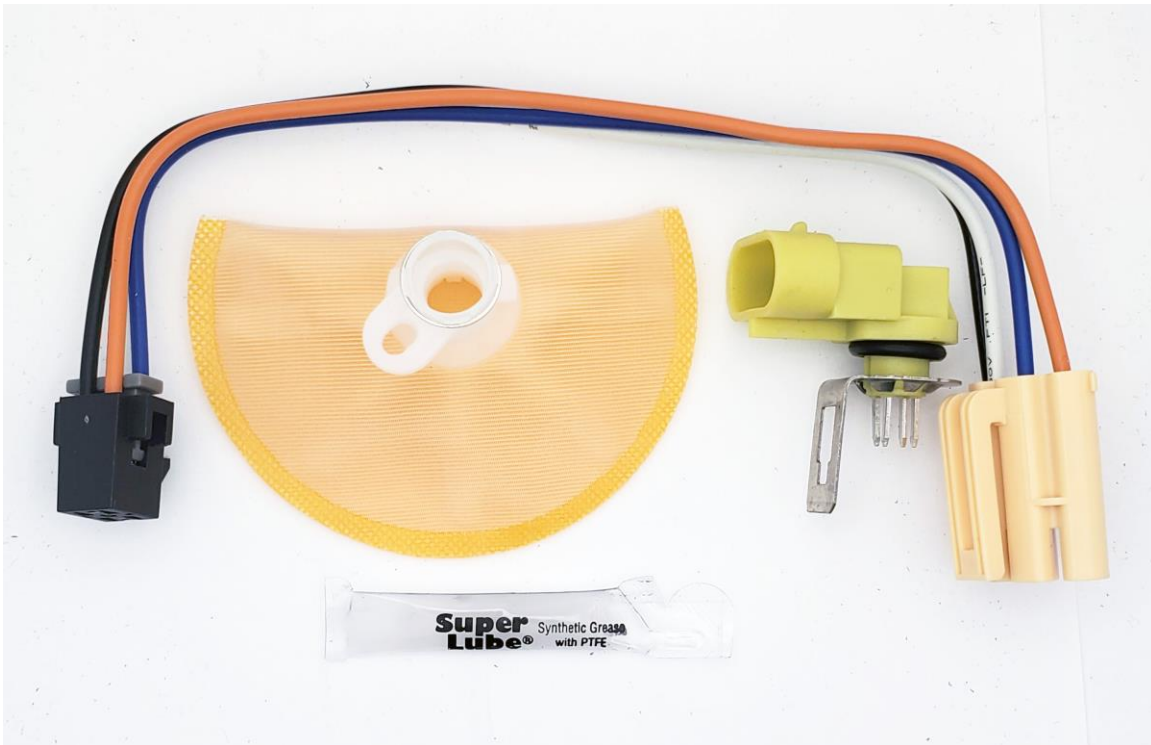


# 9-441-C10x-0908

## DeatschWerks 1999-2004 Ford Mustang DW440 Brushless Pump Installation Guide



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## Included Parts:

- DW440 Brushless 440LPH Fuel Pump
- 8" Pump Electrical Connector
- Electrical Bulkhead w/Retainer and O-Ring
- Fuel Sock Pump Pre-Filter
- 1cc Super Lube

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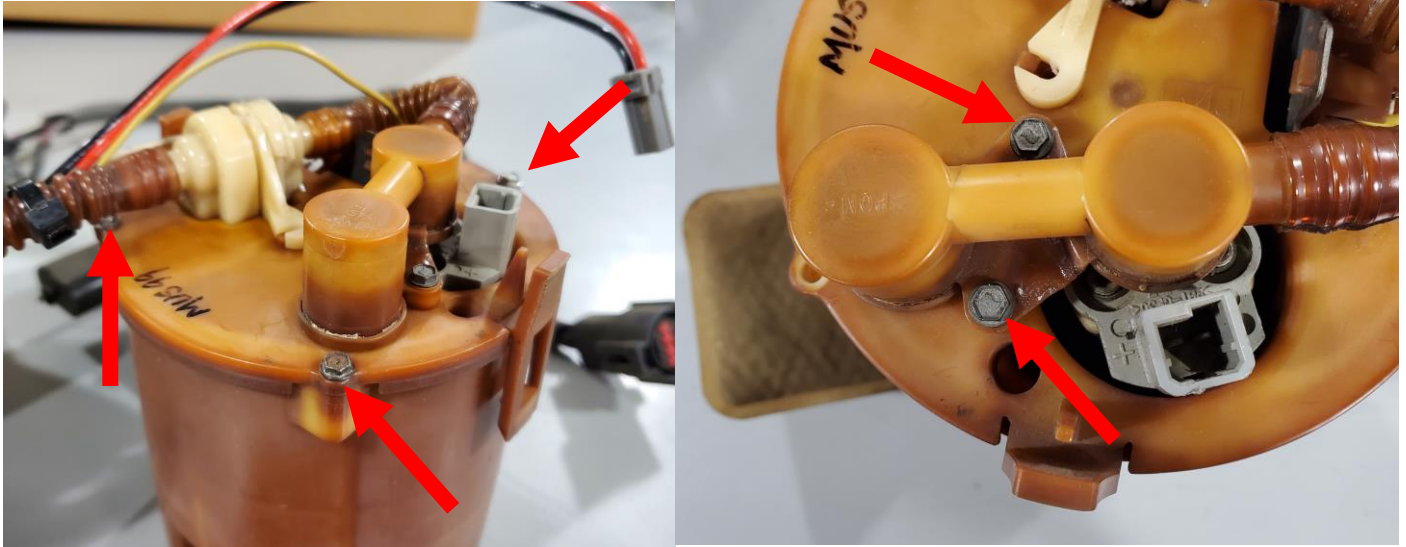
**PLEASE READ:** This guide is intended to aid in the installation of our products. It is recommended that factory manuals or instructions are followed to remove the fuel pump assembly from the vehicle. Instructions in this guide are generic and are intended to aid in the installation of a DW440 Brushless fuel pump. The factory manual should supersede any contradiction.

Below is a picture of some suggested tools that will make the installation process easier.

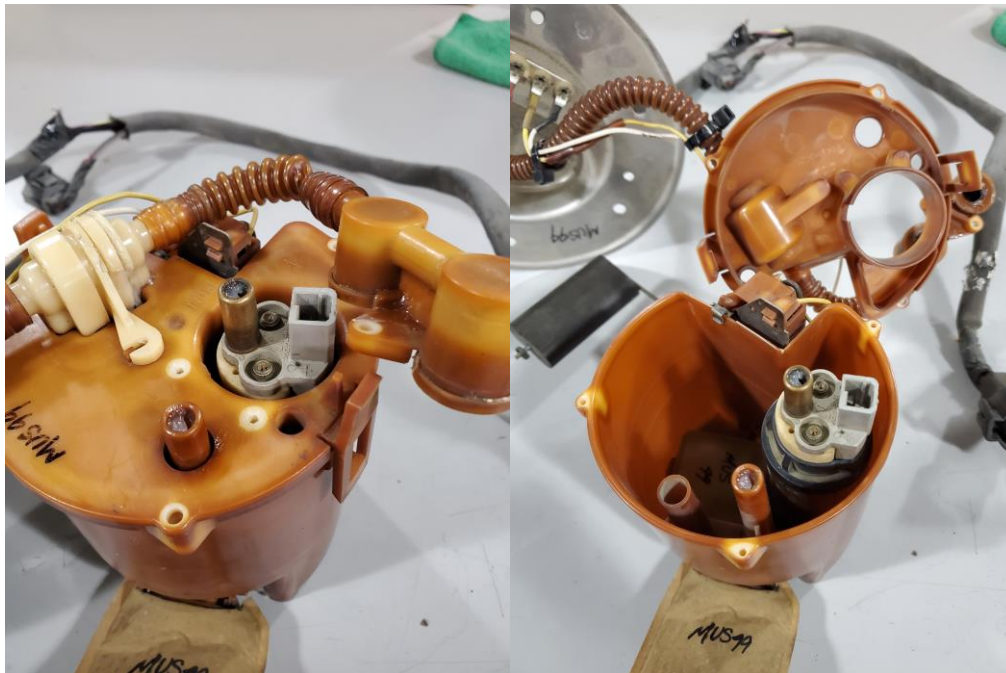


## Disassembly of OEM Module

1 – Remove the 2 screws that retain the pump outlet to the bucket lid, and the 3 screws that hold the lid to the bucket.



2 – Separate the pump outlet from the lid by lifting, the lid bucket and pump seal onto internal O-rings, take care when prying up not to damage the O-rings or the plastic. Remove the lid from the bucket once the pump outlet is removed.





3 – Unplug the fuel pump and remove the pump and filter sock from the bucket.



### Installation of the DW440 Pump

4 – To accommodate the larger diameter of the DW440 pump, the hole in the lid must be opened slightly. This can be done a variety of ways, Dremel style tools and or hole saws are the simplest. We use a 43mm hole saw, the DW440 pump measures 42mm OD.



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5 – Prep your DW440 pump by installing the supplied filter sock, apply some of the supplied lubricant to the outlet of the pump and the O-rings on the plastic pump outlet from the module.



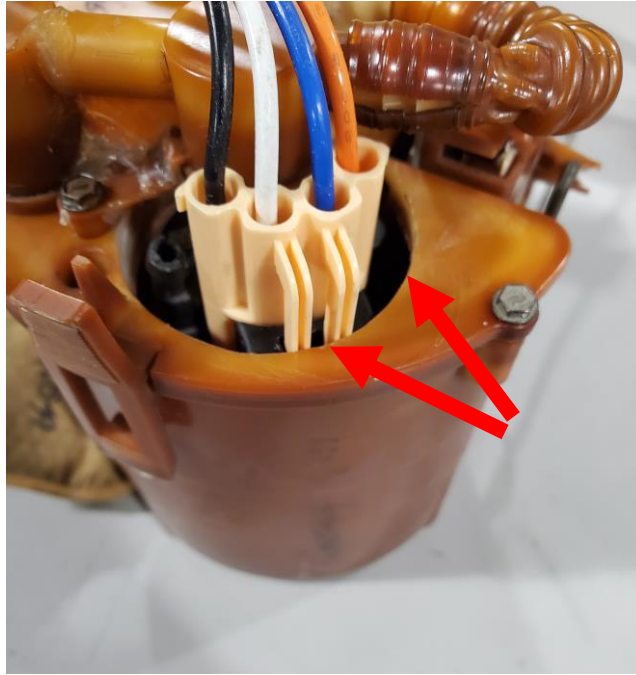
6 – Install the pump into the bucket and slide the plastic pump outlet adapter onto the outlet of the DW440 pump and the nipple from the bucket. The DW440 has a larger barb than the OEM Ford pump, be sure to use the supplied lube to ease install. Once the pump outlet is seated on the pump and the module, reinstall the 2 screws that hold it in place, and the 3 that hold the lid onto the bucket.

**Note:** See Step 7 if having issues aligning pump into the outlet adapter.



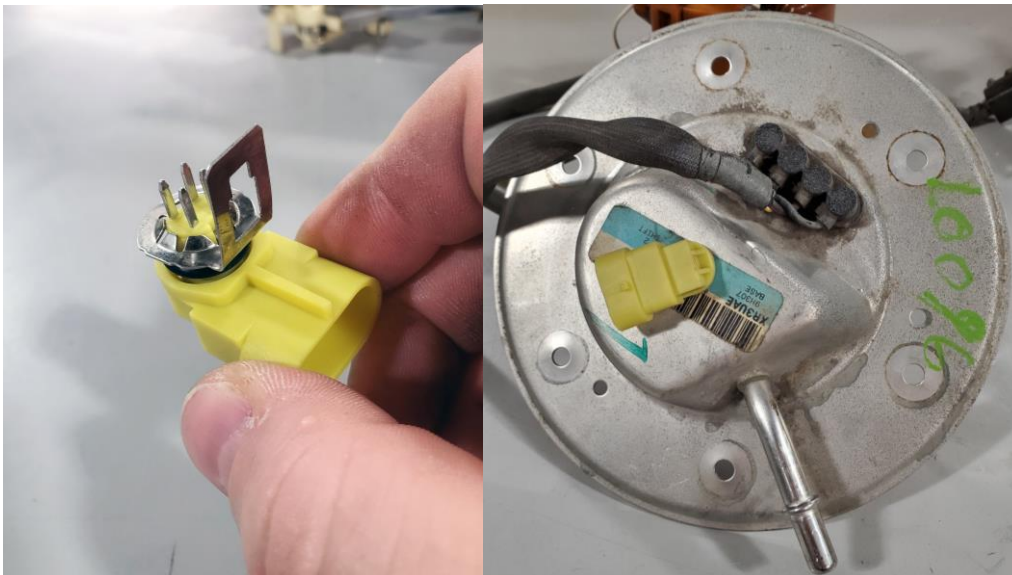
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7 – If you are having trouble aligning the pump and the plastic outlet adapter, use a file/Dremel to remove extra material from this area to space the pump further out from the outlet. This also can allow more room for the connector.



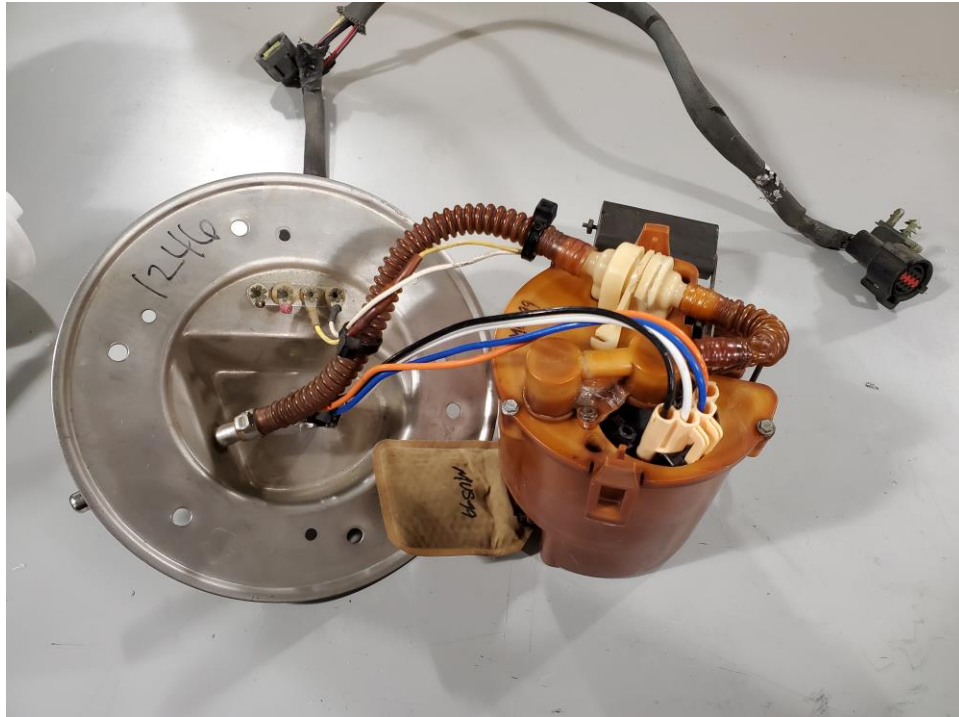
### Installing the Bulkhead

8 – The DW440 Brushless pump requires its own 4 wire bulkhead to power the pump. Locate a hole in the top hat that has no obstructions on the bottom side and drill a 10.3mm or 13/32" hole for the electrical bulkhead. The bulkhead uses an O-Ring on the top to provide a seal and a metal push style retainer on the bottom side to secure. The metal retainer also acts as a latch for the electrical connector, make sure the latch is facing the pins of the bulkhead (see Picture).



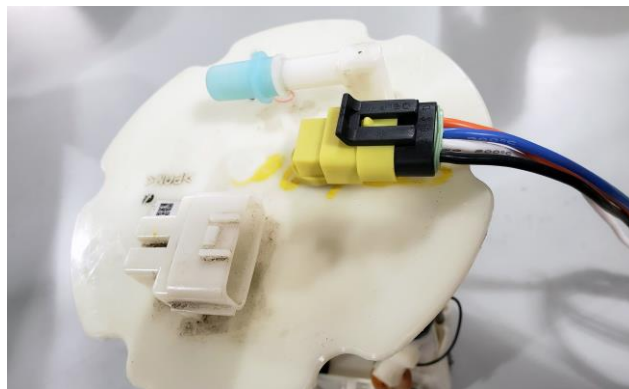
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9 – The factory fuel pump power and ground wires can be removed or covered so they will not short on the module. Attach the supplied Brushless pump harness to the bulkhead and the DW440 pump.



### Wiring the Controller and Pump

10 – Plug the 4-wire harness from the controller into the bulkhead wiring connector.





11 – Plug the 3-wire pigtail harness into the controller.



## Wiring the Two Speed High/Low Version (PN# 9-441-C102-09xx)

12a – The Two Speed version of the DeatschWerks Brushless controller, gives you the ability to run two staged pumps in one. A low flow pump for idle and light duty driving, and a high flow pump for maximum performance.

**Note:** To bypass the Low Speed setting permanently ground the White wire, when power is applied to the controller, this will permanently switch the pump to the full 440LPH High Speed mode. (This is the same function as the discontinued C101 part number)

- Attach the **Red** wire on the controller to a known solid +12v key on switched power source.
- Attach the **Black** controller wire to a known solid clean ground source.
- Attach the White wire to a switched ground to activate the High flow mode.
  - You can activate this many ways, popular solutions would be a pressure activated switch like a “Hobb switch”, a second fuel pump output on your ECU, or a RPM/WOT switch could also be used to trigger the high flow mode. All options should be switched ground.
  - Low flow mode is 68% duty cycle outputting 265 LPH at 40psi.
  - High flow mode is 100% duty cycle outputting 440 LPH at 40psi.



## Wiring the PWM Version (PN# 9-441-C103-09xx)

12b – The PWM version of the DeatschWerks Brushless controller, gives you the ability to use your ECU's Pulse Width output signal to infinitely adjust the pumps output from low to max flow. Wiring the C103 controller can be tricky, knowledge of your cars factory fuel pump wiring system is mandatory. If your car is not factory PWM or your Standalone ECU cannot control a PWM output, you will need to use the C102 controller instead. Most applications will use a ground pulsed signal provided by the ECU or an separate fuel pump control module.

- Attach the **Red** wire on the controller to a known solid non pulsed +12v key on switched source.
- Attach the **Black** controller wire to a known solid non pulsed ground source.
- Attach the White wire to the PWM output on your ECU or Fuel Pump Control Module.
  - The 1999-2004 Ford Mustang uses a Red w/White strip wire from the ECU to the FPDM to control a PWM output.
  - The 1999-2004 Ford Mustang FPDM is located in the trunk on the driver's side.



## Flushing and Priming the System

- 13 – Reinstall the assembly into the fuel tank and attach a length of hose to the outlet of the pump assembly allowing it to drain into a fuel safe container and prime the fuel pump assembly
- 14 – Cycle the key to the on position as many times as required to prime the pump assembly and evacuate the air introduced during the pump installation process
- 15 – Attach supply line to the outlet of the pump assembly

