



# INSTALLATION INSTRUCTIONS

## FUEL HANGER/DUAL PUMP ADD-ON/PLUMBING KIT

90-93 INTEGRA, 88-91 CIVIC, 88-91 CR-X

Document: 19-0347

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### COLOR LEGEND FOR EACH STEP

**FUEL PUMP HANGER: 20-1790 / 20-1792**

**Follow YELLOW areas ONLY**

**DUAL PUMP ADD-ON: 20-1796 / 20-1797**

**Follow YELLOW and GREEN areas**

**FUEL HANGER PLUMBING KIT: 20-1795**

**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.



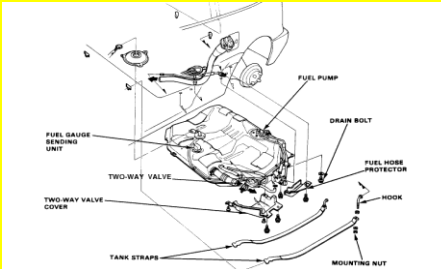

Proper eye and personal protection is required at all times during installation.

### WARNING

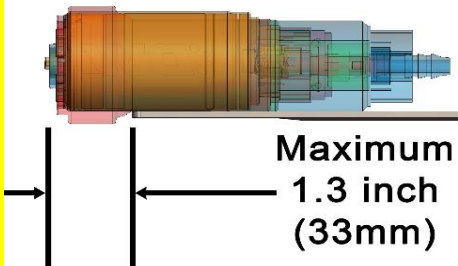
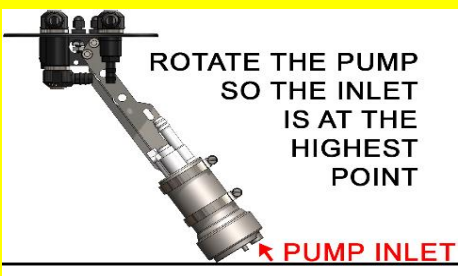



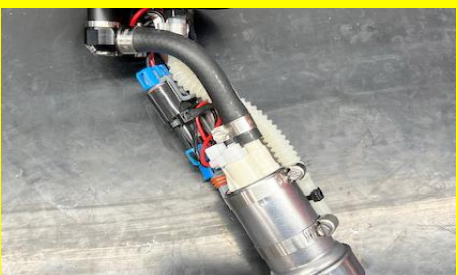
The fuel system is under pressure! Do not loosen any connections until relieving the fuel system pressure.

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





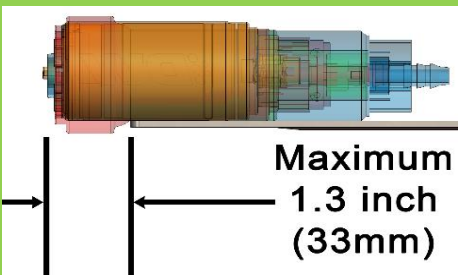

Fuel system components may not be legal for sale or use on emissions controlled motor vehicles. Consult local, state, and federal laws.

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 service manual for removing the fuel pump.	
		NOTE: The fuel tank will need to be dropped. Be sure to disconnect the electrical plugs through the access cover inside the vehicle and remove the 5 hoses from underneath the car.	
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 some wiring in a later step).	
7	1/4" Allen Wrench	<b>20-1796 / 20-1797 INSTALLATION ONLY</b>	
	Oil Lubrication	Radium Engineering fuel pump hangers come ready for single pump installation. Follow the areas below in green ONLY if installing 2 pumps.	
	4mm Allen Wrench		
8	4mm Allen Wrench	<b>20-1796 / 20-1797 INSTALLATION ONLY</b>	
	10mm Socket	<b>For dual fuel pump applications</b> , 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.	
9	3/8" Wrench	<b>20-1796 / 20-1797 INSTALLATION ONLY</b>	
	3/8" Socket Wrench	<b>For dual fuel pump applications</b> , 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.	


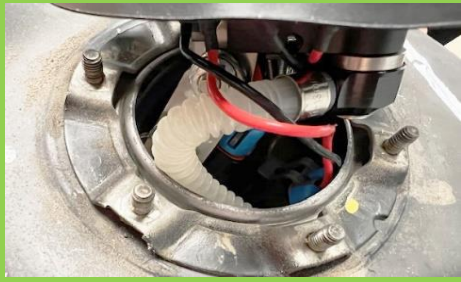




11		Place the fuel pump down at the end of the bracket allowing it to slightly overhang.	 <p>Maximum 1.3 inch (33mm)</p>
		NOTE: When securing, do not exceed the dimension shown.	
12	Screwdriver	Use this picture to determine the proper side of the bracket the fuel pump should be located.	 <p>ROTATE THE PUMP SO THE INLET IS AT THE HIGHEST POINT</p> <p>★ PUMP INLET</p>
		Rotate the pump into the proper position. As shown, the fuel pump inlet port should NOT be at the lowest point with respect to the fuel hat.	
		Wrap 2 of the large worm drive clamps through the bracket slots, around the fuel pump, and tighten.	
13	Hose Cutter	From the pump, route the submersible hose towards the "PUMP1" barbed banjo fitting under the fuel hat.	
		As shown, cut the hose to length for best fitment. Be sure to avoid kinking.	
14	Oil Lubrication	Place one of the provided EFI clamps over the hose.	
	9/32" Nut Driver	Lubricate the barbed banjo fitting, then fully seat the hose.	
		Slide the EFI clamp in place and tighten.	
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".	
		Using the provided cable zip ties, secure the convoluted return tubing to the pump bracket.	



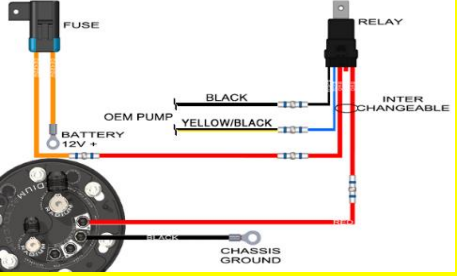






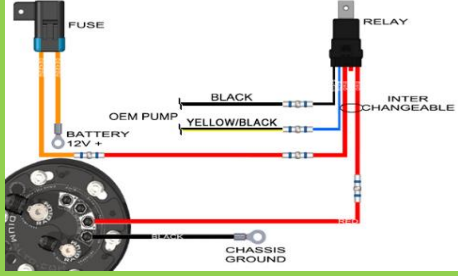




17		Install the sock filter onto the fuel pump inlet.	
18		Note the 3 rubber indicators on the OEM fuel tank gasket. For proper orientation, lineup the largest rubber indicator to the "HONDA CIVIC CR-X DEL SOL INTEGRA" label etched into the fuel hat. As shown, push the rubber indicators through the fuel hat to lock the gasket in place.	
19	10mm Socket Torque Wrench	<b>For single fuel pump applications</b> , 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 9/32" Nut Driver	<b>20-1796 / 20-1797 INSTALLATION ONLY</b>  <b>For dual fuel pump applications</b> , assemble the loose convoluted tubing to both the fuel pump outlet barb (not shown) and to the "PUMP2" barbed banjo fitting (shown).  Secure each end using the provided EFI clamps.	
21		<b>20-1796 / 20-1797 INSTALLATION ONLY</b>  <b>For dual fuel pump applications</b> , lay the second pump onto the provided stainless steel "PUMP2" bracket. When securing, do not exceed the dimensions shown.	
22		<b>20-1796 / 20-1797 INSTALLATION ONLY</b>  <b>For dual fuel pump applications</b> , 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 NOT at the lowest point.	

23	Screwdriver	<b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b>	
		<b>For dual fuel pump applications</b> , wrap 2 of the large worm-drive clamps around "PUMP2" and tighten.	
24		<b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b>	
		<b>For dual fuel pump applications</b> , install the sock filter onto the fuel pump inlet.	
		NOTE: Large filter socks, which have a rigid internal "skeleton" are not recommended.	
25		<b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b>	
		<b>For dual fuel pump applications</b> , the "PUMP2" connector can now be permanently plugged in.	
26	10mm Socket	<b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b>	
		<b>For dual fuel pump applications</b> , "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		<b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b>	
		<b>For dual fuel pump applications</b> , 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	<b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b>	
		<b>For dual fuel pump applications</b> , 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	<p><b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b></p> <p><b>For dual fuel pump applications,</b> manipulate the assembly around the tank by pulling, rotating, and twisting the fuel hat until there is access to the lower "stud". This can be very difficult!</p> <p>Secure the lower "stud" using the included M6x1mm flange nut, as shown.</p>	
30		<p><b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b></p> <p><b>For dual fuel pump applications,</b> carefully rotate the "PUMP2" banjo fitting inwards and push the slack from the convoluted tubing inside the fuel tank along with the fuel pump wiring connector, as shown.</p> <p>NOTE: This can be very difficult! Because this will take some manipulation, be careful not to chafe the wires or tubing.</p>	
31		<p><b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b></p> <p><b>For dual fuel pump applications,</b> lower the entire assembly down into the fuel tank making sure both pumps reside inside the factory collector bowl.</p> <p>NOTE: This cutaway picture shows how the pump assembly would look if it were visible.</p>	
32	10mm Socket	<p><b><u>20-1796 / 20-1797 INSTALLATION ONLY</u></b></p> <p><b>For dual fuel pump applications,</b> lineup the 6 mounting holes to the 6 fuel tank studs. NOTE: Because of hole spacing, it can only go on 1-way.</p> <p>Secure the pump assembly to the fuel tank studs using the provided M6x1mm flanged nuts. Torque to 48 lb-in.</p>	
	Torque Wrench		
33	11/16" Wrench	<p><b><u>20-1795 INSTALLATION ONLY</u></b></p> <p>In the "FUEL RETURN" port, a 6AN male fitting is preinstalled. Using the included parts, a short fuel return hose will be constructed to replace the hard return line (that was integrated into the OEM fuel hat). It will then connect to the OEM fuel line under the car.</p> <p>First, install the included 2-piece barbed fitting to the 6AN male "FUEL RETURN" fitting, as shown.</p>	
34	Pliers	<p><b><u>20-1795 INSTALLATION ONLY</u></b></p> <p>Push on the provided 5/16" (5AN) hose to this new barb and secure with the provided spring clamp, as shown.</p> <p>NOTE: This new short return hose will be cut to length after the fuel tank is reinstalled into the vehicle in a later step.</p>	

35	Oil Lubrication	<b>20-1795 INSTALLATION ONLY</b> 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 straight 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.	
36	11/16" Wrench	<b>20-1795 INSTALLATION ONLY</b> Install this straight 6AN hose end to the "FUEL PUMP FEED" port fitting, as shown.  NOTE: This hose will be cut to length and populated with the other PushLok hose end and inverted flare fitting after the fuel tank is reinstalled into the vehicle in a later step.	
37		WARNING: The OEM fuel pump wiring is designed for <10A. 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.	
38	Cutter	<b>Low Current Single Fuel Pump Applications ONLY</b>  Cut off the OEM fuel pump connector keeping as much slack as possible. Strip the ends of the wires.	
	Wire Stripper		
39	Cutter	<b>Low Current Single Fuel Pump Applications ONLY</b>  Find the small heat shrink provided and cut it in half.  Slide each small heat shrink tube over each OEM wire, as shown.	
40	Wire Crimper	<b>Low Current Single Fuel Pump Applications ONLY</b>  Crimp the included small ring terminals on the pump power and ground wires. Apply heat to shrink the tubing.	
	Heat Gun		

41	8mm Socket	<b>Low Current Single Fuel Pump Applications ONLY</b>	
		Secure the ring terminals with the included acorn nuts.	
		OEM Fuel Pump (Yellow/Black Wire) ---> Pump1 + terminal	
		OEM Fuel Pump (Black Wire) -----> Pump1 - terminal	
42		<b>20-1796 / 20-1797 INSTALLATION ONLY</b>	
		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.	
43		Remount the fuel tank and connect the electrical wiring.	
44	Hose Cutter	<b>20-1795 INSTALLATION ONLY</b>	
	Pliers	Route the new fuel return hose towards the OEM fuel return hard line under the car. As shown, cut the hose to length.	
		Install and secure with the provided spring clamp.	
45	14mm Wrench	<b>20-1795 INSTALLATION ONLY</b>	
	3/4" or 19mm Wrench	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.	
46	Hose Cutter	<b>20-1795 INSTALLATION ONLY</b>	
		Route the new fuel feed hose from the hanger towards the 90 degree PushLok hose end. As shown, cut the hose to length.	
		Unscrew the hose end from the inverted flare fitting.	



47	Oil Lubrication	<b>20-1795 INSTALLATION ONLY</b>	
	3/4" or 19mm Wrench	Liberally lubricate the barbs on the PushLok hose end. As shown, fully seat the 90 degree hose end to the new fuel feed hose.	
	11/16" Wrench	NOTE: PushLok hose ends do NOT require clamps.	
		Mate the hose end to the inverted flare fitting.	
48	10mm Socket Wrench	Reconnect the battery.	
49		Turn the key to the ON position. Confirm the new fuel pump(s) prime for a few seconds 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.	
		<b>INSTALLATION COMPLETE</b>	
		NOTE: There will be unused leftover parts from the kit.	