

TM-257A

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OPERATION, MAINTENANCE, AND OVERHAUL MANUAL

with

ILLUSTRATED PARTS LIST

for

MOTOR-DRIVEN GENERATOR SETS

90 KVA, 115/200-V AC, 400 HZ, 3-PHASE

60 Hz, Motor Drive

Specification 5500; Model No. 90F-H61, Single-Output
Specification 5500, Var. 3; Model No. 90F-H62, Dual-Output
and Variations 4, 7, and 8

50 Hz, Motor Drive

Specification 5504; Model No. 90F-H51; Single-Output
Specification 5504, Var. 3; Model No. 90F-H52; Dual-Output
and Variations 4, 7, and 8

with

Specification 5500 - Var. 9; 120-V,
Delta Output Added Feb 10/75

and

Specification 5500 - Var. 10, 11, and 12 added Apr 1/75
Specification 5504 - Var. 9 added Apr 1/75

Manufactured by

HOBART BROTHERS COMPANY
POWER SYSTEMS DIVISION
TROY, OHIO 45373
U.S.A.

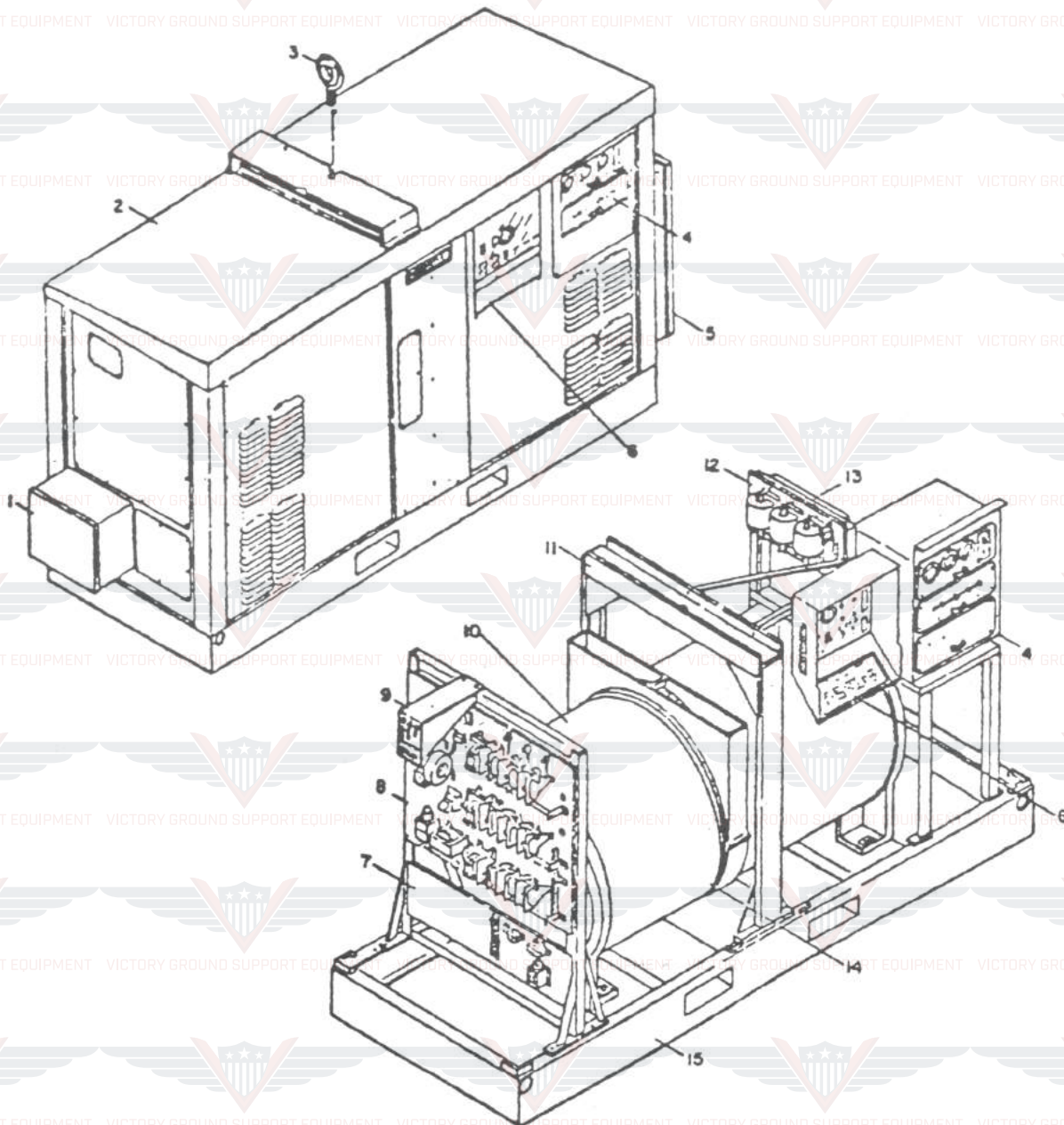


VICTORY GROUND SUPPORT EQUIPMENT
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OPERATION, MAINTENANCE, AND OVERHAUL MANUAL. TM-257A

MOTOR-DRIVEN GENERATOR SET, SPECS. NO. 5500 AND 5504



- | | |
|-----------------------------|----------------------------|
| 1. Input terminal box | 9. Motor switch test panel |
| 2. Canopy | 10. Motor |
| 3. Lifting eye | 11. Lifting yoke |
| 4. Control box | 12. Transformer panel |
| 5. Output terminal box | 13. Load contactor panel |
| 6. Pushbutton switch panel | 14. Generator and exciter |
| 7. Motor switch relay panel | 15. Frame |
| 8. Motor switch panel | |

Generator Set
Figure 1

OPERATION, MAINTENANCE, AND OVERHAUL MANUAL TM-257A
MOTOR-DRIVEN GENERATOR SET, SPECS. NO. 5500 AND 5504

PHYSICAL

Weight (approximately)	6620 pounds (3002.1 KG)
Length	126 inches (3203.6 MM)
Width	40 inches (1016.0 MM)
Height (overall)	67-1/2 inches (1714.5 MM)

ELECTRICAL

MOTOR	SPECS 5500, & V3,4,8,9,10,11,12	SPECS 5500 V7	SPECS 5504, & V3,4,7,9	SPECS 5504 V8
Cycles per second	60 Hz	SAME	50 Hz	SAME
Phase	3	SAME	3	SAME
Volts	460 V	230 V	380 V	220 V
Amperes	126 A	252 A	153 A	263 A
Horsepower	125 HP	SAME	125 HP	SAME
Input cable size (minimum)	2/0 AWG	400 MCM	2/0 AWG	400 MCM
Input fuse size (maximum)	200 A	400 A	250 A	400 A
Rated speed	1200 RPM	SAME	1500 RPM	SAME
Excitation	24-28 V DC	SAME	24-28 V DC	SAME
Ground cable size	#4	1/0	#4	1/0

GENERATOR

Output power rating	90 KVA	SAME	90 KVA	SAME
Volts	115/200 Volts	SAME	115/200 Volts	SAME
Amperes (rated load capacity)	260 A	SAME	260 A	SAME
Cycles per second	400 Hz	SAME	400 Hz	SAME
Kilowatts	72 KW	SAME	72 KW	SAME
Power factor	0.8 PF	SAME	0.8 PF	SAME
Duty cycle	100%	SAME	100%	SAME
Operating speed	1200 RPM	SAME	1500 RPM	SAME
Excitation	24-28 V DC	SAME	24-28 V DC	SAME
Overload capacity	125% of rated load	SAME	125% of rated load	SAME

Specifications and Capabilities
Figure 2



VICTORY GROUND SUPPORT EQUIPMENT VICTORY GROUND SUPPORT EQUIPMENT VICTORY GROUND SUPPORT EQUIPMENT VICTORY GROUND SUPPORT EQUIPMENT VICTORY GROUND SUPPORT EQUIPMENT

OPERATION, MAINTENANCE, AND OVERHAUL MANUAL TM-257A MOTOR-DRIVEN GENERATOR SET, SPECS. NO. 5500 AND 5504

SECTION 1. DESCRIPTION

1. General

The standard generator sets (see Fig. 1) identified as Specification No. 5500 and 5504, are self-contained, stationary units designed to supply regulated electrical power to a single parked aircraft, or to more than one aircraft when connected to a distribution box. Variations (S 5500-V3 and S 5504-V3) of the standard units have built-in dual-output equipment for servicing two aircraft simultaneously, or for servicing a single aircraft equipped with two input connectors.

Generator sets are commonly referred to as "ground power units", however, we believe this identification covers too broad a field. In this manual we shall identify the machines as generator sets. Generator output power is used principally for operation of an aircraft's electrical equipment when the on-board generators are not running.

The two generator sets (S 5500 and S 5504) are practically identical with the exception of their input power requirements. S 5500 requires a source of 60 Hz, three-phase power. S 5504 requires 50 Hz, three-phase power.

Input voltage requirements vary and are listed as follows:

S 5500 and Variations 3, 4, 8 and 9 require 60 Hz, 460-V input.

S 5500 - Variation 7 requires 60 Hz, 230-V input.

S 5504 and Variations 3, 4, and 7 require 50 Hz, 380-V input.

S 5504 - Variation 8 requires 50 Hz, 220-V input.

NOTE: When we speak of 50 Hz or 60 Hz we will always be referring to drive motor input requirements. All generators covered by the manual produce 400 Hz output power.

Refer to Fig. 1 for an illustration which identifies main components of the generator set. To describe it briefly and generally, the combination motor-generator unit is mounted in a welded, steel frame. A superstructure, mounted over the motor-generator, supports the control box, motor switch, load contactors, and other equipment. The output terminal panel, which provides connection terminals for output cables, is located at the load contactor (rear) end of the set and the input panel is located at the motor switch (front) end. Right and left are determined by standing at the rear and facing the machine.

A sheet metal housing, identified as a canopy, protects electrical components. Removable panels and covers on the canopy provide access for servicing and maintenance. A centrally-located, lifting eye is mounted in the superstructure to make a convenient attaching point for chains, cables, or hooks used to lift and move the generator set.

2. Special Features

The generator set has many special features which are described more fully under the assemblies in which they appear. Some of the features are as follows:

A. A hinged door, with plexiglass window, protects the control box equipment and allows observation of the instruments when the door is closed.

