



TM-268 819A

2014-11

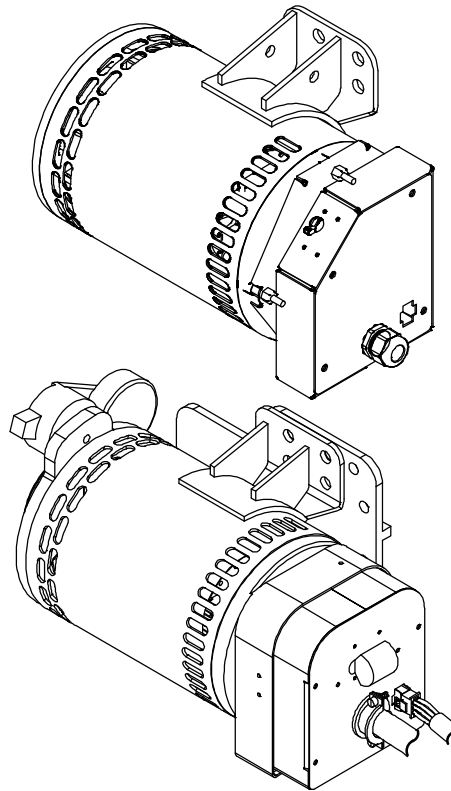
Eff. w/MD040275R And Following

Description



Belt-Driven Generator

# 4 kW And 7.5 kW Belt-Drive Generators



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## TECHNICAL MANUAL

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# SECTION 1 – SAFETY PRECAUTIONS FOR SERVICING

 Protect yourself and others from injury — read, follow, and save these important safety precautions and operating instructions.

## 1-1. Symbol Usage


OM-268 819A - 2014-06, safety\_rtm 2013-09

 **DANGER!** – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

 Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

**NOTICE** – Indicates statements not related to personal injury.

## 1-2. Servicing Hazards

 The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard.

 Only qualified persons should test, maintain, and repair this unit.

 During servicing, keep everybody, especially children, away.

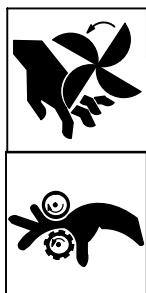


### ELECTRIC SHOCK can kill.

- Do not touch live electrical parts.
- Stop engine and remove input power plug from receptacle (if applicable) before testing or repairing unit unless the procedure specifically requires an energized unit.
- Insulate yourself from ground by standing or working on dry insulating mats big enough to prevent contact with the ground.
- Do not leave live unit unattended.
- If this procedure requires an energized unit, have only personnel familiar with and following standard safety practices do the job.
- When testing live unit, use the one-hand method. Do not put both hands inside unit. Keep one hand free.

**SIGNIFICANT DC VOLTAGE exists in inverter power sources AFTER stopping engine.**

- Stop engine on inverter and discharge input capacitors according to instructions in Troubleshooting Section before touching any parts.



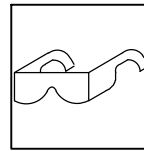
### MOVING PARTS can injure.

- Keep away from moving parts such as fans, belts, and rotors.
- Keep away from pinch points such as drive rolls.
- Have only qualified people remove doors, panels, covers, or guards for maintenance and troubleshooting as necessary.
- Keep hands, hair, loose clothing, and tools away from moving parts.
- Before working on generator, remove spark plugs or injectors to keep engine from kicking back or starting.
- Block flywheel so that it will not turn while working on generator components.
- Reinstall doors, panels, covers, or guards when servicing is finished and before starting engine.

 Indicates special instructions.

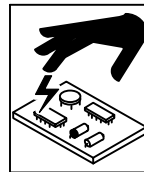


This group of symbols means Warning! Watch Out! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid the hazards.



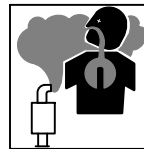
### FLYING METAL or DIRT can injure eyes.

- Wear safety glasses with side shields or face shield during servicing.
- Be careful not to short metal tools, parts, or wires together during testing and servicing.



### STATIC (ESD) can damage PC boards.

- Put on grounded wrist strap BEFORE handling boards or parts.
- Use proper static-proof bags and boxes to store, move, or ship PC boards.



### Using a generator indoors CAN KILL YOU IN MINUTES.

- Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.
- NEVER use inside a home or garage, EVEN IF doors and windows are open.
- Only use OUTSIDE and far away from windows, doors, and vents.

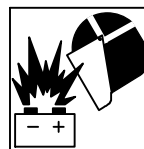


### FUEL can cause fire or explosion.

- Stop engine and let it cool off before checking or adding fuel.
- Do not add fuel while smoking or if unit is near any sparks or open flames.
- Do not overfill tank; clean up any spilled fuel.

### FIRE OR EXPLOSION hazard.

- Do not place unit on, over, or near combustible surfaces.
- Do not service unit near flammables.



### BATTERY EXPLOSION can BLIND.

- Always wear a face shield, rubber gloves, and protective clothing when working on a battery.
- Stop engine before disconnecting or connecting battery cables.
- Do not allow tools to cause sparks when working on a battery.
- Do not use welder to charge batteries or jump start vehicles.
- Observe correct polarity (+ and -) on batteries.
- Disconnect negative (-) cable first and connect it last.



### BATTERY ACID can BURN SKIN and EYES.

- Do not tip battery.
- Replace damaged battery.
- Flush eyes and skin immediately with water.



### STEAM AND HOT COOLANT can burn.

- If possible, check coolant level when engine is cold to avoid scalding.
- Always check coolant level at overflow tank, if present on unit, instead of radiator.
- If the engine is warm, checking is needed, and there is no overflow tank, follow the next two statements.
- Wear safety glasses and gloves and put a rag over radiator cap.
- Turn cap slightly and let pressure escape slowly before completely removing cap.



### ELECTRIC AND MAGNETIC FIELDS (EMF) can affect Implanted Medical Devices.

- Wearers of Pacemakers and other Implanted Medical Devices should keep away from servicing areas until consulting their doctor and the device manufacturer.



### FALLING EQUIPMENT can injure.

- Use lifting eye to lift unit and properly installed accessories only, NOT gas cylinders. Do not exceed maximum lift eye weight rating (see Specifications).
- Use equipment of adequate capacity to lift and support unit.
- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.
- Follow the guidelines in the Applications Manual for the Revised NIOSH Lifting Equation (Publication No. 94-110) when manually lifting heavy parts or equipment.



### HOT PARTS can burn.

- Do not touch hot engine parts bare-handed.
- Allow cooling period before working on equipment.
- To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.

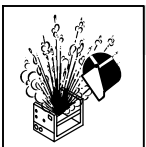


### TILTING OR TIPPING can injure.

- Do not put any body part under unit while lifting.
- Always use proper equipment (hoists, slings, chains, blocks, etc.) of adequate capacity to lift and support components (stator, rotor, engine, etc.) as needed during job.

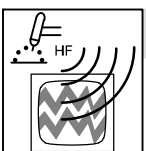
### PINCH POINTS can injure.

- Be careful when working on stator and rotor assemblies.



### EXPLODING PARTS can injure.

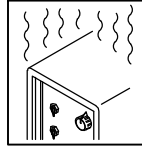
- Failed parts can explode or cause other parts to explode when power is applied to inverters.
- Always wear a face shield and long sleeves when servicing inverters.



### H.F. RADIATION can cause interference.

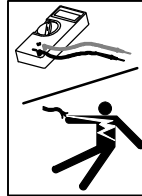
- High-frequency (H.F.) can interfere with radio navigation, safety services, computers, and communications equipment.
- Have only qualified persons familiar with electronic equipment perform this installation.
- The user is responsible for having a qualified electrician promptly correct any interference problem resulting from the installation.
- If notified by the FCC about interference, stop using the equipment at once.

- Have the installation regularly checked and maintained.
- Keep high-frequency source doors and panels tightly shut, keep spark gaps at correct setting, and use grounding and shielding to minimize the possibility of interference.



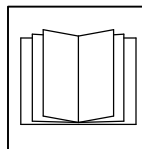
### OVERUSE can cause OVERHEATING.

- Allow cooling period; follow rated duty cycle.
- Reduce current or reduce duty cycle before starting to weld again.
- Do not block or filter airflow to unit.



### SHOCK HAZARD from testing.

- Stop engine or turn Off welding power source (if applicable) before making or changing meter lead connections.
- Use at least one meter lead that has a self-retaining spring clip such as an alligator clip.
- Read instructions for test equipment.



### READ INSTRUCTIONS.

- Use Testing Booklet (Part No. 150 853) when servicing this unit.
- Consult the Owner's Manual for welding safety precautions.
- Use only genuine replacement parts from the manufacturer.
- Read and follow all labels and the Technical Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the manual and in each section.
- Perform maintenance and service according to the Technical Manual, industry standards, and national, state, and local codes.
- Reinstall injectors and bleed air from fuel system according to engine manual.



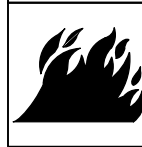
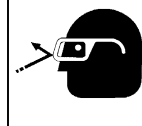
### HYDRAULIC EQUIPMENT can injure or kill.

- Before working on hydraulic system, turn off and lockout/tagout unit, release pressure, and be sure hydraulic pressure cannot be accidentally applied.
- Do not work on hydraulic system with unit running unless you are a qualified person and following the manufacturer's instructions.
- Do not modify or alter hydraulic pump or manufacturer-supplied equipment. Do not disconnect, disable, or override any safety equipment in the hydraulic system.
- Keep away from potential pinch points or crush points created by equipment connected to the hydraulic system.
- Do not work under or around any equipment that is supported only by hydraulic pressure. Properly support equipment by mechanical means.



### HYDRAULIC FLUID can injure or kill.

- Before working on hydraulic system, turn off and lockout/tagout unit, release pressure, and be sure hydraulic pressure cannot be accidentally applied.
- Relieve pressure before disconnecting or connecting hydraulic lines.
- Check hydraulic system components and all connections and hoses for damage, leaks, and wear before operating unit.
- Wear protective equipment such as safety glasses, leather gloves, heavy shirt and trousers, high shoes, and a cap when working on hydraulic system.
- Use a piece of paper or cardboard to search for leaks—never use bare hands. Do not use equipment if leaks are found.

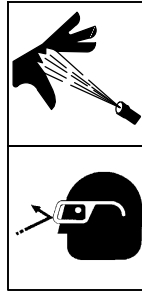


- HYDRAULIC FLUID is FLAMMABLE—do not work on hydraulics near sparks or flames; do not smoke near hydraulic fluid.
- Reinstall doors, panels, covers, or guards when servicing is finished and before starting unit.
- If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury or gangrene may result.



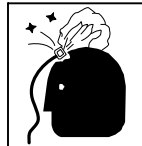
### COMPRESSED AIR EQUIPMENT can injure or kill.

- Before working on compressed air system, turn off and lockout/tagout unit, release pressure, and be sure air pressure cannot be accidentally applied.
- Do not work on compressed air system with unit running unless you are a qualified person and following the manufacturer's instructions.
- Do not modify or alter compressor or manufacturer-supplied equipment. Do not disconnect, disable, or override any safety equipment in the compressed air system.
- Keep away from potential pinch points or crush points created by equipment connected to the compressed air system.
- Do not work under or around any equipment that is supported only by air pressure. Properly support equipment by mechanical means.



### COMPRESSED AIR can injure or kill.

- Before working on compressed air system, turn off and lockout/tagout unit, release pressure, and be sure air pressure cannot be accidentally applied.
- Relieve pressure before disconnecting or connecting air lines.
- Check compressed air system components and all connections and hoses for damage, leaks, and wear before operating unit.
- Do not direct air stream toward self or others.
- Wear protective equipment such as safety glasses, hearing protection, leather gloves, heavy shirt and trousers, high shoes, and a cap when working on compressed air system.
- Use soapy water or an ultrasonic detector to search for leaks—never use bare hands. Do not use equipment if leaks are found.
- Reinstall doors, panels, covers, or guards when servicing is finished and before starting unit.
- If ANY air is injected into the skin or body seek medical help immediately.



### TRAPPED AIR PRESSURE AND WHIPPING HOSES can injure.

- Release air pressure from tools and system before servicing, adding or changing attachments, or opening compressor oil drain or oil fill cap.

## 1-3. California Proposition 65 Warnings

- ⚠ **Welding or cutting equipment produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)**
- ⚠ **Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.**
- ⚠ **This product contains chemicals, including lead, known to the state of California to cause cancer, birth defects, or other reproductive harm. Wash hands after use.**

#### For Gasoline Engines:

- ⚠ **Engine exhaust contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.**

#### For Diesel Engines:

- ⚠ **Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.**

## 1-4. EMF Information

Electric current flowing through any conductor causes localized electric and magnetic fields (EMF). The current from arc welding (and allied processes including spot welding, gouging, plasma arc cutting, and induction heating operations) creates an EMF field around the welding circuit. EMF fields may interfere with some medical implants, e.g. pacemakers. Protective measures for persons wearing medical implants have to be taken. For example, restrict access for passers-by or conduct individual risk assessment for welders. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

1. Keep cables close together by twisting or taping them, or using a cable cover.
2. Do not place your body between welding cables. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around your body.

4. Keep head and trunk as far away from the equipment in the welding circuit as possible.
5. Connect work clamp to workpiece as close to the weld as possible.
6. Do not work next to, sit or lean on the welding power source.
7. Do not weld whilst carrying the welding power source or wire feeder.

#### About Implanted Medical Devices:


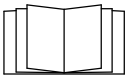





Implanted Medical Device wearers should consult their doctor and the device manufacturer before performing or going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations. If cleared by your doctor, then following the above procedures is recommended.

# SECTION 2 – DEFINITIONS

## 2-1. Additional Safety Symbols And Definitions

	<p>Moving parts can injure.</p>	<p>Safe100 2012-08</p>
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## 2-2. Miscellaneous Symbols And Definitions

	Circuit Breaker		Read Operator's Manual	<b>A</b>	Amperes	<b>V</b>	Volts
<b>+</b>	Positive	<b>—</b>	Negative		Alternating Current (AC)		Output
	Time	<b>h</b>	Hours		Temperature		Protective Earth (Ground)

## Notes

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# SECTION 3 – SPECIFICATIONS

## 3-1. Description

This belt-driven generator supplies ac power to the platform to run tools, lights, and cutting and welding equipment. All power regulation components are located in a control box that is connected by cable to the generator. The generator supplies power when running at the specified speed with the Power switch on (switch is located on platform). For the 4 kW models, a 2-pole, 20 Amp circuit breaker protects the generator from overload. For 7.5 kW models, a 3-pole, 30 Amp circuit breaker protects the generator from overload. The 4 kW model is brushless.

## 3-2. 4 kW Model Specifications

Drive-Type	Output	Generator Speed
Belt-Drive/Pulley	Single-Phase, 4 kVA/kW, 20 A, 120/240 V, 60 Hz or 115/230 V, 50 Hz 1.0 Power Factor 100% Duty Cycle	3000 rpm (50 Hz) 3600 rpm (60 Hz)

Generator Dimensions		Control Box Dimensions	
Length	18-3/4 in (476 mm)	Length	11-1/2 in (292 mm)
Width	9-1/4 in (235 mm)	Width	9-1/2 in (241 mm)
Height	13 in (330 mm)	Height	4-1/2 in (114 mm)
<b>Weight</b>		<b>Weight</b>	
100 lb (45 kg)		8 lb (4 kg)	

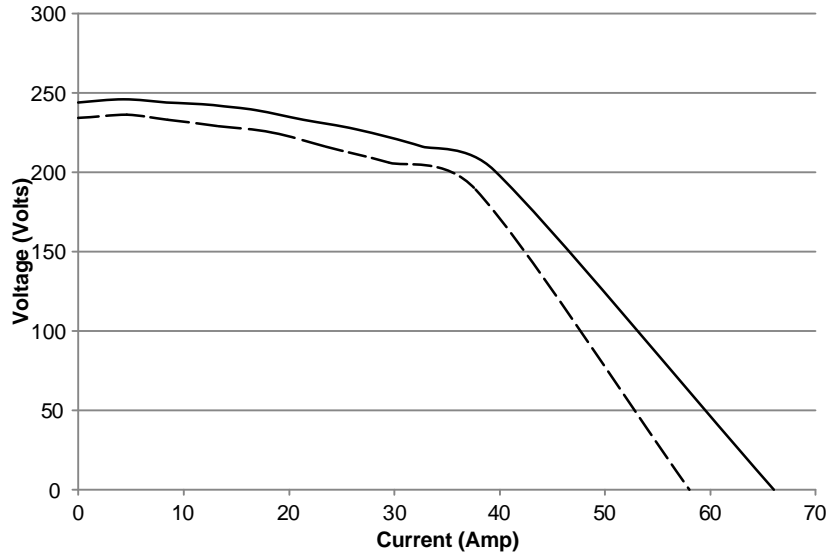
## 3-3. 7.5 kW Model Specifications

Drive-Type	Output	Generator Speed
Belt-Drive/Pulley	Single-Phase, 6 kVA/kW, 25 A, 120/240 V, 50/60 Hz 1.0 Power Factor 100% Duty Cycle  Three-Phase 7.5 kVA/kW, 18 A, 240 V, 50/60 Hz, 1.0 Power Factor 100% Duty Cycle	3000 rpm (50 Hz) 3600 rpm (60 Hz)

Generator Dimensions		Control Box Dimensions	
Length	20-1/2 in (521 mm)	Length	11-1/2 in (292 mm)
Width	9 in (229 mm)	Width	9-1/2 in (241 mm)
Height	13 in (330 mm)	Height	4-1/2 in (114 mm)
<b>Weight</b>		<b>Weight</b>	
110 lb (50 kg)		10 lb (5 kg)	

### 3-4. AC Power Curve

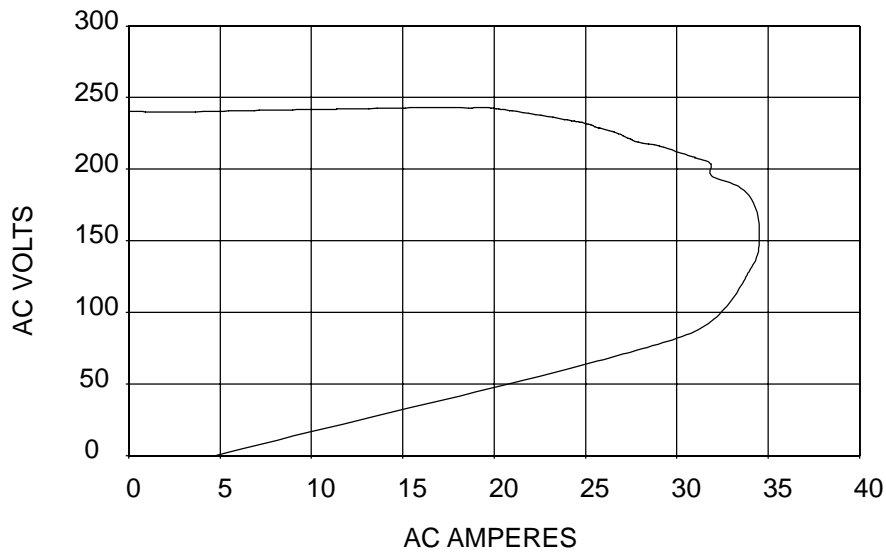
#### 4 kW Models



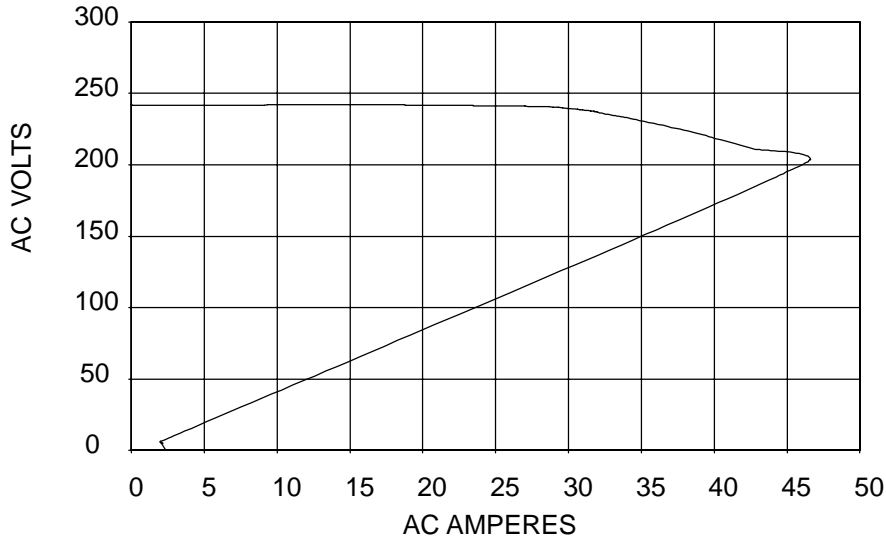
The ac power curve shows the power in amperes available from the generator.

#### 7.5 kW Models

##### 7.5 kW Three-Phase



##### 6 kW Single-Phase



209 397 / 209 398 / 265 921



# SECTION 4 – MAINTENANCE AND TROUBLESHOOTING

## 4-1. Maintenance Schedule

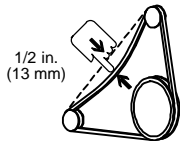


**⚠ Stop engine before maintaining.**

☞ *Service more often if used in severe conditions.*

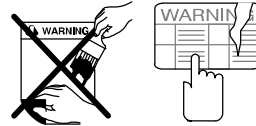
\* To be done by Factory Authorized Service Agent.

**🕒 Every 250 h**



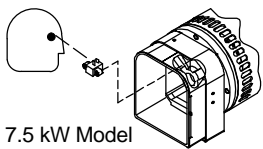
1/2 in.  
(13 mm)

Check Belt  
Tension



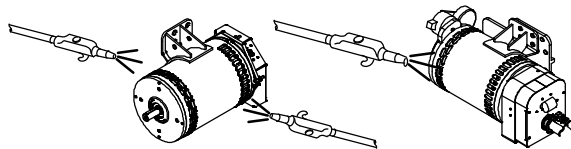
Replace  
Unreadable  
Labels.

**🕒 Every 1000 h**



7.5 kW Model

Service 7.5 kW  
Generator Brushes And  
Slip Rings. Service  
More Often In Dirty  
Conditions.\*



Blow Out Inside Of  
Generator.  
During Heavy Service,  
Clean Monthly.

## 4-2. Overload Protection



**⚠ Stop engine.**

☞ *When a circuit breaker opens, it usually indicates a more serious problem exists. Contact Factory Authorized Service Agent.*

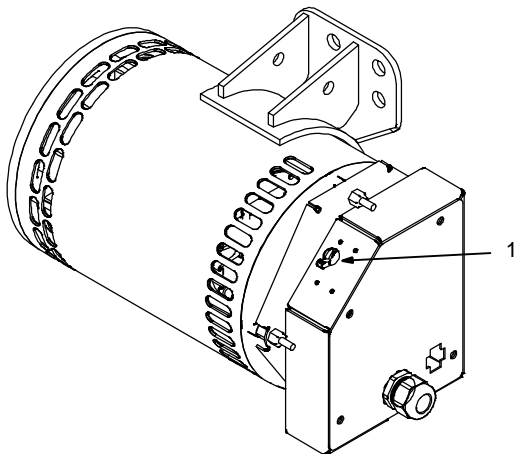
Open cover to access generator.

1 Circuit Breaker CB1

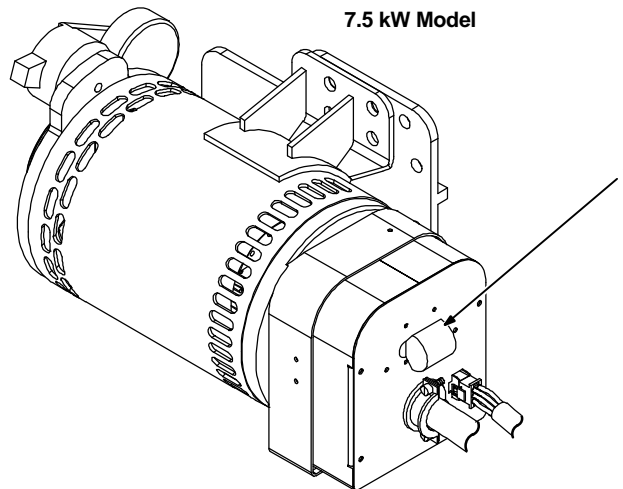
CB1 protects the generator windings from overload. If CB1 opens, generator output stops.

Close covers before operating unit.

4 kW Model



7.5 kW Model



803 233 / 250 654

# SECTION 5 – 4 kW MODELS THEORY OF OPERATION

## 1 Engine

Supplies force to turn revolving field (rotor).

## 2 Revolving Field (Rotor)

Turns at 3000 rpm (50 Hz) or 3600 rpm (60 Hz). The speed determines voltages in stator windings.

## 3 Stator Windings

Supply power to generator power circuits.

## 4 Control Relay CR1

When 12 volts DC (battery voltage) is applied, CR1 energizes to complete the circuit allowing generator output.

## 5 Capacitor C1

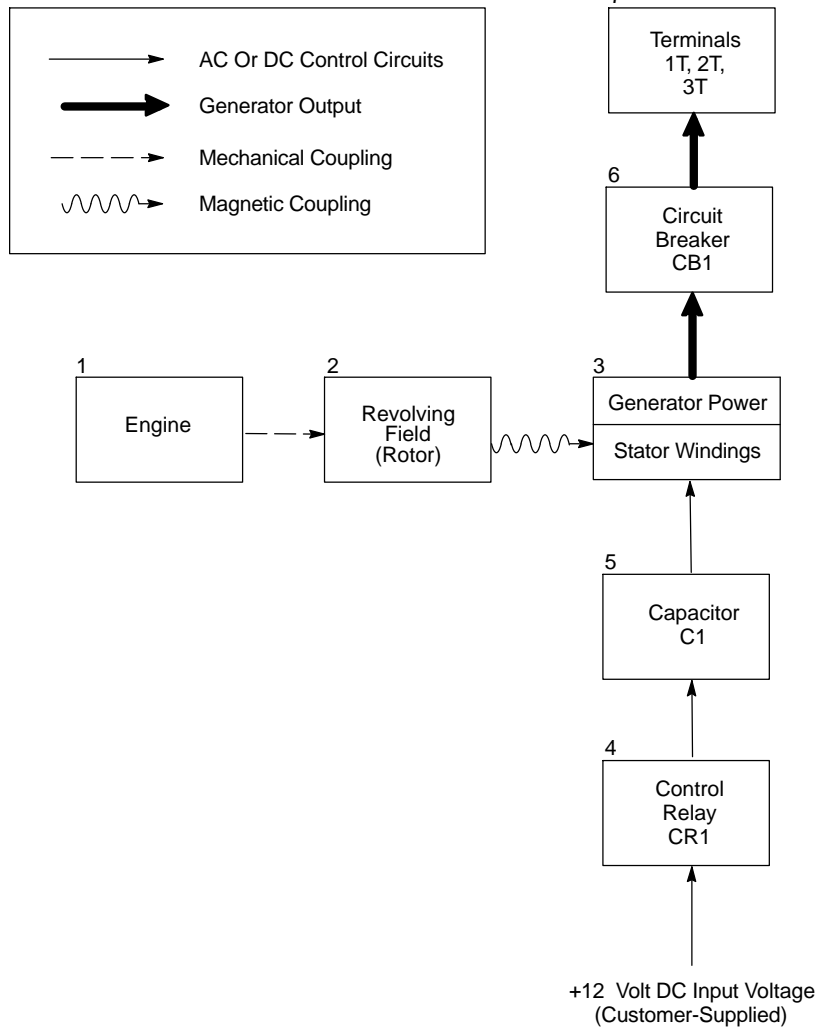
Engine speed and capacitor value determine generator output.

## 6 Generator Power Circuit Breaker CB1

Protects the generator windings from overload.

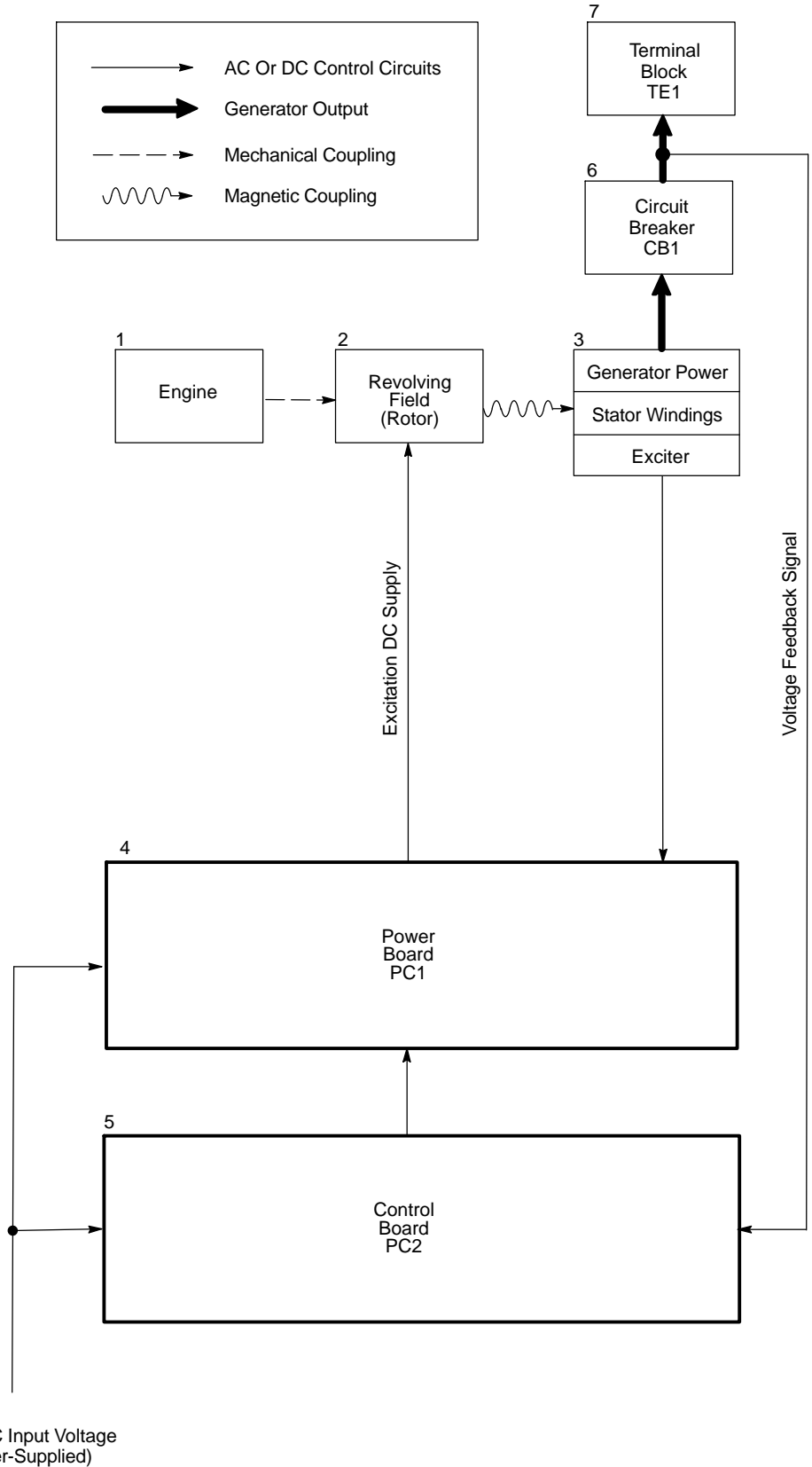
## 7 Terminals 1T, 2T, 3T

Provides connection point for customer supplied equipment and receptacles.



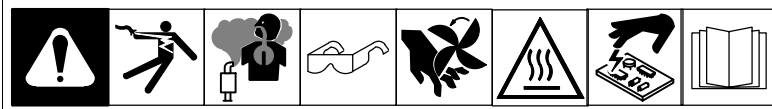
# SECTION 6 – 7.5 kW MODELS THEORY OF OPERATION

- 1 Engine  
Supplies force to turn revolving field (rotor).
- 2 Revolving Field (Rotor)  
Turns at 3000 rpm (50 Hz) or 3600 rpm (60 Hz). The speed and excitation current of the field coils determine voltages in stator windings.
- 3 Stator Windings  
Supply power to exciter and generator power circuits.
- 4 Power Board PC1  
Works with PC2 to adjust output by changing revolving field current after comparing feedback from PC2 to generator open-circuit voltage.  
Uses current feedback signal for current limiting circuit to prevent rotor failure from overheating.
- 5 Control Board PC2  
Works with PC1 to regulate revolving field current. The PWM (pulse width modulation) signal originates on PC2 and is sent to PC1.
- 6 Generator Power Circuit Breaker CB1  
Protects the generator windings from overload.
- 7 Terminal Block TE1  
Provides connection point for customer supplied equipment and receptacles.



# SECTION 7 – TROUBLESHOOTING 4kW GENERATOR

## 7-1. Troubleshooting Table

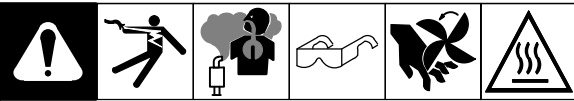


- ☞ See Section 7-2 for test points and values and Section 11 and following for parts location.
- ☞ Use MILLER Testing Booklet (Part No. 150 853) when servicing this unit.

☞ To avoid charges that are not covered under warranty, troubleshoot and replace components as described. Warranty requests on equipment that could have been repaired in the field or are misdiagnosed may be denied.  
 Inspect generator and repair or replace components or wiring that shown signs of physical damage.  
 Inspect stator winding for evidence of overheating. Do not return the generator unless indicated by the troubleshooting guide and factory authorized service agent.  
 Do not return the control box.

Trouble	Remedy
No generator output at platform receptacles.	Be sure generator control switch is turned on at platform.
	Check and secure electrical connections at platform, generator, and control box.
	Be sure all equipment is turned off when starting unit.
	Check circuit breaker CB1 for loose terminals. Check continuity across poles of CB1. Reset or replace CB1 (see Section 4-2).
	Check connections at receptacle RC4 Be sure battery voltage is present (12 volts DC) to enable control relay CR1.
	Check control relay CR1: Check all connections, check coil continuity, check for proper coil voltage, and check contact voltage (input to common and output to common) to ensure contacts are operating. Replace CR1 if indicated.
	Disconnect stator leads 1, 4, and 90 (if applicable) from circuit breaker CB1, and check continuity between leads. Replace generator if indicated.
	Check capacitor C1 and replace if indicated.
Low generator output at platform receptacles.	Excitation of field lost. Flash field according to Section 7-2.
	Verify generator is running at 3600 rpm for 60 Hz, 3000 rpm for 50 Hz.
	Disconnect stator leads 1, 4, and 90 (if applicable) from circuit breaker CB1, and check continuity between leads. Replace generator if indicated.
High generator output at platform receptacles.	Check capacitor C1 and replace if indicated.
	Verify generator is running at 3600 rpm. for 60 Hz, 3000 rpm for 50 Hz.
Erratic generator output at platform receptacles.	Check and secure electrical connections at platform, generator, and control box.
	Verify generator is running at 3600 rpm. for 60 Hz, 3000 rpm for 50 Hz
	Check circuit breaker CB1 for loose terminals. Check continuity across poles of CB1. Reset or replace CB1 (see Section 4-2).

## 7-2. Field Flashing



### ⚠ Stop generator.

Disconnect plug on wiring enclosure cover. Loosen strain relief bushing. Remove wiring enclosure cover.

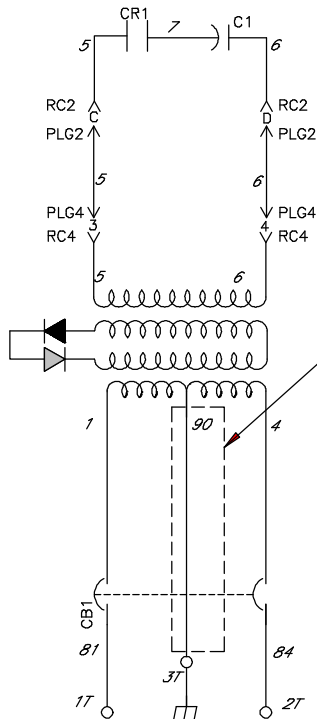
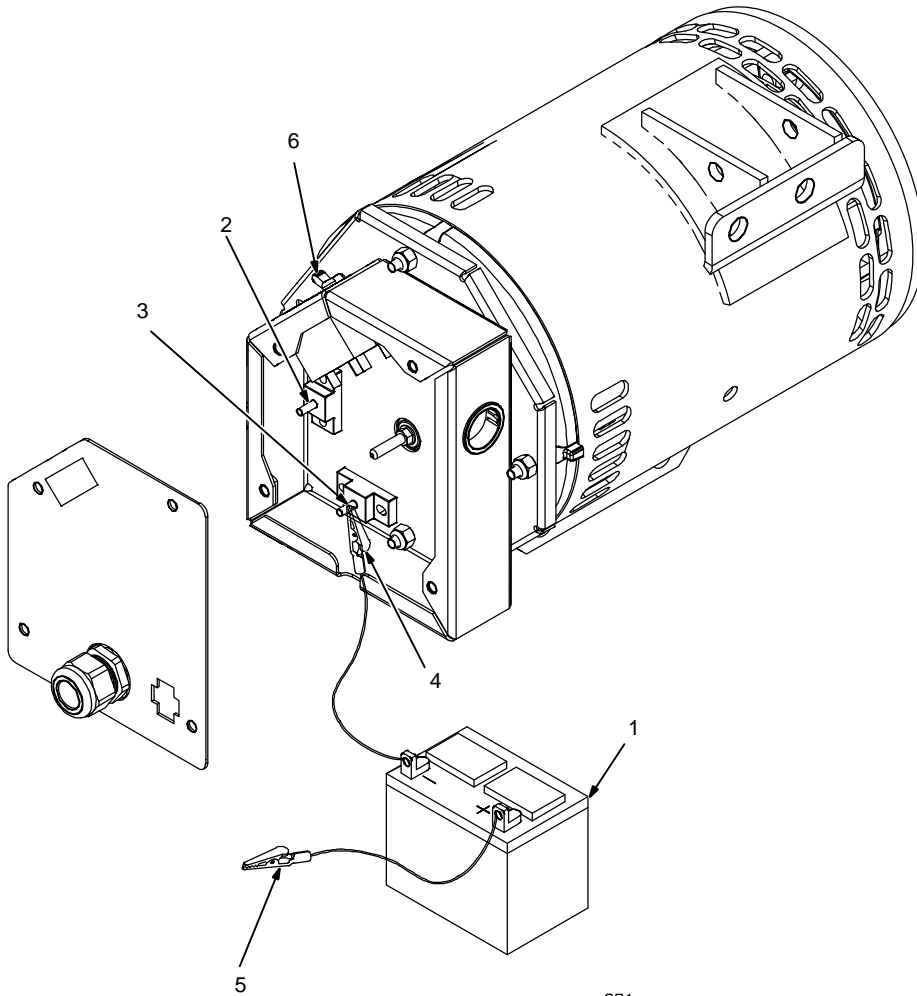
- 1 12 Volt Battery
- 2 Terminal 1T
- 3 Terminal 2T
- 4 Battery Negative (-) Lead
- 5 Battery Positive (+) Lead
- 6 Circuit Breaker CB1

Be sure CB1 is ON.

Flash the field by connecting negative of battery to 2T. With the generator running, *momentarily* connect the battery positive to 1T.

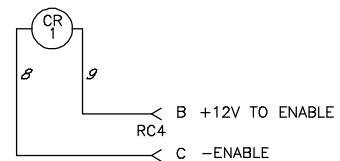
Check for output voltage. If output voltage is not present, repeat field flashing procedure.

When output voltage is available, stop generator and reinstall cover.

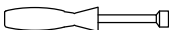


NOMINAL VOLTAGE: (81-84)  
50 HZ 230V  
60 HZ 240V

60 HZ—CONNECT 90 TO 3T  
50 HZ—SLEEVE END & SECURE  
DO NOT CONNECT - FIELD OPTION



Tools Needed:

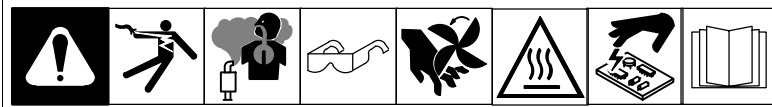


251816-B

264 721-TPTM1

# SECTION 8 – TROUBLESHOOTING 7.5kW GENERATOR

## 8-1. Troubleshooting Table



- ☞ See Section 8-2 for test points and values and Section 11 and following for parts location.
- ☞ Use MILLER Testing Booklet (Part No. 150 853) when servicing this unit.

☞ To avoid charges that are not covered under warranty, troubleshoot and replace components as described. Warranty requests on equipment that could have been repaired in the field or are misdiagnosed may be denied. Inspect generator and repair or replace components or wiring that shown signs of physical damage. Inspect stator winding for evidence of overheating. Do not return the generator unless indicated by the troubleshooting guide and factory authorized service agent. Do not return the control box. Troubleshoot to the circuit board level.

Trouble	Remedy
No generator output at platform AC receptacles.	<p>Be sure generator control switch is turned on at platform.</p> <p>Check and secure electrical connections at platform, generator, and control box.</p> <p>Be sure all equipment is turned off when starting unit.</p> <p>Check circuit breaker CB1 for loose terminals. Check continuity across poles of CB1. Reset or replace CB1 (see Section 4-2).</p> <p>Check plug PLG3 connection and/or connections at receptacles RC2 and RC4.</p> <p>Be sure enable voltage (+12 volts DC) is being supplied to control box.</p> <p>Check slip rings, wiring to brushes, and brush position on slip rings. Install new brushes if indicated. See Section 8-8.</p> <p>Disconnect leads 12 and 13 from brushes, and check continuity across slip rings (nominal reading is 26 ohms). Replace generator if rotor is open.</p> <p>Disconnect stator weld leads 1, 2, and 3 from circuit breaker CB1, and check continuity between leads. Replace generator if indicated.</p> <p>Disconnect plug PLG4 and check continuity between exciter leads 5 and 6. Replace generator if indicated.</p> <p>Check power board PC1 and connections, and replace if indicated (see Section 8-4).</p> <p>Check control board PC2 and connections, and replace if indicated (see Section 8-6).</p>
Low generator output at platform AC receptacles.	<p>Verify generator is running at 3600 rpm (60 Hz) or 3000 rpm (50 Hz).</p> <p>If generator voltage is approximately 60 volts (instead of normal 230–240 volts AC), replace control board PC2.</p> <p>Check slip rings, wiring to brushes, and brush position on slip rings. Install new brushes if indicated. See Section 8-8.</p> <p>Disconnect leads 12 and 13 from brushes, and check continuity across slip rings nominal reading is 26 ohms). Replace generator if rotor is open.</p> <p>Disconnect stator leads 1, 2, and 3 from circuit breaker CB1, and check continuity between leads. Replace generator if indicated.</p> <p>Disconnect plug PLG4 and check continuity between exciter leads 5 and 6. Replace generator if indicated.</p> <p>Check power board PC1 and connections, and replace if indicated (see Section 8-4).</p> <p>Check control board PC2 and connections, and replace if indicated (see Section 8-6)..</p>

Trouble	Remedy
High generator output at platform AC receptacles.	Verify generator is running at 3600 rpm (60 Hz) or 3000 rpm (50 Hz).
	Check slip rings, wiring to brushes, and brush position on slip rings. Install new brushes if indicated. See Section 8-8.
	Check power board PC1 and connections. Check rotor PWM voltage (see Section 8-2 and 8-4) and replace if indicated.
	Check control board PC2 and connections, and replace if indicated (see Section 8-6).
Erratic generator output at platform AC receptacles.	Check and secure electrical connections at platform, generator, and control box.
	Verify generator is running at 3600 rpm (60 Hz) or 3000 rpm (50 Hz).
	If generator voltage is approximately 60 volts (instead of normal 230–240 volts AC), replace control board PC2.
	Check circuit breaker CB1 for loose terminals. Check continuity across poles of CB1. Reset or replace CB1 (see Section 4-2).
	Check slip rings, wiring to brushes, and brush position on slip rings. Install new brushes if indicated. See Section 8-8.
	Disconnect leads 12 and 13 from brushes, and check continuity across slip rings nominal reading is 26 ohms). Replace generator if rotor is open.
	Check power board PC1 and connections, and replace if indicated (see Section 8-4).
	Check control board PC2 and connections, and replace if indicated (see Section 8-6).

## Notes

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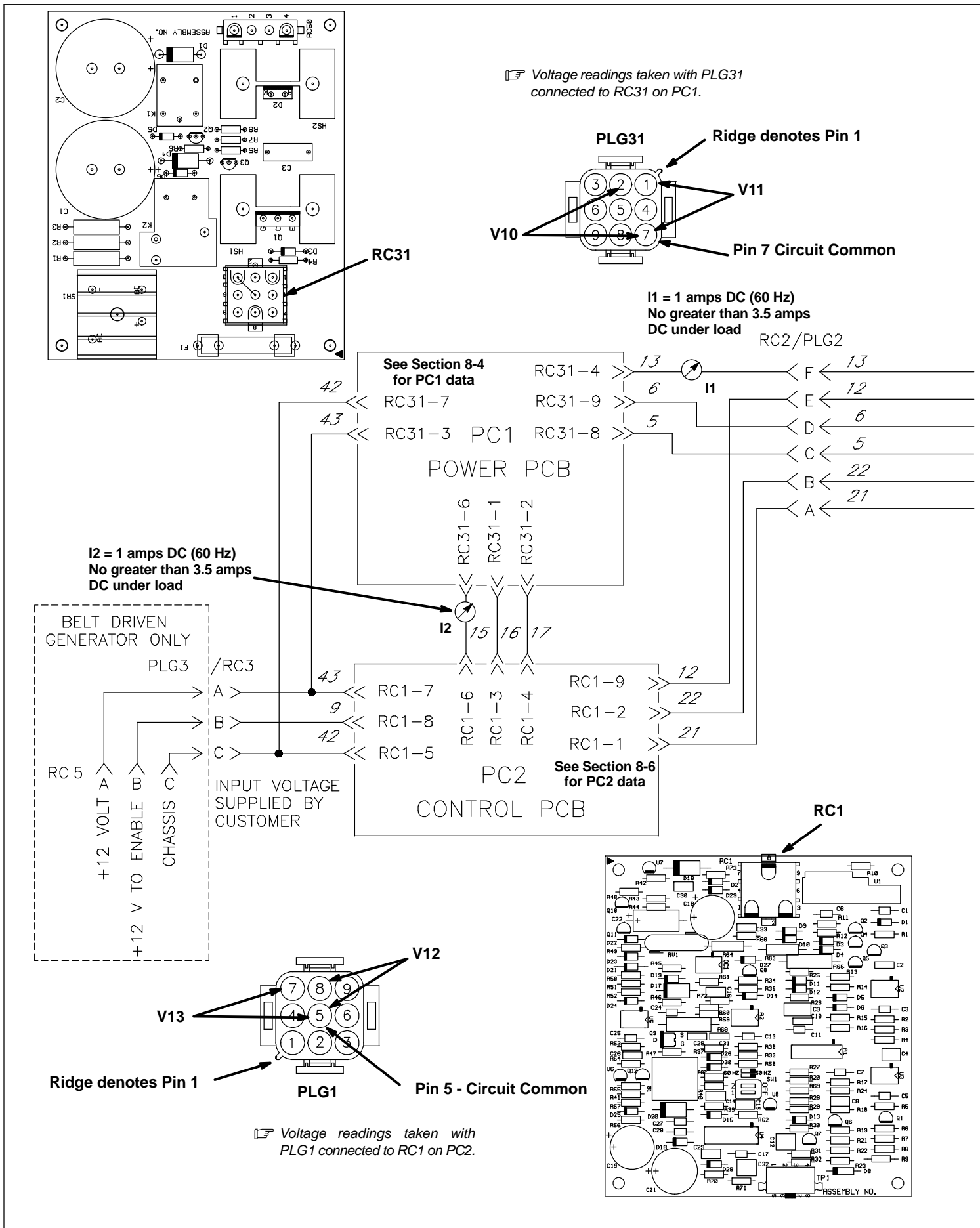
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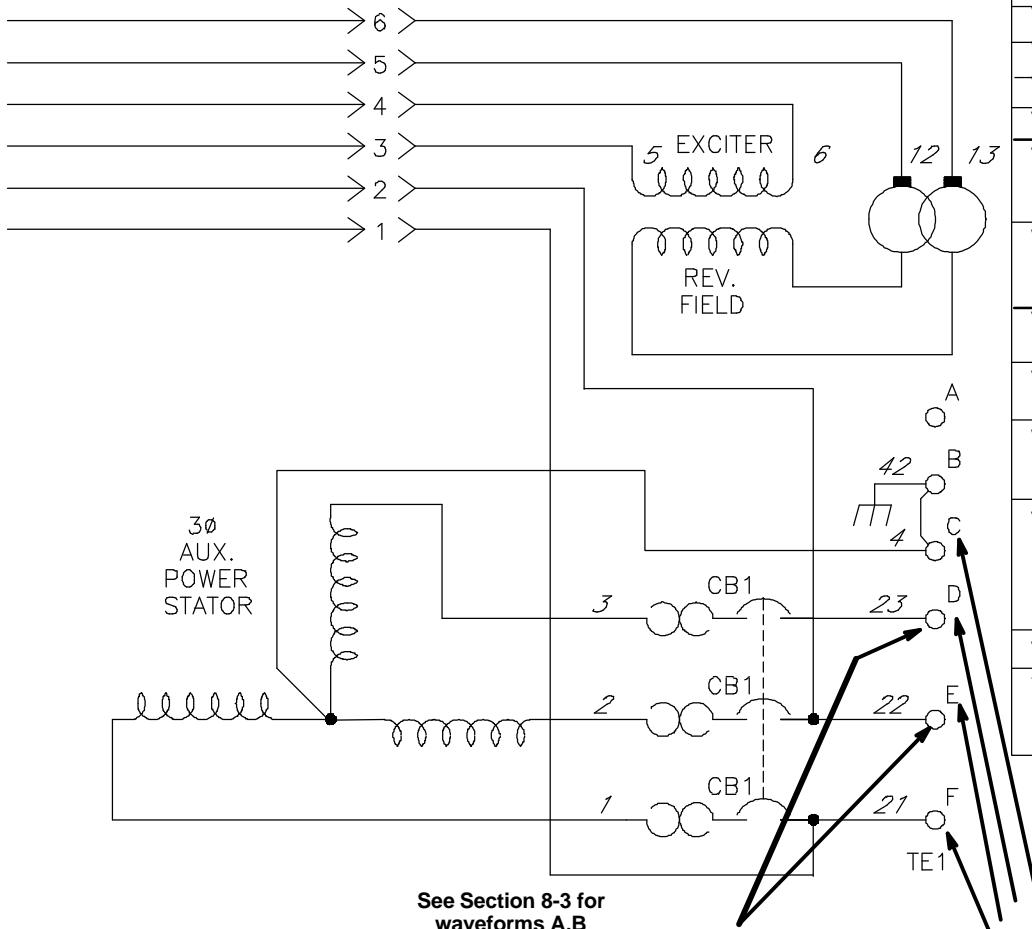
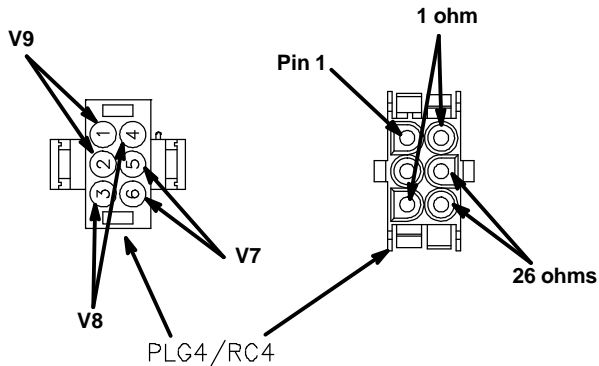
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## 8-2. Troubleshooting Circuit Diagram For Welding Generator





☞ Voltage readings taken with PLG4/RC4 connected.  
Resistance readings taken with PLG4/RC4 disconnected.

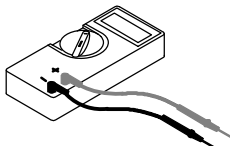


See Section 8-3 for waveforms A,B

Waveform A

Measure Output Voltages V1 Thru V6 At Basket Receptacle

Test Equipment Needed:



Check Resistance at TE1

- C to D,
- C to E,
- C to F,
- E to F,
- D to F

All readings should be 1 ohm. Check with lead 42 lifted. Replace generator if windings are shorted to case or open.


### Voltage Readings

- a) Tolerance -  $\pm 10\%$  unless specified
- b) Condition - 70°F (21°C); cold machine (no warm-up); no load
- c) Power rpm (3600 at 60 Hz, 3000 at 50 Hz) unless specified
- d) Reference - single arrow: reference to circuit common (lead 42); double arrow: reference to points indicated
- e) Wiring Diagram - see Section 10

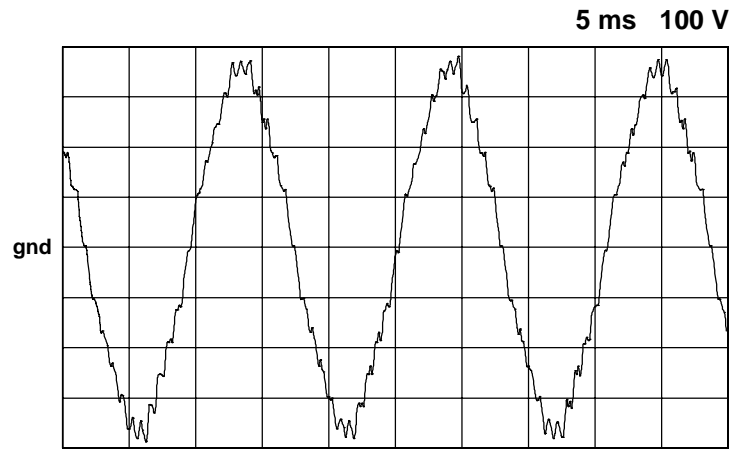
V1 Thru V6 Taken At Basket Receptacle

V1	X to Y - 240 volts AC $\pm 10\%$
V2	X to Z - 240 volts AC $\pm 10\%$
V3	Y to Z - 240 volts AC $\pm 10\%$
V4	X to G - 120 volts AC $\pm 10\%$
V5	Y to G - 120 volts AC $\pm 10\%$
V6	Z to G - 208 volts AC $\pm 10\%$
V7	Rotor: 20 volts DC at no load $\pm 20\%$ 70 volts DC at full load $\pm 10\%$
V8	Exciter: 138 volts AC at no load $\pm 10\%$ 155 volts AC at full load $\pm 10\%$
V9	Voltage Feedback: 240 volts AC $\pm 10\%$
V10	Shutdown Signal: 0 volts DC during normal operation*
V11	PWM Signal: 0 to +15 volts DC 1.5 volts DC normal no load 4.3 volts DC at full load
V12	Generator Enable: Battery voltage when generator is enabled (on) 0 volts DC when generator is not enabled (off)
V13	Battery Voltage
*	If 12 volts DC is present, check rotor and if rotor checks ok, replace control board PC1.

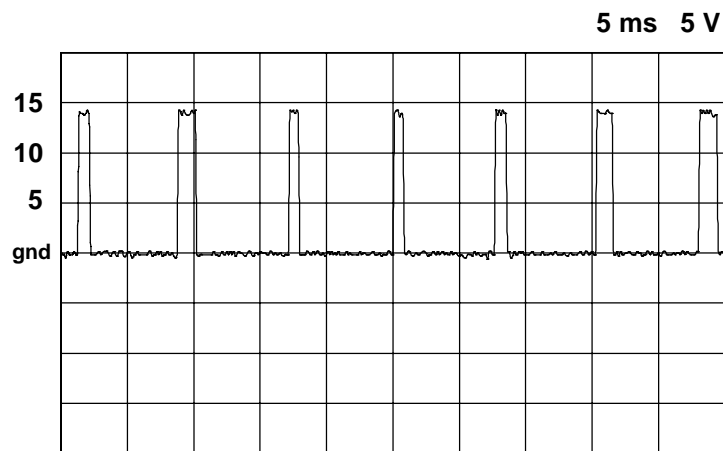
### 8-3. Waveforms For Section 8-2

 The waveforms represent the output of the generator. When operating properly, the generator waveforms match those shown here.

Waveforms shown are for 60 Hertz models; waveforms for 50 Hertz models are similar



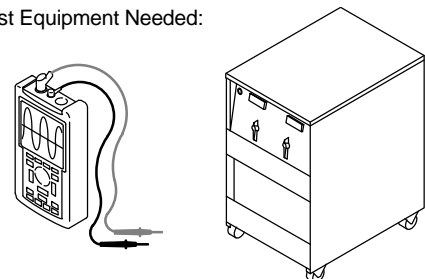
**A. Generator Open-Circuit Voltage, No Load, 60 Hz**



**B. Pulse Width Modulation (PWM) Signal Between Power Board PC1 And Control Board PC2 (V11 on Troubleshooting Circuit Diagram)**




Test Equipment Needed:

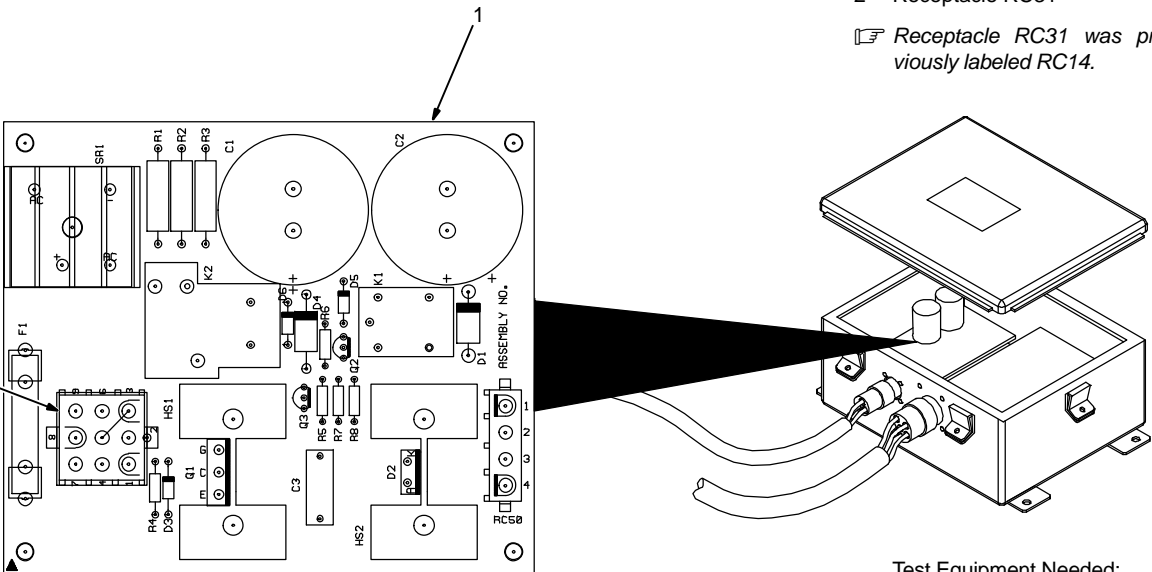


## 8-4. Power Board PC1 Testing Information

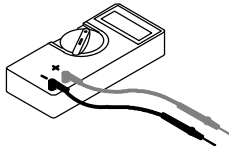
Be sure plugs are secure before testing. See Section 8-5 for specific values during testing.

- 1 Power Board PC1
- 2 Receptacle RC31

 Receptacle RC31 was previously labeled RC14.










Test Equipment Needed:



803 236 / Ref. 209 400

## 8-5. Power Board PC1 Test Point Values

**PC1 Voltage Readings**

- Tolerance –  $\pm 10\%$  unless specified
- Condition – no load; generator running at 3000 (50 Hz) or 3600 rpm (60 Hz)
- Reference – to circuit common (RC31-7) unless noted

Receptacle	Pin	Value
RC31	1	Pulse Width Modulation (PWM) Signal: +1.5 volts at no load; voltage increases with generator load to approximately 4.3 volts DC at maximum.
	2	Shutdown Signal: 0 volts DC during normal operation. If 12 volts DC is present, check rotor and if rotor checks ok, replace control board PC1.
	3	+12 volts DC
	4	Revolving field (rotor): +25 volts DC at no load with respect to RC31-6; +75 volts DC at full load with respect to RC31-6
	5	Not used
	6	Revolving field (rotor): +25 volts DC at no load with respect to RC31-4; +75 volts DC at full load with respect to RC31-4
	7	Circuit common
	8	Exciter: 150 volts AC with respect to RC31-9
	9	Exciter: 150 volts AC with respect to RC31-8

## 8-6. Control Board PC2 Testing Information

Be sure plugs are secure before testing. See Section 8-5 for specific values during testing.

- 1 Power Board PC2
- 2 Receptacle RC1

Test Equipment Needed:

803 236 / 207 883-D

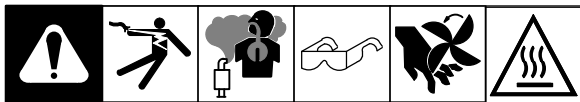
## 8-7. Control Board PC2 Test Point Values

**PC2 Voltage Readings**

- a) Tolerance –  $\pm 10\%$  unless specified
- b) Condition – no load; generator running at 3000 (50 Hz) or 3600 rpm (60 Hz)
- c) Reference – to circuit common (RC1-5) unless noted

Receptacle	Pin	Value
RC1	1	Voltage Feedback: 240 volts AC with respect to RC1-2
	2	Voltage Feedback: 240 volts AC with respect to RC1-1
	3	Pulse Width Modulation (PWM) Signal: +1.5 volts at no load; voltage increases with generator load to approximately 4.3 volts DC at maximum.
	4	Shutdown Signal: 0 volts DC during normal operation. If 12 volts DC is present, check rotor and if rotor checks ok, replace control board PC1.
	5	Circuit common
	6	Revolving field (rotor): +25 volts DC at no load with respect to power board PC1 RC31-4; +75 volts DC at full load with respect to power board PC1 RC31-4
	7	+ 12 volts DC
	8	Enable Line: +12 volts DC when generator is enabled (On); 0 volts DC when generator is not enabled (Off)
	9	Revolving field (rotor): +25 volts DC at no load with respect to power board PC1 RC31-4; +75 volts DC at full load with respect to power board PC1 RC31-4

## 8-8. Inspecting Brushes, Replacing Brushes, And Cleaning Slip Rings



### ⚠ Stop generator.

- 1 Brush Holder Assembly
- 2 Brushes
- 3 Slip Rings

#### Inspecting Brush Position

Inspect brush alignment with slip rings. View brush alignment through air vents in stator barrel. Brushes must ride completely on slip rings.

#### Inspecting Brushes

Remove end panel. Inspect wires. Remove brush holder assembly. Pull brushes from holders.

Replace brushes if damaged, or if brush is at or near minimum length.

#### Cleaning Slip Rings

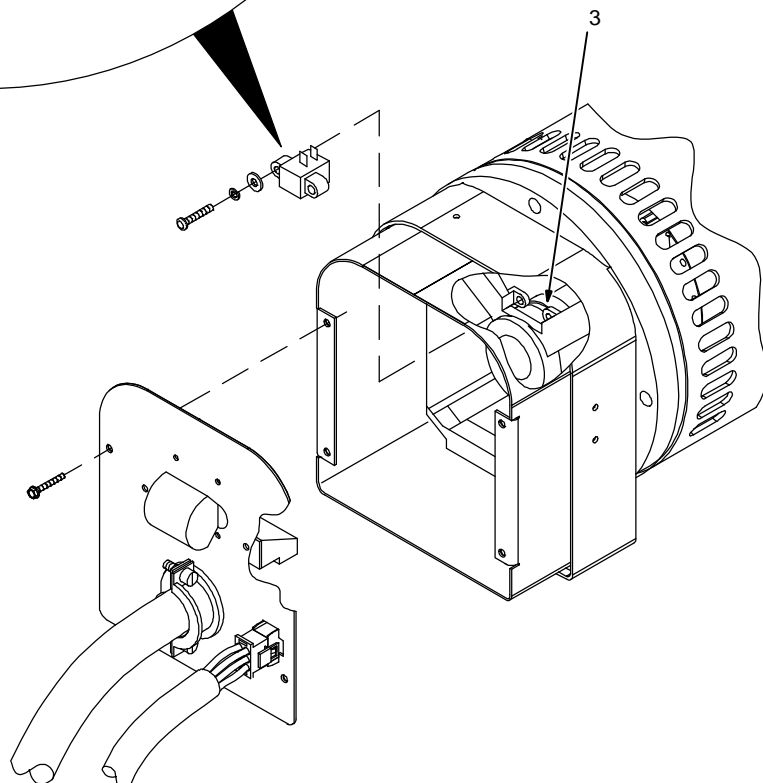
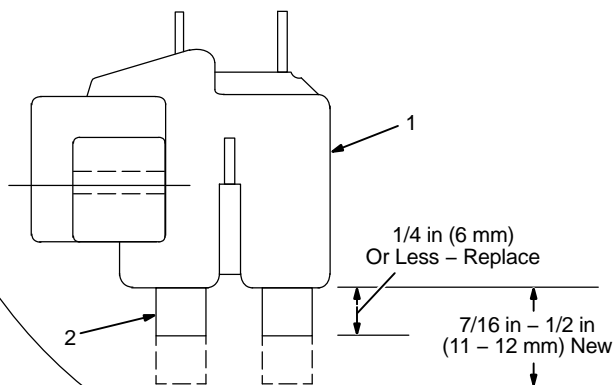
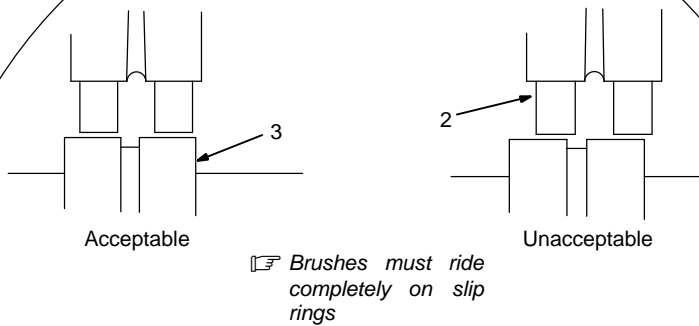
Visually inspect slip rings. Under normal use, rings turn dark brown.

If slip rings are corroded or surface is uneven, remove belt to turn shaft by hand for cleaning.

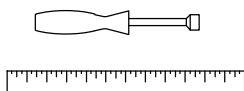
Clean rings with 220 grit emory paper. Remove as little material as possible. If rings are deeply pitted and do not clean up, consult generator factory service.

Reinstall belt, brush holder assembly, and end panel.

Brush Position On Slip Rings

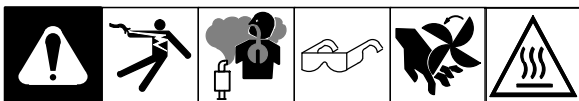


Tools Needed:

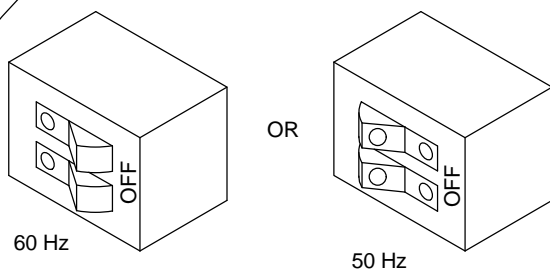


803 275-A

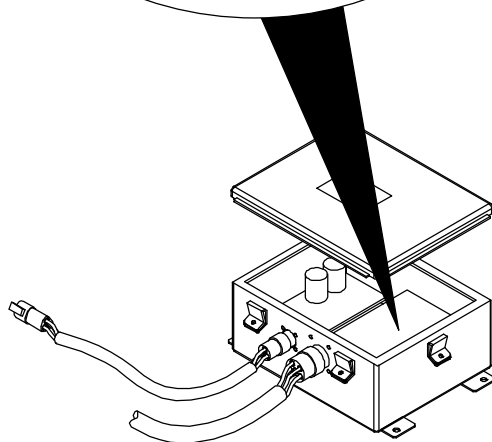
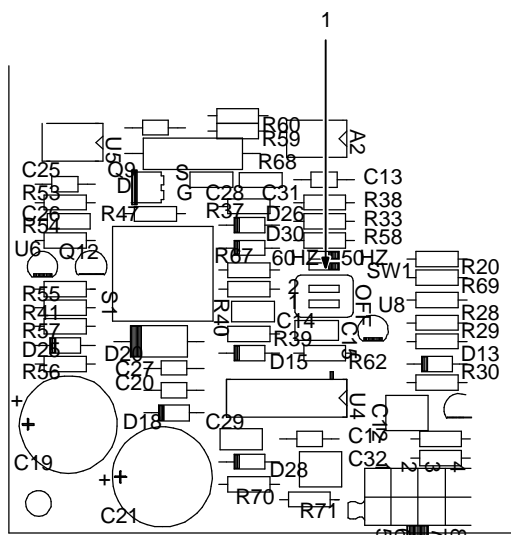
## 8-9. Setting Control Board PC2 For 50 Hz Operation



1 DIP Switch SW1  
Switch SW1 is factory set for 60 Hz operation. Change switch position if unit is run at 50 Hz.

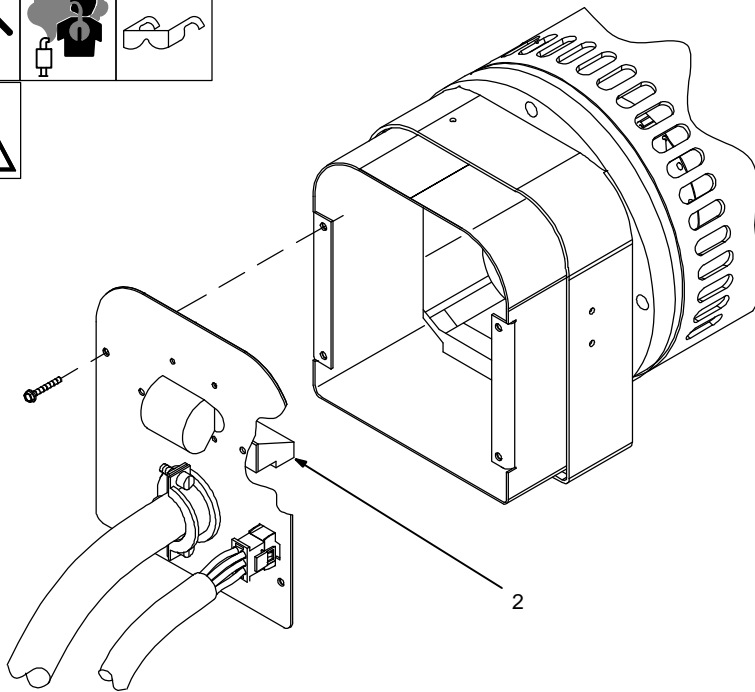


	1	2
60 Hz	ON	ON
50 Hz	OFF	OFF



803 236 / 804 080-A

## 8-10. Checking Unit Output After Servicing



☞ Also use output waveforms to check unit output after servicing (see Section 8-3).

Start generator.

- 1 Platform AC Receptacles (Not Shown)
- 2 Terminal Block TE1

Check open-circuit voltage at platform receptacles. With no load applied, voltage should be 10% above receptacle rating.

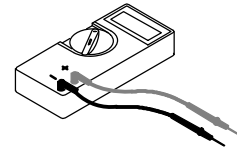
If output voltage is low or not present at platform receptacles, check voltages at generator terminal block TE1 (see Section 8-2). If TE1 voltages are correct, check wiring to platform. If TE1 voltages are incorrect, repeat troubleshooting procedures in Section 7-1.

### ⚠ Stop unit.

Allow engine to cool, and complete pre-operational checks in table.

Pre-Operational Checks
Wipe surfaces clean.
Check labels; replace labels that are unreadable or damaged.
Clean battery terminals. Tighten connections.
Clean outside of entire unit.

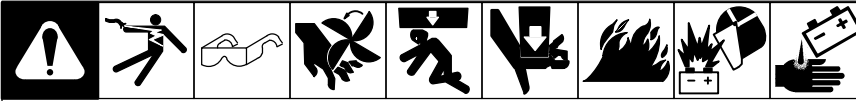
Test Equipment Needed:



803 275

# SECTION 9 – DISASSEMBLY AND REASSEMBLY

## 9-1. Disassembling/Reassembling 4 kW Generator



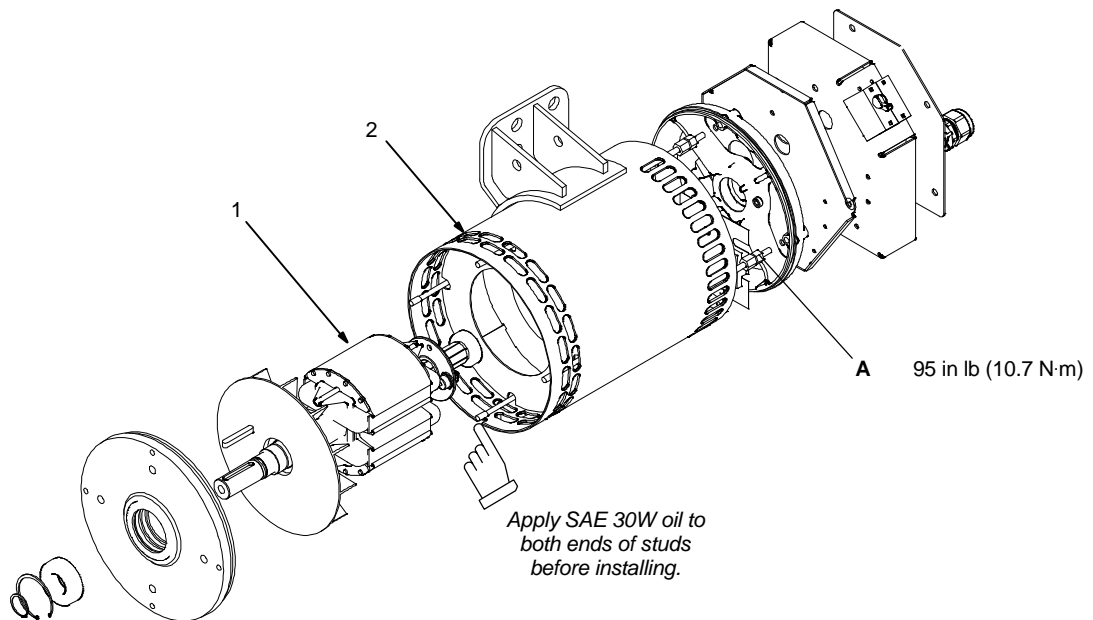
Use Section 8-2 to determine if trouble is in stator, rotor, control box, or combination of these components.

- 1 Rotor
  - 2 Stator Assembly
- ⚠ Use hoist and lifting strap to carefully disassemble/reassemble generator.**
  - ⚠ Do not damage rotor or stator windings during this procedure.**

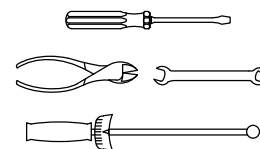
*Mark electrical leads before disassembling unit.*

Reassemble generator parts.

Reconnect all leads. Use cable ties to secure leads away from moving or hot parts.



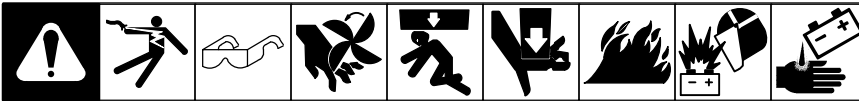
Tools Needed:



250 654



## 9-2. Disassembling/Reassembling 7.5 kW Generator



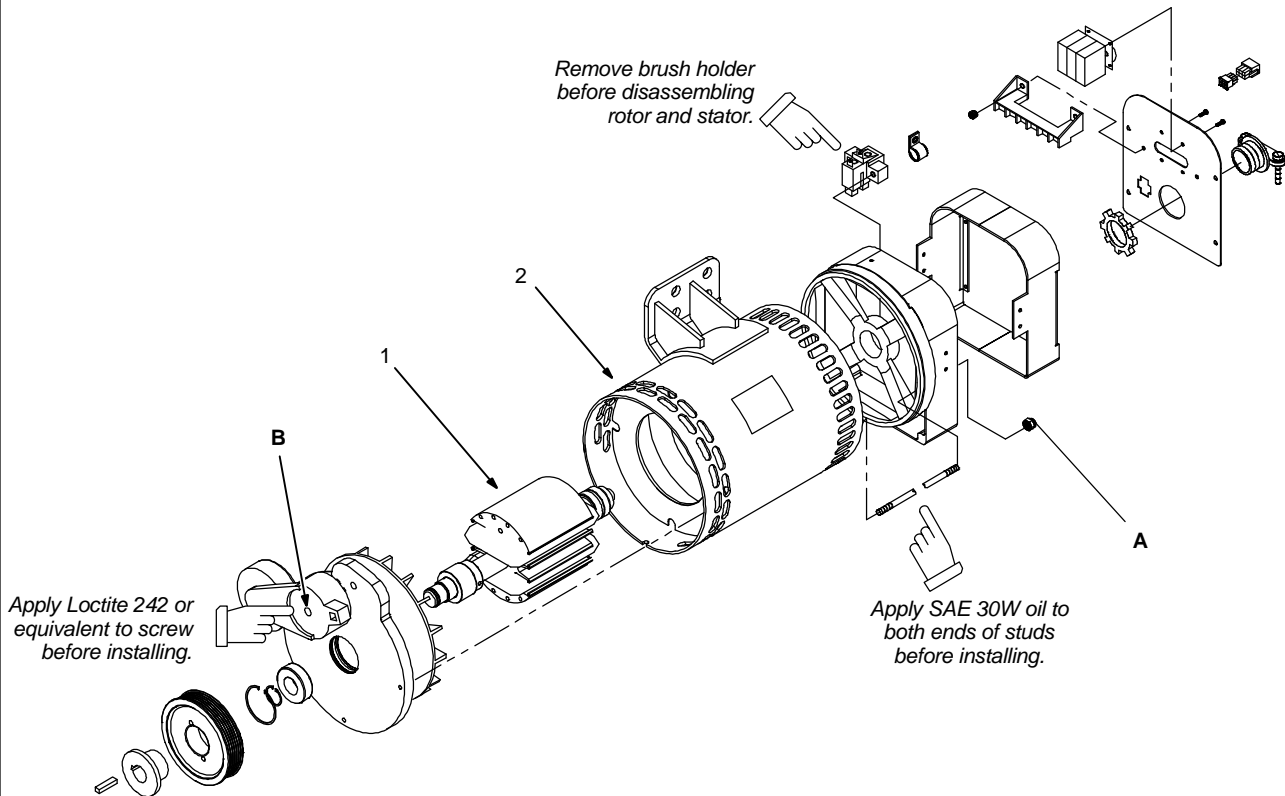
Use Section 8-2 to determine if trouble is in stator, rotor, control box, or combination of these components.

- 1 Rotor
  - 2 Stator Assembly
- ⚠ Use hoist and lifting strap to carefully disassemble/reassemble generator.**
- ⚠ Do not damage rotor or stator windings during this procedure.**

**📄 Mark electrical leads and remove brush holder assembly before disassembling unit.**

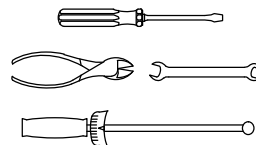
Reassemble generator parts using torque values in table.

Reconnect all leads. Use cable ties to secure leads away from moving or hot parts.

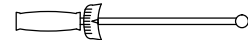


803 235

Tools Needed:




**Torques:**



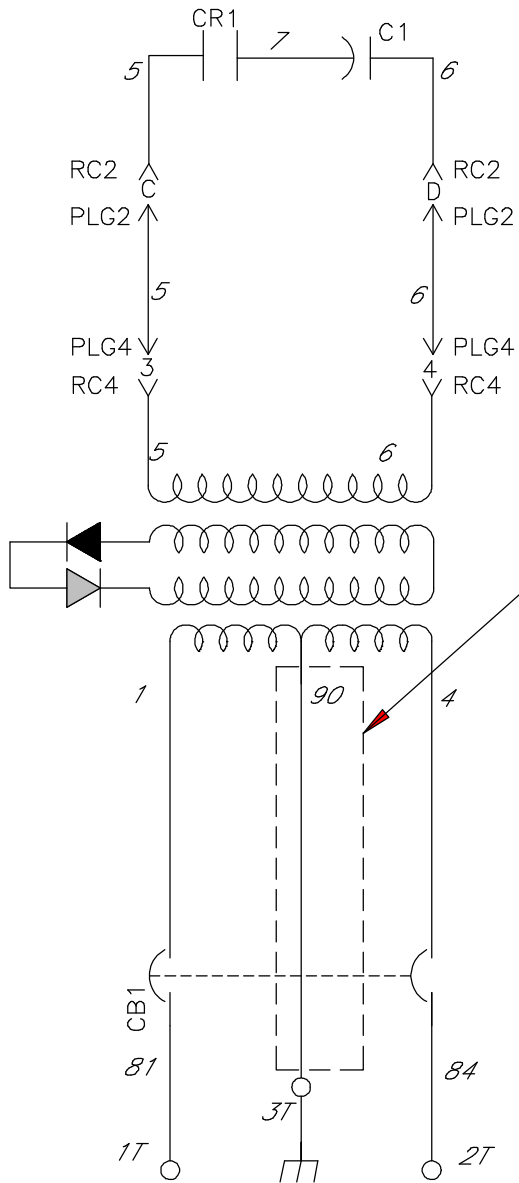
A	95 in lb (10.7 N-m)
B	38 ft lb (52 N-m) (Belt Tensioner)

# SECTION 10 – ELECTRICAL DIAGRAMS

 The circuits in this manual can be used for troubleshooting, but there might be minor circuit differences from your machine. Use circuit inside machine case or contact distributor for more information.

The following is a list of all diagrams for models covered by this manual.

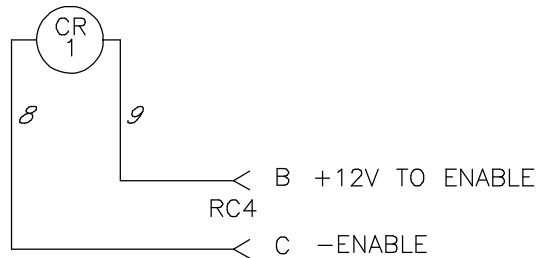
Model	Serial Or Style Number	Circuit Diagram	Wiring Diagram
4 kW Generator	ME131503R and following	251 816-B	See Table 10-1
7.5 kW Generator	MD040275R and following	210 193-C	See Table 10-2
Circuit Board PC1 (Power Board)	MD040275R and following	203 132-A	
Circuit Board PC2 (Control Board)	MD040275R and following	207 884-C	



 <b>WARNING</b> <b>ELECTRIC SHOCK HAZARD</b>	<ul style="list-style-type: none"> <li>● Do not touch live electrical parts.</li> <li>● Disconnect input power or stop engine before servicing.</li> <li>● Do not operate with covers removed.</li> <li>● Have only qualified persons install, use, or service this unit.</li> </ul>

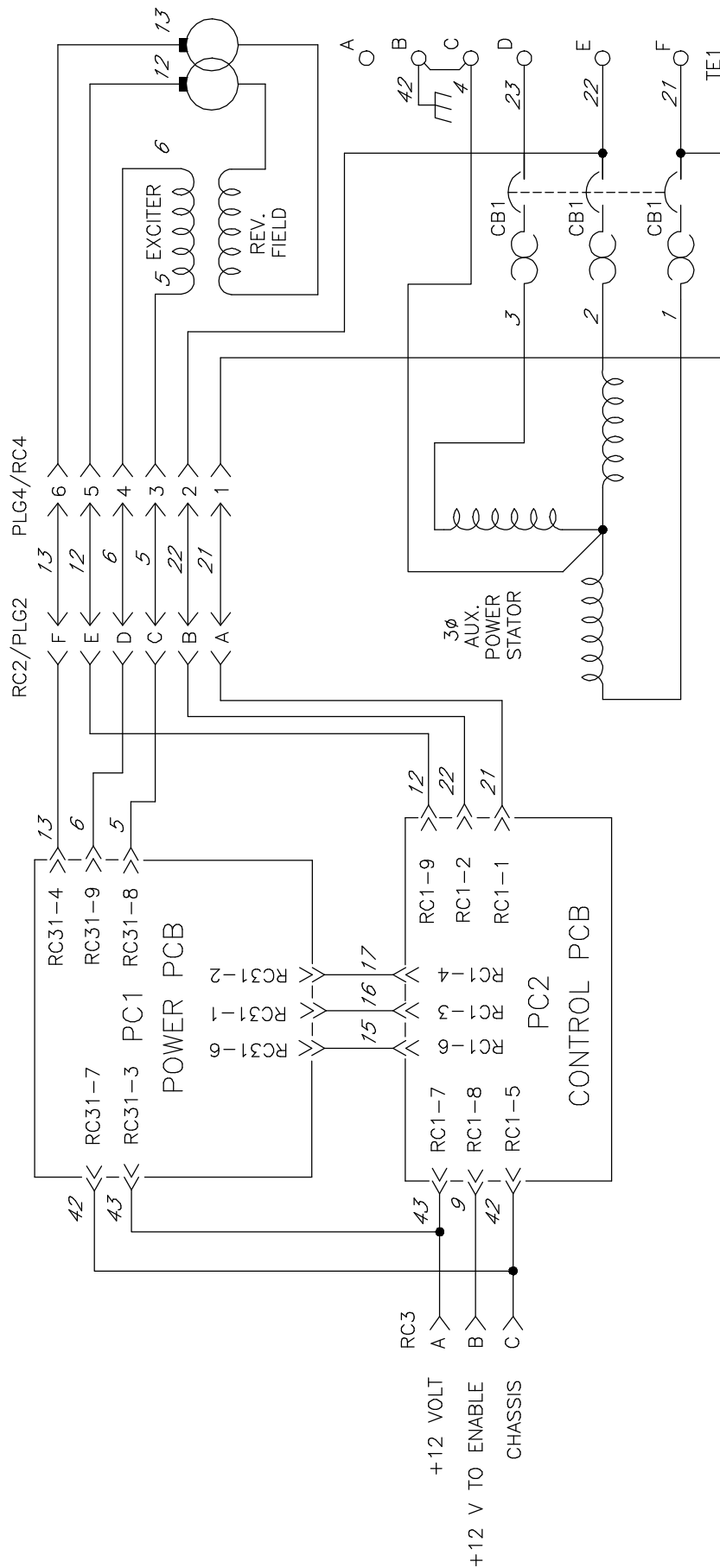
NOMINAL VOLTAGE: (81-84)  
 50 HZ 230V  
 60 HZ 240V


60 HZ-CONNECT 90 TO 3T  
 50 HZ-SLEEVE END & SECURE  
 DO NOT CONNECT - FIELD OPTION



251816-B

**Figure 10-1. Circuit Diagram For 4 kW Generator And Controller**



<b>⚠ WARNING</b> 	<ul style="list-style-type: none"> <li>• Do not touch live electrical parts.</li> <li>• Disconnect input power or stop engine before servicing.</li> <li>• Do not operate with covers removed.</li> <li>• Have only qualified persons install, use, or service this unit.</li> </ul>
	<b>ELECTRIC SHOCK HAZARD</b>

210 193-C

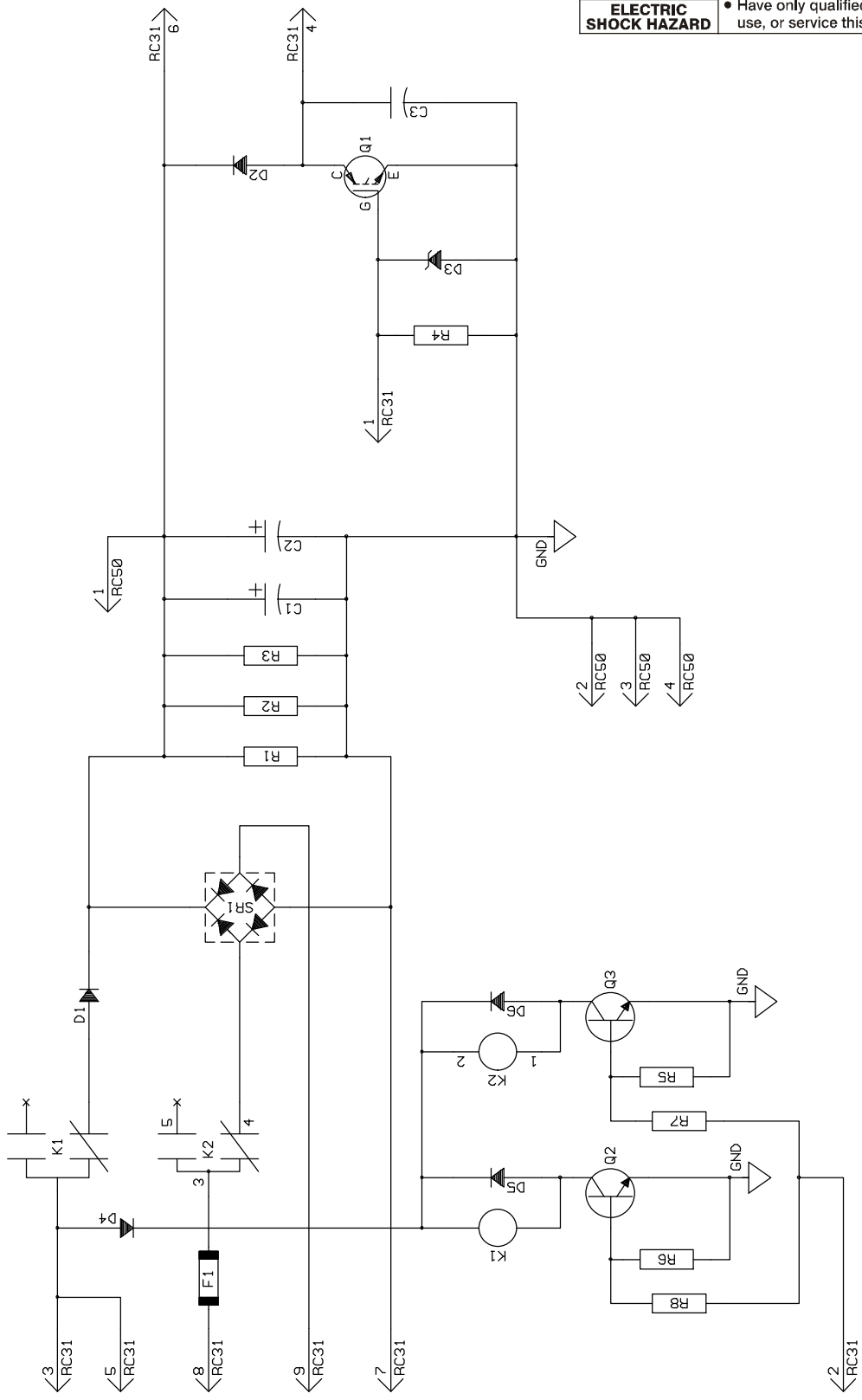
**Figure 10-2. Circuit Diagram For 7.5 kW Generator And Controller**

**WARNING**



**ELECTRIC SHOCK HAZARD**

- 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.

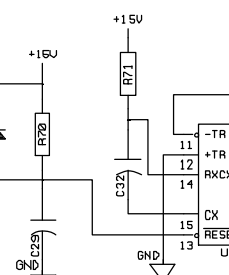
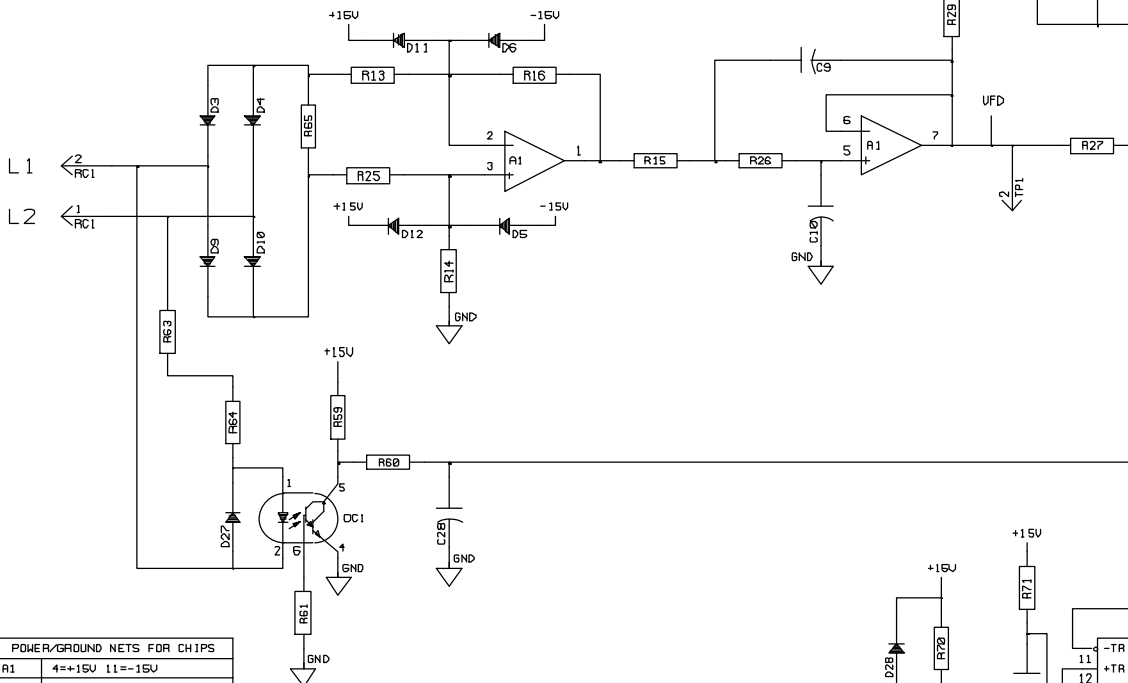
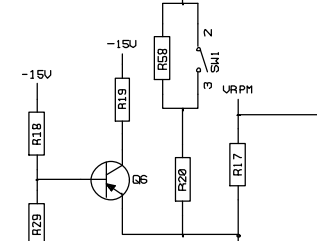
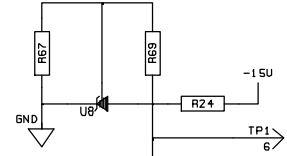
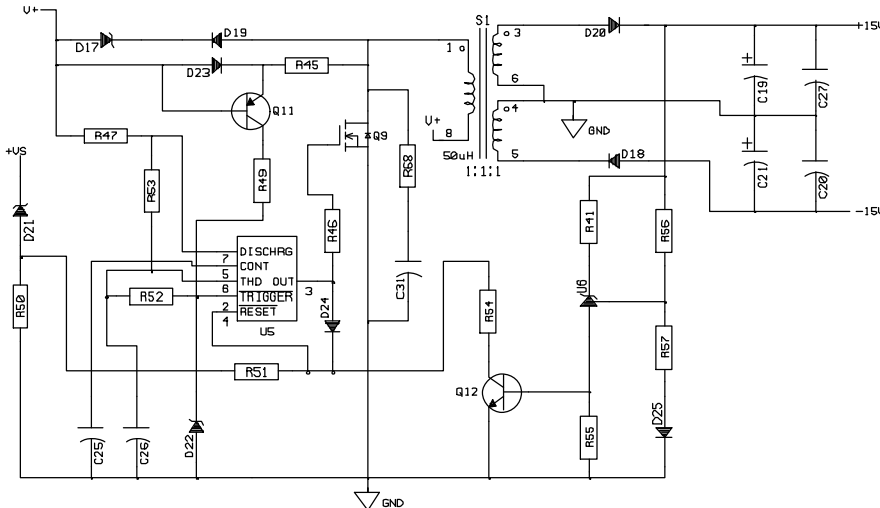
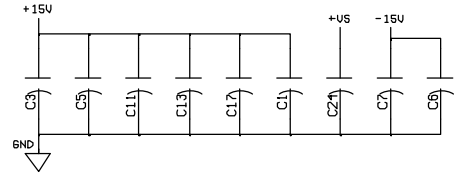
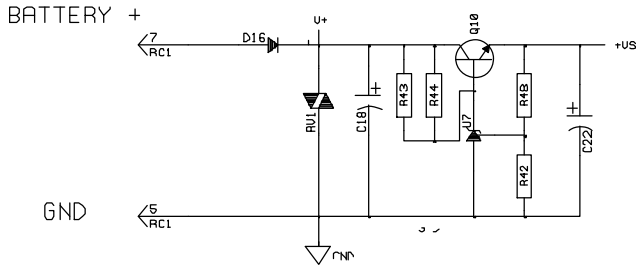


**Figure 10-3. Circuit Diagram For Power Board PC1**

**⚠ 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.

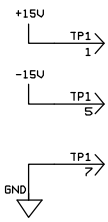
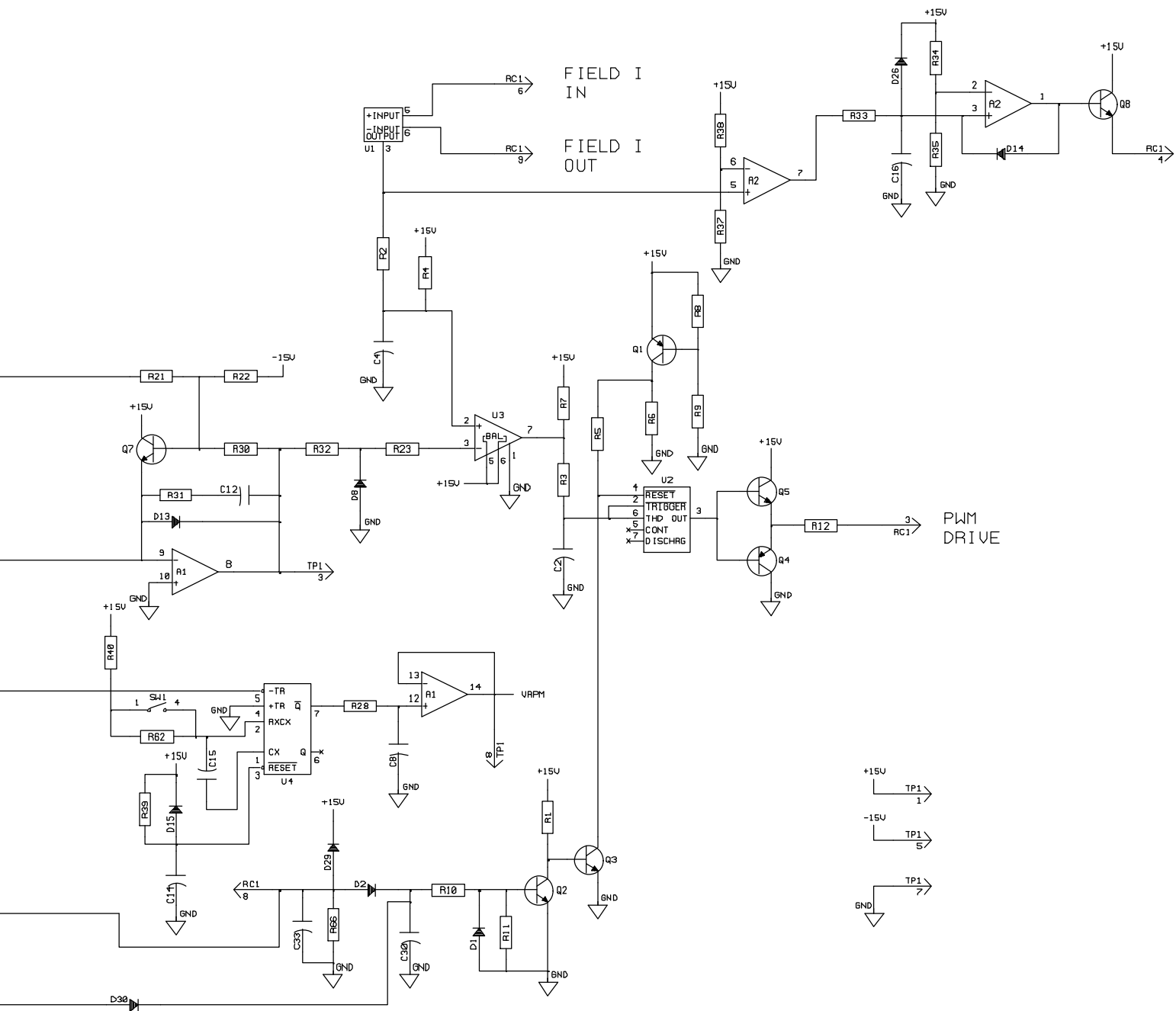
**ELECTRIC SHOCK HAZARD**



POWER/GROUND NETS FOR CHIPS	
R1	4=+15V 11=-15V
R2	4=GND 8=+15V
U1	1=+15V 2=-15V 4=GND
U2	1=GND 6=+15V
U3	4=GND 8=+15V
U4	8=GND 16=+15V
U5	1=GND 8=+US

Figure 10-4. Circuit Diagram For Control Board PC2 Eff. w/ Serial No. LC199488 And Following


SW1 SETTINGS  
 CLOSED = 60 HZ  
 OPEN = 50 HZ



## Table 10-1. Lead List Summary For 4 kW Generator Eff w/MD200653R And Following

☞ Table shows physical lead connections and should be used with circuit diagram (table replaces wiring diagram).

☞ Plug PLG31 was previously labeled PLG14.

 Apply small amount of dielectric grade, nonconductive electric grease (Miller Part No. 146 557) to connectors where factory-applied grease had been present.

☞ The following is based on the Deutz Tier 4 version of the 4 kW generator.

### 50 Hz Generator

#### Lead Connections

GND ENGINE TO 3T  
 1A STATOR TO CB1  
 4A STATOR TO CB1  
 5A STATOR TO RC4 (3)  
 6A STATOR TO RC4 (4)

#### Lead Connections

81B CB1 TO 1T  
 84B CB1 TO 2T  
 90A STATOR TO 3T  
 JUMPA ROTOR LEAD TO DIODE

### 60 Hz Generator

#### Lead Connections

GND ENGINE TO 3T  
 1A STATOR TO CB1  
 4A STATOR TO CB1  
 5A STATOR TO RC4 (3)  
 6A STATOR TO RC4 (4)

#### Lead Connections

81B CB1 TO 1T  
 84B CB1 TO 2T  
 90A STATOR TO 3T  
 JUMPA ROTOR LEAD TO DIODE

### Control

#### Lead Connections


5C CR1 (4) TO RC2 (C)  
 6C RC2 (D) TO C1  
 7A CR1 (7) TO C1

#### Lead Connections

8A CR1 (A) TO RC5 (C)  
 9A CR1 (B) TO RC5 (B)



**Table 10-2. Lead List Summary For 7.5 kW Generator Eff w/MD200653R And Following**

 The following is based on the Deutz Tier 4 version of the 7.5 kW generator.

**Generator**

**Lead Connections**

1A STATOR TO CB1  
 2A STATOR TO CB1  
 3A STATOR TO CB1  
 4A STATOR TO TE1 (C)  
 5A STATOR TO RC4 (3)  
 6A STATOR TO RC4 (4)  
 2C RC4 (5) TO BRUSH  
 13C RC4 (6) TO BRUSH

**50 Hz Control**

**Lead Connections**

5C RC2 (C) PLG31 (8)  
 6C RC2 (D) PLG31 (9)  
 9B RC3 (B) PLG1 (8)  
 12B RC2 (E) PLG1 (9)  
 13B RC2 (F) PLG31 (4)  
 15A PLG1 (6) TO PLG31 (6)  
 16A PLG1 (3) TO PLG31 (1)  
 17A PLG1 (4) TO PLG31 (2)

**60 Hz Control**

**Lead Connections**

5C RC2 (C) PLG31 (8)  
 6C RC2 (D) PLG31 (9)  
 9B RC3 (B) PLG1 (8)  
 12B RC2 (E) PLG1 (9)  
 13B RC2 (F) PLG31 (4)  
 15A PLG1 (6) TO PLG31 (6)  
 16A PLG1 (3) TO PLG31 (1)  
 17A PLG1 (4) TO PLG31 (2)

**Lead Connections**

21A CB1 TO TE1 (F)  
 21D RC4 (1) TO CB1  
 22A CB1 TO TE1 (E)  
 22D RC4 (2) TO CB1  
 23A CB1 TO TE1 (D)  
 42F END BELL SHROUD TO ENGINE MOUNT  
 42G CHASSIS TO TE1 (B)

**Lead Connections**

21C PLG1 (1) TO RC2 (A)  
 22C PLG1 (2) TO RC2 (B)  
 42B RC3 (C) TO CONNECTION POINT 1  
 42C PLG31 (7) TO CONNECTION POINT 1  
 42D PLG1 (5) TO CONNECTION POINT 1  
 43B RC3 (A) TO CONNECTION POINT 2  
 43C PLG31 (3) TO CONNECTION POINT 2  
 43D PLG1 (7) TO CONNECTION POINT 2

**Lead Connections**

21C PLG1 (1) TO RC2 (A)  
 22C PLG1 (2) TO RC2 (B)  
 42B RC3 (C) TO CONNECTION POINT 1  
 42C PLG31 (7) TO CONNECTION POINT 1  
 42D PLG1 (5) TO CONNECTION POINT 1  
 43B RC3 (A) TO CONNECTION POINT 2  
 43C PLG31 (3) TO CONNECTION POINT 2  
 43D PLG1 (7) TO CONNECTION POINT 2



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**Description**

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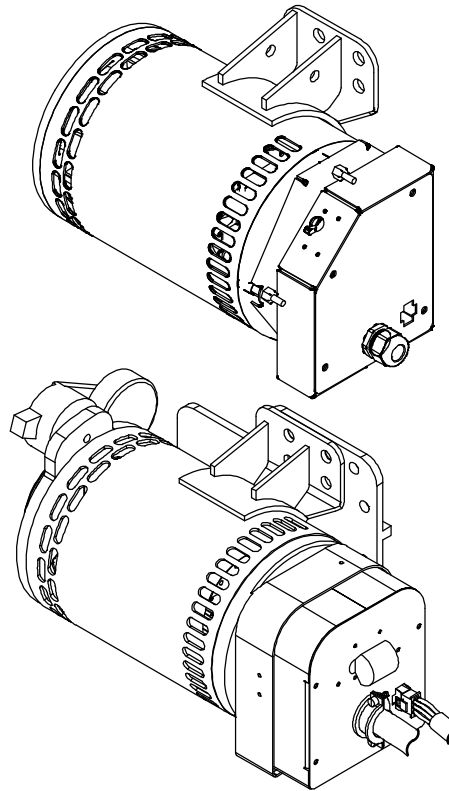
Belt-Driven Generator

# 4 kW And 7.5 kW Belt-Drive Generators

## PARTS LIST

**Eff w/MD040275R And Following**

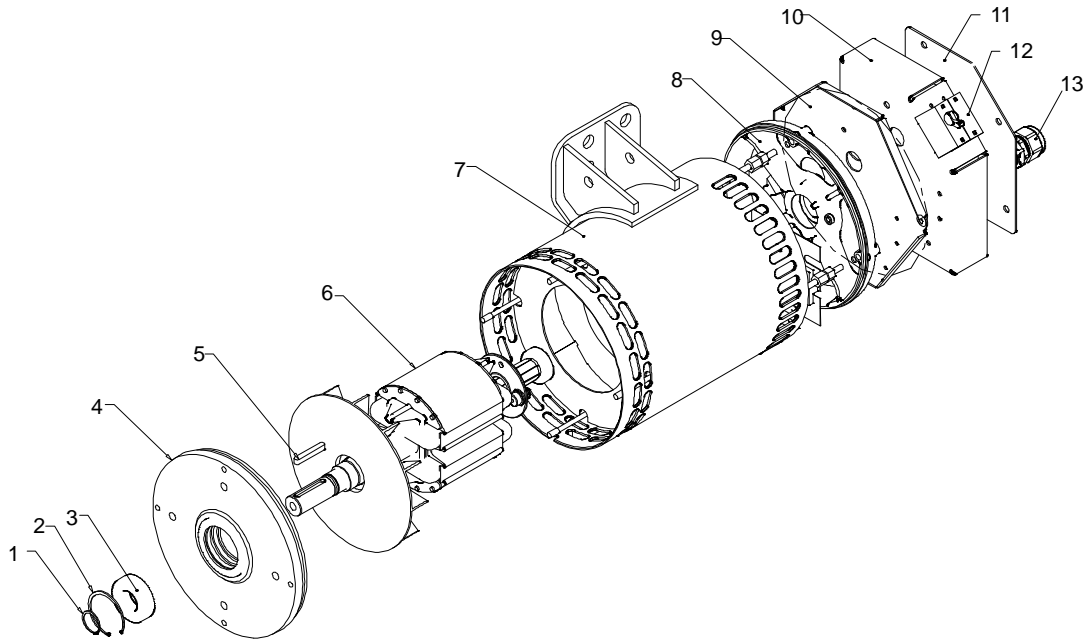
For OM-268 819 Revision A And Following



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# SECTION 11 – 4 kW MODEL EFF w/ME131503R

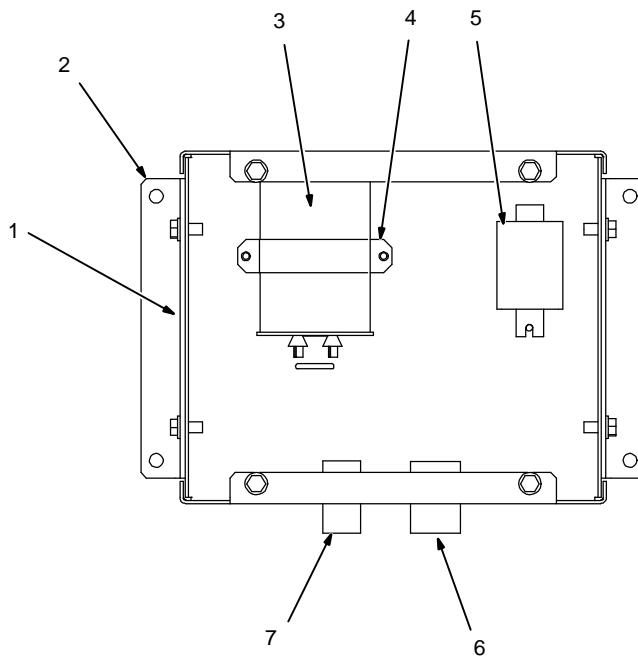


250 654

**Figure 11-1. 4 kW Generator Assembly**

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
<b>4 kW Generator Assembly</b>				
...	1	073301	Ring, Rtnng Ext 1.000 Shaft X .042 Thk	1
...	2	207323	Ring, Rtnng Int 2.000 Groove Dia X .064 Thk	1
...	3	181143	Bearing, Ball Rdl Sgl Row .984 X 2.047 X .591	1
...	4	255739	Endbell, Gen Tensioner (Machined)	1
...	5	259892	Key, Stl .250 X .250 X 1.500	1
...	6	251810	Rotor Assembly,	1
...	7	251811	Stator, Generator 4000w JLG 1001129858	1
...	7	258815	Stator, Generator 4000w JLG 1001138565	1
...	7	264722	Stator, Generator 4000w JLG 1001140346	1
...	7	264718	Stator, Generator 4000w JLG 1001140347	1
...	7	258819	Stator, Generator 4000w JLG 1001147436	1
...	7	258818	Stator, Generator 4000w JLG 1001150619	1
...	8	254930	Endbell, Gen	1
...		268783	Stud, Stl .250-20 X 13.312	4
...		268826	Spacer, Stl .255 Id X .500 Od X .500 H	4
...		604318	Nut, 250-20 .50hex .39h Stl Pld Elastic Stop Nut	4
...	3T	174587	Stud, Stl .250-20 X 1.750 Slf Tpg Gnd	1
...		183419	O-Ring, 1.984 Id X .139 Cs 70 Duro Viton	1
...	9	250246	Cover, Endbell	1
...	10	252399	Enclosure, Wiring 4kw Generator All Deutz 60 Hz, 50 Hz	1
...	10	266904	Enclosure, Wiring 4kw Generator, Kubota 60 Hz, 50 Hz	1
...		057357	Bushing, Snap-In Nyl .937 Id X 1.125 Mtg Hole	2
...	1T, 2T	072253	Stud, Connection Single 10-32 X .500 X 1.250 Mtg	2

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
<b>4 kW Generator Assembly (Continued)</b>				
... 11		263399	Cover, Enclosure Wiring 4kw Generator JLG 1001129858, JLG 1001140346	1
... 11		252400	Cover, Enclosure Wiring 4kw Generator JLG 1001138565, JLG 1001140347	1
... 11		266901	Cover, Enclosure Wiring 4kw Generator JLG 1001147436	1
... 11		266898	Cover, Enclosure Wiring 4kw Generator JLG 1001150619	1
... 12	CB1	218782	Supplementary Protector, Man Reset 2p 20a 250vac Fr	1
... 13		139041	Bushing, Strain Relief .450/.709 Id x 1.115 Mtg Hole	1
		207683	Screw, 006-32 x .25 Hex Hd-Slt Stl Pld	4
		122210	Screw, 010-32 x .62 Hexwhd.40d Stl Pld Slffmg Tap-Rw	4
		601835	Nut, 010-32 .38hex .13h Brs	2
		601836	Nut, 250-20 .50hex .19h Brs	1
		010915	Washer, Flat .257id x0.640od x.031t Brs	1
	RC4	113634	Conn, Rect Univ 084 6p/S 3row Rcpt Cable/Panel Lkg	1
		188512	Seal, Wire Univ 6p/S 3row	1
		260781	Conn, Clamp Cable Strain Relief .59/.99	1
		209660	Label, Warning Pinch Points Wordless	1



253 047

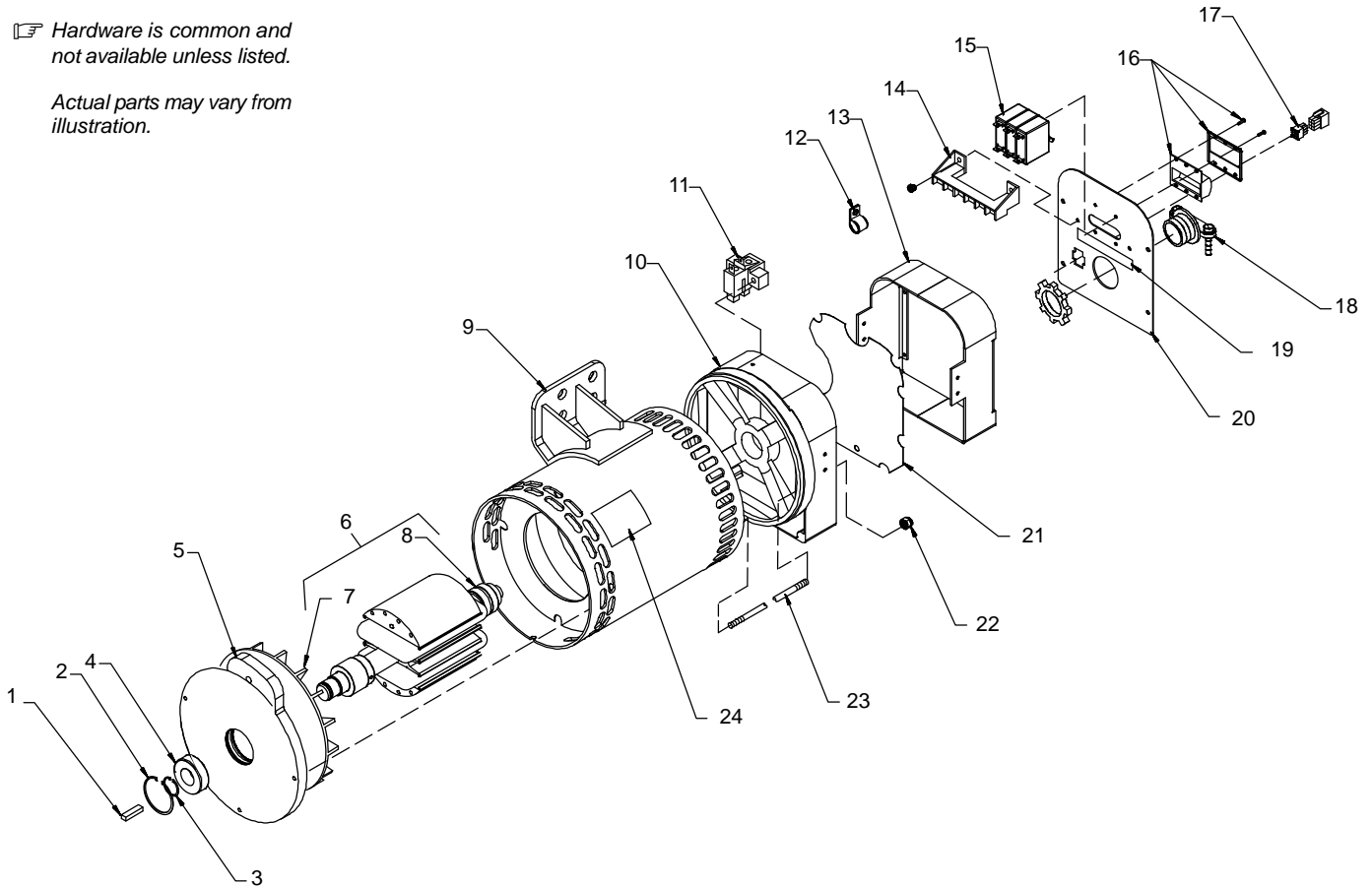
**Figure 11-2. 4 kW Model Control Box**

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
<b>4 kW Model Control Box</b>				
.....		253047 ..	Control Box, Assy 4kw 50/60 Hz (Includes) .....	1
... 1		252143 ....	Control Box, 4kw Generator .....	1
... 2		253045 ....	Bracket, Mtg Control Box .....	2
.....		253044 ....	Cover, Control Box 4kw Generator .....	1
... 3	C1	253046 ....	Capacitor, Polyp Met Film 50. Uf 440 Vac .....	1
... 4			Bracket, Mtg Capacitor .....	1
.....			Harness, Wrg Control Box .....	1
... 5	CR1		Relay, Encl 12vdc Dpdt 20a/120vac 8pin Flange Mtg .....	1
... 6	RC2		Housing Plug Pins+Skts, (Service Kit) .....	1
... 7	RC4		Housing Plug Pins+Skts, (Service Kit) .....	1

# SECTION 12 – 7.5 kW MODEL EFF w/MD040275R

Hardware is common and not available unless listed.

Actual parts may vary from illustration.



803 235-C

**Figure 12-1. 7.5 kW Generator Assembly**

Item No.	Dia. Mkgs.	Part No.	Description	Quantity
...	1	259892	Key, Stl .250 X .250 X 1.500	1
...	2	207323	Ring, Rtnng Int 2.000 Groove Dia X .064 Thk	1
...	3	073301	Ring, Rtnng Ext 1.000 Shaft X .042 Thk	1
...	4	181143	Bearing, Ball Rdl Sgl Row .984 X 2.047 X .591	1
...	5	255739	Endbell, Gen Tensioner (Machined) JLG1001119250, JLG1001136988, JLG1001155348	1
...	5	264345	Endbell, Gen Tensioner (Machined) JLG2460050, JLG2460050	1
...	6	212035	Rotor Assembly,	1
...	7	209004	Fan, Rotor Gen	1
...	8	495154	Bearing, Ball Radial Single Row 17mm X 40mm X 12mm	1
...	9	248394	Stator, Generator JLG1001119250	1
...	9	258785	Stator, Generator JLG1001136988	1
...	9	264224	Stator, Generator JLG1001155348	1
...	9	216574	Stator, Generator JLG2460050	1
...	9	207153	Stator, Generator JLG2460048	1
...	10	258755	Endbell, Gen Brush Block	1
...	11	493509	Brushholder Assy, Generator	1
...	12	010311	Clamp, Nyl .750 Clamp Dia X .500 Wide .203 Mtg Hole	1
...	13	258646	Shroud Assy, Endbell	1
...	14	TE1 172661	Block, Stud Connection 6 Position	1

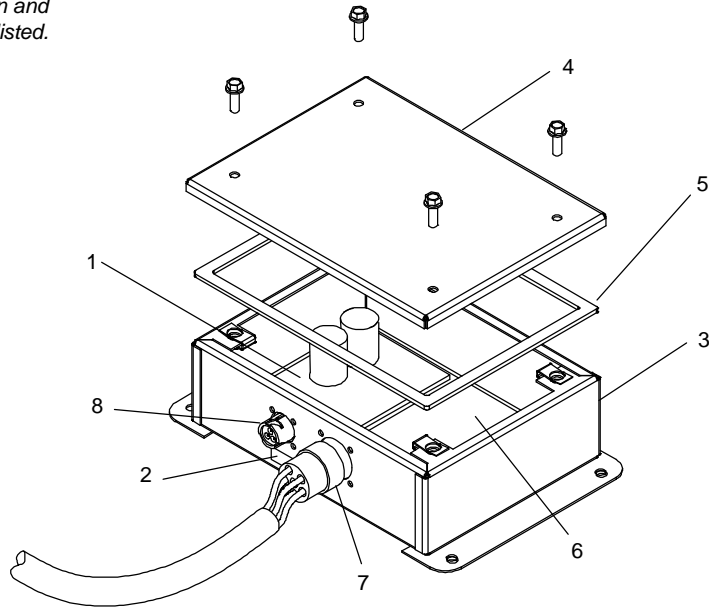
Item No.	Dia. Mkgs.	Part No.	Description	Quantity
<b>7.5 kW Generator Assembly (Continued)</b>				
... 15	CB1	192565	Supplementary Protector, Man Reset 3p 30a 250vac	1
... 16		230275	Boot, Circuit Breaker 3 Pole W/Bezel & Hardware	1
		210196	Connector, W/Leads	1
... 17	RC4	116045	Housing Plug+Pins, (Service Kit)	1
		188512	Seal, Wire Univ 6p/S 3row	1
... 18		260781	Conn, Clamp Cable Strain Relief .59/.99	1
... 19		209120	Label, Term Mkg Connections	1
... 20		261415	Panel, End Shroud JLG1001136988, JLG1001119250	1
... 20		264225	Panel, End Shroud JLG1001155348	1
... 20		258643	Panel, End Shroud JLG2460050	1
... 20		258645	Panel, End Shroud JLG2460048	1
... 21		258644	Insulator, Endbell	1
... 22		604318	Nut, 250-20 .50hex .39h Stl Pld Elastic Stop Nut	4
... 23		268783	Stud, Stl .250-20 X 13.312	4
... 24		209660	Label, Warning Pinch Points Wordless	1
		145956	Tubing, Corrugated Plastic Slit .375 Dia X 4.500	1
		495412	Tubing, GI Acryl .625- .655 Id 5.000 Nat Fa1	1
		183419	O-Ring, 1.984 Id X .139 Cs 70 Duro Viton	1

+ When ordering a component originally displaying a precautionary label, the label should also be ordered. Order label individually or as part of Label Kit.

**To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.**



☞ Hardware is common and not available unless listed.



803 236

**Figure 12-2. 7.5 kW Model Control Box**

Item No.	Dia. Mkgs.	Part No.	Description	Quantity	
<b>7.5 kW Model Control Box</b>					
...	1	PC1	209399	Circuit Card Assy, Power	1
.....		F1	027660	◇Fuse, Mintr Cer 20. Amp 250 Volt	1
...	2		210569	Label, 60 Hz	1
.....			210570	Label, 50 Hz	1
...	3		+264026	Control Box	1
...	4		264035	Cover, Control Box	1
...	5		264029	Gasket, Control Box	1
...	6	PC2	207882	Circuit Card Assy, Control	1
.....			241282	Panel, Mtg PC Card	1
.....			210198	Harness, Wrg Control Box (Not Shown) (includes)	1
.....		PLG1, PLG31	168071	Housing Plug Pins+skts (Service Kit)	2
...	7	RC2	210525	Housing Plug Pins+skts (Service Kit)	1
...	8	RC3	210526	Housing Plug Pins+skts (Service Kit)	1
.....			202660	Conn, Push 4 Wire 12-16strnd 12-18sld 16-22tinstrnd	2
.....			207355	Gasket, Connector	1
.....			207356	Gasket (Seal), Connector	1

◇ Recommended Spare Part

+ When ordering a component originally displaying a precautionary label, the label should also be ordered. Order label individually or as part of Label Kit.

**To maintain the factory original performance of your equipment, use only Manufacturer's Suggested Replacement Parts. Model and serial number required when ordering parts from your local distributor.**





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