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Quick Links

Patent Pending

Infi–CLOCK Starters

NEW!

The new Infi-CLOCK feature of select Powermaster starters gives the end user an unprecedented ability to infinitely adjust the starter motor position in relation to the engine. This gives the installer the most amount of control over header clearance issues. Two simple screws and a unique locking system *sandwich* the adapter block and make for endless possibilities.

P/N 9540

Honda Starter

NEW!

P/N 9701

Don't put that old stock starter back on your new Honda crate engine. A high performance engine needs a high peformance starter that can handle the extreme under-hood temperature. A must for any modified Honda.

16 Volt Battery Charger

NEW!

- Dual voltage levels: Compatible with both 12V and 16V batteries
- Three charging modes: Compatible with all lead acid battery types (AGM/Gel, Deep cycle, and Maintenance free)
- Three charging levels–2A, 15A, and 25A
- LED indicators and AMP gauge
- 6' of heavy duty cables and clamps

P/N 1005

16 Volt Battery

NEW!

P/N 1000

Powermaster's 16 Volt battery features an optimized AGM design that is non-spillable, and therefore safe for shipment via UPS and other carriers. Its BCI group 24 size, 42 lbs, and two posts make it a drop in for racers everywhere.

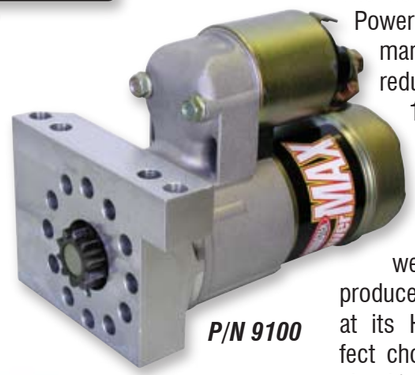
Voltage Reducer

P/N 993

Dual outputs for systems with or without alternators.

PowerMAX 1.2kW for Chevy

NEW!



P/N 9100

The newest addition to the PowerMAX family of permanent magnet, gear reduction starters is the 1.2 kW for Chevy applications. Featuring compatibility with both 168T and 153T ring gears, this unit weighs only 7.5 lbs. and produces 160ft-lbs of torque at its HP peak. The perfect choice for performance street/strip applications.

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'Bullet' 12si and Ford Upgrade Alternators

NEW!

Powermaster is pleased to announce the arrival of the new 'Bullet' line of alternators. 'Bullet' alternator housings have been optimized for superior polishing and chrome plating. All sharp lines and edges have been blended. The case bolts are hidden on the sides. Teardrop surface features have been added to create a look unlike anything else on the market. Powermaster 'Bullet' alternators are real 'eye candy' with better finishes, more fan choices, more pulley choices, and a look that is unique. All of this adds up to a fresh new look for the industry's most popular high performance alternator.

P/N 8-67100 Polished

P/N 27295-Polished

'Smooth Look' CS130 Alternators

NEW!

Many Powermaster CS130 alternators (those with combination external and internal fans) will be changed to the new 'Smooth Look'. Sharp lines on the back of the housing have been replaced with a domed smooth surface. The sharp lines around the side have been eliminated and the air vents have been reworked to optimize cooling and surface finish.

P/N 674611-Chrome

P/N 82051-Black

GM PowerGEN

NEW!

The success of the first PowerGEN was overwhelming. Four additional applications are now available, including GM long and short style, Ford swingmount, and Ford '49 and up Flatheads. See page 34 for details.

Company History

Corporate Offices in Knoxville, TN

Using ingenuity to show technology could improve the reliability and performance of OEM replacement starters and alternators, Kenneth Bennett developed the first in a long line of quality products over 12 years ago.

It didn't take long to build in the success of their initial offerings, as word of mouth spread the news of the performance based and dyno tested product line.

Today you can find Powermaster products in a variety of environments – from high compression racing engines to award winning street rods, and everything in between.

With their technological edge and strong performance background, Powermaster has rapidly become a force in the industry. Built on service and backed by an enviable reputation for product quality and reliability, Powermaster tests every starter and alternator on their custom manufactured starter and alternator dynos. Whether in your race car, street vehicle, off-roader, motorcycle or boat, rest assured Powermaster will get you started and keep you going, guaranteed!

Powermaster's research and development department strives to stay on the cutting edge, constantly designing new products, and finding ways to improve on existing applications.

Powermaster both designs and manufactures their own brackets, starter blocks, and other parts in their well-equipped, controlled CNC environment.

With the capability to design the individual components that go into each Powermaster product, you can be assured the product in the box has been thoroughly researched and tested to be of the highest quality.

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How to make a starter buying decision

There are several choices when it comes to buying a performance starter. Powermaster has a wide range of choices to fit just about any application. Narrowing the choices down to exactly the right unit can be accomplished in three steps.

1. Torque Requirements

The torque output of a starter is the most important consideration. The starter must be able to spin the engine and do it without overheating internally. Since there is no such thing as having too much torque even on a street vehicle, a 200 ft-lb starter will work for everyone. Speaking in general terms, 12:1 or higher compression engine should use a 200 ft-lb starter. Engines up to 12:1 compression, should use at least a 180 ft-lb starter. 160 ft-lb starters are good for engines up to 10:1 compression. Of course, the smaller the flywheel, the more torque needed.

One thing to keep in mind is the torque characteristics of a starter are a function of its design. High voltage batteries or low internal resistance batteries will affect the kilowatt output of the starter by changing the output speed but not the torque. Therefore, buy enough torque to begin with.

2. Fit

Of course for a starter to work it must fit the application. Consider headers, oil pans, and the mounting points on the engine. What size ring gear do you have (for Chevy applications)? Does your Chevy block accommodate a straight mount starter or is the only pattern drilled in the engine block for a diagonal or offset pattern starter? In racing, did the oil pan manufacturer lock you into a particular shape of starter? In your Ford application, is your ring gear 3/8" from the engine plate indicating a typical manual transmission starter or is it closer to 3/4" requiring a typical automatic transmission unit? How tight are the headers around the starter? These are just some of the questions that will help determine the right starter for your application.

3. Weight

Lastly, depending on the form of racing, the overall weight of the starter is a consideration.

All About Torque

Torque is the ability to overcome rotational resistance. High compression, tight rings, blowers, and other factors all offer rotational resistance and it takes torque to overcome this. Unfortunately starters are rated in kilowatts and this is a measure of its torque and speed combined. The torque output is really unknown.

Starters, like engines, have different powerbands. Some have a maximum power point at a relatively high RPM with little torque, whereas others produce more torque and yet lower RPMs. In the performance environment, torque is the most important consideration generally because a performance engine offers more rotational resistance than stock. As a result, kilowatt ratings can be confusing because two starters with the same kilowatt rating can have very different torque characteristics.

The engine will demand a certain amount of torque for cranking. When the torque demands cause a starter to exceed its maximum power point, the extra input energy is wasted as heat. Asking a starter to produce more torque than it is designed for results in low electrical to mechanical efficiency and drastically increased internal heat. This is what causes premature starter failure. The key is to use a starter that has a power peak at a high torque point. Then, in the event that the cranking condition offers high resistance, the starter will have the torque characteristics to handle it without overheating.

Several other factors affect starter performance. Voltage is very important. Cabling and quality disconnect switches are important because under heavy load, voltage will be lost or "dropped" in undersized or hot cables or hot switches. The internal resistance of the battery itself results in decreased voltage to the starter. Therefore low internal resistance batteries like typical 1000CCA or better yet spiral cell AGM batteries, such as the new Powermaster 16V should be used. High voltage 16V batteries have been used successfully in racing for years. The size of the flywheel is another consideration. The smaller the flywheel, the more torque required.

When you purchase a Powermaster starter you will get a dyno sheet that shows you the exact performance of your starter. The sheet itself will explain how to interpret the data, but you can be assured that Powermaster starters are built to a consistent, controlled standard and that they are dynamically tested throughout their entire power range.

Powermaster Starter Classifications

Powermaster offers several different styles of starters which have different torque ratings. The information on these two pages is designed to serve as a guide to help in determining which starter is best for your application. A starter application guide begins on page 12.

250+ Ft Lb Starters

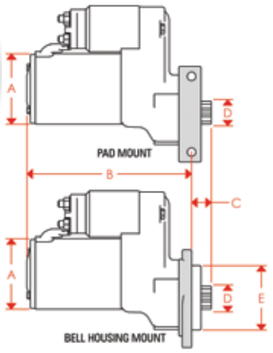
POWERMASTER ULTRA TORQUE

90 ft. lb. MORE than P/N 9000

P/N 9400

- Most powerful starter on the market
- 100% new, designed and made in the USA
- 2.5 KW, 3.4 HP
- 4.4:1 Gear reduction
- Cranking power for over 18:1 compression
- Machined aluminum adjustable block
- Works with oversized kickout oil pans
- Water and corrosion resistant
- Weighs 10.5 lbs.
- Patented design

ULTRA Torque works well in a variety of applications. Ideal for hardcore racing, it's the ultimate performance starter..period!



ULTRA Torque starts on page 8.

200 Ft Lb Starters

POWERMASTER XS TORQUE

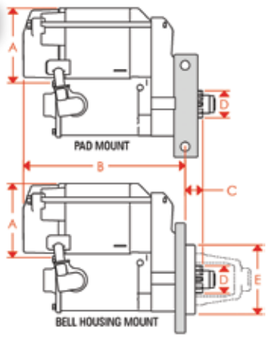
Patent Pending

POWERMASTER infi-CLOCK 360 Index

- 4.4:1 Gear reduction
- No heat soak problems
- Recommended for 18:1 compression
- Machined aluminum adapter block
- Clears most oil pans and headers
- Very high efficiency rating
- Weighs 8.5 lbs
- InfiCLOCK available for many applications

P/N 9540

Excellent choice for highly modified engines or where heat soak or space limitations is a concern (street rods or street machines with close proximity to headers, etc).



XS Torque starts on page 8.

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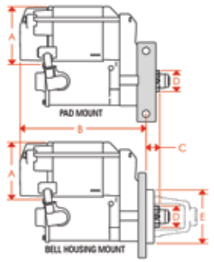
Powermaster Starter Classifications

180 Ft Lb Starters

POWERMASTER MASTERTORQUE

- 4.4:1 Gear reduction
- Recommended for 12:1 compression
- No heat soak problems
- Machined Aluminum Adapter Block
- Adjustable mounting block (ex. P/N 9613 Mopar)
- Clears Most oil pans and Headers
- Weighs 10.5 lbs
- InfiCLOCK available for many applications

P/N 9614



Mastertorque starts on page 8.

Excellent choice for mild race or high performance street applications or where heat soak is a main concern (street rods, street machines).

POWERMASTER infi-CLOCK 360 Index

Patent Pending

P/N 9600

Hitachi Style Starters

P/N 9004

- Weighs 12 lbs
- 180 ft lb

- Adjustable mounting block
- Works with oversized kickout oil pans
- Can be inverted with solenoid down
- Fits either 153 or 168 tooth flywheels (P/N 9000)
- 3.7:1 gear reduction

P/N 9000

- Weighs 10 lbs
- 160 ft lb

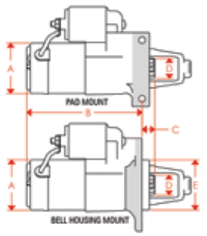
Excellent choice for small and big block race or highly modified street applications.

160 Ft-Lb Starters

POWERMASTER PowerMAX

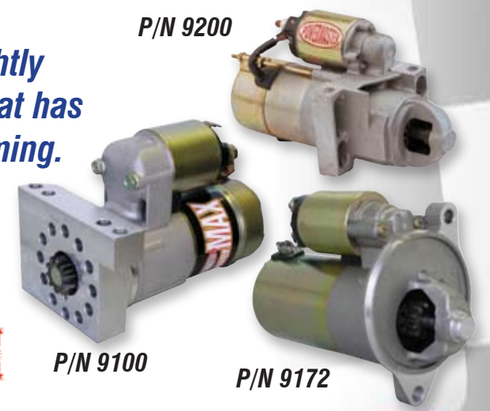
A fine choice for your slightly modified or daily driver that has stock compression and timing.

- 4.4:1 gear reduction
- Recommended for 10:1 compression engines
- Clears MOST headers
- Works with most oversized kickout oil pans
- Permanent magnet for high efficiency
- Weighs 7.5-8.5 lbs depending on P/N



PowerMAX starts on page 8.

P/N 9200



P/N 9100

P/N 9172

Starter Quick Guide

STOCK REPLACEMENT ← → HIGH PERFORMANCE

Engine Manufacturer	Stock OEM Nat.	PMGR* Upgrade/ Natural	Stock/OEM Chrome	PMGR* Upgrade/ Chrome	PowerMAX 160 ft. lb. Natural	"Hitachi Style" 180 ft. lb. Natural	Mastertorque 180 ft. lb.	XS Torque 200 ft. lb. Natural	XS Torque 200 ft. lb. Chrome	Ultra Torque 250+ ft. lb.
AMC Early All Except 4.0L						9365		9515•	19515•	9415
Buick 350 Engine	3631	9202			9100	9004	9600•	9502	19502	9400
Buick 401, 430, 455 Engine	3631	9202						9511	19511	
Cadillac Early 368, 425, 472, 500	3631	9202			9100	9004	9600•	9502	19502	9400
Chevy Universal Straight Mnt (153 or 168 Tooth)					9100	9004	9600•			9400
Chevy 153 Tooth Flywheel	3631	9202			9100	9004	9600•	9502	19502	9400
Chevy/Pontiac LT–1, All 153 Tooth	9202							9502	19502	
Chevy ZZ 4 Crate Engine–153 Tooth	9202							9502	19502	
Chevy 168 Tooth Flywheel (Straight Mount)					9100	9004	9600•	9500•	19500•	9400
Chevy 168 Tooth Flywheel (Staggered Mount)	3510	9200	13510	19200			9612•	9526•	19526•	9426
Chevy Ram Jet 350, 502–168 Tooth	9200		19200		9100		9612•	9526•	19526•	9426
Chevy/Pontiac LS Engines	9201							9509•	19509•	
Chevy-GMC Late Mod. Truck (w/ 4.8L, 5.3L, 6.0L)	9201							9509•	19509•	
Ford SB 289, 302, 351 W&C A/T & 5 sp M/T (3/4" Offset)	3124	9162	13124	19162	9103		9603•	9503•	19503•	9403
Ford SB 289, 302, 351 W&C 3 & 4 sp M/T (3/8" Offset)	3132	9172	13132	19172			9604•	9504•	19504•	9404
Ford BB 351M, 400, 429, 460		9182		19182			9605•	9505•	19505•	9405
Ford BB FE 390, 427, 428	3131		13131				9606•	9506•	19506•	9406
Ford Flatheads 1932-52								9507	19507	
Ford Flathead French Block								9508	19508	
Ford 4.6L 2003-92	9183		19183					9532	19532	
Ford 2300cc 4 Cyl.		9180		19180						
Jeep-Early Models up to 1987 except 4.0L								9515•	19515•	9415
Jeep-Late Models With 4.0L								9516•	19516•	9416
Mopar-Chrysler, Dodge, Plymouth 1965-87	3257				9300		9613	9513	19513	
Early Hemi 146 Tooth Flywheel								9530		
Early Hemi 172 Tooth Flywheel								9531		
Oldsmobile V-8	3555						9610•	9510•	19510•	9410
Pontiac V-8								9536•	19536•	9436

*Note: "PMGR" means Permanent Magnet Gear Reduction

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•InfiCLOCK Starter

250+ Ft Lb Starters

P/N 9406

This two page section shows our most popular parts listing of starters grouped by family type in order by part number, descending numerically from top-down.

250+ ft-lb Ultratorque Starter	PN
Natural GM 153/168T	9400
Natural 289-302-351W/C AT & 5-speed M/T	9403
Natural 289-302-351W/C 3 & 4-speed M/T ONLY	9404
Natural Ford 351M, 400, 429, 460	9405
Natural Ford 390, 427, 428 "FE" Only	9406
Natural Pontiac/Oldsmobile 166T	9410
Natural AMC/Jeep	9415
Natural Jeep 4.0L	9416
Natural GM Offset 153/168T	9426
Natural CCW Bellhousing Mt.	9428
Natural 250ft-lb Pontiac	9436
Natural 250ft-lb w/o Block	9450
Natural GM 142T	9497
Natural Hemi Pro Stock 142T	9498
Chrome GM 168T/153T	19400
Chrome Ford A/T	19403
Chrome Pontiac/Olds	19410

P/N 9540

200 Ft Lb Starters

200 ft-lb XS Torque Starter	PN
Chevy 168 Tooth Flywheel	9500
Chevy 153 Tooth Flywheel	9502
Ford 289-302-351W/C A/T & 5-speed M/T	9503
Ford 289-302-351W/C 3- & 4-speed M/T	9504
Ford 351M, 400, 429, 460	9505
Ford 390-427-428 "FE" Only	9506
Ford Flathead	9507
Ford Flathead-French Block	9508
GM LS Apps	9509
Pontiac/Oldsmobile 166T	9510
Buick 455	9511
Chrysler	9513
Bert/Brinn Transmission	9514
AMC/Jeep	9515
Jeep 4.0L	9516
Formula Ford (1600)	9520
Formula Ford (2000)	9522
Mopar Starter w/Nose, Adjustable	9523
Chevy Stgrd. mnt. (3-Hole) 168 Tooth	9526
Quarter Master Bellhousing	9528
Late Model Bert Transmission Adjustable Mnt.	9529
'51~57 Hemi w/ 146T Flywheel, 10 Diametral Pitch	9530
'57, '58 Hemi w/ 172T Flywheel, 12 Diametral Pitch	9531
4.6L Ford	9532
VW/Porsche	9534
Pontiac Infi-Clock	9536
GM 168T/153T	9540
XS Torque Starter Righthand w/o Block	9550
XS Torque Starter Lefthand w/o Block	9551
Honda B18	9701
Chrome - Chevy 168 Tooth w/Chrome Bolts	19500
Chrome - Chevy 153 Tooth w/Chrome Bolts	19502
Chrome - Ford 289-302-351W/C A/T & 5-speed M/T	19503
Chrome - Ford 289-302-351W/C 3- & 4-speed M/T only	19504
Chrome - Ford 351M, 400, 429, 460	19505
Chrome - Ford 390, 427, 428 "FE" only	19506
Chrome - Ford Flathead	19507
Chrome - Ford Flathead-French Block	19508
Chrome - LS Engines	19509
Chrome - Pontiac/Olds w/Chrome Bolts	19510
Chrome - Buick 455	19511
Chrome - Chrysler	19513
Chrome - AMC	19515
Chrome - Jeep 4.0L	19516
Chrome - Chevy Stgrd. Mt. (3-Hole) 168 Tooth	19526
Chrome - 4.6L Ford	19532
Chrome - Infi-Clock Pontiac	19536

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180 ft-lb Mastertorque Starter	PN
Chevy 168/153 Tooth	9600
Ford 289-302-351W/C A/T and 5-speed M/T	9603
Ford 289-302-351W/C 3- & 4-speed M/T	9604
Ford 351M, 400, 429, 460	9605
Ford FE 390, 427, 428	9606
Pontiac/Oldsmobile 166T	9610
Staggered Bolt	9612
Chrysler	9613
BERT/BRINN, Adjustable	9614
2.5L/4 cyl Jeep	9633
180 ft-lb Pontiac	9636
180ft-lb, Righthand w/o block	9650
180ft-lb, Lefthand w/o block	9651

180 Ft Lb Starters

P/N 9600

160 Ft-Lb Starters

P/N 9100

160 ft-lb PowerMAX Starter	PN
Natural Chevy 168T/153T 1.2kW	9100
Natural SB Ford AT/5 spd MT 1.2kW	9103
Natural Ford Starter, 289-302-351W/C AT & 5-sp M/T	9162
Natural Ford Starter, 289-302-351W/C 3 & 4-sp M/T	9172
Natural Ford Starter 4 cylinder only (2300 cc)	9180
Natural Ford Starter 351M, 400, 429, 460	9182
Natural Ford Starter 4.6L	9183
Chevy Mini Starter 168 Tooth Staggered Bolt	9200
Chevy Mini Starter for GM LS Apps	9201
Natural Chevy Mini 153 Tooth Straight Bolt	9202
Chrome Ford 289-302-351W/C A/T & 5-speed M/T	19162
Chrome Ford 289-302-351W/C 3 and 4-speed M/T	19172
Chrome Ford 4 cylinder only (2300 cc)	19180
Chrome Ford 351M-400-429-460	19182
Chrome Ford 4.6L	19183
Chrome Chevy Mini w/Chrome Bolts	19200

Ultra Duty 2.5kW Starter	PN
Ford Diesel 6.9L, 7.3L	9050
Ford Diesel, Powerstroke	9051
GM Diesel 6.2, 6.5L	9052
Dodge Cummins 5.9L	9053

2.5kW Diesel Starters

P/N 9053

P/N 9515

AMC - Early (All Except 4.0L)

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9515•	19515•	3.0	6.21	0.07	1.14	3.22	8	200	1.4
Ultratorque	9415		3.16	7.65	0.70	0.98	3.22	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter

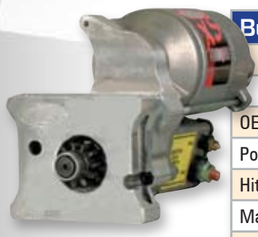
P/N 19502

Buick 231, 350

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3631		4.53	8.80	0.57	0.97	NA	22	90	1.4
PowerMAX	9202		3.10	6.97	0.71	1.16	NA	8	160	1.4
Opt. PowerMAX	9100		3.15	6.93	0.86	NA	NA	7.5	160	1.2
Hitachi Short	9000	19000	3.16	7.49	0.86	0.98	NA	10	160	1.2
Hitachi Long	9004		3.16	8.49	0.86	0.98	NA	12	180	2
Mastertorque	9600•		3.00	6.78	0.86	1.14	NA	10	180	1.4
XS Torque	9502	19502	3.00	6.05	0.86	1.14	NA	8	200	1.4
Ultratorque	9400	19400	3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter



P/N 9511

Buick 401, 430, 455 Engine

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3631		4.53	8.80	0.57	0.97	NA	22	90	1.4
PowerMAX	9202		3.10	6.97	0.71	1.16	NA	8	160	1.4
Hitachi Short										
Mastertorque										
XS Torque	9511	19511	3.00	6.07	0.84	1.14	NA	8	200	1.4
Ultratorque										
*depends on battery resistance			**w/stock flywheel							

+See pages 6 & 7 for dimensional drawings

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Cadillac Early 368, 425, 472, 500

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3631		4.53	8.80	0.57	0.97	NA	22	90	1.4
PowerMAX	9202		3.10	6.97	0.71	1.16	NA	8	160	1.4
Opt. PowerMAX	9100		3.15	6.93	0.86	NA	NA	7.5	160	1.2
Hitachi Short	9000	19000	3.16	7.49	0.86	0.98	NA	10	160	1.2
Hitachi Long	9004		3.16	8.49	0.86	0.98	NA	12	180	2
Mastertorque	9600•		3.00	6.78	0.86	1.14	NA	10	180	1.4
XS Torque	9502	19502	3.00	6.05	0.86	1.14	NA	8	200	1.4
Ultratorque	9400	19400	3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							

•InfiCLOCK Starter

+See pages 6 & 7 for dimensional drawings

P/N 9400

Chevy Universal Straight Mount (153 or 168 tooth)

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro									90	1.4
PowerMAX	9100		3.15	6.93	0.86	NA	NA	7.5	160	1.2
Hitachi Short	9000	19000	3.16	7.49	0.86	0.98	NA	10	160	1.2
Hitachi Long	9004		3.16	8.49	0.86	0.98	NA	12	180	2
Mastertorque	9600•		3.00	6.78	0.86	1.14	NA	10	180	1.4
XS Torque									200	1.4
Ultratorque	9400	19400	3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							

•InfiCLOCK Starter

+See pages 6 & 7 for dimensional drawings

P/N 19000

Chevy 153 Tooth Flywheel

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3631		4.53	8.80	0.57	0.97	NA	22	90	1.4
PowerMAX	9202		3.10	6.97	0.71	1.16	NA		160	1.4
Opt. PowerMAX	9100		3.15	6.93	0.86	NA	NA	7.5	160	1.2
Hitachi Short	9000	19000	3.16	7.49	0.86	0.98	NA	10	160	1.2
Hitachi Long	9004		3.16	8.49	0.86	0.98	NA	12	180	2
Mastertorque	9600•		3.00	6.78	0.86	1.14	NA	10	180	1.4
XS Torque	9502	19502	3.00	6.05	0.86	1.14	NA	8	200	1.4
Ultratorque	9400	19400	3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							

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+See pages 6 & 7 for dimensional drawings

P/N 9202

P/N 9600

P/N 19502

Chevy/ Pontiac LT1, All 153 Tooth

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX	9202		3.10	6.97	0.71	1.16	NA	8	160	1.4
Hitachi Short										
Mastertorque										
XS Torque	9502	19502	3.00	6.05	0.86	1.14	NA	8	200	1.4
Ultratorque										
*depends on battery resistance **w/stock flywheel										

+See pages 6 & 7 for dimensional drawings

P/N 9202

Chevy ZZ 4 Crate Engine, 153 Tooth

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX	9202		3.10	6.97	0.71	1.16	NA	8	160	1.4
Hitachi Short										
Mastertorque										
XS Torque	9502	19502	3.00	6.05	0.86	1.14	NA	8	200	1.4
Ultratorque										
*depends on battery resistance **w/stock flywheel										

+See pages 6 & 7 for dimensional drawings

P/N 9400

P/N 9540

Chevy 168 Tooth Flywheel (Straight Mount)

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX	9100		3.15	6.93	0.86	NA	NA	7.5	160	1.2
Hitachi Short	9000	19000	3.16	7.49	0.86	0.98	NA	10	160	1.2
Hitachi Long	9004		3.16	8.49	0.86	0.98	NA	12	180	2
Mastertorque	9600•		3.00	6.78	0.86	1.14	NA	10	180	1.4
XS Torque	9500*•	19500•	3.00	6.05	0.86	1.14	NA	8	200	1.4
Ultratorque	9400	19400	3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance **w/stock flywheel										

+See pages 6 & 7 for dimensional drawings *Also available in P/N 9540

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Starter Applications

Chevy 168 Tooth Flywheel (Staggered Mount)

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3510	13510	4.53	8.81	0.54	0.98	NA	22	90	1.4
PowerMAX	9200	19200	3.10	6.99	0.70	1.16	NA	8	160	1.4
Hitachi Short										
Mastertorque	9612•		3.00	6.78	0.86	1.14	NA	10	180	1.4
XS Torque	9526•	19526•	3.00	6.05	0.86	1.30	NA	8	200	1.4
Ultratorque	9426		3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance **w/stock flywheel										

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+See pages 6 & 7 for dimensional drawings

P/N 9426

P/N 9200

Chevy Ram Jet 350, 502 - 168 Tooth

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX	9200	19200	3.10	6.99	0.70	1.16	NA	8	160	1.4
Hitachi Short	9000	19000	3.16	7.49	0.86	0.98	NA	10	160	1.2
Mastertorque	9612•		3.00	6.78	0.86	1.14	NA	10	180	1.4
XS Torque	9526•	19526•	3.00	6.05	0.86	1.30	NA	8	200	1.4
Ultratorque	9426		3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance **w/stock flywheel										

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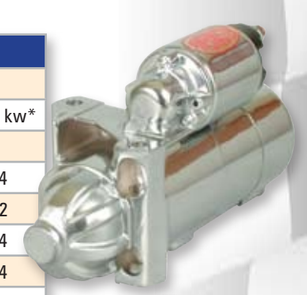
+See pages 6 & 7 for dimensional drawings



P/N 19200

Chevy/ Pontiac LS Engines

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	9201		3.10	6.76	0.71	1.16	NA	8	160	1.4
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9509•	19509•	3.00	6.12	0.79	1.14	NA	8	200	1.4
Ultratorque										
*depends on battery resistance **w/stock flywheel										

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+See pages 6 & 7 for dimensional drawings

P/N 9201

Chevy/ GMC Late Model Truck 4.8L, 5.3L, 6.0L

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX	9201		3.10	6.76	0.71	1.16	NA	8	160	1.4
Hitachi Short										
Mastertorque										
XS Torque	9509•	19509•	3.0	6.12	0.79	1.14	NA	8	200	1.4
Ultratorque										

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

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P/N 9509

Ford SB 289, 302, 351 W&C A/T & 5 Sp M/T (3/4" Offset)

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3124	13124	4.49	7.64	0.52	0.98	4.08	22	90	1.4
PowerMAX	9162	19162	3.15	6.65	0.61	1.09	4.08	8	160	1.4
Opt. PowerMAX	9103		3.15	7.09	0.70	NA	4.08	7.5	160	1.2
Hitachi Short										
Mastertorque	9603•		3.00	6.94	0.70	1.14	4.08	10	180	1.4
XS Torque	9503•	19503•	3.00	6.21	0.70	1.14	4.08	8	200	1.4
Ultratorque	9403	19403	3.16	7.65	0.70	0.98	4.08	10.5	250	2.5

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

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P/N 13124

P/N 9503

Ford SB 289, 302, 351 W&C 3 & 4 sp M/T (3/8" Offset)

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3132	13132	4.49	7.84	0.24	0.98	4.09	22	90	1.4
PowerMAX	9172	19172	3.15	7.01	0.22	1.09	4.09	8	160	1.4
Hitachi Short										
Mastertorque	9604•		3.00	7.36	0.28	1.14	4.13	10	180	1.4
XS Torque	9504•	19504•	3.00	6.63	0.28	1.14	4.13	8	200	1.4
Ultratorque	9404		3.16	8.07	0.28	0.98	4.13	10.5	250	2.5

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

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P/N 9172

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Ford BB 351M, 400, 429, 460

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX	9182	19182	3.15	6.65	0.50	1.09	4.08	8	160	1.4
Hitachi Short										
Mastertorque	9605•		3.00	7.09	0.55	1.14	4.08	10	180	1.4
XS Torque	9505•	19505•	3.00	6.36	0.55	1.14	4.08	8	200	1.4
Ultratorque	9405		3.16	7.80	0.55	0.98	4.08	10.5	250	2.5

*depends on battery resistance **w/stock flywheel

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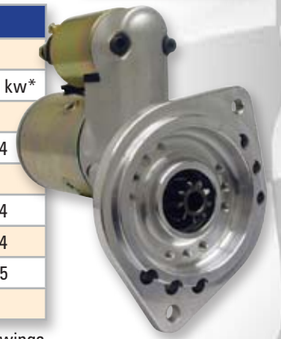
+See pages 6 & 7 for dimensional drawings



P/N 9405

Ford BB FE 390, 427, 460

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3131	13131	4.49	7.48	0.63	0.98	4.09	22	90	1.4
PowerMAX										
Hitachi Short										
Mastertorque	9606•		3.00	6.99	0.65	1.14	4.07	10	180	1.4
XS Torque	9506•	19506•	3.00	6.26	0.65	1.14	4.07	8	200	1.4
Ultratorque	9406		3.16	7.70	0.65	0.98	4.07	10.5	250	2.5

*depends on battery resistance **w/stock flywheel

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+See pages 6 & 7 for dimensional drawings

P/N 9406

Ford Flatheads 1932 - 1952

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9507	19507	3.00	5.91	1.00	1.56	2.99	8	200	1.4
Ultratorque										

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 19507

P/N 19508

Ford Flathead French Block

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9508	19508	3.00	5.72	1.19	1.56	2.99	8	200	1.4
Ultratorque										
*depends on battery resistance			**w/stock flywheel							

+See pages 6 & 7 for dimensional drawings

P/N 9532

Ford 4.6L 1992 - 2003

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	9183	19183	3.15	6.92	0.28	NA	2.99	8	160	1.4
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9532	19532	3.00	6.63	0.56	1.26	2.99	8	200	1.4
Ultratorque										
*depends on battery resistance			**w/stock flywheel							

+See pages 6 & 7 for dimensional drawings

P/N 9180

Ford 2300cc 4 Cyl.

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX	9180	19180	3.15	6.56	0.64	1.09	4.07	8	160	1.4
Hitachi Short										
Mastertorque										
XS Torque										
Ultratorque										
*depends on battery resistance			**w/stock flywheel							

+See pages 6 & 7 for dimensional drawings

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Starter Applications

Jeep - Early Models up to 1987 (Except 4.0L)

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9515•	19515•	3.00	6.21	0.70	1.14	3.22	8	200	1.4
Ultratorque	9415		3.16	7.65	0.70	0.98	3.22	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							

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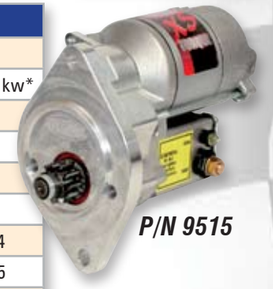
+See pages 6 & 7 for dimensional drawings



P/N 9515

Jeep - Late Models w/ 4.0L

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9516•	19516•	3.00	6.69	0.22	1.14	3.22	8	200	1.4
Ultratorque	9416		3.16	8.13	0.22	0.98	3.22	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							
Also Available: 4 Cyl Jeep '86 - '98 2.5L (w/o firewall solenoid)										
Mastertorque	9633		3.00	6.66	0.98	1.14	NA	10	180	1.4

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+See pages 6 & 7 for dimensional drawings

P/N 9633

Mopar, Chrysler, Dodge, Plymouth 1965 - 1987

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3257		4.45	8.90	0.90	1.29	2.80	22	90	1.4
PowerMAX										
160 Ft. Lb Upgrade	9300		3.00	6.01	0.90	1.30	2.80	10	160	1.2
Mastertorque	9613		3.00	6.74	0.90	1.30	2.80	10	180	1.4
XS Torque	9513	19513	3.00	6.01	0.90	1.30	2.80	8	200	1.4
Ultratorque										
*depends on battery resistance			**w/stock flywheel							
Also Available: Adjustable Mopar Starter										
XS Torque	9523		3.00	6.01	0.90	1.30	2.80	9	200	1.4

+See pages 6 & 7 for dimensional drawings

P/N 9513

P/N 9523

P/N 9530

Hemi - Early '51-'58 146 Tooth Flywheel

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9530		3.00	5.76	1.35	1.13	3.25	8	200	1.4
Ultratorque										

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 9531

Hemi - Early '57-'58 172 Tooth Flywheel

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9531		3.00	5.76	1.43	1.13	3.25	8	200	1.4
Ultratorque										

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 19510

Oldsmobile V-8

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3555									
PowerMAX										
Hitachi Short										
Mastertorque	9610•		3.00	6.78	NA	1.14	NA	10	180	1.4
XS Torque	9510•	19510•	3.00	6.08	NA	1.14	NA	8	200	1.4
Ultratorque	9410	19410	3.16	7.48	NA	0.98	NA	10.5	250	2.5

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

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Pontiac V-8

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque	9636•		3.00	6.78	NA	1.14	NA	10	180	1.4
XS Torque	9536•	19536•	3.00	6.08	NA	1.14	NA	8	200	1.4
Ultratorque	9436		3.16	7.48	NA	0.98	NA	10.5	250	2.5

*depends on battery resistance **w/stock flywheel

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+See pages 6 & 7 for dimensional drawings

P/N 19536

Air-cooled VW / Porsche

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro										
PowerMAX										
Hitachi Short										
Mastertorque										
XS Torque	9534		3.00	5.86	1.33	0.98	2.97	8	200	1.4
Ultratorque										

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 9534

Import/Sport Compact Starters

Application Description	Natural P/N	Chrome P/N
Acura Integra B18, 1.8L		
2001-94 All with A/T VTEC	9702	19702
2001-92 All with M/T VTEC	9701*	19700
1989-86 1.6L D16A1	9702	19702
Honda Civic 1.3L,1.5L,1.6L		
2000-84 M/T SI Series exc Calif	9702	19702
2000-84 A/T exc HX Series, Calif	9702	19702
1995-92 A/T LX Series Calif	9702	19702
CRX D16, D15B		
1991-84 All DX, HF Series	9702	19702
Del Sol		
1997-93 All exc VTEC	9702	19702
1997-96 With VTEC	9701*	19700

*Also available in P/N 9700

P/N 9701

P/N 9700
Featuring custom look design

P/N 9702

Specialty Starters

Racing Starters

Application Description	P/N:
XS Torque, Bert/Brinn Transmission	9514
Mastertorque, Adjustable for Bert, Brinn, Falcon & Winters	9614
XS Torque, Bert/Brinn Transmission Late Model W/Adjustable Mount	9529
Chevy 153-168T Straight Mount 2.0 kw Heavy Duty (180 ft lb)	9004
Ultra Torque for above application	9400
XS Torque, Chevy Drivers Side Mount 1.8kW 200ft Denso	9518
Ultra Torque, CCW Bellhousing Mount	9428
Ultra Torque, Hemi Pro Stock 142 Tooth	9498
XS Torque, Adjustable Hemi (Race)	9527
XS Torque, Formula Ford (1600)	9520
XS Torque, Formula Ford (2000)	9522

P/N 9514

P/N 9400

Diesel Starters

Application Description	P/N:
Chevy-GMC Diesel 1500-3500 (6.2L, 6.5L)	9052
Ford Diesel F150-F350	
All Except Powerstroke	9050
All Powerstroke	9051
Mopar (Cummins Diesel) 2000-94 (5.9L)	9053

P/N 9052

P/N 9051

P/N 9053

Starter Small Parts

Description	P/N:
Solenoid "R" Terminal Diode Kit	600
Chrome Starter Bolts	608
Hitachi Solenoid (includes "R" terminal)	601
Clutch Assembly, Hitachi 9 Tooth	602
Pinion, Hitachi 9 Tooth	603
11 Tooth Pinion for XS Torque, Mastertorque	604
Starter Bolts (Knurled) & Shims, Natural	607
9 Tooth Pinion (Bert/Brinn)	611
Solenoid Repair Kit (XS Torque)	614
Clutch Assembly (XS Torque)	616
Hitachi Spring & Retainer Kit	908
Mastertorque Clutch	621
XS Torque Clutch	622

P/N 607

P/N 603

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Starter FAQ's

P/N 9540

Should I use a heat shield?

It is not necessary, but it is a good idea.

Why are the correct cables and battery so important?

The starter circuit pulls a lot of amperage, up to 500 amps depending on the starter, the engine load, and battery condition. This kind of amperage stresses all of the components in the starter circuit, including the battery, battery terminals, the battery disconnect switch, the cables including the ground path, and any remote solenoids. Problems with these components are hard to find because they appear fine at rest or under a light load, but generate high resistance under heavy amperage draws. The result will be low voltage to the starter during cranking, resulting in heavier amperage draw and increased internal heat in the starter. Over time, this will cause starter failure. Voltage measured at the starter during cranking should always be above 9.5VDC.

What do I do with the wire that went to the 'R' terminal on the original starter?

In early original wiring harnesses, the 'R' circuit was a ballast resistor bypass. This terminal is 'no connection' when the starter is at rest, and is +12VDC while cranking. This circuit provided +12VDC to the ignition coil during cranking for easier engine starting. Cars that do not have a ballast resistor (i.e. HEI, MSD, or other aftermarket ignition systems) should not need this connection. In most cases, this wire can be eliminated. If the engine has no ignition during cranking, then the wiring of the coil is going to require an 'R' terminal signal. To accomplish this, connect a 3A/400PIV diode (or Powermaster P/N 600) in line with the MOTOR SIDE of the solenoid. (Note: This is the terminal on the solenoid which has the cable from inside the starter motor connected to it. It is opposite the BATTERY terminal on the solenoid. The anode or non-banded end of the diode goes toward the starter. This allows current to go from the starter to the coil only.)

The pinion is too far away on my 9000 or 9004. What do I do?

The 9000 and 9004 starters have a block on the front that mounts the starter to the engine. Between this block and the starter are two shims. To remove these shims, remove the block from the starter by removing the three socket head bolts, remove the shim on the block and the one in the bearing bore, and reassemble the block and starter. This will increase the pinion's depth of engagement by 1/16'' approximately.

I test fitted the starter and noticed that the pinion does not retract when it is released on the engine stand. Why?

It is normal for a gear reduction starter to hang in the ring gear when the engine is cranked, and yet does not start. Direct drive starters do not do this because they can rotate the small amount necessary to retract the pinion. Gear reduction starters do not retract in this situation because of the resistance of the gears. The tiny amount of rotation necessary to retract the pinion is amplified in the gear ratio inside the starter, requiring four to five times the rotation inside the starter. All of this gear movement results in the pinion remaining in the ring gear until the engine fires.

Why does my starter seem to "run on" after the switch is released?

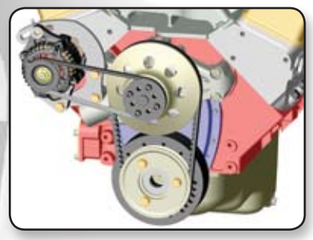
This is a common complaint on Ford permanent magnet starters, although it can occur on any permanent magnet starter in the right conditions. This situation develops when the ignition terminal on the starter is "jumpered" to the battery terminal on the starter and a remote solenoid is used. Permanent magnet starters can actually produce power if they are driven from an outside source (i.e. the starter will act like an alternator once the engine fires and starts spinning). The current produced in the starter for this second or so will flow from the starter's battery terminal to the starter's ignition terminal and hold the solenoid in. This will cause the one to two second delay in the solenoid release and an irritating noise. The solution is to wire the starter per the instruction sheet, which will ensure that the ignition switch terminal goes dead the instant the key is released.

Why doesn't the M/T Ford starter I have fit in the hole in the intermediate plate?

The locating circle on the face of a Ford starter is made to different dimensions for manual and automatic transmissions. This keeps a person from mixing the two starters up since they look similar. If the starter does not fit in the hole in the intermediate plate, this indicates that this is either the wrong starter or the wrong intermediate plate. Do not enlarge this hole or grind on the starter to make it fit, instead change the incompatible part. (Please note: 9172, 9404, 9504 and 9604 are for pre-1975 [car] and pre 1980 [truck] manual transmissions ONLY. 9162, 9403, 9503, and 9603 are for automatic and 1975 and later [car] and 1980 and later [truck] manual transmissions.)

Pro Series Kits for Circle Track

Our “Pro Series” kits give the convenience of everything for your alternator system for your race vehicle in one package. From high mount Chevy circle track applications to rear-end mounts for dirt track to Ford SB, Powermaster has you covered. All kits come with a true one-wire alternator, alternator pulley, belt, and bracket kit. Some kits include the drive pulley also. (See individual kits for details.)

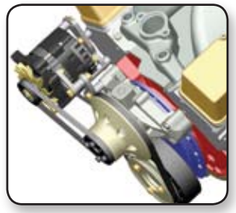


50 Amp High Mount Kit

Kit P/N 8-801	Contains:
Alternator Part P/N:	8162
Alt./ Water Pump Pulley:	170
Bracket P/N:	801
Belt P/N:	4030240

This kit attaches to the passenger side of the motor via the two bolts attaching the water pump. A serpentine pulley is supplied that is mounted to the front of the water pump pulley. In most cases, this drive system will not interfere with any existing set up.

This kit mounts the alternator to passenger side cylinder head area and drives off the front of the water pump with a serpentine pulley system. This setup does not interfere with other belt drive systems already in use. The alternator produces 60 amps at low RPMs and 100 amps at racing speed.



100 Amp High Mount Kit

Kit P/N 8-722	Contains:
Alternator Part P/N:	8072
Alt./ Water Pump Pulley:	170
Bracket P/N:	722
Belt P/N:	4030240

Bracket P/N 723

Optional add-on bracket for use on engines that do not have three threaded holes in the heads (requires 722 bracket).

High Mount Racing Alternator Kit

P/N 8-802

- *Designed for circle track applications*
- *Mounts to SBC water pump bolts*
- *Complete with 70 AMP alternator*
- *3 groove serpentine belt and pulleys*
- *All hardware needed*

Ford 9” Third Member

Kit 8-410	Contains:
Alternator P/N	8162
Alternator Pulley P/N	181
Bracket P/N	410

This kit will be popular with asphalt racers when the rules allow driving an alternator off the 3rd member.

A customer supplied yoke pulley is required

Quick Change Kit

Kit 8-400	Contains:
Alternator Part P/N:	8162
Alternator Pulley:	181
Bracket P/N:	400

Fits Winters & Richmond Rearends

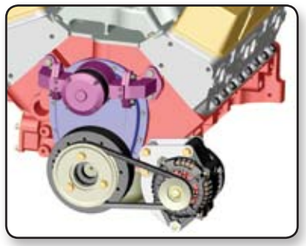
This kit will be popular with asphalt racers when the rules allow driving an alternator off the rear-end. The mounting block is very versatile allowing for mounting on either side of the center section.

A customer supplied yoke pulley is required (Mfg. P/N 501-30027)

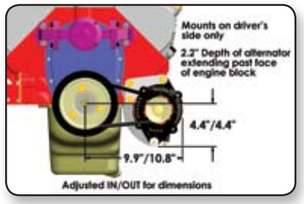
All kits also available with XS Volt alternator - Add “8” to the end of the Kit part number [i.e., 8-8758]

Bracket Kits

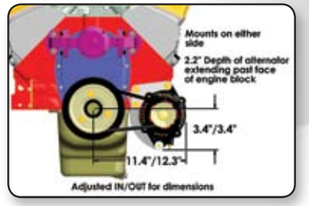
Denso Low Mount Bracket



P/N 770 - SBC Low Mount Bracket Dimensions

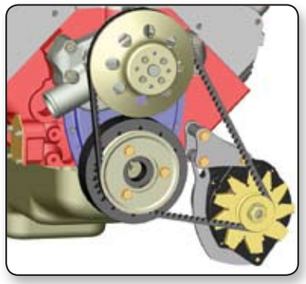


P/N 775 - BBC Low Mount Bracket Dimensions



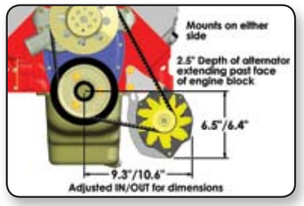
Mounts on driver’s side of BBC and SBC engines
Can be used with 8102, 8132, 8142 or 8152 alternator

GM Low Mount Bracket

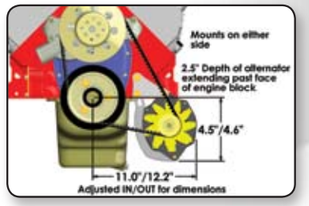


Also available in chrome

P/N 885 - SBC Low Mount Bracket Dimensions



P/N 890 - BBC Low Mount Bracket Dimensions



Mounts on either side of the engine

BBC Low Mount P/N 897

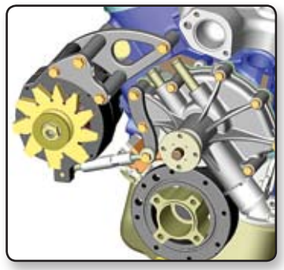
For use w/8060 or 8062 Alternators. Mounts on either side of the engine.

8-897 Shown

Ford High Mount Bracket P/N732

SB Ford, for 2 bolt straight mount alternators, counter-clockwise waterpump w/Serpentine Pulley–Natural Finish, Fits ‘86–‘93 Mustang

Also available in chrome, P/N 1732 and polished, P/N 2732



Ford Mid-Mount Bracket

P/N 730

SB Ford, for 2 bolt, clockwise waterpump w/V–Belt Pulley–Natural Finish, Fits ‘79–‘85 Mustang

Also available in chrome, P/N 1730 and polished, P/N 2730

P/N 731

SB Ford, for 2 bolt GM Alternators, clockwise waterpump w/V–Belt Pulley–Natural Finish, Fits ‘79–‘85 Mustang

Also available in chrome, P/N 1731 and polished, P/N 2731

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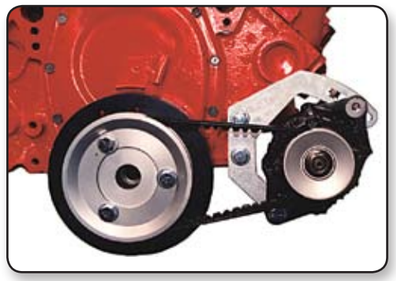
Pro Series Kits for Drag Racing

•Solve low voltage problems with an easy to install Powermaster alternator kit. The "Pro Series Kits" include a one wire alternator with black thermal coat finish (50 or 100 amp), hard coated deep groove alternator and crank pulleys, belt and brackets.

50 Amp Kits

Low Mount (for rail cars)
Mounts on either side

Snug Mount (for body cars)

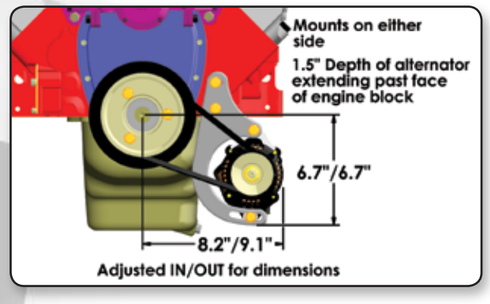


Kit P/N8-896 [SBC]
Contains:
Alt. P/N8162
Alt. Pulley P/N181
Crank Pulley P/N293
Bracket P/N896
Belt. P/N7270

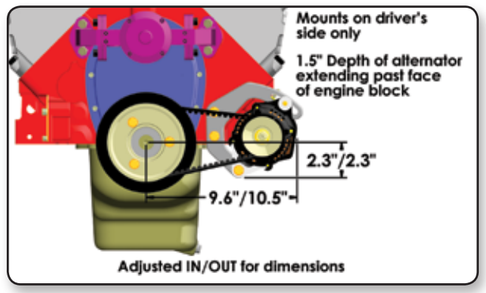
Kit P/N8-895 [BBC]
Contains:
Alt P/N8162
Alt. Pulley P/N181
Crank Pulley P/N295
Bracket P/N895
Belt P/N7270

Kit P/N8-875 [SBC]
Contains:
Alt P/N8162
Alt. Pulley P/N181
Crank Pulley P/N293
Bracket P/N875
Belt P/N7270

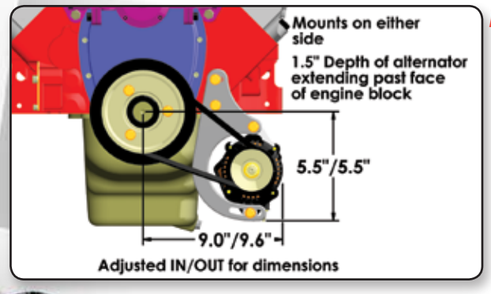
Kit P/N8-880 [BBC]
Contains:
Alt P/N8162
Alt. Pulley P/N181
Crank Pulley P/N295
Bracket P/N880
Belt P/N7292



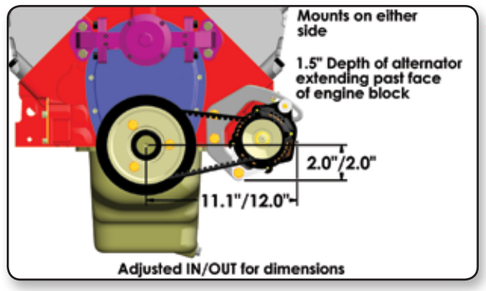
SBC



SBC



BBC



BBC

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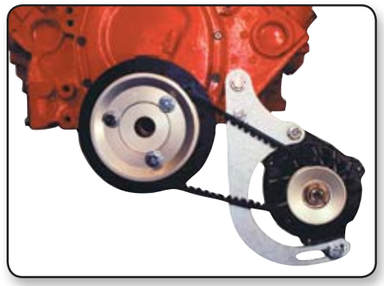
Why Run an Alternator?

- **Ignition**–The window of performance for most electronic ignitions is 12 to 16 volts with performance advantages at the higher voltage. A fully charged battery is only 12.6V and it goes down hill from there. With a Powermaster alternator your system voltage goes to a constant 14.9V. This assures peak performance.
- **Fuel pumps** and other electronic devices NEED 12 VOLTS AT ALL TIMES FOR MAXIMUM PERFORMANCE.
- **Consistency**–Using a battery charger instead of an alternator is a variable. Running a Powermaster alternator will keep the battery fully charged and predictable.
- **Convenience**–Sizing the alternator (amps) to the load will eliminate the need for the battery charger.

100 Amp Kits

Low Mount (for rail cars)
Mounts on either side



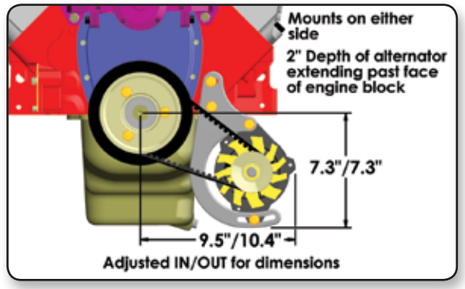
Snug Mount (for body cars)

Kit P/N8-898 [SBC]
Contains:
Alt P/N8062
Alt. Pulley P/N181
Crank Pulley P/N293
Bracket P/N898
Belt P/N7292

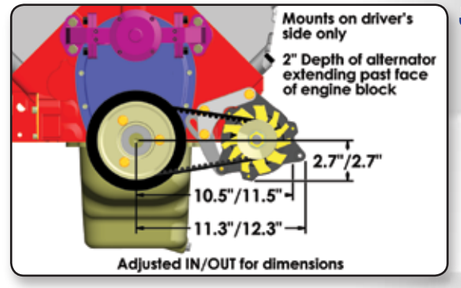
Kit P/N8-897 [BBC]
Contains:
Alt P/N8062
Alt. Pulley P/N181
Crank Pulley P/N295
Bracket P/N897
Belt P/N7280

Kit P/N8-881 [SBC]
Contains:
Alt P/N8072
Alt. Pulley P/N181
Crank Pulley P/N293
Bracket P/N881
Belt P/N7280

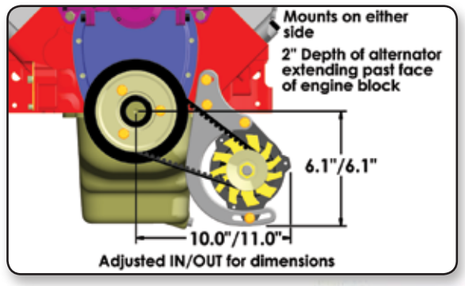
Kit P/N8-882 [BBC]
Contains:
Alt P/N8072
Alt. Pulley. P/N181
Crank Pulley . . . P/N295
Bracket P/N882
Belt P/N7312



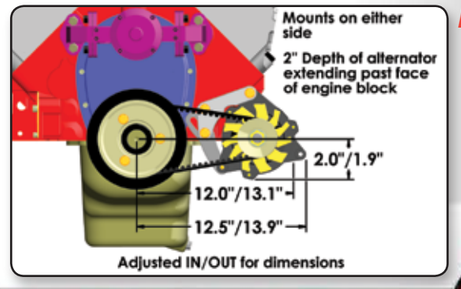
SBC



SBC



BBC



BBC

16 Volt Battery

P/N 1000

NEW!

Voltage Reducer

Size:	P/N:
50 AMPS Dual Output	993

- Dual outputs for systems with or without alternators.

Voltage DC/DC Converter

A voltage reducer steps 16-24 volts down to 13.8V for sensitive components like computers, etc. Powermaster voltage reducers feature fully regulated output voltage, spike and surge protection, crowbar type overvoltage protection, and foldback current limiting under overload or short circuit conditions.

Size:	P/N:
10.0 Amps 6.10"Lx 4.75"W x 2.125"H	990
15.0 Amps 8.66"L x 4.75"W x 2.125"H	991

- LED indicators to monitor status
- Gauge for monitoring charge amperage
- 6' of heavy duty cables and clamps
- Built in cooling fan for reliable operation

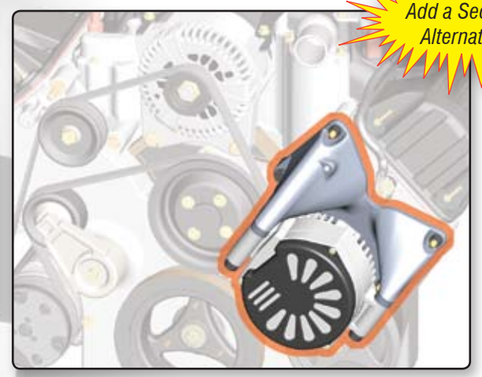
16 Volt Battery Charger

P/N 1005

- Dual voltage levels: Compatible with both 12V and 16V batteries
- Three charging modes: Compatible with all lead acid battery types including AGM/Gel, Deep cycle, and Maintenance free
- Three charging levels including 2A, 15A, and 25A rapid charge

4.6 Dual Alternator Kit

Add a Second Alternator!



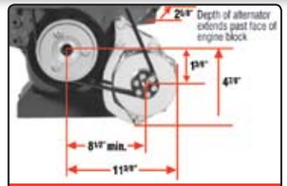
Kit Applications	P/N:
00-02 Ford Crown Victoria with police option*	8-751
00-02 Mercury Grand Marquis with police option*	
00-01 Lincoln Town Cars with limousine option*	
03-05 Ford Crown Victoria with police option	8-752
03-05 Mercury Grand Marquis with police option	
03-05 Lincoln Town Cars with limousine option	
00-02 Ford Crown Victoria without police option*	8-754
00-02 Mercury Grand Marquis without police option*	
00-01 Lincoln Town Cars without limousine option*	
03-05 Ford Crown Victoria without police option	8-755
03-05 Mercury Grand Marquis without police option	
03-05 Lincoln Town Cars without limousine option	
00-04 SOHC (Non-Bullit) Mustang*	8-757
00-03 Bullit Mustang*	8-758
*00-01 applications require relocation of the remote power steering reservoir.	

- Kit is complete with alternator, bracket, belt & wiring harness.
- Alternator also available separately.
- Replacement belts available.

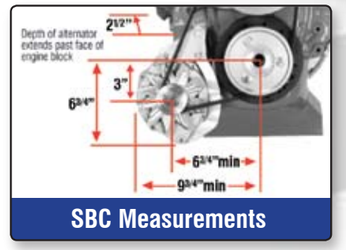
Tenaha Marshal's ***DARE car***

Chrome Low Mount Bracket

Bracket Description	P/N:
Chrome SBC	1885
Polished SBC	2885
Chrome BBC	1890
Polished BBC	2890



BBC Measurements

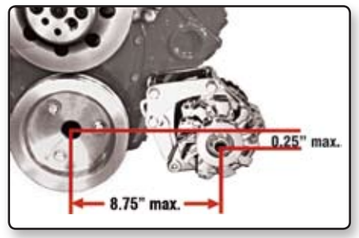


SBC Measurements

Mounts early style alternators and tuned port style alternators on either side of engine.

Chrome Snug Mount Kits

- Driver's side low mount (Chevy)
- Drives off first groove of the crank pulley
- Smallest 100/60 Amp GM Alternator
- Bracket preassembled with alternator
- True one wire hookup



- Proof of Performance tag
- Gold battery post
- Includes chrome fan & V-belt pulley
- Suggested charge wire size: 8 AWG

Description:	P/N:
Chrome SBC Kit	8-17926
Polished SBC Kit	8-27926
Chrome BBC Kit	8-17927
Polished BBC Kit	8-27927
Chrome Alternator Only	179261
Polished Alternator Only	279261

Note: Brackets are available separately.

Description:	Chrome P/N:	Polished P/N:
SBC Bracket	1881	2881
BBC Bracket	1882	2882

Note: Chrome brackets are now also available for **Ford.** Please see page 21 for more info.

Finishing Touch Kits

Chrome Kits	P/N:
140mm Baffle & 6-Hole Cover	332*
140mm Baffle & Smooth Cover	333*
130mm Baffle & 6-Hole Cover	334**
130mm Baffle & Smooth Cover	335**

- Pulley cover that has an O-ring mounting design that gives a smooth, screwless appearance
- Polished aluminum kit has newly designed fan & baffle
- Chrome kit is complete with chrome baffle for stock chrome fan
- Fan design produces a 20% increase in cooling efficiency- resulting in longer life
- Custom designed pulley that produces a higher amperage output at low RPMs

Note: It is recommended to replace the o-ring annually (P/N 339)

Update this...

to this!

PLEASE NOTE: The pulley cover can only be used with the Powermaster pulley.

Polished Kits	P/N:
Fan/Baffle & V-Belt Pulley w/Smooth Cover	302*
Fan/Baffle & V-Belt Pulley w/6-Hole Cover	303*
Fan/Baffle & Serpentine Pulley w/Smooth Cover	310*
Fan/Baffle & Serpentine Pulley w/6-Hole Cover	311*
Fan/Baffle & V-Belt Pulley w/Smooth Cover	318**
Fan/Baffle & V-Belt Pulley w/6-Hole Cover	319**
Fan/Baffle & Serpentine Pulley w/Smooth Cover	326**
Fan/Baffle & Serpentine Pulley w/6-Hole Cover	327**

*140mm; fits early GM (17294, etc) **130mm; fits late GM (17802, etc)

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Pulleys

Powermaster offers lightweight pulleys machined from 6061-T6 billet aluminum and hard coated. Alternator pulleys have a shaft bore of 17mm to ensure fit on MOST ALL alternators. Includes a 17mm to 15mm reducer bushing.

V-Belt

Diameter:	P/N:
2.80"	181
4"	182
5.25"	183

All V-groove pulleys are deep groove to ensure belt retention at high RPMs.

V-Belt Crank Pulleys

Type:	P/N:
SBC	293
BBC	295

(5.25" O.D.)

Unique pulley design allows this crank pulley to be used with either SBC or BBC balancers. Works with OEM and racing balancers and crank triggers.

Cog/Gilmer

Size:	P/N:
16 Tooth	190
20 Tooth	191

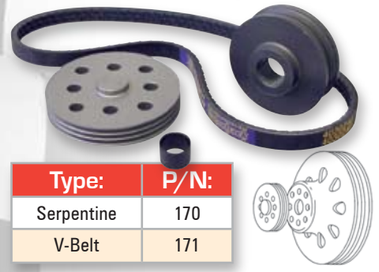
3/8" pitch for 3/4" wide belts

Cog/Gilmer Crank Pulleys

Size:	P/N:
24 Tooth	290
28 Tooth	292

Designed to be used with Moroso, Delwest or other stackable systems off the front of the crank. Comes complete with guides.

Waterpump Drive System for Alternator



Type:	P/N:
Serpentine	170
V-Belt	171

This system will not interfere with any other pulleys being used, as it mounts on the front of the water pump pulley.

Motorplate Spacer Kit

P/N 982

This kit spaces the alternator and crank pulley away from the engine 1.875" to put the entire assembly in front of a motor plate. (Works w/ P/N 881 and P/N 882 brackets). The kit includes billet aluminum crank pulley spacer, bolts, and bracket spacers.

Powermaster Welder

P/N 950

We've leveraged our digital MOSFET and PWM expertise to create a programmable welding platform that can be attached to any Powermaster alternator. Here's how it works: the 24oz, solid-state controller gets installed on your off-road rig or truck. During normal driving, the alternator's output is adjusted 100,000/second to create optimum voltage and amperage. Power flows from the alternator, through the control unit to the vehicle's battery (or batteries).

- *Complete with all cables, wiring harness and accessories needed to install (notpictured); alternator available separately*

'67-'69 Camaro/Nova Spacer Kit

This kit was designed for owners of '67-'69 Camaros that would like to install the 100 Amp Pro Series Kit P/N 8-881 but have a problem installing it with crossmembers. This spaces the crank pulley and bracket out 1", away from the crossmembers.

P/N 981

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Battery Isolators

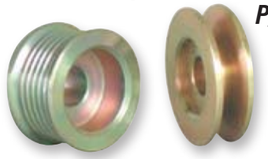
P/N:	Max. Alt. Output
903 (3 post)	140 Amps
904 (3 post)	200 Amps
906 (4 post)	140 Amps (Delco CS Series)

- Isolates auxiliary battery from starting battery to assure extra loads will not drain the starting battery.
- Distributes battery charge on demand
- Shock, moisture and corrosion resistant insulation for maximum circuit protection
- Blue anodized aluminum heat sinks for maximum heat dissipation

P/N 903

Overdrive Pulleys

P/N 111



P/N 115

P/N:	Description:
111	V-Belt (10mm W x 2.35" OD)
115	Serpentine (6 groove 49mm OD)
175	Serpentine (6 groove 46mm OD)

Chrome Pulleys

P/N 110

P/N:	Description:
110	V-Belt (10mm W x 54mm OD)
112	Double V-Belt Pulley (3/8" x 2 5/8" OD)
114	Serpentine Pulley (6 groove - 54mm OD)
117	V-Belt (10mm W x 2 5/8" OD)
118	V-Belt (Natural) (10mm W x 2 5/8" OD)
175	Serpentine Pulley (Natural) (6 groove - 46mm OD)
176	V-Belt (Natural) 67mm OD
177	Serpentine Pulley (6 groove - 46mm OD)

Charge Wires

The connection between the alternator and the battery is very important. An undersized charge wire or improperly attached terminals could result in voltage loss. Powermaster offers charge wires in various lengths.

AMPS	Recommended Charging Cable Gauge Size.							
	Up to 4'	4'-7'	7'-10'	10'-13'	13'-16'	16'-19'	19'-22'	22'-28'
35 - 50	12	12	10	10	10	8	8	8
50 - 65	10	8	8	6	6	6	6	4
65 - 85	10	8	8	6	6	4	4	4
85 - 105	8	8	6	4	4	4	4	2
105 - 125	6	6	4	4	2	2	2	0
125 - 150	6	6	4	2	2	2	2	0
150 - 175	4	4	4	2	2	0	0	0
175 - 200	4	4	2	2	0	0	0	00

P/N 100
Battery Terminal Boot

P/N	Length	Gauge
1-24	2 feet	8
1-36	3 feet	8
1-48	4 feet	8
1-60	5 feet	6
1-84	7 feet	6
1-144	12 feet	4

Gauge dia. reference

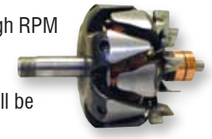
Powermaster uses fine stranded, highly flexible neoprene cable for the 4, 6, and 8 AWG charge wires. (10 and 12 AWG not available from Powermaster.)

How do I hookup a one-wire alternator?
Simply run a charge wire from the battery terminal on the alternator to the positive terminal on the battery (or battery side of the disconnect switch). The one wire regulator is a self-exciting regulator, meaning that it has sensing circuitry for alternator rotation. As the alternator starts to spin, this circuitry connects the internal voltage regulator to the battery and turns the alternator on. When the alternator comes to a complete stop, this same circuitry turns the alternator off.

My battery is located at the rear of the car. Do I have to run a charge wire from the alternator all the way back to the battery? Or can I hook it up to the starter solenoid?
Yes and No. As far as function is concerned, the alternator can be connected to the battery terminal on the starter solenoid. This will work fine. To shut the car off, the ignition system should be switched to stop the car.
If this is a race car, the wire or cable should be run all the way to the battery side of the disconnect switch. This means that the alternator and the battery would be on one side of the switch, and the circuits would be on the other side. In the event of an emergency, the disconnect switch could be turned off and the engine would stop. If a one wire alternator is on the circuit side of the switch and the disconnect is turned off, the motor may not stop because current is flowing from the alternator and the other circuits. Usually the tech inspection teams at most racing events will check for this as normal procedure. Because this is such a long run in most cars (12 ft or so), be sure to use a properly sized cable for the alternator's output, typically no less than 4 AWG wire.

What is the difference in P/N 8172 (jumper one wire) and P/N 8162?
There are three differences in these two units:
1) The regulator in P/N 8172 is not a racing one-wire regulator, but an OE regulator. It has a lower set point of 14.0VDC. The ignition terminal on the regulator is either jumpered to the alternator battery post or it is connected to the ignition switch "RUN" position. (If it is jumpered to the battery connection be sure to disconnect the battery when the engine is off for long periods, as a jumpered alternator will pull up to 300mA of standby current.)
2) The bearings in the P/N 8172 are OE. The bearings in the P/N 8162 are custom packed with a special lube for high speed, low drag operation.
3) The P/N 8172 has a natural finish and the P/N 8162 has a black thermal coat finish. This coating is a ceramic based heat dispersant coating that enables the alternator to run at a cooler temperature, thus prolonging the life of the alternator.

What does *2,400 alt RPM minimum* mean when referring to certain Denso style alternators?
Certain Powermaster alternators have been engineered to shift virtually all their amperage capability to the high RPM part of the output curve. This means end users with racing applications that spend most of the time at high RPMs (such as with circle track) can benefit from a very high yielding alternator in a small package. These units have little to no amperage capability at idle, so while the car is in the pits the supplemental amperage will be supplied by the battery.



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. It is important for reliable alternator operation to establish the right pulley ratios. Typical circle track ratios are 1:1, drag racing ratios are 2:1, and street ratios are 3:1. Because of this, the alternator pulley becomes a separate consideration based on personal application.

What is the maximum speed for an alternator?
18,000 RPM generally. Alternators reach their maximum output typically around 6,000 RPM. Increasing the speed beyond this does not increase the output, yet it does increase the horsepower consumption of the cooling fans. Sustained alternator speeds between 14,000 - 18,000 RPM waste a lot of horsepower and should be avoided. Optimally, alternators perform the best from 2,400 RPM to 6,000 RPM, with the greatest efficiency at 2,400 RPM.

Can I run my Powermaster racing alternator backwards?
Yes, they charge in either direction. Be sure to Lock-tite the pulley nut on if running backwards. CAUTION: This will reduce the cooling efficiency of the fans and therefore alternator output will be as much as 15% lower.

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Racing Alternator FAQ's

I installed my racing alternator and in testing found it is only producing 13.6V (+ or -), Is there a problem with the alternator?
Not necessarily. The voltage can be low for several reasons. First, make sure that the voltage meter is measuring accurately. Check the voltage with another quality meter. Second, consider where in the system the measurement is taken. If this voltage is at the battery,

check the voltage at the alternator. If there is more than 0.40VDC difference, the problem is in the charging or ground path from the alternator to the battery. Upgrade the cables, disconnect switches and connectors. If the voltage is low at the alternator, then the alternator is not able to produce enough amps to satisfy demand at this speed. Either change the speed with different pulleys, or change the alternator to one with more output at this speed. Keep in mind that all alternators have an output curve. Some curves rise abruptly at low speed and level off. This type of winding is more for low speed operation. Other curves rise more slowly but peak at a higher point. This type of alternator is designed to run fast. It is important to tune the alternator speed to the alternator's power characteristics and the vehicle's amperage requirements.

Can I mount the bracket kit on my engine motor plate?
Yes. The main consideration is the drive pulley on the crankshaft. Locating the entire alternator and bracket in front of the motor plate is going to move the alternator forward as much as 1.875". The drive pulley becomes the engineering consideration. Powermaster's P/N 982 in conjunction with the P/N 8-881 or P/N 8-882 Pro Series kit offers a bolt on alternator for Chevy motor plate applications.

How to choose a racing alternator

Several factors have to be taken into consideration when choosing an alternator that's right for a racing application. For instance, the drag racer only has a short time on the track, so the charging time is before and after the race. The circle track racer has a longer track time with constant loads, so charging time is during the race. Also limitations on location of an alternator, drive systems and pulley ratios vary greatly for different types of racing. The decision can be simplified by the following 3-Step process:

1.) Determine Amp Load
Calculate the total amount of amp load from the chart on the right. This will determine the output of the alternator needed for the application.

2.) Installation Location
Determine where the alternator can be installed and how it can be driven.

3.) Pulley Selection
The type of racing will determine pulley ratio. For example, an overdrive pulley ratio is recommended for drag racing because it is best to charge while in staging and on the return slip. This enables the battery to be fully charged for optimum ignition when you pull to the line. In most cases a pulley ratio of 1.75:1 or more is recommended for drag racers. For circle track racing, charging while on the track is necessary for long periods of time. For this reason a straight 1:1 pulley ratio is recommended. Powermaster offers different styles of pulleys.

Accessories Amp Draw	
Trans Brake	12-20
Throttle Stop	5-15
Fans	6-25
CDI Ignition	6-36
HEI Ignition	6-10
Nitrous Solenoid (each)	5-15
Electric Fuel Pumps	7-15
Electric Water Pumps	3-12
Instrument Panel	2-4
Brake Lamps	3-6
Running Lights	3-10

Denso Style

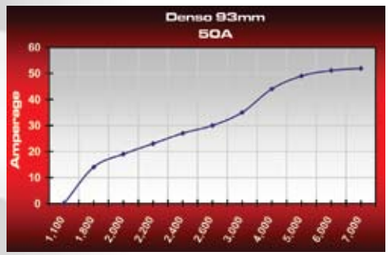
All our Denso style race alternators feature:

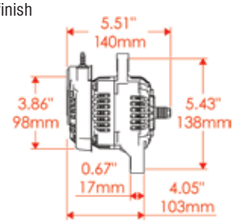
- True one wire hookup with set voltage of 14.9
- High output to weight ratios
- Proof of Performance tag
- Low drag, high speed bearings
- Black heat dispersant coating
- Pulley not included (see FAQ's on pg. 28)

P/N 8162
Weighs 5.68 lbs. (2.582kg)

Description	Amperage			
Denso 93mm Alternators	50A	50A XSVolt	75A	75A XSVolt
Natural Racing Alternator 50 Amp Jumper Wire**	8172			
Polished Racing Alternator 50A One Wire	28162			
Black Racing Alternator 50A One Wire	8162	8168		
Black Racing Alternator 75Amp One Wire			8182	8188

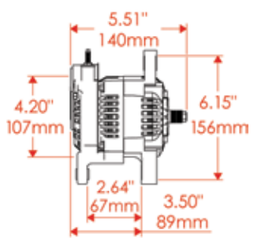
**Jumper wire alternators - "IGN" terminal jumped to "Bat" (set voltage 14.0). These units draw 300mA or more of current when the motor is off. Connect to an ignition switched positive source for optimal use. Powermaster's jumper wire alternators feature natural finish with a steel pulley included.





ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

Description	Amperage	
Denso 102mm Alternators	95A	95A XSVolt
Black Racing Alternator 95A One Wire	8122	
Black Racing Alternator 95A XSVolt		8128



P/N 8128
Weighs 6.655 lbs. (3.025kg)

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

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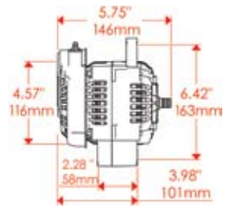
Race Alternators

Denso Style Cont.

Description	Amperage		
Denso 110mm Alternators	60A	95A	95A XSVolt
Natural Racing Alternator 60A Jumper Wire**	8102		
Black Racing Alternator 95A One Wire		8132	8138

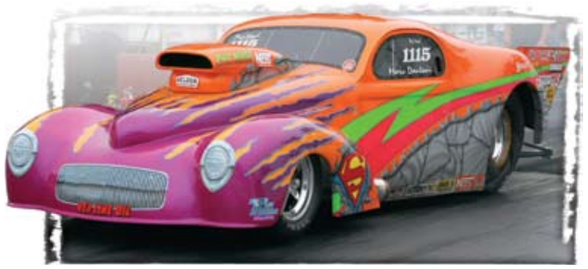
**Jumper wire alternators - "IGN" terminal jumped to "Bat" (set voltage 14.0). These units draw 300mA or more of current when the motor is off. Connect to an ignition switched positive source for optimal use. Powermaster's jumper wire alternators feature natural finish with a steel pulley included.

P/N 8132
Weighs 7.96 lbs. (3.618kg)



P/N 8102
Weighs 8.32 lbs. (3.782kg)

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52



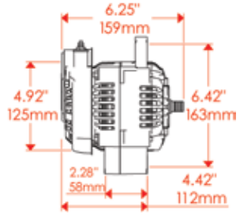
Marc Dantoni
'41 Willys Pro Mod
Nitrous Injected

Denso Style Cont.

Description	Amperage			
Denso 118mm	**120A**	**160A**	**120A XSVolt**	**160A XSVolt**
Black Racing Alternator 120A One Wire	8142		8148	
Black Racing Alternator 160A One Wire		8152*		8158*

*2,400 Alt. RPM Minimum

P/N 8142
Weighs 10.659 lbs.
(4.845kg)



P/N 8148
Weighs 10.659 lbs.
(4.845kg)

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

MacKichan/Schulz Bonneville Streamliner
C/BGS record: 328 mph
C–305-372 Cubic inches
B–blown or turbo charged
G–Gasoline
S–Streamliner

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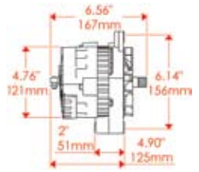
Delco CS121 Style

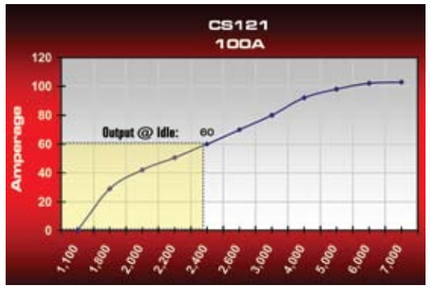


All CS121 style alternators feature:

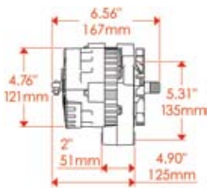
- *True one wire hookup with set voltage of 14.6*
- *High output to weight ratio; excellent idle output*
- *Proof of Performance tag*
- *Gold Battery Post*

Description	Amperage		
Delco CS121 Alternators	**70A**	**100A**	**100A XSVolt**
Natural Delco Alternator 70A One Wire	8060		
Chrome Delco Alternator 100A w/ V-belt Pulley One Wire		179261*	
Chrome Delco Alternator 100A w/ Serp. Pulley One Wire		179261-114*	
Polished Delco Alternator 100A w/ V-belt Pulley One Wire		279261*	
Black Delco Alternator 100A One Wire		8062	8068
Black Delco Alternator 100A One Wire [3 Bolt]		8072	8078

*Offset mount (2 degree clock)



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52



P/N 8072
Weighs 8.885 lbs.
(4.025kg)

P/N 8062
Weighs 8.723 lbs.
(3.965kg)

P/N 8060
Weighs 9.526 lbs.
(4.330kg)

Billy Italio
64 Chevy II Nova-Hot Rod/S/ST
'04/'05 Div. 2 IHRA Champion

More Race Alternators on pg. 36

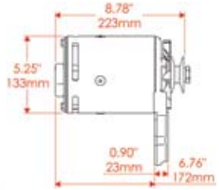
Retro meets Techno with Generator Looks, Alternator Reliability!

POWERGEN

All PowerGEN's feature:

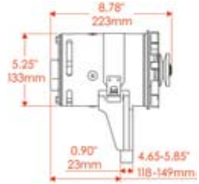
- One Wire Operation
- 75 Amps–60 Amps Idle
- Heavy Duty Regulator
- Designed to fit generator bracketry.

Description	Amperage
PowerGEN	**75A**
Black Ford Flatheads '39-'48	82011
Black Ford Flatheads '49-'53	82021
Black Ford offset left hinge mount '51-'59 all, '60-'64 V8 only	82101
Black GM up to '64–long (without Generator mounted P/S pump)	82051
Black GM up to '64–short	82111
Black PowerGEN universal, without mount (5.25" diameter)	82091
Polished Ford Flatheads '39-'48	282011
Polished Ford Flatheads '49-'53	282021
Polished Ford offset left hinge mount '51-'59 all, '60-'64 V8 only	282101
Polished GM up to '64–long (without Generator mounted P/S pump)	282051
Polished GM up to '64–short	282111
Polished PowerGEN universal, without mount (5.25" diameter)	282091
Chrome GM up to '64–long (without Generator mounted P/S pump)	182051
Chrome GM up to '64–short	182111

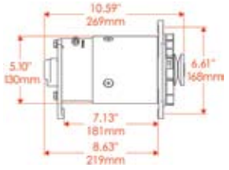


P/N 82011

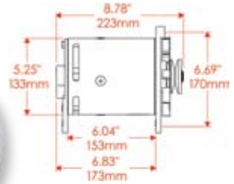
P/N 82111



P/N 82021

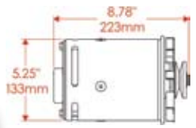


P/N 82051



P/N 82101

P/N 282011 Polished



P/N 82091

P/N 82011 Black-rear

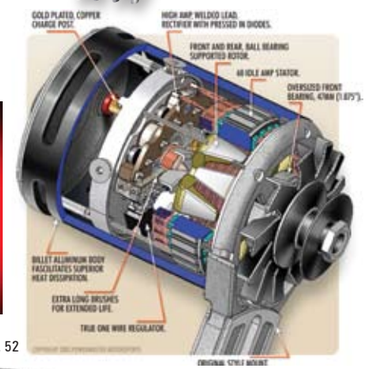
NEW!

GM PowerGEN P/N 82051 Black

Posies '32
Cookie Cutter

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

P/N 282021 Polished



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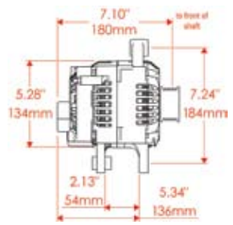
P/N 42280



P/N 63311

Our Denso style alternators feature:

- Excellent Output at Idle
- Proof of Performance tag
- Internal Fans
- Serpentine Pulley
- Heavy Duty Regulator
- High Amp, with OEM Look

Description	Amperage	
Nippondenso Alternators	**170A**	**Mounting**
Natural Import 170A	41280	Left
Natural Import 170A	41290	Left
Natural Import 170A	41294	Left
Natural Import 170A	42280	Right
Natural Import 170A	42282	Right
Natural Import 170A	42294	Right
Natural Chrysler 170A	43311	Left
Black Chrysler 170A	53311	Straight
Polished Chrysler 170A	63311	Straight

P/N 42280 Natural

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

P/N 63311 Polished

Abel Ibarra's
'98 Mazda RX-7 Pro Import

Delco CS130 Alternators

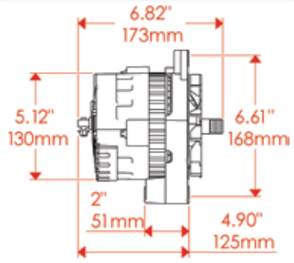
Straight Mount

47803-Natural

17802-Chrome

Description	Amperage		
Delco CS130 Alternators	**105A**	**140A**	**140A XSVolt**
Natural 140A		47801	478018
Natural 140A		47802	478028
Natural 140A One-Wire		478021	
Natural 140A		47803	478038
Chrome 105A	17801		
Chrome 140A w/V-belt & Serp. Pulleys		17802	
Chrome 105A w/V-belt & Serp. Pulleys One Wire	178021		
Chrome 105A	17803		
Chrome 140A w/V-belt & Serp. Pulleys		37802	378028
Chrome 140A w/V-belt & Serp. Pulleys One Wire		378021	
Chrome 140A		37803	378038
Polished 140A w/V-belt & Serp. Pulleys	27802		
Polished 105A w/V-belt & Serp. Pulleys One Wire	278021		
Polished 140A w/V-belt & Serp. Pulleys		67802	
Polished 140A w/V-belt & Serp. Pulleys One Wire		678021	
Black 140A		57801	578018
Black 140A		57802	578028
Black 140A One-Wire		578021	
Black 140A		57803	578038
CS130 Race Prepped Alternators	**105A**		**105A XSVolt**
Black Racing 105A One Wire	8012		8018
Black Racing 105A One Wire 16V	8016		
Black Racing 105A, (three-ear)	8022		

674611-Polished



CS130 Features:

- *Excellent output at idle*
- *Internal and external fans*
- *Highly efficient*
- *Highest output small case Delco*
- *Gold battery post*
- *Proof of Performance tag*
- *Smooth Back*

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

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Delco CS130 Alternators

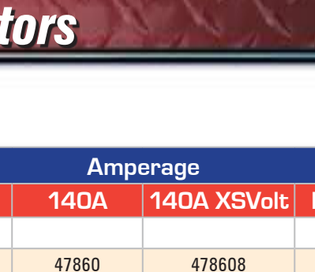
Right Mount

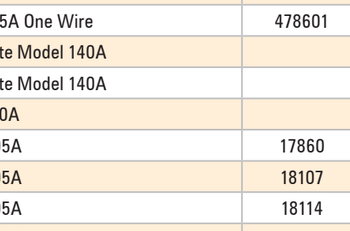
Description	Amperage			
Delco CS130 Alternators	**105A**	**140A**	**140A XSVolt**	**Notes**
Natural 105A	7860			
Natural 140A		47860	478608	
Natural 105A One Wire	478601			
Natural Late Model 140A		48107	481078	Saturn
Natural Late Model 140A		48114	481148	Saddle Mt.
Natural 140A		48171		Saddle Mt.
Chrome 105A	17860			
Chrome 105A	18107			Saturn
Chrome 105A	18114			Saddle Mt.
Chrome 140A		37860		
Chrome 140A		38107	381078	Saturn
Chrome 140A		38114	381148	Saddle Mt.
Black 140A		57860	578608	
Black 140A		58107	581078	
Black 140A		58114	581148	
Black 140A		58171		

P/N 48107-Natural

CS130 Features:

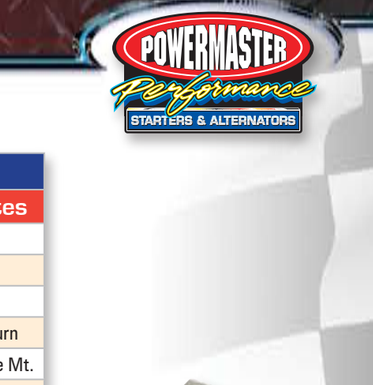
- *Excellent output at idle*
- *Internal and external fans*
- *Highly efficient*
- *Highest output small case Delco*
- *Gold battery post*
- *Proof of Performance tag*
- *Smooth Back*





ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

NEW!



P/N 674611-Chrome

Chris Raffo's
SCORE Class 3
K5 Baja Blazer

Delco CS130 Alternators

Left Mount

Description	Amperage			
Delco CS130 Alternators	**105A**	**140A**	**140A XSVolt**	**Notes**
Natural 105A w/Side BAT Term.	7461			Side Post
Natural 105A w/ Side BAT Term. One Wire	74611			Side Post
Natural 105A	7861			
Natural 140A One Wire		478611		
Natural 140A w/Side BAT Term.		47461		Side Post
Natural 140A w/ Side BAT Term. One Wire		474611		Side Post
Natural 140A		47861	478618	
Chrome 105A w/Side BAT Term.	17461			Side Post
Chrome 105A w/ Side BAT Term. One Wire	174611			Side Post
Chrome 105A w/ V-belt & Serp. Pulleys	17861			
Chrome 105A w/ V-belt & Serp. Pulleys One Wire	178611			
Chrome 140A w/Side BAT Term.		37461		Side Post
Chrome 140A w/ Side BAT Term. One Wire		374611		Side Post
Chrome 140A w/ V-belt & Serp. Pulleys		37861	378618	
Chrome 140A w/ V-belt & Serp. Pulleys One Wire		378611		
Polished 105A w/Side BAT Term.	27461			Side Post
Polished 105A w/ Side BAT Term. One Wire	274611			Side Post
Polished 105A w/ V-belt & Serp. Pulleys	27861			
Polished 105A w/ V-belt & Serp. Pulleys One Wire	278611			
Polished 140A w/Side BAT Term.		67461		Side Post
Polished 140A w/ Side BAT Term. One Wire		674611		Side Post
Polished 140A w/ V-belt & Serp. Pulleys		67861		
Polished 140A w/ V-belt & Serp. Pulleys One Wire		678611		

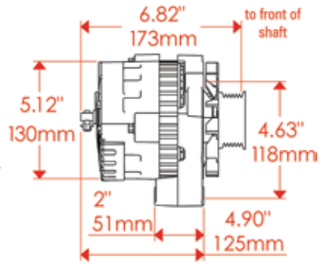
17861-Chrome

NEW!

17861-NEW Smooth Back

CS130 Features:

- *Highly efficient*
- *Dual internal fans*
- *Internally regulated*
- *Gold battery post*
- *Proof of Performance tag*
- *Smooth Back*



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

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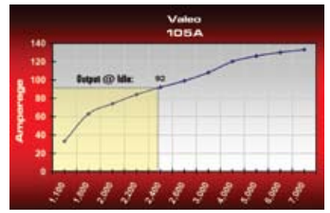
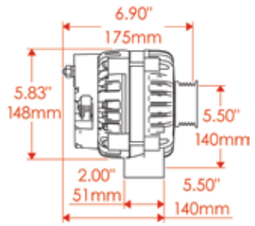
Valeo, Ford 1G, & 2G, Alternators

Valeo Alternators	Amperage
Description	**105A**
Polished "Corvette" Alternator 105A	213721
Chrome "Corvette" Alternator 105A	113721



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52



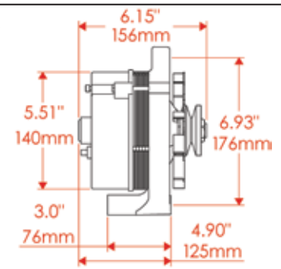
Valeo Features:

- *Heavy duty rectifier*
- *Proof of Performance tag*

P/N 113721 Chrome

Ford 1G Alternators	Amperage
Description	**60A**
Chrome Ford 1G [ext. regulated]	17078
Chrome Ford 1G One-Wire	170781
Natural Ford 1G [ext. regulated]	7078

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

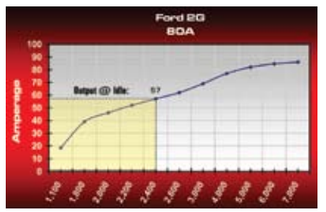


1G Features:

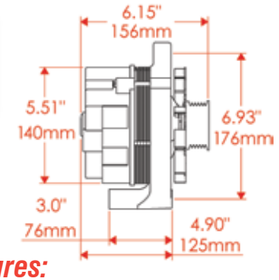
- *Externally regulated*
- *Heavy duty rectifier*
- *Proof of Performance tag*

P/N 17078 Chrome

Ford 2G Alternators	Amperage
Description	**80A**
Chrome 80A	17735



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52



2G Features:

- *Internally regulated*
- *OEM hookup*
- *Proof of Performance tag*

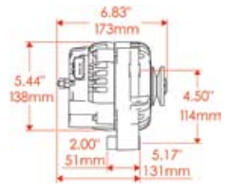
P/N 17735 Chrome

P/N 18207
Chrome

P/N 994001
Natural

CS130D Alternators	Amperage	
Description	115A	150A
Natural 150A		994001
Natural 150A		48233
Natural 150A		48243
Natural 150A		48206
Natural 150A		48208
Natural 150A		48229
Natural 150A		48230
Natural 150A		48231
Natural 150A		48234
Natural 150A		48272
Natural 115A	8206	
Natural 115A	8207	
Natural 115A One Wire	82071	
Natural 115A	8208	
Natural 115A One Wire	82081	
Polished 150A		996001
Polished 150A		68206
Polished 150A		68208
Polished 150A		68272
Polished 115A One Wire	282071	
Polished 115A One Wire	282081	
Polished 115A	28206	
Polished 115A	28229	
Polished 115A	28231	
Polished 115A	28233	
Polished 115A	28272	
Polished 115A	28207	
Polished 115A	28208	

P/N 8207



P/N 8208

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

CS130D Features:

- *Highly efficient*
- *Dual internal fans*
- *Internally regulated*
- *Gold battery post*
- *Proof of Performance tag*

Jim Mavlouganes-Owner/Driver
Late Model Xtramart Race Team

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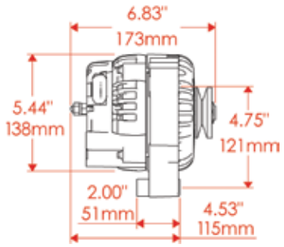
CS130D Alternators

CS130D Features:

- *Highly efficient*
- *Dual internal fans*
- *Internally regulated*
- *Gold battery post*
- *Proof of Performance tag*



P/N 994001

CS130D Alternators	Amperage	
Description	115A	150A
Chrome CS130D 150A		993001
Chrome CS130D 150A		38206
Chrome CS130D 150A		38208
Chrome CS130D 150A		38229
Chrome CS130D 150A		38231
Chrome CS130D 150A		38233
Chrome CS130D 150A		38272
Chrome CS130D 115A 1 Wire	182071	
Chrome CS130D 115A 1 Wire	182081	
Chrome CS130D 115A	18229	
Chrome CS130D 115A	18206	
Chrome CS130D 115A	18231	
Chrome CS130D 115A	18233	
Chrome CS130D 115A	18272	
Chrome CS130D 115A	18207	
Chrome CS130D 115A	18208	
Black CS130D 150A		995001
Black CS130D 150A		58206
Black CS130D 150A		58208
Black CS130D 150A		58229
Black CS130D 150A		58230
Black CS130D 150A		58231
Black CS130D 150A		58233
Black CS130D 150A		58234
Black CS130D 150A		58243
Black CS130D 150A		58272

P/N 38208-Chrome

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

Silver Streak
built by: David McCoy-Galesburg, IL

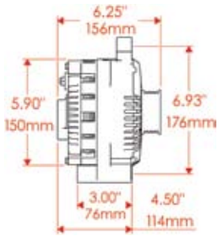
47753-Natural

Ford 3G Alternators	Amperage			Case
Description	100A	130A	200A	
Natural 100A One Wire	77491			Small
Chrome 100A One Wire	177491			Small
Polished 100A One Wire	277491			Small
Natural 200A			47752	Large
Natural 200A			47760	Large
Natural 200A			47761	Large
Natural 200A			47764	Large
Natural 200A			47768	Large
Natural 200A			47771	Large
Natural 130A		47750		Large
Natural 130A		47753		Large
Natural 130A		47758		Large
Natural Ford 200A w/ V-belt & Serp. pul. and harness			47759	Large
Natural 200A One Wire			477711	Large
Natural 200A One Wire			47775	Large
Natural 200A			47763	Large
Natural 200A			47767	Large
Natural 130A One Wire		477531		Large
Natural 130A One Wire		477581		Large
Natural 130A One Wire		77711		Large
Natural 130A w/ Wiring Harness		47757		Large
Natural 130A One Wire		477501		Large
Natural 130A		47747		Large
Polished 200A One Wire			67771	Large
Polished 130A One Wire		277711		Large
Polished 130A		27771		Large

3G Features:

- *Internally regulated*
- *OEM hookup*
- *Excellent output at idle*
- *Dual internal fans*
- *6-groove serpentine pulley*
- *Proof of Performance tag*

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52



P/N 47759

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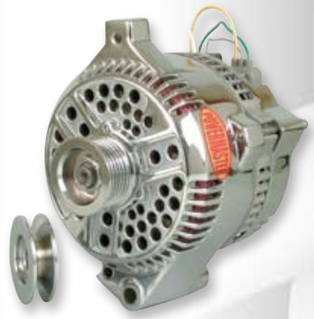
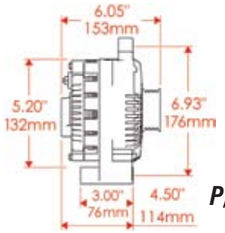
Ford 3G Alternators	Amperage			Case
Description	100A	130A	200A	
Chrome 200A			37764	Large
Chrome 200A			37771	Large
Chrome 130A		17771		Large
Chrome 200A w/ V-belt & Serp. pulleys			37759	Large
Chrome 200A One Wire			377711	Large
Chrome 200A			37768	Large
Chrome 130A One Wire		177501		Large
Chrome 130A One Wire		177531		Large
Chrome 130A One Wire		177711		Large
Black 200A			57752	Large
Black 200A			57760	Large
Black 200A			57761	Large
Black 200A			57764	Large
Black 200A			57768	Large
Black 200A			57771	Large
Black 130A		57750		Large
Black 130A		57753		Large
Black 130A		57758		Large
Black 200A w/ V-belt & Serp. pulleys			57759	Large
Black 200A One Wire			577711	Large
Black 200A			57767	Large
Black 200A			57763	Large
Black 200A			57775	Large
Black 130A		57747		Large

P/N 57759-Black



P/N 37759-Chrome



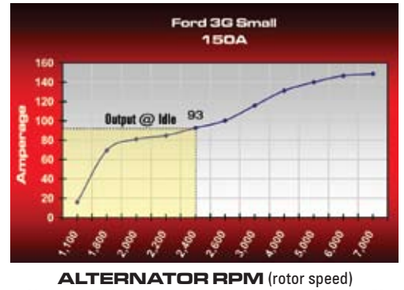
P/N 17771

3G Features:

- *Internally regulated*
- *OEM hookup*
- *Excellent output at idle*
- *Dual internal fans*
- *6-groove serpentine pulley*
- *Proof of Performance tag*

P/N 47768-Natural

Brent Spencer's
1FUN TOY



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

GM/Delco 10dn, 10si, 12si Alternators

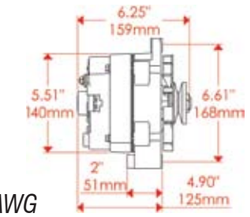
P/N 27295 Polished-Bullet

P/N 8003
OE-Natural

Description	Amperage		
Delco 10si-12si Alternators	**80A**	**100A**	**140A**
Natural "Bullet" w/ 1V pulley		7295	
Natural "Bullet" w/ 6G pulley		7296	
Natural "OE" Look	8003	8002	47294
Chrome "OE" Look	17127	17294	37293
Chrome "OE" Look w/ Baffled Fan, cone, and 1V pulley			37294*
Chrome w/ Baffled Fan, cone, and 6G pulley			37294-114*
Chrome "Bullet" with Custom Fan, cone, and 1V pulley		17295	
Chrome "Bullet" with Custom Fan, cone, and 6G pulley		17296	
Chrome "Bullet" with Custom Fan, cone, and 1V pulley			37925
Polished "Bullet" w/ Custom Fan, 6G pulley and 6-hole cone			37295-114
Polished "OE" Look	27127	27294	67293
Polished "OE" Look w/ baffled fan, cone, and 1V pulley			67294*
Polished "OE" Look w/ baffled fan, cone, and 6G pulley			67294-114*
Polished "Bullet" w/ custom fan, cone, and 1V pulley			67295
Polished "Bullet" with Custom Fan, cone, and 1V pulley		27295	
Polished "Bullet" with Custom Fan, cone, and 6G pulley		27296	
Black "OE" Look			57294
*Includes a charge wire			
10dn Alternators	**65A**		
Chrome Alternator Delco [ext. regulated]	17102		
New Early Delco Externally Regulated Alternator	7102		
Upgrades	**105A**	**140A**	**XS Volt 140A**
CS130 Natural		478021	478028
CS130 Black		578021	578028
CS130 Chrome	178021	378021	378028
CS130 Polished	278021	678021	678028

12Si Features:

- One or three wire operation
- Complete w/fan & V-belt pulley
- Gold battery post
- Proof of Performance tag
- 70 AMPS at idle for 100A Alternator
- 80 AMPS at idle for 140A Alternator
- Recommended charge wire size: 8 AWG



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

Billet Specialties'
Chicayne
built by: Rad Rides by Troy

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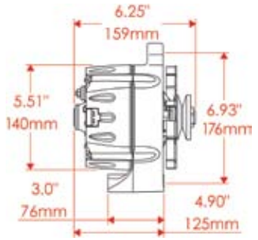
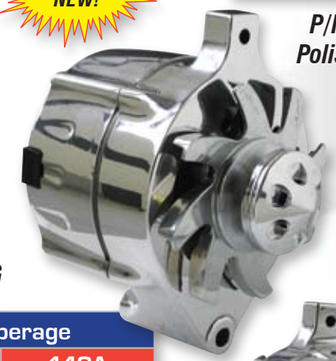
Ford and Jeep Upgrade Alternators



Ford Upgrade Features:

- Bolt-on early model upgrade
- One or three wire operation
- Gold battery post
- Proof of Performance tag
- 140A includes 7' of 8AWG wire
- 70 AMPS at idle for 100A Alternator
- 80 AMPS at idle for 140A Alternator
- Recommended charge wire size: 8 AWG

NEW!



P/N 8-67100
Polished-Bullet

P/N 8-57140
Black-OE

Description	Amperage	
Ford Upgrade Alternators	**100A**	**140A**
Natural 100A w/ serp. pulley	8-47100	
Natural 100A w/ 1V pulley	8-47101	
Natural 100A w/ V-belt pulley 16V	8-47106	
Natural 140A w/ serp. pulley		8-47140
Natural 140A w/ 1V pulley		8-47141
Natural 140A w/ V-belt pulley 16V		8-47146
Chrome 100A w/ serp. pulley	8-37100	
Chrome 100A w/ 1V pulley	8-37101	
Chrome 140A w/ serp. pulley		8-37140
Chrome 140A w/ 1V pulley		8-37141
Polished 100A w/ serp. pulley	8-67100	
Polished 100A w/ 1V pulley	8-67101	
Polished 140A w/ serp. pulley		8-67140
Polished 140A w/ 1V pulley		8-67141
Black 100A w/ serp. pulley	8-57100	
Black 100A w/ 1V pulley	8-57101	
Black 140A w/ serp. pulley		8-57140
Black 140A w/ 1V pulley		8-57141

Description	Amperage	
Jeep Upgrade Alternators	**100A**	**140A**
Chrome 100A One Wire	8-46100	
Chrome 140A One Wire		8-46140
Black 140A One Wire		8-56140

B Rod or Customs'
Tomcat

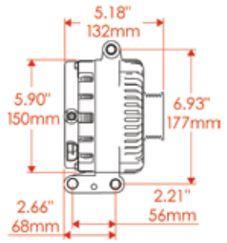
Ford 4G Alternators

P/N 37781-Chrome

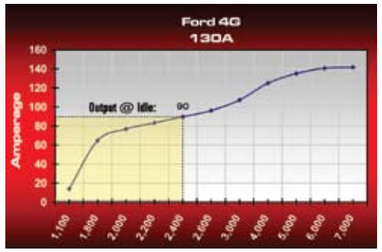
Ford 4G Alternators	Amperage	
Description	130A	200A
Natural "Ford Explorer" 130A	7787	
Natural 200A		47781
Natural 200A		47787
Natural "Ford Lightning" 130A	48251	
Polished 130A	27781	
Chrome 200A		37781
Chrome 130A	17781	
Chrome "Ford Lightning" 130A	38251	
Black 200A		57781
Black "Ford Lightning" 130A	58251	
Black 200A		57787

4G Features:

- *Internally regulated*
- *OEM hookup*
- *Excellent output at idle*
- *Dual internal fans*
- *6-groove serpentine pulley*
- *Proof of Performance tag*



P/N 7787



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

Rich & Paige Udell's
Instigator

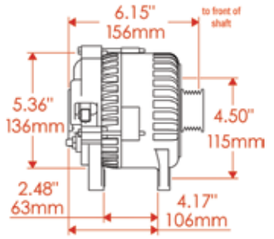
Ford 6G Alternators

Description	Amperage		
Ford 6G Alternators	110A	150A	200A
Natural 150A		47796	
Natural 150A		48250	
Natural 150A		48252	
Natural 150A		48254	
Natural 150A		48260	
Natural 200A			47795
Polished 150A		68252	
Chrome 110A	18252		
Chrome 110A	28252		
Chrome 150A		38252	
Chrome 200A			37795
Black 150A		57796	
Black 150A		58250	
Black 150A		58252	
Black 150A		58254	
Black 150A		58260	
Black 200A			57795

6G Features:

- *Internally regulated*
- *OEM hookup*
- *Excellent output at idle*
- *Dual internal fans*
- *6-groove serpentine pulley*
- *Proof of Performance tag*

P/N 48260-Natural



P/N 48260

P/N 37795
Chrome

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

John & Jake Babcock's
Afterglow 1940 Mercury

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Delco CS144 Alternators

P/N 48203

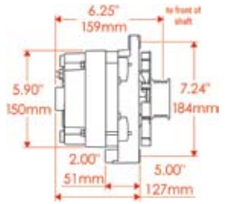
P/N 37864

ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

CS144 Alternators	Amperage			
Description	140A	140A XSVolt	200A	200A XSVolt
Natural 200A			47805	478058
Natural 200A			47806	478068
Natural 200A			47864	
Natural 200A			48112	481128
Natural 200A			48202	
Natural 200A			48203	482038
Natural 140A	8219			
Natural 140A	7805			
Natural 140A XSVolt		82038		
Natural 140A	7806			
Natural 140A	7864			
Chrome 200A			38202	
Chrome 200A			38203	382038
Chrome 200A			37805	
Chrome 200A			37806	378068
Chrome 200A			37864	
Chrome "Impala" 140A	18112			
Chrome 140A	17805			
Chrome 140A	17806			
Chrome 140A	17864			
Chrome "Impala" 200A			38112	381128
Chrome 140A One Wire	178051			
Polished "Impala" 140A	28112			
Polished 200A			67806	
Polished "Impala" 200A			68112	
Polished 200A			68202	
Black 200A			57805	578058
Black 200A			57806	578068
Black 200A			57864	
Black 200A			58112	581128
Black 200A			58202	582038
Black 200A			58203	

CS144 Features:

- *Highest output Delco*
- *Excellent idle output*
- *Heavy duty regulator and rectifier*
- *Gold battery post*
- *Proof of Performance tag*



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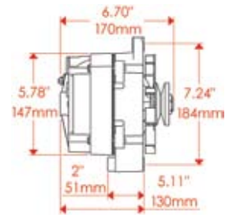
17Si, Large Case Ford, AD244 Alternators

Description	Amperage
GM 17Si Alternators	120A
Chrome Delco Alternator 120A One Wire	17290
Chrome Delco Alternator 120A w/ Serp. Pulley One Wire	17290-114

17Si Features:

- *Excellent output at idle*
- *Heavy duty external regulator included*
- *Proof of Performance tag*



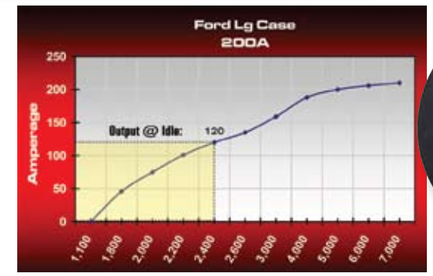
ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

P/N 17290-114

Large Case Ford	Amperage
Description	200A
Natural [ext. regulated] Alternator 200A	47704
Black [ext. regulated] Alternator 200A	57704
Chrome 200A [ext. regulated]	37704

Large Case Ford Features:

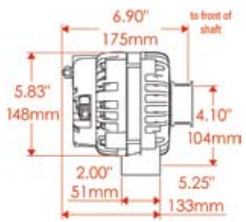
- *Excellent output at idle*
- *Dual output; battery isolator built in*
- *Heavy duty external regulator included*
- *Proof of Performance tag*



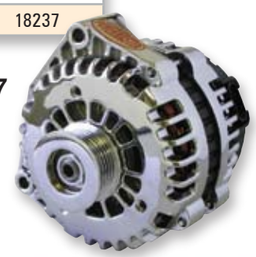
ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

P/N 47704

AD244 Alternators	Amperage
Description	145A
Polished GM AD244 130A	28237
Chrome GM AD244 130A	18237



P/N 18237



ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

Chrysler Alternators

P/N 17509

P/N 8-47529

P/N 8-47539

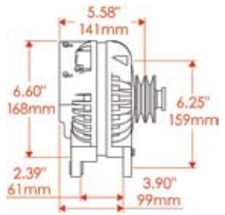
P/N 63311

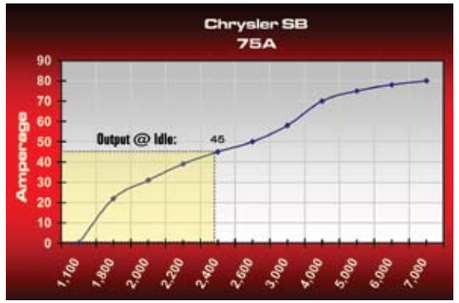
Description			Amperage
Early Chrysler Alternators			**75A**
Natural *75A w/ Single Pulley-Single Field Round Back			7018
Natural *75A w/ Dbl Pulley			7409
Natural *75A w/ Dbl Pulley One Wire			74091
Natural *75A w/ Single Pulley			7419
Natural *75A w/ Single Pulley One Wire			74191
Natural *75A w/ Single Pulley-Dbl Field Square Back			7508
Natural *75A w/ Dbl Pulley-Dbl Field Square Back			7509
Natural *75A w/ Dbl Pulley-Single Field Round Back			7019
Chrome *75A w/ Dbl Pulley-Dbl Field Square Back			17509
Chrome *75A w/ Dbl Pulley One Wire-Dbl Field Square Back			175091
Chrome *75A w/ Single Pulley One Wire-Single Field Round Back			17519
Chrome *75A w/ Single Pulley One Wire			175191
Upgrades–SB Only	**140A**	**170A**	**200A**
Natural Upgrade 140A	8-47529		
Natural Upgrade 170A		43311	
Natural Upgrade 200A			8-47539
Chrome Upgrade 140A	8-37529		
Black Upgrade 140A	8-57529		
Black Upgrade 170A		53311	
Polished Upgrade 170A		63311	

*with OE reclaimed rotor

Chrysler Features

- *Excellent idle output*
- *Heavy duty rectifier*
- *Gold battery post*
- *Proof of Performance tag*





ALTERNATOR RPM (rotor speed)
Alternator RPM is typically 3x engine speed; see FAQ's pg. 52

Rad Rides by Troy
Salt Flats '69 Cuda

How to choose a hot rod alternator

Powermaster offers a wide variety of alternators for street applications such as Muscle Cars, Classics, Street Rods and daily drivers. By following the guidelines suggested below, choosing the right alternator for your application can be simplified.

1. Determine the amp load of the vehicle.

The main concern here is continuous amp load. Some examples of equipment to take into consideration would be electric fans, electric fuel pumps, lights, stereo systems, ignition systems and air conditioning. The chart to the right can serve as a general guide in determining amp draw.

2. Determine what style of alternator you need.

Do you want to keep a stock look, or do you prefer the clean, modern look of an internal fan alternator? When choosing style of alternator, you need to make sure that it is going to fit your brackets and your mounting location.

3. Determine how you want to wire the alternator.

Do you prefer a one-wire, or OE wiring? There is a popular misconception with one-wire alternators, that they do not produce at idle. All Powermaster alternators for street use provide the most amps at idle of any alternator on the market today, no matter how its wired. See our FAQ's for further information.

4. Decide what kind of finish you want on your alternator.

Do you want natural (stock look), Show Chrome, Polished (polished aluminum), or Black thermal coat? *Some finishes not available on some alternators.

AMP REQUIREMENTS

General Accessories AMP DRAW	
Instrument Panel	2-4
Brake Lamps	3-8
Turn Signals	4-8
Driving Lights	3-10
Head Lights (each)	3-10
Hi Amp Accessories AMP DRAW	
Neon Lights	2-4
Spot Lights (each)	5-10
Radio, CD Players	3-7
Audio Amplifiers	15-300+
Winches	15-460
Racing Accessories AMP DRAW	
Trans Brake	12-20
Throttle Stop	5-15
Electric Fans (each)	6-30
CDI Ignition	6-40
HEI Ignition	6-10
Nitrous Solenoid (each)	5-30
Electric Fuel Pumps	7-15

All hot rod alternators feature:

- *100% NEW*
- *High Amps at Idle*
- *Internally Regulated*
- *Complete with Fan & Pulley*
- *Gold Battery Post*
- *Proof of Performance Tag*

Additionally, Powermaster alternators feature show chrome finish. Our black units feature a heat dispersant coating designed to pull heat away from the alternator. Powermaster uses the best in internal components to make the most efficient unit possible.

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I noticed the Proof of Performance tag rates the output at 2,400 RPMs. Is this engine RPMs?
No, this is alternator rotor speed. To determine the engine RPMs, calculate the pulley ratio. The typical street pulley ratio is 3:1. Therefore, 2,400 alternator RPMs is 800 engine RPMs (2,400/3=800).

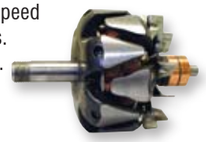
When to use a one wire alternator?
The main difference between a one wire and an OEM is the method used to energize or turn on the alternator. An alternator using the OEM style is turned on with the ignition switch. The one wire design is energized with a special sensing circuit built into the internal voltage regulator. This circuit senses the rotation of the alternator's rotor. The rotor must turn at sufficient speed to trip the circuit, starting the charging process. This turn-on speed is affected by several things and is typically higher with certain high amperage alternators. Once this circuit is tripped, the alternator will charge at all speeds, even very low ones, until the alternator's rotor comes to a complete stop. At that point, the circuit will shut off and wait for the process to be repeated. So in some applications the engine must be revved to 1,200 or 1,400 RPMs to turn the one wire alternator on. If the wiring harness is available and this characteristic is annoying, then many Powermaster alternators can be plugged in like the stock unit and operated with the ignition switch.
(Note: Powermaster early style Delco alternators will work either way - as a one wire or OEM style. Just remove the black plug on the back and the GM or aftermarket two-spade wiring harness can be plugged in for three-wire operation. See your alternator instruction sheet for further details.)

I noticed that my Powermaster one wire alternator has to be "revved up" to get the alternator to come on. Why?
A one wire alternator has a turn on point (sometimes called "cut in", which is typically 1,200 engine RPM's). This is the speed where the internal sense circuitry connects the battery to the voltage regulator, thereby turning the alternator on. Once the voltage regulator turns on, the alternator will remain on and charging until the engine comes to a complete stop. If the engine idle speed and pulley ratio combination do not allow the alternator to come up to this point during starting, the engine will have to be revved up to turn the one wire alternator on. The sense circuitry in the one-wire regulator can be bypassed to excite the alternator as soon as the ignition switch is turned on, meaning the alternator will not be dependent on reaching a certain turn on RPM.

Will aftermarket underdrive pulleys (power pulleys) affect the output of the alternator?
YES, especially when using a one-wire alternator. Changing the pulley ratio of the alternator by slowing it down may also produce a low voltage problem at engine idle speed, depending on the amount of reduction. Additionally, the output of high amp alternators can drop off substantially under 2,400 rotor RPMs. Therefore, Powermaster does NOT recommend power pulleys with high amp alternators. Powermaster alternators are tested with a 3:1 pulley ratio in mind. This is the recommended street pulley ratio, and the ratio used in most OE applications.

How do I hookup a one wire alternator if my stock alternator was an externally regulated alternator? What do I do with the regulator and wiring harness?
The only thing required to electronically hookup a one wire alternator is to run a charge wire from the battery terminal on the alternator to the positive terminal on the battery (or any positive battery source). The external regulator can be either totally removed from the firewall or left in place. If left in place, be sure to disconnect the wiring harness from the regulator. The wiring harness has to be disconnected from the regulator or the indicator light on the dash will remain on. NOTE: If the vehicle is equipped with an indicator light, the light will no longer be operative.

What is the maximum speed for an alternator?
18,000 RPMs generally. Alternators reach their maximum output typically around 6,000 RPM. Increasing the speed beyond this does not increase the output, yet it does increase the horsepower consumption of the cooling fans. Sustained alternator speeds between 14,000 - 18,000 RPMs waste a lot of horsepower and should be avoided. Optimally, alternators perform the best between 2,400 RPM and 6,000 RPMs, with the greatest efficiency at 2,400 RPM.



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General Alternator FAQ's

I noticed that my voltage gauge reads 13.6+ going down the road, but when I am at a stop or just idling, the voltage drops to 12.5V. Why?
This could be caused by several things. First, the pulley ratio may cause the alternator to spin too slow for these driving conditions. Using underdrive or power pulleys on a street application can cause this problem because the pulley ratio becomes less than the typical street ratio of 3:1. If the pulley ratio is 3:1, another possibility is that the alternator is too small or not powerful enough at slow speeds for the amp load of the vehicle. Also, the charge wire could be too small or the ground path may have high resistance, or the gauge could be out of calibration. Check the voltage directly at the alternator with electrical loads on to determine if the problem is the alternator or the path to the battery.

Will a higher amp alternator hurt my battery or charging system?
No. A good rule of thumb is that more amps are not harmful, but more voltage is. If you look at electrical power like water, amperage is equivalent to the volume of water, and voltage is equivalent to water pressure. More amperage is like having a larger pool of water to draw from.

Is there any modification I need to do to my wiring to install a high amp alternator?
Powermaster recommends increasing the size of the charge wire from the alternator to the battery.

My stock alternator serpentine pulley had only 4 or 5 grooves and this high amp alternator has 6 grooves. Can I use this alternator? Will it mess up my belt(s)?
Typically, the pulley off the stock alternator will fit on the Powermaster high amp alternator if you prefer using the stock pulley. Powermaster high amp late model alternators come with a small 6 groove serpentine pulley for a universal fit. If the stock alternator had a 4 or 5 groove pulley, the belt can still be used on the 6 groove pulley. In most cases narrow belts should be placed on the pulley grooves closest to the alternator. Always check for proper belt alignment prior to starting the engine after installation.

My dash light does not work after I installed my one wire alternator. How do I get my dash light to work?
Some Powermaster alternators have an indicator light drive terminal. The indicator light wire from the stock wiring harness has to be connected to this terminal of the one wire alternator. If you had an OE externally regulated alternator, then use a conversion wiring harness (P/N 150). If you had an internally regulated alternator with the two spade wiring harness connector, simply remove the black rubber cover on the side of the Powermaster alternator and plug the harness in. (PLEASE NOTE: This does not apply to part numbers without an indicator light drive terminal such as CS alternators, etc.)

The Powermaster high amp alternator is bigger than my stock alternator - will I be able to install it?
If you have purchased a Powermaster alternator based on Powermaster's application guide, then the alternator should fit in the stock brackets (unless otherwise noted) even though it may be larger in size. Powermaster strives to provide upgrade alternators that are bolt-on replacements. In many cases, there is a large size alternator that will work in the factory brackets.

The stock wiring harness on my '96-'03 Chevy/GM truck will not plug into the 200 amp upgrade alternator. It is oval shaped and the plug on the alternator is square. What do I do?
You will need a conversion wire harness adapter - P/N 160.

How do I hook up a one wire alternator?
Simply run a charge wire from the battery terminal on the alternator to the positive terminal on the battery. The one-wire regulator is a self-exciting regulator meaning that it has sensing circuitry for alternator rotation. As the alternator starts to spin, this circuitry connects the internal voltage regulator to the battery and turns the alternator on.

XS Volt–electrical stability

XS Volt is a powerful internal regulating system. These one wire alternators offer the highest stability available for modern electrical systems. Available in Delco CS and Denso style alternators, these units offer a number of features including:

•***Digital Control***–Most alternator designs require an entire voltage drop AND up to 10 seconds of delay time before they respond to an increasing amp load. The XS Volt responds almost instantaneously (about 100 milliseconds) to increased loads. This provides a much more stable power supply to sensitive electronics.

•***Adjustable Voltage***–The XS Volt can easily be used in a standard 12 volt environment, as well as a 16 volt system, or even hybrid systems in between! By turning a potentiometer on the back of the unit, voltage can be adjusted between a range of 13.5 and 18.5 volts. This makes the XS Volt ideal for 16 volt systems. This adjustment can even be made remotely. (Contact our Tech Dept for details)

•***Powerful, Reliable Internals***–Utilizing MOSFET and PWM technologies, the XS Volt is engineered to handle increased load with capacity to spare. It is designed to withstand a variety of harsh conditions with its short circuit protection, loss of ground protection, and a massive heat sink that extends through the rear housing. Additionally, the entire circuit is sealed in epoxy to keep water and grit out while isolating vibration. It also includes an indicator light drive that can be used as a simple charging system monitor.

•***One Wire Operation***–Wiring your XS Volt is easy. Simply connect a charge wire from the alternator's output post to the battery. No other wiring connections are required. The unit will not only turn itself on when the engine is started, and off when the engine is turned off, but it is also designed to switch on at lower RPMs than a typical one wire unit, and even often energizes before the engine reaches idle at startup.

P/N 482038-SPL*

The XS Volt gives the user a great deal of control. It also provides many benefits even without adjustment. With its digital regulator, lightning quick response time, and the stability a digital system provides, many users have found their electronic components function better; even benefiting the daily driver.

For more details on the powerful XS Volt, please contact our Tech Support Department at 865-688-5953, option 7 or visit our website at www.powermastermotorsports.com.

*300A FOR SPL COMPETITION USE ONLY!

Close-up showing XS Volt regulator.

The XS Volt is ideal for race, car audio, & any environment electrical stability is desired.

About the Application Guide

This guide was designed to make the job of selecting an alternator easier. Most applications are a bolt-for-bolt. Bolt-for-bolt means that the distance between the mounting bolts is the same as the unit being replaced. However, physical dimensions of the alternator may be bigger which may mean a slight modification to the OEM bracket (i.e., grinding with a Dremel tool, etc.).

Many alternators are available in natural, chrome, polished or black thermal coat finishes. CHROME IS NOT RECOMMENDED FOR HIGH AMP APPLICATIONS – IT RETAINS HEAT. For those wanting a show chrome finish, nobody does a better job than Powermaster.

You will also notice multiple amperage choices for most applications. Amperage choices begin with the lowest amperage offering on the left, to the highest amp available in the far right columns. The page numbers listed will provide further details. The page number will be the first page of the product classification, however some classifications are several pages long.

ADAPTER – In some cases, a slight modification to the electrical hookup may be needed. We have made wiring harnesses available for easy installation. Wiring harness or adapter suggestions will be noted in the column in blue. Please also see the footnotes for any additional modifications suggested or needed. There may also be some applications that require a different pulley than the high amp alternator is supplied with. The stock alternator pulley should be used in such cases.

This application section is only a GUIDE and is not meant to be a complete catalog of all vehicles. We welcome inquiries for additional applications. Based on customer demand, Powermaster is regularly adding new Part #s and applications. Extreme care was taken to ensure the accuracy and completeness of the information in this catalog. If however, you find mistakes, we urge you to call them to our attention so corrections can be made for future editions (1-800-862-7223 – ask for Catalog dept.).

With the wide variety of units offered, it is not practical to have all units in stock. IN SOME CASES, PLEASE ALLOW up to 6 WEEKS FOR DELIVERY.

Starter Dimensions Explained:

(A) The diameter of the starter motor

(B) ***For pad mount:*** *the distance from the center of the mounting bolts holes, to the end of the starter (for offset, distance is from the center of the hole(s) closest to the starter pinion).*

For bell housing mount starters: *the distance from the starter/engine-mounting surface to the end of the starter.*

(C) ***For pad mount starters:*** *the distance from the centerline of the mounting bolts (for starters with offset holes, distance is from the centerline of the hole/holes closest to the starter pinion) to the end of the pinion teeth.*

For bell housing mount: *the distance is from the mounting surface to the end of the pinion.*

(D) Pinion diameter (even tooth counts, the measurement is from the tips of opposing teeth, odd tooth counts, the measurement is across two teeth to the opposing tooth).

(E) The diameter of the starter/engine locating ring (bell housing mounts only).

Alternator dimensions explained:

(1) The alternator body diameter

(2) The distance from the end of the shaft (not the pulley) to the end of the alternator.

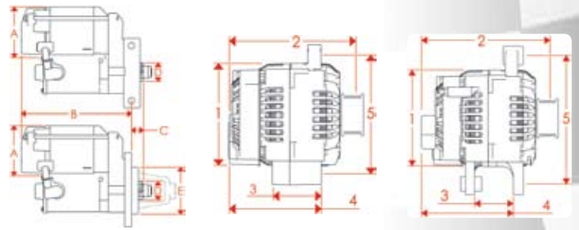
(3) ***Foot mount alternators:*** *The length of the foot.*

Saddle mount alternators: *The maximum opening of the saddle.*

(4) The measurement is from the front of the alternator case to the back.

(5) The projected center distance of the mounting holes.

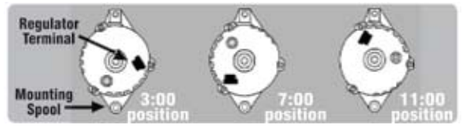
For how to calculate your vehicle's alternator idle RPMs, see FAQ's page 52.



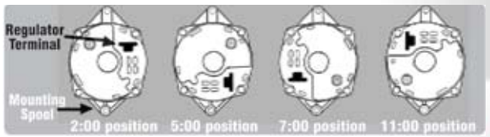
Clocking Position

Delco late model external fan units can be "clocked" in several different positions. To determine the clock position, view the alternator from the back with the mounting spool at the 6:00 position. The location of the regulator terminal determines where the wiring harness attaches to the unit. Using the same clock position as the stock unit makes installing a high amp replacement unit a true bolt-on.

Delco Late Model Small Case



Delco Late Model Large Case



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