



INSTALLATION INSTRUCTIONS

C8 CHEVROLET CORVETTE

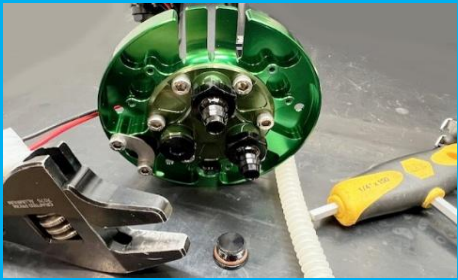
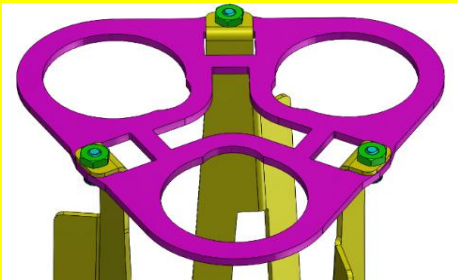
FUEL PUMP HANGER

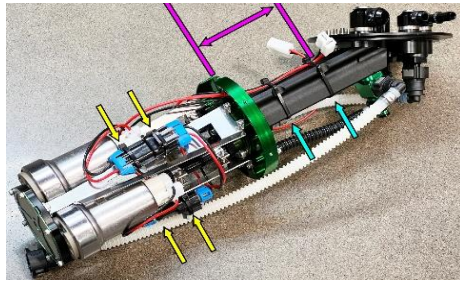
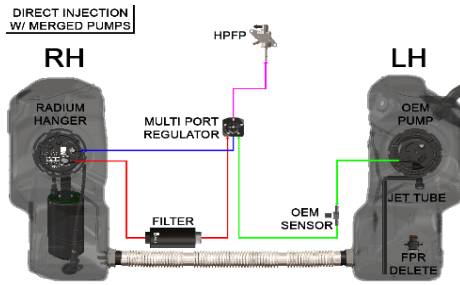
Document: 19-0385

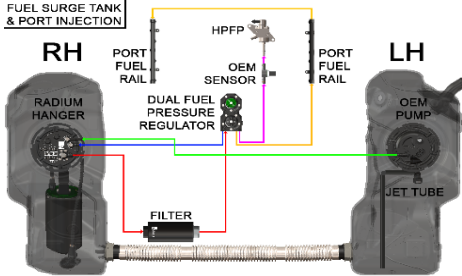
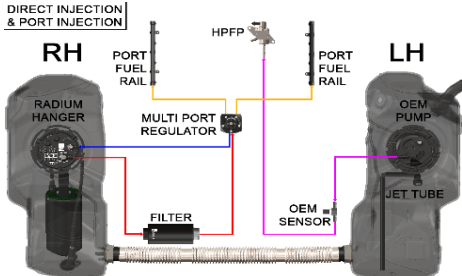
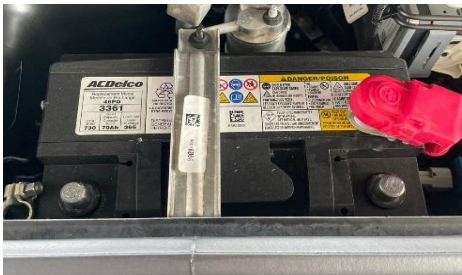
Support: info@radiumauto.com

COLOR LEGEND FOR EACH STEP	CAUTION
20-1110 FUEL HANGER Follow ORANGE areas	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.
20-1111 FUEL HANGER Follow YELLOW areas	Gasoline and other fuels are flammable and can be explosive. Only install in a well-ventilated location to minimize buildup of fuel vapors.
20-1111 / 20-1112 FUEL PUMP HANGER Follow BLUE areas	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.
20-1278 FPR DELETE Follow GREEN areas	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.

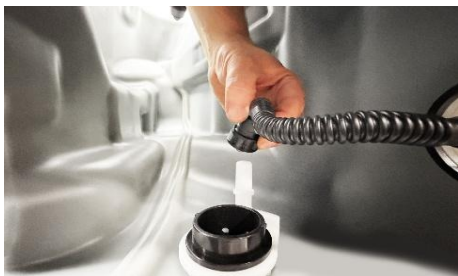
STEP	TOOLS NEEDED	INSTRUCTIONS	PHOTO
1	2.5mm Allen Wrench	Remove the four M4x0.7mm screws around the perimeter of the collector box. Separate the 2 pieces as shown.	
2	3/32" Allen Wrench	Remove the six #5-40 screws that secure the 3 stainless steel brackets. Separate the top section from the lower as shown.	
3	3/8" Wrench	Each product is preassembled for 1 fuel pump. First, add the appropriate amount of the provided wiring connectors to the bottom of the fuel hat. Be sure to reference the terminal labeling on the top side. NOTE: Fuel pump wiring for Deatschwerks DW440 or Ti Automotive E5LM pump(s) will be performed in a later step.	
4	4mm Allen Wrench	20-1110 FUEL HANGER ONLY Remove the 6 screws from the triple pump collector and pull away. Do not lose the gasket. Flip the triple pump collector over. Reference the list below to determine how many 2AN ORB plugs should be installed. Lubricate the O-ring(s).	
	Oil Lubrication		
	1/8" Allen Wrench		
		Single pump applications: Use 2 plugs (shown)	
		Dual pump applications: Use 1 plug	
		Triple pump applications: Use 0 plugs	

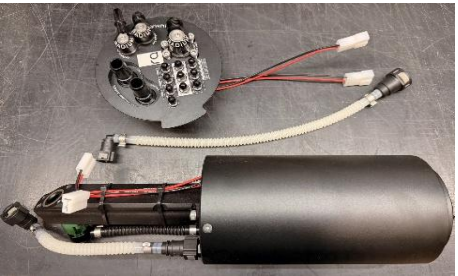
5	Oil Lubrication	20-1110 FUEL HANGER ONLY	
	Heat Gun	Cut the included small ID tubing to length.	
	Screwdriver	- Walbro GSS342 255LPH = 70mm - AEM 50-1200 (or equivalent) = 67.5mm	
		Lubricate the pump barb and the inner walls of the tube. Apply a small amount of heat and quickly insert. Secure the tubing to the pump(s) using the provided EFI clamp(s).	
6	Oil Lubrication	20-1111 / 20-1112 FUEL HANGERS ONLY	
	1/4" Allen Wrench	The triple pump collector does NOT need to be removed on these kits.	
	19mm Wrench	Find the 6AN ORB barbed fittings in the kit. Follow the list below to determine how many plugs will need to be installed. Be sure to lubricate the O-ring(s).	
		Single pump applications: Use 2 plugs	
		Dual pump applications: Use 1 plug (shown)	
		Triple pump applications: Use 0 plugs	
7	Oil Lubrication	20-1111 / 20-1112 FUEL HANGERS ONLY	
	Heat Gun	Cut the included large ID tubing to length.	
	Screwdriver	- Walbro F90000267/274/285 = 65mm - Deatschwerks DW440 Brushless = 89mm - Ti Automotive E5LM Brushless = 40mm	
		Lubricate the pump barb and the inner walls of the tube. Apply a small amount of heat and quickly insert. Secure the tubing to the pump(s) using the provided EFI clamp(s).	
8	Oil Lubrication	Slide a second EFI hose clamp onto the tubing attached to the fuel pump.	
	Heat Gun	Push the tube over the barb until it is fully seated.	
	Screwdriver	Rotate each pump so the wire connectors are facing outwards. Secure the EFI clamp(s).	
		NOTE: If using less than 3 fuel pumps, ensure a fuel pump is not accidentally installed into a plugged triple pump block port.	
9		20-1111 FUEL HANGER ONLY	
		For a hybrid setup with standard brushed pump(s), fittings for the triple pump block may need to be purchased as this fuel hanger only comes with 10mm barbed check valve fittings. Reference the product page for more information. For Walbro GSS342 and AEM 50-1200 style pumps, no modification is required to the brushless pump adapter bracket.	
		NOTE: If installing a Walbro F90000267/274/285/295 (or any 39/50 DCSS pump), the brushless pump adapter bracket will need to be modified, as shown. But because the pump retention is removed, the pump will be free and not secured. The installer must figure out a way to attach this pump to the assembly as there are no provisions for these larger pumps.	
10	1/4" Socket Wrench	20-1111 FUEL HANGER ONLY	
	5/64" Allen Wrench	Install the brushless pump adapter bracket (pink) to the main pump bracket (yellow).	
		Secure using the #5-40 threaded bolts (blue) and #5-40 threaded nuts (green) using a 1/4" socket wrench and a 5/64" Allen wrench. Hint: the button heads can typically be held in place with your finger while tightening the nut with a wrench.	

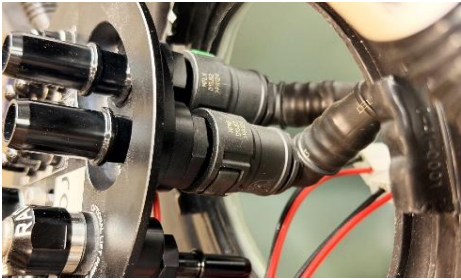
11		20-1111 FUEL HANGER ONLY Install the recommended filter socks below for the respective pumps.	
		BRUSHED PUMPS -Radium P/N: 14-0143 (shown center) -Filter sock included with AEM 50-1200 (shown right)	
		BRUSHLESS ESLM PUMPS -Radium P/N: 14-0543 (shown left) NOTE: The lower filter screen (included with the other kits) is NOT compatible with Ti Automotive ESLM brushless pumps.	
12	Cutter	20-1111 / 20-1112 FUEL HANGERS ONLY This step is for brushless pumps only. The pump connector will have 3 or 4 wires. Because the pump assembly is installed into the tank separately from the fuel hat (in later steps), they will need to be at least 16" long.	
	Wire Stripper	Crimp the provided ring terminals to the end of each wire. Slide the heat shrink over the crimped area. Apply heat to the shrink the insulation.	
	Wire Crimper	NOTES: 1. Do NOT connect these ring terminals to the fuel hat yet. 2. The number of wires and colors (shown) may differ from the pump used.	
	Heat Gun		
13	3/32" Allen Wrench	Reinstall the 3 stainless steel mounting brackets to the underside of the large green adapter plate using the 6 (previously removed) #5-40 screws.	
14		Insert the pump wire(s) up through the slots in the large green adapter plate. Secure the wires from the pumps just under the fuel hat (shown purple), using the cable zip ties (shown blue). NOTES: 1. Do NOT secure the white connectors that come from the underside of the fuel hat. These must be loose for installation. 2. If using Walbro F90000267/274/285 pumps, secure the bulky Walbro connectors to the stainless brackets (shown yellow arrows). 3. For brushless pumps, do NOT connect the pump wire ring terminals.	
15	2.5mm Allen Wrench	As shown, reinstall the collector. NOTES: 1. This may take a little wriggle effort to mate properly. 2. There is a specific orientation required as the 4 holes are NOT equal distant (symmetrical). 3. Once all 4 holes lineup, secure with the M4x0.7mm screws. 4. There are 3 common ways to plumb the system. See below.	
16	4mm Allen Wrench	If the vehicle does not use an aftermarket port injection fuel system, one way to plumb this system is as shown.	
	Oil Lubrication	NOTES: 1. As illustrated, the Radium Engineering FPR Delete is required as all pumps use one multi port regulator. 2. Because a lift pump is not used, the "OPTIONAL LIFT PUMP IN" port is plugged with the included 6AN ORB plug. 3. Radium MPR P/Ns: 20-1100-00 or 20-1100-01.	
	1/4" Allen Wrench		

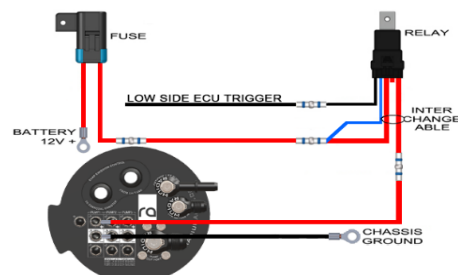
17		Shown is a way to convert the Radium fuel pump hanger into a true fuel surge tank with the OEM pump keeping the collector box full.	
18	4mm Allen Wrench	This example leaves the factory direct injection plumbing completely untouched. The Radium fuel pump hanger runs a port injection system independently. NOTE: Because a lift pump is not used, the "OPTIONAL LIFT PUMP IN" port is plugged with the included 6AN ORB plug. NOTE: MPR part numbers are Radium 20-1100-00 or 20-1100-01. Now is the time to decide which of these 3 aforementioned systems will be used in the vehicle.	
	Oil Lubrication		
	1/4" Allen Wrench		
19	10mm Wrench	To relieve fuel pressure: - With a scan tool: Use the function FUEL PUMP = OFF. - Without a scan tool: Temporarily remove the B+ fuel pump control module fuse. Start the vehicle and allow the engine to stall. Turn the ignition OFF. Disconnect the negative terminal on the battery.	
20		Safely lift the vehicle.	
21		Follow the factory service manual to remove the fuel tanks.	
22		The Radium Engineering fuel hanger surge tank will be installed into the RH side fuel tank. However, the LH side fuel tank will need to be slightly modified. Disconnect the electrical connector and plumbing lines from the fuel hat. To remove the lock ring, spin counterclockwise. Disconnect the internal SAE quick connect crossover line and remove the entire pump module from the fuel tank. Inspect the O ring gasket.	

23	Small Screwdriver	Follow this step only if installing 20-1278 FPR DELETE	
		Separate the top portion of the bucket from the lower portion.	
24	Pliers	Follow this step only if installing 20-1278 FPR DELETE	
		As shown, pull the fuel pressure regulator hairpin clip out.	
25		Follow this step only if installing 20-1278 FPR DELETE	
		Pull the OEM fuel pressure regulator out, as shown. It is simply held in by an O-ring.	
24	Oil Lubrication	Follow this step only if installing 20-1278 FPR DELETE	
		Lubricate the O-ring on the Radium Engineering FPR Delete and push it into place. Install the hairpin clip. NOTE: A new fuel pressure regulator (not included) must be installed into the system.	
		Reassemble the OEM pump module bucket.	
25		The OEM crossover tube in the LH fuel tank (shown) will NOT be reused. Leave this female convoluted tubing hanging in the tank. Do NOT reconnect it to anything.	
26		The short jet pump suction tube must be installed to send fuel to the OEM pump module from the same (LH) side of the tank. Push the connector on until it locks in place, as shown.	
		NOTE: The Radium Engineering fuel pump hanger has its own dedicated jet pump tube for the RH side tank.	

27		If using the Radium Engineering pump hanger as a fuel surge tank (see above), the OEM fuel pressure sensor will need to be relocated within the plumbing system. This sensor is attached to the inner side of the LH fuel tank. Remove the sensor and bring it to a workbench.	
		If not relocating the sensor, plumbing will need to be adapted to the end of this hose. Go to www.radiumauto.com to find a male 3/8" SAE quick connect fitting.	
28		If relocating the OEM fuel pressure sensor, remove the tubing from both sides. As shown, the barbs are designed to be used with a 3/8" (6AN) hose.	
		NOTE: When reinstalling the sensor into the system, there is no inlet or outlet as it is just measuring pressure.	
29		Reassemble with the OEM pump connected and put the LH fuel tank back together.	
30		To remove the large EVAP connectors on the RH side tank, squeeze the SAE quick connector locks, and pull to release.	
		To remove the lock ring, spin counterclockwise.	
31		To remove the large internal EVAP fittings, squeeze the SAE quick connect locks and pull to release.	
		Remove the fuel hat and inspect the O-ring gasket.	
32		Reach into the RH fuel tank to find the crossover hose attachment. Squeeze the SAE quick connect locks and pull to release.	
		The OEM crossover tube in the RH fuel tank (shown) will NOT be reused. Leave this female convoluted tubing hanging in the tank. Do NOT reconnect it to anything. NOTE: The Radium jet pump tube will connect to the male side later.	

33	4mm Allen Wrench	At the fuel hat, remove the SAE quick connector that comes from the fuel pump collector.	
		At the jet pump, remove the SAE quick connector that attaches to nothing.	
		To split the parts into 2, remove the 4 socket head screws that attach the fuel hat to the pump outlet pipe.	
34		As shown, reinstall the four O-rings under the shoulder of the four aforementioned socket head screws.	
35		Reach inside the RH fuel tank and attach the straight SAE quick connect to the bottom adapter. Give the tubing a gentle tug to confirm it is secure.	
		NOTE: The OEM SAE quick connector will stay permanently disconnected, as shown.	
36		Insert the lower pump assembly into the RH tank.	
37		Attach the 90 degree SAE quick connect to the jet pump, as shown. Give the tubing a gentle tug to confirm it is secure.	
38	3/8" Socket Wrench	For brushed fuel pumps, plug in the white fuel pump connector(s), as shown.	
		For brushless pumps, install the fuel pump wire ring terminals to the studs on the underside of the fuel hat. Reference the engraving on top of the fuel hat to be sure the correct studs are being used.	

39		Plug in the 2 large internal OEM EVAP SAE quick connectors. Give the tubing gentle tugs to confirm they are secure.	
40		Attach the 90 degree SAE quick connect that comes from the fuel pump collector to the underside of the fuel hat, as shown. Give the tubing a gentle tug to confirm it is secure.	
41		Hand tighten the 2 provided threaded rods into the fuel pump outlet tube. As shown, catty-corner is recommended.	
		Confirm the small O-ring on the fuel pump outlet tube (shown) is still seated properly in the O-ring groove.	
42	5mm Allen Wrench	Temporarily remove the PUMP OUT PORT fitting.	
		Place the OEM fuel tank O-ring gasket down.	
		Lineup the fuel hat holes to the threaded rods. From underneath, confirm that the 2 mating surfaces are not getting obstructed by anything, such as wires.	
43	4mm Allen Wrench	While holding the fuel hat down, install 2 of the O-ringed socket screws into the 2 vacant holes.	
44	4mm Allen Wrench	Remove one of the threaded rods and secure another O-ringed socket head screw, as shown.	
		Repeat this process for the last screw.	

45	Torque Wrench	Torque the 4 screws to 30 lb-in (3.4 Nm).	
	4mm Allen Socket		
46		Install the provided Radium Engineering fuel tank lock ring.	
		NOTE: The OEM fuel tank lock ring is not compatible.	
47		Plug in the 2 large external OEM EVAP SAE quick connectors.	
		[PUMP OUT PORT] 7/8"-14 threaded port (10AN ORB)	
		Provided Fitting: 8AN Male	
		[FPR RETURN IN] 9/16"-18 threaded port (6AN ORB)	
		Provided Fitting: 6AN Male	
		[OPTIONAL LIFT PUMP IN] 9/16"-18 threaded port (6AN ORB)	
48		Provided Fitting: 3/8" SAE Quick Connect	
		An independent relay and fuse MUST be used for each pump. This schematic is using RADIUM P/N: 17-0031 on PUMP 1. Depending on how the fuel system is routed this may or may not apply. For example, the pump(s) could be staged by an adjustable pressure switch (Radium P/N: 20-0236).	
		NOTE: For brushless fuel pump controllers, use the manufacturer's suggested wiring diagram.	
49		Once installed, the top of the fuel tanks will not be accessible. It is recommended to design and assemble an electrical sub harness and plumbing system that is modular.	
50		An extra part that could be helpful for plumbing is this 2020+ Chevrolet Corvette FPR mount. As shown, it is compatible with the Radium MPR and DFPR.	
		Radium Engineering P/N: 20-1279	

51		An extra part that could be helpful for plumbing is this 2020+ Chevrolet Corvette fuel filter mount. It is compatible with the standard Radium filter and the check valve filter (shown).	
		Radium Engineering P/N: 20-1280	
52	10mm Socket	Reinstall the fuel tanks. Reconnect the battery.	
		Switch the ignition to the ON position. While observing the dashboard, add fuel to the tank and verify the fuel level gauge is working properly.	
53		Start the engine and check for leaks.	
		NOTE: From Chevrolet, the fuel pressure upstream of the HPFP is regulated between 60-75 psi (413-517 kPA). The exact pressure varies depending on the engine's operating status and speed. Discuss with your tuner what should be an ideal target fuel pressure for your specific application.	
54		Reinstall all other components in reverse order.	
		INSTALLATION COMPLETE	