Ford 6.7L Fuel Leak Prevention Kit (LPK)

Vehicle Fitment: 2011-2026 Ford Super Duty equipped with 6.7L Power Stroke Diesel

Part Number:

6.7F11-LPK | 6.7F17-LPK

6.7F11-LPK-PLUS | 6.7F17-LPK-PLUS

2011-2016 LPK



2017-2026 LPK



2011-2016 LPK PLUS



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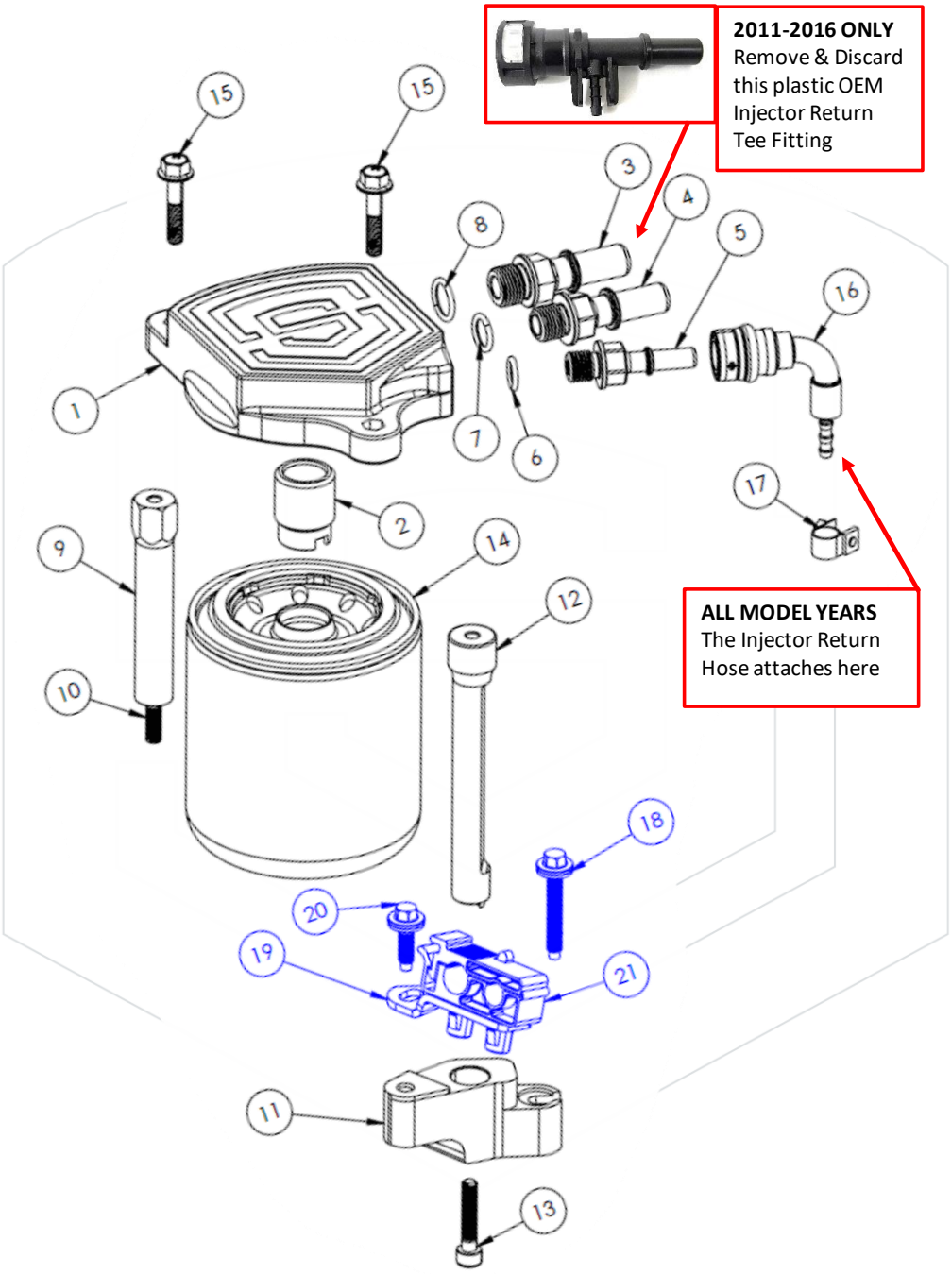


2017-2026 LPK PLUS



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US Patent Pending

Ford 6.7L Fuel Leak Prevention Kit (LPK) - BoM & Torque Specs

PN: 6.7F11-LPK & PN: 6.7F17-LPK				Reuse OEM Hardware		Torque Spec	
Item	Part Number	Part Name	Description		Tool Size	Standard	Metric
1	6030027	Filter Head	The mounting ears have 8mm or 5/16" Allen holes to ease filter removal				
2	6030033	Filter Coupler					
3a	6030141	QC-12.61 - Long	2011-2016 MY				
3b	6030073	QC-12.61 - Short	2017-2026 MY				
4	6030083	QC-11.8					
5	6030093	QC-7.89					
6	8000050	O-Ring	M12 ISO 6149				
7	8000060	O-Ring	M14 ISO 6149				
8	8000070	O-Ring	M16 ISO 6149				
9	6030043	Short Post			16mm or 5/8"	89 lb-in	10 Nm
10	8000080	Threaded Stud					
11	6030069	Mounting Foot					
12	6030055	Long Post					
13	8000090	Allen Cap Screw	M6x1x30mm				
14	P584171	Fuel Filter (Spin-On)			93mm (3.7") OD	See Print on Filter	
15	8000100	Filter Head Bolts	M6x1x30mm (QTY: 2)		10mm	89 lb-in	10 Nm
16	4230050	Leak Prevention Fitting					
17	8000110	Fuel Injection Clamp	7-9mm clamp		7mm or 9/32"	9 lb-in	1 Nm
Reuse the OEM hardware - *Supply Line Mount kit available separately from S&S: 6.7F11-LPK-SLM*							
18	W714989S439	OEM Filter Bowl Bolt	M6x1x35mm	X	8mm	89 lb-in	10 Nm
19	*NA from Ford*	OEM Supply Line Bracket		X			
20	W503275S437	OEM Bracket Bolt	M6x1x20mm	X	8mm	89 lb-in	10 Nm
21	*NA from Ford*	OEM Supply Line Clip		X			

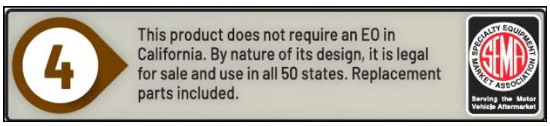
Included with the Fuel Leak Prevention Kit **"PLUS" (PN: 6.7F11-LPK-PLUS) - 2011-2016 model years**						
a	P584946	Fuel Filter - Cartridge		32mm or 1 1/4"	Turn to Lock Tab	
Included with the Fuel Leak Prevention Kit **"PLUS" (PN: 6.7F17-LPK-PLUS) - 2017-2026 model years**						
b	P585405	Fuel Filter - Panel		8mm	44 lb-in	5 Nm

NOT INCLUDED, available separately from S&S - only needed if equipped with Aftermarket Intake Piping Kit						
Ford 6.7L LPK Dipstick Mount (11-26): 6.7F11-LPK-DSM						
	6030210	Dipstick Mounting Bracket	304 Stainless Steel			
	8000120	BH Allen Cap Screw	M6x1x30mm	4mm Allen	89 lb-in	10 Nm
	8000130	BH Allen Cap Screw	M6x1x16mm	4mm Allen	89 lb-in	10 Nm
	8000140	Serrated Flange Nut	M6x1	10mm		
	8000004	Vibration Isolator	1/4"-20 studs			
	8000017	Serrated Flange Nuts	1/4"-20 (QTY: 2)	11mm or 7/16"	89 lb-in	10 Nm

Vehicle Service	6.7L Normal	6.7L Special*
Fuel Filter Change (both)1	Change both fuel filters every 3rd oil change or every 22,500 miles (36,000 km) or as indicated by the message center, whichever comes first.	Change every 15,000 miles (24,000 km) or 600 engine hours or as indicated by the message center, whichever comes first.

***Special** = Operating Conditions like Extensive Towing, Long Idle Time, Extended Low Speed Driving. For Off Road/Dusty Conditions oil change intervals should be every 7,500 miles (12,000km) or 300 hours of engine operation.

SEMA Category 4 – Replacement Part



Unboxing the S&S LPK:

1. **Remove the caps from the filter head.** They slide off easily if you get your fingernail behind them instead of pulling from the end. Do NOT use a screwdriver or pick as you risk damaging the Quick Connect sealing surface.

2. **Use compressed air to blow out all the ports to ensure no contaminants entered the system during shipping.**

3. **There are two mounting posts that are screwed together for shipping shown in Figure 1. Unthread the short post from the mounting foot using a 16mm (or 5/8") socket.** This joint is only hand-tightened for shipping.

    a. The allen head screw joining the mounting foot to the long post is torqued by S&S.

    b. IF the stud comes out of the short post for any reason, apply red Loctite and hand-thread it back into the short post.

4. **The bagged kit contains two filter head mounting bolts and a small fuel injection clamp for the S&S Leak Prevention Fitting that attaches to the OEM injector return hose.**



Figure 1: Unthread the short post from the mounting foot

Change Log:

- Rev 00 – Initial Release
- Rev 01 – Dipstick Mounting Kit update

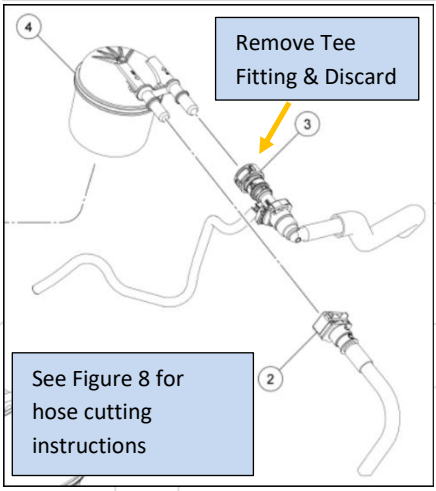


Figure 2: 2011-2016 2-port filter

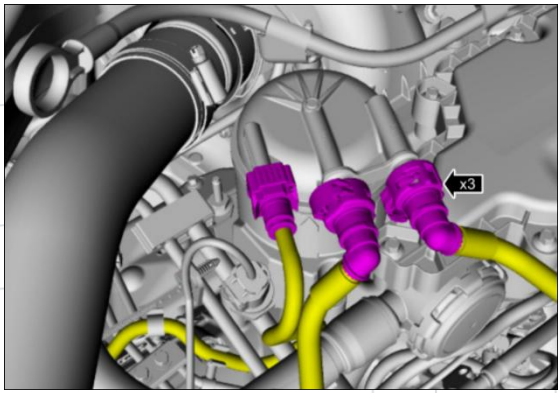


Figure 3: 2017-2026 3-port filter

OEM Engine-Mounted Filter Removal Instructions:

5. **Disconnect the negative battery cable from both batteries.**
6. **Place a shop towel below the filter quick connect couplings to catch residual fuel when disconnecting the fuel fittings.**
7. **Disconnect all quick connect fittings from the fuel filter.**
   a. On 2011-2016, disconnect the 'Tee Fitting' labeled as "3" in Figure 2 from both the fuel filter AND the tank feed line. This Tee will be cut off and discarded. The injector return hose will be connected to the provided S&S Leak Prevention Fitting converting the 2-Port to a 3-Port like the 2017-2026 model years shown (Figure 3).
8. **Rotate the filter counterclockwise and lift it out.**
9. **Remove the filter mounting bowl by removing the 4 bolts shown in Figure 4. Bolts #1 and #2 will be REUSED in the same positions.**

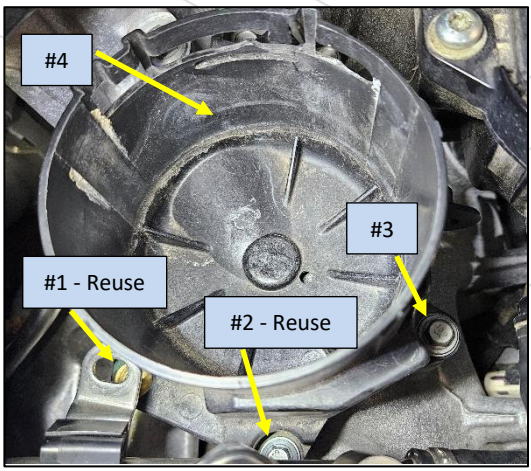


Figure 4: Remove the Fuel Filter Bowl

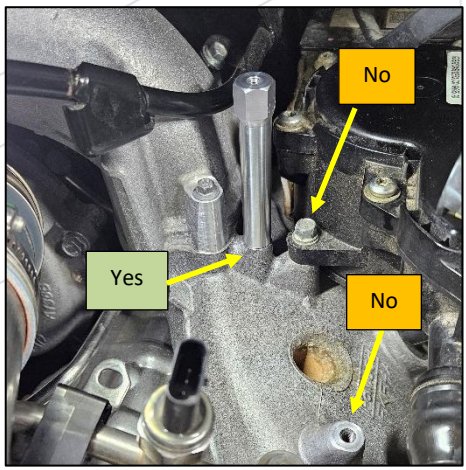


Figure 5: Install the Short Post

S&S LPK Engine-Mounted Filter Installation Instructions:

10. **Install the S&S short post into the filter bowl's rear mounting boss and torque to 89 lb-in using a 16mm (or 5/8") socket.**
    a. IF you have the CCV box removed there is another boss right next to it which is incorrect as shown in Figure 5.
11. **Install bolt #2 from Figure 4 back into the hole under the metal fuel supply line as shown in Figure 6.**
    a. This bolt is difficult to access due to the metal fuel supply line, so S&S slotted the mounting foot to allow the bolt to be started and then the mounting foot installed.
12. **Snug but do not torque the mounting foot bolt so that the foot can be rotated into the proper position in the next step.**
13. **As shown in Figure 7, rotate the S&S mounting foot until the fuel line bracket and the mounting foot's raised pad are parallel and the hole aligns. Torque the mounting foot bolt to 89 lb-in using an 8mm socket on a ¼" wobble extension.**
    a. Note: To gain better access to this bolt, leave the plastic clip attached to the two lines and rotate the fuel supply line that is blocking access to the bolt upward. This metal supply line is only attached at the pump and to the metal return line via the plastic bracket.
    b. Filter Head Fit-Check: Place the filter head across the two mounting posts to confirm proper spacing between the posts at the filter head's mounting ears.
14. **Reusing the OEM bolt (#1 from Figure 4), attach the fuel line bracket in Figure 7 to the S&S mounting foot and torque to 89 lb-in using an 8mm socket.**

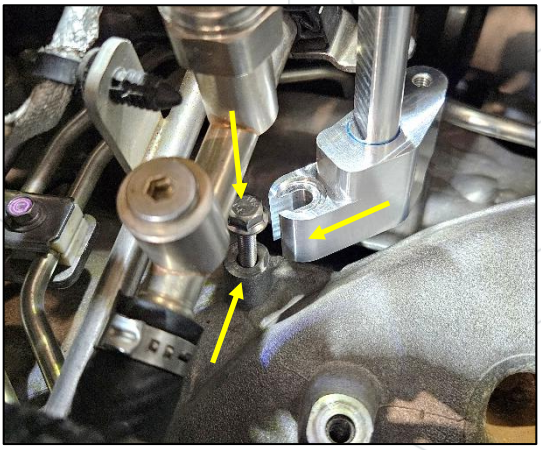


Figure 6: Install OEM bolt, then S&S foot

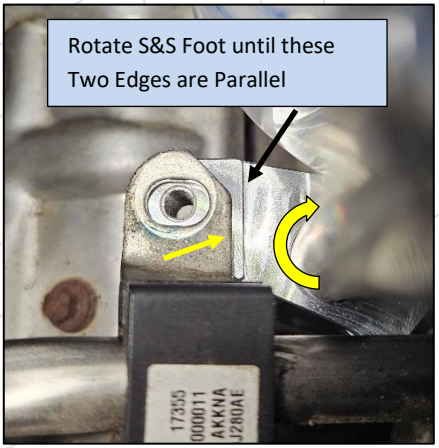


Figure 7: Rotate S&S foot until parallel

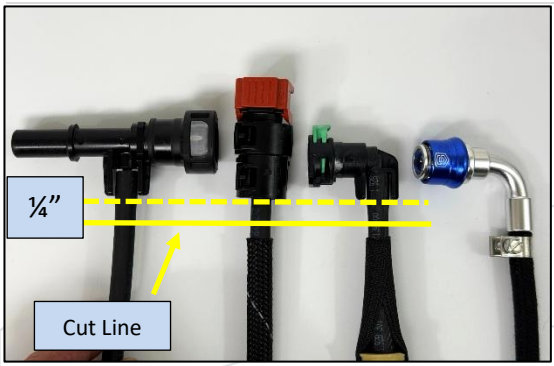


Figure 8: Cut the hose ¼” below the plastic

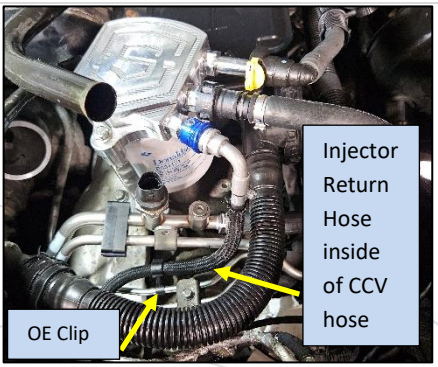


Figure 9: Injector Return Hose Routing

15. **Cut off the OEM injector return fitting that is prone to failure. Cut the hose ~1/4” below the lowest point of the plastic connector for all model years.**
    a. It is better to cut this hose too long than too short. On 2020+ model years, do not cut more than 1” below the OEM connector or the hose could become too short.
16. **On all model years, route the injector return line inboard of the CCV hose. Reposition the factory plastic clips to absorb the extra hose length and prevent the hose from rubbing on other components.**
17. **Install the provided injector return hose clamp on the hose.**
18. **Remove the S&S Leak Prevention Fitting from the filter head by pulling back on the blue collar. Lubricate the barbed-end of the fitting with clean engine oil to allow the hose to slide easier & install the S&S Leak Prevention Fitting onto the injector return hose.**
19. **Tighten the fuel injection clamp with a 7mm, 9/32”, or flat screwdriver until the ears are parallel or just past parallel as shown in Figure 10.** DO NOT overtighten this clamp. Very little clamping force is required to seal this joint. Torque spec is 9 lb-in (1 Nm) but most torque wrenches do not go this low. 1/8” ear gap recommended (Figure 10).

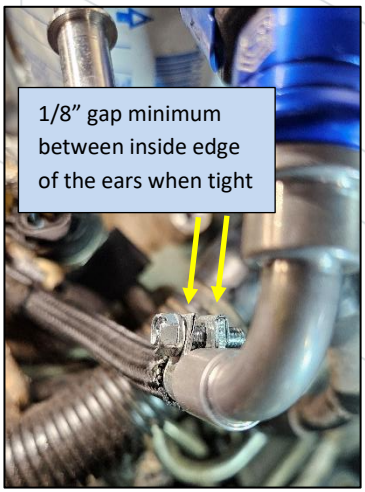


Figure 10: Ears parallel is tight enough



Figure 11: Injector Return Hose Routing



Figure 12: Lubricate Seal –> Touch +3/4

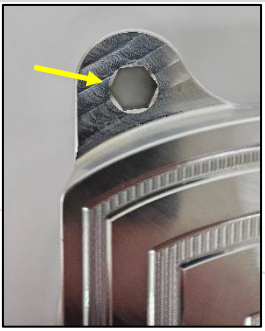


Figure 13: 8mm Allen for filter removal

20. **Lubricate the seal on the top of the spin-on filter P584171 with clean engine oil.**
21. **Thread the filter onto the S&S filter head until the seal BARELY touches. Use the 4 arrows at the top of the filter to turn the filter ½ to ¾ turns from the seal touching. ½ turn is enough, ¾ turn is max.**
    a. NOTE: Tools should not be required to tighten the filter to this point. If you overtighten the filter, you will make it difficult to remove.
    b. **Filter Removal:** S&S has designed in two 8mm (5/16") allen holes that can be used in conjunction with a filter wrench such as GearWrench GW3082 or GW3288D to aid in removal of the filter. (Figure 13)
22. **Place the filter head assembly onto the two mounting posts.**
    a. NOTE: For trucks not-equipped with a S&S DCR or DPK product, it may be easier to attach the fuel lines before bolting the filter head to the posts as the OEM vinyl tube going to the middle port needs to be aligned with the port to prevent damage to the two O-Rings inside the connector and angling the filter head slightly may make this easier.
23. **Using the two bolts provided by S&S in the bagged kit (#15 on page 2 diagram), attach the filter head assembly to the mounting posts using a 10mm socket (torque to 89 lb-in).**
24. **Using clean engine oil or diesel fuel, lubricate the OD of the three male Quick Connect fittings and attach the three quick connect fuel lines. Tug on them after locking.**
    a. For 17+ model years with the white clip connector from the tank to the filter head, that clip has 3 detents (Locked, Middle, and Unlocked). Put the clip in the MIDDLE position before pushing it onto the filter port.
    b. S&S Leak Prevention Fitting, the blue collar must be pulled towards the 90 deg bend (Unlocked position) before pushing it onto the filter port.

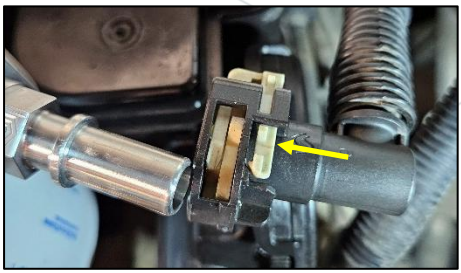


Figure 14: Lock Tab Middle Position

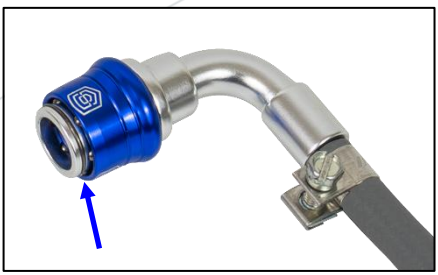


Figure 15: Collar Unlocked Position

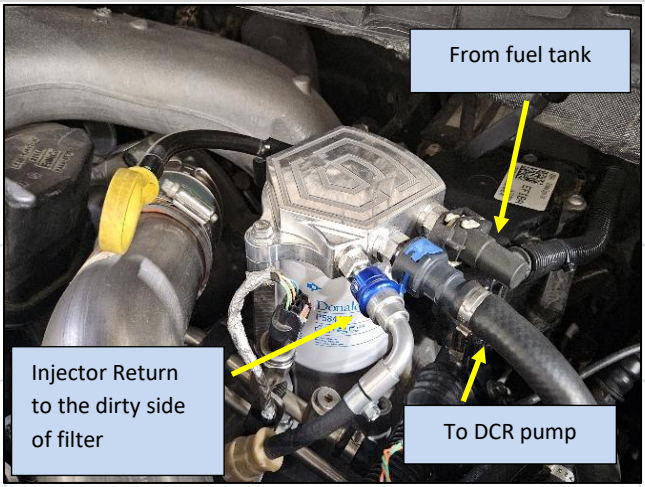


Figure 16: 2020+ equipped with DCR pump

25. **Completed installation should look like Figure 16 for 2017-2026 model years and Figure 9 for 2011-2016 model years (Fuel tank feed fitting length is the only difference)**
26. **Connect both negative battery cables if disconnected.**
27. **If not replacing or already replaced the chassis-mounted filter, move to the next step. If you are replacing the chassis-mounted filter, move to that portion of these instructions.**
28. **DO NOT attempt to start the engine without first priming the system. Turn the key to the ON position for 30 seconds. Repeat this at least 5 times.**
    a. During the priming process, inspect for leaks around the recently installed components.
    b. For vehicles equipped with a push-button start, press the button without your foot on the brake pedal to power up the lift pump.
29. **Start the Engine**
    a. If it starts and dies, repeat the 5x priming cycle before attempting to start again.
    b. If there is an audible buzzing at the engine-mounted filter, drive the vehicle to work all of the air out of the system OR see 'note C' below.
    c. If there is a gurgling / cavitation noise under the truck than the chassis-mounted filter (not the engine-mounted filter) is not sealed correctly which may not cause an external fuel leak but will cause aeration of the fuel and audible noises.

Chassis-Mounted Filter Change Instructions (2011-2016) – Donaldson P584946:

1. **Place a large catch container under the fuel conditioning module shown in Figure 17.** To reduce the siphoning effect, it is recommended to perform this procedure with less than half a tank of fuel (refer to Step 4).
2. **If you suspect bad fuel or are curious about water content, open the water drain (#4 in Figure 17) and catch the fuel/water in a clear container such as a water bottle. Close the drain valve.**
    a. If the water content is high, the water will settle out to the bottom of the container.

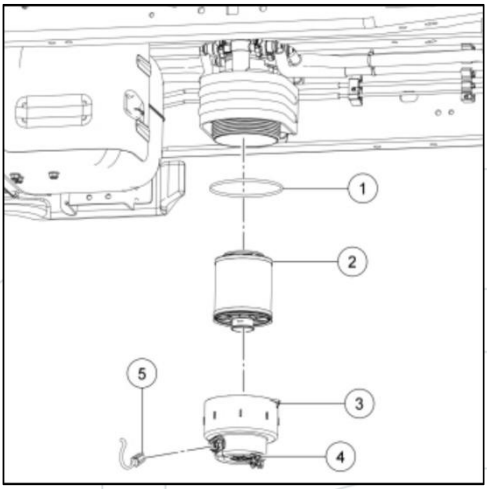


Figure 17: 2011-2016 Chassis-Mounted Filter

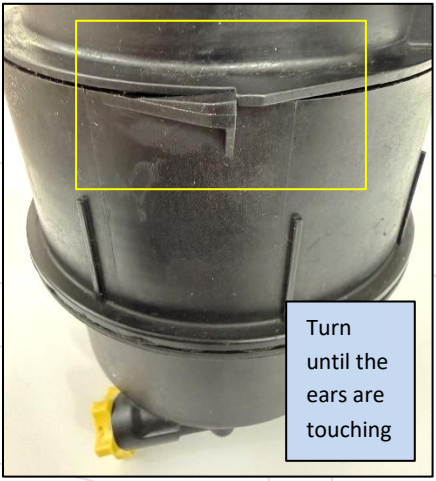


Figure 18: Fuel Module Locking Tab

3. **Unplug the Water in Fuel sensor (#5 in Figure 17). Move the open harness plug to a location where fuel will not spill on it.**
4. **Using a 32mm or 1 ¼" socket, rotate the plastic cap counterclockwise at least 3 rotations to drop the cartridge filter low enough to close the check valve.**
    a. IMPORTANT: You cannot open the water drain valve at the bottom before performing Step 4 as the siphon effect will drain the whole fuel tank. There is a check valve in the top of the module that the cartridge filter (#2 in Figure 17) pushes against, so you must drop the cap and filter down 3 rotations of the cap to close the check valve.
5. **Once you have loosened the cap 3 turns (#3), you can drain the remaining fuel in the cap out through the water drain (#4) or just remove the whole cap.**
6. **The cartridge filter should come down with the cap as there are fingers on the bottom of the cap that should retain the filter.**
7. **Remove the old filter from the cap and install the new filter.**
8. **Remove the old cap o-ring (#1), lubricate the new o-ring with engine oil or similar o-ring lubricant (VERY IMPORTANT), and install on the cap.**
9. **Install the cap by turning clockwise until it reaches the locking tab (Figure 18)**
    b. NOTE: If you don't tighten this cap, you will get an air leak around the o-ring as this is on the suction side of the supply pump (not pressurized here).
    c. If you try to tighten the cap past the lock tab shown in Figure 18, you may crack the housing and cause an air leak on the suction side of the supply pump.
10. **Connect the water in fuel sensor connector.**
11. **Very Important: Refer to Step 28 in the LPK install section for priming instructions.**

Chassis-Mounted Filter Change Instructions (2017-2026) – Donaldson P585405:

1. **Place a large catch container under the fuel conditioning module shown in Figure 19.** To reduce the risk of siphoning, it is recommended to perform this procedure with less than half a tank of fuel (refer to Step 4).
2. **If you suspect bad fuel or are curious about water content, open the water drain and catch the fuel/water in a clear container such as a water bottle. Close the drain valve.**
    a. If water content is high, the water will settle out to the bottom of the container.
3. **Unplug the Water in Fuel sensor. Move the open harness plug to a location where fuel will not spill on it.**
4. **Using an 8mm socket, remove the QTY: 5 bolts shown in Figure 19. They are retained so they will not come out completely when loose. Once you have dropped the cap enough to close the check valve (Figure 20) then you can use the drain valve to drain the cap.**
    a. IMPORTANT: You cannot open the water drain valve at the bottom before performing Step 4 as the siphon effect could drain the whole fuel tank. There is a check valve in the top of the module that the panel filter (Figure 20) pushes against, so you must drop the cap and filter down to close the check valve.
5. **Remove the cap and filter assembly from the vehicle. To remove the filter from the cap, slide the filter sideways towards the water drain valve while keeping the cap stationary.**
6. **Install the new filter by sliding it in sideways, opposite direction of removal.**
7. **Remove the old rubber seal and install the new one.** Using clean engine oil or a similar o-ring lubricant is recommended but not as critical as on the 2011-2016 models.
8. **Install the cap and filter assembly and tighten the QTY: 5 bolts EVENLY. Torque them to 44 lb-in.**
9. **Connect the water in fuel sensor connector.**
10. **Very Important: Refer to Step 28 in the LPK install section for priming instructions.**

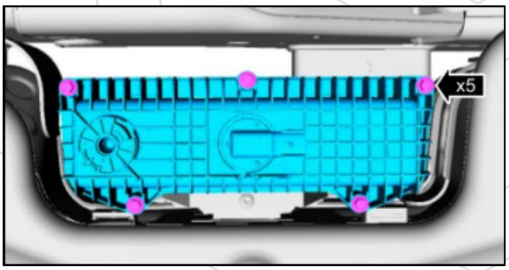


Figure 19: Loosen these 5 bolts to drop the cap

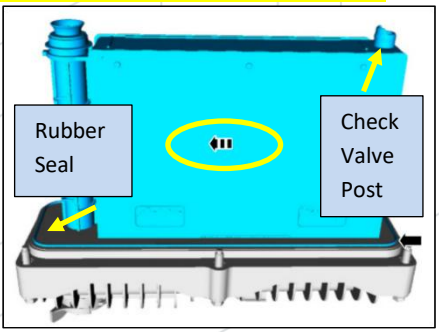


Figure 20: Slide filter sideways (Left in photo)

Add-On (Optional) components NOT INCLUDED in the S&S Leak Prevention Kit (LPK)

- **Ford 6.7L Supply Line Mount (PN: 6.7F11-LPK-SLM):** Provides the 4 components that are "OEM Reuse" in these LPK instructions. (Blue components on page 2)
- **Ford 6.7L LPK Dipstick Mount (PN: 6.7F11-LPK-DSM):** S&S designed a kit to mount the engine dipstick to the back of the LPK filter head. ONLY required with aftermarket intake piping kits that push the dipsticks outboard and/or don't provide a bracket.

Dipstick Mounting Kit Instructions (PN: 6.7F11-LPK-DSM) ALL YEARS – *must be ordered separately*

- **This kit is only needed to accommodate Aftermarket Intake Piping kits.**

1. **With the LPK filter head removed, rotate the engine oil dipstick under the transmission dipstick.**
2. **Install the S&S mounting plate. The plate is not symmetrical but can be installed either way.**
   a. *2011-mid 2014 – See instructions provided with the Dipstick Mounting Kit*
   b. Mid 2014-2019 should be installed where the mounting hole is furthest outboard (Fig. 23)
   c. 2020+ with only the engine dipstick can flip the plate over to set the hole more inboard
3. **Mount the plate to the back post of the filter head using the longer bolt (4mm allen) to 89 lb-in**
   a. Bend the plate downward slightly if necessary for your application.
4. **For mid 2014-2019, use the provided isolator to attach the engine tube to the trans tube.**
   a. The isolator nuts are 11mm (7/16”). Torque to 89 lb-in after Step 5 is complete.
   b. NOTE: With some aftermarket intake brackets, the isolator stud may attach to it.
5. **Using the shorter 4mm allen bolt & 10mm nut, attach the engine dipstick to the plate. (89 lb-in)**



Figure 21: OEM Dipstick Orientation



Figure 22: S&S LPK DSM Orientation

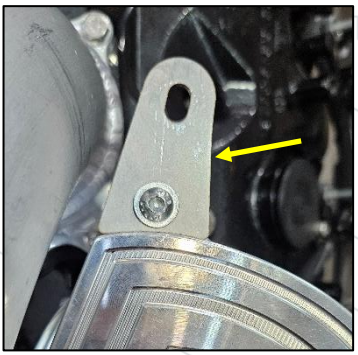


Figure 23: Mid 2014-2019

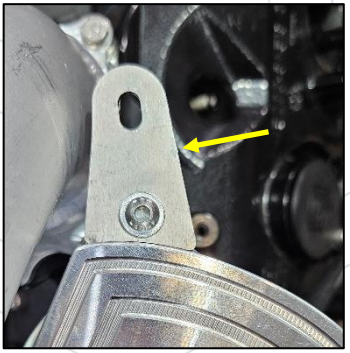


Figure 24: 2020-2026

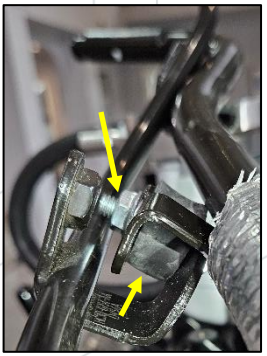


Figure 25: Isolator Mount

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