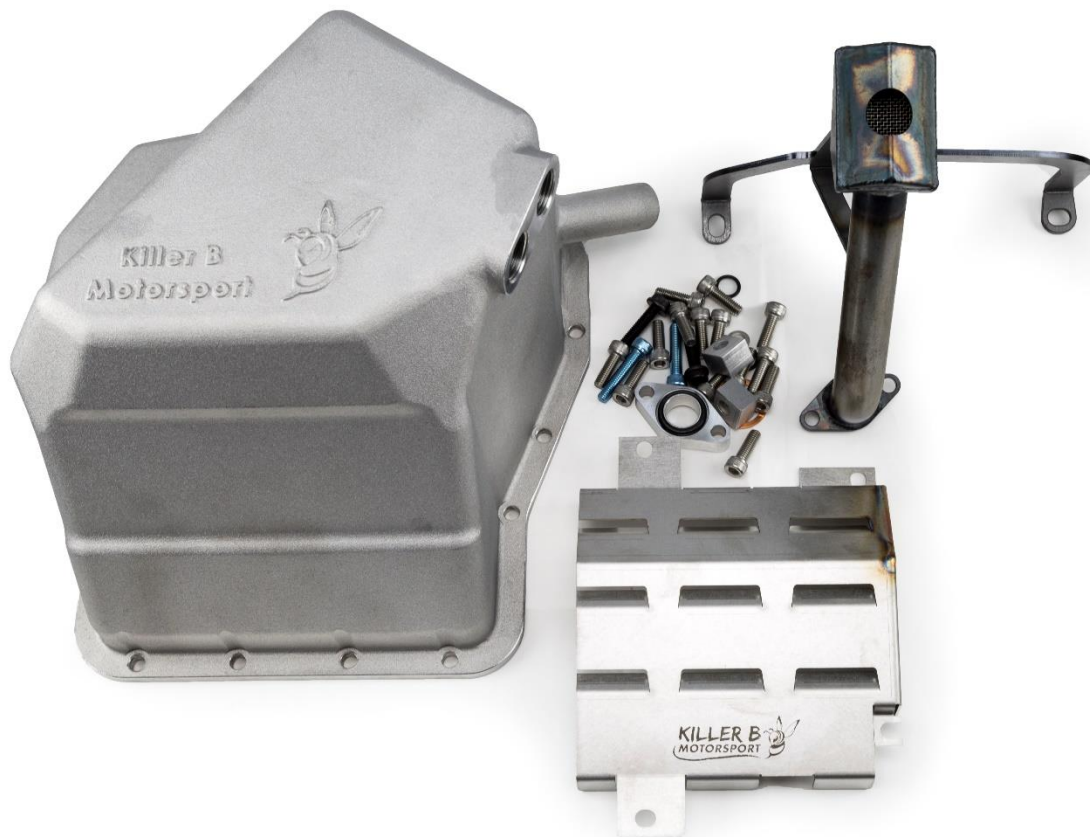


Thank you for choosing Killer B Motorsport!

We recommend professional installation of Killer B Motorsport performance products.

Should you choose to perform the installation yourself, this guide may help.

The picture below shows the included Killer B Motorsport Premium Oiling Products for your install.



The following is a list of the tools that we use and recommend for installation:



- Oil filter wrench
- Flathead screwdriver
- Pry tool
- Pliers
- 14 & 17mm wrenches
- 1/4" dr socket wrench/8,10,12mm sockets/two extensions/swivel adaptor
- 5mm hex/bit socket
- 3/8" dr socket wrench/14mm deep socket/extension
- 1/4" dr or 3/8" dr torque wrench

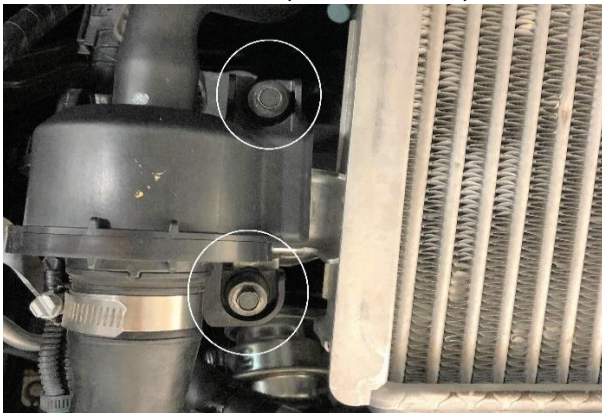
We recommend working on an engine that has been off for at least two hours. You can drastically shorten cooldown time by aiming a fan at the front of the vehicle, preferably at the grille opening.

1. Start by opening the hood. (This installation was performed on a 2017 STI)



This installation requires temporary removal of your intercooler and pitch mount. This allows you to raise the engine up from the cradle.

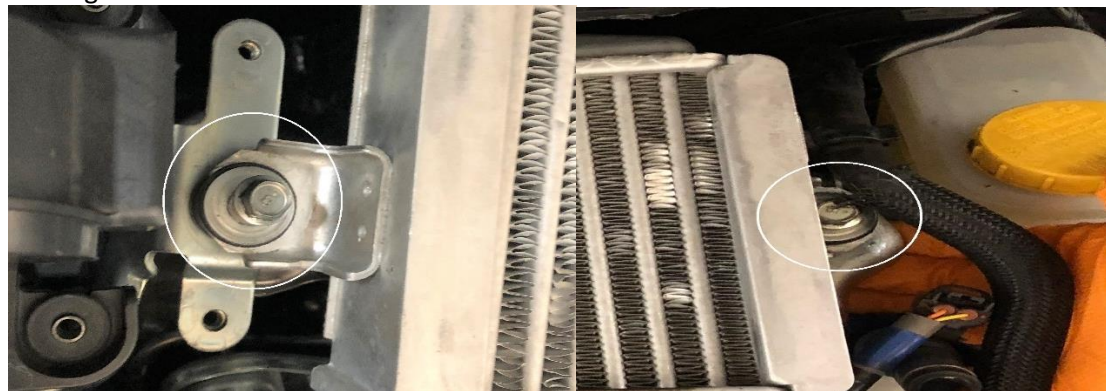
2. With a 10mm socket and socket wrench, remove the two bolts securing the sound generator to the intercooler bracket (IF APPLICABLE). Set aside for reinstallation.



3. With a 12mm socket and socket wrench, remove the bolts on the driver and passenger side of the intercooler.

Passenger's side-

Driver's side-



4. With the same tools, remove the two bolts securing the PCV balance pipe to the intercooler.



5. Remove the two bolts securing the bypass valve to the intercooler. Set all bolts aside for reinstallation.



6. With the same 12mm socket and socket wrench, remove the two remaining bolts securing the driver's side intercooler bracket to the intake manifold.



7. With a flathead screwdriver, loosen the worm clamp that secures the intercooler elbow to the turbocharger compressor outlet.



8. Next, loosen the upper worm clamp (closest to the intercooler).



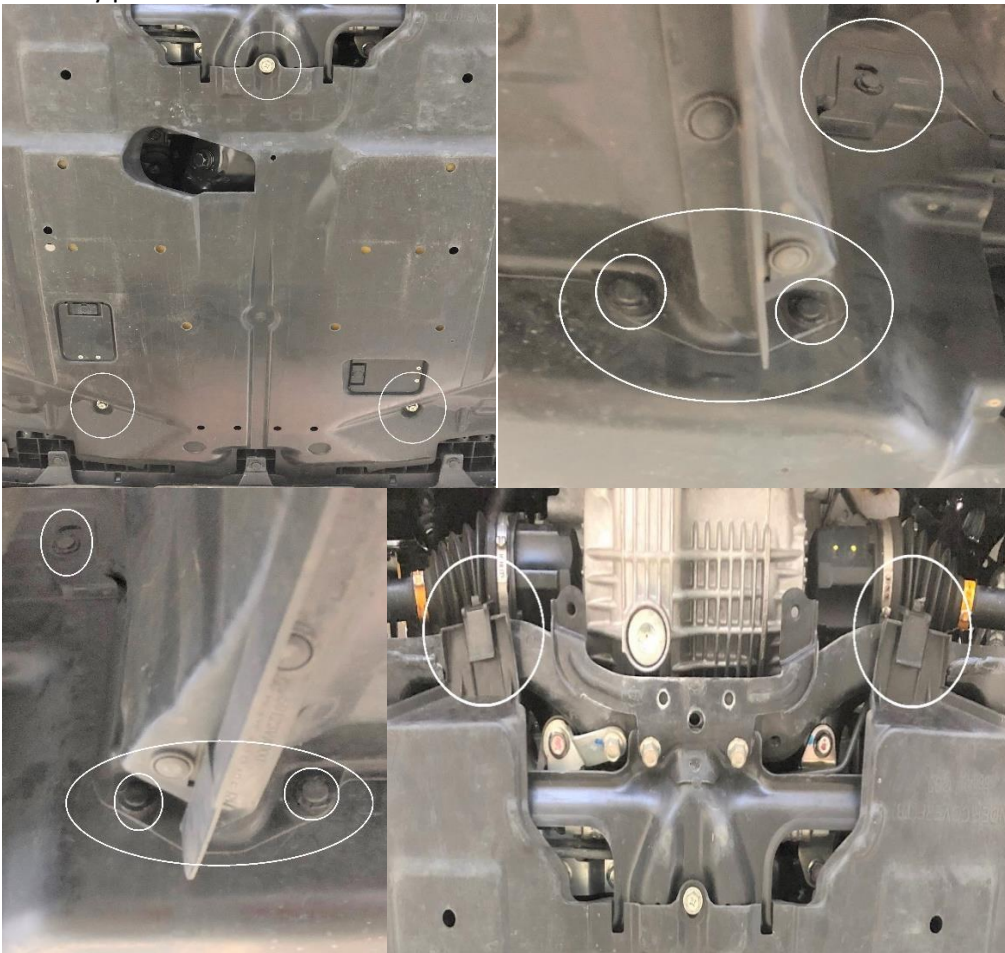
9. Work the intercooler up and out **carefully**.
10. With a 14mm socket and socket wrench, loosen and remove the bolt that secures the pitch mount to the firewall. Remove the bolt, nut and washer securing the opposite end of the pitch mount to the transmission bell housing using a 14mm socket wrench and a 14mm wrench.



11. Pull the dipstick up 2 inches or remove it completely. Loosen the oil fill cap and raise the vehicle to drain the oil.



12. Once the front of your vehicle is raised off the ground, use a 12mm socket and socket wrench to remove the (3) bolts securing the belly pan to the vehicle. Then remove the plastic push clips that secure the belly pan with a flathead screwdriver. These 6 push clips can be found on the side of the belly pan. Finally, remove the two plastic C-clips from the back of the belly pan. Set the belly pan and hardware aside for reinstallation.

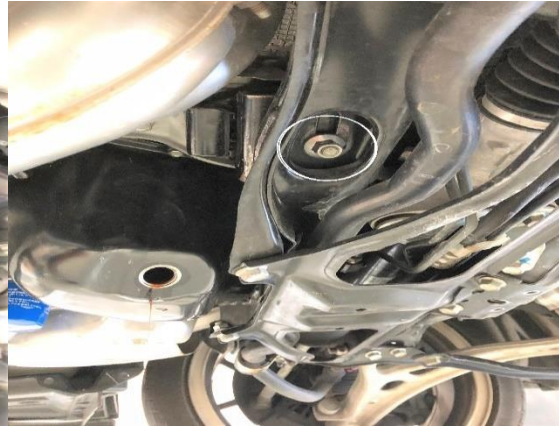


13. Drain the engine oil for as long as possible. The longer it drains, the cleaner your workspace will remain. We recommend changing the filter as well. While the oil drains, remove the two nuts (and washers, if applicable) securing the bottom side of the engine mounts to the engine cradle.

Passenger's side:



Driver's side:



14. We recommend removing the pre-turbo exhaust heat shields, the driver's side exhaust manifold section and the center crossover pipe. This will provide you with the necessary amount of space required for pan removal. Be sure to replace the exhaust gaskets that you remove, they are single use only.

There are 3 bolts on the driver's side manifold heat shield and another 4 on the passenger's side shield. Make sure you reinstall the ground strap on the shield when you reinstall this shield.

With a 14mm socket, socket wrench and open end 14mm wrench, remove the crossover pipe and the driver's side section of the manifold as a whole.

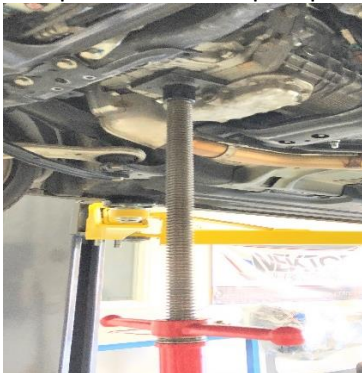


With a jack, carefully push up from the transmission adaptor plate, raise the engine and transmission until the bottoms of the engine mount studs are flush with the engine cradle. Anticipate seeing between 1" and 1.25" between the engine mounts and the cradle.

Jack point-under adaptor plate

Passenger's side-

Driver's side-



15. You may now begin unfastening the (14) mounting bolts securing the engine oil pan to the engine block. You will need a 10mm socket and socket wrench and a swivel to access all OEM pan hardware.

NOTE: Leave two bolts threaded in a few turns: one on the left side of the pan and one on the right. This prohibits the pan from dropping and splashing oil onto you and your workspace.

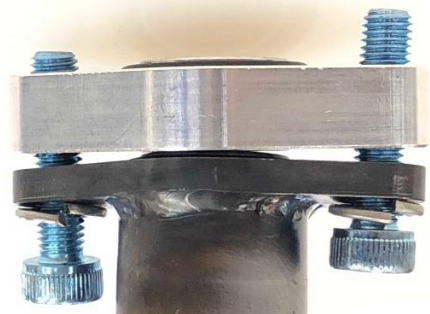
NOTE: It is best to use a soft pry tool when attempting to break the sealer's bond. You may need to get creative for this step. Work the pan back and forth until the sealer no longer holds the pan on. Remove the dipstick tube from the pan and remove the pan. There may still be oil in the pan.

16. With 10mm socket and wrench unfasten the hardware securing the OEM oil pickup to the engine block and remove the OEM windage tray.
17. Carefully remove any sealer that hasn't pulled off with the pan. It is best to use a **new** razor blade for this. Wipe off as much residual oil and loose sealer.
18. Discard the (2) OEM red dipstick tube o-rings, wipe the dipstick tube with a clean rag, and install the (2) supplied o-rings.
19. Install the Killer B Motorsport Oil Baffle (windage tray) reusing the OEM hardware for the two rear most mounting holes, leave the front two holes open until the pickup is installed.



20. In the supplied parts kit there are three different aluminum spacers used for fitting the KBM pan/pickup/baffle combination. Grab the largest spacer, the two blue bolts, and two split-ring lock washers. Ensure you have a new o-ring with the spacer and a new o-ring with the oil pickup. Install the two bolts through the lock-washers (in an upward direction) through bottom side of the oil pickup and finally through the spacer. The o-ring in the pickup is facing upward, make sure that the spacer is installed so that it's o-ring is also facing upward (toward the bottom surface of the engine block). Loosely thread the two blue bolts in by hand. *Do not install them all the way, and do not torque them yet!*

BEFORE TORQUE PROCEDURE-

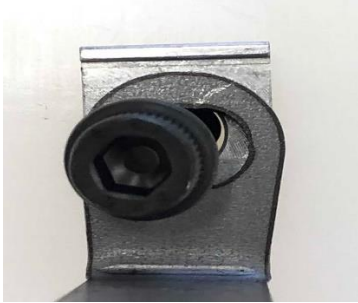


TORQUED TO SPEC- 7.5ft-lbs

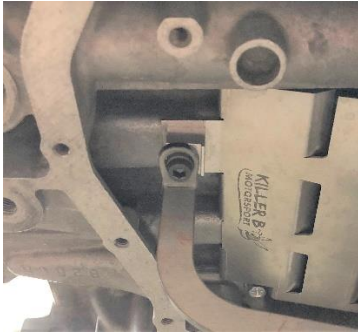


21. Grab the second and third oil pickup spacers from the parts kit and install them between the engine block and the oil pickup bracket. Install the (2) black bolts through the pickup and through the spacers. Now that all pickup and baffle hardware is loosely threaded into place, turn them clockwise by hand until they all become seated. Using a torque wrench, tighten the oil pickup and baffle hardware to 7.5 ft-lbs (90 in-lbs).

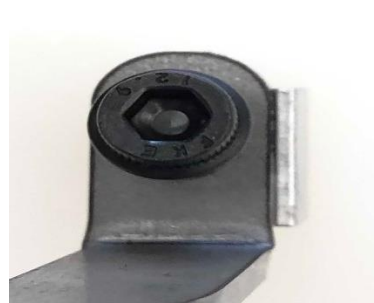
Passenger's side- BEFORE TORQUE



TORQUED TO SPEC- 7.5 ft-lbs



Driver's side- BEFORE TORQUE



TORQUED TO SPEC- 7.5 ft-lbs



*For the pickup, use the 5mm allen socket on supplied bolts.

*For the baffle's rear mounting, use 10mm socket on OEM bolts.

22. To ensure a proper seal, spray some brake clean on a clean shop rag and wipe the mating surfaces clean.
23. Using a gasket sealer rated for oil resistance (threebond, Permatex etc.), apply a thin bead along the upper surface flange of the pan, it does not hurt to further complete coverage by spreading the sealer out with your finger. Do not put an excessive amount of sealer on, once distributed evenly you should only need a 1mm-thick layer. (Use sealer accordingly) Set down the pan before installing and AGAIN wipe off any dripping oil from the mating surface of the engine block.
24. Lubricate the dipstick tube o-rings with engine oil.
25. Install the oil pan firmly onto the block while guiding the dipstick tube into the pan, loosely install one supplied mounting bolt on the left side of the pan, and one bolt on the right side of the pan. This allows you to hold the pan in place while you install the other 12 mounting bolts. Ensure you have not pinched the o-rings for the dipstick tube. **DO NOT TORQUE ANY OF THE 14 PAN MOUNTING BOLTS UNTIL YOU START THE THREADS BY HAND.**
26. Once all 14 bolts are installed hand tight, set your torque wrench to 5 ft-lbs (60 in-lbs) and torque in a crisscross pattern.



27. Lower the jack that is pushing the trans/engine up. This should lower the engine mount studs back through the holes in the engine cradle. Make sure the engine is centered (left to right) in the cradle before installing and torqueing the mounting nuts.

Passenger's side-

Driver's side-



28. Reinstall exhaust manifold and crossover pipe with new gasket.
-Torque spec for manifold-to-head: 26 ft-lbs.
-Torque spec for crossover pipe to manifold: 26 ft-lbs.

31. Reinstall both heat shields and torque to 5 ft-lbs.
32. Reinstall engine mount lower nuts and torque to 61 ft-lbs.
33. Make sure you have installed the drain port plugs or a quick drain in the pan.
The M20 OEM drain plug should be torqued to 31 ft-lbs.

**For any plugs/adaptors going in the ½ NPT port: only thread in 55-60% of the adaptor.
DO NOT ATTEMPT TO SEAT THE ½ NPT FITTING FLUSH WITH THE PAN!**



34. Reinstall the belly pan, (3) bolts, (6) push clips and 2 plastic C-clips. Torque bolts to 5 ft-lbs (60 in-lbs)

***Clear out any items from under your vehicle, lower vehicle down to its normal resting position.

35. Reinstall dipstick in its tube. Ensure proper operation and seating.

36. Reinstall the pitch mount and hardware: (big end at firewall, little end at engine)

-Torque spec for little end at engine- 36.9 ft-lbs.

-Torque spec for big end at firewall- 42.8 ft-lbs.

37. Reinstall top mount intercooler. If you have followed instruction up to this point, you should only have to tighten the upper throttle body coupling clamp as well as the turbocharger-to-intercooler elbow clamp.

DO NOT TORQUE THE FOLLOWING HARDWARE UNTIL THEY ARE ALL HAND THREADED IN.

38. Loosely install one bolt on each side of the intercooler, reuse the long bolts.

39. Loosely install the bypass valve with its corresponding bolts and a new gasket, OR reinstall recirc hose on BPV elbow with clamp, install vacuum/boost reference hose on BPV.

40. Loosely install the two bolts that secure the PCV balance pipe to the intercooler.

41. Now that all intercooler hardware is in place, tighten to factory specification per factory service manual.

- Ensure all clamps and bolts are fastened securely- Your engine depends on it!
- If you haven't yet installed a new oil filter, install it now.
- Follow the factory service manual for sealant drying/curing BEFORE filling with 6 quarts of oil.
- After filling your engine with oil, start the engine and check for oil leaks.

(We recommend priming the engine for oil pressure before starting. With the key off, clutch pedal and accelerator pedal pressed to the floor, crank the engine for no more than 10 seconds at a time. Repeat until the oil pressure lights goes out or you have a known good reading on your pressure gauge.)

- Listen carefully once the engine speed stabilizes, blip throttle lightly to verify there are no exhaust leaks.
- Shut off engine and recheck oil level.

Please obey all traffic laws and regulations.