

## Installing The By-Pass Filter:

The following installation instructions and general information is intended for the use of our trained personnel, professional mechanics, or other persons thoroughly familiar with large engines. The GCF Oil Filter is a by-pass oil filter. It requires a suitable mounting location, a pressure source and a return for the oil to the engine.

**NOTE: DO NOT** install any by-pass filter on an engine with exceptionally low oil pressure caused by worn bearings or other parts. The GCF Oil Filter has its own restrictor built in. This restrictor limits the amount of oil going through the GCF by-pass filter (About 2 quarts per minute). This small amount of oil will not appreciably affect the oil pressure or lubrication of a normally operating engine. If you notice a significant drop in oil pressure (10 PSI or more), disconnect the GCF filter and call GCF for consultation on the problem.

The installation of the GCF By-Pass Lube Oil Filter is a simple procedure. Three (3) generalized steps need to be completed in order to install the filter. These steps are as follows:

1. **Mount the filter housing in a convenient place To get to for servicing.**
2. **Obtain oil pressure supply from the engine and connect via hose to the filter housing.**
3. **Return the oil from the GCF filter housing via hose to the oil pan or other unobstructed return area of the engine.**

## Mounting the filter housing:

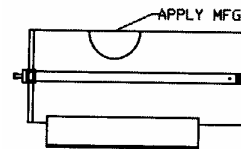
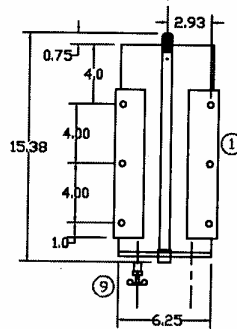
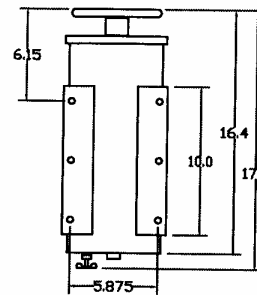
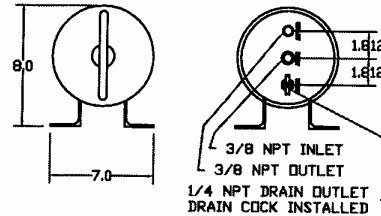
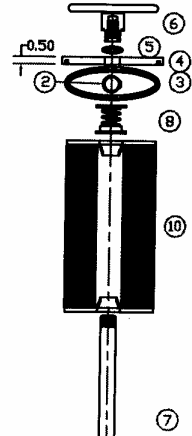
The GCF filter can be mounted in any position, vertical, horizontal or any degree angle. Locate a suitable place on the equipment to mount the filter, with ease of service in mind. Install filter housing using 3/8" grade 8 bolts and lock nuts. You only need 2 bolts on Each side of filter housing.

1. Try to install the filter housing no higher than the height of the engine. Mounting the filter at an excessive height will cause oil within the housing to drain back to the engine and give a false reading on the dipstick when checking oil level on a cold engine.
2. If you install the filter housing **BELOW** the oil level, install a valve at the return point on the oil pan. It will be necessary to close this valve when servicing the GCF filter to prevent oil flowing out of the filter housing during element servicing.
3. When installing filter on frame of trucks, ensure that the height of the filter will not be higher than the travel of the fifth wheel and that the filter is not mounted lower than the cross members underneath the truck.

If you have any questions during your installation, feel free to give us a call at 1-800-398-8114 (228-832-1663) and we will be happy to assist you over the phone.

### GULF COAST FILTERS, INC. BY-PASS LUBE OIL FILTER MODEL O-1

PARTS LIST	
1. FILTER HOUSING	PART #117
2. T-HANDLE LOCK RING	PART #106
3. LATHE CUT LID GASKET	PART #105
4. LID PLATE	PART #104
5. T-HANDLE O-RING	PART #103
6. T-HANDLE	PART #102
7. ELEMENT TUBE	PART #112
8. HOLD DOWN NUT	PART #109
9. 1/4 NPT DRAIN COCK	PART #137
10. FILTER ELEMENT MODEL E-1	PART #E-1



APPLY MFG. ID LABEL IN THIS AREA

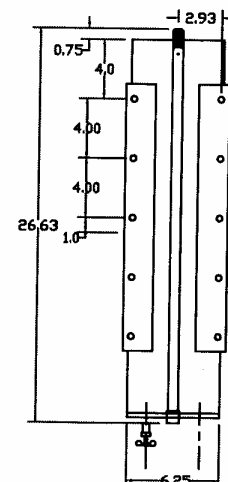
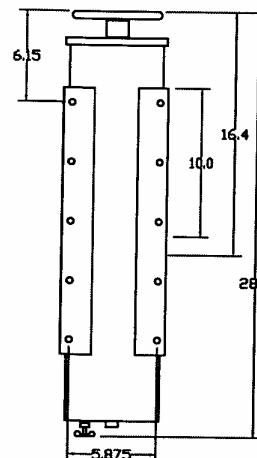
RECOMMENDED FILTER  
ELEMENT:  
GCF MODEL E-1

MODEL O-1

## SPECIFICATIONS

	O - 1	O - 2
MAXIMUM OPERATING PRESSURE	80 PSI*	80 PSI*
MAXIMUM FLOW RATE	0.5 GPM	0.5 GPM
INLET / OUTLET CONNECTIONS	3/8" NPT	3/8" NPT
BOTTOM DRAIN	3/8" DRAIN COCK	3/8" DRAIN COCK
DIMENSIONS	(L)17.50" (W)7.00" (H)8.00"	(L)28.75" (W)7.00" (H)8.00"
WEIGHT	29 LBS	43 LBS
SERVICE CLEARANCE	13.5" FROM END OF T-HANDLE	
FINISH	ASTM B117-188HOURS	

\*CERTIFIED FOR U.S.C.G. ACCEPTANCE AT 320 PSI



MODEL O-2

## Obtaining source of oil pressure:

Locations for oil pressure sources on typical diesel engines are as follows:

- A. Oil gallery (usually several pipe plugs located along the gallery)
- B. Accessories (such as coolers, air compressors, etc.). Use a tee to obtain pressure at the point that the accessory is supplied oil from the engine.
- C. Pipe plug located on factory full flow filter housing.
- D. Sending unit (use a tee)

## Obtaining source for oil sample:

Place a Tee in the hose going to the Inlet of the filter. Insert Sample valve into Tee. Pull oil sample right before the filter is changed and before new makeup oil is added. **Note:** Sample should be pulled when engine is running at operating temperature.

## Initial start-up procedures for Model O-1 and O-2 by-pass oil filters:

After completing the installation of the GCF by-pass oil filters as described within this manual, follow the procedures listed below.

1. Insure that draincock located on the bottom of the filter is closed.
2. Insure that lid is securely tightened.
3. Insure that the oil supply shut-off valve is CLOSED.
4. Start engine and allow to run for approximately 3 minutes before proceeding.
5. OPEN oil supply shut-off valve. This will start flow to the GCF filter.
6. Immediately check filter and connections for obvious leaks. Allow the engine to reach operating temperature while continuing to look for leaks. After the engine has run for approximately 15 minutes at operating temperature and no leaks have been detected, stop engine and proceed.
7. Re-tighten lid of GCF Filter.
8. Check oil level and add oil as needed to bring to proper level.

## Returning the oil to the engine:

- A. Most large engines have "spare" dipstick holes plugged off.
- B. Crankcase:
  - B1. Spare drain plug on oil pan.
  - B2. Spare dipstick openings with pipe plug.
  - B3. Free return plugs on side of block (timing cover, inspection plates, etc.)
- C. Oil filler tube: If made of stamped steel, use GCF Self Taping hollow bolt. If of cast aluminum or iron, drill and tap 1/8" NPT.

**NOTE:** It is **not** recommended to use the valve covers for a return due to possible leakage from the valve cover gaskets from excessive oil. Also, excessive oil directed on a valve guide could cause that one cylinder to use oil.

## Recommended Service Intervals For Model O-1 and O-2 Filters:

Listed below are some guidelines to follow for filter element service intervals. These recommendations take into consideration many variables and operating conditions on different types of equipment. Gulf Coast Filters, Inc. highly recommends that one use complete laboratory analysis to properly establish filter service intervals for your equipment. The recommended service intervals listed below may have to be either extended or reduced depending on the condition of your equipment and operating conditions.

### Diesel Trucks-\* Semi

Highway Use – Change filter element every 10,000 miles.  
Stop & Go Use – Change filter element every 8,000 miles.  
Diesel Pickups – Not pulling Loads, change filter element Every 8-10,000 miles. Pulling Loads change filter element Every 4,000 miles  
Stationary or Boat Use

Engine Size (HP)	No. of Filters Required	Change Interval (Hours)
Up to 250	1 Single O-1	100-200
250 to 600	1 Double O-2	100-200
600 to 1000	1 2XO-2M	100-200
1000 to 1500	1 3XO-2M	100-200
1500 to 2000	2 2XO-2M	100-200

\* Routine operation. Other than normal driving conditions require more frequent service. Rule of thumb: Large engines require more service than small engines.

## GCF Filter Element Change Instructions:

**WARNING:** Hot lube oil under pressure can cause injury, proceed with care. If possible, allow filter to cool before handling.

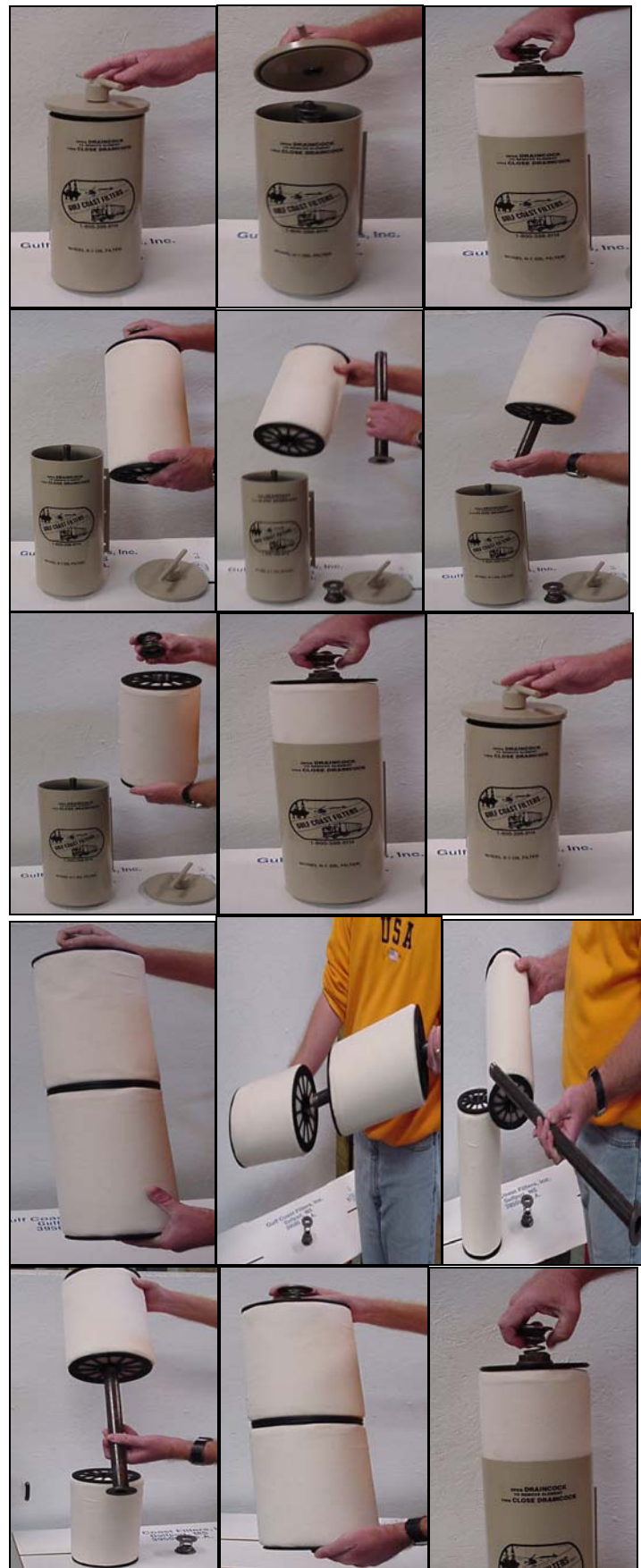
1. Shut off engine if possible. If not possible, turn off oil supply shut-off valve located at PSI source on engine.
2. Place a drip pan under the filter to catch any spillage of oil.
3. Open the draincock located at the bottom of filter housing and allow oil to drain.
4. Remove the lid assembly.
5. Grasp the round shaped element hold down assembly nut and slowly remove the element assembly from the filter housing.
6. Once the element assembly has been removed from the filter housing, close the draincock at the bottom of the filter to prevent excess oil from draining from the filter housing.
7. Unscrew and remove the element hold down assembly nut. No tools are needed; the nut is installed **HAND-TIGHT ONLY**.
8. Remove the used GCF element from the GCF housing and set aside. Now replace it with a new GCF Model E-1 element. Insure to properly dispose of the used GCF filter element.
9. Reinstall the lid assembly as tight as possible using both hands. **DO NOT USE ANY TOOLS OR CHEATER PIPES.**
10. Once the filter housing has been serviced, make sure that draincock is closed.
11. Restart engine or Open oil supply shut-off valve and check for oil leaks on the filter housing.
12. Add 1 ½ gallons of make-up for O-1, 3 gallons for O-2

**NOTE CAREFULLY:** If an oil line fails, or an oil leak develops in the GCF Filter (either through failure of part, sabotage, or faulty servicing of the unit), and the engine loses its oil supply, GCF disclaims any responsibility for damage to the engines should it be operated without proper lubrication.

Every engine with oil-pressure lubrication has either a pressure gauge or warning light to indicate that oil pressure is not sufficient to lubricate the engine. When this occurs, it is the responsibility of the operator to stop the engine, investigate the problem, and take whatever remedial action is necessary.

### **LIMITED WARRANTY**

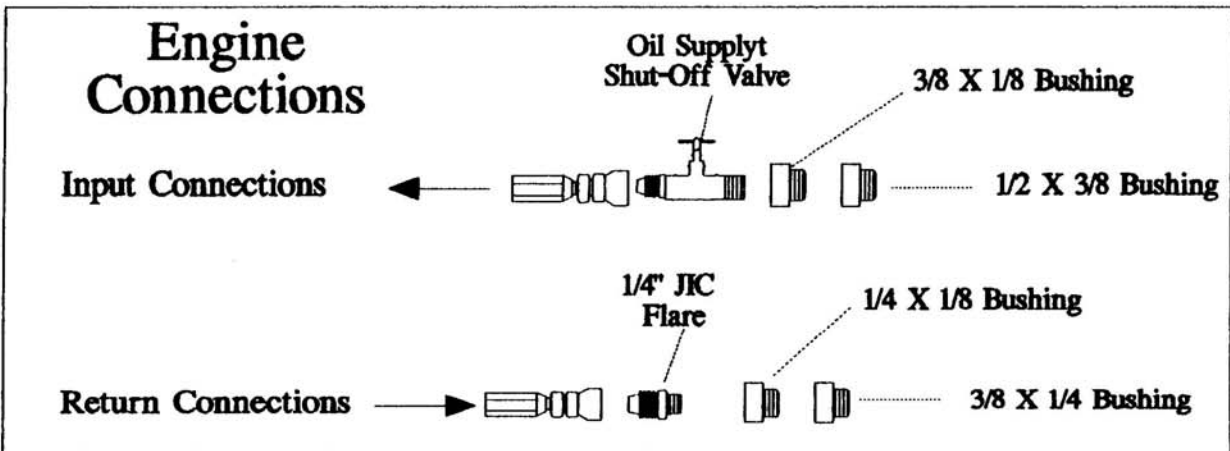
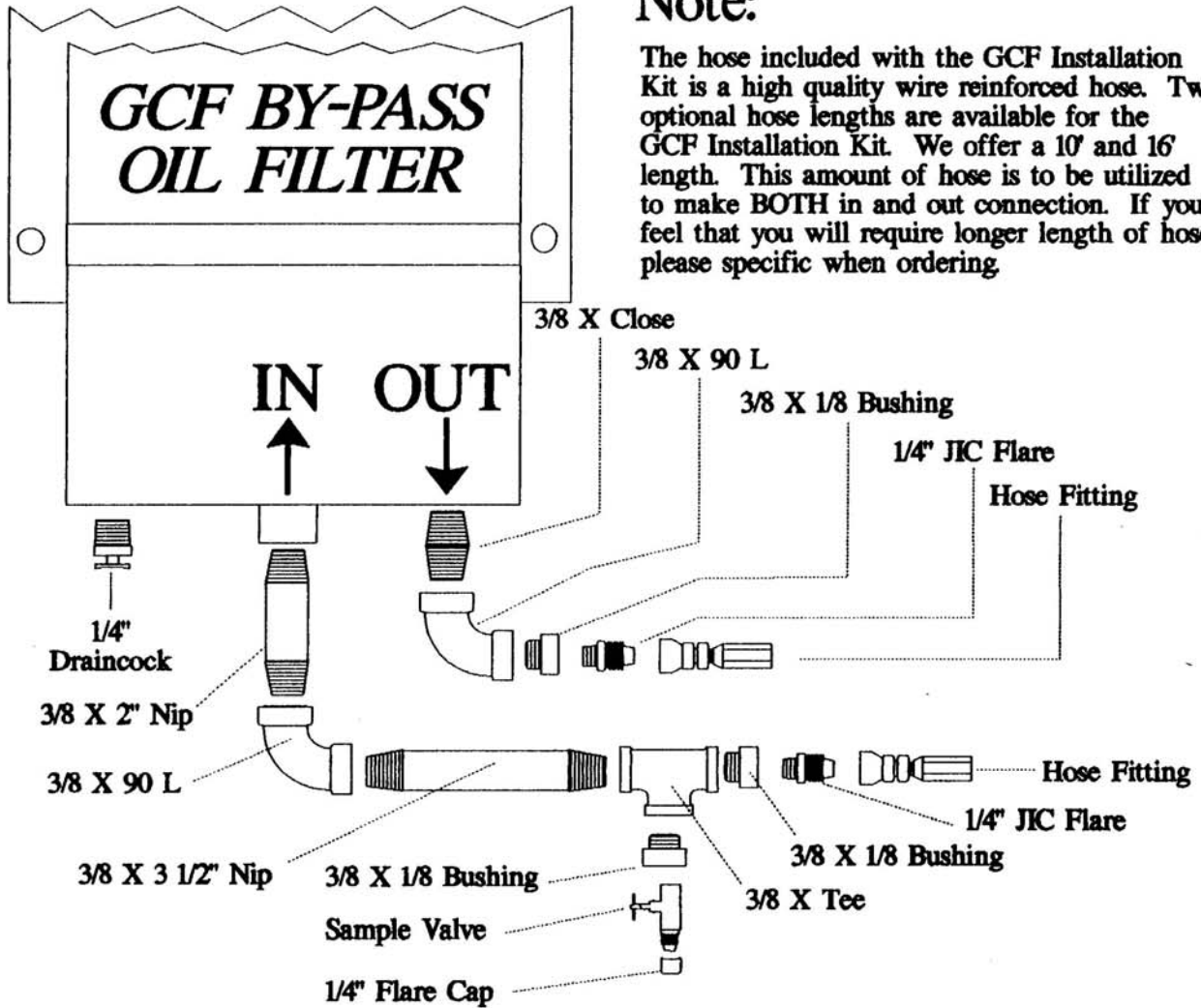
Gulf Coast Filters, Inc. warrants each GCF Filter to be free from defects in workmanship and materials for the lifetime of the Filter for the original purchaser. During this time, GCF, Inc., will repair or replace any GCF Filter part(s) proven to be defective in either workmanship or materials. The original user must provide receipt of purchase. This is the total liability and responsibility of Gulf Coast Filters, Inc.



# Typical Connections For GCF By-Pass Lube Oil Filter

## Note:

The hose included with the GCF Installation Kit is a high quality wire reinforced hose. Two optional hose lengths are available for the GCF Installation Kit. We offer a 10' and 16' length. This amount of hose is to be utilized to make BOTH in and out connection. If you feel that you will require longer length of hose, please specify when ordering.



# Typical GCF By-Pass Lube Oil Filter Installation

