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# **Parts Manual**

**4.0 KW  
BGAL  
GenSet**

**Liquid LPG Fuel  
RV Electric Generating Set**

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**965-0227  
(Spec C)**

**1-83  
Printed in U.S.A.**

## General Information

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.

The image shows a rectangular nameplate template with two circular mounting holes at the top. The Onan logo is prominently displayed in the upper left. Below the logo is a large rectangular box labeled 'MODEL AND SPEC NO.'. Further down is another rectangular box labeled 'SERIAL NO.'. The bottom right corner of the template is folded over, revealing a smaller section. The identifier 'M-1149' is printed at the bottom right of the template.

For handy reference, insert "YOUR" nameplate information in the spaces above.

# Important Safety Precautions

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Read and observe these safety precautions when using or working on electric generators, engines and related equipment. Also read and follow the literature provided with the equipment.

Proper operation and maintenance are critical to performance and safety. Electricity, fuel, exhaust, moving parts and batteries present hazards that can cause severe personal injury or death.

## FUEL, ENGINE OIL, AND FUMES ARE FLAMMABLE AND TOXIC

Fire, explosion, and personal injury can result from improper practices.

- Used engine oil, and benzene and lead, found in some gasoline, have been identified by government agencies as causing cancer or reproductive toxicity. When checking, draining or adding fuel or oil, do not ingest, breathe the fumes, or contact gasoline or used oil.
- Do not fill tanks with engine running. Do not smoke around the area. Wipe up oil or fuel spills. Do not leave rags in engine compartment or on equipment. Keep this and surrounding area clean.
- Inspect fuel system before each operation and periodically while running.
- Equip fuel supply with a positive fuel shutoff.
- Do not store or transport equipment with fuel in tank.
- Keep an ABC-rated fire extinguisher available near equipment and adjacent areas for use on all types of fires except alcohol.
- Unless provided with equipment or noted otherwise in installation manual, fuel lines must be copper or steel, secured, free of leaks and separated or shielded from electrical wiring.
- Use approved, non-conductive flexible fuel hose for fuel connections. Do not use copper tubing as a flexible connection. It will work-harden and break.

## EXHAUST GAS IS DEADLY

- Engine exhaust contains carbon monoxide (CO), an odorless, invisible, poisonous gas. Learn the symptoms of CO poisoning.
- Never sleep in a vessel, vehicle, or room with a genset or engine running unless the area is equipped with an operating CO detector with an audible alarm.
- Each time the engine or genset is started, or at least every day, thoroughly inspect the exhaust system. Shut down the unit and repair leaks immediately.

- Warning: Engine exhaust is known to the State of California to cause cancer, birth defects and other reproductive harm.

*Make sure exhaust is properly ventilated.*

- Vessel bilge must have an operating power exhaust.
- Vehicle exhaust system must extend beyond vehicle perimeter and not near windows, doors or vents.
- Do not use engine or genset cooling air to heat an area.
- Do not operate engine/genset in enclosed area without ample fresh air ventilation.
- Expel exhaust away from enclosed, sheltered, or occupied areas.
- Make sure exhaust system components are securely fastened and not warped.

## MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not remove any guards or covers with the equipment running.
- Keep hands, clothing, hair, and jewelry away from moving parts.
- Before performing any maintenance, disconnect battery (negative [–] cable first) to prevent accidental starting.
- Make sure fasteners and joints are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- If adjustments must be made while equipment is running, use extreme caution around hot manifolds and moving parts, etc. Wear safety glasses and protective clothing.

## BATTERY GAS IS EXPLOSIVE

- Wear safety glasses and do not smoke while servicing batteries.
- Always disconnect battery negative (–) lead first and reconnect it last. Make sure you connect battery correctly. A direct short across battery terminals can cause an explosion. Do not smoke while servicing batteries. Hydrogen gas given off during charging is explosive.
- Do not disconnect or connect battery cables if fuel vapors are present. Ventilate the area thoroughly.

## **DO NOT OPERATE IN FLAMMABLE AND EXPLOSIVE ENVIRONMENTS**

Flammable vapor can be ignited by equipment operation or cause a diesel engine to overspeed and become difficult to stop, resulting in possible fire, explosion, severe personal injury and death. **Do not operate diesel equipment where a flammable vapor environment can be created by fuel spill, leak, etc., unless equipped with an automatic safety device to block the air intake and stop the engine.**

## **HOT COOLANT CAN CAUSE SEVERE PERSONAL INJURY**

- Hot coolant is under pressure. Do not loosen the coolant pressure cap while the engine is hot. Let the engine cool before opening the pressure cap.

## **ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH**

- Do not service control panel or engine with unit running. High voltages are present. Work that must be done while unit is running should be done only by qualified service personnel.
- Do not connect the generator set to the public utility or to any other electrical power system. Electrocution can occur at a remote site where line or equipment repairs are being made. An approved transfer switch must be used if more than one power source is connected.
- Disconnect starting battery (negative [–] cable first) before removing protective shields or touching electrical equipment. Use insulative mats placed on dry wood platforms. Do not wear jewelry, damp clothing or allow skin surface to be damp when handling electrical equipment.
- Use insulated tools. Do not tamper with interlocks.
- Follow all applicable state and local electrical codes. Have all electrical installations performed by a qualified licensed electrician. Tag open switches to avoid accidental closure.
- With transfer switches, keep cabinet closed and locked. Only authorized personnel should have cabinet or operational keys. Due to serious shock hazard from high voltages within cabinet, all service and adjustments must be performed by an electrician or authorized service representative.

If the cabinet must be opened for any reason:

1. Move genset operation switch or Stop/Auto/Handcrank switch (whichever applies) to Stop.
2. Disconnect genset batteries (negative [–] lead first).
3. Remove AC power to automatic transfer switch. If instructions require otherwise, use extreme caution due to shock hazard.

## **MEDIUM VOLTAGE GENERATOR SETS (601V TO 15kV)**

- Medium voltage acts differently than low voltage. Special equipment and training are required to work on or around medium voltage equipment. Operation and maintenance must be done only by persons trained and qualified to work on such devices. Improper use or procedures will result in severe personal injury or death.
- Do not work on energized equipment. Unauthorized personnel must not be permitted near energized equipment. Induced voltage remains even after equipment is disconnected from the power source. Plan maintenance with authorized personnel so equipment can be de-energized and safely grounded.

## **GENERAL SAFETY PRECAUTIONS**

- Do not work on equipment when mentally or physically fatigued or after consuming alcohol or drugs.
- Carefully follow all applicable local, state and federal codes.
- Never step on equipment (as when entering or leaving the engine compartment). It can stress and break unit components, possibly resulting in dangerous operating conditions from leaking fuel, leaking exhaust fumes, etc.
- Keep equipment and area clean. Oil, grease, dirt, or stowed gear can cause fire or damage equipment by restricting airflow.
- Equipment owners and operators are solely responsible for operating equipment safely. Contact your authorized Onan/Cummins dealer or distributor for more information.

**KEEP THIS DOCUMENT NEAR EQUIPMENT FOR EASY REFERENCE.**

# INTRODUCTION

This catalog applies to the standard BGAL Recreational Vehicle Generator Sets. Parts are arranged in groups of related items. Each illustrated part is identified by a reference number corresponding to the same reference number in the parts list for that group. Parts illustrations are typical. Using the *Model* and *Spec No.* from the nameplate, select *Parts* that apply to your set *Model* and *Spec No.* Unless otherwise mentioned in the description, parts are interchangeable between models. Right and left sides are determined by facing the engine end (front) of the set.

## DATA TABLE

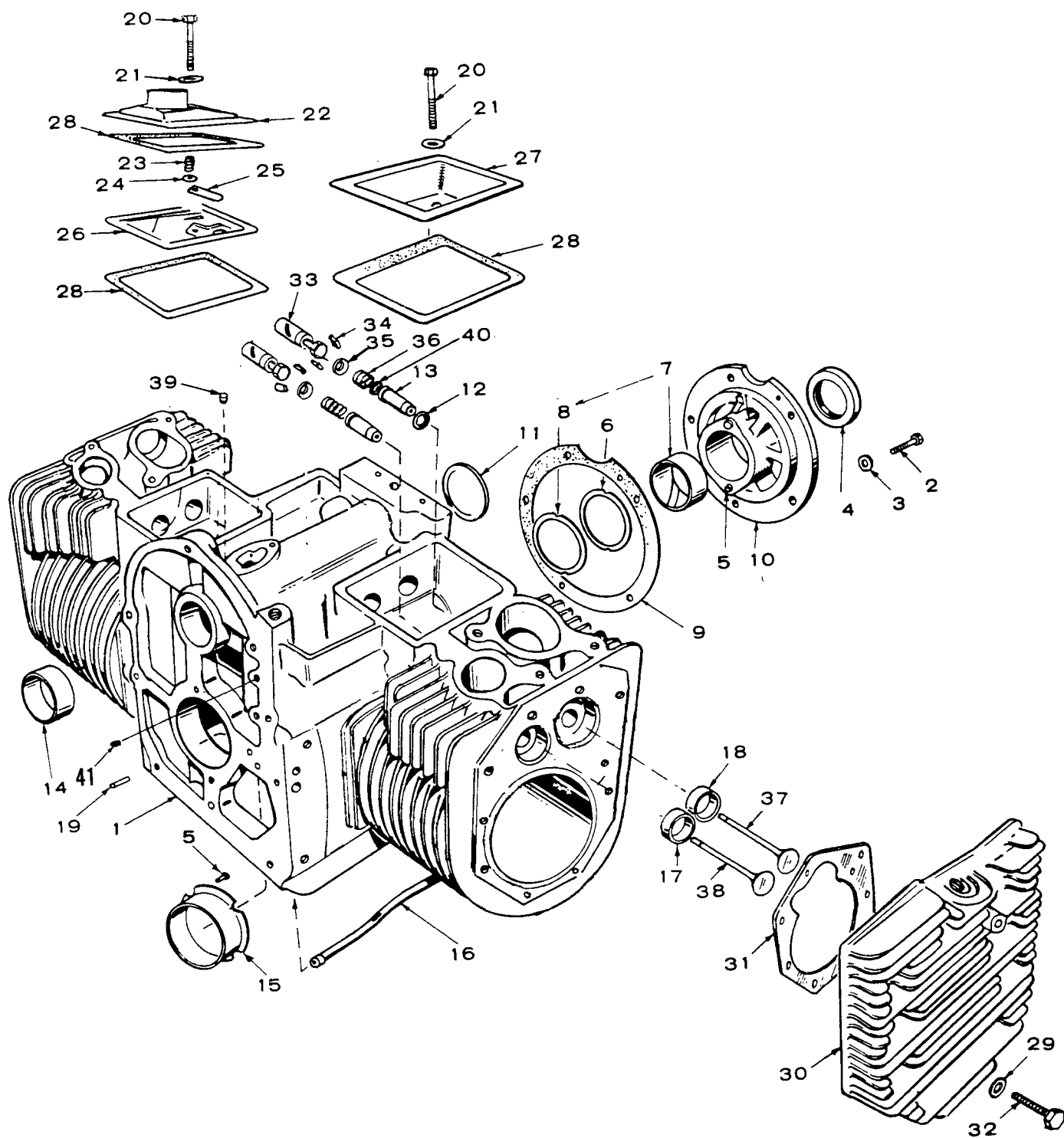
MODEL AND SPEC NO.	ELECTRICAL DATA			
	WATTS	HERTZ	VOLTS	PHASE
4.0 BGAL-1R/*	4,000	60	120	1

\* — The specification letter advances (A to B, B to C, etc.) with manufacturing changes.

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# CYLINDER BLOCK



C-1092

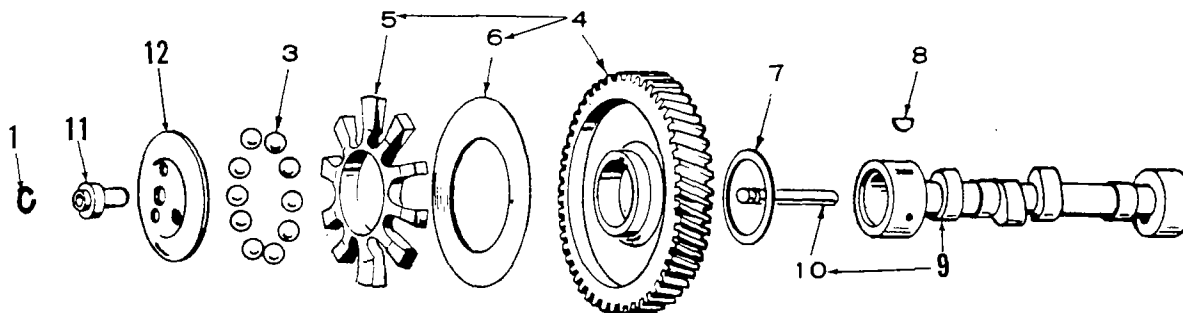
## CYLINDER BLOCK

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	110-3148	1	Block Assembly, Cylinder (Replacement Cylinder Block Uses Intake Valve Seals and Includes Parts Marked *)	18	INSERT, VALVE SEAT - INTAKE		
				110-0197	2		*Standard
				110-0197-02	2		.002" Oversize
				110-0197-05	2		.005" Oversize
				110-0197-10	2		.010" Oversize
				110-0197-25	2		.025" Oversize
2	800-0051	5	*Screw, Cap - Hex Head (3/8-16 x 1-1/4")	19	516-0141	2	*Pin, Gearcase Alignment
3	850-0050	5	*Washer, Lock - Spring (3/8")	20	800-0010	2	Screw, Cap - Hex Head (1/4-20 x 1-3/4")
4	509-0041	1	*Seal, Oil - Crankshaft Rear	21	526-0063	2	Washer, Flat - Copper (1/4")
5	516-0072	4	*Pin, Drive - Bearing Stop	22	110-2274	1	Cover, Valve (With Breather Port)
6	104-0776	As Req.	*Shim (.005")	23	123-1174	1	Spring, Breather Valve
7	BEARING, CRANKSHAFT - REAR (Includes Thrust Washer			24	526-0018	1	Washer, Flat (17/64" ID x 5/8" OD x 1/16" Thk)
	101-0450	1	*Standard	25	123-1175	1	Reed, Breather Valve
	101-0450-02	1	.002" Undersize	26	123-1173	1	Baffle, Breather Valve
	101-0450-10	1	.010" Undersize	27	110-1879	1	Cover, Valve (Without Breather Port)
	101-0450-20	1	.020" Undersize	28	110-1921	3	Gasket, Valve Cover
	101-0450-30	1	.030" Undersize	29	526-0122	18	Washer, Flat (11/32" ID x 23/32" OD x 10 Ga. Thk)
8	104-0575	1	*Washer, Thrust	30	HEAD, CYLINDER		
9	101-0415	1	*Gasket	110-2562	1		Right Side
10	101-0439	1	*Plate, Bearing - Rear	110-2561	1		Left Side
11	517-0048	1	*Plug, Expansion - Welch	31	110-2287	2	Gasket, Head
12	GASKET, INTAKE VALVE GUIDE			32	SCREW, CAP — HEX HEAD		
	110-0068	2	Engines w/o Intake Valve Seals	800-0540	12		5/16-18 x 1-5/8" (Grade 8)
	110-0068	2	*Engines With Intake Valve Seals	800-0541	6		5/16-18 x 2" (Grade 8)
13	GUIDE, VALVE			33	TAPPET, VALVE		
			Engines w/o Intake Valve Seals	115-0006	4		Standard
	110-1807	2	Intake	115-0006-02	4		.002" Oversize
	110-1807	2	Exhaust	115-0006-05	4		.005" Oversize
			Engines With Intake Valve Seals	34	110-0639	8	Lock, Valve Spring
	110-3159	2	*Intake	35	110-0893	4	Washer, Valve Spring Retainer
	110-1807	2	*Exhaust	36	110-0539	4	Spring, Valve
14	101-0405	2	*Bearing, Camshaft	37	110-1808	2	Valve, Intake
15	BEARING, CRANKSHAFT - FRONT			38	110-1955	2	Valve, Exhaust
	101-0432	1	*Standard	39	517-0120	1	Plug, Cylinder Block Opening
	101-0432-02	1	.002" Undersize	40	509-0168	2	Seal, Valve - Intake
	101-0432-10	1	.010" Undersize	41	517-0067	1	Plug, Core Hole
	101-0432-20	1	.020" Undersize				
	101-0432-30	1	.030" Undersize				
16	120-0735	1	*Tube, Oil Crankcase				
17	INSERT, VALVE SEAT - EXHAUST						
	110-1824	2	*Standard				
	110-1824-02	2	.002" Oversize				
	110-1824-05	2	.005" Oversize				
	110-1824-10	2	.010" Oversize				
	110-1824-25	2	.025" Oversize				

\* - Parts Included in 110-3148 Cylinder Block Assembly.



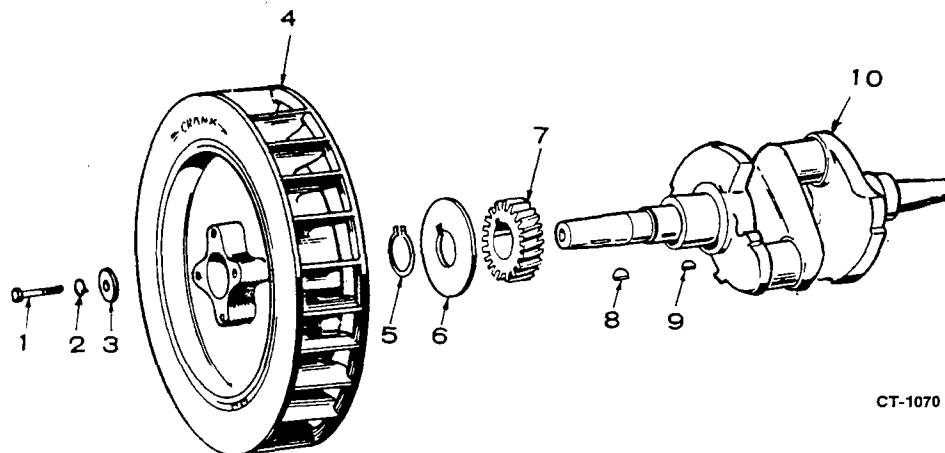
## CAMSHAFT



C 1056

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	150-0078	1	Ring, Retaining
3	510-0015	10	Ball, Governor
4	105-0332	1	Gear, Camshaft (Includes Flyball Plate and Spacer)
5	150-1257	1	Spacer, Flyballs
6	150-0077	1	Plate, Flyball
7	105-541	1	Washer, Thrust
8	515-0001	1	Key, Woodruff
9	105-0376	1	Camshaft (Includes Center Pin)
10	150-0075	1	Pin, Center - Camshaft
11	150-1519	1	Hub, Governor Cup
12	150-1520	1	Cup and Bushing, Governor

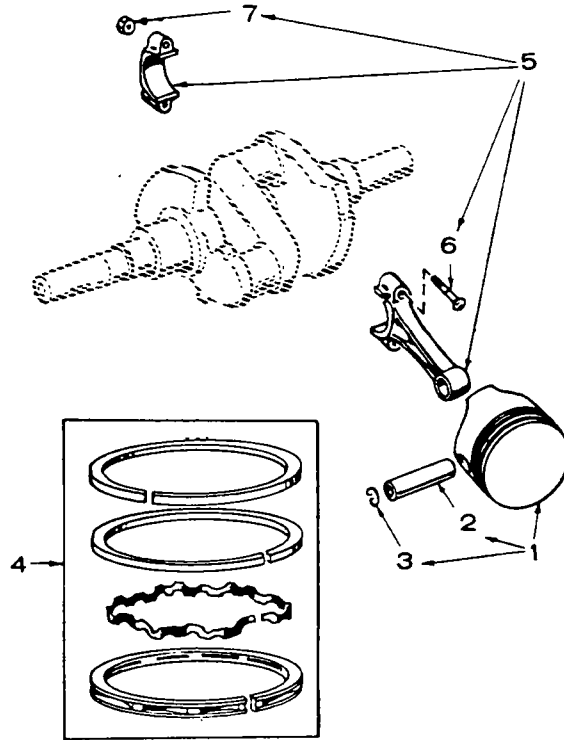
## CRANKSHAFT AND FLYWHEEL



CT-1070

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	104-0170	1	Screw, Cap - Hex Head Heat Treated (7/16-14 x 4")
2	850-0055	1	Washer, Lock - Spring (7/16)
3	526-0017	1	Washer, Flat (15/32" ID x 1-1/4" OD x 1/4" Thk)
4	134-3871	1	Flywheel
5	518-0014	1	Ring, Retaining
6	104-0043	1	Washer, Gear
7	104-0032	1	Gear, Crankshaft
8	515-0227	1	Kit, Key
9	515-0001	1	Key, Woodruff
10	104-1331	1	Crankshaft

## PISTON & ROD

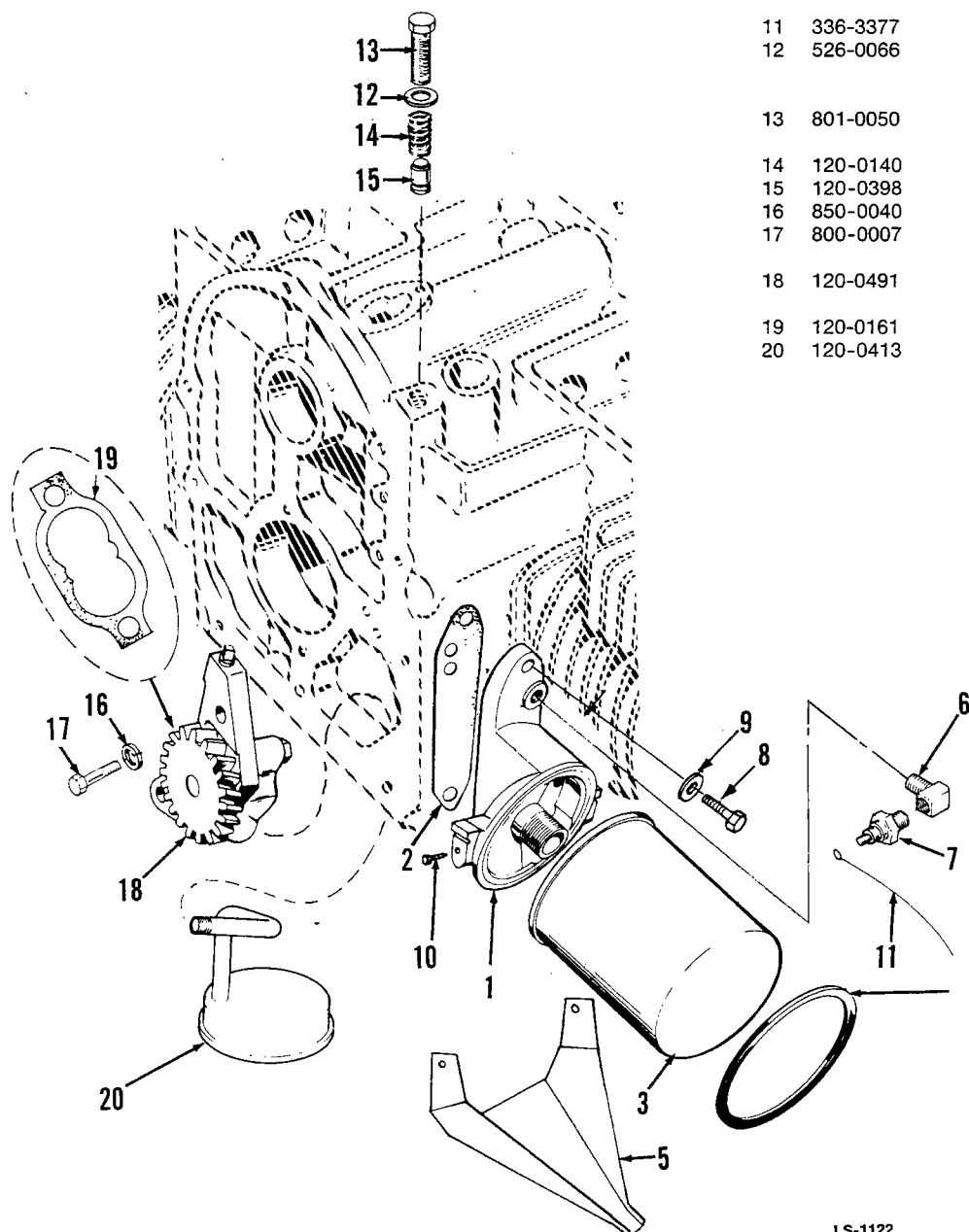


CT-1071

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	PISTON AND PIN ASSEMBLY (Includes Retaining Rings)		
	112-0186	2	Standard
	112-0186-05	2	.005" Oversize
	112-0186-10	2	.010" Oversize
	112-0186-20	2	.020" Oversize
	112-0186-30	2	.030" Oversize
	112-0186-40	2	.040" Oversize
2	112-0122	2	Pin, Piston
3	518-0311	4	Ring, Retaining
4	RING SET, PISTON		
	113-0189	2	Standard
	113-0189-05	2	.005" Oversize
	113-0189-10	2	.010" Oversize
	113-0189-20	2	.020" Oversize
	113-0189-30	2	.030" Oversize
	113-0189-40	2	.040" Oversize
5	ROD, CONNECTING (Includes Bolt and Nut)		
	114-0257	2	Standard
	114-0257-10	2	.010" Undersize
	114-0257-20	2	.020" Undersize
	114-0257-30	2	.030" Undersize
6	114-0240	4	Bolt, Special - Connecting Rod
7	870-0302	4	Nut, Self-Locking (5/16-24)

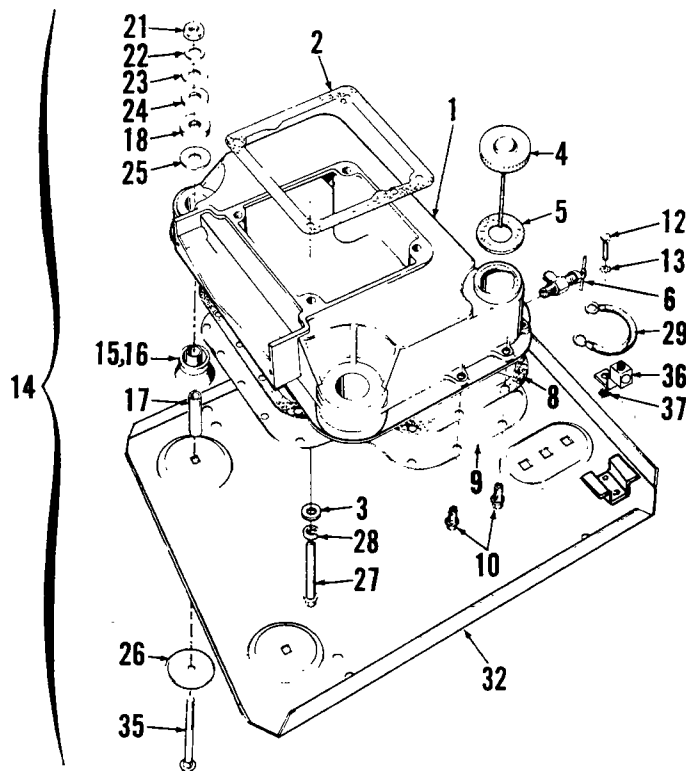
# OIL SYSTEM

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	122-0320	1	Adapter, Oil Filter
2	122-0321	1	Gasket, Oil Filter Adapter Mounting
3	122-0338	1	Filter, Oil - Spin-on
4	122-0347	1	Seal, Air - Oil Filter
5	122-0360	1	Drain, Oil Filter
6	502-0053	1	Elbow, Street - 45°
7	309-0319	1	Switch, Low Oil Pressure
8	800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")
9	526-0065	2	Washer, Flat - Copper (21/64" ID x 9/16" OD x 1/16")
10	815-0194	2	Screw, Tapping - Hex Head (#10-32 x 3/8")
11	336-3377	1	Lead, Oil Pressure Switch
12	526-0066	1	Washer, Flat - Copper (25/64" ID x 9/16" OD x 1/16")
13	801-0050	1	Screw, Cap - Hex Head (3/8-24 x 1")
14	120-0140	1	Spring, Oil By-Pass Valve
15	120-0398	1	Valve, Oil By-Pass
16	850-0040	2	Washer, Lock - Spring (1/4")
17	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")
18	120-0491	1	Pump, Oil (Components Not Sold Separately)
19	120-0161	1	Kit, Gasket - Oil Pump
20	120-0413	1	Cup, Oil Pump Intake (Includes Screw Pipe and Cup)



LS-1122

## OIL BASE & MOUNTING HARDWARE



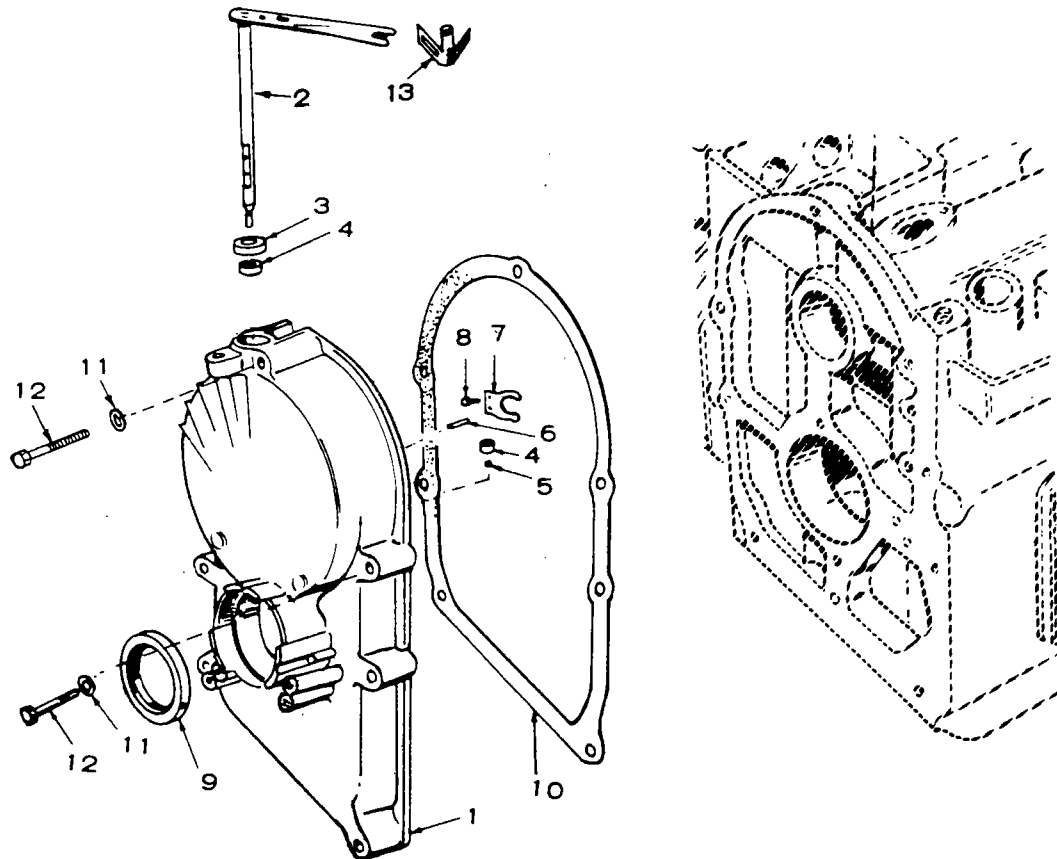
LS 1003-1

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	102-0956	1	Base, Oil (Includes Parts Marked *)	21	#NUT, HEX (7/16-14")	2	Engine End
2	102-0693	1	*Gasket, Oil Base		862-0004	1	Generator End (Left Side)
3	526-0030	4	Washer, Flat (25/64" ID x 1" OD x 1/16" Thk)		862-0004	1	Generator End (Right Side)
4	123-1400	1	Cap and Indicator, Oil Fill	22	#WASHER, LOCK - (7/16")	2	Engine End
5	123-0191	1	Gasket, Oil Fill Cap		850-0055	1	Generator End (Left Side)
6	504-0092	1	Valve, Oil Drain		850-0012	1	Generator End (Right Side)
8	102-0953	1	*Gasket, Oil Pan Mounting	23	#WASHER, FLAT (29/64" ID x 1-1/2" OD x 1/8")	2	Engine End
9	102-0889	1	*Pan, Oil Base		526-0014	1	Generator End (Left Side)
10	821-0018	20	*Screw, Cap - HWH (1/4-20 x 5/8")		526-0014	1	Generator End (Right Side)
12	800-0047	1	Screw, Cap - Hex Head (3/8-16 x 5/8")	24	#WASHER, FLAT (5/8" ID x 1-1/2" OD x 1/16")	4	Engine End
13	856-0010	1	Washer, Lock - EIT (3/8")		526-0198	2	Generator End (Left Side)
14	PACKAGE, HARDWARE MOUNTING (Includes Parts Marked #)				526-0198	1	Generator End (Right Side)
	402-0477	1	Engine End	25	#WASHER, FLAT	1	Generator End (Left Side)
	402-0478	1	Generator End (Right Side)		526-0286	1	Generator End (Right Side)
	402-0480	1	Generator End (Left Side)	26	856-0016	1	#Washer, Lock - EIT (5/8" - Right Side Generator End)
15	402-0283	2	#Cushion, Vibration - Engine End	27	SCREW, CAP - HEX HEAD		
16	#CUSHION, VIBRATION - GENERATOR END				800-0064	4	3/8-16 x 4-1/2"
	402-0283	1	Left Side	28	850-0050	4	Washer, Lock - Spring (3/8")
	402-0283	1	Right Side	29	337-0418	1	Strap, Ground
17	#SPACER, SLEEVE			32	403-2092	1	Plate, Mounting
	402-0290	2	Engine End	35	#BOLT, CARRIAGE (7/16-14 x 3-1/2")		
	402-0290	1	Generator End (Left Side)		816-0206	2	Engine End
	402-0290	1	Generator End (Right Side)		816-0206	1	Generator End (Left Side)
18	#SNUBBER				816-0206	1	Generator End (Right Side)
	402-0282	2	Engine End	36	332-0142	1	Terminal, Ground
	402-0282	1	Generator End (Left Side)	37	856-0006	1	Washer, Lock - EIT (1/4")
	402-0282	1	Generator End (Right Side)				

\* - Parts Included in 102-0956 Oil Base.

# - Parts Included in Hardware Mounting Package.

# GEARCASE

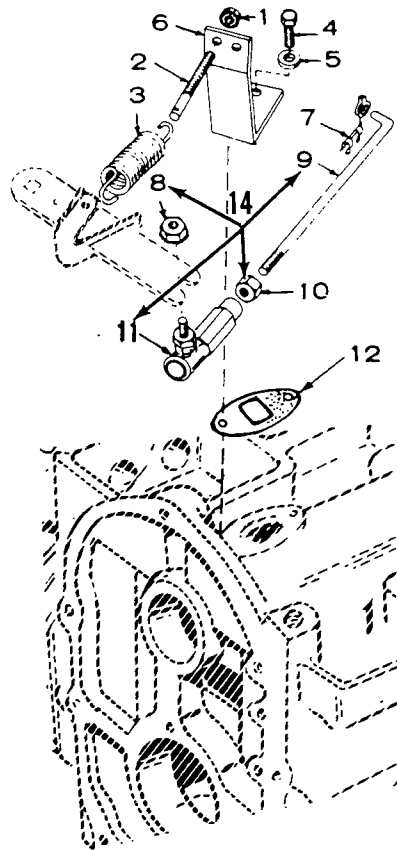


CT-1069

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	103-0667	1	Gearcase Assembly (Includes Parts Marked *)
2	150-1542	1	*Arm and Shaft, Governor
3	509-0008	1	*Seal, Oil - Governor Shaft
4	510-0013	2	*Bearing, Needle
5	510-0014	1	*Ball, Bearing
6	516-0130	1	*Pin, Governor Cup Stop
7	150-1187	1	*Yoke, Governor
8	815-0046	2	*Screw, Machine - Pan Head (#8-32 x 3/8")
9	509-0040	1	*Seal, Oil - Crankshaft
10	103-0408	1	Gasket, Gearcase
11	526-0065	5	Washer, Flat - Copper (21/64" ID x 9/16" OD x 1/16" Thk)
12	SCREW, CAP - HEX HEAD		
	800-0032	4	5/16-18 x 1-3/4"
	800-0034	1	5/16-18 x 2-1/4"
13	150-0678	1	*Clip, Sensitivity Adjustment

\* - Parts Included in 103-0667 Gearcase Assembly

# GOVERNOR

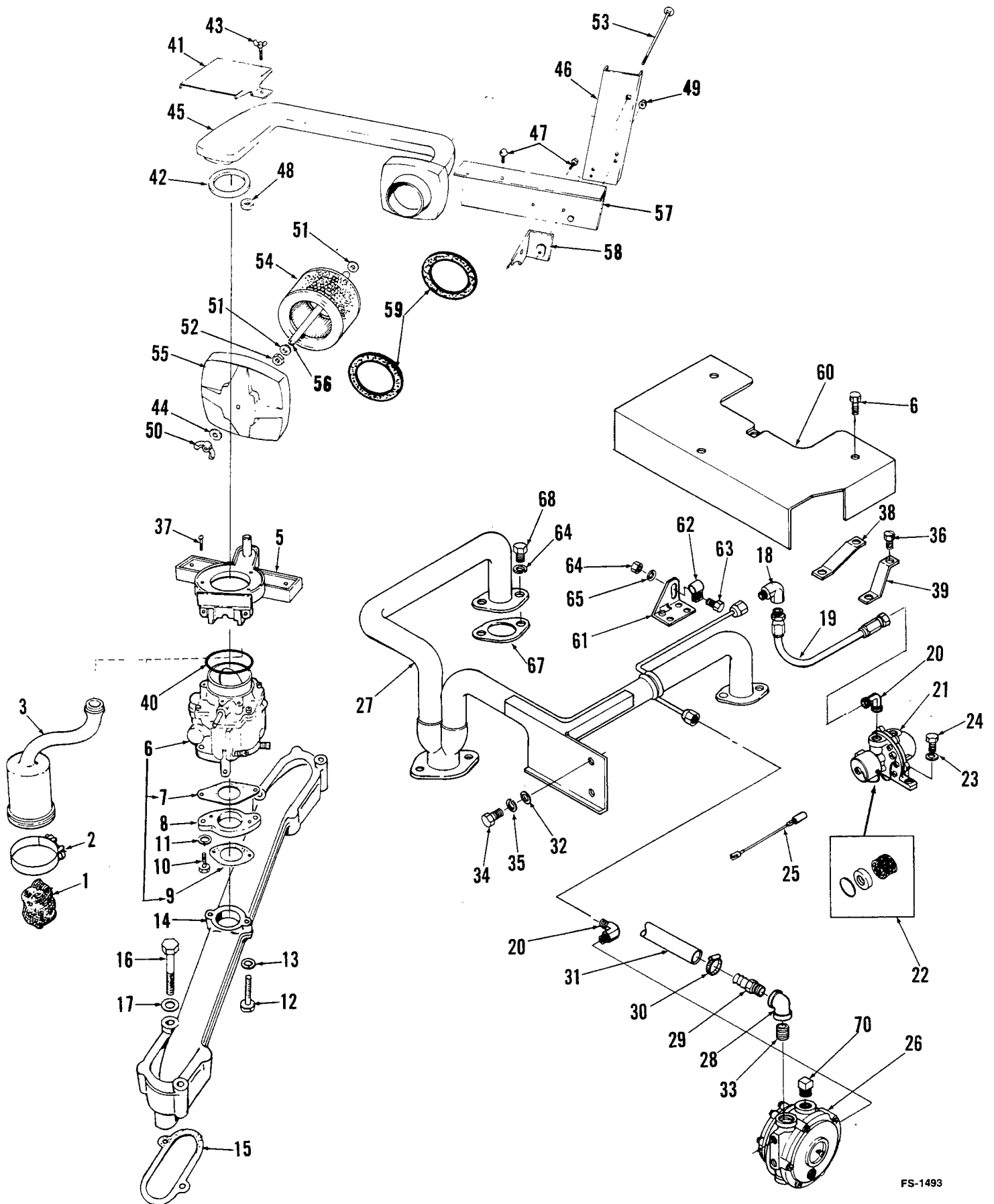


FS-1494

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	870-0131	1	Nut, Hex - Self Locking (1/4-20)
2	150-0096	1	Stud, Speed Adjustment
3	150-1612	1	Spring, Governor
4	800-0004	2	Screw, Cap - Hex Head (1/4-20 x 5/8")
5	526-0063	2	Washer, Flat - Copper
6	150-1577	1	Bracket, Governor
7	518-0004	1	Clip, Retaining
8	870-0131	1	*Nut, Hex - Self Locking (1/4-20)
9	150-0629	1	*Rod, Governor Arm to Carburetor
10	870-0053	1	*Nut, Hex (#10-32)
11	150-0639	1	*Joint, Ball
12	149-0003	1	Gasket, Governor Bracket
14	150-0630	1	Linkage, Governor (Includes Parts Marked *)

\* - Parts Included in 150-0630 Governor Linkage.

# EXHAUST & FUEL SYSTEM



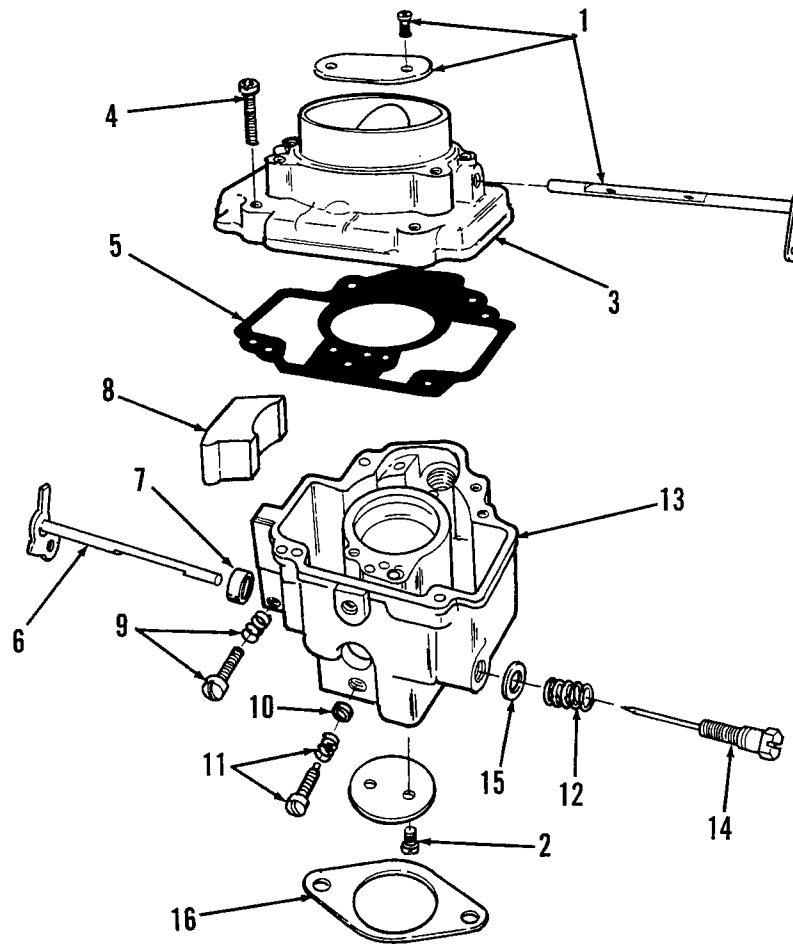
FS-1493

## EXHAUST & FUEL SYSTEM

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	123-1417	1	Filter, Breather Hose	34	800-0004	2	Screw, Cap - Hex Head (1/4-20 x 5/8")
2	503-0280	1	Clamp, Hose	35	850-0040	2	Washer, Lock - Spring (1/4")
3	123-1277	1	Tube, Breather	36	800-0034	2	Screw, Cap - Hex Head
5	140-1492	1	Adapter, Air Duct	37	804-0017	3	Screw, Cap - Socket Head (#10-32 x 1/2")
6	146-0350	1	Carburetor, Complete (See Separate Group for Components)	38	154-1883	1	Bracket, Heat Shield - Left
7	154-0733	1	Gasket, Carburetor to Adapter	39	154-1886	1	Bracket, Heat Shield - Right
8	154-1977	1	Adapter, Carburetor	40	509-0145	1	Seal, "O" Ring
9	145-0438	1	Gasket, Manifold to Carburetor Adapter	41	140-1520	1	Clamp, Air Duct
10	800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")	42	140-1502	1	Seal, Air Duct to Adapter
11	850-0045	2	Washer, Lock - Spring (5/16")	43	518-0390	2	Screw, Wing (1/4-20 x 3/4")
12	800-0023	2	Screw, Cap - Hex Head (1/4-20 x 1-3/8")	44	526-0021	1	Washer, Flat (17/64" ID x 3/4" OD x 1/16" Thk)
13	850-0040	2	Washer, Lock - Spring (1/4")	45	140-1503	1	Duct, Air Cleaner
14	154-2206	1	Manifold, Intake	46	140-1531	1	Bracket, Air Duct Support
15	154-1446	2	Gasket, Intake Manifold	47	821-0009	3	Screw, Cap - Hex Head Locking (1/4-20 x 3/8")
16	800-0033	4	Screw, Cap - Hex Head (5/16-18 x 2")	48	140-1521	1	Seal, Air duct to Breather Port
17	850-0045	4	Washer, Lock - Spring (5/16")	49	870-0212	2	Nut, Hex - Locking (1/4-20)
18	502-0839	1	Elbow (90°)	50	865-0019	1	Nut, Wing (1/4-20)
19	501-0454	1	Line, Fuel	51	526-0158	2	Washer, Flat (.261" ID x 1" OD x 1/8" Thk)
20	502-0838	2	Elbow (90°)	52	870-0212	1	Nut, Hex - Locking (1/4-20)
21	148-0868	1	Shutoff/Filter, Fuel	53	816-0070	1	Bolt, Carriage (1/4-20 x 6-1/2")
22	148-0874	1	Magnet and Filter Kit	54	140-0495	1	Element, Air Cleaner
23	850-0045	2	Washer, Lock - Spring (1/4")	55	140-1504	1	Cover, Air Cleaner
24	800-0005	2	Screw, Cap - Hex Head, (1/4-20 x 3/4")	56	140-1522	1	Spacer, Air Intake
25	336-9679	1	Lead and Connector, Ground	57	140-1529	1	Bracket, Air Intake Duct
26	148-0866	1	Regulator	58	140-1528	1	Brace, Air Intake Duct
27	154-2395	1	Manifold, Exhaust (Includes Fuel Line)	59	140-1533	2	Seal
28	505-0047	1	Elbow, Reducing (90°)	60	154-2392	1	Shield, Heat - Exhaust Manifold
29	502-0238	1	Connector, Hose	61	154-2396	1	Bracket, Fuel Line Mounting
30	503-0183	2	Clamp, Hose	62	503-1190	1	Clamp, Fuel Line
31	503-1191	1	Hose, Fuel	63	815-0176	1	Screw, Machine - Hex Head (#8-32 x 1/2")
32	526-0021	2	Washer, Flat (1/4")	64	870-0221	1	Nut, Hex W/ET (#8-32)
33	505-0100	1	Nipple, Close	65	526-0003	1	Washer, Flat (11/64")
				66	821-0010	2	Screw, Cap - HWH (1/4-20 x 1/2")
				67	154-1725	2	Gasket, Exhaust
				68	800-0026	4	Screw, Cap-Hex Head (5/16-18 x 3/4")
				69	850-0045	4	Washer, Lock - Spring (5/16")
				70	505-0110	1	Plug, Pipe - Square Head (3/8" NPT)



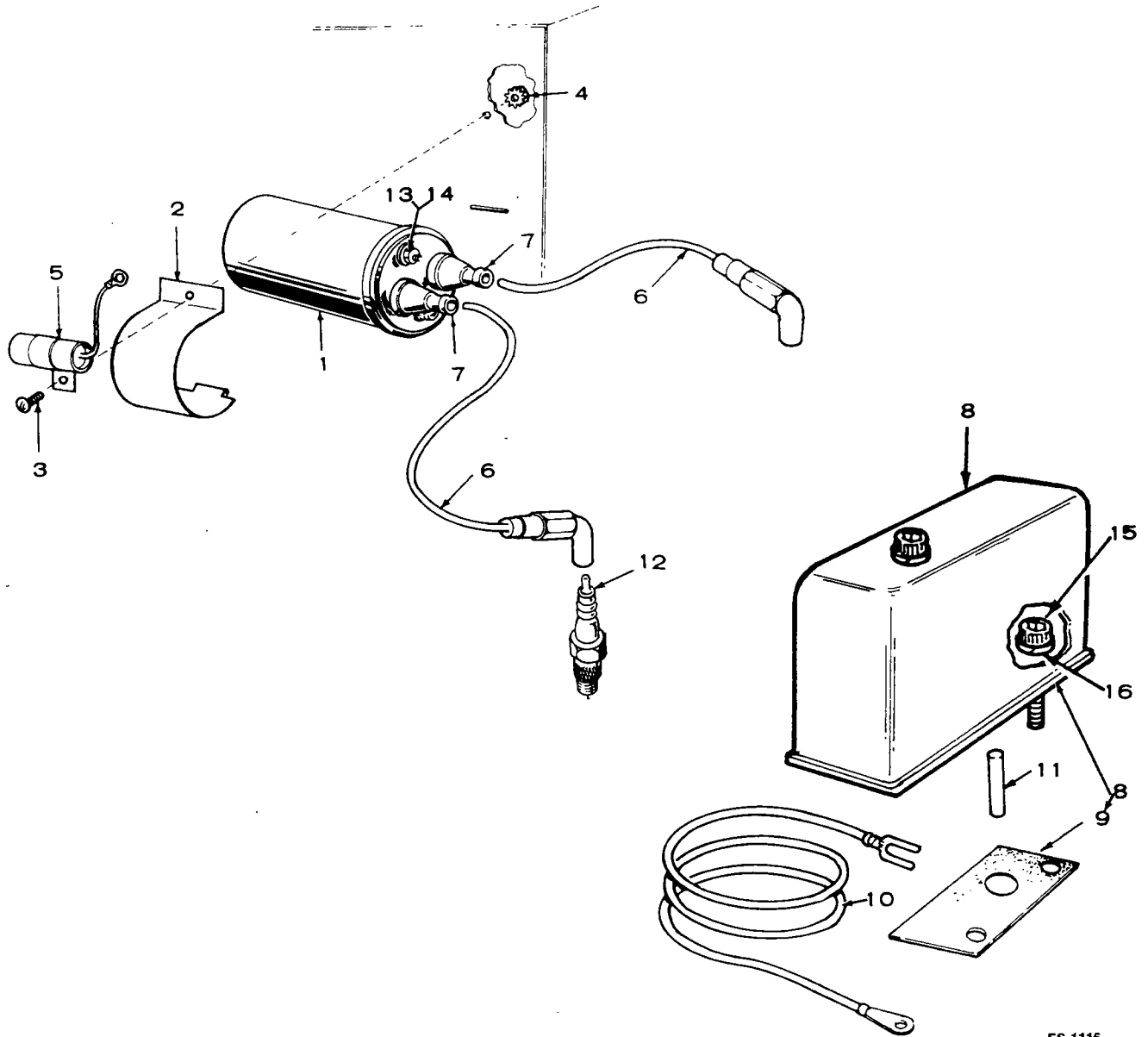
## CARBURETOR PARTS



FS-1497

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	146-0350	1	Carburetor, Complete
1		1	Shaft, Choke (Not Sold Separately)
2	146-0142	2	Screw, Throttle Valve
3		1	Intake, Air (Not Sold Separately)
4	146-0247	1	Screw, Body to Intake
5	146-0365	1	Gasket, Fuel Bowl
6	146-0267	1	Shaft, Throttle
7	146-0178	1	Seal, Throttle Shaft
8		2	Block, Filler (Not Sold Separately)
9	146-0261	1	Throttle Stop Package
10	146-0358	1	Seal, Idle Screw
11	146-0357	1	Screw, Idle
12	146-0363	1	Spring, Power Adjusting Screw
13		1	Body (Not Sold Separately)
14	146-0364	1	Screw, Power Adjusting
15	146-0359	1	Seal, Power Adjusting Screw
16	154-0733	1	Gasket, Carburetor Mounting

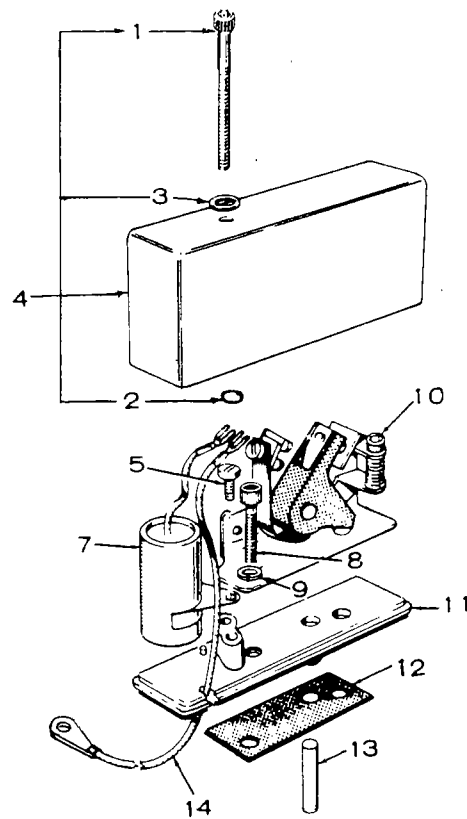
# IGNITION SYSTEM



ES-1116

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	166-0543	1	Coil, Ignition
2	166-0588	1	Clamp, Coil
3	815-0350	1	Screw, Cap - Hex Head (#10-32 x 1/2")
4	870-0131	1	Nut, Hex - W/ET (#10-32)
5	312-0051	1	Condenser
6	167-1596	2	Cable, Spark Plug
7	160-0558	2	Nipple, Spark Plug Cable
8	160-1303	1	Box Assembly, Breaker (See Separate Group for Components) Includes Mounting Gasket
9	160-1150	1	Gasket, Breaker Box Mounting
10	336-2378	1	Lead, Coil to Breaker Points
11	160-1151	1	Plunger, Breaker Points
12	167-0298	2	Plug, Spark
13	166-0554	1	Nut, Hex (Special)
14	850-2005	1	Washer, Lock - Spring
15	802-0034	2	Screw, Cap - Socket Head (1/4-20 x 3/4")
16	850-0038	2	Washer, Lock - Spring (1/4")

# IGNITION BREAKER BOX ASSEMBLY

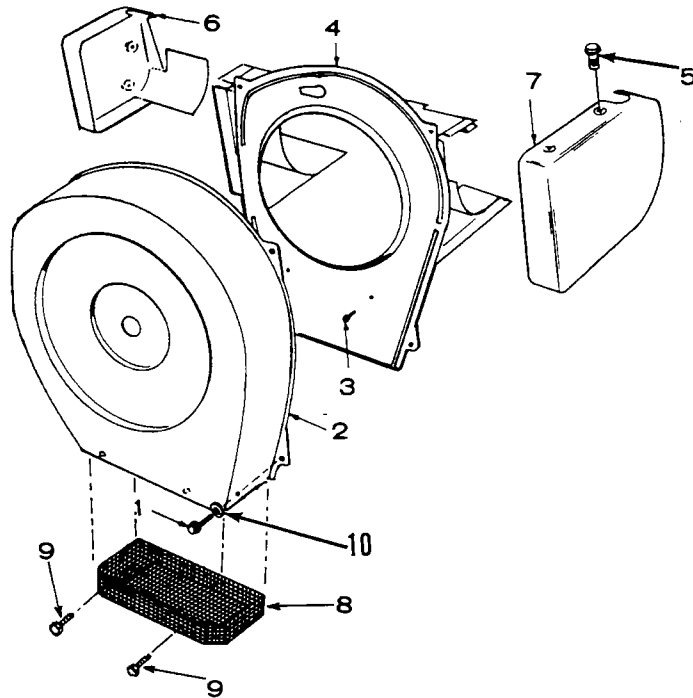


ES-1217

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	160-1303	1	Box, Assembly, Breaker - Complete (Includes Parts Marked *)
1	509-0065	1	*Retainer, Breaker Box Cover Screw
2	802-0022	1	*Screw, Cap - Socket Head (#10-24 x 1-1/2")
3	526-0008	1	*Washer, Flat (13/64" ID x 7/16" OD x 1/32" Thk)
4	160-1285	1	*Cover, Breaker Box (Includes Screw, Washer and Retainer)
5	815-0358	1	*Screw, Cap - Hex Head (#8-32 x 5/16")
7	312-0244	1	*Condenser, Ignition
8	802-0034	2	*Screw, Cap - Socket Head (1/4-20 x 3/4")
9	850-0038	2	*Washer, Lock - Spring (1/4")
10	160-1183	1	*Point Assembly, Breaker
11	160-1219	1	*Base, Breaker Box
12	160-1150	1	*Gasket, Breaker Box
13	160-1151	1	Plunger, Points
14	336-2378	1	Lead, Breaker Box to Coil
	160-1311	1	Kit, Ignition Tune-up

\* - Parts included in 160-1303 Breaker Box Assembly

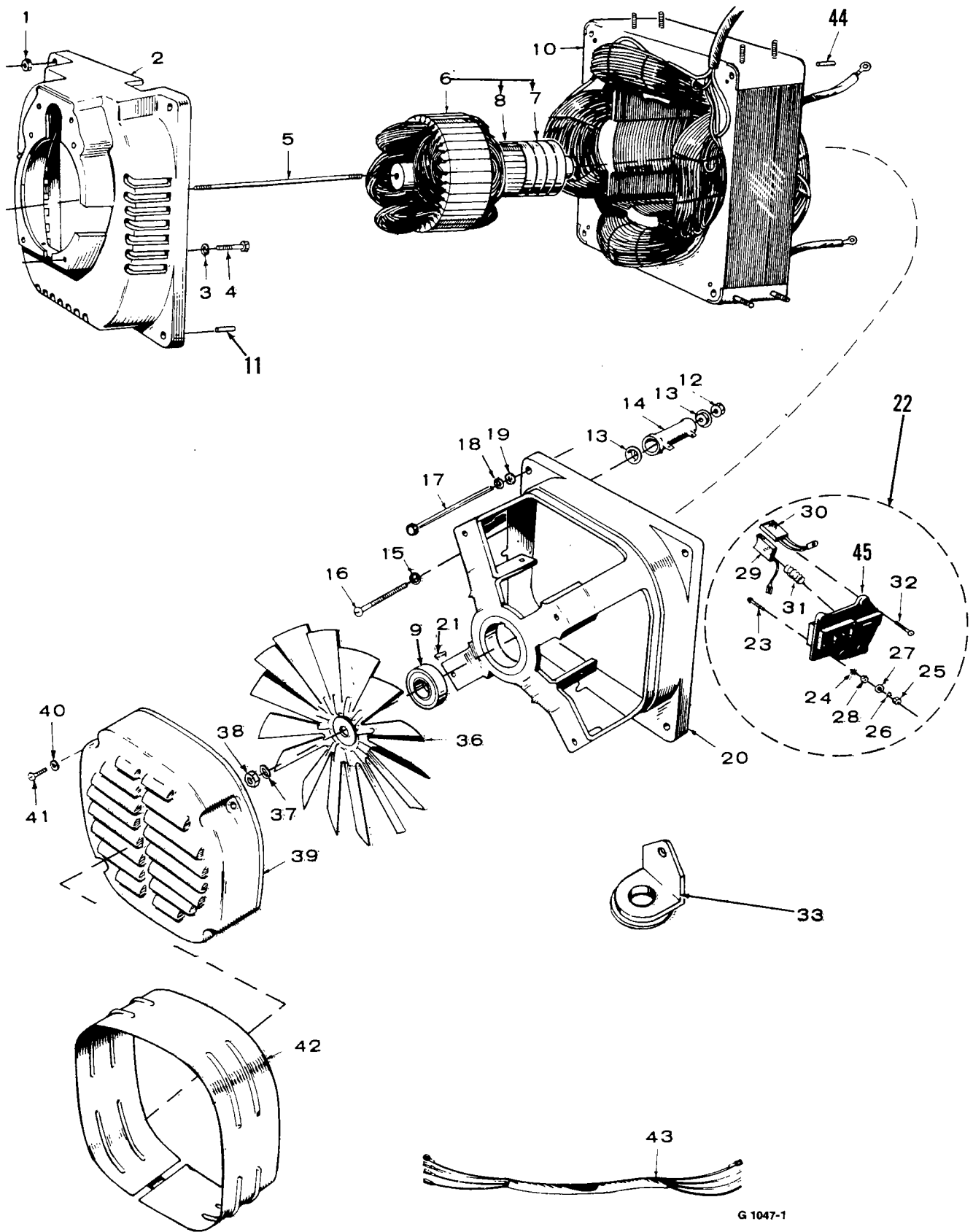
## AIR HOUSING



CS-1065

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	821-0008	4	Screw, Cap - Hex Head (1/4-20 x 5/16")
2	134-3149	1	Scroll Assembly (Includes Guard)
3	821-0010	2	Screw, Cap - HWH (1/4-20 x 1/2")
4	134-3688	1	Backplate, Scroll
5	815-0261	4	Screw, Topping - Hex Head (1/4-20 x 1/2")
6	134-3701	1	Housing, Cylinder Air - Left
7	134-3700	1	Housing, Cylinder Air - Right
8	134-3418	1	Guard, Scroll
9	815-0421	4	Screw, Topping - Hex Head (#10-16 x 1/2")
10	850-0040	4	Washer, Lock - Spring (1/4")

# GENERATOR



G 1047-1

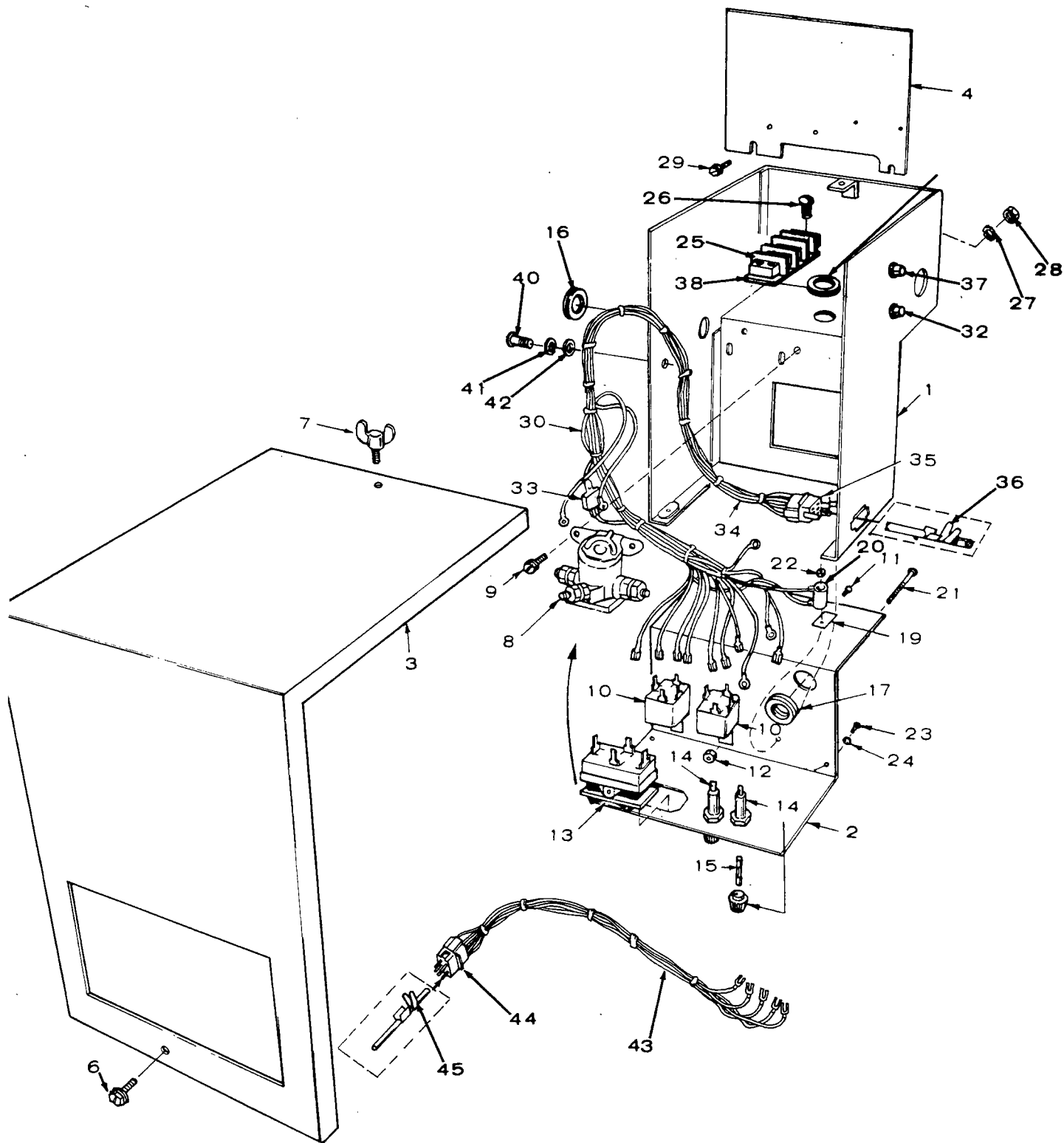
## GENERATOR

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	862-0015	4	Nut, Hex (5/16-18)
2	231-0164	1	Adapter, Generator to Engine
3	850-0050	4	Washer, Lock - Spring (3/8")
4	800-0050	4	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
5	520-0732	1	Stud, Armature Through
6	201-2571	1	Armature Assembly (Includes Parts Marked *)
7	204-0125	1	*Ring, Collector
8	203-0153	1	*Commutator
9	510-0047	1	*Bearing, Ball
10	220-1823	1	Stator
11	516-0182	4	Pin, Alignment
12	860-0008	1	Nut, Hex (#8-32)
13	304-0014	2	Washer, Centering - Resistor
14	353-0057	2	Resistor (3.4 Ohm, 25 Watt)
15	850-0025	1	Washer, Lock - Spring (#8)
16	812-0091	1	Screw, Machine - Round Head (#8-32 x 2-1/2")
17	800-0043	4	Screw, Cap - Hex Head (5/16 x 18 x
18	850-0045	3	Washer, Lock - Spring (5/16")
19	526-0115	4	Washer, Flat (11/32" ID x 11/16" OD x 1/16" Thk)
20	211-0187	1	Bell, End
21	232-0596	1	Clip, Bearing Retainer
22	BLOCK ASSEMBLY, GENERATOR BRUSH (Includes Parts Marked †)		
	212-0361	1	Top
	212-0345	1	Right Side
	212-0352	1	Bottom
	212-0353	1	Left Side
23	815-0341	4	†Screw, Cap - Hex Head - Brass (#10-32 x 1")
24	853-0008	8	†Washer, Lock - ET (#10)
25	871-0010	4	†Nut, Hex - Brass (#10-32)
26	853-0008	4	†Washer, Lock - ET (#10)
27	526-0049	4	†Washer, Flat - Brass (.200" ID x 7/16" OD x 1/32" Thk)
28	870-0010	8	†Nut, Hex - Brass (#10-32)
29	214-0095	4	†Brush, Commutator (DC)
30	214-0096	8	†Brush, Collector Ring (AC)
31	212-1232	12	†Spring, Brush
32	815-0359	15	Screw, Cap - Hex Head - Locking (#10-32 x 7/8")
33	402-0475	2	Support, Generator
36	205-0090	1	Fan, Cooling
37	850-0055	1	Washer, Lock - Spring (7/16")
38	870-0203	1	Nut, hex (7/16-20)
39	232-2107	1	Cover, Generator
40	850-0040	2	Washer, Lock - Spring (1/4")
41	812-0156	2	Screw, Machine - Round Head (1/4-20 x 1-1/2")
42	234-0362	1	Wrapper, Generator
43	338-0948	1	Harness, Wiring
44	516-0196	4	Pin, Alignment
45	†BLOCK, GENERATOR BRUSH		
	212-0359	2	Top and Left Side
	212-0360	2	Bottom and Right Side

\* - Parts Included in Armature Assembly

† - Parts included in Generator Brush Blocks

# CONTROL



SC-1363

B10

# CONTROL

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	301-4446	1	Box, Control
2	301-4442	1	Panel, Control
3	301-4894	1	Cover, Control (Includes AC Schematic)
4	301-4441	1	Plate, Control
6	815-0350	1	Screw, Tapping - Slotted HWH (#10-32 x 3/8")
7	518-0056	1	Screw, Wing (#10-32 x 1/2")
8	307-1617	1	Relay, Start Solenoid
9	821-0009	2	Screw, Cap - HWH (1/4-20 x 3/8")
10	307-1575	2	°Relay, Ignition (Crank Ignition and Run Ignition)
11	821-0004	2	Screw, Cap - HWH (#10-32 x 5/16")
12	870-0131	2	Nut, Hex with Et (#10-32)
13	308-0383	1	Switch, Start-Stop
14	321-0175	2	Holder, Fuse
15	321-0174	2	Fuse (5 Ampere)
16	508-0208	1	Bushing, Insulating - Nylon (3/4" Hole)
17	331-0088	1	Bushing, Insulated
18	508-0191	1	Bushing, Insulating - Nylon (7/8" Hole)
19	304-0580	1	Insulator, Resistor Mounting
20	352-0161	1	°Resistor (100 Ohm, 5 Watt)
21	812-0087	1	Screw, Machine - Round Head (#8-32 x 1-1/2")
22	870-0221	2	Nut, Hex with ET (#8-32)
23	821-0004	5	Screw, Cap - Hex Head (#10-32 x 5/16")
24	856-0003	2	Washer, Lock - EIT (#10)
25	332-0254	1	Block, Terminal (4 Place)
26	812-0066	2	Screw, Machine - Round Head (#6-32 x 3/4")
27	853-0003	2	Washer, Lock - ET (#6)
28	860-0005	2	Nut, Hex (#6-32)
29	821-0009	4	Screw, Cap - HWH (1/4-20 x 3/8")
30	338-1265	1	Harness, Wiring - Control (Includes Parts Marked °)
31	323-1088	3	Nut, Wire
32	517-0132	1	Plug, Hole
33	357-0030	1	°Rectifier, Diode
35	323-0440	1	°Housing, Connector Pin
36	323-0485	5	°Pin, Connector
37	320-0544	1	Breaker, circuit (30 Amp)
38	332-2099	1	Strip, Terminal Block Marker
39	508-0015	1	Washer, Fibre
40	815-0238	1	Screw, Machine - Round Head with ET (#8-32 x 7/16")
41	853-0005	1	Washer, Lock - ET (#8)
42	526-0048	1	Washer, Flat - Brass (11/64" ID x 3/8" OD x 1/32")
43	HARNES, WIRING - REMOTE (Includes Parts Marked %)		
	338-1082	1	6 Ft.
	338-1080	1	10 Ft. - Optional
	338-1081	1	30 Ft. - Optional
44	323-0400	1	%Housing, Connector Pin
45	323-0500	5	%Pin, connector

° - Parts Included in the 338-1265 Wiring Harness

% - Parts Included in the 338-1080, 338-1081, 338-1082 Wiring Harness



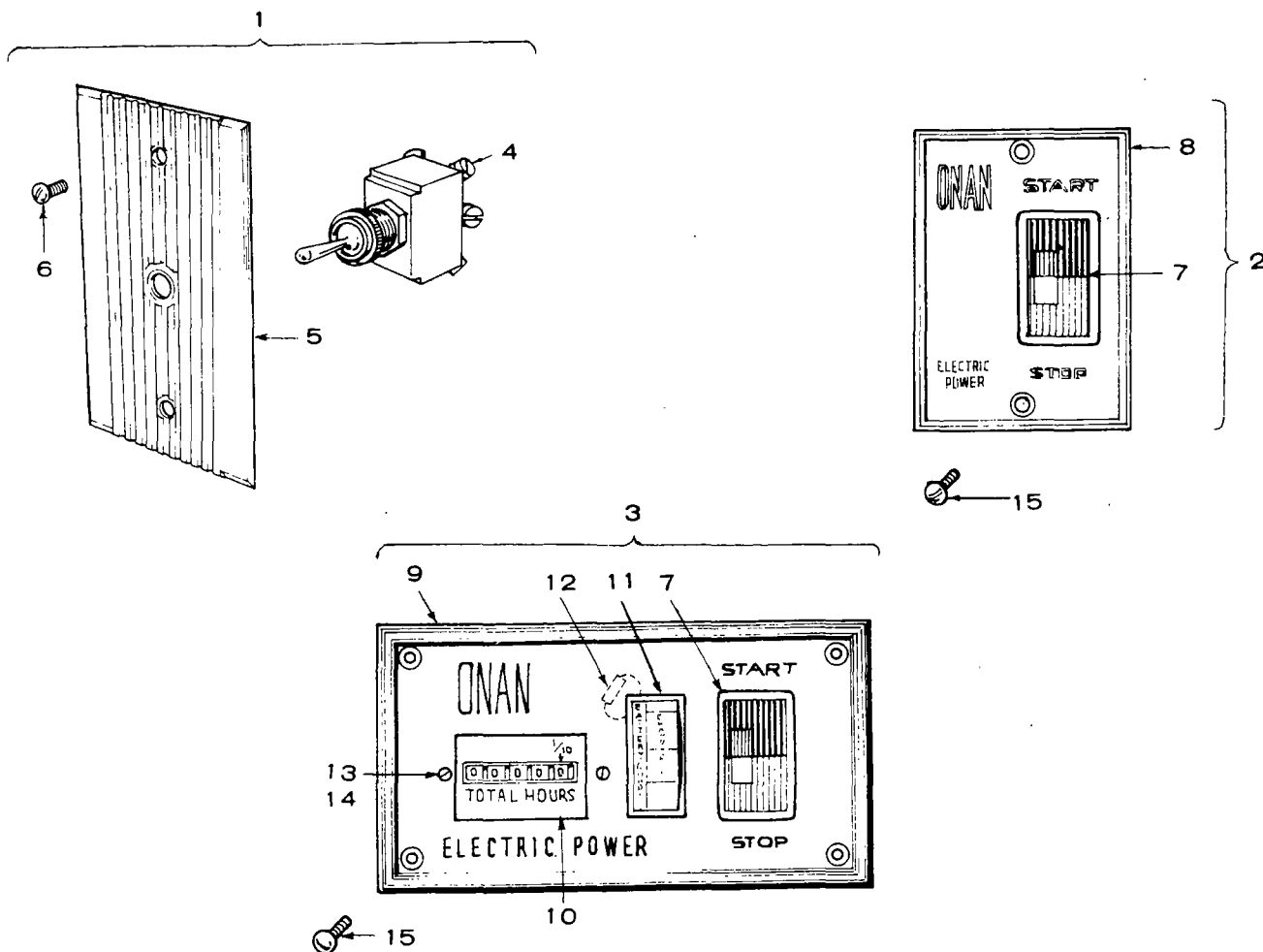
## SERVICE KITS & MISCELLANEOUS

PART NO.	QTY. USED	PART DESCRIPTION
168-0144	1	Gasket Kit, Carbon Removal/Valve Grind
168-0143	1	Gasket Kit, Overhaul
160-1311	1	Ignition Tune-up Kit
525-0305	1	Paint, Green (13 oz. Pressurized Can)
98-4877	1	Decal Kit

## **OPTIONAL PARTS SECTION**

**This section contains illustrated parts listing of factory installed options for these Generator Sets. Options may not be applicable to all models; for field conversions additional parts are usually required. Optional parts listed in this section are in addition or in place of those shown in the standard engine parts section.**

## REMOTE STARTING CONTROL - OPTIONAL



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
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**NOTE:** This group consists of three types of Control Packages.  
Use applicable control package when ordering components.

1	308-0165	1	Control Package, Remote Starting (Includes Parts Marked *)
2	300-0985	1	Control Package, Remote Starting (Includes Parts Marked Δ)
3	300-0986	1	Control Package, Remote Starting - Deluxe (Includes Parts Marked †)
4	308-0154	1	*Switch, Toggle (SPDT)
5	308-0168	1	*Plate, Mounting
6	815-0385	2	*Screw, Machine - Round Head (#6-32 x 1/2")
7	308-0341	1	Δ†Switch, Rocker with Light
8	301-3566	1	ΔPanel, Control
9	301-3606	1	†Panel, Control
10	302-0885	1	†Meter, Time Totalizing
11	302-0888	1	†Meter, Battery Condition
12	359-0034	1	†Diode and Lead
13	815-0385	2	†Screw, Machine - Round Head (#6-32 x 1/2")
14	860-0005	2	†Nut, Hex (#6-32)
15	815-0380	2	Screw, Tapping (#5 x 1/2")

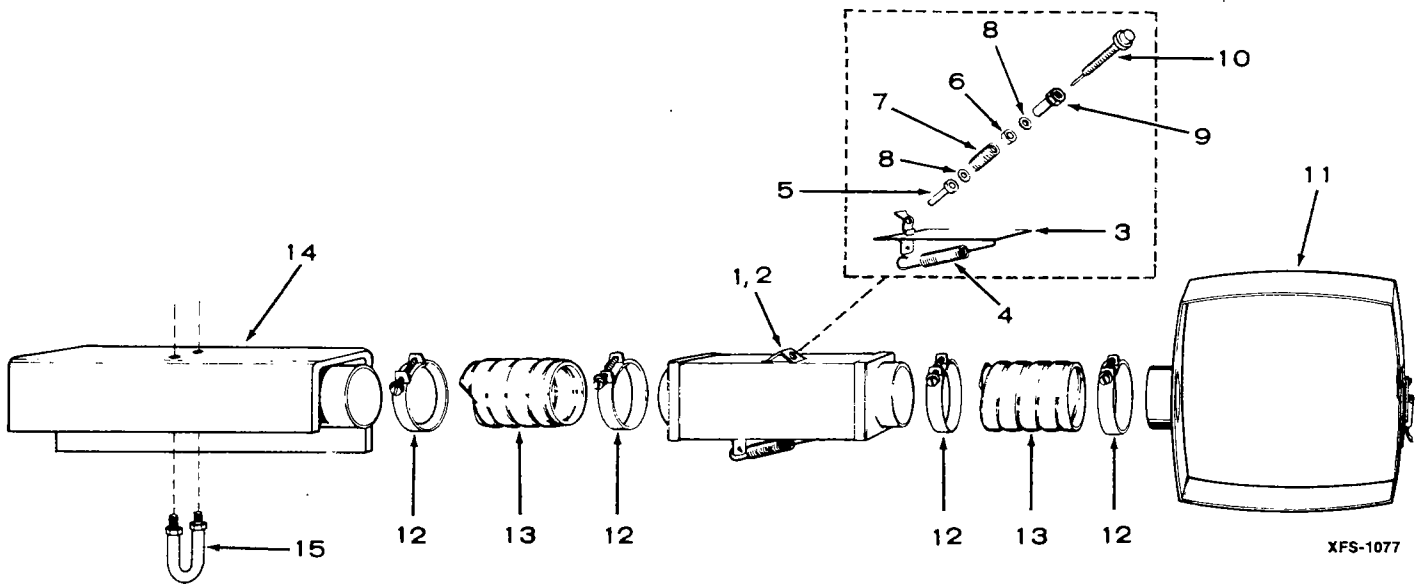
\* - Parts Included in 308-0165 Control Package.

Δ - Parts Included in 300-0985 Control Package.

† - Parts Included in 300-0986 Deluxe Control Package.

ES-1381

# **CARBURETOR AIR PREHEATER — OPTIONAL**

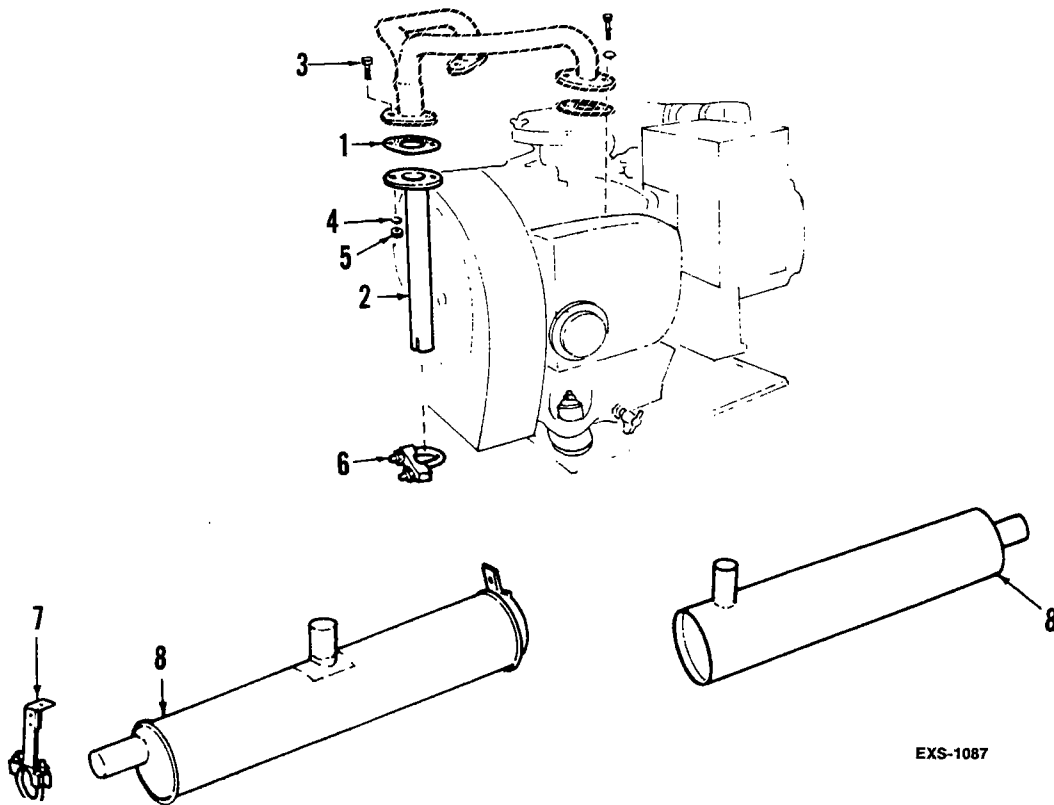


XFS-1077

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	140-1743	1	Control, Air Temperature (Includes Parts Marked *)
2	140-0785	1	*Housing, Control
3	140-0782	1	*Shutter
4	140-0786	1	*Spring, Shutter Return
5	140-0784	1	*Plunger
6	140-0808	1	*Spacer, Vernatherm
7	140-0787	1	*Spring, Vernatherm
8	518-0205	2	*Ring, Retaining
9	870-0195	1	*Nut, Retaining
10	309-0181	1	*Vernatherm
11	140-1742	1	Wrapper, Air Cleaner
12	503-0311	3	Clamp, Hose
13	503-1056	2	Hose, Duct
14	140-1733	1	Bracket and Tube, Air Duct
15	140-1737	1	U-Bolt, Air Duct Bracket

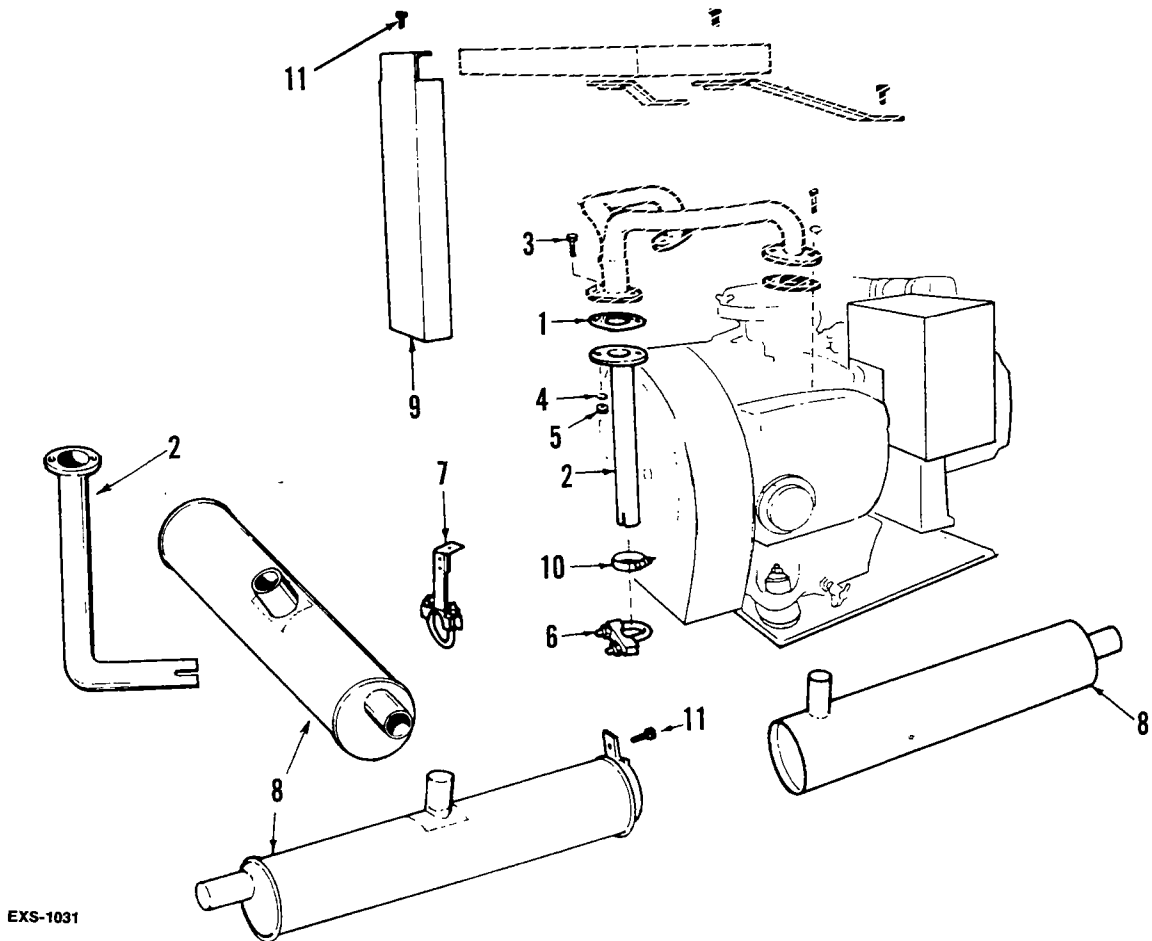
\* - Parts included in 140-0788 Air Temperature Control.

**EXHAUST SYSTEM — OPTIONAL  
(NON-UL LISTED AND CSA CERTIFIED)**



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	154-2061	1	Gasket, Exhaust
2	TUBE, EXHAUST		
	154-2167	1	15-1/2" long
	154-2143	1	12-1/2" long
3	800-0030	2	Screw, Cap - Hex Head (5/16-18 x 1-1/4" lg)
4	850-0045	2	Washer, Lock - Spring (5/16")
5	862-0015	2	Nut, hex (5/16-18)
6	155-1239	1	Clamp, Muffler
7	155-1234	1	Bracket and Clamp, Muffler
8	MUFFLER, EXHAUST		
	155-1258	1	End Inlet
	155-1520	1	Center Inlet - Optional

# **EXHAUST SYSTEM — OPTIONAL (UL LIST AND CSA CERTIFIED)**



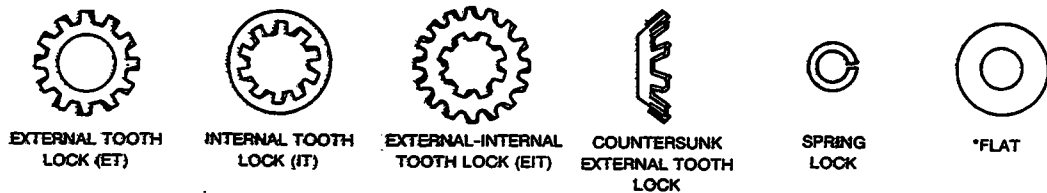
EXS-1031

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	154-2061	1	Gasket, Exhaust Tube
2	TUBE, EXHAUST		
	154-2167	1	15-1/2" Long (Straight)
	154-2143	1	12-1/2" Long (Straight)
	154-2226	2	90° Bend
3	800-0030	2	Screw, Cap - Hex Head (5/16-18 x 1-1/4" lg)
4	850-0045	2	Washer, Lock - Spring (5/16")
5	862-0015	2	Nut, Hex (5/16-18)
6	155-1239	1	Clamp, Muffler
7	155-1234	1	Bracket and Clamp, Muffler
8	MUFFLER, EXHAUST		
	155-1258	1	End Inlet
	155-1520	1	Center Inlet (Used with Straight Exhaust Tube)
	155-1910	1	Center Inlet (Used with 90° Bend Exhaust Tube)
9	154-2146	1	Shield, Heat
10	503-0107	1	Clamp, Shield to Exhaust Tube
11	821-0010	2	Screw, Cap - Locking Head (1/4-20 x 1/2")

# HARDWARE IDENTIFICATION

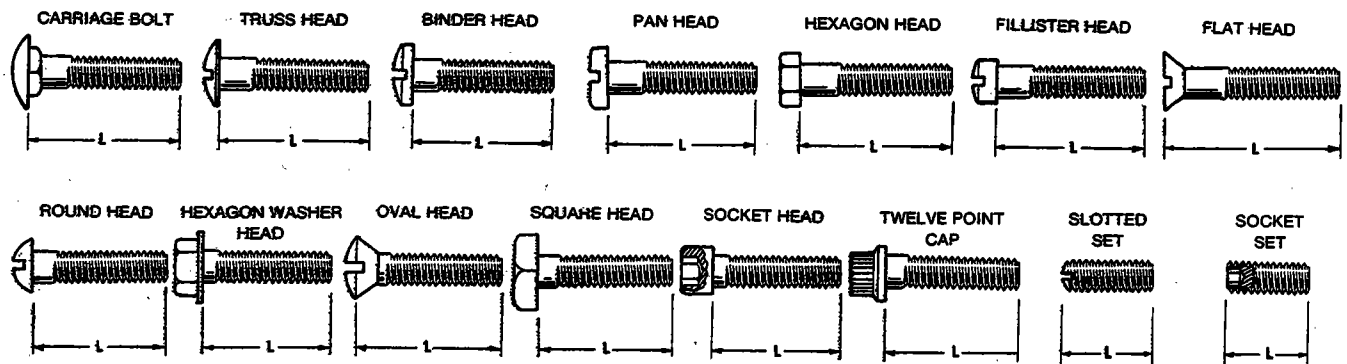
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

## WASHER TYPES



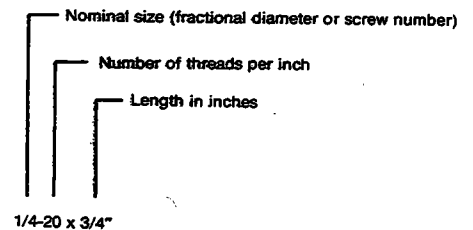
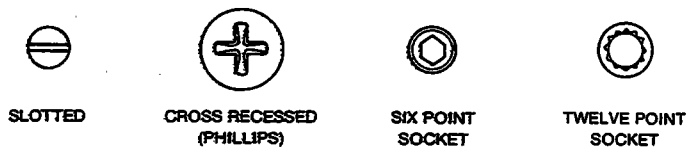
\* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

## BOLT AND SCREW TYPES



L - Measure length between these points.

### INTERNAL DRIVE TYPES



## NUT TYPES





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