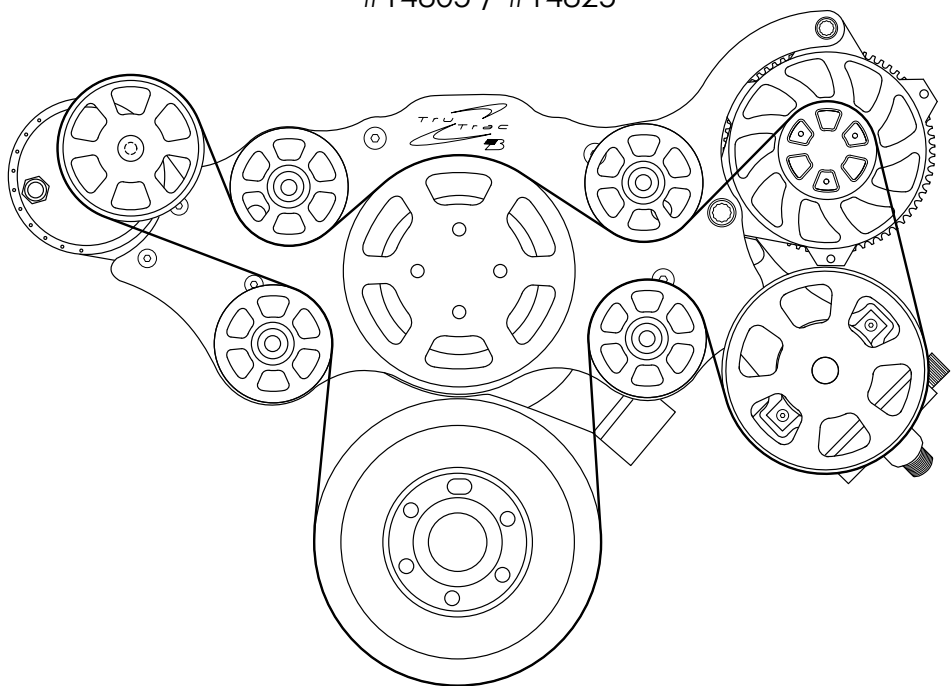




HEMI / BB Chrysler
Installation Manual
For Systems without A/C
#14805 / #14825



Billet Specialties, Inc.
500 Shawmut Avenue.
La Grange, Illinois 60526
Tech Line (708) 588-0505
Fax (708) 588-7181

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

Tech Line: 708.588.0505
Fax: 708.588.7181
www.billet specialties.com

IMPORTANT: Must use thin crank vibration damper Mopar Performance number P3830183 or similar with this kit.

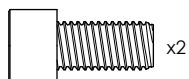
Required Tools & Materials

- | | | |
|--|--|--------------------------------------|
| ☐ Anti-seize Compound | ☐ 5/8" Box End Wrench | ☐ 3/16" Allen |
| ☐ RTV Silicone | ☐ 9/16" Box End Wrench | ☐ 5/16" Allen |
| ☐ Permatex Hylomar® gasket dressing | ☐ 3/4" Box End Wrench | ☐ 1/4" Allen |
| ☐ Gasket Scraper | ☐ 11/16" Box End Wrench | ☐ 7/32" Allen |
| ☐ Scotch-Brite® Pad | ☐ Socket Wrench & Extension | ☐ 5mm Allen |
| ☐ 3/8-16 Thread Chaser* & Holder | ☐ 10mm 12pt. socket | ☐ 6mm Allen |
| *Thread chasers are available at your local parts store and are different from a thread cutting tap. | | |
| | ☐ 12mm 12pt. socket | |
| | ☐ 3/8" 12pt. Socket | |

TECH TIP:

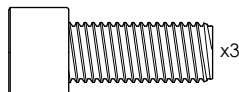
Billet Specialties recommends the use of Anti-Seize on all fasteners to prevent thread lock-up.

Skin Board #1 - Packaged with Power Steering Pump



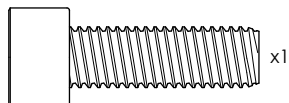
x2

1/4-28 X 1/2" Socket Head Cap Screw
Power Steering Support Bracket To Bridge Bracket



x3

5/16-18 x 3/4" Socket Head Cap Screw
Power Steering Bracket To Alternator Bracket



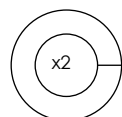
x1

8mm-1.25 x 25mm Socket Head Cap Screw
Power Steering Pump To Power Steering Support Bracket



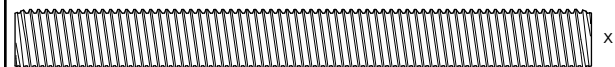
x2

5/16-18 x 2-3/4" Socket Head Cap Screw
Power Steering Pump To Bracket



5/16" Lock Washer

Skin Board #2 - Packaged with Water Pump



x1

3/8-16 x 3" Block Mounting Stud



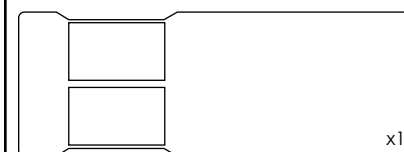
x1

3/8-16 x 3-1/2" Block Mounting Stud



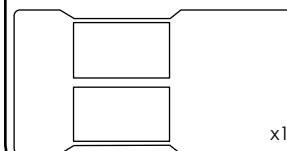
x1

3/8-16 x 4-1/4" Block Mounting Stud



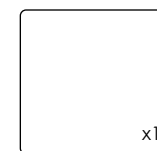
x1

2-3/32" Spacer Nut



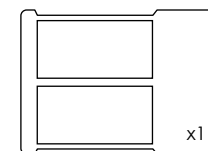
x1

1-1/2" Spacer Nut



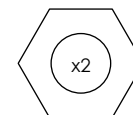
x1

13/16" Spacer



x1

1-1/32" Spacer Nut



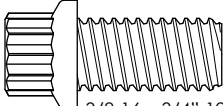
x2

3/8-16 Zinc Coated
Hex Nuts

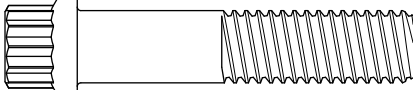
Skin Board #3 - Packaged In Main Box



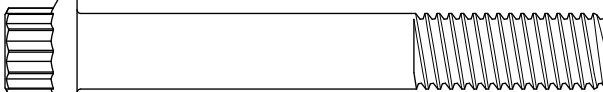
x1
8mm-1.25 x 25mm 12pt. Cap Screw
Bridge Bracket To Alternator



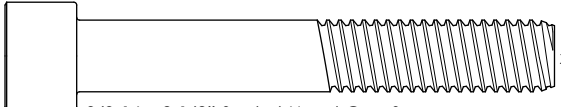
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3/8-16 x 3/4" 12pt. Cap Screw
Tensioner Pulley



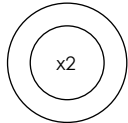
x4
3/8-16 x 1-3/4" 12pt. Cap Screw
Idle Pulleys



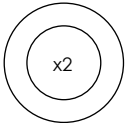
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10mm-1.5 x 70mm 12pt. Cap Screw
Bridge Bracket To Alternator



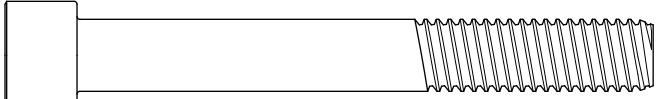
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3/8-16 x 2-1/2" Socket Head Cap Screw
Water Pump Housing To Block



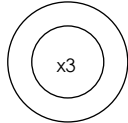
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10mm x .5mm Shim Washer



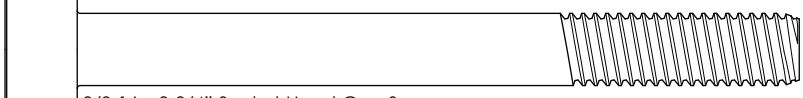
x2
10mm x 1mm Shim Washer



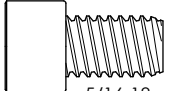
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3/8-16 x 3" Socket Head Cap Screw
Compressor Bracket To Block



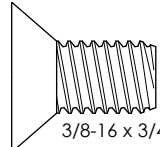
x3
3/8" Flat Washer



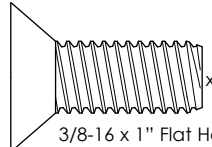
x1
3/8-16 x 3-3/4" Socket Head Cap Screw
Water Pump Housing To Block



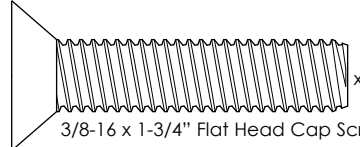
x1
5/16-18 x 1/2" Socket Head Cap Screw
Backside Of Tensioner Thru Bracket



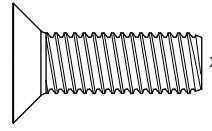
x1
3/8-16 x 3/4" Flat Head Cap Screw
Thru Bridge Bracket Into Spacer Nut



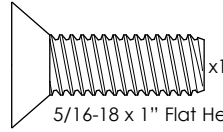
x1
3/8-16 x 1" Flat Head Cap Screw
Tensioner To Bridge Bracket



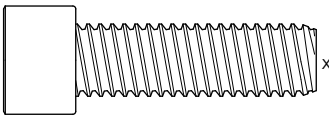
x1
3/8-16 x 1-3/4" Flat Head Cap Screw
Thru Bridge Bracket To Water Pump Housing



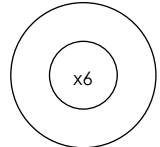
x2
8mm-1.25 x 25mm Flat Head Cap Screw
Bridge Bracket To Tensioner



x1
5/16-18 x 1" Flat Head Cap Screw
Bridge Bracket To Spacer Nut &
Tensioner To Bridge Bracket



x10
5/16-18 x 1" Socket Head Cap Screw
Crankshaft & Water Pump Pulley



x6
5/16" Belleville Washer
Crank Pulley

Other Hardware / Gaskets
Goodyear Poly-V Serpentine Belt - 74.50" #4060745 (with power steering)
Goodyear Poly-V Serpentine Belt - 64.25" #4060642 (without power steering)

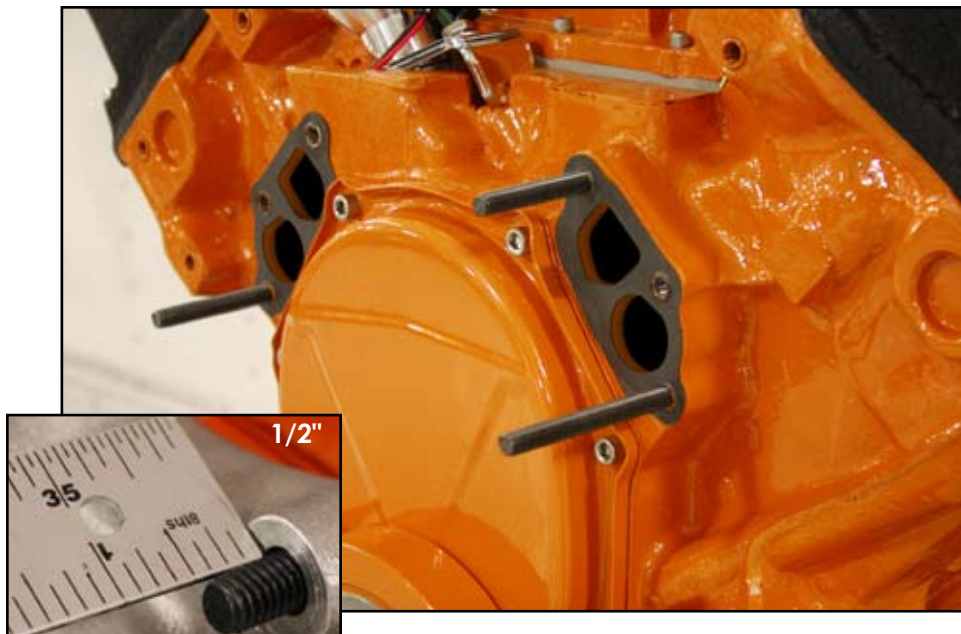


Figure 1 – Prepping The Block

Disconnect battery; remove all existing accessory drive brackets and components from motor.

Remove water pump and housing, scrape away any existing gasket material with a gasket scraper and dress surface with a Scotch Brite® pad.

Clean and prep threads on engine block at water pump, use a 3/8-16 thread chaser if necessary. Thread chasers are available at your local auto parts store or tool dealer and are different from a thread cutting tool.

Apply RTV sealer to one end of the 3/8-16 x 3" threaded stud and thread stud into the driver side top water pump mount hole. Next apply RTV sealer to one end of the 3/8-16 x 4-1/4" stud and thread into the lower driver side mount hole and tighten. Apply RTV sealer to one end of the remaining 3/8-16 x 3-1/2" stud and thread into the bottom passenger side mount hole and tighten. The studs can easily be tightened by threading two 3/8-16 zinc coated nuts onto the stud and tighten them against each other to act as a drive nut, see example. Apply anti-seize to the exposed threads of the studs at this time. Check installed height of studs by sliding water pump housing on to the studs. There should be 1/2" of exposed threads on each stud, readjust as necessary.

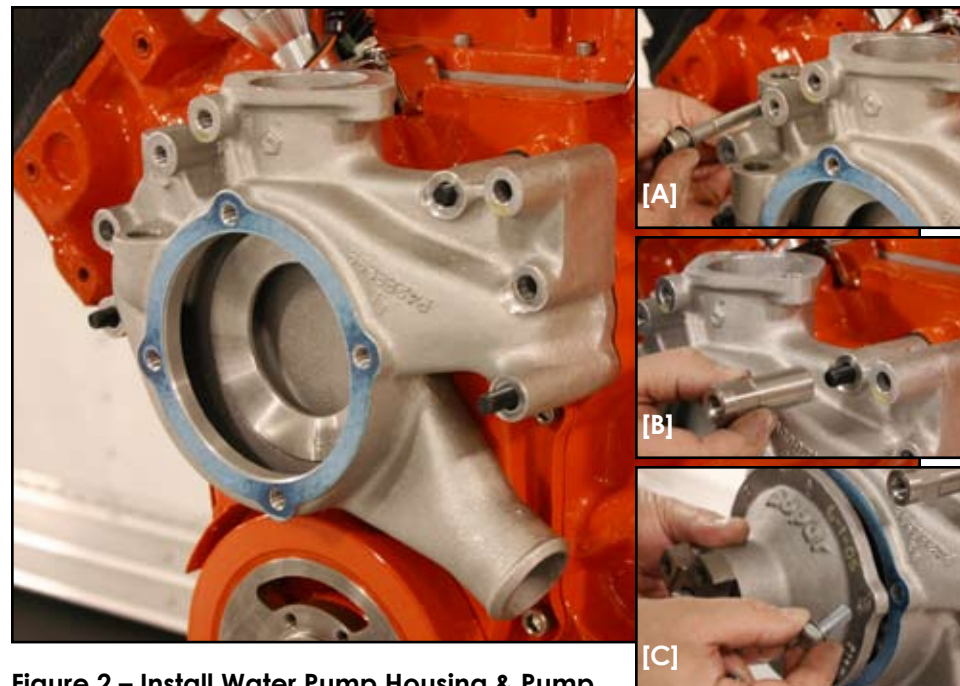
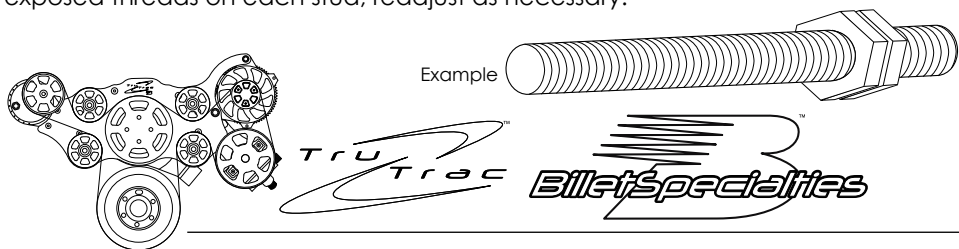


Figure 2 – Install Water Pump Housing & Pump

Apply Permatex Hylomar® gasket dressing to both sides of water pump housing gaskets and slip over studs on block. Install water pump housing onto studs make sure top passenger gasket is still aligned.

(A) Apply anti-seize to the 3/8-16 x 2-1/2" socket head cap screw with 3/8" washer and thread through water pump housing and into block, finger tighten.

(B) Thread the 2-3/32" long spacer nut to the driver side top stud and finger tighten.

(C) Apply gasket dressing to both sides of water pump gasket and install water pump to housing and tighten firmly. Seep hole on pump should point down.

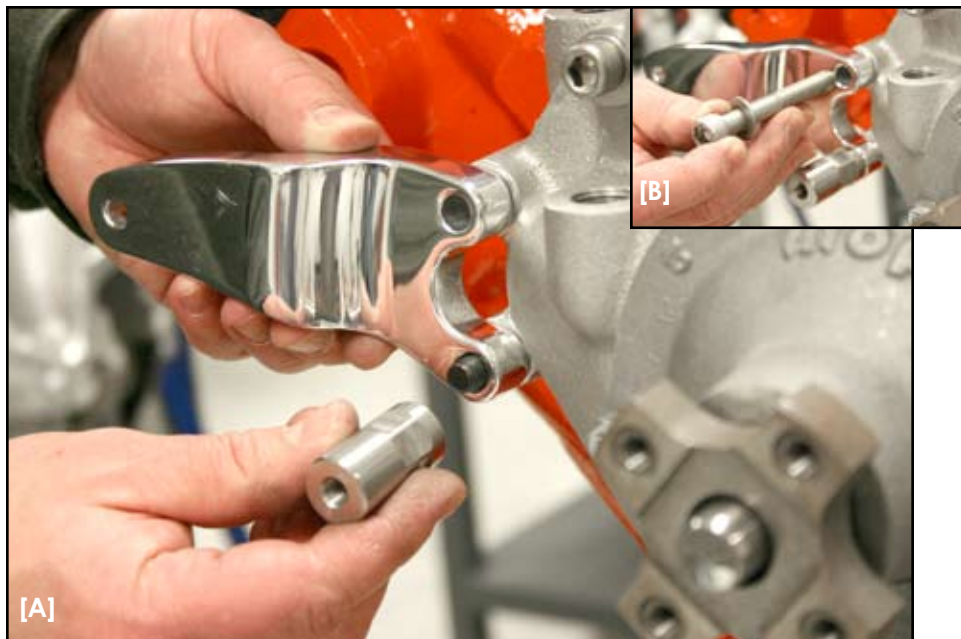


Figure 3 - Install Tensioner Bracket

Place tensioner bracket (14827) on passenger side of water pump housing and align with the two left mount bosses.

[A] Thread the 1-1/2" long spacer nut onto the lower stud and tighten firmly.

[B] Apply anti seize to the 3/8-16 x 3" socket head cap screw with 3/8" washer and thread through tensioner bracket, water pump housing and into block, tighten firmly.

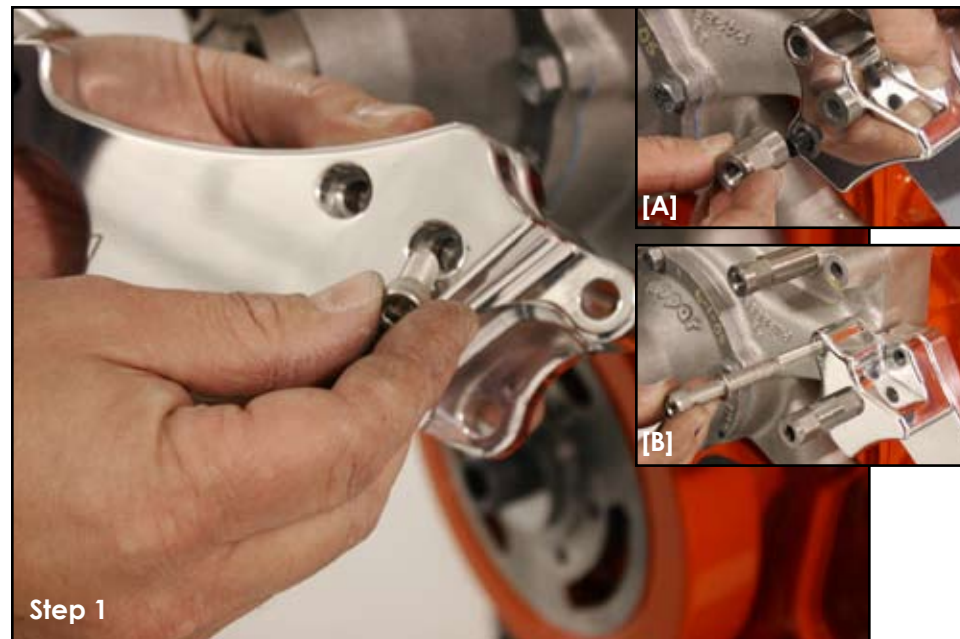


Figure 4 - Install Alternator Bracket

For kits without power steering proceed to Step 2.

Step 1: Attach the power steering pump bracket to the back of the alternator bracket (14801) with three 5/16-18 x 3/4" socket head cap screws and tighten firmly.

Step 2: [A] Place alternator bracket on driver side of water pump and thread the 1-1/32" spacer nut onto the bottom stud and finger tighten.

[B] Apply anti-seize to the 3/8-16 x 3-3/4" socket head cap screw with 3/8" washers and thread through upper hole in bracket, water pump housing, and into block.

Tighten all fasteners at this time firmly.





Figure 5 - Install Bridge Bracket

For kits with power steering: attach the power steering support bracket to the back of the driver side bridge bracket with two 1/4-28 x 1/2" socket head cap screws and tighten firmly.

Place bridge bracket onto face of motor and align bracket mount holes with spacer nuts and water pump bosses.

[A] Apply anti seize to the 3/8-16 x 3/4" flat head cap screw and thread through the lower driver side of the bridge bracket and into the spacer nut, finger tighten.

[B] Apply anti seize to the 3/8-16 x 1" flat head cap screw and thread through the top driver side bridge bracket and into upper spacer nut, finger tighten.

[C] Apply anti seize to the 3/8-16 x 1-3/4" flat head cap screw. Place the 13/16" stainless spacer between bridge bracket and the top of the water pump housing, thread the 3/8-16 x 1-3/4" flat head screw through the bridge bracket, spacer and into the housing, finger tighten.

[D] Apply anti-seize to the 5/16-18 x 1" flat head screw and thread through the lower passenger side of the bridge bracket into the spacer nut and finger tighten.

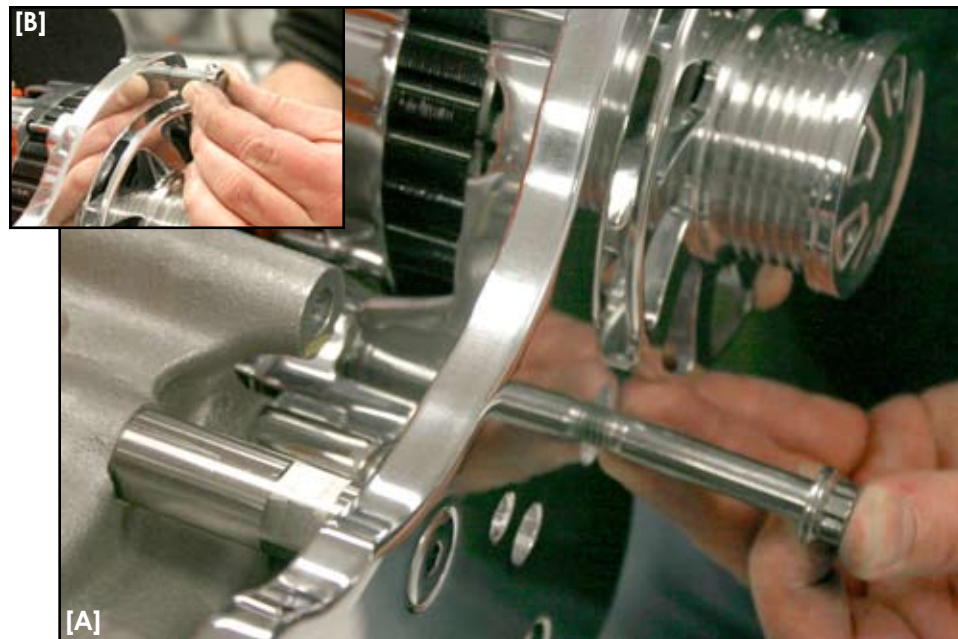


Figure 6 - Install Alternator

Apply anti-seize to the 10mm-1.5 x 70mm ARP 12pt cap screw. Place and align the alternator between the bridge bracket and the alternator bracket with the long mounting boss at the bottom.

[A] Thread the 10mm-1.5 x 70mm ARP 12pt cap screw through the bridge bracket and alternator into the alternator bracket and finger tighten.

[B] Apply anti seize to the 8mm-1.25 x 25mm ARP 12pt cap screw, align top alternator boss with the bridge bracket and thread cap screw through bridge bracket and into alternator – finger tighten.

The alternator mounting boss may vary in width due to the polishing process. 10mm shim washers are provided to shim the alternator if needed at the bottom.





Figure 7 – Install Tensioner

Apply anti seize to the two 8mm-1.25 x 25mm flat head screws, place tensioner body between the bridge bracket and the tensioner bracket.

[A,B] Align tensioner holes with bridge bracket and thread the two 8mm-1.25 x 25mm flat head cap screws through the bridge bracket and into the tensioner and tighten firmly.

[C] Apply anti seize to the 5/16-18 x 1/2" socket head cap screw, thread the cap screw through back of tensioner bracket and into tensioner and tighten firmly.

For kits without power steering: Tighten all bridge bracket fasteners and accessory hardware at this time firmly - proceed to Figure 9.

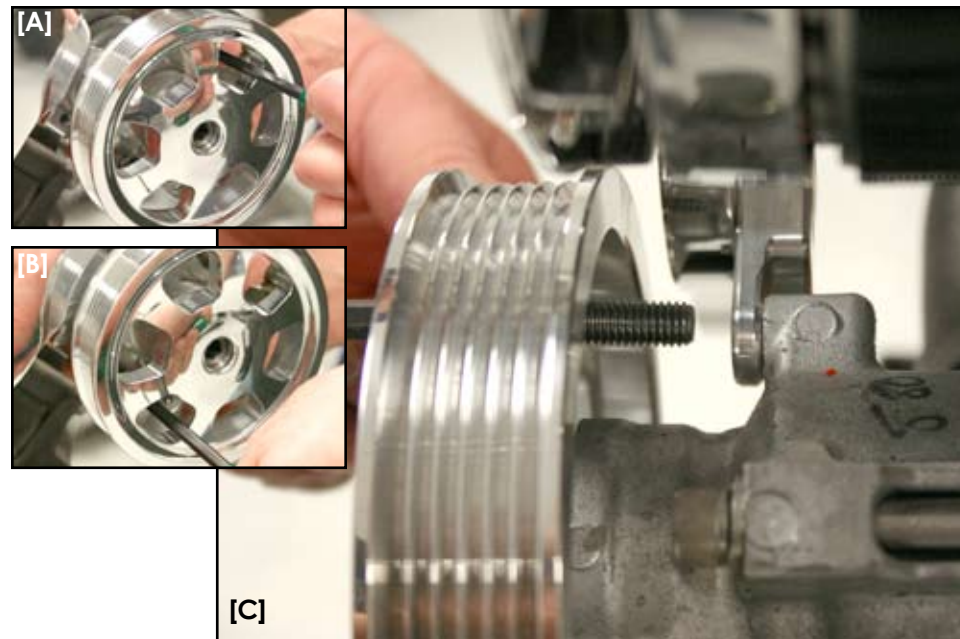


Figure 8 – Install Power Steering Pump With Pulley

Apply anti seize to the two 5/16-18 x 2-3/4" socket head cap screws and to the 8mm-1.25 x 25mm socket head cap screw.

Place the power steering pump between the bridge bracket and the alternator bracket aligning the pump ears with the mount holes in the power steering bracket.

[A,B] Thread the two 5/16-18 x 2-3/4" socket head cap screws with 5/16" medium split lock washers through the power steering pump and into the power steering bracket and finger tighten.

[C] Thread the 8mm-1.25 x 25mm socket head cap screw through the small support bracket into the power steering pump and tighten firmly. Tighten the two other power steering fasteners firmly at this time.

Tighten all bridge bracket fasteners and accessory hardware at this time firmly.





Figure 9 - Install Crankshaft & Water Pump Pulleys

Apply anti-seize to the ten 5/16-18 x 1" socket head cap screws.

Crankshaft Pulley: Place crank pulley on damper and align holes, thread six 5/16-18 x 1" socket head cap screws with 5/16" Belleville washers (cup of washer facing damper) through pulley into damper and tighten firmly (26 ft/lb).

Water Pump Pulley: Place water pump pulley and nose cone on shaft and attach with four 5/16-18 x 1" socket head cap screws and tighten firmly (26 ft/lb).

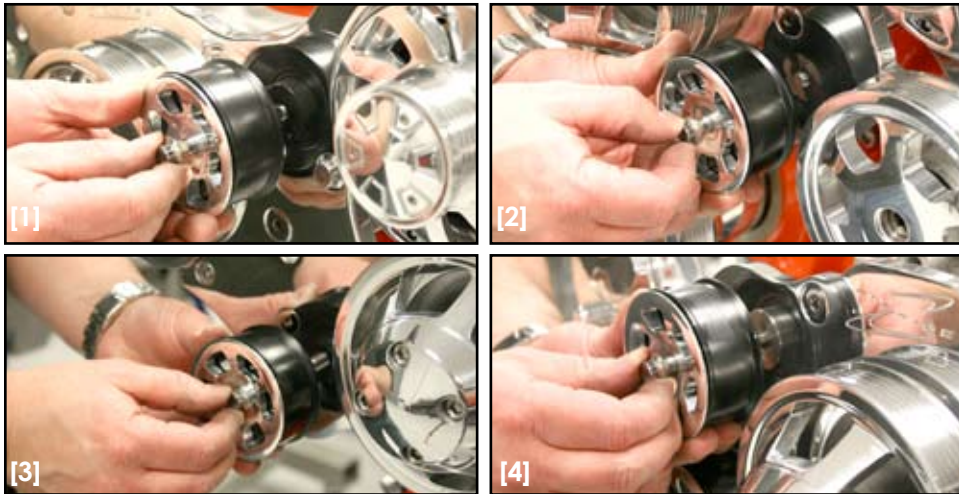


Figure 10 - Install Idler Pulleys

Apply anti seize to the four 3/8-16 x 1-3/4" ARP 12pt cap screws.

Thread the 3/8-16 x 1-3/4" ARP 12pt cap screw through the idler pulley polished cover, idler pulley and boss into the bridge bracket and tighten firmly (46 ft/lbs).

Repeat step for other three idler pulleys.

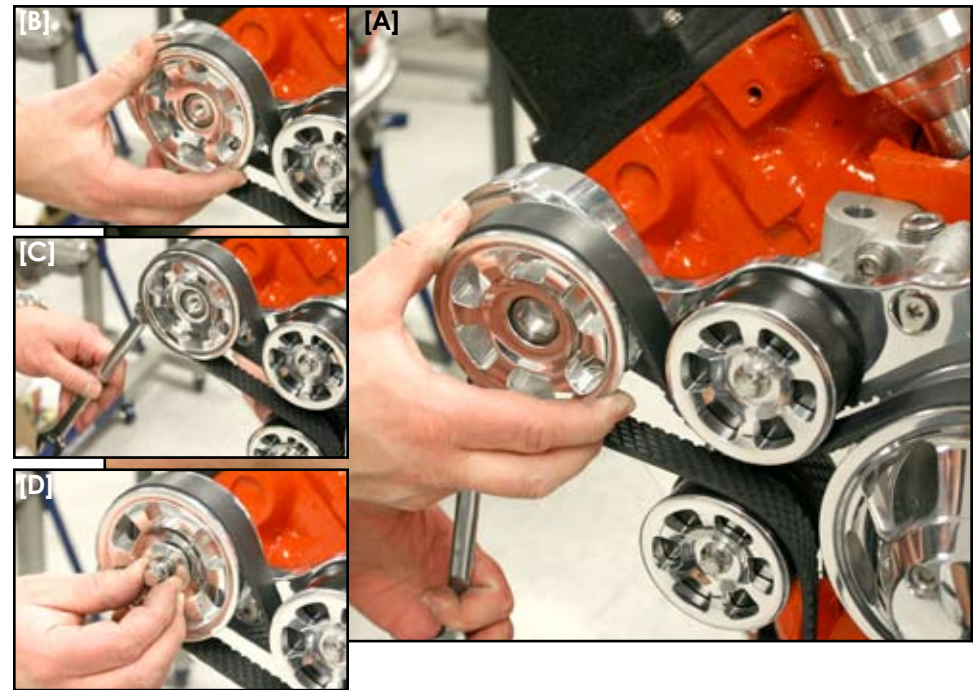
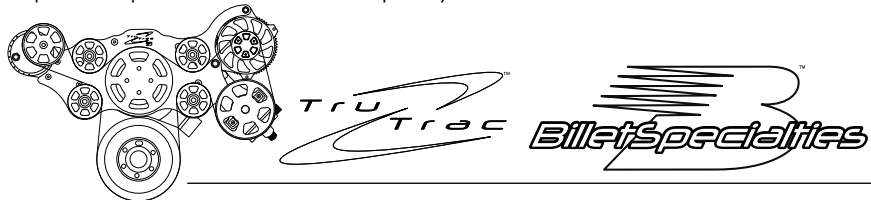


Figure 11 - Install Serpentine Belt & Tensioner Pulleys

Route belt as shown in diagram below allowing belt to rest on pulley boss.

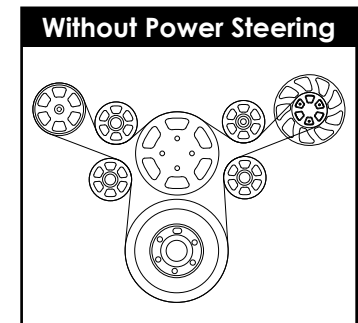
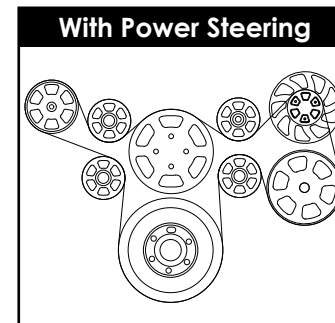
[A] Place a 5/8" box end wrench on tensioner nut and align belt onto pulley groove above tensioner boss.

[B] Pull up on wrench until tensioner pulley is able to slip onto tensioner boss.

[C] Slowly return wrench to starting position to apply tension to belt.

[D] Thread 3/8-16 x 3/4" 12pt ARP bolt and thrust washer onto tensioner pulley and tighten firmly.

Connect electrical and fluid lines, test run motor. Inspect fittings and hardware, tighten if necessary.





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