

*Sport*

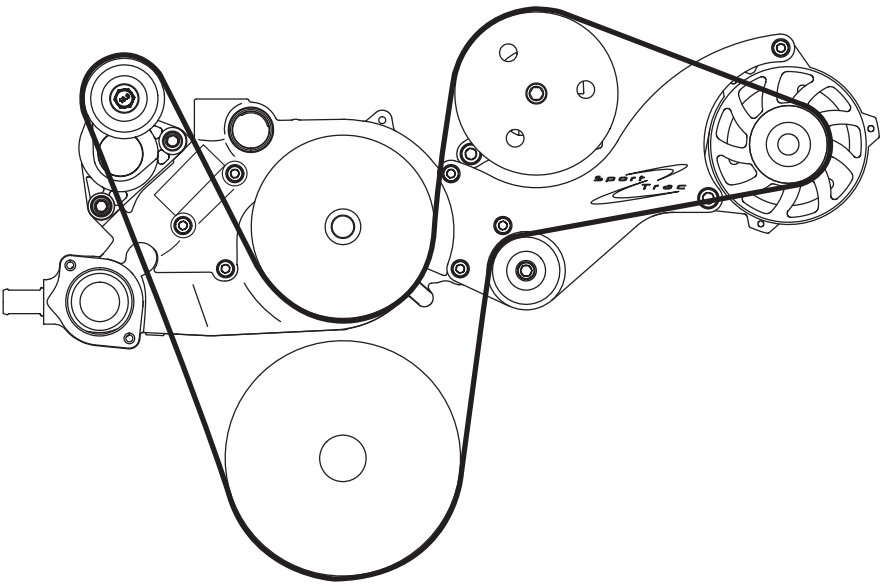
*Trac*

## **SPORT TRAC**

SERPENTINE LS CHEVROLET ACCESSORY DRIVE ASSEMBLY  
ALTERNATOR & POWER STEERING ONLY

Installation Manual

#12525



***BilletSpecialties***

**Billet Specialties, Inc.**

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Tech (708) 588-0505 • Fax (708) 588-7181

# PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLING ANY COMPONENTS OF THE SPORT TRAC SERPENTINE SYSTEM

## Important!

This kit is engineered for the F-Body water pump and damper. If your motor does not have this - do not attempt to install this kit until the following has been purchased.

### Recommended F-Body LS Water Pump;

A/C Delco P/N 252846 water pump (98-02 Camaro/Firebird, 04-06 GTO 04-06, 97-04 Corvette) Other Manufactures for this water pump are; GM 19256263, Cardone Select P/N 5513136, Gates P/N 45002, GMB P/N 1307290

### Recommended F-Body LS Engine Damper;

Dayco PB1480N (98-02 Camaro/Firebird, 04-06 GTO)  
Other Manufactures for this are; GM P/N 12553118, Power Bond P/N PB1480N, Pioneer P/N DA3507, ATO P/N 102058

## Important!

Before assembly, disconnect the battery.

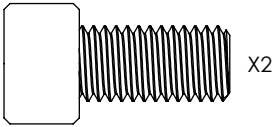
### Required Tools & Materials

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> 5mm Allen   | <input type="checkbox"/> 3/4" Socket         |
| <input type="checkbox"/> 6mm Allen   | <input type="checkbox"/> 15mm Socket         |
| <input type="checkbox"/> 8mm Allen   | <input type="checkbox"/> 22mm Socket         |
| <input type="checkbox"/> 1/4" Allen  | <input type="checkbox"/> Ratchet             |
| <input type="checkbox"/> 5/16" Allen | <input type="checkbox"/> Anti-Seize Compound |

### TECH TIP:

Billet Specialties recommends the use of Anti-Seize on all fasteners to prevent thread lock-up.

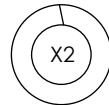
## Skin Board #1 - Packaged with Power Steering Pump



M10 - 1.5 x 20mm Socket Head Cap Screw



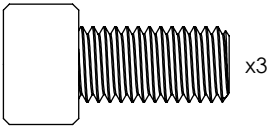
5/16-18 x 2.75" Socket Head Cap Screw



5/16" Lock Washer

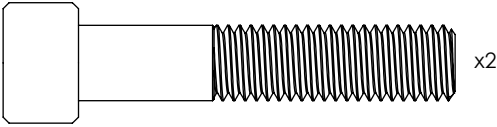
Power Steering Bracket P/N12500E (not shown)  
Serpentine Belt 6-Rib 96.7" - Continental P/N 967K6MK

## Skin Board #2 - Packaged In Main Box

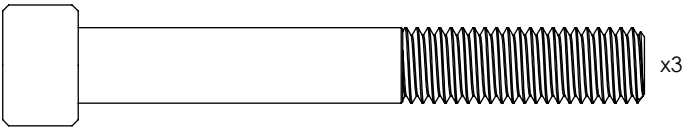


M8 - 1.25 x 146mm Threaded Rod  
x4

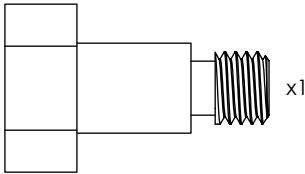
M10 - 1.5 x 20mm SocketHead Cap Screw



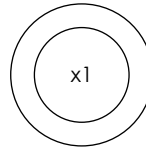
M10 - 1.5 x 50mm Socket Head Cap Screw



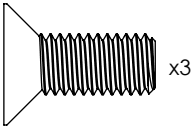
M10 - 1.5 x 75mm Socket Head Cap Screw



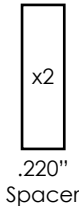
Compressor Shoulder Bolt



1/2" Flat washer



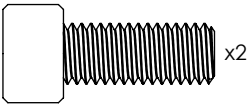
M8 - 1.25 x 20mm  
Flat Head Cap Screw



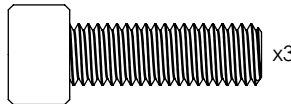
.220"  
Spacer



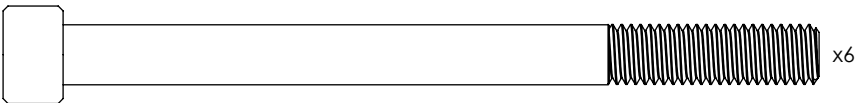
1.422" Spacer



M8 - 1.25 x 20mm Socket  
Head Cap Screw

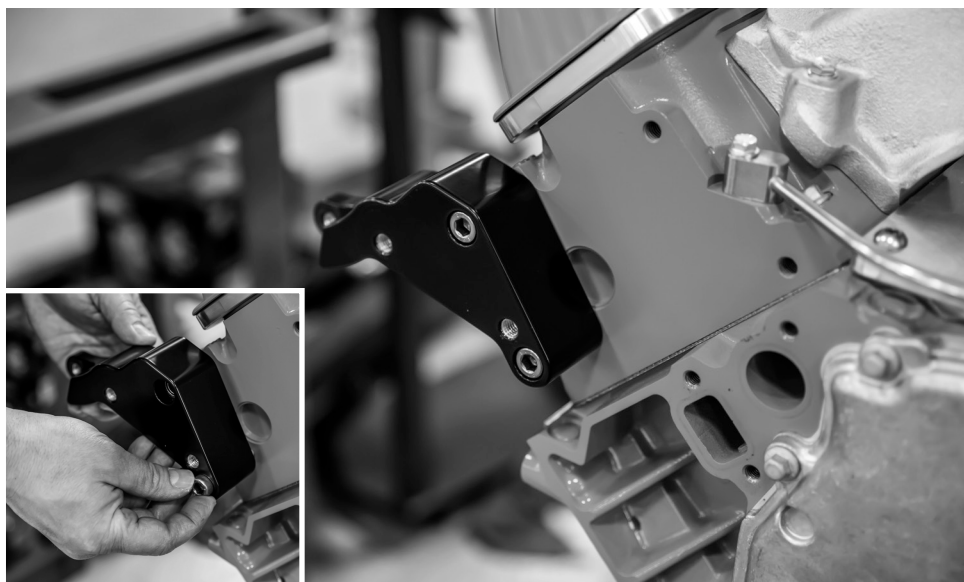


M8 - 1.25 x 25mm Socket  
Head Cap Screw



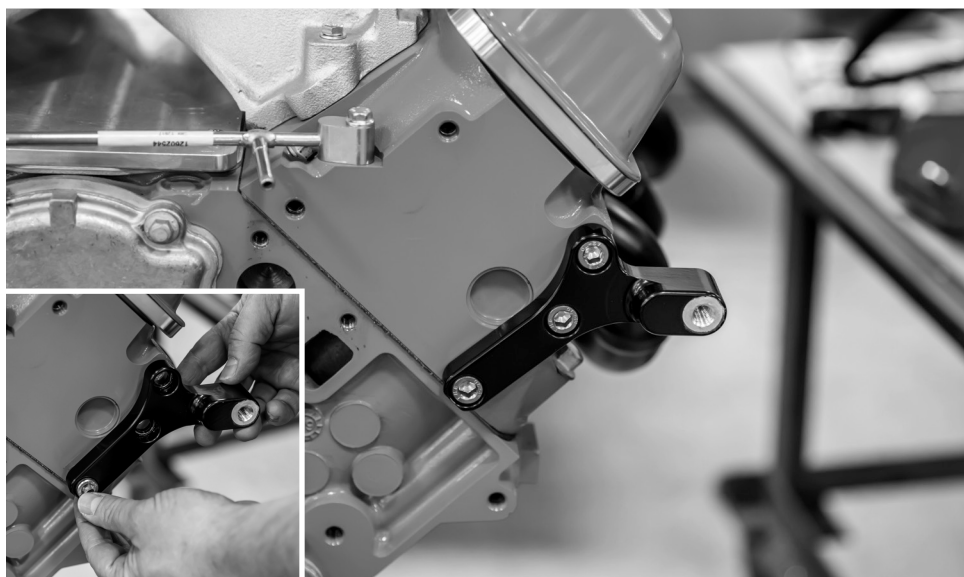
M8 - 1.25 x 100mm Socket Head Cap Screw





### **Compressor Bracket Installation.**

Install the Compressor bracket (12500F) to the passenger cylinder head with the two M10 - 1.5 x 50mm socket head cap screws and tighten firmly.

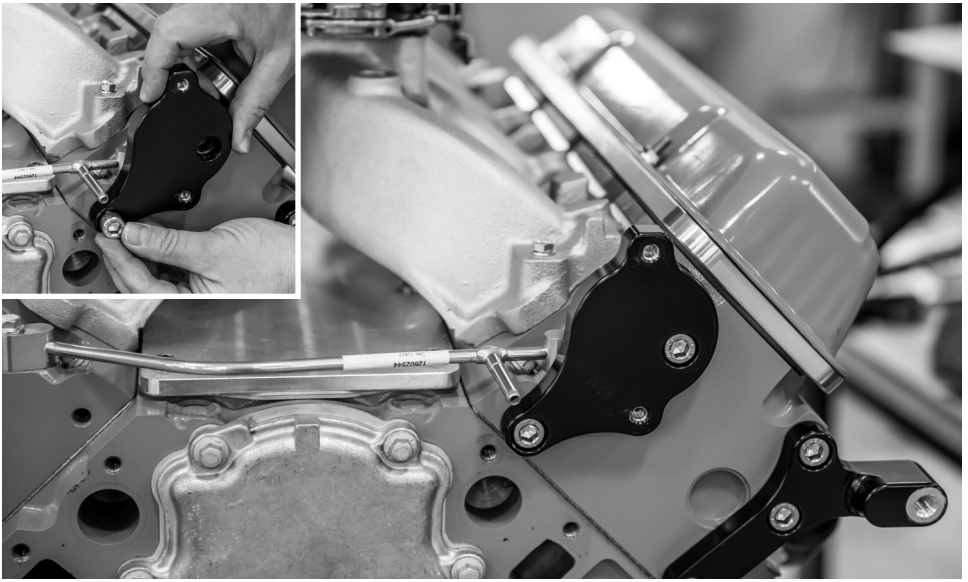


### **Alternator Bracket Installation.**

Install the Alternator Bracket (12500B) to the Driver side cylinder head with the three M10 - 1.5 x 20mm socket head cap screws and tighten firmly.

#### **TECH TIP:**

Billet Specialties recommends the use of Anti-Seize on all fasteners to prevent thread lock-up.



### **Power Steering Pump Bracket Installation.**

Install the Power Steering Pump Bracket (12500E) to the Driver side cylinder head with the two M10 - 1.5 x 20mm socket head cap screws and tighten firmly.

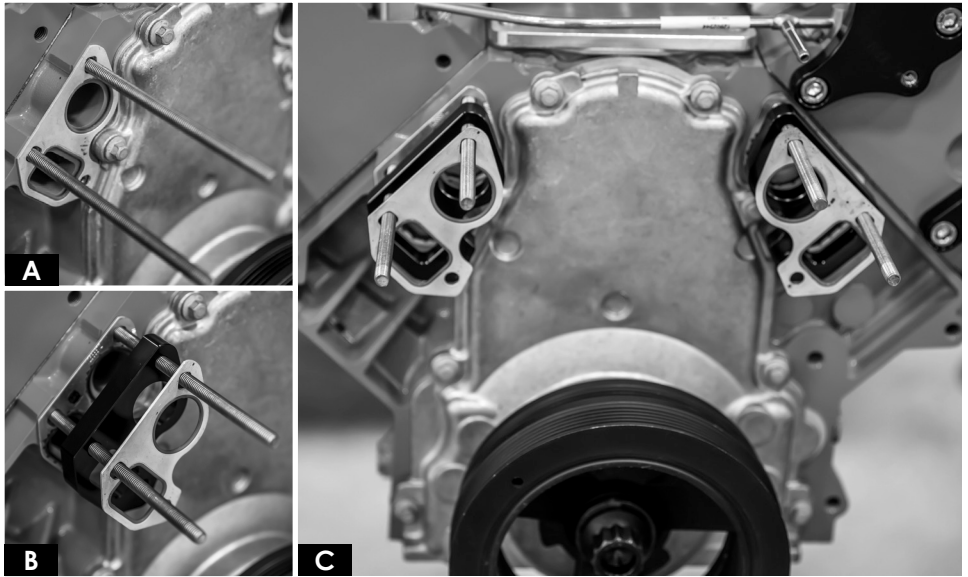
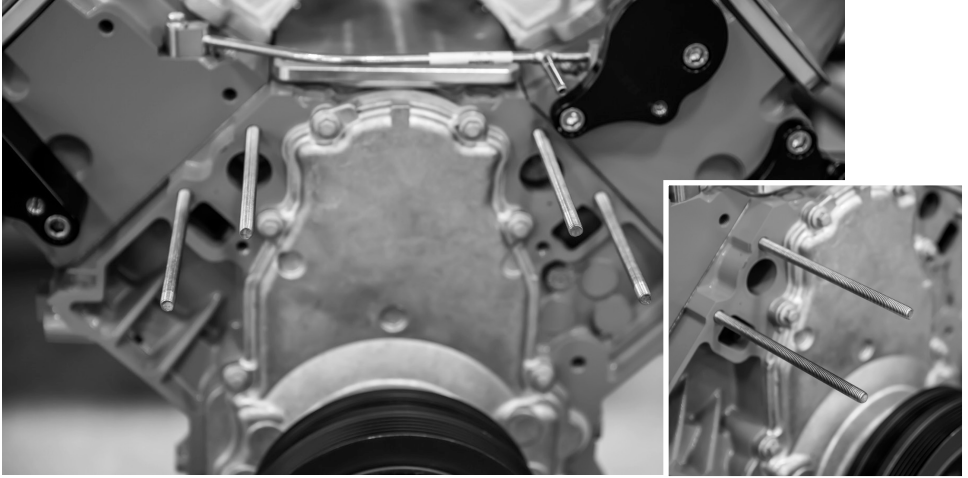
#### **TECH TIP:**

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## Water Pump Installation.

Install the four M8 - 1.25 x 146mm threaded rods into the block and finger tighten as shown, the bottom hole on each side should be open.

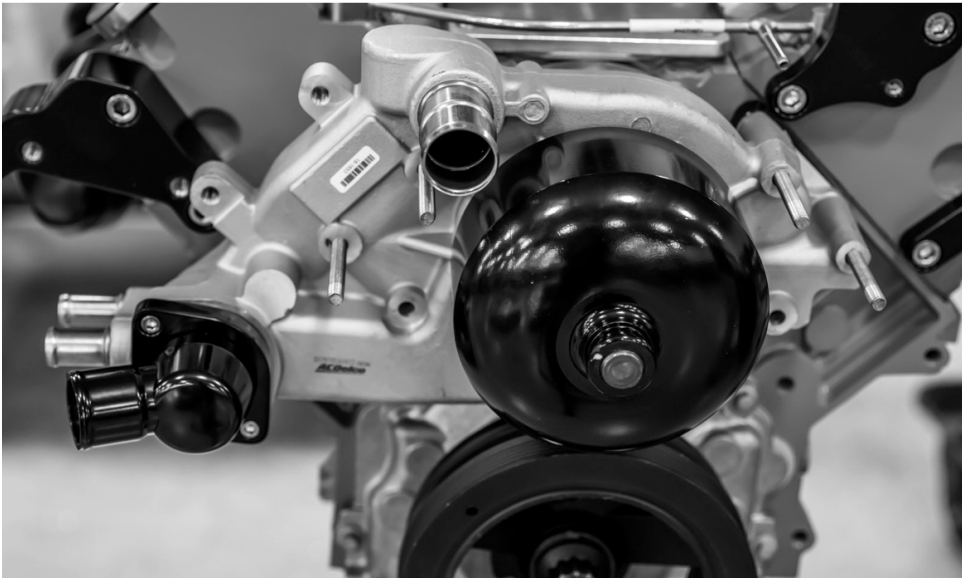
These rods temporarily hold the water pump spacers, gaskets and water pump in place during installation and will be discarded after use.



Place the water pump gaskets one on each side **(A)** then the black water pump spacers followed by two more gaskets to seal the spacers to the pump **(B)**. Inspect installation making sure the gaskets and spacers align with the water passages in the block.

### TECH TIP:

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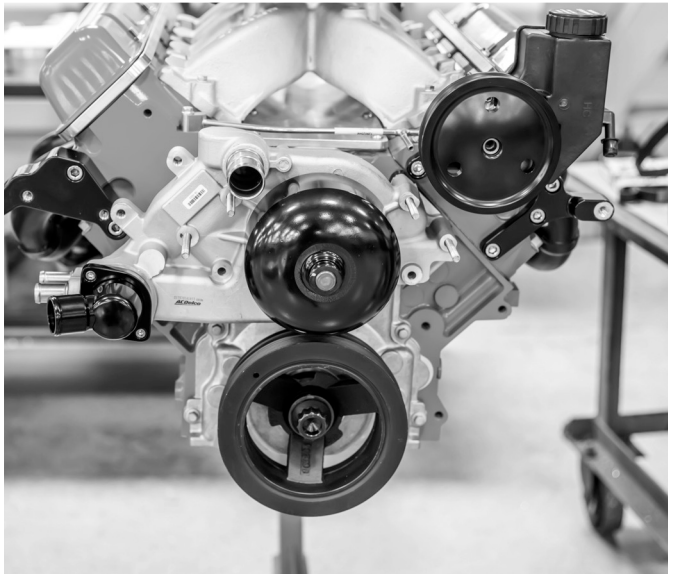
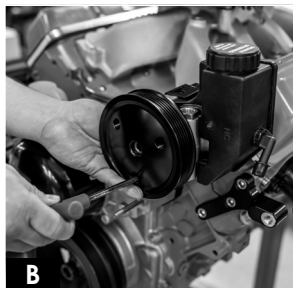
At this time install the AC Delco P/N 252846 water pump onto the studs.

**TECH TIP:**

Billet Specialties recommends the use of Anti-Seize on all fasteners to prevent thread lock-up.

## Power Steering Pump and Reservoir Installation.

Install the Power Steering Reservoir to power Steering Pump with pulley (pre-installed). Instructions for reservoir mounting are included with the reservoir. Pay attention to the clips as they are marked top and bottom. (Clip 1 = top & Clip 2 = bottom)



Install the power Steering Pump assembly to the power steering bracket with the two 5/16-18 x 2.75" socket head cap screws with the split lock washers and tighten firmly (A-B). (Note; the washers will not fit thru the hole on the pulley and must be installed after the fastener is passed through the pulley hole).

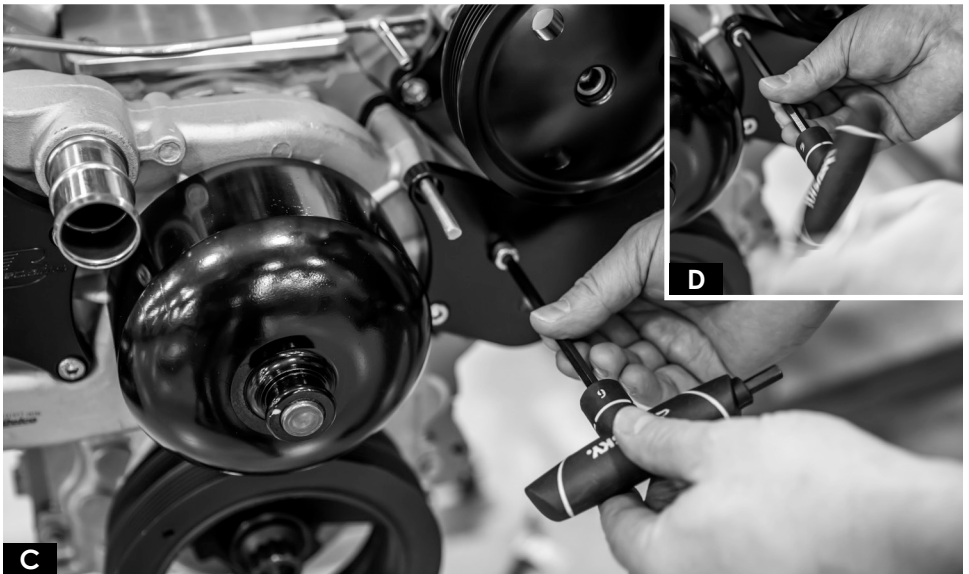
### TECH TIP:

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## Alternator Bridge Bracket Installation.

Install the Alternator Bridge Bracket (12500A) on the right side of the water pump as shown **(A)**. Install a M8 - 1.25 x 100mm socket head cap screw in the bottom hole and finger tighten only. **(B)**



Remove one of the M8 - 1.25 x 146mm threaded rods and replace with a M8 - 1.25 x 100mm socket head cap screw and finger tighten **(C)**. Repeat for the remaining threaded rod and finger tighten only **(D)**.

### TECH TIP:

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## Compressor Support Bracket and Idler Bridge Bracket Installation.

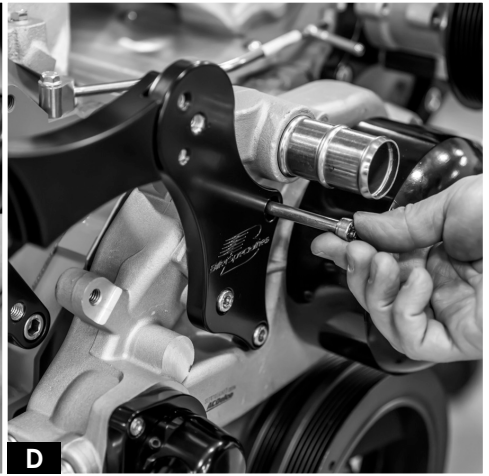
Install the compressor support bracket (12500O) to the Idler Bridge bracket (12500D) by threading the two M8 - 1.25 x 20mm Flat head cap screws through the back of the support bracket and into the Idler Bridge Bracket and tighten firmly.



Next - Install the Idler Bridge bracket with the Compressor Support Bracket assembly on the left side of the water pump as shown **(A)**. Install a M8 - 1.25 X 100mm socket head cap screw in the bottom hole and finger tighten **(B)**.

### TECH TIP:

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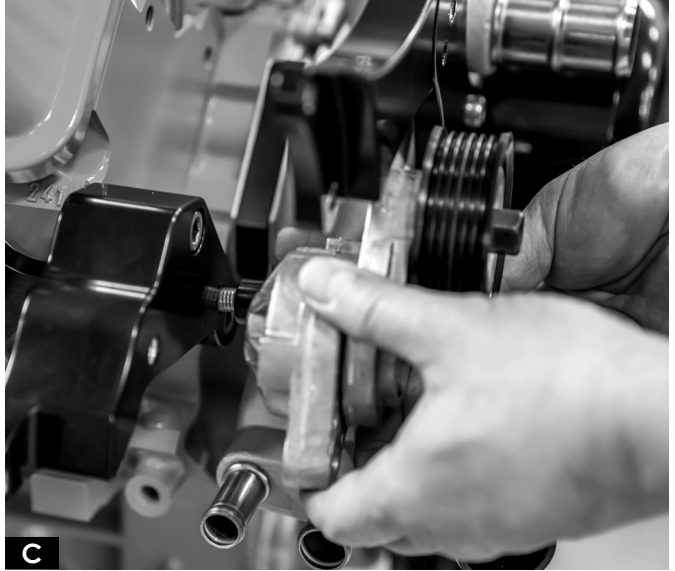
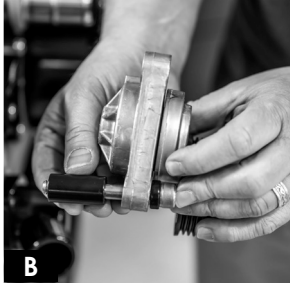
Remove one of the M8 - 1.25 x 146mm threaded rods and replace with a M8 - 1.25 X 100mm socket head cap screw and finger tighten only **(C)**. Repeat for the remaining threaded rod and finger tighten only **(D)**.

**TECH TIP:**

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## Tensioner & Compressor Bridge Bracket Installation.

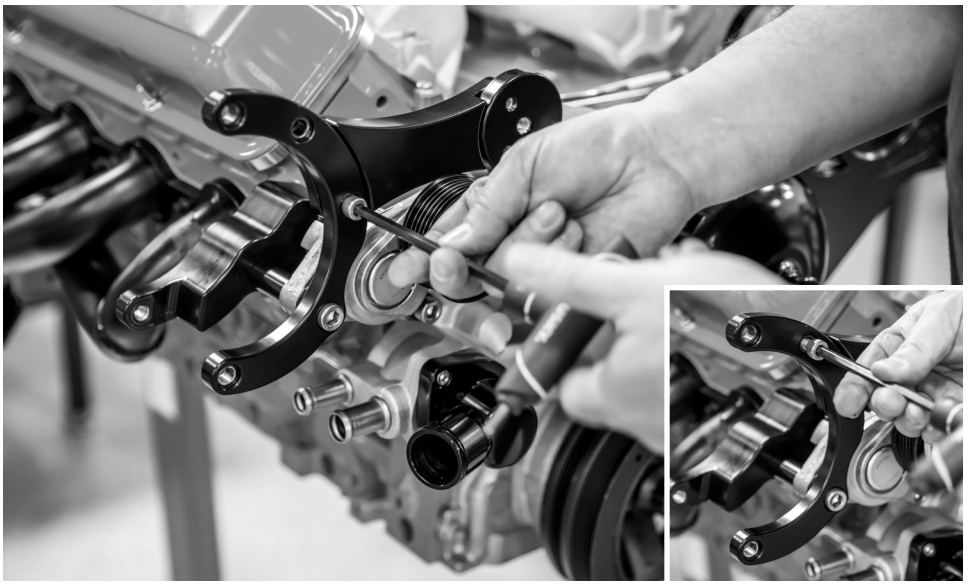
Install one short .220" spacer onto a M10 - 1.5 x 75mm socket head cap screw and through the tensioner as shown **(A)**, followed by a long 1.422" spacer **(B)** and into the compressor bracket that is attached to the cylinder head **(C)**. Only finger tighten at this time.



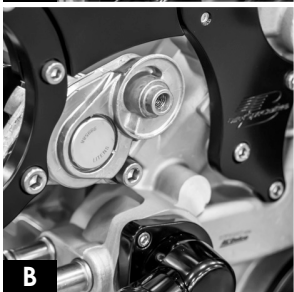
Next install the M10 - 1.5 x 75mm socket head cap screw through the Compressor Bridge Bracket (12500C) and short .220" spacer **(D)**. Attach assembly through the other Tensioner mount hole and the long 1.422" spacer **(E)** and into Compressor Bracket **(F)**, only finger tighten at this time.

### TECH TIP:

Billet Specialties recommends the use of Anti-Seize on all fasteners to prevent thread lock-up.



Finish attaching the compressor support bracket by threading the two M8 - 1.25 x 20mm socket head cap screws through the Compressor Bridge Bracket and into the Compressor Support Bracket, only finger tighten at this time.



### **Tensioner Pulley Installation.** (Packaged with Tensioner)

Remove the tensioner pulley supplied with the kit by removing the 15mm black bolt on the tensioner pulley. (A-B)

Install the aluminum pulley and large washer packaged with the tensioner and replace the bolt. Tighten firmly (C).

**Note; this is a special pulley do not mix up with the idler pulleys packaged separately. (This will result in belt misalignment)**

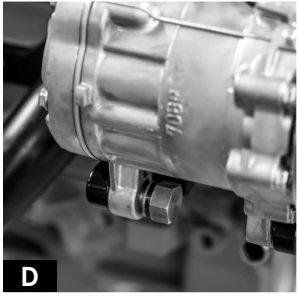
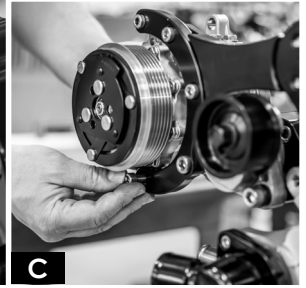
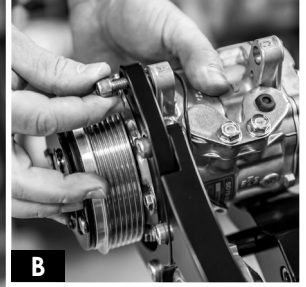
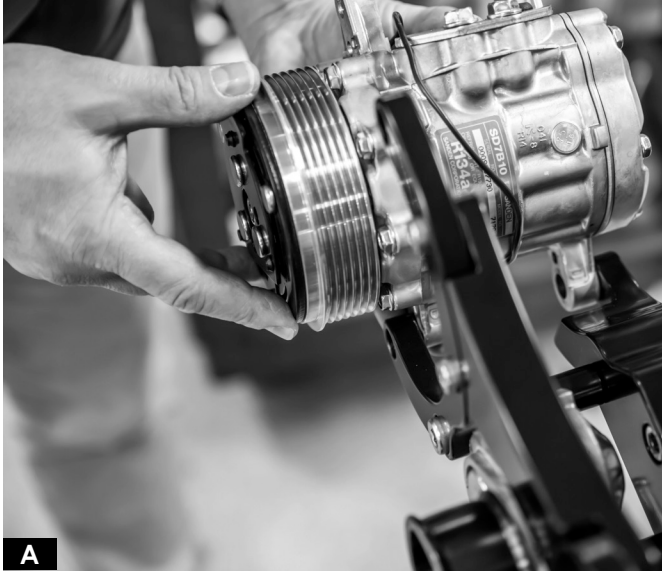
#### **TECH TIP:**

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## AC Compressor Installation.

Place the AC Compressor between the brackets as shown. **(A)**

Thread the M8 - 1.25 x 25mm socket head cap screws through the AC Compressor bracket and into the compressor ears and finger tighten. **(B-C)**



Finish by installing the compressor shoulder bolt and washer through the compressor ear and into the Compressor Bracket **(D)** and tighten firmly.

### TECH TIP:

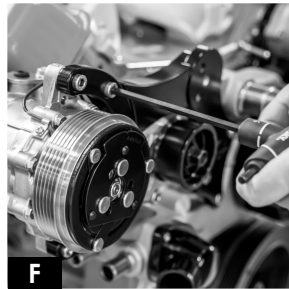
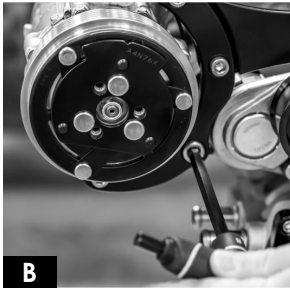
Billet Specialties recommends the use of Anti-Seize on all fasteners to prevent thread lock-up.

**At this time firmly tighten all fasteners on the left side as shown:**

Idler Bridge Bracket bolts- all three. **(A)**

Tensioner bolts. **(B-C)**

Compressor bridge bracket. Picture **(D, E, F, & G)**



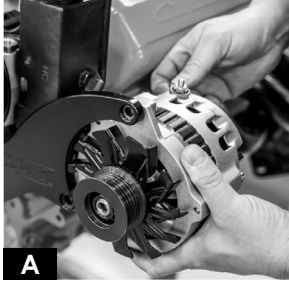
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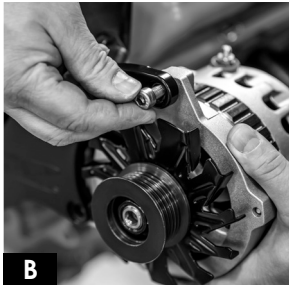
## Alternator Installation.



*(Note – some Alternators may have a shim in the bottom hole not allowing the fastener to pass through, remove the shim by simply pushing it out and discarding it)*



**A**



**B**



**C**

Place the alternator between the Alternator Bridge Bracket and the Alternator Bracket as shown **(A)**, insert the M8 - 1.25 x 25mm socket head cap screw through the top of the bridge bracket and into the Alternator **(B)**, only finger tighten. Insert the M10 - 1.5 x 75mm socket head cap screw through the Alternator Bridge Bracket, the Alternator and into the Alternator head bracket **(C)**.

**At this time tighten all fasteners firmly on the right side of the motor as shown:**

Alternator bracket. **(D)**

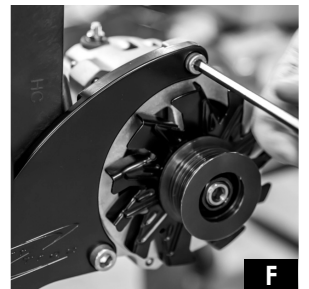
Alternator. **(E-F)**



**D**



**E**



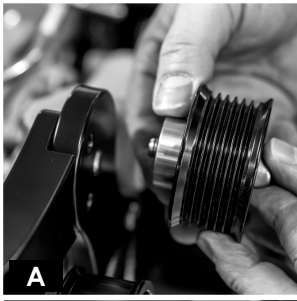
**F**

### TECH TIP:

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## Idler Pulley Installation.



*Passenger Side* – This side requires a Ribbed Idler Pulley, Install the washer, ribbed pulley and Pulley Boss (A) into the Idler Bridge Bracket with a 3/8 -16 X 1.75" socket head cap screw and tighten firmly (B).



*Driver Side* – This side requires a Smooth Idler Pulley, Install the washer, smooth pulley and Pulley Boss (C) into the Alternator Bridge Bracket with a 3/8 -16 X 1.75" socket head cap screw and tighten firmly (D).

### TECH TIP:

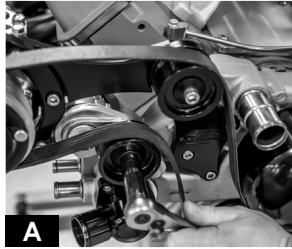
Billet Specialties recommends the use of Anti-Seize on all fasteners to prevent thread lock-up.

## Serpentine Belt Installation.

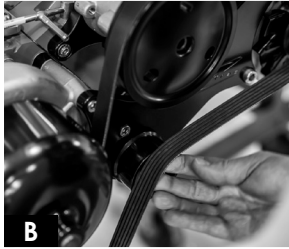
Route belt on pulleys as shown.



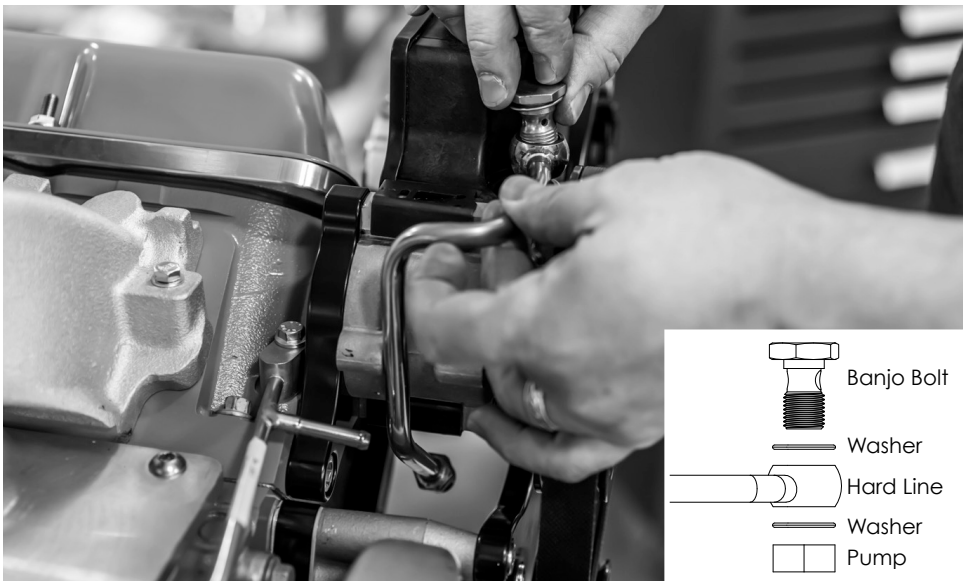
Compress the tensioner (A)



Then slip belt over the smooth idler pulley as shown (B-C).



Finish by checking belt alignment. Make sure belt is centered on pulleys.



### Power Steering Hardline Installation

Finish by installing the Power steering hard line to the power steering pump. You may install the power steering pressure line at this time as well.

**IMPORTANT: Do not run the pump without fluid or severe damage will occur to the pump.**



### AC Compressor Manifold installation

**IMPORTANT: Only install the AC Compressor manifold if you are ready to charge your AC System.**

Start by removing the sealing plate on the compressor. Replace with the billet Compressor Manifold, secure with the two M8 - 1.25 x 35mm socket head cap screws and firmly tighten.

#### TECH TIP:

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#12500



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