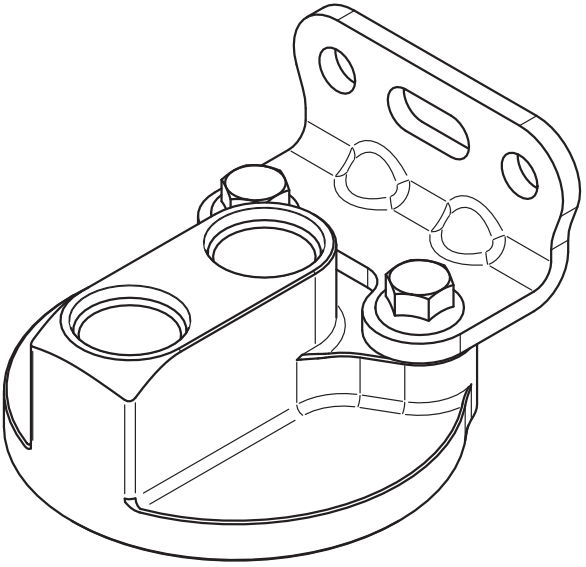
REMOTE OIL FILTER MOUNT, 2-PORT

PART NO. ENV-142

MADE IN USA



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

For contact information, visit www.improvedracing.com
Copyright © 2008-2024 Improved Racing Products, LLC. All rights reserved.

Rev 240421

APPLICATIONS

- ENV-142 is compatible with oil filters with a maximum filter seal outer diameter of 3.55” (90.2 mm), and a minimum oil filter seal inner diameter of 1.91” (48.5 mm).
- Screw bungs are available for these common oil filter thread sizes:
  - Screw Part Number HSC-5021-01: **M20x1.50**
  - Screw Part Number HSC-5023-01: **M22x1.50**
  - Screw Part Number HSC-5000-01: **13/16”-16**
  - Screw Part Number HSC-5022-01: **3/4”-16**
- ENV-142 features -10AN female O-ring Boss (ORB) ports.
- A list of compatible filters is available on the product page on Improved Racing’s website at www.improvedracing.com.

SCHEMATIC, HARDWARE & PARTS LIST TABLE

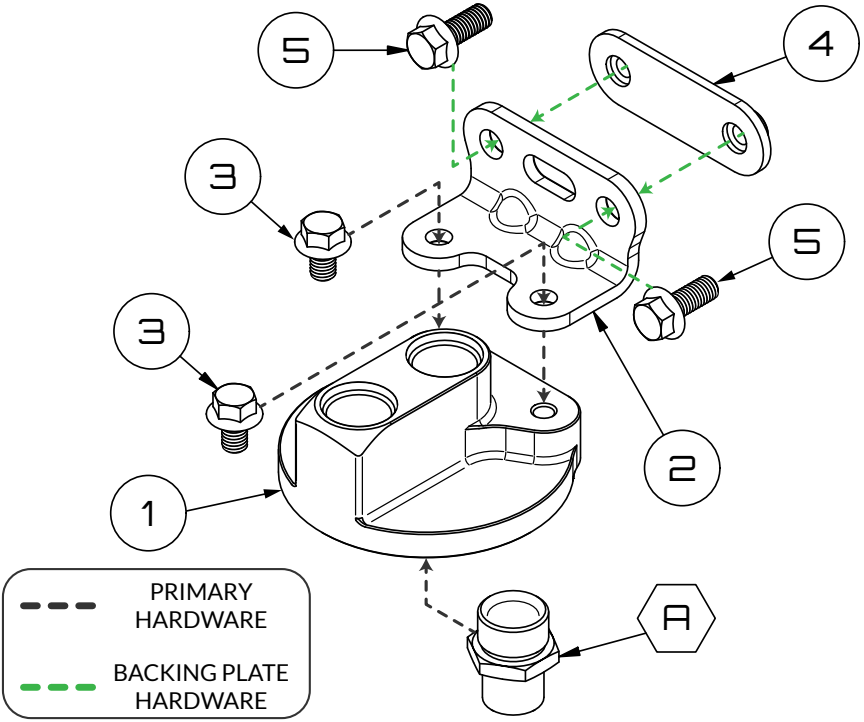


Figure 1 - ENV-142 Schematic

Item	Qty	Part Number	Description
1	1	ENV-142-01	Remote Filter Mount
2	1	HBK-2000-01-C	Mounting Bracket
3	2	HSC-1048	Mounting Bracket Screw
4	1	ENV-170-07	Backing Plate for Mounting Bracket
5	2	HSC-1041	Backing Plate Screw
A	1	HSC-XXXX	Oil Filter Adapter Screw (Choose Size)

TECHNICAL SPECIFICATIONS TABLE

Maximum Operating Temperature	400°F (204°C)
Minimum Operating Temperature	-40°F (-40°C)
Maximum Operating Pressure	300 psi (20.68 bar)
Maximum Oil Filter Seal Outside Diameter	3.55” (90.2 mm)
Minimum Oil Filter Seal Inside Diameter	1.91” (48.5 mm)
Dimensions (W x H x D)	3.60” x 1.63” x 3.44” (87.4 mm x 41.4 mm x 87.4 mm)
Weight (No Hardware)	9.1 ounces (258 grams)
Fitting Ports	2 x -10 SAE J1926-1 Straight Thread O-ring Boss Ports, $^{7}/_{8}$”-14 UNF - 2B
Filter Screw Port	M22x1.50 - 6H
Housing Material	CNC-Machined 6061-T6 Billet Aluminum
Housing Finish	MIL-A-8625 Type II Anodizing, Black
Filter Screw Material	CNC-Machined 410 Stainless Steel
Mounting Bracket	7 Gauge 5052-H32 Aluminum, ISO Anodizing Spec, Black
Mounting Bracket Screws	M8x1.25x12 10.9 Class Alloy Steel Hex Flange Screw, Zinc Plated, 12 mm Tool Size
Mounting Bracket Backing Plate	8 Gauge 5052-H32 Aluminum, ISO Anodize Spec, Black, M8x1.25 Threaded Inserts
Backing Plate Screws	M8x1.25x20 10.9 Class Alloy Steel Hex Flange Screw, Zinc Plated, 12 mm Tool Size

MOUNTING

- Attach the mounting bracket to ENV-142 using the provided M8 screws in one of the configurations shown in Figure 2.
- Use at least two holes to secure the ENV-142 to a sturdy part of the vehicle such as the frame or firewall using M8 or $^{5}/_{16}$" hardware.
- Use the ENV-171-07 backing plate for reinforcement when through-mounting to thinner panels.

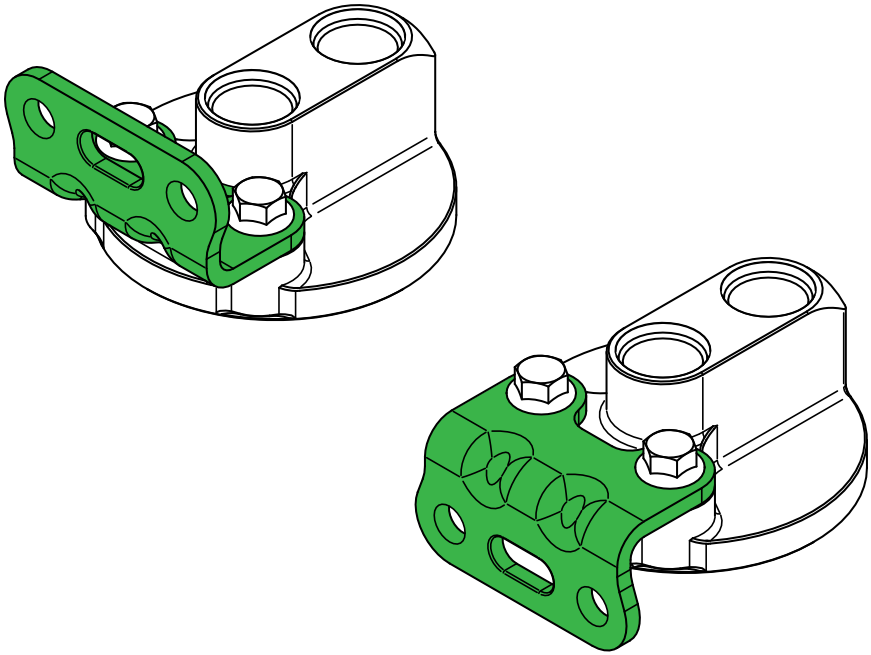


Figure 2 - Mounting Bracket Orientation Options

BEFORE YOU BEGIN

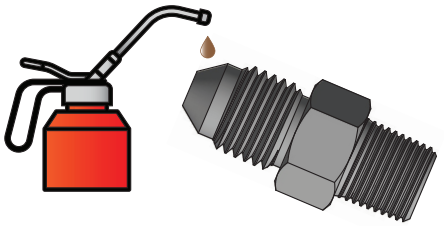
⚠ **WARNING: This product is for remote oil filter systems only.**

⚠ **WARNING: Never use an oil filter rated for less flow than the Original Equipment Manufacturer's specified oil filter.**

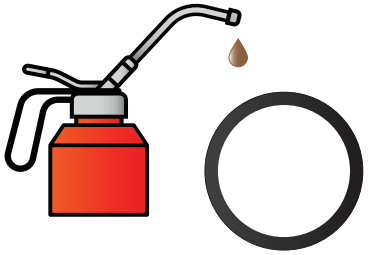
⚠ **WARNING: This product should only be installed by a qualified mechanic. Improper installation will result in severe engine damage.**

⚠ **WARNING: Never secure hoses to moving components.**

- Use zip-ties and P-clamps to ensure no hoses pinch / rub on the exhaust, engine, suspension components and chassis.
- Ensure heat exchangers are isolated from vibration.
- Pre-fill heat exchangers to prevent dry startup.
- Lubricate all 37° flares on the adapter fittings before final tightening.



- Lubricate O-rings on adapter fittings prior to installation to prevent damage and ensure a leak-free seal.



- Use aluminum tools to avoid damaging the aluminum fittings.

INSTALLATION INSTRUCTIONS

1. Ensure all parts shown in Figure 1 are present before proceeding.
2. Optional: Clean and prep the **short side** of the oil filter adapter screw with acetone and alcohol, as described in Figure 3. A thread lock primer may also be used. Allow the filter adapter screw to dry.
3. Optional: Apply red thread lock, such as Loctite 263, onto the **short side** of the oil filter adapter screw as shown in Figure 3.

- Cover three threads minimum, 360° around the screw.

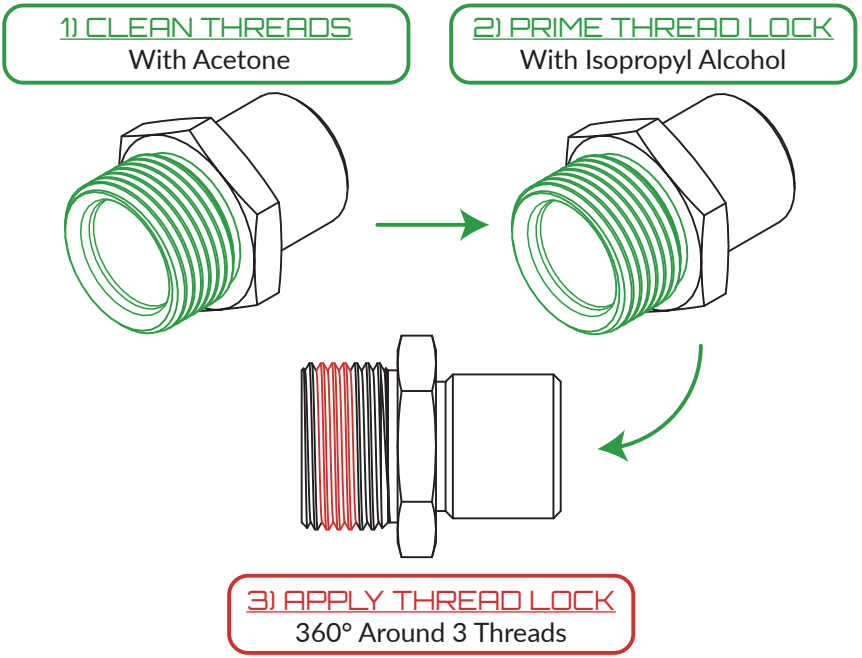


Figure 3 - Apply Thread Locker to the Short End of the Filter Screw

4. Use a deep 1.00" socket to install the filter adapter screw into ENV-142.
5. Torque the filter adapter screw to approximately 25 lb-ft (34 N-m).
6. The thread lock sets in approximately 10 minutes and cures in 24 hours. Maximum cure strength is reached after 72 hours.

⚠ Do not install the filter or circulate fluid until the thread lock is fully cured.

7. Install the O-ring boss line adapter fittings into ENV-142.
8. Torque the fittings to 30 lb-ft (41 N-m).
9. Secure the filter mount to the vehicle using the provided mounting bracket and M8 or $^{5}/_{16}$" hardware.
10. Configure and assemble the hydraulic lines for the system.
11. Pre-fill and install a new oil filter after lubricating the seal with oil.
12. Connect and tighten the system lines according to line size:
    a. -6 Lines = 13 to 16 lb-ft (18 to 22 N-m)
    b. -8 Lines = 23 to 29 lb-ft (31 to 40 N-m)
    c. -10 Lines = 30 to 35 lb-ft (41 to 48 N-m)

d. -12 Lines = 34 to 45 lb-ft (46 to 62 N-m)

e. Worm Screw Hose Clamps = 25 in-lb (or tighten to feel)

⚠ **DO NOT overtighten.**

13. Secure the heat exchanger to the vehicle, if applicable.
14. Refill all fluids in the system to their specified levels.
15. Prime the system to fill the engine / transmission / differential, lines and heat exchanger with fluid before starting:

    a. Perform the priming procedures outlined in the factory service manual for the engine / transmission / differential

    It may be necessary to use a fluid preluber to perform the priming procedures, such as one made by Melling or Motive

16. Start the vehicle and inspect for leaks and proper system functionality.
17. Turn-off the vehicle and inspect the fluid level of the system.
18. Add fluid if necessary.
19. Inspect the hydraulic lines and fittings for leaks and mounting hardware for loosening after one heat cycle, then again after 100 miles.

Installation is finished! Thank you for purchasing an Improved Racing product!