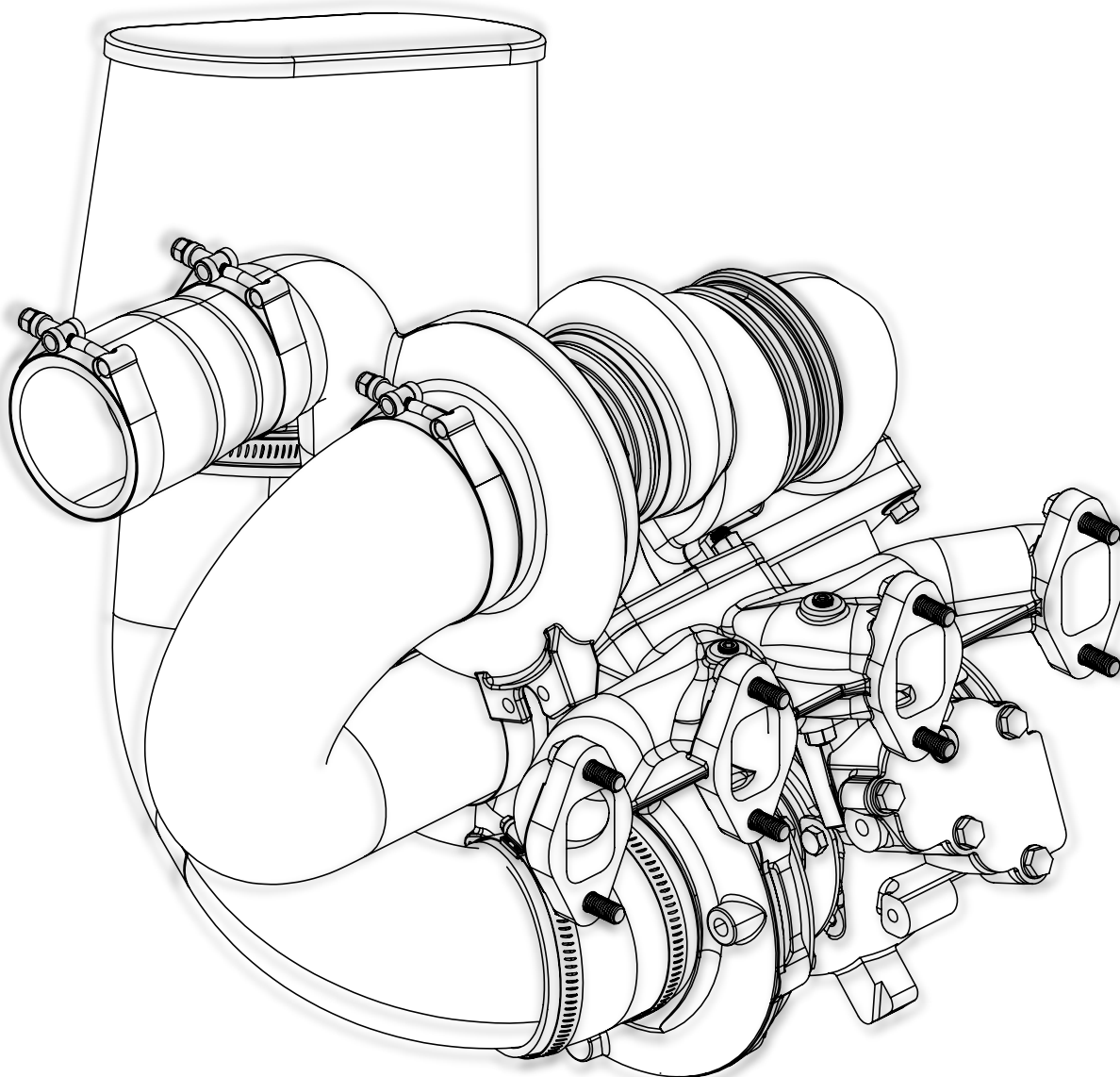
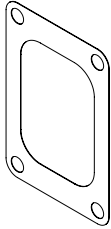
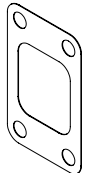
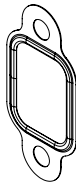
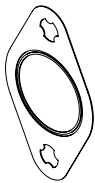

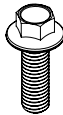
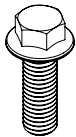


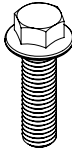
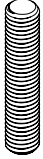
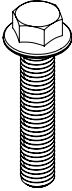
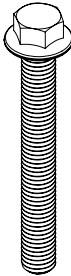


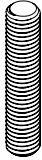

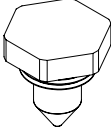
# Cummins 4BT Compound Turbo


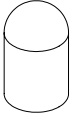
## Installation Instructions



# Included Gaskets and Hardware:

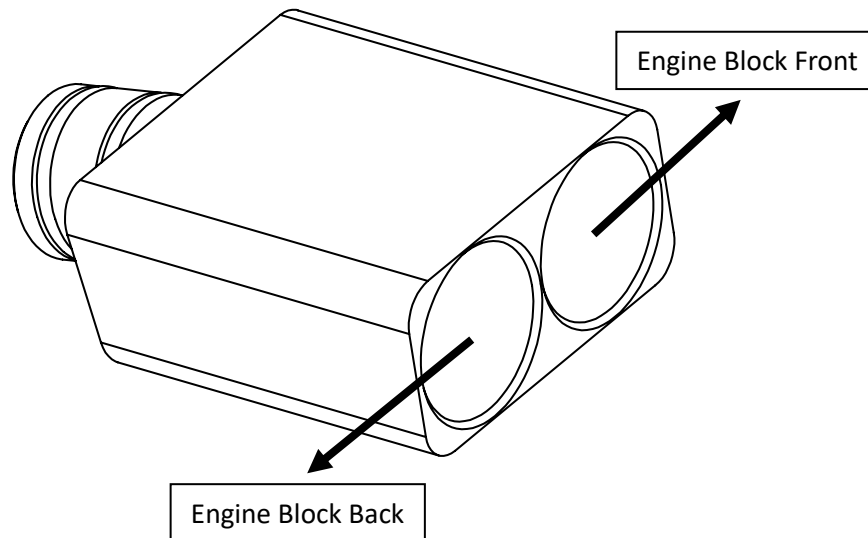
<u>Name:</u>	<u>Part:</u>	<u>Quantity:</u>
T6 Divided Gasket		<b>1</b>
T3 Non-Divided Gasket		<b>2</b>
12V Manifold Gasket (Note: Only included with Cummins 4BT 12V kits.)		<b>4</b>
24V Multi-Layer Manifold Gasket (Note: Only included with Cummins 4BT 24V kits.)		<b>4</b>
Oil Drain Gasket		<b>2</b>
M8-1.25 x 25mm Flange Bolt		<b>4</b>
M10-1.5 x 30mm Serrated Flange Bolt		<b>2</b>

M10-1.5 x 35mm Serrated Flange Bolt		<b>8</b>
M10-1.5 x 50mm Stud		<b>3</b>
M10-1.5 x 50mm Serrated Flange Bolt		<b>2</b>
M10-1.5 x 80mm Serrated Flange Bolt		<b>1</b>
M10-1.5 Hex Nut		<b>8</b>
M10 Washer		<b>3</b>
3/8"-16 x 1 1/2" Stud		<b>4</b>
3/8"-16 Hex Nut		<b>4</b>
HE351CW Wastegate Plug		<b>1</b>

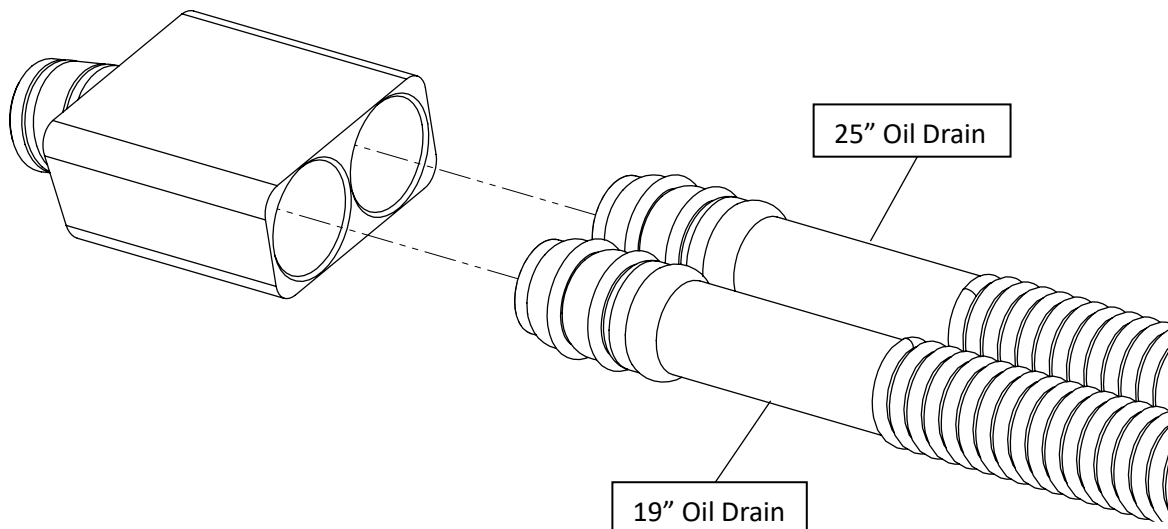
10mm Tension Spring Clamp		<b>1</b>
¼" Rubber Vacuum Cap		<b>1</b>

# Installation Instructions:

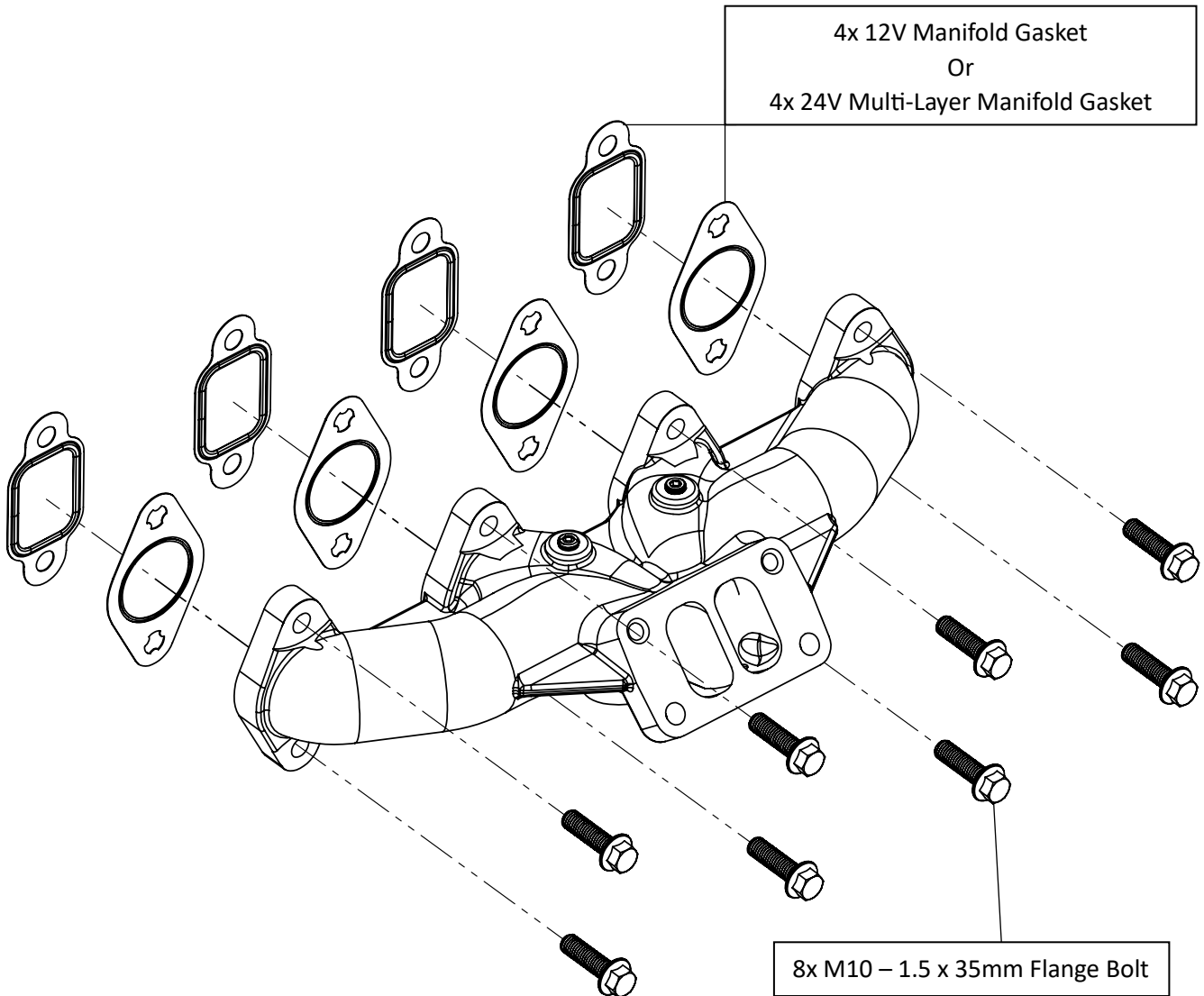
**Step #1:** Insert the oil drain adapter into your engine block's oil drain port. Position the adapter to have the left port towards the back of the block and the right port towards the front of the block.



**Step #2:** Insert the oil drains into the oil drain adapter. Place the 19" oil drain in the left port and the 25" oil drain in the right port of the oil drain adapter.

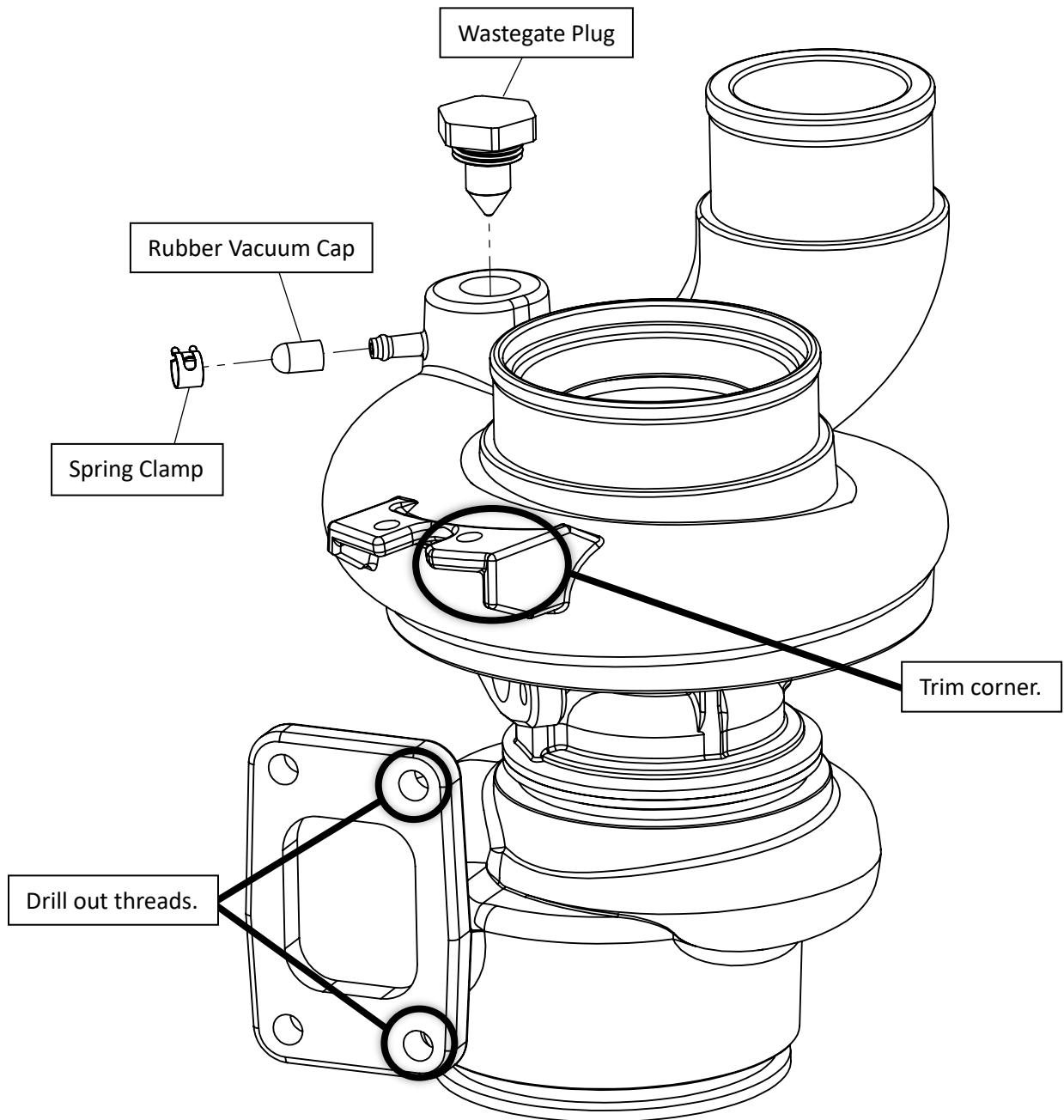


**Step #3:** Install the exhaust manifold onto the engine block. Torque each fastener to **35 ft-lbs.** (**Note:** Depending on your specific application you will receive either a 12V Cummins 4BT manifold with 12V gaskets or a 24V Cummins 4BT manifold with 24V multi-layers gaskets.)

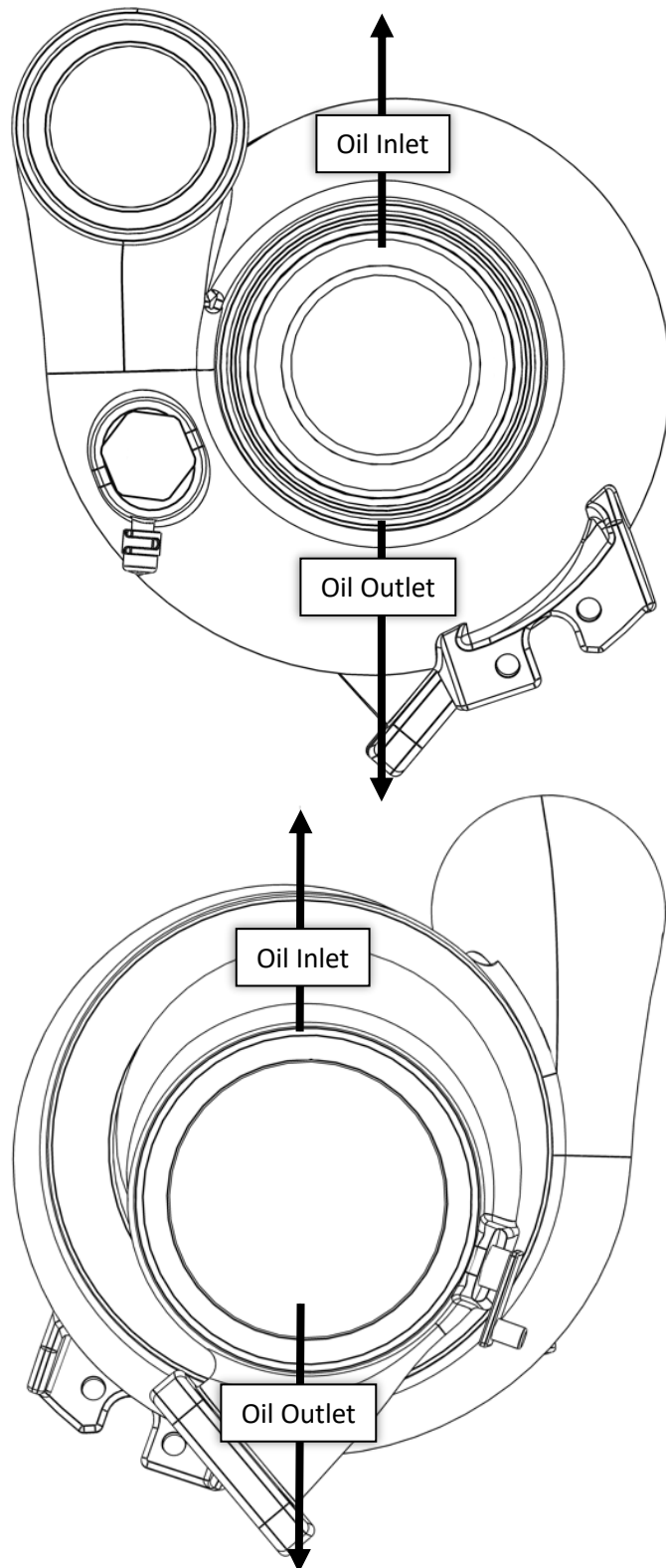


**Step #4:** Prepare the HE351CW turbo for installation.

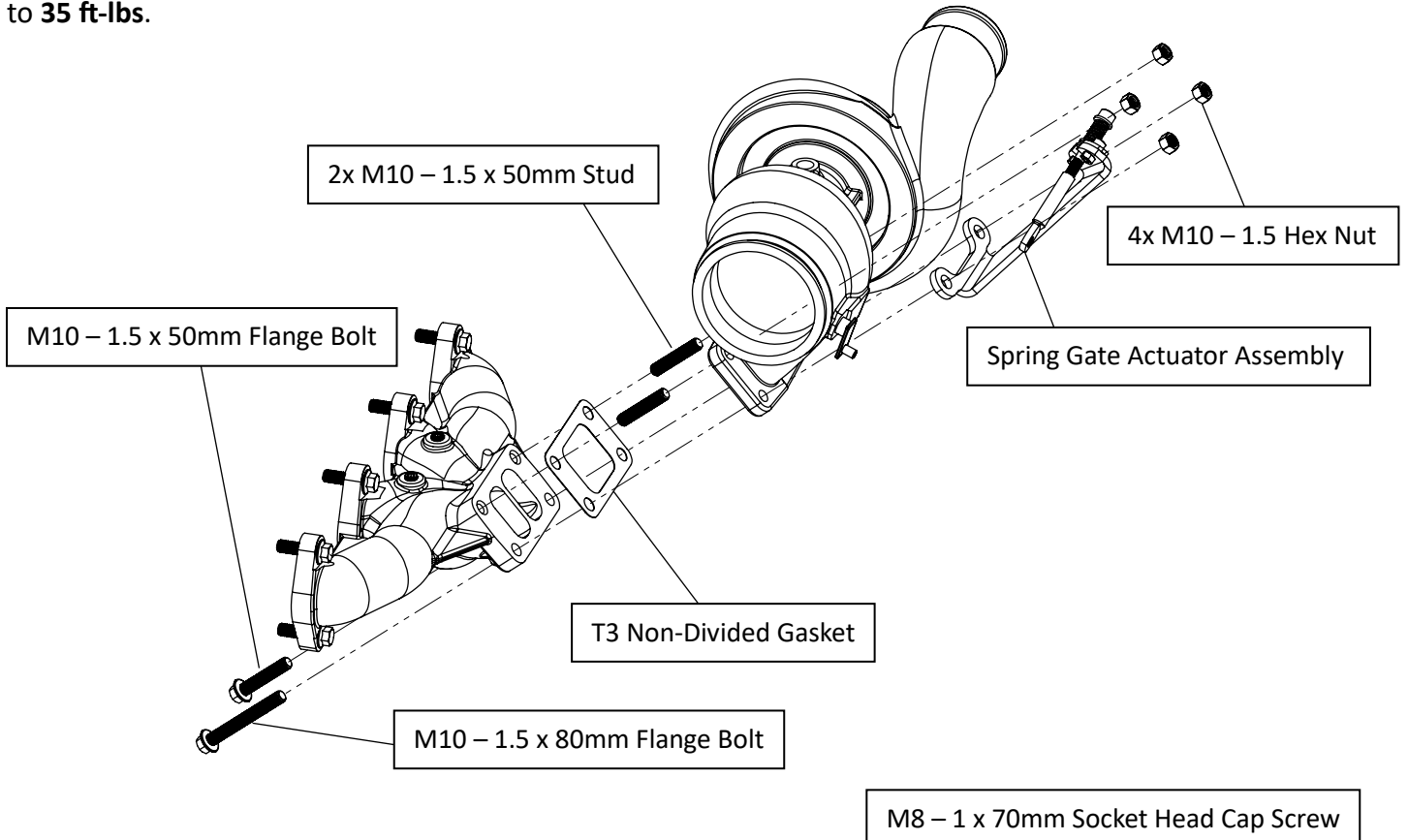
1. Drill out threads using X, Y, or 13/32" drill bit.
2. Trim the corner of the compressor housing actuator mount.
3. Plug wastegate ports.



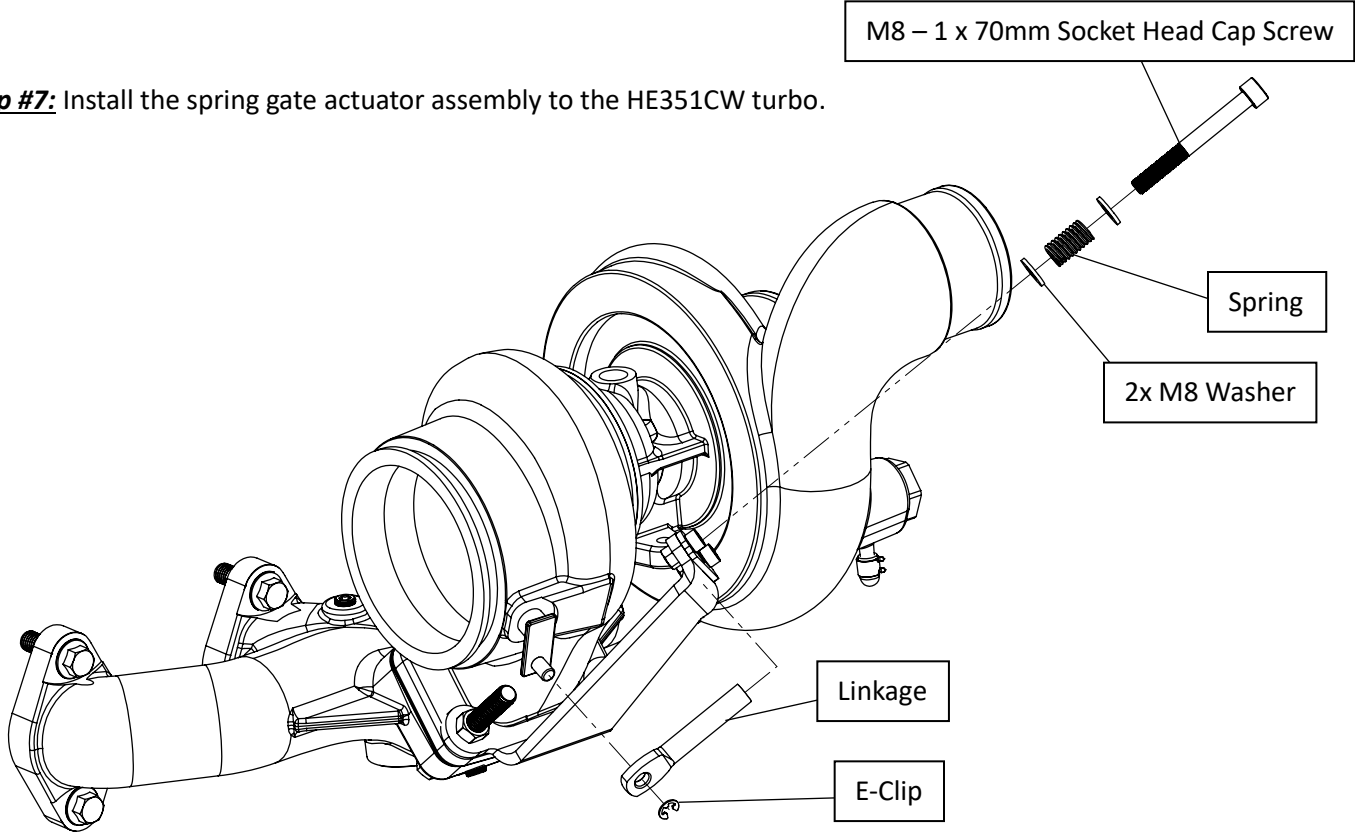
**Step #5:** Clock the HE351CW turbo according to the diagrams below. Some HE351CW turbos have two roll pins in the bearing housing that prevent the compressor housing and turbine housing from rotating. If your turbo has these roll pins remove them so you can clock the turbo according to the diagrams.



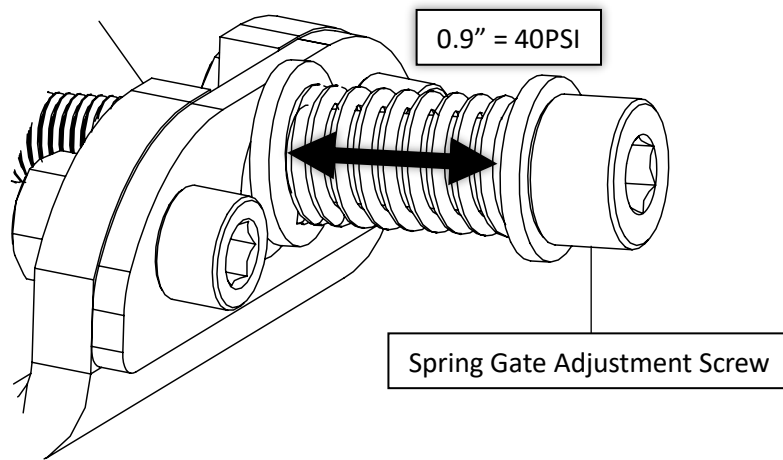
**Step #6:** Install the HE351CW turbo and spring gate actuator assembly to the exhaust manifold. Torque each fastener to **35 ft-lbs.**



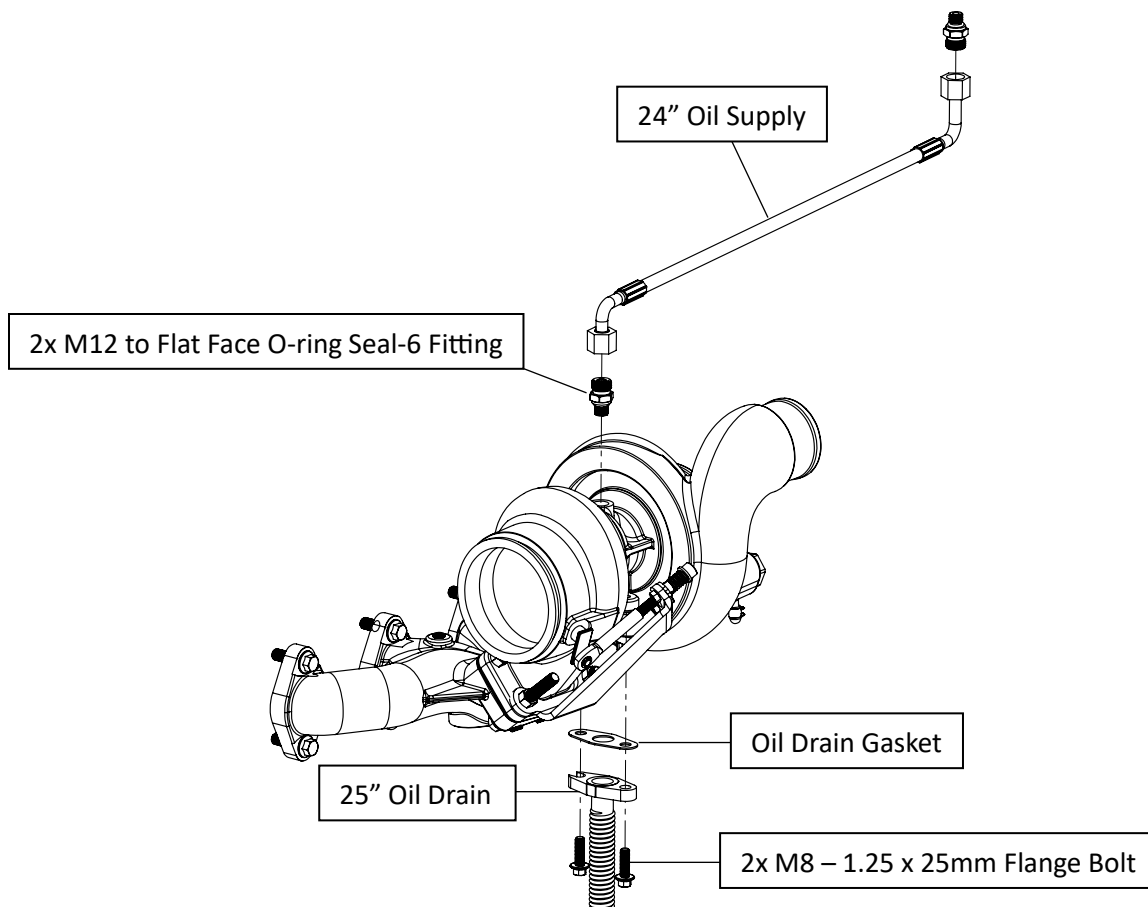
**Step #7:** Install the spring gate actuator assembly to the HE351CW turbo.



**Step #8:** Tighten the spring gate adjustment screw until the compressed spring height equals 0.9". This initially sets your waste gate pressure to 40psi. If you want to reduce the waste gate pressure loosen the adjustment screw. If you want to increase the waste gate pressure tighten the adjustment screw.



**Step #9:** Connect the 24" oil supply line to the HE351CW turbo oil supply port and engine blocks oil filter housing. Also, connect the 25" oil drain to the HE351CW turbo oil drain port.



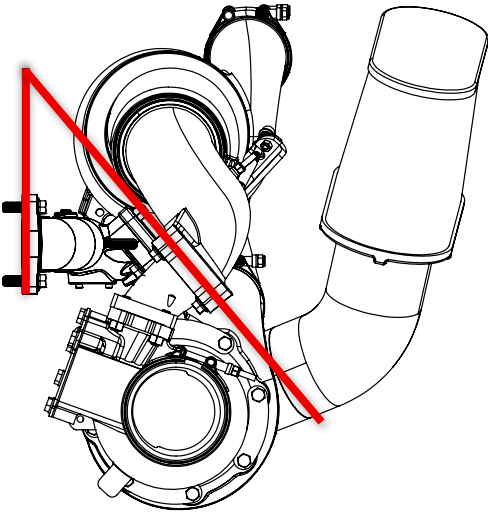
**Step #10:** Determine how your kit needs to be clocked from the block and what support bracket to use. Your kit includes three different support brackets depending on your application.

**40° or 53° Support Bracket:** Recommended if the oil filter is relocated from the stock location.

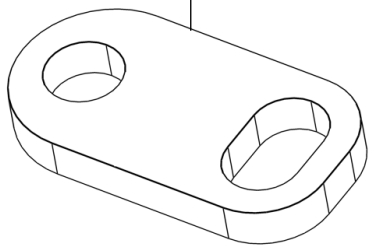
**53° Support Bracket:** Recommended if the oil filter is in the stock location.

**70° Support Bracket:** Recommend if the starter is located at the back of the engine block on the passenger side.

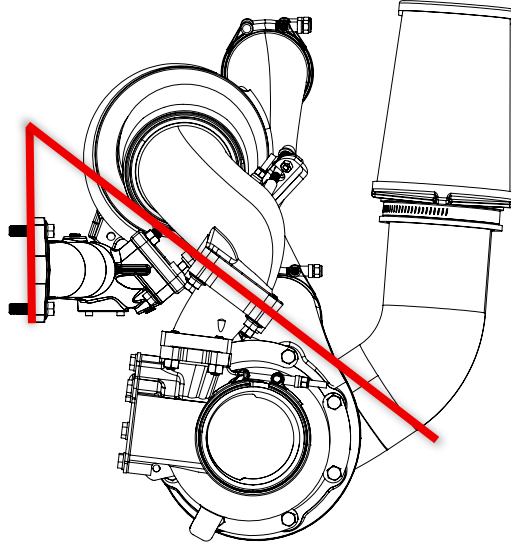
40° Support Bracket Clocking



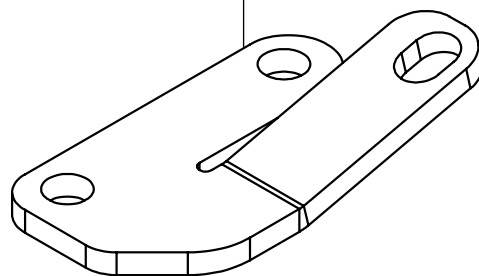
40° Support Bracket



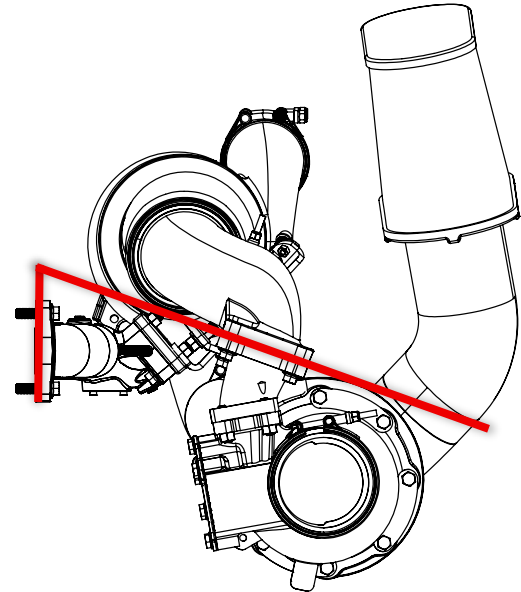
53° Support Bracket Clocking



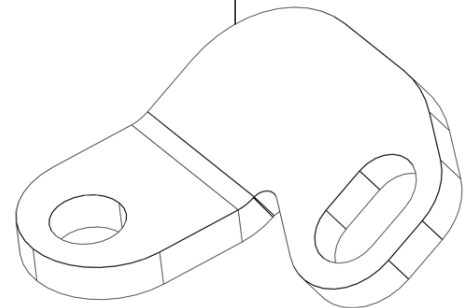
53° Support Bracket



70° Support Bracket Clocking

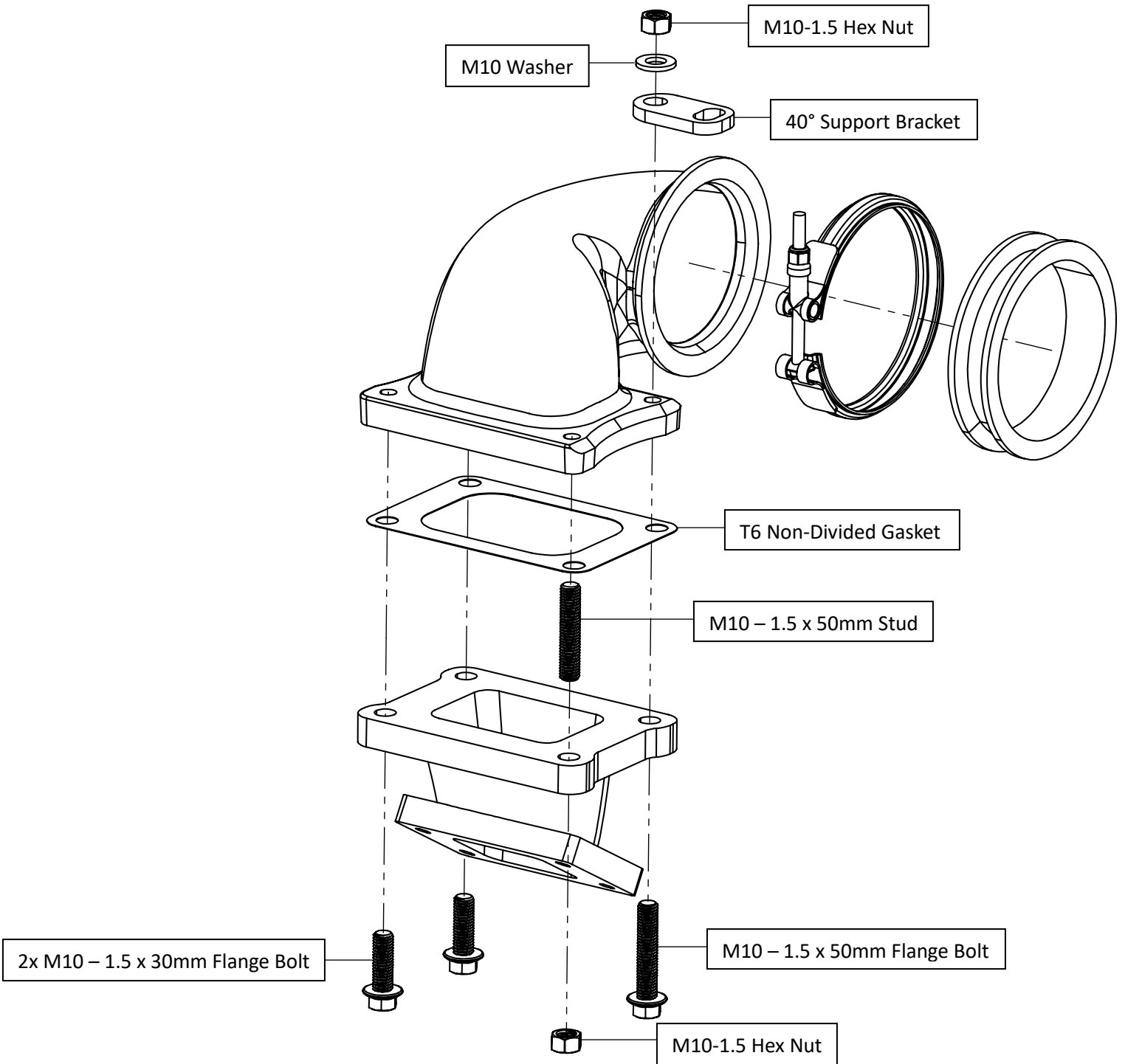


70° Support Bracket

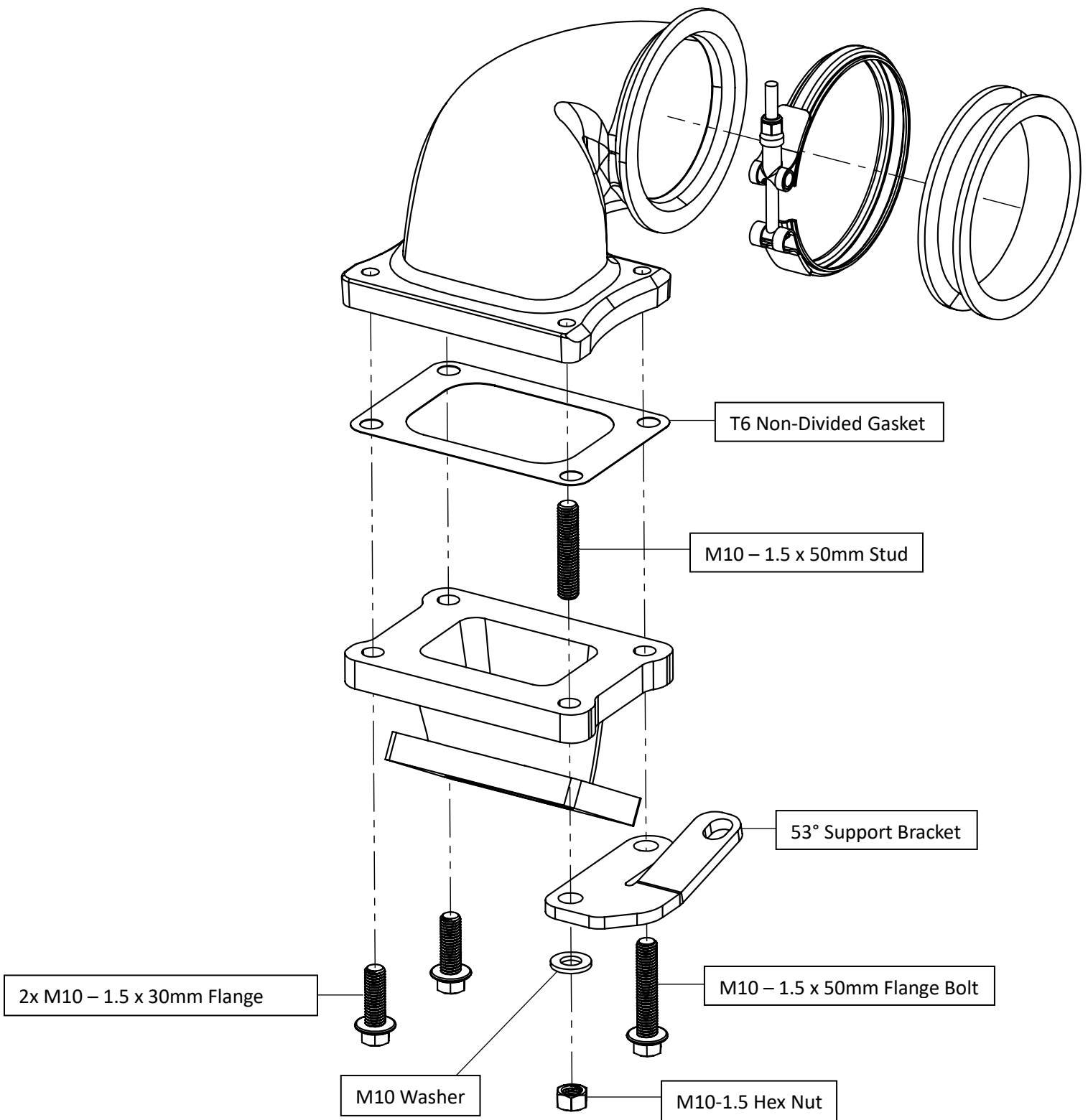


**Step #11:** Prepare the hot pipe assembly based on the support bracket chosen in the previous step. Torque each fastener to **35 ft-lbs.** (Note: View pages 13-14 for the 53° and 70° support bracket hot pipe assemblies)

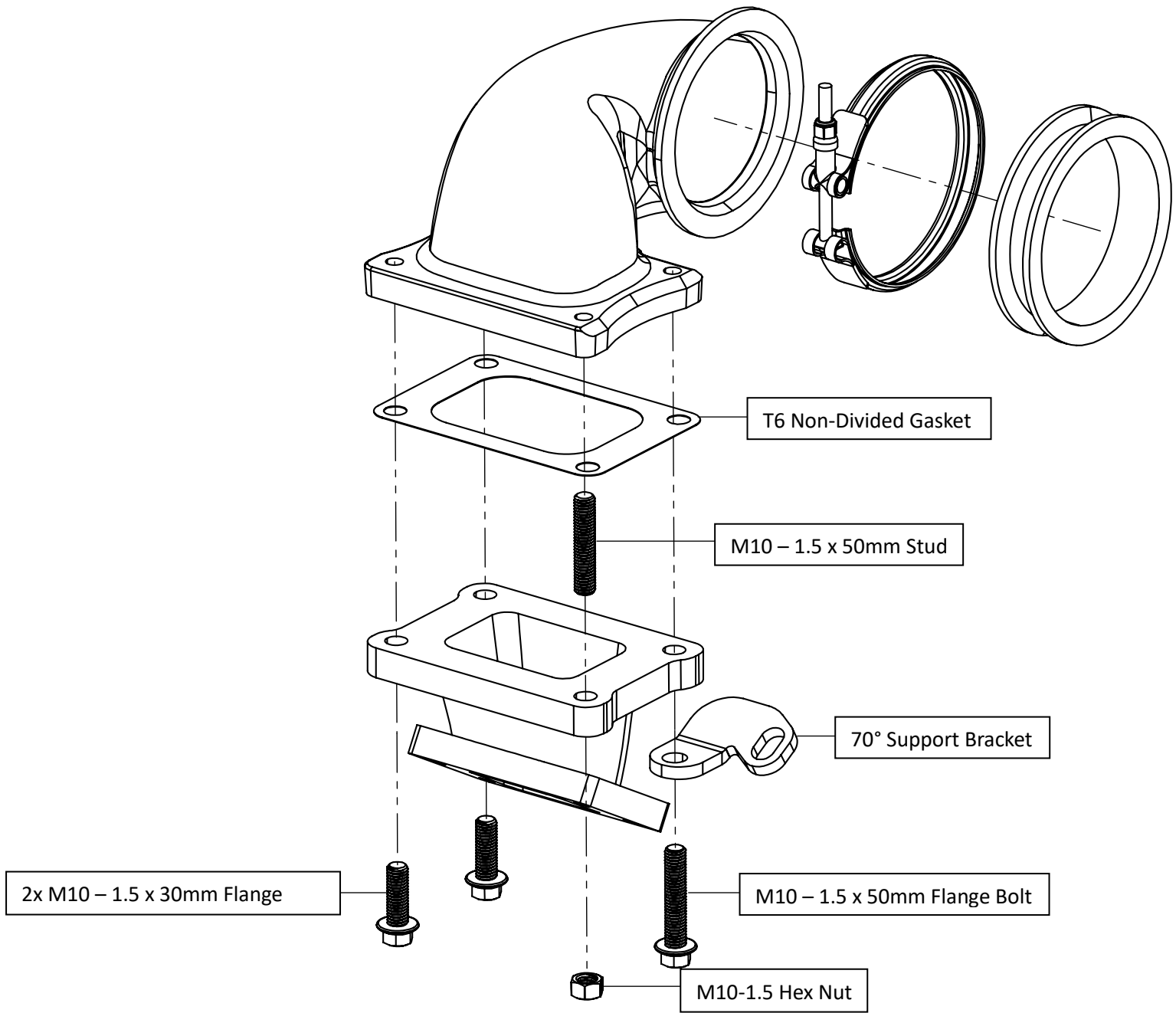
### 40° Support Bracket Hot Pipe Assembly



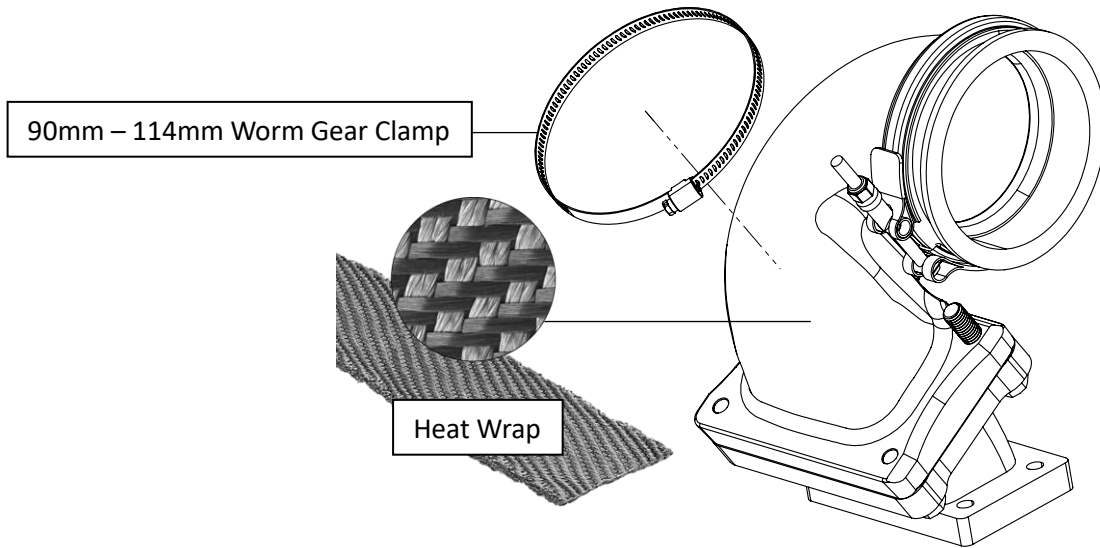
**53° Support Bracket Hot Pipe Assembly**



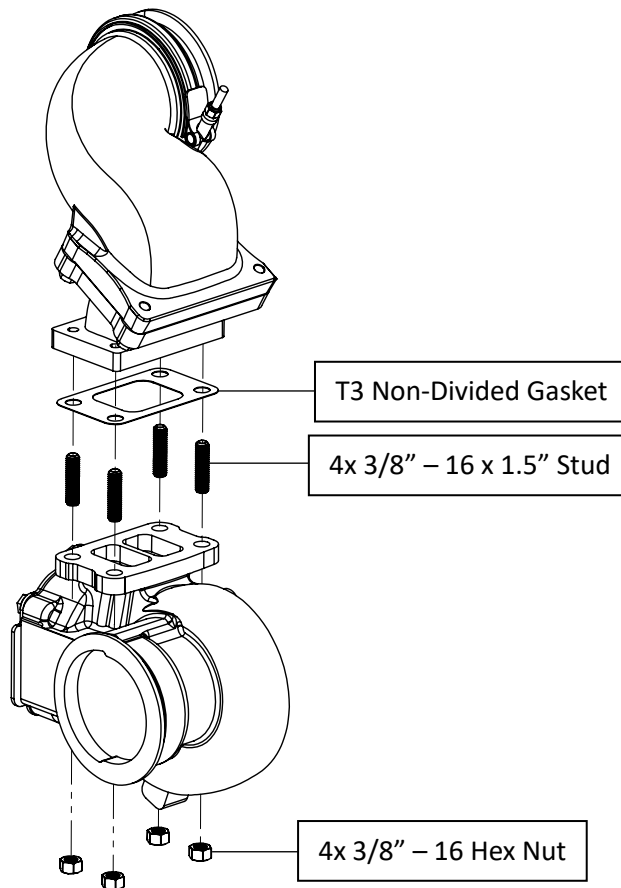
**70° Support Bracket Hot Pipe Assembly**



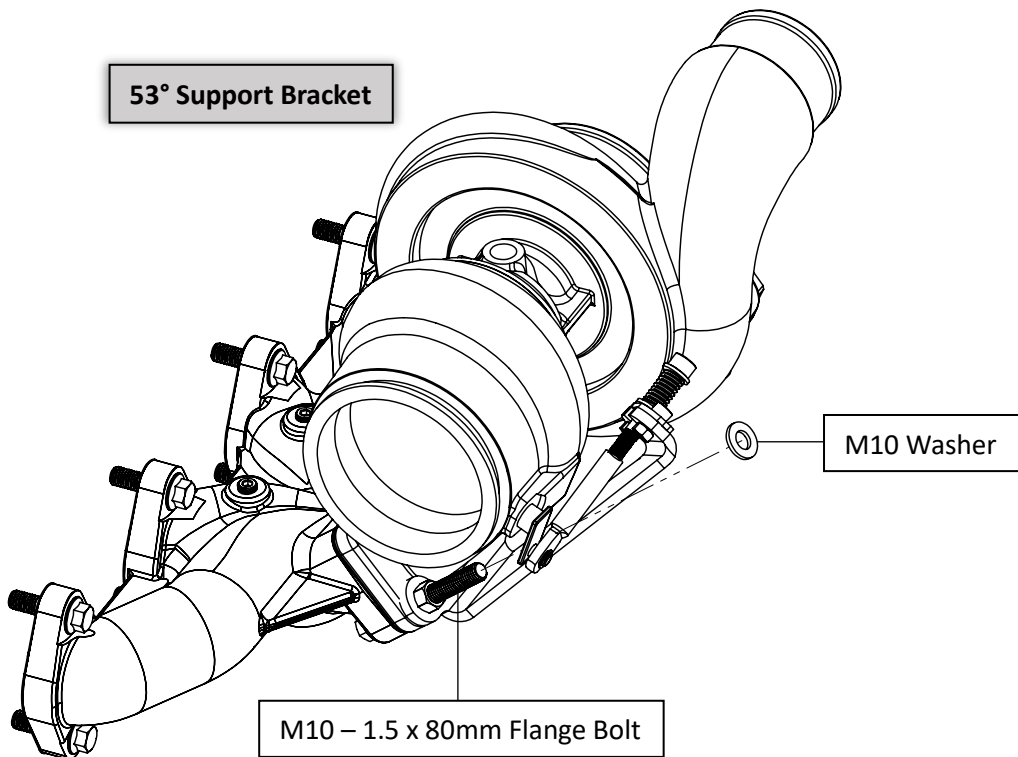
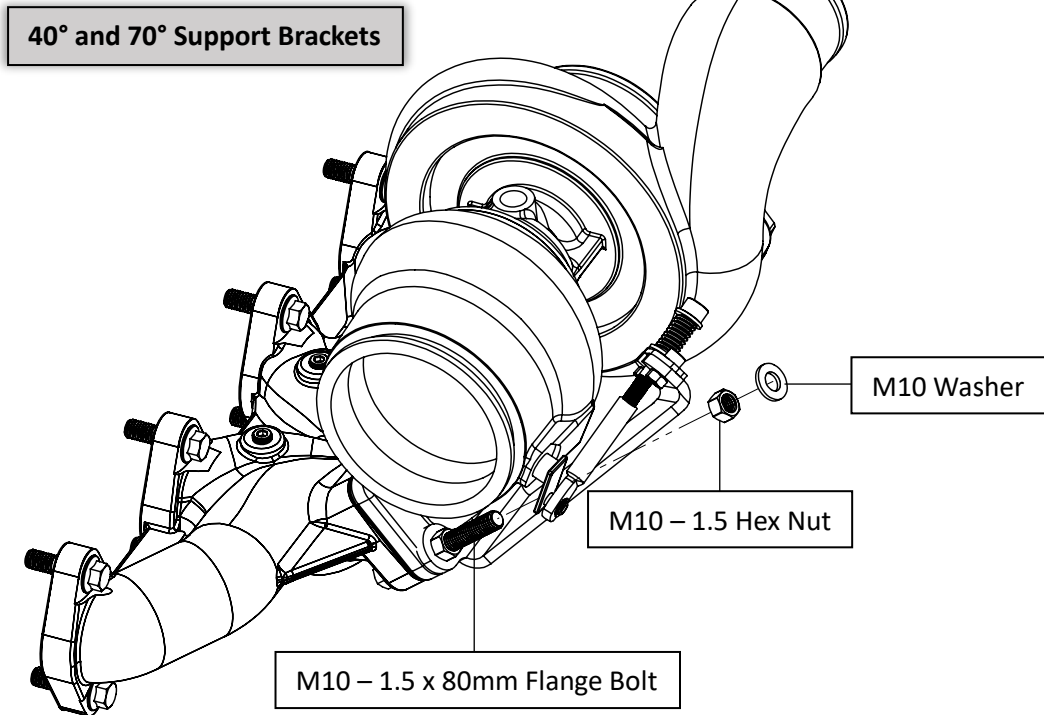
**Step #12:** Wrap the cast hot pipe with the included heat wrap and secure it with the included clamp.



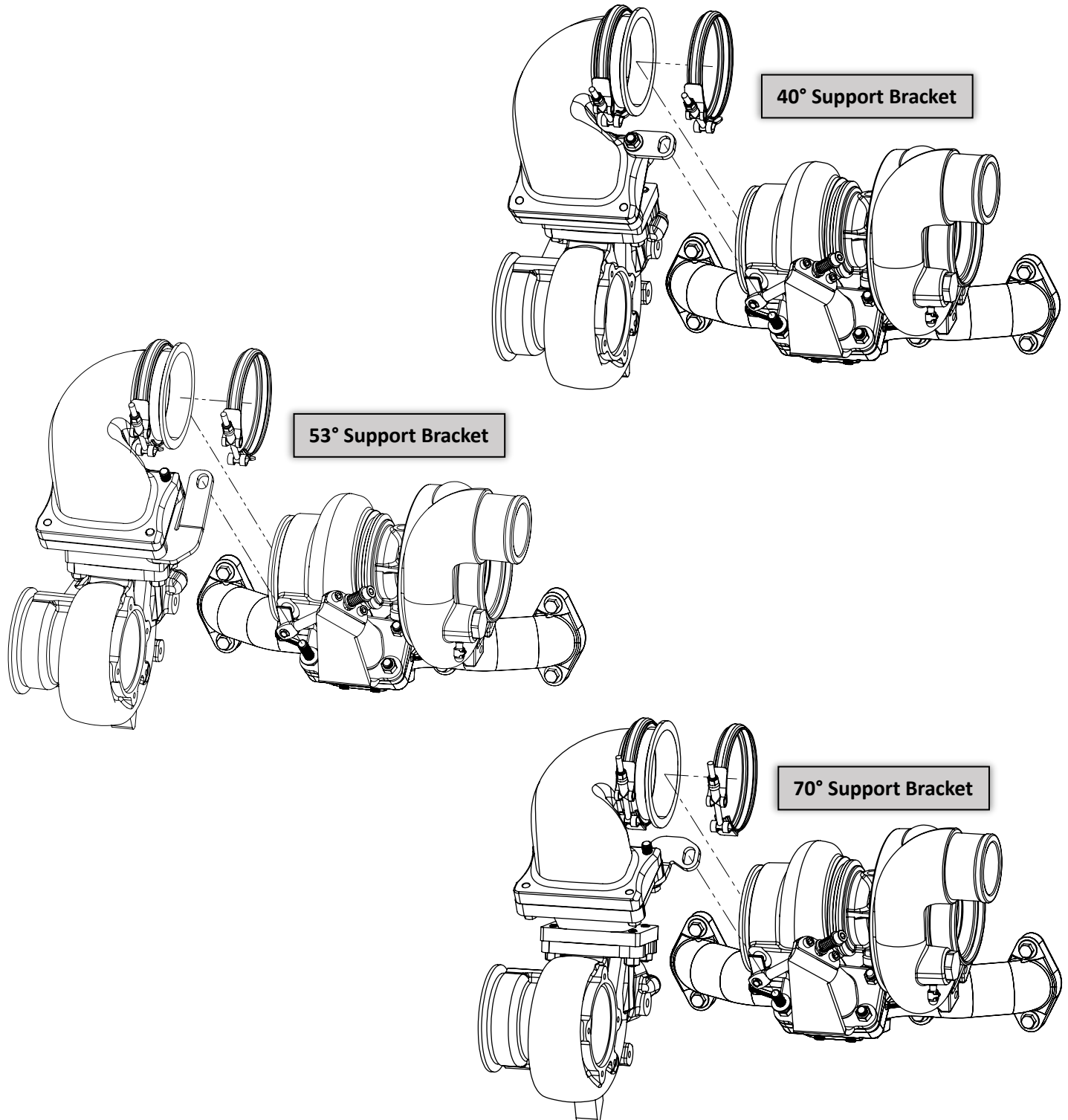
**Step #13:** Install the S300 turbo turbine housing to the hot pipe assembly. Torque each fastener to **35 ft-lbs.**



**Step #14:** If you are using the 40° or 70° support bracket. Install a M10 – 1.5 hex nut and M10 washer on the M10-1.5 x 80mm flange bolt used to fasten the HE351CW turbo to the manifold. If you are using the 53° support bracket. Only install the M10 washer on the M10-1.5 x 80mm flange bolt.

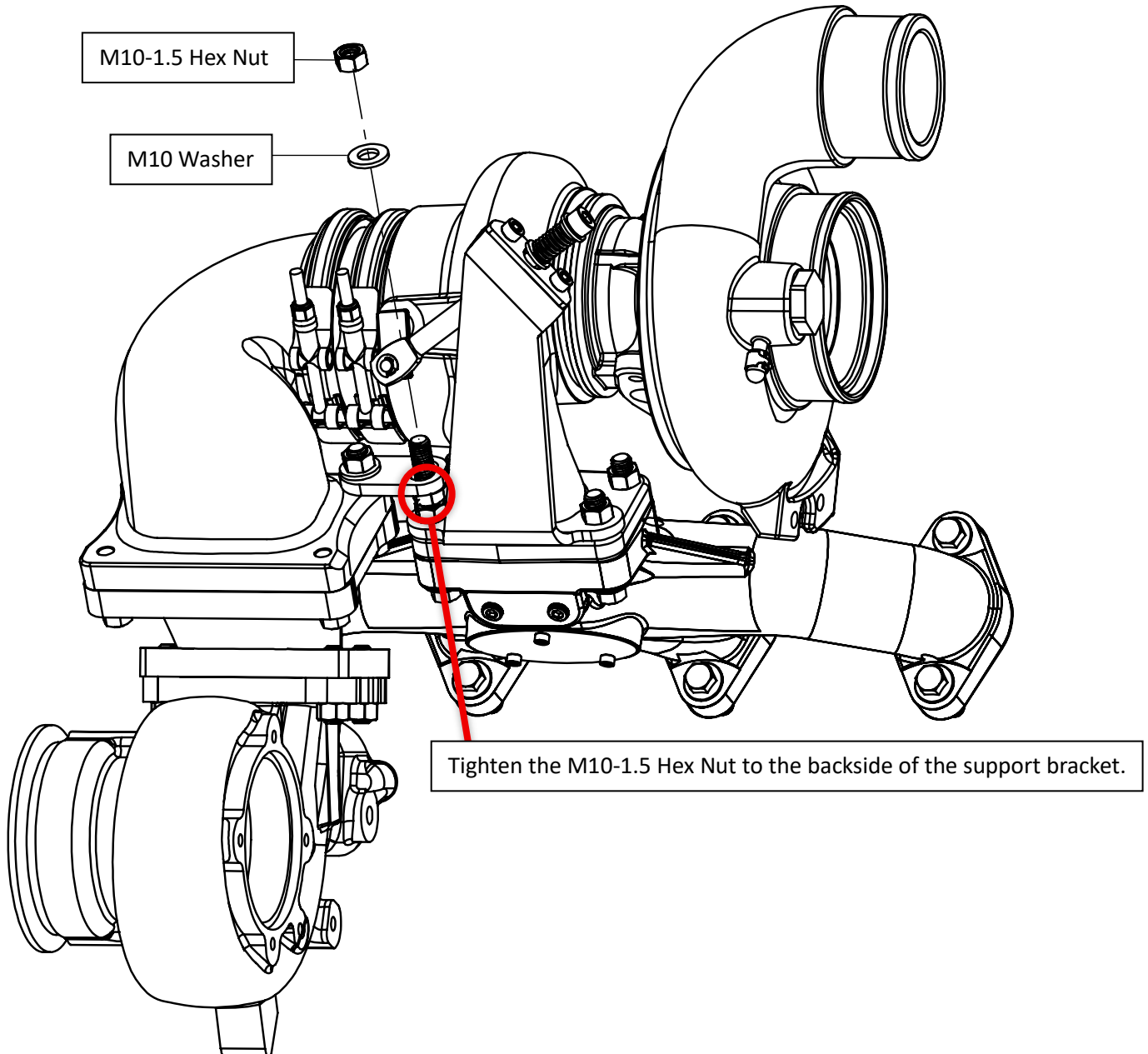


**Step #15:** Install the hot pipe turbine housing assembly to the HE351CW turbine housing. Pass the support bracket slotted hole around the M10 – 1.5 x 80mm flange bolt that fastens the HE351CW turbo to the manifold. Rotate the assembly until the chosen support bracket is parallel with the HE351CW turbo flange. Once parallel fasten the 4.4" v-band clamp to the turbine housing to hold the assembly in place.

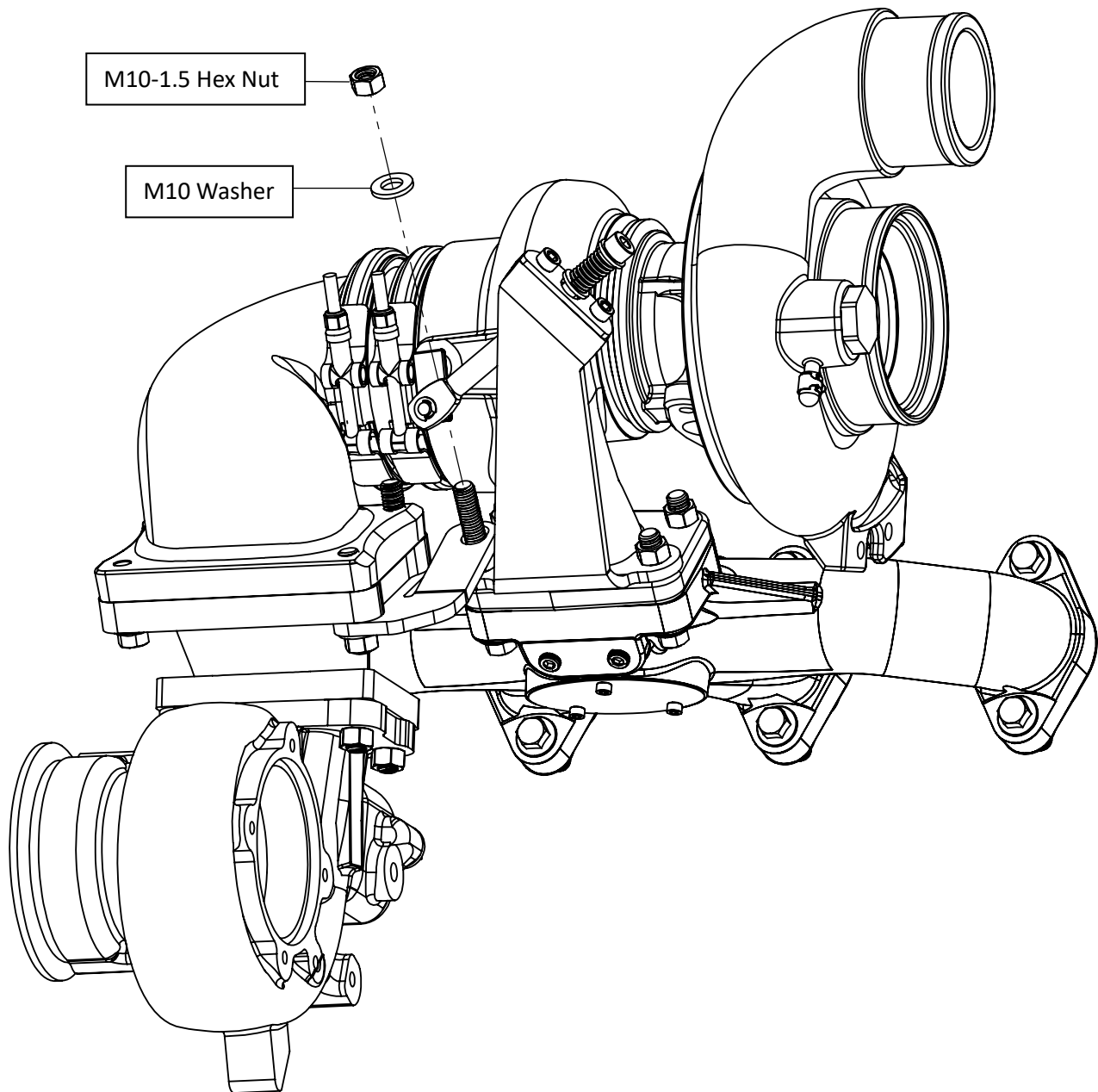


**Step #16:** If you are using the 40° or 70° support bracket. Fasten the M10 – 1.5 hex nut and M10 washer installed in step #10 to the backside of the support bracket. Then fasten another M10 – 1.5 hex nut and M10 washer to the front side of the support bracket. If you are using the 53° support bracket just fasten the M10-1.5 hex nut and M10 washer to the front side of the support bracket. Torque each fastener to **35 ft-lbs.** (Note: View page 19 for the 53° support bracket assembly.)

### 40° and 70° Support Brackets

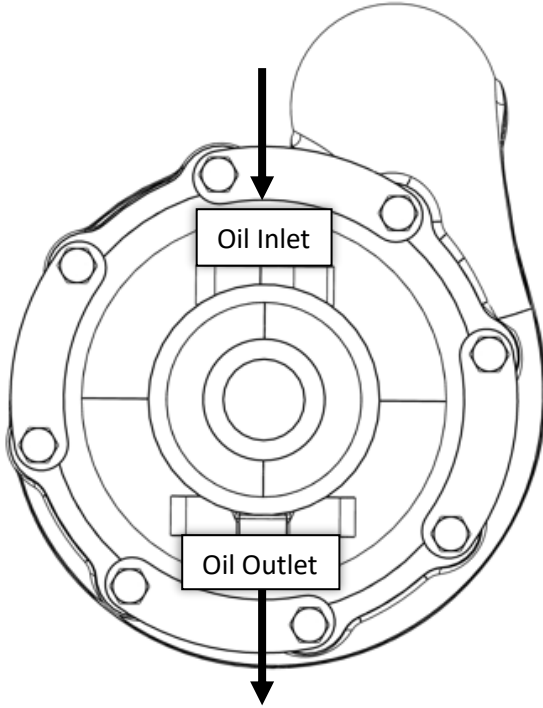


**53° Support Brackets**

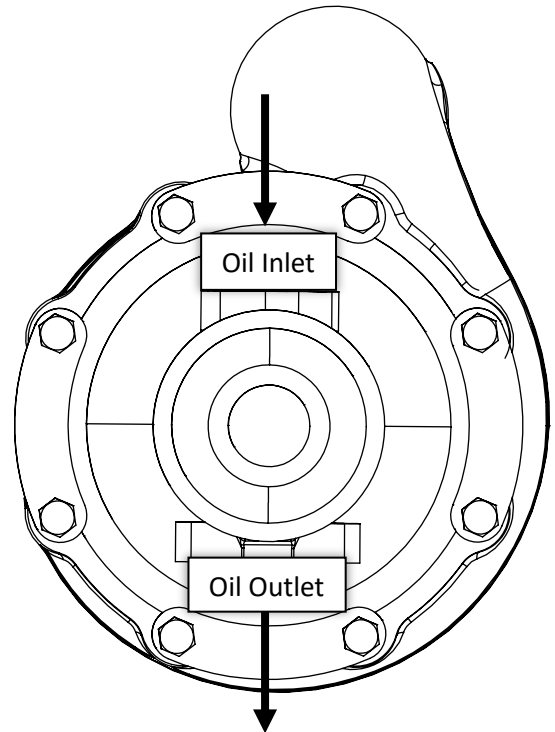


**Step #17:** Clock the S300 turbo CHRA and compressor housing based on the chosen support bracket using the diagrams below.

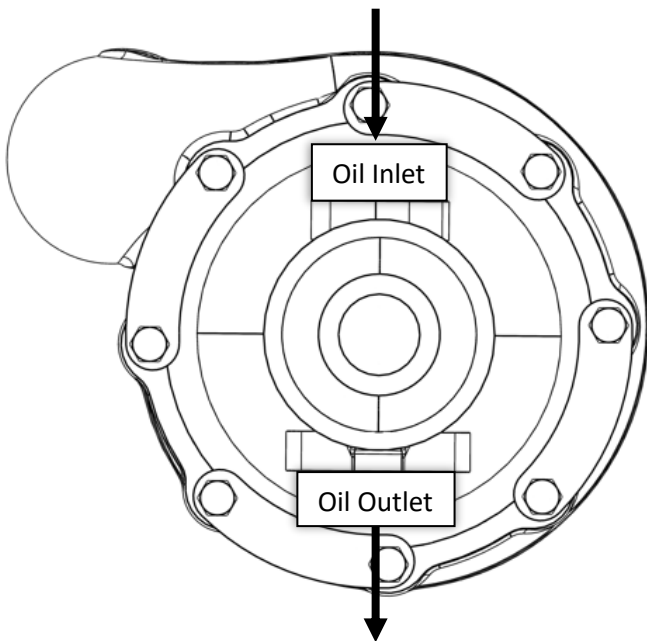
40° Support Bracket



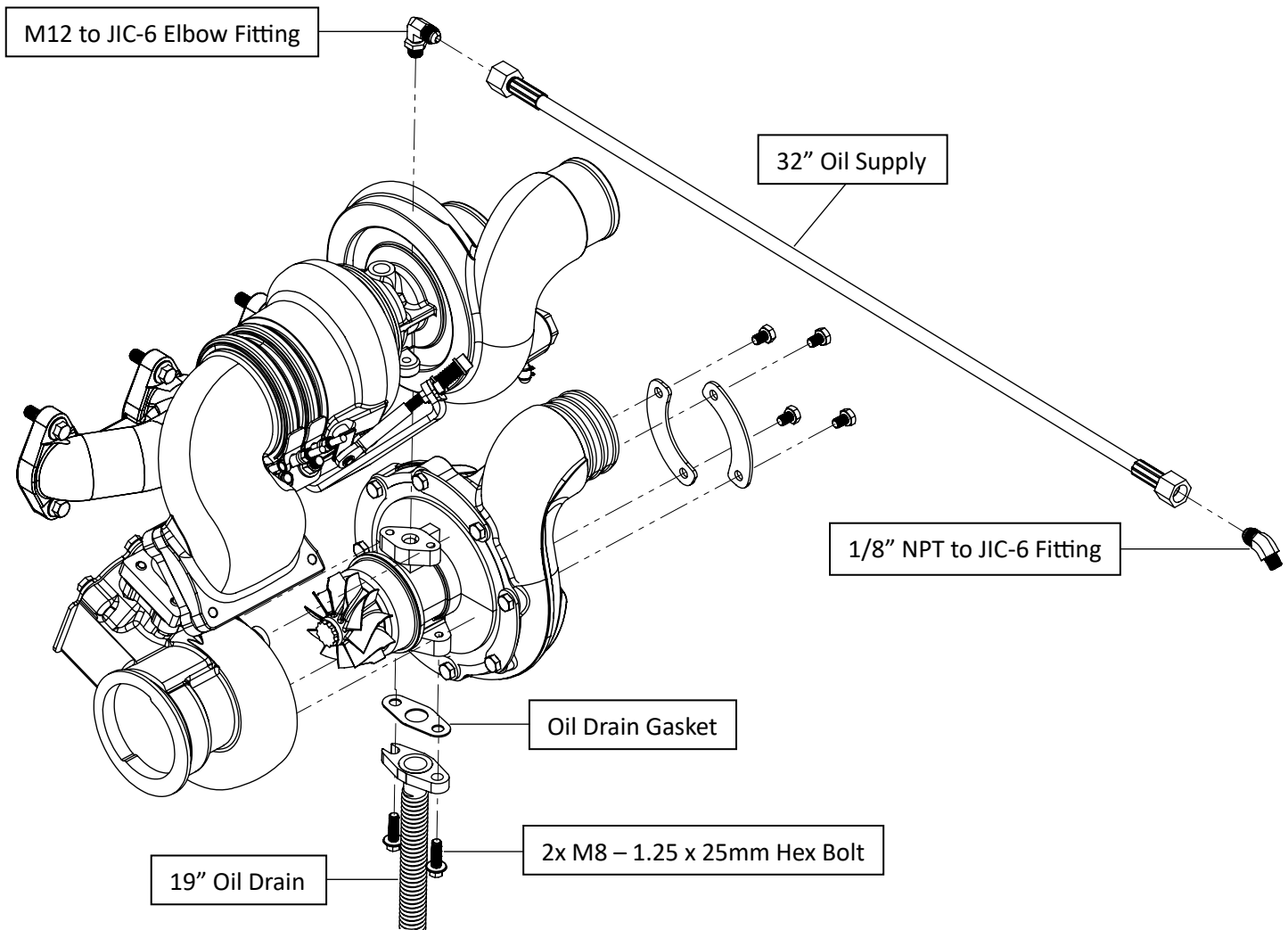
53° Support Bracket



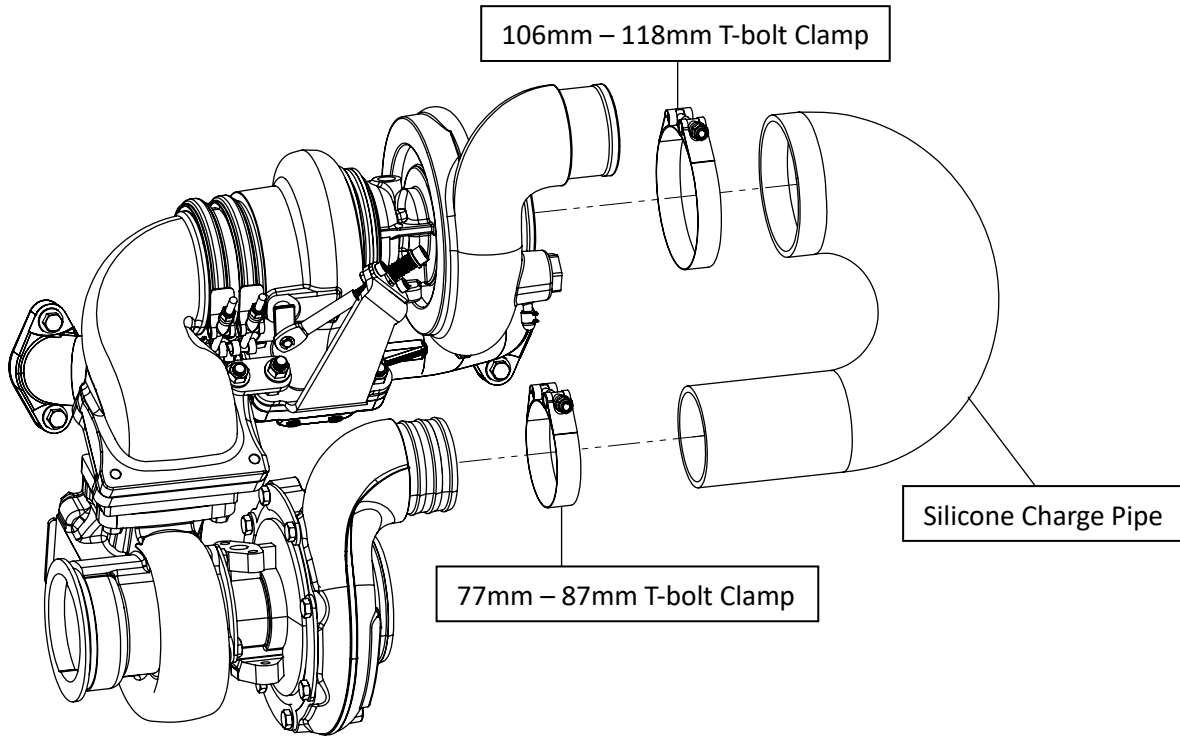
70° Support Bracket



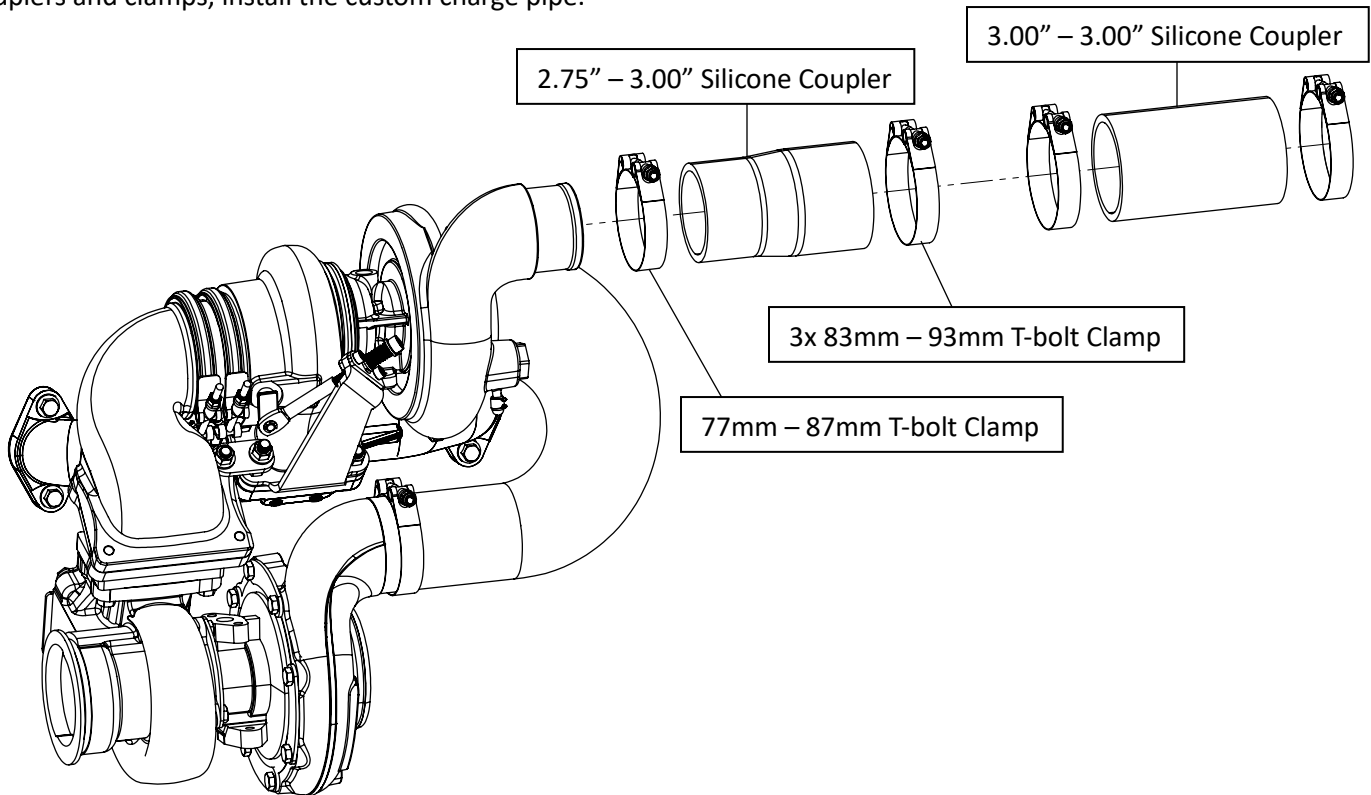
**Step #18:** Connect the 32" oil supply line to the S300 turbo. Install the clocked S300 CHRA / compressor housing assembly into the previously installed turbine housing. Make sure to protect the turbine wheel fins during installation to prevent any damage. Once installed route and connect the oil supply line to the engine block's oil filter housing using the 1/8" NPT to JIC-6 Fitting. Lastly connect the 19" oil drain line to the S300 turbo.



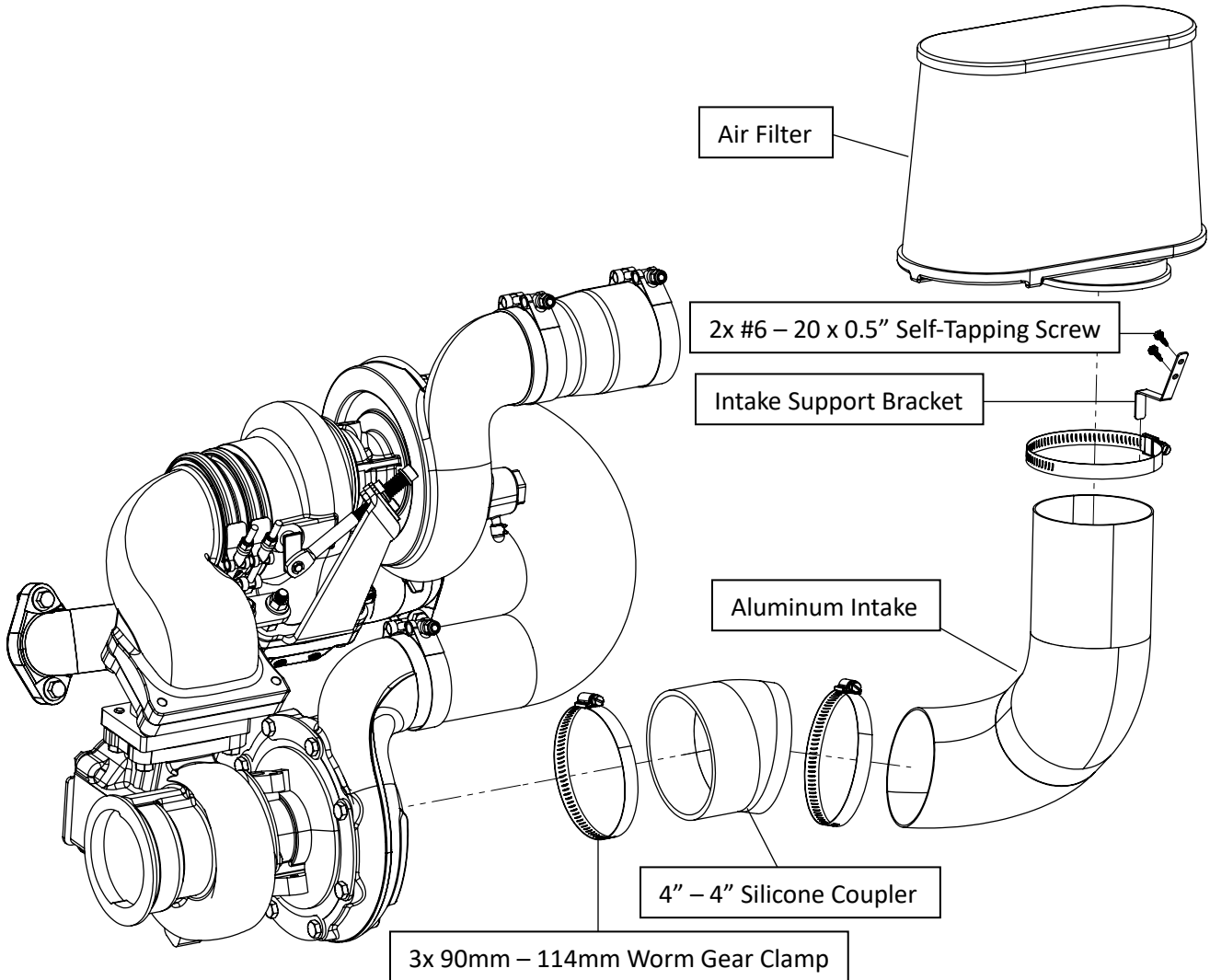
**Step #19:** Install the silicone low pressure charge pipe.



**Step #20:** A custom 3" high pressure charge pipe is required for this kit and is not included. Using the included silicone couplers and clamps, install the custom charge pipe.



**Step #21:** Install the air intake assembly. Use the intake support bracket to secure the intake assembly to the body of your vehicle.

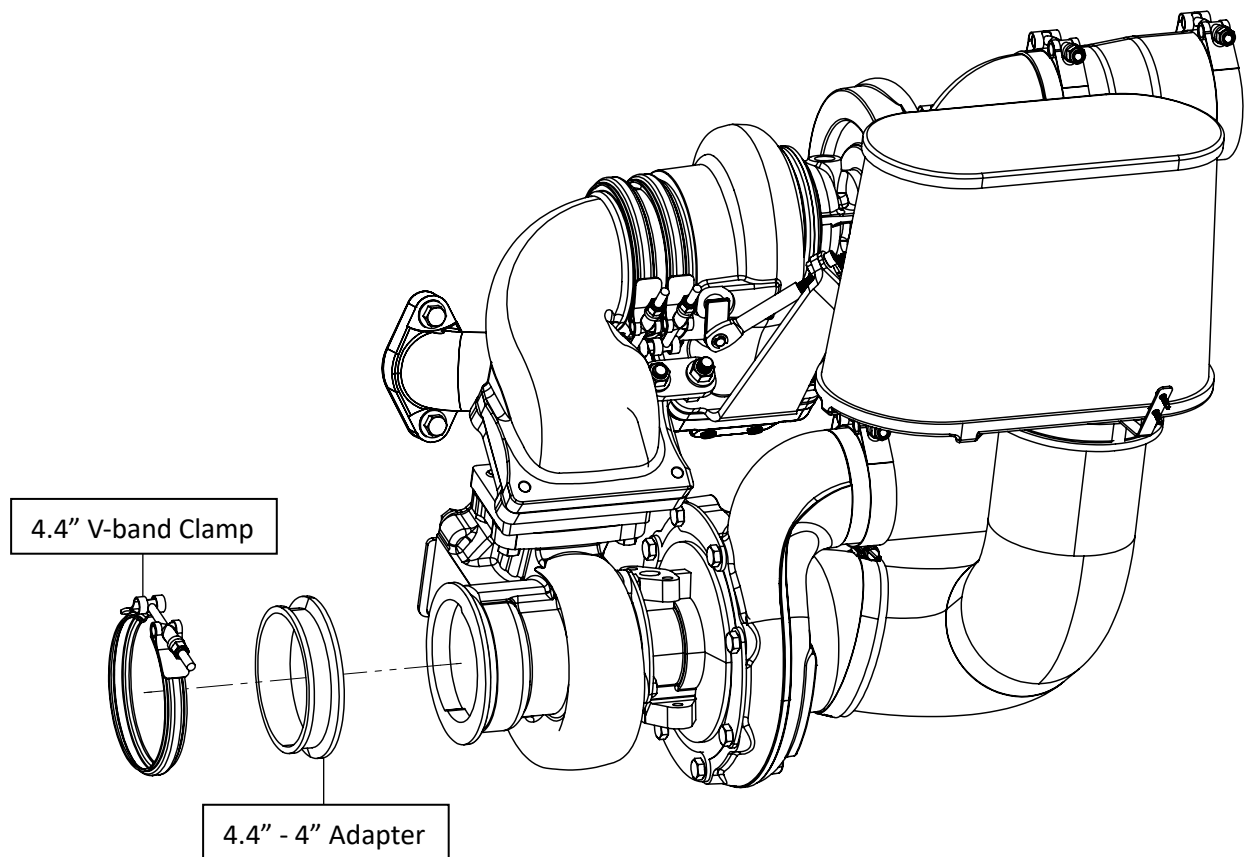


**Step #22:** Connect the exhaust outlet of the S300 turbo to your vehicle's downpipe according to the 3 options listed below.

**Option #1:** If your down pipe has a 4.4" v-band flange. Connect the down pipe directly to the outlet of the turbo and you will not use the included 4.4"-4" adapter.

**Option #2:** If your down pipe has a 4" v-band flange. Install the included 4.4"-4" adapter between the outlet of the turbo and your down pipe.

**Option #3:** If your down pipe does not have a v-band flange. Weld the 4" side of the included 4.4"-4" adapter to your down pipe and connect it to the outlet of the turbo.



**After installation, drive the vehicle for approximately 100 miles then, while the vehicle is warm re-torque all the bolts and clamps, as the bolts sometimes loosen up after being heated and cooled a few times.**