

WILD HORSES

FOUR WHEEL DRIVE

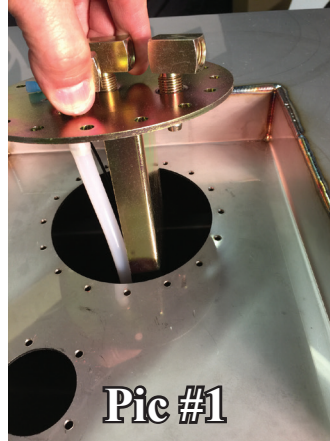
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Note: To assure a completely clean tank, use the large hole to inspect tank for any debris. It is highly recommended that the tank be flushed out before installing. Don't move on to assembly until you are satisfied with the cleanliness of the inside of the tank.

EFI WITH "IN TANK PUMP" FUEL MODULE ASSEMBLY

1. Locate fuel module and lay out parts.
2. Remove the hose from the "S" fitting. Install main part of the module into top of fuel tank with 16 screws, do not tighten at this time. Gasket is not necessary. Install in the orientation shown in pic #1&2.
3. Mark the spots on top of the module for the fittings with the corresponding letters V=Vent, R=Return and S= Supply. Pic #2
4. Remove 3 fittings from the top of the fuel module. Use Permatex High Tack Gasket Sealant Pic #3 or another fuel resistant sealant on the threads of the fittings. Reinstall the fittings in this order V, R, and S. Make sure not to cover screws as you will be removing the unit once this step is done. These are tapered NPT threads. The fittings must be very tight and oriented as shown in Pic #4 when done. Now remove the assembly from the tank.
5. Mark 3/4" down from bottom of slot on main part of module and drill a 3/16" hole. Pic #5
6. Bolt the fuel tray to the main part using one of the two 3/16" screws and nuts. Pic #6
7. Test fit the module into the tank. Use the cork gasket for correct spacing. You are checking that the fuel tray is as close to the bottom of the tank as possible but not resting on the bottom of the tank. If the fuel tray is resting on the bottom of the tank drill another hole or slot the first hole. The fuel tray must sit just off of the bottom of the tank in order for the gasket to seal properly.

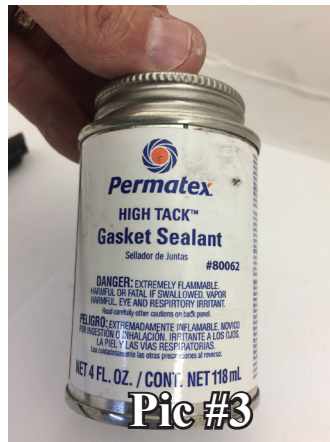
Main Fuel Tank #9664 Date 3/17/18 rev. 0



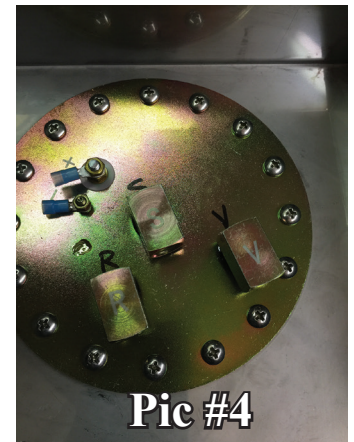
Pic #1



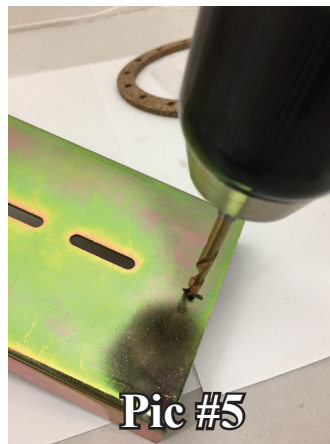
Pic #2



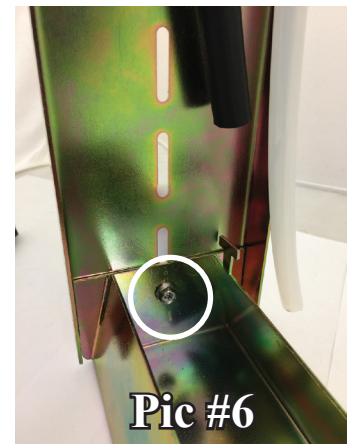
Pic #3



Pic #4



Pic #5



Pic #6

8. Install the filter to bottom of pump. It just pushes on. Note the orientation in Pic #7

9. Line up pump, fuel foam and fuel tray. Cut notch in fuel foam to slide pump through. Pic #7

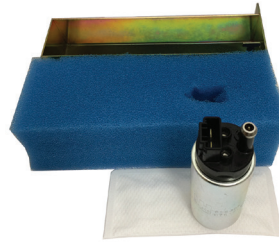
10. Put return fuel tube (white tube) into fuel tray. Install fuel pump and foam into fuel tray. Fuel pump will sit at the bottom of the fuel tray. Pic #8&9

11. Now install the hose with high pressure clamps. One on the pump and one on the fitting. Pic #10 Plug in the electric connection and make sure it's clips into the pump. Also see Pic #13

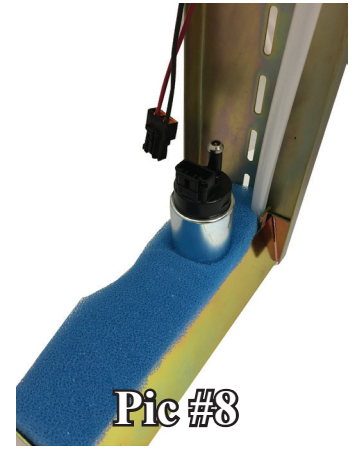
12. Tighten the ground and positive fuel pump lead on the tank side of the fuel module. Pic #11 The ground uses the nut and lock washer from the tank side of the module. The positive lead uses a screw going through the module from the tank side to the top as shown in Pic #11-12

FUEL MODULE INSTALL INTO FUEL TANK

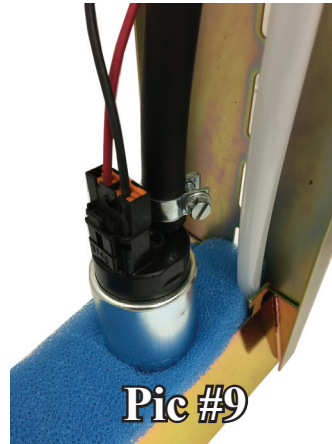
13. Use Permatex High Tack Gasket Sealant Pic #3 or another fuel resistant sealant between the cork gasket and tank and then between the cork gasket and fuel module. Pic #14 Install fuel module in same orientation as we did in Pic #1 and Pic #2. Use 16 screws to install module to tank. Coat each screw with Permatex High Tack Gasket Sealant. Start all of the screws evenly making sure not to cross thread. All screws should be started before any are tightened down. Seat all screws to the top of the module just finger tight to start. Once all screws are finger tight use screw driver to tighten all 16 evenly being careful not to over tighten. Installed module should look like Pic #4 at this time.



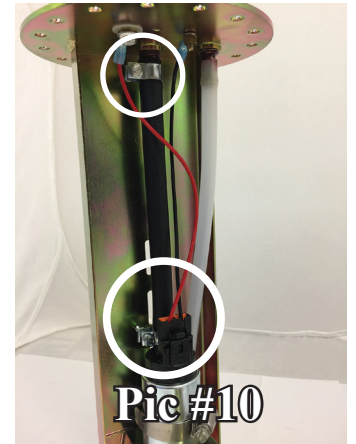
Pic #7



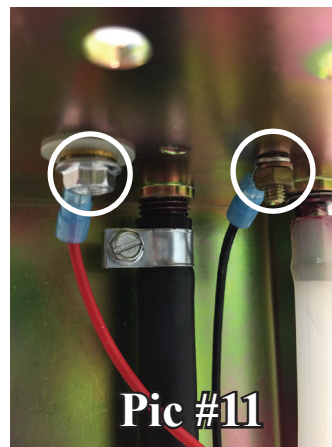
Pic #8



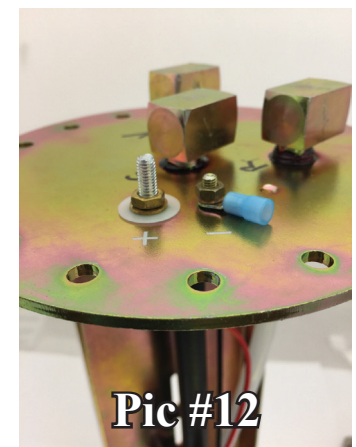
Pic #9



Pic #10



Pic #11



Pic #12

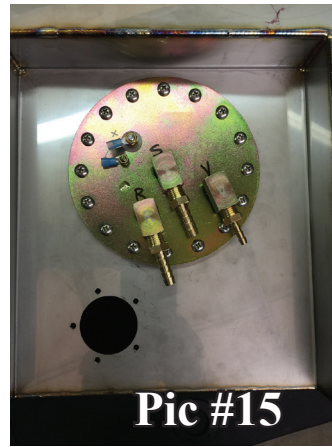


Pic #13

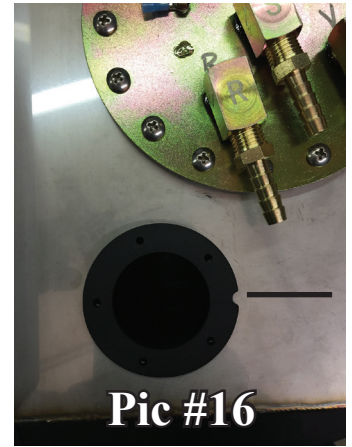


Pic #14

14. Now install fuel hose and vent barb fittings into the proper locations on the top of the fuel module. The vent is optional and can be capped off with the 1/4" NPT plug if no vent is going to be used. The vent is supplied for locations that require tank venting per emissions regulations. Coat hose barb fittings with Permatex High Tack Gasket Sealant and thread in. These are 1/4" NPT and must be tight. When done your module should look like Pic #15



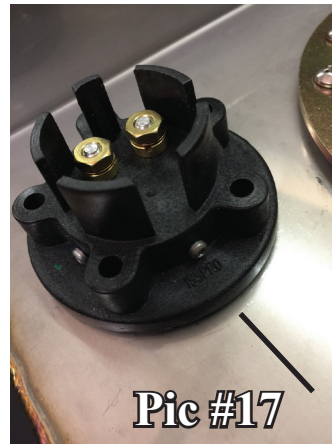
Pic #15



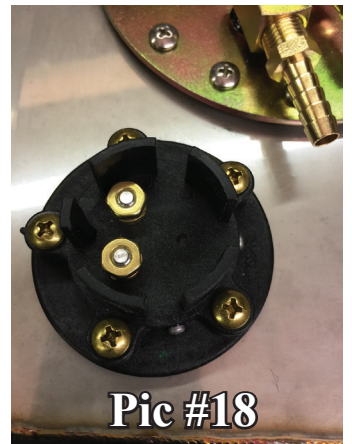
Pic #16

SENDING UNIT INSTALL INTO FUEL TANK

WH uses made in the USA ISSPRO sending units specifically designed for this tank. We simply can't purchase anything better. They have been tested and retested. The original Ford gauges vary greatly so we took a range of gauges in order to come up with the settings for our sending units. If everything is working properly I.E. gauge, tank switch on dash, gauge regulator, and wiring when you are at empty you should only have a gallon or so left. At full because of the recess it may take a few miles before the gauge starts to travel towards empty. Run through a few tanks of fuel and get used to the new Gauge/sending unit readings.



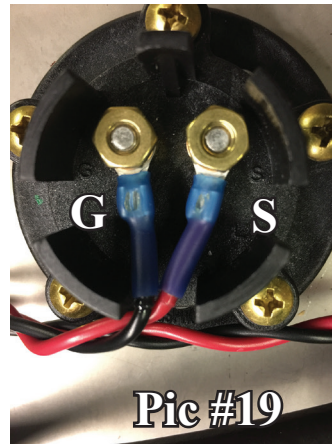
Pic #17



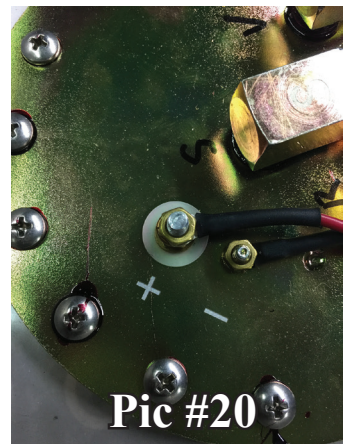
Pic #18

15. Please note the sending unit and sending unit seal only install to the tank in one position. The holes are not symmetrical so you will want to determine the orientation of the seal and unit ahead of time. See Pic #16 The notch in the gasket will line up with the ISSPRO logo on the sending unit. Pic #17

16. Coat seal top and bottom with Permatex High Tack Gasket Sealant. Use a little sealant on each of the five sending unit screws. Tighten sending unit screws evenly being careful not to cross thread or strip threads. Pic #18



Pic #19



Pic #20

WIRING PUMP & SENDING UNIT

17. Sending unit terminals are marked G=ground and S=supply. Use 12" of black 16 ga. wire for the ground and 12" of red wire for the supply. Install ring terminals to both wires and attach to sending unit in proper locations. Pic #19

18. Wire the ground and positive leads for the fuel pump. They are marked on the top of the module. Use about 16" black wire for ground and 16" red wire for positive. Install ring terminals to both wires and attach to module in proper locations. Pic #20 Test the pump. Run jumper wires + and - to a battery. You are just checking that the pump functions. Mark either your sending unit wires or fuel pump wires just to make sure when it's time to hook them up you can see which is which. Pic #21



Pic #21

19. Now install starter hoses for your supply and return. Also install your vent hose at this time if using one. If not use the NPT plug. Remember to use high pressure hose for your supply. Pic #23 shows stainless hose for the supply. You don't have to use stainless but you do have to use hose designed for high pressure fuel injection. Regular low pressure fuel hose can be used for the return. Now at this point you may be thinking why use the starter hoses? Why not just connect the hose that will run all the way to the EFI unit? You can do that but if you ever need to remove the tank it will take a lot more work to do so unless you add a few feet of extra hose at the tank so you can drop it enough to get to the clamps. The choice is yours.



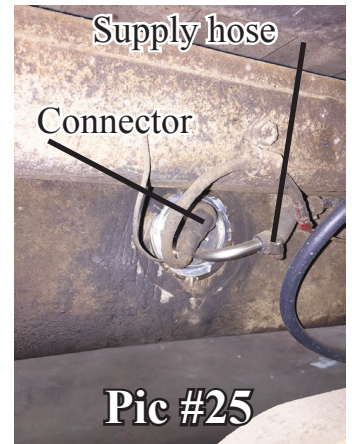
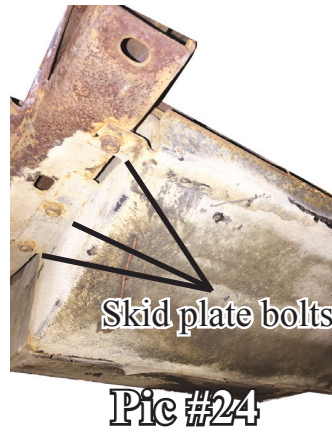
REMOVAL OF EXISTING STOCK TANK

We are going to assume your Bronco still has the stock rear/main tank for this discussion.

22. Disconnect the battery for safety.

21. If you still have a lot of fuel in the tank you will want to drain it at this time.

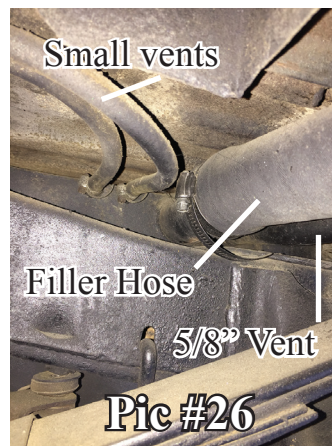
22. Remove any existing skid plate. Pic #24



23. Pull sending unit connector off of the tank. Pic #25

24. Disconnect the fuel supply hose from the port on the sending unit at the front of the tank. Pic #25

25. Disconnect fuel filler hose and large 5/8" vent hose next to the filler hose. Very early Broncos did not have the vent hose. If this is the case on your Bronco you can cap off the 5/8" vent tube on the side of your new tank or swap in a new fuel filler tube like WH #9727 into your Bronco so you can use the vent. Pic #26



26. You may have small vent hoses. Disconnect them at this time if you have them. They will be located on the same side of the tank as the filler hose. Pic #26

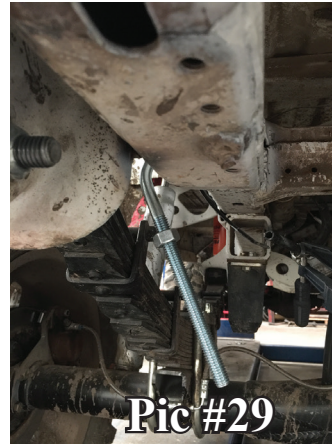
27. Loosen the j-bolt on the driver side of the frame. This is the bolt holding the tank strap. Remove the j-bolt and strap. You should now be able to lower the tank and remove it from the frame. Pic #27

28. Remove the tank supports from the frame. There are two at the back of the frame on the right side and on the left. There are two at the cross member towards the front. Remember this is if you have a stock tank. If you have an after-market tank these brackets are already removed. Pic #28

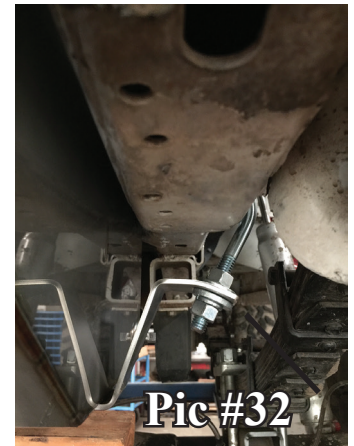


INSTALLING M1A1 TANK

29. Test fit 7/16" candy cane bolts into frame. You need to make the frame hole slightly larger for the new HD bolts. Do this with a drill or round file. The bolts should move freely when the holes are the right size. Thread one 7/16" nut all the way up the threads on each bolt. NOTE: If you have any body lift you can cut that amount off the candy cane bolt. So the bolts won't hang down below the tank. The M1A1 is designed to go up into the space of any body lift. This will also increase ground clearance. Pic #29



30. Now take note of the underside of the floor of your Bronco where the tank will sit. There should be nothing sticking through the floor in this area with the exception of the seat belt bolts. Those bolts will fit inside the recess in the new tank and allow the tank to sit flat against the floor. If you see anything like screws, bolts or anything else in the way of the tank, it will need to be removed before you install the new tank. Pic #30



31. Note the condition of the frame and check for any pigeon poop welds coming off the inside of the frame. Take a grinder to any excessive welds. The M1A1 fits right inside the frame and this allows for as short of a tank as possible while retaining the increased fuel capacity.

32. Position the M1A1 tank up in the frame against the floor of the Bronco. Make sure your wiring and hoses are coming over the top of the cross member and accessible. If you are installing the skid plate install the tank and skid plate at the same time. You can hold everything in-place with a floor jack or some other means. Add a washer to the candy cane bolts then the skid plate or strap another washer, lock washer and nut. Tighten them by hand at this time. Double check to make sure all wires and hoses are positioned properly. Also check that the tail light wiring is not being pinched by the tank. Tank should be flat against floor of Bronco. Pic #31 (Shown in Bronco with 3" body lift) Pic #32 (shows strap install in Bronco with 3" body lift) Pic #34&36 M1A1 with skid plate.



33. Install filler hose and 5/8" vent hose. Now you can tighten the candy cane bolts evenly to secure the tank. Once the lower nuts are tightened use the upper nuts and washers to tighten the skid plate or strap between the nuts and washers. Slight deformation on end of strap will take place as shown in Pic #32. Pic #33 shows tank installed with strap in Bronco with 3" body lift. Pic #35 shows filler and 5/8" vent hose. Pic #36 shows M1A1 with skid plate.



34. Now wire your sending unit. You can cut the old stock connector off the existing wiring. Follow the old ground wire and remove it from the frame. You can install the new sending unit ground wire to the same spot as the old. The remaining wire goes to the gauge. Use a butt connector or some other means to connect the wiring. Pic #38

35. Now wire the fuel pump. For the ground you could use the same location as the ground for the sending unit. You should have a fuel pump wire depending on what type of EFI you are running. Connect the wire to the positive (red) wire going to the fuel pump. Pic #38

36. Connect your supply and return hoses. WH highly recommends you add a 30 micron filter somewhere after the pump and before the EFI unit many EFI system will come with the filters as part of the kit. Remember your supply is under high pressure so use the correct hose and clamps. Also connect small tank vent hoses if necessary at this time.

37. Secure wiring and hoses to the frame by your preferred method. Now you are ready to add fuel!

38. As a precaution we like to power up the pump after adding fuel to the tank. We disconnect the fuel supply hose right before the EFI unit and cycle the pump to get fuel moving through the hose. If you run the hose into a clear container you will be able to see any contamination that the filter is not catching. After a few seconds you should be good to hook the hose back up and continue from there.

39. We have found it a great tool to have a pressure gauge hooked up right before the EFI unit. That way it is easy to monitor fuel pressure when getting a new system running or also for diagnosing an existing system.

Thanks for your business. Please provide any comments on the WH website www.wildhorses4x4.com or call them in M-F 8:30-5:00 PST.

Pic #38

