Table of Contents

For easy navigation, click on any heading and it will direct you to the corresponding page.

Part Number Index

P/N #	PG#	P/N #	PG#	P/N #	PG#	P/N #	PG#	P/N #	PG#	P/N #	PG#	P/N #	PG#
1-24	60	17519	57	19182	14	282026	34	37294	37	38206	45	47803	41
1-36	60	175191	57	19183	8, 14	282051	34	37294-114	37	382061	45	478038	41
1-48	60	176	60	19200	8, 12	28206	45	37295	37	38208	44	47805	47
1-60	60	177	60	19400	10, 11, 12	28207	44	37295-114	37	38229	45	478058	47
1-84	37, 60	17735	51	19403	13	282071	44	37295-305	37	38231	45	47806	47
1-144	60	177491	52	19500	9, 12	28208	44	37295-361	37	38233	45	478066	47
100	60	177501	53	19502	9, 10, 11	282081	44	37296	37	38251	54	478068	47
104	60	177531	52	19503	9, 13	282091	34	37296-313	37	38252	55	47860	41
105	60	17771	52	19504	9, 13	282096	34	37296-361	37	38272	46	478601	41
108	60	177711	52	19505	9, 14	282101	34	37297	37	38313	54	478608	41
109	46	17781	54	19506	9, 14	282106	34	37297-114	37	390	61	47861	42
110	37, 60	17795	56	19507	9, 14	282111	34	37297-344	37	391	61	478611	42
111	60	17796	56	19508	9, 14	28229	45	37297-364	37	400	21	478618	42
112	60	178	60	19509	9, 13	28231	45	37401	40	410	21	47864	47
114	37, 60	17801	40	19510	9	28233	49	374011	40	41280	59	478648	47
115	60	178011	40	19511	9, 10	28237	55	37402	41	41290	59	47902	42
117	60	17802	41	19513	9, 15	28252	46	374021	41	41294	59	47914	43
118	60	178021	41	19515	9, 10, 15	28272	46	37460	42	42280	59	479148	43
119	60	178021-362	41	19516	9, 15	2881	39, 61	374601	42	42282	59	48107	43
13124	8, 13	17802-362	41	19526	9, 12	2882	39, 61	37461	42	42284	59	48112	47
13131	8	17803	41	19532	9, 14	2885	61	374611	42	42292	59	481128	47
135	60	17805	47	27127	35	2890	61	37461-362	42	42294	59	48114	43
13511	8, 12	178051	47	27294	37	290	29	37759	52	43311	58	48137	40
136	60	178058	47	27294-114	37	292	29	37763	53	433118	58	48163	47
140	60	17806	47	27294-361	37	293	21, 25, 29	37764	53	47294	37	48171	43
150	60	178061	47	27295	37	295	21, 25, 29	37768	53	47295	37	48202	48
160	60	17860	41	27295-303	37	302	61	37771	52	47296	37	48203	48
164	60	178601	41	27295-361	37	303	61	377711	52	47401	40	482038	48
170	20, 29	17861	42	27296	37	304	36	37781	54	474011	40	48206	45
17078	50	178611	42	27296-311	37	305	36	37795	56	47402	41	48207	44
170781	50	17861-362	42	27296-313	37	306	36	37796	56	474021	41	482071	44
171	29	17864	47	27296-361	37	307	36	37801	40	47460	42	48208	44
17102	35	17914	43	27297	37	310	61	378011	40	474601	42	48229	45
17127	35	179261	39, 61	27297-114	37	311	61	378018	40	47461	42	48230	46
172	60	18062	39	27297-344	37	312	36	37802	41	474611	42	48231	45
17290	38	181	21, 25, 29	27297-364	37	3124	8, 13	378021	41	47704	50	48233	45
17290-114	38	18107	43	2730	28	313	36	37802-362	41	47747	53	48237	49
17294	37	18112	47	2731	28	3131	8	378028	41	47750	53	48243	46
17294-114	37	18114	43	2732	28	3132	8, 13	37803	41	477501	53	48250	55
17294-361	37	182	29	274011	40	314	36	378038	41	47752	53	48251	54
17295	37	182051	34	27461	42	315	36	37805	47	47753	52	48252	55
17295-305	37	18206	45	274611	42	318	61	378051	47	477531	52	48253	56
17295-361	36, 37	18207	44	27461-362	42	319	61	378058	47	47757	52	48254	56
17296	37	182071	44	277491	52	3257	8, 15	37806	47	47758	52	48256	56
17296-311	37	18208	44	27771	52	326	61	378068	47	477581	52	48259	56
17296-313	37	182081	44	277711	52	327	61	37860	41	47759	52	48260	55
17296-361	37	182111	34	27781	54	332	61	378601	41	47760	52	48263	56
17297	37	18229	45	27795	56	333	61	378608	41	47761	53	48272	46
17297-114	37	18231	45	27796	56	334	61	37861	42	47763	53	48278	48
17297-344	37	18233	45	27801	40	335	61	378611	42	47764	53	48283	45
17297-364	37	18237	49	278011	40	339	61	37861-362	42	47767	53	48286	48
173	29	18252	55	27802	41	344	36	378618	42	47768	53	48290	49
1730	28	18272	46	278021	41	3510	8, 12	378618-362	42	47771	52	48302	49
1731	28	183	29	27802-362	41	3555	8, 16	37864	47	477711	52	48305	56
1732	28	185	29	27860	41	361	36	378648	47	47775	53	48313	54
174	29	1881	39, 61	278601	41	362	61	37914	43	47781	54	48315	56
174011	40	1882	39, 61	27861	42	3631	8, 10, 11	379148	43	47787	54	48317	56
17461	42	1885	61	278611	42	3635	8	38112	47	47795	56	48478	56
174611	42	1890	61	27861-362	42	365	61	381128	47	47796	56	53311	58
17461-362	42	190	29	279261	39, 61	3655	8	38114	43	47801	40	533118	58
175	60	19000	10, 11, 12	28112	47	3689	8	381148	43	478018	40	57294	37, 38
17508	57	191	29	28162	20	37127	35	38163	47	47802	41	57295	37
175081	57	19162	8, 13	282011	34	37293	37	38202	48	478021	41	57401	40
17509	57	19172	8, 13	282016	34	37293-114	37	38203	48	478026	41	574011	40
175091	57	19180	8, 15	282021	34	37293-361	37	382038	48	478028	41	57402	41

Part Number Index

P/N #	PG#	P/N #	PG#	P/N #	PG#	P/N #	PG#	P/N #	PG#	P/N #	PG#
574021	41	58252	55	68208	44	8136	22	8-57101	51	9400	9, 10, 11, 12, 17
57460	42	58254	56	68229	45	8138	19, 22	8-57106	28	9403	9, 13
574601	42	58260	55	68231	45	8142	23	8-57140	28, 51	9404	9, 13
57461	42	58272	46	68233	45	8146	23	8-57141	51	9405	9, 14
574611	42	58313	54	68237	49	8148	23	8-57146	28	9406	6, 9, 14
57704	50	58315	56	68252	55	8152	23	8-57529	58	9409	9
57747	53	600	17	68272	64	8158	23	8-67100	28, 51	9410	9, 16
57750	53	601	17	7018	57	8162	20, 21	8-67100-344	51	9413	9
57752	53	602	17	7019	57	8166	20	8-67101	28	9415	9, 10, 15
57753	52	603	17	7078	50	8168	20	8-67101-344	28, 51	9416	9, 15
57758	52	604	17	7102	35	8172	20	8-67106	28	9426	9, 12
57759	52	607	17	7127	35	8176	20	8-67140	28, 51	9428	17
57760	52	608	17	722	24	8-17926	39	8-67140-344	51	9450	9, 11, 12
57761	53	611	17	723	24	8-17927	39	8-67141	51	9453	9, 13
57763	53	612	17	7288	38	8182	20	8-67141-344	51	9463	9, 15
57764	53	613	17	7294	37	8188	20	8-67146	28	9497	
57767	53	614	17	7295	37	82011	34	8-722	24	9498	17
57768	53	615	17	7296	37	82016	34	8-7228	24	9500	9, 12
57771	52	616	17	730	28	82021	34	875	21	9502	9, 10, 11
577711	52	618	17	731	28	82026	34	880	21	9503	9, 13
57775	53	619	17	7312	25	82038	48	8-801	20	9504	9, 13
57781	54	620	17	732	28	82051	34	8-8018	20	9505	9, 14
57787	54	621	17	7409	57	8206	45	8-802	22	9506	9, 14
57795	56	622	17	74091	57	8207	44	881	25	9507	9, 14
57796	56	63311	58	7419	57	82071	44	882	25	9508	9, 14
57801	40	633118	58	74191	57	8208	44	885	27	9509	9, 13
578018	40	67293	37	7461	42	82081	44	8-875	21	9510	9, 16
57802	41	67293-114	37	74611	42	82091	34	8-8758	21	9511	9, 10
578021	41	67293-361	37	74611-362	42	82096	34	8-880	21	9513	9, 15
578028	41	67294	37	7508	57	82101	34	8-8808	21	9514	17
57803	41	67294-114	37	7509	57	82106	34	8-881	25	9515	9, 10, 15
57805	47	67295	37	770	23	82111	34	8-8818	25	9516	9, 15
578058	47	67295-114	37	77491	52	8219	48	8-882	25	9518	17
57806	47	67295-303	37	775	23	8242	45	8-8828	25	9520	17
578068	47	67295-361	37	77711	52	8-27926	39	8-895	21	9522	17
57860	41	67296	37	7781	54	8-27927	39	8-8958	21	9523	15
578608	41	67296-311	37	7787	54	8-36100	58	8-896	21	9526	9, 12
57861	42	67296-361	37	7802	41	8-37100	28, 51	8-8968	21	9527	17
578618	42	67297	37	7803	41	8-37100-344	51	8-897	25	9528	
57864	47	67297-114	37	7805	47	8-37101	51	8-8978	25	9529	17
578648	47	67297-344	37	7806	47	8-37101-344	51	8-898	25	9530	9, 16
57902	42	67297-364	37	7860	41	8-37106	28	8-8988	25	9531	9, 16
57914	43	67401	40	7861	42	8-37140	28	890	27	9532	9, 14
579148	43	674011	40	7864	47	8-37140-344	51	895	21	9534	16
58107	43	67402	41	8002	27, 38	8-37141	51	896	21	9540	6, 9, 18
581078	43	674021	41	8003	27	8-37141-344	51	897	24, 25	9600	7, 9, 10, 11, 12
58112	47	67460	42	8005	27	8-37146	28	898	25	9603	9, 13
581128	47	674601	42	8006	27	8-37529	58	9000	7, 9, 10, 11, 12	9604	9, 13
58114	43	67461	42	801	20	8-400	21	9004	7, 9, 10, 11, 12, 17	9605	9, 14
581148	43	674611	42	8012	26	8-4008	21	9050	17	9606	9, 14
58137	40	67771	52	8016	26	8-410	21	9051	17	9610	9, 16
58171	43	677711	52	8018	26	8-4108	21	9052	17	9612	9, 12
58202	48	67795	56	8022	26	8-46100	58	9053	17	9613	9, 15
58203	48	67796	56	8060	39	8-46140	58	908	17	9614	7, 17
582038	48	67801	40	8062	24, 25, 39	8-47100	28, 51	9100	7, 8, 10, 11, 12	9633	15
58206	45	67802	41	8066	24	8-47101	51	9103	8, 13	9701	17
58208	44	678021	41	8068	24	8-47106	28	9162	8, 9, 13	981	25
58229	45	67806	47	8072	24, 25	8-47140	28, 51	9172	7, 8	982	25
58230	46	67860	41	8076	24	8-47141	51	9180	8, 15	994001	59
58231	45	678601	41	8078	19, 24	8-47146	28	9182	8	995001	59
58233	45	67861	42	8102	22	8-47529	58	9183	8, 14		
58237	49	678611	42	8114	43	8-47539	58	9200	7, 8, 9, 12		
58243	46	68112	47	8122	22	8-56100	58	9201	8, 13		
58250	55	68202	48	8128	22	8-56140	58	9202	8, 10, 11		
58251	54	68206	45	8132	22	8-57100	28, 51	9300	8, 15		

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 power bands. 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 ,such as our XS Power batteries, 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.

Infi-CLOCK System

The InfiCLOCK 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.

Other starters are finitely clockable, moving the starter in 1/2 inch increments. This keeps manufacturers' best designs well off of the engine to allow for variations in block casting and multiple applications. Imagine rolling and locking your starter right up to the engine block of your specific application. InfiCLOCK equipped starters can make headers fit where before they had to be modified. This gets the starter further away from all headers and the heat they generate. An infinitely clockable starter can make custom headers a reality where they were impossible before.

Ultra Torque High Speed Starters
200 Ft Lb Starter

NEW PRODUCT

- 20% more cranking rpm's at the flywheel than our popular Ultra Torque starter
- Perfect for blown alcohol engines, or any engine requiring higher than normal cranking speed
- 100% New design and made in the U.S.A
- 2.5kW, 3.4 hp motor with 3.73:1 gear reduction system
- Fits all oversized and kick out oil pans
- Machined aluminum adjustable block
- Weighs 10.5 lbs.

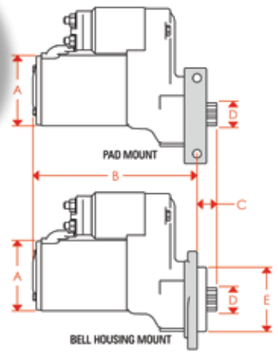
Look for P/N 9450, 9453, 9463

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 8.

250+ Ft Lb Starters

90 ft. lb. MORE than PN 9000

P/N 9406



- *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 most oversized kickout oil pans*
- *Water and corrosion resistant*
- *Weighs 10.5 lbs.*
- *Patented design*
- *Indexible feature for clearance*
- *Great for big cubic inch motors*

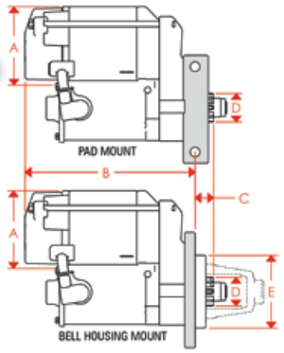
ULTRA Torque works well in a variety of applications. Ideal for hardcore racing, it's the ultimate performance starter... and now with the fastest cranking speed with our High Speed Series.

200 Ft Lb Starters

- *4.4:1 Gear reduction*
- *No heat soak problems*
- *Recommended for 18:1 compression*
- *Machined aluminum adapter block*
- *Clears most oil pans and headers*
- *Weighs 8.5 lbs, the lightest 200lb. starter available*
- *InfiCLOCK standard on many applications*

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

P/N 9540

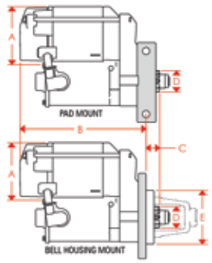


Starter Classifications

180 Ft Lb Starters

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

P/N 9614

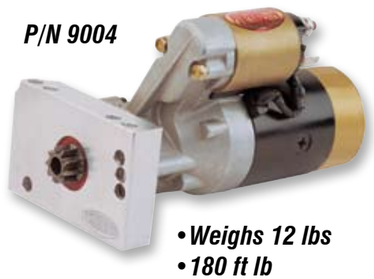


Excellent choice for mild race or high performance street applications or where heat soak or hot start is a main concern.

P/N 9600

Hitachi Style Starters

P/N 9004



- ***Weighs 12 lbs***
- ***180 ft lb***

- *Adjustable mounting block*
- *Works with most oversized kickout oil pans*
- *Can be inverted with solenoid down*
- *Fits either 153 or 168 tooth flywheels*
- *3.7:1 gear reduction*

P/N 9000

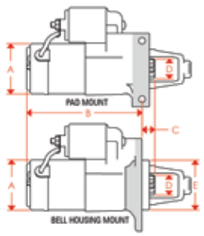
- ***Weighs 10 lbs***
- ***160 ft lb***

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

160 Ft-Lb Starters

The right 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*



P/N 9200

P/N 9100

P/N 9172

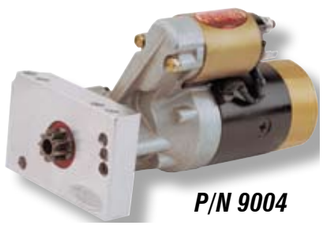
Starter Application Quick Guide

STOCK REPLACEMENT ⟵ ⟶ **HIGH PERFORMANCE**

Engine Manufacturer	Stock OEM	Stock/OEM Chrome	PMGR Upgrade/ Natural	PMGR Upgrade/ Chrome	PowerMAX 160 ft. lb. Natural	Hitachi Style 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 High Speed 200 ft. lb.	Ultra Torque 250+ ft. lb.
AMC Early All Except 4.0L									9515•	19515•		9415
Buick 350 Engine	3631		9202		9100	9000*	9004	9600•	9502	19502	9450	9400*
Buick 401, 430, 455 Engine	3631		9202						9511•	19511•		
Cadillac Early 368, 425, 472, 500	3631		9202		9100	9000*	9004	9600•	9502	19502	9450	9400*
Chevy Universal Straight Mnt (153 or 168 Tooth)					9100	9000*	9004	9600•	9540•		9450	9400*
Chevy 153 Tooth Flywheel	3631		9202		9100	9000*	9004	9600•	9502	19502	9450	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	9000*	9004	9600•	9500•	19500•	9450	9400*
Chevy 168 Tooth Flywheel (Staggered Mount)	3510	13511	9200	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•		9409
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	13124	9162	19162	9103			9603•	9503•	19503•	9453	9403*
Ford SB 289, 302, 351 W&C 3 & 4 sp M/T (3/8" Offset)	3132		9172	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 2008-92	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	9463	9413
Early Hemi 146 Tooth Flywheel									9530			
Early Hemi 172 Tooth Flywheel									9531			
Pontiac/Oldsmobile V-8	3555							9610•	9510•	19510•		9410*

* Also available in Chrome (add a "1" in front of the part number, i.e 19000)

•InfiCLOCK Starter



P/N 9004

P/N 9200

P/N 9406

P/N 9540

P/N 9162

P/N 19502

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*
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 9400

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
XS Torque	9511•	19511•	3.00	6.07	0.84	1.14	NA	8	200	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter

P/N 9600

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

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter

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*
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
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

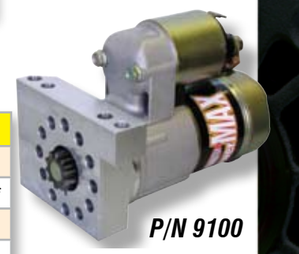
Chevy 153 Tooth Flywheel

			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
Ultra Torque HS	9450		3.16	7.49	0.86	0.98	NA	10.5	200	2.5
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 9100

P/N 9600

Chevy/ Pontiac LT1, All 153 Tooth

			Dimensions/Inch++					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
PowerMAX	9202		3.10	6.97	0.71	1.16	NA	8	160	1.4
XS Torque	9502	19502	3.00	6.05	0.86	1.14	NA	8	200	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 9502

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*
PowerMAX	9202		3.10	6.97	0.71	1.16	NA	8	160	1.4
XS Torque	9502	19502	3.00	6.05	0.86	1.14	NA	8	200	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 9202


P/N 9400

Chevy 168 Tooth Flywheel (Straight Mount)

			Dimensions/Inch++					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
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 HS	9450		3.16	7.49	0.86	0.98	NA	10.5	200	2.5
Ultratorque	9400	19400	3.16	7.49	0.86	0.98	NA	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							


P/N 9540

+See pages 6 & 7 for dimensional drawings

*Also available in P/N 9540

•InfiCLOCK Starter


P/N 9426


P/N 9200

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	13511	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
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							

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter


P/N 19200

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*
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							

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter

Starter Applications

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
XS Torque	9509•	19509•	3.00	6.12	0.79	1.14	NA	8	200	1.4
Ultratorque	9409		3.16	7.29	0.73	1.0	NA	10.5	250	2.5
*depends on battery resistance			**w/stock flywheel							


P/N 9509

•InfiCLOCK Starter

+See pages 6 & 7 for dimensional drawings

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*
PowerMAX	9201		3.10	6.76	0.71	1.16	NA	8	160	1.4
XS Torque	9509•	19509•	3.0	6.12	0.79	1.14	NA	8	200	1.4
*depends on battery resistance			**w/stock flywheel							


P/N 13124

•InfiCLOCK Starter

+See pages 6 & 7 for dimensional drawings

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
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 HS	9453		3.16	7.65	0.70	0.98	4.08	10.5	200	2.5
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							


P/N 9503

•InfiCLOCK Starter

+See pages 6 & 7 for dimensional drawings

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		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
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							


P/N 9172

•InfiCLOCK Starter

+See pages 6 & 7 for dimensional drawings

P/N 9405

Ford BB 351M, 400, 429, 460

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
PowerMAX	9182	19182	3.15	6.65	0.50	1.09	4.08	8	160	1.4
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

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter

P/N 9406

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
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

+See pages 6 & 7 for dimensional drawings

•InfiCLOCK Starter

P/N 19507

Ford Flatheads 1932 - 1952

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

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

Ford Flathead French Block

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
XS Torque	9508	19508	3.00	5.72	1.19	1.56	2.99	8	200	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 9508

Ford 4.6L 1992 - 2008

			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
XS Torque	9532	19532	3.00	6.63	0.56	1.26	2.99	8	200	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

Starter Applications

Ford 2300cc 4 Cyl.

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
PowerMAX	9180	19180	3.15	6.56	0.64	1.09	4.07	8	160	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 9532

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*
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

•InfiCLOCK Starter

+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*
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

•InfiCLOCK Starter

+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
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 HS	9463		3.16	7.29	1.00	1.13	2.80	10.5	200	2.5
Ultratorque	9413		3.16	7.29	1.00	1.13	2.80	10.5	250	2.5
*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*
XS Torque	9530		3.00	5.76	1.35	1.13	3.25	8	200	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

P/N 9610

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*
XS Torque	9531		3.00	5.76	1.43	1.13	3.25	8	200	1.4

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

Pontiac/Oldsmobile V-8

			Dimensions/Inch+					lbs	Ft-Lbs**	
	Natural	Chrome	A	B	C	D	E	Weight	Torque @ peak HP	Rated kw*
OE/Retro	3555									
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

•InfiCLOCK Starter

P/N 9534

Air-cooled VW / Porsche

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

*depends on battery resistance **w/stock flywheel

+See pages 6 & 7 for dimensional drawings

Bob Johnson's
Bonneville Salt Flat Caddy

Import/Sport Compact

Application Description	Natural
Acura Integra B18, 1.8L	
2001-92 All with M/T VTEC	9701
Del Sol	
1997-96 With VTEC	9701

P/N 9701

P/N 9514

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 9053

P/N 603

Racing Starters

Application Description	P/N:
Bert / Brinn Transmission (XS Torque)	9514
Mastertorque, Adjustable for Bert, Brinn, Falcon & Winters	9614
Bert / Brinn Transmission Late Model W/Adjustable Mount (XS Torque)	9529
Chevy 153-168T Straight Mount 2.0 kw Heavy Duty (180 ft lb)	9004
Ultra Torque for above App	9400
Chevy Drivers Side Mount 1.8kW 200ft Denso (XS Torque)	9518
Ultratorque, CCW Bellhousing Mount	9428
Ultratorque, Hemi Pro Stock 142 Tooth	9498
XS Torque, Adjustable Hemi (Race)	9527
XS Torque, Formula Ford (1600)	9520
XS Torque, Formula Ford (2000)	9522
1.4kW "Gravedigger" Starter	9519

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
Pinion/Gear for Denso (Ford Flathead) Starters	612
Solenoid Repair Kit	613
Solenoid Repair Kit (XS Torque)	614
Drive Return Spring	615
Clutch Assembly (XS Torque)	616
Shaft, XS torque	618
Pinion Retainer Kit, Denso	619
Shaft, Reverse Rotation, XS Torque	620
Mastertorque Clutch	621
XS Torque Clutch	622
Hitachi Spring & Retainer Kit	908

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.

P/N 9540

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.)

Why Does the starter crank slowly?

This condition can be caused by several things. The most common cause is excessively low input voltage, which can be caused by undersized starter cables, high resistance or defective battery, high resistance battery disconnect switches or poor connectors. If the input voltage to the starter is satisfactory (9 colts or higher), then a second possible cause could be an underpowered starter. It is important that the starter have the torque characteristics to handle the load of the engine. If the engine turns to slowly it may require a higher torque starter.

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.)

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	6-35
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	3-15

XS Volt for 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 -*** response time in milliseconds, compared to seconds for analog regulators
- ***Adjustable Voltage -*** adjustable between 13.5 and 18.5 volts. Great for 12V or 16V systems.
- ***Powerful, Reliable Internals -*** short circuit protection and loss of ground protection in a sealed, vibration resistant housing
- ***One Wire Operation -*** easy to connect, turns on and off with the engine

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 630-957-4019, or visit our website at www.powermastermotorsports.com.

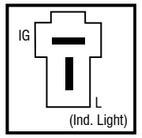
Close-up showing XS Volt regulator.

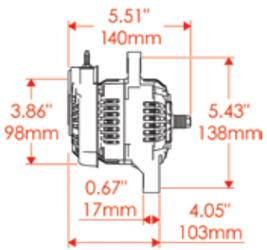
P/N 8078 Back

P/N 8138

Denso Style

- 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 Racing Alt. FAQ's)





Denso 93mm Alternators
50A Specifications
30A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 20,000
75A Specifications
7A @ 2,400 rpm @ 13.5 VDC @ 72F
Operating Range: -40C to 150C
Max rpm: 20,000

Denso 93mm Alternators	Finish		
	Polish	Natural	Black
50A w/jumper wire		8172	
50A for 16V systems		8176	
50A w/1V pulley	28162		
50A w/o pulley			8162
50A w/o pulley for 16V systems			8166
50A XS Volt™ XS			8168
75A w/o pulley			8182
75A XS Volt™ XS			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.

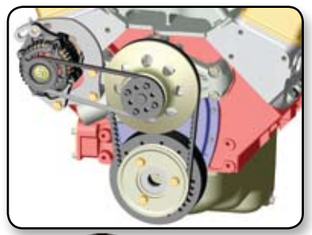
XS See page 19 for XS Volt information.

50A & 75A

P/N 8162
Weighs 5.80 lbs.
(2.63kg)

Denso Style 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.

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

Racing Alternators

Denso Style Pro Series Kits for Circle Track Cont.

Ford 9" Third Member

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

A customer supplied yoke pulley is required

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

Quick Change Kit

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

A customer supplied yoke pulley is required

Fits Winters & Richmond Rearends
This kit is 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.

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

Denso Style Pro Series Kits for Drag Racing

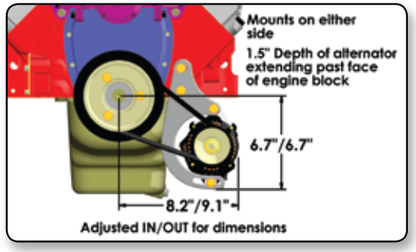
Solve low voltage problems with an easy to install Powermaster alternator kit. The "Pro Series Kits" include a one wire alternator with black thermal coat finish (50 or 100 amp), hard coated deep groove alternator and crank pulleys, belt and brackets.

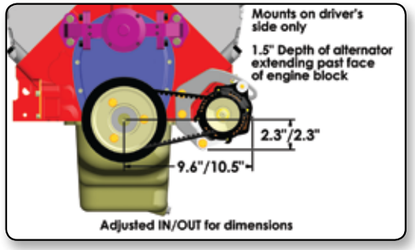
50 Amp Kits

Low Mount (for rail cars) Mounts on either side

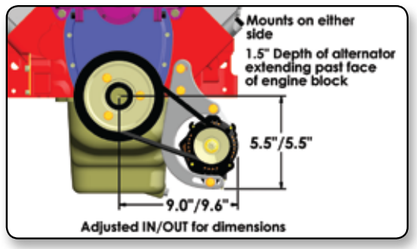
Snug Mount (for body cars)

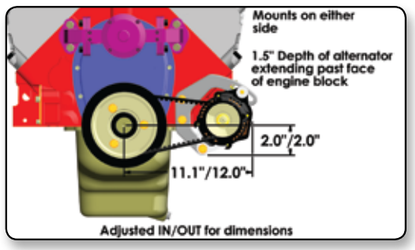
SBC





BBC





Kit 8-896 [SBC]
Contains:
Alt. 8162
Alt. Pulley 181
Crank Pulley 293
Bracket 896
Belt. 7270

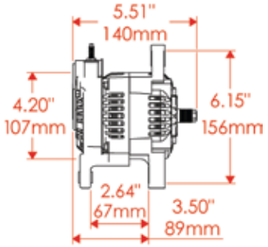
Kit 8-895 [BBC]
Contains:
Alt 8162
Alt. Pulley 181
Crank Pulley 295
Bracket 895
Belt 7270

Kit 8-875 [SBC]
Contains:
Alt 8162
Alt. Pulley 181
Crank Pulley 293
Bracket 875
Belt 7270

Kit 8-880 [BBC]
Contains:
Alt 8162
Alt. Pulley 181
Crank Pulley 295
Bracket 880
Belt 7292

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

Denso Style Cont.



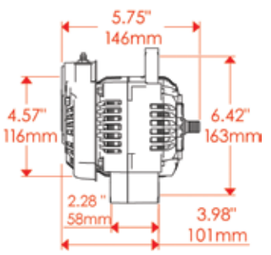
Denso 102mm Alternators
95A Specifications
30A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 20,000

Mounts in place of Bosch™ GCM1

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

Denso 102mm Alternators	Finish
	Black
95A w/o pulley "Bosch™ Mounting"	8122*
95A XS Volt™ w/o pulley "Bosch™ Mounting" XS	8128

*2,400 Alt. RPM Minimum



Denso 110mm Alternators
60A Specifications
35A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 20,000
95A Specifications
50A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 20,000

Denso 110mm Alternators	Finish	
	Natural	Black
95A w/o pulley		8132*
95A w/o pulley for 16V systems		8136*
95A XS Volt™ w/o pulley		8138*
60A w/1V pulley XS	8102	

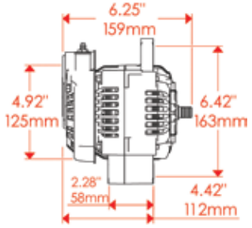
*2,400 Alt. RPM Minimum

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

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*

XS *See page 19 for XS Volt information.*



Denso 118mm Alternators
120A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 20,000
160A Specifications
70A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 20,000

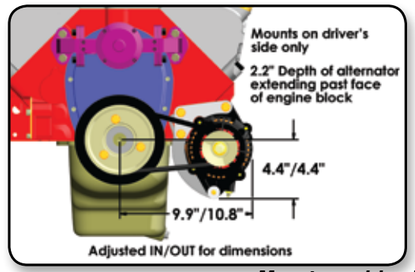
Denso 118mm Alternators	Finish
	Black
120A w/o pulley	8142
120A w/o pulley for 16V systems	8146
120A XS Volt™ w/o pulley XS	8148
160A w/o pulley	8152*
160A XS Volt™ w/o pulley XS	8158*

*2,400 Alt. RPM Minimum

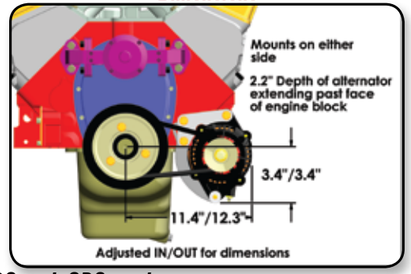
P/N 8142
Weighs 10.659 lbs. (4.845kg)

Low Mount Bracket Kits

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

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

Why is there a 2,400 RPM minimum for some 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.

XS *See page 19 for XS Volt information.*

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.

Delco CS121 Style

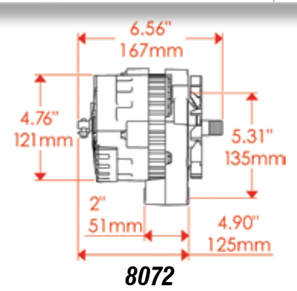
- True one wire hookup with set voltage of 14.6
- High output to weight ratio; excellent idle output
- Proof of Performance tag
- Gold Battery Post

CS121 Alternators
100A Specifications
60A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

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

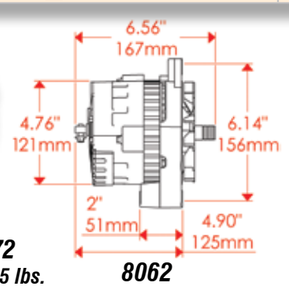
CS121 Alternators (8072)	Finish
	Black
100A w/o pulley	8072
100A w/o pulley for 16V systems	8076
100A XS Volt™ XS	8078

CS121 Alternators (8062)	Finish
	Black
100A w/o pulley	8062
100A w/o pulley for 16V systems	8066
100A XS Volt™ XS	8068



8072

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



8062

CS121 Pro Series Kits for Circle Tracks

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

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.

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).

BBC Low Mount P/N 897

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

8-897 Shown

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

XS See page 19 for XS Volt information.

Racing Alternators

CS121 Pro Series Kits for Drag Racing

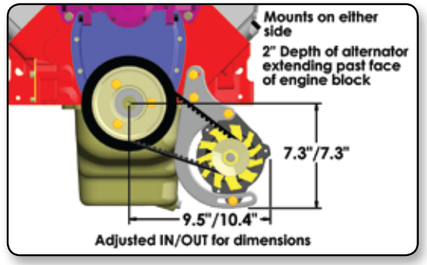
Solve low voltage problems with an easy to install Powermaster alternator kit. The "Pro Series Kits" include a one wire alternator with black thermal coat finish (50 or 100 amp), hard coated deep groove pulley and crank pulleys, belt and brackets.

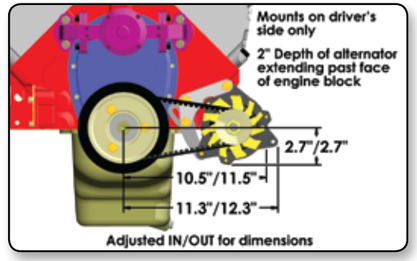
100 Amp Kits

Low Mount (for rail cars) Mounts on either side

Snug Mount (for body cars)

SBC





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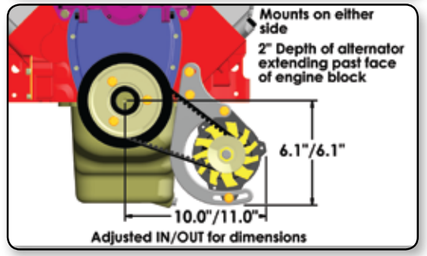
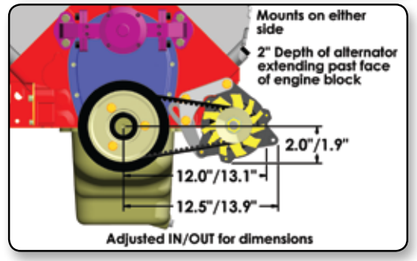




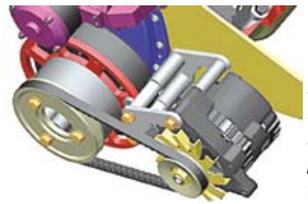
Kit 8-898 [SBC]
Contains:
Alt 8062
Alt. Pulley 181
Crank Pulley 293
Bracket 898
Belt 7292

Kit 8-897 [BBC]
Contains:
Alt 8062
Alt. Pulley 181
Crank Pulley 295
Bracket 897
Belt 7280

Kit 8-881 [SBC]
Contains:
Alt 8072
Alt. Pulley 181
Crank Pulley 293
Bracket 881
Belt 7280

Kit 8-882 [BBC]
Contains:
Alt 8072
Alt. Pulley 181
Crank Pulley 295
Bracket 882
Belt 7312

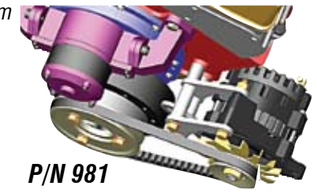
Motorplate Spacer Kit ***P/N 982***



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.

'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

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

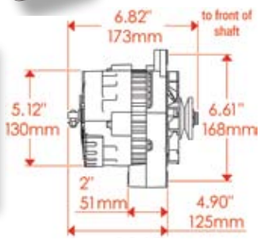
CS130 Style Race Prepped

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

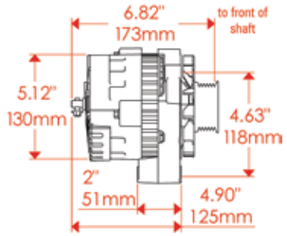
Delco CS130 Alternators
105A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

P/N 8012
Weighs 10 lbs.
(4.53kg)

CS130 Alternators (8012)	
	Natural
105A for 12V systems	8012
105A for 16V systems	8016
105A XS Volt™ XS	8018



8012



8022

CS130 Alternators (8022)	Finish
	Black
105A for 12V systems, 3 ear mount	8022

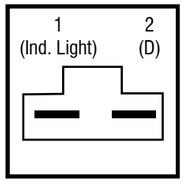
P/N 8022
Weighs 11 lbs.
(4.983kg)

What kind of charge wire should I use on my new Powermaster alternator?
Powermaster recommends the fine multi strand style typically found in welding stores. It is more flexible and can carry more current than the same gauge wire that is not fine strand. Various length of 4 and 8 guage wire available on page 60.

XS *See page 19 for XS Volt information.*

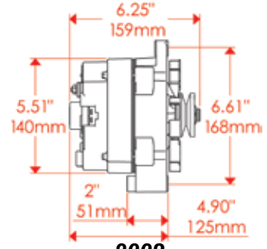
12si Style Race Prepped

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

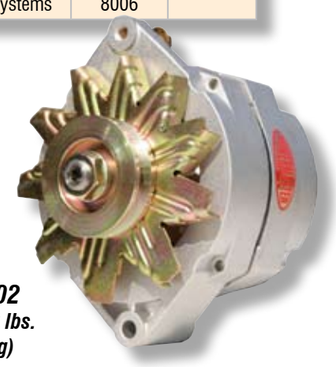


12si Alternators
80A Specifications
70A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
100A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

12SI Alternators (8002)	Finish	
	Natural	Black
80A w/1V pulley	8003	
80A Smooth Look™ w/1V pulley		8005
100A w/ 1V pulley	8002	
100A Smooth Look™ w/ 1V pulley for 16V systems	8006	



8002

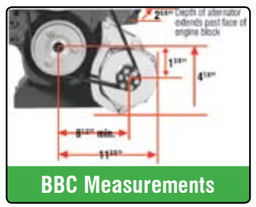


P/N 8002
Weighs 12 lbs.
(5.436kg)

GM 12si Low Mount Bracket

Bracket Description	P/N:
Natural SBC	885
Natural BBC	890

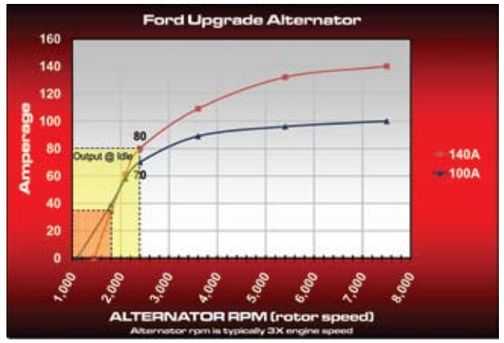
Mounts 12si style alternators and CS130 style alternators on either side of engine.

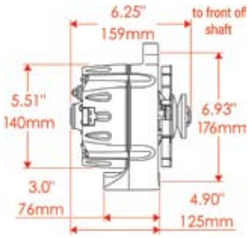

BBC Measurements


SBC Measurements

Ford Upgrade Race Prepped

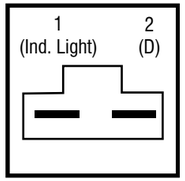
- Bolt-on early model upgrade
- One or three wire operation
- Gold battery post
- Proof of Performance tag
- 140A includes 7' of 8AWG wire
- 70 AMPS at idle for 100A Alternator
- 80 AMPS at idle for 140A Alternator
- Recommended charge wire size: 8 AWG

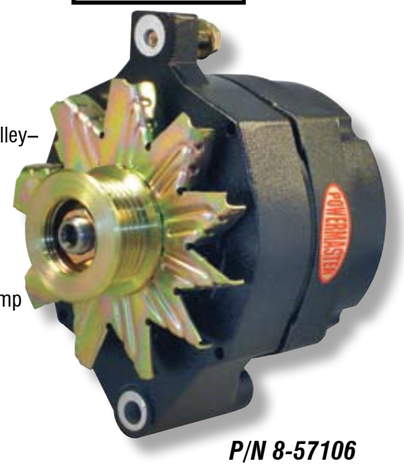




Ford Upgrade Alternators
100A Specifications
70A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
140A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

Ford Upgrade Alternators	Finish			
	Chrome	Polish	Natural	Black
100A w/6 grv pulley	8-37100	8-67100	8-47100	8-57100
100A w/6 grv pulley for 16V systems	8-37106	8-67106	8-47106	8-57106
140A w/6 grv pulley	8-37140	8-67140	8-47140	8-57140
140A w/6 grv pulley for 16V systems	8-37146	8-67146	8-47146	8-57146





P/N 8-57106

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

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

Dan Millen
Pro Outlaw 10.5 Mustang

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
4", 15mm Bore	185

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

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.

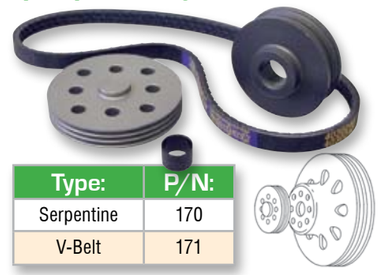
V-Belt Crank Pulleys

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.

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.

Waterpump Pulley for Circle Track

Type:	P/N:
Serpentine	173
V-Belt	174

Mike Sowards
IHRA T/S Grand Bend Winner

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. See page 60 for charge wires.

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.

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 much horsepower do I lose running an alternator?

You may not lose any horsepower at all!! In some situations the higher systems voltage of running an alternator will actually make more horsepower to the rear wheels.

Why do I need an alternator on my racecar?

There are several reasons to run an alternator. The number one reason is ease of maintenance. With an alternator there is no charging the battery. The alternator maintains the battery while on track and therefore charging in the pits is eliminated. Additionally, as the battery drains the voltage it produces goes down. A fully charges 12V battery has only 12.6 volts, while a 12V alternator can provide a consistant voltage of 13.5 to 14.5 volts. As the battery drains and the voltage drops below 12 volts, the components on your car no longer operate at their peak perfomance.

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
Air Suspension	10-40
Racing Accessories	**AMP DRAW**
Trans Brake	12-20
Throttle Stop	5-15
Electric Fans (each)	6-35
CDI Ignition	6-40
HEI Ignition	6-10
Nitrous Solenoid (each)	5-30
Electric Fuel Pumps	7-15

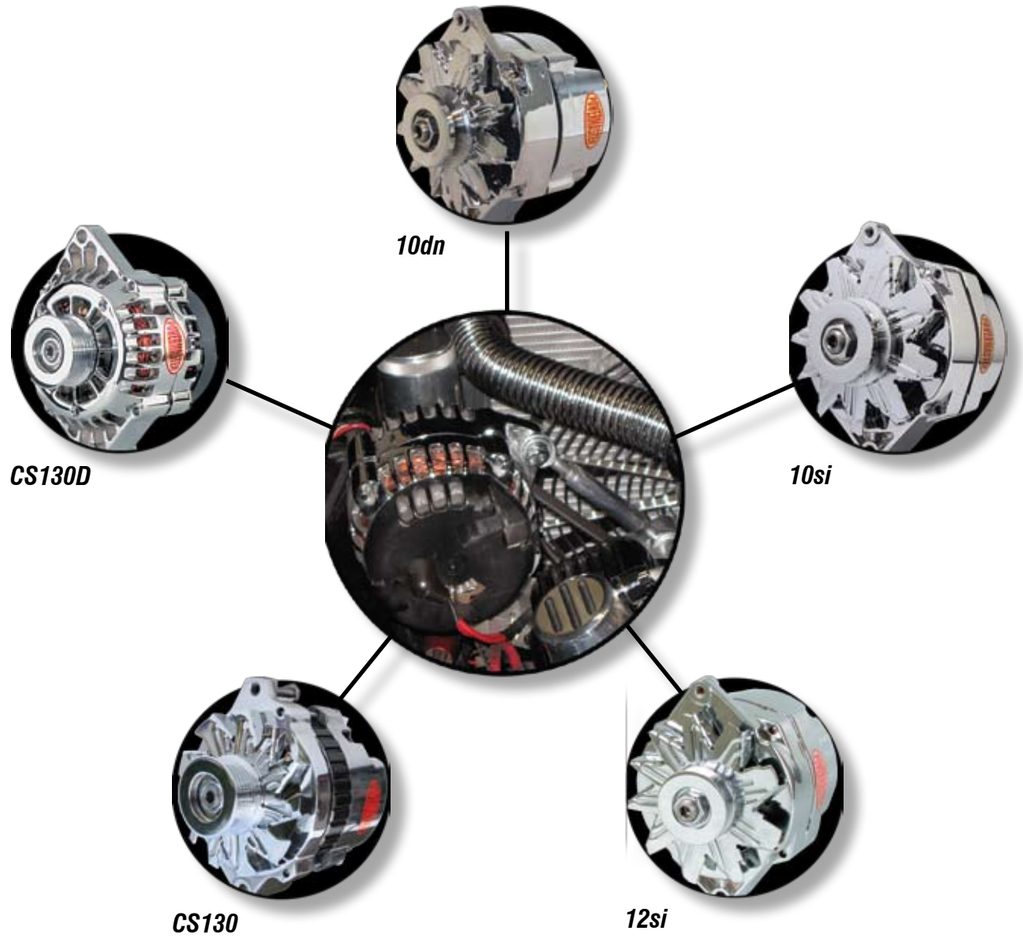
All hot rod alternators feature:

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

Street Rodder's 08 Tour Car

Additionally, Powermaster alternators feature show chrome finish. Powermaster uses the best in internal components to make the most efficient unit possible.

How to choose a hot rod alternator



GM has offered several series of alternators over the years, each time taking a step up in performance. The great thing about these alternators and aftermarket brackets is that for the most part they are interchangeable. Starting with the externally regulated 10dn alternator of the 1960s and moving all the way to the CS130D alternator of late, aftermarket brackets with rod end tensioners will interchange. The 2" mounting foot width is common to all of them and the 6.61" bolt spacing is common (except the CS130D. the CS130D is a 7.24" bolt spacing although many brackets will accommodate this.)

POWERGEN

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

Description	Finish		
GM PowerGEN (A)	Chrome	Polish	Black
75A GM Long, 12V	182051	282051	82051
GM PowerGEN (B)			
75A GM Short, 12V	182111	282111	82111
Ford PowerGEN (C)			
75A Ford '39~'48, 12V		282011	82011
75A Ford '39~'48 **6V** Pos. Grd		282016	82016
Ford PowerGEN (D)			
75A Ford Strap Mtg. '49~'53, 12V		282021	82021
75A Ford Strap Mtg. '49~'53 **6V** Pos. Grd		282026	82026
Ford PowerGEN (E)			
75A Ford Swing Mtg, 12V		282101	82101
75A Ford Swing Mtg **6V** Pos. Grd		282106	82106
Universal PowerGEN (F)			
75A "Universal", 12V		282091	82091
75A "Universal" **6V** Pos. Grd		282096	82096

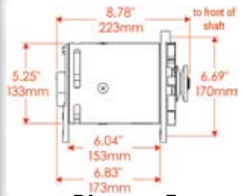


Diagram E

P/N 82101

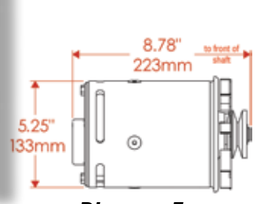


Diagram F

P/N 82091

Diagram A

Diagram B

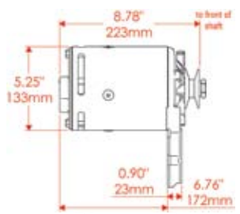


Diagram C

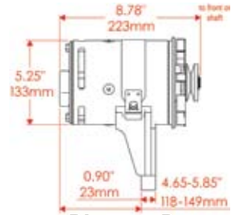


Diagram D

P/N 82051

P/N 282111

P/N 282011

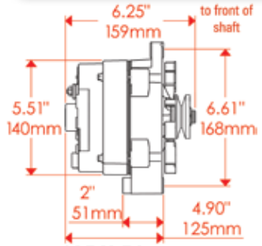
P/N 282021

10DN Style Alternators

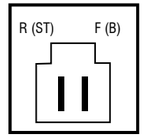
- Excellent output at idle
- Proof of Performance tag
- Retro style look

10DN Alternators	Finish	
	Chrome	Natural
65A	17102	7102

10DN Alternators
65A Specifications
40A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000



10DN Diagram



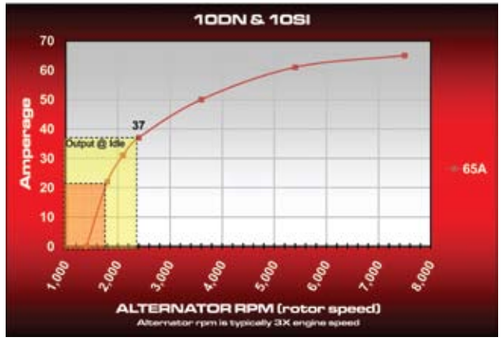
Externally Regulated

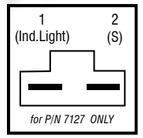
P/N 17102

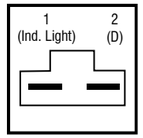
10si Style Alternators

- Excellent output at idle
- Proof of Performance tag

The Original GM One Wire

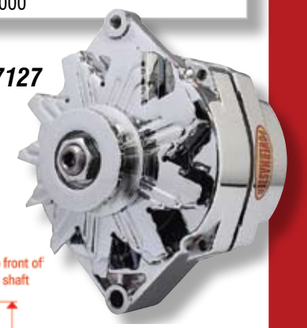




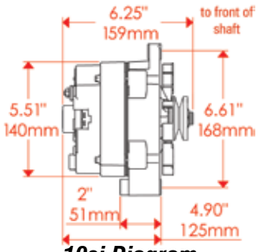


10si Alternators	Finish		
	Chrome	Polish	Natural
65A w/1V pulley	17127	27127	7127
100A w/1V pulley	37127		

10si Alternators
65A Specifications
40A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 16,000
100A Specifications
30A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 16,000



P/N 17127

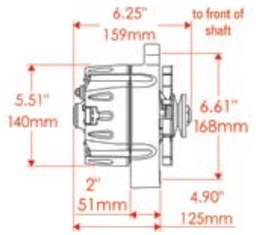


10si Diagram

Chevrolet/GM Alternators

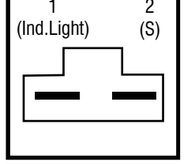
12si Style Alternators

- The Ultimate Custom Billet look at affordable prices
- Smooth die cast housing with teardrop design
- One or three wire
- Available in 100 and 140 amp output.
- Custom HV (high volume) fan - optional
- Largest selection of fans, pulleys, nose cones, and baffle plates in the industry
- Smooth back with special Powermaster vents for pull through cooling
- Gold battery post
- Available in 4 finishes
- Proof of performance tags



12si Diagram

12si Alternators
100A Specifications
70A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
140A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000



P/N 27295 Back

High Amp GM One Wire

12si Finishing Kits	
Description	**P/N**
Single V-Belt Pulley w/Smooth Cone, Chrome	304
Single V-Belt Pulley w/ 6 Hole Cone, Chrome	305
Single V-Belt Pulley w/ Smooth Cone, Polished	306
Singel V-Belt Pulley w/ 6 Hole Cone, Polished	307
Serpentine Pulley w/ Smooth Cone, Chrome	312
Serpentine Pulley w/ 6 Hole Cone, Chrome	313
Serpentine Pulley w/ Smooth Cone Polished	314
Serpentine Pulley w/ 6 Hole Cone, Polished	315
Baffle Plate, 140mm, Chrome	344
Baffle Plate w/ custom pulley cover, Chrome	361

P/N 17295-361

GM 12si Alternators	Finish			
	Chrome	Polish	Natural	Black
100A w/1V pulley	17294	27294	7294	
100A w/6 grv pulley	17294-114	27294-114		
100A w/1V pulley, baffle, & cone	17294-361	27294-361		
100A Smooth Look™ w/1V pulley & custom HV fan			7295	
100A Smooth Look™ w/1V pulley, custom HV fan, & cone	17295	27295		
100A Smooth Look™ w/1V pulley, custom HV fan, & 6 hole cone	17295-305	27295-303		
100A Smooth Look™ w/1V pulley, baffle, & cone	17295-361	27295-361		
100A Smooth Look™ w/6 grv pulley & custom HV fan			7296	
100A Smooth Look™ w/6 grv pulley, custom HV fan, & cone	17296	27296		
100A Smooth Look™ w/6 grv pulley, custom HV fan, & 6 hole cone	17296-311	27296-311		
100A Smooth Look™ w/6 grv pulley, & 6 hole cone	17296-313	27296-313		
100A Smooth Look™ w/6 grv pulley, baffle, & cone	17296-361	27296-361		
100A Smooth Look™ w/1V pulley	17297	27297		
100A Smooth Look™ w/6 grv pulley	17297-114	27297-114		
100A Smooth Look™ w/1V pulley & baffle	17297-344	27297-344		
100A Smooth Look™ w/6 grv pulley & baffle	17297-364	27297-364		
140A w/1V pulley	37293	67293		
140A w/6 grv pulley	37293-114	67293-114		
140A w/1V pulley, baffle, & cone	37293-361	67293-361		
140A w/1V pulley, baffle, & includes charge wire			47294	57294
140A w/1V pulley, baffle, 6 hole cone, & includes charge wire	37294	67294		
140A w/6 grv pulley, baffle, 6 hole cone, & includes charge wire	37294-114	67294-114		
140A Smooth Look™ w/1V pulley & custom HV fan			47295	57295
140A Smooth Look™ w/1V pulley, custom HV fan, & cone	37295	67295		
140A Smooth Look™ w/6 grv pulley, custom HV fan, &cone	37295-114	67295-114		
140A Smooth Look™ w/1V pulley, custom HV fan, & 6 hole cone	37295-305	67295-303		
140A Smooth Look™ w/1V pulley, baffle, & cone	37295-361	67295-361		
140A Smooth Look™ w/6 grv pulley & custom HV fan			47296	
140A Smooth Look™ w/6 grv pulley, custom HV fan, & cone	37296	67296		
140A Smooth Look™ w/6 grv pulley, custom HV fan, & 6 hole cone	37296-313	67296-311		
140A Smooth Look™ w/6 grv pulley, baffle, & cone	37296-361	67296-361		
140A Smooth Look™ w/1V pulley	37297	67297		
140A Smooth Look™ w/6 grv pulley	37297-114	67297-114		
140A Smooth Look™ w/1V pulley & baffle	37297-344	67297-344		
140A Smooth Look™ w/6 grv pulley & baffle	37297-364	67297-364		

Customize your alternator with these accessories!

P/N 110

P/N 114

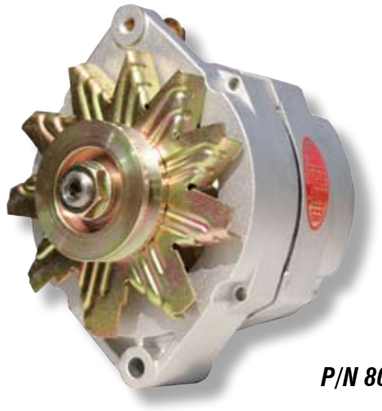
P/N 1-84

P/N 367

P/N 370

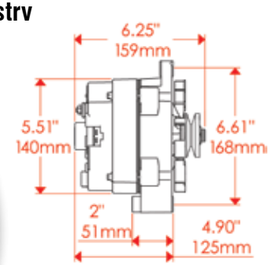
12si Style Alternators - Traditional/Classic

- One or three wire
- Available in 100 and 140 amp output.
- Largest selection of custom fans, pulleys, nose cones, and baffle plates in the industrv
- Gold battery post
- Available in 4 finishes
- Proof of performance tags
- See Page 37 for Specs and P/N's



P/N 8002

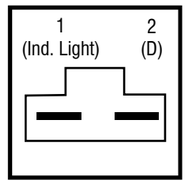
P/N 57294



12si Diagram

17si Style Alternators

- Excellent output at idle
- Proof of Performance tag



17si Alternators
120A Specifications
85A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

GM 17SI Alternators	Finish	
	Chrome	Natural
120A w/1V pulley	17290	7288
120A w/6 grv pulley	17290-114	

P/N 17290-114

17si Diagram

CS121 Style Alternator

- 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

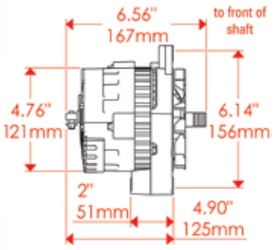
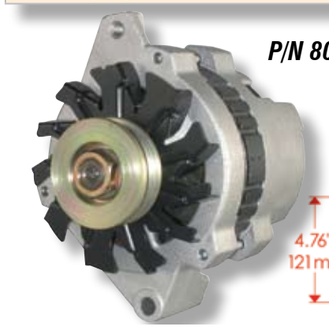


Diagram A

CS121 Alternators
75A Specifications
60A @ 2,400 rpm @ 7.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
100A Specifications
60A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

CS121 Alternators (A)	Finish		
	Chrome	Natural	Black
75A w/1V pulley		8060	
100A w/1V pulley	18062		8062

P/N 8060



P/N 179261

CS121 Alternators (B)	Finish	
	Chrome	Polish
100A w/One wire VR	179261	279261
100A w/One wire VR & 6 grv pulley	179261-114	

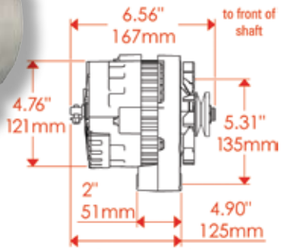
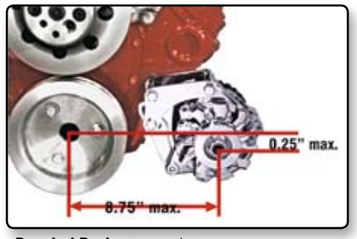


Diagram B

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

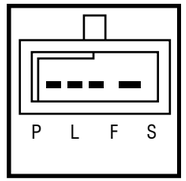
Note: Brackets are available separately.

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 28 for more info.

CS130 Style Alternators

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



Delco CS130 Alternators
105A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
140A Specifications
90A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

CS130 Alternators (A) Staight Mount	Finish			
	Chrome	Polish	Natural	Black
105A w/ 6 grv pulley	17801	27801		
105A w/One wire VR & 1V pulley	178011	278011		
105A w/One wire VR & 6 grv pulley	178011-114			
140A	37801	67801	47801	57801
140A w/One wire VR & 1V pulley	378011			
140A XS Volt™ XS	378018		478018	578018
140A w/ unthreaded adj. flange			48137	58137

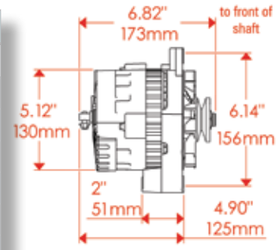
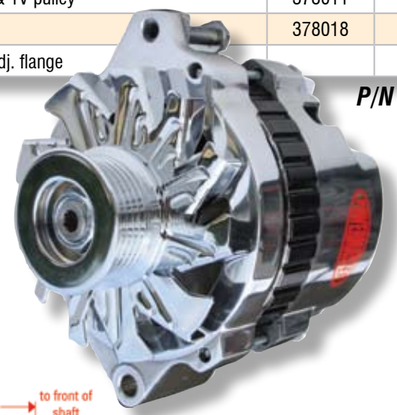


Diagram A

P/N 27801



P/N 37401 Back

CS130 Alternators (B) Staight Mount	Finish			
	Chrome	Polish	Natural	Black
105A w/side BAT post & One wire VR	174011	274011		
140A w/side BAT post, three wire VR, & 6 grv pulley	37401	67401	47401	57401
140A w/side BAT post, one wire VR, & 1V pulley	374011	674011	474011	574011

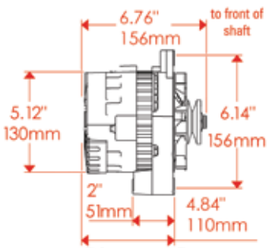


Diagram B

XS See page 19 for XS Volt information.

Chevrolet/GM Alternators

CS130 Alternators (C) Staight Mount	Finish			
	Chrome	Polish	Natural	Black
105A w/ 6 grv pulley	17802	27802	7802	
105A w/6 grv pulley, baffle, and pulley cover	17802-362	27802-362		
105A w/One wire VR & 1V pulley	178021	278021		
105A w/One Wire VR, 1V pulley, baffle, and pulley cover	178021-362	278021-362		
105A w/ unthreaded adj. flange	17803		7803	
140A w/6 grv pulley	37802	67802	47802	57802
140A w/6 grv pulley, baffle, and pulley cover	37802-362	67802-362		
140A w/One wire VR & 1V pulley	378021	678021	478021	578021
140A w/One Wire VR, 1V pulley, baffle, and pulley cover	378021-362	678021-362		
140A w/One wire VR for 16V systems			478026	
140A XS Volt™ XS	378028		478028	578028
140A XS Volt™ & w/1V pulley, baffle, and pulley cover XS	378028-362			
140A w/ unthreaded adj. flange	37803		47803	57803
140A XS Volt™ w/ unthreaded adj. flange XS	378038		478038	

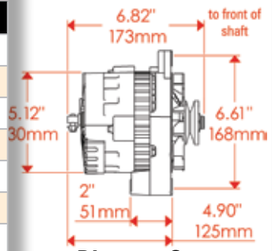


Diagram C

P/N 17802

CS130 Alternators (D) Staight Mount	Finish			
	Chrome	Polish	Natural	Black
140A w/side BAT post & 6 grv pulley	37402	67402	47402	57402
140A w/side BAT post, One wire VR, & 1V pulley	374021	674021	474021	574021

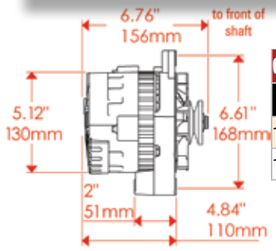
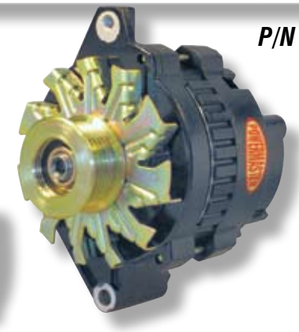


Diagram D

P/N 57402



P/N 37860

TECH TIP::

CS130 Alternator group 7802 & 7402 can mount in the same mounting location as the 12si.

CS130 Alternators (E) Right Mount	Finish			
	Chrome	Polish	Natural	Black
105A	17860	27860	7860	
105A w/One wire VR & 1V pulley	178601	278601		
140A	37860	67860	47860	57860
140A w/One wire VR & 1V pulley	378601	678601	478601	
140A w/ unthreaded adj. flange	37910		47910	57910
140A XS Volt™ XS	378608		478608	578608

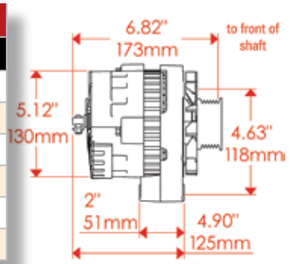


Diagram E

XS See page 19 for XS Volt information.

CS130 Style Alternators Cont.

CS130 Alternators (A) Right Mount	Finish			
	Chrome	Polish	Natural	Black
140A w/side BAT post & 6 grv pulley	37460	67460	47460	57460
140A w/side BAT post, One wire VR, & 1V pulley	374601	674601	474601	574601

P/N 374601

P/N 37861

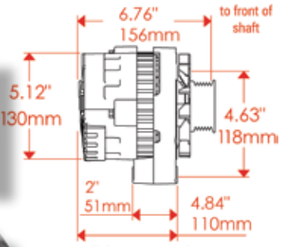


Diagram A

CS130 Alternators (B) Left Mount	Finish			
	Chrome	Polish	Natural	Black
105A w/ 6 grv pulley	17861	27861	7861	
105A w/6 grv pulley, baffle, and pulley cone	17861-362	27861-362		
105A w/One wire VR & 1V pulley	178611	278611		
105A w/1V pulley, baffle, and pulley cone	178611-362	278611-362		
140A w/ 6 grv pulley	37861	67861	47861	57861
140A w/side BAT post, 1V pulley, baffle, and pulley cover	37861-362			
140A w/One wire VR & 1V pulley	378611	678611	478611	
140A w/side BAT post, One wire VR, 1V pulley, baffle, and pulley cover	378611-362			
140A XS Volt™ w/1V pulley XS	378618		478618	578618
140A XS Volt™ w/1V pulley, baffle, and pulley cover XS	378618-362			
140A w/unthreaded adj. flange			47902	57902

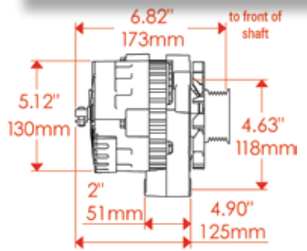


Diagram B

P/N 174611

CS130 Alternators (C) Left Mount	Finish			
	Chrome	Polish	Natural	Black
105A w/side BAT post & Three wire VR	17461	27461	7461	
105A w/side BAT post, 1V pulley, baffle, and pulley cover	17461-362	27461-362		
105A w/side BAT post, One wire VR, & 1V pulley	174611	274611	74611	
105A w/side BAT post, One wire VR, 1V pulley, baffle, and pulley cover	174611-362	274611-362	74611-362	
140A w/side BAT post & 6 grv pulley	37461	67461	47461	57461
140A w/side BAT post, 6 grv pulley, baffle, and pulley cover	37461-362			
140A w/side BAT post & One wire VR	374611	674611	474611	574611
140A w/side BAT post, One wire VR, 1V pulley, baffle, and pulley cover	374611-362			

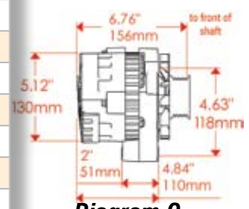
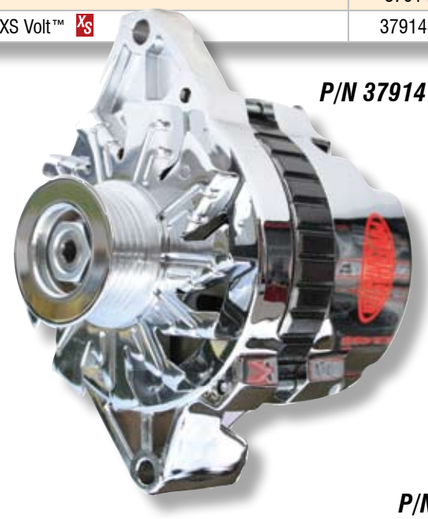


Diagram C

XS See page 19 for XS Volt information.

Chevrolet/GM Alternators

CS130 Alternators (D)	Finish		
	Chrome	Natural	Black
105A	17914		
140A	37914	47914	57914
140A XS Volt™ XS	379148	479148	579148



P/N 37914

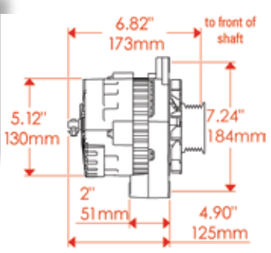
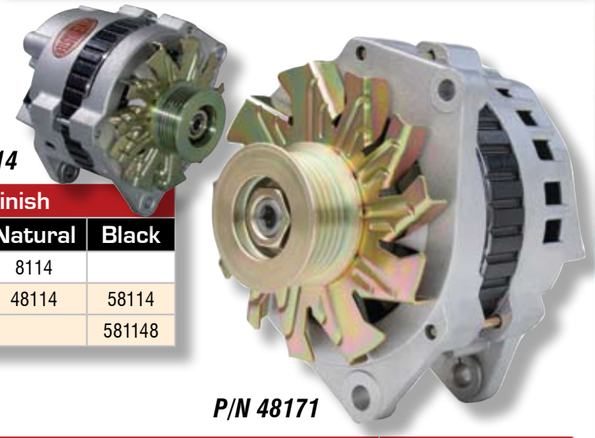


Diagram D

Delco CS130 Alternators	Finish	
	Natural	Black
140A	48107	58107
140A XS Volt XS		581078

CS130 Alternators	Finish		
	Chrome	Natural	Black
105A	18114	8114	
140A	38114	48114	58114
140A XS Volt XS	381148		581148



P/N 48114

P/N 48171

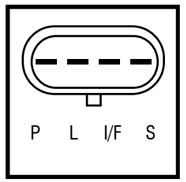
CS130 Alternators	Finish	
	Natural	Black
140A	48171	58171

Ron Main & George Poteet
Speed Demon

XS See page 19 for XS Volt information.

CS130D Style Alternators

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



Delco CS130D Alternators
115A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
150A Specifications
85A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

CS130D Alternators (A)	Finish		
	Chrome	Polish	Natural
115A Straight Mtg w/ 6 grv pulley, w/PLFS VR	18207	28207	8207
115A Straight Mtg w/ 6 grv pulley & One wire VR	182071	282071	82071
150A Straight Mtg w/ 6 grv pulley, w/PLFS VR			48207
150A Straight Mtg w/ 6 grv pulley & One wire VR			482071

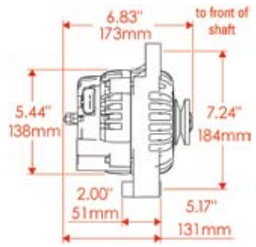


Diagram A

P/N 18207

P/N 38208

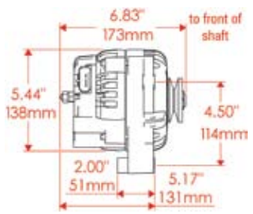


Diagram B

Delco CS130D Alternators (B)	Finish			
	Chrome	Polish	Natural	Black
115A Offset left, 2:00, w/ PLIS VR	18208	28208	8208	
115A Offset left, 2:00, w/ One wire VR	182081	282081	82081	
150A Offset left, 2:00, w/ PLIS VR	38208	68208	48208	58208

CS130D Alternators (C)	Finish			
	Chrome	Polish	Natural	Black
115A 5:00, w/6 grv pulley & PLIS VR	18206	28206	8206	
115A w/6 grv pulley & PLFS VR	18231	28231		
115A w/6 grv pulley, PLIS VR, and special air duct			8242	
150A 5:00, w/6 grv pulley & PLIS VR	38206	68206	48206	58206
150A 5:00, w/6 grv pulley & One wire VR	382061			
150A w/6 grv pulley & PLFS VR	38231	68231	48231	58231
150A 1:00, w/6 grv pulley & PLFS VR			48283	

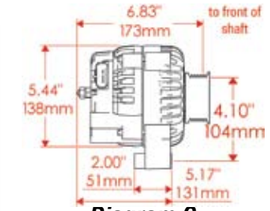


Diagram C

P/N 38206

P/N 48229

CS130D Alternators	Finish			
	Chrome	Polish	Natural	Black
115A Side mtg, 7:00, w/ PLIS VR	18229	28229		
150A Side mtg, 7:00, w/ PLIS VR	38229	68229	48229	58229

P/N 48233

Delco CS130D Alternators	Finish			
	Chrome	Polish	Natural	Black
115A Offset left, 8:00, w/ PLFS VR	18233	28233		
150A Offset left, 8:00, w/ PLFS VR	38233	68233	48233	58233

Denny Terzich
'67 Camaro

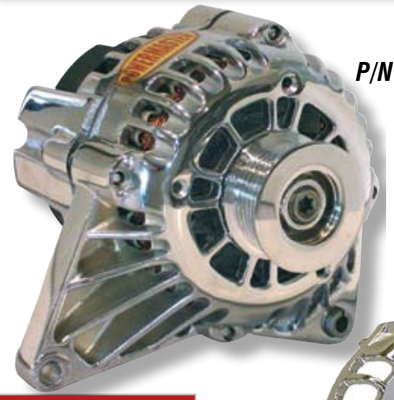
CS130D Style Alternators Cont.

CS130D Alternators	Finish	
	Natural	Black
150A Side mtg, 7:00, w/ 6 grv pulley & PLFS VR	48230	58230

P/N 58230

P/N 48243

CS130D Alternators	Finish	
	Natural	Black
150A Side mtg, 4:30, w/ 62mm 6 grv pulley & PLFS VR	48243	58243



P/N 38272

CS130D Alternators	Finish			
	Chrome	Polish	Natural	Black
115A 3.8L “Camaro”, w/PLFS VR	18272	28272		
150A 3.8L “Camaro”, w/PLFS VR	38272	68272	48272	58272

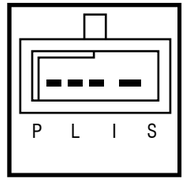
P/N 109
Chrome Rear Cover for CS130D alternators

Vince Sica
‘62 Corvette

Chevrolet/GM Alternators

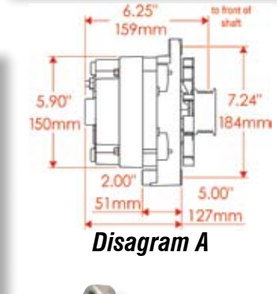
CS144 Style Alternators

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



CS144 Alternators
140A Specifications
95A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 16,000
200A Specifications
125A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 16,000

CS144 Alternators (A)	Finish			
	Chrome	Polish	Natural	Black
140A	17805		7805	
140A w/One wire VR	178051			
140A XS Volt™ XS	178058			
140A w/M10x1.50 adj. flange	17806		7806	
140A w/One wire VR & M10x1.50 adj. flange	178061			
140A for Corvette, etc.	17864		7864	
140A for Impala, unthreaded adj. flange	18112	28112		
200A	37805		47805	57805
200A w/One wire VR	378051			
200A XS Volt™ XS	378058		478058	578058
200A w/M10x1.50 adj. flange	37806	67806	47806	57806
200A w/M10x1.50 adj. Flange for 16V systems			478066	
200A XS Volt™ w/M10x1.50 adj. flange XS	378068		478068	578068
200A for Corvette, etc.	37864		47864	57864
200A XS Volt for Corvette, etc. XS	378648		478648	578648
200A w/unthreaded DE for Impala, etc.	38112	68112	48112	58112
200A XS Volt™ w/unthreaded DE for Impala, etc. XS	381128		481128	581128
200A w/M10x1.50 adj. flange & “Impala” SRE	38163		48163	
SPL Competition alternators				
300A XS Volt™ **NOTE: Competition Only** XS			478068SPL	



Disagram A

P/N 47806

XS *See page 19 for XS Volt information.*

Hallgren Racing
Baja Truck

CS144 Style Alternators Cont.

Diagram A

P/N 48203

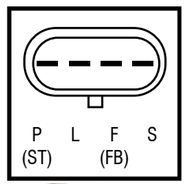
CS144 Alternators (A)	Finish			
	Chrome	Polish	Natural	Black
140A			8219	
140A XS Volt™ XS			82038	
200A w/PLFS computer compatible VR	38202	68202	48202	58202
200A	38203		48203	58203
200A XS Volt™ XS	382038		482038	582038
SPL Competition alternators				
300A XS Volt™ **NOTE: Competition Only** XS			482038SPL	

P/N 482038SPL

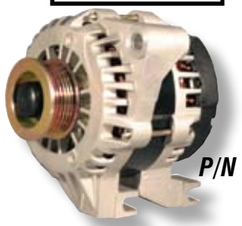
XS *See page 19 for XS Volt information.*

AD237 Style Alternators

- 200A output for 3.4L, 3.5L, and 3.8L GM
- Excellent output at idle at 125A
- Heavy duty rectifier and regulator
- High temperature windings
- Dual internal fans for high efficiency and excellent cooling
- Proof of Performance tag



AD237 Alternators
200A Specifications
125A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000



P/N 48278

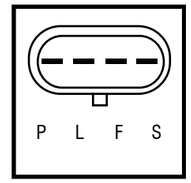
P/N 48286

AD237 Alternators	Finish
	Natural
200A	48286

AD237 Alternators	Finish
	Natural
200A	48278

AD244 Style Alternators

- 225A output for late model GM
- Superior output at idle, a whopping 140A!
- Heavy duty rectifier and regulator
- High temperature windings
- Dual internal fans for high efficiency and excellent cooling
- Late model compatibility w/ remote voltage control
- Proof of Performance tag



AD244 Alternators
145A Specifications
125A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
225A Specifications
135A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

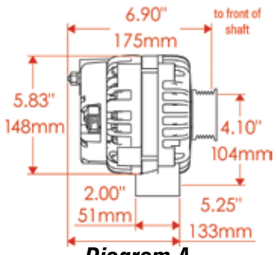


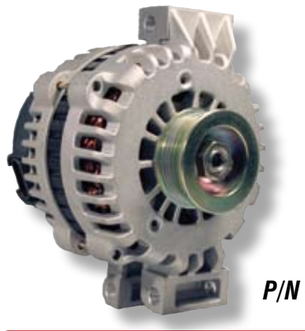
Diagram A

AD244 Alternators (A)	Finish			
	Chrome	Polish	Natural	Black
145A w/4 pin VR	18237	28237		
225A w/ 4 pin VR		68237	48237	58237

P/N 18237

P/N 48290

AD244 Alternators	Finish
	Natural
225A Saddle Mtg w/4 pin VR	48290



P/N 48302

AD244 Alternators (B)	Finish
	Natural
225A w/2 pin VR	48302

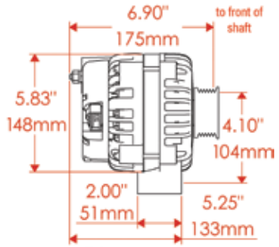
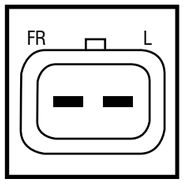
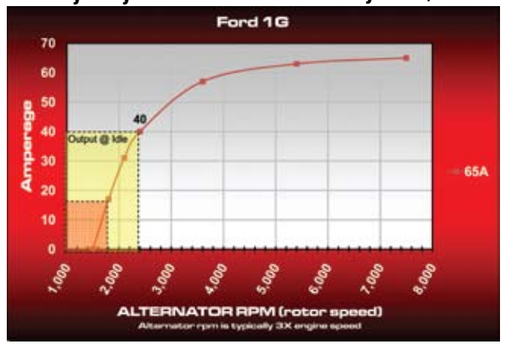


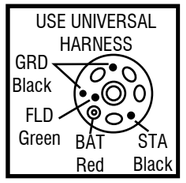
Diagram B



1G Style Alternators

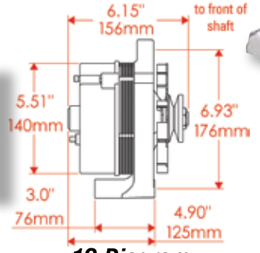
- Externally regulated
- Heavy duty rectifier
- Proof of Performance tag
- Early OEM/Retro Look





Ford 1G Alternators	Finish	
	Chrome	Natural
65A w/1V pulley	17078	7078
65A w/1V pulley & One wire VR	170781	

Ford 1G Alternators
65A 1G Specifications
40A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

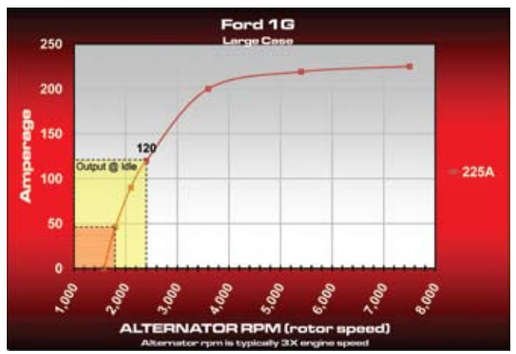


1G Diagram

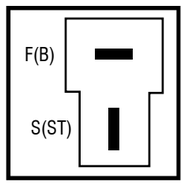
P/N 17078

Large Case Alternators

- Excellent Output at idle
- Dual Output; battery isolator built in
- Heavy duty external regulator included



P/N 47704



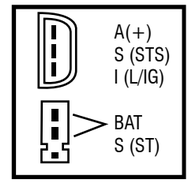
Ford Large Case Alternators
225A Specifications
125A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 16,000

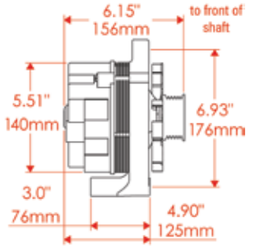
Ford Large Case Alternators	Finish	
	Natural	Black
225A w/ 6 grv pulley	47704	57704

2G Style Alternators

- Internally regulated
- Heavy duty rectifier
- Proof of Performance tag
- Early OEM/Retro Look

Ford 2G Alternators	Finish
	Chrome
80A w/ 6 grv pulley	17735





2G Diagram

Ford 2G Alternators
80A 2G Specifications
55A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

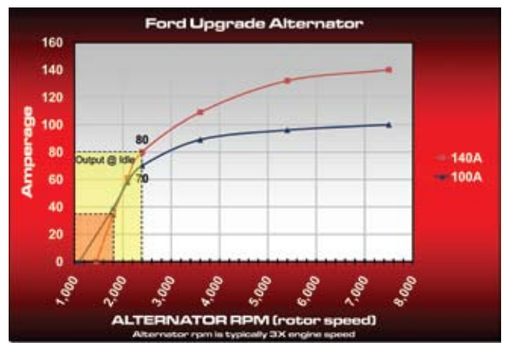
P/N 17735

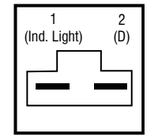
Ford Upgrade Alternators

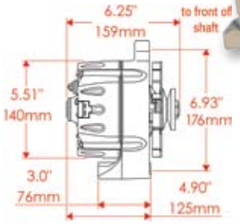
- Bolt-on early model upgrade
- One or three wire operation
- Gold battery post
- Proof of Performance tag
- 140A includes 7' of 8AWG wire
- 70 AMPS at idle for 100A Alternator
- 80 AMPS at idle for 140A Alternator
- Recommended charge wire size: 8 AWG

Fits 5.0 Mustangs

P/N 8-67100







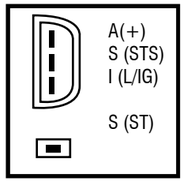
Ford Upgrade Alternators	Finish			
	Chrome	Polish	Natural	Black
100A w/6 grv pulley	8-37100	8-67100	8-47100	8-57100
100A w/6 grv pulley & baffle	8-37100-344	8-67100-344		
100A w/1V pulley	8-37101	8-67101	8-47101	8-57101
100A w/1V pulley & baffle	8-37101-344	8-67101-344		
140A w/6 grv pulley	8-37140	8-67140	8-47140	8-57140
140A w/6 grv pulley & baffle	8-37140-344	8-67140-344		
140A w/1V pulley	8-37141	8-67141	8-47141	8-57141
140A w/1V pulley & baffle	8-37141-344	8-67141-344		

Ford Upgrade Alternators
100A Specifications
70A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
140A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

Brackets available on page 28.

3G Style Alternators

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



Ford 3G Alternators
100A Specifications
58A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
130A Specifications
90A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
130A Specifications
125A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

Ford 3G Small Alternators (A)	Finish		
	Chrome	Polish	Natural
100A Str mtg w/6 grv pulley & One wire VR	177491	277491	77491

P/N 277491

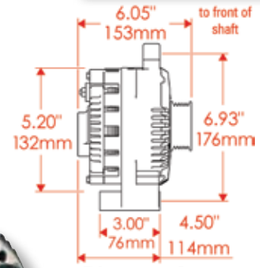


Diagram A

P/N 47759

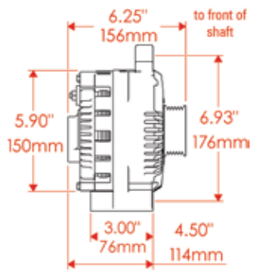


Diagram B

Ford 3G Large Alternators (B)	Finish			
	Chrome	Polish	Natural	Black
130A Str mtg, unthreaded	17771	27771		
130A Str mtg w/ One wire VR unthreaded	177711	277711	77711	
130A Str mtg M8x1.25 w/ adaptor harness			47757	
130A Str mtg M8x1.25			47758	57758
130A Str mtg M8x1.25 w/ One wire VR			477581	
200A Str mtg w/ adaptor harness	37759		47759	57759
200A Str mtg M8x1.25			47760	57760
200A Str mtg, unthreaded	37771	67771	47771	57771
200A Str mtg w/ One wire VR, unthreaded	377711	677711	477711	577711

Ford 3G Large Alternators	Finish		
	Chrome	Natural	Black
130A		47753	57753
130A w/ One wire VR	177531	477531	

P/N 47753

P/N 47761

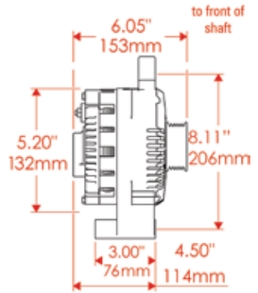


Diagram C

Ford 3G Large Alternators (C)	Finish	
	Natural	Black
200A Str long mtg, 7:00, w/ 6 grv pulley	47752	57752
200A Str long mtg, 3:00, w/ 6 grv pulley	47761	57761

Ford 3G Large Alternators	Finish		
	Chrome	Natural	Black
200A w/8 grv pulley & I-S-A Terminals	37763	47763	57763
200A w/6 grv pulley & I-S-A Terminals	37764	47764	57764

P/N 47764

P/N 47768

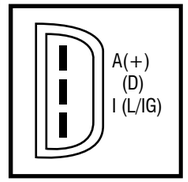
Ford 3G Large Alternators	Finish	
	Chrome	Natural	Black
130A Transverse mtg w/8 grv pulley		47747	57747
	177501		
130A Transverse mtg w/6 grv pulley		47750	57750
130A Transverse mtg w/6 grv pulley & One wire VR		477501	
200A Tranverse mtg w/8 grv pulley		47767	57767
200A Tranverse mtg w/6 grv pulley	37768	47768	57768

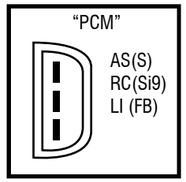
Ford 3G Large Alternators	Finish	
	Natural	Black
200A 2.5L Cougar w/6 grv pulley	47775	57775

P/N 47775

4G Style Alternators

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





Ford 4G Alternators
130A Specifications
100A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
200A Specifications
125A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

Ford 4G Alternators	Finish			
	Chrome	Polish	Natural	Black
130A w/6 grv pulley & I-D-A Terminals	17781	27781	7781	
200A w/6 grv pulley & I-D-A Terminals	37781		47781	57781
200A w/8 grv pulley & I-D-A Terminals "Lightning"	38251		48251	58251
200A w/6 grv pulley & PCM VR (LI-RC-AS Terminals)	38313		48313	58313

P/N 37781

P/N 47787

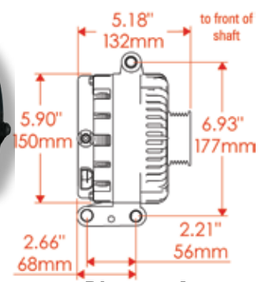


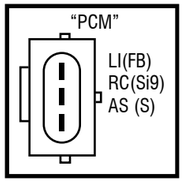
Diagram A

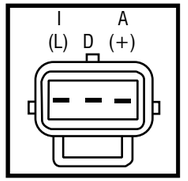
Ford 4G Alternators (A)	Finish	
	Natural	Black
130A Transverse Mtg w/6 grv pulley & I-D-A Terminals	7787	
200A Transverse Mtg w/6 grv pulley & I-D-A Terminals	47787	57787

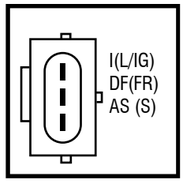
Rad Rides by Troy
First Love, 07 Ridler Award Winner

6G Style Alternators

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







Ford 6G Alternators
110A Specifications
75A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
135A Specifications
105A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
150A Specifications
93A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
225A Specifications
125A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

Ford 6G Small Alternators	Finish			
	Chrome	Polish	Natural	Black
110A 4.6L SOHC "Mustang", Gray VR w/I-D-A	18252	28252		
150A 4.6L SOHC "Mustang", Gray VR w/I-D-A	38252	68252	48252	58252

P/N 38252

P/N 48260

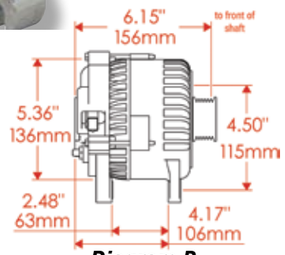


Diagram B

Ford 6G Small Alternators (B)	Finish	
	Natural	Black
150A 2.0L "Cougar", White/Orange VR w/I-FR-A	48250	58250
150A 2.0L Zetec "Focus", White VR w/FR-SIG-A	48260	58260

6G Style Alternators Cont.

Ford 6G Large Alternators	Finish			
	Chrome	Polish	Natural	Black
135A "V" Mount, Gray VR w/I-D-A	17795	27795		
225A "V" Mount, Gray VR w/I-D-A	37795	67795	47795	57795
225A "V" Mount, White VR w/FR-SIG-A			48315	58315
225A "V" Mount, White/Orange VR w/I-FR-A			48305	

P/N 37795

P/N 47796

Ford 6G Small Alternators	Finish			
	Chrome	Polish	Natural	Black
110A Transverse Mtg. For 7.3L, Gray VR w/I-D-A	17796	27796		
150A Transverse Mtg. For 7.3L, Gray VR w/I-D-A	37796	67796	47796	57796
150A 2.5L "Cougar", White/Orange VR w/I-FR-A			48254	58254

Ford 6G Small Alternators	Finish
	Natural
150A Offset Mtg, White VR w/FR-SIG-A	48256

P/N 48256

Ford 6G Small Alternators	Finish
	Natural
150A Str. Mtg, White/Orange VR w/I-FR-A	48263

P/N 48263

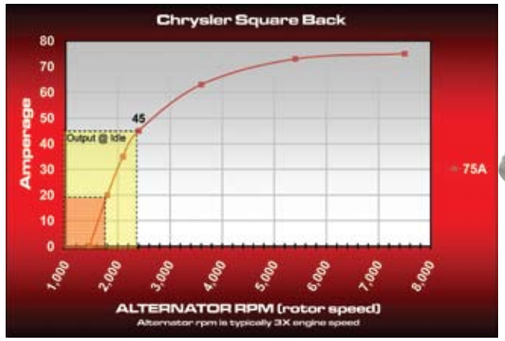
P/N 48253

Ford 6G Small Alternators	Finish
	Natural
150A Transverse mtg w/8 grv pulley & I-D-A Terminals	48317

Ford 6G Large Alternators	Finish
	Natural
225A Side Mount w/8 grv pulley, Gray VR w/I-D-A	48478
225A Side Mount w/6 grv pulley, White/Orange VR w/I-FR-A	48259
225A Side Mount w/6 grv pulley, White VR w/FR-SIG-A	48253

Chrysler Alternators

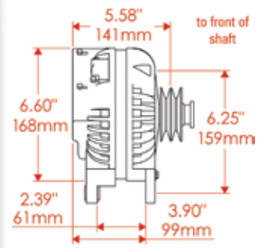
- Excellent idle output
- Heavy duty rectifier
- External Regulator not included (excpet one wires)
- Proof of Performance tag

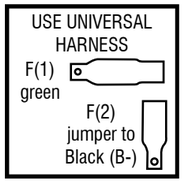


Chrysler Alternators
75A Specifications
45A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 16,000
140A Specifications
80A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
170A Specifications
110A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000

P/N 7509

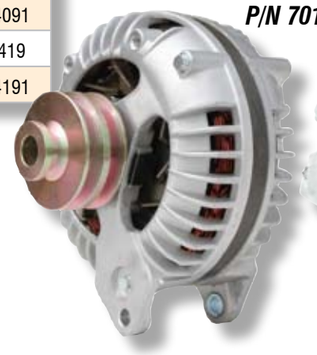
Chry Sq Back Alternators	Finish	
	Chrome	Natural
75A Double Field w/ 1V pulley	17508	7508
75A Double Field w/ 1V pulley & One wire VR	175081	
75A Double Field w/ 2V pulley	17509	7509
75A Double Field w/ 2V pulley & One wire VR	175091	
75A Double Field w/ 2V pulley	17519	
75A Double Field w/ 2V pulley & One wire VR	175191	
75A Double Field w/ 2V pulley		7409
75A Double Field w/ 2V pulley & One wire VR		74091
75A Double Field w/ 1V pulley		7419
75A Double Field w/ 1V pulley & One wire VR		74191





Chrysler Sq Back

P/N 7019



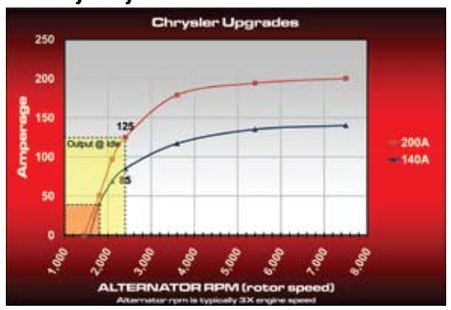
P/N 17509

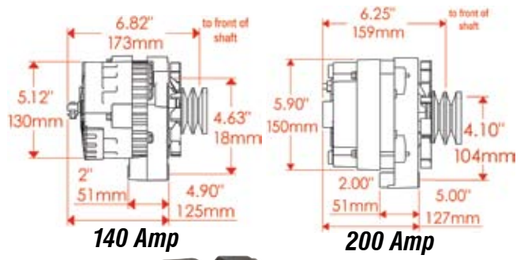
Chry Round Back Alternators	Finish
	Natural
75A Double Field w/ 2V pulley	7019
75A Double Field w/ 1V pulley	7018

Need more output?
See our 140A and 200A bolt in replacements on the next page.

Chrysler Upgrade Alternators

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

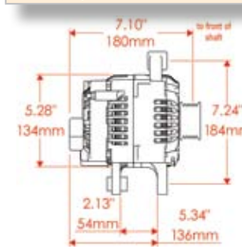




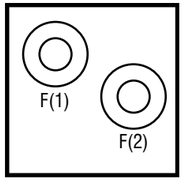
140 Amp *200 Amp*

Chrysler Upgrade Alternators	Finish		
	Chrome	Natural	Black
140A w/ spacer - Small Block ONLY	8-37529	8-47529	8-57529
200A w/ spacer - Small Block ONLY		8-47539	

P/N 8-57529 *P/N 63311*



Chrysler IF/ER



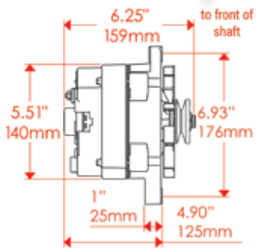
Chrysler IF/ER Alternators (A)	Finish		
	Polish	Natural	Black
170A Denso 130mm	63311	43311	53311
170A Denso XS Volt™ 130mm XS	633118	433118	533118

XS *See page 19 for XS Volt information.*

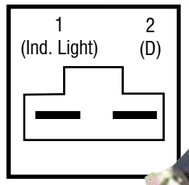
Jeep Upgrade Alternators

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

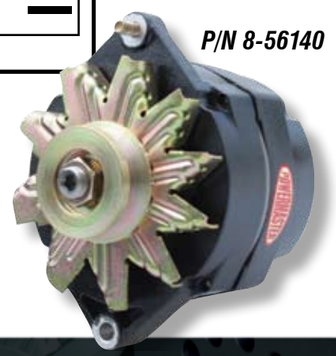
Replaces Motorola



Jeep Upgrade



Jeep Alternators
100A Specifications
70A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000



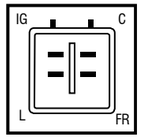
P/N 8-56140

Jeep Upgrades	Finish		
	Chrome	Natural	Black
100A w/1V pulley and 1" mounting flange	8-36100	8-46100	8-56100
140A w/1V pulley and 1" mounting flange	8-36140	8-46140	8-56140

Honda Style Alternators

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

Import Alternators
150A Specifications
85A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000
170A Specifications
110A @ 2,400 rpm @ 13.2 VDC @ 77F
Operating Range: -40C to 150C
Max rpm: 18,000



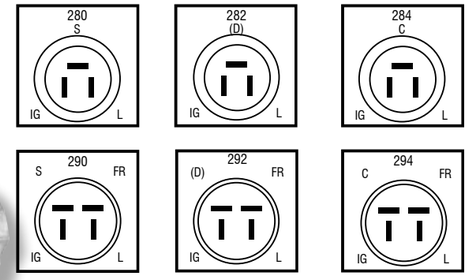
P/N 994001

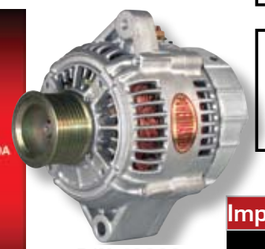
Honda Alternators	Finish	
	Natural	Black
150A w/6 grv pulley & C-FR-IG-L Terminals	994001	995001

See page 17 for our Honda Starters.

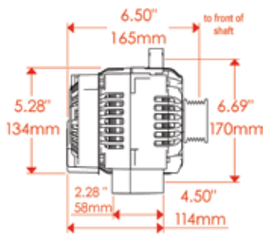
Toyota/Honda Style Alternators

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

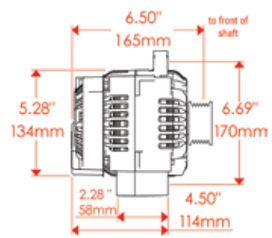




P/N 42280



Right



Left

Import Offset Left Alternators	Finish
	Natural
170A w/S-IG-L Terminals (280)	42280
170A w/D-IG-L Terminals (282)	42282
170A w/C-IG-L Terminals (284)	42284
170A w/D-FR-IG-L Terminals (292)	42292
170A w/C-FR-IG-L Terminals (294)	42294

Import Offset Right Alternators	Finish
	Natural
170A w/S-IG-L Terminals (280)	41280
170A w/S-FR-IG-L Terminals (290)	41290
170A w/C-FR-IG-L Terminals (294)	41294

Overdrive Pulleys

P/N:	Description:
104	Serpentine (6 groove 54mm OD)
105	Serpentine (6 groove 49mm OD)
108	Serpentine (8 groove)
111	V-Belt (10mm W x 2.35" OD)
115	Serpentine (6 groove 49mm OD)
172	Serpentine (3 groove 15mm Bore)
175	Serpentine (6 groove 46mm OD)
178	2 5/8" OD x 3/8" w/nut (Black)

P/N 110

Chrome Pulleys

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)
119	Serpentine (6 groove 60mm OD)
175	Serpentine Pulley (Natural) (6 groove - 46mm OD)
176	V-Belt (Natural) 67mm OD
177	Serpentine Pulley (6 groove - 46mm OD)

P/N 115

P/N 111

Pulley Cones

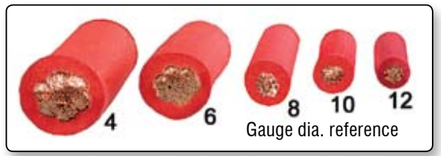
P/N:	Description:
367	6 Hole Pulley Cone, Chrome
368	6 Hole Pulley Cone, Polished

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



Powermaster uses fine stranded, highly flexible neoprene cable for the 4 and 8 AWG charge wires.

P/N 100
Battery Terminal Boot

Wiring Harnesses

When building a classic or street machine, remember that it is not the year of the motor that determines which alternator to use, but which type of wiring harness the vehicle is equipped with. For easy installation Powermaster has adapter wiring harnesses available.

P/N:	Description:
135	Ford 6G to 3G
136	GM 10si to CS130D
140	GM 10DN to 10si
150	GM 10DN to 10si
160	CS130D to CS130
164	ND Oval to ND Round

P/N 135

P/N 136

P/N 140

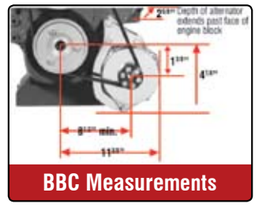
P/N 150

P/N 160

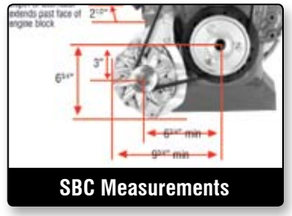
P/N 164

Chrome Low Mount Bracket

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



BBC Measurements

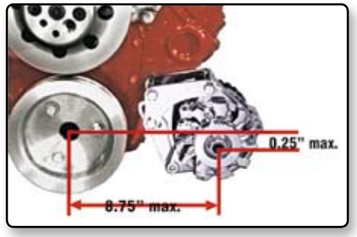


SBC Measurements

Mounts 12si style alternators and CS130 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

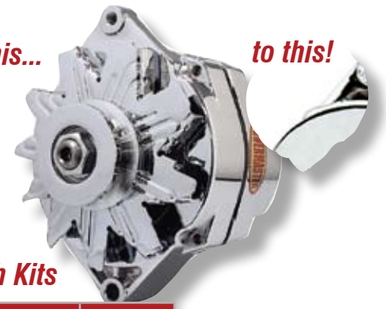
Description:	P/N:
Chrome SBC Kit	8-17926
Polished SBC Kit	8-27926
Chrome BBC Kit	8-17927
Polished BBC Kit	8-27927
Chrome Alternator Only	179261
Polished Alternator Only	279261

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 28 for more info.

Update this...



to this!

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)

A/C Covers

P/N:	Description:
390	6 Hole w/Bolts, Chrome
391	6 Hole w/Bolts, Polished

High Velocity Fans

P/N:	Description:
369	HV Fan, 140mm, Chrome
370	HV Fan, 140mm, Polished

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)

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 alternator 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 alternator 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 alternator RPMs, with the greatest efficiency at 2,400 alternator RPM.

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. See page 60.

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?

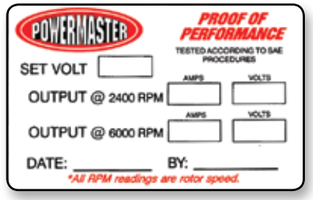
You will need a conversion wire harness adapter - P/N 160.

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.

Proof of Performance Tag

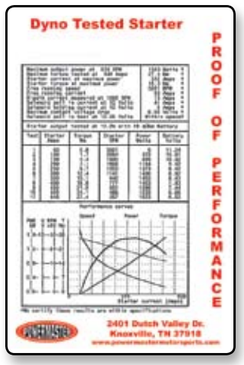
The Proof of Performance Tag has been a feature of Powermaster products for years. This is a tag or printout of the performance results for this unit as it went across the dyno. This tag has been signed and dated showing who inspected the unit and when.



For alternators, these tags show the output at idle and the output at highway speed. Technically, this is 2400 alternator R and 6000 alternator R or typically 800 engine R and 2000 engine R with standard 3:1 pulley ratios. The alternator's set point is the high limit of the internal voltage regulator and this is the level that the alternator is trying to maintain in the electrical system. As loads are applied the voltage drops from this point. Therefore the load amperages are expressed as so many amps at a particular voltage. Powermaster uses 13.2V as the low limit for dyno testing because stressing the alternator beyond this point is not meaningful.

Starter Dyno Sheet

Powermaster uses a custom built starter dyno for quality assurance and research and develoent. This dyno is totally automated and computer controlled with the specifications for each part number stored in memory. After a starter is loaded on the dyno, the machine performs independent solenoid tests checking pull in and hold in currents. Secondly, it performs a free run test and then a full torque test adding load to the starter until it finds the torque peak. During this test it is recording amp draw, R, voltage drop, and torque output and from these readings it is calculating the horsepower output. All of this information is printed and plotted on serialized graph included with each starter. Each of the 60 test parameters has high and low limits stored in the control that will either pass or fail the unit thereby tightly controlling the consistency of the Powermaster product.



The most important information on this printout is the maximum power point. This is the point where the starter is the most efficient, the most "comfortable" if you will. The torque output at this point is important because a starter with a higher number here will reliably crank the tightest engines. Of course, starters can produce more torque than the "torque at the horsepower peak" but it comes at a price. The efficiency of the starter begins to drop and more of the input power from the battery is wasted as heat. Eventually, it is heat that breaks down any electrical component, including starters.

Much has been said in the marketplace about the horsepower output of starters but this number is misleading. The real issue with a starter is its torque capacity, and Powermaster starters produce the most torque. With such tight controls on the test parameters, coupled with technicians with years of starter assembly experience, and precision CNC equient, Powermaster produces a product you can be confident in.

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.

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.

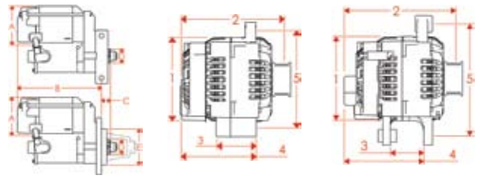
*(3) **Foot mount alternators:** The length of the foot.*

***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.

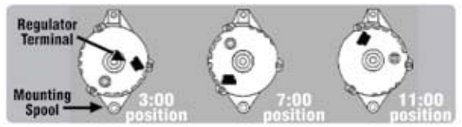
For how to calculate your vehicle's alternator idle RPMs, see FAQ's page 62.



Clocking Position

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