

PARTS LIST
SET-UP & OPERATION
MAINTENANCE

MANUAL

J&M MODEL 3030

DRILL MAST



**FOUNDATION
EQUIPMENT, LLC**

MANUFACTURERS OF VIBRATORY PILEDRIVERS
AND RELATED DEEP FOUNDATION EQUIPMENT

OM-3030-0504

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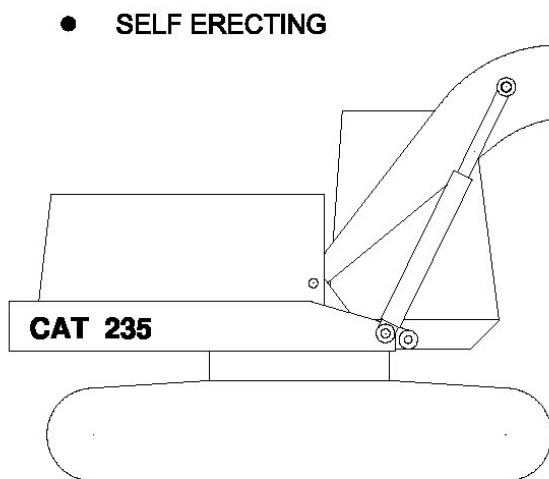


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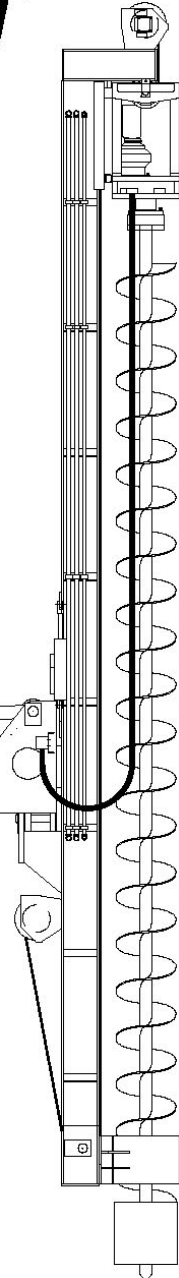
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MODEL 3030 DRILL MAST

- 30 FEET OF LINEAR AUGER TRAVEL
- 30" MAXIMUM FLIGHTING DIAMETER
- 30,000 FT. LB. ALLOWABLE AUGER TORQUE
- 30,000 LB OF EXTRACTION VIA TOP MOUNTED WINCH
- 15,000 LB CROWD VIA REAR MOUNTED WINCH
- USES J&M MODEL 3060 AUGER DRIVE, OR EQUAL
- FORE & AFT ANGLE ADJUST BY EXCAVATOR CYLINDER
- LEFT & RIGHT ANGLE ADJUSTMENT $\pm 10^\circ$
- ALL DRILLING FUNCTIONS BY EXISTING JOY STICKS
- NO CHANGES TO EXCAVATOR HYDRAULIC SYSTEM
- OPTIONAL 3" GROUT SWIVEL
- WEIGHT WITH AUGER DRIVE AND 24" FLIGHTING IS 16,200 LB.
- DESIGNED FOR EXCAVATOR WEIGHT OF 90,000 LB. OR MORE
- LOCKING VALVES PREVENT CYLINDER DRIFT
- PRESSURE CONTROL & DIVERTING VALVES ON MAST
- SELF ERECTING



Drilling holes for foundation work has never been more affordable and convenient. Excavator mounting provides contractor versatility with minimum investment. Heavy duty construction and easy mounting allow high production and minimum set up time. Call today for pricing and application information.



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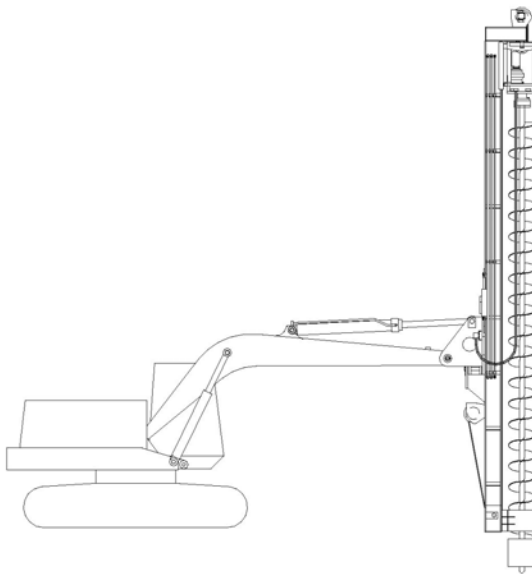
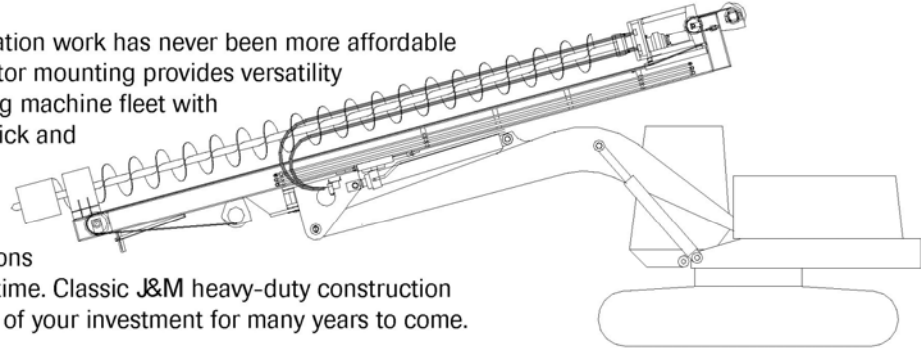
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The J&M Model 3030 Excavator Mounted Drill Mast

Engineered for versatility and ease of installation on excavator.

Drilling holes for foundation work has never been more affordable and convenient. Excavator mounting provides versatility and utilization of existing machine fleet with minimal investment. Quick and simple mounting and a hydraulic control system that requires no excavator modifications ensure minimal set-up time. Classic J&M heavy-duty construction guarantees the security of your investment for many years to come.

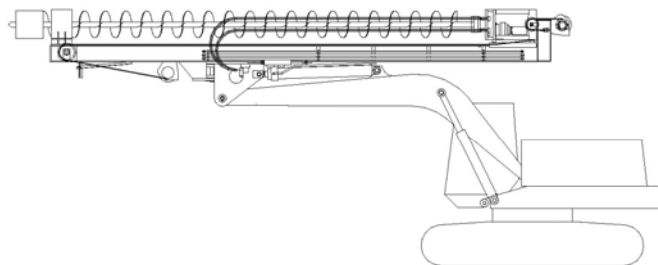


FEATURES & SPECIFICATIONS

- 36'-3" long mast provides 30' of rotary head travel.
- Powerful 30,000 lb extraction force via top-mounted winch and 15,000 lbs of crowd force via rear-mounted winch.
- Mast provides ample 30,000 ft-lbs of allowable rotary head torque.
- Drill with up to 30" maximum diameter continuous flight auger.
- All drilling functions are by the existing machine joysticks. No modifications are required to the excavator hydraulic system.
- All flow diverting valves and pressure control valves are mounted on the mast. Additionally, locking valves prevent cylinder drift to hold drilling position firm.
- Can be supplied with the J&M Model 3060 fixed-speed hydraulic top drive rotary head. Also compatible with most brands and models of top drive rotary heads.
- Fore and aft batter adjustment via excavator stick cylinder. Left and right 10° batter adjustment via mast-mounted cylinders.
- One-piece mast section w/ custom-designed excavator adapter.
- Weight with rotary head plus 30' of 24" CFA is only 16,200 lbs.
- Designed for 90,000 lb excavator class (or larger).
- Made in the USA by the industry's most technologically innovative manufacturer of foundation equipment since 1974.

APPLICATIONS INCLUDE

- Shallow drilled-shafts
- Augercast piles
- Sound-wall installation
- Soil nails
- Driven pile pre-drilling
- Helical-anchors
- Soil remediation
- Limited access operations



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3030 DRILL MAST

175055

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PREFACE

This manual was prepared to acquaint the owner, operator and serviceman with the construction and servicing of the J&M Model 3030 Drill Mast. We strongly suggest that this manual be studied carefully and understood by all personnel involved in operating or performing maintenance work on the Drill Mast. J&M equipment is engineered to provide reliable operation and a long service life under normal operating conditions. Equipment reliability and service life can be improved by following the maintenance procedures in this manual.



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WARRANTY

J&M FOUNDATION EQUIPMENT STANDARD WARRANTY

J&M Equipment warrants new products sold by it to be free from defects in material or workmanship for a period of 90 days after date of delivery to the first user and subject to the following conditions:

J&M's obligation and liability under this WARRANTY is expressly limited to repairing or replacing, at J&M's option, any parts which appear to J&M, upon inspection, to have been defective in material or workmanship. Such parts shall be provided at no cost to the user, at the business establishment of J&M or the authorized J&M distributor of the product, during regular working hours. This WARRANTY shall not apply to component parts or accessories of products not manufactured by J&M and which may carry the warranty of the manufacturer thereof, or to normal maintenance (such as engine tune-up) or to normal maintenance parts (such as oil filters). Replacement or repair parts installed in the product covered by this WARRANTY are warranted only for the remainder of the warranty, as if such parts were original components of said product. **J&M COMPANY MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS, FOR ANY PARTICULAR PURPOSE.**

J&M's obligation under this WARRANTY shall not include any transportation charges, cost of installation, duty, taxes or any other charges whatsoever, or any liability for direct, indirect, incidental, or consequential damage of delay. If requested by J&M, products or parts for which a warranty claim is made are to be returned, transportation prepaid to J&M. Any improper use, including operation after discovery of defective or worn parts, operation beyond rated capacity, substitution of parts not approved by J&M or any alteration or repair by others in such manner as in J&M's judgment affects the product materially and adversely, shall void this WARRANTY.

NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY AN OFFICER OF J&M.



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SAFETY PRECAUTIONS

1. Read the operating manual thoroughly before operating or working on the equipment.
2. Read and follow any safety instructions in the excavator manual.
3. Only well trained and experienced personnel should attempt to operate or maintain this equipment.
4. Never adjust, lubricate or repair the unit when it is in operation, or lifted above ground level.
5. Never remove, paint over or cover warning or safety labels. If labels become damaged or unreadable, replace immediately.
6. All personnel should wear approved safety clothing, including **HARD HATS, SAFETY-SHOES, SAFETY GLASSES** and **HEARING PROTECTION** when in the vicinity of this machinery.
7. Do not stand any closer to this equipment than necessary when it is in operation. Parts may loosen and fall. Dirt and rocks may fall from flighting. Never stand under operating, or elevated, equipment.
8. When maintaining or repairing the equipment, never substitute parts not supplied, or approved in writing, by J&M.
9. Do not weld, or flame cut, on this equipment.
10. Never use or store flammable liquids on or near the engine.
11. Insure that all lifting equipment, including cranes, wire rope, slings, hooks, shackles, etc., are properly sized for the worst case loads anticipated during operations.
12. If there are any questions about the weights, specifications, or performance of the unit, contact J&M before handling or operating the equipment.
13. If the equipment is to be used for anything other than drilling holes, contact J&M before using the unit.
14. Check wire rope clips for tightness, and check wire ropes for wear, daily.
15. Insure that ground vibrations will not damage or collapse adjacent structures or excavations.
16. Remove all tools, parts and electrical cords before starting the unit.
17. When operating in an enclosed area, pipe exhaust fumes outside. Continued breathing of exhaust fumes may be fatal.



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SAFETY PRECAUTIONS - CONTINUED

18. When servicing batteries, do not smoke or use open flames in the vicinity. Batteries generate explosive gas during charging. There must be proper ventilation when charging batteries.
19. When filling fuel tank, do not smoke or use open flame in the vicinity.
20. If abnormal equipment operation is observed, discontinue use immediately and correct the problem.
21. Do not leave the equipment running and unattended.
22. Store oily rags in approved containers, and away from engine exhaust system.
23. Make sure that the auger rotation control is in NEUTRAL before starting the power unit engine.
24. Do not adjust, or set, hydraulic pressures higher or lower than those specified in this manual.
25. Never operate this equipment with hydraulic hoses that are damaged or "kinked". Replace damaged hoses immediately.
26. Do not lift, or support, hydraulic hoses with wire rope slings.
27. Never attempt to connect or disconnect hydraulic fittings or hoses when the unit is running.
28. Do not pull on, or attempt to move equipment, with hydraulic hoses.
29. Do not attempt to locate hydraulic leaks with your hands. High pressure hydraulic leaks can penetrate the skin, causing severe damage, blood poisoning and infection. Do not attempt to repair leaks while the equipment is in operation.
30. Do not attempt to tighten, or loosen, fittings or hoses when the machine is in operation.
31. Do not remove heat shields, or operate unit without heat shields. Severe fires may result.
32. A properly maintained fire extinguisher, suitable for oil fires, must be kept in the immediate vicinity of equipment operations.
33. When moving or transporting this equipment, insure that the vehicle or vessel is of sufficient capacity to handle the load, and that the equipment is properly tied down.



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SAFETY PRECAUTIONS - CONTINUED

35. Keep excavator boom, drill mast, wire rope and other equipment at least 15' (5M) from electrical power lines, transformers and other electrical equipment, or at such distance as required by applicable safety codes.
36. Rounded or damaged bolt heads or nuts should be replaced so that proper torque values may be obtained. Proper torque values are necessary to prevent parts on this equipment, leads and crane boom from loosening and falling. Refer to Torque Chart, in this manual, for proper values.
37. Avoid high down pull forces that can be generated if the fighting screws itself into the ground. Operator should control drilling speed to prevent "screwing in". Equipment damage or overturning the excavator could result.
38. When extracting fighting from ground, check excavator load/radius tables to be sure lifting capacity is adequate for maximum allowable extraction pull.
39. When extracting fighting, or any other drilling operations, always be sure that the excavator is on solid ground and sufficiently level to prevent overturning.
40. When extracting fighting, use winch force only. Do not extract fighting by booming up.
41. Keep hands away from rotating fighting, auger shaft and rotary joint.
42. Keep hands, feet and tools well clear of fighting guides.
43. API fighting connectors must be secured to prevent unscrewing during reverse (ccw) rotation. Fighting may fall.
44. Do not allow clothing, hoses, ropes, etc. to become entangled in, or wrap around, rotating fighting, auger shaft or rotary joint.
45. Keep clear of auger and fighting when in operation in case a part would loosen and fall. Dirt and/or rocks may fall off the auger fighting. Wear a hard hat.
46. Frequently tighten wire rope clamps securing auger to crane line. Check rope for wear.
47. Make sure that crane and leads have sufficient capacity to handle auger, fighting and dirt expected on the job. High downpull can be generated if the auger screws itself into the ground.
48. Be extremely careful when using a carbon tetrachloride fire extinguisher in a closed area as it produces toxic vapor. Provide adequate ventilation before entering a closed area where carbon tetrachloride has been used.

REMEMBER, SAFETY IS EVERYONE'S BUSINESS.



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GENERAL DATA

ABBREVIATIONS

The abbreviations shown below are used throughout the parts lists and various other parts of the manual.

HCS	Button Head Cap Screw
Cyl.	Cylinder
DC	Direct Current
FHCS	Flat Head Cap Screw
FLCS	Flanged Head Cap Screw
Gr	Grade
HC	High Collar
HHCS	Hex Head Cap Screw
HHPP	Hex Head Pipe Plug
HSSS	Hex Socket Set Screw
Hyd.	Hydraulic
ID	Inside Diameter
Lg.	Long
LHS	Left Hand Side
mm	Millimeter
Mtg.	Mounting
NPT.	National Pipe Thread
OD	Outside Diameter
PHMS	Phillips Head Machine Screw
P/N	Part Number
Qty.	Quantity
RHMS	Round Head Machine Screw
RHS	Right Hand Side
Sch.	Schedule
SHCS	Socket Head (Allen) Cap Screw
SHPP	Socket Head Pipe Plug
SHSS	Socket Head Shoulder Screw
S/N	Serial Number
Sol.	Solenoid
UNF	Unified National Fine thread
UNC	Unified National Course thread



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GENERAL DATA

SCREWS AND BOLTS

1. Practically all connections on the unit are made with socket head (Allen) cap screws. These high-strength screws are available at most industrial supply houses.
2. Screws and bolts are designated in the PARTS LIST in abbreviated form. (Refer to the previous page, for specific abbreviations). Listed below is a typical screw description: .50 - 13 UNC x 1.50 Lg SHCS

.50 = Diameter

13 UNC = Threads Per Inch

1.50 Lg = Length

SHCS = Screw Type Abbreviation

SERIAL NUMBER LOCATIONS

1. The following J&M units are serial numbered separately:
 - a. Earth Auger
 - b. Drill Mast
2. In addition to the serial number plate itself, the serial number is stamped into each unit in one or more places as follows:
 - a. Earth Auger stamped twice - once on the gear case cover, once on the gear case near the hose clamp plate.
 - b. Drill mast



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ORDERING PARTS

PROCEDURE

1. When ordering parts, be sure to include the model and serial number of the unit or component. Confirm all telephone orders immediately to avoid duplicating shipment.
2. ORIGINAL EQUIPMENT; Where component serial numbers are given, these apply only to equipment and components originally furnished with the unit. Where equipment has been changed or upgraded these numbers may not be an adequate description.
3. SHIPMENT; Specify shipping address, phone number, billing address and method of shipment. UPS and air express shipments must have street address for delivery. All shipments will be made freight collect unless instructed otherwise.
4. SHORTAGES; Claims for shortages, damage or errors should be made immediately upon receipt of parts. No responsibility will be assumed for delay, damage or loss of material while in transit. Broken, damaged or lost material should be refused or a full description made of damage or loss to the carrier agent on the freight or express bill.
5. RETURN OF PARTS; If for any reason you desire to return parts to the factory or to any distributor from whom these parts were obtained, you must first secure permission to return the parts. Shipping instructions will be given along with this permission. A fifteen percent handling charge must be assessed against the returned shipment unless an error is made by the factory or by the distributor when filling your order.



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ORDERING PARTS

FITTING DESCRIPTION KEY

A Fitting Description code is used to describe all fittings in the Parts Identification section of this manual. The key below explains the structure of the code number in detail.

<p>FITT 2</p> <p><u>SELECTOR INDEX</u> 2 - INCH FITTING 9 - METRIC FITTING</p> <p><u>CONFIGURATION OR SHAPE OF FITTING</u> S - STRAIGHT FITTING L - 90 Deg. ELBOW V - 45 Deg. ELBOW T - TEE C - CAP P - PLUG U - UNION X - CROSS (FOURTH END FITT'G REQ'D.)</p> <p><u>FIRST END SIZE</u> * IN 1/16THS OF AN INCH (INDEX 2) IN MILLIMETERS (INDEX 9) SEE GENERAL SPECIFICATION SHEET FOR SEQUENCE OF ORDER</p> <p><u>FIRST END FITTING STYLE</u> SEE FITTING STYLE SELECTOR CHART SC-1</p> <p><u>SECOND END SIZE</u> IF APPLICABLE - SEE FIRST END SIZE</p> <p><u>SECOND END FITTING STYLE</u> IF APPLICABLE - SEE FIRST END FITTING STYLE</p> <p><u>THIRD END SIZE</u> IF APPLICABLE - SEE FIRST END SIZE</p> <p><u>THIRD END FITTING STYLE</u> IF APPLICABLE - SEE FIRST END SIZE</p> <p>* EXCEPTIONS 90 = 10" 96 = 6" 92 = 12" 98 = 8" 94 = 14" 99 = NON CODE SIZE</p>	<p>L -</p> <p>16</p> <p>M</p> <p>12</p> <p>J</p> <p>00</p> <p>0</p> <p>-</p> <p>00L</p> <p>0</p> <p>0</p> <p>0</p> <p>1</p>	<p><u>MATERIAL</u> 1 - CARBON STEEL 2 - BRASS 4 - STAINLESS STL 5 - AAR MAL IRON 6 - MALEABLE IRON 8 - FORGED STEEL</p> <p><u>SPECIAL NOTATIONS</u></p> <p><u>PRESSURE RATING</u> 0 - NONE 1 - 125 LB. 3 - SCH 40 4 - SCH 80</p> <p><u>INSTALLATION AID OR STYLE OF HEAD</u> 0 - NOT APPLICABLE H - REGULAR HEX Q - SQUARE HEAD (EXT.) R - SQUARE HEAD (INT.) S - HEX HEAD (INT SOCKET) T - HEX HEAD (EXT.)</p> <p><u>LENGTH CODE</u> (ELBOWS & NIPPLES) __L - LONG (ELBOW) __X - EXTRA LONG (ELBOW) __C - CLOSE (NIPPLE)</p> <p>PIPE NIPPLES (LONG) ONLY IN DEC. INCHES FOR INDEX 2 050 = 5.0 INCHES 105 = 10.5 INCHES</p> <p>IN MILLIMETERS FOR INDEX 9 120 = 12.0 MILLIMETERS 084 = 8.4 MILLIMETERS</p> <p><u>FOURTH END SIZE & FITTING STYLE</u> (CROSSES ONLY) SEE FIRST END FITTING SIZE OR END STYLE</p>
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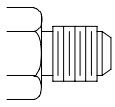
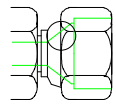
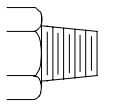
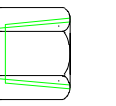
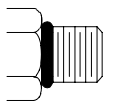
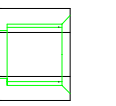
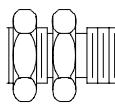
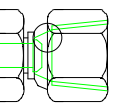
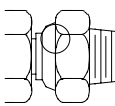
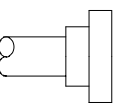
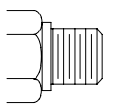
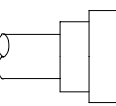


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ORDERING PARTS

B. FITTING DESCRIPTION KEY (CONTINUED)

M		JIC MALE 37 Deg. FLARE	J		JIC FEMALE 37 Deg. FLARE (& SWIVEL)
P		MALE PIPE NPT	Q		FEMALE PIPE NPTF
R		S.A.E. MALE O-RING (& ADJUSTABLE)	K		S.A.E. FEMALE O-RING
B		JIC MALE 37 Deg. FLARE BULKHEAD	N		FEMALE PIPE NPSM-SWIVEL
D		MALE PIPE NPT SWIVEL	F		SPLIT FLANGE 3000 PSI. CODE 61
S		B.S.P. MALE PIPE	H		SPLIT FLANGE 6000 PSI. CODE 62

FITTING STYLE SELECTOR CHART

SC-1

FOR END FITTING STYLE SELECTION



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ORDERING PARTS

C. HOSE DESCRIPTION CODE

The HOSE DESCRIPTION CODE is a 24 digit number enabling easier and quicker identification whenever a hose replacement is desired. The key below explains the structure of the coded number in detail.

HOSE 125 R11 F 9 24 P 0 20 L0395 S

HOSE I.D. IN INCHES
 2 PLACE DECIMAL
 (125=1-1/4") (050=1/2") etc.

SAE OR MANUFACTURER
 RATING (or Special Code)
 (PT4=Power Track)
 (AQ1=Aeroquip H-Pac)
 (TF1=Teflon)
 (R01=SAE Rating 100R1) etc.
 (PT6=Power Track 6000 PSI)

FIRST END-TYPE OF FITTING
 (F=3000 lb Flange) (P=Male Pipe)
 (H=6000 lb Flange) (M=37° Male JIC)
 (J=JIC Swivel 37°)

FIRST END-BEND ANGLE
 (0=None) (9=90°)
 (3=30°) etc.

FIRST END-SIZE IN 1/16 ths

SECOND END-TYPE OF FITTING
 (See codes for FIRST END)

SECOND END-BEND ANGLE
 (See codes for FIRST END)

SECOND END-SIZE IN 1/16 ths

SPECIAL CODE
 O=None
 S=Spring Guard
 L=S.S. Braid
 D=Offset

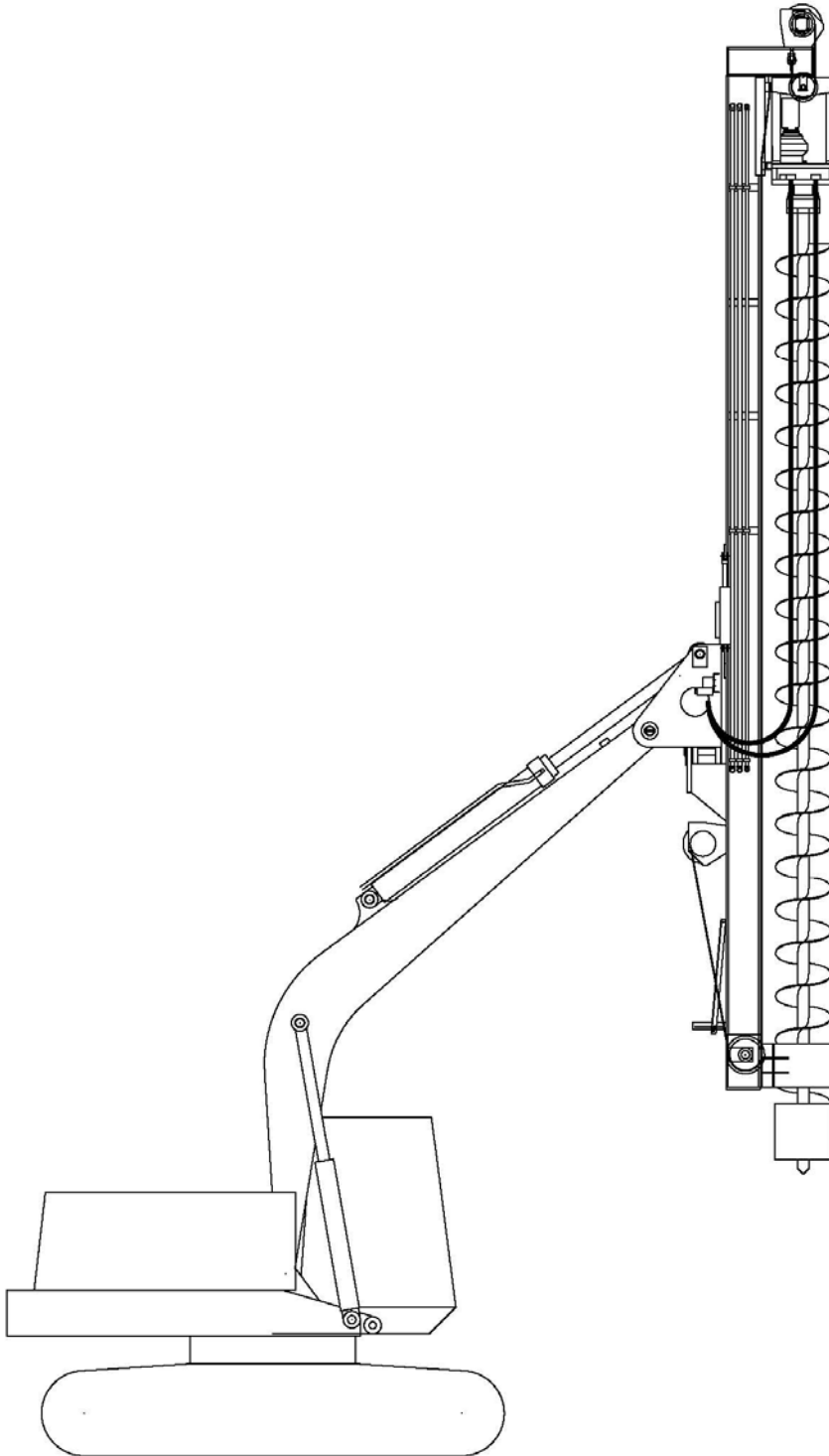
LENGTH IN INCHES
 (1 PLACE DECIMAL)
 (0395=39-1/2")
 (1242=124-1/4")
 etc.



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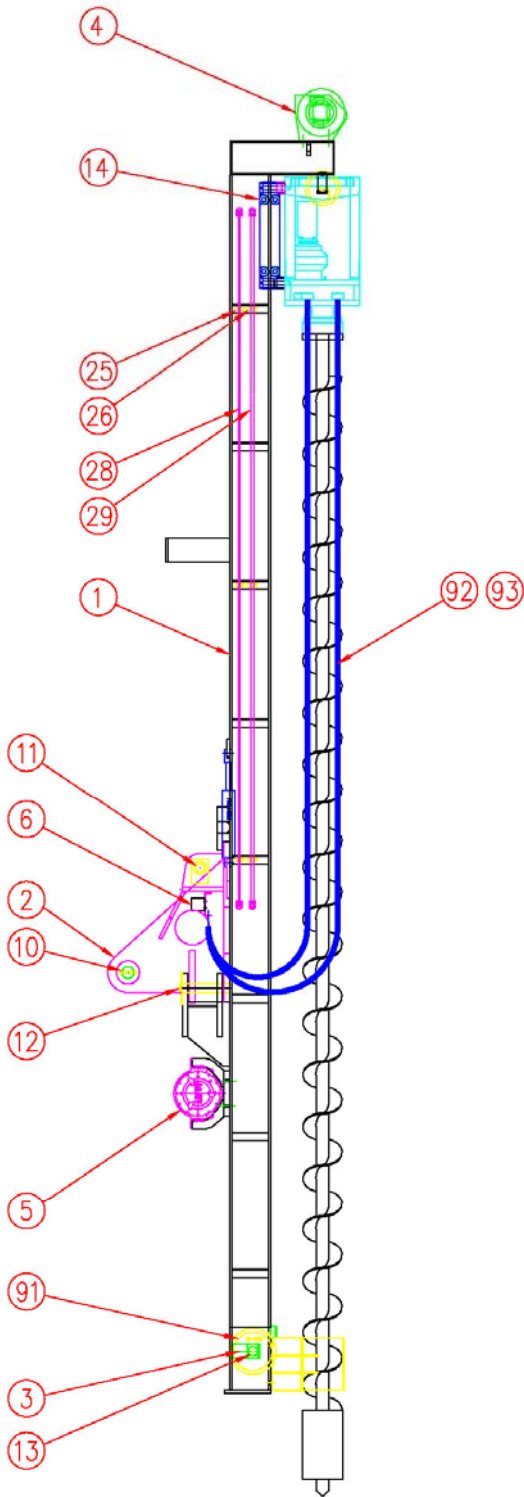
DRILL MAST ASM w/ KATO HD1500 EXCAVATOR



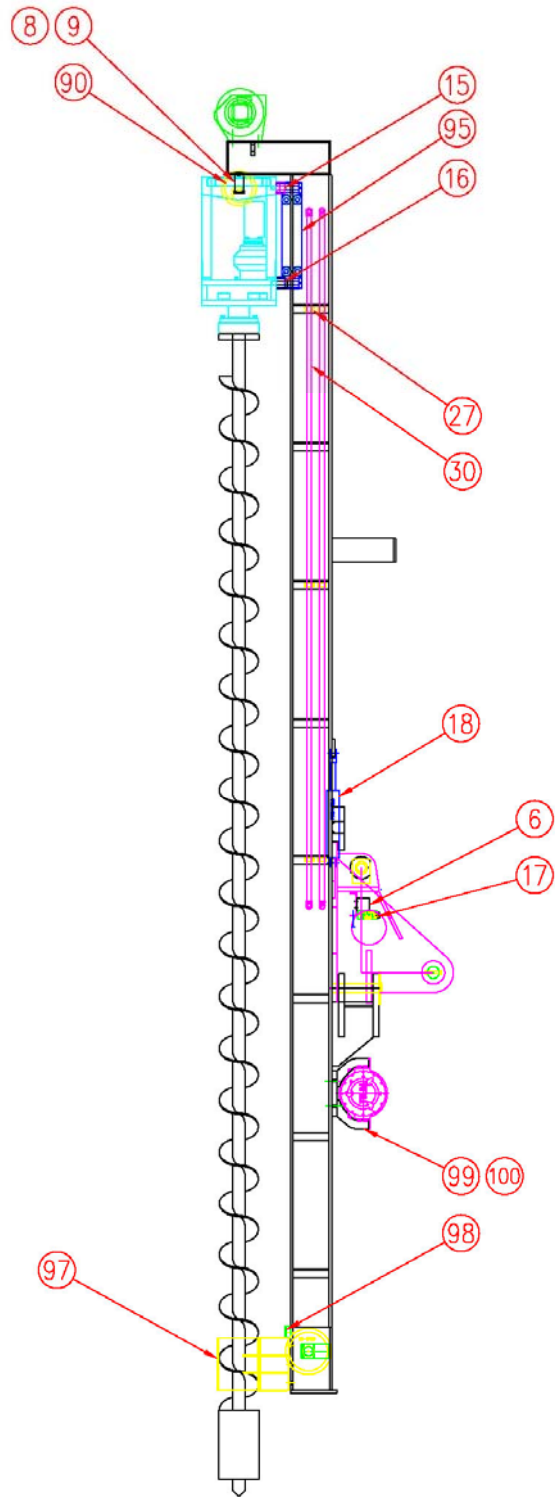


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RIGHT-HAND SIDE



LEFT-HAND SIDE



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Item	Part Number	Qty.	Description
1	170235	1	Mast
2	170731	1	Adapter - Kato HD 1500
3	170745	1	Sheave Pin Clamp
4	170587	1	Top Winch Tulsa - 1541W
5	170753	1	Bottom Winch - Tulsa 3154RLB
6	170591	2	Double Selector - Feroy DS-70-HP-0
8	170263	2	Shaft Clamp
9	170259	1	Auger Sheave Pin
10	170749	1	Boom Pivot Pin
11	170747	1	Stick Pin
12	170253	1	Tilt Pin
13	170745	1	Lower Sheave Pin
14	170585	8	Cam Roller
15	170735	1	Auger Spacer - Top
16	170737	1	Auger Spacer - Bottom
17	170281	1	Winch Manifold
18	170593	2	Tilt Cylinder - Prince PMC-44016
19	170595	2	Relief Cartridge - Sun RPIE-LAN
20	170597	1	Shuttle Valve - Sun DSIH-XHN
21	170599	4	#20 PH Blank Flange - DMIC FLB6-1250SN
22	170601	1	PC Flow Control - DMIC PCIH-0250N
23	170603	2	CB Valve / Body - Sun CBCA-LHN-YEI
24	170605	1	Sol. Valve, 4-Way - Vickers SV1-10-4-6T-24DG
25	170573	3	.38" Pipe Clamp
26	170570	3	.75" Pipe Clamp
27	170577	6	1.25" Pipe Clamp
28	170607	1	.38" Sch 40 Pipe x 20'
29	170609	1	.75" Sch 40 Pipe x 20'
30	170611	2	1.25" Sch 40 Pipe x 20'
31	170613	1	FITT2S-16R20M000-0000001
32	110986	1	20SFXO FLANGE KIT
33		2	20SFO FLANGE KIT
34		1	Parker Fitting 1/4-MRO-S
35		1	Parker Fitting 1/4-FF-S
36	130002	1	FITT2S-04M08P000-0000001
37	170623	1	FITT2T-04R04M04M-0000001
38	110670	1	FITTST-04M04M04P
39	170755	3	FITT2T-04M04J04M-0000001
40	170757	1	FITT2T-20R20M20M-0000001
41	400700	1	FITT2T-12J12M12M-000H001
42	170627	1	FITT2S-12J08M000-0000001
43	170759	1	FITT2T-12R12M12M-0000001
44	170631	3	FITT2T-04J04M04M-0000001
45	170633	1	FITT2L-1212M12B000-0000001



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Item	Part Number	Qty.	Description
46	130823	3	FITT2S-04M06R000-000H001
47	170637	1	FITT2L-04M06R000-0000001
48	140911	4	FITT2L-06R04M000-0000001
49	170639	1	FITT2S-08M04P000-000H001
50	170641	1	FITT2T-08J08M08M-0000001
51	170761	2	FITT2S-12M10R000-0000001
52		1	W48-20-20U (1.25 Code 62 Block)
53	170647	1	HOSE125PT4J020J020L05300
54	170763	2	HOSE025R02J004J004I007600
55	170651	1	HOSE125PT4J020F920L03400
56	170653	1	HOSE125PT4J020H920L03400
57	170655	1	HOSE125PT4J020F920L06000
58	170765	1	HOSE075R02J012J012L07800
59	170767	1	HOSE075R02J012J012L07900
60	170661	2	HOSE025R02J004J004L04000
62	170665	1	HOSE025R02J004J004L08100
63	170667	1	HOSE025R02J004J004L05200
64	170669	1	HOSE025R02J004J004L03900
65	110805	2	HOSE019R01J004J004L05500
66	170671	2	HOSE025R02J004J004L07500
67	100719	1	HOSE025R02J004J004L03000
68	170673	1	HOSE038R02J006J006L02600
69	130207	1	HOSE019R01J004J004L10000
70	170675	1	HOSE075R02J012J012L03400
71	170677	1	HOSE038R02J006J006L02300
72	170679	1	HOSE038R02J006J006L04900
73	170681	1	HOSE050R02J008J008L09600
74	100149	1	HOSE025R02J004J004L01900
75	170769	1	FITT2S-12M20R000-0000001
76	170683	4	24PH BLANK FLANGE
77	170641	1	FITT2T-08J08M08M-0000001
78	170771	2	FITT2S-08J04M000-0000001
79	170773	1	FITT2S-20J16M000-0000001
80	170775	1	FITT2S-16J12M000-0000001
81	170687	2	24 PH SOLID FLANGE
82	170777	1	FITT2S-08M12R000-0000001
83	170751	1	.75" Wire Rope x 52' w/ Button - Crowd
84	170301	1	.63" Wire Rope x 73.5' w/ Thimble - Lift
85	140417	1	FITT2L04M04J000-000H001
86	300591	50	16/3 Wire (ft)
87	130825	1	Single Hole Pendant Box
88	170689	1	Switch 2-Position
89	100855	1	Straight S/) Comp Fitt
90	170563	1	12" Sheave - Gunnebo



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DRILL MAST ASM

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<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
91	170565	1	16" Sheave - Gunnebo
92	170691	1	HOSE075R09P012J012L24000
93	170693	2	HOSE125PT5P020H020L24000
94	170567	4	SHCS 1.00-8UNC x 4.50
95	170579	2	ROLLER FRAME
97	170695	1	Flighting Guide 14"
98	170697	1	Lower Sheave Dirt Guard
99	170741	4	Winch Bracket
100	170739	2	Winch Bolt Block

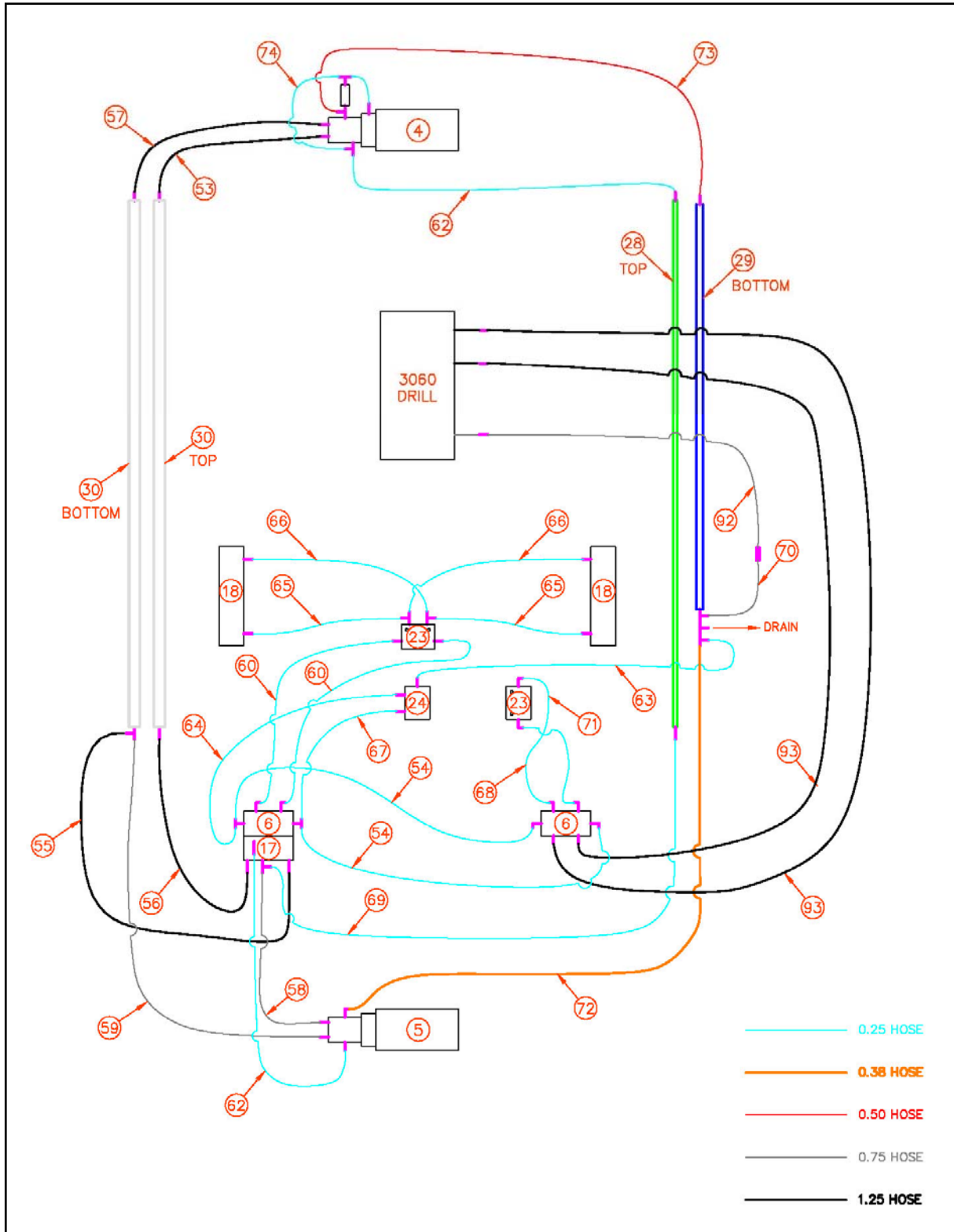


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HOSE ASSEMBLIES - INTERCONNECTING

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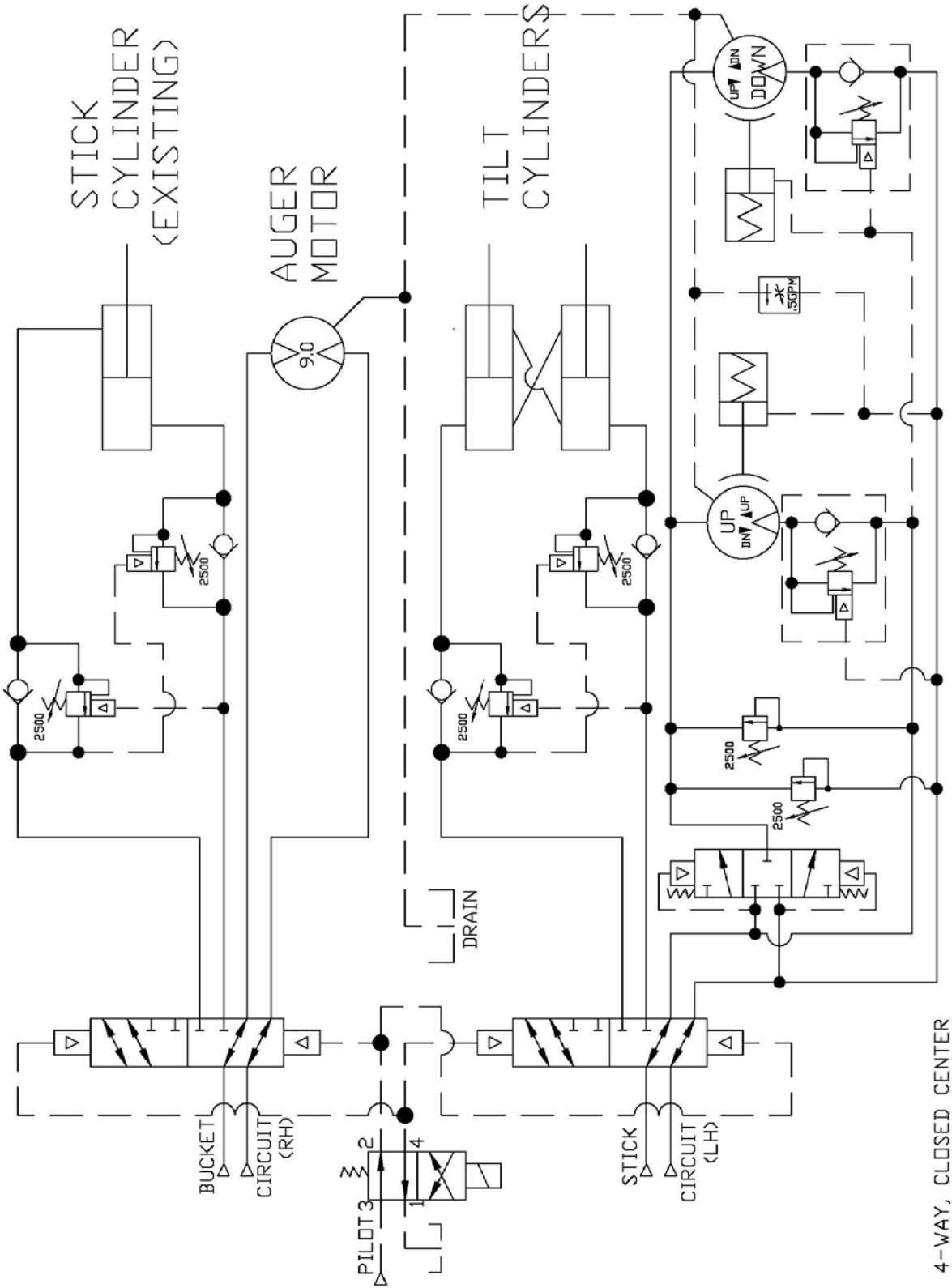


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HYDRAULIC SCHEMATIC

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HYDRAULIC SCHEMATIC - WINCHES

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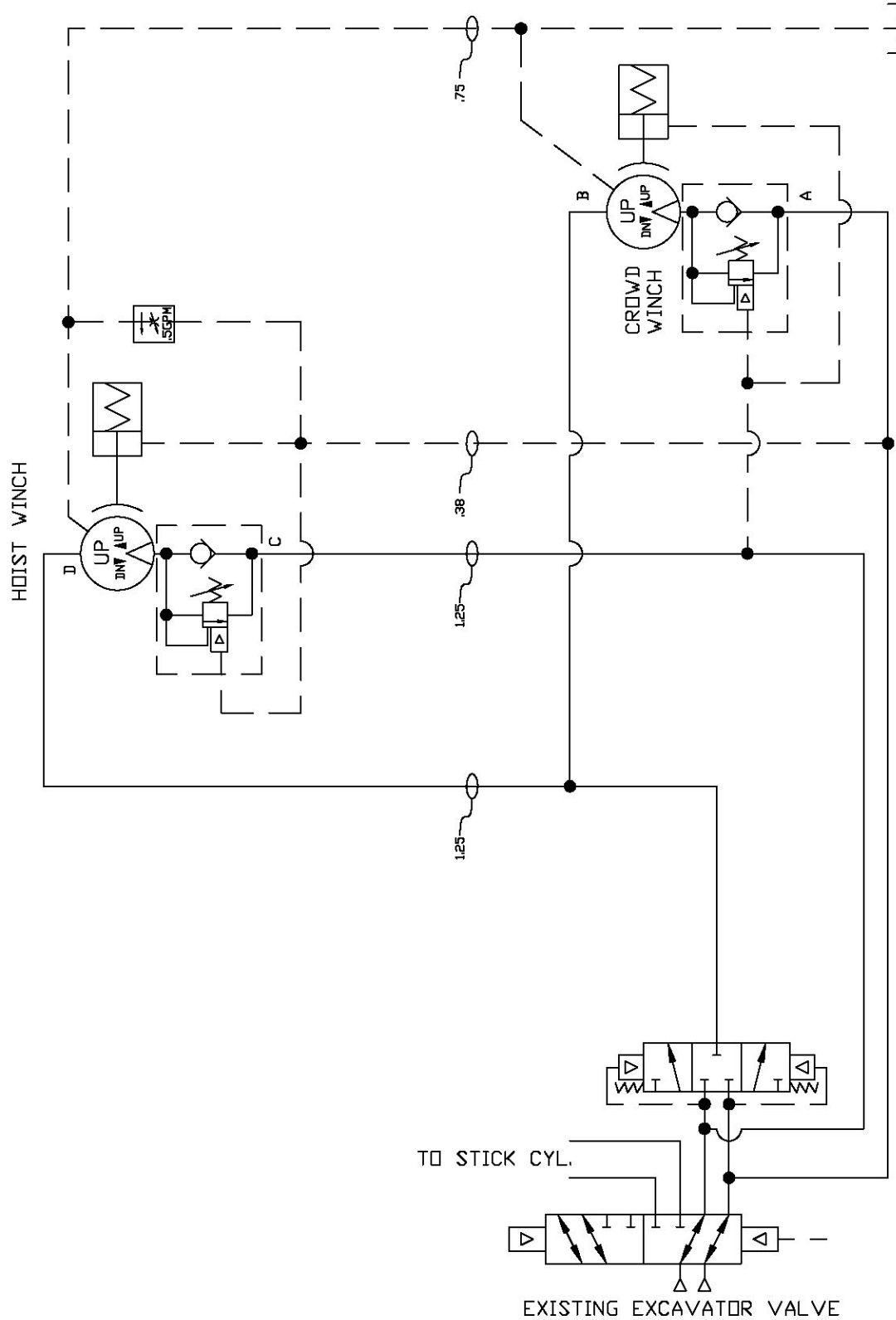




PHOTO 1: 3030 DRILL MAST ASSEMBLY – LEFT SIDE VIEW



PHOTO 2: DRILL MAST ASSEMBLY WITH 3060 DRILL

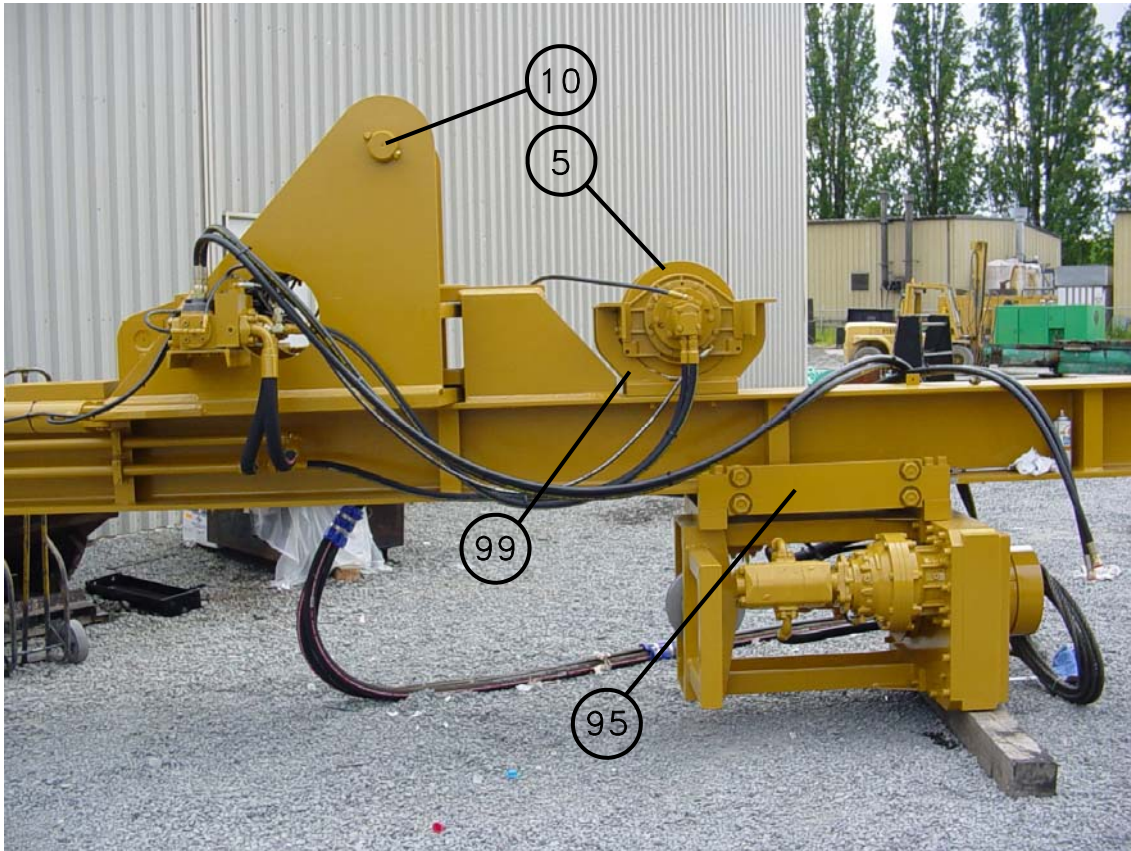


PHOTO 3: LEFT-HAND SIDE SHOWING VARIOUS HARDWARE

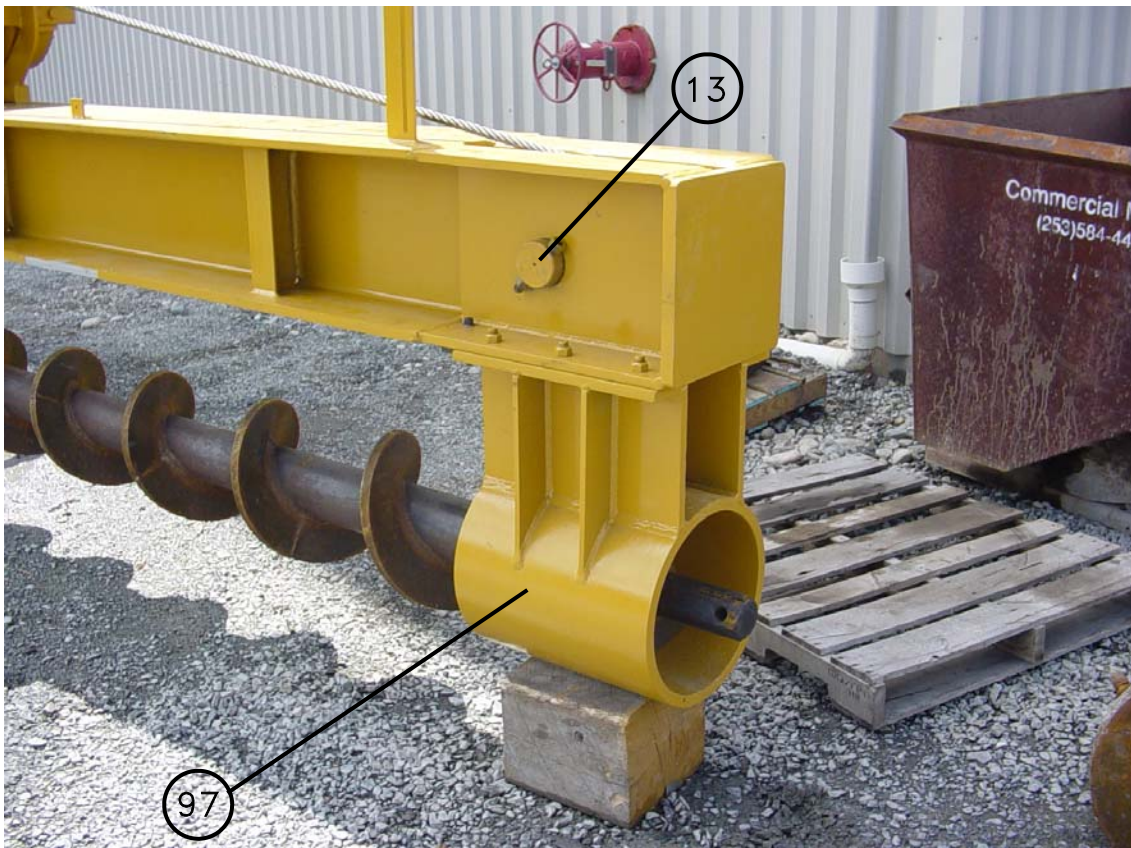


PHOTO 4: LEFT-HAND SIDE SHOWING AUGER FLIGHTING GUIDE

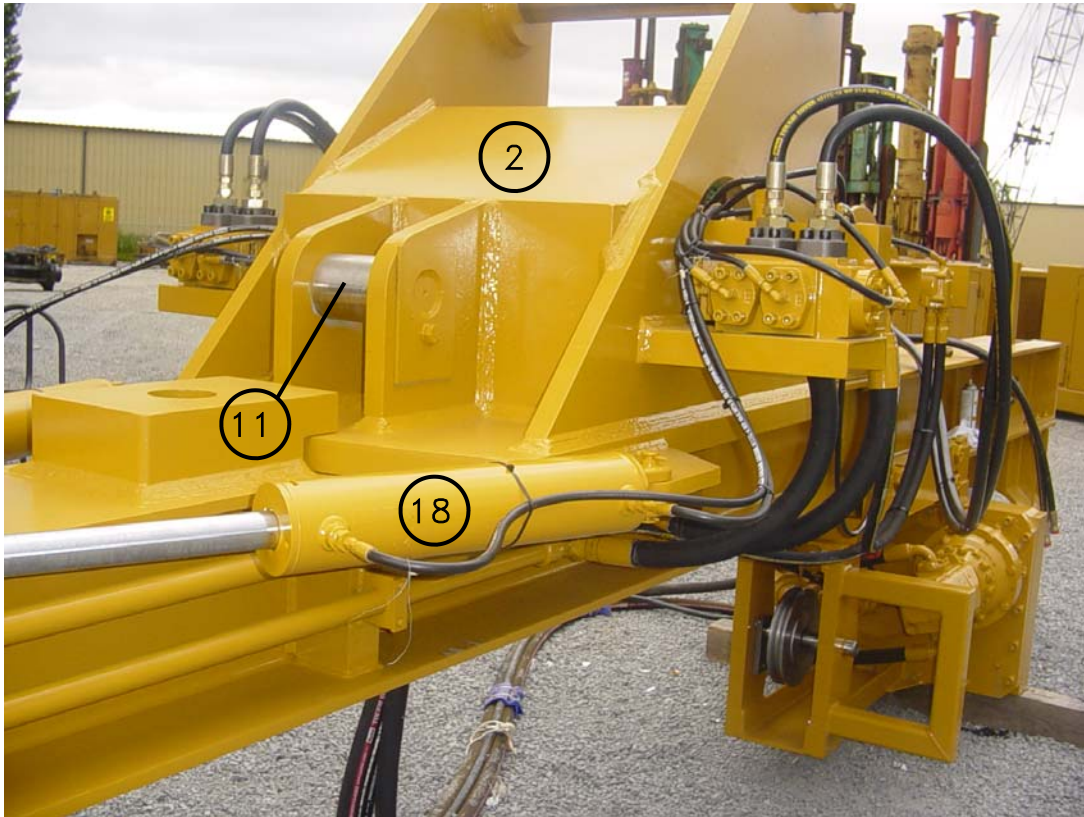


PHOTO 5: LEFT-HAND SIDE W/ KATO HD1500HD ADAPTOR

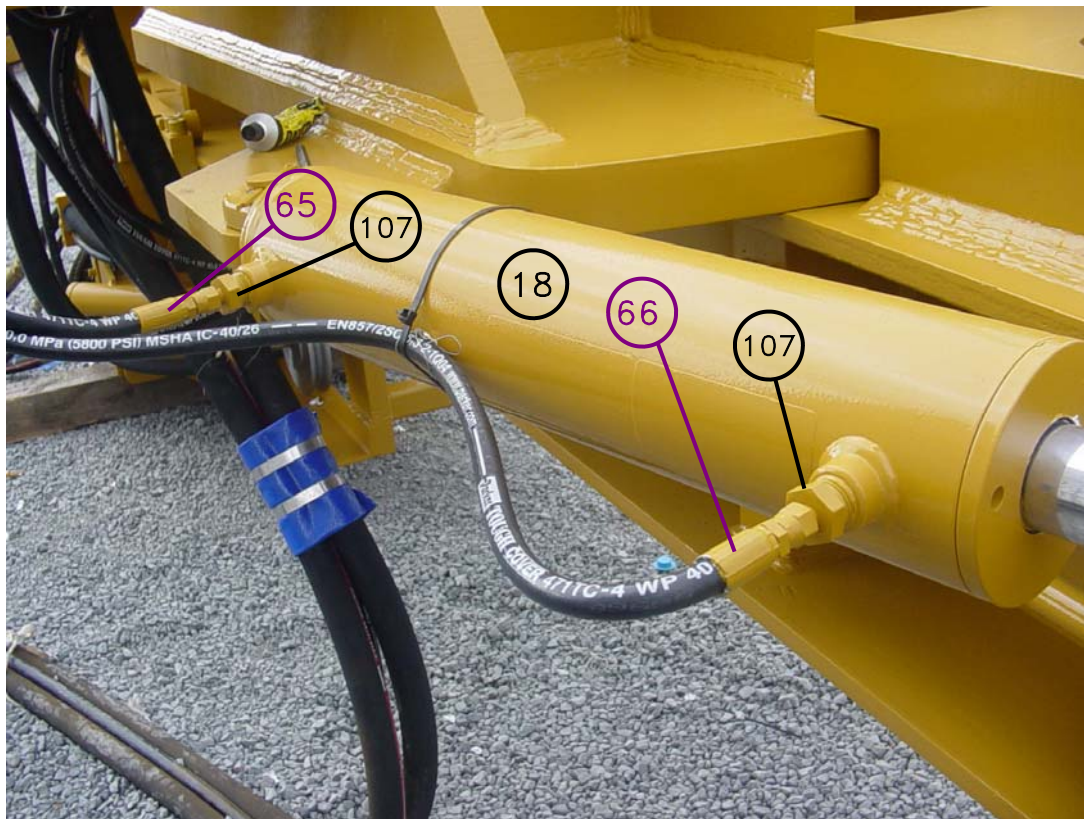


PHOTO 6: RIGHT-HAND SIDE SHOWING TILT CYLINDER

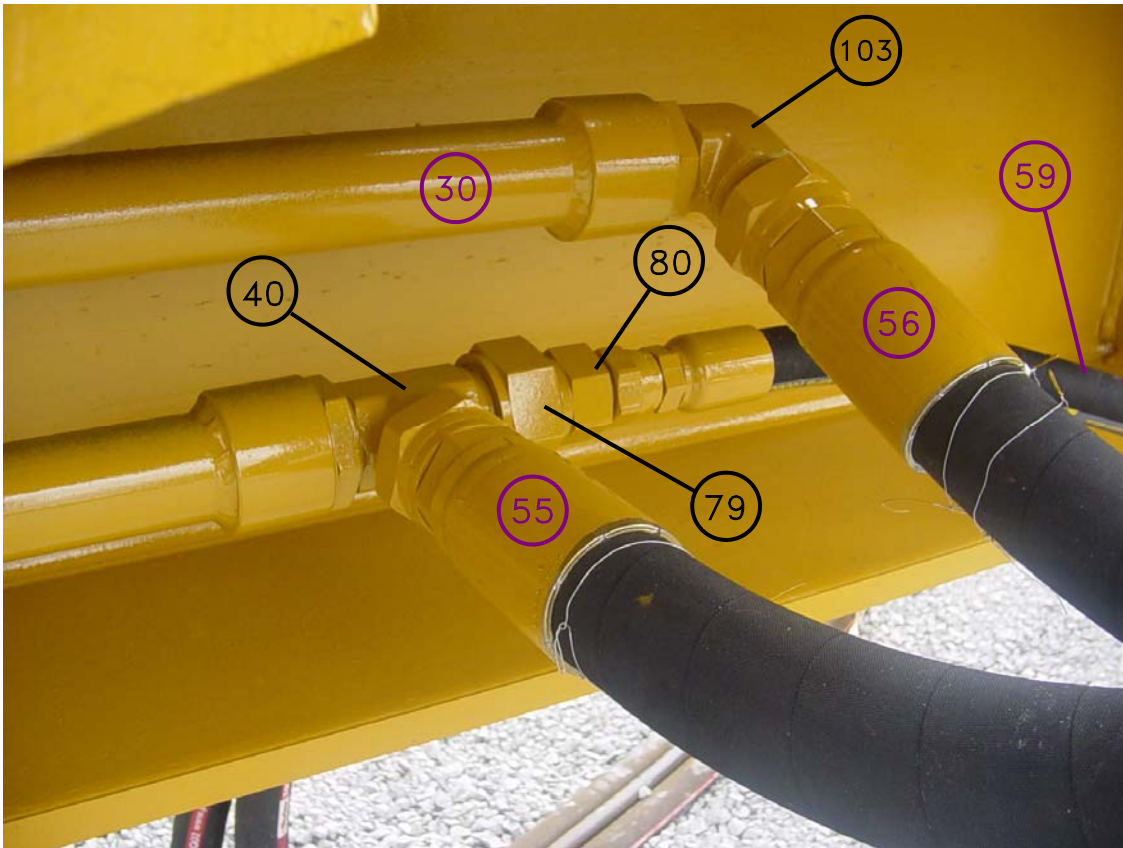


PHOTO 7: LHS SHOWING SUPPLY/RETURN FOR UPPER WINCH

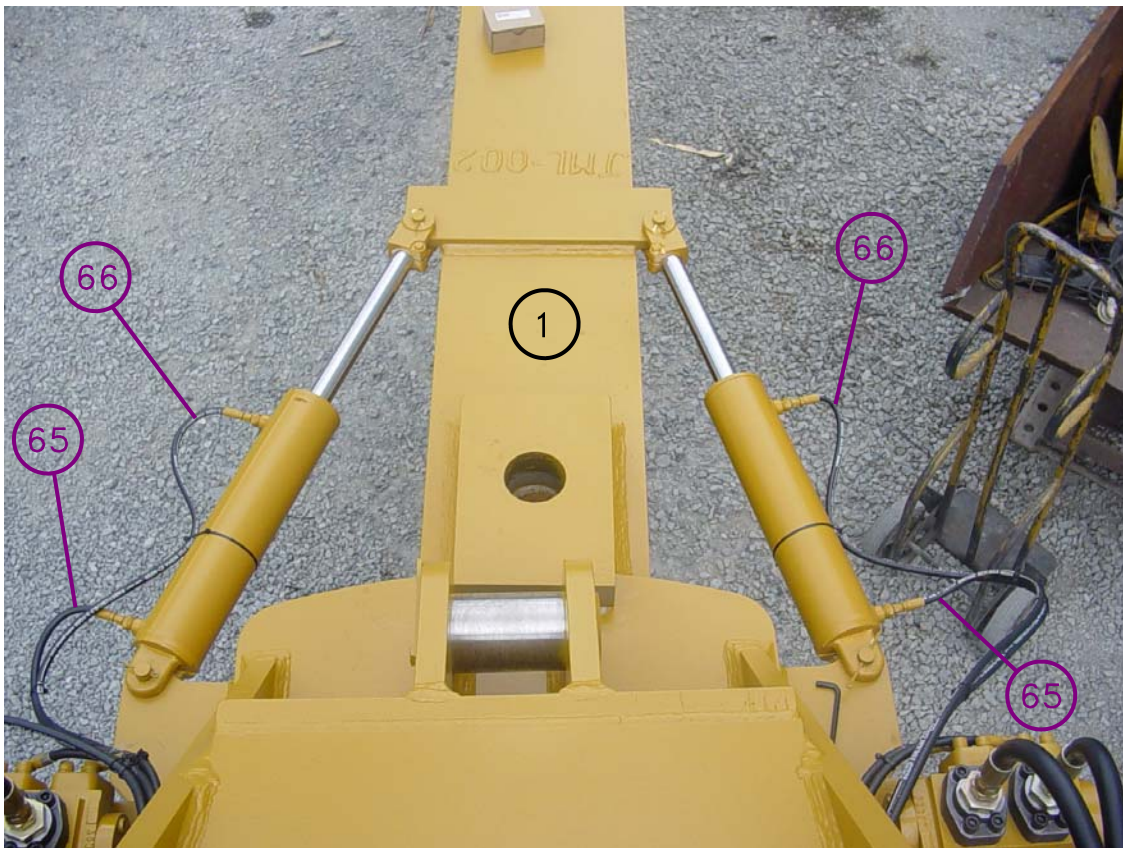


PHOTO 8: VIEW SHOWING MAST W/ TILT CYLINDERS



PHOTO 9: LEFT HAND SIDE SHOWING WINCH MANIFOLD

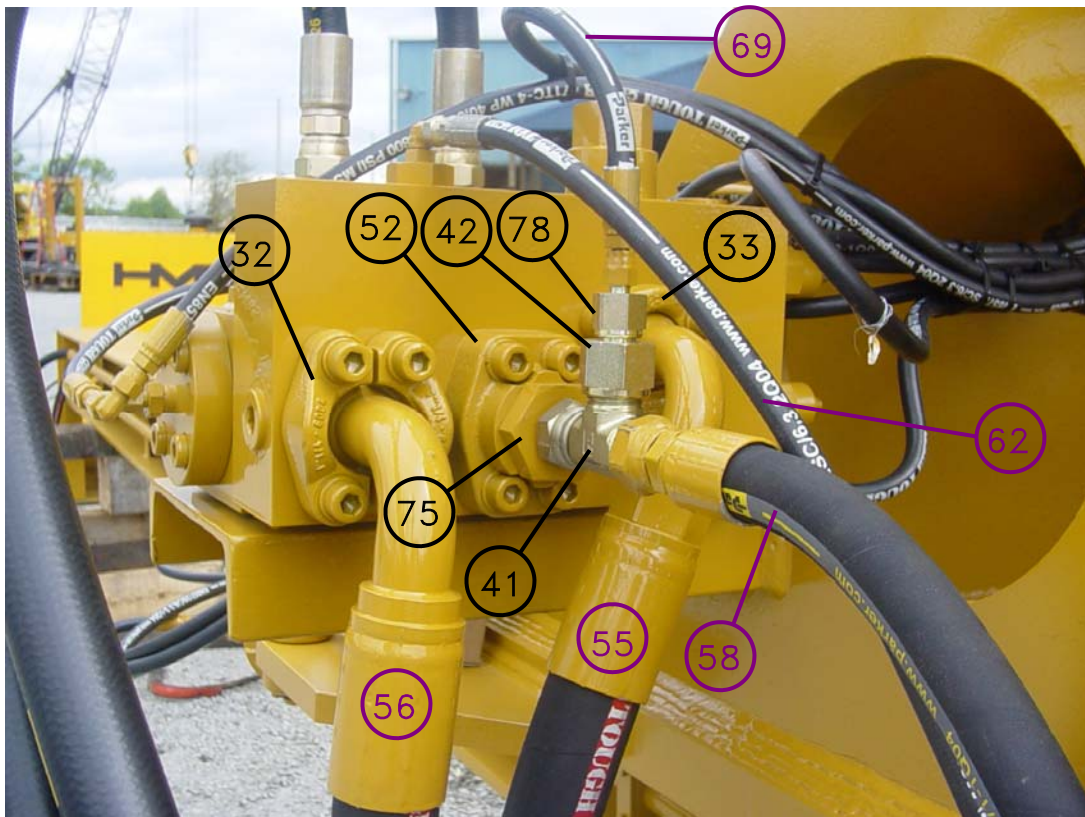


PHOTO 10: LHS SHOWING WINCH MANIFOLD

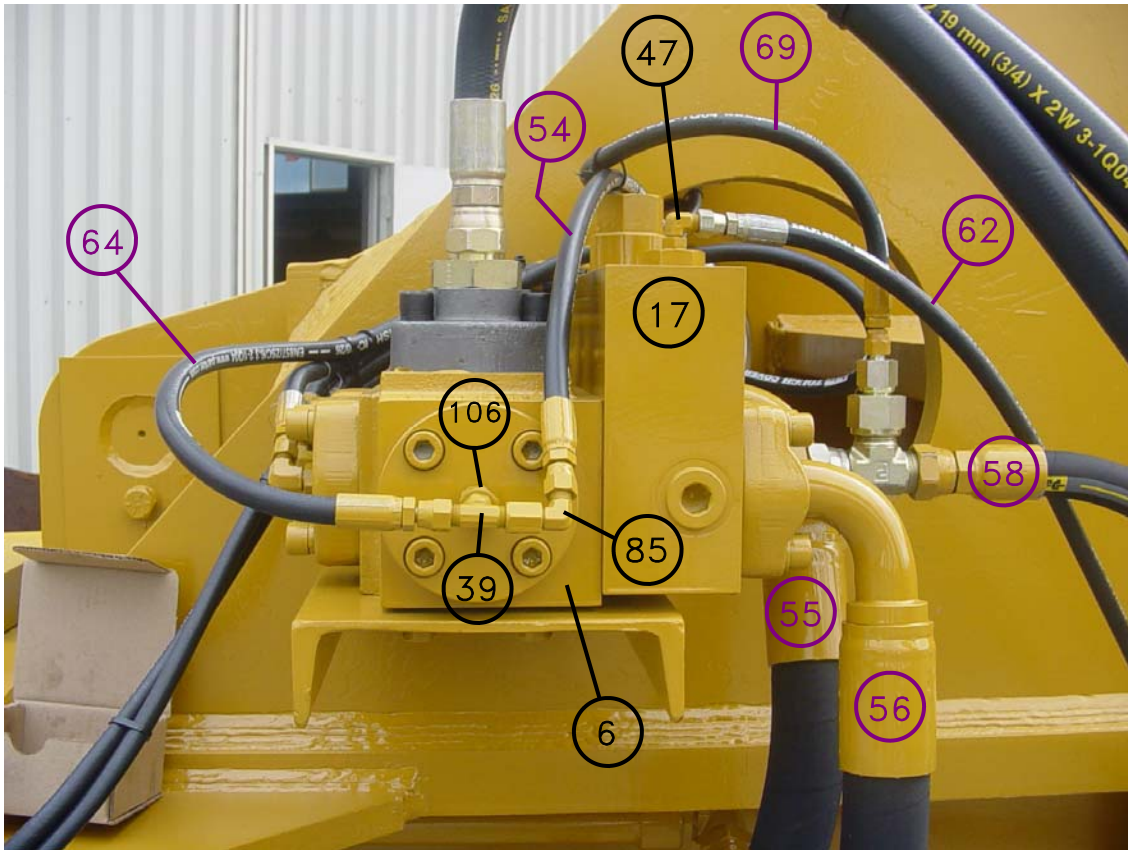


PHOTO 11: LHS SHOWING WINCH MANIFOLD & FERDY VALVE

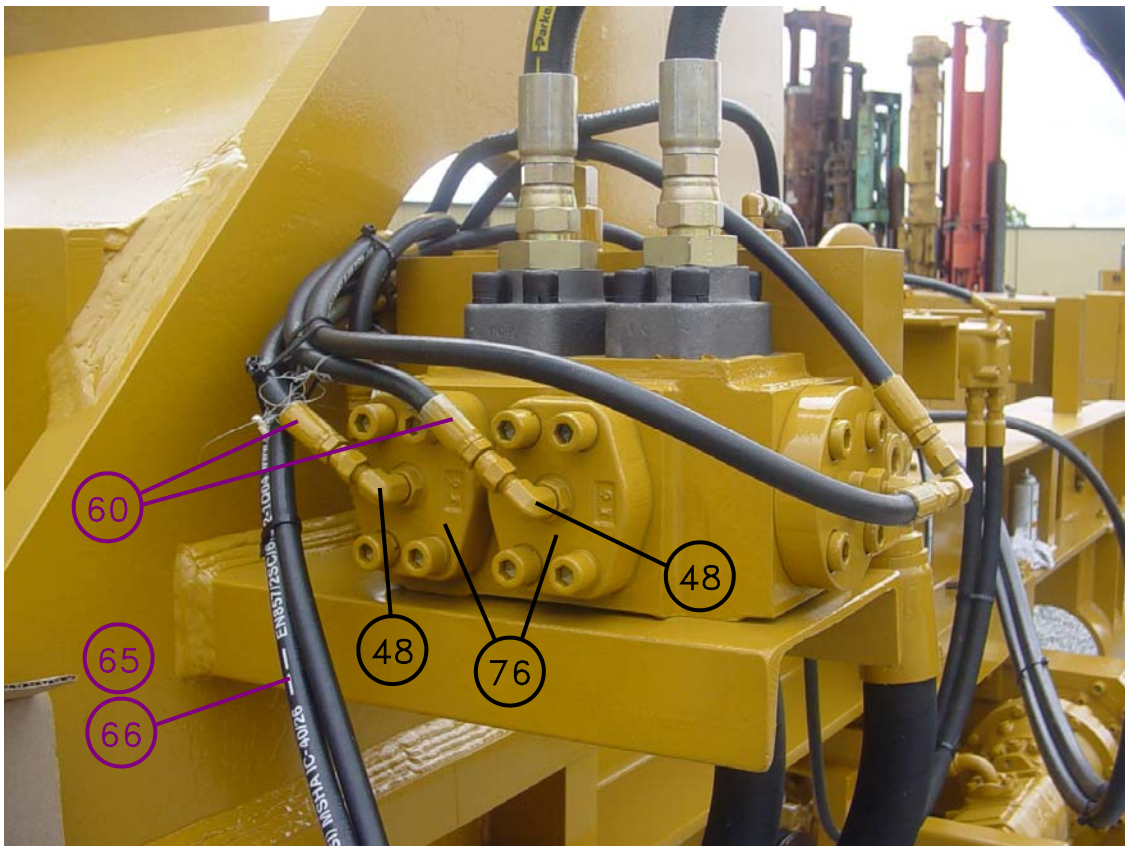


PHOTO 12: LHS SHOWING FERDY VALVE

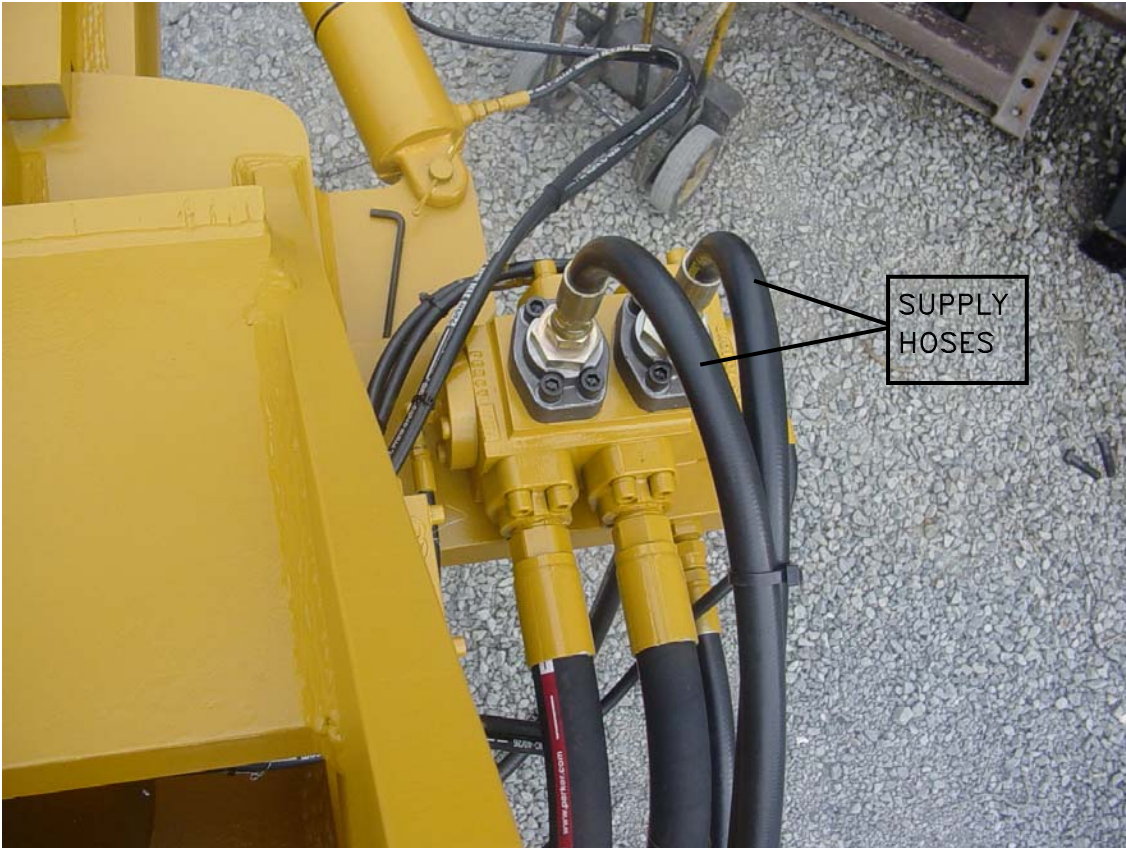


PHOTO 13: RHS SHOWING FERROY VALVE & SUPPLY HOSES

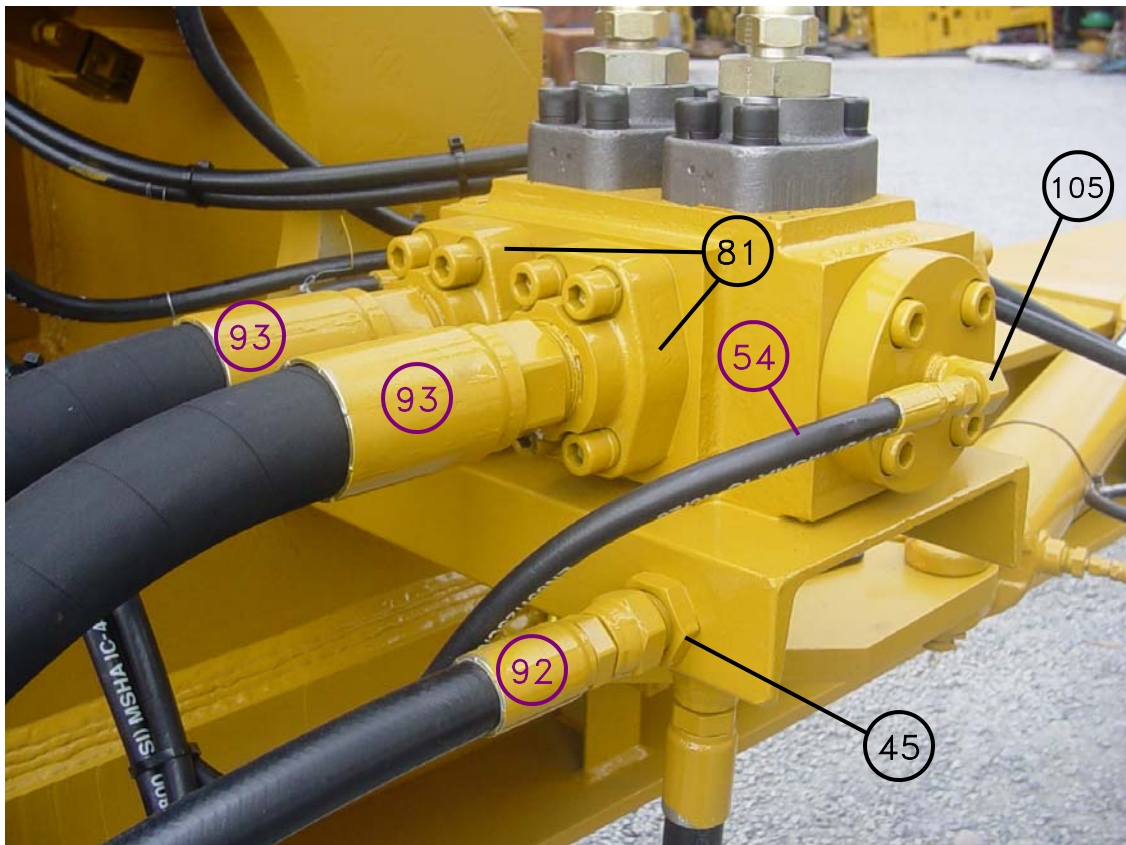


PHOTO 14: RHS SHOWING FERROY VALVE

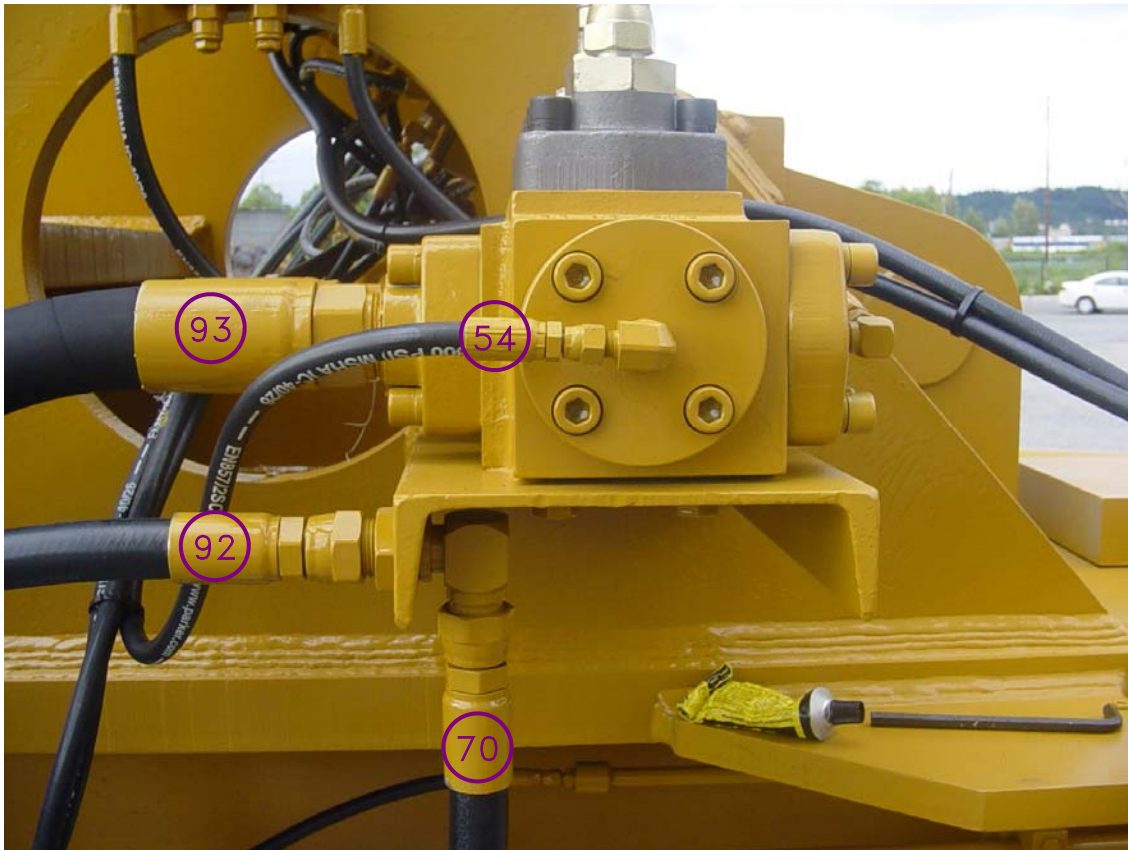


PHOTO 15: RHS SHOWING FERROY VALVE

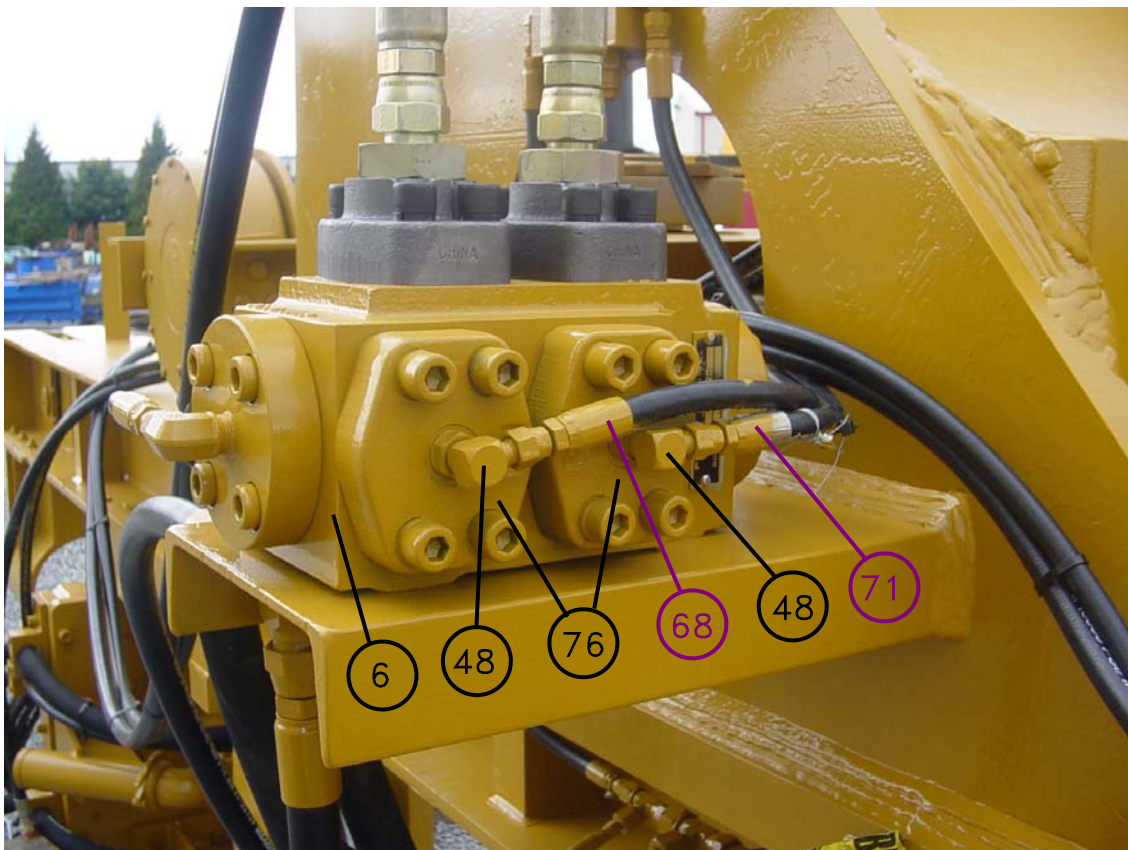


PHOTO 16: RIGHT-HAND SIDE SHOWING FERROY VALVE

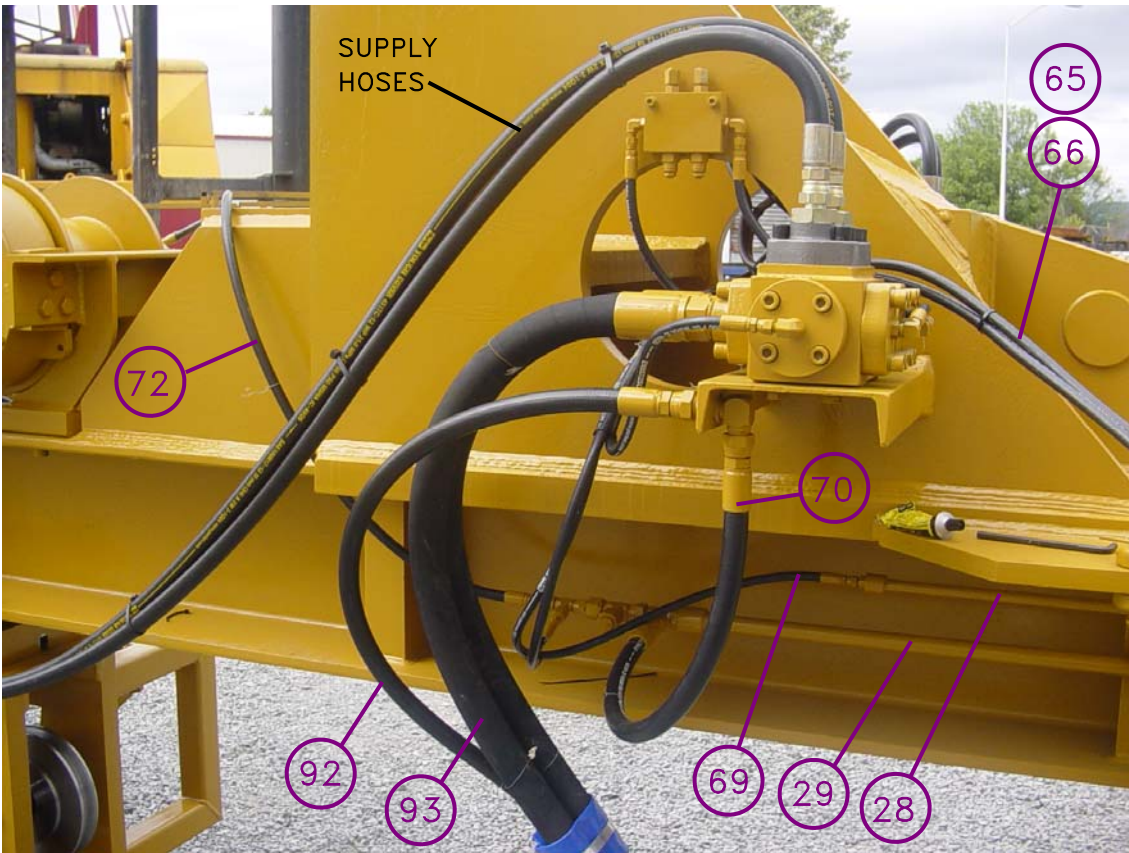


PHOTO 17: RHS PLUMBING

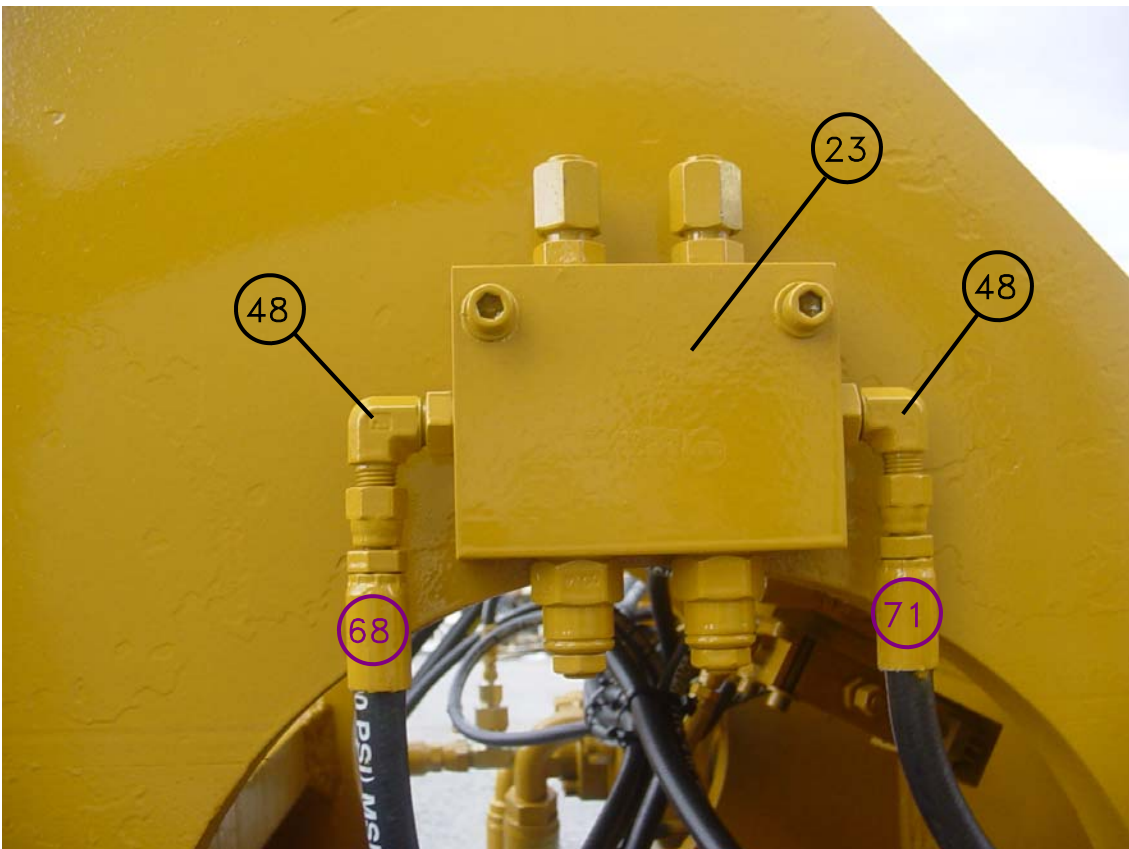


PHOTO 18: RHS SHOWING COUNTER-BALANCE VALVE

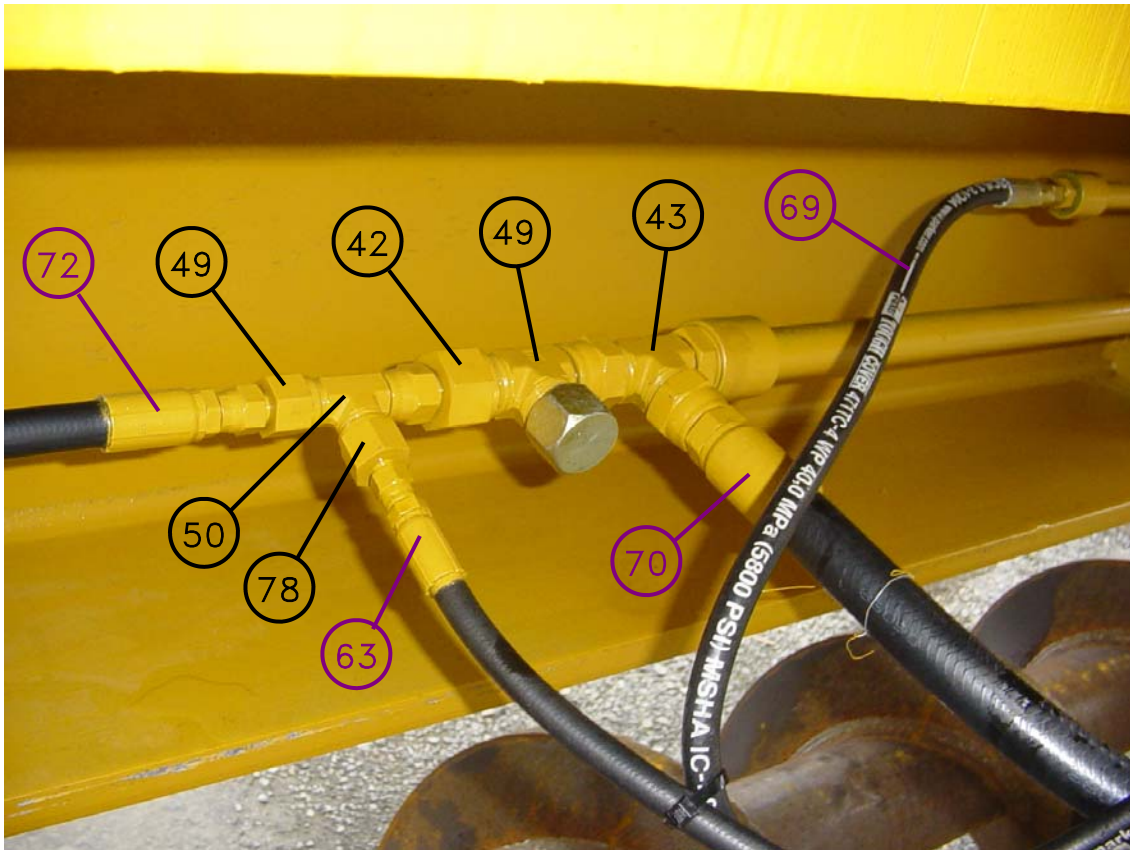


PHOTO 19: DRAIN LINE PLUMBING – RHS

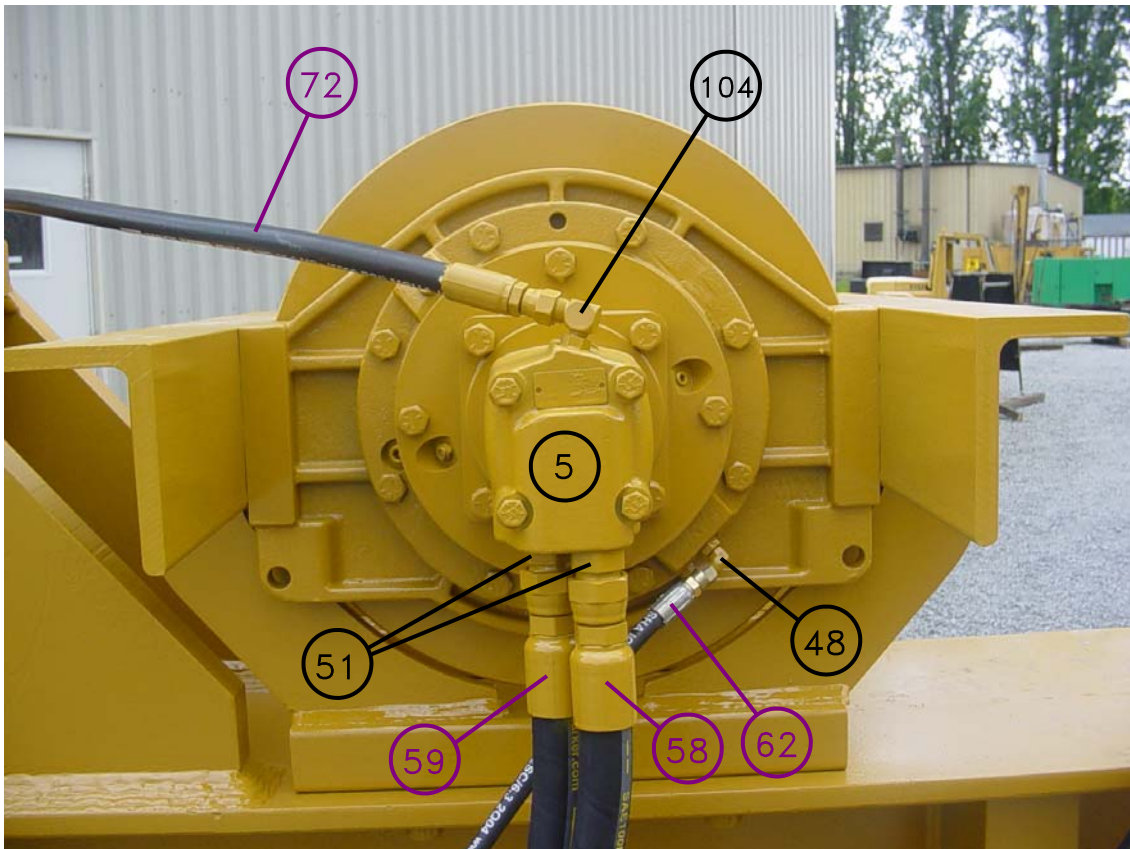


PHOTO 20: CROWD WINCH PLUMBING

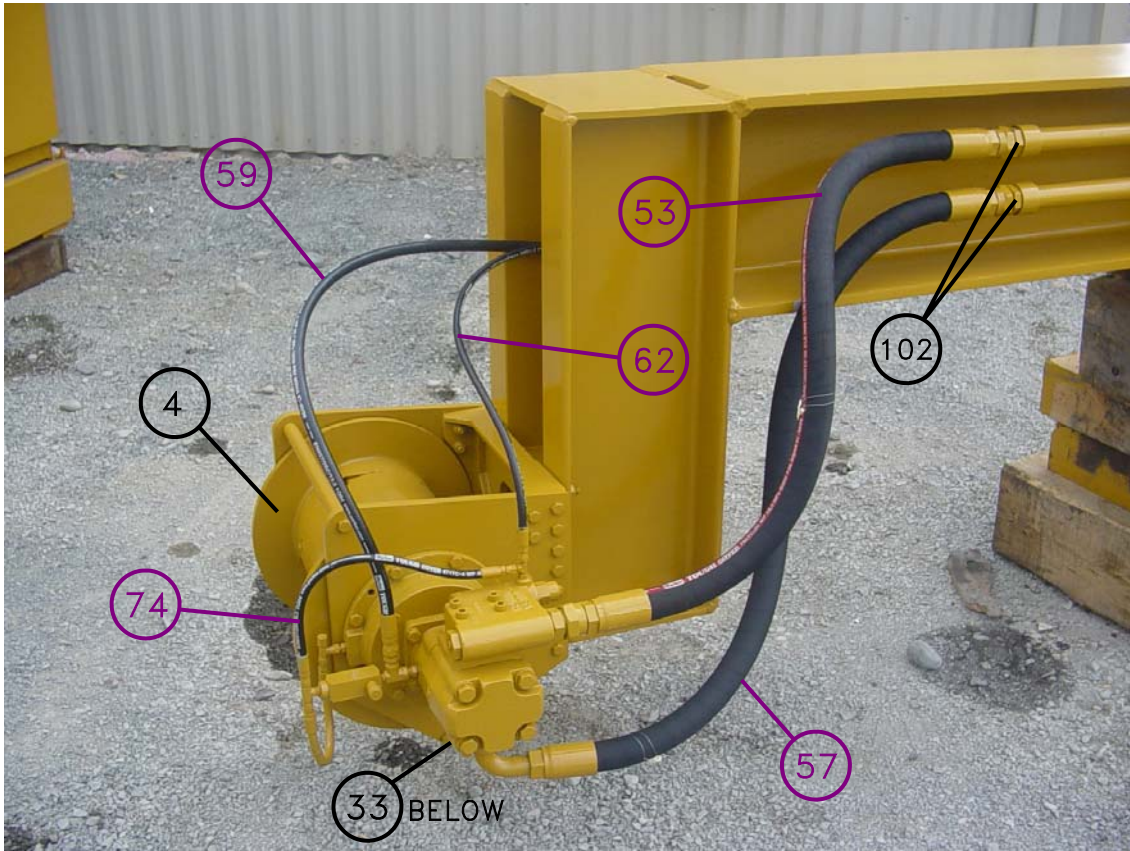


PHOTO 21: TOP WINCH ARRANGEMENT

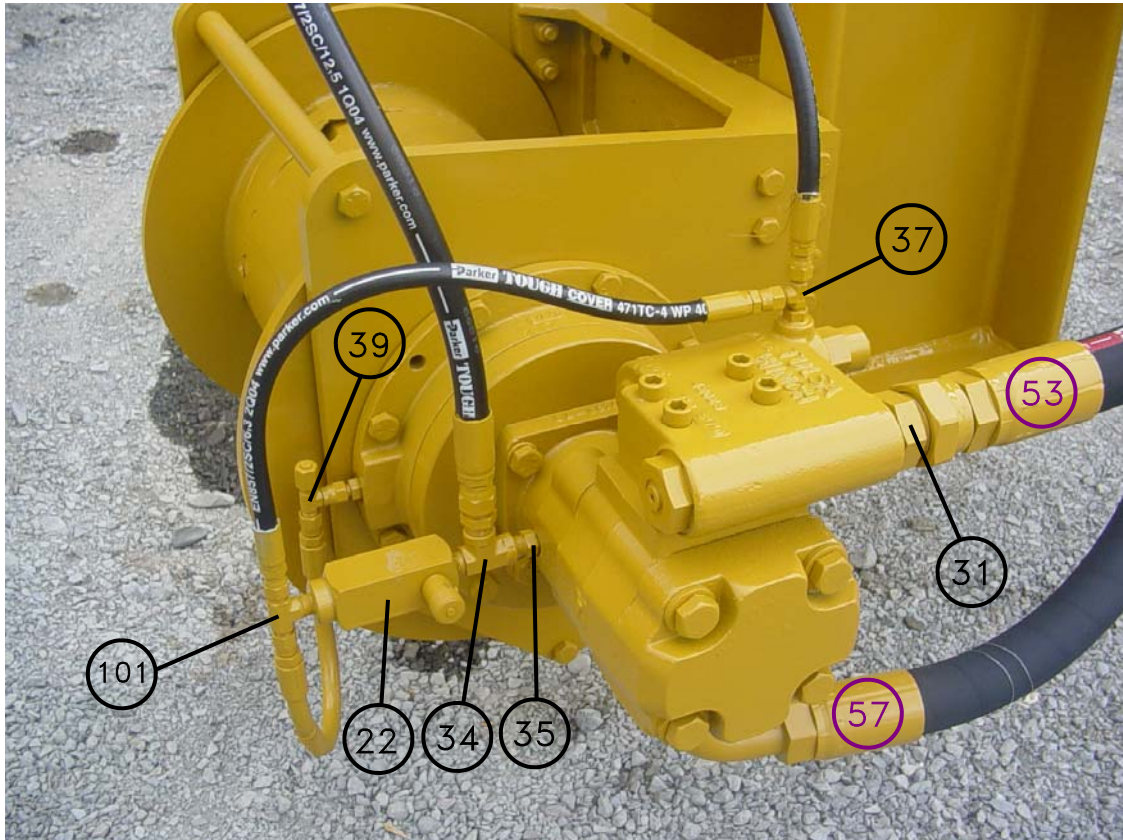


PHOTO 22: TOP WINCH CLOSE-UP



PHOTO 23: TOP WINCH – DRAIN & SIGNAL

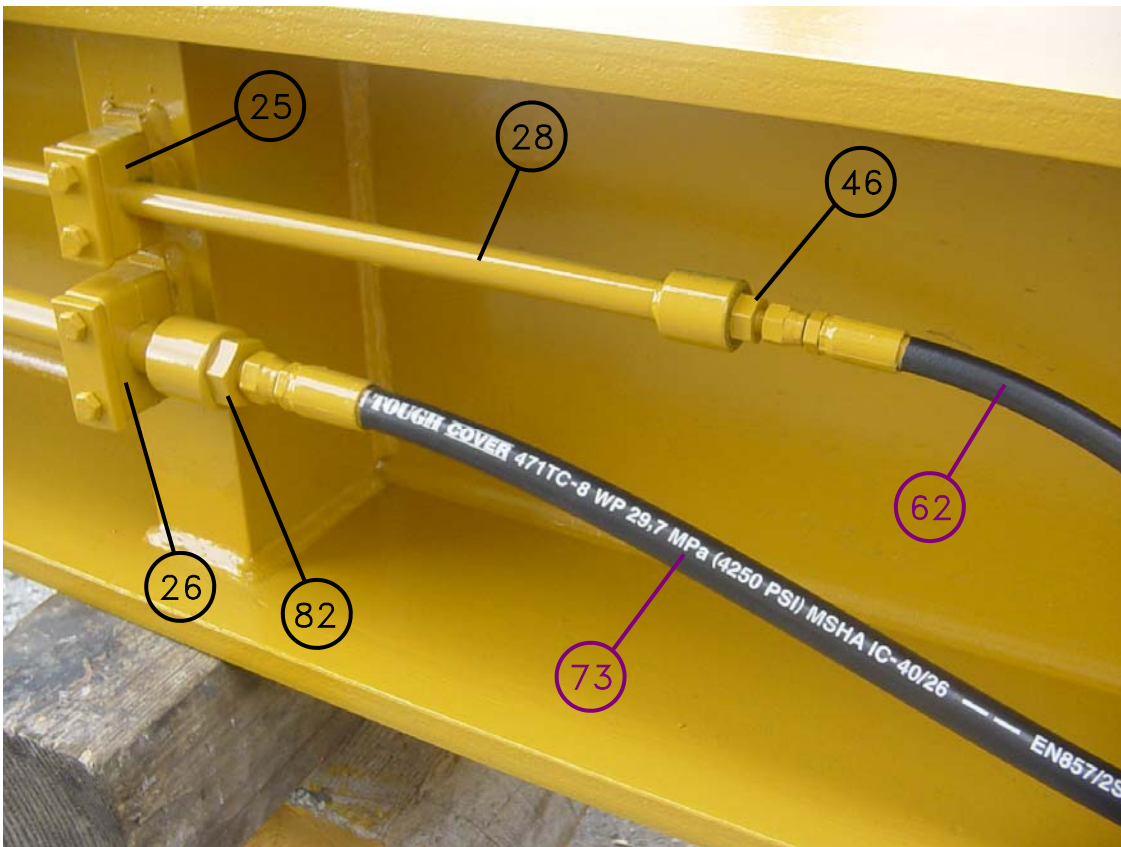


PHOTO 24: TOP WINCH – DRAIN & SIGNAL PLUMBING

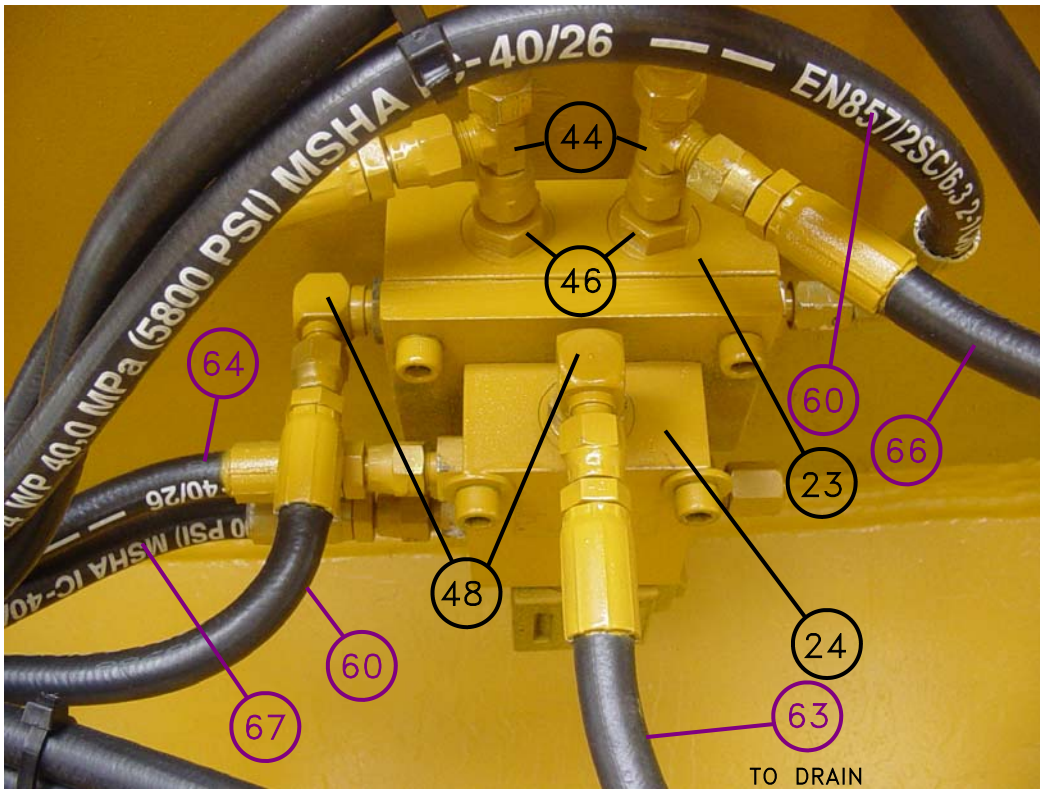


PHOTO 25: HYDRAULIC – INSIDE BOOM TIP

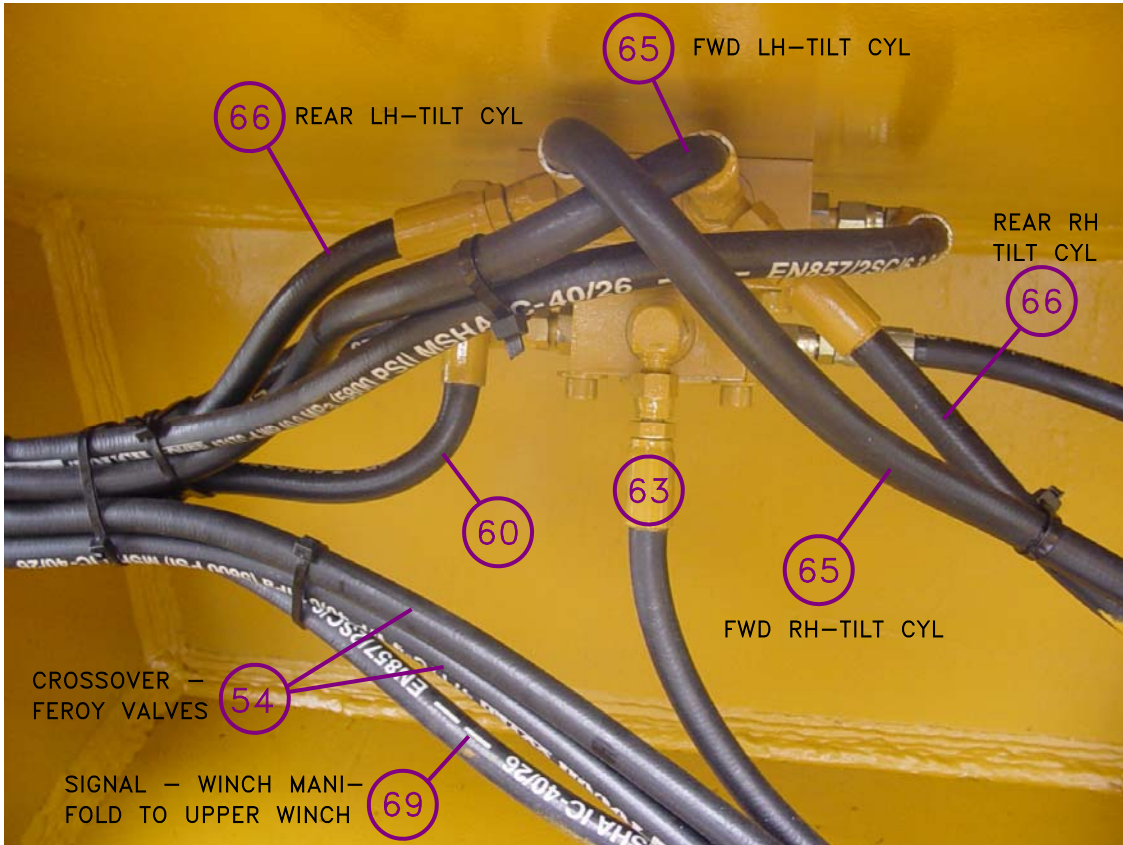


PHOTO 26: HYDRAULIC VALVES – INSIDE BOOM TIP



PHOTO 27: 3060 DRILL SHOWING PIGTAILS



PHOTO 28: DRILL MOTOR HOOKUP



PHOTO 29: DRILL MOTOR HOOKUP



PHOTO 30: DRILL MOTOR HOOKUP

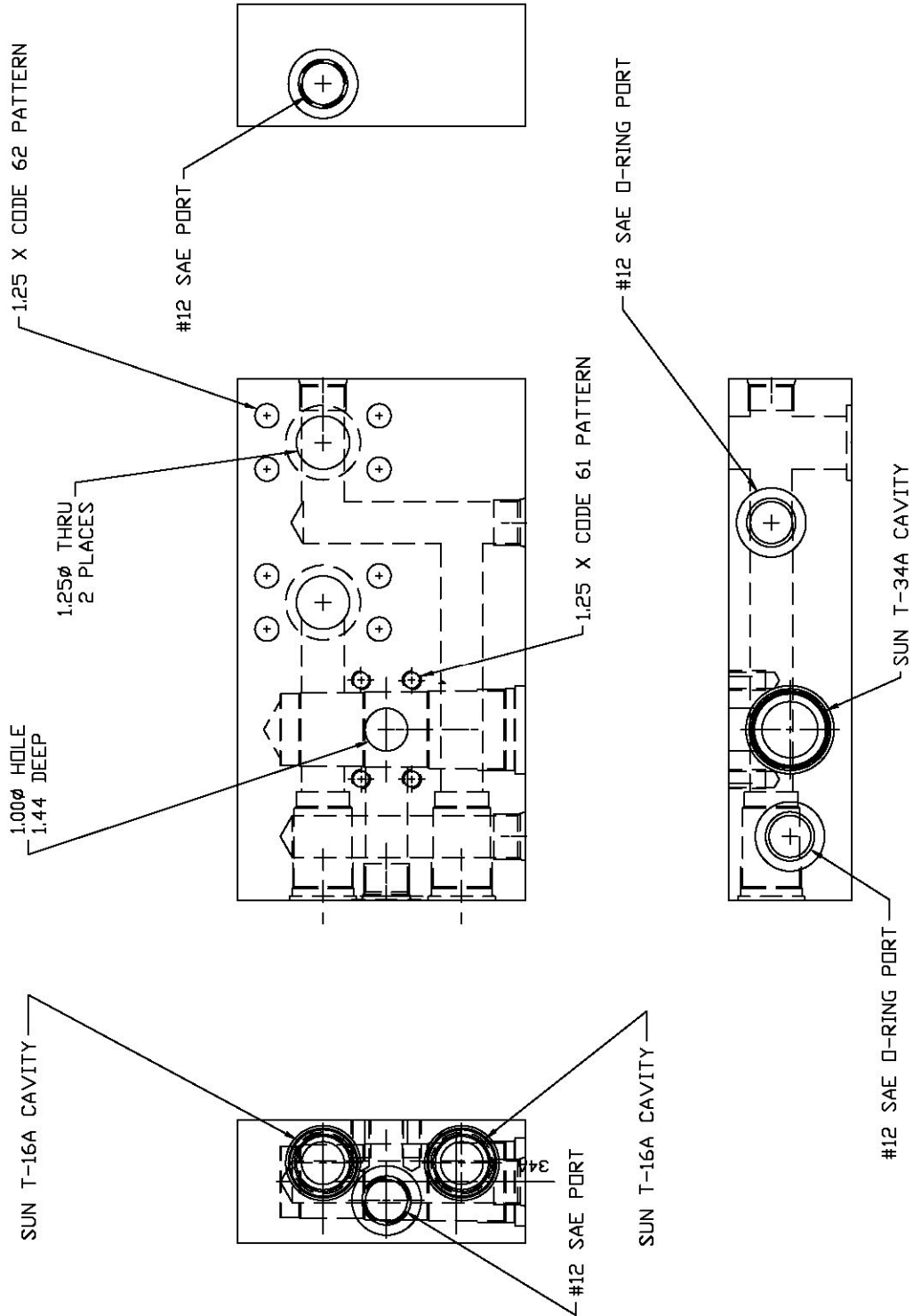


MODEL 3030 DRILL MAST

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WINCH MANIFOLD

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3030 DRILL RIG INSTALLATION

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1. Set maximum pressure from excavator stick valve to 3500 psi (may require dealer technician).
2. Remove stick and bucket from excavator.
3. Remove excavator stick cylinder hoses to steel plumbing.
4. Remove excavator bucket hoses and plumbing to bend in boom.
5. Pin 3030 mast assembly to excavator boom.
 - A. Lifting crane required (15,000 lb)
 - B. Pin = 4.33" O.D. x 37.0" long
6. Connect hoses from RH diverter valve to excavator bucket cylinder plumbing.
7. Connect hoses from LH diverter valve to excavator stick cylinder plumbing.
8. Connect hoses from RH diverter valve to excavator stick cylinder plumbing.
 - A. 2 (ea) 0.38" ID hoses
9. Connect pressure hose from solenoid valve to test port for excavator pilot pressure.
 - A. 0.50 ID hose
10. Connect hose from RHS drain line to excavator reservoir.
 - A. 0.75 ID hose
11. Position selector switch in operators cab.
12. Connect "hot" wire from selector switch box to fused 24VDC source in excavator.
13. Re-label excavator joy sticks for operator safety.
14. Pin stick cylinder to drill mast adapter bracket.
 - A. Pin = 4.33" OD x 10.5" long
15. Check operation of mast winches.
16. Check operation of 3060 Auger.
17. Erect drill mast.
18. Check operation of cylinders.
19. Slowly angle mast fully forward while checking for hose problems.
20. Slowly return mast to horizontal while checking for hose problems.



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3030 DRILL RIG OPERATION

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1. Set up drill rig per installation instructions.
2. Follow all safety precautions.
3. Drive KATO excavator to desired location.
4. Make sure selector (toggle) switch (in cab) is in "SET-UP" position
 - In "SET-UP" position, item 24 (solenoid valve) is de-energized
 - A. Use KATO stick cylinder joystick to tilt mast forward or rearward as desired.
 - B. Use KATO bucket cylinder joystick to tilt mast to left or right.
5. When mast is positioned as desired, flip toggle switch to "OPERATE" position

In "OPERATE" position, item 24 (solenoid valve) is energized

- A. Use KATO stick cylinder joystick to raise or lower the auger (operate winches)
- B. Use KATO bucket cylinder to control auger rotation direction

REMEMBER

Make sure that the auger rotation control (KATO bucket cylinder joystick) is in NEUTRAL before starting the KATO excavator.

Control drilling speed to prevent "screwing in". Equipment damage or overturning the excavator could result.

When extracting flighting, use winch force only. Do not extract flighting by booming up.



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3030 DRILL RIG MAINTENANCE

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DAILY INSPECTIONS

1. Inspect wire rope for kinks, broken wires or other damage.
2. Check shackles for proper fit and security.
3. Inspect all hoses for kinks, and fitting for leaks.
4. Check API fighting connectors. They must be secured to prevent unscrewing during reverse rotation.
5. Inspect bolts for obvious signs of looseness, including, but not necessarily limited to the following areas:
 - A. Item 97 - Auger fighting guide
 - B. Items 4 & 5 - Winch & motor mounts
6. Inspect pins and retainers for wear and looseness, including, but not necessarily limited to the following areas:
 - A. Items 18 - Tilt cylinders
 - B. Item 10 - Boom pivot pin
 - C. Item 11 - Stick pin
 - D. Item 12 - Tilt Pin
 - E. Items 90 & 91 - Sheaves
 - F. Item 8 - Shaft Clamp
 - G. Item 9 - Auger Sheave Pin
 - H. Item 13 - Lower Sheave Pin
7. Check cam rollers (item 14) for proper operation.
8. Refer to Tulsa Winch service manuals for winch maintenance.



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3030 DRILL RIG MAINTENANCE

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WEEKLY MAINTENANCE

1. Perform all daily inspection items.
2. Provide grease and lubrication at points shown in diagram on following page.
3. Perform maintenance per Tulsa Winch service manuals.

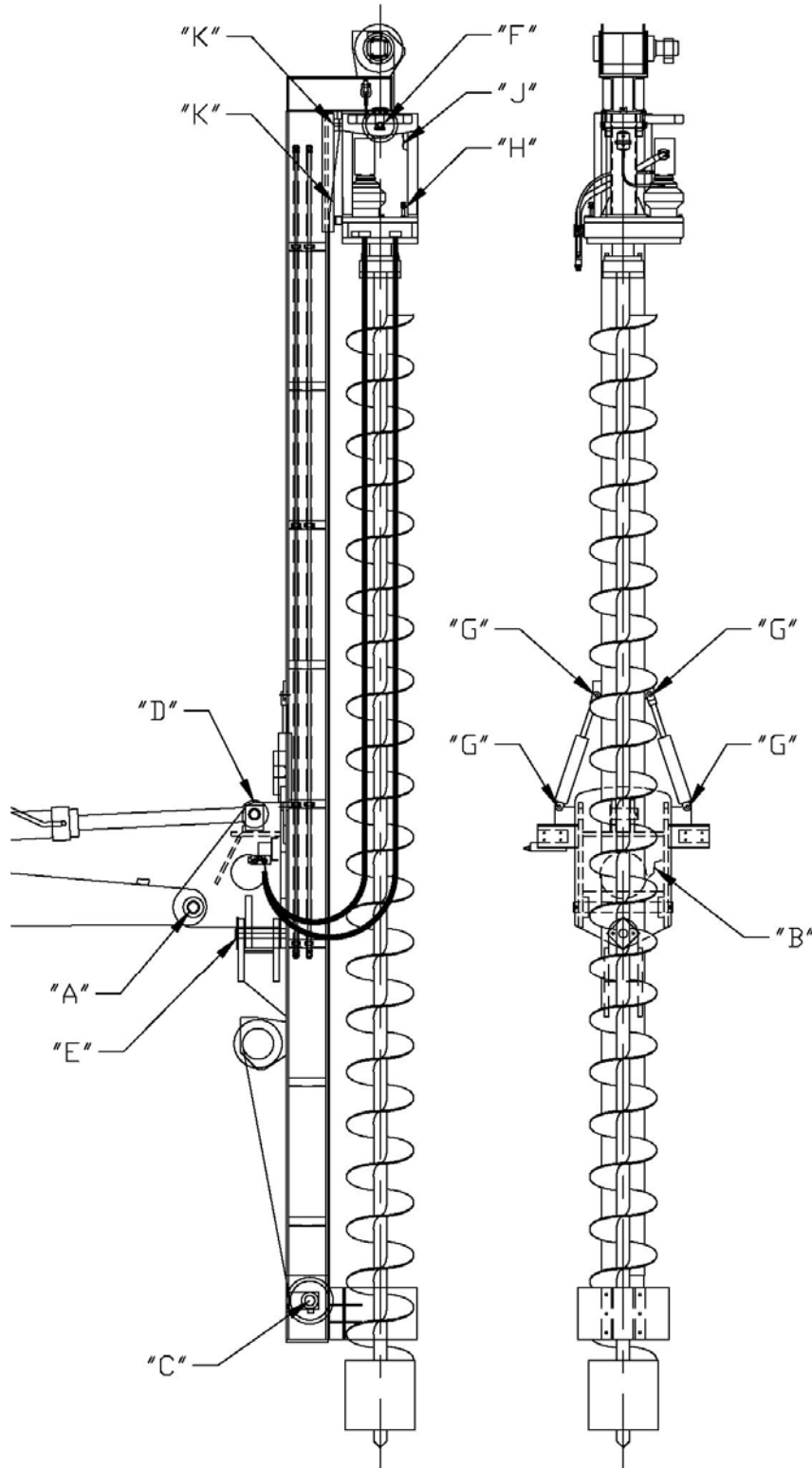


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3030 DRILL RIG GREASE / LUBE POINTS

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3030 DRILL MAST - 2-POSITION SELECTOR (FEROY0

175055

