

INSTALLATION INSTRUCTIONS PORT INJECTION KIT (PIK)

2017+ HONDA CIVIC TYPE-R, K20C1

Document: 19-0194

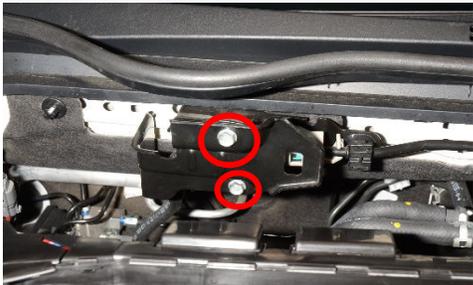
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IMPORTANT NOTES:

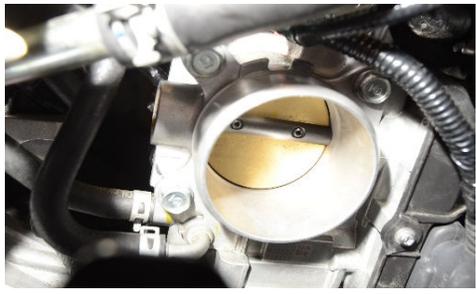
- o Installation must be performed by an experienced technician.
- o This documents outlines the installation of the port injection to the cylinder head only.
- o A custom fuel system will need to be created to feed the port fuel injectors.
- o Fuel injectors must have 14mm upper and lower O-rings and be either 34mm or 48mm height.
- o Wiring and control of the port injectors must be configured by the installer.
- o A custom charge pipe must be made, as the factory charge pipe can no longer be used.
- o The steps below cover installation into a LHD vehicle. RHD will be similar, but is not covered in this document.

STEP	TOOLS NEEDED	INSTRUCTIONS	PHOTO
1	10mm socket	Remove the battery and the air intake system. Remove the plastic battery tray. Remove the engine vanity cover.	
		Unclip the wire harness carrier that runs across the back of the head from the valve cover. This will stay in the vehicle, but needs to be able to move around for accessing the intake manifold.	
2	10mm socket	Loosen the hose clamps at either end of the charge pipe.	
3	10mm socket	Remove the 2 screws holding the battery cable bracket to the battery tray.	
4	12mm socket	Remove the 2 screws holding the charge pipe to the charge pipe bracket. Disconnect the vacuum hose going to the pipe. Disconnect the electrical connector going to the pressure sensor on the pipe. Carefully maneuver the pipe out of engine bay.	
		This pipe cannot be reused with the port injection kit due to the throttle body being in a different location after installation is complete.	

5	10mm socket	Remove the screw holding the vacuum hose support bracket to the firewall. Unclip the white plastic hose clip from the bracket.	
6		Remove the bracket from the vehicle.	
7	10mm socket	Remove the small screws holding the hose support bracket located on top of the intake manifold.	
8		Unplug the vacuum tube Y-fitting from the line going to the brake master cylinder.	
9	10mm socket	Remove the screw circled in the picture.	
10	Pliers	Disconnect the vacuum hose from the PCV valve as shown.	

11		Remove any remaining clips and hose connections and remove the vacuum hose assembly from the engine bay as shown.	
12	Needle nose pliers	Using small needle nose pliers, release the clips holding the green wiring harness holders to the intake manifold.	
		Unplug the MAP sensor on the intake manifold.	
13	10mm socket	Remove the shield covering the fuel line junction shown.	
14		Disconnect the vacuum lines associated with the valve shown. Make sure the valve is not connected in any way to the intake manifold.	
15	10mm socket	Although not visible in the picture, remove the rubber coupler from the throttle body and remove the four screws holding the throttle body to the intake manifold.	
	12mm socket		
		The nuts for the throttle body bolts are attached to plates. Make sure these nut plates do not drop down under the engine.	
16	12mm socket	Remove the two M8 nuts and three M8 screws holding the intake manifold to the cylinder head. There is another mount located under the intake manifold where the throttle body attaches. It is not visible from the top. Use a 12mm socket to remove the nut at this mounting point. It will have to be done "by feel".	
		Disconnect any remaining vacuum hoses or electrical connectors attached to the intake manifold. Remove the manifold from the vehicle.	

17	Oil	Prepare the fuel injectors (not included) for installation into the intake manifold. Lubricate all O-rings with oil. Make sure the injectors meet the size requirements documented on the port injection kit product page at www.radiumauto.com .	
18	5mm Allen wrench	Assemble the 2 fuel rail brackets as shown. Use the thermal insulating washers under the heads of the screws. Make sure the brackets are parallel with each other. It is helpful to use the fuel rail to check for parallelism. Tighten the mounting screws. NOTE: these mounting brackets can be installed backwards, by mistake.	
19		Push the injectors into the fuel rail ports.	
20	5mm Allen wrench	Install the fuel rail and injectors into the port injection adapter as shown. Secure in place with the two button-head M8 screws. Shown in this example are 48mm tall injectors, which require the upper mounting bracket hole to be used. If 34mm injectors were selected, then the lower bracket mounting hole would be used. Be sure to reference the pictures to be sure the fuel rail does not get installed backwards. Make sure gaskets are installed on one side of the port injection adapter. This is the side that will contact the cylinder head.	
21	12mm wrenches	Use 2 of the OEM intake manifold mounting nuts and tighten them together on one of the intake manifold studs, as shown. Next, use a wrench to loosen the bottom nut. This will remove the stud from the cylinder head. Repeat this on the opposite side for the second intake manifold mounting stud. NOTE: These studs will be replaced with screws.	
22		Fit the fuel rail and port injection adapter into place. It will be necessary to slightly bend the vacuum line tubes shown in the picture. Make sure the gasket side of the adapter is contacting the cylinder head. Make sure the adapter stays in place and will not fall down. It may be helpful to lightly thread a single M8 screw into the center hole. This will hold the adapter in place temporarily.	

23		Insert the intake manifold into the space behind the engine, being careful not to disturb the port injection adapter.	
24		Position the intake manifold and mate it to the port injection adapter. Be sure to remove any temporary screws holding the port injection adapter in place.	
25	12mm socket	<p>With the intake manifold in place, hand tighten one of the provided M8 flanged head screws into the center mounting hole. Next, install the other 4 screws into the remaining mounting holes.</p> <p>Starting with the center screw, tighten to 15-18 ft-lb. Then, move to the other screws in an inside-out alternating pattern.</p> <p>NOTE: The mounting point on the bottom side of the intake manifold will not be used.</p>	
	Torque wrench		
26	6mm Allen wrench	<p>Reinstall the throttle body to the intake manifold. The coolant lines will reach, but will be taunt.</p> <p>Reinstall the components that were removed in previous steps. Be sure to reconnect all vacuum hoses to the appropriate ports.</p>	
27		<p>If fuel accessories, such as a Radium Direct Mount Regulator (shown), are to be used, they can be installed in the fuel rail ports. Access to the top ports of the fuel rail will require re-routing the wiring harness carrier that passes over the top. Otherwise, the top ports can be plugged with Radium P/N: 14-0150 8AN ORB plugs (not included).</p> <p>Installation Complete</p> <p>NOTE: A custom fuel system and injector control system will need to be configured. These items are not covered in this document or supported by Radium Engineering.</p>	