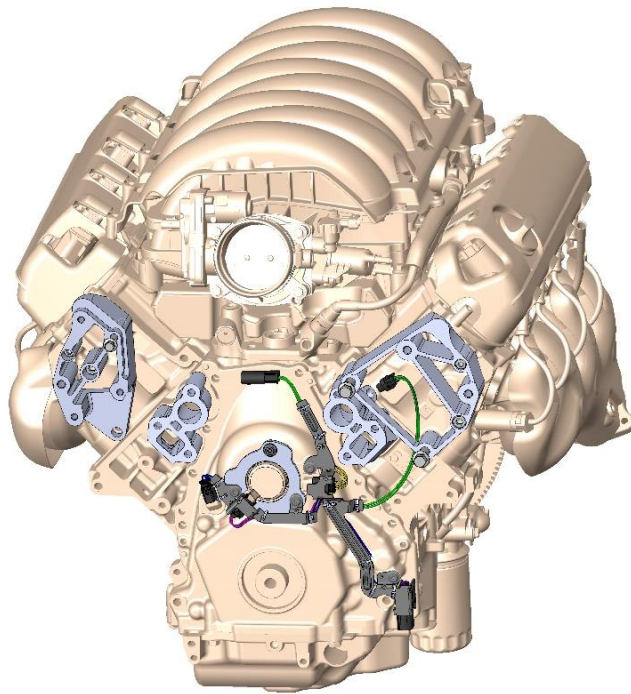


# LT Assembly Instructions

*These instructions supersede bracket instructions.  
See bracket instructions for Fitment and Required Components and Final Assembly.*

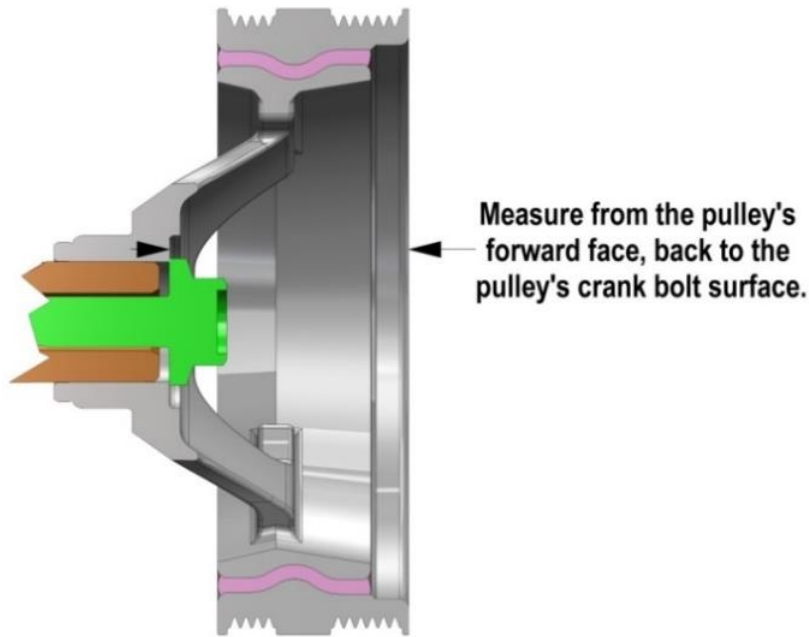


## Installation Kit for High Mount Accessory Drive Brackets on LT Applications Part Number 21-5



### Features:

- Mounts any of Holley's popular High Mount accessory drive brackets to LT engines
- Utilizes conventional LS center water pump (Holley P/N 22-100 or similar)
- No engine modification required - completely bolt-on.
- Hides temperature sensor and harness connector from sight.
- Works with LT Truck Harmonic Balancer (often already on donor engine)
- Cost effective and proven solution
- Utilizes conventional single sided belt.



**Overview of Parts Needed (but NOT included with 21-5 installation kit):**

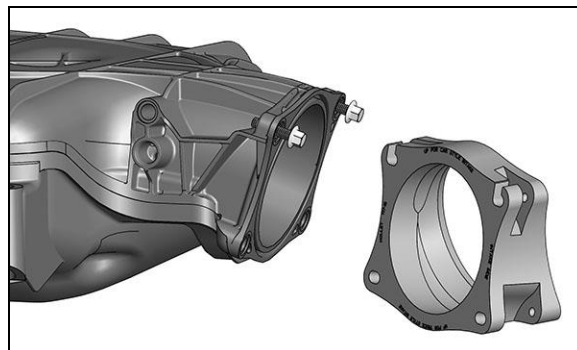
Belt Alignment Group	Crank Pulley	Crank Pulley (Reference Dimension)		LS Water Pump Gasket (2 required)*	LT Water Pump Gasket (2 required)	Water Pump (Type 1)	Throttle Body Angle Adapter (required for use with car style intakes)	Works with: Holley brackets
	Application / GM #	3.4"	86 MM	GM # / AC Delco #	GM #	Holley # / GM #	Holley #	Holley #
LT - Long	2015 Silverado / 12620312			12630223 / 251-663	12657430	22-100 / 19256263	717-15	20-131 THRU 20-135 20-136 THRU 20-143

\*LS gaskets typically supplied with LS water pump.

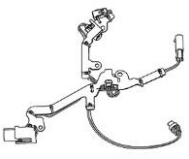
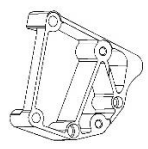
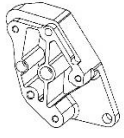
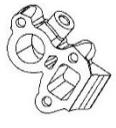
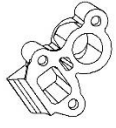


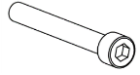

**NOTES:**

- 21-1, 21-2, or 21-3 are not required when using 21-5 on LT applications
- Holley brackets used with 20-5 work with LT VVT applications.
- If desired the OE mechanical vacuum pump can be utilized with this system.
- If your LT engine does not already have the above crank pulley, one will need to be installed for proper belt alignment. See engine service manual instructions for removal and installation of the crank pulley and pulley bolt.

**NOTE:** If using a car style intake, a 717-15 angle adapter is required to gain clearance to the water pump. If using a truck style intake the 717-15 is not required, but can be used inverted to improve throttle body angle for swap applications.



## Parts List:

PICTURE	QTY	DESCRIPTION	APPLICATION
	1	Harness Assembly	Timing Cover
	1	Bracket Driver's Side Spacer	Between Bracket & Head
	1	Bracket Passenger's Side Spacer	Between Bracket & Head
	1	Water Pump Driver's Side Spacer	Between Water Pump and Engine Block
	1	Water Pump Passenger's Side Spacer	Between Water Pump and Engine Block
	1	Clocking Ring	Cam Actuator
	1	Tensioner spacer	Between Tensioner & Water Pump (ONLY used with R4 A/C Compressor Brackets)
	2	Socket Head Cap Bolt, M10 X 1.5 X 50	Driver's Side Spacer to Head
			Passenger's Side Spacer to Head
	2	Socket Head Cap Bolt, M8 X 1.25 X 50	Driver's Side Spacer to Head
			Passenger's Side Spacer to Head
	6	Flange Head Bolt, M8 X 1.25 X 125	Water Pump to Block
	1	Flange Head Bolt, M8 X 1.25 X 110	Passenger's Side Bracket to Head (Sanden A/C Compressor Brackets Only)
	1	Flange Head Bolt, M8 X 1.25 X 130	Passenger's Side Bracket to Head (R4 A/C Compressor Brackets Only)
	2	Flange Head Bolt, M10 X 1.5 X 35	Passenger's Side Bracket to Spacer
			Tensioner to Water Pump
	1	Flange Head Bolt, M10 X 1.5 X 115	Alternator Bracket to Spacer (Top Left)
	1	Flange Head Bolt, M10 X 1.5 X 105	Alternator Bracket to Spacer (Bottom Left)
2	Flange Head Bolt, M10 X 1.5 X 70	Alternator Bracket to Spacer (Top and Bottom Right)	

## Disassembly

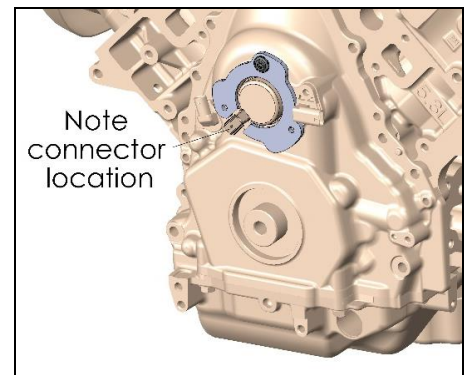
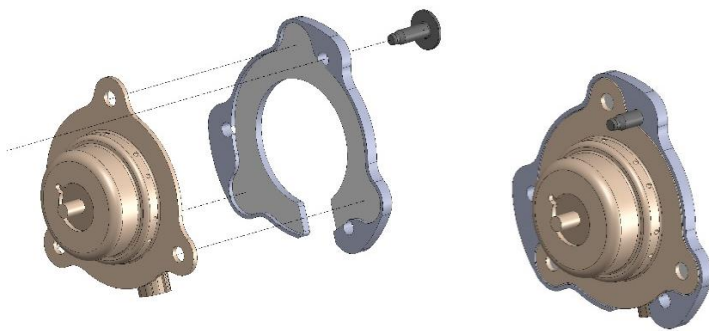
1. Disconnect the ground cable at the battery.
2. Remove the water pressure sensor from the original water pump. Save this sensor for use later.
3. Remove original accessories, water pump and brackets.
4. Remove original harness assembly and VVT actuator. Most connectors have a red redundant safety lock that must be slid to unlock. Then the retainer tab can be pressed and the connector removed. Retain all actuator and harness bolts for use in the assembly steps 5 and 6.

## Assembly

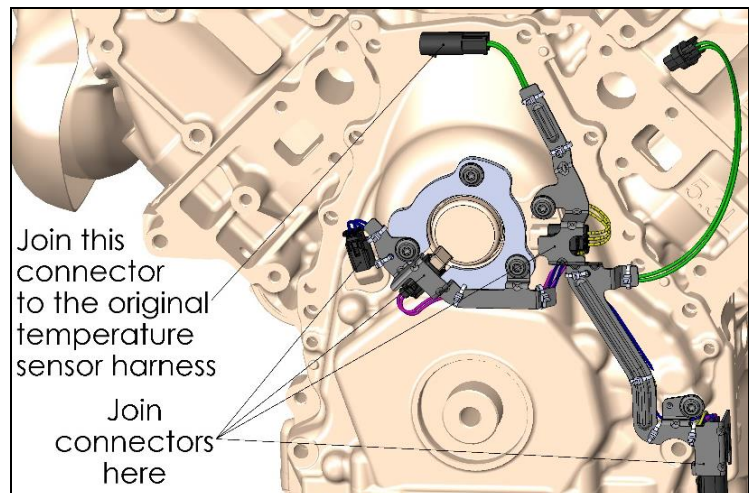
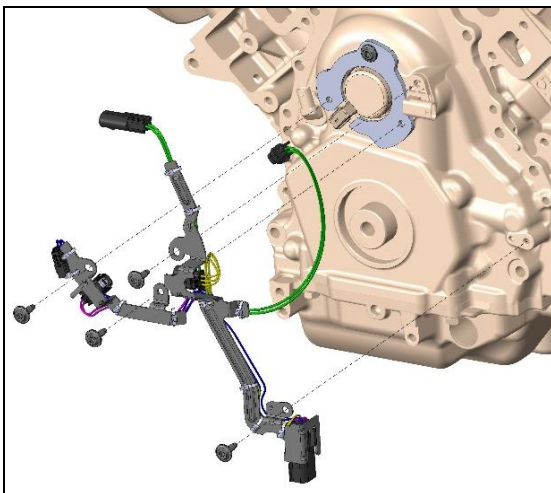
**NOTE:** Crank pulley and vacuum pump removed for instructional visibility only. Removal is not required for installation.

### Harness and clocking ring:

1. Install clocking ring and original actuator as shown with top bolt only.



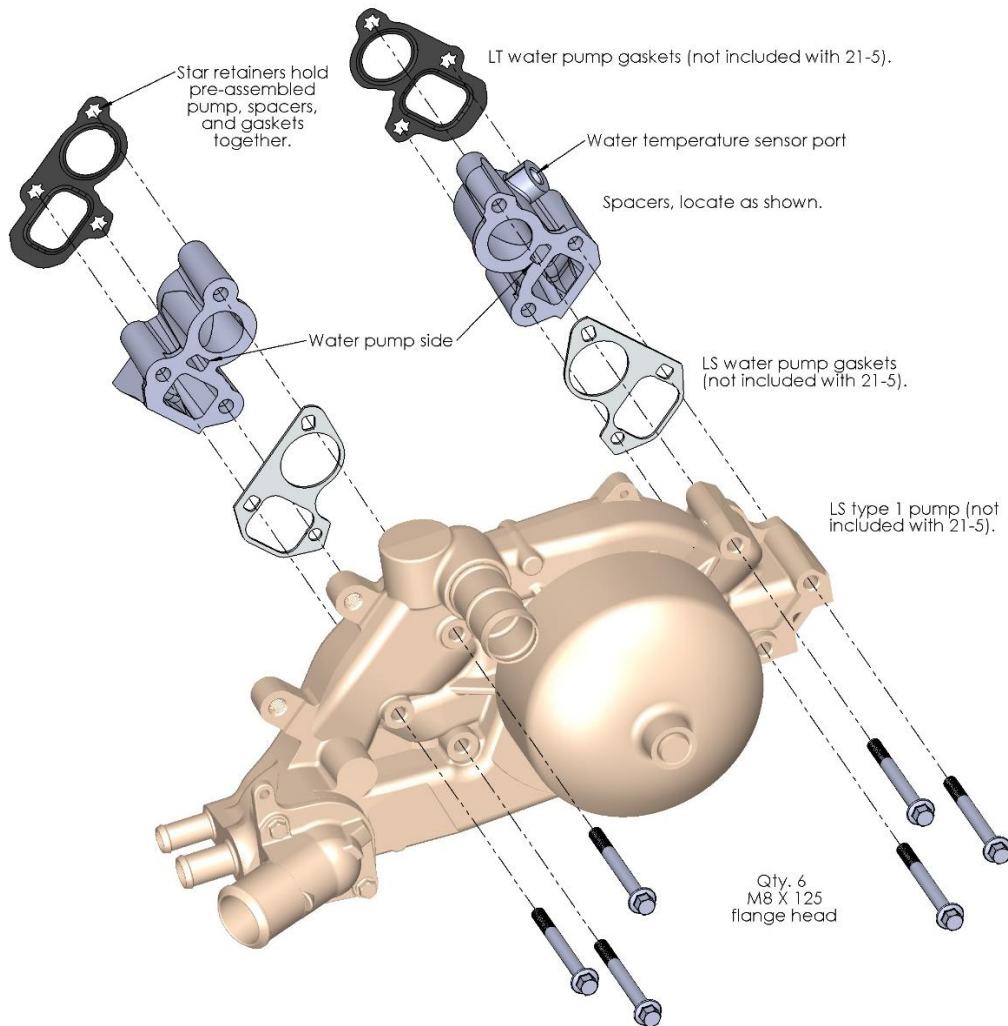
2. Install supplied harness assembly as shown. Make sure no wiring is pinched between engine and harness bracket. Reinstall the four harness bolts. Join the five connectors shown and engage red connector locks.



**NOTE:** Torque bolts M6 bolts to 11 Ft/lbs

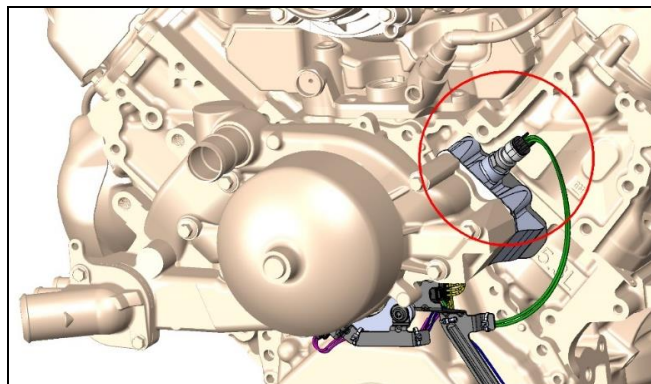
## Water pump:

1. Assemble the LS water pump>LS gasket>spacer>LT gasket to M8 bolts for each side. The LT gaskets will retain the assembly at the bolt threads. Before installing assembly to the engine, look into each of the four water passages and confirm all gaskets and spacers are aligned.



Torque M8 bolts to 18 ft./lbs.

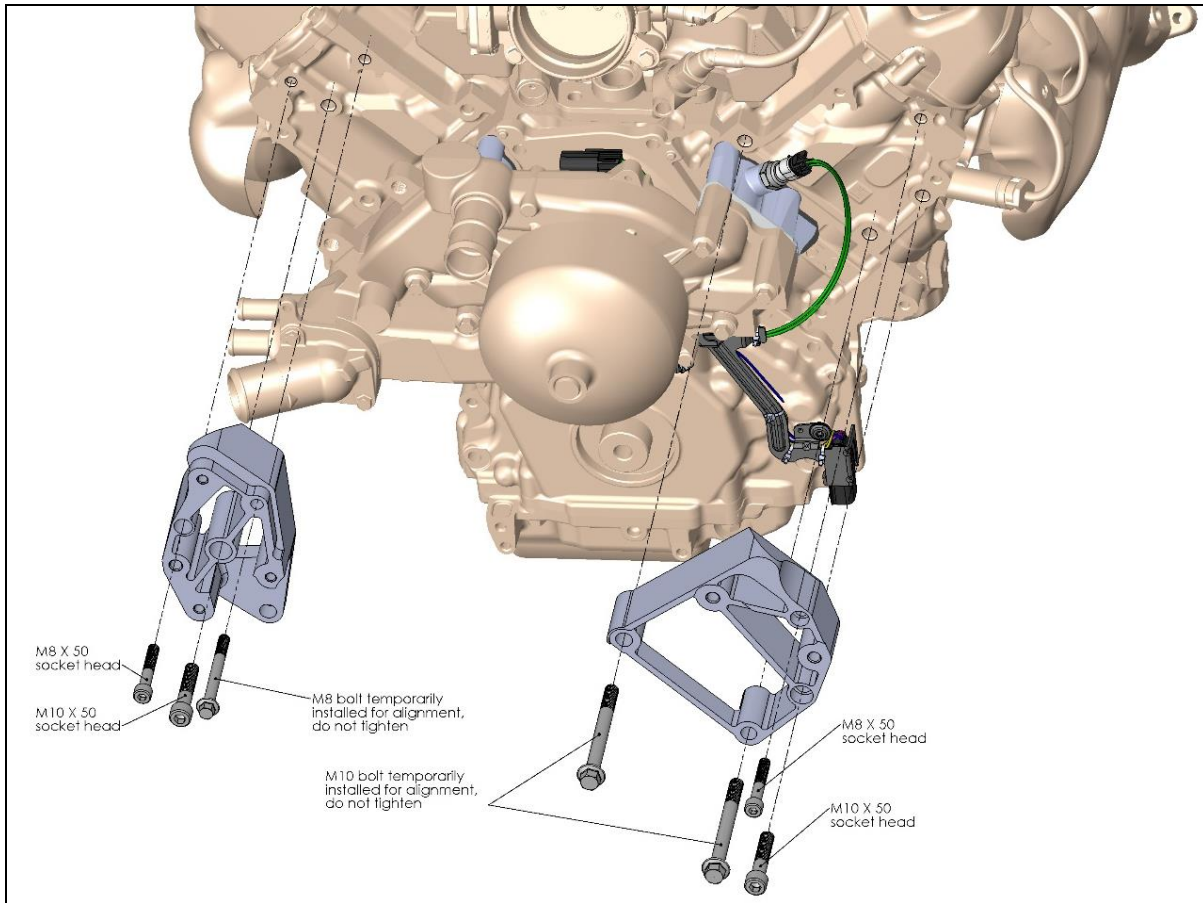
2. Install the water pump assembly to the engine.
3. Install the original water temperature sensor to the driver's side spacer.
4. Connect harness to the temperature sensor.



Torque temperature sensor to 15 ft/lb

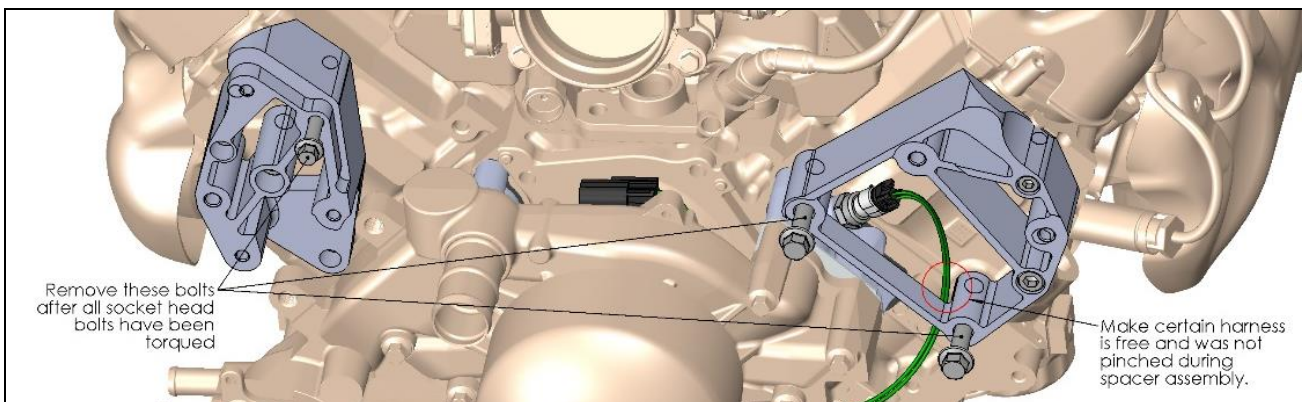
## Bracket spacers:

1. Loosely install the below shown bolts.
2. While holding each respective spacer approximately centered on the bolts, tighten the four socket head bolts only. Torque these four bolts at this time.

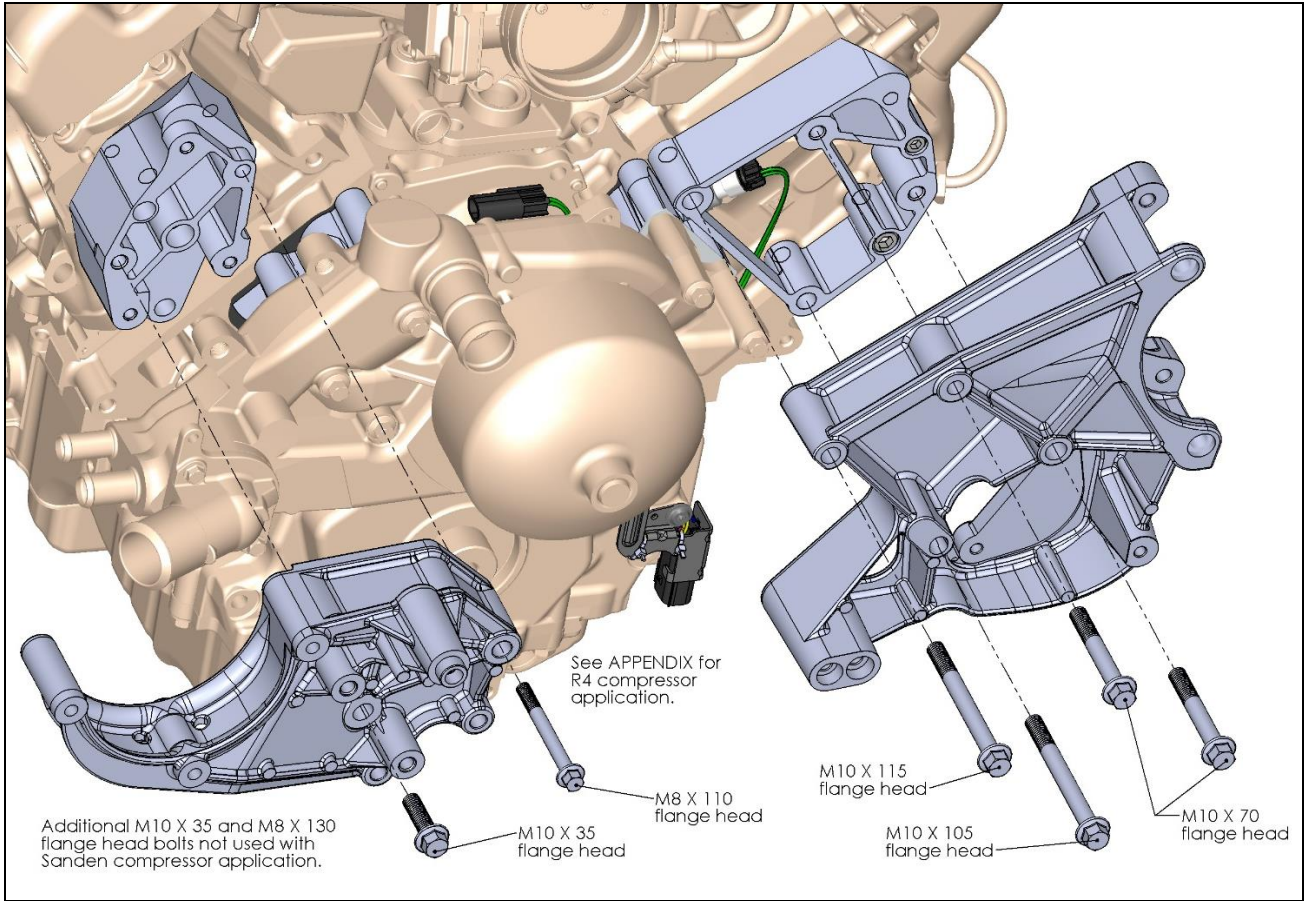


Torque M8 bolts to 18 ft./lbs. and M10 bolts to 36 ft./lbs.

3. Remove all three flange head bolts installed in step 11.



4. Install the accessory brackets per the instructions supplied with the brackets while substituting the below bolts supplied with the 21-5 installation kit. Sanden A/C compressor bracket shown.

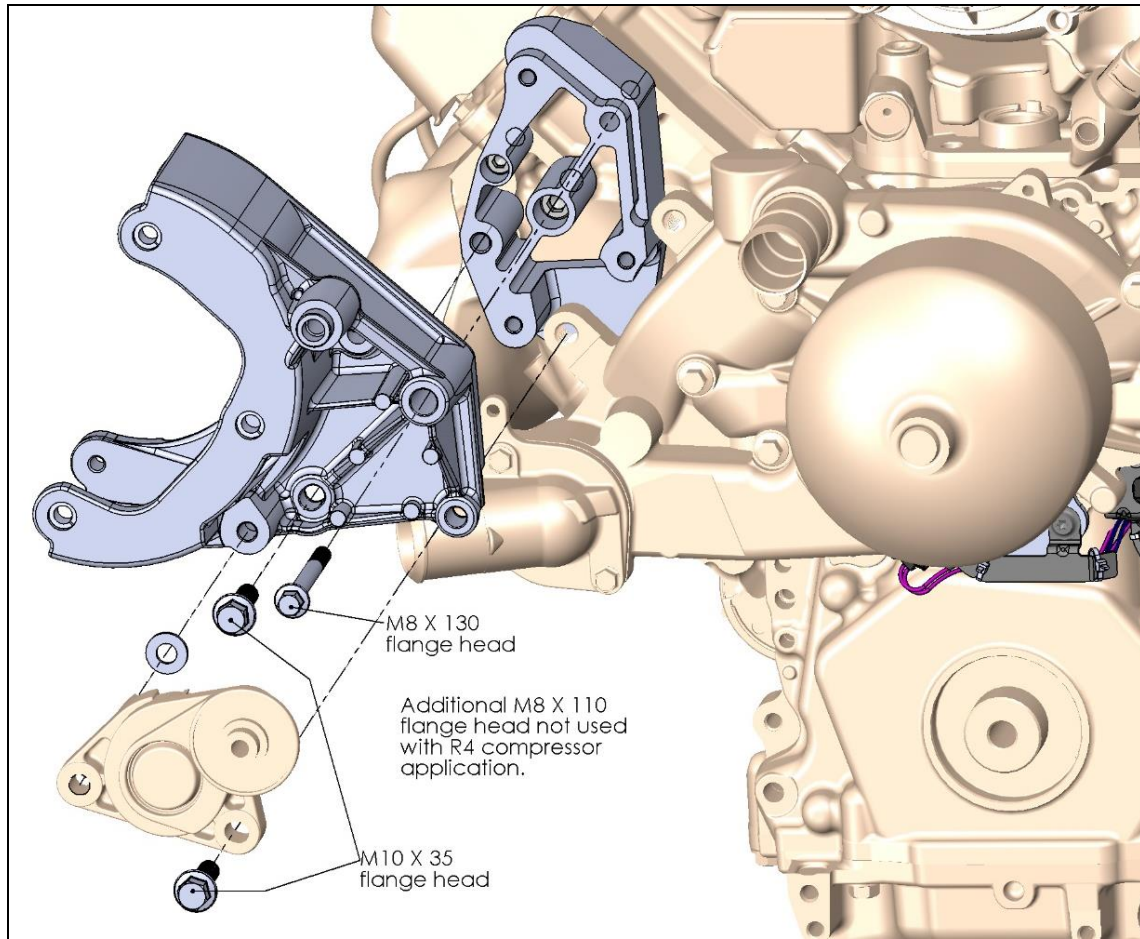


Torque M8 bolts to 18 ft./lbs. and M10 bolts to 36 ft./lbs.

5. Follow bracket supplied instructions from this point. All additional hardware is included with the bracket kit.

## **APPENDIX:**

If installing an R4 compressor and bracket, additional steps are described below.



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

Follow bracket supplied instructions from this point. All additional hardware is included with the bracket kit.

**NOTE:** If a belt was included with the accessory drive, it will not work with the LT application. Follow the belt length directions in the bracket assembly instructions for the proper belt needed for your application.

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