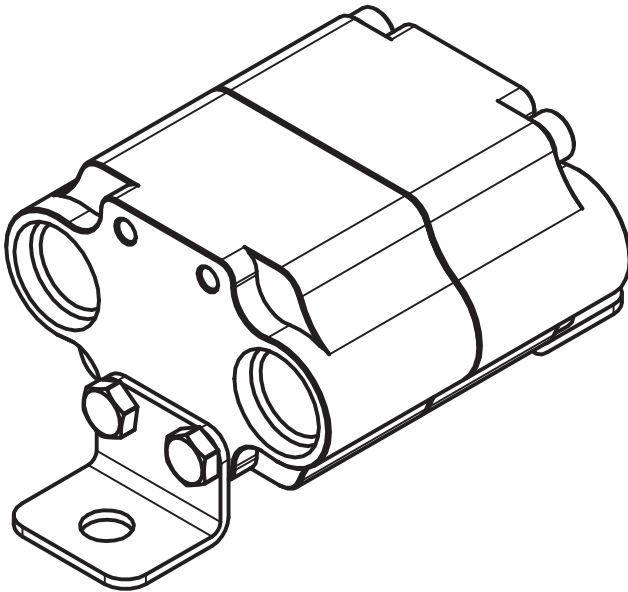




## Compact High-Flow Engine & Transmission Oil Cooler Thermostat

**Part No. FSC-1XX**

Made in USA



**Important: Read these instructions  
in their entirety prior to installation.**

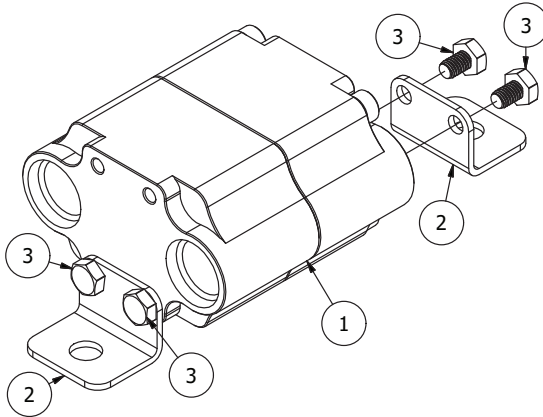
For contact information, visit [www.improvedracing.com](http://www.improvedracing.com)  
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## Parts List

ITEM	QUANTITY	PART #	DESCRIPTION
1	1	FSC-1XX	Compact High-Flow Fluid Thermostat
2	2	ENV-100-04	Mounting Bracket
3	4	HSC-1016	Mounting Bracket Screw
4	4 (Optional*) (Not Pictured)	OM-06-XX -OR- OB-06-XX	-6 SAE Male ORB to SAE 37° Male Flare -OR- -6AN SAE Male ORB to SAE Hose-Barb

\* OM adapter fittings available in SAE -6 and -8 37° Male Flare sizes.

\* OB adapter fittings are available in SAE 3/8" and 1/2" Hose-Barb sizes.



## Technical Specifications

### Temperature Rating Information

Part Number	Activation Temperature	Typical Stabilization Temperature
FSC-145	145°F +/- 2°F (63°C +/- 1°C)	140°F +/- 2°F (60°C +/- 1°C)
FSC-165	165°F +/- 2°F (74°C +/- 1°C)	160°F +/- 2°F (71°C +/- 1°C)
FSC-185	185°F +/- 2°F (85°C +/- 1°C)	180°F +/- 2°F (82°C +/- 1°C)
FSC-215	215°F +/- 2°F (101°C +/- 1°C)	212°F +/- 2°F (100°C +/- 1°C)

## Technical Information

<b>Maximum Rated Flow Rate</b>	5 GPM (18.93 LPM)
<b>Maximum Operating Temperature</b>	302°F (150°C)
<b>Min Operating Temperature</b>	-22°F (-30°C)
<b>Max Recommended Pressure</b>	300 psi (20.68 bar)
<b>Dimensions (W x H x D)</b>	2.35" x 1.38" x 1.10" (59.7 cm x 35.1 cm x 27.9 cm)
<b>Fitting Ports</b>	-6 SAE Straight Thread J1926-1 / MS16142 (ISO 11926-1) O-ring Port
<b>Weight (no brackets or fittings)</b>	7.5 oz (213 g)
<b>Housing Material</b>	CNC-Machined 6061-T6 Billet Aluminum
<b>Housing Finish</b>	MIL-A-8625 Type II Anodize, Black
<b>Mounting Bracket Material</b>	Stainless Steel
<b>Mounting Bracket Finish</b>	Plain
<b>Mounting Screw Material</b>	Zinc-Plated Alloy Steel
<b>Mounting Screw Thread Spec.</b>	M4x0.7x6, 6h Thread Class
<b>Valve Material</b>	CNC-Machined Billet 6061-T6 Aluminum
<b>Valve Finish</b>	Plain
<b>Spring Material</b>	302 Stainless Steel
<b>Spring Finish</b>	Passivation per ASTM A967
<b>Thermal Actuator Material</b>	Brass Body, Zinc-Plated Steel Ram
<b>Estimated Service Life</b>	> 10,000 Heat Cycles

## Product Information & Applications

- The Flow Series Compact (FSC) oil thermostat is a compact thermostat designed to be used in cooling systems for transmissions, differentials, transaxles and small engines where flow DOES NOT exceed 5 GPM.
- The thermostat accelerates warm-up and prevents over-cooling.
- Should the thermostat fail, the fluid will continue to circulate safely.
- The thermostat is re-buildable. *Contact Improved Racing for details.*

**⚠ Not recommended for use with highly corrosive fluids.**

# Operation

The thermostat bypasses the oil cooler until the fluid reaches the activation temperature. At the activation temperature, the bypass valve begins to close, forcing oil through the cooler and allowing it to cool. If the cooler's cooling capacity is sufficient, the fluid will tend to stabilize at the rated stabilization temperature.

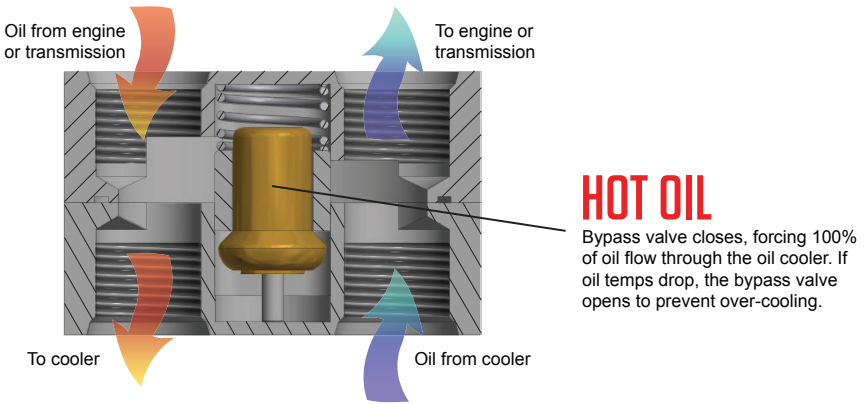
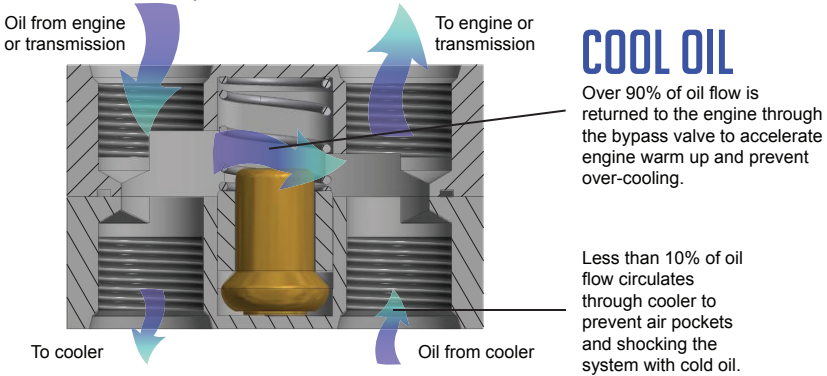
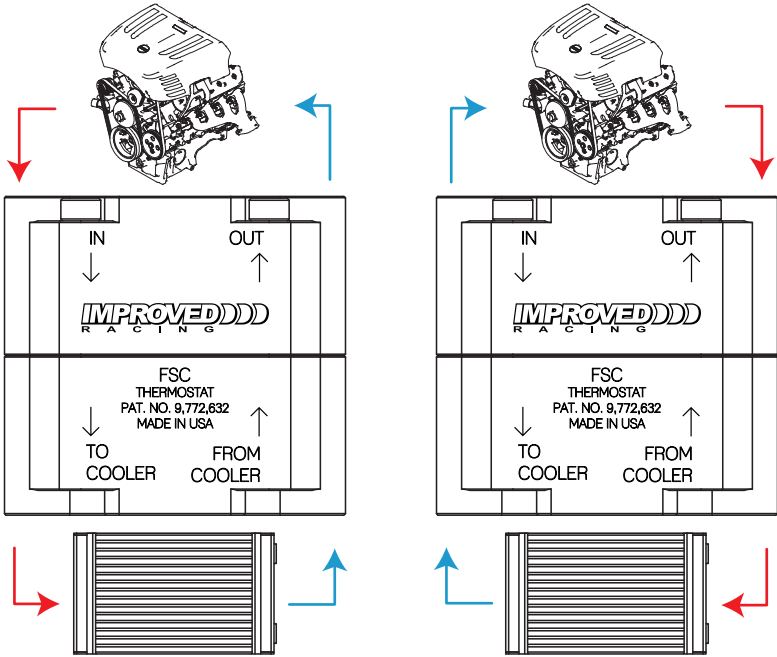


Figure 1 - Thermostat Operation Diagram

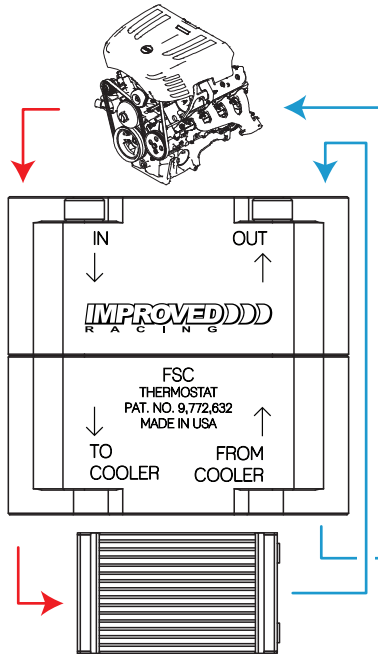
## Flow Configurations

1. The Standard Flow Configuration, shown in Figure 2, is the *preferred configuration* and provides faster warm-up times.
2. The Reverse Flow Configuration, shown in Figure 3, will result in slower warm-up times.
3. The Cross-Flow Configuration, shown in Figure 4, provides quick warm-up times like the standard configuration and may be a more convenient hose routing arrangement in certain applications.






**Figure 2 - Standard Flow**

**Figure 3 - Reverse Flow**



**Figure 4 - Cross Flow**

## Installation Instructions

1. Select a flow configuration. *The Standard Flow Configuration is recommended.*
2. Install the AN adapter fittings to the thermostat.
-  **Tip:** Lubricate the -AN fitting O-rings with engine oil to prevent O-ring damage.
-  **Tip:** Use aluminum fitting wrenches to avoid damaging fittings.
3. Configure and assemble the hydraulic system lines.
4. Fill the oil cooler with oil prior to connecting the lines.
5. Connect the system lines to the adapter fittings.
6. Tighten the AN fittings OR hose clamps. DO NOT overtighten.
-  **Tip:** Use aluminum fitting wrenches to avoid damaging fittings.
7. Secure the oil cooler the vehicle.
8. Inspect and top-off the engine's oil, if necessary.
9. Remove the fuel pump fuse(s) or disconnect the ignition circuit.
10. Crank the engine over to build oil pressure.
11. Replace any fuse(s) removed and/or reconnect the ignition circuit.
12. Start the engine and inspect for leaks.
13. Turn-off the engine and inspect the oil level. Add oil if necessary.
14. Re-inspect the hydraulic lines and fittings for leaks after 1-2 heat cycles.

*Installation is now complete. Thank you for purchasing an Improved Racing product!*