



Service Manual

Our energy working for you.™



**Power
Generation**

Generator Set

PowerStart 0500 Control

C8 D5
C11 D5
C12 D6
C16 D6
C17 D5
C20 D6
C22 D5
C28 D5

Table of Contents

SECTION	TITLE	PAGE
1	IMPORTANT SAFETY INSTRUCTIONS	5
2	INTRODUCTION	7
2.1	About this Manual	7
2.2	System Overview	7
2.3	Test Equipment	7
2.4	How to Obtain Service	7
3	CONTROL PANEL OPERATION	8
3.1	General	8
3.2	Alternator Connections	9
3.3	Control Operation	11
3.4	Control Panel	12
3.5	Mode of Operation	14
4	CIRCUIT BOARD	19
4.1	Control Input and Outputs	21
5	TROUBLESHOOTING	24
5.1	Safety Considerations	24
5.2	Troubleshooting Procedure	24
6	Setup and Calibration	34
7	SERVICING THE GENERATOR	39
7.1	Testing the Generator	39
7.2	Generator Baseboard Isolation Procedure	40
7.3	Excitor Stator	41
7.4	Excitor Rectifier Bridge	42
7.5	Main Stator	45
7.6	Generator Disassembly	47
8	WITHDRAWING ROTOR	49
8.1	Generator Reassembly	49


SECTION	TITLE	PAGE
9	WIRING DIAGRAMS	53
9.1	General Information	53
9.2	Wiring Diagram	57
9.3	Battery Charger and Coolant Heater	59
9.4	Customer Connections	62


SECTION 1 – IMPORTANT SAFETY INSTRUCTIONS


SAVE THESE INSTRUCTIONS – This manual contains important instructions that should be followed during installation and maintenance of the generator and batteries.

Before operating the generator set (genset), read the Operator's Manual and become familiar with it and the equipment. Safe and efficient operation can be achieved only if the equipment is properly operated and maintained. Many accidents are caused by failure to follow fundamental rules and precautions.

The following symbols, found throughout this manual, alert you to potentially dangerous conditions to the operator, service personnel, or the equipment.

 **DANGER** *This symbol warns of immediate hazards which will result in severe personal injury or death.*

 **WARNING** *This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.*

 **CAUTION** *This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.*

FUEL AND FUMES ARE FLAMMABLE

Fire, explosion, and personal injury or death can result from improper practices.

- DO NOT fill fuel tanks while engine is running, unless tanks are outside the engine compartment. Fuel contact with hot engine or exhaust is a potential fire hazard.
- DO NOT permit any flame, cigarette, pilot light, spark, arcing equipment, or other ignition source near the generator set or fuel tank.
- Fuel lines must be adequately secured and free of leaks. Fuel connection at the engine should be made with an approved flexible line. Do not use zinc coated or copper fuel lines with diesel fuel
- Be sure all fuel supplies have a positive shutoff valve.
- Be sure battery area has been well-ventilated prior to servicing near it. Lead-acid batteries emit a

highly explosive hydrogen gas that can be ignited by arcing, sparking, smoking, etc.

EXHAUST GASES ARE DEADLY

- Provide an adequate exhaust system to properly expel discharged gases away from enclosed or sheltered areas and areas where individuals are likely to congregate. Visually and audibly inspect the exhaust daily for leaks per the maintenance schedule. Make sure that exhaust manifolds are secured and not warped. Do not use exhaust gases to heat a compartment.
- Be sure the unit is well ventilated.
- Engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects, and other reproductive harm.

MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Keep your hands, clothing, and jewelry away from moving parts.
- Before starting work on the generator set, disconnect battery charger from its AC source, then disconnect starting batteries, negative (–) cable first. This will prevent accidental starting.
- Make sure that fasteners on the generator set are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- Do not wear loose clothing or jewelry in the vicinity of moving parts, or while working on electrical equipment. Loose clothing and jewelry can become caught in moving parts.
- If adjustment must be made while the unit is running, use extreme caution around hot manifolds, moving parts, etc.

DO NOT OPERATE INFLAMMABLE AND EXPLOSIVE ENVIRONMENTS.

Flammable vapor can cause an engine to overspeed and become difficult to stop, resulting in possible fire, explosion, severe personal injury and death. Do not operate a genset where a flammable vapor environment can be created by fuel spill, leak, etc., unless the genset is equipped with an automatic safety device to block the air intake and stop the engine. The owners and operators of the genset are solely responsible for operating the genset safely. **Contact your authorized Cummins Power Generation distributor for more information.**

BUY NOW

**Then Instant Download
the Complete Manual
Thank you very much!**