



**2022+ Toyota GR86 • Subaru BRZ
Jackson Racing Track Oil Cooler Kit
Installation Manual**

General Information

Jackson Racing Performance Products are designed to be installed by a professional mechanic with a complete tool selection. If you have decided to complete the installation on your own, please be sure that you have the tools to handle the installation and ability to follow all instructions completely. If you are looking to install an oil cooler for your Jackson Racing supercharged FR-S/86/BRZ, we recommend using our JRSC version of the Jackson Racing Track Oil Cooler Kit.

Please review the complete instruction manual before starting your installation. Please follow the instruction manual step by step and do not skip ahead.

Please refer to the Genuine Toyota or Subaru Service Manual for all mechanical and safety procedures.

You will be working under the car during this installation. Be prepared to raise the car up with a floor jack and support stands or a professional hydraulic vehicle lift. Do not work under your car without proper vehicle support!

Always wear safety glasses while working on your vehicle.

You will be working around gasoline vapors. Keep all cigarettes, sparks and flames away while working around gasoline and fuel-related parts.

Many stock parts are reused/reinstalled during installation. Do not damage or discard any pieces during disassembly or installation. We recommend marking any hose or wire before disconnecting to avoid confusion during reassembly.

General Information

Tools Required:

- Set of Metric wrenches from 8mm to 19mm
- Set of Metric sockets from 8mm to 19mm
- Set of Phillips and Flat Blade Screwdrivers
- Set of Metric Allen wrenches (4mm)
- Set of Pliers
- Waterproof Grease

Special Tools Recommended:

- The plastic trim panel retaining clips, or push-pin clips, can be difficult to remove. We recommend buying a set of KD Tools Push-Pin Pliers Set.
- 25mm, 27mm, 29mm Wrenches
- 25mm, 27mm, 29mm Sockets
- 1-5/16" Low Profile Wrench
- Torque wrench capable of reading in Inch Pounds and Foot Pounds.

NOTICE:

One (1) quart of additional engine oil is required to complete this installation.

MAINTENANCE:

For track use, we recommend using a high performance synthetic 0w/20 or 5w/30 engine oil, such as Torco SR5, Motul 300v, etc.

Proper vehicle maintenance is essential to any high-performance vehicle. Do not neglect your vehicle. Change your engine oil/filter every 3 months/3,000 miles. Use a factory recommended oil and filter. Approximately one (1) quart of additional engine oil is required for future maintenance.

Product Registration:

Register your product to qualify for product warranty and to receive the latest updates. Visit: jacksonracing.com/support/product-registration/

Technical Support:

Please contact Jackson Racing for any questions and concerns during your installation.
support@jacksonracing.com
909-927-8500 x2

Part Numbers will be listed throughout the installation instructions in parentheses.
(1234-56-789) or (12345-67890)

Disassembly of Stock Components

1. Disconnect the negative battery cable from the battery.
2. Raise the car up so that the front tires, under side plastic panels and front bumper can be removed.
3. Remove Front Bumper:
 - A. You will either need a small screwdriver and patience to pry the auto locking plastic clips on the plastic trim parts or the KD Tool listed in the “Recommended Tools” section above to remove the plastic clips.
 - B. Remove the plastic clips and bolts that hold the under tray to the front bumper and the radiator support.
 - C. Remove the plastic clips and the bolts that hold the upper bumper to the chassis from the upper radiator area.
 - D. Pull on the outer corners of the front bumper to get it to “pop” off of its mounting points. Unplug the headlights/fog lamps and set the bumper in a safe place.
4. Remove the Driver’s Side headlight assembly.
5. Remove the bolts and clips that hold the lower radiator panel to the chassis and remove the panel.
6. Unclip the ambient air temperature sensor that is mounted to the lower A/C condenser bracket. Rotate the sensor to the passenger side of the bracket, and zip tie in place.
7. Unplug the Mass Air Flow (MAF) sensor and remove the stock air box assembly at this time. It will open up the area where the oil cooler hoses will be routed.



Oil Cooler Adapter Installation

9. Remove the oil filter from the engine and set it aside in a clean place and cover the oil filter with a shop towel to keep debris out of the oil filter. If you are planning to replace your oil and filter at this time, disregard this instruction.

10. Install the new Jackson Racing Oil Cooler Adapter Spacer to the original oil filter mounting location with the O-ring seal side down on the engine. Lubricate the O-ring with grease before installation.



11. Install the M22x-10AN male fittings with O-rings into the lower ports of the Thermostatic Oil Cooler Adapter.

Install the M22 blank plugs in the top of Oil Cooler Adapter.

Do not tighten at this time.

Lubricate the fitting O-rings with Setrab Assembly lube before installation.



12. Install the Thermostatic Oil Cooler Adapter, with the -10AN fittings loosely installed, onto the previously installed adapter spacer. The O-ring side of the sandwich adapter should be placed against the smooth side of the aluminum adapter spacer.

13. Thread the oil filter M20 extension screw through the Thermostatic Oil Cooler Adapter and tighten the extension on the oil cooler adapter/spacer until it contacts the surface. Rotate the oil cooler adapter so that the -10AN fittings are close to the oil filler cap facing towards the front of the car, then tighten the 27mm hex on the M20 oil filter extension screw a further $\frac{3}{4}$ of a turn. You will need to finalize this last tightening sequence once all the oil lines are tightened in place so that you get the rotation correct and you have clearance between the oil lines and the airbox.

14. Now that the Thermostatic Oil Cooler Adapter is mounted, finalize the -10AN fitting installation. Tighten the two (2) AN fittings and two (2) M22 plugs until the O-rings seat properly. Use a 27mm and 29mm socket.

Oil Cooler Bracket Installation

Locate the new Jackson Racing NA Oil Cooler mounting bracket. Pay close attention to the mounting bracket as it is designed to fit on the car in one direction only. This long bracket is asymmetrical. It will be mounted with the Engine Oil Cooler mounting tabs facing back towards the radiator, the notched end will be on the passenger side and the end with the welded spacer will be located on the driver's side with the spacer facing up towards the bumper support.



15. Unbolt the horn from the front bumper support. You will be installing a stud for mounting the oil cooler bracket in this location.

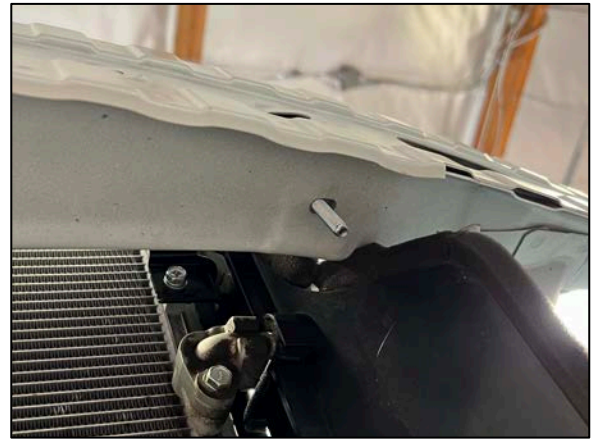
16. Thread the high-strength M6x1.0x27.5mm steel stud into the threaded boss the horn was bolted to. Install the short side into the bumper. Apply a small amount of thread locking adhesive to the first two threads of this stud prior to installation. Thread until it seats against the bumper support.



17. Install the .750" OD x .200" spacer (2620-07-J01) onto the oil cooler-mounting stud followed by the horn bracket you previously removed. Thread a M6x1.0mm flanged nylock nut (91610-06000) onto the mounting stud to hold the spacer and horn bracket loosely in place. Leave enough room between the spacer and the horn bracket/flanged nylock nut to be able to fit the oil cooler-mounting bracket between them, or approximately 3/16" space.



18. On the driver side of the front bumper support you will find an open mounting hole with no threads that is approximately 23" from the stud mounting location. Reach in through the opening in the front bumper support and install a M6x1.0x25mm flanged bolt (91100-06025) with a M6 fender washer down through this mounting hole.



19. Lift the NA engine oil cooler bracket up to the mounting stud on the passenger side. Fit the slot in the end of the oil cooler-mounting bracket between the steel spacer and the horn bracket



20. Lift the driver side of the NA engine oil cooler bracket up until it passes through the M6x1.0x25mm flanged bolt previously installed through the bumper. Have someone hold the bolt inside the bumper while you install a M6 fender washer over the bolt and secure with a M6x1.0 flanged nylock nut. Tighten both sides at this time. Your oil cooler bracket is now mounted.



Oil Cooler Shroud Installation

Locate the Setrab oil cooler and shroud components. If you did not order your kit with a shroud, apply the rubber isolators to the top of the cooler in Instruction 21, and move ahead to the hose installation.

21. Install the rubber isolators on the top and bottom side of the oil cooler.



22. Install the Silicone Foam Strip on the top and bottom side of the oil cooler. You may need to trim the edge on the top side to fit properly. Make sure the foam strips are on the same side of the core, so the leading edge of the core is sealed off when the ducting is installed.



23. Install the Shroud Top and Bottom using two (2) M6x1.0x25mm bolts on top and four (4) M6x1.0x18mm bolts on the bottom. The top two are just temporary, as this whole assembly will be mounted to the bracket on the car later on.

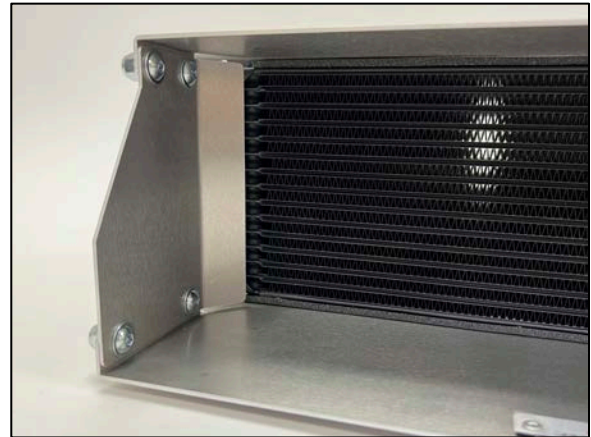
Use the 4 Setrab threaded mounts to install. Do not fully tighten down at this time.



24. Install the Shroud risers on the appropriate side. The bent end should bend in towards the cooling surface, to help direct air to the core.

Use the eight (8) M6x1.0x12mm flanged button head cap screws on the inside, with the M6x1.0 nylock nuts on the outside.

Hand tighten all 8 into place initially. Then tighten down evenly making sure the shroud stays square and the nylock engages.



Oil Cooler Hose Installation

Locate the two oil cooler hoses in your kit:

- -10AN Oil Hose - **47"** long
- -10AN Oil Hose - **29"** long

They will have a M22 fitting on one end and a -10AN fitting on the other end. The M22 end has a full-floating internal O-ring seal so that it can rotate freely after its threaded portion is fully tightened onto the oil cooler. Apply some lubricating oil to the top of the fitting and rotate it so that the lubricant can work its way into the O Ring seal prior to installing the hoses. This will make the fitting easier to turn during installation.

25. Apply a small amount of lubricant to the external O-ring on the M22 threaded fitting so that the O-ring doesn't bind during installation. Carefully thread the 47" oil hose onto the fitting on the "passenger side" of the oil cooler. It is useful to have a helper hold the oil cooler as you thread the M22 fitting into the cooler, to make sure you do not cross thread.

Hold the 1-5/16" hex on the oil cooler while tightening the 27mm hex on the male fitting to avoid stressing the oil cooler. Repeat the process for the 29" oil hose.

Your oil cooler is ready to slide up into the vehicle.



Shroud Installs: Remove the two (2) M6x1.0x25mm bolts on the top side of the shroud that were used to hold the shroud in place. Install the final two rubber isolators on the top side of the oil cooler shroud. These will get sandwiched in between the shroud and the oil cooler bracket.

Oil Cooler Installation

26. With a helper, carefully take your oil cooler with oil lines attached and guide them up and behind the bumper beam. They should come out the top and face towards the driver's side headlight area.

Line up the oil cooler mounting holes on the bracket and install four (4) M6x1.0x25mm bolts through the top of the bracket. Use 2 Setrab threaded mounts on the oil cooler side. Tighten these down until the cushions slightly distort. Use thread locking adhesive to install.

Shroud: Make sure your shroud is lined up correctly and tighten down the four (4) M6x1.0x25mm on top and four (4) M6x1.0x18mm bolts on the bottom.

27. Now that your oil cooler is mounted, we can focus on oil hose routing. Make sure the 45° fittings coming off the oil cooler are angled towards the driver's side.

Run the lines around the driver side radiator duct, and through where the headlight is located. The lines will go UNDER the headlight.

You can zip tie the short hose through the crash beam gaps to secure it in place.

28. Route the oil lines up to the oil filter adapter in the engine bay through the headlight area.

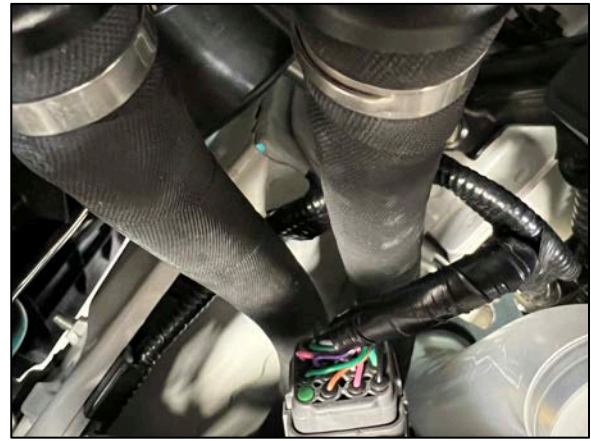
When routing, make sure the hoses are never kinked. The hoses should make soft arcs around and under the headlight. Don't be afraid to temporarily install the headlight to double check and adjust hose routing.

The silicone heat sleeve should go under the headlight area, to maximize protection and abrasion resistance.



The hoses will clear the headlight plug when installed correctly.

Once you determine the hose routing is safe, you can take the headlight back out and tighten all the hoses down.



29. Install the 47" oil line on the oil filler side of the adapter. Apply a small amount of lubricant to the male threads of the -10AN fittings when installing.

Install the 29" oil line onto the open fitting. Apply a small amount of lubricant to the male threads of the -10AN fittings when installing.



30. Reinstall the stock airbox. Reinstall the intake snorkel. Plug in the MAF sensor.



31. Rotate the oil cooler adapter so that the -10AN hose fittings clear the airbox and the oil filler cap. This oil cooler kit fits with the stock oil filler cap. Once in place, tighten the 27mm extension screw in the oil cooler adapter completely. You are torquing against O-rings, so even when tight there could be some rotation with force. Lightly grease your oil filter seal and install your oil filter at this time.



32. Reinstall your headlight assembly. Double check the oil hose routing. Make sure the hose is not rubbing on any sharp edges throughout the entire installation.

33. Add about ½ quart of oil and then start your engine. Your new Track Engine Oil Cooler will increase your oil capacity approximately 1 full quart. Check your oil after running the engine for a few minutes.

Check for oil leaks prior to reinstalling your bumper and undertray. Once you have confirmed no leaks, reinstall the front bumper and undertrays. The full undertray is of aerodynamic importance. Install all of them.

Your installation is complete! Once you finish your first test drive, always double check the all hoses, fittings, and fluid levels. Check for leaks once more post installation and test drive. Enjoy!