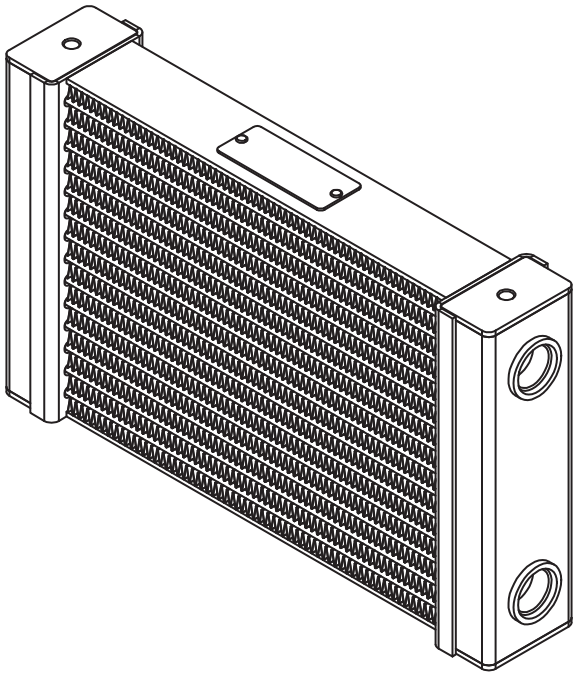
MHX SERIES
HIGH-EFFICIENCY HEAT EXCHANGER

MADE IN USA



Important: Read these instructions in their entirety prior to installation

For contact information, visit www.improvedracing.com

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Rev 251022

PRODUCT INFORMATION

- Visit the product page for technical data and capacities.

INSTALLATION INSTRUCTIONS

BEFORE YOU BEGIN

WARNING: NEVER work under a vehicle supported only by a jack.

Use a union to loop the lines or create a new line to join the ports if servicing or removing the oil cooler from the vehicle.

WARNING: Only qualified mechanics should install this part.

WARNING: Improper installation may result in severe engine damage.

This product is not recommended for use with highly corrosive fluids.

Lubricate threads and flares on fittings for a reliable seal.

Lubricate every O-ring to prevent damage and ensure a leak-free seal.

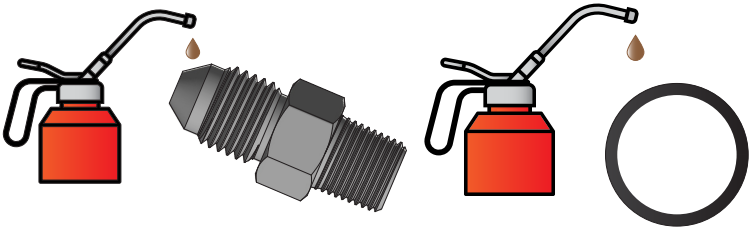
Never secure lines to moving components.

Use zip-ties and P-clamps to stop oil lines from rubbing against the exhaust, engine, suspension components and chassis.

Confirm heat exchangers are isolated from vibration.

Pre-fill heat exchangers to prevent a dry startup.

Use aluminum tools to avoid damaging fittings.



PLUMBING CONFIGURATIONS

- The best plumbing configurations are shown in Figure 1 and Figure 2.

⚠ **Plumbing a heat exchanger with down-facing ports may trap air, may require the installation of check valves or may complicate system priming.**

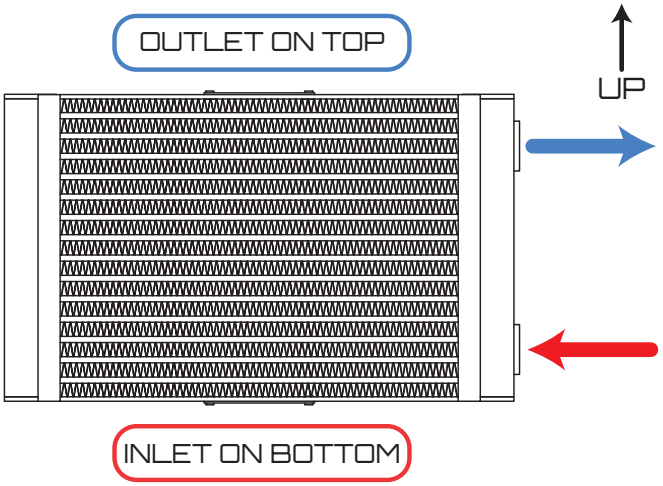


Figure 1 - Horizontal Plumbing Configuration

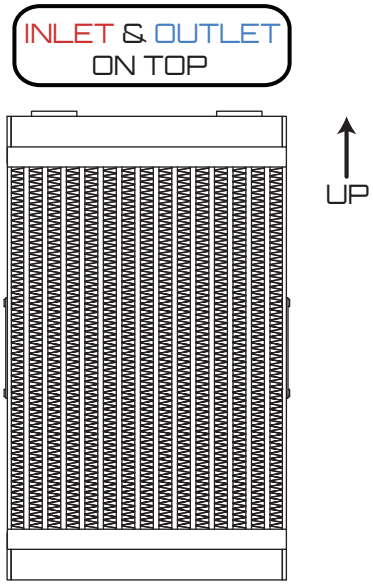


Figure 2 - Vertical Plumbing Configuration

MOUNTING TIPS

- Heat exchangers perform best when placed in direct airflow.
- Use fan-packs where airflow is limited.
- Improved Racing offers kits for some MHX heat exchangers.

Peak performance is limited by the air flow-rate of the fan and whether hot air can exhaust away from the heat exchanger.

Do not mount fans to the core with radiator fan zip ties because it damages the heat exchanger and will void the warranty.

- Isolate heat exchangers from vibration and heat-cycling stress (expansion and contraction).
- Rubber-isolated mounting systems for MHX products are available here.

Never rigid-mount the heat exchanger.

The warranty will not cover leaks and failures caused by rigid-mounting.

- All MHX heat exchangers have integrated mounting holes on the tanks.

A minimum of three mounting holes shall be used to support and secure the heat exchanger.

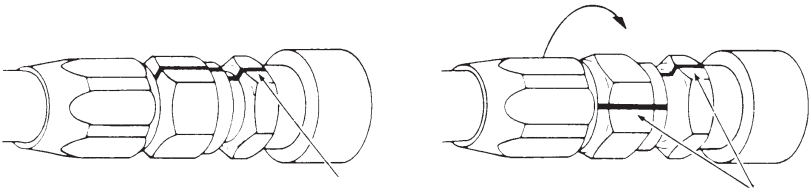
- Mounting the heat exchanger above the sump might create undesirable drain-back problems.

Check valves or filters with anti-drain-back valves prevent fluid from draining back to, and overfilling the sump when not in use.

INSTALL THE HEAT EXCHANGER

1. Install the adapter fittings when applicable.
2. Torque the fittings between 20 lb-ft (27 N-m) to 25 lb-ft (33 N-m).
3. Mount the heat exchanger, confirming it is isolated from vibration.
4. Torque the mounting screws to 15 lb-ft (20 N-m).
5. Prefill the heat exchanger when applicable.
6. Connect the system lines and torque hose fittings according to the steps below for your line size:
    a. Hand-tighten the fittings.
    b. Mark the flats as shown in Figure 3.
    c. Tighten according to the table on page 5.

Tighten worm-screw hose clamps to feel.



Mark a line on the nut and adapter before torquing.

Misalignment of the mark shows the amount which the nut was tightened.

Figure 3 - Marking the Fitting for Correct Tightening

Size	Number of Hex Flat Rotations
-6	1.5 to 1.75
-8	1.25 to 1.75
-10	1.25 to 1.75
-12	1 to 1.5

7. Check fluid levels and prime the system when applicable.
8. Perform a leak test and fix leaks when applicable.
9. Confirm fluid levels are in spec for the system.

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