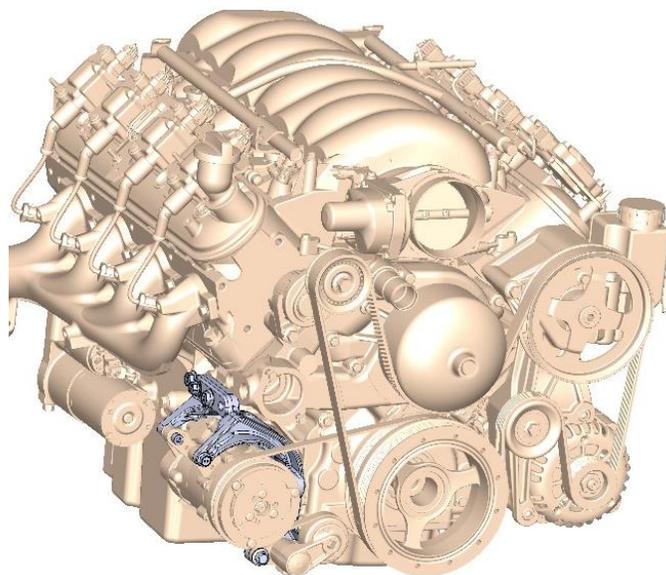


# **Fitment and Required Components Guide and Assembly Instructions**

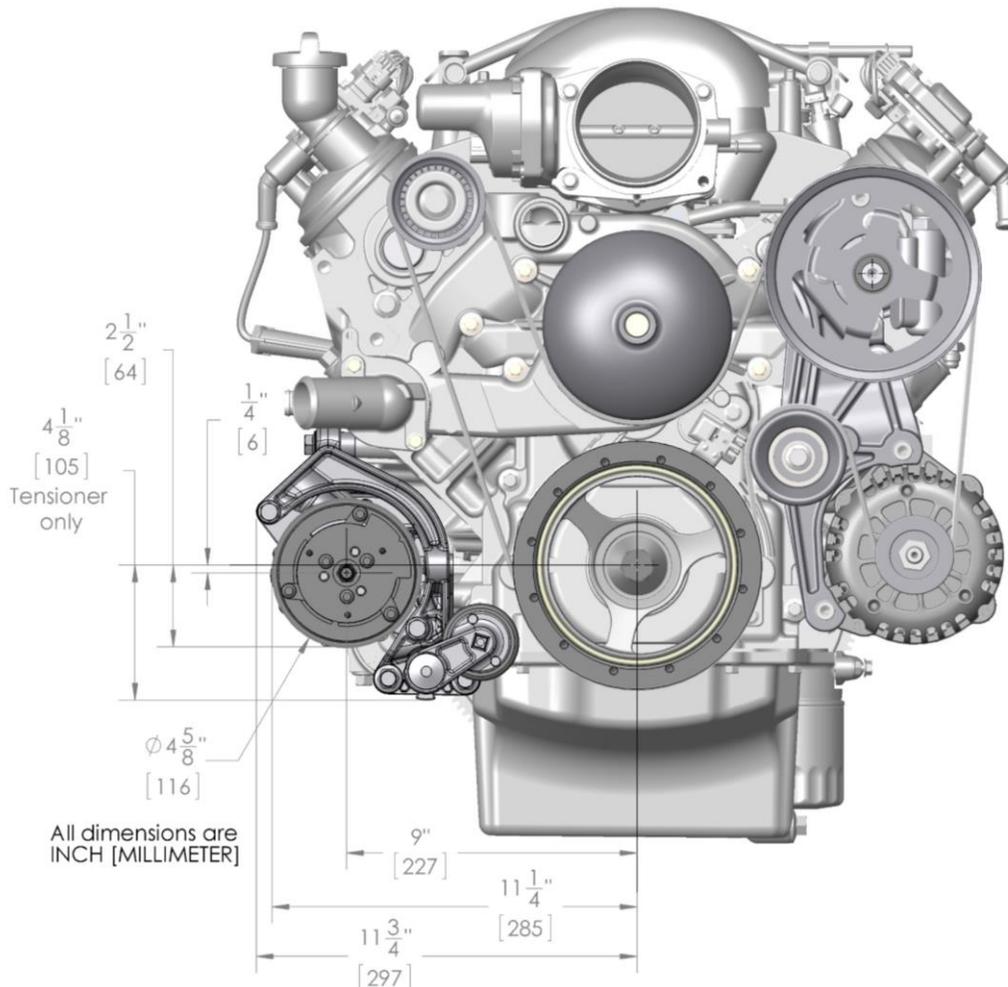


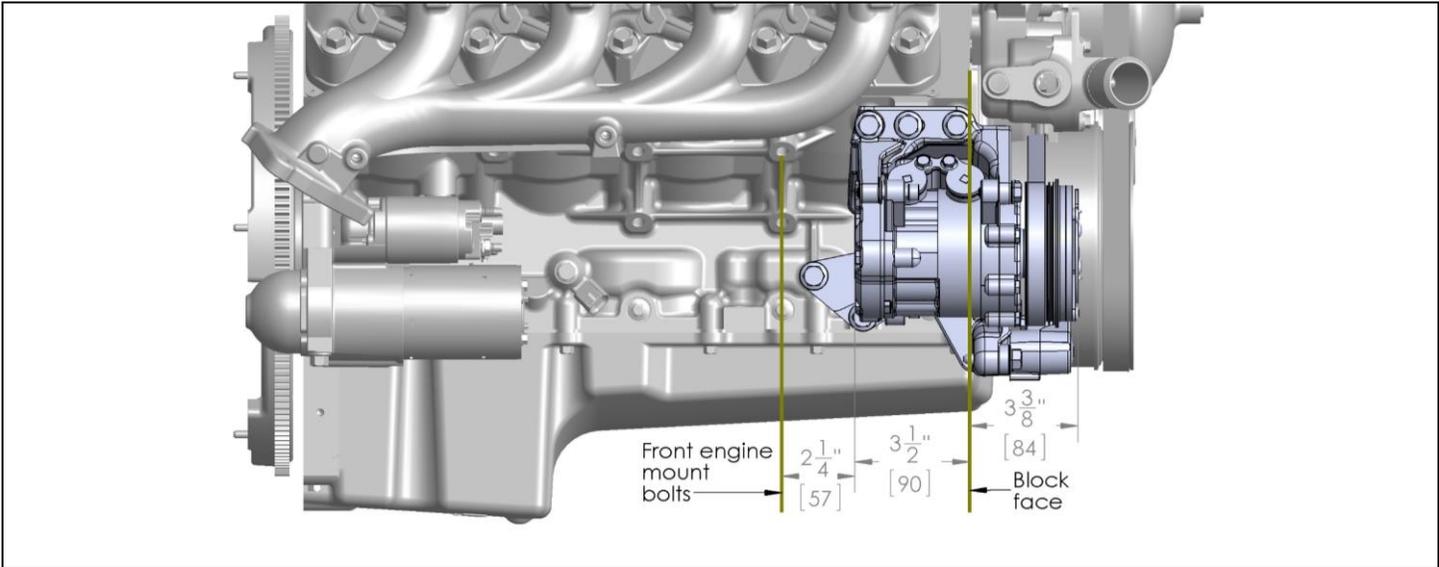
## **Holley Accessory Drive Kit Part Number 20-159, 20-160, & 20-162**



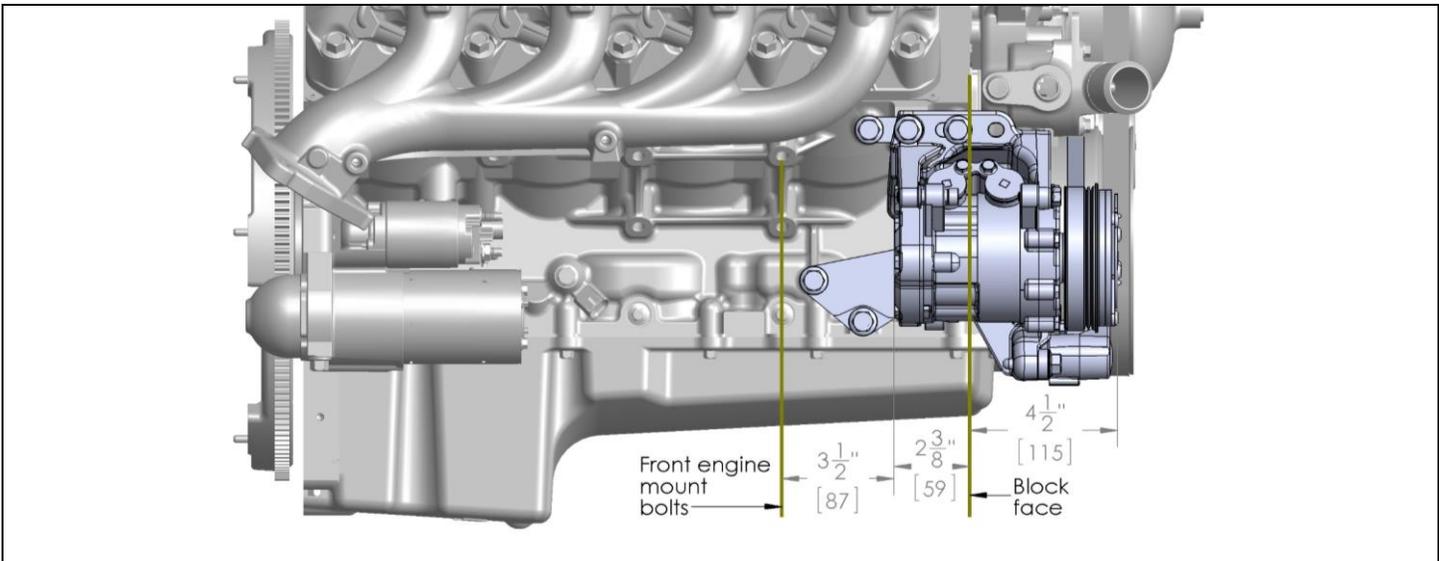
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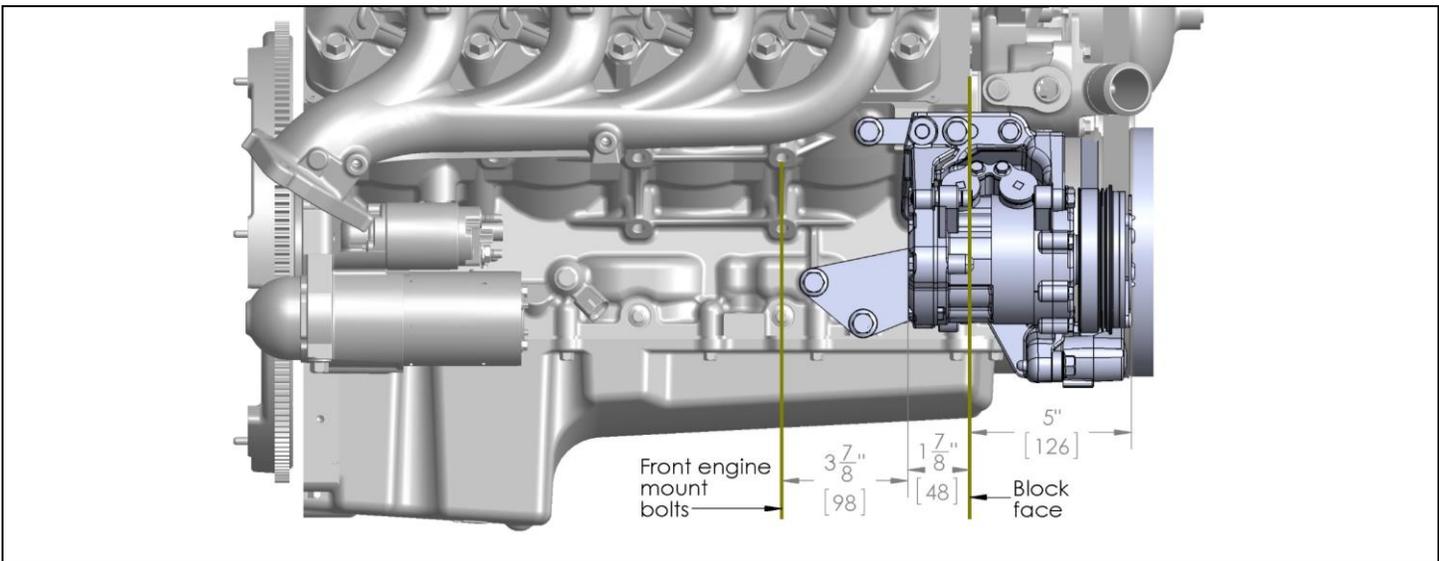




**Standard Alignment**



**Middle Alignment**



**Long Alignment**

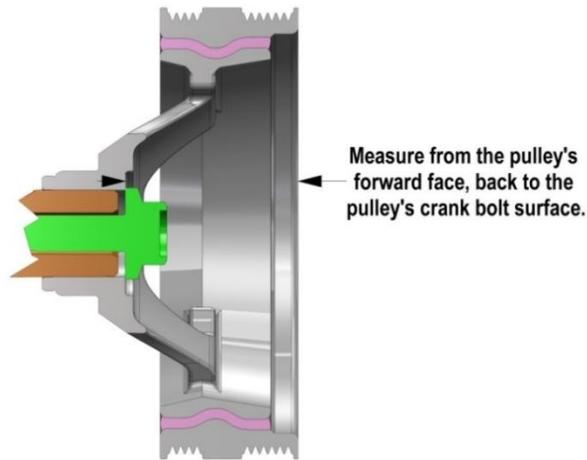
## Introduction:

Holley's accessory drive kits offer clean, economical mounting of all LS engine accessories. These brackets look truly at home on any LS engine as if they came from the factory this way.

The first step is to determine which belt alignment you want to proceed with. This is determined by the crank pulley.

**Note:** All Corvette part application references in this guide are to NON-supercharged LS engines.

## Crank Pulley Belt Alignment Determination:



See the below chart for reference dimensions.

## Overview of Parts Needed (but NOT included with 20-159 bracket kit):

### Components with specific belt alignments

Belt Alignment Group	LS Application (Alignment Specific)	Crank Pulley (Reference Dimension)		Belt required for Low A/C bracket Kit	Works with: Holley driver's side bracket/spacer Kit	Works with: Original Equipment driver's side accessory drive
						GM # (Numerous)
Standard	Corvette / CTS-V / G8	1.5"	37 MM	4PK370	20-135	Many LS driver's side accessory systems can be used with this kit, but only in conjunction with the original belt alignment.
Middle	F-body / GTO	2.25"	55 MM	4PK370	20-135 w/21-2, 20-155	
Long	Camaro ('10-UP) / Truck (all)	3"	75 MM	4PK378	20-135 w/21-3, 20-155 w/21-4	

### Components that will work with all belt alignments

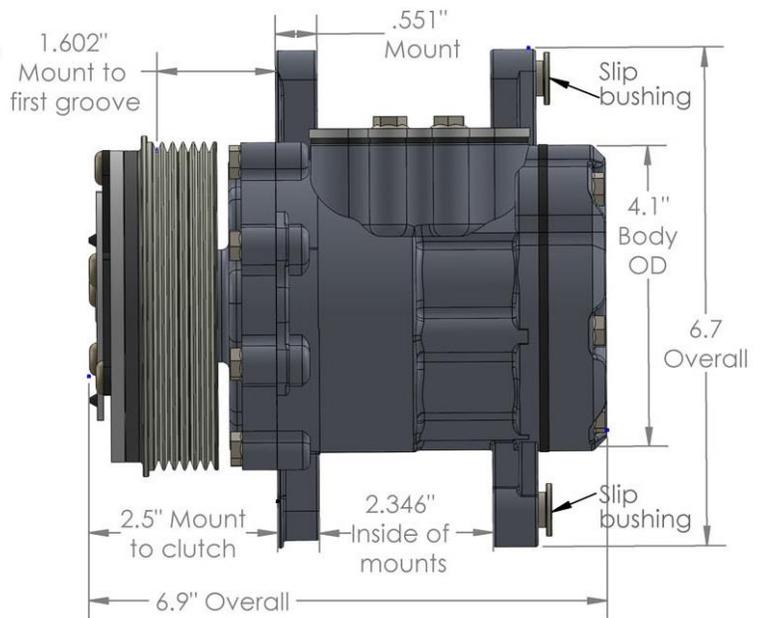
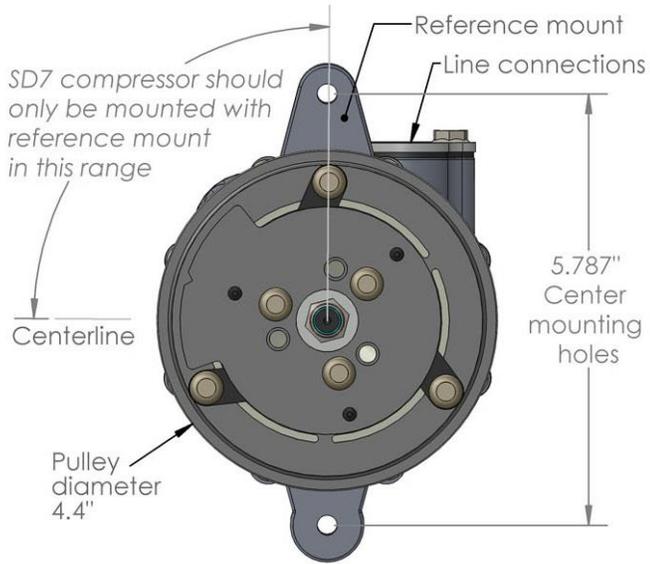
Tensioner Assembly	A/C Compressor (Sanden Types)
Holley # / GM #	Holley # / Sanden #
97-156 / 12580196	199-102 / SD7, SD7B10-7176 & similar

After reviewing the components needed for your specific application, parts can be sourced and the Holley kit can be installed. See the included assembly instructions for installation procedures.

### A/C Compressors Options:



<b>Sanden SD7 Compressor</b>
<b>Holley part # 199-102</b>
<b>Sanden #s SD7, SD7B10-7176</b>
<b>Vintage Air #s 04670-MTA, 04670-MTQ, &amp; 046705</b>

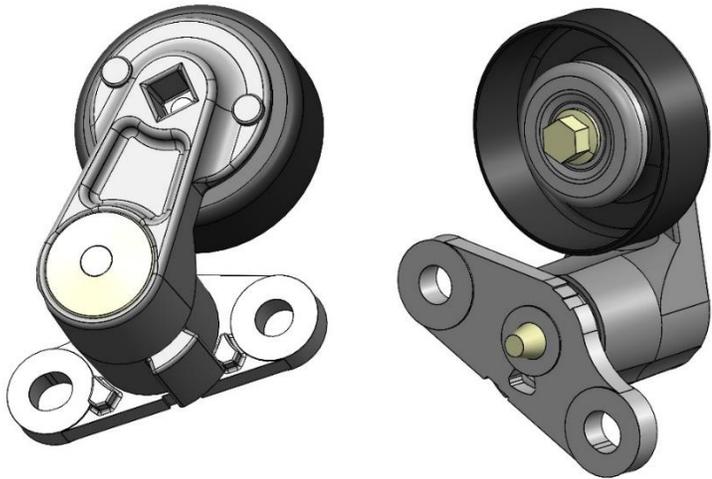


### HELPFUL HINTS:

This bracket will work with most SD7 compressors commonly available in the aftermarket. This bracket does not work with the original Sanden compressor found on LS engines or aftermarket SD5 compressors. If your compressor has more than six grooves, make certain the rearward four grooves are aligned to the belt.

There is typically a one wire connection to the Sanden A/C clutch. This wire will activate the clutch when connected to 12 volts positive. Negative ground is through the case of the compressor. If painting or powder coating the brackets, **make certain** there is a good ground path to the engine block.

### Tensioner Assembly Options:



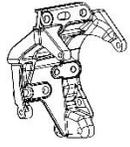
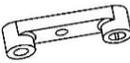
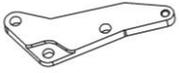
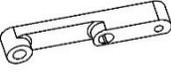
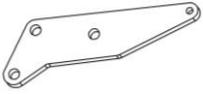
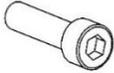
<b>Tensioner assembly with pulley</b>
<b>Holley part # 97-156</b>
<b>Application: '99 Silverado 1500</b>
<b>GATES: W0133-1687091</b>
<b>GM # 12580196</b>

The above is the only style of tensioner that will work with this Holley bracket kits. GM tension # 12580196 found on many 1999-2008 Chevrolet trucks and SUVs may be used if salvaged from the donor accessory drive, but confirm the tensioner pulley properly aligns with the belt after installation.

## Parts List:

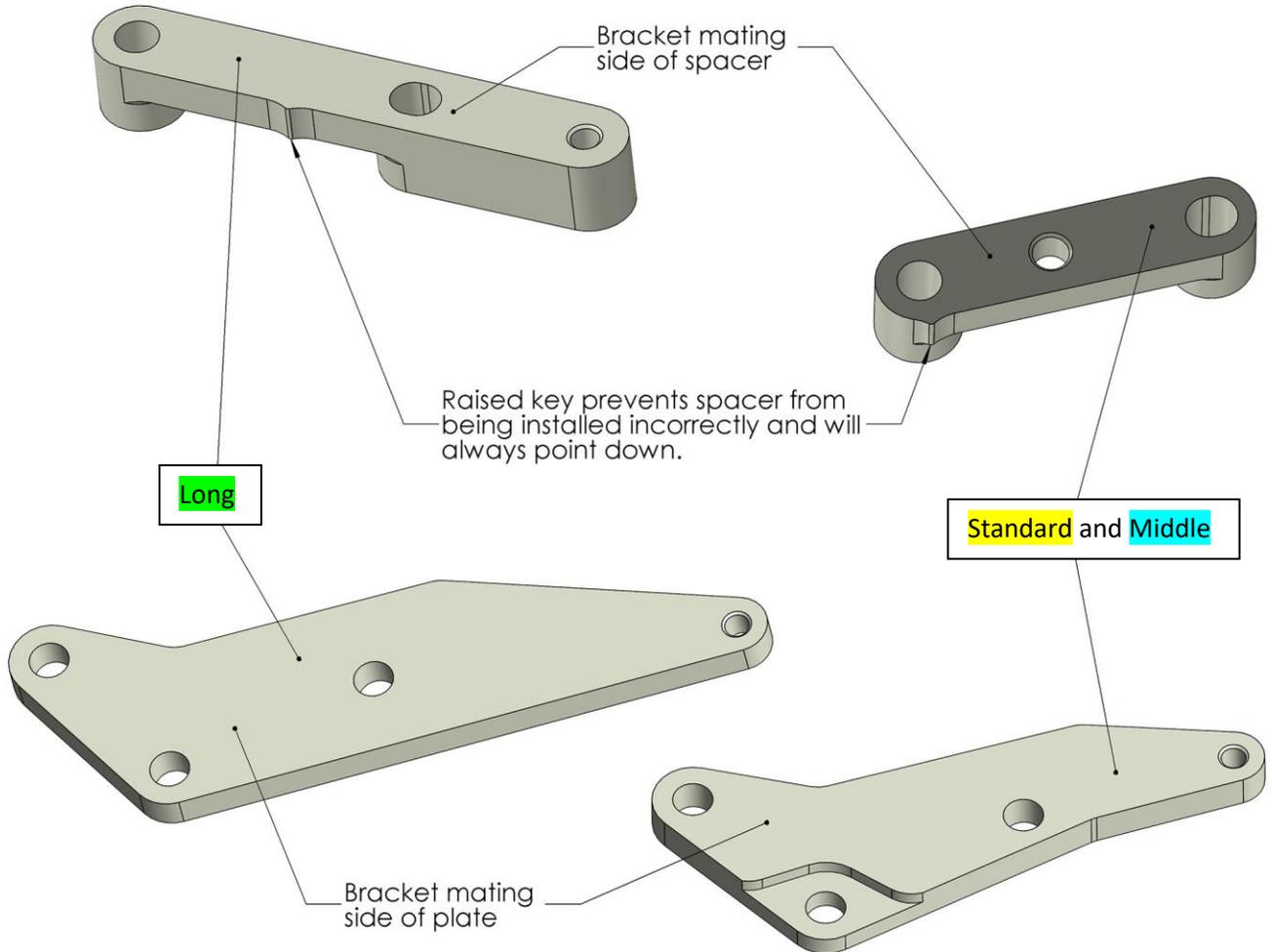
- This bracket will work with Standard, Middle, and Long alignment.

### Parts included with 20-159 bracket kit:

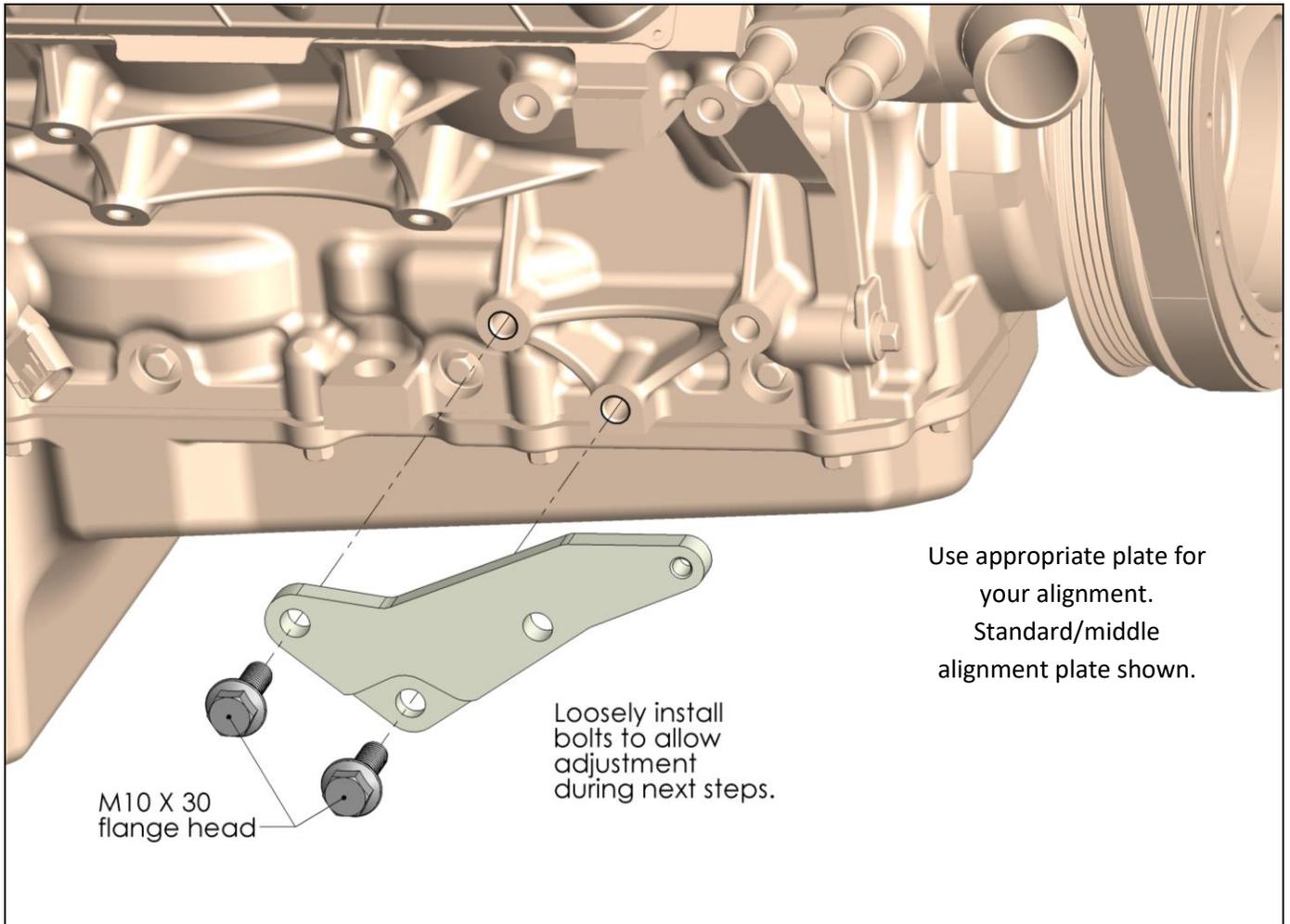
PICTURE	QTY	DESCRIPTION	APPLICATION
	1	Passenger's Side Bracket	A/C Compressor
	1	Upper Spacer	Use with <b>Standard</b> and <b>Middle</b> Belt Alignment
	1	Lower Engine Plate	Use with <b>Standard</b> and <b>Middle</b> Belt Alignment
	1	Upper Spacer	Use with <b>Long</b> Belt Alignment
	1	Lower Engine Plate	Use with <b>Long</b> Belt Alignment
	2	Socket Head Cap Bolt, M8 x 1.25 x 40	Rear A/C Compressor to Bracket
	1	Socket Head Cap Bolt, M10 x 1.5 x 40	Bracket through Plate to Block
	2	Flange Head Cap Bolt, M8 x 1.25 x 20	(1) Front of Bracket to Plate (1) Front of Bracket to Spacer ( <b>Not used with Standard and Middle</b> )
	2	Flange Head Cap Bolt, M8 x 1.25 x 25	Front Bracket to A/C Compressor
	1	Flange Head Cap Bolt, M10 x 1.5 x 20	Bracket to Spacer ( <b>Not used with Standard and Long</b> )
	4	Flange Head Cap Bolt, M10 x 1.5 x 30	(2) Rear of Plate to Block (2) Tensioner to Bracket
	1	Flange Head Cap Bolt, M10 x 1.5 x 40	Through Spacer to Block ( <b>Not used with Standard</b> )
	2	Flange Head Cap Bolt, M10 x 1.5 x 50	Bracket through Spacer to Block ( <b>One NOT used with Middle and Long</b> )

## Application Specific Parts and Assembly:

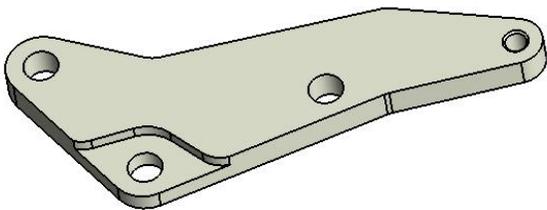
Chose the spacer and plate for your application. The spacer and plate for the additional application(s) will not be used.



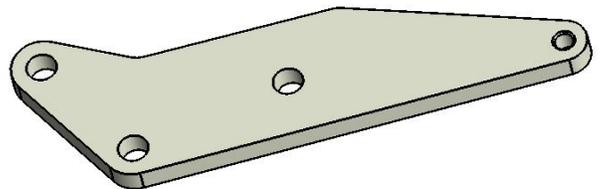
## Lower Plate Installation:



**Standard / Middle plate**



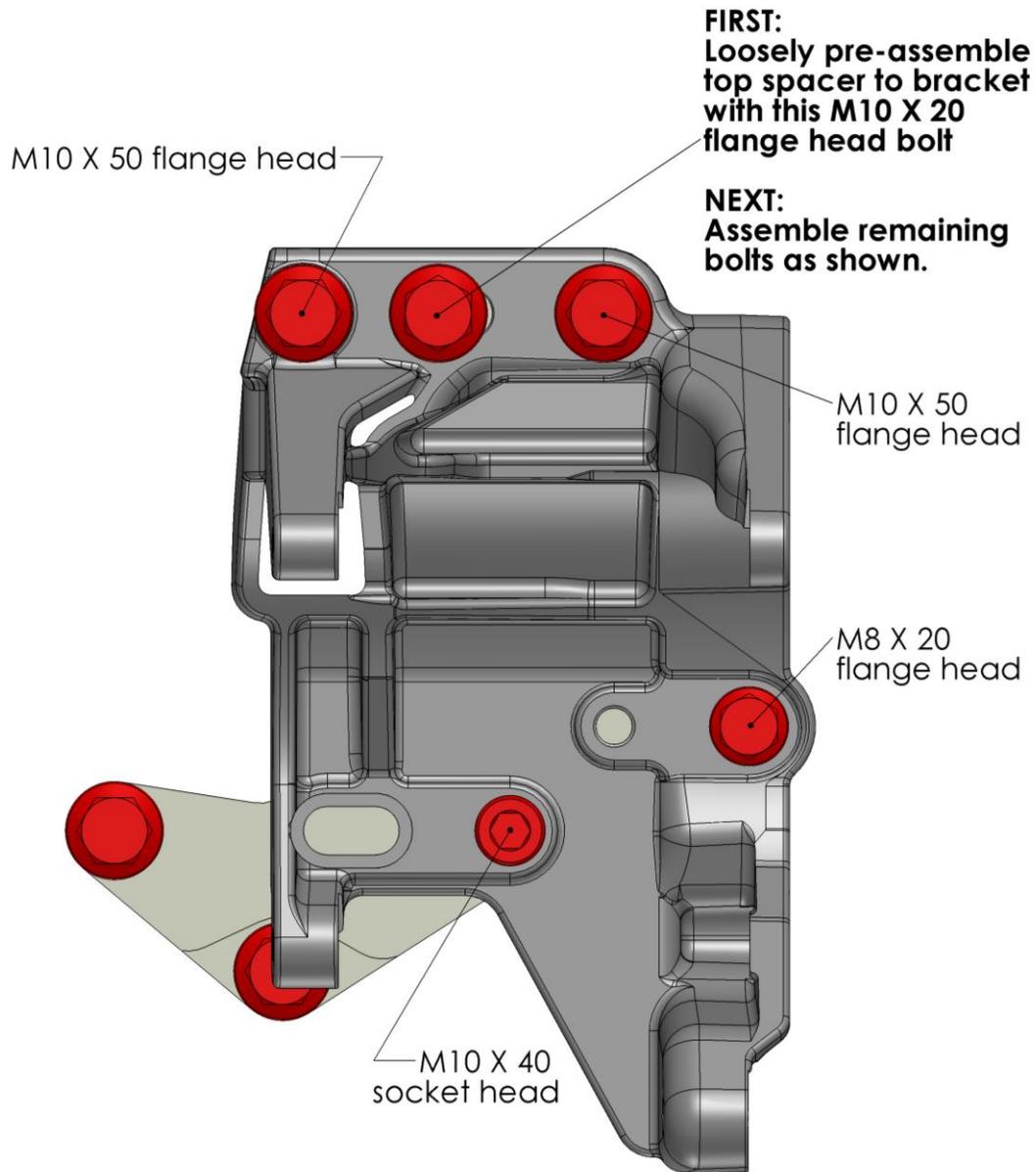
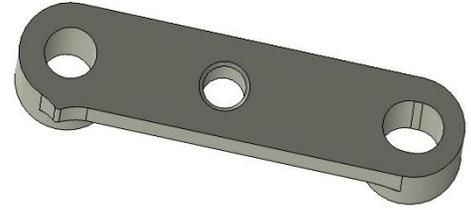
**Long plate**



## Standard Belt Alignment Assembly:

Standard spacer

Orientate assembly as shown.

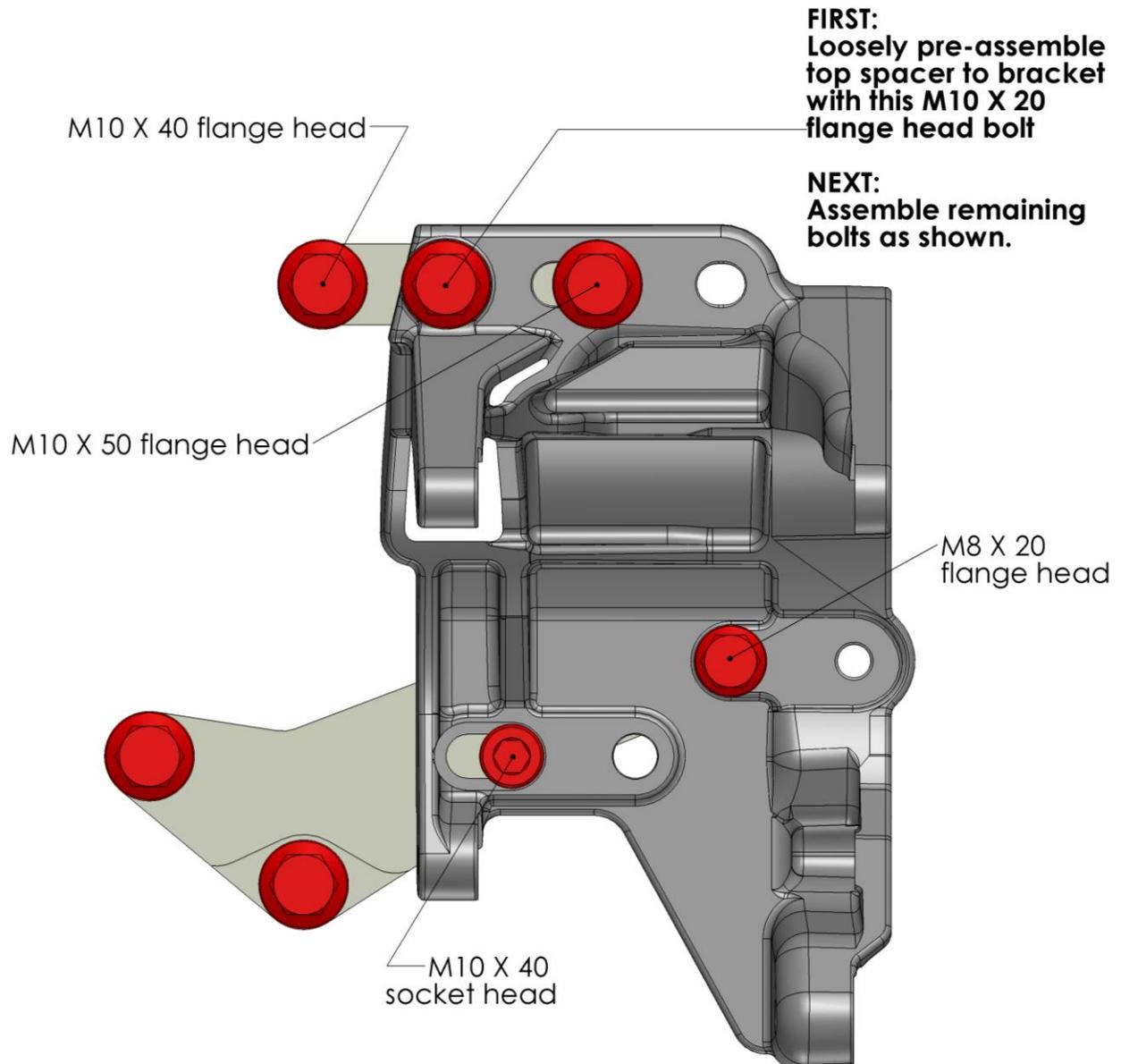
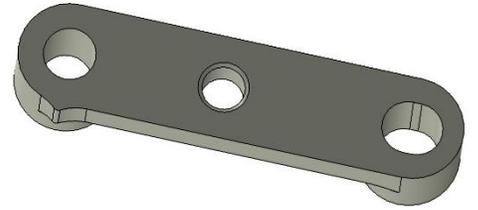


At this time torque M8 bolts to 18 ft./lbs. and M10 bolts to 36 ft./lbs.

## Middle Belt Alignment Assembly:

Middle spacer

Orientate assembly as shown.

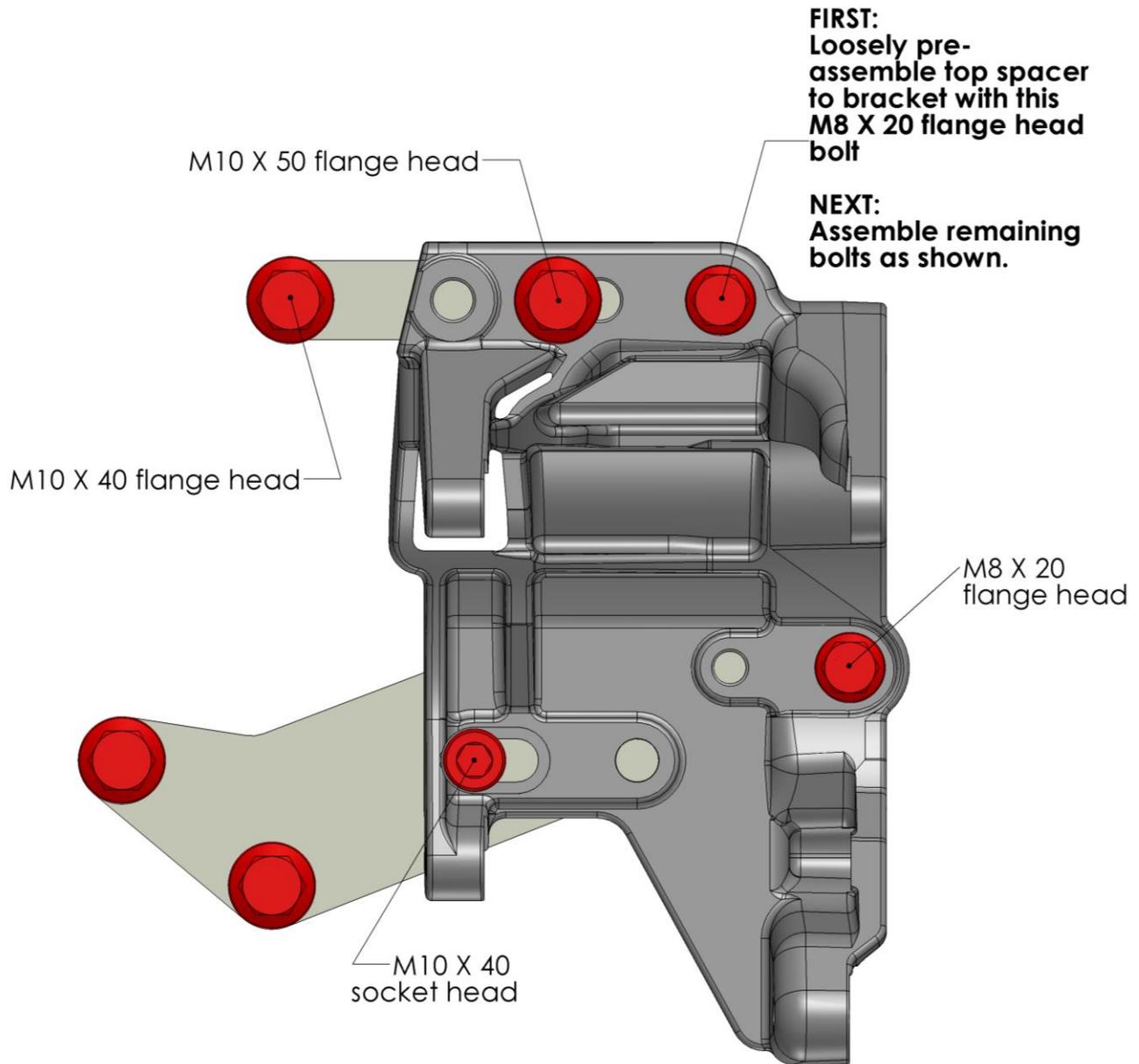
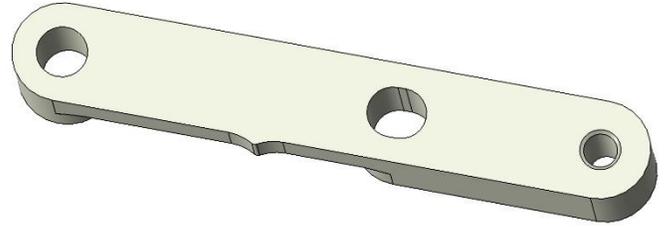


**At this time torque M8 bolts to 18 ft./lbs. and M10 bolts to 36 ft./lbs.**

## Long Belt Alignment Assembly:

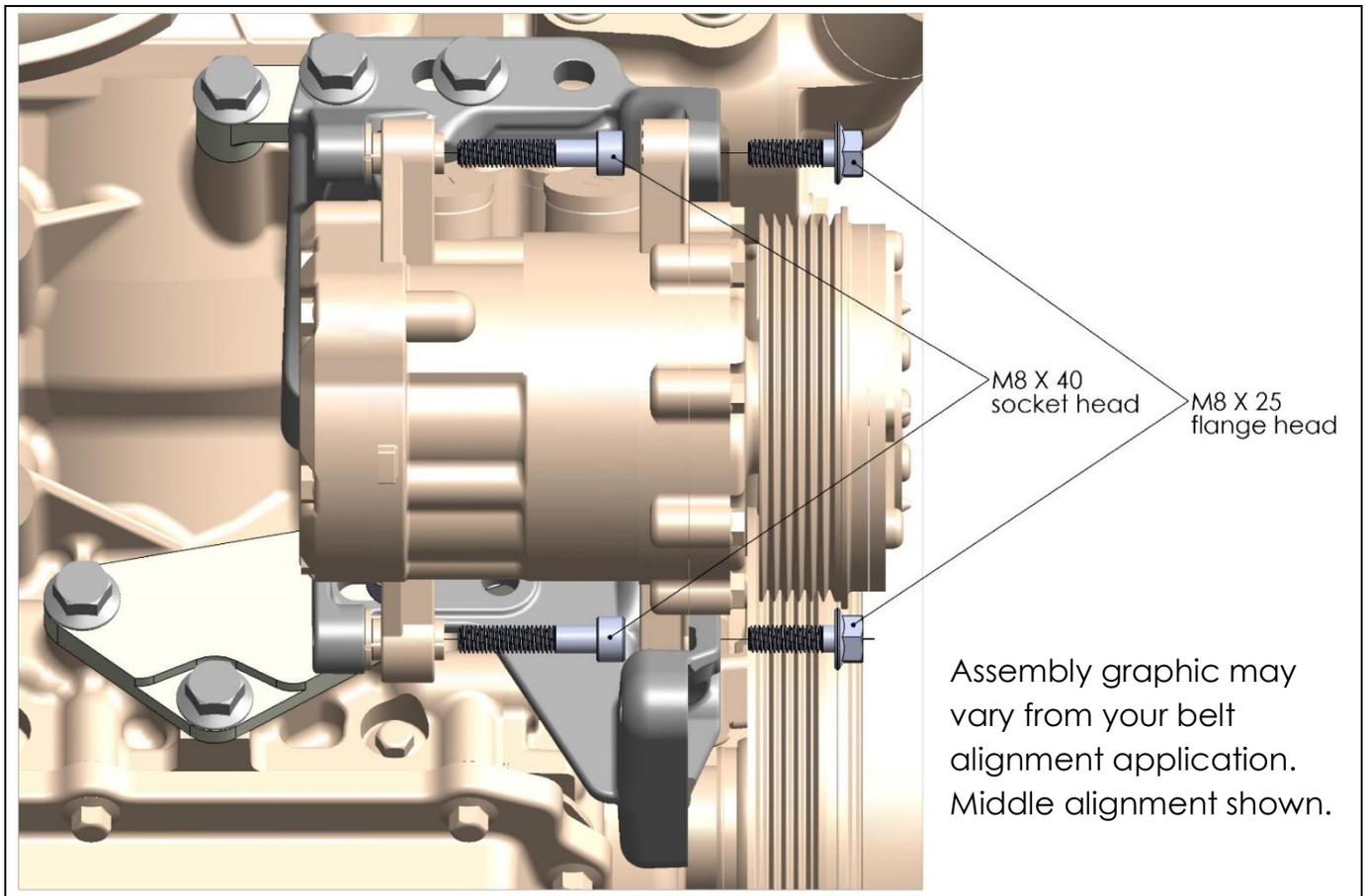
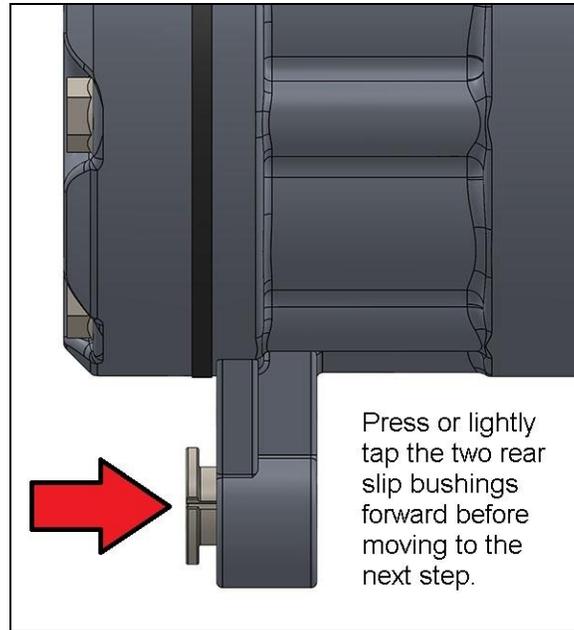
Long spacer

Orientate assembly as shown.



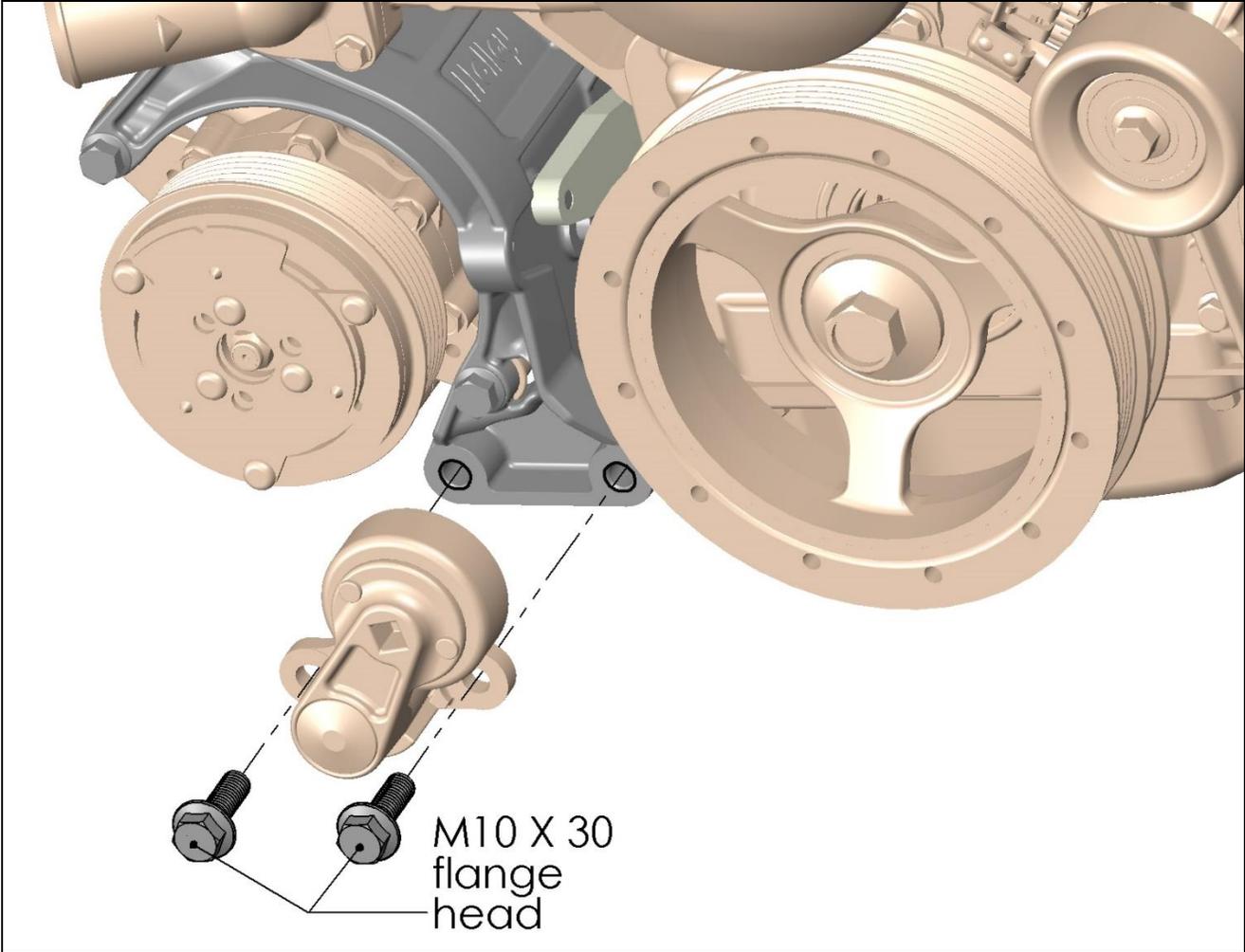
**At this time torque M8 bolts to 18 ft./lbs. and M10 bolts to 36 ft./lbs.**

## Compressor Mounting:



Torque M8 bolts to 18 ft./lbs. and M10 bolts to 36 ft./lbs.

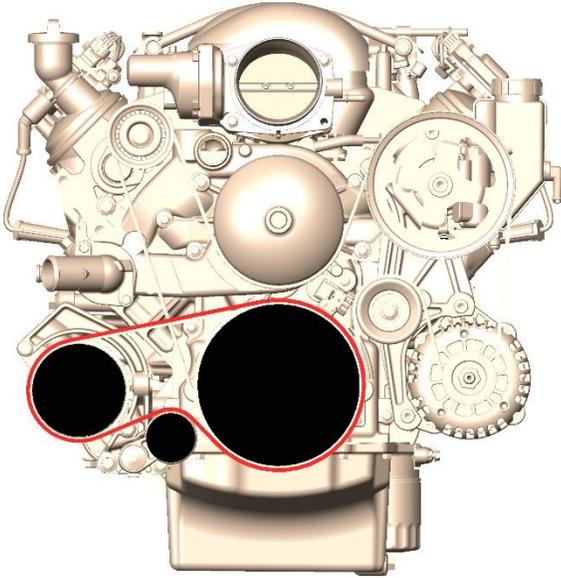
**Tensioner assembly:**



Torque M8 bolts to 18 ft./lbs. and M10 bolts to 36 ft./lbs.

## Belt Routing & Length Calculation:

**HELPFUL HINT:** If installed, remove main accessory belt. When installing compressor belt, route around both ribbed pulleys. Then while fully rotating the tensioner arm, slip the belt on the tensioner's smooth pulley and slowly release. Reinstall main accessory belt.



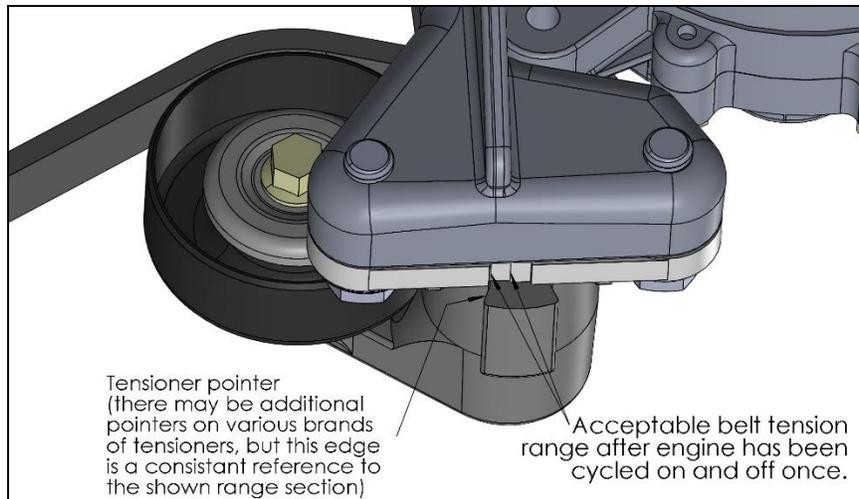
When using the factory crank pulley use the below belt lengths:

Belt sizes
Standard and Middle alignments: 4PK940
Long alignment: 4PK960
Dry Sump/LS7 applications: 4PK965

Both application belt alignment and pulley diameters will directly affect belt length.

**When using an aftermarket or under drive crank pulley, perform the following to acquire the measurement for the correct belt:**

After the bracket and components are installed, route masking tape or string around the belt path. Leave the tensioner in the un-sprung position for this measurement. Mark or cut the tape/string to length and remove from the pulleys. Subtract 5/8" (16 mm) from the measured length to compensate for the un-sprung tensioner position. You will need to convert belt length to millimeters if measured in inches (inches X 25.4 = mm). Go to any auto parts store and ask for a 4PK000 belt with the "000" being the length in millimeters. For example, if you measured 365 mm and then subtracted 16 mm, you would get 349 mm, and the part number would be 4PK349.



# Warranty Information

## Holley Performance Products Limited Warranty

All Holley Performance Products Limited Warranties are extended to the original consumer only. This Limited Warranty is not assignable or otherwise transferable. There are no warranties that extend beyond those stated herein. Holley Performance Products offers no other warranties expressed or implied beyond this Limited Warranty.

In the event of an alleged defect in material or workmanship, Holley Performance Products' responsibility is strictly limited to repair or replace the defective product. Holley has no other obligation expressed or implied. Final warranty determination will be in the sole discretion of Holley Performance Products. Holley shall not be responsible for; (a) actual or alleged labor, transportation, or other incidental charges; or (b) actual or alleged consequential or other damages incurred by use of any product of Holley Performance Products.

To initiate the warranty process, the consumer must return the alleged defective product to the place of purchase with a dated receipt and completed applicable warranty claim tag. Warranty claims will be rejected if the date of purchase cannot be established by the consumer. Do not send products directly to Holley Performance Products. Holley Performance Products assumes no responsibility for products sent directly to Holley Performance Products.

This Limited Warranty sets forth specific legal rights. The consumer may have other rights as a result of variations in state laws or provincial laws. This Limited Warranty supersedes all prior warranty statements.

## HOLLEY/FLOWTECH/HOOKER/NOS/WEIAND – NEW PRODUCT

Holley Performance Products warrants its new Holley, Flowtech, Hooker, NOS, and Weiand products to be free from defects in material and workmanship for a period of 90 days from date of purchase.

Holley Performance Products Limited Warranty specifically does not apply to products, which have been (a) modified or altered in any way; (b) subjected to adverse conditions, such as misuse, neglect, accident, improper installation or adjustment, dirt or other contaminants, water, corrosion, or faulty repair; or (c) used in other than those applications recommended by Holley Performance Products. Holley Performance Products also does not warrant, and disclaims all liability for products used in racing activities and/or applications other than those specifically recommended in the current brand catalog.

Holley limits the warranty on Metallic Ceramic Coatings to be free from defects in material and workmanship for a period of 90 days from the date of purchase. This limited coating warranty does not apply to any products which have been subjected to adverse conditions, such as high heat encountered during engine break-in or if used during any racing activity.

## MARINE PRODUCTS

Holley Performance Products warrants its new marine products to be free from defects in material and workmanship for a period of 90 days from date of purchase. For the safety and protection of persons and property, all United States Coast Guard and other marine product safety installation and use requirements and recommendations must be carefully studied and applied. The above recommendations include, but are not limited to the recommendation that the installation, adjustment, and repair of Holley carburetors or other marine products must be performed only by a trained mechanic having adequate marine fuel system experience, and in strict compliance with the applicable Holley installation, maintenance, and other instructions. Failure to follow such requirements and recommendations will void this Holley Marine Limited Warranty, and Holley disclaims any responsibility and/or liability for accidents resulting from such failure.

Holley Performance Products Limited Warranty specifically does not apply to products, which have been (a) modified or altered in any way; (b) subjected to adverse conditions, such as misuse, neglect, accident, improper installation or adjustment, dirt or other contaminants, water, corrosion, or faulty repair; or (c) used in other than those applications recommended by Holley Performance Products. Holley Performance Products also does not warrant, and disclaims all liability for products used in racing activities and/or applications other than those specifically recommended in the current brand catalog.

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