



MFactory

Honda/Acura Oil Cooler Kit

Congratulations on your purchase of your Oil Cooler Kit. This high quality kit is designed to fit most Honda and Acura models. This kit comes with:

- One 19-row oil cooler
- Braided stainless (AN -10) oil lines (3)
- Block adapter
- Filter mount
- Right-angle adapters (3)

Important!

While this kit is intended to work in most applications, this kit may require modification for some extremely modified vehicles or unique applications. Please contact us for more information. This kit is also intended to be used with a Honda-style oil filter (standard Honda thread). We do recommend the use of a larger, high-quality filter like the NSX or S2000 OEM fitments, or a Mobil 1 M1-105.

Instructions

These instructions are provided as a rough installation guide. Your installation may vary.

Before installing your kit:

- Remove the oil filter and clean the oil filter mount
- It is recommended you leave any factory oil cooler installed (installation may increase warm-up time in cold weather and requires modifications to coolant routing)
- It is recommended you remove your front bumper cover to increase accessibility to the front bumper area

Cooler Installation

Choose a mounting location for the oil cooler. You should choose a location that is:

- Easy to route the oil lines to (and within reach)
- In front of all heat-generating items (radiator, AC condenser, turbo, etc.)
- Unobstructed by body panels (lots of airflow available)
- Protected from curbs, debris, etc.
- Is sturdy (bumper or radiator support, etc.)

Once you identify a location, position the cooler where it should go (meeting the above criteria) and mark and drill holes. Mounting hardware is not included as each application/installation will vary. 8-32 (or 5 or 6mm) machine screws or #8 sheet metal screws are commonly available at your local hardware store and will work well for this purpose. Install the screws tightly.

You may find that you need to make a bracket to attach one or more sides of the cooler to the body of the vehicle. This is very easy to do using aluminum or steel bar stock from a local home improvement store (look or ask for "Weldable Steel"). Thin pieces like 1/8" thick can be manipulated by hand or with simple hand tools yet will allow you to fashion a solid bracket.

Finally, it is preferable to mount the cooler from the top and bottom (or both sides) but not absolutely necessary. We recommend that you make a bracket to attach top/bottom or sides that are not easily attached to a solid structure (like a bumper beam).

Block Adapter Installation

The included block adapter and filter mount are shipped screwed together. Unscrew them and make sure that they are clean and dry. The block adapter will very simply install just like an oil filter- simply screw it into place. There are a few items to note:

- Make sure that the o-ring (see Figure 1, black arrow) is seated completely and lubricated with clean oil
- Make sure that the thread adapter is screwed in tightly (see Figure 1, white arrow)



Figure 1: Block Adapter

- Again, make sure that there is room to route the hoses (you may need to use some of the enclosed right-angle adapters)
- Be sure to install the block adapter tightly by hand (as you would an oil filter)
- Remove the fittings on top, coat the o-rings lightly in oil, and install the fittings (be sure not to distort the o-ring), tightening to 16 ft-lb (21 N-m). **Do not over-tighten the fittings!**

Filter Mount Installation

First, you need to find a location to mount the filter adapter. Note that the included bracket can be moved to the other side of the mount to make for a more flexible installation. Also note that the mount has included in it two access ports for oil pressure/temperature senders or a oil feed line (Figure 2):



Figure 2: Filter Mount

These fittings are threaded to accept a 1/8 National Pipe Taper (NPT) sensor. This is the standard size used by most aftermarket gauges and oil feed adapters. Be certain to check your gauge or oil feed adapter to make sure that it uses a 1/8 NPT (27 thread per inch) sender before installing.

Again, the filter mount is easy to install:

- Make sure that the threaded insert (Figure 3, white arrow) is threaded into the mount tightly:



Figure 3: Filter Mount

- Again, make sure that there is room to route the hoses (you may need to use some of the enclosed right-angle adapters)
- Once you have decided on the mounting location, remove the bracket from the mount, mark the screw holes on the body, and drill holes. Again, you can use 8-32 (or 5 or 6mm) machine screws or #8 sheet metal screws to mount the bracket. Reattach the mount to the newly mounted bracket.
- Install the included sensor plugs OR your sensors/oil feed adapter into the access ports on the side of the mount. Use Teflon sealing tape or a thin coating of RTV (silicone) on the threads to insure a leak-proof seal. Install the plugs or sensors to 12 ft-lb (15 N-m). **Do not over-tighten!**
- Remove the fittings on top, coat the o-rings lightly in oil, and install the fittings (be sure not to distort the o-ring), tightening to 16 ft-lb (21 N-m). **Do not over-tighten the fittings!**

Oil Line Installation

Finally, you need to route the lines from block adapter to the filter mount, then to the cooler and back to the block. This matches the OEM flow out of the motor, into the filter, and back to the block. It is VERY important to note the direction of flow into the filter to insure proper flow through the filter. Reversing the flow will prevent proper flow through the filter and lead to a catastrophic failure. Study these pictures and understand the flow before attempting to route the oil lines.

First, the flow out of the block adapter:



Figure 4: Block Adapter Oil Flow

And then the filter mount (shown with filter installed):

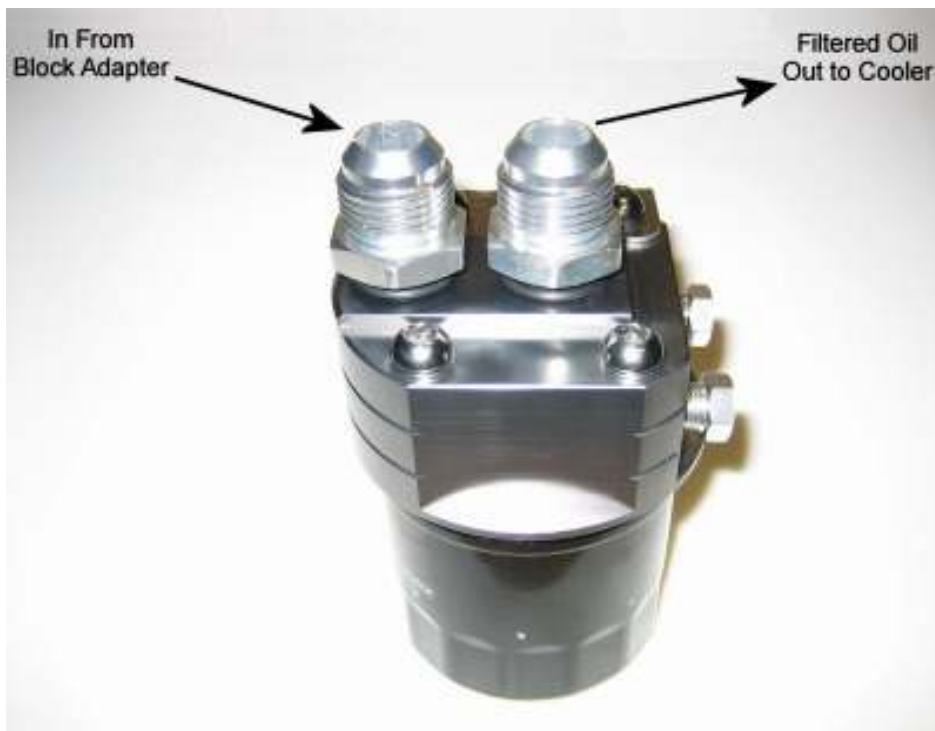


Figure 5: Filter Mount Oil Flow

The hose routing should be:

- one hose routed from the “Out to Filter Mount” on the block adapter to “In From Adapter” on filter mount
- one hose routed from the “Filtered Oil Out to Cooler” port on the filter mount to the oil cooler
- one hose routed from the other port on the oil cooler to the “In From Cooler” port on the block adapter
- the oil cooler is NOT directional (you may use either port for inlet/outlet as is convenient)

This will provide for proper flow from the block, to the filter, through the filter, to the cooler, and then back to the block.

Note:

- You may use as many of the included right-angle adapters as needed
- Do not kink the hose – bend radii should be greater than 4 inches
- Coat the angled surface of the fittings lightly in oil, and thread the fittings on by hand and insure they do not cross-thread. Tighten to 16 ft-lb (21 N-m). **Do not over-tighten the fittings!**
- Secure braided hose to solid body structures using plastic wire ties (not included)

It is very important to mention that ANYWHERE that the braided line contacts WILL be abraded. This is an unfortunate fact of using braided steel line. Where the hose contacts body parts you do not want abraded, or wiring, AC lines, etc., cut a length of vacuum or coolant line lengthwise, slide over the hose or the item to be protected, and securely tie this off to a solid, non-moving body component. This will provide an additional barrier & protection against abrasion. The stainless braid WILL abrade through anything softer than it, including the steel body of the car (given enough time and vibration).

Before Starting the Engine

It is always a good idea to fill your oil filter full of oil prior to installation. This will help shorten the time it takes for the oil pump to pressurize the oil system and fill your new cooler full of oil. Expect the system to now require a pint or possibly more oil than before. Add at least an additional pint of oil before starting the engine.

When starting the engine for the first time, be sure to monitor the oil pressure light or your oil pressure gauge to be sure the light goes out (pressure comes up). Immediately stop the engine if the light does not go out after 5 seconds of releasing the key from the START position and check the oil level and installation.

After starting the vehicle, check the system for leaks. It is a good idea to check the system periodically and check all fasteners/fitting for tightness. It is ALWAYS a good idea to routinely check the oil level in your engine and add oil as needed. When draining the oil from your vehicle, some oil will be left in the cooler. Do not be concerned about draining this oil specifically. Drain your oil normally and be sure to add enough to bring the dipstick to the FULL or MAX mark.

Aside from these items there are no additional maintenance issues with your new cooler installation. Enjoy!