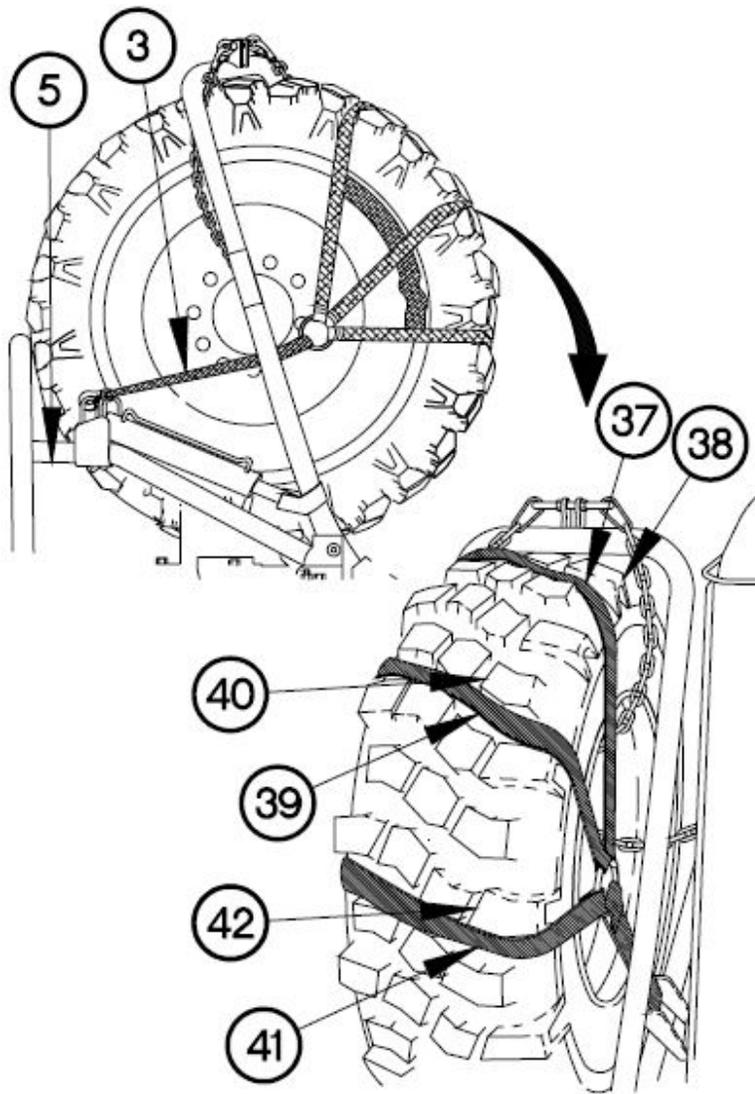
- 4. Stow disabled tire/wheel assembly.
  - a. Using assistance, roll tire under center of spare tire retainer lift arm.
  - b. Attach davit/lifting device to the rim of the wheel and lift into position on the vehicle or trailer.
  - c. Disconnect on end of chain from spare tire retainer lift arm.
  - d. Route chain through uppermost lug hole in wheel.
  - e. Connect chain to the spare tire retainer lift arm.
  - f. Raise cab.
  - g. Position SPARE TIRE knob to RAISE.
  - h. Position FUNCTION SELECT knob to SPARE TIRE.

## **CAUTION**

Tire must be stowed against back frame of spare tire retainer. Failure to comply may result in damage to equipment.

- i. Press and hold PUMP knob to raise spare tire retainer lift arm to the stowed position.

j. Position tread engager in third tread, tread engager in sixth tread, and tread engager in ninth tread.



Tread Engager placement  
Depicts placement of tread engagers on spare tire.

k. Feed other end of strap through ratchet.

## CAUTION

Ensure that strap is wrapped around ratched at least three complete wraps after tightening. Failure to comply may result in damage to equipment.

l. Tighten strap around tire with ratchet.

m. Place ratchet handle in down position.

n. Connect safety chain to spare tire retainer.

o. Route other end of safety chain through tire and connect to spare tire retainer.

p. Lower cab.

q. If lifting device is not available as in the case with some trailers, ensure assistance is obtained before attempting to lift tire/wheel into stowage location.

r. Secure with mounting brackets/hardware.

s. Adhere to all WARNING and CAUTION statements in the TM regarding this procedure.

5. Recover from tire/wheel change procedure.

a. Secured all tools and materials used to perform tire/wheel change.

b. Annotate of DA Form 2404 (Equipment Inspection and Maintenance Worksheet)/DA Form 5988-E (Equipment Inspection Maintenance Worksheet) that spare tire/wheel is unserviceable and to be repaired as soon as possible to regain full "mission capable" status.

Note: Some CTIS equipped vehicles are considered "Not Fully Mission Capable" if one or more tires are missing or unserviceable. Ensure chain of command is notified and tire is repaired or replaced to regain "Full Mission Capability."

c. As soon as possible, take vehicle to organizational maintenance to torque hub lug nuts and have the CTIS checked (if applicable).

(Asterisks indicates a leader performance step.)

**Evaluation Guidance:** Score the soldier GO if all performance measures are passed. Score the soldier NO-GO if any performance measure is failed. If any performance measure is failed, tell the soldier what was done wrong and how to do it correctly.

**Evaluation Preparation:** Setup: Brief Soldier on Task Specifications. Provide a M1083A1 MTV 5-ton truck or suitable pintle-connected/towed trailer, work gloves, BII, solid/level ground, and assistance.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Made preparations for tire/wheel assembly replacement.			
2. Removed defective/flat tire/wheel assembly from vehicle or trailer.			
3. Replaced tire/wheel assembly.			
4. Stowed disabled tire/wheel assembly.			
5. Recovered from tire/wheel change procedure.			

**Supporting Reference(s):**

Step Number	Reference ID	Reference Name	Required	Primary
	TM 9-2320-392-10-3	OPERATOR'S MANUAL FOR THE M1083A1 SERIES 5 TON, 6X6 MEDIUM TACTICAL VEHICLE (MTV) VOLUME NO. 3 OF 3	Yes	Yes
	TM 9-2330-394-13&P	OPERATOR'S, FIELD LEVEL MANUAL FOR THE M1082 SERIES, 2 1/2 TON	Yes	No

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT. Ensure every precaution is taken to minimize or eliminate hazardous spillage from vehicle/trailer by emplacing drip pans whenever possible while parked.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. When changing a tire on a pintle-connected trailer, couple the trailer to a prime mover to ensure stability for the trailer during these procedures. Ensure care is taken in handling heavy wheels. Use vehicle davit, if installed, to maneuver and lower spare tire to ground. Use two persons to handle larger wheel/tire assemblies (2 ½-ton and larger). Ensure vehicle or trailer is securely supported prior to removal or replacement of tire. Ensure vehicle or trailer is chocked to prevent accidental movement. Use work gloves to prevent personal injury when handling tire or wrenches. Ensure personnel stand clear of any lifting device when maneuvering spare tire from/into stowage location. Never stand under a suspended load. Some larger tire/wheel assemblies weigh in excess of 500 pounds. Use EXTREME caution when handling. ADHERE TO ALL WARNING AND CAUTION STATEMENTS IN THE TM REGARDING THIS PROCEDURE.

**Prerequisite Individual Tasks :** None

**Supporting Individual Tasks :** None

**Supported Individual Tasks :** None

**Supported Collective Tasks :** None