

Wiring Guide

**1-Wire Alternator
(GM Applications)**



READ BEFORE USE

This 1-wire alternator features a low cut-in of 880 engine RPM.

“Alternator Cut-In” references the minimum engine RPM required for the alternator to begin charging

You will need to initially rev your engine beyond 880 RPM to excite the alternator so that it will begin charging.

Running a smaller than stock diameter crank pulley will raise the cut-in RPM.

Installation Notes

- Read all instructions before beginning installation of this alternator.
- Disconnect negative battery terminal (-) on vehicle.
- The battery must have a clean ground to the engine block.
 - This should match the charge wire gauge. See chart on Pg.3.
- Ensure that all wire connection terminals are crimped securely, and that connections are clean and tight.
- Paint, clear-coat, powder coating, and plating the alternator mounting bracket will prevent the alternator from grounding properly.

Belt Tension

- Inspect belt for signs of cracking or glazing. Replace if needed.
- A loose belt will result in intermittent charging and generate excessive heat resulting in premature unit, and/or, bearing failure.

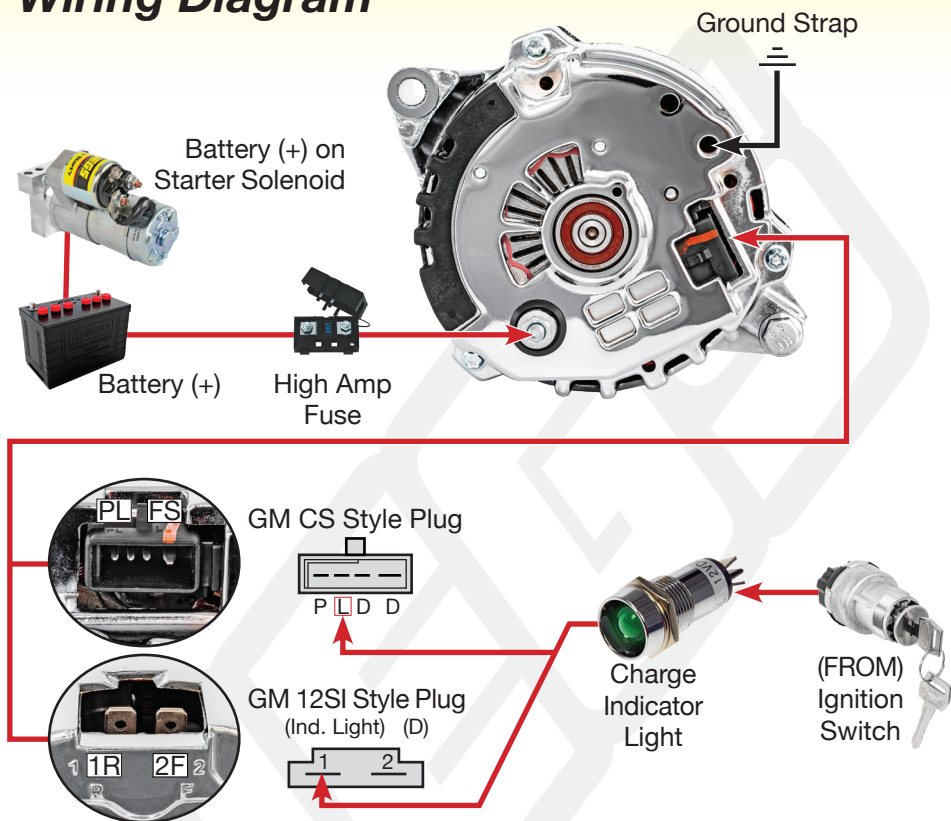
Battery

- A fully charged battery is at least 12.6V, not 12.0V.
- A weak or defective battery will cause premature failure.
- Never disconnect the battery while the engine is running. This causes a voltage spike and will damage the alternator.

Shaft RPM

- Alternators spin at approximately 2.5 to 3 times the RPM that of the crankshaft RPM.
- Do not exceed 18,000 alternator shaft RPM.

Wiring Diagram



Charge Indicator Light Function

- This alternator is designed to work as a 1-wire unit without any connection to plug into it.
- The function of the plug is to run a charge indicator light only.
- This connection has no impact on charging performance
- This does not serve as a voltmeter hookup point.

Choosing Your Alternator & Pulley

Step 1: Determine Your AMP Load

- Make a list of all your electrical components and total amp load. (See example chart below.)

#	Accessory	Ex. Amps	Load
1	CDI Ignition	6-36	
2	HEI Ignition	6-10	
3	Fuel Pump (ea.)	7-15 ea.	
4	Water Pump	12-25	
5	Fans (ea.)	10-50 ea.	
6	Headlight/Taillights	10-20	
7	Brake Blowers (ea.)	8-10 ea.	
8	Driver Cooling Suit	15-30	
9	Data Recorder	2-10	
10	Trans Brake	12-20	
11	Nitrous Solenoid (ea.)	5-30 ea.	
12	Gauges	2-6	
13	On-Board Radio	4-10	
14	Line Lock	4-8	
15	Delay Box	8-12	
16	Throttle Stop	5-15	
17	Intercooler Pump	10-20	
18	Other		
TOTAL AMP LOAD			

Step 2: Select Your Alternator

- Select the correct alternator to cover your amperage load.

Step 3: Select Your Charge Wire

- Select the correct charge wire gauge based on your amp load and wire length

CHARGE WIRE LENGTH

AMP Load	1-6 Ft.	7-13 Ft.	14-20 Ft.
30-70	8g	6g	4g
70-100	6g	4g	2g
100-150	4g	2g	0g
150-200+	2g	0g	1/0g

Step 4: Select Your Pulley

- Determine the alternator pulley ratio and ensure the alternator shaft RPM is less than the rated max.

PULLEY RATIO CHART

ALTERNATOR PULLEY DIAMETER (INCHES)

CRANK PULLEY DIAMETER (INCHES)	2	2.25	2.3	2.5	2.6	3.25	3.5	3.75	4
3	1.5	1.3	1.3	1.2	1.2	0.9	0.9	0.8	0.8
3.5	1.8	1.6	1.5	1.4	1.3	1.1	1.0	0.9	0.9
4	2.0	1.8	1.7	1.6	1.5	1.2	1.1	1.1	1.0
4.5	2.3	2.0	2.0	1.8	1.7	1.4	1.3	1.2	1.1
5	2.5	2.2	2.2	2.0	1.9	1.5	1.4	1.3	1.3
5.5	2.8	2.4	2.4	2.2	2.1	1.7	1.6	1.5	1.4
6	3.0	2.7	2.6	2.4	2.3	1.8	1.7	1.6	1.5
6.5	3.3	2.9	2.8	2.6	2.5	2.0	1.9	1.7	1.6
7	3.5	3.1	3.0	2.8	2.7	2.2	2.0	1.9	1.8
7.5	3.8	3.3	3.3	3.0	2.9	2.3	2.1	2.0	1.9
8	4.0	3.6	3.5	3.2	3.1	2.5	2.3	2.1	2.0

Step 5: Calculate Alternator RPM

PULLEY RATIO

$$\left(\frac{\text{Crank Pulley Diameter}}{\text{Alternator Pulley Diameter}} \right) \times \text{ENGINE RPM}$$

$$= \text{ALTERNATOR RPM}$$

NOTE:

Max alternator shaft RPM is 18,000