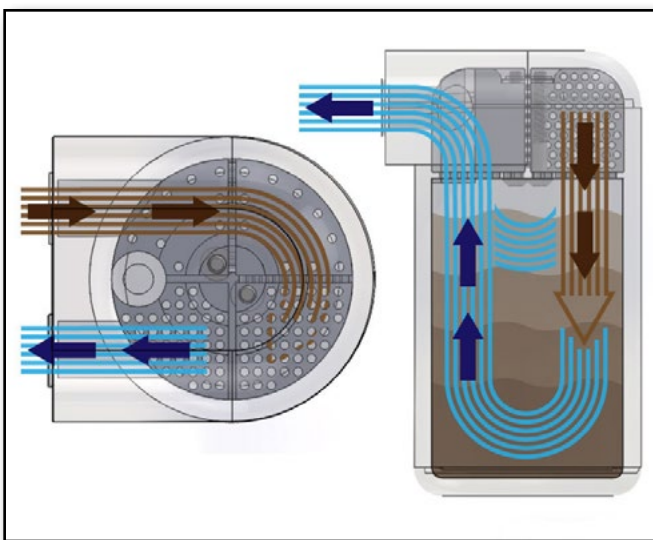




BMW E46 S54 Catch Can System Installation Instructions



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

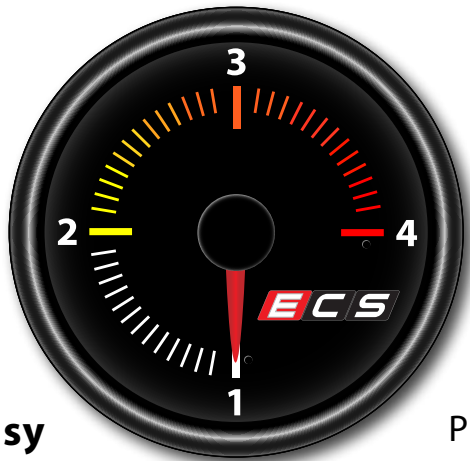
INTRODUCTION

ECS Tuning BMW E46 M3 S54 Catch Can System

Our Catch Can System offers the following features:

- Constructed of strong and lightweight 6061-T6 billet aluminum
- Black anodized for corrosion resistance
- In-house designed and engineered
- Easy installation thanks to a chassis specific mounting bracket
- All mounting hardware included
- Vehicle specific silicone feed and return hoses
- Includes a dipstick to check content level
- Fully serviceable and completely reversible

ECS Difficulty Gauge



1 - Easy

Pro - 4

2 - Moderate

Advanced - 3

Excess oil coating the inside of the intake from the crank vent system on your BMW will lead to excessive deposits and carbon build up on the back of the intake valves, resulting in power loss and poor driveability. Stop the problem from developing and prevent expensive repairs by installing our ECS Tuning catch can system. These systems utilize a mounting bracket, silicone hoses and hardware which are all E46 M3 specific for a simple install.

Thank you for purchasing our Catch Can Kit, we appreciate your business!

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KIT CONTENTS



Catch Can Reservoir
(QTY 1)



Baffled Separator (w/2.5mm
Allen key for cleaning) (QTY 1)



Catch Can Dipstick
(QTY 1)



E46 M3 Mounting Bracket
(QTY 1)



Silicone Feed Hose
(QTY 1)



Silicone Return Hose
(QTY 1)



-10AN ORB X 3/4" Hose Fitting
(QTY 2)

REQUIRED TOOLS

Note: The tools required for each step will be listed by the step number throughout these instructions.

Standard Automotive Tools

- Protecta-Sockets (for lug nuts).....[ES#2221243](#)
- **3/8" Drive Ratchet**.....[ES#2765902](#)
- 3/8" Drive Torque Wrench.....[ES#2221245](#)
- **3/8" Drive Deep and Shallow Sockets**[ES#2763772](#)
- 3/8" Drive Extensions[ES#2804822](#)
- Hydraulic Floor Jack[ES#2834951](#)
- **Torx Drivers and Sockets**[ES#11417/8](#)
- 1/2" Drive Deep and Shallow Sockets.....[ES#2839106](#)
- 1/2" Drive Ratchet
- 1/2" Drive Extensions
- 1/2" Drive Torque Wrench.....[ES#2221244](#)
- 1/2" Drive Breaker Bar[ES#2776653](#)
- Bench Mounted Vise
- Crows Foot Wrenches
- **Hook and Pick Tool Set**.....[ES#2778980](#)

Required For This Install

Available On Our Website

- **1/4" Drive Ratchet**.....[ES#2823235](#)
- **1/4" Drive Deep and Shallow Sockets**.....[ES#2823235](#)
- **1/4" Drive Extensions**.....[ES#2823235](#)
- Plier and Cutter Set.....[ES#2804496](#)
- **Flat and Phillips Screwdrivers**[ES#2225921](#)
- Jack Stands.....[ES#2763355](#)
- Ball Pein Hammers
- Pry Bar Set.....[ES#1899378](#)
- Electric/Cordless Drill
- Wire Strippers/Crimpers
- **Adjustable (Crescent) Type Wrenches**
- Punch and Chisel Set
- **Hex Bit (Allen) Wrenches and Sockets**[ES#11420](#)
- Thread Repair Tools[ES#1306824](#)
- **Open/Boxed End Wrench Set**.....[ES#2765907](#)

SHOP SUPPLIES AND MATERIALS

Standard Shop Supply Recommendations: We recommend that you have a standard inventory of automotive shop supplies before beginning this or any automotive repair procedure. The following list outlines the basic shop supplies that we like to keep on hand. Shop supplies with a hyperlink are available on our website.

- Hand Cleaner/Degreaser - [Click Here](#)
- Pig Mats - for protecting your garage floor and work area from spills and stains - [Click Here](#)
- Spray detailer - for rapid cleaning of anything that comes into contact with your paint such as brake fluid - [Click Here](#)
- Micro Fiber Towels - for cleaning the paint on your car - [Click Here](#)
- Latex Gloves - for the extra oily and dirty jobs - [Click Here](#)
- Medium and High Strength Loctite Thread lock compound - to prevent bolts from backing out - [Click Here](#)
- Anti-Seize Compound - to prevent seizing, galling, and corrosion of fasteners - [Click Here](#)
- Aerosol Brake/Parts Cleaner - for cleaning and degreasing parts
- Shop Rags - used for wiping hands, tools, and parts
- Penetrating oil - for helping to free rusted or stuck bolts and nuts
- Mechanics wire - for securing components out of the way
- Silicone spray lube - for rubber components such as exhaust hangers
- Paint Marker - for marking installation positions or bolts during a torquing sequence
- Plastic Wire Ties/Zip Ties - for routing and securing wiring harnesses or vacuum hoses
- Electrical tape - for wrapping wiring harnesses or temporary securing of small components

INSTALLATION NOTES

- **RH** refers to the *passenger side* of the vehicle.
- **LH** refers to the *driver side* of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.



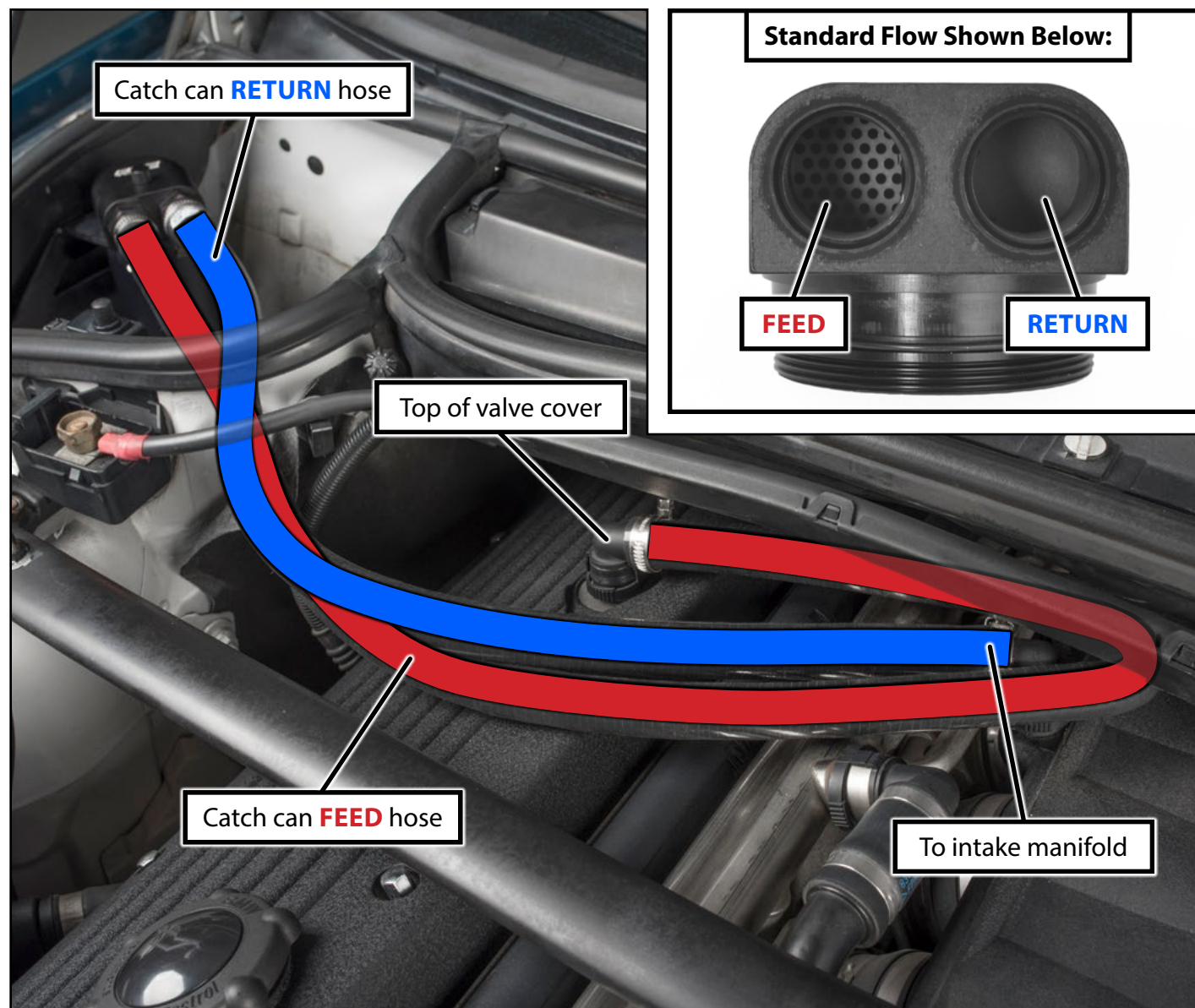
NEVER get underneath a vehicle that is supported only by a jack, and **ALWAYS** make sure that the vehicle is securely supported on jack stands.

INSTALLING THE CATCH CAN SYSTEM

System Layout:

The catch can system layout is rather straightforward for the S54, the catch can is in the rear RH (passenger's) corner of the engine compartment via our custom mounting bracket, then the hoses are routed to the top of the valve cover and the intake manifold. The photo on the right shows the system setup in **STANDARD FLOW**. Be sure to confirm that your catch can is set up for standard flow **BEFORE** installing it into place (inset photo).

Simply remove the breather pipe which connects the top of the valve cover to the intake manifold, then transfer the fittings on each end to the silicone catch can hoses.



CLEANING AND MAINTENANCE

Step 1:

We recommend that you check the level of the waste in your catch can on a regular basis. Start with once a week until you determine the amount of time it takes your car to fill the reservoir.

Note that if you have the 8oz reservoir the dipstick will not reach all the way to the bottom. When you begin to see waste register on the dipstick you will already have some buildup in the bottom.

The dipstick reaches the bottom on the 6oz reservoir, waste will register on the dipstick as soon as it begins to collect.

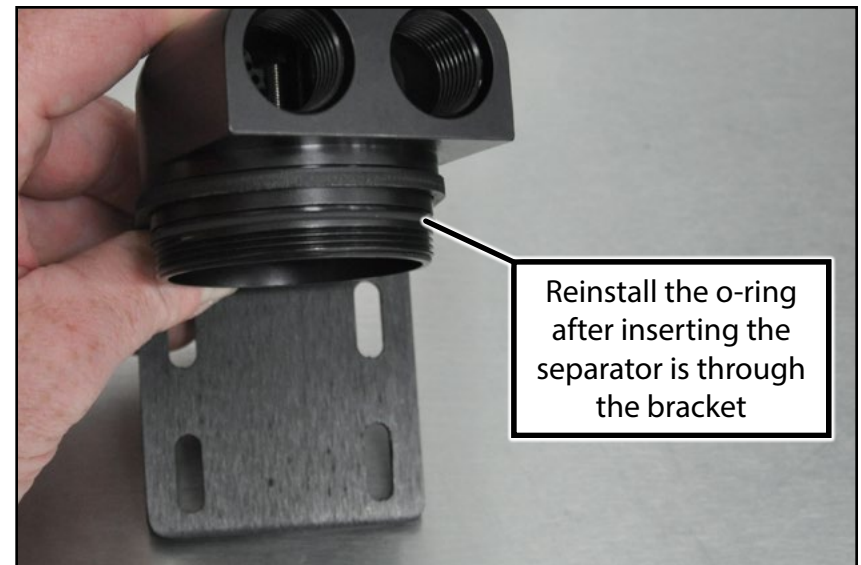
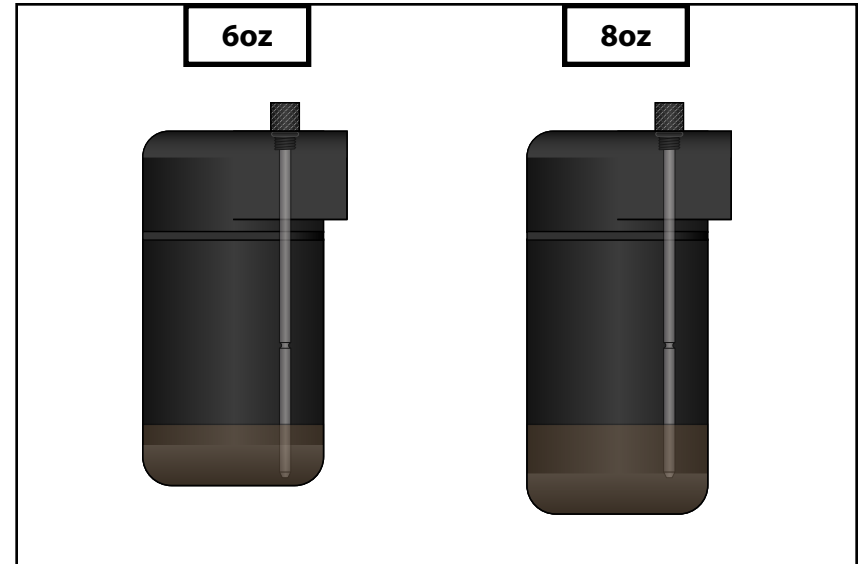
Empty and clean either reservoir when the waste registers approximately 2" up on the dipstick.

Step 2:

About twice a year, we recommend that you remove the separator for cleaning. To remove it, remove the hoses and the reservoir. Remember to remove the o-ring seal, then lift the separator out of the bracket.



If the o-ring seal needs to be replaced, it is available as a replacement part on our website: [ES#3097721](#).



CLEANING AND MAINTENANCE

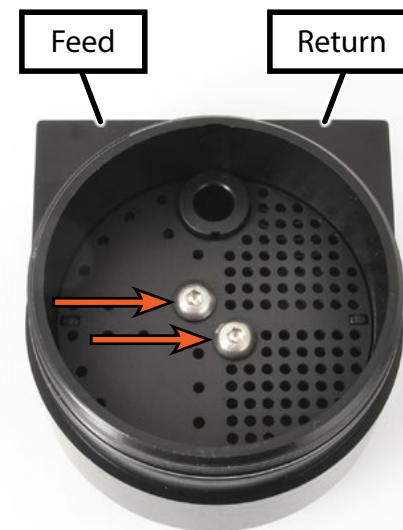
Step 3:

Once you have removed the separator, note the orientation of the baffle inside. The feed side of the separator has a number of small holes in it, the return side looks like a flat plate.

Step 4:

Using the 2.5mm allen wrench included with the kit, remove the two baffle plate screws.

Standard Flow Shown Below:



CLEANING AND MAINTENANCE

Step 5:

Lift the baffle plate out of the separator housing.



Step 6:

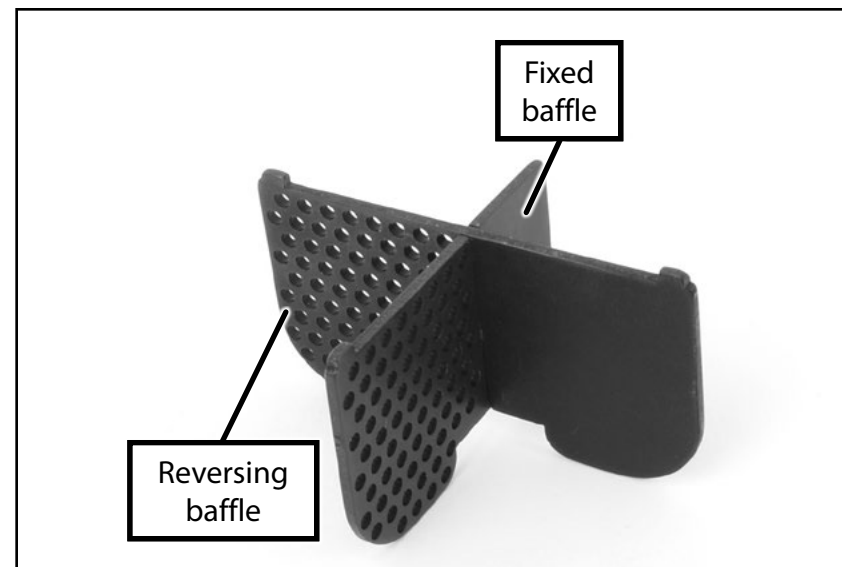
Lift the remaining baffles out of the separator housing.



CLEANING AND MAINTENANCE

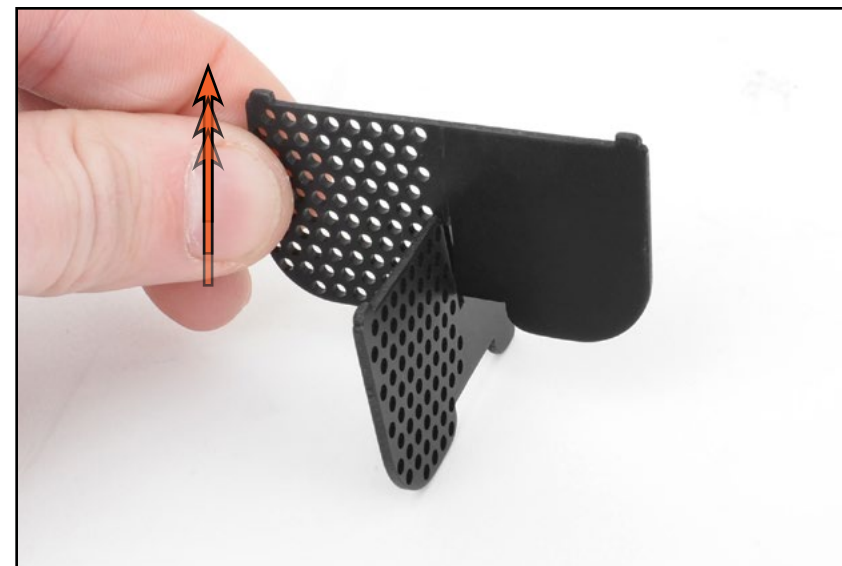
Step 7:

Note the positions of the fixed baffle and the reversing baffle.



Step 8:

Slide the two baffles apart.



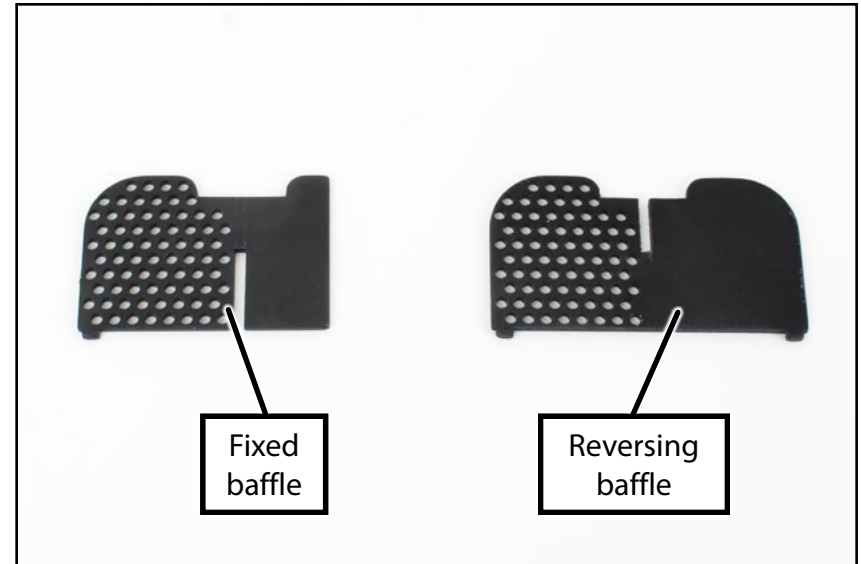
CLEANING AND MAINTENANCE

Step 9:

Clean the separator baffles, housing, and reservoir, using any mild cleanser or solvent. Note in the picture on the right that the fixed baffle is shorter than the reversing baffle.

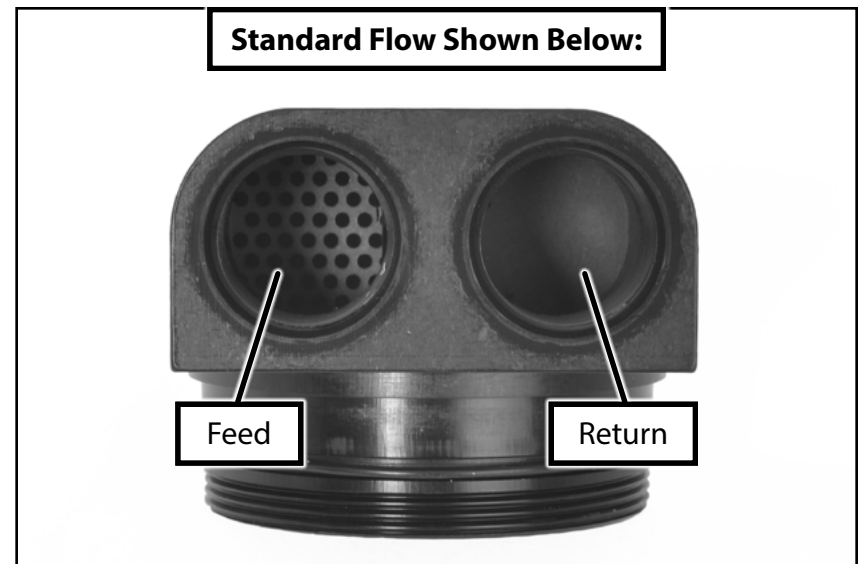


Any mild cleanser or solvent can be used to clean the catch can, however we recommend that you test all cleansers on an inconspicuous area inside the reservoir to check for discoloration before you clean the outside surfaces.



Step 10:

Reassemble the baffles into the separator housing and make sure that the baffles have not been reversed and the feed and return sides are positioned correctly. Reference step 4 in this section to make sure it is properly installed.



CLEANING AND MAINTENANCE - COLD WEATHER

COLD TEMPERATURE WARNING



In cold temperatures, the crank vent system will generate a much greater amount of moisture which can present a risk of freezing.

When the temperature outside approaches freezing, your catch can should be cleaned on a weekly basis to prevent freeze up of the crank vent system and damage to engine seals.

When the temperature drops below freezing, we recommend reinstalling your original crank vent system components to prevent freeze up of the crank vent system and damage to engine seals.

REVERSING THE FLOW OF THE CATCH CAN

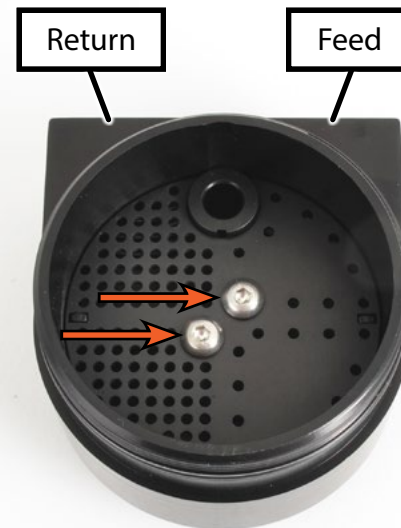
Step 1:

You can reverse the flow of your catch can in order to create the best mounting location and hose routing for your application. To begin, look into the separator and identify where the feed and return sides are oriented from when the catch can was originally assembled. The feed side of the separator has a number of small holes in it, the return side looks like a flat plate.

Step 2:

Using the 2.5mm allen wrench included with the separator, remove the two baffle plate screws (arrows).

Reverse Flow Shown Below:



REVERSING THE FLOW OF THE CATCH CAN

Step 3:

Lift the baffle plate out of the separator housing.



Step 4:

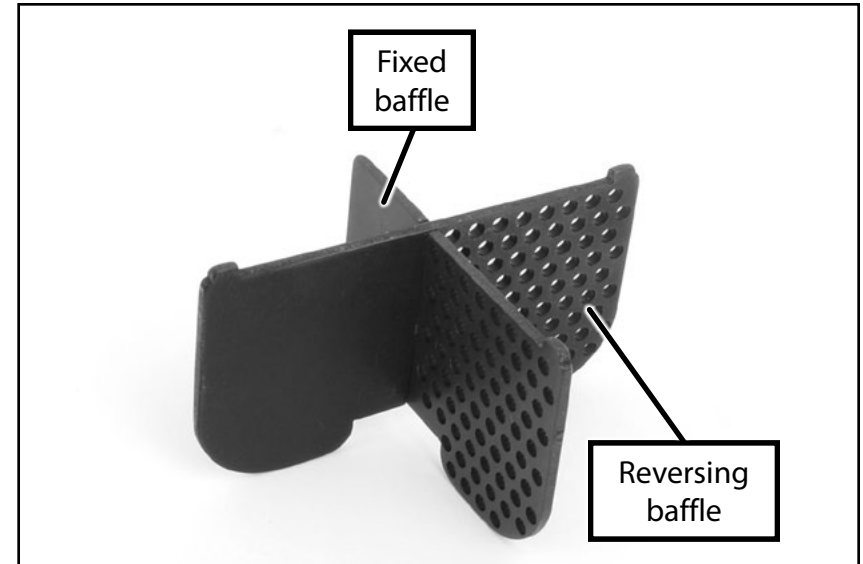
Lift the remaining baffles out of the separator housing. Note the position of the inlet screen on the reversing baffle (arrow).



REVERSING THE FLOW OF THE CATCH CAN

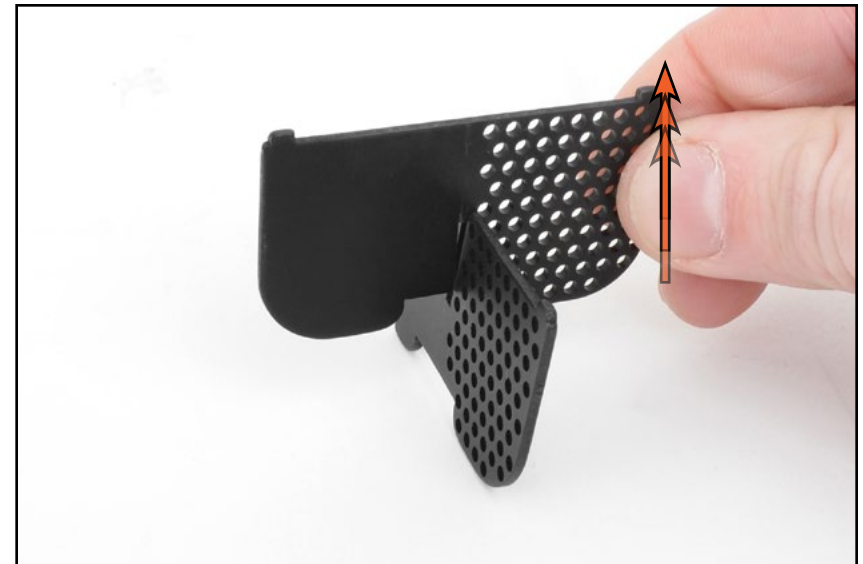
Step 5:

Note the positions of the fixed baffle and the reversing baffle.



Step 6:

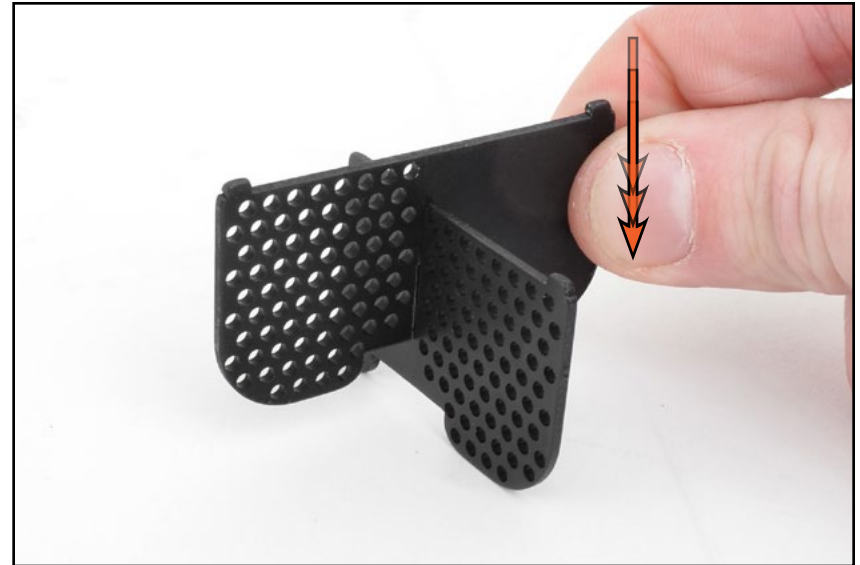
Slide the two baffles apart.



REVERSING THE FLOW OF THE CATCH CAN

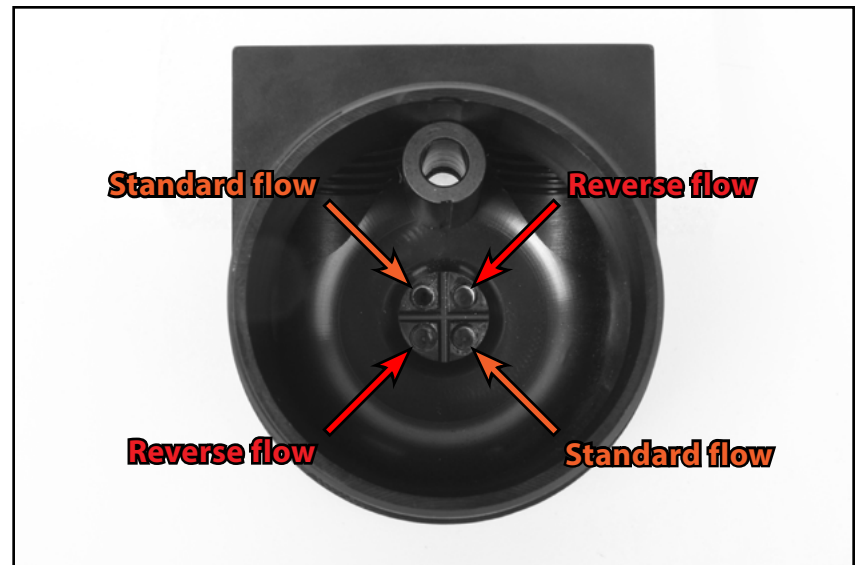
Step 7:

Flip the reversing baffle and slide it back onto the fixed baffle.



Step 8:

Inspect the inside of the separator housing. You will see that there are two sets of threaded holes for the baffle plate screws. When you reverse the flow, you will use the opposite holes when reinstalling the baffle plate screws.



REVERSING THE FLOW OF THE CATCH CAN

Step 9:

Reinstall the baffles into the separator housing. Note that the inlet screen on the reversing baffle should now be located on the opposite side.



Step 10:

Flip the baffle plate so it is opposite of the removal position and place it back into the separator housing.



REVERSING THE FLOW OF THE CATCH CAN

Step 11:

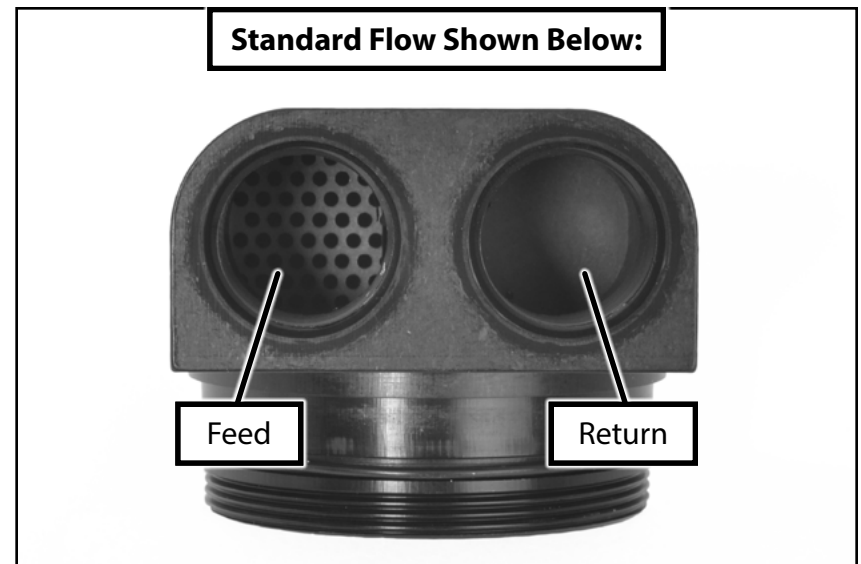
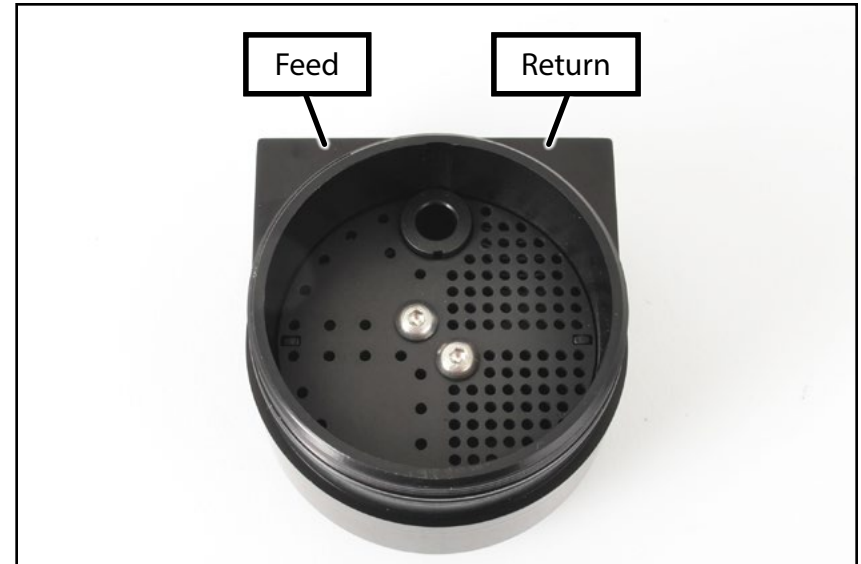
Reinstall the baffle plate screws utilizing the opposite holes in the separator housing. Compare the new baffle plate position with step 2 in this section to make sure it is properly installed for standard flow.

Step 12:

Your standard flow separator will now have the feed side and return side located as shown in the photo.



If you need to return to the installation steps please click [HERE](#).



SCHWABEN - BUILD THE ULTIMATE TOOL COLLECTION

At ECS Tuning, we carry a line of high quality Schwaben Tools and Equipment to help you build your ultimate tool collection. Never before has affordability and quality been so closely related. Our entire Schwaben line is subjected to strict in house testing for strength and durability. See what we have to offer and equip your garage without breaking the bank.

Your Catch Can System installation is complete!



These instructions are provided as a courtesy by ECS Tuning

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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