



On-Board Battery Charger Kit

Models: 5680 / 5700



The following On-board Battery Charger information is not included in your Operator or Parts List manuals. Please keep this information with your manuals for future reference.

CHARGING BATTERIES

ATTENTION: The on-board battery charger is preset to charge wet/lead acid batteries (supplied with your machine). If changing to a gel/sealed/ maintenance free battery, the battery charger setting must be changed to prevent possible battery damage. (See **ON-BOARD CHARGER SETTINGS**).

The lifetime of the batteries depends on their proper maintenance. To get the most life from the batteries;

- Do not charge the batteries more than once a day and only after running the machine for a minimum of 15 minutes.
- Do not leave the batteries partially discharged for long period of time.
- Only charge the batteries in a well-ventilated area to prevent gas build up. Charge batteries in areas with ambient temperatures 27°C (80°F) or less.
- Allow the charger to complete charging the batteries before re-using the machine.
- Maintain the proper electrolyte levels of flooded (wet) batteries by checking levels weekly.

⚠ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.

FOR SAFETY: When servicing batteries, wear protective gloves and eye protection when handling batteries and battery cables. Avoid contact with battery acid.

USING THE ON-BOARD BATTERY CHARGER

1. Transport the machine to a well-ventilated area.
2. Park the machine on a flat, dry surface and turn the key off.
3. Check the battery fluid level frequently to prevent battery damage. The fluid should be at the level shown (Figure 1). Add distilled water if low. **DO NOT OVERFILL.** The fluid may expand and overflow when charging. After charging, distilled water can be added up to about 3 mm (0.12 in) below the sight tubes.

NOTE: Make sure the battery caps are in place while charging. There may be a sulfur smell after charging batteries. This is normal.

CORRECT BATTERY FLUID LEVEL:

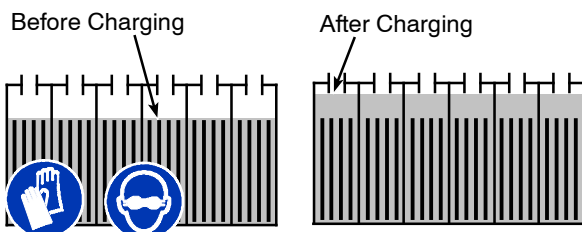


FIG. 1

4. Prop open the recovery tank for ventilation before charging batteries (Figure 2).
5. Connect the charger's AC power supply cord into a properly grounded receptacle (Figure 2).

⚠ WARNING: Electrical Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.



FIG. 2

⚠ WARNING: Fire Or Explosion Hazard. Do Not Charge Batteries with Damaged Power Supply Cord. Do Not Modify Plug.

If the charger supply cord is damaged or broken, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

6. The charger will display a sequence of codes once the cord is connected (Figure 3).

Three-digits + the following code:

A = Charging current

U = Battery Voltage

h = Charging time

C = Charging ampere- hours [Ah]

E = Energy used [Kwh]

“GEL” or “Acd” = Current charger setting.
GEL=Sealed, Acd=WET (lead acid).

To change setting, see ON-BOARD CHARGER SETTINGS.

Press the arrow button below the display to review the codes.



FIG. 3

7. Once the charging cycle begins, the indicator lights will progress from red, yellow to green. When the green indicator light comes on, the charging cycle is done. Unplug the charger cord.

If the charger detects a problem, the charger will display an error code (See ON-BOARD BATTERY CHARGER ERROR CODES below).

ON-BOARD BATTERY CHARGER ERROR CODES

DISPLAY CODE	FAULT	SOLUTION
bat	Loose or damaged battery cable	Check battery cable connections.
	Battery exceeded maximum voltage level.	No action necessary.
E01	Exceeded maximum battery voltage allowed.	No action necessary.
E02	Safety thermostat exceeded maximum internal temperature.	Check if the charger vents are obstructed.
E03	Exceeded maximum time for charging phase leaving the batteries undercharged due to a sulfated or faulty battery.	Repeat the charging cycle and if the error code E03 reappears check battery or replace it.
SCt	Safety timer exceeded maximum charging time. Interrupts charging cycle.	Replace battery.
Srt	Possible internal short circuit.	Contact Service Center.

ON-BOARD CHARGER TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
On-board battery charger will not operate	Plug not connected to power supply	Check plug connection
	Faulty charger fuse	Replace charger fuse
	Faulty power supply cord	Replace cord
	Error detected.	See On-board Battery Charger Error Codes

ON-BOARD BATTERY CHARGER SETTINGS:

If changing from a wet/lead acid or gel/sealed/maintenance free battery, the battery charger setting must be changed to prevent possible battery damage.

To verify the current setting of the charger, connect the charger cord into an electrical receptacle. The charger will display a sequence of codes. The battery type code will either read "GEL" or "Acid" (Figure 4).

GEL = Set for sealed/maintenance free batteries
Acid = Set for wet/lead acid batteries



FIG. 4

To change the setting, unplug the charger, peel up the corner of the display label and set the switches accordingly (Fig. 5). The charger cord must be unplugged when resetting.



SEALED "GEL" BATTERY



WET "Acid" BATTERY

FIG. 5

ON-BOARD CHARGER FUSE REPLACEMENT

Required Replacement Fuse: 15 Amp (part no. 1030692). Never substitute a higher Amp rated fuse than specified.

To replace a blown fuse:

1. Unplug the charger's AC power supply cord before replacing the fuse.

⚠ WARNING: Electrical Hazard, Unplug Charger Plug Before Servicing.

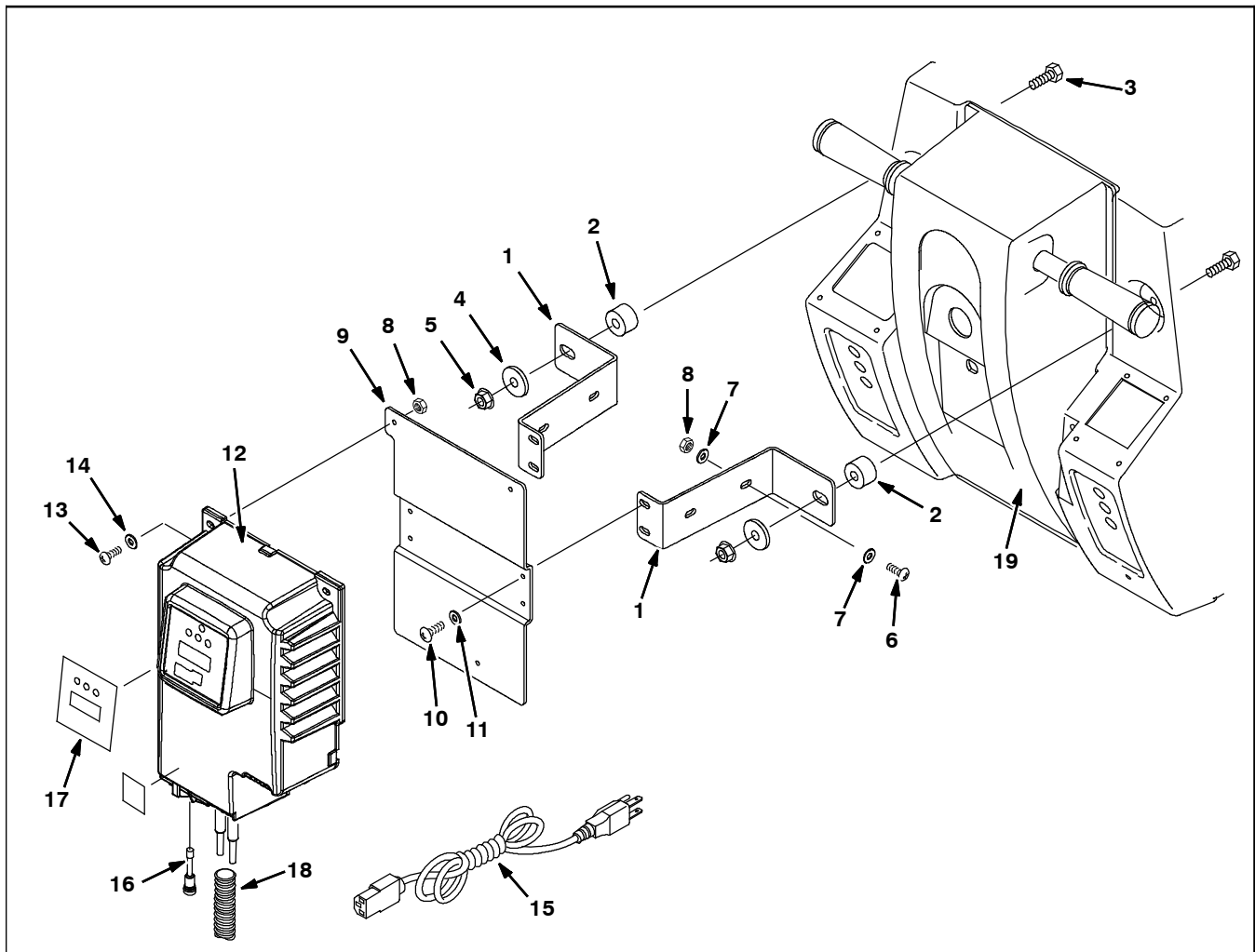
2. Using a screw driver, remove the fuse holder located at the bottom of the charger (Figure 6).



FIG. 6

ON-BOARD BATTERY CHARGER SPECIFICATIONS

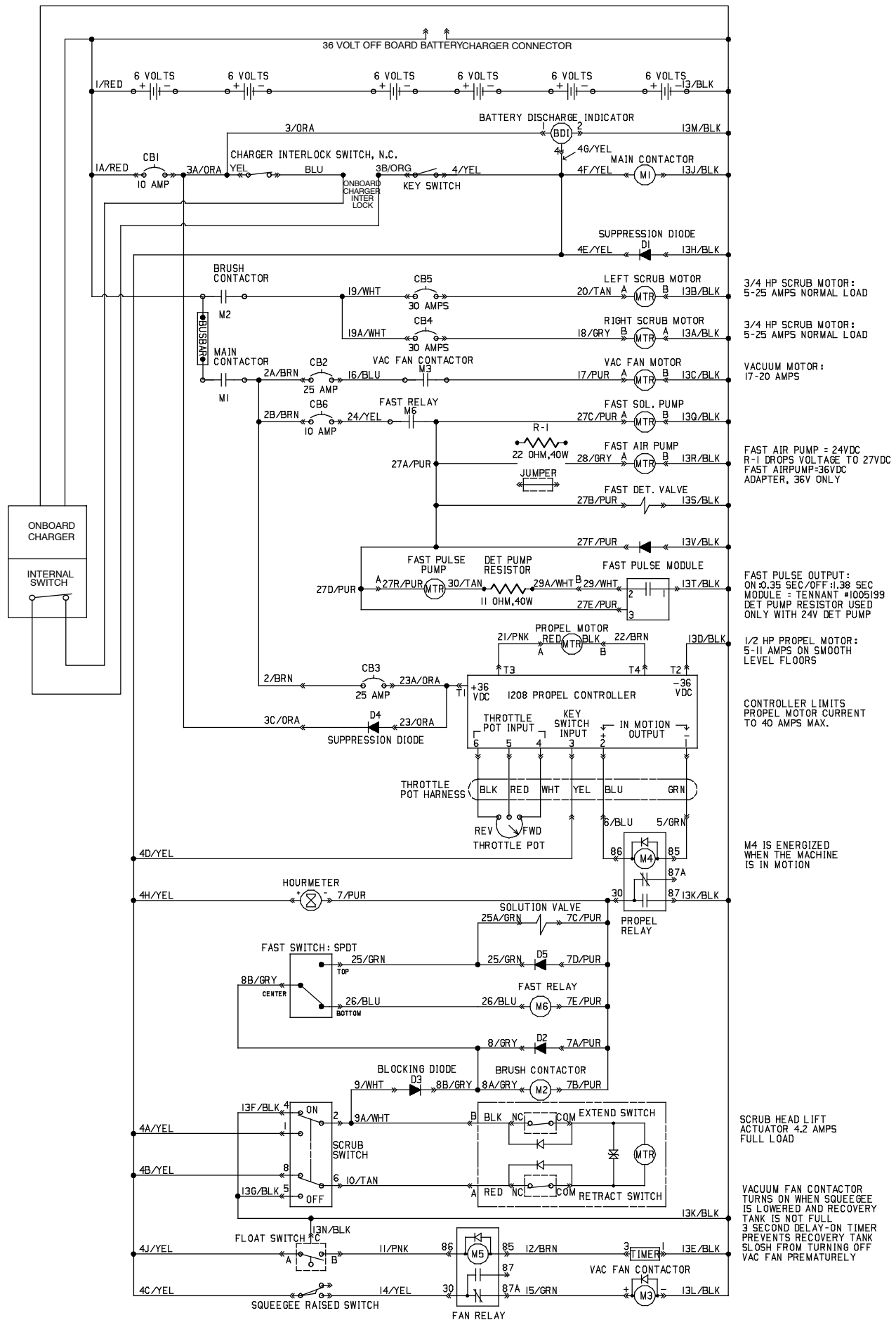
120VAC, 10 A, 50/60 Hz, 36VDC, 20 A output	230VAC, 5 A, 50/60 Hz, 36VDC, 20 A output
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36VDC On- Board Battery Charger Kit Replacement Parts

Ref.	Tennant Part No.	Description	Qty.
1	1042932	BRACKET, PLATE, CHARGER	2
2	1043035	SPACER, .375B, 1.00D, .635L	2
3	222504	SCREW, HEX, M8 X 1.25 X 55, SS	2
4	41178	WASHER, FLAT, 0.25 FENDR	2
5	07791	NUT, HEX, FLNG (5680 ONLY)	2
6	06934	SCREW, PAN, PHL, M5 X 0.80 X 20, 4.8	4
7	01683	WASHER, FLAT, 10, SS	8
8	06549	NUT, HEX, LOCK, M5 X 0.80, NL	6
9	1043011	PLATE, CHARGER	1
10	604930	SCREW, TRS, M5 X 0.80 X 10, PHL, PL, NL	4
11	01683	WASHER, FLAT, 10, SS	4
12	1044219	CHARGER, 36VDC 20A 85- 130VAC[ONBOARD]	1
13	55845	SCREW, HEX, M5 X 0.80 X 16	3
14	01683	WASHER, FLAT, 10, SS	3
15	1025642	CORD, POWER, 16/3, 4.5 METERS, BLK [US]	1
16	1030692	FUSE, 15A, F/1022874, REPLMT	1
17	1025158	LABEL, CHARGER, AFMKT	1
18	1020338	CONDUIT, NYL, .50D 02FT	1
19	1048466	SHROUD, STEERING ADJ. [5680 W/ OBC]	1
19	1048467	SHROUD, STEERING ADJ. [5700 W/ OBC]	1

5680 Electrical Schematic



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