



# INSTALLATION INSTRUCTIONS

## MASTER CYLINDER BRACE & Optional Fuel Filter Mount

Document: 19-0186

Support: info@radiumauto.com

**Installation for the following LHD vehicles**

02-07 Subaru Impreza

97-08 Subaru Forester

05-06 Saab 9-2X

Not compatible with RHD

### CAUTION

Only a qualified technician following applicable safety procedures should perform the installation of this product. One must have knowledge in repair and modification of fuel systems and general vehicle modifications to install this product.

**Gasoline and other fuels are flammable and can be explosive.**

Only install in a well-ventilated location to minimize buildup of fuel vapors.

No sparks, open flames, smoking or other ignition sources are to be present. Draining and removal of all fuel from the fuel system is recommended.

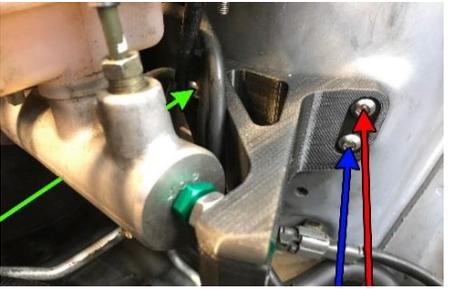
Proper eye and personal protection is required at all times during installation.

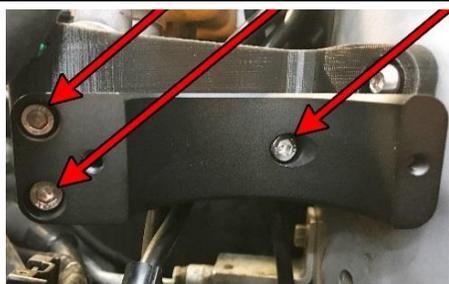
### WARNING

The fuel system is under pressure! Do not loosen any connections until relieving the fuel system pressure.

Consult a service manual for instructions on relieving fuel pressure safely. This product is designed for off-highway and racing use only.

Fuel system components may not be legal for sale or use on emissions controlled motor vehicles. Consult local, state, and federal laws.

STEP	TOOLS NEEDED	INSTRUCTIONS	PHOTO
1	10mm socket	<p><b>Radium 20-0353 Master Cylinder Brace Installation</b></p> <p>For early models, remove the 2 bolts that secure the washer fluid reservoir to the front strut tower. Pull the reservoir up and out. For late models with secondary air injection, move the pump up and out of the way for extra working room. For early models that have an external fuel filter on the LH strut tower, release the clip to disengage half of the fuel filter clamp. Pull the filter up and out of the way.</p> <p>Unless the Radium fuel filter kit will be installed, it is not necessary to disconnect, cut, or remove any fuel lines.</p>	
2	10mm socket	<p>The 2 bolts on the LH strut tower will be visible. With your hand, follow the attached lower bracket inwards and disconnect the battery cable harness clip from the bracket.</p> <p>Remove the two M6 bolts with a 10mm socket wrench. The lower bracket will not be reused. The upper bracket will be reused unless the Radium fuel filter will be installed.</p> <p>Next, remove windshield washer fluid line plastic clip (shown) from the strut tower sheet metal.</p>	
	Pliers		
3	4mm Allen Wrench	<p>The brace will slide in between the vertical master cylinder brake line and the strut tower sheet metal.</p> <p>NOTE: the threads might need to be cleaned with a M6x1mm tap.</p> <p>Install the brake master cylinder brace using the included hardware, as shown.</p>	
4	13mm wrench	<p>Thread the green bolt by hand until it is touching the master cylinder. Add some preload to the green bolt, then lock in place by tightening the nut.</p> <p>NOTE: Using thin-head wrenches will make this easier.</p> <p>Using the included cable zip-tie, secure the battery cable harness from the hole in the brace in a manner that prevents adjacent part chafing. Reinstall components in reverse order.</p> <p><b>Master Cylinder Brace Installation Complete</b></p>	
	1/2" wrench		

5	Phillips screwdriver	<b>Radium 20-035X-0X Fuel Filter Kit Installation</b> To depressurize the fuel system, remove the 4 Phillips head screws and lift off the fuel pump access cover. Squeeze the tab and unplug the white wiring connector. Start the engine and allow it to stall.  Remove the key from the ignition. Unscrew the gas tank filler cap temporarily to relieve any residual pressure.  Disconnect the negative terminal of the battery.	
	10mm socket wrench		
6		Late model Subarus have secondary air injection. Not discussed here, but the air pump (yellow arrow) will need to be permanently deleted.  This next procedure will vary depending on the model year as there is a diversity of Subaru fuel feed line configurations. Some have a fuel pulse damper (green arrow) and/or a fuel filter (shown in following picture) in the center of the fuel feed line. Some use SAE quick connectors while some use barb connections, etc.	
7	Phillips screwdriver	Completely remove the OEM rubber fuel feed that runs from the firewall to the intake manifold. Out of the 3 lines that are bundled together, the feed line should be the bottom line near the firewall but the top line at the intake manifold/fuel rail connection point.  Notes for early model Subarus only: 1. Use a Phillips head screwdriver to release the line. 2. Because the fuel feed hard line near the firewall is not secured to the unibody, it can be easier to simply make a slit in the rubber hose in order to remove it from the barb.	
	Cutters		
8	SAE Tool	For late model Subarus only:  First fully insert the provided SAE quick connect tool inside the yellowish-green locking tab, as shown.	
9	SAE Tool	For late model Subarus only:  Next, push the OEM fitting further into the OEM pipe, then push the SAE tool in as far as it allows. To release, immediately pull the OEM fitting off the OEM pipe. This may take a couple of tries.	
10	4mm Allen wrench	Follow all master cylinder brace installation instructions above.  Find the provided fuel filter clamp in the kit. Install the three M5 bolts through the lower fuel filter clamp to the master cylinder mount, as shown.	

11	1" wrench	<p>The fuel filter inlet and outlet ports are threaded for -10AN ORB (7/8"-14 O Ring). DO NOT USE ANY TYPE OF THREAD SEALANT ON ADAPTER FITTING THREADS. Generously lubricate the provided adapter fitting O-rings and tighten in place. NOTE: an aluminum wrench will prevent surface finish marring.</p> <p>For proper flow direction, the BLACK end cap signifies the filter INLET and the GREEN end cap indicates the filter OUTLET. The GREEN cap also denotes the end to remove for servicing the filter element.</p>	
	Light oil		
12	4mm Allen wrench	<p>Loosely install the upper (front) fuel filter clamp using the 2 provided M5 bolts. Slide the fuel filter into place with the green cap down.</p> <p>Next, temporarily install the included 90 degree PushLok hose end to the top fuel filter inlet fitting and the 120 degree PushLok hose end to the bottom fuel filter outlet fitting.</p>	
13	7mm nut driver	<p>Cut the provided EFI hose to 15" and 9". The short hose will route from the firewall. The long hose will route to the fuel rail.</p> <p>For late model Subaru, use the SAE barb fittings. NOTE: The included EFI clamps will need to be loosened before securing the connection. Lightly lubricate the OEM SAE hard lines and then fully insert the included Radium SAE fittings on until a "click" is felt.</p> <p>For early Subaru models, simply install each hose to the OEM barbs and secure using the provided EFI clamps.</p>	
	Light oil		
	Hose cutter		
14	Light oil	<p>NOTE: For aftermarket fuel rails, there is an extra 90 degree hose end that may be used depending on the fuel system setup.</p> <p>Cut the provided fuel hose to length for both pre filter and post filter lines. It is not uncommon to remove a few inches from each hose.</p> <p>To install the PushLok hose ends to the included fuel hose, first lubricate the barbs. Push together until the hose is fully seated, as shown. NOTE: Hose clamps are not necessary for PushLok hose ends.</p>	
	Hose cutter		
15	7mm nut wrench	<p>If originally equipped in the fuel feed line, it is recommended to reinstall the OEM fuel pulse damper (shown) anywhere along the new fuel feed hose.</p>	
16	4mm Allen wrench	<p>Slide the filter up or down through the clamp until the hoses are routed without kinking. When the proper height is achieved, tighten the two clamp screws, being careful to not over tighten the fuel filter clamp. Tighten the hose ends to their respective ports using a nonmarring 11/16" (6AN) aluminum wrench.</p> <p>NOTE: Depending on the Subaru model/year, the washer fluid reservoir may need to be relocated.</p> <p>Start the engine and check for any leaks. <b>Installation Complete</b></p>	
	11/16" wrench		