



## Lower Fuel Filter Upgrade Kit

2023+ FORD 6.7L POWER STROKE | 121010

INSTALLATION GUIDE

[HS-MOTORSPORTS.COM](https://www.hs-motorsports.com)

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# Lower Fuel Filter Upgrade Kit

2023+ Ford 6.7L Power Stroke

## IMPORTANT!

Please inspect and thoroughly clean all parts prior to installation. Any small particle of dust or contamination can cause catastrophic failure to a fuel system. If you are unsure if you can install this product without contamination, please refer to a professional installation shop.

## TROUBLESHOOTING

Please read and understand all installation instructions before proceeding with the installation. If you have questions during the installation of this product, please contact H&S Motorsports support at [tech@hs-motorsports.com](mailto:tech@hs-motorsports.com) or (855) 623-4450.

## INCLUDED PARTS

- 1 - Fuel Plate Assembly
- 1 - Fuel Filter Block
- 2 - Fuel Hoses
- 2 - Mounting Plates

- 1 - Hardware pack

**NOTE!!!** THERE ARE SOME CRUCIAL STEPS IN THE INSTALLATION OF THIS KIT. WHILE WE HAVE DONE OUR VERY BEST AND MADE THIS AS EASY AS POSSIBLE, PLEASE MAKE SURE TO FULLY READ AND UNDERSTAND EACH STEP PRIOR TO ATTEMPTING INSTALLATION. IF YOU DO NOT, PLEASE TAKE IT TO A CERTIFIED TECHNICIAN FOR INSTALLATION. IT IS THE INSTALLERS RESPONSIBILITY TO ENSURE ALL PARTS, HOSES AND FITTINGS IN THE SYSTEM ARE CLEAN AND INSTALLED CORRECTLY!

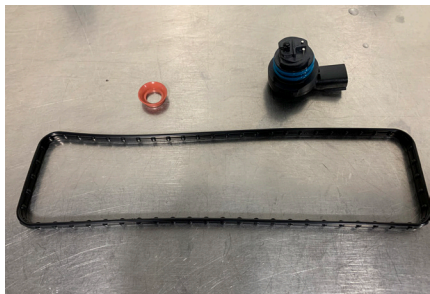
## STEP 1

Locate lower factory fuel filter assembly on fuel tank. If your truck is a short bed, remove the three factory clips as shown and remove rock guard. Unplug factory water-in-fuel sensor connector from sensor. Open yellow drain valve and drain filter contents into a drain bucket. Loosen the 5 mounting bolts and fuel should discontinue to drain. Remove the 5 bolts and remove factory fuel filter.



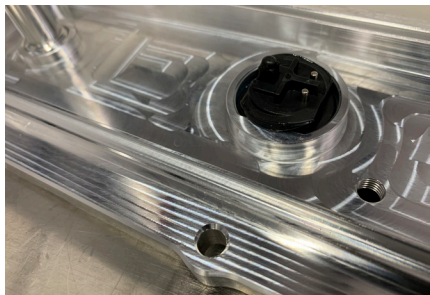
## STEP 2

Remove factory water in fuel sensor out of factory lower cover by twisting out of the lock and pulling the sensor out. Remove pink sealing o-ring from top of factory fuel filter as shown. Remove the large sealing o-ring around the base of the lower housing.



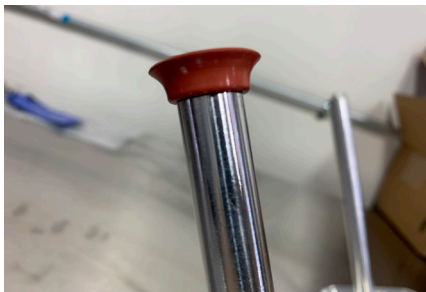
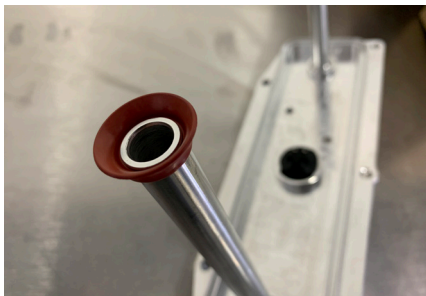
## STEP 3

Locate HSM billet fuel plate assembly. Clean all dirt and debris off the factory water in fuel sensor. Rub Vaseline or assembly grease on the o-rings and install into HSM fuel plate assembly as shown. Twist sensor into lock position against the drain with the plug facing with the arrows on the plate until it stops as shown. Make sure the sensor is pushed into the plate all the way as shown into the locks. Install pink sealing o-ring onto the top of the "in" (long fitting) as shown. Make sure it is in the groove and seated all the way around as pictured. Clean and Install large sealing o-ring into the groove around the base of the HSM fuel plate assembly.



## STEP 3 CONTINUED

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## STEP 4

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Locate the five supplied 6mm stainless flange bolts. **THIS STEP IS IMPORTANT, PLEASE FOLLOW THE INSTRUCTIONS!!** Install your HSM fuel plate assembly up into the factory upper filter housing assembly. The tube must slide up into the fuel port up inside the factory housing as shown for correct installation!!!! Be patient, a little maneuvering will be necessary to get it all aligned correctly. You will feel it click into place and the HSM plate will mount flush with the factory upper filter housing. **THIS STEP IS IMPORTANT, PLEASE FOLLOW THE INSTRUCTIONS!!** Install the five 6mm flange bolts by hand insuring they all are starting straight and easily. Run them all in by hand, we have found some of the factory plastic housings to be warped slightly and it may take a little maneuvering to get the bolts in correctly without damaging the factory plastic housing. Torque bolts to 44in lbs. **DO NOT OVERTIGHTEN OR FACTORY FILTER HOUSING MAY GET DAMAGED!!!!**

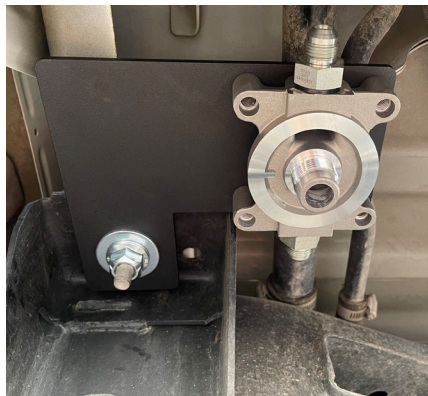
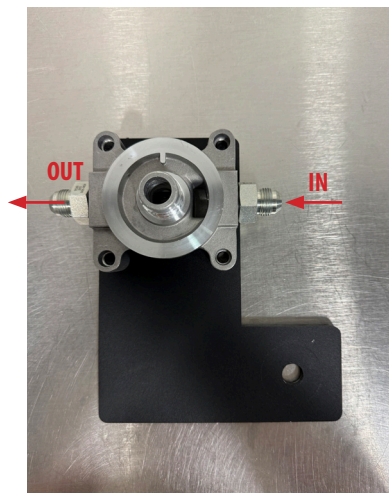
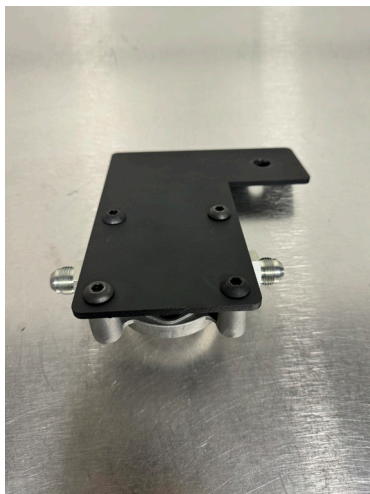


## STEP 5

LONG BED OR AFTERMARKET FUEL TANK FILTER HOUSING AND FUEL LINE INSTALLATION:

SEE 5A FOR SHORT BED.

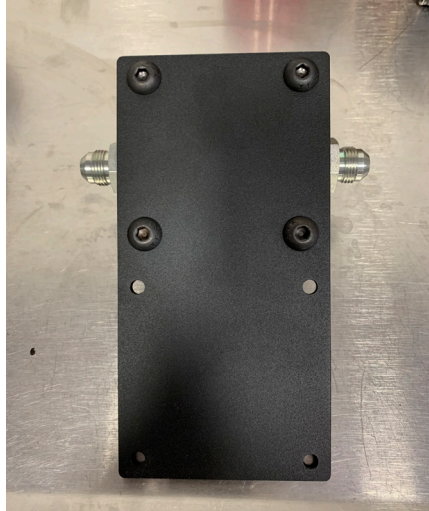
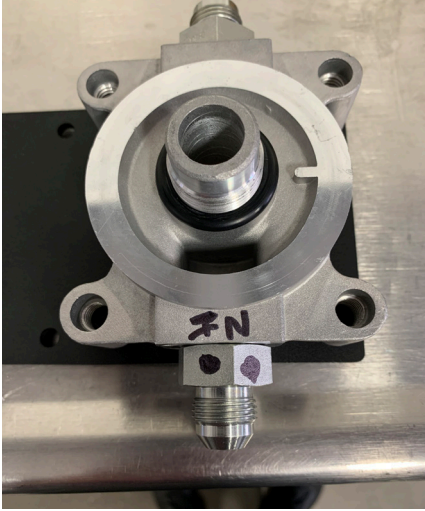
Locate HSM fuel filter block, two -8an fittings, mounting plate, four 3/8 button head allen bolts and 14mm flange lock nut. Lube the sealing o-rings on the -8an fittings and tighten them into the fuel filter housing. **NOTE ON THE FUEL FILTER HOUSING THE "IN" AND THE "OUT" PORTS. MARK THE "IN" FITTING WITH A SHARPIE OR MARKING PAINT SO YOU DO NOT GET THEM CONFUSED LATER AS PICTURED!!!!** Using the four button head allen bolts install the fuel filter housing onto the mounting plate as pictured in the LB/AT (long bed/aftermarket fuel tank) picture and tighten bolts. Place black spacer-washer onto the front driver side factory bed bolt, then place the filter housing mounting plate and tighten 14mm locking flange nut and 14mm fender washer onto stud as shown.

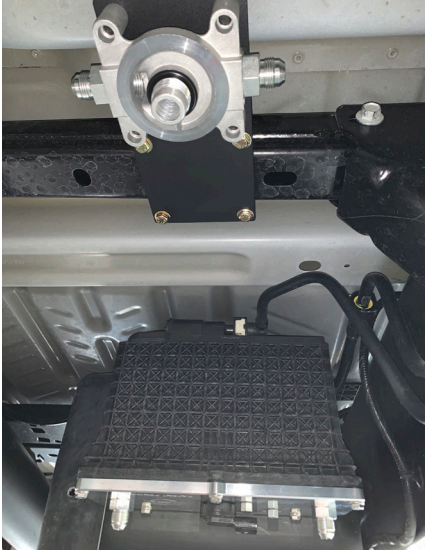


## STEP 5A

### SHORT BED FILTER, FILTER HOUSING BRACKET, AND FUEL LINE INSTALLATION:

Locate HSM fuel filter block, two -8an fittings, mounting plates, four 3/8 button head allen bolts. Lube the sealing o-rings on the -8an fittings and tighten them into the fuel filter housing. **NOTE ON THE FUEL FILTER HOUSING THE "IN" AND THE "OUT" PORTS. MARK THE "IN" FITTING WITH A SHARPIE OR MARKING PAINT SO YOU DO NOT GET THEM CONFUSED LATER AS PICTURED!!!!** Using the four button head allen bolts install the fuel filter housing onto the mounting plate as pictured and tighten bolts. Locate the four 1/4x3" grade 8 bolts, four flat washers and four 1/4 nyloc nuts. Using upper mounting plate bracket, sandwich mount filter housing with mounting plates up onto the upper frame cross member as shown. Adjust filter to desired position and tighten the bolts.



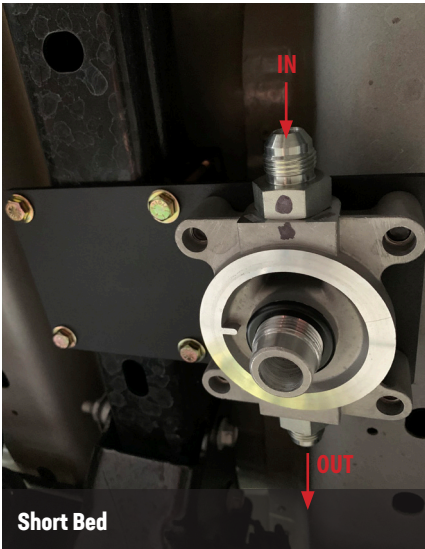


*NOTE: On trucks equipped with factory full length running boards your mounting bracket may require slight modification to make it fit.*



## STEP 6

Fuel hose installation, **ALL VEHICLES: THESE HOSES MUST BE ROUTED CORRECTLY FOR PROPER FUNCTION OF FUEL FILTER AND SYSTEM!!!!!!! NOTE--THESE FITTINGS HAVE A VERY HARD ANODIZED COATING ON THEM. IF YOU INSTALL YOUR HOSES AND EXPERIENCE A SLIGHT LEAK OF DIESEL FUEL AT THE FITTING PLEASE TIGHTEN THE FITTINGS UP FURTHER, THEY WON'T BE DAMAGED.** Locate the provided HSM fuel hose assemblies. Be sure they are free and clean off all debris! Route and install one of the provided the fuel hoses to the "out" fitting on the HSM fuel plate assembly. This will go the "in" fitting on the HSM remote fuel filter housing assembly. Route the other hose and install it to the "in" fitting on the HSM fuel plate. This hose will go to the "out" fitting on the remote fuel filter housing. Ensure hose is routed correctly and tighten fittings. Be sure fittings are seated and tight, so no air may enter the system. Zip tie hoses together so they are not rubbing on any sharp edges.



## STEP 7

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Locate provided CAT filter. **IT HAS A PROVIDED O-RING WITH IT THAT MUST BE INSTALLED ON THE FILTER POST AS SHOWN!!!!!!** This will ensure proper function of the filter and system. Lube the fuel filter o-ring and install the fuel filter onto the housing. Hand tighten.



## STEP 8

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**Short bed trucks only:** You may trim the splash/rock guard to fit around the filter lines as shown and re-install it with the factory clips.





## STEP 9

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Turn the key to the run position for 30 seconds and prime the system. Do not start the engine! Repeat this process until the system is primed, this may take 4-5 key cycles. Start engine and check for proper function of system. You may notice some noise from the factory fuel pump while the air is purged out of the system. This is normal.

Now you can change your fuel filters with ease and much less mess!!

**Enjoy your HSM 2023+ Ford lower fuel filter conversion kit!!!!!!!**



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