INSTALLATION INSTRUCTIONS

FUEL PULSE DAMPER KIT

MKIV SUPRA (JZA80)

Document: 19-0180

Support: info@radiumauto.com

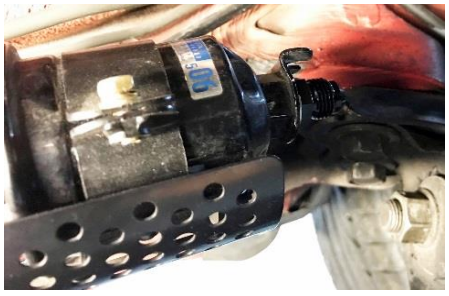
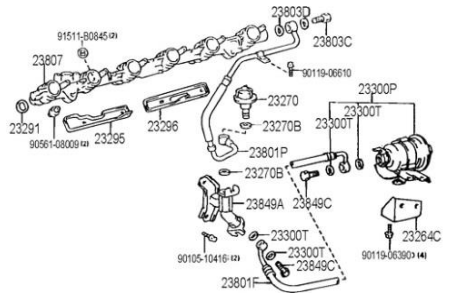
Working under the vehicle is required.
This installation is best performed with the vehicle raised on a lift.
If a lift is not available, be prepared to raise and safely support the vehicle.
When installing any part which has an O-ring, lubricate with light oil.

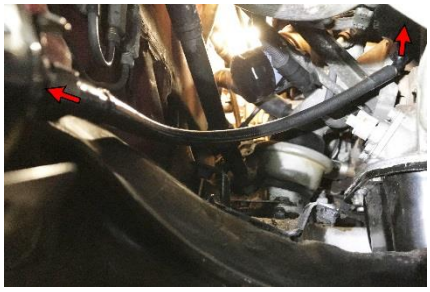
CAUTION

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	Open the trunk. Unclip and remove the trunk cover, carpet, and spare tire. To uninstall the fuel tank access cover in the center of the trunk, remove the 6 perimeter nuts.	
2	10mm Socket	To depressurize the fuel system, first squeeze the tab and unplug the gray wiring connector on top of the pump housing (shown). 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. Pop the hood and disconnect the battery's negative terminal. CAUTION: Disconnecting the battery may cancel fault memories of some control units. Consequently, before disconnecting the car's battery, always interrogate any fault memories.	
3	17mm Socket 19mm Wrench 5/8" (16mm) Wrench	Safely lift and secure the vehicle. Find the fuel filter just left of the transmission. Not necessary, but it is a good idea to inspect and potentially replace the OEM fuel filter. Toyota P/N: 2330049195. On the fuel filter outlet, use a 17mm socket breaker bar on the banjo bolt and a 19mm wrench on the fuel filter inlet hex. Be prepared with a rag as fuel will leak out of this connection. Install the included crush washer and adapter fitting to the filter outlet. NOTE: Aluminum wrenches will prevent surface finish marring.	
4	17mm Wrench 10mm Wrench 12mm Wrench	From the engine bay, remove the fuel rail feed line banjo bolt (23803C). Using a 10mm wrench, remove the M6x1mm bolt (90119-06610) that secures the fuel line to the intake manifold. This will not be reused. Using a 12mm wrench, remove the two M10x1.25mm bolts (90105-10416) that secure the fuel pulsation damper housing (23849A) to the engine block.	

5		In one piece, pull the fuel feed line out of the vehicle. This will include everything from the fuel filter outlet banjo to the fuel rail inlet, as shown.	
6	7/8" (22mm) Wrench Teflon Paste 3/16" Allen Wrench 5mm Allen Wrench 10mm Wrench 11/16" Wrench Light Oil	Lubricate the O-rings and install the 6AN adapter fittings to the 8AN ORB fuel pulse damper ports. Apply PTFE thread sealant paste to the provided plug threads and install into the 1/8" NPT port. Using the included M6 bolts and nuts, install the mounting bracket to the fuel pulse damper body. Find the hose in the kit which has straight and 180 degree hose ends. Install the straight hose end on the assembly, as shown.	
7	12mm Socket	Orientate the fuel pulse damper assembly so the attached hose is up. From underneath the vehicle, lift the assembly upwards right along the engine block and direct the 180 degree hose end between the cylinder 4 and 5 intake manifold runners. Secure the 2-bolt assembly bracket reusing the OEM fuel pulse damper mounting bosses (shown). NOTE: The two OEM M10x1.25mm bolts are Toyota P/N: 90105-10416.	
8	11/16" Wrench	Find the other hose which has straight and 45 degree hose ends. Install the 45 degree hose end on the fuel pulse damper lower inlet port. Install the straight hose end on the fuel filter outlet fitting, as shown.	
9	5mm Allen Wrench	Note how the fuel hose is plumbed near the engine block, through the intake manifold runners and away from the fuel rail. Use the included rubber-cushioned P-clamp and M6 bolt to secure the fuel hose to the intake manifold boss between cylinder 5 and 6. NOTE: The P-clamp can be rotated 180 degrees from the position pictured.	
10	5/8" (16mm) Wrench 7/8" (22mm) Wrench Light Oil	To connect the 180 degree hose end to the fuel rail rear port, 1 of the 2 provided 6AN fittings will need to be installed to the fuel rail. The metric fitting (shown left) is required for the OEM side feed fuel rail. The 8AN ORB fitting (shown right) can be used on aftermarket fuel rails that use a 3/4-16 threaded 8AN ORB rear port. Before installing, lubricate the integrated O-ring.	

11	5/8" (16mm) Wrench 11/16" Wrench	If installing the metric adapter fitting to the OEM fuel rail, be sure to use the included crush washer, as shown. Next, install the 180 degree hose end to the rear fuel rail 6AN fitting.	
12	5mm Allen Wrench	If a top feed fuel rail with tall fuel injectors is being used, the P-clamp can be orientated as shown.	
13	5mm Allen Wrench	If the OEM side feed fuel rail or a low profile top feed fuel rail is being used, the P-clamp can be rotated as shown.	
14		If total fuel pressure will exceed 70psi, a vacuum hose must be connected from the fuel pulse damper barb to the intake manifold for optimal efficiency. If vented to atmosphere, run a vacuum hose away from hot components such as the engine or exhaust system. Reinstall all components in reverse order. Turn the key to the ON position and check for leaks. Start the engine and recheck for leaks. **INSTALLATION COMPLETE**