

Tech Guide

Small Block Chevrolet Supercharger

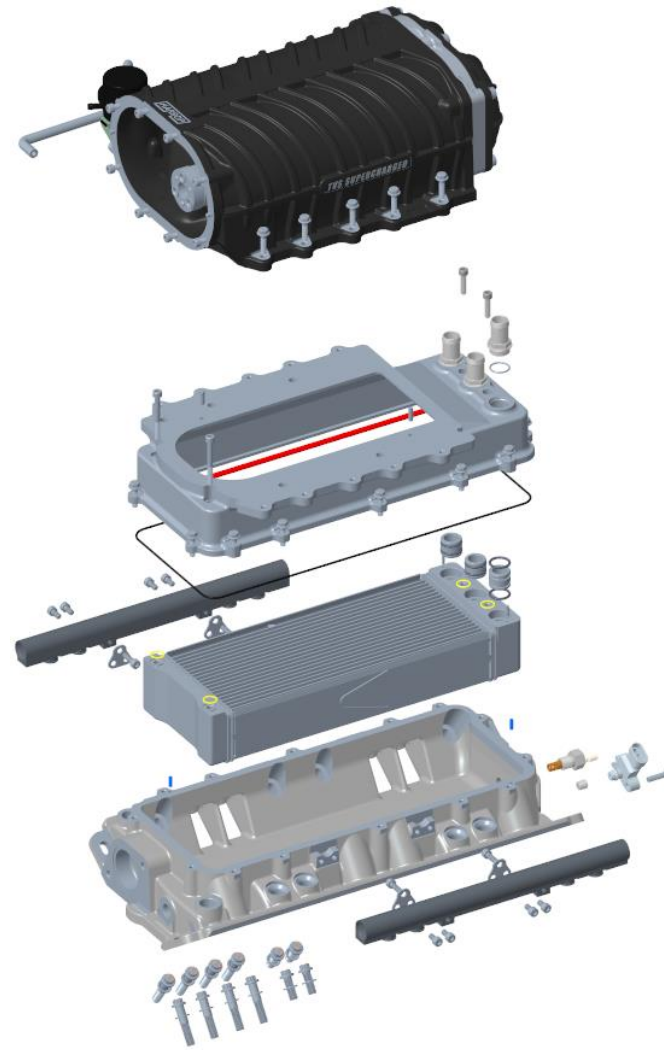


Harrop Engineering develops and manufactures premium supercharger kits in Melbourne, Australia. Through 70 years of automotive performance Engineering, Harrop Engineering have successfully manufactured and supplied Superchargers to Automotive OEM programmes including TRD, Lotus Cars and Ford Australia. Harrop Engineering is certified to meet ISO 9001 standards of quality. OEM Quality, performance and vehicle integration are the foundation of Harrop Supercharger kits.



Key Features

- High efficiency TVS2650 Mk2 Supercharger
- Optional TVS2650 MK2 CNC Race Ported (RP) Supercharger
- Bypass valve integrated for increased efficiency at low engine loads
- High density double pass intercooler core
- -8 ORB fuel rails to suit EV14 Compact injectors
- GM 12592525 MAP sensor
- GM 25037388 IAT sensor
- Choice of 5 different front covers to suit various airbox and throttle needs
- 10PK supercharger drive system with Harrop HD tensioner
- High alternator mount
- Suits electric or mechanical water pumps
- Accepts standard SBC thermostat housing



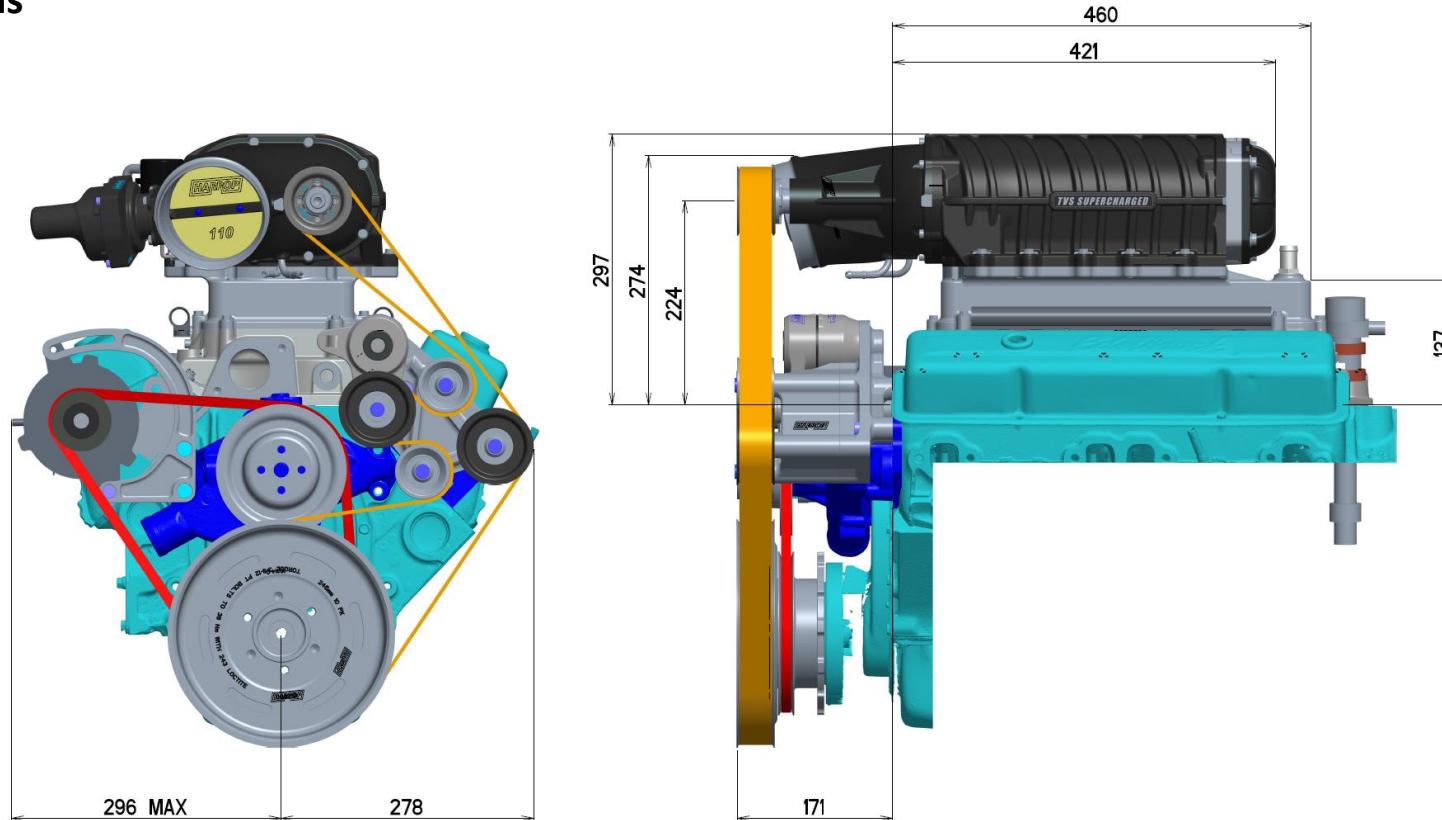
Engine Requirements

- Small Block Chevrolet with a 9.025" deck height. eg. 283-400 engine block
- SBC Gen 1 style cylinder heads with 23-degree valve angle and standard port orientation
- Early style Timing Cover
- ATI Super Damper Balancer
- Innovators West #7007 crank trigger
- MSD Cam Sync #85141 sensor
- Short Water Pump (5.625" from base of pump to flange) with 5/8" pilot shaft diameter if using Harrop water pump pulley
- CS130 alternator with 6.6" mounting centres and V belt pulley if using Harrop alternator mount

ANY OTHER CONFIGURATIONS, DECK HEIGHTS, AND ACCESSORIES NOT MENTIONED ABOVE HAVE NOT BEEN TESTED AND/OR ARE NOT CURRENTLY SUPPORTED

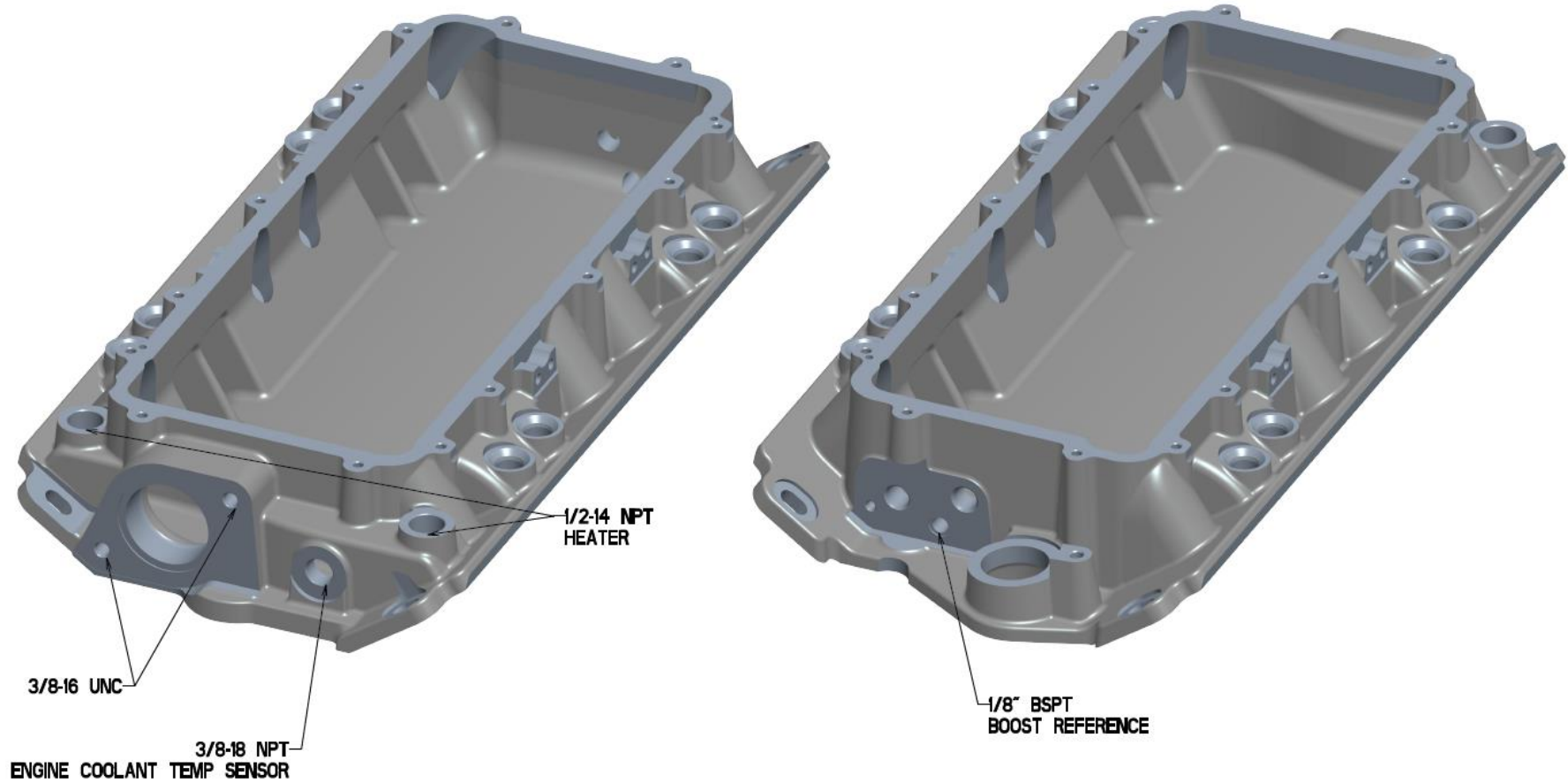


Dimensions



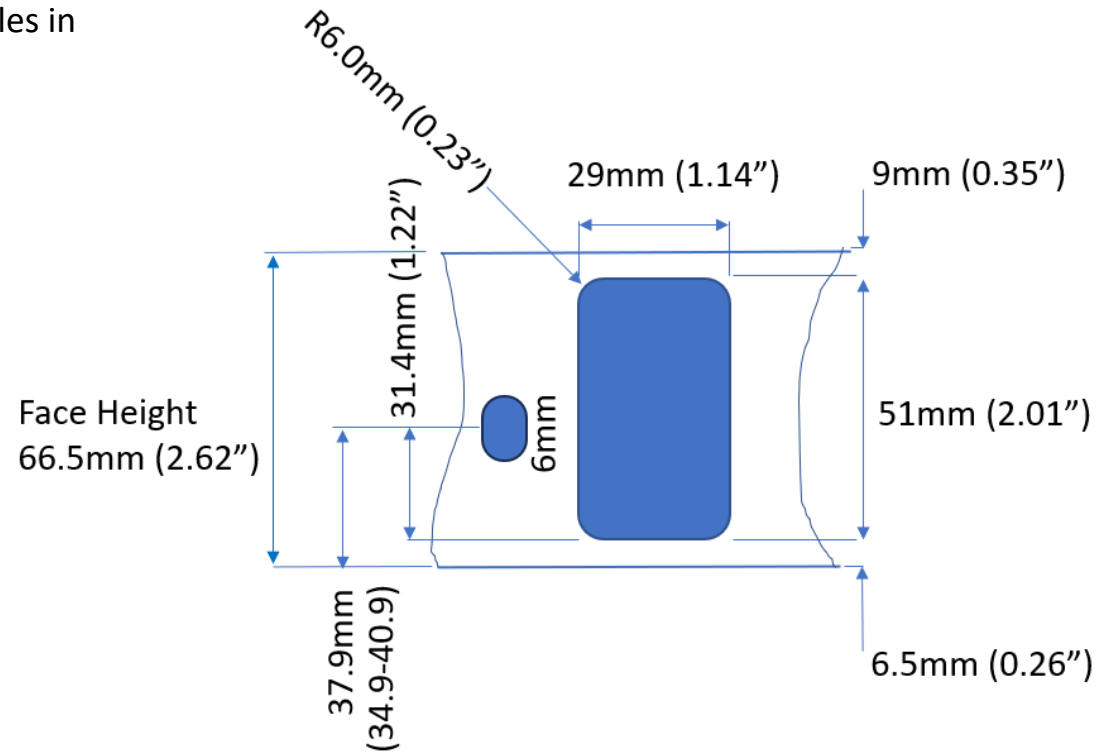
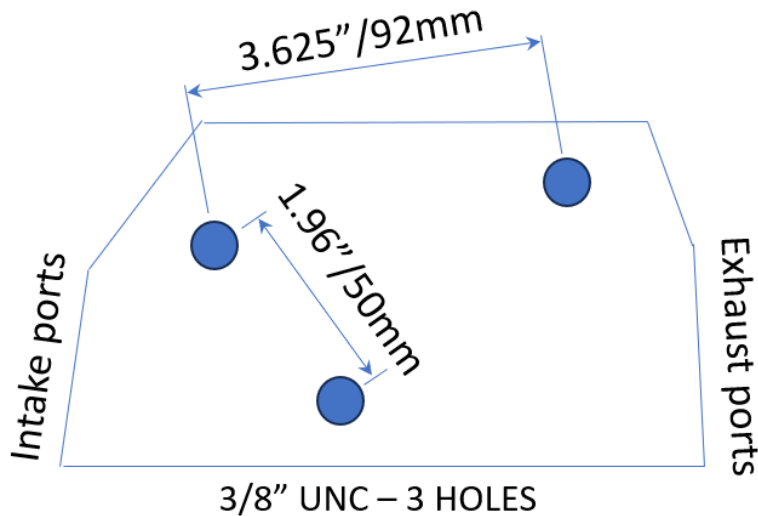
- Vertical dimensions shown from valley surface
- Horizontal dimensions shown from front block face

Manifold Ports



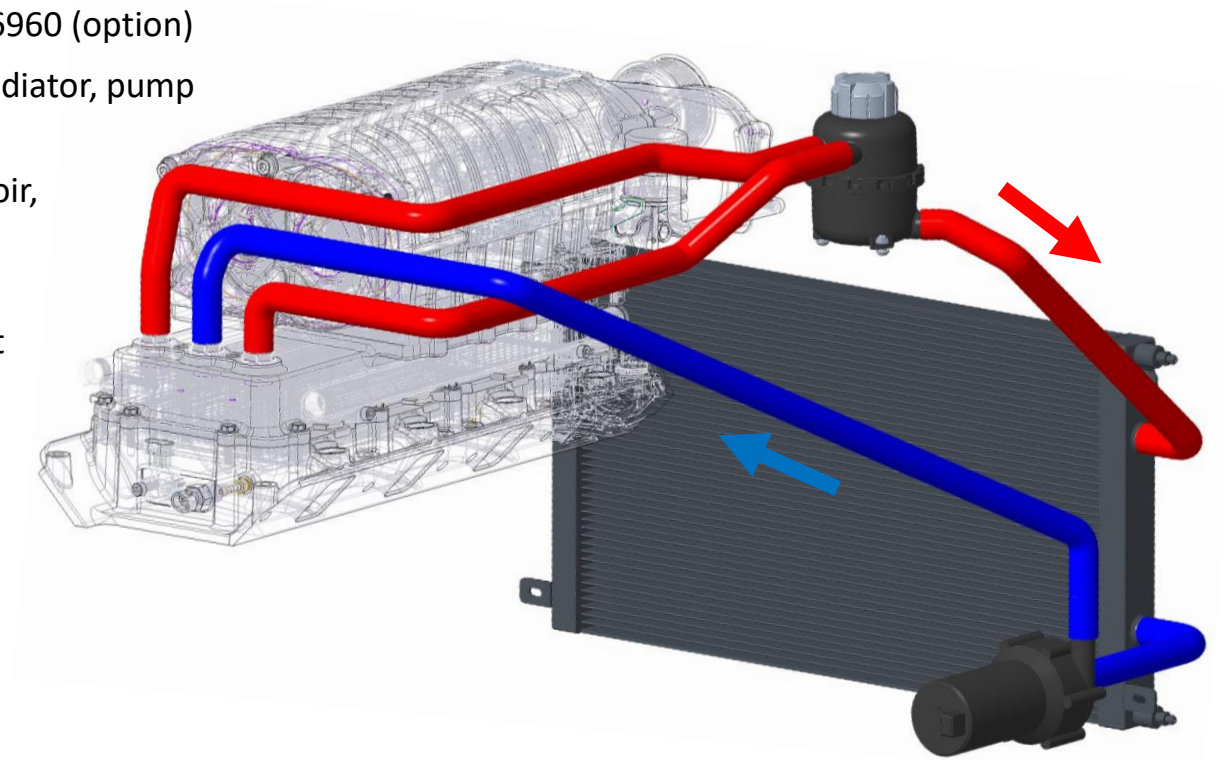
Intake Port and Head Accessory Dimensions

- Harrop SBC Supercharger Lower Manifold port size to suit 9.025" deck height with SBC Gen 1 style 23-degree valve angle cylinder heads in standard port orientation
- Left hand cylinder head must have 3x 3/8" UNC holes in the front to mount the idler assembly



Intercooler layout and dimensions

- 326mm x 147mm x 65mm
- Choice of barb or AN fittings on supercharger
 - 19mm (3/4") barb PN 99-FIT13023 (standard fit)
 - -12 AN PN 99-FIT16960 (option)
- Engine kit does not include reservoir, radiator, pump or hoses
- Generic intercooler kit including reservoir, radiator, pump and hoses is available PN 99-AKIT12953
- Image shown is a generic coolant circuit diagram

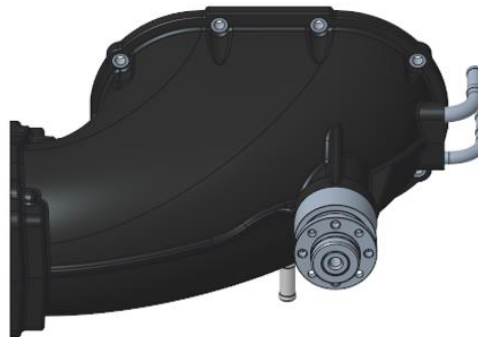


Supercharger Front Cover Options



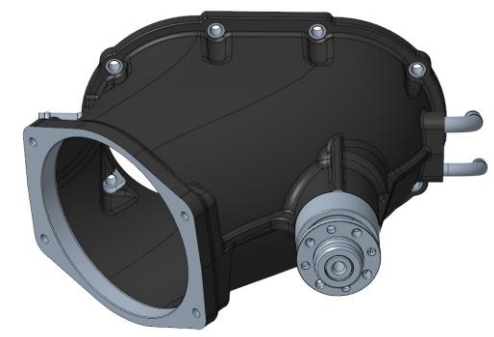
99-ACVR13167

Straight facing to suit LS/LT 90 to 103mm TB



99-ACVR14234

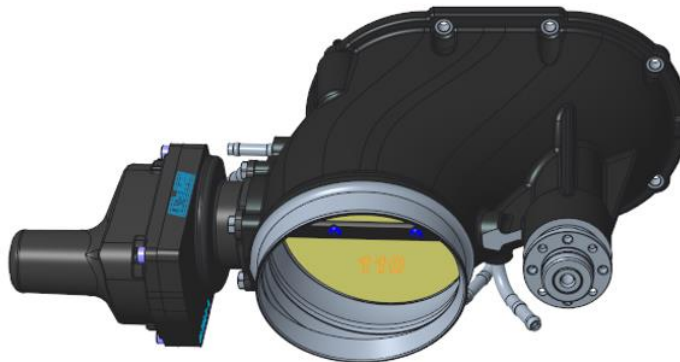
RH facing to suit LS/LT 90 to 92mm TB



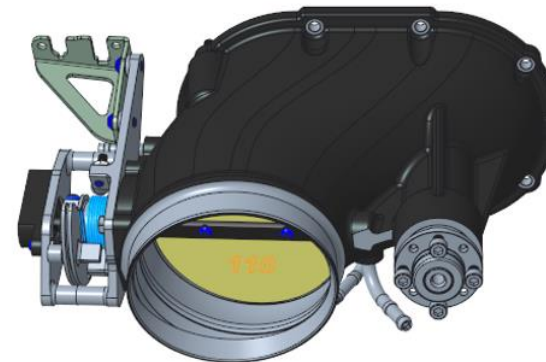
99-ACVR17002

RH facing to suit NW120mm LS – LT TB

99-ACVR13169
Integrated 110mm electronic actuation



99-ACVR14983
Integrated 110mm cable actuation

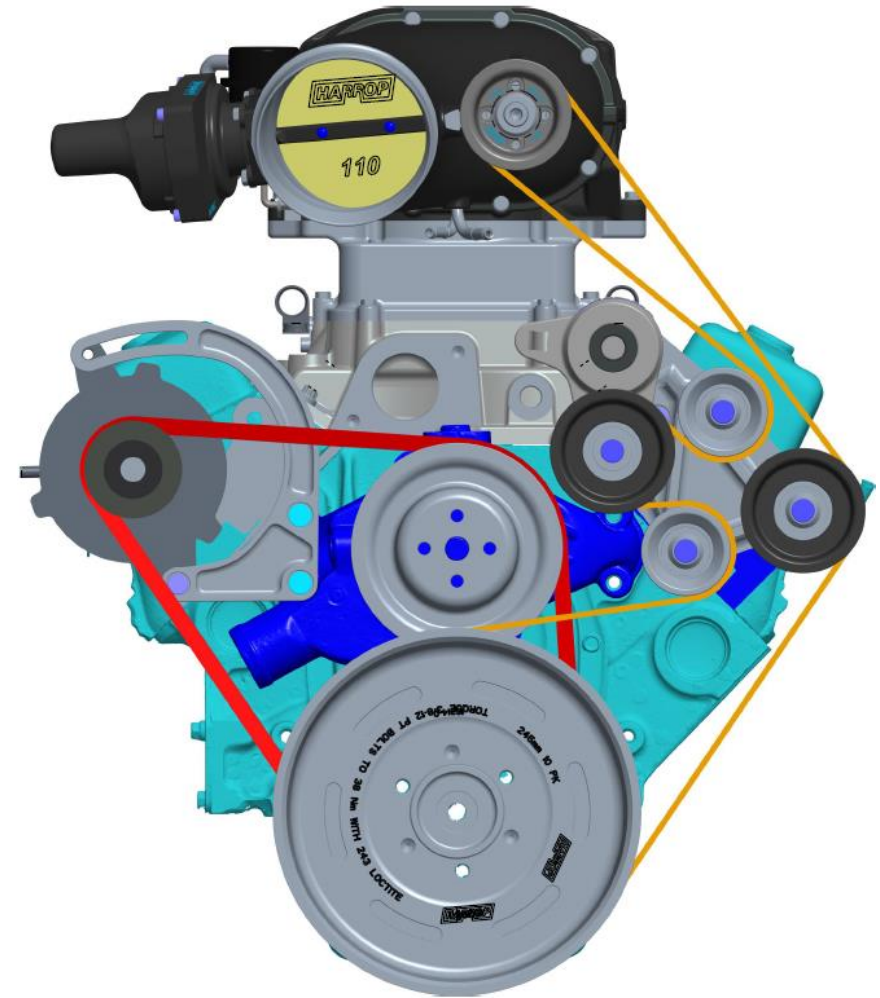


Install Kit

- Install kit consists of the idler and tensioner assembly, crank pulley adaptor and all required bolts
- Install kit is required
- PN 99-AKIT17137

Alternator Mount

- CS130 alternator mounts in front of right cylinder head using the Harrop alternator mount
- Due to variations between water pump brands, the standoffs for the alternator mounts may need modifications
- Shown with Harrop alternator mount and water pump pulley
- For situations where the Harrop alternator mount is not suitable, the customer will need to produce their own alternator mounting solution
- PN 99-ABKT16648



Belt Drive Configuration

Supercharger Belts and Pulleys

Crank Pulley	Supercharger Pulley	Belt	S/C speed*
99-PLY15295 205mm	99-PLY16324-GT 70mm	65-10PK2186	23429 RPM
99-PLY15295 205mm	99-PLY16325-GT 75mm	65-10PK2195	21867 RPM
99-PLY15295 205mm	99-PLY16326-GT 80mm	65-10PK2195	20500 RPM
99-PLY15295 205mm	99-PLY16327-GT 85mm	65-10PK2211	19294 RPM
99-PLY15296 245mm	99-PLY16324-GT 70mm	65-10PK2195	28000 RPM
99-PLY15296 245mm	99-PLY16325-GT 75mm	65-10PK2195	26133 RPM
99-PLY15296 245mm	99-PLY16326-GT 80mm	65-10PK2211	24500 RPM
99-PLY15296 245mm	99-PLY16327-GT 85mm	65-10PK2211	23059 RPM

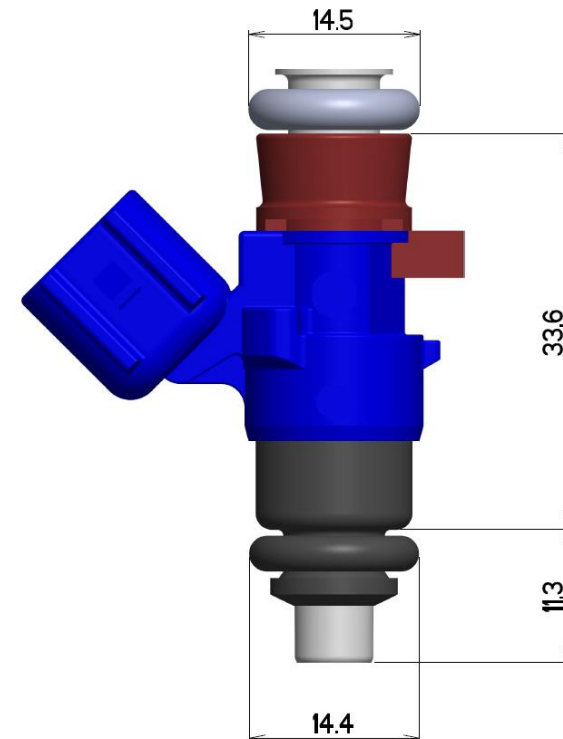
Alternator Belts and Pulleys

Alternator Pulley	Water Pump Pulley	V-Belt
68mm	99-PLY16315 130mm	65-11A1075
68mm	N/A (Electric Water Pump)	65-11A0985

- Above table is only suitable when using the Harrop 99-ABKT16648 with a CS130 alternator
- *Supercharger speed at 8000 Engine RPM

Injectors

- Suits EV14K Compact injectors, also known as ½ height injectors
- 14mm orings top and bottom
- Injectors are not supplied by Harrop

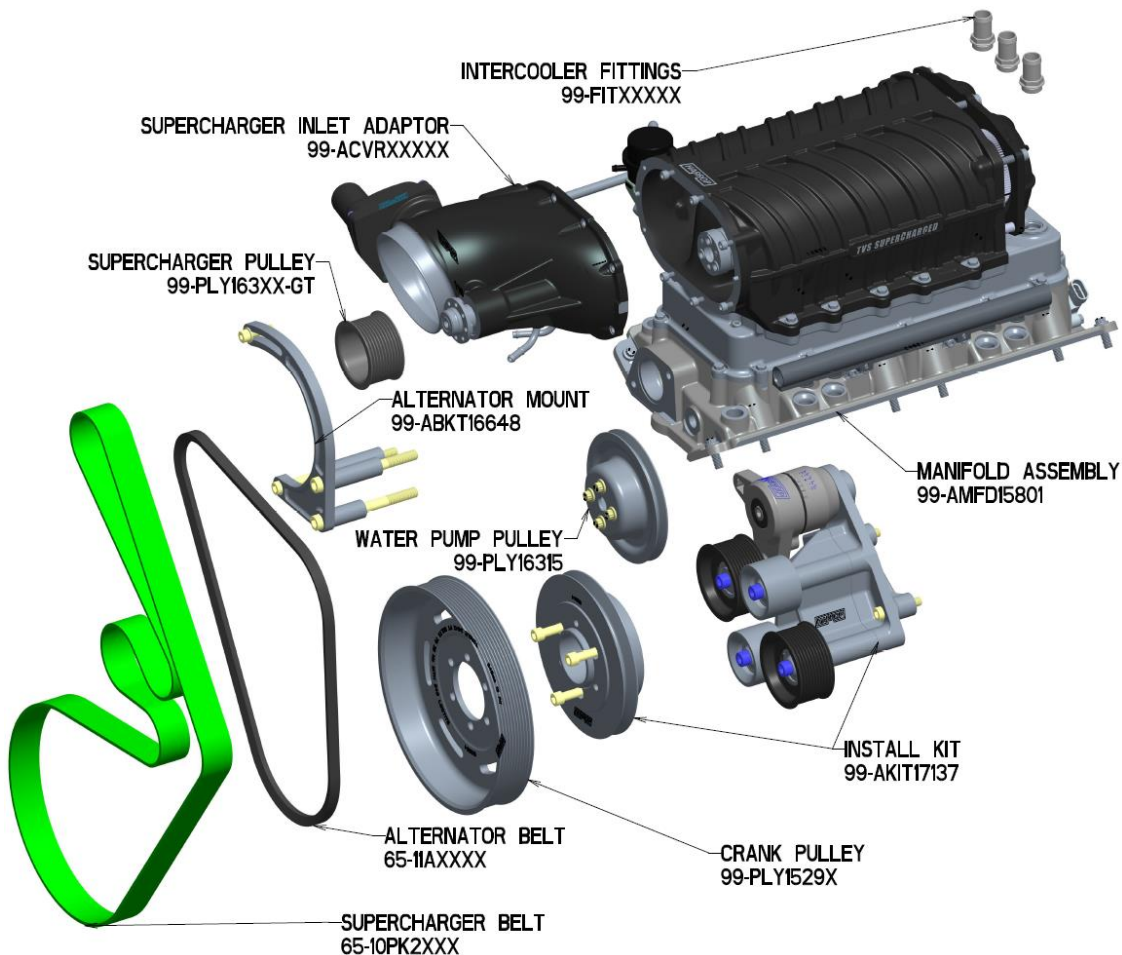


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Part Numbers



Part	Part Number	Notes
Manifold Assembly Mk2	99-AMFD15801	Choice of either standard Mk2 manifold or RP
Manifold Assembly Mk2 RP	99-AMFD15801-RP	CNC ported manifold required
Install Kit	99-AKIT17137 (See page 9)	Required
Alternator Mount	PN 99-ABKT16648 (See page 9)	Optional
Intercooler Fittings	99-FITXXXXX (See page 7)	Choice required
Supercharger Inlet Adaptor	99-ACVRXXXXX (See page 8)	Choice required
Supercharger Pulley	99-PLY163XX-GT (See page 10)	Choice required
Crank Pulley	99-PLY1529X (See page 10)	Choice required
Water Pump Pulley	99-PLY16315 (See page 10)	Optional
Supercharger Belt	65-10PK2XXX (See page 10)	Choice required
Alternator Belt	65-11AXXXX (See page 10)	Optional

Performance Data

Engine Specs	Pulley Setup	Boost	Power	Torque
<ul style="list-style-type: none"> • 416ci SBC • Dart block • AFR 210 heads • Crow Cams PD cam • FuelTech FT600 • Bosch 1650cc injectors • Harrop 2650 MK2 supercharger • 110mm integrated throttle 	205mm Crank 85mm SC	15.5 PSI	1088 Hp @ 7700 RPM	885 lb-ft @ 4700 RPM
	205mm Crank 80mm SC	17.5 PSI	1120 Hp @ 7800 RPM	928 lb-ft @ 4700 RPM
	205mm Crank 75mm SC	19.5 PSI	1140 Hp @ 7500 RPM	972 lb-ft @ 4700 RPM
	205mm Crank 70mm SC	21PSI	1216 Hp @ 7500 RPM	1017 lb-ft @ 4800 RPM

- Measured on SuperFlow engine dyno on pump E85 fuel

Engine Specs	Fuel	Pulley Setup	Boost	Power
<ul style="list-style-type: none"> • 434ci SBC • Dart block • AFR 245 heads • Holley ECU • Harrop 2650 MK2 supercharger • 110mm integrated throttle 	98 RON	205mm Crank 80mm SC	15 PSI	952 Hp @7305 RPM
	E85	205mm Crank 80mm SC	15 PSI	1040 Hp @7746 RPM

- Measured on Mainline ProHub dyno
- Visit HarropTV to watch the supercharged SBC on the dyno <https://youtu.be/OjUH7ewgRsA>.
- **Boost levels and performance results are provided as a guide only. They will vary subject to variable factors such as weather, dyno type, fuel quality, engine and vehicle condition and configuration.**