# Please follow these few steps in order to assure good installation results and long alternator life

Alternator Output Terminal
TO POSITIVE

NEGATIVE THRU BRACKET TO ENGINE BLOCK

## CAUTION

NEVER unhook the battery CABLE to test the output of the alternator. This will damage your REGULATOR

Your unit comes with a serial number, which allows us to track the date of manufacture, unit specifications and service records. This number appears on the side of the alternator. Please use this number as a reference for any type of service and/or questions.

**AMP LOAD**. Make a list of all the electrical equipment used on your race car. Write down the amp load for each part and Total it. This is your amp load. If exceeds 105 amps, you will require a higher output alternator. please call tech support for unit upgrade or exchange.

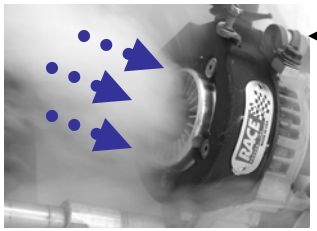
If the alternator is being tested on a Dyno or any other type of engine tester, the alternator MUST BE connected to a good battery (12.6 Volts) in order to take the "load". Otherwise, the alternator belt should be taken off in order to avoid any type of alternator rotor rotation.

Wire and Cable Gauge. You must have at least **4 AWG Gauge** cable with terminals and connector rated to a minimum of 130 Amps. USE THE SUPPLIED Terminal to connect to alternator Positive side and your cable. If you need a new terminal call RPI at 912-25-9505.

MSD Part # 8830

MAKE SURE that your electrical system has a "NOISE FILTER" next to your ignition box. If not, get one from MSD, Part # 8830, follow their installation instructions. This filter will protect your alternator regulator from any "spikes" generated by the ignition system.

Every time you are going racing and before you start your race car, check the battery voltage. If below 12.50 VDC, you must charge your battery with an external battery charger. Make sure battery is capable of holding charge. If battery is below 12.4 VDC you must replace the battery with a new one.



Make sure the alternator has good air back clearance. The regulator and rectifier are cooled by the internal rear fan which "vacuums" air from the rear and pull's it thru the parts, exhausting the hot air thru the sides. Blow off any debri after each race.

Make sure "Master Switch" stays off when electrical system is not in use.

Have questions. ASK, call tech support. 912-25-9505

# COMPUTER TESTED ALTERNATOR

**Race Proven Inc.**

**DATE** 03/15/2011

## Tester SPALT-7

| Alternator Test Sequence | 80°F | 220°F | Units |
|---|---|---|---|
| Maximum Alternator Output | 130 | 115 | Amps |
| Maximum Output Power | | | Watts |
| Voltage regulator set point | 14.7 | 14.7 | Volts |
| Leakage current | n/a | n/a | mAmps |
| Ripple Current | n/a | n/a | Amps |
| Alternator Turn On Speed | 3670 | 3670 | RPM |
| Regulator Activation Speed | 3500 | 3500 | RPM |
| Secondary Regulation | 14.9 | 14.9 | Volts |
| Tachometer Frequency | n/a | n/a | Hz |
| Stator Voltage | n/a | n/a | Volts |
| Required Horse Power at Full Output | | | |
| Voltage test point 13.5 V | | | |

PART NUMBER

**20148**

| Alternator RPM | 80°F | 220°F | |
|---|---|---|---|
| 1000 | 0 | 0 | |
| 2000 | 0 | 0 | |
| 3000 | 55 | 53 | |
| 4000 | 80 | 81 | |
| 5000 | 95 | 91 | |
| 6000 | 104 | 98 | |
| 7000 | 110 | 103 | |
| 8000 | 115 | 107 | |
| 9000 | 118 | 109 | |
| 10000 | 121 | 111 | |
| 11000 | 123 | 113 | |
| 12000 | 125 | 114 | |
| 13000 | 126 | 114 | |
| 14000 | 129 | 115 | |
| 15000 | 130 | 115 | |

DETERMINING Alternator RPM
When unit power directly
front crankshaft (V Belt, Serpentine)

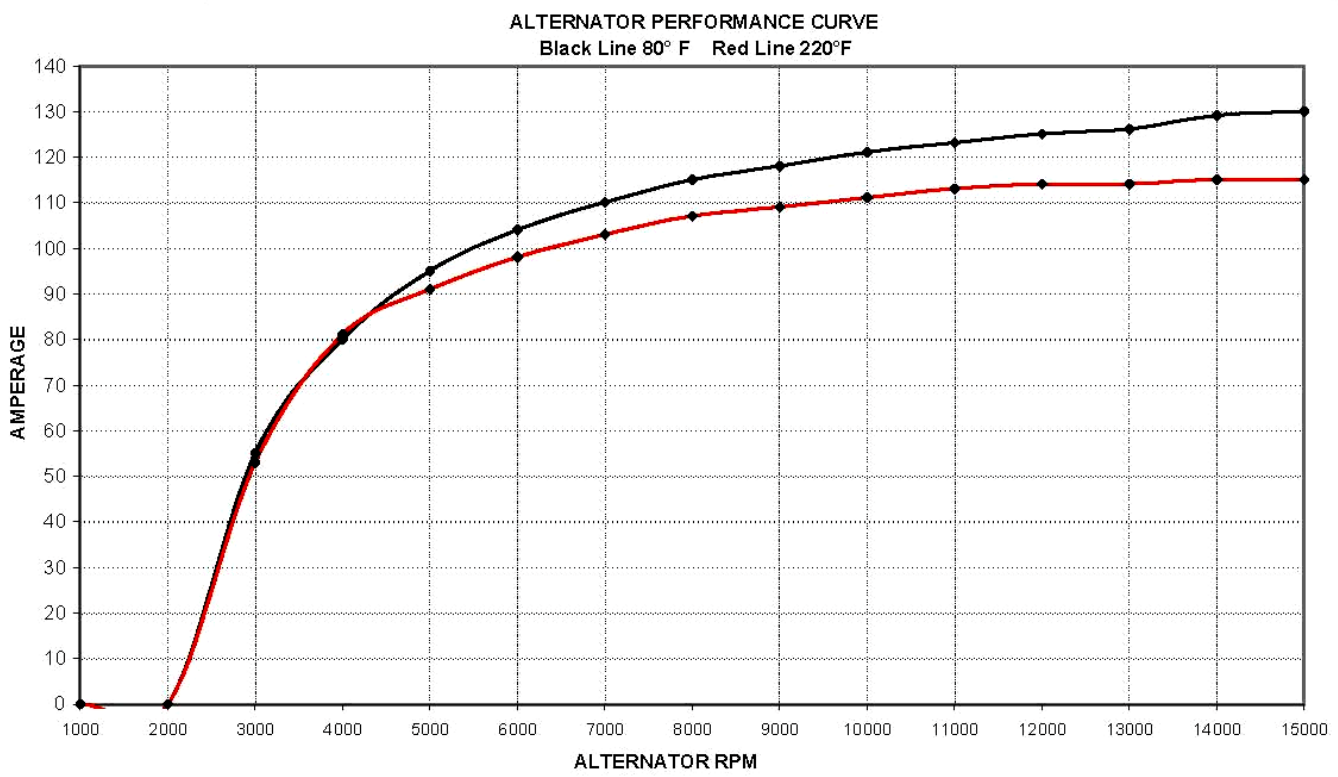
= Crank Shaft Pulley Outside Diameter / Alternator Pulley Outside Diameter × Engine RPM (Tach)

| Cross-Reference | |
|---|---|
| BOSCH | |
| DENSO | |
| FORD | |
| MOTORCRAFT | |
| MCLAREN | |

TO DETERMINE THE NECESSARY HORSE POWER TO TURN ALTERNATOR:
HP = ALTERNATOR WATTS / 740 WATTS

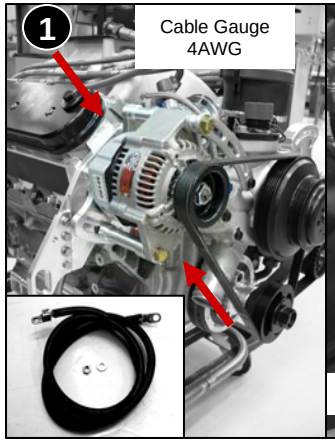
TO FIGURE WATTS:
ALTERNATOR AMPS X SET VOLTS

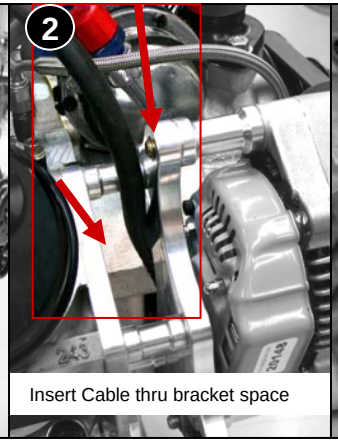
1 HP = 740 WATTS

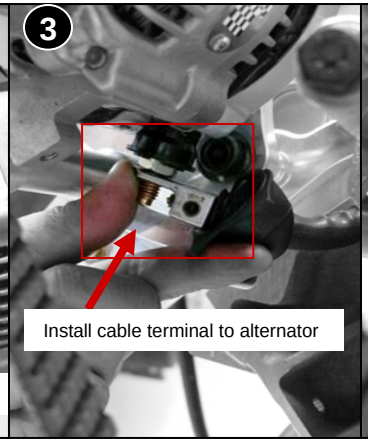


# Alternator Output Cable Installation

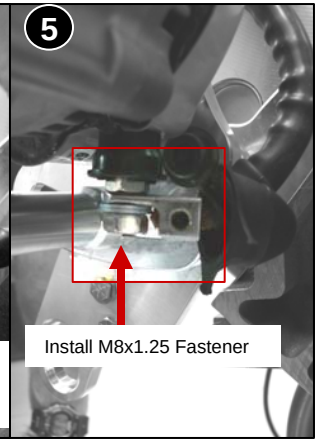




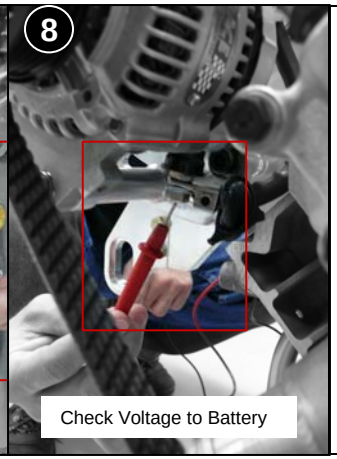







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With Engine OFF, NO accessories on, Master Switch on.

A. Check battery voltage it must read 12.6VDC if lower charge it before continuing. Battery may keep a residual voltage after charge, so it may read between 12.7 to 12.8.

B. Check voltage from alternator Output terminal to negative side of battery. It must read 12.6 or same voltage as check on battery.

C. If voltage is lower, you must inspect connections from alternator to positive and negative of battery. Until both voltage readings are the same.