



PERFORMANCE
From Start To Finish!



Warranty Policy

- CVR Inc. products are covered by a LIMITED warranty, covering defects in material for a period of 90 Days from the original date of purchase
- CVR Inc. is not responsible and will not cover any costs that may be associated with a defective return – all shipping/handling costs must be paid for by the purchaser
- Consequential damages are not covered
- Chrome of any manufacture is subject to chips or discoloration when exposed to heat. For this reason, defects in the finish are limited to the time of installation.
- The product supplied by CVR Inc. must be installed in a manner that protects such product from external or internal physical damage and must be installed in accordance with catalogue recommendations. CVR Inc. cannot be held liable for product failure caused by improper installation or handling
- The CVR Inc. warranty makes no allowance for labor claims. The warranty limits liability to the replacement of the product if it is deemed defective
- No claim for defective materials, workmanship, shortage in count or measurement, or for any other cause shall be valid unless presented to CVR Inc. by the buyer within TEN (10) days of buyer's receipt of the material. Failure to present written claim stating the grounds thereof within such time shall constitute acceptance of the material for all purposes by the buyer. Reasonable opportunity shall in all cases be afforded us to investigate the claimed grounds for claim but neither our investigation nor our failure to investigate shall constitute a waiver of any right to disclaim liability. Our liability for defective materials and/or workmanship and/or any other cause shall in no case exceed the amount paid by buyer on our invoice price to buyer of the article or part thereof proved defective. We reserve the right, in all cases where a defect is found, to elect whether to refund the invoice price or make replacement of the defective article or part thereof. Neither a refunding of the invoice price or any part thereof nor a replacement will be made unless the effective article or part is made available to us for inspection in such a manner as we deem necessary.
- Limitation of Liability
 - a. Seller shall not be liable for prospective profits of special, indirect or consequential damages, nor shall recovery of any kind against Seller be greater than the amount paid by Buyer on Seller's invoice price to Buyer of the product or part thereof which causes the alleged damage
 - b. There are no conditions, warranties, guarantees or any other liabilities established herein except those expressly stated in section (above), and all other conditions, warranties, guarantees, statements and liabilities whether expressed by statute or common law or otherwise are hereby excluded.

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Proflo Extreme Electric Water Pumps



- T6-6061 billet aluminum body
- Carbon ceramic seal
- Stainless steel shaft will not corrode
- Computer designed machined billet impeller
- Can be mounted in stock location. Some models can be located remotely with optional remote flanges
- Stainless steel fasteners included
- 12 Volt, 6 amp draw
- Bright Anodized (colored units only)
- Optional thermostat housing available for LS Series
- These pumps are designed so that they can be changed at a later date for different applications by purchasing different mounting kits. (non-LS series)



8550R shown with optional inlet fitting

Part #	Applications	Flow Rate	Weight	Colors Available **
8003**	Universal inline remote mount	28 GPM	6.5 lbs.	BK, CL
8400**	Chevy LS small block	55 GPM	9.9 lbs	BK, CL
8502**	Ford 289/302/351	55 GPM	6.8 lbs.	BK, BL, CL
8508**	Holden 308	55 GPM	7.8 lbs	BK, CL
8550**	Chevy small block	55 GPM	7.1 lbs	BK, CL, R
8554**	Chevy big block	55 GPM	7.4 lbs.	BK, CL, R
8560**	Ford 429/460	55 GPM	7.2 lbs.	BK, BL, CL

** Add abbreviation after part number for color. BK = Black, BL = Blue, CL = Clear, R = Red



8550BK shown with optional inlet fitting



8550CL shown with optional inlet fitting



8554BK shown with optional inlet fitting



8502BL shown with optional inlet fitting

Note: Inlet fittings can be changed between passenger and driver side to suit radiator outlet.

Proflo Extreme Electric Water Pumps

Proflo Extreme



8560CL shown with optional fittings



8508BK

NOTE: Back Plate

When considering purchasing the Ford water pump, you will notice that CVR offers the “back plate” separately. Many of today’s race cars use a full front motor plate or a belt drive system for the cam. In the Ford engine, the front motor plate or the cam belt drive may also be used to block off the center chamber in the timing cover housing and drilled only in the one spot on each side to allow water flow back into the engine block. In this case, the back plate is an unnecessary piece and may not be needed. In all other cases a back plate will be necessary.



8400CL



8400BK



8003BK shown with optional fittings



8003CL shown with optional fittings

Note: Inlet fittings can be changed between passenger and driver side to suit radiator outlet.

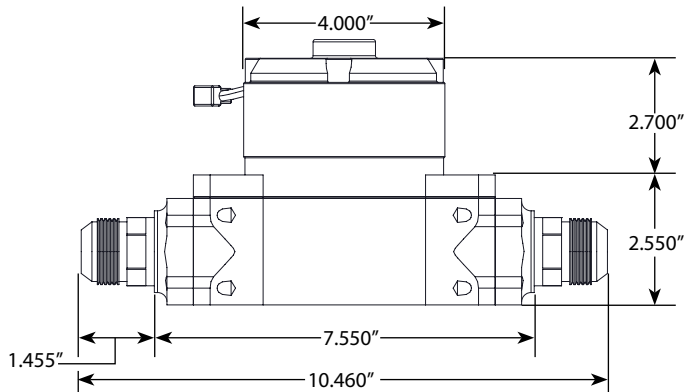


Proflo Extreme Electric Water Pumps

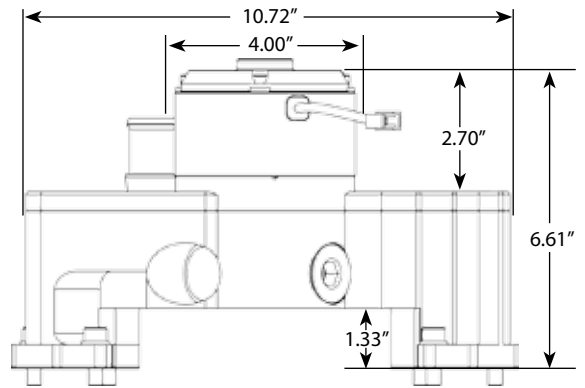
Dimensions by part#



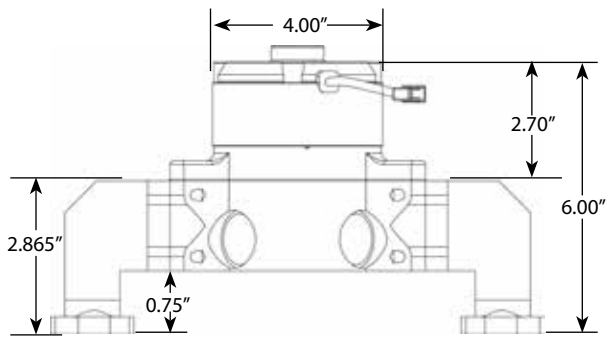
PN 8003**



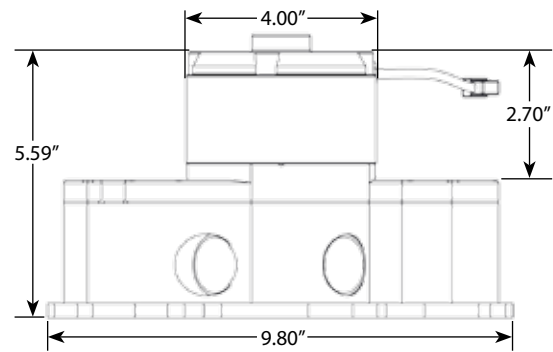
8400**



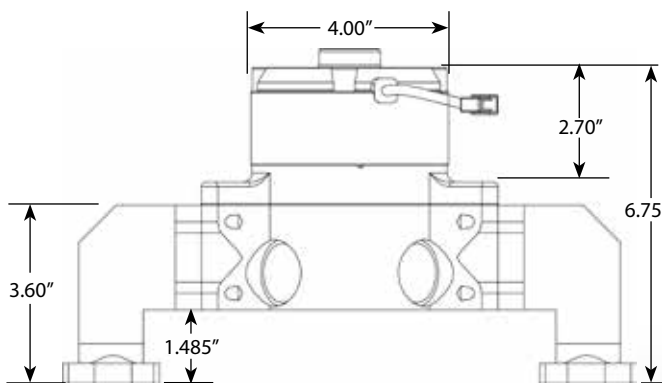
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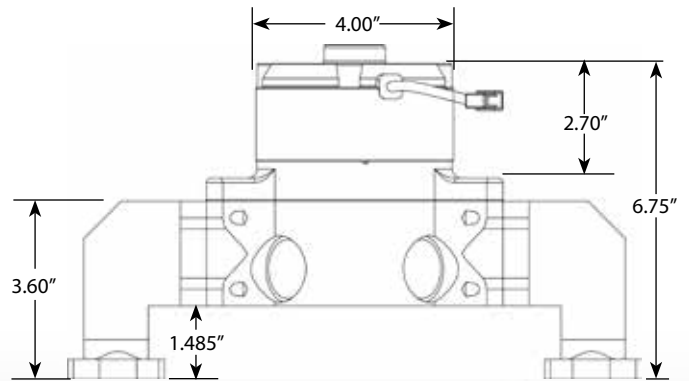
PN 8508**



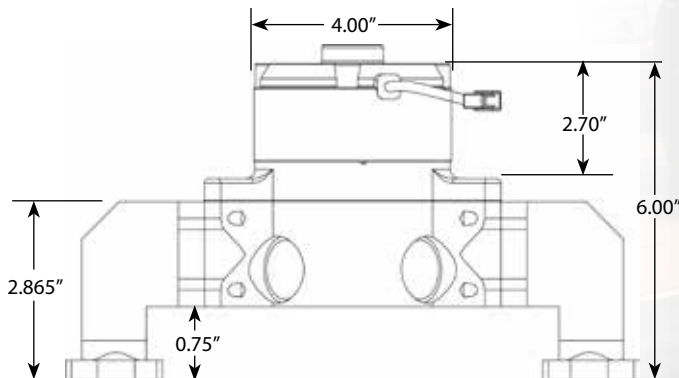
PN 8550**



PN 8554**



PN 8560**



Note: The information contained herein is based upon data which we believe to be correct and has been obtained from sources which we regard as reliable, but we assume no liability for typographical errors or omissions therein.



Universal Pump Assembly

One Pump Multiple Engine Combinations!

Fits Small Block & Big Block Chevrolet and Small Block & Big Block Ford

Want to take the pump from your Chev to your Ford?
Simply order new mounting legs and you're good to go!

Want to customize your installation? Order your pump in one color, your mounting legs in another color and your inlet fitting in a third color. No other pump allows you to get creative with colors like the CVR Profilo Extreme.



Part #	Applications
8000**	Pump assembly

** Add abbreviation after part number for color.
BK = Black, BL = Blue, CL = Clear, R = Red

Universal Manifold

Allows you to remotely locate your water pump for applications that have a tight fit! Simply use the universal manifold in place of a standard water pump and plumb the inlet fitting on the top or front.

Part #	Applications
8001**	Universal manifold

** Add abbreviation after part number for color.
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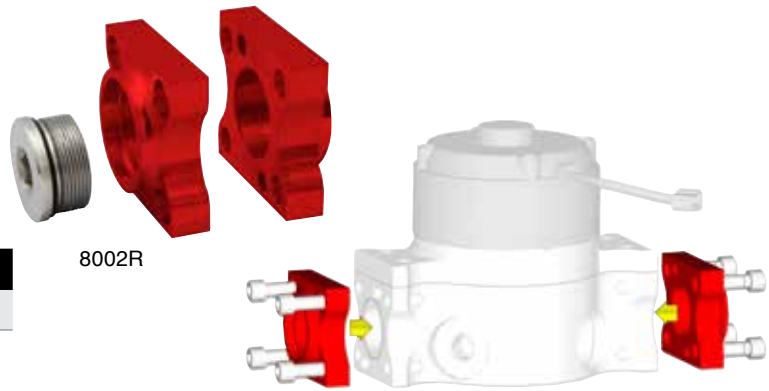


Remote Flange Kit

- T6-6061 billet aluminum
- Computer designed machined billet
- Kit includes 2 mounts, stainless steel fasteners and o-rings

Part #	Applications
8002**	Remote flange kit

** Add abbreviation after part number for color.
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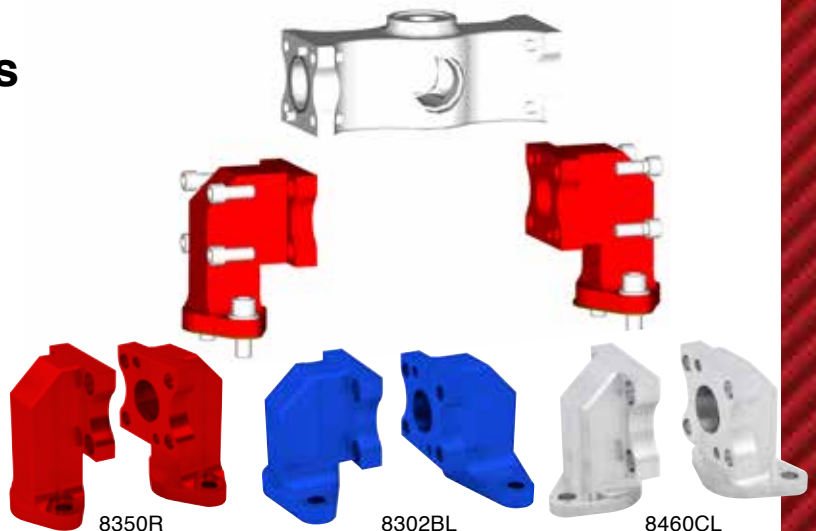


Water Pump Mounting Kits

- T6-6061 billet aluminum
- Computer designed machined billet
- Kit includes 2 mounts, stainless steel fasteners and o-rings

Part #	Applications
8302**	Ford 289/302/351
8350**	Chevrolet small block
8454**	Chevrolet big block
8460**	Ford 429/460

** Add abbreviation after part number for color.
BK = Black, BL = Blue, CL = Clear, R = Red



Proflo Maximum Electric Water Pumps

Chevrolet Small Block / Big Block

- Carbon ceramic seal
- Cast Aluminum/Anodized T6-6061 billet aluminum
- Stainless steel shaft will not corrode
- Computer designed impeller machined from T6-6061 billet aluminum
- Mounts easily in stock location
- Stainless Steel fasteners and hardware
- 12 Volt, 6.1 amp draw



Part #	Applications	Flow Rate	Weight
7550	SB Chevy - Clear anodized face	55 GPM	7.8 lbs.
7550R	SB Chevy - Red anodized face	55 GPM	7.8 lbs
7554	BB Chevy - Clear anodized face	55 GPM	9.7 lbs
7554R	BB Chevy - Red anodized face	55 GPM	9.7 lbs.



Part #7554



Part #7550R

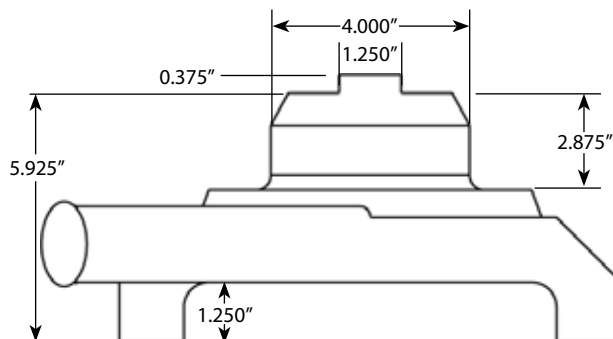


NOTE: This pump does not require inlet fitting. Unit comes with standard 1 $\frac{3}{4}$ " inlet.

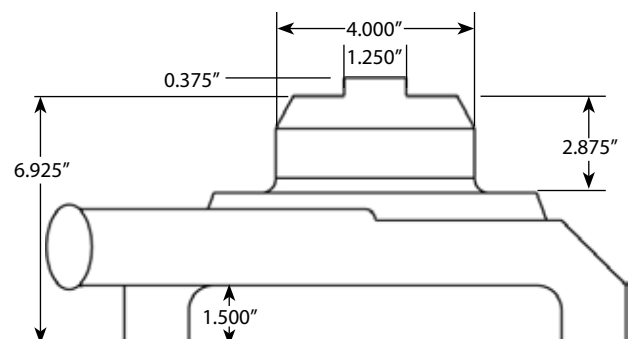
SPECIAL FEATURE: This is the only electric pump that includes an adjustable cam stop to help eliminate cam walk. Also has a mounting hole for power steering bracket. (PN 7550 / 7550R only).

Dimensions by part#

PN 7550**



PN 7554**



Chrysler/Dodge

- Carbon ceramic seal
- Stainless steel shaft will not corrode
- Impeller machined from T6-6061 billet aluminum
- Mounts easily in stock location
- 12 Volt, 6.1 amp draw

Part #	Applications	Flow Rate	Weight
6540	B/RB/HEMI 361-440	55 GPM	4.0 lbs.
6590	5.9L Cummins	55 GPM	6.0 lbs.

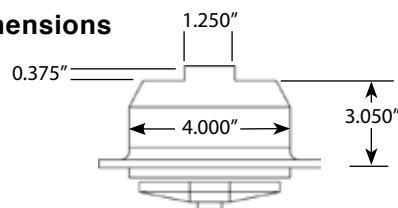


Part #6540

Installation: Mounts directly to stock water pump locations by removing existing fan, pulley, plate and impeller; includes stainless steel mounting hardware and gasket for simple installation.

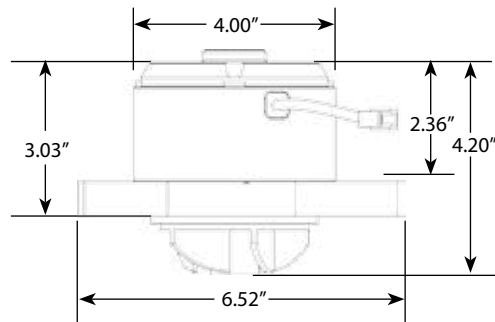
Benefits: Eliminates drive belt and fan to save weight and horsepower while providing maximum circulation to improve cooling efficiency during all driving conditions, especially while idling.

Dimensions



Part #6590

Installation: Mounts directly to stock water pump locations by removing existing water pump/pulley. Replacing original belt with approximately 7" shorter belt. 1994-2002 Dayco Part #5080740; 2003-2009 Dayco Part #5081125. Includes stainless steel mounting hardware and gasket for simple installation.



Complete Assembly

Flow Rate: 55GPM
 Fasteners & Hardware: Stainless Steel
 Amperage Draw: 6.1 Amps.
 Voltage: 12V
 Type of Material: Cast Aluminum



Note:
 Accepts factory accessory brackets.

Cast Body

Fasteners & Hardware: Stainless Steel
 Type of Material: Cast Aluminum

Part #	Applications
7540	B/RB/HEMI 361-440

Part #	Applications
7426	B/RB/HEMI 361-440

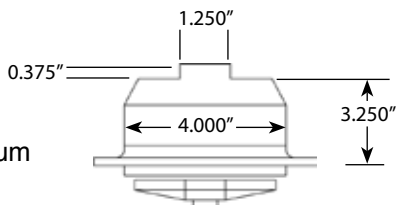
Installation:

Part # 7426 mounts directly in place of cast iron unit and accepts factory impeller housing assembly.
 Part # 7540 mounts directly to stock water pump locations by removing existing fan and pulley; includes stainless steel mounting hardware and gasket for simple installation.

GM LT-1 Small Block

Type of Finish: Machined
 Special Coating: Bright Anodized
 Fasteners & Hardware: Stainless Steel
 Amperage Draw: 6.1 Amps.
 Voltage: 12V
 Type of Material: T6-6061 Billet Aluminum

Dimensions



Part #	Applications	Flow Rate	Weight
6551	GM LT-1 small block	55 GPM	4.0 lbs.

Installation: On the LT-1 engine the factory pump is cam driven. Installation of this unit requires removal of the housing, disassembly and plugging of the drive hole and reinstallation. From there our unit plugs right into the housing supplied with seal and stainless fasteners.





Billet Thermostat Housings

Part #	Applications
TSH3CL	Chevrolet - Manifold filler neck
TSH4CL	Chevrolet - Manifold filler neck - 1½" hose - LH/RH
TSH5**	Chevrolet LS - 90° Swivel - 1½" hose
TSH5A**	Chevrolet LS - 16AN
TSH5S**	Chevrolet LS Straight - 1½" hose
TSH5SA**	Chevrolet LS Straight - 16AN
TSH6**	Chevrolet - 90° Swivel - 1½" hose
TSH6A**	Chevrolet - 90° Swivel - 16AN
TSH68**	Holden 308 - 90° Swivel
TSH7**	Ford 289/302 - 90° Swivel - 1½" hose
TSH7A**	Ford 289/302 - 90° Swivel - 16AN
TSH8**	Chrysler - 90° Swivel - 1½" hose
TSH8A**	Chrysler - 90° Swivel - 16AN
TSH8S**	Chrysler Straight - 1½" hose
TSH8SA**	Chrysler Straight - 16AN
TSH9CL	Chrysler - Manifold filler neck - 1½" hose
TSH9ACL	Chrysler - Manifold filler neck - 16AN

O-ring sealed at the manifold eliminating the need for a gasket. Stainless steel hardware included.

Type of Unit: 360° Swivel Housing
 Type of Finish: Machined
 Special Coating: Bright Anodized
 Type of Material: T6-6061 Billet Aluminum



** Add abbreviation after part number for color.
 BK = Black, BL = Blue, CL=Clear, R=Red

Billet Inlet Fittings

Part #	Description	Part #	Description
8012**	12 AN	8150L**	1½" - Long
8016**	16 AN	8150T**	1½" - Short
8016L**	16 AN - Long	8175**	1¾"
8125**	1¼"	8175L**	1¾" - Long
8150**	1½"		

** Add abbreviation after part number for color.
 BK = Black, BL = Blue, CL = Clear, R = Red



1-3/16" straight thread o-ring fitting w/1"port

Thermostat Housing Adapter

Part #	Description	Fits LS Electric Water Pump #8400. Can be used with stock thermostat housing or billet thermostat housing part # TSH5 or TSH5S
8180BK	Black	
8180CL	Clear	



Remote Water Pump Block Adapters

Part #	Description
WBF61	Big Block Chevrolet
WBF62	Small Block Chevrolet
Use when mounting electric water pump remotely.	



WBF62 Shown with optional 8016CL fittings

Holden Mounting Kit

Holden 308 Engine

Part #	Applications
8308**	Mounting kit

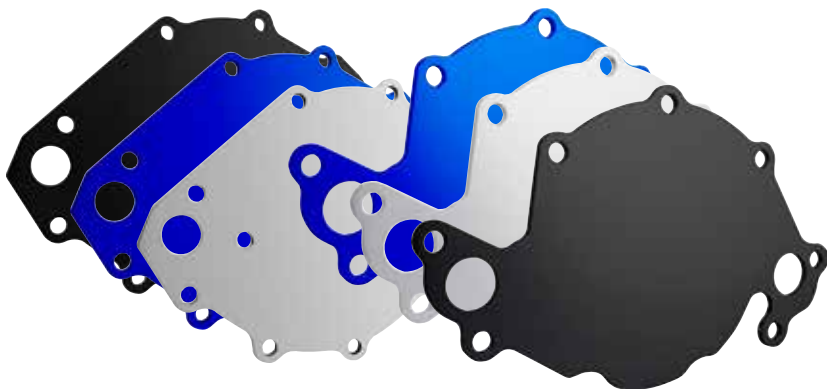
** Add abbreviation after part number for color.
BK = Black, CL= Clear



8308CL



Water Pump Back Plates



Part #	Applications
63512C**	351 Cleveland - Clear & Blue only
65022**	Small block Ford
65602**	Big block Ford

** Add abbreviation after part number for color.
BK = Black, BL = Blue, CL= Clear

Proflo Service Parts



Part # 8055R

Part # MA150

Part #	Applications
750	Proflo Maximum motor and top plate for Part # 7550
754	Proflo Maximum motor and top plate for Part # 7554
8054	Proflo Extreme repair kit assembly
8055**	Proflo Extreme motor and top plate
MA150	High output motor for high volume pumps
SK60	Seal only. Fits all pumps
SK63	Proflo repair kit. Fits #6302 & #6502
SK64	Proflo repair kit. Fits #6460 & #6560
SK65	Proflo repair kit. Fits #6350 & #6550
SK66	Proflo repair kit. Fits #6454 & #6554
SK67	Proflo Maximum repair kit for #7550 & #7550R
SK68	Proflo Maximum repair kit for #7554 & #7554R



Part # 754

Part # SK60



Part # 8054



Part # SK67

12 Volt Electric Vacuum Pumps



For vehicles using engine combinations that provide little or no manifold vacuum required for braking. When vacuum drops below 15 in. of vacuum the CVR Electric Vacuum Pump activates and increases the vacuum level to 20 in. of vacuum.

Complete self-contained unit. Simply connect the positive/negative power and the unit will regulate the vacuum level itself.

NOTE: Unit can be mounted in any position.



VP555

Part #	Applications
VP555	Diaphragm style
VP655	Vane style, Cast aluminum
VP665	Vane style, Billet aluminum - Black anodized

GOOD!

- Precision machined
- Cast aluminum construction
- Precision bearings and balanced crank reduce vibration drastically compared to most conventional diaphragm pumps
- Self-contained electronics for ease of installation
- 12 volt, 4 amp draw
- Weight - 8.34 lbs.

“By far one of the best diaphragm pumps on the market today!”



VP655

BETTER!

- Patent Pending Design - Superior To Anything On The Market Today
- Precision machined
- Cast aluminum construction
- 20% less noise and vibration, similar to a performance electric fuel pump
- 50% more vacuum than diaphragm style pump
- Self-contained electronics for ease of installation
- Built-in relay with low amperage lead can be connected straight to key switch
- 12 volt, 6 amp draw
- Weight - 5.5 lbs.



VP665

BEST!

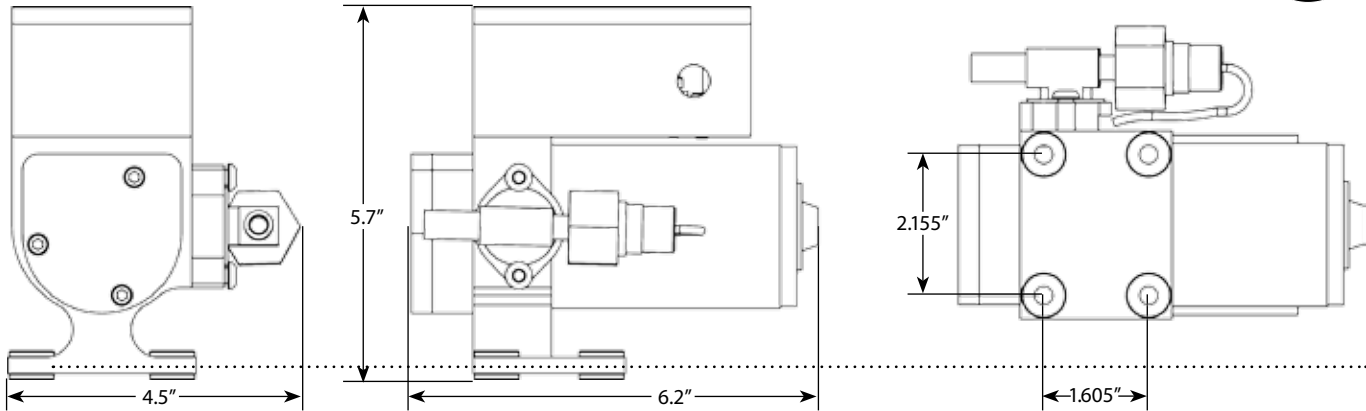
- Patent Pending Design - Superior To Anything On The Market Today
- Precision machined from T6-6061 billet aluminum
- Black hard anodized for extended wear and corrosion resistance
- 20% less noise and vibration, similar to a performance electric fuel pump
- 50% more vacuum than diaphragm style pump
- Self-contained electronics for ease of installation
- Built-in relay with low amperage lead can be connected straight to key switch
- 12 volt, 6 amp draw
- Weight - 5.5 lbs.



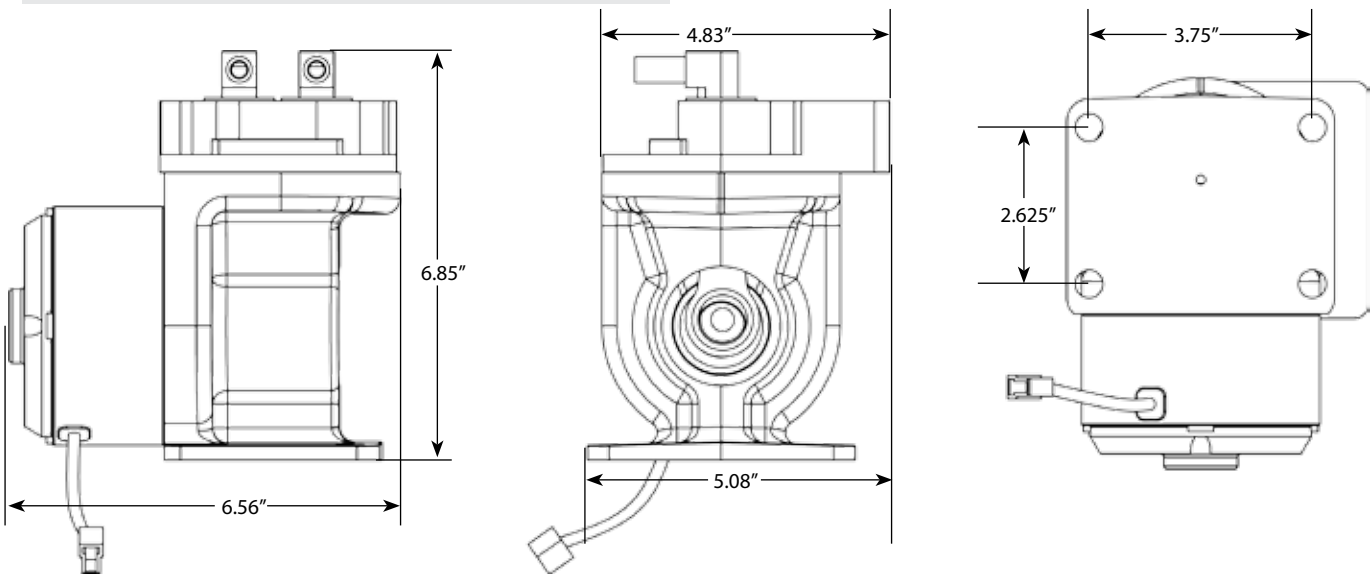


Dimensions by part#

PN VP655 / VP665



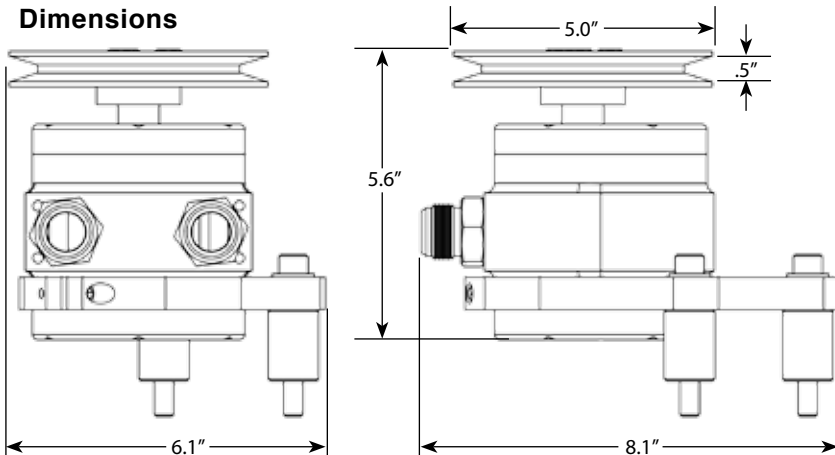
PN VP555



Mechanical Vacuum Pump

- Can be used on wet or dry-sump engines
- Designed with precision sealed roller bearings
- 4.375" O.D. body, 5.050" from back of pump to pulley mounting flange
- Precision machined from T6-6061 aluminum
- Clear hard anodized for extended wear
- Can be driven as high as 8000 RPM
- Supplied with two -12AN fittings
- Supplied with vacuum pump mounting bracket to SBC and BBC cylinder heads or any engine using a motorplate
- Achieves greater vacuum sooner
- Maintenance free
- Weight - 4.5 lbs.

Dimensions



VP625K
Shown with
mounting
bracket

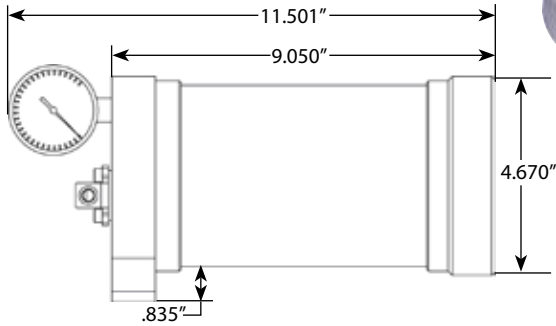
Part #	Applications
VP625K	4 Vane Vacuum Pump Kit, Mounting Bracket Included

Vacuum Reservoir

CVR's vacuum reservoir will allow you extra vacuum for frequent stopping. Has built in check valve, vacuum gauge as well as built-in mounting flange. Made of billet aluminum.



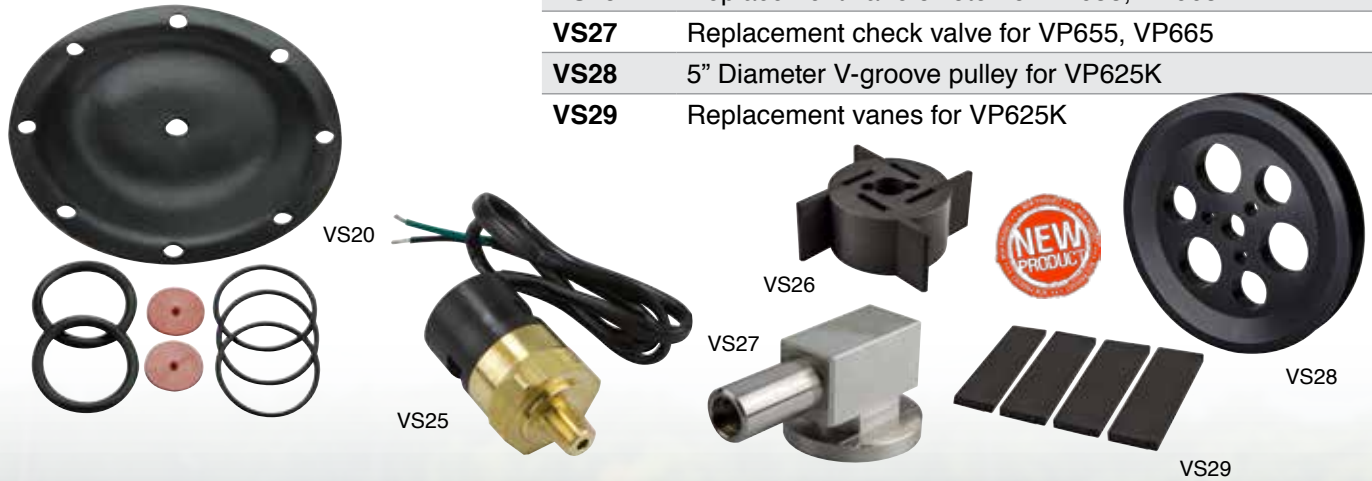
Part #	Applications
VPR700	Vacuum Reservoir



VPR700

Vacuum Pump Components

Part #	Applications
VS20	Vacuum pump repair kit
VS25	Heavy duty replacement vacuum switch
VS26	Replacement vane & rotor for VP655, VP665
VS27	Replacement check valve for VP655, VP665
VS28	5" Diameter V-groove pulley for VP625K
VS29	Replacement vanes for VP625K



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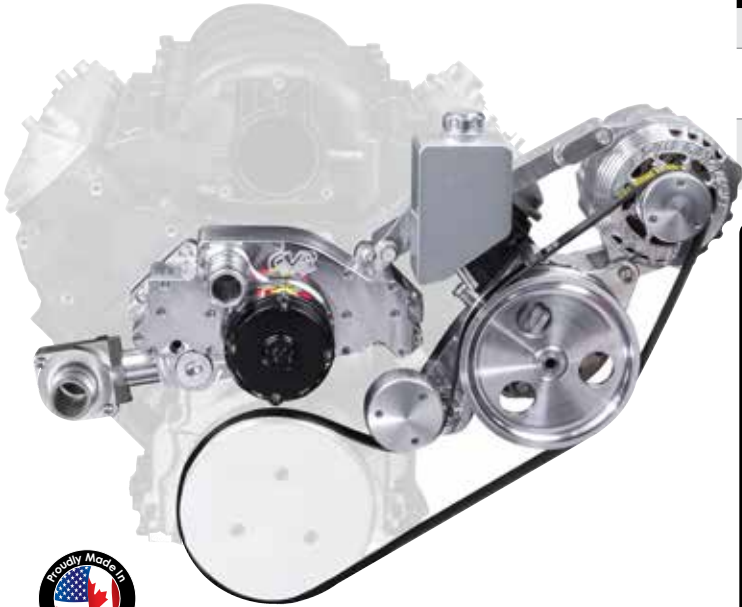
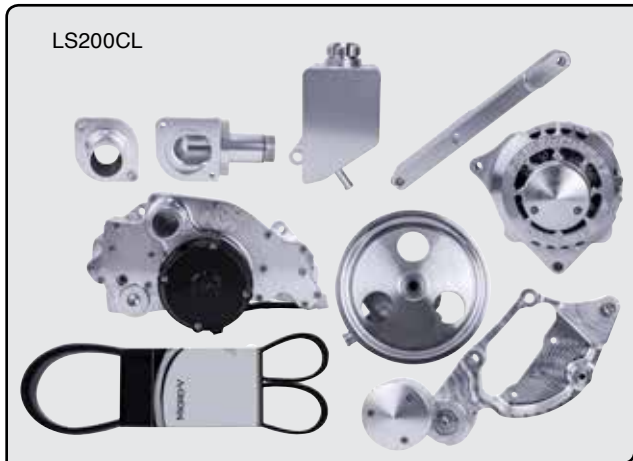
Chevrolet LS Series Accessory Drive Kits



CVR's LS Series Accessory Drive Kits are made from 6061-T6 billet aluminum and are an attractive solution to plain stock drive assemblies when retrofitting an LS engine into a muscle car, truck and hot rod. Our drive kits give you a clean appearance compared to some bulky aftermarket drive kits. These brackets deliver perfect belt alignment and are available in black and clear.

Part #	Applications
LS200**	Belt drive kit for electric water pump
LS300**	Belt drive kit for mechanical water pump (water pump not included)

** Add abbreviation after part number for color.
BK = Black, CL = Clear



Billet Belt Tensioner

Fits in stock location and replaces OEM Part #125696301 belt tensioner on LS engines.

Part #	Applications
LS-14	Billet Belt Tensioner for LS



LS-14



Propower LS Kits

Timing Covers

2-Piece Timing Cover Kits

- Bright anodized (Colored Units Only)
- T6-6061 billet aluminum
- Eliminate flexing problems holding cam in place and keeping timing control
- Covers allow camshaft to be replaced without disturbing the oil pan seal



Part #	Applications
TC2350BK	SB Chevy 90° V8, V6 - Black
TC2350CL	SB Chevy 90° V8, V6 - Clear
TC2350R	SB Chevy 90° V8, V6 - Red
TC2351BK	SB Chevy w/BBC crank seal - Black
TC2351CL	SB Chevy w/BBC crank seal - Clear
TC2440BK	B / RB Hemi 361-440 - Black
TC2440CL	B / RB Hemi 361-440 - Clear
TC2454BK	BB Chevy - Black
TC2454CL	BB Chevy - Clear
TC2454R	BB Chevy - Red

TC2350R

NOTE: All timing covers come with bolts, gaskets, seal, cam button and shims for installation, except TC2440.



TC2454R

TC2454BK

TC2454CL

Part #	Applications
TC23KT	SBC O-Ring Gasket
TC24KT	BBC O-Ring Gasket



TC23KT

NOTE: TC2440 Includes billet timing pointer.



TC2440BK

TC2440CL

Timing Pointers

Ford Adjustable
For Stock Style Timing Covers

- Fits Fluidampr®, ATI® and stock dampers
- Mounting hardware included
- Aluminum pointers are adjustable up to 4°
- T6-6061 billet aluminum
- Bright anodized (Black Only)

Part #	Applications
TPH10	SVO Block, 10 O'clock, "C" Key, 3/8" Bolt Holes
TPH11	SVO Block, 11 O'clock, "B" Key, 3/8" Bolt Holes
TPS10	Stock Block, 10 O'clock, "C" Key, 5/16" Bolt Holes
TPS11	Stock Block, 11 O'clock, "B" Key, 5/16" Bolt Holes

NOTE: "C" Key & "B" Key indicate the position in which the harmonic balancer is installed.
"C" Key top dead center is at the 10 O'clock position,
"B" Key top dead center is at the 11 O'clock position.



Part # TPH10

Part # TPS10

Chevy Adjustable
For Stock Style Timing Covers

Part #	Applications
TP3625	6 1/4" SB Chevy
TP3638	6 3/8" SB Chevy
TP3700	7" SB Chevy
TP3725	7 1/4" SB Chevy
TP3800	8" SB Chevy
TP4625	6 1/4" BB Chevy
TP4700	7" BB Chevy
TP4800	8" BB Chevy

Chevy Universal
For Billet / Stock Style Covers

Part #	Applications
TP3625S	6 1/4" SB Chevy
TP3638S	6 3/8" SB Chevy
TP3700S	7" SB Chevy
TP3725S	7 1/4" SB Chevy
TP3800S	8" SB Chevy
TP4625S	6 1/4" BB Chevy
TP4700S	7" BB Chevy
TP4800S	8" BB Chevy

Part # TP3625S

Part # TP3625



Roller Cam Button Spacers



Hardened Steel
Roller Style

Part #	Applications
CB795R	Chevy V6 & V8 200-400 engines ('55-'86)
CB945R	Big Block Chevy 396-454 engines ('65-'95)

Since all roller cam lobes are ground flat instead of tapered like a hydraulic or solid cam, it is necessary to provide some means of holding the cam back to the rear of the engine. The thrust button rides between the front of the timing gear and the back of the front cover, and can be shimmed for proper end play in the cam.

Chevrolet Distributor Hold Down Bracket

Includes stainless steel mounting stud, nut & washer. Keeps your Chevy V8 distributor from twisting at high RPM. Features a slotted bolt hole for easy distributor removal.

Part #	Applications
DHB6**	90° V6, SB/BB Chevy

** Add abbreviation after part number for color.
BK = Black, BL = Blue, CL = Clear, R = Red



Fuel Pump Block-Off Plates

CVR's Fuel Pump Block Off Plates are used to block off the opening in the engine block whenever a mechanical fuel pump is not used. Each plate includes stainless steel bolts and a gasket.

Part #	Applications
BOP308**	Holden 308
BOP63**	SB Chevy
BOP64**	BB Chevy / Dodge 273-440 / Ford*

* All Fords except 351 C/M & 400M

** Add abbreviation after part number for color.
BK = Black, BL = Blue, CL = Clear, R = Red

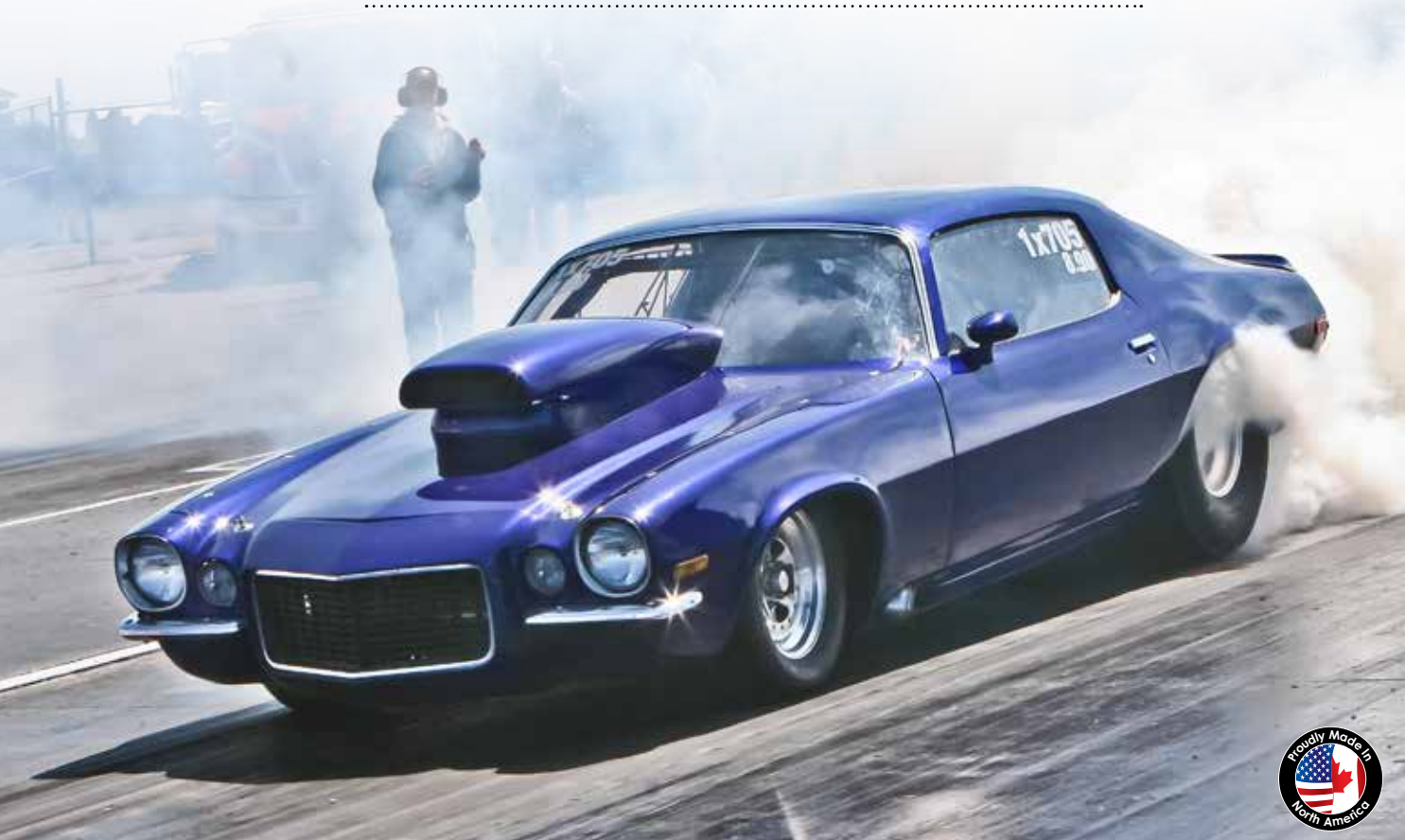


Part #
BOP63BL

Part #
BOP64R

Part #
BOP308BK

Part #
BOP63CL



Quick Change 10lb Nitrous Bottle Bracket

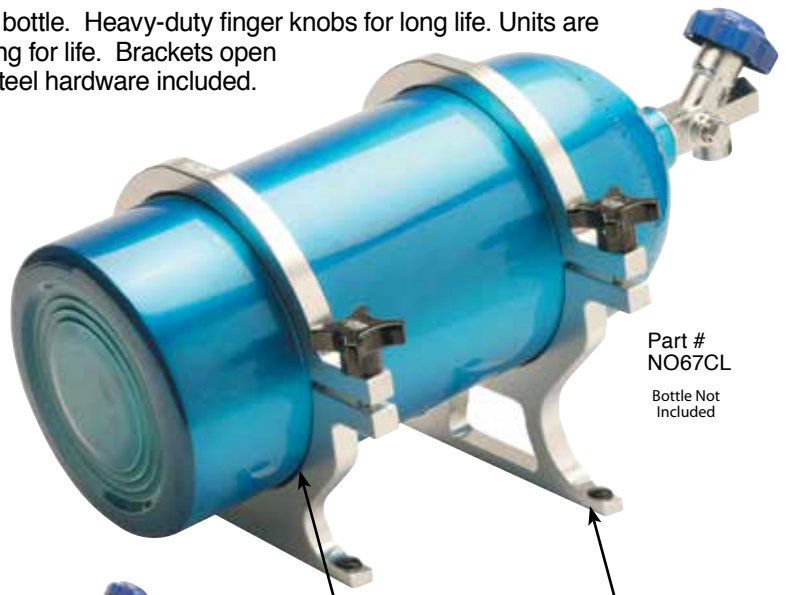
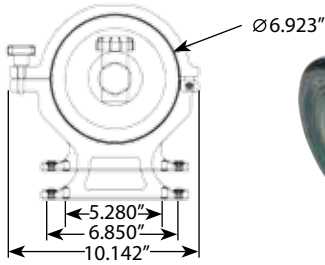
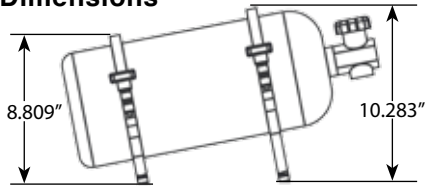
Brackets are machined on the proper angle for the bottle. Heavy-duty finger knobs for long life. Units are anodized in your choice of color to protect machining for life. Brackets open a full 180° for easy bottle replacement. Stainless steel hardware included.

- Precision machined
- Bright anodized
- T6-6061 billet aluminum

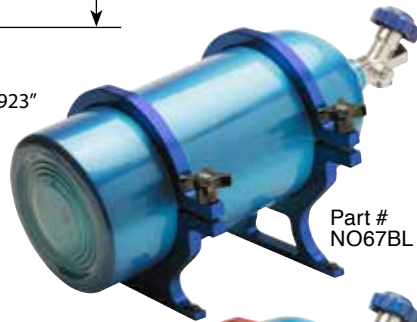
Part #	Applications
NO67**	Nitrous Bottle Bracket

** Add abbreviation after part number for color.
BL = Blue, CL = Clear, R = Red

Dimensions



Part #
NO67CL
Bottle Not
Included



Part #
NO67BL



Part #
NO67R

Two rubber rings are machined into the bracket to firmly hold bottle and prevent scratching.

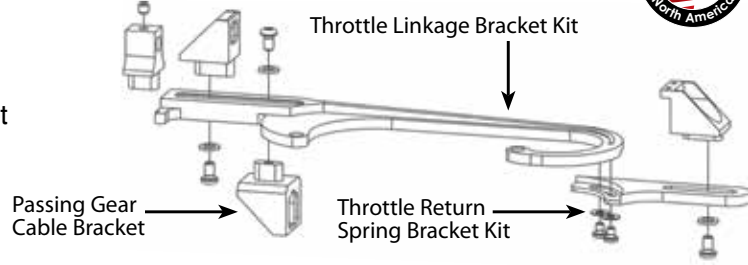
Brackets can be bolted from on top or beneath.





Throttle Linkage, Passing Gear & Spring Brackets

- Fully adjustable for various cable lengths
- Machined for optional throttle return spring bracket
- Bolts securely to carb base
- Allows racers to customize their throttle bracket for a higher degree of spring tension



Part # Throttle Linkage Brackets (4150 Series Carbs)
64150** Accepts GM Snap in and Morse33-C Cable

** Add abbreviation after part number for color.
 BL = Blue, CL = Clear, R = Red

Part # Throttle Linkage Brackets (4500 Series Carbs)
64500** Accepts GM Snap in and Morse33-C Cable

** Add abbreviation after part number for color.
 BL = Blue, CL = Clear, R = Red

Part # Passing Gear Cable Brackets
641** Fits Part # 64150** & 64500**

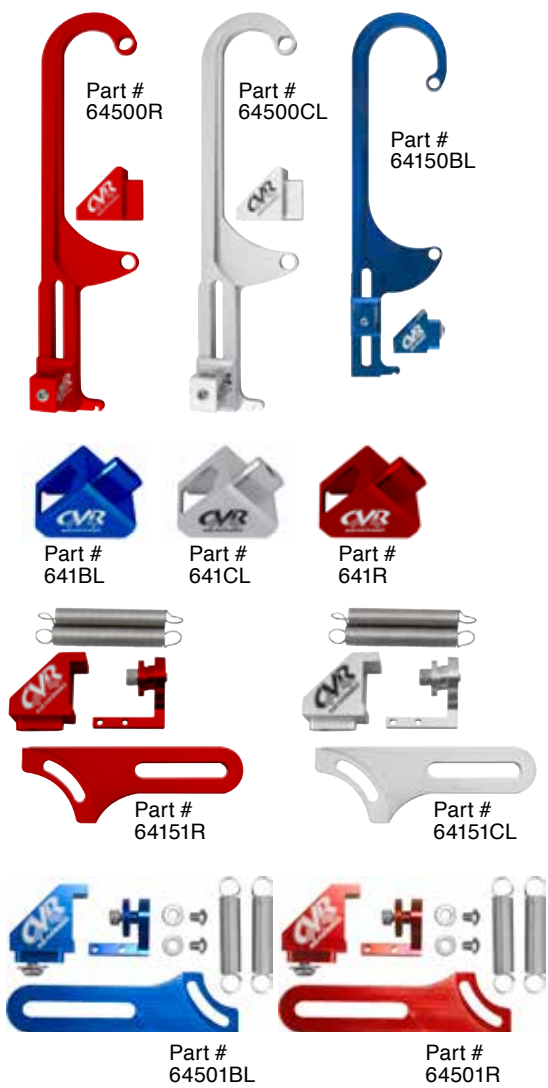
** Add abbreviation after part number for color.
 BL = Blue, CL = Clear, R = Red

Part # Throttle Return Spring Brackets (4150 Series Dominator Carbs)
64151** For Part #64150**

** Add abbreviation after part number for color.
 BL = Blue, CL = Clear, R = Red

Part # Throttle Return Spring Brackets (4500 Series Dominator Carbs)
64501** For Part #64500**

** Add abbreviation after part number for color.
 BL = Blue, CL = Clear, R = Red



Carburetor Velocity Spacers



Increases the velocity of the air/fuel charge to enhance fuel atomization, increase throttle response and boost your high RPM power.

Part#	Applications
CS6415010	1" for 4150 Series Carbs - Open Plenum
CS6415015	1.5" for 4150 Series Carbs - Open Plenum
CS6415020	2" for 4150 Series Carbs - Open Plenum
CS6450010	1" for 4500 Series Carbs - Open Plenum
CS6450015	1.5" for 4500 Series Carbs - Open Plenum
CS6450020	2" for 4500 Series Carbs - Open Plenum

Billet One Wire Alternators



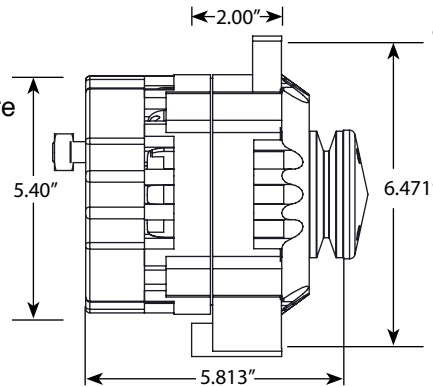
Part #8106CL & BK is the ideal CVR alternator. Whether it's a high wattage stereo system, accessory lights, winches for off-road or towing use, CB's, etc. - these alternators can handle almost anything. This alternator is a combination of an industrial alternator in an automotive housing. This alternator is a one of a kind hand built unit not a modified OEM alternator. We use a hand-wound stator, heavy duty custom rectifier, self-exciting regulator which allows an automatic cut-in for charging at the lowest RPM's.

NOTE: This alternator was designed as a direct replacement for early style Delco alternators. No special brackets are required.



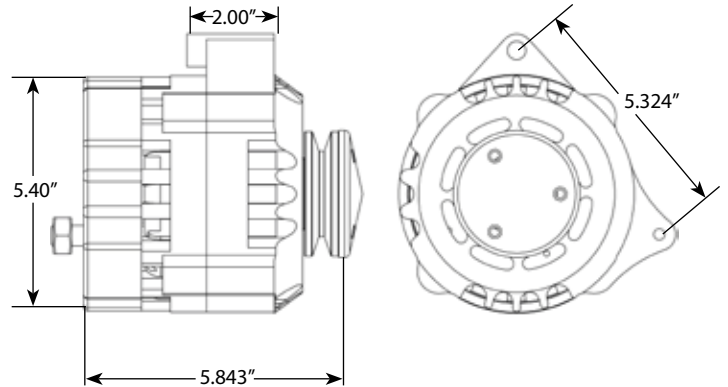
Part #	Applications
8106**	Billet Aluminum alternator.
8107**	Same as 8106** but with a serpentine multi-v 6 groove pulley
** Add abbreviation after part number for color. BK = Black, CL = Clear	

Type of Unit: Internal Fan
 Estimated Amperage: 200 Amps.
 Regulator: Internal Self-Exciting One Wire
 Voltage: 14.9
 Weight: 11.6 lbs.
 Pulley Type: 8106 - Single Deep Groove
 8107 - Aluminum Serpentine Multi-V 6 groove
 Pulley Size: 8106 - 3.15", 8107 - 2.50"
 Bearings: Oversized Double Sealed, Low Drag, High Speed



Part #	Applications
8108CL	Offset mounting ear

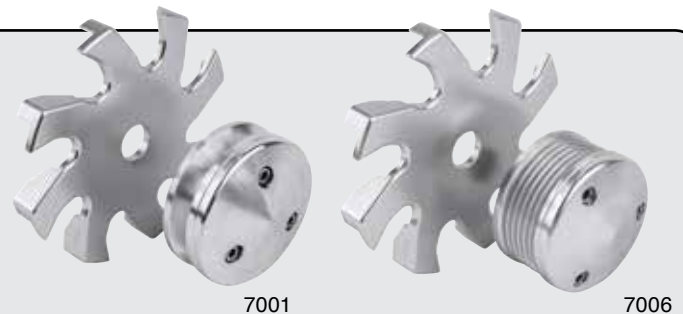
Type of Unit: Internal Fan
 Estimated Amperage: 200 Amps.
 Regulator: Internal Self-Exciting One Wire
 Voltage: 14.9
 Weight: 11.6 lbs.
 Pulley Type: Aluminum Serpentine Multi-V 6 groove
 Pulley Size: 2.50"
 Bearings: Oversized Double Sealed, Low Drag, High Speed



Billet Fan & Pulley Kits

Fits late model Delco CS130 and CS121 alternators. Made of T6-6061 billet aluminum. Clear anodized.

Part #	Applications
7001	With 3.15" v-belt pulley
7006	With 2.50" 6 groove serpentine pulley

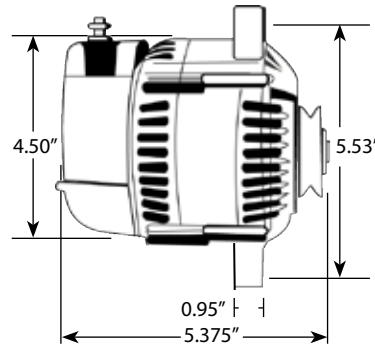


One Wire Alternators



Part #	Applications
2180	One Wire Denso Race Alternator. The smallest and most compact CVR alternator. The 50 Amp output makes it ideal for serious drag racing. It has the highest amps to weight ratio of all CVR alternators.

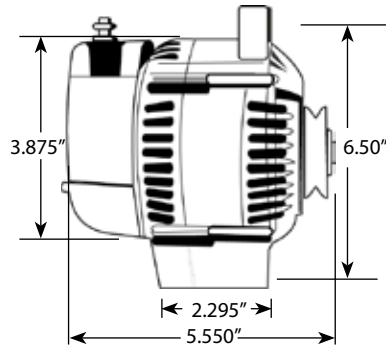
Type of Unit: Nippondenso Internal Fan
 Estimated Amperage: 50 Amps.
 Regulator: Internal Self-Exciting One Wire
 Voltage: 14.9
 Weight: 5.75 lbs.
 Pulley Type: Aluminum Single Deep Groove
 Pulley Size: 3.15"
 Bearings: Oversized Double Sealed, Low Drag, High Speed



2180

Part #	Applications
4935	One Wire Denso Race Alternator. For Pro Street Racers and others with high electrical demands. Its oversize, high speed bearings make it an ideal choice for racers who count on a durable, long lasting unit which provides more amps per pound.

Type of Unit: Nippondenso Internal Fan
 Estimated Amperage: 75 Amps.
 Regulator: Internal Self-Exciting One Wire
 Voltage: 14.9
 Weight: 7.9 lbs.
 Pulley Type: Aluminum Single Deep Groove
 Pulley Size: 3.15"
 Bearings: Oversized Double Sealed, Low Drag, High Speed

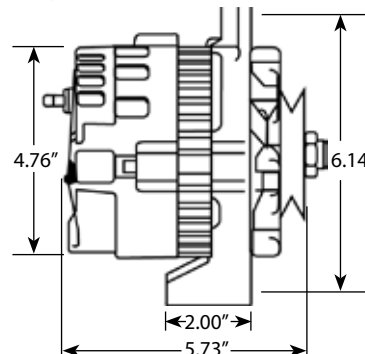


4935

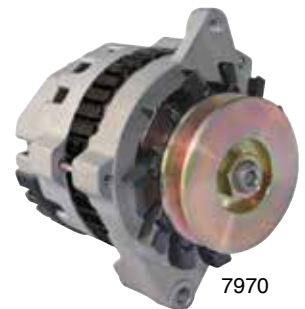
Part #	Applications
7970 **	One Wire Delco Race Alternator. For drag racing when weight is not as crucial as amperage. This alternator provides low drag, high speed bearings, high output at idle and one wire hookup.

** Add abbreviation after part number for color. BK = Black, CL = Clear

Type of Unit: Delco Ext./Int. Fan (CS121)
 Estimated Amperage: 100 Amps.
 Regulator: Internal Self-Exciting One Wire
 Voltage: 14.9
 Weight: 8.8 lbs.
 Pulley Type: Steel Single Deep Groove
 Pulley Size: 3.15"
 Bearings: Double Sealed, Low Drag, High Speed



7970BK



7970

Propower Tech Info



How much horsepower is your alternator using?

Using Ohms Law:

The formula to find power (watts) using Ohms Law is $P = I \times E$ or Power = Current X Voltage
 $I = 50$ amps (alternator rating) $E = 14.9$ volts (set voltage of alternator when engine is running)
 50 amps X 14.9 volts = 745 watts

Assuming 1 horsepower is equal to 746 watts, we can calculate lost horsepower as follows:
 $HP = 745 \text{ watts} / 746 \text{ watts}$ $HP = 1.0$ (approx.)

The amount of power it takes to drive a 50 amp CVR Propower Alternator to its full rated power is approximately 1.0 HP. Which means if your batteries are fully charged and in good condition, your alternator will not have to work that hard, will pull only fractional horsepower on demand, and will produce enough at idle speed where it does not matter if horsepower is drawn.

Caution:

Always use good fully charged deep cycle batteries. Your alternator is designed to maintain your battery not be a battery charger. Never install an alternator on a battery that is not fully charged.

Avoid Premature Failure

Tech Tip:

We do not recommend switching one wire alternators off/on while the engine is running. This causes severe internal spikes in the alternator which will cause damage.

Tech Tip:

Never disconnect the battery when the engine is running to see if the alternator is charging. Excessive load or voltage spikes on alternator will damage internal components or any on-board computers in the vehicle. Always use a multi-meter.

Sizing Up Your Alternator

Accessory	Amp Draw	Accessory	Amp Draw
Trans Brake	10 - 20	Nitrous Solenoid (each)	5 - 15
Throttle Stop	5 - 18	Electric Fuel Pumps	3 - 9
On Board Computer	0.2 - 0.3	Electric Water Pumps	5 - 12
Electric Fans	5 - 18	Instrument Panel	1.5 - 3
CDI Ignition	5 - 30	Brake Lamps	3 - 5
HEI Ignition	5 - 10	Running Lights	3 - 5

Charging Cable Size Guide

Amps	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	10	8	8	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	2	2	2	2	0	0	0	00

Alternator Brackets



Mid-Mount

Part #	Applications - Mid Mount
2180-5	BB Chevy for alternator #2180
4935-5	BB Chevy for alternator #4935
7970-5	BB Chevy for alternator #7970
2180-4	SB Chevy for alternator #2180
4935-4	SB Chevy for alternator #4935
7970-4	SB Chevy for alternator #7970

NOTE: Can be used with electric or belt-drive water pumps

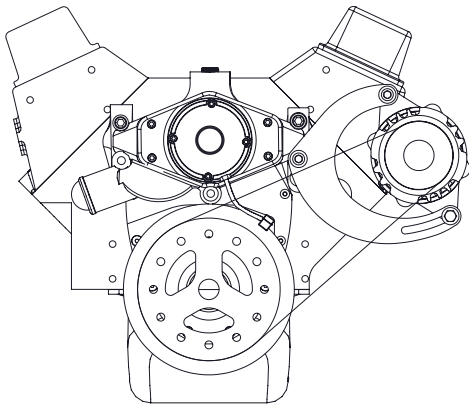


Low-Mount

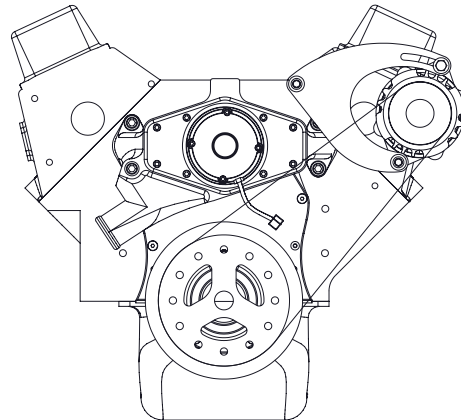
Part #	Applications - Low Mount
2180-3	BB Chevy for alternator #2180
4935-3	BB Chevy for alternator #4935
7970-3	BB Chevy for alternator #7970
2180-2	SB Chevy for alternator #2180
4935-2	SB Chevy for alternator #4935
7970-2	SB Chevy for alternator #7970

First 4 digits of bracket part number is alternator part number

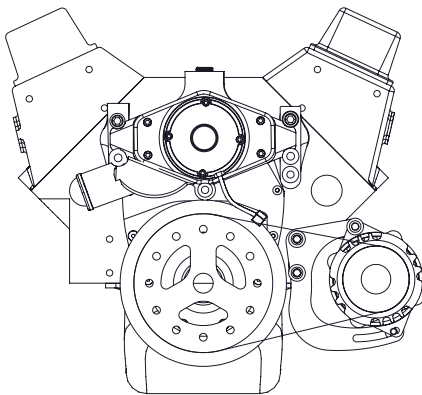
NOTE: These brackets are designed only for CVR alternators



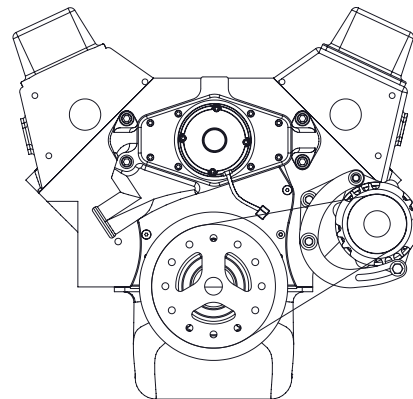
SBC Mid-Mount



BBC Mid-Mount



SBC Low-Mount



BBC Low-Mount

Billet Aluminum Oil Pumps

Designed specifically for Chevy engines. Precision machined from T6-6061 Billet Aluminum the Prolube pump is engineered to withstand the punishment of the harshest racing environment. For circle track racers, the Small Block CT pump features an offset pickup designed to maintain adequate oil volume in corners.



- Aircraft quality chromemoly gear shaft eliminates fatigue due to vibrations
- **Steel wear plate eliminates any** possible wear to T6-6061 billet aluminum housing from the gear or the shaft.
- Precision machined steel billet gears ensure perfect mesh and can withstand higher RPMs
- Lower gear supports eliminates any possible deflection
- Fully adjustable oil bypass valve
- Enlarged inlet and oil passages increase oil flow and efficiency
- Modular T6-6061 billet valve body and pickup (patent pending)
- Special moly teflon coating on gears and shaft
- Removable pickup screen for ease of service



Patent #8,303,281



Part # OPA35

Part # OPA45

“Billet Aluminum”

Part #	Applications
OPA35	SB Chevy aluminum Prolube oil pump
OPA35CT	SB Chevy aluminum Circle Track oil pump
OPA45	BB Chevy aluminum Prolube oil pump

(All pumps include drive shaft)

NOTE: Pickup sold separately. See below.

Circle Track Pump

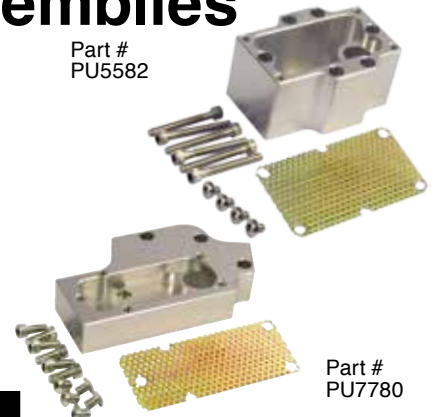
OPA35CT
SB Chevy with 7.0" deep oil pan.
Includes Pickup.



Pickup Assemblies

Precision machined from T6-6061 Billet Aluminum the Prolube pickup is engineered to withstand the punishment of the harshest racing environment. Comes with removable pickup screen for ease of service.

Part # PU5582



Part # PU7780

Small Block Chevy

Part#	Applications
PU5572	for 7.25" deep pan
PU5575	for 7.50" deep pan
PU5577	for 7.75" deep pan
PU5580	for 8.00" deep pan
PU5582	for 8.25" deep pan
PU5585	for 8.50" deep pan
PU5587	for 8.75" deep pan
PU5590	for 9.00" deep pan
PU5592	for 9.25" deep pan
PU5595	for 9.50" deep pan
PU5597	for 9.75" deep pan

Big Block Chevy

Part#	Applications
PU7777	for 7.75" deep pan
PU7780	for 8.00" deep pan
PU7782	for 8.25" deep pan
PU7785	for 8.50" deep pan
PU7787	for 8.75" deep pan
PU7790	for 9.00" deep pan
PU7792	for 9.25" deep pan
PU7795	for 9.50" deep pan
PU7797	for 9.75" deep pan



Oil Pump Rebuild Kit

Kit includes special moly teflon coated drive gear with shaft, moly coated idler gear, steel wear plate and relief spring. Everything you need to bring your pump back to new.

Part#	Description
OPR71	Small Block Chevy
OPR81	Big Block Chevy
OPR91	Small Block Chevy Circle Track



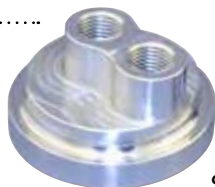
Billet Aluminum Filter Mount

Universal Fit. 1/2" NPT horizontal inlet (2) & 1/2" NPT vertical outlet (1). Hard anodized finish.



Part#	Description
OFM61	Remote Filter Mount GM - 13/16 -16 thread
OFM62	Remote Filter Mount Ford - 3/4 -16 thread
Fits Fram filter part #'s Ford PH8A, GM PH5	

Oil Filter Bypass Adapter



Part#	Description
OFB67	1968+ SB/BB Chevy
OFB69	Ford/Chrysler with 3/4 -16 thread

Spins on to oil filter mount to relocate oil filter. 1/2" NPT inlet & outlet. Includes O-ring seal. Hard anodized finish.

Billet Aluminum Sandwich Adapter

Enables the installation of an oil cooler while retaining the stock oil filter location. 1/2" NPT inlet & outlet. Includes O-ring seal. Hard anodized finish.

Part#	Description
OCS63	GM 13/16 -16 thread
OCS64	Ford 3/4 -16 thread



Billet Spin-On Filter Mount

Eliminates the filter bypass port for 100% complete filtration. Includes O-ring seal & hardware. 13/16 -16 thread for use with GM filter. Hard anodized finish.

Part#	Description
OFA65	1968+ SB/BB Chevy



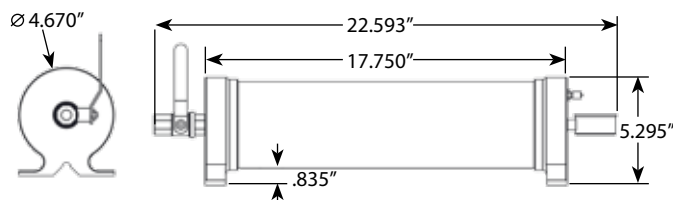
Oil Accumulator

Plumbed directly into pressurized side of your oiling system. Uses compressed air to force its oil reserve into your engine when the oil pressure drops below normal. Can be used as a manually operated prelubing device during start up. Designed with threaded billet end caps for higher pressure. 3 quart reserve tank. Includes mounting hardware. 1/2" NPT fittings.



Part # OAC91

Part#	Description
OAC91	Oil Accumulator
OAC91BR	Mounting Brackets 1 1/4"-1 1/2"
OAC92BR	Mounting Brackets 1 1/2"-1 3/4"



Oil Pressure Test Kit

An inexpensive way of testing bypass pressure on most GM, Ford and Chrysler V8 oil pumps. Includes 2" precision gauge.



Part#	Description
PT01	Oil Pressure Test Kit

Oil Pump Drive Shaft

Machined from heat-treated chromemoly steel. Featuring a larger diameter than OEM units for added torque capacity.

Part#	Description
DS41	Small Block Chevy
DS42	Big Block Chevy



PROTORQUE EXTREME

Protorque Extreme



Protorque Extreme Starters

- Designed to handle 400+ cu.in. engines and up to 18:1 compression ratio
- Solves problems with clutch failures on extreme cubic inch engines
- Features 3.5 HP, oversized gears and clutch assembly
- Highest horsepower and torque of our starter line
- Adjustable for header & oil pan clearance

Type of Unit: Nippondenso Gear Reduction
 Estimated Horsepower: 3.5 HP
 Reduction Ratio: 4.44:1
 Weight: 12.7 lbs.
 Pinion Gear: 11 tooth
 9 tooth (8300)
 10 tooth (8338)



Drive Assembly & Gears for 5000 Series Starters

Drive Assembly & Gears for 8000 Series Starters



Part #8300

Part #	Applications
8048	Ford 351M, 400, 429, 460. Replace 2 or 3 hole mount starters. 18 adjustment positions
8053	Ford 289, 302, 351 A/T and 4 & 5 Speed M/T. Replaces 2 or 3 hole mount starters. 18 adjustment positions
8300	Bert/Brinn Transmission. 5 adjustment positions.
8323	Chevy 153, 168 Tooth flywheel. 5 adjustment positions.
8323OS	Chevy staggered mount 168 tooth flywheel. 5 adjustment positions.
8338	Chrysler, Dodge, Plymouth, SB & BB 6 & 8 cylinder engines. 10 adjustment positions.
8414	GM LS series engines. 5 adjustment positions.

NOTE: 8323 replaces either straight across or staggered mount units providing the engine block is drilled for straight across mount.



Part # 8053



Part # 8323



Part # 8323OS



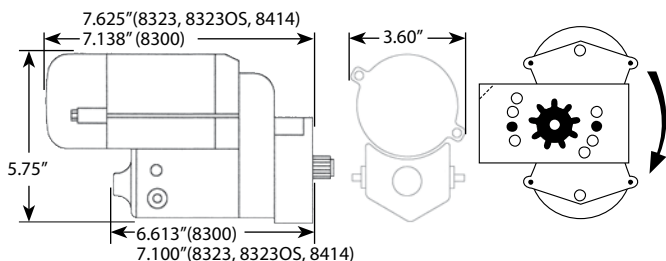
Part # 8338



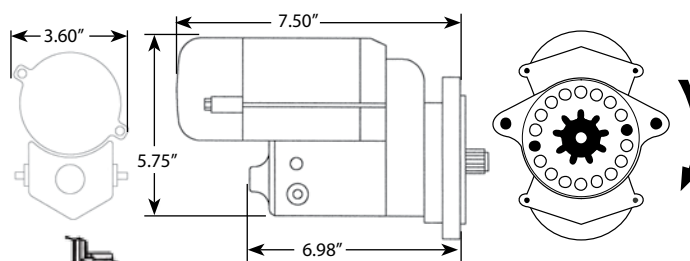
Part # 8414

Dimensions by part#

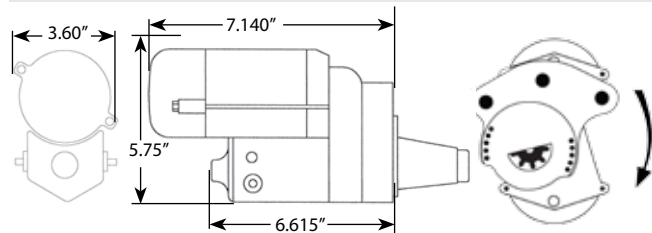
PN 8300, 8323, 8323OS, 8414



PN 8048, 8053



PN 8338



*Note: replaces OEM units which nose housing extends 2-3/8"



Protorque Ultra Starters

With over 25 years of manufacturing under our belt we are proud to offer a newly designed offset gear reduction starter.

- Specially wound field coil and armature make this starter surpass the competition by delivering amazing torque throughout the cranking range
- All CVR starters are manufactured in Canada to the highest standard of quality and workmanship
- Adjustable for header & oil pan clearance
- Ideal for oil pans with side kick-outs
- Designed to handle 400+ cu.in. engines and up to 18:1 compression ratio



Specifications

Type of Unit:	Hitachi Style Gear Reduction
Estimated Horsepower:	3.4 HP
Reduction Ratio:	4.4:1
Weight:	10.5 lbs.
Pinion Gear:	9 tooth

Part #	Applications
9048	Ford BB 351M, 400, 429, 460
9049	Ford BB FE 390, 427, 428, 1965 and up, 184 tooth flywheel
9055	Ford SB V8 All A/T plus M/T with 157 tooth flywheel, 3/4" depth
9056	Ford SB V8 All M/T with 164 tooth flywheel, 3/8" depth
9311	Pontiac / Oldsmobile 1965 – 1981, V8 except 301
9314	Chevy / Pontiac / GMC late model trucks, LS, LSX, engines 4.8L, 5.3L, 6.0L, 168 tooth flywheel
9323	Chevy 153, 168 tooth flywheel (straight mount)
9323OS	Chevy 168 tooth flywheel (staggered mount)



Drive End Plates

Ford and GM units all interchange by changing the drive-end mounting plates. This gives the ability to convert a GM unit to a Ford unit.

Part#	Description	Part#	Description
HI048	PN 9048	HI311	PN 9311
HI049	PN 9049	HI314	PN 9314
HI055	PN 9055	HI323	PN 9323
HI056	PN 9056	HI323OS	PN 9323OS



Note: The information contained herein is based upon data which we believe to be correct and has been obtained from sources which we regard as reliable, but we assume no liability for typographical errors or omissions therein.

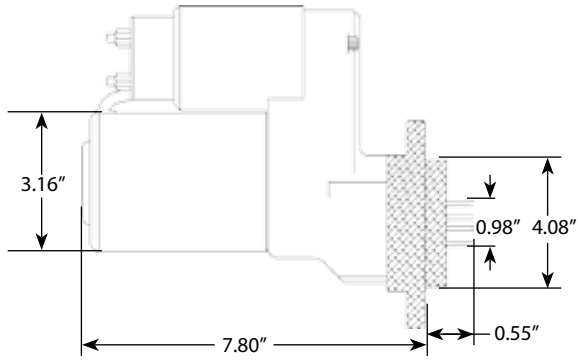
Protorque Ultra Starters

Dimensions by part#

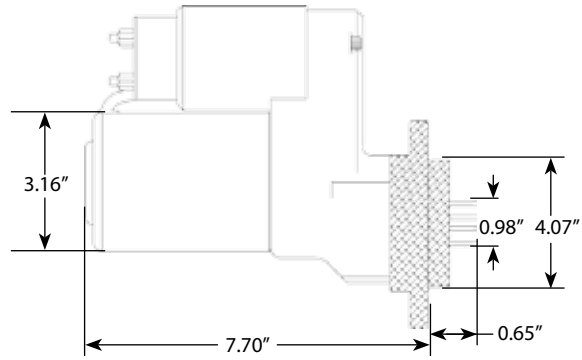


Protorque Ultra

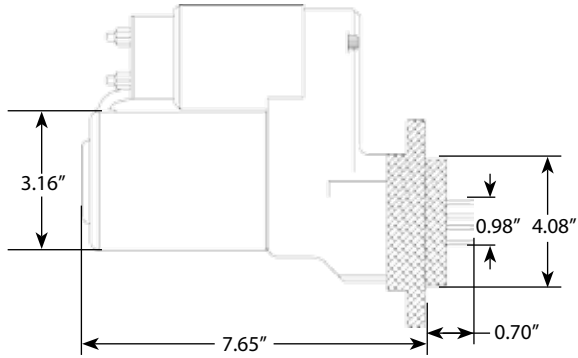
PN 9048



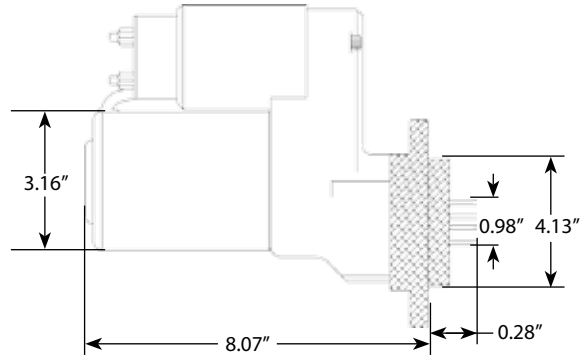
PN 9049



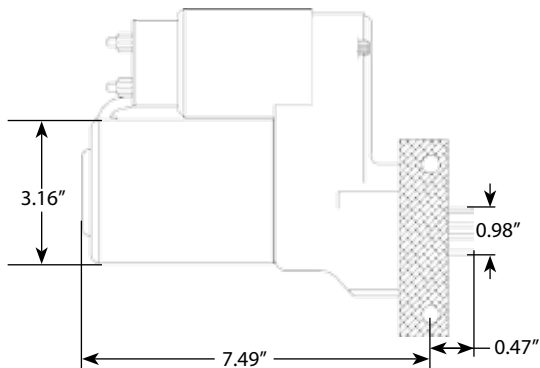
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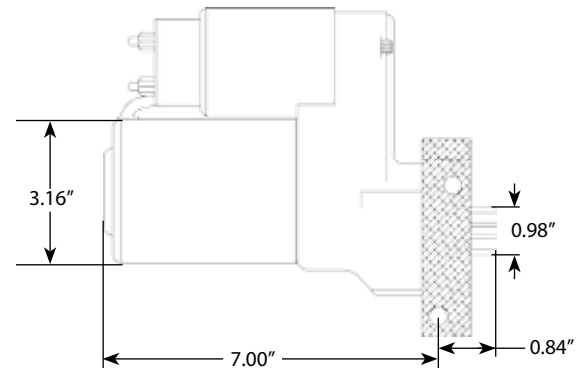
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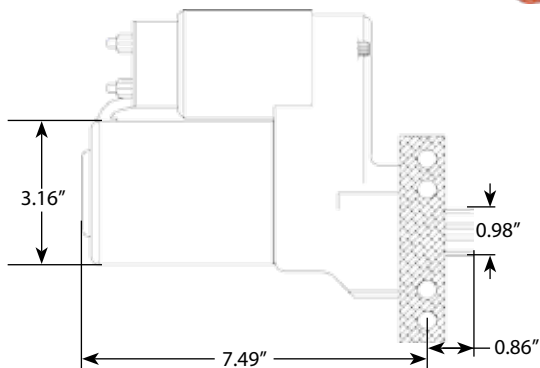
PN 9311



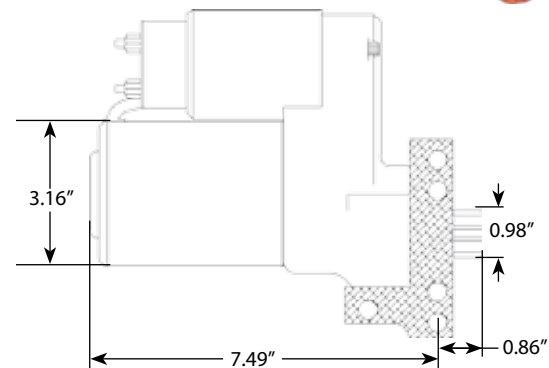
PN 9314



PN 9323



PN 9323OS



Protorque Maximum Starters



- Designed to handle 400+ cu.in. engines and up to 18:1 compression ratio
- Adjustable for header and oil pan clearance
- Denso style starters handle heat better than any other starter design

Specifications

Type of Unit: Nippondenso Style Gear Reduction
 Estimated Horsepower: 3.0 HP
 Reduction Ratio: 4:44:1
 Weight: 11 lbs.



Part #
5056M

Part #	Applications
1338M	Chrysler, Dodge, Plymouth, SB & BB, 6 & 8 cylinder engines. 10 position adjustable. 10 tooth.
5048M	Ford 351M, 400, 429, 460. Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5049M	Ford 390, 427, 428 (FE Series). Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5055M	Ford 289, 302, 351 A/T and 4 & 5 Speed M/T. Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5056M	Ford 289, 302, 351 3-Speed M/T & Powerglide conversion. Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5300M	Bert/Brinn Transmission. 5 adjustment positions. 9 tooth.
5323M	Chevy 153, 168 tooth flywheel. 5 adjustment positions. 11 tooth. NOTE: Replaces either straight across or staggered mount units providing the engine block is drilled for straight across mount.
5323MOS	Chevy staggered mount, 168 tooth flywheel. 5 adjustment positions. 11 tooth.



Part #
1338M

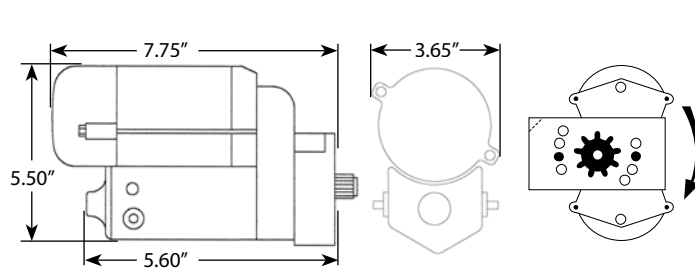
Part #
5323M

Part #
5323MOS

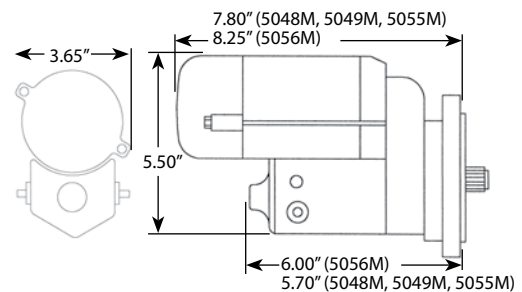
Part #
5300M

Dimensions by part#

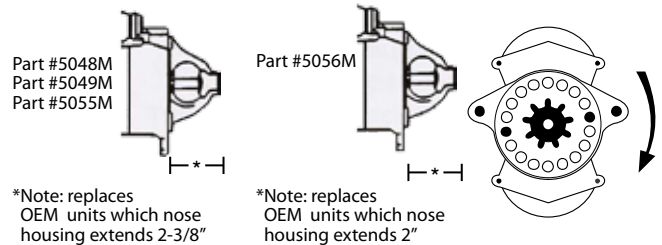
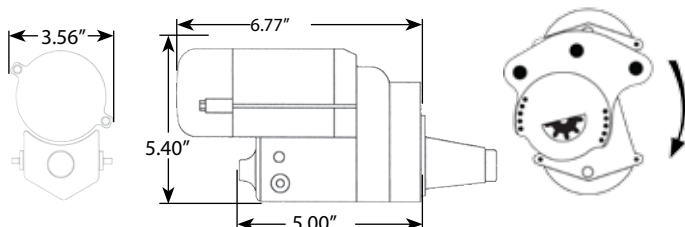
PN 5300M, 5323M, 5323MOS



PN 5048M, 5049M, 5055M, 5056M



PN 1338M

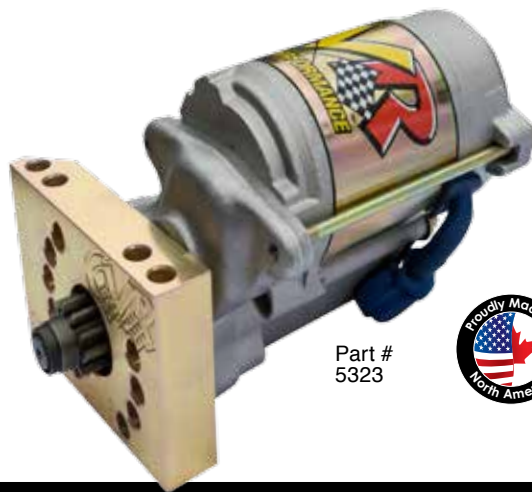


Protorque Starters

- Unique aluminum housing helps to eliminate hot start problems
- Designed to handle up to 400 cu.in. engines and up to 18:1 compression ratio
- Sealed with rubber O-rings and grommets
- Easily replaceable plunger and contacts
- Adjustable for header & oil pan clearance
- Packs a big punch for size to power ratio

Specifications

Type of Unit: Nippondenso Style Gear Reduction
 Estimated Horsepower: 1.9 HP
 Reduction Ratio: 4:1
 Weight: 10 lbs.



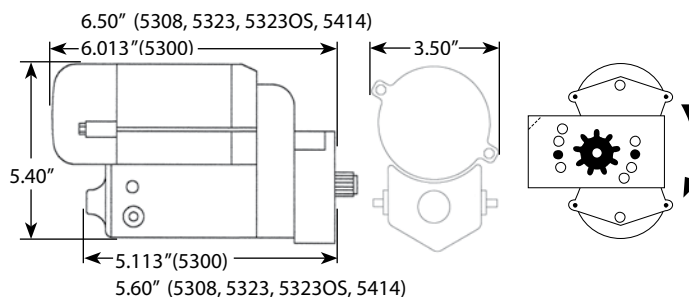
Part # 5323



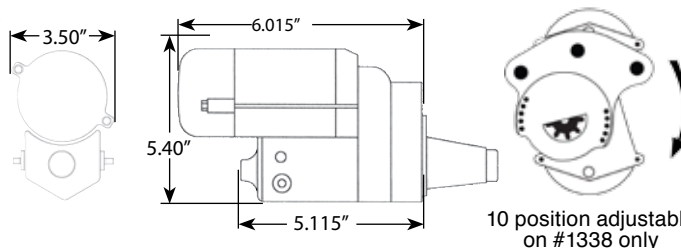
Part #	Applications
1337	Chrysler, Dodge, Plymouth, SB & BB, 6 & 8 cylinder engines. Non-adjustable. 10 tooth.
1338	Chrysler, Dodge, Plymouth, SB & BB, 6 & 8 cylinder engines. 10 position adjustable. 10 tooth.
5044	72-87 AMC 232, 258 6 cylinder, 72-82 AMC V8. 18 adjustment positions. 11 tooth.
5048	Ford 351M, 400, 429, 460. Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5049	Ford 390, 427, 428 (FE Series). Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5055	Ford 289, 302, 351 A/T and 4 & 5 Speed M/T. Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5056	Ford 289, 302, 351 3-Speed M/T & Powerglide conversion. Replaces 2 or 3 hole mount starters. 18 adjustment positions. 11 tooth.
5300	Bert/Brinn Transmission. 5 adjustment positions. 9 tooth.
5308	Holden 308. 5 adjustment positions. 11 tooth.
5311	Pontiac / Oldsmobile 350, 400, 455, 166 tooth flywheel. 5 adjustment positions. 11 tooth.
5323	Chevy 153, 168 tooth flywheel. 5 adjustment positions. 11 tooth.
5323OS	Chevy staggered mount, 168 tooth flywheel. 5 adjustment positions. 11 tooth.
5323R	Chevy engines with factory points ignition that require a relay terminal, 153, 168 tooth flywheel. 5 adjustment positions. 11 tooth.
5414	GM LS series engines, 168 tooth flywheel. 5 adjustment positions. 11 tooth.

Dimensions by part#

PN 5300, 5308, 5323, 5323OS, 5414



PN 1337, 1338



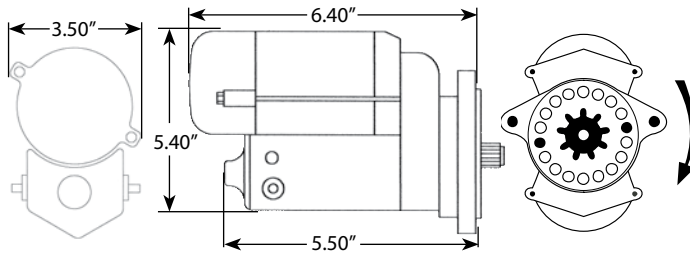
10 position adjustable on #1338 only

Protorque Starters

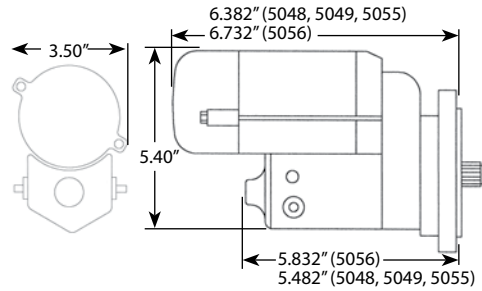
Dimensions by part#



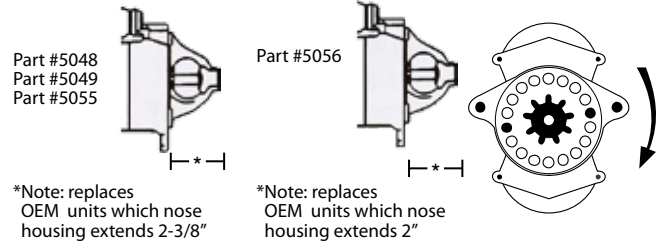
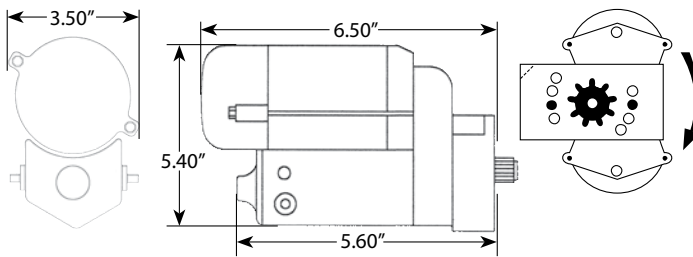
PN 5044



PN 5048, 5049, 5055, 5056



PN 5311



Drive End Plates

Ford and GM units all interchange by changing the drive-end mounting plates. This gives the ability to convert a GM unit to a Ford unit.

Part#	Description
048DE	Used on unit number 5048, 5049, 5055
056DE	Used on unit number 5056
311DE	Used on unit number 5311
323DE	Used on unit number 5323
323ODE	Used on unit number 5323OS
338DE	Used on unit number 1338, 1338M
414DE	Used on unit number 5414



Pinion Gears

Part#	Description
ND19509	For GM / Ford
ND19743	For Chrysler



Starter Shim Kit

Part#	Description
GM53SK	For GM mount starters



Solenoid Repair Kits

Part#	Description
ND19606KIT	For Protorque
ND19750KIT	For Protorque Maximum



Clutch Assemblies

Part#	Description
506V	For Protorque Maximum
545V	For Protorque



Idler Gears

Part#	Description
IG16802	For Protorque
IG16803	For Protorque Maximum



Armature Gear

Part#	Description
AG16802	Armature Gear



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Protorque Tech Info



The “R” Terminal:

Before electronic ignition, vehicles required an R-Terminal, which bypassed the ignition resistor for easier starting. Today's electronic ignitions do not use a ballast resistor, therefore they do not require an “R” terminal. When updating an existing starter to a racing starter which does not have an “R” terminal, **simply do not connect this wire.**

Note: CVR offers a 5323R for Chevy engines with factory points ignition that requires a relay terminal. Another option is that a remote solenoid can be added that has a built-in relay terminal.

Note: The CVR Protorque starter is designed to cross the flywheel between .400” and .500”. This is quite sufficient for this type of unit with proper shimming.

Caution: Over tightening of battery terminal may result in misalignment of solenoid contact causing intermittent starter failure. If this occurs, remove the gold tin cover held in place by three (3) hex head bolts and realign the copper contact so plunger assembly makes full contact across both contacts.

Shimming Procedure:

Unlike Ford and Chrysler which have a fixed starter drive gear to flywheel clearance, **GM starters have an Adjustable Clearance.**

Important: Most GM pad-mounted starters **prematurely fail as a result of improper shimming**, regardless of whether the old starter had shims or not, **you must inspect the clearance** of the new unit as it may or may not require shimming.

Before Installation:

You must understand the need for proper starter to flywheel clearance. This “clearance” is critical to avoid damage to Flywheel, Starter Drive and Battery.

Why Shimming Varies:

1. Mounting pad tolerances and hole locations vary from block to block, this **moves** the starter drive gear away from the flywheel varying distances.
2. The mounting pad on the engine block dimensions **vary**. This also moves the starter drive gear away from the flywheel varying distances.

• Step 1 - Inspection:

Remove lower flywheel housing cover and examine the entire flywheel for visual problems. (Worn, chipped or broken teeth; bent flywheel and/or incorrectly cut teeth)

• Step 2 - Check Clearance:

Insert a screwdriver behind the starter drive. Move starter drive assembly out toward flywheel so that starter pinion and ring gear teeth mesh.

• Step 3 - Measure Clearance:

Center the ring gear tooth in the valley of the two teeth on the pinion gear. **Check clearance** (looking for .025” - .060”). A convenient plug gauge is a common paper clip, which typically measures approximately .035”. **Important** - Check at least 3 ring gear locations 120° apart for proper clearance. Shim **as required at minimum** clearance location. After measuring clearance, push starter drive back into original position.

• Step 4 - Proper Shimming:

To increase clearance: Use entire shim across both holes. .015” shim **increases clearance** approximately .0075”. This moves the starter down and out, **away** from the flywheel (use no more than 6 shims).

To decrease clearance: Use 1/2 shim only on the outer mounting bolt hole from oil pan. This moves the starter in and toward the flywheel. .015” shim decreases clearance approximately .010”