

INSTALLATION INSTRUCTIONS

COOLANT EXPANSION TANK

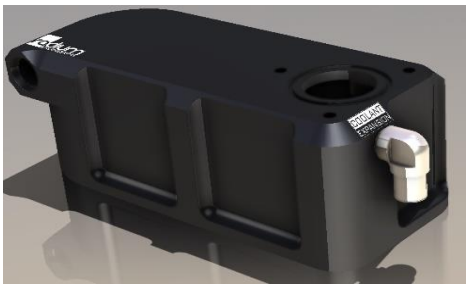



FORD FOCUS







Document: 19-0151
Support: info@radiumauto.com







WARNINGS:



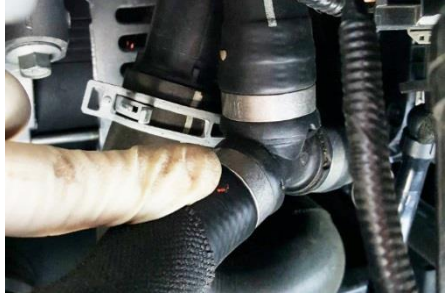


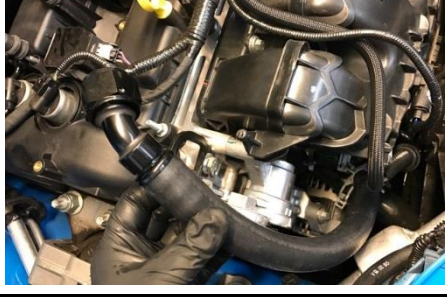
DO NOT WORK ON THE COOLANT SYSTEM WHEN THE ENGINE IS AT OPERATING TEMPERATURE.
WAIT UNTIL THE ENGINE HAS COOLED AND THERE IS NO LONGER PRESSURE IN THE SYSTEM.



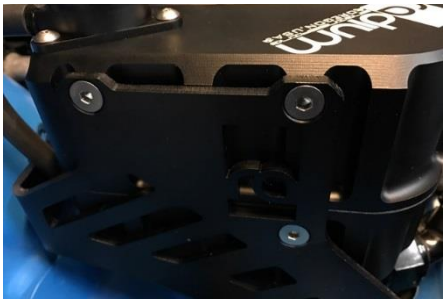

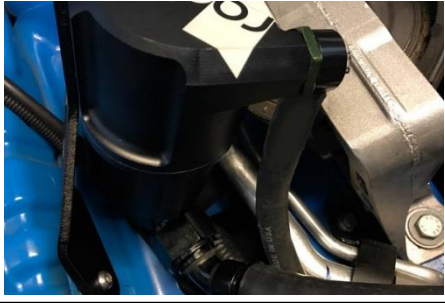

QUICKLY CLEAN UP ANY COOLANT THAT HAS SPILLED AS IT IS POISONOUS.

STEP	TOOLS NEEDED	INSTRUCTIONS	PHOTO
1	8mm wrench	Unwrap both halves of the coolant tank and clean out any residual packaging material. Grab the top half of the coolant tank (shown) and 1 of the push-to-connect NPT elbows provided in the kit. Apply PTFE thread paste then hand tighten the elbow fitting into the port shown. Now add an additional 1.5 to 3 turns until it faces directly downwards, as shown. NOTE: The tapered pipe threads are preimpregnated with Teflon so no addition lubrication is required.	
	PTFE thread paste		
2	8mm wrench	Grab the bottom half of the coolant tank (shown) and the other push-to-connect NPT elbows provided in the kit. Apply PTFE thread paste then hand tighten the elbow fitting into the port shown. Now add an additional 1.5 to 3 turns until it faces directly downwards, as shown. NOTE: The tapered pipe threads are preimpregnated with Teflon so no addition lubrication is required.	
	PTFE thread paste		
3		Push-in and fully insert the clear sight tubing into the elbow fitting on the bottom half of the coolant tank.	
4	Anti-seize	Place the gasket between the 2 tank halves. Lneup and fully seat the opposite side of the clear sight tube into the opposing elbow. Install the 7 socket head bolts. It is recommended to use anti-seize on the threads to prevent galling. Tighten all screws evenly until snug in a crisscross sequence, then torque to 53 in-lbs (6 Nm). NOTE: After the tank is heat cycled, check the gasket for leaks and retorque if needed.	
	4mm Allen wrench		
	Torque wrench		

5		NOTE: if there is ever a leak from the threaded portion of an elbow, follow this procedure below.		
		a. First, the 2 halves of the tank will need to be disassembled. To remove the clear sight tubing from the (push-to-connect) elbows, push and hold the retaining lock flush, then pull away to release the tube.		
		b. Rotate (tighten) the leaking elbow fitting 360 degrees.		
		c. Reassemble the coolant tank as described above.		
6		Make sure the area shown in the picture is free of dirt and debris before proceeding.		
		Place the included O-ring into the groove around the fill neck opening.		
7	3mm Allen wrench	Place the included fill neck receiver onto the tank, oriented to best fit the application.		
	Thread locker			
				Apply a medium strength thread locker and install the 3 included socket head bolts using a 3mm Allen hex wrench, as shown. Torque to 48 in-lbs. (5.4Nm).
8	Lubrication oil	Be sure to lubricate the o-rings on all ORB fittings prior to installing. Secure the 10AN ORB plug into the bottom port (shown).		
	3/8" Allen wrench			
	22mm wrench			<i>For kits manufactured prior to 2021, the provided banjo fittings will likely be green. When installing the lower 12AN banjo (shown), first confirm there are crush washers on both sides. Hand tighten this 12AN banjo as adjustments may be necessary in a later step. Secure the 6AN ORB to barb banjo fitting to the top side port.</i>
	6mm Allen wrench			
	4mm Allen wrench			<i>For kits manufactured after 2020, the provided banjo fittings will likely be silver. Secure the 12AN banjo to the lower port (shown). Secure the 6AN ORB to barb banjo fitting to the top side port.</i>
9	Flat head screwdriver	Pry the 2 tabs (rear and right side) outwards to release the OEM coolant tank from it's mounts.		
10		Squeeze the plastic tabs and pull away to release the O-ring hose fitting from the OEM coolant tank. Catch any coolant that may spill out.		
		NOTE: For Focus ST models, this coolant line will not be a rubber hose. Instead it will be a hard plastic molded tube. Ford Focus RS shown.		
		If possible, temporarily plug and cap the two open connections to avoid spilling coolant.		

11	Pliers	Flip the OEM coolant tank on its side to access the 3/4" hose connection underneath.	
		Use pliers to move the gray spring clamp back on the hose a few inches. This gray OEM spring clamp will be reused.	
		Pull the hose off the tank and catch any coolant that may spill out.	
		If possible, temporarily plug and cap the two open connections to avoid spilling coolant.	
12	Bucket	Pour the remaining coolant into a container. It will be reused.	
13		Ford Focus RS Only: Unsnap the 3 clips holding the OEM 5/16" coolant rubber hose that runs along the front core support.	
		Ford Focus ST Only: This hard plastic tube that will be replaced is much shorter than the RS model shown. Read below for more details.	
14a	Diagonal Cutter	Ford Focus RS Only	
	Heat Gun	The coolant line that runs between the OEM "Y" fitting and the coolant tank needs to be replaced. This connection is at the front of the vehicle near the hood latch. Cautiously remove and discard the OEM pinch clamp (shown) that secures the 5/16" coolant rubber hose to the "Y" fitting. Be careful not to break the plastic "Y" fitting.	
14b	Pliers	Ford Focus ST Only	
		The coolant line that runs between the OEM "Y" fitting and the coolant tank needs to be replaced. This connection is behind the RH headlight. Using a heat gun, cautiously warm up the plastic hard tubing at the "Y" fitting connection. Be careful not to overheat this area.	
		NOTE: for models that use the small OEM barbed Y-fitting, install the adapter shown to the Y-fitting to convert the hose to 5/16".	
15	Pliers	Remove the line from the "Y" fitting and catch any coolant that may spill out. If possible, temporarily plug and cap the two open connections to avoid spilling coolant.	
		Find the included 5/16" heater hose and insert it onto the OEM "Y" fitting.	
		Secure using one of the included spring clamps, as shown.	

16		Route the replacement 5/16" hose towards the coolant tank.	
		Ford Focus RS Only: Tuck the rubber hose underneath the OEM A/C clamp just on top of the OEM fan shroud.	
17a	Pliers	Ford Focus RS Only: Locate the large diameter coolant hose that was connected to the coolant tank. Find where it connects to the engine's coolant junction.	
		To dislodge the OEM black spring clamp, Radium recommends using "flexible hose clamp pliers" (shown).	
		NOTE: This OEM black spring clamp will NOT be reused.	
17b	Rotary Cutting Tool	Ford Focus ST Only: Locate the large diameter coolant hose that was connected to the coolant tank. Find where it connects to the engine's coolant junction (shown).	
		Use a rotary tool, such as a Dremel, and a metal-cutting disc (Dremel P/N 426) to cut off the non serviceable metal band. It is also recommended to use some non-flammable rags or cardboard to catch the dust and sparks from the cutting process.	
		Discard the remains of the OEM clamp.	
18		Before pulling off the 3/4" hose from the plastic junction (shown), plug the open 5/16" heater hose. This will avoid a siphoning affect and keep coolant from draining out of the engine.	
19	Hose cutter	Find the replacement 3/4" heater hose in the kit. Cut it to no less than 13" long.	
	Pliers	Lubricate the hose and push it on to the plastic junction. Using pliers, slide on the gray OEM spring clamp that was removed in step 11.	
20		Find the -12AN hose end in the kit. Install it in to the 3/4" heater hose installed in the previous step. NOTE: This pushlok connection DOES NOT require any clamps.	

21	Tape	Use an open ended 10mm wrench and use tape (not included) to stick the included nut in place, as shown.	
	10mm Wrench		
22	4mm Allen wrench	Find the Radium mounting bracket and two M6 button head screws in the kit.	
	10mm wrench	As shown, secure the mounting bracket using a 4mm Allen wrench and the open ended wrench from the previous step.	
23	4mm Allen wrench	Position the coolant tank in place. Temporarily install the 3 included M6 flat head bolts.	
	Thread locker	Check the clocking of the large lower banjo fitting. Remove the tank and readjust if necessary. Torque the banjo bolt to specification listed on the hex head.	
		Apply a medium strength threadlocker to the M6 bolts and fully tighten.	
24	1-1/8" socket	Orient the lower 12AN banjo fitting for optimal hose end fitment.	
	28mm socket	<i>For kits manufactured prior to 2021, the 12AN crush washer style banjo fitting will now need to be tightened. Torque using a 28mm or 1-1/8" socket wrench.</i>	
	1-1/4" wrench		
		<i>For kits manufactured after 2020, the 12AN banjo fitting should already be tightened and will automatically swivel into place.</i>	
		Secure the hose end to the banjo fitting using a 12AN wrench (or 1-1/4" wrench). Be sure to position the hose clear of the aluminum A/C bracket that is located just underneath the hose.	
25	Hose cutter	Route the 5/16" heater hose from earlier steps to the coolant tank. Measure and cut the hose to length (33" total is typical). Push the hose onto the barb and install the included spring clamp.	
	Pliers		
	11/16" wrench		
26	Coolant	Fill the tank reusing the original coolant.	
		Start the engine. Monitor the sight tube until the engine is warm enough to open the thermostat. Trapped air will naturally bleed into the coolant tank. If necessary, add enough coolant just to cover the sight tube when the engine is FULLY warmed up.	
		Install the pressure cap.	
		Installation Complete	