



# ENVIRO 1 HYDRAULIC CART SUBMITTAL

ENVIRO 1 HYDRAULIC CART  
PORTABLE CART NUMBER: 99-CR-0001

WATER SEPERATOR FILTER  
ELEMENTS PART NUMBER: 47-RE409100

RETURN FILTER  
ELEMENTS PART NUMBER: 47-WE51803AZ

## **ENVIRO 1 HYDRAULIC FILTER CART OPERATING INSTRUCTIONS**

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Before getting into the operation of the filter cart, certain descriptive terms need to be defined to ease the understanding of the instructions. They are:

### **SUCTION HOSE:**

The suction hose draws fuel into the filter cart. It is attached to the smaller of the two filter housings (suction filter).

### **SUCTION FILTER:**

The suction filter is the smaller of the two filter housing. It is equipped with two 100-mesh filter elements. Its function is to filter out large contaminants and to protect the pump from being damaged.

### **VACUUM GAUGE:**

The vacuum gauge is located on the 90 degree elbow fitting at the discharge side of the filter housing. It will tell the operator when to clean or replace the two 100 mesh filter elements in the suction filter housing.

### **RETURN HOSE:**

The return hose discharges the clean fuel out of the filter cart. It is attached to the larger of the two filter housings (outlet filter).

### **OUTLET FILTER:**

The outlet filter is the larger of the two filter housings. It contains two filter elements that do the final filtering of the fuel.

### **PRESSURE GAUGE:**

The pressure gauge is located on the return filter housing. It will tell the operator when to replace the two filter elements.

### **RELIEF VALVE:**

The relief valve is a safety feature on the filter cart. Its function is to divert fuel back to the suction filter in case the return filter elements are clogged or the return hose is plugged.

## FILTER CART OPERATION

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Operation of the **Enviro 1** hydraulic filter cart is fairly straightforward. Simply put both the suction and return hoses into the tank and turn the unit on.

To ensure that the fuel is filtered to a good degree of cleanliness, it is recommended that the total volume of fuel in the tank be exchanged (filtered) approximately two times. This will ensure that nearly all of the particles in the fuel, 10 microns or larger, have been removed.

The filter cart is equipped with a 6.5 G.P.M. pump/motor combination. Use the example and the formula below to calculate the time needed to clean the fuel in a tank.

**Example:**

**Problem:** Cleaning up a 30-gallon reservoir with a 6.5 G.P.M. filter cart

**Solution:**

Using the equation:

$$\frac{\text{Amount of Oil to be Filtered (in Gallons)}}{\text{Rate of Filter Cart Pump (in G.P.M.)}} \times 2 = \text{Time Required}$$

Therefore, by putting our values into this equation we find the following:

$$\frac{30 \text{ gallons}}{6.5 \text{ G.P.M.}} \times 2 = 10 \text{ minutes}$$

Therefore we find that the filter cart should be run for 10. minutes in this situation.

To further insure that all the fuel is filtered as equally as possible, it is suggested that the filter cart suction and return hoses be placed at opposite ends of the tank. It would also be advantageous to occasionally change the direction the hose ends are pointing.

After the filtering process has been completed, remove the suction hose from the tank while the filter cart is still running. This will force out most of the remaining fuel in the filter housings.

**Caution!** This process involves running the pump dry. Do not allow the pump to run dry for more than one minute. The fuel being pumped helps to lubricate and cool the gear pump. Damage to the pump may occur if it is allowed to run dry for more than one minute.

Drain cocks are provided at the bottom of both filter housings to drain any remaining fuel.

## **FILTER ELEMENT REPLACEMENT**

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Suction and return filter elements should be serviced when the vacuum or pressure gauges go into the red zones. The suction filter 100 mesh elements can be cleaned and reinstalled. The return line filter elements can not be cleaned and must be replaced. Reference the front cover of this booklet for the part number of the elements to be replaced.

It should be noted that the **Enviro 1** hydraulic Filter Cart is equipped with a 40 P.S.I. relief valve. Its function is to divert fuel back to the suction filter in case the outlet filter's elements have been clogged and need replacement. This also ensures that dirty, unfiltered fuel is never discharged out of the filter cart. It also serves as a safety feature to prevent hoses from blowing off if the return hose is kinked or plugged.

If any other questions concerning the operation or maintenance of the filter cart arise, contact the JCH Fuel Solutions Engineering Department.

## **Fuel Cleaning Systems Warranty**

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### **LIMITED WARRANTY**

**JCH Fuel Solutions** makes every effort to assure that our products meet high quality and durability standards and we expressly warrant the products described herein which are manufactured by JCH Fuel Solutions against defects in Material and workmanship for a period of one (1) year from the date of purchase. This warranty is not intended to supplant normal inspection, care and service of the products covered hereby by the user, and shall not obligate JCH Fuel Solutions to provide free service during the warranty period to correct breakage, maladjustment or other difficulties arising out of abuse, misuse, or improper care and maintenance of such products. Our express warranty is subject to the following terms and conditions:

1. This warranty shall only extend to and is only for the benefit of original purchasers who use the products covered hereby for commercial or industrial purposes.
2. Any warranty claim received by JCH Fuel Solutions after one (1) year from the date of purchase will not be honored even if it is claimed that the defect occurred prior to one (1) year from the date of purchase.
3. This warranty shall not apply to products (1) which have been tampered with, altered or repaired by anyone other than JCH Fuel Solutions without the express prior written consent of JCH Fuel Solutions, (2) which have been installed improperly or subject to misuse, abuse, accident, negligence of others, improper operation or maintenance, neglect or modification, or (3) which have had the serial number altered, defaced or removed.
4. The liability of JCH Fuel Solutions under this warranty is limited to the repair or replacement of the defective product. JCH Fuel Solutions assumes NO LIABILITY for labor charges or other costs incurred by any purchaser incidental to the service, adjustment, repair, return, removal or replacement of products. JCH FUEL SOLUTIONS ASSUMES NO LIABILITY FOR ANY GENERAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL, CONTINGENT OR OTHER DAMAGES UNDER ANY WARRANTY, EXPRESS OR IMPLIED, AND ALL SUCH LIABILITY IS HEREBY EXPRESSLY EXCLUDED.
5. JCH FUEL SOLUTIONS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE OR OTHERWISE, WITH RESPECT TO THE PRODUCTS COVERED BY THIS WARRANTY POLICY, EXCEPT AS EXPRESSLY PROVIDED FOR HERIN. NO EMPLOYEE, AGENT, REPRESENTATIVE OR DISTRIBUTOR IS AUTHORIZED TO MAKE ANY WARRANTY ON BEHALF OF JCH FUEL SOLUTIONS, OTHER THAN THE EXPRESS WARRANTY PROVIDED FOR HEREIN.

6. JCH Fuel Solutions reserves the right at any time to make changes in the design, material, function and specifications of its products. Any such changes shall not obligate JCH Fuel Solutions to make similar changes in such products that were previously manufactured.

### **WARRANTY CLAIM PROCEDURE**

To make a claim under this warranty, please call our Customer Service Representative at **(888) 287-1627**. We will ask you to advise us of our Representative's name and address, the date of purchase, model number and a detailed explanation of the problem you are experiencing. The Customer Service Representative will arrange for a Field Engineer to inspect your system if the inspection discloses a defect covered by our limited warranty, we will either repair or replace the defective parts or products at our election and at our cost. If upon inspection, our Engineer determines that there is no defect or that the damage to the system resulted from cases not within the scope of our limited warranty, then you must bear the cost of repair or replacement of the damaged parts. For service, please contact **JCH Fuel Solutions**.

**JCH Fuel Solutions  
4527 Losee Road  
N. Las Vegas, NV 89031**

**Phone:** (888) 287-1627 **Fax:** (702) 639-4101 **Direct:** (702) 639-4076

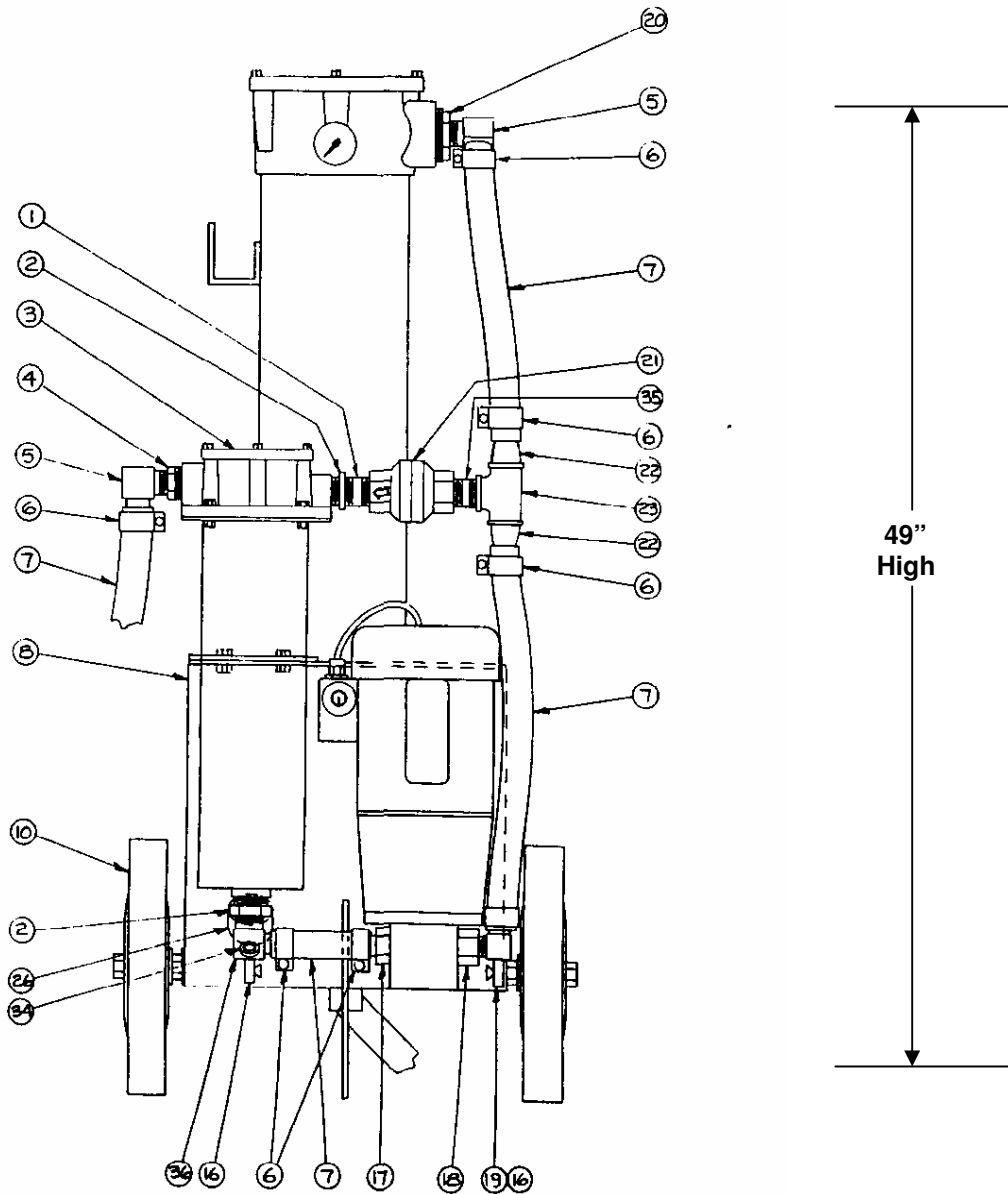
**Internet:** [www.jchfuel.com](http://www.jchfuel.com)      **E-mail:** [sales@jchfuel.com](mailto:sales@jchfuel.com)

## ENVIRO 1 HYDRAULIC CART

### PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	47-PS2763	1" NPT NIPPLE X 2" LG., THREADED BOTH ENDS, BLACK PIPE
2	2	47-PS2764	1 1/4" X 1" NPT REDUCER BUSHING, BLACK PIPE
3	1	47-FC61215FC	FILTER HOUSING ASSEMBLY (SEE PAGE 8 FOR PARTS LIST)
4	1	47-TF101501	1 1/2" X 1 NPT REDUCER BUSHING
5	2	47-PV101090	1" NPT TO 1" HOSE 90° FITTING
6	8	47-HC075	HOSE CLAMP
7	1	47-FC67	1" I.D. HOSE
8	1	47-FC61	FILTER CART FRAME
9	4	47-PS0010	1/2 -13 X 1 1/2 LONG HEX BOLT
10	2	47-FC610	Ø 12" BALL BEARING WHEELS
11	2	47-PS0028	5/8" -11 HEX BOLT, PLATED
12	6	47-PS1006	5/8" FLAT WASHER
13	4	47-PS1110	5/8" - 11 HEX NUT, PLATED
14	2	47-PS1011	5/8" HELICAL LOCK WASHER, PLATED
15	1	47-PS2765	2 1/2" X 1" NPT REDUCER BUSHING, BLACK PIPE
16	3	47-FC616	1/4" NPT DRAINCOCK, LIQUID TYPE
17	1	47-PV1110	1 1/16" - 12 SAE TO 1" HOSE BARB
18	1	47-FC618	7/8" - 14 SAE MALE TO 3/4" NPT FEMALE ADAPTOR
19	1	47-PV071090	3/4" NPT TO 1" HOSE, 90° FITTING
20	1	47-PS2766	2" X 1" NPT REDUCER BUSHING
21	1	47-LRV1040	40 PSI RELIEF VALVE
22	2	47-FT100ZP	1" NPT TO 1" HOSE FITTING
23	1	47-PS2767	1" NPT TEE FITTING
25	1	47-C120	PRESSURE GAUGE
26	1	47-GV10	VACUUM GAUGE
27	1	47-FC63	PUMP/MOTOR ASSEMBLY (SEE PAGE 7 FOR PARTS LIST)
28	5	47-PS0001	5/16" - 18 X 1" LONG SELF LOCKING BOLT
29	5	47-PS1102	5/16" - 18 X SELF LOCKING NUT
30	1	47-FC630	HANDLE GRIP
31	1	47-FC62	FILTER HOUSING ASSEMBLY (SEE PAGE 6 FOR PARTS LIST)
32	4	47-PS1105	1/2" - 13 HEX NUT
33	1	47-FC64	CORD/REEL ASSEMBLY
34	1	47-PS2768	1/8" NPT 45° STREET ELBOW
35	1	47-PS2769	1" NPT NIPPLE X 3" LG., THREAD BOTH ENDS
36	2	47-PV101090M	1" NPT TO 1" HOSE 90° FITTING (MODIFIED)
37	1	47-FC613	1/2" NPT STRAIN RELIEF CORD CONNECTOR X .37 WIRE

# Enviro 1 Hydraulic Cart



←
→
22"
Width

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→
49" Height
22" Width
24" Depth
150 Weight

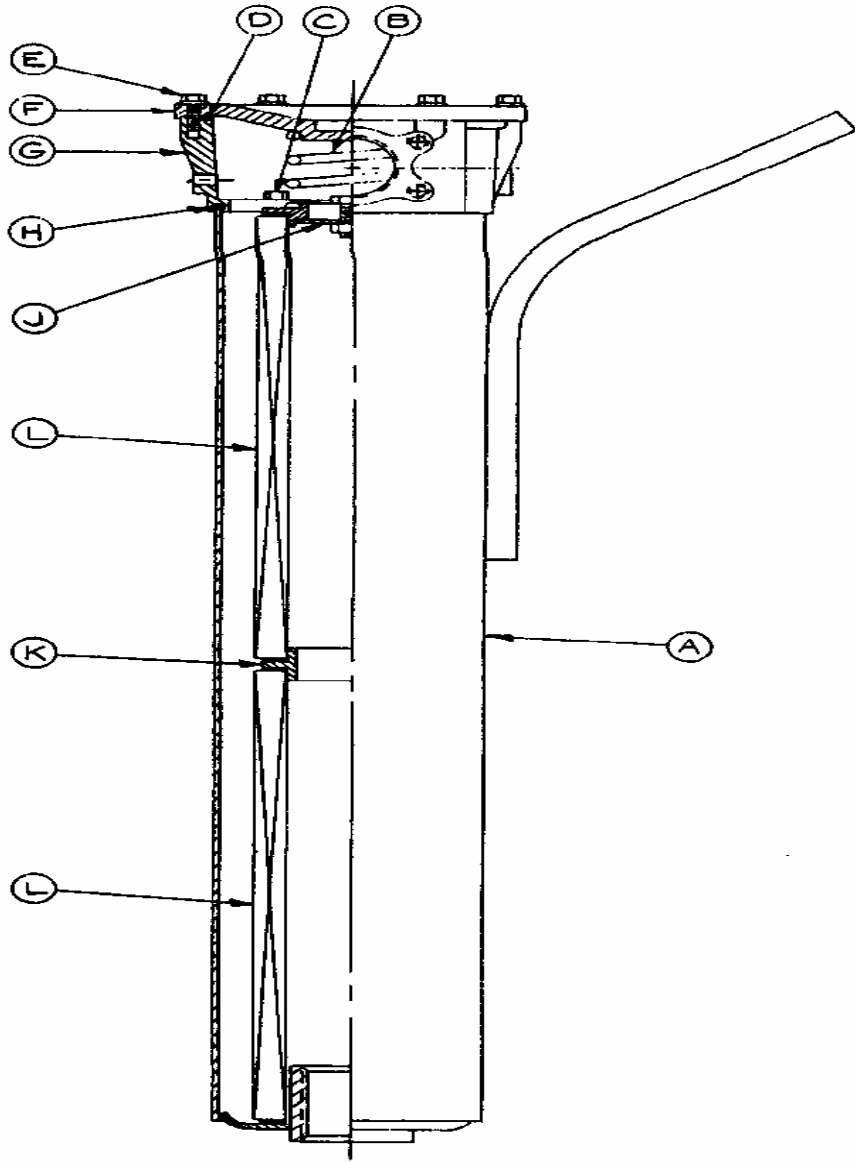
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### PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
A	1	47-FC621	ELEMENT HOUSING
B	1	47-RS02	ELEMENT HOLD DOWN SPRING
C	4	47-PS0002	3/8" – 16 X 7/8" LG., SELF LOCKING BOLT
D	1	47-RG05	TOP COVER GASKET
E	6	47-PS0001	5/16" – 18 X 1" LG., SELF LOCKING BOLT
F	1	47-WF01	MAIN HOUSING COVER
G	1	47-WF252002	MAIN PORT HOUSING
H	1	47-RG06	SEAL
J	1	47-WF16	ELEMENT HOLD DOWN
K	1	47-WF08	ELEMENT CONNECTOR
L	2	47-WE518XX	FILTER ELEMENT

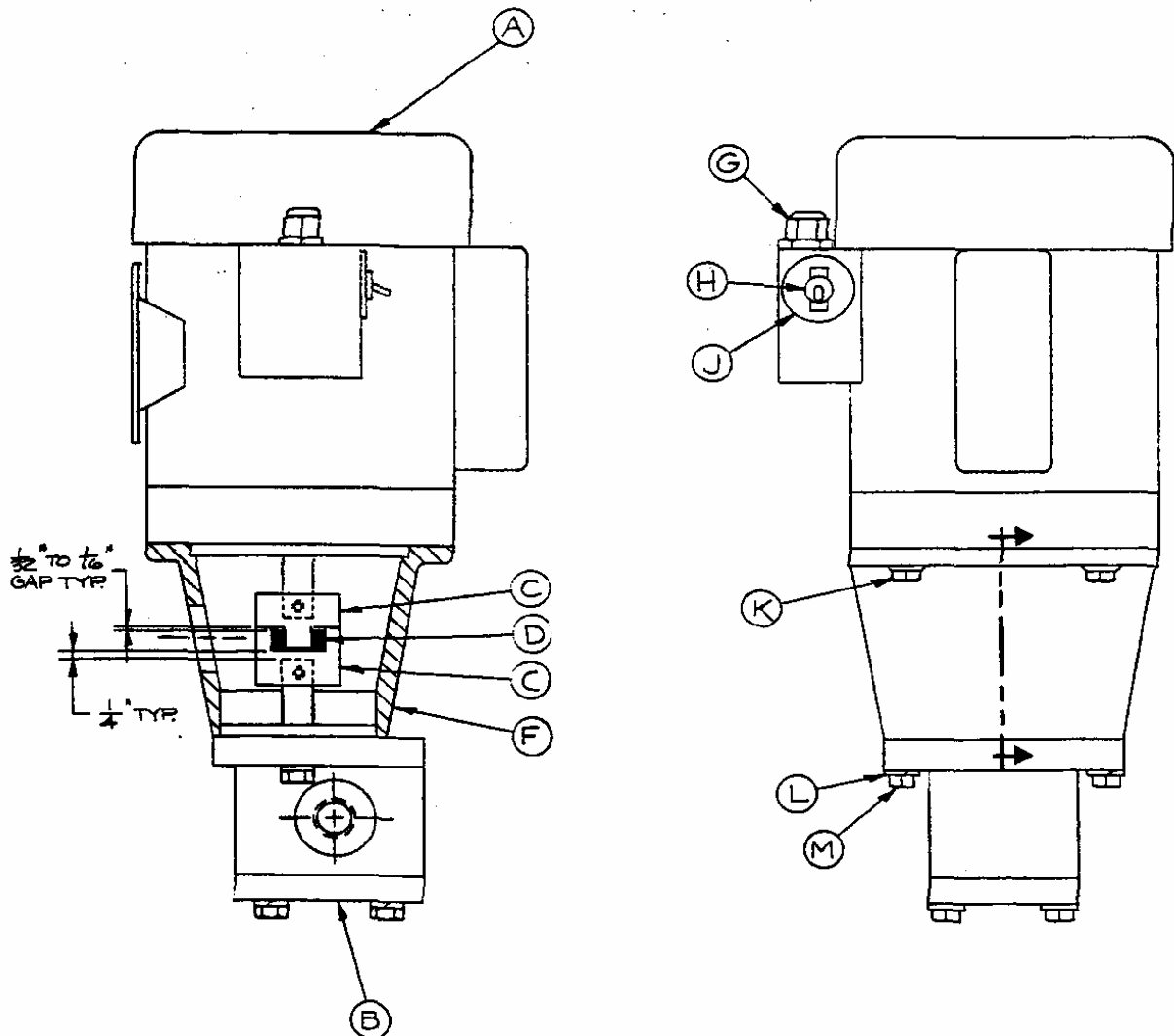
# Enviro 1 Hydraulic Cart



## ENVIRO 1 HYDRAULIC CART

### PARTS LIST

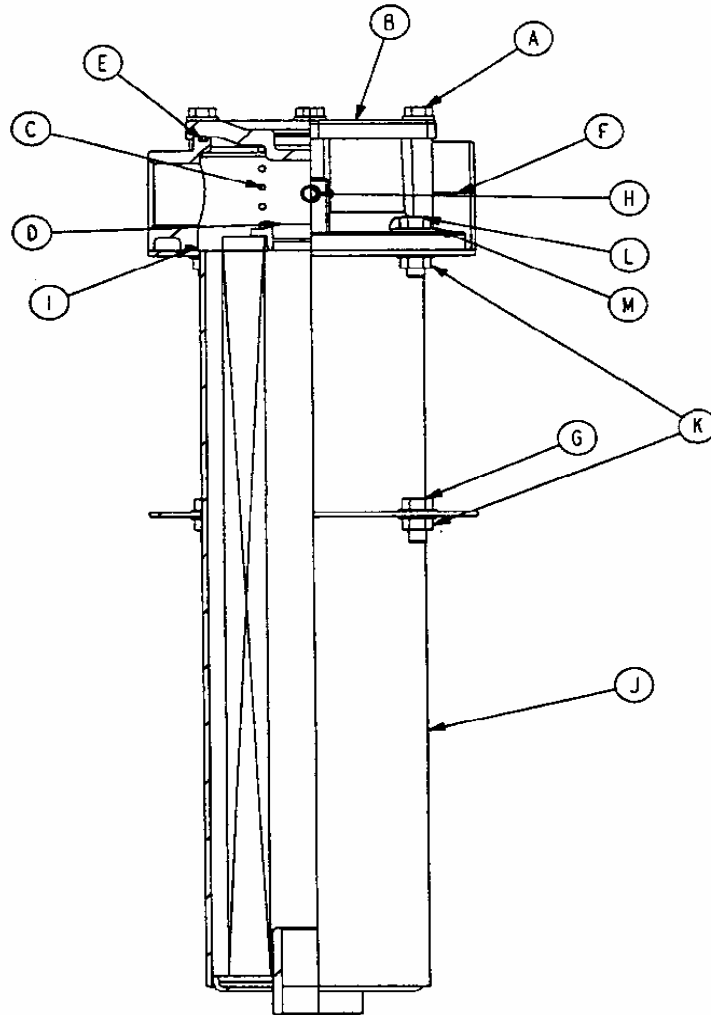
ITEM	QTY	PART NUMBER	DESCRIPTION
A	1	47-FC63A	ELECTRIC MOTOR; 1725 R.P.M.; ¾ H.P.; TEFC; 115 VAC.; W/BRACKET
B	1	47-F63B	GEAR PUMP; 0.78IN DISPLACEMENT; 6.6 G.P.M. @ 1725 R.P.M.
C	2	47-FC63C	COUPLING BODY
D	1	47-FC63D	COUPLING SPIDER; BUNA-N
E	1	47-FC63E	COUPLING BODY
F	1	47-FC63F	C-FACE MOTOR/PUMP ADAPTOR
G	1	47-FC63G	STRAIN RELIEF CONNECTOR CORD GRIP; LIQUID TIGHT
H	1	47-GC63H	TOGGLE SWITCH; SINGLE POLE/ SINGLE THROW
J	2	47-VD06	VALVE DISK
K	4	47-PS0002	3/8" - 16 X 7/8" LG., SELF LOCKING BOLT
L	2	47-PS1008	3/8" HELICAL LOCK WASHER
M	2	47-PS0013	3/8" - 16 X 1 ¼" LG., HEX BOLT



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### PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
A	6	47-PS0001	5/16" – 18 X 1" LG., SELF LOCKING BOLT
B	1	47-RF03	HOUSING TOP COVER
C	1	47-RS01	ELEMENT HOLD DOWN SPRING
D	1	47-RF15	ELEMENT HOLD DOWN
E	1	47-RG02	TOP COVER SEAL (BUNA "N")
F	1	47-RF1215	PORT CASTING W/1 1/4" & 1 1/2" NPT PORTS
G	4	47-PS0002	3/8" – 16 X 3/4" LG., SELF LOCKING BOLT
H	2	47-PS1600	1/8" NPTF PIPE PLUG
I	1	47-RG03	HOUSING FLANGE SEAL (BUNA-"N")
J	1	47-FC6DFC	DOUBLE LENGTH ELEMENT HOUSING
K	8	47-PS1100	3/8" – 16 SELF LOCKING NUT
L	4	47-PS0013	3/8" – 16 X 1 1/4" LG., NYLOCK HEX HEAD BOLT
M	4	47-PS1002	3/8" FLAT WASHER



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