



## Operation Manual

# Wireline Unit (Retriever)

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Published by Texas International Oilfield Tools, LTD  
3035 Eastveld Dr. Houston, Texas 77073

**Document Number**

**OM039**

**REV**

**A**

**02/21/2025**

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# **OPERATING AND MAINTENANCE MANUAL/ ILLUSTRATED PARTS LIST**

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## **INTRODUCTION**

THIS GUIDE CONTAINS GENERAL INSTRUCTIONS FOR THE OPERATION AND MAINTENANCE OF TEXAS INTERNATIONAL / WIRELINE EQUIPMENT, AND SHOULD BE GIVEN CAREFUL CONSIDERATION AND STUDY BEFORE OPERATION OF THE UNIT. FALIURE TO OPERATE AND MAINTAIN THE UNIT IN ACCORDANCE WITH MAY AVOID THE WARRANTY COVERING THE SAME. ALTHOUGH IT IS IMPOSSIBLE TO ANTICIPATE EVERY KIND OF PROBLEM OR CONDITION THAT MAY BE ENCOUNTERED IN THE FIELD, COMPLIANCE WITH THE INSTRUCTIONS AND SUGGESTIONS SET FORTH HEREIN WILL MATERIALLY ASSIST THE OWNER OR OPERATOR IN SUCCESSFULLY OPERATING THE EQUIPMENT. HOWEVER, THE INFORMATION CONTAINED IN THIS GUIDE SHALL NOT IN ANY WAY RELIEVE THE OWNER OF THE RESPONSIBILITY OF EXERCISING REASONABLE CARE AND PRUDENCE IN THE OPERATION AND MAINTENANCE OF THIS EQUIPMENT.

## WIRELINE UNIT WARRANTY

In the event any merchandise sold hereunder (except merchandise manufactured by other persons or firms) is not in accordance with specifications shown on the order within customarily accepted tolerances, or is defective on account of workmanship or material, the Company agrees for a period of one year from date of shipment, at its option, to replace or repair the merchandise. This agreement, however, is upon condition that the customer promptly notifies the Company in writing of any claim in this respect, setting forth in detail any such claimed defect and that the company may be afforded a reasonable opportunity to examine the merchandise and to investigate the claimed defect. The Company shall be, in no event, liable for damages beyond the price paid by the customer for such defective merchandise. This warranty does not obligate the Company to bear any transportation charges in connection with the replacement or repair of defective merchandise. As to any item manufactured by other persons or firms, the Company agrees to present the customer's claim with respect to defects to the manufacturer for adjustment, and the customer agrees that the liability of the Company shall not exceed any adjustment with respect to which such manufacturer accepts responsibility. The above warranty is in lieu of all other warranties, express or implied warranty by the Company as to the fitness, merchantability, capacity, or efficiency of any merchandise sold, and that there are no oral or implied additional warranties made in connection with any sale based herein. No modification, or additions to this agreement with respect to warranty of the Company, either before or after contract of sale, shall be made except on written authority of the President or Vice President of the Company.

## **RETRIEVING WIRE**

1. BE CERTAIN CLUTCH IS ENGAGED.
2. OPEN HYDRAULIC GOVERNOR VALVE APPROXIMATELY THREE TURNS COUNTER CLOCKWISE.
3. ENGAGE HAND BRAKE.
4. START ELECTRIC MOTOR.
5. DISENGAGE HAND BRAKE.
6. TURN HYDRAULIC GOVERNOR CLOCKWISE SLOWLY UNTIL SPOOL BEGINS TO TURN.
7. POWER AND SPEED ARE CONTROLLED BY CLOSING AND OPENING HYDRAULIC GOVERNOR.
8. SYSTEM PRESSURE GAUGE WILL INDICATE SYSTEM PRESSURE IN PSI.
9. RELIEF VALVE SHOULD BE SET JUST SLIGHTLY OVER THE LOAD THAT WILL BE HANDLED TO INSURE AGAINST THE POSSIBILITY OF HANGING UP IN THE WELL WHEN RETRIEVING LINE AND TOOLS.
10. TO SET RELIEF VALVE, LOOSEN JAM NUT AND TURN KNURLED KNOB CLOCKWISE FOR MORE PRESSURE AND COUNTER CLOCKWISE FOR LESS PRESSURE. RETIGHTEN JAM NUT.
11. FOR EMERGENCY SHUT DOWN, PUSH STOP BUTTON ON STARTER BOX AND ENGAGE HAND BRAKE.

### ***WARNING***

***DO NOT ATTEMPT TO ENGAGE OR DISENGAGE CLUTCH WITH HYDRAULIC MOTOR OR SPOOL ROTATING.***

## **MAINTENANCE**

### **LUBRICATION**

THE WIRELINE UNIT HAS THREE GREASE ZERK FITTINGS AS FOLLOWS:

1. TWO SPOOL SHAFT PILLOW BLOCK BEARINGS.
2. YOKE ASSEMBLY.

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 EIGHT MONTHS SHOULD BE SUFFICIENT.

THE YOKE SHOULD BE LUBRICATED AS NEEDED, USUALLY ABOUT EVERY THREE MONTHS. 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 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.

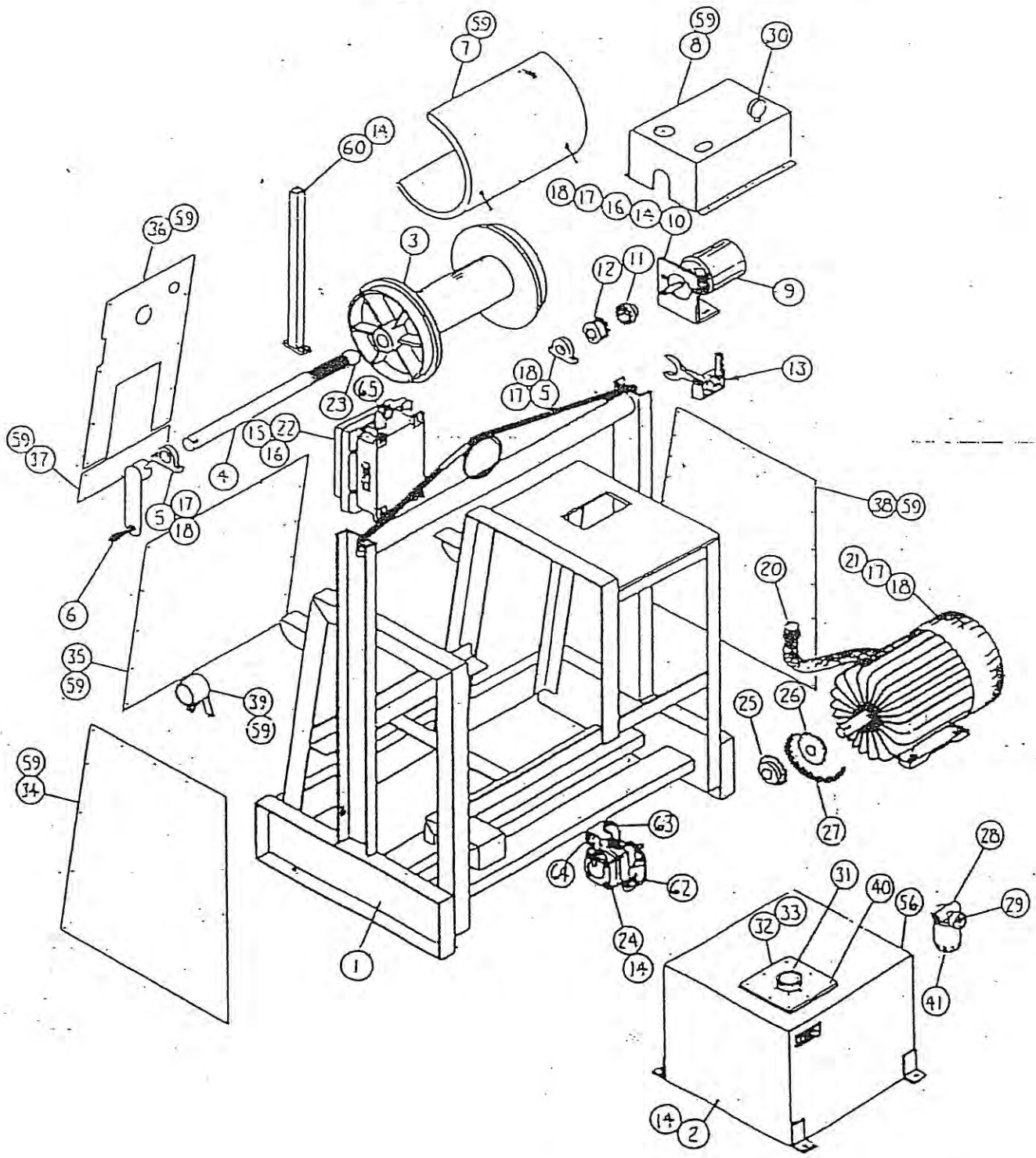
## **HYDRAULIC OIL FILTER**

THE HYDRAULIC OIL FILTER HAS A COLOR 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.

### **CAUTION**

***CONSULT FACTORY REGARDING EXTREME OPERATING TEMPERATURES.***

# RETRIEVER ASSEMBLY

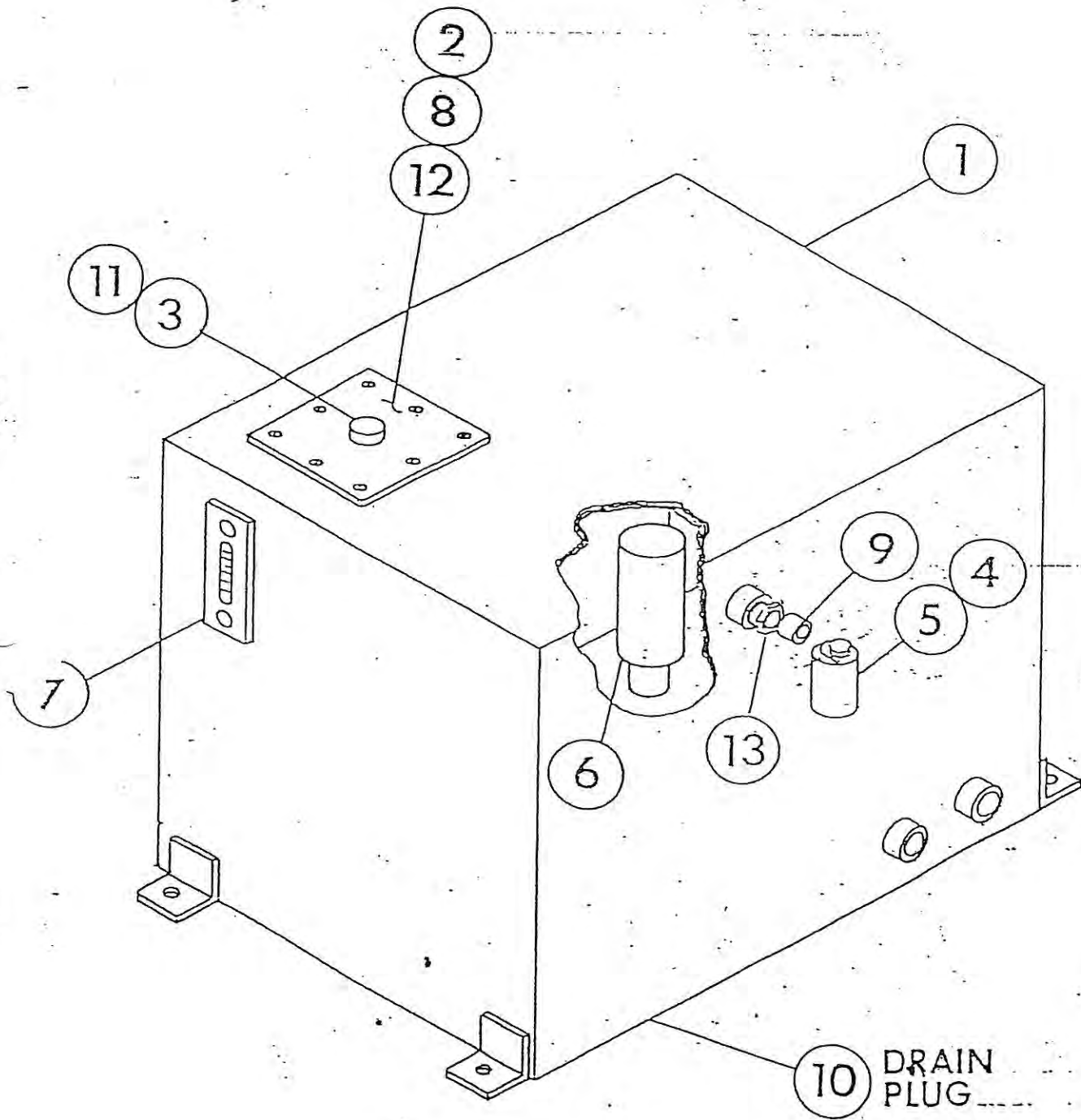


BILL OF MATERIAL

RETRIEVE WIRE LINE UNIT ASSEMBLY			
ITEM NO.	QUAN.	DESCRIPTION	PART NO.
1	1	RETRIEVE FRAME	02-0106-018
2	1	HYDRAULIC TANK	02-0106-002
3	1	SPOOL	02-0105-000
4	1	SPOOL SHAFT	02-0117-001
5	2	PILLOW BLOCK BEARING	01-0115-003
6	1	CRANK HANDLE	02-0139-002
7	1	SPLASH GUARD	02-0106-012
8	1	CLUTCH & MOTOR GUARD	02-0106-005
9	1	HYDRAULIC MOTOR	01-0145-004
10	1	FOOT MOUNT	01-0153-006
11	1	DOG KEYED CLUTCH	01-0206-001
12	1	SLIDING DOG CLUTCH	01-0207-001
13	1	SHIFTING YOKE ASSEMBLY	02-0106-013
14	16	SCREW, CAP 3/8-16NC X 1 LG HEX HEAD	10-38C0-100
15	4	SCREW, CAP 3/8-16NC X 1 3/4LG HEX HEAD	10-38C0-134
16	8	NUT, 1/2-13 NC HEX	1H38C0-000
17	12	SCREW, CAP 1/2-13NC X 1 3/4 LG HEX HEAD	10-12C0-134
18	12	NUT, 1/2-13 NC HEX	1H-12C0-000
19	1	BRAKE ASSEMBLY	02-0118-000
20	1	EXPLOSION PROOF COUPLING	01-0152-003
21	1	ELECTRIC MOTOR 15 HP	01-0249-001
22	1	STARTER BOX	01-0149-005
23	1	CAM FOLLOWER	01-0220-001
24	1	HYDRAULIC PUMP W/ FOOT MOUNT	01-0107-003
25	1	CHAIN COUPLING HALF	01-0222-007
26	1	CHAIN COUPLING HALF	01-0222-001
27	1	ROLLER CHAIN	01-0593-001
28	REF	INLINE FILTER	01-0101-005
29	REF	FILTER BYPASS INDICATOR GAUGE	01-0114-001
30	1	SYSTEM PRESSURE GAUGE	01-0114-002
31	REF	HYDRAULIC FILLER CAP	01-0150-001
32	REF	HYDRAULIC FILLER CAP PLATE	01-0167-004
33	REF	GASKET	01-0167-005
34	1	RIGHT SIDE SHEET METAL	02-0106-006
35	1	FRONT SHEET METAL	02-0106-007
36	1	VALVE PANEL SHEET METAL	02-0106-008

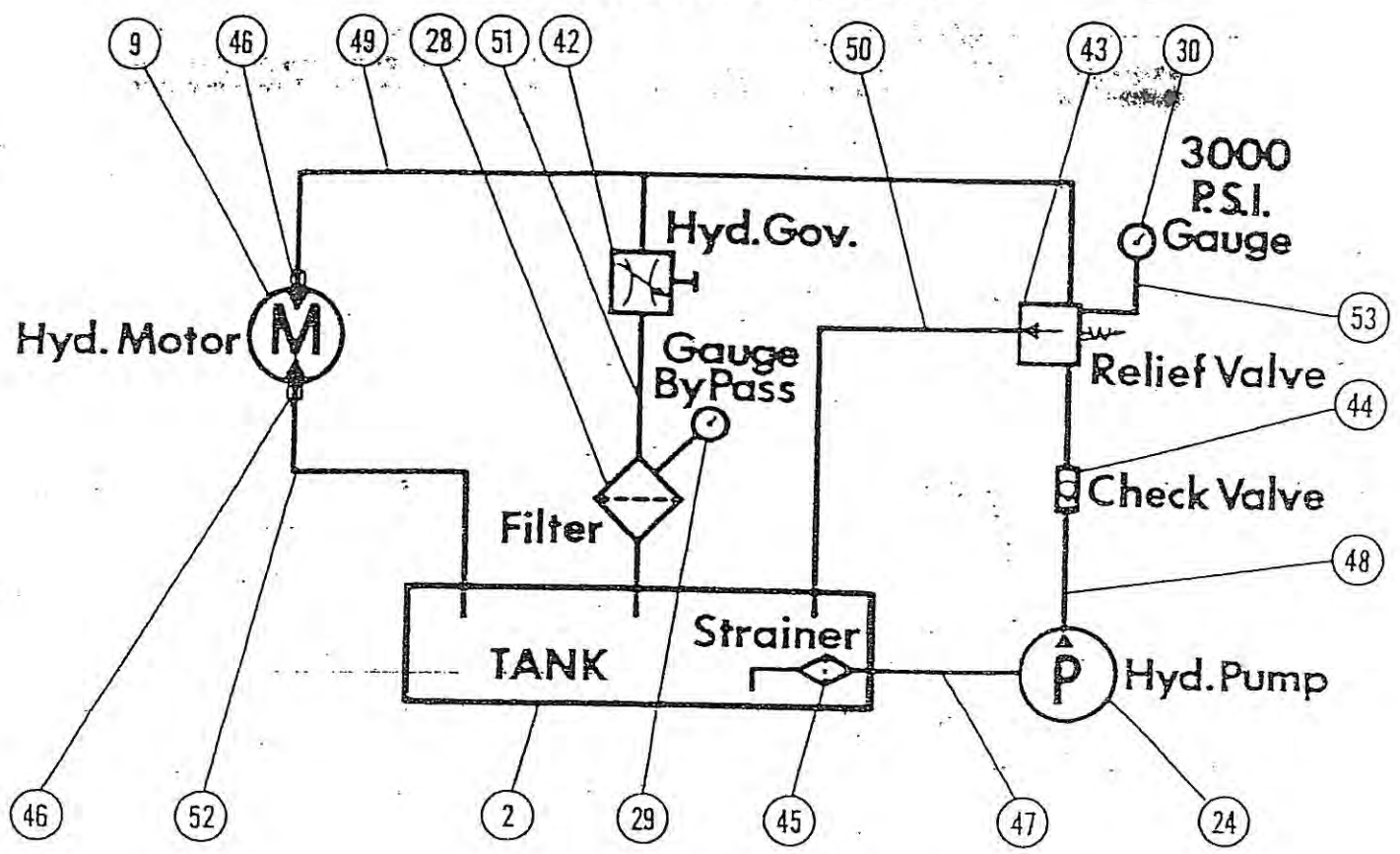
37	1	BOTTOM SHEET METAL	02-0106-009
38	1	LEFT SIDE SHEET METAL	02-0106-010
39	1	CRANK GUARD	02-0106-011
40	14	SCREW, SELF TAPPING #10-32	
41	REF	FILTER ELEMENT	01-0102-001
42	1	HYDRAULIC GOVERNOR	01-0127-001
43	1	RELIEF VALVE	01-0125-001
44	1	CHECK VALVE	01-0251-001
45	REF	STRAINER	01-0105-002
46	2	SWIVEL 37 DEGREES JIC	01-0256-008
47	1	HOSE LOW PRESSURE 1" X 38 LONG	01-0151-038
48	1	HOSE HIGH PRESSURE 3/4" X 60 LONG	01-0151-039
49	1	HOSE HIGH PRESSURE 3/4" X 21 LONG	01-0151-040
50	1	HOSE LOW PRESSURE 3/4 X 26 LONG	01-0151-041
51	1	HOSE LOW PRESSURE 3/4 X 22 LONG	01-0151-042
52	1	HOSE LOW PRESSURE 3/4 X36 LONG	01-00151-043
53	1	HOSE, HIGH PRESSURE 1/4" X 20 LONG	01-0151-044
54	1	TEE, W/MOUNTING BRACKET 3/4 NPT	01-0255-001
55	1	STREET ELBOW 3/4 NPT	01-6009-012
56	3	NIPPLE CLOSE 3/4 NPT	01-0378-004
57	1	TUBING ADAPTER	01-0254-021
58	1	TUBING ADAPTER 45 DEGREES	01-0253-017
59	54	SCREW CAP 1/4-20NC X 1/2 LONG	10-14C0-00
60	1	RACK ARM POST	01-0211-001
61	1	TUBING ADAPTER 90 DEGREES	01-0252-020



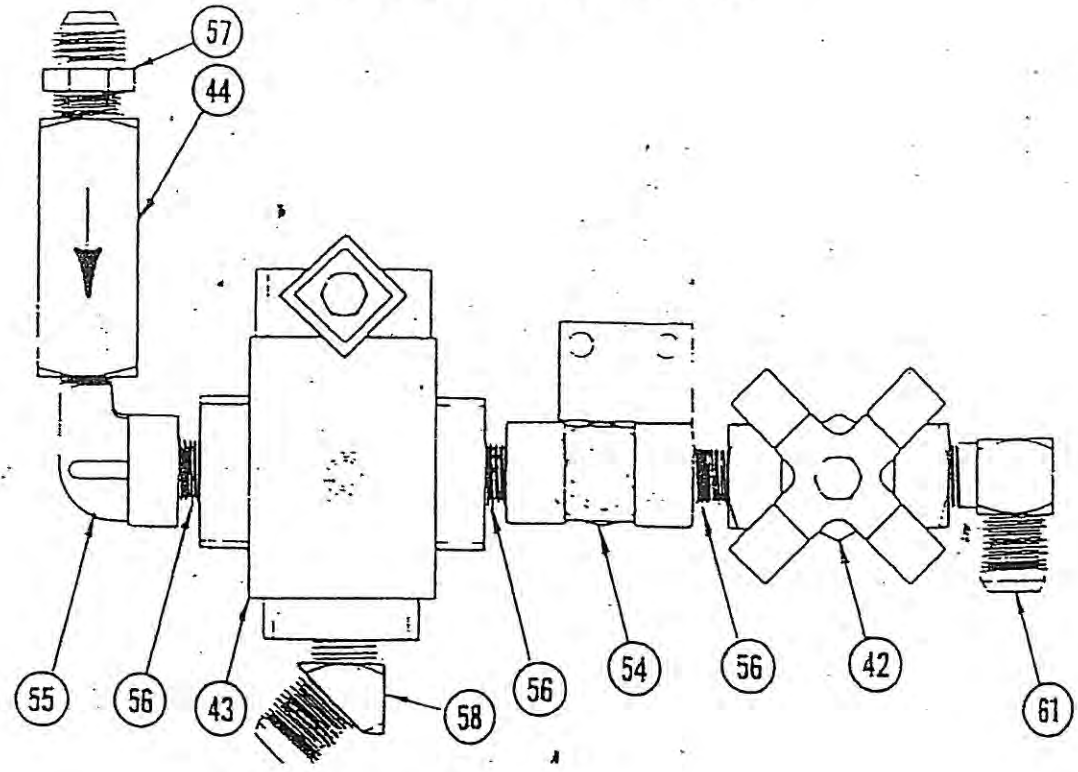


HYDRAULIC OIL TANK

# HYDRAULIC DIAGRAM



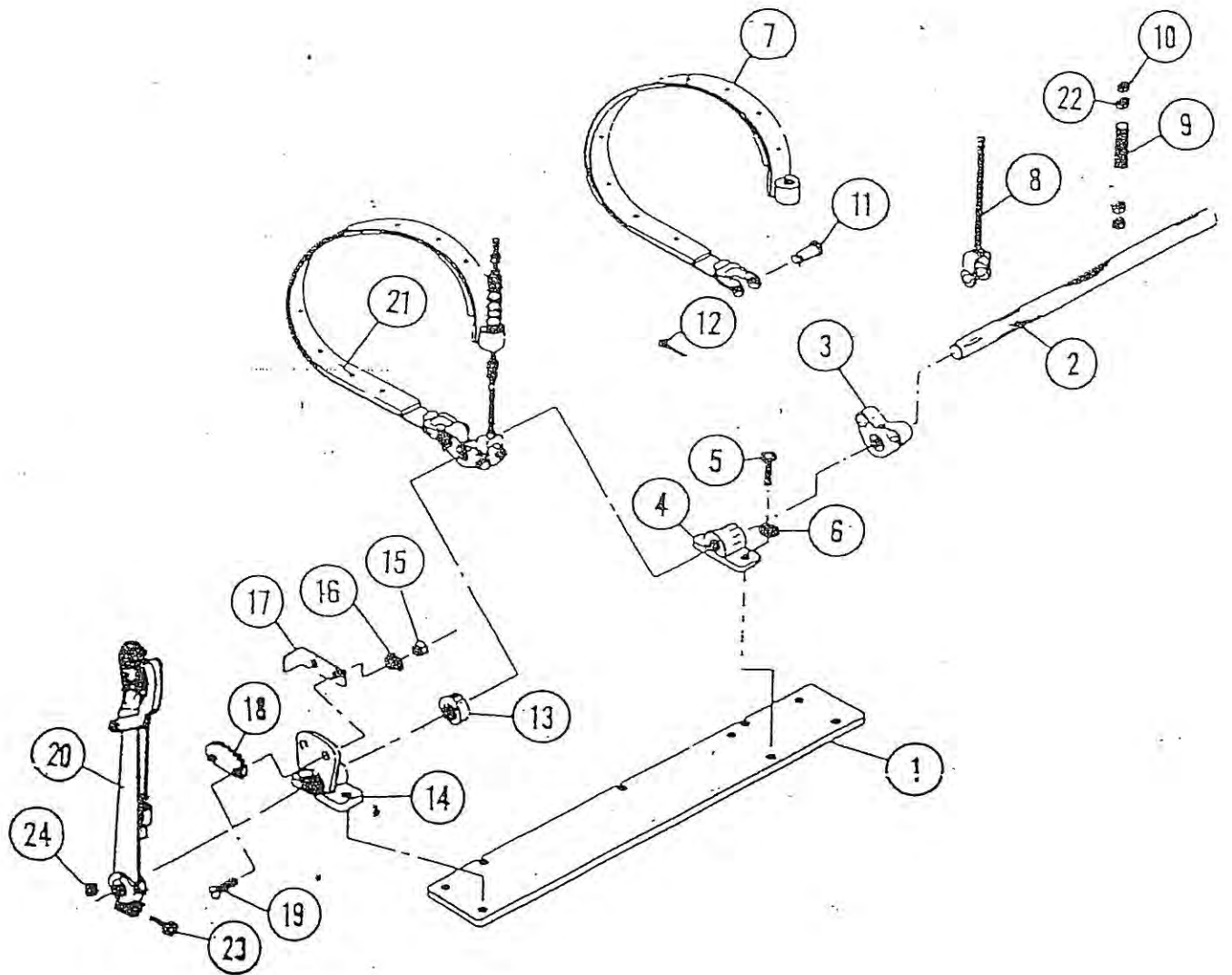
# PIPING DIAGRAM







# BRAKE ASSEMBLY

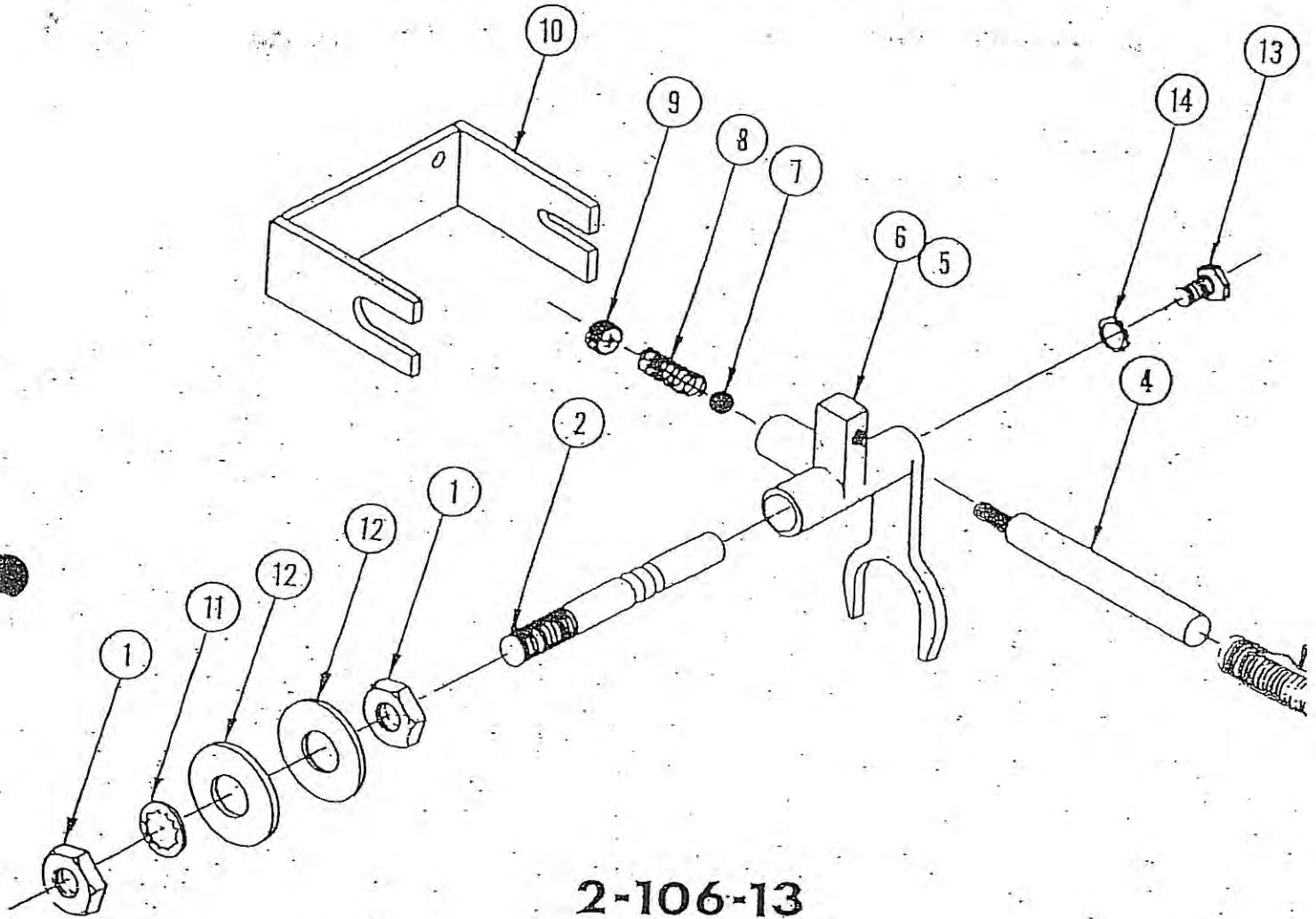


BILL OF MATERIAL

Page 1 of 1

RETRIEVE WIRE LINE UNIT ASSEMBLY				
ITEM NO		QUAN.	DESCRIPTION	PART NO.
1	1		BASE PLATE	02-0118-001
2	1		BRAKE SHAFT INCLUDING KEYS	02-0118-002
3	2		BELL CRANK	01-0171-001
4	1		BRAKE SHAFT SUPPORT	01-0170-001
5	4		CAP SCREW,3/8-16NC X 1 1/2 LG HEX HEAD	10-38C0-112
6	4		WASHER LOCK 3/8 INTERNAL	12-0038-100
7	2		BRAKE BAND W/ LINING(INCLUDES 11,12,21	02-0113-001
8	2		BRAKE ADJUSTMENT ROD (INCLUDES 11&12)	02-0118-003
9	2		BAND ADJUSTMENT SPRING	01-0183-001
10	6		NUT, 1/2-13NC HEX	1H-12C0-000
11	4		CLEVIS PIN 1/2 X 1 5/8 LONG	02-0435-001
12	4		COTTER PIN	
13	1		SHAFT COLLAR	01-0185-001
14	1		BRAKE SHAFT & RATCHEST SUPPORT	01-0172-001
15	2		NUT, HEX 5/16-18	1H-56C0-000
16	2		WASHER,5/16 INTERNAL LOCK	12-0056-100
17	1		STOP FOR BRAKE LEVER	01-0187-001
18	1		RATCHET	01-0169-001
19	2		MACHINE SCREW,5/16-18NC X 1 1/4 LG FLAT HEAD	13-56C0-114
20	1		BRAKE LEVER ASSEMBLY	01-0191-003
21	2		BRAKE LINING WITH RIVETS	01-0116-002
22	2		NUT, 1/2-13NC SPRING GUIDE	1H-12C0-000

# SHIFTING YOKE ASSEMBLY



2-106-13





# TYPE "O" WIRELINE DEPTH MEASURING METERS, 7- INCH

METER NUMBERS BY WIRELINE DIAMETER AND COUNTER CONFIGURATION

WIRELINE DIAMETER		METER NUMBER-COUNTER ASSEMBLY ATTACHED		METER NUMBER-COUNTER ASSEMBLY REMOTE	
INCHES	MM	ENGLISH READOUT	METRIC READOUT	ENGLISH READOUT	METRIC READOUT
0.066	1.68	04-0105-066	04-0115-066	04-0133-066	04-0169-066
0.072	1.83	04-0105-072	04-0115-072	04-0133-072	04-0169-072
0.082	2.08	04-0105-082	04-0115-082	04-0133-082	04-0169-082
0.092	2.34	04-0105-092	04-0115-092	04-0133-092	04-0169-092

## PARTS DIAGRAMS

NOTE-7 INCH TYPE "O" METERS ARE AVAILABLE ON SPECIAL ORDER FOR 105- AND 108-INCH WIRELINE; TEXAS INTERNATIONAL RECOMMENDS THE 7-INCH METER FOR THESE APPLICATIONS. TEXAS INTERNATIONAL RECOMMENDS THE 12-INCH TYPE "O" METER FOR THEM.

Figure 1-A, Counter Assembly Attached to Meter Frame

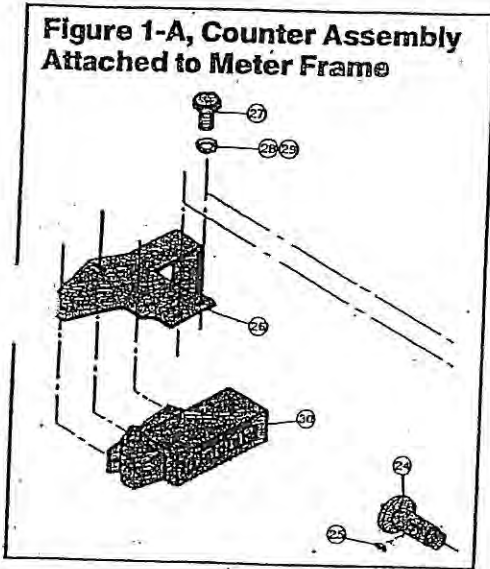


Figure 1, Frame Assembly

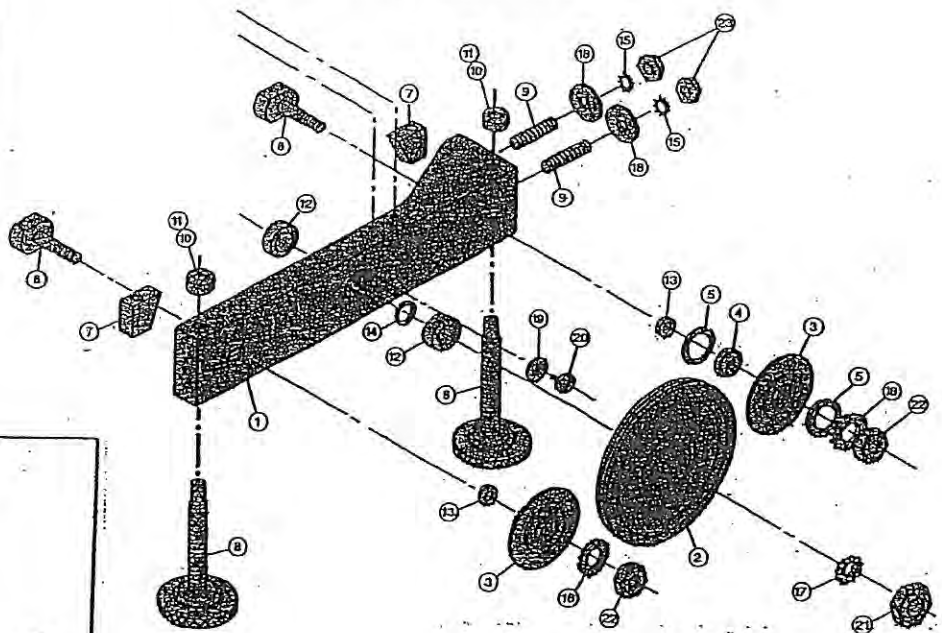
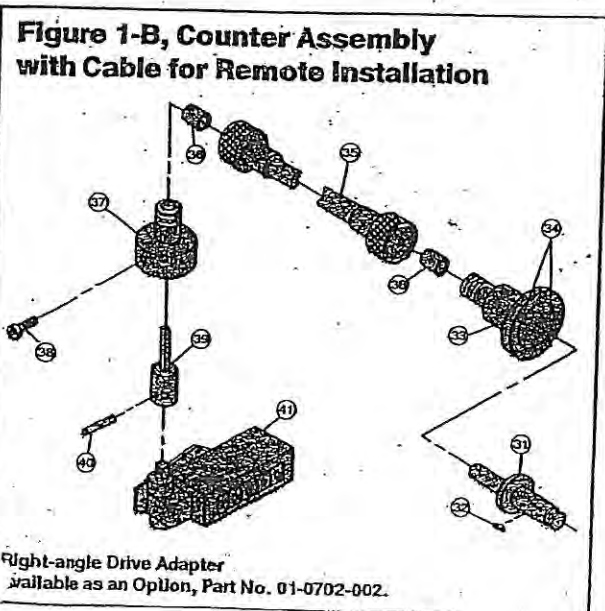


Figure 1-B, Counter Assembly with Cable for Remote Installation



Right-angle Drive Adapter available as an Option, Part No. 01-0702-002.

### Meter Dimensions & Weight

Height: 19 inches / 48.3 cm  
 Width: 8 inches / 20.3 cm  
 Depth: 6½ inches / 16.5 cm  
 Weight: 15½ pounds / 7 kg

# Rig & Supply Type "O" Wireline Depth Measuring Meters

## 7-inch Meters

For Slickline Applications

WIRELINE DIAMETER SIZES	
Inches	mm
.066	1.68
.072	1.83
.082	2.08
.092	2.34

### Counter (Odometer)

- Attached to Meter Frame, or Remote-mounted
- English or Metric Readout

### Installation and Operation

**Mounting-** Texas International Type "O": Meters can be mounted with Mounting Studs up (as shown in photo at left), or with Studs down, as in the case of mounting on a Steering Track.

**Wireline Wrap**—is always one wrap around Register Wheel. When facing the Meter from the Register Wheel side, wrap is counter-clockwise; when facing the meter from the frame side, wrap is clockwise, (see diagrams below).

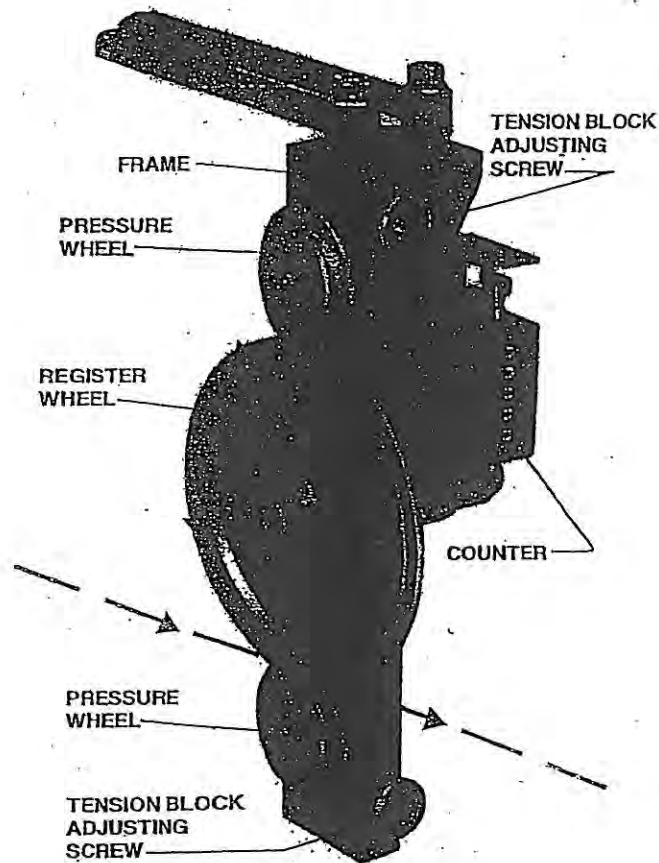
Facing  
Register Wheel  
Side:  
One Wrap  
Counter-clockwise



Facing  
Frame  
side:  
One wrap  
Clockwise



Wireline must be wrapped firmly in the groove of the Register Wheel and secured in the groove with the two Pressure Wheels, which are adjusted with the Tension Block Adjusting Screws. Turning the Adjusting Screws counter-clockwise releases the Pressure Wheels from the Register Wheel groove; clockwise runs them back into the groove and tightens pressure on the Wireline wrap. (See Maintenance and Troubleshooting guides on back page.)



Meter shown is a Texas International 7-inch Type "O" with Counter attached to Meter Frame, in typical installation with Double Rack Arm Assembly.

## Rig & Supply Type "O" Wireline Depth Measuring Meters, 7-inch MAINTENANCE

Texas International Type "O" meters require only minimal maintenance. They are precise measuring meter however, and to obtain accurate measurements with them, they should be used and handled with reasonable care. During transportation, or when not in use, they should be stored in a protective container such as the Texas International storage box.

**Note**—Regular maintenance is specified for the Remote Counter Drive Cable on Meters with a remote-mounted Counter, as follows: Drive Core should be removed from Cable and be cleaned, inspected for damage, and lubricated with a thin coat of light lubricant (such as Lubriplate). When Meter is in regular use, this should be performed approximately every 90 days, (in extremely dusty or sandy conditions, every 30 days), or prior to putting Meter back in use after storage.

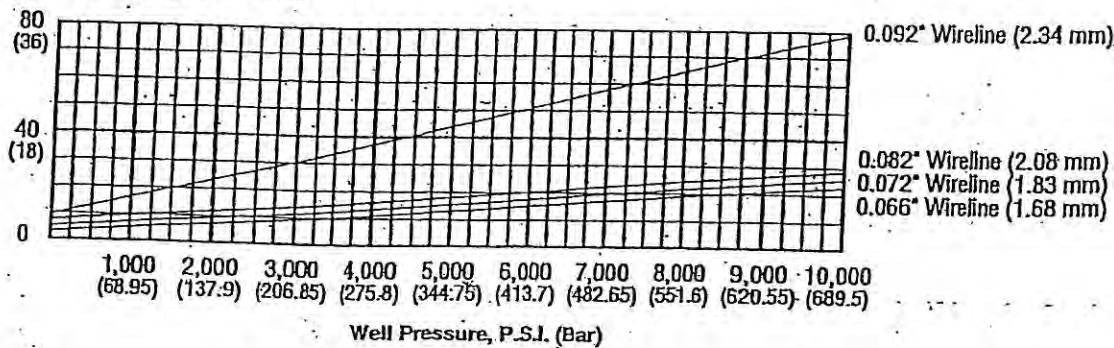
## TROUBLESHOOTING

Problem	Probable Cause	Probable Solution
Wireline jerks or backlashes when feeding around Register Wheel.	Weight of tool(s) may be insufficient to overcome resistance from well pressure and resistance from well pressure and friction.	Add weight, as with the addition of Sinker Bar see Weight Chart below.
	Wireline may be kinked, or otherwise damaged or disfigured.	Replace or repair Wireline.
	Wireline "wrap" around Register Wheel may be loose.	Tighten "wrap". Check Pressure Wheels for firm pressure on "wrap"; tighten if necessary by tightening Tension Block Adjusting screws.
	One or more Wheels may be rotating roughly, or not Rotating (either the Register Wheel or the Pressure Wheels).	If Pressure Wheel(s) is malfunctioning, check Bearing, replace any Damaged Bearings. If Register Wheel is malfunctioning, check Bearing in Meter frame and replace if damaged.
Counter (odometer) Readout is incorrect.	Counter may not be set properly ("Zero") with tool string at ground level.	Check groove of Register Wheel and outside diameter face of Pressure Wheels; if any are worn unevenly, replace them.
	Wireline may slip while feeding around Register Wheel.	Be sure Wireline "wrap" is tight around Register Wheel. Check Pressure Wheels for firm pressure on Wireline "wrap"; tighten pressure if necessary by tightening Tension Block Adjusting Screws. Check groove of Register Wheel, and outside diameter face of Pressure Wheels; if any are worn unevenly, replace them.
Counter does not Count.	Counter may not be properly coupled to Register Wheel Shaft, Wheel Shaft.	On Meter with Counter attached; check Register Wheel Shaft for a positive connection from Register Wheel to counter. On Meter with remote Counter; check Counter Drive Cable and Cable connections at Frame end and Counter end for positive connections. Check Drive Core in Counter Drive Cable; if damaged or broken, replace Drive Core.
	Counter may be defective.	
Counter will not "ZERO" (return to 00000)	Counter may be defective.	
Counter readout is reversed, (subtracting when going into well; adding when coming out of well.	Wireline may be incorrectly wrapped around Register Wheel.	Reverse the direction of the Wireline "wrap" around Register Wheel, (see diagram on front page of this manual for correct "wrap").

## Sinker Bar Weights<sup>(1)</sup> Required to Equal Well Pressure and Friction

(<sup>1</sup> Approximate) Wireline and Tool Weights Disregarded

Sinker Bar Weight, Lbs. (kg)



## TYPE "O" WIRELINE DEPTH MEASURING METERS, 7-INCH

### PARTS DESCRIPTIONS

**Figure 1, Frame Assembly**

ITEM NO.	PART DESCRIPTION	PART NO.	QUANT. REQ'D.	REC'MD. SPARES
1	Frame	04-0133-001	1	
2	Wheel, Register	See Note 2	1	2
3	Wheel, Pressure (Assy. includes items 4 & 5)	04-0107-001	2	4
4	Bearing, Ball (included in item 3 Assy.)	01-0196-002	2	
5	Retaining Ring (included in item 3 Assy.)	01-0179-002	4	
6	Shaft, Pressure Wheel	04-0105-002	2	2
7	Block, Tension	04-0105-004	2	4
8	Screw, Adjusting - Tension Block	04-0105-005	2	4
9	Stud, Meter Mounting	04-0105-011	2	2
10	Collar, Shaft	01-0185-002	2	4
11	Socket Set Screw, #10-32NF x 1/4"	19-10F0-014	2	
12	Bearing, Ball	01-0196-001	2	4
13	Spacer	04-0105-001	2	
14	Spacer	04-0106-002	1	
15	Washer, Lock, 1/2" External	12-0012-E00	2	2
16	Washer, Lock, 7/16" Internal	12-0076-I00	2	
17	Washer, Lock, 5/8" External	12-0058-E00	1	
18	Washer, Flat, 1/2" SAE	12-0012-F00	2	2
19	Washer, Flat, 3/32"	12-0532-F00	4(9)	
20	Screw, Mach., #10-32NF x 3/8", long pan head	14-10F0-038	4(9)	
21	Nut, Jam, 5/8"-18NF	1J-58F0-000	1	
22	Nut, Jam, 7/16"-20NF	1J-76F0-000	2	
23	Nut, Hex, 1/2"-20NF	1H-12F0-000	2	2

NOTE 1- QUANTITY OF SPARES RECOMMENDED FOR 2 YEARS' USAGE.

NOTE 2-DIAMETER OF WIRELINE BEING RUN IN TYPE "O" METER DETERMINES THE PART NUMBER FOR THE REGISTER WHEEL, AS LISTED IN THIS TABLE.

WIRELINE DIAMETER		REGISTER WHEEL PART NUMBER	
Inches	mm	English Readout	Metric Readout
.066	1.68	04-0101-001	04-0114-001
.072	1.83	04-0101-002	04-0114-002
.082	2.08	04-0101-003	04-0114-003
.092	2.34	04-0101-004	04-0114-004

NOTE 3-FOR METERS WITH REMOTE-MOUNTED COUNTER ASSEMBLY, THE QUANTITY OF THIS ITEM IS 2.

NOTE 4-FOR ENGLISH READOUT METERS, COUNTER IS PART NO. 01-0195-001.  
FOR METRIC READOUT METERS, COUNTER IS PART NO. 01-0195-002.

NOTE 5-7-FOOT CABLE (2.1 M) IS PART NO. 01-0463-001.  
10-FOOT CABLE (3 M) IS PART NO. 01-0463-006.  
12-FOOT CABLE (3.6 M) IS PART NO. 01-0463-007.

OTHER LENGTHS ARE AVAILABLE ON SPECIAL ORDER

**Figure 1-A, Counter Assembly Attached to Meter Frame**

ITEM NO.	PART DESCRIPTION	PART NO.	QUANT. REQ'D.	REC'MD. SPARES
24	Shaft, Register Wheel	04-0105-003	1	1
25	Key, Woodruff, No. 5 (Included with Item 24)		1	
26	Bracket, Counter	04-0105-006	1	
27	Cap Screw, Hex hd., 1/4"-20NG x 1/2"	10-14C0-012	5	
28	Washer, Lock, 1/4" External	12-0014-E00	5	
29	Washer, Flat, 1/4" SAE	12-0014-F00	5	
30	Counter (Odometer)	See Note 4	1	2

REPLACEMENT SCREW KITS CONTAIN ONE COMPLETE SET OF SCREWS, NUTS, WASHERS, BOLTS AND PINS REQUIRED FOR A TYPE "O" 7-IN. METER.

FOR METER WITH COUNTER ATTACHED:  
PART NO. 04-0105-KIT

FOR METER WITH COUNTER REMOTE:  
PART NO. 04-0133-KIT

**Figure 1-B, Counter Assembly with Cable for Remote Installation**

ITEM NO.	PART DESCRIPTION	PART NO.	QUANT. REQ'D.	REC'MD. SPARES
31	Shaft, Register Wheel	04-0133-002	1	1
32	Key, Woodruff, No. 5 (Included with Item 31)		1	
33	Adapter, Cable (Frame end)	04-0133-003	1	
34	Cap Screw, Socket hd., #10-32NF x 1/2"	11-10F0-012	2	
35	Cable, Remote Counter Drive	See Note 5	1	
36	Bushing, Bronze, 1/2" O.D. x 3/8"	01-0210-005	2	
37	Adapter, Cable (Counter end)	04-0133-004	1	
38	Socket Set Screw, Cup Point, #6-32NF x 3/16"	19-06C0-036	3	
39	Adapter, Counter Shaft	04-0133-005	1	
40	Spring Pin, 1/16" dia. x 3/8"	18-1600-038	1	
41	Counter (Odometer)	See Note 4	1	2

### NAMEPLATE INFORMATION

FIRST LETTER

THIRD LETTER

O-INDICATES TYPE "O" METER.

INDICATES COUNTER CONFIGURATION:

A. COUNTER ATTACHED TO FRAME.

SECOND LETTER  
INDICATES MEASURING READOUT:

R. COUNTER FOR REMOTE

E: ENGLISH READOUT  
M: METRIC READOUT

3-DIGIT NUMBER  
INDICATES WIRELINE DIAMETER CAPACITY.

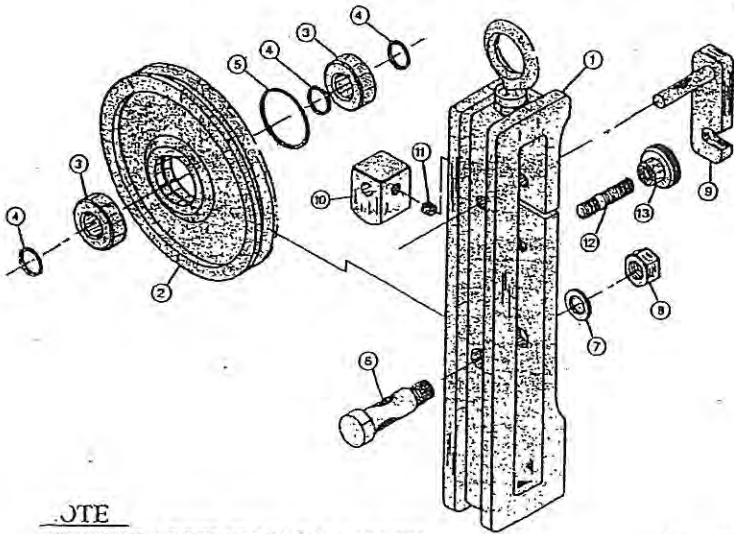
EXAMPLE: OEA-082

TYPE "O" METER; ENGLISH READOUT; COUNTER ATTACHED TO FRAME: 0.082-INCH WIRELINE DIAMETER CAPACITY.

## HAY PULLEYS, 7-INCH SHEAVE

FOR WIRELINE SIZES .066- TO .092-INCH DIAMETER (1.68 TO 2.34MM)  
WORKING LOAD: 2,500 LBS. (1,125 KG)

### 7-INCH HAY PULLEY PARTS DESCRIPTION; ASSEMBLY NO. 04-0113-000



ITEM NO.	PART DESCRIPTION	PART NO.	QUANT. REQ'D.	REC'D SPARES
1	Frame, with Eye Bolts	04-0111-007	1	
2	Sheave	See Note 2	1	1
3	Bearing	01-0196-003	2	4
4	Spacer	04-0106-007	3	
5	Retainer Ring, Internal	01-0179-003	1	
6	Axle	04-0111-006	1	
7	Lock Washer, external, 1/2-inch	12-0012-E00	1	
8	Nut, Hex, 1/2"-13NC	11-12C0-000	1	
9	Safety Latch	04-0111-003	1	
10	Line Keeper	See Note 3	1	2
11	Set Screw, Hex Socket, 1/4"-20NC x 1/4"	19-14C0-014	1	
12	Threaded Stud	01-0194-001	1	2
13	Lock Nut, Safety Latch	04-0111-002	1	2

#### NOTE

SHEAVE ASSEMBLY COMPLETE INCLUDES:

ITEM NO. & DESCRIPTION  
2 SHEAVE (1)  
3 BEARING (2)  
4 SPACER (1)  
5 RETAINING RING (1)

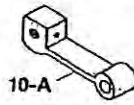
Specifications
Height: 17 1/2" / 44.5 cm
Width: 8" / 20.3 cm
Depth: 3" / 7.6 cm
Weight: 6 lb. / 2.7 kg

#### SHEAVE ASSEMBLY PART NUMBERS:

ASSY. FOR .066- TO .092-IN LINE .04-0104-00  
ASSY. FOR .105- TO .108-IN. LINE .04-0104-014  
ASSY. FOR 3/16-IN. LINE.....04-0104-009

NOTE 1- QUANTITY OF SPARES RECOMMENDED FOR TWO YEARS' USAGE.

NOTE 2- FOR .066- TO .092-IN. LINE...SHEAVE IS PART NO. 04-0104-001  
FOR .105- TO .108-IN LINE...SHEAVE IS PART NO. 04-0104-013  
FOR 3/16-IN. LINE.....SHEAVE IS PART NO. 04-0104-008



NOTE 3- STANDARD LINE KEEPER IS PART NO. 04-0111-004.

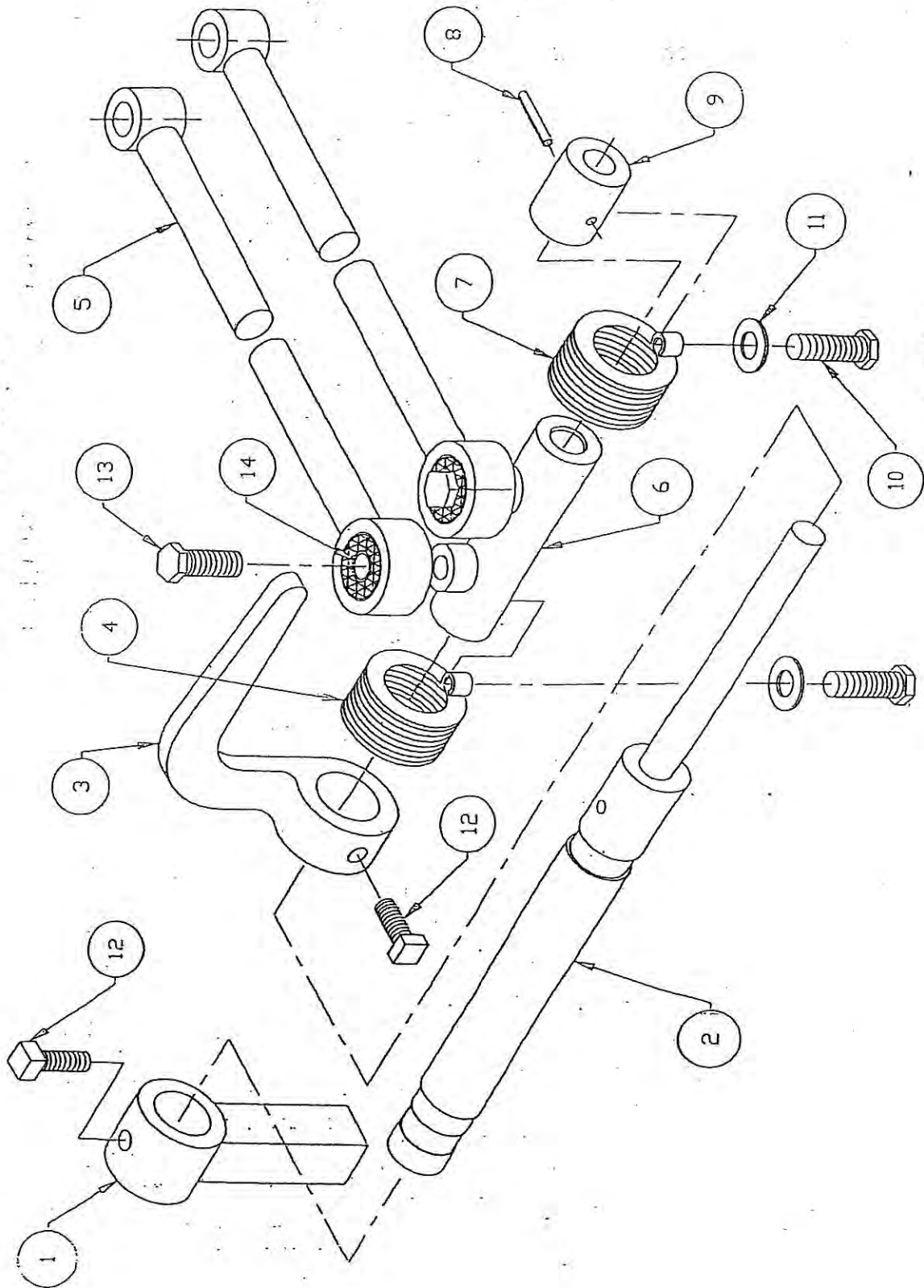
TO USE A LINE WIPER ATTACHMENT WITH THE HAY PULLEY, THE STANDARD LINE KEEPER (#NO 10) IS REPLACED BY AN ADAPTER FOR A LINE WIPER, PART NO. 04-0149-012 (SHOWN AT LEFT AS ITEM 10-A). LINE WIPER ATTACHMENT FITS ONTO 10-A.

NOTE: 7-INCH HAY PULLEYS ARE AVAILABLE ON SPECIAL ORDER FOR WIRELINE SIZES UP TO 3/16-INCH DIAMETER. HOWEVER, WE DO NOT RECOMMEND USE OF 1 7-INCH HAY PULLEY FOR SIZES LARGER THAN .092 INCH. FOR LARGER SIZES WE RECOMMEND 12 INCH HAY PULLEYS.

7-inch Hay Pulley Assembly  
with Adapter for Line Wiper Attachment  
is No. 04-0113-A01.

Line Wiper Attachment . . . No. 04-0149-000

# ASSEMBLY DETAIL - DOUBLE RACK ARM 04-0130-000



**BILL OF MATERIAL**

PAGE 1 OF 1

<b>DOUBLE RACK ARM ASSEMBLY WITH STEEL FABRICATED ARMS</b>			<b>04-0130-000</b>
<b>ITEM NO.</b>	<b>QUAN.</b>	<b>DESCRIPTION</b>	<b>PART NO.</b>
1	1	RACK HOLDER (INCLUDES ITEM 12)	04-0128-002
2	1	SHAFT	04-0128-001
3	1	STOP, ARM	04-0128-003
4	1	SPRING-LEFT HAND	04-0128-005
5	1	RACK ARM ASSEMBLY (INCLUDES ITEM 14)	04-0130-003
6	1	HUB	04-0128-007
7	1	SPRING-RIGHT HAND	04-0128-004
8	1	SPRING PIN, 3/16 X 1 1/4	18-3160-114
9	1	SLEEVE	04-0128-008
10	4	CAP SCREW, 5/16-18NC X 3/4 LG HEX HEAD	10-56C0-034
11	4	WASHER, FLAT 5/16	12-0056-F00
12	2	SET SCREW, 3/8-16NC X 1 LONG SQUARE HEAD	15-38CO-100
13	2	CAP SCREW, 7/16-20NF X 1 1/2 LG SQUARE HEAD	15-76F0-112
14	4	BEARING	01-0196-006