

# INSTALLATION INSTRUCTIONS

## CATCH CAN KITS

08-16 Mitsubishi EVO X

Document: 19-0068  
Support: info@radiumauto.com

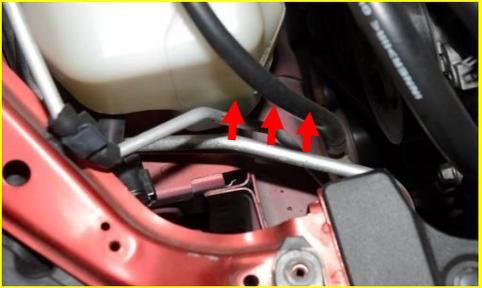
### COLOR LEGEND FOR EACH STEP

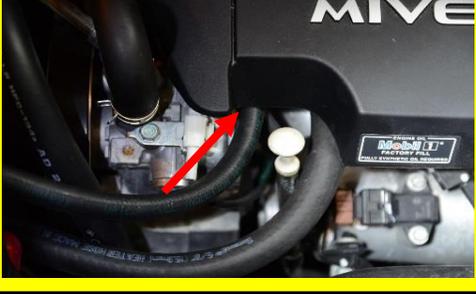
- PCV CATCH CAN KIT** Follow **YELLOW** areas below
- CCV CATCH CAN KIT** Follow **ORANGE** areas below
- VTA CATCH CAN KIT** Follow **BLUE** areas below
- ALTERNATE MOUNT KIT** Follow **GREEN** areas below

### CATCH CAN SERVICING

Check the oil catch can dipstick regularly. All vehicles are unique and will accumulate oil contaminants at different rates. Unscrew the bottom portion of the catch can. Properly dispose of the contents as needed. Do NOT return the contents back into the engine. The stainless steel media can be cleaned with a degreaser.

STEP	TOOLS NEEDED	INSTRUCTIONS	PHOTO
1	Oil	<b>PCV Catch Can Kit Installation</b>  Begin by installing the -AN adapter fittings included in the kit into the ports of the catch can.  The smaller adapter fitting (adapting to 6AN) goes in the top port, and the other fitting (adapting to 8AN) is installed in the side port.  Lubricate the O-rings and tighten with a non-marring wrench.	
	1" Wrench		
2	3mm Allen Wrench	Attach the catch can mounting bracket to the top of the catch can as shown. Use the four small screws included in the kit and tighten. Medium strength thread locking compound is recommended.	
	Threadlocker		
3	Oil	Locate the 8AN straight push-lok hose end found in the kit. Lubricate the barbs and insert into the end of the provided 1/2" ID hose. Push the hose on until fully seated, as shown.	
4	Pliers	Remove the engine cover to gain access to the OEM PCV hose.  Remove the hose by loosening the spring clamps and sliding the hose off of the OEM barbs. The spring clamp on the end of the hose attaching to the PCV valve will be re-used.	

5	10mm Socket	Remove the screw for the inner mounting tab on the RH headlight.	
		After it has been removed, place the provided flat washer where the screw was. This will be used as a spacer.	
6	M6x1.0mm Tap	Locate the threaded hole shown in the picture. This will be the other mounting point for the catch can bracket. It may be necessary to use a tap to clean the threads of rust and/or paint.	
7		<p>Clearance with the A/C hard lines is necessary in order to fit the catch can in the proper position.</p> <p>Gently pry the aluminum lines toward the rear of the vehicle. Test fit the catch can mounting bracket assembly until clearance is achieved.</p> <p><b>Do not kink or damage the lines during this step.</b></p>	
8	4mm Allen Wrench	As shown, attach the catch can assembly to the core support using the included flat head screws.	
9		The hose coming from the side port of the catch can will be in contact with the A/C hose, as shown. Install the provided split-loom convoluted tubing over the catch can hose to prevent chafing.	
10	Hose Cutter	<p>Route the 1/2" hose from the side port of the catch can to the intake manifold barb.</p> <p>Test fit for length, then cut the hose.</p>	

11	Pliers	Attach the hose to the barb and secure using the spring hose clamp included in the kit.	
12	Oil	Find the 6AN 90-degree push-lok hose end and 3/8" hose section included in the kit. Lubricate the barbs on the hose end and press it into the hose until fully seated.	
13	Hose Cutter	Loosely screw the 90-degree hose end onto the fitting installed in the top port of the catch can.  Route the hose in a similar path as the other catch can hose, terminating at the PCV valve. Determine ideal hose length, then cut the hose.  NOTE: Double-check clearance with the plastic engine cover (not shown) before cutting.	
14	Pliers	Secure the hose to the PCV valve barb by using the clamp from Step 4.	
15	11/16" Wrench	Tighten the hose end to the fitting on the catch can using a non-marring wrench. Be careful to not overtighten.	
16		Test fit the plastic engine cover again and check for interference with the catch can hoses. If necessary, cut notches into the cover to provide clearance.  <b>INSTALLATION COMPLETE</b>	

17	1" Wrench	<b>CCV Catch Can Kit Installation</b>  Install the provided -AN adapter fittings to the catch can ports. Lubricate the o-rings and tighten with a non-marring wrench.  <b>NOTES:</b> 1. The 08-09 EVO X (with metal valve cover) requires the smaller 6AN adapter fitting in the top port. 2. The 2010+ EVO X (with plastic valve cover) requires the larger 8AN adapter fitting (shown) in the top port.	
	Oil		
18	3mm Allen Wrench	Attach the catch can mounting bracket to the top of the catch can as shown. Use the four small screws included in the kit and tighten. Medium strength thread locking compound is recommended.	
	Threadlocker		
19	Pliers	Remove the engine cover and locate the CCV port near cylinder #4 on the back side of the valve cover.  Remove the hose from the barb by loosening the spring hose clamp and sliding off the hose. The spring clamp will be reused.  Note: The 2010+ EVO X plastic valve cover is shown. The earlier 08-09 models use a metal valve cover and a smaller 90 degree barb fitting.	
20		Locate the other end of the CCV hose on the air intake tube. Loosen the spring clamp and pull the hose off the barb. Be careful not to break the plastic fitting that is in the intake tube.	
21	10mm Socket	Remove the screw holding the inner tab of the LH headlight.	
22	10mm Socket	Use a 10mm socket to remove the bolt holding the relay box bracket to the core support.  <b>NOTES:</b> This is required to provide tool clearance when installing the catch can bracket. The relay box will be put back in place after the catch can bracket is secure.	

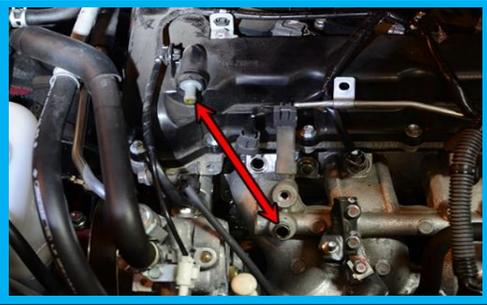
23		Locate the flat washer included in the kit and place it on the headlight tab as shown. This will be used as a spacer.	
24	4mm Allen Wrench	Place the catch can assembly into position directly behind the LH headlight. Position the bracket so that the mounting holes line up with the headlight fastener hole and the large hole near the relay box. Install the flat-head Allen bolts into the bracket mounting holes. Loosely screw in the inner mounting bolt (at headlight mounting tab). The other bolt will pass through the large hole in the core support. From underneath, install the large diameter washer then the nut on the bolt and tighten. Finish tightening the screw at the headlight tab location.	
25	Hose Cutter Oil	Cut a section of the provided hose to approximately 23 inches. Install the straight hose end into the hose as shown. Lubricating the hose barbs with make this process easier.	
26	7/8" Wrench	Install the hose from the previous step onto the side port of the catch can and route it as shown to the turbo intake pipe. Tighten the hose end to the catch can fitting using a non-marring wrench. NOTE: -AN style connections do not need to be very tight to achieve proper sealing.	
27	Pliers	If necessary, rotate the fitting in the air intake pipe 90 degrees, as shown. Using the spring clamp from Step 19, attach the catch can hose to the fitting and secure in place with the spring clamp. NOTE: Trimming of the hose length may be necessary for best fit.	
28		<b>NOTES:</b> 1. The 08-09 EVO X (with metal valve cover) requires the smaller 6AN 90 degree hose end and 3/8" hose for this connection. 2. The 2010+ EVO X (with plastic valve cover) requires the larger 8AN 90 degree hose end and 1/2" hose for this connection.  Install the appropriate 90 degree hose end into one end of the remaining hose following the same technique used in previous steps.	

29		Screw the hose end onto the top port fitting of the catch can. Route the hose to the barb on the valve cover. Test fit and cut the hose to ideal length. Secure the hose to the fitting using the provided spring hose clamp.	
		Secure the relay box back in place that was removed in Step 22.	
		<b>INSTALLATION COMPLETE</b>	

30		<b>Crankcase Vent-to-Atmosphere Catch Can Kit Installation</b>	
		<b>Note: In order to install this kit a METAL VALVE COVER from an earlier model (08-09)EVO X is required.</b>	
		Review the installation of CCV Catch Can Kit (above) for mounting the catch can to the LH bracket. Install the included barb fitting and air filter to the catch can side port (as shown). Next, install the -10AN ORB male fitting to the top port of the catch can.	

31		Referencing a factory service manual, remove the valve cover and clean it thoroughly.	
		Find a suitable location at the end of the valve cover to weld the included aluminum bung.	
		Drill a 1/2" hole and prep the area for welding. Have the bung welded by an experienced aluminum TIG welder.	
		Reinstall the valve cover.	

32		Loosely screw the 2 provided 90 degree hose ends to the valve cover and catch can.	
		Route the 5/8" hose between the two locations and cut to length. Assemble the hose ends and permanently install into the vehicle.	
		Install the vacuum cap to plug the turbo air inlet barb. NOTE: Two caps are provided depending on the model year of the vehicle.	

33		For EVO X applications that are still using a MAF sensor, the PCV hose should be removed and the ports should be plugged using the included 1/2" and 3/8" vacuum caps. If not removed, a very small amount of "unmetered" air will enter the system through the catch can's breather filter. For EVO X applications that have converted to "speed density" via a MAP sensor, the PCV hose CAN remain in place. Furthermore, the Radium 20-0105 PCV Catch Can kit is recommended for the best performance and protection.	
		<b>INSTALLATION COMPLETE</b>	

34		<b>Alternate Location Crankcase Mount Kit</b>	
		NOTE: The "alternate location" crankcase mount can be used for both CCV catch can kits listed above.	
		Disconnect and/or remove the components in the LH area behind the radiator. This is generally the mass air flow sensor, intake pipe, air filter, blow off valve, etc.	
		The bracket will be secured to the two highlighted frame rail holes shown.	

35	5mm Allen Wrench	<p>To secure the bracket, first loosely secure the provided button head bolt to the top threaded hole.</p> <p>Chase the threads with a M8x1.25mm tap, if necessary.</p>	
	M8x1.25mm Tap		
36	14mm Socket Wrench	<p>Next, insert the included sheet metal screw through the bottom hole. Tighten the bolt to start thread engagement. Once the bolt's hex flange touches the catch can bracket surface, add another 1/2 turn.</p> <p>NOTE: Excessive torque can unload the bolt's clamping force through the sheet metal.</p>	
37		<p>Finally, torque the upper M8x1.25mm button head bolt using a 5mm Allen hex wrench.</p> <p>Review Section 2 or Section 3 discussed above for installing the catch can to the bracket, attaching the CCV fittings, routing the hose(s), etc. Radium 20-0106-10 shown at right.</p> <p>Reinstall all previously removed components.</p> <p><b>INSTALLATION COMPLETE</b></p>	