



VESTIL MANUFACTURING CORP.

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CM-2 OIL FILTER CRUSHERS USE AND MAINTENANCE MANUAL



Receiving instructions:

After delivery, IMMEDIATELY remove the packaging from the product in a manner that preserves the packaging; then inspect the product closely to determine whether it sustained damage during transport. **If damage is discovered during the inspection, immediately record a complete description of the damage on the bill of lading.** If the product is undamaged, discard the packaging.

NOTES:

- 1) Compliance with laws, regulations, codes, and non-voluntary standards enforced in the location where the product is *used* is exclusively the responsibility of the owner/end-user.
- 2) VESTIL is **not liable** for any injury or property damage that occurs as a consequence of failing to apply either:
 - a) Instructions in this manual; or
 - b) Information provided on labels affixed to the product. Neither is Vestil responsible for *any* consequential damages sustained as a result of failing to exercise sound judgment while assembling, installing, using or maintaining this product.

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Five Year Limited Warranty

Oil Filter Crusher - Models I & II

Ben Pearson Tubemaster warrants its Model I & II Oil Filter Crusher units to be free from defects in material and workmanship under normal use as delivered to the original purchaser for five years from the date of original invoice.

The five-year warranty covers all structural components as well as the accessory stand for supporting the oil filter crusher. **All electrical, hydraulic and air components are covered under a one year warranty from the date of original invoice.**

The warranty does not apply to normal wear and tear or to misuse.

Defective parts covered by this warranty will be repaired or replaced, at the option of Ben Pearson Tubemaster Corporation, upon return thereof to Ben Pearson Tubemaster at its home office, transportation prepaid, within the applicable warranty period. Following the first 90 days from the date of original invoice, replacement parts will be shipped to the purchaser freight collect.

Other than the warranty with reference to the repair or replacement of defective parts as more specifically set out hereinabove, BEN PEARSON TUBEMASTER CORPORATION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OTHERWISE WHICH EXTEND BEYOND THE DESCRIPTION OF THE PRODUCT. In no event will the sales representative, wholesale dealer, Ben Pearson Tubemaster Corporation, or any other company affiliated with it or them to be liable for incidental or consequential damages or injuries, including but not limited to loss or profit, rental or substitute equipment or other commercial loss, purchaser's sole and exclusive remedy being as provided hereinabove.

This warranty may not be enlarged or modified in any manner whatsoever, except in writing signed by an executive officer of Ben Pearson Tubemaster Corporation.

It is the policy of Ben Pearson Tubemaster Corporation to improve its product whenever it is possible and practical to do so. Ben Pearson Tubemaster Corporation reserves the right to make changes or add improvements at any time without incurring any obligation to make such changes or add such improvements to products previously sold.

I have read and fully understand the operation instructions and safety rules.

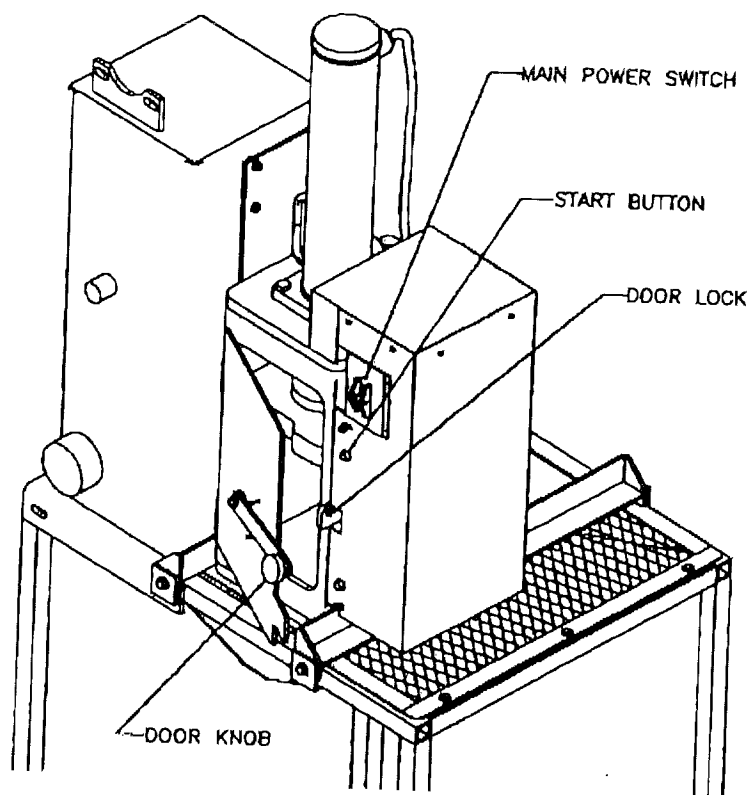
WARRANTY NOT VALID UNLESS WARRANTY CARD IS RETURNED.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: READ AND FOLLOW OPERATING INSTRUCTIONS SUPPLIED WITH YOUR OIL FILTER CRUSHER CAREFULLY! FAILURE TO FOLLOW THE SAFETY INSTRUCTIONS LISTED BELOW AND OTHER BASIC SAFETY PROCEDURES MAY RESULT IN PERSONAL INJURY.

- KEEP WORK AREA CLEAN. Cluttered areas invite accidents.
- ALWAYS WEAR PROTECTIVE SAFETY GLASSES. No loose clothing or jewelry should be worn. Rubber gloves and non-slip footwear is recommended.
- UNIT SHOULD BE LOCATED AWAY FROM CUSTOMER AREA.
- SECURE UNIT. Use bolts and adjusting angle to secure the unit to the desired horizontal surface to eliminate slipping during operation.
- REPLACEMENT PARTS. When servicing this unit, use only identical replacement parts, which may be purchased directly from the manufacturer.
- ALWAYS DISCONNECT THE POWER CORD BEFORE SERVICING UNIT.
- KEEP ALERT. NEVER OPERATE THIS UNIT WHILE TIRED OR UNDER THE INFLUENCE OF DRUGS/ OR ALCOHOL.
- DO NOT ALTER OR MISUSE UNIT. This unit was precision built and any alteration or modification of the unit may result in injury and WILL VOID THE WARRANTY.
- IT IS STRONGLY RECOMMENDED THAT THIS UNIT NOT BE OPERATED ABOVE 2800 PSI AND UNDER NO CIRCUMSTANCES SHOULD THE UNIT BE OPERATED ABOVE 3000 PSI.
- CENTER OIL FILTER OVER DRAIN. Filter's open end (sealing inside) must be facing down toward drain hole so oil will drain into hose.
- DO NOT OPEN DOOR UNTIL CYCLE IS COMPLETE. DO NOT REMOVE OR MODIFY DOOR.
- REMOVE CRUSHED FILTER CAREFULLY. SHARP EDGES MAY SCRATCH, CUT OR PUNCTURE SKIN.
- NEVER INSERT HANDS OR OTHER OBJECTS OTHER THAN USED OIL FILTERS OR FILTER ELEMENTS INTO THE UNIT.

OPERATING INSTRUCTIONS



1. Pull up on door knob and open door.
2. Place oil filter(s) in housing.
NOTE: Follow instructions on safety decal attached to the side of unit. Make sure filters are centered in crushing chamber.
3. Close door by placing the locking bar in the door lock.
4. Turn on the Main Power Switch.
5. Push the Start Button.
NOTE: This unit is equipped with a timer that will retract the crusher plate after a preset amount of time. This timer has been factory set and should not be adjusted unless crusher plate retracts before filter(s) are completely crushed. See page 13 for setting instructions.
6. Open the door and remove the crushed filter.
7. Repeat process or turn off Main Power Switch if finished.

OIL FILTER CRUSHER MAINTENANCE

The Ben Pearson oil filter crusher is designed and built for long-term dependable use. With proper care and maintenance, it will provide years of service and a high return on your investment.

1. Periodically, check to make sure cylinder adapter is tight on cylinder rod.
2. Check cylinder-mounting bolts to make sure they are tight, weekly.
3. Inspect regularly for hydraulic leaks, repair any leaks immediately.
4. Inspect all hydraulic hoses regularly for wear and cuts. Replace any hose that appears damaged.
5. Check cycle time, ram should return to the non-crushing position after 18 to 20 seconds.

HYDRAULIC OIL

Your Ben Pearson oil filter crusher was factory shipped with (3) gallons of Chevron 46 AW hydraulic oil. Hydraulic oil that can be used or added are those that meet the specifications of the Chevron 46 AW hydraulic oil. Ford type F or Dextron B automatic transmission fluids are excellent substitutes.

To check the reservoir oil level, remove the round breather cap on the side of the machine. The correct oil level is 2" below bottom of fill hole. Should the oil level fall below the minimum, the machine should be checked thoroughly to determine the cause of the leak.

Hydraulic oil should be changed after 1000 hours of operation or yearly. The strainer inside the tank should also be removed and cleaned at that time.

TROUBLE SHOOTING INSTRUCTIONS

1. Motor does not run when start switch button is turned on.
 - A. Machine is not plugged in or main power switch is off.
 - B. Breaker thrown or overload tripped.
 - C. Thermal overload in motor may be tripped. Wait a few minutes and try again.
 - D. Check wiring.
 - E. Replace motor.

2. Motor runs but RAM will not go down or goes down.
 - A. Trash under check valves. Push door handle to and then hit switch again.
 - B. Check oil level in reservoir. With RAM up, reservoir should be full.

3. Motor runs - RAM will not smash filter. Inadequate pressure.
 - A. Relief valves setting too low. Lower RAM until valve goes on relief;
check oil pressure and adjust to 3000 PSI.

4. Oil blows out of breather cap.
 - A. Oil reservoir over filled. Remove oil until reservoir is full below fill hole.
 - B. Breather cap not tight; tighten

5. No pressure or volume.
 - A. Check to see that motor is running.
 - B. See if motor is running in right direction.
 - C. Low oil supply.
 - D. Key shared in pump.

6. Jerky or non-uniform action of crusher.
 - A. Air in system. Remove by removing breather cap and adding oil as unit is raised.

7. Foaming in oil.
 - A. Internal suction of air through pipe or line joints; tighten.
 - B. At maximum stroke of cylinder oil level may be insufficient; add oil.

October 1999

PARTS MANUAL

This manual contains the necessary information for ordering replacement parts. To order parts, first locate the part wanted in the illustrations, note the code number, then refer to the code number in the parts list on the same or following page that identifies the part number and part name. Code numbers only are shown in the illustrations. To eliminate errors and speed delivery of your order, always use the oil filter crusher part numbers and part name. Do not use the code numbers when ordering parts.

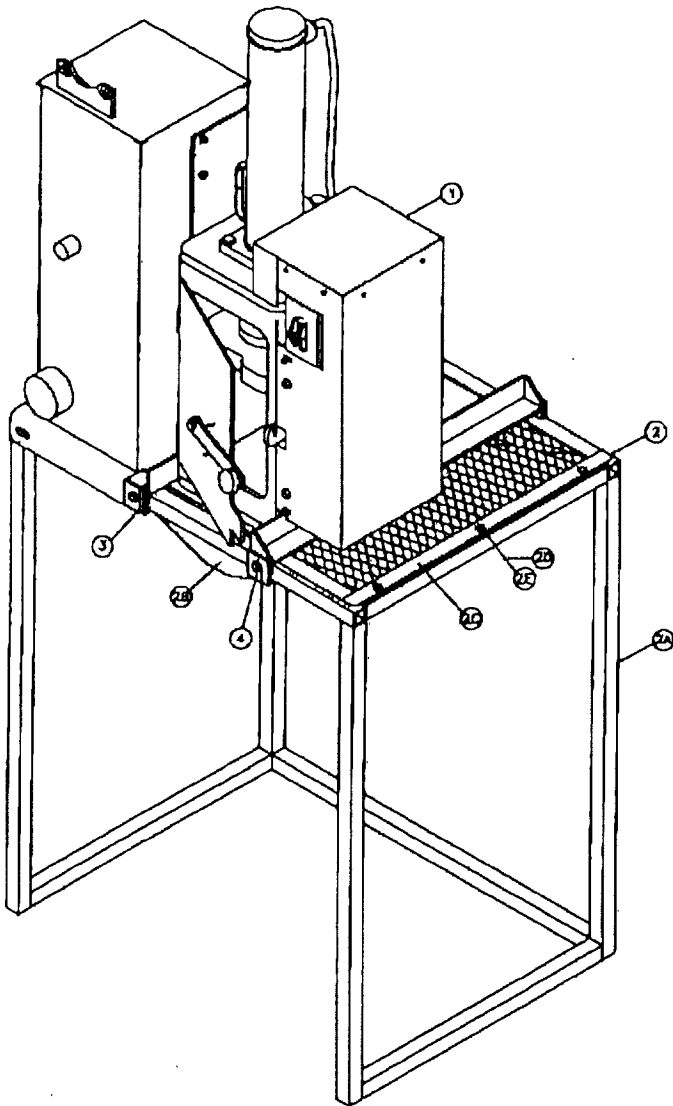
Each Ben Pearson Oil Filter Crusher is identified by a model and serial number stamped on a plate attached to a frame member near the front of the machine. In all correspondence, including parts orders, please state all identification numbers.

Be sure to state plainly the address to which parts are to be shipped and how they are to be shipped (parcel post, UPS, freight, etc.).

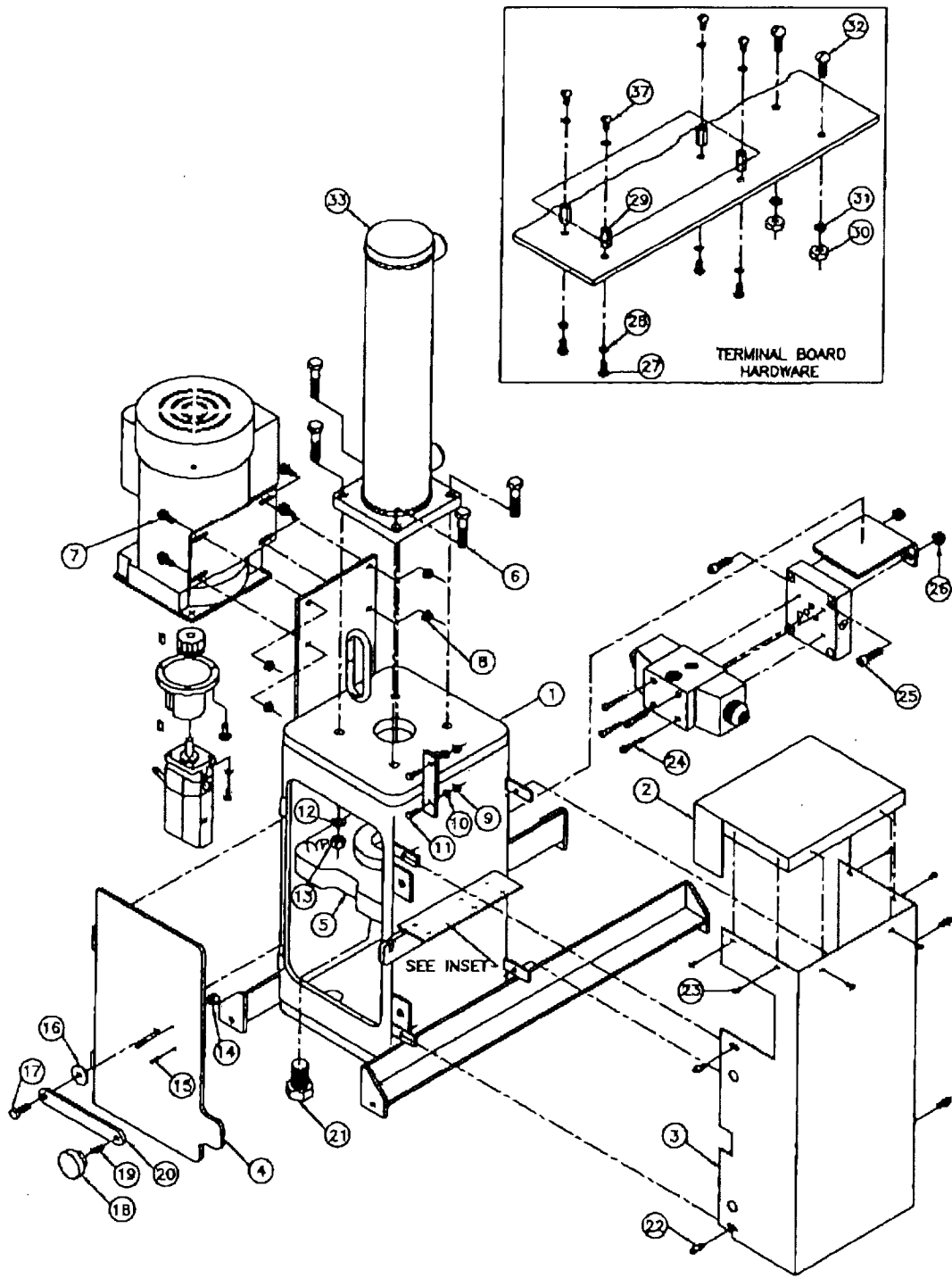
Upon receipt of parts from the factory, inspect all parts. Any storage or damage claim should be filed immediately.

NOTE: This manual is subject to change without notice.

ASSEMBLY & STAND



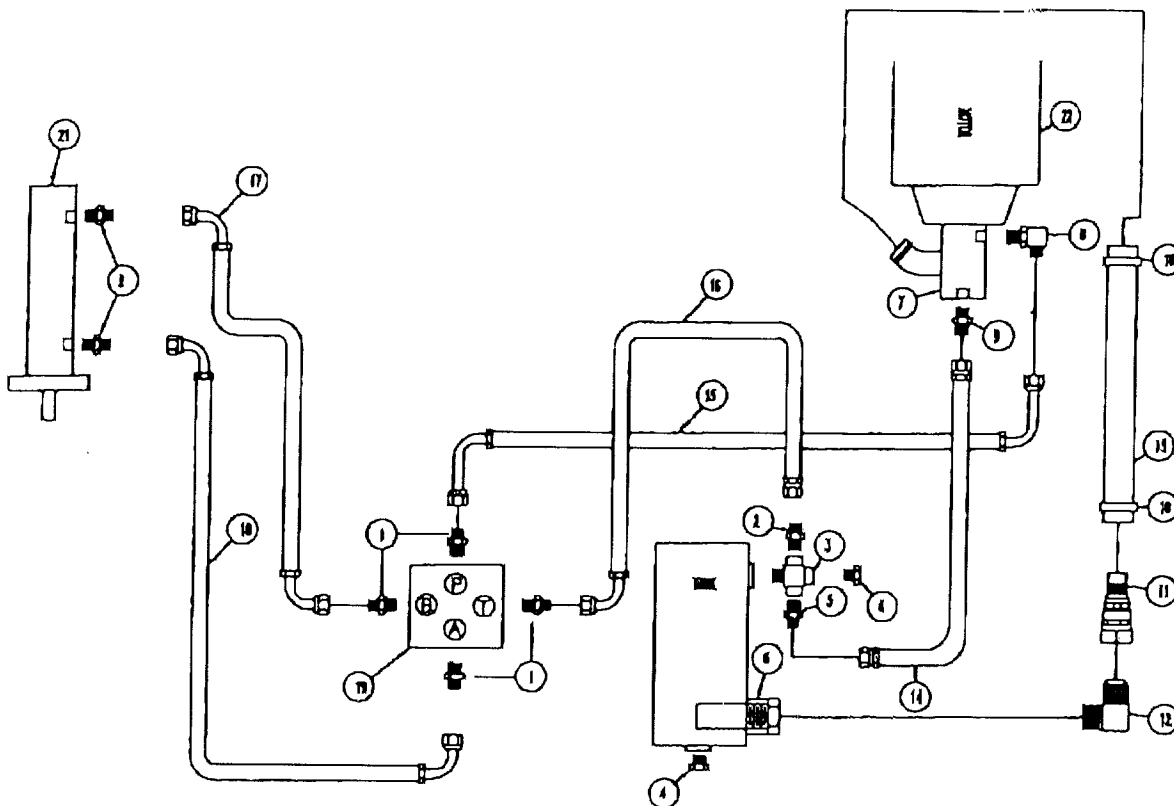
CODE	PART NAME	QT.	PART #
1	CRUSMASTER II ASSY.	1	82374
2	STAND ASSEMBLY	1	62363
A	STAND STRUCTURE	1	62325
B	DRAIN PAN STR.	1	62362
C	DRAIN PAN COVER	2	82384
D	HEX SCREW 3/8 X 2	8	100130
E	HFHSL NUT 3/8NC	6	100239
3	TANK STRUCTURE	1	62824
4	ANGLE CLAMP	4	62335
5	HFHSL SCREW 1/16X3/4	4	100240



ASSEMBLY & HARDWARE DIAGRAM

CODE	PART NAME	QUANTITY	PART NUMBER
1	HOUSING STRUCTURE	1	62408
2	TOP SHIELD	1	62430
3	RIGHT SHIELD	1	62431
4	DOOR STRUCTURE	1	62404
5	ADAPTER PLATE STRUCTURE	1	62664
6	HEX HEAD SCREW 1/2-13NC X 2-1/4 GR.8	4	100358
7	HFHSL SCREW 5/16-18NC X 3/4 GR.5	4	100234
8	HFHSL NUT 5/16-18NC	4	100237
9	HEX NUT 1/4-20NC	2	100131
10	LOCKWASHER 1/4"	2	100134
11	HEX HEAD SCREW 1/4-20NC X 3/4 GR.5	2	100207
12	LOCKWASHER 1/2 MEDIUM	4	100125
13	HEX NUT 1/2-13 GR.8	4	100359
14	LOCK NUT 3/8-16	1	100083
15	SPRING PIN 5/32 X 3/4	2	100350
16	FLATWASHER 1-1/4 OD X 13/32 ID X 1/8	1	100356
17	HEX HEAD SCREW 3/8-16NC X 1	1	100149
18	KNOB	1	60698
19	SET SCREW 5/16-18NC X 3/4	1	100351
20	DOOR LOCK	1	62581
21	HEX HEAD SCREW 1-14UNS X 1-1/2 GR.5	1	100360
22	THUMB SCREW 1/4-20 X 1/2 GR.2	4	100355
23	SELF TAPPING SCREW #8-1/2 LONG TYPE "A"	6	100361
24	SHCS 1/4-20NC X 1-1/2	4	100312
25	SHCS 3/8-16NC X 1-1/4 (INCLUDED W/61330)	2	100366
26	HFHSL NUT 3/8-16NC	2	100239
27	ROUND HEAD MACHINE SCREW #4-40NC X 3/8	4	100375
28	LOCKWASHER #4 MEDIUM	8	60268
29	STAND OFF #4-40NC TAP X .375	4	60277
30	HEX MACHINE SCREW NUT #8-32NC	2	100104
31	LOCKWASHER #8	2	100171
32	ROUND HEAD SCREW #8-32NC X 3/4	2	100103
33	CYLINDER 4 X 16	1	62434
34	POWER UNIT	1	62244
35	DIRECTIONAL CONTROL VALVE	1	61950
36	SUB PLATE - CONTROL VALVE	1	61330
37	ROUND HEAD MACHINE SCREW #4-40NC X 1/4	4	60261

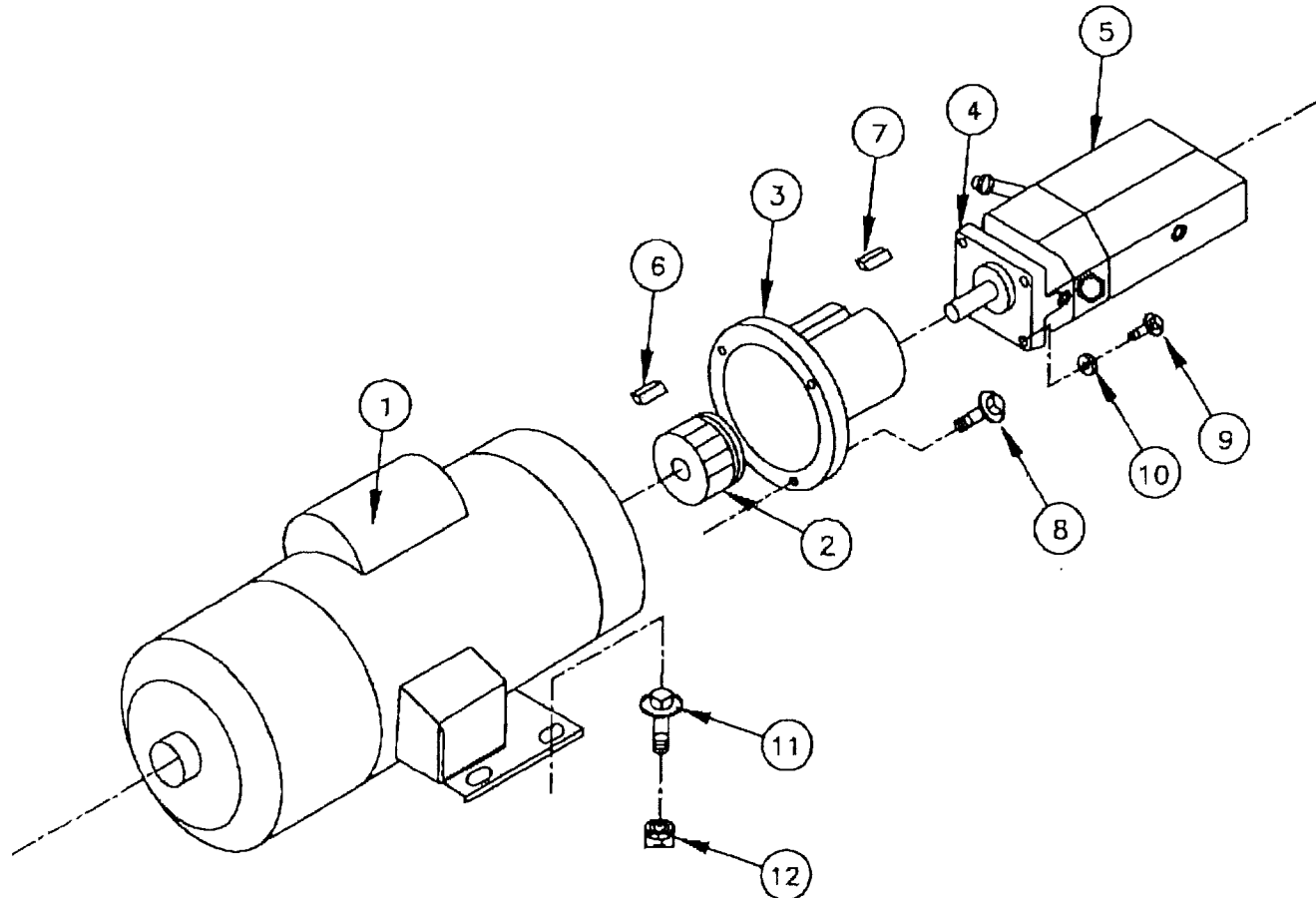
HYDRAULIC DIAGRAM



PARTS LIST

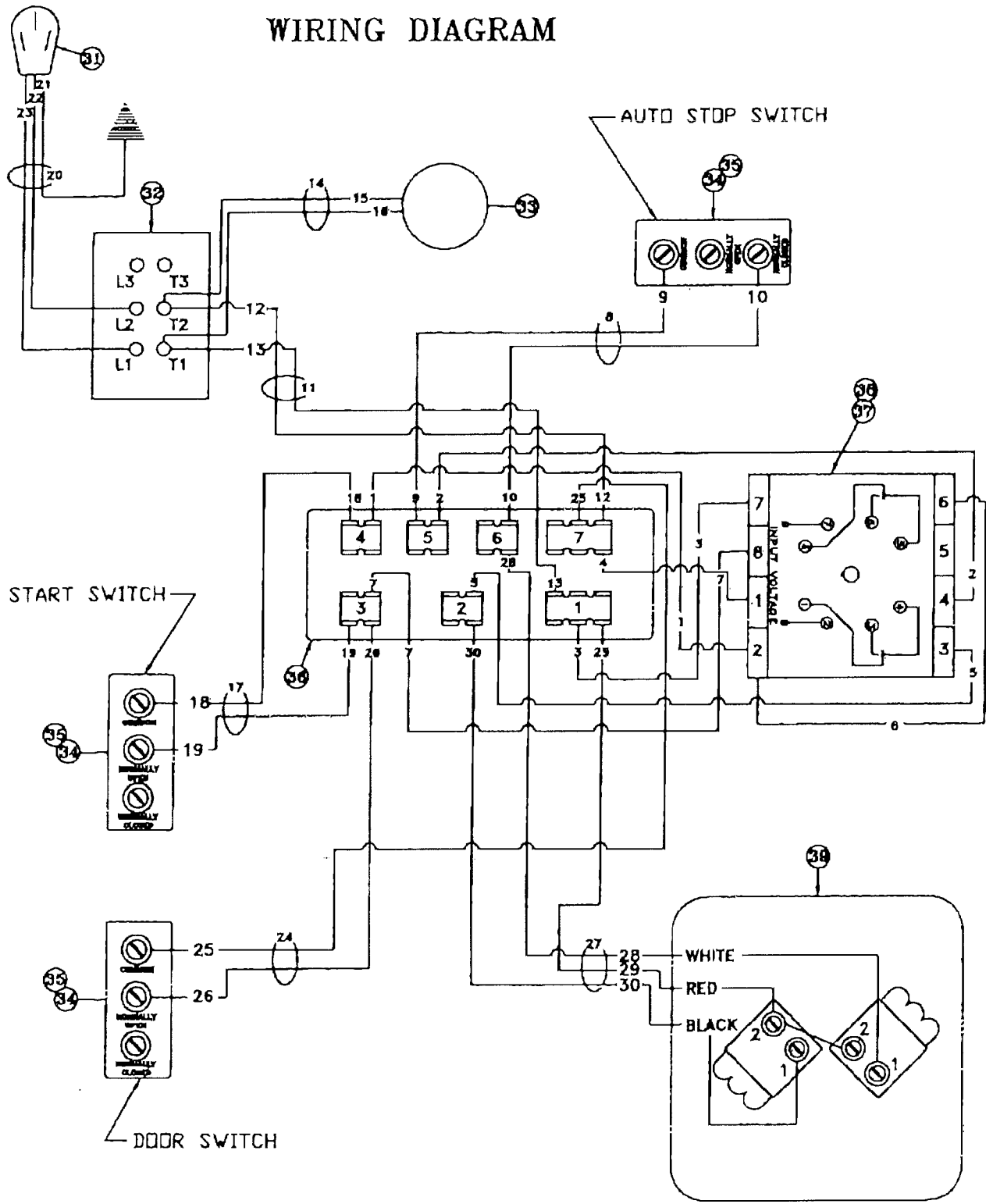
REF. NO.	PART NUMBER	PART NAME	DESCRIPTION	QTY
1	61326	MALE CONNECTOR	3/4-ORB TO 9/16-JIC	4
2	80061	MALE CONNECTOR	9/16 - JIC X 1/2 NPT	3
3	61329	INTERNAL/EXTERNAL ADAPTER	1/2 NPT	1
4	100117	SQ HD PLUG	1/2 NPT	2
5	61557	MALE CONNECTOR	7/16 JIC X 1/2 NPT	1
6	61331	SUCTION STRAINER		1
7	60428	BARNES PUMP		1
8	60368	90 DEGREE ELBOW	9/16-18 JIC X 9/16 ORB	1
9	61512	MALE CONNECTOR	7/16 JIC X 1/2 ORB	1
10	100123	HOSE CLAMP		2
11	100380	FEMALE SWIVEL	1-1/16JIC X 3/4	1
12	100379	90 DEG ELBOW	3/4NPT X 1-1/16JIC	1
13	60074	SUCTION HOSE	3/4 ID 36LG	1
14	61558	HOSE ASSEMBLY	1/4 ID 20-1/8 LG HOSE	2
15	62820	HOSE ASSEMBLY	3/8" ID 25" LONG	1
16	62821	HOSE ASSEMBLY	3/8" ID 12-1/2" LONG	1
17	62822	HOSE ASSEMBLY	3/8" ID 17-1/2" LONG	1
18	62823	HOSE ASSEMBLY	3/8" ID 15-1/2" LONG	1
19	61330	SUB PLATE - CONTROL VALVE	3/4-16 ORB PORTS	1
21	62434	HYDRAULIC CYLINDER	4 X 6	1
22	62244	MOTOR	BALDOR	1

MOTOR AND PUMP



SYS	PART #	PART NAME	QT.
1	62244	MOTOR 1PH.-230V-4 HP-1750RPM BALDOR	1
2	60425	FLEXIBLE COUPLING ASSEMBLY	1
3	60426	ADAPTER	1
4	60427	GASKET	1
5	60428	PUMP - BARNES	1
6	-	KEY	1
7	-	KEY	1
8	100238	HFHSL SCREW - 3/8-16NC X 1 GR.5	4
9	100234	HFHSL SCREW - 5/16-18NC X 3/4 GR.5 -BARNES PUMP	4
9	100241	HEX SCREW - 5/16-18NC X 6-1/2 GR.5 - MTE PUMP	2
10	100159	LOCK WASHER - 5/16	2
11	100234	HFHSL SCREW 5/16-18NC X 3/4 GR.5	4
12	100237	HFHSL NUT 5/16-18NC	4

WIRING DIAGRAM



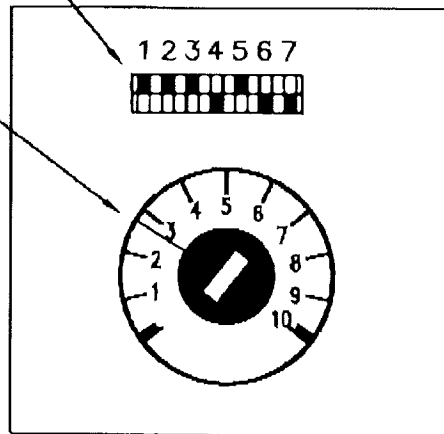
WIRING DIAGRAM

CODE	PART NAME	QUANTITY	PART NUMBER
1	WIRE ASSEMBLY 18 GA. ORANGE 8" LONG	1	61775
2	WIRE ASSEMBLY 18 GA. ORANGE 12" LONG	1	62420
3	WIRE ASSEMBLY 18 GA. ORANGE 8" LONG	1	61775
4	WIRE ASSEMBLY 18 GA. ORANGE 8" LONG	1	61775
5	WIRE ASSEMBLY 18 GA. ORANGE 12" LONG	1	62420
6	WIRE ASSEMBLY 18 GA. ORANGE 6" LONG	1	62862
7	WIRE ASSEMBLY 18 GA. ORANGE 8" LONG	1	61775
8	CORD ASSEMBLY 18-2 SJO 13" LONG	1	62422
9	BLACK TB5 S1-C		
10	WHITE TB6 S1-NC		
11	CORD ASSEMBLY 10-2 SO 18" LONG	1	62423
12	BLACK T2 TB7		
13	WHITE T1 TB1		
14	CORD ASSEMBLY MOTOR 10-2 SO 73" LONG	1	62425
15	BLACK T2 MOTOR		
16	WHITE T1 MOTOR		
17	CORD ASSEMBLY 18-2 SJO 8" LONG	1	62421
18	BLACK TB4 S2C		
19	WHITE TB3 S2 NO		
20	POWER CORD ASSEMBLY 10-3 SO	1	61915
21	WHITE L1 PLUG		
22	BLACK L2 PLUG		
23	GREEN GROUND PLUG		
24	CORD ASSEMBLY 18-2 SJO 24" LONG	1	60908
25	WHITE TB7 S3C		
26	BLACK TB3 S3 NO		
27	CORD ASSEMBLY SOLENOID VALVE 18-3 30" LONG	1	62424
28	WHITE SOL R1 TB6		
29	RED SOL F1 TB2		
30	BLACK SOL F1 TB2		
31	PLUG 1 PHASE	1	60320
32	MANUAL STARTING SWITCH	1	62262
33	POWER UNIT	1	62418
34	MICRO SWITCH ASSEMBLY	1	60440
35	MICRO SWITCH ASSEMBLY	1	60440
36	TERMINAL BOARD STRUCTURE	1	60397
37	RELAY	1	62660
38	MICRO SWITCH ASSEMBLY	1	60440
39	CONTROL VALVE - SOLENOID (DIRECTIONAL)	1	61950
40	SOCKET	1	62661
#	STRAIN RELIEF BUSHING	4	61103
#	CONDUIT LOCK NUT	4	61104
#	NOT SHOWN		

TIMER RELAY SETTING FOR POTTER-BRUMFIELD BRAND

SETTING POSITIONS
FOR SWITCHES

APPROXIMATE SETTING



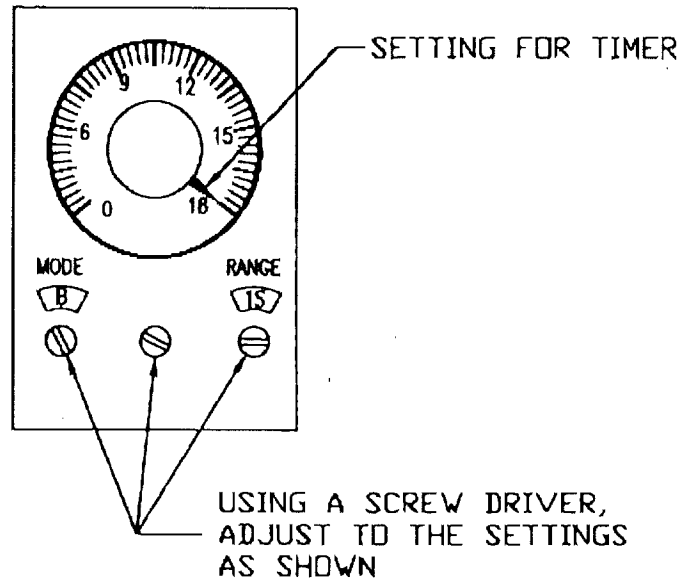
TIMER

NOTE:

THE CYCLE TIME IS FACTORY SET FOR 18 TO 20 SECONDS (JUST UNDER # 3 ON THE INDICATOR). THIS SHOULD CRUSH THE FILTER(S) AND ALLOW THE PUMP TO RUN AT RELIEF PRESSURE FOR ONLY A FEW SECONDS BEFORE RETURNING THE CRUSHER PLATE TO THE "UP" POSITION. THE CYCLE TIME CAN BE ADJUSTED BY TURNING THE DIAL. DO NOT INCREASE THE CYCLE TIME WITHOUT CONSULTING A FACTORY REPRESENTATIVE.

WARNING: INCREASING THE CYCLE TIME ABOVE THAT WHICH IS NECESSARY TO CRUSH THE FILTER MAY CAUSE DAMAGE TO THE POWER UNIT.

TIMER RELAY SETTING FOR IDEC BRAND



NOTE:

THE CYCLE TIME IS FACTORY SET FOR 18 TO 20 SECONDS (# 18 ON THE INDICATOR). THIS SHOULD CRUSH THE FILTER(S) AND ALLOW THE PUMP TO RUN AT RELIEF PRESSURE FOR ONLY A FEW SECONDS BEFORE RETURNING THE CRUSHER PLATE TO THE "UP" POSITION. THE CYCLE TIME CAN BE ADJUSTED BY TURNING THE DIAL. DO NOT INCREASE THE CYCLE TIME WITHOUT CONSULTING A FACTORY REPRESENTATIVE.

WARNING: INCREASING THE CYCLE TIME ABOVE THAT WHICH IS NECESSARY TO CRUSH THE FILTER MAY CAUSE DAMAGE TO THE POWER UNIT.