

# LMR Breather Instructions



Parts

Late Model Racecraft

# LMR Breather system Parts check list

**2x** 6mm bolts

**2x** 6mm nuts

**4x** 6mm washers

**2x** 6mm lock washers

**4in** heat shrink

**1x** 6an cap

**1x** 3/8 plug

**1x** 3/8 black Plastic T

**1x** Gates rubber hose (18031)

**4x** #8 hose clamps

**1x** 16an 90\* hose end with -16 hose

**3x** -6an 45\* hose ends with -6 hose

**1x** -6an 90\* hose end

**2x** ¼ in Vacuum Caps

## Late Model Racecraft C7 Breather Instructions

**Disclaimer: This system should be installed by an experienced technician. Late Model Racecraft is not responsible for damage done to the vehicle or damage done to the breather system upon install.**

1. Start by disconnecting the battery to the vehicle. You can find the battery in the trunk area in front of the passenger side tail light. You will use a 10mm socket to disconnect the Negative cable. Be sure to move the negative cable away from the negative post on the battery.
2. Open the hood and let the engine bay cool down if vehicle was recently running.
3. Once the engine bay has cooled, find the hood latch cable and remove the retaining clip. The clip will no longer be used.



Figure 1 Hood Latch Retainer clip

4. Using one of the 2 6mm bolts supplied in the kit, place the bolt through the mounting tab toward the cabin and into the hole that the hood latch retaining clip came out of.



*Figure 2 Slide bolt through Retainer clip hole*

5. Now align the breather to the fender well making sure it's evenly spaced to the inner fender.
6. Once the breather is in place with a bolt through the rear mounting tab and evenly spaced, you can use a paint marker to mark the hole in the front mounting tab.
7. Now remove the breather
8. Using a ¼ in drill bit, drill out the hole marked.
9. Using a lifting puck or block of wood you will need to jack up the front driver side of the car. Be sure to place the jack in the correct spot to avoid damage to the vehicle. If you have questions on where to place the jack, you can check your owners manual or consult the dealership.
10. Once the car is properly jacked up and you have a jack stand in place, you can remove the front driver side wheel.
11. Now you need to remove the inner fender liner to make access to the bottom of the breather bolts easier.
12. Place the breather back into place, lining up the 2 holes with the mounting tabs on the breather

13. Now slide one of the 6mm washers onto the 6mm bolt and Install the 2 6mm bolts (with one washer each) through the mounting tabs, front and rear. Make sure breather is aligned with the inner fender. Sometimes the mounting tabs need to be slightly bent to make the breather sit properly.



Figure 3 Both bolts installed and breather aligned

14. You will now install a 6mm washer, lock washer and 6mm nut onto the bottom of each bolt through the wheel well. Once both nuts are tightened and the breather is secure, you can reinstall the inner fender liner and the wheel.

15. Now that the breather is in place, you will prepare to start routing the hoses. First remove the 2 factory quick disconnect fittings from the front of each valve cover. You will no longer be using those PCV lines. They can be removed completely.



Figure 4 PCV line to remove. Cut quick disconnect from end that connects to dry sump



Figure 5 PCV line to remove from Driver side valve cover

16. When removing the passenger side PCV hose, you will disconnect it from the valve cover and then you will cut off the line at the dry sump tank. Be sure to cut this carefully. See figure 6 for example. Use a razor blade to cut the PCV hose.

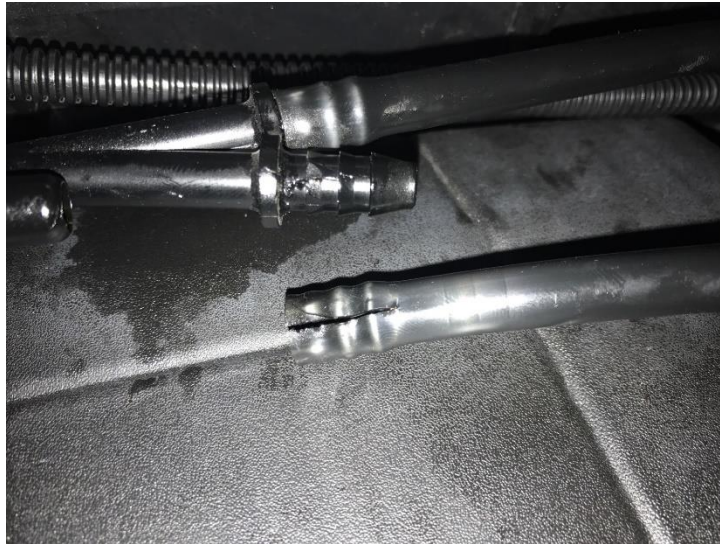


Figure 6 passenger side PCV hose cut from PCV barb

Once the 2 valve cover PCV lines have been removed you can now start to run and test fit your hoses. We will start with the 2<sup>nd</sup> port from the front. You will cut 25.5 inches off of the -10an 45\* hose supplied in the kit and install a -10an 45\* hose end to one end of that hose. Now screw the hose end onto the 2<sup>nd</sup> port from the front of the breather. Take the other end of the hose and route it under the intake near the throttle body to the passenger side valve cover. Once you have the hose routed to your liking, slide a 1 inch piece of the heat shrink (supplied in the kit), shown in figure 7, over the hose and install one of the quick disconnect fittings into the end of that hose. When you have the quick disconnect fitting installed on the hose you can slide the heat shrink to the end of the hose, with a slight over hang, see figure 8. You can now use a torch or lighter to heat the heat shrink (figure 9) and connect the quick disconnect to the passenger side valve cover.



Figure 7



Figure 8



Figure 9

17. Now to run the driver side breather hose which will use the first port ( -10an) on the breather closest to the front of the car. This hose will need to be cut to 8 inches long. You will then install the -10 45\* hose end to one end of that hose. Like the steps before, you will slide a 1 inch piece of heat shrink over the opposite end of the hose and then install the other quick disconnect fitting supplied in the kit. Once the QD fitting is installed properly you can slide the heat shrink up to the end of the hose with a slight overhang and apply heat to shrink. Once that hose is complete you can install it to the driver side valve cover barb. See **Figure 10** for example



Figure 10



Figure 11

18. **For LT1 cars only wet sump only**, the 3<sup>rd</sup> port, -6 bung will be for the connection on the valley cover. You will remove the quick disconnect from the PCV line running to the valley cover under the throttle body. You will then shave the barbs down on that fitting and install it in one end of the -6 black braided hose. You will install a -6an 45\* hose end on the other end of the hose and then screw that to the 3<sup>rd</sup> port on the breather.



Figure 12



Figure 13



Figure 14

**NOTE:** If you have a wet sump oiling system you will plug the last port and skip to the vent line routing next

**NOTE:** There are 2 different dry sump PCV hose routings. Depending on what model you have will determine how you need to run the breather line to the dry sump. We will cover both styles.

19. For C7 Z06 you will use the 3<sup>rd</sup> port to run to the dry sump and plug the 4<sup>th</sup> port as there is no valley cover to run a line to. For LT1 dry sump you will use the 4<sup>th</sup> port on the breather. You will connect the end with the hose end attached to the necessary port (3<sup>rd</sup> if Zo6, 4<sup>th</sup> if dry sump LT1) on the breather and route the hose behind the supercharger/intake manifold.



Figure 15 type 1



Figure 16 type 1

20. The routing of the PCV lines seen in figures 15 and 16 are pretty simple. On the passenger side of the engine compartment, right over the coolant reservoir and valve cover, you will find a Y in the PCV. One leg of the Y goes to the center of the valve cover. You will leave that one alone and remove the other side of the Y. That is where the breather line will plug into shown in Figure 16
21. If you have the new style of dry sump PCV lines the connection will be a bit different. We are now supplying a few extra pieces that were not previously included in the kit. You will still run the hose behind the intake/blower. You will find a Y in the PCV close to the dry sump tank. You will cut the right side line (closest to the front of the vehicle) off of the Y shown in figure 17 and 18



Figure 17



Figure 18

22. You will cut the Gates Hose now included in the kit about 5.5 inches along the straight leg and plug one side into the upper PCV line show in Figure 17. Secure the hose onto the PCV line with a hose clamp. The line from the breather will run to a black plastic T (included in the kit) connecting the straight piece of the gates hose you just cut and installed. Now the left over 90\* end of the gates hose will connect the short leg of the 90\* to the bottom of the T and the longer leg to the Y that you had cut the PCV from previously. See figures 17 and 18 for reference.



- 23.** Next you will use a vacuum cap to plug the forward port (closest to the front of the engine bay) on the dry sump tank. You can see it's the same port on either style of dry sump PCV routing. Examples of both styles shown below in **Figures 19 & 20**



Figure 19



Figure 20

- 24.** Now that you have completed all of the breather lines you are ready to run your vent line. This line will vent to atmosphere under the car. First, run the end of the hose without the fitting under all of the smaller connections at the breather. Get the hose about where you would like it to route and connect the -16an 90\* to the large fitting on the breather. Do not tighten yet. The Breather Vent can be run either above or below the smaller lines connected to the breather, that is up to you and your visual preference. The line will run along the inner frame rail/fender making its way under the driver side headlight. You can cut a hole slightly larger than the diameter of the hose in the lower splash guard under the bumper. Then run your vent line through the hole to vent to atmosphere.



Figure 21



Figure 22

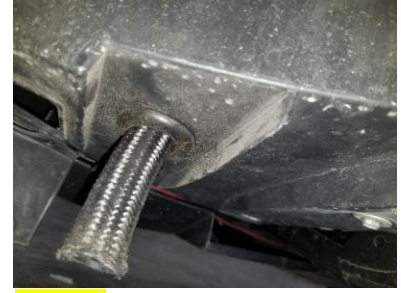


Figure 23

- 25.** Once you have completed routing the Vent line you can tighten it at the breather. Double check that all of your breather lines are tight and connected securely.
- 26.** You can now remove your jack stand and lower the car back down slowly and then slide the jack out and away from the car.
- 27.** When you are sure that all of your connections are complete and secure you can then hook the negative cable back up on your battery. Once that is done your install is complete.

