



100 GPH FUEL PUMP

P/N 12-170

Installation Instructions 199R12144

WARNING! THESE INSTRUCTIONS MUST BE READ AND FULLY UNDERSTOOD BEFORE BEGINNING INSTALLATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN POOR PERFORMANCE, VEHICLE DAMAGE, PERSONAL INJURY, OR DEATH. IF THESE INSTRUCTIONS ARE NOT FULLY UNDERSTOOD, INSTALLATION SHOULD NOT BE ATTEMPTED. PLEASE CONSULT HOLLEY TECH SERVICE OR A QUALIFIED MECHANIC.

NOTE: Compatible with Pump Gas, Race gas, Diesel, or E85. The 12-170 fuel pump is rated for use with ethanol-blended fuels, (E85/E90) and all types of gasoline, but pump life will be diminished if used with 100% ethanol fuels.

PARTS REQUIRED FOR INSTALLATION:

- Pre-Filter & Post-Filter
- Relay Kit (30amp minimum) – Holley P/N 12-753 or equivalent
- Safety Shutoff Switch (Holley P/N 12-810 or equivalent)
- Fuel hose & fittings
- Wire & connectors
- Mounting hardware

NOTE: These pumps are not serviceable in the field. Contact Holley tech service for fuel pump service.

INTRODUCTION:

Congratulations on your purchase of the **Holley 12-170 Fuel Pump**. This instruction sheet contains all the information needed to install this fuel pump. Please read all the **WARNINGS** and **NOTES**. They contain valuable information that can save you time and money. Holley Performance Products cannot and will not be responsible for any alleged or actual engine or other damage, or other conditions resulting from misapplication of the fuel pumps and fuel pressure regulators described herein. However, it is our intent to provide the best possible products for our customer; products that perform properly and satisfy your expectations. Should you need information or parts assistance, please contact Technical Service at 1-270-781-9741, M-F, 8 a.m. to 6 p.m. & Sat. 9 a.m. to 3 p.m. CST. Please have the P/N ready when calling.

NOTE: A screen type pre-filter (100 micron), a top quality post fuel filter, fuel hose and clamps, 12 gauge wire, fuel fittings, assorted terminals, a relay kit (12-753), and an optional safety shut-off switch (12-810) is required to complete the installation of the Holley 12-170 fuel pump. These parts are not included with the fuel pump.

NOTE: These Holley fuel pump requires the use of a bypass style fuel pressure regulator (Part number 12-847 for carbureted applications and 12-848 for EFI applications).

NOTE: The Holley fuel pump utilizes O-ring sealed inlet/outlet ports. The 12-170 utilizes a 3/4-16 O-ring (8AN) inlet and 9/16-18 (6AN) outlet ports. These ports are not pipe thread, therefore **do not use thread sealant.**

NOTE: Holley **ALWAYS RECOMMENDS** using our oil pressure safety shut-off switch, part number 12-810.

PUMP MOUNTING AND INSTALLATION:

The best location for mounting any electric fuel pump is the rear of the vehicle, near the fuel tank and in a position even with or below the bottom of the tank, allowing the fuel to be gravity fed to the pump. ***The pump should be mounted on a solid member, such as the chassis, with the pump outlet pointing forward or upward.*** Avoid exposure of the pump and fuel lines to moving parts and to any hot areas, such as the exhaust manifold. The pump should not be mounted in an enclosed area, such as the vehicle's trunk. Follow the steps below for mounting the pump.

WARNING! THE PUMP MUST BE PLACED WHERE INTERFERENCE BETWEEN THE VEHICLE'S BODY AND ITS CHASSIS MOVEMENT IS AVOIDED. THE PUMP AND ITS CONNECTING HOSES MUST NOT BE SUBJECTED TO LOW GROUND CLEARANCE, WHERE ANY FLYING ROCKS OR ROAD DEBRIS CAN CAUSE DAMAGE. FAILURE TO AVOID THESE HAZARDS WILL LEAD TO PUMP DAMAGE, WHICH COULD RESULT IN FIRE AND/OR PROPERTY DAMAGE, SERIOUS INJURY, AND/OR DEATH.

1. Select a mounting site as close as possible to the fuel tank and away from possible sources of heat as detailed previously.
2. Use the pump as a template to drill (x4) ¼" holes.
3. Mount the pump (outlet pointing forward) using (x4) ¼ bolts (bolts not included).

NOTE: To ensure pump life and flow efficiency, a 100 micron pre-filter must be installed between the tank and the pump inlet. The filter should be supported in such a manner that it does not hang from the fuel lines. Pre and Post filters can be mounted directly to the pump if space allows.

4. Install the recommended AN fuel fittings. An 8AN inlet and 6AN outlet or larger lines are recommended.

WARNING! This pump is not designed to use a standard conical seat style union in the inlet or outlet of the pump. Use of this style fitting will block flow and WILL lead to poor performance and pump failure. The ONLY correct fitting to use is a contoured port fitting with an O-ring seal such as: Part # AT985008ERL (12-170)



5. Connect the fuel supply line from the tank to the pre-filter and then to the inlet port of the pump. Connect the main fuel feed line to the outlet port of the pump, then to the post filter. See Figures 1a and 1b.

NOTE: Avoid unnecessary restrictions, such as sharp bends and undersized fuel fittings and hoses. Avoid routing fuel lines in areas that would cause chafing. All fuel line connections must be leak proof.

WARNING! IF SPLICING INTO EXISTING FUEL LINES, USE EXTREME CARE TO AVOID CONTAMINATING THE LINE WITH RUBBER OR METAL SHAVINGS, AS THIS WILL DAMAGE THE PUMP. IF THE FUEL LINE HAS BEEN CUT, IT IS ESSENTIAL THAT IT BE CLEANED TO ENSURE THAT NO METAL OR RUBBER PARTICLES ENTER THE FUEL SYSTEM. THIS IS PERFORMED BY BLOWING THE LINE CLEAN WITH COMPRESSED AIR. HOLLEY DOES NOT RECOMMEND THE PROCEDURE WHERE THE COIL WIRE IS DISCONNECTED, THE ENGINE IS CRANKED, AND THE FUEL IS COLLECTED IN A CONTAINER. SPARKING CAN OCCUR DURING THIS PROCEDURE, WHICH MAY RESULT IN A FIRE AND/OR EXPLOSION.

WARNING! DO NOT OVER TIGHTEN THE FITTINGS ON THE FUEL PUMP. TORQUE the fittings in the pump as follows. (-8AN to 270-300 in./lbs. and -6AN to 150-170 in./lbs.)

USING A FUEL PRESSURE REGULATOR WITH A FUEL PUMP:

NOTE: A return style fuel pressure regulator is required for use with the 12-170 fuel pump. Refer to figures 1a and 1b for recommended plumbing scenarios.

NOTE: Refer to the installation instruction included with the fuel pressure regulator for steps on mounting and adjustments.

NOTE: Depending on your application, choose one of the following examples:

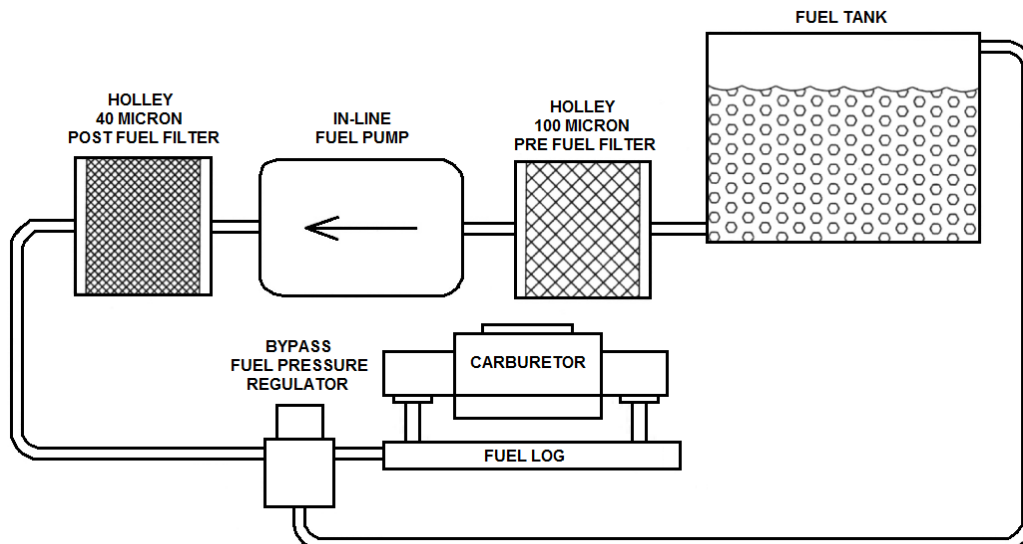


Figure 1a (Carb applications only)

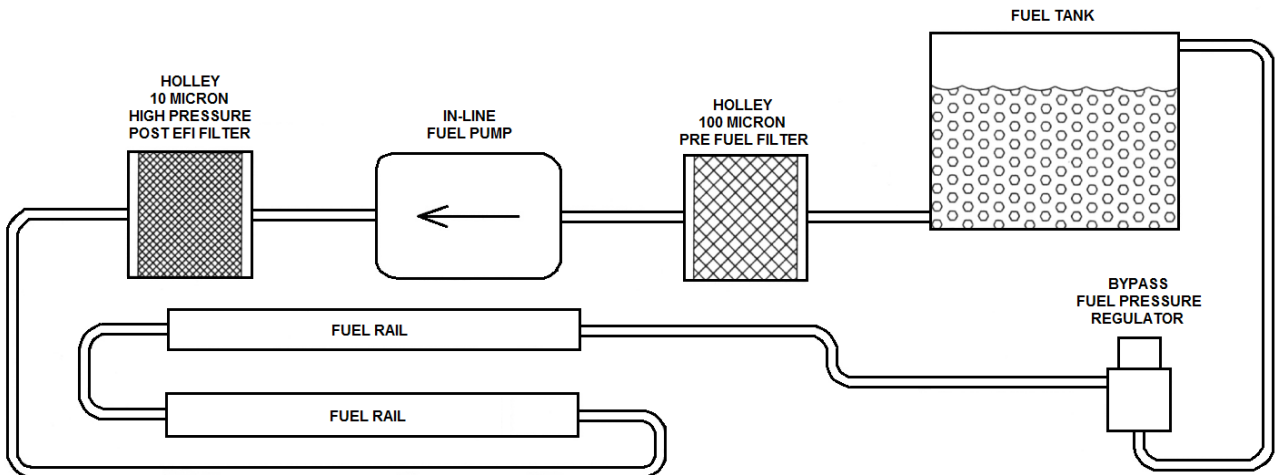
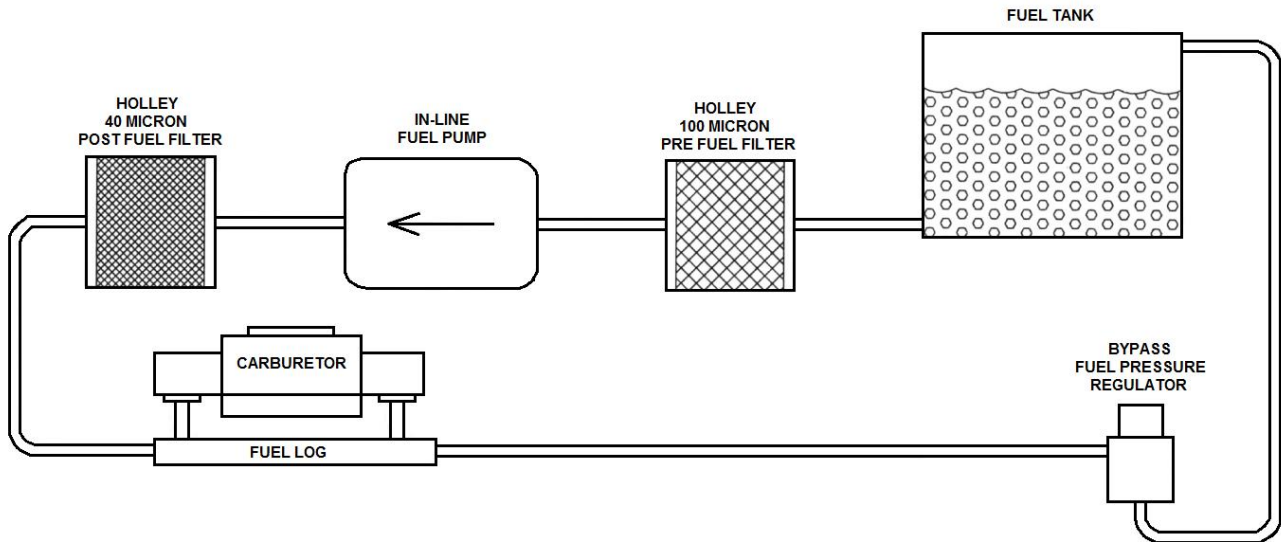


Figure 1b (Both carb & fuel injection applications)

WIRING:

WARNING! USE A MINIMUM OF 12 GAUGE WIRE. BE SURE TO CRIMP OR SOLDER ALL CONNECTORS SECURELY AND CLEAN ANY AREA WHERE GROUND LEADS WILL BE FASTENED. FAILURE TO USE THE MINIMUM WIRE GAUGE COULD RESULT IN A PUMP MALFUNCTION AND/OR ELECTRICAL FIRE, RESULTING IN PROPERTY DAMAGE, SERIOUS INJURY, AND/OR DEATH.

There are 2 methods to wire the pump: (1) To wire the fuel pump with a relay. (2) To wire the fuel pump with an oil pressure safety switch and relay.

(1) WIRING THE FUEL PUMP WITH A RELAY:

NOTE: You will need Holley Fuel pump relay kit P/N 12-753 or equivalent 4-wire relay.

1. Disconnect the cables from the battery.
2. Mount relay on firewall of engine compartment or other suitable location using a sheet metal screw.

WARNING! Before punching or drilling a hole in the firewall, make sure you know what is on the other side to avoid puncturing equipment such as heater cores, air-conditioning system equipment, hoses, or wiring.

3. Plug the fuel pump relay harness into the relay, until it locks into place.
4. If using a Holley relay, connect the black wire of the relay harness to a good clean ground using 12 gauge wire.

5. Connect the Green/Black wire of the relay harness to a switched 12V source.
6. Connect one of the red wires of the relay harness to the positive terminal (red terminal) of the fuel pump.
7. Connect the blue terminal of the fuel pump to a good clean chassis ground using black wire and a ring terminal.
8. Attach the in-line fuse holder to the remaining red wire. After attaching the fuse holder, insert a 25A fuse and connect to the positive side of the battery using 12 gauge wire.
9. Reconnect the battery cables.

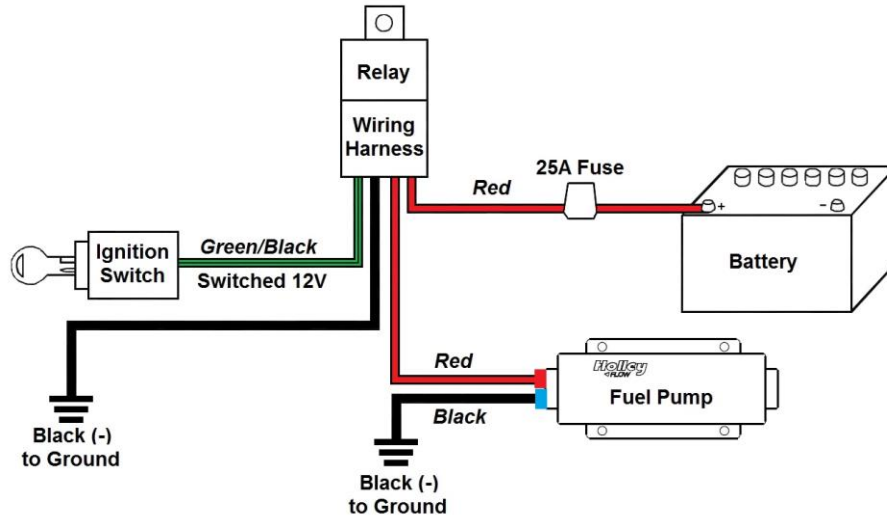


Figure 2

(2) WIRING THE FUEL PUMP WITH AN OIL PRESSURE SAFETY SWITCH AND RELAY:

One method is to wire the pump to a switched 12-volt source (providing power only when the engine is running) located at the vehicle's electric panel. To ensure this condition, the installation of a Holley 12-810 oil pressure safety switch is recommended for installation into the wiring circuit. This will ensure that the pump will not continue to operate after the engine is shut off and/or when the key is left in the "ON" position. If the pressure switch is to be used, follow the installation instructions as outlined below (refer to Figure 3). Use 12 gauge wire for power (BAT+) and ground wires.

1. Disconnect the cables from the battery.
2. Remove the original equipment oil pressure switch and retain.
3. Screw a 1/8" pipe nipple into the hole from which the original pressure switch was removed. Use any suitable thread sealant on all fittings, taking care to avoid any excess that might contaminate the engine.
4. Screw a 1/8" pipe tee onto the nipple and position it in a manner to facilitate the installation of the original oil pressure switch and the new oil pressure safety switch in the remaining two holes.
5. Screw in the two switches and reconnect the lead to the original equipment oil pressure switch.

NOTE: The pump oil pressure switch will normally have three terminals marked: C (common), NC (normally closed), and NO (normally open).

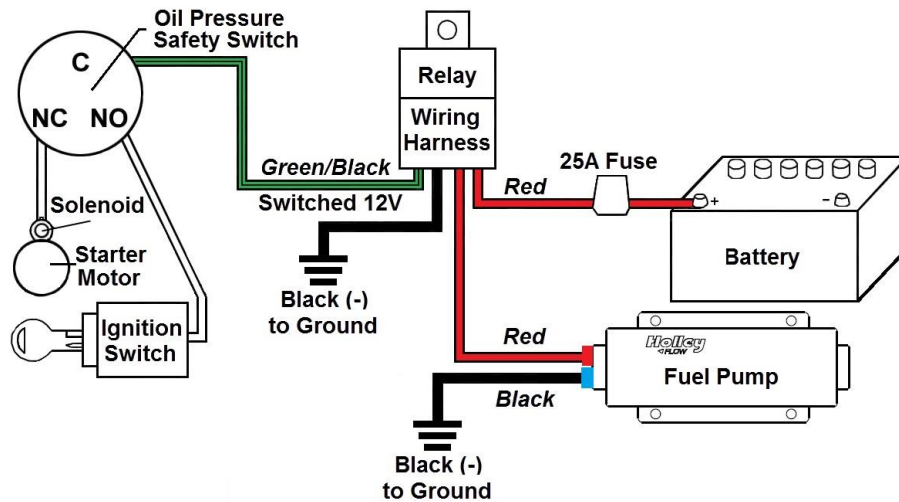


Figure 3

6. Mount relay on firewall of engine compartment using a sheet metal screw.

WARNING! Before punching or drilling a hole in the firewall, make sure you know what is on the other side to avoid puncturing equipment such as heater cores, air-conditioning system equipment, hoses, or wiring.

7. Plug the fuel pump relay harness into the relay, until it locks into place.
8. Connect the black wire of the relay harness to a good clean ground using 12 gauge wire.
9. Connect the Green/Black wire of the relay harness to the terminal marked "C" on the oil pressure safety switch.
10. Connect one of the red wires of the relay harness to the positive terminal (red terminal) of the fuel pump.
11. With a black wire connect the blue terminal of the fuel pump to a good clean chassis ground using a ring terminal
12. Attach the in-line fuse holder to the remaining red wire of the relay harness. After attaching the fuse holder, insert a 25A fuse and connect to the positive side of the battery using 12 gauge wire.
13. Connect the terminal marked "NO" of the safety switch to a switched 12V source.
14. Connect the terminal marked "NC" of the safety switch to the starter terminal that's hot (12V) during cranking only.
15. Reconnect the battery cables.

SERVICE PARTS AND ACCESSORIES:

ITEM	PART NUMBER
Chevy Small Block Mechanical Pump Block-Off Plate	12-814
Chevy Big Block Mechanical Pump Block-Off Plate	12-813
0-15 PSI Fuel Pressure Gauge (non-liquid filled) 1-1/2" Dia. 1/8" NPT	26-500
0-30 PSI Fuel Pressure Gauge (non-liquid filled) 1-1/2" Dia. 1/8" NPT	26-502
0-15 PSI Electric Fuel Pressure Gauge (dash mount)	26-503
0-15 PSI Fuel Pressure Gauge (liquid filled) 1-1/2" Dia. 1/8" NPT	26-504
0-30 PSI Fuel Pressure Gauge (liquid filled) 1-1/2" Dia. 1/8" NPT	26-505
30AMP Fuel Pump Relay Kit	12-753
90° Elbow for Attachment to Holley Fuel Line	26-69
Safety Shut Off Switch	12-810

Holley Technical Support
Phone: 1-270-781-9741
1-866-464-6553

For online help, please refer to the Tech Service section of our website: www.holley.com

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