

**OPERATING  
INSTRUCTIONS  
AND  
PARTS LIST**

**XP**  
EXTENDED PERFORMANCE

**ALTERNATOR**

CHANGED OIL & PURALATOR PER 2 S  
OIL FILTER & CLEANED SPARK PLUG  
AT 388.7 on HOUR METER 26 APR 80

MODEL 6246-2

**GENERAC**

BOX 8 • WAUKESHA, WISCONSIN 53186

(414) 968-3101 • TELEX 26-9402

# MODEL 6246-2 4000 WATT

## XP WARRANTY

For a period of one year from the date of original purchase, Generac warrants that its alternator will be free from defects in material and workmanship under normal use and service.

Generac's obligation under this warranty is limited to repair or replacement (at its option) at its factory or authorized warranty service station, of any part which examination discloses, to Generac's satisfaction, to be defective within said one year period and does not apply if the alternator or engine, or any part thereof has been subjected to misuse, negligence, accident, overloading, overspeeding, improper maintenance, repair or storage so as, in Generac's judgment, to affect adversely its performance and reliability. This warranty does not apply to normal maintenance or service.

If any repair or replacement is made in the field by any authorized Generac service station within one year of original purchase, Generac will allow full credit upon all parts returned to it within said period which are found by it to be defective under this warranty.

**GENERAC**

Box 8, Waukesha, Wisconsin 53186

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## SPECIFICATIONS — 6246-2 — 4000 WATT

**ALTERNATOR** — 4000 WATT, Electric Start

**TYPE:** Revolving field four pole, single phase, 115/230 volt, 60 cycle.

**ELECTRICAL:** 115 volts AC at 34.8 amps.  
230 volts AC at 17.4 amps.

**DC (Battery Charging)** 12 volts DC at 10 amps.

**VOLTAGE REGULATION** — Exclusive Rectifier  
Reactor Control  $\pm 5\%$ .

**ROTOR** — Laminated electrical steel pressed on shaft, sintered brass collection rings. Windings are precision semi-automatic wound.

**STATOR** — Laminated electrical steel pressed into steel stator band. Precision wound, automatic tied coils, pressed end returns.

**NO HEAT BUILD-UP:** No hot exhaust pipe in compartment. The entire engine is enclosed within a metal housing. A large centrifugal blower draws air into this compartment. It washes over the engine's cooling fins and disperses heat and accumulated fumes away from the vehicle.

**NO FLAMES:** There is no DC commutator to cause arcing and sparking, as with ordinary generators.

**NO FUMES OR RAW FUEL:** The fuel pump is located outside the chamber. Carburetor is sealed and leakproof. The vented compartment prevents accumulation of gasoline fumes.

**QUIET OPERATION:** The muffler exhaust is discharged horizontally away from the vehicle to eliminate bounce-back off the ground.

**AIR INTAKE SILENCER:** A second source of noise which is always present, but usually drowned out by a less efficient muffler system, is the air intake noise. The pulsating sound was eliminated by the design and use of a sound-deadened, dual chamber, air intake silencing system.

**SMOOTH OPERATION:** The transmission of vibration from the XP to the vehicle is held at an absolute minimum. Special design and production methods have been incorporated such as, balancing all moving parts and operating the engine with the piston in a horizontal plane instead of a vertical plane. The XP uses a tuned elastometer suspension system to further eliminate possible vibration transmission.

**ENGINE:** 12 HP, 4 cycle, L head, single cylinder,  $3\frac{1}{2}$ " bore, 2-7/8" stroke, 27.66 cu. in. displacement. Cast iron block.

**COOLING:** Pressure air cooled.

**GOVERNOR:** Mechanical type preset (precision)

**IGNITION:** Solid state (breakerless)

**STARTING:** Electrical

**OIL SYSTEM:**  $3\frac{1}{2}$  quarts with low oil pressure shut-off. Oil Filter, oil cooling fan and heat exchanger.

**BEARINGS:** Mains are tapered roller.

**FUEL SYSTEM:** Remote fuel pump, automatic choke.

**ADDITIONAL FEATURES:** Cam ground piston, stellite exhaust valve and seat, valve rotators, chrome plated compression rings, over-sized air cleaner, automatic compression release, built-in thermostat, ram charge carburetion system.

## SECTION ONE

### 1.0 GENERAL DESIGN

#### 1.1 ENGINE

The engine used in the unit is a 12. H.P., four cycle type in which each of the four operations of suction, compression, expansion and exhaust constitutes a complete stroke; thus producing one power stroke for each two revolutions of the crankshaft.

#### 1.2 ALTERNATOR

The alternator is rated as a single phase, revolving field, four pole, 115/230 volt, 60 cycles AC unit with  $\pm 5\%$  voltage regulation.

#### 1.3 COMPRESSION RELEASE

A component part of the crankshaft that operates automatically and trouble free. Permits fast and effortless starting with no dangerous "kick-back".

#### 1.4 COOLING

Cooling is accomplished by a flow of air circulated past the cylinder walls and head fins from a combination fan-fly-wheel encased in a sheet metal shroud. The air is divided and directed by ducts and baffle plates to insure uniform cooling of all parts.

**Never operate an engine with any part of the shrouding removed, this will retard air cooling.**

**Keep the cylinder and head fins free from dirt and chaff. Improper circulation of cooling air will cause engine to overheat.**

#### 1.5 CARBURETOR

The proper combustible mixture of gasoline and air is furnished by a balanced carburetor, giving correct fuel to air ratios for all speeds and loads.

#### 1.6 GOVERNOR

A governor controls the engine speed by varying the throttle opening to suit the load imposed upon the engine.

#### 1.7 IGNITION

A solid state, breakerless ignition is standard equipment. No timing adjustment or breaker point setting is necessary. The high tension spark, induced by an ignition coil, is electronically controlled by solid state components molded into a stator plate at fly-wheel end bearing plate of engine.

### 1.8 LUBRICATION

Before starting a new engine, fill crankcase sump with the correct grade of engine oil, as specified in oil chart,

#### OIL CHART

| Temperature   | Regular oil<br>Viscosity Grade | Multi-<br>Viscosity Grade |
|---------------|--------------------------------|---------------------------|
| 32°F & up     | SAE-30                         | SAE-20W-40                |
| 10°F to 32°F  | SAE-20W                        | SAE-10W-30                |
| -10°F to 10°F | SAE-10W                        | SAE-10W-30                |
| Below -10°F   | - - -                          | SAE-SW-20                 |

\*MS Sequence tested  
oils (SC or SD)

**WARNING:** Do not remove the dip stick while unit is in operation. The dip stick is under pressure with the unit on.

The oil level is indicated by the word FULL and a groove or mark on the dip stick.

Too much emphasis cannot be given to the matter of oil selection. Use only high-grade, highly refined oils corresponding in body to the S.A.E. (Society of Automotive Engineers) Viscosity Numbers listed in the oil chart and meeting the requirements of the American Petroleum Institute for service class MS.

**IMPORTANT:** S.A.E. Viscosity Numbers classify oils in terms of body only, without consideration of quality.

#### GRADE OF OIL

Use a good grade of oil which is classified as service MS. Refer to oil chart above.

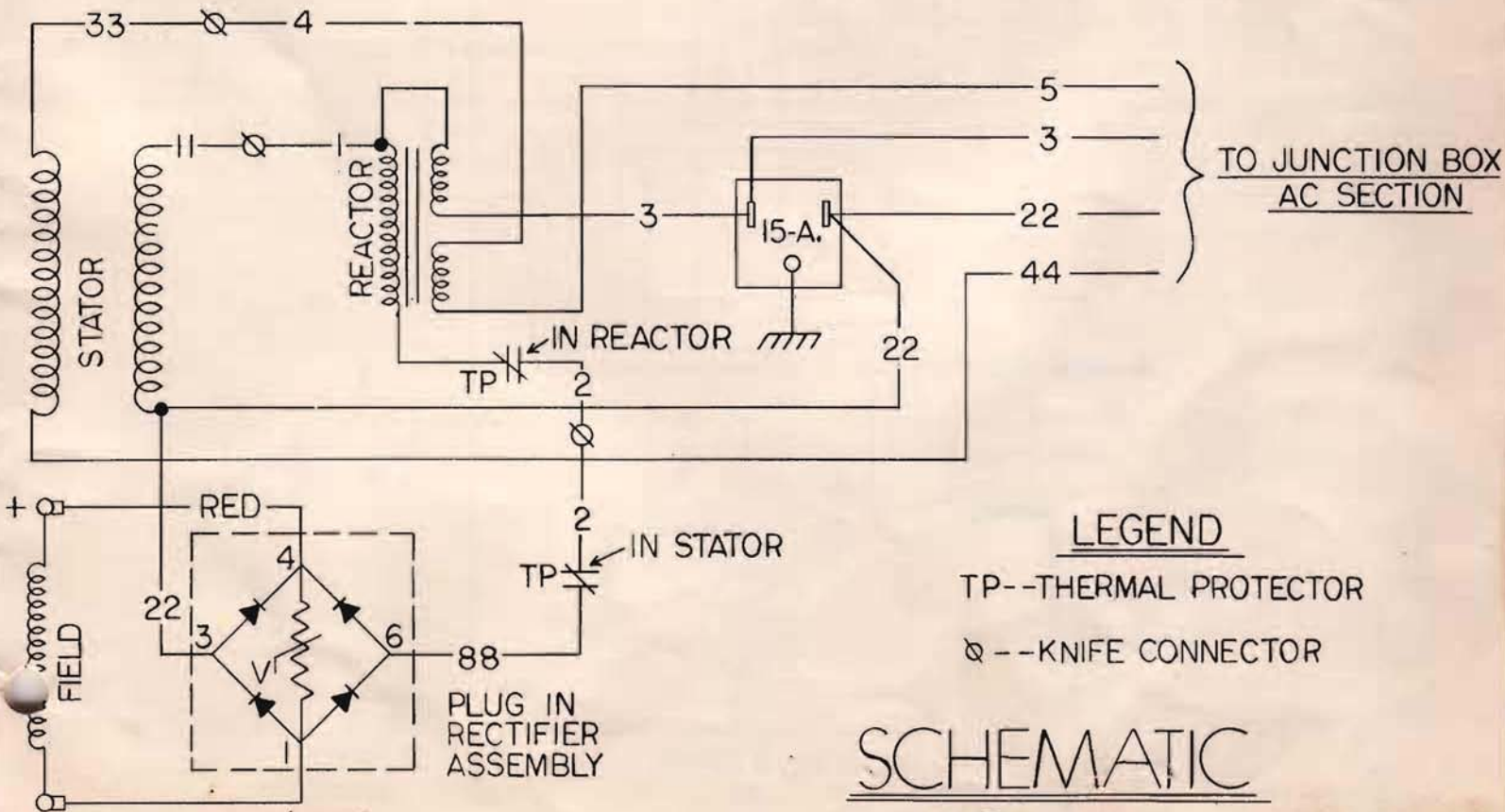
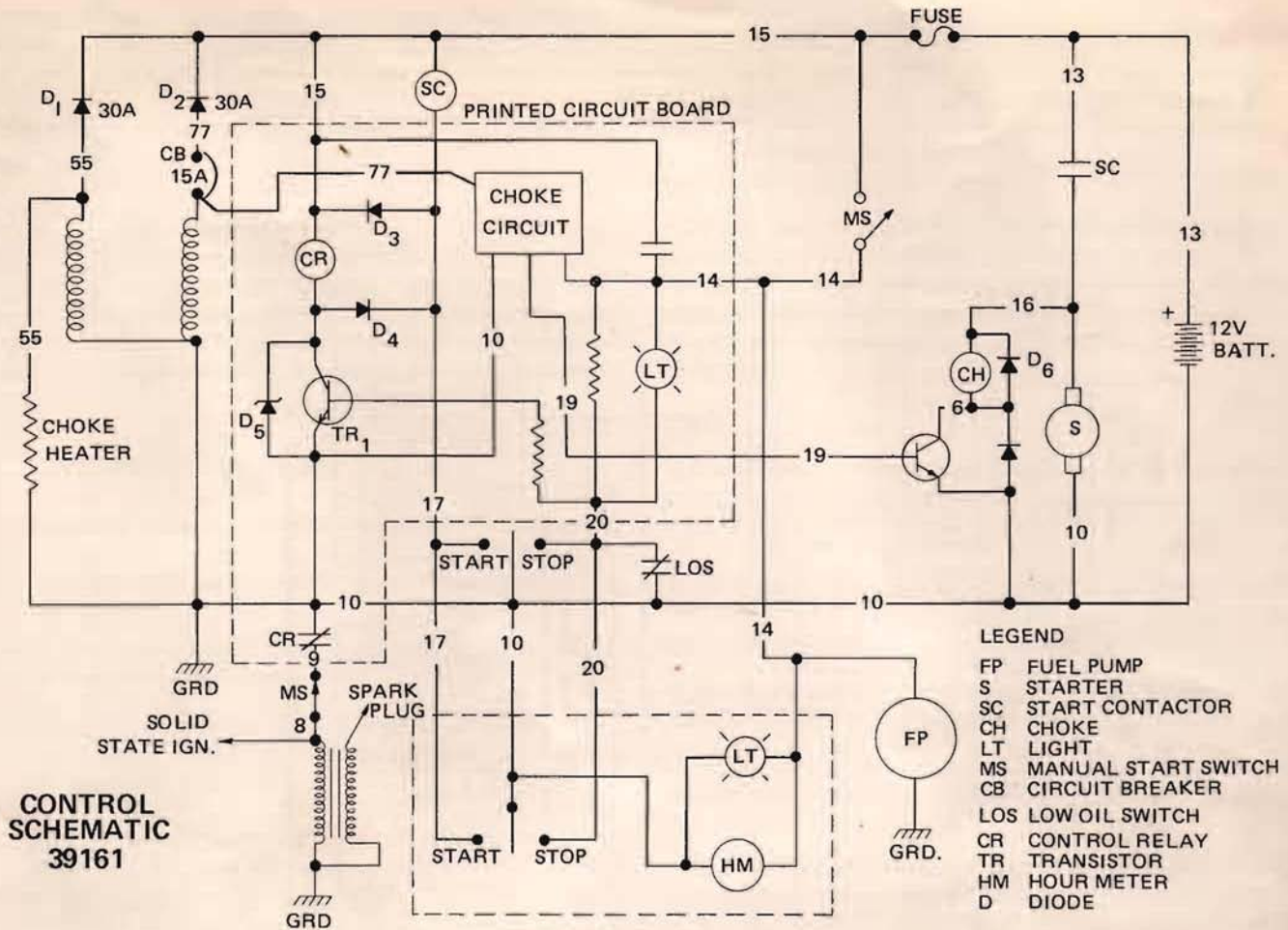
Check oil level every 10 hours and change oil every 150 hours of operation.

The crankcase capacity is 3½ quarts.

### 1.9 FUEL

The fuel pump is mounted separately from unit. Annealed copper or seamless steel tubing should be used with flared connections. Some of the poorer grades of gasoline contain gum which will deposit on valve stems, piston rings, and in the various small passages of the carburetor, causing trouble in operating, and in fact might prevent the engine from operating at all.

Use only reputable, well known brands of gasoline of the regular or low lead grade which have an octane rating of at least 91.





## 1.10 AIR CLEANER

Operating the engine under dusty conditions without servicing the air cleaner may wear out cylinder, piston, rings and bearings in a few days time, and result in costly repairs.

Refer to instructions on filter element for cleaning instructions.

## 1.11 SPARK PLUG

Spark plugs should be removed periodically, cleaned and re-gapped. The width of gap between the points of the two electrodes must be very carefully and precisely set, because incorrect settings will have an adverse affect on engine operation. Check spark plug gap with a wire type gauge and regap.

Spark plug gap – 0.030 of an inch

Use a new spark plug at the beginning of the next season. Replacement plug must be of the correct heat range, like Champion No. XD-16J (resistor) or equal. Thread size is 18mm. Tighten spark plug 28 to 30 foot pounds torque.

## 1.12 PROTECTION

A 30 amp fuse and a 20 amp automatic reset circuit breaker protecting the battery circuit from excessive current flow due to a short or component failure. There are thermal protectors embeded in the stator and the reactor which activate when overheated opening the circuit before it can be damaged.

## SECTION TWO

### 2.0 STARTING AND STOPPING

- 2.1 Check the oil level, adding oil if required.
- 2.2 Place the choke heater switch in desired position summer, winter.
- 2.3 Hold toggle switch in the start position for a short period. (same as starting car).
- 2.4 Release the starter switch after engine starts. After the engine starts, allow it to warm up a few minutes before applying load.
- 2.5 To stop the unit, depress the start-stop toggle switch to STOP. If the engine has been running hard and is hot, do not stop it abruptly from full load. Remove the load first and allow engine to run for a few minutes.

### 2.6 MANUAL START-UP

**NOTE:** Read all instructions before attempting manual start.

In the event that the unit battery becomes discharged, the XP may be manually started.

- a. Check battery. Water level should be to the top of the plates. All electrical connections between the XP and battery must be clean, tight and free of corrosion.
- b. Do not disconnect the battery from the XP. The unit will not run without it and as soon as the unit is running, it will charge the battery.
- c. Move manual choke lever fully to the left, (one-half inch travel). This action will prime the carburetor.
- d. Wind starter rope on pulley and pull sharply. Engine should start after three attempts. If engine fails to start, see step "h" below.
- e. Immediately adjust manual start lever one-fourth inch to the right to partial choke position.
- f. Allow XP unit to run for 5 minutes.
- g. Move manual start lever fully to the right for normal operation.
- h. If engine still does not start, follow normal troubleshooting procedures or contact a service representative.



## SECTION THREE

### SECTION 3 – GENERAL MAINTENANCE

This section covers minor maintenance and servicing procedures which should be performed to assure efficient operation of the XP unit. For major maintenance information or more detailed servicing procedure not covered here, contact the nearest Service Central or Service Station.

#### 3.1 CHECKING THE FUEL SUPPLY

Check the fuel supply to the XP unit. The XP unit fuel supply may be tapped into the vehicle fuel supply tank, or it may have its own separate supply tank.

The engine of the XP unit is designed to operate efficiently under normal circumstances on regular grade gasoline of at least 91 octane. However, low lead fuels containing at least 0.5 gm. lead, or the equivalent additive, per gallon, can be used.

Continuous use of gasoline which is completely free of lead, or other lubricating additives such as phosphorous is not recommended. Prolonged use of such fuel can cause excessive exhaust valve seat wear, resulting in poor performance and possible engine failure.

Note: Always use gasoline that is known to be fresh and clean.

#### 3.2 CHECKING THE OIL LEVEL AND CHANGING THE OIL

Note: The oil sump system in the XP unit operates under pressure. Because of this, the oil dip stick should not be removed until this pressure is relieved. After the pressure has been relieved, the dip stick is removed by unscrewing from its center post and pulling out.

The best time to check the oil level is before operating the unit or as the last step in a fueling. This will allow the oil accumulated in the engine to drain back into the sump.

When checking the oil level, the dip stick must be unscrewed, withdrawn and wiped clean; then, inserted all the way and again withdrawn for a true reading.

Caution: Never fill the sump so that the oil is above the line labeled FULL or possible engine damage may result.

The recommended oil grades for expected temperature ranges are given below.

#### OIL CHART

| Temperature   | Regular oil<br>Viscosity Grade | Multi-<br>Viscosity Grade |
|---------------|--------------------------------|---------------------------|
| 32°F & up     | SAE-30                         | SAE-20W-40                |
| 10°F to 32°F  | SAE-20W                        | SAE-10W-30                |
| -10°F to 10°F | SAE-10W                        | SAE-10W-30                |
| Below -10°F   | ---                            | SAE-SW-20                 |

\*MS Sequence tested  
oils (SC or SD)

#### 3.3 CHECKING AND CLEANING THE AIR CLEANER

The unit uses a dry type air cleaner which requires no oil reservoir. The cleaner utilized a special paper element which is sealed at the outlet end so that all air drawn into the engine must enter through the element. Because of this, the connect between the filter and engine must be kept air tight to prevent entry of dirt laden air.

Clean element by tapping lightly to remove dirt. After cleaning, inspect for ruptures, excessive pin holes, or damage. Replace if necessary.

#### 3.4 CHECKING THE SPARK PLUG

To maintain efficient engine performance, the spark plug should be checked, cleaned, and regapped every 100 operating hours of the XP unit.

To change the spark plug gap, the outer electrode should be bent, never attempt to bend the center electrode. Be accurate – use a feeler gauge (.030 inch wire) to check the electrode gap. Check the gap when installing new spark plugs, also.

When replacing spark plug, torque the plug 28 to 30 ft. lbs.

#### 3.5 OIL FILTER CHANGING

When the oil filter is not changed at the proper interval, it clogs up and ceases to function.

The procedure for servicing the oil filter is as follows:

- a. Drain oil from sump. It is important to change the oil along with the filter at this time.
- b. Remove the filter by turning counterclockwise either by hand (if possible) or using an oil filter wrench.
- c. Clean filter mounting surface on XP unit.
- d. Coat the gasket on the new filter with a film of grease.
- e. Place the new filter in position and screw on, hand tightening ½ to ¾ of a turn after gasket first contacts base of mounting surface.
- f. Add new oil to oil sump.
- g. Start engine and run for at least five minutes to warm and circulate oil through the system. Check for leaks.
- h. Stop engine and allow oil accumulation in the engine to drain back into sump. Recheck oil level and add as required to reach mark on dip stick.

### 3.6 CHANGING FUEL FILTER

The filter is in the fuel pump. It can be serviced, if necessary, by removing end of fuel pump, withdrawing filter and replacing.

### 3.7 CHECK BATTERY

The XP unit may utilize the vehicle battery or it may have its own separate battery. In either case, the following applies.

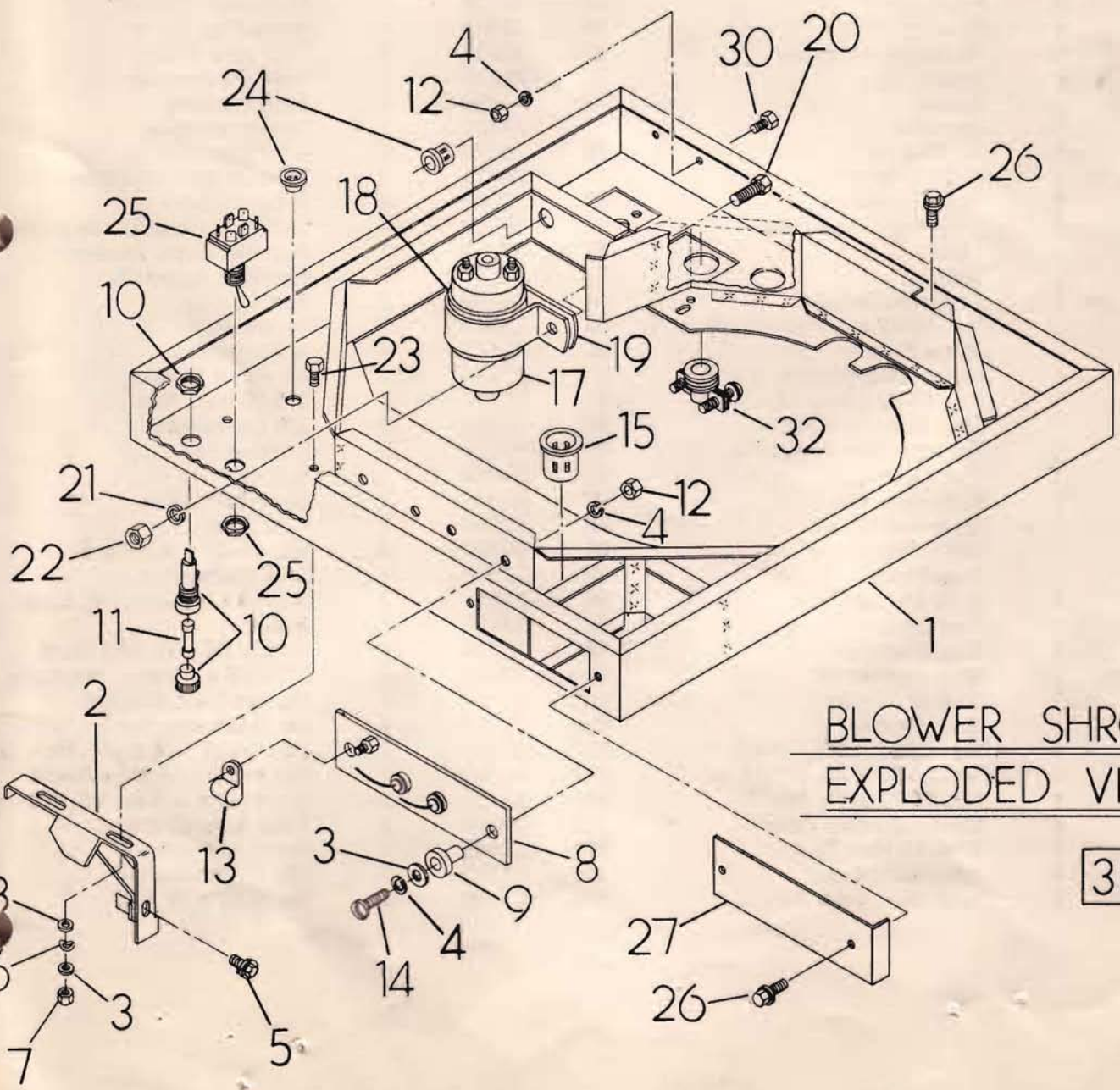
Check the solution level at least every 15 days during hot weather and 30 days in cold weather. When the solution is low, add distilled water only.

**Specific gravity test:** Test the specific gravity of the electrolyte in each cell with a hydrometer. A reading of 1.260 at 80°F indicates a full charge. A reading below 1.225 indicates a half charge. A discharged battery will freeze at 20°F above zero; a fully charged battery will withstand temperatures as low as 80°F below zero.

Battery cable terminals must be clean and tight. Hot water and common baking soda should be used to remove terminal corrosion.

**Caution:** Hydrogen gas is produced in normal battery operation. Therefore, to prevent a fire or explosion, flames or sparks must be kept away from the vent openings of the battery. Avoid shorting (flashing) across the battery terminals.

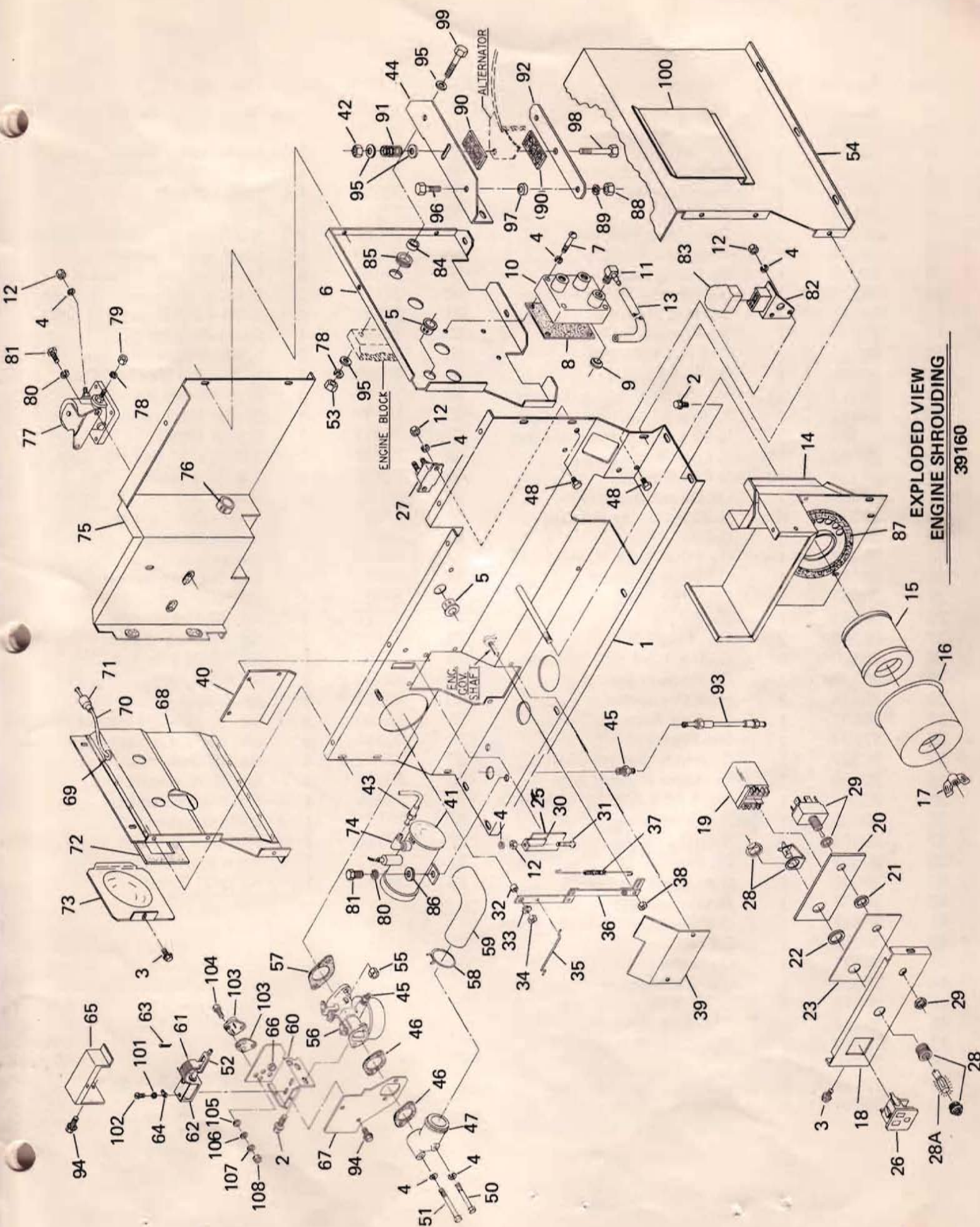
| Item | Part No. | Req'd  | Description                          |
|------|----------|--------|--------------------------------------|
| 1    | 38071    | 1      | Shroud Assembly                      |
| 2    | 38072    | 1      | Choke Assembly                       |
| 3    | 23897    | 7      | No. 10 Flatwasher                    |
| 4    | 22152    | 7      | No. 10 Lockwasher                    |
| 5    | 38059    | 1      | No. 10-32 x 1/4 Whiz Screw           |
| 6    | 30603    | 2      | Spring Washer                        |
| 7    | 24237    | 2      | No. 10-32 Lokut Hex. Nut             |
| 8    | 38132    | 1      | Rectifier Assembly                   |
| 9    | 26870    | 2      | Well Nut                             |
| 10   | 32300    | 1      | Fuse Holder                          |
| 11   | 22668    | 1      | Fuse AGC-30                          |
| 12   | 22158    | 5      | No. 10-32 Hex. Nut                   |
| 13   | 31667    | 1      | 1/4 Clamp                            |
| 14   | 22390    | 2      | No. 10-32 x 1" Rd. Hd. Machine Screw |
| 15   | 23484-D  | 1      | Snap Bushing                         |
| 17   | 30305    | 1      | Ignition Coil                        |
| 18   | 30391    | 1      | Coil Bracket Spacer                  |
| 19   | 30528    | 1      | Coil Bracket                         |
| 20   | 22142    | 1      | 5/16-18 x 3/4 Lg.HHCS                |
| 21   | 22129    | 1      | 5/16 Lockwasher                      |
| 22   | 22259    | 1      | 5/16-18 Hex Nut                      |
| 23   | 33121    | 2      | N0.10-32 x 1/2 Lg.Hex Hd.Mch.Sc.     |
| 24   | 23484-C  | 3      | Snap Bushing                         |
| 25   | 38074    | 1      | Switch                               |
| 26   | 38045    | 18     | No.10-32 x 3/8 Lg.Whiz Sc.           |
| 27   | 37457    | 1      | Cover Plate                          |
| 28   | 25615    | 2      | 90° Box Connector                    |
| 30   | 33120    | 2      | No.10-32 x 3/8 Lg.Hex Hd.Mch.Sc.     |
| 32   | 22206    | 1      | 3/8 Straight Connector               |
| 33   | 29289    | 12 Ft. | Foam Rubber Tape                     |
| 34   | 37448    | 1      | Top Shroud                           |



BLOWER SHROUD  
EXPLODED VIEW

38177

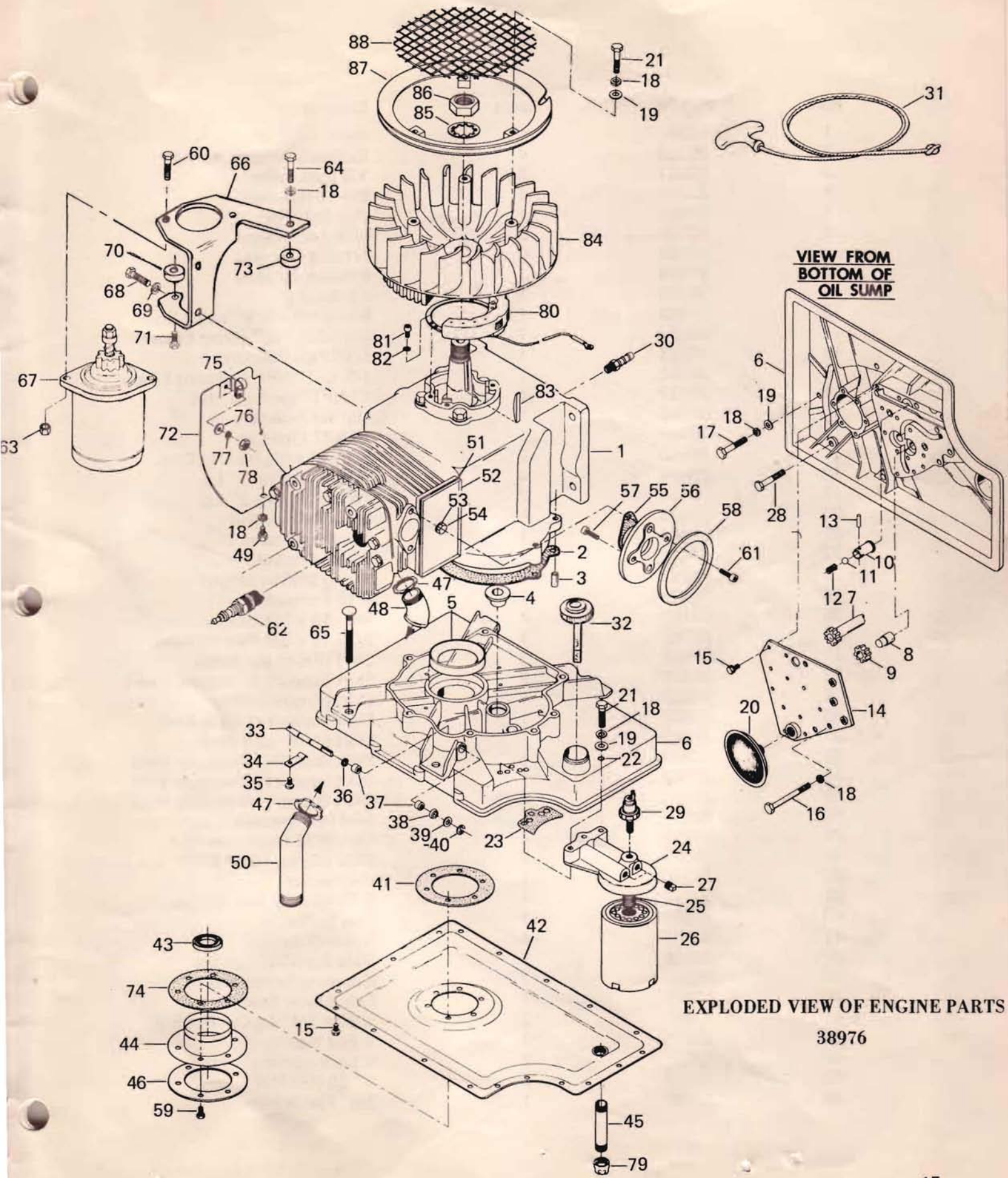
| Item | Part No. | Req'd | Description                        | Item | Part No. | Req'd | Description                      |
|------|----------|-------|------------------------------------|------|----------|-------|----------------------------------|
| 1    | 37899    | 1     | Front Cover Assembly               | 56   | 38044    | 1     | Carburetor                       |
| 2    | 24489    | 18    | No. 10-32 x 3/8 Taptite Sc.        | 57   | 36657    | 2     | Carb. Gasket                     |
| 3    | 38045    | 23    | No. 10-32 x 3/8 Whiz Sc.           | 58   | 36695    | 2     | Hose Clamp                       |
| 4    | 22152    | 13    | No. 10 Lockwasher                  | 59   | 37516    | 1     | Air Filter Hose                  |
| 5    | 23484-E  | 2     | Snap Bushing                       | 60   | 38005    | 1     | Choke Support                    |
| 6    | 38060    | 1     | Breather Cover                     | 61   | 39139    | 1     | Bi-Metal Assembly                |
| 7    | 23450    | 4     | No. 10-32 x 1 1/4 Rd. Hd. Mch. Sc. | 62   | 36542    | 1     | Solenoid                         |
| 8    | 35831    | 1     | Gasket                             | 63   | 36544    | 1     | Cotter Pin 3/32 x 1/2            |
| 9    | 27936    | 3     | Valve Fuel                         | 64   | 31924    | 2     | Solder Terminal                  |
| 10   | 35792    | 1     | Breather Box                       | 64   | 31879    | 4     | No. 4 Flatwasher                 |
| 11   | 28740    | 3     | Fuel Line Connector                | 65   | 38006    | 1     | Choke Cover                      |
| 12   | 22158    | 7     | No. 10-32 Hex. Nut                 | 66   | 23484-C  | 1     | Snap Bushing                     |
| 13   | 30340    | 2 Ft. | Breather Hose                      | 67   | 39138    | 1     | Choke Support Front              |
| 14   | 37528    | 1     | Air Duct Assembly                  | 68   | 37394    | 1     | Head Cover Assembly              |
| 15   | 37459    | 1     | Air Filter                         | 69   | 30486    | 1     | Grommet                          |
| 16   | 37515    | 1     | Air Filter Cover                   | 70   | 38238    | 1     | Spark Plug Wire                  |
| 17   | 37561    | 1     | Wing Nut                           | 71   | 30380    | 1     | Coil Nipple                      |
| 18   | 38085    | 1     | Front Panel                        | 72   | 36344    | 1     | Plug Cover Gasket                |
| 19   | 38076    | 1     | Relay                              | 73   | 37519    | 1     | Spark Plug Cover                 |
| 20   | 38942    | 1     | PC Board Assembly                  | 74   | 30613    | 1     | Fuel Line Elbow                  |
| 21   | 38088    | 1     | Spacer                             | 75   | 38215    | 1     | Rear Air Shroud                  |
| 22   | 38087    | 1     | Spacer                             | 76   | 23484-D  | 1     | Snap Bushing                     |
| 23   | 38944    | 1     | Insulator                          | 77   | 24492    | 1     | Starter Solenoid                 |
| 25   | 37708    | 1     | Air Blocker                        | 78   | 22129    | 4     | 5/16 Lockwasher                  |
| 26   | 22693    | 1     | 115V Outlet                        | 79   | 24114    | 2     | 5/16-24 Hex. Nut Base            |
| 27   | 38077    | 1     | Circuit Breaker                    | 80   | 22097    | 4     | 1/4 Lockwasher                   |
| 28   | 22662    | 1     | Pilot Light Assembly               | 81   | 22507    | 4     | 1/4-20 x 1/2 Hex. Hd. Cpse.      |
| 28A  | 30193    | 1     | Light                              | 82   | 38063    | 1     | Rectifier Supt. Assembly         |
| 29   | 37584    | 1     | Switch                             | 83   | B-22695  | 1     | Rectifier Assembly               |
| 30   | 37582    | 1     | Governor Adjustor                  | 84   | 38058    | 2     | Spacer                           |
| 31   | 34413    | 1     | No. 10-32 x 1/4 Hex. Hd. Mch. Sc.  | 85   | 38057    | 2     | Grommet                          |
| 32   | 30672    | 1     | Nylon Spacer                       | 86   | 22473    | 4     | 1/4 Flatwasher                   |
| 33   | 30468    | 1     | Nylon Step Washer                  | 87   | 37518    | 1     | Air Filter Gasket                |
| 34   | 24237    | 1     | No. 10-32 Lokut Hex. Nut           | 88   | 22241    | 2     | 3/8-16 Hex. Nut                  |
| 35   | 30994    | 1     | Gov. Control Rod                   | 89   | 22237    | 2     | 3/8 Lockwasher                   |
| 36   | 37737    | 1     | Throttle Arm Assembly              | 90   | 33438    | 2     | Friction Pad                     |
| 37   | 37944    | 1     | Gov. Spring                        | 91   | 29459    | 1     | Spring                           |
| 38   | 30673    | 1     | 1/4-20 Hex. Nut                    | 92   | 36547    | 1     | Stabilizer Clamp                 |
| 39   | 37522    | 1     | Governor Cover                     | 93   | 37891    | 1     | Fuel Line                        |
| 40   | 37523    | 1     | Valve Box Cover                    | 94   | 38059    | 3     | No. 10-32 x 1/4 Whiz Sc.         |
| 41   | 37637    | 1     | Fuel Pump                          | 95   | 22145    | 6     | 5/16 Flatwasher                  |
| 42   | 27028    | 1     | 5/16-18 Lock Nut                   | 96   | 22511    | 2     | 3/8-16 x 1 1/4 Hex. Hd. Cpse.    |
| 43   | 37476    | 1     | Fuel Line                          | 97   | 33437    | 2     | Spacer                           |
| 44   | 36512    | 1     | Eng. Stabilizer                    | 98   | 23734    | 1     | 5/16 x 2 1/4 Hex. Hd. Cpse.      |
| 45   | 37479    | 2     | Male Connector                     | 99   | 22531    | 2     | 5/16-18 x 1 1/4 Hex. Hd. Cpse.   |
| 46   | 30388    | 2     | Gasket                             | 100  | 37795    | 1     | Manual Supt. Bracket             |
| 47   | 37512    | 1     | Garb Elbow                         | 101  | 22159    | 4     | No. 4 Lockwasher                 |
| 48   | 33120    | 4     | No. 10-32 x 3/8 HHMS               | 102  | 36598    | 4     | No. 4-40 x 1/4 Rd. Hd. Mch. Sc.  |
| 50   | 38154    | 1     | No. 10-32 x 2 1/4 HHMS             | 103  | 35220    | 1     | Transistor and Mica Washer       |
| 51   | 38153    | 1     | No. 10-32 x 1 1/2 HHMS             | 104  | 33134    | 2     | No. 6-32 x 1/2 Hex, Hd. Mch. Sc. |
| 52   | 35822    | 1     | Choke Control Lever                | 105  | 30089    | 2     | Fiber Step Washer                |
| 53   | 22259    | 2     | 5/16-18 Hex. Nut                   | 106  | 22985    | 1     | No. 6 Flatwasher                 |
| 54   | 38065    | 1     | Alternator Cover                   | 107  | 22155    | 2     | No. 6 Lockwasher                 |
| 55   | 27529    | 2     | 1/4-20 Hex. Lock Nut               | 108  | 22188    | 2     | No. 6-32 Hex. Nut                |



EXPLODED VIEW  
ENGINE SHROUDING

39160

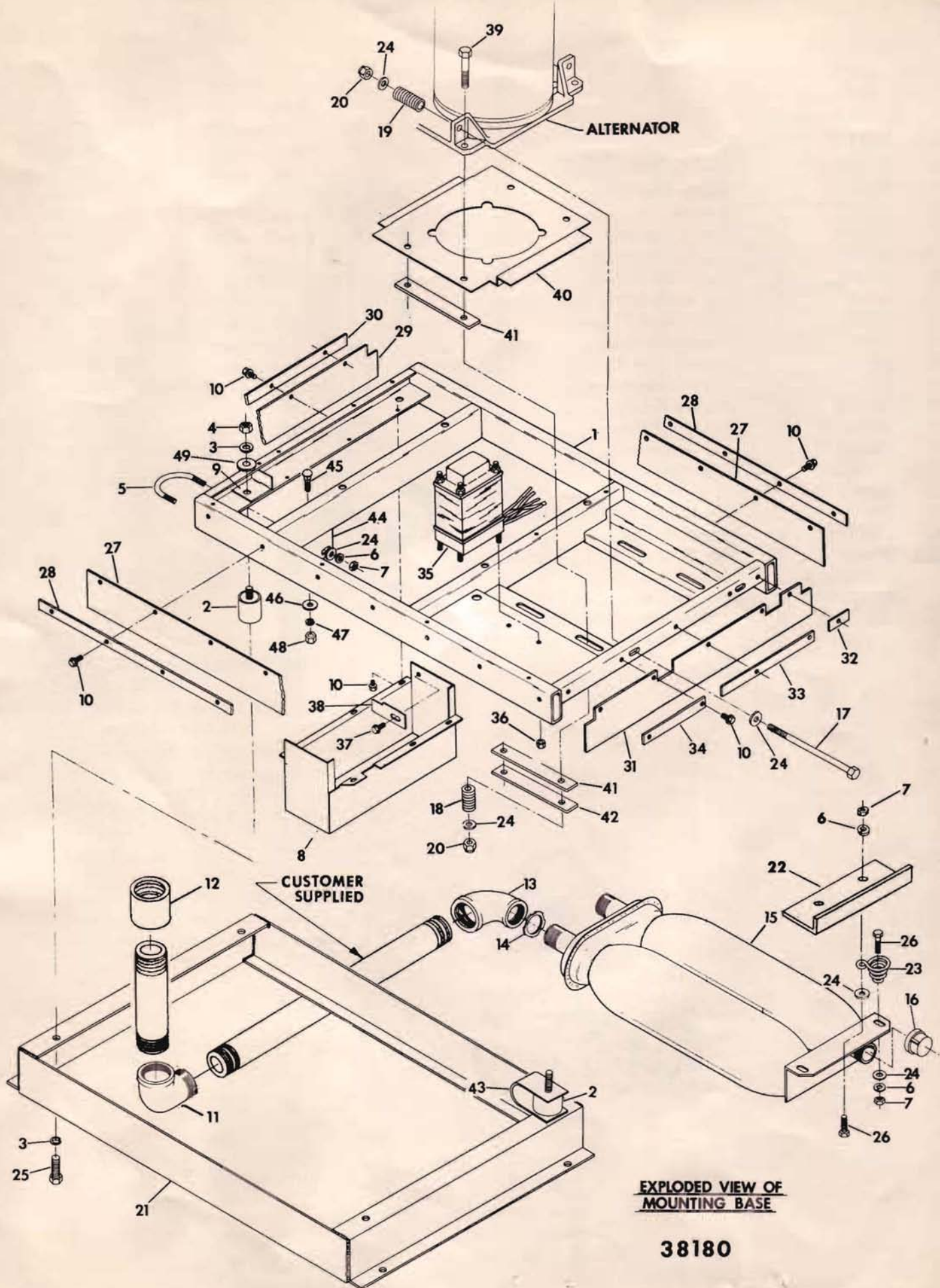
| Item | Part No. | Req'd | Description                  | Item | Part No. | Req'd | Description                     |
|------|----------|-------|------------------------------|------|----------|-------|---------------------------------|
| 1    | 36583    | 1     | Engine Assembly              | 51   | 30601    | 1     | Valve Cover Gasket              |
| 2    | 30542    | 1     | Gear Cover Gasket            | 52   | 30638    | 1     | Valve Cover                     |
| 3    | 30521    | 2     | Dowel Pin                    | 53   | 30939    | 1     | Valve Cover Washer              |
| 4    | 36681    | 1     | Bronze Cam Bearing           | 54   | 25966    | 1     | ¼-20 x 2½ Hex Hd.Cpsc.          |
| 5    | 30515    | 2     | Main Bearing Cup             | 55   | 36657    | 1     | Carb. Gasket                    |
| 6    | 34591    | 1     | Oil Sump                     | 56   | 37514    | 1     | Carb. Spacer                    |
| 7    | 35826    | 1     | Drive Gear Assembly          | 57   | 36656    | 2     | ¼-20 x 1" Lg. Socket Hd.Cpsc.   |
| 8    | 35824    | 1     | Idler Gear Shaft             | 58   | 36333    | 1     | Carb. Spacer Gasket             |
| 9    | 35825    | 1     | Oil Pump Gear                | 59   | 24679    | 6     | No. 10-32 x 3/4 Taptite         |
| 10   | 36572    | 1     | Oil Pressure Relief Fitting  | 60   | 22128    | 2     | 5/16-18 x 1¼ Hex Hd. Cpsc.      |
| 11   | 30513    | 1     | 3/8 Dia. Steel Ball          | 61   | 36781    | 2     | ¼-20 x 3/4 Socket Hd. Cpsc.     |
| 12   | 36584    | 1     | Oil Pressure Spring          | 62   | 36686    | 1     | Spark Plug XP-16 J              |
| 13   | 36576    | 1     | Roll Pin 1/8 x 5/8           | 63   | 27028    | 2     | 5/16-18 Lock Hex Nut            |
| 14   | 35146    | 1     | Oil Pump Cover               | 64   | 26983    | 1     | ¼-20 x 3/4 Hex Hd. Cpsc.        |
| 15   | 24413    | 29    | No. 10-32 x ½" Lg. Taptite   | 65   | 36575    | 4     | 5/16 Ribbed Bolt                |
| 16   | 36682    | 2     | ¼-20 x 3" Lg. Hex Hd.Cpsc.   | 66   | 38197    | 1     | Starter Mt. Bracket             |
| 17   | 32321    | 2     | ¼-20 x 3" Lg. Hex Hd.Cpsc.   | 67   | 34947    | 1     | Starter Motor                   |
| 18   | 22097    | 14    | ¼ Lock Washer                | 68   | 22238    | 2     | 3/8-16 x 1" Hex Hd. Cpsc.       |
| 19   | 22473    | 10    | ¼ Flat Washer                | 69   | 22237    | 2     | 3/8 Lock Washer                 |
| 20   | 36503    | 1     | Oil Screen Assembly          | 70   | 38196    | 1     | Spacer                          |
| 21   | 22537    | 6     | ¼-20 x 1½ Hex Hd.Cpsc.       | 71   | 24983    | 1     | ¼-20 x 3/4 Taptite              |
| 22   | 28715    | 3     | O-Ring                       | 72   | 30561    | 1     | Engine Shroud                   |
| 23   | 35156    | 1     | Oil Filter Supt. Gasket      | 73   | 38198    | 1     | Spacer                          |
| 24   | 37541    | 1     | Oil Filter Support           | 74   | 36783    | 1     | Seal Support Gasket             |
| 25   | 36567    | 1     | Oil Filter Stud              | 75   | 24408    | 1     | Clamp                           |
| 26   | 37542    | 1     | Oil Filter                   | 76   | 23897    | 1     | No. 10 Flat Washer              |
| 27   | 26073    | 2     | Pipe Plug 1/8                | 77   | 22152    | 1     | No. 10 Lock Washer              |
| 28   | 26170    | 2     | ¼-20 x 1 3/4 Hex Hd.Cpsc.    | 78   | 22158    | 1     | No. 10-32 Hex Nut               |
| 29   | 36534    | 1     | Oil Pressure Switch          | 79   | 36532    | 1     | ½" Pipe Cap                     |
| 30   | 28414    | 2     | Hose Connector               | 80   | 30562    | 1     | Ign. Stator                     |
| 31   | 36691    | 1     | Starting Rope                | 81   | 30550    | 1     | No. 10-32 x 3/4 Socket Hd.Cpsc. |
| 32   | 37687    | 1     | Dip Stick                    | 81   | 30549    | 3     | No. 10-32 x ½ Socket Hd. Cpsc.  |
| 33   | 36327    | 1     | Governor Control Shaft       | 82   | 23762    | 4     | No. 10 Shakeproof Ext.          |
| 34   | 30529    | 1     | Governor Control Arm         | 83   | 30333    | 1     | No. 18 Woodruff Key             |
| 35   | 30548    | 1     | No. 5-40 x 3/8 Rd.Hd.Mch.Sc. | 84   | 37535    | 1     | Flywheel Assembly               |
| 36   | 30535    | 1     | Retaining Ring               | 85   | 30331    | 1     | 1" Shakeproof Int.              |
| 37   | 30514    | 2     | Needle Bearing               | 86   | 30330    | 1     | 1-14 Hex Jam Nut                |
| 38   | 30532    | 1     | Oil Seal                     | 87   | 36573    | 1     | Rope Start Sheave               |
| 39   | 30530    | 1     | Gov. Shaft Washer            | 88   | 36321    | 1     | Air Inlet Screen                |
| 40   | 30536    | 1     | Retaining Ring               |      |          |       |                                 |
| 41   | 35847    | 1     | Seal Supt.Gasket 1/16" Thick |      |          |       |                                 |
| 42   | 36554    | 1     | Oil Pan                      |      |          |       |                                 |
| 43   | 36531    | 1     | Oil Seal                     |      |          |       |                                 |
| 44   | 35836    | 1     | Oil Seal Support             |      |          |       |                                 |
| 45   | 28978    | 1     | ½" Pipe Nipple 3" Lg.        |      |          |       |                                 |
| 46   | 36774    | 1     | Seal Supt. Stiffner          |      |          |       |                                 |
| 47   | 26772    | 2     | Pipe Lock Nut 1"             |      |          |       |                                 |
| 48   | 36315    | 1     | 1" x 45° Street Ell          |      |          |       |                                 |
| 49   | 22507    | 1     | ¼-20 x ½ Hex Hd. Cpsc.       |      |          |       |                                 |
| 50   | 35894    | 1     | Exhaust Elbow                |      |          |       |                                 |



EXPLODED VIEW OF ENGINE PARTS

38976

| Item | Part No. | Req'd | Description                    |
|------|----------|-------|--------------------------------|
| 1    | 38051    | 1     | Mounting Base                  |
| 2    | 29399    | 4     | Rubber Vibration Mount         |
| 3    | 22237    | 8     | 3/8 Lockwasher                 |
| 4    | 22241    | 4     | 3/8-16 Hex Nut                 |
| 5    | 31567    | 1     | "U" Bolt 1-½                   |
| 6    | 22129    | 6     | 5/16 Lockwasher                |
| 7    | 22259    | 6     | 5/16-18 Hex Nut                |
| 8    | 37895    | 1     | Exhaust Air Duct               |
| 9    | 36323    | 1     | Air Blocker                    |
| 10   | 24489    | 29    | No. 10-32 x 3/8 Taptite Sc.    |
| 11   | 36587    | 1     | 1-¼ NPT x 90° Street Elbow     |
| 12   | 37563    | 1     | 1-¼" Pipe Coupling             |
| 13   | 32201    | 1     | 1-¼ to 1" NPT Reducing Elbow   |
| 14   | 26772    | 1     | 1" NPT Pipe Lock Nut           |
| 15   | 37546    | 1     | Muffler Assembly               |
| 16   | 36689    | 1     | 1" NPT Pipe Cap                |
| 17   | 36540    | 2     | 5/16-18 x 6½ Hex Hd.Cpsc.      |
| 18   | 29459    | 4     | Tension Spring 1" Lg.          |
| 19   | 30951    | 2     | Tension Spring 2" Lg.          |
| 20   | 27028    | 6     | 5/16-18 Lock Nut               |
| 21   | 37669    | 1     | Mounting Frame                 |
| 22   | 37487    | 1     | Spring Bracket                 |
| 23   | 25047    | 2     | Spring Muffler Mount           |
| 24   | 22145    | 14    | 5/16 Flatwasher                |
| 25   | 23152    | 4     | 3/8 - 16 x 3/4 Hex Hd.Cpsc.    |
| 26   | 22142    | 4     | 5/16-18 x 3/4 Hex Hd.Cpsc.     |
| 27   | 37838    | 2     | Skirt (Front and Back)         |
| 28   | 37839    | 2     | Skirt Support (Front and Back) |
| 29   | 37836    | 1     | Skirt (Engine End)             |
| 30   | 37837    | 1     | Skirt Support (Engine End)     |
| 31   | 37840    | 1     | Skirt (Alternator End)         |
| 32   | 37843    | 1     | Skirt Support (Alternator End) |
| 33   | 37842    | 1     | Skirt Support (Alternator End) |
| 34   | 37841    | 1     | Skirt Support (Alternator End) |
| 35   | 38053    | 1     | Reactor Assembly               |
| 36   | 24237    | 4     | No. 10-32 Lokut Hex Nut        |
| 37   | 38045    | 1     | Whiz SC No. 10-32 x 3/8" Lg.   |
| 38   | 37740    | 1     | Air Blocker                    |
| 39   | 23734    | 4     | 5/16-18 x 2¼ Hex Hd.Cpsc.      |
| 40   | 37388    | 1     | Base Baffle                    |
| 41   | 30397    | 4     | Nylon Slide                    |
| 42   | 30398    | 2     | Slide Support                  |
| 43   | 38237    | 2     | Mounting Safety Bracket        |
| 44   | 37592    | 1     | Exh. Elbow Bracket             |
| 45   | 37593    | 2     | ¼-20 x 3/4" Lg.Carriage Bolt   |
| 46   | 22473    | 2     | ¼ Flat Washer                  |
| 47   | 22097    | 2     | ¼ Lockwasher                   |
| 48   | 22127    | 2     | ¼" 20 Hex Nut                  |
| 49   | 22131    | 1     | 3/8" Flat Washer               |



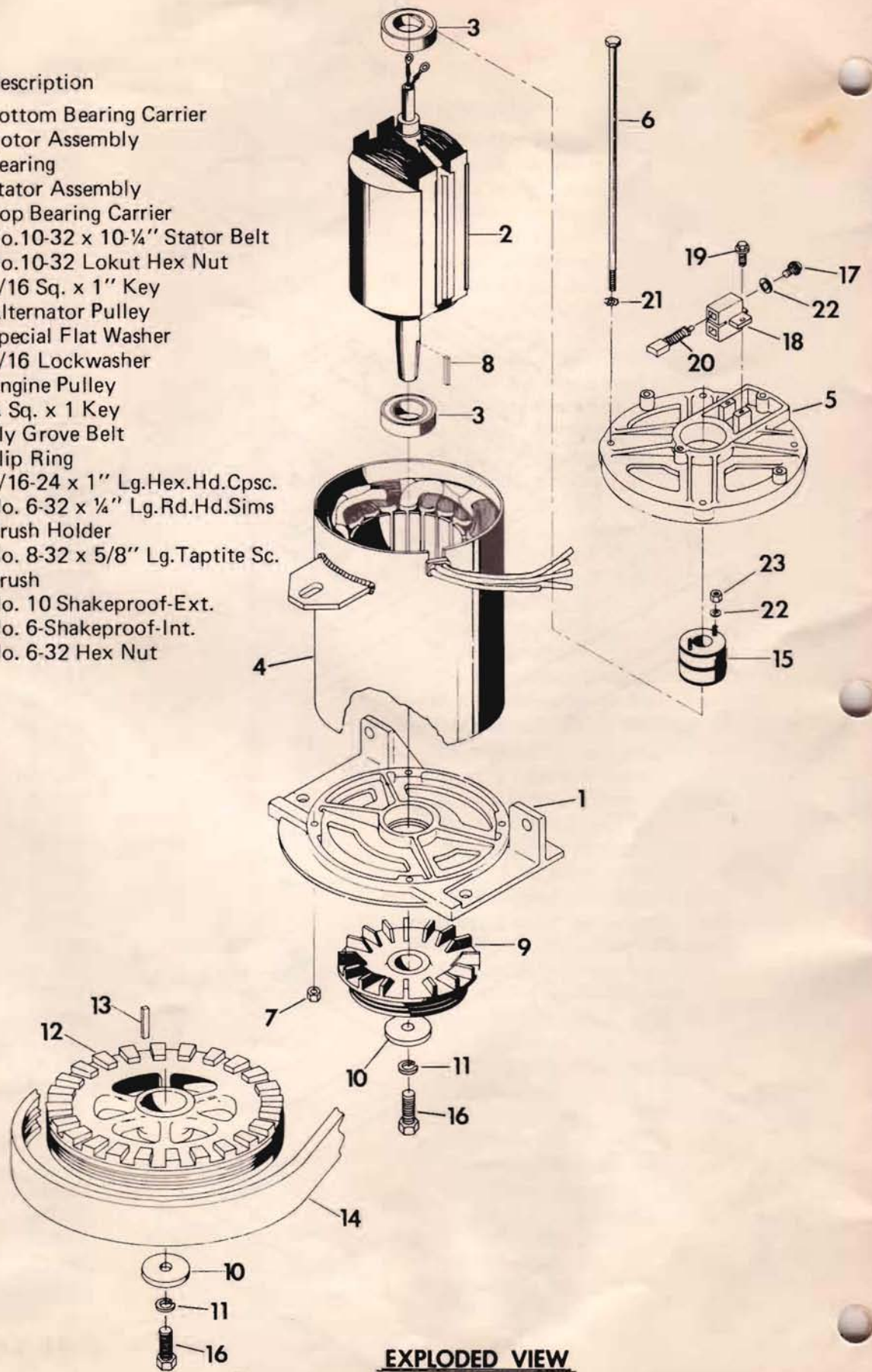
ALTERNATOR

CUSTOMER SUPPLIED

**EXPLODED VIEW OF MOUNTING BASE**

**38180**

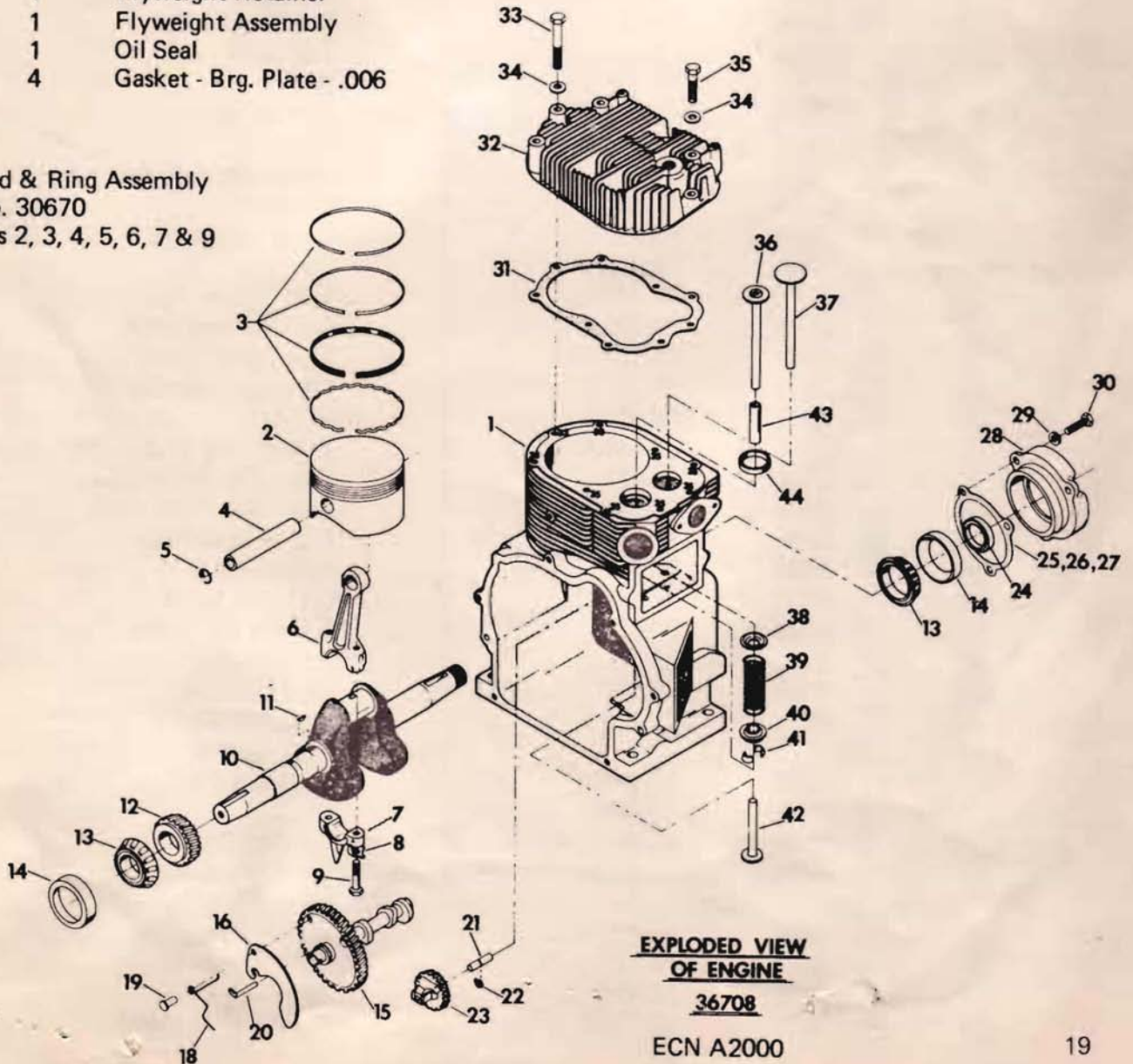
| Item | Part No.  | Req'd | Description                    |
|------|-----------|-------|--------------------------------|
| 1    | 35828     | 1     | Bottom Bearing Carrier         |
| 2    | 36341     | 1     | Rotor Assembly                 |
| 3    | 22121     | 2     | Bearing                        |
| 4    | 38046     | 1     | Stator Assembly                |
| 5    | 37550     | 1     | Top Bearing Carrier            |
| 6    | 36580     | 4     | No.10-32 x 10-1/4" Stator Belt |
| 7    | 24237     | 4     | No.10-32 Lokut Hex Nut         |
| 8    | 23139     | 1     | 3/16 Sq. x 1" Key              |
| 9    | 36617     | 1     | Alternator Pulley              |
| 10   | 24102     | 2     | Special Flat Washer            |
| 11   | 22129     | 2     | 5/16 Lockwasher                |
| 12   | 36619     | 1     | Engine Pulley                  |
| 13   | 23138     | 1     | 1/4 Sq. x 1 Key                |
| 14   | 36624     | 1     | Ply Grove Belt                 |
| 15   | A-24333   | 1     | Slip Ring                      |
| 16   | 36819     | 2     | 5/16-24 x 1" Lg.Hex.Hd.Cpsc.   |
| 17   | 25105     | 2     | No. 6-32 x 1/4" Lg.Rd.Hd.Sims  |
| 18   | 23877-C   | 1     | Brush Holder                   |
| 19   | 24488     | 2     | No. 8-32 x 5/8" Lg.Taptite Sc. |
| 20   | A-24044-A | 2     | Brush                          |
| 21   | 23762     | 8     | No. 10 Shakeproof-Ext.         |
| 22   | 26138     | 4     | No. 6-Shakeproof-Int.          |
| 23   | 23635     | 2     | No. 6-32 Hex Nut               |



**EXPLODED VIEW  
OF ALTERNATOR**

| Item | Part No. | Quan. | Description                | Item | Part No. | Quan. | Description              |
|------|----------|-------|----------------------------|------|----------|-------|--------------------------|
| 1    | 36585    | 1     | Crankcase Assembly         | 26   | 36636    | 1     | Shim - Brg. Plate - .009 |
| 2    | 30502    | 1     | Piston                     | 27   | 30543    | 2     | Shim - Brg. Plate - .003 |
| 3    | 36722    | 1     | Ring Set                   | 28   | 30499    | 1     | Brg. Retainer Plate      |
| 4    | 30507    | 2     | Piston Pin                 | 29   | 30525    | 3     | Lockwasher 5/16          |
| 5    | 30534    | 2     | Pin Retainer               | 30   | 30554    | 3     | 5/16 - 18 x 1 Screw      |
| 6    | 30501    | 1     | Connecting Rod             | 31   | 30544    | 1     | Cylinder Hd. Gasket      |
| 7    | 30501    | 1     | Connecting Rod Cap         | 32   | 36653    | 1     | Cylinder Head            |
| 8    | 36640    | 2     | Lock Washer - Tab          | 33   | 30557    | 4     | Head Bolt - 2-1/4        |
| 9    | 30555    | 2     | Conn. Rod Bolt 1-3/8 Lg.   | 34   | 30531    | 9     | Head Bolt Washer         |
| 10   | 34595    | 1     | Crankshaft                 | 35   | 30556    | 5     | Head Bolt - 1-1/2        |
| 11   | 30538    | 1     | No. 3 Woodruff Key         | 36   | 30492    | 1     | Exhaust Valve            |
| 12   | 30510    | 1     | Cam Drive Gear             | 37   | 36634    | 1     | Intake Valve             |
| 13   | 30516    | 2     | Bearing Cone               | 38   | 30496    | 2     | Locating Cup             |
| 14   | 30515    | 2     | Bearing Cup                | 39   | 30494    | 2     | Valve Spring             |
| 15   | 36578    | 1     | Camshaft                   | 40   | 30560    | 2     | Valve Rotator            |
| 16   | 30547    | 1     | Compressor Release Weight  | 41   | 30497    | 2     | Valve Retainer Locks     |
| 18   | 36680    | 1     | Spring - Comp. Rel.        | 42   | 30509    | 2     | Valve Tappet             |
| 19   | 36679    | 1     | Pin - Comp. Rel.           | 43   | 32628    | 2     | Valve Guide              |
| 20   | 36678    | 1     | Shaft - Comp. Rel.         | 44   | 32629    | 1     | Valve Seat - Exhaust     |
| 21   | 30519    | 1     | Gov. Flyweight Shaft       |      |          |       | } Part of<br>Item 1      |
| 22   | 30537    | 1     | Flyweight Retainer         |      |          |       |                          |
| 23   | 30671    | 1     | Flyweight Assembly         |      |          |       |                          |
| 24   | 30533    | 1     | Oil Seal                   |      |          |       |                          |
| 25   | 36635    | 4     | Gasket - Brg. Plate - .006 |      |          |       |                          |

Connection Rod & Ring Assembly  
Part No. 30670  
Consists of items 2, 3, 4, 5, 6, 7 & 9



**EXPLODED VIEW  
OF ENGINE  
36708**

ECN A2000

WISCONSIN TRA 12 - VERTICAL SPECIAL WITH GENERAC CORPORATION

GENERAC ENGINE 36641

Note: Shown below are the cross reference Part Numbers for Standard Wisconsin Engine Parts used on this model.

| Generac Part No. | Wisconsin Part No. | Qty. | Description                |
|------------------|--------------------|------|----------------------------|
| 36585            | AA113A14S          | 1    | Crankcase Assembly         |
| 30502            | DB-234             | 1    | Piston                     |
| 36722            |                    | 1    | Ring Set                   |
| 30507            | DE-79              | 2    | Piston Pin                 |
| 30534            | PK-52              | 2    | Pin Retainer               |
| 30501            | DA-80              | 1    | Connecting Rod             |
| 30501            |                    | 1    | Connecting Rod Cap Set     |
| 36640            | PE-114             | 2    | Lockwasher - Tab           |
| 30555            | XD-20              | 2    | Conn. Rod Bolt 1-3/8 Lg.   |
| 34595            | CA-84-15           | 1    | Crankshaft                 |
| 30538            | PL-21              | 1    | No. 3 Woodruff Key         |
| 30510            | CA-45              | 1    | Cam Drive Gear             |
| 30516            | ME-17C-2           | 2    | Bearing Cone               |
| 30515            | ME-17C-1           | 2    | Bearing Cup                |
| 36578            | EA-130-1           | 1    | Camshaft                   |
| 30547            | VB-260             | 1    | Compressor Release Weight  |
| 30530            | PH-30-A            | 1    | Washer                     |
| 36680            | PM-232             | 1    | Spring - Comp. Rel.        |
| 36679            | PA-463             | 1    | Pin - Comp. Rel.           |
| 36678            | PA-455             | 1    | Shaft - Comp. Rel.         |
| 30519            | PA-396-A           | 1    | Gov. Flyweight Shaft       |
| 30537            | PK-167             | 1    | Flyweight Retainer         |
| 30671            | GD-137-F           | 1    | Flyweight Assembly         |
| 30533            | PH-529             | 1    | Oil Seal                   |
| 36635            | QD-848-A           | 4    | Gasket - Brg. Plate - .006 |
| 36636            | QF-121             | 1    | Shim - Brg. Plate - .009   |
| 30543            | QD-848             | 2    | Shim - Brg. Plate - .003   |
| 30499            | BG-351             | 1    | Brg. Retainer Plate        |
| 30525            | PE-4               | 3    | Lockwasher 5/16            |
| 30554            | XD-177             | 3    | 5/16-18x1 Screw            |
| 30544            | QD-850             | 1    | Cylinder Hd. Gasket        |
| 36653            | AB-118             | 1    | Cylinder Head              |
| 30557            | XD-140             | 4    | Head Bolt 2-1/4            |
| 30531            | PH-209-B           | 9    | Head Bolt Washer           |
| 30556            | XD-21              | 5    | Head Bolt 1 1/2            |
| 30492            | AE-74-C            | 1    | Exhaust Valve              |
| 36634            | AE-104             | 1    | Intake Valve               |
| 30496            | AG-34-A            | 2    | Locating Cup               |
| 30494            | AF-43-B            | 2    | Valve Spring               |
| 30560            | AG-31              | 2    | Valve Rotator              |
| 30497            | AF-9               |      | Valve Retainer Locks       |
| 30509            | FA-47              | 2    | Valve Tappet               |
| 32628            | AD-41-E            | 2    | Valve Guide                |
| 32629            | HG-201-D           | 1    | Valve Seat - Exhaust       |