

'90-05 Miata Catch Can Installation

The TDR oil catch can kit consists of an oil-resistant black aluminum container with 3/8 inch (10 mm) and 7/16 inch (12 mm) fittings, air filter, mounting plate and braided hose. The catch can includes a dip-stick for checking oil level. Normally you would connect the catch can to your crankcase relief port on your valve cover. Optionally you can modify your PCV valve hose arrangement. If you need to drain oil from the catch can, the base reservoir threads off from the bottom. The air filter can be removed and cleaned if necessary.

Your crank case builds up high pressure with high RPMs and high boost. The catch can relieves the pressure to atmosphere instead of back into the intake. In lower power levels and a good solid motor, oil vapor is minimal, so a catch can may not be necessary, but good to have. In track or hard street use where you might be running long periods of high RPMs, the pressure can distribute oil and moisture out of the valve cover port. Oil accumulation in the intercooler or intake will hurt efficiency. For occasional track days or a dedicated track car, we strongly recommend the use an oil catch can.

The photo below is our TDR catch can setup. Please note; each kit comes with a mounting bracket dependent on the application. The catch can installs on either the brake proportioning valve or the brake booster. The M45/MP62 superchargers, turbos and normally aspirated setups should use the mounting bracket installed on the brake booster. However, you can mount this setup to the proportioning valve as well if the application will allow. In racing and high boost applications that require oil removal often, consider mounting on the right side fender area such as where the charcoal canister is mounted to allow the reservoir to be easily emptied.

The TDR Rotrex supercharger setup installs the supercharger reservoir on the brake booster. For this setup we install the catch can on the proportioning valve using the triangular SS plate for 90-00 models and the parallelogram SS plate for the 01-05 models. Please read the instructions in its entirety before starting.



Superchargers, Turbos and Normally Aspirated 90-05 Model

For clearances around the supercharger intake and turbo components, the catch can usually is mounted between the brake boost and the clutch master cylinder as shown in Photo 1-1. For normal aspirated and Rotrex superchargers the catch can is usually mounted on the proportioning valve location as shown in Photo 1-2.



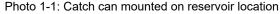




Photo 1-2: Catch can mounted on proportioning valve location

SECTION 1: Preparing the Catch Can

The catch can needs to have the aluminum barb fittings, mounting plate and filter installed.

- Remove the plug on top using an 8 mm Allen wrench as shown in Photo 2-1. There is an O-ring on the plug, be careful not to lose it.
- Install the plug into the left threaded port as shown in Photo 1-2.



Photo 1-1: Cap removed from top with Allen wrench



Photo 1-2: Cap installed on left side of catch can

- Locate the 3/8 inch (10 mm) aluminum barb fitting and install an O-ring as shown in Photo 1-3.
- Install the barb fittings on the side port as shown in Photo 1-4.
- Locate the 7/16 inch (12 mm) aluminum barb fitting and install an O-ring as shown in Photo 1-3.
- Install the barb fittings on the top port as shown in Photo 1-4.
- Remove the mounting clamp using a 4 mm Allen wrench as shown in Photo 1-5.
- Determine which location you are going to mount the catch can. The triangle SS mounting plate is angled to the left for the brake booster mounting as shown in Photo 1-1. The triangle SS mounting plate is angled to the right for the proportioning valve mounting as shown in Photo 1-2.
- Install the SS plate onto the mount using the 5 mm Allen bolts supplied with the nuts on the outside as shown in Photo 1-6.



- Reinstall the mounting clamp use the two M5 bolts with the 4 mm Allen wrench as shown in Photo 1-7.
- Install oil filter on the top barb fitting using the clamp supplied to secure as shown in Photo 1-8.





Photo 1-7: Mounting clamp installed with SS plate Photo 1-8: Oil filter installed

SECTION 2: 90-05 Models Installing Catch Can on Brake Booster

In applications where the catch can mounting at the proportioning valve is not applicable, you can install the catch can on to the brake booster. Location is between the clutch master cylinder and brake booster unit.

- The brake booster oil reservoir has an electrical connection with a plug fitting. Plug or unplug as necessary to place behind the catch can as shown in Photo 2-2.
- The brake lines on different models may require you to bend slightly for more clearance around the catch can.
- Remove the M8 nut using a M12 wrench from the brake booster as shown in Photo 2-1.
- Install the catch can using the outer hole onto the brake booster's 8 mm stud as shown in Photo 2-1.
- Reinstall the M8 nut.
- Hold upright and tighten the nut as shown in Photo 2-2.



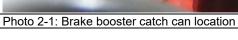


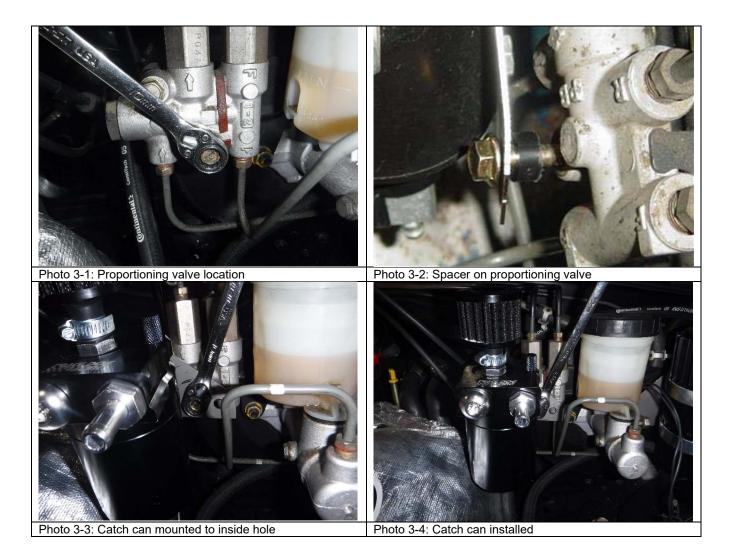


Photo 2-2: Catch can installed on brake booster

SECTION 3: 90-00 Models Installing Catch Can on Proportioning Valve

Installing the catch can on the proportioning valve offers more room to remove the bottom reservoir for draining. The early years, 90-93 uses only one bolt to hold the proportion valve to its mount, otherwise mounting is the same for all years.

- Remove the lower M6 bolt on the proportioning valve using a 10 mm wrench as shown in Photo 3-1.
- Locate the supplied M6 x 40 mm bolt and ½ inch spacer as shown in Photo 3-2.
- Install new bolt and spacer onto the SS plate mounted on the catch can and install into the proportioning valve as shown in Photo 3-2.
- The SS mounting plate has two mounting holes. Use the hole closest to the catch can as the first option. This will bring the catch can further inwards as shown in Photo 3-3.
- Straighten the catch can and tighten the M6 bolt as shown in Photo 3-4.



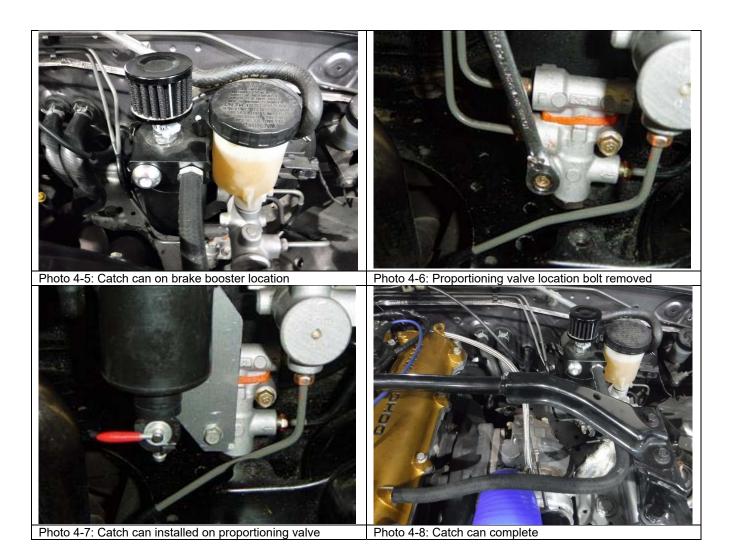
SECTION 4: 01-05 Models Installing Catch Can on Proportioning Valve

The 01-05 models use the parallelogram shaped SS plate as shown in Photo 4-1. The catch can has two location options for installing. The unit can be installed on the brake booster mounting bracket for a higher location or to the proportioning valve mount for a lower location.

- Begin with removing the mounting bracket from the catch can using a 4 mm Allen wrench.
- Locate the two 5 mm Allen bolts and nuts supplied.
- Install the bracket onto the SS plate with the nuts on the outside of the SS plate as shown in Photos 4-1 and 4-2.
- Reinstall the bracket onto the catch can as shown in Photo 4-2.
- If you are going to mount the catch can in the upper position, you will need to bend the bracket as shown in Photo 4-3 toward the back a little. You will also need to push the brake lines inwards toward the engine some for additional clearance. This bracket normally holds the cruise control fitting for the cable. You can remove the plastic fitting and leave the cruise cable loose.



- With all the fittings installed on the catch can from Section 1, install the unit onto the brake booster 8 mm stud. Start with your fingers to install the nut and then use a 12 mm open/boxed wrench to tight the nut as shown in Photo 4-4. It works easiest to leave at an angle while tightening and then push up straight on the final tightening of the nut.
- When complete the catch can should look like Photo 4-5.
- Mounting the catch can to the proportioning valve requires the lower bolt removed as shown in Photo 4-6.
- Mount the assembled catch can to the proportioning valve using the M6 x 40 mm bolt supplied.

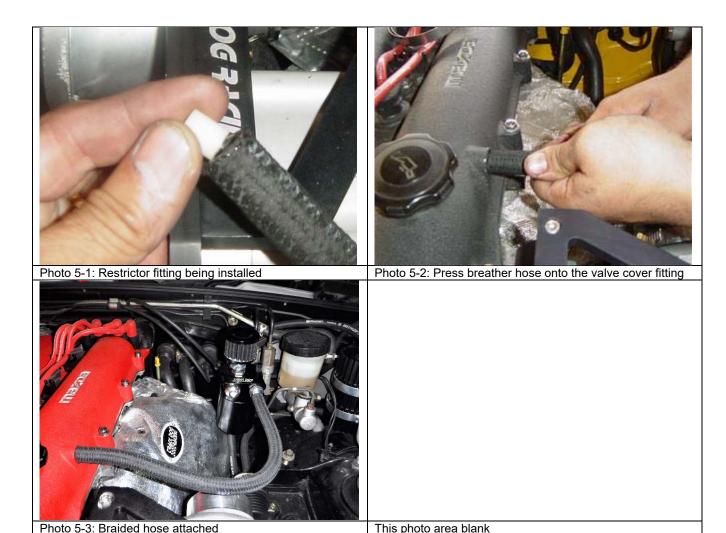


SECTION 5: 90-05 Model Installing the Braided Hose

The braided hose is 24 inches in length and expected to be cut to length per your installation.

- Lay out the braided hose and cut to length using a knife cutter to fit between the valve cover and the catch can port.
- After trimming the braided hose to length, consider burning the frayed threads with a cigarette lighter.

- Locate the black plastic restrictor (white in the photo) included in the kit. Press the restrictor into the end of the braided hose closes to the valve cover port as shown in Photo 5-1.
- Press the braided hose onto the catch can and on to the valve cover port as shown in Photo 5-2. Lube hose if necessary.
- Make sure the braided hose is not in a position where it can get damaged from heat.



SECTION 6: 90-05 Servicing the Catch Can

As your crank case increases in RPMs the crank case pressure increases. Normally only oil vapor comes through to the catch can. However, in high boosted applications and or weak cylinder rings, this will increase crank case pressures and push excessive oil into the catch can.

- The catch can oil level can be checked by unthreading the oil dip stick as shown in Photo 6-1.
- The marks on the dip stick help show the level as shown in Photo 6-2.
- The bottom reservoir unthreads from the base as shown in Photo 6-1. There is an O-ring at the threaded section to seal the reservoir.

- Depending on where the catch can is mounted, you may not have an easy access to removing the reservoir. In this car you would have to unbolt the unit to empty. If your forced induction setup pushes a lot of oil into the catch can then consider changing the location for easier accessibility.
- The oil filter can be removed and cleaned with any cleaning solvent.



We hope you will be pleased with our product. If at any time you need assistance, please contact us by phone or email us at support@trackdogracing.com.