INSTALLATION INSTRUCTIONS
LINE RETAINING KITS
NISSAN

Document: 19-0243
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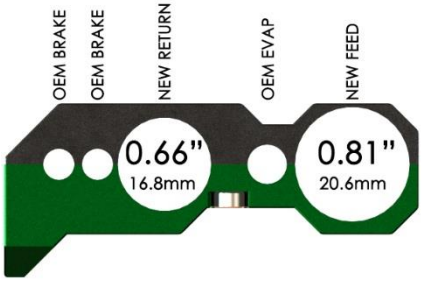
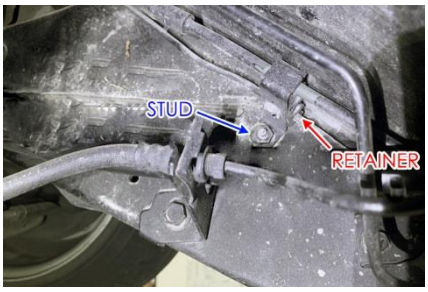
CAUTION

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.

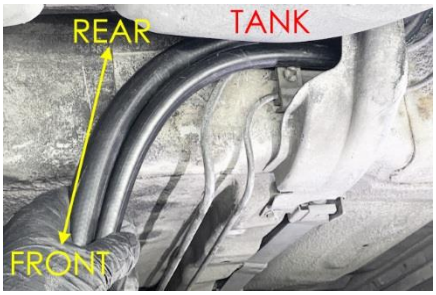
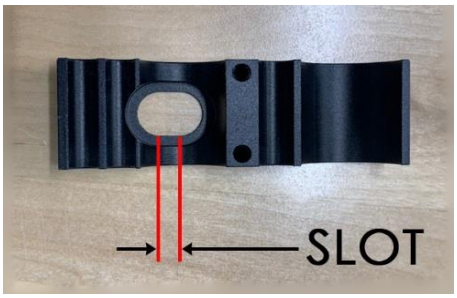
WARNING

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		Reference the factory service manual to find the location of the OEM fuel tank for the specific Nissan application.	
2		Unplug the fuel pump. If there are 2 connectors (as shown), both can be removed.	
3		To depressurize the fuel system, 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.	
4	10mm Socket Wrench	Disconnect the battery's negative terminal. CAUTION: Disconnecting the battery may cancel fault memories of some control units. Consequently, before disconnecting the battery, always cross examine any fault memories. Safely raise the vehicle with a proper lift.	

5		Note that Nissan vehicles do not always use the same hard lines. Some Nissans use high capacity actively controlled steering (HICAS). The Radium Engineering retatiner kit is not compatible with HICAS lines. The "OEM BRAKE" slot pictured on the far left, is not common and will likely remain open. The "NEW RETURN" and "NEW FEED" slots are designed around Radium Engineering 3/8" (-6AN) and 1/2" (-8AN) fuel hoses respectively.	
6		Note that there are 8 retainers provided in the kit with 4 different styles. Only 7 or 8 (depending on vehicle) of the OEM retainers will be replaced. These retainers run down the center of the vehicle. The other OEM retainers will remain in the vehicle. Before removing any of the retainers, first disconnect the rubber fuel feed and fuel return hoses from each end of the hard lines.	
7	10mm Socket Wrench	Starting from underneath the front of the vehicle, there is a retainer underneath the fuel filter that holds the fuel feed and fuel return hard lines. These are different depending on the vehicle (R33 Skyline shown).	
8	10mm Socket Wrench	Unscrew the M6x1mm hex bolt and pry the hard lines from the retainer (S13 Silvia shown).	
9	10mm Socket Wrench	Moving towards the rear, find the next retainer. On some vehicles, there is a stud that protrudes through the retainer and a nut secures it to the unibody, as shown. If this is the case, this OEM retainer will be reused for the EVAP and brake lines. However, the 2 fuel lines will still need to be removed from the holders. NOTE: If the vehicle still uses the long OEM clutch damper hard line, lowering it out of the way can help the following process. Remove the 2 mounting bracket bolts then pull the lines from the unibody.	
10	Flat Blade	Following the hard lines towards the rear of the vehicle, unsnap the next 7-8 retainers. The simple retainer type shown secures the lines together. Many times it does not interface with the unibody (S13 Silvia shown).	

11	Flat Blade	Shown is the R33 Skyline version of the same style retainer. However, there is another OEM retainer that looks identical to this. The difference is it's flipped upside down and is pressed into the unibody. Simply pry it loose to unclip it from the floor board.	
12	10mm Socket Wrench	The retainer type shown secures to the unibody with a M6x1mm hex bolt.	
13	10mm Socket Wrench	The retainer type shown is not common with all compatible vehicles. NOTE: If the vehicle does not have the OEM retainer shown, only 7 of the 8 Radium Engineering retainers will be used. One of the retainers will NOT be used.	
14		Depending on the chassis, a couple of OEM retainers near the fuel tank will be reused. These are either too difficult to reach with the fuel tank installed or they are in a location not suitable for the large replacement fuel hoses to reside. Pictured are all 8 potential OEM retainers that will be replaced.	
15	Crow Bar	Remove the OEM fuel feed and fuel return hard lines from the vehicle. NOTES FOR NISSAN R33/R34/S14/S15: 1. There are retainers on the RH side of the fuel tank. They are not easy to see visually. One retainer is attached to the side of the fuel tank and secures the soft fuel lines. The other retainers secure to the unibody. 2. From the rear of the vehicle, slide a long bar between the unibody and RH side of the fuel tank. Gently pry the fuel lines to release. 3. After removing the feed and return hard lines, reinstall the brake and EVAP hard lines into the OEM retainers that will be reused.	
16		When installing fuel hoses (not included), start from the rear and move forward. Route the fuel hoses in the similar manner as the OEM hard lines. It is recommended to pull the hose down in "loops" (as shown) and strategically reinsert them into areas along the unibody away from the exhaust and suspension. NOTE: There will be sections that get very tight.	

17		For the R33/R34/S14/S15, run the hose past the RH side of the gas tank and pull them down relieving any excessive slack. NOTE: the retainer shown is the last OEM retainer that will be reused moving forward.	
18	2.5mm Allen Wrench 5mm Allen Wrench	Starting from the rear of the R32/S13 and moving forward, the first replacement retainer that will be used is pictured.	
19		Find the one black retainer in the kit that has a machined slot as depicted.	
20		Find the rubber push-in plug in the kit shown.	
21	Drill	Find the hole in the unibody where the one OEM retainer pressed into the floor board. Without fully inserting, test to see if the rubber plug will fit snug in the hole. If too tight, this hole might need to be slightly enlarged. WARNING: Do not use a drill larger than 21/64" (or 8.25mm).	
22		Lineup the slotted retainer to the hole as shown.	

23		Press the rubber plug into the hole, as shown.	
24	4mm Allen Wrench	There is one 2-way retainer that uses a M6x1mm countersink bolt. This will be installed closest to the front of the vehicle (under the fuel filter).	
25	2.5mm Allen Wrench Thread Locker	Find the locations where the OEM retainers did not secure to the unibody. Secure the lines with a retainer in these areas. Secure all small screws with a medium-strength thread locker.	
26	Cutters	To secure the hoses away from the exhaust and/or moving parts of the suspension, use the provided cable zip-ties.	
27	10mm Socket Wrench	If the OEM clutch damper hard line (shown) was dropped down, the mount can now be reinstalled and secured.	
28	5mm Socket Wrench Thread Locker	**<u>20-0627 HICAS LINE RETAINER KIT, NISSAN</u>** NOTE: Because the 2 HICAS lines are rigidly secured to the chassis in the front and the rear, they do not need to be secured to the unibody. Equally space all 5 clamps as shown. Apply a medium strength thread locker and secure using the provided M6x1mm bolts.	

29	10mm Socket Wrench	After all necessary parts are installed (not included), reconnect the battery. Switch the ignition to the ON position to pressurize the fuel system. Check for leaks. If no leaks are found, start the vehicle. NOTE: The engine may run rough for a few seconds until all air is bled from the fuel system. Recheck for leaks. **INSTALLATION COMPLETE**