

OPERATING INSTRUCTIONS AND PARTS LIST FOR

CATALOG NUMBER
4642



MILWAUKEE ELECTRIC TOOL CORP.

AC ALTERNATOR

DEPENDABLE POWER

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING
INFORMATION AS SHOWN IN THIS LIST:

- | | |
|---------------------------------|------------------------------------|
| 1. M.E.T.CO. PART NUMBER | 3. M.E.T.CO. CAT. NO. 4642 |
| 2. The PART NAME | 4. The NAME of Item: AC ALTERNATOR |
| 5. STARTING SERIAL NO. 509-1001 | |

**MILWAUKEE ELECTRIC TOOL CORPORATION
13135 WEST LISBON ROAD
BROOKFIELD, WISCONSIN 53005**



Printed in USA-100

IMPORTANT . . . SAVE THIS FOR FUTURE REFERENCE

FULL LOAD WATTS
OF
MILWAUKEE ELECTRIC TOOLS

MODEL NO.	FULL LOAD WATTS	FULL LOAD AMPS	MODEL NO.	FULL LOAD WATTS	FULL LOAD AMPS	MODEL NO.	FULL LOAD WATTS	FULL LOAD AMPS
0101	340	3.0	1700-1	1100	10.0	5590	1050	10.0
0102-1	370	3.0	1750	1250	11.0	5610	900	8.0
0120	340	3.0	1750-1	1100	10.0	5650	950	10.0
0121	370	3.25	1850	1250	11.0	6000	220	2.0
0122-1	370	3.25	1850-1	1100	10.0	6020	1200	11.5
0140	340	3.0	2200-1	1250	10.0	6060	1200	11.5
0160	340	3.0	2400-1	1250	10.0	6200	1600	13.0
0180	340	3.0	3820	1600	15.0	6250	360	2.3
0181	370	3.25	3880	1600	15.0	6280	360	4.0
0190	340	3.0	3940	1600	15.0	6293	1100	10.5
0191	370	3.25	4020	1600	15.0	6320	1400	12.0
0200	340	3.0	4030	1600	15.0	6331	1200	10.5
0220	340	3.0	4035	1600	15.0	6360	1250	12.0
0221	370	3.25	4250-1	400	4.0	6370	1300	13.0
0222-1	370	3.25	4260-1	1100	11.5	6400	1400	12.0
0800	400	4.0	4270-1	1100	11.5	6505	460	4.0
0850	400	4.0	4280-1	1100	11.5	6510	460	4.0
0870	400	4.0	4290-1	1100	11.5	6541-1	370	3.25
0890	400	4.0	4295-1	1100	11.5	6542-1	370	3.25
1000	400	4.0	5191	350	3.3	6571-1	370	3.25
1000-1	400	4.0	5200	1000	10.0	6581-1	370	3.25
1100	400	4.0	5220	1300	11.5	6582-1	370	3.25
1100-1	400	4.0	5240	1300	11.5	6620-1	400	4.0
1120	250	15.5	5260	1300	11.5	6640-1	400	4.0
1200	400	4.0	5265	460	4.4	6747-1	500	4.5
1200-1	400	4.0	5300	1150	10.0	6781-1	310	3.25
1600	660	6.0	5350	650	6.0	6798-1	515	4.5
1600-1	660	6.0	5360	390	4.0	6800	240	2.1
1620-1	660	6.0	5390	515	4.5	6810	300	3.0
1650	660	6.0	5400	300	3.0	6820	700	6.4
1650-1	660	6.0	5410	680	6.4	6830	700	6.4
1675-1	750	7.5	5450	1100	10.0	8600	360	3.2
1700	1250	11.0	5530	1100	10.0	9050	----	4.0

RULES FOR SAFE OPERATION

1. Gasoline engines give off deadly carbon monoxide. Never run a gasoline engine in the basement or other areas in a building.
2. This alternator has an air cooled engine which must have good circulation of air.
3. Gasoline engines should not be stored or operated in holds of boats or ships.
4. Check the local code as to the laws governing storing gasoline in confined areas.
5. Never fill a gasoline engine in the dark or when the engine is hot.
6. Check the oil every time you fill the gas tank or every 5 hours.
7. Under no condition should the gasoline engine be hooked up to any pressure fuel pump (auto, tractor or auxiliary line).
8. Always check wattage requirements on labeled motors and appliances before attempting to operate.
9. If an extension cord is necessary, always use as short a length as possible. The longer the cord the greater the voltage drop resulting in less power applied to the tube.
10. The load should be applied to the alternator after it has reached its operating speed. Never start alternator with load.
11. Engine speed is pre-set at the factory. If this speed is incorrectly re-adjusted by the customer, serious damage may be incurred in the tools or appliances connected to the alternator.

CAUTION

This product has been engineered and manufactured to provide trouble free operation, if properly cared for and used within its rated specifications. Always use care when operating or repairing this alternator, lethal voltages are present and the same caution should be exercised as is used with the electrical wiring in your home. Follow a regular maintenance and service schedule to provide efficient and safe operation.

ENGINE SPECIFICATIONS

TYPE: 4 cycle, L head, single cylinder, 3-1/16" bore,
2-17/32 in. stroke, 18.65 cu. in. displacement,
8 horsepower.

COOLING: Pressure air cooled.

GOVERNOR: Mechanical—fixed speed.

IGNITION: Flywheel magneto.

STARTING: Recoil

OIL SYSTEM: 24 oz.

FUEL TANK: 1 gallon.

ALTERNATOR

3500 WATT — Manual Start

TYPE: Revolving field two pole, single phase, 115/230 volt at 30.4/15.2 amps, 60 cycle, drip proof design.

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.

BEARINGS: Life Time sealed ball bearings running in a steel bearing insert.

VARNISH: Class "H" Westinghouse double dip 7 hr. cure cycle.

INSULATION: Modified class 'H' insulating system, DMD liners, heavy polythermaleze wire insulation. Dacron tie tape, modified fiber wedges.

COOLING: Centrifugal blower directly connected to the rotor shaft.

COLOR: Metco Red

INSTALLING & OPERATING

1. () Uncrate and inspect for shipping damage.
2. () Ventilation: Adequate ventilation must be provided for safe, efficient operation.
3. () Follow the detailed instructions in the following section on filling with oil.
 1. () Fill engine with 24 oz. of oil.

NOTE: Oil weight Recommendations

Summer — SAE 30 M.S.

Winter — 5W20 M.S.

2. () Fill fuel tank, with regular or non-leaded gasoline.

MAINTENANCE

1. Periodically (approximately every 200 operating hours) inspect the alternator brushes and clean the slip rings. To gain access to these parts, remove three screws (item 21, dwg. 38854) and the fan cover (item 20, dwg. 38854). Remove Hex. Hd. Mach Screw (item 12, dwg. 38854) and fan (item 10, dwg. 38854). This will expose rectifier and brush holder. DO NOT START ALTERNATOR UNTIL ITEM 21 CAP SCREW IS SECURELY TIGHTENED. This item holds the rotor assembly to the engine shaft. Brushes which are chipped, cracked or worn to a length of less than 5/16" should be replaced.

Note: To Order An Exact Replacement Engine, Order From M.E.T.CO. Part No. 43-20-2010

2. To clean slip rings, polish with a piece of fine sandpaper while rotor is turning. **DO NOT USE EMERY PAPER.** Disconnect spark plug wire and turn engine with starter to polish slip rings.
3. The alternator should be kept clean and reasonably dry.
4. Maximum engine life can be obtained if oil is changed every 200 operating hours or 30 days, whichever occurs first. After engine is drained, repeat "Filling Engine".

ILLUSTRATED PARTS LIST

All replacement parts for the alternator are shown on the exploded view illustrations. Each part is identified with an index number which is keyed to the parts list. The index numbers are used solely for identification — not for ordering parts.

To save time — to make sure that you get the correct part — be sure to include the following information with your parts order;

1. Part name and part number (NOT the index number shown on the exploded view.)
2. The alternator model and serial number (found on the nameplate.)
3. Quantity of each part ordered.

1. STARTING PROCEDURE

- a. Fill gas tank with gasoline.
- b. Check Oil.
- c. Open fuel line valve (if applicable).
- d. Press start button or use starter rope.

2. STOPPING & STORAGE OF ALTERNATOR

To stop, press starter button to off position.

If alternator is placed in storage for any period of time, the fuel tank should be drained. Then run the engine to burn up the gasoline in the carburetor. Remove the spark plug and place a teaspoon of oil in the head. Turn the engine over a few times then replace the spark plug.

The engine should be run in by operating at loads not in excess of 1/2 the name plate rating for the first two full tanks of gasoline. This will greatly extend the useful life of your engine.

Loads may be applied to the alternator by plugging into one or more of the receptacles on the panel. Check the individual wiring diagram for specific loads that may be applied. It is very important that polarized plugs be used in order to maintain a common ground between the alternator and its load. All alternators of 2000 watts or larger are equipped with automatic reset, thermal overload switches, which will open under extreme overloads, thereby shutting off the AC to the receptacles. The overload device will close, when the operating temperature drops to a safe level. Smaller units are inherently protected by oversize windings which cannot overheat.

TYPICAL HORSEPOWER RATINGS

Item	Horsepower
Furnace — Stoker	1/4
Furnace — Oil Burner	1/6
Furnace — Blower	1/4
Freezer	1/3
10" Table Saw	1
Centrifugal Pump	1/4 to 1-1/2
Submersible Pump	1/2 to 1-1/2
Sump Pump	1/3 to 1/2

MOTOR STARTING REQUIREMENTS (NO LOAD)

Motor N.P. Rating	Apprx. Running Watts	Universal Motors	Repetition Induction Motors	Capacitor Motors	Split Phase Motors
1/4	275	400	600	850	1200
1/2	400	500	850	1050	1700
3/4	450	600	975	1350	1950
1	600	750	1300	1800	2600
1 1/4	850	1000	1900	2600	.
1 1/2	1000	1250	2300	3000	.
2	1600	.	3200	4200	.
3	2000	.	3900	5100	.
4	3000	.	5200	6800	.
5	4800	.	7500	9800	.

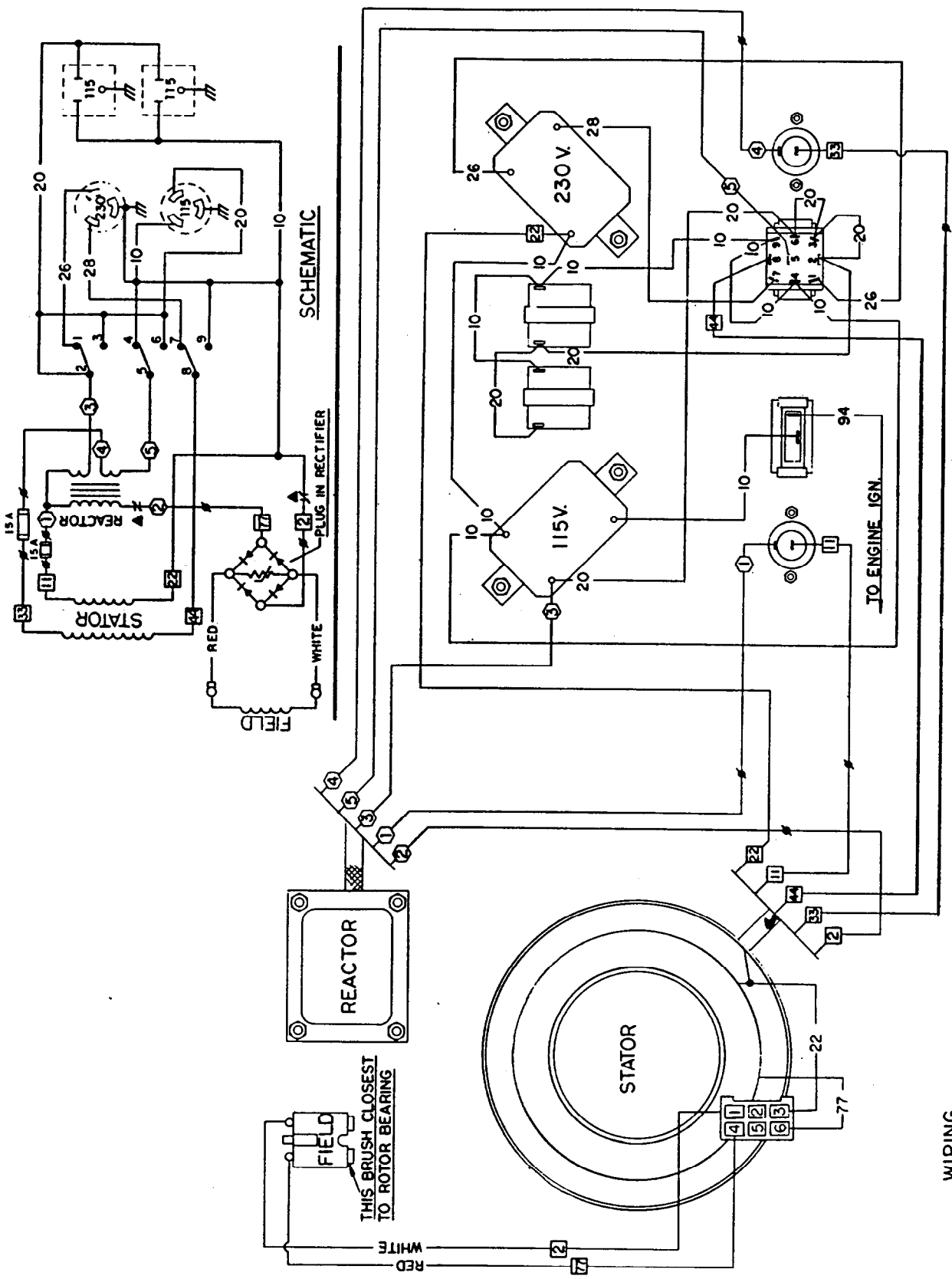
*Motors of higher horsepower shown in this classification are not generally used.

ALTERNATOR CAPABILITY FOR ELECTRIC MOTOR STARTING (NO LOAD)

Alternator Rating in Watts	TYPE OF MOTOR AND HP RATING						
	Universal	Repetition Heavy Start Load	Induction Light Start Load	Capacitor Heavy Start Load	Capacitor Light Start Load	Split Phase Heavy Start Load	Split Phase Light Start Load
1000	1/2	—	—	—	—	—	—
1250	1	1/2	—	1/4	—	1/4	—
1750	1	1/2	1/4	1/4	1/2	1/2	—
2650	1 1/2	1	1 1/2	1 1/2	1	1 1/2	1/4
3500	.	2	2 1/2	2 1/2	2	.	.
5000	.	2 1/2	3	3	.	.	.
7500	.	4	5	2 1/2	.	.	.
LL1500	1	1/2	1/2	1/4	1/4	1/4	.
LL3000	2	1 1/2	2	1/2	1	1/2	1/4
LL5000	.	2 1/2	3	2 1/2	3	.	1/4

*Motors of higher horsepower rating than shown in this classification are not generally used.
—LL—2400 RPM units.

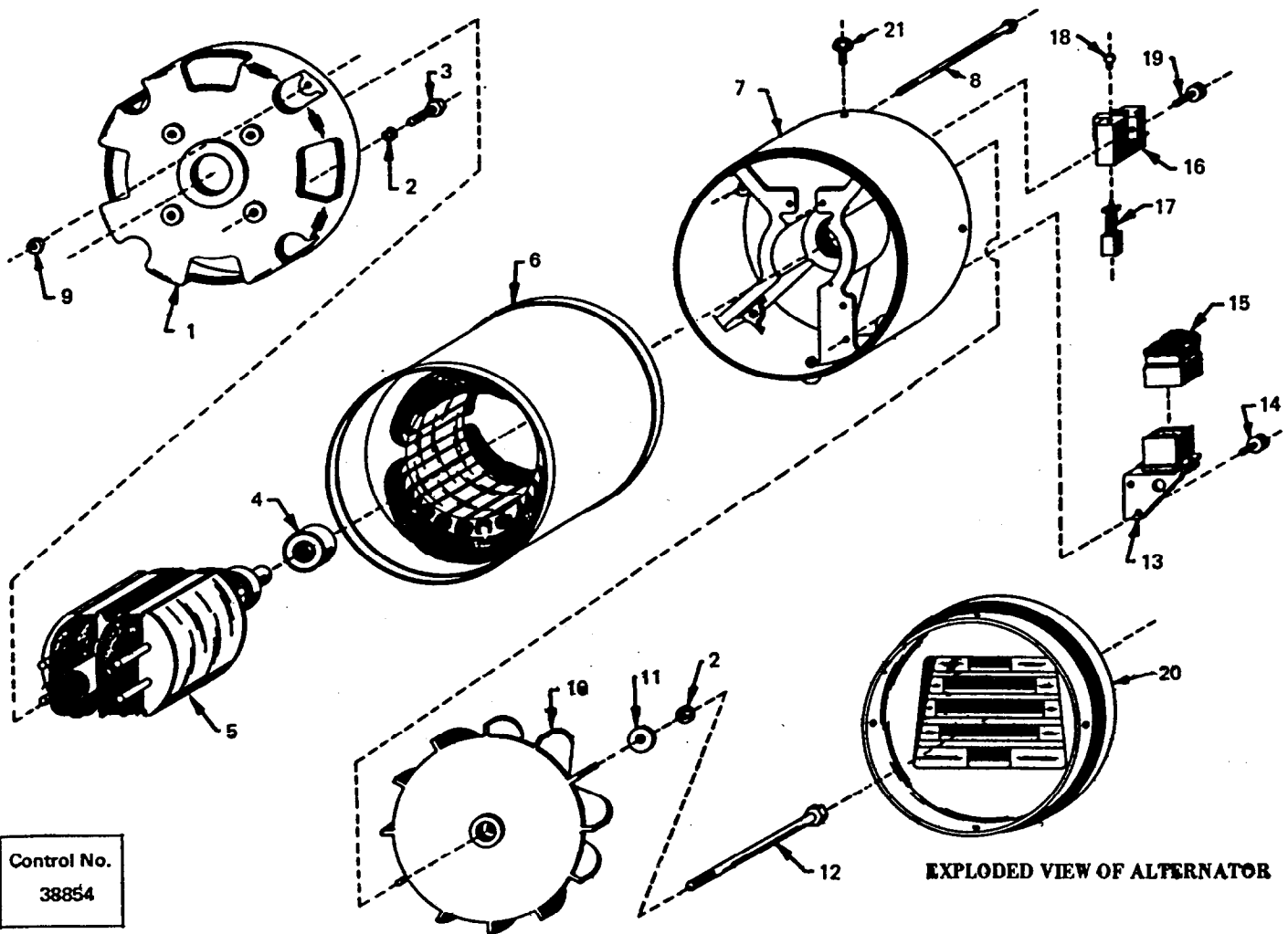
Control No.
38855



SCHEMATIC

WIRING
DIAGRAM

THIS BRUSH CLOSEST
TO ROTOR BEARING

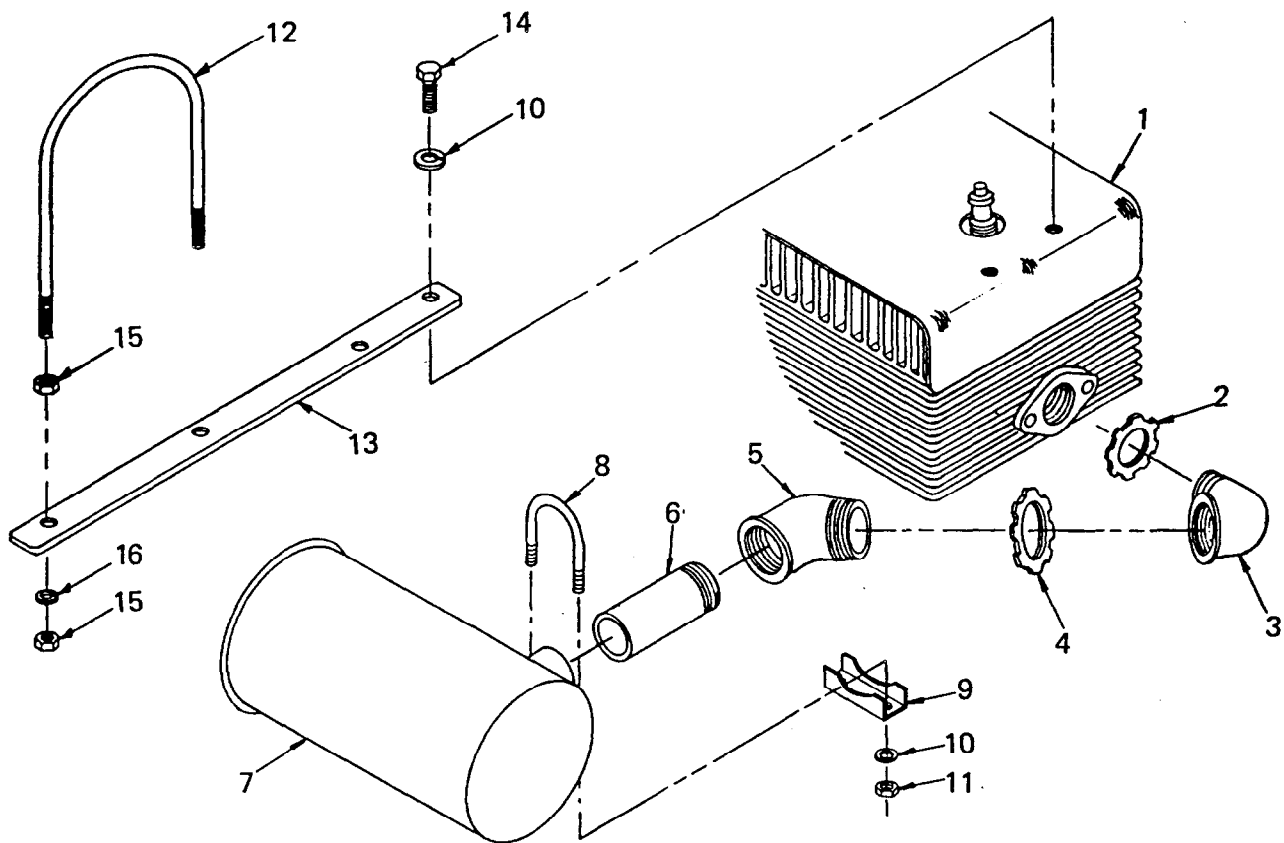


Control No.
38854

EXPLODED VIEW OF ALTERNATOR

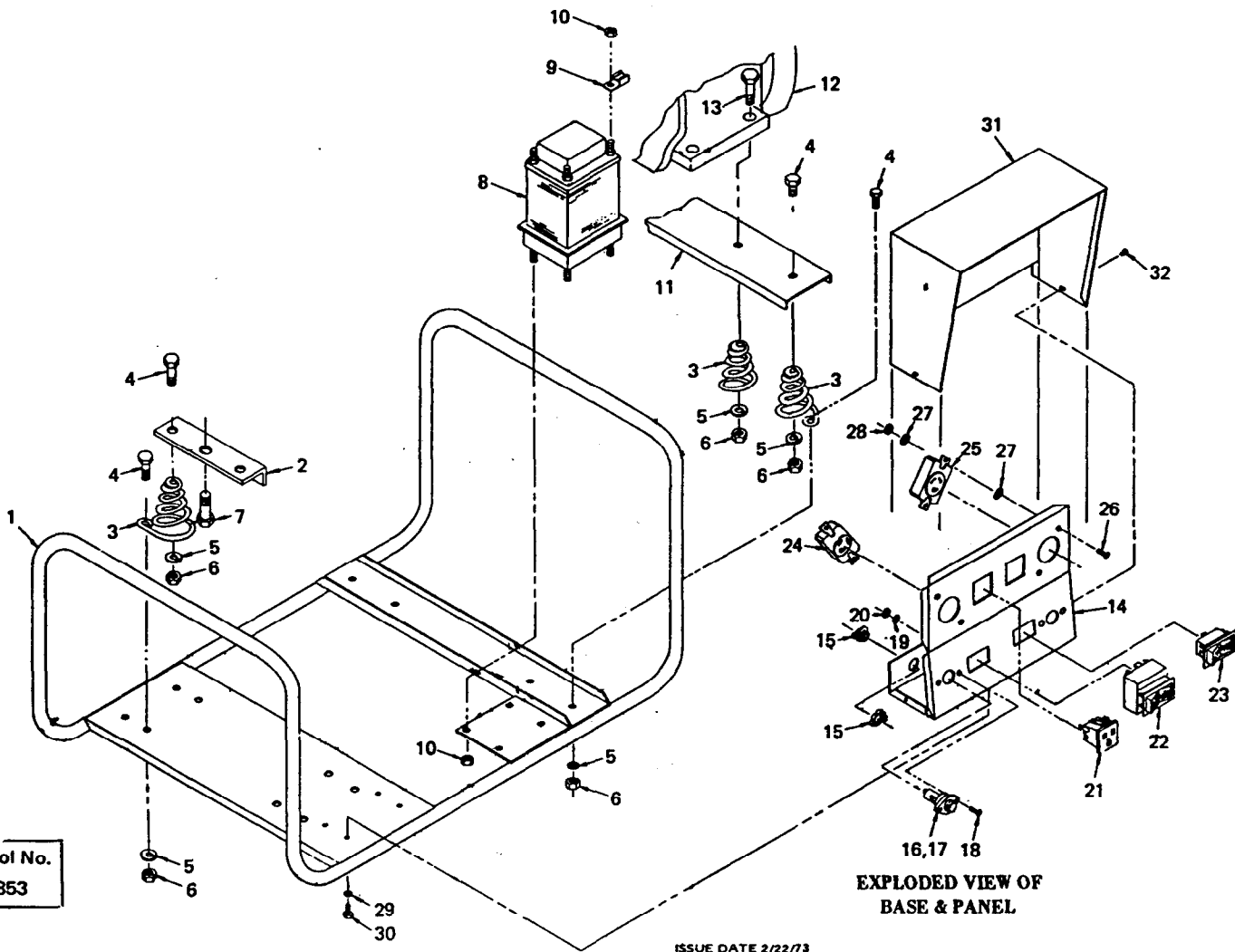
Item	Part No.	Req'd	Description
1	42-04-0460	1	Adaptor Casting
2	06-97-4100	5	5/16" Lockwasher
3	06-75-0349	4	Hex. Hd. Cpsec.
4	02-04-1545	1	Bearing
5	23-40-0395	1	Rotor Assembly
6	23-58-0475	1	Stator Assembly
7	43-76-0171	1	Rear Bearing Carrier
8	06-75-0070	4	Stator Bolt
9	06-57-3000	4	Lokut Hex. Nut
10	22-84-0400	1	Fan
11	45-88-5245	2	Wrought Flash Washer
12	06-75-1225	1	Rotor Bolt
13	45-60-0300	1	Rectifier Support Assembly
14	06-81-0030	2	No. 10-3/8" Lg. Taptite
15	23-38-2560	1	Rectifier Assembly
16	22-20-0220	1	Brush Holder
17	22-18-0340	2	Brush Assembly
18	06-81-8650	2	Sims Scr. No. 6-32 x 1/4" Lg.
19	06-81-3640	2	No. 8 x 5/8" Lg. Taptite
20	42-92-0340	1	Fan Cover
21	06-75-2400	3	No. 10 x 1/2" Lg. Taptite

Item	Part No.	Req'd	Description
1	43-20-2010	1	8H.P. Engine
2	06-57-7475	1	3/4" Pipe Lock Nut
3	43-33-0265	1	90° Reducing Street Elbow 3/4 to 1"
4	06-57-7480	1	Pipe Lock Nut
5	43-33-272	1	45° Street Elbow
6	43-33-0268	1	1 x 6" Pipe Nipple
7	43-31-0260	1	Muffler
8	42-68-0315	1	"U" Bolt
9	42-68-0320	1	Saddle
10	06-97-4100	4	5/16" Lockwasher
11	06-55-1980	3	5/16" - 18 Hex. Nut
12	42-68-0340	1	"U" Bolt
13	45-60-0357	1	Muffle Support Bracket
14	06-75-0340	2	5/16 - 18 x 1" Hex. Hd.Cpsc
15	06-55-2400	4	3/8" Hex. Nut
16	06-97-4125	2	3/8" Lockwasher



Control No.
40227

EXPLODED VIEW OF
EXHAUST SYSTEM



Control No.
38853

EXPLODED VIEW OF
BASE & PANEL

ISSUE DATE 2/22/73

Item	Part No.	Req'd	Description
1	45-60-0340	1	Mounting Base
2	42-36-0905	1	Alternator Support
3	40-50-6900	4	Spring
4	06-75-0340	8	5/16 - 18 x 1" Lg.Hex.Hd.Cpsc.
5	06-97-4100	10	5/16" Lockwasher
6	06-55-1980	10	5/16 - 18 Hex. Nut
7	06-81-0035	1	5/16 - 1" Taptite
8	23-81-0205	1	Reactor Assembly
9	23-74-0480	1	Grounding Terminals
10	06-57-3000	5	10-32 Lokut Hex. Nut
11	42-36-0920	1	Engine Support
12	43-20-2010	1	Engine 8 H.P.
13	06-75-0342	2	5/16 - 18 x 1-3/4" Lg.Hex.Hd.Cpsc.
14	23-35-0160	1	Control Panel
15	22-56-0060	2	3/8" Straight Connector
16	3-04-0060	2	Fuse Holder
17	22-89-0060	2	15 amp. Fuse

Item	Part No.	Req'd	Description
18	06-81-5630	4	8-32 x 1/2" Lg.Phil.Pan Hd.Mach.Sc.
19	06-97-3200	4	No. 8 Lockwasher
20	06-55-0825	4	No. 8-32 Hex. Nut
21	23-33-0130	2	115 Volt Parallel Blade Outlet
22	23-66-0945	1	3 P.D.T. Rocker Switch
23	23-66-0950	1	SPST. Rocker Switch
24	23-33-0235	1	250 Volt Twistlock Outlet
25	23-33-0240	1	125 Volt Twistlock Outlet
26	06-81-4212	4	10-32 x 1/2" Lg.Phil.Pan Hd.Mach.Sc.
27	06-97-0870	8	No. 10 Ext.Tooth Shakeproof Washer
28	06-55-1100	4	No. 10-32 Hex. Nut
29	06-97-3400	4	No. 10 Lockwasher
30	06-81-4652	4	No.10-32 x 1/2" Long.Rd.Hd.Mach.Sc.
31	45-12-0280	1	Shroud
32	06-81-0275	4	No. 10-32 x 1/4" Lg.Whiz Sc.
33	23-33-0250	1	250 Volt Twistlock Plug (not shown)
34	23-33-0245	1	125 Volt Twistlock Plug (not shown)