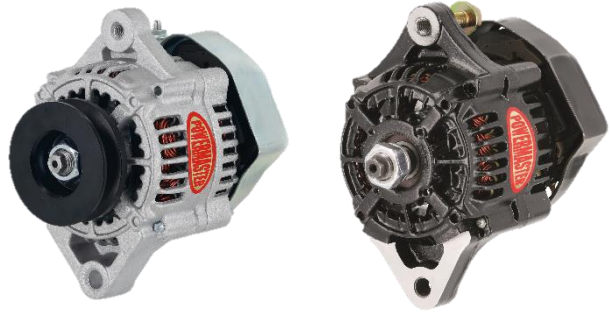


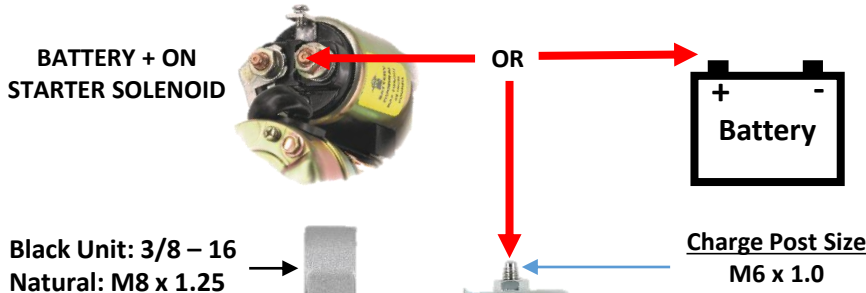


WIRING INSTRUCTIONS

DENSO Style Race Alternator (One Wire Hookup)

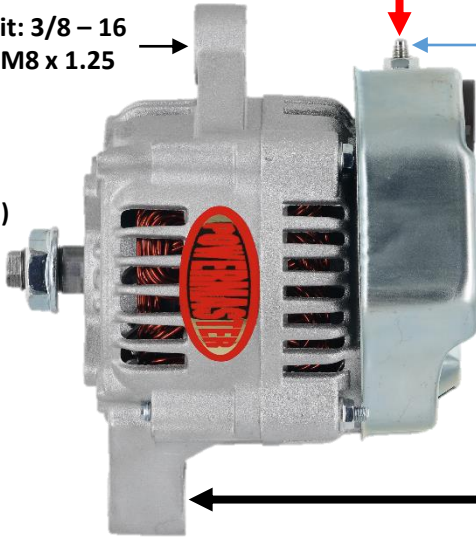


Tech Dept.
 (630) 957-4019
 Tech@powermasterperformance.com



Black Unit: 3/8 – 16
 Natural: M8 x 1.25

Shaft:
 15mm (.590")
 w/ 14 x 1.5
 threads



DO NOT CHOOSE AN ALTERNATOR BY SIZE!
 Always verify your vehicles amp load before installation (See attached page). Choosing a unit without sufficient amperage output can result in poor performance and premature failure.
 Note: Idle amperage should still be considered for race applications.

Grounding: Make sure all alternator and bracket mounting points are free of any paint, anodizing, powder coat, clear coat, or plating.
 Note: A Motor plate does not guarantee grounding!

Disconnect Battery Negative (-)

READ ALL INSTRUCTIONS IN BOX!

Charge Wires:

55-115 Amp Alt. use 8 gauge up to 6 ft.

Note: When using a battery disconnect switch, run the charge cable to either the battery + or the battery post of the switch.

Alternator Ground: Many mounting brackets are powder/clear coated, painted, or plated. The alternator will not ground properly without a ground wire from the Alt. housing to the engine block. (This wire should match charge wire size)

Battery must have a clean ground to engine block.

Wire Connections: Be sure all terminals are crimped securely, and connections are clean and tight.

Belt Tension: Inspect belt for signs of cracking or glazing. Replace if needed. **A loose belt will cause intermittent charging and generate excessive heat resulting in premature unit/bearing failure.**

[For V belt units follow attached pulley tag.](#)

A fully charged battery is at least 12.6V, not 12.0V (16V batteries should be 17.2V). A weak/defective battery will cause premature failure.

Never disconnect the battery with engine running! This causes voltage spikes that will damage the alternator.

DO NOT EXCEED 20,000 ALTERNATOR SHAFT RPM
 (See Attached Page for more info)

FAILURE TO FOLLOW THESE INSTRUCTIONS MAY VOID YOUR WARRANTY

[Warranty void if unit is soaked in Oil or Mud](#)



RACE ALTERNATORS

How to Choose a Race Alternator & Pulley

STEP 1: Determine Your AMP Load

Make a list (see example chart) of all your electrical components and total.

DETERMINE YOUR TOTAL AMP LOAD

#	Accessory	Ex. Amps	Amp Load
1	CDI Ignition	6-36	
2	HEI Ignition	6-10	
3	Electric Fuel Pump (Each)	7-15 ea	
4	Electric Water Pump	12-25	
5	Electric Fans (Each)	10-50 ea	
6	Headlights / Tail Lights	10-20	
7	Brake Blowers - Each	8-10 ea	
8	Driver Cooling Suit	15-30	
9	Data Recorder	2-10	
10	Trans Brake	12-20	
11	Nitrous Solenoid (Each)	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			

Why did my Powermaster racing alternator not come with a pulley?

The pulley systems and ratios in racing vary widely. Some use a matched pulley setup. Others have custom pulleys made to work for their application.

FAILURE to follow these guidelines will VOID your Warranty!

STEP 2: Select Your Alternator

Select the correct alternator to cover your total amperage load.

STEP 3: Select Your Charge Wire

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

AMP LOAD	CHARGE WIRE LENGTH		
	5' - 10'	11' - 19'	20' - 28'
30 - 70	8 AWG	6 AWG	4 AWG
70 - 100	6 AWG	4 AWG	2 AWG
100 - 150	4 AWG	2 AWG	0 AWG
150 - 200+	2 AWG	1/0 AWG	2/0 AWG

STEP 4: Select Your Pulley

Determine alternator pulley ratio and ensure alternator shaft RPM is less than rated Max.

WARNING: Max Alternator Shaft RPM
DELCO Style: 18,000 • DENSO Style: 20,000

PULLEY RATIO CHART ALTERNATOR PULLEY DIAMETER (INCHES)

CRANK PULLEY DIAMETER (INCHES)	ALTERNATOR 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

$$\text{Alternator RPM} = \left(\frac{\text{Pulley Ratio}}{\text{Crank Pulley Diam.}} \right) \times \text{Engine RPM}$$

Questions? Call or e-Mail Powermaster's Tech Line!