

Thank you for the purchase of the DivisionX S197 Dual Pump Fuel Hat Manifold. This product has been designed with a no-compromise approach by experienced engineers, made from the finest materials and manufactured using uncompromised methodology and quality control. We believe you will be very happy with this investment in your vehicle's performance. Due to the sensitive nature of this product and the possibility of installation error, this product is for off-road use only.

Before starting, please exercise all safety precautions with any tools/chemicals/other devices that you use during installation. If you encounter any unfamiliar tasks during installation, we recommend that you allow an experienced professional to complete the installation. By attempting to install or installing this product, DivisionX, LLC does not accept responsibility for personal injury or property damage. If you encounter any questions or concerns during installation, please contact us. Please reference the following boldface terms during these instructions by their significance:

DANGER: This term is used when immediate or long term human safety may be at risk, as well as safety of the product and your vehicle or surrounding environment (i.e. installation facility)

CAUTION: This term is used when product or vehicle component damage may be at risk

NOTE(S): This term is used for specific information regarding the product or installation that should be given additional consideration by the customer or installer. Please reference the following acronyms and abbreviations during these instructions:

PPRV: Positive Pressure Relief Valve

FPDM: Fuel Pump Driver Module

DX: DivisionX

FRPS: Fuel Rail Pressure Sensor

Please reference the following figure during these instructions:

DANGER:

Gasoline/Ethanol and gasoline/ethanol vapors are hazardous to your health and safety. Exercise extreme caution by wearing eye protection and working in a well ventilated area. Ensure that all sources of flame or spark are eliminated from the working area while gasoline vapors are present. Your fuel lines are under pressure. Please exercise care when relieving pressure. Gasoline soaked rags may catch fire when stored in confined areas EVEN WITHOUT exposure to spark. Allow gasoline soaked rags to dry in a well ventilated environment before disposal. At all times during installation and testing, keep an appropriate fire extinguishing device accessible.

CAUTION:

This product is designed for use with gasoline, race fuel and ethanol based fuels such as E85 and E98. Please contact us for questions regarding ethanol usage.

INSTALLATION AND PERFORMANCE NOTES:

This product is normally installed in conjunction with several other fuel system modifications and/or other performance upgrades. We recommend that each upgrade is installed separately to aid in troubleshooting in case one or more components are not operating correctly or installed incorrectly. Ford changed the design of the fuel level sender on the Mustang V6s and GTs sometime during 2007-2008 production. Our fuel hat accommodates only the new design, so it may be required to purchase the new level sender from your local Ford dealer. The OEM GT500 fuel level sender will not work with our system unless you purchase the fuel level sender bracket which will allow you to hookup your stock 2010+ GT500/GT level sender.

This system supports the use of Walbro GSS series pumps/DivisionX Styrker 340 Pumps, Aeromotive 340 Stealth pumps and the Walbro TCI 400lph and 465lph pumps in an application in which they were not intended. In order to properly utilize these fuel pumps, they must have adequate power, wiring, and plumbing to operate properly. Please contact your dealer to ensure that you are properly supporting your fuel pumps. The most common installation error is to underestimate the electrical requirements of these

pumps. The current requirements will vary with the number of pumps, the regulated fuel system pressure, and boost pressure. The OEM fuel tank does not have a true sump, but instead contains a baffle box to keep fuel around the pump inlets. The baffle box operates under two modes:

1. When the fuel level is above the top of the baffle box. In this case, fuel can spill over the top of the baffle walls providing adequate fuel to the pump inlets.

2. When the fuel level is below the top of the baffle box. In this case, fuel can only enter the baffle box through a hole near the front of the fuel tank. The potential output of three pumps can draw down the level of the tank nearly one inch below the surrounding fuel level before stabilizing. (approximately 8-10 seconds). Under prolonged hard acceleration, fuel may be starved to the fuel pump inlets. This condition in the fuel tank is achieved at approximately 1/4 tank of fuel remaining.

INTRODUCTION:

This is a two pump capable assembly, but comes configured for only two pumps.

INVENTORY:

Qty 1, DivisionX S197 Fuel Hat Manifold

Qty 1, Instruction Manual (Found in our installation instruction download section or on the S195 fuel hat product page)

Qty 2, 2" segment of 1/4" fuel resistant shrink wrap tubing

Qty 2, stainless steel hose clamps

Qty 2, fuel pump prefilters

PRODUCT SPECIFICATIONS/STANDARDS:

Structure material: 6061-T6/6511 aluminum alloy

Fastener/Hardware Material: 303 Stainless steel

Fuel Hose: SAE 30R10, 5/16" ID

Fuel Pump Conductors: 12 AWG, silver plated copper stranded, two pairs, PTFE insulated, MIL-W-16878/4

Fuel Level Sender Conductor: 18 AWG, silver plated copper stranded, pair, PTFE insulated, MIL-W-16878/4

Outlet Configuration: dual outlet, independent circuits, use with Ford GSS/DX Stryker, Aeromotive Stealth and TCI Walbro 400lph and 465lph series pumps only

Outlet Specification: AN #10, male, (37 degree flare)

Return Inlet Specification: #8 o-ring boss

SCOPE OF THIS DOCUMENT:

These are not all inclusive instructions for upgrading a complete fuel system. These instructions cover the installation of ONLY the DivisionX fuel hat in a two pump configuration.

SPECIALTY ITEMS REQUIRED FOR INSTALLATION:

Heat gun/hair dryer

Soldering iron or high quality weatherproof connectors

WD40

Hammer and non-sparking rod (such as wood, rubber, plastic, etc.)

STEP 1: Prepare the car and work area for installation.

a. Park car in an area that is well protected from wind, dust, dirt, etc. The intent is to keep blowing dirt and debris from entering the exposed fuel system.

b. Set up a ventilation fan to PULL harmful and dangerous gasoline fumes from the work area. Gasoline vapors are heavier than air and will stay close to the ground, so keep this in mind if you are planning to

work under the car while supported by jack stands. (i.e. running fuel line, electrical line, etc).

c. Prepare a clean work area on a workbench for disassembly of the factory fuel hat and assembly of the DivisionX fuel hat.

d. Disconnect only the negative terminal on battery and position the loose wire so that it cannot accidentally make contact with the battery terminals.

e. Relieve pressure on fuel system by removing dust and pressing needle on Schrader valve located on OEM fuel rails.

STEP 3: Remove the OEM fuel tank lid

a. Remove rear seat bench and remove rubber flange cover on the driver side.

b. Disconnect electrical connector on the stock fuel pump assembly.

c. Disconnect fuel line by depressing button on disconnect tool. Be prepared with a shop rag to soak up spilled gasoline.

d. Clean the area around the fuel tank lid. Ensure that all debris that could enter the fuel tank is removed.

e. Using a hammer and a non sparking rod (such as wood, plastic, or rubber) strike the locking ring to rotate the counter clockwise. Remove retaining ring.

f. Gently pry upwards on the fuel tank lid to break the seal.

g. Carefully lift the fuel tank hat, reach down and disconnect the fuel line inside the tank. After the fuel pump assembly is clear, rotate the elbow fitting on the fuel line inside the tank 90 degrees so that it points UP. This line will later be referenced as the eductor suction line.

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DANGER:

Ensure the immediate work area is especially well ventilated. Removing the fuel hat may require the installer to move his/her head very close to the opening of the fuel tank, which may cause inhalation of gasoline vapors, and possible splashing of gasoline in the eyes.

h. Remove the fuel tank lid assembly from the fuel tank and place on the workbench prepared in Step 1c.

STEP 4: Remove required components from the OEM fuel tank hat assembly.

c. Cut the four wires that protrude from the TOP of the OEM fuel hat. Leave approximately two inches on the wires on the OEM fuel tank lid. OEM fuel hat is not required for the rest of the installation, but these items should be kept nearby for the remaining installation:

-Fuel level sending unit (if correct unit was previously in car)

-Green rubber o-ring (unless it stayed on the fuel tank during removal)

-Orange rubber duckbill check valve

STEP 5: Prepare the DivisonX Fuel Hat for installation:

a. Remove the level sender arm from the level sender. Slide level sender onto the grooves in the spine of DivisionX fuel hat until the retaining barbs lock the level sender into place. Do not reinstall level sender arm; this will be accomplished after inserting the assembly into the fuel tank.

b. Slip supplied shrink wrap tube over the signal wires on the stock fuel level sender wires. Now connect the yellow wire on the level sender to the white wire on the wiring plug that has the male spade connector on it. Now ground the pink wire on the level sender and the black wire on the wiring plug to the spine of the fuel hat with the supplied M4 stainless bolts. (M4 bolts are already installed on the fuel hat spine.

c. After the connections for the level sender have been made and the other wires have been grounded you can heat the heat shrink tubing on the level sender wires until secure. It is not necessary to completely seal the connection. Route wires of sending unit so that they will not interfere with the fuel level sending arm.

f. Slip a hose clamp over each hose on the bottom of the manifold.

g. Align fuel pump outlets over the two exposed manifold inlet hoses, and slide pumps into position until the hose prevents the pump from moving any further up.

IMPORTANT: In order for the fuel pumps to sit at the proper height

in the fuel tank you'll want to verify the measurement of the bottom of the fuel pump pre-filter to the bottom of the fuel pump basket. The proper measurement should be 2.985"

NOTE: A small amount of WD40 applied to the retaining o-rings will allow the pumps to slide smoother while positioning the pumps.

- h. Tighten hose clamps. Do NOT overtighten. Ensure fuel pumps are secure in the assembly.
- i. Connect wires to terminals on the fuel pumps. Ensure the fit of the terminals is secure.
- j. Install the provided fuel pump prefilter on the inlet of each fuel pump. It is okay if the "legs" of the fuel pump prefilters overlap.

STEP 6: Install the DivisionX Fuel Hat assembly into the fuel tank.

- a. Carefully slip the bottom of the DivisionX fuel hat assembly into the fuel tank. Allow the fuel pump prefilters to fold up as the assembly is inserted.
- b. Snap the eductor suction hose (inside the fuel tank) onto the appropriate barb on the DivisionX fuel hat.

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- h. Reinstall the fuel level sending arm to the fuel level sending unit. Manipulate the assembly as required to accomplish this step.
- d. Check to make sure the rubber o-ring seal is still secure and in place on the fuel tank.
- e. Lower the fuel hat into place and align tabs on the fuel hat with the slots on the tank. The level sender arm should be pointing toward the center of the car.
- f. Install retaining ring and tap so that it rotates clockwise until it stops.
- g. Connect fuel feed lines and return lines.

STEP 7: Connect fuel and electrical connections.

DANGER: Wait until all fuel vapors have ventilated from the interior of the car before proceeding.

- a. Connect fuel pump electrical lines to the respective positive and negative terminals of the pump relay. It is highly recommended to solder all electrical connections. Insulate the old fuel pump output wires on the vehicle's wiring harness.
- b1. When using the Wiring Pigtail and your own wire harness you'll attach the yellow wire, to the green/purple striped wire of the vehicle's wiring harness. The black wire on the pigtail gets connected to the black wire on the vehicle's wiring harness.
- b2. When using the Lethal Performance Dual Pump Return Style Wiring Harness simply plug the 6 pin connector at the end of the harness onto the connector on the fuel hat. Attach the yellow wire, to the green/purple striped wire of the vehicle's wiring harness. The black wire on the pigtail gets connected to the black wire on the vehicle's wiring harness.
- c. Use a rubber grommet and a plastic wire loom protector if you pass any wires through holes in the sheetmetal. Ensure all connections are tight, secure, and weather resistant. Route the wires so that they wire connections are not pinched.
- d. Attach Fuel lines as appropriate for your installation.

STEP 9: Check for leaks and starting

- a. Start car and allow to run for ten seconds, then turn off.
- b. Check for leaks and fix as required. Repeat step 9a until all leaks are eliminated.
- c. Disconnect negative battery terminal for ten minutes (reset ECM)
- d. Reconnect negative battery terminal and restart.
- e. Take the car on a short drive and continue to monitor for fuel leaks.

CAUTION: We recommend a custom tune from a shop with a reputable tuning record to ensure that the installation was performed correctly and that all fuel system components are operating correctly. If you are unsatisfied with this product in any way, please contact your retailer for a replacement or refund.

Please contact us directly with product inquiries, as well as questions and/or suggestions for product improvement.

Thank you very much for choosing DivisionX LLC for this upgrade to your automobile.