

## TECHNICAL MANUAL

### UNIT MAINTENANCE MANUAL

FOR

CARRIER, PERSONNEL, FULL TRACKED, ARMORED M113A3  
2350-01-219-7577 (EIC AEY)

CARRIER, COMMAND POST, LIGHT TRACKED M577A3  
2350-01-369-6085 (EIC AE7)

CARRIER, SMOKE GENERATOR, FULL TRACKED M1059A3  
2350-01-369-6083 (EIC AFA)

CARRIER, MORTAR, 120-MM M121, SELF-PROPELLED M1064A3  
2350-01-369-6082 (EIC AE8)

CARRIER, STANDARDIZED INTEGRATED COMMAND POST SYSTEM  
(SICPS) M1068A3  
2350-01-369-6086 (EIC AFC)

CARRIER, MECHANIZED SMOKE OBSCURANT M58  
2350-01-418-6654 (EIC 5CG)

SUPERSEDURE NOTICE — This manual supersedes TM 9-2350-277-20 dated 24 July 1994, including all changes.

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

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## HEADQUARTERS, DEPARTMENT OF THE ARMY

January 2001



## WARNING SUMMARY

### WARNING SUMMARY

This list summarizes critical WARNINGS in this manual. They are repeated here to let you know how important they are. Study these WARNINGS carefully; they can save your life and the lives of personnel you work with.

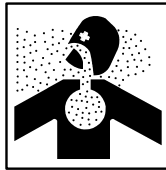
### GENERAL WARNINGS NOT FOUND IN WP PROCEDURES

The following WARNINGS are general safety statements. They are not unique to any specific procedures and, therefore, do not appear elsewhere in this TM. All personnel operating this equipment or working near this equipment must understand and continually observe the precautions in these WARNINGS.

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#### WARNING

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**Heater and engine exhaust fumes contain deadly poisonous gases. Severe exposure can cause death or permanent brain damage. Exhaust gases are most dangerous in places with poor air flow.**

**To protect yourself and your partners, always obey the following rules:**

**Do not run heater or engine indoors unless you have very good air flow.**

**Do not idle engine for a long time unless there is very good air flow.**

**Do not drive carrier with any power plant access covers open or removed.**

**Be alert at all times. Check for the smell of exhaust fumes. If you notice any fumes, OPEN HATCH COVERS, RAMP ACCESS DOOR, OR RAMP, RIGHT AWAY.**

**Exhaust gas poisoning causes dizziness, headache, loss of muscle control, sleepiness, coma, and death. If anyone shows signs of exhaust gas poisoning, get ALL PERSONNEL out of the carrier. Make sure they have lots of fresh air. KEEP THEM WARM, CALM, AND INACTIVE. GET MEDICAL HELP. If anyone stops breathing, give artificial respiration. See FM 4-25.11 for first aid.**

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#### WARNING

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**Hydraulic fluid is poison and can be absorbed through your skin. Wash off hydraulic fluid that contacts your skin. Fire resistant hydraulic (FRH) fluid may contain Tricresyl Phosphate which, if taken internally, can produce paralysis. Wear long sleeves, gloves, goggles, and face shield. If FRH gets in eyes, wash them immediately and get medical aid immediately. If FRH gets on skin, thoroughly wash with soap and water. Wash hands thoroughly prior to eating or smoking.**

**WARNING SUMMARY (cont)**

**WARNING**



Noises from carrier or weapons can damage hearing of personnel in carrier. All personnel in carrier **MUST WEAR DOUBLE HEARING PROTECTION** when gun or carrier is operated. Hearing protection devices must be properly worn to provide effective protection.

If **DOUBLE HEARING PROTECTION** is not worn, the safe level of noise exposure will be exceeded in a short time. Hearing loss occurs gradually. Each noise exposure that exceeds the ear protection guidelines below will cause a temporary hearing loss. Over time, the loss in hearing will become permanent. Plan each day's operation, and be sure all crew and riders have the required ear protectors. Spare foam earplugs must be available.

**Definitions:**

- DH-132 The "tankers helmet," also called "CVC" helmet. Must be in good condition, with liner and earcups fitted tightly, and chin strap worn at all times.
- Earplugs Only standard issue earplugs are acceptable. All of the dismounted squad soldiers must be trained in how to use them. Since they may be removed and lost, spares must be carried.
- Double Hearing Protection Use of two hearing protection devices at the same time. For this carrier, use earplugs with the DH-132 helmet.

**Ear Protection Guidelines:**

- Driver
  - Must wear DH-132 helmet at all times.
  - Must wear DH-132 helmet plus earplugs for operations exceeding 14 miles (23 km) in 24 hours.
  - Must close hatch immediately if .50 caliber machine gun is fired over front part of carrier.
  - Hatch may remain open and locked during carrier operation.
- Commander
  - Must wear DH-132 helmet at all times.
  - Must wear DH-132 helmet plus earplugs for operations exceeding 14 miles (23 km) in 24 hours.
  - Hatch may be locked open at all times.
- Squad Members
  - Must wear helmet and ear plugs at all times.

**Use of Radio with Earplugs**

Wearing foam earplugs in addition to your DH-132 helmet can actually improve your ability to hear the radio in a high level noise area. **DO NOT** remove the earplugs to use the radio.

**LIST OF WARNINGS IN WP PROCEDURES**

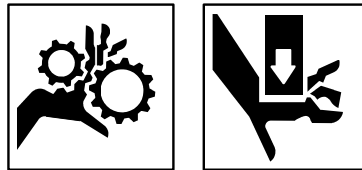
This list includes all the critical **WARNING**s in the WP procedures. Study these **WARNING**s carefully. They can save your life and the lives of soldiers with whom you work.

**WARNING SUMMARY (cont)**

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**WARNING**

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**Moving parts of power unit can seriously injure you.**

**Clear personnel away from power unit before startup. Stay clear of moving parts when power unit is running.**

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**WARNING**

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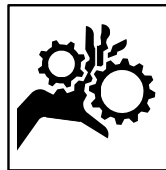
**Hot parts can burn you.**

**Allow parts to cool before working on or near them. If necessary, use heat protective gloves to work on hot parts.**

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**WARNING**

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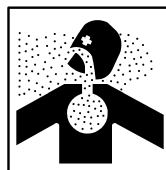


**Ensure FUEL SHUT-OFF handle is in OFF position. Engine could start. Personnel could be injured. Stay clear of possible moving parts.**

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**WARNING**

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**Perform test outdoors or in a well-ventilated area to avoid illness or death caused by inhalation of carbon monoxide from the engine exhaust.**

**WARNING SUMMARY (cont)**

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**WARNING**

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Carrier may move forward. Personnel may be injured or killed. Keep personnel away from front of carrier.

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**WARNING**

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Lowering ramp could injure personnel. Make sure no one is in ramp zone before you lower ramp. If tactical situation permits, sound horn before dropping ramp.

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**WARNING**

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**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

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**WARNING**

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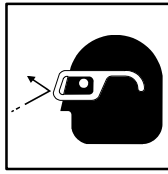
Make sure **ALL AC** external and internal power is **OFF**.

**WARNING SUMMARY (cont)**

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**WARNING**

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**Air pressure in excess of 30 psi (207 kPa) can injure personnel. Do not direct pressurized air at yourself or others. Always wear goggles.**

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**WARNING**

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**When shifting gear selector into PIVOT, vehicle can move if steering yoke is moved from centered position. Soldiers can be killed or injured. Hold brake pedal on. Clear all soldiers away from vehicle when shifting into PIVOT. Do not move yoke from centered position.**

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**WARNING**

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**Failure to set the parking brake and block road wheels can allow the carrier to move and result in injury or death. Always set the parking brake and block road wheels before working on the carrier.**

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**WARNING**

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**Never perform stall check. Transmission can be damaged. Personnel may be injured.**

**WARNING SUMMARY (cont)**

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**WARNING**

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Hot parts can burn you. Use care when you work near hot power unit.

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**WARNING**

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Diesel fuel can catch fire and seriously injure or kill soldiers and damage or destroy the vehicle. Wipe up fuel spills immediately. Do not smoke near fuel or when working on the fuel system. Disconnect vehicle ground when working on the fuel system.

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**WARNING**

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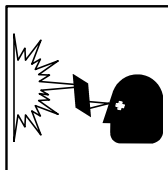


Lowering ramp could injure personnel. Make sure no one is in ramp zone before you lower ramp. Unlocked ramp can fall open suddenly. Personnel can be killed or injured. Ramp system and hull can get damaged if ramp unlocks when carrier is in operation. Do not operate carrier if locks do not secure ramp properly. Keep away from ramps that have come open during carrier operation.

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**WARNING**

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Looking directly at infrared headlights may burn your eyes. Do not look directly into infrared headlight.

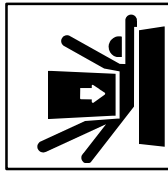


**WARNING SUMMARY (cont)**

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**WARNING**

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**Power plant door may spring open. When opening door, stay out of door path. Soldiers can be injured.**

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**WARNING**

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**Hydraulic fluid is poisonous and can be absorbed through your skin. Wash off any hydraulic fluid that contacts your skin. Read the hydraulic fluid warning in the front of this manual.**

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**WARNING**

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**You could be injured if cylinder discharges when it is out of its mounting brackets or is dropped. Handle with great care.**

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**WARNING**

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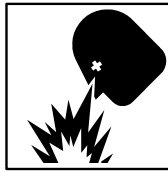
**Battery posts and cables touched by metal objects can short circuit and burn you. Do not wear jewelry, necklaces, or watches when working on the electrical system. Keep tools away from posts, wires, and terminals.**

**WARNING SUMMARY (cont)**

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**WARNING**

---



**Gas from batteries can explode and injure you. Do not allow sparks near batteries. Battery acid can burn or blind you. Do not get acid on your skin or eyes.**

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**WARNING**

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**Lethal voltage is present when light set is connected to power source. Disconnect from power source before inspecting or repairing any electrical component. Be careful not to contact electrical connections. Electrical shock and death may result from failure to heed this warning.**

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**WARNING**

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**Seat can spring up and hit you when vertical control handle is released. Make sure you are sitting in the seat before releasing vertical control handle.**

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**WARNING**

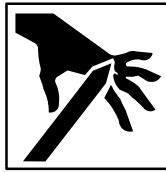
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**Fuel cut-off control at driver's position must be pulled all the way out to prevent engine from starting. Personnel could be injured or killed if engine starts during this PMCS check.**

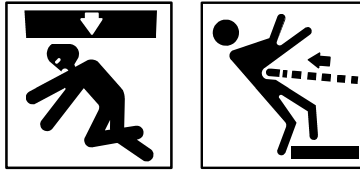
**WARNING SUMMARY (cont)**

**WARNING**



Removing lower brake bearing from brake pivot shaft link while parking brake is on can cause shaft link to spring up and injure personnel. Disengage parking brake when doing this task.

**WARNING**



Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

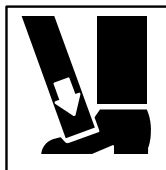
Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as **DAMAGED - DO NOT USE**.

**WARNING**



Hanging loads can kill or injure you. Keep away from hanging loads and overhead equipment. Keep hands out of compartment while power plant is being lifted for removal or lowered for installation.

**WARNING**



Blocking power plant on unlevel, soft ground can cause power plant to sink and tip over. Personnel can be injured and power plant can be damaged. Make sure to block power plant on flat, hard ground.

**WARNING SUMMARY (cont)**

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**WARNING**

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Fuel fumes can explode and burn you. Do not smoke or allow open flame near carrier when removing and cleaning fuel cap(s).

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**WARNING**

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Fuel flowing over a metal surface causes static electricity. This will cause a spark unless the surface is grounded.

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**WARNING**

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Make sure parking brake is set before you start engine. Carrier could lurch and injure you.

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**WARNING**

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Hot exhaust pipes can burn you. Let power unit cool before you start work.

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**WARNING**

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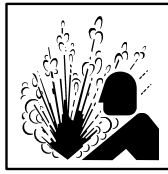
Sharp edge safety wire can cut your fingers. Make sure to twist end of wire and bend back close to the attaching hole.

**WARNING SUMMARY (cont)**

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**WARNING**

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**Hot radiator coolant can burn you. Remove cap only if cool to touch. Drain cocks may be hot. Turn cap slowly to release pressure. Replace cap by pressing down and turning until tight.**

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**WARNING**

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**Radiator is heavy and can cause back injury if handled improperly. Be sure to use a hoist and helper to remove radiator.**

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**WARNING**

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**Generator weighs 80 lb (37 kg) and can cause back injury if handled improperly. Be sure to use a hoist or a helper to remove generator.**

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**WARNING**

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**Starter weighs 75 lbs (34 kg) and can cause back injury if handled improperly. Be sure to use a hoist or a helper to remove starter.**

**WARNING SUMMARY (cont)**

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**WARNING**

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**High voltage in the M19 periscope can cause serious injury or death. To avoid accidents:**

**Always connect power cable to M19 periscope BEFORE turning MASTER SWITCH and infrared IR POWER switch ON.**

**After turning IR POWER and MASTER switches OFF, ALWAYS wait at least 2 minutes BEFORE disconnecting power cable from M19 periscope.**

**Never touch end of cable. Voltage could exceed 16,000 volts.**

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**WARNING**

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**Battery posts and cables touched by metal objects can short circuit and burn you or injure you. Use caution when you work with tools or other metal objects. Do not wear jewelry when working on electrical system.**

**Some circuits remain energized even when MASTER SWITCH is OFF. Make sure ground strap is disconnected when there is any possibility that the circuit you are working on could be energized.**

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**WARNING**

---



**Electrical current can burn you. Disconnect ground lead before starting task.**

**WARNING SUMMARY (cont)**

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**WARNING**

---



Gas from batteries can explode and injure you. Do not allow sparks near batteries. Battery acid can burn or blind you. Do not get acid on your skin or eyes. ALWAYS disconnect ground lead first and connect it last.

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**WARNING**

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Electrolyte and battery corrosion can cause injury to you. Wear safety goggles and gloves. If electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cold water. In case of eye or skin contact, see a doctor immediately.

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**WARNING**

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Battery is heavy and can cause back injury if handled improperly. Be sure to have helper assist you to remove and replace battery. Battery weighs about 75 lb (34 kg).

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**WARNING**

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Sharp wire end can injure hands. Make sure wire is doubled over as a safety measure.

**WARNING SUMMARY (cont)**

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**WARNING**

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High voltage in the AN/VVS-2 driver's night vision can cause serious injury or death. To avoid accidents:

**ALWAYS** connect power cable to periscope **BEFORE** turning **MASTER SWITCH** and **DNV POWER** switch to **ON**.

After turning **DNV POWER** and **MASTER** switch **OFF**, **ALWAYS** wait at least **2 minutes** **BEFORE** disconnecting power cable from **DNV**. Do not disconnect power cable until image disappears from **DNV** screen.

**NEVER** touch the end of the cable or allow it to contact metal surfaces. Voltage could exceed **16,000 volts**.

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**WARNING**

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Breathing carbon monoxide fumes from engine exhaust could kill you or injure you. Perform tests **outdoors** or **in a well-ventilated area**.

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**WARNING**

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Clear the area before checking adjustment. Carrier may pivot steer and injure personnel. Place transmission controller in **SL** before checking adjustment.

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**WARNING**

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If steering wheel is turned while engine is running at **1000 RPM** or greater, the carrier will pivot and personnel could be killed or equipment damaged.



**WARNING SUMMARY (cont)**

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**WARNING**

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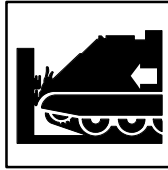


The final drive is heavy and can cause back injury if handled improperly. Be sure to use a hoist or a helper to remove final drive.

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**WARNING**

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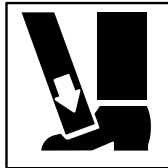


Failure of control linkage can cause carrier to crash. Crash could kill or injure personnel.

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**WARNING**

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If road wheel lifter slips while lowering road arm, it could injure you. Stand clear before you lower road arm.

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**WARNING**

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Hanging loads, heavy parts, and overhead equipment can fall unexpectedly. Falling loads can kill or seriously injure personnel.

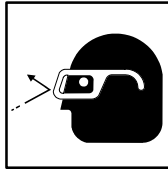
Keep away from hanging loads, heavy parts, and overhead equipment. Use correct lifting devices to move hanging loads and heavy parts. Always have a helper guide you. Keep hands and feet out of confined spaces from which heavy loads are being installed or removed.

**WARNING SUMMARY (cont)**

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**WARNING**

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Your eyes can be injured with pressurized water and dirt particles. Wear safety goggles.

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**WARNING**

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Before adjusting track, ensure there are 63 track shoes on the left side track, and 64 track shoes on the right side track. Improper number of track shoes may prevent track from being properly adjusted, creating a safety hazard.

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**WARNING**

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Position retainer stops inside of end connectors to prevent the lifter from slipping off and causing injury and/or death to personnel.

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**WARNING**

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With the transmission controller in any range except SL and if the locking pin is protruding from the steering wheel housing any amount, the steering wheel will not turn properly and death of personnel or damage of equipment may occur.

**WARNING SUMMARY (cont)**

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**WARNING**

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**Engine exhaust gas is deadly poison. Make sure the bellows is installed properly in engine compartment panel hole.**

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**WARNING**

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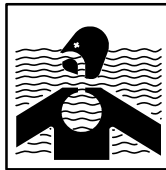


**Carbon monoxide gas is deadly poison. Play it safe! Make sure power plant access panels are closed tight before you start engine.**

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**WARNING**

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**Carrier can sink and personnel can be trapped inside and drown if trim vane collapses during water operation. Improper adjustment of trim vane release may allow extension linkage to come out of trim vane release and cause collapse of trim vane.**

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**WARNING**

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**Trim vane can fall and injure personnel. Make sure trim vane zone is clear when you lower or stow trim vane.**

**WARNING SUMMARY (cont)**

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**WARNING**

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The grill assembly will swing when screws are removed. To avoid injury, do not stand in front of or behind grill assembly.

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**WARNING**

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Grill and access cover are very heavy. Use extreme caution when lifting blocking, and lowering assembly. Allowing assembly to fall could cause death or injury.

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**WARNING**

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Power plant door is heavy. It can fall and injure you. Do not remove housing before relieving spring tension by lifting and holding with lifting device.

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**WARNING**

---



Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

**WARNING SUMMARY (cont)**

**WARNING**



**Driver's hatch cover may spring up and injure you. Open and support hatch cover in vertical position.**

**WARNING**



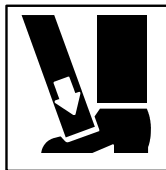
**Mortar hatch sections must be in a vertical position to release torsion spring tension before removing torsion spring brackets.**

**WARNING**



**Personnel could be injured if they slip on oil or graphite on top of carrier. Clean up spills immediately. Personnel on top of carrier should always use three point stance.**

**WARNING**



**Do not remove screws securing door to hull. It may fall and injure personnel. Tag door handle to warn those who want access to turbine compartment.**

**WARNING SUMMARY (cont)**

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**WARNING**

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**Falling hatch could seriously injure you.**

**Keep head lower than closed hatch position when opening or closing hatch. Keep hands clear of hatch rim when closing. Make sure latch pin or mechanism is fully engaged when hatch is in any open position.**

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**WARNING**

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**An inoperable/unsafe ramp can fall and kill soldiers. Follow these procedures and never get behind a raised, inoperable/unsafe ramp that is not secured.**

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**WARNING**

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**Falling ramp could cause severe injuries. Keep personnel clear of ramp area.**

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**WARNING**

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**Magnesium may catch on fire if welded on or exposed to high temperatures. Do not weld on magnesium castings or expose them to high temperatures.**

**WARNING SUMMARY (cont)**

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**WARNING**

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Fine particles of magnesium can catch fire and burn you. Be very careful when filing or grinding on magnesium. Use grinding equipment marked **FOR MAGNESIUM GRINDING ONLY**. Keep a Class D fire extinguisher nearby.

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**WARNING**

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Water and foam-type fire extinguishers will cause magnesium fires to flare up. Use a Class D fire extinguisher or a sodium chloride base dry powder to fight magnesium fires.

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**WARNING**

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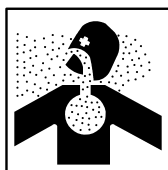


Improper disposal of magnesium can cause a fire or explosion. Do not expose magnesium to high temperatures. Let magnesium dry before placing in sealed metal containers. Label containers and ship to a Class 1 hazardous waste disposal site.

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**WARNING**

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Do not weld on plastic molding material. Welding on plastic molding creates toxic fumes. Fumes are hazardous to your health and can result in death.

**WARNING SUMMARY (cont)**

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**WARNING**

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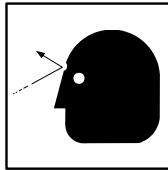


**Fuel fumes can explode and burn you. Before welding:**  
**Drain all fuel.**  
**Disconnect and cap all fuel and vent lines.**  
**Purge fuel residue and fumes by steam cleaning.**  
**Purge air from fuel tank with CO2.**

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**WARNING**

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**Apply pressure on tube to prevent spring from releasing when handle is pulled out. Injury to personnel can result from flying tube and spring.**

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**WARNING**

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**Rear trays of ammo rack could collapse when removed. To prevent injury, move ammo rack from the front. Keep fingers away from spaces between trays on the back of ammo rack.**

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**WARNING**

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**Fire Resistant Hydraulic fluid (FRH) is toxic if absorbed through skin or ingested.**

**Do not service hydraulic system when FRH is hot or pressurized.**  
**Wear gloves and avoid contact with skin.**  
**If FRH contacts skin, wash immediately with soap.**  
**If FRH gets into eyes, wash with lots of water for 15 minutes and get medical attention.**  
**If FRH is swallowed, get medical attention.**



**WARNING SUMMARY (cont)**

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**WARNING**

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**Wearing loose clothing around moving parts can allow personnel to get caught and result in injury or death. Tuck in loose clothing.**

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**WARNING**

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**Lifting or moving objects in excess of 70 lbs (32 kg) could injure you. Make sure to get an assistant or use a lifting device to move generator set enclosure or other heavy objects.**

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**WARNING**

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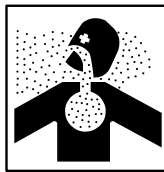


**Diesel fuel can catch fire and seriously injure or kill soldiers and damage or destroy vehicles. Wipe up fuel spills immediately. Do not smoke near fuel or when working on the fuel system.**

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**WARNING**

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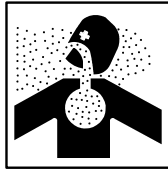
**Exhaust fumes can poison you if wrong heater is installed. Do not interchange “common air” heater for a “dual air” heater.**

**WARNING SUMMARY (cont)**

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**WARNING**

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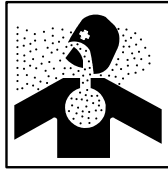


The insulator blanket is made out of asbestos. Handle with care. Discard insulator blanket properly as a hazardous material per local standard operating procedure. The insulator washer takes the place of the blanket.

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**WARNING**

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Older gaskets are made out of asbestos. Handle with care. Discard older gasket properly as a hazardous material per local standard operating procedure.

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**WARNING**

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To prevent litter tilt, which could cause injury, be sure to install repair link at chain link No. 47.

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**WARNING**

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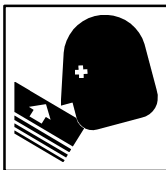
Armor plates are heavy and can cause injury or death. Support armor plate properly to avoid injury.

**WARNING SUMMARY (cont)**

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**WARNING**

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**Power plant door contains a torsion spring assembly which could cause injury or death to personnel. Door must be raised to neutral position before removing two screws from housing.**

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**WARNING**

---



**Ramp door is heavy and can cause injury or death. Support ramp door properly to avoid injury.**

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**WARNING**

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**Fog oil is slippery and can cause soldiers to fall and get injured. Clean up all spillage or leakage of fog oil as soon as possible by washing the area or absorbing the fog oil with sand or other absorbent material.**

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**WARNING**

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**Lifting or moving objects in excess of 70 lbs (32 kg) could injure you. Make sure to get an assistant or use a lifting device to move fog oil tank, armor, or other heavy objects.**

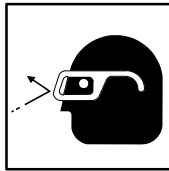
**WARNING SUMMARY (cont)**

**WARNING**



**Hanging loads can kill or injure you. Keep away from hanging loads and overhead equipment. Keep hands away from pinch points.**

**WARNING**



**Compressed air pressure from smoke generator can cause serious injury or death. To avoid accidents, bleed air before working on air compressor assembly or disconnecting any air hose.**

**WARNING**



**Before you do any maintenance, discharge all capacitors to ground or electrical shock could injure personnel.**

**WARNING**



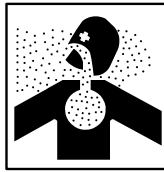
**Fuel and fog oil can burn and could poison you.**

**WARNING SUMMARY (cont)**

---

**WARNING**

---



**Contaminated filters are hazardous to personnel. Use precautions when handling filters. Dispose of filters using trained chemical environment personnel.**

---

**WARNING**

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**Removing cables from the regulator without disconnecting the vehicle battery ground cable may hurt personnel and damage equipment from electrical power.**

---

**WARNING**

---



**Hot exhaust pipes can burn you. Let power unit cool before you start work.**

---

**WARNING**

---



**Battery posts and cables touched by metal objects can short circuit and burn you. Use caution when you work with tools or other metal objects. Do not wear jewelry when you work on electrical system.**

## WARNING SUMMARY (cont)

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### WARNING

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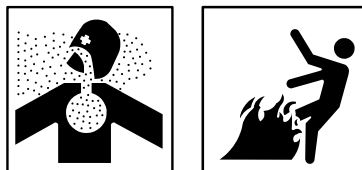


You could be injured if cylinder discharges when it is out of its mounting brackets or is dropped. Discharge cylinder completely before removing from its mount. Handle with great care.

---

### WARNING

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Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

---

### WARNING

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The grill assembly will swing when screws are removed. To avoid injury, do not stand in front of or behind grill assembly.

Damaged lifting slings can fail with load. Soldiers can be killed or injured. Inspect all slings before use. Do not use damaged slings.

Grill and access cover are very heavy. Use extreme caution when lifting, blocking, and lowering assembly. Allowing assembly to fall could cause death or injury.

**WARNING SUMMARY (cont)**

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**WARNING**

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Personnel can be killed or injured by a falling 800 lb (363 kg) mine armor plate. Use a forklift or mechanical lifting device capable of lifting 800 lb (363 kg) to position hull mine armor plate for assembly.

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**WARNING**

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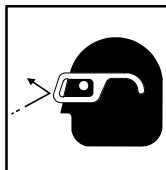


Personnel can be killed or injured by a falling 800 lb (363 kg) mine armor plate. Use a forklift or mechanical lifting device capable of lifting 800 lb (363 kg) to support hull mine armor plate for removal. Verify that armor plate is properly supported before reaching under to remove hardened washers and screws.

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**WARNING**

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Metal chips and grinding dust can cause eye injury. Wear goggles and gloves.

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**WARNING**

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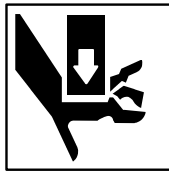
To avoid possible rupture of fuel tank and personnel injury, do not drill any holes prior to tilting of table top.

**WARNING SUMMARY (cont)**

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**WARNING**

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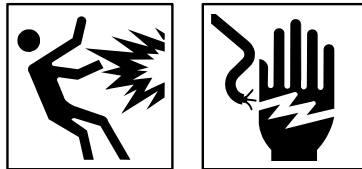


To ease in the removal of power distribution assembly (PDA), use hand to support PDA. Use care to avoid injury to personnel or damage to equipment.

---

**WARNING**

---



To avoid personnel injury or damage to equipment, when removing positive cable, avoid any contact of positive battery cable with surrounding metal surfaces. Contact can cause battery arcing or explosion. Wear safety glasses.

---

**WARNING**

---



To avoid personnel injury and damage to equipment, route cable 4W6 in position clear of personnel heater.

**FIRST AID**

For first aid information, see FM 4-25.11.



CHANGE  
NO. 4

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 31 DECEMBER 2006

TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL

FOR

CARRIER, PERSONNEL, FULL TRACKED, ARMORED M113A3  
2350-01-219-7577 (EIC AEY)

CARRIER, COMMAND POST, LIGHT TRACKED M577A3  
2350-01-369-6085 (EIC AE7)

CARRIER, SMOKE GENERATOR, FULL TRACKED M1059A3  
2350-01-369-6083 (EIC AFA)

CARRIER, MORTAR, 120-MM M121, SELF-PROPELLED M1064A3  
2350-01-369-6082 (EIC AE8)

CARRIER, STANDARDIZED INTEGRATED COMMAND POST SYSTEM (SICPS) M1068A3  
2350-01-369-6086 (EIC AFC)

CARRIER, MECHANIZED SMOKE OBSCURANT M58  
2350-01-418-6654 (EIC 5CG)

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a – l  
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i – xxxix/xxxx blank  
WP 0001 00 – 0002 00  
WP 0042 00  
WP 0061 00  
WP 0067 00  
WP 0081 00  
WP 0084 00  
WP 0096 00  
WP 0106 00  
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Metric Chart/Back Cover

***Insert Pages/Work Packages***

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A - D  
i – xxxvii/xxxviii blank  
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WP 0061 00  
WP 0067 00  
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WP 0096 00  
WP 0106 00  
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CHANGE  
NO. 3

HEADQUARTERS DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 27 April 2004

TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL

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Index 53 – Index 54  
Index 93 – Index 94  
Index 99 – Index 102

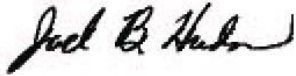
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Index 17 – Index 28  
Index 53 – Index 54  
Index 93 – Index 94  
Index 99 – Index 102

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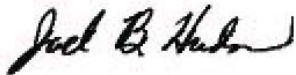
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Index  
Cover

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2350-01-369-7253 (EIC AFD)**

**CARRIER, FIRE SUPPORT PERSONNEL, FULL TRACKED, ARMORED M981A3  
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WP 0122 00  
Index

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a-l  
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i-xxx  
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Chapter 2 WP Index  
WP 0006 00  
WP 0014 00  
WP 0016 00  
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WP 0045 00  
WP 0054 00  
WP 0086 00  
WP 0116 01  
WP 0116 02  
WP 0122 00  
Index

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Note: Updates to all portions of this TM are indicated by a vertical bar in the outer margin of the page.

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

- Original 0 -- 02 January 2001
- Change 1 -- 05 September 2003
- Change 2 -- 02 October 2003
- Change 3 -- 27 April 2004
- Change 4 -- 31 December 2006

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 320 AND TOTAL NUMBER OF WORK PACKAGES IS 955 CONSISTING OF THE FOLLOWING:

Page/WP No.	*Change No.	Page/WP No.	*Change No.	Page/WP No.	*Change No.
Cover	2	WP 0062 00 – 0066 00	0	WP 0161 00 – 0165 00	0
a – ad	4	WP 0067 00	4	Chapter 5 WP Index	4
Transmittal/Authentication	4	WP 0068 00 – 0077 00	0	WP 0166 00 – 0167 00	0
A – D	4	WP 0078 00	2	WP 0168 00	1
i – xxxvii/xxxviii blank	4	WP 0079 00 (Deleted)	2	WP 0169 00	4
Chapter 1 WP Index	0	WP 0080 00	0	WP 0169 01 (Added)	4
WP 0001 00 – 0002 00	4	WP 0081 00	4	WP 0170 00 – 0171 00	0
WP 0003 00	2	WP 0082 00 – 0083 00	0	WP 0172 00	4
WP 0004 00	0	WP 0084 00	4	WP 0173 00 – 0175 00	0
Chapter 2 WP Index	3	WP 0085 00	0	WP 0176 00	1
WP 0005 00	2	WP 0086 00	1	WP 0177 00 – 0178 00	0
WP 0006 00	3	WP 0087 00	2	WP 0179 00	3
WP 0007 00	2	WP 0088 00 (Deleted)	2	WP 0180 00 – 0181 00	0
WP 0008 00 (Deleted)	2	WP 0089 00 – 0095 00	0	WP 0182 00	1
WP 0009 00 – 0010 00	0	WP 0096 00	4	WP 0183 00	0
WP 0011 00	2	WP 0097 00 – 0105 00	0	WP 0184 00 – 0185 00	1
WP 0012 00 (Deleted)	2	WP 0106 00	4	WP 0186 00 – 0191 00	0
WP 0013 00	0	WP 0107 00 – 0116 00	0	WP 0192 00	2
WP 0014 00	2	WP 0116 01 (Added)	1	WP 0193 00	0
WP 0014 01 (Added)	2	WP 0116 02 (Added)	1	WP 0194 00	1
WP 0015 00	2	WP 0117 00 – 0120 00	0	WP 0195 00	2
WP 0016 00	1	WP 0121 00 – 0122 00	2	WP 0196 00	0
WP 0017 00 – 0026 00	0	WP 0123 00 – 0131 00	0	WP 0197 00	1
WP 0027 00	2	WP 0132 00	2	WP 0198 00 – 0201 00	0
WP 0028 00 (Deleted)	2	WP 0133 00 – 0135 00	0	WP 0202 00 – 0203 00	2
WP 0029 00	1	WP 0136 00	2	WP 0204 00 – 0219 00	0
WP 0030 00 – 0041 00	0	WP 0137 00 (Deleted)	2	WP 0220 00	4
WP 0042 00	4	WP 0138 00 – 0153 00	0	Chapter 6 WP Index	0
WP 0043 00 – 0044 00	0	Chapter 3 WP Index	2	WP 0221 00 – 0226 00	0
WP 0045 00 – 0046 00	2	WP 0154 00	2	Chapter 7 WP Index	2
WP 0047 00 (Deleted)	2	WP 0155 00	4	WP 0227 00	1
WP 0048 00 – 0053 00	0	Chapter 4 WP Index	2	WP 0228 00 – 0230 00	0
WP 0054 00	1	WP 0156 00	2	WP 0231 00	2
WP 0055 00 – 0060 00	0	WP 0157 00 – 0158 00	0	WP 0231 01 (Added)	2
WP 0061 00	4	WP 0159 00	2	WP 0232 00 – 0238 00	0
WP 0061 01 (Added)	3	WP 0160 00 (Deleted)	2	WP 0239 00 – 0240 00	4

\*Zero in this column indicates an original page

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INSERT LATEST UPDATED PAGES/WORK PACKAGES. DESTROY SUPERSEDED DATA.

Page/WP No.	*Change No.	Page/WP No.	*Change No.	Page/WP No.	*Change No.
WP 0241 00	0	WP 0357 00 – 0359 00	0	WP 0439 00 – 0442 00	0
WP 0242 00	4	WP 0359 01 (Added)	2	WP 0443 00	1
WP 0243 00 – 0248 00	0	WP 0360 00	0	WP 0444 00 – 0454 00	0
WP 0249 00	2	WP 0361 00	3	WP 0455 00	2
WP 0249 01 (Added)	2	WP 0362 00	2	WP 0456 00 – 0457 00 (Deleted)	3
WP 0250 00	2	WP 0363 00	1	WP 0458 00 – 0459 00	3
WP 0250 01 (Added)	2	WP 0364 00	0	WP 0460 00	0
WP 0251 00	2	WP 0365 00	4	WP 0461 00 – 0463 00	3
WP 0251 01 (Added)	2	WP 0366 00	2	WP 0464 00	4
WP 0252 00 – 0259 00	0	WP 0367 00	1	WP 0465 00 – 0470 00	0
WP 0260 00	2	WP 0367 01 (Added)	1	WP 0471 00	4
WP 0261 00	0	WP 0368 00	0	WP 0472 00 – 0473 00	0
WP 0262 00 – 0266 00	2	WP 0369 00	2	WP 0474 00 – 0475 00	2
WP 0267 00	0	WP 0370 00	0	WP 0476 00 – 0477 00 (Deleted)	2
WP 0268 00 – 0270 00	2	WP 0371 00 – 0372 00 (Deleted)	2	WP 0478 00 – 0479 00	2
WP 0271 00	0	WP 0379 00	2	WP 0480 00 – 0484 00	0
WP 0272 00 – 0274 00 (Deleted)	2	WP 0380 00 – 0383 00	0	WP 0485 00	1
WP 0275 00	2	Chapter 9 WP Index	1	WP 0486 00	0
WP 0276 00 – 0278 00	0	WP 0384 00 – 0390 00	0	WP 0487 00	1
WP 0279 00 – 0279 01	1	WP 0391 00	1	WP 0488 00 – 0496 00	0
WP 0280 00 – 0286 00	0	WP 0392 00 – 0401 00	0	WP 0497 00	2
WP 0287 00 – 0288 00	1	Chapter 10 WP Index	0	WP 0498 00 – 0520 00	0
WP 0289 00	2	WP 0402 00	0	WP 0521 00	2
WP 0290 00 – 0295 01	1	WP 0403 00	3	WP 0522 00 – 0525 00	0
WP 0296 00	2	WP 0404 00	0	WP 0526 00	2
WP 0297 00	0	Chapter 11 WP Index	0	WP 0527 00 – 0528 00	0
WP 0298 00	2	WP 0405 00	0	WP 0529 00	3
WP 0299 00 – 0318 00	0	Chapter 12 WP Index	0	WP 0530 00	0
WP 0319 00 (Deleted)	2	WP 0406 00 – 0412 00	0	WP 0531 00	2
WP 0320 00 – 0321 00	0	Chapter 13 WP Index	2	WP 0532 00 – 0536 00	0
WP 0321 01	4	WP 0413 00 – 0419 00	3	WP 0536 01 (Added)	1
WP 0322 00 – 0327 00	0	WP 0419 01 (Added)	3	WP 0537 00	0
WP 0328 00	3	WP 0420 00	3	WP 0537 01 (Added)	1
WP 0329 00	0	WP 0420 01 (Added)	2	WP 0538 00 (Deleted)	2
WP 0330 00	1	WP 0421 00 – 0422 00	3	WP 0539 00	0
WP 0331 00 – 0336 00	0	WP 0422 01	4	WP 0540 00 – 0541 00 (Deleted)	2
WP 0337 00	2	WP 0423 00	2	WP 0542 00 – 0543 00	0
WP 0338 00	0	WP 0423 01	4	WP 0544 00	4
WP 0339 00 (Deleted)	2	WP 0424 00	3	WP 0545 00 – 0547 00	0
WP 0340 00	2	WP 0424 01	4	WP 0548 00 (Deleted)	2
WP 0341 00	0	WP 0425 00 – 0426 00	3	WP 0549 00 – 0564 00	0
WP 0342 00 (Deleted)	2	WP 0426 01	2	WP 0565 00 (Deleted)	2
WP 0343 00 – 0345 00	0	Chapter 14 WP Index	0	WP 0566 00 – 0567 00	0
WP 0346 00	2	WP 0427 00 – 0430 00	0	WP 0568 00	4
WP 0347 00	0	WP 0431 00 – 0432 00	4	WP 0569 00 – 0574 00	0
WP 0348 00	2	WP 0433 00 – 0434 00	1	WP 0575 00	2
WP 0349 00	1	Chapter 16 WP Index	0	WP 0575 01 (Added)	2
WP 0350 00	2	WP 0435 00 – 0436 00	3	WP 0576 00	2
WP 0351 00	1	WP 0437 00	0	WP 0577 00 – 0582 00	0
WP 0352 00 – 0354 00	0	Chapter 17 WP Index	4	WP 0583 00 – 0585 00 (Deleted)	2
WP 0355 00 – 0356 00	2	WP 0438 00	3	WP 0586 00	2

\*Zero in this column indicates an original page

Change 4

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INSERT LATEST UPDATED PAGES/WORK PACKAGES. DESTROY SUPERSEDED DATA.

Page/WP No.	*Change No.	Page/WP No.	*Change No.	Page/WP No.	*Change No.
WP 0587 00 – 0601 00 (Deleted)	2	WP 0696 00 – 0697 00	0	Chapter 27 WP Index	2
WP 0602 00 – 0604 00	2	WP 0698 00	4	WP 0866 01 – 0866 06 (Added)	1
WP 0605 00 (Deleted)	2	WP 0699 00 (Deleted)	2	WP 0867 00	0
WP 0606 00 – 0614 00	0	WP 0700 00	2	WP 0868 00	2
WP 0615 00	2	WP 0701 00 – 0702 00	0	WP 0869 00 (Deleted)	2
WP 0616 00 – 0621 00	0	WP 0703 00 – 0705 00	3	WP 0870 00	2
WP 0621 01 (Added)	4	WP 0706 00 – 0707 00	0	WP 0871 00	3
WP 0622 00	0	WP 0707 01 (Added)	4	WP 0872 00 (Deleted)	2
WP 0623 00	4	WP 0708 00 – 0713 00	0	WP 0873 00	0
WP 0624 00 – 0625 00	0	WP 0714 00	1	WP 0874 00 – 0875 00	3
WP 0626 00	1	WP 0715 00 – 0717 00	0	WP 0876 00 (Deleted)	2
WP 0626 01 (Added)	1	WP 0718 00	1	WP 0877 00	0
Chapter 18 WP Index	2	WP 0719 00 – 0740 00	0	WP 0878 00	2
WP 0627 00 – 0629 00	0	WP 0741 00	1	WP 0879 00	4
WP 0630 00 (Deleted)	2	WP 0742 00 – 0747 00	0	WP 0880 00 (Deleted)	2
WP 0631 00 – 0635 00	0	WP 0748 00 – 0751 00 (Deleted)	4	WP 0881 00 – 0882 00	0
WP 0636 00 – 0637 00	3	WP 0752 00	4	Chapter 28 WP Index	2
WP 0638 00 – 0639 00 (Deleted)	2	WP 0753 00 – 0775 00	0	WP 0883 00 (Deleted)	2
WP 0640 00 – 0643 00	3	WP 0776 00	2	WP 0884 00	0
WP 0644 00	0	WP 0777 00 – 0784 00	0	WP 0885 00	2
WP 0645 00 – 0646 00	2	WP 0785 00 (Deleted)	2	WP 0886 00 (Deleted)	2
WP 0647 00	0	WP 0786 00	2	WP 0887 00	0
WP 0648 00	4	WP 0787 00 – 0788 00	0	WP 0888 00	2
WP 0649 00 – 0650 00 (Deleted)	2	WP 0789 00 – 0790 00	4	WP 0889 00 (Deleted)	2
WP 0651 00	0	WP 0791 00	2	WP 0890 00 (Deleted)	2
WP 0652 00	4	WP 0792 00	1	WP 0891 00 – 0894 00	0
WP 0653 00 – 0654 00	0	WP 0793 00 – 0795 00	0	Chapter 29 WP Index	2
Chapter 19 WP Index	0	WP 0796 00	2	WP 0895 00 – 0897 00	0
WP 0655 00 – 0672 00	0	WP 0797 00 – 0800 00	0	WP 0898 00	1
Chapter 20 WP Index	0	WP 0801 00 (Deleted)	2	WP 0899 00 – 0900 00	0
WP 0673 00	0	WP 0802 00	0	WP 0901 00	2
Chapter 21 WP Index	4	WP 0803 00	2	WP 0902 00 – 0904 00	0
WP 0674 00	2	WP 0804 00 – 0807 00	0	WP 0905 00	1
WP 0675 00	4	WP 0808 00	2	Chapter 30 WP Index	2
WP 0675 01 (Added)	4	WP 0809 00 – 0811 00	0	WP 0906 00 – 0913 00 (Deleted)	2
WP 0676 00 – 0678 00	2	WP 0811 01 – 0811 02 (Added)	1	WP 0914 00	1
Chapter 22 WP Index	4	Chapter 23 WP Index	4	WP 0915 00 – 0918 00	0
WP 0679 00	0	WP 0812 00 (Deleted)	2	WP 0919 00	1
WP 0680 00	2	WP 0812 01 – 0812 16 (Added)	4	WP 0920 00 – 0923 00	0
WP 0681 00	0	Chapter 24 WP Index	0	Chapter 31 WP Index	0
WP 0682 00	4	WP 0813 00 – 0815 00	0	WP 0924 00 – 0928 00	4
WP 0683 00	0	WP 0816 00	4	Index-1 – Index 99/100 blank	4
WP 0684 00 – 0685 00	2	WP 0817 00 – 0823 00	0	FP-1/FP-2 blank	3
WP 0686 00 – 0688 00	0	WP 0824 00	1	FP-3 – FP-6 blank	0
WP 0689 00	2	WP 0825 00 – 0844 00	0	FP-7 – FP-10 blank	4
WP 0690 00	0	WP 0845 00	1	FP-11 – FP-14 blank	0
WP 0691 00	2	WP 0846 00 – 0857 00	0	FP-14.1/FP-14.2 blank (Added)	3
WP 0692 00	0	Chapter 25 WP Index	0	FP-15/FP-16 blank	3
WP 0693 00 (Deleted)	2	WP 0858 00 – 0865 00	0	FP-17 – FP-20 blank	0
WP 0694 00	2	Chapter 26 WP Index (Deleted)	2	FP-21 – FP-24 blank	3
WP 0695 00	1	WP 0866 00 (Deleted)	2	FP-25 – FP-30 blank	0

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Change 4

TM 9-2350-277-20-1

INSERT LATEST UPDATED PAGES/WORK PACKAGES. DESTROY SUPERSEDED DATA.

Page/WP No.	*Change No.	Page/WP No.	*Change No.	Page/WP No.	*Change No.
FP-30.1/FP-30.2 blank (Added)	3				
FP-31 – FP-62 blank (Deleted)	2				
FP-63/FP-64 blank	3				
FP-65 – FP-68 blank	0				
FP-69 – FP-72 blank	2				
FP-73 – FP-76 blank	0				
FP-76.1/FP-76.2 blank (Added)	3				
FP-77/FP-78 blank	3				
FP-79 – FP-82 blank	0				
FP-83/FP-84 blank	2				
FP-85/FP-86 blank	4				
FP-87 – FP-90 blank	0				
FP-90.1/FP-90.2 blank (Added)	3				
FP-91/FP-92 blank	3				
FP-93 – FP-96 blank	1				
FP-97 – FP-100 blank	3				
FP-101 – FP-102 blank	0				
FP-103 – FP-106 blank	1				
FP-106.1/FP-106.2 blank (Added)	3				
FP-107 – FP-122 blank	1				
DA 2028 Sample/Reverse	0				
DA 2028/Reverse (3)	0				
Authentication Page	0				
Metric Chart	0				
Back Cover	4				

\*Zero in this column indicates an original page

Change 4

**TECHNICAL MANUAL****UNIT MAINTENANCE MANUAL**

**CARRIER, PERSONNEL, FULL TRACKED, ARMORED M113A3**  
**NSN 2350-01-219-7577**  
**(EIC AEY)**

**CARRIER, COMMAND POST, LIGHT TRACKED M577A3**  
**NSN 2350-01-369-6085**  
**(EIC AE7)**

**CARRIER, SMOKE GENERATOR, FULL TRACKED M1059A3**  
**NSN 2350-01-369-6083**  
**(EIC AFA)**

**CARRIER, MORTAR, 120-MM M121, SELF-PROPELLED M1064A3**  
**NSN 2350-01-369-6082**  
**(EIC AE8)**

**CARRIER, STANDARDIZED INTEGRATED COMMAND POST SYSTEM (SICPS) M1068A3**  
**NSN 2350-01-369-6086**  
**(EIC AFC)**

**CARRIER, MECHANIZED SMOKE OBSCURANT M58**  
**NSN 2350-01-418-6654**  
**(EIC 5CG)**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

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CURRENT AS OF 31 August 2005

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**TABLE OF CONTENTS**

WP Sequence No.

**Volume 1**

WARNING SUMMARY

HOW TO USE THIS MANUAL

CHAPTER 1 — UNIT INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

GENERAL INFORMATION.....0001 00  
 EQUIPMENT DESCRIPTION.....0002 00  
 THEORY OF OPERATION.....0003 00  
 REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.....0004 00

CHAPTER 2 — UNIT TROUBLESHOOTING PROCEDURES

INTRODUCTION HOW TO USE TROUBLESHOOTING.....0005 00  
 MALFUNCTION/SYMPTOM INDEX WP.....0006 00  
 ENGINE CHARGING SYSTEM SCHEMATIC.....0007 00  
 DELETED.....0008 00  
 ENGINE FUEL SYSTEM SCHEMATIC (ALL EXCEPT M577A3 AND M1068A3).....0009 00  
 ENGINE FUEL SYSTEM SCHEMATIC (M577A3 AND M1068A3 ONLY).....0010 00  
 ENGINE STARTER CIRCUIT SCHEMATIC.....0011 00  
 DELETED.....□.....0012 00  
 ENGINE AIR BOX HEATER SCHEMATIC.....0013 00  
 ENGINE OVERHEATS (OLD VSFD CONFIGURATION).....0014 00  
 ENGINE OVERHEATS (NEW VSFD CONFIGURATION).....0014 01  
 ENGINE OVERCOOLS.....0015 00  
 ENGINE DOES NOT CRANK.....0016 00  
 ENGINE DOES NOT START (COLD WEATHER ONLY).....0017 00  
 WAIT INDICATOR FLASHES DURING START ATTEMPTS (PREGLOW OR  
 AFTERGLOW).....0018 00  
 WAIT INDICATOR LIGHT DOESN'T LIGHT.....0019 00  
 ENGINE□CRANKS□SLOWLY□.....0020 00  
 ENGINE CRANKS BUT WILL NOT START.....0021 00  
 ENGINE□CRANKS□BUT□WON'T□START□BELOW□40°F (AIR BOX HEATER IS USED)□.....0022 00  
 ENGINE CRANKS BUT WON'T START BELOW 40°F (GLOW PLUGS ARE USED).....0023 00  
 ENGINE RUNS ROUGH, STALLS, OR DOESN'T PUT OUT FULL POWER.....0024 00  
 GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR  
 INDICATOR.....□.....0025 00  
 ENGINE OIL LOW PRESSURE INDICATOR COMES ON.....0026 00  
 ELECTRICAL SCHEMATIC.....0027 00  
 DELETED.....0028 00  
 NO EXTERIOR LIGHTS OPERATE.....0029 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

BLACKOUT DRIVE LIGHT DOESN'T WORK.....	0030 00
SERVICE HEADLIGHTS DON'T WORK.....	0031 00
INFRARED HEADLIGHT(S) DON'T WORK.....	0032 00
SERVICE AND/OR BLACKOUT STOP LIGHTS MALFUNCTION.....	0033 00
BLACKOUT MARKER LIGHT(S) DON'T WORK.....	0034 00
SERVICE TAILLIGHT DOESN'T WORK.....	0035 00
TRAILER LIGHTS DON'T WORK.....	0036 00
HORN DOES NOT WORK.....	0037 00
INSTRUMENT PANEL AND/OR TRANS CONTROLLER ILLUMINATION LIGHTS MALFUNCTION.....	0038 00
DOMELIGHT(S) DO NOT WORK.....	0039 00
DOMELIGHT MALFUNCTION (M577A3 ONLY).....	0040 00
BLACKOUT DOME LIGHTS DO NOT WORK (M1068A3 ONLY).....	0041 00
RIGHT REAR UTILITY OUTLET/ADMITTANCE BUZZER WORKS IMPROPERLY (M577A3 AND M1068A3 ONLY).....	0042 00
LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3 AND M1068A3 ONLY).....	0043 00
RADIO(S) DON'T WORK.....	0044 00
SMOKE GRENADE LAUNCHER(S) MALFUNCTION (M113A3 AND M1059A3 ONLY).....	0045 00
INDICATORS SCHEMATIC.....	0046 00
DELETED.....	0047 00
MASTER SWITCH ON INDICATOR DOESN'T LIGHT.....	0048 00
FUEL LEVEL INDICATOR MALFUNCTIONS.....	0049 00
HIGH BEAM INDICATOR LIGHT DOESN'T WORK.....	0050 00
BATTERY/GENERATOR INDICATOR MALFUNCTIONS.....	0051 00
PARKING BRAKE INDICATOR MALFUNCTIONS.....	0052 00
COOLANT TEMP INDICATOR MALFUNCTIONS.....	0053 00
STEERING LOCKED INDICATOR MALFUNCTIONS.....	0054 00
ENGINE OIL LOW PRESSURE INDICATOR MALFUNCTIONS.....	0055 00
TRANSMISSION OIL LOW PRESSURE INDICATOR MALFUNCTIONS.....	0056 00
TRANS OIL HI TEMP INDICATOR MALFUNCTIONS.....	0057 00
ENGINE COOLANT LOW LEVEL INDICATOR MALFUNCTIONS.....	0058 00
TRANS FILTER CLOGGED INDICATOR MALFUNCTIONS.....	0059 00
TRANSMISSION SYSTEM SCHEMATIC.....	0060 00
CARRIER MOVES WITH TRANSMISSION IN SL.....	0061 00
CARRIER DOES NOT ATTAIN HIGH SPEED.....	0061 01
CARRIER DOES NOT MOVE IN ANY SHIFT LEVER POSITION.....	0062 00
CARRIER DRIFTS OR DOES NOT STEER.....	0063 00
SERVICE AND/OR PARKING BRAKE WON'T HOLD CARRIER.....	0064 00
TRANSMISSION WON'T UPSHIFT OR SHIFTS ERRATICALLY IN 1-4 POSITION.....	0065 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

TRANSMISSION DOES NOT DOWNSHIFT IN 1-4 POSITION.....	0066 00
TRANSMISSION DOES NOT HOLD 1ST POSITION.....	0067 00
TRANSMISSION DOES NOT HOLD 2ND POSITION.....	0068 00
TRANSMISSION DOES NOT HOLD 3RD POSITION.....	0069 00
TRANSMISSION DOES NOT REVERSE.....	0070 00
TRANSMISSION DOES NOT PIVOT STEER.....	0071 00
TRANSMISSION HIGH TEMP INDICATOR COMES ON.....	0072 00
TRANSMISSION LOW LUBE INDICATOR COMES ON.....	0073 00
STEERING LOCK SCHEMATIC (SOLENOID-ACTIVATED LOCK).....	0074 00
STEERING LOCK SCHEMATIC (CABLE-ACTIVATED LOCK).....	0075 00
SOLENOID-ACTIVATED STEERING LOCK MALFUNCTIONS.....	0076 00
CABLE-ACTIVATED STEERING LOCK MALFUNCTIONS.....	0077 00
BILGE PUMP SCHEMATIC.....	0078 00
DELETED.....	0079 00
FRONT AND/OR REAR BILGE PUMP(S) AND/OR LIGHTS DON'T WORK.....	0080 00
RAMP SCHEMATIC.....	0081 00
RAMP WILL NOT LOWER.....	0082 00
RAMP OPERATION IS SLOW OR SLUGGISH.....	0083 00
RAMP WILL NOT RAISE OR FREE FALLS.....	0084 00
PERSONNEL HEATER SCHEMATIC.....	0085 00
PERSONNEL HEATER MALFUNCTIONS.....	0086 00
COOLANT HEATER SCHEMATIC.....	0087 00
DELETED.....	0088 00
COOLANT HEATER MALFUNCTIONS.....	0089 00
POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY).....	0090 00
NO AC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY).....	0091 00
NO DC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY).....	0092 00
NO POWER FROM ROADSIDE AC POWER EXTENSION BOX A6 (M1068A3 ONLY).....	0093 00
NO POWER FROM CURBSIDE AC POWER EXTENSION BOX A7 (M1068A3 ONLY).....	0094 00
NO POWER FROM DC POWER EXTENSION BOX A9 (ALL EXCEPT JACK J23) (M1068A3 ONLY).....	0095 00
NO POWER FROM DC POWER EXTENSION BOX A9, JACK J23 (JTIDS) (M1068A3 ONLY).....	0096 00
NO DC POWER TO SINGLE POINT LAN GROUND BOX A15 (M1068A3 ONLY).....	0097 00
NO POWER FROM UPS POWER EXTENSION BOX A18 (M1068A3 ONLY).....	0098 00
NO POWER FROM CURBSIDE UPS POWER EXTENSION BOX A19 (M1068A3 ONLY).....	0099 00
NO AC/DC INPUT TO ATCCS UPS POWER BOX (M1068A3 ONLY).....	0100 00



**TABLE OF CONTENTS (cont)**

WP Sequence No.

IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY).....	0101 00
FLUORESCENT LIGHTS DO NOT OPERATE (M1068A3 ONLY).....	0102 00
VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY).....	0103 00
VEHICLE WILL NOT ACCEPT EXTERNAL AC POWER (M1068A3 ONLY).....	0104 00
VEHICLE WILL NOT ACCEPT INVERTER AC POWER (M1068A3 ONLY).....	0105 00
NO POWER TO DC CIRCUITS (M1068A3 ONLY).....	0106 00
NO POWER TO AC CIRCUITS (M1068A3 ONLY).....	0107 00
NO DC OUTPUT FROM DC POWER SUPPLY (M1068A3 ONLY).....	0108 00
NO AC POWER FROM INVERTERS (M1068A3 ONLY).....	0109 00
NO DATA OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY).....	0110 00
NO LAN OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY).....	0111 00
NO DATA OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY).....	0112 00
NO LAN OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY).....	0113 00
PHONE EXTENSION BOX A14 POST(S) INOPERATIVE (M1068A3 ONLY).....	0114 00
SPEEDOMETER MALFUNCTIONS.....	0115 00
TACHOMETER MALFUNCTIONS.....	0116 00
DRIVER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY).....	0116 01
COMMANDER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY).....	0116 02
HOOK UP/REMOVE STE/ICE TEST SET TO DCA 6.....	0117 00
STE/ICE TEST 10 ENGINE RPM.....	0118 00
STE/ICE TEST 24 FUEL SUPPLY PRESSURE.....	0119 00
STE/ICE TEST 25 FUEL RETURN PRESSURE.....	0120 00
STE/ICE TEST 26 FUEL FILTER PRESSURE DROP.....	0121 00
STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE.....	0122 00
STE/ICE TEST 32 AIR BOX PRESSURE.....	0123 00
STE/ICE TEST 67 BATTERY VOLTAGE.....	0124 00
STE/ICE TEST 68 STARTER MOTOR VOLTAGE.....	0125 00
STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP.....	0126 00
STE/ICE TEST 70 STARTER SOLENOID VOLTAGE.....	0127 00
STE/ICE TEST 71 STARTER CURRENT (AVERAGE).....	0128 00
STE/ICE TEST 72 STARTER CURRENT (FIRST PEAK).....	0129 00
STE/ICE TEST 73 BATTERY RESISTANCE AND STE/ICE TEST 75 BATTERY RESISTANCE CHANGE (PACK).....	0130 00
STE/ICE TEST 74 STARTER CIRCUIT RESISTANCE.....	0131 00
STE/ICE TEST 80 BATTERY CURRENT.....	0132 00
STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE.....	0133 00
STE/ICE TEST 83 GENERATOR FIELD VOLTAGE.....	0134 00
STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP.....	0135 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

STE/ICE SCHEMATIC.....	0136 00
DELETED.....	0137 00
STE/ICE BLANK DISPLAY DIAGNOSTIC TROUBLESHOOTING.....	0138 00
STE/ICE CONFIDENCE TEST DIAGNOSTIC TROUBLESHOOTING.....	0139 00
STE/ICE TEST 10, 11, 12 AND 13 DIAGNOSTIC TROUBLESHOOTING.....	0140 00
DCA BATTERY VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0141 00
DCA CURRENT SHUNT DIAGNOSTIC TROUBLESHOOTING.....	0142 00
STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC TROUBLESHOOTING.....	0143 00
STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC TROUBLESHOOTING.....	0144 00
STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC TROUBLESHOOTING.....	0145 00
STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC TROUBLESHOOTING.....	0146 00
STE/ICE TEST 32 AIR BOX PRESSURE DIAGNOSTIC TROUBLESHOOTING.....	0147 00
STE/ICE TEST 68 STARTER MOTOR VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0148 00
STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC TROUBLESHOOTING.....	0149 00
STE/ICE TEST 70 STARTER SOLENOID VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0150 00
STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0151 00
STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0152 00
STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC TROUBLESHOOTING.....	0153 00

**Volume 2**

CHAPTER 3 — UNIT MAINTENANCE INSTRUCTIONS FOR MAINTENANCE  
OF CARRIER

SERVICE UPON RECEIPT.....	0154 00
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS), INCLUDING LUBRICATION INSTRUCTIONS.....	0155 00

CHAPTER 4 — UNIT MAINTENANCE INSTRUCTIONS FOR ENGINE

REMOVE/INSTALL POWER PLANT ASSEMBLY.....	0156 00
BLOCK POWER PLANT.....	0157 00
REPLACE ENGINE MOUNTS .....	0158 00
REPLACE LEFT AND RIGHT AIR BOX DRAIN CHECK VALVE AND TUBES.....	0159 00
DELETED.....	0160 00
REPLACE ENGINE LIFTING BRACKET.....	0161 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE ENGINE OIL FILLER CAP.....	0162 00
REPLACE ENGINE OIL SAMPLING VALVE AND HOSE.....	0163 00
REPLACE OIL GAUGE ROD AND TUBE.....	0164 00
REPLACE ENGINE OIL FILTER ELEMENT.....	0165 00
 CHAPTER 5 — UNIT MAINTENANCE INSTRUCTIONS FOR FUEL SYSTEM	
REPLACE ENGINE FUEL PUMP.....	0166 00
SERVICE AIR CLEANER FILTER ELEMENT.....	0167 00
REPLACE AIR CLEANER AND ELBOW.....	0168 00
REPLACE AIR CLEANER DOOR.....	0169 00
REPAIR AIR CLEANER ASSEMBLY.....	0169 01
REPAIR AIR CLEANER RETAINER.....	0170 00
REPLACE AIR CLEANER RESTRICTION INDICATOR.....	0171 00
REPLACE AIR CLEANER RESTRICTION INDICATOR HOSE.....	0172 00
REMOVE/INSTALL AIR INTAKE ELBOW.....	0173 00
REPLACE GRILL AIR INTAKE ELBOW AND HOSE.....	0174 00
REPLACE EXHAUST EVACUATOR VALVE AND CONNECTOR.....	0175 00
CLEAN FUEL CAP VENT AND FILTER SCREEN.....	0176 00
DRAIN TANKS (ALL EXCEPT M577A3 AND M1068A3).....	0177 00
DRAIN FUEL TANKS (M577A3 AND M1068A3 ONLY).....	0178 00
REPLACE EXTERNAL FUEL TANKS (ALL EXCEPT M577A3 AND M1068A3).....	0179 00
REPLACE FUEL TANKS (M577A3 AND M1068A3 ONLY).....	0180 00
TEMPORARY FUEL TANK REPAIR (M577A3 AND M1068A3 ONLY).....	0181 00
REPLACE FUEL TANK FILLER COVER AND LOCK (ALL EXCEPT M577A3 AND M1068A3).....	0182 00
REPLACE FUEL TANK FILLER COVER AND LOCK (M577A3 AND M1068A3 ONLY).....	0183 00
REPLACE FILLER CAP AND STRAINER PARTS (ALL EXCEPT M577A3 AND M1068A3).....	0184 00
REPLACE FILLER CAP AND STRAINER PARTS (M577A3 AND M1068A3 ONLY).....	0185 00
REPLACE FUEL FILLER AND STRAINER PARTS (M577A3 AND M1068A3 ONLY).....	0186 00
REPLACE FUEL TANK ACCESS COVERS AND DRAIN PLUGS (ALL EXCEPT M577A3 AND M1068A3).....	0187 00
REPLACE FUEL TANK ACCESS COVERS (M577A3 AND M1068A3 ONLY).....	0188 00
REPLACE FUEL TANK FILLER FLANGE (M577A3 AND M1068A3 ONLY).....	0189 00
REPLACE FUEL QUANTITY TRANSMITTER (ALL EXCEPT M577A3 AND M1068A3).....	0190 00
REPLACE FUEL QUANTITY TRANSMITTER (M577A3 AND M1068A3 ONLY).....	0191 00
REPLACE FUEL SUPPLY HOSES, TUBES, AND FITTINGS (M113A3, M1059A3, AND M58 ONLY).....	0192 00
REPLACE FUEL SUPPLY HOSES, TUBES AND FITTINGS (M577A3 AND M1068A3 ONLY).....	0193 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE FUEL SUPPLY HOSES, TUBES, AND FITTINGS (M1064A3 ONLY).....	0194 00
REPLACE FUEL RETURN HOSES, TUBES, AND FITTINGS (M113A3, M1059A3, AND M58 ONLY).....	0195 00
REPLACE FUEL RETURN HOSES, TUBES, AND FITTINGS (M577A3 AND M1068A3 ONLY).....	0196 00
REPLACE FUEL RETURN HOSES, TUBES, AND FITTINGS (M1064A3 ONLY).....	0197 00
REPLACE FUEL VENT HOSES, TUBES, AND FITTINGS (M577A3 AND M1068A3 ONLY).....	0198 00
REPLACE FUEL VALVE MOUNTING BLOCKS (ALL EXCEPT M577A3 AND M1068A3).....	0199 00
REPLACE ENGINE FUEL SUPPLY HOSE.....	0200 00
REPLACE ENGINE FUEL RETURN HOSE.....	0201 00
REPLACE PRIMARY AND SECONDARY FUEL FILTER ELEMENTS.....	0202 00
REPLACE PRIMARY AND SECONDARY FUEL FILTERS AND BRACKET.....	0203 00
REPLACE AIR BOX HEATER IGNITION WIRE.....	0204 00
REPLACE AIR BOX HEATER WIRING HARNESS.....	0205 00
REPLACE AIR BOX HEATER LOWER FUEL LINE.....	0206 00
REPLACE AIR HEATER ELECTRODE.....	0207 00
REPLACE AIR BOX IGNITION COIL.....	0208 00
REPLACE GLOW PLUG HARNESS AND GLOW PLUGS.....	0209 00
REPLACE GLOW PLUG CONTROLLER.....	0210 00
REPLACE GLOW PLUG POWER HARNESS.....	0211 00
REPLACE GLOW PLUG CONTROLLER MOUNTING BRACKET.....	0212 00
ADJUST THROTTLE VALVE (TV) MODULATOR.....	0213 00
ADJUST ACCELERATOR LINKAGE.....	0214 00
REPLACE LOWER ACCELERATOR PEDAL.....	0215 00
REPLACE UPPER ACCELERATOR PEDAL ASSEMBLY.....	0216 00
REPLACE FUEL CONTROL SHAFT AND LINKAGE.....	0217 00
REPLACE THROTTLE VALVE (TV) MODULATOR AND LEVER.....	0218 00
REPLACE HAND THROTTLE CONTROL CABLE ASSEMBLY.....	0219 00
REPLACE FUEL CUTOFF CONTROL CABLE ASSEMBLY.....	0220 00
 CHAPTER 6 — UNIT MAINTENANCE INSTRUCTIONS FOR EXHAUST SYSTEM	
REPLACE ENGINE EXHAUST ELBOWS AND DOUBLE FLEX JOINT.....	0221 00
REPAIR DOUBLE FLEX EXHAUST JOINT.....	0222 00
REPLACE MUFFLER EXTENSION AND CAP.....	0223 00
REPLACE EXHAUST MUFFLER AND BRACKET.....	0224 00
REPLACE ENGINE LEFT/RIGHT EXHAUST ELBOWS.....	0225 00
REPLACE LEFT/RIGHT TURBO EXHAUST PIPE HEAT SHIELD.....	0226 00
 CHAPTER 7 — UNIT MAINTENANCE INSTRUCTIONS FOR COOLING SYSTEM	
DRAIN AND FILL COOLING SYSTEM.....	0227 00

**TABLE OF CONTENTS (cont)**

	<u>WP Sequence No.</u>
CLEAN RADIATOR.....	0228 00
REPLACE RADIATOR AND PARTS.....	0229 00
REPLACE AUXILIARY TANK.....	0230 00
REPLACE THERMOSTATIC FAN SPEED SWITCH (OLD CONFIGURATION).....	0231 00
REPLACE VARIABLE SPEED FAN DRIVE VALVE AND OVERRIDE SWITCH (NEW CONFIGURATION).....	0231 01
REPLACE UPPER COOLANT HOSE AND TUBE.....	0232 00
REPLACE RADIATOR OUTLET TUBE AND HOSES.....	0233 00
REPLACE BALANCE HOSE.....	0234 00
REPLACE DRAIN COCK AND HOSE.....	0235 00
REPLACE COOLANT AIR SEPARATOR.....	0236 00
REPLACE THERMOSTAT/COVER.....	0237 00
REPLACE THERMOSTAT TUBE/HOSES.....	0238 00
ADJUST COOLANT PUMP BELTS.....	0239 00
REPLACE COOLANT PUMP IDLER PULLEY/BELTS.....	0240 00
REPLACE ENGINE COOLANT PUMP.....	0241 00
ADJUST VENTILATING FAN DRIVE BELT.....	0242 00
REPLACE VENTILATING FAN DRIVE BELT.....	0243 00
REPLACE VENTILATING FAN DRIVE PULLEY.....	0244 00
REPLACE FLAT PULLEYS AND BEARINGS.....	0245 00
REPLACE IDLER ARM AND SPRING TENSIONER.....	0246 00
REPLACE VENTILATING FAN ASSEMBLY.....	0247 00
REPLACE FAN DRIVE SHAFT AND BEARING HOUSING.....	0248 00
REPLACE FAN AND GENERATOR VARIABLE SPEED FAN DRIVE (OLD CONFIGURATION).....	0249 00
REPLACE VARIABLE SPEED FAN DRIVE ASSEMBLY (NEW CONFIGURATION).....	0249 01
REPLACE HOSES FROM THERMOSTAT SWITCH TO VARIABLE SPEED FAN DRIVE (OLD CONFIGURATION).....	0250 00
REPLACE VARIABLE SPEED FAN DRIVE CONTROLLER (NEW CONFIGURATION).....	0250 01
REPLACE TRANSMISSION OIL SUPPLY AND RETURN HOSES.....	0251 00
REPLACE HOSE FROM VARIABLE SPEED FAN DRIVE OVERRIDE SWITCH TO VSFD DRIVE (NEW CONFIGURATION).....	0251 01

**Volume 3**

CHAPTER 8 — UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM

ADJUST GENERATOR DRIVE BELT.....	0252 00
REPLACE GENERATOR DRIVE BELT.....	0253 00
REPLACE GENERATOR TURNBUCKLE PARTS.....	0254 00
REPLACE GENERATOR/BRACKET.....	0255 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

ADJUST VOLTAGE REGULATOR.....	0256 00
REPLACE REGULATOR ASSEMBLY.....	0257 00
REPLACE STARTER RELAY SWITCH.....	0258 00
REPLACE STARTER.....	0259 00
REPLACE MASTER SWITCH PANEL ASSEMBLY (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0260 00
REPLACE MASTER SWITCH PANEL ASSEMBLY (M577A3 AND M1068A3 ONLY).....	0261 00
REPLACE MASTER SWITCH (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0262 00
REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0263 00
REPLACE NATO AUXILIARY POWER (SLAVE) RECEPTACLE (M577A3 AND M1068A3 ONLY).....	0264 00
REPLACE UTILITY OUTLET RECEPTACLE.....	0265 00
REPLACE MASTER SWITCH TO DISTRIBUTION BOX LEAD (CIRCUIT 49) (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0266 00
REPLACE MASTER SWITCH TO DISTRIBUTION BOX LEAD (CIRCUIT 49) (M577A3 AND M1068A3 ONLY).....	0267 00
REPLACE MASTER SWITCH TO AUXILIARY POWER RECEPTACLE LEAD (CIRCUIT 50) (M113A3, M1059A3, M1064A3, AND M58).....	0268 00
REPLACE DISTRIBUTION BOX (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0269 00
REPAIR DISTRIBUTION BOX (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0270 00
REPLACE DISTRIBUTION BOX ASSEMBLY (M577A3 AND M1068A3 ONLY).....	0271 00
DELETED.....	0272 00
DELETED.....	0273 00
DELETED.....	0274 00
REPLACE BILGE PUMP CIRCUIT BREAKERS.....	0275 00
REPLACE REAR UTILITY RECEPTACLE CIRCUIT BREAKERS (M577A3 AND M1068A3 ONLY).....	0276 00
REPLACE FUEL SELECTOR SWITCH (M577A3 AND M1068A3 ONLY).....	0277 00
REPLACE BLOWER SWITCH (M577A3 AND M1068A3 ONLY).....	0278 00
REPLACE INSTRUMENT PANEL ASSEMBLY (ALL EXCEPT M58).....	0279 00
REPLACE INSTRUMENT PANEL ASSEMBLY (M58 ONLY).....	0279 01
REPLACE CIRCUIT BREAKER.....	0280 00
REPLACE FUEL SELECT SWITCH TO GAUGE LEAD (ALL EXCEPT M577A3 AND M1068A3).....	0281 00
REPLACE INSTRUMENT PANEL ON-OFF SWITCHES.....	0282 00
REPLACE MAIN LIGHT SWITCH.....	0283 00
REPLACE ENGINE START SWITCH.....	0284 00
REPLACE INSTRUMENT PANEL GAUGES.....	0285 00
REPLACE PANEL LIGHTS AND INDICATOR LIGHTS.....	0286 00
REPLACE INSTRUMENT PANEL WARNING LIGHTS.....	0287 00
REPLACE INSTRUMENT WARNING LIGHT PANEL.....	0288 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE INSTRUMENT PANEL BATTERY-GENERATOR GAUGE WIRING HARNESSES.....	0289 00
REPLACE INSTRUMENT PANEL SPECIAL PURPOSE CABLE.....	0290 00
REPLACE WARNING LIGHT PANEL ASSEMBLY (ALL EXCEPT M58).....	0291 00
REPLACE WARNING LIGHT PANEL (ALL EXCEPT M58).....	0292 00
REPLACE HORN SWITCH (ALL EXCEPT M58).....	0293 00
REPLACE HORN SWITCH (M58 ONLY).....	0293 01
REPLACE WARNING PANEL LIGHTS (ALL EXCEPT M58).....	0294 00
REPLACE WARNING PANEL LIGHTS (M58 ONLY).....	0294 01
REPLACE INSTRUMENT PANEL MOUNTS AND GROUND LEAD (ALL EXCEPT M58).....	0295 00
REPLACE INSTRUMENT PANEL MOUNTS AND GROUND LEAD (M58 ONLY).....	0295 01
REPLACE TELEPOSTS AND COVER.....	0296 00
REPLACE SOLID STATE INFRARED POWER SUPPLY.....	0297 00
REPLACE STOP LIGHT-TAIL LIGHT AND GUARDS (ALL EXCEPT M577A3 AND M1068A3).....	0298 00
REPLACE LEFT STOP LIGHT-TAIL LIGHT (M577A3 AND M1068A3 ONLY).....	0299 00
REPAIR LEFT STOP LIGHT-TAIL LIGHT.....	0300 00
REPLACE RIGHT STOP LIGHT-TAIL LIGHT (M577A3 ONLY).....	0301 00
REPAIR RIGHT STOP LIGHT-TAIL LIGHT.....	0302 00
REPLACE SERVICE AND INFRARED HEADLIGHTS.....	0303 00
REPAIR SERVICE AND INFRARED HEADLIGHTS.....	0304 00
REPLACE BLACKOUT HEADLIGHT.....	0305 00
REPAIR BLACKOUT HEADLIGHT.....	0306 00
REPLACE BLACKOUT MARKER LIGHT.....	0307 00
REPAIR BLACKOUT MARKER LIGHT.....	0308 00
REPLACE DOME LIGHT (ALL EXCEPT M577A3 AND M1068A3).....	0309 00
REPAIR DOME LIGHT (ALL EXCEPT M577A3 AND M1068A3).....	0310 00
REPLACE DOME LIGHT (M577A3 AND M1068A3 ONLY).....	0311 00
REPAIR DOME LIGHT AND MOUNT (M577A3 AND M1068A3 ONLY).....	0312 00
REPLACE DOME LIGHT LENS (ALL EXCEPT M577A3 AND M1068A3).....	0313 00
REPLACE FRONT DOME LIGHT SWITCH (M577A3 AND M1068A3 ONLY).....	0314 00
REPLACE REAR DOME LIGHT SWITCH (M577A3 AND M1068A3 ONLY).....	0315 00
REPLACE DOME LIGHT CIRCUIT BREAKER (M577A3 AND M1068A3 ONLY).....	0316 00
REPLACE DOME BLACKOUT LIGHT BYPASS SWITCH (M577A3 AND M1068A3 ONLY).....	0317 00
REPLACE TENT LIGHT ASSEMBLY (M577A3 AND M1068A3 ONLY).....	0318 00
DELETED.....	0319 00
REPLACE ENGINE OIL LOW PRESSURE TRANSMITTER AND HARDWARE.....	0320 00
REPLACE COOLANT TEMPERATURE TRANSMITTER.....	0321 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE VARIABLE SPEED FAN DRIVE SENSORS AND SWITCHES (NEW CONFIGURATION).....	0321 01
REPLACE TRANSMISSION OIL HIGH TEMPERATURE SWITCH.....	0322 00
REPLACE GENERATOR FIELD PRESSURE SWITCH.....	0323 00
REPLACE FUEL SUPPLY PRESSURE TRANSDUCER.....	0324 00
REPLACE FUEL RETURN PRESSURE TRANSDUCER.....	0325 00
REPLACE TURBO OUTLET PRESSURE TRANSDUCER.....	0326 00
REPLACE AIR BOX PRESSURE TRANSDUCER.....	0327 00
REPLACE FUEL FILTER DIFFERENTIAL PRESSURE SWITCH.....	0328 00
REPLACE AUXILIARY TANK FLUID LEVEL DETECTOR.....	0329 00
REPLACE STEERING LOCK SWITCH.....	0330 00
REPLACE PARKING BRAKE SWITCH/BRACKET.....	0331 00
REPLACE STOP SWITCH.....	0332 00
REPLACE HEADLIGHT HIGH BEAM SELECTOR SWITCH.....	0333 00
REPLACE ADMITTANCE BUZZER AND SWITCH (M577A3 AND M1068A3 ONLY).....	0334 00
REPLACE RAMP DOOR SWITCH AND MOUNT (M577A3 AND M1068A3 ONLY).....	0335 00
REPLACE HORN AND GROUND LEAD.....	0336 00
DISCONNECT/CONNECT BATTERY GROUND STRAP (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0337 00
DISCONNECT/CONNECT BATTERY GROUND LEAD (M577A3 AND M1068A3 ONLY).....	0338 00
DELETED.....	0339 00
REPLACE BATTERY LEADS AND TERMINALS (M113A3 AND M1059A3 ONLY).....	0340 00
REPLACE BATTERY LEADS AND TERMINALS (M577A3 AND M1068A3 ONLY).....	0341 00
DELETED.....	0342 00
REPLACE BATTERY LEADS AND TERMINALS (LEFT SIDE) (M1064A3 ONLY).....	0343 00
REPLACE BATTERY LEADS AND TERMINALS (RIGHT SIDE) (M1064A3 ONLY).....	0344 00
REPLACE BATTERY LEADS AND TERMINALS (M58 ONLY).....	0345 00
REPLACE BATTERIES AND RETAINERS (M113A3 AND M1059A3 ONLY).....	0346 00
REPLACE BATTERIES AND RETAINERS (M577A3 AND M1068A3 ONLY).....	0347 00
REPLACE BATTERIES AND BATTERY BOX (M58 ONLY).....	0348 00
REPLACE BATTERIES AND RETAINERS (M1064A3 ONLY).....	0349 00
REPAIR BATTERY BOX (M113A3 AND M1059A3 ONLY).....	0350 00
REPAIR BATTERY BOX (M577A3 AND M1068A3 ONLY).....	0351 00
REPAIR BATTERY BOX ACCESS COVER (M577A3 AND M1068A3 ONLY).....	0352 00
REPAIR BATTERY DRAWER (M1064A3 ONLY).....	0353 00
REPAIR BATTERY BOX (RIGHT SIDE) (M1064A3).....	0354 00
REPLACE BATTERY BOX VENT FITTING (M58 ONLY).....	0355 00
REPLACE BATTERY TO MASTER SWITCH LEAD (CIRCUIT 6) (M113A3 AND M1059A3 ONLY).....	0356 00



**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE BATTERY TO MASTER SWITCH LEAD (CIRCUIT 6) (M577A3 AND M1068A3 ONLY).....	0357 00
REPLACE BATTERY TO MASTER SWITCH LEAD (CIRCUIT 6) (M1064A3 ONLY).....	0358 00
REPLACE ENGINE WIRING HARNESS.....	0359 00
REPLACE VARIABLE SPEED FAN DRIVE WIRING HARNESS, 3W1 (NEW CONFIGURATION).....	0359 01
REPLACE TRANSMISSION WIRING HARNESS .....	0360 00
REPLACE TRANSMISSION CONTROLLER WIRING HARNESS.....	0361 00
REPLACE REAR MAIN WIRING HARNESS (M113A3, M1059A3, AND M58).....	0362 00
REPLACE REAR MAIN WIRING HARNESS (M577A3 ONLY).....	0363 00
REPLACE REAR MAIN WIRING HARNESS (M1064A3 ONLY).....	0364 00
REPLACE REAR MAIN WIRING HARNESS (M1068A3 ONLY).....	0365 00
REPLACE SMOKE GRENADE LAUNCHER WIRING HARNESS (M113A3, M1059A3, AND M58 ONLY).....	0366 00
REPLACE STEERING LOCK SWITCH WIRING HARNESS (ALL EXCEPT M58).....	0367 00
REPLACE STEERING LOCK SWITCH WIRING HARNESS (M58 ONLY).....	0367 01
REPLACE DRIVER’S NIGHT VISION (DNV) (AN/VVS-2) POWER SUPPLY CABLE ASSEMBLY (ALL EXCEPT M58).....	0368 00
REPLACE BATTERY-TO-RADIO WIRING HARNESS (LEFT SIDE) (M113A3 AND M1059A3 ONLY).....	0369 00
REPLACE BATTERY-TO-RADIO WIRING HARNESS (RIGHT SIDE) (M113A3 ONLY).....	0370 00
DELETED.....	0371 00
DELETED.....	0372 00
REPLACE RIGHT HEADLIGHT WIRING HARNESS.....	0373 00
REPLACE WARNING PANEL WIRING HARNESS.....	0374 00
REPLACE TRAILER HARNESS.....	0375 00
REPLACE RADIAC WIRE HARNESS (M113A3, M577A3, AND M1068A3 ONLY).....	0376 00
REPLACE UTILITY OUTLET LEAD ASSEMBLY (M577A3 AND M1068A3 ONLY).....	0377 00
REPLACE REAR UTILITY OUTLET RECEPTACLES (M577A3 AND M1068A3 ONLY).....	0378 00
REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE GROUND LEAD (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0379 00
REPLACE MASTER SWITCH PANEL DOME LIGHTS LEAD ASSEMBLY (M577A3 AND M1068A3 ONLY).....	0380 00
REPAIR INTERVEHICLE POWER CABLE (M577A3 AND M1068A3 ONLY).....	0381 00
REPAIR WIRING HARNESS.....	0382 00
REPLACE VENTILATION FAN (M577A3 AND M1068A3 ONLY).....	0383 00
 CHAPTER 9 — UNIT MAINTENANCE INSTRUCTIONS FOR TRANSMISSION	
REPLACE TRANSMISSION OIL DRAIN TUBES AND BRACKET.....	0384 00
REPLACE TRANSMISSION MOUNTS.....	0385 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE TRANSMISSION RANGE CONTROLLER/BRACKET (USED WITH SOLENOID-ACTIVATED STEERING LOCK).....	0386 00
REPLACE TRANSMISSION RANGE CONTROLLER/BRACKET (USED WITH CABLE-ACTIVATED STEERING LOCK).....	0387 00
REPLACE TRANSMISSION RANGE CONTROLLER LAMP.....	0388 00
REPLACE TRANSMISSION RANGE CONTROLLER SWITCH.....	0389 00
ADJUST TOW START CONTROL CABLE ASSEMBLY.....	0390 00
REPLACE TOW START CONTROL ASSEMBLY AND BEARING.....	0391 00
REPLACE TOW START CONTROL ASSEMBLY COVER.....	0392 00
ADJUST TRANSMISSION STEERING.....	0393 00
ADJUST TRANSMISSION BRAKES.....	0394 00
REPLACE TRANSMISSION OIL LEVEL DIPSTICK, FILLER TUBE, AND ADAPTER (X200-4 ONLY).....	0395 00
REPLACE TRANSMISSION OIL LEVEL DIPSTICK, FILLER TUBE, AND ADAPTER (X200-4A ONLY).....	0396 00
REPLACE GOVERNOR ASSEMBLY.....	0397 00
REPLACE TRANSMISSION OIL AND OIL FILTER ELEMENT.....	0398 00
REPLACE TRANSMISSION OIL COOLER HOSES, FITTINGS, AND MOUNTING.....	0399 00
REPLACE TRANSMISSION OIL SAMPLING VALVE AND PRESSURE SWITCH.....	0400 00
REPLACE DIFFERENTIAL PRESSURE SWITCH AND BYPASS PLUG.....	0401 00
 CHAPTER 10 — UNIT MAINTENANCE INSTRUCTIONS FOR TRANSFER AND FINAL DRIVE ASSEMBLIES	
REPLACE FINAL DRIVE FILLER TUBE AND DIPSTICK.....	0402 00
REPLACE FINAL DRIVE.....	0403 00
REPLACE FINAL DRIVE DIFFERENTIAL OIL SEAL.....	0404 00
 CHAPTER 11 — UNIT MAINTENANCE INSTRUCTIONS FOR PROPELLER SHAFTS AND UNIVERSAL JOINTS	
REPLACE PROPELLER SHAFT AND UNIVERSAL JOINTS.....	0405 00
 CHAPTER 12 — UNIT MAINTENANCE INSTRUCTIONS FOR BRAKES	
CHECK TRANSMISSION BRAKE ADJUSTMENT.....	0406 00
ADJUST SERVICE BRAKE CONTROL LINKAGE.....	0407 00
ADJUST PARKING BRAKE .....	0408 00
REPLACE UPPER AND LOWER SERVICE BRAKE PEDAL.....	0409 00
REPLACE SERVICE BRAKE CONTROL LINKAGE.....	0410 00
REPLACE PARKING BRAKE CONTROL CABLE ASSEMBLY .....	0411 00
REPLACE PARKING BRAKE CONTROL LEVER ASSEMBLY .....	0412 00
 <b>Volume 4</b>	
 CHAPTER 13 — UNIT MAINTENANCE INSTRUCTIONS FOR WHEELS AND TRACKS	
REPLACE TORSION BAR.....	0413 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE TORSION BAR ANCHOR.....	0414 00
REPLACE ROAD WHEEL SUPPORT ARM, BEARING, AND SEALS.....	0415 00
REPLACE ROAD WHEEL HUB.....	0416 00
REPLACE IDLER WHEEL ARM ASSEMBLY.....	0417 00
REPLACE IDLER WHEEL ARM BEARINGS AND SEALS.....	0418 00
REPLACE TRACK TENSION ADJUSTER AND MOUNT.....	0419 00
REVERSE T150 TRACK DRIVE SPROCKET AND TRACK ASSEMBLIES.....	0419 01
REPLACE T130 DRIVE SPROCKET AND WHEEL ASSEMBLY.....	0420 00
REPAIR T150 DRIVE SPROCKET WHEEL ASSEMBLY.....	0420 01
REPAIR T130 DRIVE SPROCKET WHEEL ASSEMBLY.....	0421 00
REPLACE T130 TRACK.....	0422 00
REPLACE T150 TRACK.....	0422 01
REPLACE T130 TRACK SHOE ASSEMBLY.....	0423 00
REPLACE T150 TRACK SHOE ASSEMBLY.....	0423 01
REPLACE T130 TRACK SHOE PAD.....	0424 00
REPLACE T150 TRACK SHOE PAD.....	0424 01
REPLACE IDLER WHEEL.....	0425 00
REPLACE TRACK ROAD WHEEL (T130).....	0426 00
REPLACE ROAD WHEEL (T150 ).....	0426 01
 CHAPTER 14 — UNIT MAINTENANCE INSTRUCTIONS FOR STEERING	
ADJUST STEERING WHEEL LINKAGE.....	0427 00
REPLACE STEERING LOCK SOLENOID, BRACKET, LINKS, AND PINS (SOLENOID-ACTIVATED LOCK).....	0428 00
REPLACE PUSH-PULL CONTROL ASSEMBLY, BRACKET, LINKS, AND PINS (CABLE-ACTIVATED LOCK).....	0429 00
REPLACE STEERING WHEEL LINKAGE.....	0430 00
REPLACE QUICK RELEASE PIN AND LANYARD.....	0431 00
REPLACE STEERING SUPPORT, BRACKETS, AND SHAFT.....	0432 00
 CHAPTER 15 — UNIT MAINTENANCE INSTRUCTIONS FOR TOWING ATTACHMENTS	
REPLACE TOWING PINTLE.....	0433 00
REPAIR TOWING PINTLE.....	0434 00
 CHAPTER 16 — UNIT MAINTENANCE INSTRUCTIONS FOR SHOCK ADSORBERS	
REPLACE SHOCK ABSORBER.....	0435 00
REPLACE SHOCK ABSORBER MOUNT.....	0436 00
REPLACE SHOCK ABSORBER PIN.....	0437 00
 CHAPTER 17 — UNIT MAINTENANCE INSTRUCTIONS FOR HULL	
REPLACE TRACK COVER.....	0438 00
REPAIR/REPLACE POWER PLANT REAR ACCESS PANELS.....	0439 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REMOVE/INSTALL FAN DRIVE PULLEY ACCESS COVER.....	0440 00
REPLACE DRIVER’S POWER PLANT ACCESS PANEL.....	0441 00
REPAIR PAMPHLET BAG MOUNTING.....	0442 00
REPLACE TOWING HOOK AND EYE.....	0443 00
REPLACE LIFTING EYE.....	0444 00
REPLACE REAR TIEDOWN PLATES.....	0445 00
REPLACE HEADLIGHT GUARD.....	0446 00
REPLACE LEFT FRONT ARMOR PLATE.....	0447 00
REPLACE RIGHT FRONT ARMOR PLATE.....	0448 00
REPLACE HULL FRONT ACCESS COVER.....	0449 00
REPLACE POWER PLANT BOTTOM ACCESS COVER.....	0450 00
REPLACE HULL DRAIN PLUG.....	0451 00
REPLACE FINAL DRIVE HULL DRAIN PLUGS.....	0452 00
REPLACE DRIVER’S COMPARTMENT FLOOR PLATES.....	0453 00
REPLACE REAR COMPARTMENT AIR VENTILATOR.....	0454 00
REPLACE SMOKE GRENADE LAUNCHER GUARD, PLATE, AND BASE (M113A3 AND M1059A3 ONLY).....	0455 00
DELETED.....	0456 00
DELETED.....	0457 00
REPLACE TRIM VANE.....	0458 00
REPAIR TRIM VANE (ALL EXCEPT M58).....	0459 00
REPAIR TRIM VANE (M58 ONLY).....	0460 00
REPAIR TRIM VANE CONTROL LINKAGE.....	0461 00
REPLACE TRIM VANE RELEASE.....	0462 00
REPAIR TRIM VANE RELEASE.....	0463 00
RAISE AND LOWER POWER PLANT GRILLE.....	0464 00
REMOVE/INSTALL POWER PLANT GRILLE.....	0465 00
REPLACE COMBAT FILLER COVER AND LOCK .....	0466 00
REPLACE POWER PLANT GRILL SUPPORT ARM .....	0467 00
REPLACE POWER PLANT GRILL SCREEN.....	0468 00
REPLACE RADIATOR ACCESS DOOR.....	0469 00
REPLACE POWER PLANT DOOR (M113A3 ONLY).....	0470 00
REPLACE POWER PLANT DOOR (ALL EXCEPT M113A3).....	0471 00
REPAIR POWER PLANT DOOR.....	0472 00
REPLACE POWER PLANT DOOR COMBAT LOCK.....	0473 00
REPLACE CARGO HATCH HOLD-OPEN HOOK AND BUMPERS (M113A3 AND M1059A3 ONLY).....	0474 00
REPLACE CARGO HATCH INTERIOR LATCH (M113A3 AND M1059A3 ONLY).....	0475 00
DELETED.....	0476 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

DELETED.....	0477 00
REPLACE CARGO HATCH SEALS (M113A3 AND M1059A3 ONLY).....	0478 00
REPLACE CARGO HATCH COVER (M113A3 AND M1059A3 ONLY).....	0479 00
REPLACE MORTAR HATCH EXTERIOR CATCHES AND BUMPERS (M1064A3 ONLY).....	0480 00
REPLACE MORTAR HATCH INTERIOR RELEASE MECHANISMS (M1064A3 ONLY).....	0481 00
REPLACE MORTAR HATCH COVERS (M1064A3 ONLY).....	0482 00
REPLACE HOPPER HATCH LOCK ASSEMBLY (M58 ONLY).....	0483 00
REPLACE HOPPER HATCH (M58 ONLY).....	0484 00
REPLACE TURBINE ACCESS DOOR (M58 ONLY).....	0485 00
REPLACE TURBINE ACCESS DOOR GASKET (M58 ONLY).....	0486 00
REPLACE TURBINE ACCESS DOOR HINGES (M58 ONLY).....	0487 00
REPLACE COMMANDER'S CUPOLA CUSHIONING PAD AND HANDLE (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0488 00
REPLACE COMMANDER'S CUPOLA AZIMUTH LOCK (M113A3, M1059A3, M58 AND M1064A3 ONLY).....	0489 00
REPLACE COMMANDER'S CUPOLA VISION BLOCK, LOCKS AND SEALS (M113A3, M1059A3 AND M58 ONLY).....	0490 00
REPLACE COMMANDER'S CUPOLA VISION BLOCK LOCKS AND SEALS (M1064A3 ONLY).....	0491 00
REPLACE COMMANDER'S CUPOLA BRAKE ASSEMBLY (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0492 00
REPLACE COMMANDER'S CUPOLA COVER (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0493 00
REPLACE COMMANDER'S CUPOLA HOLD-OPEN HOOK AND BUMPER (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0494 00
REPLACE COMMANDER'S CUPOLA SAFETY PIN STOWAGE BLOCK (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0495 00
REPLACE COMMANDER'S CUPOLA INTERIOR LATCH (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0496 00
REPLACE COMMANDER'S CUPOLA MACHINE GUN MOUNT (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0497 00
REPAIR COMMANDER'S CUPOLA MACHINE GUN MOUNT (M113A3, M1059A3, M58, AND M1064A3 ONLY).....	0498 00
REPLACE COMMANDER'S CUPOLA MACHINE GUN MOUNT STOPS (M1059A3 ONLY).....	0499 00
REPLACE COMMANDER'S HATCH CUSHIONING PAD AND HANDLE (M577A3 AND M1068A3 ONLY).....	0500 00
REPLACE COMMANDER'S HATCH HOOK AND BUMPER (M577A3 AND M1068A3 ONLY).....	0501 00
REPLACE COMMANDER'S HATCH INTERIOR LATCH (M577A3 AND M1068A3 ONLY).....	0502 00
REPLACE COMMANDER'S HATCH COVER (M577A3 AND M1068A3 ONLY).....	0503 00

**TABLE OF CONTENTS (cont)**

	<u>WP Sequence No.</u>
REPLACE RIGHT SIDE SPALL LINERS (M113A3 ONLY).....	0504 00
REPLACE LEFT SIDE SPALL LINERS (M113A3 ONLY).....	0505 00
REPAIR SPALL LINER QUICK RELEASE PINS AND PLATES (M113A3 ONLY).....	0506 00
REPLACE FORWARD SPALL LINER AND BRACKET (M113A3 ONLY).....	0507 00
REPLACE FORWARD UPPER RIGHT AND LEFT SIDE SPALL LINERS (M113A3 ONLY).....	0508 00
REPLACE SPALL LINER ON CARGO HATCH COVER (M113A3 ONLY).....	0509 00
REPLACE REAR UPPER HULL SPALL LINER (M113A3 ONLY).....	0510 00
REPLACE SPALL LINER ON RAMP DOOR (M113A3 ONLY).....	0511 00
REPLACE SPALL LINER ON RAMP (M113A3 ONLY).....	0512 00
RAISE/LOWER INOPERABLE/UNSAFE RAMP.....	0513 00
REPLACE RAMP SEAL.....	0514 00
REPLACE RAMP DRAIN PLUGS.....	0515 00
REPLACE RAMP BRACKET (M113A3, M577A3, AND M1068A3 ONLY).....	0516 00
REPLACE RAMP DOOR STOP BRACKET.....	0517 00
REPLACE RAMP DOOR HOOK AND SPRING.....	0518 00
REPLACE RAMP DOOR HANDLES AND SHAFT.....	0519 00
REPLACE RAMP DOOR SEAL.....	0520 00
ADJUST RAMP LOCK (M113A3 AND M1059A3 ONLY).....	0521 00
ADJUST RAMP LOCK (M577A3 AND M1068A3 ONLY).....	0522 00
ADJUST RAMP LOCK (M1064A3 ONLY).....	0523 00
REPLACE RAMP LOCK HANDLE AND ARMS (ALL EXCEPT M577A3 AND M1068A3).....	0524 00
REPLACE RAMP LOCK LEVER AND CABLE (M577A3 AND M1068A3 ONLY).....	0525 00
REPLACE RAMP LINKAGE (M113A3 AND M1059A3 ONLY).....	0526 00
REPLACE RAMP LINKAGE (M577A3 AND M1068A3 ONLY).....	0527 00
REPLACE RAMP LINKAGE (M1064A3 ONLY).....	0528 00
REPAIR HULL BY WELDING.....	0529 00
REPLACE DRIVER'S HATCH CUSHIONING PAD.....	0530 00
REPLACE DRIVER'S HATCH COVER AND EXTERIOR LOCK.....	0531 00
REPLACE DRIVER'S HATCH HOLD-OPEN HOOK AND BUMPER (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0532 00
REPLACE DRIVER'S HATCH HOLD-OPEN HOOK AND BUMPER (M577A3 AND M1068A3 ONLY).....	0533 00
REPLACE DRIVER'S HATCH INTERIOR LOCK AND LATCH.....	0534 00
REPLACE DRIVER'S HATCH VISION BLOCK LOCKS AND SEALS.....	0535 00
REPLACE DRIVER'S HATCH AN/VVS-2 DRIVER'S NIGHT VISION GUARD (ALL EXCEPT M58).....	0536 00
REPLACE DRIVER'S HATCH NIGHT VISION GUARD (M58 ONLY).....	0536 01
REPLACE AN/VVS-2 DRIVER'S NIGHT VISION MOUNT (ALL EXCEPT M58).....	0537 00
REPLACE DRIVER'S HATCH NIGHT VISION MOUNT (M58 ONLY).....	0537 01
DELETED.....	0538 00

**TABLE OF CONTENTS (cont)**

	<u>WP Sequence No.</u>
REPLACE FLOOR PLATES (M113A3 AND M577A3 ONLY).....	0539 00
DELETED.....	0540 00
DELETED.....	0541 00
REPLACE FLOOR PLATES (M1059A3 ONLY).....	0542 00
REPLACE FLOOR PLATES(M1064A3 ONLY).....	0543 00
REPLACE COMPARTMENT FLOOR PLATES (M1068A3 ONLY).....	0544 00
REPLACE FLOOR PLATES (M58 ONLY).....	0545 00
REPLACE PERSONNEL SEATS, CUSHIONS, AND BELTS (M113A3 ONLY).....	0546 00
REPLACE PERSONNEL SEATS, CUSHIONS, AND BELTS (M577A3 ONLY).....	0547 00
DELETED.....	0548 00
REPLACE PERSONNEL SEATS, BACKRESTS, CUSHIONS, AND BELTS (M1059A3 ONLY).....	0549 00
REPLACE PERSONNEL SEATS, BACKRESTS, CUSHIONS, AND BELTS (M1064A3 ONLY).....	0550 00
REPLACE DRIVER’S SEAT ASSEMBLY.....	0551 00
REPAIR DRIVER’S SEAT.....	0552 00
REPLACE DRIVER’S SEAT BACK ASSEMBLY.....	0553 00
REPAIR DRIVER’S SEAT BACK ASSEMBLY.....	0554 00
REPLACE DRIVER’S SEAT IMPACT ABSORBER.....	0555 00
REPLACE DRIVER’S SEAT POST ASSEMBLY.....	0556 00
REPAIR DRIVER’S SEAT POST ASSEMBLY.....	0557 00
REPLACE DRIVER’S FOOTREST.....	0558 00
REPLACE/REPAIR COMMANDER’S PLATFORM (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0559 00
REPLACE COMMANDER’S SEAT AND POST (M113A3, M1059A3, AND M58 ONLY).....	0560 00
REPLACE COMMANDER’S SEAT AND POST (M1064A3 ONLY).....	0561 00
REPAIR COMMANDER’S SEAT (M113A3, M1059A3, M1064A3, AND M58 ONLY).....	0562 00
REPLACE COMMANDER’S JUMP SEAT (M113A3 ONLY).....	0563 00
REPLACE/REPAIR COMMANDER’S PLATFORM AND POST (M577A3 AND M1068A3 ONLY).....	0564 00
DELETED.....	0565 00
REPLACE/REPAIR COMMANDER’S SEAT (M1068A3 ONLY).....	0566 00
REPLACE/REPAIR OPERATOR’S SEAT (M1059A3 ONLY).....	0567 00
REPLACE/REPAIR RADIO OPERATOR’S SEAT (M1068A3 AND M58).....	0568 00
REPLACE WEBBING STRAPS.....	0569 00
REPLACE CUSHIONING PADS.....	0570 00
REPLACE TOOL BOX LOOPS.....	0571 00
REPLACE AN/VVS-2 DRIVER’S NIGHT VISION STOWAGE MOUNT (ALL EXCEPT M58).....	0572 00
REPLACE RIFLE BRACKETS.....	0573 00
REPLACE OIL CAN BRACKET.....	0574 00

**TABLE OF CONTENTS (cont)**

	<u>WP Sequence No.</u>
REPLACE ANTENNA GUARDS.....	0575 00
REPLACE T150 TRACK SHOE STOWAGE BRACKET.....	0575 01
REPLACE ANTENNA COVERS.....	0576 00
REPLACE LEFT BULKHEAD RADIO STOWAGE RACKS (M577A3 AND M1068A3 ONLY).....	0577 00
REPLACE LEFT TABLE (M577A3 ONLY).....	0578 00
REPLACE RIGHT FRONT RADIO STOWAGE RACK (M577A3 ONLY).....	0579 00
REPLACE MAP BOARD (M577A3 ONLY).....	0580 00
REPLACE RIGHT FORWARD TABLE (M577A3 ONLY).....	0581 00
REPLACE RIGHT REARWARD TABLE (M577A3 ONLY).....	0582 00
DELETED.....	0583 00
DELETED.....	0584 00
DELETED.....	0585 00
REPLACE/REPAIR RAMP VISION PORT AND SHIELD (M58 ONLY).....	0586 00
DELETED.....	0587 00
DELETED.....	0588 00
DELETED.....	0589 00
DELETED.....	0590 00
DELETED.....	0591 00
DELETED.....	0592 00
DELETED.....	0593 00
DELETED.....	0594 00
DELETED.....	0595 00
DELETED.....	0596 00
DELETED.....	0597 00
DELETED.....	0598 00
DELETED.....	0599 00
DELETED.....	0600 00
DELETED.....	0601 00
REPLACE ANTENNA SUPPORT (M58 ONLY).....	0602 00
REPLACE CABLE REEL HOLDER ASSEMBLY (M1064A3 ONLY).....	0603 00
REPAIR CABLE REEL HOLDER ASSEMBLY(M1064A3 ONLY).....	0604 00
DELETED.....	0605 00
REPLACE HORIZONTAL AMMUNITION RACK (M1064A3 ONLY).....	0606 00
REPAIR HORIZONTAL AMMUNITION RACK (M1064A3 ONLY).....	0607 00
REPLACE VERTICAL AMMUNITION RACK (M1064A3 ONLY).....	0608 00
REPLACE RADIO STOWAGE RACK (M1064A3 ONLY).....	0609 00
REPLACE GRENADE STOWAGE BOX (M1064A3 ONLY).....	0610 00
REPLACE PERISCOPE STOWAGE BOX (M1064A3 ONLY).....	0611 00
REPLACE RIFLE RACK (M1064A3 ONLY).....	0612 00
REPLACE SIGHT EXTENSION ARM STOWAGE BRACKETS (M1064A3 ONLY).....	0613 00



**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE WINDSHIELD STOWAGE BRACKET (M1064A3 ONLY).....	0614 00
REPLACE MORTAR BASE STOWAGE BRACKET (M1064A3 ONLY).....	0615 00
REPLACE LEFT SIDE RACK BASE (M1068A3 ONLY).....	0616 00
REPLACE PERSONNEL HEATER CONTROL BOX AND INTERCOM BOX BRACKET (M1068A3 ONLY).....	0617 00
REPLACE/REPAIR MAP BOARD (M1068A3 ONLY).....	0618 00
REPLACE MAP STORAGE BOX (M1068A3 ONLY).....	0619 00
REPAIR MAP STORAGE BOX (M1068A3 ONLY).....	0620 00
REPLACE RIGHT SIDE SHELF ASSEMBLY (M1068A3 ONLY).....	0621 00
REPLACE ALTERNATE RIGHT SIDE SHELF ASSEMBLY (M1068A3 ONLY).....	0621 01
REPLACE RIGHT SIDE RACK BASE (M1068A3 ONLY).....	0622 00
REPLACE RIGHT SIDE BASE EXTENSION (M1068A3 ONLY).....	0623 00
REPLACE RIGHT SIDE BASE EXTENSION SUPPORTS (M1068A3 ONLY).....	0624 00
REPLACE/REPAIR ANTENNA MAST BRACKET ASSEMBLY, TAILLIGHT WIRING HARNESS, AND BRACKET (M1068A3 ONLY).....	0625 00
REPLACE REAR EXTERNAL STOWAGE FRAME (M1068A3 ONLY).....	0626 00
REPLACE STOWAGE BRACKETS FOR W1, W2, AND NATO SLAVE CABLES (M1068A3 AND M577A3).....	0626 01

**Volume 5**

CHAPTER 18 — UNIT MAINTENANCE INSTRUCTIONS FOR HULL ACCESSORY ITEMS

REPLACE TENT AND TENT CLAMPS (M577A3 ONLY).....	0627 00
REPLACE TENT AND FRAME MOUNTS (M577A3 ONLY).....	0628 00
REPLACE BLACKOUT CURTAIN AND FRAME (M577A3 AND M1068A3 ONLY).....	0629 00
DELETED.....	0630 00
REPLACE FRONT BILGE PUMP PIPES.....	0631 00
REPLACE FRONT BILGE PUMP AND STRAINER.....	0632 00
REPLACE FRONT BILGE VALVE.....	0633 00
REPLACE REAR BILGE PUMP PIPES.....	0634 00
REPLACE REAR BILGE PUMP AND STRAINER.....	0635 00
STENCILS (M113A3 ONLY).....	0636 00
STENCILS (M577A3 ONLY).....	0637 00
DELETED.....	0638 00
DELETED.....	0639 00
STENCILS (M1059A3 ONLY).....	0640 00
STENCILS (M1064A3 ONLY).....	0641 00
STENCILS (M1068A3 ONLY).....	0642 00
STENCILS (M58 ONLY).....	0643 00
DATAPLATES, DECALS, AND MARKERS (ALL MODELS).....	0644 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

DATAPLATES, DECALS, AND MARKERS (M113A3 AND M1059A3 ONLY).....	0645 00
DATAPLATES, DECALS, AND MARKERS (M113A3, M1059A3, M58 ONLY).....	0646 00
DATAPLATES, DECALS, AND MARKERS (M113A3, M1059A3 ONLY).....	0647 00
DATAPLATES, DECALS, AND MARKERS (M577A3, M1068A3 ONLY).....	0648 00
DELETED.....	0649 00
DELETED.....	0650 00
DATAPLATES, DECALS, AND MARKERS (M1059A3 ONLY).....	0651 00
DATAPLATES, DECALS, AND MARKERS (M1064A3 ONLY).....	0652 00
DATAPLATES, DECALS, AND MARKERS (M58 ONLY).....	0653 00
REPLACE DATAPLATES, STENCILS, MARKERS, AND DECALS.....	0654 00
 CHAPTER 19 — UNIT MAINTENANCE INSTRUCTIONS FOR HYDRAULIC SYSTEM	
REPLACE RAMP HYDRAULIC PUMP.....	0655 00
REPLACE RAMP CYLINDER.....	0656 00
REPLACE WIRE ROPE AND PULLEYS (ALL EXCEPT M1064A3).....	0657 00
REPLACE WIRE ROPE AND PULLEYS (M1064A3 ONLY).....	0658 00
REPLACE RAMP CONTROL VALVE (WITH EXTERNAL RELIEF VALVE) AND FITTINGS.....	0659 00
REPLACE RAMP CONTROL VALVE, EXTERNAL RELIEF VALVE, AND FITTINGS WITH RAMP CONTROL VALVE (INTERNAL RELIEF VALVE).....	0660 00
REPLACE RAMP CONTROL VALVE (WITH INTERNAL RELIEF VALVE) AND FITTINGS.....	0661 00
REPLACE SAFETY RELIEF VALVE, TUBE, HOSE, AND FITTINGS.....	0662 00
REPLACE RAMP CONTROL VALVE HOSE AND ELBOW.....	0663 00
REPLACE TUBE FROM RAMP CONTROL VALVE TO BULKHEAD.....	0664 00
REPLACE HOSE FROM BULKHEAD CONNECTION TO RAMP CYLINDER.....	0665 00
REPLACE RAMP CYLINDER BREATHER HOSE (ALL EXCEPT M1064A3).....	0666 00
REPLACE RAMP CYLINDER BREATHER HOSE (M1064A3 ONLY).....	0667 00
REPLACE POWER PLANT HYDRAULIC HOSES.....	0668 00
SERVICE HYDRAULIC RESERVOIR.....	0669 00
SERVICE HYDRAULIC RESERVOIR BREATHER.....	0670 00
REPLACE HYDRAULIC RESERVOIR.....	0671 00
REPAIR HYDRAULIC RESERVOIR.....	0672 00
 CHAPTER 20 — UNIT MAINTENANCE INSTRUCTIONS FOR TOOLS AND TEST EQUIPMENT	
INSPECT POWER PLANT SLING.....	0673 00
 CHAPTER 21 — UNIT MAINTENANCE INSTRUCTIONS FOR AUXILIARY GENERATOR	
REPLACE 4.2 KW GENERATOR SET ENCLOSURE (M577A3 AND M1068A3 ONLY).....	0674 00
REPAIR 5.0 KW AUXILIARY POWER UNIT (M577A3 AND M1068A3).....	0675 00
REPLACE 5.0 KW AUXILIARY POWER UNIT (APU) (M577A3 AND M1068A3).....	0675 01

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE 5.0 KW AUXILIARY POWER UNIT FUEL SHUTOFF VALVE (M577A3 AND M1068A3 ONLY).....	0676 00
REPLACE 5.0 KW AUXILIARY POWER UNIT VALVE-TO-BULKHEAD FUEL SUPPLY HOSES (M577A3 AND M1068A3 ONLY).....	0677 00
REPLACE 5.0 KW AUXILIARY POWER UNIT BULKHEAD-TO-HULL FUEL SUPPLY HOSES (M577A3 AND M1068A3 ONLY).....	0678 00
 CHAPTER 22 — UNIT MAINTENANCE INSTRUCTIONS FOR SPECIAL PURPOSE KITS	
BLEED AIR FROM PERSONNEL HEATER FUEL LINES.....	0679 00
SERVICE PERSONNEL HEATER FUEL FILTER.....	0680 00
SERVICE PERSONNEL HEATER FUEL PUMP.....	0681 00
REPLACE HEATER AIR INTAKE AND EXHAUST PIPES (ALL EXCEPT M1064A3).....	0682 00
REPLACE HEATER AIR INTAKE AND EXHAUST PIPES (M1064A3 ONLY) .....	0683 00
REPLACE FUEL SHUT-OFF VALVE ASSEMBLY (M113A3, M1059A3, AND M58 ONLY).....	0684 00
REPLACE HEATER/FILTER FUEL SUPPLY HOSES (M113A3, M1059A3, AND M58 ONLY).....	0685 00
REPLACE PERSONNEL HEATER FUEL TUBE (ALL EXCEPT M1064A3).....	0686 00
REPLACE BULKHEAD CONNECTION TO PERSONNEL HEATER TUBE (M577A3 AND M1068A3 ONLY).....	0687 00
REPLACE PERSONNEL HEATER FUEL FILTER, HOSES, AND FITTINGS (M1064A3 ONLY).....	0688 00
REPLACE PERSONNEL HEATER FUEL PUMP HOSE (M113A3, M1059A3, AND M58 ONLY).....	0689 00
REPLACE FUEL TANK TO FUEL PUMP HOSE (M577A3 AND M1068A3 ONLY).....	0690 00
REPLACE FUEL PUMP TO BULKHEAD CONNECTION HOSE (M113A3, M1059A3, AND M58 ONLY).....	0691 00
REPLACE FUEL PUMP TO BULKHEAD CONNECTION HOSE (M577A3 AND M1068A3 ONLY).....	0692 00
DELETED.....	0693 00
REPLACE FUEL PUMP HOSE TO HEATER FUEL SHUTOFF VALVE (M1064A3 ONLY).....	0694 00
REPLACE PERSONNEL HEATER FUEL PUMP (M113A3, M1059A3, AND M58 ONLY).....	0695 00
REPLACE PERSONNEL HEATER FUEL PUMP (M577A3 AND M1068A3 ONLY).....	0696 00
REPLACE HEATER FUEL PUMP (M1064A3 ONLY).....	0697 00
REPLACE PERSONNEL HEATER FUEL FILTER/BRACKET (M113A3, M1059A3, AND M58 ONLY).....	0698 00
DELETED.....	0699 00
REPLACE PERSONNEL HEATER FUEL FILTER, HOSE, TUBE, AND FITTINGS (M577A3 AND M1068A3 ONLY).....	0700 00
REPLACE PERSONNEL HEATER CONTROL BOX.....	0701 00
REPAIR PERSONNEL HEATER CONTROL BOX.....	0702 00
REPLACE PERSONNEL HEATER ASSEMBLY (ALL EXCEPT M1064A3).....	0703 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE PERSONNEL HEATER ASSEMBLY (M1064A3 ONLY).....	0704 00
REPAIR PERSONNEL HEATER ASSEMBLY.....	0705 00
REPLACE PERSONNEL HEATER DUCT AND HOSES.....	0706 00
REPAIR PERSONNEL HEATER DUCT.....	0707 00
REPLACE PERSONNEL HEATER WIRING HARNESS GUIDE (M577A3 AND M1068A3).....	0707 01
SERVICE COOLANT HEATER FUEL FILTER.....	0708 00
SERVICE COOLANT HEATER FUEL PUMP.....	0709 00
DRAIN AND FILL ENGINE COOLANT HEATER SYSTEM.....	0710 00
REPLACE COOLANT HEATER FUEL PUMP HOSE.....	0711 00
REPLACE COOLANT HEATER FUEL INLET HOSE AND FITTINGS.....	0712 00
REPLACE COOLANT PUMP TO BATTERY BOX HOSES.....	0713 00
REPLACE ENGINE TO BATTERY BOX HOSE.....	0714 00
REPLACE COOLANT HEATER TO ENGINE ELBOW HOSE.....	0715 00
REPLACE COOLANT HEATER FILTER VALVE HOSE.....	0716 00
REPLACE ENGINE BLOCK FITTING AND HARDWARE.....	0717 00
REPLACE BATTERY BOX INSULATION AND HEAT EXCHANGER.....	0718 00
REPLACE BATTERY DRAWER INSULATION AND HEAT EXCHANGER (M1064A3 ONLY).....	0719 00
REPLACE COOLANT HEATER FUEL SHUTOFF VALVE.....	0720 00
REPLACE FUEL PUMP TEE TO ELBOW HOSE.....	0721 00
REPLACE BATTERY PLATE TO BATTERY PLATE HOSE.....	0722 00
REPLACE COOLANT HEATER FUEL PUMP.....	0723 00
REPLACE COOLANT HEATER EXHAUST ELBOW AND PIPES.....	0724 00
REPLACE HEATER TO SURGE TANK HOSE.....	0725 00
REPLACE FUEL FILTER.....	0726 00
ADJUST FLAME DETECTOR SWITCH.....	0727 00
REPLACE COOLANT HEATER AND PUMP UNIT.....	0728 00
REPLACE COOLANT HEATER.....	0729 00
REPLACE IGNITER.....	0730 00
REPLACE COOLANT HEATER PUMP.....	0731 00
REPLACE COOLANT HEATER AND COOLANT PUMP BRACKET.....	0732 00
REPLACE COOLANT PUMP TO HEATER WIRING HARNESS.....	0733 00
REPLACE FLAME DETECTOR SWITCH.....	0734 00
REPLACE COOLANT HEATER WIRING HARNESS.....	0735 00
REPLACE COOLANT HEATER CONTROL BOX.....	0736 00
REPAIR COOLANT HEATER CONTROL BOX.....	0737 00
REPLACE NON-SKID PLATES (M1064A3 ONLY).....	0738 00
REPLACE DRIVER'S WINDSHIELD.....	0739 00
REPLACE DRIVER'S WINDSHIELD STOWAGE BAG, STRAPS, AND DECAL.....	0740 00
INITIAL INSTALLATION OF LITTER KIT (M113A3 ONLY).....	0741 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE POST ASSEMBLY (M113A3 ONLY).....	0742 00
REPAIR POST ASSEMBLY (M113A3 ONLY).....	0743 00
REPLACE CHAIN ASSEMBLY (M113A3 ONLY).....	0744 00
REPAIR CHAIN ASSEMBLY (M113A3 ONLY).....	0745 00
REPLACE ARTILLERY COMMUNICATION INSIDE CABLE (M577A3 ONLY).....	0746 00
REPLACE COMMANDER’S CUPOLA ARMOR SHIELDS (M113A3 AND M1064A3 ONLY).....	0747 00
DELETED.....	0748 00
DELETED.....	0749 00
DELETED.....	0750 00
DELETED.....	0751 00
INSTALL/REMOVE MINE ARMOR KIT (M113A3 ONLY).....	0752 00
REPLACE FOG OIL TANK MODULE (M1059A3 ONLY).....	0753 00
REPLACE SMOKE GENERATOR BREATHER HOSE ASSEMBLY (M1059A3 ONLY).....	0754 00
REPLACE SMOKE GENERATOR ASSEMBLY AND SUPPORT BRACKET (M1059A3 ONLY).....	0755 00
REPLACE SMOKE GENERATOR CONTROL PANEL ASSEMBLY (M1059A3 ONLY).....	0756 00
REPLACE SMOKE GENERATOR SYSTEM POWER SUPPLY CABLE ASSEMBLY (M1059A3 ONLY).....	0757 00
REPLACE AIR COMPRESSOR ELECTRICAL CABLE ASSEMBLY (M1059A3 ONLY).....	0758 00
REPLACE FOG OIL PUMP ELECTRICAL CABLE ASSEMBLY.....	0759 00
REPLACE SMOKE GENERATOR INTERNAL CABLE ASSEMBLY (M1059A3 ONLY).....	0760 00
REPLACE ADAPTER ACCESS PLATE TO GENERATOR ELECTRICAL CABLE ASSEMBLY (M1059A3 ONLY).....	0761 00
REPLACE AIR COMPRESSOR ASSEMBLY (M1059A3 ONLY).....	0762 00
REPLACE FOG OIL PUMP ASSEMBLY (M1059A3 ONLY).....	0763 00
REPLACE SMOKE GENERATOR FUEL CAN LID ASSEMBLY (M1059A3 ONLY).....	0764 00
REPLACE SMOKE GENERATOR FUEL LINES AND GUARDS (M1059A3 ONLY).....	0765 00
REPLACE SMOKE GENERATOR ADAPTER ACCESS PLATE AND GASKET (M1059A3 ONLY).....	0766 00
REPLACE SMOKE GENERATOR COMPRESSOR RESERVOIR TO ADAPTER ACCESS PLATE AIR HOSE (M1059A3 ONLY).....	0767 00
REPLACE SMOKE GENERATOR ADAPTER ACCESS PLATE TO COVER ASSEMBLY AIR HOSE (M1059A3 ONLY).....	0768 00
REPLACE FOG OIL TANK QUICK DISCONNECT TO ADAPTER ACCESS PLATE HOSE (M1059A3 ONLY).....	0769 00
REPLACE COVER ASSEMBLY FOG OIL QUICK DISCONNECT TO ADAPTER ACCESS PLATE HOSE (M1059A3 ONLY).....	0770 00
REPLACE SMOKE GENERATOR ARMOR (M1059A3 ONLY).....	0771 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE SMOKE GENERATOR GLOW PLUG CABLE ASSEMBLIES (M1059A3 ONLY).....	0772 00
REPLACE/REPAIR SMOKE GENERATOR FUEL FILTER/WATER SEPARATOR (M1059A3 ONLY).....	0773 00
REPLACE M14 AIR PURIFIER AND FRAME (M113A3 ONLY).....	0774 00
REPLACE NBC AIR PURIFIER AND FRAME (M113A3 ONLY).....	0775 00
REPLACE NBC AIR PURIFIER AND FRAME (M577A3 ONLY).....	0776 00
REPLACE M8A3 NBC AIR PURIFIER AND FRAME (M1059A3 ONLY).....	0777 00
REPLACE M13 AIR PURIFIER AND FRAME (M1059A3 ONLY).....	0778 00
REPLACE M13 AIR PURIFIER AND FRAME (M1068A3 ONLY).....	0779 00
REPLACE M8A3/M14 ORIFICE CONNECTOR ASSEMBLY, SUPPORT, AND QUICK COUPLING HALF (M113A3, M1059A3, AND M577A3 ONLY).....	0780 00
REPLACE M13 ORIFICE CONNECTOR ASSEMBLY, BRACKET, AND QUICK COUPLING HALF (M1068A3 ONLY).....	0781 00
REPLACE M3 NBC HEATER HOSES AND FITTINGS (M113A3 ONLY).....	0782 00
REPLACE M14 NBC HOSES AND BRACKETS (M113A3 AMBULANCE ONLY).....	0783 00
REPLACE M3 NBC HEATER HOSES AND FITTINGS (M113A3 AMBULANCE ONLY).....	0784 00
DELETED.....	0785 00
REPLACE NBC FILTERS AND HOSES (M577A3 ONLY).....	0786 00
REPLACE M8A3 NBC HOSES AND BRACKETS (M1059A3 ONLY).....	0787 00
REPLACE M3 NBC HOSES AND FITTINGS (M1059A3 ONLY).....	0788 00
REPLACE M13 NBC FILTERS AND HOSES (M1068A3 ONLY).....	0789 00
REPLACE M13 NBC HEATER HOSES (M1068A3 ONLY).....	0790 00
REPLACE M3 NBC HEATER CONTROL BOX, REGULATOR, AND BRACKET (M113A3 AND M577A3).....	0791 00
DELETED.....	0792 00
REPLACE M3 NBC HEATER CONTROL BOX (M1068A3 ONLY).....	0793 00
REPLACE M3 NBC HEATERS AND CONTROLLERS (M113A3 ONLY).....	0794 00
REPLACE M3 NBC HEATERS AND CONTROLLERS (M113A3 AMBULANCES ONLY).....	0795 00
REPLACE NBC HEATERS AND MOUNTS (M577A3 ONLY).....	0796 00
REPLACE M3 NBC HEATERS AND CONTROLLERS (M1059A3 ONLY).....	0797 00
REPLACE M13 NBC HEATERS (M1068A3 ONLY).....	0798 00
REPLACE M14 NBC CABLES AND SWITCH ASSEMBLY (M1059A3 ONLY).....	0799 00
REPLACE NBC CABLE TO HEATERS, AIR PURIFIER, AND SWITCH ASSEMBLY (M113A3 ONLY).....	0800 00
DELETED.....	0801 00
REPLACE NBC FILTER SWITCH ASSEMBLY (M113A3 AND M113A3 AMBULANCE ONLY).....	0802 00
REPLACE NBC FILTER SWITCH AND MOUNT BRACKET (M577A3 ONLY).....	0803 00
REPLACE M8A3/M3 NBC FILTER SWITCH ASSEMBLY (M1059A3 ONLY).....	0804 00
REPLACE M13 NBC FILTER SWITCH (M1068A3 ONLY).....	0805 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE M3 NBC HEATER WIRING HARNESS (M1059A3 ONLY).....	0806 00
REPLACE M14 NBC HEATER WIRING HARNESS (M113A3 AMBULANCE ONLY).....	0807 00
REPLACE NBC HEATER WIRING HARNESS (M577A3 ONLY).....	0808 00
REPLACE M13 NBC HEATER WIRING HARNESS (M1068A3 ONLY).....	0809 00
REPLACE WATER/RATION HEATER POWER CABLE (M113A3 ONLY).....	0810 00
REPLACE WATER/RATION HEATER MOUNT BRACKET (M113A3 ONLY).....	0811 00
INSTALL TOW PINTLE EXTENDER KIT (M113A3 ONLY).....	0811 01
REPAIR TOW PINTLE EXTENDER ASSEMBLY (M113A3 ONLY).....	0811 02
 CHAPTER 23 — UNIT MAINTENANCE INSTRUCTIONS FOR MORTAR FIRE CONTROL SYSTEM	
DELETED.....	0812 00
MORTAR FIRE CONTROL SYSTEM (MFCS), M95/M96 (M577A3 AND M1064A3).....	0812 01
COMMANDER’S INTERFACE BRACKET ASSEMBLY MAINTENANCE (MFCS) (M577A3 ONLY).....	0812 02
REPAIR/REPLACE COMMANDER’S INTERFACE BRACKET ASSEMBLY (MFCS) (M1064A3 ONLY).....	0812 03
REPAIR/REPLACE POWER DISTRIBUTION ASSEMBLY (MFCS) (M577A3 ONLY).....	0812 04
REPAIR/REPLACE POWER DISTRIBUTION ASSEMBLY (MFCS) (M1064A3 ONLY).....	0812 05
REPAIR/REPLACE CABLE HANGER (MFCS) (M577A3 ONLY).....	0812 06
REPAIR/REPLACE MORTAR FIRE CONTROL SYSTEM (MFCS) CABLES (M577A3 ONLY).....	0812 07
REPAIR/REPLACE PRECISION LIGHTWEIGHT GPS RECEIVER (PLGR) AND BRACKET (MFCS) (M1064A3 ONLY).....	0812 08
REPAIR/REPLACE PRECISION LIGHTWEIGHT GPS RECEIVER (PLGR) ANTENNA AND ANTENNA BRACKET (MFCS) (M1064A3 ONLY).....	0812 09
REPAIR/REPLACE DRIVER’S DISPLAY ASSEMBLY (MFCS) (M1064A3 ONLY).....	0812 10
REPAIR/REPLACE DRIVER’S DISPLAY EXTERIOR MOUNTING BALL (MFCS) (M1064A3 ONLY).....	0812 11
REPAIR/REPLACE VEHICLE MOTION SENSOR ASSEMBLY (MFCS) (M1064A3 ONLY).....	0812 12
REPAIR/REPLACE TRAVEL LOCK ADAPTER (MFCS) (M1064A3 ONLY).....	0812 13
REPAIR/REPLACE MORTAR FIRE CONTROL SYSTEM CABLES (MFCS) (M1064A3 ONLY).....	0812 14
REPLACE ALTERNATE LOCATION GUNNER’S DISPLAY BLOCK.....	0812 15
REPLACE DAGR HOLDER MOUNTING BRACKET AND/OR SHOCK ISOLATOR.....	0812 16
 <b>Volume 6</b>	
 CHAPTER 24 — UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL EQUIPMENT (M1068A3 ONLY)	
REPLACE ADAPTIVE PROGRAMMABLE INTERFACE UNIT (APIU) RACK MOUNT AND BRACKET (M1068A3 ONLY).....	0813 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE RIGHT EQUIPMENT RACK BRACKETS AND MOUNTS (M1068A3 ONLY).....	0814 00
REPLACE A.C. POWER EXTENSION BOX A7 (M1068A3 ONLY).....	0815 00
REPLACE SIGNAL PATCH PANEL BOX A10 (M1068A3 ONLY).....	0816 00
REPLACE EXTERNAL COMMUNICATION BOX A11 (M1068A3 ONLY).....	0817 00
REPLACE EXTERNAL COMMUNICATION BOX A11 LID AND LATCHES (M1068A3 ONLY).....	0818 00
REPLACE CURBSIDE DATA PANEL ASSEMBLY A12 (M1068A3 ONLY).....	0819 00
REPLACE LAN GROUND BOX ASSEMBLY A15 (M1068A3 ONLY).....	0820 00
REPAIR LAN GROUND BOX ASSEMBLY A15 (M1068A3 ONLY).....	0821 00
REPLACE A.C. POWER EXTENSION BOX A19 (M1068A3 ONLY).....	0822 00
REPLACE/REPAIR PRINTER MOUNT (M1068A3 ONLY).....	0823 00
REPLACE/REPAIR POWER SUPPLY STORAGE BOX ASSEMBLY (M1068A3 ONLY).....	0824 00
REPLACE FLUORESCENT LIGHT ASSEMBLIES (M1068A3 ONLY).....	0825 00
REPLACE POWER CONTROL ENCLOSURE ASSEMBLY A1 (M1068A3 ONLY).....	0826 00
REPLACE POWER CONTROL ENCLOSURE AC AND DC METERS AND LIGHT INDICATORS (M1068A3 ONLY).....	0827 00
REPAIR POWER CONTROL ENCLOSURE FACEPLATE AND BRACKET (M1068A3 ONLY).....	0828 00
REPLACE POWER CONTROL ENCLOSURE CIRCUIT 44A LEAD (M1068A3 ONLY).....	0829 00
REPLACE INVERTER HOUSING A2 TERMINAL BLOCKS TB1 AND TB2 (M1068A3 ONLY).....	0830 00
REPLACE/REPAIR POWER DISTRIBUTION BOX A3 (M1068A3 ONLY).....	0831 00
REPLACE POWER ENTRY BOX ASSEMBLY A4 (M1068A3 ONLY).....	0832 00
REPLACE TENT INTERFACE PANEL BOX ASSEMBLY A5 (M1068A3 ONLY).....	0833 00
REPLACE AC POWER EXTENSION BOX A6 AND DC POWER EXTENSION BOX A9 AND MOUNT (M1068A3 ONLY).....	0834 00
REPLACE ROADSIDE DATA PANEL ASSEMBLY A13 AND BRACKET (M1068A3 ONLY).....	0835 00
REPLACE POWER EXTENSION BOX A18 AND BRACKET (M1068A3 ONLY).....	0836 00
REPLACE POWER DISTRIBUTION CABLE (W3) (M1068A3 ONLY).....	0837 00
REPLACE DC BATTERY CABLE (W4) (M1068A3 ONLY).....	0838 00
REPLACE/REPAIR INVERTER AC CABLE (W5) (M1068A3 ONLY).....	0839 00
REPLACE INVERTER DC CABLE (W6) (M1068A3 ONLY).....	0840 00
REPAIR CABLE ASSEMBLY (W4/W6) (M1068A3 ONLY).....	0841 00
REPLACE AC POWER EXTENSION CABLE (W7) (M1068A3 ONLY).....	0842 00
REPLACE AC POWER EXTENSION CABLE (W8) (M1068A3 ONLY).....	0843 00
REPLACE DC POWER EXTENSION CABLE (W10) (M1068A3 ONLY).....	0844 00
REPLACE AC LIGHT CABLE (W11) (M1068A3 ONLY).....	0845 00



**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE GROUND STRAP (W12) (M1068A3 ONLY).....	0846 00
REPLACE CASCADE REMOTE HARNESS (M1068A3 ONLY).....	0847 00
REPLACE HARNESS W32 (M1068A3 ONLY).....	0848 00
REPLACE CABLE W35, CABLE W28, AND CABLE ADAPTER (M1068A3 ONLY).....	0849 00
REPLACE CABLE W38, CABLE W29, AND CABLE ADAPTER (M1068A3 ONLY).....	0850 00
REPLACE SINGLE POINT LAN CABLE (W40) (M1068A3 ONLY).....	0851 00
REPLACE CABLES W42, W43, AND W251 (M1068A3 ONLY).....	0852 00
REPLACE CABLE W45 (M1068A3 ONLY).....	0853 00
REPLACE LAN A OR B CABLE (W103/W104) (M1068A3 ONLY).....	0854 00
REPLACE CABLE W124 (M1068A3 ONLY).....	0855 00
REPLACE CABLE W126 (M1068A3 ONLY).....	0856 00
REPLACE AC CABLE ASSEMBLY (W252) (M1068A3 ONLY).....	0857 00
 CHAPTER 25 — UNIT MAINTENANCE INSTRUCTIONS FOR GAUGES	
SERVICE SPEEDOMETER/TACHOMETER CABLE FLEXIBLE CORE.....	0858 00
REPLACE SPEEDOMETER.....	0859 00
REPLACE SPEEDOMETER CABLE AND ADAPTER.....	0860 00
REPAIR SPEEDOMETER CABLE.....	0861 00
REPLACE TACHOMETER.....	0862 00
REPLACE TACHOMETER ENGINE ADAPTER.....	0863 00
REPLACE TACHOMETER CABLE.....	0864 00
REPAIR TACHOMETER CABLE.....	0865 00
 CHAPTER 26 — UNIT MAINTENANCE INSTRUCTIONS FOR DELETED	
DELETED.....	0866 00
 CHAPTER 27 — UNIT MAINTENANCE INSTRUCTIONS FOR PRECISION INSTRUMENTS AND SYSTEMS	
REPLACE DVE SENSOR SET ASSEMBLY POWER CABLE (M58 ONLY).....	0866 01
REPLACE DRIVER’S DISPLAY MOUNTING BRACKET (DVE) (M58 ONLY).....	0866 02
REPLACE AN/VVS-5 DRIVER’S VISION ENHANCER STOWAGE BRACKET (M58 ONLY).....	0866 03
REPLACE DRIVER’S VISION ENHANCER (DVE) AN/VVS-5 POWER SUPPLY CABLE (M58 ONLY).....	0866 04
REPLACE AN/VAS-5 DRIVER’S NIGHT VISION ENHANCER (DVE) SENSOR SET ASSEMBLY ADAPTER (M58 ONLY).....	0866 05
REPLACE COMMANDER’S DISPLAY MOUNTING BRACKET (DVE) (M58 ONLY).....	0866 06
REPLACE STE/ICE PULSE TACHOMETER.....	0867 00
REPLACE STE/ICE SHUNT GUARD (M113A3 AND M1059A3 ONLY).....	0868 00
DELETED.....	0869 00
REPLACE STE/ICE SHUNT (M113A3 AND M1059A3 ONLY).....	0870 00
REPLACE STE/ICE SHUNT (M577A3 AND M1068A3 ONLY).....	0871 00
DELETED.....	0872 00

**TABLE OF CONTENTS (cont)**

WP Sequence No.

REPLACE STE/ICE SHUNT (M1064A3 ONLY).....	0873 00
REPLACE STE/ICE DISTRIBUTION BOX (M113A3 AND M1059A3 ONLY).....	0874 00
REPLACE STE/ICE DISTRIBUTION BOX (M577A3 AND M1068A3 ONLY).....	0875 00
DELETED.....	0876 00
REPLACE STE/ICE DISTRIBUTION BOX (M1064A3 ONLY).....	0877 00
REPLACE STE/ICE CREW WIRING HARNESS (M113A3 AND M1059A3 ONLY).....	0878 00
REPLACE STE/ICE CREW WIRING HARNESS (M577A3 AND M1068A3 ONLY).....	0879 00
DELETED.....	0880 00
REPLACE STE/ICE CREW WIRING HARNESS (M1064A3 ONLY).....	0881 00
REPLACE STE/ICE ENGINE WIRING HARNESS.....	0882 00

CHAPTER 28 — UNIT MAINTENANCE INSTRUCTIONS FOR COMMUNICATION SYSTEM (M58 ONLY)

DELETED.....	0883 00
COMMUNICATION CABLING DIAGRAM (M58 ONLY).....	0884 00
REPLACE INTERCOMMUNICATIONS SET CONTROL (M58 ONLY).....	0885 00
DELETED.....	0886 00
REPLACE AS3916/VRC ANTENNA (M58 ONLY).....	0887 00
REPLACE INTERCOM AMPLIFIER (M58 ONLY).....	0888 00
DELETED.....	0889 00
DELETED.....	0890 00
REPLACE RADIO RACK (M58 ONLY).....	0891 00
REPLACE DRIVERS INTERCOMMUNICATION SET CABLE (M58 ONLY).....	0892 00
REPLACE COMMANDERS INTERCOMMUNICATION SET CABLE (M58 ONLY).....	0893 00
REPLACE OPERATORS INTERCOMMUNICATION SET CABLE (M58 ONLY).....	0894 00

CHAPTER 29 — UNIT MAINTENANCE INSTRUCTIONS FOR FIRE FIGHTING EQUIPMENT

REPLACE PORTABLE FIRE EXTINGUISHER MOUNT (ALL EXCEPT M1068A3).....	0895 00
REPLACE FIRE EXTINGUISHER AND MOUNT (M1059A3 ONLY).....	0896 00
REPLACE/REPAIR PORTABLE FIRE EXTINGUISHER MOUNT (M1068A3 ONLY).....	0897 00
REPLACE FIXED FIRE EXTINGUISHER CYLINDER AND MOUNT.....	0898 00
REPLACE CYLINDER DISCHARGE TUBES.....	0899 00
REPLACE TURBINE CYLINDER DISCHARGE TUBES (M58 ONLY).....	0900 00
REPLACE EXTERNAL HANDLE SHIELD (M113A3 AND M1059A3 ONLY).....	0901 00
REPLACE EXTERNAL HANDLE SHIELD (M577A3 AND M1068A3 ONLY).....	0902 00
REPLACE EXTERNAL HANDLE SHIELD (M1064A3 ONLY).....	0903 00
REPLACE FIRE EXTINGUISHER CONTROL VALVE AND EXTERNAL HANDLE.....	0904 00
REPLACE EXTERNAL CABLE TUBE.....	0905 00

CHAPTER 30 — UNIT MAINTENANCE INSTRUCTIONS FOR NUCLEAR, BIOLOGICAL, AND CHEMICAL (NBC) EQUIPMENT

DELETED.....	0906 00
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TABLE OF CONTENTS (cont)

WP Sequence No.

DELETED.....	0907 00
DELETED.....	0908 00
DELETED.....	0909 00
DELETED.....	0910 00
DELETED.....	0911 00
DELETED.....	0912 00
DELETED.....	0913 00
REPLACE NBC AIR PURIFIER AND FRAME (M58 ONLY).....	0914 00
REMOVE/INSTALL NBC HOSE ASSEMBLIES (M58 ONLY).....	0915 00
REPLACE NBC ORIFICE CONNECTOR ASSEMBLY, MOUNTING BRACKET, AND SWITCH (M58 ONLY).....	0916 00
REMOVE/INSTALL NBC CABLE ASSEMBLY (M58 ONLY).....	0917 00
INSTALL/REMOVE CHEMICAL AGENT AUTOMATIC ALARM KIT (M113A3 ONLY).....	0918 00
REPLACE CHEMICAL ALARM JUNCTION BOX/POWER CABLE/ALARM CABLE (M113A3 ONLY).....	0919 00
REPAIR CHEMICAL ALARM JUNCTION BOX (M113A3 ONLY).....	0920 00
REPLACE/REPAIR CHEMICAL ALARM SPARE BATTERY BRACKET (M113A3 ONLY).....	0921 00
REPLACE CHEMICAL ALARM REFILL TRAY BRACKET (M113A3 ONLY).....	0922 00
REPLACE CHEMICAL ALARM M43 UNIT INTERFACE WIRING HARNESSSES (M113A3 ONLY).....	0923 00
 CHAPTER 31 — UNIT SUPPORTING INFORMATION	
REFERENCES.....	0924 00
MAINTENANCE ALLOCATION CHART (MAC).....	0925 00
COMMON TOOLS AND SUPPLEMENTS AND SPECIAL TOOLS/FIXTURES LIST.....	0926 00
FABRICATED TOOLS.....	0927 00
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST.....	0928 00
M113A3 ELECTRICAL WIRING DIAGRAM.....	FP-1
M577A3/M1068A3 ELECTRICAL WIRING DIAGRAM.....	FP-15
DELETED.....	FP-31
DELETED.....	FP-47
M1059A3 ELECTRICAL WIRING DIAGRAM.....	FP-63
M1064A3 ELECTRICAL WIRING DIAGRAM.....	FP-77
M58 ELECTRICAL WIRING DIAGRAM.....	FP-91
M1068A3 SICPS ELECTRICAL EQUIPMENT.....	FP-107
M1068A3 SICPS POWER CONTROL ENCLOSURE A1.....	FP-113
STE/ICE.....	FP-117
M113A3 NBC WIRING DIAGRAM.....	FP-121



## HOW TO USE THIS MANUAL

### HOW TO USE THIS MANUAL

This manual tells you how to perform unit maintenance for the M113A3, M577A3, M1059A3, M1064A3, M58, and M1068A3 carriers.

Before starting a task or procedure, make sure you have read this HOW TO USE section and the General Maintenance Procedures Work Package.

### WHAT'S IN THE MANUAL — FRONT TO BACK

This TM is divided into chapters and front and rear matter. The chapters are further divided into Work Packages (WPs) for ease of use.

The WARNING SUMMARY section provides safety and first aid information. This section includes general warnings not found in the TM text and a list of the most important detailed warnings extracted from the WPs. All of these warnings cover hazards that could kill or injure personnel.

The TABLE OF CONTENTS lists the WPs in each chapter.

CHAPTER 1 covers General Information, Equipment Description and Data, Theory of Operation, and Repair Parts, Special Tools, TMDE, and Support Equipment. The Equipment Description WP gives a brief description of major parts and features of the vehicle. The Theory of Operation WP provides information that will help you understand how the vehicle components work.

CHAPTER 2 contains the troubleshooting WPs, which are used to find the cause of vehicle malfunctions.

CHAPTER 3 includes the Preventive Maintenance Checks and Services (PMCS) and other maintenance WPs. These WPs contain all the maintenance procedures authorized at the unit level.

CHAPTER 31 provides supporting information for the TM. It includes the following WPs:

The REFERENCES WP lists references to be used by personnel in operating and maintaining the carrier. These references include technical manuals and other publications.

The MAINTENANCE ALLOCATION CHART (MAC) WP contains a listing for the hull.

The EXPENDABLE/DURABLE SUPPLIES AND MATERIALS WP lists expendable supplies and materials used to maintain or repair the carrier.

The COMMON TOOLS AND SUPPLEMENTS AND SPECIAL TOOLS/FIXTURES WP lists the common tools, supplements, and special tools used to maintain or repair the carrier.

The FABRICATED TOOLS WP lists fabricated tools used to maintain or repair the carrier.

The INDEX is an alphabetical listing of all the major controls, procedures, indicators, systems, and subsystems covered in this manual. Each entry is cross-referenced to the WP number and page number.

ELECTRICAL WIRING DIAGRAMS for each carrier are at the end of the manual.

DA FORM 2028 is used to report errors and to recommend improvements for procedures in this manual. Three blank DA Forms 2028 are in the back of this manual. A sample is provided to show you how to fill out the DA Form 2028.

The back cover includes a METRIC CONVERSION CHART that can be used to convert U.S. customary measurements to their metric equivalents. Measurements in this manual are given in U.S. customary unit with metric units in parentheses.

### USING YOUR MANUAL ON THE JOB

The best way to learn about this manual is to practice using it. Knowing how to use this manual will save both time and energy.

### HOW TO USE THE WORK PACKAGES

#### How to find the WP you need

Pick a key word from the vehicle part or system to be used. Look in the INDEX for this key word or the name of the action you will perform. Turn to the WP and page indicated.

The INDEX lists each WP under one or more headings. For example, the WP titled REPLACE TOWING PINTLE could be found under the two headings "Pintle," and "Towing."

## HOW TO USE THIS MANUAL (cont)

### How to read the WP

Pay attention to all **WARNINGS**, **CAUTIONS**, and **NOTES**. These can appear in all types of procedures. They help you avoid harm to yourself, other personnel, and equipment. They also tell you things you should know about the procedure.

Before you start a procedure, get all the tools, supplies, and personnel you need to do the procedure. These items will be listed in the INITIAL SETUP of the WP.

Start with Step 1 and do each step in the order given. Numbered primary steps tell you **WHAT** to do. Alpha substeps tell you **HOW** to do it.

### Maintenance Procedures WPs

Maintenance Procedures WPs keep the carrier in shape to operate. Maintenance Procedures are used to present maintenance instructions. Each maintenance procedure details steps which you need to perform. If the vehicle and parts need maintenance that is not included in any procedure in the manual, notify your supervisor.

Read the INITIAL SETUP section carefully before you start any procedure. Get the tools and supplies listed and the personnel needed. Be sure the equipment is in the condition required.

Read all of the WP before starting. Follow the steps in the order given.

FOLLOW-THROUGH STEPS tell you what to do after the maintenance task is done. The words END OF TASK will tell you when you have finished the procedure.

### Troubleshooting WPs

Troubleshooting WPs help you locate faulty parts. They direct you to the maintenance procedure to correct these faults. Chapter 2, Troubleshooting contains detailed information on how to perform troubleshooting procedures. Read HOW TO USE TROUBLESHOOTING WP (WP 0005 00) before performing the troubleshooting procedures in the chapter.

### Preventive Maintenance Checks and Services (PMCS) WP

Preventive maintenance is required to keep your carrier in good running condition. The PMCS procedures for unit maintenance are performed on a periodic basis.

There are two types of PMCS for the vehicle, as follows:

The SEMI-ANNUAL PMCS must be done every 6 months or every 1,500 miles.

The ANNUAL PMCS must be done annually.

If anything seems wrong with the vehicle systems and you cannot fix it yourself, notify unit maintenance. Common things to watch for are loose bolts or damaged welds. Watch for worn insulation, loose clamps, and loose connectors when checking wiring harnesses.

### DEFINITION OF WP TERMS

#### Warnings, Cautions, And Notes

Pay attention to all warnings and cautions within the WP. Ignoring a warning could cause death or injury to yourself or other personnel. Ignoring a caution could cause damage to equipment. Notes contain facts to make the procedure easier. **WARNINGS**, **CAUTIONS**, and **NOTES** always appear just above the step to which they apply.

<b>WARNINGS</b>	Call attention to things that could kill or injure personnel. Warnings are also listed in the Warning Summary section (page a).
<b>CAUTIONS</b>	Call attention to actions or materials that could damage equipment.
<b>NOTES</b>	Contain important facts to make the procedure easier.

## HOW TO USE THIS MANUAL (cont)

### Helper

Helpers are needed in procedures that require more than one person. A helper may be needed to help lift objects or act as an outside observer.

If a helper is needed to perform a procedure, the INITIAL SETUP will list “Helper (H)” under the PERSONNEL REQUIRED heading.

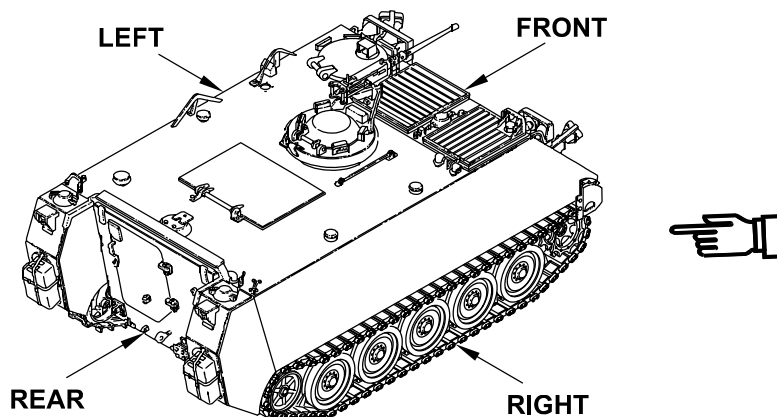
If a helper assists with a step or substep, the step or substep will include: “Have helper assist.”

If a helper performs the action alone, the step will start with “(H):.”

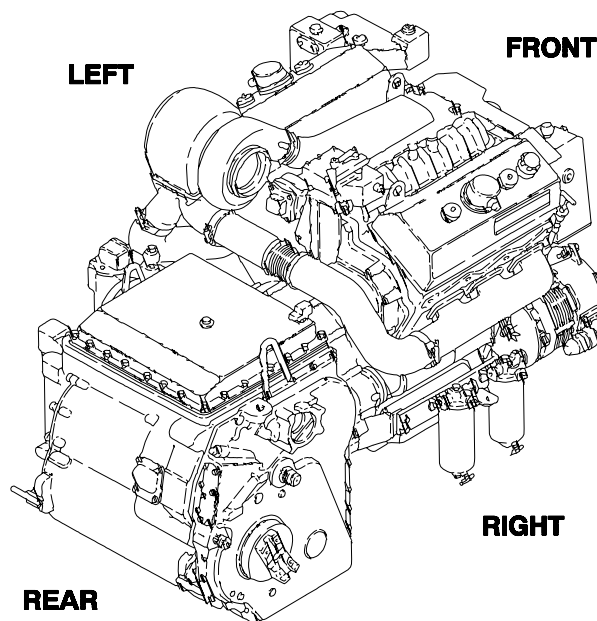
### Locational Terms

The terms “front,” “rear,” “left,” and “right” are used to indicate where items are located on the vehicle. The point of reference for these terms is different for *Carrier* items and *Power Unit* items. (Carrier items are items which are not on the power unit. Power unit items are items on the engine or transmission.)

If you are working with carrier items, use this point of reference. Think of the location as if you were sitting in the driver’s seat looking out the hatch.



If you are working with power unit items, use this point of reference. Think of the location as if you were standing at the transmission end of the power unit and facing the flywheel. This rule applies whether the power unit is IN or OUT of the carrier.



## HOW TO USE THIS MANUAL (cont)

### REFERENCES

References within a procedure refer to a different manual or to another procedure in the same manual. They are found in the INITIAL SETUP and in the FOLLOW-THROUGH steps. For example.

MASTER SWITCH OFF (see your -10)

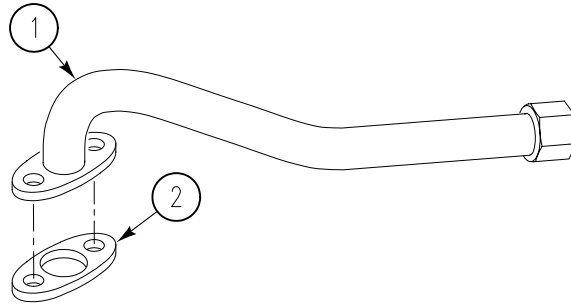
Battery ground lead disconnected (WP 0337 00 and WP 0338 00)

For all procedures, the following comments apply:

- Parts which are discarded when removed will be referred to as “new” in the procedure step when installed. Examples are: gaskets, lockwashers, some preformed packings, and some retaining rings.
- These and other new parts are listed under MATERIALS/PARTS in the INITIAL SETUP.

### GENERAL MAINTENANCE

Cleaning, inspecting, checking for leaks, and similar procedures which apply to most procedures are found under PMCS and GENERAL MAINTENANCE INSTRUCTIONS (WP 0155 00). Use these steps to clean and inspect any part being removed, repaired, or installed. Special cleaning will be covered in the procedure step. Below is a step that would require general cleaning.



5. Remove gasket (2) from upper tube flange (1). Discard gasket.

After performing this step, you would clean the mating surface with cleaning compound and a wiping rag according to the general cleaning procedures. In other procedures, hoses or rubber hatch seals will need to be checked for leaks. Refer to PMCS and GENERAL MAINTENANCE INSTRUCTIONS (WP 0155 00) for general procedures.



## HOW TO USE THIS MANUAL (cont)

### HOW TO USE THE REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) WITH THIS MANUAL

The RPSTL (TM 9-2350-277-24P) gives the National Stock Number (NSN) required to order parts used in the maintenance procedure. To use the RPSTL to identify and order a part, do the following:

1. In this manual, turn to the first page of the procedure to be performed.
2. Find Materials/Parts under INITIAL SETUP and read the part(s) that need replacement. If required, find the illustrated part in the procedure steps.
3. Go to the RPSTL and find the same illustrated part. That part will have an item number assigned to it. Look this item number up in the listing for that figure. Use the figure and item number index to find the NSN.
4. If you inspect an item and find that it is damaged, go to the RPSTL and find the SMR code for the item. If the SMR code does not authorize you to repair the item, reassemble it and send it to the authorized level of maintenance.
5. The usable on code in the RPSTL appears in the lower left corner of the Description column heading. Usable on codes are shown as 'UOC.... ...' in the Description column (justified left) on the first line following the item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes in the RPSTL are:

**Table 1. RPSTL Usable On Codes**

<b>Code</b>	<b>Used on</b>
APC	M113A3 Carrier, Personnel
AP5	M577A3 Carrier, Command Post
AP2□	M1064A3 Carrier, 120 mm Mortar
AP6	M1059A3 Carrier, Smoke Generator
AP3	M1068A3 Carrier, Standardized Integrated Command Post System (SICPS)
AP8	M58 Carrier, Mechanized Smoke Obscurant



CHAPTER 1

UNIT INTRODUCTORY INFORMATION WITH THEORY OF OPERATION

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**WORK PACKAGE INDEX**

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<u>Title</u>	<u>Sequence No.</u>
GENERAL INFORMATION.....	.0001 00
EQUIPMENT DESCRIPTION.....	.0002 00
THEORY OF OPERATION.....	.0003 00
REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.....	.0004 00



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**GENERAL INFORMATION**

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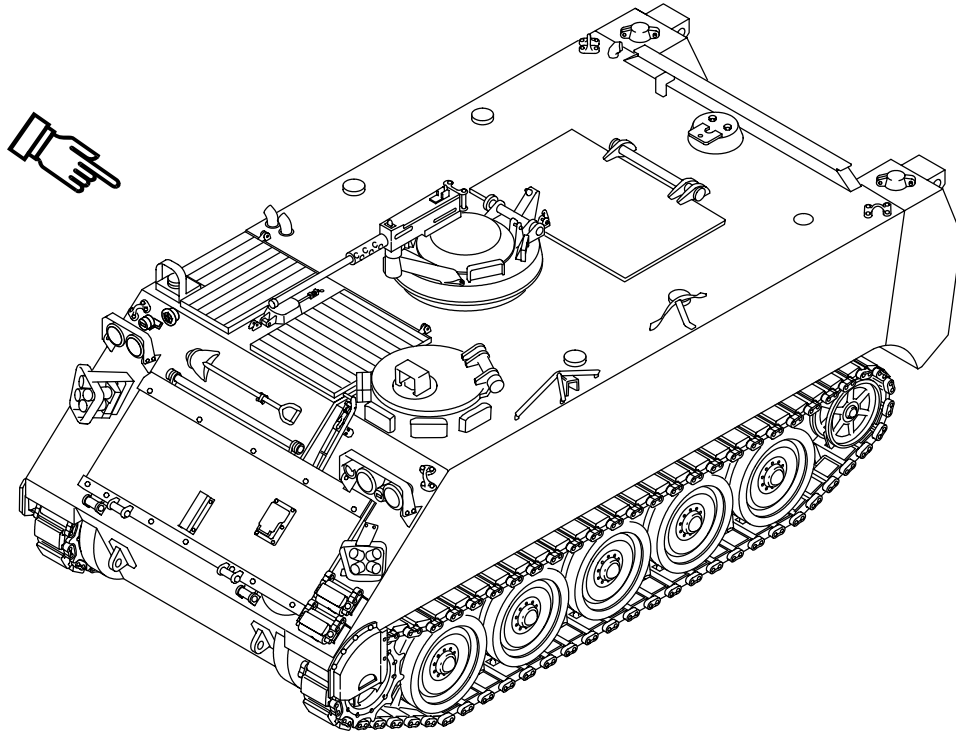
**0001 00****SCOPE**

**Type of Manual:** Unit Maintenance

**Equipment Model Number, Name, and Purpose:**

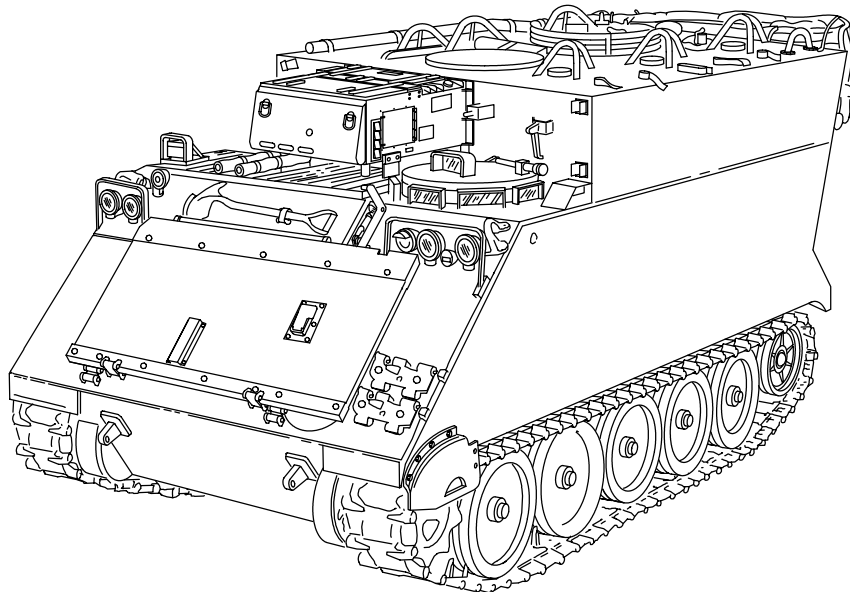
**M113A3** – Armored Full Tracked Personnel Carrier

**Purpose:** Transportation and positioning of combat troops and supplies.



**M577A3** – Light Tracked Command Post Carrier

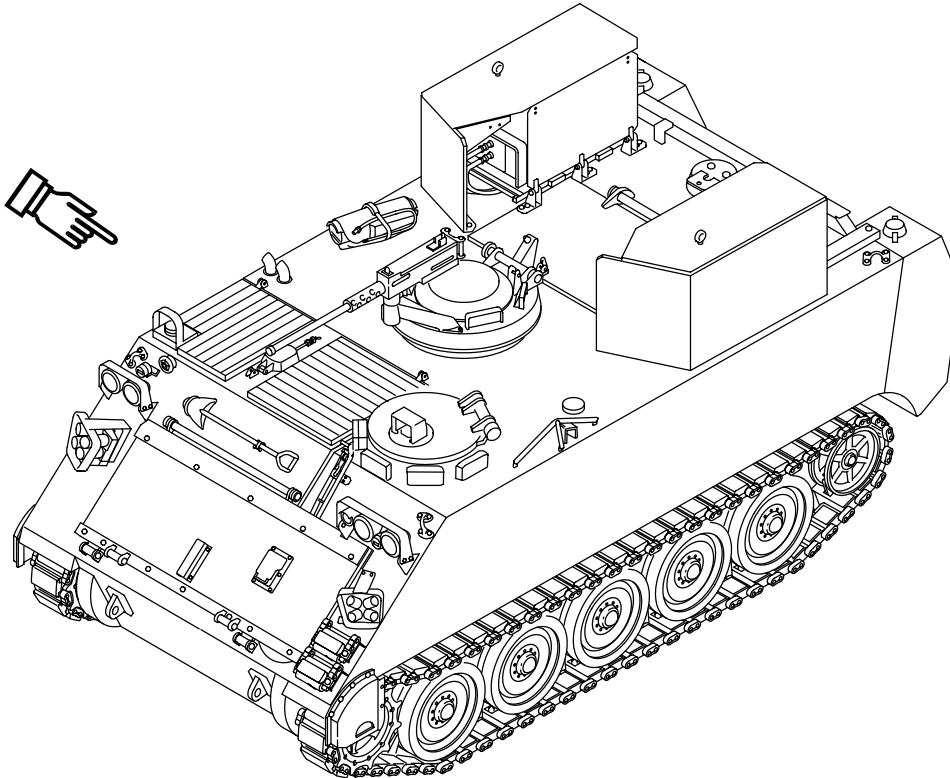
**Purpose:** Provides protection and mobility for field commanders in a tactical environment.



**M1059A3** – Full Tracked Smoke Generator Carrier

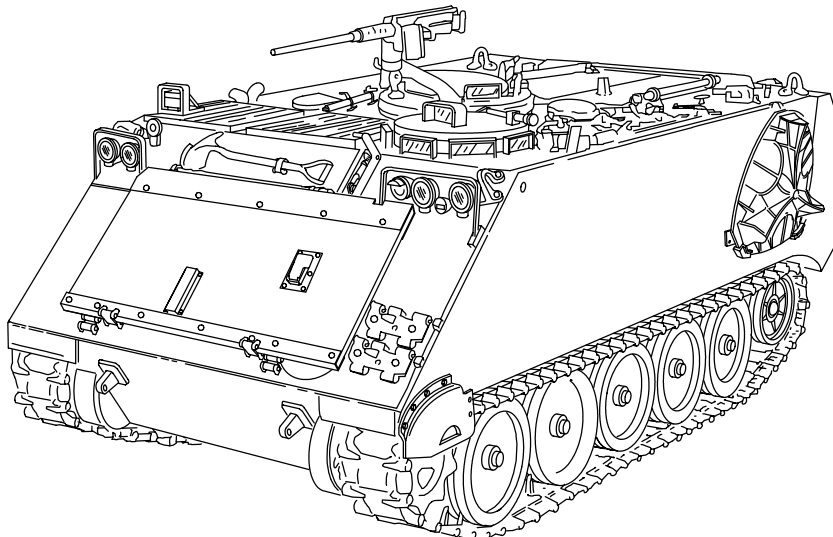
Purpose: Designed to generate a smoke screen in the battlefield environment.

Other Applicable Manuals: See TM 3-1040-279-12&P for operator's instructions, unit maintenance, and repair parts for smoke generator set M157A2.

**M1064A3** – Self-propelled 120-mm M121 Mortar Carrier

Purpose: Provides mobility for the 4.7-inch (120-mm) mortar M121 or M120. The M121 can be fired from a turntable mounted in the carrier. The M120 can be fired from a portable mount off the carrier.

Other Applicable Manuals: See TM 9-1015-250-23&P for unit and DS maintenance and repair parts for the 4.7-inch (120-mm) mortar M121 or M120.

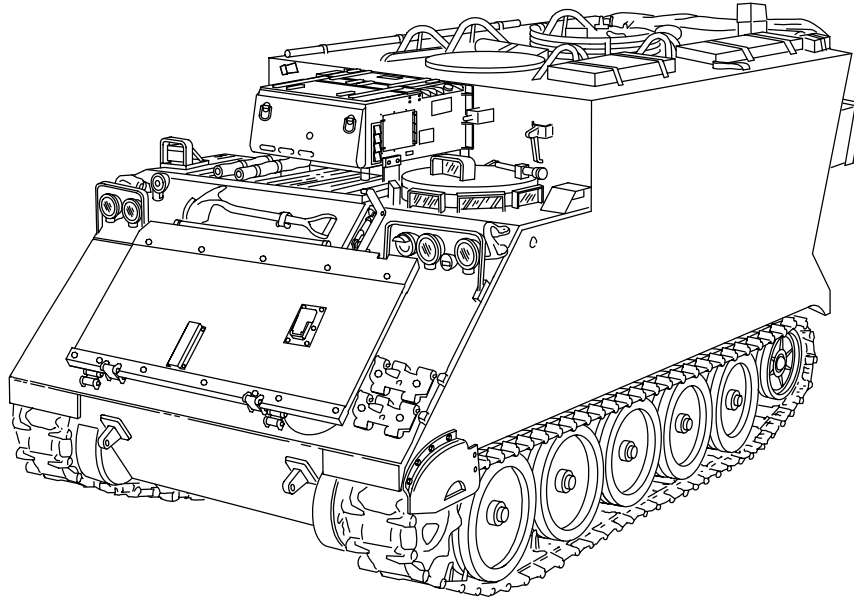


**M1068A3** – Standardized Integrated Command Post System (SICPS) Carrier

Purpose: Designed as a command post and field office to support the various configurations and installation layouts of the Army Tactical Command and Control System (ATCCS) and provide protection for field commanders in a tactical environment.

Other Applicable Manuals: See TM 11-7010-256-12&P for operator's instructions, unit maintenance, and repair parts for SICPS equipment.

See TM 10-5410-229-13&P for operator's instructions, unit and DS maintenance, and repair parts for the Modular Command Post System (MCPS) tent and related parts.

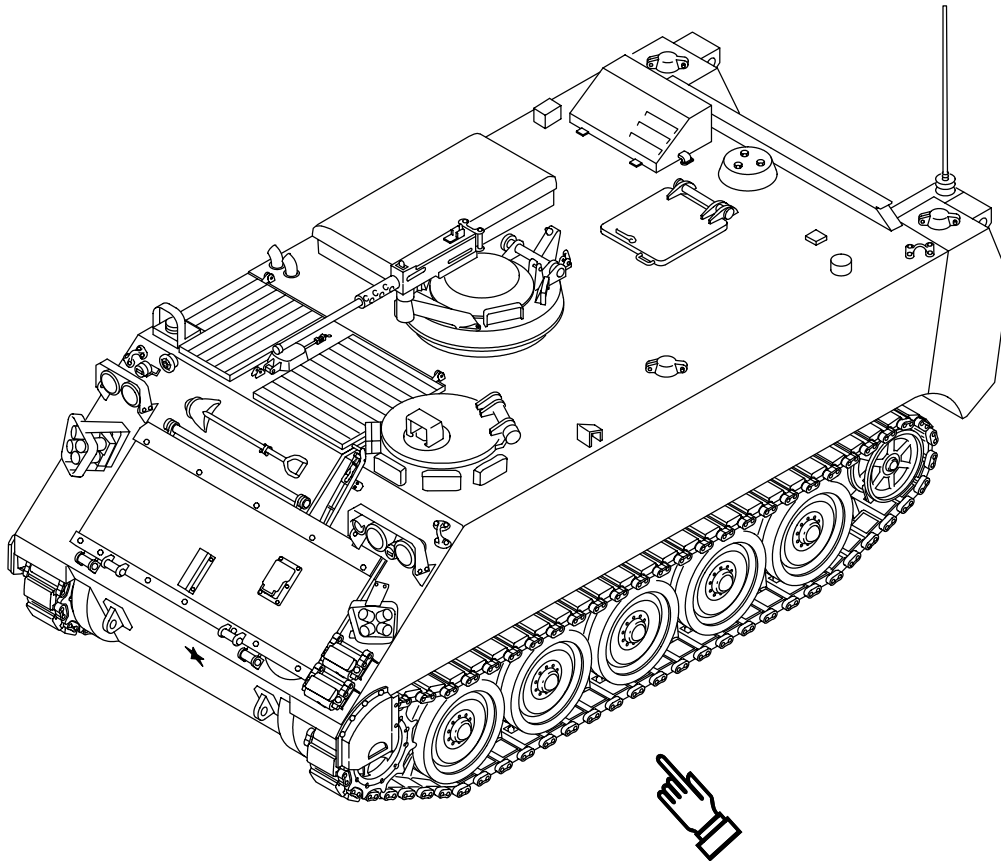


**M58 Mechanized Smoke Obscurant Carrier**

Purpose: Designed to provide large area smoke screens in support of various tactical situations. Smoke can be generated in a static position or on the move.

Other Applicable Manuals: See TM 3-1040-285-10 for operator's instructions for the mechanized smoke obscurant system smoke generator.

See TM 3-1040-285-20 for unit maintenance for the mechanized smoke obscurant system smoke generator.





**MAINTENANCE FORMS, RECORDS, AND REPORTS**

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 750-8, Functional User’s Manual for the Army Maintenance Management System (TAMMS).

**REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)**

If your carrier 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. Tell us why a procedure is hard to perform. Put your ideas on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, US Army Tank-automotive Armaments Command, ATTN: AMSTA-TR-QCL, Warren, MI 48397-5000. We will send you a reply.

**CORROSION PREVENTION AND CONTROL (CPC)**

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.

Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking.

Plastics, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking.

SF Form 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 750-8, Functional User’s Manual for the Army Maintenance Management System (TAMMS).

**DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE**

See the following technical manuals for information on destruction of Army materiel:

- TM 750-244-2
- TM 43-0002-33
- TM 750-244-6
- TM 750-244-7

**PREPARATION FOR STORAGE OR SHIPMENT**

For information about administrative storage or shipment of the carriers, see the following documents:

Specification	Applicable Carriers
MIL-DTL-45360	M113A3, M1064A3, M1059A3, M58
ATPD 2227	M577A3 & M1068A3

**CAUTION**

**To avoid damage to commander’s interface (CI) keyboard cable connector, disconnect cable and install dust protective cap prior to placement of CI into carrying case.**

For information about storage or shipment for the Mortar Fire Control System (MFCS), follow unit standard operating procedures (SOP).

**NOMENCLATURE CROSS-REFERENCE**

This listing includes nomenclature cross references used in this manual.

<b>Adapter</b>	Nipple, pipe, union
<b>Battery clamp</b>	Battery terminal adapter
<b>Battery clamp</b>	Terminal lug

## GENERAL INFORMATION — Continued

0001 00

<b>Bilge pump</b>	Rotary pump
<b>Breather</b>	Air filter intake
<b>Bulb</b>	Incandescent lamp
<b>Coolant gauge</b>	Temp indicator
<b>Detector</b>	Liquid transmitter
<b>Dipstick</b>	Liquid level gauge rod
<b>Drain plug</b>	Pipe plug
<b>Engine oil filter</b>	Fluid pressure filter
<b>Engine oil gauge</b>	Dial pressure gauge
<b>Exhaust collector</b>	Exhaust connection
<b>Fastener</b>	Toggle pin
<b>Fire bottle</b>	Compression gas cylinder
<b>Fluid level detector</b>	Liquid transmitter
<b>Fuel control cable</b>	Fuel control
<b>Fuel filter</b>	Fluid filter
<b>Fuel gauge</b>	Liquid quantity gauge
<b>Gear box</b>	Mechanical housing
<b>Grease fitting</b>	Lubrication fitting
<b>Hand brake</b>	Parking brake lever
<b>Hatch</b>	Hatch cover
<b>Hinge pin</b>	Headless straight pin
<b>Hinge pin</b>	Machine bolt
<b>Horn switch</b>	Push switch
<b>Hub</b>	Support
<b>Hydraulic power unit</b>	Ramp power unit
<b>Indicator light</b>	Indicator lamp
<b>Inlet grill</b>	Intake grill
<b>Jack</b>	Receptacle
<b>Jamnut</b>	Hexagonal nut
<b>Key washers</b>	Locking plates
<b>Link</b>	Plain rod bearing
<b>Locknut</b>	Self-locking nut
<b>Lockscrew</b>	Self-locking bolt
<b>Parking brake lever</b>	Manual control lever
<b>Plug</b>	Connector
<b>Propeller shaft</b>	Flexible drive shaft
<b>Quick disconnect</b>	Quick coupling half
<b>Road wheel</b>	Solid rubber wheel
<b>Rod</b>	Connecting link

Screen	Metal grill
Screw	Machine bolt
Shim	Spacer
Shim pack	Spacer assortment
Splined shaft	Output carrier
Starter switch	Interlock switch
Stoptlight	Taillight
Stowage box	Vehicular accessory box
Tie strap	Electric tiedown strap
Switch	Circuit breaker
Throttle control cable	Throttle control
Towing pintle	Pintle hook latch
Turn signal assembly	Vehicle directional light
Universal joint	Universal joint spider
VSFD	Variable speed fan drive
VSFD	Cooling system pump (old configuration)

**LIST OF ABBREVIATIONS / ACRONYMS**

Many abbreviations are used in this manual. They are listed below. Learn what each one means, it will make your job easier.

AC	Alternating Current
AOAP	Army Oil Analysis Program
APU	Auxiliary Power Unit
ATCCS	Army Tactical Command and Control System
BATT	Battery
BO	Blackout
BRT	Bright
CARC	Chemical Agent Resistant Coating
CB	Circuit Breaker
CI	Commander's Interface
CO2	Carbon Dioxide
DAGR	Defense Advanced GPS Receiver
DC	Direct Current
DD	Driver's Display
DVE	Driver's Vision Enhancer
EIR	Equipment Improvement Recommendation
FDC	Fire Direction Center
FRH	Fire Resistant Hydraulic Fluid
FOV	Family of Vehicles
GAA	Grease, Automotive and Artillery
GD	Gunner's Display

<b>GEN</b>	Generator
<b>IN</b>	Inch
<b>IN-LB</b>	Inch Pound
<b>IR</b>	Infrared
<b>LB</b>	Pound
<b>LB-FT</b>	Pound Feet
<b>MCPS</b>	Modular Command Post System
<b>MFCS</b>	Mortar Fire Control System
<b>MPH</b>	Miles Per Hour
<b>MTOE</b>	Modified Table of Organization and Equipment
<b>NBC</b>	Nuclear, Biological, and Chemical
<b>OC</b>	On-Condition
<b>PD</b>	Pointing Device
<b>PMCS</b>	Preventive Maintenance Checks and Services
<b>PSI</b>	Pounds per Square Inch
<b>RPM</b>	Revolutions Per Minute
<b>RPSTL</b>	Repair Parts Special Tools List
<b>SCIPS</b>	Standardized Integrated Command Post System
<b>STE/ICE</b>	Standard Test Equipment Internal Combustion Engine
<b>TAMMS</b>	The Army Maintenance Management System
<b>TBD</b>	To Be Determined
<b>TM</b>	Technical Manual
<b>TRANS</b>	Transmission
<b>V</b>	Volt
<b>VSFD</b>	Variable Speed Fan Drive
<b>WP</b>	Work Package

Metric equivalents are used throughout this manual. Metric symbols and units are:

<b>SYMBOL</b>	<b>UNIT</b>
C	Celsius
cc	cubic centimeter
cm	centimeter
j	joule
kg	kilogram
kg/min	kilogram per minute
km	kilometer
km/h	kilometer per hour
kPa	kilopascal

kw hr	kilowatt hour
l	liter
m	meter
mm	millimeter
N·m	Newton-meters

**QUALITY OF MATERIAL**

Material used for replacement, repair, or modification must meet the requirements of this TM. If quality of material requirements are not stated in this manual, the material must meet the requirements of the drawings, standards, specifications, or approved engineering change proposals applicable to the subject equipment.

**SAFETY, CARE, AND HANDLING**

Read warnings in WARNING SUMMARY.



**EQUIPMENT DESCRIPTION**

**0002 00**

**CAPABILITIES AND FEATURES**

For equipment characteristics, capabilities, and features, see your -10.

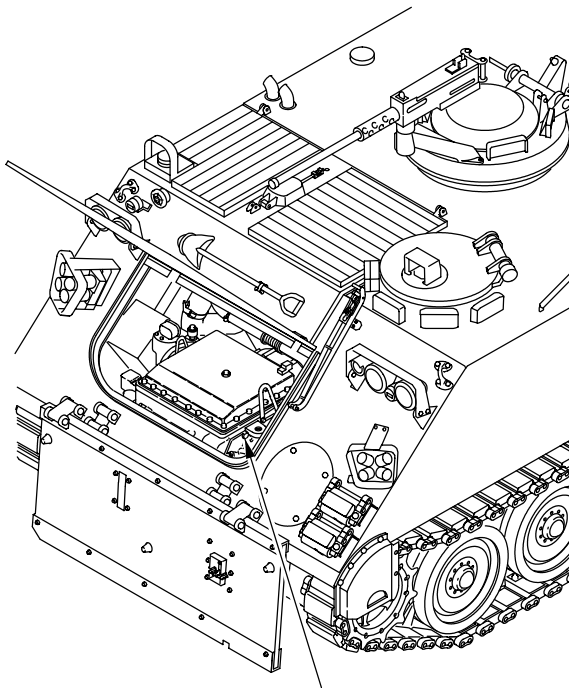
**LOCATION AND DESCRIPTIONS OF MAJOR COMPONENTS**

**ENGINE**

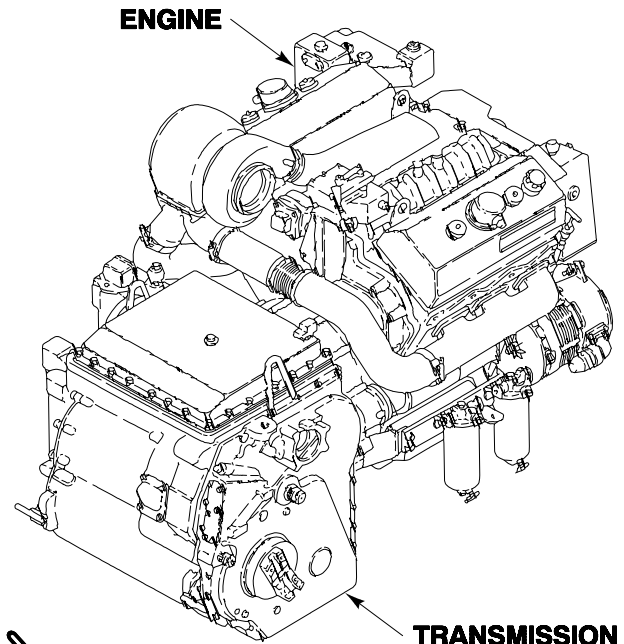
A six-cylinder, turbocharged diesel engine (6V53T) is located in the power plant compartment.

**TRANSMISSION**

A hydrostatic transmission (X200-4 or 4A) connects to the engine and powers the final drives.

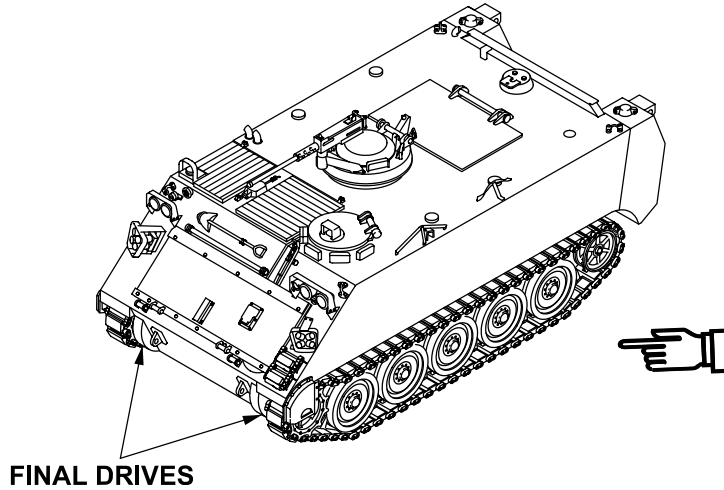


**POWER PLANT COMPARTMENT**



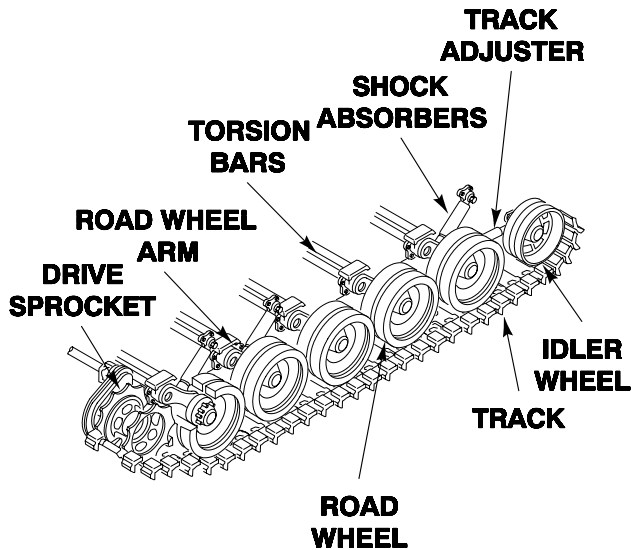
**FINAL DRIVES**

Final drives attach to the transmission by propeller shafts. They deliver power to drive sprockets at the front of the carrier.



**TRACKS AND SUSPENSION**

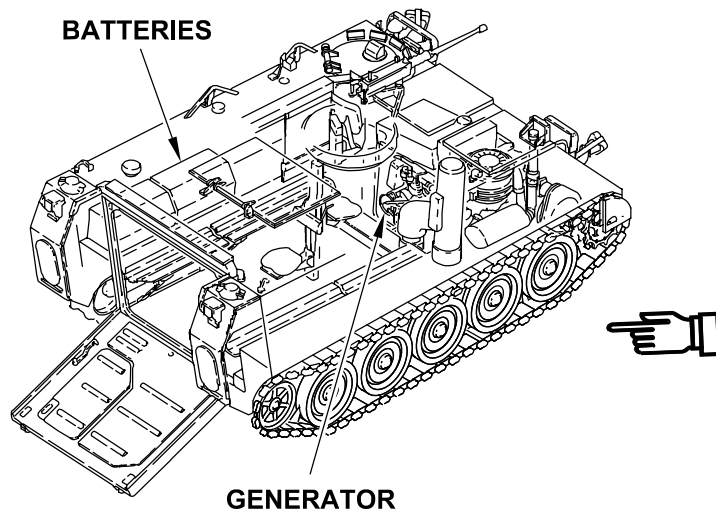
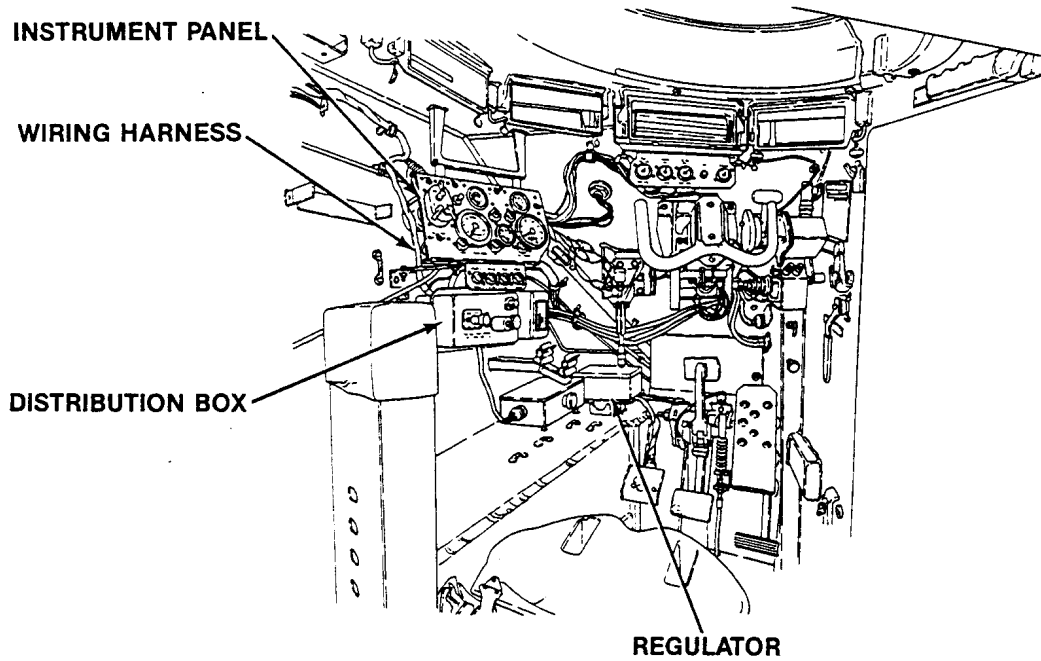
Drive sprockets at the front of the carrier drive the two tracks. Torsion bars and shock absorbers attach to road wheels and provide suspension.





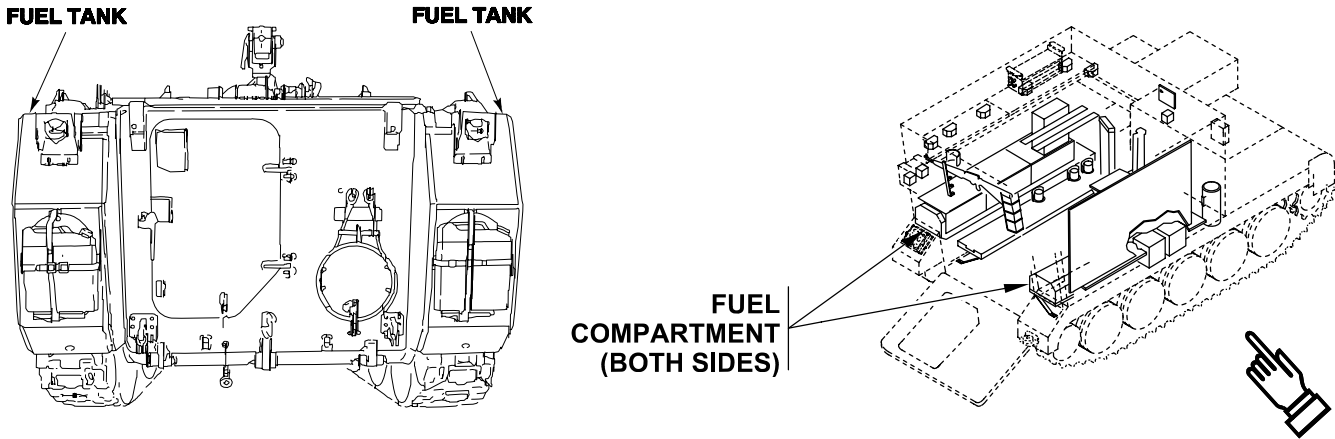
**ELECTRICAL**

Four 12-volt batteries supply electricity through the distribution box to the carrier. On the M113A3 and M1059A3 carriers, the four batteries are located on the left sponson. On the M577A3 and M1068A3 carriers, the four batteries are located on the right sponson next to the personnel heater. On the M1064A3 carrier, two batteries are located in a drawer on the left sponson behind the driver and two batteries are located under the right personnel seat.



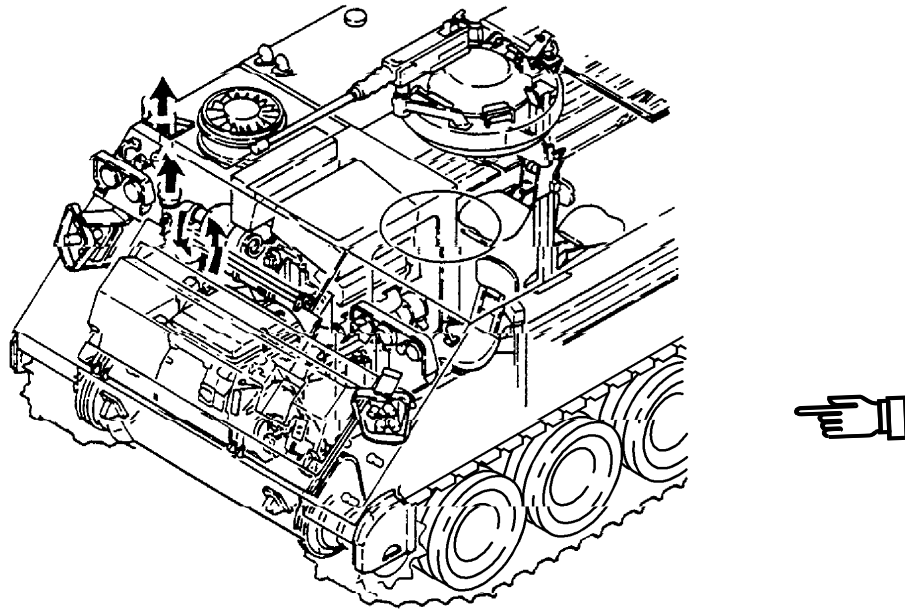
**FUEL SYSTEM**

The M113A3, M1059A3, and M1064A3 carriers have two external fuel tanks located at the rear of the carrier on each side of the ramp. Total capacity is 95 gallons. The M577A3 and M1068A3 carriers have two internal fuel tanks located on the rear left and right sponsons under work tables. Total capacity is 120 gallons.



**EXHAUST SYSTEM**

The exhaust system drives the turbocharger and carries exhaust gases through manifolds and muffler.



**DIFFERENCES BETWEEN CARRIERS**

This manual covers six different carriers. The major differences can be determined from the chart below. Minor differences are described under SCOPE in each chapter or section.

DIFFERENCES BETWEEN CARRIERS						
Equipment	M113A3	M577A3	M1059A3	M1064A3	M1068A3	M58
<b>Fuel Tanks:</b>						
External	X	—	X	X	—	X
Internal	—	X	—	—	X	—
Commander's Cupola	X	—	X	X	—	X
Cargo Hatch	X	—	X	—	—	—
<b>Armament:</b>						
50 Caliber Machine Gun	X	—	X	X	—	X
120-mm Mortar	—	—	—	X	—	—
<b>Sighting Materiel:</b>						
Periscope M17	X	X	X	X	X	X
Driver's Night Vision AN/VVS-1A	X	X	X	X	X	—
AN/VAS-5 DVE	—	—	—	—	—	X
Smoke Generator	—	—	X	—	—	X
ATCCS Common Hardware	—	—	—	—	X	—
Fiber Optics	—	—	—	—	X	—
Tent/Covered Ext.	—	X	—	—	X	—
5.0 KW Auxiliary Power Unit*	—	X	—	—	X	—
4.2 KW Generator Set and Cover	—	X	—	—	X	—
Standard Personnel Heater	—	X	—	—	X	—
<b>Kits:</b>						
Personnel Heater	X	—	X	X	—	X
Engine Coolant Heater	X	X	X	X	X	X
Artillery Communication	—	X	—	—	X	—
Capstan & Anchors	—	—	X	—	—	—
Chemical Agent Auto Alarm	X	—	—	—	—	—
Driver's Windshield	X	X	X	X	X	X
Litter	X	—	—	—	—	—
Machine Gun Armor Shield	X	—	—	X	—	—
NBC Mounting	X	X	—	X	X	X
Smoke Grenade Launcher	X	—	X	—	—	X
Mine Armor	X	—	—	—	—	—
Mortar Fire Control System (MFCS)	—	X	—	X	—	—

**NOTE**

\*The 5.0 kW APU can replace 4.2 kW generator set, using Technical Bulletin (TB) 9-2350-277-34-2. The TB tells you how to modify and install the kit. The kit needs to be ordered along with the APU through your unit.

**EQUIPMENT DATA**

For equipment data, see your -10.

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**THEORY OF OPERATION**

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**0003 00****SCOPE**

This section describes how major systems and components of the carrier operate. An understanding of how each part functions in a system and how components relate to each other will help solve possible maintenance problems with the carrier.

**POWER PLANT**

The power plant consists of the diesel engine and transmission. The fuel, exhaust, cooling, starter, generator, and engine air systems are support systems for the power plant.

**DIESEL ENGINE**

The diesel engine is the primary source of power for the carrier. The engine converts air and diesel fuel into energy and delivers this power to the transmission.

**STARTER**

The engine is equipped with a heavy duty starter. The starter, with built-in solenoid, is used to crank the engine for starting.

**GENERATOR**

The generator is part of the carrier electrical system. It is driven directly by engine power. The generator charges the batteries in the carrier when the engine is running. A regulator mounted in the driver's compartment keeps the voltage at correct levels.

**OIL SYSTEM**

Oil system provides lubrication for the engine. Oil is cycled throughout the engine by a pump. The pump is located internally behind the front engine cover. An oil filter cleans the oil, and an oil cooler reduces oil temperature.

**FUEL SYSTEM**

Diesel fuel is stored in two fuel tanks located at the rear of the carrier. Fuel is drawn from fuel tanks by the fuel pump which pumps fuel through filters to the engine injectors. The injectors force fuel into combustion cylinders where it is mixed with air and changed into energy.

**TRANSMISSION**

The carrier uses hydromechanical transmission with hydrostatic steering. The transmission has its own oil system with filters and separately mounted oil cooler. This transmission oil system is separate from the engine oil system.

The transmission delivers power from the engine to the left and right final drives. The left and right final drives are driven by propeller shafts. The final drives deliver power to drive sprockets in the suspension system.

**EXHAUST SYSTEM**

Major exhaust system parts are the turbocharger, exhaust manifolds, muffler, and exhaust pipes.

The turbocharger is driven by exhaust gases from the engine. The turbocharger helps the engine develop more power and operate more efficiently. The exhaust manifolds carry the exhaust gases to the turbocharger from the engine. The muffler cuts down engine noise and allows exhaust to escape through the exhaust pipes to outside of the carrier.

**COOLING SYSTEM**

The cooling system cools the engine and transmission. It consists of a fan, fan drive, fan speed control assembly, radiator, coolant pump, auxiliary tank, transmission oil cooler, engine oil cooler, and thermostats. The cooling system contains

approximately 14.8 gallons of liquid coolant. The liquid coolant is cycled through the engine and transmission oil cooler by the coolant pump. This process keeps the engine and transmission temperature in a safe operation range.

As coolant flows through the engine, it absorbs heat from the engine and transmission. The heated coolant then flows to the radiator to remove coolant heat. The coolant fan pulls outside air in and through the radiator to remove heat. The fan is powered by the engine through a fan drive.

The radiator auxiliary tank acts as an overflow tank to keep the cooling system from overpressurizing. It also removes air from the engine coolant. There is a low coolant level transmitter to signal the operator if more coolant is needed.

## **ENGINE AIR SYSTEM**

The engine air system allows air to enter the engine. The air cleaner cleans air that enters the engine. Dust is drawn out through a scavenge outlet. Air is filtered through a reusable filter element before delivery to the engine. An air filter indicator shows when the element is clogged and needs cleaning or replacing. After being filtered, the air moves through the turbocharger and into the engine cylinders.

## **AUXILIARY AUTOMOTIVE SYSTEM**

The auxiliary automotive system includes driver controls, fuel cells, personnel heater, bilge pumps, crew ventilation system, and fire suppression system.

## **DRIVER CONTROLS**

The driver controls regulate the engine, transmission, and steering braking systems of the carrier.

The fuel shutoff control is used to stop the supply of fuel to the engine injectors. To start the engine, the driver must open the valve. The throttle linkages are used to control the engine speed. The gear selector allows the driver to choose the proper gear for the carrier. The steering system controls the direction of the carrier. The steering control consists of a steering wheel and linkage connected to the transmission.

The brake system allows the driver to stop a moving carrier and hold the carrier in position. The braking system consists of the service brake and the parking brake. The service brakes are hydraulic and applied by pedal. The parking brake mechanically locks the transmission brakes to prevent carrier movement. Also, the system has levers, rods, shafts, and linkages connecting to the brake shaft of the transmission.

## **PERSONNEL HEATER**

The personnel heater system provides heat inside the carrier. Major parts are the combination combustion chamber/heat exchanger, blowers, a fuel pump, and an electrical control and safety system. The heater operates using diesel fuel drawn from the fuel tanks. Fuel is delivered to the combustion chamber from the fuel pump. Outside air is drawn into the combustion chamber by one of the blowers. A blower draws air from the crew compartment into the combustion chamber. The air is warmed by heat by the combustion process and then returned to the crew compartment.

## **BILGE PUMPS**

Two electrically driven bilge pumps remove water and other liquids from the hull. Water enters the pumps through a screened inlet. The pumps force water out of the carrier through outlet tubes. The bilge pumps are controlled by a switch on the driver's instrument panel.

## **HYDRAULIC SYSTEM**

The ramp is raised or lowered by an hydraulic system which consists of a pump, a cylinder, a control valve, and an hydraulic tank. This system is controlled by a three position valve located near the driver. Moving the valve to either RAISE or LOWER position directs fluid to the appropriate port on the ramp cylinder.

## FIRE EXTINGUISHER SYSTEM

The fire extinguisher system consists of two CO<sub>2</sub> (Carbon Dioxide) cylinders, one fixed and one portable. Carbon Dioxide can put out fires quickly and effectively. The fixed cylinder only extinguishes fires in the power plant compartment. It is located behind the driver and is actuated manually by a handle/knob on the cylinder or by an external handle connected to the cylinder by a cable. The portable fire extinguisher is located in the crew compartment and is manually discharged.

## SUSPENSION SYSTEM

The suspension system supports the carrier and delivers engine power to the road. It allows the carrier to maneuver and be stable. Suspension system parts are the drive sprockets, tracks, idler wheels, track tension adjuster, road wheels, and support arms. Also, there are torsion bars and shock absorbers.

The drive sprockets drive the tracks. They are powered by left and right final drives from the transmission. The tracks consist of two flexible chains of track shoes. The tracks ride on the drive sprockets and are guided by idler wheels. The idler wheels can be adjusted to maintain correct track tension.

There are five pairs of road wheels per side. Track centerguides fit between each pair of road wheels. Road wheels and torsion bars are connected to support arms. The torsion bars act as springs to keep the road wheels on the ground and from hitting the bottom of the carrier.

## ELECTRICAL SYSTEM

The electrical system provides power for the carrier. The system operates on wet cell batteries and includes charging, regulating and monitoring equipment. The batteries provide a normal operating 24 volts with an amperage capability of 200 amps per hour.

The batteries supply the carrier with electricity when the engine is off. All electrical power is delivered through the distribution box. Electrical power flows from the batteries through the distribution box, cables, and wiring assemblies to the electrical equipment. The hull is a ground for the electrical system.

The generator recharges the batteries and supplies electricity while the engine is running. The generator has 200 amps per hour capability.

There are several electrical subsystems within the hull. Each subsystem contains at least one wiring assembly. Major electrical subsystems and assemblies are:

*Interior and Exterior Lights.* Exterior lights include standard headlights, infrared headlights, taillights/stoptlights, and blackout lights. Interior lights include domelights and panel lights.

*Starting and Charging.* A generator with a regulator keeps the batteries charged to operating voltage. A starter with a built-in solenoid is used to crank the engine for starting.

*Ventilation and Heating.* All carriers have a manual open-close ventilator located at the rear of the crew compartment. The M577A3 and M1068A3 carriers also include an electric ventilation fan controlled by a switch on the master switch panel (M577A3 and M1068A3). The personnel heater is controlled by a heater control box which provides electric power for starting and operating the heater. The control box is connected to the carrier batteries so that the heater can be operated without turning the MASTER SWITCH ON.

*Bilge Pumps.* Two pumps, one in the front and one in the rear of the carrier, remove any water that may have entered the carrier. Both pumps are controlled by a switch on the driver's instrument panel.

## SPECIAL EQUIPMENT

For information on special purpose kits, refer to Chapter 22.

## WINTERIZATION EQUIPMENT

Personnel heaters are standard equipment on M577A3, M1068A3, and M58 carriers. Since maintenance of heater components is the same for both standard heaters and kit heaters, they are only covered in one place in this manual. See Chapter 22 for maintenance of heater components.





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**REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT**

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**0004 00**

**COMMON TOOLS AND EQUIPMENT**

For authorized common tools and equipment, refer to Modified Table of Organization and Equipment (MTOE) for your unit.

**SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT**

Special tools and support equipment are needed for unit maintenance. They are listed in Repair Parts and Special Tools List (RPSTL) TM 9-2350-277-24P. Common tools and supplements and special tools and fixtures are listed in WP 0926 00.

**REPAIR PARTS**

Repair parts are listed and illustrated in the Repair Parts and Special Tools List (RPSTL) TM 9-2350-277-24P, covering unit maintenance for this equipment.



CHAPTER 2

UNIT TROUBLESHOOTING PROCEDURES

**WORK PACKAGE INDEX**

<u>Title</u>	<u>Sequence No</u>
INTRODUCTION TO HOW TO USE TROUBLESHOOTING .....	0005 00
MALFUNCTION/SYMPTOM INDEX WP.....	0006 00
ENGINE CHARGING SYSTEM SCHEMATIC .....	0007 00
DELETED .....	0008 00
ENGINE FUEL SYSTEM SCHEMATIC (ALL EXCEPT M577A3 AND M1068A3).....	0009 00
ENGINE FUEL SYSTEM SCHEMATIC (M577A3 AND M1068A3 ONLY) .....	0010 00
ENGINE STARTER CIRCUIT SCHEMATIC.....	0011 00
DELETED .....	0012 00
ENGINE AIR BOX HEATER SCHEMATIC .....	0013 00
ENGINE OVERHEATS (OLD VSFD CONFIGURATION) .....	0014 00
ENGINE OVERHEATS (NEW VSFD CONFIGURATION) .....	0014 01
ENGINE OVERCOOLS .....	0015 00
ENGINE DOES NOT CRANK.....	0016 00
ENGINE DOES NOT START (COLD WEATHER ONLY).....	0017 00
WAIT INDICATOR FLASHES DURING START ATTEMPTS (PREGLOW OR AFTERGLOW) .....	0018 00
WAIT INDICATOR LIGHT DOESN'T LIGHT.....	0019 00
ENGINE CRANKS SLOWLY .....	0020 00
ENGINE CRANKS BUT WILL NOT START .....	0021 00
ENGINE CRANKS BUT WON'T START BELOW 40°F (AIR BOX HEATER IS USED).....	0022 00
ENGINE CRANKS BUT WON'T START BELOW 40°F (GLOWPLUGS ARE USED).....	0023 00
ENGINE RUNS ROUGH, STALLS, OR DOESN'T PUT OUT FULL POWER.....	0024 00
GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR.....	0025 00
ENGINE OIL LOW PRESSURE INDICATOR COMES ON .....	0026 00
ELECTRICAL SCHEMATIC .....	0027 00
DELETED .....	0028 00
NO EXTERIOR LIGHTS OPERATE .....	0029 00
BLACKOUT DRIVE LIGHT DOESN'T WORK.....	0030 00
SERVICE HEADLIGHTS DON'T WORK.....	0031 00
INFRARED HEADLIGHT(S) DON'T WORK.....	0032 00
SERVICE AND/OR BLACKOUT STOP LIGHTS MALFUNCTION .....	0033 00
BLACKOUT MARKER LIGHT(S) DON'T WORK.....	0034 00
SERVICE TAILLIGHT DOESN'T WORK .....	0035 00
TRAILER LIGHTS DON'T WORK .....	0036 00
HORN DOES NOT WORK.....	0037 00
INSTRUMENT PANEL AND/OR TRANS CONTROLLER ILLUMINATION LIGHTS MALFUNCTION.....	0038 00
DOME LIGHT(S) DO NOT WORK .....	0039 00
DOME LIGHT MALFUNCTIONS (M577A3 ONLY).....	0040 00
BLACKOUT DOME LIGHTS DO NOT WORK (M1068A3 ONLY) .....	0041 00
RIGHT REAR UTILITY OUTLET/ADMITTANCE BUZZER WORKS IMPROPERLY (M577A3 AND M1068A3 ONLY).....	0042 00
LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3 AND M1068A3 ONLY).....	0043 00
RADIO(S) DON'T WORK.....	0044 00

CHAPTER 2

UNIT TROUBLESHOOTING PROCEDURES

**WORK PACKAGE INDEX (Continued)**

<u>Title</u>	<u>Sequence No</u>
SMOKE GRENADE LAUNCHER(S) MALFUNCTION (M113A3 AND M1059A3 ONLY).....	0045 00
INDICATORS SCHEMATIC .....	0046 00
DELETED.....	0047 00
MASTER SWITCH ON INDICATOR DOESN'T LIGHT .....	0048 00
FUEL LEVEL INDICATOR MALFUNCTIONS.....	0049 00
HIGH BEAM INDICATOR LIGHT DOESN'T WORK.....	0050 00
BATTERY/GENERATOR INDICATOR MALFUNCTIONS.....	0051 00
PARKING BRAKE INDICATOR MALFUNCTIONS .....	0052 00
COOLANT TEMP INDICATOR MALFUNCTIONS.....	0053 00
STEERING LOCKED INDICATOR MALFUNCTIONS.....	0054 00
ENGINE OIL LOW PRESSURE INDICATOR MALFUNCTIONS .....	0055 00
TRANSMISSION OIL LOW PRESSURE INDICATOR MALFUNCTIONS.....	0056 00
TRANS OIL HI TEMP INDICATOR MALFUNCTIONS.....	0057 00
ENGINE COOLANT LOW LEVEL INDICATOR MALFUNCTIONS .....	0058 00
TRANS FILTER CLOGGED INDICATOR MALFUNCTIONS.....	0059 00
TRANSMISSION SYSTEM SCHEMATIC .....	0060 00
CARRIER MOVES WITH TRANSMISSION IN SL.....	0061 00
CARRIER DOES NOT ATTAIN HIGH SPEED.....	0061 01
CARRIER DOES NOT MOVE IN ANY SHIFT LEVER POSITION .....	0062 00
CARRIER DRIFTS OR DOES NOT STEER .....	0063 00
SERVICE AND/OR PARKING BRAKE WON'T HOLD CARRIER.....	0064 00
TRANSMISSION WON'T UPSHIFT OR SHIFTS ERRATICALLY IN 1-4 POSITION .....	0065 00
TRANSMISSION DOES NOT DOWNSHIFT IN 1-4 POSITION .....	0066 00
TRANSMISSION DOES NOT HOLD 1ST POSITION.....	0067 00
TRANSMISSION DOES NOT HOLD 2ND POSITION .....	0068 00
TRANSMISSION DOES NOT HOLD 3RD POSITION.....	0069 00
TRANSMISSION DOES NOT REVERSE.....	0070 00
TRANSMISSION DOES NOT PIVOT STEER.....	0071 00
TRANSMISSION HIGH TEMP INDICATOR COMES ON .....	0072 00
TRANSMISSION LOW LUBE INDICATOR COMES ON.....	0073 00
STEERING LOCK SCHEMATIC (SOLENOID-ACTIVATED LOCK).....	0074 00
STEERING LOCK SCHEMATIC (CABLE-ACTIVATED LOCK).....	0075 00
SOLENOID-ACTIVATED STEERING LOCK MALFUNCTIONS .....	0076 00
CABLE-ACTIVATED STEERING LOCK MALFUNCTIONS .....	0077 00
BILGE PUMP SCHEMATIC .....	0078 00
DELETED.....	0079 00
FRONT AND/OR REAR BILGE PUMP(S) AND/OR LIGHTS DON'T WORK .....	0080 00
RAMP SCHEMATIC .....	0081 00
RAMP WILL NOT LOWER.....	0082 00
RAMP OPERATION IS SLOW OR SLUGGISH.....	0083 00

CHAPTER 2

UNIT TROUBLESHOOTING PROCEDURES

**WORK PACKAGE INDEX (Continued)**

<u>Title</u>	<u>Sequence No</u>
RAMP WILL NOT RAISE OR FREE FALLS.....	0084 00
PERSONNEL HEATER SCHEMATIC .....	0085 00
PERSONNEL HEATER .....	0086 00
COOLANT HEATER SCHEMATIC .....	0087 00
DELETED .....	0088 00
COOLANT HEATER MALFUNCTION.....	0089 00
POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY) .....	0090 00
NO AC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY).....	0091 00
NO DC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY).....	0092 00
NO POWER FROM ROADSIDE AC POWER EXTENSION BOX A6 (M1068A3 ONLY).....	0093 00
NO POWER FROM CURBSIDE AC POWER EXTENSION BOX A7 (M1068A3 ONLY).....	0094 00
NO POWER FROM DC POWER EXTENSION BOX A9 (ALL EXCEPT JACK J23) (M1068A3 ONLY).....	0095 00
NO POWER FROM DC POWER EXTENSION BOX A9, JACK J23 (JTIDS) (M1068A3 ONLY) .....	0096 00
NO DC POWER TO SINGLE POINT LAN GROUND BOX A15 (M1068A3 ONLY).....	0097 00
NO POWER FROM UPS POWER EXTENSION BOX A18 (M1068A3 ONLY) .....	0098 00
NO POWER FROM CURBSIDE UPS POWER EXTENSION BOX A19 (M1068A3 ONLY) .....	0099 00
NO AC/DC INPUT TO ATCCS UPS POWER BOX (M1068A3 ONLY) .....	0100 00
IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY) .....	0101 00
FLUORESCENT LIGHTS DO NOT OPERATE (M1068A3 ONLY).....	0102 00
VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY) .....	0103 00
VEHICLE WILL NOT ACCEPT EXTERNAL AC POWER (M1068A3 ONLY).....	0104 00
VEHICLE WILL NOT ACCEPT INVERTER AC POWER (M1068A3 ONLY) .....	0105 00
NO POWER TO DC CIRCUITS (M1068A3 ONLY) .....	0106 00
NO POWER TO AC CIRCUITS (M1068A3 ONLY) .....	0107 00
NO DC OUTPUT FROM DC POWER SUPPLY (M1068A3 ONLY) .....	0108 00
NO AC POWER FROM INVERTERS (M1068A3 ONLY) .....	0109 00
NO DATA OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY) .....	0110 00
NO LAN OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY) .....	0111 00
NO DATA OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY) .....	0112 00
NO LAN OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY) .....	0113 00
PHONE EXTENSION BOX A14 POST(S) INOPERATIVE (M1068A3 ONLY).....	0114 00
SPEEDOMETER MALFUNCTIONS.....	0115 00
TACHOMETER MALFUNCTIONS.....	0116 00
DRIVER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY).....	0116 01
COMMANDER'S VISION ENHANCER DISPLAY DOES NOT WORK (M58 ONLY) .....	0116 02
HOOK UP/REMOVE STE/ICE TEST SET TO DCA 6.....	0117 00
STE/ICE TEST 10 ENGINE RPM.....	0118 00
STE/ICE TEST 24 FUEL SUPPLY PRESSURE .....	0119 00
STE/ICE TEST 25 FUEL RETURN PRESSURE .....	0120 00
STE/ICE TEST 26 FUEL FILTER PRESSURE DROP .....	0121 00
STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE .....	0122 00

CHAPTER 2

UNIT TROUBLESHOOTING PROCEDURES

**WORK PACKAGE INDEX (Continued)**

<u>Title</u>	<u>Sequence No</u>
STE/ICE TEST 32 AIR BOX .....	0123 00
STE/ICE TEST 67 BATTERY VOLTAGE .....	0124 00
STE/ICE TEST 68 STARTER MOTOR VOLTAGE.....	0125 00
STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP .....	0126 00
STE/ICE TEST 70 STARTER SOLENOID VOLTAGE .....	0127 00
STE/ICE TEST 71 STARTER CURRENT (AVERAGE) .....	0128 00
STE/ICE TEST 72 STARTER CURRENT (FIRST PEAK) .....	0129 00
STE/ICE TEST 73 BATTERY RESISTANCE AND STE/ICE TEST 75 BATTERY RESISTANCE CHANGE (PACK).....	0130 00
STE/ICE TEST 74 STARTER CIRCUIT RESISTANCE.....	0131 00
STE/ICE TEST 80 BATTERY CURRENT.....	0132 00
STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE.....	0133 00
STE/ICE TEST 83 GENERATOR FIELD VOLTAGE .....	0134 00
STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP.....	0135 00
STE/ICE SCHEMATIC .....	0136 00
DELETED.....	0137 00
STE/ICE BLANK DISPLAY DIAGNOSTIC TROUBLESHOOTING .....	0138 00
STE/ICE CONFIDENCE TEST DIAGNOSTIC TROUBLESHOOTING .....	0139 00
STE/ICE TEST 10, 11, 12 AND 13 DIAGNOSTIC TROUBLESHOOTING.....	0140 00
DCA BATTERY VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0141 00
DCA CURRENT SHUNT DIAGNOSTIC TROUBLESHOOTING .....	0142 00
STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC TROUBLESHOOTING.....	0143 00
STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC TROUBLESHOOTING.....	0144 00
STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC TROUBLESHOOTING.....	0145 00
STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC TROUBLESHOOTING.....	0146 00
STE/ICE TEST 32 AIR BOX PRESSURE DIAGNOSTIC TROUBLESHOOTING .....	0147 00
STE/ICE TEST 68 STARTER MOTOR VOLTAGE DIAGNOSTIC TROUBLESHOOTING .....	0148 00
STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC TROUBLESHOOTING.....	0149 00
STE/ICE TEST 70 STARTER SOLENOID VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0150 00
STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....	0151 00
STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC TROUBLESHOOTING .....	0152 00
STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC TROUBLESHOOTING.....	0153 00

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**INTRODUCTION TO HOW TO USE TROUBLESHOOTING**

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**0005 00****PURPOSE**

The purpose of unit troubleshooting is to diagnose problems which are reported to unit maintenance. You should not begin unit troubleshooting until **ALL** operator troubleshooting procedures have been performed. You will perform four actions in unit troubleshooting:

- (1) Before starting a troubleshooting task, verify that the reported problem is present.
- (2) After verifying the symptom, find the part that is causing problem.
- (3) Replace or adjust that part.
- (4) Check to make sure problem no longer exists, and that there are no other problems.

**DEFINITIONS AND DESCRIPTIONS OF TROUBLESHOOTING PARTS**

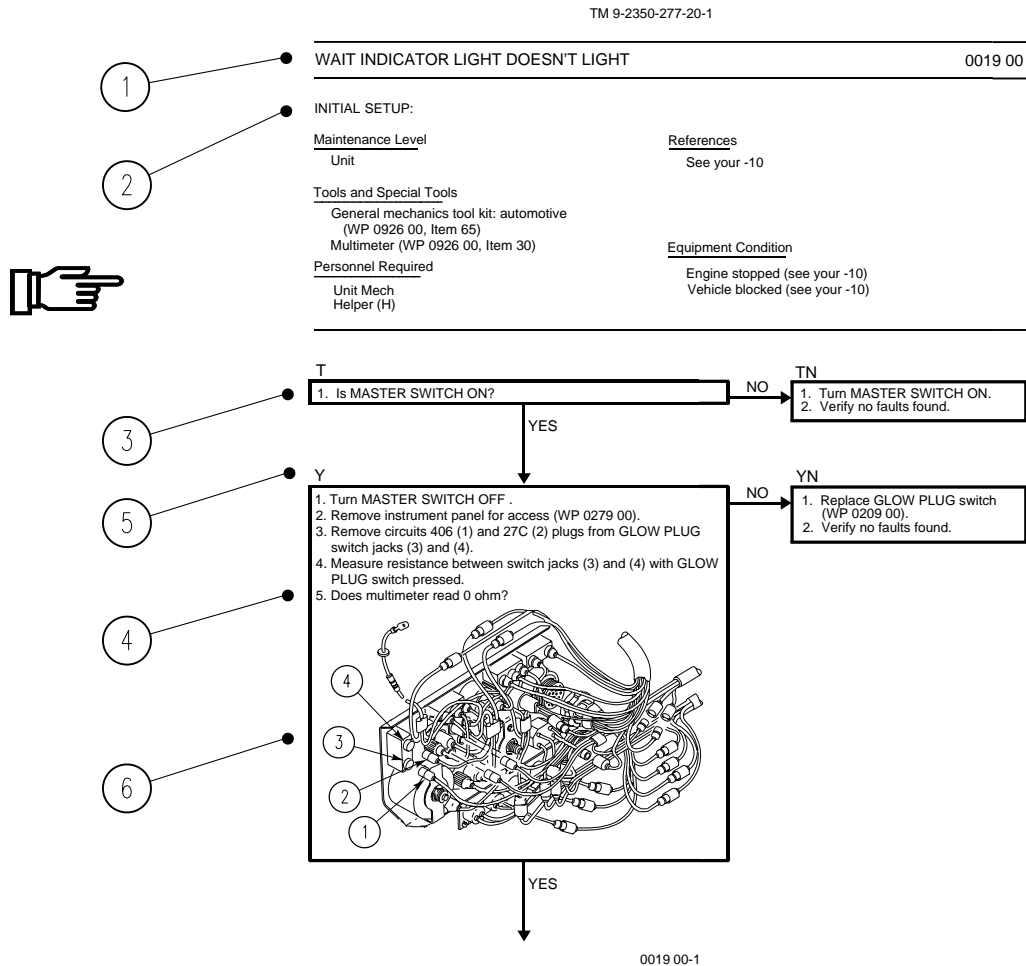
Troubleshooting tasks always have a beginning and an end. You will use task steps, test procedures, indexes, maintenance tasks, and other technical manuals to troubleshoot. Troubleshooting uses the following terms that are not used in other kinds of tasks:

- |                                   |  |
|-----------------------------------|--|
| <b>1. FAULT:</b>                  | The part that is not operating correctly and is causing the problem.   |
| <b>2. SYMPTOM:</b>                | The problem reported to unit maintenance.  |
| <b>3. STE/ICE:</b>                | Diagnostic and test equipment used to troubleshoot at unit maintenance level. It is used to make measurements and find faulty parts in the carrier system.   |
| <b>4. VERIFY NO FAULTS FOUND:</b> | After you have completed the corrective action, you must verify that no faults exist. If the fault condition still exists, then the fault is not fixed or there is another fault. If this happens, start at the beginning of the correct/appropriate troubleshooting procedure until you find and correct all faults. Always operate the system and/or carrier to make sure that you have corrected the reported problem. If troubleshooting does not identify a faulty part, the carrier is defective beyond the level of unit maintenance. |

**TROUBLESHOOTING BASICS**

**Troubleshooting Procedure**

A troubleshooting procedure serves as a starting point for your troubleshooting work. You will branch in and out of procedures as you work to find a fault. After correcting the fault, check that the problem has been corrected. The parts of a troubleshooting procedure are given below.



**Legend to Sample Above**

- 1 TITLE** This is the name of the procedure that best describes your symptom.
- 2 INITIAL SETUP** This tells you the tools, materials/parts, personnel, references, and equipment conditions needed to do the procedure.
- 3 TASK STEPS** Step-by-step instructions that isolate the fault.
- 4 QUESTION** This is last step in YES blocks. The answer to this question will direct you to the next block.
- 5 BLOCK ID CODE** These codes identify YES/NO blocks for ease of referencing. When filling out 2028s, list these codes, along with titles and page numbers.
- 6 ILLUSTRATIONS** These help you locate and identify parts.



**STE-ICE Test Procedure**

A STE/ICE test procedure will tell you how to use the STE/ICE test equipment. You may be directed to go to a STE/ICE test procedure when performing the troubleshooting procedures. The parts of a STE/ICE test procedure are given below.

TM 9-2350-277-20-1

1 ● **STE/ICE TEST 67 BATTERY VOLTAGE** 0124 00

THIS WORK PACKAGE COVERS:  
Test (page 0124 00-1).

2 ● **INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech

References

See your-10  
TM 9-4910-571-12&P

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
STE/ICE hooked up to DCA 6 (WP 0117 00)

3 ●



4 ● 1. Select TEST 67.

2. Press and release TEST button.

CONDITIONS	VOLTS
Engine off/MASTER SWITCH OFF.	21 or more
Cranking engine fuel off.	17 or more
Charging 1100-1300 RPM/service lights on.	26 to 29.5

a. If display is erratic or shows 0 (v olts), go to: STE/ICE DCA Battery Voltage Diagnostic Troubleshooting (WP 0142 00).

b. If error message appears, see TM 9-4910-571-12&P.

3. Return to troubleshooting.

**Legend to Sample Above**

- 1 TITLE** Test number and procedure name.
- 2 INITIAL SETUP** This tells you the tools, materials/parts, personnel, references, and equipment conditions needed to do the procedure.
- 3 STE/ICE HOOK UP** Steps that tell you how to perform the HOOK UP/REMOVE STE/ICE test.
- 4 TASK STEPS** Steps that tell you how to set up and perform the test.

Before you begin, make sure you have all items in the INITIAL SETUP. Do all steps in the test procedure and then return to where you left off in troubleshooting task. Continue to follow troubleshooting task instructions to find and correct the fault.

**Locating the Correct Troubleshooting Procedure**

- (1) Carrier arrives at shop.
- (2) Read DA Form 2404.
- (3) Verify that the problem on DA Form 2404 exists.
- (4) Look up the carrier symptom in the Troubleshooting Fault Symptom Index (WP 0006 00) and go to that task.

**Doing the Troubleshooting Procedure**

- (1) Make sure you have all items in INITIAL SETUP.
- (2) Perform required action(s) in Equipment Conditions.
- (3) Complete the first block of task steps.
- (4) Refer to system schematics for system components, details, and configuration.
- (5) Answer question at the bottom of the first block.
- (6) Follow YES or NO arrows to next block.
- (7) Move from block to block. Answer questions and follow instructions. You may be directed to:
  - do further checks and tests on parts;
  - go to another manual and do tasks;
  - or go to another task in this manual.
- (8) After completing the actions called for on another page or manual, return to the point in the troubleshooting procedure where you left off.
- (9) Locate the fault in the carrier or part, and perform the corrective action.
- (10) Check to make sure the fault is corrected, and there are no new faults.
- (11) Button up by installing items listed in Equipment Conditions after finishing the troubleshooting task.

**TROUBLESHOOTING SAMPLE**

The following sample takes you through a typical troubleshooting procedure.

**Finding the Right Troubleshooting Procedure**

A carrier arrives at the shop. The DA Form 2404 shows that the engine cranks slowly. The best task match is ENGINE CRANKS SLOWLY (WP 0020 00).

TM 9-2350-277-20-1

**MALFUNCTION/SYMPTOM INDEX WP 0006 00**

**ENGINE SYSTEM**

ENGINE OVERHEATS.....	WP 0014 00
ENGINE OVERCOOLS.....	WP 0015 00
ENGINE DOESN'T CRANK.....	WP 0016 00
ENGINE DOESN'T START (COLD WEATHER ONLY).....	WP 0017 00
WAIT INDICATOR FLASHES DURING START ATTEMPTS (PREGLOW OR AFTER GLOW).....	WP 0018 00
WAIT INDICATOR DOESN'T LIGHT.....	WP 0019 00
ENGINE CRANKS SLOWLY.....	WP 0020 00
ENGINE CRANKS BUT WILL NOT START.....	WP 0021 00
ENGINE CRANKS BUT WON'T START BELOW 40 FAHRENHEIT (AIR BOX HEATER IS USED).....	WP 0022 00
ENGINE CRANKS BUT WON'T START BELOW 40 FAHRENHEIT (GLOW PLUGS ARE USED).....	WP 0023 00
ENGINE RUNS ROUGH, STALLS OR DOESN'T PUT OUT FULL POWER.....	WP 0024 00
GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/ GENERATOR INDICATOR.....	WP 0025 00
ENGINE OIL LOW PRESSURE INDICATOR COMES ON.....	WP 0026 00



This is the procedure you want.

TM 9-2350-277-20-1

**ENGINE CRANKS SLOWLY 0020 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your-10

Tools and Special Tools

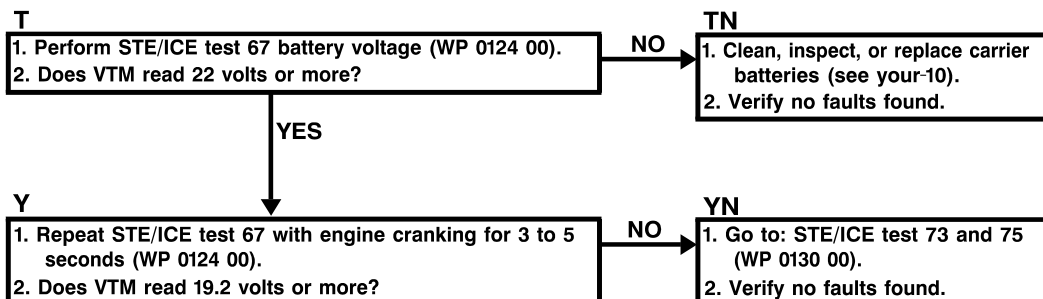
General mechanic stool kit: automotive  
(WP 0926 00, Item 65)  
STE/ICE-Rtest set (WP 0926 00, Item 61)

Equipment Condition

Engine stopped (see your-10)  
Vehicle blocked (see your-10)

Personnel Required

Unit Mech 63T10  
Helper (H)



Check the title to make sure you are troubleshooting the correct system for the problem. Read the INITIAL SETUP carefully and make sure you have all items listed. Some access steps in Equipment Conditions may not need to be performed depending on the fault location. You decide which are necessary for your particular problem.

TM 9-2350-277-20-1

ENGINE CRANKS SLOWLY

0020 00

INITIAL SETUP:

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanics tool kit: automotive  
(WP 0926 00, Item 65)  
STE/ICE-R test set (WP 0926 00, Item 61)

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)

Personnel Required

Unit Mech  
Helper (H)



This is the first block of the troubleshooting task. Step 1 has you performing a STE/ICE test. Go to the page shown. You will be using a STE/ICE test procedure for this step. Come back to this block when you complete the test.

1. Perform STE/ICE test 67 battery voltage (WP 0124 00).

NO



Here is the STE/ICE test procedure. It will give you more steps to find the fault. Before you begin, make sure you have all the items in the INITIAL SETUP. Do all the steps in the procedure. After you do the steps, go back to where you left off in the troubleshooting task.

TM 9-2350-277-20-1

STE/ICE TEST 67 BATTERY VOLTAGE 0124 00

THIS WORK PACKAGE COVERS:  
Test (page 0124 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Personnel Required

Unit Mech

References

See your-10  
TM 9-4910-571-12&P

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
STE/ICE hooked up to DCA 6 (WP 0117 00)

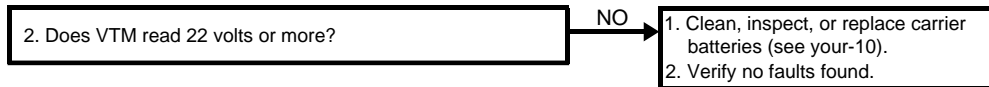


1. Select TEST 67.
2. Press and release TEST button.

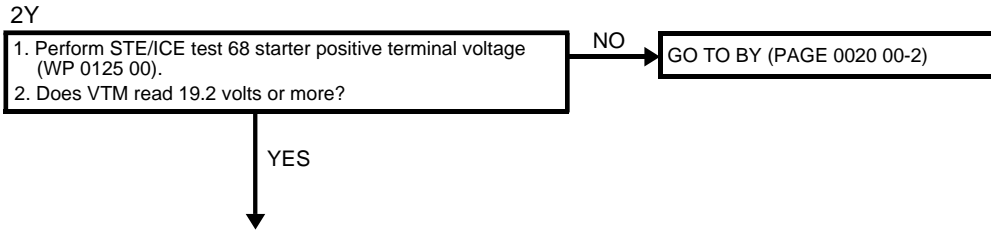
CONDITIONS	VOLTS
Engine off/MASTER SWITCH OFF.	21 or more
Cranking engine fuel off.	17 or more
Charging 1100-1300 RPM/service lights on.	26 to 29.5

- a. If display is erratic or shows 0 (v olts), go to: STE/ICE DCA Battery Voltage Diagnostic Troubleshooting (WP 0142 00).
  - b. If error message appears, see TM 9-4910-571-12&P.
3. Return to troubleshooting.

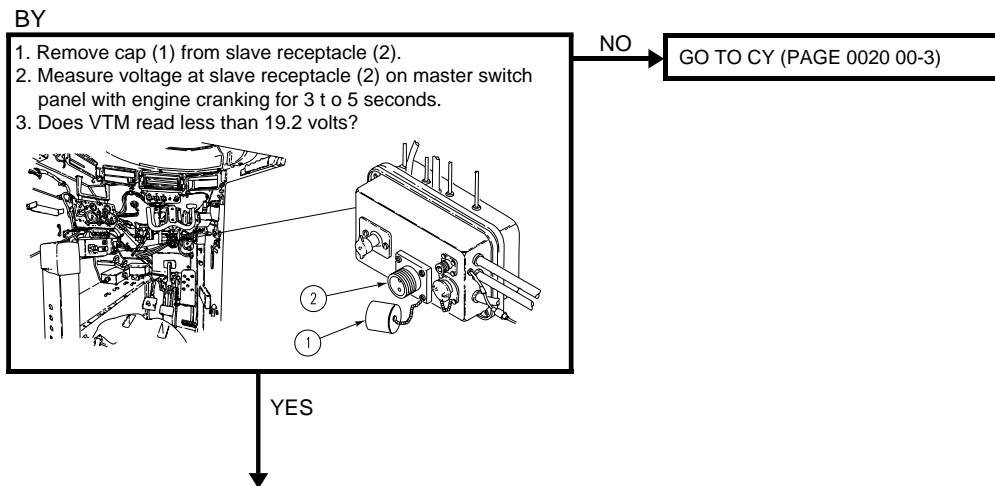
This is where you left off in the troubleshooting task. Answer the question in step 2. The answer to question depends on what you found when you did the STE/ICE test procedure. In this sample, let us say the test shows 22 volts. So the answer to the question, "Does test read 22 volts or more?" is YES. Follow the YES arrow to the next block.



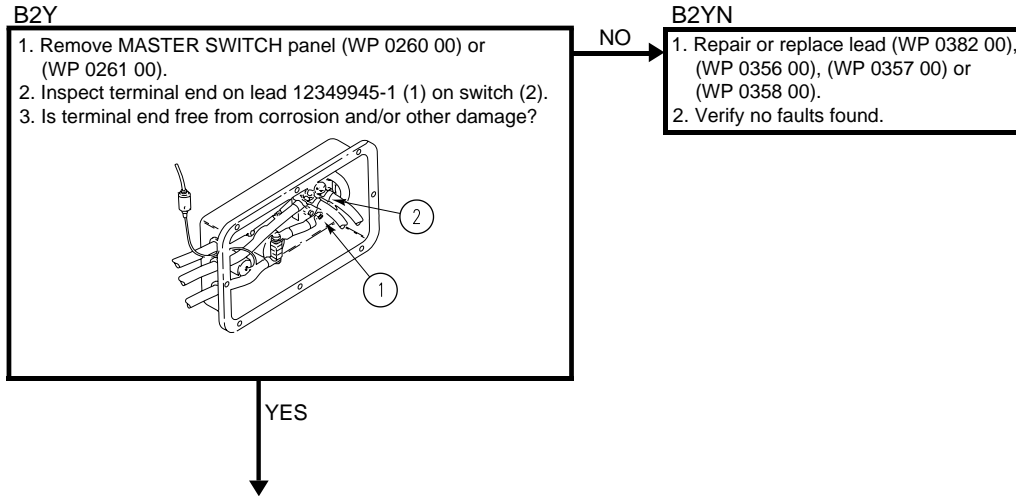
The YES arrow takes you to this block. Do steps 1 and 2. In this sample, let us say the test show 17 volts. So the answer to the question, “Does VTM read 19.2 volts or more?” is NO. Follow the NO arrow to the reference indicated.



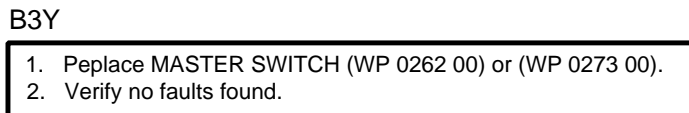
This is how the reference appears once you locate it. Do steps 1 thru 3. Let us say the VTM reads less than 19.2 volts. So the answer to the question, “Does VTM read less than 19.2 volts?” is YES. Follow the YES arrow to the next block.



The YES arrow takes you to this block. Do steps 1 thru 3. In this sample, let us say the terminal end is free from corrosion and/or other damage. So the answer to step 3 is YES. Follow the YES arrow to the next block.



The YES arrow takes you to this block. You have found the fault in the MASTER SWITCH. This block gives you the step to correct the fault. Do step 1. It tells you to go to another task in the manual. Go to the page shown and perform the task. Return to this block when you have completed the task.



Step 2 in this block is “Verify no faults found”. Check to make sure you have fixed the reported fault and there are no other problems. After no faults have been verified, return carrier to operation.

This section has given you information on how to use troubleshooting. By going through the troubleshooting sample, you have seen how parts of this chapter are used. This information will help you successfully troubleshoot at the unit maintenance level.





**MALFUNCTION/SYMPTOM INDEX WP**

**0006 00**

**ENGINE SYSTEM**

ENGINE OVERHEATS (OLD VSFD CONFIGURATION).....WP 0014 00

ENGINE OVERHEATS (NEW VSFD CONFIGURATION).....WP 0014 01

ENGINE OVERCOOLS.....WP 0015 00

ENGINE DOESN'T CRANK.....WP 0016 00

ENGINE DOESN'T START (COLD WEATHER ONLY).....WP 0017 00

WAIT INDICATOR FLASHES DURING START ATTEMPTS (PREGLOW  
OR AFTERGLOW).....WP 0018 00

WAIT INDICATOR DOESN'T LIGHT.....WP 0019 00

ENGINE CRANKS SLOWLY.....WP 0020 00

ENGINE CRANKS BUT WILL NOT START.....WP 0021 00

ENGINE CRANKS BUT WON'T START BELOW 40° FAHRENHEIT (AIR  
BOX HEATER IS USED).....WP 0022 00

ENGINE CRANKS BUT WON'T START BELOW 40° FAHRENHEIT  
(GLOW PLUGS ARE USED).....WP 0023 00

ENGINE RUNS ROUGH, STALLS OR DOESN'T PUT OUT FULL  
POWER.....WP 0024 00

GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/  
GENERATOR INDICATOR.....WP 0025 00

ENGINE OIL LOW PRESSURE INDICATOR COMES ON.....WP 0026 00

**ELECTRICAL SYSTEM**

NO EXTERIOR LIGHTS OPERATE.....WP 0029 00

BLACKOUT DRIVE LIGHT DOESN'T WORK.....WP 0030 00

SERVICE HEADLIGHTS DON'T WORK.....WP 0031 00

INFRARED HEADLIGHT(S) DON'T WORK.....WP 0032 00

SERVICE AND/OR BLACKOUT STOP LIGHTS MALFUNCTION.....WP 0033 00

BLACKOUT MARKER LIGHT DON'T WORK.....WP 0034 00

SERVICE TAIL LIGHT DOESN'T WORK.....WP 0035 00

TRAILER LIGHTS DON'T WORK.....WP 0036 00

HORN DOESN'T WORK.....WP 0037 00

INSTRUMENT PANEL AND/OR TRANSMISSION CONTROLLER  
ILLUMINATION LIGHTS MALFUNCTION.....WP 0038 00

DOMELIGHT(S) DON'T WORK.....WP 0039 00

DOMELIGHTS MALFUNCTION (M577A3 ONLY).....WP 0040 00

BLACKOUT DOMELIGHTS DO NOT WORK.....WP 0041 00

RIGHT REAR UTILITY OUTLET/ADMITTANCE BUZZER WORKS  
IMPROPERLY (M577A3 AND M1068A3 ONLY).....WP 0042 00

LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3  
AND M1068A3 ONLY).....WP 0043 00

RADIO(S) DON'T WORK.....WP 0044 00

SMOKE GRENADE LAUNCHER(S) MALFUNCTION (M113A3  
AND M1059A3 ONLY).....WP 0045 00

**INSTRUMENT & WARNING LIGHT PANEL INDICATORS**

MASTER SWITCH ON INDICATOR DOESN'T LIGHT.....WP 0048 00

FUEL LEVEL INDICATOR MALFUNCTIONS.....WP 0049 00

HIGH BEAM INDICATOR LIGHT DOESN'T WORK.....WP 0050 00

BATTERY/GENERATOR INDICATOR MALFUNCTIONS.....WP 0051 00

PARKING BRAKE INDICATOR MALFUNCTIONS.....WP 0052 00

**MALFUNCTION/SYMPTOM INDEX WP—Continued**

**0006 00**

COOLANT TEMPERATURE INDICATOR MALFUNCTIONS.....WP 0053 00  
 STEERING LOCKED INDICATOR MALFUNCTIONS.....WP 0054 00  
 ENGINE OIL LOW PRESSURE INDICATOR MALFUNCTIONS.....WP 0055 00  
 TRANSMISSION OIL LOW PRESSURE INDICATOR MALFUNCTIONS.....WP 0056 00  
 TRANSMISSION OIL HIGH TEMP INDICATOR MALFUNCTIONS.....WP 0057 00  
 ENGINE COOLANT LOW LEVEL INDICATOR MALFUNCTIONS.....WP 0058 00  
 TRANSMISSION FILTER CLOGGED INDICATOR MALFUNCTIONS.....WP 0059 00

**TRANSMISSION SYSTEM**

CARRIER MOVES WITH TRANSMISSION IN SL.....WP 0061 00  
 ■ CARRIER DOES NOT ATTAIN HIGH SPEED.....WP 0061 01  
 CARRIER DOES NOT MOVE IN ANY SHIFT LEVER POSITION.....WP 0062 00  
 CARRIER DRIFTS OR DOES NOT STEER.....WP 0063 00  
 SERVICE AND/OR PARKING BRAKE WON'T HOLD CARRIER.....WP 0064 00  
 TRANSMISSION WON'T UPSHIFT OR SHIFTS ERRATICALLY IN 1-4  
 POSITION.....WP 0065 00  
 TRANSMISSION DOES NOT DOWNSHIFT IN 1-4 POSITION.....WP 0066 00  
 TRANSMISSION DOES NOT HOLD 1ST POSITION.....WP 0067 00  
 TRANSMISSION DOES NOT HOLD 2ND POSITION.....WP 0068 00  
 TRANSMISSION DOES NOT HOLD 3RD POSITION.....WP 0069 00  
 TRANSMISSION DOES NOT REVERSE.....WP 0070 00  
 TRANSMISSION DOES NOT PIVOT STEER.....WP 0071 00  
 TRANSMISSION HIGH TEMP INDICATOR COMES ON.....WP 0072 00  
 TRANSMISSION LOW LUBE INDICATOR COMES ON.....WP 0073 00

**STEERING SYSTEM**

SOLENOID-ACTIVATED STEERING LOCK MALFUNCTIONS.....WP 0076 00  
 CABLE-ACTIVATED STEERING LOCK MALFUNCTIONS.....WP 0077 00

**BILGE PUMPS SYSTEM**

FRONT AND/OR REAR BILGE PUMP(S) AND/OR LIGHTS DON'T  
 WORK.....WP 0080 00

**RAMP HYDRAULIC SYSTEM**

RAMP WILL NOT LOWER.....WP 0082 00  
 RAMP OPERATION IS SLOW OR SLUGGISH.....WP 0083 00  
 RAMP WILL NOT RAISE OR FREE FALLS.....WP 0084 00

**PERSONNEL HEATER SYSTEM**

PERSONNEL HEATER MALFUNCTIONS.....WP 0086 00

**COOLANT HEATER SYSTEM**

COOLANT HEATER MALFUNCTIONS.....WP 0089 00

**ELECTRICAL EQUIPMENT (M1068A3 ONLY)**

POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT  
 INOPERATIVE (M1068A3 ONLY).....WP 0090 00

**MALFUNCTION/SYMPTOM INDEX WP—Continued**

**0006 00**

NO AC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY) .....WP 0091 00  
 NO DC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY) .....WP 0092 00  
 NO POWER FROM ROADSIDE AC POWER EXTENSION BOX A6  
 (M1068A3 ONLY).....WP 0093 00  
 NO POWER FROM CURBSIDE AC POWER EXTENSION BOX A7  
 (M1068A3 ONLY).....WP 0094 00  
 NO POWER FROM DC POWER EXTENSION BOX A9 (ALL EXCEPT  
 JACK J23) (M1068A3 ONLY).....WP 0095 00  
 NO POWER FROM DC POWER EXTENSION BOX A9, JACK J23 (JTIDS)  
 (M1068A3 ONLY).....WP 0096 00  
 NO DC POWER TO SINGLE POINT LAN GROUND BOX A15 (M1068A3  
 ONLY).....WP 0097 00  
 NO POWER FROM UPS POWER EXTENSION BOX A18 (M1068A3  
 ONLY).....WP 0098 00  
 NO POWER FROM CURBSIDE UPS POWER EXTENSION BOX A19  
 (M1068A3 ONLY).....WP 0099 00  
 NO AC/DC INPUT TO ATCCS UPS POWER BOX (M1068A3 ONLY).....WP 0100 00  
 IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE  
 INCORRECTLY (M1068A3 ONLY).....WP 0101 00  
 FLUORESCENT LIGHTS DO NOT OPERATE (M1068A3 ONLY).....WP 0102 00  
 VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER  
 APPLIED (M1068A3 ONLY).....WP 0103 00  
 VEHICLE WILL NOT ACCEPT EXTERNAL AC POWER (M1068A3  
 ONLY).....WP 0104 00  
 VEHICLE WILL NOT ACCEPT INVERTER AC POWER (M1068A3  
 ONLY).....WP 0105 00  
 NO POWER TO DC CIRCUITS (M1068A3 ONLY).....WP 0106 00  
 NO POWER TO AC CIRCUITS (M1068A3 ONLY).....WP 0107 00  
 NO DC OUTPUT FROM DC POWER SUPPLY (M1068A3 ONLY).....WP 0108 00  
 NO AC POWER FROM INVERTERS (M1068A3 ONLY).....WP 0109 00

**COMMUNICATION EQUIPMENT**

NO DATA OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY).....WP 0110 00  
 NO LAN OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY).....WP 0111 00  
 NO DATA OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY).....WP 0112 00  
 NO LAN OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY).....WP 0113 00  
 PHONE EXTENSION BOX A14 POST(S) INOPERATIVE (M1068A3  
 ONLY).....WP 0114 00

**GAUGES**

SPEEDOMETER MALFUNCTIONS.....WP 0115 00  
 TACHOMETER MALFUNCTIONS.....WP 0116 00

**DRIVER'S VISION ENHANCER**

DRIVER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK  
 (M58 ONLY).....WP 0116 01  
 COMMANDER'S VISION ENHANCER DISPLAY DOES NOT  
 WORK (M58 ONLY).....WP 0116 02

**STE/ICE TESTS**

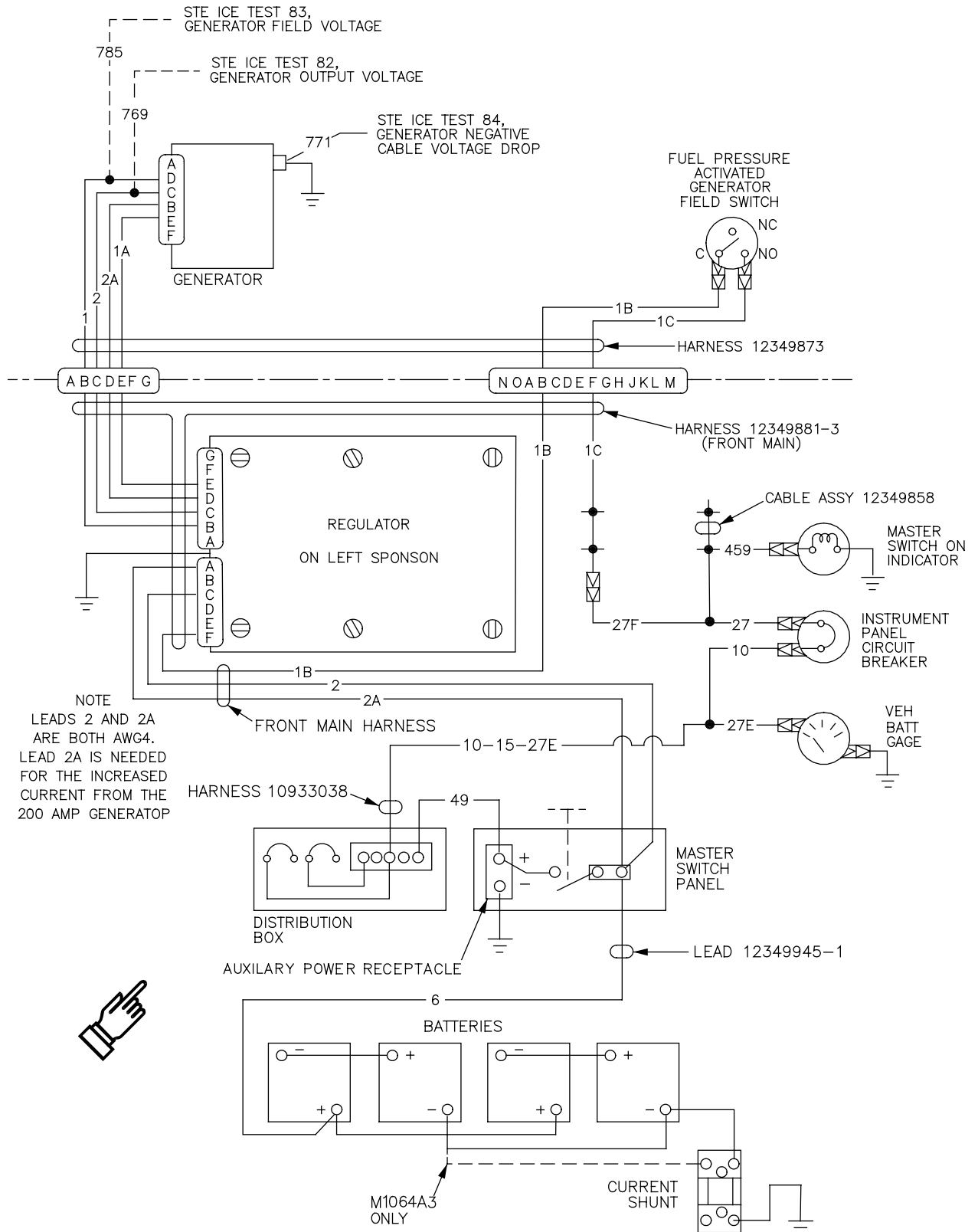
HOOK UP/REMOVE STE/ICE TEST SET TO DCA 6.....WP 0117 00  
 STE/ICE TEST 10 ENGINE RPM.....WP 0118 00  
 STE/ICE TEST 24 FUEL SUPPLY PRESSURE.....WP 0119 00  
 STE/ICE TEST 25 FUEL RETURN PRESSURE.....WP 0120 00  
 STE/ICE TEST 26 FUEL FILTER PRESSURE DROP.....WP 0121 00  
 STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE.....WP 0122 00  
 STE/ICE TEST 32 AIR BOX PRESSURE.....WP 0123 00  
 STE/ICE TEST 67 BATTERY VOLTAGE.....WP 0124 00  
 STE/ICE TEST 68 STARTER MOTOR VOLTAGE.....WP 0125 00  
 STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP.....WP 0126 00  
 STE/ICE TEST 70 STARTER SOLENOID VOLTAGE.....WP 0127 00  
 STE/ICE TEST 71 STARTER CURRENT (AVERAGE).....WP 0128 00  
 STE/ICE TEST 72 STARTER CURRENT (FIRST PEAK).....WP 0129 00  
 STE/ICE TEST 73 BATTERY RESISTANCE AND STE/ICE TEST 75  
   BATTERY RESISTANCE CHANGE (PACK).....WP 0130 00  
 STE/ICE TEST 74 STARTER CIRCUIT RESISTANCE.....WP 0131 00  
 STE/ICE TEST 80 BATTERY CURRENT.....WP 0132 00  
 STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE.....WP 0133 00  
 STE/ICE TEST 83 GENERATOR FIELD VOLTAGE.....WP 0134 00  
 STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP.....WP 0135 00

**STE/ICE DIAGNOSTIC TROUBLESHOOTING**

STE/ICE BLANK DISPLAY DIAGNOSTIC TROUBLESHOOTING.....WP 0138 00  
 STE/ICE CONFIDENCE TEST DIAGNOSTIC TROUBLESHOOTING.....WP 0139 00  
 STE/ICE TEST 10, 12, AND 13 DIAGNOSTIC TROUBLESHOOTING.....WP 0140 00  
 DCA BATTERY VOLTAGE DIAGNOSTIC TROUBLESHOOTING.....WP 0141 00  
 DCA CURRENT SHUNT DIAGNOSTIC TROUBLESHOOTING.....WP 0142 00  
 STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0143 00  
 STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0144 00  
 STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0145 00  
 STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE  
   DIAGNOSTIC TROUBLESHOOTING.....WP 0146 00  
 STE/ICE TEST 32 AIR BOX PRESSURE DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0147 00  
 STE/ICE TEST 68 STARTER MOTOR VOLTAGE DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0148 00  
 STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP  
   DIAGNOSTIC TROUBLESHOOTING.....WP 0149 00  
 STE/ICE TEST 70 STARTER SOLENOID VOLTAGE DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0150 00  
 STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0151 00  
 STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC  
   TROUBLESHOOTING.....WP 0152 00  
 STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP  
   DIAGNOSTIC TROUBLESHOOTING.....WP 0153 00

ENGINE CHARGING SYSTEM SCHEMATIC

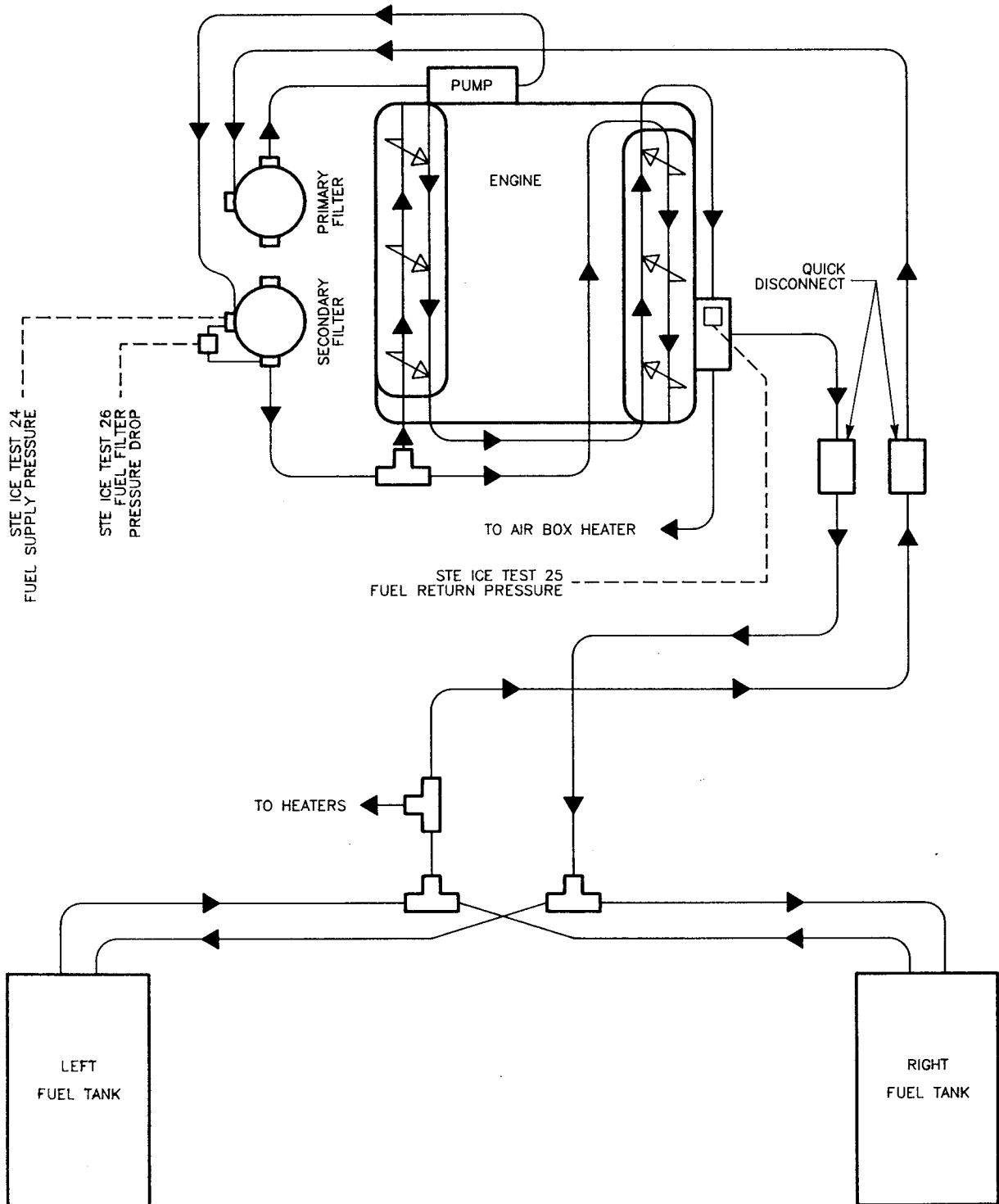
0007 00





ENGINE FUEL SYSTEM SCHEMATIC (ALL EXCEPT M577A3 AND M1068A3)

0009 00

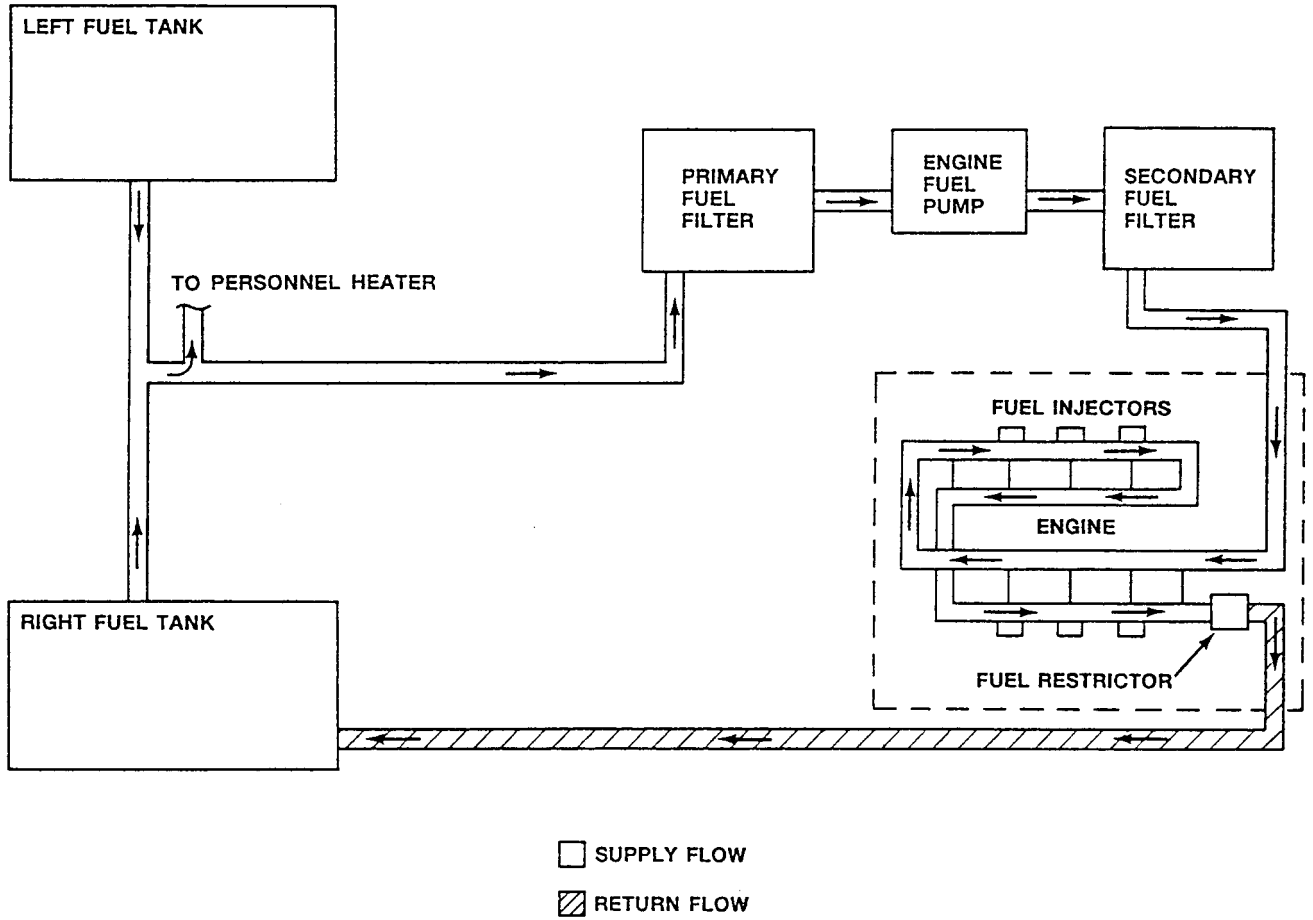






ENGINE FUEL SYSTEM SCHEMATIC (M577A3 AND M1068A3 ONLY)

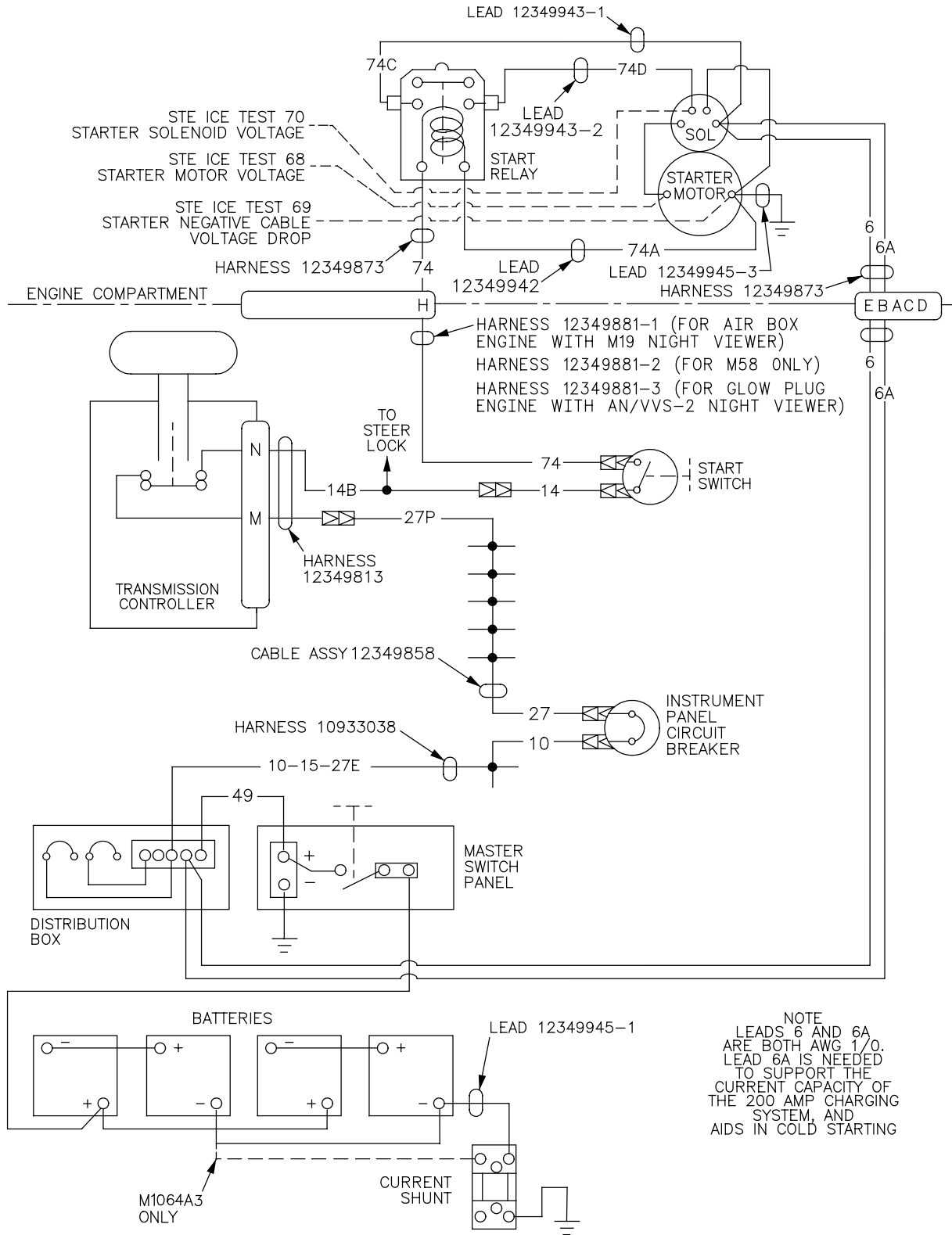
0010 00





ENGINE STARTER CIRCUIT SCHEMATIC

0011 00

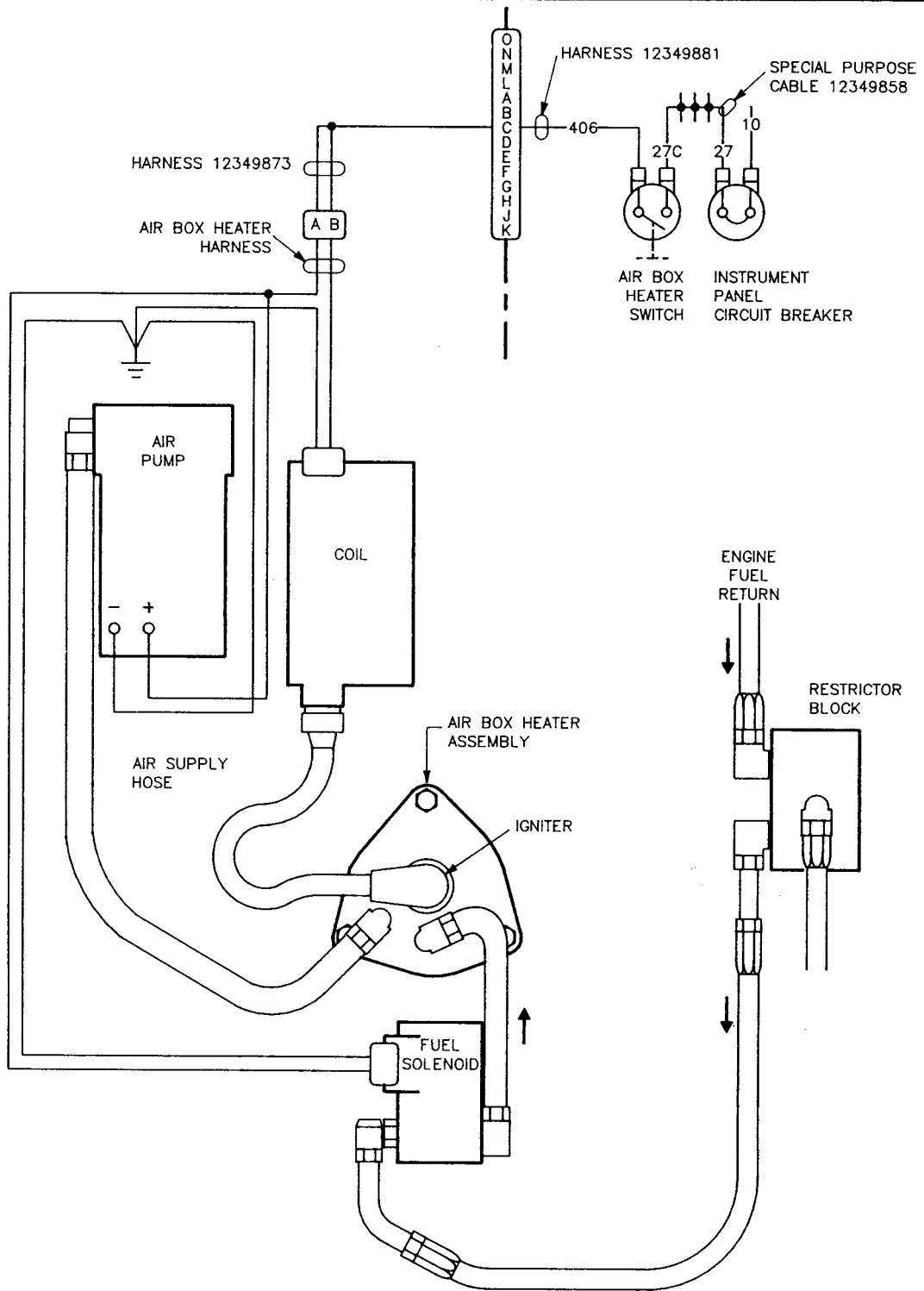


NOTE  
LEADS 6 AND 6A  
ARE BOTH AWG 1/0.  
LEAD 6A IS NEEDED  
TO SUPPORT THE  
CURRENT CAPACITY OF  
THE 200 AMP CHARGING  
SYSTEM, AND  
AIDS IN COLD STARTING



ENGINE AIR BOX HEATER SCHEMATIC

0013 00





**ENGINE OVERHEATS (OLD VSFD CONFIGURATION)**

**0014 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

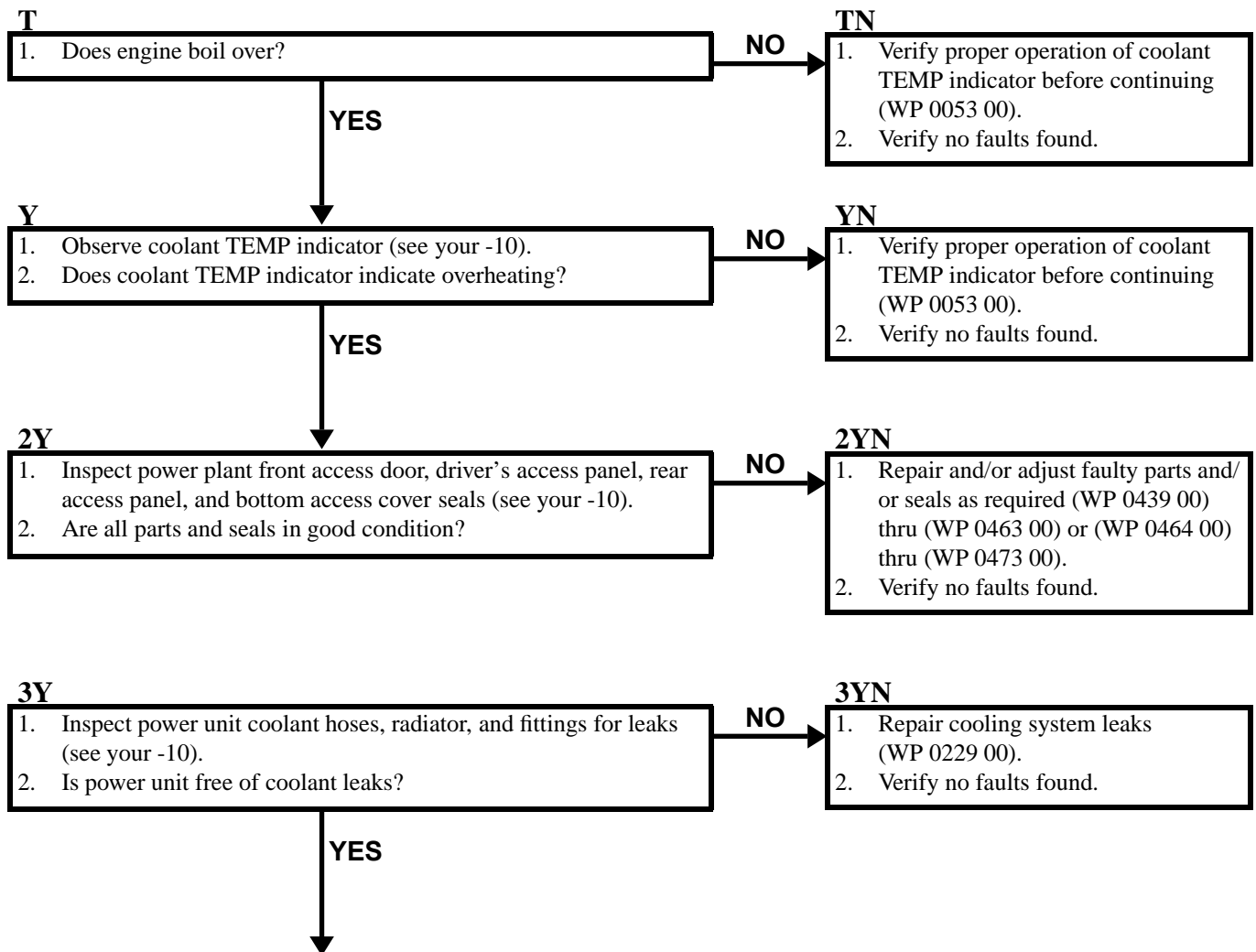
- General mechanic's tool kit: automotive (WP 0926 00, Item 65)
- Pipe bushing, 1/4 ext to 1/8 int (WP 0926 00, Item 11)
- Pipe plug, 1/8 inch (WP 0926 00, Item 33)
- Radiator test kit (WP 0926 00, Item 60)

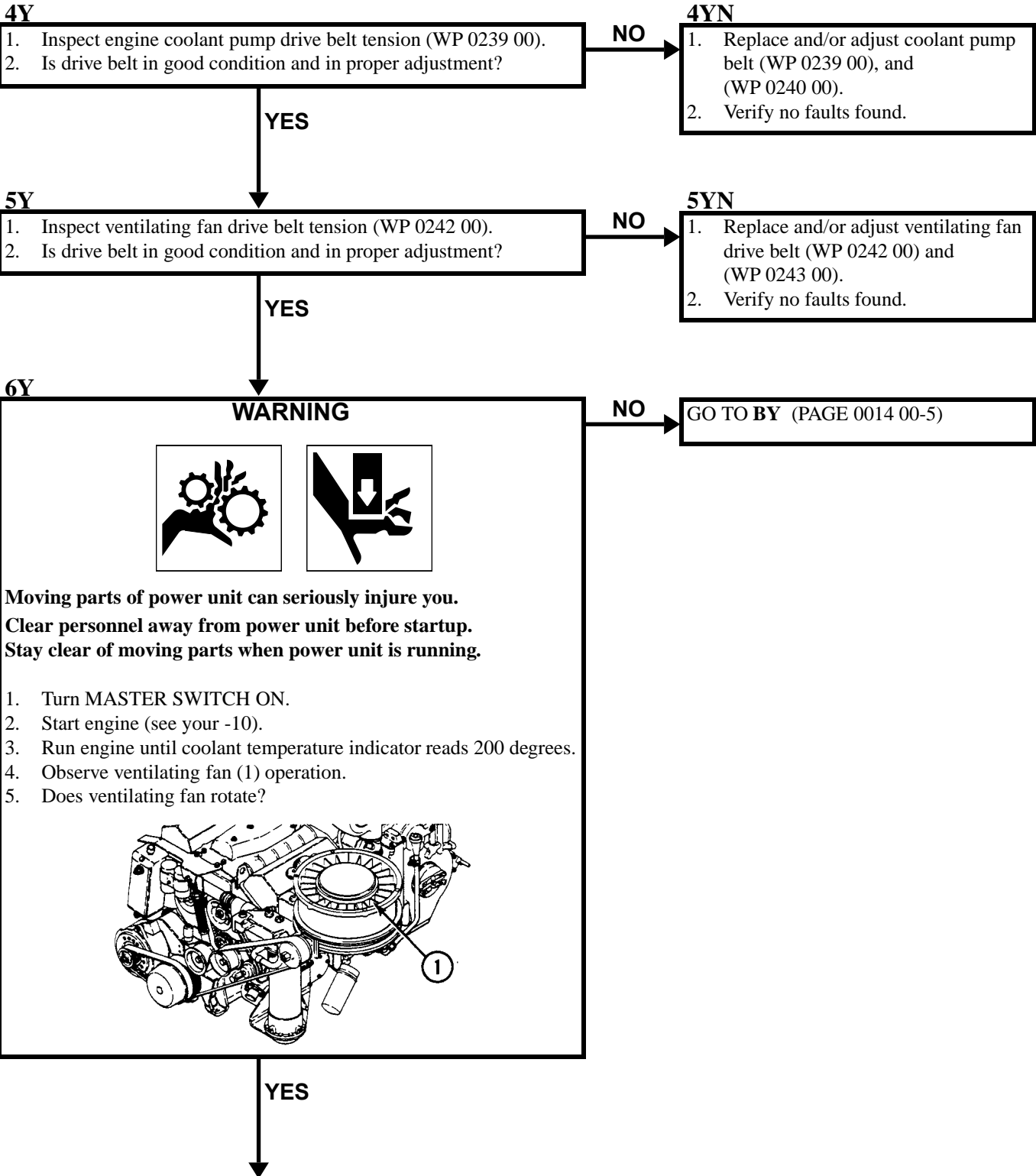
Equipment Condition

- Engine stopped (see your -10)
- Vehicle blocked (see your -10)
- Power plant access door open (see your -10)
- Trim vane lowered (see your -10)
- Driver's power plant access panels removed (WP 0441 00)
- Power plant rear access panels removed (WP 0439 00)

Personnel Required

- Unit Mech
- Helper (H)







**7Y**

1. Engage thermostatic fan speed switch (see your -10).
2. Observe ventilating fan speed.
3. Does speed stay the same?

NO

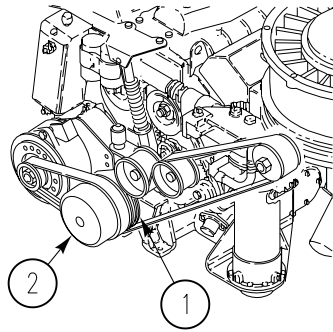
**7YN**

1. Replace thermostatic fan switch (WP 0231 00).
2. Verify no faults found.

YES

**8Y**

1. Observe rotation of ventilating fan (1) and generator drive pulleys (2) on drive unit.
2. Is fan pulley rotating as fast as the generator pulley?



NO

**8YN**

1. Disengage thermostatic fan speed switch.
2. Replace variable speed fan drive (WP 0249 00).
3. Verify no faults found.

YES

9Y

**WARNING**

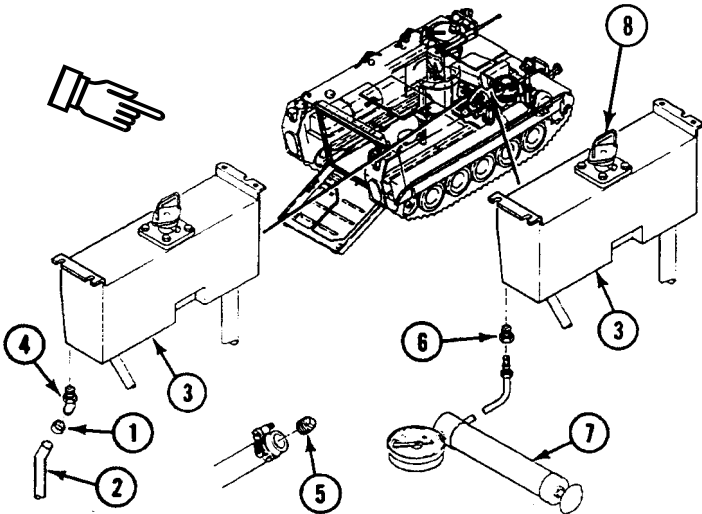


**Hot parts can burn you.**

**Allow parts to cool before working on or near them.**

**If necessary, use heat protective gloves to work on hot parts.**

1. Drain cooling system until auxiliary tank is empty (WP 0227 00).
2. Loosen hose clamp (1) on hose (2) at auxiliary tank (3).
3. Remove hose (2) from auxiliary tank (3).
4. Allow coolant to drain from elbow (4) on auxiliary tank (3). Use clean suitable container to catch coolant.
5. Install pipe plug (5) in hose (2) using hose clamp (1).
6. Remove elbow (4) from auxiliary tank (3).
7. Install bushing (6) on auxiliary tank (3).
8. Install radiator pressure tester (7) to bushing (6).
9. Pump system no higher than 15 psi pressure.
10. Does auxiliary tank filler cap (8) relieve pressure between 13 and 15 psi pressure?



NO

9YN

1. Refill cooling system (WP 0227 00).
2. Replace auxiliary tank filler cap (WP 0230 00).
3. Verify no faults found.

YES

10Y

1. Allow system to remain at 13 to 15 psi pressure for five minutes.
2. Does pressure drop less than one psi?

NO

10YN

1. Internal coolant system leak. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**11Y**

1. Replace coolant pump (WP 0241 00).
2. Verify no faults found.

**BY**

1. Engage thermostatic fan speed switch (see your -10).
2. Does fan still fail to rotate?

NO

**BYN**

1. Replace thermostatic fan speed switch (WP 0231 00).
2. Verify no faults found.

YES

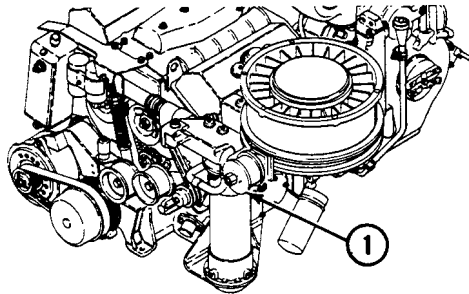
**B2Y**

1. Stop engine (see your -10).
2. Remove ventilating fan drive belt (WP 0243 00).
3. Manually rotate ventilating fan drive shaft pulley (1).
4. Does fan spin freely?

NO

**B2YN**

1. Faulty fan drive gearbox. Beyond unit maintenance repair.
2. Notify supervisor.



YES

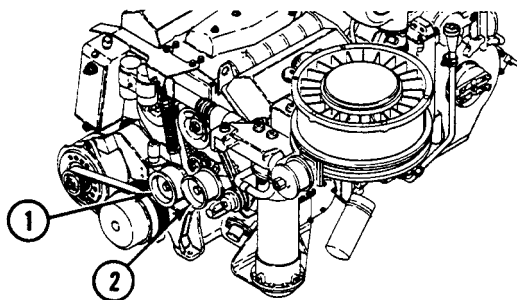
**B3Y**

1. Manually rotate adjustable (1) and nonadjustable (2) ventilating fan drive idler pulleys.
2. Do pulleys spin freely?

NO

**B3YN**

1. Replace adjustable and/or nonadjustable idler pulleys (WP 0240 00).
2. Verify no faults found.



YES

**B4Y**

1. Replace variable speed fan drive unit (WP 0249 00).
2. Verify no faults found.

**ENGINE OVERHEATS (NEW VSFD CONFIGURATION)**

0014 01

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit: Automotive (WP 0926 00, Item 65)
- Pipe bushing, 1/4 ext to 1/8 int (WP 0926 00, Item 11)
- Pipe plug, 1/8 inch (WP 0926 00, Item 33)
- Radiator test kit (WP 0926 00, Item 60)

Personnel Required

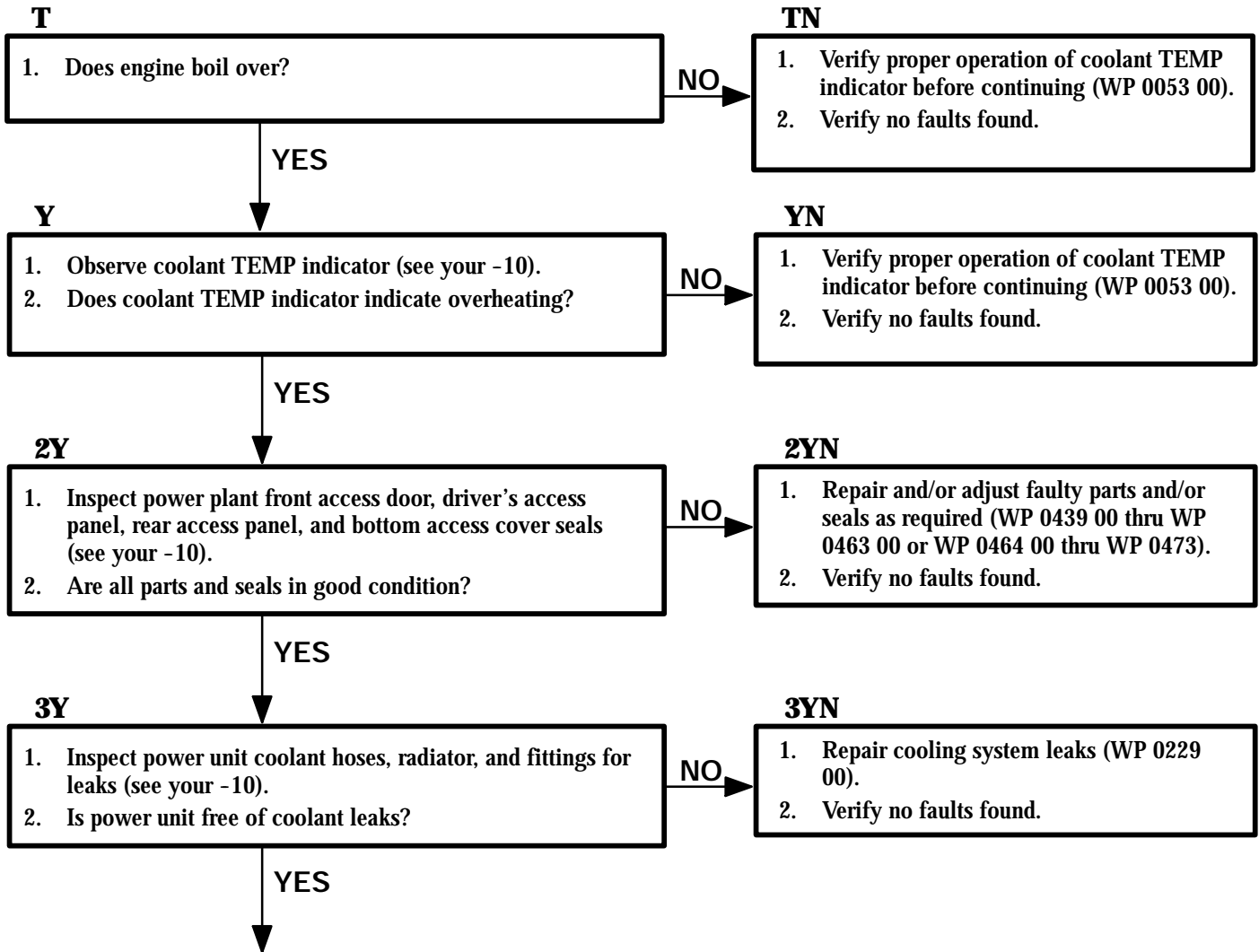
- Unit Mechanic
- Helper (H)

References

See your -10

Equipment Conditions

- Engine stopped (see your -10)
- Vehicle blocked (see your -10)
- Power plant access door open (see your -10)
- Trim vane lowered (see your -10)
- Driver's power plant access panels removed (WP 0441 00)
- Power plant rear access panels removed (WP 0439 00)



**4Y**

- 1. Inspect engine coolant pump drive belt tension (WP 0239 00).
- 2. Is drive belt in good condition and in proper adjustment?

NO

**4YN**

- 1. Replace and/or adjust coolant pump belt (WP 0239 00 and WP 0240 00).
- 2. Verify no faults found.

YES

**5Y**

- 1. Inspect ventilating fan drive belt tension (WP 0242 00).
- 2. Is drive belt in good condition and in proper adjustment?

NO

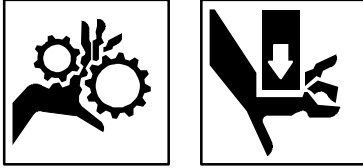
**5YN**

- 1. Replace and/or adjust ventilating fan drive belt (WP 0242 00 and WP 0243 00).
- 2. Verify no faults found.

YES

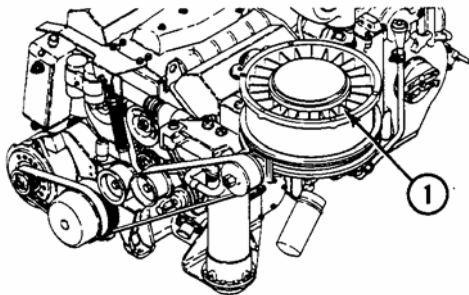
**6Y**

**WARNING**



**Moving parts of power unit can seriously injure you. Clear personnel away from power unit before startup. Stay clear of moving parts when power unit is running.**

1. Turn MASTER SWITCH ON.
2. Start engine (see your -10).
3. Run engine until coolant temperature indicator reads 200 degrees.
4. Observe ventilating fan (1) operation.
5. Does ventilating fan rotate?



NO →

**6YN**

1. Go to BY (WP 0014 01-7).

YES ↓

**7Y**

1. Engage variable speed fan drive manual override switch (see your -10).
2. Observe ventilating fan speed while helper (H) raises the engine rpm to a high idle (1500 rpm) and allows the engine to return back to idle.
3. Does speed stay the same?

NO

**7YN**

1. Replace variable speed fan drive manual override switch (WP 0231 01).
2. Verify no faults found.

YES

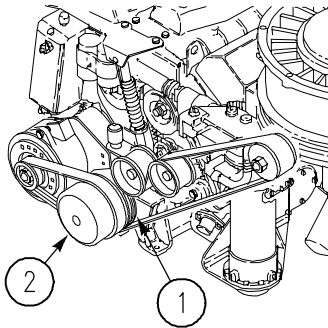
**8Y**

1. Observe rotation of ventilating fan (1) and generator drive pulleys (2) on drive unit.
2. Is fan pulley rotating as fast as the generator pulley?

NO

**8YN**

1. Disengage variable speed fan drive manual override switch.
2. Replace variable speed fan drive (WP 0249 01).
3. Verify no faults found.



YES



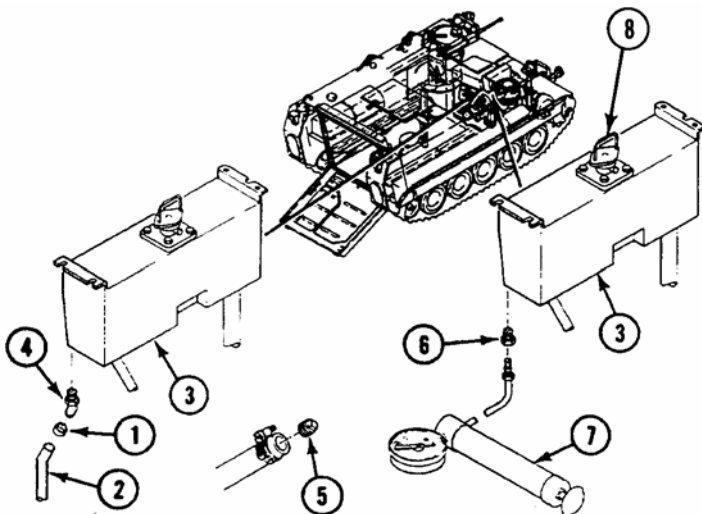
**9Y**

**WARNING**



**Hot parts can burn you. Allow parts to cool before working on or near them. If necessary, use heat protective gloves to work on hot parts.**

1. Drain cooling system until auxiliary tank is empty (WP 0227 00).
2. Loosen hose clamp (1) on hose (2) at auxiliary tank (3).
3. Remove hose (2) from auxiliary tank (3).
4. Allow coolant to drain from elbow (4) on auxiliary tank (3). Use clean suitable container to catch coolant.
5. Install pipe plug (5) in hose (2) using hose clamp (1).
6. Remove elbow (4) from auxiliary tank (3).
7. Install bushing (6) on auxiliary tank (3).
8. Install radiator pressure tester (7) to bushing (6).
9. Pump system no higher than 15 psi pressure.
10. Does auxiliary tank filler cap (8) relieve pressure between 13 and 15 psi pressure?



**YES**

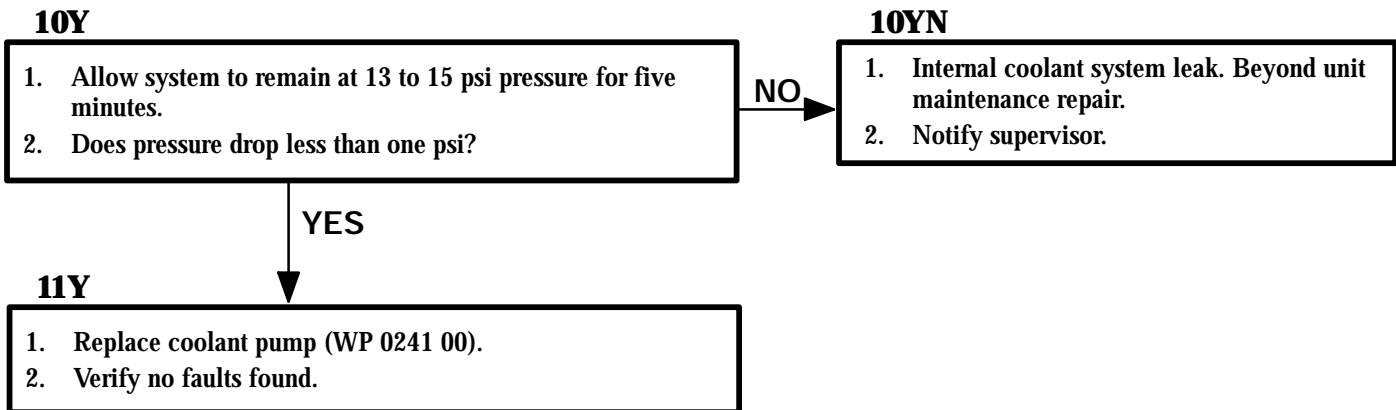


**9YN**

1. Refill cooling system (WP 0227 00).
2. Replace auxiliary tank filler cap (WP 0230 00).
3. Verify no faults found.

**NO**





**BY**

1. Engage variable speed fan drive override switch (see your -10).
2. Does fan still fail to rotate?

NO

**BYN**

1. Replace VSFD controller (WP025001).
2. Verify no faults found.

YES

**B2Y**

1. Stop engine (see your -10).
2. Install jumper wire on wiring harness (P/N 12474786) terminals E3 and E4.
3. Start engine (see your -10).
4. Does fan rotate?

NO

**B2YN**

1. Go to CY (WP 0014 01-9).

YES

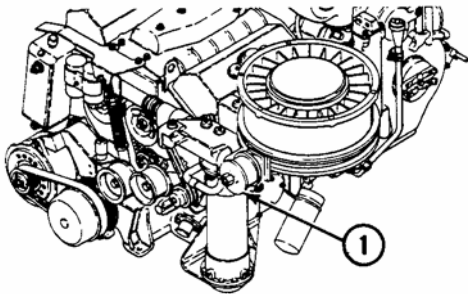
**B3Y**

1. Stop engine (see your -10).
2. Remove ventilating fan drive belt (WP 0243 00).
3. Manually rotate ventilating fan drive shaft pulley (1).
4. Does fan spin freely?

NO

**B3YN**

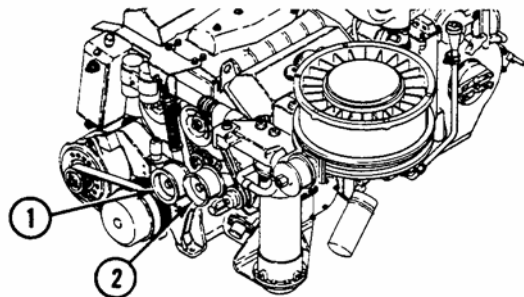
1. Faulty fan drive gearbox. Beyond unit maintenance repair.
2. Notify supervisor.



YES

**B4Y**

1. Manually rotate adjustable (1) and nonadjustable (2) ventilating fan drive idler pulleys.
2. Do pulleys spin freely?



NO

**B4YN**

1. Replace adjustable and/or nonadjustable idler pulleys (WP 0240 00).
2. Verify no faults found.

YES

**B5Y**

1. Replace variable speed fan drive unit (WP 0249 01).
2. Verify no faults found.

**CY**

1. Stop your engine (see your -10).
2. Disconnect battery ground strap (WP 0337 00 or WP 0338 00).
3. See wiring diagram (WP 0014 01-10).
4. Check continuity of the following connections:
  - P1(A) to Battery ground 7
  - P1(B) to P4(A) and E3
  - P1(C) to P4(B)
  - P1(E) to Battery 6 and E4, P3, P2(S)
  - P2(D) to P5(A)
  - P2(E) to P5(B)
  - P2(G) to P6(A)
  - P2(H) to P6(B)
  - P2(R) to P3
5. Do all checks read zero?

NO →

**CYN**

1. Replace variable speed fan drive harness. (WP 0359 01).
2. Verify no faults found.

YES ↓

**C2Y**

1. Stop engine (see your -10).
2. Install jumper wire on wiring harness (P/N 12474786) engine running switch plug (P3) between sockets (2) and (3).
3. Start engine (see your -10).
4. Engage variable speed fan drive manual override switch (see your -10).
5. Does fan rotate?

NO →

**C2YN**

1. Replace variable speed fan drive (WP 0249 01).
2. Verify no faults found.

YES ↓

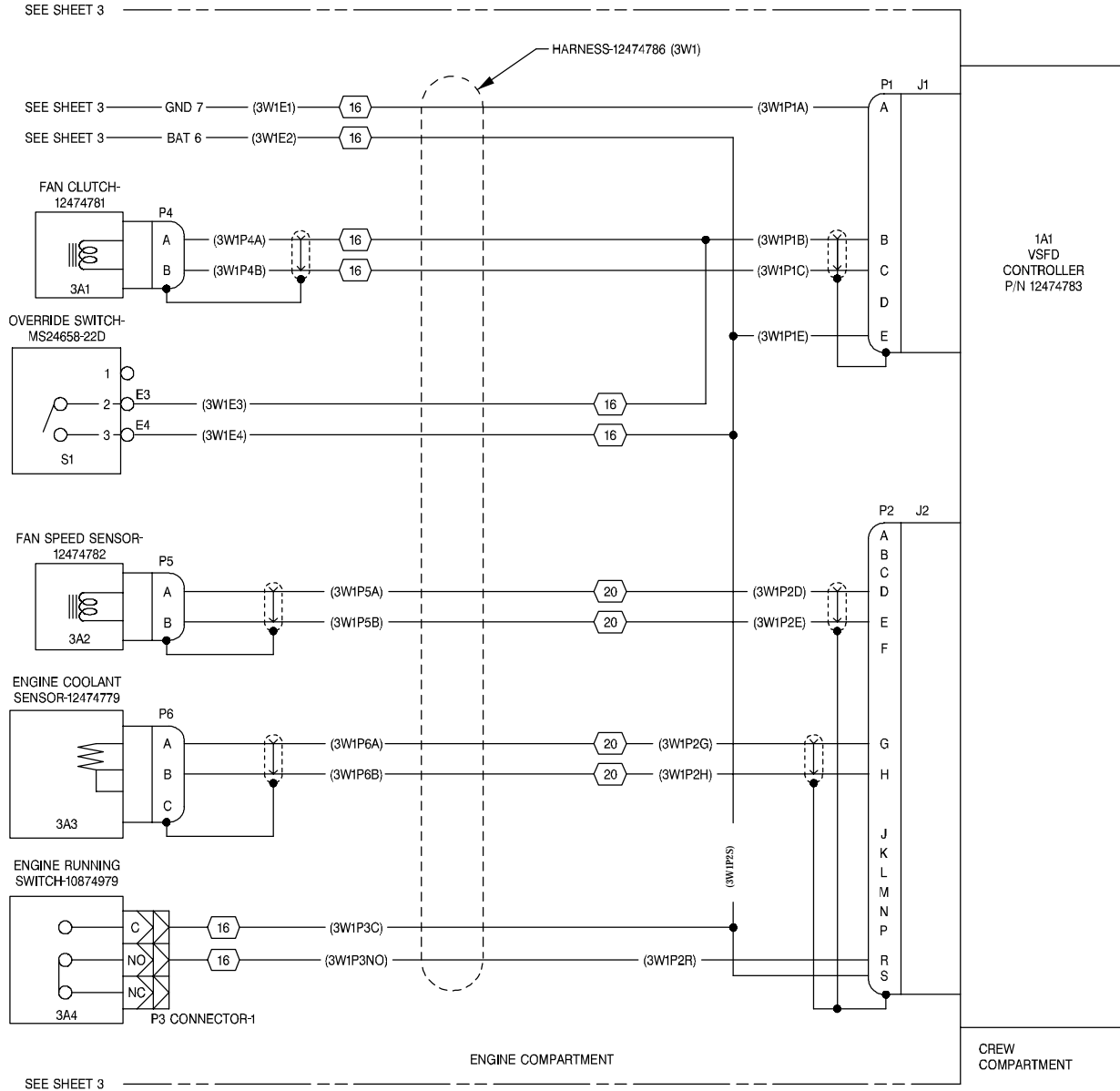
**C3Y**

1. Replace engine running switch (WP 0321 01).
2. Verify no faults found.

ENGINE OVERHEATS (NEW VSFD CONFIGURATION) - Continued

0014 01

WIRING DIAGRAM, 12408413



THIS SHEET ONLY-USE FOR MAGNETICALLY CONTROLLED VARIABLE SPEED FAN DRIVE

**ENGINE OVERCOOLS**

**0015 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

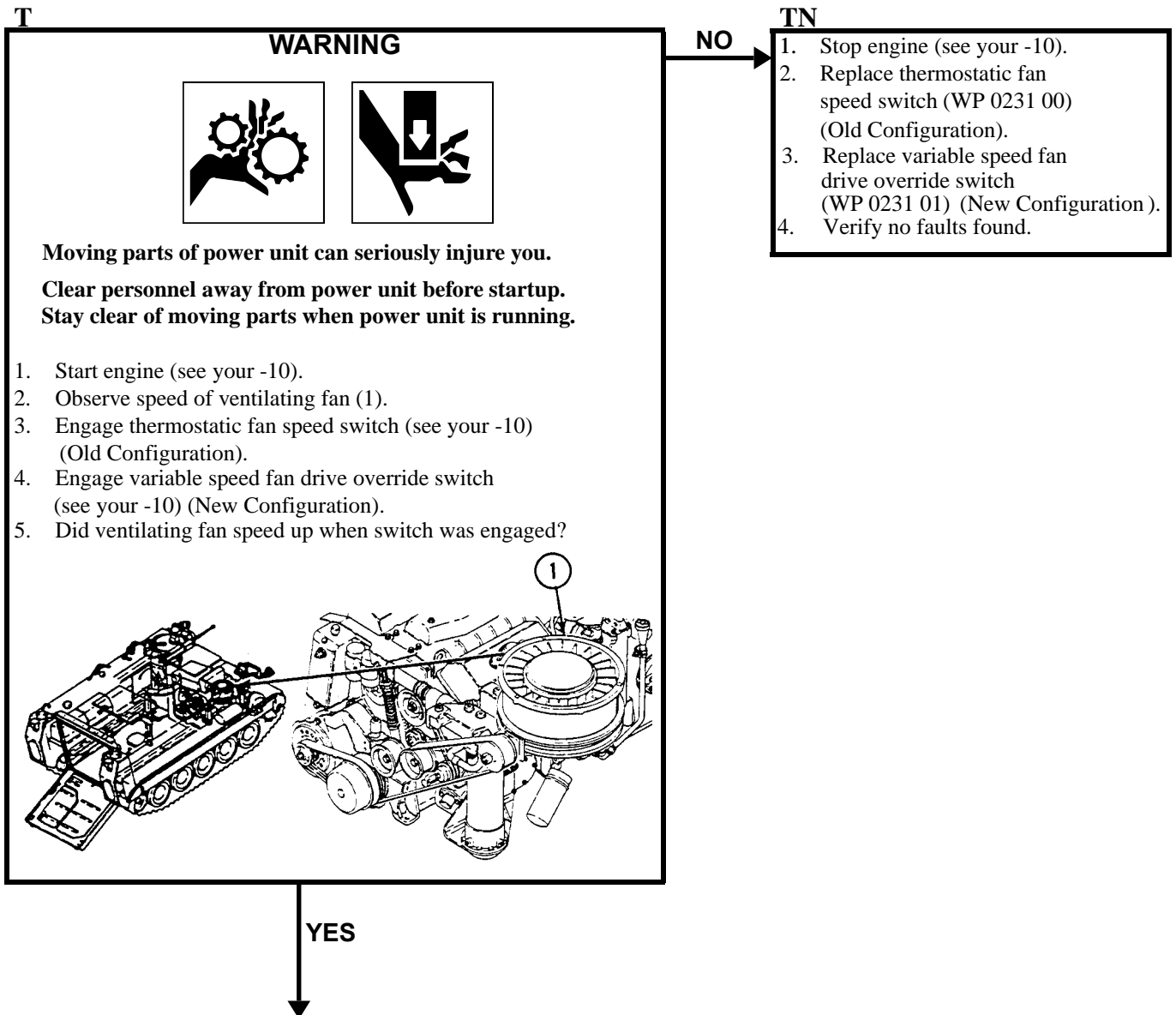
Unit Mechanic  
Helper (H)

References

See your -10

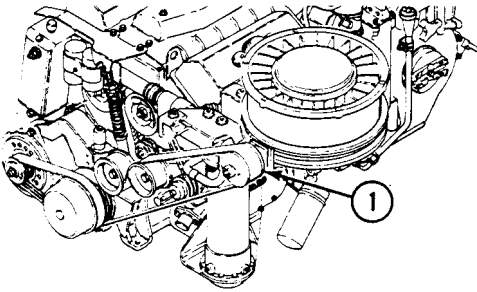
Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access panels open (see your -10)  
Power plant access rear panels removed (WP 0439 00)  
Driver's power plant access panel removed (WP 0441 00)  
Coolant TEMP indicator operation checked (WP 0053 00)



**Y**

1. Stop engine (see your -10).
2. Disengage thermostatic fan speed switch (see your -10) (Old Configuration).
3. Disengage variable speed fan drive override switch (see your -10) (New Configuration).
3. Manually rotate fan drive belt (1).
4. Do fan drive belt and all related pulleys rotate freely?



**NO**

**YN**

1. Replace variable speed fan drive unit (Old Configuration) (WP 0249 00), (New Configuration) (WP 0249 01).
2. Verify no faults found.

**YES**

**2Y**

1. Replace engine thermostat (WP 0237 00).
2. Verify no faults found.



**ENGINE DOES NOT CRANK**

**0016 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-751-12&P

Tools and Special Tools

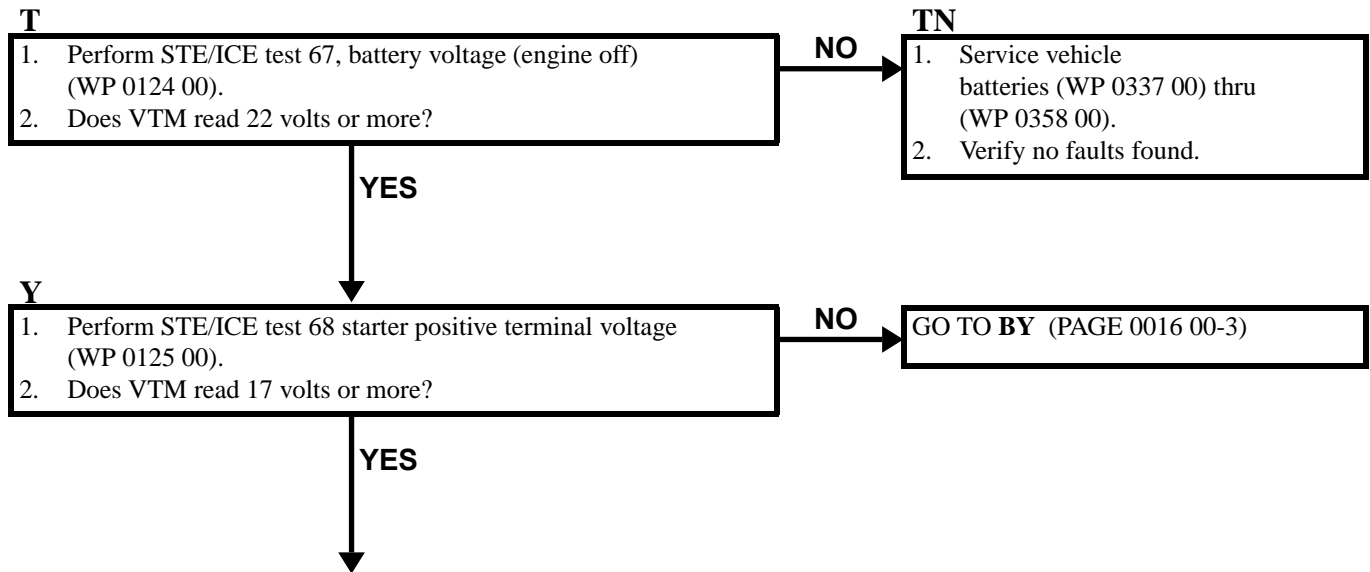
General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
STE/ICE test set (WP 0926 00, Item 61)  
Electrical tool kit (WP 0926 00, Item 64)  
Socket wrench set (WP 0926 00, Item 73)

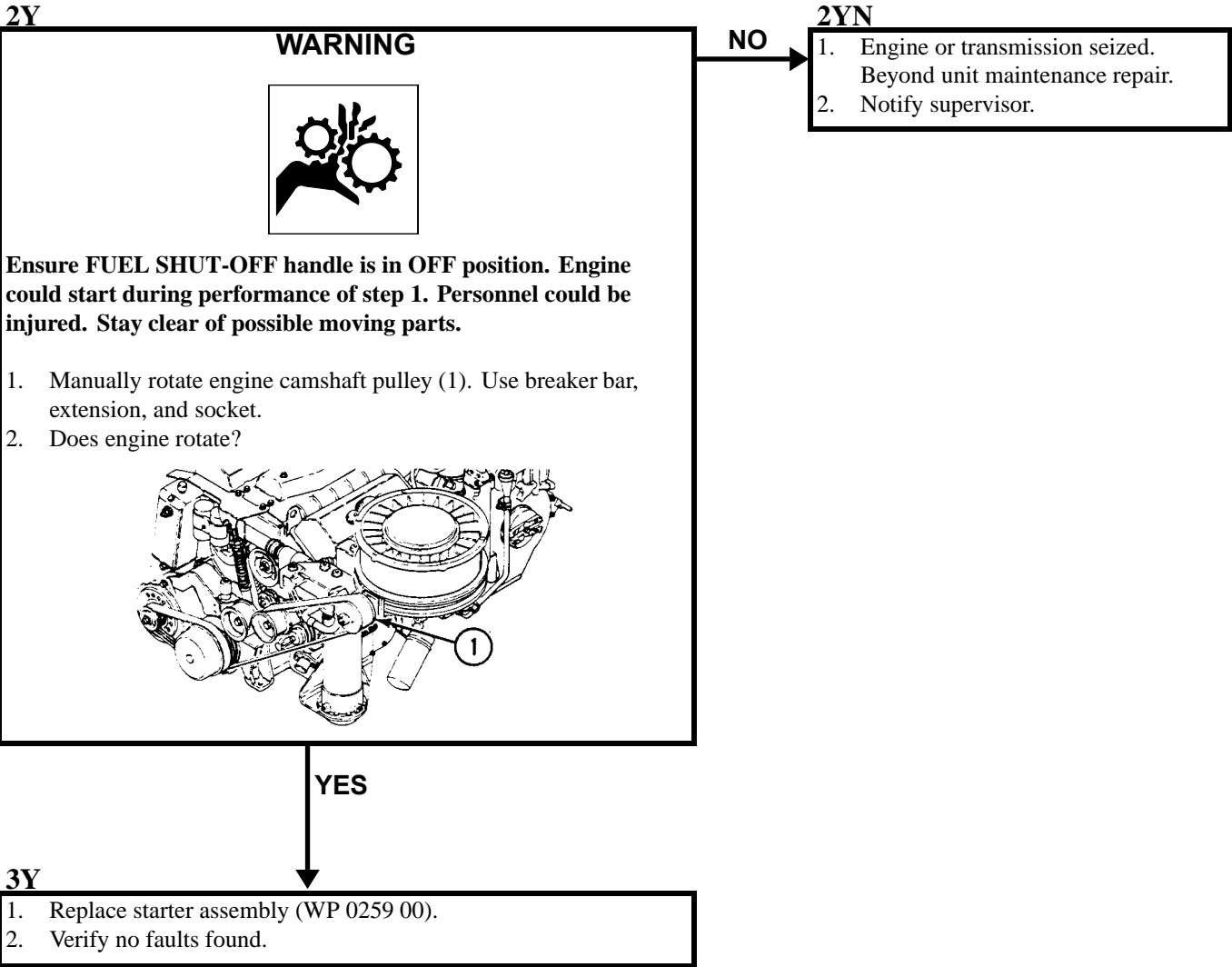
Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access panel open (see your -10)  
STE/ICE VTM hooked up to DCA 6 (WP 0117 00)  
Driver's power plant access panel removed  
(WP 0441 00)

Personnel Required

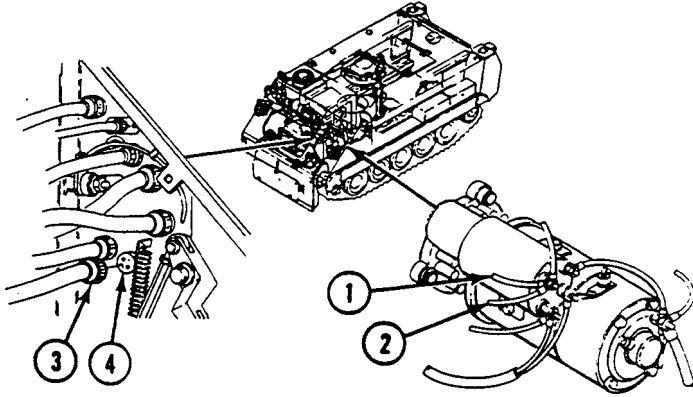
Unit Mech 63T10  
Helper (H)





**BY**

1. Inspect harness 12349873 circuit 6 (1) and 6A (2) terminal ends on starter for corrosion and/or damage.
2. Remove harness 12349873 circuit 6/6A plug (3) from harness 12349881 jack (4) at vehicle bulkhead.
3. Inspect condition of plug and jack pins.
4. Are all parts free from corrosion and damage?



NO

**BYN**

1. Clean and repair parts as required (WP 0382 00).
2. Verify no faults found.

YES

**B2Y**

1. Install harness 12349873 circuit 6/6A plug to harness 12349881 jack at vehicle bulkhead.
2. Perform STE/ICE test 70 starter solenoid voltage (WP 0127 00).
3. Does VTM read less than 17 volts?

NO

**B2YN**

1. Replace starter assembly (WP 0259 00).
2. Verify no faults found.

YES

**B3Y**

1. Turn MASTER SWITCH to ON.
2. Is STEERING LOCKED indicator ON?

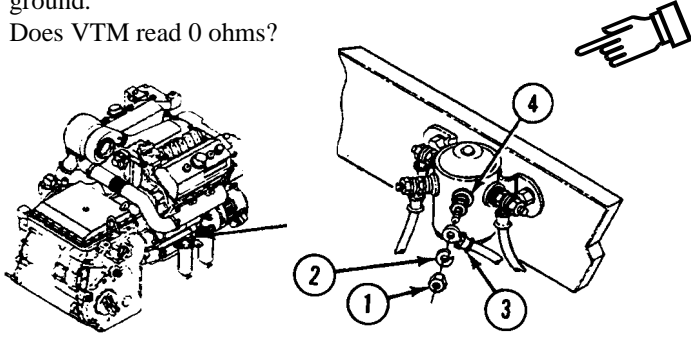
NO

GO TO CY (PAGE 0016 00-6)

YES

**B4Y**

1. Set up STE/ICE test 91 TM 9-4910-751-12&P.
2. Remove nut (1), lockwasher (2), and lead 12349942 circuit 74A (3) from starter relay (4).
3. Measure resistance between lead 12349942 circuit 74A (3) and ground.
4. Does VTM read 0 ohms?



NO

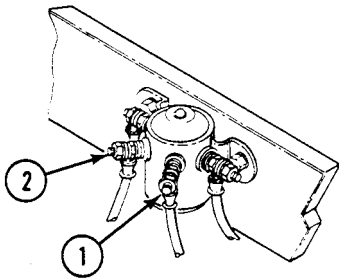
**B4YN**

1. Replace lead 12349942 circuit (WP 0258 00).
2. Verify no faults found.

YES

**B5Y**

1. Set up STE/ICE test 89 TM 9-4910-751-12&P.
2. Install lead 12349942 circuit 74A on starter relay.
3. Measure voltage between circuit 74 (1) and circuit 74A (2) posts on starter relay with START button pressed.
4. Does VTM read less than 22 volts?



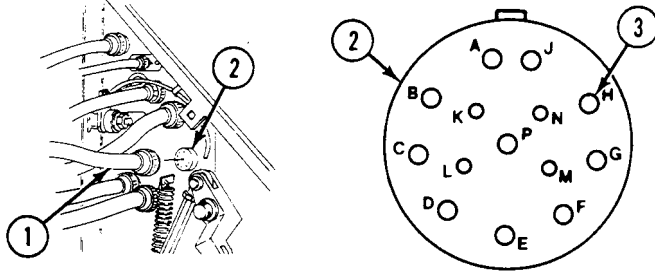
NO

GO TO **DY** (PAGE 0016 00-7)

YES

**B6Y**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at vehicle bulkhead.
2. Measure voltage between harness 12349881 jack (2) socket H (3) and ground with START button pressed.
3. Does VTM read less than 22 volts?



NO

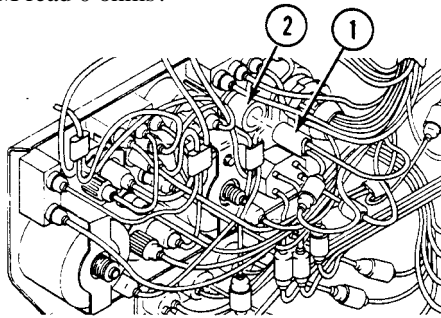
**B6YN**

1. Faulty harness 12349873 circuit 74. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B7Y**

1. Set up STE/ICE test 91 Tm 9-4910-751-12&P.
2. Remove instrument panel for access (WP 0279 00).
3. Remove harness 12349881 plug (1) from start switch jack (2).
4. Measure resistance between start switch jack (2) pins with START button pressed.
5. Does VTM read 0 ohms?



NO

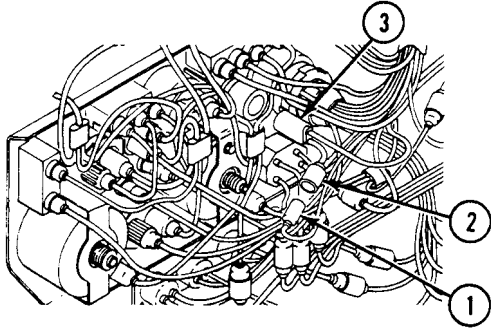
**B7YN**

1. Install harness 12349873 plug on harness 12349881 jack.
2. Replace engine start switch (WP 0284 00).
3. Verify no faults found.

YES

**B8Y**

1. Remove harness 12349813 circuit 14B plug (1) from harness 12349881 circuit 14 jack (2).
2. Measure resistance between harness 12349881 circuit 14 jack (2) and circuit 14 plug (3).
3. Does VTM read 0 ohms?



NO

**B8YN**

1. Install harness 12349873 plug on harness 12349881 jack.
2. Repair harness 12349881 circuit 14 (WP 0382 00).
3. Install instrument panel (WP 0279 00).
4. Verify no faults found.

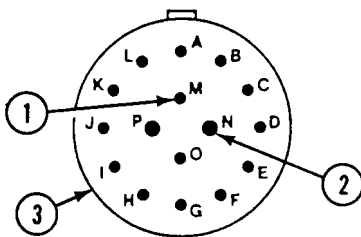
YES

**B9Y**

1. Install harness 12349813 plug on harness 12349881 circuit 14 jack.
2. Repair harness 12349881 circuit 74 (WP 0382 00).
3. Install instrument panel (WP 0279 00).
4. Verify no faults found.

**CY**

1. Turn MASTER SWITCH OFF.
2. Set up STE/ICE test 91 TM 9-4910-751-12&P.
3. Remove transmission controller (WP 0386 00) or (WP 0387 00).
4. Place transmission controller in SL position.
5. Measure resistance between pin M (1) and pin N (2) on controller jack (3).
6. Does VTM read 0 ohms?



NO

**CYN**

1. Replace transmission controller (WP 0386 00) or (WP 0387 00).
2. Verify no faults found.

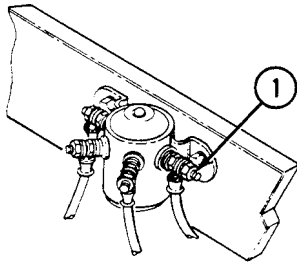
YES

**C2Y**

1. Go to: STEERING LOCKED indicator malfunctions (WP 0054 00).

**DY**

1. Measure voltage between starter relay circuit 74C post (1) and ground.
2. Does VTM read 22 volts or more?



NO

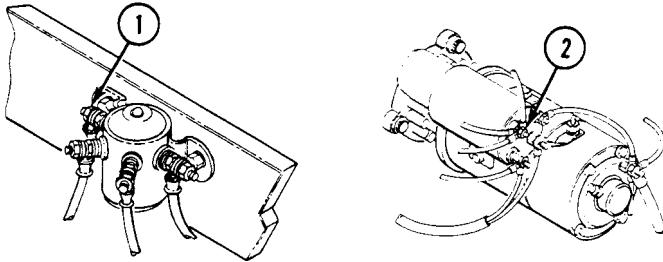
**DYN**

1. Replace lead 12349943-1 (WP 0258 00).
2. Verify no faults found.

YES

**D2Y**

1. Set up STE/ICE test 91 TM 9-4910-751-12&P.
2. Measure resistance between starter relay circuit 74D terminal (1) and starter solenoid circuit 74D terminal (2).
3. Does VTM read 0 ohms?



NO

**D2YN**

1. Replace lead 12349943-2 (WP 0258 00).
2. Verify no faults found.

YES

**D3Y**

1. Replace starter relay (WP 0258 00).
2. Verify no faults found.





**ENGINE DOES NOT START (COLD WEATHER ONLY)**

**0017 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

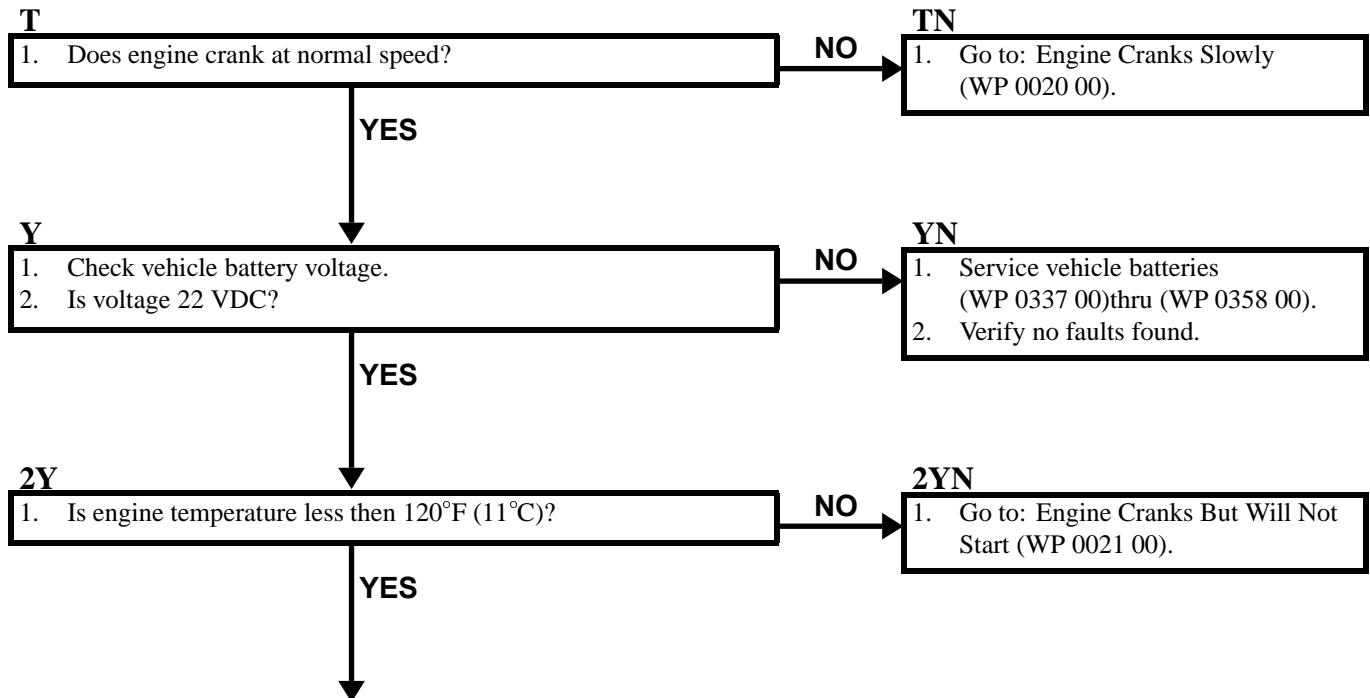
Equipment Condition

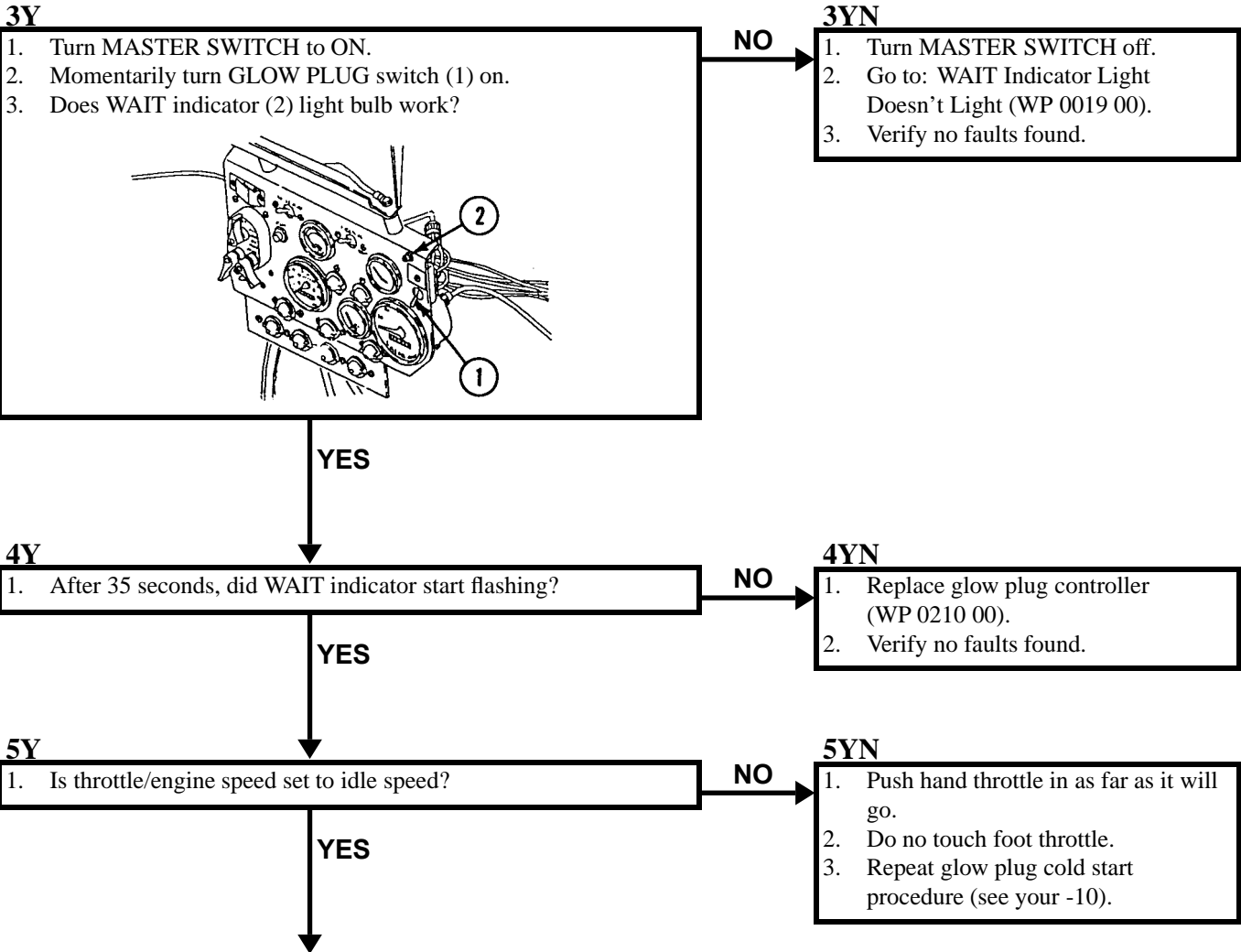
Engine stopped (see your -10)

Personnel Required

Unit Mech 63T10  
Helper (H)

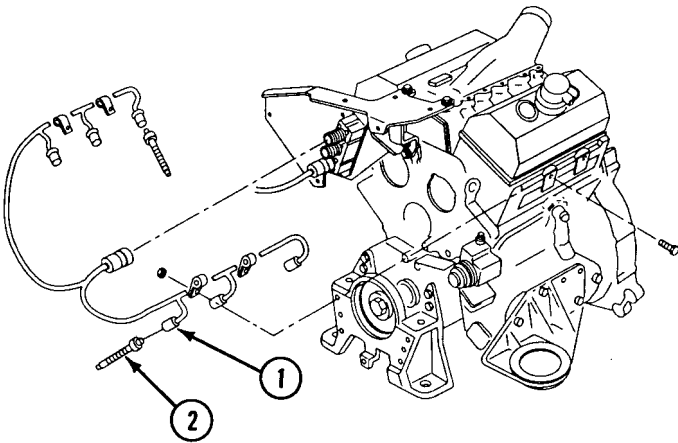
Vehicle blocked (see your -10)





**6Y**

1. Turn MASTER SWITCH OFF.
2. Disconnect glow plug harness lead (1) from glow plug (2).
3. Place multimeter red lead on glow plug and black lead on engine cylinder head.
4. Is resistance less than 3 to 10 ohms?



**NO**

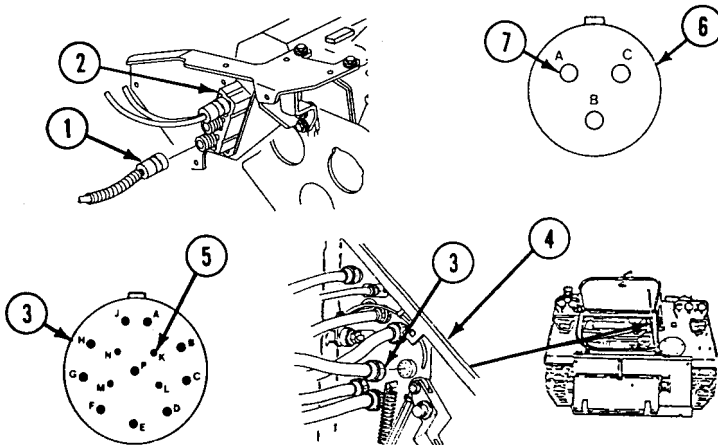
**6YN**

1. Replace glow plugs that are not within 3 to 10 ohms range (WP 0209 00).
2. Verify no faults found.

**YES**

**7Y**

1. Remove engine wiring harness 12349873-1 (1) from J2 connector on controller (2).
2. Remove engine wiring harness 12349873-1 (1) jack (3) from engine compartment bulkhead (4).
3. Check continuity between engine compartment jack (3) pin K (5) and controller plug (6) pin A (7).
4. Does multimeter read 0 ohm?



**NO**

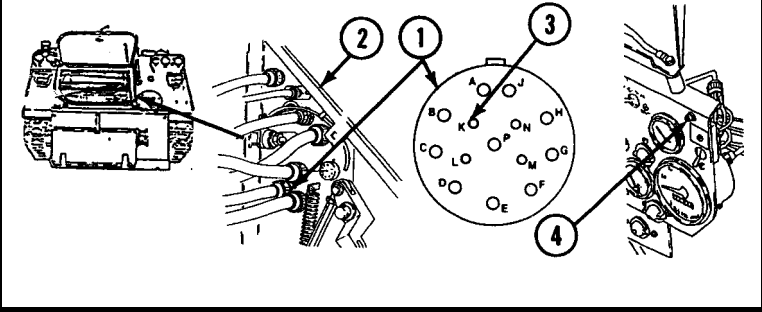
**7YN**

1. Replace engine harness 12349873-1 circuit 406A lead.
2. Verify no faults found.

**YES**

**8Y**

1. Remove front main wiring harness 12349881-2 plug (1) from engine compartment bulkhead (2).
2. Check continuity from plug pin K (3) to WAIT indicator (4) positive terminal.
3. Does multimeter read 0 ohm?



**NO**

**8YN**

1. Faulty main wiring harness 12349881-2. Beyond unit maintenance repair.
2. Notify your supervisor.

**YES**

**9Y**

1. Replace glow plug controller (WP 0210 00). If engine must be started, use your manual override procedure (see your -10).
2. Verify no faults found.

**WAIT INDICATOR FLASHES DURING START ATTEMPTS (PREGLOW OR AFTERGLOW)**

**0018 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

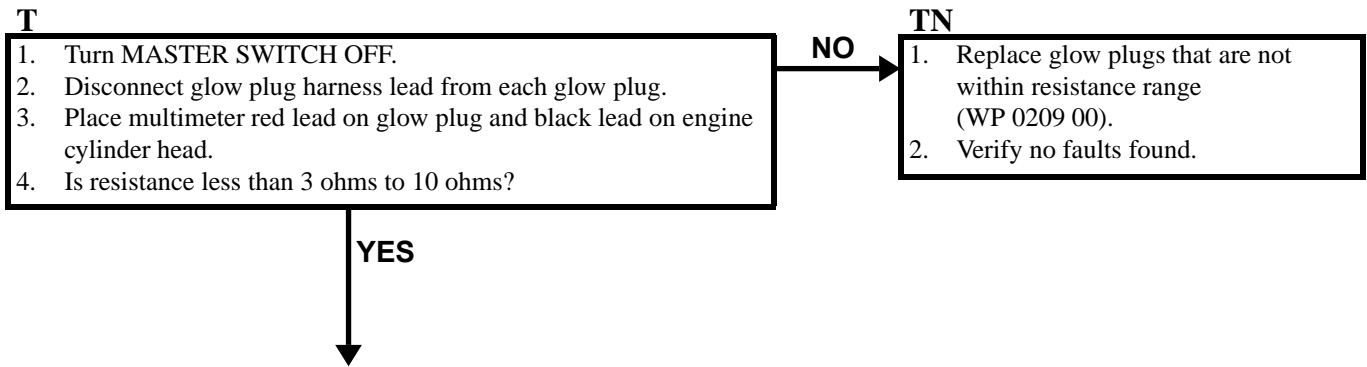
General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
Battery ground leads disconnected (WP 0337 00),  
(WP 0338 00), or (WP 0339 00)

Personnel Required

Unit Mech 63T10  
Helper (H)

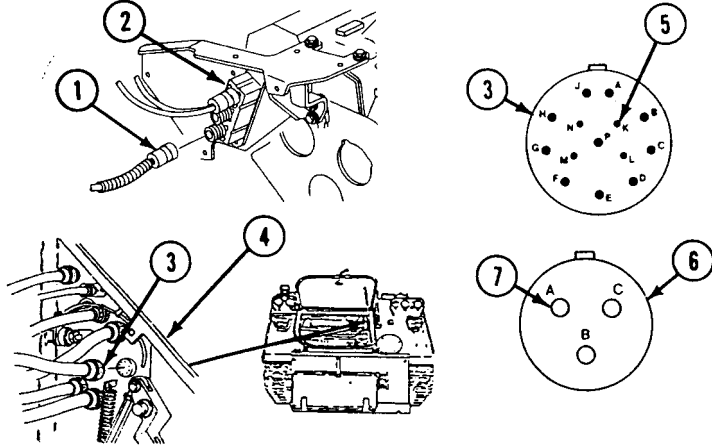


**WAIT INDICATOR FLASHES DURING START ATTEMPTS (PREGLOW OR AFTERGLOW)—Continued**

0018 00

**Y**

1. Remove front main wiring harness 12349873-1 (1) from J2 connector on controller (2).
2. Remove engine wiring harness 12349873-1 jack (3) from engine compartment bulkhead (4).
3. Check continuity between engine compartment jack pin K (5) and controller plug (6) pin A (7).
4. Does multimeter read 0 ohm?



**YES**

**NO**

**YN**

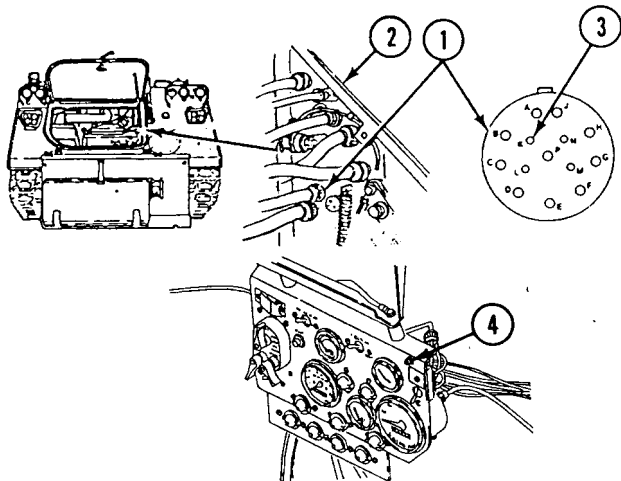
1. Repair or replace engine wiring harness 12349873-1 circuit 406A lead (WP 0359 00).
2. Verify no faults found.

**WAIT INDICATOR FLASHES DURING START ATTEMPTS (PREGLOW OR AFTERGLOW)—Continued**

0018 00

**2Y**

1. Remove front main wiring harness 12349881-2 plug (1) from engine compartment bulkhead (2).
2. Check continuity from plug pin K (3) to WAIT indicator (4) positive terminal.
3. Does multimeter read 0 ohm?



**NO**

**2YN**

1. Faulty front main wiring harness 12349881-2. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**3Y**

1. Replace glow plug controller (WP 0210 00).
2. Verify no faults found.





**WAIT INDICATOR LIGHT DOESN'T LIGHT**

**0019 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Equipment Condition

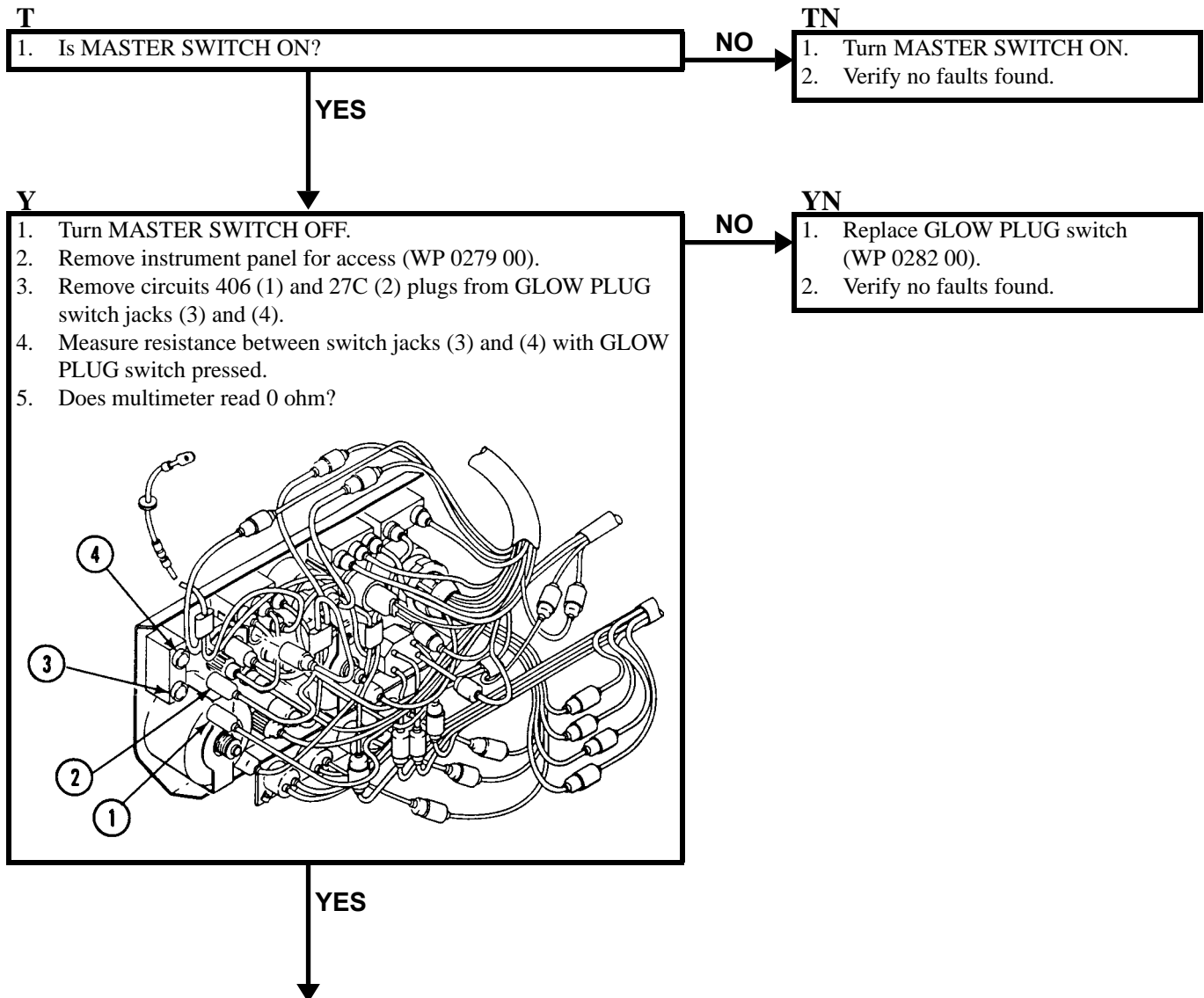
Engine stopped (see your -10)

Vehicle blocked (see your -10)

Personnel Required

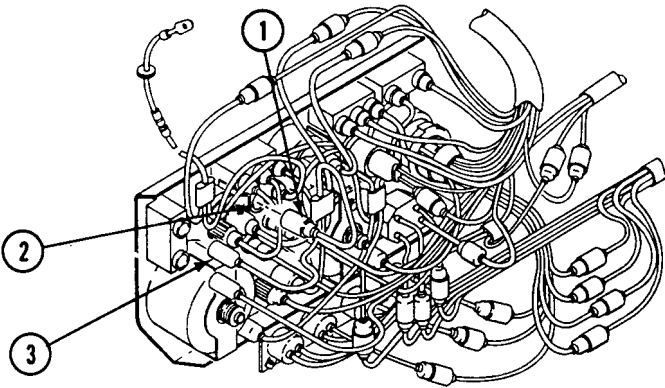
Unit Mech 63T10

Helper (H)



**2Y**

1. Remove circuit 27 plug (1) from instrument panel circuit breaker (2).
2. Measure resistance between cable assembly 12349858 circuit 27 (1) and 27C (3) plug pins.
3. Does multimeter read 0 ohm?



NO

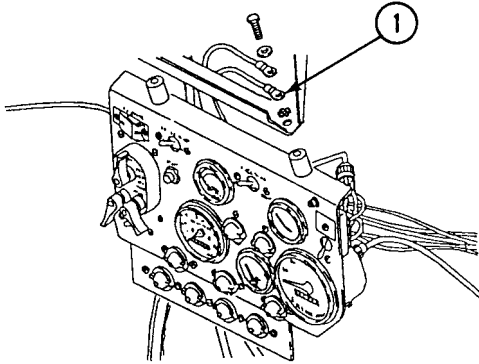
**2YN**

1. Repair special purpose cable 12349858 circuit 27C/27 (WP 0382 00).
2. Verify no faults found.

YES

**3Y**

1. Check circuit 406B lead (1).
2. Is circuit 406B lead grounded to instrument panel mount?



NO

**3YN**

1. Ground circuit 406B lead to instrument panel mount and tighten screw.
2. Verify no faults found.

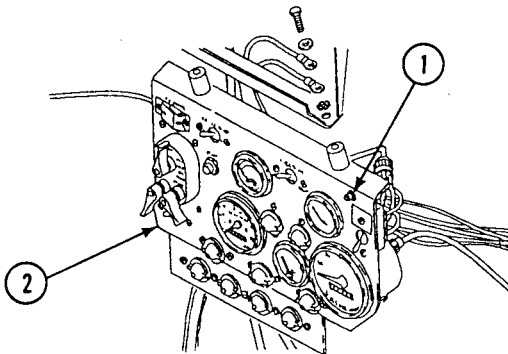
YES

WAIT INDICATOR LIGHT DOESN'T LIGHT—Continued

0019 00

**4Y**

1. Remove knurled nut from WAIT indicator (1) and instrument panel (2).
2. Remove WAIT indicator (1) from instrument panel (2).
3. Check resistance between WAIT indicator's terminals.
4. Does multimeter read approximately 240 ohms of resistance?



**NO**

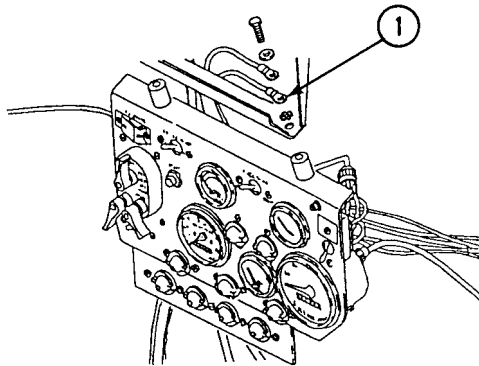
**4YN**

1. Faulty WAIT indicator on wiring harness 12349881-2. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**5Y**

1. Check circuit 406B lead (1) for continuity.
2. Does multimeter read 0 ohm?



**NO**

**5YN**

1. Faulty circuit 406B lead on wiring harness 12349881-2. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

WAIT INDICATOR LIGHT DOESN'T LIGHT—Continued

0019 00

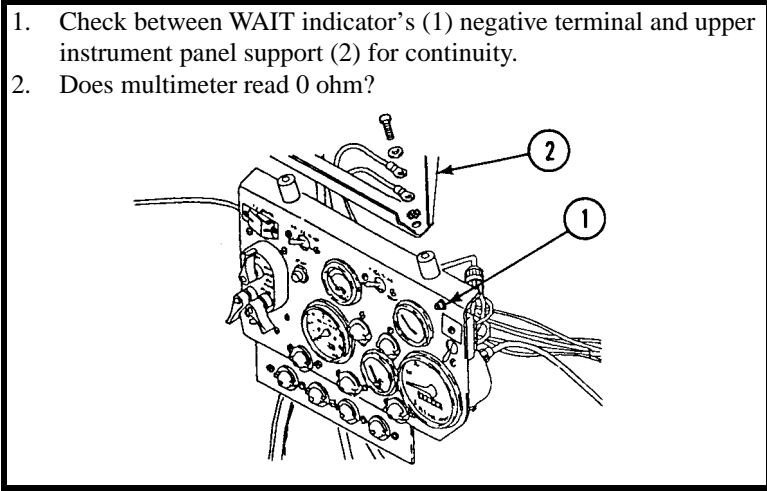
6Y

1. Check between WAIT indicator's (1) negative terminal and upper instrument panel support (2) for continuity.
2. Does multimeter read 0 ohm?

NO

6YN

1. Tighten screw securing instrument panel to support.
2. Verify no faults found



YES

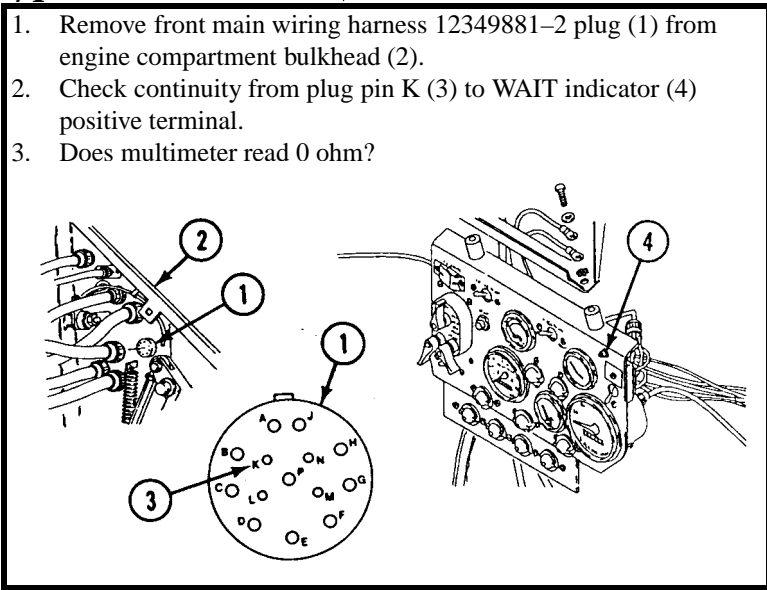
7Y

1. Remove front main wiring harness 12349881-2 plug (1) from engine compartment bulkhead (2).
2. Check continuity from plug pin K (3) to WAIT indicator (4) positive terminal.
3. Does multimeter read 0 ohm?

NO

7YN

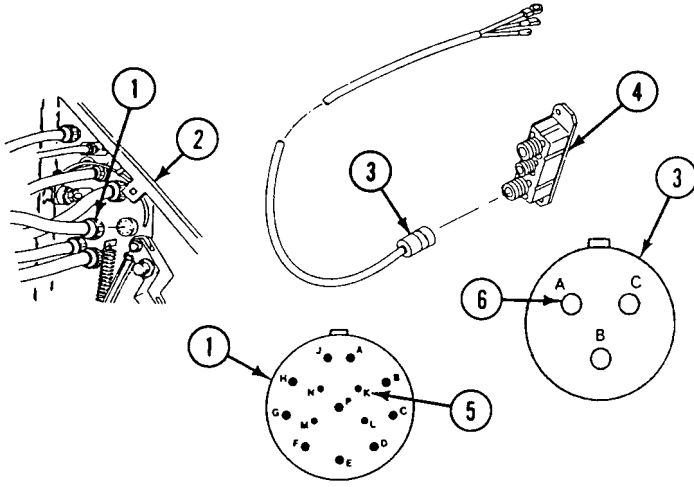
1. Faulty front main wiring harness 12349881-2. Beyond unit maintenance repair.
2. Notify supervisor.



YES

**8Y**

1. Remove engine wiring harness 12349873-1 plug (1) from engine compartment bulkhead (2).
2. Disconnect plug (3) from glow plug controller (4).
3. Check continuity between engine wiring harness 12349873-1 plug (1) pin K (5) and plug (3) pin A (6).
4. Does multimeter read 0 ohms?



YES

**9Y**

1. Replace glow plug controller (WP 0210 00).
2. Verify no faults found.

NO

**8YN**

1. Replace engine wiring harness 12349873-1 circuit 406A lead.
2. Verify no faults found.



**ENGINE CRANKS SLOWLY**

**0020 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

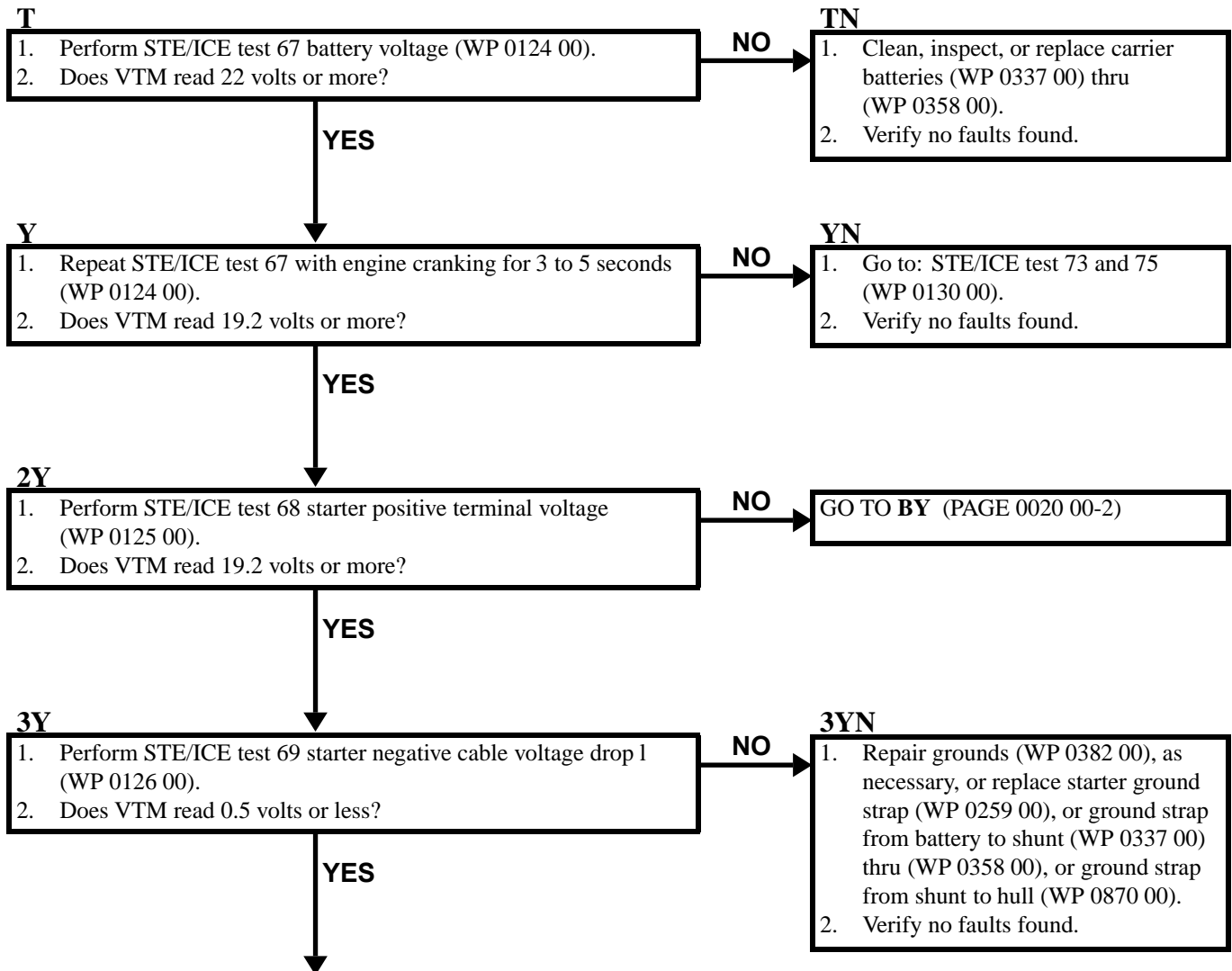
General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
STE/ICE-R test set (WP 0926 00, Item 61)

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)

Personnel Required

Unit Mech 63T10  
Helper (H)



ENGINE CRANKS SLOWLY—Continued

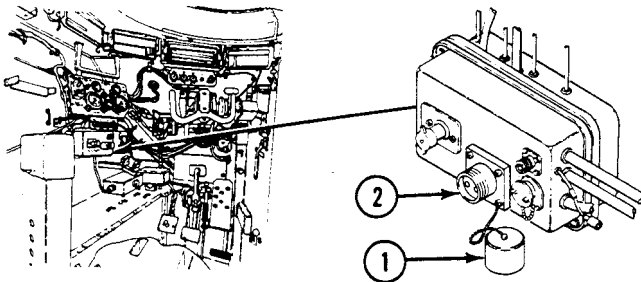
0020 00

**4Y**

1. Replace starter (WP 0259 00).
2. Verify no faults found.

**BY**

1. Remove cap (1) from slave receptacle (2).
2. Measure voltage at slave receptacle (2) on master switch panel with engine cranking for 3 to 5 seconds.
3. Does VTM read less than 19.2 volts?

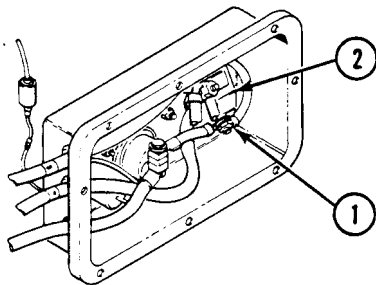


**NO** → GO TO CY (PAGE 0020 00-3)

**YES**

**B2Y**

1. Remove MASTER SWITCH panel (WP 0260 00) or (WP 0261 00).
2. Inspect terminal end on lead 12349945-1 (1) on switch (2).
3. Is terminal end free from corrosion and/or other damage?



**NO** → **B2YN**  
 1. Repair or replace lead (WP 0382 00), (WP 0356 00), (WP 0357 00) or (WP 0358 00).  
 2. Verify no faults found.

**YES**

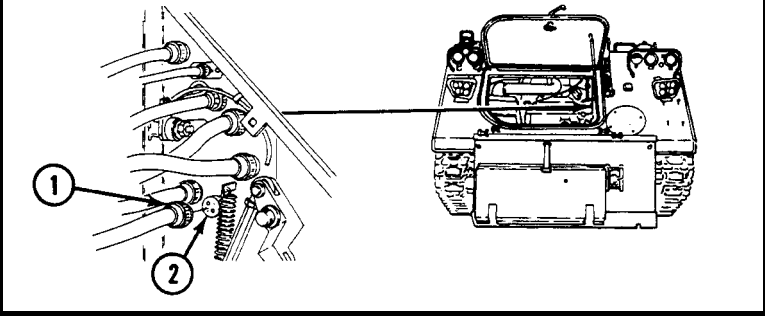
**B3Y**

1. Replace MASTER SWITCH (WP 0261 00) or (WP 0262 00).
2. Verify no faults found.



**CY**

1. Remove harness 12349873 circuit 6/6A plug (2) from harness 12349881 circuit 6/6A jack (1) at vehicle bulkhead.
2. Inspect plug and jack for corrosion and/or other damage.
3. Are parts in good condition?



**NO**

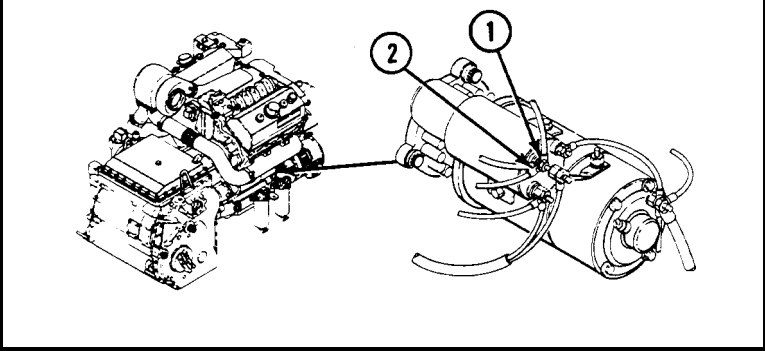
**CYN**

1. Faulty plug and/or jack. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**C2Y**

1. Install harness 12349873 circuit 6/6A plug (1) on harness 12349881 circuit 6/6A (2) jack at vehicle bulkhead.
2. Inspect harness 12349873 circuit 6 (1) and 6A (1) terminal ends on starter.
3. Are terminal ends and leads free from corrosion and/or other damage?



**NO**

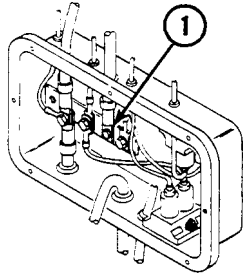
**C2YN**

1. Replace harness 12349873 (WP 0382 00).
2. Verify no faults found.

**YES**

**C3Y**

1. Remove MASTER SWITCH panel (WP 0260 00) or (WP 0261 00).
2. Inspect lead 12350256-1 (1) from MASTER SWITCH to distribution box.
3. Are lead and lead end free from corrosion and damage?



NO

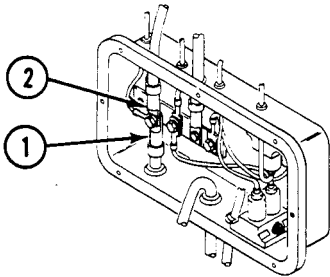
**C3YN**

1. Replace lead 12350256-1 (WP 0266 00) or (WP 0267 00).
2. Verify no faults found.

YES

**C4Y**

1. Inspect harness 12349881 circuit 6 (1) and 6A (2) leads on distribution box.
2. Are leads and lead terminal ends free of corrosion and damage?



NO

**C4YN**

1. Repair harness 12349881 circuit 6 and 6A (WP 0382 00).
2. Verify no faults found.

YES

**C5Y**

1. Install MASTER SWITCH panel (WP 0260 00) or (WP 0261 00).
2. Replace starter assembly (WP 0259 00).
3. Verify no faults found.

**ENGINE CRANKS BUT WILL NOT START**

**0021 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Driver's power plant access panels removed  
(see your -10)

Materials/Parts

Suitable container

Power plant rear access panels removed (see your -10)

Personnel Required

Unit Mechanic

Trim vane lowered (see your -10)

Helper (H)

Power plant access door open (see your -10)

**T**

1. Inspect condition and operation of fuel cut off cable assembly (WP 0220 00).
2. Is cable assembly in good condition and in proper adjustment?

**NO**

**TN**

1. Replace and/or adjust fuel cut off cable assembly (WP 0220 00).
2. Verify no faults found.

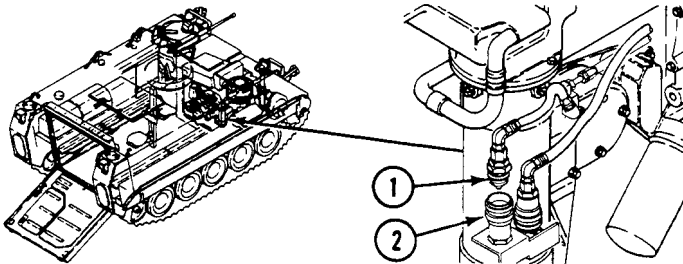
**YES**

**Y**

1. Disconnect engine fuel return line (1) from quick disconnect fitting (2).
2. Depress plunger on quick disconnect fitting (1). Catch fuel in suitable container.
3. Crank engine with plunger depressed. Have helper assist.
4. Does fuel flow out while cranking engine?

**NO**

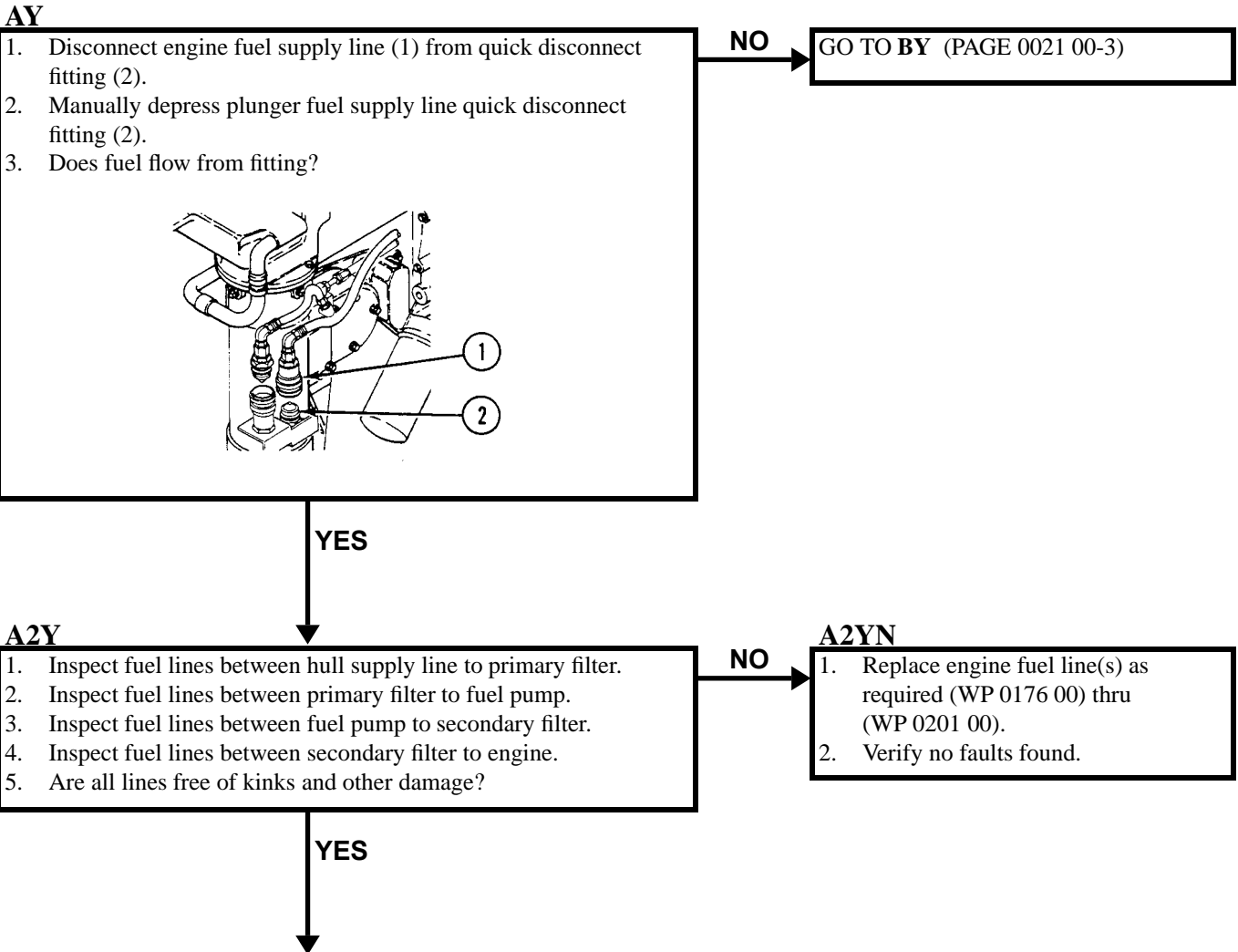
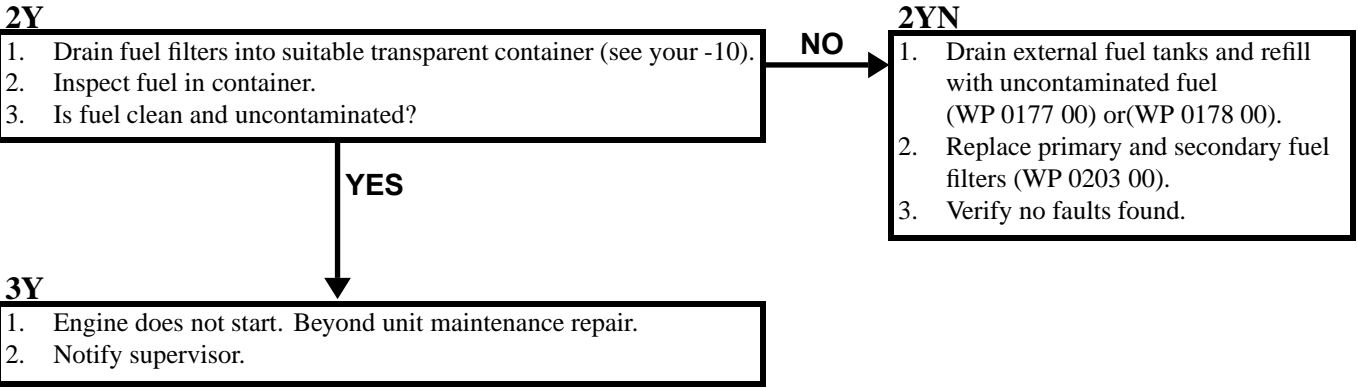
**GO TO AY (PAGE 0021 00-2)**



**YES**

ENGINE CRANKS BUT WILL NOT START—Continued

0021 00

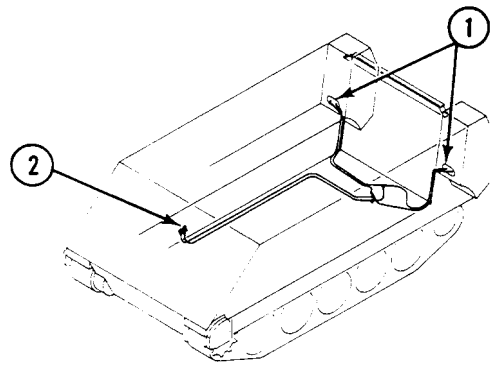


**A3Y**

1. Replace fuel pump (WP 0166 00).
2. Verify no faults found.

**BY**

1. Remove rear compartment floor plates (WP 0539 00) thru (WP 0545 00).
2. Inspect fuel lines between fuel tanks (1) and quick disconnect fittings (2).
3. Are all line and fittings free from leaks and damage?



NO

**BYN**

1. Repair/replace fuel line(s) as required (WP 0176 00) thru (WP 0201 00).
2. Verify no faults found.

YES

**B2Y**

1. Clear clogged fuel pick up tubes in external tanks (WP 0177 00) and (WP 0178 00).
2. Verify no faults found.



**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)**

0022 00

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Fuel tanks half full or more (see your -10)

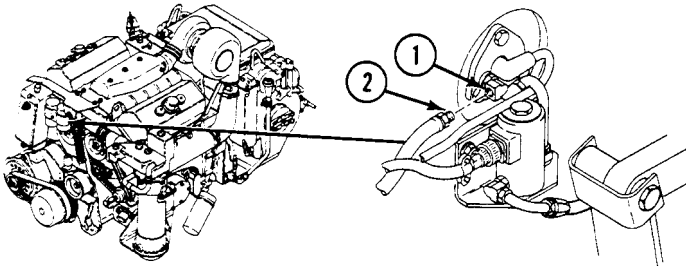
Personnel Required

Unit Mechanic

Helper (H)

**T**

1. Remove air pump to air box heater hose (2) from air box heater (1).
2. Turn MASTER SWITCH and AIR BOX HEATER to ON (see your -10).
3. Does air flow from end of hose?



**NO**

**GO TO AY (PAGE 0022 00-4)**

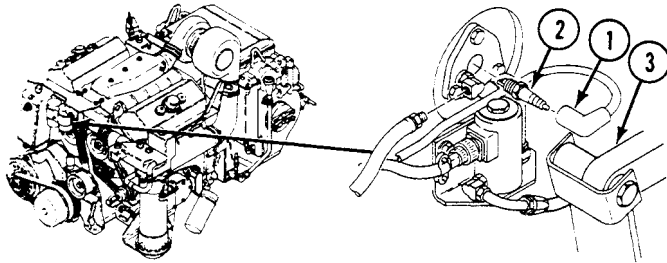
**YES**

**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)—Continued**

0022 00

**Y**

1. Release air box heater switch.
2. Install air pump to air box heater hose onto air box heater.
3. Remove air box igniter high voltage wire (1) and igniter (2).
4. Install high voltage wire (1) on igniter (2).
5. Ground hex portion of igniter (2) on idler pulley pivot (3).
6. Depress air box heater switch.
7. Does igniter produce a spark?



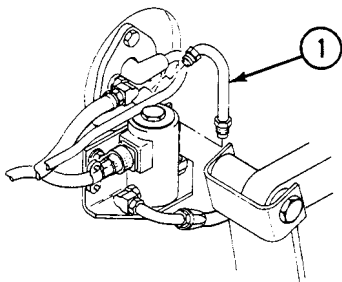
**NO**

**GO TO BY (PAGE 0022 00-5)**

**YES**

**2Y**

1. Release air box heater switch.
2. Install air box igniter.
3. Remove solenoid to air box heater tube assembly (1).
4. Depress air box heater switch with engine cranking for 5 seconds. Do not allow engine to start.
5. Does fuel fail to flow from solenoid with switch depressed?



**NO**

**2YN**

1. Air box heater is working properly.
2. Go to Engine cranks, but will not start (WP 0021 00).

**YES**

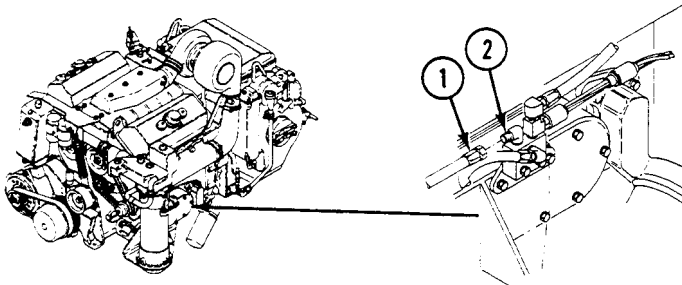


**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)—Continued**

0022 00

**3Y**

1. Turn AIRBOX HEATER and MASTER SWITCH to OFF.
2. Remove fuel supply line to solenoid (1) at restrictor block (2).
3. Does fuel flow from restrictor block with engine cranking?



**NO**

**3YN**

1. Install fuel supply line to solenoid at restrictor block (WP 0206 00).
2. Go to engine cranks, but won't start (WP 0021 00).

**YES**

**4Y**

1. Inspect fuel supply line to solenoid.
2. Is line free from kinks or clogs?

**NO**

**4YN**

1. Replace air box fuel supply line (WP 0206 00).
2. Verify no faults found.

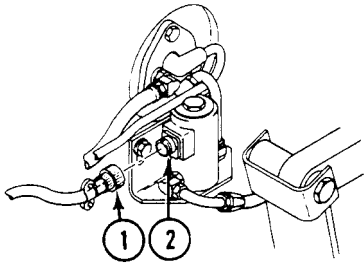
**YES**

**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)—Continued**

0022 00

**5Y**

1. Install fuel supply line to solenoid at restrictor block (WP 0206 00).
2. Remove air box heater harness plug (1) from solenoid (2).
3. Measure voltage between plug (1) pins with air box heater switch depressed.
4. Does multimeter read less than 17 volts?



**NO**

**5YN**

1. Replace air box heater fuel supply solenoid (WP 0205 00).
2. Verify no faults found.

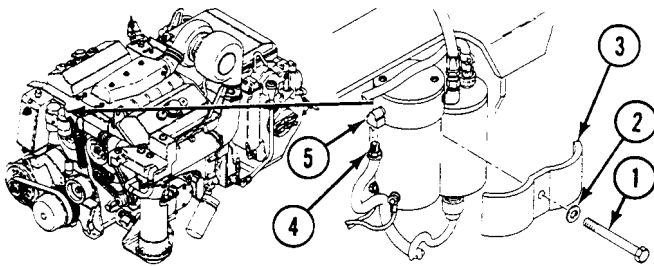
**YES**

**6Y**

1. GO TO **B4Y** (PAGE 0022 00-6).

**AY**

1. Turn AIRBOX HEATER and MASTER SWITCH to OFF.
2. Remove screw (1), washer (2), and bracket (3).
3. Remove air hose (4) from air pump elbow (5).
4. Is hose free from restriction and damage?



**NO**

**AYN**

1. Replace air pump to air box heater hose.
2. Verify no faults found.

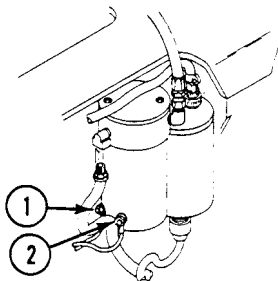
**YES**

**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)—Continued**

0022 00

**A2Y**

1. Turn MASTER SWITCH to ON.
2. Measure voltage between power lead terminals (1) on air pump (2) with air box switch depressed.
3. Does multimeter read less than 17 volts?



**NO**

**A2YN**

1. Turn MASTER SWITCH to OFF.
2. Replace air pump.
3. Verify no faults found.

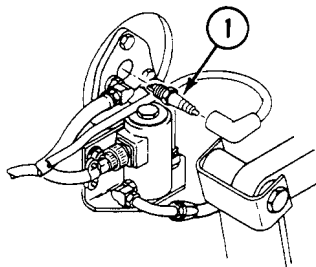
**YES**

**A3Y**

1. GO TO **B4Y** (PAGE 0022 00-6).

**BY**

1. Inspect igniter electrode (1).
2. Is igniter electrode free from debris and damage?



**NO**

**BYN**

1. Clean and/or replace air box heater igniter (WP 0207 00).
2. Verify no faults found.

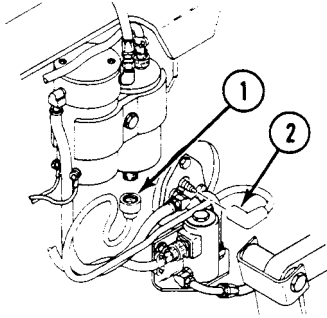
**YES**

**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)—Continued**

0022 00

**B2Y**

1. Install air box igniter (WP 0207 00).
2. Remove ignition wire (1).
3. Measure resistance between wire ends (1) and (2).
4. Is ignition wire in good condition and measure 0 ohms?



NO

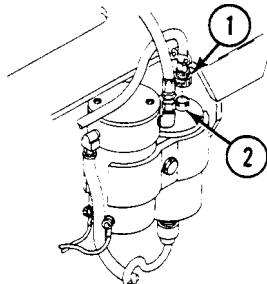
**B2YN**

1. Replace igniter wire (WP 0204 00).
2. Verify no faults found.

YES

**B3Y**

1. Install ignition wire on igniter (WP 0204 00).
2. Remove air box heater harness plug (1) from ignition coil (2).
3. Depress air box heater switch.
4. Measure voltage between air box heater harness plug (1) pins then release switch.
5. Does multimeter read less than 17 volts with switch depressed?



NO

**B3YN**

1. Replace ignition coil (WP 0208 00).
2. Verify no faults found.

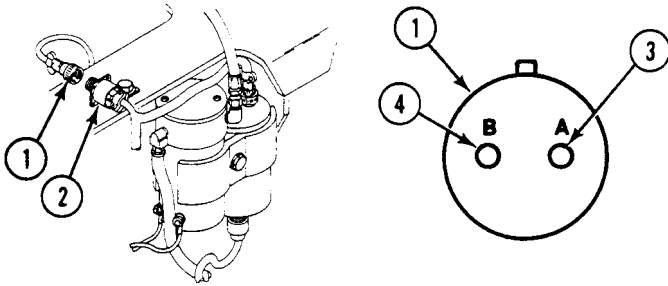
YES

**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)—Continued**

0022 00

**B4Y**

1. Install solenoid to air box heater fuel line, if removed.
2. Install hose on air pump elbow, if removed.
3. Install bracket, screw, and washer on air pump, if removed.
4. Install air box heater harness plug on ignition coil, if removed.
5. Remove harness 12349873 plug (1) from air box heater harness jack (2).
6. Turn MASTER SWITCH to ON.
7. Measure voltage between harness 12349873 plug (1) pin A (3) to ground and pin B (4) to ground with air box heater switch depressed.
8. Does multimeter read less than 17 volts either time?



NO

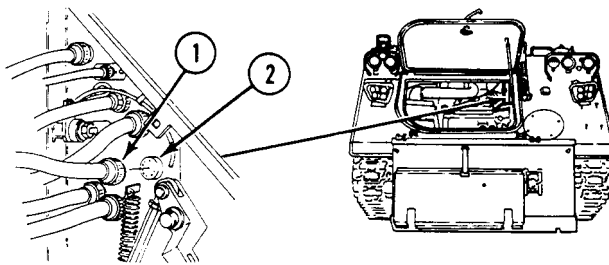
**B4YN**

1. Turn MASTER SWITCH to OFF.
2. Replace air box heater wiring harness (WP 0205 00).
3. Verify no faults found.

YES

**B5Y**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
2. Measure voltage between harness 12349881 jack (2) pin C (3) and ground with air box heater switch depressed.
3. Does multimeter read less than 17 volts?



NO

**B5YN**

1. Turn MASTER SWITCH to OFF.
2. Replace harness 12349873 (WP 0359 00).
3. Verify no faults found.

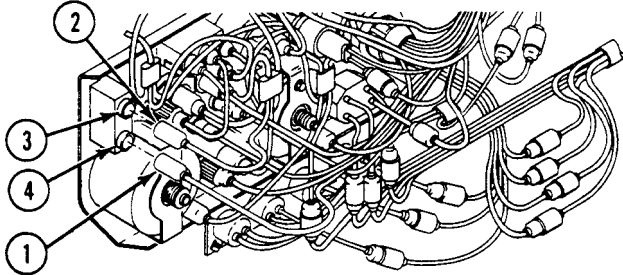
YES

**ENGINE CRANKS BUT WON'T START BELOW 40° (AIR BOX HEATER IS USED)—Continued**

0022 00

**B6Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access. See task: remove instrument panel mounts and ground leads (WP 0295 00).
3. Remove circuits 406 (1) and 27C (2) plugs from air box heater switch jacks (3) and (4).
4. Measure resistance between switch jacks (3) and (4) with air box heater switch depressed.
5. Does multimeter read 0 ohms?



NO

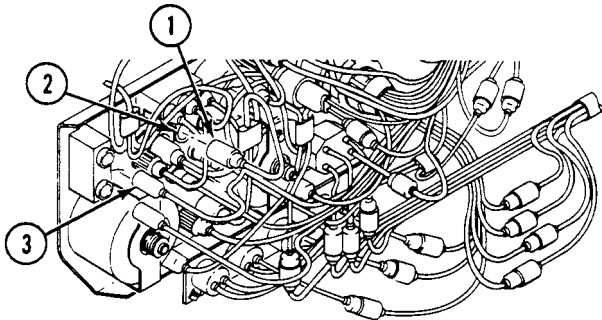
**B6YN**

1. Replace air box heater switch (WP 0282 00).
2. Verify no faults found.

YES

**B7Y**

1. Remove circuit 27 plug (1) from instrument panel circuit breaker (2).
2. Measure resistance between cable assembly 12349858 circuit 27 (1) and 27C (3) plug pins.
3. Does multimeter read 0 ohms?



NO

**B7YN**

1. Repair special purpose cable 12349858 circuit 27C/27 (WP 0382 00).
2. Verify no faults found.

YES

**B8Y**

1. Repair harness 12349881 circuit 406 (WP 0382 00).
2. Verify no faults found.

**ENGINE CRANKS BUT WON'T START BELOW 40°F (GLOW PLUGS ARE USED)**

**0023 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

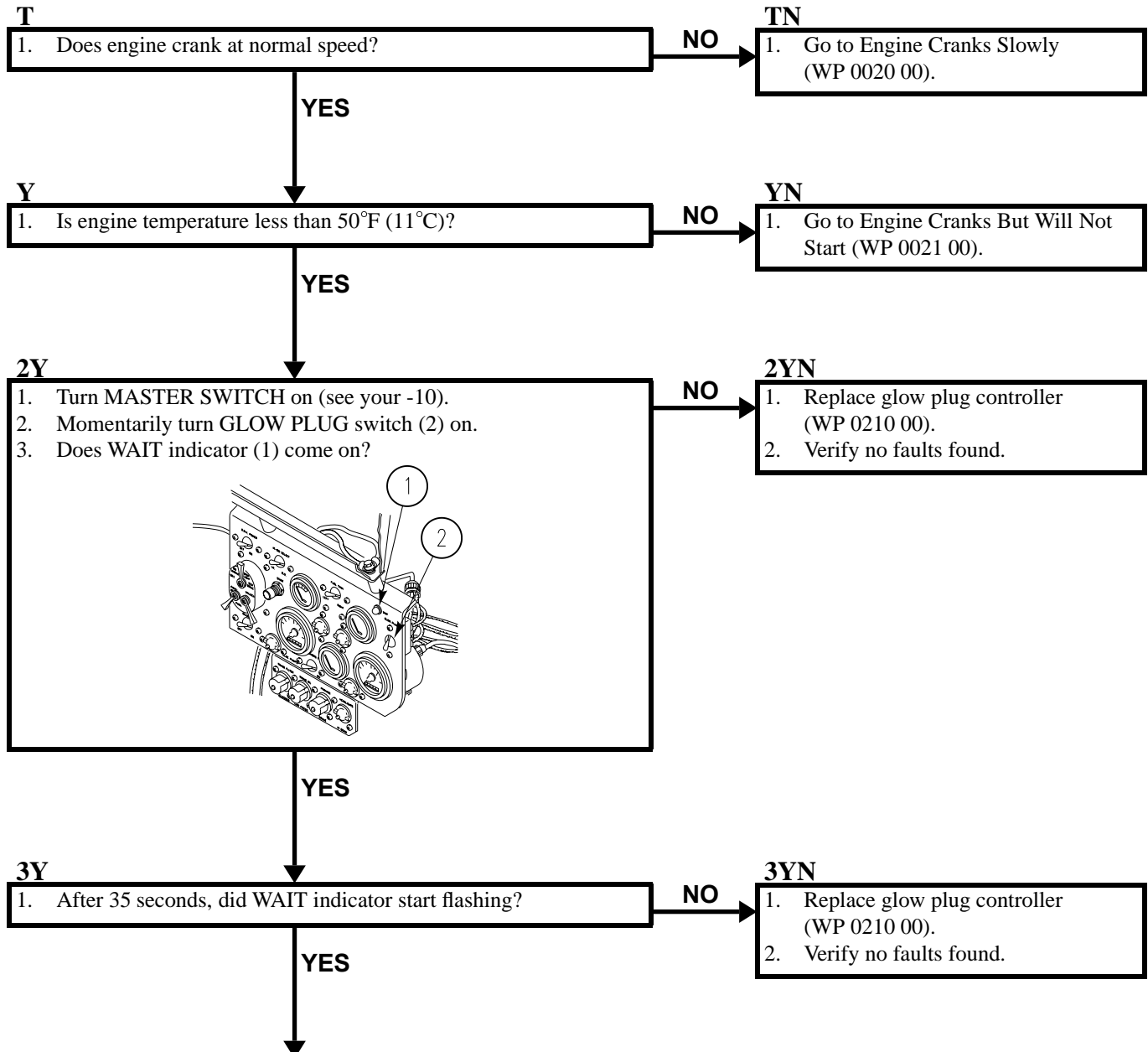
- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)

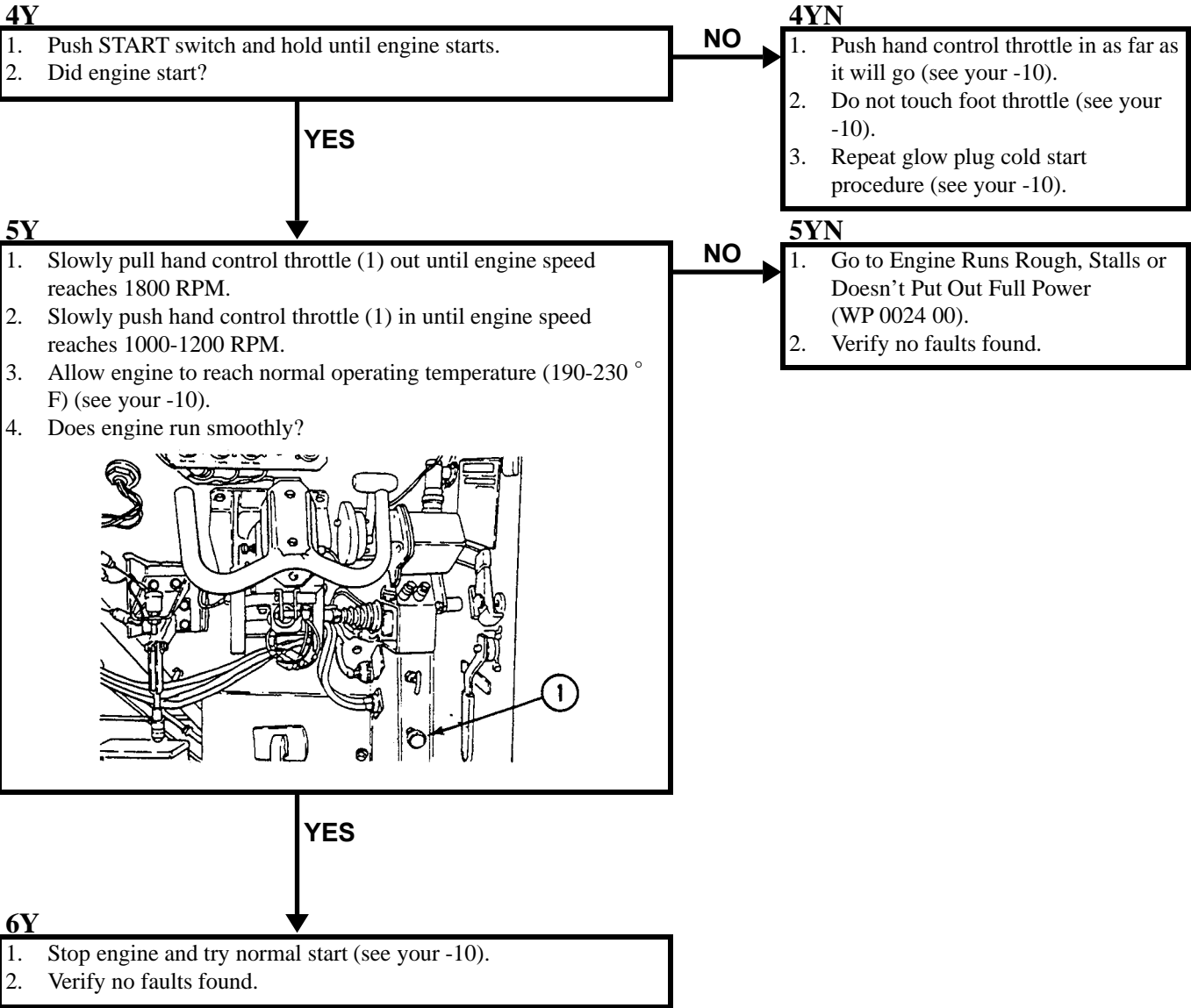
Personnel Required

Unit Mechanic



**ENGINE CRANKS BUT WON'T START BELOW 40°F (GLOW PLUGS ARE USED)—Continued**

0023 00





**ENGINE RUNS ROUGH, STALLS, OR DOESN'T PUT OUT FULL POWER**

**0024 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

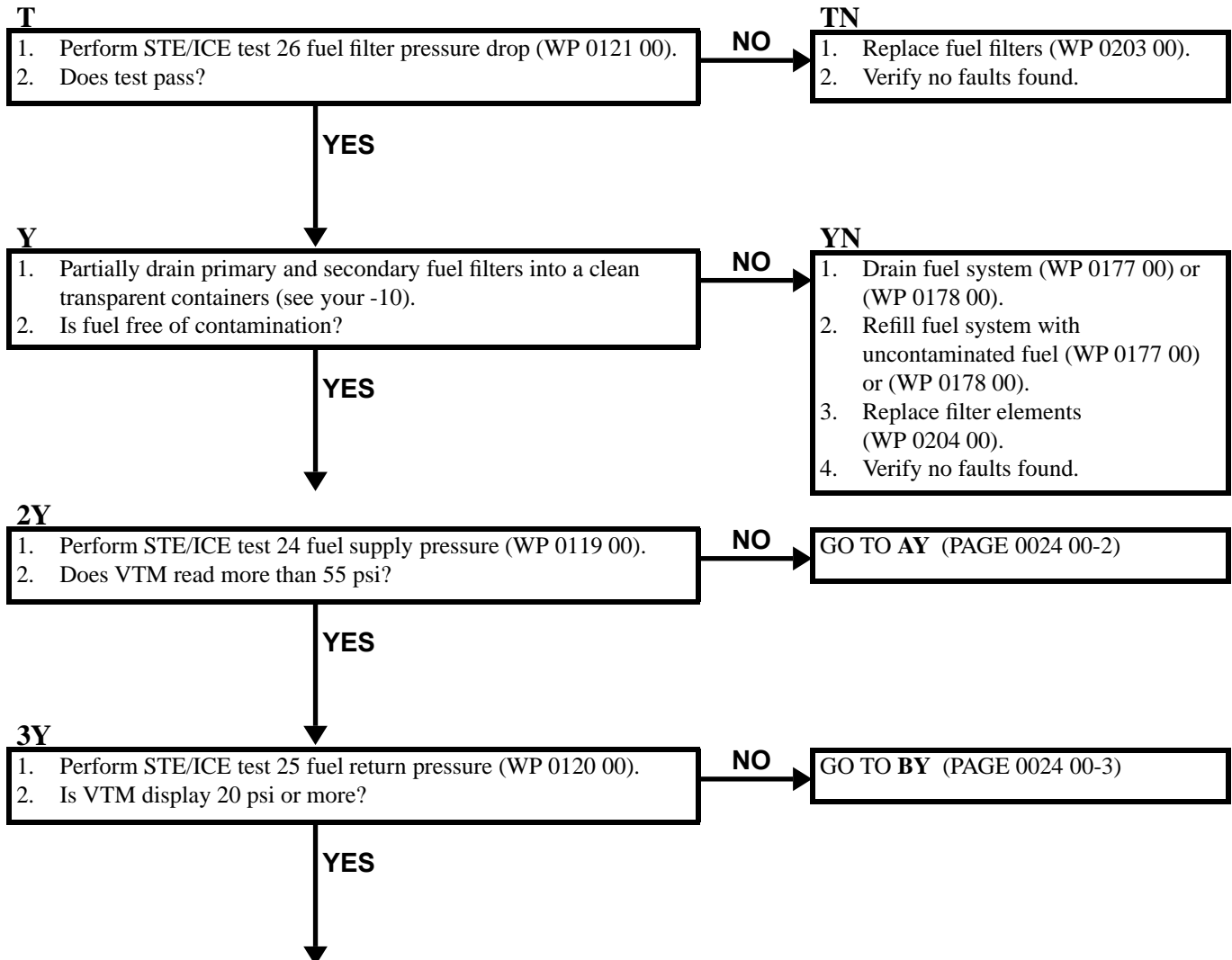
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Power plant rear access panels removed (see your -10)
- Rear floor plates removed (see Table of Contents)

Materials/Parts

Suitable container

Personnel Required

Unit Mechanic  
Helper (H)



**4Y**

1. Start engine and run to normal operating temperature (see your -10).
2. Shift transmission into position 1 (see your -10).
3. Perform STE/ICE test 30 turbo outlet pressure (WP 0122 00) with accelerator and brake pedals fully depressed.
4. Observe VTM and tachometer readings.
5. Repeat STE/ICE test 30 with same tachometer reading, but with transmission selector in SL.
6. Is first VTM reading at least 10 psi higher than second VTM reading?

**NO** → GO TO CY (PAGE 0024 00-4)

**YES**

**5Y**

1. Perform STE/ICE test 32 air box pressure (WP 0123 00) with transmission selector in SL and engine at idle.
2. Repeat STE/ICE test 32 for engine speeds of 1000 and 2000 RPM.
3. Does VTM give higher readings for higher RPM?

**NO** → **5YN**

**5YN**

1. Low air box pressure. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**6Y**

1. Faulty engine governor. Beyond unit maintenance repair.
2. Notify supervisor.

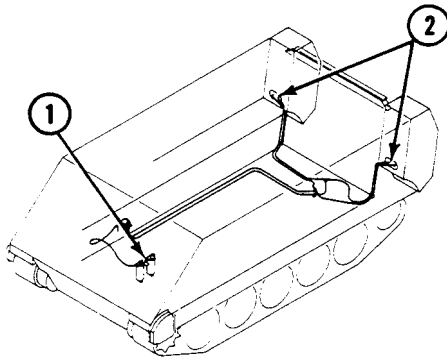
**AY**

1. Inspect fuel lines between second fuel filter (1) and fuel tanks (2).
2. Are all lines and fittings free from kinks and leaks?

**NO** → **AYN**

**AYN**

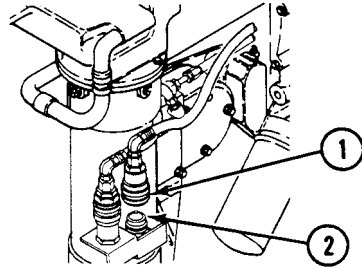
1. Replace fuel lines and/or fittings as needed (WP 0176 00) thru (WP 0201 00) .
2. Verify no faults found.



**YES**

**A2Y**

1. Disconnect engine fuel supply line (1) from quick disconnect fitting (2).
2. Manually depress plunger on fuel supply quick disconnect fitting (2).
3. Does fuel flow freely from fitting?



NO

**A2YN**

1. Unclog fuel pick up tubes in fuel tanks (WP 0179 00) or (WP 0180 00).
2. Verify no faults found.

YES

**A3Y**

1. Replace engine fuel pump (WP 0166 00).
2. Verify no faults found.

**BY**

1. Inspect fuel lines on engine between secondary fuel filter and engine cylinder heads.
2. Inspect fuel lines on engine between right engine cylinder head and left cylinder head.
3. Inspect fuel lines on engine between engine cylinder head and restrictor block.
4. Are any fuel lines kinked or leaking?

NO

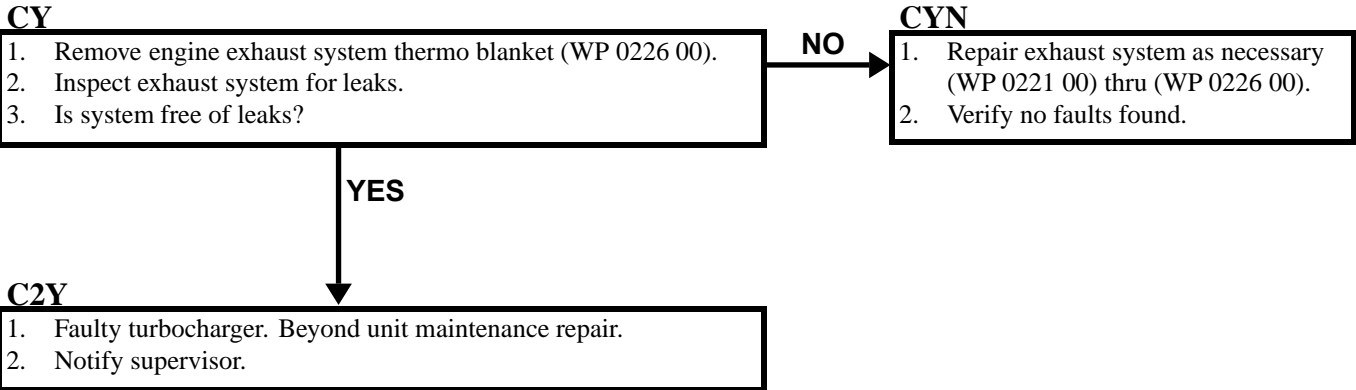
**BYN**

1. Internal engine fuel restriction. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B2Y**

1. Replace fuel lines as necessary (WP 0176 00) thru (WP 0201 00).
2. Verify no faults found.



**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR**

**0025 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

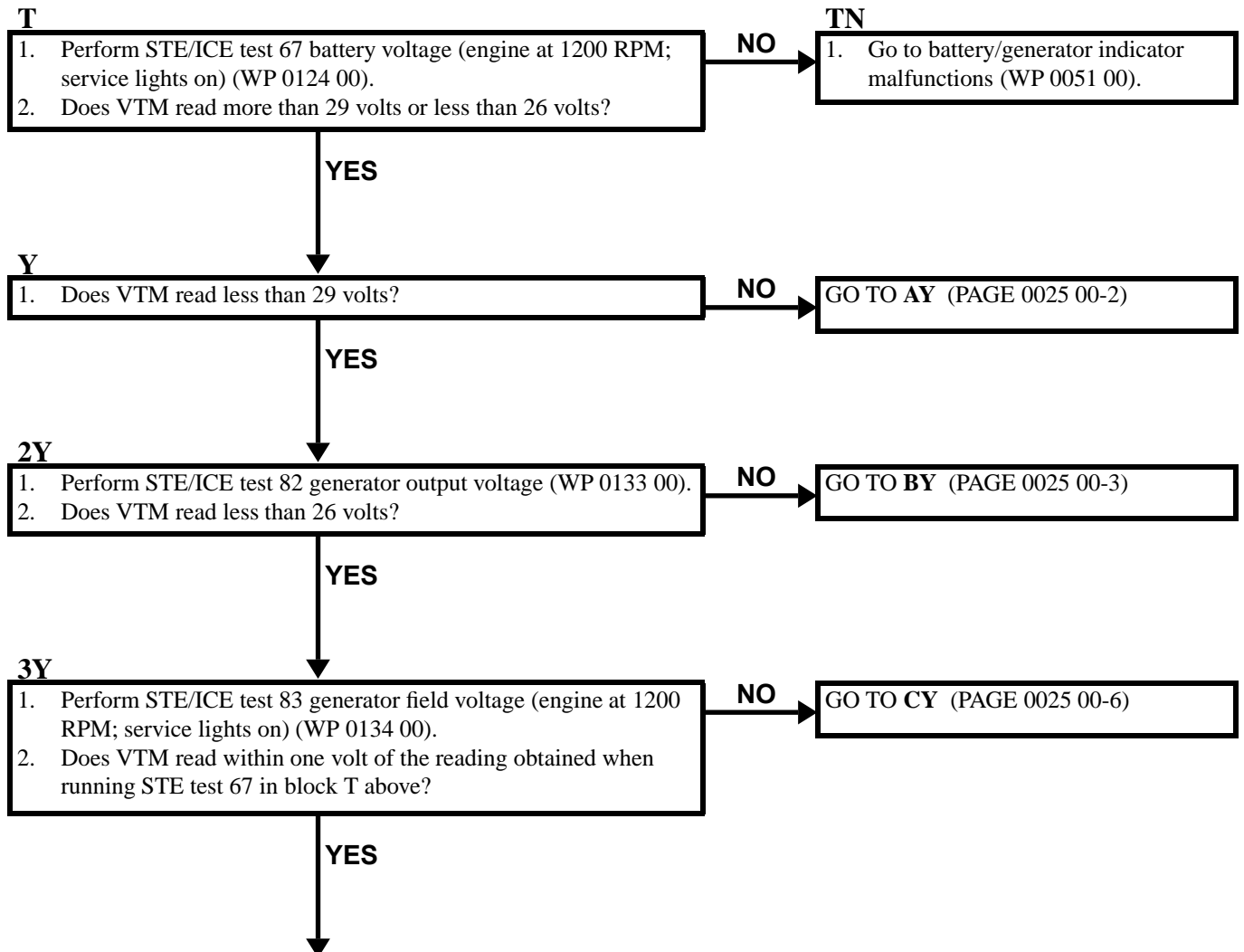
General Mechanic's Tool Kit (WP 0926 00, Item 65)  
STE/ICE Test Set (WP 0926 00, Item 61)  
Jumper Wire

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access door open (see your -10)  
Driver's power plant access panel removed (see your -10)

Personnel Required

Unit Mechanic  
Helper (H)

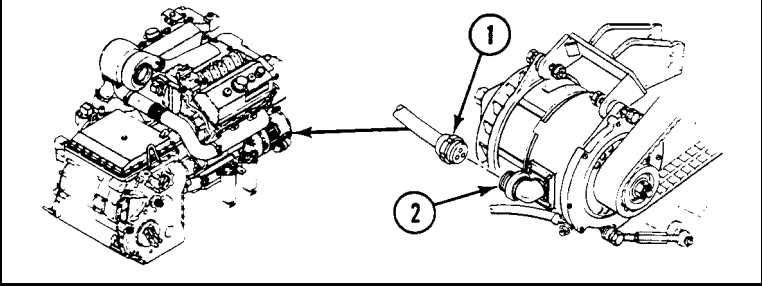


**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**4Y**

1. Disconnect battery ground strap/lead(s) (WP 0337 00), (WP 0338 00), or (WP 0339 00).
2. Remove harness 12349873 plug (1) from generator jack (2).
3. Inspect harness plug pins for corrosion or damage.
4. Is plug free from corrosion and damage?



**NO**

**4YN**

1. Replace harness. (See Table of Contents).
2. Verify no faults found.

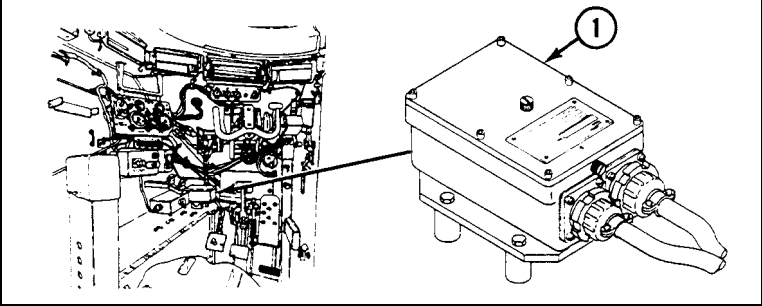
**YES**

**5Y**

1. Replace generator (WP 0255 00).
2. Verify no faults found.

**AY**

1. Measure resistance between regulator housing (1) and ground. Use VTM.
2. Does VTM read 0 ohms?



**NO**

**AYN**

1. Remove regulator (WP 0257 00) and clean ground contact (bolted surface).
2. Install regulator (WP 0257 00).
3. Verify no faults found.

**YES**

**A2Y**

1. Has regulator been adjusted?

**NO**

**A2YN**

1. Adjust voltage regulator (WP 0256 00).
2. Verify no faults found.

**YES**

**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**A3Y**

1. Has regulator been replaced?

**NO**

**A3YN**

1. Replace regulator (WP 0257 00).  
2. Verify no faults found.

**YES**

**A4Y**

1. Replace generator (WP 0255 00).  
2. Verify no faults found.

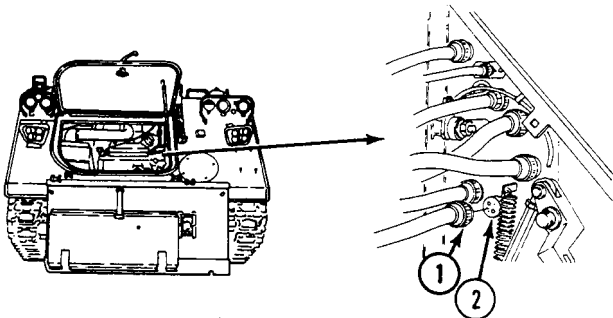
**BY**

1. Disconnect battery ground strap/lead(s) (WP 0337 00), (WP 0338 00), or (WP 0339 00).  
2. Remove harness 12349873 plug (1) from harness 12349881 jack (2).  
3. Inspect plugs and jacks for damage or corrosion.  
4. Are plugs and jacks free from corrosion and damage?

**NO**

**BYN**

1. Replace harness 12349873.(See Table of Contents).  
2. Verify no faults found.



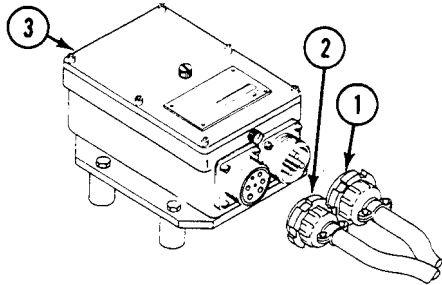
**YES**

**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**B2Y**

1. Remove harness 12349881 plugs (1) and (2) from voltage regulator (3).
2. Inspect all plug and jack pins for corrosion or damage.
3. Are plugs and jacks free from corrosion and damage?



NO

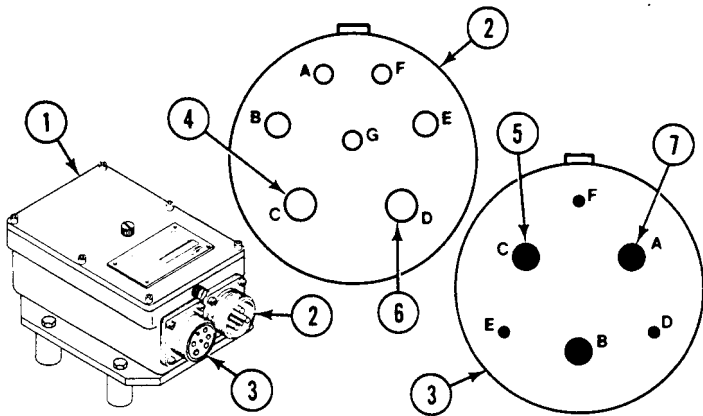
**B2YN**

1. Faulty harness 12349881 plug or jack. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B3Y**

1. Measure resistance on regulator (1), between jacks (2) and (3); Measure between socket C (4) and pin C (5). Measure between socket D (6) and pin A (7).
2. Does VTM read 0 ohms?



NO

**B3YN**

1. Replace regulator (WP 0257 00).
2. Verify no faults found.

YES

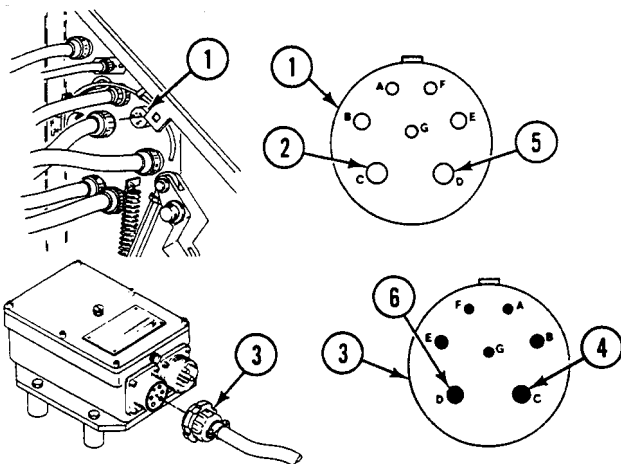


**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**B4Y**

1. Measure resistance between harness 12349881 bulkhead jack (1) socket C (2), and regulator plug (3) pin C (4).
2. Measure resistance between harness 12349881 bulkhead jack (1) socket D (5), and regulator plug (3) pin D (6).
3. Is reading 0 ohms for both measurements?



NO

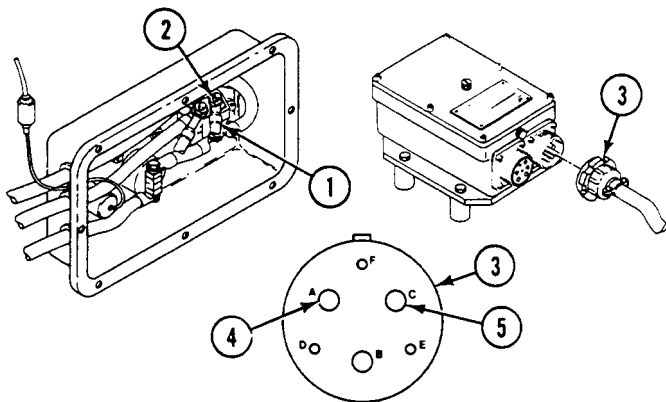
**B4YN**

1. Faulty harness 12349881 circuit 2/2A. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B5Y**

1. Remove master switch panel (WP 0260 00, WP 0261 00).
2. Measure resistance between harness 12349881 circuit 2/2A (1) between master switch terminal (2) and regulator plug (3) sockets A (4) and C (5).
3. Does VTM read 0 ohms?



NO

**B5YN**

1. Faulty harness 12349881 circuit 2/2A. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**B6Y**

1. Replace circuit 6 lead (WP 0356 00), (WP 0357 00), or (WP 0358 00).
2. Verify no faults found.

**CY**

1. Has regulator been adjusted?

NO

YES

**CYN**

1. Adjust voltage regulator (WP 0256 00).
2. Verify no faults found.

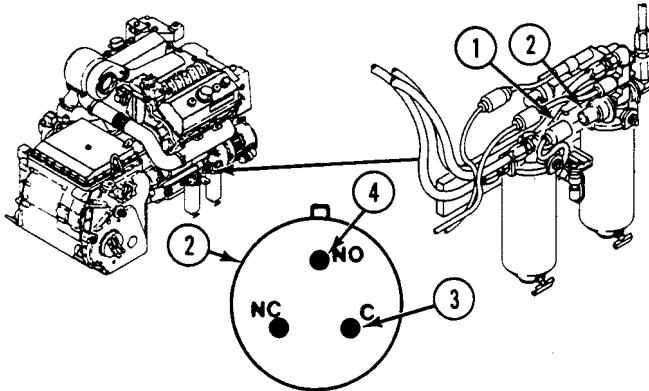
**C2Y**

1. Remove harness 12349873 plug (1) from generator field switch (2).
2. Start engine (see your -10).
3. Measure resistance across switch (2) pins (3) and (4) with engine idling. Use VTM.
4. Does VTM read 0 ohms?

NO

**C2YN**

1. Stop engine (see your -10).
2. Replace generator field switch (WP 0323 00).
3. Verify no faults found.



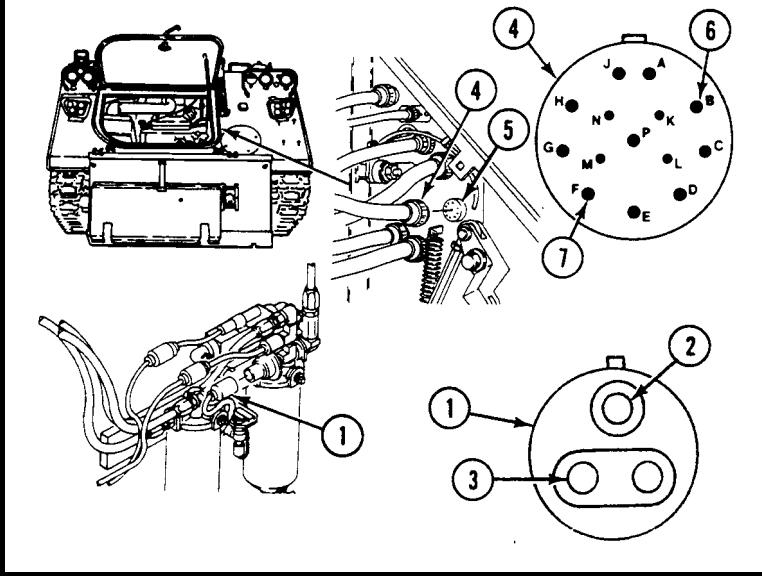
YES

**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**C3Y**

1. Stop engine (see your -10).
2. Install jumper wire on harness 12349873 generator field switch plug (1) between sockets (2) and (3).
3. Remove harness 12349873 plug (4) from harness 12349881 jack (5).
4. Measure resistance between harness 12349873 plug (4) pins B (6) and F (7).
5. Does VTM read 0 ohms?



**NO**

**C3YN**

1. Replace harness 12349873.
2. Verify no faults found.

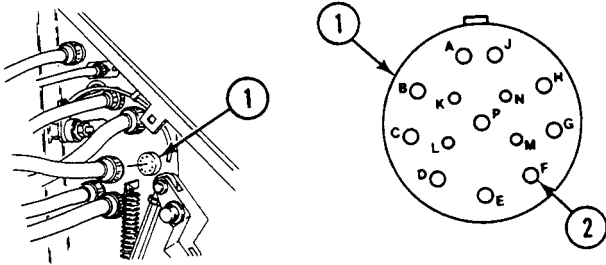
**YES**

**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**C4Y**

1. Remove jumper wire and install harness 12349873 plug on field switch.
2. Perform STE/ICE test 67 (MASTER SWITCH ON, engine OFF) (WP 0124 00). Record reading.
3. Set up STE/ICE test 89 TM 9-4910-571-12&P .
4. Measure voltage between harness 12349881 jack (1) socket F (2) and ground with MASTER SWITCH ON.
5. Is VTM reading within one volt of VTM reading for STE test 67?



**YES**

**NO**

**C4YN**

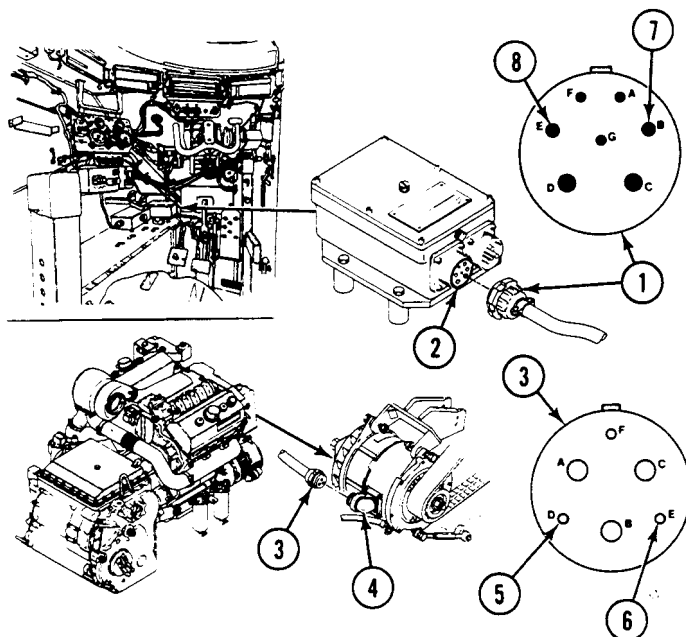
1. Faulty harness 12349881 circuit 1C. Beyond unit maintenance repair.
2. Notify supervisor.

**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**C5Y**

1. Turn MASTER SWITCH to OFF.
2. Install harness 12349873 plug on harness 12349881 jack.
3. Remove harness 12349881 circuit 1/1A/2/2A plug (1) from regulator jack (2).
4. Remove harness 12349873 plug (3) from generator jack (4).
5. Install jumper wire between generator plug (3) sockets D (5) and E (6).
6. Measure resistance between harness 12349881 regulator plug (1) pins B (7) and E (8).
7. Does VTM read more than 0 ohms?



**YES**



**C5YN**

1. Remove jumper wire and install harness 12349873 plug on generator jack.
2. Replace regulator (WP 0257 00).
3. Verify no faults found.

**NO**

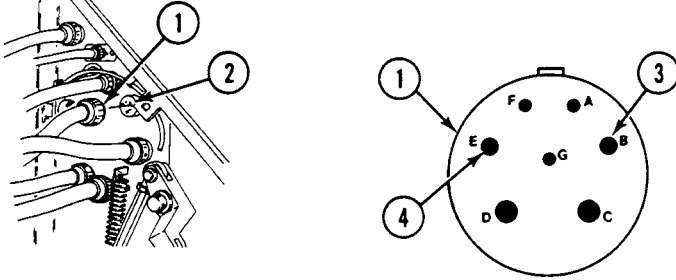


**GENERATOR MALFUNCTIONS AS INDICATED BY BATTERY/GENERATOR INDICATOR—Continued**

0025 00

**C6Y**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at bulkhead.
2. Measure resistance between harness 12349873 plug (1) pins B (3) and E (4).
3. Does VTM read 0 ohms?



**NO**

**C6YN**

1. Remove jumper wire and install harness 12349873 plug on generator jack.
2. Faulty harness 12349873 circuit 1/1A. Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

**C7Y**

1. Remove jumper wire and install harness 12349873 plug on generator jack.
2. Faulty harness 12349881 circuit 1/1A. Beyond unit maintenance repair.
3. Notify supervisor.

**ENGINE OIL LOW PRESSURE INDICATOR COMES ON**

**0026 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Pressure Test Kit (WP 0926 00, Item 35)

Personnel Required

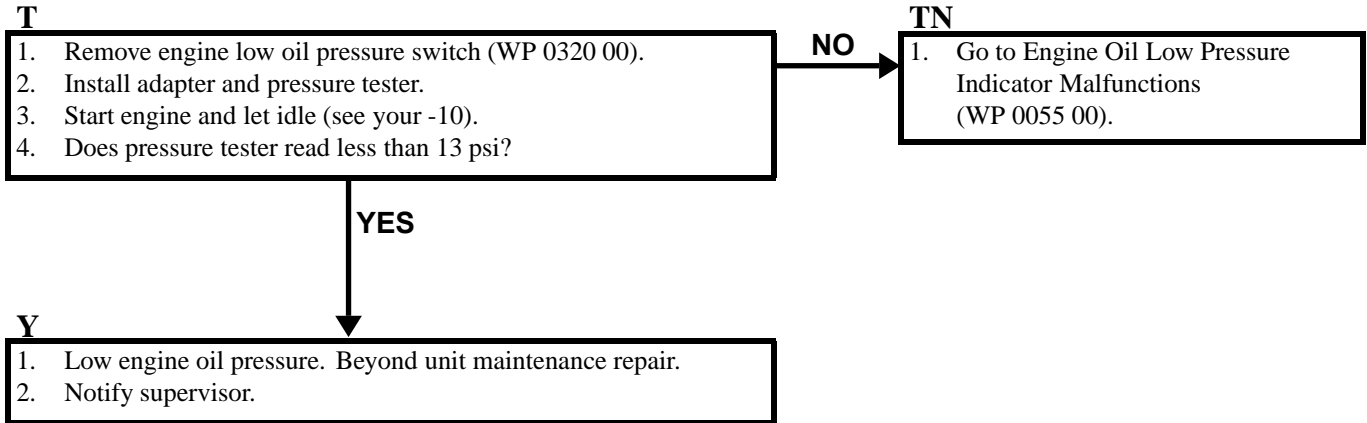
Unit Mechanic 63T10

References

See your -10

Equipment Condition

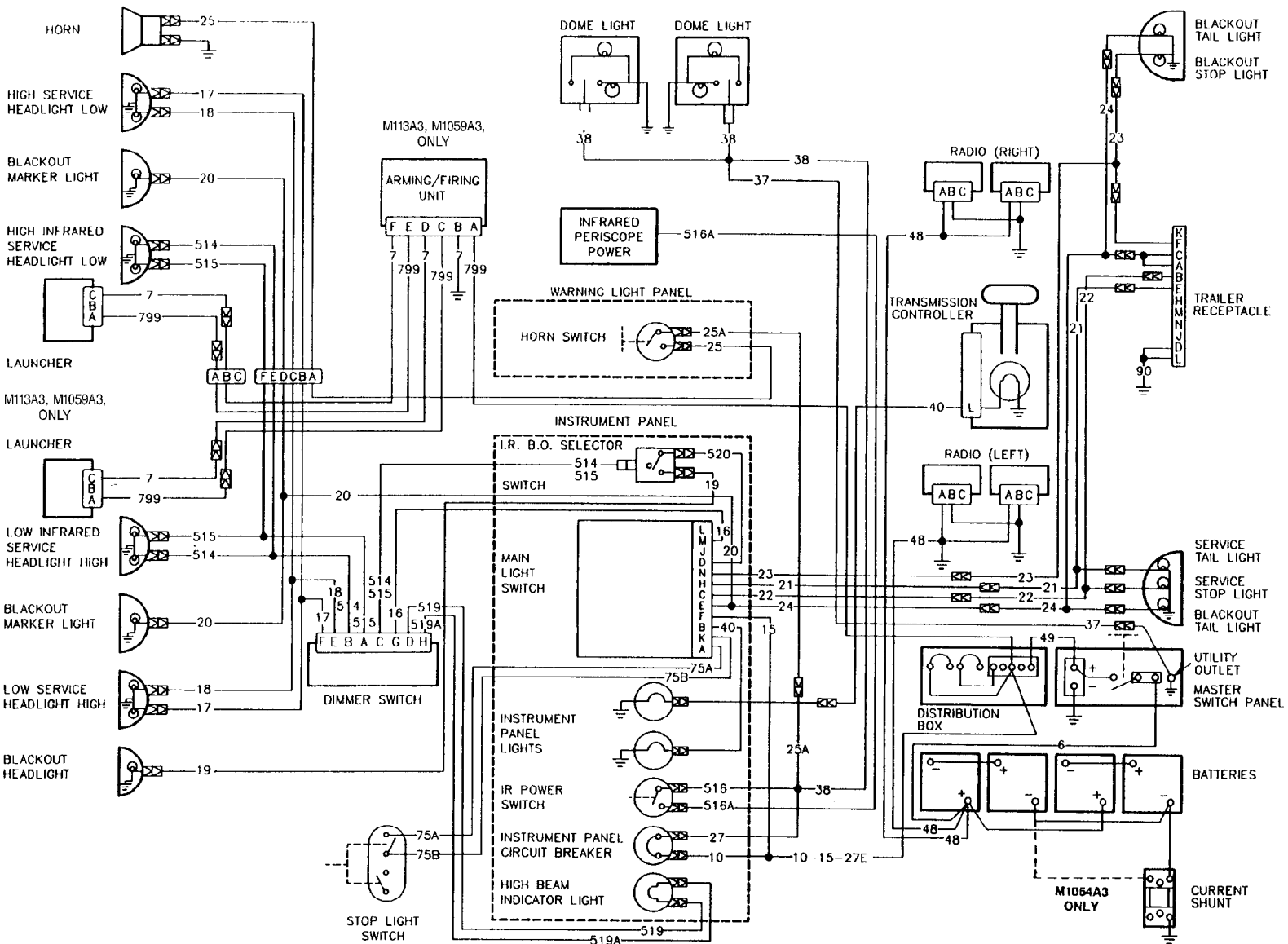
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Engine warm
- Transmission in SL
- Engine oil level checked (WP 0155 00)
- Engine idle speed checked (WP 0118 00)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)







ELECTRICAL SCHEMATIC





**NO EXTERIOR LIGHTS OPERATE**

**0029 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)

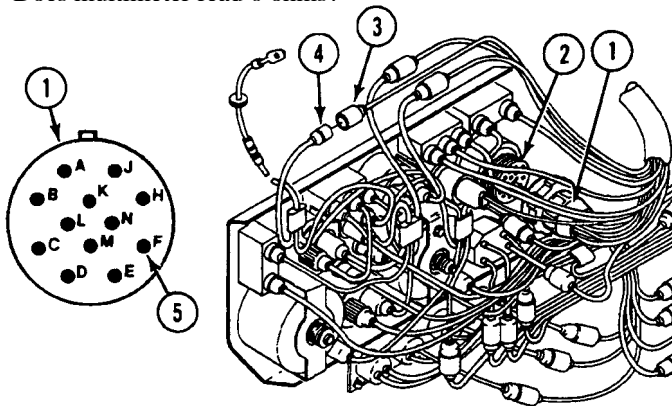
Carrier blocked (see your -10)

Personnel Required

Unit Mechanic 63T10

**T**

1. Remove instrument panel for access. See task: remove instrument panel mounts and ground lead (WP 0295 00).
2. Remove harness 12349881 plug (1) from lighting control switch (2).
3. Remove harness 12349881 circuit 15 plug (3) from harness 10933038 circuit 15 jack (4).
4. Measure resistance between harness 12349881 circuit 15 plug (3) and lighting control switch plug (1) pin F (5).
5. Does multimeter read 0 ohms?



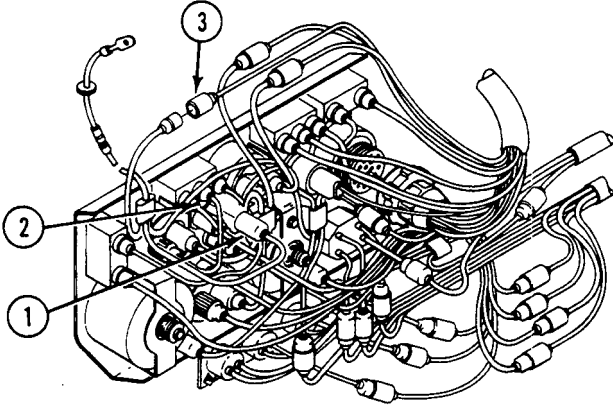
**YES**

**TN**

1. Repair circuit 15 (WP 0382 00).
2. Verify no faults found.

**Y**

1. Remove harness 10933038 circuit 10 plug (1) from instrument panel circuit breaker (2).
2. Measure resistance between harness 10933038 circuit 15 plug (3) and circuit 10 plug (1).
3. Does multimeter read 0 ohms?



**NO**

**YN**

1. Install harness 12349881 lighting control switch plug on switch.
2. Replace harness 10933038 (WP 0289 00).
3. Verify no faults found.

**YES**

**2Y**

1. Install harness 10933038 circuit 10 and 15 plugs.
2. Replace lighting control switch (WP 0282 00).
3. Verify no faults found.

**BLACKOUT DRIVE LIGHT DOESN'T WORK**

**0030 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

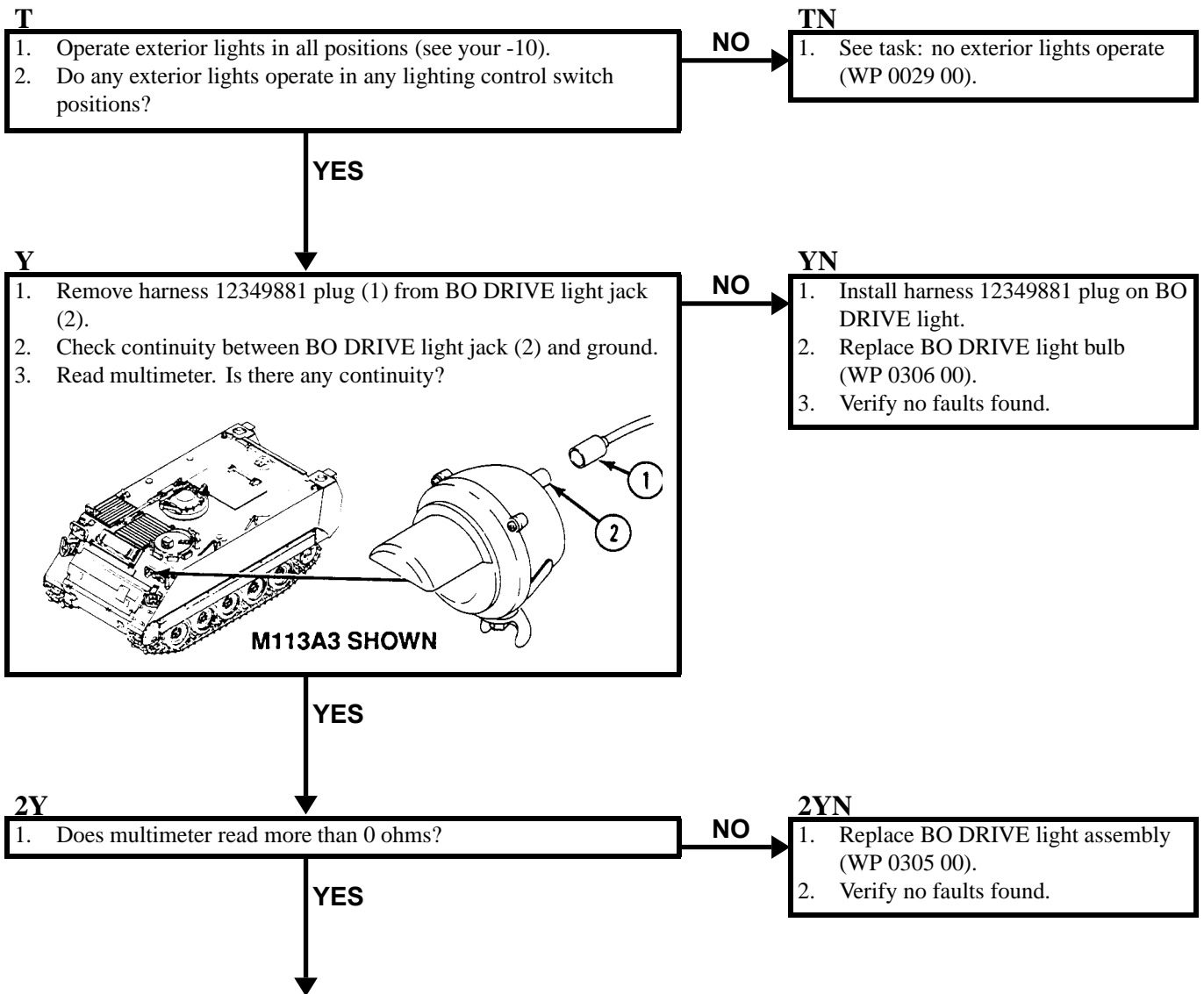
- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- IR/BO selector on BO

Personnel Required

- Unit Mechanic 63T10
- Helper (H)

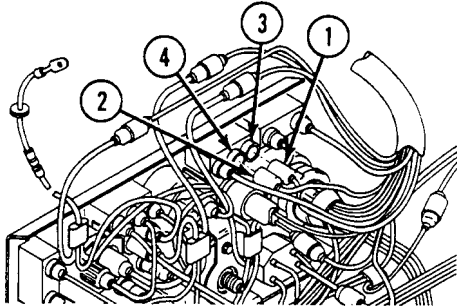


BLACKOUT DRIVE LIGHT DOESN'T WORK—Continued

0030 00

**3Y**

1. Install harness 12349881 plug on BO DRIVE light.
2. Remove instrument panel for access. See task: remove instrument panel mounts and ground lead (WP 0295 00).
3. Remove harness 12349881 circuit 19 (1) and 520 (2) from IR/BO selector jacks (3) and (4).
4. Measure resistance between IR/BO selector jack (3) and (4).
5. Does multimeter read 0 ohms?



NO

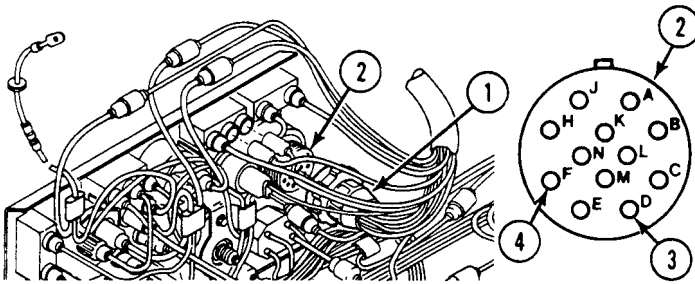
**3YN**

1. Install harness 12349881 plug on BO DRIVE light.
2. Replace IR/BO selector switch (WP 0282 00).
3. Verify no faults found.

YES

**4Y**

1. Remove harness 12349881 plug (1) from light control switch jack (2).
2. Turn switch to BO DRIVE.
3. Measure resistance between light control switch jack (2) pins D (3) and F (4).
4. Does multimeter read 0 ohms?



NO

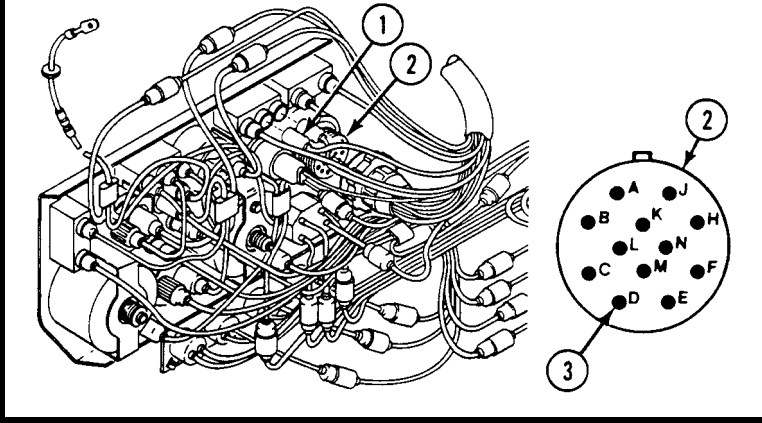
**4YN**

1. Install harness 12349881 plugs on IR/BO selector switch jacks.
2. Replace lighting control switch (WP 0282 00).
3. Verify no faults found.

YES

**5Y**

1. Measure resistance between harness 12349881 circuit 520 plug (1) and lighting control switch plug (2) pin D (3).
2. Does multimeter read 0 ohms?



NO

**5YN**

1. Install harness 12349881 circuit 19 plug on IR/BO selector switch jack.
2. Install harness 12349881 plug on light control switch jack.
3. Repair circuit 520 (WP 0382 00).
4. Verify no faults found.

YES

**6Y**

1. Install harness 12349881 circuit 520 plug on IR/BO selector switch jack.
2. Install harness 12349881 plug on light control switch jack.
3. Repair circuit 19.
4. Verify no faults found.

YES





**SERVICE HEADLIGHTS DON'T WORK**

**0031 00**

**INITIAL SETUP:**

Maintenance Level  
Unit

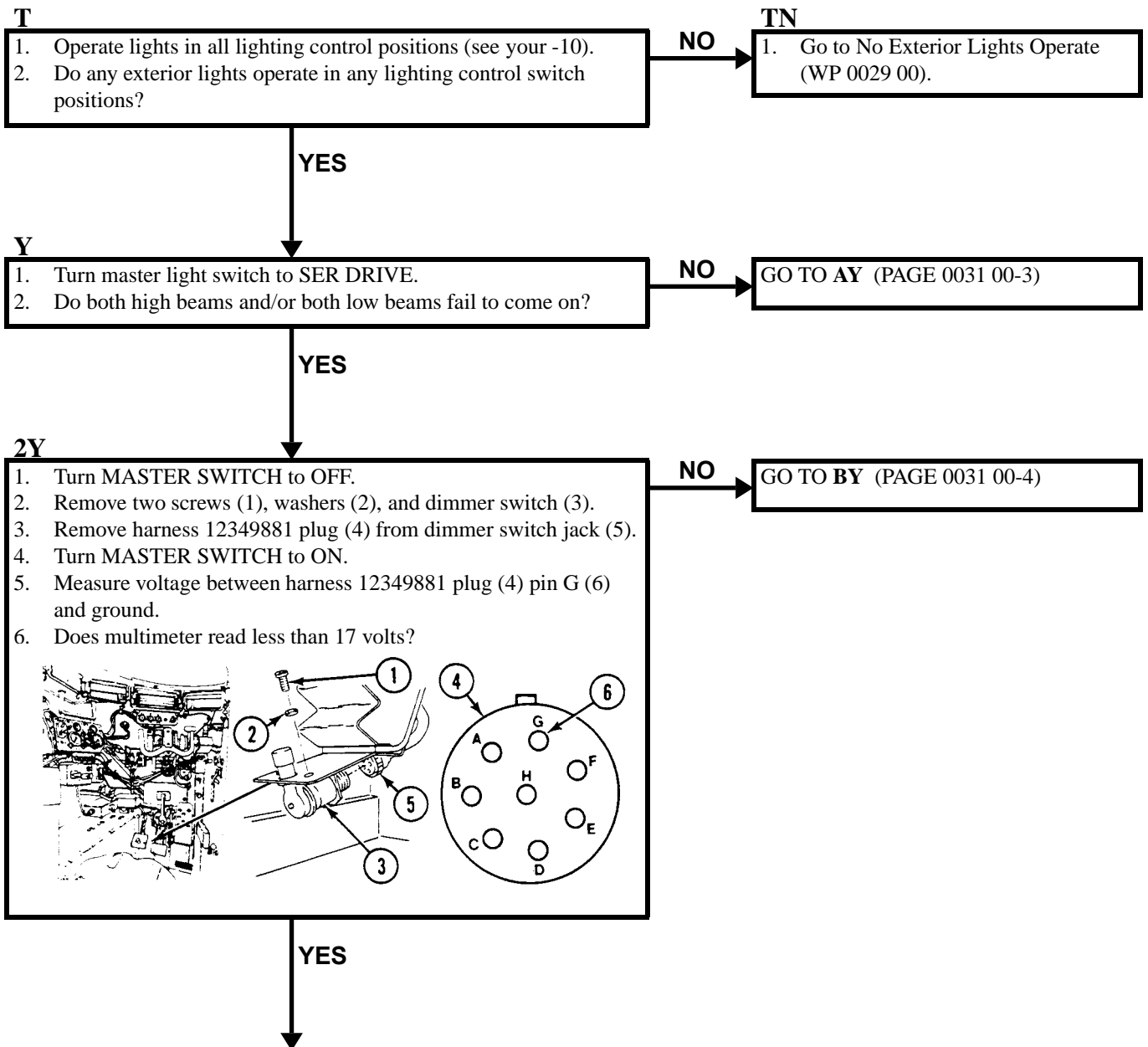
References  
See your -10

Tools and Special Tools  
General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

Equipment Condition

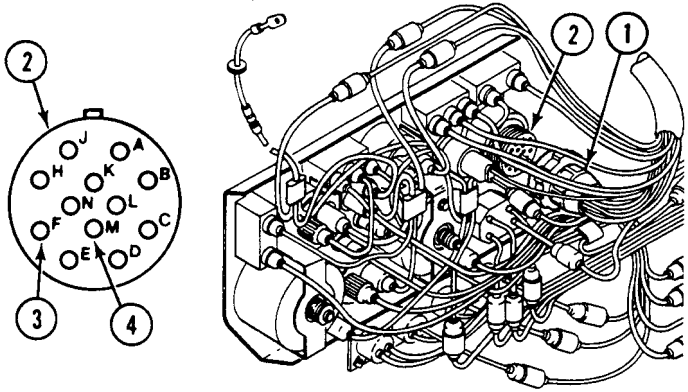
Personnel Required  
Unit Mechanic 63T10

Engine stopped (see your -10)  
Carrier blocked (see your -10)



**3Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access. See task: remove instrument panel mounts and ground lead (WP 0295 00).
3. Remove harness 12349881 plug (1) from lighting control switch jack (2).
4. Measure resistance between lighting control switch jack (2) pins F (3) and M (4).
5. Does multimeter read 0 ohms?



NO

**3YN**

1. Install dimmer switch and harness 12349881 plug on dimmer switch jack.
2. Replace lighting control switch (WP 0283 00).
3. Verify no faults found.

YES

**4Y**

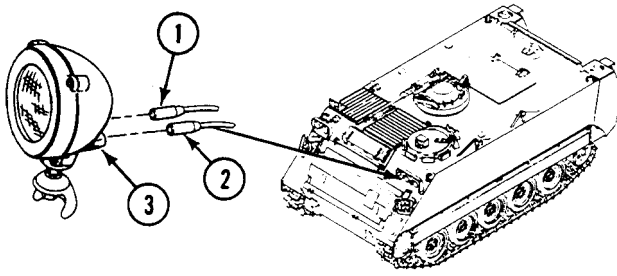
1. Faulty harness 12349881 circuit 16. Beyond unit maintenance repair.
2. Notify supervisor.

SERVICE HEADLIGHTS DON'T WORK—Continued

0031 00

**AY**

1. Remove circuit 17 (high beam) plug (1) or circuit 18 (low beam) plug (2) from failing service headlight jack (3).
2. Measure voltage between harness 12349881 circuit 17 plug (1) or circuit 18 plug (2) and ground.
3. Does multimeter read less than 17 volts?



**NO**

**AYN**

1. Replace service headlight bulb (WP 0303 00).
2. Verify no faults found.

**YES**

**A2Y**

1. Is failing headlight located on right side of carrier?

**NO**

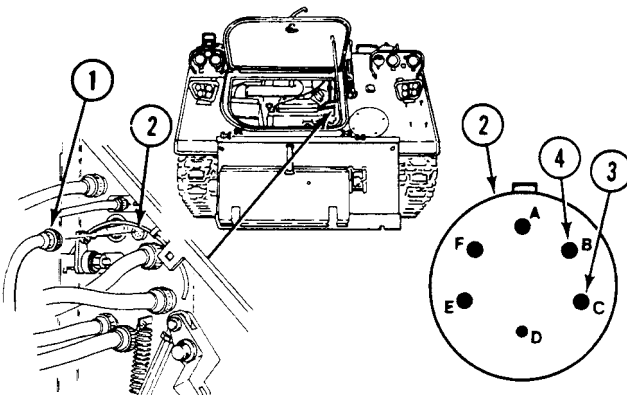
**A2YN**

1. Repair circuit 514 or 515 between left IR headlight and dimmer switch (WP 0382 00).
2. Verify no faults found.

**YES**

**A3Y**

1. Remove harness 8763491 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
2. Measure voltage between harness 12349881 jack (2) pin C (low beam) (3) or pin B (high beam) (4) and ground.
3. Does multimeter read less than 17 volts?



**NO**

**A3YN**

1. Replace faulty harness 8763491 (WP 0373 00).
2. Verify no faults found.

**YES**

SERVICE HEADLIGHTS DON'T WORK—Continued

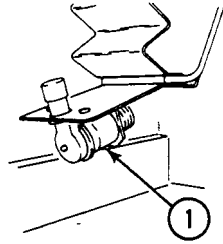
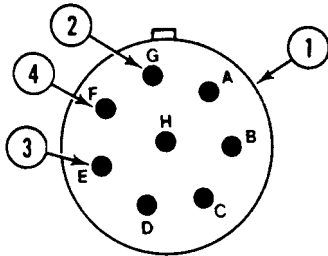
0031 00

**A4Y**

1. Turn MASTER SWITCH to OFF.
2. Install harness 8763491 circuit 17 (high beam) or 18 (low beam) on service headlight.
3. Faulty harness 12349881 circuit 17 or 18 between bulkhead and dimmer switch. Beyond unit maintenance repair.
4. Notify supervisor.

**BY**

1. Measure resistance between dimmer switch jack (1) pins G (2) and E (3) and between pins G (2) and F (4). Use multimeter. Multimeter should read 0 ohms once and infinity once.
2. Click dimmer switch and check continuity between dimmer switch jack (1) pins G (2) and E (3) and between pins G (2) and F (4). Multimeter should read infinity once and 0 ohms once.
3. Is dimmer switch working properly?



NO

**BYN**

1. Replace headlight high beam selector switch (WP 0333 00).
2. Verify no faults found.

YES

**B2Y**

1. Faulty harness 12349881 circuit 18 (low beam) or circuit 17 (high beam). Beyond unit maintenance repair.
2. Notify supervisor.

**INFRARED HEADLIGHT(S) DON'T WORK**

**0032 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

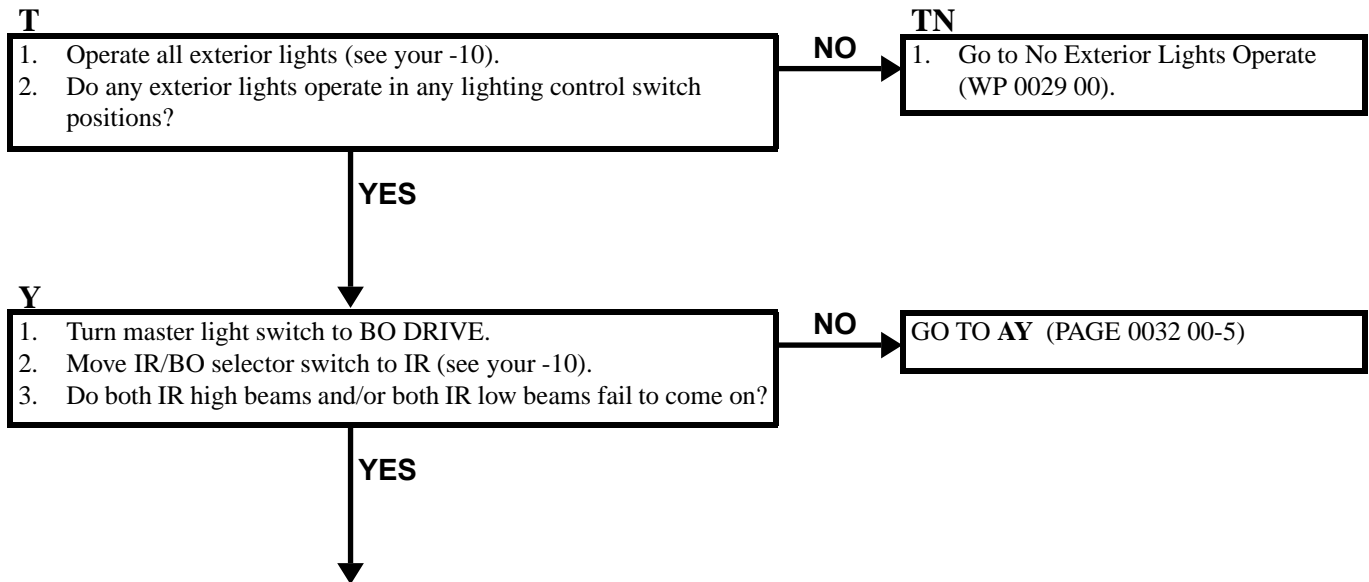
- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)

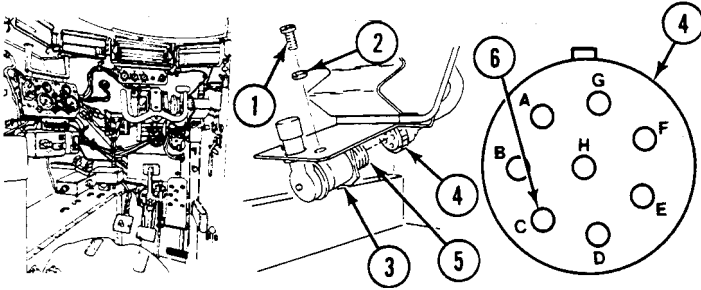
Personnel Required

- Unit Mechanic 63T10
- Helper (H)



**2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove two screws (1), washers (2), and dimmer switch (3).
3. Remove harness 12349881 plug (4) from dimmer switch jack (5).
4. Turn MASTER SWITCH to ON.
5. Measure voltage between harness 12349881 plug (4) pin C (6) and ground.
6. Does multimeter read less than 17 volts?



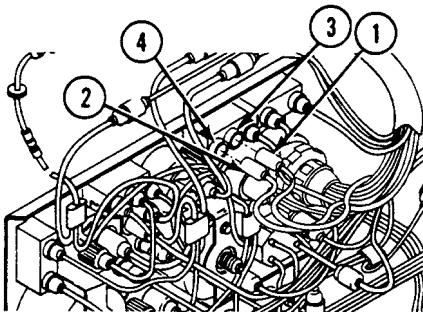
NO

GO TO BY (PAGE 0032 00-6)

YES

**3Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access. See task: remove instrument panel mounts and ground lead (WP 0295 00).
3. Remove harness 12349881 514/515 (1) and 520 (2) from IR/BO selector switch jacks (3) and (4).
4. Measure resistance between IR/BO selector switch jacks (3) and (4).
5. Does multimeter read 0 ohms?



NO

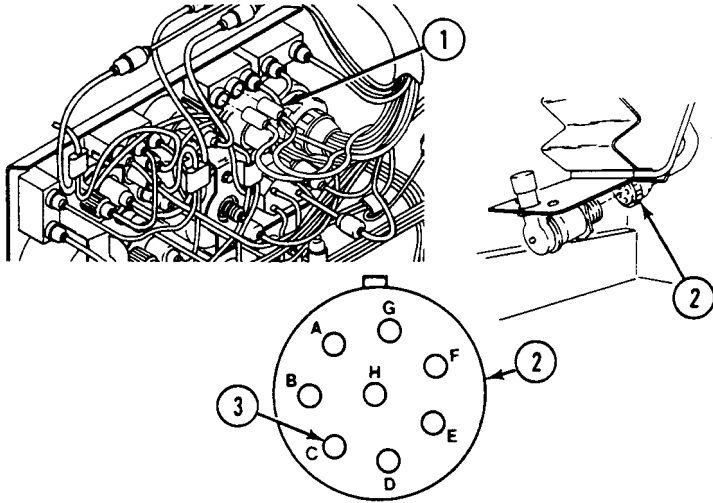
**3YN**

1. Install dimmer switch and harness 12349881 plug on dimmer switch.
2. Replace IR/BO selector switch (WP 0282 00).
3. Verify no faults found.

YES

**4Y**

1. Measure resistance between harness 12349881 circuit 514/515 selector switch plug (1) and dimmer switch plug (2) pin C (3).
2. Does multimeter read 0 ohms?



**YES**



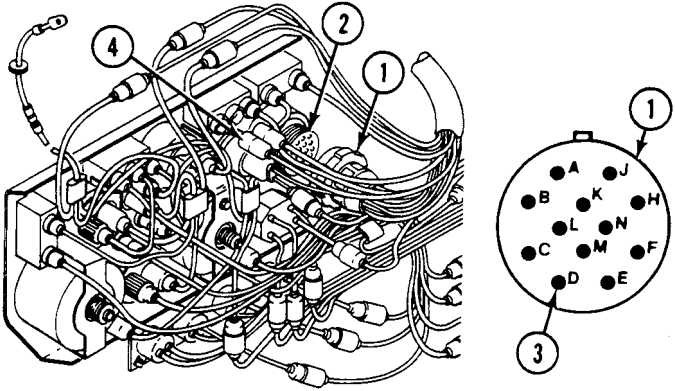
**NO**

**4YN**

1. Install dimmer switch and harness 12349881 plug on dimmer switch.
2. Repair circuit 514/515 (WP 0382 00).
3. Verify no faults found.

**5Y**

1. Install dimmer switch and wiring harness 12349881 plug on dimmer switch.
2. Install wiring harness 12349881 circuit 514/515 plug on IR/BO selector switch jack.
3. Remove harness 12349881 plug (1) from lighting control switch jack (2).
4. Measure resistance between wiring harness 12349881 lighting control switch plug (1) pin D (3) and IR/BO selector circuit 520 plug (4).
5. Does multimeter read 0 ohms?



**NO**

**5YN**

1. Faulty harness 12349881 circuit 520. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**6Y**

1. Install circuit 520 plug on IR/BO selector switch.
2. Replace lighting control switch (WP 0283 00).
3. Verify no faults found.

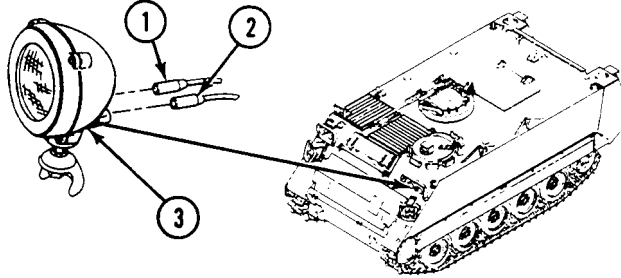


INFRARED HEADLIGHT(S) DON'T WORK—Continued

0032 00

**AY**

1. Remove circuit 514 (high beam) plug (1) or 515 (low beam) plug (2) from failing IR service headlight (3).
2. Measure voltage between harness 12349881 circuit 514 plug (1) or 515 plug (2) and ground.
3. Does multimeter read less than 17 volts?



**NO**

**AYN**

1. Replace IR service headlight bulb (WP 0303 00) or (WP 0304 00).
2. Verify no faults found.

**YES**

**A2Y**

1. Is failing IR headlight located on right side of carrier?

**NO**

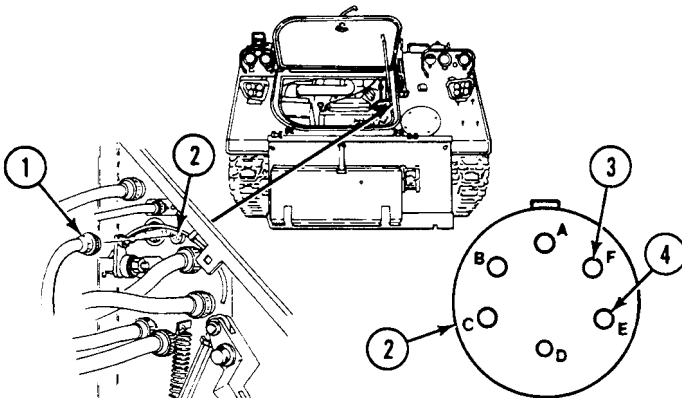
**A2YN**

1. Repair circuit 514 or 515 between left IR head light and dimmer switch (WP 0382 00).
2. Verify no faults found.

**YES**

**A3Y**

1. Remove harness 8763491 plug (1) from harness 12349881 jack (2) at bulk head.
2. Measure voltage between harness 12349881 jack (2) pin F (low beam) (3) or pin E (high beam) (4) and ground.
3. Does multimeter read less than 17 volts?



**NO**

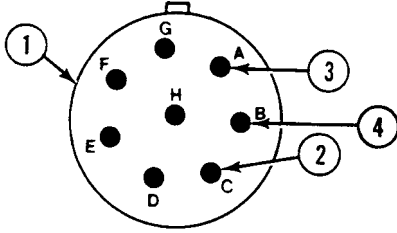
**A3YN**

1. Faulty harness 8763491. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**BY**

1. Install harness 8763491 circuit 514 or 515 plug on IR head light.
2. Measure resistance between dimmer switch jack (1) pins C (2) to A (3) and between pins C (2) to B (4). Multimeter should read 0 ohms once and infinity once.
3. Click dimmer switch and repeat above test. Multimeter should read infinity once and 0 ohms once.
4. Is dimmer switch working properly?



NO

**BYN**

1. Replace dimmer switch (WP 0333 00).
2. Verify no faults found.

YES

**B2Y**

1. Faulty harness 12349881 circuit 514 or 515. Beyond unit maintenance repair.
2. Notify supervisor.

**SERVICE AND/OR BLACKOUT STOP LIGHTS MALFUNCTION**

**0033 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

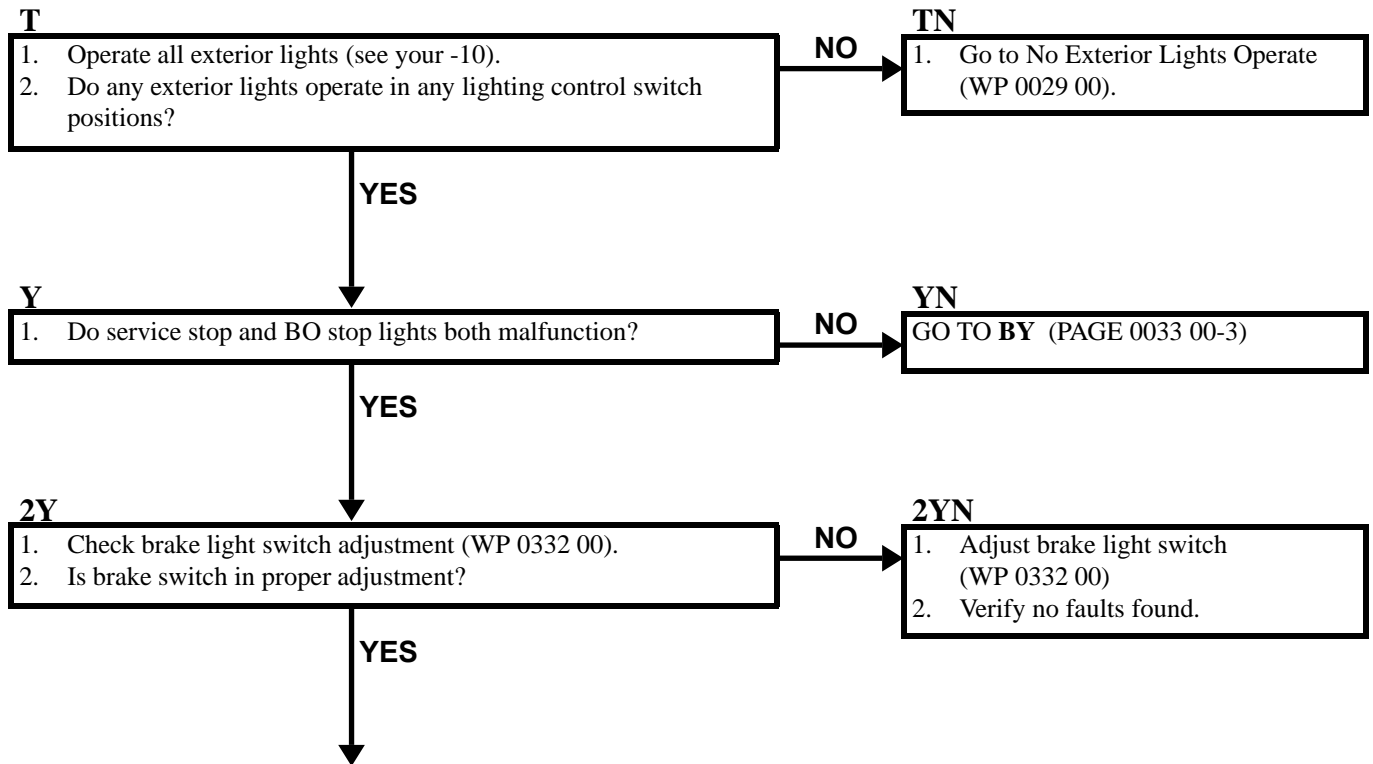
General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
Ramp lowered (see your -10)

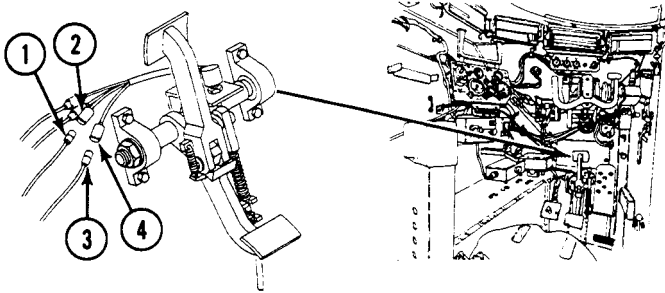
Personnel Required

Unit Mech 63T10  
Helper (H)



**3Y**

1. Turn MASTER SWITCH to OFF.
2. Remove harness 12349881 circuit 75A plug (1) from switch jack (2).
3. Remove harness 12349881 circuit 75B plug (3) from switch jack (4).
4. Measure resistance between switch jacks (2) and (4) with switch depressed and with switch released.
5. Does multimeter read infinity with switch depressed and 0 ohm with switch released?



NO

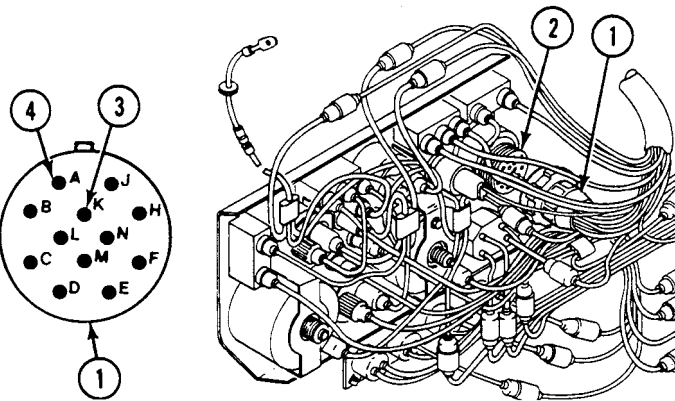
**3YN**

1. Replace brake light switch (WP 0332 00).
2. Verify no faults found.

YES

**4Y**

1. Install harness 12349881 circuit leads 75A and 75B on stop sensitive switch.
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12349881 plug (1) from lighting control switch jack (2).
4. Measure resistance between harness 12349881 plug (1) pins K (3) and A (4) with brake pedal depressed.
5. Does multimeter read less than 0 ohm?



NO

**4YN**

1. Faulty harness 12349881 circuit 75A and/or 75B. Beyond unit maintenance repair.
2. Notify supervisor.

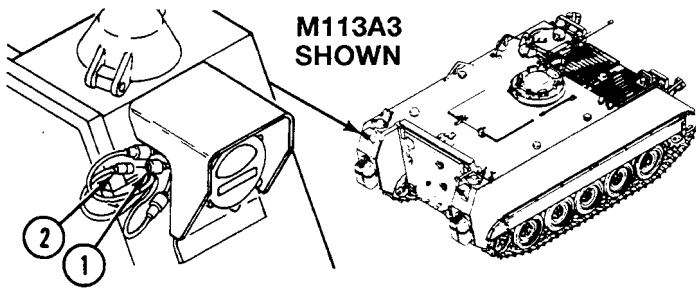
YES

**5Y**

1. Replace main light switch (WP 0283 00).
2. Verify no faults found.

**BY**

1. Remove harness 12268797 circuit 22 plug (1) from jack (2) on malfunctioning left tail light, or circuit 23 plug from jack on malfunctioning right tail light.
2. Turn main switch on lighting control to STOP or to BO.
3. Measure voltage between circuit 22 (left) plug (1) or circuit 23 (right) plug and ground with brake pedal depressed.
4. Does multimeter read less than 17 volts?



NO

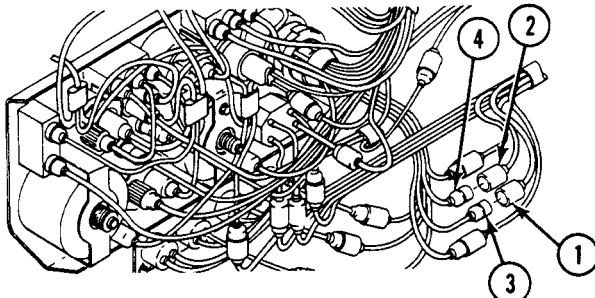
**BYN**

1. Install harness 12268797 jack on tail light.
2. Replace service stop or BO stop light bulb (WP 0301 00) or (WP 0302 00).
3. Verify no faults found.

YES

**B2Y**

1. Remove harness 12268797 circuit 22 plug (left) (1) or circuit 23 plug (right) (2) from harness 12349881 circuit 22 jack (3) or circuit 23 jack (4).
2. Measure voltage between harness 12349881 circuit 22 jack (2) or circuit 23 jack (3) and ground.
3. Does multimeter read less than 17 volts?



NO

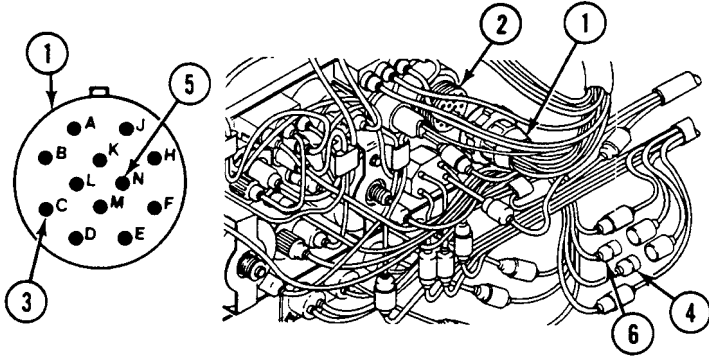
**B2YN**

1. Repair circuit 22 or 23 (WP 0382 00).
2. Verify no faults found.

YES

**B3Y**

1. Remove instrument panel for access (WP 0295 00).
2. Remove harness 12349881 plug (1) from lighting control switch (2).
3. Measure resistance between lighting control switch plug (1) pin C (3) to circuit 22 (service stop) jack (4) or pin N (5) to circuit 23 (BO stop) jack (6).
4. Does multimeter read 0 ohm?



NO

**B3YN**

1. Install harness 12268797 on tail light.
2. Faulty harness 12349881 circuit 22 or 23. Beyond unit maintenance repair.
3. Notify supervisor.

YES

**B4Y**

1. Install harness 12268797 plugs on harness 12349881 jack and tail light.
2. Replace main light switch (WP 0283 00).
3. Verify no faults found.

**BLACKOUT MARKER LIGHT(S) DON'T WORK**

**0034 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

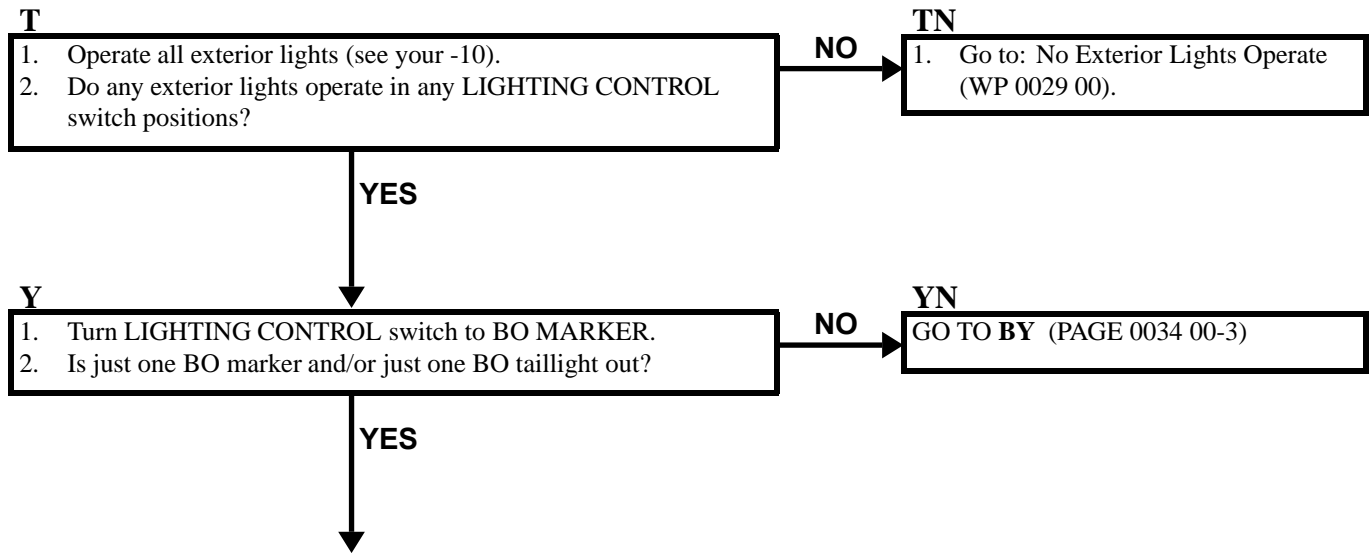
General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

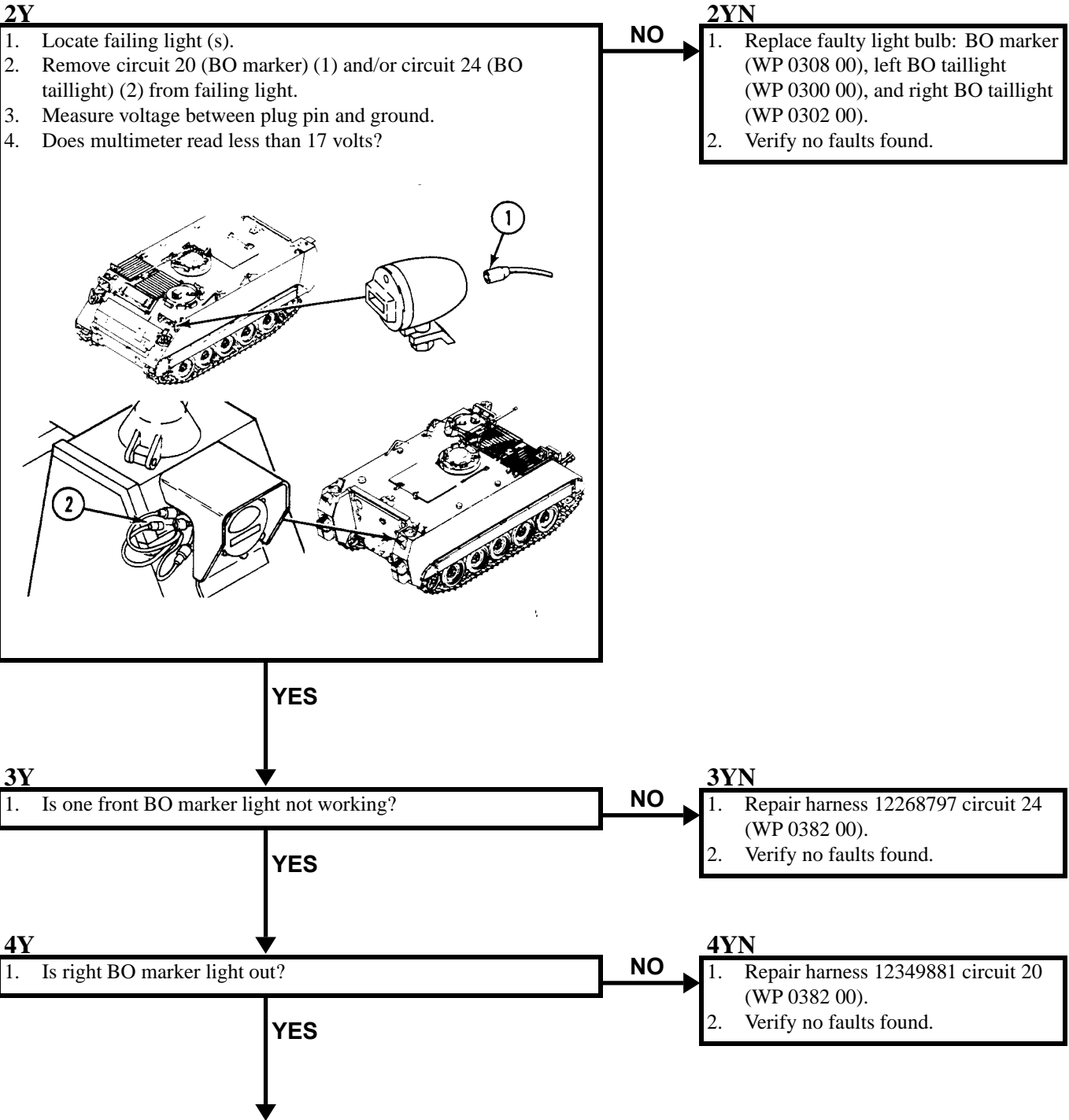
Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)

Personnel Required

Unit Mech 63T10  
Helper (H)

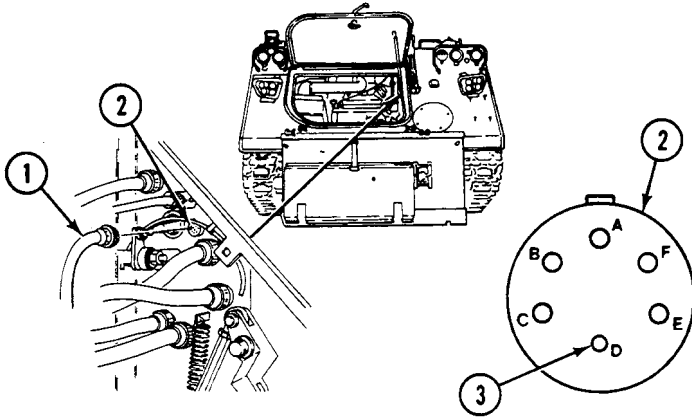






**5Y**

1. Remove harness 8763491 plug (1) from harness 12349881 jack (2) at vehicle bulkhead.
2. Measure voltage between harness 12349881 jack (2), pin D (3), and ground.
3. Does multimeter read less than 17 volts?



NO

**5YN**

1. Replace harness 8763491 (WP 0373 00).
2. Verify no faults found.

YES

**6Y**

1. Install harness 8763491 circuit 20 jack on right BO marker light.
2. Faulty harness 12349881 circuit 20. Beyond unit maintenance repair.
3. Notify supervisor.

**BY**

1. Are only both BO taillights out or only both BO markers out?

NO

**BYN**

GO TO CY (PAGE 0034 00-5)

YES

**B2Y**

1. Are both BO taillights out?

NO

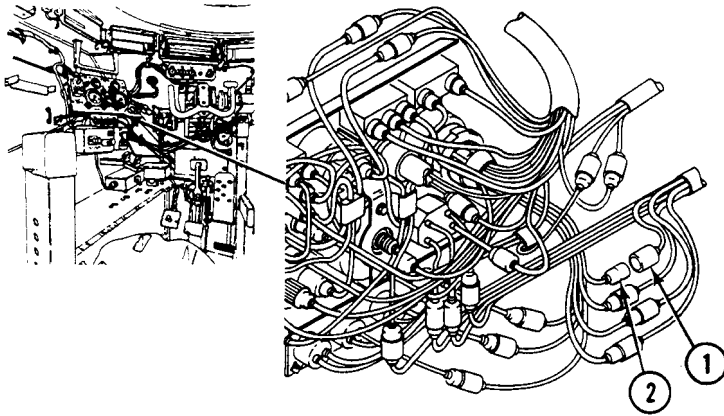
**B2YN**

1. Faulty harness 12349881 circuit 20. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B3Y**

1. Remove harness 12268797 circuit 24 plug (1) from harness 12349881 circuit 24 jack (2).
2. Measure voltage between harness 12349881 jack pin (2) and ground.
3. Does multimeter read less than 17 volts?



NO

**B3YN**

1. Repair harness 12268797 circuit 24 (WP 0382 00).
2. Verify no faults found.

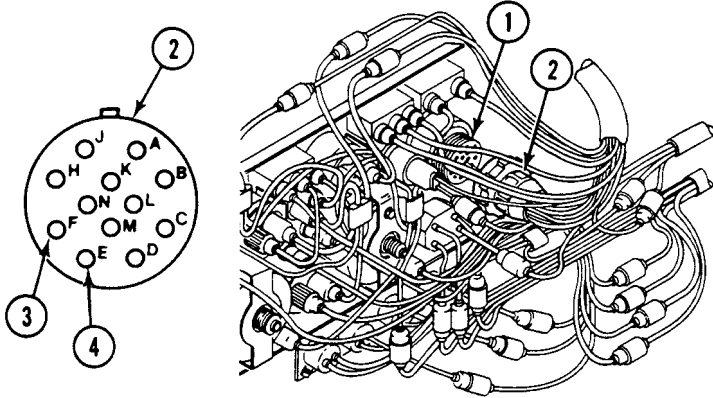
YES

**B4Y**

1. Faulty harness 12349881 circuit 24. Beyond unit maintenance repair.
2. Notify supervisor.

**CY**

1. Turn MASTER SWITCH OFF.
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12349881 plug (2) from LIGHTING CONTROL switch jack (1).
4. Measure resistance between LIGHTING CONTROL switch jack (2), pins F (3) and E (4).
5. Does multimeter read 0 ohms?



NO

**CYN**

1. Replace LIGHTING CONTROL switch (WP 0283 00).
2. Verify no faults found.

YES

**C2Y**

1. Faulty harness 12340991 circuit 20/24. Beyond unit maintenance repair.
2. Notify supervisor.



**SERVICE TAILLIGHT DOESN'T WORK**

**0035 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Equipment Condition

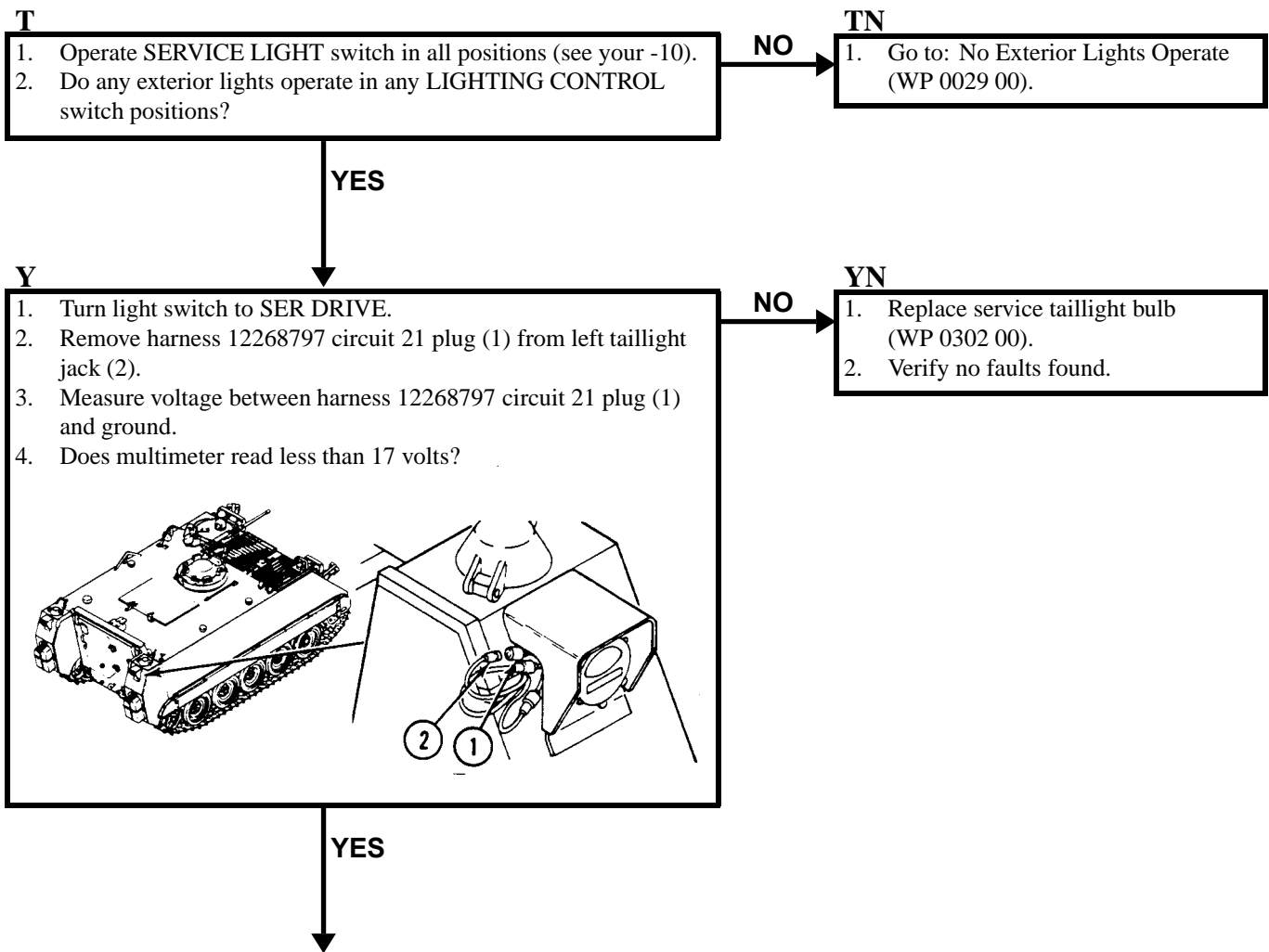
Engine stopped (see your -10)

Vehicle blocked (see your -10)

Personnel Required

Unit Mech 63T10

Helper (H)

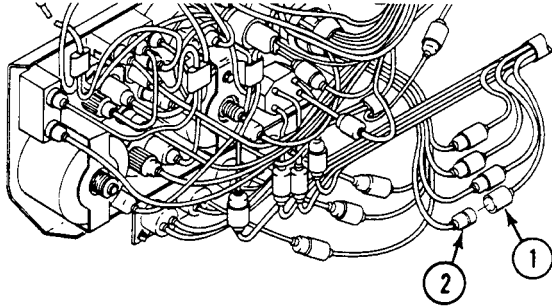


SERVICE TAILLIGHT DOESN'T WORK—Continued

0035 00

**2Y**

1. Remove harness 12268797 circuit 21 plug (1) from harness 12349881 circuit 21 jack (2) on panel.
2. Measure voltage between harness 12349881 jack (2) and ground.
3. Does multimeter read less than 17 volts?



NO

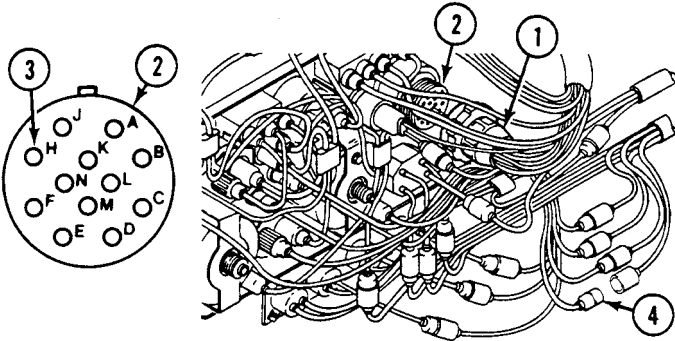
**2YN**

1. Repair harness 12268797 circuit 21 (WP 0382 00).
2. Verify no faults found.

YES

**3Y**

1. Turn MASTER SWITCH OFF.
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12349881 plug (1) from LIGHTING CONTROL switch jack (2)
4. Measure resistance between LIGHTING CONTROL switch jack (1), pin H (2), and circuit 21 jack (4).
5. Does multimeter read 0 ohms?



NO

**3YN**

1. Install harness 1268797 circuit 21 plug on left taillight jack.
2. Faulty harness 12349881 circuit 21. Beyond unit maintenance repair.
3. Notify supervisor.

YES

**4Y**

1. Install harness 1268797 circuit 21 plug on left taillight jack.
2. Replace main light switch (WP 0283 00).
3. Verify no faults found.

**TRAILER LIGHTS DON'T WORK**

**0036 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
Trailer TM

Tools and Special Tools

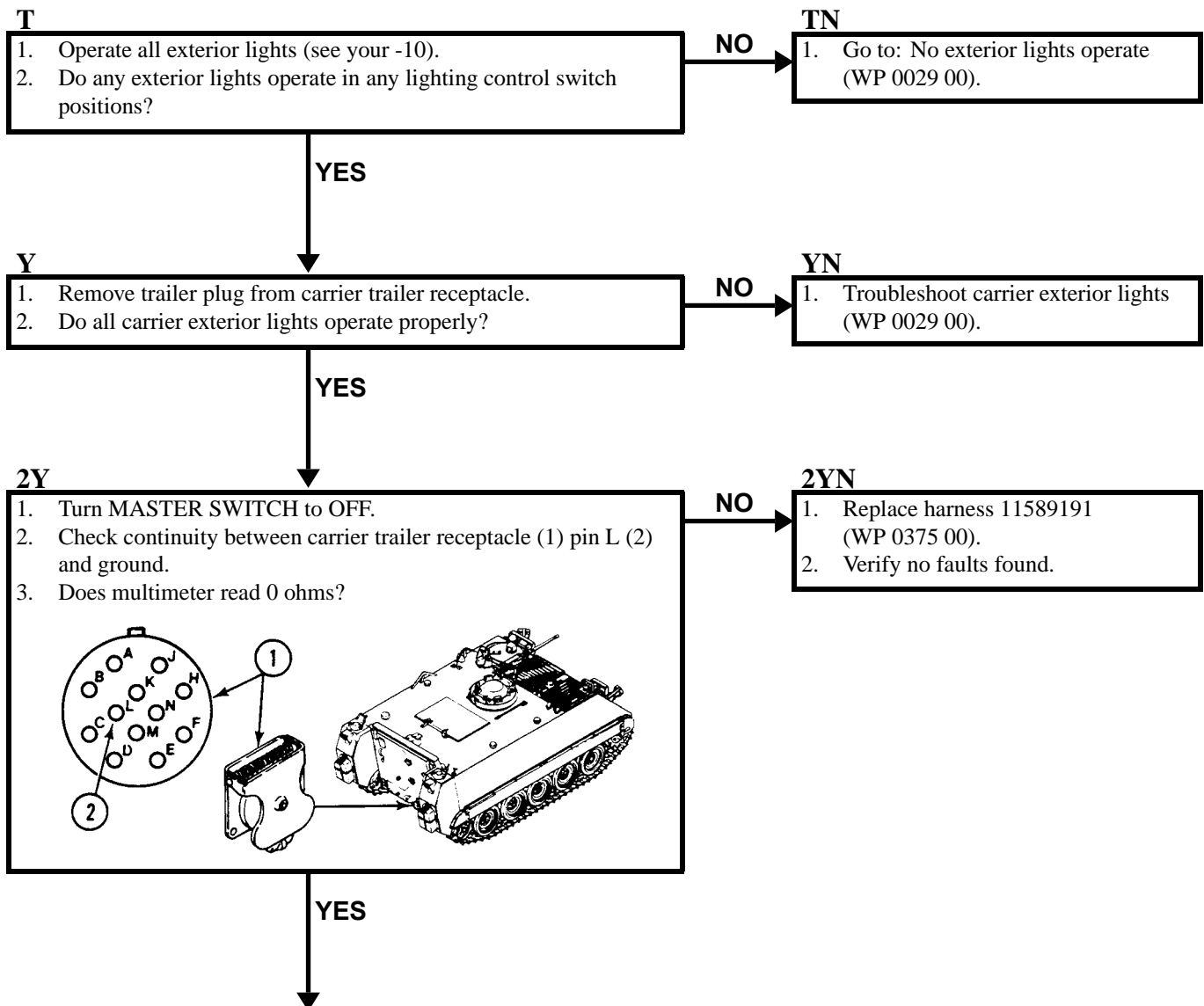
General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

Equipment Condition

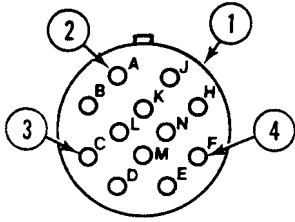
Engine stopped (see your -10)  
Carrier blocked (see your -10)

Personnel Required

Unit Mechanic 63T10  
Helper (H)

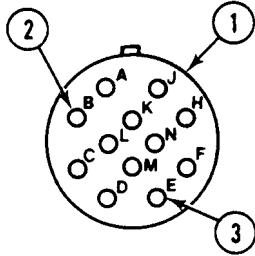


- 3Y**
1. Turn MASTER SWITCH to ON.
  2. Turn lighting control switch to BO marker.
  3. Measure voltage between trailer receptacle (1) pins A (2), C (3), and F (4) to ground while depressing brake pedal.
  4. Does multimeter read 17 volts or more for all readings?
- NO** → **3YN**
1. Replace harness 11589191 (WP 0375 00).
  2. Verify no faults found.



**YES**

- 4Y**
1. Turn lighting control switch to SER DRIVE.
  2. Measure voltage between trailer receptacle (1) pins B (2) and E (3) to ground while depressing brake pedal.
  3. Does multimeter read 17 volts or more?
- NO** → **4YN**
1. Replace harness 11589191 (WP 0375 00).
  2. Verify no faults found.



**YES**

- 5Y**
1. Faulty trailer harness(es) and/or lights. Beyond unit maintenance repair.
  2. Troubleshoot trailer lights. See Trailer TM.



**HORN DOES NOT WORK**

**0037 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Jumper wire

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

Trim vane removed (see your -10)

Personnel Required

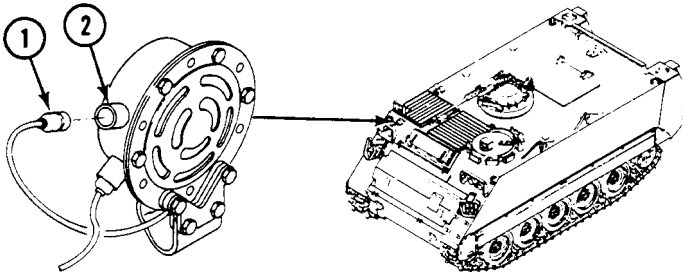
Unit Mech 63T10

Helper (H)

Power plant access panels removed (see your -10)

**T**

1. Remove lead 10863474 plug (1) from horn jack (2).
2. Measure resistance between lead 10863474 plug (1) and ground.
3. Does multimeter read 0 ohms?



**NO**

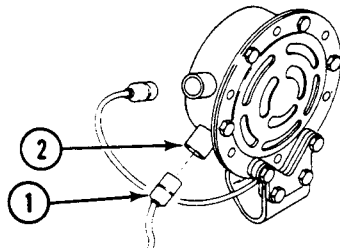
**TN**

1. Replace lead 10863474 and/or connector (WP 0382 00).
2. Verify no faults found.

**YES**

**Y**

1. Remove harness 8763491 circuit 25 plug (1) from horn jack (2).
2. Move MASTER POWER switch to ON.
3. Measure voltage between harness 8763491 circuit 25 plug (1) and ground with horn button depressed.
4. Does multimeter read less than 17 volts?



**NO**

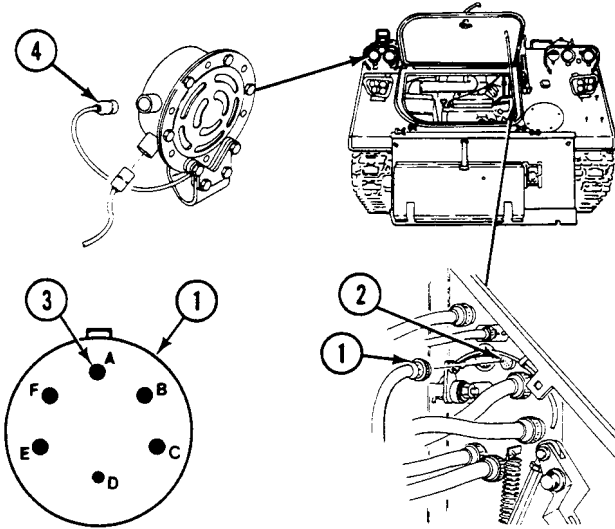
**YN**

1. Replace horn (WP 0336 00).
2. Verify no faults found.

**YES**

**2Y**

1. Release horn button.
2. (H) Move MASTER POWER switch to OFF.
3. Remove harness 8763491 plug (1) from harness 12349881 jack (2) at fire wall.
4. Measure resistance between harness 8763491 plug (1), pin A (3) to lead 25 (4).
5. Does multimeter read 0 ohms?



NO

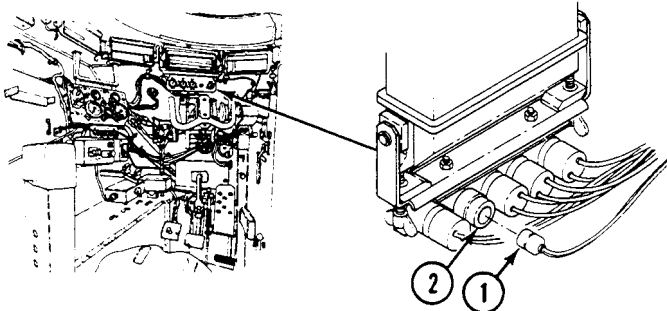
**2YN**

1. Replace wiring harness 8763491 circuit 25 (WP 0373 00).
2. Verify no faults found.

YES

**3Y**

1. Remove circuit 25/25A plug (1) from horn switch jack (2).
2. Measure resistance between horn switch jack pins (2) with horn switch depressed.
3. Does multimeter read 0 ohms?



NO

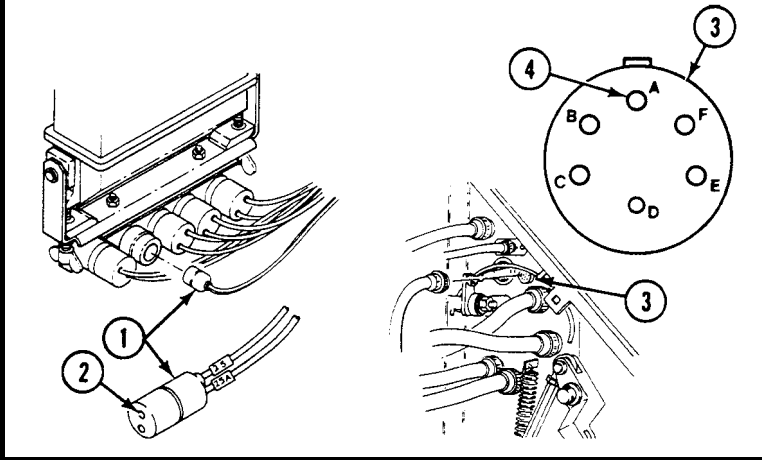
**3YN**

1. Install harness 8763491 plug to harness 12349881 jack at fire wall.
2. Install lead 10863474 plug to horn jack.
3. Install harness 8763491 circuit 25 plug onto horn jack.
4. Replace horn switch (WP 0293 00).
5. Verify no faults found.

YES

**4Y**

1. Install jumper wire between horn switch plug (1), circuit 25 pin (2) and ground.
2. Measure resistance between harness 12349881 jack (3), pin A (4) and ground.
3. Does multimeter read 0 ohms?



**NO**

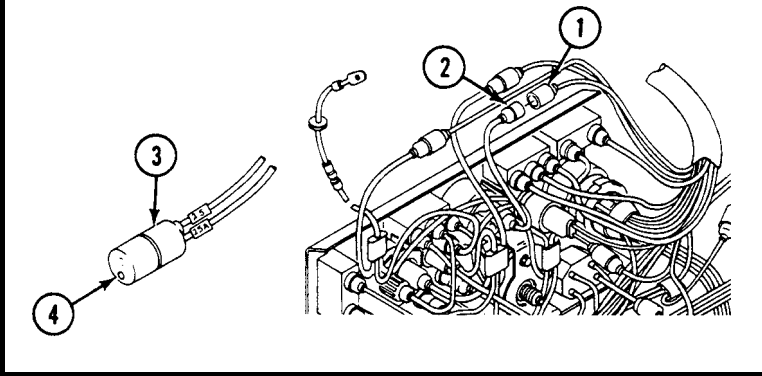
**4YN**

1. Remove jumper wire from horn switch plug.
2. Faulty harness 12349881 circuit 25A. Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

**5Y**

1. Remove jumper wire from horn switch plug.
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12349881 circuit 25A plug (1) from cable assembly 12349858 circuit 25A jack (2).
4. Install jumper wire between 12349858 jack, circuit 25A pin (2) and ground.
5. Measure resistance between horn switch plug (3), circuit 25A pin (4) and ground.
6. Does multimeter read 0 ohms?



**NO**

**5YN**

1. Remove jumper wire from harness 12349858 circuit 25A.
2. Faulty harness 12349881 circuit 25A. Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

**6Y**

1. Remove jumper wire from harness 123498558 circuit 25A plug.
2. Install circuits 25 and 25A on horn switch.
3. Install harness 8761491 plug on harness 12349881 jack on fire wall.
4. Repair harness 12349858 circuit 25A (WP 0382 00).
5. Verify no faults found.

**INSTRUMENT PANEL AND/OR TRANS CONTROLLER ILLUMINATION LIGHTS MALFUNCTION**

**0038 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

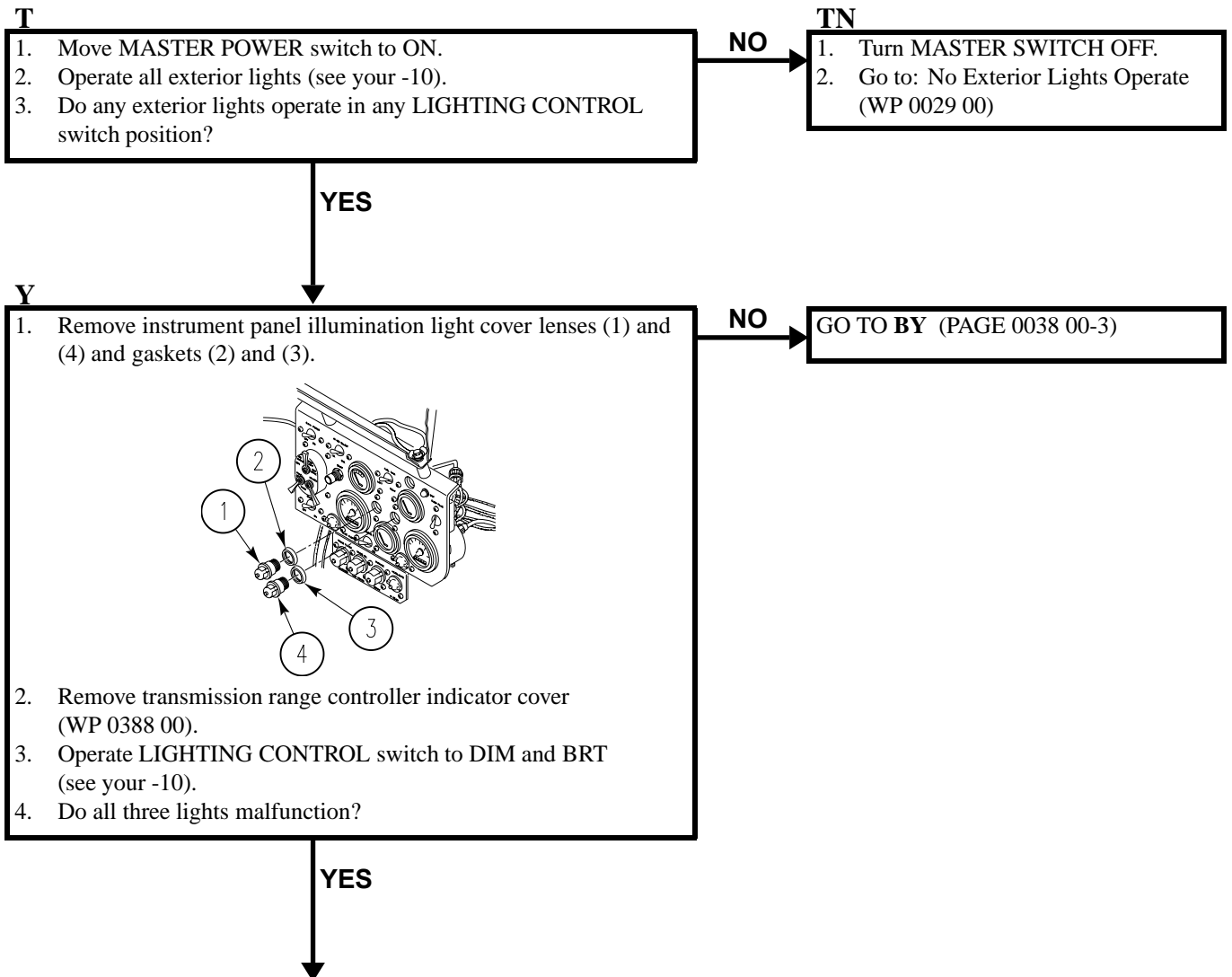
Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

Personnel Required

Unit Mech 63T10

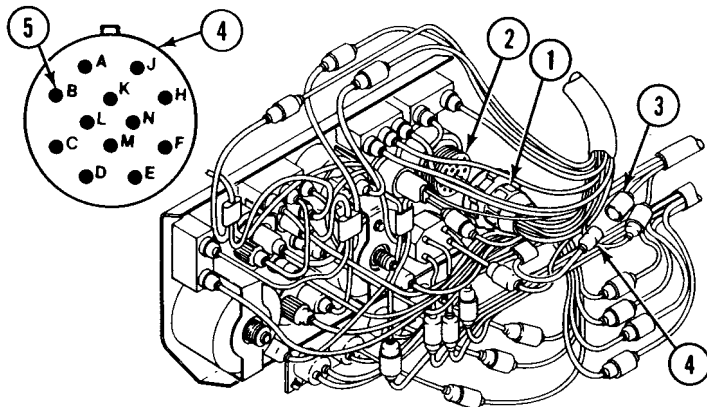
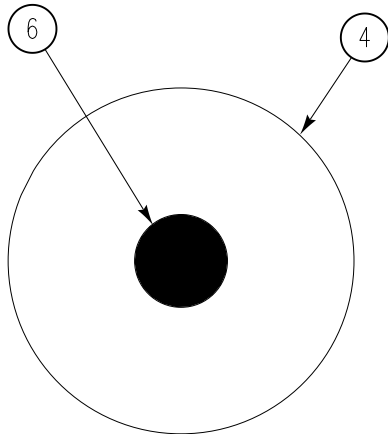


**INSTRUMENT PANEL AND/OR TRANS CONTROLLER ILLUMINATION LIGHTS  
MALFUNCTION—Continued**

0038 00

**2Y**

1. Move MASTER POWER switch to OFF.
2. Install instrument panel illumination light and controller indicator cover lenses and gaskets.
3. Remove instrument panel for access (WP 0295 00).
4. Remove harness 12349881 plug (1) from LIGHTING CONTROL switch jack (2).
5. Remove harness 12349813 circuit 40 plug (3) from harness 12349881 circuit 40 jack (4).
6. Measure resistance between harness 12349881 LIGHTING CONTROL switch plug (1), pin B (5), and circuit 40 jack (4) pin (6).
7. Does multimeter read 0 ohms?



**NO**

**2YN**

1. Faulty harness 12349881, circuit 40. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**3Y**

1. Replace main light switch (WP 0283 00).
2. Verify no faults found.

**INSTRUMENT PANEL AND/OR TRANS CONTROLLER ILLUMINATION LIGHTS  
MALFUNCTION—Continued**

0038 00

**BY**

1. Remove malfunctioning bulb(s) from instrument panel illumination light(s) and/or TRANS CONTROLLER indicator.
2. Check continuity between bulb center contact and bulb base.
3. Does multimeter read less than infinity?

NO

**BYN**

1. Replace light bulb(s), as required (WP 0388 00).
2. Verify no faults found.

YES

**B2Y**

1. Does either instrument panel illumination light malfunction?

NO

**B2YN**

1. Replace harness 12349813 (WP 0374 00).
2. Verify no faults found.

YES

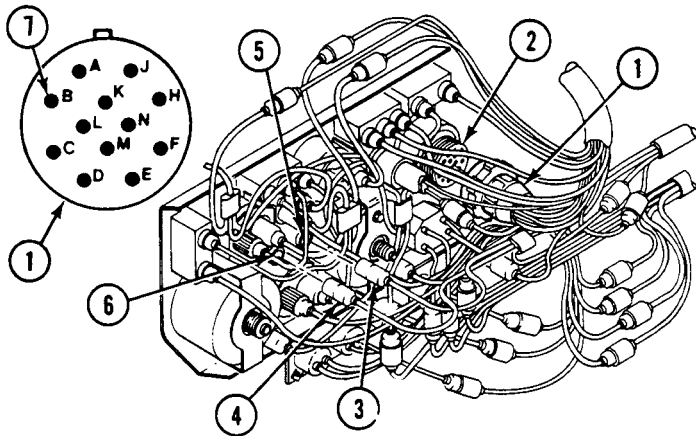
**B3Y**

1. Remove instrument panel for access (WP 0295 00).
2. Remove harness 12349881 plug (1) from LIGHTING CONTROL switch jack (2).
3. Remove harness 12349881 circuit 40 plug (3) or (4) from failing instrument panel light (5) or (6).
4. Measure resistance between harness 12349881 LIGHTING CONTROL switch plug (1), pin B (7), and failing circuit 40 light plug (3) or (4).
5. Does multimeter read 0 ohms?

NO

**B3YN**

1. Install bulbs.
2. Faulty harness 12349881, circuit 40. Beyond unit maintenance repair.
3. Notify supervisor.



YES

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**INSTRUMENT PANEL AND/OR TRANS CONTROLLER ILLUMINATION LIGHTS  
MALFUNCTION—Continued**

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0038 00

**B4Y**

1. Install harness 12349881 plug on LIGHTING CONTROL switch jack.
2. Replace instrument panel light assembly (WP 0287 00).
3. Verify no faults found.



**DOME LIGHT(S) DO NOT WORK**

**0039 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your-10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)

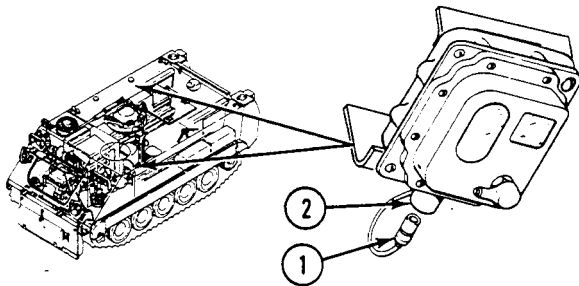
Personnel Required

Unit Mech 63T10  
Helper (H)

Vehicle blocked (see your -10)

**T**

1. Remove harness 12268797 plug (1) from jack (2) on faulty dome light.
2. Turn MASTER SWITCH ON.
3. Measure voltage between harness 12268797 plug (1) and ground.
4. Does multimeter read 17 volts or more?



**NO**

**GO TO BY (PAGE 0039 00-3)**

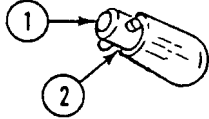
**YES**

**DOMELIGHT(S) DO NOT WORK—Continued**

**0039 00**

**Y**

1. Turn MASTER SWITCH OFF.
2. Install harness 12268797 plug on dome light.
3. Remove dome light bulbs from dome light assembly (WP 0309 00) or (WP 0311 00).
4. Check continuity between light bulb center contact (1) and bulb base (1).
5. Is there continuity?



**NO**

**YN**

1. Repair dome light assembly (WP 0310 00) or (WP 0312 00).
2. Verify no faults found.

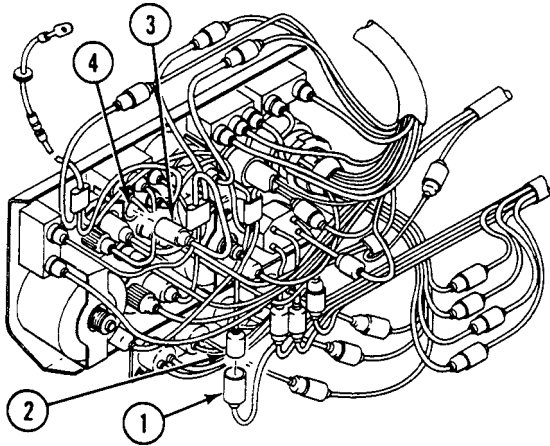
**YES**

**2Y**

1. Replace dome light bulbs (WP 0310 00) or (WP 0312 00).
2. Verify no faults found.

**BY**

1. Turn MASTER SWITCH OFF.
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12268797 circuit 38 plug (1) from harness 12349858 circuit 38 jack (2).
4. Remove harness 12349858 circuit 27 plug (3) from instrument panel circuit breaker jack (4).
5. Measure resistance between harness 12349858 circuit 38 jack (2) and circuit 27 plug (3).



6. Does multimeter read 0 ohms?

NO

**BYN**

1. Install harness 2268797 plug on dome light jack.
2. Repair harness 12349858 circuit 38 (WP 0382 00).
3. Verify no faults found.

YES

**B2Y**

1. Repair harness 12268797 circuit 38 (WP 0382 00).
2. Verify no faults found.



**DOME LIGHT MALFUNCTION (M577A3 ONLY)**

**0040 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your-10

Tools and Special Tools

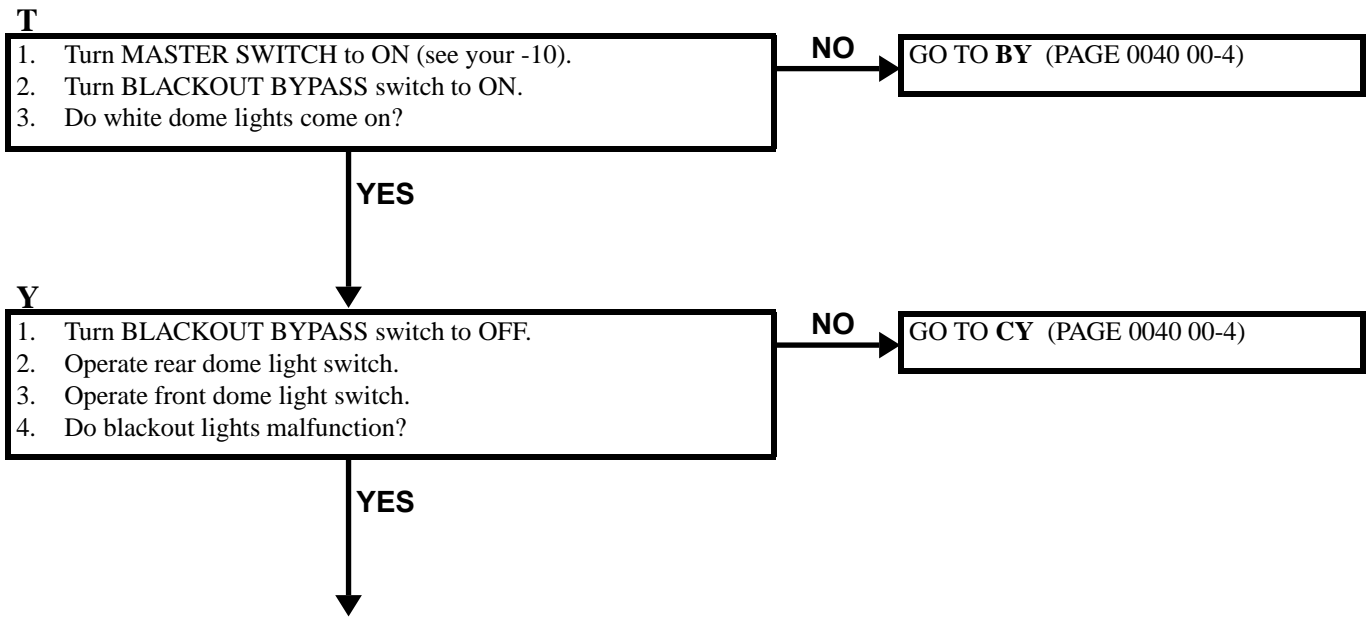
General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)  
Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)

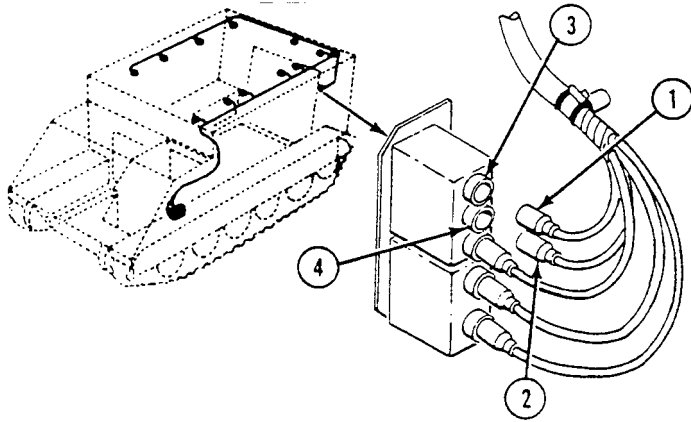
Personnel Required

Unit Mech 63T10  
Helper (H)



**2Y**

1. Remove circuit 38E (1) and 38A (2) plugs form rear dome light switch jacks (3)(4).
2. Install a jumper wire between circuit 38E (1) and 38A (2) plugs.
3. Operate front dome light switch.
4. Do blackout dome lights malfunction?



**NO**

GO TO **DY** (PAGE 0040 00-5)

**YES**

**3Y**

1. Remove jumper from circuit 38E and 38A plugs.
2. Measure voltage at circuit 38E plug.
3. Does multimeter read 17 volts or more?

**NO**

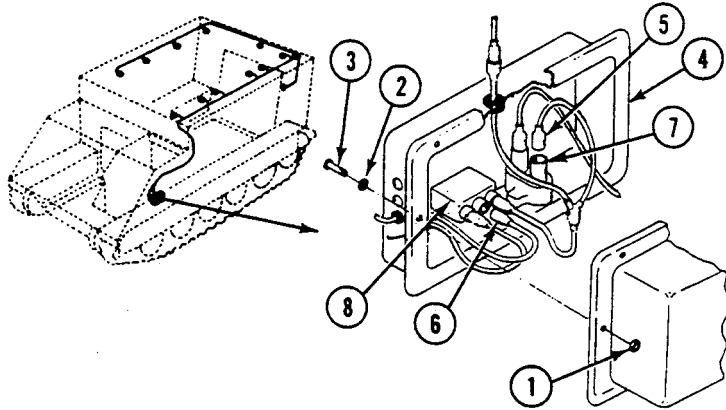
**3YN**

1. Turn MASTER SWITCH to OFF.
2. Repair rear main harness circuit 38E (WP 0382 00).
3. Verify no faults found.

**YES**

**4Y**

1. Turn MASTER SWITCH to OFF.
2. Install circuit 38E and 38A plugs on rear dome light.
3. Remove eight nuts (1), washers (2), and screws (3) from master switch panel (4). Pull panel away from distribution box.
4. Remove circuits 10 (5) and 38A (6) plugs from circuit breaker (7) and front dome light switch (8).
5. Install a jumper wire between circuit 10 and 38A plugs.
6. Turn MASTER SWITCH to ON.
7. Operate rear dome light switch.
8. Do blackout dome lights still malfunction?



NO

GO TO EY (PAGE 0040 00-5)

YES

**5Y**

1. Remove jumper wire from circuits 10 and 38A plugs.
2. Measure voltage at circuit 10 plug.
3. Does multimeter read 17 volts or more?

NO

**5YN**

1. Turn MASTER SWITCH to OFF.
2. Repair/replace wiring harness 10917788 (WP 0382 00).
3. Verify no faults found.

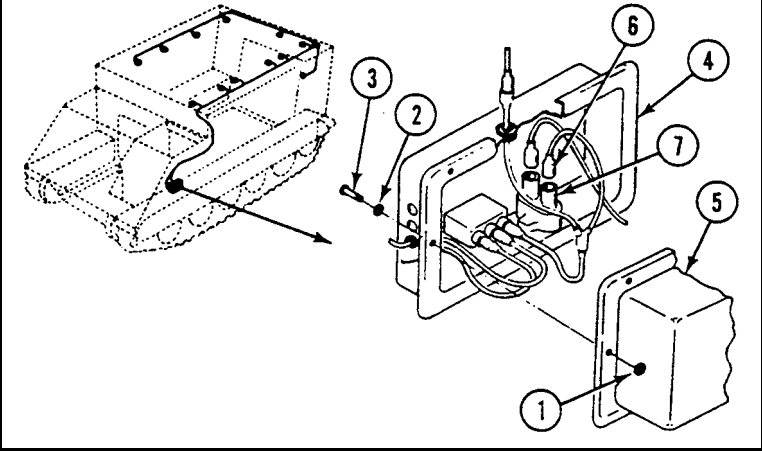
YES

**6Y**

1. Turn MASTER SWITCH to OFF.
2. Repair wiring harness circuit 38A (WP 0382 00).
3. Verify no faults found.

**BY**

1. Turn MASTER SWITCH to OFF.
2. Remove eight nuts (1), washers (2), and screws (3) from master switch panel (4). Pull panel away from distribution box (5).
3. Remove circuit 10 plugs from circuit breaker jacks (7).
4. Measure resistance between circuit breaker jacks (7).
5. Does multimeter read 0 ohm?



NO

**BYN**

1. Replace circuit breaker (WP 0316 00).
2. Verify no faults found.

YES

**B2Y**

1. Repair circuit 10 lead assembly from the circuit breaker to the front dome light switch (WP 0382 00).
2. Verify no faults found.

**CY**

1. Has the ramp door switch been adjusted?

NO

**CYN**

1. Adjust ramp door switch (WP 0335 00).
2. Verify no faults found.

YES

**C2Y**

1. Replace ramp door switch (WP 0335 00).
2. Verify no faults found.

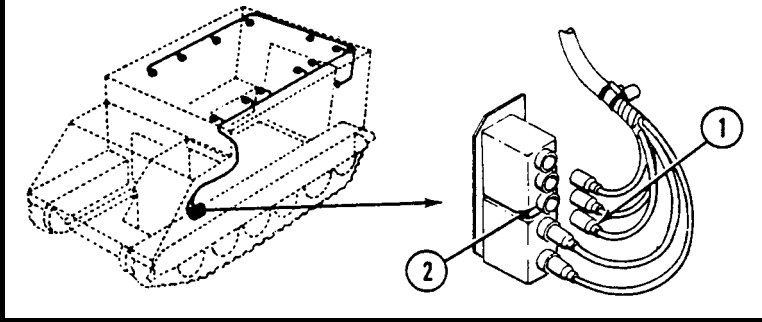


**DOME LIGHT MALFUNCTION (M577A3 ONLY)—Continued**

0040 00

**DY**

1. Turn blackout dome lights on using front dome light switch.
2. Remove circuit 38 plug (1) from rear dome light switch jack (2).
3. Measure voltage between circuit 38 plug (1) and ground.
4. Does multimeter read 17 volts or more?



NO

**DYN**

1. Turn MASTER SWITCH to OFF.
2. Repair rear main harness circuit 38 (WP 0382 00).
3. Verify no faults found.

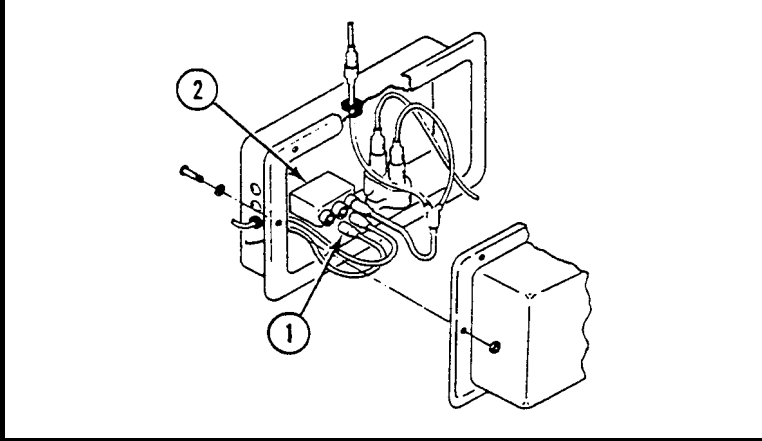
YES

**D2Y**

1. Turn MASTER SWITCH to OFF.
2. Replace rear dome light switch (WP 0315 00).
3. Verify no faults found.

**EY**

1. Turn dome lights on using rear dome light switch.
2. Remove circuit 38 plug (1) from front dome light switch jack.
3. Measure voltage between circuit 38 plug (1) and ground.
4. Does multimeter read 17 volts or more?



NO

**EYN**

1. Turn MASTER SWITCH to OFF.
2. Repair wiring harness circuit 38 (WP 0382 00).
3. Install master switch panel on distribution box (WP 0261 00).
4. Verify no faults found.

YES

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**DOMELIGHT MALFUNCTION (M577A3 ONLY)—Continued**

---

0040 00

**E2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove jumper wire from circuit 10 and 38 plugs.
3. Replace front dome light switch (WP 0314 00).
4. Verify no faults found.

**BLACKOUT DOME LIGHTS DO NOT WORK (M1068A3 ONLY)**

**0041 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

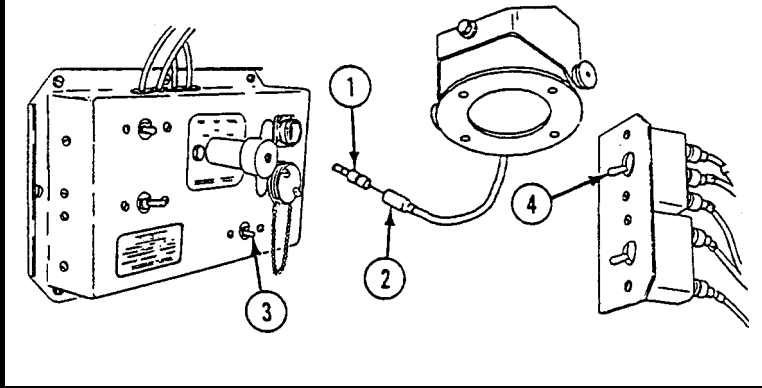
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Ramp lowered or ramp door open (see your -10)

Personnel Required

Unit Mechanic

**T**

1. Disconnect W28 plug P2 (1) from dome light lead (2).
2. Turn MASTER SWITCH to ON.
3. Turn on front dome light switch (3) (master switch panel in driver's compartment); or rear dome light switch (4) (switch panel next to ramp).
4. Measure voltage between plug P2 (1) and ground.
5. Does multimeter read 17 volts or more?



**NO**

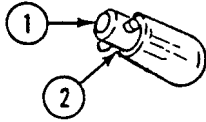
**GO TO AY (PAGE 0041 00-2)**

**YES**



**Y**

1. Turn MASTER SWITCH to OFF.
2. Remove light bulbs from dome light (WP 0312 00).
3. Check continuity between light bulb center contact (1) and bulb base (2).
4. Is there continuity?



**NO**

**YN**

1. Replace dome light bulbs (WP 0312 00).
2. Verify no faults found.

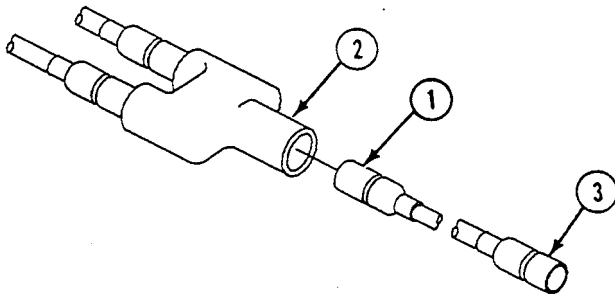
**YES**

**2Y**

1. Repair dome light assembly (WP 0312 00).
2. Verify no faults found.

**AY**

1. Turn MASTER SWITCH to OFF.
2. Remove cable W28 plug P1 (1) from adapter plug (2).
3. Measure resistance between cable W28 plugs P1 (1) and P2 (3).
4. Does multimeter read zero ohms?



**NO**

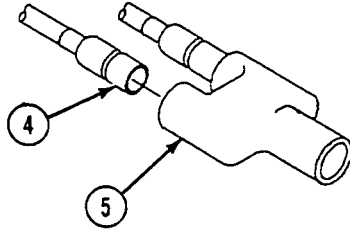
**AYN**

1. Replace cable W28 (WP 0849 00).
2. Verify no faults found.

**YES**

**A2Y**

1. Remove lead 38B (1) from adapter plug P3 (5).
2. Turn MASTER SWITCH to ON.
3. Measure voltage between lead 38B (4) and ground.
4. Does multimeter read 17 volts or more?



NO

**A2YN**

1. Go to Dome Lights Malfunction (M577A3 Only) (WP 0040 00).

YES

**A3Y**

1. Replace adapter (WP 0849 00).
2. Verify no faults found.



**RIGHT REAR UTILITY OUTLET/ADMITTANCE BUZZER WORKS IMPROPERLY (M577A3 AND M1068A3 ONLY)**

**0042 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mechanic

Helper (H)

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Digital Multimeter (WP 0926 00, Item 30)

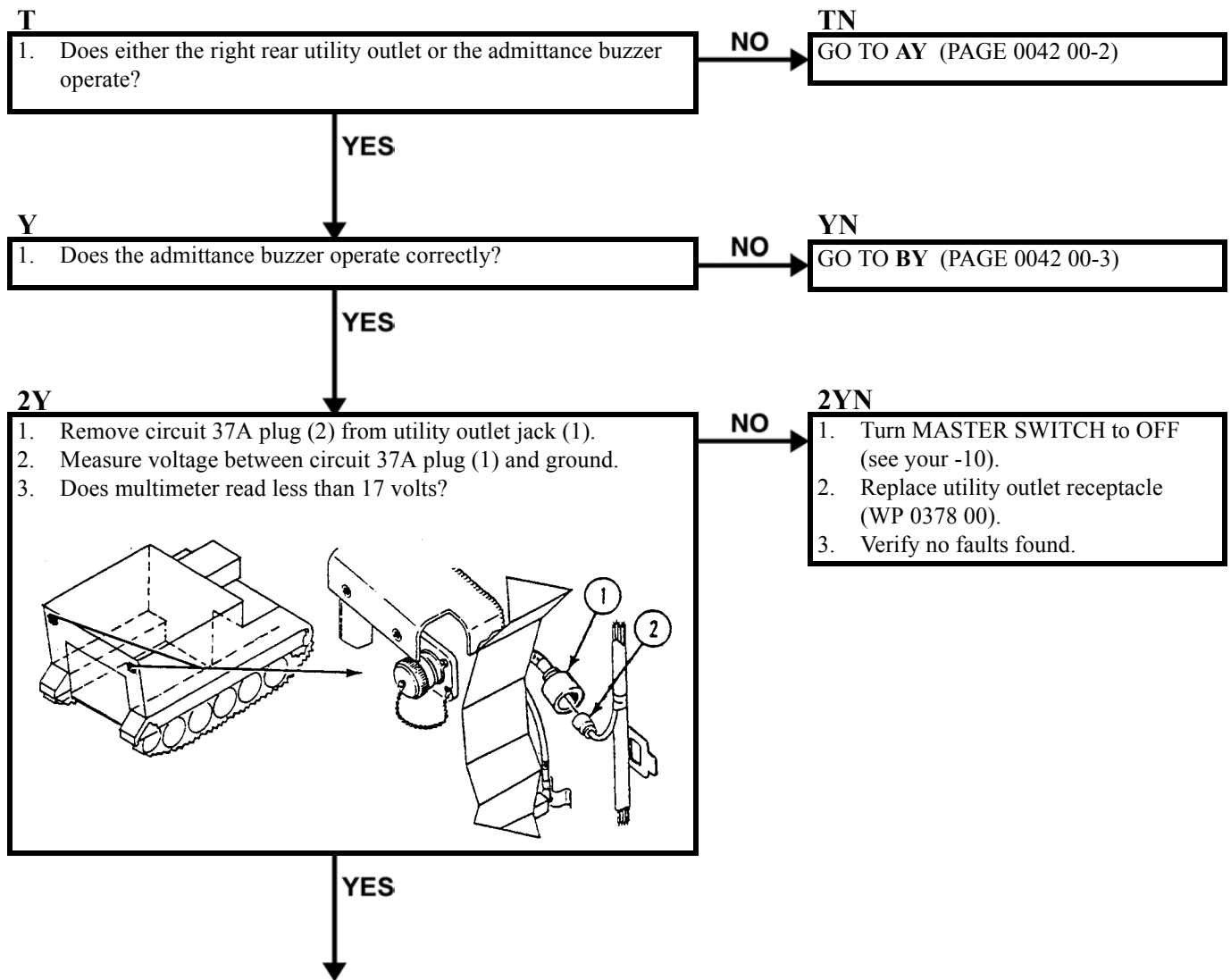
Jumper Wire

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

MASTER SWITCH turned to ON (see your -10)



**RIGHT REAR UTILITY OUTLET/ADMITTANCE BUZZER WORKS IMPROPERLY  
(M577A3 AND M1068A3 ONLY) — Continued**

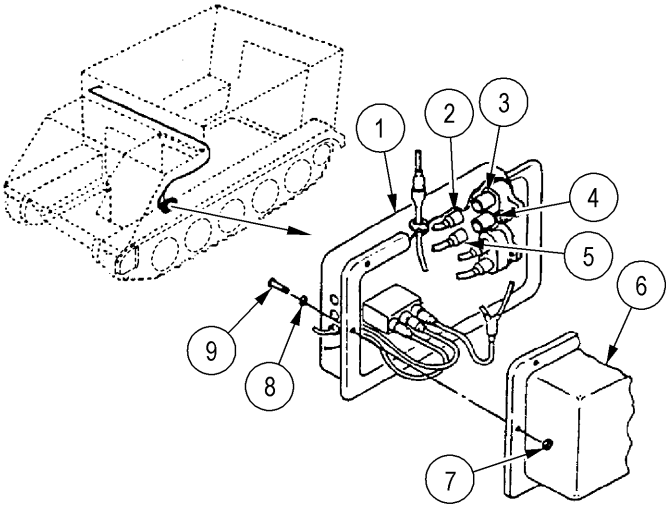
0042 00

**3Y**

1. Turn MASTER SWITCH to OFF.
2. Faulty rear main wiring harness. Beyond unit maintenance repair.
3. Notify supervisor.

**AY**

1. Remove eight nuts (7), washers (8), and screws (9) from master switch panel (6). Pull panel away from distribution box (1).
2. Remove circuit 10 and 37A plugs (2) and (5) from circuit breaker jacks (3) and (4).
3. Measure resistance between circuit breaker jacks (3) and (4).
4. Does multimeter read 0 ohms?



NO

**AYN**

1. Replace circuit breaker (WP 0280 00).
2. Verify no faults found.

YES

**A2Y**

1. Turn MASTER SWITCH to ON.
2. Measure voltage at circuit 10 plug.
3. Does multimeter read less than 17 volts?

NO

**A2YN**

1. Turn MASTER SWITCH to OFF.
2. Faulty rear main wiring harness circuit 37A. Beyond unit maintenance repair.
3. Notify supervisor.

YES



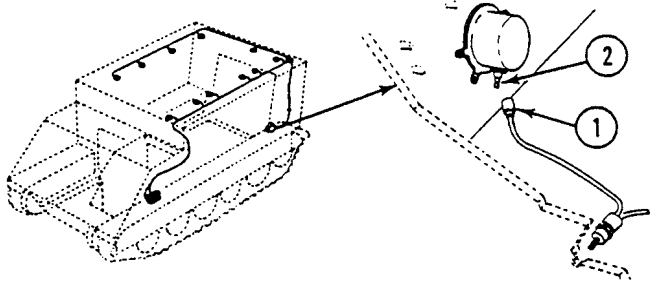
**RIGHT REAR UTILITY OUTLET/ADMITTANCE BUZZER WORKS IMPROPERLY  
(M577A3 AND M1068A3 ONLY) — Continued**

0042 00

**A3Y**

1. Turn MASTER SWITCH to OFF.
2. Replace circuit 10 in master switch panel from the bus bar to the circuit breaker (WP 0382 00).
3. Verify no faults found.

**BY**

1. Remove circuit 509 plug (1) from admittance buzzer jack (2).
  2. (H): Depress admittance buzzer switch.
  3. Measure voltage between circuit 509 plug (1) and ground.
  4. Does multimeter read less than 17 volts?
- 

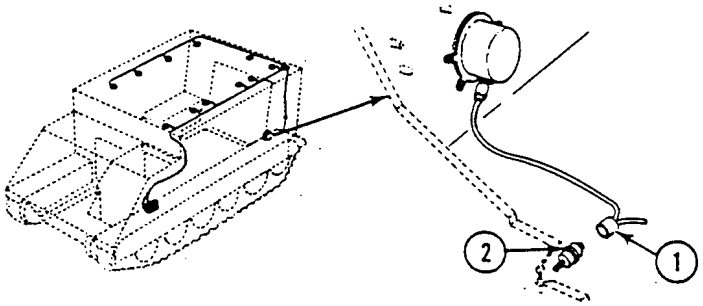
YES

NO

**BYN**

1. Turn MASTER SWITCH to OFF.
2. Replace admittance buzzer (WP 0334 00).
3. Verify no faults found.

**B2Y**

1. Remove rear main harness circuit 509 plug (1) from admittance buzzer switch (2).
  2. Install a jumper wire between admittance buzzer circuit 509 plug (1) and ground.
  3. Measure voltage across two pin contacts of circuit 509 plug (1) from admittance buzzer switch.
  4. Does multimeter read less than 17 volts?
- 

YES

NO

**B2YN**

1. Turn MASTER SWITCH to OFF.
2. Replace admittance buzzer switch (WP 0334 00).
3. Verify no faults found.

---

**RIGHT REAR UTILITY OUTLET/ADMITTANCE BUZZER WORKS IMPROPERLY  
(M577A3 AND M1068A3 ONLY) — Continued**

---

**0042 00**

**B3Y**

1. Turn MASTER SWITCH to OFF.
2. Remove jumper wire.
3. Faulty rear main wiring harness circuit 509. Beyond unit maintenance repair.
4. Notify supervisor.

**LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3 AND M1068A3 ONLY)**

**0043 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Digital Multimeter (WP 0926 00, Item 30)

Jumper wire

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

MASTER SWITCH turned to ON (see your -10)

Personnel Required

Unit Mechanic

Helper (H)

**T**

1. Does either the blower or the left rear utility outlet work? **NO** → GO TO BY (PAGE 0043 00-3)

**YES**

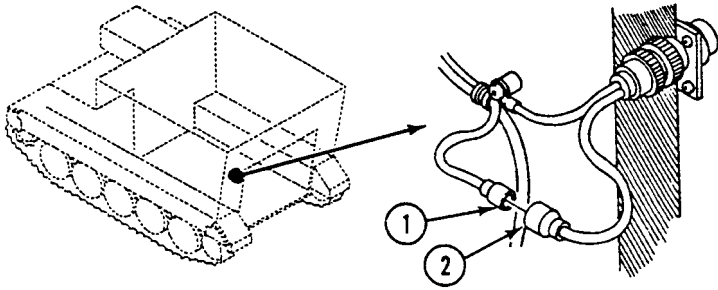
**Y**

1. Does the blower operate normally? **NO** → GO TO CY (PAGE 0043 00-4)

**YES**

**2Y**

1. Remove rear main harness circuit 37B plug (1) from left rear utility outlet jack (2).
2. Measure voltage between circuit 37B plug (1) and ground.
3. Does multimeter read less than 17 volts?



**YES**

**2YN**

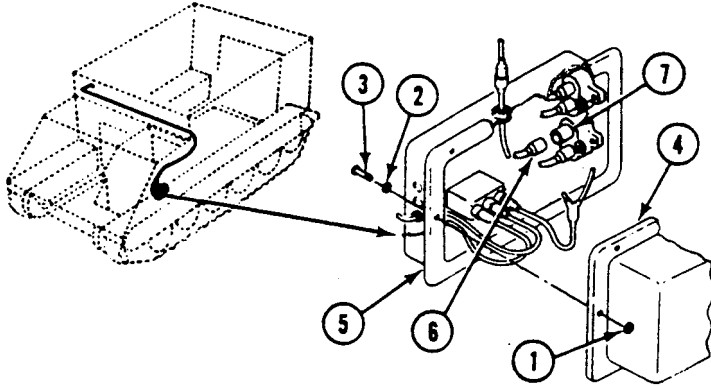
1. Turn MASTER SWITCH to OFF.
2. Replace utility outlet receptacle (WP 0378 00).
3. Verify no faults found.

**LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3 AND M1068A3 ONLY)—Continued**

0043 00

**3Y**

1. Turn MASTER SWITCH to OFF.
2. Remove eight nuts (1), washers (2), and screws (3) from master switch panel (4) and distribution box (5). Pull panel away from distribution box.
3. Remove circuit 37B plug (6) from circuit breaker jack (7).
4. Turn MASTER SWITCH to ON.
5. Measure voltage between circuit breaker jack (7) and ground.
6. Does multimeter read less than 17 volts?



NO

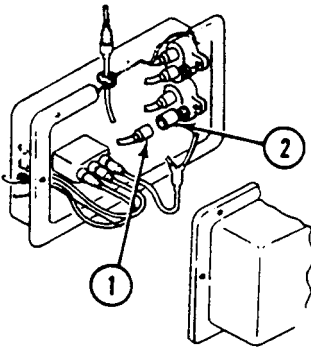
**3YN**

1. Turn MASTER SWITCH to OFF.
2. Faulty rear main wiring harness circuit 37B. Beyond unit maintenance repair.
3. Notify supervisor.

YES

**4Y**

1. Remove circuit 10 plug (1) from circuit breaker jack (2).
2. Measure voltage between circuit 10 plug (1) and ground.
3. Does multimeter read less than 17 volts?



NO

**4YN**

1. Turn MASTER SWITCH to OFF.
2. Replace circuit breaker (WP 0280 00).
3. Verify no faults found.

YES

**LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3 AND M1068A3 ONLY)—Continued**

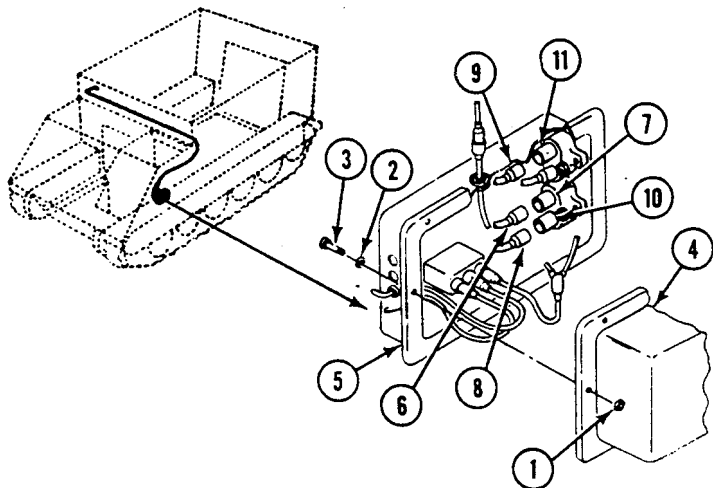
0043 00

**5Y**

1. Turn MASTER SWITCH to OFF.
2. Faulty circuit 10 lead from bus bar to circuit breaker. Beyond unit maintenance repair.
3. Install master switch panel on distribution box (WP 0261 00).
4. Notify supervisor.

**BY**

1. Turn MASTER SWITCH to OFF.
2. Remove eight nuts (1), washers (2), and screws (3) from master switch panel (4) and distribution box (5). Pull panel away from distribution box.
3. Remove circuit 37B plug (6) from circuit breaker jack (7) and two circuit 10 plugs (8) and (9) from circuit breaker jacks (10) and (11).
4. Measure resistance between circuit breaker contacts.
5. Does multimeter read 0 ohms?



NO

**BYN**

1. Replace circuit breaker (WP 0280 00).
2. Verify no faults found.

YES

**B2Y**

1. Faulty circuit 10 from bus bar to circuit breaker. Beyond unit maintenance repair.
2. Install master switch panel on distribution box (WP 0261 00).
3. Notify supervisor.

**LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3 AND M1068A3 ONLY)—Continued**

0043 00

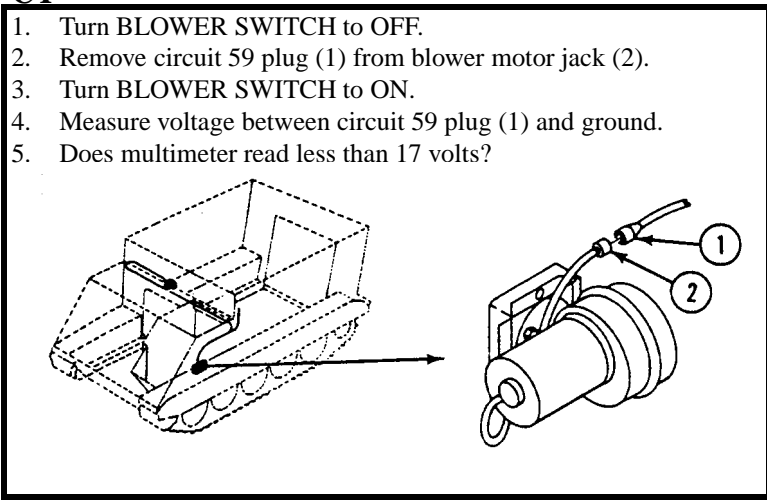
**CY**

1. Turn BLOWER SWITCH to OFF.
2. Remove circuit 59 plug (1) from blower motor jack (2).
3. Turn BLOWER SWITCH to ON.
4. Measure voltage between circuit 59 plug (1) and ground.
5. Does multimeter read less than 17 volts?

NO

**CYN**

1. Replace blower motor (WP 0383 00).
2. Verify no faults found.



YES

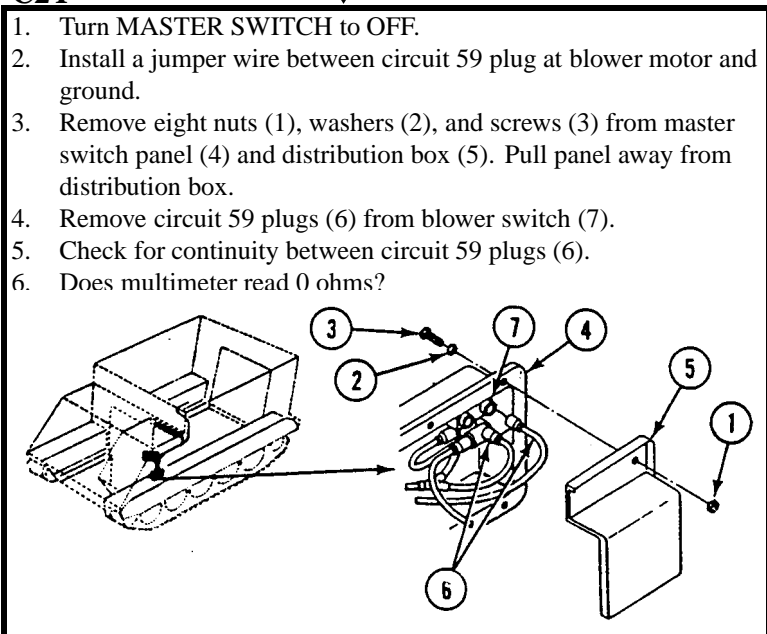
**C2Y**

1. Turn MASTER SWITCH to OFF.
2. Install a jumper wire between circuit 59 plug at blower motor and ground.
3. Remove eight nuts (1), washers (2), and screws (3) from master switch panel (4) and distribution box (5). Pull panel away from distribution box.
4. Remove circuit 59 plugs (6) from blower switch (7).
5. Check for continuity between circuit 59 plugs (6).
6. Does multimeter read 0 ohms?

NO

**C2YN**

1. Replace blower switch (WP 0278 00).
2. Install master switch panel on distribution box.
3. Verify no faults found.



YES

---

**LEFT REAR UTILITY OUTLET/BLOWER DOES NOT WORK (M577A3 AND M1068A3 ONLY)—Continued**

---

0043 00

**C3Y**

1. Faulty wiring harness circuit 59 from circuit breaker to blower switch. Beyond unit maintenance repair.
2. Install master switch panel on distribution box (WP 0261 00).
3. Notify supervisor.





**RADIO(S) DON'T WORK**

**0044 00**

**INITIAL SETUP:**

Maintenance Level  
Unit

References  
See your -10

Tools and Special Tools  
General Mechanic's Tool Kit (WP 0926 00, Item 65)

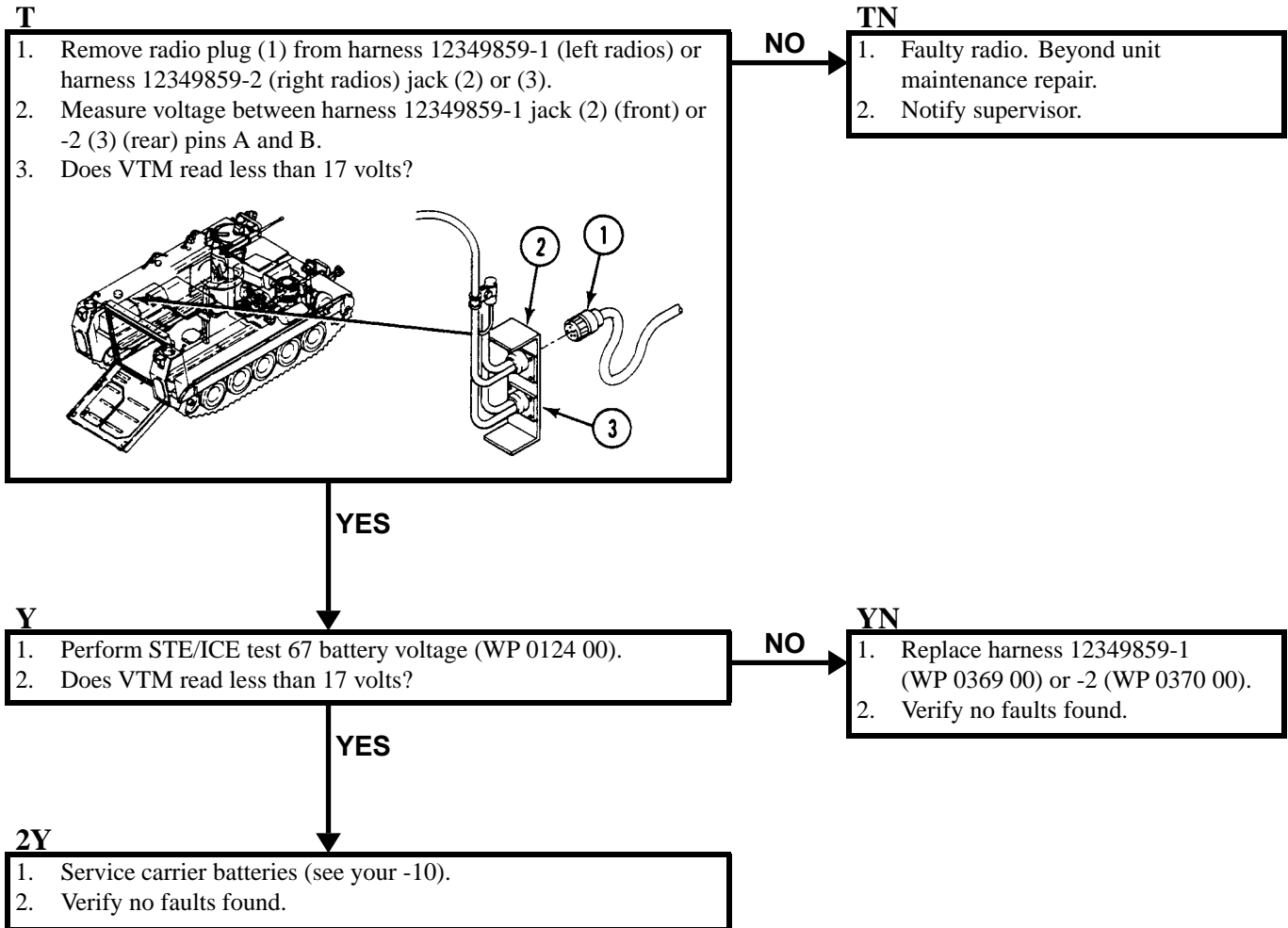
Equipment Condition

Personnel Required  
Unit Mechanic 63T10  
Helper (H)

Engine stopped (see your -10)  
Carrier blocked (see your -10)

**NOTE**

Location varies by model.





**SMOKE GRENADE LAUNCHER(S) MALFUNCTION (M113A3 AND M1059A3 ONLY)**

**0045 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Jumper wire

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Harness 12313235 removed from launcher arming/firing unit (WP 0366 00)

Personnel Required

- Unit Mechanic
- Helper (H)

**T**

1. Does either launcher operate properly?

**NO**

**GO TO BY (PAGE 0045 00-3)**

**YES**

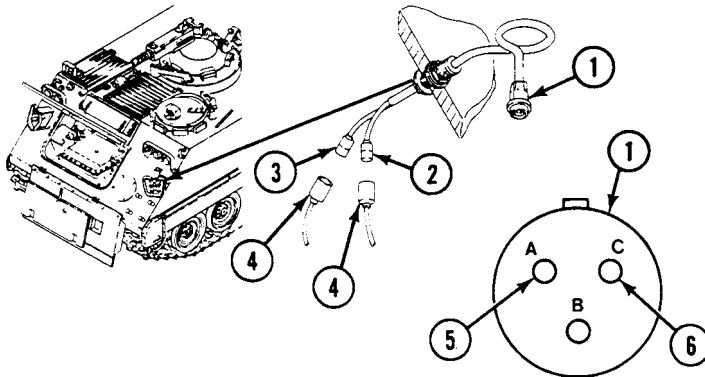
**Y**

1. Remove harness 12313237 launcher plug (1) from failing right launcher.
2. Remove harness 12313237 circuit 7 (2) and 799 plugs (3) from harness 12313236 (right launcher) or harness 12313235 (left launcher) jacks (4).
3. Measure resistance between harness 12313237 launcher plug (1) pin A (5) and plug 7 (3) circuit.
4. Measure resistance between harness 12313237 launcher plug (1) pin C (6) and circuit 7 plug (2).
5. Does multimeter read 0 ohms for both measurements?

**NO**

**YN**

1. Replace harness 12313237 for left or right grenade launcher (WP 0366 00).
2. Verify no faults found.



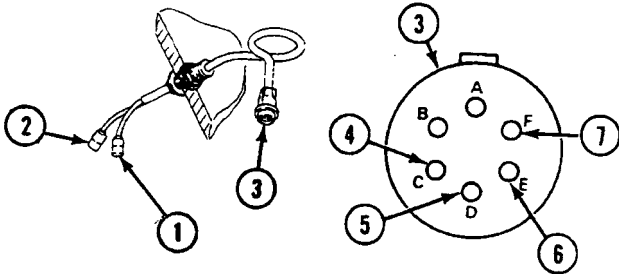
**YES**

**SMOKE GRENADE LAUNCHER(S) MALFUNCTION (M113A3 AND M1059A3 ONLY)—Continued**

0045 00

**2Y**

1. Install jumper wire between harness 12313236 (right launcher) or harness 12313235 (left launcher) and circuit 7 (1) or 799 jacks (2).
2. Remove smoke grenade wiring harness from arming/firing unit.
3. Measure resistance between harness 12313235 arming/firing unit plug (3) pins C (4) and D (5) (left launcher check) or pins E (6) and F (7) (right launcher check).
4. Does multimeter read more than 0 ohms for both measurements?



**NO**

**2YN**

1. Smoke grenade wiring harness is OK. Faulty launcher or arming firing unit. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**3Y**

1. Is failing launcher on right side of carrier?

**NO**

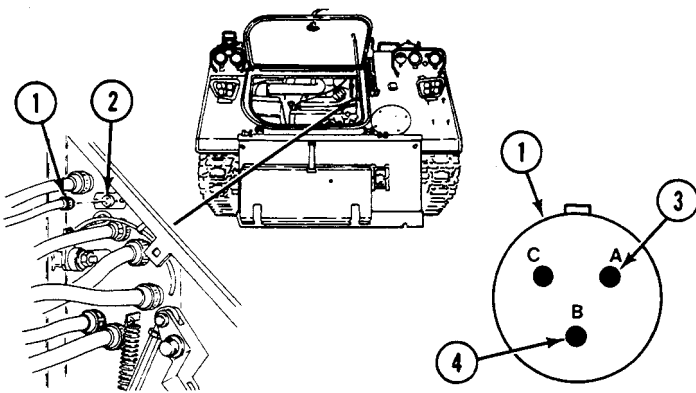
**3YN**

1. Smoke grenade wiring harness is OK. Faulty launcher or arming/firing unit. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**4Y**

1. Remove harness 12313236 plug (1) from harness 12313235 jack (2) at vehicle bulkhead.
2. Measure resistance between harness 12313236 plug (1) pins A (3) and B (4).
3. Does multimeter read continuity?



**NO**

**4YN**

1. Replace harness 12313236 (WP 0366 00).
2. Verify no faults found.

**YES**

**SMOKE GRENADE LAUNCHER(S) MALFUNCTION (M113A3 AND M1059A3 ONLY)—Continued**

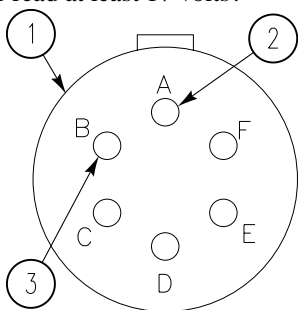
0045 00

**5Y**

- 1. Carrier wiring is OK. Faulty launcher or arming/firing unit. Beyond unit maintenance repair.
- 2. Notify supervisor.

**BY**

- 1. Turn MASTER SWITCH to ON.
- 2. Measure voltage between harness 12313235 firing/arming unit plug (1) pin A (2) and B (3).
- 3. Does multimeter read at least 17 volts?



**NO**

**BYN**

- 1. Replace harness 12313235 (WP 0366 00).
- 2. Verify no faults found.

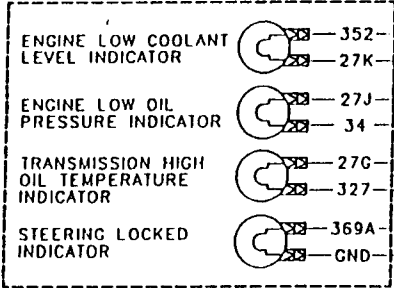
**YES**

**B2Y**

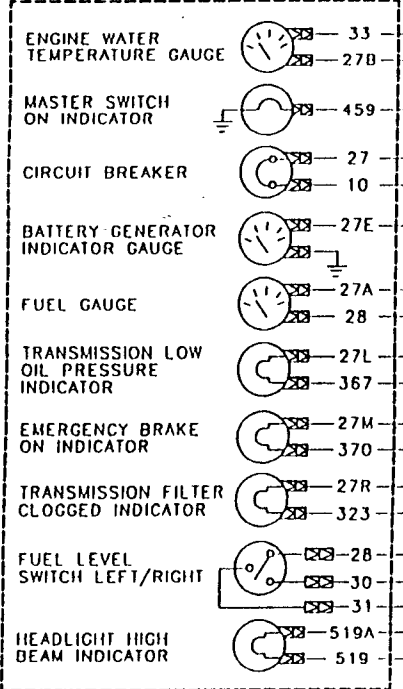
- 1. Faulty arming/firing unit. Beyond unit maintenance repair.
- 2. Notify supervisor.



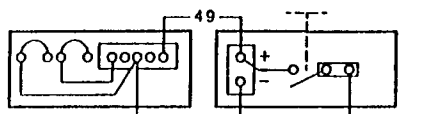
WARNING LIGHT PANEL



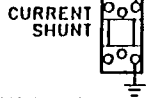
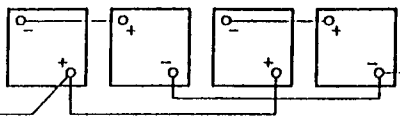
INSTRUMENT PANEL



DISTRIBUTION BOX MASTER SWITCH PANEL



BATTERIES

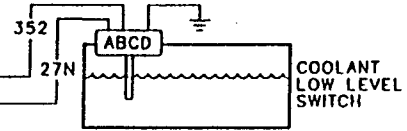
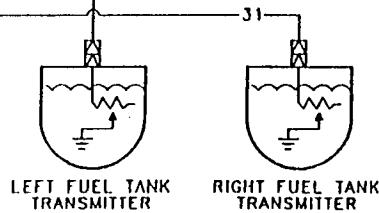


TRANSMISSION CONTROLLER

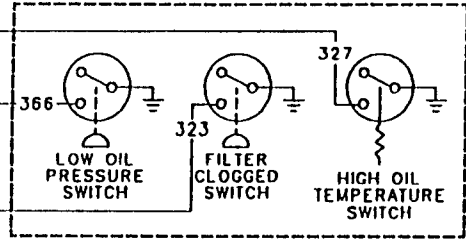


TO START SWITCH

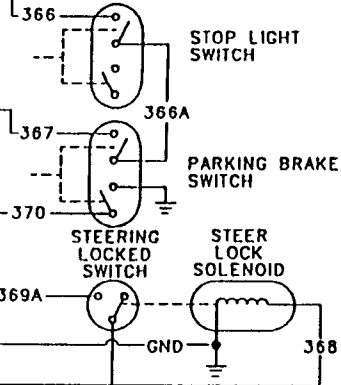
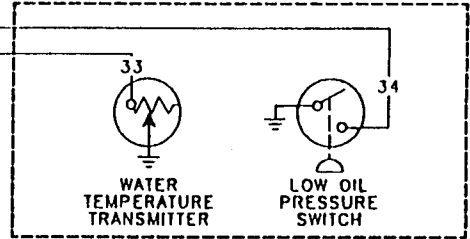
30



TRANSMISSION



ENGINE







**MASTER SWITCH ON INDICATOR DOESN'T LIGHT**

**0048 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

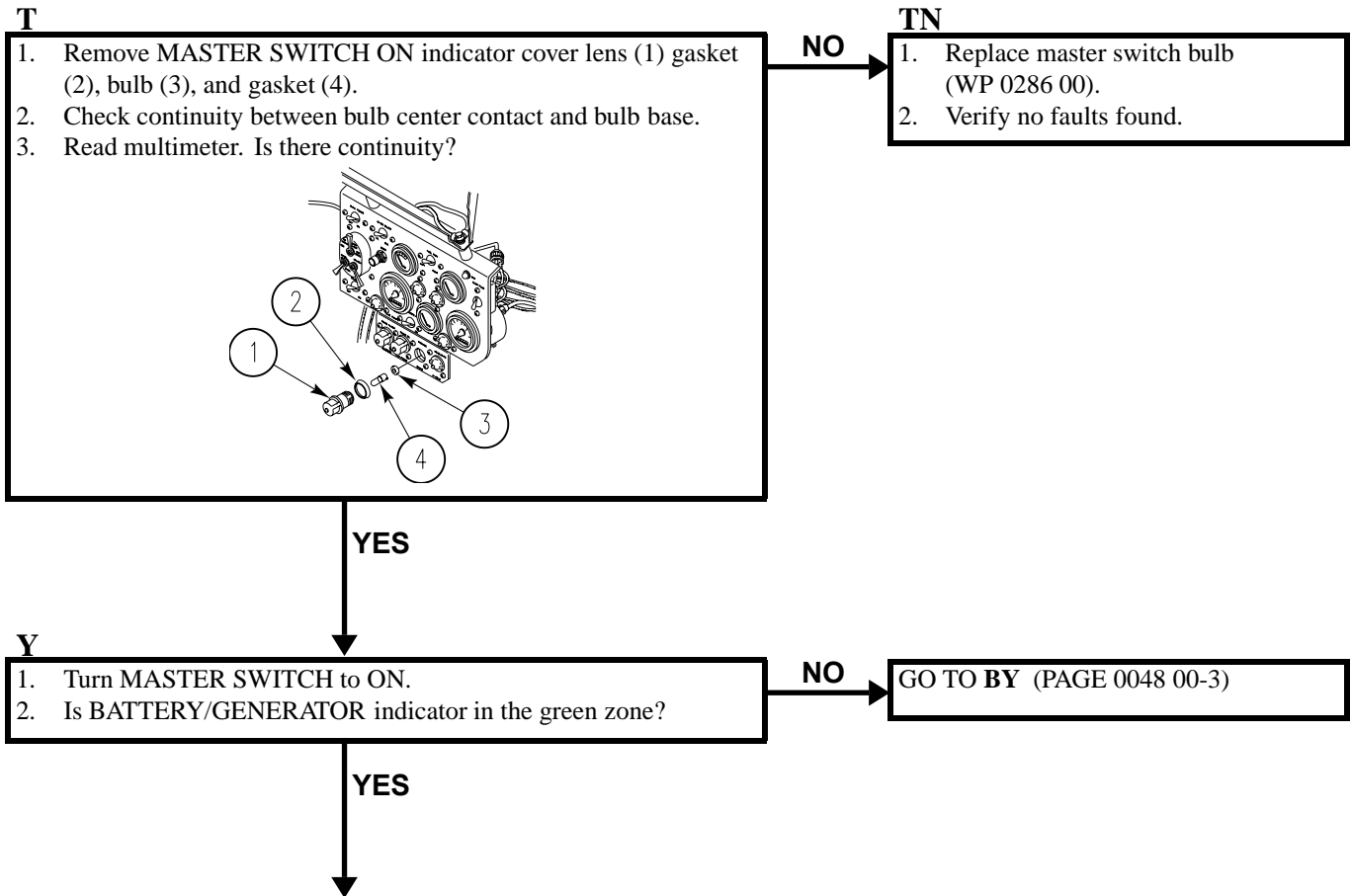
- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)

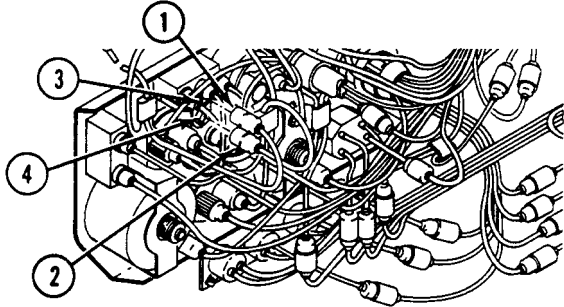
Personnel Required

- Unit Mechanic 63T10
- Helper (H)



**2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access (WP 0296 00).
3. Remove harness 10933038 circuit 10 plug (1) and cable assembly 12349858 circuit 27 plug (2) from instrument panel circuit breaker jacks (3) and (4).
4. Measure resistance between circuit breaker jacks (3) and (4).
5. Does multimeter read 0 ohms?



NO

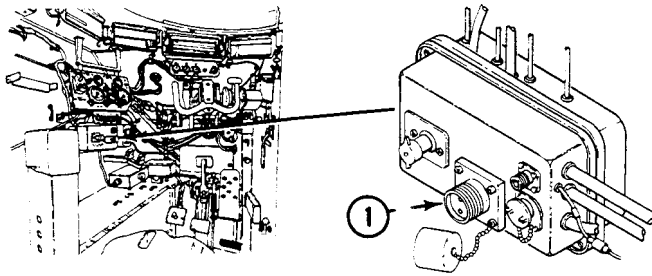
**2YN**

1. Replace instrument panel circuit breaker (WP 0280 00).
2. Verify no faults found.

YES

**3Y**

1. Measure resistance between harness 10933038 circuit 10 plug pin and master switch panel power receptacle positive jack pin (1).
2. Does multimeter read 0 ohms?



NO

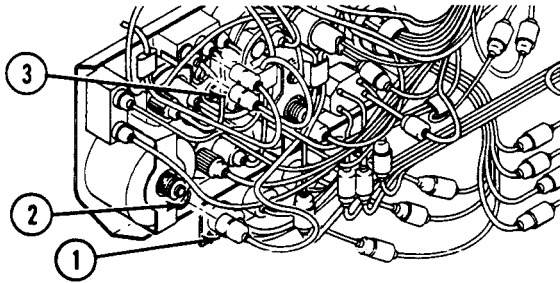
**3YN**

1. Replace harness 10933038 (WP 0266 00).
2. Verify no faults found.

YES

**4Y**

1. Remove cable assembly 12349858 circuit 459 plug (1) from MASTER SWITCH indicator jack (2)
2. Measure resistance between cable assembly circuit 27 plug (3) and circuit 459 plug (1).
3. Does multimeter read 0 ohms?



**NO**

**4YN**

1. Repair/replace cable 12349858 (WP 0382 00), (WP 0289 00).
2. Verify no faults found.

**YES**

**5Y**

1. Replace indicator light assembly (WP 0286 00).
2. Verify no faults found.

**BY**

1. Turn MASTER SWITCH to OFF.
2. Inspect carrier batteries (see your —10).
3. Are batteries in proper maintenance and well charged?

**NO**

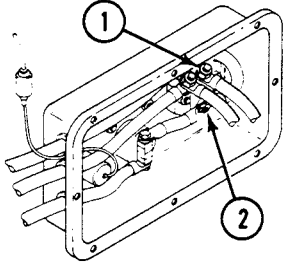
**BYN**

1. Service carrier batteries (see your -10).
2. Verify no faults found.

**YES**

**B2Y**

1. Remove master switch panel (WP 0260 00) or (WP 0261 00).
2. Turn MASTER SWITCH to ON.
3. Measure resistance between master switch terminals (1) and (2).
4. Does multimeter read 0 ohms?



NO

**B2YN**

1. Replace master switch (WP 0262 00).
2. Verify no faults found.

YES

**B3Y**

1. Replace harness 10933038 (WP 0266 00).
2. Verify no faults found.

---

**FUEL LEVEL INDICATOR MALFUNCTIONS**

---

**0049 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Jumper Wire

Equipment Condition

Personnel Required

Unit Mechanic

Helper (H)

Engine stopped (see your -10)

Carrier blocked (see your -10)

---

**T**

1. Does indicator malfunction with FUEL TANK indicator switch on LEFT and on RIGHT?

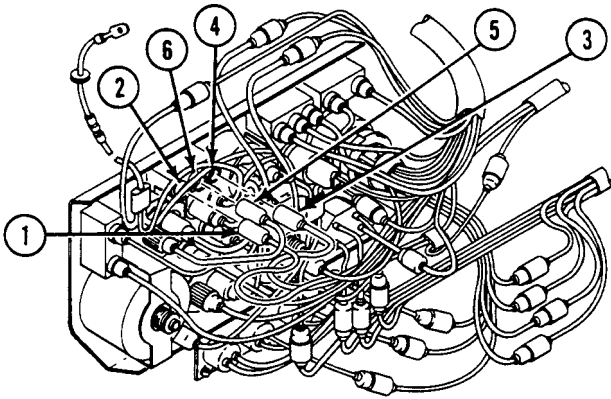
**NO**

**GO TO BY (PAGE 0049 00-3)**

**YES**

**Y**

1. Remove instrument panel for access (WP 0295 00).
2. Remove circuit 30 plug (1) from FUEL TANK switch jack (2).
3. Remove circuit 31 plug (3) from FUEL TANK switch jack (4).
4. Remove circuit 28 plug (5) from FUEL TANK switch jack (6).
5. Turn FUEL TANK switch to LEFT and measure resistance between FUEL TANK switch jack (6) and FUEL TANK switch jack (2).
6. Turn FUEL TANK switch to RIGHT and measure resistance between FUEL TANK switch jack (6) and FUEL TANK switch jack (4).
7. Did multimeter read 0 ohms both times?



**NO**

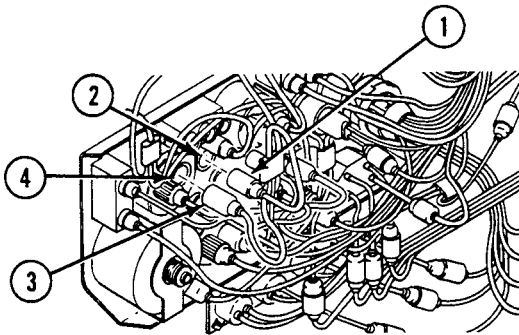
**YN**

1. Replace FUEL TANK select switch (WP 0277 00) or (WP 0282 00).
2. Verify no faults found.

**YES**

**2Y**

1. Remove circuit 27 plug (1) from instrument panel circuit breaker jack (2).
2. Remove circuit 27A plug (3) from fuel level indicator jack (4).
3. Check continuity between circuit 27 plug (1) and circuit 27A plug (3).
4. Does multimeter read 0 ohms?



**NO**

**2YN**

1. Install circuit 30 and 31 leads on FUEL TANK switch.
2. Replace cable assembly 12349858 circuit 27A (WP 0290 00).
3. Verify no faults found.

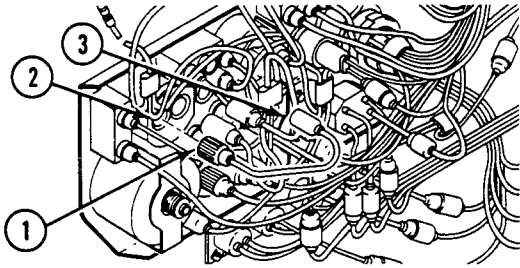
**YES**

FUEL LEVEL INDICATOR MALFUNCTIONS—Continued

0049 00

**3Y**

1. Install circuit 30 and 31 plugs on FUEL TANK switch.
2. Remove circuit 28 plug (1) from FUEL LEVEL indicator jack (2).
3. Check continuity between circuit 28 plugs (1) and (3).
4. Does multimeter read 0 ohms?



NO

**3YN**

1. Replace lead 12268805 (WP 0281 00).
2. Verify no faults found.

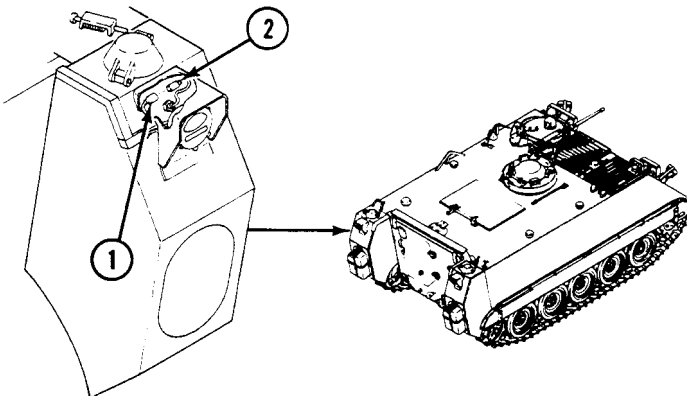
YES

**4Y**

1. Install circuit 28 plug on FUEL TANK switch jack.
2. Replace FUEL LEVEL indicator (WP 0285 00).
3. Verify no faults found.

**BY**

1. Remove harness 12268797 circuit 30 (left tank) plug (1) or circuit 31 (right tank) plug from failing fuel tank jack (2).
2. Turn FUEL TANK switch to failing side.
3. Does indicator read full scale?



NO

**BYN**

1. Do steps Step 2 and Step 3 for all carriers except M577A3 and M1068A3. Do steps Step 4 and Step 5 for M577A3 and M1068A3.
2. Replace harness 12268797 circuit 30 or 31 (WP 0290 00).
3. Verify no faults found.
4. Faulty circuit 29 or 30. Beyond unit maintenance repair.
5. Notify supervisor.

YES

**B2Y**

1. Install jumper wire between harness 12268797 circuit 30 or 31 and ground.
2. Does fuel indicator read empty?

NO

GO TO CY (PAGE 0049 00-5)

YES

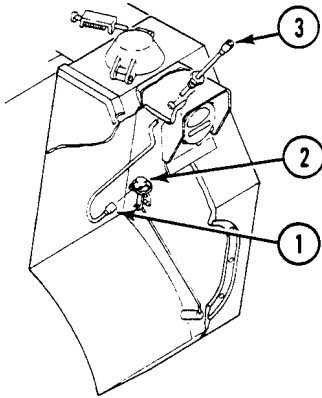
**B3Y**

1. Access failing fuel level transmitter (WP 0190 00).
2. Remove lead 12268804 -1 (or -2) plug (1) from failing transmitter jack (2).
3. Check continuity between plugs (1) and (3).
4. Does multimeter read 0 ohms?

NO

**B3YN**

1. Replace FUEL QUANTITY transmitter lead, 12268804 -1 (WP 0190 00) or 12268804-2 (for M577A3/M1068A3) (WP 0191 00).
2. Verify no faults found.



YES

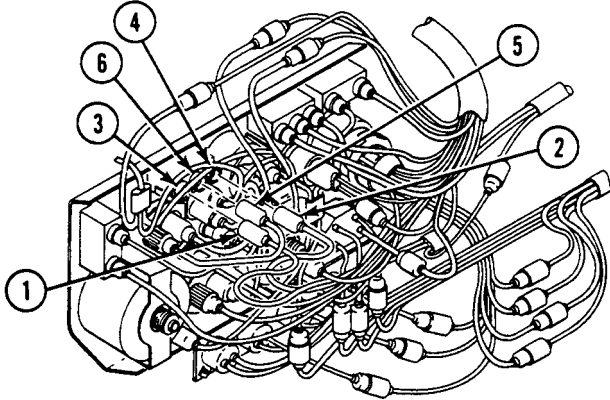
**B4Y**

1. Replace FUEL QUANTITY transmitter (WP 0190 00) or (for M577A3/M1068A3) (WP 0191 00).
2. Verify no faults found.



**CY**

1. Remove instrument panel for access (WP 0295 00).
2. Remove harness 12268797 circuit 30 plug (1) (left tank) or circuit 31 plug (2) (right tank) from FUEL TANK switch jack (3) or jack (4).
3. Remove circuit 28 plug (5) from FUEL TANK switch jack (6).
4. Check continuity between exposed jack pins on FUEL TANK switch (3).
5. Does multimeter read 0 ohms?



**NO**

**CYN**

1. Install harness circuit 30 or 31 on fuel tank transmitter.
2. Replace FUEL TANK switch (WP 0277 00 or WP 0282 00).
3. Verify no faults found.

**YES**

**C2Y**

1. Do Step 2 and Step 3 for all carriers except M577A3 and M1068A3. Do Step 4 and Step 5 for M577A3 and M1068A3.
2. Replace harness 12268797 circuit 30 or 31 (WP 0290 00).
3. Verify no faults found.
4. Faulty harness circuit 29 or 30. Beyond unit maintenance repair.
5. Notify supervisor.



**HIGH BEAM INDICATOR LIGHT DOESN'T WORK**

**0050 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Jumper Wire

Equipment Condition

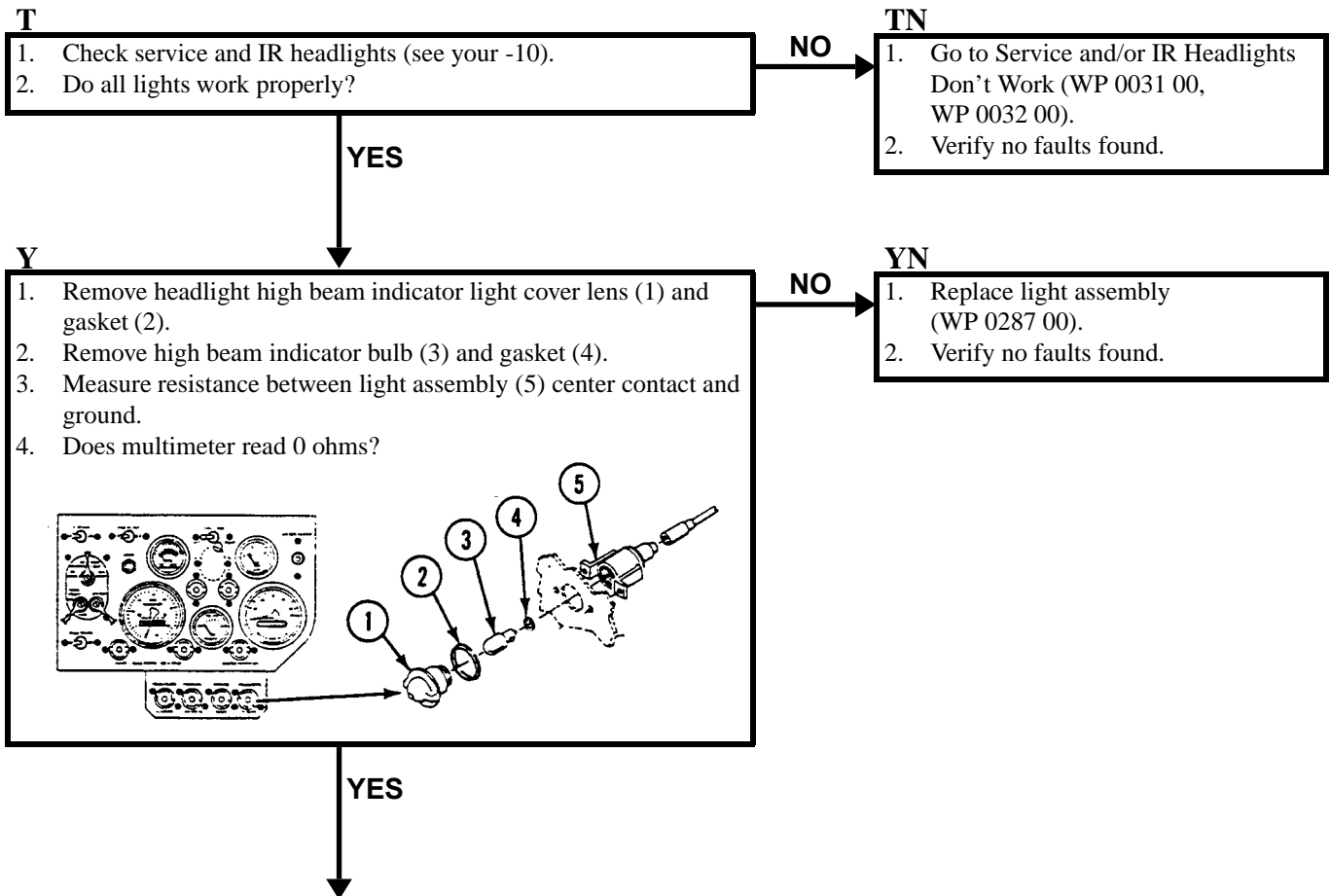
Engine stopped (see your -10)

Carrier blocked (see your -10)

Personnel Required

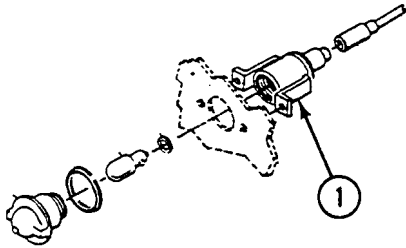
Unit Mechanic

Helper (H)



**2Y**

1. Check continuity between light assembly (1) bulb base contact and ground.
2. Is there continuity?



**NO**

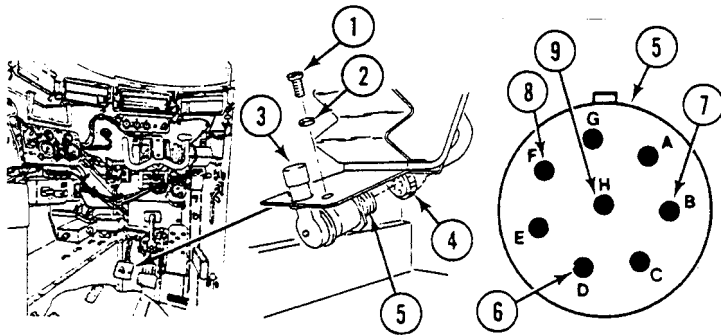
**2YN**

1. Replace headlight high beam indicator bulb (WP 0287 00).
2. Verify no faults found.

**YES**

**3Y**

1. Remove two screws (1), washers (2), and dimmer switch (3).
2. Remove harness 12349881 plug (4) from dimmer switch jack (5).
3. Measure resistance between dimmer switch jack (5) pins D (6) and B (7) and between pins F (8) and H (9).
4. Did multimeter read 0 ohms for both measurements?



**NO**

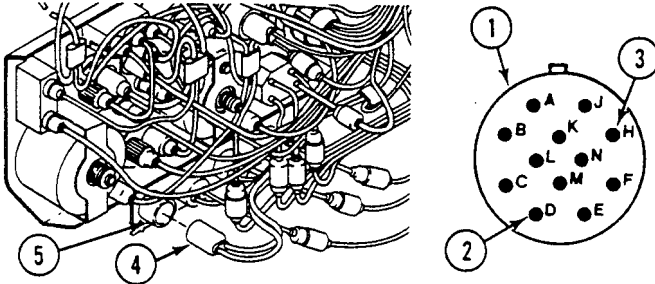
**3YN**

1. Replace dimmer switch (WP 0333 00).
2. Verify no faults found.

**YES**

**4Y**

1. Install jumper wire between harness 12349881 dimmer switch plug (1) pins D (2) and H (3).
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12349881 circuit 519/519A plug (4) from high beam indicator light jack (5).
4. Measure resistance between harness 12349881 circuit 519/519A plug (4) pins.
5. Does multimeter read 0 ohms?



**NO**

**4YN**

1. Faulty harness 12349881 circuits 519 and 519A. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**5Y**

1. Install dimmer switch and plug (WP 0333 00).
2. Replace high beam indicator light assembly (WP 0287 00).
3. Verify no faults found.



**BATTERY/GENERATOR INDICATOR MALFUNCTIONS**

**0051 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)

Equipment Condition

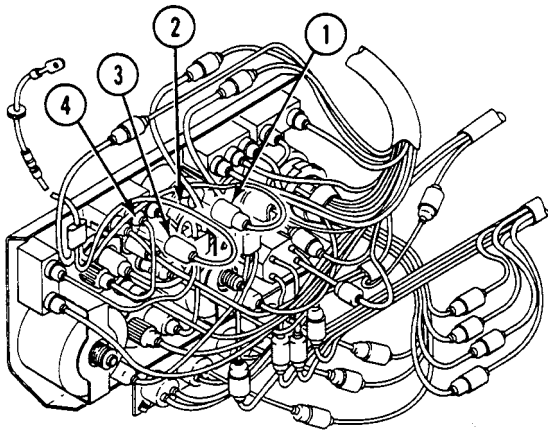
- Engine stopped (see your -10)
- Carrier blocked (see your -10)

Personnel Required

Unit Mechanic

**T**

1. Remove instrument panel for access (WP 0295 00).
2. Remove circuit 27E plug (1) from battery generator indicator jack (2).
3. Remove circuit 10 plug (3) from instrument panel circuit breaker jack (4).
4. Check continuity between circuit 27E plug (1) and circuit 10 plug (3).
5. Read multimeter. Is there continuity?



**NO**

**TN**

1. Replace harness 10933038 (WP 0289 00).
2. Verify no faults found.

**YES**

**Y**

1. Replace BATTERY/GENERATOR indicator (WP 0285 00).
2. Verify no faults found.





**PARKING BRAKE INDICATOR MALFUNCTIONS**

**0052 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Jumper Wire

Equipment Condition

Engine stopped (see your -10)

Personnel Required

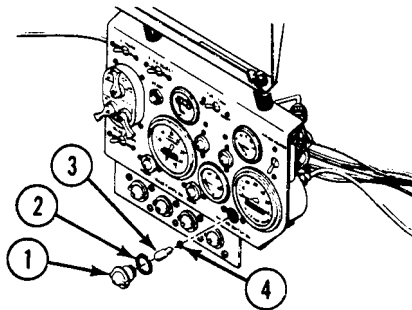
Unit Mechanic

Helper (H)

Carrier blocked (see your -10)

**T**

1. Remove PARKING BRAKE indicator cover lens (1), gasket (2), bulb (3), and gasket (4).
2. Check continuity between bulb center contact and bulb base.
3. Read multimeter. Is there continuity?



**YES**

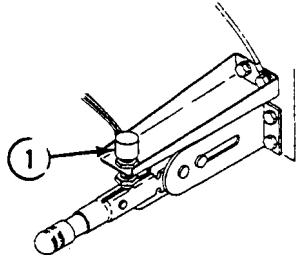
**NO**

**TN**

1. Replace indicator bulb (WP 0286 00).
2. Verify no faults found.

**Y**

1. Install PARKING BRAKE indicator cover lens, bulb and gaskets.
2. Release parking brake (see your -10).
3. Manually depress hand brake indicator switch (1).
4. Observe parking brake indicator.
5. Release hand brake indicator switch (1).
6. Did indicator fail to light with switch depressed, or fail to go off with switch released?



**NO**

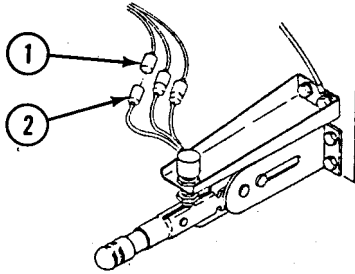
**YN**

1. Adjust parking brake indicator switch (WP 0331 00).
2. Verify no faults found.

**YES**

**2Y**

1. Remove harness 12349881 circuit 370 plug (1) from parking brake light switch jack (2).
2. Check continuity between parking brake light switch jack (2) and ground with parking brake switch depressed.
3. Read multimeter. Is there continuity?



**NO**

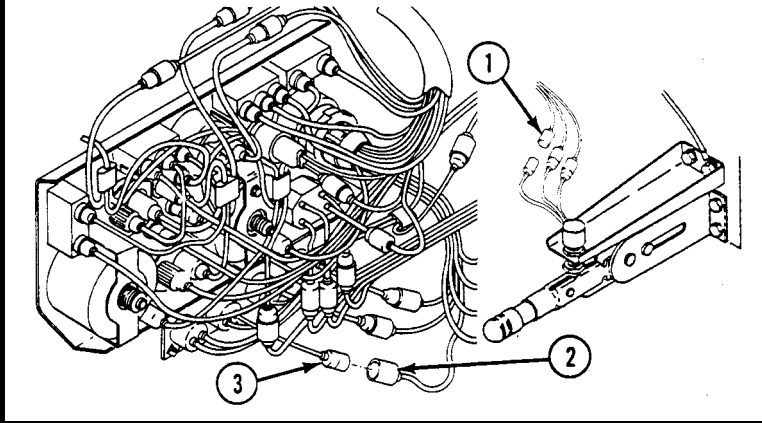
**2YN**

1. Replace parking brake switch (WP 0331 00).
2. Verify no faults found.

**YES**

**3Y**

1. Install jumper wire between parking brake light switch harness 12349881 circuit 370 plug (1) and ground.
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12349881 circuit 370 (2) from cable assembly 12349858 circuit 370 (3).
4. Check continuity between harness 12349881 circuit 370 (2) and ground.
5. Read multimeter. Is there continuity?



YES



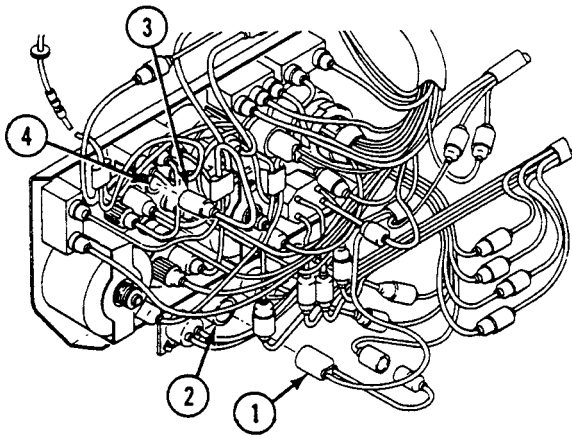
NO

**3YN**

1. Faulty harness 12349881 circuit 370. Beyond unit maintenance repair.
2. Notify supervisor.

**4Y**

1. Remove jumper wire from harness 12349881 circuit 370.
2. Install harness 12349881 on brake light switch.
3. Remove cable assembly 12349858 circuit 27M plug (1) from parking brake indicator jack (2).
4. Remove cable assembly 12349858 circuit 27 plug (3) from instrument panel circuit breaker jack (4).
5. Check continuity between cable assembly 12349858 circuit 27 plug (3) and circuit 27M plug (1). Use multimeter.
6. Check continuity between cable assembly 12349858 circuit 27 (3) and circuit 370 plugs.
7. Read multimeter. Is there continuity both times?



**NO**

**4YN**

1. Replace cable assembly 12349858 (WP 0290 00).
2. Verify no faults found.

**YES**

**5Y**

1. Replace indicator light assembly 8729063 (WP 0286 00).
2. Verify no faults found.

**COOLANT TEMP INDICATOR MALFUNCTIONS**

**0053 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Jumper Wire
- Multimeter (WP 0926 00, Item 30)
- STE/ICE Test Set (WP 0926 00, Item 61)

Personnel Required

Unit Mechanic

References

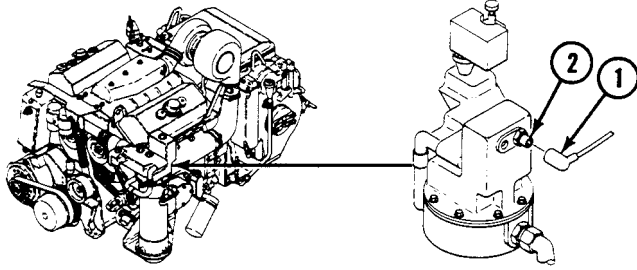
See your -10

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Driver's power plant access panel removed (WP 0441 00)
- Power plant rear access panel removed (WP 0439 00)

**T**

1. Remove harness 12349873 circuit 33 plug (1) from water temperature transmitter jack (2).
2. Turn MASTER SWITCH to ON (see your -10).
3. Is TEMP indicator needle in full left (cold) position?



**NO** → **GO TO AY (PAGE 0053 00-2)**

**YES**

**Y**

1. Turn MASTER SWITCH to OFF.
2. Install jumper wire between harness 12349873 circuit 33 plug and ground.
3. Observe TEMP indicator needle.
4. Turn MASTER SWITCH to ON for two seconds.
5. Did TEMP indicator needle move to full right (hot) position?

**NO** → **GO TO BY (PAGE 0053 00-3)**

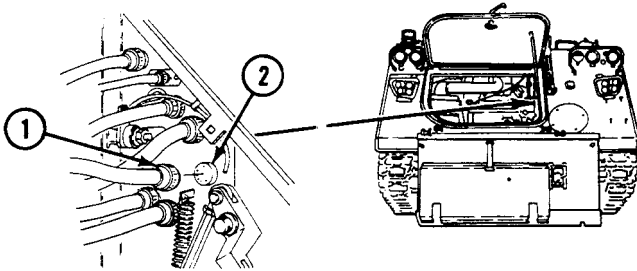
**YES**

**2Y**

1. Remove jumper wire.
2. Replace water temperature transmitter (WP 0321 00).
3. Verify no faults found.

**AY**

1. Turn MASTER SWITCH to OFF.
2. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
3. Turn MASTER SWITCH to ON.
4. Is TEMP indicator still not in full left (cold) position?



NO

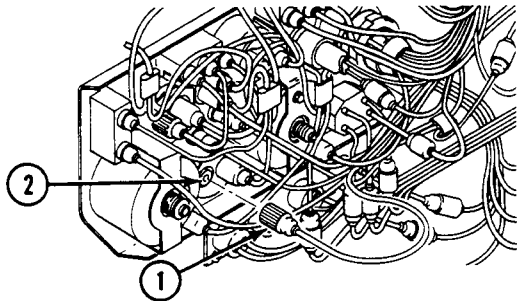
**AYN**

1. Replace harness 12349873 circuit 33 (WP 0359 00).
2. Verify no faults found.

YES

**A2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access (WP 0295 00).
3. Remove harness 12349881 circuit 33 plug (1) from TEMP indicator jack (2).
4. Measure resistance between harness 12349881 circuit 33 plug (1) and ground.
5. Is reading 0 ohms?



NO

**A2YN**

1. Faulty harness 12349881 circuit 33. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**COOLANT TEMP INDICATOR MALFUNCTIONS—Continued**

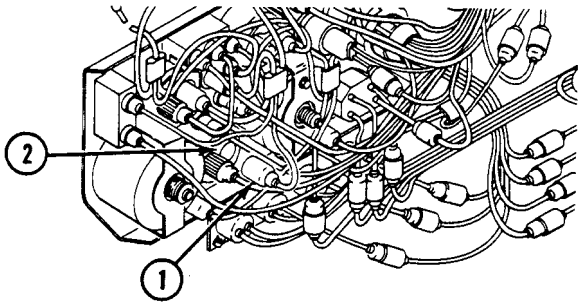
0053 00

**A3Y**

1. Install harness 12349881 plug on harness 12349881 jack at carrier bulkhead.
2. Install harness 12349873 circuit 33 plug on TEMP transmitter jack.
3. Replace TEMP indicator (WP 0285 00).
4. Verify no faults found.

**BY**

1. Remove special purpose cable 12349858 circuit 27B plug (1) from coolant temperature gauge (2).
2. Turn MASTER SWITCH to ON.
3. Measure voltage between harness 12349858 circuit 27B plug (1) pin and ground.
4. Does multimeter read at least 17 volts?



**YES**



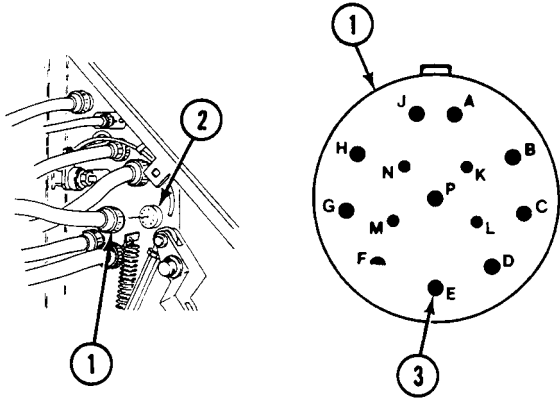
**NO**

**BYN**

1. Repair/replace faulty special purpose cable 12349858 circuit 27B (WP 0290 00).
2. Verify no faults found.

**B2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
3. Check continuity between harness 12349873 plug (1) pin E (3) and ground.
4. Is there continuity?



NO

**B2YN**

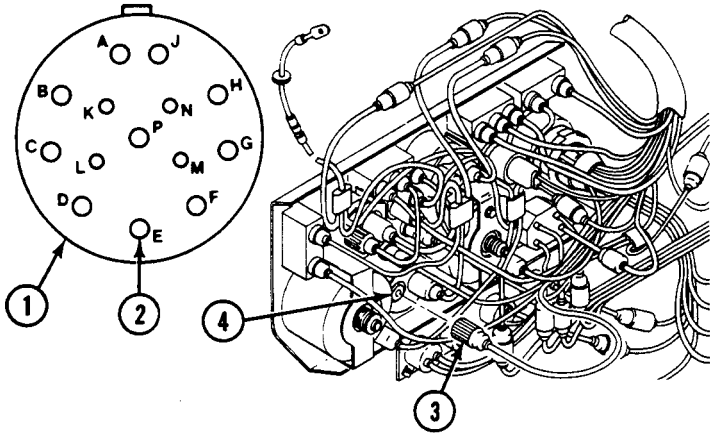
1. Repair harness 12349873 circuit 33 (WP 0382 00).
2. Verify no faults found.

YES



**B3Y**

1. Remove jumper wire.
2. Install harness 12349873 circuit 33 plug on water temperature transmitter.
3. Install jumper wire between harness 12349881 jack (1) pin E (2) and ground.
4. Remove harness 12349881 circuit 33 plug (3) from TEMP indicator jack (4).
5. Check continuity between harness 12349881 circuit 33 (3) and ground.
6. Is there continuity?



NO

**B3YN**

1. Remove jumper wire.
2. Repair harness 12349881 circuit 33 (WP 0382 00).
3. Verify no faults found.

YES

**B4Y**

1. Remove jumper wire.
2. Install harness 12349873 plug onto harness 12345881 jack at carrier bulkhead.
3. Replace TEMP indicator (WP 0285 00).
4. Verify no faults found.



**STEERING LOCKED INDICATOR MALFUNCTIONS**

**0054 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)

Equipment Condition

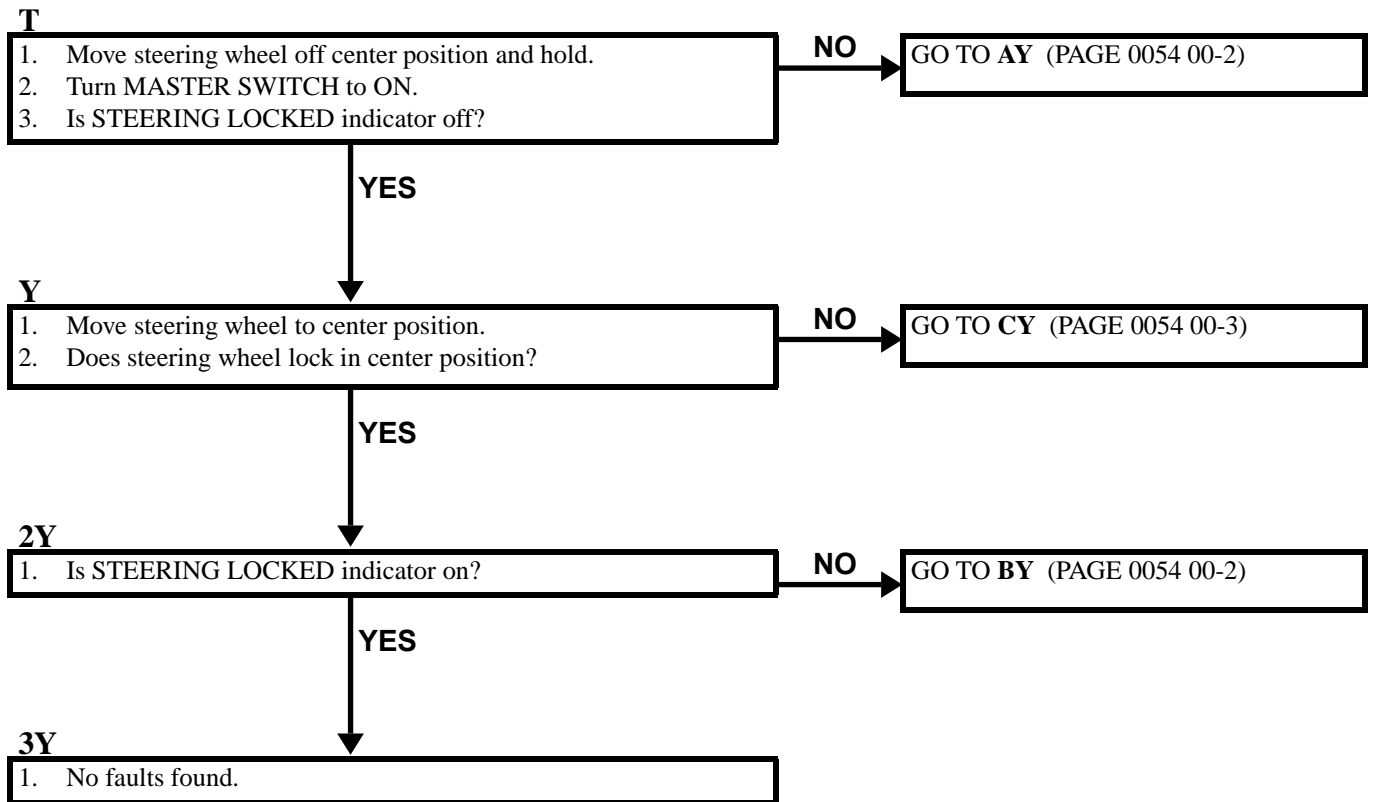
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

Personnel Required

- Unit Mechanic
- Helper (H)

**NOTE**

**Some vehicles are equipped with a solenoid-activated steering lock and some with a cable-activated lock. Unless noted otherwise, the steps in this procedure apply to both configurations.**



STEERING LOCKED INDICATOR MALFUNCTIONS—Continued

0054 00

**AY**

1. Check adjustment of steering locked indicator switch. See WP 0428 00 for solenoid-activated lock. See WP 0429 00 for cable-activated lock.
2. Is switch properly adjusted?

**NO** → **AYN**

1. Adjust steering locked switch. See WP 0428 00 for solenoid-activated lock. See WP 0429 00 for cable-activated lock.
2. Verify no faults found.

**YES** ↓

**A2Y**

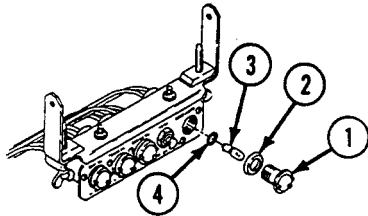
1. Replace steering lock switch (WP 0330 00).
2. Verify no faults found.

**BY**

1. Remove STEERING LOCKED indicator light cover lens (1), gasket (2), bulb (3), and gasket (4).
2. Check continuity between bulb center contact and base.
3. Does multimeter indicate continuity?

**NO** → **BYN**

1. Replace STEERING LOCKED indicator bulb (WP 0294 00).
2. Verify no faults found.

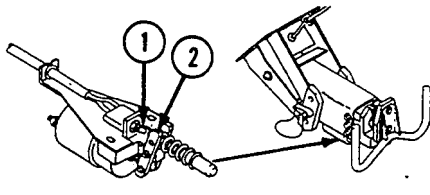


**YES** ↓

**B2Y**

1. Install STEERING LOCKED indicator cover lens, bulb, and gaskets.
2. Inspect distance between steering locked switch (1) and steering locked lever (2).
3. Is steering locked switch touching steering locked lever?

**NO** → GO TO CY (PAGE 0054 00-3)



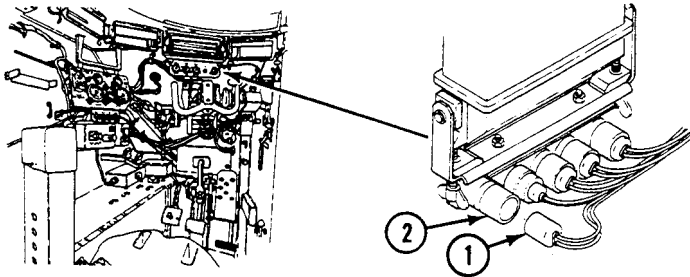
**YES** ↓

**B3Y**

1. Adjust steering locked switch. See WP 0428 00 for solenoid-activated lock. See WP 0429 00 for cable-activated lock.
2. Verify no faults found.

**CY**

1. Remove harness 12354722 (for solenoid-activated lock) or 12369685 (for cable-activated lock) plug (1) from STEERING LOCKED indicator assembly jack (2) on back side of warning light panel.
2. Measure voltage between plug (1) pins.
3. Does multimeter read less than 17 volts?



YES



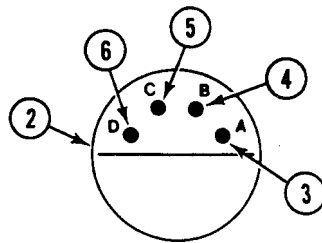
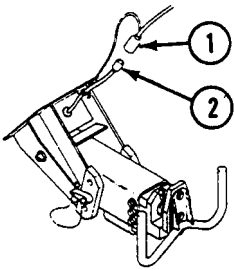
NO

**CYN**

1. Replace STEERING LOCKED warning light assembly (WP 0294 00).
2. Verify no faults found.

**C2Y**

1. Turn MASTER SWITCH to OFF.
2. For solenoid-activated lock, remove harness 12354722 plug (1) from harness 12349911 jack (2). For cable-activated lock, remove harness 12369685 plug (1) from harness 1236984 jack (2).
3. H: For solenoid-activated lock, push and hold solenoid plunger while measuring resistance.
4. For solenoid-activated lock, measure resistance between harness 12349911 jack (2) pins A (3) to B (4) and pins C (5) to D (6). For cable-activated lock, measure resistance between harness 12369684 jack (2) pins A (3) to B (4).
5. Did multimeter read more than 0 ohms either time?



YES

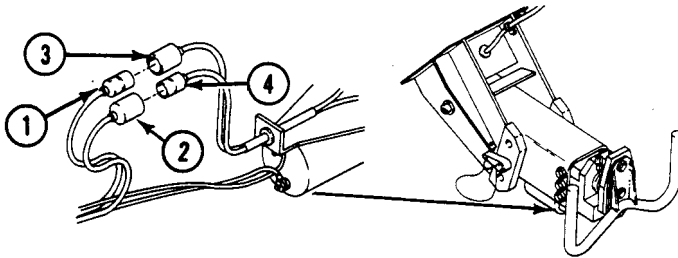
NO

**C2YN**

1. Replace harness 12354722 (for solenoid-activated lock) or 12369685 (for cable- activated lock) circuit 369A and/or ground circuit (WP 0374 00).
2. Verify no faults found.

**C3Y**

1. Install harness 12369685 (for cable-activated lock) plug on STEERING LOCKED indicator jack.
2. For solenoid-activated lock, remove harness 12349911 lead 369A plug (1) and lead 369 plug (2) from steering locked switch jacks (3) and (4). For cable-activated lock, remove harness 12369684 lead 368 plug (1) and lead 369A plug (2) from steering locked switch jacks (3) and (4).
3. H: For solenoid-activated lock, push and hold solenoid plunger while measuring resistance.
4. Measure resistance between steering locked switch jacks (3) and (4).
5. Does multimeter read 0 ohms?



YES

**C4Y**

1. Replace harness 12349911 (for solenoid-activated lock) circuit 369, 369A, 368, 368A, or harness 12369684 (for cable-activated lock) circuit 369A and 368, and/or ground (WP 0367 00).
2. Verify no faults found.

NO

**C3YN**

1. Replace steering locked switch (WP 0330 00).
2. Verify no faults found.





**ENGINE OIL LOW PRESSURE INDICATOR MALFUNCTIONS**

**0055 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Jumper Wire

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

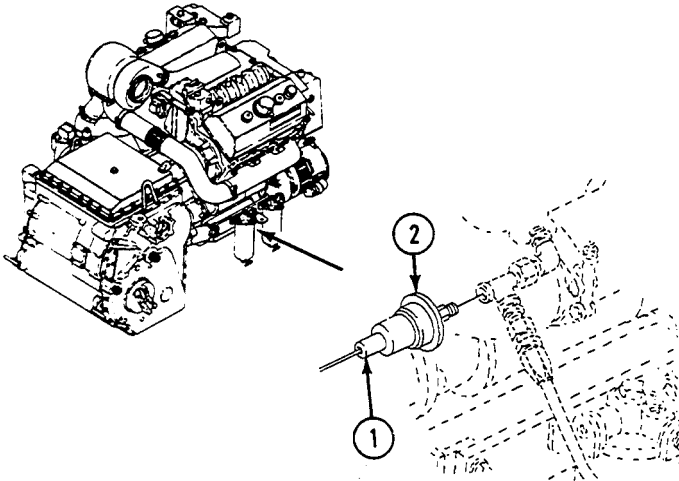
Personnel Required

Unit Mechanic

Front power plant access door open (see your -10)

**T**

1. Remove harness 12349873 circuit 34 plug (1) from engine oil low pressure transmitter (2).
2. Turn MASTER SWITCH to ON (see your -10).
3. Is ENGINE OIL LOW PRESSURE indicator off?



**NO**

**GO TO AY (PAGE 0055 00-2)**

**YES**

**Y**

1. Install jumper wire between harness 12349873 circuit 34 plug pin and ground.
2. Is ENGINE OIL LOW PRESSURE indicator on?

**NO**

**GO TO BY (PAGE 0055 00-3)**

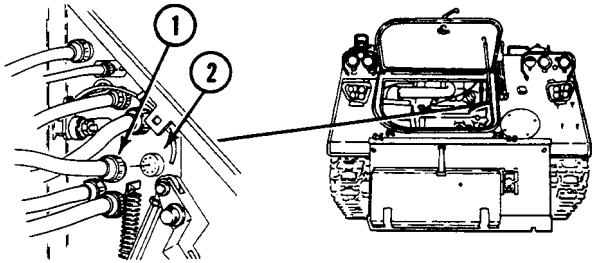
**YES**

**2Y**

1. Replace the engine oil low pressure transmitter (WP 0320 00).
2. Verify no faults found.

**AY**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
2. Is ENGINE OIL LOW PRESSURE indicator still on?



NO

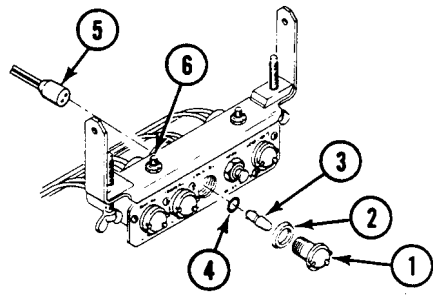
**AYN**

1. Replace harness 12349873 circuit 34 (WP 0382 00).
2. Verify no faults found.

YES

**A2Y**

1. Remove ENGINE OIL LOW PRESSURE indicator cover lens (1) gasket (2), bulb (3), and gasket (4).
2. Remove harness 12349881 circuit 27J/34 plug (5) from ENGINE OIL LOW PRESSURE indicator jack (6).
3. Measure resistance between indicator jack (6) pins and ground one at a time.
4. Did multimeter read 0 ohms for either measurement?



NO

**A2YN**

1. Faulty harness 12349881 circuit 34. Beyond unit maintenance repair.
2. Notify supervisor

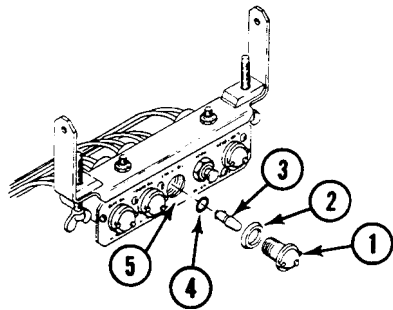
YES

**A3Y**

1. Replace ENGINE OIL LOW PRESSURE indicator light assembly (WP 0320 00).
2. Verify no faults found.

**BY**

1. Remove ENGINE OIL LOW PRESSURE indicator cover lens (1), gasket (2), bulb (3), and gasket (4) from indicator assembly (5).
2. Measure voltage between indicator assembly (5) center contact and ground.
3. Does multimeter read less than 17 volts?

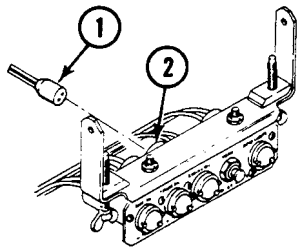


NO → GO TO CY (PAGE 0055 00-5)

YES

**B2Y**

1. Remove harness 12349881 circuit 27J/34 plug (1) from ENGINE OIL LOW PRESSURE indicator assembly jack (2).
2. Measure voltage between circuit 27J plug pin and ground.
3. Does multimeter read less than 17 volts?

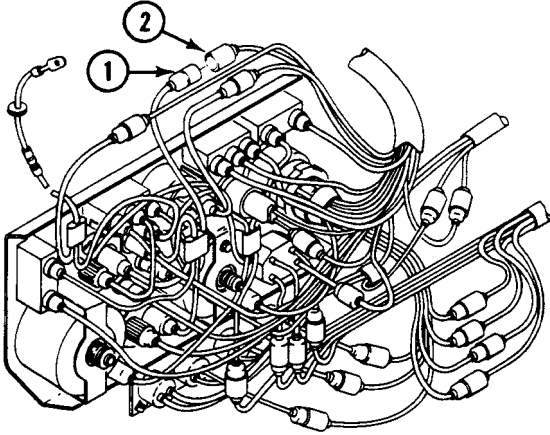


NO → **B2YN**  
 1. Replace ENGINE OIL LOW PRESSURE indicator assembly (WP 0320 00).  
 2. Verify no faults found.

YES

**B3Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access. See task: remove instrument panel mounts and ground lead (WP 0295 00).
3. Remove harness 12349881 circuit 27F plug (1) from cable assembly 12349858 circuit 27F jack (2).
4. Measure resistance between harness 12349881 circuit 27J plug and circuit 27F plug (1).
5. Does multimeter read 0 ohms?



NO

**B3YN**

1. Faulty harness 12349881 circuit 27F/27J. Beyond unit maintenance repair.
2. Notify supervisor

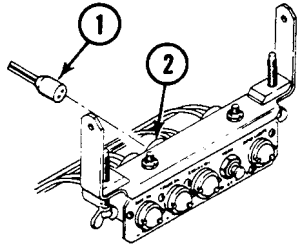
YES

**B4Y**

1. Repair special purpose cable 12349858 circuit 27F (WP 0382 00).
2. Verify no faults found.

**CY**

1. Remove harness 12349881 circuit 27J/34 plug (1) from ENGINE OIL LOW PRESSURE indicator assembly jack (2).
2. Measure resistance between circuit 34 plug pin and ground.
3. Does multimeter read more than 0 ohms?



**NO**

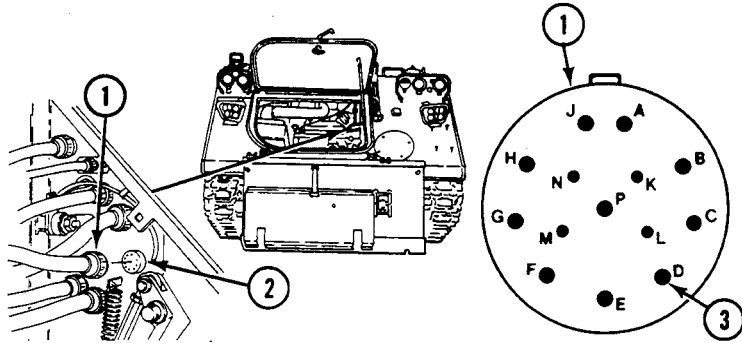
**CYN**

1. Install harness 12349881 plug on ENGINE OIL LOW PRESSURE indicator jack.
2. Remove jumper wire.
3. Replace engine oil low pressure switch (WP 0320 00).
4. Verify no faults found.

**YES**

**C2Y**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
2. Measure resistance between harness 12349873 plug (1) pin D (3) and ground.
3. Does multimeter read 0 ohms?



**NO**

**C2YN**

1. Remove jumper wire.
2. Install harness 12349881 plug on ENGINE OIL LOW PRESSURE indicator assembly jack.
3. Install indicator cover lens and bulb.
4. Replace harness 12349873 circuit 34 (WP 0382 00).
5. Verify no faults found.

**YES**

**C3Y**

1. Remove jumper wire.
2. Install harness 12349873 onto ENGINE OIL LOW PRESSURE switch.
3. Faulty harness 12349881 circuit 34. Beyond unit maintenance repair.
4. Notify supervisor.

**TRANSMISSION OIL LOW PRESSURE INDICATOR MALFUNCTIONS**

**0056 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Jumper Wire
- Multimeter (WP 0926 00, Item 30)

Equipment Condition

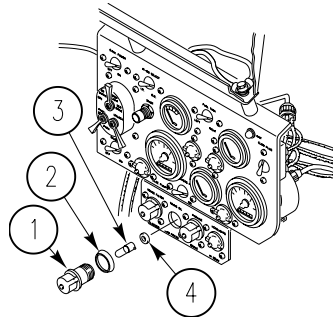
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Parking brake off (see your -10)
- Service brake off (see your -10)

Personnel Required

- Unit Mechanic
- Helper (H)

**T**

1. Remove TRANS OIL LOW PRESS indicator lens (1), gasket (2), bulb (3), and gasket (4).
2. Check continuity between bulb base and bulb center contact.
3. Is there continuity?



**YES**



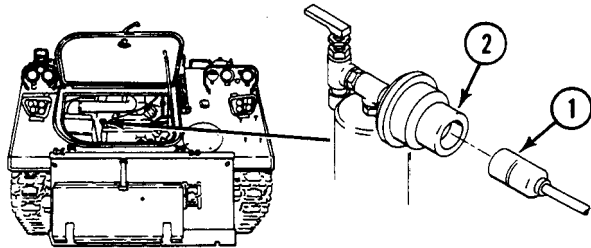
**NO**

**TN**

1. Replace TRANS OIL LOW PRESS bulb (WP 0287 00).
2. Verify no faults found.

**Y**

1. Install TRANS OIL LOW PRESS bulb and cover lens.
2. Remove harness 12349810 circuit 366 plug (1) from TRANS OIL LOW PRESS switch assembly jack (2).
3. Turn MASTER SWITCH to ON (see your -10).
4. Is TRANS OIL LOW PRESS indicator off?



**NO** → GO TO AY (PAGE 0056 00-2)

**YES**

**2Y**

1. Install jumper wire between harness 12349810 circuit 366 plug and ground.
2. Is TRANS OIL LOW PRESS indicator on?

**NO** → GO TO BY (PAGE 0056 00-6)

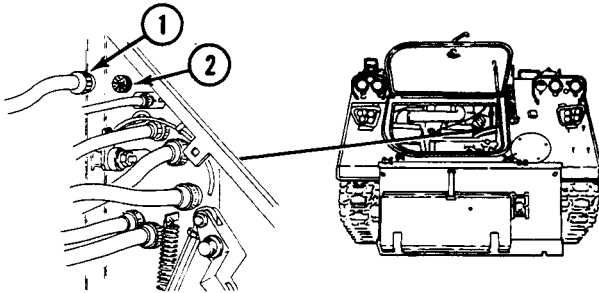
**YES**

**3Y**

1. Replace TRANS OIL LOW PRESS switch (WP 0400 00).
2. Verify no faults found.

**AY**

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Is TRANS OIL LOW PRESS indicator still on?



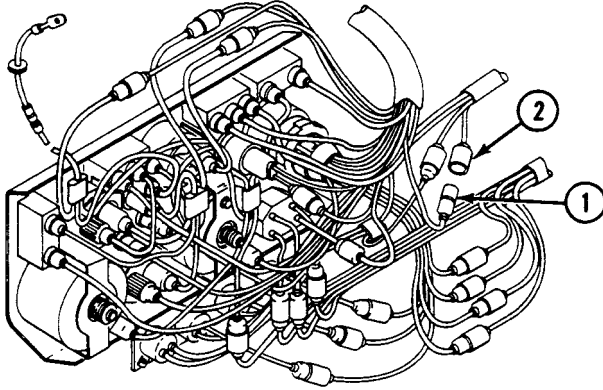
**NO** → **AYN**  
 1. Replace harness 12349810 (WP 0361 00).  
 2. Verify no faults found.

**YES**



**A2Y**

1. Remove harness 12349813 circuit 366 plug (1) from harness 12349881 circuit 366 jack (2) behind instrument panel.
2. Is TRANS OIL LOW PRESS indicator still on?



NO

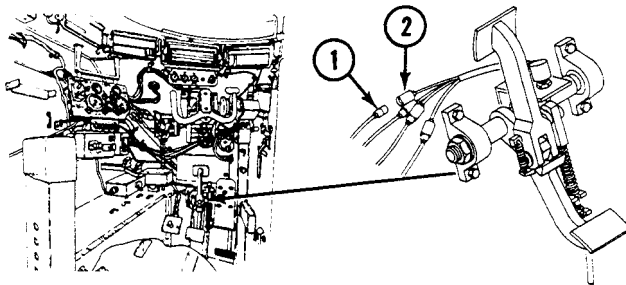
**A2YN**

1. Replace harness 12349813 (WP 0360 00).
2. Verify no faults found.

YES

**A3Y**

1. Install harness 12349810 plug on harness 12349813 at carrier bulkhead.
2. Install harness 12349810 circuit 366 on trans oil low press switch.
3. Remove harness 12349881 circuit 366 plug (1) from stop light switch jack (2).
4. Is TRANS OIL LOW PRESS indicator still on?



NO

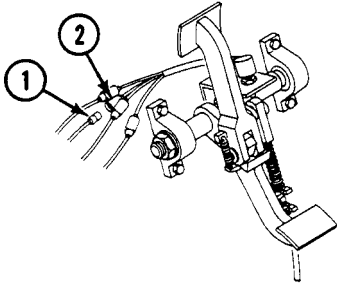
**A3YN**

1. Shorted harness 12349881 circuit 366. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**A4Y**

1. Install harness 12349813 circuit 366 plug onto harness 12349881 circuit 366 jack.
2. Remove harness 12349881 circuit 366A plug (1) from stop light switch jack (2).
3. Is TRANS OIL LOW PRESS indicator still on?



NO

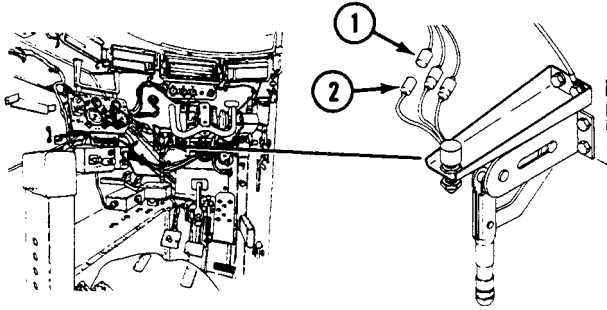
**A4YN**

1. Replace brake light switch (WP 0332 00).
2. Verify no faults found.

YES

**A5Y**

1. Install harness 12349881 circuit 366 plug on stop light switch circuit 366 jack.
2. Remove harness 12345881 circuit 366A plug (1) from parking brake switch 366A jack (2).
3. Is TRANS OIL LOW PRESS indicator still on?



NO

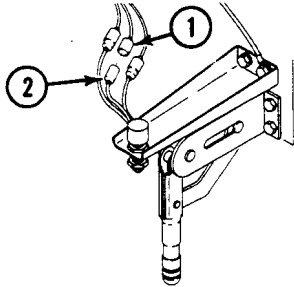
**A5YN**

1. Faulty harness 12349881 circuit 366A. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**A6Y**

1. Install harness 12349881 circuit 366A on stop light switch 366A jack.
2. Remove harness 12349881 circuit 367 plug (1) from parking brake switch jack (2).
3. Is TRANS OIL LOW PRESS indicator still on?



NO

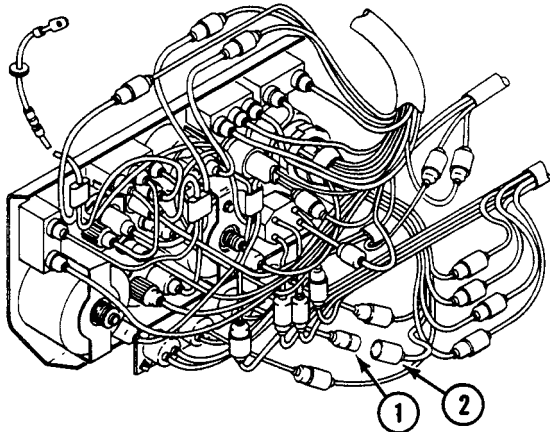
**A6YN**

1. Replace parking brake switch (WP 0331 00).
2. Verify no faults found.

YES

**A7Y**

1. Install harness 12349881 circuit 366A on stop light switch circuit 366 jack.
2. Remove harness 12349881 circuit 367 plug (1) from cable assembly 12349858 circuit 367 jack (2).
3. Is TRANS OIL LOW PRESS indicator still on?



NO

**A7YN**

1. Faulty harness 12349881 circuit 367. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**A8Y**

1. Install harness 12349881 circuit 367 plug on parking brake switch circuit 366 jack.
2. Replace TRANS OIL LOW PRESS indicator assembly (WP 0287 00).
3. Verify no faults found.

**BY**

1. Remove TRANS OIL LOW PRESS lens, gasket, bulb, and gasket from indicator assembly.
2. Measure voltage between center contact on indicator assembly and ground.
3. Does multimeter read 17 volts or more?

NO

GO TO CY (PAGE 0056 00-9)

YES

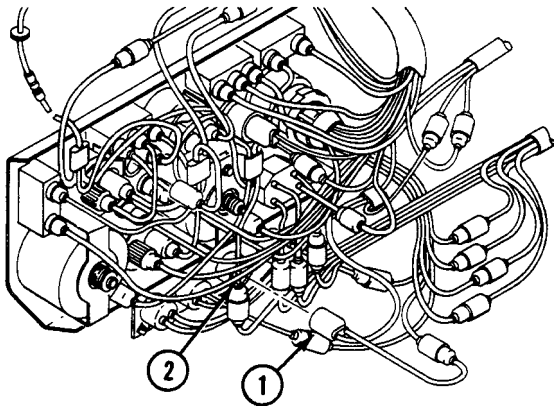
**B2Y**

1. Remove cable assembly 12349858 circuit 367/27L plug (1) from TRANS OIL LOW PRESS indicator assembly (2).
2. Check continuity between cable assembly 12349858 circuit 367/27L plug (1) circuit 367 pin and ground.
3. Is there continuity?

NO

**B2YN**

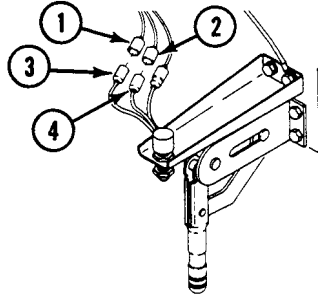
1. Remove jumper wire and install harness 12349881 circuit 366 plug on trans oil low press switch.
2. Replace TRANS OIL LOW PRESS indicator assembly (WP 0287 00).
3. Verify no faults found.



YES

**B3Y**

1. Remove harness 12349881 circuits 367 plug (1) and 366A (2) plug from parking brake switch jacks (3) and (4).
2. Check continuity between parking brake switch jacks (3) and (4).
3. Is there continuity?



NO

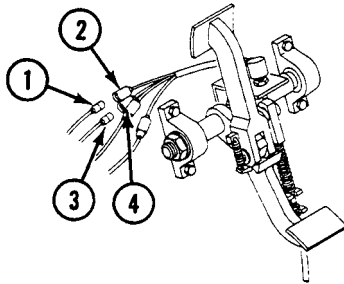
**B3YN**

1. Install harness 12349881 circuit 367/27L plug on TRANS OIL LOW PRESS indicator.
2. Remove jumper wire and install harness 12349881 circuit 366 plug on trans oil low press switch.
3. Replace parking brake switch (WP 0331 00).
4. Verify no faults found.

YES

**B4Y**

1. Remove harness 12349881 circuit 366A (1) and circuit 366 (2) from stop light switch circuit jack 366A (3) and jack 366 (4).
2. Check continuity between switch circuit jack 366A (3) and jack 366 (4).
3. Is there continuity?



NO

**B4YN**

1. Remove jumper and install harness 12349810 circuit 366 plug.
2. Install harness 12349881 circuit 367/27L, 366A and 367 plugs.
3. Replace stop light switch (WP 0331 00).
4. Verify no faults found.

YES

**B5Y**

1. Check continuity between harness 12349881 circuit 366 plug pin at stop light switch and ground.
2. Is there continuity?

NO

GO TO **DY** (PAGE 0056 00-10)

YES

**B6Y**

1. Remove jumper wire and install harness 12349881 circuit 366 plug on trans oil low pressure switch.
2. Check continuity between harness 12349881 circuit 366A plug at brake switch and circuit 366A plug at parking brake light switch.
3. Is there continuity?

NO

**B6YN**

1. Faulty harness 12349881 circuit 366A. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B7Y**

1. Check continuity between harness 12349881 circuit 367 plugs.
2. Is there continuity?

NO

**B7YN**

1. Install harness 12349881 circuit 366 plugs.
2. Faulty harness 12349881 circuit 367. Beyond unit maintenance repair.
3. Notify supervisor.

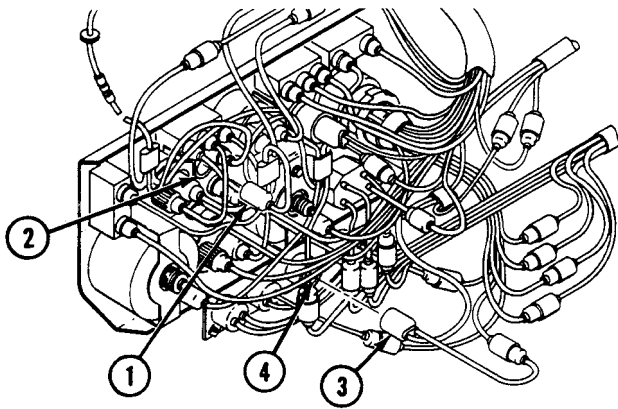
YES

**B8Y**

1. Install harness 12349881 circuit 367 plugs on switch and cable assembly 12345898.
2. Replace TRANS OIL LOW PRESS indicator assembly (WP 0287 00).
3. Verify no faults found.

**CY**

1. Remove jumper wire and install harness 12349810 on trans oil low press switch.
2. Remove instrument panel for access (WP 0295 00).
3. Remove cable assembly 12349858 circuit 27 plug (1) from circuit breaker (2).
4. Remove harness 12349858 circuit 367/27L plug (3) from TRANS OIL LOW PRESS indicator jack (4).
5. Check continuity between harness 12349858 circuit 27 plug (1) and circuit 367/27L plug (3) circuit 27L pin.
6. Is there continuity?



**NO**

**CYN**

1. Install gasket, bulb, gasket, cover lens on TRANS OIL LOW PRESS indicator assembly.
2. Replace special purpose cable 12349858 circuit 27L (WP 0290 00).
3. Verify no faults found.

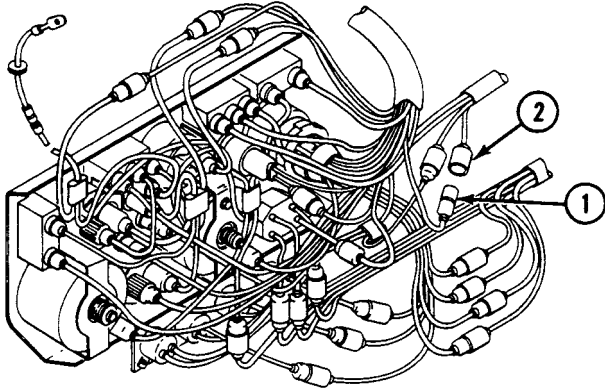
**YES**

**C2Y**

1. Install special purpose cable 12349858 on circuit breaker.
2. Replace TRANS OIL LOW PRESS indicator (WP 0287 00).
3. Verify no faults found.

**DY**

1. Install harness 12349881 circuit 366A plugs on brake switches and 367/27L plug on indicator assembly.
2. Remove harness 12349813 circuit 366 plug (1) from harness 12349881 circuit 366 jack (2) behind instrument panel.
3. Check continuity between harness 12349813 circuit 366 plug (1) and ground.
4. Is there continuity?



NO

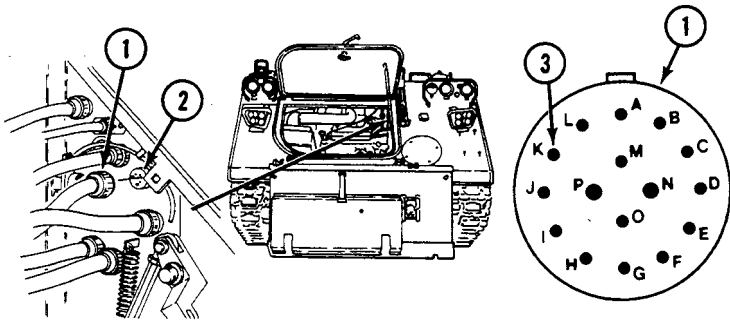
**DYN**

1. Remove jumper wire and install harness 12349810 on switch.
2. Faulty harness 12349881 circuit 366. Beyond unit maintenance repair.
3. Notify supervisor.

YES

**D2Y**

1. Install harness 12349881 circuit 366 plug on stop light switch circuit 366 jack.
2. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
3. Check continuity between harness 12349810 plug (1) pin K (3) and ground.
4. Is there continuity?



NO

**D2YN**

1. Install harness 12349813 circuit 366 plug on harness 12349881 circuit 366 jack behind instrument panel.
2. Replace harness 12349810 circuit 366 (WP 0361 00).
3. Verify no faults found.

YES



**D3Y**

1. Remove jumper wire and install harness 12349810 circuit 366 plug on trans oil low press switch.
2. Replace harness 12349813 circuit 366 (WP 0360 00).
3. Verify no faults found.



**TRANS OIL HI TEMP INDICATOR MALFUNCTIONS**

**0057 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Jumper Wire

Equipment Condition

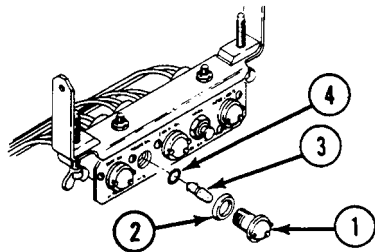
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Engine and transmission cooled down
- All power plant access panels off (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

Personnel Required

- Unit Mechanic
- Helper (H)

**T**

1. Remove TRANS OIL HI TEMP indicator cover lens (1), gasket (2), bulb (3), and gasket (4).
2. Check continuity between bulb center contact and bulb base.
3. Does multimeter indicate continuity?



**YES**

**NO**

**TN**

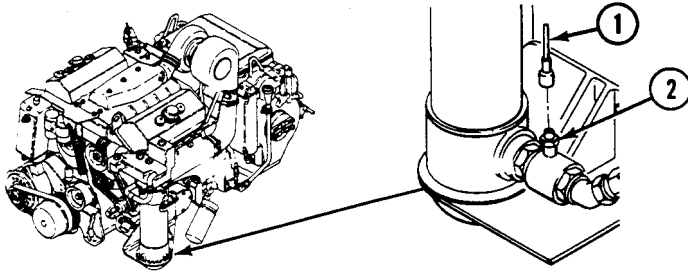
1. Replace TRANS OIL HI TEMP indicator bulb (WP 0294 00).
2. Verify no faults found.

**Y**

1. Install TRANS OIL HI TEMP indicator cover lens bulb and gaskets.
2. Remove harness 12349873 circuit 327 plug (1) from trans oil hi temp switch (2).
3. Turn MASTER SWITCH to ON.
4. Is TRANS OIL HI TEMP indicator off?

**NO**

GO TO **AY** (PAGE 0057 00-3)



**YES**

**2Y**

1. Install jumper wire between harness 12349873 circuit 327 plug and ground.
2. Is TRANS OIL HI TEMP indicator on?

**NO**

GO TO **BY** (PAGE 0057 00-4)

**YES**

**3Y**

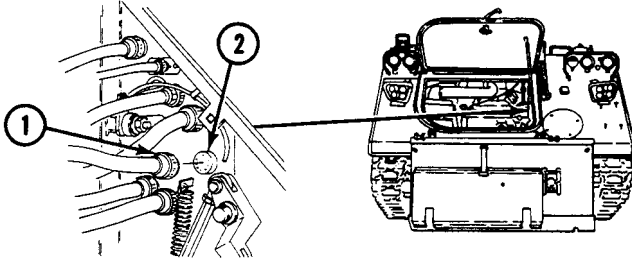
1. Remove jumper wire.
2. Replace trans oil hi temp switch (WP 0322 00).
3. Verify no faults found.

TRANS OIL HI TEMP INDICATOR MALFUNCTIONS—Continued

0057 00

**A1Y**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
2. Is TRANS OIL HI TEMP indicator still on?



**NO**

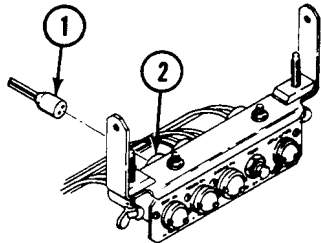
**A1YN**

1. Replace harness 12349873 (WP 0359 00).
2. Verify no faults found.

**YES**

**A2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove harness 12349881 circuit 327/27G plug (1) from TRANS OIL HI TEMP indicator (2).
3. Measure resistance between harness 12349881 circuit 327/27G plug (1) circuit 327 pin and ground.
4. Does multimeter read 0 ohms?



**NO**

**A2YN**

1. Replace TRANS OIL HI TEMP indicator assembly (WP 0294 00).
2. Verify no faults found.

**YES**

**A3Y**

1. Shorted harness 12349881 circuit 327. Beyond unit maintenance repair.
2. Notify supervisor.

**BY**

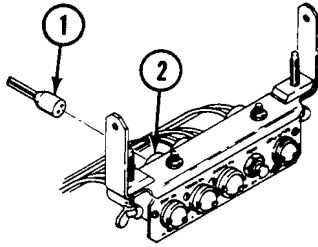
1. Remove TRANS OIL HI TEMP indicator cover lens, gasket, bulb, and gasket.
2. Measure voltage between assembly center contact and ground.
3. Does multimeter read less than 17 volts?

**NO** → GO TO CY (PAGE 0057 00-5)

**YES**

**B2Y**

1. Remove jumper wire and install harness 12349873 circuit 327 plug on trans oil hi temp switch.
2. Remove harness 12349881 circuit 327/27G plug (1) from TRANS OIL HI TEMP indicator (2).
3. Measure voltage between harness 12349881 circuit 327/27G plug (1) circuit 327 pin and ground.
4. Does multimeter read less than 17 volts?

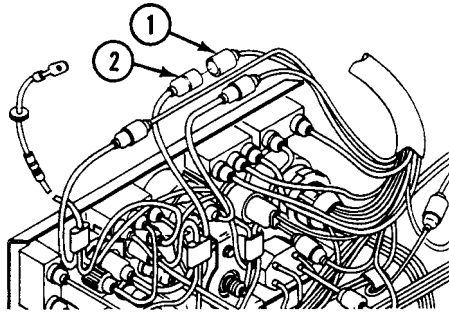


**NO** → **B2YN**  
 1. Replace TRANS OIL HI TEMP indicator assembly (WP 0294 00).  
 2. Verify no faults found.

**YES**

**B3Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access. See task: replace instrument panel mounts and ground lead (WP 0295 00).
3. Remove harness 12349881 circuit 27F plug (1) from cable assembly 12349858 circuit 27F jack (2).
4. Measure resistance between harness 12349881 circuit 27F plug (1) and circuit 27G pin on circuit 327/27G plug.
5. Does multimeter read 0 ohms?



NO

**B3YN**

1. Faulty harness 12349881 circuit 27G/27F. Beyond unit maintenance repair.
2. Notify supervisor.

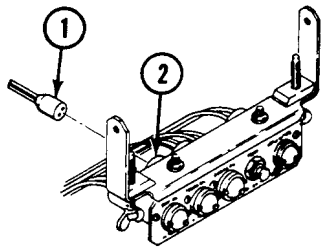
YES

**B4Y**

1. Install harness 12349881 circuit 327/27G plug on TRANS OIL HI TEMP indicator jack.
2. Repair special purpose cable 12349858 circuit 27F (WP 0382 00).
3. Verify no faults found.

**CY**

1. Turn MASTER SWITCH to OFF.
2. Remove harness 12349881 circuit 327/27G plug (1) from TRANS OIL HI TEMP indicator (2).
3. Measure resistance between harness 12349881 circuit 327/27G plug (1) circuit 327 pin and ground.
4. Does multimeter read more than 0 ohms?



NO

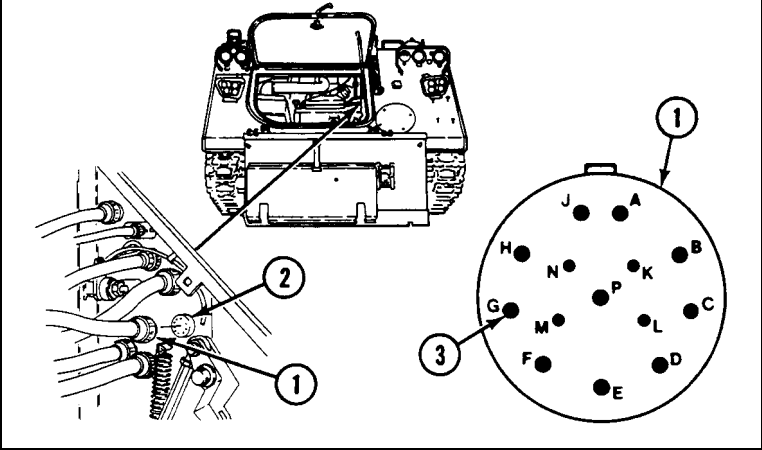
**CYN**

1. Remove jumper cable and install harness 12349873 plug on trans hi oil temp switch.
2. Replace TRANS OIL HI TEMP indicator assembly (WP 0294 00).
3. Verify no faults found.

YES

**C2Y**

1. Install TRANS OIL HI TEMP indicator cover lens, gasket, bulb, and gasket.
2. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
3. Measure resistance between harness 12349873 plug (1) pin G (3) and ground.
4. Does multimeter read more than 0 ohms?



**NO**

**C2YN**

1. Remove jumper wire and install harness 12349873 circuit 327 plug on trans oil hi temp switch.
2. Faulty harness 12349881 circuit 327. Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

**C3Y**

1. Install harness 12349881 circuit 327/27G plug on trans oil hi temp indicator.
2. Repair harness 12349873 circuit 327 (WP 0382 00).
3. Verify no faults found.



**ENGINE COOLANT LOW LEVEL INDICATOR MALFUNCTIONS**

**0058 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Jumper Wire

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Personnel Required

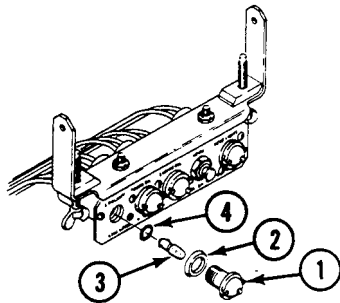
Unit Mechanic

Helper (H)

Power plant access door open (see your -10)

**T**

1. Remove ENGINE COOLANT LOW LEVEL indicator cover (1), gasket (2), and bulb (3), and gasket (4).
2. Check continuity between bulb center contact and bulb base.
3. Does multimeter indicate continuity?



**YES**



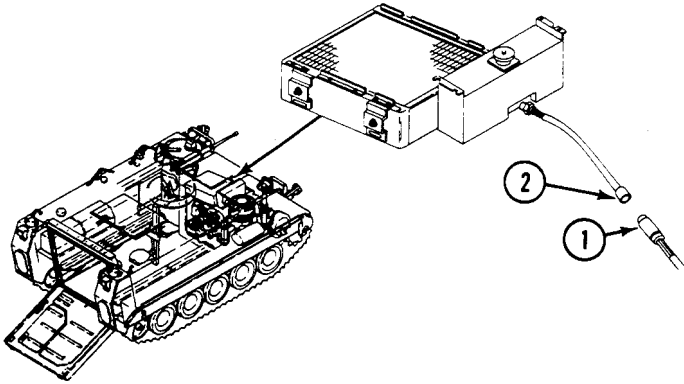
**NO**

**TN**

1. Replace ENGINE COOLANT LOW LEVEL indicator bulb (WP 0294 00).
2. Verify no faults found.

**Y**

1. Install ENGINE COOLANT LOW LEVEL indicator cover, bulb and gaskets.
2. Remove harness 12349873 plug (1) from coolant level detector jack (2).
3. Turn MASTER SWITCH to ON.
4. Is ENGINE COOLANT LOW LEVEL indicator off?



**NO**

GO TO **AY** (PAGE 0058 00-3)

**YES**

**2Y**

1. Install jumper wire between harness 12349873 plug pin B and ground.
2. Is ENGINE COOLANT LOW LEVEL indicator on?

**NO**

GO TO **BY** (PAGE 0058 00-4)

**YES**

**3Y**

1. Remove jumper wire.
2. Measure voltage between harness 12349873 plug pin A and ground.
3. Does multimeter read 17 volts or more?

**NO**

GO TO **CY** (PAGE 0058 00-5)

**YES**

**4Y**

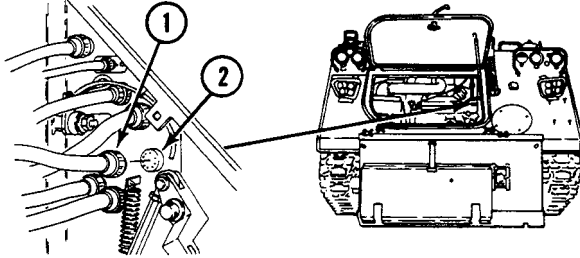
1. Replace auxiliary tank fluid level detector (WP 0329 00).
2. Verify no faults found.

ENGINE COOLANT LOW LEVEL INDICATOR MALFUNCTIONS—Continued

0058 00

**AY**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
2. Is ENGINE COOLANT LOW LEVEL indicator still on?



**NO**

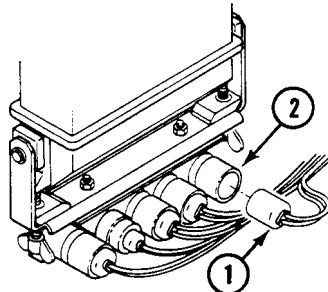
**AYN**

1. Shorted harness 12349873. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**A2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove harness 12349881 circuit 352/27K (1) from backside of ENGINE COOLANT LOW LEVEL indicator jack (2).
3. Measure resistance between harness 12349881 plug circuit 352 pin and ground.
4. Does multimeter read infinity?



**NO**

**A2YN**

1. Install harness 12349873 plug on coolant level detector.
2. Shorted harness 12349881 circuit 352. Beyond unit maintenance repair.
3. Notify supervisor.

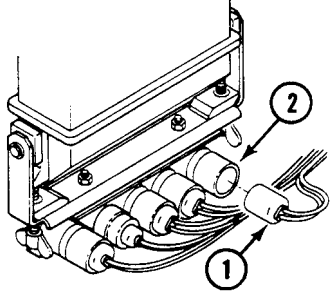
**YES**

**A3Y**

1. Replace ENGINE COOLANT LOW LEVEL indicator assembly (WP 0294 00).
2. Verify no faults found.

**BY**

1. Remove harness 12349881 circuit 352/27K (1) from ENGINE COOLANT LOW LEVEL indicator (2).
2. Measure voltage between harness 12349881 plug (1) circuit 27K pin and ground.
3. Does multimeter read less than 17 volts?



NO

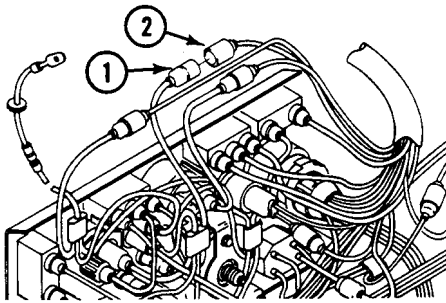
**BYN**

1. Remove jumper wire and install harness 12349873 plug on coolant level detector.
2. Replace ENGINE COOLANT LOW LEVEL indicator assembly (WP 0294 00).
3. Verify no faults found.

YES

**B2Y**

1. Turn MASTER SWITCH to OFF.
2. Remove instrument panel for access. See task: replace instrument panel mounts and ground lead (WP 0295 00).
3. Remove harness 12349881 circuit 27F plug (1) from cable assembly 12349858 circuit 27F jack (2).
4. Measure resistance between harness 12349881 circuit 27K plug and circuit 27F plug (1).
5. Does multimeter read 0 ohms?



NO

**B2YN**

1. Faulty harness 12349881 circuit 27K. Beyond unit maintenance repair.
2. Notify supervisor.

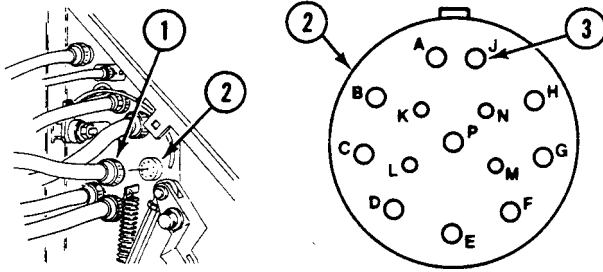
YES

**B3Y**

1. Install harness 12349881 circuit 352/27K plug on ENGINE COOLANT LOW LEVEL indicator.
2. Replace cable assembly 12349858 circuit 27F (WP 0290 00).
3. Verify no faults found.

**CY**

1. Remove harness 12349873 plug (1) from harness 12349881 jack (2) at carrier bulkhead.
2. Measure voltage between harness 12349881 jack (2) pin J (3) and ground.
3. Does multimeter read less than 17 volts?



**NO**

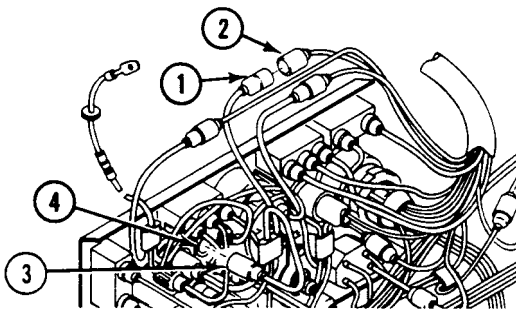
**CYN**

1. Replace harness 12349873 circuit 27N (WP 0359 00).
2. Verify no faults found.

**YES**

**C2Y**

1. Turn MASTER SWITCH to OFF.
2. Install harness 12349873 plug on coolant level detector.
3. Remove instrument panel for access. See task: replace instrument panel mounts and ground lead (WP 0295 00).
4. Remove harness 12349881 circuit 27F plug (1) from cable assembly 12349858 circuit 27F jack (2).
5. Remove cable assembly 12349858 circuit 27 plug (3) from instrument panel circuit breaker (4).
6. Measure resistance between cable assembly 12349858 circuit 27 plug (3) and circuit 27F plug (1).
7. Does multimeter read 0 ohms?



**NO**

**C2YN**

1. Install harness 12349873 plug on harness 12349881 jack on carrier bulkhead.
2. Replace cable assembly 12349858 circuit 27/27F (WP 0290 00).
3. Verify no faults found.

**YES**

**C3Y**

1. Faulty harness 12349881 circuit 27N. Beyond unit maintenance repair.
2. Notify supervisor.

**TRANS FILTER CLOGGED INDICATOR MALFUNCTIONS**

**0059 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Jumper Wire

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

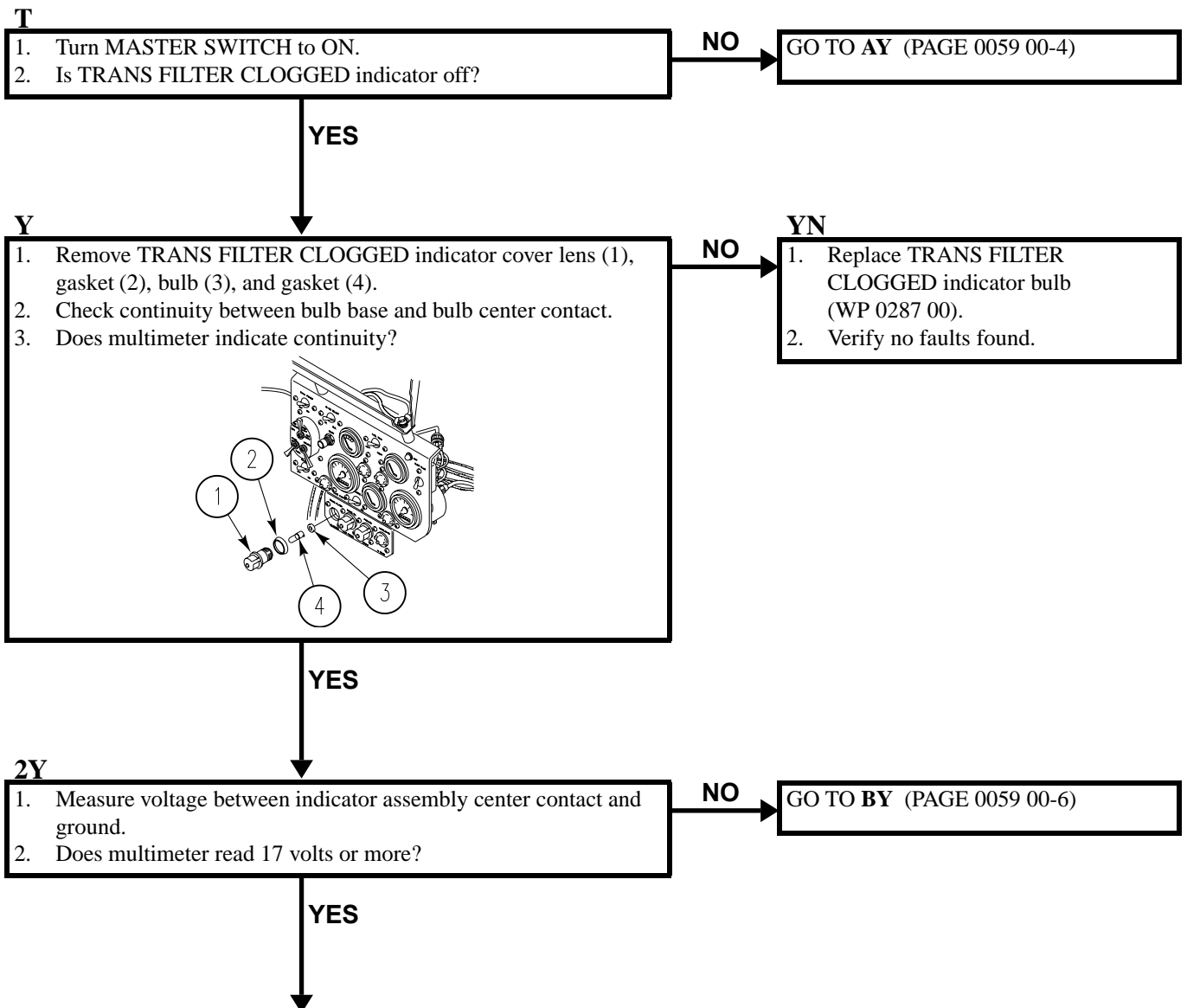
Trim vane lowered (see your -10)

Power plant access door open (see your -10)

Personnel Required

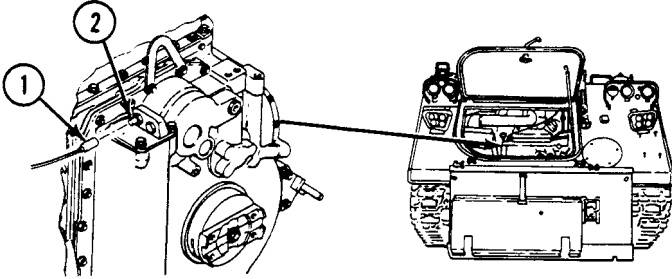
Unit Mechanic

Helper (H)



**3Y**

1. Install TRANS FILTER CLOGGED indicator cover lens, bulb and gaskets.
2. Remove harness 12349810 plug (1) from pressure differential switch (2).
3. Install jumper wire between harness 12349810 plug (1) pin B and ground.
4. Is TRANS FILTER CLOGGED indicator off?



**NO**

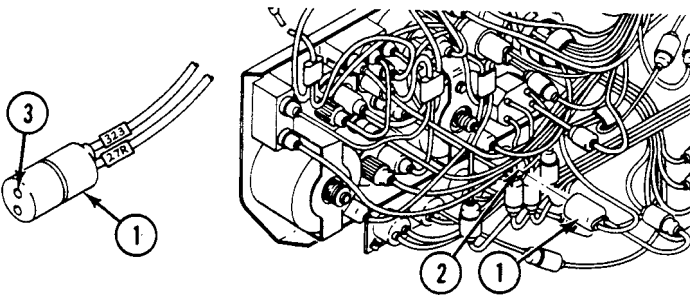
**3YN**

1. Turn MASTER SWITCH to OFF.
2. Replace differential pressure switch (WP 0401 00).
3. Verify no faults found.

**YES**

**4Y**

1. Turn MASTER SWITCH to OFF.
2. Remove cable assembly 12349858 circuit 323/27R plug (1) from TRANS FILTER CLOGGED indicator jack (2).
3. Measure resistance between harness 12349858 circuit 323/27R plug (1) circuit 323 pin (3) and ground.
4. Does multimeter read more than 0 ohms?



**NO**

**4YN**

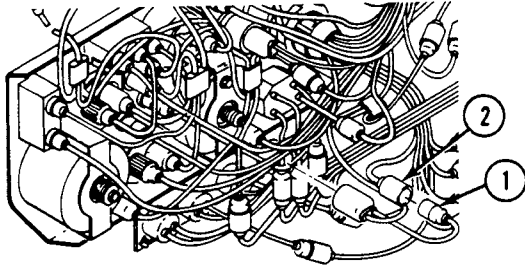
1. Remove jumper wire and install harness 12349810 plug on pressure differential switch jack.
2. Replace TRANS FILTER CLOGGED indicator assembly (WP 0287 00).
3. Verify no faults found.

**YES**



**5Y**

1. Remove harness 12349813 circuit 323 plug (1) from cable assembly 12349858 circuit 323 jack (2).
2. Measure resistance between harness 12349813 circuit 323 plug pin (1) and ground.
3. Does multimeter read more than 0 ohms?



NO

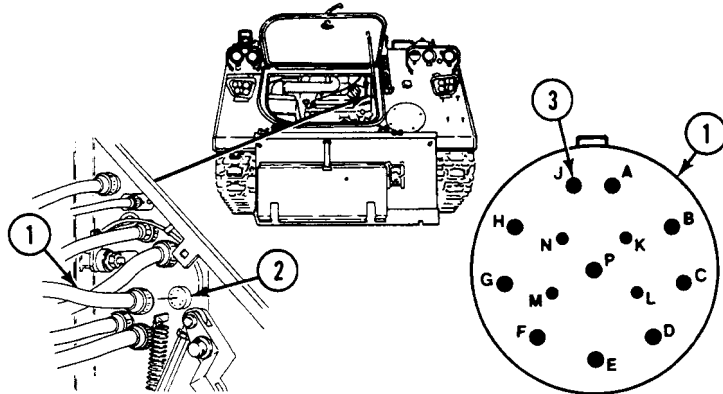
**5YN**

1. Remove jumper wire and install harness 12349813 plug on pressure differential switch jack.
2. Replace cable assembly 12349858 circuit 323 (WP 0290 00).
3. Verify no faults found.

YES

**6Y**

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Measure resistance between harness 12349810 plug (1) pin J (3) and ground.
3. Does multimeter read 0 ohms?



NO

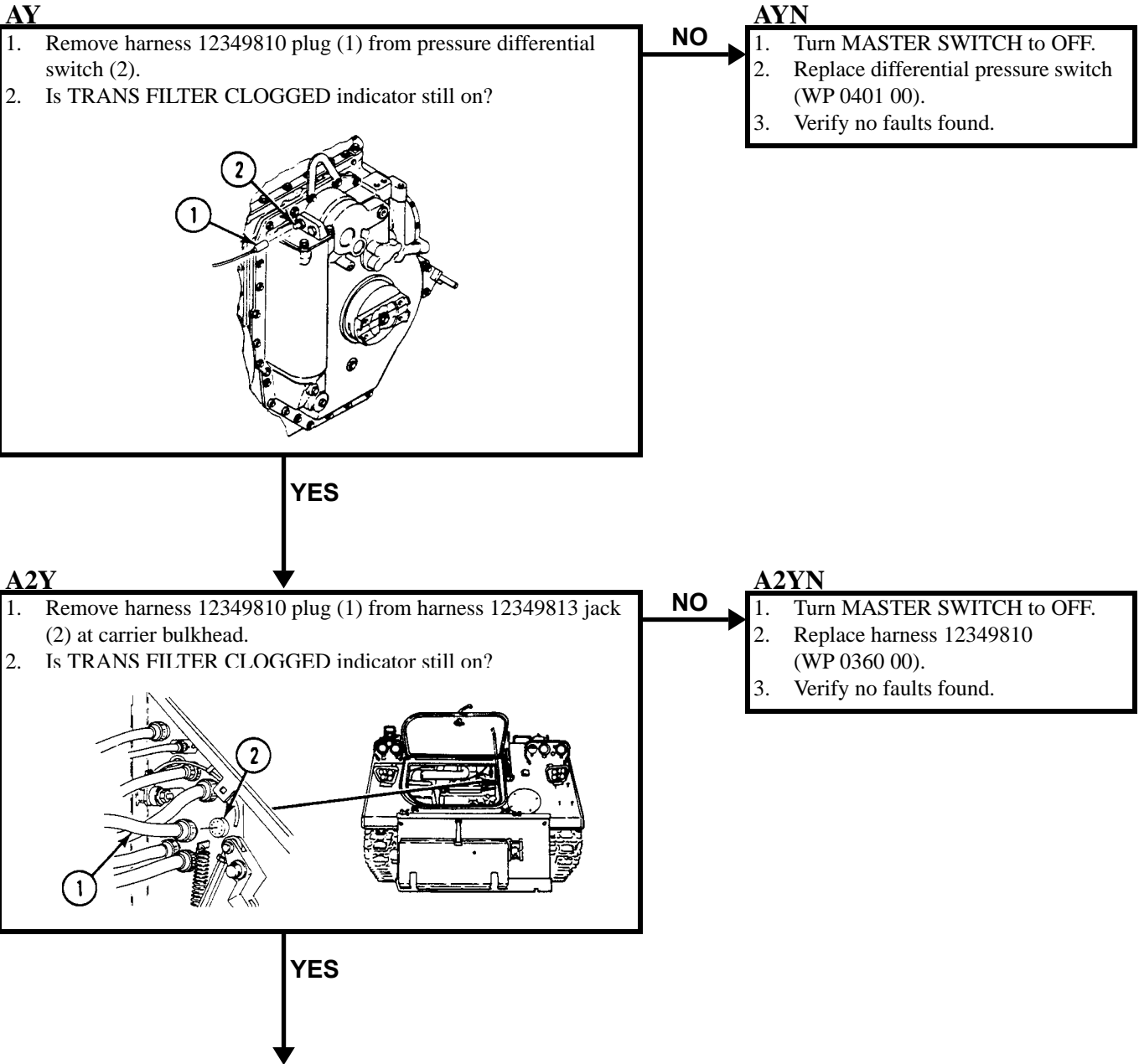
**6YN**

1. Install harness 12349813 circuit 323/27R plug on TRANS FILTER CLOGGED indicator jack.
2. Install harness 12349813 circuit 323 plug on cable assembly 12349858 circuit 323 jack.
3. Remove jumper wire and replace harness 12349810 circuit 323 (WP 0360 00).
4. Verify no faults found.

YES

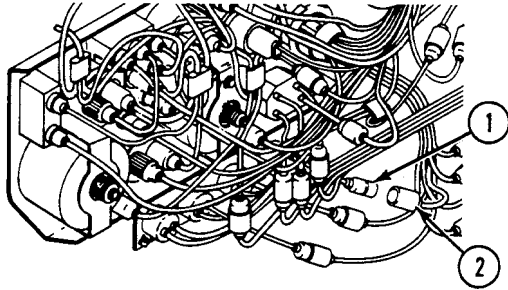
**7Y**

1. Remove jumper wire and install harness 12349810 plug on pressure differential switch.
2. Replace harness 12349813 circuit 323 (WP 0361 00).
3. Verify no faults found.



**A3Y**

1. Install harness 12349810 circuit 323 plug on pressure differential switch.
2. Remove harness 12349813 circuit 323 plug (1) from cable assembly 12349858 circuit 323 jack (2) behind indicator assembly.
3. Is TRANS FILTER CLOGGED indicator still on?



**NO**

**A3YN**

1. Turn MASTER SWITCH to OFF.
2. Replace harness 12349813 (WP 0361 00).
3. Verify no faults found.

**YES**

**A4Y**

1. Turn MASTER SWITCH to OFF.
2. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
3. Install harness 12349813 circuit 323 plug on cable assembly 12349858 circuit 323 jack behind instrument panel.
4. Replace TRANS FILTER CLOGGED indicator assembly (WP 0287 00).
5. Verify no faults found.

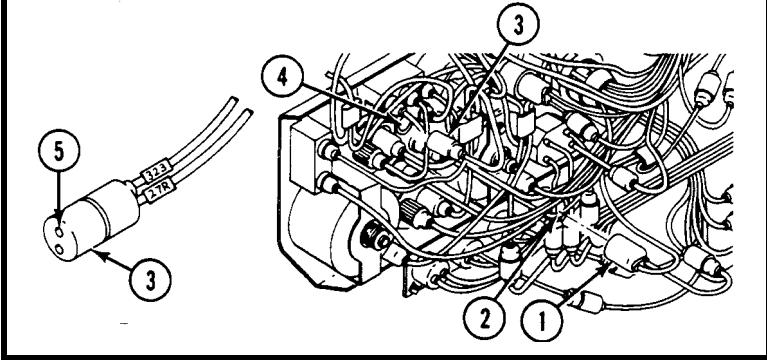
**BY**

1. Remove instrument panel for access. See task: replace instrument panel mounts and ground lead (WP 0295 00).
2. Remove plug (1) from TRANS FILTER CLOGGED indicator jack (2).
3. Remove circuit 27 plug (3) from circuit breaker jack (4).
4. Measure resistance between filter clogged indicator plug (1) circuit 27R (5) pin and circuit breaker plug (3) circuit 27 plug pin (3).
5. Does multimeter read 0 ohms?

NO

**BYN**

1. Replace cable assembly 12349858 circuit 27R (WP 0290 00).
2. Verify no faults found.



YES

**B2Y**

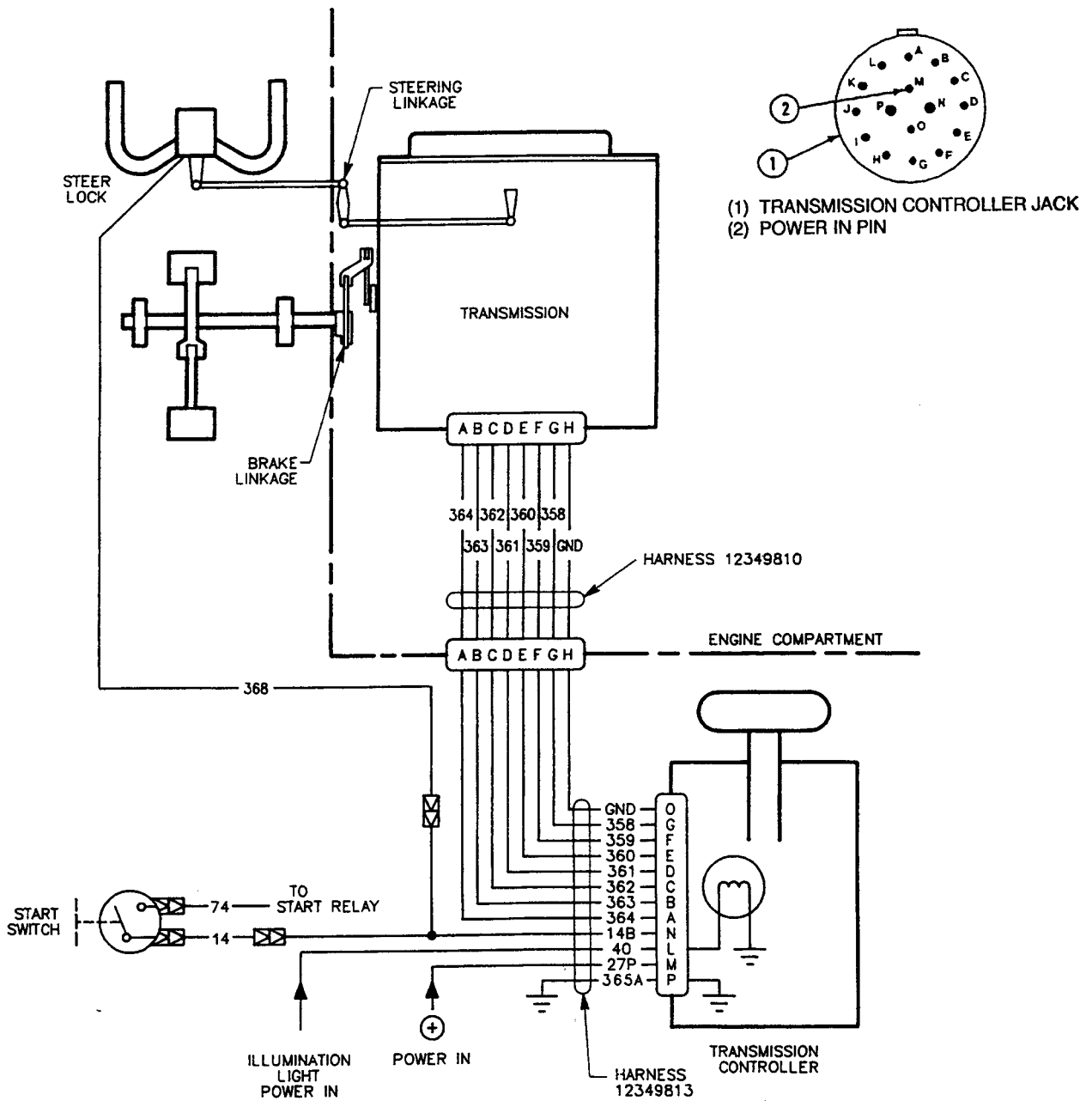
1. Replace TRANS FILTER CLOGGED indicator assembly (WP 0287 00).
2. Verify no faults found.

TRANSMISSION SYSTEM SCHEMATIC

0060 00

TRANSMISSION CONTROLLER SWITCH  
PIN TO PIN CONTINUITY CHECK

RANGES> PINS	SL	R	PV	1-4	1-3	1-2	
A	Off	Off	Off	On	On	On	On
B	On	On	On	Off	Off	Off	Off
C	Off	On	Off	On	On	On	On
D	On	Off	On	Off	Off	Off	Off
E	On	On	On	Off	On	On	On
F	Off	Off	Off	Off	On	Off	Off
G	Off	Off	Off	Off	On	On	Off
N	On	Off	Off	Off	Off	Off	Off





**CARRIER MOVES WITH TRANSMISSION IN SL**

**0061 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

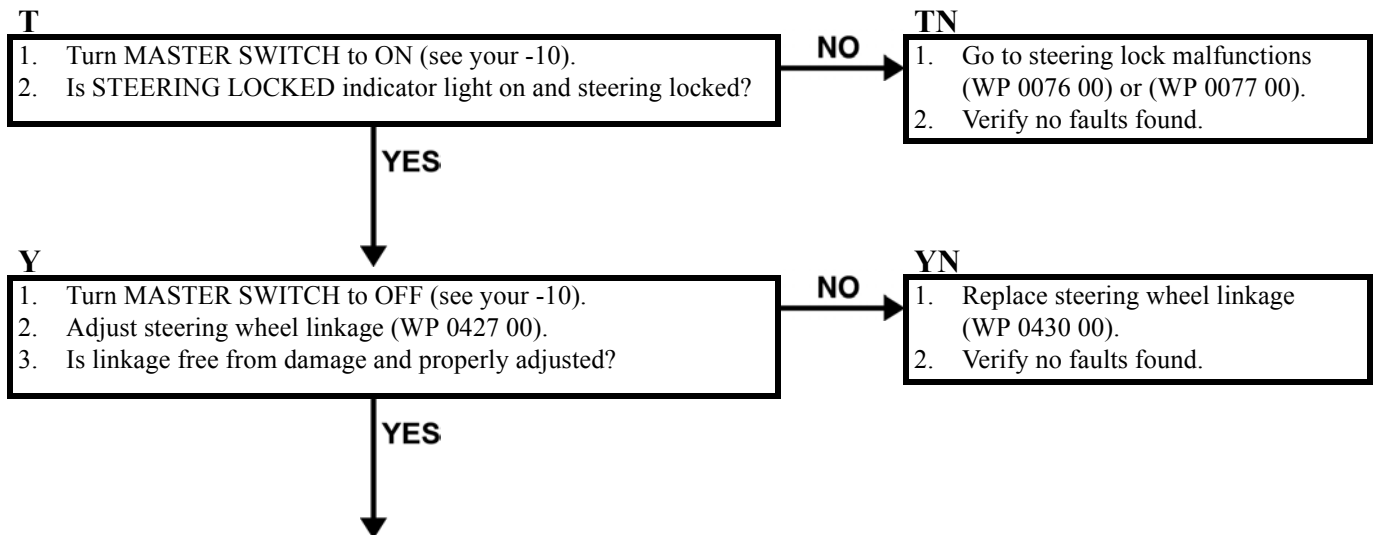
- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Transmission in SL position
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

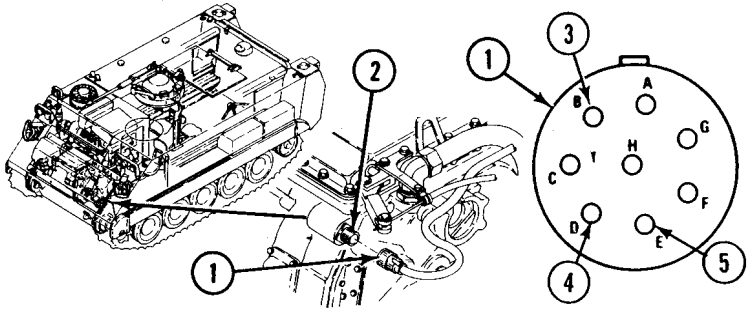
Personnel Required

- Unit Mechanic
- Helper (H)



**2Y**

1. Remove harness 12349810 plug (1) from transmission jack (2).
2. Turn MASTER SWITCH to ON (see your -10).
3. Measure voltage between each socket on harness 12349810 plug (1) and ground. Multimeter should read 18 volts or more at sockets B (3), D (4), and E (5), and 0 volts for all remaining socket checks.
4. Does multimeter read less than 18 volts for sockets B, D, and E, and does not read 0 volts for all other sockets?



NO

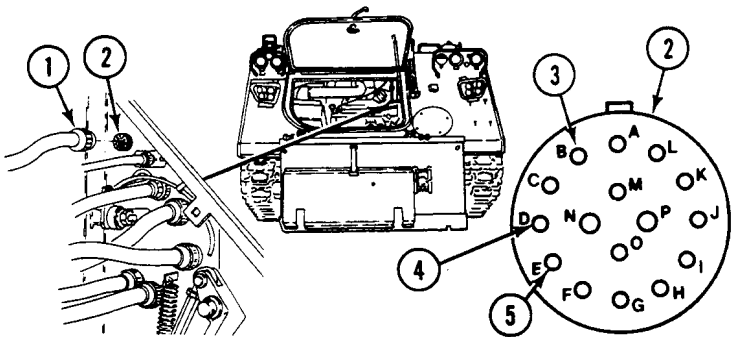
**2YN**

1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**3Y**

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Measure voltage between each socket on harness 12349813 jack (2) and ground. Multimeter should read 18 volts or more for sockets B (3), D (4), and E (5), and 0 volts for the remaining socket checks.
3. Does multimeter read less than 18 volts for sockets B, D, and E, and does not read 0 volts for all other sockets?



NO

**3YN**

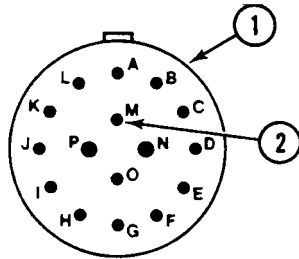
1. Faulty transmission control wiring harness 12349810. Beyond unit maintenance repair.
2. Notify supervisor.

YES



**4Y**

1. Turn MASTER SWITCH to OFF (see your -10).
2. Install harness 12349810 plug on transmission jack.
3. Remove transmission controller (WP 0386 00) or (WP 0387 00).
4. Measure resistance between transmission controller jack (1) pin M (2) and pins A thru G.
5. Does multimeter read more than 0 ohms for pins B, D, and E, and/or continuity for all remaining pins?



NO

**4YN**

1. Install transmission controller (WP 0386 00) or (WP 0387 00).
2. Faulty transmission wiring harness 12349813. Beyond unit maintenance repair.
3. Notify supervisor.

YES

**5Y**

1. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
2. Replace faulty transmission controller (WP 0386 00) or (WP 0387 00).
3. Perform pin to pin check (WP 0060 00).
4. Verify no faults found.



**CARRIER DOES NOT ATTAIN HIGH SPEED**

**0061 01**

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mechanic

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Pressure Gage Kit (WP 0926, Item 35)

References

See your -10

Materials/Parts

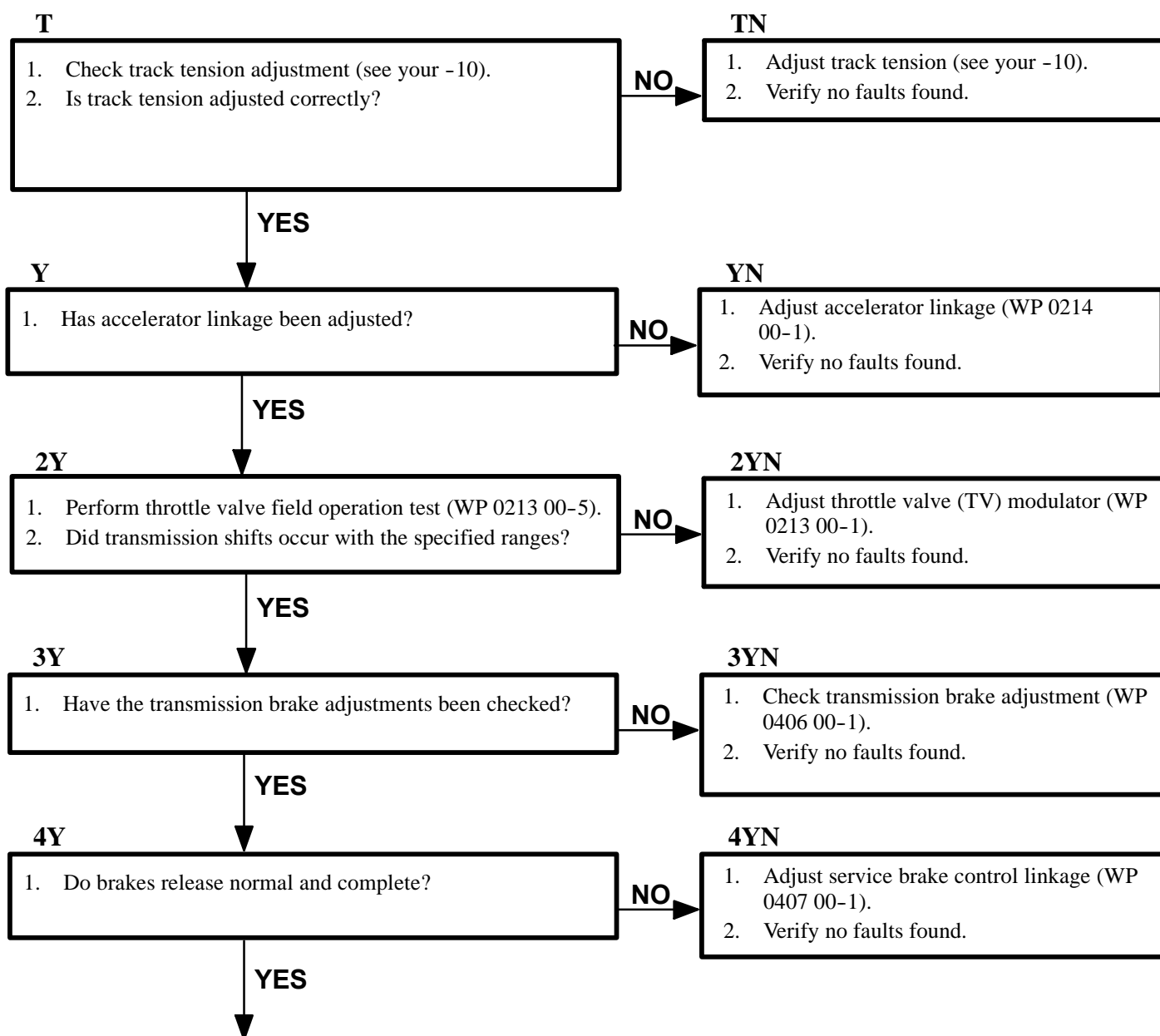
Rag, wiping (WP 0928 00, Item 65)

Equipment Conditions

Engine stopped (see your -10)

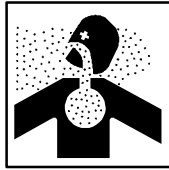
Carrier blocked (see your -10)

Trim vane lowered (see your -10)



5Y

**WARNING**

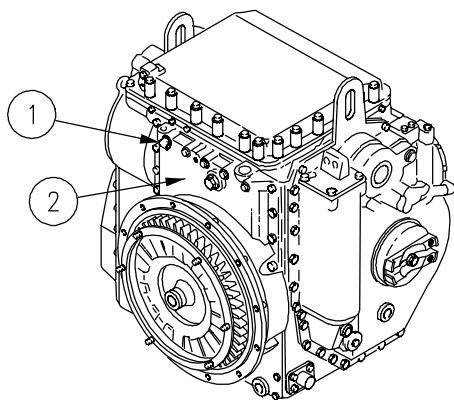


Perform test outdoors or in a well-ventilated area to avoid illness or death caused by inhalation of carbon monoxide from the engine exhaust.

**WARNING**

Use extreme care when making pressure checks with vehicle in motion. Watch for pivot steer.

1. If carrier is blocked, unblock carrier (see your -10).
2. Remove 9/16 in. hex plug from the LOCKUP (LU) pressure pressure port (1) in the transmission input housing (2).
3. Install pressure gage and adapters in the LOCKUP (LU) pressure test port (1) in the transmission input housing (2).
4. Check LOCKUP pressure while operating vehicle on level, flat terrain with engine at 2500 rpm and shift lever at 1-4 position. Lockup pressure must be 140-160 psi (965-1103 kPa).
5. Is LOCKUP pressure within the specified limits?

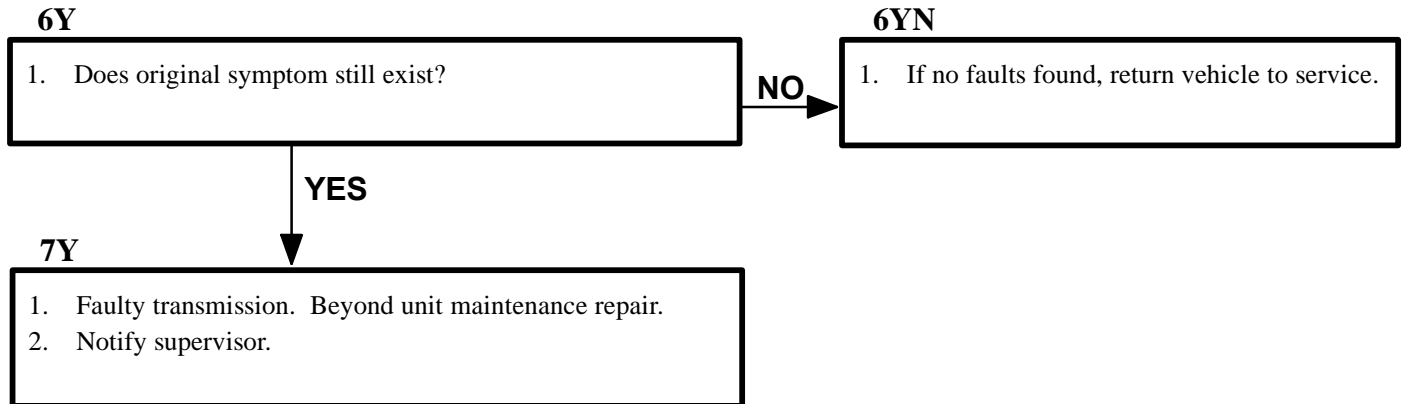


YES

5YN

1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.

NO



END OF TASK



**CARRIER DOES NOT MOVE IN ANY SHIFT LEVER POSITION**

**0062 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

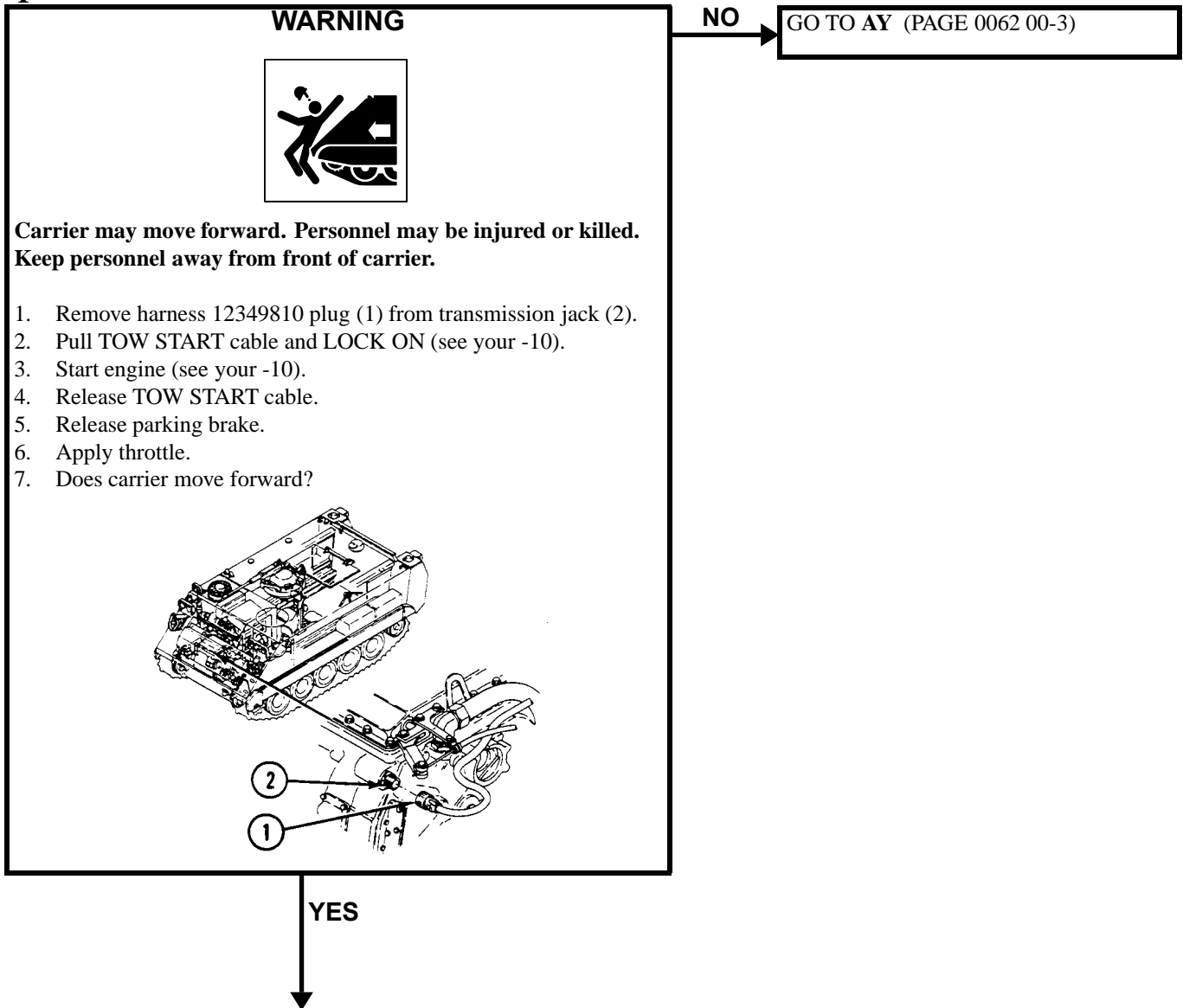
Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Transmission oil level normal

Personnel Required

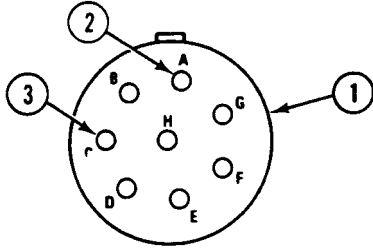
Unit Mechanic

T



**Y**

1. Stop engine (see your -10).
2. Place transmission controller in 1-4 position.
3. Turn MASTER SWITCH ON.
4. Measure voltage between each socket on harness 12349810 plug (1) and ground.
5. Does multimeter read less than 18 volts at sockets A (2) or C (3), or more than 0 volts at any remaining sockets?



**NO**

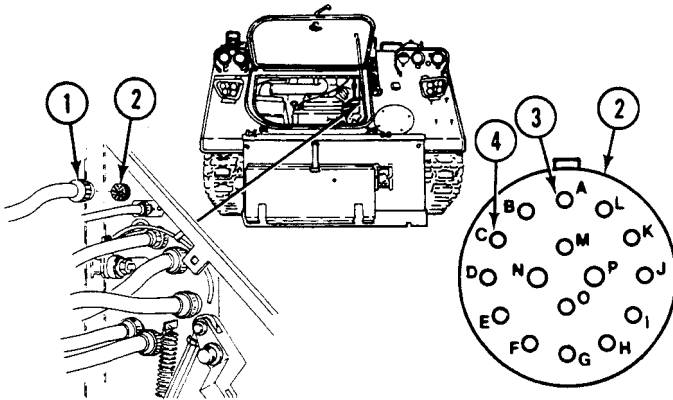
**YN**

1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**2Y**

1. Turn MASTER SWITCH OFF.
2. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
3. Turn MASTER SWITCH ON.
4. Measure voltage between each socket on harness 12349813 jack (2) and ground.
5. Does multimeter read less than 18 volts at sockets A (3) or C (4), or more than 0 volts at any remaining sockets?



**NO**

**2YN**

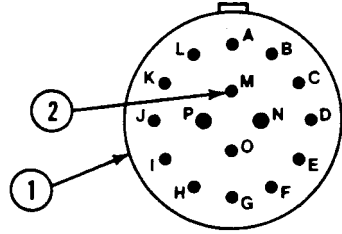
1. Faulty transmission control wiring harness 12349810. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**



**3Y**

1. Turn MASTER SWITCH OFF.
2. Remove transmission controller (WP 0386 00 or WP 0387 00).
3. Measure resistance between transmission controller jack (1) pin M (2) and pins A thru G.
4. Does multimeter read more than 0 ohms for pins A and C, and less than infinity for all remaining pins?



NO

**3YN**

1. Install transmission controller (WP 0386 00 or WP 0387 00).
2. Faulty transmission wiring harness 12349813. Beyond unit maintenance repair.
3. Notify supervisor.

YES

**4Y**

1. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
2. Replace faulty transmission controller switch (WP 0389 00).
3. Perform pin to pin check (WP 0060 00).
4. Verify no faults found.

**AY**

1. Stop engine (see your -10).
2. Check brake linkage and brake adjustment (WP 0406 00 and WP 0407 00).
3. Is brake linkage free from damage and brakes properly adjusted?

NO

**AYN**

1. Repair linkage and/or adjust brakes (WP 0410 00 or WP 0394 00).
2. Verify no faults found.

YES

**A2Y**

1. Disconnect track (see your -10).
2. Disconnect propeller shaft (WP 0405 00).
3. Does final drive/sprocket turn?

NO

**A2YN**

1. Replace faulty final drive (WP 0403 00).
2. Verify no faults found.

YES

**A3Y**

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Faulty transmission. Beyond unit maintenance repair.</li><li>2. Notify supervisor.</li></ol> |
|---|

**CARRIER DRIFTS OR DOES NOT STEER**

**0063 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

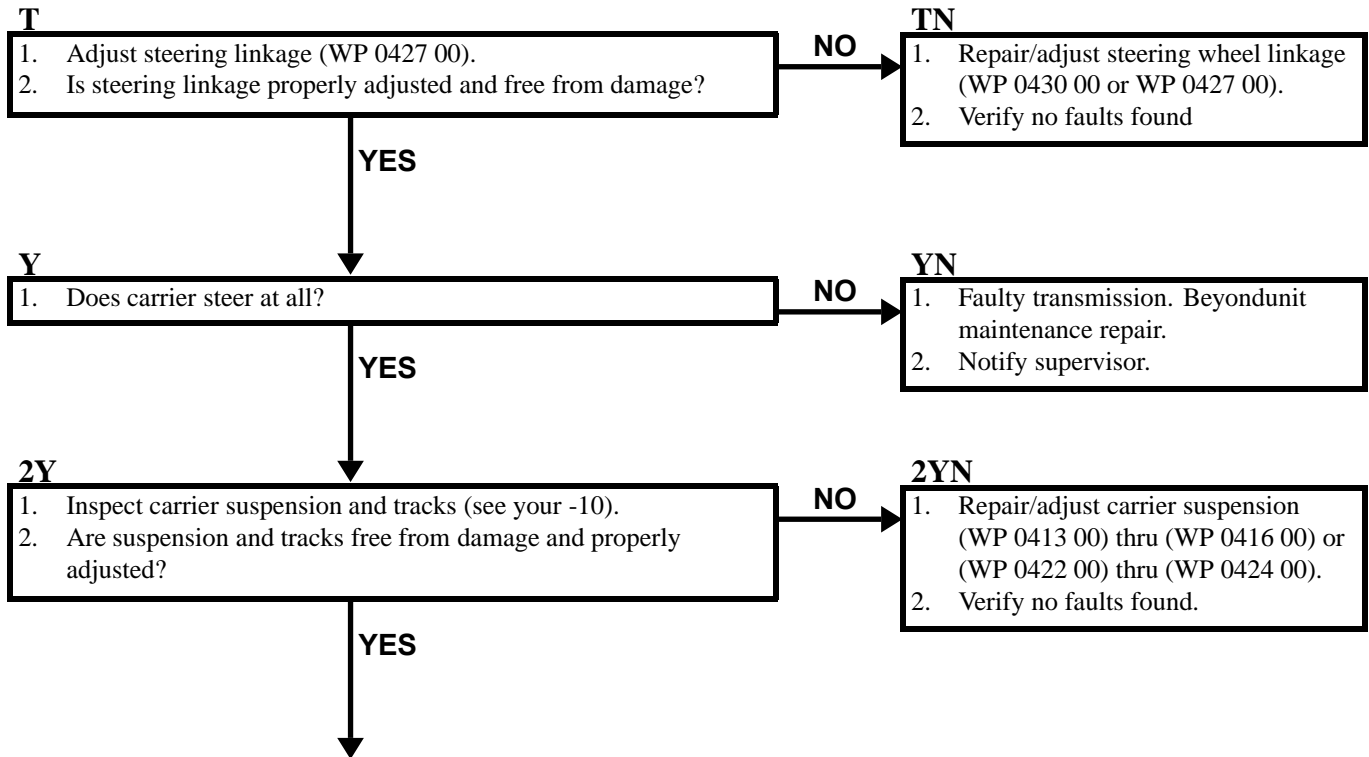
Trim vane lowered (see your -10)

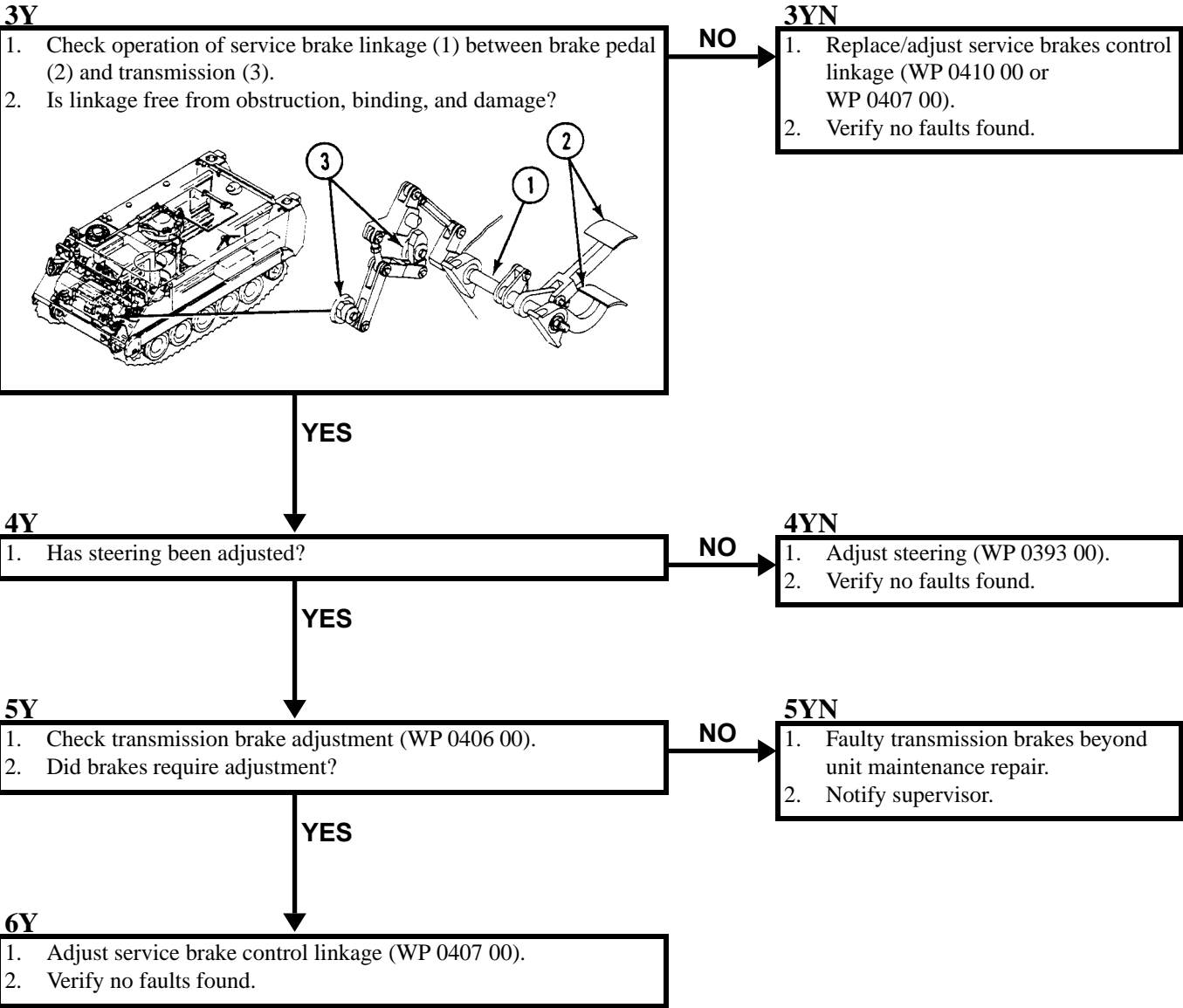
Power plant access door open (see your -10)

Personnel Required

Unit Mechanic

Helper (H)





**SERVICE AND/OR PARKING BRAKE WON'T HOLD CARRIER**

**0064 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Equipment Condition

Engine stopped (see your -10)

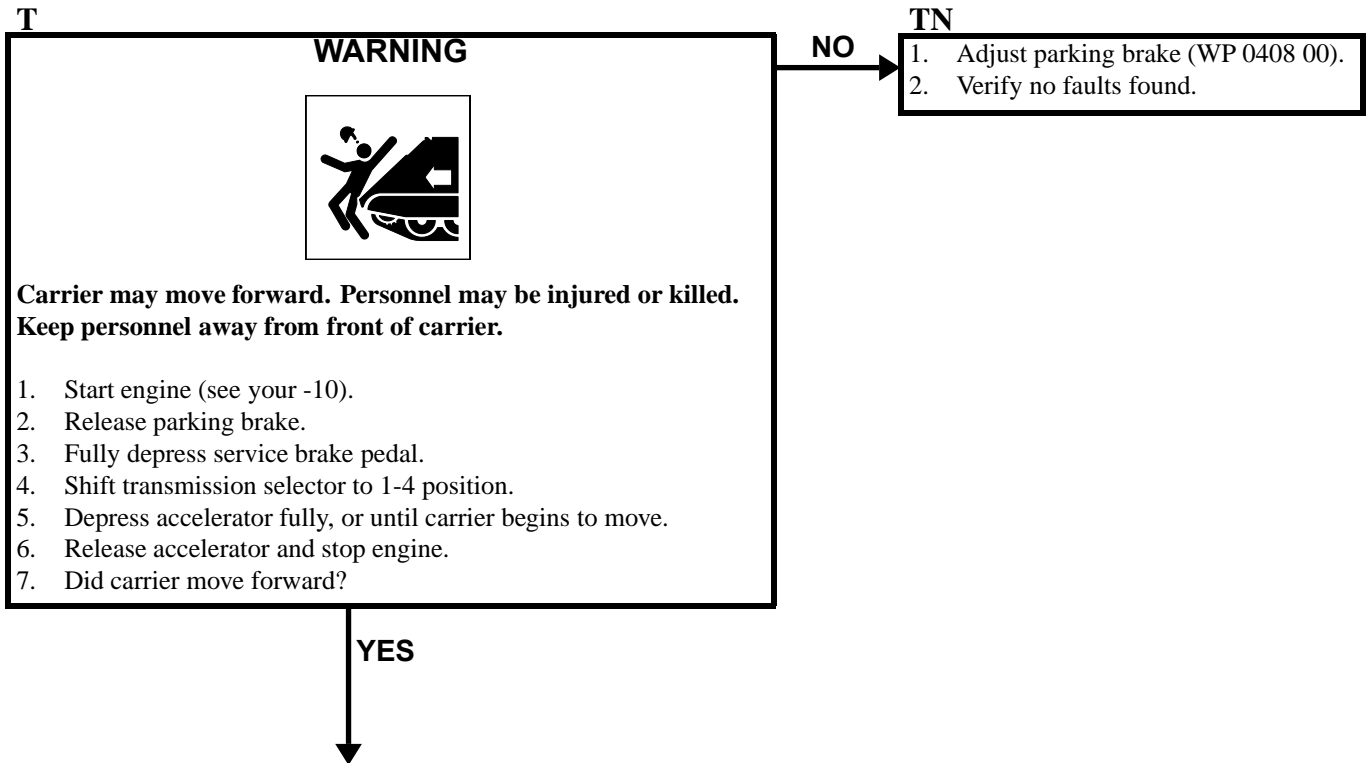
Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Power plant access door open (see your -10)

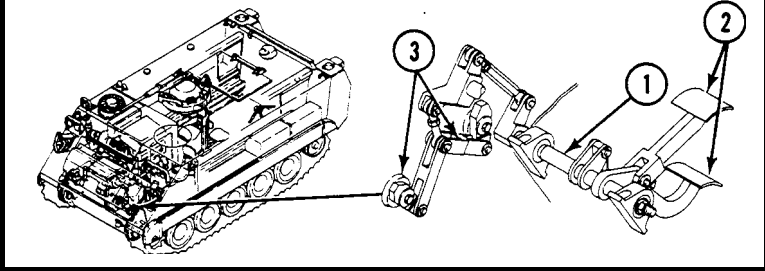
Personnel Required

Unit Mechanic



**Y**

1. Check operation of service brake linkage (1) between brake pedal (2) and transmission (3).
2. Is linkage free from obstruction, binding, and damage?



**NO**

**YN**

1. Replace/adjust service brakes control linkage (WP 0410 00 or WP 0407 00).
2. Verify no faults found.

**YES**

**2Y**

1. Check transmission brake adjustment (WP 0406 00).
2. Did brakes require adjustment?

**NO**

**2YN**

1. Faulty transmission brakes beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**3Y**

1. Check service brake control linkage adjustment (WP 0407 00).
2. Is service brake linkage properly adjusted?

**NO**

**3YN**

1. Adjust service brake control linkage (WP 0407 00).
2. Verify no faults found.

**YES**

**4Y**

1. Verify no faults found.

**TRANSMISSION WON'T UPSHIFT OR SHIFTS ERRATICALLY IN 1-4 POSITION**

**0065 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

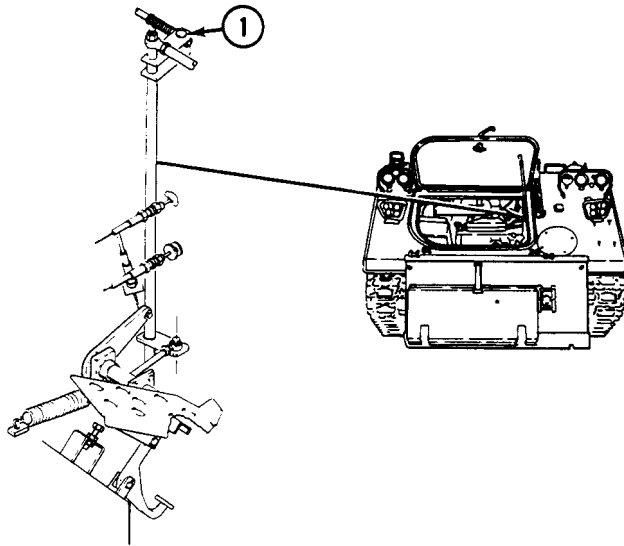
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access door open (see your -10)  
Power plant rear upper access panel removed (see your -10)  
Transmission in SL

Personnel Required

Unit Mechanic

**T**

1. Measure distance between center of throttle linkage pin (1) and bulkhead.
2. Is center of pin between 1-1/16 and 1-1/8 inches (27 and 28.5 mm) from bulkhead?



**NO**

**TN**

1. Adjust accelerator linkage (WP 0214 00).
2. Verify no faults found.

**YES**

**TRANSMISSION WON'T UPSHIFT OR SHIFTS ERRATICALLY IN 1-4 POSITION—Continued**

0065 00

**Y**

1. Adjust throttle valve modulator (WP 0213 00).
2. Can throttle valve modulator be adjusted?

**NO**

**YN**

1. Replace throttle valve modulator and lever (WP 0218 00).
2. Verify no faults found.

**YES**

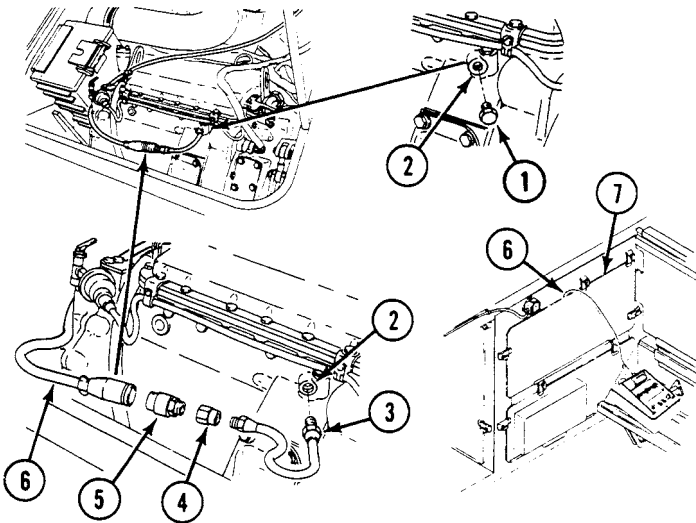
**2Y**

1. Remove plug (1) from GOVERNOR TWO (G2) pressure port (2).
2. Install STE/ICE 11669236 hose (3) into (G2) pressure port (2).
3. Install STE/ICE 444012 adapter (4) onto 11669236 hose (3).
4. Install STE/ICE 12258876 pressure transducer (5) onto 444012 adapter (4).
5. Hook up STE/ICE W4 cable (6) to transducer (5).
6. Route STE/ICE W4 cable (6) around left side of transmission, over engine, and thru power plant rear access opening (7) as shown.
7. Install rear upper access panel (see your -10) allowing W4 cable slack to reach VTM.
8. Close front power plant access door (see your -10).
9. Raise and secure trim vane (see your -10).
10. Hook up VTM to DCA 6.
11. Hook up STE/ICE W4 cable (6) to VTM jack J2TK.
12. Perform STE/ICE test 50 TM 9-4910-571-12&P with carrier traveling over flat, level terrain at 30 MPH and transmission selector in 1-4 position.
13. Does VTM read between 92 and 107 psi?

**NO**

**2YN**

1. Replace governor assembly (WP 0397 00).
2. Verify no faults found.



**YES**



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**TRANSMISSION WON'T UPSHIFT OR SHIFTS ERRATICALLY IN 1-4  
POSITION—Continued**

---

0065 00

**3Y**

- |   |
|---|
| <ol style="list-style-type: none"><li>1. G2 pressure is OK.</li><li>2. Faulty transmission. Beyond unit maintenance repair.</li><li>3. Notify supervisor.</li></ol> |
|---|



**TRANSMISSION DOES NOT DOWNSHIFT IN 1-4 POSITION**

**0066 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Pressure Gage Kit (WP 0926 00, Item 35)

Personnel Required

Unit Mechanic

References

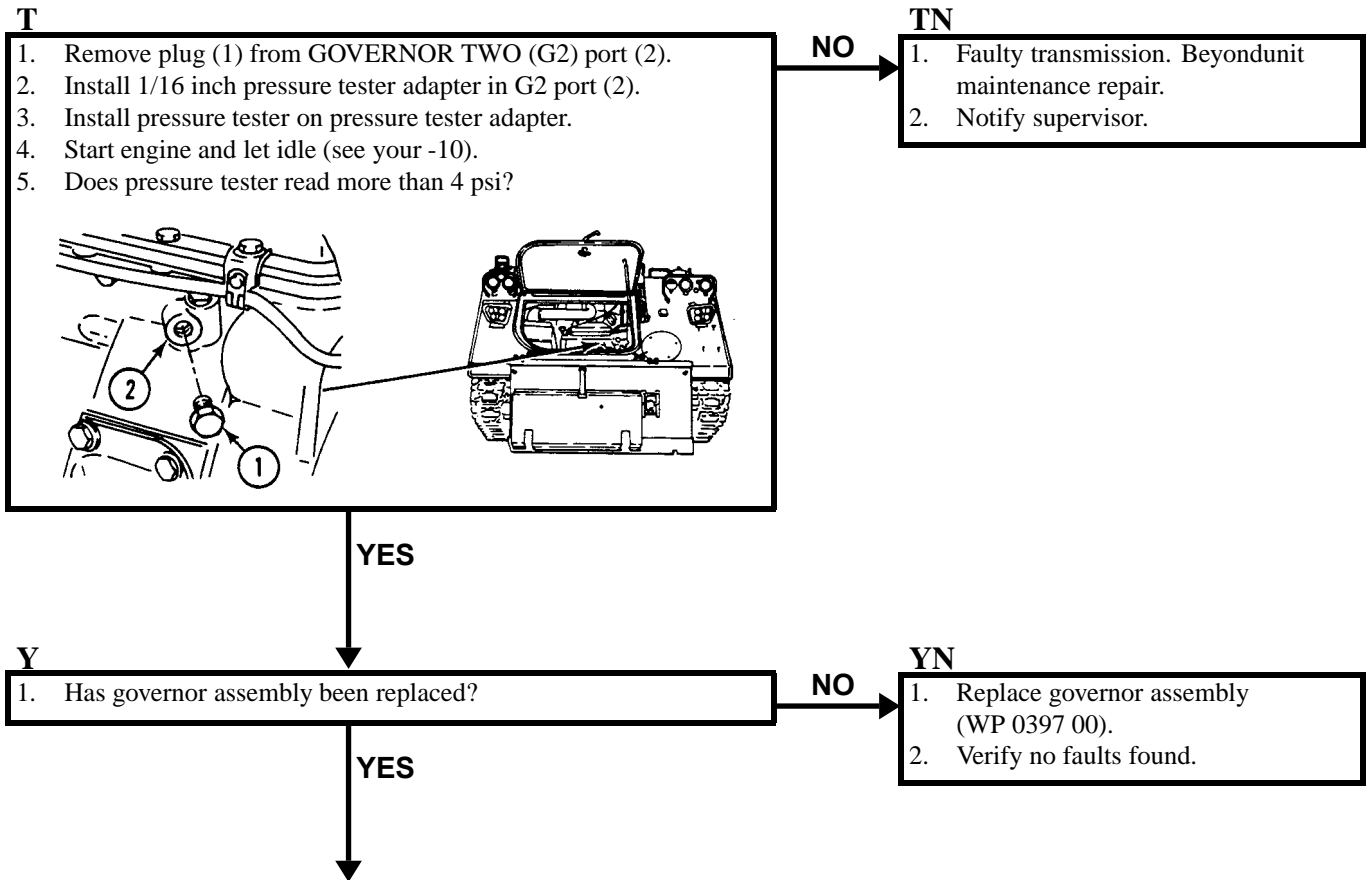
See your -10

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Driver's power plant access panel removed (see your -10)
- Power plant rear access panel removed (see your -10)
- Transmission in SL

**NOTE**

**Pressure tester must read 4 psi. Any other reading indicates a fault.**



**2Y**

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Faulty transmission. Beyond unit maintenance repair.</li><li>2. Notify supervisor.</li></ol> |
|---|

**TRANSMISSION DOES NOT HOLD 1ST POSITION**

**0067 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Equipment Condition

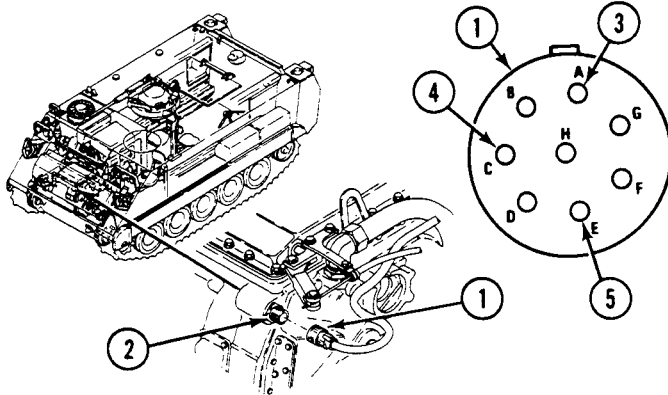
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Transmission in 1 position
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

Personnel Required

- Unit Mechanic
- Helper (H)

**T**

1. Remove harness 12349810 plug (1) from transmission jack (2).
2. Turn MASTER SWITCH to ON (see your -10).
3. Measure voltage between each socket on harness 12349810 plug (1) and ground. Multimeter should read 18 volts or more at sockets A (3), C (4), E (5), and 0 volts for all remaining socket checks.
4. Does multimeter read less than 18 volts at sockets A (3), C (4), and E (5), or 0 volts at all remaining sockets?



**YES**



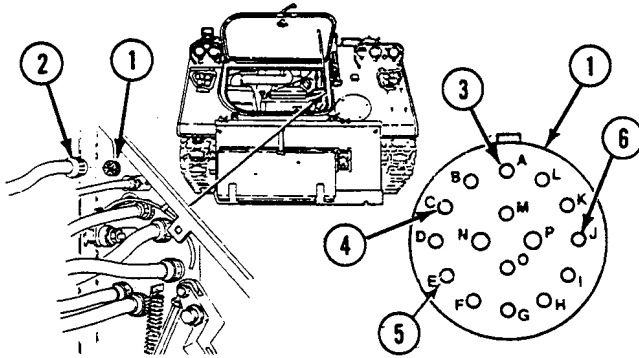
**TN**

1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.

**NO**

Y

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Measure voltage between each socket on harness 12349813 jack (2) and ground. Multimeter should read 18 volts or more for sockets A (3), C (4), E (5), J (6), and 0 volts for the remaining socket checks.
3. Does multimeter read less than 18 volts at sockets A (3), C (4), E (5), and J (6), or more than 0 volts at all remaining sockets?



NO

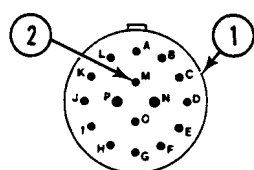
YN

1. Faulty harness 12349810 (transmission control wiring harness). Beyond unit maintenance repair.
2. Notify supervisor.

YES

2Y

1. Turn MASTER SWITCH to OFF (see your -10).
2. Install harness 12349810 plug on transmission jack.
3. Remove transmission controller (WP 0386 00) or (WP 0387 00).
4. Measure resistance between transmission controller jack (1) pin M (2) and pins A thru G. Multimeter should read 0 ohms for pins A, C, and E, and infinity for all remaining pin checks.
5. Does multimeter read more than 0 ohms for pins A, C, and E, or less than infinity for all remaining pins?



NO

2YN

1. Install transmission controller (WP 0386 00) or (WP 0387 00).
2. Faulty harness 12349813 (transmission wiring harness). Beyond unit maintenance repair.
3. Notify supervisor.

YES

**3Y**

1. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
2. Replace faulty transmission controller switch (WP 0389 00).
3. Perform pin to pin check (WP 0060 00).
4. Verify no faults found.





**TRANSMISSION DOES NOT HOLD 2ND POSITION**

**0068 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Equipment Condition

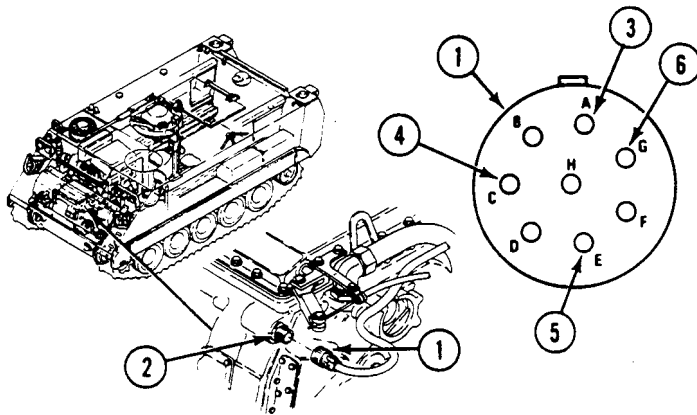
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Transmission in 1-2 position
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

Personnel Required

- Unit Mechanic
- Helper (H)

**T**

1. Remove harness 12349810 plug (1) from transmission jack (2).
2. Turn MASTER SWITCH to ON.
3. Measure voltage between each socket on harness 12349810 plug (1) and ground. Multimeter should read 18 volts or more at socket A (3), C (4), E (5), and G (6), and read 0 volts for all remaining sockets.
4. Does multimeter read less than 18 volts at sockets A (3), C (4), E (5), and G (6), or more than 0 volts at all remaining sockets?



**YES**

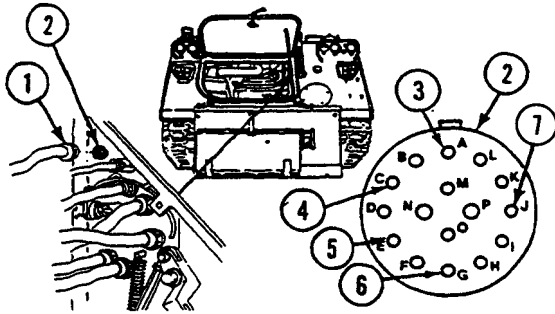
**NO**

**TN**

1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.

**Y**

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Measure voltage between each socket on harness 12349813 jack (2) and ground. Multimeter should read 18 volts or more for socket A (3), C (4), E (5), G (6), and J (7), and 0 volts for the remaining socket checks.



3. Does multimeter read less than 18 volts at sockets A, C, E, G, and J, or more than 0 volts for all remaining sockets?

**NO**

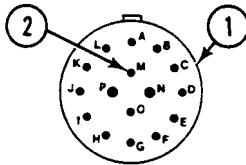
**YN**

1. Faulty harness 12349810 (transmission control wiring harness). Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**2Y**

1. Turn MASTER SWITCH to OFF. See your -10.
2. Install harness 12349810 plug on transmission jack.
3. Remove transmission controller (WP 0386 00) or (WP 0387 00).
4. Measure resistance between transmission controller jack (1) pin M (2), and pins A thru G. Multimeter should read 0 ohms for pins A, C, E and G, and infinity for all other pins.
5. Does multimeter read more than 0 ohms for pins A, C, E, and G, or less than infinity for all remaining pins?



**NO**

**2YN**

1. Install transmission controller (WP 0386 00) or (WP 0387 00).
2. Faulty harness 12349813 (transmission wiring harness). Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

**3Y**

1. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
2. Replace faulty transmission controller switch (WP 0389 00).
3. Perform pin to pin check (WP 0060 00).
4. Verify no faults found .



**TRANSMISSION DOES NOT HOLD 3RD POSITION**

**0069 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Equipment Condition

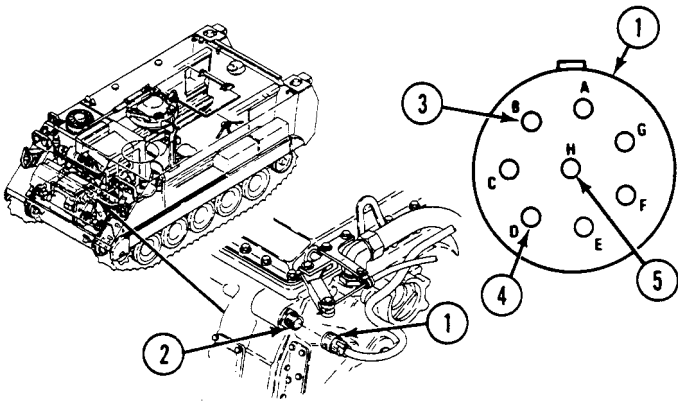
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Transmission in 1-3 position
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

Personnel Required

Unit Mechanic

**T**

1. Remove harness 12349810 plug (1) from transmission jack (2).
2. Turn MASTER SWITCH to ON.
3. Measure voltage between each socket on harness 12349810 plug (1) and ground. Multimeter should read 0 volts at socket B (3), D (4), and H (5), and at least 18 volts for all remaining socket checks.
4. Does multimeter read more than 0 volts at sockets B (3), D (4), and H (5), or less than 18 volts at all remaining sockets?



**NO**

**TN**

1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.

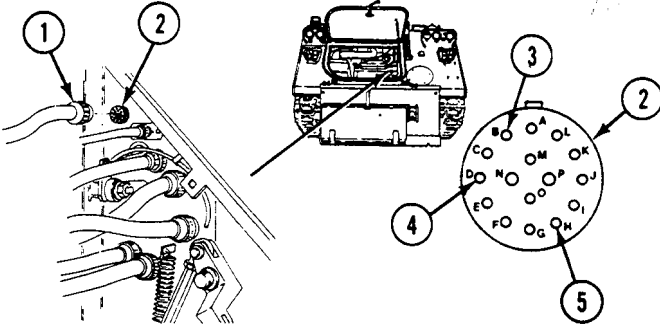
**YES**

TRANSMISSION DOES NOT HOLD 3RD POSITION—Continued

0069 00

**Y**

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Measure voltage between each socket on harness 12349813 jack (2) and ground. Multimeter should read 0 volts for sockets B (3), D (4), and H (5), and at least 18 volts for the remaining socket checks.
3. Does multimeter read more than 0 volts at sockets B (3), D (4), and H (5), or less than 18 volts at all remaining socket checks?



**NO**

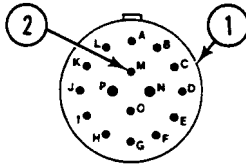
**YN**

1. Faulty harness 12349810 (transmission control wiring harness). Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**2Y**

1. Turn MASTER SWITCH to OFF.
2. Install harness 12349810 plug on transmission jack.
3. Remove transmission controller (WP 0386 00 or WP 0387 00).
4. Measure resistance between transmission controller jack (1) pin M (2), and pins A thru G. Multimeter should read infinity for pins B and D, and read 0 ohms for pins A, C, E, F, and G.
5. Does multimeter read less than infinity for pins B and D, or more than 0 ohms for pins A, C, E, and G?



**NO**

**2YN**

1. Install transmission controller (WP 0386 00 or WP 0387 00).
2. Faulty harness 12349813 (transmission wiring harness). Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

**3Y**

1. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
2. Replace faulty transmission controller switch (WP 0389 00).
3. Perform pin to pin check (WP 0060 00).
4. Verify no faults found.





**TRANSMISSION DOES NOT REVERSE**

**0070 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Equipment Condition

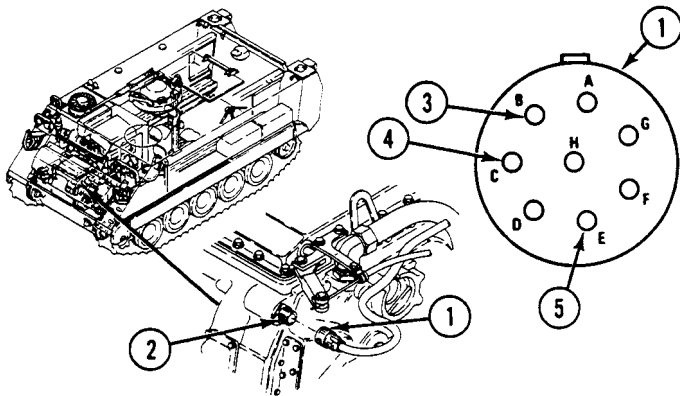
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Transmission in R position
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

Personnel Required

- Unit Mechanic
- Helper (H)

**T**

1. Remove harness 12349810 plug (1) from transmission jack (2).
2. Turn MASTER SWITCH to ON.
3. Measure voltage between each socket on harness 12349810 plug (1) and ground. Multimeter should read 18 volts or more at socket B (3), C (4), and E (5), and 0 volts for all remaining socket checks.
4. Does multimeter read less than 18 volts at sockets B (3), C (4), and E (5), or more than 0 volts at all remaining sockets?



**YES**

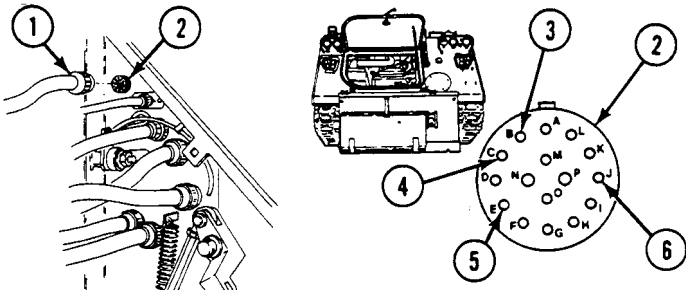
**NO**

**TN**

1. Faulty transmission, Beyond unit maintenance repair.
2. Notify supervisor.

**Y**

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Measure voltage between each socket on harness 12349813 jack (2) and ground. Multimeter should read 18 volts or more for socket B (3), C (4), E (5), and J (6), and 0 volts for the remaining socket checks.
3. Does multimeter read less than 18 volts at sockets B (3), C (4), E (5), and J (6), or more than 0 volts at all remaining sockets?



**NO**

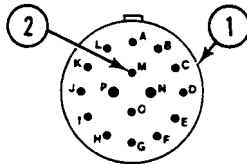
**YN**

1. Faulty harness 12349810 (transmission control wiring harness). Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**2Y**

1. Turn MASTER SWITCH to OFF.
2. Install harness 12349810 plug on transmission jack.
3. Remove transmission controller (WP 0386 00 or WP 0387 00).
4. Measure resistance between transmission controller jack (1) pin M (2) and pins A through G. Multimeter should read 0 ohms for pins B, C, and E, and read infinity for all remaining pins.
5. Does multimeter read more than 0 ohms for pins B, C, and E, or less than infinity for all remaining pins?



**NO**

**2YN**

1. Install transmission controller (WP 0386 00 or WP 0387 00).
2. Faulty harness 12349813 (transmission wiring harness). Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

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**TRANSMISSION DOES NOT REVERSE—Continued**

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**0070 00****3Y**

1. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
2. Replace faulty transmission controller switch (WP 0389 00).
3. Perform pin to pin check (WP 0060 00).
4. Verify no faults found.



**TRANSMISSION DOES NOT PIVOT STEER**

**0071 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Equipment Condition

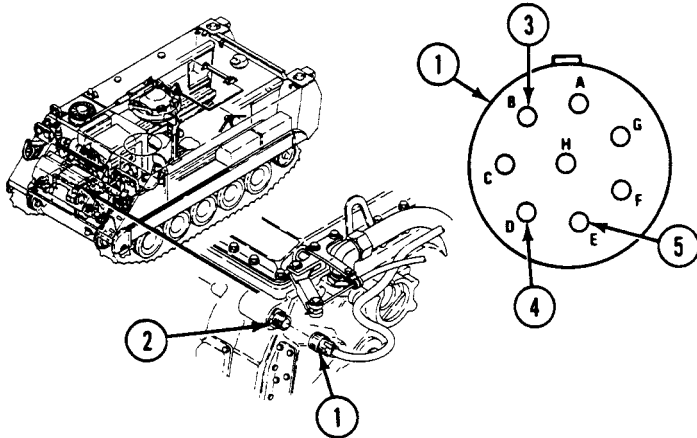
- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Transmission in PV position
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

Personnel Required

- Unit Mechanic
- Helper (H)

**T**

1. Remove harness 12349810 plug (1) from transmission jack (2).
2. Turn MASTER SWITCH to ON (see your -10).
3. Measure voltage between each socket on harness 12349810 plug (1) and ground. Multimeter should read 18 volts or more at sockets B (3), D (4), and E (5), and 0 volts for all remaining socket checks.
4. Does multimeter indicate an incorrect reading?



**YES**

**NO**

**TN**

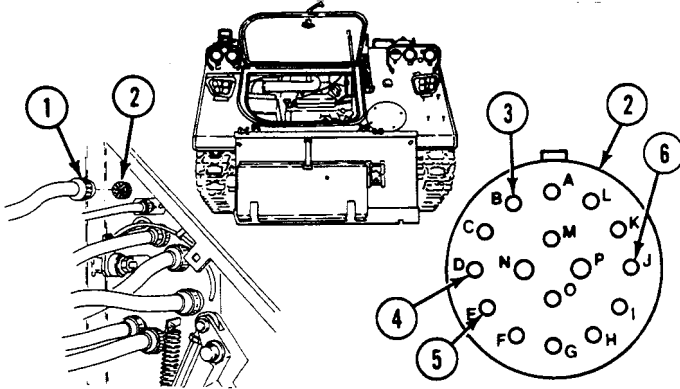
1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.

TRANSMISSION DOES NOT PIVOT STEER—Continued

0071 00

**Y**

1. Remove harness 12349810 plug (1) from harness 12349813 jack (2) at carrier bulkhead.
2. Measure voltage between each socket on harness 12349813 jack (2) and ground. Multimeter should read 18 volts or more for socket B (3), D (4), E (5), and J (6), and 0 volts for all remaining socket checks.
3. Does multimeter indicate an incorrect reading?



**NO**

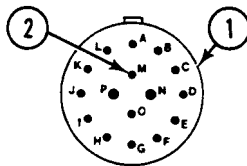
**YN**

1. Faulty harness 12349810 (transmission control wiring harness). Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**2Y**

1. Turn MASTER SWITCH to OFF.
2. Install harness 12349810 plug on transmission jack.
3. Remove transmission controller (WP 0386 00 or WP 0387 00).
4. Measure resistance between transmission controller jack (1) pin M (2) and pins A thru G. Multimeter should read 0 ohms for pins B, D, and E, and infinity for all remaining pin checks.
5. Does multimeter indicate an incorrect reading?



**NO**

**2YN**

1. Install transmission controller (WP 0386 00 or WP 0387 00).
2. Faulty harness 12349813 (transmission wiring harness). Beyond unit maintenance repair.
3. Notify supervisor.

**YES**

**3Y**

1. Install harness 12349810 plug on harness 12349813 jack at carrier bulkhead.
2. Replace faulty transmission controller switch (WP 0389 00).
3. Perform pin to pin check (WP 0060 00).
4. Verify no faults found.





**TRANSMISSION HIGH TEMP INDICATOR COMES ON**

**0072 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Pressure Gauge Kit (WP 0926 00, Item 35)

Personnel Required

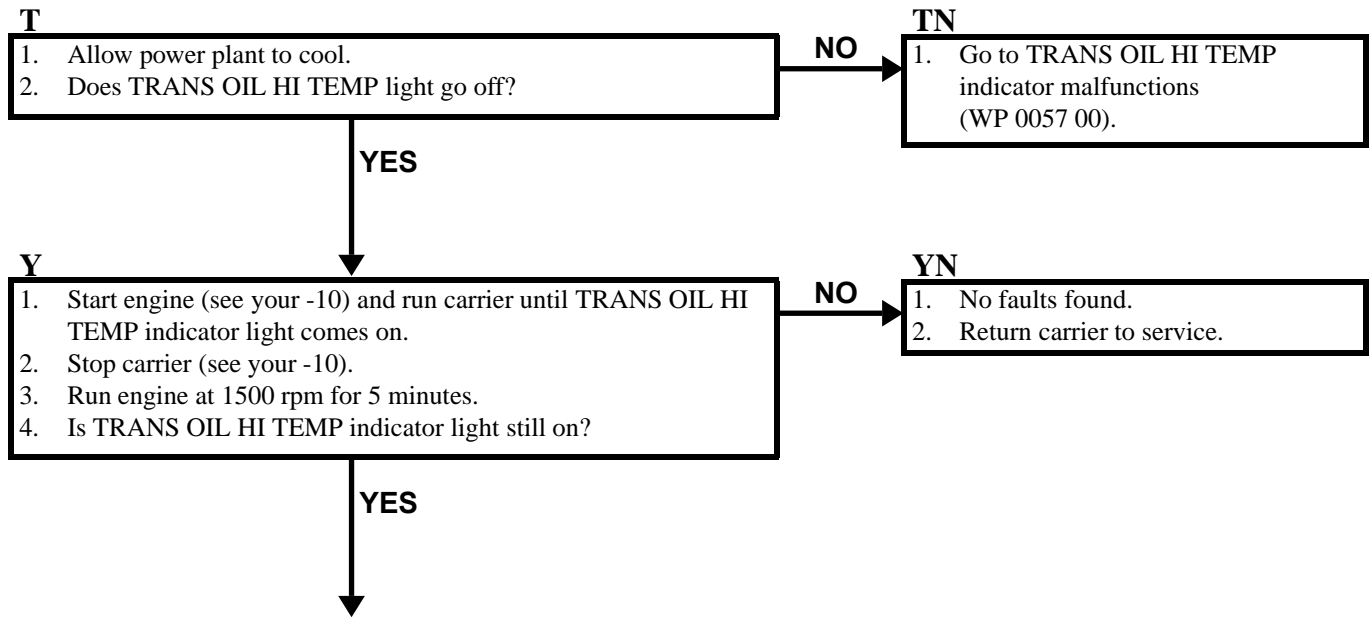
Unit Mechanic

References

- See your -10
- See your PMCS

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Transmission in SL
- Transmission oil level checked (see your PMCS)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Driver's power plant access panel removed (see your -10)
- Power plant rear access panel removed (see your -10)

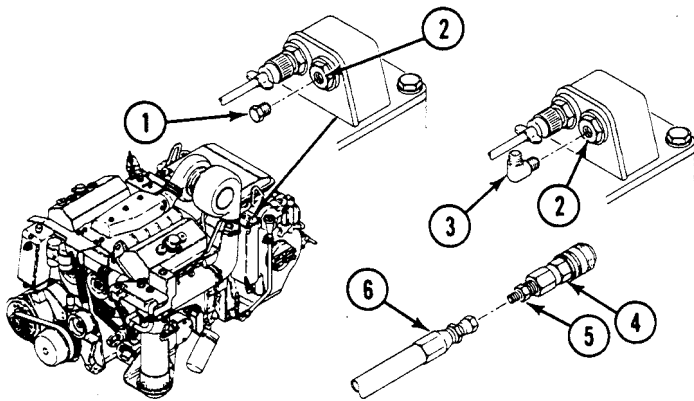


2Y

1. Stop engine (see your -10).
2. Remove plug (1) from MAIN port (2) on top of filter housing.
3. Install 4730-231-5632 elbow (3) into MAIN port (2).
4. Remove quick disconnect (4) and adapter (5) from test hose (6).
5. Install test hose (6) onto elbow (3).
6. Start engine (see your -10).
7. With engine at 600 rpm, measure MAIN pressure with transmission in R, and then in 1-4 position. Use 400 psi gauge. Pressure should be 280-325 psi in R. Pressure should be 190-210 psi in 1-4 position.
8. Does pressure tester indicate an incorrect reading?

NO

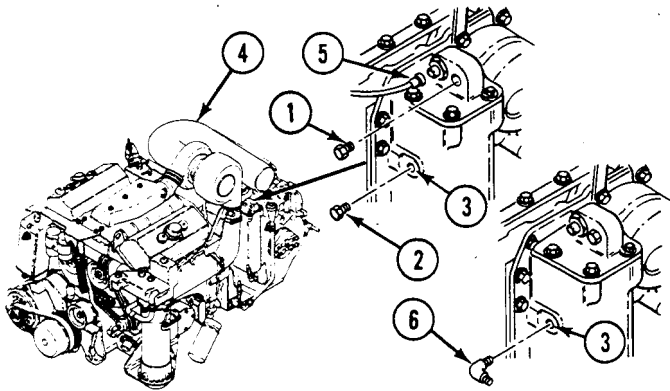
GO TO BY (PAGE 0072 00-4)



YES

**3Y**

1. Stop engine (see your -10).
2. Remove pressure tester, elbow, and install MAIN port plug (1).
3. Remove plug (2) from FILTER IN port (3).
4. Remove turbo air inlet duct (4) and trans filter clogged switch plug (5).
5. Install 4730-766-9000 elbow (6) into FILTER IN port (3).
6. Install pressure tester into elbow (6).
7. Install turbo air inlet duct (4).
8. Start engine (see your -10).
9. With engine at 600 rpm, measure FILTER IN pressure with transmission in R, and then in 1-4 position. Pressure should be 280-325 psi in R. Pressure should be 190-210 psi in 1-4 position.
10. Is FILTER IN pressure 35 psi or more greater than MAIN pressure?



**NO** → GO TO **CY** (PAGE 0072 00-4)

**YES**

**4Y**

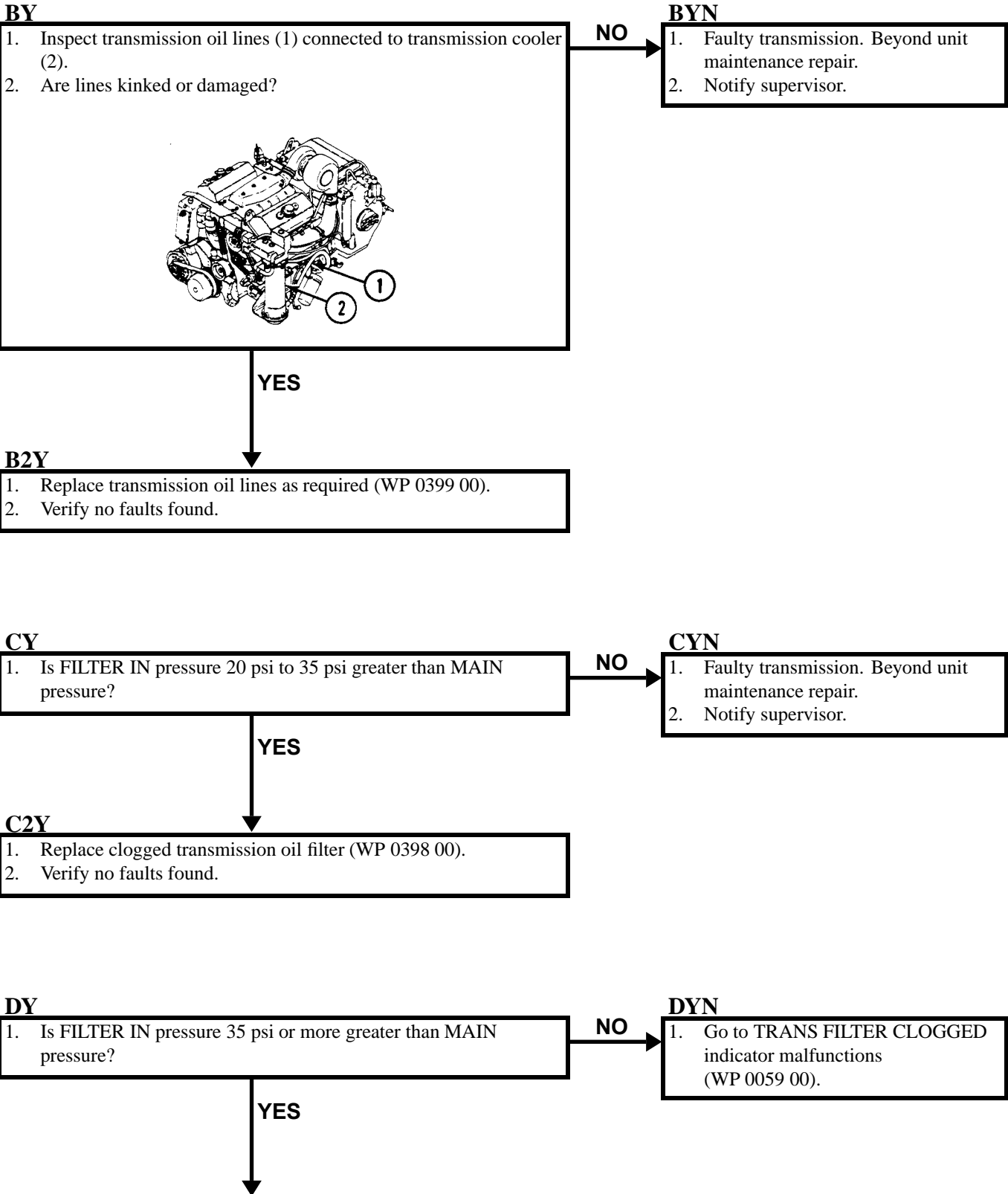
1. Is TRANS FILTER CLOGGED indicator ON?

**NO** → GO TO **DY** (PAGE 0072 00-4)

**YES**

**5Y**

1. Stop engine (see your -10).
2. Replace transmission oil filter element (WP 0398 00).
3. Verify no faults found.



**D2Y**

1. Faulty transmission. Beyond unit maintenance repair.
2. Notify supervisor.



**TRANSMISSION LOW LUBE INDICATOR COMES ON**

**0073 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- Fitting Kit (WP 0926 00, Item 21)
- Pressure Gauge Kit (WP 0926 00, Item 35)
- General Mechanic's Tool Kit (WP 0926 00, Item 65)

Personnel Required

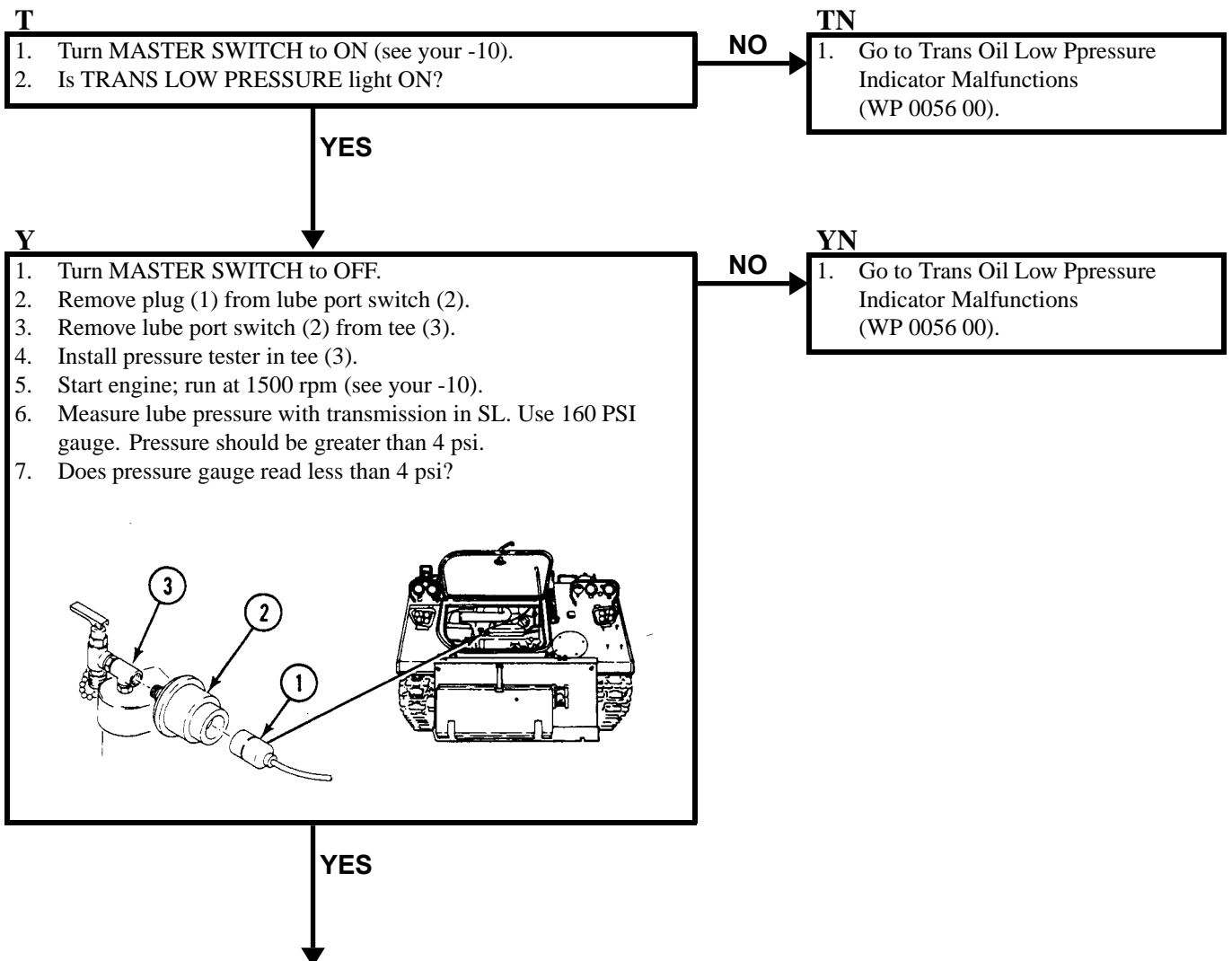
Unit Mechanic

References

- See your -10
- See your PMCS

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Parking brake off (see your -10)
- Transmission in SL
- Transmission oil level checked (see your PMCS)
- Power plant warm
- Idle speed set at 600 rpm
- Trim vane down (see your -10)
- Power engine access door open (see your -10)
- Driver access panel removed (see your -10)
- Rear access panel removed (see your -10)



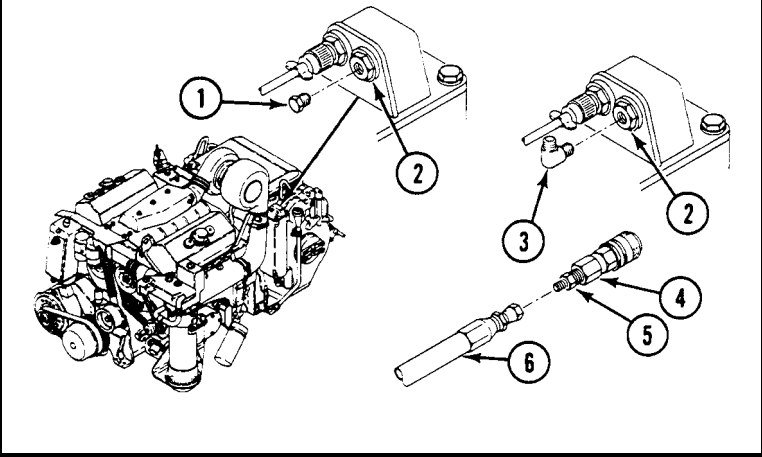
**2Y**

1. Stop engine (see your -10).
2. Remove pressure tester and install switch.
3. Remove plug (1) from MAIN port (2).
4. Install 4730-231-5632 elbow (3) into MAIN port (2).
5. Remove quick disconnect (4) and adapter (5) from test hose (6).
6. Install test hose (6) on elbow (3).
7. Start engine (see your -10).
8. With engine at 600 rpm, measure MAIN pressure with transmission in R and then in 1-4 position. Use 400 PSI gauge. Pressure should be 280-325 psi in R. Pressure should be 190-210 psi in 1-4 position.
9. Does pressure gauge reading differ from step 8, above?

**NO**

**2YN**

1. Transmission low lube pressure. Beyond unit maintenance repair.
2. Notify supervisor.

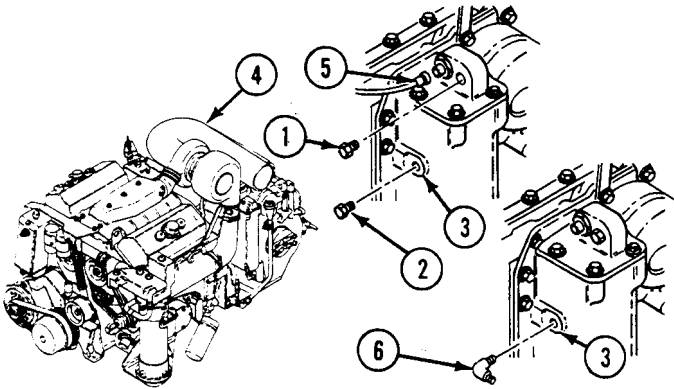


**YES**



**3Y**

1. Stop engine (see your -10).
2. Remove pressure tester and install MAIN port plug (1).
3. Remove plug (2) from FILTER IN port (3).
4. Remove turbo air inlet duct (4) and trans filter clogged switch plug (5).
5. Install 4730-766-9000 elbow (6) into FILTER IN port (3).
6. Install pressure tester onto elbow (6). Use 400 PSI gauge.
7. Install turbo air inlet duct (4).
8. Start engine (see your -10).
9. With engine at 600 rpm, measure FILTER IN pressure with transmission in R and then in 1-4 position. FILTER IN pressure should be within 35 psi of MAIN pressure.
10. Is FILTER IN pressure, at 35 psi or more, greater than MAIN pressure?



**NO**

GO TO AY (PAGE 0073 00-4)

**YES**

**4Y**

1. Is trans filter clogged indicator ON?

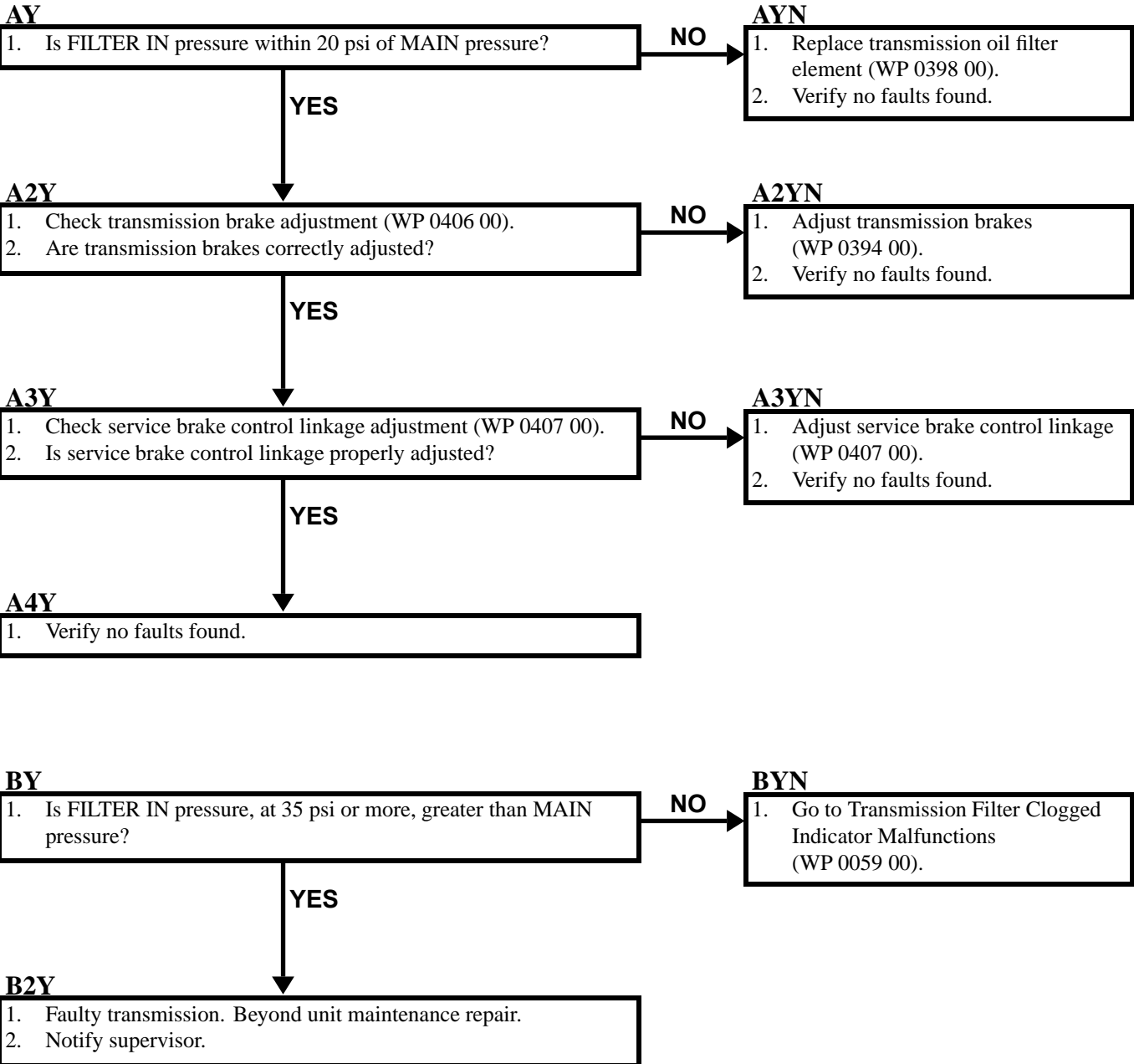
**NO**

GO TO BY (PAGE 0073 00-4)

**YES**

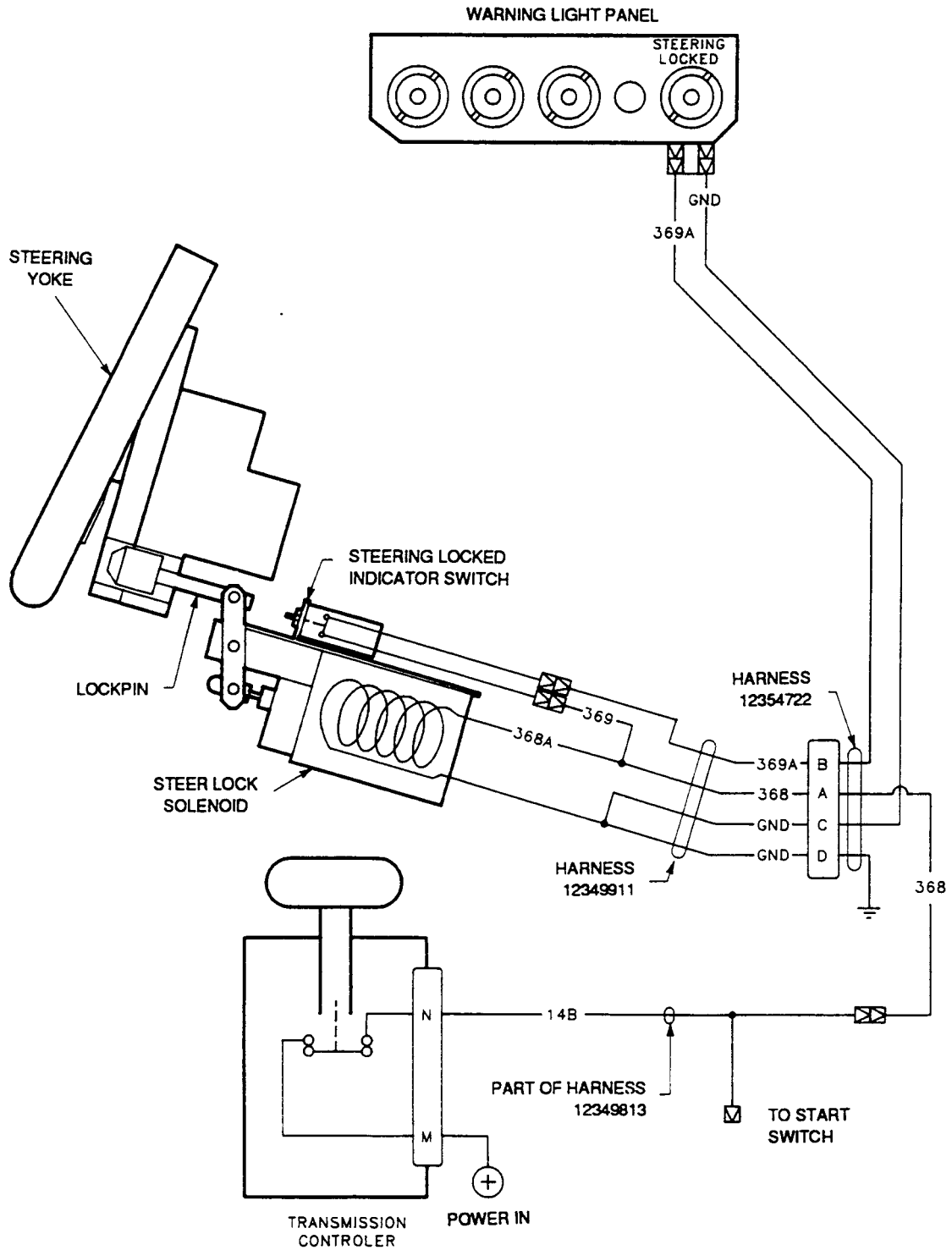
**5Y**

1. Stop engine (see your -10).
2. Replace transmission oil filter element (WP 0398 00).
3. Verify no faults found.



STEERING LOCK SCHEMATIC (SOLENOID-ACTIVATED LOCK)

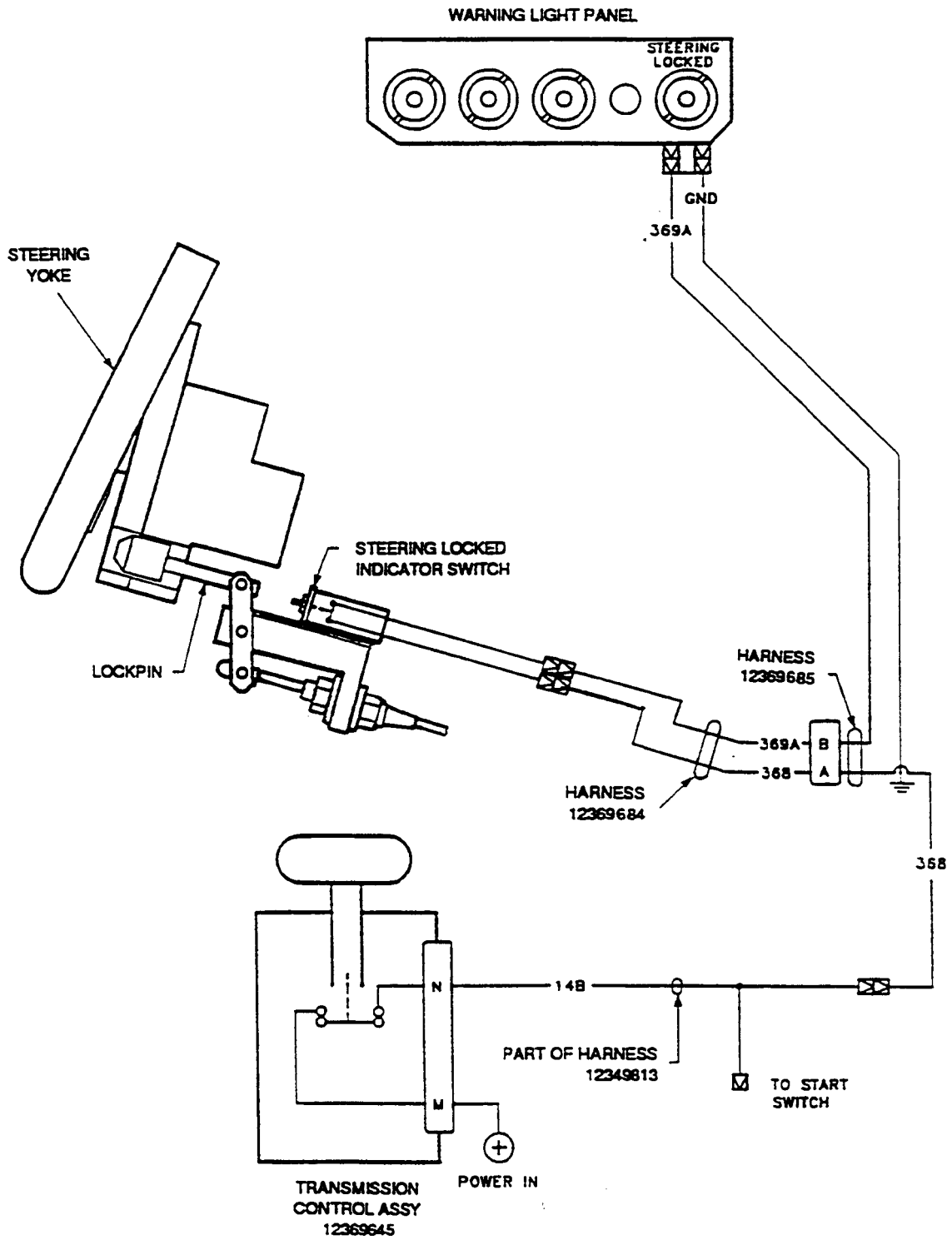
0074 00





STEERING LOCK SCHEMATIC (CABLE-ACTIVATED LOCK)

0075 00





**SOLENOID-ACTIVATED STEERING LOCK MALFUNCTIONS**

**0076 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Multimeter (WP 0926 00, Item 30)

Equipment Condition

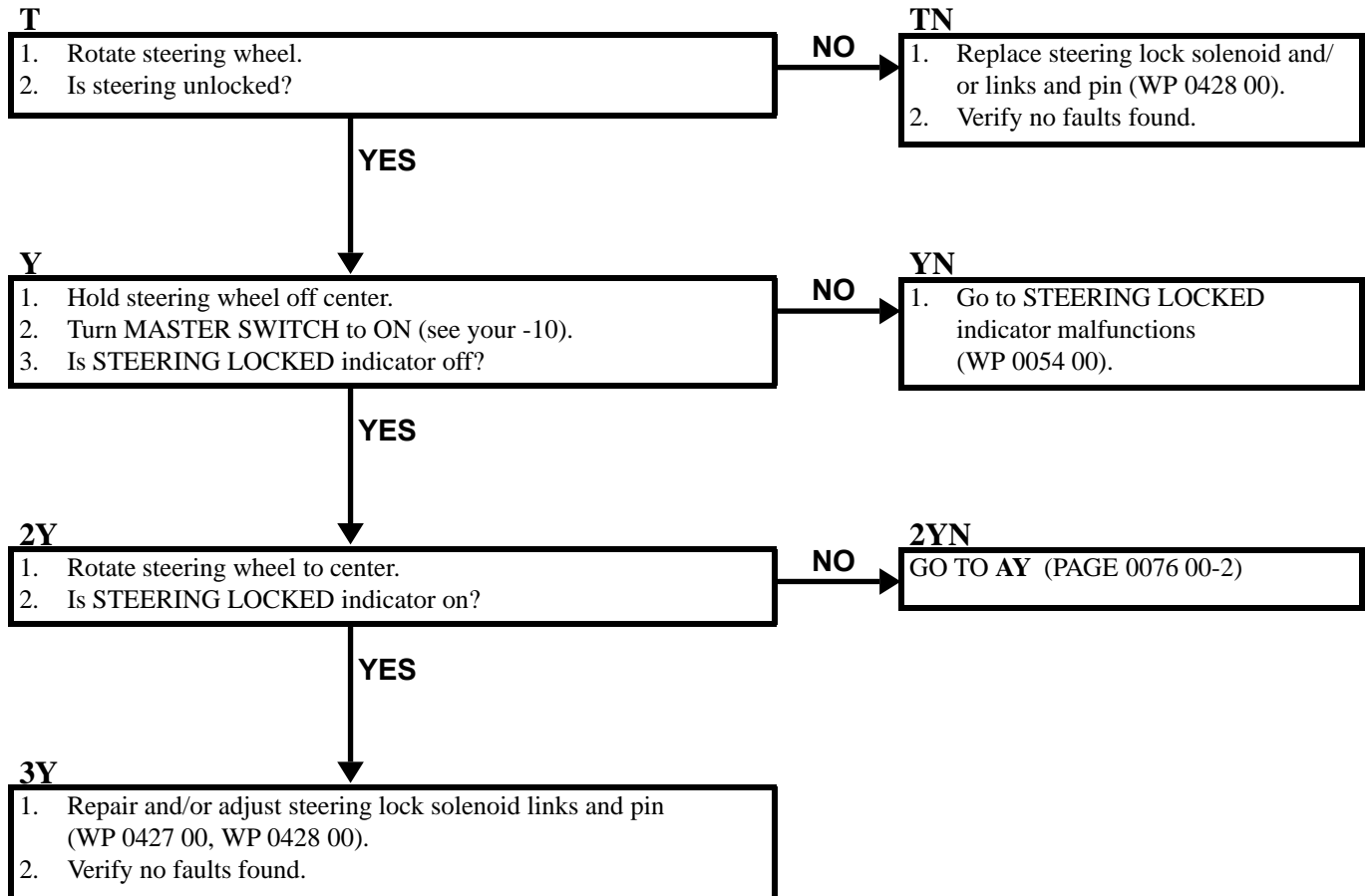
Engine stopped (see your -10)

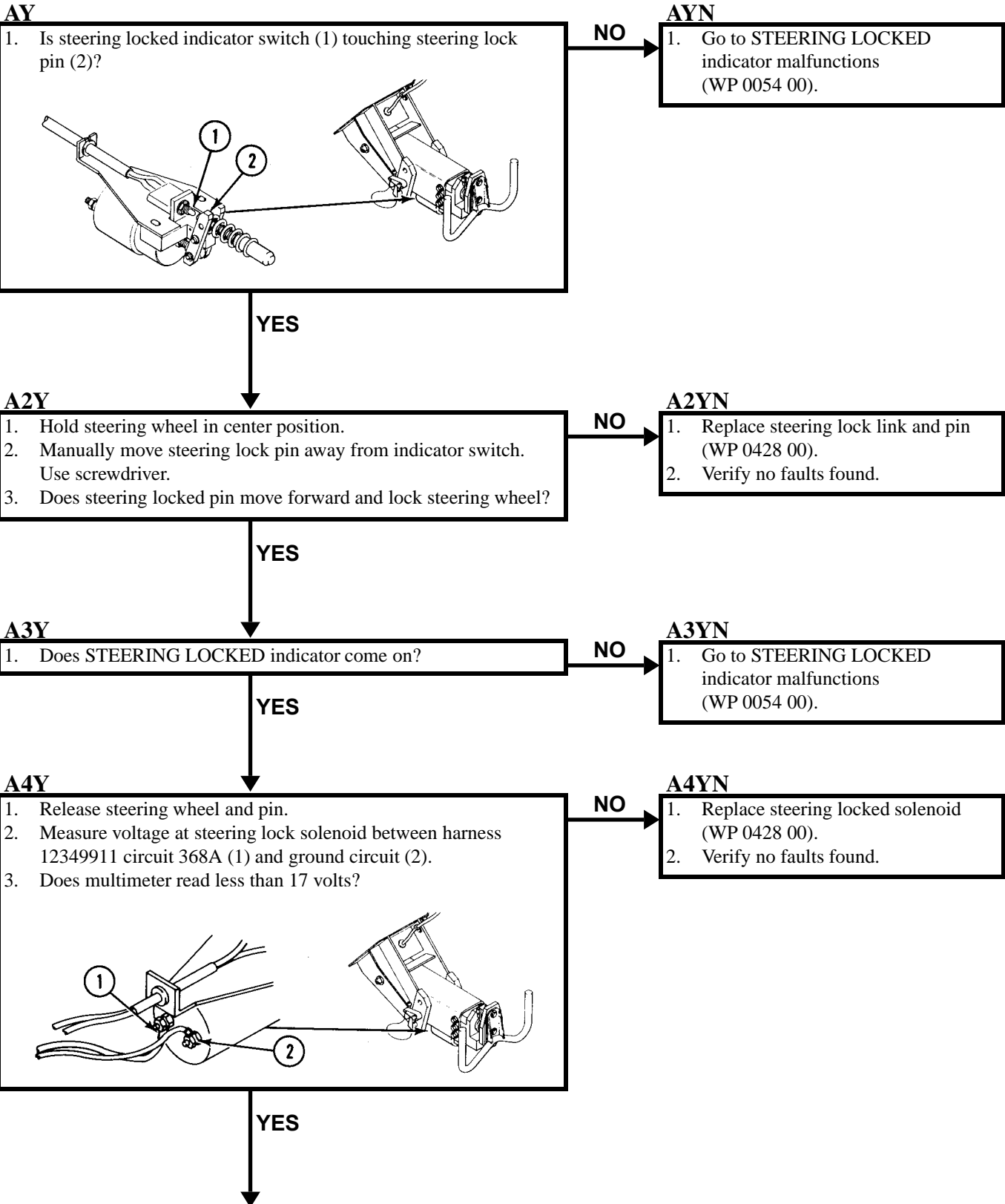
Carrier blocked (see your -10)

Transmission controller in SL

Personnel Required

Unit Mechanic







**A5Y**

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Repair harness 12345911 (WP 0367 00).</li><li>2. Verify no faults found.</li></ol> |
|---|



**CABLE-ACTIVATED STEERING LOCK MALFUNCTIONS**

**0077 00**

**INITIAL SETUP:**

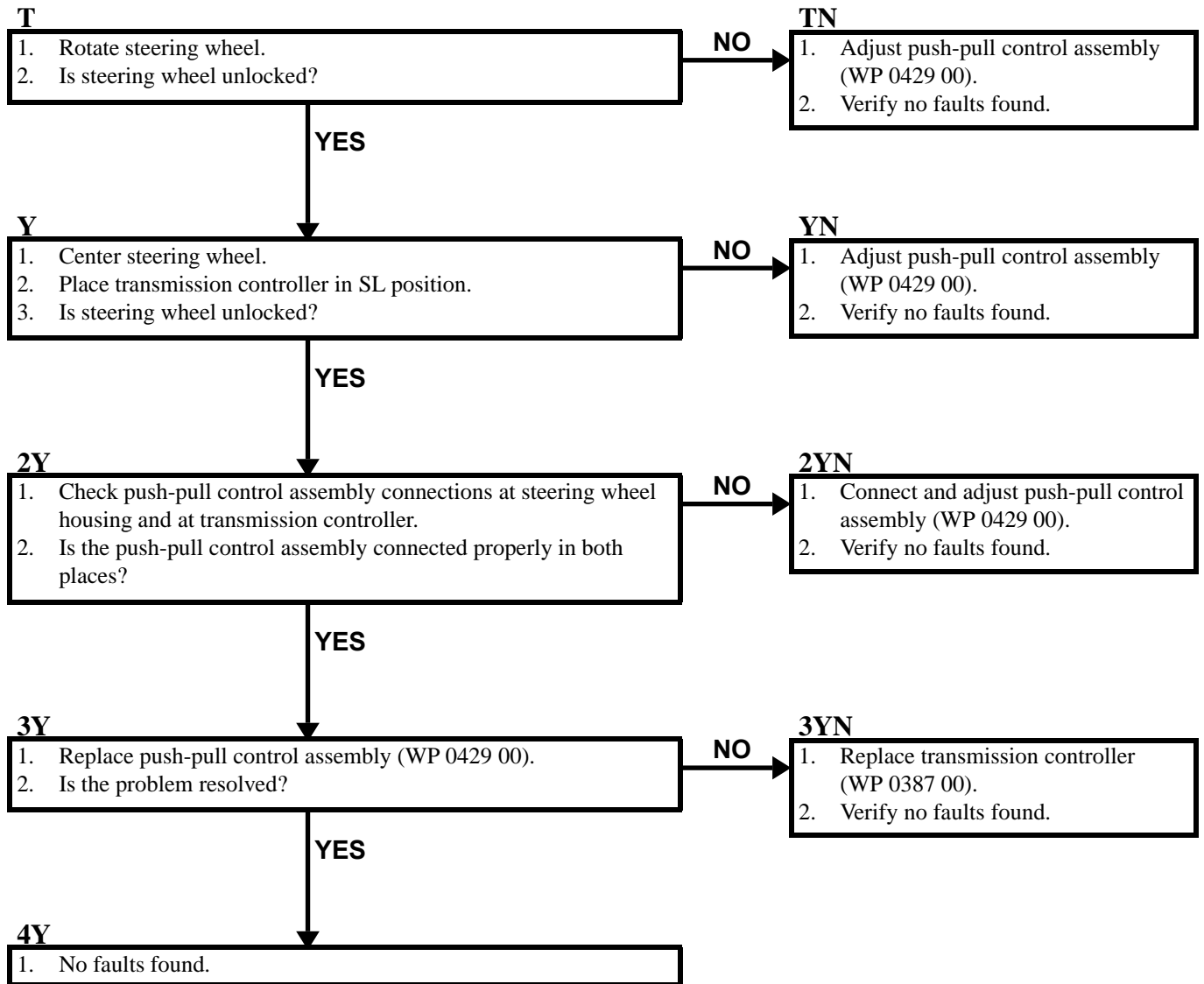
Maintenance Level  
Unit

References  
See your -10

Tools and Special Tools  
General Mechanic's Tool Kit (WP 0926 00, Item 65)

Equipment Condition  
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Transmission controller in any position except SL

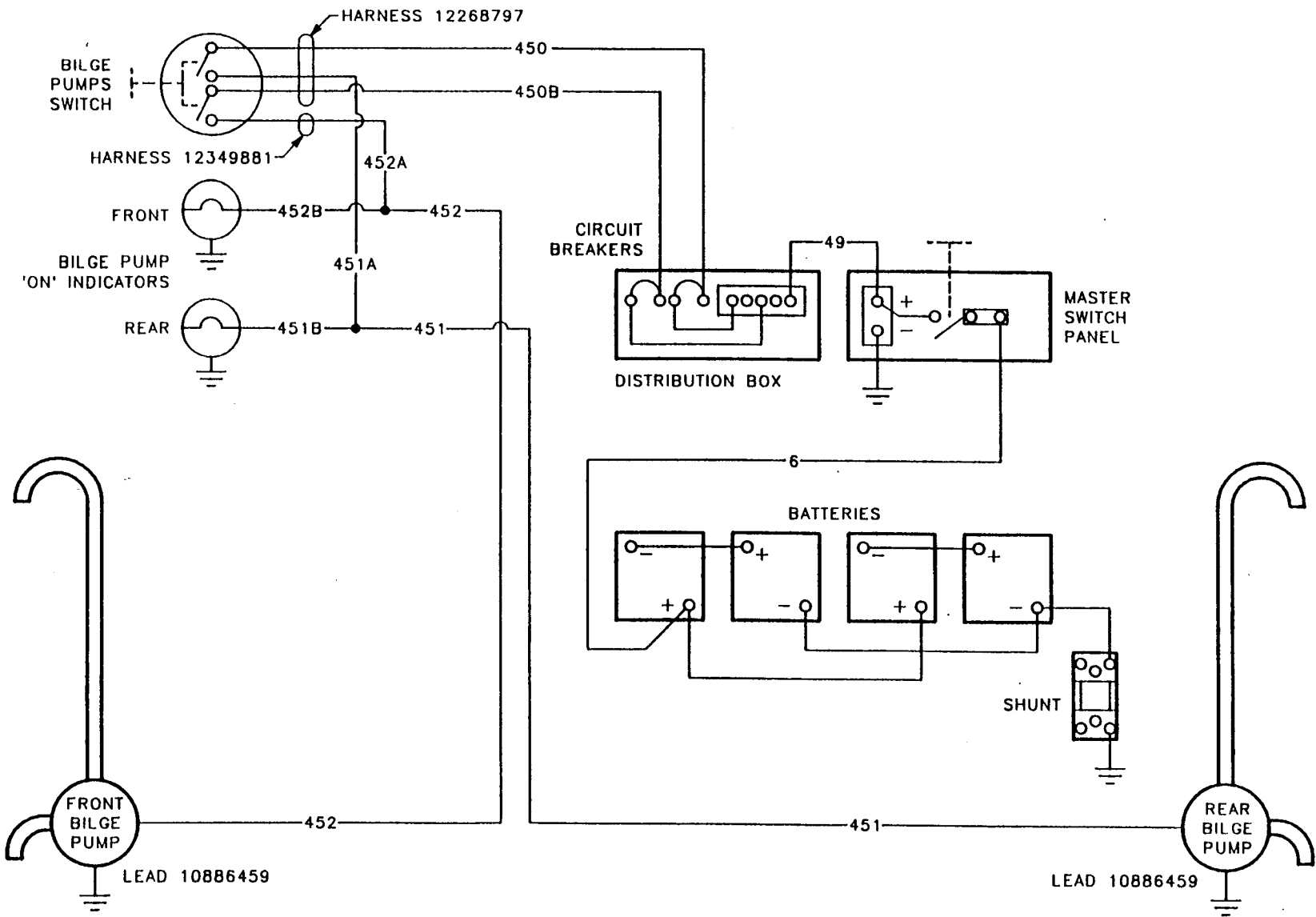
Personnel Required  
Unit Mechanic





BILGE PUMP SCHEMATIC

0078 00



0078 00-1/2 blank

Change 2



**FRONT AND/OR REAR BILGE PUMP(S) AND/OR LIGHTS DON'T WORK**

**0080 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- MASTER SWITCH OFF (see your -10)
- Driver's engine access panel removed (front bilge pump) (WP 0441 00)
- Ramp lowered (rear bilge pump) (see your -10)
- Rear floor plate removed (rear bilge pump) (WP 0539 00)
- Fog oil tank removed (rear bilge pump-M1059A3 only) (WP 0753 00)

**T**

1. Turn BILGE PUMP switch to ON (see your -10).
2. Do both bilge pump lights come on?

**NO**

**GO TO BY (PAGE 0080 00-2)**

**YES**

**Y**

1. Does either bilge pump (front or rear) fail to start?

**NO**

**GO TO CY (PAGE 0080 00-5)**

**YES**

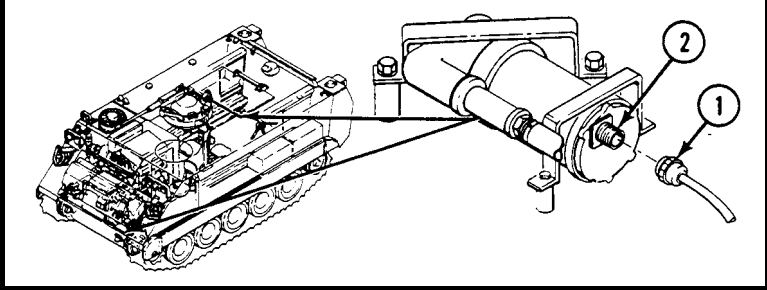
**2Y**

1. Locate bilge pump that is not operating.
2. Remove circuit 451 (rear pump), or circuit 452 (front pump), plug (1) from pump jack (2).
3. Measure voltage between plug 451 or 452 and ground.
4. Does multimeter read 17 or more volts?

**NO**

**2YN**

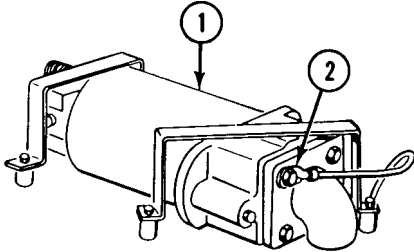
1. Repair harness 12349881 (front bilge pump), WP 0382 00); or repair harness 12268797 (rear bilge pump), WP 0382 00).
2. Verify no faults found.



**YES**

**3Y**

1. Turn MASTER SWITCH to OFF.
2. Check continuity between bilge pump body (1) and ground lead (2).
3. Is there continuity?



NO

**3YN**

1. Replace ground lead 10886459 to bilge pump (WP 0632 00), front; (WP 0635 00), rear.
2. Verify no faults found.

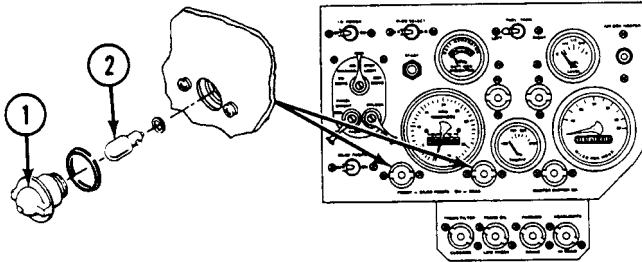
YES

**4Y**

1. Replace bilge pump (WP 0632 00), front; (WP 0635 00), rear.
2. Verify no faults found.

**BY**

1. Remove BILGE PUMP ON indicator lens (1) and bulb (2).
2. Check continuity between bulb center contact and bulb base.
3. Is there any continuity?



NO

**BYN**

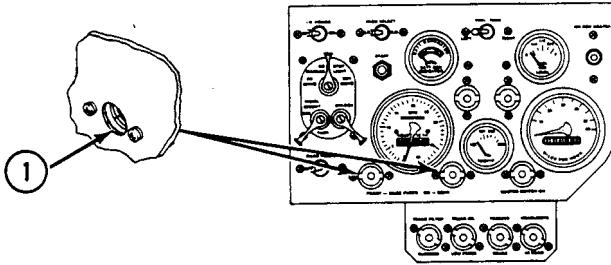
1. Replace BILGE PUMP ON indicator light bulb (WP 0286 00).
2. Verify no faults found.

YES



**B2Y**

1. Measure voltage between bulb socket center contact (1) and ground.
2. Does multimeter read less than 17 volts?



NO

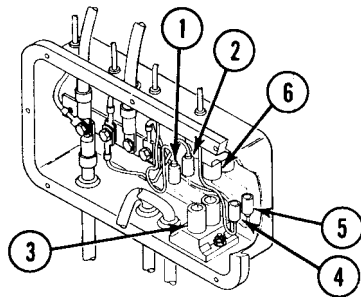
**B2YN**

1. Replace BILGE PUMP ON light assembly (WP 0286 00).
2. Verify no faults found.

YES

**B3Y**

1. Turn MASTER SWITCH to OFF.
2. Install plug 451 B or 452 B on indicator light assembly.
3. Remove master switch panel from distribution box (WP 0260 00 or WP 0261 00).
4. Remove plug 450 B (1) and plug 450 C (2) from front bilge pump circuit breaker (3); or remove plug 450 (4) and plug 450 A (5) from rear bilge pump circuit breaker (6).
5. Check continuity across circuit breaker jacks.
6. Is there continuity?



NO

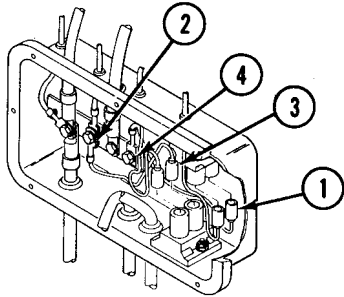
**B3YN**

1. Replace bilge pump circuit breaker (WP 0275 00).
2. Verify no faults found.

YES

**B4Y**

1. Check continuity between plug 450 A (1) to 450 A lead end at bus bar (2) for rear pump; or plug 450 C (3) to 450 C lead end at bus bar (4) for front pump.
2. Is there continuity?



NO

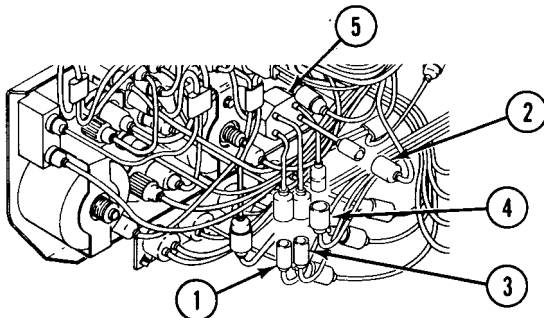
**B4YN**

1. Replace lead 10861710 (front), (WP 0270 00), or replace lead 10861711 (rear), (WP 0270 00).
2. Install bilge pump leads.
3. Verify no faults found.

YES

**B5Y**

1. Remove instrument panel for access (WP 0295 00).
2. Remove plug 450 B (1) and plug 452 B (2) (front) or plug 450 (3) and 451 A (4) (rear) from bilge pump switch (5).
3. Check continuity between bilge pump switch jacks with BILGE PUMPS switch on.
4. Is there continuity?



NO

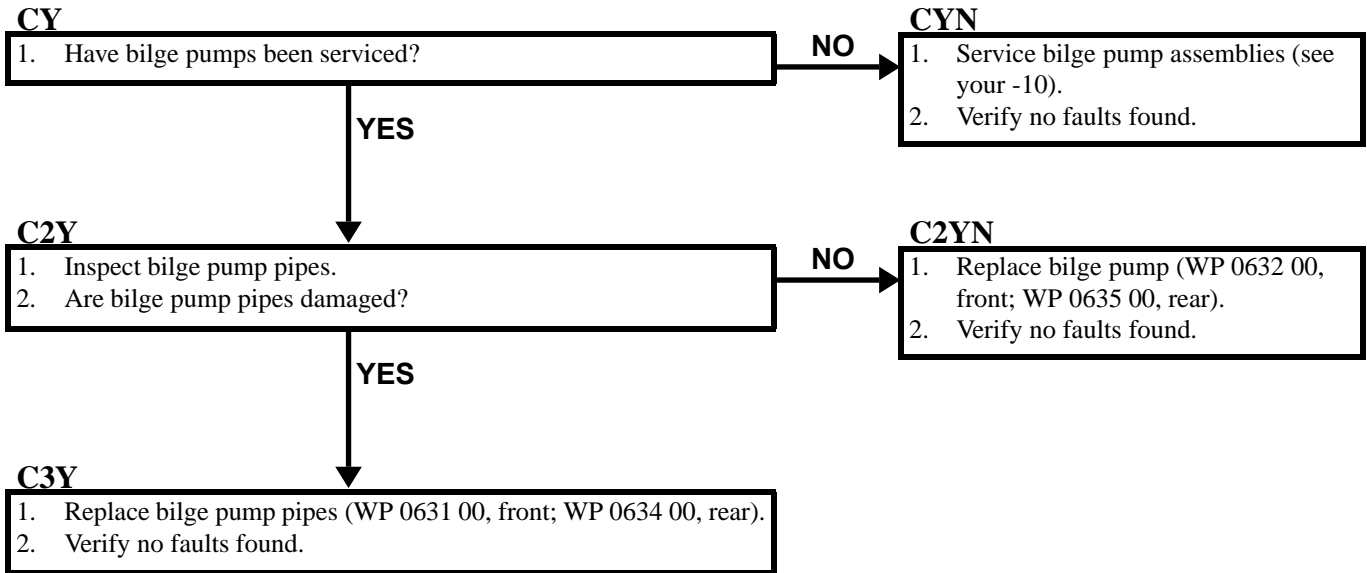
**B5YN**

1. Install master switch panel (WP 0260 00).
2. Replace bilge pump switch (WP 0281 00).
3. Verify no faults found.

YES

**B6Y**

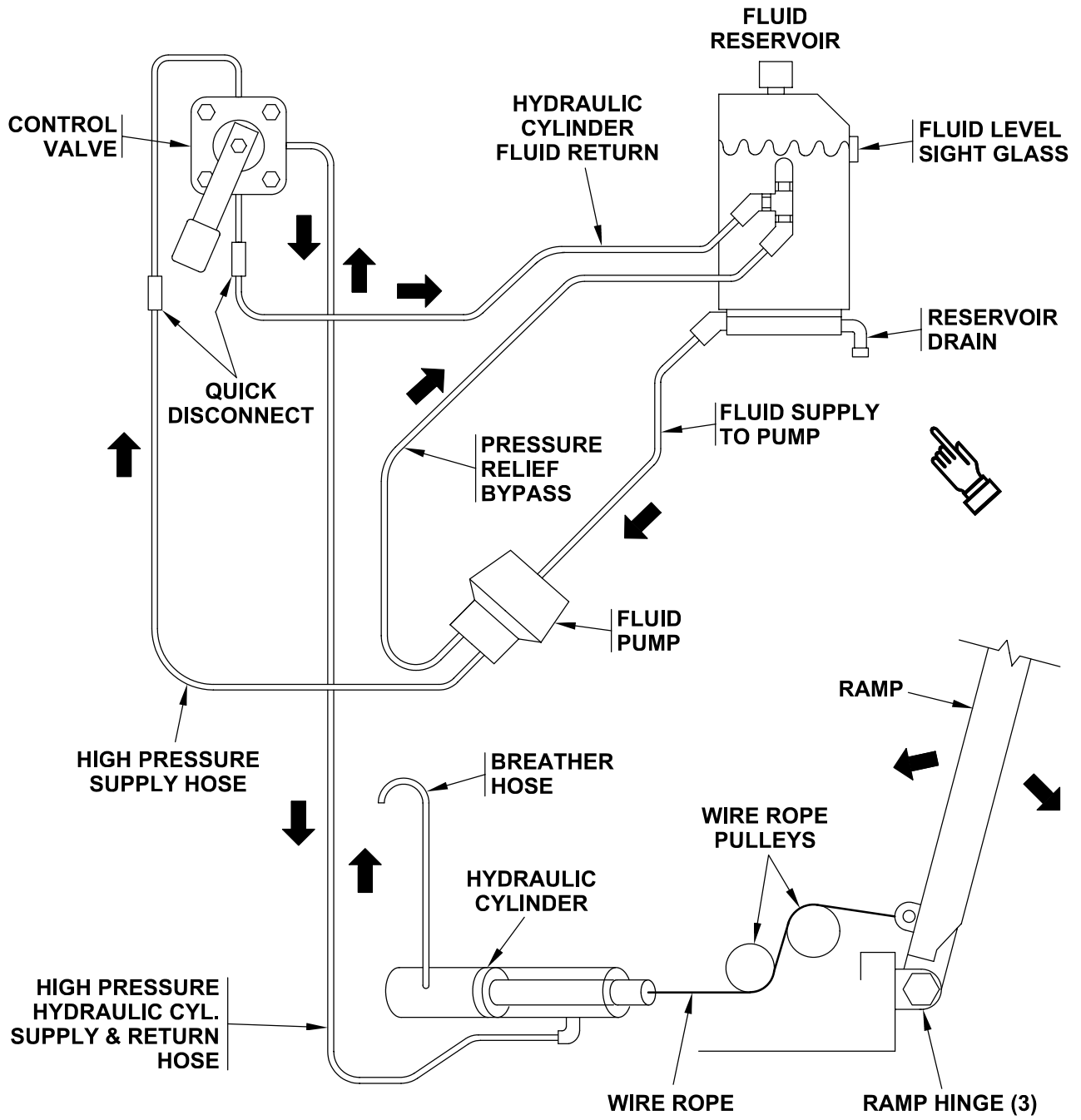
1. Repair harness 12268797 circuit 450 or 450B (WP 0382 00).
2. Verify no faults found.





RAMP SCHEMATIC

0081 00





**RAMP WILL NOT LOWER**

**0082 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Equipment Condition

Engine stopped (see your 10)

Carrier blocked (see your -10)

Rear floor plates removed (WP 0539 00)

Driver's power plant access panel removed (WP 0441 00)

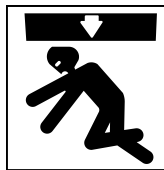
Personnel Required

Unit Mechanic

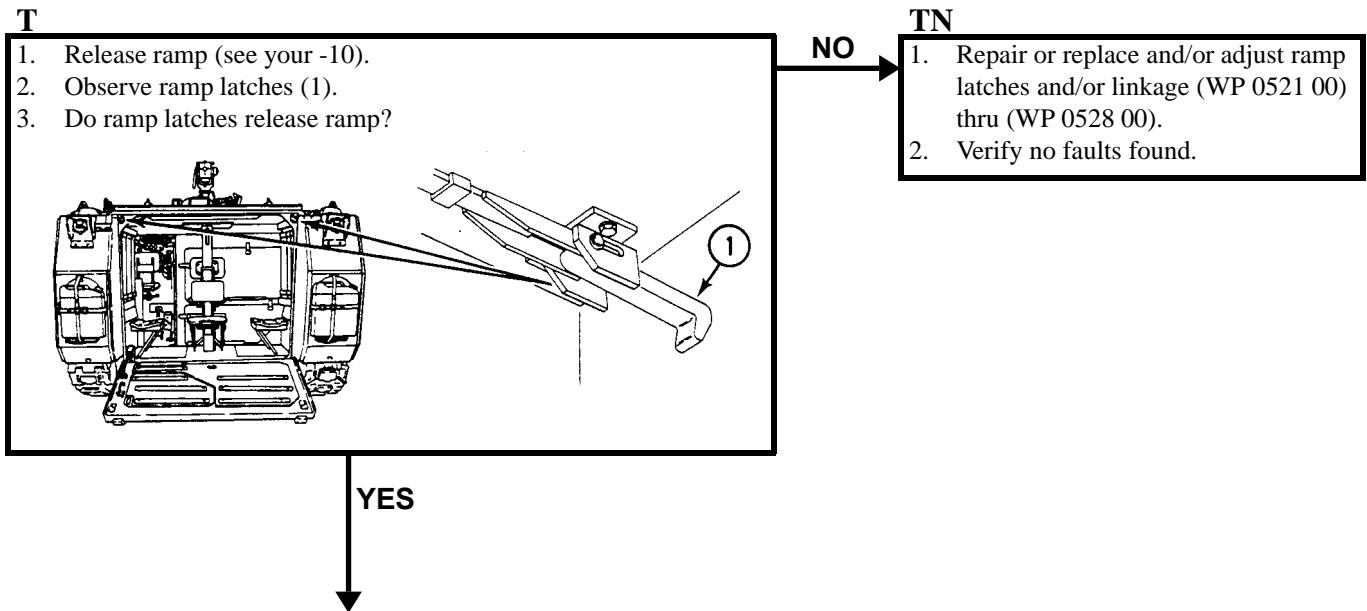
Helper (H)

Power plant rear access panels removed (WP 0439 00)

**WARNING**



**Lowering ramp could injure personnel. Make sure no one is in ramp zone before you lower ramp. If tactical situation permits, sound horn before dropping ramp.**



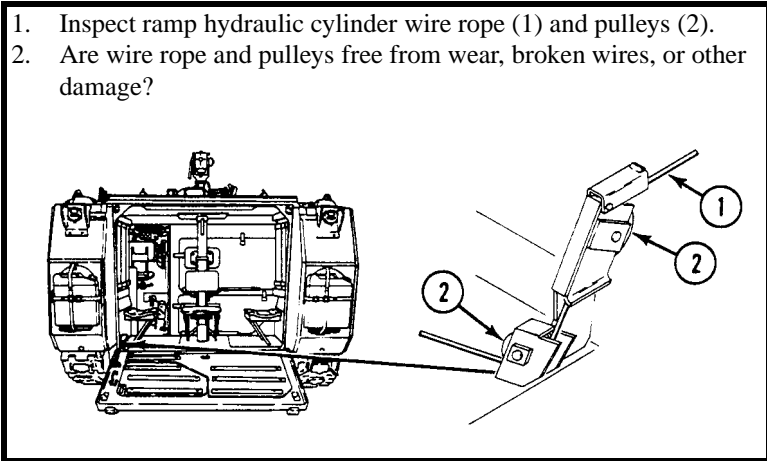
**Y**

1. Inspect ramp hydraulic cylinder wire rope (1) and pulleys (2).
2. Are wire rope and pulleys free from wear, broken wires, or other damage?

**NO**

**YN**

1. Replace wire rope and/or pulleys (WP 0657 00 or WP 0658 00).
2. Verify no faults found.



**YES**

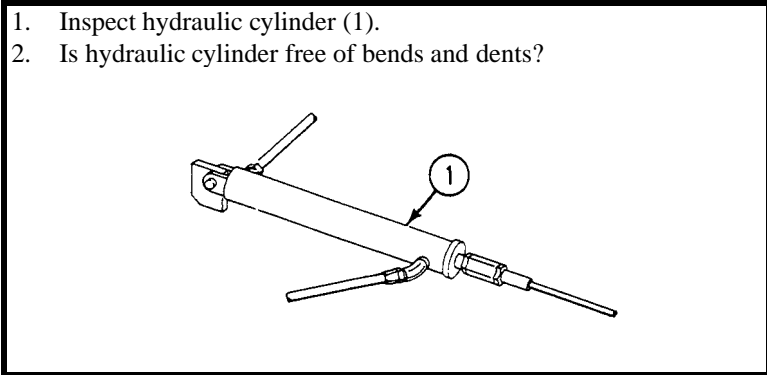
**2Y**

1. Inspect hydraulic cylinder (1).
2. Is hydraulic cylinder free of bends and dents?

**NO**

**2YN**

1. Replace hydraulic cylinder (WP 0656 00).
2. Verify no faults found.



**YES**

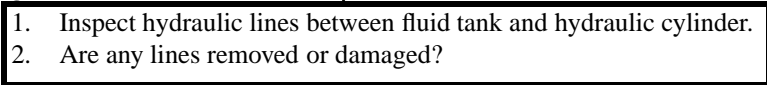
**3Y**

1. Inspect hydraulic lines between fluid tank and hydraulic cylinder.
2. Are any lines removed or damaged?

**NO**

**3YN**

1. Replace control valve (WP 0659 00 or WP 0661 00).
2. Verify no faults found.



**YES**

**4Y**

1. Repair/replace lines as necessary. (See Table of Contents).
2. Verify no faults found.



**RAMP OPERATION IS SLOW OR SLUGGISH**

**0083 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Equipment Condition

Engine stopped (see your -10)

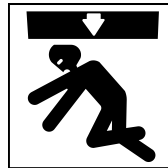
Carrier blocked (see your -10)

Power plant rear access panel removed (WP 0439 00)

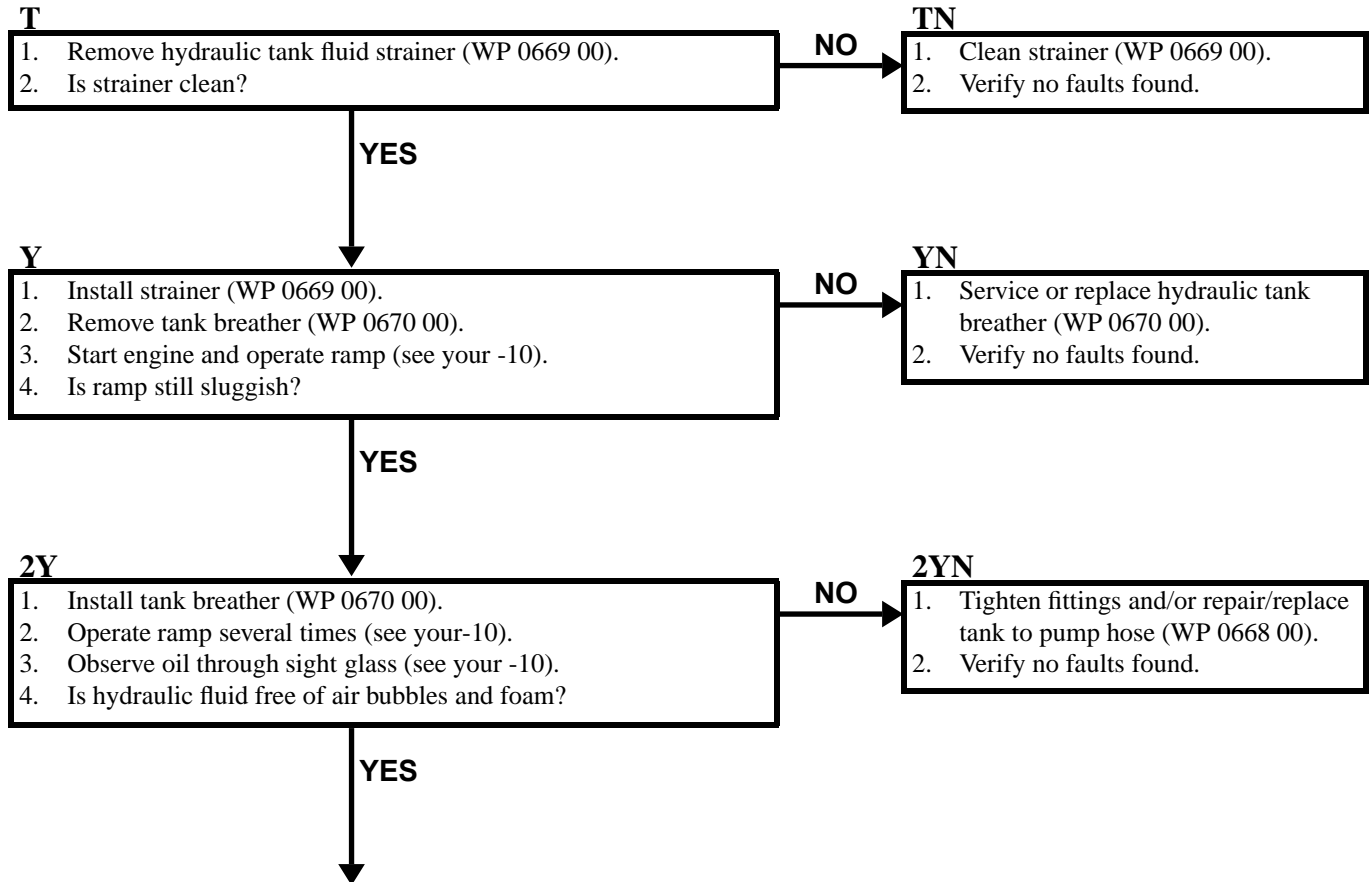
Personnel Required

Unit Mechanic

**WARNING**



**Lowering ramp could injure personnel. Make sure no one is in ramp zone before you lower ramp. If tactical situation permits, sound horn before dropping ramp.**



**3Y**

- |   |
|---|
| 1. Go to: Ramp Will Not Raise or Free Falls (WP 0084 00). |
|---|

**RAMP WILL NOT RAISE OR FREE FALLS**

**0084 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Trim vane lowered (see your -10)

Power plant access door opened (see your -10)

Driver's power plant access panel removed  
(WP 0441 00)

Power plant rear access panels removed (WP 0439 00)

Rear floor plates removed (WP 0539 00) thru  
(WP 0545 00)

**WARNING**



**Lowering ramp could injure personnel. Make sure no one is in ramp zone before you lower ramp. If tactical situation permits, sound horn before dropping ramp.**

**T**

1. Check ramp hydraulic fluid level in sight-glass (see your -10).  
2. Is fluid level correct?

**YES**



**NO**

**TN**

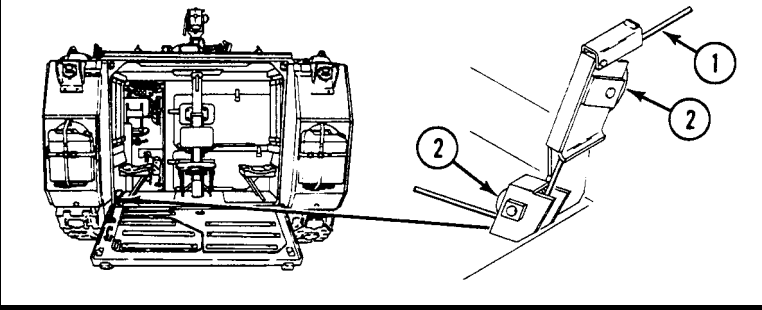
GO TO **AY** (PAGE 0001 00-3)

RAMP WILL NOT RAISE OR FREE FALLS — Continued

0084 00

Y

1. Inspect ramp wire rope (1) and pulleys (2).
2. Are pulleys and wire rope free of damage or frayed and broken wires?



NO

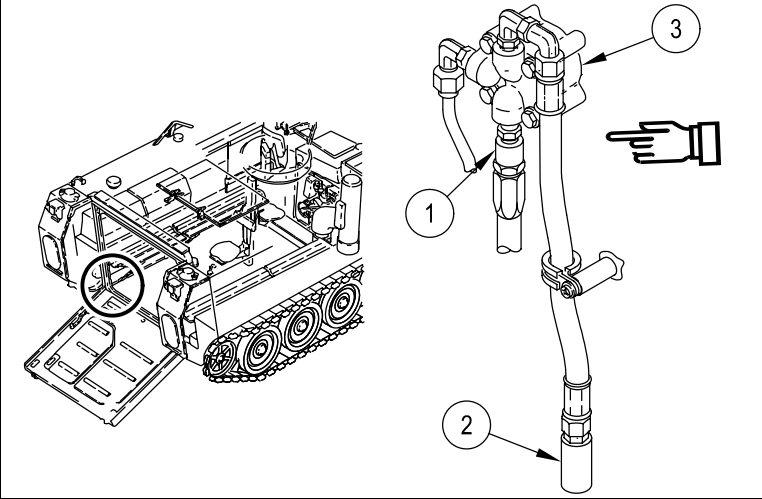
YN

1. Replace wire rope and/or pulleys (WP 0657 00) or (WP 0658 00).

YES

2Y

1. Inspect quick-disconnect fittings (1) and (2) on control valve (3), and inspect control valve (3).
2. Are fittings hooked up to control valve, and are all parts undamaged and free from leaks?



NO

2YN

1. Repair and/or replace parts as needed (WP 0659 00) thru (WP 0668 00).
2. Verify no faults found.

YES

3Y

1. Has ramp control valve been replaced?

NO

3YN

1. Replace ramp control valve (WP 0660 00) or (WP 0661 00).
2. Verify no faults found.

YES

**4Y**

1. Has hydraulic pump been replaced?

**NO**

**4YN**

1. Replace hydraulic pump (WP 0655 00).  
2. Verify no faults found.

**YES**

**5Y**

1. Replace hydraulic cylinder (WP 0656 00).  
2. Verify no faults found.

**AY**

1. Check all ramp hydraulic lines for damaged or loose fittings.  
2. Are all lines free of leaks?

**NO**

**AYN**

1. Tighten any loose fittings and/or replace any damaged fluid lines (WP 0659 00) thru (WP 0668 00).  
2. Verify no faults found.

**YES**

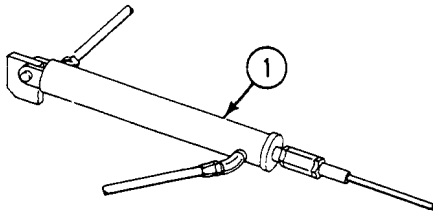
**A2Y**

1. Inspect ramp hydraulic cylinder (1) for leaks.  
2. Is hydraulic cylinder free of leaks?

**NO**

**A2YN**

1. Replace hydraulic cylinder (WP 0656 00).  
2. Verify no faults found.



**YES**

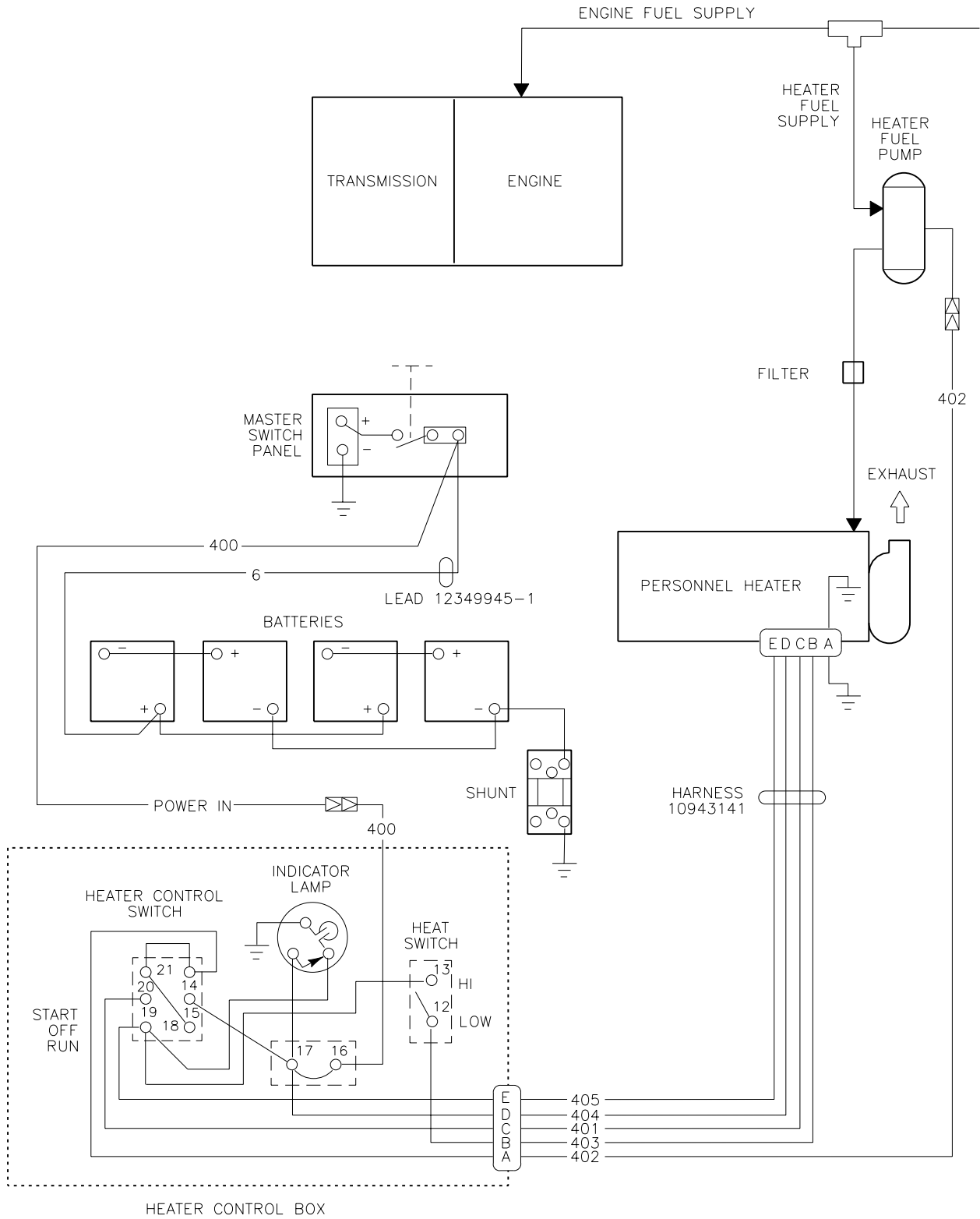
**A3Y**

1. Refill hydraulic tank (WP 0155 00).  
2. Verify no faults found.



PERSONNEL HEATER SCHEMATIC

0085 00







**PERSONNEL HEATER MALFUNCTIONS**

**0086 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Multimeter (WP 0926 00, Item 30)
- Electrical Connector Pliers (WP 0926 00, Item 31)

Personnel Required

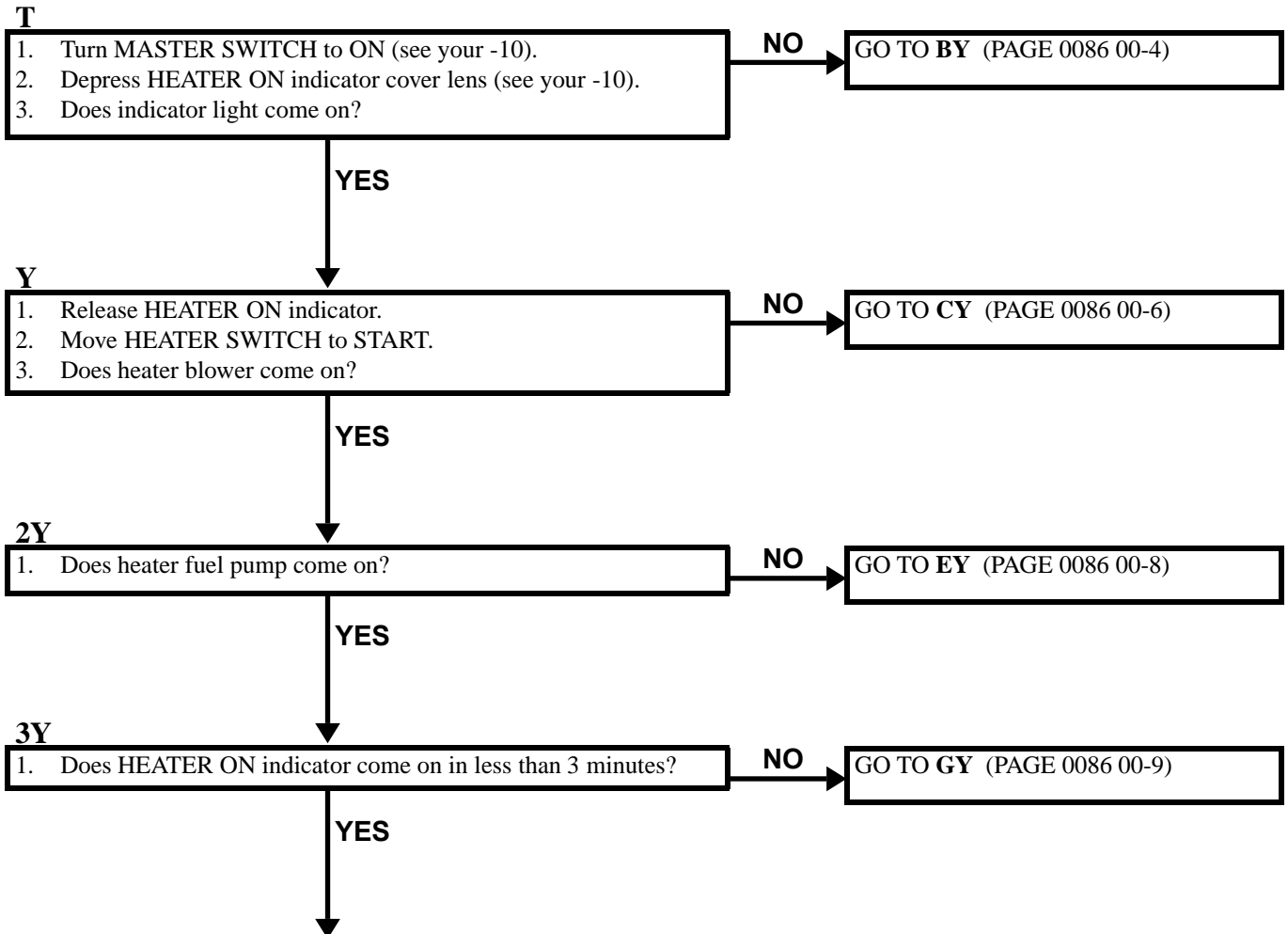
Unit Mechanic

References

- See your -10
- TM 9-2540-205-24&P

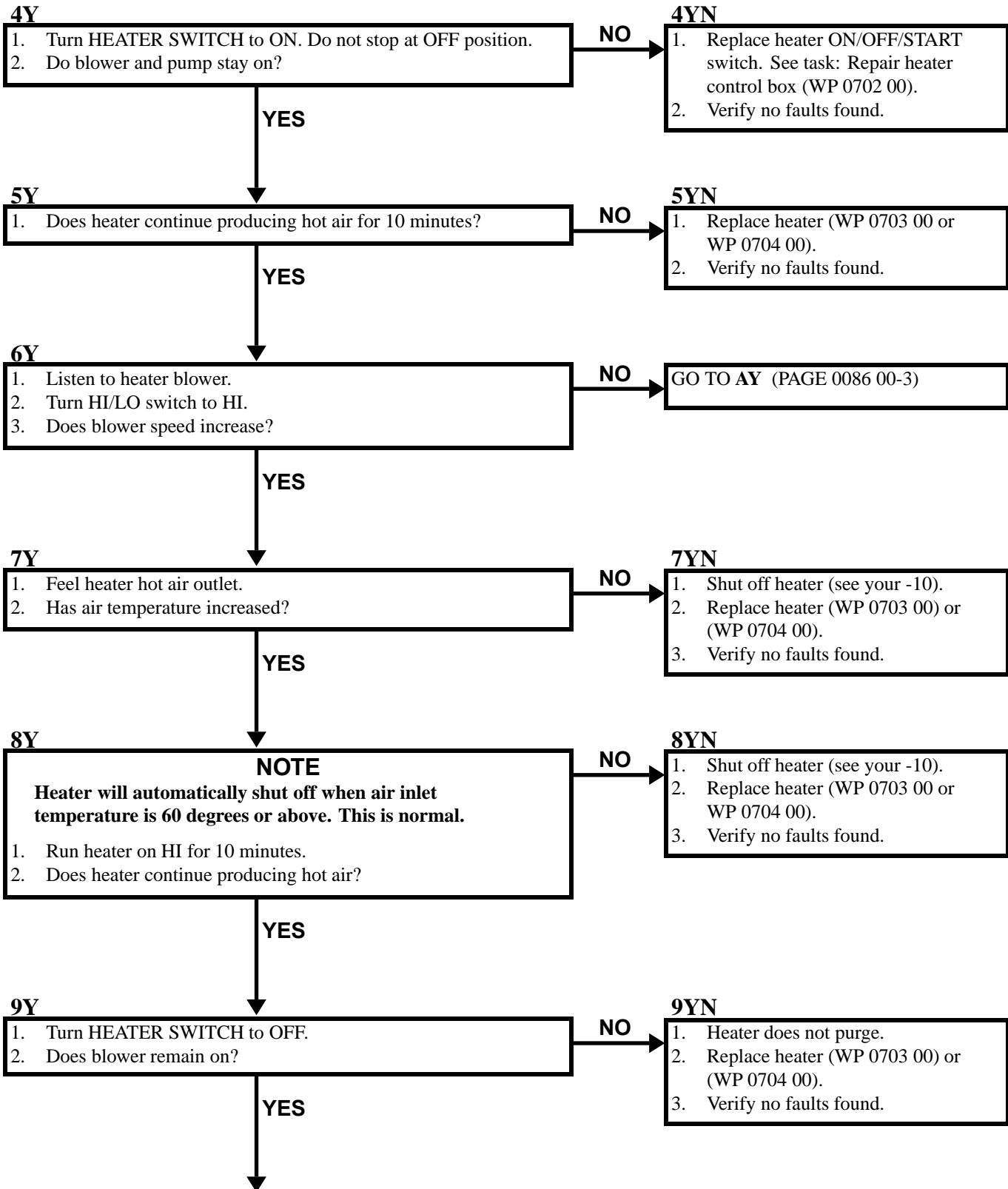
Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Ramp lowered (see your -10)
- Drivers power plant access panel removed (see your -10)
- Power plant rear access panel removed (see your -10)
- Heater on LOW (see your -10)
- Rear floor plates removed (WP 0539 00) thru (WP 0545 00)



PERSONNEL HEATER MALFUNCTIONS—Continued

0086 00



PERSONNEL HEATER MALFUNCTIONS—Continued

0086 00

**10Y**

1. Listen to heater until blower shuts off.
2. Does blower shut off in less than 5 minutes?

NO

**10YN**

1. Replace heater (WP 0703 00 or WP 0704 00).
2. Verify no faults found.

YES

**11Y**

1. Heater is operating properly.
2. No faults found.

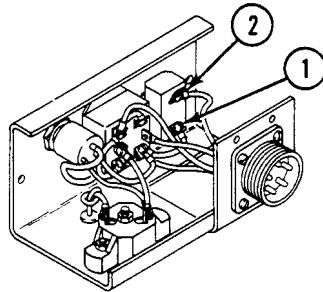
**AY**

1. Remove heater control box (WP 0701 00).
2. Check continuity on HI/LO switch between terminals 12 (1) and 13 (2).
3. Does multimeter read 0 ohms?

NO

**AYN**

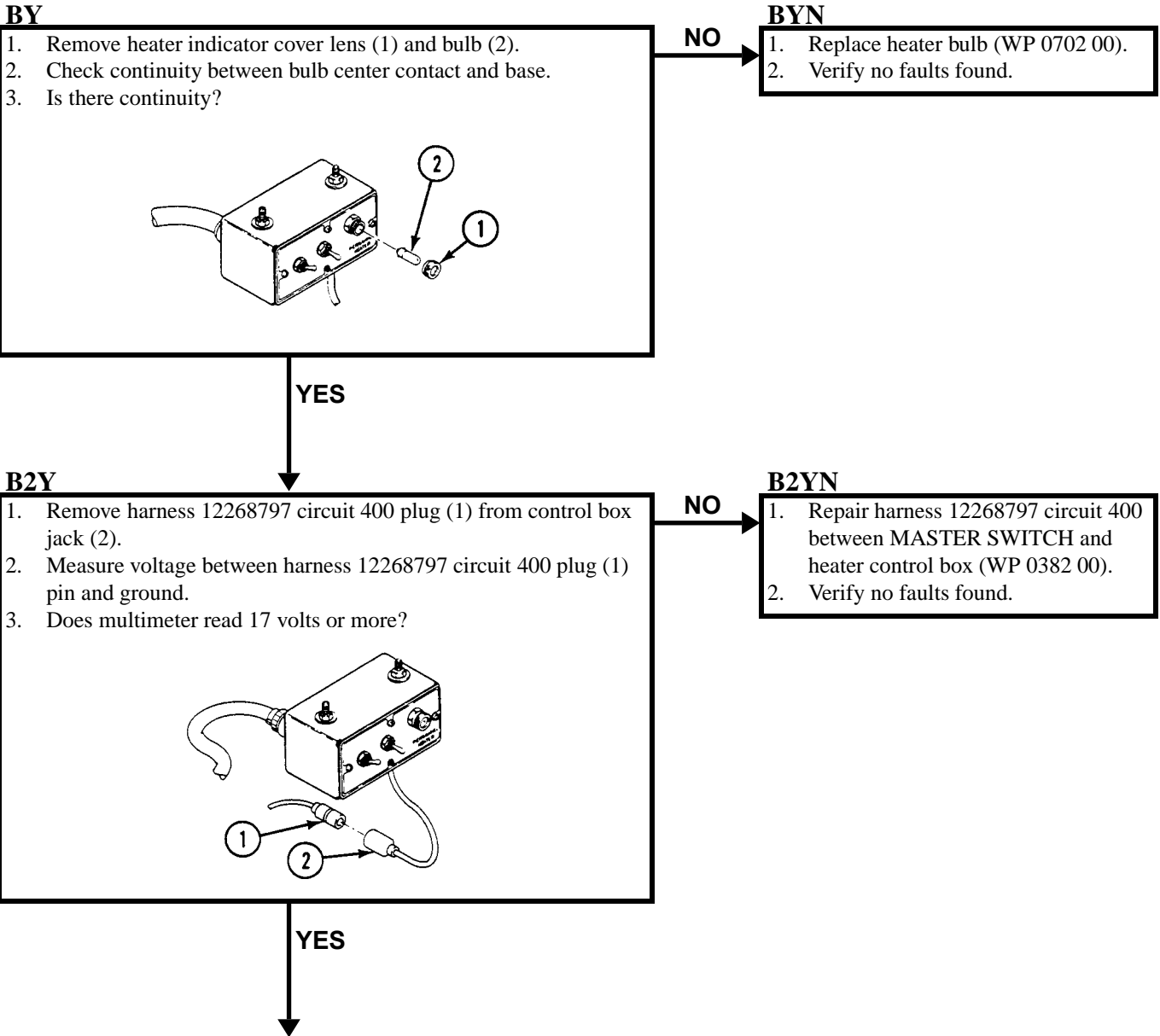
1. Replace heater HI/LO switch (WP 0702 00).
2. Verify no faults found.



YES

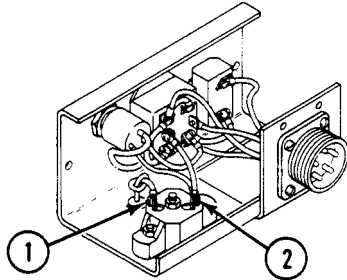
**A2Y**

1. Repair lead between heater switch and jack or heater switch and ON/OFF/START switch (WP 0382 00).
2. Verify no faults found.



**B3Y**

1. Remove heater control box (WP 0701 00).
2. Check continuity between circuit breaker terminals 16 (1) and 17 (2).
3. Does multimeter read 0 ohms?



NO

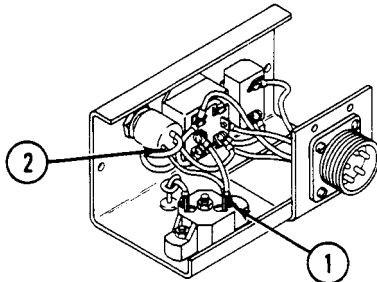
**B3YN**

1. Replace heater circuit breaker (WP 0702 00).
2. Verify no faults found.

YES

**B4Y**

1. Check continuity between lead ends, from circuit breaker terminal 17 (1) to indicator light terminal 3 (2).
2. Does multimeter read 0 ohms?



NO

**B4YN**

1. Repair/replace faulty lead (WP 0382 00 or WP 0702 00).
2. Verify no faults found.

YES

**B5Y**

1. Replace indicator light assembly (WP 0702 00).
2. Verify no faults found.

PERSONNEL HEATER MALFUNCTIONS—Continued

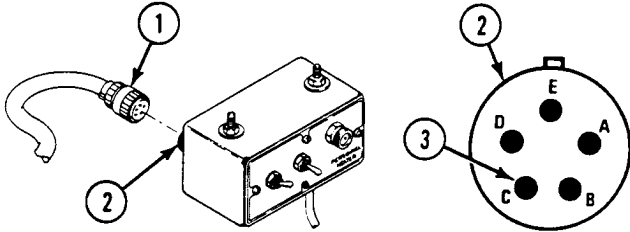
0086 00

**CY**

1. Remove harness 10942956 plug (1) from heater control box jack (2).
2. Measure voltage between heater control box jack (2), pin C (3), and ground, with HEATER switch on START.
3. Does multimeter read 17 volts or more?

NO

GO TO **DY** (PAGE 0086 00-7)



YES

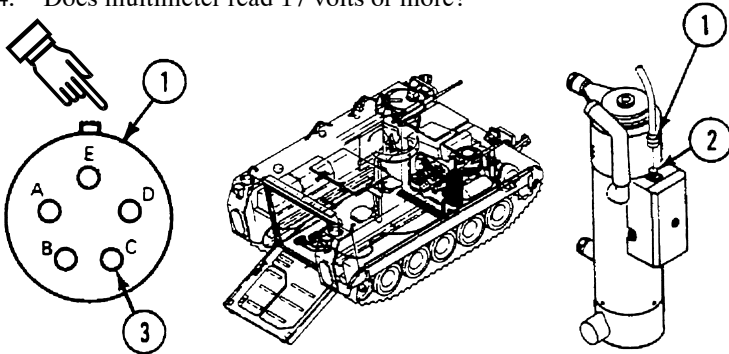
**C2Y**

1. Install harness 10942956 plug on heater control box jack.
2. Remove harness 10942956 plug (1) from heater jack (2).
3. Measure voltage between harness 10942956 plug (1), pin C (3), and ground, with HEATER switch on START.
4. Does multimeter read 17 volts or more?

NO

**C2YN**

1. Replace heater wiring harness.
2. Verify no faults found.



YES

**C3Y**

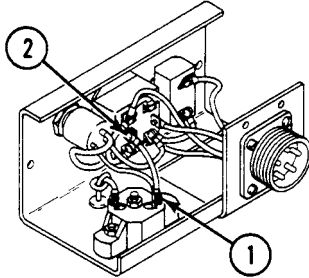
1. Replace heater (WP 0703 00 or WP 0704 00).
2. Verify no faults found.

PERSONNEL HEATER MALFUNCTIONS—Continued

0086 00

**DY**

1. Remove heater control box (WP 0701 00).
2. Check continuity between lead ends, from circuit breaker terminal 17 (1) and ON/OFF/START switch terminal 15 (2).
3. Does multimeter read 0 ohms?



NO

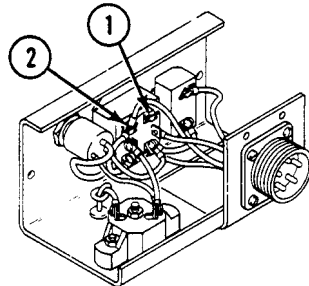
**DYN**

1. Repair faulty lead (WP 0382 00).
2. Verify no faults found.

YES

**D2Y**

1. Check continuity between lead ends from ON/OFF/START switch terminals 21 (1) and 14 (2).
2. Does multimeter read 0 ohms?



NO

**D2YN**

1. Repair heater switch jumper lead between terminal 21 and 14 (WP 0382 00).
2. Verify no faults found.

YES

**D3Y**

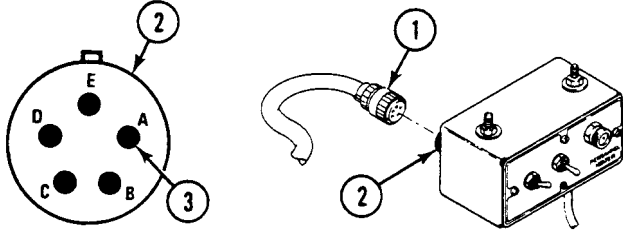
1. Replace heater ON/OFF/START switch (WP 0702 00).
2. Verify no faults found.

PERSONNEL HEATER MALFUNCTIONS—Continued

0086 00

**EY**

1. Remove harness 10942956 plug (1) from heater control jack (2).
2. Measure voltage between heater control jack (2), pin A (3), and ground, with HEATER switch on START.
3. Does multimeter read 17 volts or more?

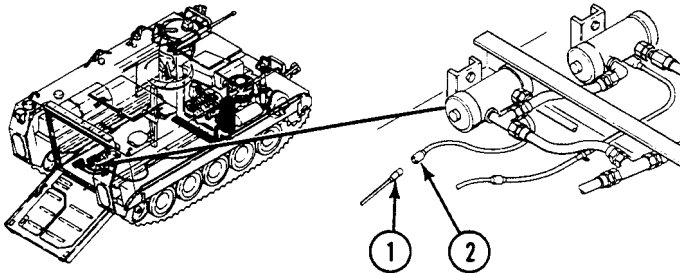


**NO** → GO TO FY (PAGE 0086 00-9)

**YES**

**E2Y**

1. Install harness 10942956 on heater control box jack.
2. Remove harness 10942956 plug (1) from heater fuel pump jack (2).
3. Measure voltage between harness 10942956, plug (1) pin, and ground, with HEATER switch on START.
4. Does multimeter read 17 volts or more?



**NO** → **E2YN**  
 1. Replace harness 10942956 circuit 402.  
 2. Verify no faults found.

**YES**

**E3Y**

1. Replace heater fuel pump (WP 0695 00, WP 0696 00, or WP 0697 00).
2. Verify no faults found.

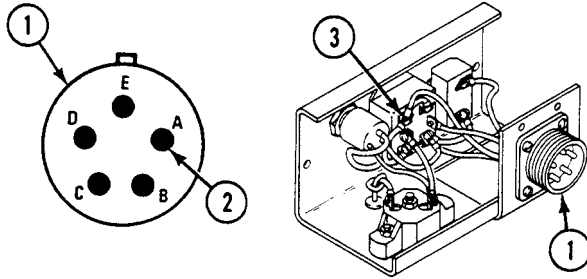


PERSONNEL HEATER MALFUNCTIONS—Continued

0086 00

**FY**

1. Remove heater control box (WP 0702 00).
2. Check continuity between lead ends of heater output jack (1), pin A (2), and ON/OFF/START switch terminal 14 (3).
3. Does multimeter read 0 ohms?



NO

**FYN**

1. Replace faulty lead (WP 0702 00).
2. Verify no faults found.

YES

**F2Y**

1. Replace heater ON/OFF/START switch (WP 0702 00).
2. Verify no faults found.

**GY**

1. Is heater exhaust cold?

NO

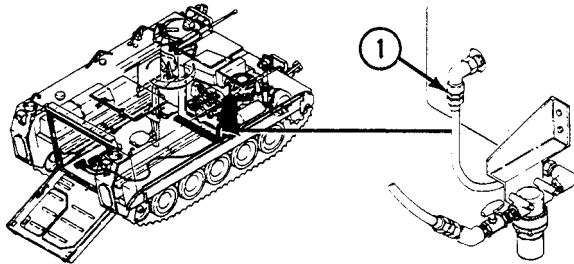
**GYN**

1. Replace heater (WP 0703 00 or WP 0704 00).
2. Verify no faults found.

YES

**G2Y**

1. Loosen fuel inlet line (1) to heater with heater switch on START.
2. Does fuel fail to flow out of loosened fitting?



NO

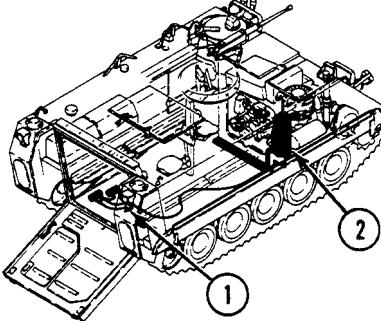
**G2YN**

1. Replace heater (WP 0703 00 or WP 0704 00).
2. Verify no faults found.

YES

**G3Y**

1. Inspect fuel lines between tee valve (1) and heater (2).
2. Are all lines free from kinks, restrictions, or other damage?



NO

**G3YN**

1. Replace heater fuel lines as required (WP 0685 00).
2. Verify no faults found.

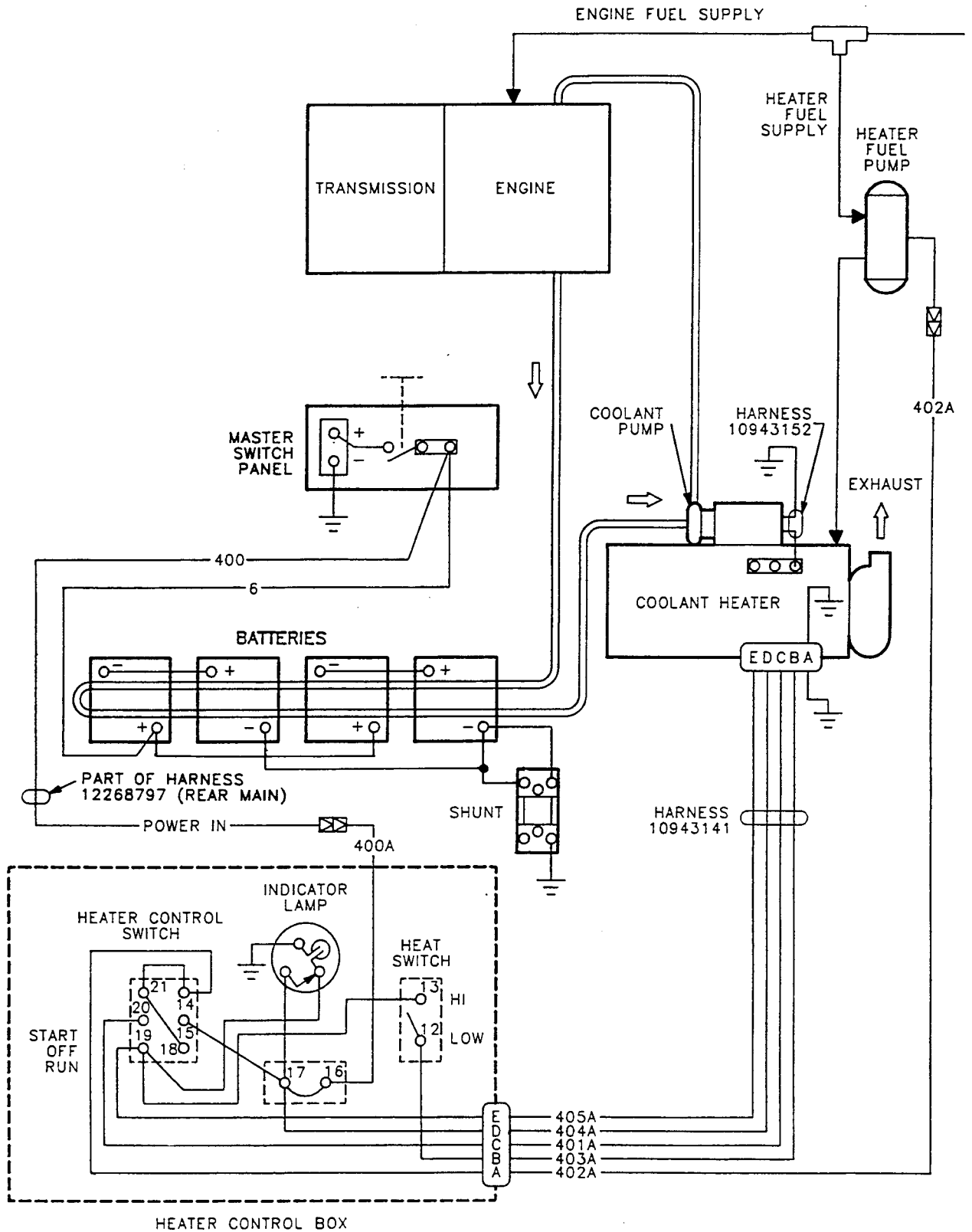
YES

**G4Y**

1. Replace heater fuel pump (WP 0695 00, WP 0696 00, or WP 0697 00).
2. Verify no faults found.

COOLANT HEATER SCHEMATIC

0087 00





**COOLANT HEATER MALFUNCTIONS**

**0089 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General Mechanic's Tool Kit (WP 0926 00, Item 65)
- Electrical Connector Pliers (WP 0926 00, Item 31)
- Multimeter (WP 0926 00, Item 30)

Personnel Required

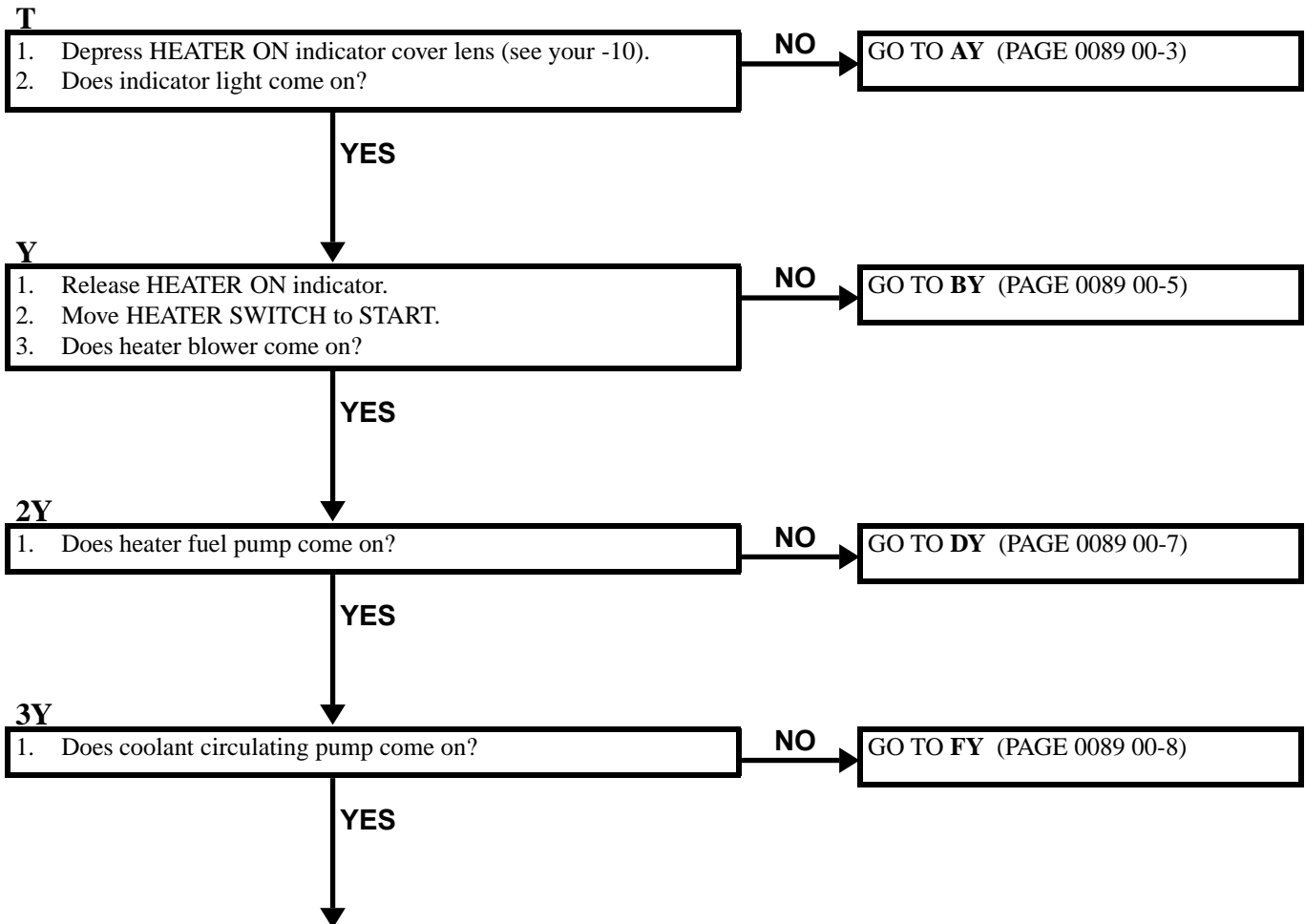
Unit Mechanic 63T10

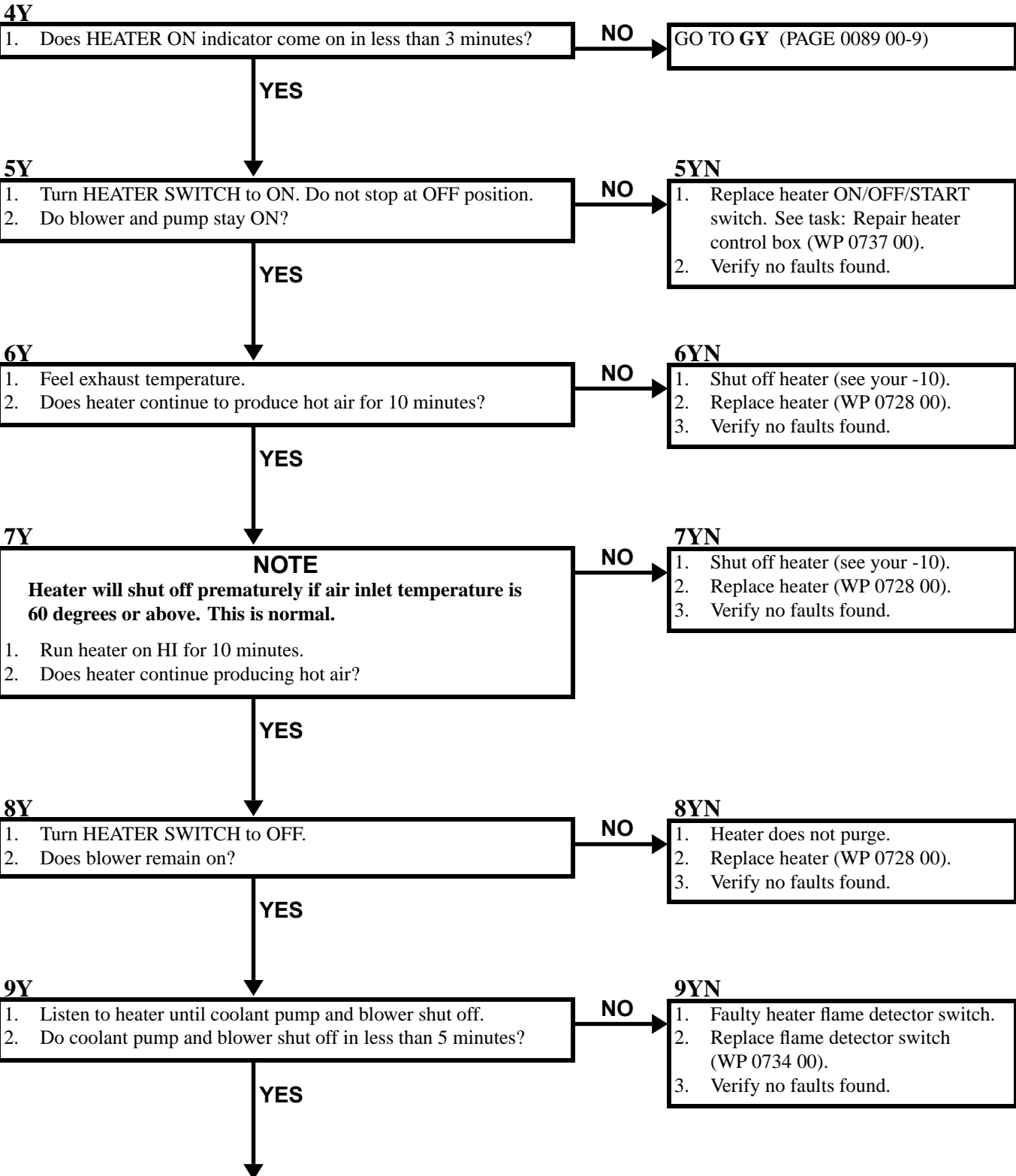
References

- See your -10
- TM 9-2450-205-24&P

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)
- Driver's power plant access panel removed (see your -10)
- Power plant rear access panel removed (see your -10)
- Ramp lowered (see your -10)
- Heater on HI (see your -10)
- Rear floor plates removed (WP 0539 00) thru (WP 0545 00)
- Engine cold





COOLANT HEATER MALFUNCTIONS—Continued

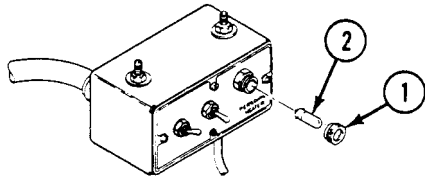
0089 00

**10Y**

1. Replace heater (WP 0728 00).
2. Verify no faults found.

**AY**

1. Remove heater indicator cover lens (1) and bulb (2).
2. Measure resistance between bulb center contact and base.
3. Does multimeter read less than 100 ohms?



YES



**AYN**

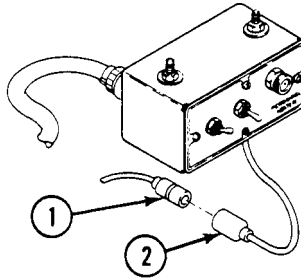
1. Replace heater bulb (WP 0702 00).
2. Verify no faults found.

NO



**A2Y**

1. Remove harness 12268797 circuit 400 plug (1) from control box jack (2).
2. Measure voltage between harness 12268797 circuit 400 plug (1) pin and ground.
3. Does multimeter read 17 volts or more?



YES



**A2YN**

1. Repair harness 12268797 circuit 400 between MASTER SWITCH and heater control box (WP 0382 00).
2. Verify no faults found.

NO

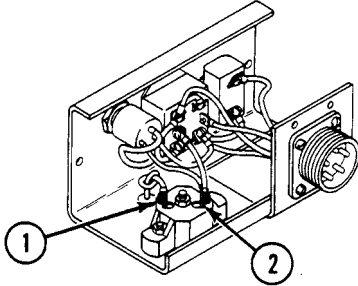


COOLANT HEATER MALFUNCTIONS—Continued

0089 00

**A3Y**

1. Remove heater control box (WP 0736 00).
2. Measure resistance between lead ends from circuit breaker terminals 16 (1) and 17 (2).
3. Does multimeter read 0 ohms?



NO

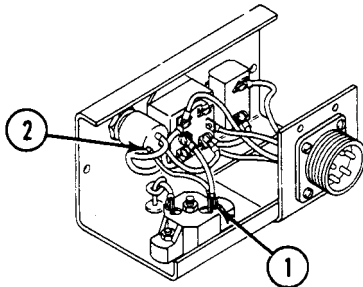
**A3YN**

1. Replace heater circuit breaker (WP 0737 00).
2. Verify no faults found.

YES

**A4Y**

1. Measure resistance between lead ends from circuit breaker terminal 17 (1) to indicator light terminal 3 (2).
2. Does multimeter read 0 ohms?



NO

**A4YN**

1. Repair/replace faulty lead (WP 0382 00) or (WP 0737 00).
2. Verify no faults found.

YES

**A5Y**

1. Replace indicator light assembly (WP 0737 00).
2. Verify no faults found.

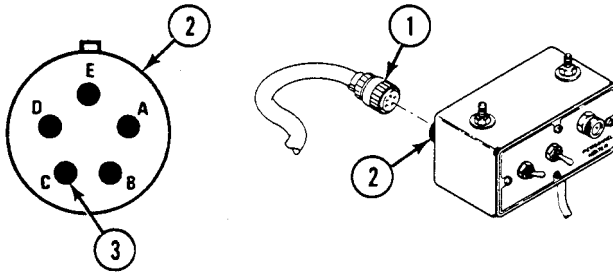


COOLANT HEATER MALFUNCTIONS—Continued

0089 00

**BY**

1. Remove harness 10943141 plug (1) from heater control box jack (2).
2. Measure voltage between heater control box jack (2) pin C (3) and ground with HEATER switch on START.
3. Does multimeter read at 17 volts or more?



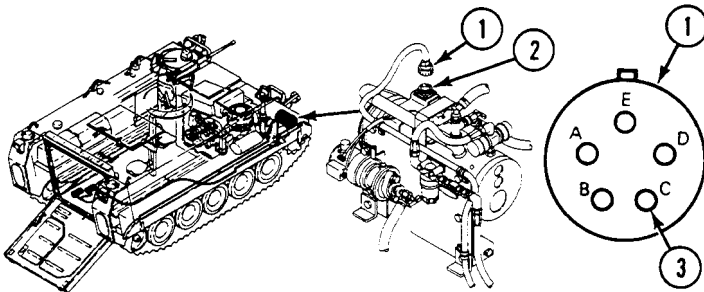
NO

GO TO CY (PAGE 0089 00-6)

YES

**B2Y**

1. Install harness 10943141 plug on heater control box jack.
2. Remove harness 10943141 plug (1) from heater jack (2).
3. Measure voltage between harness 10943141 plug (1) pin C (3) and ground with HEATER switch on START.
4. Does multimeter read at least 17 volts?



NO

**B2YN**

1. Replace faulty harness 10943141 (WP 0382 00).
2. Verify no faults found.

YES

**B3Y**

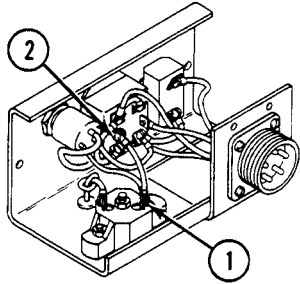
1. Replace heater (WP 0728 00).
2. Notify supervisor.

COOLANT HEATER MALFUNCTIONS—Continued

0089 00

**CY**

1. Remove heater control box (WP 0736 00).
2. Measure resistance between lead ends from circuit breaker terminal 17 (1) and ON/OFF/START switch terminal 15 (2) lead ends.
3. Does multimeter read 0 ohms?



NO

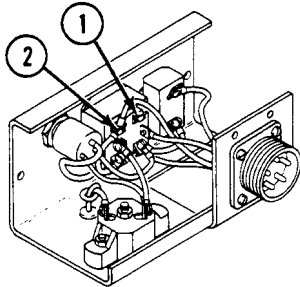
**CYN**

1. Repair faulty lead (WP 0382 00).
2. Verify no faults found.

YES

**C2Y**

1. Measure resistance between lead ends from ON/OFF/START switch terminals 21 (1) and 14 (2).
2. Does multimeter read 0 ohms?



NO

**C2YN**

1. Repair heater switch jumper lead between terminal 21 and 14 (WP 0382 00).
2. Verify no faults found.

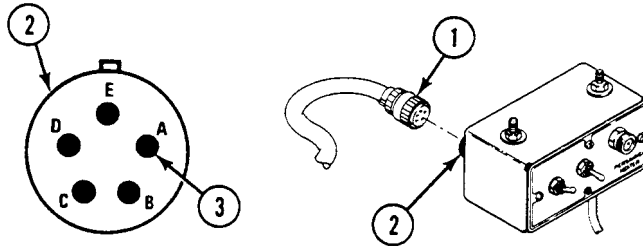
YES

**C3Y**

1. Replace heater ON/OFF/START switch (WP 0737 00).
2. Verify no faults found.

**DY**

1. Remove harness 10943141 plug (1) from heater control jack (2).
2. Measure voltage between heater control jack (2) pin A (3) and ground with HEATER switch on START.
3. Does multimeter read 17 volts or more?



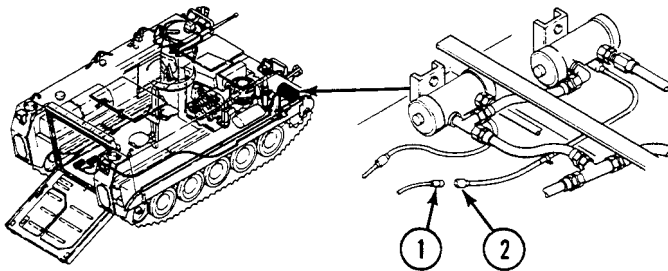
**NO**

GO TO EY (PAGE 0089 00-8)

**YES**

**D2Y**

1. Install harness 10943141 on heater control box jack.
2. Remove harness 10943141 plug (1) from heater fuel pump jack (2).
3. Measure voltage between harness 10943141 plug (1) pin and ground with HEATER switch on START.
4. Does multimeter read 17 volts or more?



**NO**

**D2YN**

1. Replace harness 10943141 circuit 402 (WP 0382 00).
2. Verify no faults found.

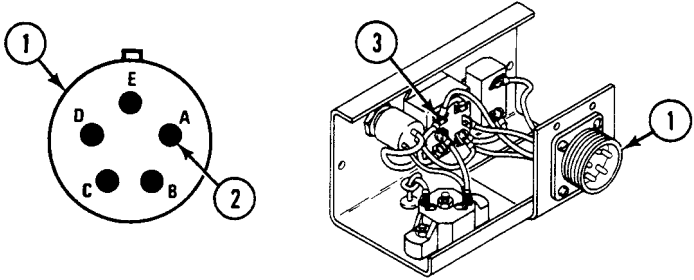
**YES**

**D3Y**

1. Replace coolant heater fuel pump (WP 0731 00).
2. Verify no faults found.

**EY**

1. Remove heater control box (WP 0736 00).
2. Measure resistance between lead ends of heater output jack (1) pin A (2) and ON/OFF/START switch terminal 14 (3).
3. Does multimeter read 0 ohms?



NO

**EYN**

1. Replace faulty lead (WP 0737 00).
2. Verify no faults found.

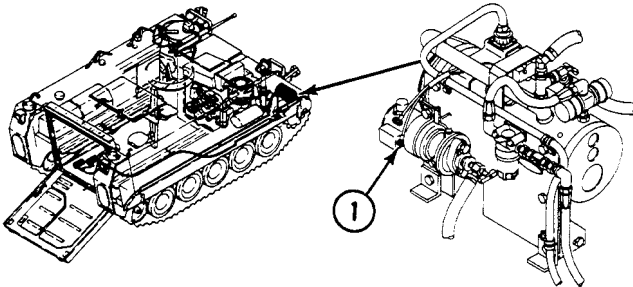
YES

**E2Y**

1. Replace heater ON/OFF/START switch (WP 0737 00).
2. Verify no faults found.

**FY**

1. Measure voltage between harness 10943152 circuit 402B terminal (1) on coolant pump and ground (switch on start).
2. Does multimeter read less than 17 volts?



NO

**FYN**

1. Replace coolant heater pump (WP 0731 00).
2. Verify no faults found.

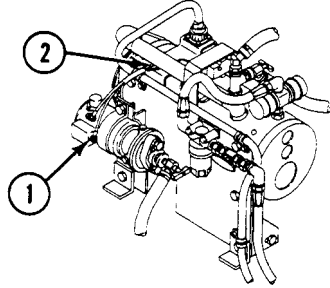
YES

COOLANT HEATER MALFUNCTIONS—Continued

0089 00

**F2Y**

1. Measure voltage between harness 10943152 circuit 402B (1) on terminal strip (2) and ground (switch on start).
2. Does multimeter read less than 17 volts?



NO

**F2YN**

1. Replace harness 10943152 (WP 0382 00).
2. Verify no faults found.

YES

**F3Y**

1. Faulty heater wiring. Beyond unit maintenance repair.
2. Notify supervisor.

**GY**

1. Is heater exhaust cold?

NO

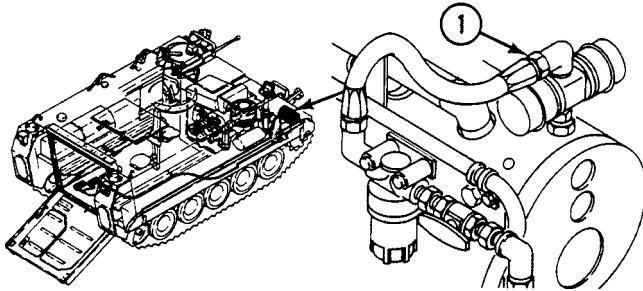
**GYN**

1. Replace flame detector switch (WP 0734 00).
2. Verify no faults found.

YES

**G2Y**

1. Loosen fuel inlet line (1) to heater with heater switch on start.
2. Does fuel fail to flow out of loosened fitting?



NO

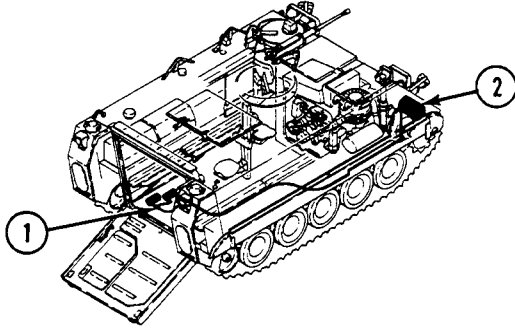
**G2YN**

1. Replace heater (WP 0728 00).
2. Verify no faults found.

YES

**G3Y**

1. Inspect fuel lines between tee valve (1) and heater (2).
2. Are all lines free from kinks, restrictions, or other damage?



**NO**

**G3YN**

1. Replace heater fuel lines as required (WP 0708 00) thru (WP 0737 00).
2. Verify no faults found.

**YES**

**G4Y**

1. Replace coolant heater fuel pump (WP 0723 00).
2. Verify no faults found.

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE  
(M1068A3 ONLY)**

**0090 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Materials/Parts

Lockwasher (10)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Battery box cover removed (see your -10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

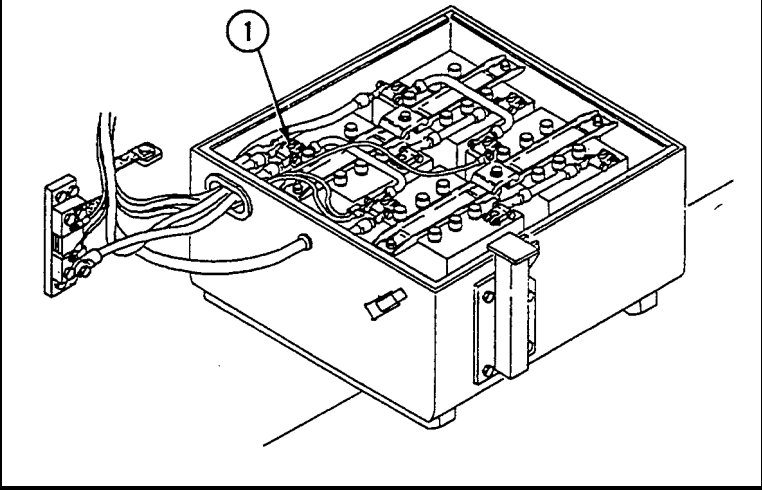
**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued

0090 00

**T**

1. Measure voltage between positive battery terminal (1) and ground.
2. Does multimeter read 22 volts DC or more?



**NO**

**TN**

1. Service carrier batteries (see your -10).
2. Verify no faults found.

**YES**

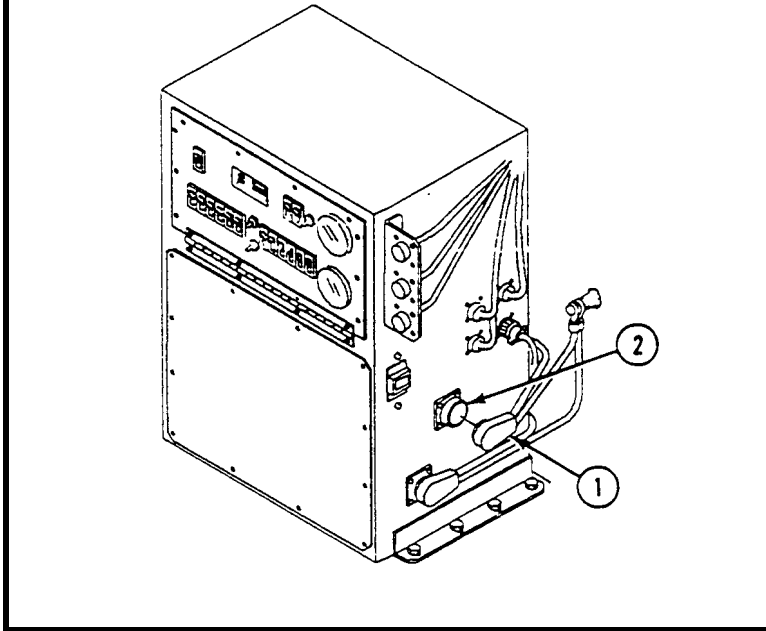


**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**Y**

1. Remove cable W4 plug P1 (1) from Power Control Enclosure jack J25 (2).
2. Measure voltage between center of P1 (1) and ground.
3. Does multimeter read 22 volts DC or more?



**YES**



**NO**

**YN**

1. Replace cable W4 (WP 0838 00).
2. Verify no faults found.

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

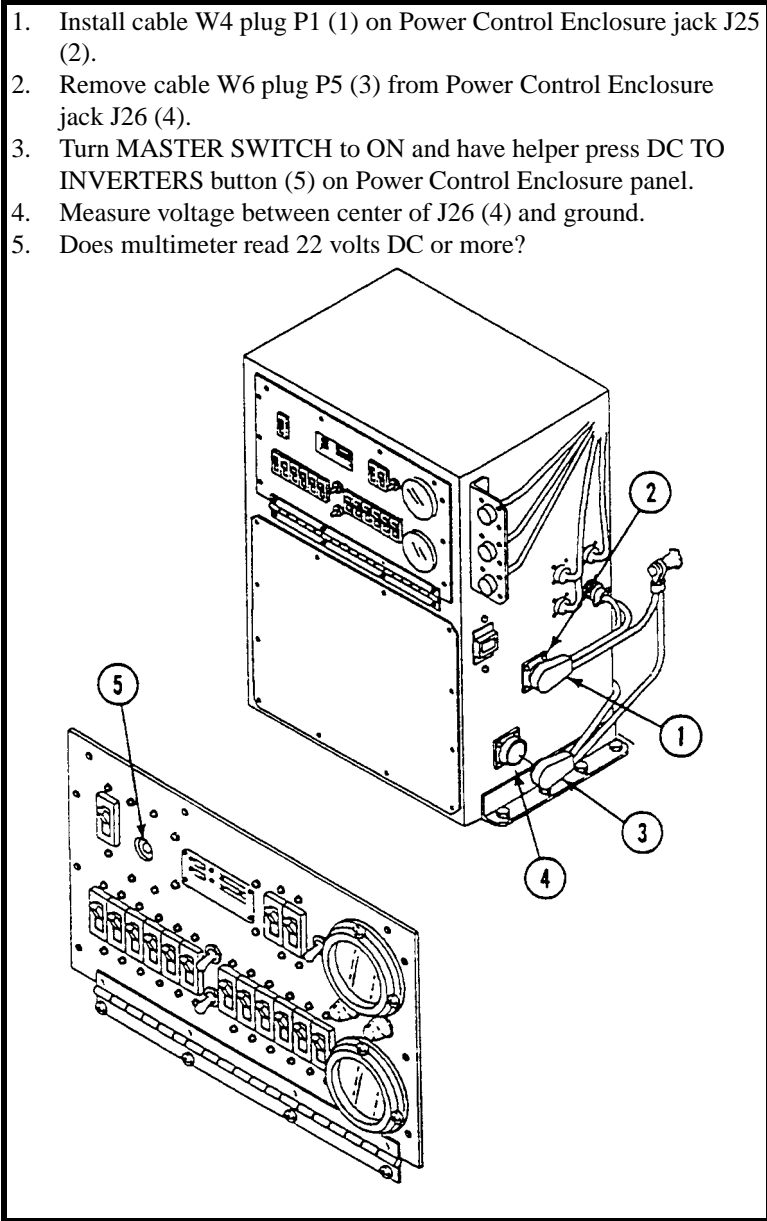
0090 00

**2Y**

1. Install cable W4 plug P1 (1) on Power Control Enclosure jack J25 (2).
2. Remove cable W6 plug P5 (3) from Power Control Enclosure jack J26 (4).
3. Turn MASTER SWITCH to ON and have helper press DC TO INVERTERS button (5) on Power Control Enclosure panel.
4. Measure voltage between center of J26 (4) and ground.
5. Does multimeter read 22 volts DC or more?

**NO**

**GO TO AY (PAGE 0090 00-6)**



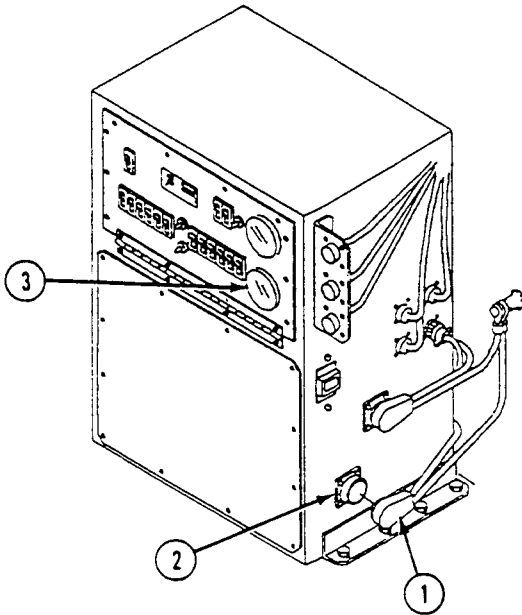
**YES**

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**3Y**

1. Set MASTER SWITCH to OFF.
2. Install cable W6 plug P5 (1) on Power Control Enclosure jack J26 (2).
3. Set MASTER SWITCH to ON.
4. Does voltage on DC VOLTS meter (3) on Power Control Enclosure panel read the same as voltage at carrier batteries?



**NO**

**GO TO BY (PAGE 0090 00-11)**

**YES**

**4Y**

1. Verify no faults found.

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

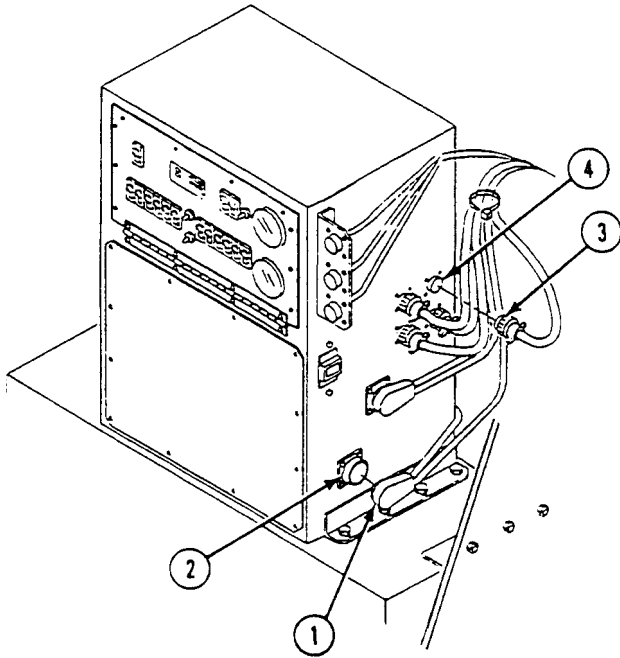
0090 00

**AY**

1. Set MASTER SWITCH to OFF.
2. Install cable W6 plug P5 (1) on Power Control Enclosure jack J26 (2).
3. Remove cable W38 plug P7 (3) from Power Control Enclosure jack J28 (4).
4. Set MASTER SWITCH to ON.
5. Measure voltage between center of P7 (3) and ground.
6. Does multimeter read 22 volts DC or more?

**NO**

**GO TO CY (PAGE 0090 00-12)**



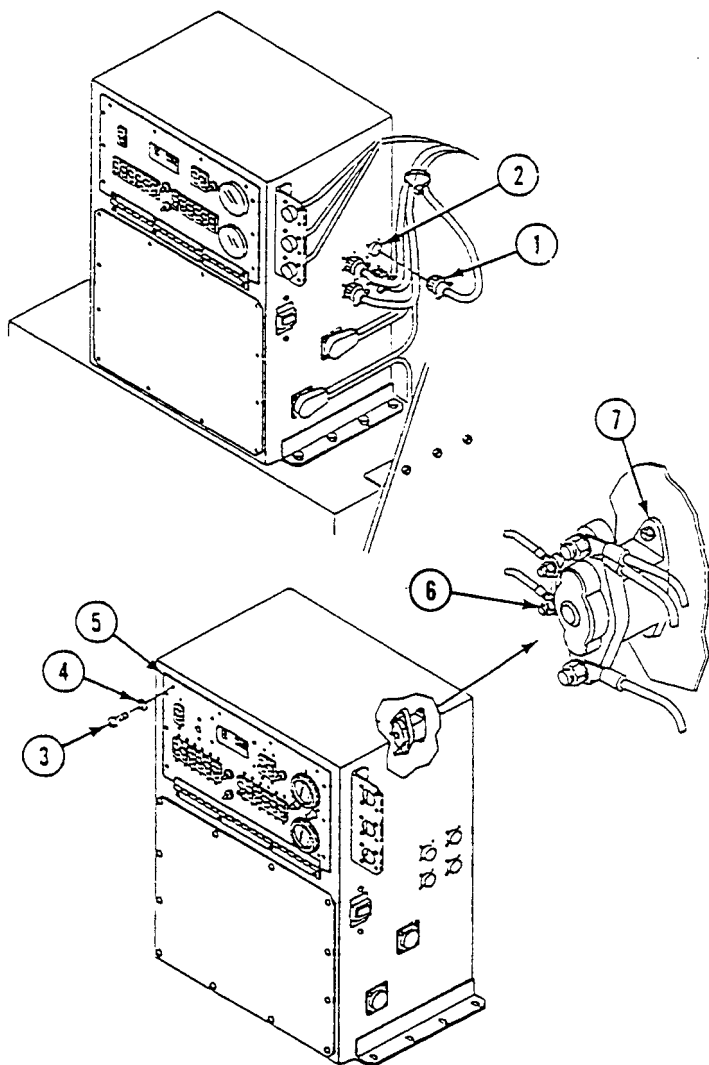
**YES**

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**A2Y**

1. Set MASTER SWITCH to OFF.
2. Install cable W38 plug P7 (1) on Power Control Enclosure jack J28 (2).
3. Remove ten screws (3) and lockwashers (4), and lower faceplate (5). Discard lockwashers.
4. Set MASTER SWITCH to ON.
5. Measure voltage between terminal X1 (6) of relay K6 (7) and ground.
6. Does multimeter read 22 volts DC or more?



**NO**

**A2YN**

1. Replace circuit 44A lead (WP 0829 00).
2. Verify no faults found.

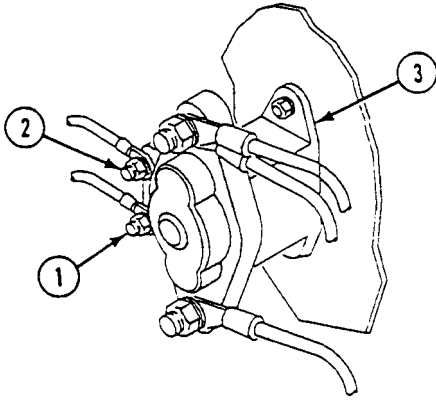
**YES**

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**A3Y**

1. Measure voltage between terminals X1 (1) and X2 (2) of relay K6 (3).
2. Does multimeter read 22 volts DC or more?



**NO**

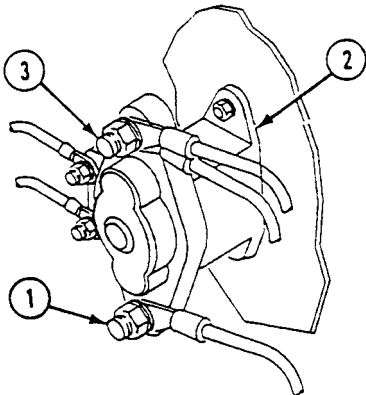
**A3YN**

1. Faulty relay K6 in Power Control Enclosure. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**A4Y**

1. Measure voltage between terminal A1 (1) of relay K6 (2) and ground.
2. Repeat measurement between terminal A2 (3) and ground.
3. Does multimeter read 22 volts DC or more for both measurements?



**NO**

**A4YN**

1. Faulty relay K6 in Power Control Enclosure. Beyond unit maintenance repair.
2. Notify supervisor.

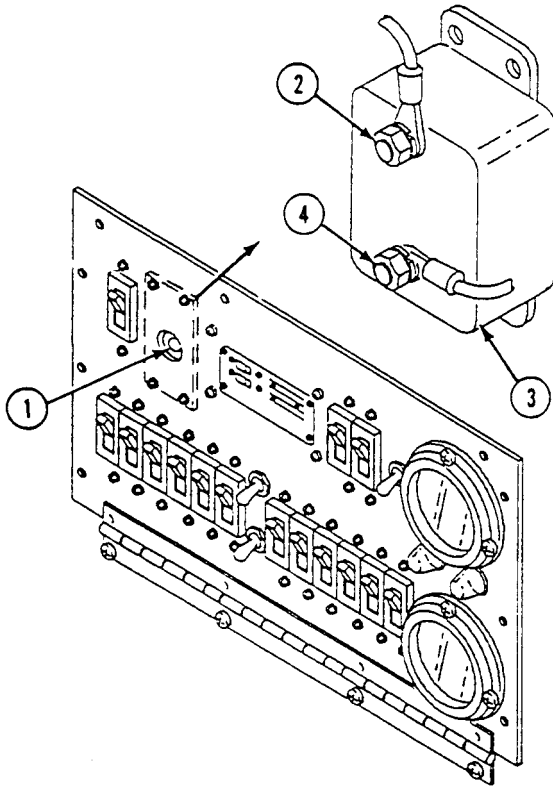
**YES**

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**A5Y**

1. Have helper depress DC TO INVERTERS button (1) on Power Control Enclosure panel.
2. Measure voltage between terminal 1 (2) of circuit breaker CB2 (3) and ground.
3. Repeat measurement between terminal 2 (4) and ground.
4. Does multimeter read 22 volts DC or more for both measurements?

**YES****A5YN**

1. Replace circuit breaker CB2 (WP 0828 00).
2. Verify no faults found.

**NO**

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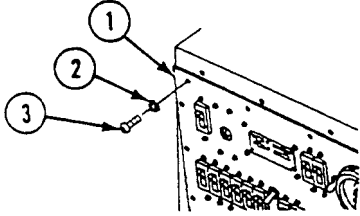
**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

---

0090 00

**A6Y**

1. Raise faceplate (1) and secure to Power Control Enclosure with ten new lockwashers (2) and screws(3).



2. Verify no faults found.

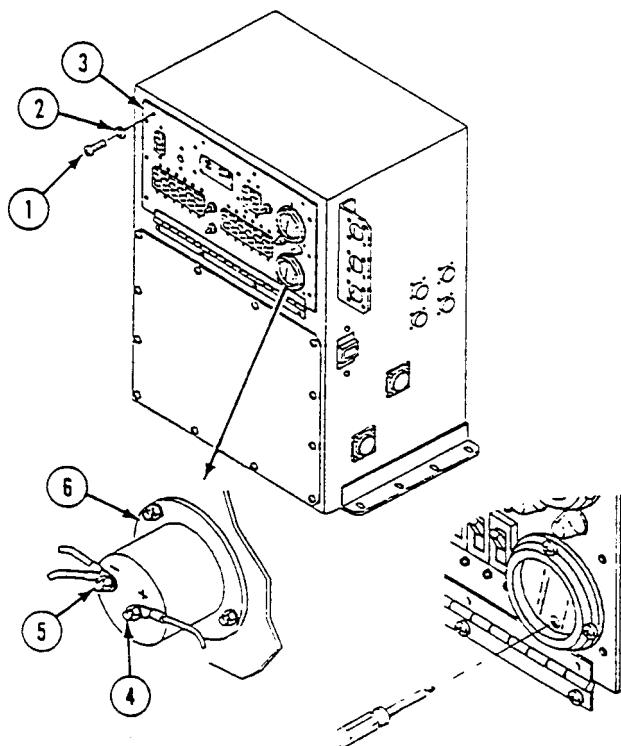


**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**BY**

1. Turn all vehicle power OFF (see your -10 and TM 11-7010-256-12&P).
2. Remove ten screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
3. Set MASTER SWITCH to ON
4. Measure voltage between positive (4) and negative (5) terminals on meter M2 (6).
5. Does multimeter read 22 volts DC or more, and the same as meter M2?



**YES**

**BYN**

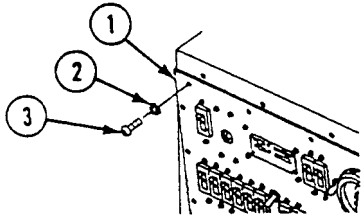
1. Adjust meter M2 needle to match multimeter reading.
2. If meter cannot be adjusted, replace DC meter M2 (WP 0827 00).
3. Verify no faults found.

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**B2Y**

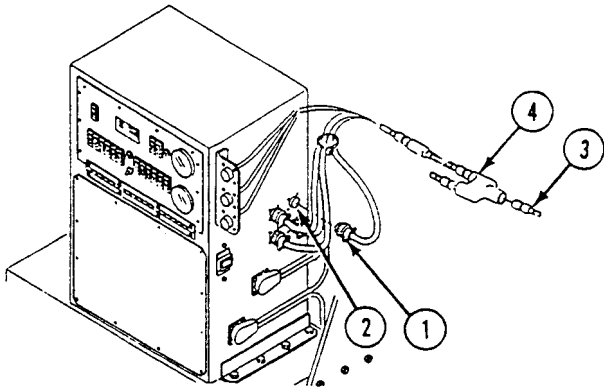
1. Raise faceplate (1) and secure to Power Control Enclosure with ten new lockwashers (2) and screws(3).



2. Verify no faults found.

**CY**

1. Set MASTER SWITCH to OFF.
2. Install cable W38 plug P7 (1) on Power Control Enclosure jack J28 (2).
3. Remove circuit 415 plug P1 (3) from adapter T2 plug P1 (4).
4. Set MASTER SWITCH to ON.
5. Measure voltage between circuit 415 plug P1 (3) and ground.
6. Does multimeter read 22 volts DC or more?



YES

NO

**CYN**

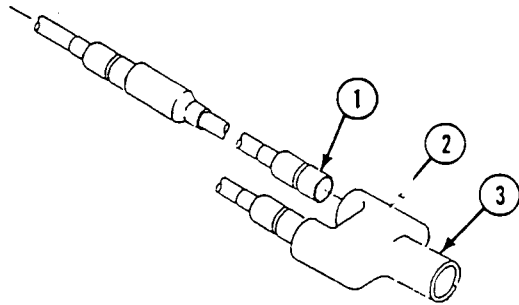
1. Go to: MASTER SWITCH ON indicator does not light (WP 0048 00).

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**C2Y**

1. Set MASTER SWITCH to OFF.
2. Remove cable W29 plug P1 (1) from adapter T2 plug P2 (2).
3. Measure resistance between adapter T2 plugs P2 (2) and P1 (3).
4. Does multimeter read 0 ohms?



NO

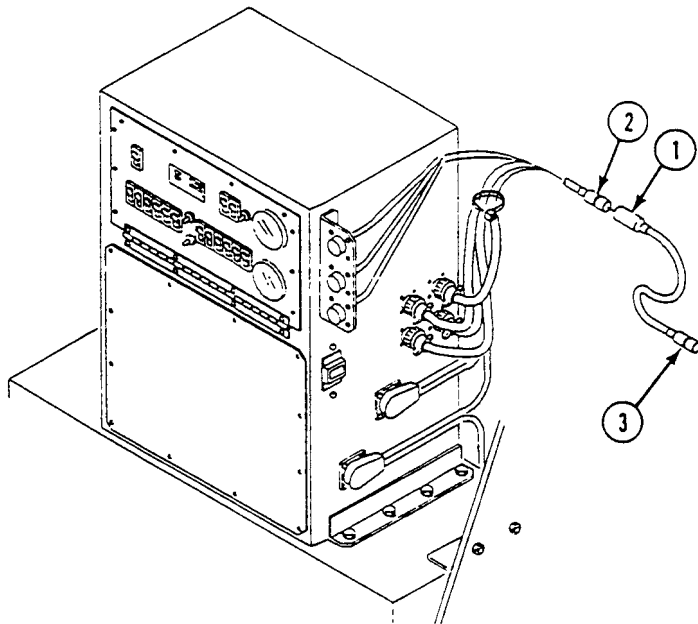
**C2YN**

1. Replace adapter T2 (WP 0850 00).
2. Verify no faults found.

YES

**C3Y**

1. Remove cable W29 plug P2 (1) from cable W38 plug P6 (2).
2. Measure resistance between plugs P2 (1) and P1 (3) of cable W29.
3. Does multimeter read 0 ohms?



NO

**C3YN**

1. Replace cable W29 (WP 0850 00).
2. Verify no faults found.

YES

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

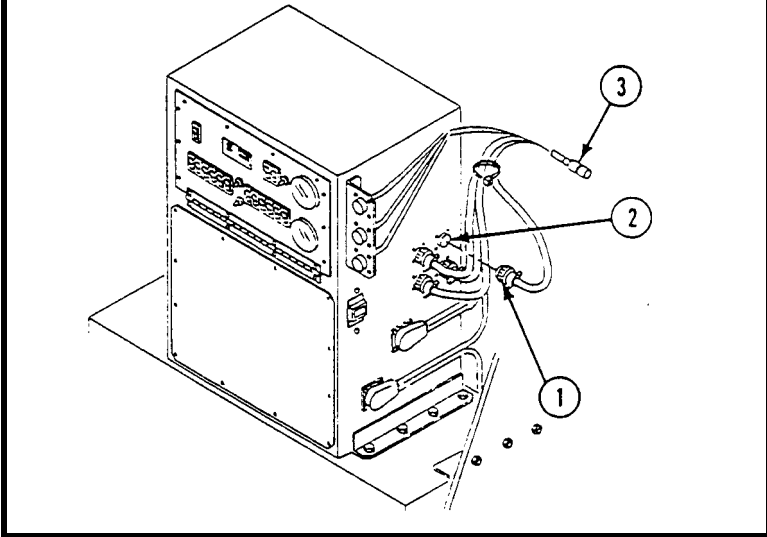
**C4Y**

1. Remove cable W38 plug P7 (1) from Power Control Enclosure jack J28 (2).
2. Measure resistance between center of plugs P7 (1) and P6 (3) of cable W38.
3. Does multimeter read 0 ohms?

**NO**

**C4YN**

1. Replace cable W38 (WP 0850 00).
2. Verify no faults found.



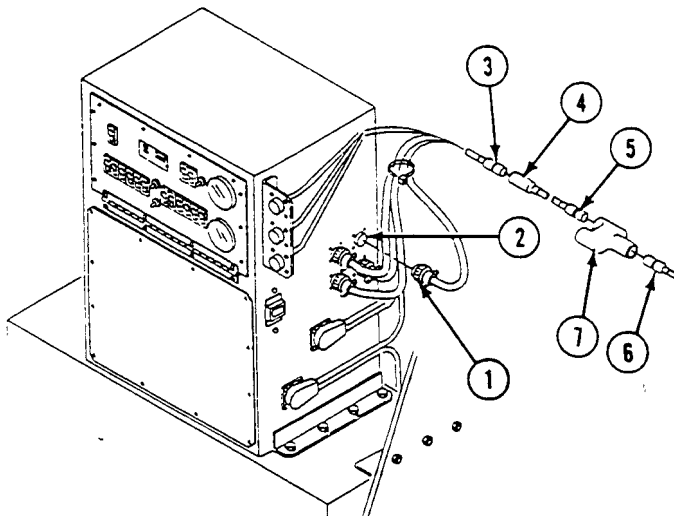
**YES**

**POWER CONTROL ENCLOSURE A1 DC INPUT/OUTPUT INOPERATIVE (M1068A3 ONLY)—Continued**

0090 00

**C5Y**

1. Install cable W38 plug P7 (1) on Power Control Enclosure jack J28(2).
2. Install cable W38 plug P6 (3) on cable W29 plug P2 (4).
3. Install cable W29 plug P1 (5) and circuit 415 plug P1 (6) on adapter T2 (7).



4. Verify no faults found.



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**NO AC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY)**

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**0091 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

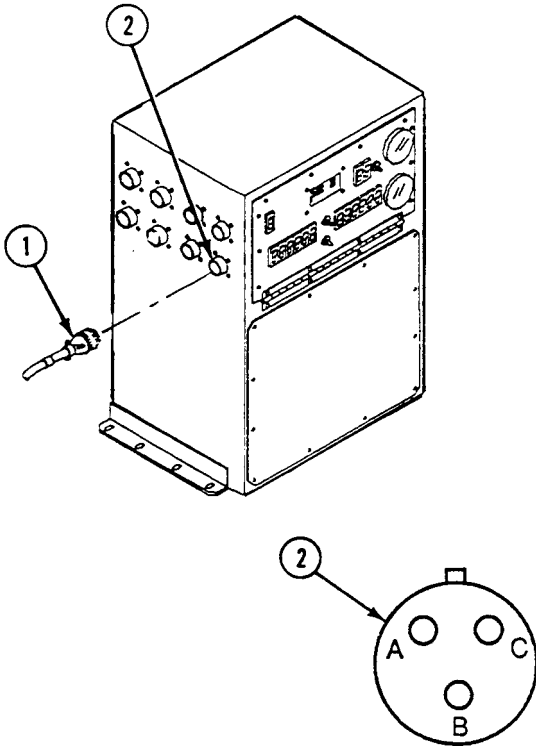
**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

T

1. Remove cable W32, plug P15 (1) from Power Control Enclosure jack J32 (2).
2. Apply AC power to SICPS system, TM 11-7010-256-12&P.
3. Measure voltage between socket A and socket B of jack J32 (2) and then between socket A and socket C.
4. Does multimeter read 110 volts AC or more for each measurement?

NO

GO TO BY (PAGE 0091 00-4)

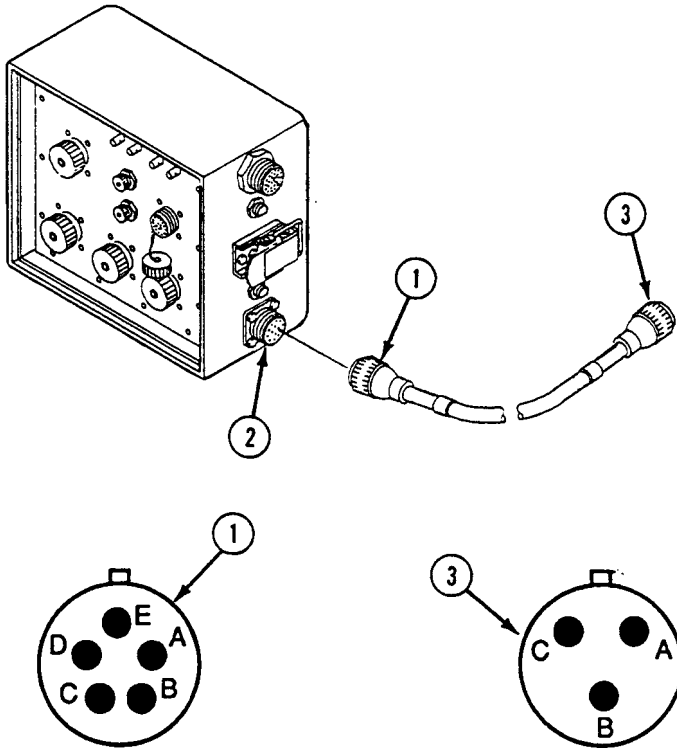


YES



**Y**

1. Turn all power OFF, (see your -10) and TM 11-7010-256-12&P.
2. Remove cable W32, plug P6 (1) from Tent Interface Panel jack J7 (2).
3. Measure resistance between pins on P6 (1) and P15 (3) of cable W32 as follows:  
 P6 pin C to P15 pin A  
 P6 pin D to P15 pin B  
 P6 pin E to P15 pin C
4. Does multimeter read 0 ohms for each set of measurements?



**NO**

**YN**

1. Replace cable W32 (WP 0848 00).
2. Verify no faults found.

**YES**

**2Y**

1. Faulty Tent Interface Panel. Beyond unit maintenance repair.
2. Notify supervisor.

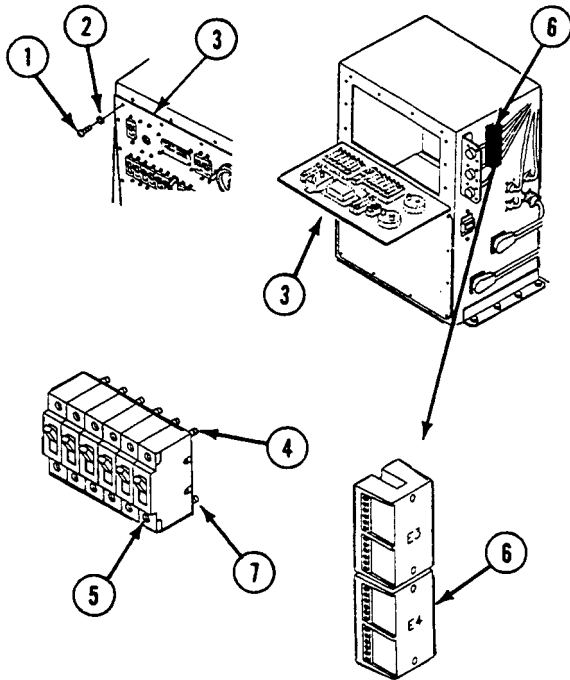
**BY**

1. Remove ALL power from SICPS system, (see your -10) and TM 11-7010-256-12&P.
2. Remove ten screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
3. Apply AC power to the SICPS system, (see your -10) and TM 11-7010-256-12&P.
4. Set AC TENT INTERFACE PANEL circuit breaker to ON, TM 11-7010-256-12&P.
5. Measure voltage between terminal 1 (4) of circuit breaker CB10 (5) to anywhere on bus bar E4 (6). Repeat measurement for terminal 2 (7) to bus bar E4.
6. Does multimeter read 110 volts AC for each measurement?

NO

**BYN**

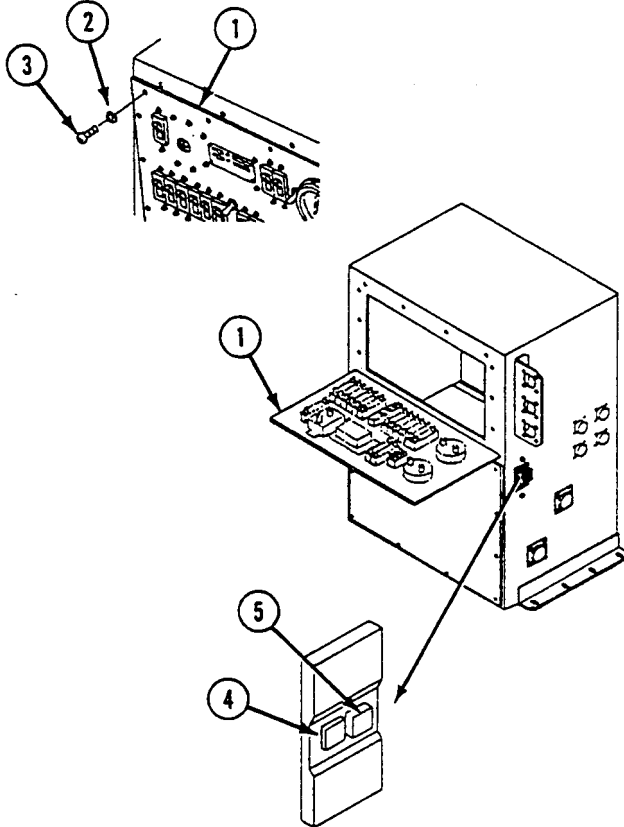
1. Replace circuit breaker CB10 (WP 0828 00).
2. Verify no faults found.



YES

**B2Y**

1. Raise faceplate (1) and secure to Power Control Enclosure with ten new lockwashers (2) and screws (3).
2. Press ground fault interrupter TEST button (4).
3. Does RESET button (5) pop out?



NO

**B2YN**

1. Faulty ground fault interrupter. Beyond unit maintenance repair.
2. Verify no faults found.

YES

**B3Y**

1. Go to: No Power To AC Circuits (M1068A3 Only) (WP 0107 00).



---

**NO DC POWER FROM TENT INTERFACE PANEL A5 (M1068A3 ONLY)**

---

**0092 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

---

**WARNING**

---



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

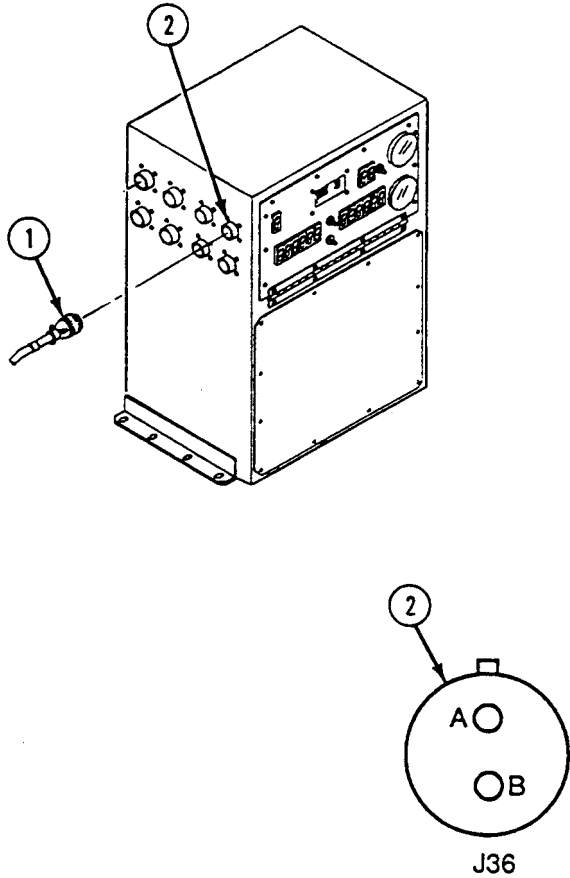
**DO NOT** attempt power cable connections until grounding system and signal/data cabling have been completed.

T

1. Remove cable W32, plug P16 (1) from Power Control Enclosure jack J36 (2).
2. Turn MASTER SWITCH to ON (see your -10).
3. Set DC TENT INTERFACE panel switch to ON TM 11-7010-256-12&P.
4. Measure voltage between jack J36 (2) socket A to socket B.
5. Does multimeter read 22 volts DC or more?

NO

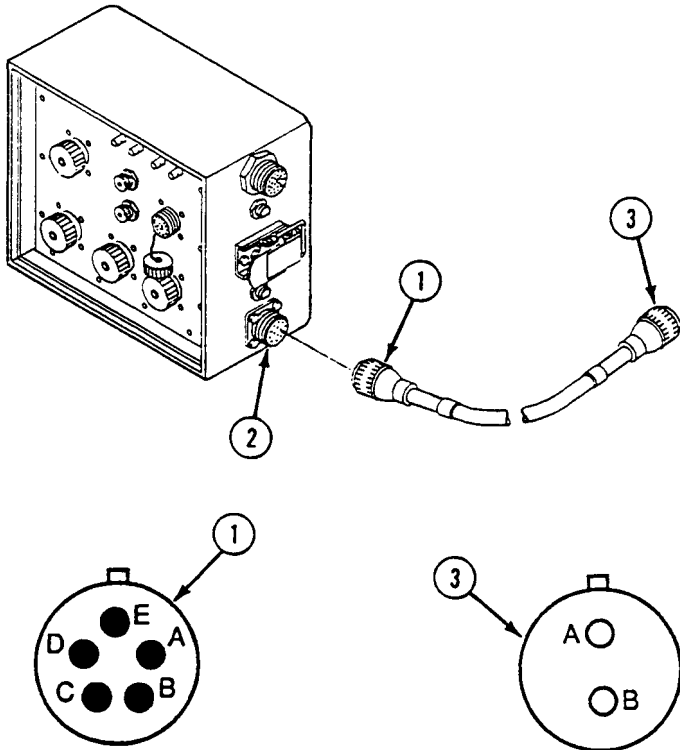
GO TO BY (PAGE 0092 00-4)



YES

**Y**

1. Turn MASTER SWITCH to OFF (see your -10).
2. Remove cable W32, plug P6 (1) from TENT INTERFACE panel jack J7 (2).
3. Measure resistance between pin A on plug P6 (1) and pin A on plug P16 (3) of cable W32.
3. Measure resistance between pin B on plug P6 (1) and pin B on plug P16 (3) of cable W32.
4. Does multimeter read 0 ohms for each set of measurements?



**NO**

**YN**

1. Replace cable W32 (WP 0848 00).
2. Verify no faults found.

**YES**

**2Y**

1. Faulty Tent Interface Panel. Beyond unit maintenance repair.
2. Notify supervisor.

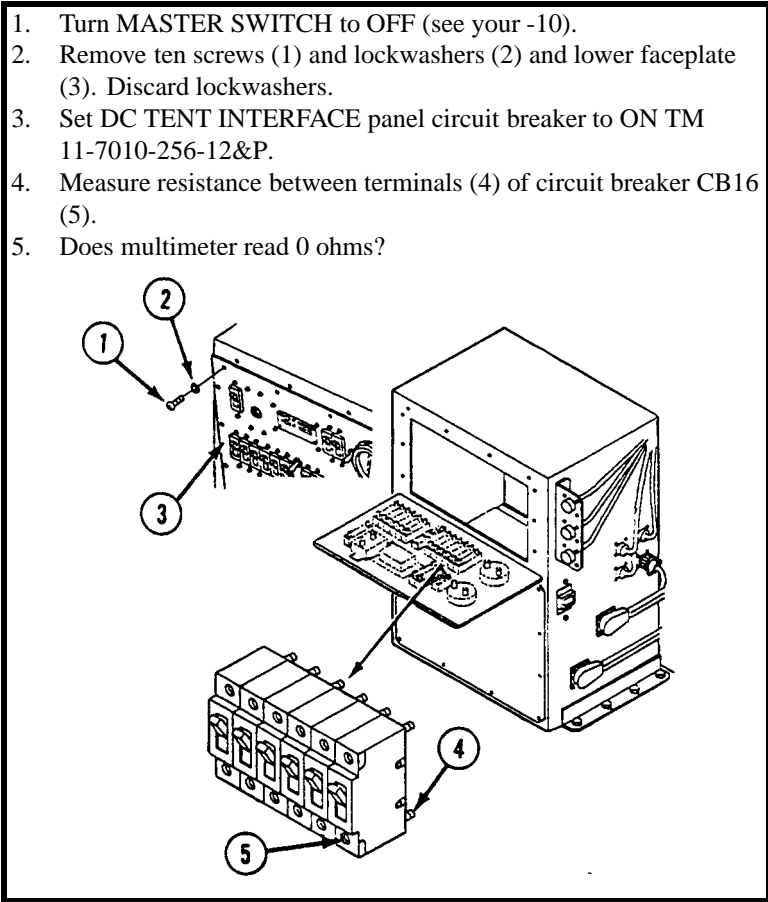
**BY**

1. Turn MASTER SWITCH to OFF (see your -10).
2. Remove ten screws (1) and lockwashers (2) and lower faceplate (3). Discard lockwashers.
3. Set DC TENT INTERFACE panel circuit breaker to ON TM 11-7010-256-12&P.
4. Measure resistance between terminals (4) of circuit breaker CB16 (5).
5. Does multimeter read 0 ohms?

NO

**BYN**

1. Replace circuit breaker CB16 (WP 0827 00).
2. Verify no faults found.



YES

**B2Y**

1. Raise faceplate and secure to Power Control Enclosure with ten new lockwashers and screws.
2. Go to: Power Control Enclosure A1 DC Input/Output Inoperative (M1068A3 Only) (WP 0090 00).



---

**NO POWER FROM ROADSIDE AC POWER EXTENSION BOX A6 (M1068A3 ONLY)**

---

**0093 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

---

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**NO POWER FROM ROADSIDE AC POWER EXTENSION BOX A6 (M1068A3 ONLY)—Continued**

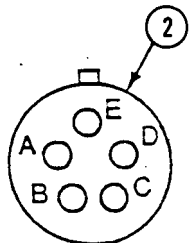
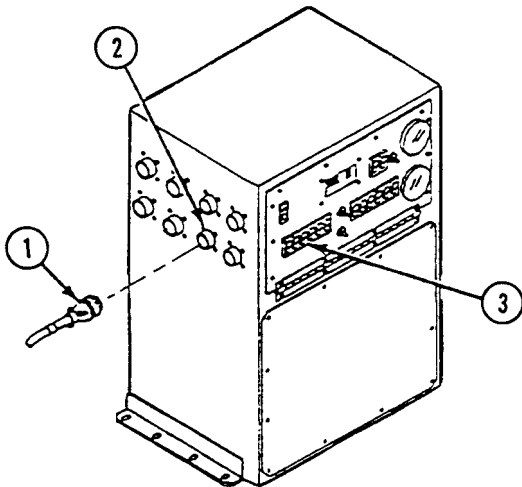
0093 00

**T**

1. Remove cable W7 plug P10 (1) from Power Control Enclosure jack J30 (2).
2. With AC power accepted, set AC LEFT OUTLETS switches (3) on Power Control Enclosure panel to ON, see TM 11-7010-256-12&P.
3. Measure voltage between sockets A and B of jack J30 (2).
4. Measure voltage between sockets C and D of jack J30 (2).
5. Does multimeter read 110 volts AC or more for both measurements?

**NO**

**GO TO BY (PAGE 0093 00-4)**



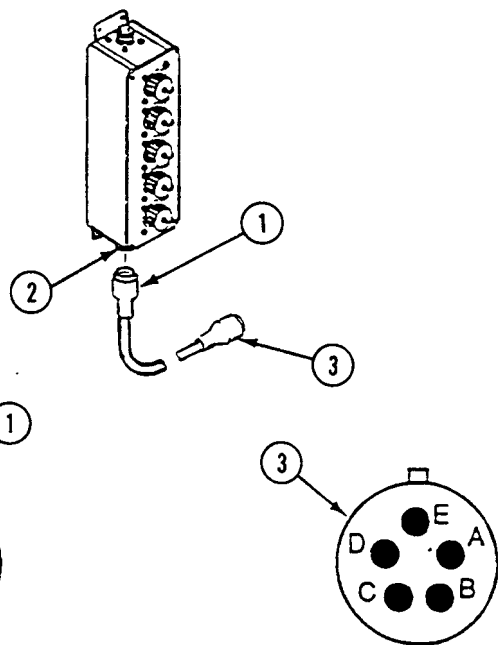
**YES**

**NO POWER FROM ROADSIDE AC POWER EXTENSION BOX A6 (M1068A3 ONLY)—Continued**

0093 00

**Y**

1. Set AC LEFT OUTLETS switches to OFF and remove all power from SICPS system (see your -10) and TM 11-7010-256-12&P.
2. Remove cable W7 plug P1 (1) from Roadside AC Power Extension Box jack J1 (2).
3. Measure resistance between pins of plugs P1 (1) and P10 (3) on cable W7 as follows:
  - P1 pin A to P10 pin A
  - P1 pin B to P10 pin B
  - P1 pin C to P10 pin C
  - P1 pin D to P10 pin D
  - P1 pin E to P10 pin E
4. Does multimeter read 0 ohms for each set of pins?



**NO**

**YN**

1. Replace cable W7 (WP 0842 00).
2. Verify no faults found.

**YES**

**2Y**

1. Replace Roadside AC Power Extension Box A6 (WP 0834 00).
2. Verify no faults found.

**NO POWER FROM ROADSIDE AC POWER EXTENSION BOX A6 (M1068A3 ONLY)—Continued**

0093 00

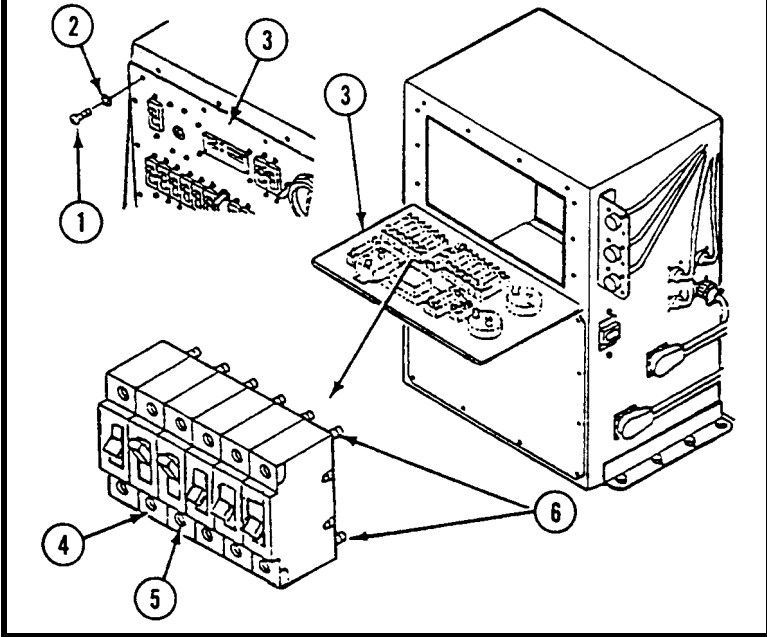
**BY**

1. Turn MASTER POWER switch to OFF (see your -10) and TM 11-7010-256-12&P.
2. Remove ten screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
3. Turn ON AC LEFT OUTLETS circuit breakers CB6 (4) and CB7 (5).
4. Measure resistance between terminals 1 and 2 (6) of circuit breakers CB6 (4) and CB7 (5).
5. Does multimeter read 0 ohms for each measurement?

**NO**

**BYN**

1. Resistance in CB6 and CB7 should be 0 ohms. If any resistance is present, replace that CB (WP 0828 00).
2. Verify no faults found.



**YES**

**B2Y**

1. Raise faceplate and secure to Power Control Enclosure with ten new lockwashers and screws.
2. Go to: No Power To AC Circuits (M1068A3 Only) (WP 0107 00).

---

**NO POWER FROM CURBSIDE AC POWER EXTENSION BOX A7 (M1068A3 ONLY)**

---

**0094 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

---

**WARNING**

---



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**NO POWER FROM CURBSIDE AC POWER EXTENSION BOX A7 (M1068A3 ONLY)—Continued**

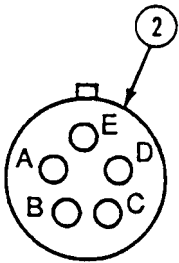
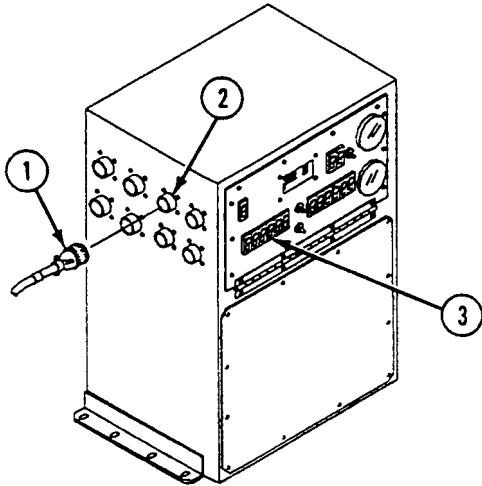
0094 00

**T**

1. With AC power accepted, set AC RIGHT OUTLETS switches (3) on Power Control Enclosure panel to ON, see TM 11-7010-256-12&P.
2. Measure voltage between sockets A and B of jack J31 (2).
3. Measure voltage between sockets C and D of jack J31 (2).
4. Does multimeter read 110 volts AC or more for both measurements?

**NO**

**GO TO BY (PAGE 0094 00-4)**



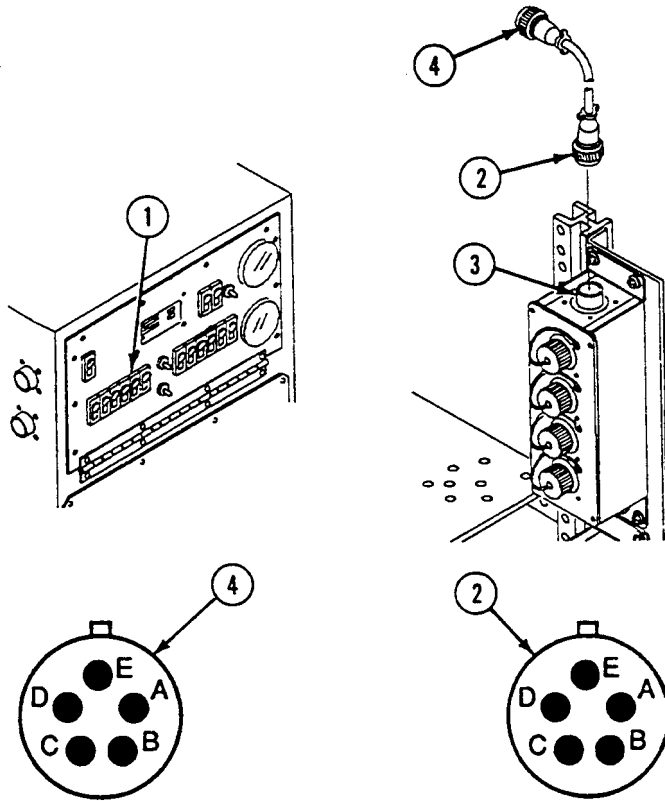
**YES**

**NO POWER FROM CURBSIDE AC POWER EXTENSION BOX A7 (M1068A3 ONLY)—Continued**

0094 00

**Y**

1. Set AC RIGHT OUTLETS switches (1) to OFF and remove ALL power from SICPS system (see your -10) and TM 11-7010-256-12&P.
2. Remove cable W8 plug P1 (2) from Curbside AC Power Extension Box jack J1 (3).
3. Measure resistance between pins of plugs P1 (2) and P11 (4) on cable W8 as follows:
  - P1 pin A to P11 pin A
  - P1 pin B to P11 pin B
  - P1 pin C to P11 pin C
  - P1 pin D to P11 pin D
  - P1 pin E to P11 pin E
4. Does multimeter read 0 ohms for each set of pins?



**NO**

**YN**

1. Replace cable W8 (WP 0843 00).
2. Verify no faults found.

**YES**

**2Y**

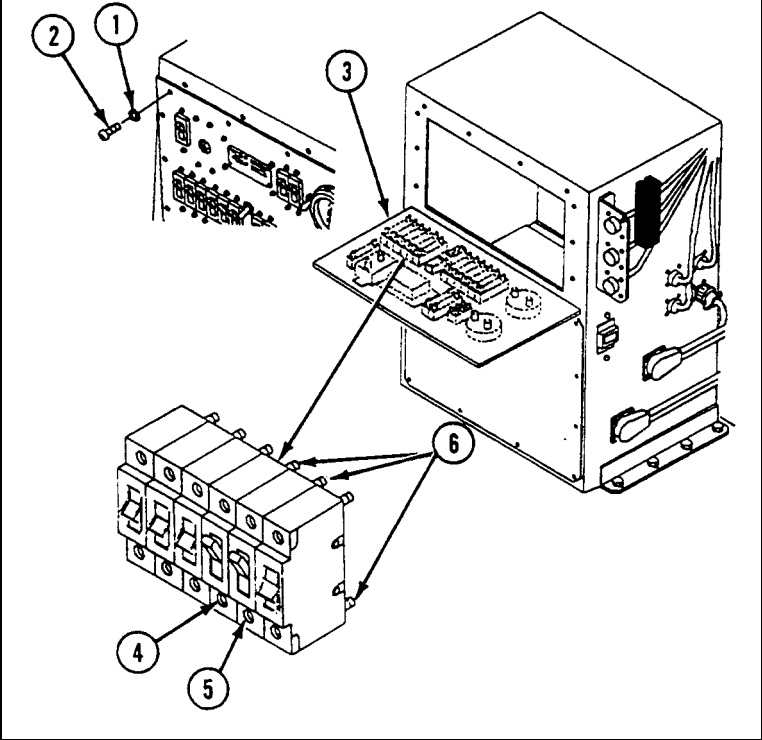
1. Replace Curbside AC Power Extension Box A7 (WP 0815 00).
2. Verify no faults found.

**NO POWER FROM CURBSIDE AC POWER EXTENSION BOX A7 (M1068A3 ONLY)—Continued**

0094 00

**BY**

1. Turn MASTER POWER switch to OFF (see your -10) and TM 11-7010-256-12&P.
2. Remove ten screws (1) and lockwashers (2). Lower faceplate (3). Discard lockwashers.
3. Turn ON AC RIGHT OUTLETS circuit breakers CB8 (4) and CB9 (5).
4. Measure resistance between terminal 1 and terminal 2 (6) of circuit breaker CB8 (4).
5. Measure resistance between terminal 1 and terminal 2 (6) of circuit breaker CB9 (5).
6. Does multimeter read 0 ohms for each measurement?



**NO**

**BYN**

1. Resistance in CB8 and CB9 should be 0 ohms. If any resistance is present, replace that CB (WP 0828 00).
2. Verify no faults found.

**YES**

**B2Y**

1. Raise faceplate and secure to Power Control Enclosure with ten new lockwashers and screws.
2. Go to: No Power To AC Circuits (M1068A3 Only) (WP 0107 00).



---

**NO POWER FROM DC POWER EXTENSION BOX A9 (ALL EXCEPT JACK J23) (M1068A3 ONLY)**

---

**0095 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

---

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**NO POWER FROM DC POWER EXTENSION BOX A9 (ALL EXCEPT JACK J23) (M1068A3 ONLY)—Continued**

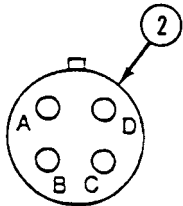
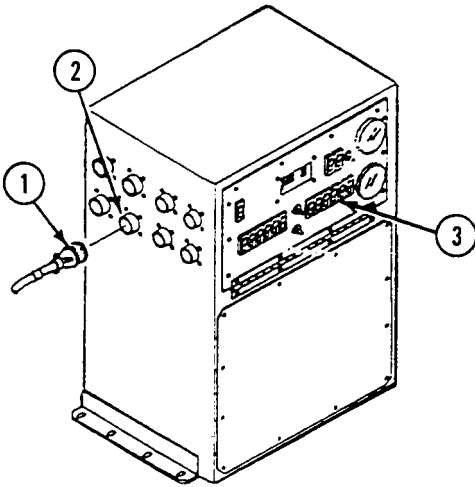
0095 00

**T**

1. Remove cable W10 plug P14 (1) from Power Control Enclosure jack J34 (2).
2. Turn MASTER SWITCH to ON.
3. Set DC LEFT OUTLETS switches (3) on Power Control Enclosure panel to ON (see TM 11-7010-256-12&P).
4. Measure voltage between sockets A and B of jack J34 (2). Repeat measurement for sockets C and D.
5. Does multimeter read 22 volts DC or more for each measurement?

**NO**

**GO TO AY (PAGE 0095 00-4)**



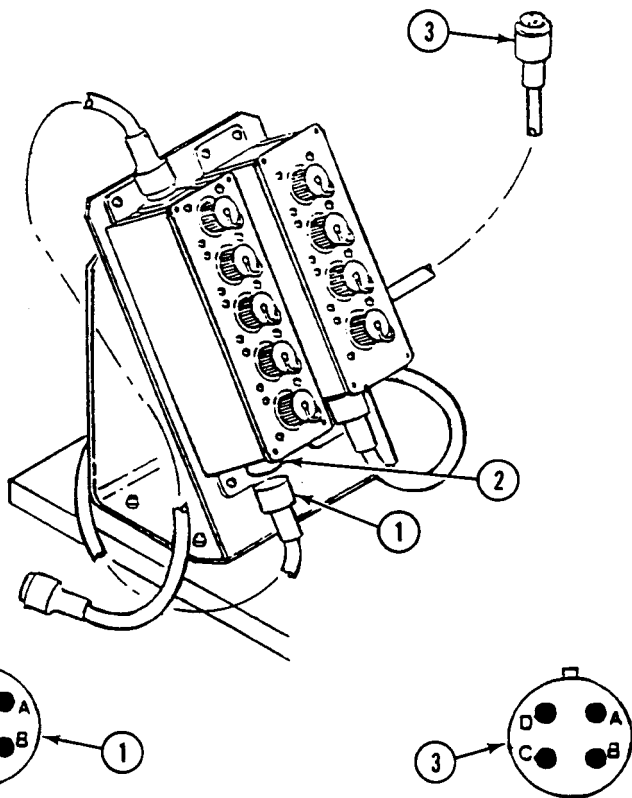
**YES**

**NO POWER FROM DC POWER EXTENSION BOX A9 (ALL EXCEPT JACK J23) (M1068A3 ONLY)—Continued**

0095 00

**Y**

1. Turn MASTER SWITCH to OFF.
2. Remove cable W10 plug P1 (1) from DC Power Extension Box A9 jack J1 (2).
3. Measure resistance between pins of plugs P1 (1) and P14 (3) on cable W10 as follows:
  - P1 pin A to P14 pin A
  - P1 pin B to P14 pin B
  - P1 pin C to P14 pin C
  - P1 pin D to P14 pin D
4. Does multimeter read 0 ohms for each set of pins?



**NO**

**YN**

1. Replace cable W10 (WP 0844 00).
2. Verify no faults found.

**YES**

**2Y**

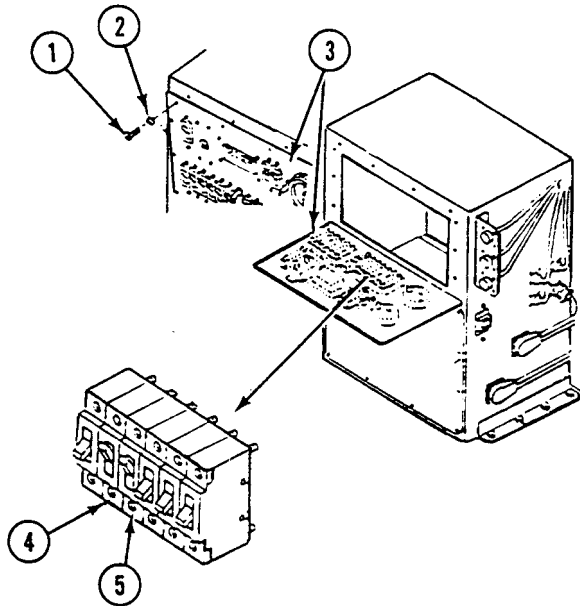
1. Replace DC Power Extension Box A9 (WP 0834 00).
2. Verify no faults found.

**NO POWER FROM DC POWER EXTENSION BOX A9 (ALL EXCEPT JACK J23) (M1068A3 ONLY)—Continued**

0095 00

**AY**

1. Turn MASTER SWITCH to OFF.
2. Remove ten screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
3. Turn ON DC LEFT OUTLETS circuit breakers CB12 (4) and CB13 (5).
4. Measure resistance between terminals 1 and 2 of circuit breakers CB12 (4) and CB13 (5).
5. Does multimeter read 0 ohms for each measurement?



**NO**

**AYN**

1. Resistance in CB12 and CB13 should be 0 ohms. If any resistance is present, replace that CB (WP 0828 00).
2. Verify no faults found.

**YES**

**A2Y**

1. Raise faceplate and secure to Power Control Enclosure with ten new lockwashers and screws.
2. Go to: Power Control Enclosure A1 DC Input/Output Inoperative (M1068A3 Only) (WP 0090 00).

**NO POWER FROM DC POWER EXTENSION BOX A9, JACK  
J23 (JTIDS) (M1068A3 ONLY)**

**0096 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Digital Multimeter (WP 0926 00, Item 30)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10

Helper (H)

References

See your -10

TM 11-7010-256-12&P

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

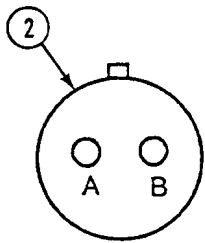
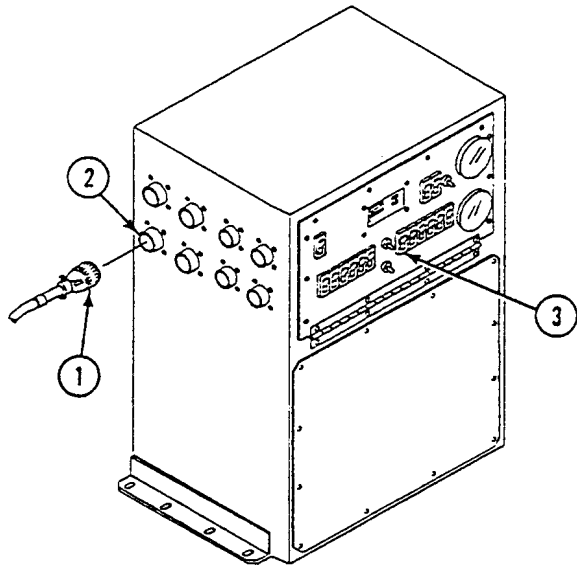
**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**NO POWER FROM DC POWER EXTENSION BOX A9, JACK J23 (JTIDS)  
(M1068A3 ONLY) — Continued**

0096 00

**T**

1. Remove cable W45 plug P13 (1) from power control enclosure jack J33 (2).
2. Turn MASTER SWITCH to ON (see your -10).
3. Set JTIDS switch (3) on power control enclosure panel to ON. See TM 11-7010-256-12&P.
4. Measure voltage between sockets A and B of J33 (2).
5. Does multimeter read 22 volts DC or more?



**NO**

**TN**

**GO TO AY (PAGE 0096 00-4)**

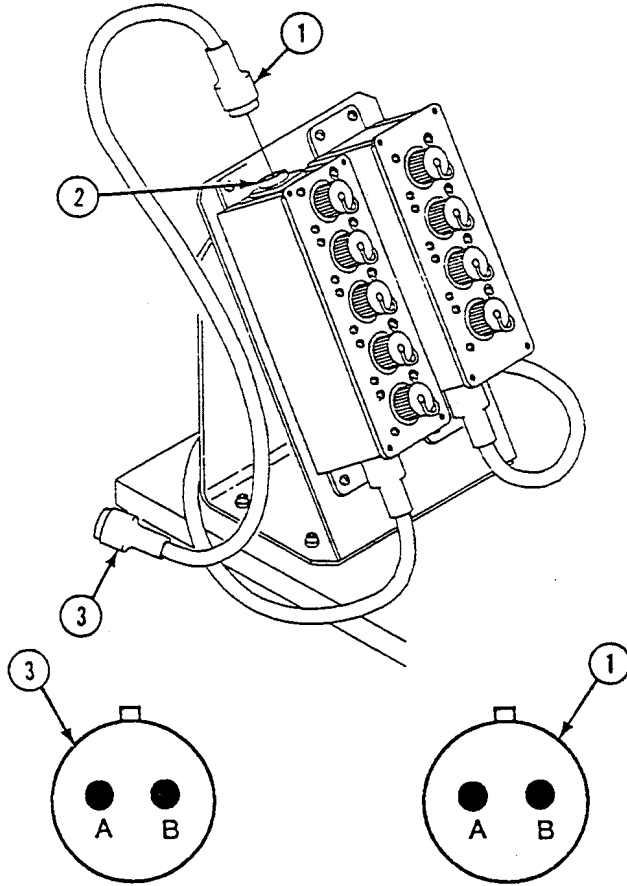
**YES**

**NO POWER FROM DC POWER EXTENSION BOX A9, JACK J23 (JTIDS)  
(M1068A3 ONLY) — Continued**

0096 00

**Y**

1. Turn MASTER SWITCH to OFF (see your -10).
2. Remove cable W45 plug P1 (1) from DC power extension box A9 jack J2 (2).
3. Measure resistance between plug P1 (1) pin A and P13 (3) pin A of cable W45. Repeat measurement for pins B.
4. Does multimeter read 0 ohms for each measurement?



**NO**

**YN**

1. Replace cable W45 (WP 0853 00).
2. Verify no faults found.

**YES**

**2Y**

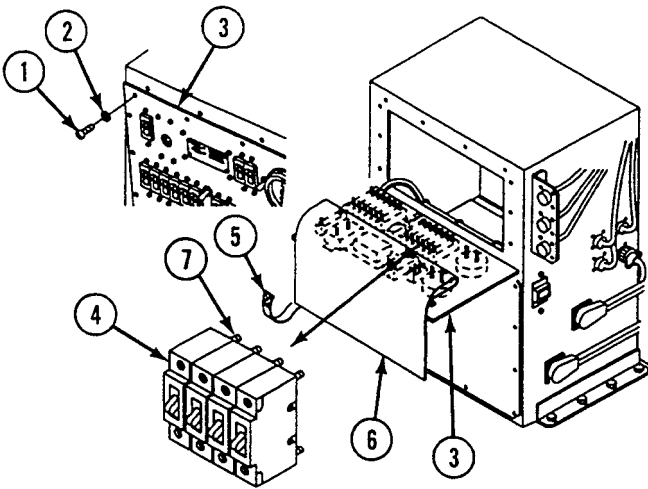
1. Replace DC power extension box A9 (WP 0834 00).
2. Verify no faults found.

**NO POWER FROM DC POWER EXTENSION BOX A9, JACK J23 (JTIDS)  
(M1068A3 ONLY) — Continued**

0096 00

**AY**

1. Turn MASTER SWITCH to OFF (see your -10).
2. Remove 10 screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
3. Turn ON JTIDS circuit breaker CB11 (4).
4. Undo velcro strap (5) and lift safety cover (6) over top of faceplate (3).
5. Measure resistance between terminals 1 and 2 (7) of circuit breaker CB11 (4).
6. Does multimeter read 0 ohms?



**NO**

**AYN**

1. Replace circuit breaker CB11 (WP 0828 00).
2. Verify no faults found.

**YES**

**A2Y**

1. Place safety cover over inside of faceplate and secure with velcro strap.
2. Raise faceplate and secure to power control enclosure with 10 new lockwashers and screws.
3. Go to Power Control Enclosure A1 DC Input/Output Inoperative (M1068A3 Only) (WP 0090 00).



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**NO DC POWER TO SINGLE POINT LAN GROUND BOX A15 (M1068A3 ONLY)**

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**0097 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
 Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Personnel Required

Power-Generation Equipment Repairer 52D10  
 Helper (H)

Engine stopped (see your -10)

Carrier blocked (see your -10)

---

**WARNING**

---



**HIGH VOLTAGE** is used in the operation of this equipment.

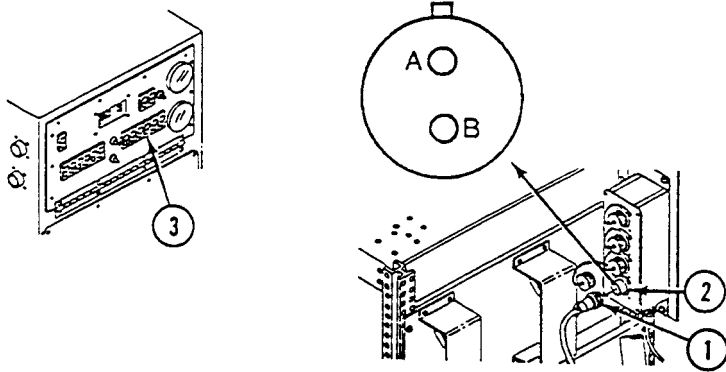
**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

- T**
1. Remove cable W40 plug P1 (1) from DC Power Extension Box A8 jack J17 (2).
  2. Turn MASTER SWITCH to ON (See your -10).
  3. Set DC RIGHT OUTLETS switches (3) on Power Control Enclosure to ON (see TM 11-7010-256-12&P).
  4. Measure voltage between sockets A and B of J17 (2).
  5. Does multimeter read 22 volts DC or more?

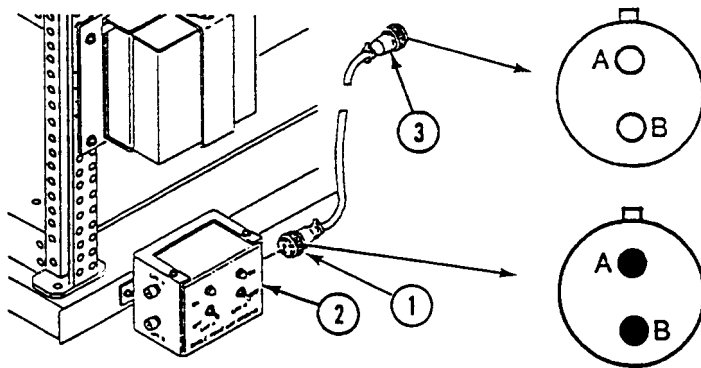


NO

- TN**
1. Go To: No Power From DC Power Extension Box A8.
  2. Verify no faults found.

YES

- Y**
1. Turn MASTER SWITCH to OFF (see your -10).
  2. Disconnect cable W40 plug P2 (1) from Single Point LAN Ground Box A15 jack J1 (2).
  3. Measure resistance between plug P1 (3) pin A and P2 (1) pin A of cable W40. Repeat measurement for pins B.
  4. Does multimeter read 0 ohms for each measurement?



NO

- YN**
1. Replace cable W40 (WP 0851 00).
  2. Verify no faults found.

YES

**2Y**

- |   |
|---|
| <ol style="list-style-type: none"><li>1. Repair LAN Ground Box A15 (WP 0820 00).</li><li>2. Verify no faults found.</li></ol> |
|---|



---

**NO POWER FROM UPS POWER EXTENSION BOX A18 (M1068A3 ONLY)**

---

**0098 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

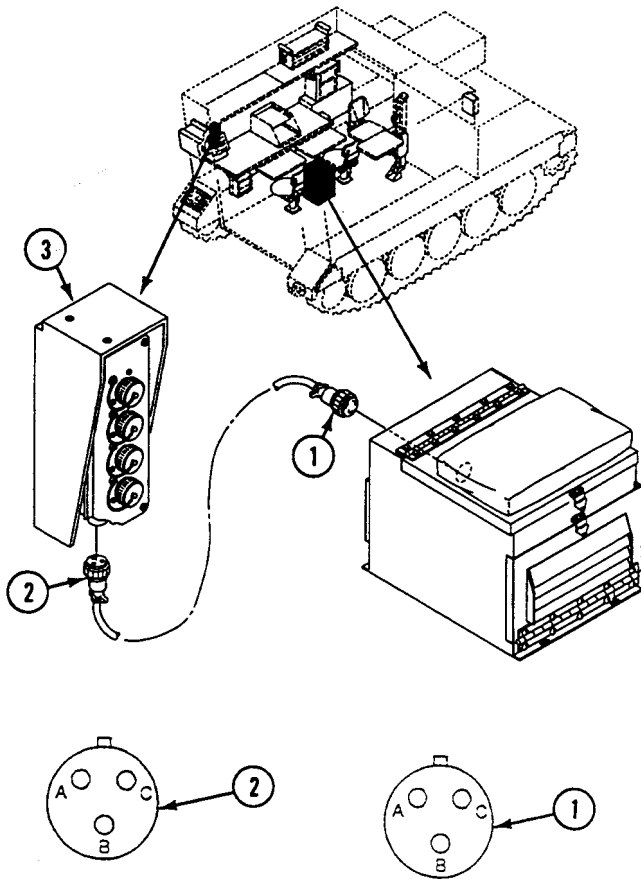
**T**

1. Open front cover on ATCCS UPS Storage Box and remove cable W251 plug P1 (1) from UPS jack AC OUT.
2. Remove cable W251 plug P2 (2) from UPS Power Extension Box A18 jack J6 (3).
3. Measure resistance between pins of plugs P1 (1) and P2 (2) of cable W251 as follows:
  - P1 pin A to P2 socket A
  - P1 pin B to P2 socket B
  - P1 pin C to P2 socket C
4. Does multimeter read 0 ohms for each measurement?

**NO**

**TN**

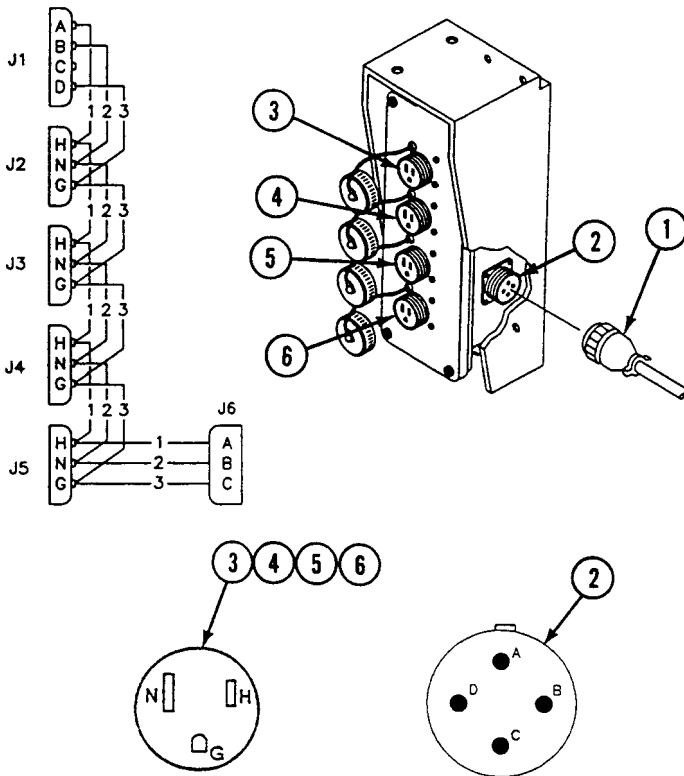
1. Replace cable W251 (WP 0852 00).
2. Verify no faults found.



**YES**

**Y**

1. Remove cable W252 plug P1 (1) from UPS Power Extension Box A18 jack J1 (2).
2. Measure resistance between jacks J1 (2), J2 (3), J3 (4), J4 (5), J5 (6), and J6 (7) of UPS Power Extension Box A18 as follows:
  - J1 socket A to J2, J3, J4, and J5 socket H
  - J1 socket B to J2, J3, J4, and J5 socket N
  - J1 socket D to J2, J3, J4, and J5 socket G
  - J1 pin A to J6 socket A
  - J1 pin B to J6 socket B
  - J1 pin D to J6 socket C
3. Does multimeter read 0 ohms for each measurement?



**NO**

**YN**

1. Replace/repair UPS Power Extension Box A18 (WP 0836 00).
2. Verify no faults found.

**YES**

**2Y**

1. Faulty ATCCS UPS Power. Beyond unit maintenance repair.
2. Notify supervisor.





---

**NO POWER FROM CURBSIDE UPS POWER EXTENSION BOX A19  
(M1068A3 ONLY)**

---

**0099 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

---

**WARNING**

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**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**NO POWER FROM CURBSIDE UPS POWER EXTENSION BOX A19 (M1068A3 ONLY)—Continued**

0099 00

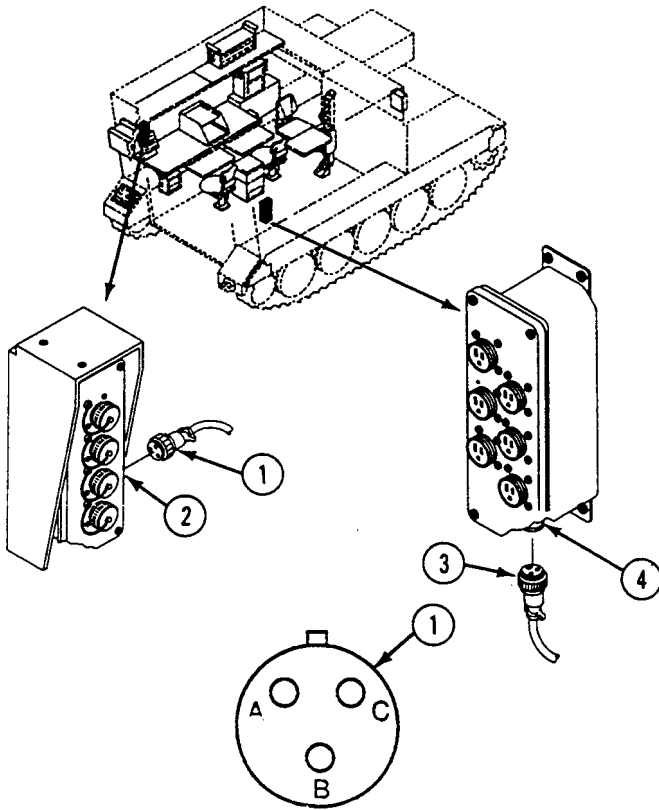
**T**

1. Remove cable W252 plug P1 (1) from UPS Power Extension Box A18 jack J1 (2).
2. Remove cable W252 plug P2 (3) from UPS Power Extension Box A19 jack J15 (4).
3. Measure resistance between pins of plugs P1 (1) and P2 (3) of cable W252 as follows:
  - P1 pin A to P2 socket A
  - P1 pin B to P2 socket B
  - P1 pin C to P2 socket C
4. Does multimeter read 0 ohms for each measurement?

**NO**

**TN**

1. Replace cable W252 (WP 0857 00).
2. Verify no faults found.



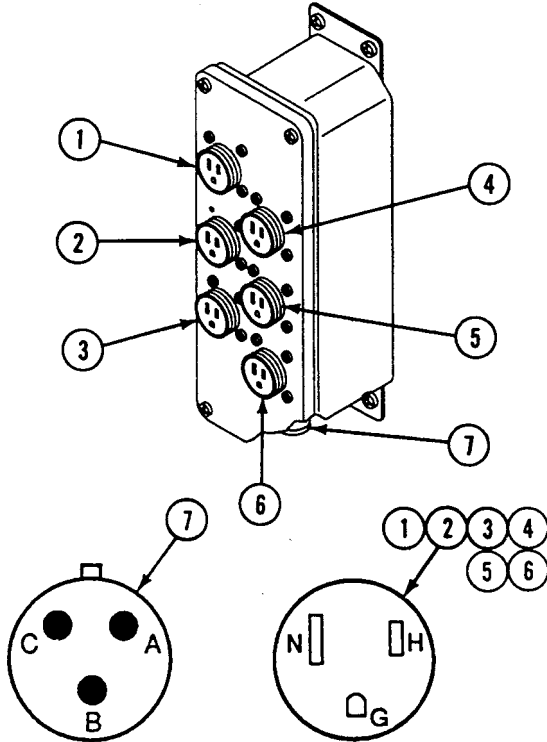
**YES**

**NO POWER FROM CURBSIDE UPS POWER EXTENSION BOX A19 (M1068A3 ONLY)—Continued**

0099 00

**Y**

1. Measure resistance between jacks J9 (1), J10 (2), J11 (3), J12 (4), J13 (5), J14 (6), and J15 (7) of UPS Power Extension Box A19 as follows:
  - J15 socket A to J9, J10, J11, J12, J13, and J14 socket H.
  - J15 socket B to J9, J10, J11, J12, J13, and J14 socket N.
  - J15 socket C to J9, J10, J11, J12, J13, and J14 socket G.
2. Does multimeter read 0 ohms for each measurement?



**NO**

**YN**

1. Replace/repair UPS Power Extension Box A19 (WP 0822 00).
2. Verify no faults found.

**YES**

**2Y**

1. Faulty ATCCS UPS Power. Beyond unit maintenance repair.
2. Notify supervisor.



---

**NO AC/DC INPUT TO ATCCS UPS POWER BOX (M1068A3 ONLY)**

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**0100 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (2)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

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**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

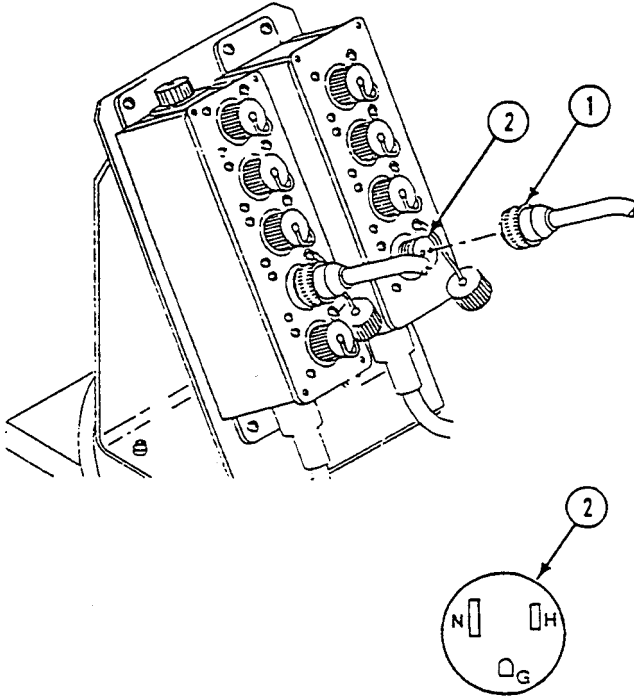
**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**T**

1. Remove cable W43 plug P2 (1) from Roadside AC Power Extension Box A6 jack J6 (2).
2. Apply AC power to SICPS system (TM 11-7010-256-12&P).
3. Set AC LEFT OUTLETS switches on Power Control Enclosure panel to ON.
4. Measure voltage between sockets H and N of J6 (2).
5. Does multimeter read 110 volts AC or more?



**NO**

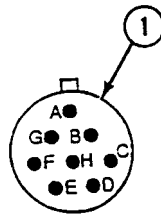
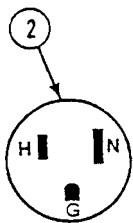
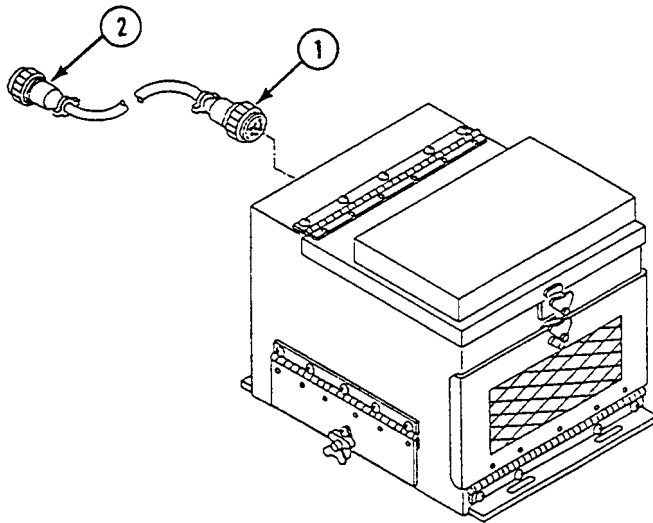
**TN**

1. Go to: No Power From Roadside AC Power Extension Box A6 (WP 0093 00).

**YES**

**Y**

1. Turn all AC power OFF (TM 11-7010-256-12&P).
2. Open front cover on ATCCS UPS Storage Box and remove cable W43 plug P1 (1) from UPS jack AC IN.
3. Measure resistance between pins of plugs P2 (2) and P1 (1) of cable W43 as follows:
  - P2 pin H to P1 pin B
  - P2 pin N to P1 pin A
  - P2 pin G to P1 pin D
  - P1 pin F to P1 pin G
4. Does multimeter read 0 ohms for each measurement?



**NO**

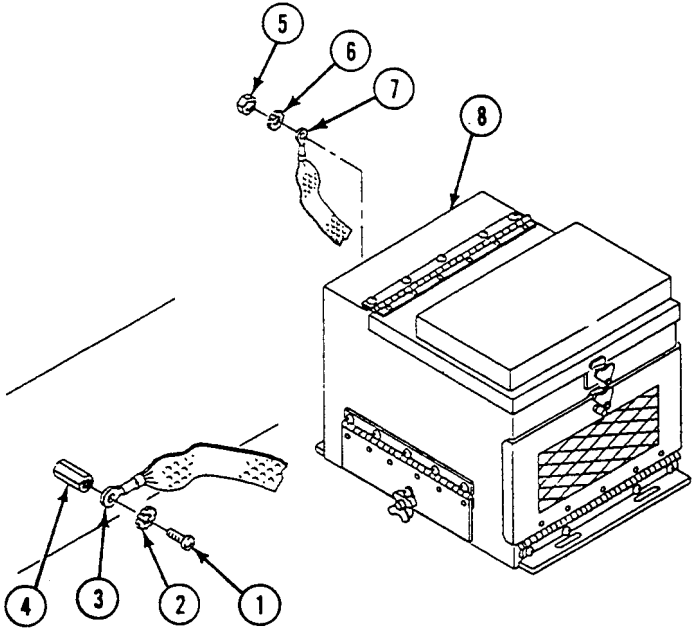
**YN**

1. Replace cable W43 (WP 0852 00).
2. Verify no faults found.

**YES**

**2Y**

1. Remove screw (1), lockwasher (2), and ground strap W12 terminal (3) from ground lug (4). Discard lockwasher.
2. Remove nut (5), lockwasher (6), and ground strap W12 terminal (7) from ATCCS UPS storage box (8). Discard lockwasher.
3. Measure resistance between terminals (3) and (7) of ground strap W12.
4. Does multimeter read 0 ohms?



**NO**

**2YN**

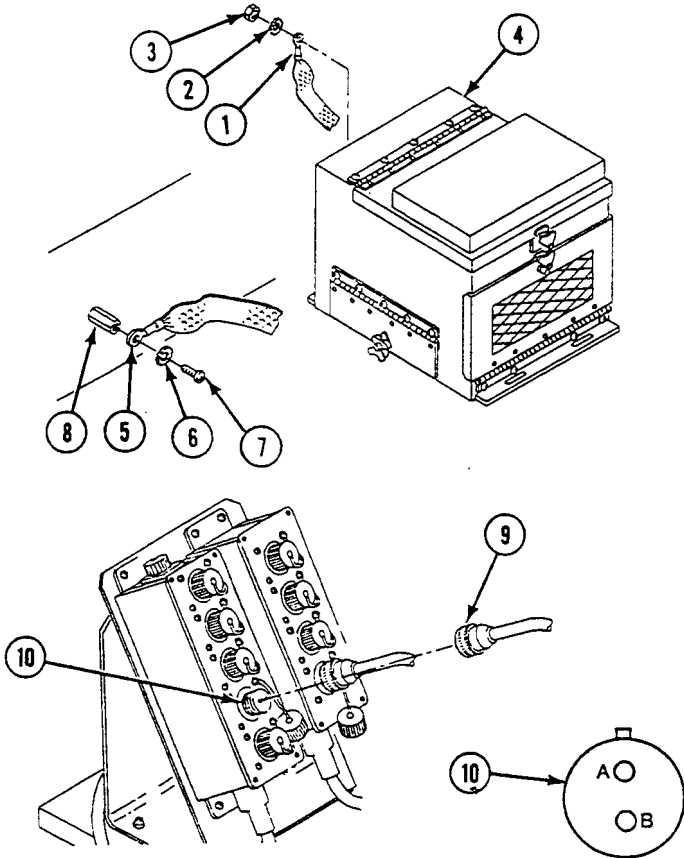
1. Replace ground strap W12 (WP 0846 00).
2. Verify no faults found.

**YES**



**3Y**

1. Install ground strap W12 terminal (1), new lockwasher (2), and nut (3) on ATCCS UPS storage box (4).
2. Install ground strap W12 terminal (5), new lockwasher (6), and screw (7) on ground lug (8).
3. Remove cable W42 plug P2 (9) from DC Power Extension Box A9 jack J21 (10).
4. Set MASTER SWITCH to ON.
5. Set DC LEFT OUTLETS switches on Power Control Enclosure panel to ON (TM 11-7010-256-12&P).
6. Measure voltage between sockets A and B of J21 (10).
7. Does multimeter read 22 volts DC or more?



**NO**

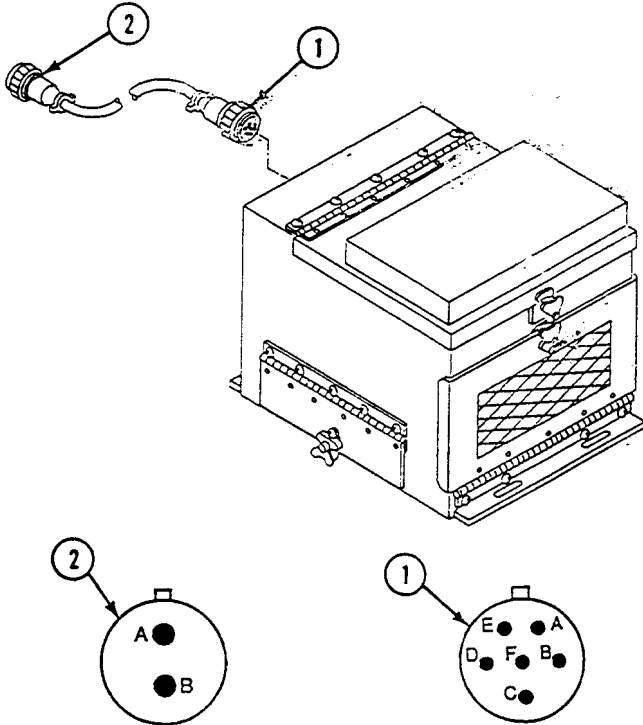
**3YN**

1. Go to: No Power from DC Power Extension Box A9 (WP 0095 00).

**YES**

**4Y**

1. Set MASTER SWITCH to OFF.
2. Open front cover on ATCCS UPS Storage Box and remove cable W42 plug P1 (1) from UPS jack DC IN.
3. Measure resistance between pins of plugs P2 (2) and P1 (1) of cable W42 as follows:  
 P2 pin A to P1 pin A, E, and F  
 P2 pin B to P1 pin B, C, and D
4. Does multimeter read 0 ohms for each measurement?



NO

**4YN**

1. Replace cable W42 (WP 0852 00).
2. Verify no faults found.

YES

**5Y**

1. Faulty ATCCS UPS Power. Beyond unit maintenance repair.
2. Notify supervisor.

**IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY  
(M1068A3 ONLY)**

**0101 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)

Materials/Parts

Lockwasher (10)

Carrier blocked (see your -10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

All AC External and Internal Power is OFF (see TM 710-256-12&P)

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

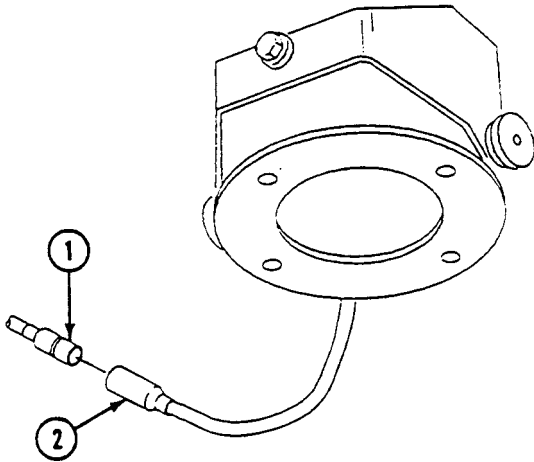
**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY)—Continued**

0101 00

**T**

1. Disconnect cable W28, plug P2 (1) from light lead (2).
2. Ensure ramp door is open or down. Set MASTER SWITCH to ON (see your -10).
3. Turn on dome lights from either the front dome light switch (on master switch panel) or at the rear dome light switch near the ramp. To do this, the blackout-bypass switch must be OFF, the ramp up, and the rear door closed.
4. Measure voltage between plug P2 (1) and ground.
5. Does multimeter read 22 volts DC or more?



**NO**

**GO TO AY (PAGE 0101 00-3)**

**YES**

**Y**

1. Turn MASTER SWITCH to OFF (see your -10).
2. Have light bulbs been replaced?

**NO**

**YN**

1. Replace light bulbs (WP 0312 00).
2. Verify no faults found.

**YES**

**2Y**

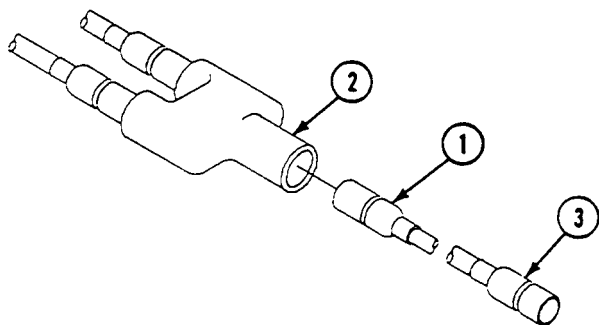
1. Repair light assembly (WP 0310 00).
2. Verify no faults found.

**IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY)—Continued**

0101 00

**AY**

1. Set MASTER SWITCH to OFF.
2. Remove cable W28, plug P1 (1) from adapter plug P1 (2).
3. Measure resistance between cable W28 plugs P1 and P2 (3).
4. Does multimeter read 0 ohms?



**NO**

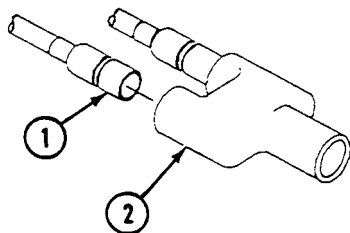
**AYN**

1. Replace cable W28 (WP 0849 00).
2. Verify no faults found.

**YES**

**A2Y**

1. Remove lead 38B (1) from adapter plug P3 (2).
2. Set MASTER SWITCH to ON.
3. Measure voltage between lead 38B (1) and ground.
4. Does multimeter read 22 volts DC or more?



**NO**

**A2YN**

1. Refer to: Dome Light Malfunction (M577A3 Only) (WP 0040 00).

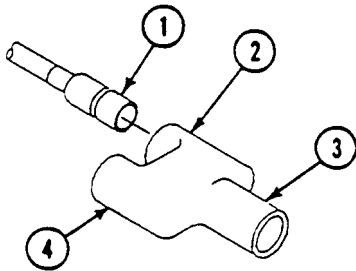
**YES**

**IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY)—Continued**

0101 00

**A3Y**

1. Set MASTER SWITCH to OFF.
2. Remove cable W35, plug P1 (1) from adapter plug P2 (2).
3. Measure resistance between plugs P1 (3), P2 (2), and P3 (4) of adapter.
4. Does multimeter read 0 ohms for each measurement?



NO

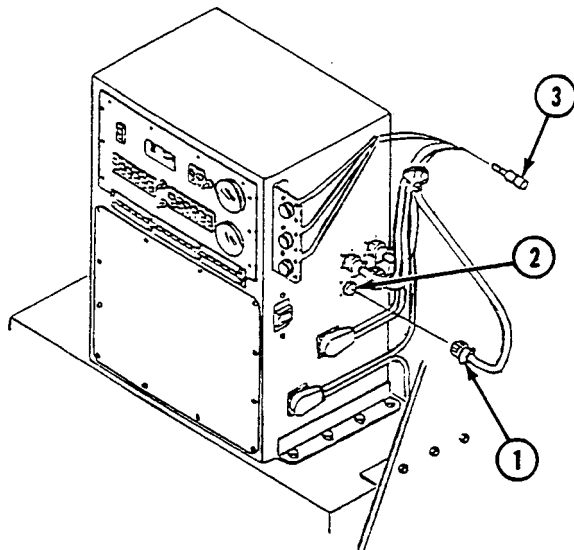
**A3YN**

1. Replace adapter (WP 0849 00).
2. Verify no faults found.

YES

**A4Y**

1. Remove cable W35 plug P9 (1) from jack J29 (2) of Power Control Enclosure.
2. Measure resistance between plugs P1 (3) and P9 (1) of cable W35.
3. Does multimeter read 0 ohms?



NO

**A4YN**

1. Replace cable W35 (WP 0849 00).
2. Verify no faults found.

YES

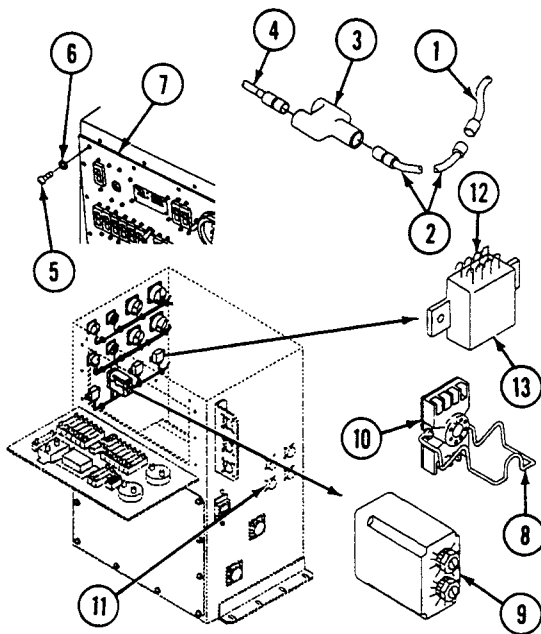
A5Y

**WARNING**



Make sure ALL AC external and internal power is OFF.

1. Install front light lead 38B (1) on cable W28 P2 (2) and cable to plug P1 of adapter (3).
2. Install rear domelight lead 38B (4) on plug P3 of adapter (3).
3. Remove ten screws (5) and lockwashers (6), and lower faceplate (7). Discard lockwashers.
4. Lift relay bail (8) and remove XK2 relay (9) from relay socket (10).
5. Measure resistance between jack J29 center pin (11) and pin X1 (12) of relay XK5 (13).
6. Does multimeter read 0 ohms?



YES

A5YN

1. Faulty inside lead 34A of Power Control Enclosure. Beyond unit maintenance repair.
2. Notify Supervisor.

**IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY)—Continued**

0101 00

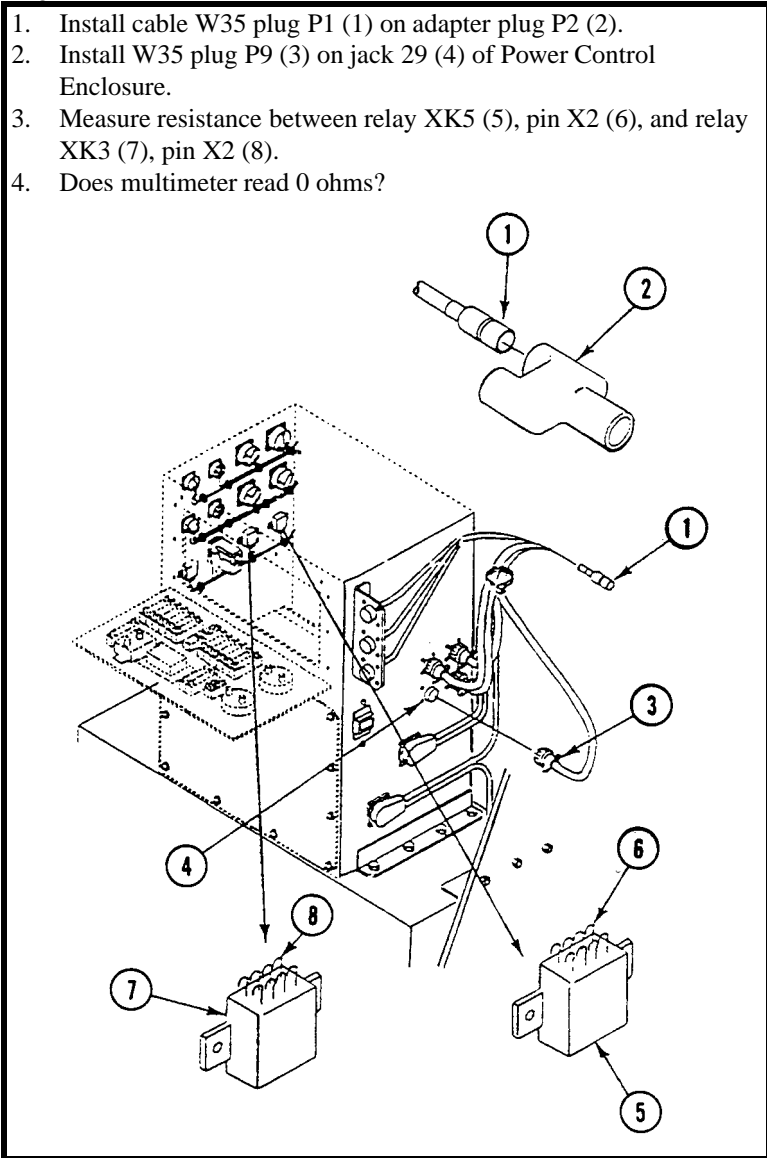
**A6Y**

1. Install cable W35 plug P1 (1) on adapter plug P2 (2).
2. Install W35 plug P9 (3) on jack 29 (4) of Power Control Enclosure.
3. Measure resistance between relay XK5 (5), pin X2 (6), and relay XK3 (7), pin X2 (8).
4. Does multimeter read 0 ohms?

**NO**

**A6YN**

1. Faulty lead 3F of XK2. Beyond unit maintenance repair.
2. Notify Supervisor.



**YES**

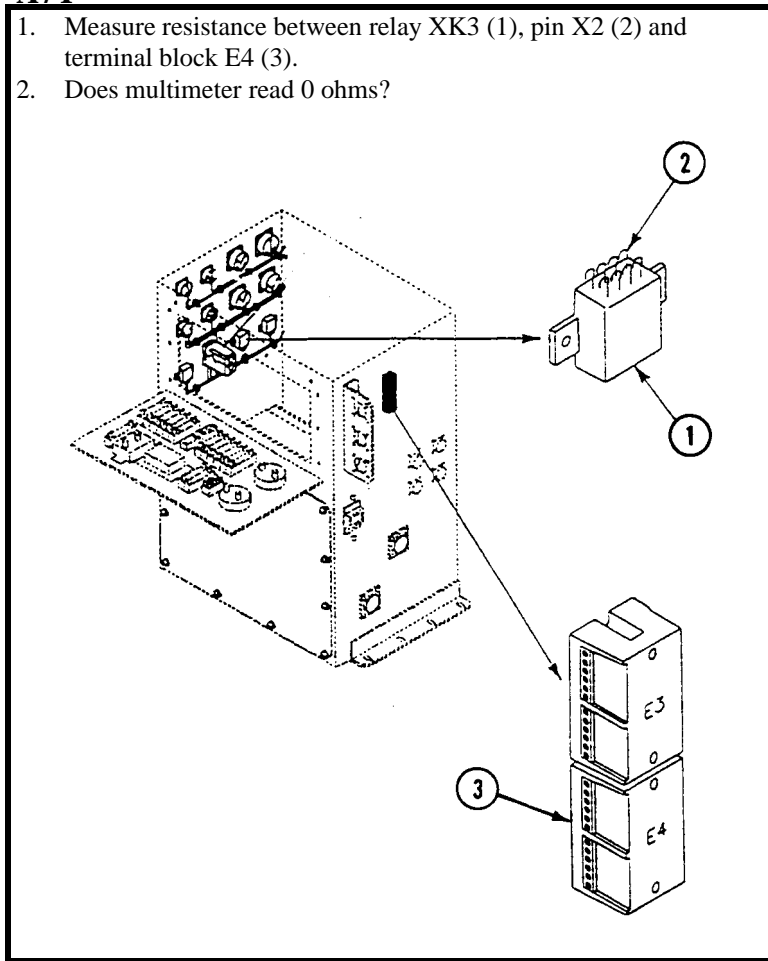


**IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY)—Continued**

0101 00

**A7Y**

1. Measure resistance between relay XK3 (1), pin X2 (2) and terminal block E4 (3).
2. Does multimeter read 0 ohms?



**NO**

**A7YN**

1. Faulty lead 3E of XK3. Beyond unit maintenance repair.
2. Notify Supervisor.

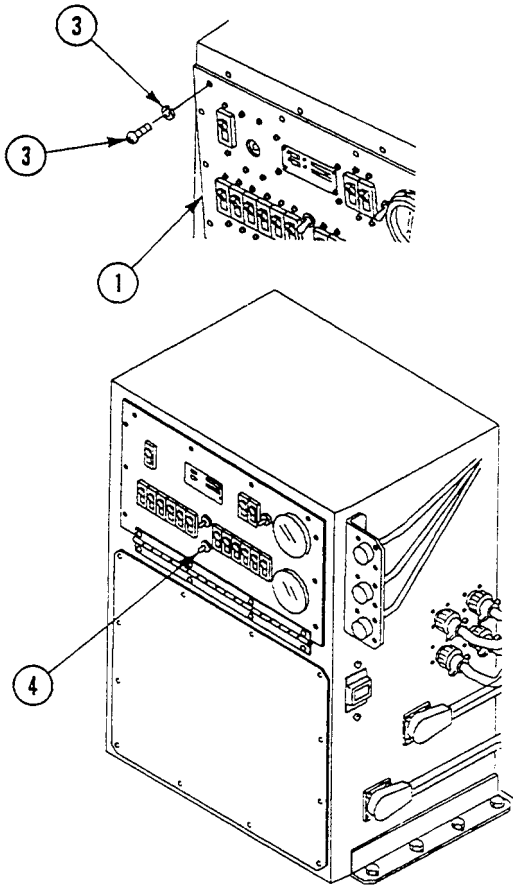
**YES**

**IN BLACKOUT MODE, FLUORESCENT LIGHTS OPERATE INCORRECTLY (M1068A3 ONLY)—Continued**

0101 00

**A8Y**

1. Lift relay bail and install XK2 relay on relay socket.
2. Raise faceplate (1) and secure to enclosure with ten new lockwashers (2) and screws (3).
3. Set MASTER SWITCH to ON. Set vehicle BLACKOUT LIGHT to ON. Be sure ramp door is open.
4. Apply AC power to SICPS system. Set BLACKOUT ENABLE switch (4) on Power Control Enclosure panel in upward position (TM 11-7010-256-12&P).
5. Do fluorescent lights illuminate?



**NO**

**A8YN**

1. Faulty relay XK5. Beyond unit maintenance repair.
2. Notify Supervisor.

**YES**

**A9Y**

1. Verify no faults found.

**FLUORESCENT LIGHTS DO NOT OPERATE (M1068A3 ONLY)**

**0102 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
 TM 10-5410-229-13&P  
 TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
 Digital multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
 Carrier blocked (see your -10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
 Helper (H)

**WARNING**



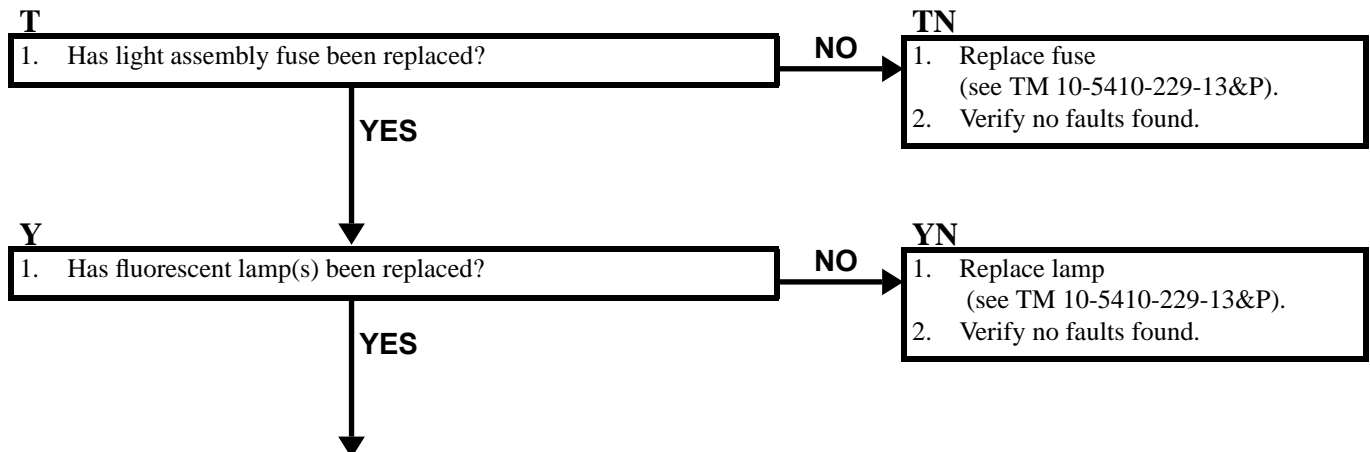
**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

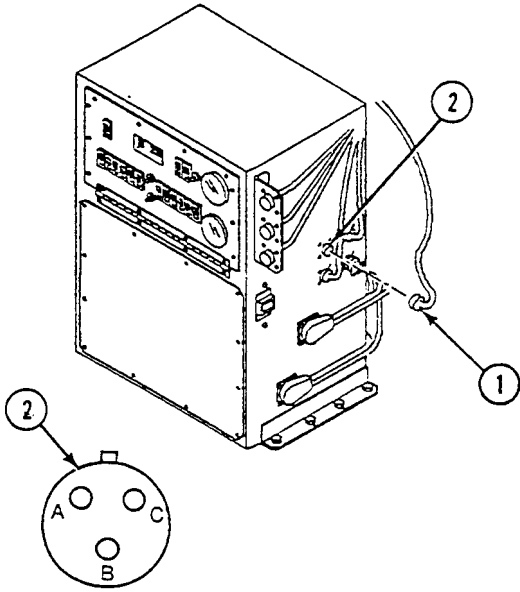
**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.



**2Y**

1. Remove all power (see your -10 and TM 11-7010-256-12&P).
2. Remove cable W11, plug P17 (1) from power control enclosure jack J37 (2).
3. Apply AC power and set AC LIGHTS and BLACKOUT ENABLE switches to upward position (see TM 11-7101-256-12&P).
4. Measure voltage between sockets A and B of jack J37 (2).
5. Does multimeter read 110 volts AC or more?



**NO**

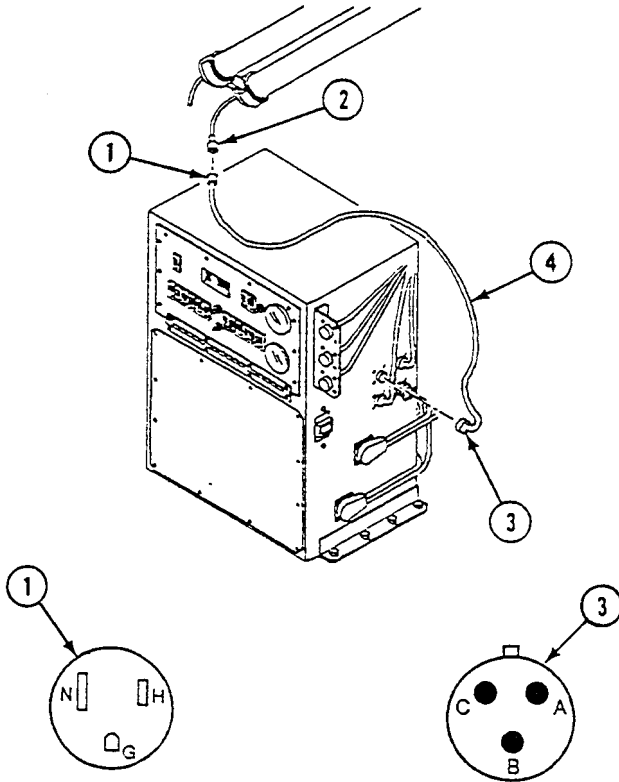
**2YN**

1. Go to: No Power To AC Circuits (M1068A3 Only) (WP 0107 00).

**YES**

**3Y**

1. Set power control enclosure AC MAIN switch to OFF (see TM 11-7010-256-12&P).
2. Remove cable W11 plug P2 (1) from light assembly plug P1 (2).
3. Measure resistance between sockets of P2 (1) and pins of plug P17 (3) on cable W11 (4) as follows:  
 P2 socket H to P17 pin A  
 P2 socket N to P17 pin B  
 P2 socket G to P17 pin C
4. Does multimeter read 0 ohms for each measurement?



**NO**

**3YN**

1. Replace cable W11 (WP 0845 00).
2. Verify no faults found.

**YES**

**4Y**

1. Replace/repair light set assembly (WP 0825 00 and TM 10-5410-229-13&P).



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**VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED  
(M1068A3 ONLY)**

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**0103 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwashers (22)

Personnel Required

Power-generation Equipment Repairer 52D10  
Helper (H)

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**WARNING**

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**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

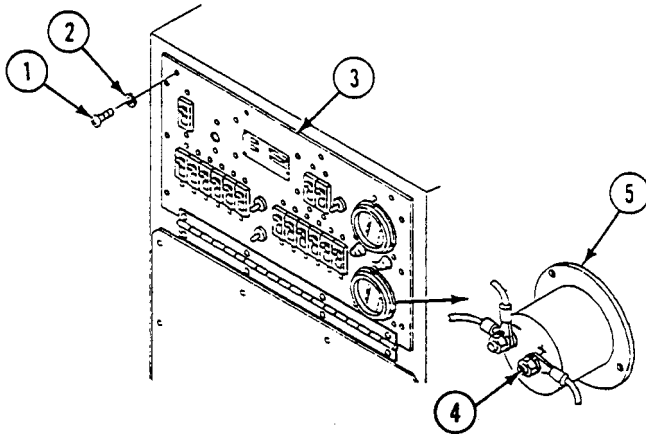
**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY)—Continued

0103 00

**T**

1. Remove ten screws (1), lockwashers (2), and lower faceplate (3) on Power Control Enclosure. Discard lockwashers.
2. Set MASTER SWITCH to ON.
3. Measure voltage between positive (+) terminal (4) on meter M2 (5) and ground.
4. Does multimeter read 22 volts DC or more?



**NO**

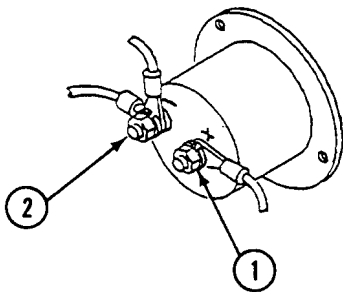
**TN**

1. Go to: Power Control Enclosure A1 DC Input/Output Inoperative (M1068A3 Only) (WP 0090 00).

**YES**

**Y**

1. Measure voltage between positive (+) terminal (1) and negative (-) terminal (2) of Power Control Enclosure A1 meter M2 (3).
2. Does multimeter read 22 volts DC or more?



**NO**

**YN**

1. Replace Power Control Enclosure A1 meter M2 (WP 0827 00).
2. Verify no faults found.

**YES**

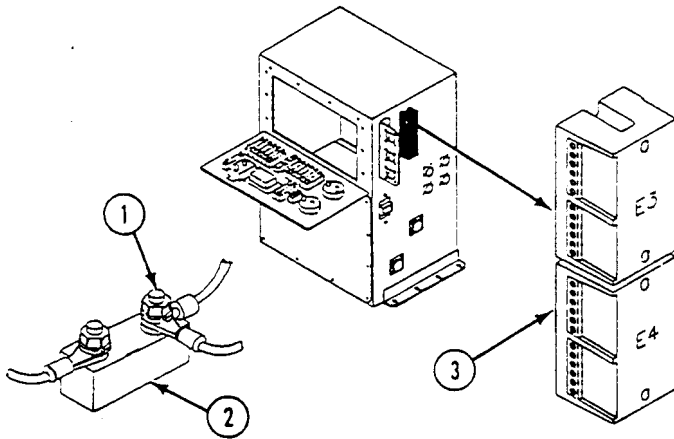


**VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY)—Continued**

0103 00

**2Y**

1. Set MASTER SWITCH to OFF.
2. Apply external AC power to SICPS vehicle (TM 11-7010-256-12&P).
3. Measure voltage between terminal 1 (1) of circuit breaker CB1 (2) and terminal block E4 (3).
4. Does multimeter read 110 volts AC or more?



**YES**



**NO**

**2YN**

1. Go to: Vehicle Will Not Accept External AC Power (M1068A3 Only) (WP 0104 00).

VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY)—Continued

0103 00

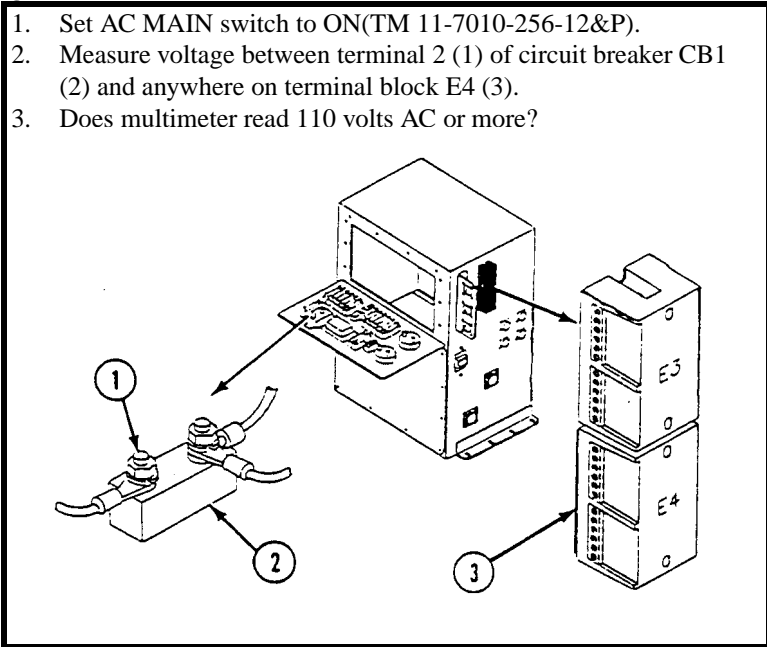
**3Y**

1. Set AC MAIN switch to ON(TM 11-7010-256-12&P).
2. Measure voltage between terminal 2 (1) of circuit breaker CB1 (2) and anywhere on terminal block E4 (3).
3. Does multimeter read 110 volts AC or more?

NO

**3YN**

1. Replace circuit breaker CB1 (WP 0828 00).
2. Verify no faults found.



YES

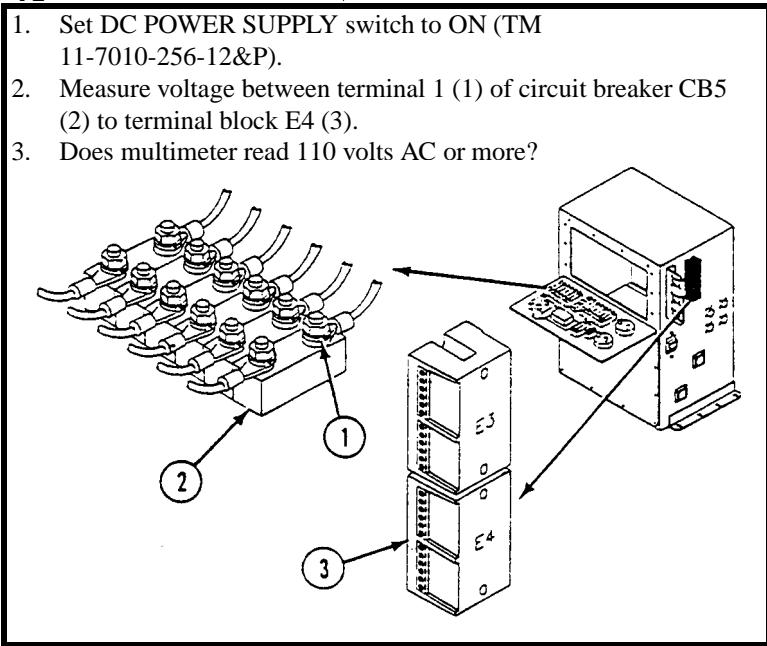
**4Y**

1. Set DC POWER SUPPLY switch to ON (TM 11-7010-256-12&P).
2. Measure voltage between terminal 1 (1) of circuit breaker CB5 (2) to terminal block E4 (3).
3. Does multimeter read 110 volts AC or more?

NO

**4YN**

1. Faulty circuit 9D. Beyond unit maintenance repair.
2. Notify supervisor.



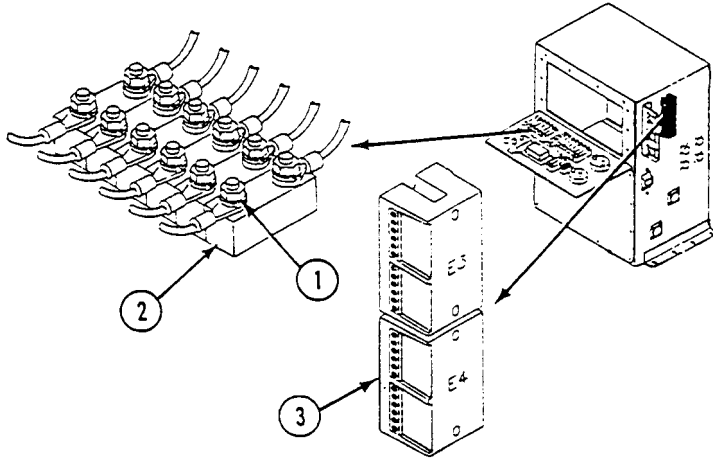
YES

VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY)—Continued

0103 00

**5Y**

1. Measure voltage between terminal 2 (1) of circuit breaker CB5 (2) and terminal block E4 (3).
2. Does multimeter read 110 volts AC or more?



**NO**

**5YN**

1. Replace circuit breaker CB5 (WP 0828 00).
2. Verify no faults found.

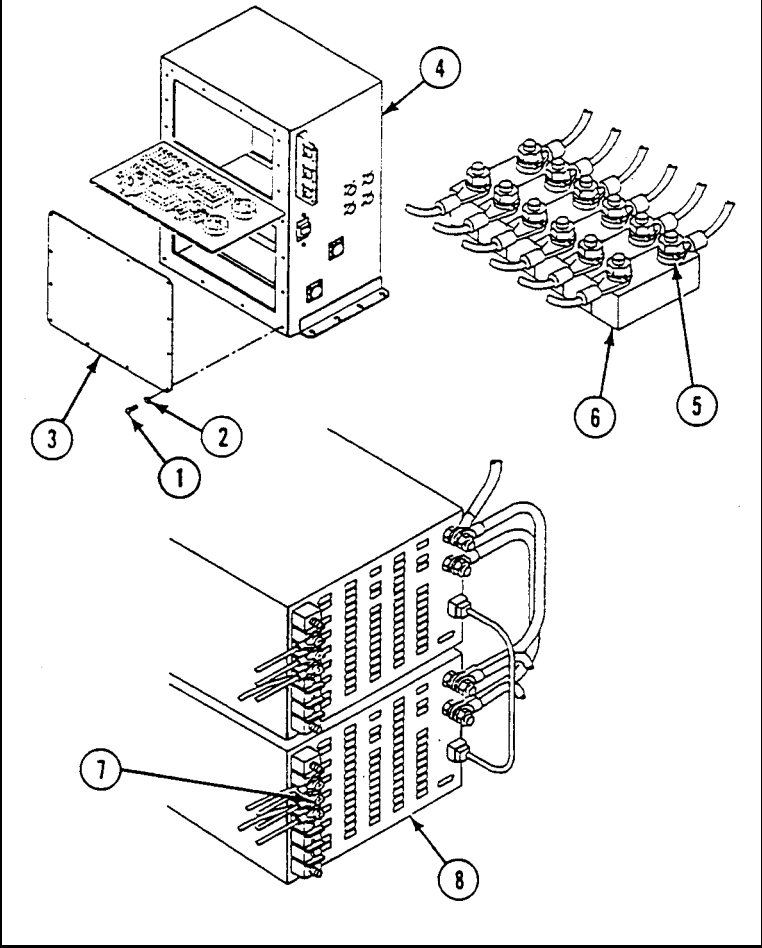
**YES**

VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY)—Continued

0103 00

6Y

1. Turn OFF AC and DC Power (TM 11-7010-256-12&P).
2. Remove 12 screws (1), lockwashers (2), and cover (3) from Power Control Enclosure (4). Discard lockwashers.
3. Measure resistance between terminal 2 (5) of circuit breaker CB5 (6) and AC HIGH terminal (7) of power supply PS2 (8).
4. Does multimeter read 0 ohms?



NO

6YN

1. Faulty circuit 10A. Beyond unit maintenance repair.
2. Notify supervisor.

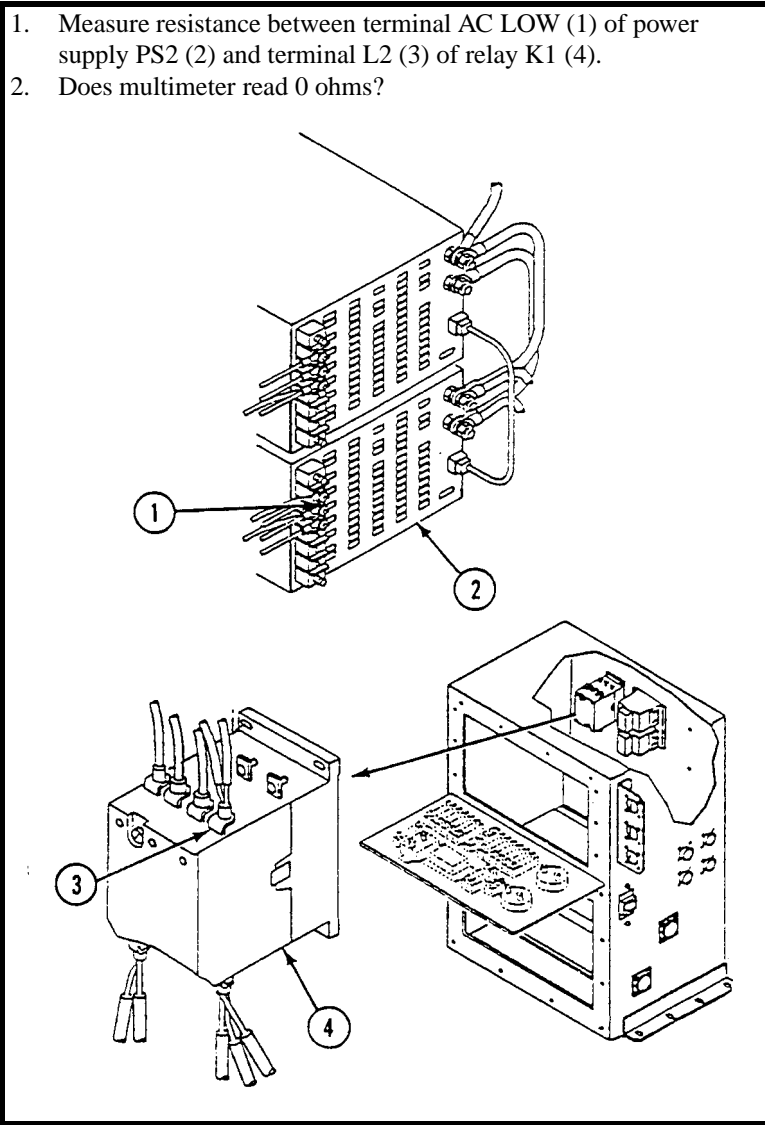
YES

VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY)—Continued

0103 00

7Y

1. Measure resistance between terminal AC LOW (1) of power supply PS2 (2) and terminal L2 (3) of relay K1 (4).
2. Does multimeter read 0 ohms?



NO

7YN

1. Faulty circuit 8B. Beyond unit maintenance repair.
2. Notify supervisor.

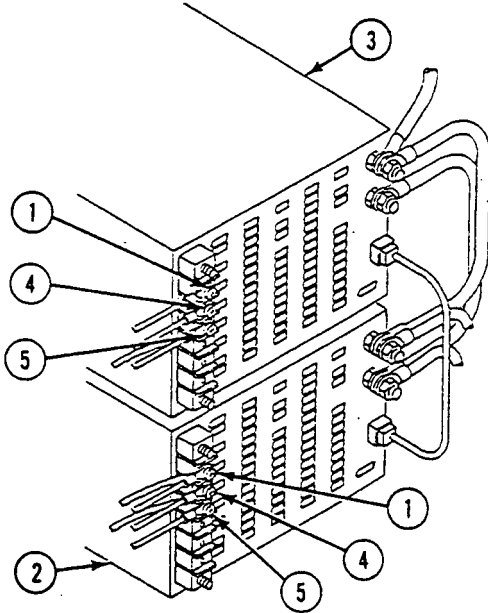
YES

VEHICLE BATTERIES DISCHARGE WITH EXTERNAL AC POWER APPLIED (M1068A3 ONLY)—Continued

0103 00

**8Y**

1. Measure resistance between circuit 10B terminals (1) on power supply PS2 (2) and power supply PS1 (3).
2. Measure resistance between circuit 8C terminals (4) on power supply PS2 (2) and power supply PS1 (3).
3. Measure resistance between circuit 3Z terminals (5) on power supply PS2 (2) and power supply PS1 (3).
4. Does multimeter read 0 ohms for each measurement?



**NO**

**8YN**

1. Faulty circuit 10B, 8C, and/or 3Z. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**9Y**

1. Install 12 screws, new lockwashers, and cover on Power Control Enclosure A1.
2. Raise faceplate on Power Control Enclosure A1 and secure with ten screws and new lockwashers.
3. Faulty power supply(s). Beyond unit maintenance repair.
4. Notify supervisor.

**VEHICLE WILL NOT ACCEPT EXTERNAL AC POWER (M1068A3 ONLY)**

**0104 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Vehicle grounded (see your -10) and  
(TM 11-7010-256-12&P)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

**WARNING**



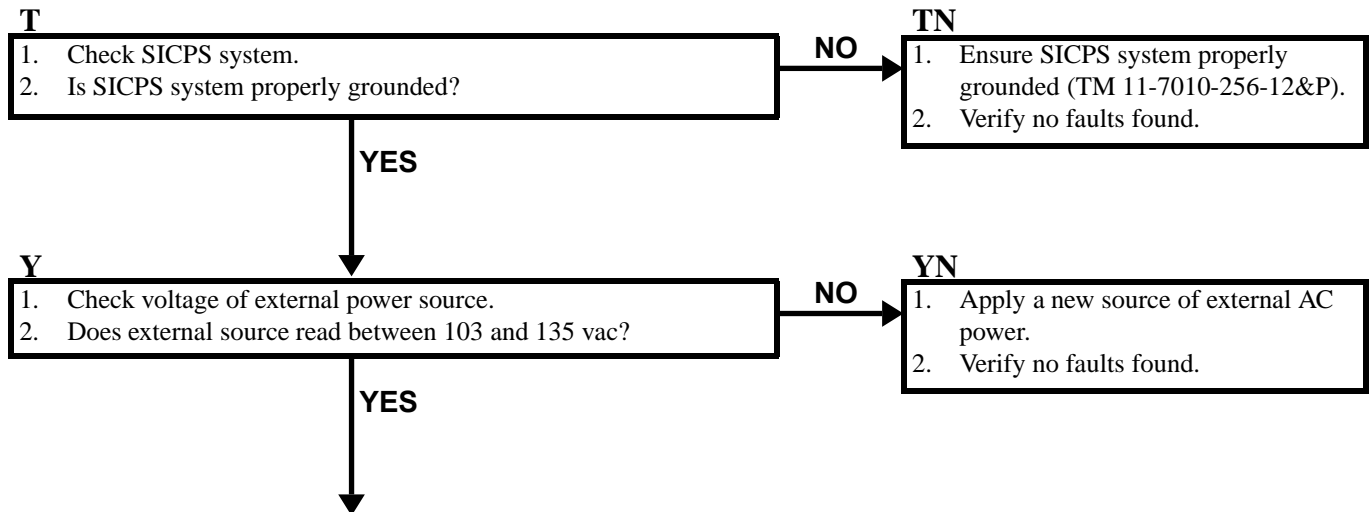
**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

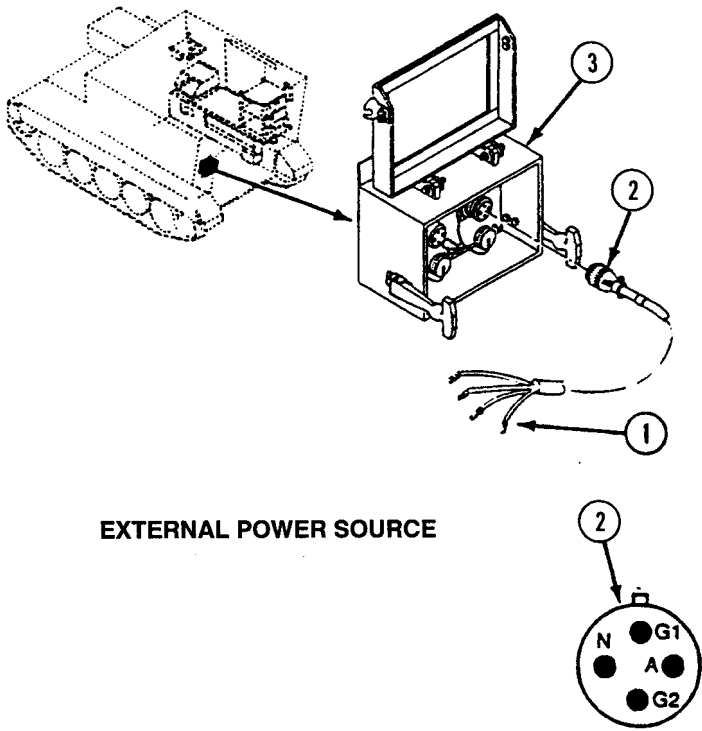
**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.



**2Y**

1. Apply external source of AC power to SICPS vehicle (TM 11-7010-256-12&P).
2. Remove cable W1 leads (1) from external power source, if applicable.
3. Remove cable W2, J1 (2) from Power Entry Box (3).
4. Measure resistance between W1 leads and W2 plug J1 (2) as follows:
  - W1 HOT to J1 pin A
  - W1 NEU to J1 pin N
  - W1 GND1 to J1 pin G1
  - W1 GND2 to J1 pin G2
5. Does multimeter read 0 ohms for all readings?



EXTERNAL POWER SOURCE

NO

**2YN**

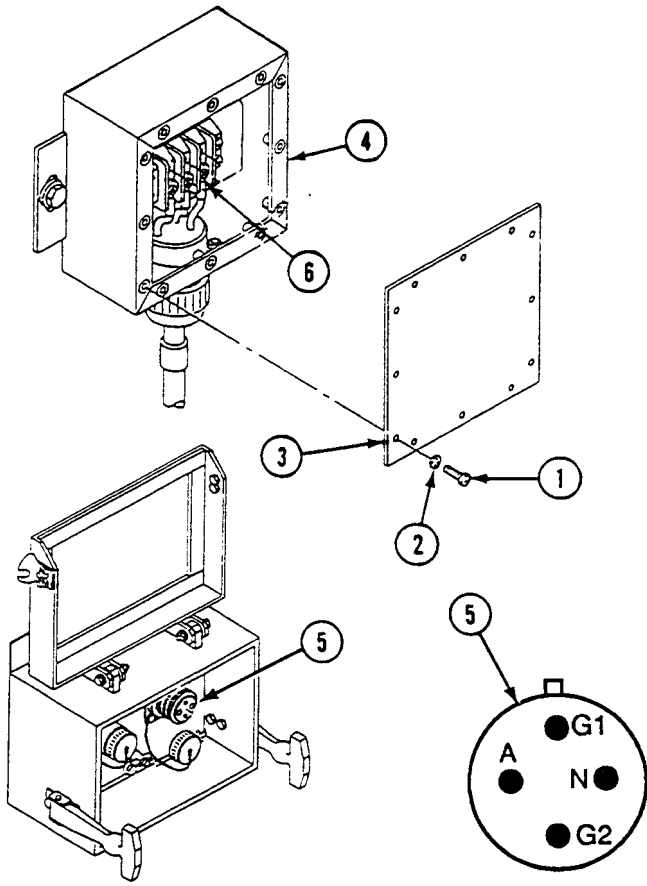
1. Replace cable W1/2 (see TM 11-7010-256-12&P).
2. Verify no faults found.

YES



**3Y**

1. Remove 12 screws (1), lockwashers (2), and cover (3) from Power Distribution Box (4).
2. Measure resistance between Power Entry Box A4 plug P1 (5) and Power Distribution Box A3 (4) terminal block as follows:
  - P1 socket A to post E1
  - P1 socket N to post E2
  - P1 socket G1 to post E3
  - P1 socket G2 to post E3
3. Does multimeter read 0 ohms for each reading?



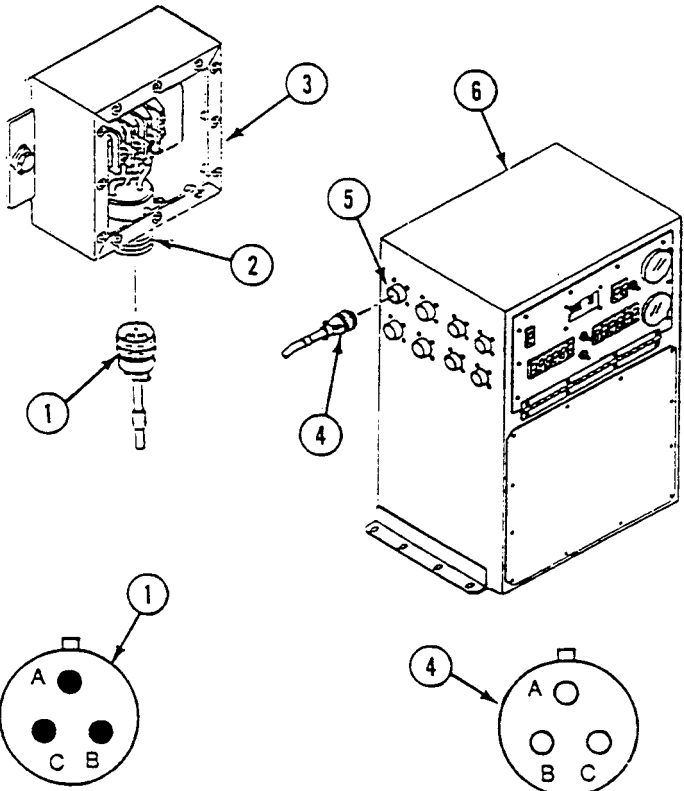
YES  
↓

**3YN**

1. Replace Power Entry Box Assembly A4 (M1068A3 Only) (WP 0832 00).
2. Verify no faults found.

**4Y**

1. Remove cable W3 plug P1 (1) from jack J1 (2) on Power Distribution Box (3) and plug P3 (4) from jack J24 (5) on Power Control Enclosure (6).
2. Measure resistance between plug P1 (1) and plug P3 (4) as follows:
  - P1 pin A to P3 socket A
  - P1 pin B to P3 socket B
  - P1 pin C to P3 socket C
3. Does multimeter read 0 ohms for each reading?



NO

**4YN**

1. Replace cable W3 (WP 0837 00).
2. Verify no faults found.

YES

**5Y**

1. Faulty Power Control Enclosure. Beyond unit maintenance repair.
2. Notify supervisor.

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**VEHICLE WILL NOT ACCEPT INVERTER AC POWER (M1068A3 ONLY)**

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**0105 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)

Digital multimeter (WP 0926 00, Item 30)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10

Helper (H)

References

See your -10

TM 11-7010-256-12&P

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Carrier grounded (see your -10) and  
(TM 11-7010-256-12&P)

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**WARNING**

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**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

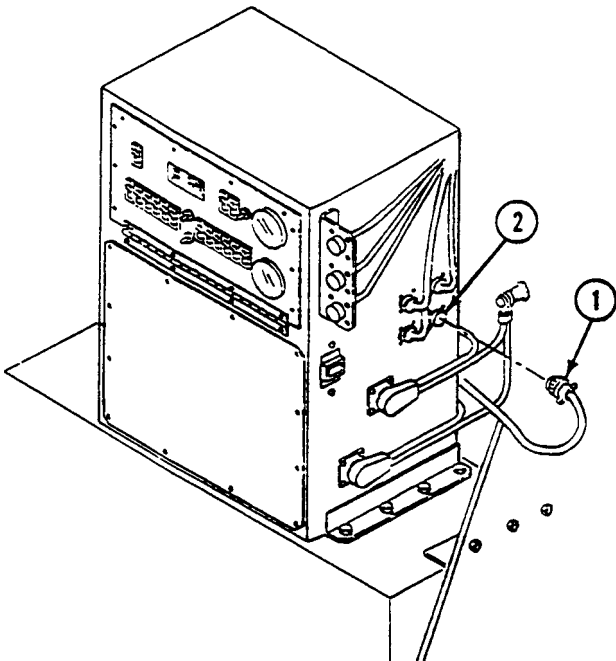
**T**

1. Remove all external power from SICPS system (see your -10) and (TM 11-7010-256-12&P).
2. Remove cable W5 plug P6 (1) from power enclosure jack J27 (2).
3. Turn MASTER POWER switch ON.
4. Turn on inverters (TM 11-7010-256-12&P).
5. Measure voltage between pins A and B of plug P6 (1). Repeat measure for pins C and D.
6. Does multimeter read 110 volts AC or more for both measurements?

**NO**

**TN**

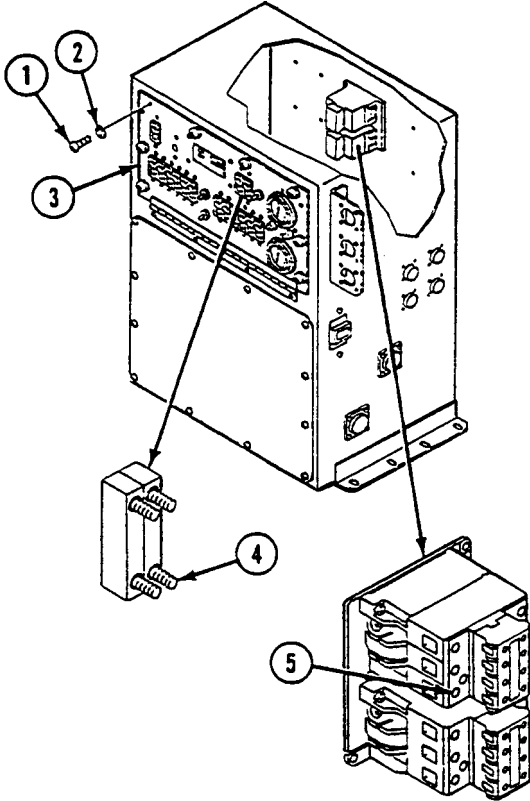
1. Go to: No AC Power From Inverters (M1068A3 Only) (WP 0109 00).



**YES**

**Y**

1. Turn MASTER POWER switch OFF.
2. Install cable W5 on power enclosure.
3. Remove ten screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
4. Measure resistance between circuit breaker CB3 pin 2 (4) and reversing contactor RC1-REV terminal L1 (5).
5. Does multimeter read 0 ohms?



**NO**

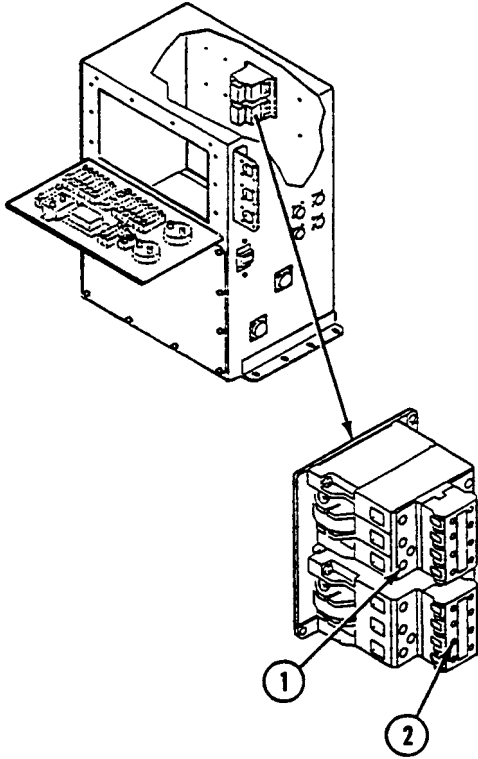
**YN**

1. Faulty lead 13A. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

2Y

1. Measure resistance between reversing contactor RC1-REV terminal L1 (1) and reversing contactor RC1-FWD terminal 51 (2).
2. Does multimeter read 0 ohms?



NO

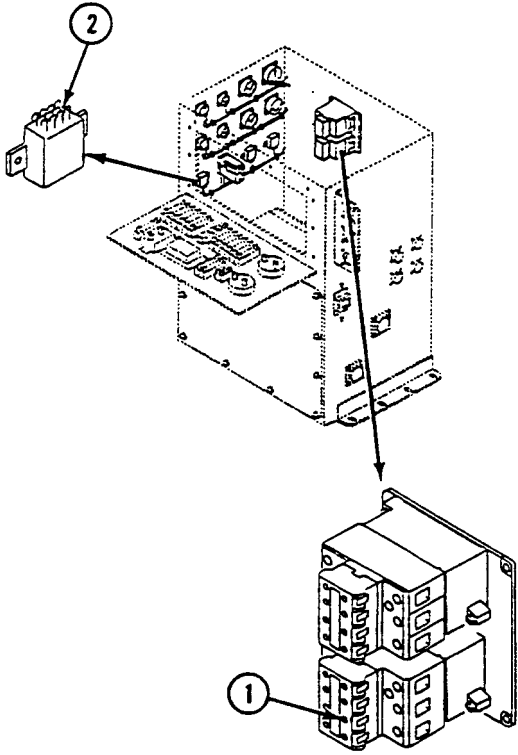
2YN

1. Faulty lead 13D. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**3Y**

1. Measure resistance between reversing contactor RC1-FWD terminal 52 (1) and relay K4 terminal A3 (2).
2. Does multimeter read 0 ohms?



YES



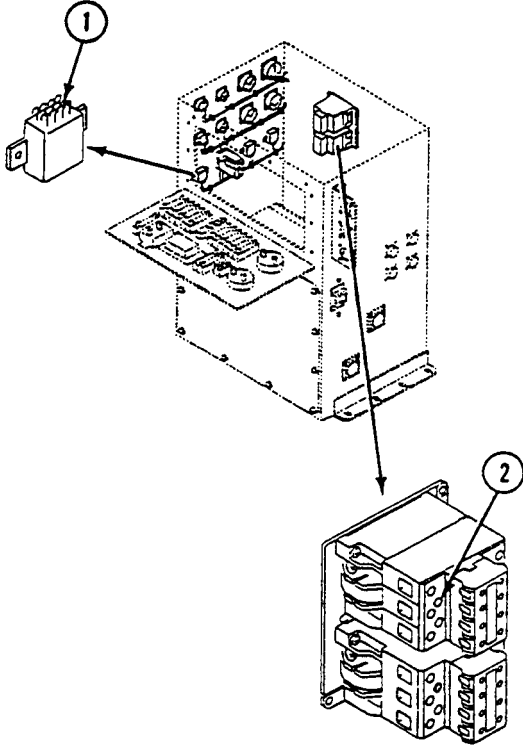
NO

**3YN**

1. Faulty lead 14A. Beyond unit maintenance repair.
2. Notify supervisor.

**4Y**

1. Measure resistance between relay K4 terminal A2 (1) and reversing contactor RC1-REV terminal A2 (2).
2. Does multimeter read 0 ohms?



**NO**

**4YN**

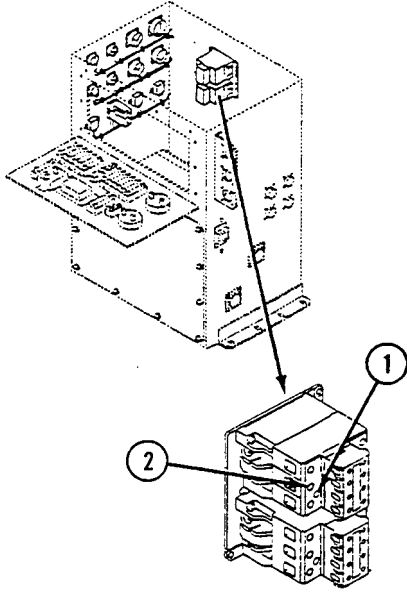
1. Faulty lead 16A. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**



**5Y**

1. Measure resistance between reversing contactor RC1-REV terminal A1 (1) and terminal L2 (2).
2. Does multimeter read 0 ohms?



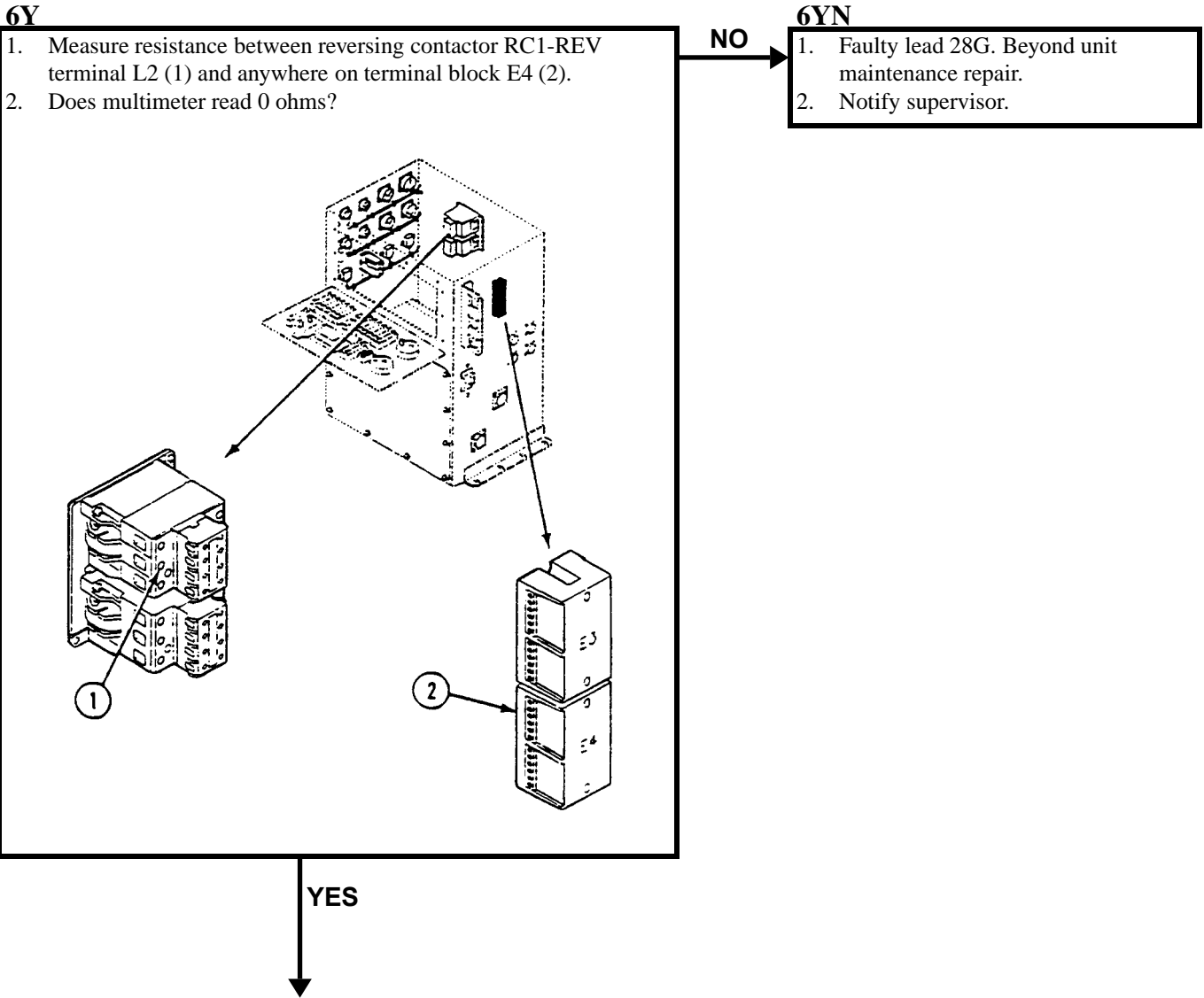
**YES**



**NO**

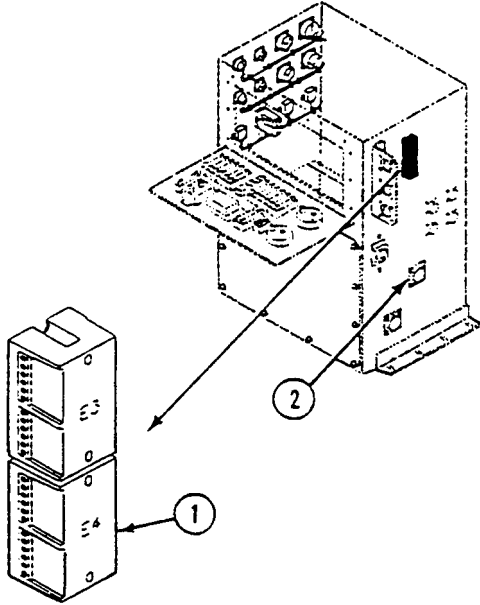
**5YN**

1. Faulty lead 28D. Beyond unit maintenance repair.
2. Notify supervisor.



**7Y**

1. Measure resistance between anywhere on terminal block E4 (1) and power enclosure jack J26 outer shell (2).
2. Does multimeter read 0 ohms?



**YES**

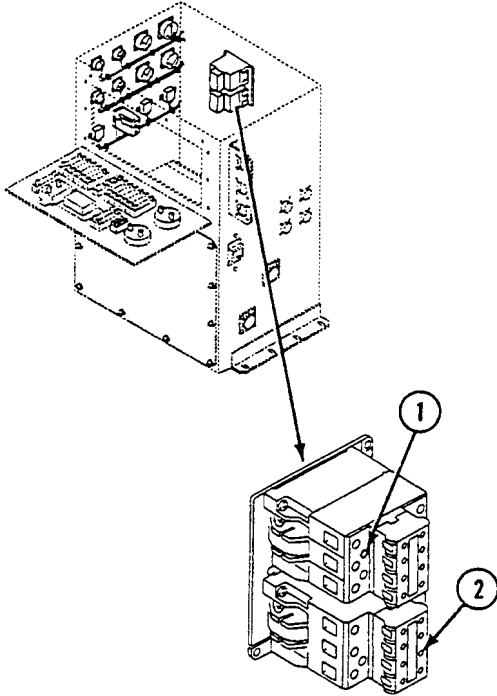
**NO**

**7YN**

1. Faulty lead 32C. Beyond unit maintenance repair.
2. Notify supervisor.

**8Y**

1. Measure resistance between reversing contactor RC1-REV terminal A2 (1) and reversing contactor RC1-FWD terminal 52 (2).
2. Does multimeter read 0 ohms?



**NO**

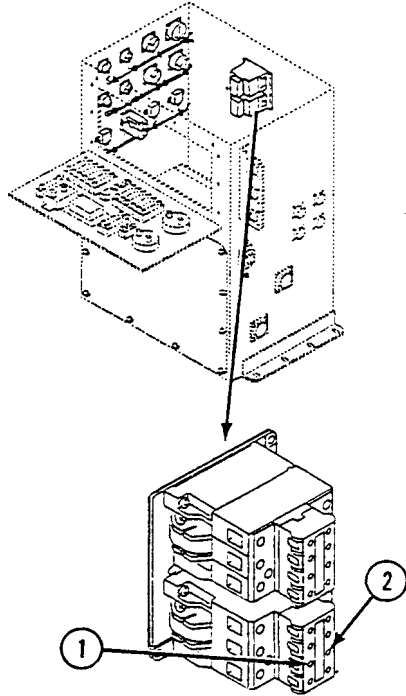
**8YN**

1. Faulty relay K4. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**9Y**

1. Measure resistance between reversing contactor RC1-FWD terminal 51 (1) and terminal 52 (2).
2. Does multimeter read 0 ohms?



**NO**

**9YN**

1. Faulty reversing contactor. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**10Y**

1. Raise faceplate and secure with ten new lockwashers and screws.
2. Verify no faults found.



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**NO POWER TO DC CIRCUITS (M1068A3 ONLY)**

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**0106 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

References

See your -10  
TM 11-7010-256-12&P

Materials/Parts

Lockwasher (22)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

---

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

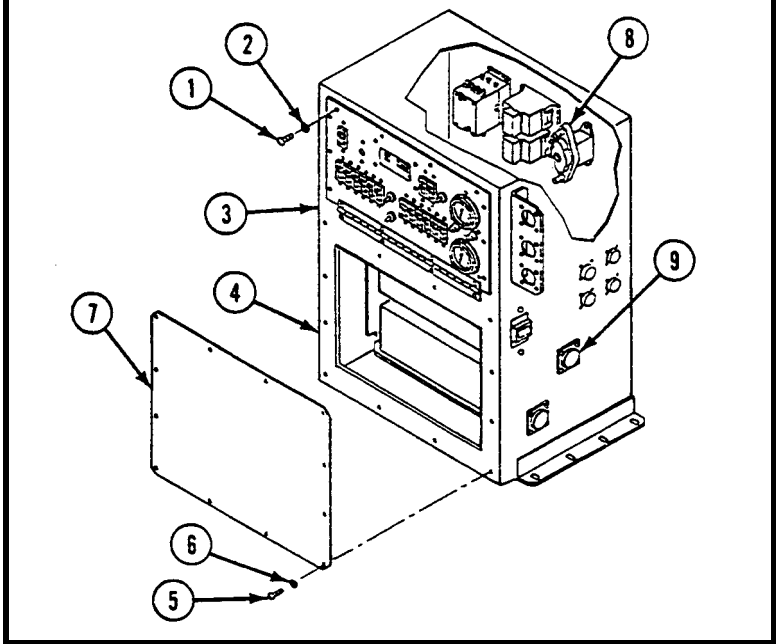
**T**

1. Remove all external power from SICPS system (see your -10 and TM 11-7010-256-12&P).
2. Remove 10 screws (1) and lockwashers (2), and lower faceplate (3) of power control enclosure (4). Discard lockwashers.
3. Remove 12 screws (5), lockwashers (6), and cover (7) from front of power control enclosure (4). Discard lockwashers.
4. Set MASTER SWITCH to ON (see your -10).
5. Measure voltage between relay K6 (8) terminal 2 and power control enclosure jack J25 (9) negative terminal.
6. Does multimeter read 22 volts DC or more?

**NO**

**TN**

1. Go to Power Enclosure A1 DC Input/Output Inoperative (M1068A3 Only) (WP 0090 00).

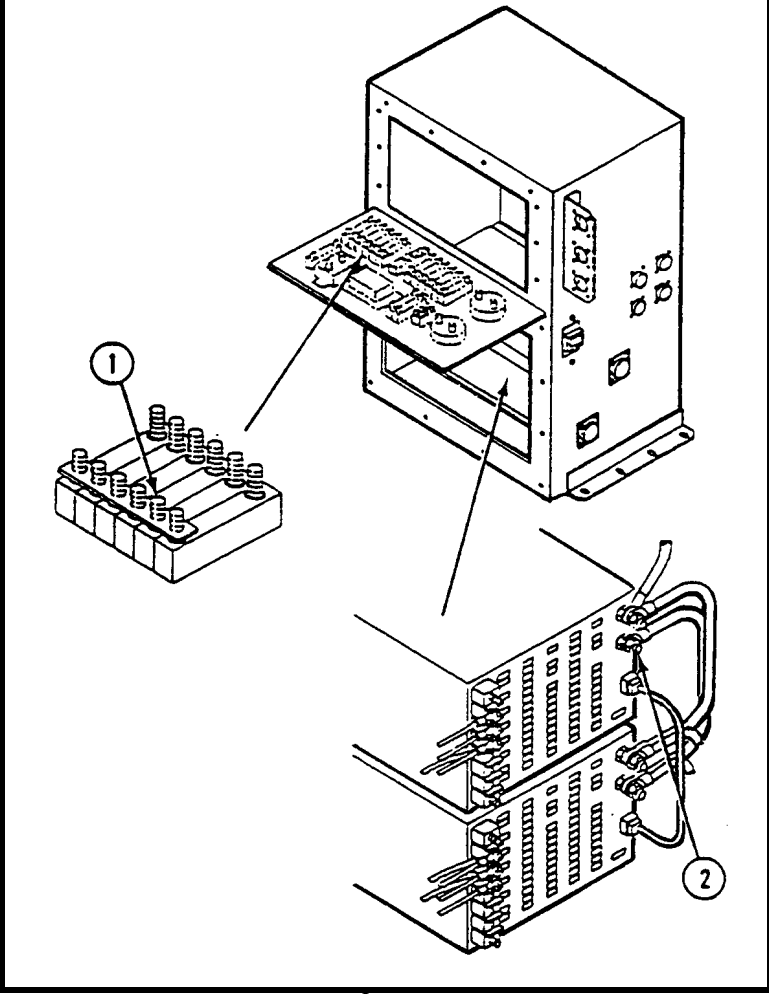


**YES**



Y

1. Measure voltage between circuit breaker CB15 (1) terminal 1 at DC bus bar and power supply PS1 output negative terminal (2).
2. Does multimeter read 22 volts DC or more?



YES



NO

YN

1. Go to Vehicle Batteries Discharge with External AC Power Applied (WP 0103 00).

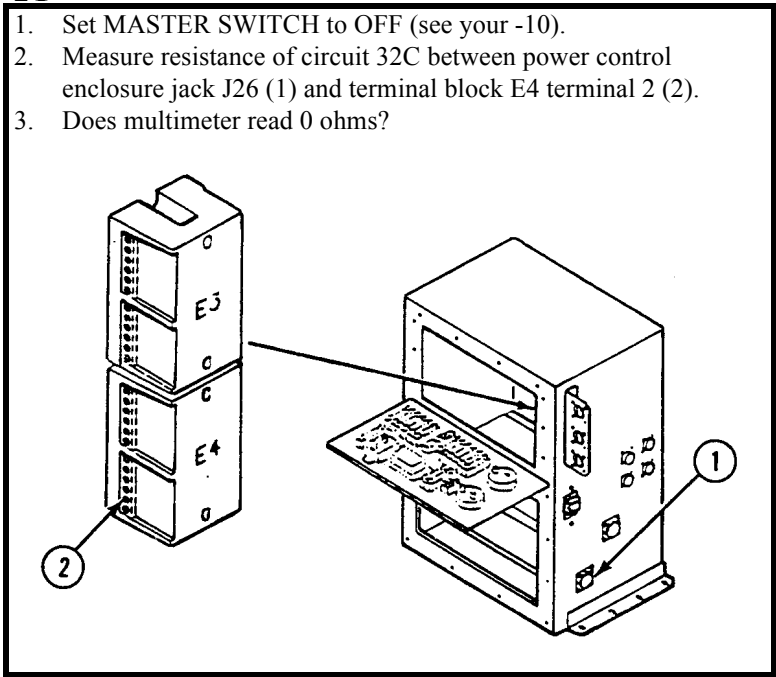
2Y

1. Set MASTER SWITCH to OFF (see your -10).
2. Measure resistance of circuit 32C between power control enclosure jack J26 (1) and terminal block E4 terminal 2 (2).
3. Does multimeter read 0 ohms?

NO

2YN

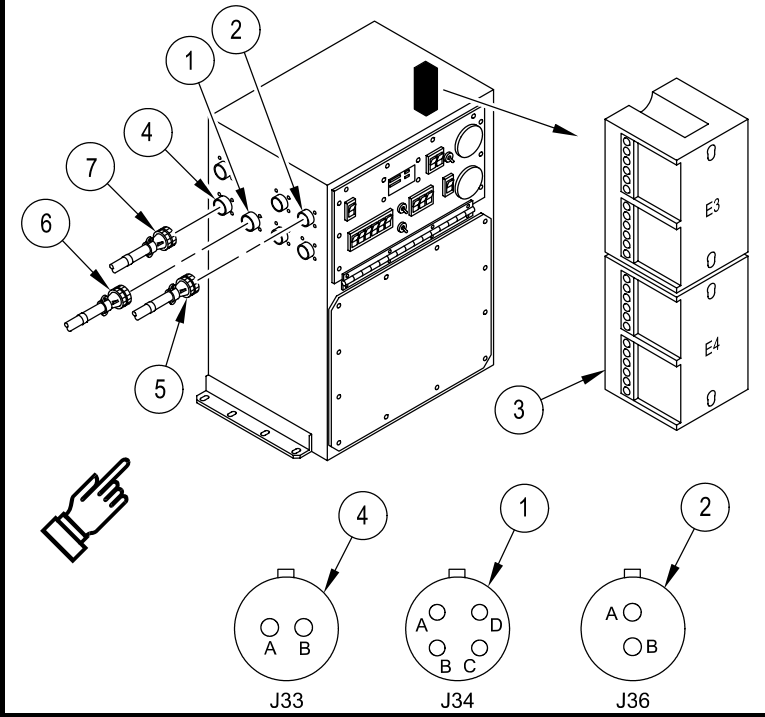
1. Faulty lead 32C in power control enclosure. Beyond unit maintenance repair.
2. Notify supervisor.



YES

**3Y**

1. Remove the following cable plugs from jacks on power control enclosure:
  - W45 plug P13 (7) from jack J33 (4)
  - W10 plug P14 (6) from jack J34 (1)
  - W32 plug P16 (5) from jack J36 (2)
2. Measure resistance of the following leads between terminal block E4 (3) and the following jacks on Power Control Enclosure:
  - Lead 32G to J33 (4) socket B
  - Lead 32H to J34 (1) socket B
  - Lead 32J to J34 (1) socket D
  - Lead 32P to J36 (2) socket B
3. Does multimeter read 0 ohms for all readings?



**YES**



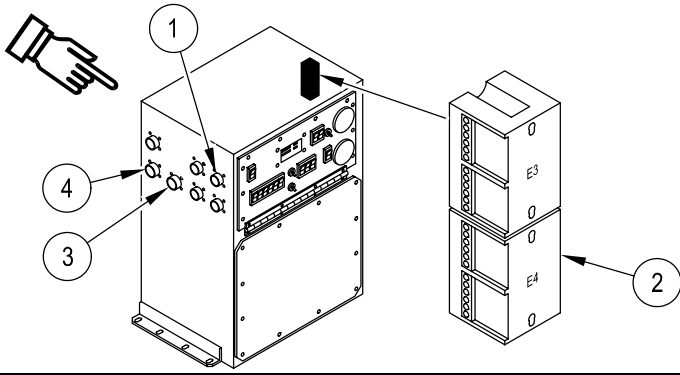
**NO**

**3YN**

1. Faulty leads 32G, H, J, and P in power control enclosure. Beyond unit maintenance repair.
2. Notify supervisor.

4Y

1. Set MASTER SWITCH to ON (see your -10).
2. Set all DC CIRCUITS circuit breakers on power control enclosure panel to ON.
3. Measure voltage between terminal block E4 (2) and the following jacks on Power Control Enclosure:  
 J33 (4) socket A  
 J34 (3) socket A  
 J36 (1) socket A
4. Does multimeter read 22 volts DC or more for all readings?



YES

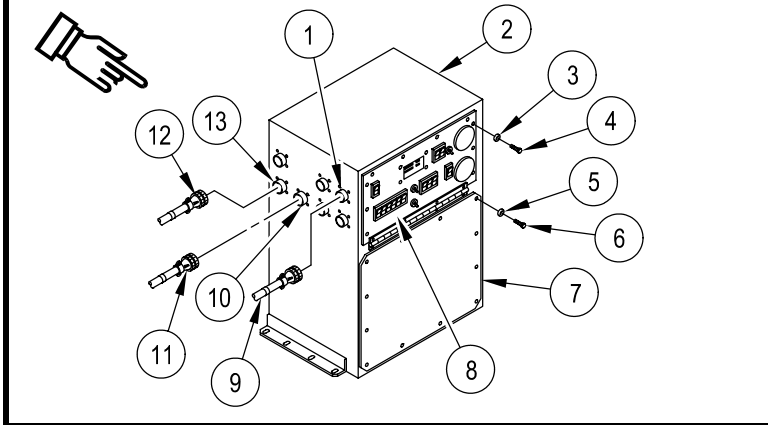
NO

4YN

1. Go to Power Enclosure A1 DC Input/Output Inoperative (WP 0090 00).

## 5Y

1. Install cover (7) on power control enclosure (2) and secure with 12 new lockwashers (5) and screws (6).
2. Raise faceplate (8) and secure to power control enclosure (2) with 10 new lockwashers (3) and screws (4).
3. Install the following cable plugs:
  - W45 plug P13 (12) on jack J33 (13)
  - W10 plug P14 (11) on jack J34 (10)
  - W32 plug P16 (9) on jack J36 (1)
4. Verify no faults found.





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**NO POWER TO AC CIRCUITS (M1068A3 ONLY)**

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**0107 00****INITIAL SETUP:**Maintenance Level

Unit

ReferencesSee your -10  
TM 11-7010-256-12&PTools and Special ToolsGeneral Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)Equipment ConditionEngine stopped (see your -10)  
Carrier blocked (see your -10)Materials/Parts

Lockwasher (10)

Personnel RequiredPower-Generation Equipment Repairer 52D10  
Helper (H)

---

**WARNING**

---



**HIGH VOLTAGE** is used in operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with operation and hazards of equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is **OFF/disconnected**.

**BE CAREFUL** not to touch high-voltage connections when installing or operating this equipment.

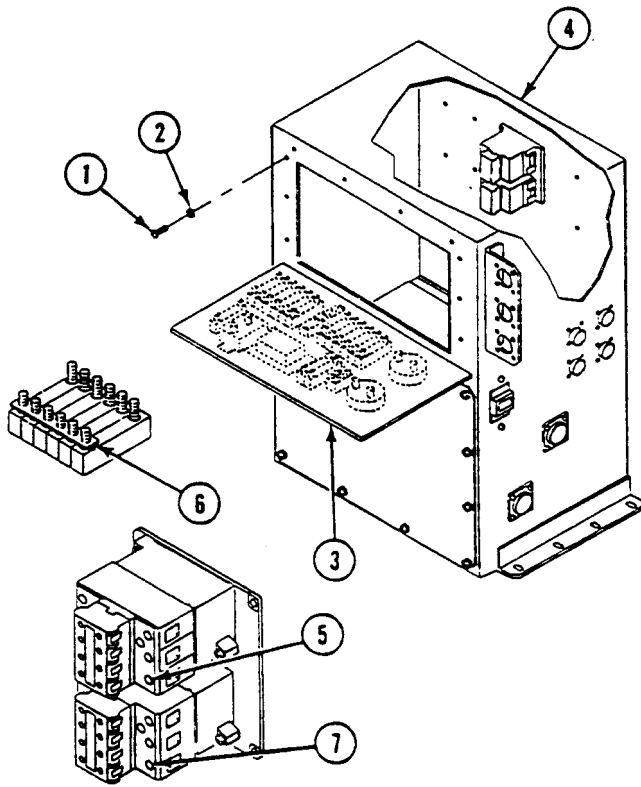
**T**

1. Turn off all power from SICPS system (see your -10 and TM 11-7010-256-12&P).
2. Remove ten screws (1), lockwashers (2), and lower faceplate (3) of power enclosure (4). Discard lockwashers.
3. Measure resistance of circuit 17B between reversing contactor reverse terminal T1 (5) and circuit breaker CB10 terminal 1 (6).
4. Measure resistance of circuit 17A between terminal T1 and forward terminal T1 (7).
5. Does multimeter read 0 ohms for both readings?

**NO**

**TN**

1. Faulty lead 17A and/or lead 17B. Beyond unit maintenance repair.
2. Notify supervisor.

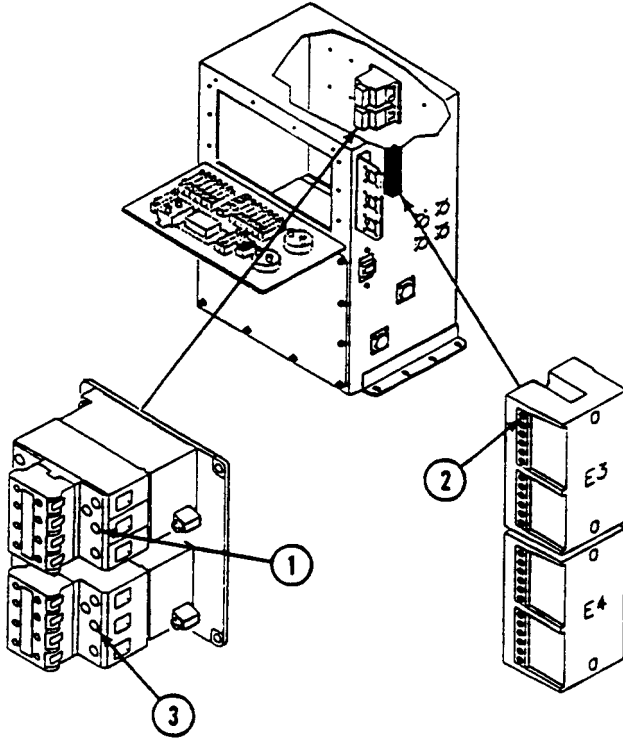


**YES**



Y

1. Measure resistance of circuit 18B between reversing contactor reverse terminal T2 (1) and terminal block E3 terminal 1 (2).
2. Measure resistance of circuit 18A between terminal T2 (1) and forward terminal T2 (3).
3. Does multimeter read 0 ohms for both readings?



NO

YN

1. Faulty lead 18A and/or lead 18B. Beyond unit maintenance repair.
2. Notify supervisor.

YES

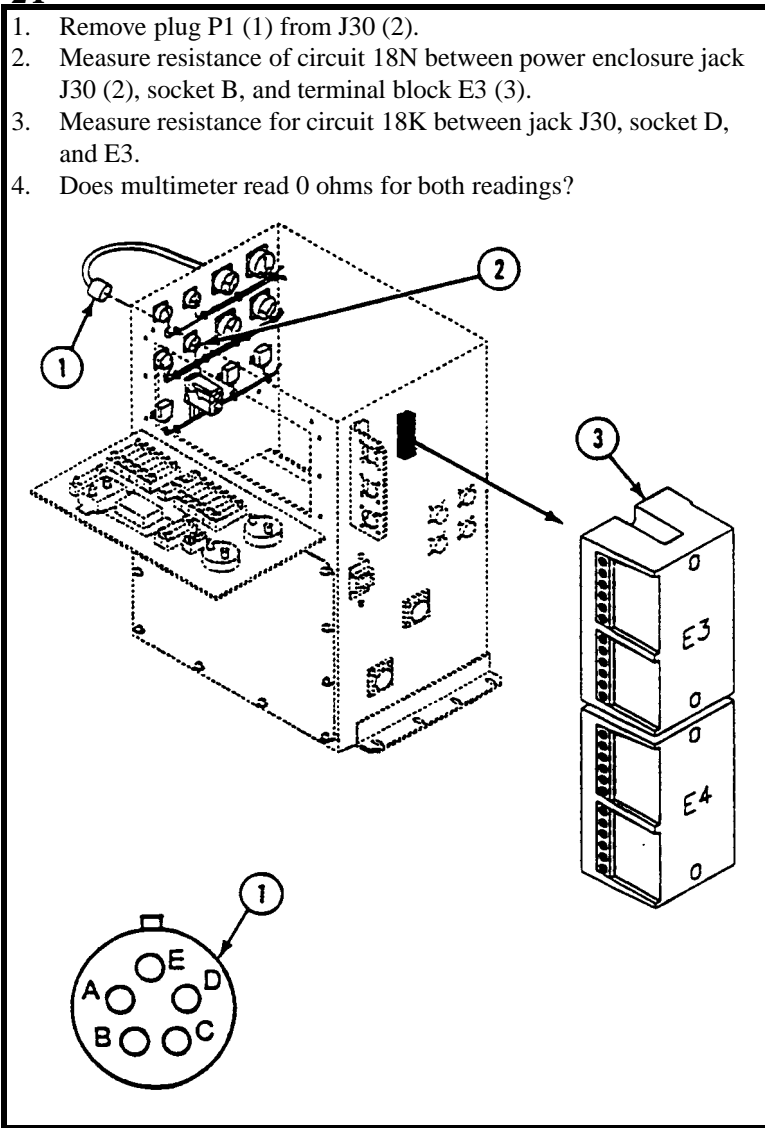
2Y

1. Remove plug P1 (1) from J30 (2).
2. Measure resistance of circuit 18N between power enclosure jack J30 (2), socket B, and terminal block E3 (3).
3. Measure resistance for circuit 18K between jack J30, socket D, and E3.
4. Does multimeter read 0 ohms for both readings?

NO

2YN

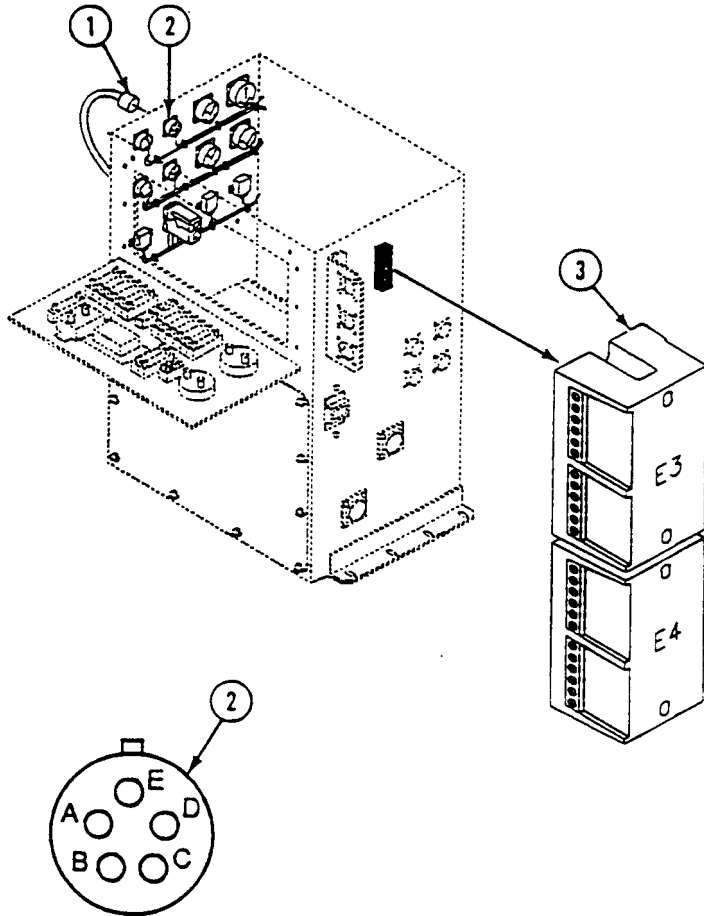
1. Faulty lead 18N and/or lead 18K.  
Beyond unit maintenance repair.
2. Notify supervisor.



YES

**3Y**

1. Remove plug P11 (1) from J31 (2).
2. Measure resistance of circuit 18H between power enclosure jack J31 (2), socket B, and terminal block E3 (3).
3. Measure resistance for circuit 18E between jack J31, socket D, and E3.
4. Does multimeter read 0 ohms for both readings?



NO

**3YN**

1. Faulty lead 18E and/or lead 18H. Beyond unit maintenance repair.
2. Notify supervisor.

YES

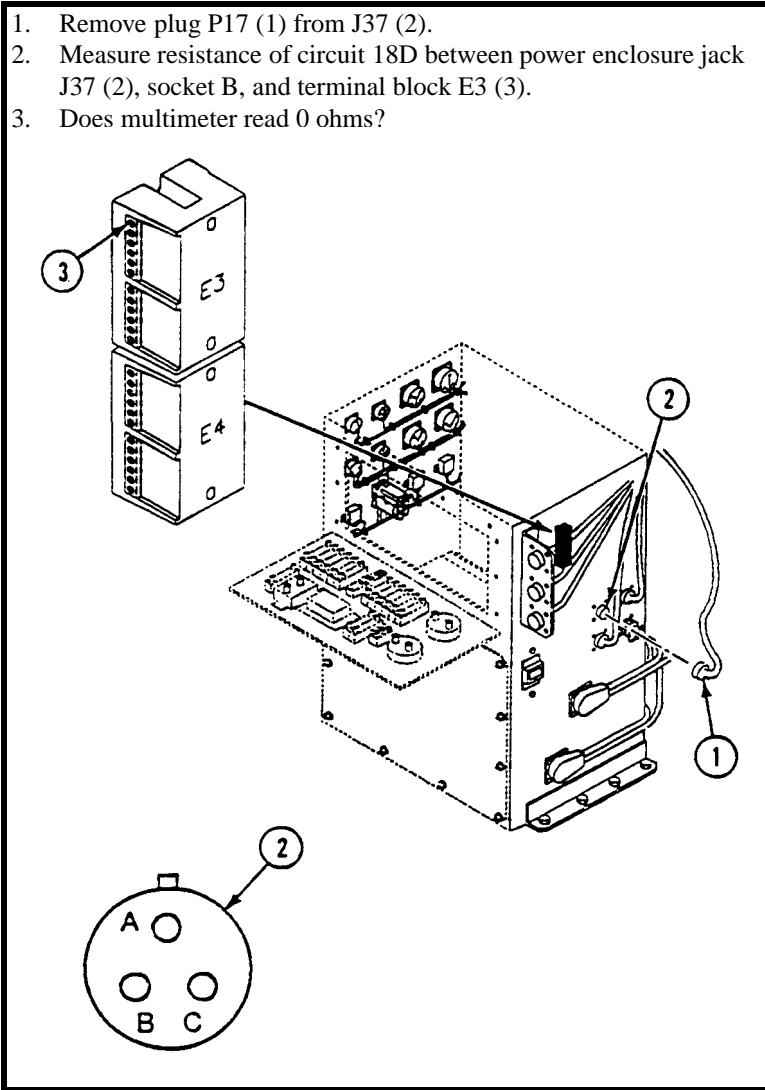
**4Y**

1. Remove plug P17 (1) from J37 (2).
2. Measure resistance of circuit 18D between power enclosure jack J37 (2), socket B, and terminal block E3 (3).
3. Does multimeter read 0 ohms?

**NO**

**4YN**

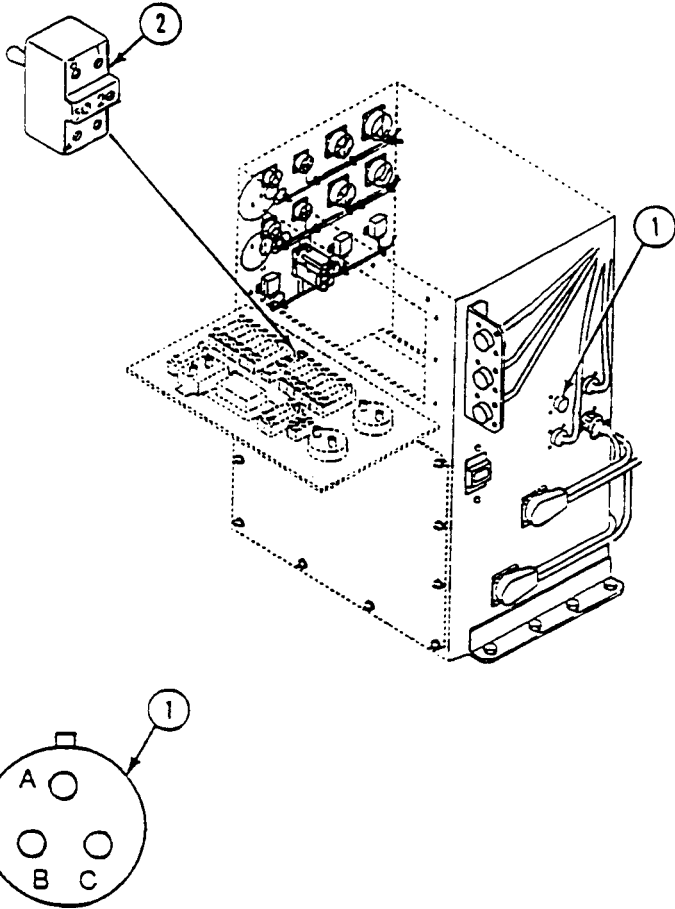
1. Faulty lead 18D. Beyond unit maintenance repair.
2. Notify supervisor.



**YES**

**5Y**

1. Set BLACKOUT ENABLE switch to upward position.
2. Measure resistance of circuit 20B between power enclosure jack J37 (1), socket A, and BLACKOUT ENABLE switch S1 (2), terminal 3.
3. Does multimeter read 0 ohms?



**NO**

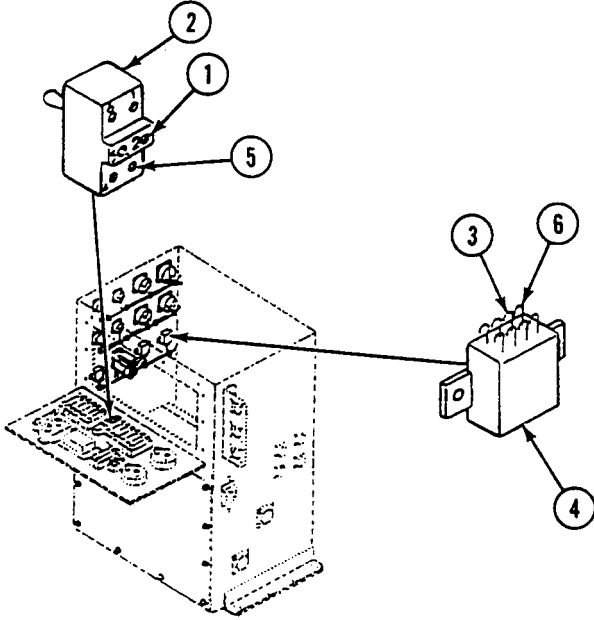
**5YN**

1. Faulty lead 20B. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**6Y**

1. Measure resistance of circuit 19B from terminal 2 (1) of switch S1 (2) and terminal A2 (3) of relay K5 (4).
2. Measure resistance of circuit 20A from terminal 3 (5) of switch S1 (2) and terminal A3 (6) of relay K5 (4).
3. Does multimeter read 0 ohms?



NO

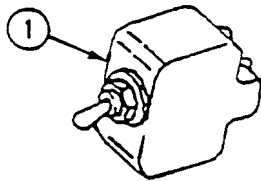
**6YN**

1. Faulty leads 19B and/or lead 20A. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**7Y**

1. Remove leads 19A and 19B from switch S1 position 2.
2. Measure resistance with switch S1 (1) in both up and down positions.
3. Does multimeter read 0 ohms when switch is down and infinite ohms when switch is up?



NO

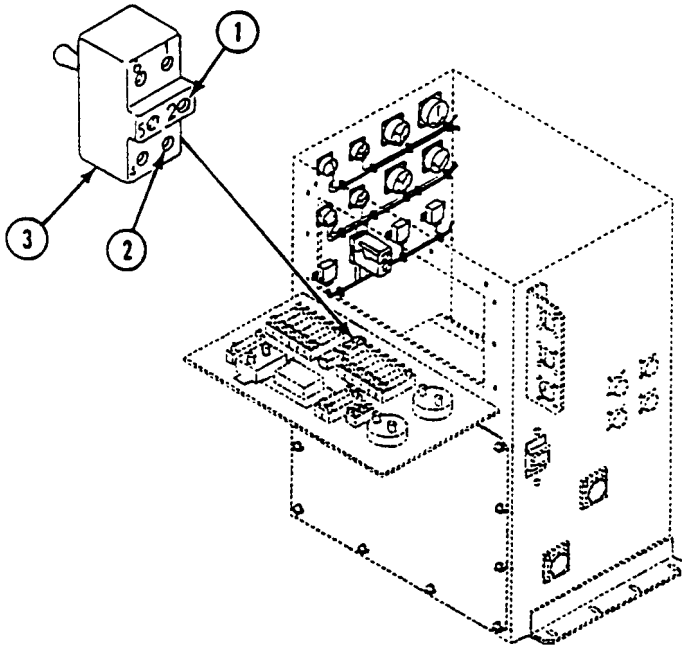
**7YN**

1. Replace switch S1 (WP 0828 00).
2. Verify no faults found.

YES

**8Y**

1. Reconnect leads 19A and 19B to S1 position 2.
2. Set BLACKOUT ENABLE switch to upward position.
3. Measure resistance between terminal 2 (1) and terminal 3 (2) of BLACKOUT ENABLE switch S1 (3).
4. Does multimeter read infinite ohms?



YES



NO

**8YN**

1. Faulty relay K5. Beyond unit maintenance repair.
2. Notify supervisor.

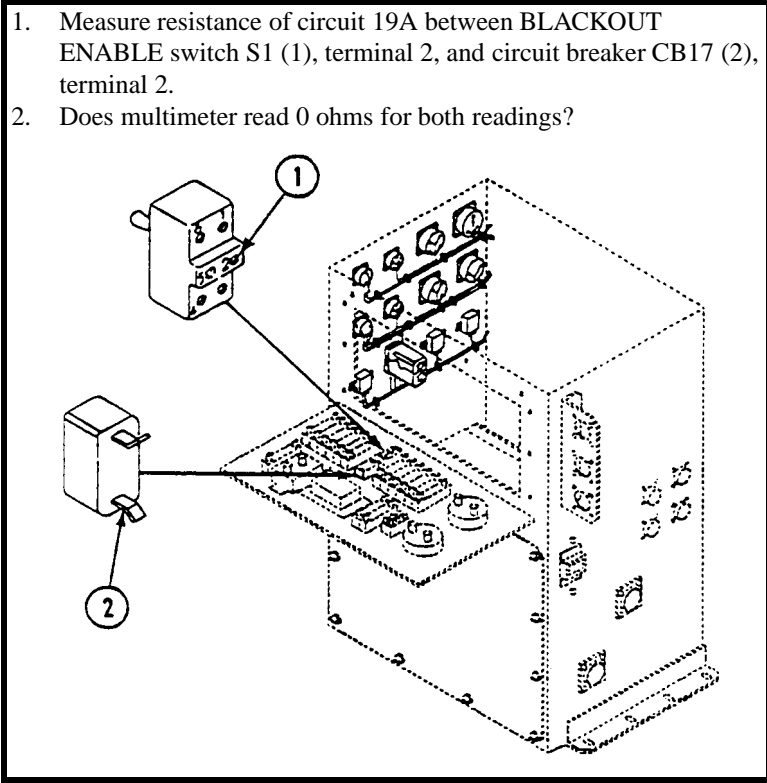
**9Y**

1. Measure resistance of circuit 19A between BLACKOUT ENABLE switch S1 (1), terminal 2, and circuit breaker CB17 (2), terminal 2.
2. Does multimeter read 0 ohms for both readings?

**NO**

**9YN**

1. Replace lead 19A (WP 0828 00).
2. Verify no faults found.

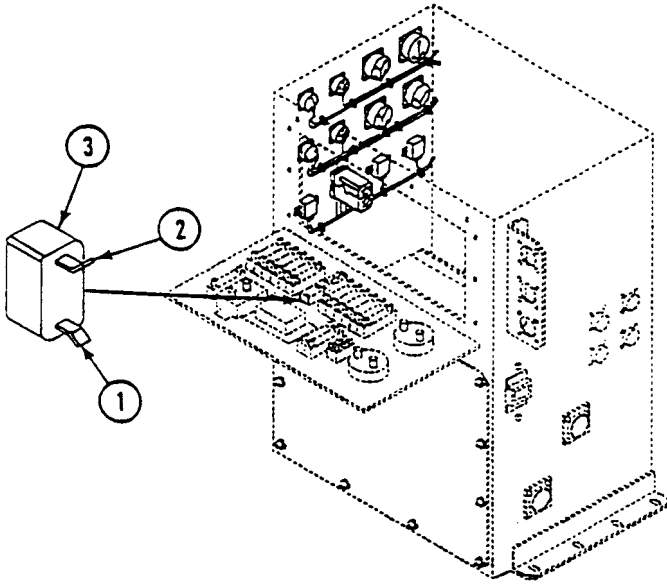


**YES**



**10Y**

1. Set BLACKOUT ENABLE switch to down position.
2. Set AC LIGHTS switch in upward position.
3. Measure resistance between terminal 2 (1) and terminal 1 (2) of circuit breaker CB17 (3).
4. Does multimeter read 0 ohms?



YES



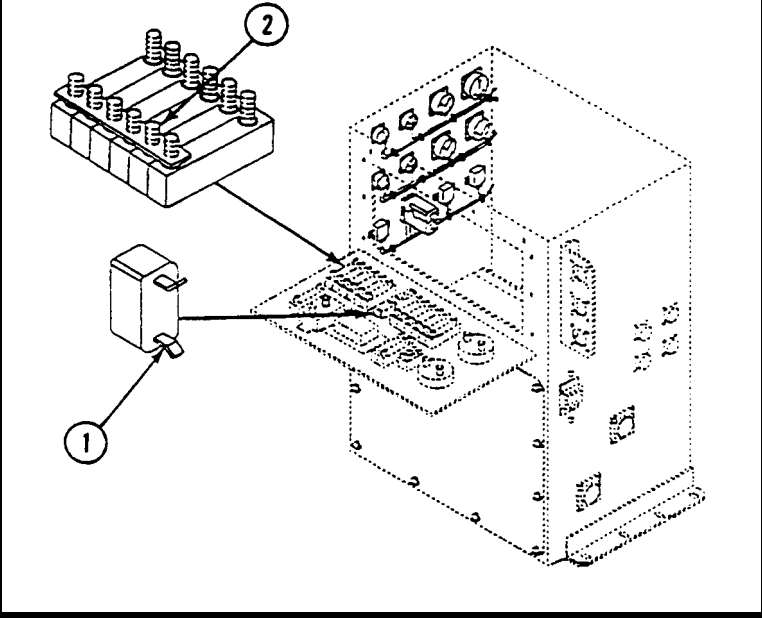
NO

**10YN**

1. Replace circuit breaker CB17 (WP 0828 00).
2. Verify no faults found.

**11Y**

1. Set AC LIGHTS switch in upward position.
2. Measure resistance of circuit 17C between circuit breaker CB17, terminal 2 (1), and AC bus bar at CB9 (2) terminal 1.
3. Does multimeter read 0 ohms?



NO

**11YN**

1. Replace lead 17C (WP 0828 00).
2. Verify no faults found.

YES

**12Y**

1. Raise faceplate and secure with 10 new lockwashers and screws.
2. Verify no faults found.

---

**NO DC OUTPUT FROM DC POWER SUPPLY (M1068A3 ONLY)**

---

**0108 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (22)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

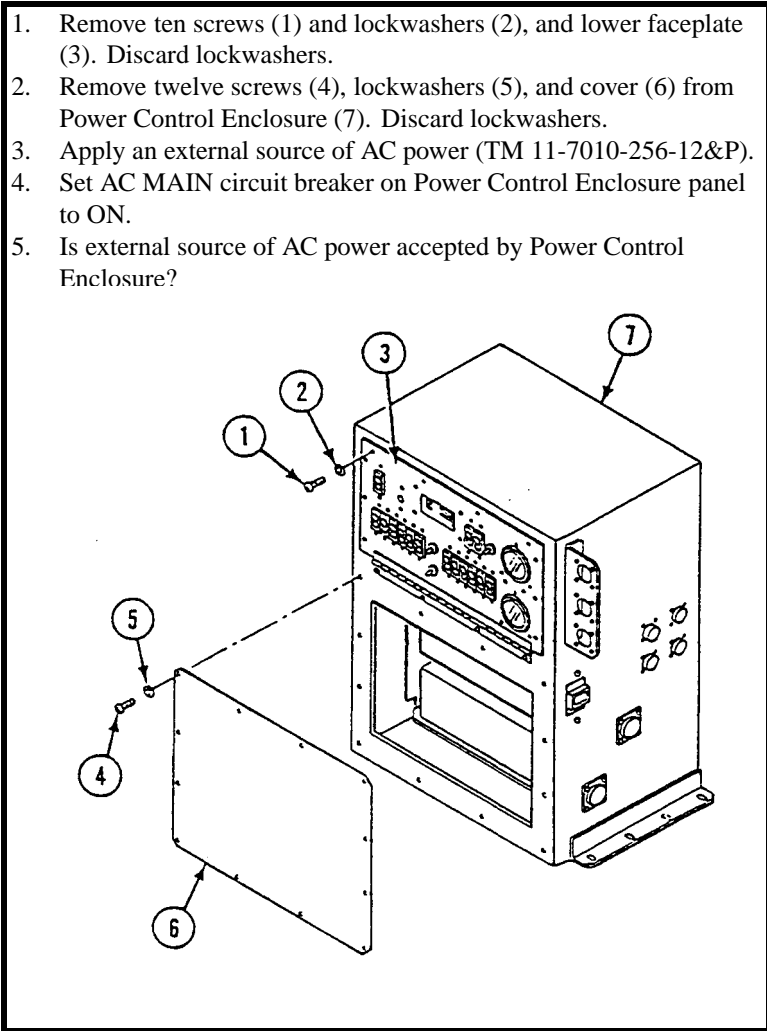
**T**

1. Remove ten screws (1) and lockwashers (2), and lower faceplate (3). Discard lockwashers.
2. Remove twelve screws (4), lockwashers (5), and cover (6) from Power Control Enclosure (7). Discard lockwashers.
3. Apply an external source of AC power (TM 11-7010-256-12&P).
4. Set AC MAIN circuit breaker on Power Control Enclosure panel to ON.
5. Is external source of AC power accepted by Power Control Enclosure?

**NO**

**TN**

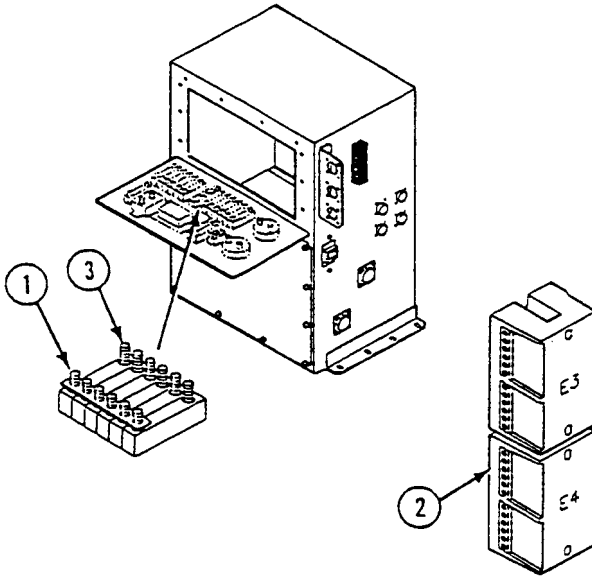
1. Go to: Vehicle Will Not Accept External AC Power (WP 0104 00).



**YES**

**Y**

1. Set DC POWER SUPPLY circuit breaker on Power Control Enclosure panel to ON.
2. Measure voltage between CB5 terminal 1 (1) and terminal block E4 (2). Also measure voltage from CB5 terminal 2 (3) to E4 (2).
3. Does multimeter read 110 volts AC or more for both measurements?



**YES**

**NO**

**YN**

1. Replace circuit breaker CB5 (WP 0828 00).
2. Verify no faults found.

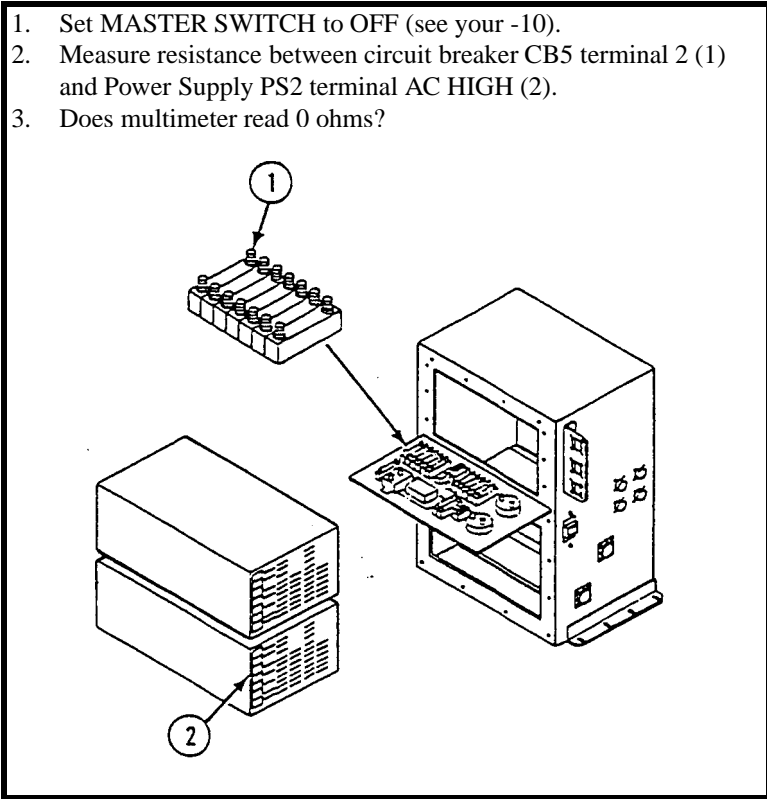
**2Y**

1. Set MASTER SWITCH to OFF (see your -10).
2. Measure resistance between circuit breaker CB5 terminal 2 (1) and Power Supply PS2 terminal AC HIGH (2).
3. Does multimeter read 0 ohms?

**NO**

**2YN**

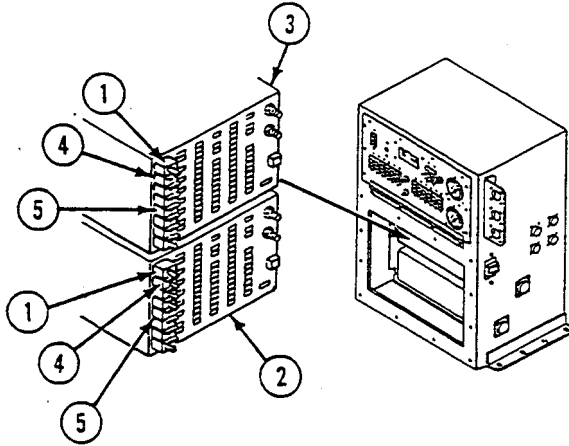
1. Faulty lead 10A in Power Control Enclosure. Beyond unit maintenance repair.
2. Notify supervisor.



**YES**

**3Y**

1. Measure resistance between circuit 10B terminals (1) on Power Supply PS2 (2) and Power Supply PS1 (3).
2. Measure resistance between circuit 8C terminals (4) on Power Supply PS2 (2) and Power Supply PS1 (3).
3. Measure resistance between circuit 3Z terminals (5) on Power Supply PS2 (2) and Power Supply PS1 (3).
4. Does multimeter read 0 ohms for each measurement?



**NO**

**3YN**

1. Faulty lead 10B, 8C, and 3Z in Power Control Enclosure. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**4Y**

1. Faulty Power Supply. Beyond unit maintenance repair.
2. Notify supervisor.





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**NO AC POWER FROM INVERTERS (M1068A3 ONLY)**

---

**0109 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 11-7010-256-12&P

Tools and Special Tools

General Mechanic's Tool Kit (WP 0926 00, Item 65)  
Digital Multimeter (WP 0926 00, Item 30)  
Inverter Test Solo Plug (WP 0927 00, Figure 0927 00-2)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

Materials/Parts

Lockwasher (10)

Personnel Required

Power-Generation Equipment Repairer 52D10  
Helper (H)

All external power disconnected  
(TM 11-7010-256-12&P)

**WARNING**



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel do not observe safety precautions.

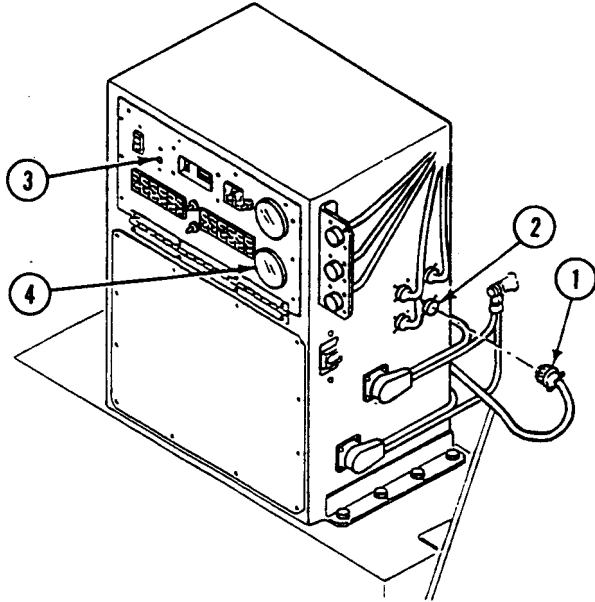
**NEVER** work on equipment unless at least one other person is nearby, familiar with the operation and hazards of the equipment and is familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**T**

1. Remove cable W5 plug P6 (1) from Power Control Enclosure jack J27 (2).
2. Set MASTER SWITCH to ON.
3. If popped out, press DC TO INVERTERS button (3) on Power Control Enclosure panel.
4. Does DC VOLTS meter (4) on Power Control Enclosure panel read 26 volts DC or more?



YES



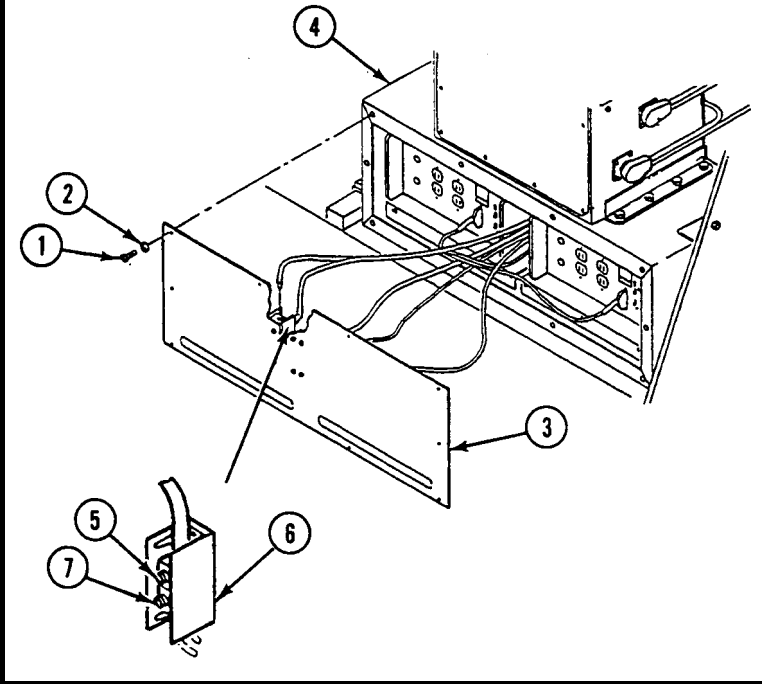
NO

**TN**

1. Go to: Power Control Enclosure A1 DC Input/Output Inoperative (WP 0090 00).

**Y**

1. Remove ten screws (1), lockwashers (2), and cover (3) from inverter housing (4). Discard lockwashers.
2. Measure voltage between terminal E2 (5) on terminal block TB1 (6) and ground.
3. Repeat measurement between terminal E4 (7) and ground.
4. Does multimeter read 22 volts DC or more for both measurements?



**YES**

**NO**

**YN**

1. Faulty terminal block TB1. Beyond unit maintenance repair.
2. Notify supervisor

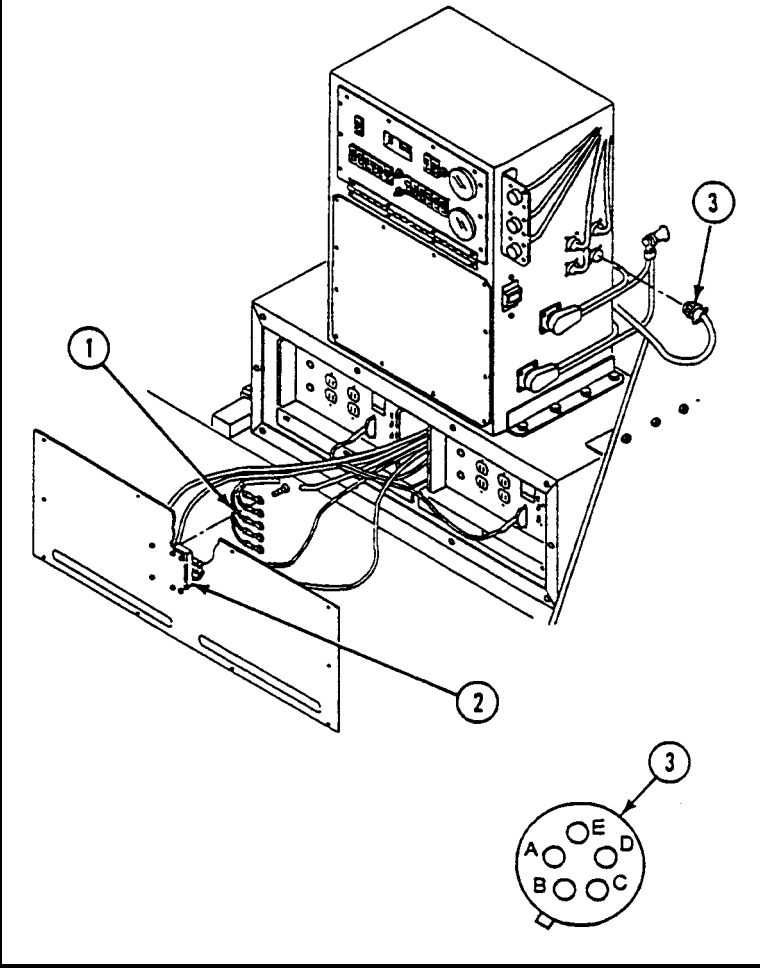
2Y

1. Set MASTER SWITCH to OFF.
2. Tag leads E1 thru E5 before removal. Remove cable W5 leads (1) from posts on terminal block TB2 (2).
3. Measure resistance between sockets of plug P6 (3) and W5 leads (1) as follows:
  - Socket A to lead E1
  - Socket B to lead E2
  - Socket C to lead E3
  - Socket D to lead E4
  - Socket E to lead E5
4. Does multimeter read 0 ohms for each measurement?

NO

2YN

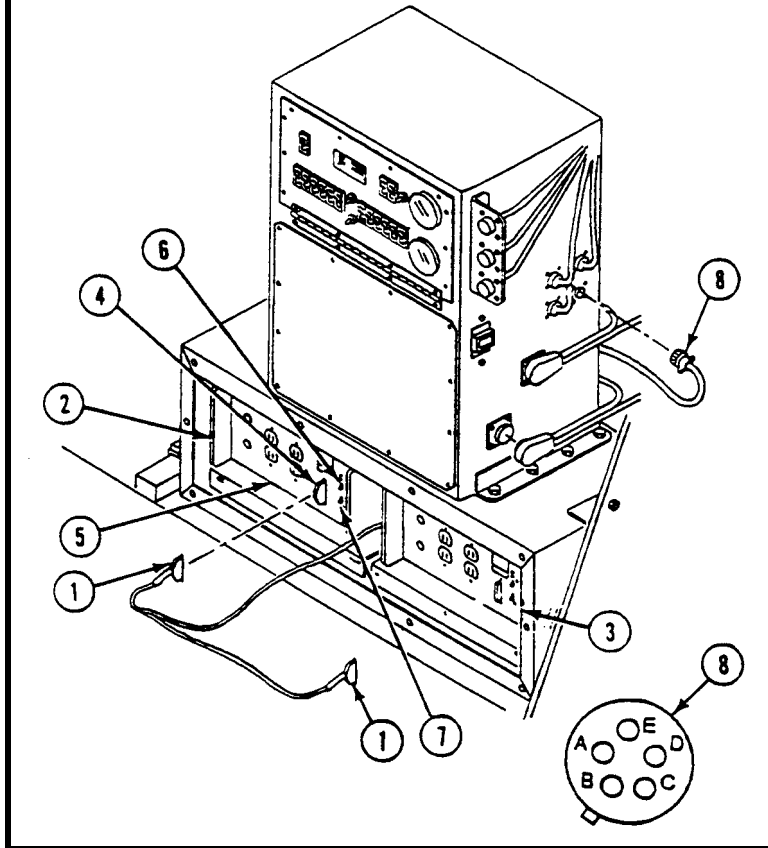
1. Replace cable W5 (WP 0839 00).
2. Verify no faults found.



YES

**3Y**

1. Install cable W5 leads on terminal block TB2.
2. Remove cable W15 plugs (1) from inverters IN1 (2) and IN2 (3).
3. Install inverter test solo plug (4) in inverter IN1 (2).
4. Set MASTER SWITCH to ON.
5. On inverter front panel (5), set POWER switch (6) to ON and momentarily move RESET switch (7) up.
6. Measure voltage between sockets A and B of cable W5 plug P6 (8).
7. Does multimeter read 110 volts AC or more?



YES  
↓

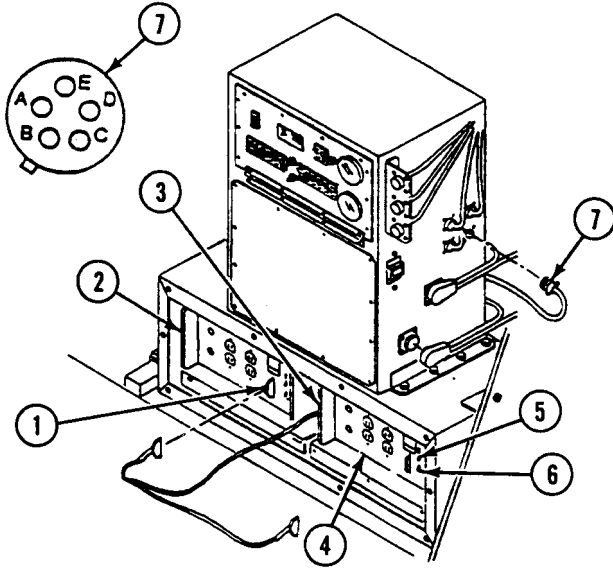
NO →

**3YN**

1. Faulty inverter IN1 (with solo plug installed). Beyond unit maintenance repair.
2. Notify supervisor.

**4Y**

1. Set MASTER SWITCH to OFF.
2. Remove solo plug (1) from tested inverter IN1 (2) and install in other inverter IN2 (3).
3. Set MASTER SWITCH to ON.
4. On inverter front panel (4), set POWER switch (5) to ON and momentarily move RESET switch (6) up.
5. Measure voltage between sockets C and D of cable W5 plug P6 (7).
6. Does multimeter read 110 volts AC or more?



NO

**4YN**

1. Faulty inverter IN2 (with solo plug installed). Beyond unit maintenance repair.
2. Notify supervisor.

YES

**5Y**

1. Install cable W5 plug P6 on Power Control Enclosure jack J27.
2. Replace cascade remote harness W15 (WP 0847 00).
3. Verify no faults found.

---

**NO DATA OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY)**

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**0110 00****INITIAL SETUP:**Maintenance Level

Unit

Tools and Special Tools

Radio equipment tool kit (WP 0926 00, Item 66)

Multimeter (WP 0926 00, Item 30)

Personnel Required

Signal Support System Specialist 31U10

Helper (H)

References

See your -10

TM 11-7010-256-12&amp;P

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

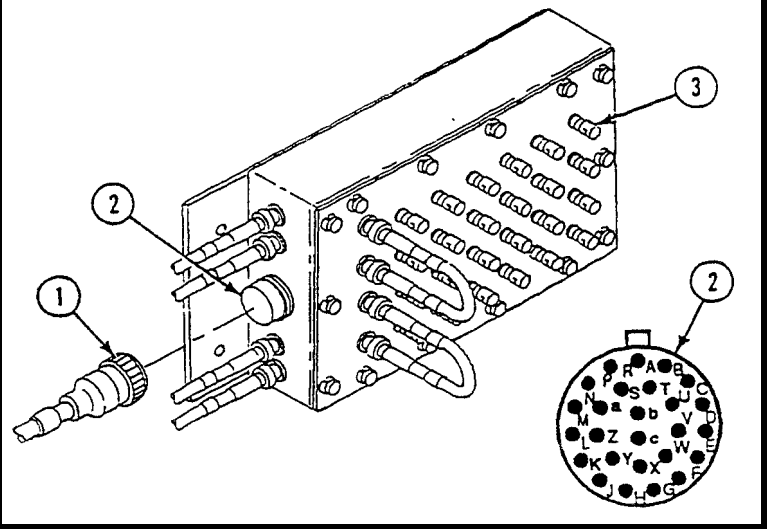
**T**

1. Remove cable W124 plug P1 (1) from Data Panel A12 jack J3 (2).
2. Measure resistance between posts (3) and pins of jack J3 (2) as follows:
  - Post 1 (Red) to pin A
  - Post 1 (Blk) to pin B
  - Post 2 (Red) to pin C
  - Post 2 (Blk) to pin D
  - Post 3 (Red) to pin E
  - Post 3 (Blk) to pin F
  - Post 4 (Red) to pin G
  - Post 4 (Blk) to pin H
  - Post 5 (Red) to pin J
  - Post 5 (Blk) to pin K
  - Post 6 (Red) to pin L
  - Post 6 (Blk) to pin M
  - Post 7 (Red) to pin N
  - Post 7 (Blk) to pin P
  - Post 8 (Red) to pin R
  - Post 8 (Blk) to pin S
  - Post 9 (Red) to pin T
  - Post 9 (Blk) to pin U
  - Post 10 (Red) to pin V
  - Post 10 (Blk) to pin W
  - Post 11 (Red) to pin X
  - Post 11 (Blk) to pin Y
  - Post 12 (Red) to pin Z
  - Post 12 (Blk) to pin a
3. Does multimeter read 0 ohms for each measurement?

**NO**

**TN**

1. Replace Data Panel A12 (WP 0819 00).
2. Verify no faults found.

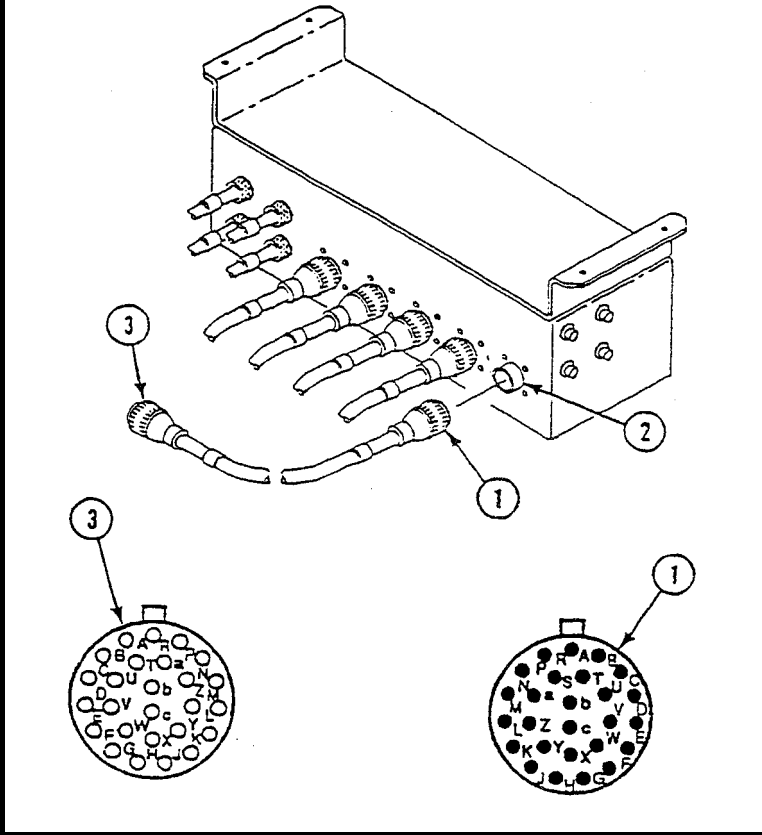


**YES**



**Y**

1. Remove cable W124 plug P109 (1) from Patch Panel Box A10 jack J140 (2).
2. Measure resistance between pin A on plug P109 (1) and socket A on plug P1 (3) of cable W124. Repeat for pins B through a.
3. Does multimeter read 0 ohms for each measurement?



**NO**

**YN**

1. Replace cable W124 (WP 0855 00).
2. Verify no faults found.

**YES**

**2Y**

1. Replace Signal Patch Panel Box A10 (WP 0816 00).
2. Verify no faults found.



---

**NO LAN OUTPUT FROM DATA PANEL A12 (M1068A3 ONLY)**

---

**0111 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

Radio equipment tool kit (WP 0926 00, Item 66)  
Multimeter (WP 0926 00, Item 30)

Personnel Required

Signal Support System Specialist 31U10  
Helper (H)

References

See your -10  
TM 11-7010-256-12&P  
See M1068A3 Wiring Diagram (FO-7 and FO-8)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

---

**WARNING**

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**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

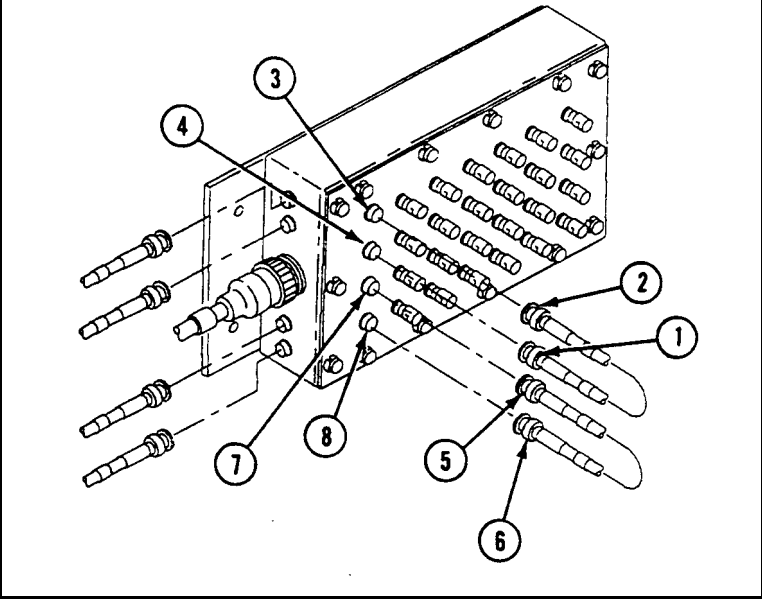
**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**T**

1. Remove cable W108 plugs P1 (1) and P2 (2) from Data Panel A12 jacks J107 (3) and J108 (4).
2. Remove cable W107 plugs P1 (5) and P2 (6) from Data Panel A12 jacks J105 (7) and J106 (8).
3. Measure resistance between center pins of plugs P1 and P2 of each cable.
4. Does multimeter read 0 ohms for each measurement?



**NO**

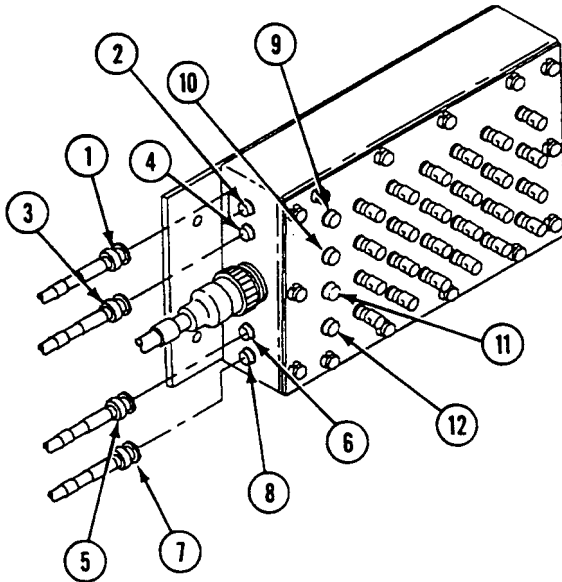
**TN**

1. Replace cable W107 and/or W108 (WP 0819 00).
2. Verify no faults found.

**YES**

**Y**

1. Remove the following cable plugs from jacks on Data Panel A12:
  - W101 plug P1 (1) from jack J1 (2)
  - W103 plug P1 (3) from jack J2 (4)
  - W102 plug P1 (5) from jack J4 (6)
  - W104 plug P1 (7) from jack J5 (8)
2. Measure resistance between pins of the following jacks on Data Panel A12:
  - J1 (2) to J105 (9)
  - J2 (4) to J106 (10)
  - J4 (6) to J107 (11)
  - J5 (8) to J108 (12)
3. Does multimeter read 0 ohms for each measurement?



**YES**



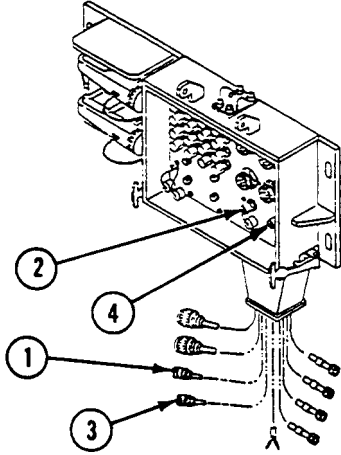
**NO**

**YN**

1. Replace Data Panel A12 (WP 0819 00).
2. Verify no faults found.

**2Y**

1. Measure resistance between cable W101 plug P1 (1) and External Communication Box A11 jack J103 (2).
2. Measure resistance between cable W102 plug P1 (3) and External Communication Box A11 jack J104 (4).
3. Does multimeter read 0 ohms for each measurement?



**YES**

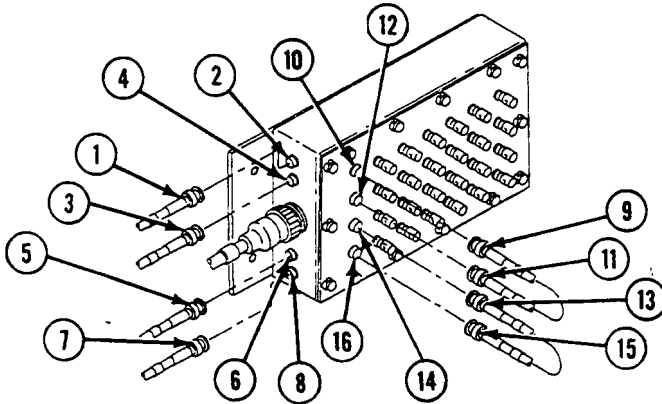
**NO**

**2YN**

1. Faulty cables W101 and/or W102. Beyond unit maintenance repair.
2. Notify supervisor.

**3Y**

1. Install the following plugs and cables on Data Panel A12 jacks:
  - W101 plug P1 (1) on jack J1 (2)
  - W103 plug P1 (3) on jack J2 (4)
  - W102 plug P1 (5) on jack J4 (6)
  - W104 plug P1 (7) on jack J5 (8)
  - W107 plug P1 (9) on jack J105 (10)
  - W107 plug P2 (11) on jack J106 (12)
  - W108 plug P1 (13) on jack J107 (14)
  - W108 plug P2 (15) on jack J108 (16)
2. Verify no faults found.







---

**NO DATA OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY)**

---

**0112 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

Radio equipment tool kit (WP 0926 00, Item 66)  
Multimeter (WP 0926 00, Item 30)

Personnel Required

Signal Support System Specialist 31U10  
Helper (H)

References

See your -10  
TM 11-7010-256-12&P  
See M1068A3 Wiring Diagram (FO-7 and FO-8)

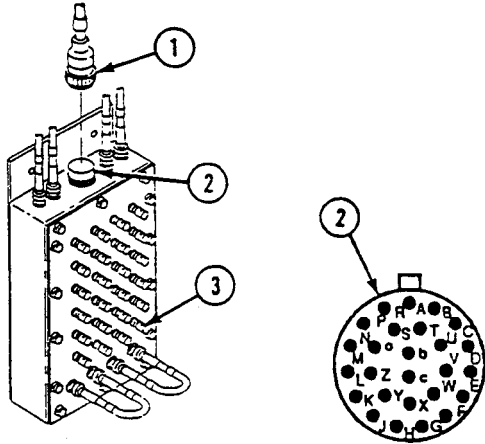
Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

---

**T**

1. Remove cable W126 plug P1 (1) from Data Panel A13 jack J3 (2).
2. Measure resistance between posts (3) and pins of jack J3 (2) as follows:
  - Post 1 (Red) to pin A
  - Post 1 (Blk) to pin B
  - Post 2 (Red) to pin C
  - Post 2 (Blk) to pin D
  - Post 3 (Red) to pin E
  - Post 3 (Blk) to pin F
  - Post 4 (Red) to pin G
  - Post 4 (Blk) to pin H
  - Post 5 (Red) to pin J
  - Post 5 (Blk) to pin K
  - Post 6 (Red) to pin L
  - Post 6 (Blk) to pin M
  - Post 7 (Red) to pin N
  - Post 7 (Blk) to pin P
  - Post 8 (Red) to pin R
  - Post 8 (Blk) to pin S
  - Post 9 (Red) to pin T
  - Post 9 (Blk) to pin U
  - Post 10 (Red) to pin V
  - Post 10 (Blk) to pin W
  - Post 11 (Red) to pin X
  - Post 11 (Blk) to pin Y
  - Post 12 (Red) to pin Z
  - Post 12 (Blk) to pin a
3. Does multimeter read 0 ohms for each measurement?



**NO**

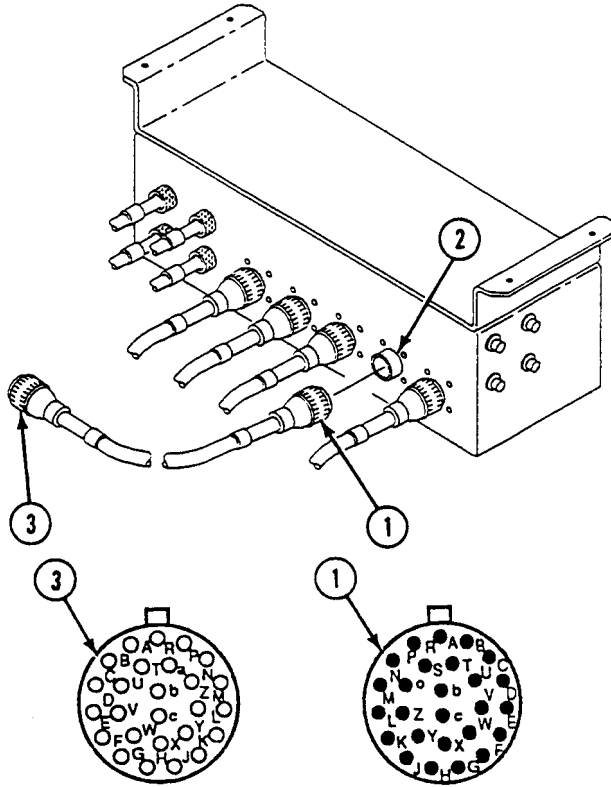
**TN**

1. Replace Data Panel A13 (WP 0835 00).
2. Verify no faults found.

**YES**

**Y**

1. Remove cable W126 plug P108 (1) from Patch Panel Box A10 jack J139 (2).
2. Measure resistance between pin A on plug P108 (1) and socket A on plug P1 (3) of cable W126. Repeat for pins B through a.
3. Does multimeter read 0 ohms for each measurement?



**NO**

**YN**

1. Replace cable W126 (WP 0856 00).
2. Verify no faults found.

**YES**

**2Y**

1. Replace Signal Patch Panel Box A10 (WP 0816 00).
2. Verify no faults found.



---

**NO LAN OUTPUT FROM DATA PANEL A13 (M1068A3 ONLY)**

---

**0113 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

Radio equipment tool kit (WP 0926 00, Item 66)  
Multimeter (WP 0926 00, Item 30)

Personnel Required

Signal Support System Specialist 31U10  
Helper (H)

References

See your -10  
TM 11-7010-256-12&P  
See M1068A3 Wiring Diagram(FO-7 and FO-8)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)

---

**WARNING**

---



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

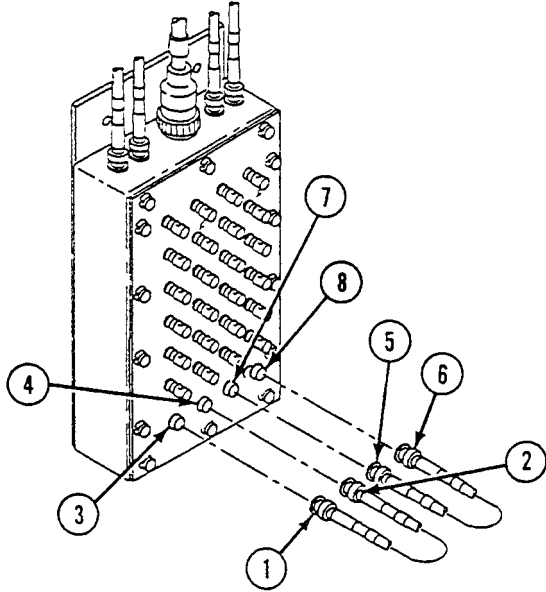
**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

**T**

1. Remove cable W109 plugs P1 (1) and P2 (2) from Data Panel A13 jacks J109 (3) and J110 (4).
2. Remove cable W110 plugs P1 (5) and P2 (6) from Data Panel A13 jacks J111 (7) and J112 (8).
3. Measure resistance between center pins of plugs P1 and P2 of each cable.
4. Does multimeter read 0 ohms for each measurement?



**NO**

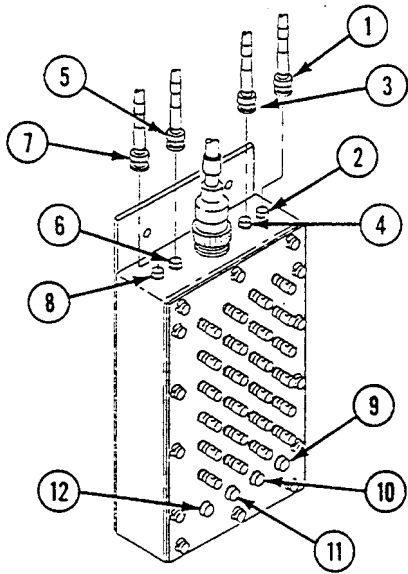
**TN**

1. Replace cable W109 and/or W110 (WP 0835 00).
2. Verify no faults found.

**YES**

**Y**

1. Remove the following cable plugs from jacks on Data Panel A13:  
 W32 plug P5 (1) from jack J1 (2)  
 W104 plug P2 (3) from jack J2 (4)  
 W32 plug P4 (5) from jack J4 (6)  
 W103 plug P2 (7) from jack J5 (8)
2. Measure resistance between pins of the following jacks on Data Panel A13:  
 J1 (2) to J112 (9)  
 J2 (4) to J111 (10)  
 J4 (6) to J110 (11)  
 J5 (8) to J109 (12)
3. Does multimeter read 0 ohms for each measurement?



**YES**

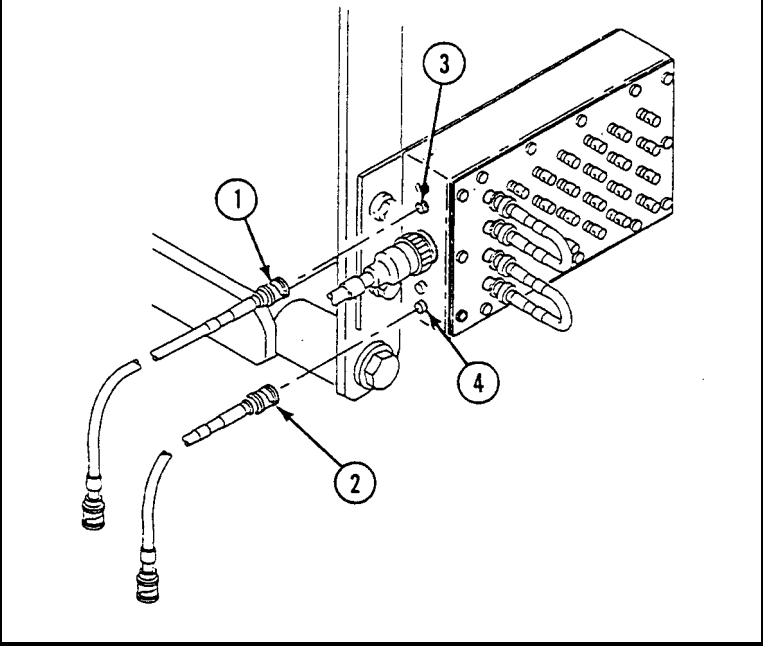
**NO**

**YN**

1. Replace Data Panel A13 (WP 0835 00).
2. Verify no faults found.

**2Y**

1. Remove cables W103 plug P1 (1) and W104 plug P2 (2) from jacks J2 (3) and J5 (4) on Data Panel A12.
2. Measure resistance between center pins of plugs P1 and P2 of cables W103 and W104.
3. Does multimeter read 0 ohms for each measurement?



**NO**

**2YN**

1. Replace cable W103 and/or W104 (WP 0854 00).
2. Verify no faults found.

**YES**

**3Y**

1. Go to: No LAN Output from Data Panel A12 (WP 0111 00).



---

**PHONE EXTENSION BOX A14 POST(S) INOPERATIVE (M1068A3 ONLY)**

---

**0114 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

Radio Equipment Tool Kit (WP 0926 00, Item 66)  
 Digital Multimeter (WP 0926 00, Item 30)

Personnel Required

Signal Support System Specialist 31U10  
 Helper (H)

References

See your -10  
 TM 11-7010-256-12&P  
 See M1068A3 Wiring Diagram (FO-7 and FO-8)

Equipment Condition

Engine stopped (see your -10)  
 Carrier blocked (see your -10)

---

**WARNING**

---



**HIGH VOLTAGE** is used in the operation of this equipment.

**DEATH ON CONTACT** may result if personnel fail to observe safety precautions.

**NEVER** work on equipment unless at least one other person familiar with the operation and hazards of the equipment is nearby. That person should also be familiar with giving first aid. When an operator helps a mechanic, that operator must be warned about dangerous areas.

**SHUT OFF POWER** supply to equipment before beginning work. Make sure all external power is off/disconnected.

**BE CAREFUL** not to contact high-voltage connections when installing or operating this equipment.

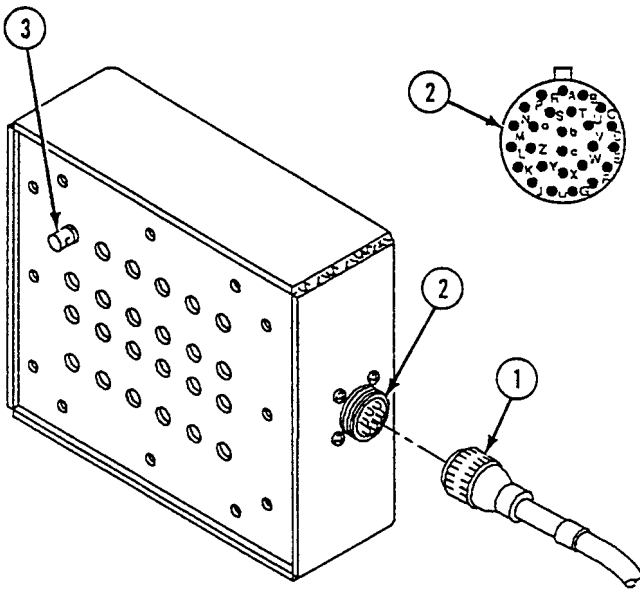
**T**

1. Remove cable W129 plug P2 (1) from Phone Extension Box A14 jack J1 (2).
2. Measure resistance between posts (3) and pins of jack J1 (2) as follows:
  - Post 1 (Blk) to pin A
  - Post 1 (Red) to pin B
  - Post 2 (Blk) to pin C
  - Post 2 (Red) to pin D
  - Post 3 (Blk) to pin E
  - Post 3 (Red) to pin F
  - Post 4 (Blk) to pin G
  - Post 4 (Red) to pin H
  - Post 5 (Blk) to pin J
  - Post 5 (Red) to pin K
  - Post 6 (Blk) to pin L
  - Post 6 (Red) to pin M
  - Post 7 (Blk) to pin N
  - Post 7 (Red) to pin P
  - Post 8 (Blk) to pin R
  - Post 8 (Red) to pin S
  - Post 9 (Blk) to pin T
  - Post 9 (Red) to pin U
  - Post 10 (Blk) to pin V
  - Post 10 (Red) to pin W
  - Post 11 (Blk) to pin X
  - Post 11 (Red) to pin Y
  - Post 12 (Blk) to pin Z
  - Post 12 (Red) to pin a
3. Does multimeter read 0 ohms for each measurement?

**NO**

**TN**

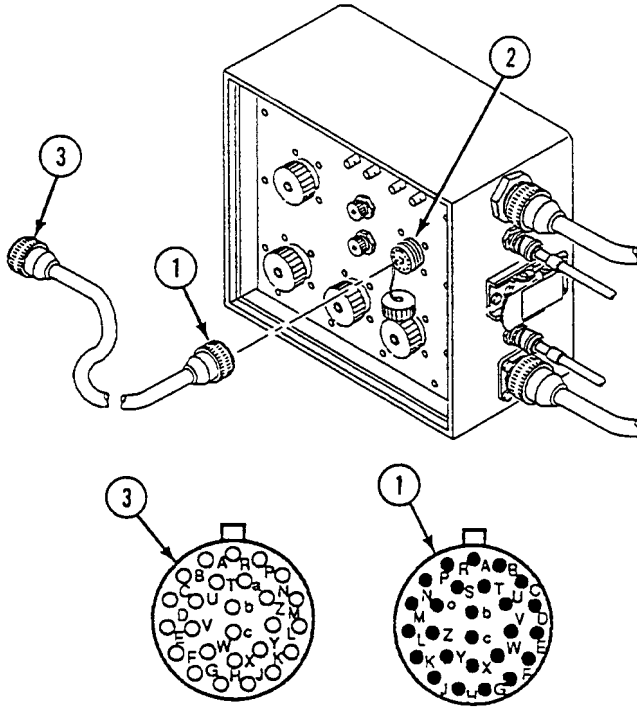
1. Replace Phone Extension Box A14. See TM 11-7010-256-12&P.
2. Verify no faults found.



**YES**

**Y**

1. Remove cable W129 plug P1 (1) from Tent Interface Panel jack J137 (2).
2. Measure resistance between pin A on plug P1 (1) and socket A on plug P2 (3) of cable W129. Repeat for pins B through a
3. Does multimeter read 0 ohms for each measurement?



**NO**

**YN**

1. Replace cable W129.
2. Verify no faults found.

**YES**

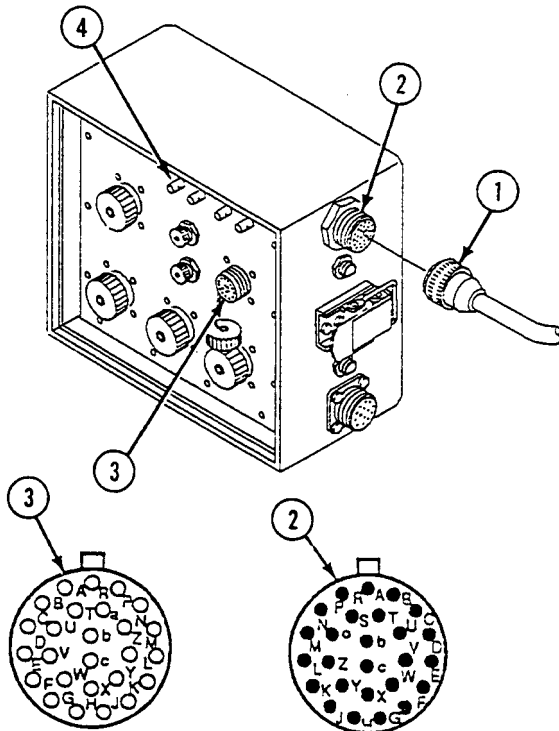
2Y

1. Remove cable W32 plug P7 (1) from Tent Interface Panel jack J8 (2).
2. Measure resistance between socket A of jack J137 (3) and pin A of jack J8 (2). Repeat for sockets/pins B through a.
3. Measure resistance between sockets of J137 (3) and posts (4) as follows:
  - Socket A to E117
  - Socket B to E118
  - Socket C to E119
  - Socket D to E120
4. Does multimeter read 0 ohms for each measurement?

NO

2YN

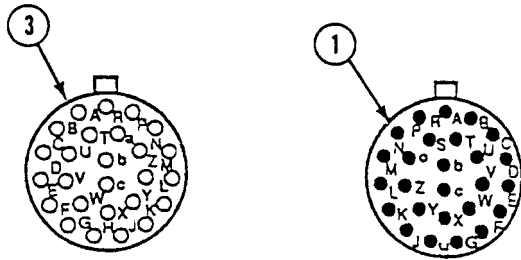
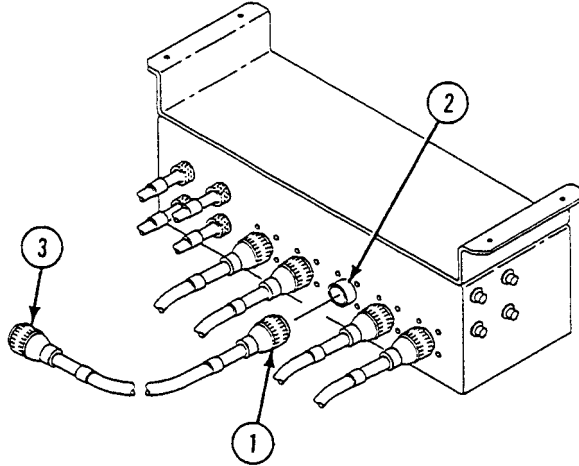
1. Replace Tent Interface Panel Box A5 (WP 0833 00).
2. Verify no faults found.



YES

**3Y**

1. Remove cable W32 plug P107 (1) from jack J138 (2) on Patch Panel Box A10.
2. Measure resistance between socket A of plug P7 (3) and pin A of plug P107 (1). Repeat for socket/pins B through a.
3. Does multimeter read 0 ohms for each measurement?



**NO**

**3YN**

1. Replace cable W32 (WP 0848 00).
2. Verify no faults found.

**YES**

**4Y**

1. Replace Signal Patch Panel Box A10 (WP 0816 00).
2. Verify no faults found.



**SPEEDOMETER MALFUNCTIONS**

**0115 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access door opened (see your -10)  
Power plant access cover removed (WP 0441 00)  
Driver's power plant access panel removed (see your -10)

Personnel Required

Unit Mech  
Helper (H)

**T**

1. Does speedometer fail to give any reading?

**NO**

**GO TO AY (PAGE 0115 00-2)**

**YES**

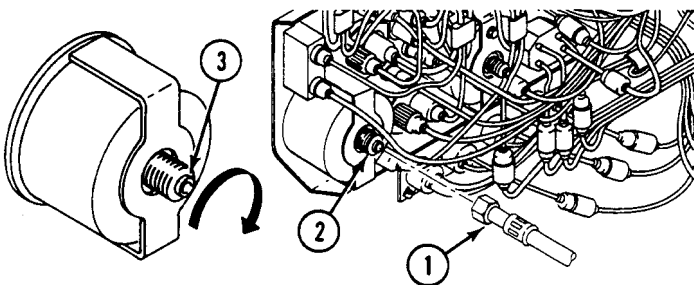
**Y**

1. Remove speedometer cable (1) from speedometer (2).
2. Check speedometer drive (3).
3. Does speedometer drive spin freely?

**NO**

**YN**

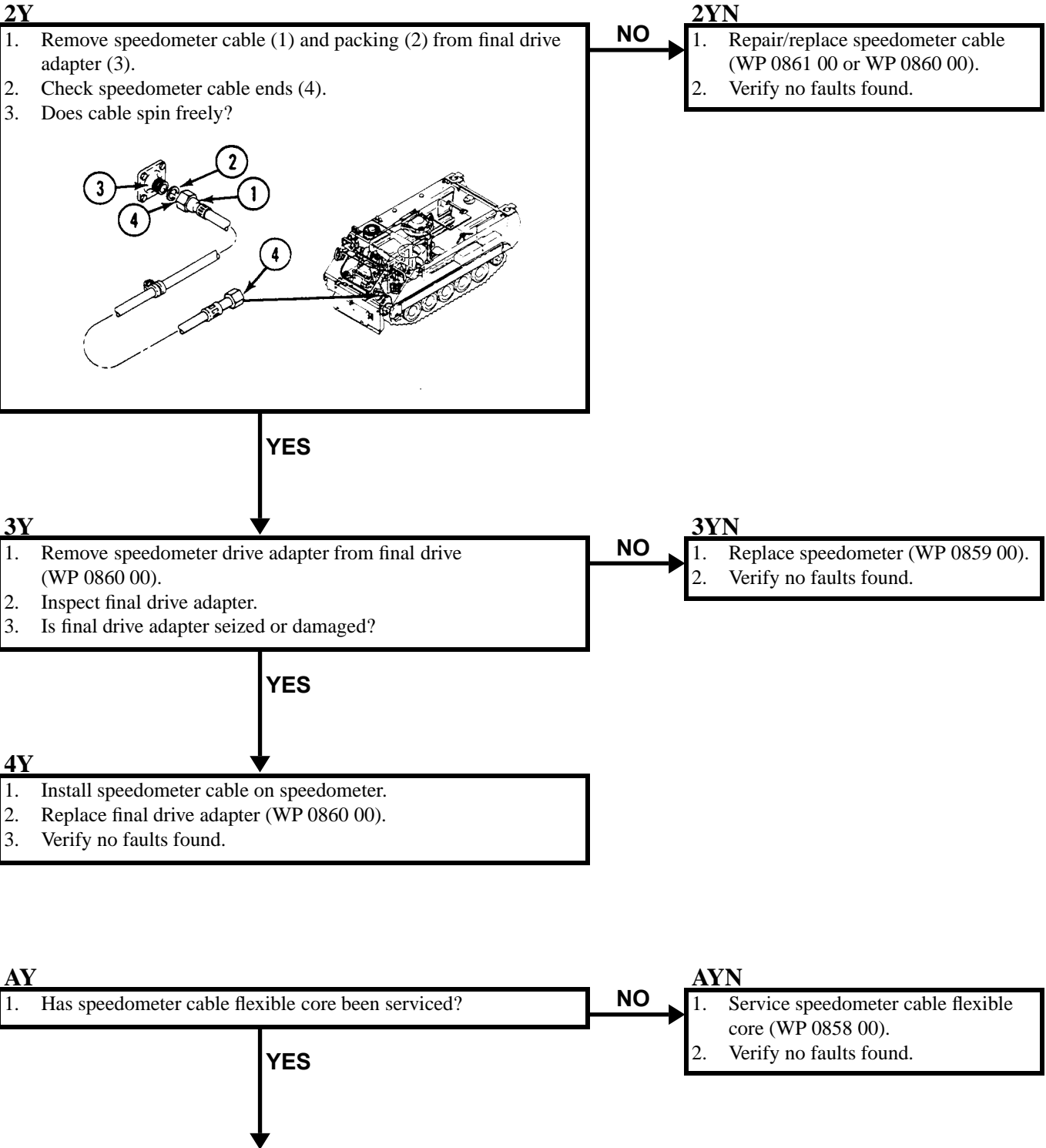
1. Replace speedometer (WP 0859 00).
2. Verify no faults found.



**YES**

**SPEEDOMETER MALFUNCTIONS—Continued**

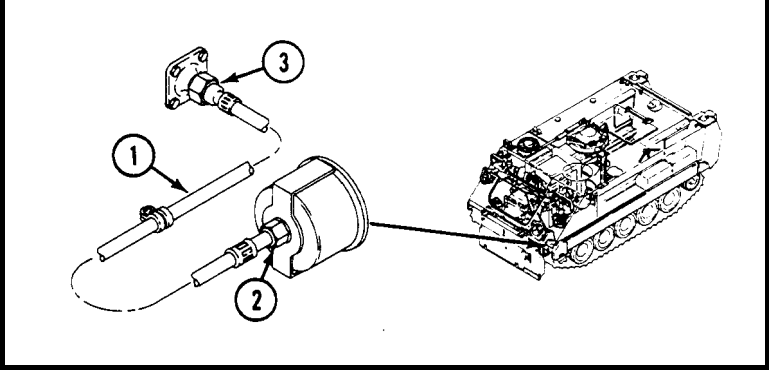
**0115 00**





**A2Y**

1. Inspect speedometer cable assembly (1) for damage between speedometer (2) and final drive (3).
2. Is cable assembly free of damage?



**NO**

**A2YN**

1. Replace speedometer cable assembly (WP 0860 00).
2. Verify no faults found.

**YES**

**A3Y**

1. Replace speedometer (WP 0859 00).
2. Verify no faults found.



**TACHOMETER MALFUNCTIONS**

**0116 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10

Tools and Special Tools

General mechanic's tool kit: automotive  
(WP 0926 00, Item 65)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access door opened (see your -10)  
Power plant access cover removed (WP 0441 00)  
Driver's power plant access panel removed (see your -10)

Personnel Required

Unit Mech  
Helper (H)

**T**

1. Start engine (see your -10).
2. Does tachometer fail to show any reading?

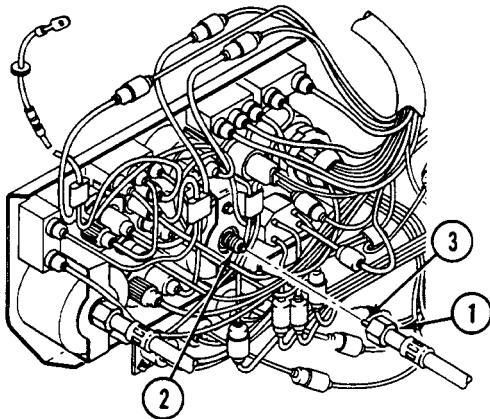
**NO**

**GO TO AY (PAGE 0116 00-2)**

**YES**

**Y**

1. Stop engine (see your -10)
2. Remove tachometer cable (1) from tachometer (2).
3. Start engine (see your -10).
4. Observe tachometer cable drive tip (3).
5. Does tachometer cable drive tip fail to rotate?

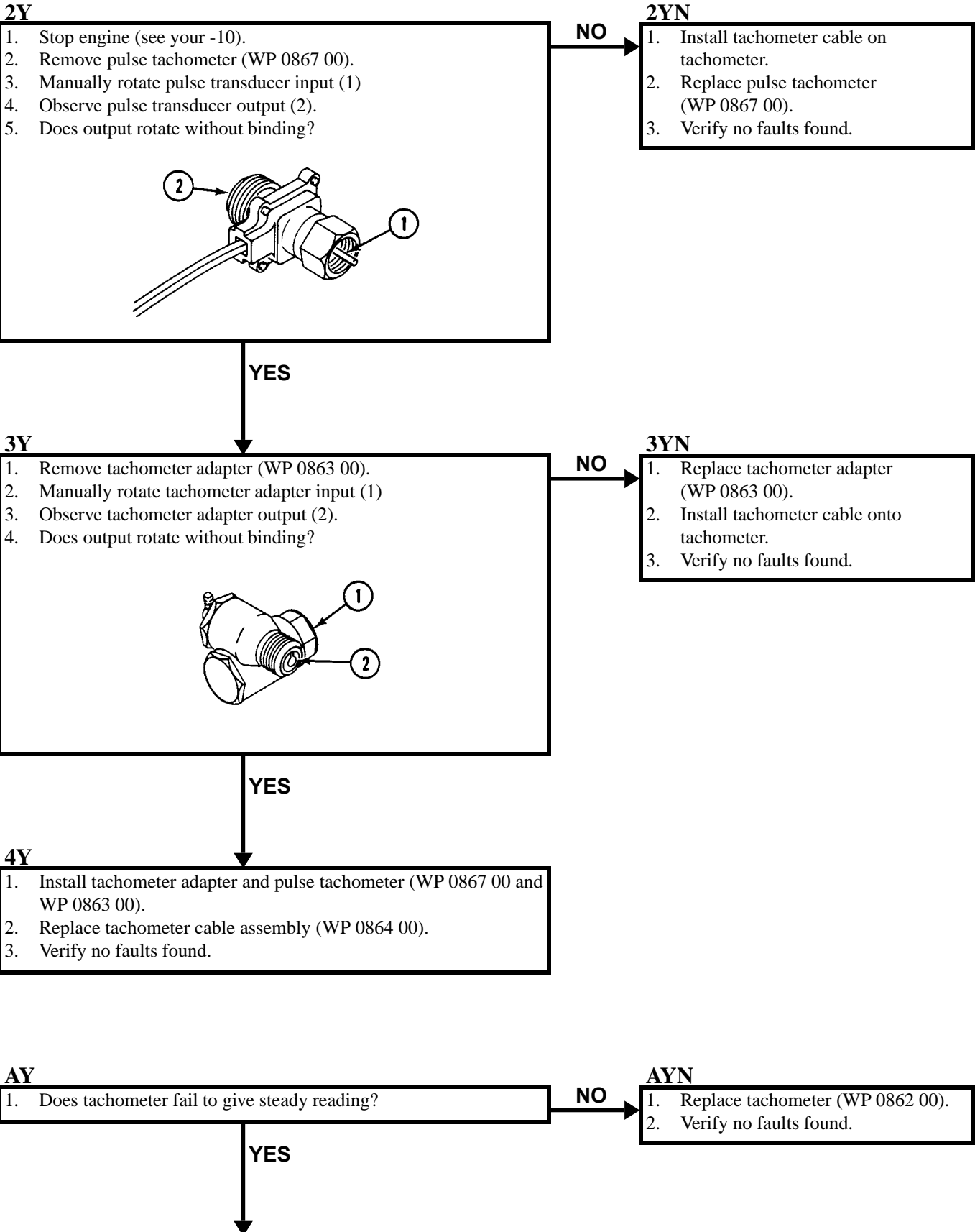


**NO**

**YN**

1. Stop engine (see your -10).
2. Replace tachometer (WP 0862 00).
3. Verify no faults found.

**YES**



**A2Y**

1. Has tachometer cable flexible core been serviced?

**NO**

**A2YN**

1. Service flexible core (WP 0858 00).
2. Verify no faults found.

**YES**

**A3Y**

1. Repair/replace tachometer cable assembly (WP 0865 00 or WP 0864 00).
2. Verify no faults found.



**DRIVER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY)**

0116 01

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
 TM 11-5855-304-TBD  
 See M58 Wiring Diagram (FO-7)

Tools and Special Tools

General mechanic's tool kit: automotive  
 (WP 0926 00, Item 65)  
 Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
 DVE power switch off (see your -10)

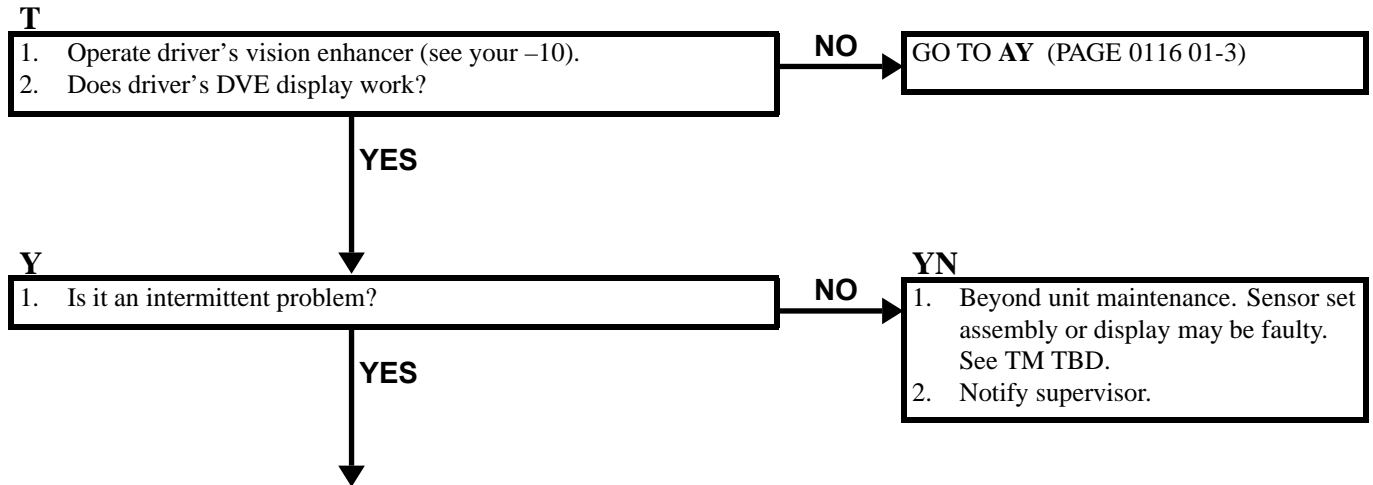
Personnel Required

Unit Mech

**NOTE**

These procedures cover the DVE with a commander's DVE installed. Cable 12461152 includes power and video cable to commander's display and power to the driver's display through cable 12460610. See TM TBD for the sensor set assembly or display. If vehicle does not have commander's DVE display installed, power cable 12460610 is plugged directly into DVE power switch.

If problems in operation are because of the sensor set assembly or driver's/commander's display, see TM 11-5855-304-TBD (this will apply only if TBD TM is at unit level maintenance (-24). If TBD TM is -34 level only, then this will be changed to identify the items needed to be turned into DS maintenance for repairs).

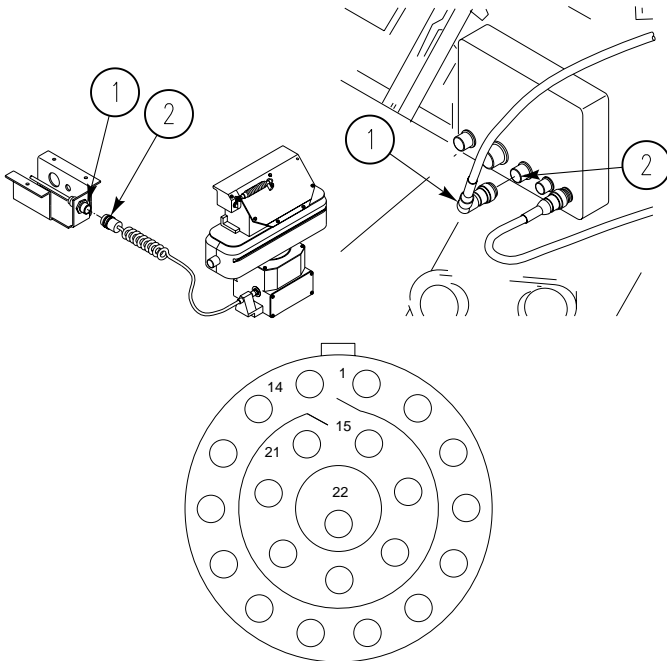


**DRIVER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY)—Continued**

0116 01

**2Y**

1. Remove sensor video cable 12461148 connector W2P1 (2) from connector W1P2 (1) on driver's hatch and connector W2P2 (1) from connector A1J2 (2) on driver's display.
2. Measure continuity between cable 12461148 connector W2P1 and connector W2P2 . Check pins 1, 2, 3, 4, 5, 8, 9, 10, 11, 18, and 19.



3. Does multimeter read 0 ohms?

**NO**

**2YN**

1. Faulty sensor video cable 12461148. Replace sensor video cable 12461148 (WP 0866 01).
2. Verify no faults found.

**YES**

**3Y**

1. Bad driver's display. Replace driver's display (see your -10).
2. Verify no faults found.

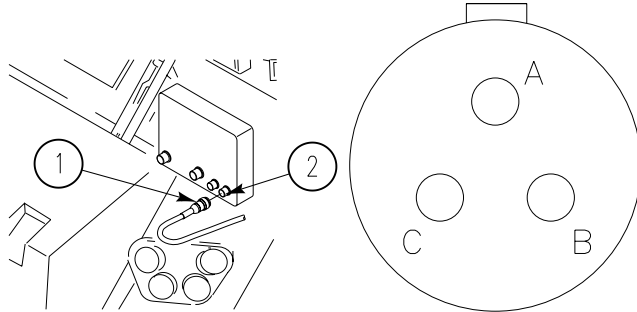


**DRIVER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY)—Continued**

0116 01

**AY**

1. Remove power cable connector 516B P2 (1) from connector A1J1 (2) on driver's display. Use a multimeter on connector 516B P2 pin A (1) and pin B to check for voltage.



2. Turn DVE power switch ON (see your -10).
3. Is voltage reading less than 16 volts?

**NO**

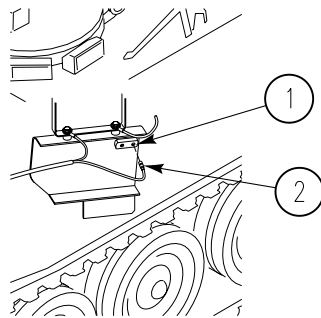
**AYN**

1. Faulty display. Replace display (see your -10). If commander's display is good, swap with driver's display to verify.
2. Verify no faults found.

**YES**

**A2Y**

1. Turn DVE power switch OFF (see your -10).
2. Remove power cable connector 516B P1 or connector W3P4 (2) from DVE power switch (1). Use a multimeter on DVE power switch to check for continuity. Turn DVE power switch ON and OFF.



3. Does multimeter read 0 ohms when DVE power switch is ON?

**NO**

**A2YN**

1. Faulty DVE power switch. Replace DVE power switch (WP 0282 00).
2. Verify no faults found.

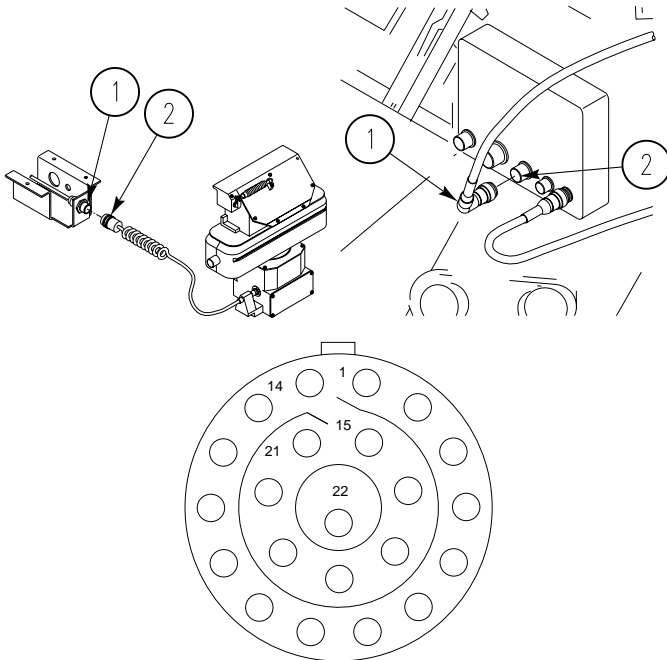
**YES**

**DRIVER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY)—Continued**

0116 01

**A3Y**

1. Remove sensor video cable 12461148 connector W2P1 (2) from connector W1P2 (1) on driver's hatch and connector W2P2 (1) from connector A1J2 (2) on driver's display. Use multimeter to measure continuity. Check pins 1, 2, 3, 4, 5, 8, 9, 10, 11, 18, and 19.



2. Does multimeter read 0 ohms?

**NO**

**A3YN**

1. Faulty sensor video cable 12461148. Replace sensor video cable 12461148 (WP 0866 01).
2. Verify no faults found.

**YES**

**A4Y**

1. Faulty sensor set assembly or DVE display.
2. Notify supervisor.

**COMMANDER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK  
(M58 ONLY)**

**0116 02**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
 TM 11-5855-304-TBD  
 See M58 Wiring Diagram (FO-7)

Tools and Special Tools

General mechanic's tool kit: automotive  
 (WP 0926 00, Item 65)  
 Multimeter (WP 0926 00, Item 30)

Equipment Condition

Engine stopped (see your -10)  
 DVE power switch off (see your -10)

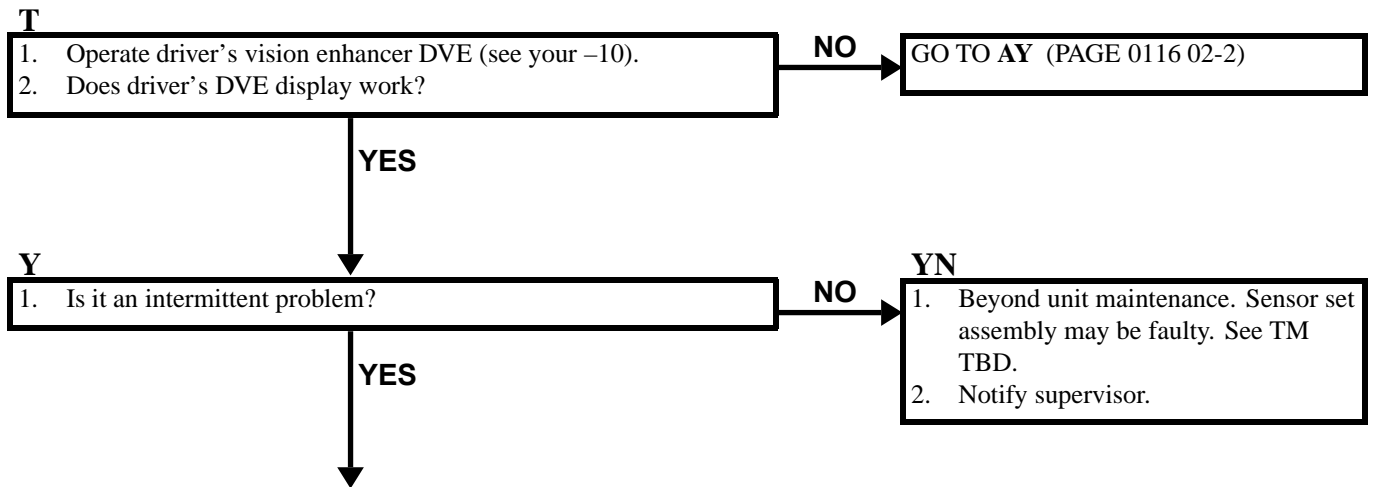
Personnel Required

Unit Mech

**NOTE**

**These procedures cover the DVE with a commander's DVE installed. Cable 12461152 includes power and video cable to commander's display. See TM TBD for the sensor set assembly or display.**

**If problems in operation are because of the sensor set assembly or driver's/commander's display, see TM 11-5855-304-TBD (this will apply only if TBD TM is at unit level maintenance (-24). If TBD TM is -34 level only, then this will be changed to identify the items needed to be turned into DS maintenance for repairs).**

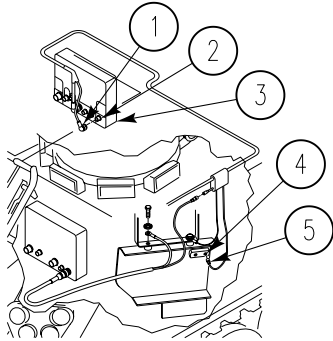


**COMMANDER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY)—Continued**

0116 02

**2Y**

1. Measure continuity between cable 12461152 connector W3P3 pin A (1) and connector W3P4 (4) and between connector W3P3 pin B (1) and ground point (5) on instrument panel.



2. Does multimeter read 0 ohms?

**NO**

**2YN**

1. Faulty cable 12461152. Replace cable 12461152 ( ).
2. Verify no faults found.

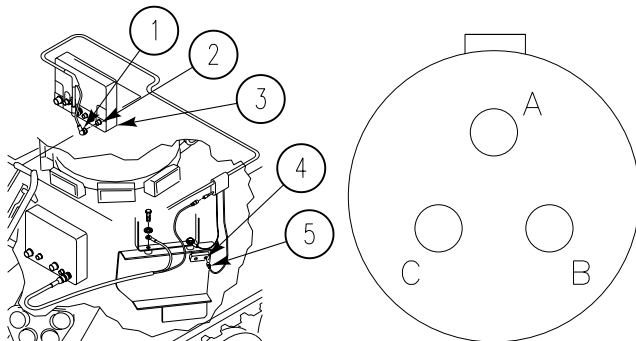
**YES**

**3Y**

1. Bad commander's display. Replace commander's display (see your -10).
2. Verify no faults found.

**AY**

1. Remove power connector W3P3 (1) from connector A1J1 (2) on commander's display (3). Use a multimeter on connector W3P3 pin A and pin B (1) to check for voltage.



2. Is voltage reading less than 18 volts?

**NO**

**AYN**

1. Faulty display. Replace display (see your -10).
2. Verify no faults found.

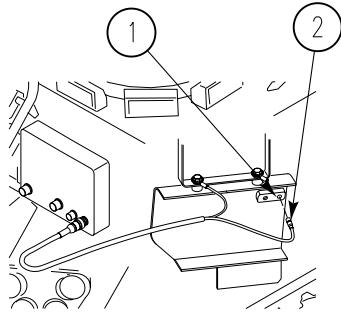
**YES**

**COMMANDER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY)—Continued**

0116 02

**A2Y**

1. Remove cable connector W3P4 (2) from DVE power switch (1). Use multimeter on DVE power switch to check for continuity. Turn DVE power switch ON and OFF.



2. Does multimeter read 0 ohms when DVE power switch is in ON position?

**NO**

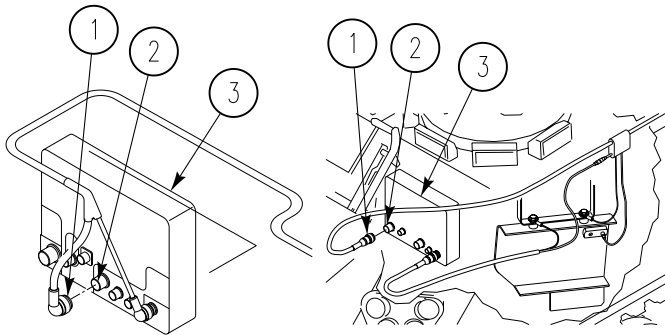
**A2YN**

1. Faulty DVE power switch. Replace DVE power switch (WP 0282 00).
2. Verify no faults found.

**YES**

**A3Y**

1. Remove cable 12461152 connector W3P2 (1) from connector A1J2 (2) on commander's display (3) and connector W3P1 (1) from connector A1J5 (2) on driver's display (3). Use multimeter to measure continuity.



2. Does multimeter read 0 ohms?

**NO**

**A3YN**

1. Faulty cable 12461152. Replace cable 12461152 ( )
2. Verify no faults found.

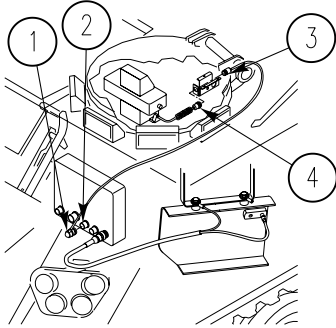
**YES**

**COMMANDER'S VISION ENHANCER (DVE) DISPLAY DOES NOT WORK (M58 ONLY)—Continued**

0116 02

**A4Y**

1. Remove sensor video cable 12461148 connector W2P2 (1) from connector A1J2 (2) on driver's display and connector W2P1 (3) from connector W1P2 (4) on driver's hatch. Use multimeter to measure continuity.



2. Does multimeter read 0 ohms?

**NO**

**A4YN**

1. Faulty sensor video cable 12461148. Replace sensor video cable 12461148 ()
2. Verify no faults found.

**YES**

**A5Y**

1. Faulty sensor set assembly or DVE display.
2. Notify supervisor.

**HOOK UP/REMOVE STE/ICE TEST SET TO DCA 6**

**0117 00**

**THIS WORK PACKAGE COVERS:**

- Hook up (page 0117 00-1).
- Removal (page 0117 00-2).

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

- STE/ICE Test Set (WP 0926 00, Item 61)
- Electrical connector pliers (WP 0926 00, Item 31)

Equipment Condition

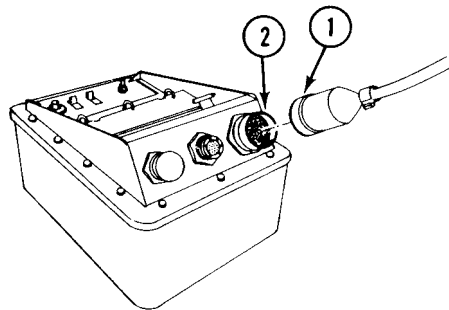
- Engine stopped (see your -10)
- Vehicle blocked (see your -10)

Personnel Required

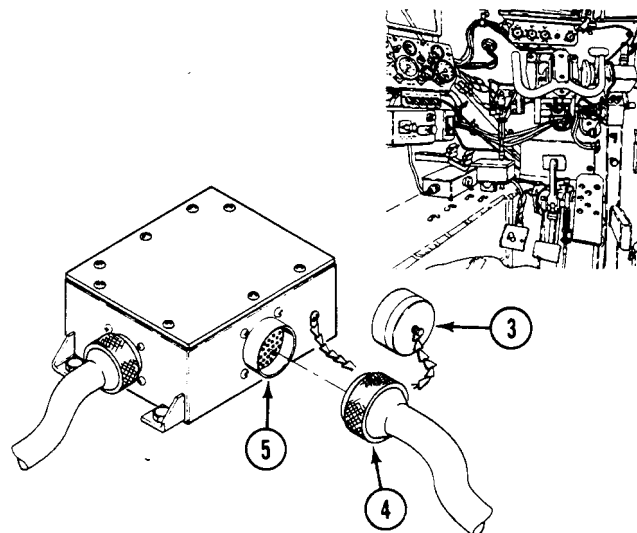
Unit Mech 63T10

**HOOK-UP**

1. Remove VTM and cable W1 from transit case.
2. Pull VTM circuit breaker to OFF.
3. Install plug W1 P1 (1) on VTM jack J1 (2).



4. Remove cap (3) from DCA 6 J2 (5).
5. Install plug W1 P2 (4) on DCA 6 J2 (5).



6. Push VTM circuit breaker to ON.
  - a. If display reads **(8888)** and (- - - -), go to Step 7.
  - b. If display is not blank, but does not read **(8888)** and (- - - -), write up DA form 2404 on faulty VTM display. Notify supervisor.
  - c. If display is blank, go to VTM blank display diagnostic troubleshooting (WP 0138 00).
7. Perform VTM confidence check TM 9-4910-571-12&P. If VTM confidence check does not pass, go to STE/ICE confidence test diagnostic troubleshooting (WP 0139 00).
8. Select test 60, then press and release TEST button.
9. Enter vehicle I.D. **(26)** into VTM, then press and release TEST button.
10. Select test 61, then press and release TEST button. If vehicle I.D. **(26)** does not appear on VTM display, see TM 9-4910-571-12&P.
11. Select test 62, then press and release TEST button. If DCA to which VTM is connected does not appear on VTM display, see TM 9-4910-571-12&P.
12. Return to troubleshooting.

**REMOVAL**

1. Pull VTM circuit breaker to OFF.
2. Turn master switch to OFF.
3. Remove W1 cable from DCA 6 J2 and VTM jack J1.
4. Install cap on DCA 6 J2.
5. Stow VTM and cable W1 in transit case.



---

**STE/ICE TEST 10 ENGINE RPM**

**0118 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0118 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. SELECT TEST 10.
2. PRESS AND RELEASE TEST BUTTON.
3. VTM WILL DISPLAY ENGINE RPM:

**Table 1.**

<b>CONDITION</b>	<b>ENGINE RPM</b>
<b>Cranking</b>	<b>100 Minimum</b>
<b>Idle</b>	<b>600-700</b>
<b>Governed speed (no load)</b>	<b>2900-3050</b>

- a. If error message appears, see TM 9-4910-571-12&P.
  - b. If display is erratic or reads 0 with engine turning, go to: STE/ICE Test 10 Diagnostic Troubleshooting (WP 0140 00).
4. RETURN TO TROUBLESHOOTING.



---

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE**

**0119 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0119 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. SELECT TEST 24.
2. PERFORM OFFSET TEST.
  - a. Push and hold TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-10** and **+10**, offset test passes.
  - c. If offset test fails, go to: STE/ICE Test 24 Diagnostic Troubleshooting (WP 0143 00).
3. PRESS AND RELEASE TEST BUTTON.
4. START ENGINE AND RUN AT GOVERNED NO LOAD SPEED (WP 0155 00).
  - a. If VTM reads 55 (psi) or more, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If readings are erratic or cannot be obtained, go to: STE/ICE Test 24 Diagnostic Troubleshooting (WP 0143 00).
5. STOP ENGINE (see your -10).
6. RETURN TO TROUBLESHOOTING.



---

**STE/ICE TEST 25 FUEL RETURN PRESSURE**

**0120 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0120 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63t10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. SELECT TEST 25.
2. PERFORM OFFSET TEST.
  - a. Push and hold TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-10** and **+10**, offset test passes.
  - c. If offset test fails, go to: STE/ICE Test 25 Diagnostic Troubleshooting (WP 0144 00).
3. PRESS AND RELEASE TEST BUTTON.
4. START ENGINE AND RUN AT GOVERNED NO LOAD SPEED (WP 0155 00).
  - a. If VTM reads 18 (psi) or more, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If readings are erratic or cannot be obtained, go to: STE/ICE Test 25 Diagnostic Troubleshooting (WP 0144 00).
5. STOP ENGINE (see your -10).
6. RETURN TO TROUBLESHOOTING.



---

**STE/ICE TEST 26 FUEL FILTER PRESSURE DROP**

**0121 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0121 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech  
Helper

References

See your -10  
TM 9-4910-571-12&P

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
STE/ICE hooked up to DCA 6 (WP 0117 00)

- 
1. SELECT TEST 26.
  2. PRESS AND RELEASE TEST BUTTON. VTM SHOULD DISPLAY **PASS**.
    - a. If error message appears, see TM 9-4910-571-12&P.
    - b. If readings are erratic or cannot be obtained or reads **FAIL**, go to: STE/ICE Test 26 Diagnostic Troubleshooting (WP 0145 00).
  3. START ENGINE (see your -10).
  4. PERFORM ROAD TEST (WP 0155 00).
  5. WHEN ENGINE RPM REACHES 2400 DURING ROAD TEST, PRESS AND RELEASE TEST BUTTON. HAVE HELPER ASSIST.
  6. VTM SHOULD DISPLAY **PASS OR FAIL**.
    - a. If error message appears, see TM 9-4910-571-12&P.
    - b. If readings are erratic or cannot be obtained, go to: STE/ICE Test 26 Diagnostic Troubleshooting (WP 0145 00).
  7. STOP ENGINE (see your -10).
  8. RETURN TO TROUBLESHOOTING.





---

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE**

---

**0122 00**

**THIS WORK PACKAGE COVERS:**

Test (page 0122 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. SELECT TEST 30.
2. PERFORM OFFSET TEST.
  - a. Press and hold TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-3 to+3**, offset test passes.
  - c. If offset test fails, go to: STE/ICE Test 30 Diagnostic Troubleshooting (WP 0146 00).
3. PRESS AND RELEASE TEST BUTTON.
4. START ENGINE (see your -10).
5. PERFORM ROAD TEST (RUN ACCELERATION PORTION AFTER WARMING UP) (WP 0155 00).
  - a. If VTM reads **20** or more, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If readings are erratic or cannot be obtained, go to: STE/ICE Test 30 Diagnostic Troubleshooting (WP 0146 00).
6. STOP ENGINE (see your -10).
7. RETURN TO TROUBLESHOOTING.



---

**STE/ICE TEST 32 AIR BOX PRESSURE**

**0123 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0123 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. SELECT TEST 32.
2. PERFORM OFFSET TEST.
  - a. Press and hold TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-3 to+3**, offset test passes.
  - c. If offset test fails, go to: STE/ICE Test 32 Diagnostic Troubleshooting (WP 0147 00).
3. PRESS AND RELEASE TEST BUTTON.
4. START ENGINE (see your -10).
5. ACCELERATE ENGINE TO GOVERNED NO LOAD SPEED (WP 0155 00). RECORD READING.
  - a. If VTM reads **6.0** or more at no load governed RPM, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If readings are erratic or cannot be obtained, go to: STE/ICE Test 32 Diagnostic Troubleshooting (WP 0147 00).
6. STOP ENGINE (see your -10).
7. RETURN TO TROUBLESHOOTING.



---

**STE/ICE TEST 67 BATTERY VOLTAGE**

**0124 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0124 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 67.
2. Press and release TEST button.

**CONDITIONS**

**VOLTS**

**Engine off/MASTER SWITCH OFF.**

**21 or more**

**Cranking engine fuel off.**

**17 or more**

**Charging 1100-1300 RPM/service lights on.**

**26 to 29.5**

- a. If display is erratic or shows **0** (volts), go to: STE/ICE DCA Battery Voltage Diagnostic Troubleshooting (WP 0142 00).
  - b. If error message appears, see TM 9-4910-571-12&P.
3. Return to troubleshooting.



---

**STE/ICE TEST 68 STARTER MOTOR VOLTAGE**

**0125 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0125 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 68.
2. Press and release TEST button.
3. Turn MASTER SWITCH to ON.
4. Press START switch for 3 seconds and observe VTM reading.
  - a. If display reads 16 (volts) or more, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If starter cranks normally, but no reading appears, go to: STE/ICE Test 68 Diagnostic Troubleshooting (WP 0148 00).
5. Turn MASTER SWITCH to OFF.
6. Return to troubleshooting.





---

**STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP**

**0126 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0126 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 69.
2. Press and release TEST button.
3. Turn MASTER SWITCH to ON.
4. Press START switch for 3 seconds and observe VTM reading.
  - a. If display reads .60 (volts) or less, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If engine cranks normally, but reading is erratic or cannot be obtained, go to: STE/ICE Test 69 Diagnostic Troubleshooting (WP 0149 00).
5. Turn MASTER SWITCH to OFF.
6. Return to troubleshooting.



---

**STE/ICE TEST 70 STARTER SOLENOID VOLTAGE**

---

**0127 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0127 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 70.
2. Press and release TEST BUTTON.
3. Turn MASTER SWITCH to ON.
4. Press START switch for 3 seconds and observe VTM reading.
  - a. If display reads **16** (volts) or more, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If engine cranks normally, but reading is erratic or cannot be obtained, go to: STE/ICE Test 70 Diagnostic Troubleshooting (WP 0150 00).
5. Turn MASTER SWITCH to OFF.
6. Return to troubleshooting.



---

**STE/ICE TEST 71 STARTER CURRENT (AVERAGE)**

---

**0128 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0128 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 71.
2. Perform offset test.
  - a. Press TEST button until display reads **CAL**. Release TEST button.
  - b. If VTM reads between **-250** and **+250**, offset test passes.
  - c. If offset test fails, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
3. Press and release TEST button.
4. Crank engine for five seconds and note steady reading.
  - a. If VTM reads between **200** and **490**, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If no reading appears and engine cranks normally, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
5. Return to troubleshooting.



---

**STE/ICE TEST 72 STARTER CURRENT (FIRST PEAK)**

---

**0129 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0129 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

Fuel shut off (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 72.
2. Perform offset test.
  - a. Press and hold TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-250** and **+250**, offset test passes.
  - c. If offset test fails, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
3. Press and release TEST button.
4. Crank engine for one second and note reading displayed on VTM.
  - a. If VTM reads between **900 - 1540**, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If no reading appears and engine cranks normally, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
5. Return to troubleshooting.





---

**STE/ICE TEST 73 BATTERY RESISTANCE AND STE/ICE TEST 75 BATTERY RESISTANCE CHANGE (PACK)**

---

**0130 00**

**THIS WORK PACKAGE COVERS:**

Test (page 0130 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

Personnel Required

Unit Mech 63T10

All electrical accessories turned off (see your -10)

Fuel OFF, engine must not start (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

**NOTE**

**Both TEST 73 and TEST 75 must be performed to determine battery pack condition.**

1. Select TEST 73.
2. Perform offset test.
  - a. Press and hold TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-250** and **+250**, offset test passes.
  - c. If offset test fails, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
3. Press and release TEST button.
  - a. If VTM display is erratic or cannot be obtained, go to STE/ICE DCA battery voltage diagnostic troubleshooting (WP 0141 00).
  - b. If fault cannot be corrected in (WP 0141 00), go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
4. When **GO** appears, crank engine over for two seconds or until one of the following appears on display:

**DISPLAY**

**PERFORM/RESULT**

**OFF**

**Stop cranking and wait for message to appear.**

**A number**

**BATTERY RESISTANCE (go to Step 5)**

**.9.9.9**

**Beyond range of VTM, cannot be measured**

**Error message**

**See TM 9-4910-571-12&P**

**(—)**

**VTM lost power during test. Batteries may be too weak. Try powering VTM using external source.**

5. Observe VTM reading.
  - a. If VTM reading is **30** (milliohms) or less, test passes.

**STE/ICE TEST 73 BATTERY RESISTANCE AND STE/ICE TEST 75 BATTERY  
RESISTANCE CHANGE (PACK)—Continued**

**0130 00**

- b. If VTM reading is more than **30** (milliohms), test fails.
- 6. Select TEST 75.
- 7. Repeat Steps 2 thru 5.
- 8. Determine condition of battery pack using table.

<b>TEST 73 BATTERY INTERNAL RESISTANCE TEST RESULT</b>	<b>TEST 75 BATTERY RESISTANCE CHARGE TEST RESULT</b>	<b>BATTERY PACK CONDITION</b>
<b>PASS</b>	<b>PASS</b>	<b>The batteries tested are OK and in good state of charge.</b>
<b>PASS</b>	<b>FAIL</b>	<b>The batteries tested are in poor condition, but have a fresh charge.</b>
<b>FAIL</b>	<b>PASS</b>	<b>The batteries tested are OK but need to be recharged.</b>
<b>FAIL</b>	<b>FAIL</b>	<b>The batteries tested are in poor condition and in a state of discharge.</b>

- a. If batteries are in poor condition, go to individual battery tests 77 and 79. See TM 9-4910-571-12&P.

---

**STE/ICE TEST 74 STARTER CIRCUIT RESISTANCE**

**0131 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0131 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

References

See your -10  
TM 9-4910-571-12&P

---

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
All electrical accessories turned off (see your -10)  
Fuel OFF, engine must not start (see your -10)  
STE/ICE hooked up to DCA 6 (WP 0117 00)

1. Select TEST 74.
2. Perform offset test.
  - a. Press an hold TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-250** and **+250**, offset test passes.
  - c. If offset test fails, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
3. Press and release TEST button.
4. When **GO** appears, turn MASTER SWITCH to ON and crank engine for five seconds or until one of the following appears on the VTM:

<b>DISPLAY</b>	<b>PERFORM/RESULT</b>
<b>OFF</b>	<b>Stop cranking and wait for message to appear.</b>
<b>A number</b>	<b>CIRCUIT RESISTANCE (in milliohm)</b>
<b>.9.9.9</b>	<b>Beyond range of VTM, cannot be measured</b>
<b>Error message</b>	<b>See TM 9-4910-571-12&amp;P</b>

5. Turn MASTER SWITCH to OFF.
6. Observe VTM reading.
  - a. If VTM reads 30 (milliohms) or less, test passes.
  - b. If reading is erratic or cannot be obtained, go to STE/ICE DCA battery voltage diagnostic troubleshooting (WP 0141 00) and STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
7. Return to troubleshooting.



---

**STE/ICE TEST 80 BATTERY CURRENT**

**0132 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0132 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
All electrical accessories turned off (see your -10)  
STE/ICE hooked up to DCA 6 (WP 0117 00)

Personnel Required

Unit Mech

---

1. Select TEST 80.
2. Perform offset test.
  - a. Press TEST button until **CAL** appears. Release TEST button.
  - b. If VTM reads between **-250** and **+250**, offset test passes.
  - c. If offset test fails, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
3. Press and release TEST button.
4. Turn MASTER SWITCH to ON.
5. Depress START button for five seconds.
  - a. If VTM reads **0.0** or less, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If engine cranks normally, but reading is erratic or cannot be obtained, go to STE/ICE DCA current shunt diagnostic troubleshooting (WP 0142 00).
6. Turn MASTER SWITCH to OFF.
7. Return to troubleshooting.



---

**STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE**

**0133 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0133 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 82
2. Start engine and run at 1400-1600 RPM (see your -10).
3. Turn MASTER LIGHT switch to SERV DRIVE.
4. Press and release TEST button on VTM
5. Observe VTM reading.
  - a. If VTM reads between **26** to **29.5** (volts), test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If reading is erratic or cannot be obtained, go to STE/ICE test 82 diagnostic troubleshooting (WP 0151 00).
6. Stop engine (see your -10).
7. Turn MASTER LIGHT switch to OFF.
8. Return to troubleshooting.





---

**STE/ICE TEST 83 GENERATOR FIELD VOLTAGE**

**0134 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0134 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

See your -10

TM 9-4910-571-12&P

---

1. Select TEST 83.
2. Press and release TEST button.
3. Start engine and run at 1400-1600 RPM (see your -10).
4. OBSERVE VTM DISPLAY.
  - a. If VTM reads **26** to **29.5** (volts), test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If reading is erratic or cannot be obtained, go to STE/ICE test 83 diagnostic troubleshooting (WP 0152 00).
5. Stop engine (see your -10).
6. Return to troubleshooting.



---

**STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP**

**0135 00**

---

**THIS WORK PACKAGE COVERS:**

Test (page 0135 00-1).

---

**INITIAL SETUP:**

Maintenance Level

Unit

Personnel Required

Unit Mech 63T10

Equipment Condition

Engine stopped (see your -10)

Vehicle blocked (see your -10)

STE/ICE hooked up to DCA 6 (WP 0117 00)

References

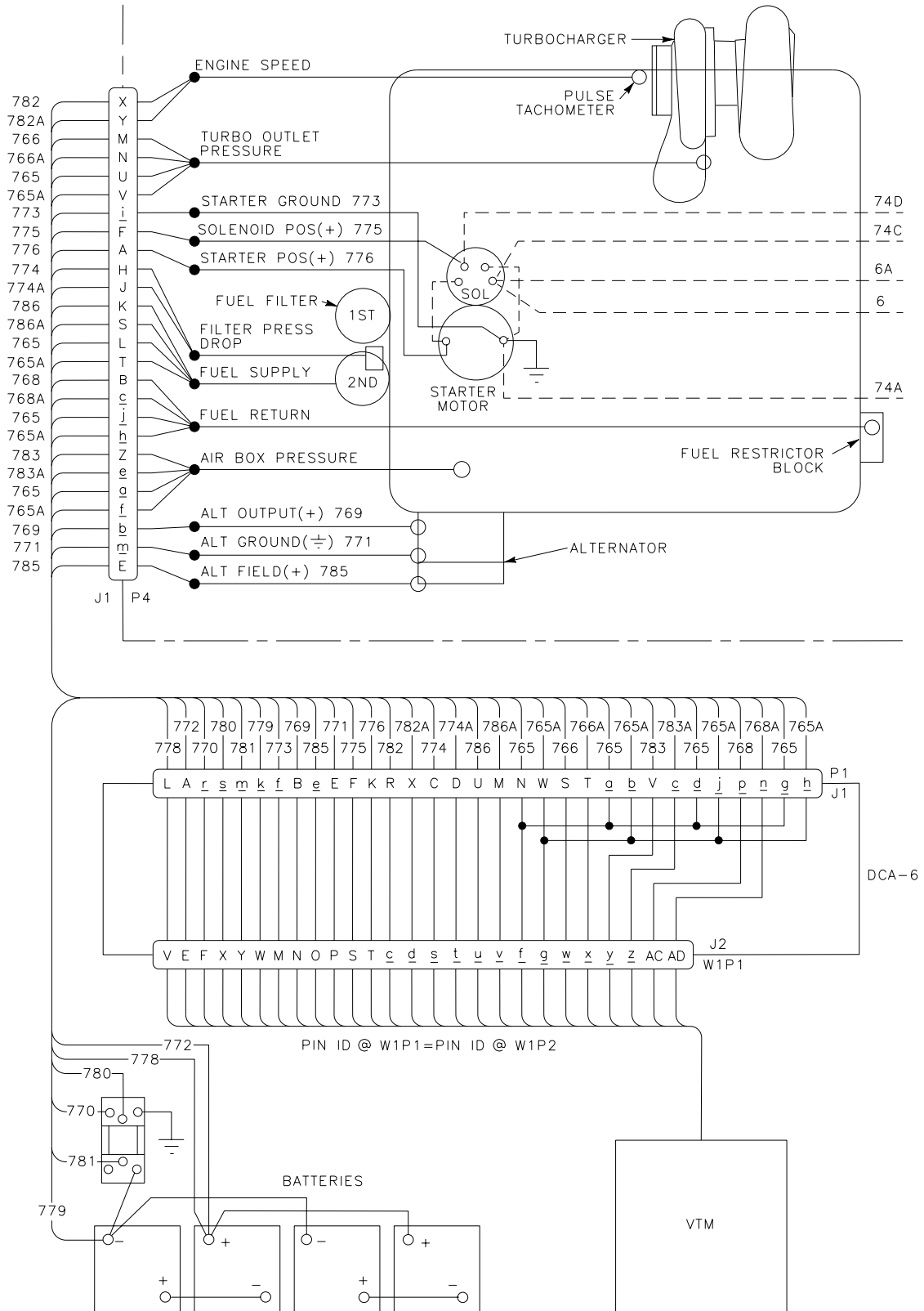
See your -10

TM 9-4910-571-12&P

---

1. Select TEST 84.
2. Start engine and run at 1400-1600 RPM (see your -10).
3. Turn MASTER LIGHT switch to SER DRIVE.
4. Press and release TEST button on VTM.
5. Observe VTM display.
  - a. If VTM reads **0.60** (volts) or less, test passes.
  - b. If error message appears, see TM 9-4910-571-12&P.
  - c. If reading is erratic or cannot be obtained, go to STE/ICE test 84 diagnostic troubleshooting (WP 0153 00).
6. Stop engine (see your -10).
7. Turn MASTER LIGHT switch to OFF.
8. Return to troubleshooting.







**STE/ICE BLANK DISPLAY DIAGNOSTIC TROUBLESHOOTING**

**0138 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
STE/ICE test set (WP 0926 00, Item 61)

Equipment Condition

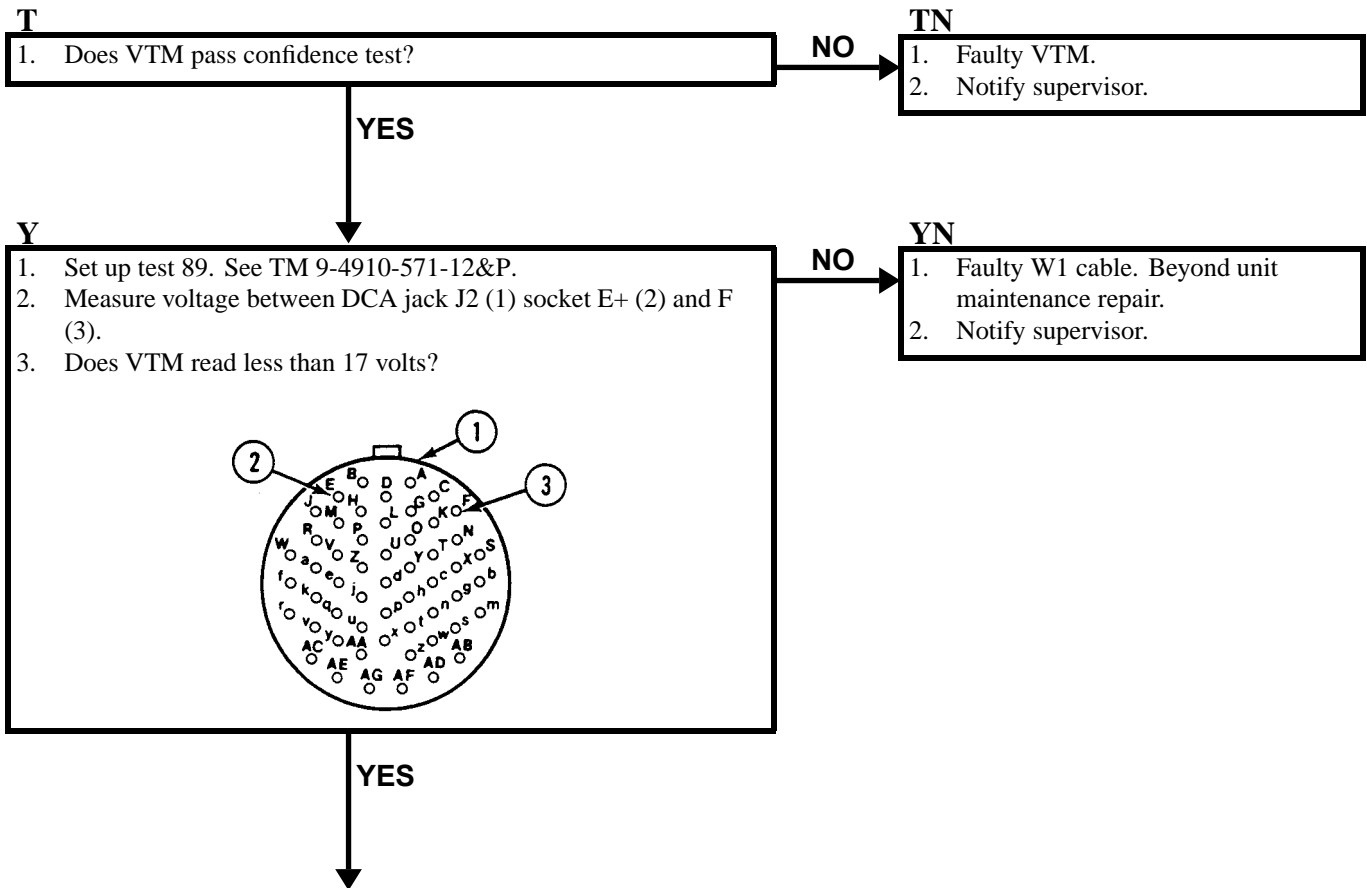
Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
STE/ICE hooked up to vehicle batteries  
(see TM 9-4910-571-12&P)  
Driver's power plant access panel removed  
(WP 0441 00)  
Trim vane lowered (see your -10)  
Power plant access door open (see your -10)

Materials/Parts

Electrical tape

Personnel Required

Unit Mech 63T10



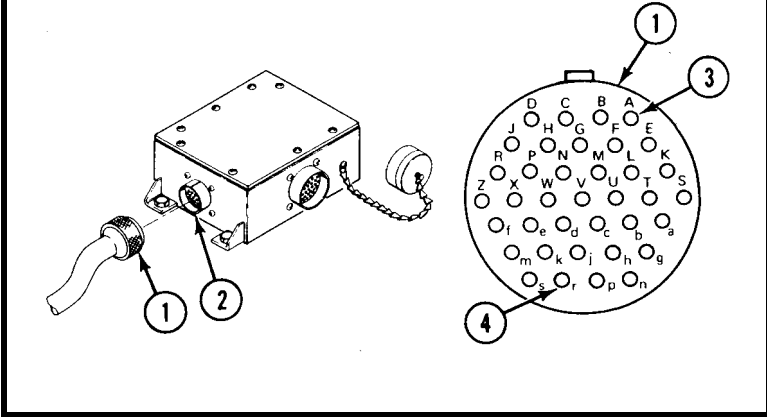
**2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure voltage between harness 12354593 plug P1 (1) socket A(+) (3) and r (4).
3. Does VTM read less than 17 volts?

NO

**2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.



YES

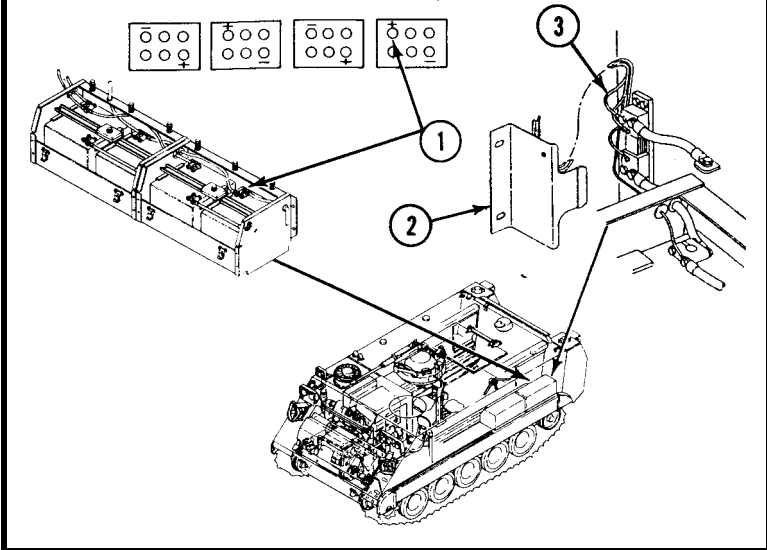
**3Y**

1. Inspect harness 12354593 circuit 772 terminal (1) on battery positive.
2. Remove shunt guard (2) and inspect harness 12354593 circuit 770 terminal (3) on current shunt.
3. Are all connections tight, clean and free from damage?

NO

**3YN**

1. Clean, tighten, or replace parts as necessary. Service vehicle batteries (see your -10).
2. Verify no faults found.



YES



**4Y**

1. Replace STE/ICE crew harness (WP 0878 00, WP 0879 00, WP 0880 00 or WP 0881 00).
2. Verify no faults found.



**STE/ICE CONFIDENCE TEST DIAGNOSTIC TROUBLESHOOTING**

**0139 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- General mechanic's tool kit: automotive (WP 0926 00, Item 65)
- Electrical connector pliers (WP 0926 00, Item 31)
- Jumper wire (WP 0927 00)
- STE/ICE Test Set (WP 0926 00, Item 61)

Materials/Parts

Electrical tape

Personnel Required

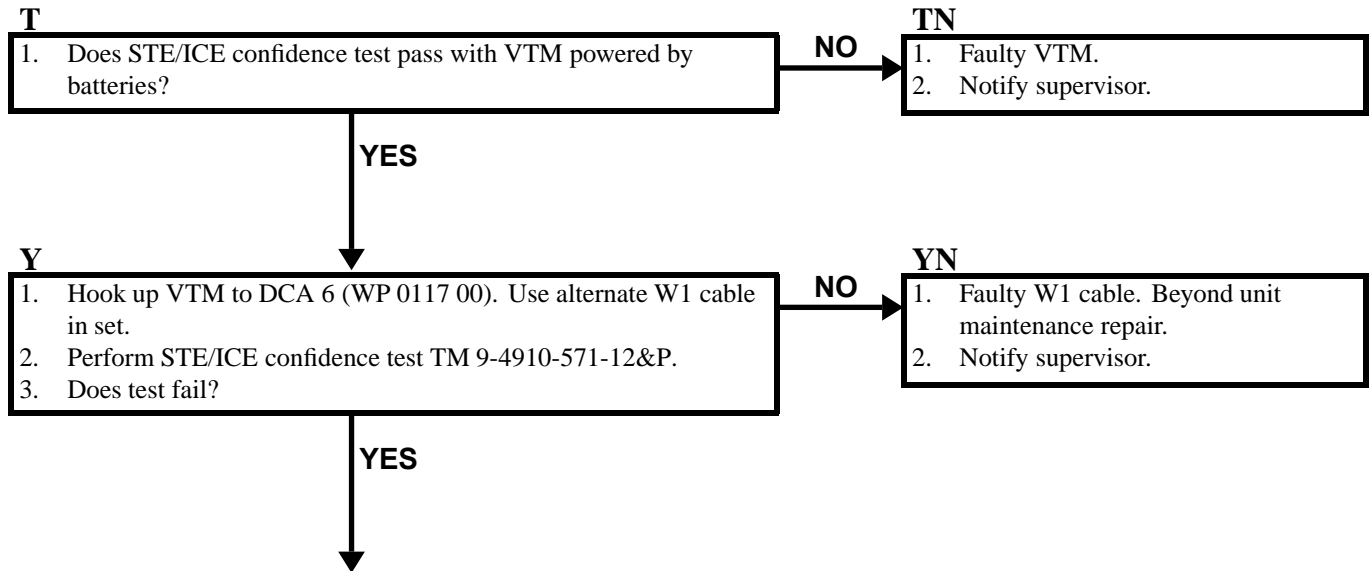
Unit Mech 63T10

References

See your-10  
TM 9-4910-571-12&P

Equipment Condition

- Engine stopped (see your -10)
- Vehicle blocked (see your -10)
- Driver's power plant access panel removed (WP 0441 00)
- Power plant access panel removed (WP 0439 00)
- STE/ICE hooked up to vehicle batteries (see TM 9-4910-571-12&P)
- Trim vane lowered (see your -10)



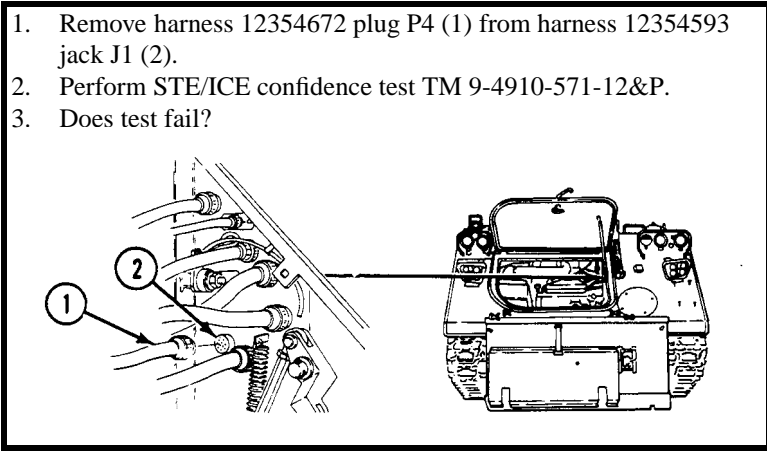
**2Y**

1. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
2. Perform STE/ICE confidence test TM 9-4910-571-12&P.
3. Does test fail?

NO

**2YN**

GO TO BY (PAGE 0139 00-3)



YES

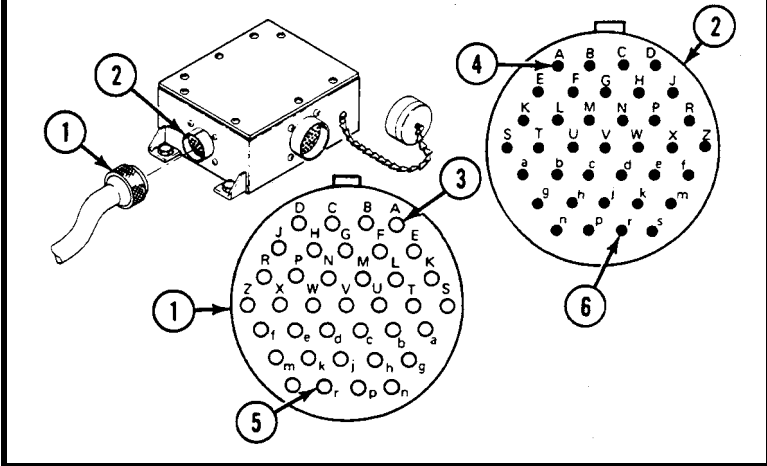
**3Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Install jumper wire between harness 12354593 plug P1 (1), pin A (3), and STE/ICE distribution box jack J1 (2), pin A (4).
3. Install jumper wire between harness 12354593 plug P1 (1), pin r (5), and STE/ICE distribution box jack J1 (2), pin r (6).
4. Perform STE/ICE confidence test TM 9-4910-571-12&P.
5. Does test fail?

NO

**3YN**

1. Faulty harness 12354593. Beyond unit maintenance repair.
2. Notify supervisor.



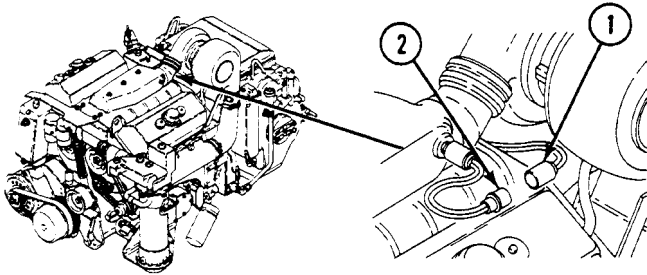
YES

**4Y**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**BY**

1. Install harness 12354672 plug P4 on harness 12354593 jack J1.
2. Remove harness 12354672 plug P3 (1) from turbo outlet tachometer jack (2).
3. Perform STE/ICE confidence test (TM 9-4910-571-12&P).
4. Does test fail?



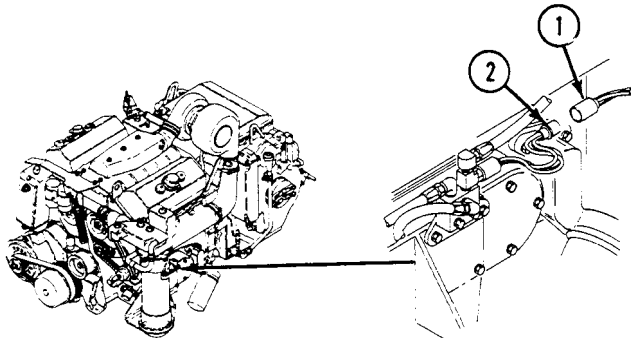
**BYN**

1. Replace turbo outlet tachometer (WP 0326 00).
2. Verify no faults found.

YES

**B2Y**

1. Pull VTM circuit breaker to OFF.
2. Install harness 12354672 plug P3 on turbo outlet pressure tachometer.
3. Remove harness 12354672 plug P1 (1) from fuel return pressure tachometer jack (2).
4. Perform STE/ICE confidence test TM 9-4910-571-12&P.
5. Does test fail?



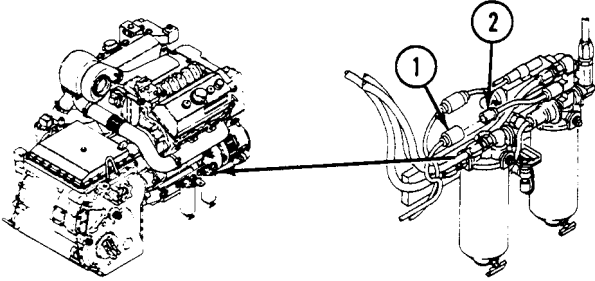
**B2YN**

1. Replace fuel return pressure tachometer (WP 0325 00).
2. Verify no faults found.

YES

**B3Y**

1. Pull VTM circuit breaker to OFF.
2. Install harness 12354672 plug P1 on fuel return pressure tachometer.
3. Remove harness 12354672 plug P8 (1) on fuel supply pressure tachometer jack (2).
4. Perform STE/ICE confidence test TM 9-4910-571-12&P.
5. Did test fail?



NO

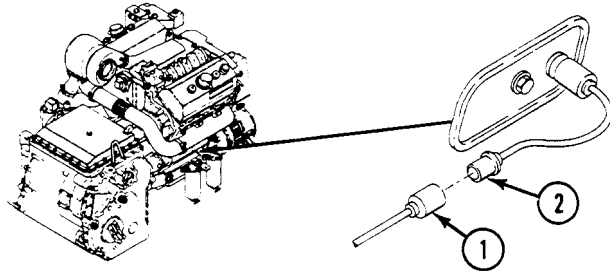
**B3YN**

1. Replace fuel supply pressure tachometer (WP 0324 00).
2. Verify no faults found.

YES

**B4Y**

1. Pull VTM circuit breaker to OFF.
2. Install harness 12354672 plug P8 on fuel supply pressure tachometer.
3. Remove harness 12354672 plug P9 (1) from air box pressure tachometer (2).
4. Perform STE/ICE confidence test TM 9-4910-571-12&P.
5. Did test fail?



NO

**B4YN**

1. Replace air box pressure tachometer (WP 0327 00).
2. Verify no faults found.

YES

**B5Y**

1. Repair/replace harness 12354672 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 10, 11, 12 AND 13 DIAGNOSTIC TROUBLESHOOTING**

**0140 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- Electrical connector pliers (WP 0926 00, Item 31)
- Jumper wire (WP 0927 00)
- STE/ICE Test set (WP 0926 00, Item 61)

Materials/Parts

Electrical tape

Personnel Required

Unit Mech 63T10

References

See your -10  
TM 9-4910-571-12&P

Equipment Condition

- Engine stopped (see your -10)
- Vehicle blocked (see your -10)
- STE/ICE VTM hooked up to DCA 6 (WP 0117 00)
- Transmission controller in "SL"(see your -10)
- Trim vane lowered (see your -10)
- Power plant access door open (see your -10)

**T**

1. Perform STE/ICE test 10 engine RPM (WP 0118 00).
2. Is display 0 or erratic?

**NO**

**TN**

1. Faulty VTM.
2. Notify supervisor.

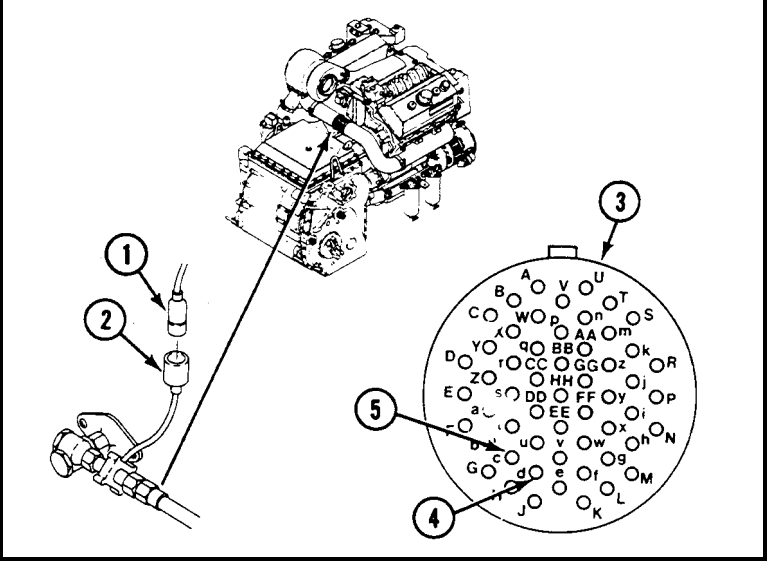
**YES**

**Y**

1. Remove plug W1P1 from VTM jack J1.
2. Remove harness 12354672 P2 (1) from pulse tachometer (2).
3. Measure resistance between plug W1P1 (3), pins d (4) and c (5).
4. Does VTM read infinity?

**NO**

**GO TO BY (PAGE 0140 00-2)**



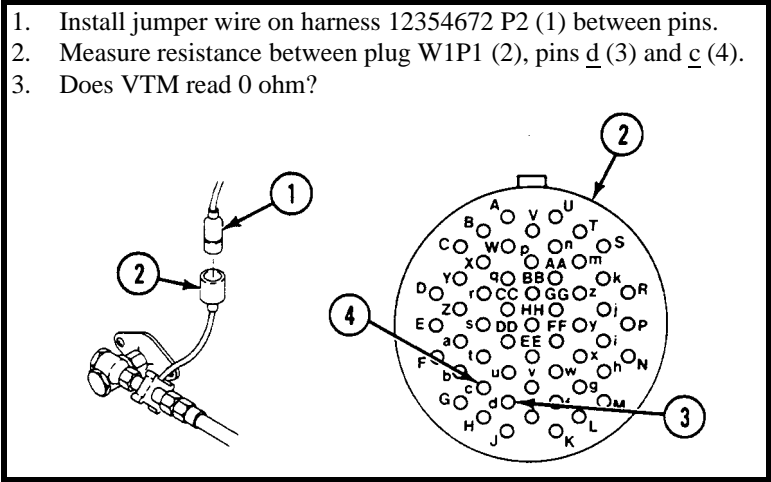
**YES**

**2Y**

1. Install jumper wire on harness 12354672 P2 (1) between pins.
2. Measure resistance between plug W1P1 (2), pins d (3) and c (4).
3. Does VTM read 0 ohm?

NO

GO TO CY (PAGE 0140 00-4)



YES

**3Y**

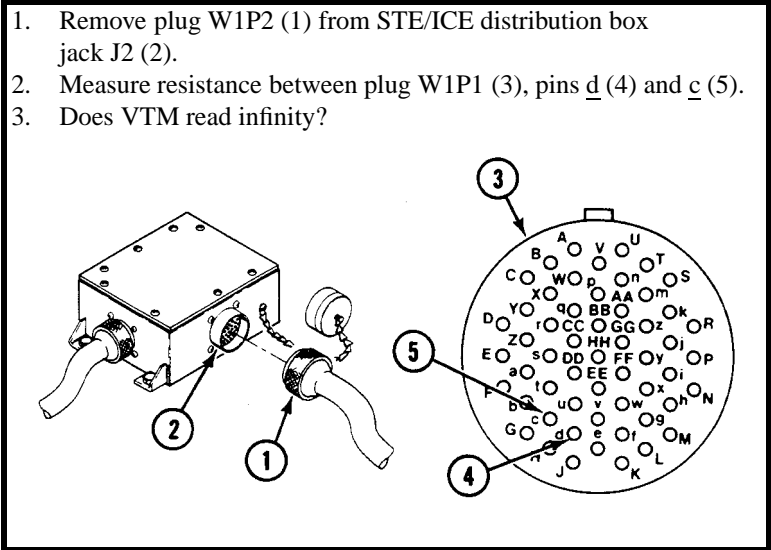
1. Replace pulse tachometer (WP 0867 00).
2. Verify no faults found.

**BY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between plug W1P1 (3), pins d (4) and c (5).
3. Does VTM read infinity?

NO

**BYN**  
 1. Faulty W1 cable. Beyond unit maintenance repair.  
 2. Notify supervisor.

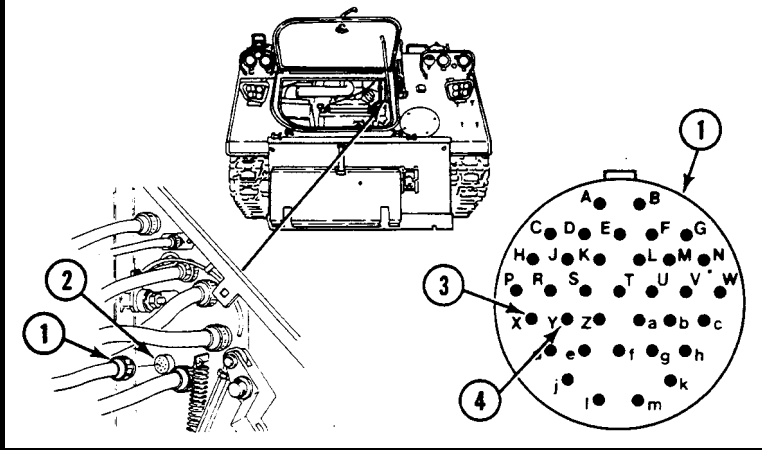


YES



**B2Y**

1. Remove harness 12354672 P4 (1) from jack 12354593 J1 (2) at bulkhead.
2. Measure resistance between harness 12354672 P4 (1), pins X (3) and Y (4).
3. Does VTM read infinity?



NO

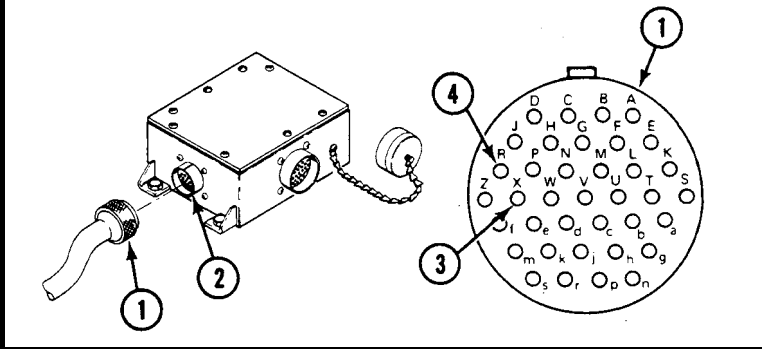
**B2YN**

1. Replace harness 12354672 (WP 0882 00).
2. Verify no faults found.

YES

**B3Y**

1. Remove harness 12354593 P1 (1) STE/ICE distribution box jack J1 (2).
2. Measure resistance between harness 12354593 P1 (1), pins X (3) and R (4).
3. Does VTM read infinity?



NO

**B3YN**

1. Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.

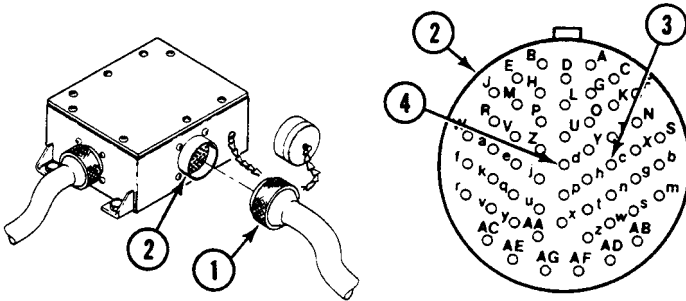
YES

**B4Y**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**CY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins c (3) and d(4).
3. Does VTM read more than 0 ohm?



NO

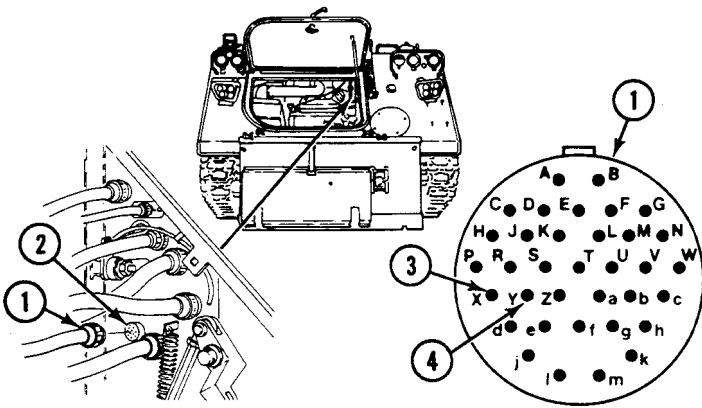
**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**C2Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 J1 (2) at bulkhead.
2. Measure continuity between harness 12354672 P4 (1), pins X (3) and Y (4).
3. Does VTM read 0 ohm?



NO

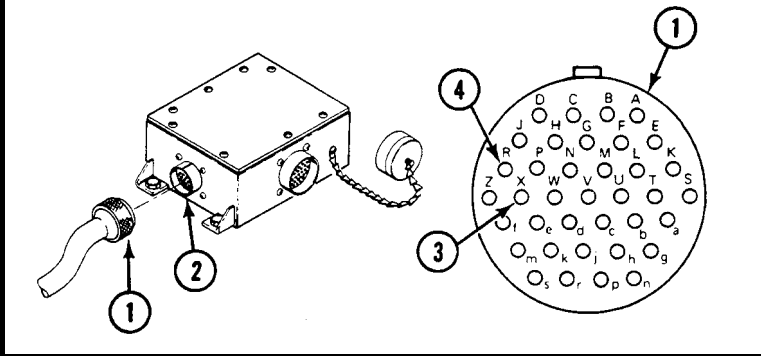
**C2YN**

1. Repair/replace wiring harness 12354672 (WP 0382 00) or (WP 0882 00) .
2. Verify no faults found.

YES

**C3Y**

1. Install harness 12354672 P4 on jack 12354593 J1 at bulkhead.
2. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
3. Measure resistance between harness 12354593 P1 (1), pins X (3) and R (4).
4. Does VTM read 0 ohm?



NO

**C3YN**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

YES

**C4Y**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.



**DCA BATTERY VOLTAGE DIAGNOSTIC TROUBLESHOOTING**

**0141 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

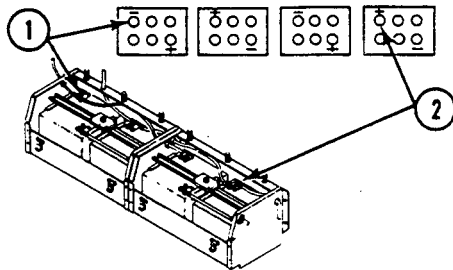
Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
Battery compartment cover opened (see your -10)

Personnel Required

Unit Mech 63T10  
Helper (H)

**T**

1. Remove plug W1 P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 89 TM 9-4910-571-12&P.
4. Measure voltage between battery terminals (1) and (2) with engine cranking for 3 seconds.
5. Does VTM read 17 volts or more?



**YES**



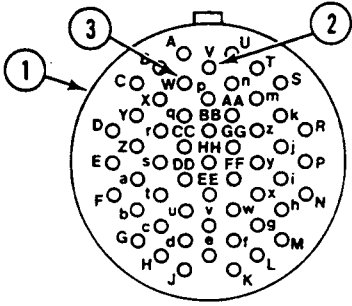
**NO**

**TN**

1. Service vehicle batteries (WP 0337 00) thru (WP 0358 00).
2. Verify no faults found.

**Y**

1. Measure voltage between plug W1 P1 (1), pin V (+) (2) and ground. VTM should read 22 volts or more.
2. Set up Test 91 TM 9-4910-571-12.
3. Measure voltage between plug W1 P1 (1), pin W (-) (3) and ground. VTM should read 22 volts or more.
4. Does VTM indicate a fault?



**NO**

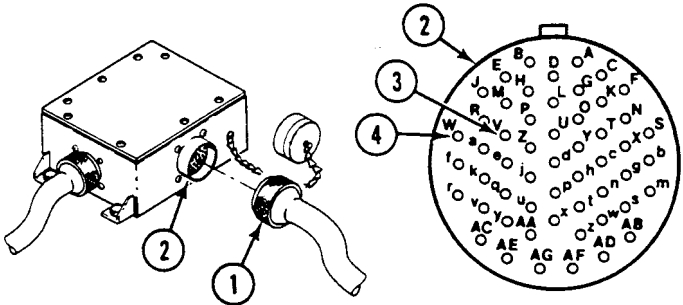
**YN**

1. Faulty VTM.
2. Notify supervisor.

**YES**

**2Y**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure voltage between STE/ICE distribution box jack J2 (2), pins V (+) (3) and W (-) (4).
3. Does VTM indicate other than battery voltage?



**NO**

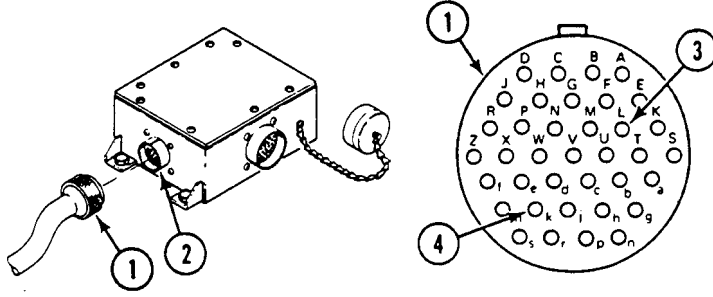
**2YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**3Y**

1. Remove harness 12354593 P1(1) from STE/ICE distribution box jack J1 (2).
2. Measure voltage between 12354593 P1 (1), pins L (+) (3) and k (-) (4).
3. Does VTM indicate other than battery voltage?



**NO**

**3YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**4Y**

1. Repair/replace wiring harness 12354593 circuit 778 or 779 (WP 0382 00) or (WP 0882 00).
2. Verify no faults found.





**DCA CURRENT SHUNT DIAGNOSTIC TROUBLESHOOTING**

**0142 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

Jumper wire (WP 0927 00)  
STE/ICE Test Set (WP 0926 00, Item 61)

Personnel Required

Unit Mech

References

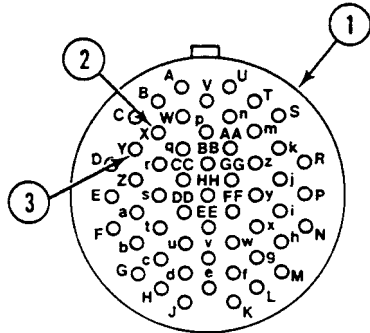
See your -10  
TM 9-4910-571-12&P

Equipment Condition

Engine stopped (see your -10)  
Vehicle blocked (see your -10)

**T**

1. Remove plug W1 P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 89 TM 9-4910-571-12&P.
4. Measure resistance between plug W1 P1(1), sockets X (2) and Y (3).
5. Does VTM read 0 ohms?



**NO**

**GO TO BY (PAGE 0142 00-3)**

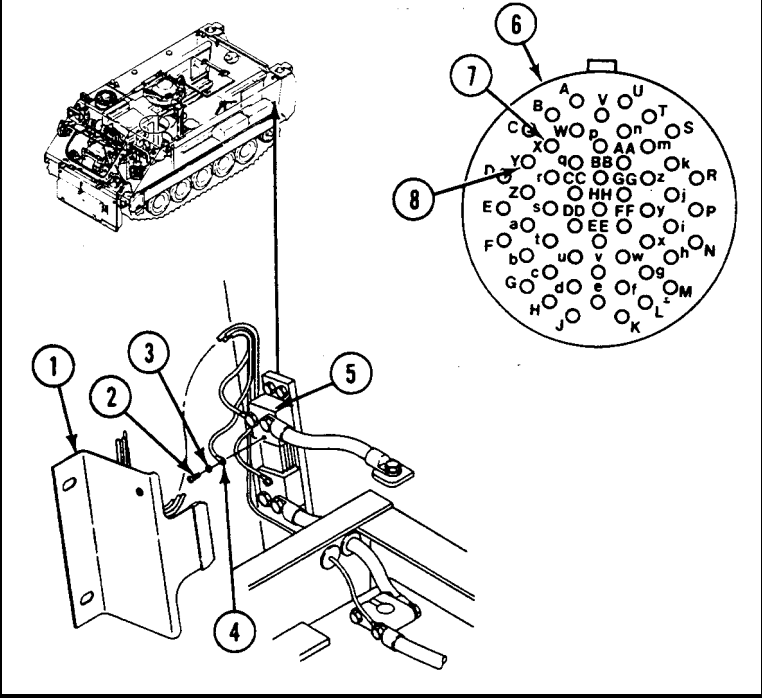
**YES**

**Y**

1. Remove shunt guard (1) with attached lead.
2. Remove screw (2), lockwasher (3), and harness 12354593 circuit 780 terminal lead E1 (4) from current shunt 1228937(5).
3. Wrap terminal lead E1 (4) with electrical tape.
4. Measure resistance between plug W1 P1 (6), socket X (7) and Y (8).
5. Does VTM read infinity?

**NO**

GO TO CY (PAGE 0142 00-4)



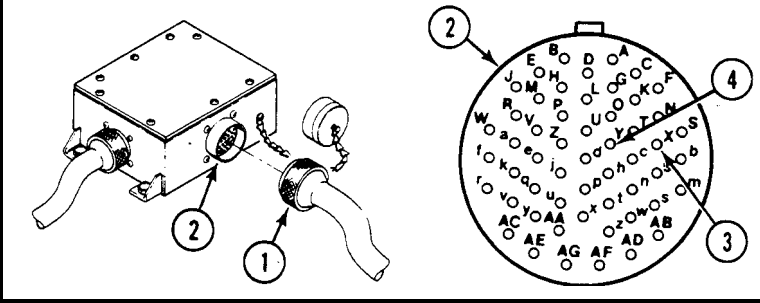
**YES**

**2Y**

1. Faulty VTM.
2. Notify supervisor.

**BY**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), socket X (3) and Y (4).
3. Does VTM read more than one ohm?



NO

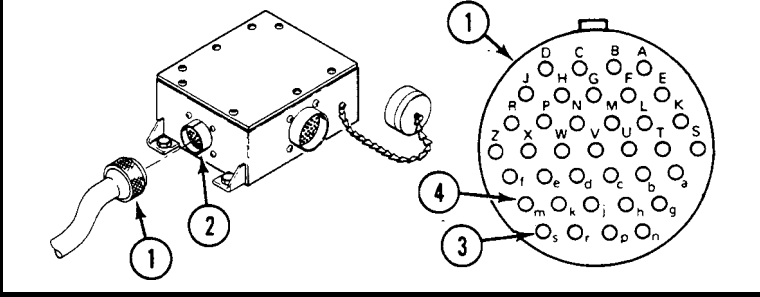
**BYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B2Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between harness 12354593 P1 (1), socket s (3) and m(4).
3. Does VTM read more than one ohm?



NO

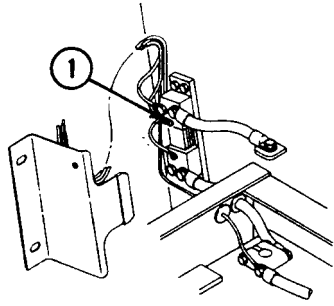
**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

YES

**B3Y**

1. Inspect harness 123454593 circuit 780 and 781 terminals (1) on current shunt.
2. Are all connections tight, clean, and free from damage?



NO

**B3YN**

1. Clean, tighten or replace parts, as necessary. See Service Vehicle Batteries (WP 0337 00) thru (WP 0358 00).
2. Verify no faults found.

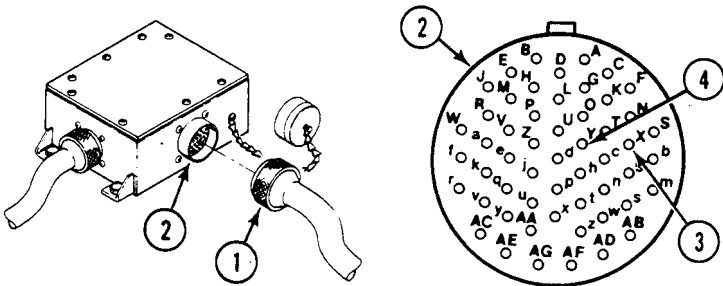
YES

**B4Y**

1. Repair/replace harness 12354593 (WP 0882 00).
2. Verify no faults found.

**CY**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), socket X (3) and Y (4).
3. Does VTM still fail to read infinity?



NO

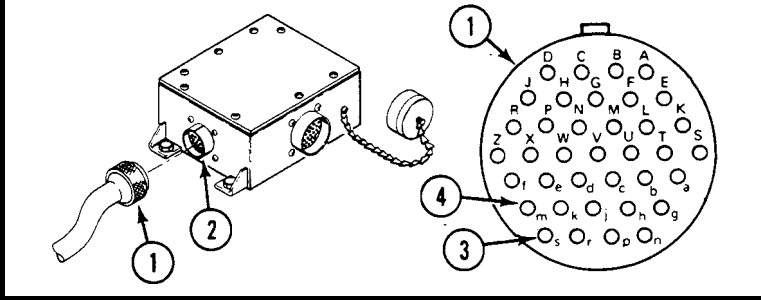
**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**C2Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between harness 12354593 P1 (1), socket s (3) and m(4).
3. Does VTM still fail to read infinity?



**NO**

**C2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**C3Y**

1. Repair/Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.



**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC TROUBLESHOOTING**

**0143 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
Jumper wire (WP 0927 00)  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

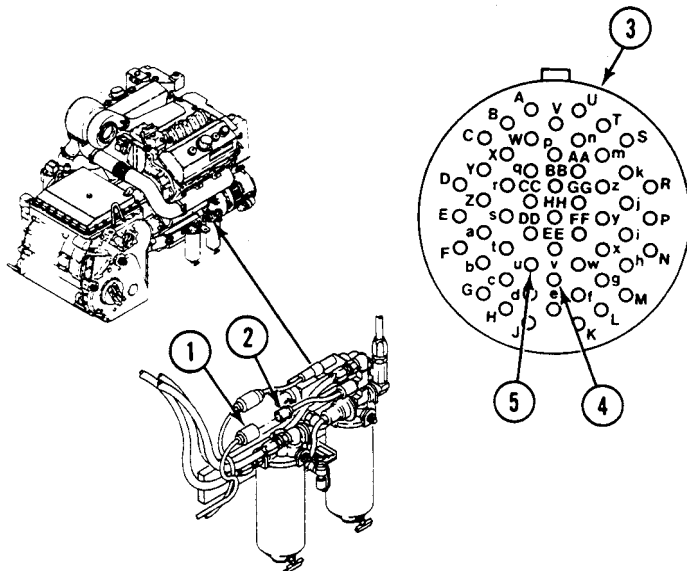
Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access panel open (see your -10)  
Driver's power plant access panel removed(WP 0441 00)

Personnel Required

Unit Mechanic 63T10

**T**

1. Remove plug W1 P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Remove harness 12345672 plug P8 (1) from fuel supply pressure tachometer (2).
4. Set up Test 91 TM 9-4910-571-12&P.
5. Measure resistance between W1 P1 (3), pins v (4) and u (5).
6. Does VTM read infinity?



**NO**

**GO TO BY (PAGE 0143 00-4)**

**YES**

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

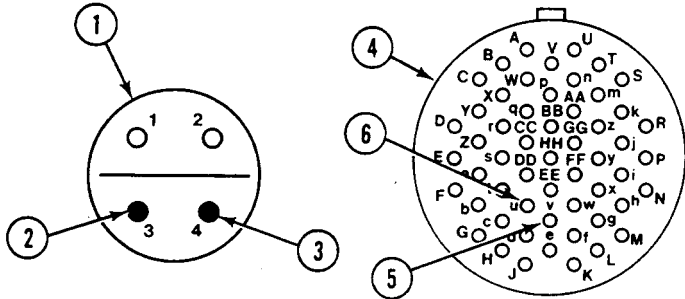
0143 00

**Y**

1. Install jumper wire between harness 12354672 plug P8 (1), pins 3 (2) and 4 (3).
2. Measure resistance between plug W1 P1 (4), pins v (5) and u (6).
3. Does VTM read 0 ohms?

**NO**

**GO TO CY (PAGE 0143 00-6)**



**YES**

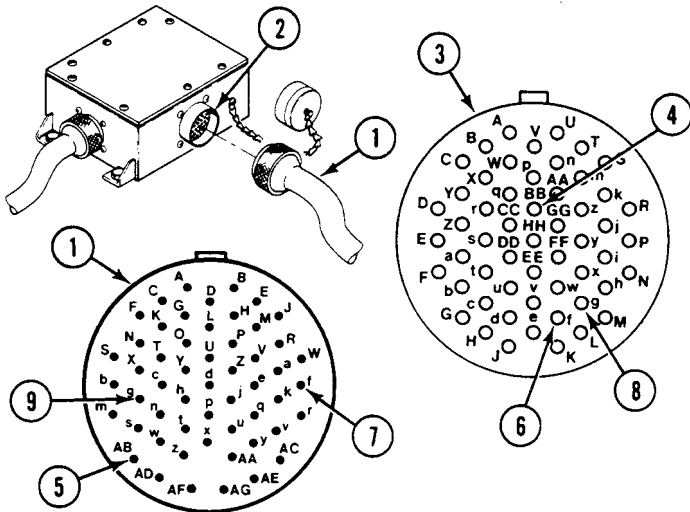
**2Y**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between the following plug pins:  
 W1 P1 (3), pin BB (4) to W1 P2 (1), pin AB (5)  
 W1 P1 (3), pin f (6) to W1 P2 (1), pin f (7)  
 W1 P1 (3), pin g (8) to W1 P2 (1), pin g (9)
3. Does VTM read 0 ohms for each measurement?

**NO**

**2YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



**YES**

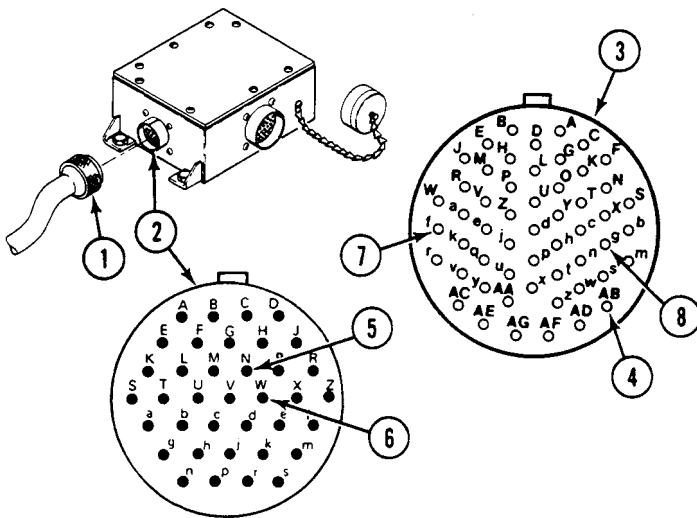


**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0143 00

**3Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Set up Test 92 TM 9-4910-571-12&P.
3. Measure resistance between STE/ICE distribution box jack J2 (3), pin AB (4) and the following jack pins:  
 STE/ICE distribution box jack J2 (3) pin f (7)  
 STE/ICE distribution box jack J2 (3) pin g (8)  
 STE/ICE distribution box jack J1 (2) pin N (5)  
 STE/ICE distribution box jack J1 (2) pin W (6)
4. Does VTM read between 3600 and 4400 ohms for each measurement?



**NO**

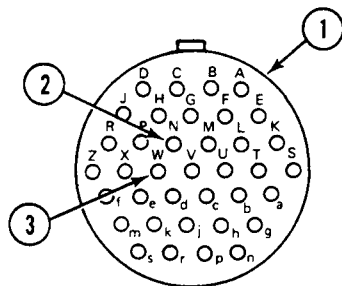
**3YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**4Y**

1. Set up Test 91 TM 9-4910-571-12&P.
2. Measure resistance between harness 12354593 plug P1 (1), pins N (2) and W (3).
3. Does VTM read infinity?



**NO**

**GO TO DY (PAGE 0143 00-8)**

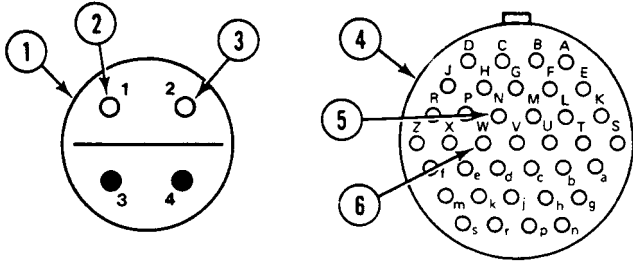
**YES**

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0143 00

**5Y**

1. Move jumper wire on harness 12354672 plug P8 (1) from pins 3 and 4 to pins 1 (2) and 2 (3).
2. Measure resistance between harness 12354593 plug P1 (4), pins N (5) and W (6).
3. Does VTM read 0 ohms?



**NO** → GO TO EY (PAGE 0143 00-9)

**YES**

**6Y**

1. Has fuel supply pressure tachometer been replaced?

**NO** → **6YN**  
 1. Replace fuel supply pressure tachometer (WP 0324 00).  
 2. Verify no faults found.

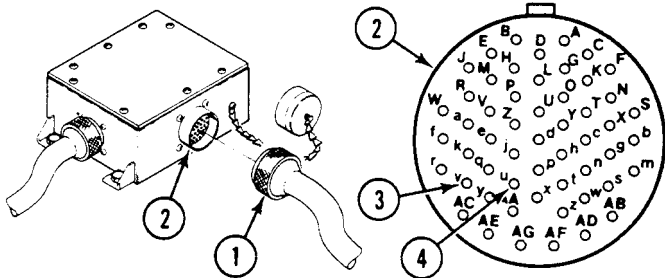
**YES**

**7Y**

1. Faulty VTM.
2. Notify supervisor.

**BY**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins v (4) and u (5). VTM should read infinity.
3. Does VTM indicate a fault?



**NO** → **BYN**  
 1. Faulty W1 cable. Beyond unit maintenance repair.  
 2. Notify supervisor.

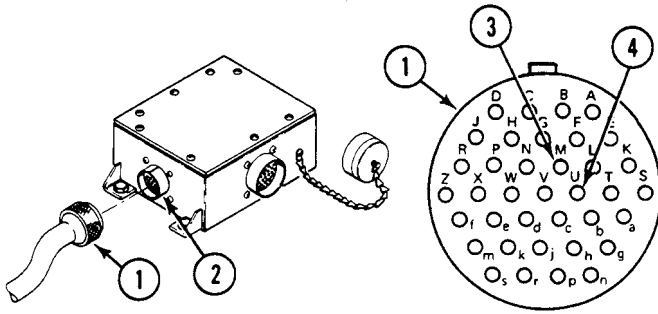
**YES**

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0143 00

**B2Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins M (3) and U (4). VTM should read infinity.
3. Does VTM indicate a fault?



**NO**

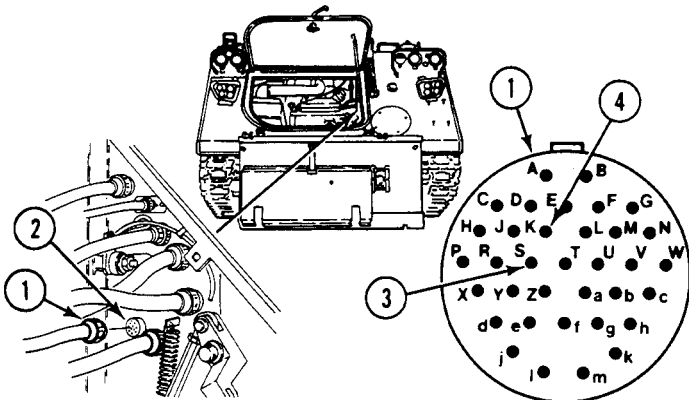
**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**B3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins S (3) and K (4).
3. Does VTM read infinity?



**NO**

**B3YN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**B4Y**

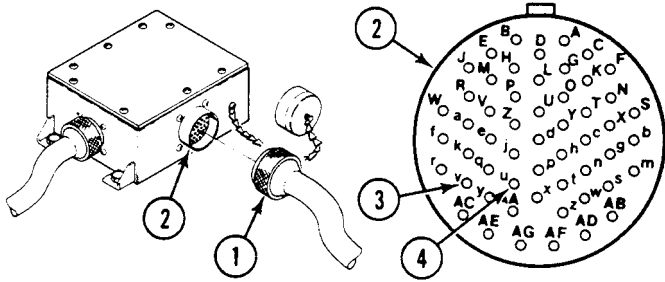
1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0143 00

**CY**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins v (3) and u (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

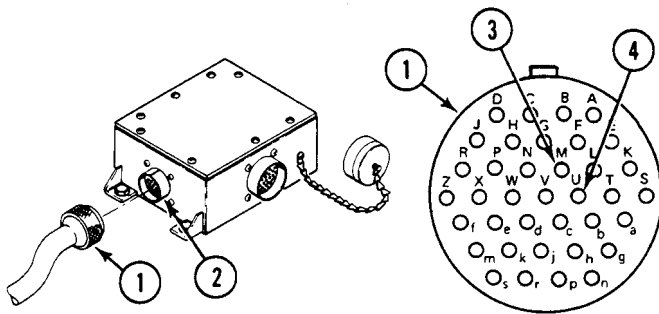
**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**C2Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins M (3) and U (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

**C2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

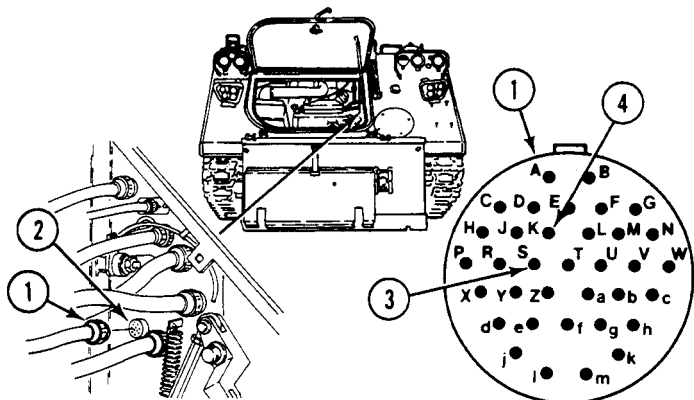
**YES**

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0143 00

**C3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins S (3) and K (4).
3. Does VTM read 0 ohms?



**NO**

**C3YN**

1. Repair/replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**C4Y**

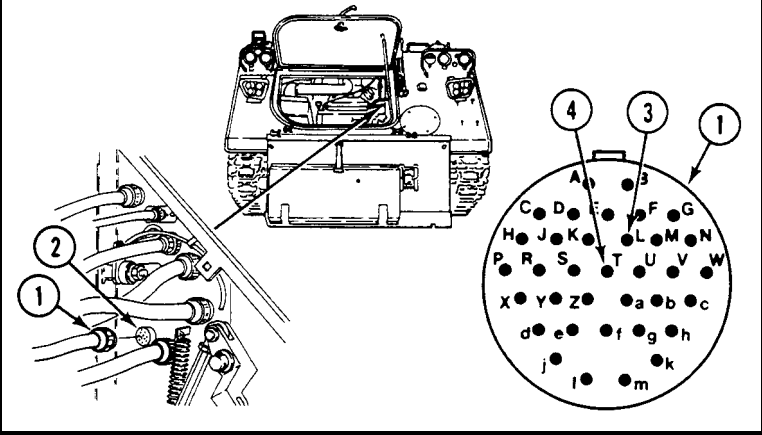
1. Repair/replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0143 00

**DY**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins L (3) and T (4). Use VTM.
3. Does VTM read infinity?



**NO**

**DYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**D2Y**

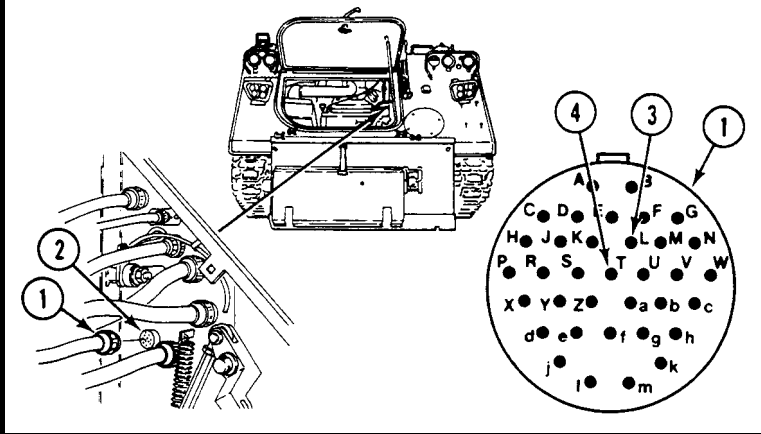
1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 24 FUEL SUPPLY PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0143 00

**EY**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins L (3) and T (4).
3. Does VTM read 0 ohms?



**NO**

**EYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**E2Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.





**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC TROUBLESHOOTING**

**0144 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

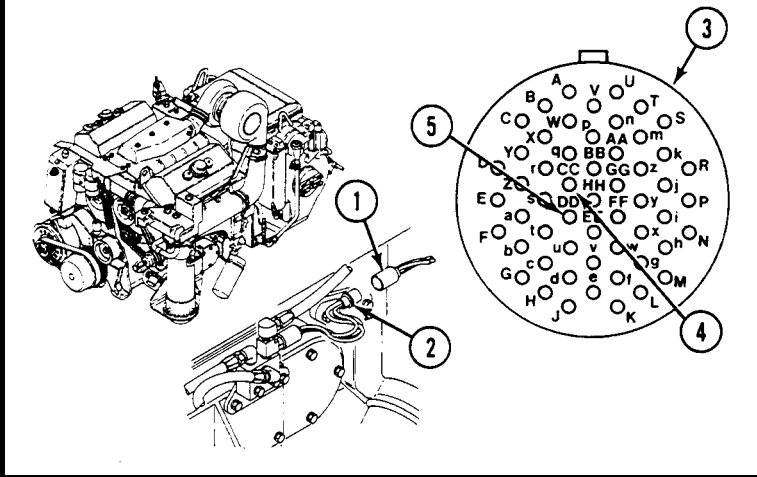
Engine stopped (see your -10)  
Vehicle blocked (see your -10)  
STE/ICE hooked up to vehicle batteries (TM 9-4910-571-12&P)  
Trim vane lowered (see your -10)  
Power plant access panels open (see your -10)  
Power plant access panel removed (WP 0439 00)

Personnel Required

Unit Mechanic 63T10

**T**

1. Remove plug W1 P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 91 TM 9-4910-571-12&P.
4. Remove harness 12345672 plug (1) from fuel pressure tachometer jack (2).
5. Measure resistance between W1 P1 (3), pins CC (4) and DD (5).
6. Does VTM read infinity?



**NO**

**GO TO BY (PAGE 0144 00-5)**

**YES**

**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

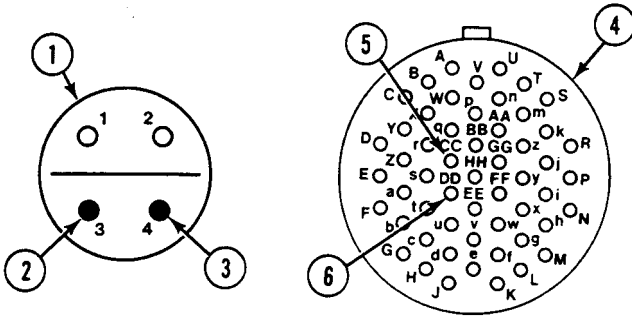
0144 00

**Y**

1. Install jumper wire between harness 12354672 plug P1 (1), pins 3 (2) and 4 (3).
2. Measure resistance between plug W1 P1 (4), pins CC (5) and DD (6).
3. Does VTM read 0 ohms?

**NO**

**GO TO CY (PAGE 0144 00-6)**



**YES**

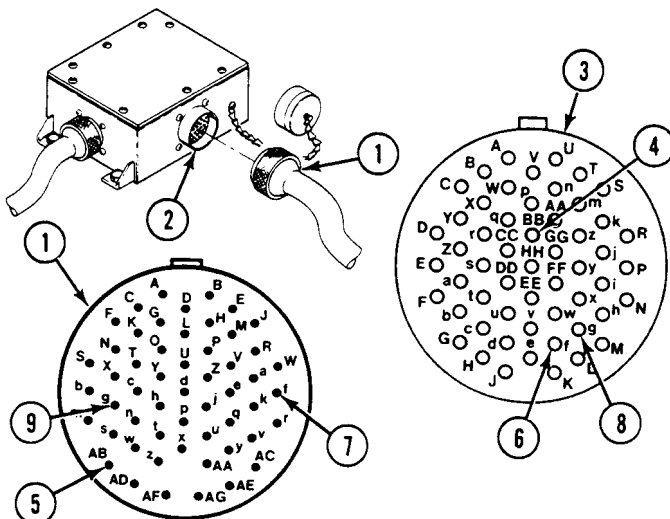
**2Y**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between the following plug pins:  
 W1 P1 (3), pin BB (4) to W1 P2 (1), pin AB (5)  
 W1 P1 (3), pin f (6) to W1 P2 (1), pin f (7)  
 W1 P1 (3), pin g (8) to W1 P2 (1), pin g (9)
3. Does VTM read 0 ohms for each measurement?

**NO**

**2YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



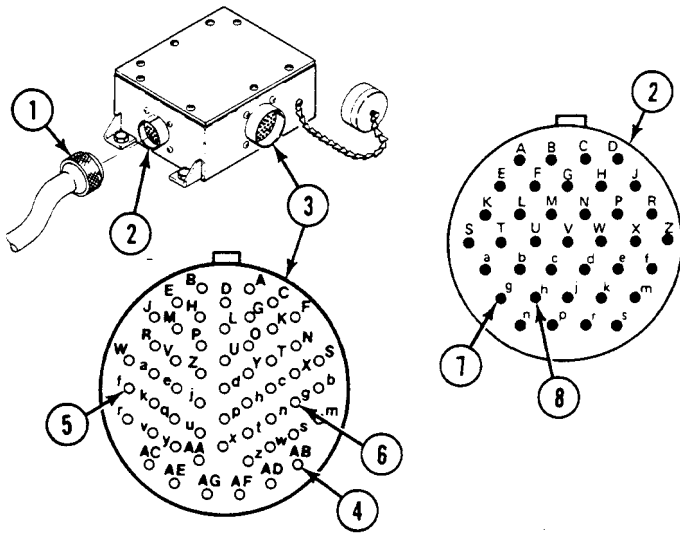
**YES**

**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0144 00

**3Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (3), pin AB (4) and the following jack pins:  
 STE/ICE distribution box jack J2 (3) pin f (5)  
 STE/ICE distribution box jack J2 (3) pin g (6)  
 STE/ICE distribution box jack J1 (2) pin g (7)  
 STE/ICE distribution box jack J1 (2) pin h (8)
3. Does VTM read between 3600 and 4400 ohms for each measurement?



**NO**

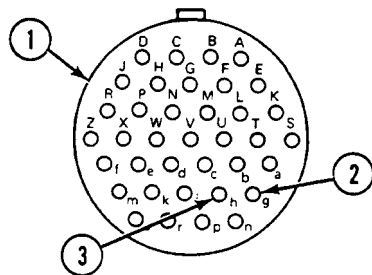
**3YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**4Y**

1. Measure resistance between harness 12354593 plug P1 (1), pins g (2) and h (3).
2. Does VTM read infinity?



**NO**

**GO TO DY (PAGE 0144 00-8)**

**YES**

**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

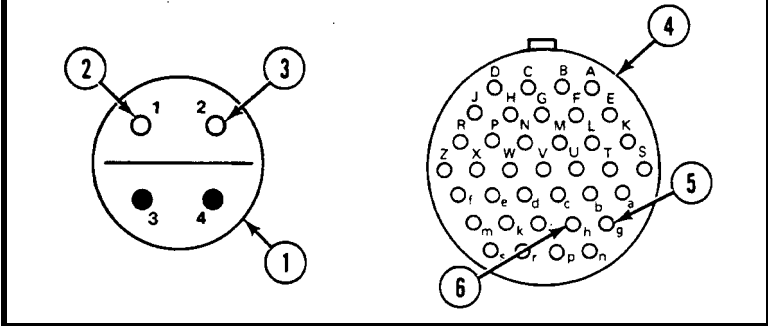
0144 00

**5Y**

1. Move jumper wire on harness 12354672 plug P1 (1) from pins 3 and 4 to pins 1 (2) and 2 (3).
2. Measure resistance between harness 12354593 plug P1 (4), pins g (5) and h (6).
3. Does VTM read 0 ohms?

**NO**

**GO TO EY (PAGE 0144 00-9)**



**YES**

**6Y**

1. Has fuel return pressure tachometer been replaced?

**NO**

- 6YN**
1. Replace fuel return pressure tachometer (WP 0325 00).
  2. Verify no faults found.

**YES**

**7Y**

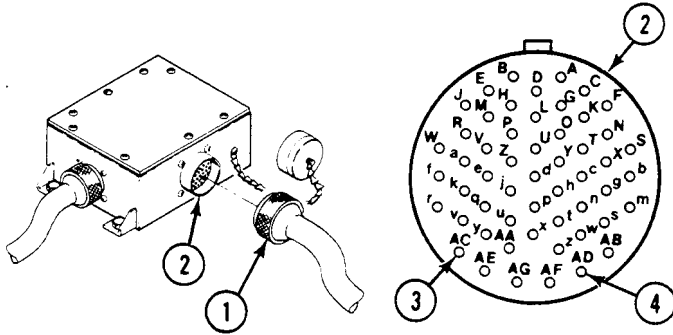
1. Faulty VTM.
2. Notify supervisor.

**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0144 00

**BY**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins AC (3) and AD (4). VTM should read infinity.
3. Does VTM indicate a fault?



**NO**

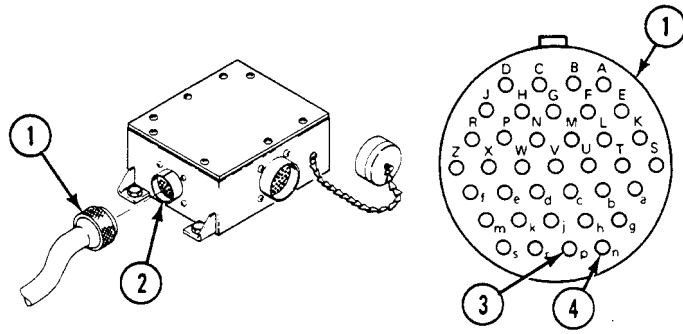
**BYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**B2Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins p (3) and n (4). VTM should read infinity.
3. Does VTM indicate a fault?



**NO**

**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0144 00

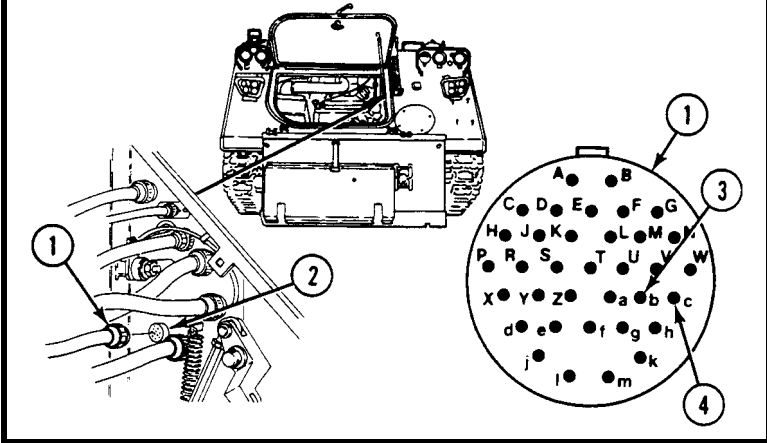
**B3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins b (3) and c (4).
3. Does VTM read infinity?

NO

**B3YN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.



YES

**B4Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

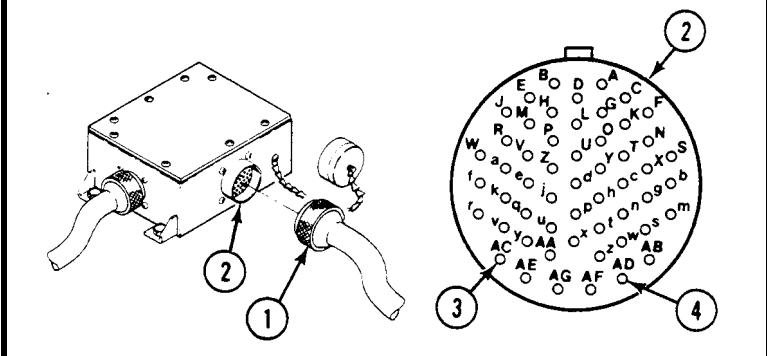
**CY**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins AC (3) and AD (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?

NO

**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



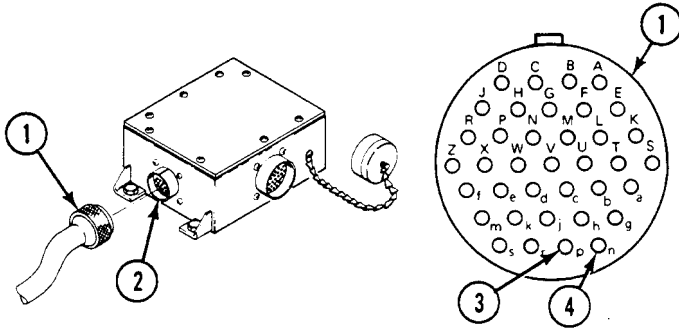
YES

**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0144 00

**C2Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins p (3) and n (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

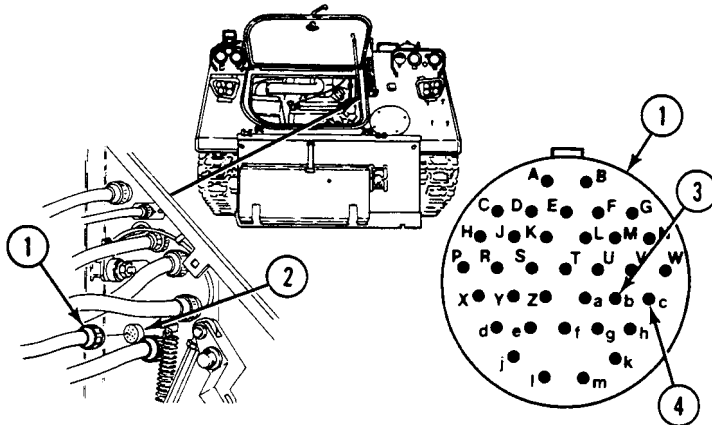
**C2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**C3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins b (3) and c (4).
3. Does VTM read 0 ohms?



**NO**

**C3YN**

1. Repair/replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**C4Y**

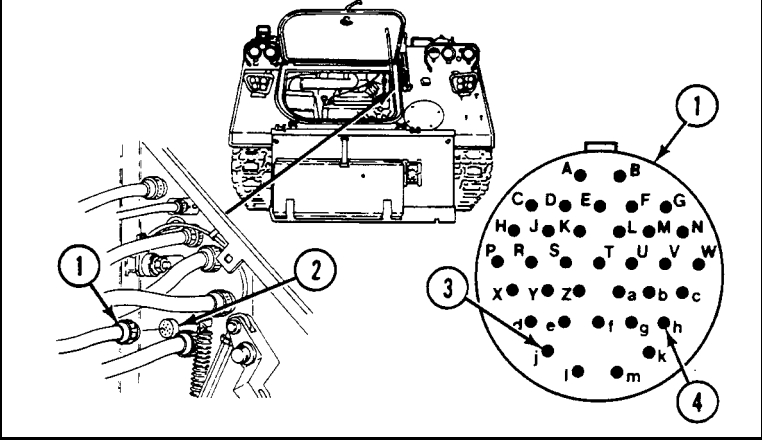
1. Repair/replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0144 00

**DY**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins j (3) and h (4).
3. Does VTM read infinity?



**NO**

**DYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**D2Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

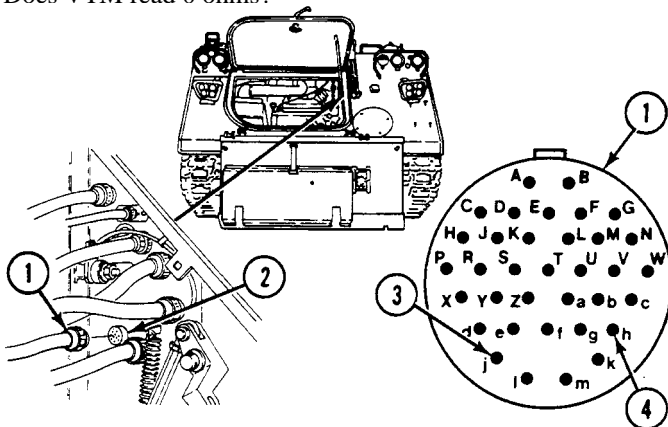


**STE/ICE TEST 25 FUEL RETURN PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0144 00

**EY**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (1).
2. Measure resistance between harness 12354672 plug P4 (1), pins j (1) and h (1).
3. Does VTM read 0 ohms?



**NO**

**EYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**E2Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.



**STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC  
TROUBLESHOOTING**

**0145 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
STE/ICE Test Set (WP 0926 00, Item 61)  
Jumper wire (WP 0927 00)

Equipment Condition

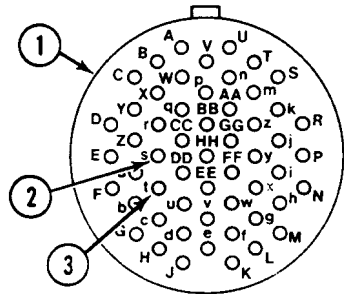
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Power plant access door open (see your -10)  
Trim vane lowered (see your -10)  
Driver's power plant access panel removed(WP 0441 00)

Personnel Required

Unit Mechanic 63T10

**T**

1. Remove plug W1 P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 91 TM 9-4910-571-12&P.
4. Measure resistance between W1P1 (1), pins s (2) and t (3).
5. Does VTM read 0 ohms?



**NO**

**GO TO 2Y (PAGE 0145 00-2)**

**YES**



**STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

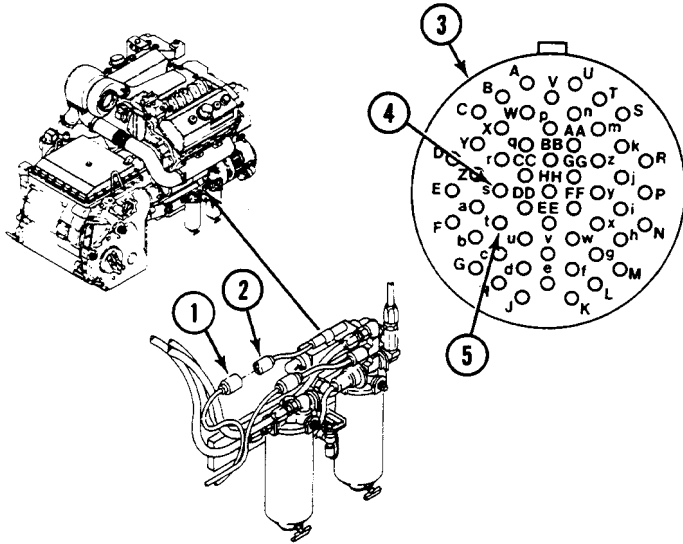
0145 00

**Y**

1. Remove harness 12354672 plug P7 (1) from FUEL FILTER PRESSURE DROP switch (2).
2. Measure resistance between plug W1 P1 (3), pins s (4) and t (5).
3. Does VTM read more than 0 ohms?

**NO**

GO TO **CY** (PAGE 0145 00-5)



**YES**

**2Y**

1. Set up Test 92 TM 9-4910-571-12&P.
2. Repeat step 2 in block T20120-9-2350-277-brY above.
3. Does VTM read more than 52k ohms?

**NO**

GO TO **BY** (PAGE 0145 00-3)

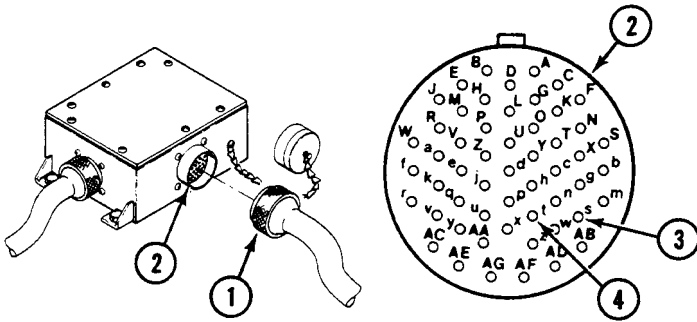
**YES**

**STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0145 00

**3Y**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins s (3) and t (4).
3. Does VTM read more than 52k ohms?



**NO**

**3YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

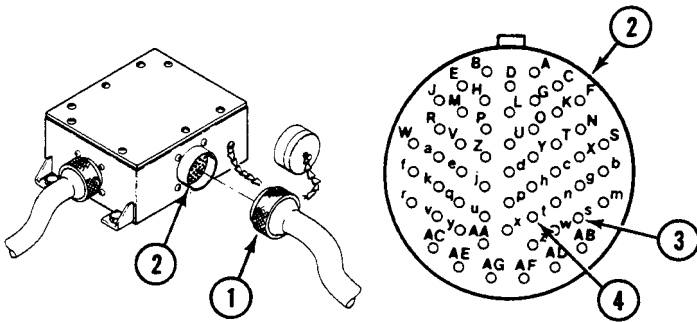
**YES**

**4Y**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**BY**

1. Remove plug WIP2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure continuity between STE/ICE distribution box jack J2 (2), pins s (3) and t (4).
3. Does VTM read more than 0 ohms?



**NO**

**BYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0145 00

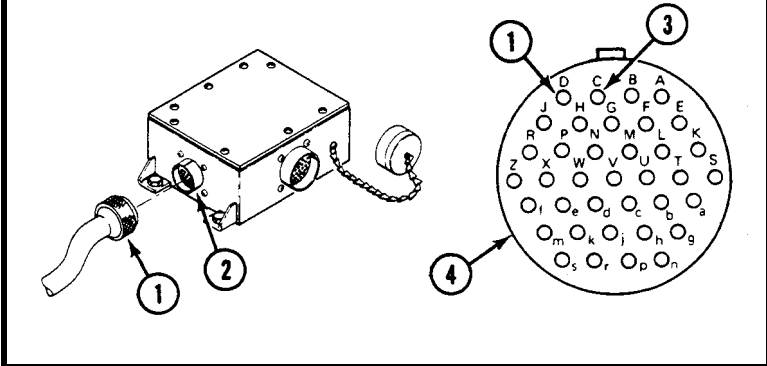
**B2Y**

1. Remove harness 12354593 P1(1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (4), pins C (3) and D (1).
3. Does VTM read more than 0 ohms?

NO

**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.



YES

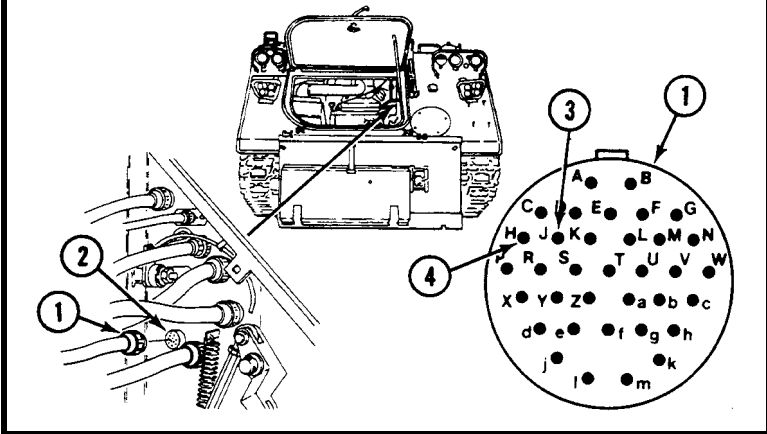
**B3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins J (3) and H (4).
3. Does VTM read more than 0 ohms?

NO

**B3YN**

1. Replace FUEL FILTER PRESSURE DROP switch (WP 0328 00).
2. Verify no faults found.



YES

**B4Y**

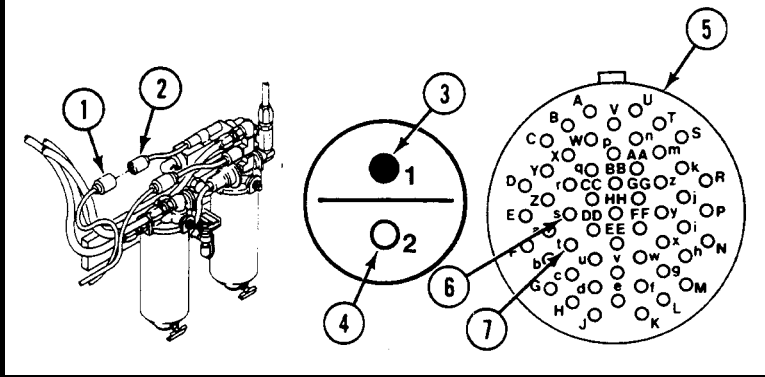
1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 26 FUEL FILTER PRESSURE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0145 00

**CY**

1. Remove harness 12354672 plug P7 (1) from FUEL FILTER PRESSURE DROP switch (2).
2. Short harness 12354672 plug P7 (1), pins 1 (3) to 2 (4).
3. Set up Test 91 TM 9-4910-571-12&P.
4. Measure resistance between W1 P1 (5), pins s (6) and t (7).
5. Does VTM read 0 ohms?



**NO**

**GO TO BY (PAGE 0145 00-3)**

**YES**

**C2Y**

1. Replace FUEL FILTER PRESSURE DROP switch (WP 0328 00).
2. Verify no faults found.





**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC TROUBLESHOOTING**

**0146 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

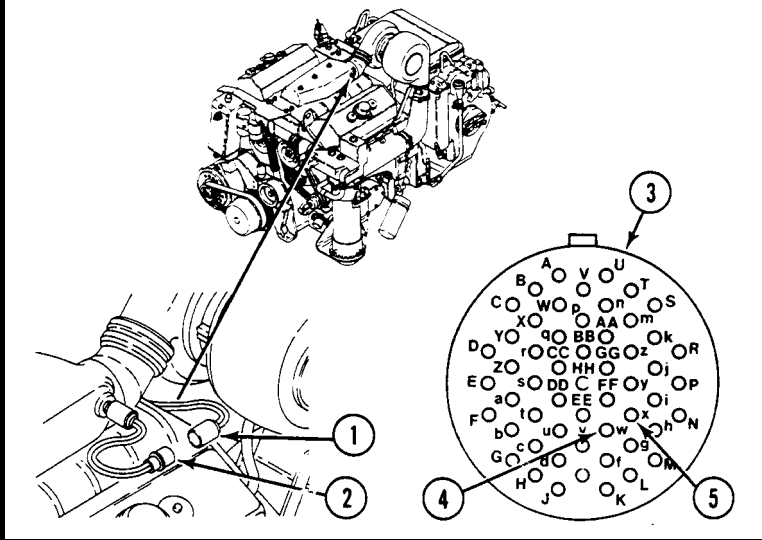
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access door open (see your -10)  
Driver's power plant access panels removed (WP 0441 00)  
Power plant access panels removed (WP 0439 00)

Personnel Required

Unit Mechanic 63T10  
Helper (H)

**T**

1. Remove plug W1P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 91 TM 9-4910-571-12&P.
4. Remove harness 12345672 plug P3 (1) from turbo pressure tachometer jack (2).
5. Measure resistance between W1 P1 (3), pins w (4) and x (5).
6. Does VTM read infinity?



**NO**

**GO TO BY (PAGE 0146 00-5)**

**YES**

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

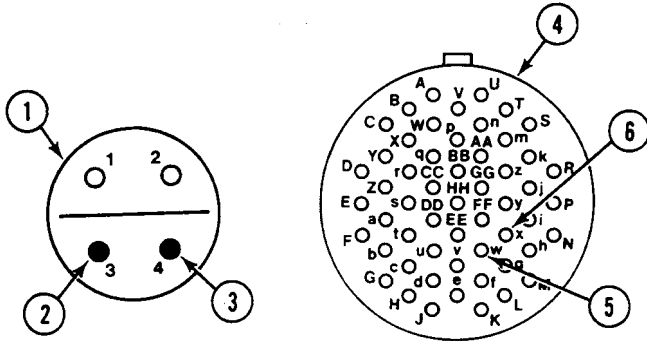
0146 00

**Y**

1. Install jumper wire between harness 12354672 plug P3 (1), pins 3 (2) and 4 (3).
2. Measure resistance between plug W1 P1 (4), pins w (5) and x (6).
3. Does VTM read 0 ohms?

**NO**

**GO TO CY (PAGE 0146 00-7)**



**YES**

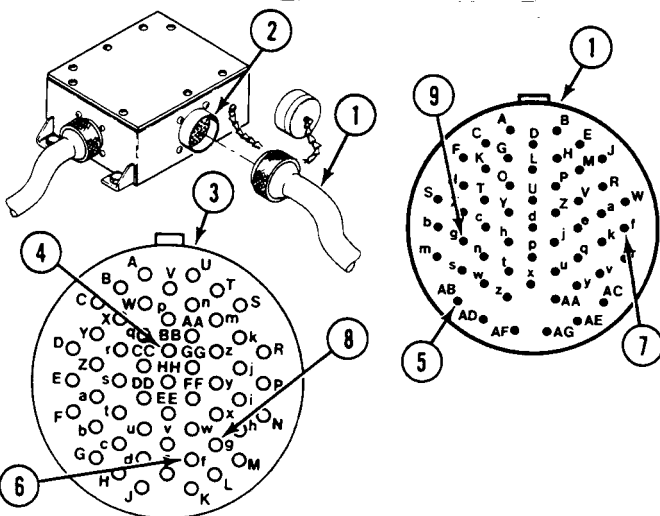
**2Y**

1. Remove plug WIP2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between the following plug pins:  
 WIP1 (3), pin BB (4) to W1 P2 (1), pin AB (5)  
 WIP1 (3), pin f (6) to W1 P2 (1), pin f (7)  
 WIP1 (3), pin g (8) to W1 P2 (1), pin g (9)
3. Does VTM read 0 ohms for each measurement?

**NO**

**2YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



**YES**

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0146 00

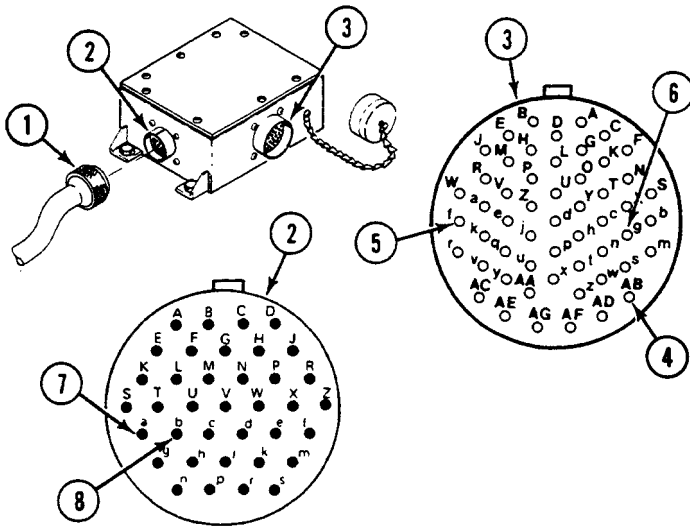
**3Y**

1. Remove harness 12354593 P1(1) from STE/ICE distribution box jack J1 (2).
2. Set up Test 92 TM 9-4910-571-12&P.
3. Measure resistance between STE/ICE distribution box jack J2 (3), pin AB (4) and the following jack pins:
  - a. STE/ICE distribution box jack J2 (3) pin f (5)
  - b. STE/ICE distribution box jack J2 (3) pin g (6)
  - c. STE/ICE distribution box jack J1 (2) pin a (7)
  - d. STE/ICE distribution box jack J1 (2) pin b (8)
4. Does VTM read between 3600 and 4400 ohms for each measurement?

**NO**

**3YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.



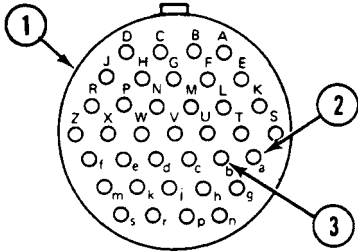
**YES**

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0146 00

**4Y**

1. Set up Test 91 TM 9-4910-571-12&P.
2. Measure resistance between harness 12354593 plug P1 (1), pins a (2) and b (3).
3. Does VTM read infinity?

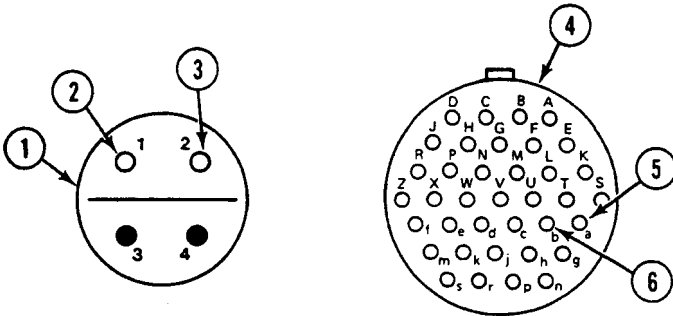


**NO** → GO TO **DY** (PAGE 0146 00-9)

**YES**

**5Y**

1. Move jumper wire on harness 12354672 plug P3 (1) from pins 3 and 4 to pins 1 (2) and 2 (3).
2. Measure resistance between harness 12354593 plug P1 (4), pins a (5) and b (6).
3. Does VTM read 0 ohms?



**NO** → GO TO **EY** (PAGE 0146 00-10)

**YES**

**6Y**

1. Has turbo outlet pressure tachometer been replaced?

**NO** → **6YN**  
 1. Replace turbo outlet pressure tachometer (WP 0326 00).  
 2. Verify no faults found.

**YES**

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

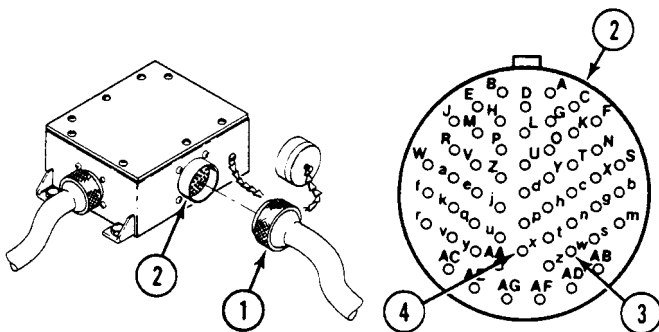
0146 00

**7Y**

1. Faulty VTM.
2. Notify supervisor.

**BY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins w (3) and x (4). VTM should read infinity.
3. Does VTM indicate a fault?



NO

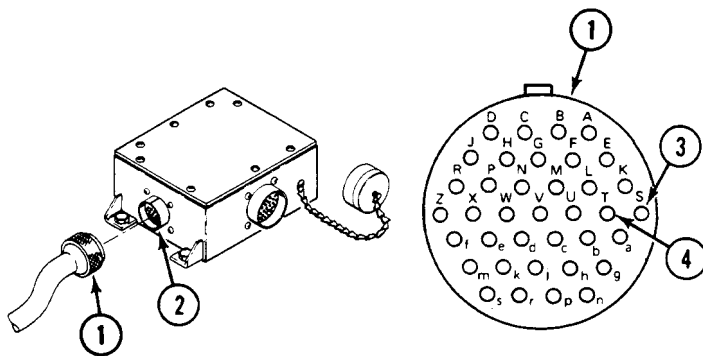
**BYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B2Y**

1. Remove harness 12354593 P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins S (3) and T (4). VTM should read infinity.
3. Does VTM indicate a fault?



NO

**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

YES

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0146 00

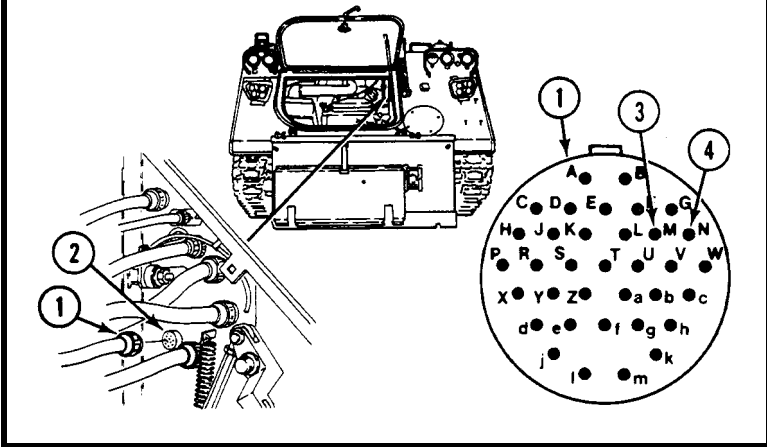
**B3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins M (3) and N (4).
3. Does VTM read infinity?

**NO**

**B3YN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.



**YES**

**B4Y**

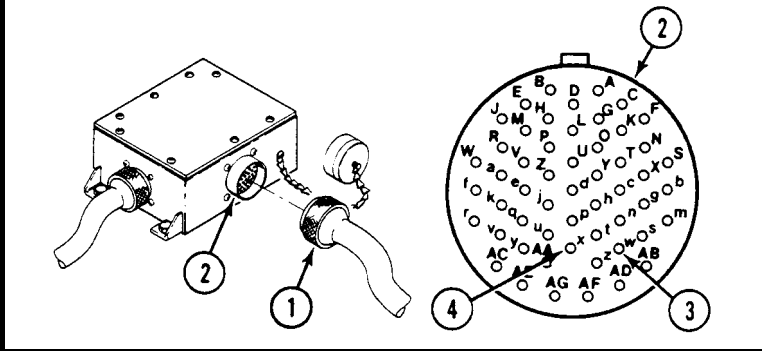
1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0146 00

**CY**

1. Remove plug W1 P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins w (3) and x (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

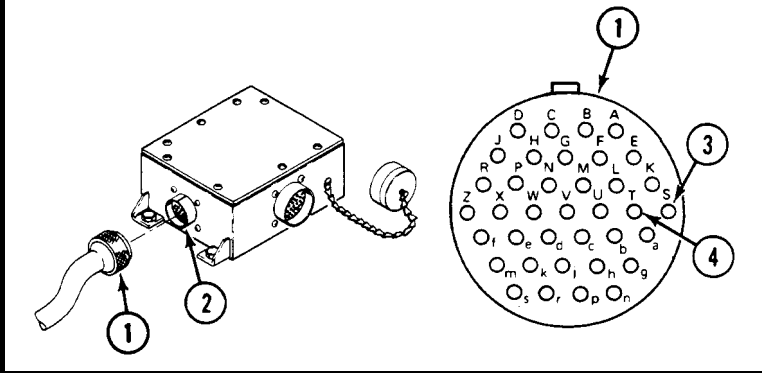
**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**C2Y**

1. Remove harness 12354593 P1(1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins S (3) and T (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

**C2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0146 00

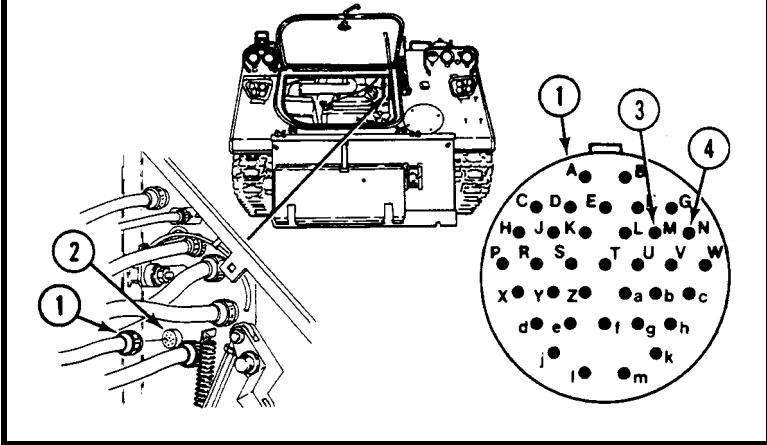
**C3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins M (3) and N (4).
3. Does VTM read 0 ohms?

**NO**

**C3YN**

1. Repair/replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.



**YES**

**C4Y**

1. Repair/replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

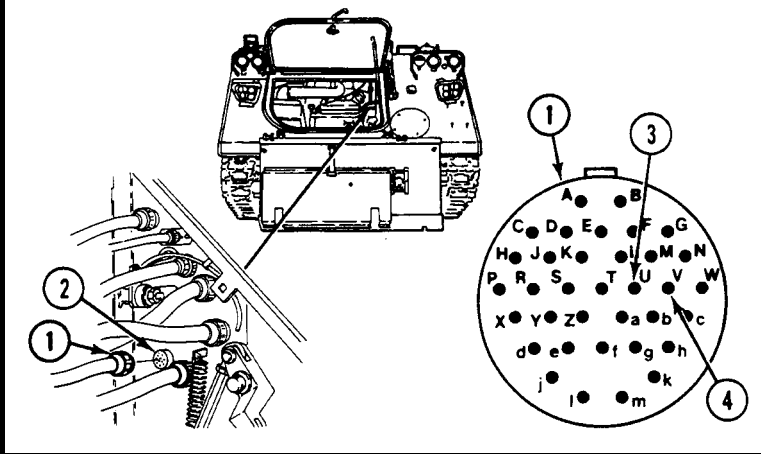


**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0146 00

**DY**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins U (3) and V (4).
3. Does VTM read infinity?



**NO**

**DYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**D2Y**

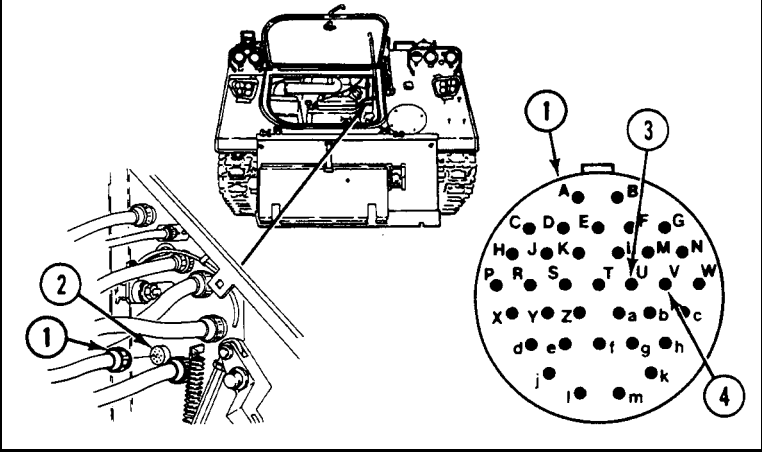
1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 30 TURBOCHARGER OUTLET PRESSURE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0146 00

**EY**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins U (3) and V (4).
3. Does VTM read 0 ohms?



**NO**

**EYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**E2Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 32 AIR BOX PRESSURE DIAGNOSTIC TROUBLESHOOTING**

**0147 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
Jumper wire (WP 0927 00)  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Trim vane lowered (see your -10)  
Power plant access door open (see your -10)  
Driver's power plant access panel removed (WP 0441 00)  
Power plant access panels removed (WP 0439 00)

Materials/Parts

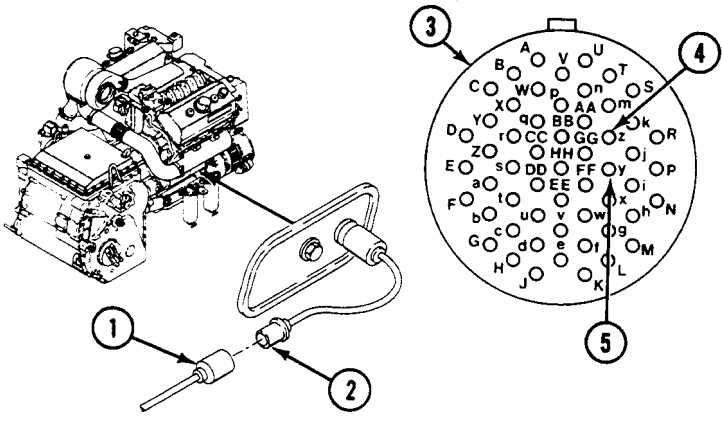
Insulation tape (WP 0928 00, Item 39)

Personnel Required

Unit Mechanic 63T10  
Helper (H)

**T**

1. Remove plug W1P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 91 TM 9-4910-571-12&P.
4. Remove harness 12345672 plug P9 (1) from air box pressure transducer (2).
5. Measure resistance between plug W1P1 (3) pins z (4) and y (5).
6. Does VTM read infinity?



**NO**

**GO TO BY (PAGE 0147 00-5)**

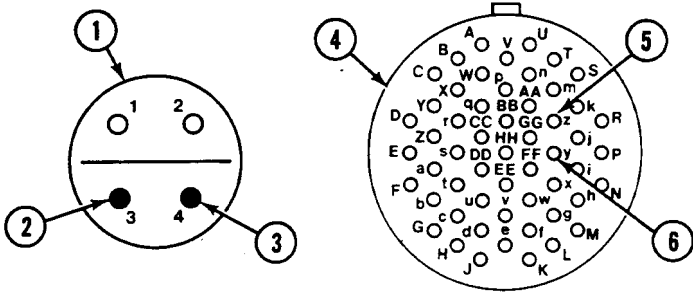
**YES**

Y

1. Install jumper wire between harness 12354672 plug P9 (1), pins 3 (2) and 4 (3).
2. Measure resistance between plug W1P1 (4), pins  $\underline{z}$  (5) and  $\underline{y}$  (6).
3. Does VTM read 0 ohms?

NO

GO TO CY (PAGE 0147 00-7)



YES

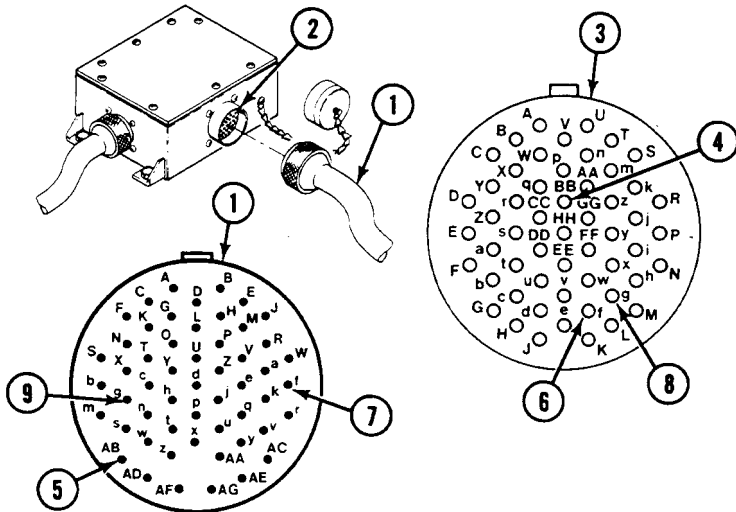
2Y

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between the following plug pins:  
 W1P1 (3) pin BB (4) to W1P2 (1) pin AB (5).  
 W1P1 (3) pin  $\underline{f}$  (6) to W1P2 (1) pin  $\underline{f}$  (7).  
 W1P1 (3) pin  $\underline{g}$  (8) to W1P2 (1) pin  $\underline{g}$  (9).
3. Did VTM read 0 ohms for each measurement?

NO

2YN

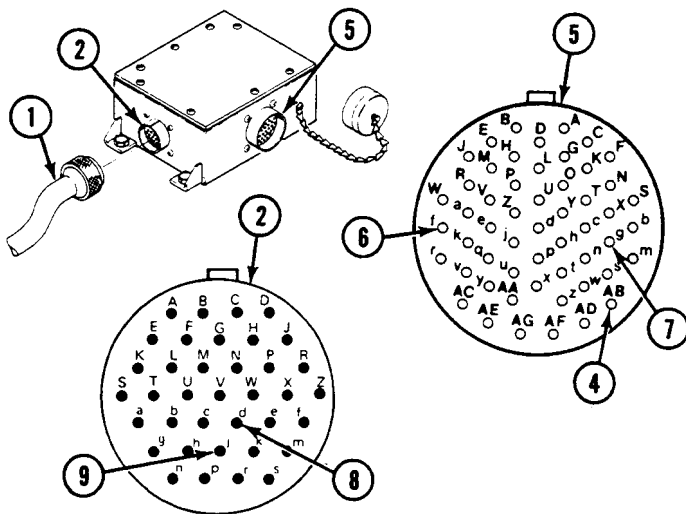
1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



YES

**3Y**

1. Remove harness 12354593 plug P1(1) from STE/ICE distribution box jack J1 (2).
2. Set up Test 92 TM 9-4910-571-12&P.
3. Measure resistance between STE/ICE distribution box jack J2 (3), pin AB (4) and the following jack pins:  
 STE/ICE distribution box jack J2 (5) pin f (6)  
 STE/ICE distribution box jack J2 (5) pin g (7)  
 STE/ICE distribution box jack J1 (2) pin d (8)  
 STE/ICE distribution box jack J1 (2) pin i (9)
4. Does VTM read between 3600 and 4400 ohms for each measurement?



NO

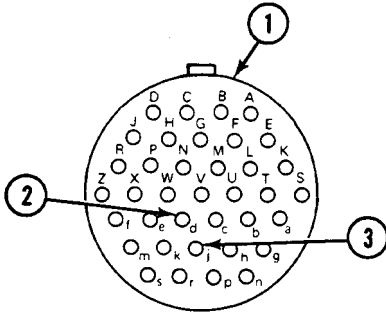
**3YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

YES

**4Y**

1. Set up Test 91 TM 9-4910-571-12&P.
2. Measure resistance between harness 12354593 plug P1 (1), pins d (2) and j (3).
3. Does VTM read infinity?

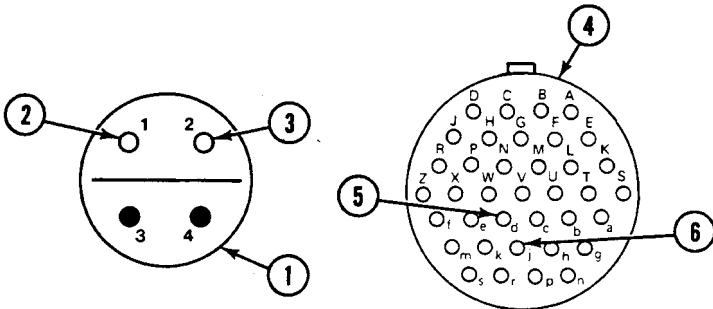


**NO** → GO TO **DY** (PAGE 0147 00-9)

**YES**

**5Y**

1. Move jumper wire on harness 12354672 plug P9 (1) from pins 3 and 4 to pins 1 (2) and 2 (3).
2. Measure resistance between harness 12354593 plug P1 (4), pins d (5) and j (6).
3. Does VTM read 0 ohms?



**NO** → GO TO **EY** (PAGE 0147 00-10)

**YES**

**6Y**

1. Has air box pressure transducer been replaced?

**NO** → **6YN**  
 1. Replace air box pressure transducer (WP 0327 00).  
 2. Verify no faults found.

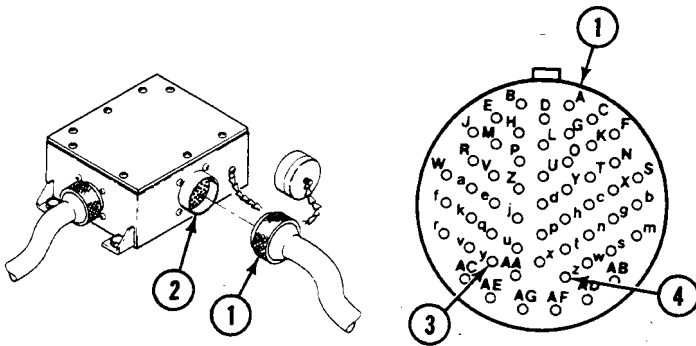
**YES**

**7Y**

1. Faulty VTM.
2. Notify supervisor.

**BY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins y (3) and z (4). VTM should read infinity.
3. Does VTM indicate a fault?



NO

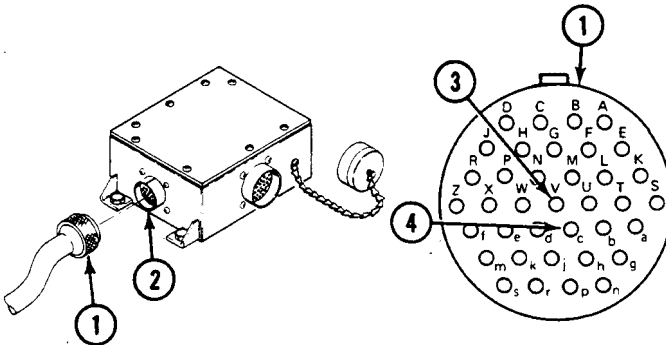
**BYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B2Y**

1. Remove harness 12354593 P1(1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins V (3) and c (4). VTM should read infinity.
3. Does VTM indicate a fault?



NO

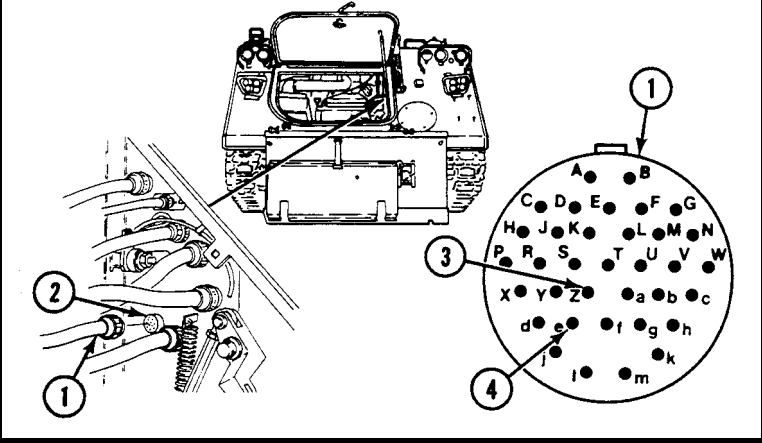
**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

YES

**B3Y**

1. Remove harness 12354672 P4(1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins Z (3) and e (4).
3. Does VTM read infinity?



NO

**B3YN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

YES

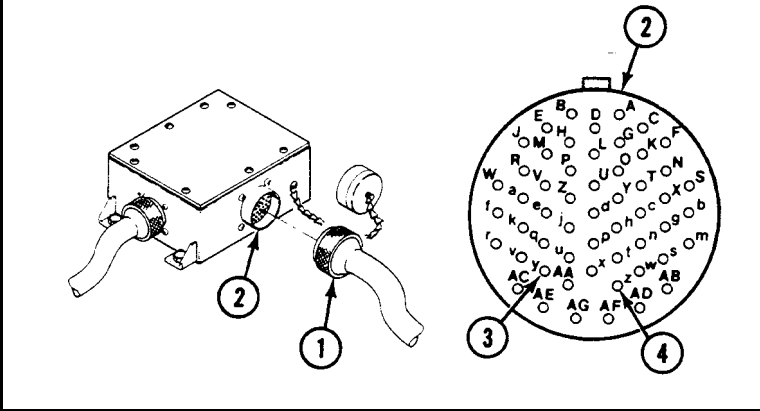
**B4Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.



**CY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins y (3) and z (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

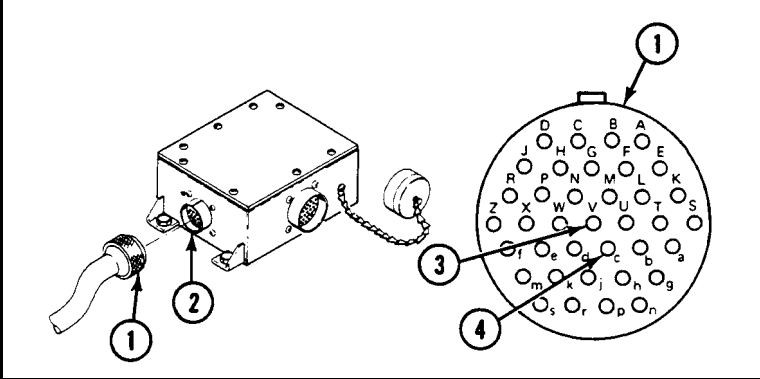
**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**C2Y**

1. Remove harness 12354593 P1(1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 P1 (1), pins V (3) and c (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

**C2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

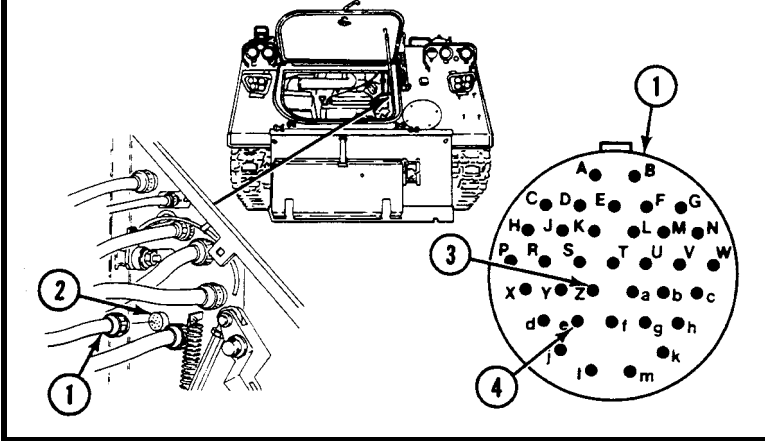
**C3Y**

1. Remove harness 12354672 plug P4(1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins Z (3) and e (4).
3. Does VTM read 0 ohms?

NO

**C3YN**

1. Repair/replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.



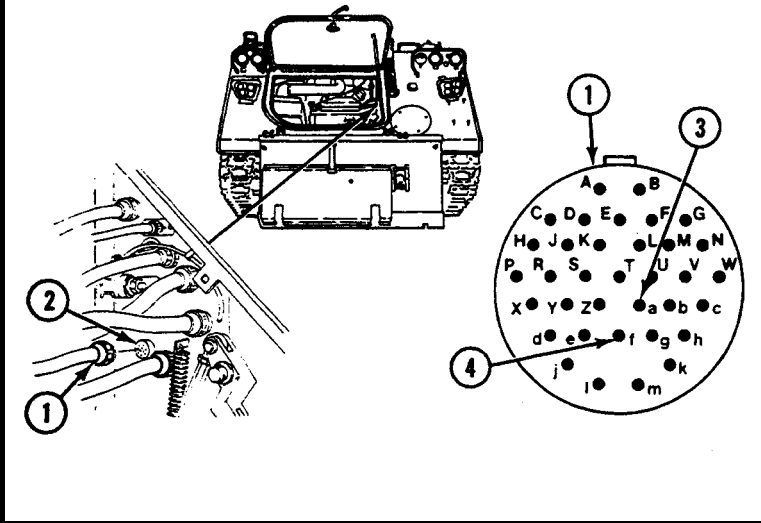
YES

**C4Y**

1. Repair/replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**DY**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins a (3) and f (4).
3. Does VTM read infinity?



**NO**

**DYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.

**YES**

**D2Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

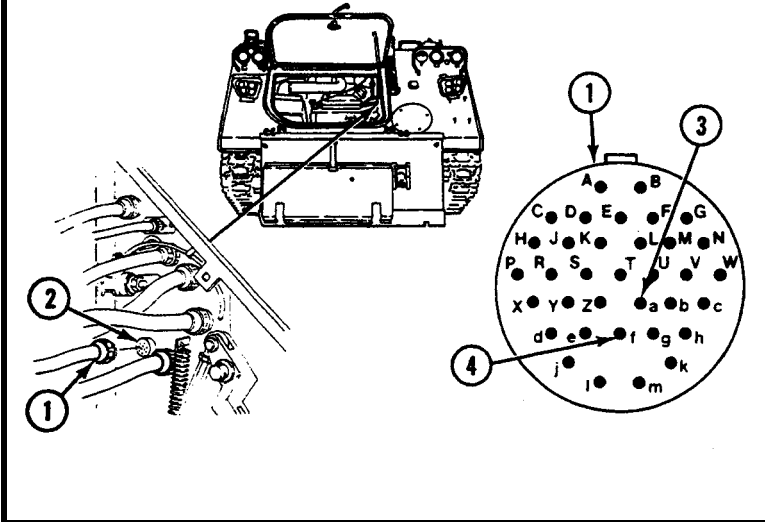
**EY**

1. Remove harness 12354672 plug P4(1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins a (3) and f (4).
3. Does VTM read 0 ohms?

**NO**

**EYN**

1. Replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.



**YES**

**E2Y**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 68 STARTER MOTOR VOLTAGE DIAGNOSTIC TROUBLESHOOTING**

**0148 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
Jumper wire (WP 0927 00)  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

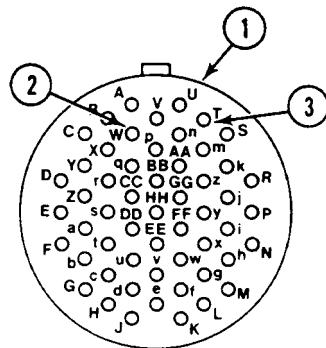
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Power plant access door open (see your -10)  
Trim vane lowered (see your -10)  
Driver's power plant access panel removed (WP 0441 00)

Personnel Required

Unit Mechanic 63T10

**T**

1. Remove plug W1P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Turn MASTER SWITCH ON.
4. Set up Test 89 TM 9-4910-571-12&P.
5. Measure voltage between W1P1 (1) pins W (2) and T (3) with START switch depressed.
6. Does VTM read 0 volts?



**YES**

**NO**

**TN**

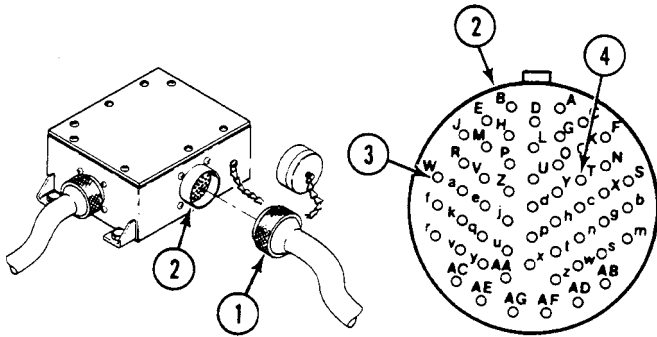
1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**STE/ICE TEST 68 STARTER MOTOR VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0148 00

**Y**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure voltage between STE/ICE distribution box jack J2 (2), pins W (3) and T (4).
3. Press START button for 2 to 4 seconds.
4. Does VTM read 0 volts?



**NO**

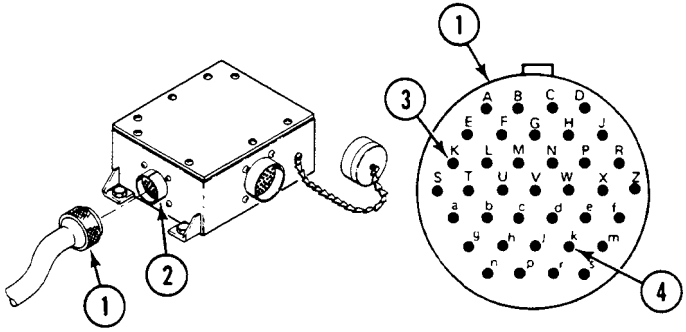
**YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**2Y**

1. Remove harness 12354593 P1(1) from STE/ICE distribution box jack J1 (2).
2. Measure voltage between 12354593 plug P1 (1), pins K (+) (3) and k (-) (4).
3. Press START button for 2 to 4 seconds.
4. Does VTM read 0 volts?



**NO**

**2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

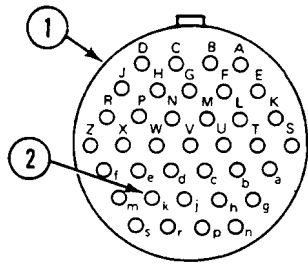
**YES**

**STE/ICE TEST 68 STARTER MOTOR VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0148 00

**3Y**

1. Turn MASTER SWITCH OFF.
2. Set up Test 91 TM 9-4910-571-12&P.
3. Measure resistance between harness 12354593 plug P1 (1), pin k (2) and ground.
4. Does VTM read more than 0 ohms?



NO

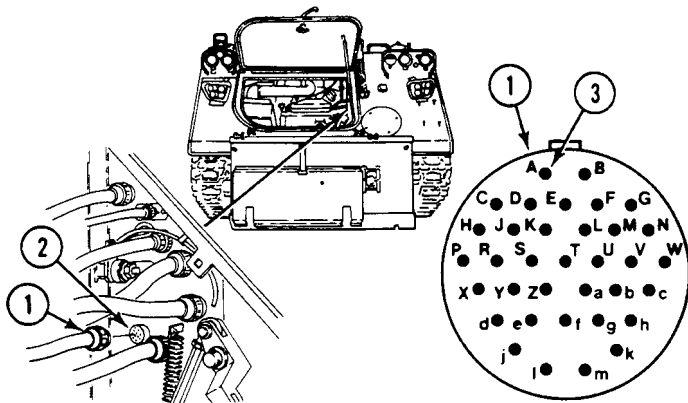
**3YN**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

YES

**4Y**

1. Set up Test 89 TM 9-4910-571-12&P.
2. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
3. Turn MASTER SWITCH ON.
4. Measure voltage between harness 12354672 plug P4 (1), pin A (3) and ground.
5. Depress START button for 2 to 4 seconds.
6. Does VTM read 0 volts?



NO

**4YN**

1. Repair/replace wiring harness 12354593 circuit 799 (WP 0382 00) or (WP 0882 00).
2. Verify no faults found.

YES

---

**STE/ICE TEST 68 STARTER MOTOR VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

---

0148 00

**5Y**

1. Repair/replace wiring harness 12354672 circuit 776 (WP 0382 00) or (WP 0882 00).
2. Verify no faults found.



**STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP  
DIAGNOSTIC TROUBLESHOOTING**

**0149 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
Jumper wire  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

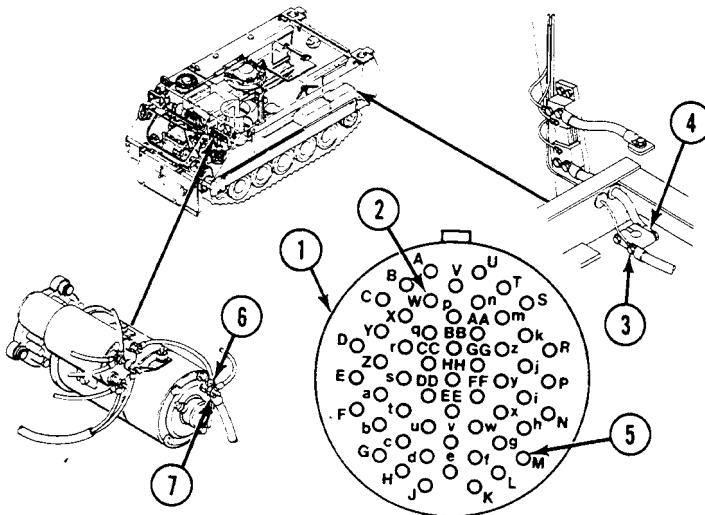
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Power plant access door opened (see your -10)  
Driver's power plant access panel removed (WP 0441 00)  
Trim vane lowered (see your -10)

Personnel Required

Unit Mech 63T10

**T**

1. Remove plug W1P1 from VTM jack J1.
2. Hook up VTM to carrier batteries TM 9-4910-571-12&P.
3. Set up Test 89 TM 9-4910-571-12&P.
4. Measure resistance between plug W1P1 (1), pin W (2) and harness 12354593 circuit 779 terminal E4 (3) on battery negative terminal (4).
5. Measure resistance between W1P1 (1), pin M (5) and harness 12354672 circuit 773 terminal E2 (6) on starter ground stud (7).
6. Did VTM read more than one ohm either time?



**NO**

**TN**

1. Faulty VTM.
2. Notify supervisor.

**YES**

**STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0149 00

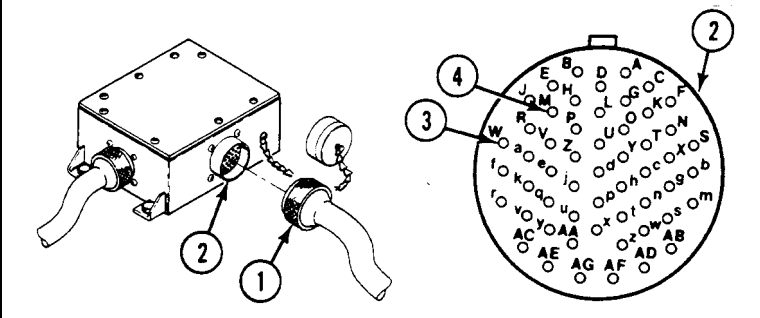
**Y**

1. Remove cable W1P2 plug (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pin W (3) and harness 12354593 circuit 779 terminal E4 on battery negative terminal.
3. Measure resistance between STE/ICE distribution box jack J2 (2), pin M (4) and harness 12345472 circuit 773 terminal E2 on starter.
4. Did VTM read more than one ohm either time?

**NO**

**YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



**YES**

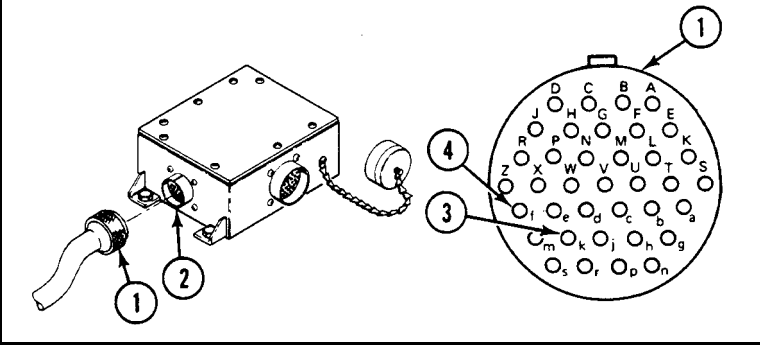
**2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 plug P1 (1), pin k (3) and harness 1235493 circuit 779 terminal E4 on battery negative terminal (1).
3. Measure resistance between 12354593 plug P1 (1), pin f (4) and harness 12354672 circuit 773 terminal E2 on starter.
4. Does VTM read more than one ohm either time?

**NO**

**2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.



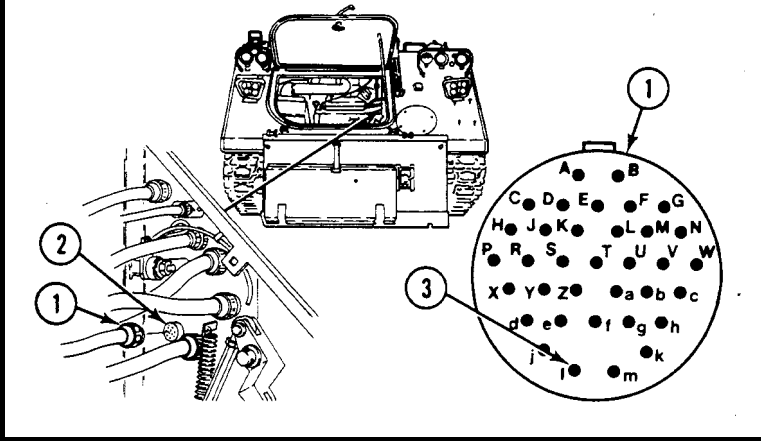
**YES**

**STE/ICE TEST 69 STARTER NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0149 00

**3Y**

1. Remove harness 12354672 P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pin 1 (3) and starter ground stud (4).
3. Does VTM read more than 1 ohm?



**NO**

**3YN**

1. Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.

**YES**

**4Y**

1. Replace harness 12354672 (WP 0882 00).
2. Verify no faults found.



**STE/ICE TEST 70 STARTER SOLENOID VOLTAGE DIAGNOSTIC TROUBLESHOOTING**

**0150 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
Jumper wire  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

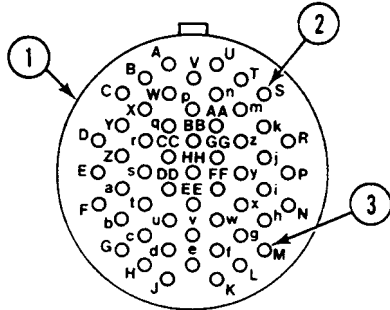
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Power plant access door open (see your -10)  
Driver's power plant access panel removed (WP 0441 00)  
Trim vane lowered (see your -10)

Personnel Required

Unit Mechanic 63T10

**T**

1. Remove plug W1P1 from VTM jack J1.
2. Hook up VTM to carrier batteries TM 9-4910-571-12&P.
3. Set up Test 89 TM 9-4910-571-12&P.
4. Turn MASTER SWITCH ON.
5. Measure voltage between W1P1 (1), pins S (+) (2) and M (-) (3).
6. Does VTM read 0 volts?



**YES**

**NO**

**TN**

1. Faulty VTM.
2. Notify supervisor.

**STE/ICE TEST 70 STARTER SOLENOID VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0150 00

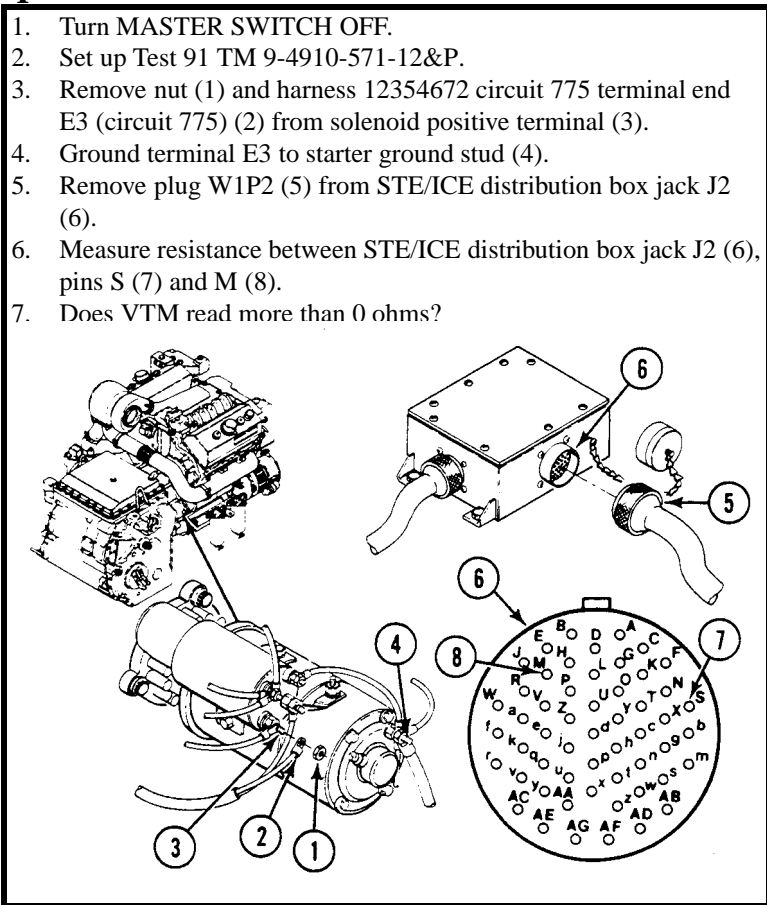
**Y**

1. Turn MASTER SWITCH OFF.
2. Set up Test 91 TM 9-4910-571-12&P.
3. Remove nut (1) and harness 12354672 circuit 775 terminal end E3 (circuit 775) (2) from solenoid positive terminal (3).
4. Ground terminal E3 to starter ground stud (4).
5. Remove plug W1P2 (5) from STE/ICE distribution box jack J2 (6).
6. Measure resistance between STE/ICE distribution box jack J2 (6), pins S (7) and M (8).
7. Does VTM read more than 0 ohms?

**NO**

**YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



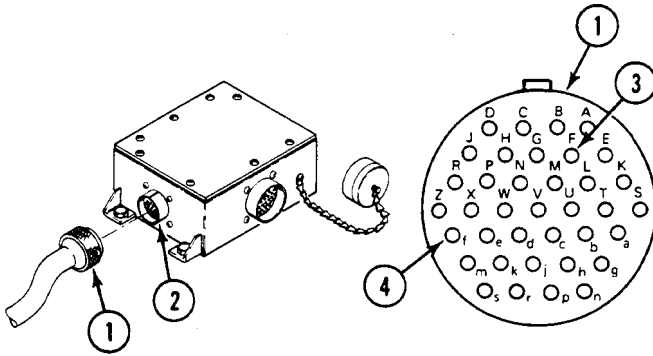
**YES**

**STE/ICE TEST 70 STARTER SOLENOID VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0150 00

**2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between 12354593 plug P1 (1), pins F (3) and f(4).
3. Does VTM read more than 0 ohms?



**NO**

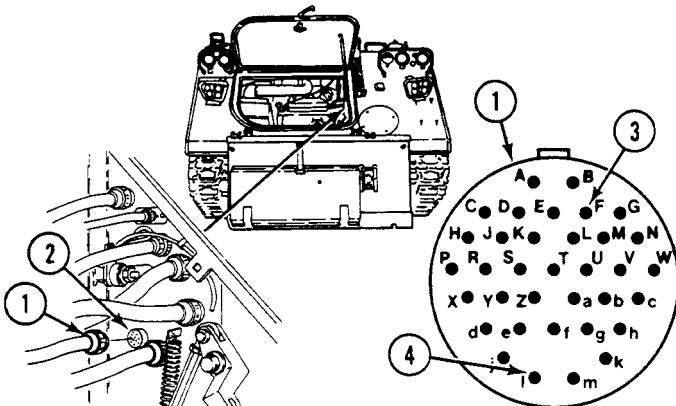
**2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**3Y**

1. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins F (3) and f(4).
3. Does VTM read more than 0 ohms?



**NO**

**3YN**

1. Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.

**YES**

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**STE/ICE TEST 70 STARTER SOLENOID VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

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**0150 00**

**4Y**

- |  |
|--|
| <ol style="list-style-type: none"><li>1. Replace harness 12354672 (WP 0882 00).</li><li>2. Verify no faults found.</li></ol> |
|--|



**STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE DIAGNOSTIC TROUBLESHOOTING**

**0151 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

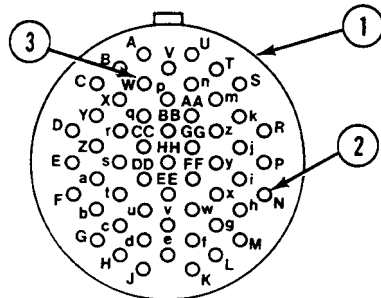
Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Driver's power plant access panel removed (WP 0441 00)  
Trim vane lowered (see your -10)  
Power plant access door open (see your -10)

Personnel Required

Unit Mech 63T10  
Helper (H)

**T**

1. Remove W1P1 from VTM J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 89 TM 9-4910-571-12&P.
4. Measure voltage between plug W1P1 (1), pins N (+) (2) and W (-) (3).
5. Does VTM read 0 volts?



**YES**



**NO**

**TN**

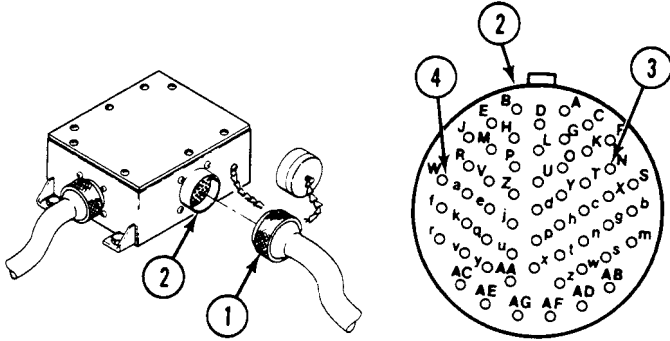
1. Faulty VTM.
2. Notify supervisor.

**STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0151 00

**Y**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure voltage between STE/ICE distribution box jack J2 (2), pins N (+)(3) and W (-) (4).
3. Does VTM read 0 volts?



**NO**

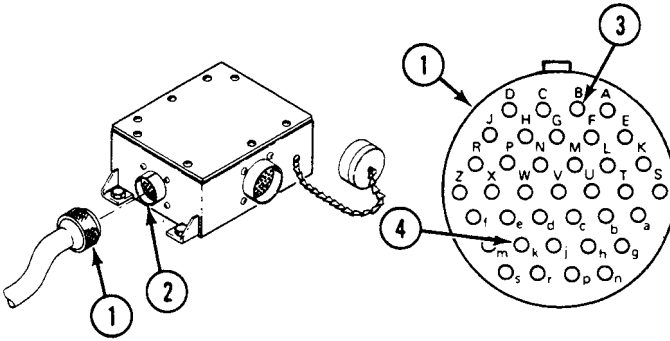
**YN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between harness 12354593 plug P1 (1), pins B (+) (3) and k (-) (4).
3. Does VTM read 0 volts?



**NO**

**2YN**

1. Replace wiring harness 12354593 (WP 0882 00).
2. Verify no faults found.

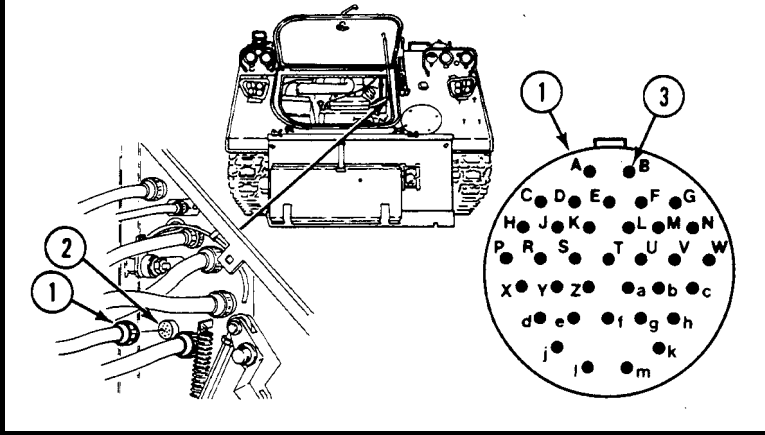
**YES**

**STE/ICE TEST 82 GENERATOR OUTPUT VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0151 00

**3Y**

1. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
2. Measure voltage between harness 12354672 plug P4 (1), pin B (3) and ground.
3. Does VTM read 0 volts?



**NO**

**3YN**

1. Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.

**YES**

**4Y**

1. Repair/replace wiring harness 12354672 (WP 0882 00).
2. Verify no faults found.



**STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC TROUBLESHOOTING**

**0152 00**

**INITIAL SETUP:**

Maintenance Level

Unit

Tools and Special Tools

- Electrical connector pliers (WP 0926 00, Item 31)
- Jumper wire
- STE/ICE Test Set (WP 0926 00, Item 61)

Materials/Parts

Insulation tape (WP 0928 00, Item 39)

Personnel Required

Unit Mech 63T10  
Helper (H)

References

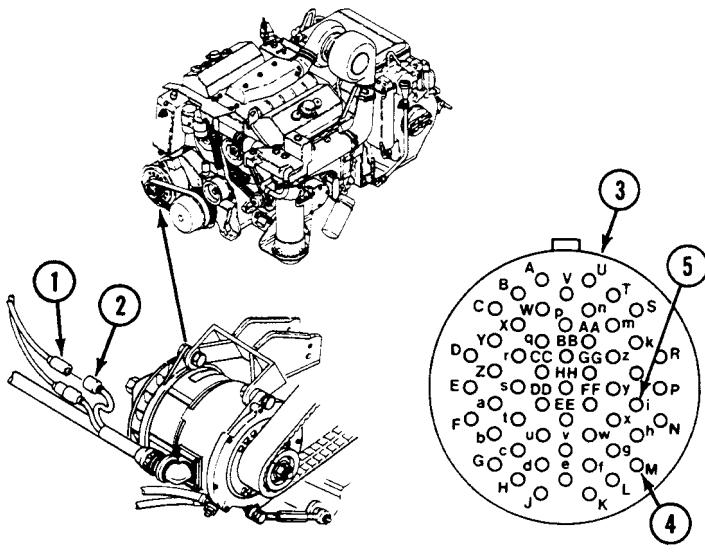
See your -10  
TM 9-4910-571-12&P

Equipment Condition

- Engine stopped (see your -10)
- Carrier blocked (see your -10)
- Power plant access door open (see your -10)
- Driver's power plant access panel removed (WP 0441 00)
- Trim vane lowered (see your -10)

**T**

1. Remove plug W1P1 from VTM J1.
2. Hook up VTM to carrier batteries TM 9-4910-571-12&P.
3. Set up Test 91 TM 9-4910-571-12&P.
4. Remove harness 12354672 circuit 785 plug P6 (1) from harness 12349873 (2).
5. Measure resistance between W1P1 (3), pins M (4) and i (5).
6. Does VTM read infinity?



**NO**

**GO TO BY (PAGE 0152 00-3)**

**YES**

STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued

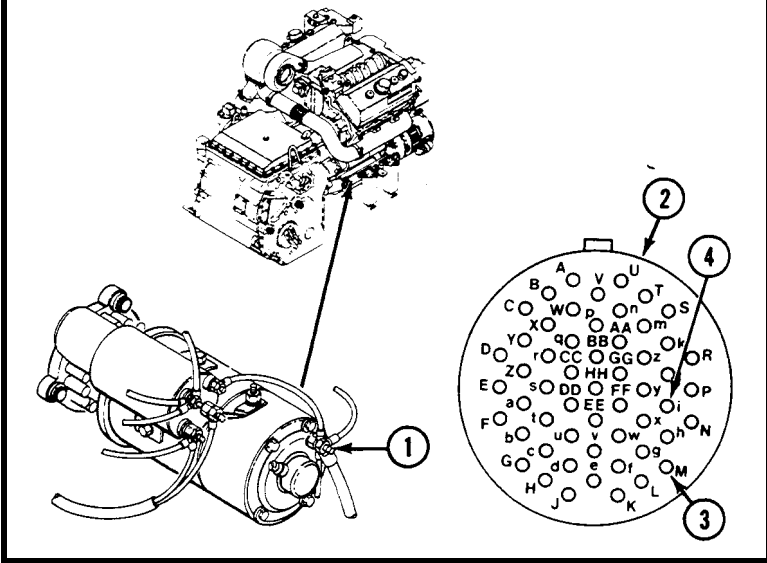
0152 00

**Y**

1. Install jumper wire between harness 12354672 circuit 785 plug P6 and starter ground post (1).
2. Measure resistance between plug W1P1 (2), pins M (3) and i (4).
3. Does VTM read 0 ohms?

**NO**

GO TO CY (PAGE 0152 00-5)



**YES**

**2Y**

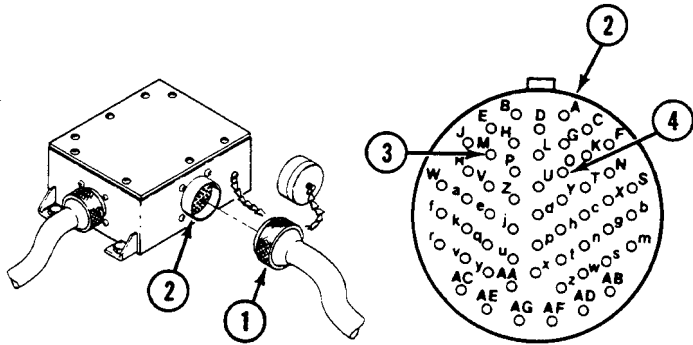
1. Faulty VTM.
2. Notify supervisor.

**STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0152 00

**BY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins M (3) and O (4). VTM should read infinity.
3. Does VTM indicate a fault?



NO

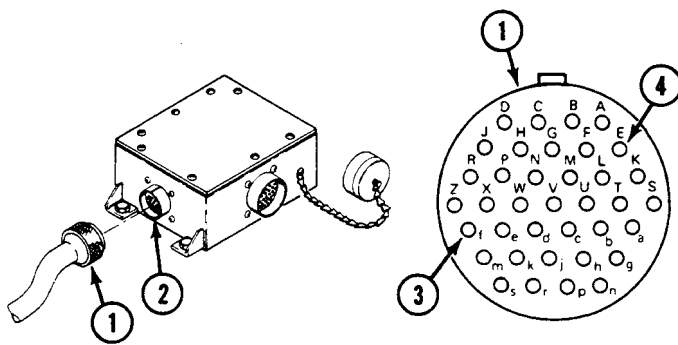
**BYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

YES

**B2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between harness 12354593 plug P1 (1), pins f (3) and E (4). VTM should read infinity.
3. Does VTM indicate a fault?



NO

**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

YES

**STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0152 00

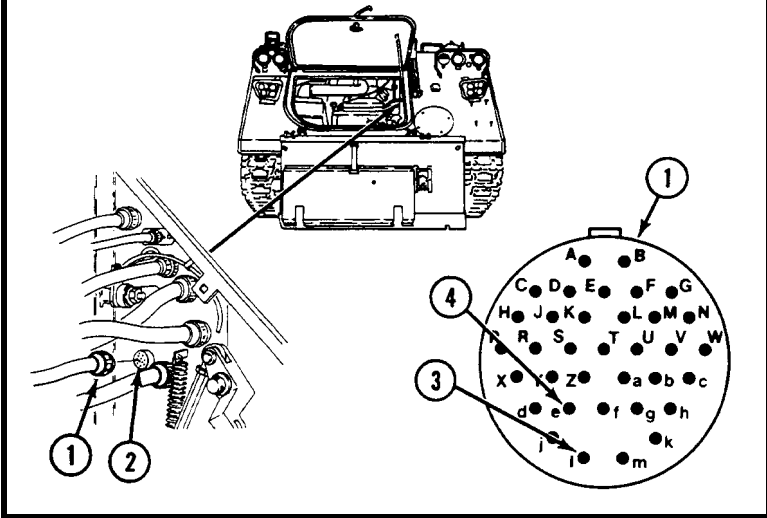
**B3Y**

1. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins l (3) and E (4). VTM should read infinity.
3. Does VTM indicate a fault?

**NO**

**B3YN**

1. Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.



**YES**

**B4Y**

1. Replace harness 12354672 (WP 0882 00).
2. Verify no faults found.

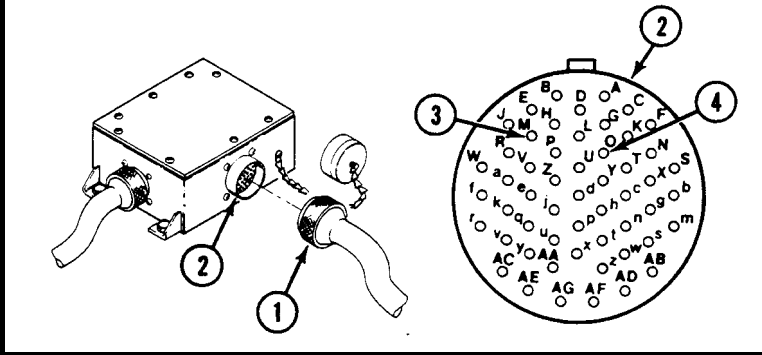


**STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0152 00

**CY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins M (3) and O (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

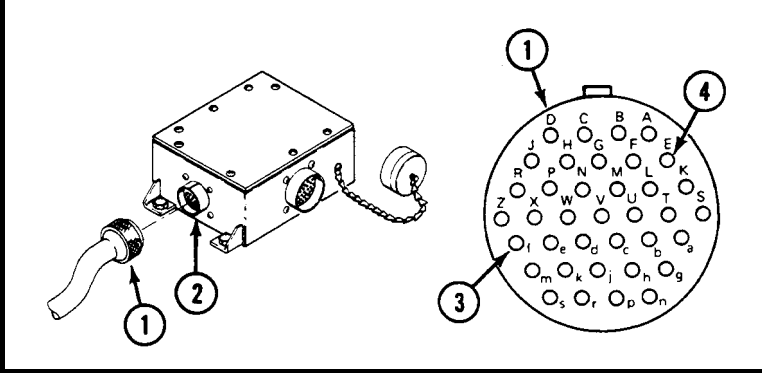
**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**C2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (1).
2. Measure resistance between 12354593 plug P1 (1), pins f (3) and E (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?



**NO**

**C2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**STE/ICE TEST 83 GENERATOR FIELD VOLTAGE DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0152 00

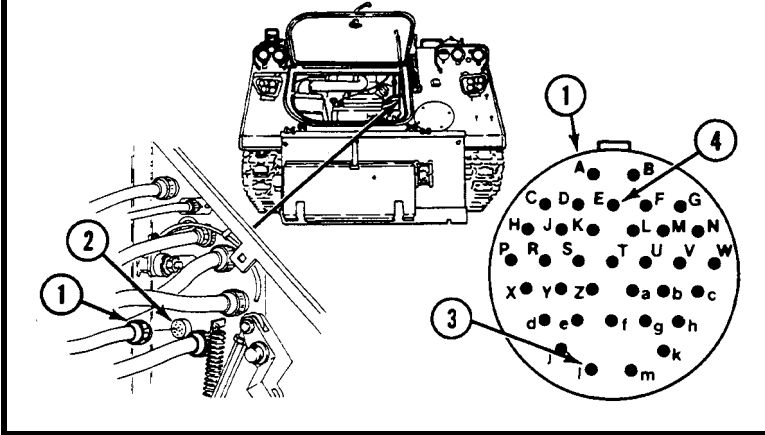
**C3Y**

1. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins I (3) and E (4). VTM should read 0 ohms.
3. Does VTM indicate a fault?

**NO**

**C3YN**

1. Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.



**YES**

**C4Y**

1. Replace harness 12354672 (WP 0882 00).
2. Verify no faults found.

**STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP  
DIAGNOSTIC TROUBLESHOOTING**

**0153 00**

**INITIAL SETUP:**

Maintenance Level

Unit

References

See your -10  
TM 9-4910-571-12&P

Tools and Special Tools

Electrical connector pliers (WP 0926 00, Item 31)  
Jumper wire  
STE/ICE Test Set (WP 0926 00, Item 61)

Equipment Condition

Engine stopped (see your -10)  
Carrier blocked (see your -10)  
Driver's power plant access panel removed  
(WP 0441 00)  
Trim vane lowered (see your -10)  
Power plant access door open (see your -10)

Materials/Parts

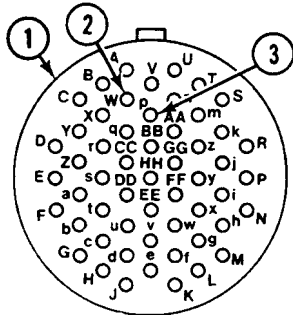
Insulation tape (WP 0928 00, Item 39)

Personnel Required

Unit Mech 63T10

**T**

1. Remove plug W1P1 from VTM jack J1.
2. Hook up VTM to vehicle batteries TM 9-4910-571-12&P.
3. Set up Test 91 TM 9-4910-571-12&P.
4. Measure resistance between W1P1 (1), pins W (2) and P (3).
5. Does VTM read less than one ohm?



**NO**

**GO TO BY (PAGE 0153 00-3)**

**YES**

**STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

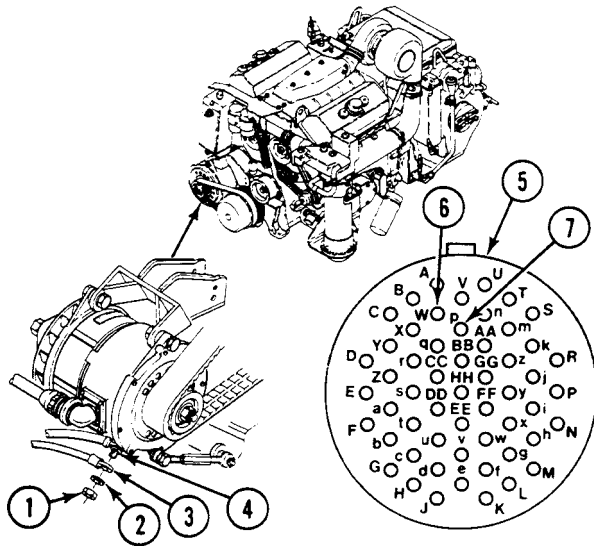
0153 00

**Y**

1. Remove nut (1), lockwasher (2), and harness 12354672 circuit 771 terminal end E2 (3) from generator ground stud (4).
2. Wrap harness 12354672 circuit 771 terminal end E2 (3) with tape.
3. Measure resistance between plug WIP1 (5), pins W (6) and P (7).
4. Does VTM read infinity?

**NO**

**GO TO CY (PAGE 0153 00-4)**



**YES**

**2Y**

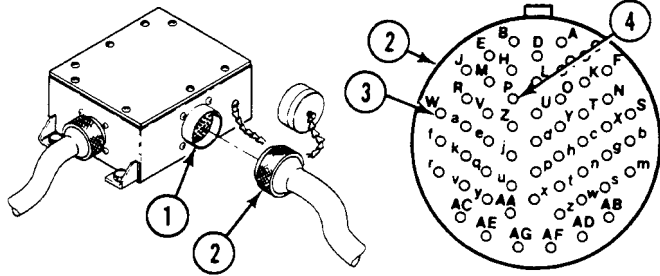
1. Faulty VTM.
2. Notify supervisor.

**STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0153 00

**BY**

1. Remove plug W1P2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins W (3) and P (4).
3. Does VTM read more than one ohm?



**NO**

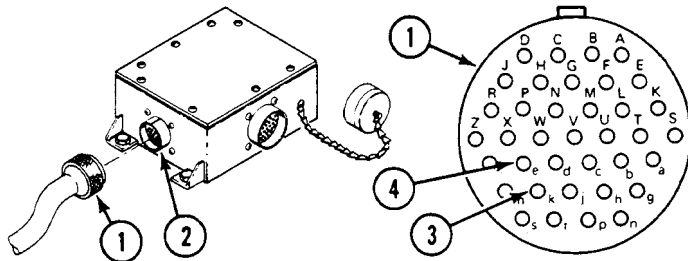
**BYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.

**YES**

**B2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between harness 12354593 plug P1 (1), pins k (3) and e (4). Use VTM.
3. Does VTM read more than one ohm?



**NO**

**B2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

**YES**

**STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0153 00

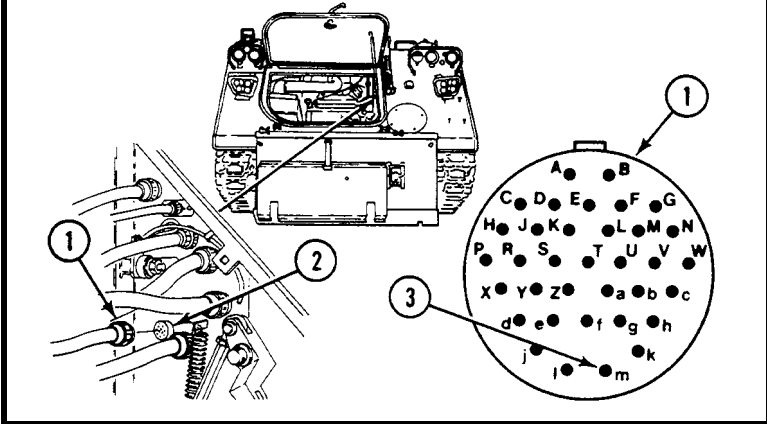
**B3Y**

1. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pins m (3) and ground.
3. Does VTM read more than one ohm?

NO

**B3YN**

1. Replace harness 12354693 (WP 0882 00).
2. Verify no faults found.



YES

**B4Y**

1. Replace harness 12354672 (WP 0882 00).
2. Verify no faults found.

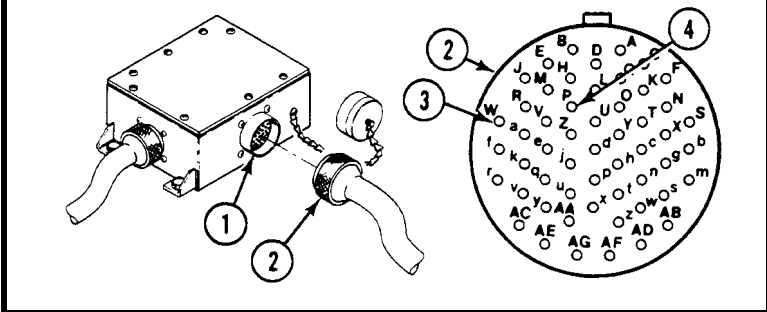
**CY**

1. Remove WIP2 (1) from STE/ICE distribution box jack J2 (2).
2. Measure resistance between STE/ICE distribution box jack J2 (2), pins W (3) and P (4).
3. Does VTM fail to read infinity?

NO

**CYN**

1. Faulty W1 cable. Beyond unit maintenance repair.
2. Notify supervisor.



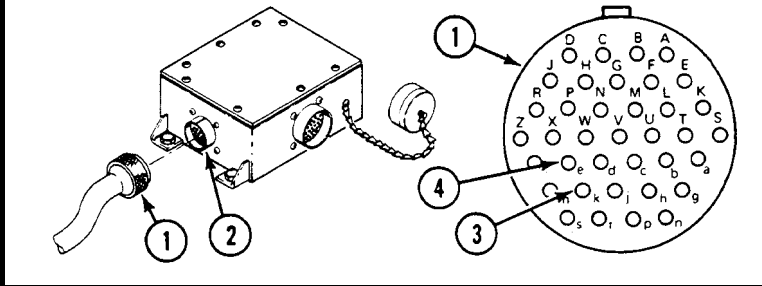
YES

**STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

0153 00

**C2Y**

1. Remove harness 12354593 plug P1 (1) from STE/ICE distribution box jack J1 (2).
2. Measure resistance between harness 12354593 plug P1 (1), pins k (3) and e (4).
3. Does VTM fail to read infinity?



NO

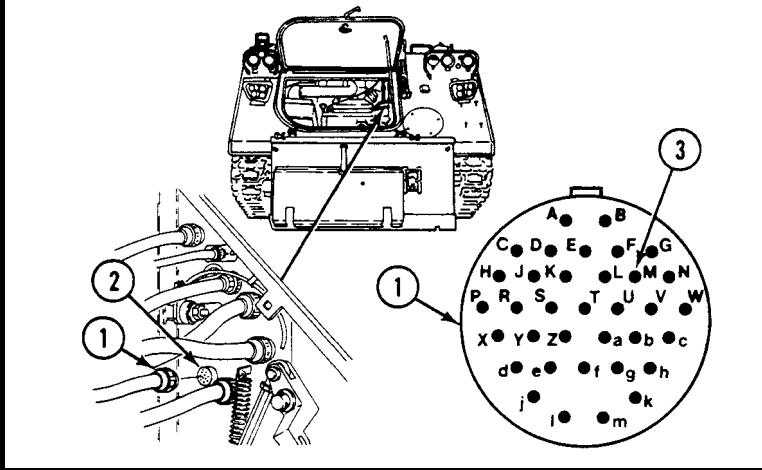
**C2YN**

1. Replace STE/ICE distribution box (WP 0874 00) thru (WP 0877 00).
2. Verify no faults found.

YES

**C3Y**

1. Remove harness 12354672 plug P4 (1) from harness 12354593 jack J1 (2).
2. Measure resistance between harness 12354672 plug P4 (1), pin M (3) and ground.
3. Does VTM read other than infinity?



NO

**C3YN**

1. Replace harness 12354593 (WP 0882 00).
2. Verify no faults found.

YES

---

**STE/ICE TEST 84 GENERATOR NEGATIVE CABLE VOLTAGE DROP DIAGNOSTIC  
TROUBLESHOOTING—Continued**

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**0153 00**

**C4Y**

1. Replace harness 12354672 (WP 0882 00).
2. Verify no faults found.



INDEX

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
5.0 KW Auxiliary Power Unit	
Installation .....	0675 01-4
Removal .....	0675 01-2
Repair .....	0675 00-1
 <b>A</b> 	
AC Cable Assembly, W252	
Installation .....	0857 00-3
Removal .....	0857 00-1
AC Light Cable, W11	
Installation .....	0845 00-2
Removal .....	0845 00-2
AC Power Extension Box	
A19	
Installation .....	0822 00-2
Removal .....	0822 00-1
A6	
Installation .....	0834 00-3
Removal .....	0834 00-1
A7	
Installation .....	0815 00-2
Removal .....	0815 00-1
AC Power Extension Cable	
W7	
Installation .....	0842 00-3
Removal .....	0842 00-1
W8	
Installation .....	0843 00-2
Removal .....	0843 00-1
Accelerator	
Linkage	
Adjustment .....	0214 00-1
Pedal	
Lower	
Installation .....	0215 00-3
Removal .....	0215 00-1
Upper	
Installation .....	0216 00-3
Removal .....	0216 00-1
Access Cover	
Battery Box	
Installation .....	0352 00-2
Removal .....	0352 00-1
Fuel Tank	
All Except M577A3 and M1068A3	
Installation .....	0187 00-2
Removal .....	0187 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M577A3 and M1068A3	
Installation .....	0188 00-2
Removal .....	0188 00-1
Hull Front	
Installation .....	0449 00-2
Removal .....	0449 00-1
Power Plant Bottom	
Cleaning .....	0450 00-2
Installation .....	0450 00-3
Removal .....	0450 00-1
Access Door, Turbine	
Gasket	
Installation .....	0486 00-1
Removal .....	0486 00-1
Hinges	
Installation .....	0487 00-3
Removal .....	0487 00-2
Installation .....	0485 00-2
Removal .....	0485 00-2
Access Panel, Driver's Power Plant	
Installation .....	0441 00-3
Removal .....	0441 00-1
Access Plate, Adapter, Smoke Generator	
Installation .....	0766 00-3
Removal .....	0766 00-1
Adapter	
AN/VAS-5 Driver's Night Vision Enhancer (DVE) Sensor Set Assembly	
Installation .....	0866 05-2
Removal .....	0866 05-1
Speedometer	
Installation .....	0860 00-3
Removal .....	0860 00-1
Tachometer	
Installation .....	0863 00-3
Removal .....	0863 00-1
Adjuster, Track Tension	
Installation .....	0419 00-2
Removal .....	0419 00-1
Air Box Drain, Left and Right, Check Valve and Tubes	
Installation .....	0159 00-4
Removal .....	0159 00-1
Air Box Heater	
Ignition Coil	
Installation .....	0208 00-3
Removal .....	0208 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Ignition Wire	
Installation .....	0204 00-2
Removal .....	0204 00-1
Lower Fuel Line	
Installation .....	0206 00-3
Removal .....	0206 00-2
Wiring Harness	
Installation .....	0205 00-5
Removal .....	0205 00-1
Air Box Pressure Transducer	
Installation .....	0327 00-2
Removal .....	0327 00-1
Air Cleaner	
Air Intake Elbow	
Installation .....	0173 00-2
Removal .....	0173 00-1
Assembly	
Assembly .....	0169 01-2
Disassembly .....	0169 01-1
Door	
Installation .....	0169 00-2
Removal .....	0169 00-1
Elbow	
Installation .....	0168 00-7
Removal .....	0168 00-2
Filter Element	
Servicing .....	0167 00-1
Grill Air Intake Elbow and Hose	
Installation .....	0174 00-2
Removal .....	0174 00-1
Restriction Indicator	
Installation .....	0171 00-2
Removal .....	0171 00-1
Restriction Indicator Hose	
Installation .....	0172 00-3
Removal .....	0172 00-1
Retainer	
Installation .....	0170 00-1
Removal .....	0170 00-1
Air Compressor	
Assembly	
Installation .....	0762 00-3
Removal .....	0762 00-1
Electrical Cable Assembly	
Installation .....	0758 00-4
Removal .....	0758 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Air Hose	
Adapter Access Plate to Cover Assembly, Smoke Generator	
Installation .....	0768 00-2
Removal .....	0768 00-1
Compressor Reservoir to Access Plate, Smoke Generator	
Installation .....	0767 00-3
Removal .....	0767 00-1
Air Purifier and Frame	
M13	
Installation .....	0779 00-3
Removal .....	0779 00-1
NBC	
Installation .....	0914 00-2
Removal .....	0914 00-1
Air Ventilator, Rear Compartment	
Installation .....	0454 00-2
Removal .....	0454 00-1
Alarm	
Chemical Agent Automatic Alarm Kit	
Installation .....	0918 00-1
Removal .....	0918 00-8
Chemical Alarm Junction Box	
Installation .....	0920 00-3
Removal .....	0920 00-1
Chemical Alarm Junction Box/Power Cable/Alarm Cable	
Inspection-Acceptance and Rejection Criteria .....	0919 00-6
Installation .....	0919 00-8
Removal .....	0919 00-2
Repair or Replacement .....	0919 00-7
M43 Unit Interface Wiring Harness	
Inspection-Acceptance and Rejection Criteria .....	0923 00-4
Installation .....	0923 00-4
Removal .....	0923 00-1
Repair or Replacement .....	0923 00-4
Refill Tray Bracket	
Installation .....	0922 00-2
Removal .....	0922 00-1
Spare Battery Bracket	
Installation .....	0921 00-3
Removal .....	0921 00-1
Repair or Replacement .....	0921 00-2
Ammunition Rack	
Horizontal	
Assembly .....	0607 00-4
Cleaning .....	0607 00-4
Disassembly .....	0607 00-1
Inspection-Acceptance and Rejection Criteria .....	0607 00-4
Installation .....	0606 00-2
Removal .....	0606 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Vertical	
Installation .....	0608 00-3
Removal .....	0608 00-1
Amplifier, Intercom	
Installation .....	0888 00-2
Removal .....	0888 00-1
Anchor, Torsion Bar	
Installation .....	0414 00-3
Removal .....	0414 00-1
Antenna	
AS3916/VRC	
Installation .....	0887 00-2
Removal .....	0887 00-1
Cover	
Installation .....	0576 00-2
Removal .....	0576 00-1
Guard	
Installation .....	0575 00-2
Removal .....	0575 00-1
Mast Bracket Assembly, Taillight Wiring Harness, and Bracket	
Installation .....	0625 00-7
Removal .....	0625 00-1
Support	
Installation .....	0602 00-2
Removal .....	0602 00-2
APIU Rack, Mount and Bracket	
Installation .....	0813 00-2
Removal .....	0813 00-1
Arm	
Idler Wheel	
Bearings and Seals	
Cleaning .....	0418 00-2
Installation .....	0418 00-2
Removal .....	0418 00-1
Installation .....	0417 00-2
Removal .....	0417 00-1
Road Wheel Support	
Installation .....	0415 00-4
Removal .....	0415 00-2
Armor	
Plate	
Left Front	
Installation .....	0447 00-2
Removal .....	0447 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Right Front	
Installation .....	0448 00-3
Removal .....	0448 00-1
Shields, Commander's Cupola	
Installation .....	0747 00-3
Removal .....	0747 00-1
Smoke Generator	
Installation .....	0771 00-2
Removal .....	0771 00-1
Auxiliary Power (Slave) Receptacle	
Ground Lead	
Installation .....	0379 00-3
Removal .....	0379 00-1
Lead (Circuit 50) to Master Switch	
Inspection-Acceptance and Rejection Criteria .....	0268 00-2
Installation .....	0268 00-3
Removal .....	0268 00-1
M113A3, M1059A3, M1064A3, and M58	
Installation .....	0263 00-2
Removal .....	0263 00-1
M577A3 and M1068A3	
Installation .....	0264 00-3
Removal .....	0264 00-2
Auxiliary Power Unit	
Fuel Shutoff Valve	
Installation .....	0676 00-3
Removal .....	0676 00-2
Installation .....	0675 01-4
Removal .....	0675 01-2
Repair .....	0675 00-1
Valve-to-Bulkhead Fuel Supply Hoses	
Installation .....	0677 00-4
Removal .....	0677 00-2
Auxiliary Tank	
Fluid Level Detector	
Installation .....	0329 00-2
Removal .....	0329 00-1
Installation .....	0230 00-2
Removal .....	0230 00-1
Azimuth Lock, Commander's Cupola	
Installation .....	0489 00-2
Removal .....	0489 00-1

**INDEX, cont'd**

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
<b>B</b>	
Backrest	
Personnel Seat	
M1059A3 Only	
Installation .....	0549 00-3
Removal .....	0549 00-1
M1064A3 Only	
Installation .....	0550 00-3
Removal .....	0550 00-1
Balance Hose	
Installation .....	0234 00-1
Removal .....	0234 00-1
Base Extension, Right Side	
Adjustment .....	0623 00-4
Installation .....	0623 00-3
Removal .....	0623 00-1
Supports	
Installation .....	0624 00-3
Removal .....	0624 00-1
Batteries	
M1064A3 Only	
Clean and Inspect .....	0349 00-2
Installation .....	0349 00-3
Removal .....	0349 00-1
M113A3 and M1059A3	
Clean and Inspect .....	0346 00-3
Installation .....	0346 00-4
Removal .....	0346 00-1
M577A3 and M1068A3	
Clean and Inspect .....	0347 00-3
Installation .....	0347 00-3
Removal .....	0347 00-1
M58 Only	
Assembly .....	0348 00-7
Cleaning .....	0348 00-6
Disassembly .....	0348 00-5
Installation .....	0348 00-8
Removal .....	0348 00-1
Battery	
Drawer	
Clean and Inspect .....	0353 00-3
Installation .....	0353 00-4
Insulation and Heat Exchanger	
Cleaning .....	0719 00-2
Inspection-Acceptance and Rejection Criteria .....	0719 00-2
Installation .....	0719 00-2
Removal .....	0719 00-1
Removal .....	0353 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Ground Strap	
M113A3, M1059A3, M1064A3, and M58	
Connect .....	0337 00-2
Disconnect .....	0337 00-1
M577A3 and M1068A3	
Connect .....	0338 00-3
Disconnect .....	0338 00-1
Leads and Terminals	
M1064A3 Only (Left Side)	
Cleaning .....	0343 00-5
Installation .....	0343 00-5
Removal .....	0343 00-1
M1064A3 Only (Right Side)	
Cleaning .....	0344 00-3
Installation .....	0344 00-4
Removal .....	0344 00-1
M113A3 and M1059A3	
Clean and Inspect .....	0340 00-3
Installation .....	0340 00-4
Removal .....	0340 00-1
M577A3 and M1068A3	
Clean and Inspect .....	0341 00-3
Installation .....	0341 00-4
Removal .....	0341 00-1
M58 Only	
Cleaning .....	0345 00-3
Installation .....	0345 00-4
Removal .....	0345 00-1
Battery Box	
Access Cover	
Installation .....	0352 00-2
Removal .....	0352 00-1
Insulation and Heat Exchanger	
Installation .....	0718 00-2
Removal .....	0718 00-1
M1064A3 Only (Right Side)	
Clean and Inspect .....	0354 00-2
Installation .....	0354 00-3
Removal .....	0354 00-1
M113A3 and M1059A3	
Clean and Inspect .....	0350 00-3
Installation .....	0350 00-4
Removal .....	0350 00-1
M577A3 and M1068A3	
Clean and Inspect .....	0351 00-2
Installation .....	0351 00-2
Removal .....	0351 00-2
M58 Only	
Assembly .....	0348 00-7
Cleaning .....	0348 00-6
Disassembly .....	0348 00-5
Installation .....	0348 00-8
Removal .....	0348 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Vent Fitting	
Installation .....	0355 00-3
Removal .....	0355 00-1
Bearing Housing	
Fan Drive Shaft	
Installation .....	0248 00-3
Removal .....	0248 00-1
Bearings	
Idler Wheel Arm	
Cleaning .....	0418 00-2
Installation .....	0418 00-2
Removal .....	0418 00-1
Road Wheel Support	
Installation .....	0415 00-4
Removal .....	0415 00-2
Tow Start Control Assembly	
Installation .....	0391 00-5
Removal .....	0391 00-2
Belt	
Coolant Pump	
Adjustment .....	0239 00-1
Generator Drive	
Adjustment .....	0252 00-2
Installation .....	0253 00-1
Removal .....	0253 00-1
Personnel	
M1059A3 Only	
Installation .....	0549 00-3
Removal .....	0549 00-1
M1064A3 Only	
Installation .....	0550 00-3
Removal .....	0550 00-1
M113A3 Only	
Installation .....	0546 00-2
Removal .....	0546 00-1
M577A3 Only	
Installation .....	0547 00-3
Removal .....	0547 00-1
Bilge Pump	
Circuit Breakers	
Installation .....	0275 00-2
Removal .....	0275 00-1
Front	
Installation .....	0632 00-3
Removal .....	0632 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Pipes	
Front	
Installation .....	0631 00-3
Removal .....	0631 00-1
Rear	
Installation .....	0634 00-2
Removal .....	0634 00-1
Rear	
Installation .....	0635 00-3
Removal .....	0635 00-1
Schematic .....	0078 00-1
Blackout Curtain	
Installation .....	0629 00-2
Removal .....	0629 00-1
Blackout Headlight	
Assembly .....	0306 00-2
Disassembly .....	0306 00-1
Installation .....	0305 00-2
Removal .....	0305 00-1
Blackout Marker Light	
Assembly .....	0308 00-2
Disassembly .....	0308 00-1
Installation .....	0307 00-2
Removal .....	0307 00-1
Blower Switch	
Installation .....	0278 00-3
Removal .....	0278 00-1
Box Assembly A5, Tent Interface Panel	
Installation .....	0833 00-3
Removal .....	0833 00-1
Bracket	
Antenna Mast	
Installation .....	0625 00-7
Removal .....	0625 00-1
Chemical Alarm Refill Tray	
Installation .....	0922 00-2
Removal .....	0922 00-1
Chemical Alarm Spare Battery	
Installation .....	0921 00-3
Removal .....	0921 00-1
Repair or Replacement .....	0921 00-2
Coolant Heater and Pump	
Installation .....	0732 00-1
Removal .....	0732 00-1
Forward Spall Liner	
Installation .....	0507 00-3
Removal .....	0507 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Fuel Filter, Primary and Secondary	
Installation .....	0203 00-3
Removal .....	0203 00-2
Generator	
Installation .....	0255 00-4
Removal .....	0255 00-1
Glow Plug Controller Mounting	
Installation .....	0212 00-2
Removal .....	0212 00-1
M13 Orifice	
Installation .....	0781 00-2
Removal .....	0781 00-1
Mortar Base Stowage	
Installation .....	0615 00-3
Removal .....	0615 00-1
Muffler	
Installation .....	0224 00-2
Removal .....	0224 00-1
Oil Can	
Installation .....	0574 00-1
Removal .....	0574 00-1
Parking Brake	
Clean and Inspect .....	0331 00-3
Installation .....	0331 00-3
Removal .....	0331 00-1
Personnel Heater Control Box and Intercom Box	
Installation .....	0617 00-2
Removal .....	0617 00-1
Power Extension Box A18	
Installation .....	0836 00-2
Removal .....	0836 00-1
Ramp	
Installation .....	0516 00-1
Removal .....	0516 00-1
Ramp Door Stop	
Installation .....	0517 00-1
Removal .....	0517 00-1
Rifle	
Installation .....	0573 00-2
Removal .....	0573 00-1
Roadside Data Panel Assembly A13	
Installation .....	0835 00-2
Removal .....	0835 00-1
Steering	
Installation .....	0432 00-5
Removal .....	0432 00-1
Transmission Oil Drain Tubes	
Installation .....	0384 00-2
Removal .....	0384 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Transmission Range Controller	
Cable-Activated Steering Lock	
Installation .....	0387 00-3
Removal .....	0387 00-1
Solenoid-Activated Steering Lock	
Installation .....	0386 00-3
Removal .....	0386 00-1
Windshield Stowage	
Installation .....	0614 00-2
Removal .....	0614 00-1
Brackets and Mounts, Right Equipment Rack	
Installation .....	0814 00-2
Removal .....	0814 00-1
Brake	
Commander's Cupola	
Installation .....	0492 00-1
Removal .....	0492 00-1
Parking	
Adjustment .....	0408 00-1
Cable Control Assembly	
Installation .....	0411 00-4
Removal .....	0411 00-1
Control Lever Assembly	
Installation .....	0412 00-3
Removal .....	0412 00-1
Service	
Control Linkage	
Adjustment .....	0407 00-1
Installation .....	0410 00-7
Removal .....	0410 00-2
Pedal, Upper and Lower	
Installation .....	0409 00-6
Removal .....	0409 00-1
Transmission	
Adjust Left-Hand Brake .....	0394 00-1
Adjust Right-Hand Brake .....	0394 00-6
Check Adjustment .....	0406 00-1
Breather Hose, Ramp Cylinder	
All Except M1064A3	
Installation .....	0666 00-3
Removal .....	0666 00-1
M1064A3 Only	
Installation .....	0667 00-3
Removal .....	0667 00-2
Bulkhead Connection Hose to Fuel Pump	
Installation .....	0691 00-2
Removal .....	0691 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Bumper, Driver's Hatch	
M113A3, M1059A3, M1064A3, and M58	
Installation .....	0532 00-2
Removal .....	0532 00-1
M577A3 and M1068A3	
Cleaning .....	0533 00-2
Installation .....	0533 00-3
Removal .....	0533 00-1
Repair or Replacement .....	0533 00-2
Buzzer and Switch, Admittance	
Inspection-Acceptance and Rejection Criteria .....	0334 00-2
Installation .....	0334 00-2
Removal .....	0334 00-1
Bypass Plug, Pressure Switch and Differential	
Installation .....	0401 00-2
Removal .....	0401 00-1
<b>C</b>	
Cable	
Artillery Communication, Inside	
Installation .....	0746 00-2
Removal .....	0746 00-1
Commander's Intercommunication Set	
Installation .....	0893 00-2
Removal .....	0893 00-1
Driver's Intercommunication Set	
Installation .....	0892 00-2
Removal .....	0892 00-1
Driver's Night Vision (DNV) AN/VVS-2 Power Supply	
Installation .....	0368 00-3
Removal .....	0368 00-1
Driver's Vision Enhancer Power Supply	
Installation .....	0866 04-2
Removal .....	0866 04-1
DVE Sensor Set Assembly Power	
Installation .....	0866 01-2
Removal .....	0866 01-1
Test and Inspection .....	0866 01-1
Hand Throttle Control	
Installation .....	0219 00-4
Removal .....	0219 00-1
Intervehicle Power	
Assembly .....	0381 00-2
Disassembly .....	0381 00-1
Operator's Intercommunication Set	
Installation .....	0894 00-2
Removal .....	0894 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Reel Holder Assembly	
Assembly .....	0604 00-2
Disassembly .....	0604 00-1
Installation .....	0603 00-2
Removal .....	0603 00-1
Smoke Generator, Internal	
Installation .....	0760 00-3
Removal .....	0760 00-1
Speedometer	
Inspection-Acceptance and Rejection Criteria .....	0861 00-2
Installation .....	0860 00-3, 0861 00-2
Removal .....	0860 00-1, 0861 00-1
Speedometer/Tachometer Flexible Core	
Installation .....	0858 00-5
Removal .....	0858 00-1
Tachometer	
Inspection-Acceptance and Rejection Criteria .....	0865 00-1
Installation .....	0864 00-4, 0865 00-2
Removal .....	0864 00-1, 0865 00-1
Tow Start Control	
Adjustment .....	0390 00-1
W10, DC Power Extension	
Installation .....	0844 00-3
Removal .....	0844 00-1
W103/W104, LAN A or B	
Installation .....	0854 00-3
Removal .....	0854 00-1
W11, AC Light	
Installation .....	0845 00-2
Removal .....	0845 00-2
W124	
Installation .....	0855 00-3
Removal .....	0855 00-1
W126	
Installation .....	0856 00-3
Removal .....	0856 00-1
W251	
Installation .....	0852 00-3
Removal .....	0852 00-1
W252	
Installation .....	0857 00-3
Removal .....	0857 00-1
W28	
Installation .....	0849 00-3
Removal .....	0849 00-1
W29	
Installation .....	0850 00-3
Removal .....	0850 00-1
W3, Power Distribution	
Installation .....	0837 00-3
Removal .....	0837 00-1

## INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
W35	
Installation .....	0849 00-3
Removal .....	0849 00-1
W38	
Installation .....	0850 00-3
Removal .....	0850 00-1
W4, DC Battery	
Installation .....	0838 00-3
Removal .....	0838 00-1
W4/W6	
Assembly .....	0841 00-2
Disassembly .....	0841 00-1
W40, Single Point LAN	
Installation .....	0851 00-3
Removal .....	0851 00-1
W42	
Installation .....	0852 00-3
Removal .....	0852 00-1
W43	
Installation .....	0852 00-3
Removal .....	0852 00-1
W45	
Installation .....	0853 00-3
Removal .....	0853 00-1
W5, Inverter AC	
Installation .....	0839 00-3
Removal .....	0839 00-1
W6, Inverter DC	
Installation .....	0840 00-3
Removal .....	0840 00-1
W7, AC Power Extension	
Installation .....	0842 00-3
Removal .....	0842 00-1
W8, AC Power Extension	
Installation .....	0843 00-2
Removal .....	0843 00-1
Cables and Switch Assembly, M14	
Installation .....	0799 00-3
Removal .....	0799 00-1
Cargo Hatch	
Cover	
Installation .....	0479 00-3
Removal .....	0479 00-2
Hold-Open Hook and Bumpers	
Installation .....	0474 00-3
Removal .....	0474 00-2
Interior Latch	
Adjustment .....	0475 00-5
Installation .....	0475 00-3
Removal .....	0475 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Seals	
Installation .....	0478 00-1
Removal .....	0478 00-1
Cascade Remote Harness	
Installation .....	0847 00-3
Removal .....	0847 00-1
Chain Assembly, Litter Kit	
Assembly .....	0745 00-4
Disassembly .....	0745 00-1
Installation .....	0744 00-2
Removal .....	0744 00-1
Chemical Alarm	
Automatic Alarm Kit	
Installation .....	0918 00-1
Removal .....	0918 00-8
Junction Box	
Installation .....	0920 00-3
Removal .....	0920 00-1
Junction Box/Power Cable/Alarm Cable	
Inspection-Acceptance and Rejection Criteria .....	0919 00-6
Installation .....	0919 00-8
Removal .....	0919 00-2
Repair or Replacement .....	0919 00-7
M43 Unit Interface Wiring Harness	
Inspection-Acceptance and Rejection Criteria .....	0923 00-4
Installation .....	0923 00-4
Removal .....	0923 00-1
Repair or Replacement .....	0923 00-4
Refill Tray Bracket	
Installation .....	0922 00-2
Removal .....	0922 00-1
Spare Battery Bracket	
Installation .....	0921 00-3
Removal .....	0921 00-1
Repair or Replacement .....	0921 00-2
Circuit Breaker	
Bilge Pump	
Installation .....	0275 00-2
Removal .....	0275 00-1
Dome Light	
Installation .....	0316 00-3
Removal .....	0316 00-1
Installation .....	0280 00-2
Rear Utility Receptacle	
Inspection-Acceptance and Rejection Criteria .....	0276 00-2
Installation .....	0276 00-3
Removal .....	0276 00-1
Removal .....	0280 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Clamps, Tent	
Installation .....	0627 00-2
Removal .....	0627 00-1
Combat Lock, Power Plant Door	
Installation .....	0473 00-3
Removal .....	0473 00-1
Commander's Cupola	
Armor Shields	
Installation .....	0747 00-3
Removal .....	0747 00-1
Azimuth Lock	
Installation .....	0489 00-2
Removal .....	0489 00-1
Brake Assembly	
Installation .....	0492 00-1
Removal .....	0492 00-1
Cover	
Installation .....	0493 00-3
Removal .....	0493 00-2
Cushioning Pad and Handle	
Installation .....	0488 00-2
Removal .....	0488 00-1
Hold-Open Hook and Bumper	
Installation .....	0494 00-2
Removal .....	0494 00-1
Interior Latch	
Installation .....	0496 00-2
Removal .....	0496 00-1
Machine Gun Mount	
Assembly .....	0498 00-2
Disassembly .....	0498 00-1
Installation .....	0497 00-1
Removal .....	0497 00-1
Machine Gun Mount Stops	
Installation .....	0499 00-3
Removal .....	0499 00-1
Vision Block Locks and Seals	
M1064A3 Only	
Installation .....	0491 00-3
Removal .....	0491 00-1
M113A3, M1059A3, and M58	
Installation .....	0490 00-3
Removal .....	0490 00-1
Commander's Hatch	
Cover	
Installation .....	0503 00-3
Removal .....	0503 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Cushioning Pad and Handle	
Clean, Inspect, and Repair .....	0500 00-2
Installation .....	0500 00-2
Removal .....	0500 00-1
Hook and Bumper	
Installation .....	0501 00-4
Removal .....	0501 00-2
Interior Latch	
Adjustment .....	0502 00-2
Installation .....	0502 00-2
Removal .....	0502 00-1
Commander's Intercommunication Set Cable	
Installation .....	0893 00-2
Removal .....	0893 00-1
Commander's Interface Bracket Assembly	
M1064A3 Only	
Installation .....	0812 03-3
Removal .....	0812 03-2
Repair .....	0812 03-3
M577A3 Only	
Installation .....	0812 02-3
Removal .....	0812 02-1
Repair .....	0812 02-3
Commander's Jump Seat	
Installation .....	0563 00-3
Removal .....	0563 00-1
Commander's Platform	
M113A3, M1059A3, M1064A3, and M58	
Assembly .....	0559 00-4
Disassembly .....	0559 00-2
Installation .....	0559 00-6
Removal .....	0559 00-1
M577A3 and M1068A3	
Assembly .....	0564 00-3
Disassembly .....	0564 00-2
Inspection-Acceptance and Rejection Criteria .....	0564 00-3
Installation .....	0564 00-4
Removal .....	0564 00-1
Commander's Post	
M1064A3 Only	
Installation .....	0561 00-2
Removal .....	0561 00-1
M113A3, M1059A3, and M58	
Installation .....	0560 00-3
Removal .....	0560 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Commander's Seat	
M1064A3 Only	
Installation .....	0561 00-2
Removal .....	0561 00-1
M1068A3 Only	
Assembly .....	0566 00-3
Disassembly .....	0566 00-2
Installation .....	0566 00-6
Removal .....	0566 00-1
M113A3, M1059A3, and M58	
Installation .....	0560 00-3
Removal .....	0560 00-1
M113A3, M1059A3, M1064A3, and M58	
Assembly .....	0562 00-4
Cleaning .....	0562 00-4
Disassembly .....	0562 00-1
Common Tools and Supplements and Special Tools/Fixtures List .....	0926 00-1
Communication Box A11, External	
Installation .....	0817 00-4
Lid and Latches	
Installation .....	0818 00-2
Removal .....	0818 00-1
Removal .....	0817 00-1
Communication Cabling Diagram .....	0884 00-1
Control Assembly	
Push-Pull	
Installation .....	0429 00-7
Removal .....	0429 00-1
Tow Start	
Installation .....	0391 00-5
Removal .....	0391 00-2
Control Box	
Coolant Heater	
Assembly .....	0737 00-7
Disassembly .....	0737 00-1
Inspection-Acceptance and Rejection Criteria .....	0736 00-2, 0737 00-6
Installation .....	0736 00-2
Removal .....	0736 00-1
Personnel Heater	
Assembly .....	0702 00-5
Disassembly .....	0702 00-1
Installation .....	0701 00-3
Removal .....	0701 00-1
Repair or Replacement .....	0702 00-4

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Control Cable Assembly, Fuel Cutoff	
Adjustment .....	0220 00-7
Installation .....	0220 00-4
Removal .....	0220 00-1
Control Valve	
Fire Extinguisher	
Installation .....	0904 00-3
Removal .....	0904 00-1
Ramp	
External to Internal Relief	
Installation .....	0660 00-6
Removal .....	0660 00-1
With External Relief Valve	
Repair or Replacement .....	0659 00-1
With Internal Relief Valve	
Installation .....	0661 00-4
Removal .....	0661 00-1
Control, Intercommunications Set	
Installation .....	0885 00-2
Removal .....	0885 00-1
Coolant Air Separator	
Installation .....	0236 00-3
Removal .....	0236 00-1
Coolant Heater	
Control Box	
Assembly .....	0737 00-7
Disassembly .....	0737 00-1
Inspection-Acceptance and Rejection Criteria .....	0736 00-2, 0737 00-6
Installation .....	0736 00-2
Removal .....	0736 00-1
Exhaust Elbow and Pipes	
Installation .....	0724 00-2
Removal .....	0724 00-1
Flame Detector Switch	
Adjustment .....	0727 00-1
Inspection-Acceptance and Rejection Criteria .....	0734 00-1
Installation .....	0734 00-2
Removal .....	0734 00-1
Fuel Filter	
Cleaning .....	0708 00-1
Installation .....	0708 00-2
Removal .....	0708 00-1
Fuel Inlet Hose and Fittings	
Installation .....	0712 00-3
Removal .....	0712 00-1
Fuel Pump	
Assembly .....	0709 00-2
Cleaning .....	0709 00-2
Disassembly .....	0709 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Installation .....	0723 00-3
Removal .....	0723 00-1
Fuel Shutoff Valve	
Installation .....	0720 00-3
Removal .....	0720 00-1
Heater and Pump Bracket	
Installation .....	0732 00-1
Removal .....	0732 00-1
Heater to Engine Elbow Hose	
Installation .....	0715 00-2
Removal .....	0715 00-1
Hose	
Engine to Battery Box	
Installation .....	0714 00-4
Removal .....	0714 00-2
Filter Valve	
Installation .....	0716 00-2
Removal .....	0716 00-1
Fuel Pump	
Installation .....	0711 00-2
Removal .....	0711 00-1
Heater to Surge Tank	
Installation .....	0725 00-1
Removal .....	0725 00-1
Pump to Battery Box	
Installation .....	0713 00-3
Removal .....	0713 00-1
Inspection-Acceptance and Rejection Criteria .....	0729 00-1
Installation .....	0729 00-2
Pump	
Installation .....	0731 00-2
Removal .....	0731 00-1
Pump Unit	
Inspection-Acceptance and Rejection Criteria .....	0728 00-5
Installation .....	0728 00-5
Removal .....	0728 00-1
Removal .....	0729 00-1
Wiring Harness	
Installation .....	0735 00-4
Removal .....	0735 00-1
Coolant Heater Schematic .....	0087 00-1
Coolant Hose and Tube, Upper	
Installation .....	0232 00-4
Removal .....	0232 00-2
Coolant Pump	
Belts	
Adjustment .....	0239 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Engine	
Installation .....	0241 00-4
Removal .....	0241 00-1
Idler Pulley/Belts	
Installation .....	0240 00-2
Removal .....	0240 00-1
Cooling System, Drain and Fill	
Complete Drain .....	0227 00-2
Fill Cooling System .....	0227 00-4
Cover	
Antenna	
Installation .....	0576 00-2
Removal .....	0576 00-1
Cargo Hatch	
Installation .....	0479 00-3
Removal .....	0479 00-2
Commander's Cupola	
Installation .....	0493 00-3
Removal .....	0493 00-2
Commander's Hatch	
Installation .....	0503 00-3
Removal .....	0503 00-2
Driver's Hatch	
Installation .....	0531 00-3
Removal .....	0531 00-1
Mortar Hatch	
Installation .....	0482 00-3
Removal .....	0482 00-2
Teleposts	
Installation .....	0296 00-3
Removal .....	0296 00-1
Thermostat	
Installation .....	0237 00-4
Removal .....	0237 00-1
Tow Start Control Assembly	
Installation .....	0392 00-2
Removal .....	0392 00-1
Curbside Data Panel A12	
Installation .....	0819 00-2
Removal .....	0819 00-1
Cushioning Pad	
Commander's Cupola	
Installation .....	0488 00-2
Removal .....	0488 00-1
Driver's Hatch	
Installation .....	0530 00-1
Removal .....	0530 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Cushions	
Personnel	
M1059A3 Only	
Installation .....	0549 00-3
Removal .....	0549 00-1
M1064A3 Only	
Installation .....	0550 00-3
Removal .....	0550 00-1
M113A3 Only	
Installation .....	0546 00-2
Removal .....	0546 00-1
M577A3 Only	
Installation .....	0547 00-3
Removal .....	0547 00-1
Cylinder	
Discharge Tubes	
Installation .....	0899 00-3
Removal .....	0899 00-1
Discharge Tubes, Turbine	
Installation .....	0900 00-3
Removal .....	0900 00-1
Fixed Fire Extinguisher	
Installation .....	0898 00-4
Removal .....	0898 00-2
<b>D</b>	
Data Panel Assembly	
A12, Curbside	
Installation .....	0819 00-2
Removal .....	0819 00-1
A13, Roadside	
Installation .....	0835 00-2
Removal .....	0835 00-1
Data Plates, Stencils, Markers, and Decals	
Cleaning .....	0654 00-2
Installation .....	0654 00-3
Removal .....	0654 00-2
Dataplates, Decals, and Markers	
All Models .....	0644 00-1
M1059A3 Only .....	0651 00-1
M1064A3 Only .....	0652 00-1
M113A3 and M1059A3 .....	0645 00-1, 0647 00-1
M113A3, M1059A3, and M58 .....	0646 00-1
M577A3 and M1068A3 .....	0648 00-1
M58 Only .....	0653 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
DC Battery Cable (W4)	
Installation .....	0838 00-3
Removal .....	0838 00-1
DC Power Extension	
Box A9	
Installation .....	0834 00-3
Removal .....	0834 00-1
W10 Cable	
Installation .....	0844 00-3
Removal .....	0844 00-1
Diagram, Communication Cabling .....	0884 00-1
Differential Pressure Switch	
Bypass Plug	
Installation .....	0401 00-2
Removal .....	0401 00-1
Fuel Filter	
Installation .....	0328 00-5
Removal .....	0328 00-1
Dipstick	
Final Drive	
Installation .....	0402 00-3
Removal .....	0402 00-1
Transmission Oil Level	
X200-4 Only	
Installation .....	0395 00-3
Removal .....	0395 00-1
X200-4A Only	
Installation .....	0396 00-4
Removal .....	0396 00-1
Distribution Box	
M113A3, M1059A3, M1064A3, and M58	
Installation .....	0269 00-4, 0270 00-5
Removal .....	0269 00-2, 0270 00-2
M577A3 and M1068A3	
Installation .....	0271 00-3
Removal .....	0271 00-1
STE/ICE	
M1064A3 Only	
Installation .....	0877 00-3
Removal .....	0877 00-1
M113A3 and M1059A3	
Installation .....	0874 00-3
Removal .....	0874 00-1
M577A3 and M1068A3	
Installation .....	0875 00-2
Removal .....	0875 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Dome Light	
All Except M577A3 and M1068A3	
Assembly .....	0310 00-3
Disassembly .....	0310 00-1
Installation .....	0309 00-2
Removal .....	0309 00-1
Circuit Breaker	
Installation .....	0316 00-3
Removal .....	0316 00-1
Lens	
Installation .....	0313 00-3
Removal .....	0313 00-1
M577A3 and M1068A3	
Assembly .....	0312 00-3
Disassembly .....	0312 00-1
Installation .....	0311 00-3
Removal .....	0311 00-1
Switch	
Front	
Installation .....	0314 00-3
Removal .....	0314 00-1
Rear	
Installation .....	0315 00-2
Removal .....	0315 00-1
Door	
Power Plant	
Adjustment .....	0472 00-2
All Except M113A3	
Installation .....	0471 00-2
Removal .....	0471 00-1
Assembly .....	0472 00-2
Disassembly .....	0472 00-1
M113A3 Only	
Installation .....	0470 00-3
Removal .....	0470 00-1
Turbine Access	
Installation .....	0485 00-2
Removal .....	0485 00-2
Drain Check Valve and Tubes, Left and Right Air Box	
Installation .....	0159 00-4
Removal .....	0159 00-1
Drain Cock and Hose	
Installation .....	0235 00-1
Removal .....	0235 00-1
Drain Plug	
Final Drive Hull	
Installation .....	0452 00-2
Removal .....	0452 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Fuel Tank	
Installation .....	0187 00-2
Removal .....	0187 00-1
Hull	
Installation .....	0451 00-2
Removal .....	0451 00-1
Ramp	
Installation .....	0515 00-1
Removal .....	0515 00-1
Drive Belt	
Generator	
Adjustment .....	0252 00-2
Installation .....	0253 00-1
Removal .....	0253 00-1
Ventilating Fan	
Adjustment .....	0242 00-1
Installation .....	0243 00-2
Removal .....	0243 00-1
Drive Pulley, Ventilating Fan	
Installation .....	0244 00-1
Removal .....	0244 00-1
Drive Sprocket Wheel Assembly	
T130 Track	
Installation .....	0420 00-2, 0421 00-2
Removal .....	0420 00-1, 0421 00-1
T150 Track	
Installation .....	0420 01-2
Removal .....	0420 01-1
Driver's Compartment Floor Plates	
Cleaning .....	0453 00-2
Installation .....	0453 00-2
Removal .....	0453 00-1
Driver's Footrest	
Installation .....	0558 00-1
Removal .....	0558 00-1
Driver's Hatch	
Cover	
Installation .....	0531 00-3
Removal .....	0531 00-1
Cushioning Pad	
Installation .....	0530 00-1
Removal .....	0530 00-1
Exterior Lock	
Installation .....	0531 00-3
Removal .....	0531 00-1

## INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Hold-Open Hook and Bumper	
M113A3, M1059A3, M1064A3, and M58	
Installation .....	0532 00-2
Removal .....	0532 00-1
M577A3 and M1068A3	
Cleaning .....	0533 00-2
Installation .....	0533 00-3
Removal .....	0533 00-1
Repair or Replacement .....	0533 00-2
Interior Lock and Latch	
Adjustment .....	0534 00-3
Installation .....	0534 00-2
Removal .....	0534 00-1
Night Vision Guard	
All Except M58	
Installation .....	0536 00-1
Removal .....	0536 00-1
M58 Only	
Installation .....	0536 01-2
Removal .....	0536 01-1
Night Vision Mount	
Installation .....	0537 01-3
Removal .....	0537 01-2
Vision Block Locks and Seals	
Clean, Inspect, and Repair .....	0535 00-3
Installation .....	0535 00-3
Removal .....	0535 00-1
Driver's Intercommunication Set Cable	
Installation .....	0892 00-2
Removal .....	0892 00-1
Driver's Night Vision	
AN/VVS-2 Power Supply Cable Assembly	
Installation .....	0368 00-3
Removal .....	0368 00-1
Mount	
Installation .....	0537 00-2
Removal .....	0537 00-1
Stowage	
Installation .....	0572 00-2
Removal .....	0572 00-1
Driver's Night Vision Enhancer	
Commander's Display Mounting Bracket	
Installation .....	0866 06-5
Removal .....	0866 06-1
Driver's Display Mounting Bracket	
Installation .....	0866 02-5
Removal .....	0866 02-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Power Supply Cable	
Installation .....	0866 04-2
Removal .....	0866 04-1
Sensor Set Assembly	
Installation .....	0866 05-2
Removal .....	0866 05-1
Sensor Set Assembly Power Cable	
Installation .....	0866 01-2
Removal .....	0866 01-1
Test and Inspection .....	0866 01-1
Stowage Bracket	
Installation .....	0866 03-2
Removal .....	0866 03-1
Driver's Seat	
Assembly .....	0552 00-2
Back Assembly	
Assembly .....	0554 00-1
Disassembly .....	0554 00-1
Installation .....	0553 00-2
Removal .....	0553 00-1
Disassembly .....	0552 00-1
Impact Absorber	
Installation .....	0555 00-1
Removal .....	0555 00-1
Installation .....	0551 00-2
Post Assembly	
Assembly .....	0557 00-4
Disassembly .....	0557 00-1
Installation .....	0556 00-2
Removal .....	0556 00-1
Removal .....	0551 00-1
Driver's Windshield	
Installation .....	0739 00-2
Removal .....	0739 00-1
Stowage Bag, Straps, and Decal	
Installation .....	0740 00-2
Removal .....	0740 00-1
Repair or Replacement .....	0740 00-2
<b>E</b>	
Elbow	
Air Cleaner	
Installation .....	0168 00-7
Removal .....	0168 00-2
Air Cleaner Air Intake	
Installation .....	0173 00-2
Removal .....	0173 00-1
Coolant Heater Exhaust	
Installation .....	0724 00-2
Removal .....	0724 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Engine Exhaust, Left/Right	
Installation .....	0225 00-2
Removal .....	0225 00-1
Grill Air Intake	
Installation .....	0174 00-2
Removal .....	0174 00-1
Electrical Cable Assembly	
Air Compressor	
Installation .....	0758 00-4
Removal .....	0758 00-2
Fog Oil Pump	
Installation .....	0759 00-3
Removal .....	0759 00-1
Smoke Generator, Adapter Access Plate to Generator	
Installation .....	0761 00-3
Removal .....	0761 00-1
Electrical Schematic .....	0027 00-1
Electrode, Air Heater	
Installation .....	0207 00-2
Removal .....	0207 00-1
Element	
Air Cleaner Filter	
Servicing .....	0167 00-1
Fuel Filter, Primary and Secondary	
Installation .....	0202 00-6
Removal .....	0202 00-2
Transmission Oil and Filter	
Installation .....	0398 00-3
Removal .....	0398 00-1
Enclosure, Generator Set	
Installation .....	0674 00-3
Removal .....	0674 00-2
Engine	
Air Box Heater Schematic .....	0013 00-1
Block Fitting and Hardware	
Installation .....	0717 00-3
Removal .....	0717 00-1
Charging System Schematic .....	0007 00-1
Coolant Heater System	
Drain .....	0710 00-1
Fill .....	0710 00-3
Coolant Pump	
Installation .....	0241 00-4
Removal .....	0241 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Exhaust Elbows and Double Flex Joint	
Installation .....	0221 00-3
Removal .....	0221 00-1
Exhaust Elbows, Left/Right	
Installation .....	0225 00-2
Removal .....	0225 00-1
Fuel Pump	
Cleaning .....	0166 00-2
Inspection-Acceptance and Rejection Criteria .....	0166 00-3
Installation .....	0166 00-4
Removal .....	0166 00-1
Repair or Replacement .....	0166 00-3
Fuel Return Hose	
Installation .....	0201 00-3
Removal .....	0201 00-1
Fuel Supply Hose	
Installation .....	0200 00-3
Removal .....	0200 00-1
Fuel System Schematic	
All Except M577A3 and M1068A3 .....	0009 00-1
M577A3 and M1068A3 .....	0010 00-1
Lifting Bracket	
Installation .....	0161 00-2
Removal .....	0161 00-1
Mounts	
Installation .....	0158 00-2
Removal .....	0158 00-1
Oil Filler Cap	
Installation .....	0162 00-2
Removal .....	0162 00-1
Oil Low Pressure Transmitter and Hardware	
Installation .....	0320 00-3
Removal .....	0320 00-1
Oil Sampling Valve and Hose	
Installation .....	0163 00-2
Removal .....	0163 00-1
Start Switch	
Installation .....	0284 00-2
Removal .....	0284 00-1
Starter Circuit Schematic .....	0011 00-1
Tachometer Adapter	
Installation .....	0863 00-3
Removal .....	0863 00-1
Wiring Harness	
Clean, Inspect, and Repair .....	0359 00-8
Installation .....	0359 00-8
Removal .....	0359 00-2
Equipment Description	
Capabilities and Features .....	0002 00-1
Differences Between Carriers .....	0002 00-5
Equipment Data .....	0002 00-6

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Exhaust Joint, Double Flex	
Installation .....	0222 00-1
Removal .....	0222 00-1
Exhaust Muffler and Bracket	
Installation .....	0224 00-2
Removal .....	0224 00-1
Exhaust Pipe Heat Shield, Turbo, Left/Right	
Installation .....	0226 00-3
Removal .....	0226 00-1
Exhaust, Evacuator Valve and Connector	
Installation .....	0175 00-2
Removal .....	0175 00-1
Expendable/Durable Supplies and Materials List .....	0928 00-1
Extender Assembly, Tow Pintle	
Adjustment .....	0811 02-6
Assembly .....	0811 02-4
Disassembly .....	0811 02-3
Installation .....	0811 02-5
Removal .....	0811 02-1
Stow .....	0811 02-6
Extender Kit, Tow Pintle	
Adjustment .....	0811 01-3
Installation .....	0811 01-1
Stow .....	0811 01-3
Extension Box, AC Power	
A19	
Installation .....	0822 00-2
Removal .....	0822 00-1
A6	
Installation .....	0834 00-3
Removal .....	0834 00-1
A7	
Installation .....	0815 00-2
Removal .....	0815 00-1
External Cable Tube	
Installation .....	0905 00-5
Removal .....	0905 00-2
External Communication Box A11	
Installation .....	0817 00-4
Removal .....	0817 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
External Handle	
Fire Extinguisher Control Valve	
Installation .....	0904 00-3
Removal .....	0904 00-1
Shield	
M1064A3 Only	
Inspection-Acceptance and Rejection Criteria .....	0903 00-3
Installation .....	0903 00-3
Removal .....	0903 00-1
M113A3 and M1059A3	
Installation .....	0901 00-2
Removal .....	0901 00-1
M577A3 and M1068A3	
Installation .....	0902 00-1
Removal .....	0902 00-1
<b>F</b>	
Fabricated Tools .....	0927 00-1
Fan	
Drive Pulley Access Cover	
Installation .....	0440 00-2
Removal .....	0440 00-1
Drive Shaft	
Installation .....	0248 00-3
Removal .....	0248 00-1
Flat Pulleys and Bearings	
Installation .....	0245 00-3
Removal .....	0245 00-1
Variable Speed Drive	
Controller	
Installation .....	0250 01-1
Removal .....	0250 01-1
Fan Drive Assembly	
Adjustment .....	0249 01-3
Installation .....	0249 01-3
Removal .....	0249 01-2
Installation .....	0249 00-3
Removal .....	0249 00-2
Ventilation	
Installation .....	0383 00-3
Removal .....	0383 00-1
Filler Cap, Strainer Parts	
All Except M577A3 and M1068A3	
Installation .....	0184 00-3
Removal .....	0184 00-2
M577A3 and M1068A3	
Installation .....	0185 00-2
Removal .....	0185 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Filler Cover and Lock	
Combat	
Installation .....	0466 00-2
Removal .....	0466 00-1
Fuel Tank	
All Except M577A3 and M1068A3	
Installation .....	0182 00-2
Removal .....	0182 00-1
M577A3 and M1068A3	
Installation .....	0183 00-2
Removal .....	0183 00-1
Filler Flange, Fuel Tank	
Installation .....	0189 00-2
Removal .....	0189 00-1
Filler Tube	
Final Drive	
Installation .....	0402 00-3
Removal .....	0402 00-1
Transmission Oil Lever	
X200-4 Only	
Installation .....	0395 00-3
Removal .....	0395 00-1
X200-4A Only	
Installation .....	0396 00-4
Removal .....	0396 00-1
Filter Element, Transmission Oil	
Installation .....	0398 00-3
Removal .....	0398 00-1
Filter, Fuel	
Installation .....	0726 00-2
Removal .....	0726 00-1
Final Drive	
Clean, Inspect, and Repair .....	0403 00-2
Differential Oil Seal	
Installation .....	0404 00-2
Removal .....	0404 00-1
Filler Tube and Dipstick	
Installation .....	0402 00-3
Removal .....	0402 00-1
Hull Drain Plugs	
Installation .....	0452 00-2
Removal .....	0452 00-1
Installation .....	0403 00-3
Removal .....	0403 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Fire Extinguisher	
Control Valve and External Handle	
Installation .....	0904 00-3
Removal .....	0904 00-1
Fixed	
Cylinder and Mount	
Installation .....	0898 00-4
Removal .....	0898 00-2
Cylinder Discharge Tubes	
Installation .....	0899 00-3
Removal .....	0899 00-1
Turbine Cylinder Discharge Tubes	
Installation .....	0900 00-3
Removal .....	0900 00-1
Portable	
Inspection-Acceptance and Rejection Criteria .....	0896 00-3
Installation .....	0896 00-3
Mount (All Except M1068A3)	
Installation .....	0895 00-3
Removal .....	0895 00-1
Mount (M1068A3 Only)	
Assembly .....	0897 00-4
Disassembly .....	0897 00-3
Installation .....	0897 00-5
Removal .....	0897 00-1
Removal .....	0896 00-1
Fittings	
Coolant Heater Fuel Inlet	
Installation .....	0712 00-3
Removal .....	0712 00-1
Fuel Return	
M1064A3 Only	
Installation .....	0197 00-9
Removal .....	0197 00-1
M113A3, M1059A3, and M58	
Installation .....	0195 00-8
Removal .....	0195 00-2
M577A3 and M1068A3	
Installation .....	0196 00-4
Removal .....	0196 00-1
Fuel Vent	
Installation .....	0198 00-4
Removal .....	0198 00-1
Personnel Heater	
M1064A3 Only	
Installation .....	0688 00-5
Removal .....	0688 00-1
M577A3 and M1068A3	
Installation .....	0700 00-3
Removal .....	0700 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Ramp Control Valve	
External to Internal Relief	
Installation .....	0660 00-6
Removal .....	0660 00-1
With External Relief Valve	
Repair or Replacement .....	0659 00-1
With Internal Relief Valve	
Installation .....	0661 00-4
Removal .....	0661 00-1
Flame Detector Switch, Coolant Heater	
Adjustment .....	0727 00-1
Inspection-Acceptance and Rejection Criteria .....	0734 00-1
Installation .....	0734 00-2
Removal .....	0734 00-1
Floor Plates	
Driver's Compartment	
Cleaning .....	0453 00-2
Installation .....	0453 00-2
Removal .....	0453 00-1
M1059A3 Only	
Installation .....	0542 00-2
Removal .....	0542 00-1
M1064A3 Only	
Installation .....	0543 00-2
Removal .....	0543 00-1
M1068A3 Only	
Installation .....	0544 00-3
Removal .....	0544 00-1
M113A3 and M577A3	
Installation .....	0539 00-2
Removal .....	0539 00-1
M58 Only	
Installation .....	0545 00-2
Removal .....	0545 00-1
Fluorescent Light Assemblies	
Installation .....	0825 00-2
Removal .....	0825 00-1
Fog Oil	
Pump Assembly	
Installation .....	0763 00-2
Removal .....	0763 00-1
Pump, Electrical Cable Assembly	
Installation .....	0759 00-3
Removal .....	0759 00-1
Quick Disconnect to Adapter Access Plate Hose	
Installation .....	0769 00-2
Removal .....	0769 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Quick Disconnect to Adapter Access Plate Hose, Cover Assembly	
Installation .....	0770 00-2
Removal .....	0770 00-1
Tank Module	
Installation .....	0753 00-4
Removal .....	0753 00-1
Footrest, Driver's	
Installation .....	0558 00-1
Removal .....	0558 00-1
Forward Table, Right	
Installation .....	0581 00-3
Removal .....	0581 00-1
Frame, Blackout Curtain	
Installation .....	0629 00-2
Removal .....	0629 00-1
Front Bilge Valve	
Installation .....	0633 00-2
Removal .....	0633 00-1
Fuel Can Lid Assembly, Smoke Generator	
Installation .....	0764 00-2
Removal .....	0764 00-1
Fuel Cap Vent and Filter Screen	
Cleaning .....	0176 00-1
Fuel Control Shaft and Linkage	
Installation .....	0217 00-4
Removal .....	0217 00-1
Fuel Cutoff Control Cable Assembly	
Adjustment .....	0220 00-7
Installation .....	0220 00-4
Removal .....	0220 00-1
Fuel Filler and Strainer Parts	
Cleaning .....	0186 00-2
Installation .....	0186 00-2
Removal .....	0186 00-1
Repair or Replacement .....	0186 00-2
Fuel Filter	
Coolant Heater	
Cleaning .....	0708 00-1
Installation .....	0708 00-2
Removal .....	0708 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Differential Pressure Switch	
Installation .....	0328 00-5
Removal .....	0328 00-1
Installation .....	0726 00-2
Personnel Heater	
M1064A3 Only	
Installation .....	0688 00-5
Removal .....	0688 00-1
M577A3 and M1068A3	
Installation .....	0700 00-3
Removal .....	0700 00-2
Primary and Secondary	
Installation .....	0203 00-3
Removal .....	0203 00-2
Primary and Secondary Elements	
Installation .....	0202 00-6
Removal .....	0202 00-2
Removal .....	0726 00-1
Fuel Line	
Lower, Air Box Heater	
Installation .....	0206 00-3
Removal .....	0206 00-2
Personnel Heater	
Bleed Air From System .....	0679 00-1
Smoke Generator	
Installation .....	0765 00-4
Removal .....	0765 00-1
Fuel Pump	
Coolant Heater	
Assembly .....	0709 00-2
Cleaning .....	0709 00-2
Disassembly .....	0709 00-1
Installation .....	0723 00-3
Removal .....	0723 00-1
Engine	
Cleaning .....	0166 00-2
Inspection-Acceptance and Rejection Criteria .....	0166 00-3
Installation .....	0166 00-4
Removal .....	0166 00-1
Repair or Replacement .....	0166 00-3
Hose	
Coolant Heater	
Installation .....	0711 00-2
Removal .....	0711 00-1
Personnel Heater	
Installation .....	0689 00-3
Removal .....	0689 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Fuel Quantity Transmitter	
All Except M577A3 and M1068A3	
Inspection-Acceptance and Rejection Criteria .....	0190 00-2
Installation .....	0190 00-3
Removal .....	0190 00-1
Repair or Replacement .....	0190 00-2
M577A3 and M1068A3	
Cleaning .....	0191 00-1
Installation .....	0191 00-1
Removal .....	0191 00-1
Fuel Return Hoses	
Engine	
Installation .....	0201 00-3
Removal .....	0201 00-1
M1064A3 Only	
Installation .....	0197 00-9
Removal .....	0197 00-1
M113A3, M1059A3, and M58	
Installation .....	0195 00-8
Removal .....	0195 00-2
M577A3 and M1068A3	
Installation .....	0196 00-4
Removal .....	0196 00-1
Fuel Return Pressure Transducer	
Installation .....	0325 00-2
Removal .....	0325 00-1
Fuel Select Switch to Gauge Lead	
Inspection-Acceptance and Rejection Criteria .....	0281 00-2
Installation .....	0281 00-2
Removal .....	0281 00-1
Fuel Selector Switch	
Installation .....	0277 00-3
Removal .....	0277 00-1
Fuel Shutoff Valve	
Auxiliary Power Unit	
Installation .....	0676 00-3
Removal .....	0676 00-2
Coolant Heater	
Installation .....	0720 00-3
Removal .....	0720 00-1
Personnel Heater	
Installation .....	0684 00-3
Removal .....	0684 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Fuel Supply	
Hoses, Tubes, and Fittings	
M1064A3 Only	
Installation .....	0194 00-9
Removal .....	0194 00-2
M113A3, M1059A3, and M58	
Installation .....	0192 00-9
Removal .....	0192 00-2
M577A3 and M1068A3	
Installation .....	0193 00-5
Removal .....	0193 00-1
Pressure Transducer	
Installation .....	0324 00-2
Removal .....	0324 00-1
Fuel Supply Hoses	
Auxiliary Power Unit Bulkhead-to-Hull	
Installation .....	0678 00-4
Removal .....	0678 00-1
Auxiliary Power Unit Valve-to-Bulkhead	
Installation .....	0677 00-4
Removal .....	0677 00-2
Engine	
Installation .....	0200 00-3
Removal .....	0200 00-1
Fuel Tank	
Access Covers	
All Except M577A3 and M1068A3	
Installation .....	0187 00-2
Removal .....	0187 00-1
M577A3 and M1068A3	
Installation .....	0188 00-2
Removal .....	0188 00-1
All Except M577A3 and M1068A3	
Installation .....	0179 00-5
Removal .....	0179 00-2
Servicing .....	0177 00-1
Drain Plugs	
Installation .....	0187 00-2
Removal .....	0187 00-1
Filler Cover and Lock	
All Except M577A3 and M1068A3	
Installation .....	0182 00-2
Removal .....	0182 00-1
M577A3 and M1068A3	
Installation .....	0183 00-2
Removal .....	0183 00-1
Filler Flange	
Installation .....	0189 00-2
Removal .....	0189 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M577A3 and M1068A3	
Installation .....	0180 00-4
Removal .....	0180 00-1
Servicing .....	0178 00-1
Repair or Replacement .....	0181 00-1
Fuel Tube, Personnel Heater	
Installation .....	0686 00-2
Removal .....	0686 00-1
Fuel Valve, Mounting Blocks	
Installation .....	0199 00-3
Removal .....	0199 00-1
Fuel Vent Hoses, Tubes, and Fittings	
Installation .....	0198 00-4
Removal .....	0198 00-1
<b>G</b>	
Gasket	
Adapter Access Plate, Smoke Generator	
Installation .....	0766 00-3
Removal .....	0766 00-1
Turbine Access Door	
Installation .....	0486 00-1
Removal .....	0486 00-1
Gauges, Instrument Panel	
Installation .....	0285 00-2
Removal .....	0285 00-1
General Information	
Destruction of Army Materiel to Prevent Enemy Use .....	0001 00-5
List of Abbreviations/Acronyms .....	0001 00-7
Maintenance Forms, Records, and Reports .....	0001 00-5
Metric Equivalents .....	0001 00-8
Nomenclature Cross-Reference .....	0001 00-5
Preparation for Storage or Shipment .....	0001 00-5
Reporting Equipment Improvement Recommendations (EIR) .....	0001 00-5
Safety, Care, and Handling .....	0001 00-9
Scope .....	0001 00-1
Generator	
Drive Belt	
Adjustment .....	0252 00-2
Installation .....	0253 00-1
Removal .....	0253 00-1
Field Pressure Switch	
Inspection-Acceptance and Rejection Criteria .....	0323 00-1
Installation .....	0323 00-2
Removal .....	0323 00-1
Installation .....	0255 00-4
Removal .....	0255 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Turnbuckle Parts	
Installation .....	0254 00-2
Removal .....	0254 00-1
Variable Speed Drive	
Installation .....	0249 00-3
Removal .....	0249 00-2
Generator Set, Enclosure	
Installation .....	0674 00-3
Removal .....	0674 00-2
Glow Plug	
Cable Assembly, Smoke Generator	
Installation .....	0772 00-4
Removal .....	0772 00-2
Controller	
Installation .....	0210 00-3
Removal .....	0210 00-1
Controller Mounting Bracket	
Installation .....	0212 00-2
Removal .....	0212 00-1
Harness and Glow Plugs	
Installation .....	0209 00-3
Removal .....	0209 00-1
Power Harness	
Installation .....	0211 00-2
Removal .....	0211 00-1
Governor Assembly	
Installation .....	0397 00-3
Removal .....	0397 00-1
Grenade Stowage Box	
Installation .....	0610 00-1
Removal .....	0610 00-1
Grill	
Air Intake Elbow and Hose	
Installation .....	0174 00-2
Removal .....	0174 00-1
Power Plant	
Installation .....	0465 00-3
Lower .....	0464 00-8
Raise .....	0464 00-1
Removal .....	0465 00-1
Support Arm	
Installation .....	0467 00-2
Removal .....	0467 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Ground Lead	
Auxiliary Power (Slave) Receptacle	
Installation .....	0379 00-3
Removal .....	0379 00-1
Horn	
Installation .....	0336 00-3
Removal .....	0336 00-1
Ground Strap, W12	
Installation .....	0846 00-2
Removal .....	0846 00-1
Guard	
Antenna	
Installation .....	0575 00-2
Removal .....	0575 00-1
Driver's Hatch Night Vision	
All Except M58	
Installation .....	0536 00-1
Removal .....	0536 00-1
M58 Only	
Installation .....	0536 01-2
Removal .....	0536 01-1
Headlight	
Installation .....	0446 00-2
Removal .....	0446 00-1
Stoplight-Taillight	
Installation .....	0298 00-4
Removal .....	0298 00-1
<b>H</b>	
Hand Throttle Control Cable	
Installation .....	0219 00-4
Removal .....	0219 00-1
Handle and Arms, Ramp Lock	
Installation .....	0524 00-2
Removal .....	0524 00-1
Harness	
Cascade Remote	
Installation .....	0847 00-3
Removal .....	0847 00-1
W32	
Installation .....	0848 00-4
Removal .....	0848 00-1
Hatch, Mortar, Interior Release Mechanism	
Installation .....	0481 00-3
Removal .....	0481 00-1

## INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Headlight	
Blackout	
Assembly .....	0306 00-2
Disassembly .....	0306 00-1
Installation .....	0305 00-2
Removal .....	0305 00-1
Guard	
Installation .....	0446 00-2
Removal .....	0446 00-1
High Beam Selector Switch	
Installation .....	0333 00-2
Removal .....	0333 00-1
Service and Infrared	
Assembly .....	0304 00-3
Disassembly .....	0304 00-2
Inspection .....	0304 00-1
Installation .....	0303 00-2
Removal .....	0303 00-1
Wiring Harness, Right	
Inspect and Repair .....	0373 00-3
Installation .....	0373 00-3
Removal .....	0373 00-1
Heat Exchanger	
Battery Box	
Installation .....	0718 00-2
Removal .....	0718 00-1
Battery Drawer	
Cleaning .....	0719 00-2
Inspection-Acceptance and Rejection Criteria .....	0719 00-2
Installation .....	0719 00-2
Removal .....	0719 00-1
Heat Shield, Turbo Exhaust Pipe, Left/Right	
Installation .....	0226 00-3
Removal .....	0226 00-1
Heater, Water/Ration Mount Bracket	
Installation .....	0811 00-2
Removal .....	0811 00-1
Hinges, Turbine Access Door	
Installation .....	0487 00-3
Removal .....	0487 00-2
Hold-Open Hook and Bumper	
Cargo Hatch	
Installation .....	0474 00-3
Removal .....	0474 00-2
Commander's Cupola	
Installation .....	0494 00-2
Removal .....	0494 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Driver's Hatch	
M113A3, M1059A3, M1064A3, and M58	
Installation .....	0532 00-2
Removal .....	0532 00-1
M577A3 and M1068A3	
Cleaning .....	0533 00-2
Installation .....	0533 00-3
Removal .....	0533 00-1
Repair or Replacement .....	0533 00-2
Hook and Bumper, Commander's Hatch	
Installation .....	0501 00-4
Removal .....	0501 00-2
Hopper Hatch	
Adjustment .....	0484 00-4
Installation .....	0484 00-3
Lock Assembly	
Adjustment .....	0483 00-2
Assembly .....	0483 00-2
Disassembly .....	0483 00-1
Removal .....	0484 00-1
Horizontal Ammunition Rack	
Assembly .....	0607 00-4
Cleaning .....	0607 00-4
Disassembly .....	0607 00-1
Inspection-Acceptance and Rejection Criteria .....	0607 00-4
Installation .....	0606 00-2
Removal .....	0606 00-1
Horn	
Ground Lead	
Installation .....	0336 00-3
Removal .....	0336 00-1
Switch	
All Except M58	
Installation .....	0293 00-2
Removal .....	0293 00-1
M58 Only	
Installation .....	0293 01-2
Removal .....	0293 01-1
Hose	
Auxiliary Power Unit Bulkhead-to-Hull Fuel Supply	
Installation .....	0678 00-4
Removal .....	0678 00-1
Battery Plate to Battery Plate	
Installation .....	0722 00-2
Removal .....	0722 00-1
Bulkhead to Ramp Cylinder	
Installation .....	0665 00-2
Removal .....	0665 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Coolant Heater	
Engine to Battery Box	
Installation .....	0714 00-4
Removal .....	0714 00-2
Filter Valve	
Installation .....	0716 00-2
Removal .....	0716 00-1
Fuel Inlet	
Installation .....	0712 00-3
Removal .....	0712 00-1
Fuel Pump	
Installation .....	0711 00-2
Removal .....	0711 00-1
Pump to Battery Box	
Installation .....	0713 00-3
Removal .....	0713 00-1
Coolant Heater to Engine Elbow	
Installation .....	0715 00-2
Removal .....	0715 00-1
Coolant Heater to Surge Tank	
Installation .....	0725 00-1
Removal .....	0725 00-1
Engine	
Fuel Return	
Installation .....	0201 00-3
Removal .....	0201 00-1
Fuel Supply	
Installation .....	0200 00-3
Removal .....	0200 00-1
Fuel Pump Tee to Elbow	
Installation .....	0721 00-3
Removal .....	0721 00-1
Fuel Pump to Bulkhead Connection	
Installation .....	0691 00-2
Removal .....	0691 00-1
Fuel Vent	
Installation .....	0198 00-4
Removal .....	0198 00-1
Personnel Heater	
M1064A3 Only	
Installation .....	0688 00-5
Removal .....	0688 00-1
M577A3 and M1068A3	
Installation .....	0700 00-3
Removal .....	0700 00-2
Personnel Heater Fuel Pump	
Installation .....	0689 00-3
Removal .....	0689 00-2
Quick Disconnect to Adapter Access Plate, Fog Oil Tank	
Installation .....	0769 00-2
Removal .....	0769 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Thermostat to Variable Speed Fan Drive	
Installation .....	0250 00-4
Removal .....	0250 00-2
Upper Coolant and Tube	
Installation .....	0232 00-4
Removal .....	0232 00-2
Variable Speed Drive Override Switch	
Installation .....	0251 01-2
Removal .....	0251 01-1
Hose Assemblies, NBC	
Installation .....	0915 00-3
Removal .....	0915 00-1
Hoses, Tubes, and Fittings	
Fuel Supply	
M1064A3 Only	
Installation .....	0194 00-9
Removal .....	0194 00-2
M113A3, M1059A3, and M58	
Installation .....	0192 00-9
Removal .....	0192 00-2
M577A3 and M1068A3	
Installation .....	0193 00-5
Removal .....	0193 00-1
Hull, Welding	
Aluminum Castings .....	0529 00-1
Fuel Tanks .....	0529 00-3
General Welding Instructions .....	0529 00-4
Magnesium Castings .....	0529 00-2
MIG Welding Method .....	0529 00-5
Plastic Molding Material .....	0529 00-3
Safety Precautions .....	0529 00-1
Welding Near Mortar Ring (M1064A3 Only) .....	0529 00-4
Hydraulic Hoses, Power Plant	
Installation .....	0668 00-3
Removal .....	0668 00-1
Hydraulic Pump, Ramp	
Installation .....	0655 00-3
Removal .....	0655 00-2
Hydraulic Reservoir	
Assembly .....	0672 00-3
Breather	
Cleaning .....	0670 00-2
Installation .....	0670 00-2
Removal .....	0670 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>	
Clean, Inspect, and Repair .....	0669 00-2	
Disassembly .....	0672 00-1	
Installation .....	0669 00-3, 0671 00-3	
Removal .....	0669 00-1, 0671 00-1	
 <b>I</b> 		
Idler		
Arm		
Installation .....	0246 00-2	
Removal .....	0246 00-1	
Pulley/Belts, Coolant Pump		
Installation .....	0240 00-2	
Removal .....	0240 00-1	
Wheel		
Installation .....	0425 00-2	
Removal .....	0425 00-1	
Wheel Arm Assembly		
Installation .....	0417 00-2	
Removal .....	0417 00-1	
Wheel Arm Bearings and Seals		
Cleaning .....	0418 00-2	
Installation .....	0418 00-2	
Removal .....	0418 00-1	
Igniter		
Inspection-Acceptance and Rejection Criteria .....	0730 00-2	
Installation .....	0730 00-2	
Removal .....	0730 00-1	
Ignition Coil, Air Box Heater		
Installation .....	0208 00-3	
Removal .....	0208 00-1	
Indicator Lights		
Installation .....	0286 00-3	
Removal .....	0286 00-1	
Indicators Schematic .....		0046 00-1
Instrument Panel		
All Except M58		
Installation .....	0279 00-5	
Removal .....	0279 00-2	
Gauges		
Installation .....	0285 00-2	
Removal .....	0285 00-1	
M58 Only		
Installation .....	0279 01-5	
Removal .....	0279 01-1	
Mounts and Ground Lead		

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
All Except M58	
Installation .....	0295 00-4
Removal .....	0295 00-2
M58 Only	
Installation .....	0295 01-2
Removal .....	0295 01-1
On-Off Switches	
Installation .....	0282 00-3
Removal .....	0282 00-1
Special Purpose Cable	
Installation .....	0290 00-5
Removal .....	0290 00-1
Warning Lights	
Inspection-Acceptance and Rejection Criteria .....	0287 00-3
Installation .....	0287 00-4
Removal .....	0287 00-2
Instrument Warning Light Panel	
All Except M58	
Installation .....	0292 00-2
Removal .....	0292 00-1
M58 Only	
Installation .....	0288 00-2
Removal .....	0288 00-1
Intercom Amplifier	
Installation .....	0888 00-2
Removal .....	0888 00-1
Intercommunications Set Control	
Installation .....	0885 00-2
Removal .....	0885 00-1
Interior Latch	
Cargo Hatch	
Adjustment .....	0475 00-5
Installation .....	0475 00-3
Removal .....	0475 00-1
Commander's Cupola	
Installation .....	0496 00-2
Removal .....	0496 00-1
Commander's Hatch	
Adjustment .....	0502 00-2
Installation .....	0502 00-2
Removal .....	0502 00-1
Driver's Hatch	
Installation .....	0534 00-2
Removal .....	0534 00-1
Inverter	
AC Cable (W5)	



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Installation .....	0839 00-3
Removal .....	0839 00-1
DC Cable (W6)	
Installation .....	0840 00-3
Removal .....	0840 00-1
Housing A2 Terminal Blocks TB1 and TB2	
Installation .....	0830 00-4
Removal .....	0830 00-1
<b>J</b>	
Jump Seat, Commander's	
Installation .....	0563 00-3
Removal .....	0563 00-1
<b>K</b>	
Kits	
Litter	
Installation .....	0741 00-1
Mine Armor	
Cover Armor Plate	
Install .....	0752 00-5
Remove .....	0752 00-7
Mine Armor Plate	
Install .....	0752 00-1
Remove .....	0752 00-7
Sponson Armor Plate	
Install .....	0752 00-6
<b>L</b>	
Lamp, Transmission Range Controller	
Installation .....	0388 00-2
Removal .....	0388 00-1
LAN	
Cable (W40) Single Point	
Installation .....	0851 00-3
Removal .....	0851 00-1
Cable, A or B (W103/W104)	
Installation .....	0854 00-3
Removal .....	0854 00-1
Ground Box Assembly A15	
Assembly .....	0821 00-2
Disassembly .....	0821 00-1
Installation .....	0820 00-2
Removal .....	0820 00-1
Lanyard and Pin, Quick Release, Steering Wheel	
Installation .....	0431 00-2
Removal .....	0431 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Lead	
Circuit 44A, Power Control Enclosure	
Installation .....	0829 00-3
Removal .....	0829 00-1
Circuit 49, Master Switch to Distribution Box	
M113A3, M1059A3, M1064A3, and M58	
Inspection-Acceptance and Rejection Criteria .....	0266 00-2
Installation .....	0266 00-3
Removal .....	0266 00-1
M577A3 and M1068A3	
Inspection-Acceptance and Rejection Criteria .....	0267 00-2
Installation .....	0267 00-3
Removal .....	0267 00-1
Circuit 50, Master Switch to Auxiliary Power Receptacle	
Inspection-Acceptance and Rejection Criteria .....	0268 00-2
Installation .....	0268 00-3
Removal .....	0268 00-1
Circuit 6, Battery to Master Switch	
M1064A3 Only	
Installation .....	0358 00-5
Removal .....	0358 00-1
M113A3 and M1059A3	
Installation .....	0356 00-4
Removal .....	0356 00-1
M577A3 and M1068A3	
Installation .....	0357 00-4
Removal .....	0357 00-1
Utility Outlet Assembly	
Inspect and Repair .....	0377 00-2
Installation .....	0377 00-2
Removal .....	0377 00-1
Lead Assembly, Master Switch Panel Dome Lights	
Installation .....	0380 00-3
Removal .....	0380 00-1
Leads and Terminals, Battery	
M1064A3 Only (Left Side)	
Cleaning .....	0343 00-5
Installation .....	0343 00-5
Removal .....	0343 00-1
M1064A3 Only (Right Side)	
Cleaning .....	0344 00-3
Installation .....	0344 00-4
Removal .....	0344 00-1
M113A3 and M1059A3	
Clean and Inspect .....	0340 00-3
Installation .....	0340 00-4
Removal .....	0340 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M577A3 and M1068A3	
Clean and Inspect .....	0341 00-3
Installation .....	0341 00-4
Removal .....	0341 00-1
M58 Only	
Cleaning .....	0345 00-3
Installation .....	0345 00-4
Removal .....	0345 00-1
Left Side Rack Base	
Installation .....	0616 00-3
Removal .....	0616 00-1
Lens, Dome Light	
Installation .....	0313 00-3
Removal .....	0313 00-1
Lever and Cable, Ramp Lock	
Cleaning, Inspect, and Repair .....	0525 00-3
Installation .....	0525 00-3
Removal .....	0525 00-1
Lid and Latches, External Communication Box A11	
Installation .....	0818 00-2
Removal .....	0818 00-1
Lifting Eye	
Installation .....	0444 00-1
Removal .....	0444 00-1
Light	
Blackout Marker	
Assembly .....	0308 00-2
Disassembly .....	0308 00-1
Installation .....	0307 00-2
Removal .....	0307 00-1
Dome	
All Except M577A3 and M1068A3	
Assembly .....	0310 00-3
Disassembly .....	0310 00-1
Installation .....	0309 00-2
Removal .....	0309 00-1
M577A3 and M1068A3	
Assembly .....	0312 00-3
Disassembly .....	0312 00-1
Installation .....	0311 00-3
Removal .....	0311 00-1
Instrument Panel Warning	
Inspection-Acceptance and Rejection Criteria .....	0287 00-3
Installation .....	0287 00-4
Removal .....	0287 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Left Stoplight-Taillight	
Assembly .....	0300 00-2
Disassembly .....	0300 00-1
Installation .....	0299 00-2
Removal .....	0299 00-1
Right Stoplight-Taillight	
Assembly .....	0302 00-2
Disassembly .....	0302 00-1
Installation .....	0301 00-2
Removal .....	0301 00-1
Switch, Main	
Installation .....	0283 00-2
Removal .....	0283 00-1
Warning Panel	
All Except M58	
Installation .....	0294 00-3
Removal .....	0294 00-1
M58 Only	
Inspection-Acceptance and Rejection Criteria .....	0294 01-2
Installation .....	0294 01-3
Removal .....	0294 01-2
Linkage	
Accelerator	
Adjustment .....	0214 00-1
Fuel Control	
Installation .....	0217 00-4
Removal .....	0217 00-1
Ramp	
M1064A3 Only	
Inspect and Repair .....	0528 00-3
Installation .....	0528 00-3
Removal .....	0528 00-1
M113A3 and M1059A3	
Installation .....	0526 00-3
Removal .....	0526 00-1
M577A3 and M1068A3	
Clean, Inspect, and Repair .....	0527 00-3
Installation .....	0527 00-3
Removal .....	0527 00-1
Service Brake Control	
Adjustment .....	0407 00-1
Installation .....	0410 00-7
Removal .....	0410 00-2
Steering Wheel	
Adjustment .....	0427 00-1
Installation .....	0430 00-6
Removal .....	0430 00-1
Trim Vane Control	
Assembly .....	0461 00-3
Disassembly .....	0461 00-1

**INDEX, cont'd**

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Litter Kit	
Chain Assembly	
Assembly .....	0745 00-4
Disassembly .....	0745 00-1
Installation .....	0744 00-2
Removal .....	0744 00-1
Installation .....	0741 00-1
Lock, Ramp	
M1064A3 Only	
Adjust Ramp Lock .....	0523 00-1
M113A3 and M1059A3	
Ramp Lock Adjustment .....	0521 00-2
Ramp Lock Test .....	0521 00-1
Ramp Seal Test .....	0521 00-1
M577A3 and M1068A3	
Adjust Ramp Lock .....	0522 00-1
<b>M</b>	
M13	
Air Purifier and Frame	
Installation .....	0779 00-3
Removal .....	0779 00-1
Filter Switch	
Installation .....	0805 00-2
Removal .....	0805 00-1
Filters and Hoses	
M1068A3 Only	
Installation .....	0789 00-4
Removal .....	0789 00-1
M577A3 Only	
Installation .....	0786 00-8
Removal .....	0786 00-2
Heater	
Installation .....	0798 00-4
Removal .....	0798 00-1
Hoses	
Installation .....	0790 00-6
Removal .....	0790 00-2
Orifice Connector Assembly, Bracket, and Quick Coupling Half	
Installation .....	0781 00-2
Removal .....	0781 00-1
Wiring Harness	
M1068A3 Only	
Installation .....	0809 00-6
Removal .....	0809 00-2
M577A3 Only	
Installation .....	0808 00-4
Removal .....	0808 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M14	
Cables and Switch Assembly	
Installation .....	0799 00-3
Removal .....	0799 00-1
Hoses and Brackets	
Installation .....	0783 00-4
Removal .....	0783 00-1
Wiring Harness	
Installation .....	0807 00-4
Removal .....	0807 00-1
M3	
Control Box	
M1068A3 Only	
Installation .....	0793 00-3
Removal .....	0793 00-1
Control Box, Regulator, and Bracket	
M113A3 Only	
Installation .....	0791 00-4
Removal .....	0791 00-1
Heaters and Controllers	
M1059A3 Only	
Installation .....	0797 00-6
Removal .....	0797 00-1
M113A3 Ambulance Only	
Installation .....	0795 00-4
Removal .....	0795 00-1
M113A3 Only	
Installation .....	0794 00-4
Removal .....	0794 00-2
Hoses and Fittings	
M1059A3 Only	
Installation .....	0788 00-5
Removal .....	0788 00-1
M113A3 Ambulance Only	
Installation .....	0784 00-4
Removal .....	0784 00-1
M113A3 Only	
Installation .....	0782 00-4
Removal .....	0782 00-1
Wiring Harness	
Installation .....	0806 00-3
Removal .....	0806 00-1
M8A3	
Hoses and Brackets	
Installation .....	0787 00-4
Removal .....	0787 00-1
M8A3/M14 Orifice Connector Assembly, Support, and Quick Coupling Half	
Installation .....	0780 00-4
Removal .....	0780 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M8A3/M3	
Filter Switch	
Installation .....	0804 00-3
Removal .....	0804 00-1
Machine Gun Mount	
Commander's Cupola	
Assembly .....	0498 00-2
Disassembly .....	0498 00-1
Installation .....	0497 00-1
Removal .....	0497 00-1
Stops	
Installation .....	0499 00-3
Removal .....	0499 00-1
Maintenance Allocation Chart (MAC) .....	0925 00-1
Map Board	
M1068A3 Only	
Installation .....	0618 00-3
Removal .....	0618 00-1
M577A3 Only	
Installation .....	0580 00-2
Removal .....	0580 00-1
Map Storage Box	
Assembly .....	0620 00-2
Disassembly .....	0620 00-1
Installation .....	0619 00-2
Removal .....	0619 00-1
Master Switch	
Installation .....	0262 00-2
Removal .....	0262 00-1
Master Switch Panel Assembly	
M113A3, M1059A3, M1064A3, and M58	
Installation .....	0260 00-4
Removal .....	0260 00-2
M577A3 and M1068A3	
Installation .....	0261 00-4
Removal .....	0261 00-1
Master Switch Panel, Dome Lights Lead Assembly	
Installation .....	0380 00-3
Removal .....	0380 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Master Switch to Auxiliary Power Receptacle Lead, Circuit 50	
Inspection-Acceptance and Rejection Criteria .....	0268 00-2
Installation .....	0268 00-3
Removal .....	0268 00-1
Master Switch to Distribution Box Lead, Circuit 49	
M113A3, M1059A3, M1064A3, and M58	
Inspection-Acceptance and Rejection Criteria .....	0266 00-2
Installation .....	0266 00-3
Removal .....	0266 00-1
M577A3 and M1068A3	
Inspection-Acceptance and Rejection Criteria .....	0267 00-2
Installation .....	0267 00-3
Removal .....	0267 00-1
Mine Armor Kit	
Cover Armor Plate	
Install .....	0752 00-5
Remove .....	0752 00-7
Mine Armor Plate	
Install .....	0752 00-1
Remove .....	0752 00-7
Sponson Armor Plate	
Install .....	0752 00-6
Mortar Base Stowage Bracket	
Installation .....	0615 00-3
Removal .....	0615 00-1
Mortar Fire Control System	
Commander's Interface Bracket Assembly	
M1064A3 Only	
Installation .....	0812 03-3
Removal .....	0812 03-2
Repair .....	0812 03-3
M577A3 Only	
Installation .....	0812 02-3
Removal .....	0812 02-1
Repair .....	0812 02-3
DAGR Holder Mounting Bracket and Shock Isolator	
Installation .....	0812 16-2
Removal .....	0812 16-1
General Maintenance .....	0812 01-1
Gunner's Display, Alternate Location	
Installation .....	0812 15-2
Removal .....	0812 15-1
M1064A3 Only	
Cables	
Installation .....	0812 14-14
Removal .....	0812 14-1
Repair .....	0812 14-13



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Driver's Display Assembly (M1064 Only)	
Disassembly .....	0812 10-2
Installation .....	0812 10-6
Removal .....	0812 10-1
Repair or Replacement .....	0812 10-3
Driver's Display Exterior Mounting Ball	
Installation .....	0812 11-2
Removal .....	0812 11-1
Repair .....	0812 11-1
Power Distribution Assembly	
Installation .....	0812 05-3
Removal .....	0812 05-2
Repair .....	0812 05-2
Precision Lightweight GPS Receiver (PLGR) and Bracket	
Installation .....	0812 08-3
Removal .....	0812 08-1
Repair .....	0812 08-2
Precision Lightweight GPS Receiver (PLGR) Antenna and Antenna Bracket	
Installation .....	0812 09-2
Removal .....	0812 09-1
Repair .....	0812 09-2
Travel Lock Adapter	
Installation .....	0812 13-2
Removal .....	0812 13-1
Repair .....	0812 13-2
Vehicle Motion Sensor Assembly	
Installation .....	0812 12-3
Removal .....	0812 12-1
Repair .....	0812 12-2
M577A3	
Cable Hanger	
Installation .....	0812 06-2
Removal .....	0812 06-1
Repair .....	0812 06-1
M577A3 Only	
Installation .....	0812 07-6
Power Distribution Assembly	
Installation .....	0812 04-3
Removal .....	0812 04-2
Repair .....	0812 04-3
Removal .....	0812 07-1
Repair .....	0812 07-5
Mortar Hatch	
Cover	
Installation .....	0482 00-3
Removal .....	0482 00-2
Exterior Catches and Bumpers	
Adjustment .....	0480 00-5
Installation .....	0480 00-4
Removal .....	0480 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Interior Release Mechanisms	
Installation .....	0481 00-3
Removal .....	0481 00-1
Mount	
AC and DC Power Extension Boxes A6 and A9	
Installation .....	0834 00-3
Removal .....	0834 00-1
Commander's Cupola Machine Gun	
Installation .....	0497 00-1
Removal .....	0497 00-1
Dome Light	
Assembly .....	0312 00-3
Disassembly .....	0312 00-1
Installation .....	0311 00-3
Removal .....	0311 00-1
Driver's Hatch Night Vision	
Installation .....	0537 01-3
Removal .....	0537 01-2
Driver's Night Vision	
Installation .....	0537 00-2
Removal .....	0537 00-1
Engine	
Installation .....	0158 00-2
Removal .....	0158 00-1
Fixed Fire Extinguisher	
Installation .....	0898 00-4
Removal .....	0898 00-2
Portable Fire Extinguisher	
All Except M1068A3	
Installation .....	0895 00-3
Removal .....	0895 00-1
M1059A3 Only	
Inspection-Acceptance and Rejection Criteria .....	0896 00-3
Installation .....	0896 00-3
Removal .....	0896 00-1
M1068A3 Only	
Assembly .....	0897 00-4
Disassembly .....	0897 00-3
Installation .....	0897 00-5
Removal .....	0897 00-1
Printer	
Installation .....	0823 00-3
Removal .....	0823 00-1
Ramp Door Switch	
Adjustment .....	0335 00-4
Inspection-Acceptance and Rejection Criteria .....	0335 00-2
Installation .....	0335 00-3
Removal .....	0335 00-1
Shock Absorber	
Installation .....	0436 00-2
Removal .....	0436 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Transmission	
Installation .....	0385 00-3
Removal .....	0385 00-1
Mount and Bracket, APIU Rack	
Installation .....	0813 00-2
Removal .....	0813 00-1
Mounting Blocks, Fuel Valve	
Installation .....	0199 00-3
Removal .....	0199 00-1
Mounting Bracket	
Commander's Display (DVE)	
Installation .....	0866 06-5
Removal .....	0866 06-1
Driver's Display (DVE)	
Installation .....	0866 02-5
Removal .....	0866 02-1
NBC Filter	
Installation .....	0803 00-3
Removal .....	0803 00-2
NBC Orifice Connector Assembly	
Installation .....	0916 00-5
Removal .....	0916 00-1
Water/Ration Heater	
Installation .....	0811 00-2
Removal .....	0811 00-1
Mounts and Ground Lead, Instrument Panel	
All Except M58	
Installation .....	0295 00-4
Removal .....	0295 00-2
M58 Only	
Installation .....	0295 01-2
Removal .....	0295 01-1
Muffler	
Exhaust and Bracket	
Installation .....	0224 00-2
Removal .....	0224 00-1
Extension and Cap	
Installation .....	0223 00-3
Removal .....	0223 00-1
N	
NBC	
Air Purifier and Frame	
M1059A3 Only	
Installation .....	0777 00-2
Removal .....	0777 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M1059A3 Only with M3 Heater	
Installation .....	0778 00-3
Removal .....	0778 00-1
M113A3 Only	
Installation .....	0775 00-2
Removal .....	0775 00-1
M577A3 Only	
Installation .....	0776 00-2
Removal .....	0776 00-1
M58 Only	
Installation .....	0914 00-2
Removal .....	0914 00-1
Cable Assembly	
M113A3 Only	
Installation .....	0800 00-3
Removal .....	0800 00-1
M58 Only	
Installation .....	0917 00-3
Removal .....	0917 00-1
Filter Switch	
M1059A3 Only	
Installation .....	0804 00-3
Removal .....	0804 00-1
M1068A3 Only	
Installation .....	0805 00-2
Removal .....	0805 00-1
M113A3 Only	
Installation .....	0802 00-3
Removal .....	0802 00-1
M577A3 Only	
Installation .....	0803 00-3
Removal .....	0803 00-2
Heaters and Controllers	
M1059A3 Only	
Installation .....	0797 00-6
Removal .....	0797 00-1
M113A3 Ambulance Only	
Installation .....	0795 00-4
Removal .....	0795 00-1
M113A3 Only	
Installation .....	0794 00-4
Removal .....	0794 00-2
Heaters and Mounts	
M577A3 Only	
Installation .....	0796 00-4
Removal .....	0796 00-2
Hoses	
M1068A3 Only	
Installation .....	0790 00-6
Removal .....	0790 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M113A3 Ambulance Only	
Installation .....	0783 00-4
Removal .....	0783 00-1
M58 Only	
Installation .....	0915 00-3
Removal .....	0915 00-1
M13 Filters and Hoses	
M1068A3 Only	
Installation .....	0789 00-4
Removal .....	0789 00-1
M577A3 Only	
Installation .....	0786 00-8
Removal .....	0786 00-2
M13 Heater	
Installation .....	0798 00-4
Removal .....	0798 00-1
M14 Air Purifier and Frame	
M113A3 Only	
Installation .....	0774 00-2
Removal .....	0774 00-1
M3 Control Box, Regulator, and Bracket	
Installation .....	0791 00-4
Removal .....	0791 00-1
M3 Heater Control Box	
M1068A3 Only	
Installation .....	0793 00-3
Removal .....	0793 00-1
M3 Hoses and Fittings	
M1059A3 Only	
Installation .....	0788 00-5
Removal .....	0788 00-1
M113A3 Ambulance Only	
Installation .....	0784 00-4
Removal .....	0784 00-1
M113A3 Only	
Installation .....	0782 00-4
Removal .....	0782 00-1
M8A3 Hoses and Brackets	
Installation .....	0787 00-4
Removal .....	0787 00-1
Orifice Connector Assembly, Mounting Bracket, and Switch	
Installation .....	0916 00-5
Removal .....	0916 00-1
Wiring Harness	
M1059A3 Only	
Installation .....	0806 00-3
Removal .....	0806 00-1
M1068A3 Only	
Installation .....	0809 00-6
Removal .....	0809 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M113A3 Ambulance Only	
Installation .....	0807 00-4
Removal .....	0807 00-1
M577A3 Only	
Installation .....	0808 00-4
Removal .....	0808 00-2
Night Vision Guard, Driver's Hatch	
All Except M58	
Installation .....	0536 00-1
Removal .....	0536 00-1
M58 Only	
Installation .....	0536 01-2
Removal .....	0536 01-1
Non-Skid Plates	
Installation .....	0738 00-2
Removal .....	0738 00-1
<b>O</b>	
Oil Can Bracket	
Installation .....	0574 00-1
Removal .....	0574 00-1
Oil Cooler Hoses, Fittings, and Mounting (Transmission)	
Installation .....	0399 00-8
Removal .....	0399 00-1
Oil Filter Element	
Cleaning .....	0165 00-1
Installation .....	0165 00-2
Removal .....	0165 00-1
Oil Gauge Rod/Tube	
Installation .....	0164 00-2
Removal .....	0164 00-1
On-Off Switches, Instrument Panel	
Installation .....	0282 00-3
Removal .....	0282 00-1
Operator's Intercommunication Set Cable	
Installation .....	0894 00-2
Removal .....	0894 00-1
Operator's Seat	
Assembly .....	0567 00-3
Disassembly .....	0567 00-2
Installation .....	0567 00-4
Removal .....	0567 00-1

**INDEX, cont'd**

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Orifice Connector Assembly, Support, and Quick Coupling Half, M8A3/M14	
Installation .....	0780 00-4
Removal .....	0780 00-1
Outlet	
Rear Utility Receptacle	
Inspect and Repair .....	0378 00-2
Installation .....	0378 00-2
Removal .....	0378 00-1
<b>P</b>	
Pad	
Cushioning	
Installation .....	0570 00-1
Removal .....	0570 00-1
Track Shoe	
T130	
Installation .....	0424 00-2
Removal .....	0424 00-1
T150	
Installation .....	0424 01-2
Removal .....	0424 01-1
Pamphlet Bag Mounting	
Installation .....	0442 00-2
Removal .....	0442 00-1
Panel	
Driver's Power Plant Access	
Installation .....	0441 00-3
Removal .....	0441 00-1
Lights	
Installation .....	0286 00-3
Removal .....	0286 00-1
Panel Assembly	
Instrument	
All Except M58	
Installation .....	0279 00-5
Removal .....	0279 00-2
M58 Only	
Installation .....	0279 01-5
Removal .....	0279 01-1
Parking Brake	
Adjustment .....	0408 00-1
Control Cable Assembly	
Installation .....	0411 00-4
Removal .....	0411 00-1
Control Lever Assembly	
Installation .....	0412 00-3
Removal .....	0412 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Switch/Bracket	
Clean and Inspect .....	0331 00-3
Installation .....	0331 00-3
Removal .....	0331 00-1
Periscope Stowage Box	
Installation .....	0611 00-2
Removal .....	0611 00-1
Personnel Heater	
Air Intake and Exhaust Pipes	
All Except M1064A3	
Installation .....	0682 00-3
Removal .....	0682 00-1
M1064A3 Only	
Installation .....	0683 00-3
Removal .....	0683 00-1
All Except M1064A3	
Installation .....	0703 00-4
Removal .....	0703 00-1
Control Box	
Assembly .....	0702 00-5
Disassembly .....	0702 00-1
Installation .....	0701 00-3
Removal .....	0701 00-1
Repair or Replacement .....	0702 00-4
Control Box and Intercom Box Bracket	
Installation .....	0617 00-2
Removal .....	0617 00-1
Duct	
Installation .....	0706 00-3, 0707 00-2
Removal .....	0706 00-2, 0707 00-1
Fuel Filter	
Clean, Inspection, and Repair .....	0680 00-3
Installation .....	0680 00-3
Removal .....	0680 00-2
Fuel Filter/Bracket	
Installation .....	0698 00-2
Removal .....	0698 00-1
Fuel Line	
Bleed Air From System .....	0679 00-1
Fuel Pump	
Assembly .....	0681 00-2
Cleaning .....	0681 00-2
Disassembly .....	0681 00-2
M1064A3 Only	
Installation .....	0697 00-3
Removal .....	0697 00-1
M113A3, M1059A3, and M58	
Installation .....	0695 00-2
Removal .....	0695 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M577A3 and M1068A3	
Installation .....	0696 00-4
Removal .....	0696 00-1
Fuel Pump Hose	
Installation .....	0689 00-3
Removal .....	0689 00-2
Fuel Supply Hoses	
Installation .....	0685 00-3
Removal .....	0685 00-2
Fuel Tube	
Installation .....	0686 00-2
Removal .....	0686 00-1
Heater Assembly	
Repair or Replacement .....	0705 00-1
Hose	
Fuel Pump to Bulkhead Connection	
Installation .....	0692 00-3
Removal .....	0692 00-2
Fuel Pump to Fuel Shutoff Valve	
Installation .....	0694 00-3
Removal .....	0694 00-1
Fuel Tank to Fuel Pump	
Installation .....	0690 00-3
Removal .....	0690 00-2
M1064A3 Only	
Installation .....	0704 00-5
Removal .....	0704 00-2
Schematic .....	0085 00-1
Tube, Bulkhead Connection to Heater	
Installation .....	0687 00-3
Removal .....	0687 00-1
Wiring Harness Guide	
Installation .....	0707 01-3
Removal .....	0707 01-1
Personnel Seats, Backrests, Cushions, and Belts	
M1059A3 Only	
Installation .....	0549 00-3
Removal .....	0549 00-1
M1064A3 Only	
Installation .....	0550 00-3
Removal .....	0550 00-1
Personnel Seats, Cushions, and Belts	
M113A3 Only	
Installation .....	0546 00-2
Removal .....	0546 00-1
M577A3 Only	
Installation .....	0547 00-3
Removal .....	0547 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
<b>Pin</b>	
Shock Absorber	
Installation .....	0437 00-2
Removal .....	0437 00-1
Spall Liner Quick Release	
Installation .....	0506 00-3
Removal .....	0506 00-1
Steering Wheel Quick Release	
Installation .....	0431 00-2
Removal .....	0431 00-1
<b>Pintle, Towing</b>	
Assembly .....	0434 00-2
Disassembly .....	0434 00-1
Installation .....	0433 00-2
Removal .....	0433 00-1
<b>Pipes</b>	
Coolant Heater Exhaust	
Installation .....	0724 00-2
Removal .....	0724 00-1
Front Bilge Pump	
Installation .....	0631 00-3
Removal .....	0631 00-1
Rear Bilge Pump	
Installation .....	0634 00-2
Removal .....	0634 00-1
<b>Plates</b>	
Driver's Compartment Floor	
Cleaning .....	0453 00-2
Installation .....	0453 00-2
Removal .....	0453 00-1
Non-Skid	
Installation .....	0738 00-2
Removal .....	0738 00-1
Rear Tiedown	
Installation .....	0445 00-2
Removal .....	0445 00-1
Spall Liner	
Installation .....	0506 00-3
Removal .....	0506 00-1
<b>Platform, Commander's</b>	
M113A3, M1059A3, M1064A3, and M58	
Assembly .....	0559 00-4
Disassembly .....	0559 00-2
Installation .....	0559 00-6
Removal .....	0559 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M577A3 and M1068A3	
Assembly .....	0564 00-3
Disassembly .....	0564 00-2
Inspection-Acceptance and Rejection Criteria .....	0564 00-3
Installation .....	0564 00-4
Removal .....	0564 00-1
Plug	
Final Drive Hull Drain	
Installation .....	0452 00-2
Removal .....	0452 00-1
Hull Drain	
Installation .....	0451 00-2
Removal .....	0451 00-1
Post	
Commander's	
Assembly .....	0564 00-3
Disassembly .....	0564 00-2
Inspection-Acceptance and Rejection Criteria .....	0564 00-3
Installation .....	0564 00-4
M1064A3 Only	
Installation .....	0561 00-2
Removal .....	0561 00-1
M113A3, M1059A3, and M58	
Installation .....	0560 00-3
Removal .....	0560 00-1
Removal .....	0564 00-1
Driver's Seat	
Assembly .....	0557 00-4
Disassembly .....	0557 00-1
Installation .....	0556 00-2
Removal .....	0556 00-1
Post Assembly	
Assembly .....	0743 00-2
Disassembly .....	0743 00-1
Installation .....	0742 00-3
Removal .....	0742 00-1
Power Cable	
DVE Sensor Set Assembly	
Installation .....	0866 01-2
Removal .....	0866 01-1
Test and Inspection .....	0866 01-1
Intervehicle	
Assembly .....	0381 00-2
Disassembly .....	0381 00-1
Water/Ration Heater	
Installation .....	0810 00-3
Removal .....	0810 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Power Control Enclosure	
AC and DC Meters and Light Indicators	
Installation .....	0827 00-4
Removal .....	0827 00-1
Circuit 44A Lead	
Installation .....	0829 00-3
Removal .....	0829 00-1
Faceplate and Bracket	
Assembly .....	0828 00-8
Disassembly .....	0828 00-1
Power Control Enclosure Assembly, A1	
Installation .....	0826 00-3
Removal .....	0826 00-1
Power Distribution	
Box A3	
Assembly .....	0831 00-3
Disassembly .....	0831 00-3
Installation .....	0831 00-4
Removal .....	0831 00-1
Cable (W3)	
Installation .....	0837 00-3
Removal .....	0837 00-1
Power Entry Box Assembly A4	
Installation .....	0832 00-3
Removal .....	0832 00-1
Power Extension Box A18 and Bracket	
Installation .....	0836 00-2
Removal .....	0836 00-1
Power Plant	
Block	
Jacking .....	0157 00-1
Bottom Access Cover	
Cleaning .....	0450 00-2
Installation .....	0450 00-3
Removal .....	0450 00-1
Door	
Adjustment .....	0472 00-2
All Except M113A3	
Installation .....	0471 00-2
Removal .....	0471 00-1
Assembly .....	0472 00-2
Disassembly .....	0472 00-1
M113A3 Only	
Installation .....	0470 00-3
Removal .....	0470 00-1
Door Combat Lock	
Installation .....	0473 00-3
Removal .....	0473 00-1

**INDEX, cont'd**

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Grill	
Installation .....	0465 00-3
Lower .....	0464 00-8
Raise .....	0464 00-1
Removal .....	0465 00-1
Grill Screen	
Installation .....	0468 00-1
Removal .....	0468 00-1
Grill Support Arm	
Installation .....	0467 00-2
Removal .....	0467 00-1
Rear Access Panels	
Installation .....	0439 00-2
Removal .....	0439 00-1
Sling	
Periodic Check .....	0673 00-2
Preoperative Check .....	0673 00-8
 Power Plant Assembly	
Installation .....	0156 00-13
Removal .....	0156 00-1
 Power Supply	
Cable, Driver's Vision Enhancer (DVE) AN/VVS-5	
Installation .....	0866 04-2
Removal .....	0866 04-1
Solid State Infrared	
Installation .....	0297 00-3
Removal .....	0297 00-1
Storage Box Assembly	
Assembly .....	0824 00-5
Disassembly .....	0824 00-3
Installation .....	0824 00-7
Removal .....	0824 00-2
 Pressure Switch	
Differential, Bypass Plug	
Installation .....	0401 00-2
Removal .....	0401 00-1
Transmission Oil Sampling Valve	
Installation .....	0400 00-3
Removal .....	0400 00-1
 Preventive Maintenance Checks and Services (PMCS), Including Lubrication Instructions	
Annual .....	0155 00-1
Semi-Annual .....	0155 00-1
 Printer Mount	
Installation .....	0823 00-3
Removal .....	0823 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Propeller Shaft and Universal Joints	
Installation .....	0405 00-3
Removal .....	0405 00-1
Pulse Tachometer, STE/ICE	
Installation .....	0867 00-3
Removal .....	0867 00-1
Pump	
Coolant Heater	
Installation .....	0731 00-2
Removal .....	0731 00-1
Engine Coolant	
Installation .....	0241 00-4
Removal .....	0241 00-1
Hydraulic, Ramp	
Installation .....	0655 00-3
Removal .....	0655 00-2
Pump Assembly, Fog Oil	
Installation .....	0763 00-2
Removal .....	0763 00-1
Pump Unit, Coolant Heater	
Inspection-Acceptance and Rejection Criteria .....	0728 00-5
Installation .....	0728 00-5
Removal .....	0728 00-1
Push-Pull Control Assembly, Bracket, Links, and Pins	
Installation .....	0429 00-7
Removal .....	0429 00-1
<b>Q</b>	
Quick Coupling Half	
M13 Orifice	
Installation .....	0781 00-2
Removal .....	0781 00-1
M8A3/M14 Orifice Support	
Installation .....	0780 00-4
Removal .....	0780 00-1
Quick Release	
Pin and Lanyard, Steering Wheel	
Installation .....	0431 00-2
Removal .....	0431 00-1
Pins, Spall Liner	
Installation .....	0506 00-3
Removal .....	0506 00-1

INDEX, cont'd

Subject

WP Sequence No.-Page No.

**R**

Rack

Radio

M58 Only

Installation ..... 0891 00-3

Removal ..... 0891 00-1

Radio Stowage

Left Bulkhead

Installation ..... 0577 00-2

Removal ..... 0577 00-1

M1064A3 Only

Installation ..... 0609 00-1

Removal ..... 0609 00-1

Right Front

Installation ..... 0579 00-1

Removal ..... 0579 00-1

Right Side Base

Installation ..... 0622 00-3

Removal ..... 0622 00-1

Radiator

Access Door

Installation ..... 0469 00-1

Removal ..... 0469 00-1

Cleaning

Installation ..... 0228 00-1

Outlet Tube and Hoses

Installation ..... 0233 00-2

Removal ..... 0233 00-1

Removal

..... 0229 00-2

Radio Operator's Seat

Assembly ..... 0568 00-5

Disassembly ..... 0568 00-3

Installation ..... 0568 00-7

Removal ..... 0568 00-2

Radio Rack (M58 Only)

Installation ..... 0891 00-3

Removal ..... 0891 00-1

Radio Stowage Rack

Left Bulkhead

Installation ..... 0577 00-2

Removal ..... 0577 00-1

M1064A3 Only

Installation ..... 0609 00-1

Removal ..... 0609 00-1

Right Front

Installation ..... 0579 00-1

Removal ..... 0579 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Ramp	
Bracket	
Installation .....	0516 00-1
Removal .....	0516 00-1
Control Valve	
External to Internal Relief	
Installation .....	0660 00-6
Removal .....	0660 00-1
Hose and Elbow	
Installation .....	0663 00-3
Removal .....	0663 00-1
With External Relief Valve	
Repair or Replacement .....	0659 00-1
With Internal Relief Valve	
Installation .....	0661 00-4
Removal .....	0661 00-1
Cylinder	
Cleaning .....	0656 00-2
Installation .....	0656 00-3
Removal .....	0656 00-2
Cylinder Breather Hose	
All Except M1064A3	
Installation .....	0666 00-3
Removal .....	0666 00-1
M1064A3 Only	
Installation .....	0667 00-3
Removal .....	0667 00-2
Door	
Handles and Shaft	
Adjustment .....	0519 00-3
Installation .....	0519 00-2
Removal .....	0519 00-1
Hook and Spring	
Installation .....	0518 00-2
Removal .....	0518 00-1
Seal	
Installation .....	0520 00-2
Removal .....	0520 00-1
Stop Bracket	
Installation .....	0517 00-1
Removal .....	0517 00-1
Switch and Mount	
Adjustment .....	0335 00-4
Inspection-Acceptance and Rejection Criteria .....	0335 00-2
Installation .....	0335 00-3
Removal .....	0335 00-1
Drain Plugs	
Installation .....	0515 00-1
Removal .....	0515 00-1
Hydraulic Pump	
Installation .....	0655 00-3
Removal .....	0655 00-2



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Linkage	
M1064A3 Only	
Inspect and Repair .....	0528 00-3
Installation .....	0528 00-3
Removal .....	0528 00-1
M113A3 and M1059A3	
Installation .....	0526 00-3
Removal .....	0526 00-1
M577A3 and M1068A3	
Clean, Inspect, and Repair .....	0527 00-3
Installation .....	0527 00-3
Removal .....	0527 00-1
Lock	
M1064A3 Only	
Adjust Ramp Lock .....	0523 00-1
M113A3 and M1059A3	
Ramp Lock Adjustment .....	0521 00-2
Ramp Lock Test .....	0521 00-1
Ramp Seal Test .....	0521 00-1
M577A3 and M1068A3	
Adjust Ramp Lock .....	0522 00-1
Lock Handle and Arms	
Installation .....	0524 00-2
Removal .....	0524 00-1
Lock Lever and Cable	
Cleaning, Inspect, and Repair .....	0525 00-3
Installation .....	0525 00-3
Removal .....	0525 00-1
Lower Inoperable/Unsafe Ramp .....	0513 00-7
Raise Inoperable/Unsafe Ramp .....	0513 00-2
Schematic .....	0081 00-1
Seal	
Installation .....	0514 00-2
Removal .....	0514 00-1
Vision Port and Shield	
Cleaning .....	0586 00-2
Installation .....	0586 00-3
Removal .....	0586 00-2
Rear Access Panels, Power Plant	
Installation .....	0439 00-2
Removal .....	0439 00-1
Rear Compartment Air Ventilator	
Installation .....	0454 00-2
Removal .....	0454 00-1
Rear External Stowage Frame	
Installation .....	0626 00-2
Removal .....	0626 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Rear Main Wiring Harness	
M1064A3 Only	
Inspect and Repair .....	0364 00-13
Installation .....	0364 00-13
Removal .....	0364 00-1
M1068A3 Only	
Inspect and Repair .....	0365 00-14
Installation .....	0365 00-15
Removal .....	0365 00-2
M113A3, M1059A3, and M58	
Inspect and Repair .....	0362 00-21
Installation .....	0362 00-21
Removal .....	0362 00-2
M577A3 Only	
Inspect and Repair .....	0363 00-15
Installation .....	0363 00-15
Removal .....	0363 00-2
Rear Tiedown Plates	
Installation .....	0445 00-2
Removal .....	0445 00-1
Receptacle	
Auxiliary Power (Slave)	
Ground Lead	
Installation .....	0379 00-3
Removal .....	0379 00-1
M113A3, M1059A3, M1064A3, and M58	
Installation .....	0263 00-2
Removal .....	0263 00-1
M577A3 and M1068A3	
Installation .....	0264 00-3
Removal .....	0264 00-2
Rear Utility Circuit Breakers	
Inspection-Acceptance and Rejection Criteria .....	0276 00-2
Installation .....	0276 00-3
Removal .....	0276 00-1
Rear Utility Outlet	
Inspect and Repair .....	0378 00-2
Installation .....	0378 00-2
Removal .....	0378 00-1
Utility Outlet	
Inspection-Acceptance and Rejection Criteria .....	0265 00-2
Installation .....	0265 00-2
Removal .....	0265 00-1
Reel Holder Assembly, Cable	
Assembly .....	0604 00-2
Disassembly .....	0604 00-1
Installation .....	0603 00-2
Removal .....	0603 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
References	
Forms .....	0924 00-4
Lubrication Orders .....	0924 00-4
Other Publications .....	0924 00-4
Technical Manuals .....	0924 00-1
Regulator Assembly	
Inspection-Acceptance and Rejection Criteria .....	0257 00-2
Installation .....	0257 00-3
Removal .....	0257 00-1
Regulator, Voltage	
Adjustment .....	0256 00-1
Repair Parts, Special Tools, TMDE, and Support Equipment	
Common Tools and Equipment .....	0004 00-1
Repair Parts .....	0004 00-1
Special Tools, TMDE, and Support Equipment .....	0004 00-1
Restriction Indicator	
Hose	
Installation .....	0172 00-3
Removal .....	0172 00-1
Installation .....	0171 00-2
Removal .....	0171 00-1
Retainer	
Air Cleaner	
Installation .....	0170 00-1
Removal .....	0170 00-1
Batteries	
M1064A3 Only	
Clean and Inspect .....	0349 00-2
Installation .....	0349 00-3
Removal .....	0349 00-1
M113A3 and M1059A3	
Clean and Inspect .....	0346 00-3
Installation .....	0346 00-4
Removal .....	0346 00-1
M577A3 and M1068A3	
Clean and Inspect .....	0347 00-3
Installation .....	0347 00-3
Removal .....	0347 00-1
Rifle Brackets	
Installation .....	0573 00-2
Removal .....	0573 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Rifle Rack	
Installation .....	0612 00-2
Removal .....	0612 00-1
Right Equipment Rack, Brackets and Mounts	
Installation .....	0814 00-2
Removal .....	0814 00-1
Road Wheel	
Hub	
Cleaning .....	0416 00-2
Installation .....	0416 00-3
Removal .....	0416 00-2
Support Arm, Bearings, and Seals	
Installation .....	0415 00-4
Removal .....	0415 00-2
T130 Track	
Inspection and Repair .....	0426 00-2
Installation .....	0426 00-3
Removal .....	0426 00-1
T150 Track	
Inspection .....	0426 01-1
Installation .....	0426 01-3
Removal .....	0426 01-1
Roadside Data Panel A13	
Installation .....	0835 00-2
Removal .....	0835 00-1
<b>S</b>	
Safety Pin Stowage Block, Commander's Cupola	
Installation .....	0495 00-1
Removal .....	0495 00-1
Safety Relief Valve	
Tube, Hose, and Fittings	
Repair or Replacement .....	0662 00-1
Sampling Valve, Transmission Oil	
Installation .....	0400 00-3
Removal .....	0400 00-1
Schematic	
Bilge Pump .....	0078 00-1
Coolant Heater .....	0087 00-1
Electrical .....	0027 00-1
Engine Air Box Heater .....	0013 00-1
Engine Charging System .....	0007 00-1
Engine Fuel System	
All Except M577A3 and M1068A3 .....	0009 00-1
M577A3 and M1068A3 .....	0010 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Engine Starter Circuit .....	0011 00-1
Indicators .....	0046 00-1
Personnel Heater .....	0085 00-1
Ramp .....	0081 00-1
STE/ICE .....	0136 00-1
Steering Lock	
Cable-Activated Lock .....	0075 00-1
Solenoid-Activated Lock .....	0074 00-1
Transmission System .....	0060 00-1
 Seal	
Cargo Hatch	
Installation .....	0478 00-1
Removal .....	0478 00-1
Idler Wheel Arm	
Cleaning .....	0418 00-2
Installation .....	0418 00-2
Removal .....	0418 00-1
Oil, Final Drive Differential	
Installation .....	0404 00-2
Removal .....	0404 00-1
Ramp	
Installation .....	0514 00-2
Removal .....	0514 00-1
Ramp Door	
Installation .....	0520 00-2
Removal .....	0520 00-1
Road Wheel Support	
Installation .....	0415 00-4
Removal .....	0415 00-2
 Seat	
Commander's	
M1064A3 Only	
Installation .....	0561 00-2
Removal .....	0561 00-1
M1068A3 Only	
Assembly .....	0566 00-3
Disassembly .....	0566 00-2
Installation .....	0566 00-6
Removal .....	0566 00-1
M113A3, M1059A3, and M58	
Installation .....	0560 00-3
Removal .....	0560 00-1
M113A3, M1059A3, M1064A3, and M58	
Assembly .....	0562 00-4
Cleaning .....	0562 00-4
Disassembly .....	0562 00-1
Commander's Jump	
Installation .....	0563 00-3
Removal .....	0563 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Driver's	
Assembly .....	0552 00-2
Back Assembly	
Assembly .....	0554 00-1
Disassembly .....	0554 00-1
Installation .....	0553 00-2
Removal .....	0553 00-1
Disassembly .....	0552 00-1
Impact Absorber	
Installation .....	0555 00-1
Removal .....	0555 00-1
Installation .....	0551 00-2
Removal .....	0551 00-1
Personnel	
M1059A3 Only	
Installation .....	0549 00-3
Removal .....	0549 00-1
M1064A3 Only	
Installation .....	0550 00-3
Removal .....	0550 00-1
M113A3 Only	
Installation .....	0546 00-2
Removal .....	0546 00-1
M577A3 Only	
Installation .....	0547 00-3
Removal .....	0547 00-1
Radio Operator's	
Assembly .....	0568 00-5
Disassembly .....	0568 00-3
Installation .....	0568 00-7
Removal .....	0568 00-2
Sensors and Switches	
Variable Speed Drive	
Installation .....	0321 01-2
Removal .....	0321 01-1
Service and Infrared Headlight	
Assembly .....	0304 00-3
Disassembly .....	0304 00-2
Inspection .....	0304 00-1
Installation .....	0303 00-2
Removal .....	0303 00-1
Service Brake	
Control Linkage	
Adjustment .....	0407 00-1
Installation .....	0410 00-7
Removal .....	0410 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Pedal, Upper and Lower	
Installation .....	0409 00-6
Removal .....	0409 00-1
Service Upon Receipt .....	0154 00-1
Shaft, Fuel Control	
Installation .....	0217 00-4
Removal .....	0217 00-1
Shelf Assembly	
Alternate Right Side	
Installation .....	0621 01-3
Removal .....	0621 01-2
Right Side	
Installation .....	0621 00-3
Removal .....	0621 00-1
Shield	
Armor, Commander's Cupola	
Installation .....	0747 00-3
Removal .....	0747 00-1
External Handle	
M1064A3 Only	
Inspection-Acceptance and Rejection Criteria .....	0903 00-3
Installation .....	0903 00-3
Removal .....	0903 00-1
M113A3 and M1059A3	
Installation .....	0901 00-2
Removal .....	0901 00-1
M577A3 and M1068A3	
Installation .....	0902 00-1
Removal .....	0902 00-1
Ramp Vision Port	
Cleaning .....	0586 00-2
Installation .....	0586 00-3
Removal .....	0586 00-2
Shock Absorber	
Installation .....	0435 00-4
Mount	
Installation .....	0436 00-2
Removal .....	0436 00-1
Pin	
Installation .....	0437 00-2
Removal .....	0437 00-1
Removal .....	0435 00-1
Signal Patch Panel Box A10	
Installation .....	0816 00-2
Removal .....	0816 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Sling, Power Plant	
Periodic Check .....	0673 00-2
Preoperative Check .....	0673 00-8
Smoke Generator	
Adapter Access Plate and Gasket	
Installation .....	0766 00-3
Removal .....	0766 00-1
Adapter Access Plate to Cover Assembly Air Hose	
Installation .....	0768 00-2
Removal .....	0768 00-1
Armor	
Installation .....	0771 00-2
Removal .....	0771 00-1
Breather Hose Assembly	
Installation .....	0754 00-3
Removal .....	0754 00-1
Compressor Reservoir to Access Plate Air Hose	
Installation .....	0767 00-3
Removal .....	0767 00-1
Control Panel Assembly	
Installation .....	0756 00-2
Removal .....	0756 00-1
Electrical Cable Assembly, Adapter Access Plate to Generator	
Installation .....	0761 00-3
Removal .....	0761 00-1
Fuel Can Lid Assembly	
Installation .....	0764 00-2
Removal .....	0764 00-1
Fuel Filter/Water Separator	
Installation .....	0773 00-3
Removal .....	0773 00-1
Repair or Replacement .....	0773 00-2
Fuel Lines and Guards	
Installation .....	0765 00-4
Removal .....	0765 00-1
Glow Plug Cable Assembly	
Installation .....	0772 00-4
Removal .....	0772 00-2
Installation .....	0755 00-3
Internal Cable Assembly	
Installation .....	0760 00-3
Removal .....	0760 00-1
Power Supply Cable Assembly	
Installation .....	0757 00-2
Removal .....	0757 00-1
Removal .....	0755 00-1
Smoke Grenade Launcher	
Guard, Plate, and Base	
Installation .....	0455 00-3
Removal .....	0455 00-1



## INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Wiring Harness	
Inspect and Repair .....	0366 00-8
Installation .....	0366 00-9
Removal .....	0366 00-2
Spall Liner	
Cargo Hatch Cover	
Installation .....	0509 00-2
Removal .....	0509 00-1
Forward and Bracket	
Installation .....	0507 00-3
Removal .....	0507 00-1
Forward Upper Right and Left Side	
Installation .....	0508 00-2
Removal .....	0508 00-1
Left Side	
Installation .....	0505 00-4
Removal .....	0505 00-1
On Ramp	
Installation .....	0512 00-2
Removal .....	0512 00-1
On Ramp Door	
Installation .....	0511 00-2
Removal .....	0511 00-1
Rear Upper Hull	
Installation .....	0510 00-2
Removal .....	0510 00-1
Right Side	
Installation .....	0504 00-4
Removal .....	0504 00-1
Spare Battery Bracket, Chemical Alarm	
Installation .....	0921 00-3
Removal .....	0921 00-1
Repair or Replacement .....	0921 00-2
Speedometer	
Cable	
Inspection-Acceptance and Rejection Criteria .....	0861 00-2
Installation .....	0861 00-2
Removal .....	0861 00-1
Cable and Adapter	
Installation .....	0860 00-3
Removal .....	0860 00-1
Flexible Cable Core	
Installation .....	0858 00-5
Removal .....	0858 00-1
Installation .....	0859 00-2
Removal .....	0859 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Spring Tensioner	
Idler Arm	
Installation .....	0246 00-2
Removal .....	0246 00-1
Starter	
Installation .....	0259 00-2
Relay Switch	
Installation .....	0258 00-5
Removal .....	0258 00-2
Removal .....	0259 00-1
STE/ICE	
Crew Wiring Harness	
M1064A3 Only	
Inspection-Acceptance and Rejection Criteria .....	0881 00-4
Installation .....	0881 00-4
Removal .....	0881 00-1
Repair or Replacement .....	0881 00-4
M113A3 and M1059A3	
Inspection-Acceptance and Rejection Criteria .....	0878 00-4
Installation .....	0878 00-4
Removal .....	0878 00-1
Repair or Replacement .....	0878 00-4
M577A3 and M1068A3	
Inspection-Acceptance and Rejection Criteria .....	0879 00-4
Installation .....	0879 00-5
Removal .....	0879 00-1
Repair or Replacement .....	0879 00-5
Distribution Box	
M1064A3 Only	
Installation .....	0877 00-3
Removal .....	0877 00-1
M113A3 and M1059A3	
Installation .....	0874 00-3
Removal .....	0874 00-1
M577A3 and M1068A3	
Installation .....	0875 00-2
Removal .....	0875 00-1
Engine Wiring Harness	
Inspection-Acceptance and Rejection Criteria .....	0882 00-4
Installation .....	0882 00-5
Removal .....	0882 00-1
Repair or Replacement .....	0882 00-5
Pulse Tachometer	
Installation .....	0867 00-3
Removal .....	0867 00-1
Schematic .....	0136 00-1
Shunt	
M1064A3 Only	
Installation .....	0873 00-3
Removal .....	0873 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
M113A3 and M1059A3	
Installation .....	0870 00-4
Removal .....	0870 00-1
M577A3 and M1068A3	
Installation .....	0871 00-3
Removal .....	0871 00-2
Shunt Guard	
Cleaning .....	0868 00-3
Installation .....	0868 00-3
Removal .....	0868 00-1
Steering Lock	
Schematic	
Cable-Activated Lock .....	0075 00-1
Solenoid-Activated Lock .....	0074 00-1
Solenoid, Bracket, Links, and Pins (Solenoid-Activated Lock)	
Adjustment .....	0428 00-7
Installation .....	0428 00-5
Removal .....	0428 00-1
Switch	
Installation .....	0330 00-3
Removal .....	0330 00-2
Switch Wiring Harness	
All Except M58	
Inspect and Repair .....	0367 00-5
Installation .....	0367 00-6
Removal .....	0367 00-2
M58 Only	
Inspect and Repair .....	0367 01-2
Installation .....	0367 01-2
Removal .....	0367 01-1
Steering Support, Brackets, and Shaft	
Installation .....	0432 00-5
Removal .....	0432 00-1
Steering Wheel	
Linkage	
Adjustment .....	0427 00-1
Installation .....	0430 00-6
Removal .....	0430 00-1
Steering, Transmission	
Adjustment .....	0393 00-3
Check Adjustment .....	0393 00-1
Stencils	
M1059A3 .....	0640 00-1
M1064A3 .....	0641 00-1
M1068A3 Only .....	0642 00-1
M113A3 .....	0636 00-1
M577A3 .....	0637 00-1
M58 .....	0643 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Stop Switch	
Clean and Inspect .....	0332 00-1
Installation .....	0332 00-2
Removal .....	0332 00-1
Stoplight-Taillight and Guards	
Installation .....	0298 00-4
Removal .....	0298 00-1
Storage Box Assembly, Power Supply	
Assembly .....	0824 00-5
Disassembly .....	0824 00-3
Installation .....	0824 00-7
Removal .....	0824 00-2
Stowage Box	
Grenade	
Installation .....	0610 00-1
Removal .....	0610 00-1
Periscope	
Installation .....	0611 00-2
Removal .....	0611 00-1
Stowage Bracket	
AN/VVS-5 Driver's Vision Enhancer	
Installation .....	0866 03-2
Removal .....	0866 03-1
Sight Extension Arm	
Installation .....	0613 00-1
Removal .....	0613 00-1
W1, W2, and NATO Slave Cables	
Installation .....	0626 01-2
Removal .....	0626 01-1
Stowage Frame, Rear External	
Installation .....	0626 00-2
Removal .....	0626 00-1
Stowage Rack	
Radio	
Left Bulkhead	
Installation .....	0577 00-2
Removal .....	0577 00-1
M1064A3 Only	
Installation .....	0609 00-1
Removal .....	0609 00-1
Right Front	
Installation .....	0579 00-1
Removal .....	0579 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Strainer	
Front Bilge Pump	
Installation .....	0632 00-3
Removal .....	0632 00-1
Rear Bilge Pump	
Installation .....	0635 00-3
Removal .....	0635 00-1
Strainer Parts, Filler Cap	
All Except M577A3 and M1068A3	
Installation .....	0184 00-3
Removal .....	0184 00-2
M577A3 and M1068A3	
Installation .....	0185 00-2
Removal .....	0185 00-1
Straps, Webbing	
Installation .....	0569 00-1
Removal .....	0569 00-1
Support Arm, Power Plant Grill	
Installation .....	0467 00-2
Removal .....	0467 00-1
Support, Antenna	
Installation .....	0602 00-2
Removal .....	0602 00-2
Switch	
Blower	
Installation .....	0278 00-3
Removal .....	0278 00-1
Differential Pressure, Fuel Filter	
Installation .....	0328 00-5
Removal .....	0328 00-1
Dome Blackout Light Bypass	
Installation .....	0317 00-2
Removal .....	0317 00-1
Dome Light	
Front	
Installation .....	0314 00-3
Removal .....	0314 00-1
Rear	
Installation .....	0315 00-2
Removal .....	0315 00-1
Engine Start	
Installation .....	0284 00-2
Removal .....	0284 00-1
Flame Detector, Coolant Heater	
Adjustment .....	0727 00-1
Inspection-Acceptance and Rejection Criteria .....	0734 00-1
Installation .....	0734 00-2
Removal .....	0734 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Fuel Selector	
Installation .....	0277 00-3
Removal .....	0277 00-1
Generator Field Pressure	
Inspection-Acceptance and Rejection Criteria .....	0323 00-1
Installation .....	0323 00-2
Removal .....	0323 00-1
Headlight, High Beam Selector	
Installation .....	0333 00-2
Removal .....	0333 00-1
Horn	
All Except M58	
Installation .....	0293 00-2
Removal .....	0293 00-1
M58 Only	
Installation .....	0293 01-2
Removal .....	0293 01-1
Main Light	
Installation .....	0283 00-2
Removal .....	0283 00-1
NBC Orifice Connector Assembly	
Installation .....	0916 00-5
Removal .....	0916 00-1
Parking Brake	
Clean and Inspect .....	0331 00-3
Installation .....	0331 00-3
Removal .....	0331 00-1
Starter Relay	
Installation .....	0258 00-5
Removal .....	0258 00-2
Steering Lock	
Installation .....	0330 00-3
Removal .....	0330 00-2
Stop	
Clean and Inspect .....	0332 00-1
Installation .....	0332 00-2
Removal .....	0332 00-1
Transmission Oil High Temperature	
Installation .....	0322 00-2
Removal .....	0322 00-1
Transmission Range Controller	
Cleaning .....	0389 00-1
Installation .....	0389 00-2
Removal .....	0389 00-1
Switch and Buzzer, Admittance	
Inspection-Acceptance and Rejection Criteria .....	0334 00-2
Installation .....	0334 00-2
Removal .....	0334 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Switch and Mount, Ramp Door	
Adjustment .....	0335 00-4
Inspection-Acceptance and Rejection Criteria .....	0335 00-2
Installation .....	0335 00-3
Removal .....	0335 00-1
Switch Assembly, NBC Filter	
Installation .....	0802 00-3
Removal .....	0802 00-1
<b>T</b>	
Table	
Left	
Installation .....	0578 00-3
Removal .....	0578 00-1
Right Forward	
Installation .....	0581 00-3
Removal .....	0581 00-1
Right Rearward	
Installation .....	0582 00-1
Removal .....	0582 00-1
Tachometer	
Cable	
Inspection-Acceptance and Rejection Criteria .....	0865 00-1
Installation .....	0864 00-4, 0865 00-2
Removal .....	0864 00-1, 0865 00-1
Engine Adapter	
Installation .....	0863 00-3
Removal .....	0863 00-1
Flexible Cable Core	
Installation .....	0858 00-5
Removal .....	0858 00-1
Installation .....	0862 00-2
Removal .....	0862 00-1
STE/ICE Pulse	
Installation .....	0867 00-3
Removal .....	0867 00-1
Tank	
Auxiliary	
Installation .....	0230 00-2
Removal .....	0230 00-1
Module, Fog Oil	
Installation .....	0753 00-4
Removal .....	0753 00-1
Teleposts and Cover	
Installation .....	0296 00-3
Removal .....	0296 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Tent	
Frame Mounts	
Installation .....	0628 00-3
Removal .....	0628 00-1
Installation .....	0627 00-2
Interface Panel Box Assembly A5	
Installation .....	0833 00-3
Removal .....	0833 00-1
Light Assembly	
Installation .....	0318 00-3
Removal .....	0318 00-1
Removal .....	0627 00-1
Terminal Blocks TB1 and TB2, Inverter Housing A2	
Installation .....	0830 00-4
Removal .....	0830 00-1
Terminals and Leads, Battery	
M1064A3 Only (Left Side)	
Cleaning .....	0343 00-5
Installation .....	0343 00-5
Removal .....	0343 00-1
M1064A3 Only (Right Side)	
Cleaning .....	0344 00-3
Installation .....	0344 00-4
Removal .....	0344 00-1
M113A3 and M1059A3	
Clean and Inspect .....	0340 00-3
Installation .....	0340 00-4
Removal .....	0340 00-1
M577A3 and M1068A3	
Clean and Inspect .....	0341 00-3
Installation .....	0341 00-4
Removal .....	0341 00-1
M58 Only	
Cleaning .....	0345 00-3
Installation .....	0345 00-4
Removal .....	0345 00-1
Theory of Operation	
Auxiliary Automotive System .....	0003 00-2
Power Plant .....	0003 00-1
Scope .....	0003 00-1
Special Equipment .....	0003 00-3
Winterization Equipment .....	0003 00-3
Thermostat	
Installation .....	0237 00-4
Removal .....	0237 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Tube/Hoses	
Installation .....	0238 00-2
Removal .....	0238 00-1
Thermostatic Fan Speed Switch	
Installation .....	0231 00-3
Removal .....	0231 00-1
Throttle Valve (TV)	
Modulator	
Adjustment .....	0213 00-1
Field Operational Test .....	0213 00-5
Modulator and Lever	
Installation .....	0218 00-4
Removal .....	0218 00-1
Tool Box Loops	
Installation .....	0571 00-2
Removal .....	0571 00-1
Torsion Bar	
Anchor	
Installation .....	0414 00-3
Removal .....	0414 00-1
Installation .....	0413 00-4
Removal .....	0413 00-1
Tow Pintle	
Assembly .....	0434 00-2
Disassembly .....	0434 00-1
Extender Assembly	
Adjustment .....	0811 02-6
Assembly .....	0811 02-4
Disassembly .....	0811 02-3
Installation .....	0811 02-5
Removal .....	0811 02-1
Stow .....	0811 02-6
Extender Kit	
Adjustment .....	0811 01-3
Installation .....	0811 01-1
Stow .....	0811 01-3
Installation .....	0433 00-2
Removal .....	0433 00-1
Tow Start Control	
Assembly and Bearing	
Installation .....	0391 00-5
Removal .....	0391 00-2
Cable Assembly	
Adjustment .....	0390 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Cover	
Installation .....	0392 00-2
Removal .....	0392 00-1
Towing Hook and Eye	
Installation .....	0443 00-2
Removal .....	0443 00-1
Track	
Cover	
Installation .....	0438 00-2
Removal .....	0438 00-1
T130	
Clean, Inspect, and Repair .....	0422 00-2
Drive Sprocket Wheel Assembly	
Installation .....	0420 00-2, 0421 00-2
Removal .....	0420 00-1, 0421 00-1
Installation .....	0422 00-3
Removal .....	0422 00-1
T150	
Drive Sprocket Wheel Assembly	
Installation .....	0420 01-2
Removal .....	0420 01-1
Installation .....	0422 01-2
Removal .....	0422 01-1
Reverse Drive Sprocket and Track Assemblies	
Installation .....	0419 01-2
Removal .....	0419 01-1
Tension Adjuster and Mount	
Installation .....	0419 00-2
Removal .....	0419 00-1
Track Shoe	
Pad	
T130	
Installation .....	0424 00-2
Removal .....	0424 00-1
T150	
Installation .....	0424 01-2
Removal .....	0424 01-1
Stowage Bracket	
Installation .....	0575 01-2
Removal .....	0575 01-1
T130	
Repair or Replacement .....	0423 00-1
T150	
Installation .....	0423 01-2
Removal .....	0423 01-1
Trailer Harness	
Inspection-Acceptance and Rejection Criteria .....	0375 00-2
Installation .....	0375 00-3
Removal .....	0375 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Transducer	
Air Box Pressure	
Installation .....	0327 00-2
Removal .....	0327 00-1
Fuel Return Pressure	
Installation .....	0325 00-2
Removal .....	0325 00-1
Fuel Supply Pressure	
Installation .....	0324 00-2
Removal .....	0324 00-1
Turbo Outlet Pressure	
Installation .....	0326 00-2
Removal .....	0326 00-1
Transmission	
Brake	
Adjust Left-Hand Brake .....	0394 00-1
Adjust Right-Hand Brake .....	0394 00-6
Check Brake Adjustment .....	0406 00-1
Controller Wiring Harness	
Inspect and Repair .....	0361 00-4
Installation .....	0361 00-4
Removal .....	0361 00-1
Mounts	
Installation .....	0385 00-3
Removal .....	0385 00-1
Oil and Filter Element	
Installation .....	0398 00-3
Removal .....	0398 00-1
Oil Cooler Hoses, Fittings, and Mounting	
Installation .....	0399 00-8
Removal .....	0399 00-1
Oil Drain Tubes and Bracket	
Installation .....	0384 00-2
Removal .....	0384 00-1
Oil High Temperature Switch	
Installation .....	0322 00-2
Removal .....	0322 00-1
Oil Level Dipstick, Filler Tube, and Adapter	
X200-4 Only	
Installation .....	0395 00-3
Removal .....	0395 00-1
X200-4A Only	
Installation .....	0396 00-4
Removal .....	0396 00-1
Oil Sampling Valve and Pressure Switch	
Installation .....	0400 00-3
Removal .....	0400 00-1
Oil Supply and Return Hoses	
Installation .....	0251 00-5
Removal .....	0251 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Range Controller Lamp	
Installation .....	0388 00-2
Removal .....	0388 00-1
Range Controller Switch	
Cleaning .....	0389 00-1
Installation .....	0389 00-2
Removal .....	0389 00-1
Range Controller/Bracket	
Cable-Activated Steering Lock	
Installation .....	0387 00-3
Removal .....	0387 00-1
Solenoid-Activated Steering Lock	
Installation .....	0386 00-3
Removal .....	0386 00-1
Schematic .....	0060 00-1
Steering	
Adjustment .....	0393 00-3
Check Adjustment .....	0393 00-1
Wiring Harness	
Inspect and Repair .....	0360 00-2
Installation .....	0360 00-2
Removal .....	0360 00-1
Transmitter	
Coolant Temperature	
Installation .....	0321 00-2
Removal .....	0321 00-1
Fuel Quantity	
All Except M577A3 and M1068A3	
Inspection-Acceptance and Rejection Criteria .....	0190 00-2
Installation .....	0190 00-3
Removal .....	0190 00-1
Repair or Replacement .....	0190 00-2
M577A3 and M1068A3	
Cleaning .....	0191 00-1
Installation .....	0191 00-1
Removal .....	0191 00-1
Trim Vane	
All Except M58	
Assembly .....	0459 00-3
Disassembly .....	0459 00-1
Inspection-Acceptance and Rejection Criteria .....	0459 00-2
Control Linkage	
Assembly .....	0461 00-3
Disassembly .....	0461 00-1
Installation .....	0458 00-2
M58 Only	
Assembly .....	0460 00-3
Disassembly .....	0460 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Release	
Adjustment .....	0462 00-2
Assembly .....	0463 00-3
Disassembly .....	0463 00-1
Installation .....	0462 00-1
Removal .....	0462 00-1
Removal .....	0458 00-1
Troubleshooting	
Introduction How to Use Troubleshooting .....	0005 00-1
Malfunction/Symptom Index WP .....	0006 00-1
Tube	
Cylinder Discharge	
Installation .....	0899 00-3
Removal .....	0899 00-1
Fuel Return	
M1064A3 Only	
Installation .....	0197 00-9
Removal .....	0197 00-1
M113A3, M1059A3, and M58	
Installation .....	0195 00-8
Removal .....	0195 00-2
M577A3 and M1068A3	
Installation .....	0196 00-4
Removal .....	0196 00-1
Fuel Vent	
Installation .....	0198 00-4
Removal .....	0198 00-1
Personnel Heater	
Installation .....	0700 00-3
Removal .....	0700 00-2
Ramp Control Valve to Bulkhead	
Installation .....	0664 00-3
Removal .....	0664 00-1
Transmission Oil Drain	
Installation .....	0384 00-2
Removal .....	0384 00-1
Turbine Cylinder Discharge	
Installation .....	0900 00-3
Removal .....	0900 00-1
Turbine	
Access Door	
Installation .....	0485 00-2
Removal .....	0485 00-2
Access Door Hinges	
Installation .....	0487 00-3
Removal .....	0487 00-2

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Turbo Outlet Pressure Transducer	
Installation .....	0326 00-2
Removal .....	0326 00-1
<b>U</b>	
Universal Joints	
Installation .....	0405 00-3
Removal .....	0405 00-1
Utility Outlet	
Lead Assembly	
Inspect and Repair .....	0377 00-2
Installation .....	0377 00-2
Removal .....	0377 00-1
Rear Receptacle	
Inspect and Repair .....	0378 00-2
Installation .....	0378 00-2
Removal .....	0378 00-1
Receptacle	
Inspection-Acceptance and Rejection Criteria .....	0265 00-2
Installation .....	0265 00-2
Removal .....	0265 00-1
<b>V</b>	
Valve	
Front Bilge	
Installation .....	0633 00-2
Removal .....	0633 00-1
Fuel Shutoff, Coolant Heater	
Installation .....	0720 00-3
Removal .....	0720 00-1
Fuel Shutoff, Personnel Heater	
Installation .....	0684 00-3
Removal .....	0684 00-2
Variable Speed Fan Drive	
Adjustment .....	0249 01-3
Controller	
Installation .....	0250 01-1
Removal .....	0250 01-1
Fan and Generator	
Installation .....	0249 00-3
Removal .....	0249 00-2
Installation .....	0249 01-3
Removal .....	0249 01-2
Sensors and Switches	
Installation .....	0321 01-2
Removal .....	0321 01-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Valve and Override Switch	
Installation .....	0231 01-3
Removal .....	0231 01-2
Ventilating Fan	
Drive Belt	
Adjustment .....	0242 00-1
Installation .....	0243 00-2
Removal .....	0243 00-1
Drive Pulley	
Installation .....	0244 00-1
Removal .....	0244 00-1
Installation .....	0383 00-3
Removal .....	0383 00-1
Ventilating Fan Assembly	
Installation .....	0247 00-3
Removal .....	0247 00-2
Vertical Ammunition Rack	
Installation .....	0608 00-3
Removal .....	0608 00-1
Vision Block Locks and Seals	
Commander's Cupola	
M1064A3 Only	
Installation .....	0491 00-3
Removal .....	0491 00-1
M113A3, M1059A3, and M58	
Installation .....	0490 00-3
Removal .....	0490 00-1
Driver's Hatch	
Clean, Inspect, and Repair .....	0535 00-3
Installation .....	0535 00-3
Removal .....	0535 00-1
Voltage Regulator	
Adjustment .....	0256 00-1
<b>W</b>	
Warning Light Panel	
Instrument	
All Except M58	
Installation .....	0292 00-2
Removal .....	0292 00-1
M58 Only	
Installation .....	0288 00-2
Removal .....	0288 00-1
Warning Light Panel Assembly	
Installation .....	0291 00-2
Removal .....	0291 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Warning Panel Lights	
All Except M58	
Installation .....	0294 00-3
Removal .....	0294 00-1
M58 Only	
Inspection-Acceptance and Rejection Criteria .....	0294 01-2
Installation .....	0294 01-3
Removal .....	0294 01-2
Water/Ration Heater	
Mount Bracket	
Installation .....	0811 00-2
Removal .....	0811 00-1
Power Cable	
Installation .....	0810 00-3
Removal .....	0810 00-1
Webbing Straps	
Installation .....	0569 00-1
Removal .....	0569 00-1
Welding, Hull Repair	
Aluminum Castings .....	0529 00-1
Fuel Tanks .....	0529 00-3
General Welding Instructions .....	0529 00-4
Magnesium Castings .....	0529 00-2
MIG Welding Method .....	0529 00-5
Plastic Molding Material .....	0529 00-3
Safety Precautions .....	0529 00-1
Welding Near Mortar Ring (M1064A3 Only) .....	0529 00-4
Windshield	
Driver's	
Installation .....	0739 00-2
Removal .....	0739 00-1
Stowage Bag, Straps, and Decal	
Installation .....	0740 00-2
Removal .....	0740 00-1
Repair or Replacement .....	0740 00-2
Stowage Bracket	
Installation .....	0614 00-2
Removal .....	0614 00-1
Wire Rope and Pulleys	
All Except M1064A3	
Installation .....	0657 00-2
Removal .....	0657 00-1
M1064A3 Only	
Installation .....	0658 00-2
Removal .....	0658 00-1



INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Wiring Harness	
3W1, Variable Speed Drive	
Installation .....	0359 01-3
Removal .....	0359 01-1
Assembly .....	0382 00-4
Battery-to-Radio (Left Side)	
Inspect and Repair .....	0369 00-4
Installation .....	0369 00-5
Removal .....	0369 00-2
Battery-to-Radio (Right Side)	
Inspect and Repair .....	0370 00-5
Installation .....	0370 00-6
Removal .....	0370 00-2
Chemical Alarm M43 Unit Interface	
Inspection-Acceptance and Rejection Criteria .....	0923 00-4
Installation .....	0923 00-4
Removal .....	0923 00-1
Repair or Replacement .....	0923 00-4
Coolant Heater	
Installation .....	0735 00-4
Removal .....	0735 00-1
Coolant Pump to Heater	
Inspection-Acceptance and Rejection Criteria .....	0733 00-2
Installation .....	0733 00-2
Removal .....	0733 00-1
Disassembly .....	0382 00-1
Engine	
Clean, Inspect, and Repair .....	0359 00-8
Installation .....	0359 00-8
Removal .....	0359 00-2
Guide, Personnel Heater	
Installation .....	0707 01-3
Removal .....	0707 01-1
Instrument Panel Battery-Generator Gauge	
Installation .....	0289 00-4
Removal .....	0289 00-2
M13 NBC Heater	
M1068A3 Only	
Installation .....	0809 00-6
Removal .....	0809 00-2
M577A3 Only	
Installation .....	0808 00-4
Removal .....	0808 00-2
M14 NBC Heater	
Installation .....	0807 00-4
Removal .....	0807 00-1
M3 NBC Heater	
Installation .....	0806 00-3
Removal .....	0806 00-1

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Radiac	
Installation .....	0376 00-2
Removal .....	0376 00-1
Rear Main	
M1064A3 Only	
Inspect and Repair .....	0364 00-13
Installation .....	0364 00-13
Removal .....	0364 00-1
M1068A3 Only	
Inspect and Repair .....	0365 00-14
Installation .....	0365 00-15
Removal .....	0365 00-2
M113A3, M1059A3, and M58	
Inspect and Repair .....	0362 00-21
Installation .....	0362 00-21
Removal .....	0362 00-2
M577A3 Only	
Inspect and Repair .....	0363 00-15
Installation .....	0363 00-15
Removal .....	0363 00-2
Right Headlight	
Inspect and Repair .....	0373 00-3
Installation .....	0373 00-3
Removal .....	0373 00-1
Smoke Grenade Launcher	
Inspect and Repair .....	0366 00-8
Installation .....	0366 00-9
Removal .....	0366 00-2
STE/ICE Crew	
M1064A3 Only	
Inspection-Acceptance and Rejection Criteria .....	0881 00-4
Installation .....	0881 00-4
Removal .....	0881 00-1
Repair or Replacement .....	0881 00-4
M113A3 and M1059A3	
Inspection-Acceptance and Rejection Criteria .....	0878 00-4
Installation .....	0878 00-4
Removal .....	0878 00-1
Repair or Replacement .....	0878 00-4
M577A3 and M1068A3	
Inspection-Acceptance and Rejection Criteria .....	0879 00-4
Installation .....	0879 00-5
Removal .....	0879 00-1
Repair or Replacement .....	0879 00-5
STE/ICE Engine	
Inspection-Acceptance and Rejection Criteria .....	0882 00-4
Installation .....	0882 00-5
Removal .....	0882 00-1
Repair or Replacement .....	0882 00-5

INDEX, cont'd

<u>Subject</u>	<u>WP Sequence No.-Page No.</u>
Steering Lock Switch	
All Except M58	
Inspect and Repair .....	0367 00-5
Installation .....	0367 00-6
Removal .....	0367 00-2
M58 Only	
Inspect and Repair .....	0367 01-2
Installation .....	0367 01-2
Removal .....	0367 01-1
Trailer	
Inspection-Acceptance and Rejection Criteria .....	0375 00-2
Installation .....	0375 00-3
Removal .....	0375 00-1
Transmission	
Inspect and Repair .....	0360 00-2
Installation .....	0360 00-2
Removal .....	0360 00-1
Transmission Controller	
Inspect and Repair .....	0361 00-4
Installation .....	0361 00-4
Removal .....	0361 00-1
Warning Panel	
Inspect and Repair .....	0374 00-3
Installation .....	0374 00-4
Removal .....	0374 00-1





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PUBLICATION/FORM NUMBER TM 9-2350-277-20-1				DATE 02 JAN 01		TITLE Unit Maintenance Manual for M113A3 FOV	
ITEM	PAGE	PARA	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
	0014 00-2					STEP b. THE SCREWS (4) ON BRACKET (2) MUST BE TORQUED PLEASE ADD TORQUE INFORMATION.	
	0023 00-34			5 (SH15)		THERE ARE FOUR CLAMPS (144) ON WIRING HARNESS (217), NOT THREE AS SHOWN. PLEASE CORRECT	
SAMPLE							
*Reference to line numbers within the paragraph or subparagraph.							
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION			SIGNATURE

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PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER			DATE			TITLE		
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

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TM 9-2350-277-20-1

DATE  
02 JAN 01

TITLE  
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ITEM	PAGE	PARA	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON

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By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON

*Administrative Assistant to the  
Secretary of the Army*

9913202

ERIC K. SHINSEKI  
*General, United States Army  
Chief of Staff*

**DISTRIBUTION:** To be distributed in accordance with the initial distribution requirements for IDN: 371205, requirements for TM 9-2350-277-20-1.



# THE METRIC SYSTEM AND EQUIVALENTS

## LINEAR MEASURE

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

## WEIGHTS

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

## LIQUID MEASURE

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

## SQUARE MEASURE

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

## CUBIC MEASURE

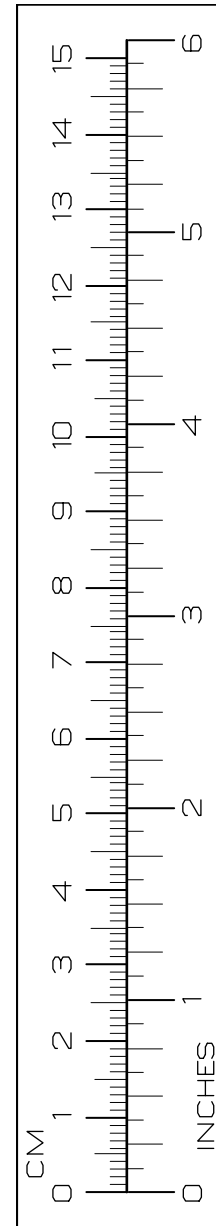
1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches  
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

## TEMPERATURE

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

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

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



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