TM 55-4920-319-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATIONAL ORGANIZATIONAL, DS, GS,

AND DEPOT MAINTENANCE MANUAL

DUAL PURPOSE MOBILE CHECK AND ADJUSTMENT/GENERATOR STAND FOR AUXILIARY POWER UNITS T-62T-2 AND T-62T-2A

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1968

TECHNLCAL MANUAL)
)
No. 55-4920-319-15)

HEADQUARTERS
DEPARATMENT OF THE ARMY
Washington, D.C., 26 August 1968

OPERATOR, ORGANIZATIONAL, DS GS, AND DEPOT MAINTENANCE MANUAL

DUAL PURPOSE MOBILE CHECK AND ADJUSTMENT/ GENERATOR STAND FOR AUXILIARY

POWER UNITS T-62T-2A

TM 55-4920-319-15 is published for the use of all concerned.

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:
KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

To be distributed in accordance with DA Form 12-31 (qty rqr Block #53) requirements for Operator and Crew, CH-47 aircraft.

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., *4 February 1969*

Operator, Organizational, DS, GS, and Depot Maintenance Manual

DUAL PURPOSE MOBILE CHECK AND ADJUSTMENT/GENERATOR STAND FOR AUXILIARY POWER UNITS T-62T-2 AND T-62T-2A

TM 55-4920-319-15, 26 August 1968, is changed as follows:

Page 2-5. The following "Note" is added after paragraph 2-12i:

Note

Make cover of heavy water-proofed canvas, should be 29 inches high, 86 inches long, and 40 inches wide in order to cover check stand,

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GPO 907-480

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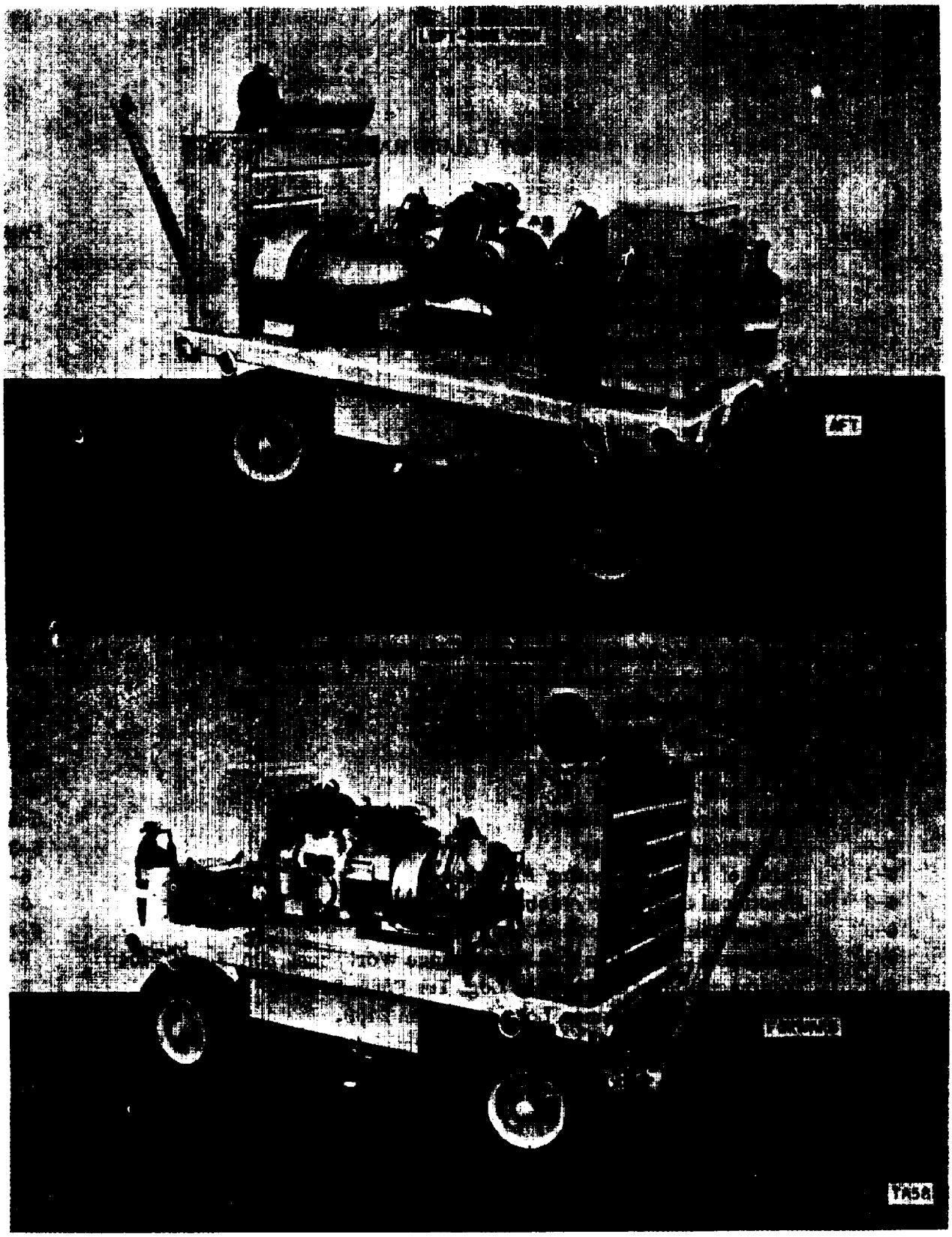

Figure 1-1. Dual Purpose Mobile Check And Adjustment/Generator Stand

SECTION I

INTRODUCTION AND DESCRIPTION

1-1. INTRODUCTION.

1-2. This technical manual provides all instructions necessary for the operation and maintenance of the Dual Purpose Mobile Check and Adjustment/Generator Stand, identified by Part Number 45977-O. The Mobile Check and Adjustment/Generator Stand (figure 1-1), hereafter referred to as the Mobile Check Stand, is manufactured by the Solar Division of International Harvester, 2200 Pacific Highway, San Diego, California.

1-3. PURPOSE.

1-4. The Mobile Check Stand provides the components and controls necessary to functionally test the Models T-62T-2 and T-62T-2A Auxiliary Power Units (APU) prior to installation in the aircraft, or upon removal from the aircraft, or to check and adjust the units after minor repair or overhaul. The Mobile Check Stand with either APU installed, can provide the aircraft with ac power for checkout after aircraft repair, or for aircraft preflight checks.

1-5. ARRANGEMENT OF MANUAL.

1-6. The manual is divided into eight sections. Section I identifies the equipment and describes the components and their functions. Section II gives the procedures necessary to prepare the equipment for use. Section III describes the adjustments required and the connections necessary for operating the equipment. Section IV lists the inspections and preventive maintenance procedures required to ensure efficient operation. Section V lists all replaceable parts, assemblies, sub-assemblies, and detail parts of the mobile check stand. Section VI describes the troubleshooting procedures and remedies. Section VII gives the instructions for removal, repair, and replacement of components. Section VIII contains specimen-samples of the forms and records to be used during the maintenance life of the stand.

1-7. DESCRIPTION

1-8. The mobile check stand is an open-frame carrier, pivot-plated on two pairs of wheels mounted with pneumatic tires. Mounting provisions for the models T-62T-2, and T-62T-2A auxiliary power units are incorporated together with the necessary electrical and fuel connections between the unit and the check stand components. The mobile check stand is equipped with a steering towbar and a mechanical hand brake system. It is weatherproofed to provide protection of critical components from the elements. The major assemblies mounted on the check stand are: the battery, control console, thermocouple, tachometer generator, air inlet silencer, exhaust silencer, speed increaser, and the fire extinguisher. See figure 1-2 for Table of Leading Particulars.

1-9. ELECTRICAL SYSTEM.

1- 10. The electrical system provides starting power for the APU, and the controls necessary for automatic operation. The instrument panel and relays, within the control console, are connected by cables to the battery. Cable connections from the console attach to the engine control harness receptacle, to the ac generator output power cable, and to the dc starter-generator for operation of the APU.

1-11. BATTERY. (See figure 1-3.)

1-12. A 24-volt, 34-ampere hour, nickel-cadmium battery, conforming to the requirements of Military Specification MS24498-1, furnishes dc power for cranking the APU, and control power for the electrical controls. The battery is mounted on the right side of the trailer, confined in a shallow frame (retainer), and secured to the retainer with studs and clamps. The battery is shipped with electrolyte, and only a slight freshening charge prior to use is recommended. Bringing the battery up to full charge can be accomplished during APU checkout operation. Refer to paragraph 7-45 for battery maintenance procedures.

1-13. CONTROL CONSOLE. (See figure 1-3.)

1-14. The control console is located on the aft, left side of the trailer, and provides a weatherproof housing for the control system components and the instrument panel. The check stand control system simulates the aircraft controls. The console is bolted to two support channels which, in turn, are bolted to the top of the trailer frame. A door on the console provides easy access to the electrical control system components. The top of the console houses the instrument panel; a cover, hinged to the console structure, protects the instrument panel from the elements. Three harness assemblies are connected to the control components. They are: engine control harness, ac generator and dc generator harness, and the generator set output power harness. The control system components include a limiter, rectifiers, transformers, relays, contactor, resistors, voltage regulators, and wire assemblies necessary to automatically control, regulate, and protect the APU through all phases of operation.

Length (towbar up)	85.25 inches
Width	43.75 inches
Height (towbar up)	61.70 inches
Cubic content	134 cubic feet
Ground clearance	9.70 inches
Capacity	1000 pounds
Tire size	6.00 x 9, 6 ply
Tire pressure	40 to 45 psig
Wheels	Split-rim type
Brakes	Hand-operated, mechanical (rear wheels only)
Fuel	Jet fuel conforming to Military Specification MIL-J-5624, Grade JP-4, or gasoline conforming to Military Specification MIL-G-5572, Grade 115/145
Fuel filter	Disposable element
Battery	24-volt, 34-ampere hour, nickel-cadmium

Instrumentation (unit testing conditions)

Engine speed	Tachometer indicator
Exhaust gas temperature	Temperature indicator
	Indicator light
Generator voltage	AC voltmeter
Generator amperage	AC ammeter
Generator frequency	Frequency meter
Circuit breaker	Indicator light
DC generator	Indicator light
Oil Pressure	Indicator light
Overspeed	Indicator light
Underspeed	Indicator light

Towing speeds (maximum)

Paved highways	20 mph
Graded gravel roads	10 mph
Rough surface	2 mph

Turning angle	45 degrees (maximum)

Figure 1-2. Table of Leading Particulars

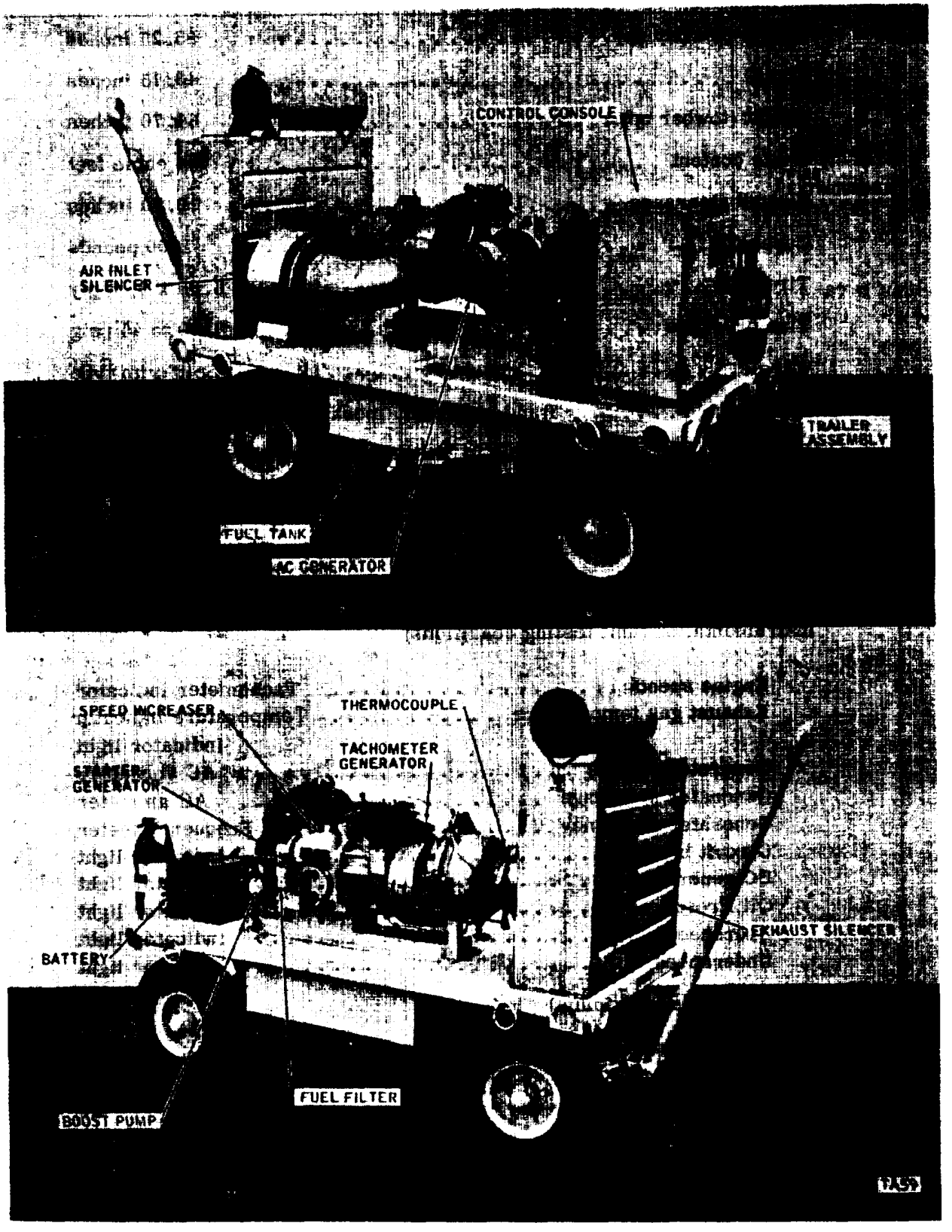

Figure 1-3. Mobile Check Stand Major Components

1-15. INSTRUMENT PANEL. (See figure 1-4.)

1-16. The instrument panel, housed in the top of the control console, simulates the aircraft controls. It contains manually-actuated switches to operate the APU, and gages and lights to indicate conditions of the APU during operation. All indicator lights and instruments are visible when the instrument panel cover is lifted. The panel is divided into two groups of controls; engine control and ac generator control. The engine control group contains the pyrometer (exhaust temperature indicator), tachometer indicator (engine speed indicator), HIGH EXH TEMP lamp, DC GEN ON lamp, LOW OIL PRESS lamp, OVERSPEED lamp, BOOST PUMP switch, DC CONTROL circuit breaker, VOLTAGE REG circuit breaker, and the engine START-RUN-OFF switch. The ac generator control group contains the ac voltmeter, ac ammeter, frequency meter, CB CLOSED lamp, GEN UNDERSPEED lamp, CLOSE-TRIP switch, and the VOLTS-AMPS phase selector switch.

1-17. THERMOCOUPLE. (See figure 1-3.)

1-18. The thermocouple is stowed on the left side of the engine support frame. When in use, the thermocouple is installed on the top side of the APU exhaust outlet. The thermocouple probe projects into the exhaust stream and senses exhaust gas temperature at the alumelchromel junction. A small voltage is generated and converted to an indication on the exhaust temperature indicator during engine operation.

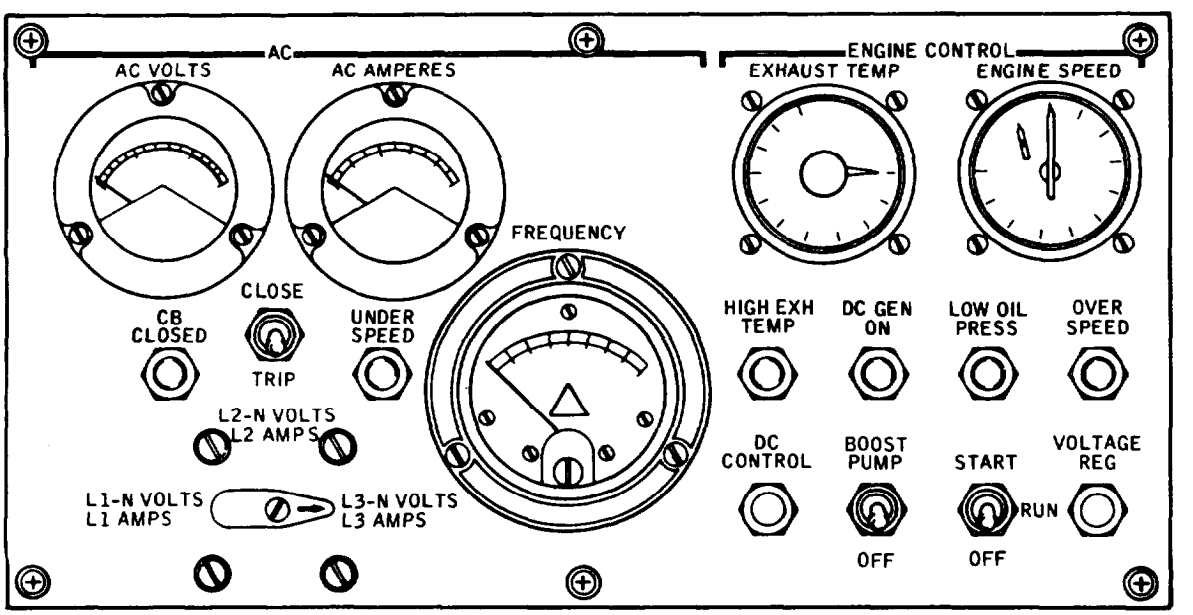

Figure 1-4. Console Instrument Panel

1-19. TACHOMETER GENERATOR. (See figure 1-3.)

1-20. The tachometer generator is stowed inside the hinged door of the control console. When in use,' the tachometer generator is mounted in tandem with the speed switch on the APU, and generates a small voltage which is converted to an indication on the engine speed indicator instrument during engine operation.

1-21. FUEL SYSTEM. (See figure 1-5.)

1-22. The fuel system consists of a fuel tank, an electric motor-driven fuel boost pump, a disposable-element type fuel filter, and connecting rigid and flexible plumbing. The filter and boost pump are mounted on a support bracket, which is bolted to the engine support frame on the trailer. All components provide a complete and independent fuel system for the operation of the APU while on the trailer. A flexible hose, connected to a dummy fitting, connects the fuel system to the APU.

1-23. FUEL TANK. (See figure 1-3.)

1-24. The fuel tank is a 40-gallon-capacity aluminum tank built into the trailer frame. The tank has a four-inch diameter filler neck, an overboard vent, and a drain fitting for draining condensation or for draining the tank prior to shipping or storage. A standpipe and fitting connects to the fuel boost pump through rigid tubing. The tank filler cap incorporates a dipstick fuel indicator.

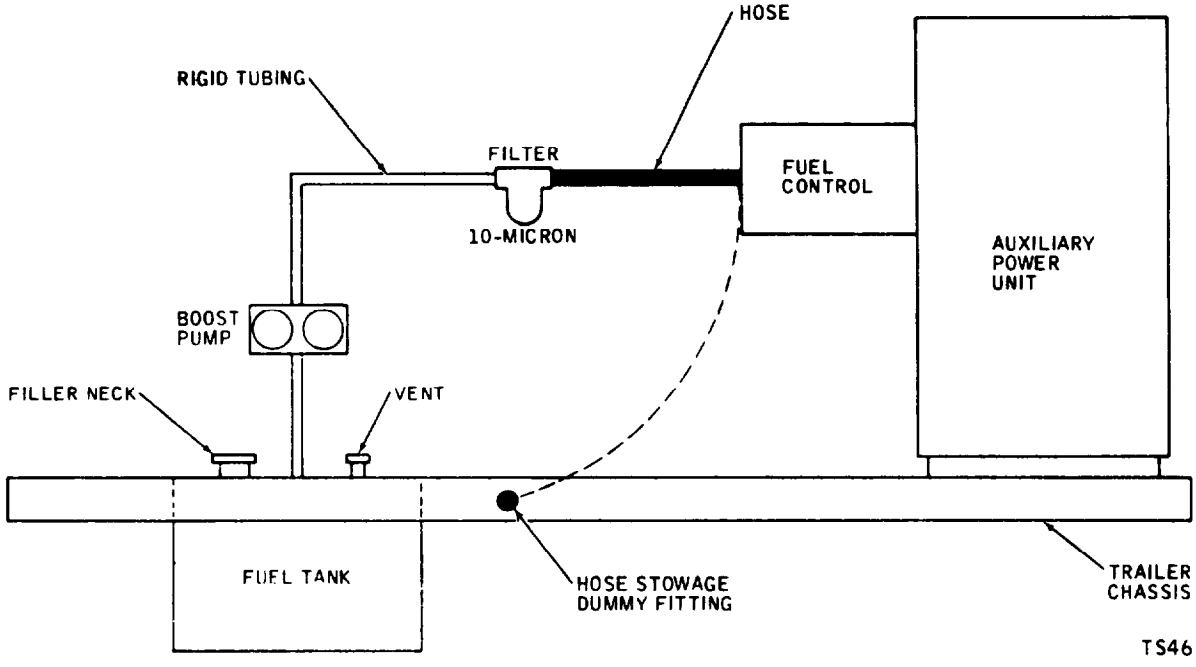

Figure 1-5. Fuel System Schematic

1-25. FUEL BOOST PUMP. (See figure 1-3.)

1-26. The fuel boost pump is an electric motor-driven pump bolted to a support bracket on the right side of the trailer. The boost pump draws fuel from the fuel tank and routes it through the fuel filter to the fuel control on the APU. A minimum of 5 psig fuel boost pressure is sufficient to ensure fuel flow to the fuel system of the APU.

1-27. FUEL FILTER. (See figure 1-3.)

1-28. A replaceable-element, low-pressure fuel filter is bolted to a support bracket on the right side of the trailer. A pressure relief valve within the filter head assembly is set to relieve at 10 to 12 psig differential pressure. The filter provides lo-micron filtration of the fuel before entry into the fuel system of the APU.

1-29. AIR INLET SILENCER. (See figure 1-3.)

1-30. The air inlet silencer is a sound suppressor, bolted to thin blocks on the forward left side of the trailer. The silencer consists of a labyrinth-type annular muffler, lined with acoustical material, a 90-degree adapter elbow, a flexible coupling, and clamps. During engine operation, the air inlet silencer is clamped to the air inlet shroud of the APU. The labyrinth formed by the insulated silencer assembly reduces the noise of intake air to the APU during engine operation.

1-31. EXHAUST SILENCER. (See figure 1-3.)

132. The exhaust silencer is a sound suppressor bolted to the frame at the forward end of the trailer. The silencer consists of a rectangular steel enclosure lined with acoustical material. The construction of the silencer allows the exhaust gas to expand, cool, and change direction before leaving the suppressor. A cylindrical inlet tube telescopes from the silencer and clamps to the exhaust outlet flange of the APU. A hinged exhaust pipe assembly on the top of the silencer carries the exhaust exit noise to a height above ear level. A hinged exhaust bypass door on the back of the silencer ensures safe engine starts in case residual fuel has accumulated at the base of the silencer, creating an explosive air mixture which could be ignited by the APU exhaust.

1-33. SPEED INCREASER. (See figure 1-3.)

1-34. The speed increaser, mounted on a support frame that is bolted to the trailer, incorporates an axial (straight-through), 6000-rpm pad on which the dc starter-generator is mounted, and a right-angle, 8000-rpm pad on which the ac generator is mounted. The APU is mounted on the aft end of the speed increaser, and through the APU output speed of 6000 rpm, the speed increaser drives the generators at their respective speeds. The speed increaser is self-contained with an integral oil sump and a splash oil lubricating system.

1-35. FIRE EXTINGUSHER. (See figure 1-3.)

l-36. The portable, manually-operated, fire extinguisher is mounted in a support bracket at the aft, right end of the trailer, and secured in place by a clamp attached to the fire extinguisher support bracket.

1-37. TRAILER. (See figure 1-3.)

1-38. The trailer provides the base and mounting provisions for the check stand components and the APU. The chassis frame consists of aluminum sheets welded into a platform on which the APU and speed increaser support frame is mounted. The chassis frame is supported on the rear axle by a pivot plate bolted to the chassis frame, and with drag links mounted in automotive-type rubber bushings. The chassis frame is supported on the front axle by a plate bolted to the chassis frame and secured to the axle with U-bolts. A towbar, pivoting on the front axle and controlling tie rods-to the front wheels, provides steering for the trailer. The rear wheels are equipped with a mechanical parking brake system, connected by linkage to a brake handle on the left side of the trailer. The parking brake mechanical linkage is welded to the fuel tank. The four, split-rim wheels are mounted with pheumatic tires and tubes. Tiedown rings and reflectors are bolted on the sides of the chassis frame.

SECTION II

PREPARATION FOR USE, STORAGE, OR SHIPMENT

2-1. UNPACKING AND DEPRESERVATION.

2-2. The check stand is preserved and packed for shipment and long-time storage. After uncrating, the fuel system must be depreserved, and various stand components prepared for use. Perform the following inspections and preparations on the check stand prior to immediate use.

a. Check the exhaust silencer for operation of the hinged bypass door, and the hinged exhaust stack section.

b. Remove all packaging or other material from the exhaust silencer chamber and duct. Inspect the telescoping duct and clamp for damage.

C. Inspect the air inlet silencer, elbow duct, flexible coupling, and clamps for damage.

d. Remove all packing material from the control console. Inspect the console, doors, and instruments for damage.

e. Inspect cables and harnesses for damage and for loose connections. Tighten all loose connections.

f. Inspect reflectors and tiedown rings for damage and security.

g Inspect the running gear, steering, towbar, and the parking brake for operation.

h. Inflate the tires to 45 psig air pressure.

2-3. PREPARING THE BATTERY FOR USE.

2-4. The battery contains electrolyte when shipped, and must be given a freshening charge prior to use. Perform the freshening charge in accordance with instructions in TM-11-6140-2-5-12. Connect the quick-disconnect power cable connector to the terminal pins on the battery after the freshening charge.

2-5. PREPARING THE SPEED INCREASER FOR USE. (See figure 4-3.)

2-6. The speed increaser must be serviced prior to use, as follows:

a. Remove all packing and sealing material from the speed increaser.

b. Place a suitable waste container under oil drain plug (3).

c. Remove the oil drain plug and O-ring (4), and drain residual oil from the speed increaser oil sump. Discard O-ring (4).

Note

When installing new O-rings on the speed increaser, apply a light film of lubricating oil, Military Specification MIL-L-7808, on the new O-ring prior to installation.

d. Reinstall the oil drain plug (3) and new O-ring (4).

e. Remove breather cap and filler plug (6) and O-ring and fill the speed increaser oil sump with lubricating oil, Military Specification MIL-L-7808, to the OIL LEVEL mark on the sight glass.

f. Install breather cap and filler plug (6), and new O-ring (7). Wipe any spilled oil from the speed increaser, and surrounding area.

2-7. PREPARING THE FUEL SYSTEM FOR USE.

2-8. The fuel system must be depreserved prior to use, as follows:

a. Place a suitable container under the fuel tank drain fitting.

b. Remove the drain fitting, and drain residual preservative oil from the tank.

c. Flush the tank with one or more gallons of clean fuel, Military Specification MIL-J-5624, Grade JP-4, or with gasoline, Military Specification MIL-G-5572, Grade 115/145. Drain the flushing fluid from the tank, and reinstall the drain plug.

d. Remove fuel filter bowl, and pour out any residual preservation fluid. Reinstall the filter bowl using new O-ring.

e. Purge the fuel system, as follows:

(1) Add clean fuel to the fuel tank.

(2) Disconnect flexible fuel supply line from dummy fitting. Place the open end of the flexible line in a suitable waste fuel container.

(3) See figure 1-4. Press DC CONTROL circuit breaker.

(4) Move START-RUN-OFF switch to RUN.

(5) Move BOOST PUMP switch to BOOST PUMP. The boost pump will operate and fuel will flow through the flexible line.

(6) Move BOOST PUMP switch to OFF after clean fuel, free of air bubbles, flows out of the flexible line.

(7) Move START-RUN-OFF switch to OFF.

(8) Pull DC CONTROL circuit breaker.

(9) Reconnect the flexible fuel supply line to the dummy fitting, and maintain fuel system cleanliness.

2-9. PRESERVATION OF THE FUEL SYSTEM.

2-10. The fuel system must be preserved prior to storage or shipment, as follows:

a. Place a suitable container under the fuel tank drain fitting.

b. Remove the drain fitting and drain all the fuel from the fuel tank. Reinstall the drain fitting.

c. Put approximately one or two gallons of lubricating oil, Military Specification MIL-O-6081, Grade 1010, into the fuel tank.

d. Remove the fuel filter bowl, and pour out the fuel from the bowl; reinstall the bowl.

e. Disconnect the tank-to-pump fuel supply line at the boost pump. Connect a flexible line to the pump, and place the open end of the line in a one-gallon-capacity container filled with lubricating oil, Military Specification MIL-O-6081, Grade 1010.

f. Disconnect the flexible fuel supply line from the dummy fitting. Place the open end of the flexible line in a suitable waste fuel container.

g. See figure 1-4. Press DC CONTROL circuit breaker.

h. Move START-RUN-OFF switch to RUN.

i. Move BOOST PUMP switch to BOOST PUMP. The boost pump will operate and the preservative oil will flow through the flexible line.

j. Move BOOST PUMP switch to OFF when preservative oil flows out the flexible line.

k. Move START-RUN-OFF switch to OFF.

l. Pull DC CONTROL circuit breaker.

m. Reconnect the flexible fuel supply line to the dummy fitting.

n. Disconnect the flexible line from the boost pump, and reconnect the tank-to-pump fuel supply line.

o. Remove the fuel tank drain fitting and drain all the preservative oil from the tank. Reinstall the drain fitting.

p. Wipe any spilled oil from the stand surface and from stand components.

2-11. PREPARATION FOR STORAGE.

2-12. The check stand must be prepared for storage, as follows:

a. Perform fuel system preservation in accordance with instructions in paragraph 2-10.

b. Disconnect the power cable from the battery.

c. Remove the battery from the stand; forward battery to an applicable storage area.

d. Remove the fire extinguisher from the stand; forward extinguisher to an applicable storage area.

e. Cover all cable connectors, and secure the cables and harnesses to convenient structures, or to receptacles provided.

f. Place a suitable container under the oil drain plug on the speed increaser. Remove the plug and drain the lubricating oil from the speed increaser. Reinstall the drain plug.

g. Cover all openings on the stand equipment, close the bypass door on the exhaust silencer, and lower the hinged exhaust stack section to the stowed condition.

h. Set the parking brakes. If anticipated storage is longer than 90 days, mount the check stand on blocks and do not set the parking brakes.

1. Cover the check stand with an adequate cover if it is to be stored outdoors.

2-13. PREPARATION FOR SHIPMENT.

2-14. The mobile check stand may be transported by land, air, or sea provided adequate safeguards are used. Prepare the stand for shipment, as follows:

a. Transporting the check stand by land:

(1) Preserve the fuel system in accordance with paragraph 2-10.

(2) Drain the fuel tank and the speed increaser oil sump. Refer to the applicable steps in paragraph 2-12 for the draining procedure.

(3) Cover all openings, secure all loose items, and adequately protect all parts subject to damage during transit. Close the bypass door on the exhaust silencer, and ensure that the exhaust stack section is lowered and securely stowed.

(4) Secure check stand to shipping carrier by fastening lines to tiedown rings along the sides of the trailer.

(5) Use a canvas cover over the check stand during inclement weather, and over dusty terrain.

b. Transporting the check stand by air:

(1) Perform steps a(1) through a(4), preceding.

(2) Remove the battery. A battery will be installed at destination.

c. Transporting the check stand by sea:

(1) Perform steps a(1) through a(4).

(2) Remove the battery. A battery will be installed at destination.

(3) Crate the check stand, using the standard crating practices for sea transport.

. SECTION III

OPERATING INSTRUCTIONS

3-1. GENERAL.

3-2. The Mobile Check Stand is a control unit providing a mounting platform, electrical controls, and components necessary for operating the models T-62T-2 and T-62T-2A auxiliary power units. The check stand, independent of the APU, cannot be turned on or off. Its components function only as a part of the power unit. The starting and stopping procedures given in this section are for the purpose of operating the auxiliary power unit, either for testing the APU, or for furnishing external ac power to the aircraft.

3-3. MOUNTING THE APU ON THE CHECK STAND.

3-4. To mount the APU on the check stand, remove the following APU components: blanket retaining band, combustor blanket assembly, blanket gasket, exhaust duct, and thermocouple boss cap. Refer to TM 55-1520-209-20 or -35 for removal procedures for these APU components.

CAUTION

Place removed APU components in a safe place to prevent loss. These parts will be reinstalled on the APU after removal of the unit from the check stand.

a. Preparation.

(1) Position the check stand and set the hand brake (pull brake handle up).

(2) Prepare the stand, battery, speed increaser, and the fuel system for use. Refer to Section II for the preparation procedures.

(3) Remove the metal cover from the rear pad on the speed increaser. Save the nuts and washers for use in attaching the APU to the speed increaser.

CAUTION

Place the metal cover in a safe place to prevent loss.

(4) Check the APU output shaft spline drive adapter on the speed increaser for damage, Wipe clean if necessary.

(5) Slide exhaust inlet (telescoping) tube into the exhaust silencer to provide clearance for APU installation.

b. Mounting the APU. (See figure 3-1.)

(1) Using a suitable hoist assembly, or equivalent, position the APU and engage the spline drive adapter. Move the APU forward until it contacts the face of the speed increaser mounting pad.

Note

A support is provided under the aft section of the APU. Carefully rest the APU on this support while engaging the spline drive adapter.

(2) Secure the APU to the speed increaser with nuts and washers removed in step a(3), preceding.

(3) Slide the exhaust silencer telescoping tube against the combustor exhaust outlet flange on the APU. Secure the tube with the clamp provided.

(4) Install the flexible duct section from the air inlet silencer to the air inlet shroud on the APU. Secure the flexible duct with the clamp provided.

c. Connecting the APU. (See figure 3-1.)

(1) Remove the protective cap from the fuel inlet filter fitting on the APU, and connect the flexible fuel supply line from the check stand. Install the protective cap on the check stand dummy fitting.

(2) Connect the check stand control harness to the harness receptacle on the APU. Tighten the harness connector securely.

(3) Install the tachometer generator (furnished with the stand) on the aft pad of the APU speed switch, using the coupling, nuts, and washers furnished with the stand.

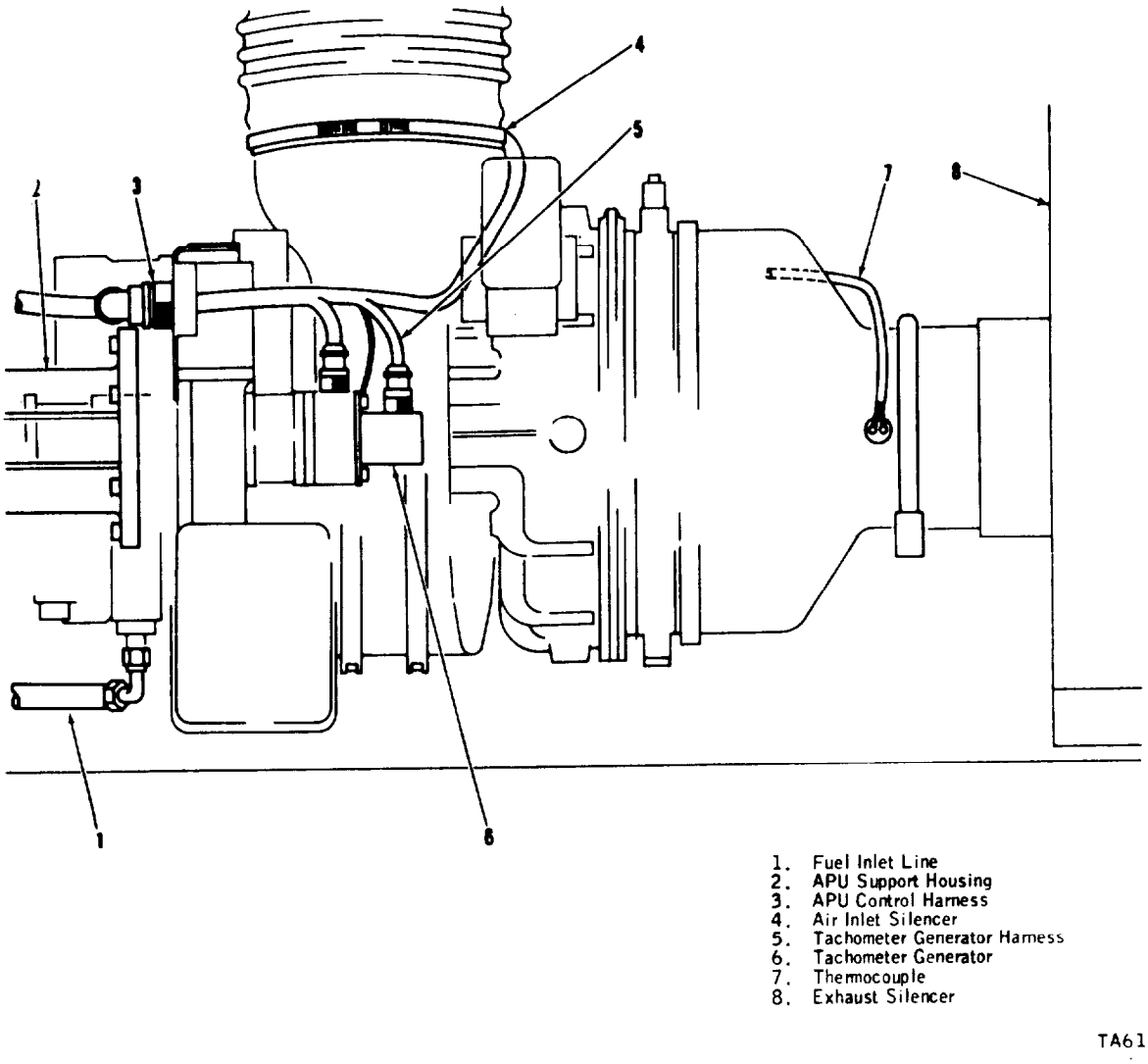

Figure 3-1. Mounting and Connecting the APU

(4) Remove the thermocouple from its stowage bracket on the check stand, and connect it to the thermocouple boss on top of the combustor exhaust outlet. Tighten the thermocouple securely.

CAUTION

Do not transport the mobile check stand over rough terrain with the APU installed. Vibrations and shock may damage vital APU parts.

3-5. PRELIMINARY CHECKS.

3-6. The following checks should be made prior to operating the auxiliary power unit.

a. Check plumbing and electrical wiring connections for security of attachment.

CAUTION

Do not operate the APU with the air inlet screen removed. Ensure operating area is clean of loose items. The greatest hazard to a gas turbine engine is the possible ingestion of foreign material into the engine compressor.

b. Lock the exhaust silencer pipe in the upright position, and direct the stand to allow safe exit of the exhaust gas (from both the exhaust pipe and the bypass door).

C. Open the exhaust silencer bypass door.

d. Check the tires for sufficient air pressure (40 to 45 psig).

e. Check the fuel tank dipstick for sufficient quantity of fuel.

f. Check the speed increaser oil sight glass for full quantity of lubricating oil.

g. Ensure that the parking brakes are applied (brake handle up).

h. Check all gages on the instrument panel for zero indication.

i. Check that all switches on the instrument panel are either in the OFF position or in neutral, and that the circuit breakers are pulled.

j. Check the APU oil sump for full quantity of engine lubricating oil (3 U.S. quarts).

k. Purge the APU fuel system. Refer to paragraph 3-7 for the purging procedure.

3-7. PURGING THE APU FUEL SYSTEM.

3-8. The following purging procedure is for the purpose of depreserving, or purging, the APU fuel system when a preserved or repaired engine is to be operated.

a. Disconnect the harness connector from the APU ignition exciter. Insulate the connector to prevent accidental contact.

b. Disconnect the APU fuel lines from the fuel manifold and from the start fuel nozzle.

c. Connect suitable drain lines to the disconnected lines, and place the open ends of the drain lines into a waste fuel capacitor (one-quart minimum capacity).

Note

If desired, the fuel lines may be disconnected from the fuel solenoid valves rather than from the fuel manifold and start fuel nozzle. Connect suitable drain lines to the fuel solenoid valves, and place the open ends of the drain lines into a waste fuel container (one-quart minimum capacity).

d. See figure 1-4. Press DC CONTROL circuit breaker.

e. Move START-RUN-OFF switch to RUN.

f. Move BOOST PUMP switch to ROOST PUMP.

g. Move START-RUN-OFF switch from RUN to START, and motor the APU until air-free fuel flows through the drain lines; then, move START-RUN-OFF switch from START to OFF.

h. Move ROOST PUMP switch to OFF.

i. Pull DC CONTROL circuit breaker.

j. Disconnect the drain lines, and reconnect the APU fuel lines to either the fuel solenoid valves, or to the fuel manifold and start fuel nozzle.

k. Reconnect the harness connector to the APU ignition exciter.

3-9. ADJUSTMENT.

3-10. Only the adjustment procedure for the APU fuel control is given in this section. Adjustment procedures for other APU components must be obtained from the applicable APU maintenance manual.

a. Acceleration Control, APU Model T-62T-2. (See figure 3-2.)

(1) To adjust acceleration schedule, remove cap covering acceleration schedule adjusting setscrew.

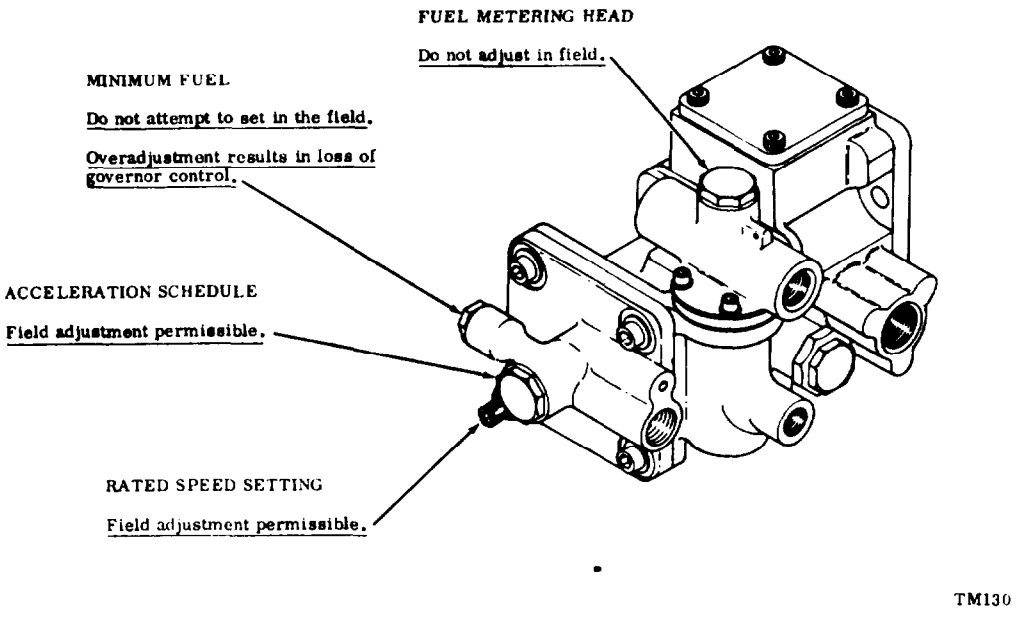

Figure 3-2. Fuel Control Adjustment, Model T-62T-2

CAUTION

Adjustment is critical. Note the initial position of adjusting setscrew and make adjustments in small increments (1/16-turn or less).

(2) Loosen locknut on setscrew, using wrench ST-70257, or equivalent. Keep wrench on locknut while performing next step to prevent excessive loosening of the locknut.

(3) Insert a 1/16-inch, hex-type wrench in the acceleration schedule adjusting setscrew. Rotate clockwise to increase acceleration fuel flow schedule, and counterclockwise to decrease flow.

(4) To adjust rated speed, loosen locknut and insert a 3/32-inch, hex-type wrench into the rated speed adjustment setscrew, Rotate clockwise to increase speed, and counterclockwise to decrease speed. A one-quarter turn (SO degrees) in either direction will change the speed accordingly by approximately 65 rpm (approximately 1.5 percent speed).

CAUTION

The adjustment setscrews can be damaged by overtightening the locknuts. Tighten the locknuts 1/8-turn beyond free-bottoming.

(5) Tighten each locknut on setscrew while maintaining adjustment with hcx-wrench. Install cap, and tighten securely.

b. Acceleration Control, Model T-62T-2A. (See figure 3-3.)

CAUTION

Adjustment is critical. Mark the initial position of adjusting lever and make adjustments in small increments (1/16-turn or less).

(1) To adjust acceleration schedule, loosen wingnut; rotate adjustment lever clockwise to increase acceleration fuel flow schedule, and counterclockwise to decrease the flow.

(2) To adjust rated speed, loosen locknut and insert a 3/32-inch, hex-type wrench into the rated speed adjustment setscrew. Rotate clockwise to increase speed, and counterclockwise to decrease speed. A one-quarter turn (SO degrees) in either direction will change the speed accordingly by approximately 65 rpm (approximately 1.5 percent speed).

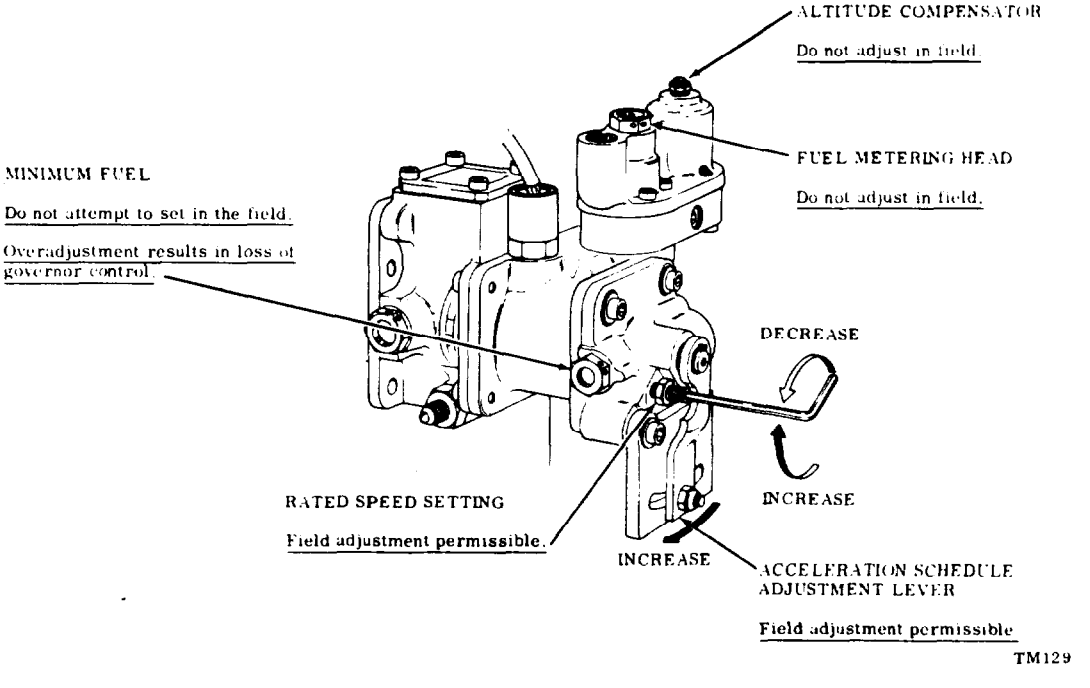

Figure 3-3. Fuel Control Adjustment, Model T-62T-2A

CAUTION

The adjustment setscrew can be damaged by overtightening the locknut. Tighten the locknut 1/8-turn beyond free-bottoming.

(3) Tighten locknut on setscrew while maintaining adjustment with hex-wrench.

3-11. OPERATION OF THE APU.

3-12. Starting.

a. Open the exhaust silencer bypass door.

b. Place the instrument panel switches in the following positions:

(1) START-RUN-OFF switch to OFF

(2) BOOST PUMP switch to OFF

(3) AC power CLOSE-TRIP switch to TRIP

(4) AC selector switch to any marked position

c. Pull VOLTAGE REG circuit breaker.

d. Press DC CONTROL circuit breaker.

e. Move START-RUN-OFF switch from OFF to RUN.

NOTE

UNDERSPEED, HIGH EXH TEMP, and OVERSPEED lamps will illuminate.

f. Press to test CB CLOSED and LOW OIL PRESS lamps for illumination at this time, if desired.

g. Move BOOST PUMP switch to BOOST PUMP.

h. Move START-RUN-OFF switch from RUN to START, then release.

Note

HIGH EXH TEMP and OVERSPEED lamps extinguish. As APU accelerates to 90 percent speed, the UNDER-SPEED lamp should extinguish.

Note

If the APU does not light off because of entrapped air in the APU fuel system, loosen the electrical connector from the fuel pressure switch; but keep the connector engaged. Crank the APU and dieconnect the pressure switch connector. As soon as the APU lights off, recon-nect the connector, and tighten securely.

i. Observe that the APU accelerates smoothly to rated speed as indicated on the tachometer indicator.

WARNING

Exhaust duct and silencer are hot during operation. Keep clear of combustibles. Operation of the APU without the combustor blankets will also expose hot surfaces. Avoid physical contact to preclude personal injury.

j. Close the exhaust silencer bypass door after the APU reaches operating speed.

k. When the APU reaches operating speed, press VOLTAGE REG circuit breaker to put the dc generator on the line. The dc generator will then furnish power to charge the battery, run the fuel boost pump, and energize the APU control relays. Do not overcharge the battery. Refer to TM-11-6140-205-12 for charging times.

l. If the EXHAUST TEMP indicator indicates abnormally high (or low) tempera-tures during starting, adjust the APU fuel control unit. Refer to paragraph 3-10 for the fuel control adjustment procedure.

Note

A high temperature and a faster-than-normal start indicates a rich fuel schedule.

m. If the UNDERSPEED lamp does not extinguish, or extinguishes before 90 percent engine speed is reached, adjust the speed switch. Refer to TM 55-1520-209-35 for the procedure.

n. If the LOW OIL PRESS lamp does not extinguish after APU cranking is initiated, the APU lubricating oil system or the low oil pressure switch has malfunctioned. Stop cranking the APU and correct the malfunction before initiating another start. Refer to TM 55-1520-209-20 to correct this malfunction.

o. If the cranking cycle is accomplished without a lightoff, the fuel control unit (fuel pump or acceleration control), ignition exciter, spark plug, or fuel nozzles may be malfunctioning. Refer to TM 55-1520-209-20 for corrective procedures.

CAUTION

Do not attempt to restart the APU after a malfunction shutdown until the malfunction has been corrected.

p. If the APU shuts down because of overspeed, the OVERSPEED lamp will illuminate. The APU fuel control unit, the speed switch, or the start fuel solenoid valve may be malfunctioning. Refer to TM 55-1520-209-20 or -35 for corrective procedures.

q. If the APU shuts down because of high exhaust gas temperature, the HIGH EXH TEMP lamp will illuminate. The reason for this shutdown may be due to loading the APU prior to attaining 100 percent rated speed, residual fuel remaining in the combustor, a restriction in the air inlet or exhaust outlet, or a failure in the engine (resulting in increased drag). Correct these conditions accordingly. Also, the fuel control may be out of adjustment. Refer to paragraph 3-10 for the fuel control adjustment procedures.

r. If the APU shuts down because of low oil pressure, the LOW OIL PRESS lamps will illuminate. This condition may be caused by low oil level in the APU, malfunctioning oil pump, clogged oil filter, electrical discontinuity, or a malfunctioning oil pressure switch. Refer to TM 55-1520-209-20 to correct these malfunctions.

3-13. APU TESTING. After the APU has automatically accelerated to rated speed, it is protected by three automatic safety devices; a speed switch, a high exhaust temperature device, and a low oil pressure switch.

Note

Rated speed (100 percent engine speed) is defined as 4200 rpm indication on the tachometer generator. This corresponds to 6000 rpm of the reduction drive output and 56, 000 rpm of the turbine.

a. Speed Adjustment. After the APU attains 100 percent rated speed at no load, adjust acceleration control to obtain 102 percent engine speed for Model T-62T-2, and 105 percent for Model.T-62T-2A. When these speeds have been obtained for the APU on the check stand, run the APU for approximately 10 minutes and carefully check for fuel and oil leaks.

Note

Engine should shut down when rated speed is exceeded by 10 percent. The ENGINE SPEED indicator registers in percent. The small hand makes one revolution for each 10 percent through 100 percent. Each one percent is indicated by the small hand after 100 percent is exceeded.

b. Thermal Protective Device. If the APU exceeds the temperature limits of 1070°F (576.5°C) for Model T-62T-2, and 1090°F (587.7°C) for Model T-62T-2A, the APU automatically shuts down.

C. Low Oil Pressure Switch. The low oil pressure switch is set to shut down the APU if decreasing oil pressure reaches 6 ± 1 psig.

3-14. AC POWER OPERATION.

3-15. The mobile check stand may be used to furnish 400-cycle, 115/200-volt, ac power for the aircraft preflight operations, or other needs. A 50-foot power cable is provided with the check stand, and is equipped with a connector to engage the ac power input receptacle on the aircraft.

CAUTION

To preclude damage to electrical components, always monitor check stand controls during ac generator operation to avoid operation at low frequency, high frequency, or low voltage. Avoid contact with high-voltage components in the control console during operation of the ac generator,

3-16. Before connecting the power cable to the aircraft, start the APU. With the APU at operating speed, move the ac power CLOSE-TRIP switch to the center position. Check the voltages on all three phases using the ac selector switch.

3-17. Connect the power cable to the aircraft receptacle, and move the ac power CLOSE-TRIP switch to CLOSE. CB CLOSED lamp will illuminate. An AC FREQUENCY meter is provided on the instrument panel. AC volts and amperes may be read on the AC VOLTS and AC AMPERES meters provided on the instrument panel by selecting the phase desired with the AC selector switch.

3-18. The ac overvoltage relay will operate to remove the ac generator from the line if an overvoltage condition exists. The CB CLOSED lamp will extinguish. An engine malfunction shutdown will also cause the ac generator to go off the line.

3-19. Move the AC power CLOSE-TRIP switch to TRIP before stopping the APU after an ac power utilization run. The CB CLOSED lamp will extinguish.

3-20. APU STOPPING.

a. Move AC power CLOSE-TRIP switch to TRIP.

b. Pull VOLTAGE REG circuit breaker.

c. Move START-RUN-OFF switch to OFF.

d. Move BOOST PUMP switch to OFF.

3-21. APU REMOVAL.

3-22. Removal of the APU from the mobile check stand is the reverse of the installation procedures given in paragraph 3-4. Perform the following steps after removal of the APU from the check stand.

a. Disconnect the battery.

b. Reinstall the metal cover on the rear pad of the speed increaser. Secure the cover to prevent the loss of the spline drive adapter.

c. Remove the tachometer generator from the APU speed switch, and stow in receiver inside the control console door. Place the nuts, washers, and drive coupling adapter in a cloth bag and stow with the tachometer generator for future use.

d. Connect the flexible fuel line to the dummy fitting, and tighten the line securely.

e. Connect the check stand control harness connector to the dummy receptacle, and tighten the connector securely.

f. Stow the thermocouple to avoid damage to the wire harness. Tighten the thermocouple swivel nut securely.

SECTION IV

MAINTENANCE INSTRUCTIONS

4-1. GENERAL.

4-2. Maintenance of the mobile check stand consists of periodic lubrication, specified in figure 4-1, and of performing the inspection checks described in figure 4-4. Common repair procedures are not given; such repairs should be made in accordance with standard practices. When an item is unique or sufficiently complex so as to require special instructions and precautions, the repair procedures are given in Section VI.

4-3. CLEANING.

4-4. Clean metal parts with cleaning solvent, Federal Specification P-D-680, Type I or II. Wipe clean with a clean dry cloth. Parts may be sprayed or immersed in the solvent, whichever is convenient. Apply service-approved corrosion-preventive compounds on all steel parts after cleaning. Clean all electric parts with a soft-bristle brush or a lint-free cloth. Remove all traces of corrosion or other deposits that may interrupt electrical continuity.

4-5. PERIODIC LUBRICATION.

4-6. Perform periodic lubrication of the check stand in the manner and at the intervals prescribed in figure 4-1.

Figure & Index No.	Item	Interval	Method	Lubricant
1, Fig. 4-2	Lube Fittings	180 Days	Grease Gun	MIL-G- 10924
2, Fig. 4-2	Wheel Bearings	180 Days	Hand Pack	MIL-G- 10924
3, Fig. 4-2	Moving Parts	180 Days	Oil Can	MIL-L-7870
Fig. 4-3	Speed Increaser	180 Days	Drain and Fill	MIL-L-7808

Figure 4-1. Table of Periodic Lubrication

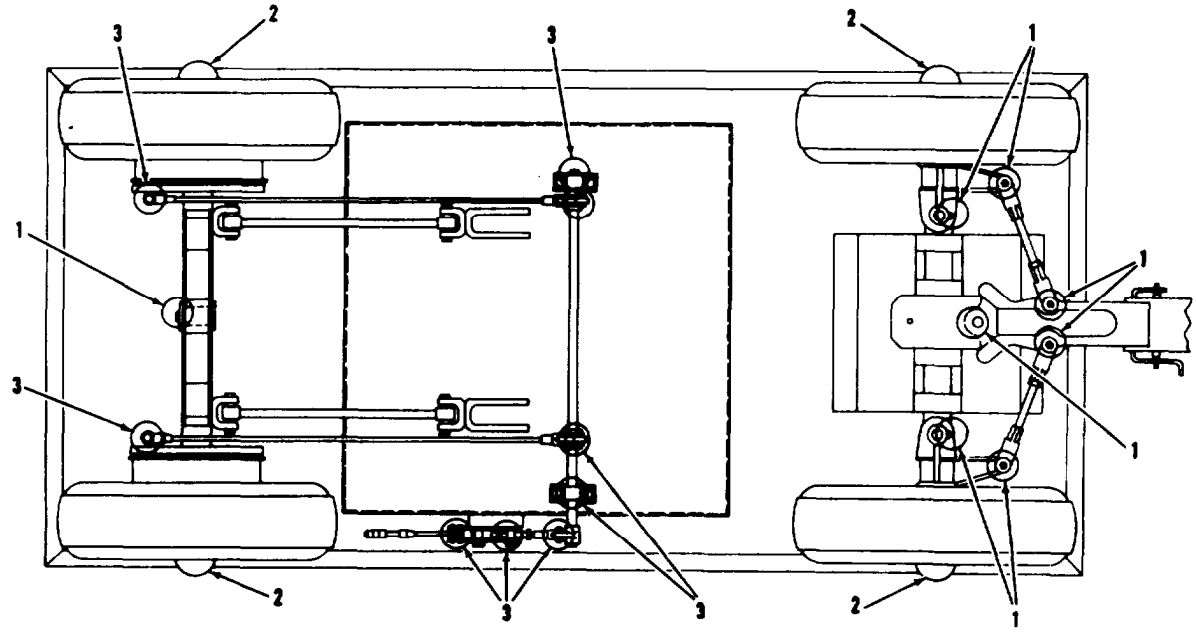

Figure 4-2. Mobile Check Stand, Lubrication Diagram

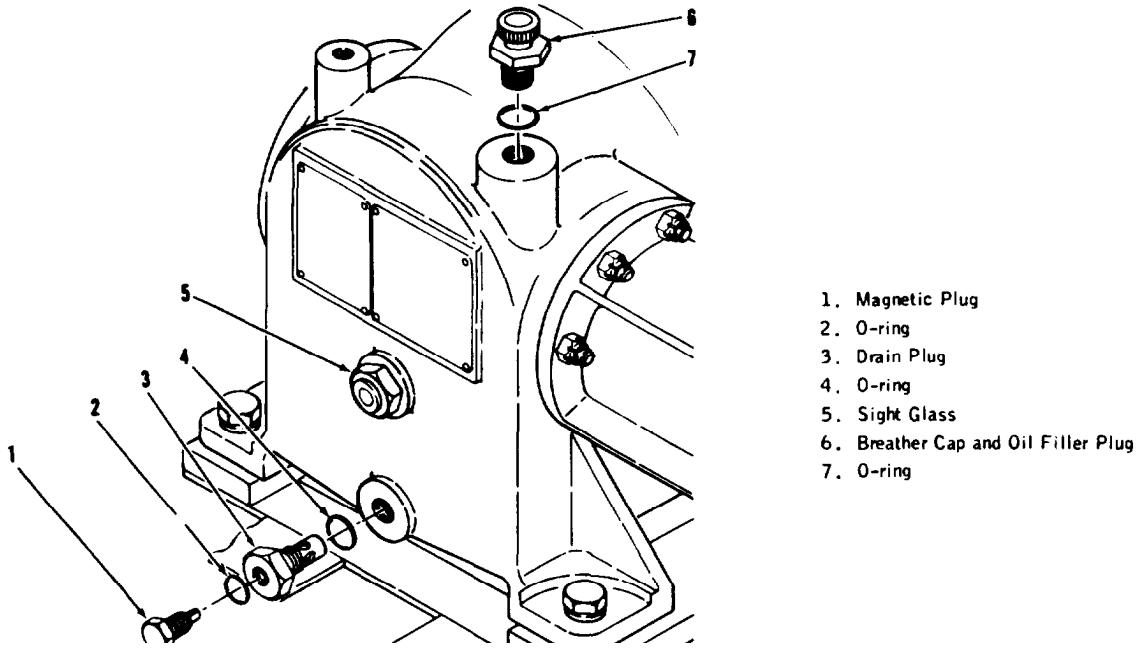

Figure 4-3. Draining the Speed Increaser Lubricating Oil

4-7. PERIODIC INSPECTION AND MAINTENANCE.

4-8. Perform periodic inspection and maintenance of the items listed in figure 4-4 at the intervals indicated. During periods of frequent use or of operation in severe climatic or environmental conditions, the inspection and maintenance schedule should be altered accordingly.

Item	Interval	Method	Inspection and Maintenance
Battery	30 Days	Visual and Operational	a. Inspect vent openings for restrictions. b. Check level of electrolyte. c. Check connections for security of attachment. d. Check caps and case for leaks and cracks. e. Clean corroded areas. Note Refer to TM-11-6140-205-12 when performing further battery maintenance.
Fire Extinguisher	30 Days	Visual and Operational	a. Check clamp and support bracket for security of attachment. b. Check all moving parts for corrosion and damage. c. Inspect horn for cracks and chips.

Figure 4-4. Table of Periodic Inspection and Maintenance (Sheet 1 of 8)

Item	Interval	Method	Inspection and Maintenance
Fire Extinguisher (Cont)	30Days	Visual and Operational	d. Weigh, recharge if required, and perform all inspections and maintenance prescribed by the manufacturer.
Tires	30 Days	visual	a. Check for cuts, cracks, excessive or abnormal wear on any surface. b. Check for proper air pressure (40 to 45 psig).
Controle Console and Instrument Panel	60 Days	Visual and Operational	a. Check connectors for dirt and corrosion. b. Check harnesses and cable for security of attachment and chafing. c. Check all external relay connections for security (power off). d. Check ground connections for security. e. Check all insulation for chafing and wear. f. Check mounting bolts and lugs for security of attachment. g. Check circuit breakers for operation. h. Check warning lights for defective lamps.

Figure 4-4. Table of Periodic Inspection and Maintenance (Sheet 2 of 8)

Item	Interval	Method	Inspection and Maintenance
Harnesses, Cables, Wire Assemblies, and Terminal Blocks	60 Days	Visual and Operational	a. Check continuity of all harnesses, cables, and wire assemblies. b. Check all connectors for bent pins. c. Check wire insulation for chafing and wear. d. Check that terminal assemblies are secure and properly mounted.
Brakes and Linkage Assembly	90 Days	Visual and Operational	a. Test that parking brakes hold check stand when load is applied. b. Check locking and unlocking action of brake lever. c. Check all attaching parts for security of attachment, stripped threads, and corrosion. d. Check brake lining adjustment.
Fuel Filter and Fuel Lines	90 Days	Visual	a. Clean the filter case. b. Check that the seal is flexible and free of cracks. c. Install new element and new O-rings.

Figure 4-4. TabIe of Periodic Inspection and Maintenance (Sheet 3 of 8)

Item	Interval	Method	Inspection and Maintenance
Fuel Filter and Fuel Lines (Cont)	90 Days	visual	d. Check all lines and fittings for stripped threads, and for security of attachment.
Fuel Tank	90 Days	Visual	a. Inspect fuel tank for leaks. b. Check drain fittings for damage and security of attachment. c. Check filler cap and dip-stick for damage and for loose fit on the filler neck. d. Check dipstick for readability of measurement and for security of attachment to the filler cap.
Speed Increaser	90 Days	Visual	a. Check all nuts and bolts for stripped threads, and for security of attachment. b. Remove cover from input shaft housing. Check the input shaft for cracks, wear, chipped splines, and chipped teeth. c. Check oil sight glass for leaks, cracks, and clearness. d. Check oil breather for restricted vents. e. Check oil filler cap and fitting for stripped threads.

Figure 4-4. Table of Periodic Inspection and Maintenance (Sheet 4 of 8)

Item	Interval	Method	Inspection and Maintenance
Grounding Wires and Post	90 Days	Visual	a. Check wires for fraying. b. Check attaching nuts and post for stripped threads. c. Check wire terminals, nuts, and washers for corrosion, and for security of attachment.
Lubrication Fittings	90 Days	Visual	Check that all lubrication fittings are installed and undamaged. See figure 4-2 for location of lubrication fittings.
Air Inlet Silencer	180 Days	Visual	a. Check clamps for cracks and stripped threads. b. Check chain for worn or broken links. c. Check flexible coupling for tears, cuts, and wear. d. Check elbow for dents and cracks. e. Check all welds for cracks. f. Check insulation and screens for tears, security of attachments, and for accumulation of foreign particles which may be ingested by the APU.

Figure 4-4. Table of Periodic Inspection and Maintenance (Sheet 5 of 8)

Item	Interval	Method	Inspection and Maintenance
Exhaust Silencer	180 Days	visual	a. Inspect all weld for cracks. b. Inspect all rivets for looseness. c. Check retractable exhaust inlet tube for cracks, dents, and binding. d. Check clamp for cracks and stripped threads. e. Check chain for worn or broken links. f. Using a flashlight, inspect the interior of silencer for loose, burned, and torn screening and insulation. g. Inspect bypass door for proper closing, cracks, and damage. Inspect blast plate (rear of door) for burn-through, cracks, warpage, and looseness.
Frame	180 Days	Visual	a. Examine all structural components of the trailer, such as angles, beams, supports, and welded sections for cracks, weakness, and failures. b. Check all components for security of attachment.

Figure 4-4. Table of Periodic Inspection and Maintenance (Sheet 6 of 8)

Item	Interval	Method	Inspection and Maintenance
Frame (Cont)	180 Days	Visual	c. Check all attaching parts for stripped threads and corrosion. d. Check reflectors for broken glass. e. Check all stowage equipment for security of attachment.
Running Gear	180 Days	Visual and Operational	a. Check wheels for alignment and proper training. b. Check wheel rims for cracks and dents, and attaching hardware for stripped threads. c. Remove wheel hub assemblies and check bearings for damage, flat spots, corrosion, and freedom of movement. d. Check bearing races for scoring, nicks, and looseness. e. Check grease seals and retainers for wear and damage. f. Check brake shoes and lining for damage and wear.

Figure 4-4. Table of Periodic Inspection and Maintenance (Sheet 7 of 8)

Item	Interval	Method	Inspection and Maintenance
Running Gear (Cont)	180 Days	visual and Operational	g. Check brake drums for scoring and wear. h. Check all attaching hardware for cracks and stripped threads. i. Check steering mechanism for freedom of movement. j. Check tie rods for looseness and play.
Speed Increaser	180 Days	visual	a. Remove generators and the aft metal cover, and check oil seals for leaks. b. Dram the oil. Inspect oil drain plug for stripped threads. Separate magnetic plug from dram plug, and check internal spring for corrosion and freedom of movement. Inspect magnet for metal particles, and for magnetization.

Figure 4-4. Table of Periodic Inspection and Maintenance (Sheet 8 of 8)

4-9. APPLICABLE SPECIFICATIONS.

4-10. Refer to figure 4-5 for a table listing the Government Specifications applying to the maintenance and restoration of the check stand to service we.

Use/Item	Specification	Remarks
Compound, Chemical Film	MIL-C-5541	Apply to exposed unpainted trailer parts.
Finish Painting, Trailer Assembly	TT-E-489, FED * STD 595, Color 13538	Two coats
Greasing, Wheel Bearings, and General Lubrication	MIL-G-10924	Apply to wheel bearings and lubrication fittings.
Lettering, Black	FED STD 595, Color No. 17038	Stenciled
Lettering, Red	FED STD 595, Color No. 11136	Stenciled
Lubrication, Brake Linkage	MIL-L-7870	Apply with oil can on moving Parts.
Primer, Trailer Assembly	TT-P-666	One coat
Servicing, Speed Increaser	MIL-L-7808	Fill to “OIL LEVEL” mark
Striping, Black	FED STD 595, Color No. 17038	Stenciled
Welding, Trailer Assembly	MIL-W-8604	Noncritical welding

Figure 4-5. Table of Applicable Specifications

SECTION V

ILLUSTRATED PARTS BREAKDOWN

5-1. GENERAL.

5-2. This section contains an Illustrated Parts Breakdown (IPB) of the mobile check stand. Each illustration is accompanied by a list containing the manufacturer's part number, nomenclature, and quantity per assembly.

5-3. Items that are purchased by Solar and used without alteration are identified by the vendor's part number. The vendor's name and address is indicated by a five-digit number, following the part nomenclature. The codes for the listed vendors are in accordance with the Federal Supply Code for Manufacturers, Cataloging Handbook H4-1.

5-4. This Illustrated Parts Breakdown provides supply information for all replaceable parts of the mobile check stand. The exploded views of assemblies and component parts reflect engineering drawing breakdown and are not necessarily suitable for use as guides to procedures for service or maintenance. However, procedures described in other sections of this manual reference applicable illustrations in this section for identification and location of parts.

Code	Vendor
G88042	Army Air Force drawings under custodianship of the Air Force
05277	Westinghouse Electric Corp. Semi-conductor Dept. Youngwood, Pennsylvania
08484	Breeze Corporations Inc. Union, New Jersey
09133	Kierulf Electronics Inc. Los Angeles, California
09922	Burndy Corp. Norwalk, Connecticut
10424	Magesco Inc. Alhambra, California
14704	Crydom Laboratories Inc. Garden Grove, California
14892	Brake and Steering Division of The Bendix Corp. South Bend: Indiana
22573	Saginaw Products Corp. Gardena, California
33525	Walter Kidde and Company, Inc. Belleville, New Jersey

Code	Vendor
44655	Ohmite Manufacturing Co. Skokie, Illinois
57733	Stewart-Warner Corp. Chicago, Illinois
59730	Thomas and Betts Co. Elizabeth, New Jersey
65092	Weston Instruments Inc. Weston-Newark Newark, New Jersey
70040	AC Spark Plug Corp. of General Motors Corp. Flint, Michigan
72741	Dorman Products Co. Inc. Cincinnati, Ohio
74063	Hartman Electric Mfg. Co. Mansfield, Ohio
76680	National Seal Division of Federal-Mogul-Bower Bearings Inc. Redwood City, California
81321	Purolator Products Inc. Rahway, New Jersey
81861	Burton Electric Co. El Segundo, California
82121	Electro Switch Corp. Weymouth, Massachusetts
86831	Roylyn Inc. Glendale, California
97484	Technical Development Co. Glenolden, Pennsylvania
98625	Aeroquip Corp. Marman Division Los Angeles, California

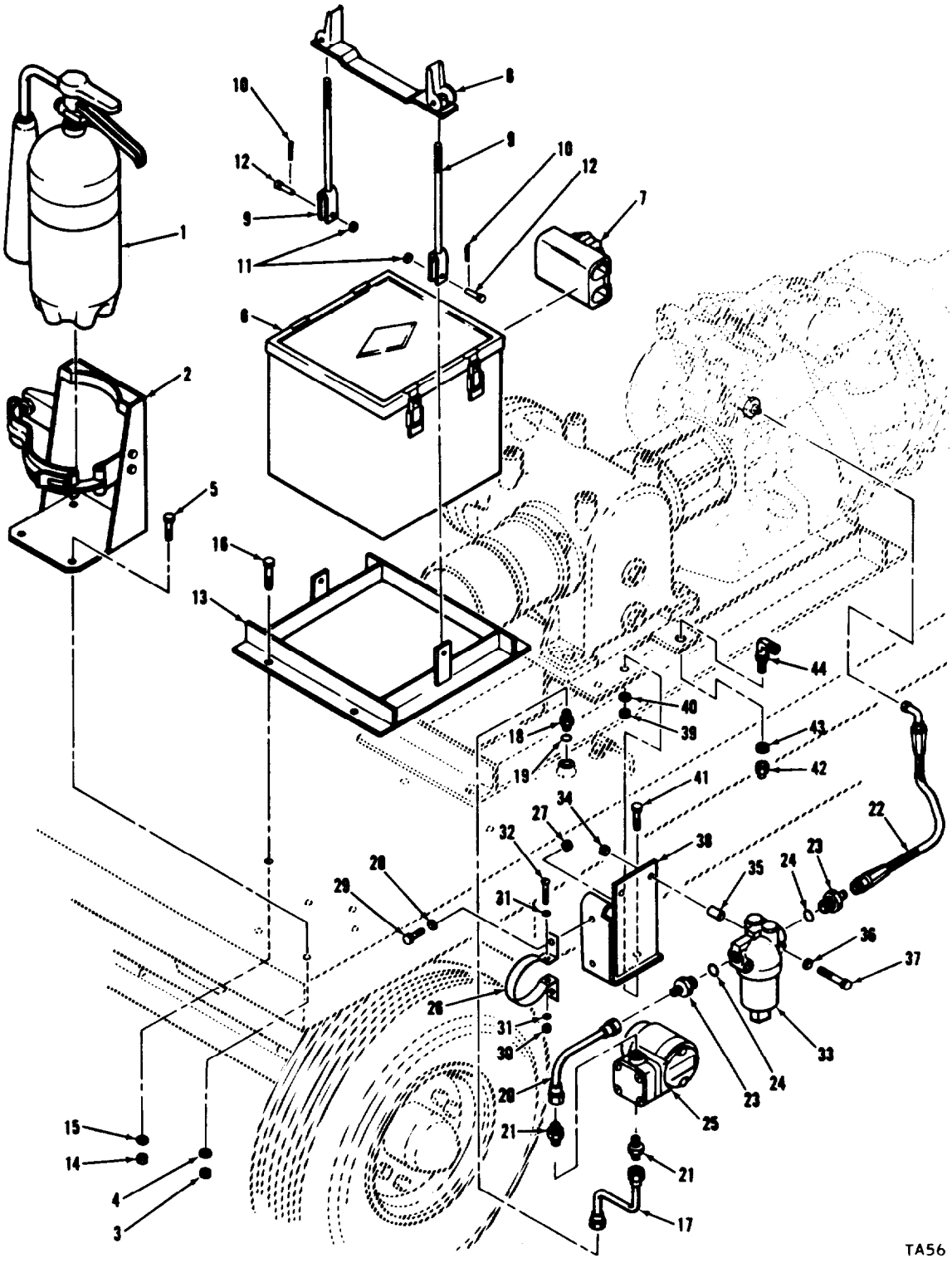

Figure 5-1. Dual Purpose Mobile Check and Adjustment/Generator Stand (Sheet 1 of 4)

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable on Code
5-1-	45977-0	STAND, Mobile check and adjustment/ generator, dual purpose	1	
-1	891519	EXTINGUISHER, Fire (33525)	1	
-2	870752	BRACKET, Clamp-type (33525)	1	
		(ATTACHING PARTS)		
-3	MS21045-6	LOCKNUT	4	
-4	4N960-616	WASHER	4	
-5	ANG-7A	BOLT	4	
		----*----		
-6	MS24498-1	BATTERY (Government furnished)	1	
-7	MS25182-2	RECEPTACLE, Connector	1	
-8	AN3156-3	CLAMP, Battery holddown	2	
-9	21590-0	STUD	2	
		(ATTACHING PARTS)		
-10	MS24665-151	PIN, Cotter	2	
-11	MS960C416L	WASHER	2	
-12	MS20392-3C11	PIN, Clevis	2	
		----*----		
-13	47702-0	RETAINER, Battery	1	
		(ATTACHING PARTS)		
-14	MS21045-6	LOCKNUT	4	
-15	AN960-616	WASHER	4	
-16	AN6-7A	BOLT	4	
		----*----		
-17	47704-0	LINE ASSEMBLY	1	
-18	AN815-6	UNION	1	
-19	MS29512-06	O-RING	1	
-20	47705-0	LINE ASSEMBLY	1	
-21	AN816-6	NIPPLE	2	
-22	47706-0	HOSE ASSEMBLY	1	
-23	AN919-12	REDUCER	2	
-24	MS29512-08	O-RING	2	
-25	5656748	PUMP, Fuel, electric (70040)	1	
		(ATTACHING PARTS)		
-26	5620653	BRACKET (70040)	1	
-27	MS20364-624C	LOCKNUT	2	
-28	AN960-616	WASHER	2	
-29	MS35266-108	SCREW	2	
-30	MS21045-4	LOCKNUT	1	

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	units Per Assy	Usable on Code
5-1-31	AN960-416L	WASHER	2	
-32	AN520-416-28	SCREW	1	
		----*----		
-33	46424-l	FILTER, Fuel, hydraulic (See figure 5-8 for detail breakdown)	1	
		(ATTACHING PARTS)		
-34	MS21045-4	LOCKNUT	2	
-35	37327-l	SPACER	2	
-36	AN960-416L	WASHER	2	
-37	AN4-27A	BOLT	2	
		----*----		
-38	47703-0	BRACKET, Fuel pump and filter	1	
		(ATTACHING PARTS)		
-39	MS21045-6	LOCKNUT	2	
-40	AN960-616	WASHER	2	
-41	ANG-10A	BOLT	2	
		----*----		
-42	AN929-6	CAP	1	
-43	AN924-6	NUT	1	
-44	AN833-6	ELBOW	1	

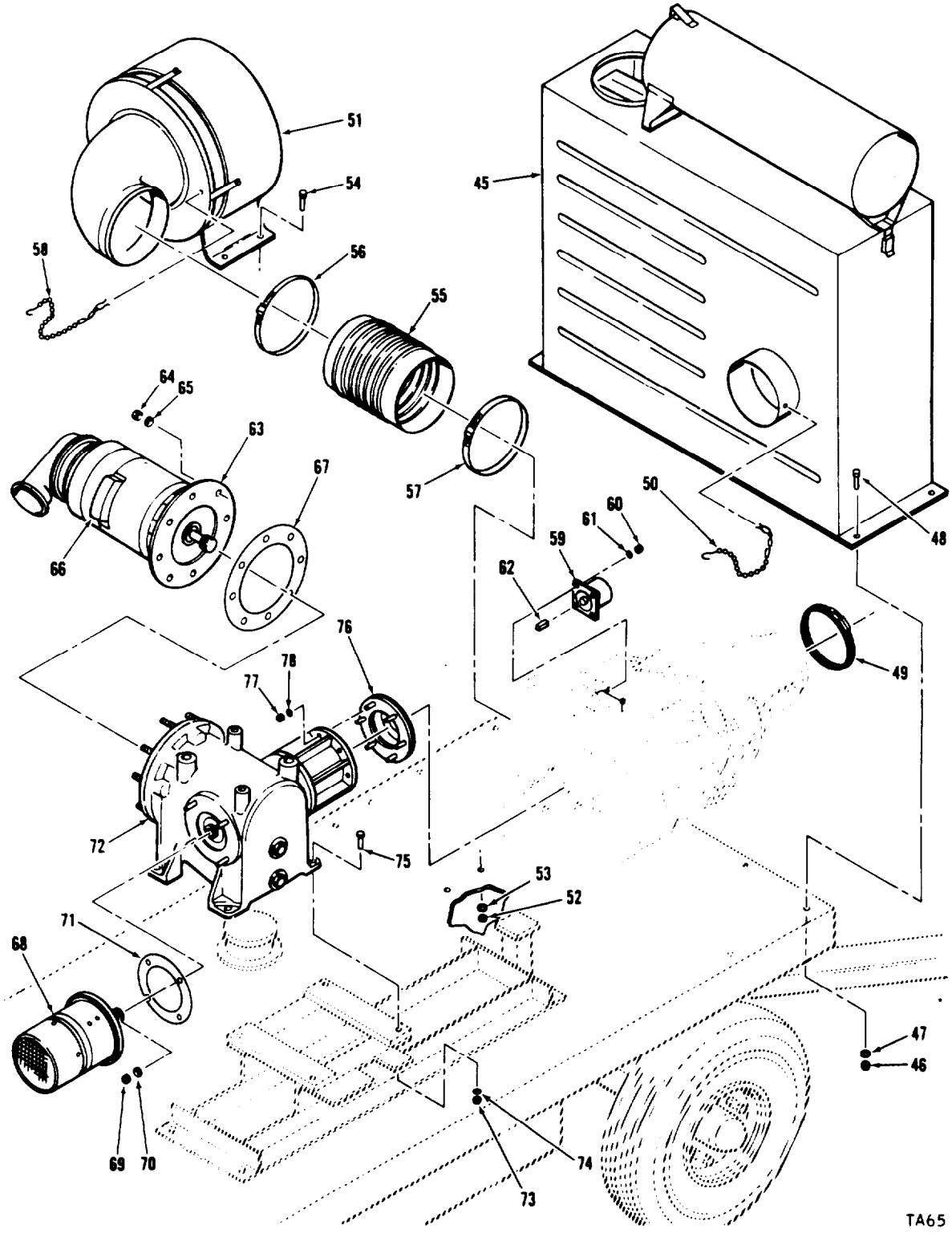

Figure 5-1. Dual Purpose Mobile Check and Adjustment/Generator Stand (Sheet 2 of 4)

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-l-45	47697-0	SILENCER ASSEMBLY, Exhaust		
		(ATTACHING PARTS)		
-46	MS21045-6	LOCKNUT	4	
-47	AN960 -616	WASHER	4	
-48	AN6-6A	BOLT	4	
		---- * ----		
-49	MV89009A-58623	RETAINER, V-type coupling (98625)	1	
-50	RS-108-060	CHAIN ASSEMBLY (86831)	1	
-51	24304-300	SILENCER ASSEMBLY, Air inlet	1	
		ATTACHING PARTS)		
-52	MS21045-6	LOCKNUT	4	
-53	AN960-616	WASHER	4	
-54	AN6-6A	BOLT	4	
		----*----		
-55	NAS1375A28-SB020	DUCT, Flex	1	
-56	QS600M116W	CLAMP (08484)	1	
-57	45977-6	CLAMP	1	
-58	RS-108-090	CHAIN ASSEMBLY (86831)	1	
-59	No Number	TACHOMETER GENERATOR*,	1	
		Miniature, per MIL-G-26611,		
		Type GEU-7A, (Government-		
		furnished)		
		(ATTACHING PARTS)		
-60	MS21045-4	LOCKNUT*	4	
-61	AN960-416L	WASHER*	4	
		----*----		
-62	7923165	ADAPTER* (70040)	1	
-63	31220-002	GENERATOR, AC (Government-	1	
		furnished)		
		ATTACHING PARTS)		
-64	MS21045-6	**LOCKNUT**	8	
-65	AN960-616	WASHER	8	
		----*----		

*Loose parts

Figure & Index No.	Part No.	1	2	3	4	5	6	7	DESCRIPTION	units Per Assy	Usable On Code
5-l-66	900615C1								COVER, Terminal block, ac generator	1	
-67	48616-1								GASKET	1	
-68	23032-022								STARTER-GENERATOR, DC (Government-furnished)	1	
									(ATTACHING PARTS)		
-69	MS21045-5								LOCKNUT	4	
-70	AN960-516								WASHER	4	
									----*----		
-71	AN4044-1								GASKET	1	
-72	47954-0								SPEED INCREASER ASSEMBLY (See figure 5-7 for partial breakdown)	1	
									(ATTACHING PARTS)		
-73	MS21045-8								LOCKNUT	4	
-74	AN960-816								WASHER	4	
-75	AN8-2lA								BOLT	4	
									----*----		
-76	47698-0								COVER ASSEMBLY	1	
									(ATTACHING PARTS)		
-77	MS21045-6								LOCKNUT	6	
-78	AN960-616								WASHER	6	

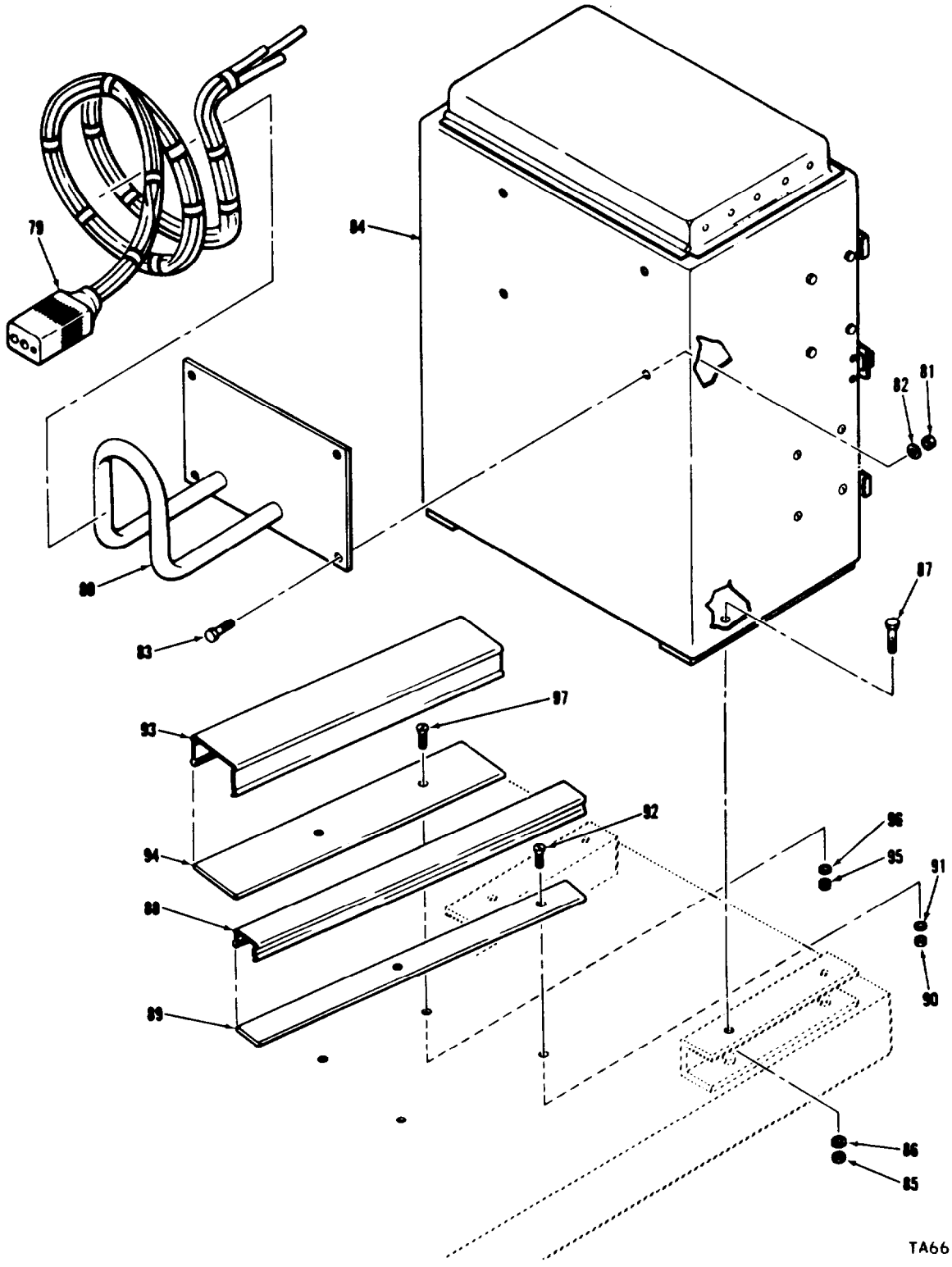

Figure 5-1. Dual Purpose Mobile Check and Adjustment/Generator Stand (Sheet 3 of 4)

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-1-79	45977-1	CABLE ASSEMBLY, External power, 3-phase, ac plug	1	
-80	47709-0	HANGER, Power cable	1	
		(ATTACHING PARTS)		
-81	MS21045-6	LOCKNUT	3	
-82	AN960-616	WASHER	3	
-83	AN6-6A	BOLT	3	
		---- * ----		
-84	47694-0	CONSOLE ASSEMBLY, Control (See figure 5-2 for detail breakdown)	1	
		(ATTACHING PARTS)		
-85	MS21045-6	LOCKNUT	4	
-86	AN960-616	WASHER	4	
-87	ANG-10A	BOLT	4	
		----*----__		
-88	45977-3	COVER, AC control	1	
-89	45977-2	BASE, AC control	1	
		(ATTACHING PARTS)		
-90	MS21044N08	LOCKNUT	2	
-91	AN960-8L	WASHER	2	
-92	AN505-8-11	SCREW	2	
		----*----		
-93	45977-5	COVER, Engine control	1	
-94	45977-4	BASE, Engine control	1	
		(ATTACHING PARTS)		
-95	MS21044N08	LOCKNUT	2	
-96	AN960-8L	WASHER	2	
-97	AN505-8-11	SCREW	2	
		----*----		

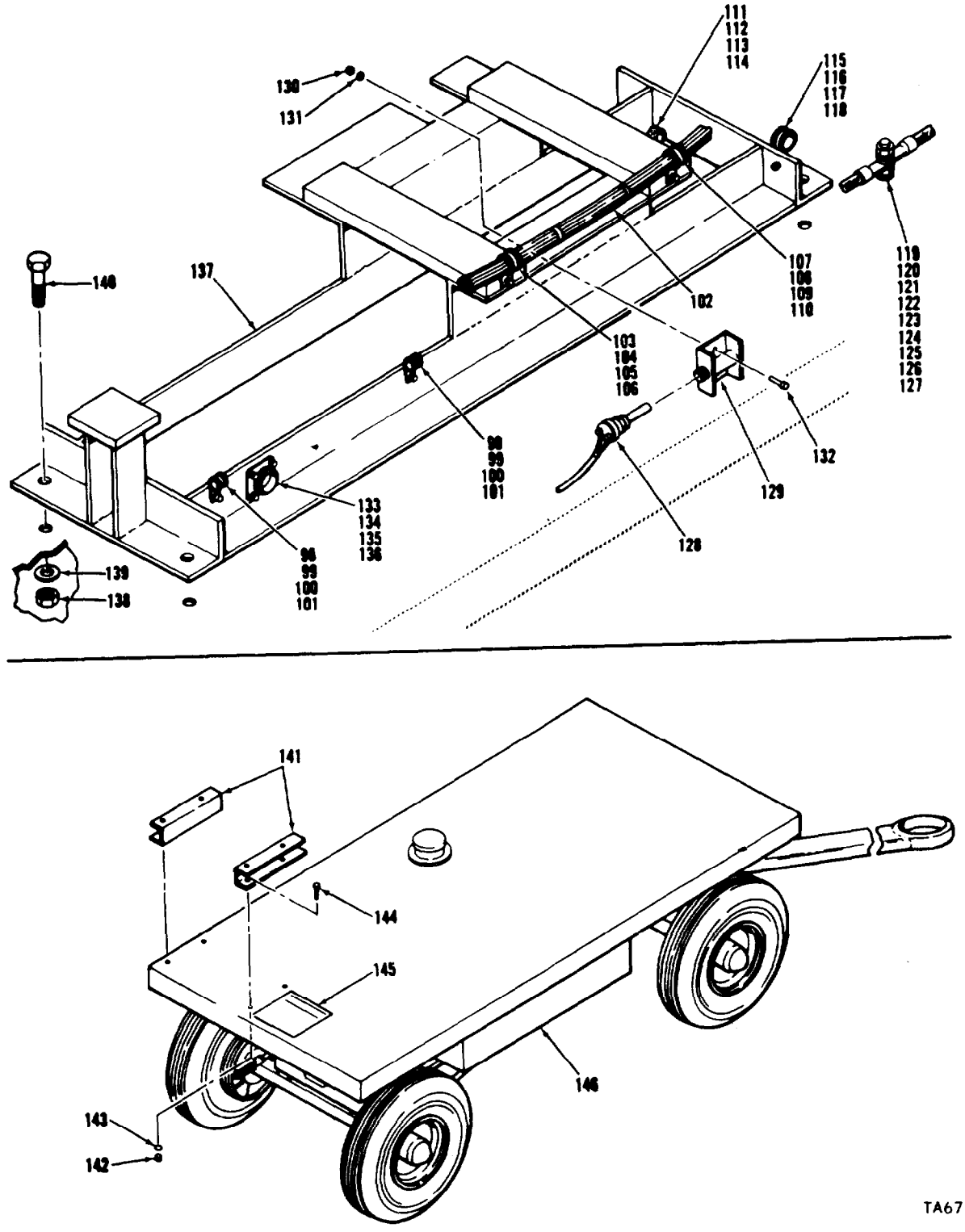

Figure 5-1. Dual Purpose Mobile Check and Adjustment/Generator Stand (Sheet 4 of 4)

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On code
5-l-98	MS21045-3	LOCKNUT	2	
-99	AN960-10	WASHER	4	
-100	MS16998-29	CAPSCREW	2	
-101	MS21919H4	CLAMP	2	
-102	47707-0	HARNESS ASSEMBLY, Engine control	1	
-103	MS16998-27	CAPSCREW	1	
-104	MS35337-43	LOCKWASHER	1	
-105	AN960-10	WASHER	1	
-106	MS21919H8	CLAMP	1	
-107	MS16998-27	CAPSCREW	1	
-108	MS35337-43	LOCKWASHER	1	
-109	AN960-10	WASHER	1	
-110	MS21919H10	CLAMP	1	
-111	MS16998-27	CAPSCREW	1	
-112	MS35337-43	LOCKWASHER	1	
-113	AN960-10	WASHER	1	
-114	MS21919H4	CLAMP	1	
-115	MS21045-3	LOCKNUT	1	
-116	AN960-10	WASHER	2	
-117	MS16998-29	CAPSCREW	1	
-118	MS21919Hl2	CLAMP	1	
-119	MS21045-6	LOCKNUT	1	
-120	AN935-616	LOCKWASHER	1	
-121	AN960-616	WASHER	1	
-122	AN960-616	WASHER	1	
-123	AN316-6	NUT, Check	1	
-124	AN935-616	LOCKWASHER	1	
-125	AN960D616	WASHER	1	
-126	AN960D616	WASHER	1	
-127	MSl6998-76	CAPSCREW	1	
-128	29217-1	THERMOCOUPLE	1	
-129	47708-0	BRACKET, Thermocouple stowage (ATTACHING PARTS)	1	
-130	MS21045-3	LOCKNUT	2	
-131	AN960-10	WASHER	2	
-132	AN3-519	BOLT	2	

----*----

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Unite Per Assy	Usable On Code
5-l-133	MS3105-20	RECEPTACLE, Electrical dummy stowage	1	
		(ATTACHING PARTS)		
-134	MS21044N04	LOCKNUT	4	
-135	AN960-4L	WASHER	4	
-136	AN515-4R10	SCREW	4	
		----*----		
-137	47696-0	FRAME ASSEMBLY, Engine support	1	
		(ATTACHING PARTS)		
-138	MS21045-6	LOCKNUT	4	
-139	AN960-616	WASHER	4	
-140	AN6-10A	BOLT	4	
		----*----		
-141	47710-1	CHANNEL	1	
		(ATTACHING PARTS)		
-142	MS21045-6	LOCKNUT	4	
-143	AN960-616	WASHER	4	
-144	AN6-7A	BOLT	4	
		----*----		
-145	47903-1	PLATE, Identification	1	
-146	47693-0	TRAILER, Mobile check and adjustment stand, dual purpose (See figure 5-4 for detail breakdown)	1	

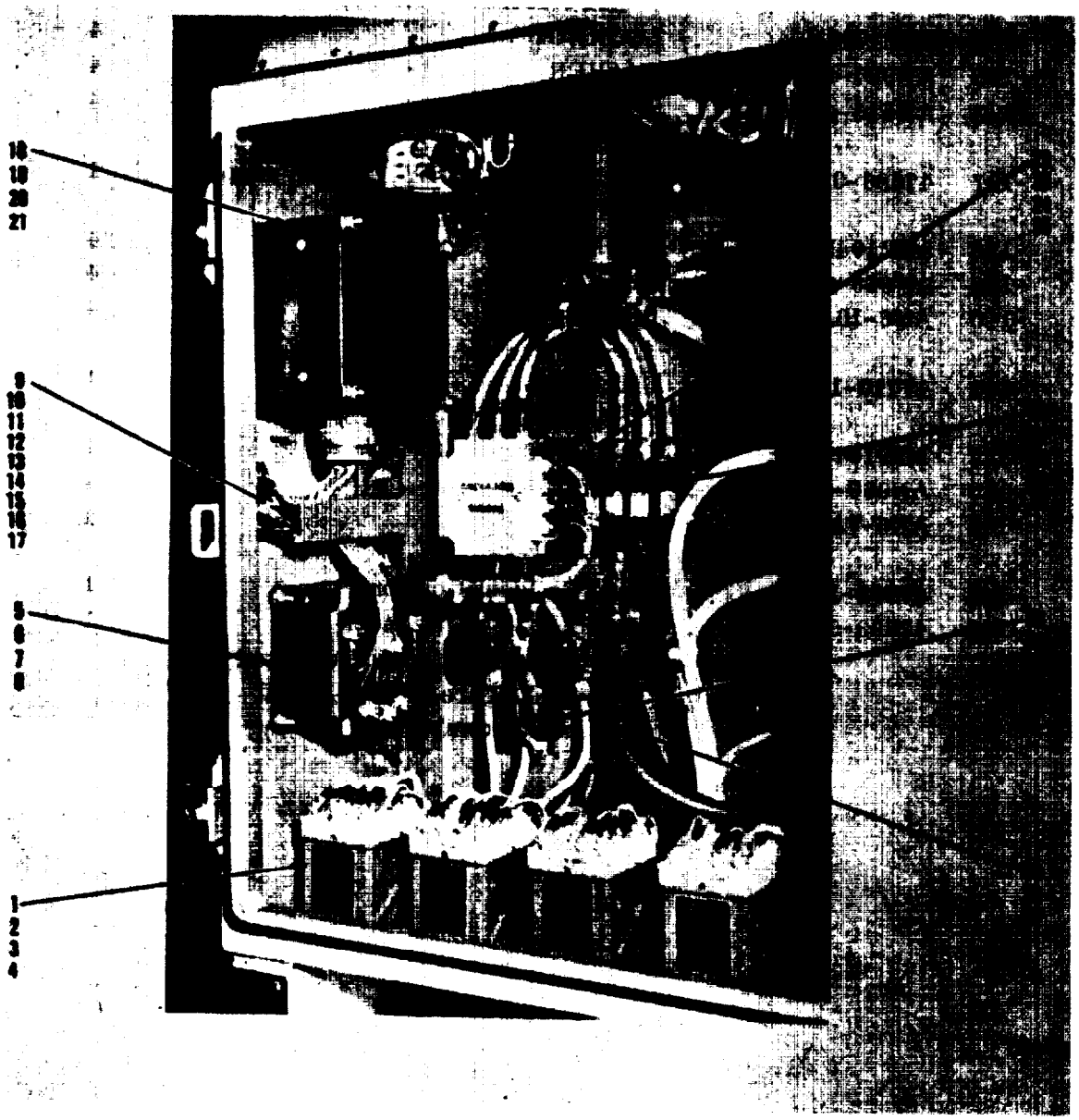

Figure 5-2. Control Console Assembly (Sheet 1 of 2)

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-2-	47694-0	CONSOLE ASSEMBLY, Control (See figure 5-l for next higher assembly)	Ref	
-1	47725-l	RELAY	5	
		(ATTACHING PARTS)		
-2	MS21044N08	LOCKNUT	20	
-3	AN960-8L	WASHER	40	
-4	AN515-8R8	SCREW	20	
		----*----		
-5	TD-808A	RELAY, AC overvoltage (74063)	1	
		(ATTACHING PARTS)		
-6	MS21044N3	LOCKNUT	4	
-7	AN960-10L	WASHER	8	
-8	AN520-10R10	SCREW	4	
		----*----		
-9	MS27212-1-4	TERMINAL BOARD	1	
		(ATTACHING PARTS)		
-10	AN340-4	NUT	2	
-11	AN935-4L	LOCKWASHER	2	
-12	AN960-4L	WASHER	2	
-13	AN515-4R6	SCREW	2	
		----*_---		
-14	MS20341-6S	NUT	4	
-15	AN935-6L	LOCKWASHER	4	
-16	AN960-6L	WASHER	4	
-17	MS25226-2-3	BUS, Terminal board	1	
-18	51250-003	REGULATOR, AC, voltage (Government-furnished)	1	
		(ATTACHING PARTS)		
-19	MS21044N3	LOCKNUT	4	
-20	AN960-10L	WASHER	8	
-21	AN3C37A	BOLT	4	
		----*----		
-22	B-138FH	CONTACTOR, AC power (74063)	1	
		(ATTACHING PARTS)		
-23	MS21044N3	LOCKNUT	4	
-24	AN960-10L	WASHER	8	
-25	AN520-10R10	SCREW	4	
		----*----		

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-2 -26	FIL50	LIMITER (09922)	3	
-27	F3H2	BASE, Mounting (09922)	1	
		(ATTACHING PARTS)		
-28	MS21044N3	LOCKNUT	2	
-29	AN960-10L	WASHER	2	
-30	AN507-1032R12	SCREW	2	
		----*----		
-31	880-6-1001	TRANSFORMER, Current (65092)	3	
		(ATTACHING PARTS)		
-32	MS21044N3	LOCKNUT	6	
-33	AN960-10L	WASHER	6	
-34	AN520-10R8	SCREW	6	
		----*----		
-35	MS21044N3	LOCKNUT	2	
-36	AN970-10L	WASHER	4	
-37	AN520-10R16	SCREW	1	

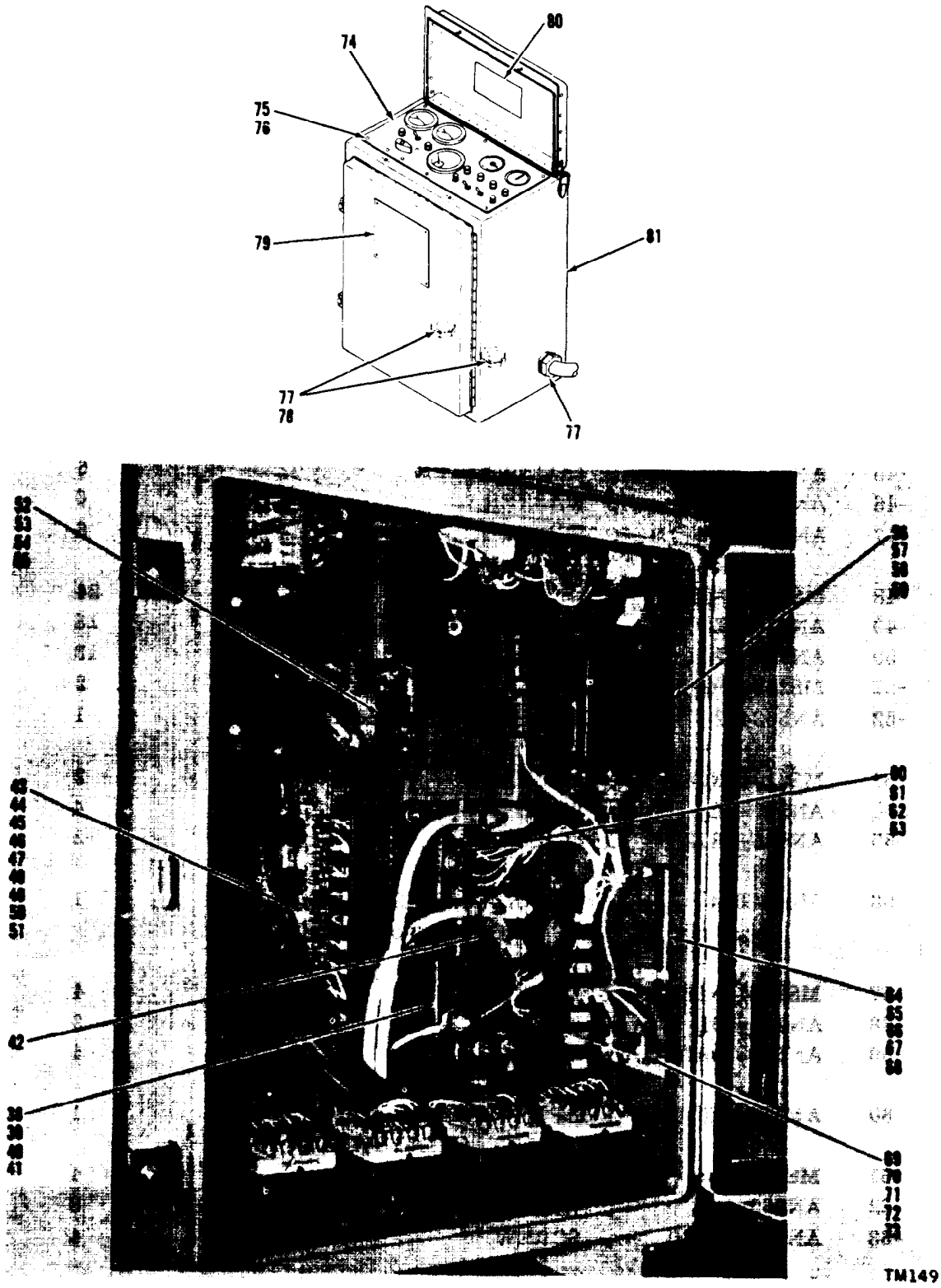

Figure 5-2. Control Console Assembly (Sheet 2 of 2)

Figure &Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-2-38	A-700W	RELAY, Reverse current (74063)	1	
		(ATTACHING PARTS)		
-39	MS21044N3	LOCKNUT	4	
-40	AN960-10L	WASHER	8	
-41	AN520-10Rl0	SCREW	4	
		---- * ----		
-42	MS25226-8-2	LINK, Terminal connecting	1	
-43	MS27212-1-12	BOARD, Terminal	2	
		(ATTACHING PARTS)		
-44	AN340-4	NUT	6	
-45	AN935-4L	LOCKWASHER	6	
-46	AN960-4L	WASHER	6	
-47	AN515-4R6	SCREW	6	
		----*----		
-48	M520341-6S	NUT	24	
-49	AN935-6L	LOCKWASHER	18	
-50	AN960-6L	WASHER	18	
-51	M525226-2-2	BUS, Terminal board	2	
-52	AN5534-2	RESISTOR, Thermocouple	1	
		(ATTACHING PARTS)		
-53	MS21044N08	LOCKNUT	2	
-54	AN960-8L	WASHER	4	
-55	AN515-8R12	SCREW	2	
		----*----		
-56	51065-014	REGULATOR, DC static voltage (Government-furnished)	1	
		(ATTACHING PARTS)		
-57	MS21044N06	LOCKNUT	4	
-58	AN960-10L	WASHER	8	
-59	AN520-10Rl0	SCREW	4	
		----*----		
-60	AM-71lCF	RELAY, Starter dropout (74063)	1	
		(ATTACHING PARTS)		
-61	MS21044N3	LOCKNUT	4	
-62	AN960-10L	WASHER	8	
-63	AN520-10Rl0	SCREW	4	
		----*----		
-64	0560A	RESISTOR, Adjustable (44655)	1	

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-2-65	NO. 9	BRACKET, Mounting (44655)	1	
		(ATTACHING PARTS)		
-66	MS21044N06	LOCKNUT	2	
-67	AN960-6L	WASHER	4	
-68	AN515-6R6	SCREW	2	
		----*----		
-69	38141-2	BRACKET, Rectifier	1	
		(ATTACHING PARTS)		
-70	MS21044N08	LOCKNUT	2	
-71	AN960-8L	WASHER	4	
-72	AN515-8R8	SCREW	2	
		----*----		
-73	368M	RECTIFIER (05277)	2	
-74	47695-1	PANEL, Instrument, console (See figure 5-3 for detail breakdown)	1	
		(ATTACHING PARTS)		
-75	AN515-8R8	SCREW	6	
-76	AN960-8L	WASHER	12	
		----*----		
-77	144	LOCKNUT (59730)	3	
-78	1945	NIPPLE, Insulated, chase (59730)	2	
-79	44163-2	PLATE, Identification	1	
-80	900527C1	PLATE, Instruction	1	
-81	47701-0	CONSOLE, Assembly of	1	

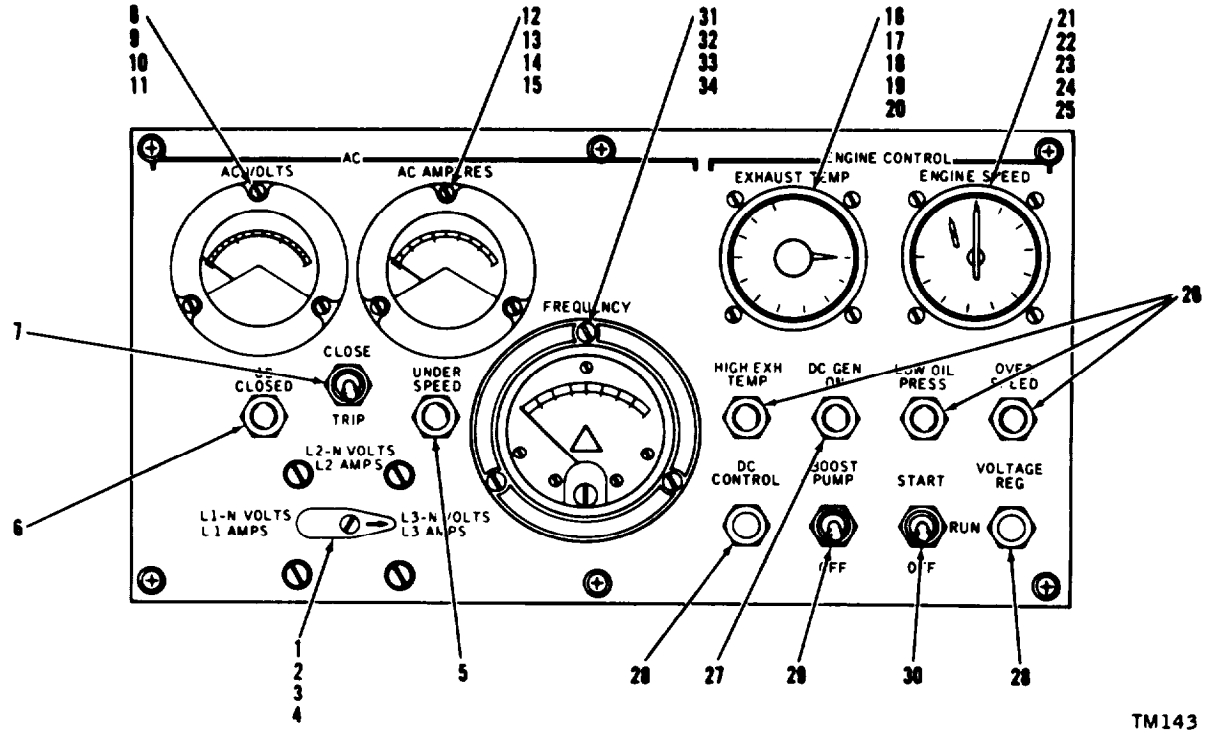

Figure 5-3. Console Instrument Panel

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable all Code
5-3-	47695-1	PANEL, Instrument, console (See figure 5-2 for next higher assembly)	Ref	
-1	PN67A	SWITCH, Selector (82121) (ATTACHING PARTS)	1	
-2	AN515-10Rl0	SCREW	4	
-3	AN935-10L	LOCKWASHER	4	
-4	AN960-10L	WASHER	4	
		---- * ----		
-5	MS25041-8-327	INDICATOR, Light	1	
-6	MS25041-7-327	INDICATOR, Light	1	
-7	MS25201-4	SWITCH	1	

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	units Per Assy	Usable on Code
5-3-8	2524-1101003	VOLTMETER (65092)	1	
		(ATTACHING PARTS)		
-9	MS21044N04	LOCKNUT	3	
-10	AN960-4L	WASHER	3	
-11	AN515-4R12	SCREW	3	
		----*----		
-12	MM-6602-16A	AMMETER (09133)	1	
		(ATTACHING PARTS)		
-13	MS21044N04	LOCKWASHER	3	
-14	AN960-4L	WASHER	3	
-15	AN515-4R12	SCREW	3	
		----*----		
-16	NO NUMBER	INDICATOR, Temperature, per MIL-I-9443, type MJ-2	1	
		(ATTACHING PARTS)		
-17	AN500-256	SCREW (Furnished with Part No. MS28055-11)	4	
		----*----		
-18	MS28055-11	FLANGE ASSEMBLY, Mounting	1	
		(ATTACHING PARTS)		
-19	MS20365-832	LOCKNUT (Furnished with Part No. MS28055-11)	4	
-20	AN500-832	SCREW (Furnished with Part No. MS28055-11)	4	
		----*----		
-21	NO NUMBER	INDICATOR, Tachometer, per MIL-I-25623, Type MU-l	1	
		(ATTACHING PARTS)		
-22	AN500-256	SCREW (Furnished with Part No. MS28055-11)	4	
		----*----		
-23	MS28055-11	FLANGE ASSEMBLY, Mounting	1	
		(ATTACHING PARTS)		
-24	MS20365-832	LOCKNUT (Furnished with Part No. MS28055-11)	4	
-25	AN500-832	SCREW (Furnished with Part No. MS28055-11)	4	
		----*----		
-26	MS25041-6-327	INDICATOR, Light	3	

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-3-27	MS25041-7-327	INDICATOR, Light	1	
-28	MS25244-10	BREAKER, Circuit	2	
-29	MS35058-22	SWITCH	1	
-30	MS25201-5	SWITCH	1	
-31	CL-400	METER, Frequency (14704)	1	
		(ATTACHING PARTS)		
-32	MS21044N06	LOCKNUT	3	
-33	AN960-6L	WASHER	3	
-34	AN515-6R14	SCREW	3	

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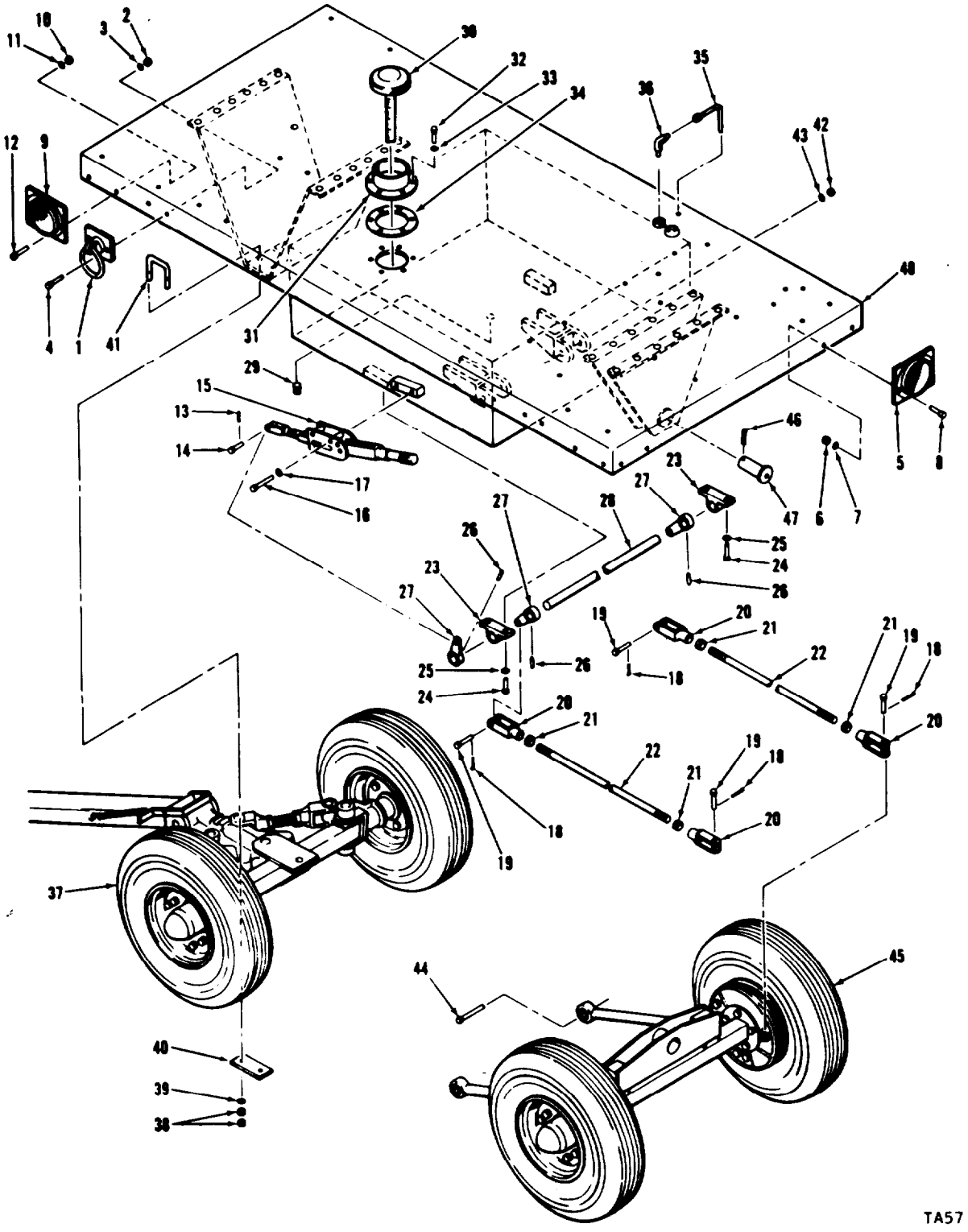


Figure 5-4. Mobile Check Stand Trailer Assembly

Figure &Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable on Code
5-4-	47693-0	TRAILER, Mobile check and adjustment stand, dual purpose (See figure 5-1 for next higher assembly)	Ref	
-1	48B7796	RING, Tiedown (G88042)	4	
		(ATTACHING PARTS)		
-2	COMM	LOCKNUT (3/8 - 16 NF)	8	
-3	COMM	WASHER (3/8-inch)	8	
-4	COMM	BOLT (3/8 - 16 NF x 1 inch)	8	
		----*----		
-5	MS35387-1	REFLECTOR (Red)	4	
		(ATTACHING PARTS)		
-6	COMM	NUT (1/4 inch)	8	
-7	COMM	WASHER (1/4 inch)	8	
-8	COMM	BOLT (1/2 - 20 NF x 3/4 inch)	8	
		----*----		
-9	MS35387-2	REFLECTOR (Amber)	4	
		(ATTACHING PARTS)		
-10	COMM	NUT (1/4 inch)	8	
-11	COMM	WASHER (1/4 inch)	8	
-12	COMM	BOLT (1/2 - 20 NF x 3/4 inch)	8	
-13	MS24665-208	PIN, Cotter	1	
-14	C2	PIN, Clevis (72741)	1	
-15	31110	LEVER ASSEMBLY, Brake (22573)	1	
		(ATTACHING PARTS)		
-16	MS90276-68	CAPSCREW	2	
-17	MS35338-46	LOCKWASHER	2	
		----*----		
-18	MS4665-283	PIN, Cotter	4	
-19	CO	PIN, Clevis. (72741)	4	
-20	Y4	CLEVIS (72741)	4	
-21	COMM	NUT, Plain (3/4 - 16 NF)	4	
-22	NO NUMBER	ROD (22573)	2	
-23	7004	BLOCK, Pillow (10424)	2	
		(ATTACHING PARTS)		
-24	COMM	BOLT (3/8 - 16 NF x 1 inch)	4	
-25	COMM	LOCKWASHER (3/8-inch, split)	4	
		----*----		

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-4-26	MS9048-234	PIN, Roll	3	
-27	7005	ARM, Lever (22573)	3	
-28	NO NUMBER	ROD (22573)	1	
-29	COMM	FITTING, Drain (l/2-type 304, pipe plug)	1	
-30	CD-109	FILLER CAP AND DIPSTICK ASSEMBLY	1	
-31	ND-1299	FILLER NECK	1	
		(ATTACHING PARTS)		
-32	COMM	BOLT (1/4 - 20 NF x 3/4 inch)	6	
-33	COMM	LOCKWASHER (l/4 inch)	6	
		---- * ----		
-34	COMM	GASKET (l/16-inch neophrene)	1	
-35	NO NUMBER	LINE ASSEMBLY, Vent	1	
-36	COMM	ELBOW (69F, 3/16xl/8)	1	
	20672	GEAR, Running (22573)	1	
-37	20720	AXLE ASSEMBLY, Front (22573) (See figure 5-5 for detail breakdown)	1	
		(ATTACHING PARTS)		
-38	COMM	NUT, “U” bolt (1/2 - 13 NF)	16	
-39	COMM	LOCKWASHER (1/2 inch)	8	
-40	COMM	PLATE (3/8 x 1-1/2 x 4-1/8 inches)	4	
-41	COMM	BOLT, “U” (1/2 - 13 NF x 2-1/16 ID x 3-3/4-inches legs)	4	
		----*----		
-42	COMM	LOCKNUT (5/8 - 18 NF) (See figure 5-6)	Ref	
-43	COMM	WASHER (1-3/8 OD x 5/8 ID x 3/16 inches) (See figure 5-6)	Ref	
-44	COMM	BOLT (5/8 - 18 NF x 3-3/4 inches) (See figure 5-6)	Ref	
-45	20723	AXLE ASSEMBLY, Rear (22573) (See figure 5-6 for detail breakdown)	1	
		(ATTACHING PARTS)		
-46	MS24665-360	PIN, Cotter (See figure 5-6)	Ref	
-47	20716	PIN, Pivot (22573) (See figure 5-6)	Ref	
		----*----		
-48	47693-I	FRAME, Chassis	1	

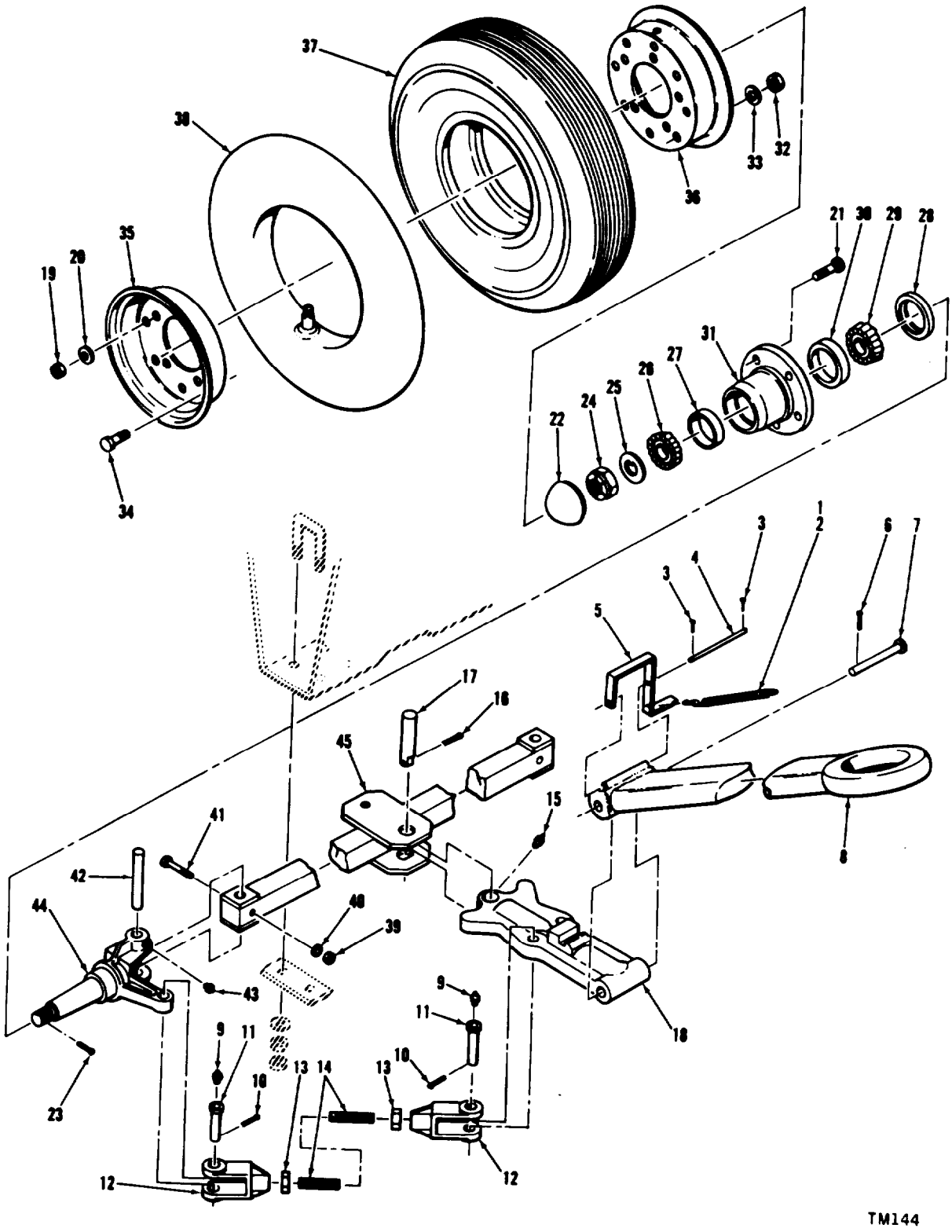


Figure 5-5. Front Axle Assembly

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-5-	NO NUMBER	AXLE ASSEMBLY, Front (22573) (See figure 5-4 for next higher assembly)	Ref	
	20711	LATCH ASSEMBLY, Towbar (22573)	1	
-1	COMM	SPRING (1/16 ID x 71/16 OD x 6 inch)	1	
-2	COMM	S-Hook	2	
-3	COMM	PIN, Cotter (1/8 x 1 inch)	2	
-4	COMM	PIN, Pivot (3/8 x 6.5 inches)	1	
-5	COMM	LATCH (1/4 x 1 x 15-5/8 inches)	1	
-6	COMM	PIN, Cotter (22573)	1	
-7	COMM	PIN, Pivot (22573) (3/4 x 5-5/8 inches)	1	
-8	6954-1	TOWBAR ASSEMBLY (22573)	1	
-9	1610B	FITTING, Lube (57733)	4	
-10	MS24665-495	PIN, Cotter	4	
-11	6812B	PIN, Clevis (22573)	4	
-12	6809	CLEVIS (22573)	4	
-13	AN316-12R	NUT, Jam	2	
-14	6899-14	ROD, Tie (22573)	2	
-15	1610B	FITTING, Lube (57 733)	1	
-16	MS24665-500	PIN, Cotter (22573)	1	
-17	6898	PIN, Pivot (22573)	1	
-18	20195	TONGUE (22573)	1	
	6403-AL	HUB ASSEMBLY (22573)	2	
-19	MS35690-822	NUT	10	
-20	AN935-816	LOCKWASHER	10	
-21	6440	STUD (22573)	10	
-22	6394	CAP, Hub	2	
-23	AN380-4-7	PIN, Cotter	2	
-24	AN320-16	NUT	2	
-25	5316	WASHER, Tongued (22573)	2	
-26	15123	CONE, Bearing (22573)	2	
-27	15245	CUP, Bearing (22573)	2	
-28	13021	SEAL (22573)	2	
-29	24780	CONE, Bearing (22573)	2	
-30	24720	CUP, Bearing (22573)	2	
-31	6405	HUB (22573)	2	
	6408-AL	RIM ASSEMBLY, 6.00-9 (22573)	2	

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-5-32	COMM	NUT, PIain hexagon (325-6 x 3/8-24NF2, cadmium-plated)	16	
-33	AN935-616	LOCKWASHER	16	
-34	COMM	BOLT, Hexagon head (60-6-6, 3/8 x 24NF2, 3/4-inch long, cadmium-plated)	16	
-35	6408-1	RIM, Half, 6.00-S (22573)	2	
-36	6408-2	RIM, Half, 6.00-S (22573)	2	
-37	COMM	TIRE (6.00-9, 6-ply rating, arctic)	2	
-38	COMM	TUBE (6.00-9, 6-ply rating, arctic)	2	
-39	AN315-6	NUT	2	
-40	MS35338-46	LOCKWASHER	2	
-41	MS90726-68	CAPSCREW	2	
-42	6813	PIN, King (22573)	2	
-43	1610B	FITTING, Lube (57733)	4	
-44	20709	KNUCKLE ASSEMBLY (22573)	2	
-45	20720	AXLE, Front (22573)	1	

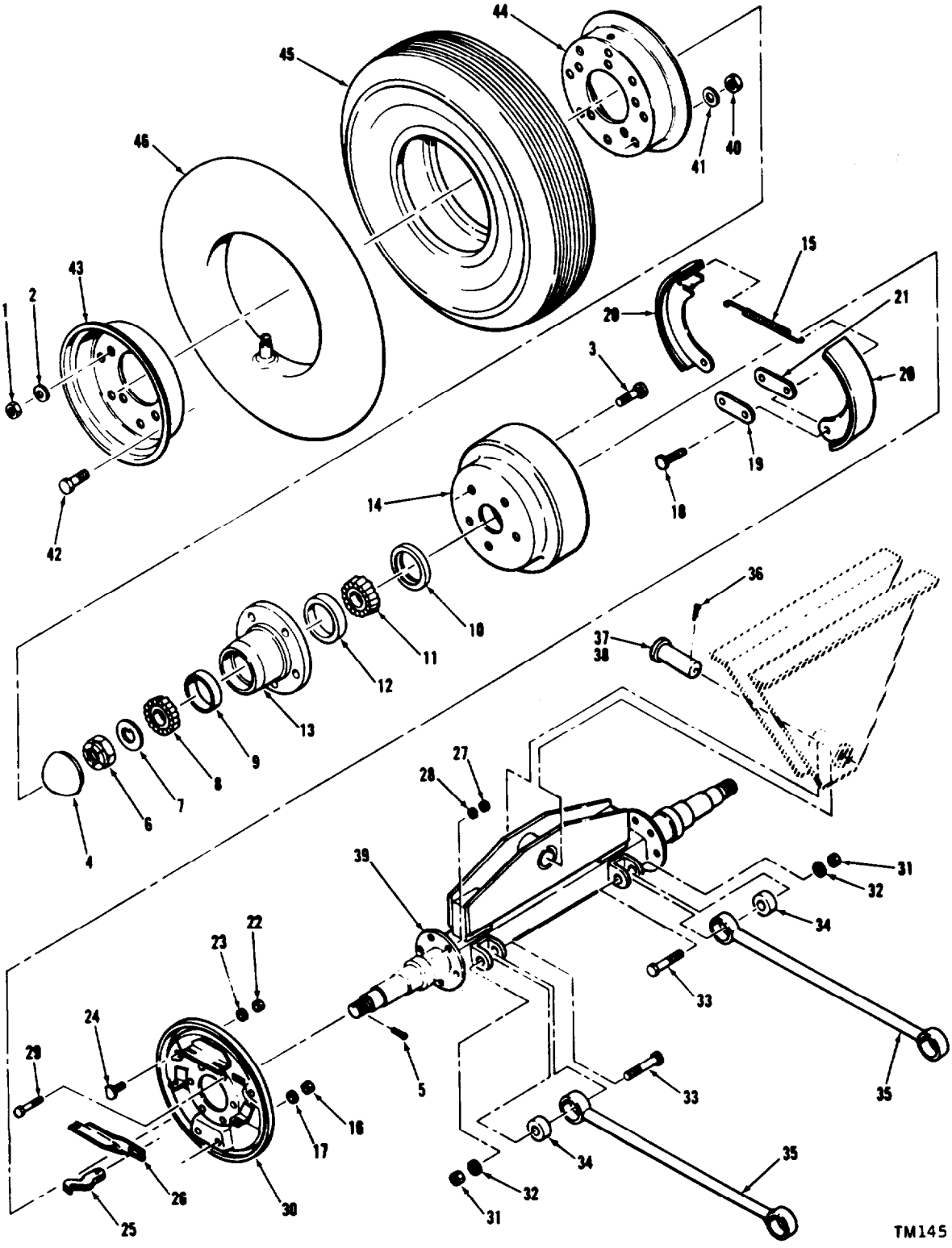


Figure 5-6. Rear Axle Assembly

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Unite Per Assy	Usable On code
5-6-	NO NUMBER	AXLE ASSEMBLY, Rear (22573) (See figure 5-4 per next higher assembly)	Ref	
	6403 -AL	HUB ASSEMBLY (22573)	2	
-1	MS35690-822	NUT	10	
-2	AN935-816	LOCKWASHER	10	
-3	30796	STUD (22573)	10	
-4	6394	CAP, Hub (22573)	2	
-5	AN380-4-7	PIN, Cotter	2	
-6	AN320-16	NUT	2	
-7	5316	WASHER, Tongued (22573)	2	
-8	15123	CONE, Bearing (22573)	2	
-9	15245	CUP, Bearing (22573)	2	
-10	13021	SEAL (22573)	2	
-11	24720	CONE, Bearing (22573)	2	
-12	24780	CUP, Bearing (22573)	2	
-13	6405	HUB (22573)	2	
-41	30447	DRUM, Brake (22573)	2	
	20694	BRAKE ASSEMBLY (Set) (22573) (Bendix Part No. 302283 LH and 302284 RH) (14892)	2	
-15	41545	SPRING, Shoe return (14892)	2	
-16	48069	NUT, Anchor pin (14892)	4	
-17	41665	LOCKWASHER (14892)	4	
-18	39953	PIN, Anchor (14892)	4	
-19	39956	PLATE, Anchor pin (14892)	2	
-20	41485	SHOE ANTI LINING ASSEMBLY (14892)	4	
-21	43886	PLATE, Reinforcement (14892)	2	
-22	901626	NUT, Eccentric (14892)	4	
-23	901008	LOCKWASHER (14892)	4	
-24	45771	ECCENTRIC, shoe adjusting (14892)	4	
-25	41911	LEVER ASSEMBLY, Brake actuating (14892)	2	
-26	41927	STRUT, Brake actuating lever (14892)	2	
-27	COMM	N U T	12	

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-6-28	COMM	WASHER	12	
-29	COMM	BOLT (6-3/8 dia, hex-head)	12	
-30	302286	PLATE, Backing (14892)	2	
	20712	STABILIZER ASSEMBLY (22573)	1	
-31	COMM	LOCKNUT (5 '8 - 18NF)	4	
-32	COMM	WASHER (1-3/8 OD x 5/8 ID x 3/16 inch)	8	
-33	COMM	BOLT (5/8 - 18 NF x 3-3/4 inch)	4	
-34	COMM	BUSHING, Rubber (Monroe No. 50450)	4	
-35	20714	BAR, Stabilizer (22573)	2	
-36	MS24665-360	PIN, Cotter	1	
-37	1610B	FITTING, Lube (57733)	1	
-38	20716	PIN, Pivot (22573)	1	
-39	20273	AXLE, Rear (22573)	1	
	6408-AL	RIM ASSEMBLY, 6.00-9 (22573)	2	
-40	COMM	NUT, Plain (325-6 x 3/8-24NF2, cadmium-plated)	16	
-41	AN935-616	LOCKWASHER	16	
-42	COMM	BOLT, Hexagon head (60-6-6, 3/8 x 24NF2, 3/4-inch long)	16	
-43	6408-l	RIM, Half, 6.00-9 (22573)	2	
-44	6408-2	RIM, Half, 6.00-9 (22573)	2	
-45	COMM	TIRE (6.00 -9, 6 -ply rating, arctic)	2	
-46	COMM	TUBE (6.00-9, 6-ply rating, arctic)	2	

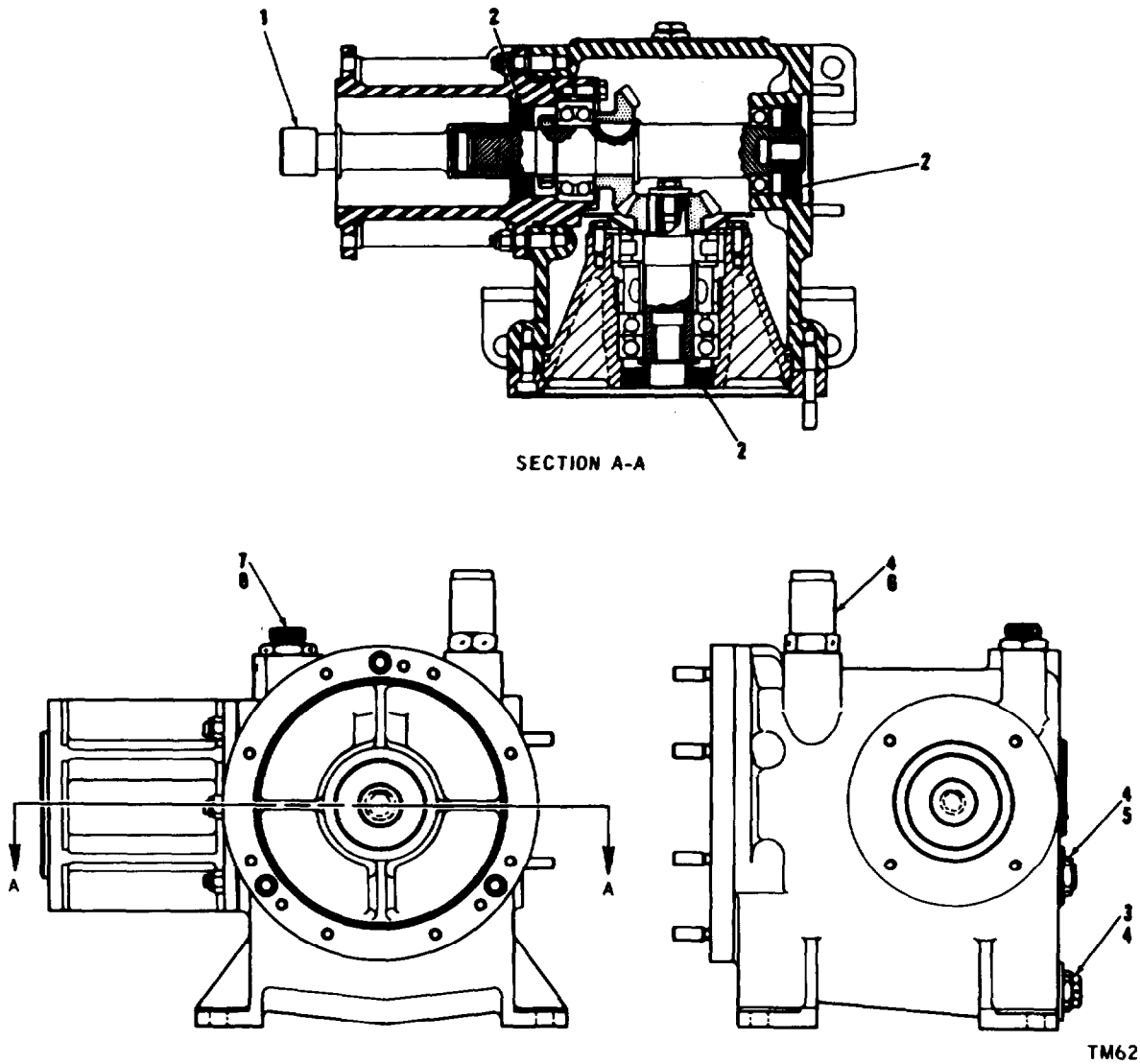


Figure 5-7. Speed Increaser Assembly

	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
	47954-0	SPEED INCREASER ASSEMBLY (See figure 5-1 for next higher assembly) (Partial breakdown follows*)	Ref	
-1	47969-1	QUILL, Shaft input	1	
-2	451845J	SEAL, Oil (76680)	3	
-3	A-734	PLUG, Drain (97484)	1	
-4	34666-8	O-Ring	3	
-5	S-53	PLUG, Liquid level (97484)	1	
-6	A-862	VENT, Breather, (97484)	1	
-7	B-7238	CAP, Breather (97484)	1	
-8	34666-12	O-Ring	1	

*Field-serviced components of the speed increaser assembly

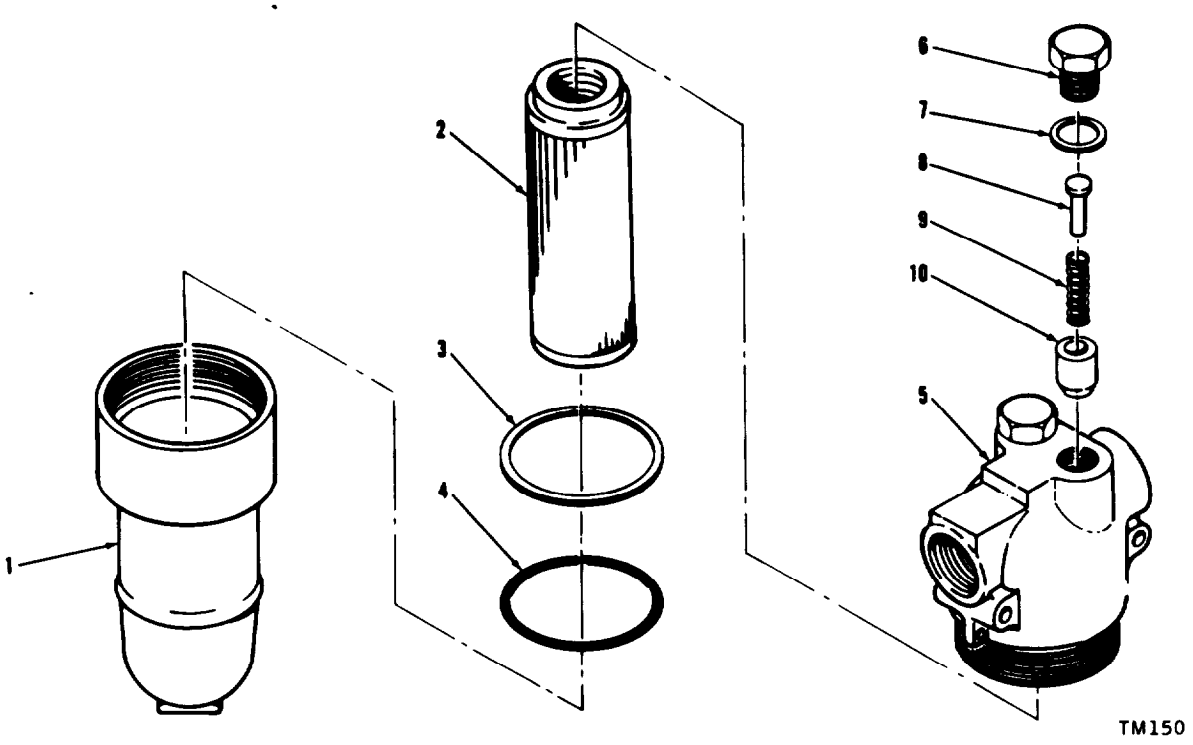


Figure 5-8. Fuel Filter Assembly

Figure & Index No.	Part No.	1 2 3 4 5 6 7 DESCRIPTION	Units Per Assy	Usable On Code
5-8-	46424-l	FILTER ASSEMBLY, Fuel (See figure 5-1 for next higher assembly)	Ref	
-1	NO NUMBER	CASE (Part of filter assembly, Type PR306) (81321)	1	
-2	51399	ELEMENT, Fuel filter (81321)	1	
-3	32152	RING, Backup (8132 1)	1	
-4	30323	O-Ring (81321)	1	
-5	NO NUMBER	HEAD (Part of filter assembly, Type PR306)(81321)	1	
-6	30107	PLUG, Relief valve (81321)	2	
-7	36978-6	GASKET (81321)	2	
-8	30106	GUIDE, Spring (81321)	2	
-9	30442	SPRING, Relief valve (81321)	2	
-10	30105	PISTON, Relief valve (81321)	2	

SECTION VI

TROUBLESHOOTING

6-1. GENERAL.

6-2. System troubles listed in figure 6-1 may be the result of the probable cause indicated. Many of the troubles listed are based on practical experience; however, the causes listed are not the only faults that can cause the specified trouble. Unique situations will require special approaches. Repair instructions recommended in the REMEDY column are referenced in the applicable paragraph in Section VII. Figure 6-1 lists troubleshooting data in the following manner:

a. TROUBLE. Various troubles that may be encountered during check stand operation.

b. PROBABLE CAUSE. The probable causes of a particular trouble are listed in the order in which they are most likely to occur under standard operating conditions.

c. REMEDY. Remedies are similarly arranged, but in order of complexity, starting with the simplest remedy. See figures 6-2 and 6-3 when performing electrical checks.

	Trouble		Probable Cause	Remedy
1.	Front wheels do not track with rear wheels.	a.	Wheels not aligned	Align wheels, using standard alignment procedures.
		b.	Loose axle “U” bolts, allowing axle to slip on front plate assembIy.	Align axle on front plate assembly, and tighten "U" bolts.

Figure 6-1. Table of Troubleshooting Procedures (Sheet 1 of 5)

	Trouble		Probable Cause	Remedy
1.	Front wheels do not track with rear wheels. (Cont)	**c.**	Excessive wear in kingpin, knuckle assembly, tie rods, or wheel bearings.	Lift the trailer to remove weight from wheels. Grasp top and bottom of tire and apply push-pull motion (in on top, out on bottom, and vice versa). If the wheel assembly movement, measured at the tire outer edge, is 1/8-inch, or more, replace kingpin, knuckle assembly, and/or bearings as necessary. Secure steering mechanism. Grasp front and rear of tire and apply push-pull motion (in on front, out on rear, and vice versa). If the wheel assembly movement, measured at the tire outer edge, is 1/8-inch, or more, replace tie rods, tie rod ends, and/or bearings as necessary.
		d.	Wheel rim bent or cracked.	Replace wheel. **WARNING** Deflate tire before separating wheel rims. Inflated tire pressure will separate the rim halves with extreme force.
2.	Tire wear uneven.	a.	Wheels out of alignment.	Align wheels, using standard alignment procedures.
		b.	Improper inflation.	Inflate the tires to 40 to 45 psig. Cross-switch tires. Replace badly worn tires.
3.	Brakes do not hold against load.	a.	Improper brake adjustment.	Adjust brakes. Refer to paragraph 7-15 for brake adjustment procedures.

Figure 6-1. Table of Troublesbooting Procedures (Sheet 2 of 5)

Trouble	Probable Cause	Remedy
3. Brakes do not hold against load. (Cont)	b. Brake linings worn.	1. Adjust linkage if minor wear. Straighten rod and linkage if slightly bent. Replace any portion of the linkage assemblies if excessively worn or damaged beyond repair.
		2. If worn beyond adjustment, replace shoe and lining assemblies. Refer to paragraph 7-14 for brake shoe and lining replacement procedures.
	c. Grease seals leaking grease on linings or on brake drum.	Remove wheels and replace seals.
		Clean lining.
		Replace shoe and lining assembly if saturated.
4. Brakes will not release.	a. Worn or damaged parts in brake handle assembly or linkage.	Replace worn or damaged parts.
	b. Brake shoe return spring broken.	Replace shoe return spring.
5. Shimmy or side sway while towing.	a. Low tire air pressure.	Check tires for proper air pressure (40 to 45 psig).
	b. Wheels not aligned.	Align wheels, using standard alignment procedures.
	c. Bent wheel.	Replace wheel.

Figure 6-l. Table of Troubleshooting Procedures (Sheet 3 of 5)

Trouble	Probable Cause	Remedy
5. Shimmy or side sway while towing. (Cont)		**WARNING** Deflate tire before separating wheel rims. Inflated tire pressure will separate the rims with extreme force.
	d. Worn or bent steering linkage or tie rods.	Straighten rod and linkage if slightly bent. Replace any portion of the linkage assemblies if excessively worn or damaged beyond repair.
	e. Loose or worn knuckle assembly.	Tighten, or replace knuckle assembly.
6. Fuel not reaching APU.	a. Fuel supply low.	Check fuel level, and add fuel if necessary.
	b. Loose connections, crimps, or restrictions in fuel lines.	Tighten loose connections. Clear restrictions, and replace all damaged lines.
	c. Restricted fuel intake tube, or tank breather vent clogged.	Remove restrictions.
	d. Defective fuel boost pump.	Check fuel boost pump for proper operation.
	e. Fuel filter clogged.	Replace filter element. Refer to paragraph 7-23 for replacement procedure.

Figure 6-1. Table of Troubleshooting Procedures (Sheet 4 of 5)

Trouble	Probable Cause	Remedy
6. Fuel not reaching APU. (Cont)	f. Entrapped air in the fuel system.	Purge the fuel system. Refer to paragraph 2-8 or 3-8, whichever purging procedure is applicable.
7. Battery voltage low.	Weak or dead cells.	Recharge or replace the battery.
8. Inlet or exhaust silencer noisy.	Loose screening or insulation,	Repair screening or insulation as necessary.
9. Control Console		Malfunctions of the APU are not fully discussed in this manual. When APU troubles occur, follow the troubleshooting instructions outlined in TM 55-1520-209-20 to isolate the cause. Troubles traced to the control console must be located by a continuity check to find the defective component. Refer to paragraphs 6-3 through 6-14 for control system malfunction information. See figures 6-2 and 6-3 for continuity checks.

Figure 6-1. Table of Troubleshooting Procedures (Sheet 5 of 5)

G-3. TROUBLESHOOTING ELECTRICAL CONTROLS.

6-4. Malfunctions in the APU controls should be traced only after it has been established that the battery is in good condition and that all electrical connections are correctly and tightly connected. It is recommended that APU electrical components be checked for proper operation before troubleshooting the check stand control components.

6-5. Before performing any troubleshooting procedures, always verify that the power supply components to the APU controls are functioning properly, furnishing 24-volt dc power to the control circuits, and are charging the battery. The following components in the console comprise the power supply to the APU.

- Battery
- Circuit breaker CB1
- Circuit breaker CB2
- Reverse current relay K6
- Starter dropout relay K7
- B contacts of relay K2
- Indicator light DS6
- DC starter-generator G3
- DC voltage regulator VRl
- Resistor R3

6-6. If fuel supply problems are encountered, first check switch SI, and then check the boost pump for proper operation.

6-7. If the fuel control system does not operate correctly, carefully check the function of each APU control component and the corresponding relay contacts in the console.

Relay and Contacts	APU Components
K1, contacts A, B, C, D	Fuel pressure switch
K2, contacts A, B, C, D	Hour meter
K3, contacts B	Ignition exciter
K4, contacts B	Start fuel valve
K5, contacts B, C	Main fuel valve

6-8. Malfunctions are indicated by the low oil pressure indicator light DSl, high exhaust indicator light DS2, and overspeed indicator light DS3, and controlled by the following corresponding relay contacts.

Relay & Contacts	Rectifier
K1, contacts C, D	CR1
K2, contacts A, D	CR2
K3, contacts A, D	
K4, contacts A, D	
K5, contacts A, D	
K102	

If malfunction circuits indicate faults, or if false APU shutdown occurs, carefully check all malfunction circuit components.

6-9. AC GENERATOR SYSTEM.

6-10. Malfunctions in the ac system should be traced by verifying that the ac power switch S101, auxiliary contacts of relay K101, and the circuit breaker closed indicator light DS5 are functioning properly.

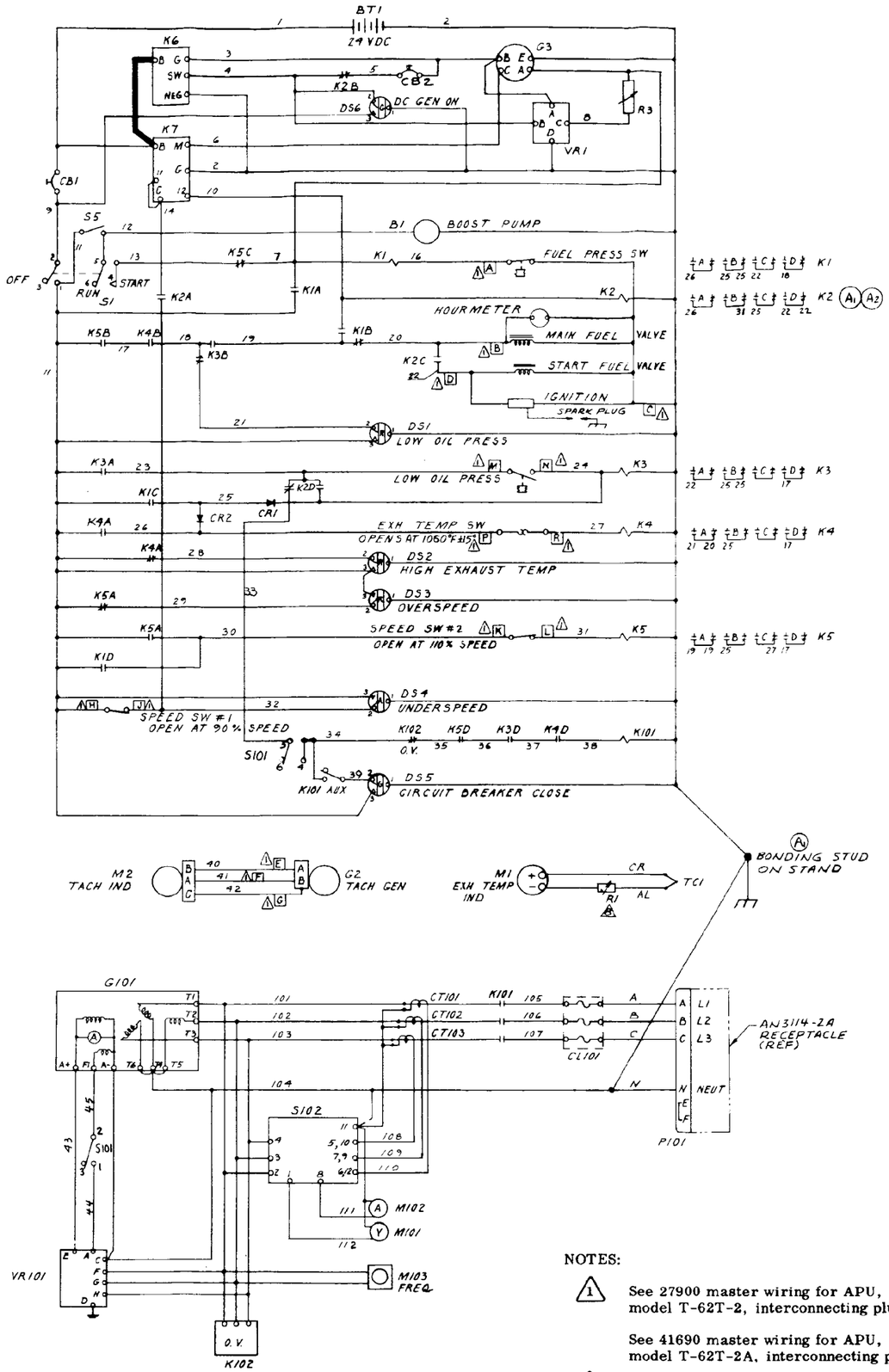
6-11. If power is not available at the aircraft terminals, the ac generator G101, voltage regulator VR101, overvoltage relay K102, ac power contactor K101, limiter CLl0l, and the ac power cable should be checked.

6-12. Problems with proper readouts of ac voltages and amperes should be traced by checking the ac selector switch S102, current transformers CT101, CT102, and CT103, voltmeter M101, and ammeter M102.

6-13. EXHAUST TEMPERATURE SWITCH.

6-14. Improper operation of the APU control system may be traced to the APU exhaust thermal switch. The switch may be checked with a Jet-Cal test instrument, or equivalent.The normally closed switch contacts should open at 1040 to 1070°F for APU Model T-62T-2, and 1070 to 1090°F for APU Model T-62T-2A.

Reference Designator	Drawing Zone	Item	Part Number
Components on Control Console, P/N 47694-0			
CB1	29	Circuit Breaker	MS25244-10
CB2	31	Circuit Breaker	MS25244-10
CL101	10	Limiter	FIL50
CR1	22	Rectifier	368M
CR2	22	Rectifier	368M
CT101	11	Current Transformer	880-6-1001
CT102	11	Current Transformer	880-6-1001
CT103	11	Current Transformer	880-6-1001
DS1	24	Indicator Light	MS25041-6-327
DS2	21	Indicator Light	MS25041-6-327
DS3	20	Indicator Light	MS25041-6-327
DS4	18	Indicator Light	MS25041-3-327
DS5	16	Indicator Light	MS25041-7-327
DS6	30	Indicator Light	MS25041-7-327
K1	27	Relay	47725-1
K2	26	Relay	47725-1
K3	23	Relay	47725-1
K4	21	Relay	47725-1
K5	19	Relay	47725-1
K6	32	Reverse Current Relay	A-700AW
K7	30	Starter Dropout Relay	AM-711CF
K101	11	AC Power Contactor	B-138FH
K102	4	AC Overvoltage Relay	TD-808A
M1	14	Temperature Indicator	Type MJ-2
M2	14	Tachometer Indicator	Type MU-1
M101	7	Voltmeter	2524-1101003
M102	7	Ammeter	MM-6602-16A
M103	6	Frequency Meter	CL-400
R1	14	Thermocouple Resistor	AN5534-2
R3	30	Adjustable Resistor	0560A
S1	27	Switch	MS25201-5
S5	28	Switch	MS35058-22
S101	8	Switch	MS25201-4
S102	9	Selector Switch	PN67A
TB1		Terminal Board	MS27212-1-12
TB2		Terminal Board	MS27212-1-12
TB3		Terminal Board	MS27212-1-4
VR1	30	DC Voltage Regulator	51065-014
VR101	6	AC Voltage Regulator	51250-003
Components on Check Stand, P/N 45977-0			
B1	28	Boost Pump	5656748
BT1	32	Battery	MS24498-1
G2	14	Tachometer Generator	GEU-7/A
G3	31	Starter-Generator	23032-020
G101	12	Alternator	31220-002
P1		Connector	MS3106R14S-6S
P2		Connector	PT06E-18-11S
P3		Connector	MS3106R10SL-3S
P101	9	Plug	45977-1
P102		Connector	MS3108R20-29S
TC1	14	Thermocouple	29217-1
Components on APU, Models T-62T-2/-2A			
E301	24	Spark Plug	26519-1
G1	24	Ignition Exciter	26518-1
L1	25	Start Fuel Valve	26839-1 (-2 only)
L2	25	Main Fuel Valve	26845-1 (-2 only)
L2	25	Main Fuel Valve	37696-0 (-2A only)
L3	25	Start Fuel Valve	37695-0 (-2A only)
M1	26	Hour Meter	16443-1
S2	27	Fuel Pressure Switch	27950-1 (-2 only)
S2	27	Fuel Pressure Switch	37697-0 (-2A only)
S3	18, 19	Speed Switch	31908-3
S4	23	Low Oil Pressure Switch	26516-1
S5	21	Exhaust Temperature Switch	26521-1



NOTES:

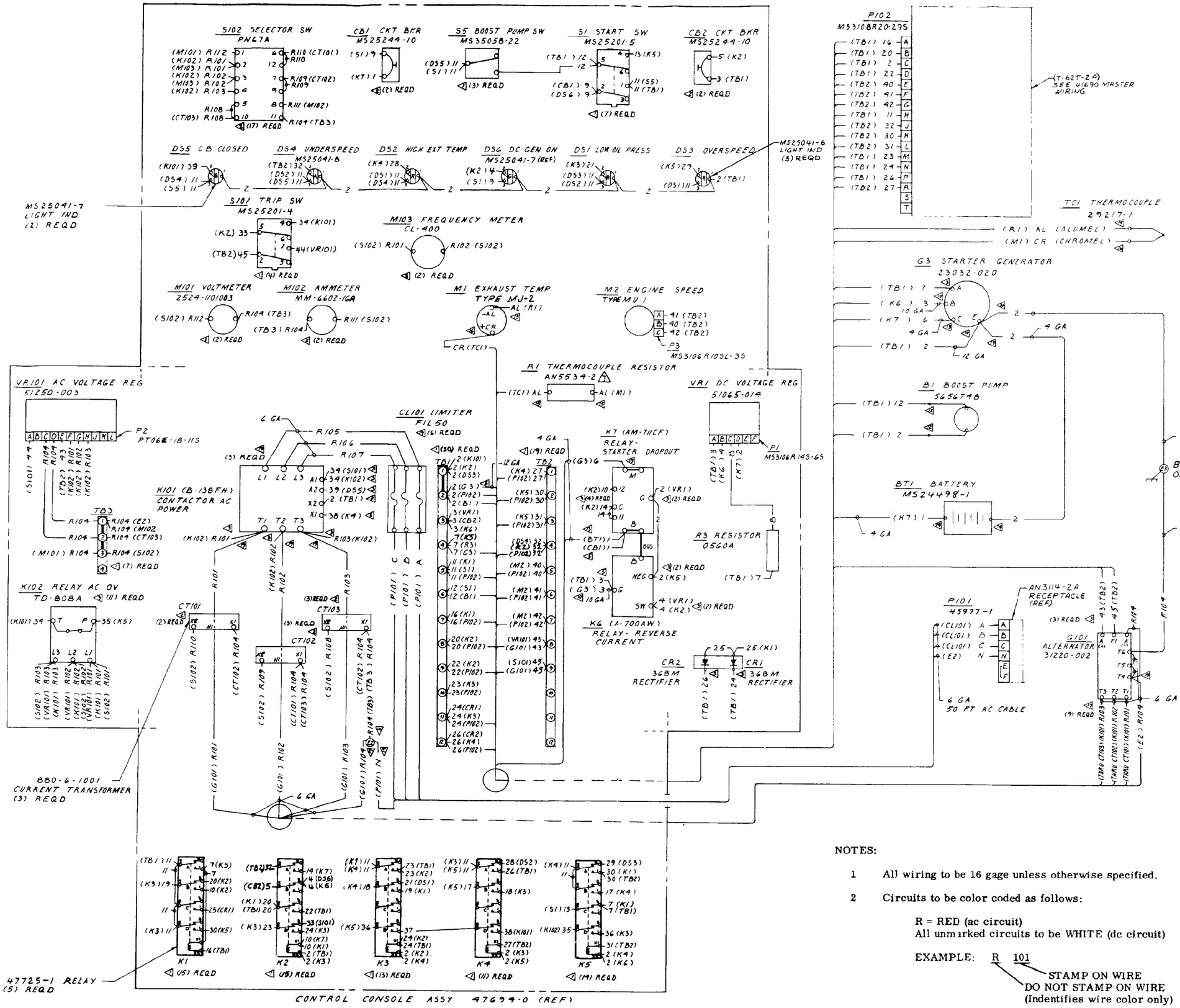
1. See 27900 master wiring for APU, model T-62T-2, interconnecting plug.

   See 41690 master wiring for APU, model T-62T-2A, interconnecting plug.

8. Adjust R1 to obtain ohm value shown on M1 ± 0.05 ohms.

DWG 47699

Figure 6-2. Electrical System Schematic, Mobile Check Stand



NOTES:

1. All wiring to be 16 gage unless otherwise specified.
2. Circuits to be color coded as follows:

   R = RED (ac circuit)
   All unmarked circuits to be WHITE (dc circuit)

   EXAMPLE: R 101
   - STAMP ON WIRE
   - DO NOT STAMP ON WIRE (Indentifies wire color only)

7. Adjust R1 to obtain ohm value shown on M1 ± 0.05 ohms.

DWG 47700

Figure 6-3. Wiring Diagram, Mobile Check Stand

SECTION VII

REPAIR AND REPLACEMENT INSTRUCTIONS

7-1. GENERAL.

7-2. The following maintenance data includes removal, inspection, disassembly, reassembly, and installation of the mobile check stand components. When maintenance and inspection checks or troubleshooting remedies require the repair of a component the following repair instructions apply.

a. Remove all electrical connections when accessible and feasible. Tag all parts to facilitate reinstallation.

b. Cap all lines, and seal all openings to prevent the entry of dirt, chips, or other foreign material.

c. Replace all gaskets and O-rings. Lubricate the gaskets, O-rings, and flanges with petrolatum, Federal Specification VV-P-236. When replacing the O-rings and oil seals of the speed increaser, lubricate them with oil, Military Specification MIL-L-7808.

d. All parts safetied with lockwire or cotter pins prior to removal or disassembly shall be resafetied in the same manner upon reassembly or installation with new wire or new cotter pins.

7-3. FRONT AXLE ASSEMBLY.

7-4. REMOVAL OF KING PIN. (See figure 5-5.)

a. Mount the front of the trailer on a suitable support with the front tires clearing the ground. Set the parking brakes (brake handle up).

b. Remove cotter pin (10). Slide clevis pin (11) through the forward arm of knuckle assembly (44) and move tie rod (14) away from the knuckle assembly.

c. Remove nut (39), washer (40), and bolt (41) securing king pin (42) in axle shaft (45).

d. Support the tire, wheel, hub assembly, and knuckle assembly, as a unit, and carefully slide king pin (42) through knuckle assembly (44) and axle shaft (45). Remove the wheel and knuckle assembly from the axle shaft.

7-5. INSTALLATION OF KING PIN.

a. Carefully position the tire, wheel, hub assembly, and knuckle assembly (44), as a unit, over axle shaft (45).

b. Apply a light film of grease, Military Specification MIL-G-10924, on a new king pin (42) and install in knuckle assembly and axle shaft.

c. Secure the king pin in place with bolt (41), washer (40), and nut (39).

d. Position tie rod (14) over forward arm of the knuckle assembly and install clevis pin (11). Secure clevis pin with new cotter pin (10).

e. Lubricate the new king pin with grease, Military Specification MIL-G-10924.

7-6. REMOVAL OF FRONT WHEEL BEARINGS. (See figure 5-5.)

a. Mount the front of the trailer on a suitable support with the front tires clearing the ground. Set the parking brakes (brake handle up).

b. Remove nuts (19) and washers (20), and remove tire and wheel from hub (31).

c. Remove hub cap (22), cotter pin (23), nut (24), and tongued washer (25).

d. Slide hub (31) from knuckle assembly (44).

CAUTION

Cover the bearing surfaces on the knuckle assembly to prevent contamination.

e. Remove bearing cones (26, 29), bearing cups (27, 30), and seal (28) from hub (31).

CAUTION

Cover the open ends of the hub to prevent contamination.

7-7. ASSEMBLY AND INSTALLATION OF FRONT WHEEL BEARINGS. (See figure 5-5. **)**

8. Assemble new bearing cones (26, 29) and new bearing cups (27, 30) as sets, and handpack with grease, Military Specification MIL-G-10924.

b. Install new bearing cone and bearing cup set (29, 30) in hub (31).

c. Install new seal (28) in hub.

d. Slide the hub over the aft bearing surface of knuckle assembly (44).

e. Install new bearing cone and bearing cup set (26, 27) over the forward bearing surface of the knuckle assembly, ensuring bearing cup (27) is properly seated in the hub.

f. Install tongued washer (25) and nut (24). Tighten nut (24) to seat entire hub assembly.

g. Position the tire and wheel on the hub and secure with washers (20) and nuts (19). Loosen nut (24) just enough to allow the wheel to turn freely but with no side play.

h. Install new cotter pin (23).

i. Install hub cap (22).

7-8. REMOVAL OF KNUCKLE ASSEMBLY. (See figure 5-5.)

a. Mount the front of the trailer on a suitable support with the front tires clearing the ground. Set the parking brakes (brake handle up).

b. Remove nuts (19) and washers (20), and remove tire and wheel from hub (31).

c. Remove hub cap (22), cotter pin (23), nut (24), and tongued washer (25).

d. Slide hub (31) with bearing cones, cups, and seal, as an assembly, from knuckle assembly (44).

CAUTION

Cover the open ends of the hub to prevent contamination of seal and bearings.

e. Remove cotter pin (10). Slide clevis pin (11) through the forward arm of knuckle assembly (44), and move tie rod (14) away from the knuckle assembly.

f. Remove nut (39), washer (40), and bolt (41) securing king pin (42) in axle shaft (45).

g. Carefully slide king pin (42) through knuckle assembly and axle beam. Remove the knuckle assembly from the axle shaft.

h. Remove grease fittings (43) from the knuckle assembly.

7-9. INSTALLATION OF KNUCKLE ASSEMBLY (See figure 5-5.)

a. Install grease fittings (43) on new knuckle assembly (44).

b. Position knuckle assembly over axle shaft (45).

c. Apply a light film of grease, Military Specification MIL-G-10927, on king pin (42) and install in knuckle assembly and axle shaft.

d. Secure the king pin in place with bolt (41), washer (40), and nut (39).

e. Position tie rod (14) over forward arm of the buckle assembly, and install clevis pin (11). Secure the clevis pin with new cotter pin (10).

f. Lubricate the king pin and knuckle assembly with grease, Military Specification MIL-G-10927.

g. Slide hub (31) with bearing cones, cups, and seal, as an assembly, onto the bearing surfaces of the knuckle assembly.

h. Install tongued washer (25), and nut (24). Tighten the nut to seat the entire hub assembly.

i. Position the tire and wheel on the hub and secure with washers (20) and nuts (19).

j. Loosen nut (24) just enough to allow the wheel to turn freely but with no side play.

k. Install new cotter pin (23).

1. Install hub cap (22).

7-10. REAR AXLE ASSEMBLY.

7-11. REMOVAL OF REAR WHEEL BEARINGS. (See figure 5-6.)

a. Mount the aft end of the trailer on a suitable support with the rear tires clearing the ground. Block the front tires.

b. Release the parking brakes (brake handle down).

c. Remove nuts (1) and washers (2), and remove the tire and wheel from hub (13).

d. Remove hub cap (4), cotter pin (5), nut (6), and tongued washer (7).

e. Slide hub (13) and brake drum (l4), as an assembly, from rear axle (39).

CAUTION

Cover the bearing surfaces on the rear axle to prevent contamination.

f. Remove bearing cones (8, 11), bearing cups (9, 12), and seal (10) from hub (13).

CAUTION

Cover the open ends of the hub to prevent contamination.

7-12. ASSEMBLY AND INSTALLATION OF REAR WHEEL BEARINGS. (See figure 5-6.)

a. Assemble new bearing cones (8, 11) and new bearing cups (9, 12) as sets, and handpack with grease, Military Specification MIL-G-10927.

b. Install new bearing cone and bearing cup set (11, 12) in hub (13).

c. Install new seal (10) in hub.

d. Slide the hub and brake drum over the aft bearing surface on the rear axle.

e. Install new bearing cone and new bearing cup set (8, 9) the forward bearing surface of the rear axle, ensuring bearing cup (9) is properly seated in the hub.

f. Install tongued washer (7), and nut (6).

g. Tighten nut (6) to seat entire hub assembly.

h. Position the tire and wheel on the hub and secure with washers (2) and nuts (1).

i. Loosen nut (6) just enough to allow the wheel to turn freely, but with no side play.

j. Install new cotter pin (5).

k. Install hub cap (4).

7-13. REMOVAL OF BRAKE SHOE AND LINING ASSEMBLIES. (See figure 5-6.)

a. Mount the aft end of the trailer on a suitable support with the tires clearing the ground. Block the front tires.

b. Release the parking brakes (brake handle down).

c. Remove hub cap (4), cotter pin (5), nut (6), and tongued washer (7).

d. Slide the tire and wheel, together with hub (13) and brake drum (14) from axle shaft (39).

CAUTION

Cover the bearing surfaces of the shaft and the open ends of the hub assembly to prevent contamination.

e. Disconnect brake linkage from brake actuating lever (25).

f. Remove spring (15) from shoe and lining assemblies (20).

g. Remove nuts (16), washers (17), anchor pins (18), anchor pin plate (19), and reinforcement plate (21). Remove shoe and lining assemblies (20) from backing plate (30).

h. Remove brake actuating lever (25) and strut (26) from slot in backing plate (30).

7-14. ASSEMBLY AND INSTALLATION OF BRAKE SHOE AND LINING ASSEMBLIES. Installation of the brake shoe and lining assemblies is the reverse of the removal procedure given in paragraph 7-13, except as follows:

a. Apply a light film of Lubriplate No. 20 on: (1) the contact points of the brake shoe and backing plate; (2) the contact points of the brake actuating lever and

the backing plate; (3) the contact surface of the anchor pin plate and backing plate; and (4) the anchor pin threads.

b. For intial adjustment of the brake shoe and lining assemblies, insert a feeler gage between the lining and drum nearest the shoe adjusting eccentric. Turn the eccentric clockwise and obtain a 0.008-inch clearance between lining and drum. Tighten the eccentric nut.

Note

The feeler gage must be a snug fit and must extend through the entire width of the lining. Clearance is to be determined at the closest point in full width.

c. Insert a feeler gage between the lining and drum nearest the anchor pins. Adjust the anchor pins and obtain a 0.005-inch clearance between the lining and drum. Tighten the anchor pin nut.

7-15. ADJUSTMENT OF BRAKES. (See figure 5-6).

7-16. Proper brake action and proper brake lining contact is obtained by adjustment at three points. These are the knurled brake handle, the brake shoe adjusting eccentrics (cams), and the rod and clevis connections of the brake linkage. The following steps outline the procedure for complete adjustment of the brake system.

a. Mount the aft end of the trailer on a suitable support with the tires clearing the ground. Block the front tires.

b. Release the parking brakes (brake handle down).

c. Turn the burled adjustment section of the brake handle counterclockwise and release all tension in the brake linkage.

d. Hold the adjusting cam in position with an open-end wrench, and loosen the cam locking nut.

e. Spin the wheel and turn the adjusting cam in the proper direction to expand the brake shoe until a heavy drag is reached, then gradually turn back the adjusting cam until the wheel turns freely.

f. Make this adjustment at the top and bottom cams for each brake shoe. Hold the adjusting cam in position and tighten the cam locking nut.

g. Turn the knurled section of the brake handle clockwise, taking up the slack in the linkage, until the brakes are fully applied when the brake handle is in the "up" position.

h. Check that the brakes are fully released when the brake handle is in the "down" position.

l. If additional adjustments are required, make the adjustments at the rod and clevis connections of the brake linkage, as necessary.

7-17. FUEL BOOST PUMP.

7-18. REMOVAL OF FUEL BOOST PUMP. (See figure 5-1).

a. Disconnect the electrical harness from fuel boost pump (25).

b. Disconnect fuel lines (17, 20) from the boost pump. Cover the open ends of the fuel lines.

c. Remove nipples (21) from the boost pump. Cover the open ports on the boost pump.

d. Remove nuts (27), washers (28), and screws (29) securing the boost pump to bracket (38). Remove the pump from the bracket.

7-19. INSTALLATION OF FUEL BOOST PUMP. Installation of the fuel boost pump is the reverse of removal. See figures 6-2 and 6-3 when connecting the electrical harness to the fuel boost pump.

7-20. FUEL FILTER.

7-21. REMOVAL OF FUEL FILTER. (See figure 5-1).

a. Disconnect fuel line (20) and hose assembly (22) from fuel filter (33). Cap the open end of the fuel line and hose.

b. Remove reducers (23) and O-rings (24). Cover the open ports on the filter.

c. Remove nuts (34), spacers (35), washers (36), and bolts (37) securing the filter to support bracket (38). Remove the filter from the bracket.

7-22. DISASSEMBLY OF FUEL FILTER. (See figure 5-8).

a. Remove filter case (1) from filter head (5).

b. Remove filter element (2). Inspect the element; discard if dirty, clogged, or damaged.

c. Remove back-up ring (3) and O-ring (4) from filter case. Discard O-ring (4).

d. If inspection of the filter relief valves is necessary, remove plug (6), gasket (7), spring guide (8), spring (9), and piston (10) of each relief valve from the filter head. Discard gasket (7).

7-23. ASSEMBLY AND INSTALLATION OF FUEL FILTER. (See figures 5-1 and 5-8.)

a. See figure 5-8. Assembly of the fuel filter is the reverse of disassembly. Use new gasket (7), new O-ring (4), and new filter element (2). Tighten the filter case to 20 to 30 pound-feet torque.

b. See figure 5-1. Installation of the fuel filter is the reverse of removal. Reinstall reducers (23), and use new O-rings (24).

7-24. TACHOMETER GENERATOR.

7-25. REMOVAL OF TACHOMETER GENERATOR. (See figure 5-1).

Note

An adapter is used to couple the tachometer generator to the speed switch. Ensure that the adapter is removed from the tachometer generator or from the speed switch.

a. Disconnect the electrical connector from the receptacle on tachometer generator (59). Place a protective cap over the threads of the receptacle.

b. Remove nuts (60) and washers (61) attaching the tachometer generator to the speed switch. Disengage the tachometer generator from the speed switch.

c. Remove the adapter (62) from either the tachometer generator or speed switch. Place the adapter (62), nuts (60), and washers (61) in a cloth bag.

d. Stow the tachometer generator and the cloth bag in the stowage compartment inside the console door.

7-26. INSTALLATION OF TACHOMETER GENERATOR. (See figure 5-1).

a. Remove tachometer generator (59) and the cloth bag from the stowage compartment inside the console door. The cloth bag contains the coupling adapter and hardware to attach the tachometer generator to the speed switch.

b. Installation of the tachometer generator is the reverse of removal. See figures 6-2 and 6-3 for harness installation.

7-27. THERMOCOUPLE.

7-28. REMOVAL OF THERMOCOUPLE. (See figure 5-1).

a. Disconnect the electrical wires from the terminal posts of thermocouple (128). Reinstall the nuts and washers on the terminal posts to prevent loss.

b. Remove thermocouple (128) from top side of the combustor exhaust end by unscrewing the integral swivel nut on the thermocouple from the threaded mounting boss.

c. Carefully stow the thermocouple in stowage bracket (129) by screwing the swivel nut on the thermocouple on the threaded end of the stowage bracket. Reconnect the electrical wires to the terminal posts.

7-29. INSTALLATION OF THERMOCOUPLE. (See figure 5-1).

a. Disconnect the electrical wires from the terminal posts of thermocouple (128). Reinstall the nuts and washers on the terminal posts to prevent loss.

b. Remove the thermocouple from stowage bracket (129) by unscrewing the integral swivel nut on the thermocouple from the threaded end of the stowage bracket.

c. Install the thermocouple on the top side of the combustor exhaust end by screwing the integral swivel nut on the thermocouple on the threaded mounting boss.

d. Connect the electrical wires to the terminal posts on the thermocouple. See figures 6-2 and 6-3 for electrical wire connections.

7-30. AC GENERATOR.

7-31. REMOVAL OF AC GENERATOR. (See figure 5-1).

a. Disconnect the electrical cables from ac generator (63).

b. Loosen attaching nuts (64) and washers (65) securing the generator to the mounting pad on speed increaser (72).

c. Support the generator fore and aft. Rotate the generator slightly counterclockwise so that the holes in the generator mounting flange will clear the nuts and washers loosened in step b, preceding.

d. Carefully slide the generator away from the speed increaser until the generator drive shaft spline is clear of the drive shaft in the speed increaser.

e. Remove and discard gasket (67).

Note

Refer to TM 55-1520-209-35 for complete maintenance of the ac generator.

7-32. INSTALLATION OF AC GENERATOR. (See figure 5-1).

a. Installation of ac generator (63) is the reverse of removal.

b. Apply a light film of petrolatum, Federal Specification VV-P-236, to both sides of new gasket (67), and to the flange on the output pad of the speed increaser.

c. Tighten attaching nuts (64) evenly in a criss-cross pattern.

d. Reconnect the electrical cables to the generator. See figures 6-2 and 6-3 for the electrical connections.

7-33. DC STARTER-GENERATOR.

7-34. REMOVAL OF DC STARTER-GENERATOR. (See figure 5-1).

a. Disconnect the electrical cables from starter-generator (68).

b. Loosen attaching nuts (69) securing the starter-generator to the mounting pad on speed increaser (72).

c. Support the starter-generator fore and aft; then remove attaching nuts (69) and washers (70).

d. Carefully slide the starter-generator away from the speed increaser until the starter-generator drive shaft spline is clear of the drive shaft in the speed increaser.

e. Remove and discard gasket (71).

Note

Refer to TM 55-1520-214-35 for complete maintenance of the dc starter-generator.

7-35. INSTALLATION OF DC STARTER-GENERATOR. (See figure 5-1).

a. Installation of starter-generator (68) is the reverse of removal.

b. Apply a light film of petrolatum, Federal Specification VV-P-236, to both sides of new gasket (71), and to the flange on the output pad of the speed increaser.

c. Tighten attaching nuts (69) evenly in a criss-cross pattern.

d. Reconnect the electrical cables to the dc starter-generator. See figures 6-2 and 6-3 for the electrical connections.

7-36. OIL SEALS.

7-37. REMOVAL OF OIL SEALS.

a. Remove the ac generator from the output pad of the speed increaser. Refer to paragraph 7-31 for the removal procedure.

b. Remove the dc starter-generator from the output pad of the speed increaser, Refer to paragraph 7-34 for the removal procedure.

c. See figure 5-1. Remove cover assembly (76) by removing nuts (77) and washers (78). Reinstall the nuts and washers on the cover to prevent loss.

CAUTION

When removing the oil seals, be careful not to nick the drive shaft surfaces or the sealing surfaces on the bearing bore. If these surfaces are nicked, an oil leak may result.

d. See figure 5-7. Using a machinist scribe, or equivalent tool, insert the scribe between the metal part of seal (2) and the rubber part; then pry the seal loose, and forward.

e. When the seal, or metal cover of the seal is pried sufficiently forward, use a needle-nose pliers, or an equivalent tool, to complete the seal removal.

f. Cover all openings in the speed increaser to prevent entry of foreign particles.

7-38. INSTALLATION OF OIL SEALS. (See figure 5-7).

a. Lubricate the inner lip of seal (2) with lubricating oil, Military Specification MIL-L-7808.

CAUTION

To prevent damage to the seals, always install the seals with the seal part number and manufacturer's name facing outward.

b. Install the seal on the speed increaser using an insert tool, or equivalent driver tool, with a 1.5-inch ID and a 2.5-inch OD.

c. Install the seal so that it bottoms against the flange or shoulder of the housing.

d. Use care to prevent deformation of the seal and seal contact surface.

e. Ensure that the seal is flush with recessed flange surface of housing within 0.010 inch.

f. Install the generators and cover assembly (76, figure 5-1).

7-39. OIL SIGHT GLASS.

7-40. REMOVAL OF OIL SIGHT GLASS. (See figure 5-7).

a. Drain the lubricating oil from the speed increaser. Refer to paragraph 2-6, and perform the applicable steps.

b. Remove oil sight glass (5) by unscrewing the assembly from the speed increaser. Remove and discard O-ring (4). Cover the opening to prevent the entry of foreign particles.

7-41. INSTALLATION OF OIL SIGHT GLASS. (See figure 5-7).

a. Installation of oil sight glass (5) is the reverse of removal.

b . Apply a light film of lubricating oil, Military Specification MIL-L-7808, to new O-ring (4). Install the new oil sight glass and new O-ring (4) on the speed increaser.

c. Service the speed increaser with lubricating oil. Refer to paragraph 2-6 for the servicing procedure.

d. Check for oil leaks around the oil sight glass,

7-42. BATTERY.

7-43 REMOVAL OF BATTERY. (See figure 5-1).

a. Release and remove multi-pin, quick-disconnect power cable connector (7) from the terminal pins on battery (6).

b. Release and remove battery holddown clamp (8) from the top of the battery.

c. Carefully lift the battery from battery retainer (13).

Note

Refer to TM 11-6140-205-12 for complete maintenance of the battery.

7-44. INSTALLATION OF BATTERY. (See figure 5-1). Installation of the battery is the reverse of removal. Reconnect the quick-disconnect power cable connector to the terminal pins on the battery.

7-45. CHARGING THE BATTERY ON THE CHECK STAND. The battery can be charged on the check stand during APU checkout. When the APU reaches operating speed, pressing the VOLTAGE REG circuit breaker will put the dc starter-generator on the line and furnish power to charge the battery. Refer to the manufacturer's instructions for complete maintenance of the battery.

7-46. REPAIR OF TIRES. Tires may be repaired in accordance with standard procedures.

WARNING

Deflate the tire before separating the wheel rims. Inflated tire pressure will separate the rim halves with extreme force.

SECTION VIII

MAINTENANCE OF FORMS AND RECORDS

8-1. GENERAL.

8-2. REQUIREMENT FOR MAINTAINING FORMS AND RECORDS. This section establishes and illustrates the applicable forms and records to be maintained while the equipment is being processed.

8-3. DA FORM 2404, DA FORM 2408-1, DA FORM 2409, AND DA FORM 2410. The specimen-sample forms are intended to provide guidance in recording the requested information. For more detailed information, refer to TM 38-750, Army Equipment Record Procedures.

a. DA Form 2404, Equipment Inspection and Maintenance Worksheet. This form is used for temporary recording of faults found to exist at the time of inspection. See figure 8-1 for a specimen-sample copy.

b. DA Form 2408-1. Equipment Daily or monthly Log. This form is used for recording operational time and status of equipment. See figure 8-2 for a specimen-sample copy.

c. DA Form 2409, Equipment Maintenance Log. This form is used for recording maintenance and modification of equipment. See figure 8-3 for a specimen- sample copy.

d. DA Form 2410, Component Removal and Repair/Overhaul Record. This form is used for the APU and the mobile check stand alternator in accordance with TB AVN 23-65. See figure 8-4 for a specimen-sample copy.

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

(TM 38-750)

1. ORGANIZATION	2. NOMENCLATURE AND MODEL

3. REGISTRATION/SERIAL/FSN	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION

7. APPLICABLE REFERENCE

TM NUMBER	TM DATE	TM NUMBER	TM DATE

INSTRUCTIONS - Perform each check listed in the TM applicable to the inspection performed. Following the sequence listed in pertinent TM, complete form as follows:

COLUMN a - Enter TM item number.

COLUMN b - Enter the applicable condition status symbol.

COLUMN c - Enter deficiencies and shortcomings.

COLUMN d - Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e - Individual ascertaining completed corrective action initial in this column.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

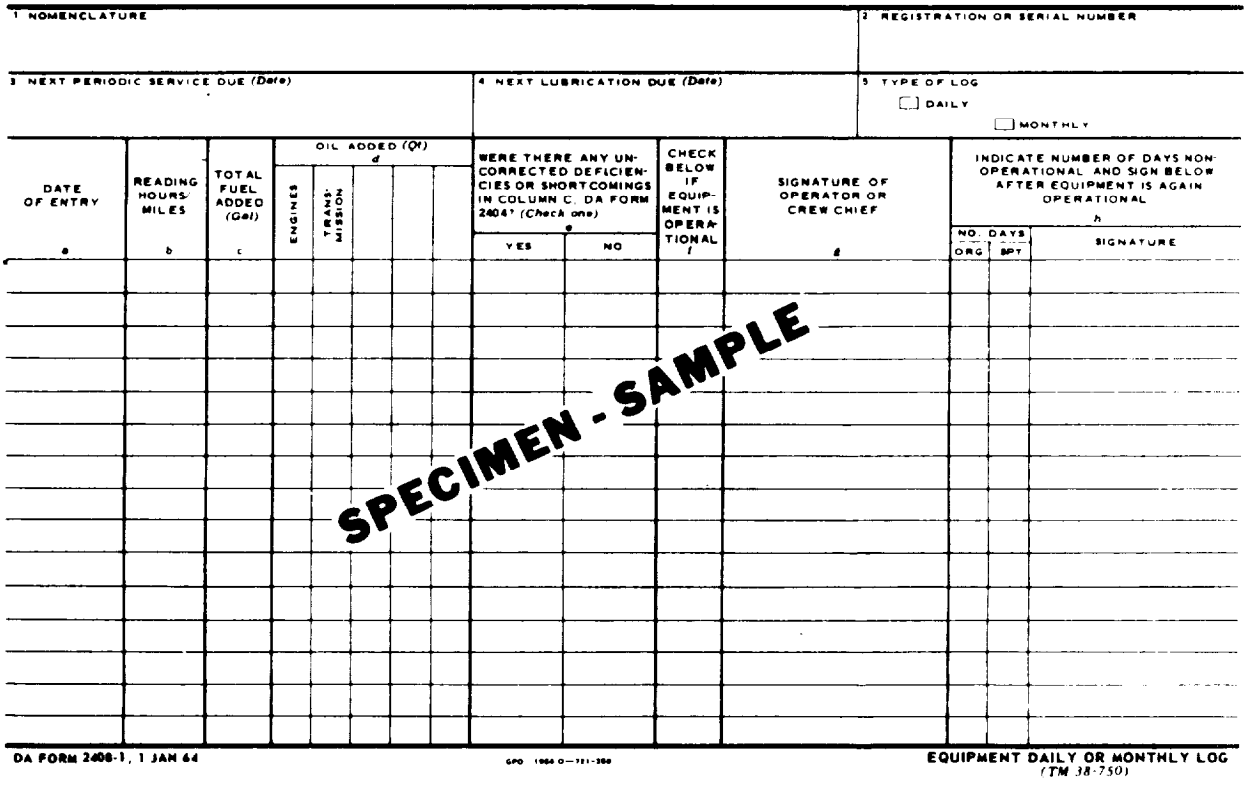
9a. SIGNATURE *(Person(s) performing inspection)*	9b. TIME	9a. SIGNATURE *(Maintenance Supervisor)*	9b. TIME	10. MANHOURS REQUIRED

TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION d	INITIAL WHEN CORRECTED e

DA FORM 1 JAN 64 2404

048—10—78230-1

Figure 8-1. Equipment Inspection and Maintenance Worksheet, DA Form 2404



1 NOMENCLATURE

2 REGISTRATION OR SERIAL NUMBER

3 NEXT PERIODIC SERVICE DUE (Date)

4 NEXT LUBRICATION DUE (Date)

5 TYPE OF LOG ☐ DAILY ☐ MONTHLY

DATE OF ENTRY a	READING HOURS-MILES b	TOTAL FUEL ADDED (Gal) c	OIL ADDED (Qt) d: ENGINES	OIL ADDED (Qt) d: TRANS-MISSION	WERE THERE ANY UNCORRECTED DEFICIENCIES OR SHORTCOMINGS IN COLUMN C, DA FORM 2404? (Check one) e: YES	WERE THERE ANY UNCORRECTED DEFICIENCIES OR SHORTCOMINGS IN COLUMN C, DA FORM 2404? (Check one) e: NO	CHECK BELOW IF EQUIPMENT IS OPERATIONAL f	SIGNATURE OF OPERATOR OR CREW CHIEF g	INDICATE NUMBER OF DAYS NON-OPERATIONAL AND SIGN BELOW AFTER EQUIPMENT IS AGAIN OPERATIONAL h: NO. DAYS ORG	NO. DAYS DPT	SIGNATURE

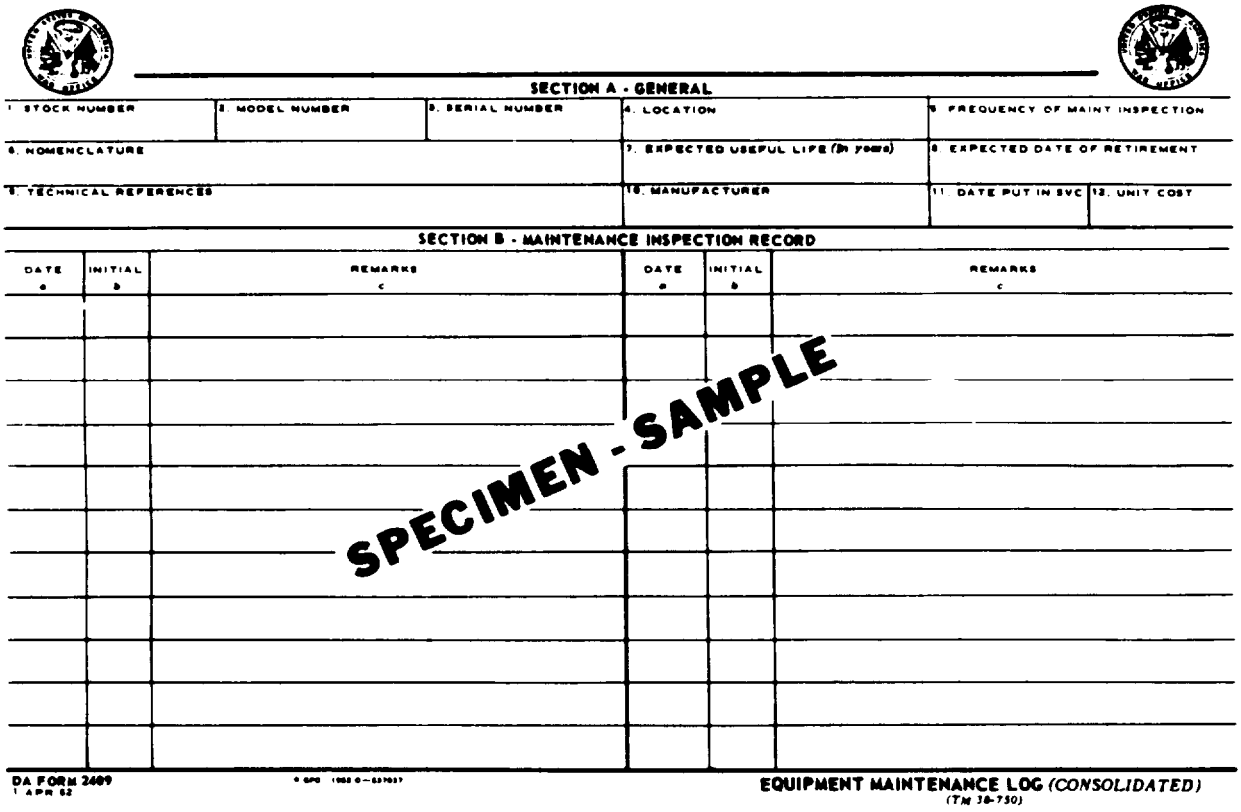
SPECIMEN - SAMPLE

DA FORM 2408-1, 1 JAN 64

GPO 1964 O—721-388

EQUIPMENT DAILY OR MONTHLY LOG (TM 38-750)

Figure 8-2. Equipment Daily or Monthly Log, DA Form 2408-1



SECTION A - GENERAL

1. STOCK NUMBER	2. MODEL NUMBER	3. SERIAL NUMBER	4. LOCATION	5. FREQUENCY OF MAINT INSPECTION	
6. NOMENCLATURE			7. EXPECTED USEFUL LIFE (In years)	8. EXPECTED DATE OF RETIREMENT	
9. TECHNICAL REFERENCES			10. MANUFACTURER	11. DATE PUT IN SVC	12. UNIT COST

SECTION B - MAINTENANCE INSPECTION RECORD

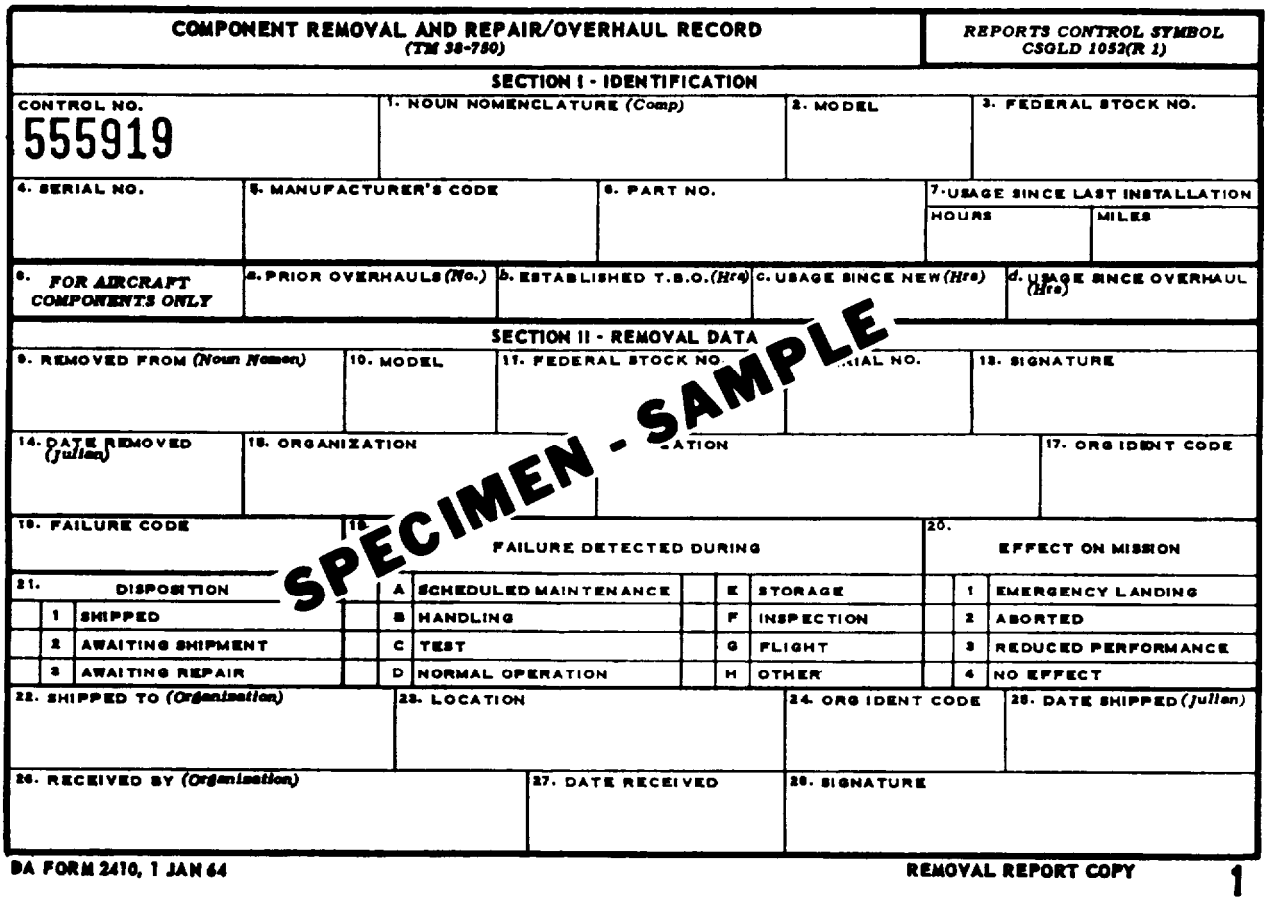
DATE a	INITIAL b	REMARKS c	DATE a	INITIAL b	REMARKS c

SPECIMEN - SAMPLE

DA FORM 2409
1 APR 62

EQUIPMENT MAINTENANCE LOG *(CONSOLIDATED)*
(TM 38-750)

Figure 8-3. Equipment Maintenance Log, DA Form 2409



COMPONENT REMOVAL AND REPAIR/OVERHAUL RECORD
(TM 38-750)

REPORTS CONTROL SYMBOL
CSGLD 1052(R 1)

SECTION I - IDENTIFICATION

CONTROL NO.	1. NOUN NOMENCLATURE (Comp)	2. MODEL	3. FEDERAL STOCK NO.
555919			

4. SERIAL NO.	5. MANUFACTURER'S CODE	6. PART NO.	7. USAGE SINCE LAST INSTALLATION	
			HOURS	MILES

8. FOR AIRCRAFT COMPONENTS ONLY	a. PRIOR OVERHAULS (No.)	b. ESTABLISHED T.B.O. (Hrs)	c. USAGE SINCE NEW (Hrs)	d. USAGE SINCE OVERHAUL (Hrs)

SECTION II - REMOVAL DATA

9. REMOVED FROM (Noun Nomen)	10. MODEL	11. FEDERAL STOCK NO.	...IAL NO.	13. SIGNATURE

14. DATE REMOVED (Julian)	15. ORGANIZATION	...CATION	17. ORG IDENT CODE

18. FAILURE CODE	19. FAILURE DETECTED DURING	20. EFFECT ON MISSION

21. DISPOSITION											
	1	SHIPPED		A	SCHEDULED MAINTENANCE		E	STORAGE		1	EMERGENCY LANDING
	2	AWAITING SHIPMENT		B	HANDLING		F	INSPECTION		2	ABORTED
	3	AWAITING REPAIR		C	TEST		G	FLIGHT		3	REDUCED PERFORMANCE
				D	NORMAL OPERATION		H	OTHER		4	NO EFFECT

22. SHIPPED TO (Organization)	23. LOCATION	24. ORG IDENT CODE	25. DATE SHIPPED (Julian)

26. RECEIVED BY (Organization)	27. DATE RECEIVED	28. SIGNATURE

SPECIMEN - SAMPLE

DA FORM 2410, 1 JAN 64

REMOVAL REPORT COPY 1

Figure 8-4. Component Removal and Repair/Overhaul Record, DA Form 2410

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PIN: 009599-001