

Inter-American Oil Works, LTD.

P.O. Box 69170
2416 N.F.M. 1936
ODESSA, TEXAS 79769-0170
OILWORKSINC@OILWORKSINC.COM

Telephone 432-381-5265
800-531-3273
Fax 432-381-7526
WWW.OILWORKSINC.COM



OWI 1600 EXPLORER WIRELINE UNIT

OPERATING INSTRUCTIONS

**WIRELINE UNIT MUST BE RIGIDLY ATTACHED
TO FLOOR SURFACE PRIOR TO ANY WIRELINE OPERATION**

ELECTRICAL

Connect electric motor in accordance with instructions on the data plate attached to wireline unit frame. Refer to wiring schematic inside starter box cover. The electric motor must rotate in the direction indicated by arrow on hydraulic pump.

WARNING

A licensed electrician should be used to properly connect the explosion proof components.

LIGHT WEIGHT TOOL BRAKING

1. Do Not Run electric motor.
2. Disengage shifting clutch.
3. Let tool freefall by controlling speed with hand brake application.
4. Read depth on meter counter.

DYNAMIC BRAKING

1. Do Not Run electric motor.
2. Set hand brake.
3. Engage transmission in 3rd gear for maximum, controlled, free-fall speed.
4. Check the following valves and be certain they are in the operating positions noted:
 - A. Run-Stop valve in STOP position.
 - B. 4-way valve in UP position.
 - C. Hydraulic governor valve closed. Turn valve handle clockwise to fully close.
5. Position the downhole tool and ZERO the measuring device counter.
6. Disengage hand brake.
7. Open hydraulic governor valve; turn valve handle counterclockwise until desired wire speed is obtained.
8. Depth or amount of wire spooled off will be indicated on the measuring device counter in FEET. The number of FEET indicated will increase as wire is spooled off.
9. System pressure guage should indicate zero system pressure.

RETRIEVING WIRE

1. Be certain hand brake is engaged.
2. Determine wire pull required, select appropriate transmission gear from table below, and engage transmission.

Mechanical efficiency may vary because of drag on brake bands, sprocket drives, and other mechanical components. Should system pressure tend to exceed 2000 psi, stop wireline operation and shift transmission to a lower gear. A system pressure of 1500 psi or less indicates that a higher transmission gear may be selected. Wire speed will tend to increase with a decrease in system pressure.

3. Check the following valves and be certain that they are in the operating positions noted:
 - A. Run-Stop valve in Stop position.
 - B. 4-way valve in STOP position.
If transmission reverse gear is used, 4-way valve is in DOWN position.
 - C. Hydraulic governor valve is fully closed, then opened approximately three turns counterclockwise.
4. Start motor.
5. Move run-stop valve to RUN position.
6. Disengage hand brake.
7. Slowly close hydraulic governor valve. Turn handle clockwise until desired wire speed is obtained.

8. To STOP wireline operation:
 - A. Open hydraulic governor valve until spool stops by turning handle counterclockwise.
 - B. Engage hand brake.
 - C. Move run-stop valve to STOP position.
 - D. Stop electric motor unless operation was stopped to shift transmission gear.

EMERGENCY SHUT DOWN

1. Move run-stop valve to STOP position.
2. Engage hand brake.
3. Open hydraulic governor valve.
4. Stop electric motor.

RECOMMENDATIONS

It is recommended to select a transmission gear for either speed or line pull that will permit the wireline retrieval operation with the hydraulic governor valve closed. Opening the hydraulic governor valve permits hydraulic fluid to by-pass the hydraulic motor which results in lower spool rpm.

The relief valve should be set so that the line pull will just slightly over the load that will be handled to insure against the possibility of hanging up in the well and breaking the line when retrieving the line and tools.

Relief valve may be set as follows:

1. Set hand brake.
2. Shift transmission to 3rd (High) gear.
3. Place run-stop valve in STOP position and 4-way valve in UP position.
4. Open hydraulic governor valve approximately three turns.
5. Start electric motor.
6. Move run-stop valve to RUN position.
7. Slowly close hydraulic governor valve.
8. Read system pressure indicated on pressure guage.
9. Set relief valve by loosening jam nut and turning knurled knob clockwise for more pressure and counterclockwise for less pressure.

MAINTENANCE

LUBRICATION

The wireline unit has five grease zerkl fittings as follows:

1. Two spool shaft pillow block bearings (Item No. 5 on Explorer Assembly Drawing).
2. Brake shaft support (Item No. 4) and brake shaft and ratchet support (Item No. 14 on Explorer Brake Assembly Drawing).
3. Yoke assembly (Item No. 5 on Shifting Yoke Assembly Drawing).

The pillow block bearings need very little lubrication, because they are sealed bearings and should not be filled to the point of rupturing the seals. One shot of good quality grease from a hand grease gun every month should be sufficient.

The brake shaft supports should be lubricated as needed. Once every three months is usually sufficient for normal operating conditions.

The yoke assembly will require the removal of the clutch and motor guard (Item No. 8 on Explorer Assembly Drawing). The yoke should be lubricated as needed, usually every month. When the clutch and motor guard is removed, apply a small amount of grease to the spool shaft spline while sliding dog clutch back and forth.

HYDRAULIC OIL

Check frequently the oil level in the tank when the oil is cold and fill tank to about 1/4" above the bottom of filler screen. Use a good quality, non-foaming, anti-wear hydraulic oil. When adding hydraulic oil, be certain the oil is clean and does not contain any solid particles.

Use a premium quality hydraulic oil with a minimum 100 S.U.S. and maximum 500 S.U.S. operating viscosity.

HYDRAULIC OIL FILTER

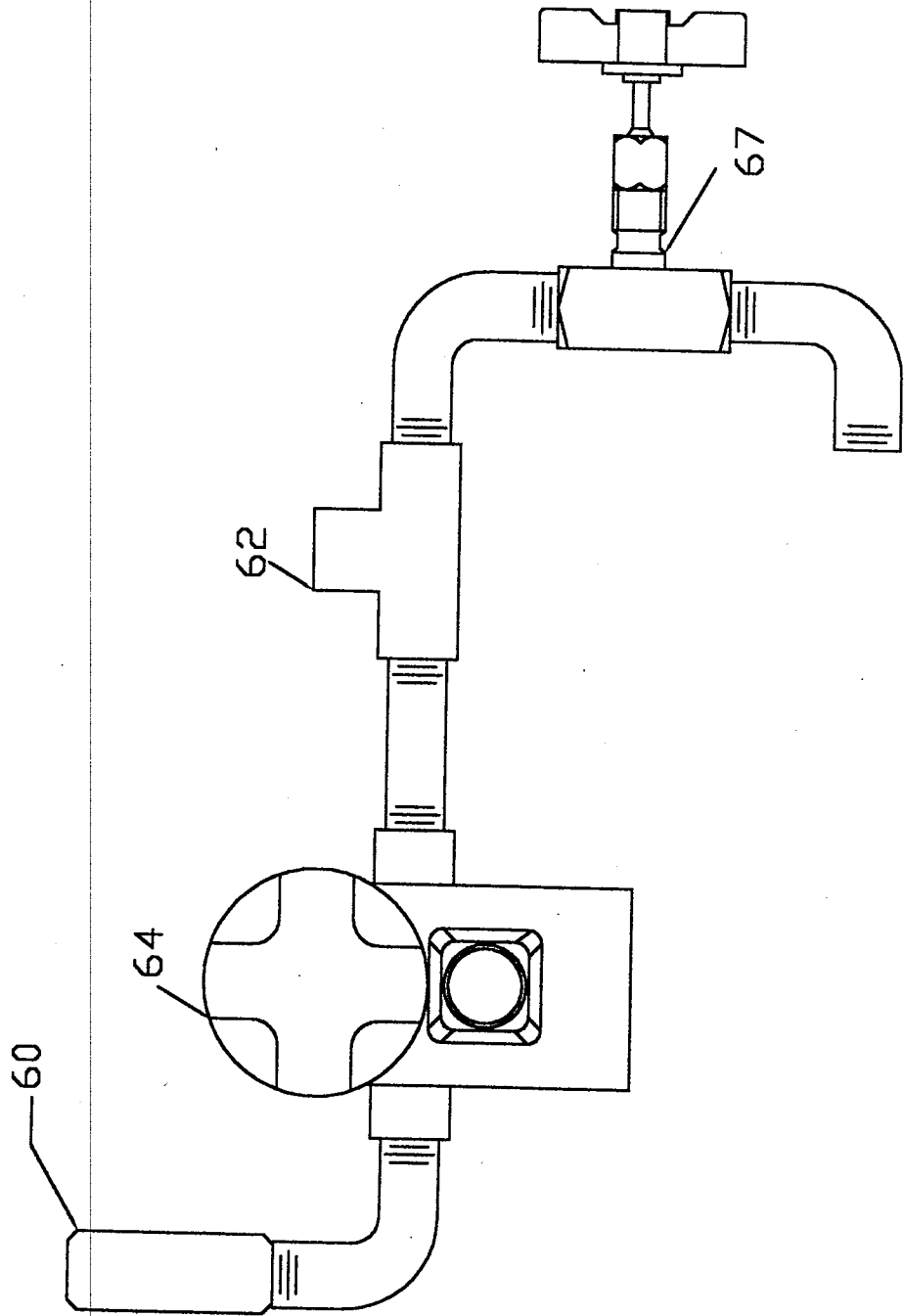
The hydraulic oil filter has a cooler coded indicator gauge. The unit must operate in the GREEN area. Should the unit operate in the RED area, this is an indication that the filter element needs to be replaced. Under normal operating conditions, the filter should operate in the GREEN for approximately 300 hours.

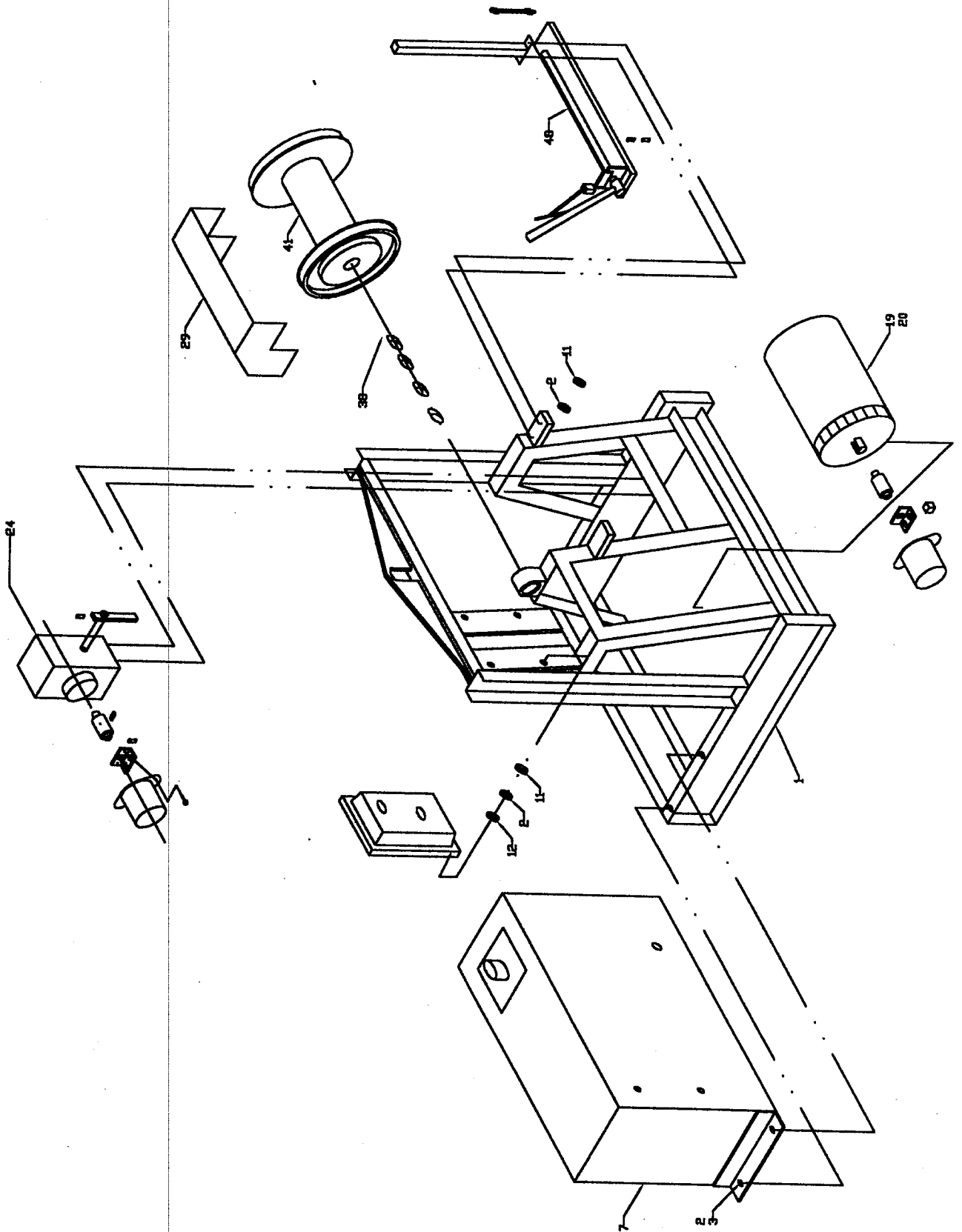
**EXPLORER MODEL
1600 WIRE LINE
MACHINE**

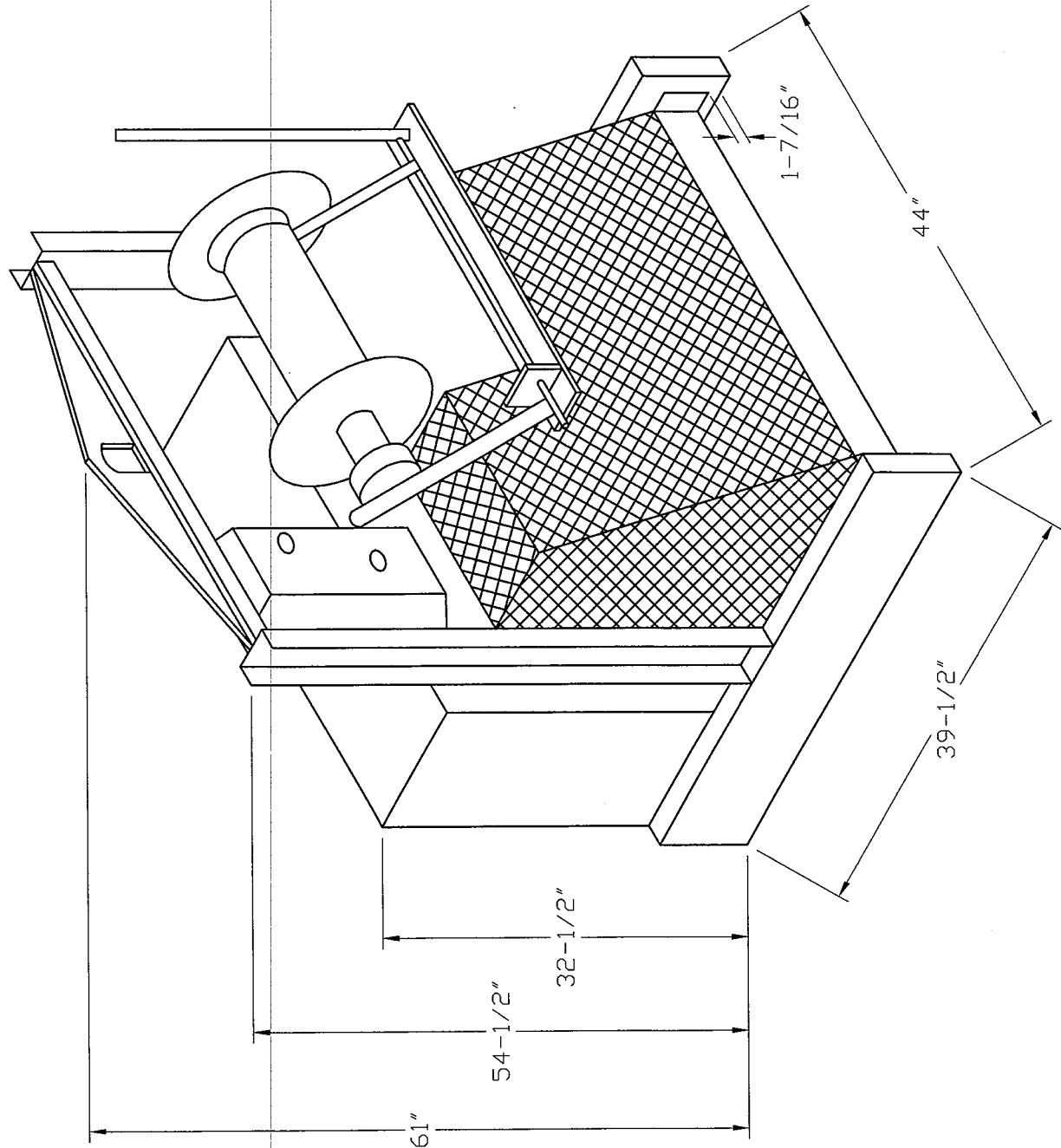
| EXPLORER MODEL 1600 WIRELINE UNIT | | | 16000 |
|-----------------------------------|------|--|----------|
| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
| 1 | 1 | FRAME | 16001 |
| 2 | 11 | 3/8" LOCK WASHER | 16002 |
| 3 | 4 | 3/8-16 NC HEX HEAD BOLT X 3/4" | 16003 |
| 4 | 1 | GROUND WIRE | 16004 |
| 5 | 3 | WIRE JOINTS- 3' (#8, 7 Strand, 600V THN) | 16005 |
| 6 | 3 | HEATER, Electric | 16005 |
| 7 | 1 | HYDRAULIC TANK ASSEMBLY | 16006 |
| 8 | 1 | ELEC. FTG.-Bushing, Reducing -3/4"-1/2" NPT (RE 21) | 16007 |
| 9 | 1 | ELEC. FTG.-Bushing, Reducing - 1-1/2"- 3/4" NPT (RE 52) | 16008 |
| 10 | 2 | ELEC. FTG.-Bushing, Reducing - 1-1/2"-1" NPT (RE 53) | 16009 |
| 11 | 7 | 3/8-16 NC NUT | 16010 |
| 12 | 3 | 3/8" FLAT WASHER | 16011 |
| 13 | 1 | STARTER BOX | 16012 |
| 14 | 1 | BREATHER- 1/2" (ECD 15) | 16013 |
| 15 | 2 | DRAIN SEAL- 1" (EYS 3) | 16014 |
| 16 | 3 | 3/8-16 NC HEX HEAD BOLT X 1-1/4" | 16015 |
| 17 | 4 | 1/2" FLAT WASHER | 16016 |
| 18 | 8 | 1/2-13 NC HEX HEAD BOLT X 1-1/4" | 16017 |
| 19 | 1 | MOTOR, Hydraulic | 16019 |
| 20 | 2 | BRACKET, Foot Mounting- Hyd. Motor | 16020 |
| 21 | 1 | COUPLING HALF, Chain- Transmission (1" Bore X 1/4" Key) | 16021 |
| 22 | 20 | 1/2" LOCK WASHER | 16022 |
| 23 | 2 | CHAIN, Coupling- Double (5/8 #50 X 16 Pitches) | 16023 |
| 24 | 1 | TRANSMISSION | 16024 |
| 25 | 1 | CHAIN LINK, Master- #50 | 16025 |
| 26 | 10 | 7/16 LOCK WASHER | 16026 |
| 27 | 4 | 7/16-14 NC HEX HEAD BOLT X 1-1/2" | 16027 |
| 28 | 1 | SPROCKET, Drive | 16028 |
| 29 | 1 | SPOOL GUARD | 16029 |
| 30 | 2 | BRACE, Spool Guard | 16030 |
| 31 | 10 | 1/4-20 NC HEX HEAD BOLT X 1-1/2" | 16031 |
| 32 | 10 | 1/4 LOCK WASHER | 16032 |
| 33 | 3 | 1/4-20 NC NUT | 16033 |
| 34 | 1 | GUARD, Chain | 16034 |
| 35 | 6 | 7/16-14 NC HEX HEAD BOLT X 1" | 16035 |
| 36 | 1 | GUARD, Chain | 16036 |
| 37 | 2 | BEARING, Pillow Block | 16037 |

| | | | |
|----|----|---|-------|
| 38 | 1 | SPOOL SHAFT ASSEMBLY | 16038 |
| 39 | 1 | SPROCKET, Driven | 16039 |
| 40 | 1 | CHAIN, Drive (5/8 X 49 Pitches) | 16040 |
| 41 | 1 | SPOOL ASSEMBLY | 16041 |
| 42 | 1 | 5/8-11 NC NUT | 16042 |
| 43 | 2 | 5/8" FLAT WASHER | 16043 |
| 44 | 1 | SPROCKET, Idler | 16044 |
| 45 | 1 | 5/8-11 NC HEX HEAD BOLT X 2-1/4" | 16045 |
| 46 | 12 | 1/2-13 NC NUT | 16046 |
| 47 | 12 | 1/2-13 NC HEX HEAD BOLT X 2-1/2" | 16047 |
| 48 | 1 | BRAKE ASSEMBLY | 16048 |
| 49 | 1 | POST, Rack Arm | 16049 |
| 50 | 4 | 3/8-16 NC HEX HEAD BOLT X 1-1/2" | 16050 |
| 51 | 1 | RIGHT SIDE EXPANDED METAL COVER | 16051 |
| 52 | 1 | FRONT EXPANDED METAL COVER | 16052 |
| 53 | 1 | LEFT SIDE EXPANDED METAL COVER | 16053 |
| 54 | 1 | PUMP, Hydraulic | 16054 |
| 55 | 1 | SPACER, Motor Bracket | 16055 |
| 56 | 1 | COUPLING HALF, Chain- Electric Motor (1-5/8' Bore) | 16056 |
| 57 | 1 | MOTOR, Electric- 15 H.P. | 16057 |
| 58 | 1 | CONDUIT, Flexible- Explosion Proof- 24" Long | 16058 |
| 59 | 4 | FITTING- Adapter, Tubing- Straight-3/4" NPT | 16059 |
| 60 | 1 | VALVE, Check | 16060 |
| 61 | 2 | FITTING- Adapter, Tubing- 45 Degree- 3/4" NPT | 16061 |
| 62 | 2 | FITTING- Tee, 3/4" NPT- 3000# | 16062 |
| 63 | 1 | FITTING- Elbow, Straight-3/4" NPT- 3000# | 16063 |
| 64 | 1 | VALVE, Relief | 16064 |
| 65 | 1 | FITTING- Ell, Street- 90 Degree 3/4" NPT- 3000# | 16065 |
| 66 | 3 | FITTING- Nipple, Close- 3/4" NPT- 3000# | 16066 |
| 67 | 1 | VALVE, Hydraulic Governor | 16067 |
| 68 | 1 | FITTING- Nipples, Long- 1/4" NPT X 2"- 3000# | 16068 |
| 69 | 1 | FITTING- Ell, 90 Degree- 1/4" NPT- 3000# | 16069 |
| 70 | 1 | FITTING- Nipple, Long- 3/4" NPT- 3000# | 16070 |
| 71 | 1 | FITTING- Nipple, Long- 3/4" NPT X 6"- 3000# | 10671 |
| 72 | 1 | PRESSURE GAUGE | 16072 |
| 73 | 1 | HOSE, Intake- LP- Hyd. Tank to Hyd. Pump- SAE 100R1 1" X 34"- 1"NPT X 1" JIC Swivel | 16073 |
| 74 | 1 | HOSE, Supply- HP- Hyd. Pump to Diverter | 16074 |

| | | | |
|----|----|---|-------|
| | | Valve- SAE 100R2 3/4" X 30"- 3/4"NPT X 3/4" JIC Swivel | |
| 75 | 1 | HOSE, Return- LP- Hyd. Governor to Filter- SAE 100R1 3/4" NPT X 3/4" JIC Swivel | 16075 |
| 76 | 1 | HOSE, Supply- HP- 4-way Valve to Hyd. Motor- SAE 100R2 3/4" X 24"- 3/4" NPT X 3/4" JIC Swivel | 16076 |
| 77 | 1 | HOSE, Supply- HP- 4-way Valve to Hyd. Motor- SAE 100R2 3/4" X 22"- 3/4" NPT X 3/4" JIC Swivel | 16077 |
| 78 | 1 | HOSE, Vent- LP- Hyd. Motor to Tank- SAE 100R1 1/4" X 34"- 1/4" NPT X 1/4" JIC Swivel | 16078 |
| 79 | 1 | HOSE, Return- LP- 4-way Valve to Tank- SAE 100R1 3/4" X 34"- 3/4" NPT X JIC Swivel | 16079 |
| 80 | 1 | HOSE, Return- LP- Relief Valve to Tank- SAE 100R1 3/4" X 28"- 3/4" NPT X 3/4" JIC Swivel | 16080 |
| 81 | 31 | SELF TAPPING SHEET METAL SCREW | 16081 |
| 82 | 2 | COUPLING HALF, Chain, Hyd. Motor/Transmission- Hyd. Pump/Elec. Motor (7/8" bore) | 16082 |
| 83 | 1 | BRACE, Hyd. System | 16083 |
| 84 | 1 | FITTING – BUSHING, 3/4 to 1/4 NPT | 16084 |
| 85 | 1 | STARTER BOX, Wiring Diagram | 16085 |
| 86 | 1 | FITTING, Nipple- Short 1" NPT (Conduit) | 16086 |
| 87 | 1 | FITTING, Nipple- 3" NPT (Conduit) | 16087 |
| 88 | 2 | FITTING, Nipple- Short 3/4" NPT (Conduit) | 16088 |
| 89 | 1 | PLUG, Recessed Head 1" NPT (PLG 100) | 16089 |
| 90 | 1 | Elec. Ftg-Bushing, Reducing 1" NPT (RE32) | 16090 |
| 91 | 1 | IN LINE FILTER | 16112 |

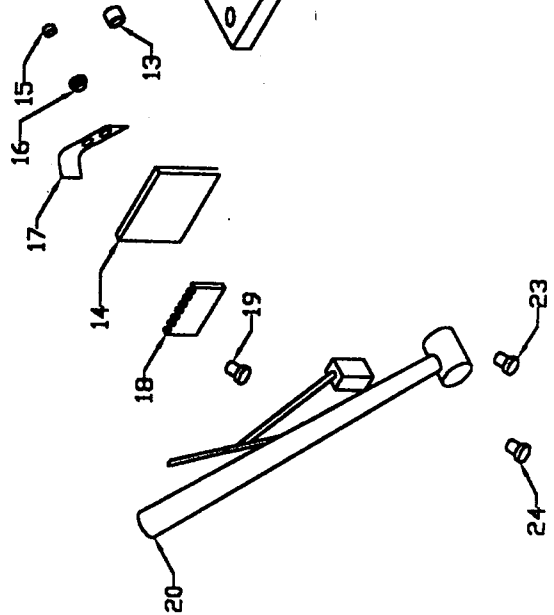
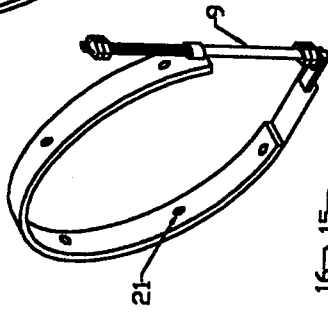
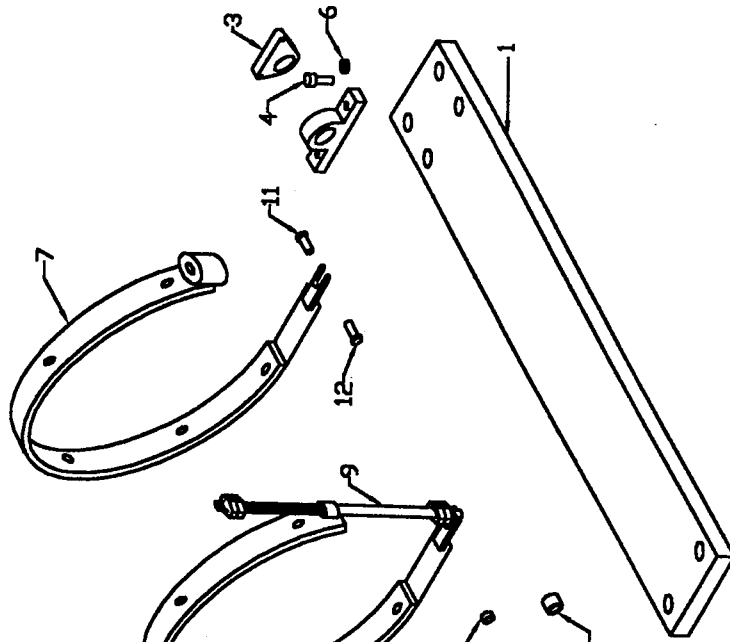
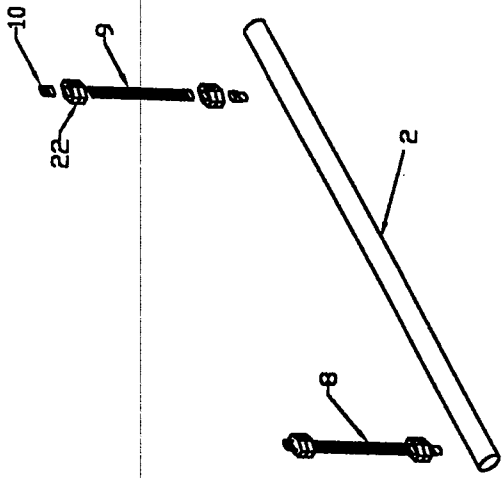






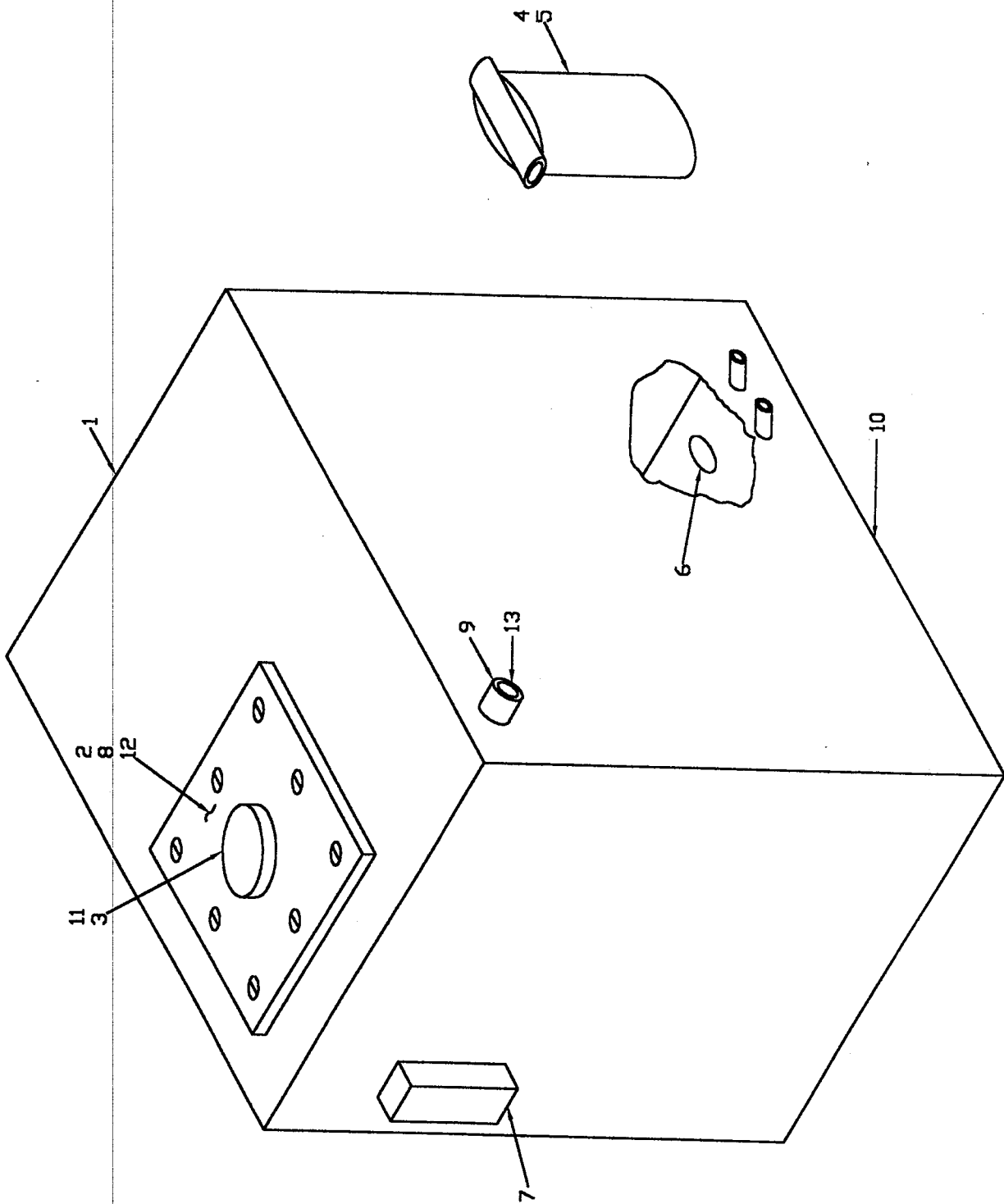
| | | | | |
|--------------|------------|-------------|----------|-----|
| DWG # | 300-0152 | DATE DRAWN: | 02/28/06 | RGU |
| TOLERANCE | XXXX ±.005 | HARDNESS: | | |
| SHEET 1 OF 1 | | MATERIAL: | | |
| REF: | N/A | STOCK SIZE: | | |
| | | SAW LENGTH: | | |

OIL WORKS INC.
ASSEMBLY: WIRELINE
DESCRIPTION: ASSEMBLY
PART #:



EXPLORER MODEL 1600 WIRELINE UNIT
BRAKE ASSEMBLY
PART NO. 16048

| ITEM # | QTY. | DESCRIPTION | PART NO. |
|--------|------|---|----------|
| 1 | 1 | BASE PLATE | 16091 |
| 2 | 1 | BRAKE SHAFT INCLUDING KEYS | 16092 |
| 3 | 2 | BELL CRANK | 16093 |
| 4 | 1 | BRAKE SHAFT SUPPORT BRACKET | 16094 |
| 5 | 4 | 3/8"-16 NC HEX HEAD BOLTS X 1-1/2" | 16095 |
| 6 | 4 | 3/8" LOCK WASHER | 16096 |
| 7 | 2 | BRAKE BAND W/ LINING (INCLUDES ITEMS 11, 12, & 21) | 16097 |
| 8 | 2 | BRAKE ADJUSTMENT ROD (INCLUDES ITEMS 11& 12) | 16098 |
| 9 | 2 | BAND ADJUSTMENT SPRINGS | 16099 |
| 10 | 6 | 1/2"-13 NC HEX NUT | 16100 |
| 11 | 4 | CLEVIS PIN 1/2" X 1-5/8" | |
| 12 | 4 | COTTER PIN | |
| 13 | 1 | SHAFT COLLAR | 16101 |
| 14 | 1 | BRAKE SHAFT & RATCHET SUPPORT | 16102 |
| 15 | 2 | 5/16"-18 NC HEX NUT | 16103 |
| 16 | 2 | 5/16" LOCK WASHER | 16104 |
| 17 | 1 | STOP FOR BRAKE LEVER | 16105 |
| 18 | 1 | RATCHET | 16106 |
| 19 | 2 | 5/16-18 NC FLAT HEAD MACH. SCREW X 1-1/4" | 16107 |
| 20 | 1 | BRAKE LEVER ASSEMBLY | 16108 |
| 21 | 2 | BRAKE LINING W/ RIVETS | |
| 22 | 2 | SPRING GUIDE NUT (1/2-13NC) | 16109 |
| 23 | 1 | 3/8-16 NC HEX HEAD BOLT X 1-3/4" | 16110 |
| 24 | 1 | 3/8-16 NC NUT | 16111 |
| | | | |
| | | | |
| | | | |
| | | | |



| EXPLORER MODEL 1600 WIRELINE UNIT HYDRAULIC OIL TANK ASSEMBLY | | | 16006 |
|--|------|---|----------|
| ITEM NO. | QTY. | DESCRIPTION | PART NO. |
| 1 | 1 | TANK SHELL | 16112 |
| 2 | 1 | PLATE, FILLER CAP | 16113 |
| 3 | 1 | CAP, FILLER | 16114 |
| 4 | 1 | GAUGE, FILLER BYPASS | 16115 |
| 5 | 1 | FILTER, INLINE (INCLUDES ITEM 9) | 16116 |
| 6 | 1 | STRAINER | 16117 |
| 7 | 1 | GAUGE, SIGHT (3" UC-3101) | 16118 |
| 8 | 1 | GASKET | 16119 |
| 9 | 1 | NIPPLE, PIPE (3/4 NPT X 1-1/2 lg.) | 16120 |
| 10 | 1 | PLUG, Sq. Hd. (1/2 NPT) | 16121 |
| 11 | 6 | SCREW, Mach.- Rd. Hh. (#10-32 X 3/4 lg.) | 16122 |
| 12 | 8 | SCREW, Sheet Metal (#10 X 1/2 Type AB) | 16123 |
| SPO | | ELEMENT, FILTER (Service Part for Item 5) | 16124 |
| 13 | 1 | Bushing, Hex 1-1/4 to 3/4 NPT | 16125 |