



INSTALLATION INSTRUCTIONS

FUEL HANGER / DUAL PUMP ADD-ON

HONDA DEL SOL

Document: 19-0349

Support: info@radiumauto.com

COLOR LEGEND FOR EACH STEP

FUEL PUMP HANGER: 20-3790 / 20-3792

Follow YELLOW areas ONLY

DUAL PUMP ADD-ON: 20-3796 / 20-3797

Follow YELLOW and GREEN areas

FUEL HANGER PLUMBING KIT: 20-3795

Follow ORANGE areas

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.



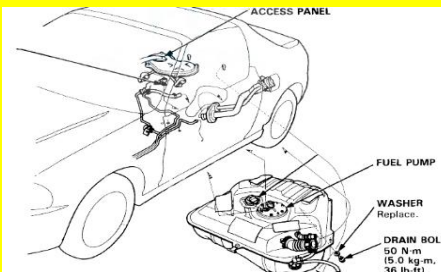

Proper eye and personal protection is required at all times during installation.


WARNING

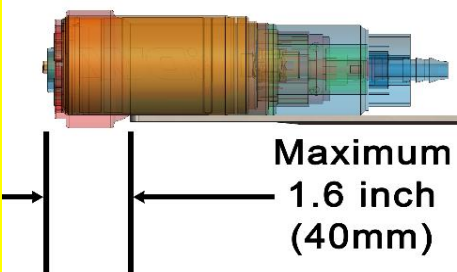
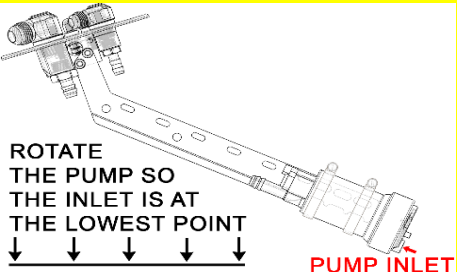
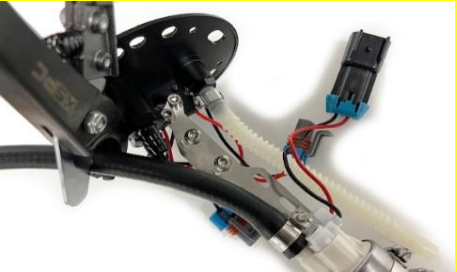
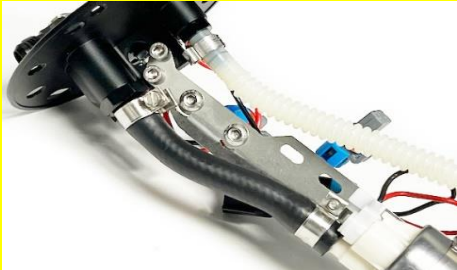


The fuel system is under pressure! Do not loosen any connections until relieving the fuel system pressure.


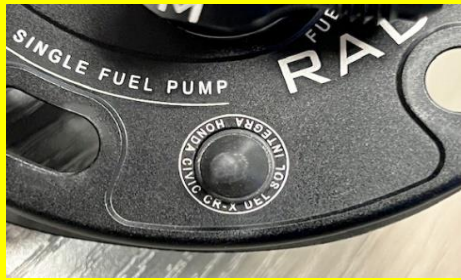


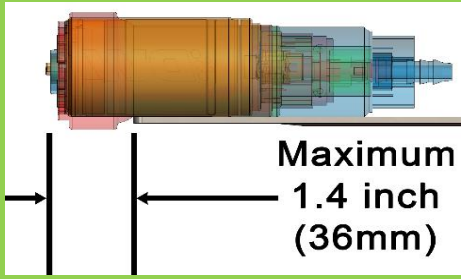

Consult a service manual for instructions on relieving fuel pressure safely. This product is designed for off-highway and racing use only.







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	Jack Stands	Safely lift the vehicle. Place a large container under the fuel tank.	
	Fuel Jug	Remove the plug and drain all the fuel.	
	17mm Socket Wrench	Inspect the crush washer. Replace if necessary. Reinstall and torque the drain plug to 36 lb-ft (50 Nm).	
	Torque Wrench		
		To relieve fuel pressure, start the car and allow the engine to stall.	
2	10mm Socket Wrench	Remove the negative battery terminal.	
		CAUTION: Disconnecting the battery may cancel fault memories of some control units. Consequently, always cross examine any fault memories prior to disconnecting.	
3	Honda FSM	Reference a Honda factory service manual for removing interior pieces and accessing the OEM fuel pump.	
	Rag		
	Pliers		
	17mm Socket Wrench	Pry up on the rubber fuel pump power connector cover. To disconnect, squeeze the electrical plug lock and pull away.	
	Phillips Screwdriver	Squeeze the OEM spring clamp and carefully pull the rubber hose off. Remove the banjo fuel feed fitting connection. Catch and properly dispose any spilled fuel.	
4	10mm Socket Wrench	Remove the six M6x1mm perimeter mounting nuts. These flanged nuts will NOT be reused. CAUTION: For safety, avoid using power tools near fuel.	
	Rag		
		To remove the OEM fuel pump assembly, first pull up. Next, pivot back and forth to get the fuel pump sock filter out of the tank. Have a rag handy for spills.	




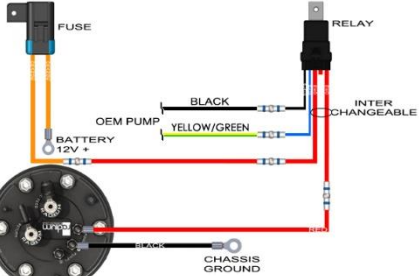


5		Transport the fuel pump assembly to a workbench.	
		NOTE: The parts removed from the vehicle will look as shown.	
6		Carefully pull the large fuel tank gasket from the fuel pump assembly. Inspect and replace if necessary.	
		Genuine Honda P/Ns: 17574-SE0-000 or 17574-SV1-L01	
		No other parts from the OEM fuel pump assembly will be reused (beside wiring in a later step).	
7	1/4" Allen Wrench	20-3796 / 20-3797 INSTALLATION ONLY	
	Oil Lubrication	Radium Engineering fuel pump hangers come ready for single pump installation. Follow the areas below in green ONLY if installing 2 pumps.	
	16mm Wrench		
		For dual fuel pump applications , remove the 6AN ORB port plug in the second pump port. Install the included 6AN ORB SAE quick connect fitting. Be sure to lubricate the O-ring first.	
8	4mm Allen Wrench	20-3796 / 20-3797 INSTALLATION ONLY	
	10mm Socket	For dual fuel pump applications , temporarily remove the single pump bracket. Install the two M6x1x20mm button head Allen head screws into the bracket in the direction shown. Secure using the provided M6x1mm flange nuts.	
		Reinstall the single pump bracket to the fuel hat. NOTE: There are three M5x0.8mm threaded holes. As shown, be sure to use the 2 "green" holes. Do NOT use the "red" hole.	
9	3/8" Wrench	20-3796 / 20-3797 INSTALLATION ONLY	
	3/8" Socket Wrench	For dual fuel pump applications , find the wire connector in the kit. Connect the red wire to "PUMP2+" and the black wire to "PUMP2-".	
		NOTES:	
		1. As depicted, these wires must be strategically oriented to not interfere with other wires or the fuel tank gasket (when installed).	
		2. Carefully bend the ring terminals, as shown.	
		3. If the provided connector does not work for your pump, install the included ring terminals to the wires provided with the pump.	
10	Oil Lubrication	Lubricate the fuel pump outlet barb. Gently apply force until the provided rubber submersible hose is fully seated.	
	9/32" Nut Driver		
		Place an EFI clamp over the barb and secure the hose, as shown.	



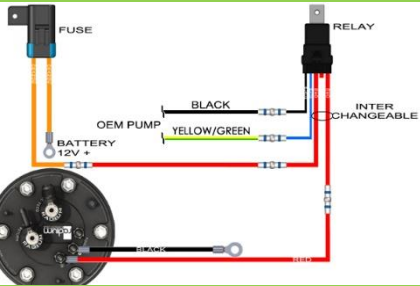
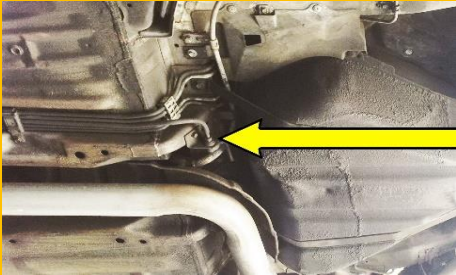


11		Place the fuel pump down at the end of the bracket allowing it to slightly overhang.	 <p>Maximum 1.6 inch (40mm)</p>
12	Screwdriver	Use this picture to determine the proper side of the bracket the fuel pump should be located.	 <p>ROTATE THE PUMP SO THE INLET IS AT THE LOWEST POINT</p> <p>PUMP INLET</p>
13	Hose Cutter	From the pump, route the submersible hose towards the "PUMP1" barbed banjo fitting under the fuel hat.	
14	Oil Lubrication	Place one of the provided EFI clamps over the hose.	
	9/32" Nut Driver	Lubricate the barbed fitting, then fully seat the hose.	
15	Wire Stripper	Notes if installing a brushless fuel pump:	
	Wire Crimper	1. Because they use 3-4 wires, only 1 brushless pump can be used.	
	Heat Gun	2. A flying lead pump harness (not included) is required. This is typically provided by the pump manufacturer.	
		3. Install the included ring terminals and heat shrink as shown.	
		4. When securing to the fuel hat terminals, reference the "RED" "GREEN" "WHITE" "BLACK" fuel hat labeling for "BRUSHLESS SINGLE FUEL PUMP".	
		If your brushless fuel pump kit does not use these exact wire colors, document this discrepancy for cross referencing later.	
16	Cutter	Plug in the electrical connector for "PUMP1".	



17		Install the sock filter onto the fuel pump inlet.	
		NOTE: Large filter socks, which have a rigid internal "skeleton" insert are not recommended.	
18		Note the 3 rubber indicators on the OEM fuel tank gasket. For proper orientation, lineup the largest rubber indicator to the "HONDA CIVIC CR-X DEL SOL INTEGRA" label etched into the fuel hat. As shown, push the rubber indicators through the fuel hat to lock the gasket in place.	
		Now check if there is sufficient clearance for the installed components under the fuel hat. If needed, readjust any components that could be an issue.	
19	10mm Socket Torque Wrench	For single fuel pump applications , lower the fuel pump assembly into the fuel tank.	
		As shown, lineup the mounting holes to the 6 fuel tank studs. NOTE: Because of hole spacing, it can only go on 1-way.	
		Secure the pump assembly to the fuel tank studs using the provided M6x1mm flanged nuts. Torque to 48 lb-in.	
20	Oil Lubrication Heat Gun 9/32" Nut Driver	20-3796 / 20-3797 INSTALLATION ONLY For dual fuel pump applications , assemble the loose convoluted tubing to the provided female SAE quick connect fitting (shown). Secure using the provided EFI clamp.	
21		20-3796 / 20-3797 INSTALLATION ONLY For dual fuel pump applications , lay the second pump onto the provided stainless steel "PUMP2" bracket. When securing, do not exceed the dimensions shown. NOTE: Because of the architecture of the OEM fuel tank, pump1 sits 4mm lower than pump2.	
22		20-3796 / 20-3797 INSTALLATION ONLY For dual fuel pump applications , use this picture to determine the proper side of the bracket the pump should be located. Orient "PUMP2" like "PUMP1" where the fuel pump inlet port is at the lowest point.	

23	Oil Lubrication	20-3796 / 20-3797 INSTALLATION ONLY	
	Heat Gun	For dual fuel pump applications , assemble the convoluted tubing to the fuel pump outlet before installing to the bracket. Secure using the provided EFI clamp.	
	9/32" Nut Driver		
	Screwdriver		
		Wrap 2 of the large worm-drive clamps around "PUMP2" and tighten to the bracket.	
24		20-3796 / 20-3797 INSTALLATION ONLY	
		For dual fuel pump applications , install the sock filter onto the fuel pump inlet.	
		NOTE: Large filter socks, which have a rigid internal "skeleton" are not recommended.	
25		20-3796 / 20-3797 INSTALLATION ONLY	
		For dual fuel pump applications , the "PUMP2" connector can now be permanently plugged in.	
26	10mm Socket	20-3796 / 20-3797 INSTALLATION ONLY	
		For dual fuel pump applications , "PUMP2" will be secured to the main assembly while inside the tank. Temporarily configure the dual pump assembly outside the tank. This will educate the installer to how everything mates together.	
		Now separate the 2 assemblies. The convoluted tubing and wiring should be the only 2 things holding them together.	
27		20-3796 / 20-3797 INSTALLATION ONLY	
		For dual fuel pump applications , first insert the "PUMP2" assembly into the tank. Next, insert the "PUMP1" assembly. NOTE: At this time, both pumps MUST BE residing in the OEM collector bowl at the bottom of the tank. This is very difficult!	
		Pull both assemblies out just enough to insert the "PUMP2" bracket holes over the "PUMP1" studs, as shown.	
28	10mm Socket	20-3796 / 20-3797 INSTALLATION ONLY	
		For dual fuel pump applications , first secure the upper "stud" using one of the included M6x1mm flange nuts, as shown.	
		NOTES: 1. Because these M6x1mm flange nuts are steel, a magnet can retrieve them if accidentally dropped. 2. Reconfirm both fuel pumps are in the collector bowl.	

29	10mm Socket	<u>20-3796 / 20-3797 INSTALLATION ONLY</u>	
		For dual fuel pump applications , manipulate the assembly around the tank by pulling, rotating, and twisting the fuel hat until there is access to the lower "stud". This is very difficult!	
		Secure the lower "stud" using the included M6x1mm flange nut, as shown.	
30		<u>20-3796 / 20-3797 INSTALLATION ONLY</u>	
		For dual fuel pump applications , carefully push the slack from the convoluted tubing inside the fuel tank along with the fuel pump wiring connector.	
		NOTE: This is very difficult! Because this will take some manipulation, be careful not to chafe the wires or tubing.	
31		<u>20-3796 / 20-3797 INSTALLATION ONLY</u>	
		For dual fuel pump applications , lower the entire assembly down into the fuel tank making sure both pumps reside inside the factory collector bowl.	
		NOTE: This cutaway picture shows how the pump assembly would look if it were visible.	
32	10mm Socket	<u>20-3796 / 20-3797 INSTALLATION ONLY</u>	
	Torque Wrench	For dual fuel pump applications , lineup the 6 mounting holes to the 6 fuel tank studs. NOTE: Because of hole spacing, it can only go on 1-way.	
		Secure the pump assembly to the fuel tank studs using the provided M6x1mm flanged nuts. Torque to 48 lb-in.	
33	Oil Lubrication	<u>20-3795 INSTALLATION ONLY</u>	
		In the "FUEL PUMP FEED" port, a 6AN male fitting is preinstalled. The provided 3/8" (6AN) hose, adapters, and hose ends will replace the short OEM banjo fuel feed line.	
		First, lubricate the barbs on the 90 degree 6AN PushLok hose end. As shown, fully seat this hose end into the 3/8" (6AN) hose. NOTE: PushLok hose ends do NOT require clamps.	
34	11/16" Wrench	<u>20-3795 INSTALLATION ONLY</u>	
		As shown, rotate the "FUEL PUMP FEED" 6AN banjo fitting and install the 90 degree hose end. Now route the new fuel feed hose down under the car in front of the fuel tank.	
		NOTE: This will be cut to length and populated with the other PushLok hose end and inverted flare fitting in a later step.	

35	Vice	20-3795 INSTALLATION ONLY	
	11/16" Wrench	In the "FUEL RETURN" port, a 6AN male fitting is preinstalled. Using the included fittings, an adapter will be constructed to reconnect the OEM fuel return hose.	
		First, secure the hex portion of the 6AN male to 6.5mm barb in a vice. Next, tighten the 6AN female 90 degree fitting.	
36	11/16" Wrench	20-3795 INSTALLATION ONLY	
		Install the 90 degree 6AN female fitting to the "FUEL RETURN" fitting in the direction shown.	
37	Pliers	20-3795 INSTALLATION ONLY	
		Slide the OEM return hose over the barb. Secure using the OEM spring clamp, as shown.	
38		WARNING: The OEM fuel pump wiring is designed for <15A. Depending on fuel pressure and the fuel pump type used, the factory Honda wiring will likely be vulnerable.	
		Radium Engineering recommends using an independent relay and fuse with larger gauge (AWG) wire to get the most out of the pump. This wiring diagram depicted is using RADIUM P/N: 17-0031 DIY FUEL PUMP WIRING KIT (not included). Wiring a relay and fuse will not be discussed in this manual.	
39	Cutter	Low Current Single Fuel Pump Applications ONLY	
	Wire Stripper	Cut off the OEM fuel pump connector keeping as much slack as possible. Strip the ends of the wires.	
40	Cutter	Low Current Single Fuel Pump Applications ONLY	
		Find the small heat shrink provided and cut it in half.	
		Slide each small heat shrink tube over each OEM wire, as shown.	

41	Wire Crimper	Low Current Single Fuel Pump Applications ONLY Crimp the included small ring terminals on the pump power and ground wires. Apply heat to shrink the tubing.	
	Heat Gun		
42	8mm Socket	Low Current Single Fuel Pump Applications ONLY Secure the ring terminals with the included acorn nuts. OEM Fuel Pump (Yellow/Green Wire) -> Pump1 + terminal OEM Fuel Pump (Black Wire) -----> Pump1 - terminal	
43		<u>20-3796 / 20-3797 INSTALLATION ONLY</u> For dual pump applications , an independent relay and fuse MUST be used. This diagram may apply unless the second pump will be staged by an adjustable pressure switch (Radium P/N: 20-0236) or an ECU trigger. Neither scenarios are detailed in this instruction manual.	
44	14mm Wrench	<u>20-3795 INSTALLATION ONLY</u> Safely lift and support the vehicle. Find and unscrew the OEM feed hose connection in front of the fuel tank. Catch all spilled fuel from this junction point. Unscrew the M6x1mm bracket bolt from the chassis and permanently remove the OEM fuel hose from the car.	
	Rag		
	10mm Socket		
45	14mm Wrench	<u>20-3795 INSTALLATION ONLY</u> As shown, mate the provided 6AN inverted flare fitting to the factory fuel feed hard line. Loosely screw the other PushLok hose end to the inverted flare fitting. NOTE: The OEM fuel feed hard line might need to be slightly adjusted to clear the parking brake line.	
	3/4" or 19mm Wrench		
46	Hose Cutter	<u>20-3795 INSTALLATION ONLY</u> Route the new fuel feed hose towards the PushLok hose end. As shown, cut the hose to length. Unscrew the hose end from the inverted flare fitting.	

47	Oil Lubrication	<u>20-3795 INSTALLATION ONLY</u> Liberally lubricate the barbs on the PushLok hose end. As shown, fully seat the straight hose end to the new fuel feed hose. NOTE: PushLok hose ends do NOT require clamps. Mate the hose end to the inverted flare fitting.	
	3/4" or 19mm Wrench		
	11/16" Wrench		
48	10mm Socket Wrench	Reconnect the battery.	
49	Phillips Screwdriver	Turn the key to the ON position. Confirm the fuel pump(s) prime and check for leaks. If no leaks are found, start the vehicle. The engine may run rough for a few seconds until all the air is bled from the fuel system. Recheck for leaks. Reinstall the fuel access cover and interior parts. INSTALLATION COMPLETE <i>NOTE: There will be unused leftover parts from the kit.</i>	