



# INSTALLATION INSTRUCTIONS

## Oil Catch Can Kit BMW E46 3-Series/M3

Document# 19-0055  
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Qty	Description
1	Radium Engineering Anodized and Etched Catch Can Top
1	Radium Engineering Anodized Catch Can Bottom
1	Radium Engineering Powder Coated Mounting Bracket
1	Radium Engineering Anodized Oil Dipstick w/ O-Ring
1	Radium Engineering Anodized and Etched 7/8-14 Banjo Bolt
1	Radium Engineering Anodized -10AN Banjo
2	Anodized Straight Push Lok -10AN Hose End
1	Anodized Billet O-Ring Sealed -10AN Male Coupler
1	Socket Head O-Ring Sealed Plug
1	Double Ended M8x1.25mm Rubber Mount
1	Stainless Steel Split M8 Lock Washer
1	Stainless Steel M8 Fender Washer
1	Stainless Steel M8x1.25mm Nut
4	Stainless Steel M5 Countersink Screws
1	Stainless Steel M6 Socket Head Screw
1	Stainless Steel Oil Separating Condenser Media
1	Prelubricated Buna-N Rubber Sealing O-ring
2	OEM Style Spring Loaded 5/8" Hose Clamps
7ft	PCV Hose, -10AN (5/8")



1. The catch can is mounted in the engine bay on the passenger side (right hand side). *This kit was not designed for RHD vehicles.*

### Note:

For 2001-2002 BMW M3, the ABS unit is mounted in this compartment. The included rubber isolated stud will not be used. Instead, use a 13mm socket and temporarily remove the factory M8 bolt (as shown).

For all other E46 models, thread the included rubber isolated M8 stud into the empty boss.



2. Install the mounting bracket to the 2 factory locations. For all models, use a 4mm Allen wrench and secure the included M6 button head bolt to the boss near the ground lug, as shown.

For 2001-2002 M3, reuse the factory M8 bolt, removed in the previous step, to secure the bracket to the lower rear boss. Note: The M8 nut, washer, and lock washer will not be used. For all other E46 models, first install the included M8 washer. Next, put the M8 lock washer on. Now torque the included M8 nut to the rubber isolation stud using a 13mm socket.



3. Lubricate the O-ring and screw the straight adapter fitting into the side (outlet) port.

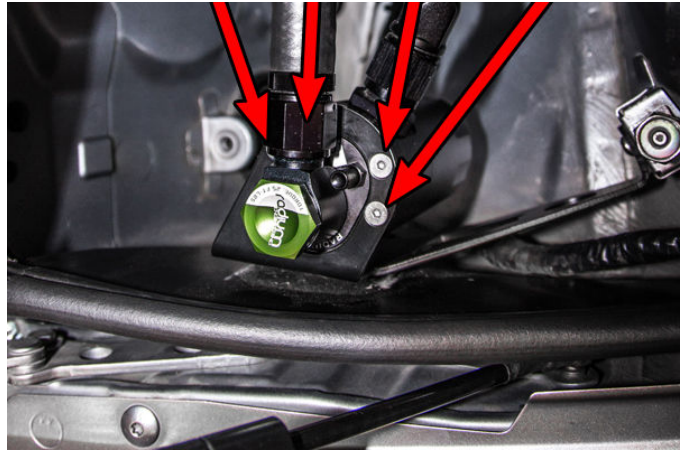
To assemble the top inlet port fitting, first note that the black banjo can be accidentally installed upside down. This would create hose end interference. Make sure the -AN male portion of the banjo is furthest away from the catch can's top surface. Also, before inserting the banjo bolt, make sure there is a crush washer on both sides of the banjo. Do not torque the banjo bolt until everything is installed.

Next, check that the catch can's bottom port is plugged or close the optional petcock valve, if applicable.



4. Apply medium strength threadlocker to the four M5 countersunk screws.

Using a 3mm Allen wrench secure the catch can to the mounting bracket using the 4 screws.



5. The factory 2001-2004 E46 M3 PCV hose routes from the valve cover back to the intake manifold pre throttle. The catch can hoses will be plumbed between these two connections. See Step 5a. below for the 2005-2006 M3's secondary PCV system.

For non M3s, the hoses plumb between the front valve cover port and CCV port. Disconnect the MAF sensor and remove the air box and oil filter. Find CCV port under CYL #1 intake runner.

To remove the factory hose, squeeze the plastic tube fittings (shown) and pull away simultaneously. Do this on both ends.



5a. The 2005-2006 M3 models have a secondary PCV system (shown). All of the modifications in these instructions apply for the 2005-2006 M3 models. However, when the valve cover fitting is spun around in the following steps, the small 2005-2006 convoluted tubing will stay intact and simply reroute accordingly.

NOTE: The electric solenoid valve is closed at WOT, so blow-by vapors will not enter the intake during this period.





6. Next, it is necessary to remove the plastic convoluted tubing from the 2 barbed fittings. The BMW E46 M3 model is shown. Non BMW E46 M3 models will be slightly longer.

Use a razor, such as a utility knife or box cutter, and carefully slice into the tubing where it secures to the barbs. Be careful not to cut into the barbed fittings.

Confirm both fittings and O-rings are not damaged.



7. M3: cut a 19" section from included hose. Install between valve cover and catch can top port. If installing catch can back to intake manifold port, cut a 25" section from hose. Install between intake manifold and catch can side port.

Non M3: The catch can top port routes from valve cover port. The catch can side port routes to CCV port under CYL#1 intake runner port. Measure and cut both hoses to length.

If installing the catch can to an aftermarket intake manifold, supercharger, or turbo kit, cut the extra hose accordingly.



8. Each rubber hose will need one of the included hose ends installed. To assemble, simply lubricate the barbs of the included push-lok hose end. A drop of engine oil will suffice.

Using a hard surface push the hose downwards onto the barbs until the hose is fully seated against the hex, as pictured. Note: Once installed, the push-lok hose end is permanently attached. Hose clamps are not necessary.

Install one push-lok hose end on each hose.



9. Next, the hoses will need to be routed through the compartment wall into the engine bay.

Temporarily remove the short factory BMW rubber trim (shown) by carefully pulling upwards.



10. In order to pass the 2 hoses through the compartment wall, remove the factory plastic Phillips head fastener (shown) and plastic block off plate (shown).

To remove the insulation (shown), tear along the precut dashed lines.

There will now be an exposed rectangular shaped opening that allows two -10AN hoses to pass through.



11. Slide the supplied clamps onto each hose and install the factory BMW plastic barb fittings. Lubrication may be required. To secure, use pliers and slide the clamps over each fitting. Press both OEM fittings back into place. NOTE: Non M3 models only require 1 of the included hose clamps. The included hose will fit nice and tight over the large OEM barb.

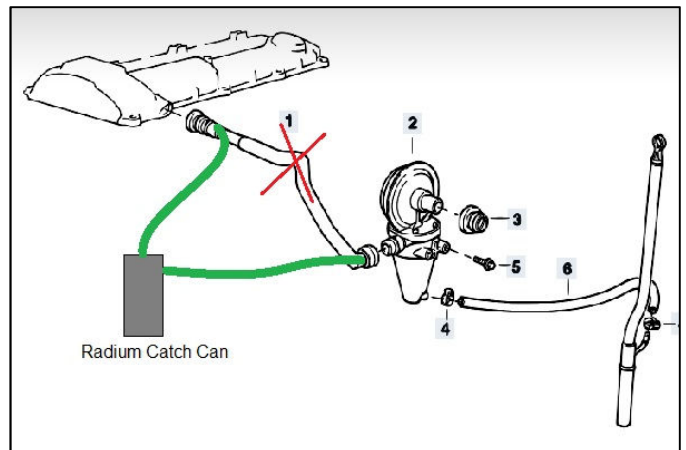
At the catch can, tighten each hose end B-Nut to the respective male fittings on the catch can. The use of an aluminum wrench will prevent marring.



#### 12a. Installation on non-M3:

This kit does not bypass or eliminate the OEM CCV valve (item #2 in the diagram at right) found on the 3-Series (M52/M54) engines. This catch can kit simply runs in-line with the crankcase breather tube to catch unwanted materials from entering the CCV, intake system, and oil pan. All OEM CCV functionality is still retained. Plumbing of the catch can with the CCV is shown at right.

**NOTE:** BMW M3 S54 engine does not use a CCV valve.



#### 12b. Installation on non-M3 (continued):

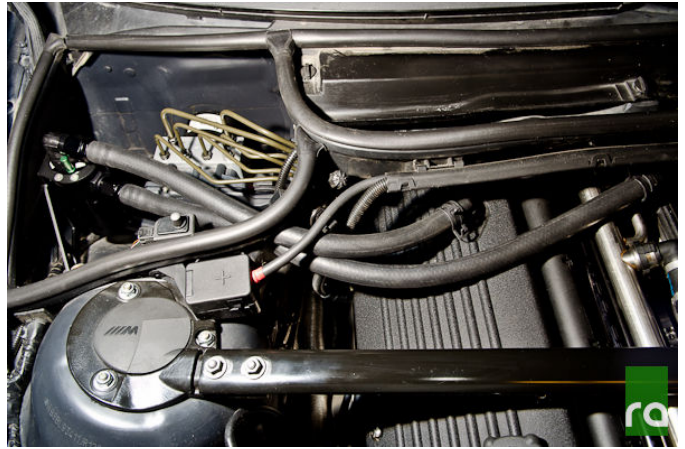
This picture shows an example of hose routing on a non-M E46 vehicle.



13. The hose plumbing for the BMW E46 M3 is shown.

Installation is now complete. Check the fluid level frequently if the vehicle is regularly tracked. To inspect, unscrew the dipstick. If oil registers on the dipstick, properly dispose of the oil by unscrewing the bottom half of the catch can. Note: In this application, to remove the bottom half of the can, the dipstick should be removed first.

The condenser media should be checked occasionally for excessive debris. Clean the filtration media as needed with a mild degreaser.



**Optional Petcock Drain Kit Only:**

Replace the plug fitting on the lower bottom port of the catch can with the included barb adapter. This will be tight on the BMW E46, but manageable. Place the valve in an easily accessible location. Avoid routing hose near suspension and/or hot components.

