

## For Bobcat™ 250 Models With Battery Charging Kit 195 153

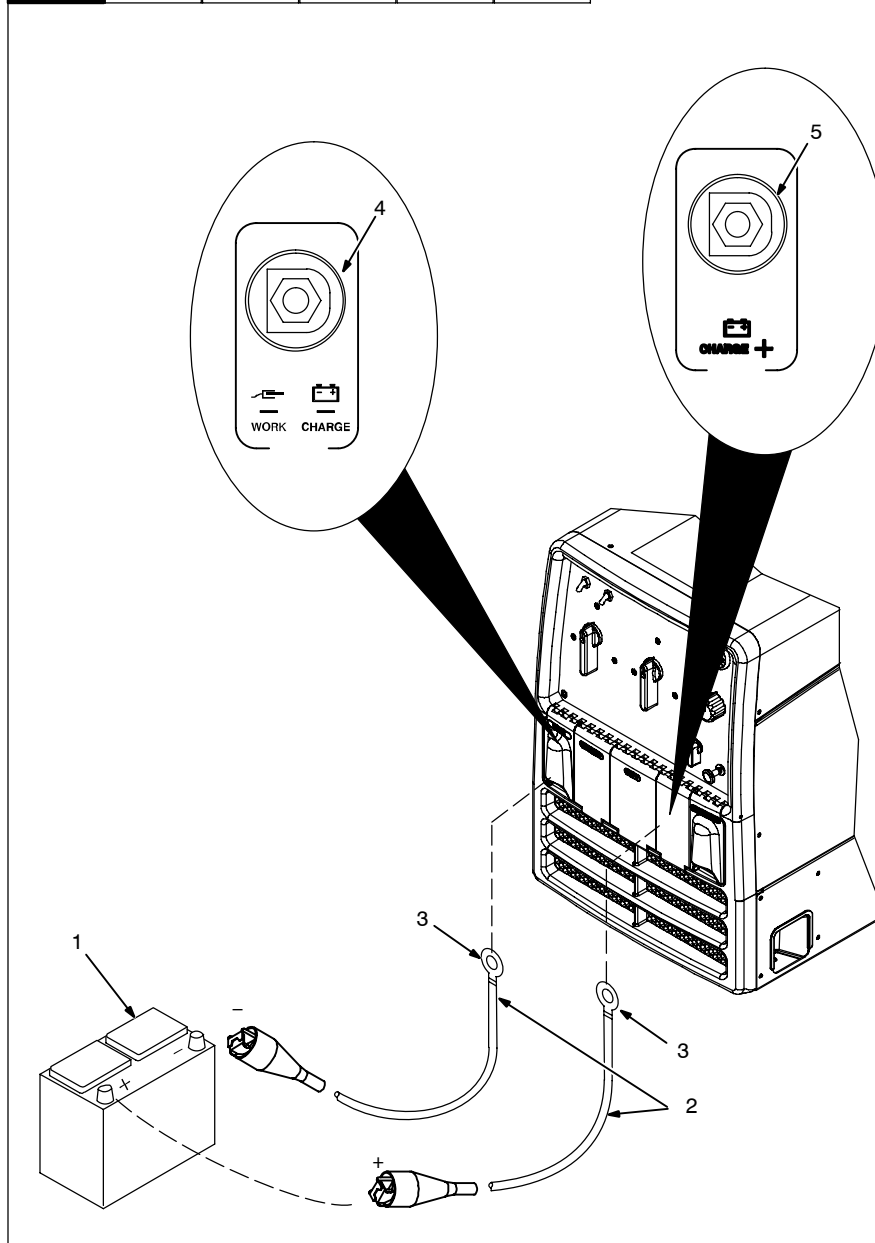
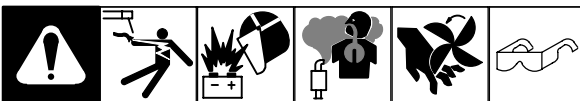
The data contained in this supplement is either in addition to or takes exception to data appearing later in this manual.

# OPERATING OPTIONAL BATTERY CHARGER


## NOTE

Delete all references to CC/AC welding. CC/AC output is not available on units with battery charging.

### 1. Connecting To Battery Charge Output Terminals



- ▲ Stop engine.
- ▲ Do not charge a battery which has loose terminals or one showing damage such as a cracked case or cover.
- ▲ Have only qualified persons do battery charging work.
- ▲ Keep cables away from moving parts.
- ▲ Do not use damaged cables.
- ▲ Be sure charger output voltage matches battery voltage.
- ▲ Read BCI Battery Service Manual before charging.

 Connect charging cables to battery charge output terminals before connecting to battery terminals.

- 1 Battery
- 2 Battery Charging Cables

Use less than 20 feet (6.1 m) of AWG #1 or larger cable.

- 3 Terminal Lugs

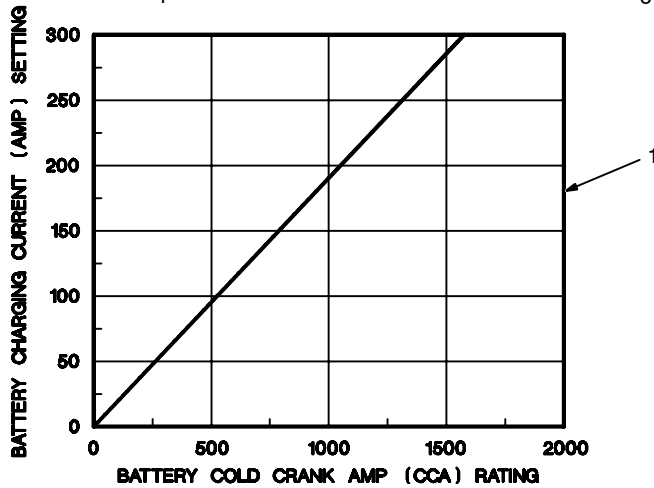
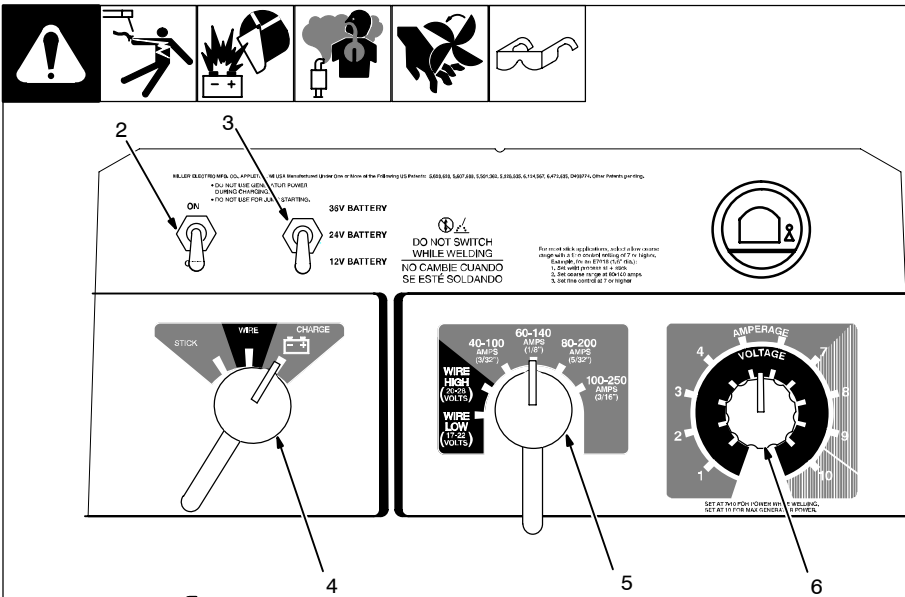
Use lugs of proper amperage capacity and hole size for connecting to charge output terminals.

Install suitable connectors on remaining ends of battery cables.

- 4 Battery Charge Negative (-) Output Terminal
- 5 Battery Charge Positive (+) Output Terminal

Connect positive battery cable to DC Charge + (positive) terminal and negative battery cable to Charge - (negative) terminal.

## 2. Setting Battery Charge Controls



▲ **Have only qualified persons charge batteries.**

### 1 Current Setting Chart

Find cold crank amp (CCA) rating on battery. Use CCA rating on chart to find battery charge current. Do not exceed charging current found on chart. For longer battery life, use lowest charge rate possible.

### 2 Battery Charging Switch

Place switch in On position to turn on charging current. Place switch in Off position to turn off charging current.

### 3 Charge Voltage Switch

Place switch in position matching voltage of battery being charged.

### 4 Weld Process Switch

▲ **Place switch in Charge position before connecting charging cables and starting engine.**

### 5 Coarse Range Switch

### 6 Fine Control

Use Coarse Range switch and Fine Control to set charge current.

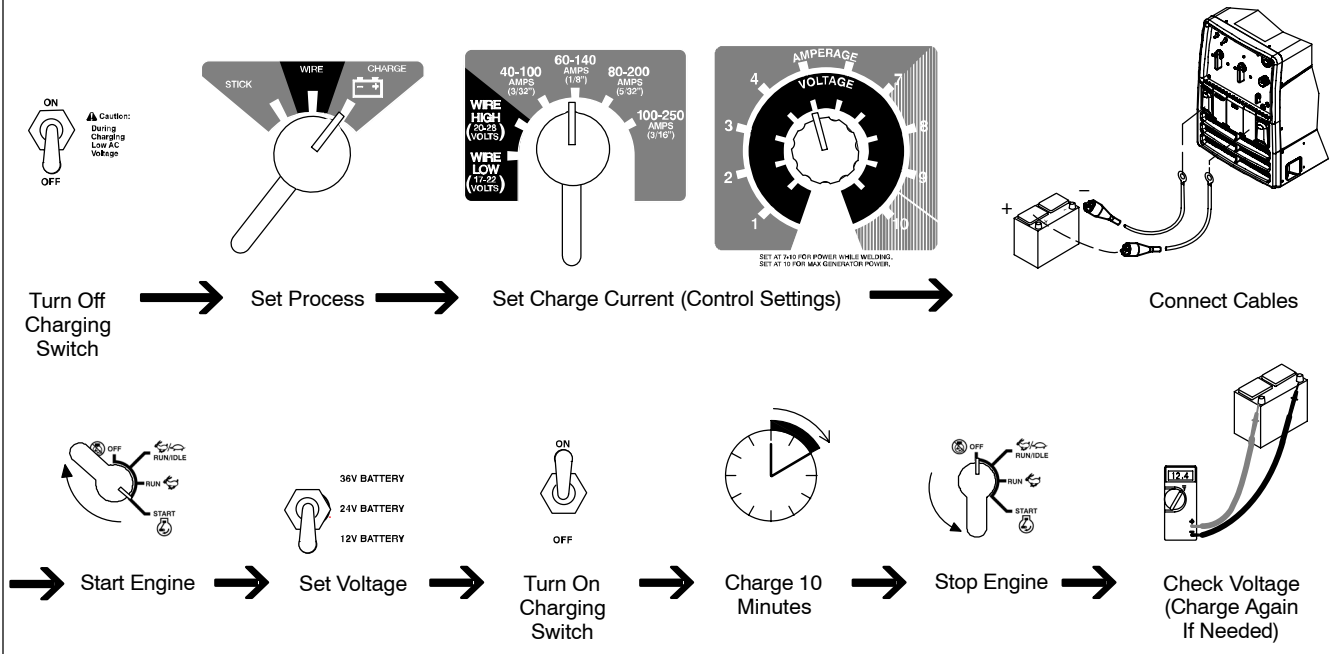
▲ **Do not change Coarse Range or Weld Process switch position while welding or battery charging.**

☞ *Charging current automatically stops when terminal voltage is 15 to 25 percent above required battery voltage.*

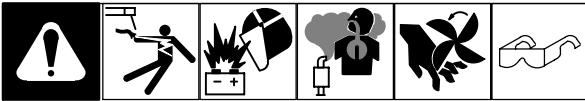
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### Example: Battery Charging Procedure

In Example:  
 Battery Voltage = 12 V  
 Battery Rating = 500 CCA  
 Battery Charge Current = 100 A (From Table)  
 Control Settings: 50% of 60 to 140 A = 100 A

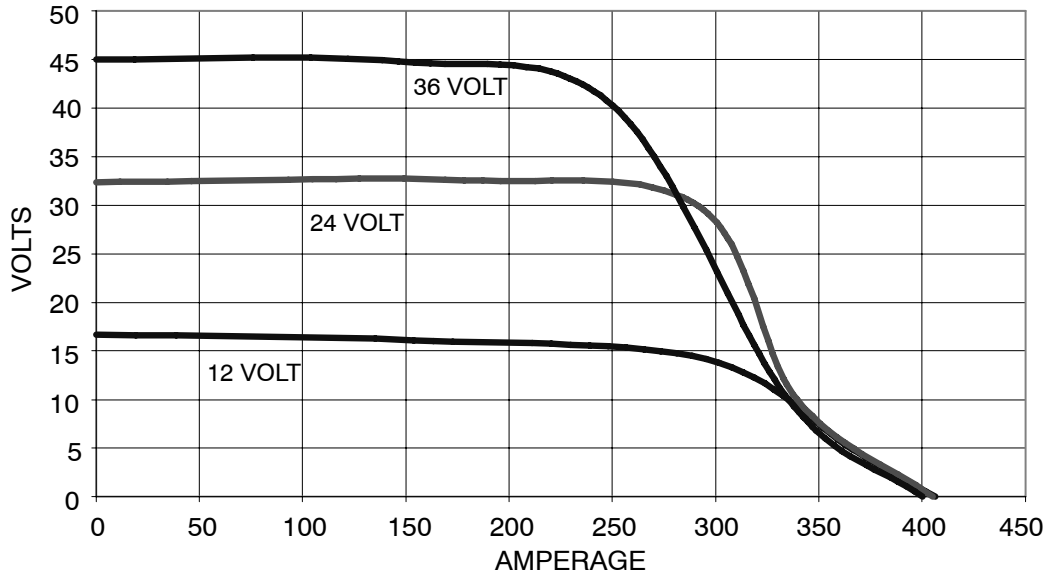


### 3. Battery Charger Volt Ampere Curves



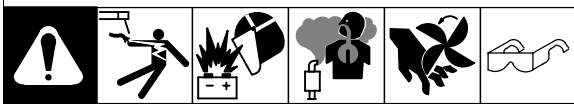
The battery charging curves show the charging amperage and voltage output of the welding generator.

As battery voltage nears the charging voltage, charging current decreases.



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### 4. Troubleshooting



Trouble	Remedy
No battery charging output.	Be sure Weld Process switch is in Charge position.
	Be sure Battery Charging switch is in Battery On position.
	Check battery voltage. Battery charging may be done.
	Have Factory Authorized Service Agent check battery charge regulator board PC2.
Charging current turns on and off while charging battery.	Clean and tighten battery connections, if necessary. Clean battery terminals and posts with baking soda and water solution; rinse with clear water.
	Decrease Coarse Range control or Fine Control settings.

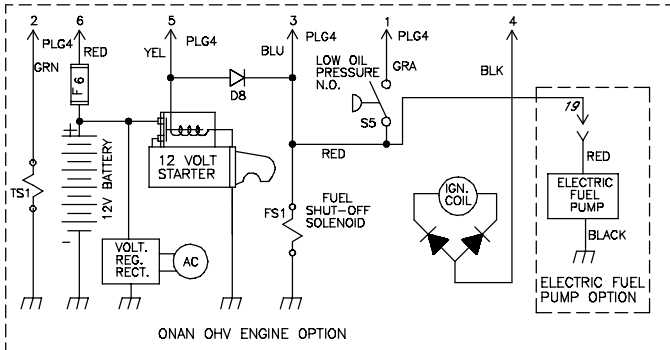
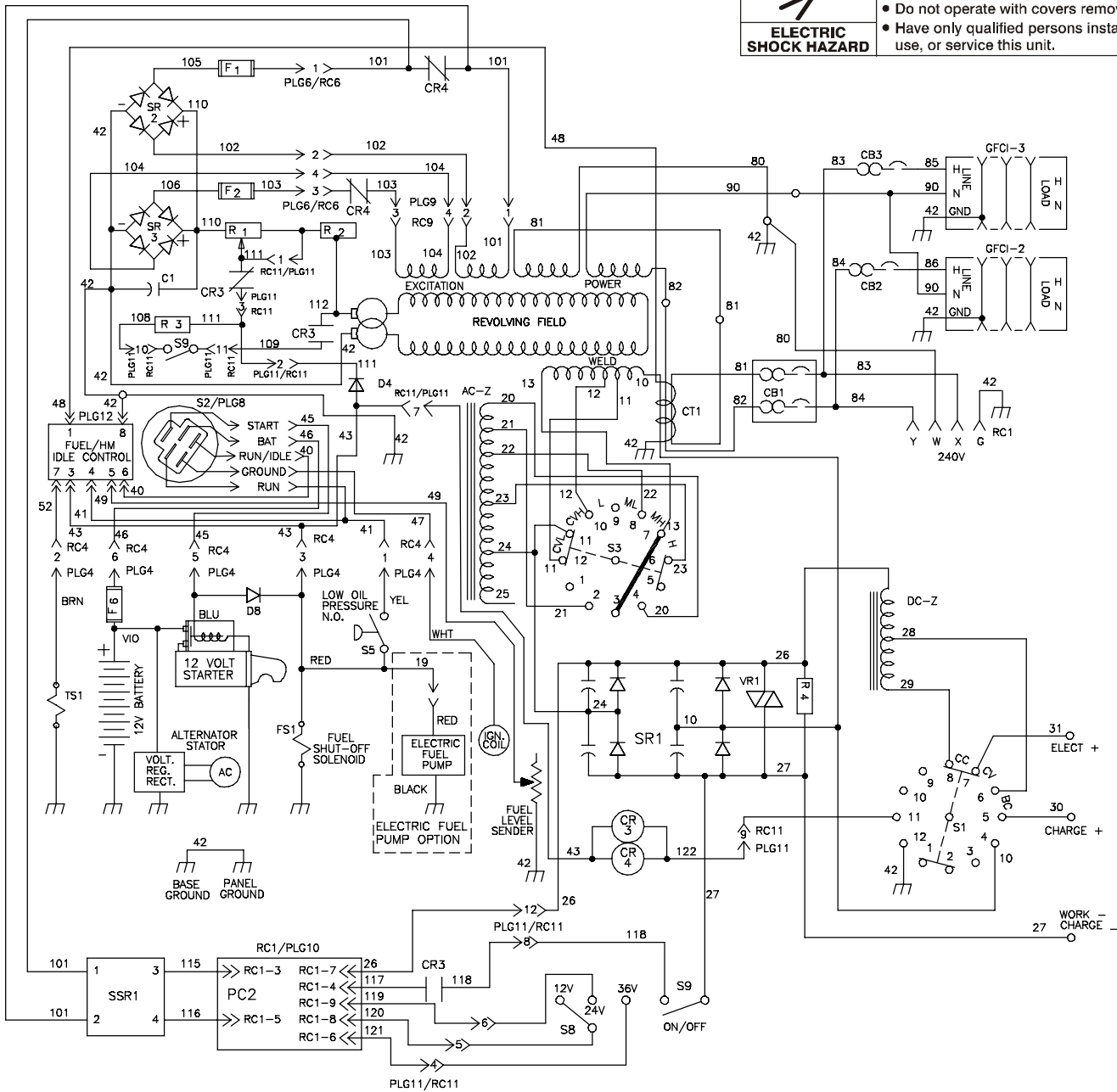
# 5. Circuit Diagram For Bobcat 250 With Battery Charging

**⚠ WARNING**



- Do not touch live electrical parts.
- Disconnect input power or stop engine before servicing.
- Do not operate with covers removed.
- Have only qualified persons install, use, or service this unit.

**ELECTRIC SHOCK HAZARD**



A	B	C	D	E	F
1T	O	O	O	O	O
42	82	80	90	81	
42	82	80	90	81	
42	42				

(POSITION)

(TERMINAL)	S2	OFF	IDLE	IRUN	START
	RUN/IDLE	O	X		
	RUN		X	X	X
	START				X
	GROUND	O			

X = CLOSED TO "B" TERMINAL  
O = CLOSED TO BASE GROUND

## 6. Parts List

Dia. Mkgs.	Part No.	Description	Quantity
.. S1	226748	.. Switch, Polarity W/Leads & Jumpers	1
	039047	.. Terminal, Pwr Output Red	2
	039046	.. Terminal, Pwr Output Black	1
	220002	.. Bracket, w/Components (includes)	1
	219980	.. Bracket, Mtg Components	1
	165316	.. Stand-off, No 6-32 X .875 Lg .312 Hex Nyl .156 Ho	4
	072785	.. Screw, 006-32x .37 Hexwhd-pln Stl Pld Slffmg Tap-rw	8
.. SSR1	182088	.. Relay, Solid State 3-32vdc 25a/240vac	1
	129351	.. Screw, 008-32x .75 Hexwhd.34d Stl Pld Slffmg Tap-rw	2
.. CR3	044588	.. Relay, Encl 12vdc 3pdt 10a/120vac 11pin Flange Mtg	1
.. CR4	113247	.. Relay, Encl 12vdc Dpdt 20a/120vac 8pin Flange Mtg	1
.. R2	200518	.. Resistor, Ww Fxd 225 W 3.15 Ohm W/2.85 Ta	1
.. R3	141424	.. Resistor, Ww Fxd 30 W 25 Ohm Faston Te	1
	176868	.. Screw, 010-32x .87 Hexwhd-slt Stl Pld Slftpg	2
.. PLG10	150316	.. Conn, Rect Univ 039 6p/S 3row Plug Cable Lkg	1
.. PLG9	114063	.. Conn, Rect Univ 084 4p/S 1row Plug Cable Lkg	1
.. RC6	168844	.. Conn, Rect Univ 084 4p/S 1row Rcpt Cable/Panel Lkg	1
.. PLG11	158465	.. Conn, rect univ 084 12p/s 3row plug cable lkg	1
	216366	.. Bushing, snap-in nyl .500 id x .625 mtg hole	1
	003937	.. Term, Frict 250x032 Uninsul Comb 2m/1f Spl	4
	228203	.. Panel, Front	1
	053300	.. Screw, 250-20x .62 Hex Hd.50d Gr5 Pld Conical Washe	4
	005107	.. Bolt, Crg Stl .250-20 X .750 Gr5 Pld	2
	152461	.. Nut, 250-20 .44hex .23h Stl Pld Sem Cone Wshr.65d	4
.. PC2	209255	.. Circuit Card Assy, Battery Charger	1
	021385	.. Boot, Toggle Switch Lever	2
	227734	.. Label, Warning Battery Charging Precautions (Bilingual)	1
	072928	.. Manual, Battery Storage Tech Service Manu	1
	225898	.. Bracket, w/components/harness (includes)	1
.. S8	128808	.. Switch, tgl sptt 15a 125vac on-on-on spd term chrom	1
.. S9	028111	.. Switch, tgl dpst 20a 250v spd term	1

BE SURE TO PROVIDE MODEL AND SERIAL NUMBER WHEN ORDERING REPLACEMENT PARTS.