TM 11-6115-204-10

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL

GASOLINE ENGINE GENERATOR SETS PU-286A/G AND PU-286B/G

HEADQUARTERS, DEPARTMENT OF THE ARMY
OCTOBER 1959

AGO 1429A—Sep

WARNINGS

DANGEROUS VOLTAGES EXIST IN THIS EQUIPMENT

This unit generates voltages which may cause serious injury or death. Do not make or change wiring connections while the unit is in operation.

DANGEROUS EXHAUST GASES ARE PRODUCED BY ENGINE

Exhaust gases produced by the engine are poisonous. Inhalation may result in illness or death. Sufficient and proper ventilation must be provided if the unit is to be operated in a confined space. Be sure all exhaust connections are tight.

GASOLINE IS EXPLOSIVE

Do not service the fuel system while the engine is running. Avoid spilling gasoline on a hot engine.

ECHNICAL MANUAL
O. 11–6115–204–10

HEADQARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., *11 September 1959*

GASOLINE ENGINE GENERATOR SETS PU–286A/G AND PU–286B/G

*** This manual supersedes so much of TM 11–940A, C2, 10 November 1958, as is applicable to the operation f the equipment.**

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1. Scope

a. This manual describes Gasoline Engine Generator Sets PU–286A/G and PU–286B/G (fig. 1) and covers operation and operator's maintenance. It includes operation under usual and unusual conditions, cleaning and inspection of the equipment, and replacement of parts available for first echelon maintenance.

b. Official nomenclature followed by (*) is used to indicate all models of the equipment item covered in this manual. Thus, Gasoline Engine Generator Set PU–286(*)/G represents Gasoline Engine Generator Sets PU–286A/G and PU–286B/G.

Note. Throughout the manual, Gasoline Engine Generator Set PU–286(*)/G is referred to as *generator set.*

2. Forms and Records

a. Unsatisfactory Equipments Reports. Fill out and forward DA Form 468 (Unsatisfactory Equipment Report) to the Commanding Officer, U. S. Army Signal Equipment Support Agency, Fort Monmouth, N. J. as prescribed in AR 700–38.

b. Report of Damaged or Improper Shipment. Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700–58 (Army).

c. Preventive Maintenance Forms. Prepare DA Form 11–267 (fig. 12 and 13) in accordance with instructions on the front of the form.

d. Parts List Form. Forward DA Form 2028 (Recommended Changes to DA Technical Manual Parts List) directly to the Commanding Officer, U. S. Army Signal Equipment Support Agency, Fort Monmouth, N. J. with any comments on parts listings in the Appendix.

e. DA Form 11–57. Complete DA Form 11–57 (Rustproofing Record for Idle (Out of Service) and Stored Engines) as described in TB SIG 23 (Preservation (Rustproofing) of Engines and Air Compressors).

f. Comments on Manual. Forward all other comments on this publication directly to the Commanding Officer, U. S. Army Signal Publications Agency, Fort Monmouth, N. J.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

Gasoline Engine Generator Sets PU–286(*)/G supply 5 kilowatts of 120-volt, single phase, 60 cycles per second (cps) power. They are used primarily as a source of power for military field installations.

4. Technical Characteristics

a. Performance Characteristics.

Load (approx)	Exciter voltage (dc)	Output			
		Voltage (ac)	Current (amps)	Power (kw at .8 pf)	Frequency (cps)
0	7.5	122.0	0	0	61.5
¼	9.0	121.6	12.9	1.25	61.2
½	11.0	121.3	26.0	2.5	60.9
¾	14.0	120.5	39.0	3.75	60.8
Full	19.0	120.0	52.0	5.0	60.0

b. Engine.

Make ..... Hercules
Model ..... ZXAER
Type ..... Four-stroke cycle
Speed ..... 1,800 rpm
Horsepower (brake):
PU-286A/G 10.1
PU-286B/G 13.5
Battery voltage 24
Ignition ..... Magneto
Spark plugs ..... Integrally shielded and suppressed; 14-mm.
Head L
Cylinders ..... Four
Firing order 1-2-4-3
Bore ..... 2½ in.
Stroke ..... 3 in.
Compression ..... 6.52 to 1
Displacement ..... 79 cu in.
Cooling system:
Type ..... Liquid, thermo-syphon
Capacity ..... 4 quarts
Lubrication system:
Type ..... Pressure and splash
Capacity ..... 3½ quarts (including 10 oz in oil filter).
Fuel consumption ..... 1½ gal per hour
Air cleaner ..... Oil bath type
Rotation (facing flywheel) ..... Counterclockwise

c. Alternator.

Make:
PU-286A/G ..... Kurz and Root
PU-286B/G ..... Leland
Model:
PU-286A/G E-1535M-773E
PU-286B/G AGD-1
Type of operation ..... Rotating field
Number of poles 4
Type of drive ..... Direct
Speed ..... 1,800 rpm
Output:
Voltage ..... 120 ac
Frequency ..... 60 cps, single phase
Type 2-wire
Current rating ..... 52 amp
Power rating ..... 5 kw
Power factor 0.8

d. Exciter.

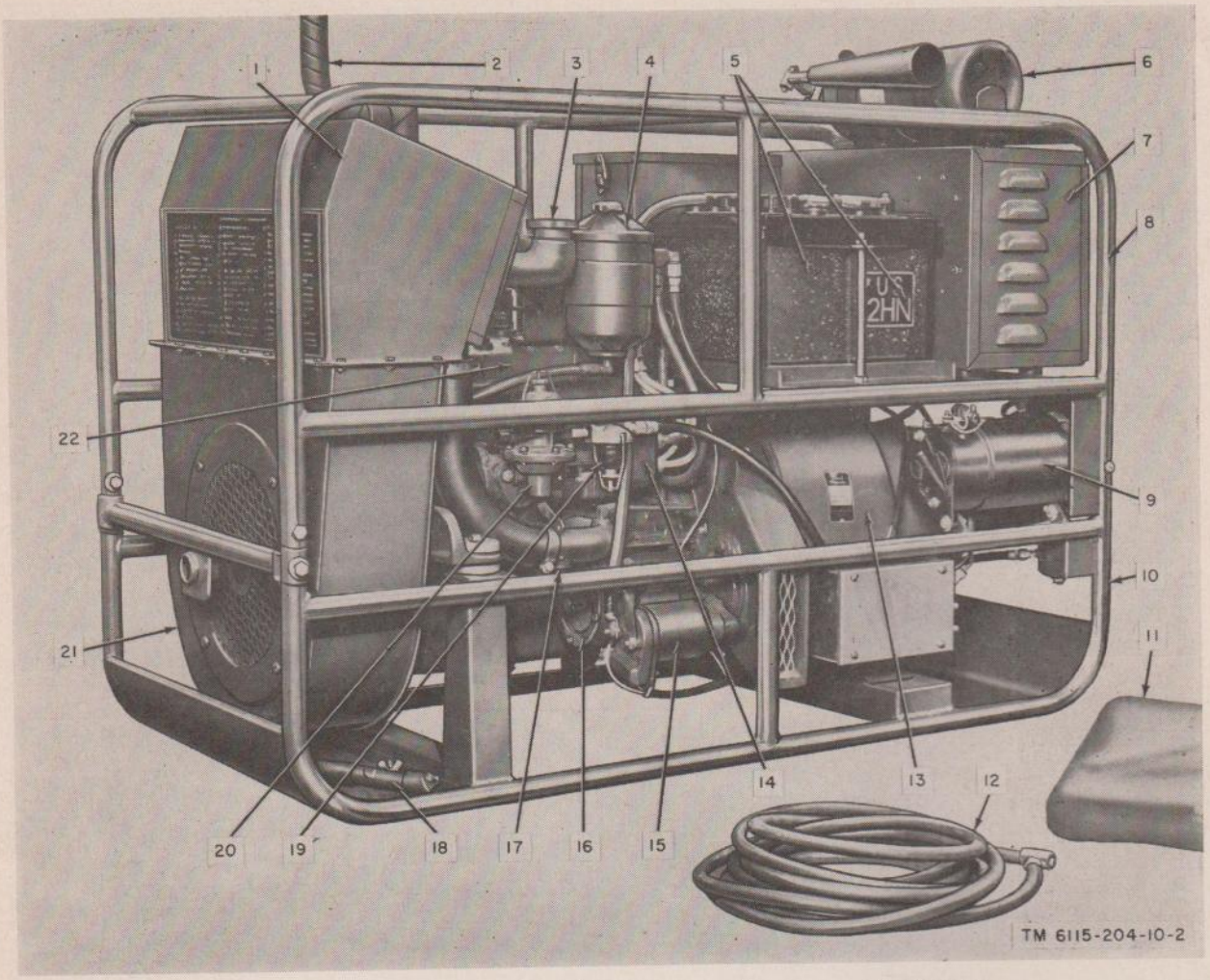
Make:
PU-286A/G ..... Kurz and Root
PU-286B/G ..... Leland
Model:
PU-286A/G E-1535M-773E
PU-286B/G AGD-1
Type of operation ..... Rotating armature
Type of drive ..... Direct
Speed ..... 1,800 rpm
Output voltage:
PU-286A/G ..... 45 dc
PU-286B/G ..... 36 dc
Current rating ..... 7.1 amp (rated load)

5. Table of Components

The components are listed in *a* below. Running spares, tools, and accessory equipments are listed in *b* through *d* below.

a. Components (fig. 1).

Quantity	Item	Height (in.)	Depth (in.)	Width (in.)	Unit Weight (lb)
1	Generator set consisting of: Engine Generator Condenser and blower Control box Tubular frame Batteries Battery-charging generator	31	47	22	769
1 set	Running spares (*b* below)				
1 set	Tools (*c* below)				
1 set	Accessory equipment (*d* below)				



1 Condenser
2 Exhaust pipe
3 Condenser filler cap
4 Oil filter
5 Battery
6 Fire extinguisher
7 Control box
8 Upper frame
9 Battery-charging generator
10 Lower frame
11 Canvas cover
12 Fuel supply hose
13 Generator
14 Magneto
15 Starter solenoid, relay, and switch
16 Starter
17 Engine coolant drain cock
18 Hand crank
19 Fuel sediment bowl
20 Fuel pump
21 Blower
22 Engine

Figure 1. Generator set, component of PU–286B/G, left rear view.

b. Running Spares (fig. 2).

Quantity	Item
4	Spark plug
1	Oil filter element
2	Oil filter gasket
1	Fuel sediment bowl
2	Sediment strainer gasket
1	Fuel line

c. Tools (fig. 3).

Quantity	Item
1	Oiler
1	Screwdriver TL–358/U
1	Wrench TL–476/U, adjustable
1	Spark plug and ignition points gage
1	Pliers TL–509/U
1	Spark plug wrench (with handle)

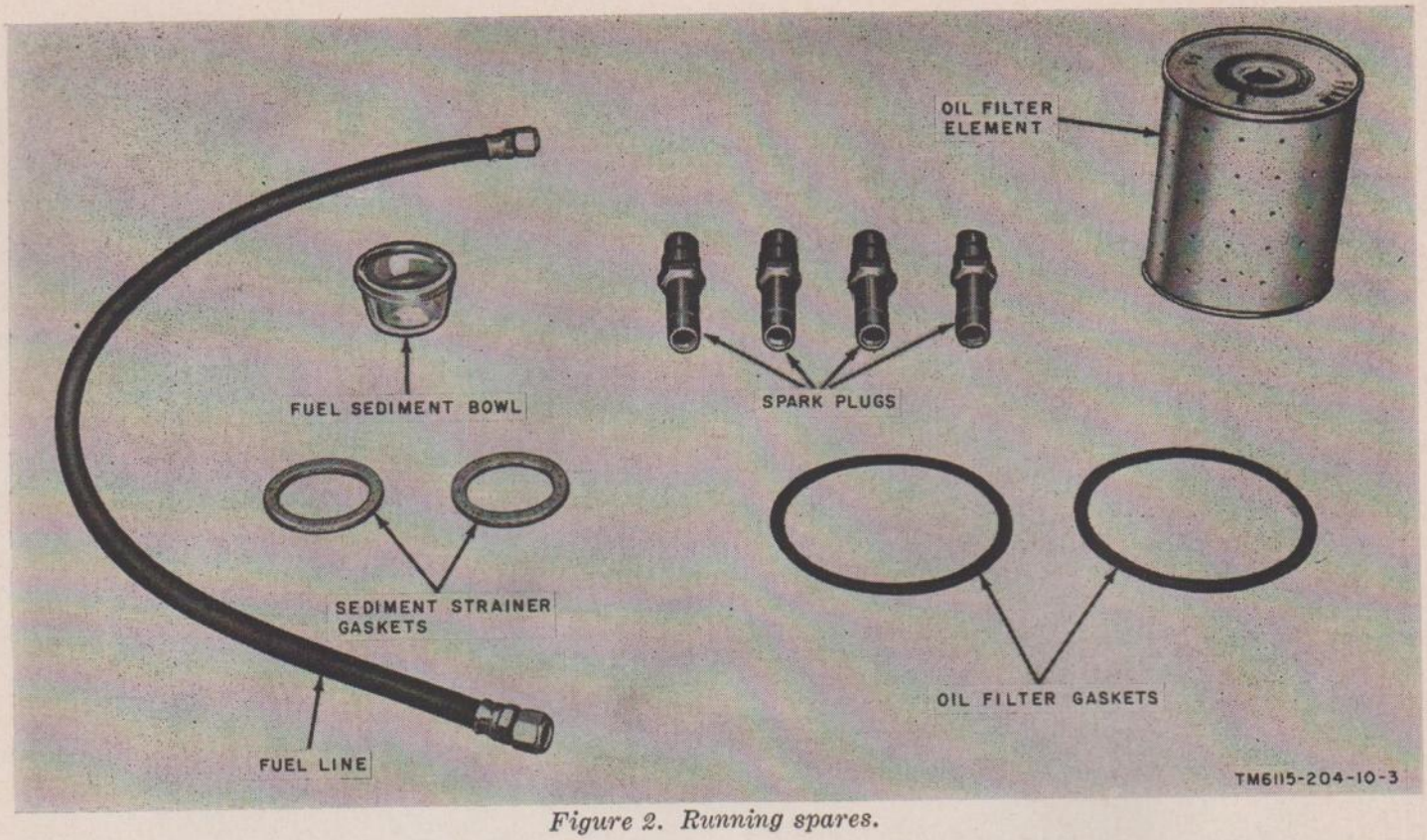


Figure 2. Running spares.

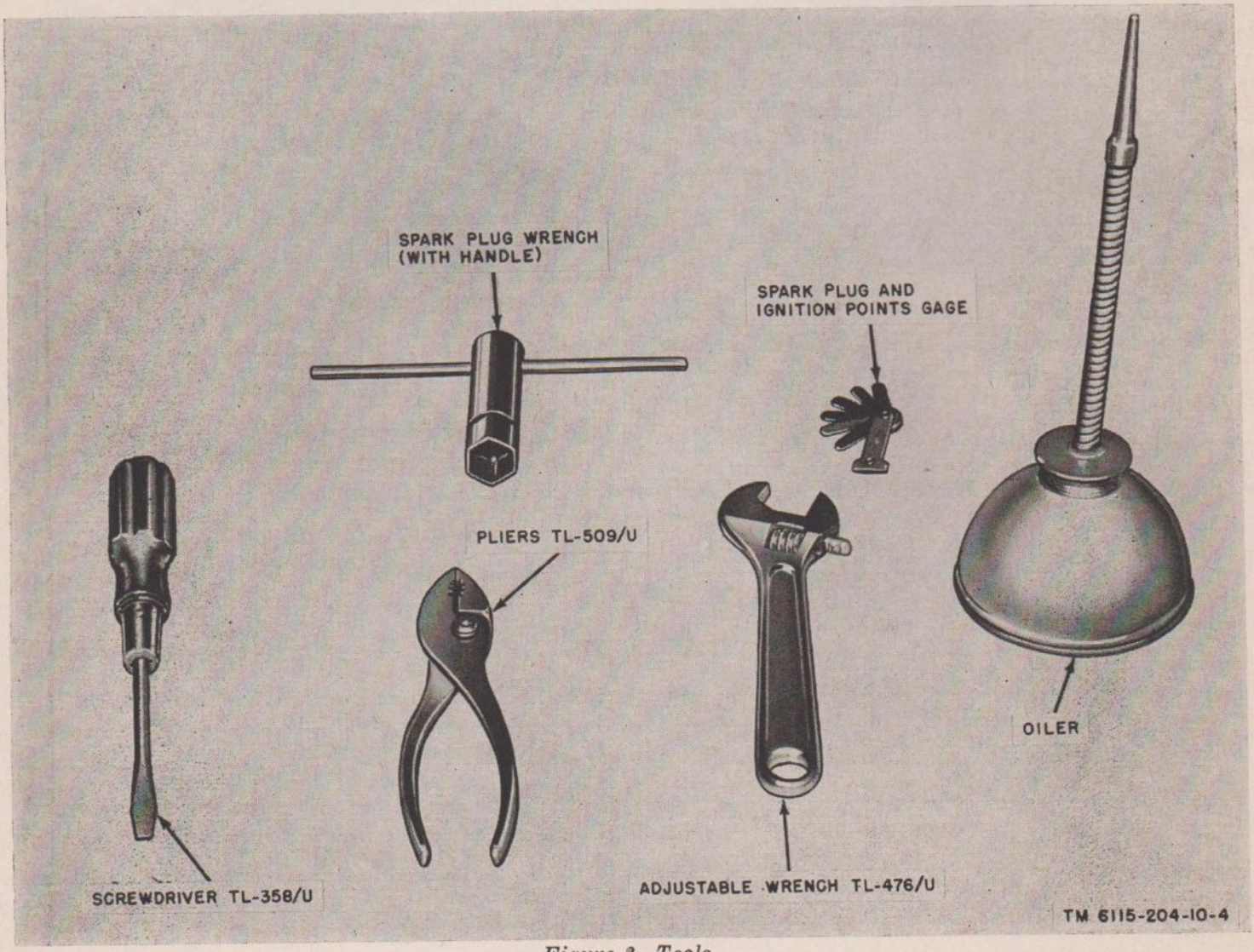


Figure 3. Tools.

d. Accessory Equipment.

Quantity	Item
20 ft	Fuel supply hose
10 ft	Flexible exhaust pipe
1	Fire extinguisher, with bracket and mounting screws.
1	Hand crank
1	Canvas cover, with drawcord

6. Description
(fig. 1, 2, and 3)

Gasoline Engine Generator Set PU–286(*)/G is a self-contained, transportable, power unit (par. 4). Included with each PU–286(*)/G are the running spares, tools, and accessory equipments (par. 5) required for installation, operation, and operator's maintenance. Components of the PU–286(*)/G are located within a tubular metal frame; operating controls and meters are mounted on a control panel (figs. 9 and 10) at the front of the unit.

7. Fuel, Lubricants, Coolant, and Cleaning Solvent

The folowing fuel, lubricants, coolant, and cleaning solvent are approved for use with the PU–286(*)/G.

Spec No.	Name	Grade	Temperature range
MIL–G–3056	Automative combat gasoline	OE–30	Above 32° F
MIL–L–2104A	Lubricating oil, internal combustion engine	OE–10	32° to —10° F
MIL–O–10295	Lubricating oil, internal combustion engine		
MIL–O–11755	Antifreeze compound	OES	Below —10°F
P–S–661	Dry cleaning solvent (SD)		Below 32° F

Note. Refer to TB SIG 23 (Preservation (Rustproofing) of Engines and Air Compressors) for instructions for preparation of equipment for preservation.

CHAPTER 2
OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

8. Removal of Corrosion Preventives

a. Use solvent (SD) and wiping cloths to remove preservatives from:

(1) Unpainted name plates.

(2) Battery terminal posts (3 and 5, fig. 5).

(3) Battery cable terminals.

(4) Fuel supply hose fittings (12, fig. 1).

b. Remove the pressure-sensitive-adhesive tape protective seals from the following items:

(1) Crankcase breather (2, fig. 4).

(2) Muffler outlet.

(3) Air cleaner openings.

(4) Air vents in magneto (14, fig. 1).

c. Remove and dispose of the silica gel bags.

9. Preparation of Crankcase and Carburetor Air Cleaner

a. Crankcase.

(1) Be sure the crankcase oil drain cock (11, fig. 4) on the PU–286B/G is closed.

(2) Remove the crankcase breather (fig. 6) and saturate the wire mesh with oil (OE).

(3) Fill the crankcase with 3½ quarts of oil as specified in paragraph 7.

(4) Replace the crankcase breather.

b. Carburetor Air Cleaner.

(1) Remove the wing nut from the bottom of the carburetor air cleaner (9, fig. 4). Lower the carburetor air cleaner oil reservoir (fig. 7) and remove it from the carburetor air cleaner.

(2) Be sure the inside of the oil reservoir is clean. Fill it to the level mark (fig. 7) with oil as specified in paragraph 7.

(3) Replace the carburetor air cleaner oil reservoir on the carburetor air cleaner with the plate on top of the reservoir covering the air inlet opening of the cleaner. Secure the reservoir in place with the wing nut.

10. Preparation of Fuel System

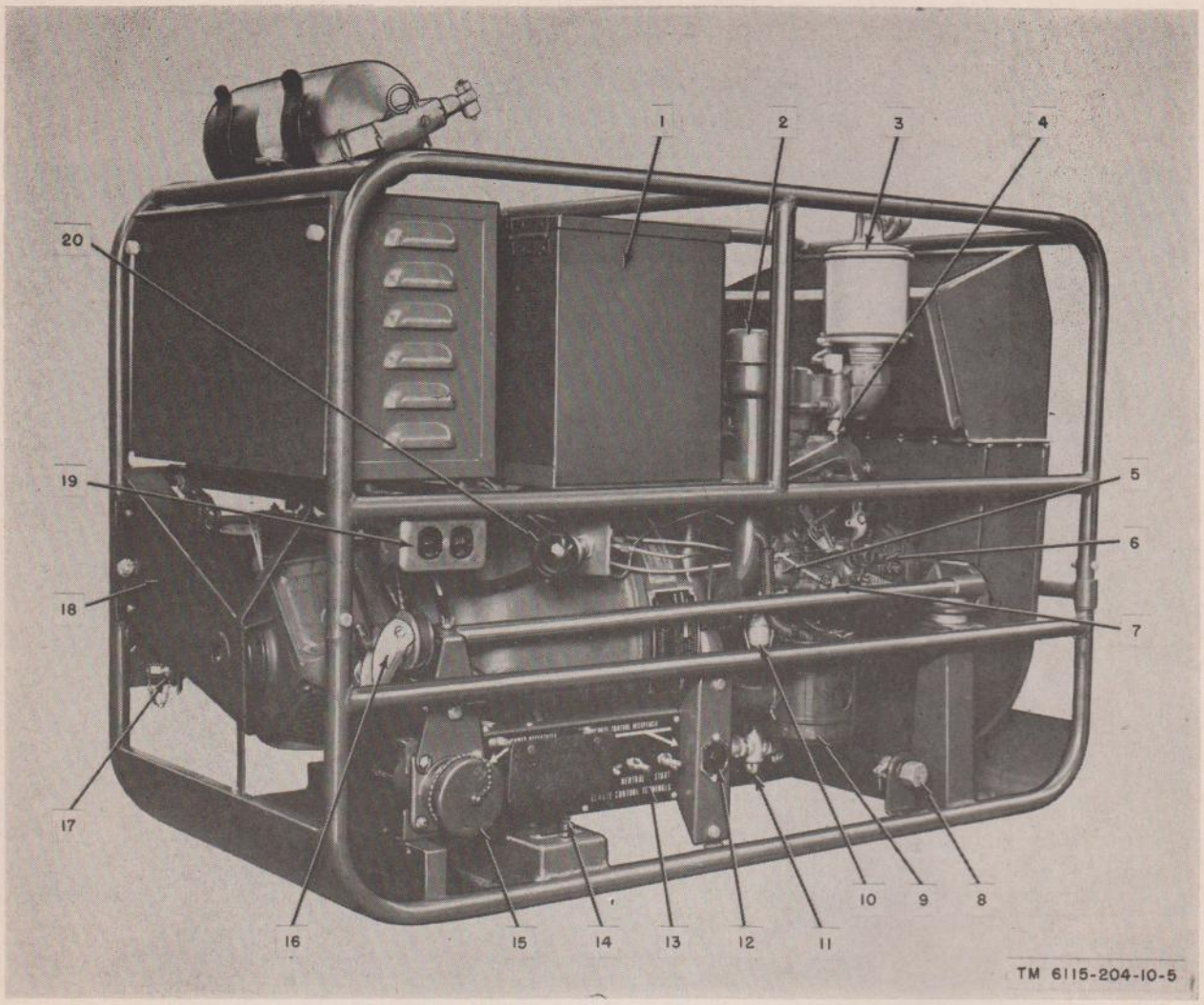
a. Remove the fuel container adapter (16, fig. 4) from its clips on the frame and install it in the external fuel container.

b. Attach one end of the 20-foot fuel supply hose (12, fig. 1) to the elbow in the top of the fuel container adapter. Remove the cap from the fuel connector (17, fig. 4) and attach the other end of the fuel supply hose to the fuel connector.

c. Try to move the fuel pump priming lever (fig. 8) to be sure it operates freely. If the lever cannot be moved, use the hand crank and crank the engine 1 complete turn. When the fuel pump priming lever is free to be moved, work it up and down until enough pressure is built up in the fuel system to prevent further movement, and leave the lever in its lowest position.

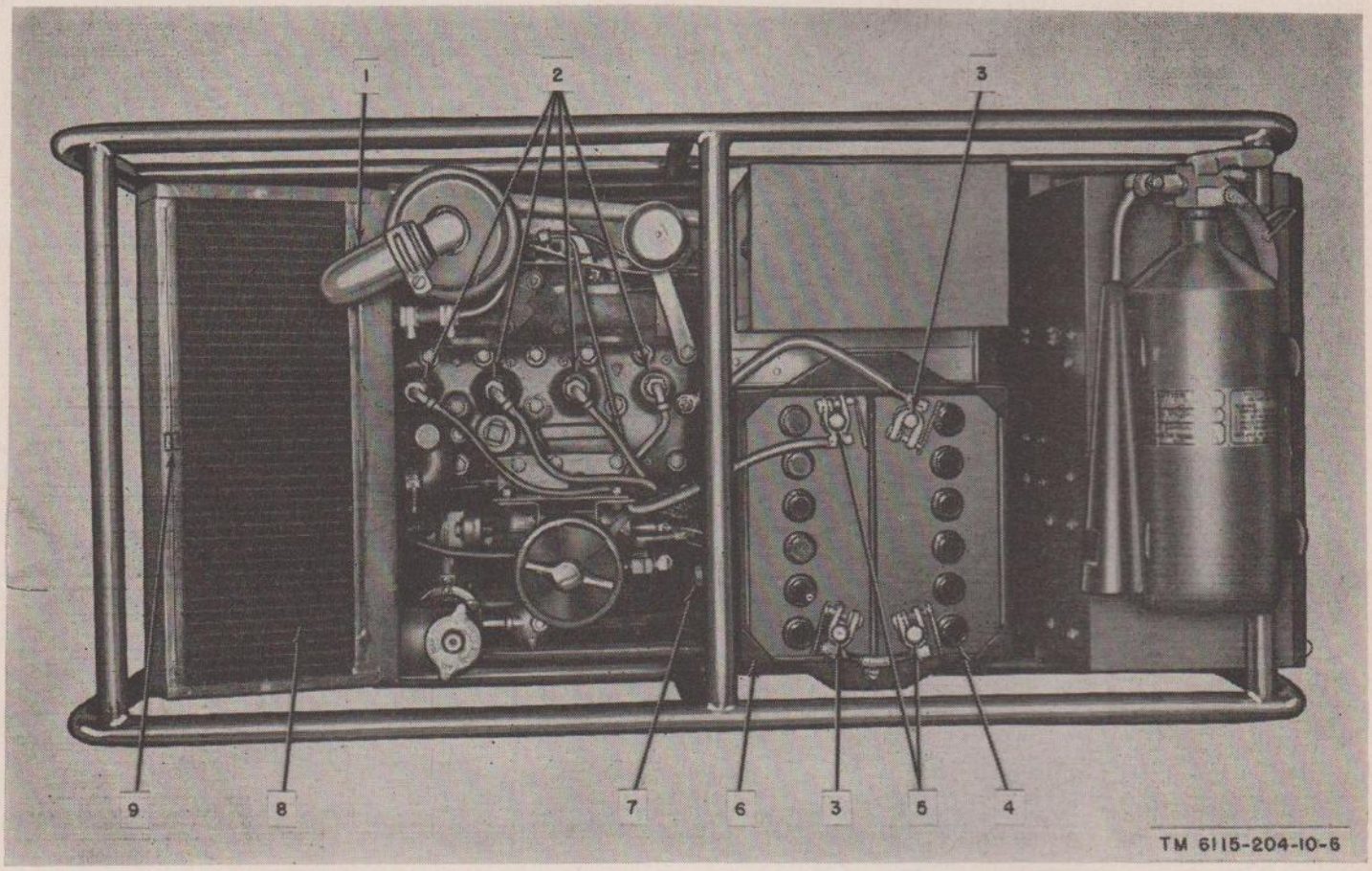
11. Preparation of Cooling System

Be sure that the engine coolant drain cock (17, fig. 1) is closed. For atmospheric temperatures above 32° F., fill the system to operating capacity (4 quarts) with clean water. For atmospheric temperatures 32° F. or lower, fill the system with antifreeze solution in accordance with current directives.



1 Toolbox
2 Crankcase breather
3 Muffler
4 Low-water safety switch
5 Carburetor
6 Governor
7 Automatic choke control
8 Oil drain cap
9 Carburetor air cleaner
10 Primer pump sediment strainer
11 Crankcase oil drain cock
12 Remote control receptacle
13 Terminal panel
14 Lower frame ground stud
15 Ac load receptacle (two-pole)
16 Fuel container adapter
17 Fuel connector
18 Belt guard
19 Ac output receptacle connector
20 Fuel primer pump

Figure 4. Generator set, component of PU–286B/G, right front view.



1 Exhaust pipe
2 Spark plugs
3 Battery terminal post (—)
4 Battery biller cap
5 Battery terminal post (+)
6 Battery retainer
7 Bayonet oil gage
8 Condenser
9 Pressure relief vent

Figure 5. Generator set, component of PU–286B/G, top view.

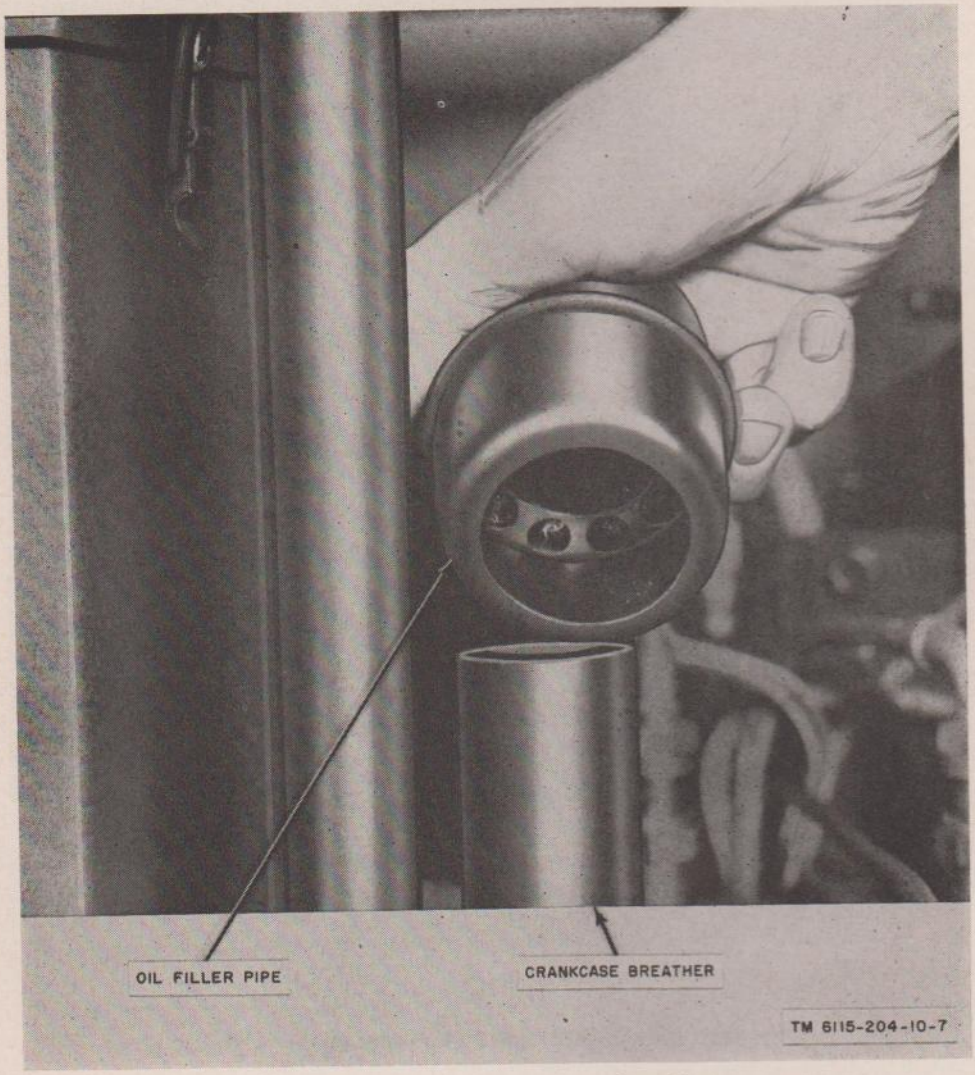


Figure 6. Removing crankcase breather.

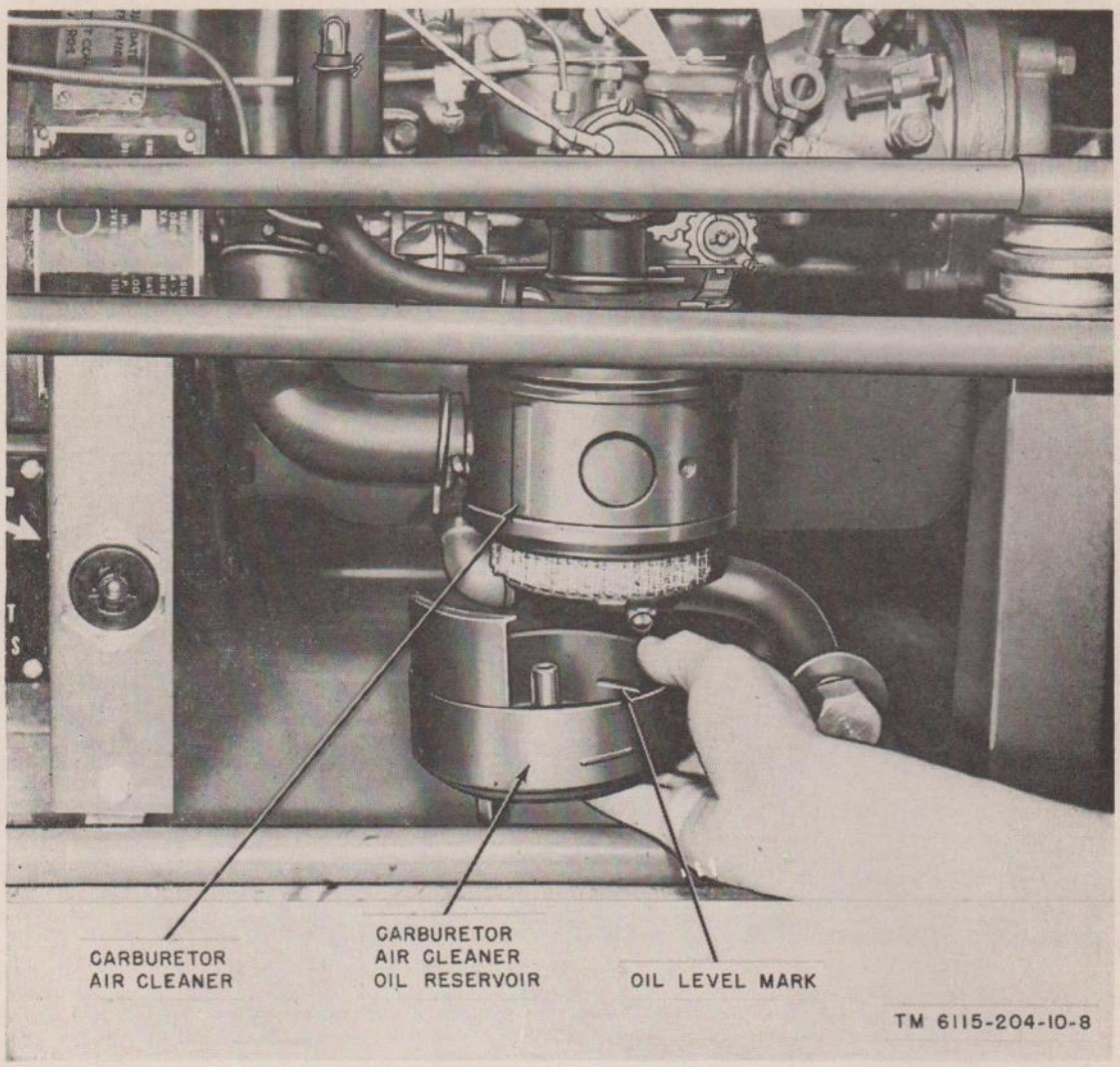


Figure 7. Removing carburetor air cleaner oil reservoir.

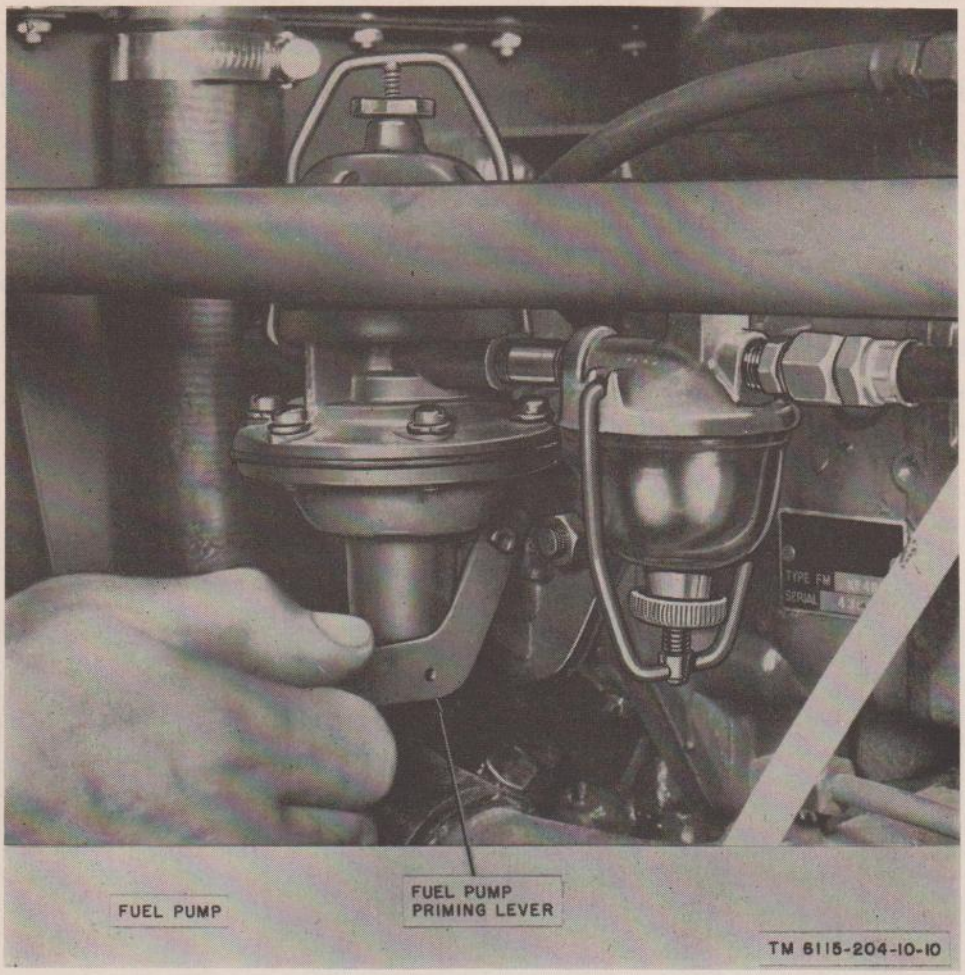


Figure 8. Priming fuel pump.

Section II. CONTROLS AND INDICATORS

12. Controls and Their Uses
(figs. 9 and 10).

Control	Function
START switch	Starts the engine when the IGNITION selector switch is in the OPERATING POSITION (PU–286A/G) or ELECTRIC START position (PU–286B/G).
STOP switch	Stops the engine when the IGNITION selector switch is in the OPERATING POSITION (PU–286A/G) or ELECTRIC START position (PU–286B/G).
IGNITION selector	Select type of starting. Placed in the ELECTRIC START position (PU–286B/G) or OPERATING POSITION (PU–286A/G) for starting engine by battery power. Placed in HAND CRANK position for hand cranking the engine.
Circuit breaker	Opens or closes the circuit from the ac generator to the load. Functions as automatic safety control against overload.
VOLTAGE REGULATOR knob (PU–286B/G).	Permits manual setting of output voltage for automatic voltage regulation.
VOLTAGE REGULATOR switch (PU–286B/G).	When switch is in the ON position, the voltage regulator is connected in the output circuit. When switch is in the OFF position, the voltage regulator is disconnected from the output circuit.

Control	Function
FIELD RHEOSTAT knob (PU–286B/G).	Permits manual adjustment of dc exciter voltage when VOLTAGE REGULATOR switch is in the OFF position.
Primer pump (located under toolbox)	Permits its manual priming of engine for cold-weather starting.
VOLTAGE ADJUSTMENT switch (PU–286A/G).	Permits selection of either manual or automatic control of output voltage.
MANUAL INCREASE rheostat (PU–286A/G).	Permits manual adjustment of output voltage when the VOLTAGE ADJUSTMENT switch is placed in the MANUAL position.
AUTOMATIC INCREASE rheostat (PU–286A/G).	Permits automatic adjustment of output voltage when the VOLTAGE ADJUSTMENT switch is placed in the AUTOMATIC position.
CHOKE control knob (PU–286B/G only).	Permits manual choking of carburetor when manual choke control operating assembly is engaged.
THROTTLE control knob (PU–286B/G only).	For manual control of engine speed from governor-controlled speed down to fast idle.

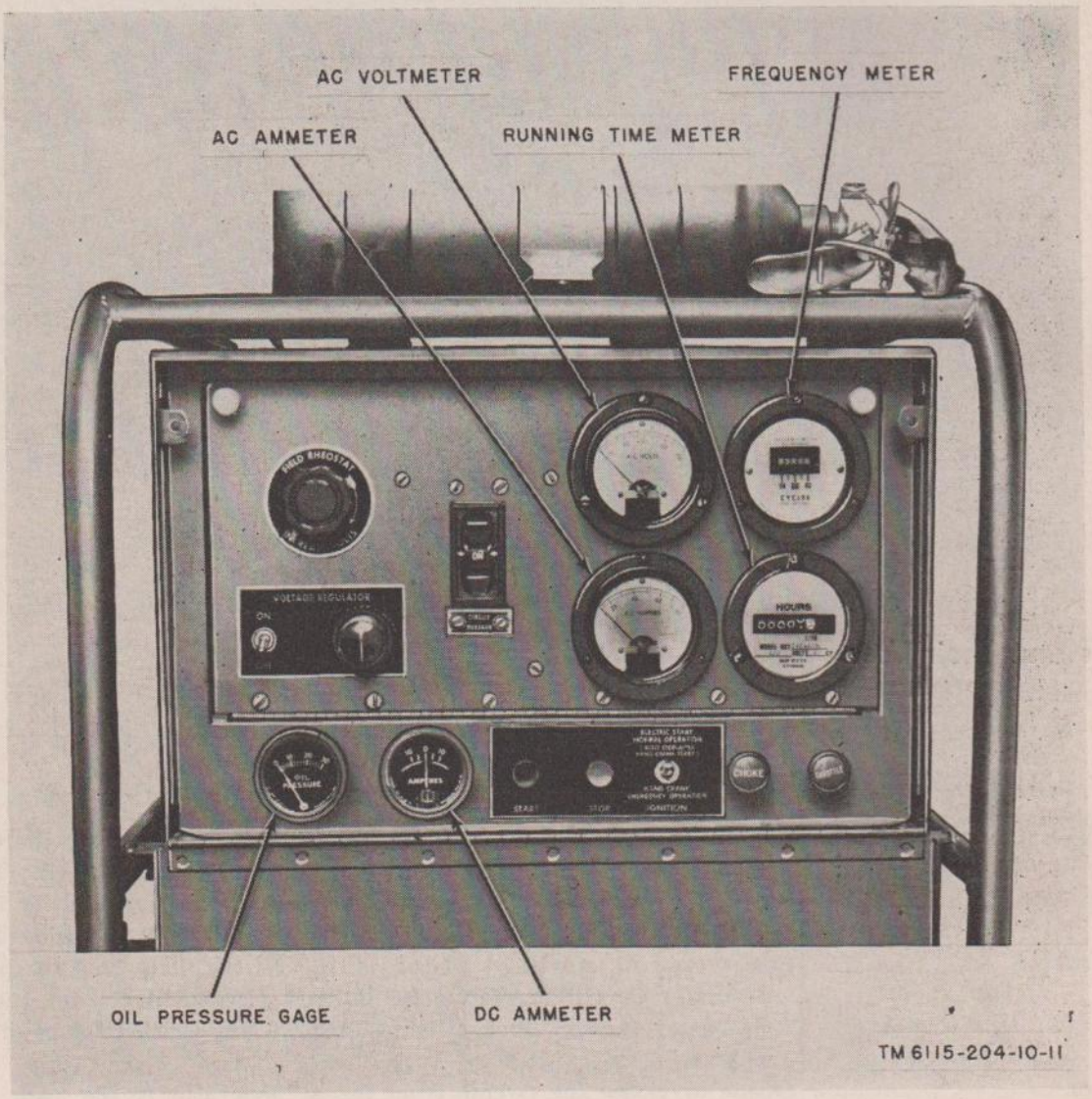


Figure 9. Generator set PU–286B/G, instrument and control panel.

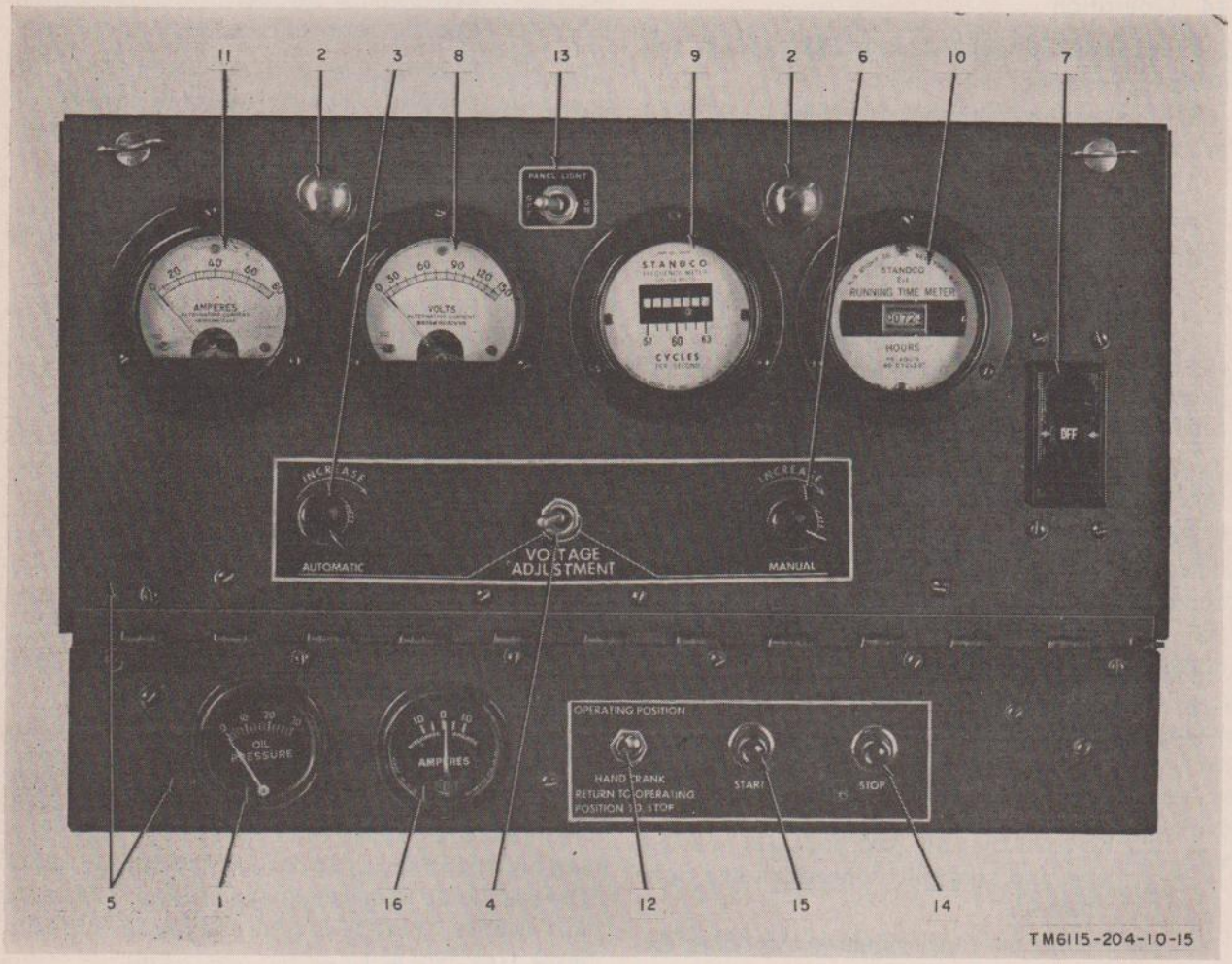


Figure 10. Generator set PU–286A/G, instrument and control panel.

1 Oil-pressure gage
2 Panel lights
3 AUTOMATIC voltage regulator rheostat
4 VOLTAGE ADJUSTMENT switch
5 Upper and lower panel
6 MANUAL field rheostat
7 Circuit breaker
8 Ac voltmeter
9 Frequency meter
10 Running-time meter
11 Ac ampere meter
12 Ignition switch
13 PANEL LIGHT switch
14 STOP switch
15 START switch
16 Dc ampere meter

13. Indicators and Their Uses (figs. 9 and 10)

Indicator	Function
Frequency meter	Indicates output frequency of alternator
Ac voltmeter	Indicates output voltage of alternator
Running-time meter	Records accumulative operating hours
Ac ammeter	Indicates load current
Dc ammeter	Indicates battery-charging current
Oil-pressure gage	Indicates oil pressure of engine

Section III. OPERATION UNDER USUAL CONDITIONS

14. Operation

To operate the generator set, proceed as follows:

a. Perform preliminary starting checks and procedures (par. 15).

b. Start the engine (par. 16).

c. Check operation (par. 17).

d. Apply the load (par. 18).

e. Adjust the output voltage (par. 19 and 20).

f. Refer to paragraph 21 for stopping procedures and to paragraphs 22 through 24 for procedures covering operation under unusual condtions.

15. Preliminary Starting Checks and Procedures

Before starting the engine, perform the checks listed in *a* through *h* below and correct all deficiencies, or, if necessary, return the PU–286(*)/G to higher echelon repair personnel for corrective action.

a. Fuel System.

(1) Check the fuel supply to be sure that an adequate supply of the correct grade of fuel (par. 7) is available.

(2) Be sure that all fuel lines are serviceable and that all connections are tight (par. 10).

(3) Prime the fuel system by working the hand lever on the fuel pump (fig. 8).

(4) Inspect the fuel sediment bowl (19, fig. 1) for dirt or foreign matter. If dirt or foreign matter is present, loosen the knurled nut below the fuel sediment bowl, swing the bail assembly aside, and remove the bowl. Clean the bowl and the screen.

(5) Replace the fuel sediment bowl and screen. Use a new gasket. Secure the fuel sediment bowl with the bail assembly. Tighten the knurled nut.

b. Cooling System.

(1) Check all coolant pipes and hose to be sure that all connections are snug.

(2) Be sure that the engine coolant drain cock is closed. Remove the condenser filler cap (3, fig. 1) and check the coolant level. It should be ½ inch below the ledge in the filler neck. Add clean water or antifreeze solution if necessary.

Warning: **The pressure relief vent (9, fig. 5) in the cooling unit must always be open. If this vent is clogged, the mounting steam pressure (during operation) could result in a dangerous explosion.**

c. Lubrication. Lubricant lines should be free from damage and all connections should be tight. Be sure that the crankcase drain cock is closed and that the equipment is properly and thoroughly lubricated (par. 28). In particular, check the crankcase breather (par. 9*a*(2)), carburetor air cleaner (par. 9*b*), and crankcase lubricant level (par. 9*a*(3)).

d. Exhaust System. The operating location must be properly ventilated. Use every possible precaution when checking the exhaust line and all connections against leaks.

e. Controls and Indicators. Check all controls

and indicators for secure mounting, clean connections, and general satisfactory condition.

f. Electrical Connections. Connect the load cables to the POWER TERMINALS (next to the ac lead receptacle (15, fig. 4)) or make a plug connection in the large, heavy duty, ac load receptacle. For light accessory loads, make plug-in connections at the ac output receptacle connector (19, fig. 4). Be sure that all wiring, battery cable connections, and output connections are tight.

g. Carburetor Air Cleaner. Loosen the wing nut on the bottom of the carburetor air cleaner (9, fig. 4) and adjust the air cleaner intake (as directed by instructions on the air cleaner) for the existing temperature.

h. General. Make a final overall equipment inspection. Check for loose nuts, bolts, tools, parts, and connections.

***Caution:* Before and during the starting of the engine, keep the circuit breaker switch in the OFF position except when starting from a remote location.**

16. Starting Procedures

a. Electric Starting.

(1) Be sure that the circuit breaker switch is in the OFF position.

(2) Set the IGNITION selector switch in the OPERATING POSITION (PU–286A/G) or ELECTRIC START position (PU–286B/G).

(3) Press the START switch until the engine starts. Do not run the starting motor longer than 10 or 15 seconds.

(4) If the engine cannot be started, notify higher echelon maintenance personnel.

b. Remote Location Starting.

(1) If the output power cable or the using equipment is equipped with a power switch, set that switch in the off position.

(2) Place the circuit breaker switch in the ON position.

(3) Place the IGNITION selector switch in the OPERATING POSITION (PU–286A/G) or ELECTRIC START position (PU–286B/G).

(4) Press the START switch at the remote location until the engine starts. Do not run the starting motor longer than 10 or 15 seconds.

(5) If the engine cannot be started, notify higher echelon maintenance personnel.

c. Hand Crank Starting.

(1) Be sure that the circuit breaker switch is in the OFF position.

(2) Set the IGNITION selector switch to the HAND CRANK position.

(3) Insert the shaft of the hand crank through the crank guide and through the air intake grille of the blower housing.

(4) Engage the cranking dog and crank the engine with a brisk, upward motion in a clockwise direction. Repeat the hand cranking procedure as necessary until the engine starts.

(5) If the engine cannot be started, notify higher echelon maintenance personnel.

(6) After the engine has been started by hand cranking, press the START switch, and at the same time place the IGNITION selector switch in the OPERATING POSITION (PU–286A/G) or the ELECTRIC START position (PU–286B/G). If the START switch is not pressed as the IGNITION selector switch is moved from the HAND CRANK to the ELECTRIC START or OPERATING POSITION, the engine will stop.

***Caution:* When the PU–286(*)/G is operating with the IGNITION selector switch in the HAND CRANK position, the oil low-pressure cutoff switch and the low-water safety switch are not incorporated in the circuit. Maintain an adequate coolant level and check the oil pressure gage frequently.**

17. Operational Checks

***Warning:* Do not touch the POWER TERMINALS when the equipment is in operation; dangerous voltages are present.**

a. Check for erratic operation and for the presence of any unusual noises. If the cause is not immediately apparent or if required repairs

or adjustments are not within the scope of operator's maintenance (par. 25), stop the engine and report the trouble to higher echelon maintenance personnel.

b. Inspect the lubrication, fuel, and cooling systems for leakage. If there are any leaks, stop the engine and notify higher echelon maintenance personnel.

c. Observe the oil pressure gage frequently during the engine warm-up period. Initially, the reading should be high, then should drop to a normal operating range of 15 to 20 pounds per square inch (psi). If the gage registers no pressure at all, or if the reading remains abnormally high or low after 5 minutes of operation, stop the engine and notify higher echelon maintenance personnel.

d. The battery-charge ammeter should indicate 1.5 to 10 amperes. If the ammeter indicates either no charge or a discharge, notify higher echelon maintenance personnel.

e. Observe the readings of the voltmeter and the frequency meter. The voltmeter should register between 120 and 124 volts; the frequency meter should indicate between 60 and 61 cycles per second (cps). If the voltage or frequency readings are not within these ranges, notify higher echelon maintenance personnel.

f. After the warm-up period, stop the engine and check the crankcase lubricant level (par. 28*d*(1)(*a*)). Replenish, if necessary, to the 4/4 mark on the bayonet oil gage.

g. Remove the condenser filler cap (3, fig. 1) and check the coolant. If necessary, replenish to the correct operating level (½ inch below the ledge in the filler neck).

***Caution:* To add coolant to a hot engine, restart the engine and *very* slowly add the coolant while the engine is running. Do not overfill the cooling system.**

h. Periodically check the fuel supply and replenish it, if necessary, to avoid running out of fuel.

18. Applying Load

Note. Do not apply the load during the engine warm-up period (approximately 5 minutes).

Apply the load by placing the circuit breaker switch in the ON position. Do not hold the circuit breaker manually in the ON position.Check the ammeter, voltmeter, and frequency meter readings immediately. Compare them with the readings listed in paragraph 4*a*. Any deviation must be investigated and corrected immediately. If the circuit breaker trips off automatically after the load is applied, check for overload conditions or incorrect connections. To reset the circuit breaker, place it in the ON position.

19. Voltage Regulator Adjustment, PU–286A/G (fig. 10)

For manual control of output voltage, follow the procedures in *a* below; for automatic control, follow the procedures in *b* below.

a. Manual Control. Place the VOLTAGE ADJUSTMENT switch in its MANUAL position and adjust the MANUAL rheostat to obtain the required output voltage. Periodic manual adjustments of the MANUAL rheostat may be required to maintain the required output voltage if the output load o rthe engine speed varies.

b. Automatic Control. Place the VOLTAGE ADJUSTMENT switch in its AUTOMATIC position and adjust the AUTOMATIC rheostat to obtain the required output voltage. After this initial manual adjustment, the output voltage will be maintained automatically at the selected level and will not be affected by varying load conditions or engine speeds.

20. Voltage Regulator Adjustment, PU–286B/G (fig. 9)

For manual control of output voltage, follow the procedures in *a* below; for automatic control, follow the procedures in *b* below.

a. Manual Control. Turn the VOLTAGE REGULATOR switch to its OFF position and adjust the FIELD RHEOSTAT knob to obtain the required output voltage. Periodic manual adjustments of the FIELD RHEOSTAT knob may be required to maintain the required output voltage if the output load or the engine speed varies.

b. Automatic Control. Turn the VOLTAGE REGULATOR switch to its ON position and adjust the VOLTAGE REGULATOR knob to obtain the required output voltage. After this initial manual adjustment, the output voltage will be maintained automatically at the selected level and will not be affected by varying load conditions or engine speeds.

21. Stopping Procedures

a. Stopping Generator Set from Remote Location.

(1) Place the external load switch (located at the remote control site) in the off position.

(2) Allow the generator set to run for a few minutes without load; then press the remote control stop switch.

b. Stopping Generator Set at Control Panel (Normal Operation). To stop the generator set at the control panel with the IGNITION selector switch in the OPERATING POSITION (PU–286A/G) or ELECTRIC START (PU–286B/G) position, proceed as follows:

(1) Place the circuit breaker switch in the OFF position.

(2) Allow the generator set to run for a few minutes without load; then press the STOP switch.

c. Stopping Generator Set at Control Panel (Emergency Operation). To stop the generator set at the control panel with the IGNITION selector switch in the HAND CRANK position, proceed as follows:

(1) Place the circuit breaker switch in the OFF position.

(2) Allow the generator set to run for a few minutes without load; then move the IGNITION selector switch to the OPERATING POSITION (PU–286A/G) or ELECTRIC START (PU–286B/G) position.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

22. Operation in Subzero Climates

To operate the PU–286 (*) /G at subzero temperatures, special precautions must be taken to prevent poor performance or total operational failure. The equipment can operate effectively under extreme cold conditions (to —25° F.) only if the procedures listed below are followed carefully. If possible, install the unit in a properly ventilated and heated shelter.

a. Service and Maintenance.

(1) *Fuel system.* At freezing temperatures, there is danger of water and ice forming in the fuel system. Store the fuel in tightly closed containers. Keep the containers as full as possible at all times. Use the correct grade of fuel (par. 7) for subzero operation. If ice forms in the fuel lines and the supply tank, proceed as follows:

(*a*) Remove the lines and thaw out the ice. Notify higher echelon maintenance personnel if parts to be removed are beyond the normal scope of operators' maintenance.

(*b*) Blow out the moisture with compressed air.

(*c*) Drain off any water which has accumulated in the fuel tank by straining the fuel through a chamois skin.

***Warning:* Static electricity is created by this process. To avoid the danger of explosion, be sure to provide metallic contact between the funnel and the tank.**

(2) *Lubrication.* Because oil and grease congeal easily and gummy parts move sluggishly in subzero weather, it is essential to keep all external moving parts clean and dry. Keep snow, water, and ice from collecting on lubrication points, and lubricate more frequently than usual. Be sure to use the proper lubricants (par. 7). To prepare the unit for use at freezing or subzero temperatures, drain the crankcase and the oil filter (par. 28) and refill with oil of the correct grade for the expected temperature. If the unit is to remain idle for prolonged periods at subzero temperatures, drain the crankcase.

(3) *Cooling system.* If temperatures below freezing are anticipated, protect the cooling system with antifreeze. Drain the system and refill it with a mixture of 50 per cent ethylene glycol noncorrosive antifreeze and 50 per cent clean water.

(4) *Battery.* The danger of the electrolyte freezing depends on the specific gravity and the state of charge. Keep the

electrolyte at the proper level and keep the battery fully charged.

(5) *Air Cleaner.* If the unit is to be operated at temperatures below freezing, remove the oil and wash the parts of the carburetor air cleaner with dry cleaning solvent (SD). Service the carburetor air cleaner (par. 9*b*) for the expected temperature by using oil as specified in paragraph 7.

b. Starting. For cold-weather starting (below 32° F), prime the engine slowly with one stroke of the fuel primer pump (20, fig. 4) while the engine is being cranked. If the engine does not start within 20 seconds, wait 5 minutes; then repeat the starting procedure. If the engine cannot be started, notify higher echelon maintenance personnel.

***Caution:* Fuel does not vaporize readily in cold temperatures. Be careful not to overprime the engine.**

c. Stopping. Stop the unit as instructed in paragraph 21.

23. Operation in Desert Climates

Locate the equipment in an area protected from sand and dust. Inspect and clean the equipment more frequently than under normal conditions.

a. Fuel System. Be sure that all fuel line connections are tight and that the supply tank is covered to keep dirt and sand out of the system. Clean the fuel filter frequently.

b. Lubrication. Keep all moving parts cleaned and lubricated during operation in desert areas. Remove sand, dirt, and old lubricants from parts before applying new lubricants. If dust conditions are extreme, change crankcase oil frequently. Clean the oil filter and replace the oil filter element each time the crankcase is drained.

c. Cooling System. Good ventilation is required for proper operation of the cooling system; keep the relief vent, the radiator core, and the air inlet grille clean. Keep the system full of clean water and keep the filler cap tight.

d. Battery. Check the battery electrolyte level frequently and keep the battery vent caps securely in place.

e. Air Cleaners. Check the carburetor air cleaner and the associated oil reservoir frequently. Keep the filter clean and the reservoir filled with clean oil. Also check the crankcase breather frequently; the breather mesh should be clean and saturated with oil.

24. Operation in Tropical Climates

Provide adequate ventilation and protection from the direct rays of the sun. Keep the cooling system full of clean water at all times, and lubricate more frequently. In humid areas, operate the generator set at least 1 hour every few days to prevent moisture accumulation in the generator and the engine.

CHAPTER 3
OPERATOR'S MAINTENANCE INSTRUCTIONS

25. Scope of Operator's Maintenance

Operator's maintenance includes the procedures listed below. Special tools and test equipment are not required.

a. Preventive maintenance (par. 26).

b. Visual inspection (par. 27).

c. Lubrication (par. 28).

d. Removal, cleaning, inspection, and adjustment of spark plugs (par. 29).

e. Checking for unusual noise and overheating of any part of the equipment and reporting defective equipment to higher echelon maintenance personnel for repair.

26. Preventive Maintenance Procedures

a. DA Form 11–267. DA Form 11–267 (figs. 11 and 12) is a preventive maintenance check list to be used by the operator. Items not applicable to the equipment are lined out in the figure. References in the ITEM block are to paragraphs in text which contain additional maintenance information. Instructions for the use of the form appear on the form.

b. Items. The information in the chart below supplements that on DA Form 11–267. The item numbers correspond to the ITEM numbers on the form.

Item	Maintenance procedure
6	Examine the battery case for cracks or leaks. Check battery terminals for corrosion. Make sure cable connections are tight.
7	Before operation: Inspect all exposed wiring for cuts, frays, cracks, and loose terminals. Check wiring and cables for loose or dirty connections.
8	Inspect indicators for broken glass, bent indicating hands, and marred dial faces. Check for loose mounting and loose or dirty connections.

27. Visual Inspection

a. When the equipment fails to perform properly, check the items listed below.

(1) Control settings (par. 12 and 16).

(2) Wiring, cables, and connections.

(3) Fuel system.

(4) Lubrication (par. 28).

(5) Cooling system.

(6) Spark plugs (par. 29).

b. If the cause of trouble cannot be located by visual inspection, or if required repairs are beyond the scope of operator's maintenance, notify higher echelon maintenance personnel.

28. Lubrication Instructions

a. General. Lubrication symbols, defined in *b* below, are used in the lubrication chart (*c* below). Detailed lubrication instructions in *d* below supplement the instructions provided in the lubrication chart.

b. Lubrication Symbols.

Symbol	Definition	Remarks
D	Daily	Any consecutive 8-hour period, or any number of operating periods totaling 8 hours.
W	Weekly	Any number of working periods totaling 50 to 64 operating hours.
SW	Semi-weekly	Any number of working periods totaling 100 to 128 operating hours.
M	Monthly	Any number of working periods totaling 200 to 256 operating hours.

c. Lubrication Chart. Refer to paragraph 7 for a list of the lubricants required.

ADDITIONAL ITEMS FOR 2D AND 3D ECHELON INSPECTIONS	CONDITION
28. CHECK BRUSHES, COMMUTATOR AND SLIP RINGS OF MAIN GENERATOR AND EXCITER FOR WEAR. CHECK CONDITION OF BRUSHES AND BRUSH HOLDERS.	
29. INSPECT SUPPRESSION COMPONENTS FOR TIGHTNESS AND GOOD CONTACT.	
30. CLEAN EXTERIOR OF EQUIPMENT. REMOVE RUST AND CORROSION. TOUCH UP PAINTED SURFACES.	
31. CRANK ENGINE AND OBSERVE OPERATION OF STARTING MECHANISM. NOTE ANY DIFFICULTY STARTING.	
32. OPERATE ENGINE. NOTE TENDENCY TO STALL OR MIS-FIRE. WATCH FOR OVERHEATED PARTS, EXCESSIVE EXHAUST SMOKE, UNUSUAL NOISE.	
33. APPLY AND REMOVE LOAD. OBSERVE ACTION OF GOVERNOR. ADJUST IF NECESSARY.	
34. ~~ENGAGE AND DISENGAGE CLUTCH, CHECK FOR GRABBING OR SLIPPING.~~	

IF DEFICIENCIES NOTED ARE NOT CORRECTED DURING THE INSPECTION, INDICATE ACTION TAKEN FOR CORRECTION.

FOLD

MAINTENANCE CHECK LIST FOR SIGNAL EQUIPMENT
ENGINE-GENERATOR SETS AND REEL UNITS, ENGINE DRIVEN
(AR 750-625)

EQUIPMENT NOMENCLATURE

GASOLINE ENGINE GENERATOR SET PU-286B/G

EQUIPMENT SERIAL NUMBER

29

INSTRUCTIONS

This form may be used for a period of one month by using the correct dates and weeks of the month. It is to be used as a Preventive Maintenance check list for Signal equipment in actual use, or for a check on equipment prior to issue.

1. For detailed Preventive Maintenance instructions see:
   a. The Technical Manual *(in TM 11 series)* for the equipment. *(See DA Pamphlet Number 310-4)*
   b. The Supply Bulletin *(SB 11-100 series)* for the equipment. *(See DA Pamphlet Number 310-4)*
   c. The Department of the Army Lubrication Order. *(See DA Pamphlet Number 310-4)*

2. The following action will be taken by either the Communications Officer/Chief for 1st echelon, or the Inspector for higher echelon:
   a. Enter Equipment Nomenclature and Serial Number.
   b. Strike out items that do not apply to the equipment.

3. Operator/Inspector will enter in the columns entitled CONDITION, on the proper line, a notation regarding the condition, using symbols specified under LEGEND.

4. After operator completes each daily inspection he will initial over the appropriate dates under "Daily Condition for Month", then return form to his supervisor.

TYPE OF INSPECTION

OPERATOR	2/3 ECHELON	DATE	SIGNATURE
✓		6 July 1959	John Doe

4

GPO: 1957 O—427180

DA FORM 1 MAY 57 11-267

TM6115-204-10-12

Figure 11. DA Form 11–267, pages 1 and 4.

LEGEND for marking conditions:
Satisfactory, ✓.
Adjustment, Repair or Replacement required, X.
Defect corrected, (X).

DAILY CONDITION FOR MONTH OF

NO.	DAILY ITEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	2D 3D ECHELON
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
1.	BEFORE OPERATION: INSPECT FOR TAMPERING AND DAMAGE. CHECK FUEL SUPPLY, RADIATOR COOLANT AND OIL LEVEL. PAR. 9,10,AND11	✓	✓	✓	✓	✓	✓											
2.	DURING OPERATION: OBSERVE GAUGES AND/OR METERS FOR NORMAL READINGS. BE ALERT FOR FUEL, OIL, COOLANT OR EXHAUST LEAKS, UNUSUAL OPERATION OR CONDITION, EXCESSIVE VIBRATION. PAR.17a,b,c,d,e	✓	✓	✓	✓	✓	✓											
3.	~~AFTER OPERATION: REMOVE, INSPECT AND CLEAN SPARKPLUGS. (Two cycle engines ONLY).~~																	
4.	REPLENISH FUEL, OIL, COOLANT AND ANTI-FREEZE IF NECESSARY. PAR.17f,g,h.	✓	✓	✓	✓	✓	✓											
5.	INSPECT FUEL FILTER SEDIMENT BOWL FOR DIRT OR OTHER FOREIGN MATTER. PAR.15a(4)	✓	✓	✓	✓	✓	✓											

	WEEKLY	CONDITION EACH WEEK 1ST	2D	3D	4TH	5TH	2D 3D ECH
6.	INSPECT BATTERY CONNECTIONS, LOOK FOR CORROSION, DAMAGED CASES. TEST SPECIFIC GRAVITY, ADD WATER IF NECESSARY. PAR.15f,22a(4),23d	(X)					
7.	INSPECT WIRING FOR LOOSE TERMINALS, CUTS, KINKS, FRAYING. PAR.26b	✓					
8.	INSPECT METERS AND GAUGES FOR CONDITION, MOUNTING AND CONNECTIONS. PAR.26b	✓					
9.	~~INSPECT MAIN GENERATOR COMMUTATOR, SLIP RINGS, BRUSHES, FOR WEAR, SPARKING.~~						
10.	~~CHECK SECURITY AND ALINEMENT OF COUPLINGS.~~						
11.	~~INSPECT BELTS FOR CONDITION, TENSION, ALINEMENT. SLIGHT OFF OIL AND GREASE.~~						
12.	INSPECT CARBURETOR MOUNTING AND LINKAGE. CHECK FOR LEAKS, CLEAN EXTERIOR. PAR.17b	✓					
13.	~~INSPECT FUEL TANK FOR LEAKS, CHECK SECURITY OF CAP AND BRACKET. BLOW THROUGH CAP VENT.~~						
14.	TIGHTEN LOOSE NUTS, BOLTS.	✓					
15.	INSPECT AIR CLEANER FOR DIRT OBSTRUCTIONS. IN OIL-BATH TYPE CHECK OIL LEVEL AND CONDITION. SERVICE BREATHER. PAR.9b	✓					
16.	OPERATE EQUIPMENT AND OBSERVE OPERATION OF AUTOMATIC CONTROLS, GOVERNOR, SWITCHES AND GAUGES. PAR.17c,d,e	✓					

	WEEKLY	CONDITION EACH WEEK 1ST	2D	3D	4TH	5TH	2D 3D ECH
17.	RECORD TOTAL HOURS OPERATED DURING PERIOD OF THIS REPORT.	✓					
18.	LUBRICATE IN ACCORDANCE WITH DA LUBRICATION ORDER.	✓					

	ADDITIONAL ITEMS FOR 2D AND 3D ECHELON INSPECTIONS	CONDITION
19.	DISASSEMBLE AND CLEAN THE AIR CLEANER. SERVICE OIL-BATH TYPE IN ACCORDANCE WITH THE APPLICABLE DA LUBRICATION ORDER.	
20.	SERVICE CRANKCASE AND OIL FILTER IN ACCORDANCE WITH APPLICABLE DA LUBRICATION ORDER.	
21.	CLEAN FUEL STRAINER SEDIMENT BOWL, SCREEN.	
22.	INSPECT GENERAL CONDITION OF THE COOLING SYSTEM. CLEAN AND FLUSH LIQUID-COOLED SYSTEMS SEASONALLY.	
23.	INSPECT MOUNTING OF THE FUEL PUMP. CHECK FOR LEAKS. TEST OPERATION BY HAND.	
24.	INSPECT MOUNTING OF THE GOVERNOR AND THROTTLE. CHECK THE CONTROL LINKAGE FOR FREE MOVEMENT, WEAR AND LUBRICATION.	
25.	CLEAN EXTERIOR OF MAGNETO OR DISTRIBUTOR. INSPECT, CLEAN, REPLACE OR ADJUST BREAKER POINTS.	
26.	REMOVE AND INSPECT SPARK PLUGS. CLEAN PLUGS AND ADJUST POINTS IF NECESSARY.	
27.	INSPECT COMMUTATOR AND BRUSHES OF STARTING MOTOR AND CHARGING GENERATOR FOR WEAR. CHECK BRUSHES FOR FREE MOVEMENT IN HOLDERS.	

CONTINUED ON PAGE 4

2 3

TM6115-204-10-13

Figure 12. DA Form 11–267, pages 2 and 3.

Item	Lubrication	
	Interval	Procedure
Engine crankcase	4 hours	Check oil level; fill if necessary (*d*(1) (*a*) below)
	SW	Drain and refill (*d*(1) (*b*) and (*c*) below)
Crankcase breather	SW	Clean and re-oil (*d*(2) below)
Carburetor air-cleaner oil reservoir	D	Check oil level; fill if necessary (par. 9)
	SW	Drain and refill (*d*(3) below)
Oil filter	SW	Drain and replace element (*d*(4) below)
Governor and throttle-control linkage.	W	Apply a few drops of oil to linkage ball joints
Battery-charging generator	M	Apply 4 or 5 drops of oil in oil cups
Hinges and snap locks	W	Apply a few drops of oil to hinges and snap locks

d. Detailed Lubrication Instructions.

(1) *Engine crankcase.*

(*a*) *Check oil level.* Remove the bayonet oil gage (fig. 13) and wipe clean. Insert the gage back into the receptacle and push the gage in all the way. Remove the gage again and observe the oil film on the gage. Oil level should be at the ¼ mark on the gage.

(*b*) *Draining.* Drain the crankcase while the engine is still warm; preferably right after an operating period. Place a suitable container under the oil drain cap (8, fig. 4), remove the cap, and open the crankcase oil drain cock (11, fig. 4).

(*c*) *Filling.* Close the oil drain cock and replace the drain cap. Remove the crankcase breather and fill the crankcase to the ¼ mark on the bayonet oil gage (fig. 13). Run the engine to fill the oil filter and add oil to the ¼ mark on the gage Install the crankcase breather.

(2) *Crankcase breather.*

(*a*) *Cleaning.* Remove the crankcase breather (fig. 6) and wash it in solvent (SD). Allow the wire mesh in the cap to dry thoroughly.

(*b*) *Re-oiling.* Invert the breather and saturate the wire mesh with oil. Install the breather on the oil filter tube.

(3) *Carburetor air cleaner oil reservoir.*

(*a*) *Draining and cleaning.* Remove the air cleaner oil reservoir (par. 9*b*(1)), dump out the old oil, and wash the oil reservoir in solvent (SD). Dry the reservoir thoroughly.

(*b*) *Filling.* Fill the oil reservoir to the level mark (fig. 7). Install the oil reservoir (par. 9*b*(3)).

(4) *Oil filter.*

(*a*) *Removing element.* Turn the wing nut on top of the oil filter and remove the cover. Remove the oil filter element (fig. 14) and discard it.

(*b*) *Cleaning.* Remove the oil from the filter and clean out the housing with solvent (SD). Wipe dry.

(*c*) *Installing element.* Install a new oil filter element in the housing. Use a new cover and element gaskets and install the oil filter cover. Secure by tightening the wing nut. Run the engine and check for leakage.

29. Spark Plug Adjustment

a. Requirement. The clearance (gap) between the electrodes of the spark plug should be .025 inch. The electrodes should be clean, dry, and not burned to the extent that a loss of spark efficiency will result. The insulator should not be chipped or cracked.

b. Method of Checking. Disconnect the spark plug cable and remove the spark plug; use the spark plug wrench provided. Clean and inspect the spark plug. Check the gap clearance with the spark plug and ignition points gage.

c. Adjustment. Use the notches on the spark plug and ignition points gage to increase or decrease the clearance to meet the requirements.

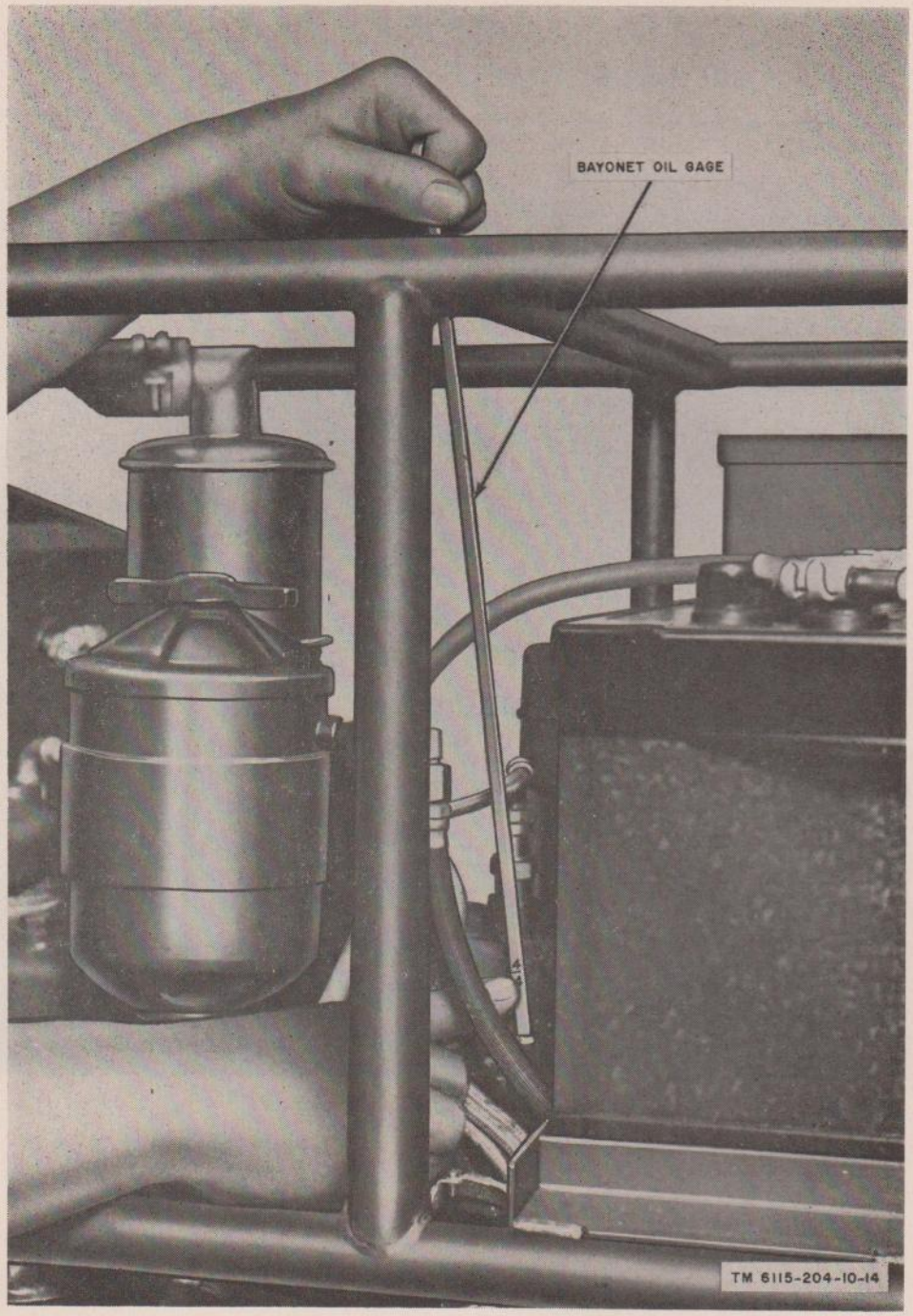


Figure 13. Checking crankcase oil level.

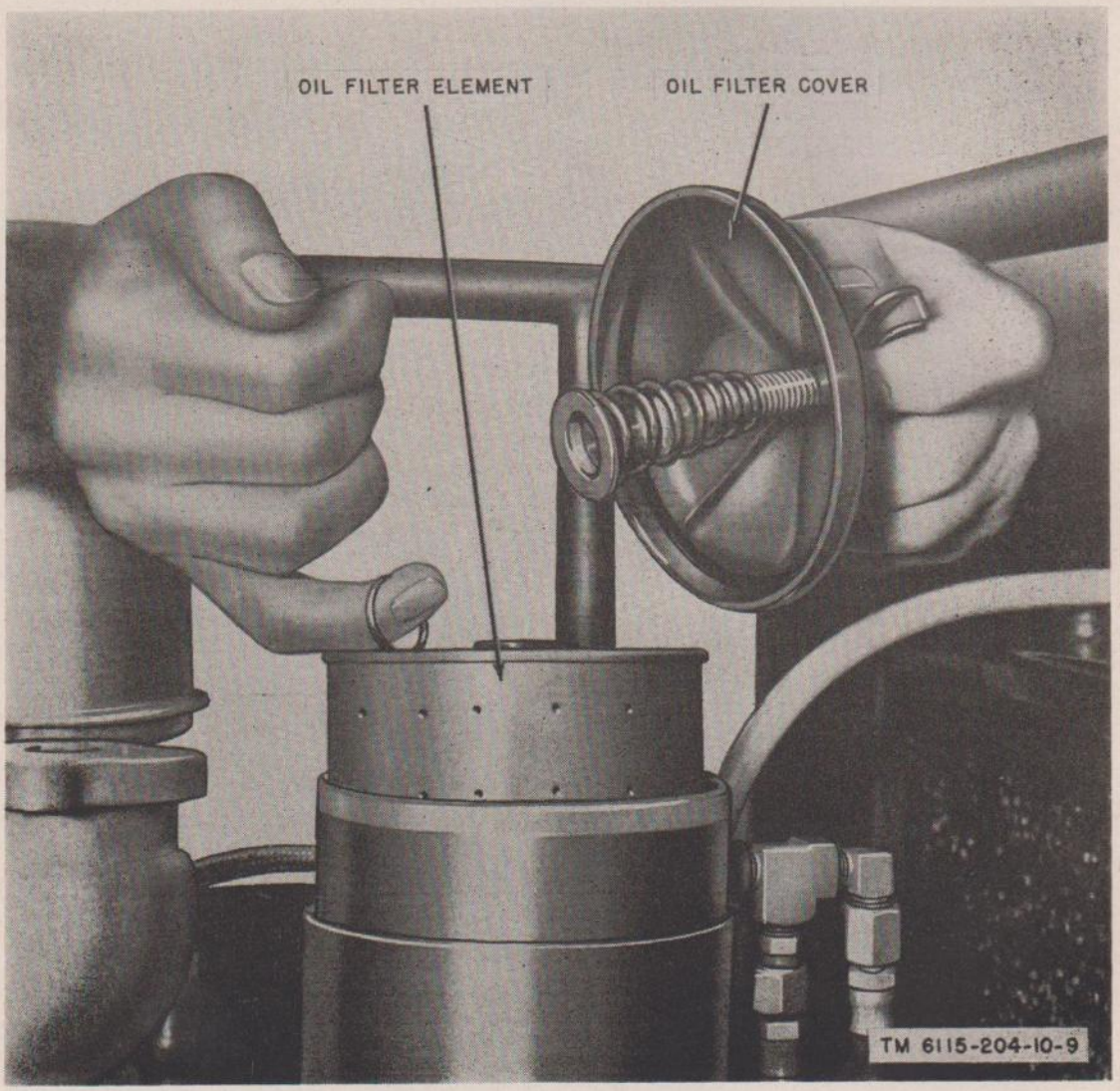


Figure 14. Removing oil filter element.

CHAPTER 4
DEMOLITION TO PREVENT ENEMY USE

30. Authority for Demolition

Demolition of the equipment will be accomplished only upon the order of the commander. The destruction procedures outlined in paragraph 31 will be used to prevent further use of the equipment.

31. Methods of Destruction

a. Smash. Smash the controls, indicators, switches, carburetor, generators, spark plugs, filters, engine block, engine cylinders, fuel pump, condenser, and blower. Use sledges, axes, handaxes, pickaxes, hammers, or crowbars.

b. Cut. Cut all wiring and cables. Use axes, cutting pliers, bayonets, or machetes.

c. Burn. Burn all covers, wires, cables, belts, wiring diagrams, technical manuals, fuel, and oil. Use gasoline, kerosene, oil, flame throwers, or incendiary grenades.

Note. Remove and empty portable fire extinguisher prior to burning above items.

d. Explosives. If explosives are necessary, use firearms, grenades, or TNT.

e. Disposal. Bury or scatter the destroyed parts in slit trenches, fox holes, or streams.

APPENDIX I*

OPERATOR'S MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST FOR GENERATOR SET, GASOLINE ENGINE PU–286A/G, PU–286B/G

Section I. INTRODUCTION

1. Scope

a. General. This appendix lists items supplied for initial operation and for running spares. The list includes tools, accessories, parts, and material issued as *part of* the major end item and all items authorized for basic operator maintenance of the equipment. End items of equipment are issued on the basis of allowances prescribed in equipment authorization tables and other documents that are a basic for requisitioning.

b. Columns. The column headings of section II are defined as follows:

(1) *Source, maintenance, and recoverability code* (not used).

(2) *Federal stock number.* This column lists the 11-digit Federal stock number. In the absence of a Federal stock number an interim number, i.e. †† L8Ra41B–45, which appears in the description column, indicates that an applicable Federal stock number is in the process of assignment. The L number may be used to identify items for emergency use.

(3) *Designation by model.* A dagger (†) indicates the model in which the part is used.

(4) *Description.* Nomenclature or the standard item name and brief identifying data for each item are listed in this column. When requisitioning, enter the nomenclature and description on the requisition.

(5) *Unit of issue.* The unit of issue is the supply term applied to the smallest quantity by which the individual item is counted for procurement, storage, requisitioning, allowances, and issue purposes.

(6) *Expendability.* Expendable items are indicated by the letter X; nonexpendable items are indicated by NX.

(7) *Quantity authorized.* For "Items Comprising an Operable Equipment", the column lists the quantity of each item supplied for the initial operation of the equipment. For "Running Spares and Accessory Items", the quantities listed are those issued initially with the equipment as spare parts. These quantities are authorized to be kept on hand by the operator for maintenance of the equipment.

(8) *Illustration* (not used).

2. Batteries

Dry batteries shown are used with the equipment but are not considered part of the equipment. They will not be preshipped automatically but are to be requisitioned in quantities necessary for the particular organization, in accordance with SB 11–6.

3. References

A Maintenance Allocation Chart showing all repair operations authorized to be performed by the respective echelons of maintenance is contained in TM 11–6115–204–20.

* This appendix supersedes so much of TM 11–6115–202–10P, 18 May 1959 as pertains to PU–286A/G.

SECTION II. FUNCTIONAL PARTS LIST

(1) SOURCE MAINTENANCE AND RECOVERABILITY CODE	(2) FEDERAL STOCK NUMBER	(3) DESIGNATION BY MODEL	(4) DESCRIPTION	(5) UNIT OF ISSUE	(6) EXPENDABILITY	(7) QUANTITY AUTHORIZED	(8) ILLUSTRATIONS FIGURE NO.	(9) ILLUSTRATIONS ITEM NO.
			ITEMS COMPRISING AN OPERABLE EQUIPMENT					
		1 2	GENERATOR SET, GASOLINE ENGINE PU-286A/G; PU-286B, G					
			NOTE: Model Column 1 refers to PU-286A/G Column 2 refers to PU-286B/G					
	6115-542-6229		GENERATOR SET, GASOLINE ENGINE PU-286A/G, PU-286B/G	ea	NX			
	Order thru AGC	† †	TECHNICAL MANUAL TM 11-6115-204-10P	ea	X	2		
	6115-379-3991	†	ADAPTER: U S Motors part No. S-11861AS	ea	NX	1		
	6115-633-6646	†	ADAPTER: J.R.Hollingsworth part No. JHP21-414, dwg No. B4025-35	ea	NX	1		
	6140-583-9244	† †	BATTERY STORAGE, type 2HN: 12 volt †† L9Wd14-1	ea	NX	2		
	6130-643-0283	†	COVER, POWER SUPPLY: U S Motors part No. S-11792	ea	X	1		
		†	COVER, POWER SUPPLY: U S Motors part No. S-19672 ††L9Yd14-2	ea	X	1		
	2990-399-7681	† †	CRANK, HAND: U S Motors part No. S-11945	ea	X	1		
		† †	EXTINGUISHER, FIRE: Gen Detroit model 5AKS, dwg No. C-205XB †† L8Wd38-2	ea	NX	1		
	2910-356-2045	† †	HOSE, RUBBER: U S Motors part No. S-11770	ea	X	1		
		†	TUBING: U S Motors part No. S-19619; 120 in lg ††L9Wd14-4	ea	X	1		
	2990-537-6288	†	TUBING: U S Motors part No. S-12044; 120 in lg	ea	X	1		

(1) SOURCE MAINTENANCE AND RECOVERABILITY CODE	(2) FEDERAL STOCK NUMBER	(3) DESIGNATION BY MODEL		(4) DESCRIPTION	(5) UNIT OF ISSUE	(6) EXPENDABILITY	(7) QUANTITY AUTHORIZED	(8) ILLUSTRATIONS	(9)
								FIGURE NO.	ITEM NO.
		1	2	PU-286A/G; PU-286B/G (continued)					
				RUNNING SPARES AND ACCESSORY ITEMS					
				GENERATOR SET, GASOLINE ENGINE PU-286A/G; PU-286B/G					
	5350-271-7938	†	†	ABRASIVE, SHEET: Allen Mfr dwg No. A-1301	ea	X	2		
			†	BOWL, FUEL CLEANER: small bowl; glass; Tillotson part No. 09937 †† L9Wd14-1	ea	X	1		
	2910-492-7304		†	BOWL, FUEL CLEANER: large bowl; glass, Tillotson part No. OW-363	ea	X	1		
	5345-250-1345	†	†	BURNISHER, CONTACT: Rinck McIlwaine, Flexstone No. 1	ea	X	1		
	2940-630-9956	†	†	FILTER, OIL, ENGINE: Fram Corp part No. F3WOE	ea	X	1		
	5330-298-0775	†	†	GASKET: Fram part No. 10611	ea	X	1		
	2910-510-4577	†		GASKET: AC Spark Plug part No. 1503541, type G-541; fuel filter;	ea	X	2		
	5330-187-2962		†	GASKET, FUEL BOWL: large bowl; Tillotson part No. 06096	ea	X	2		
	5330-282-7557		†	GASKET, FUEL BOWL: small bowl; Tillotson part No. 08227	ea	X	2		
	5210-189-9538	†	†	GAUGE, THICKNESS: Rovtar Tool and Die Mfr Co. part No. 1290	ea	NX	1		
			†	HOSE, RUBBER: U S Motors part No. S-20141; 28-3/4 in lg †† L9Wd14-3	ea	X	1		
	4930-537-8977	†	†	OILER, HAND: Eagle No. 14	ea	NX	1		
	5120-223-7397	†	†	PLIERS, COMBINATION: Bonney Tool part No. B26	ea	NX	1		
	2920-542-0734	†	†	SPARK PLUG: Champion type No. XEJ-6-64	ea	X	4		
	5120-277-9491	†	†	SCREWDRIVER TL-358/U:	ea	NX	1		
	5120-293-2451	†	†	WRENCH, SOCKET: 1 in, 7/8 in, Federal Metal Prod Corp part No. 1614	ea	NX	1		
	5120-240-5328	†	†	WRENCH, TL-476/U:	ea	NX	1		
	5120-224-3102	†	†	WRENCH, OPEN END, FIXED: U S Motor part No. 12390; 7 in lg o/a; 5/8 in, 3/4 in, Fed Spec GGG-W-636 type IV	ea	NX	1		

PU-286A/G, PU-286B/G, a and b, here.

[AG 412.41 (31 Aug. 59)]

By Order of *Wilber M. Brucker*, Secretary of the Army:

L. L. LEMNITZER,
General, United States Army,
Chief of Staff.

Official:

R. V. LEE,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

ASA (2)
CNGB (1)
Tech Stf, DA (1) except
  CSigO (18)
Tech Stf Bd (1)
USCONARC (5)
USA Arty Bd (1)
USA Armor Bd (1)
USA Inf Bd (1)
USA AD Bd (1)
USA Abn & Elct Bd (1)
USA Avn Bd (1)
USA ATB (1)
US ARADCOM (Incl ea Rgn Comd) (2)
OS Maj Comd (5)
OS Base Comd (5)
Log Comd (5)
MDW (1)
Armies (5) except
  First USA (7)
Corps (2)
Div (2)
USATC (2)
Yuma Test Sta (2)
USA Elct PG (1)
Svc College (5)
Br Svc Sch (5) except
  USASCS (25)
Gen Dep (2) except
  Atlanta Gen Dep (none)
Sig Sec, Gen Dep (10)
Sig Dep (17)
AFIP (1)
WRAMC (1)
AMS (1)
Engr Maint Cen (1)
USA Comm Agcy (2)
USA Sig Engr Agcy (1)
USA Sig Pub Agcy (8)
USA Sig Eqp Spt Agcy (2)
USA Sig Msl Spt Agcy (13)
Trans Terminal Agcy (1)
Army Terminal (1)
Port of Emb (OS) (2)
OS Sup Agcy (1)
Sig Fld Maint Shops (3)
Sig Lab (5)
USASSA (Phila, Pa) (15)
Mid-Western Rgn Ofc (USASSA) (1)
Army Pictorial Cen (2)
USA Ord Msl Comd (3)
Def Atomic Spt Agcy (5)
Mil Dist (1)
Sector Comd (Res) (1)
USA Corps (Res) (1)
JBUSMC (2)
Units org under fol TOE:
  11–587 (2)
  11–592 (2)
  11–597 (2)

NG: State AG (3); units—same as Active Army except allowance is one copy to each unit.

USAR: None.

For explanation of abbreviations used, see AR 320–50.

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