

INSTRUCTIONS TO REPLACE 20DN, 30DN, 41 DN, AND D.C. GENERATORS WITH A 30SI ALTERNATOR
When this new 30SI is used to replace another 30SI, this Instruction Sheet is not needed.

WARNING!!! ALWAYS USE PROPER EYE PROTECTION WHEN PERFORMING ANY MECHANICAL REPAIRS TO A VEHICLE – INCLUDING, BUT NOT LIMITED TO, ANY INSTALLATION AND OR REPAIRS TO THE DELCO REMY D.C. GENERATOR AND ALTERNATOR. FAILURE TO USE PROPER EYE PROTECTION CAN LEAD TO SERIOUS AND PERMANENT EYE DAMAGE.

Only perform the mechanical functions that you are properly qualified to perform. Mechanical repairs that are beyond your technical capabilities should be handled by a professional installation specialist.

DANGER!!! To avoid injury or damage, always disconnect the negative cable at the battery before removing or replacing the unit. The unit output terminal is always live ("hot"). If the battery is not disconnected, a tool accidentally touching this terminal and ground can quickly get hot enough to cause skin burn or damage to the tool and surrounding parts.

Disconnect batteries, identify and tag output and ground lead polarity (pos. -neg.) at old alternator or D.C. generator. Some D.C. generators have terminals marked "A-1" and "A-2" as output and ground terminals. Remove old unit. Determine from the name plate, series and type of the old alternator being replaced.

PULLEY

- A. If old alternator or D.C. generator has 7/8" diameter shaft, the pulley can be used on the 30SI. Pulley should be replaced if excessively worn.
- B. If old alternator or D.C. generator does not have a 7/8" diameter shaft, a new pulley must be obtained. A replacement pulley may be obtained from the equipment manufacturer, AC-Delco 1A-103 catalog. Alternator Pulley diameter selected should result in alternator turning 2 1/2 times faster than the engine (2.5:1 pulley ratio).
- C. The 30SI shaft does not use a woodruff key.
- D. Torque pulley nut to 70-78 lb ft.

MOUNTING

- A. When replacing:
 - 1. Series 20Dn Type 150, 155, 250 or 255, drill bracket holes for 1/2-inch bolt. Holes must be drilled on the same center.
 - 2. Series 30DN Type 150,155, 250 or 255, 41DN Type 250 and 1106XXX model series D.C. generators:
 - a. Obtain mounting bracket from equipment or engine manufacturer or:
 - b. Use a spacer between old bracket and rear lug on 30SI. Spacer part number 1987215 (4 inches) may be cut to required length. Spacer must be .94 inches minimum diameter. When spacer is more than one inch long, it must be supported with a welded brace, or:
 - c. Custom build a new bracket using spacer part number 1987215 for mounting 30SI. Bracket should be constructed from 3/8" minimum, 1/2 inch preferred, steel plate well braced. Use Minimum of three bolts anchoring bracket to engine block. Weld 1987215 to bracket in a location to provide proper belt alignment.
 - 3. Series 20DN Type 100, 30DN Type 100; and 1105XXX model series D.C. generators:
 - a. Use procedures covered in Paragraphs 2a or 2c.
- B. Mount 30SI onto bracket using 1/ 2-13 bolts and self-locking nuts selected from "Recommended Hardware" list. **Note: DO NOT USE LOCKWASHERS.**
- C. Increase adjusting strap slot to clear 1/2 -13 bolt. Use 1967343 washer under bolt head even if flanged bolt is used.
- D. Adjust belt tension to equipment manufacturer's specifications.
- E. Torque mounting and adjusting strap to 60-70 lb ft.

RECOMMENDED HARDWARE

Special hardened flange head bolts and self-locking nuts should be used. Bolts are SAE Grade 5.

Bolt Length	Part Number
1.5"	9425585
2.5"	9432187
3.5"	9432188
4.5"	9432189
6.25"	9432190
Nut	9432195

If flanged bolts and nuts are not available, use standard Grade 5 bolts and self-locking nuts with hardened washer under bolt head and nut.

Washer part number: 1967343 (1/2" I.D. x 1/8" Rockwell "C" 35-45)

WIRING

A. Connect 30SI alternator per wiring diagram.

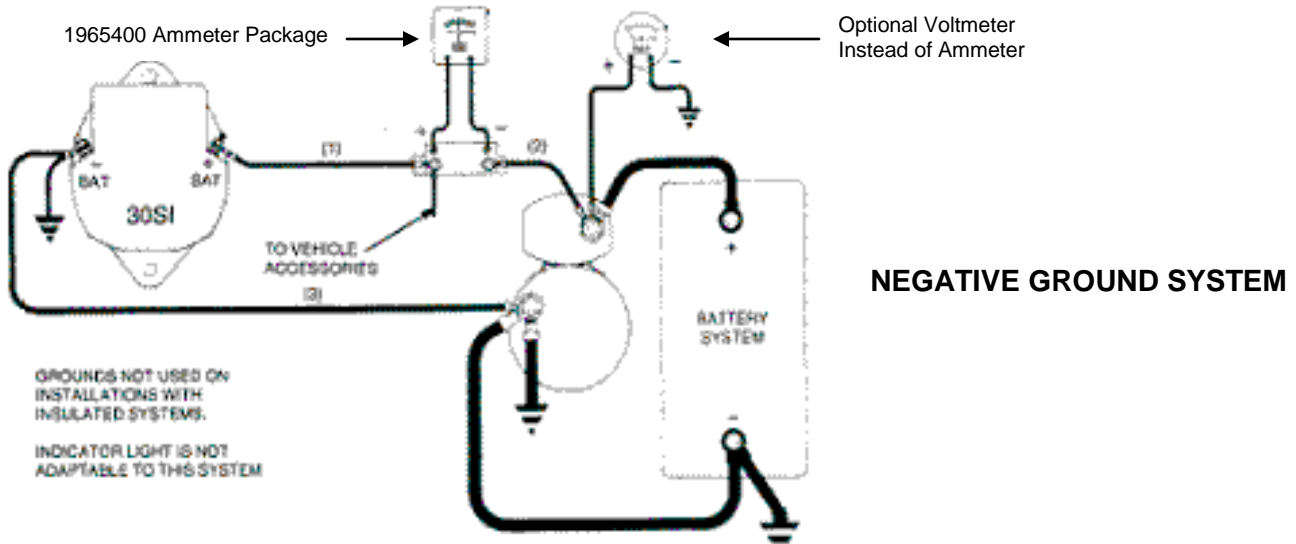
1. It may be necessary to replace output and ground terminals with new terminals having 1/4" holes.
2. Charging circuit wire size is important in order to maintain batteries in charged condition. If old wiring does not conform to length vs. size covered in "Recommended Wire chart", it must be replaced.
3. Any old wiring not used should be tied down and expose terminals taped.
4. The regulator for the 30SI is mounted inside; therefore, the old regulator may be removed and discarded.

B. Voltage Adjustment

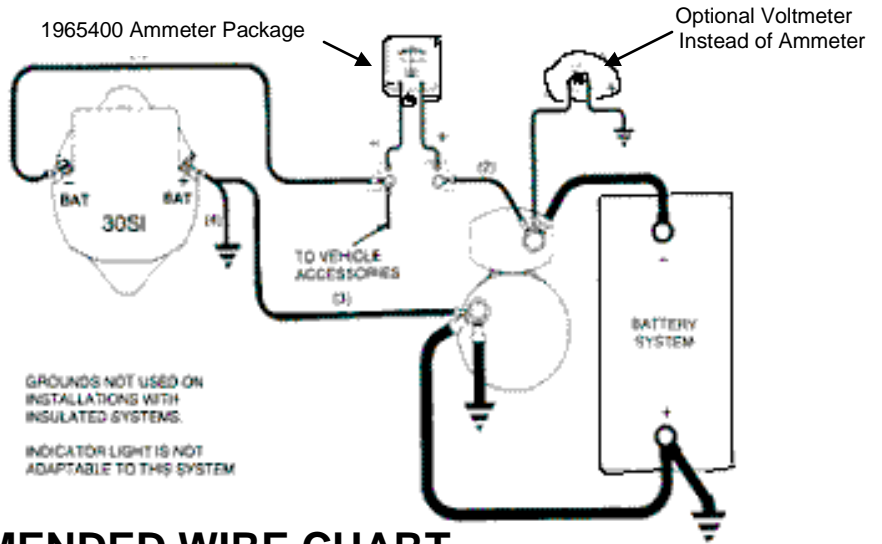
1. On 15 cell (30 volt) system change voltage adjustment cap to number 3 position.
2. Leave voltage adjustment cap "as is" on 12, 24 and 32 volt systems.

Re-connect batteries and start engine. When initially starting the engine, it may be necessary to momentarily increase engine speed to approximately 1000 rpm for the 30SI to "turn on" and charge at idle speed.

WIRING DIAGRAMS FOR 30SI DELCOTRON® ALTERNATOR



POSITIVE GROUND SYSTEM



RECOMMENDED WIRE CHART

INSULATED SYSTEMS- TOTAL LEADS (1), (2) & (3) TO SELECT PROPER WIRE SIZE VS LENGTH.

GROUNDED SYSTEMS-TOTAL LEADS (1) & (2) TO SELECT PROPER WIRE SIZE VS LENGTH. (3) & (4) LEADS SHOULD BE No. 8 WIRE SIZE.

SYSTEM VOLTAGE	SIZE vs. LENGTH			
	UP TO 5 FT. No. 8	5 FT. TO 8 FT. No. 6	8 FT. TO 12 FT. No. 4	12 FT. TO 19 FT. No. 2
12 VOLT				
24 & 32 VOLT	UP TO 6 FT. No. 8	6 FT. TO 11 FT. No. 8	11 FT. TO 21 FT. No. 6	21 FT. TO 25 FT. No. 4

Technical support: USA 800 854 0076, Mexico 01 800 000 7378, Brazil 0800 703 3526, South America 55 11 2106 6510 or visit delcoremy.com

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