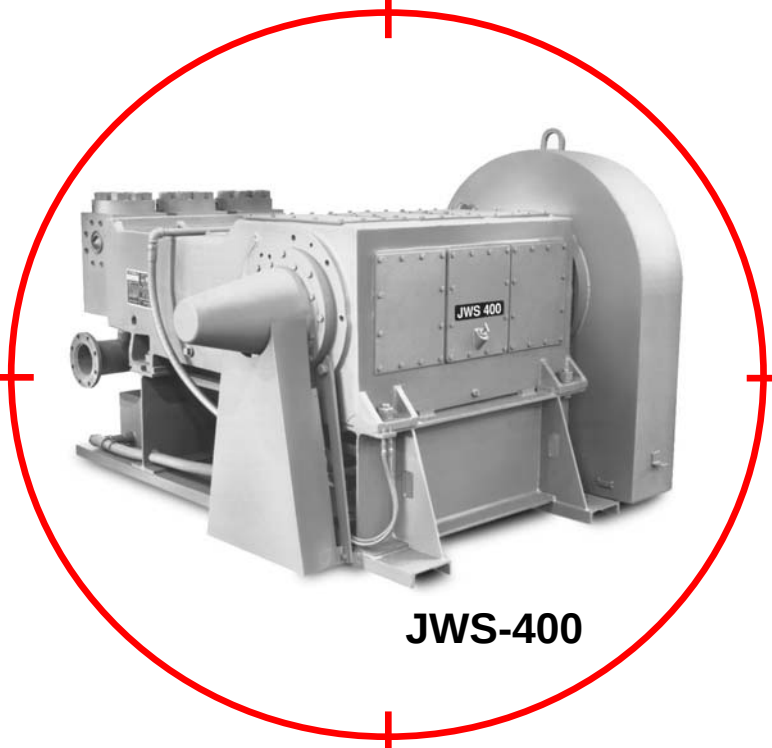
JWS-400活塞泵

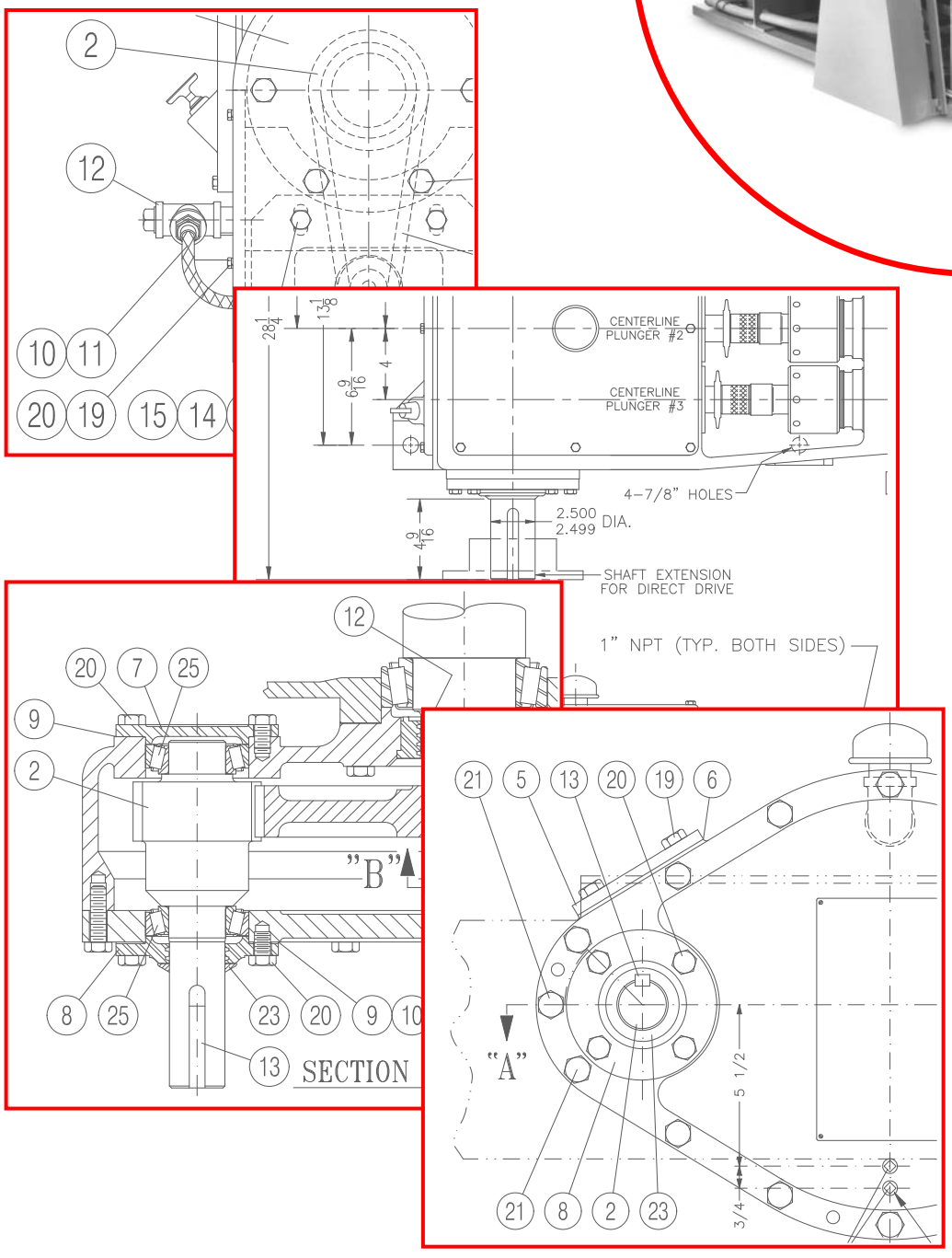
NATIONAL OILWELL VARCO

JWS-400 Well Service Pump

Parts List



JWS-400



Types:
JWS-400

Index

Print

Next

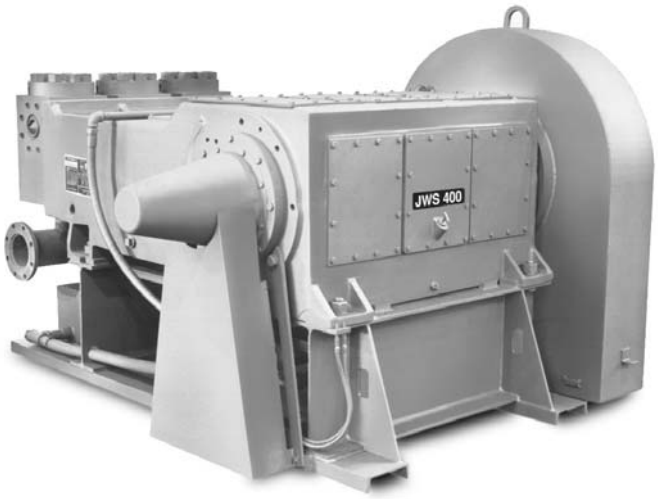
Sales / Technical Information

USA Tollfree: 1-800-324-4706
Phone: 1 (918) 447-4600
Fax: 1 (918) 447-4677
Internet: http://www.nov.com

REVISED: July 28, 2008
REVISED: December 16, 2005
ISSUE: July 1, 2001

P.O. Box 4638 **Houston, Texas 77210-4638**

Parts List
Well Service Pump
JWS-400



Index and Check List:

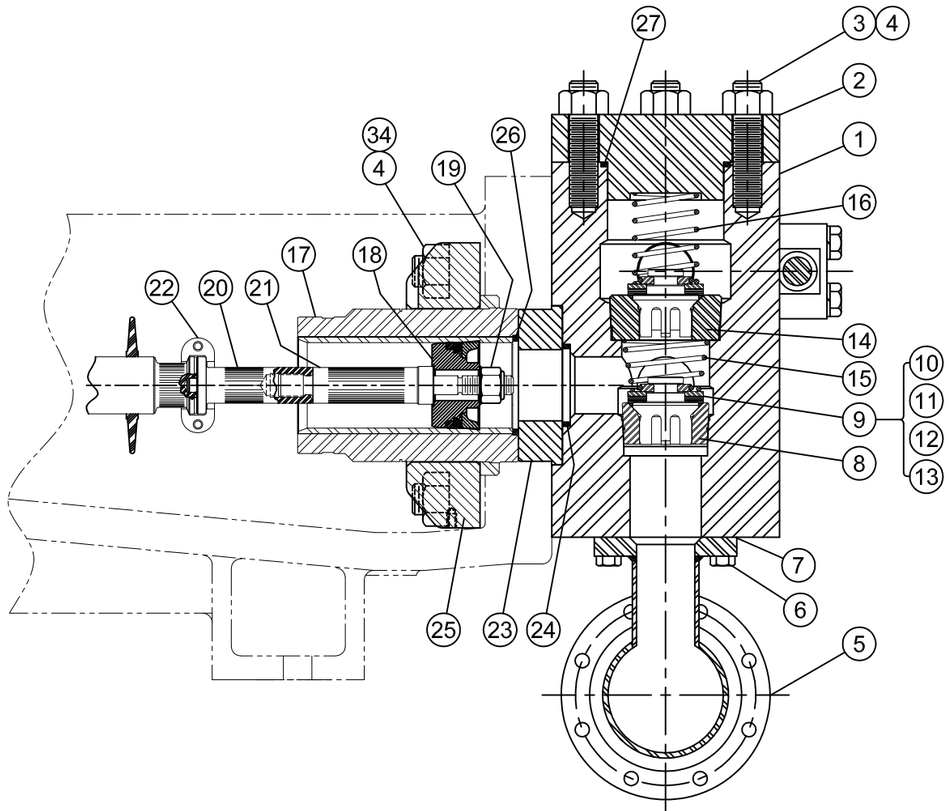
PAGE	DWG. NUMBER	DESCRIPTION	SERIES OF ISSUE	DATE OF ISSUE
1	1714680	ASSEMBLY, FLUID END W/PISTONS	FIRST	2-5-08
2	1714146-1	ASSEMBLY, POWER END L/CRANKSHAFT ASSEMBLY	FIRST	7-17-08
3	1714146-2	ASSEMBLY, CRANKSHAFT	FIRST	2-12-08
4	1714504	ASSEMBLY, CHAIN REDUCER & LUBE PIPE	FIRST	12-14-07
5	1714503	ASSEMBLY, LINER SPRAY PIPING	TENTH	11-29-07
6	G1714043	LUBRICATION, PIPING – STD.	SIXTH	4-30-08
7	1714388	TAPERED VALVES	SECOND	4-1-08
8	1714402	CYLINDER, FLUID W/CAGED VALVE	FIRST	4-10-08
9	1714398	ASSEMBLY, PISTON AND LINER	FIRST	11-20-00
10	1714339	OUTLINE DRAWING WITHOUT GEAR REDUCER	FIRST	7-17-08
11	1714340	OUTLINE DRAWING WITH CHAIN REDUCER	FIRST	12-14-05
12	--	ASSEMBLY, STUFFING BOX AND PLUNGER	FIRST	3-1-81
13	--	VALVE SERVICING TOOLS	FIRST	3-1-81

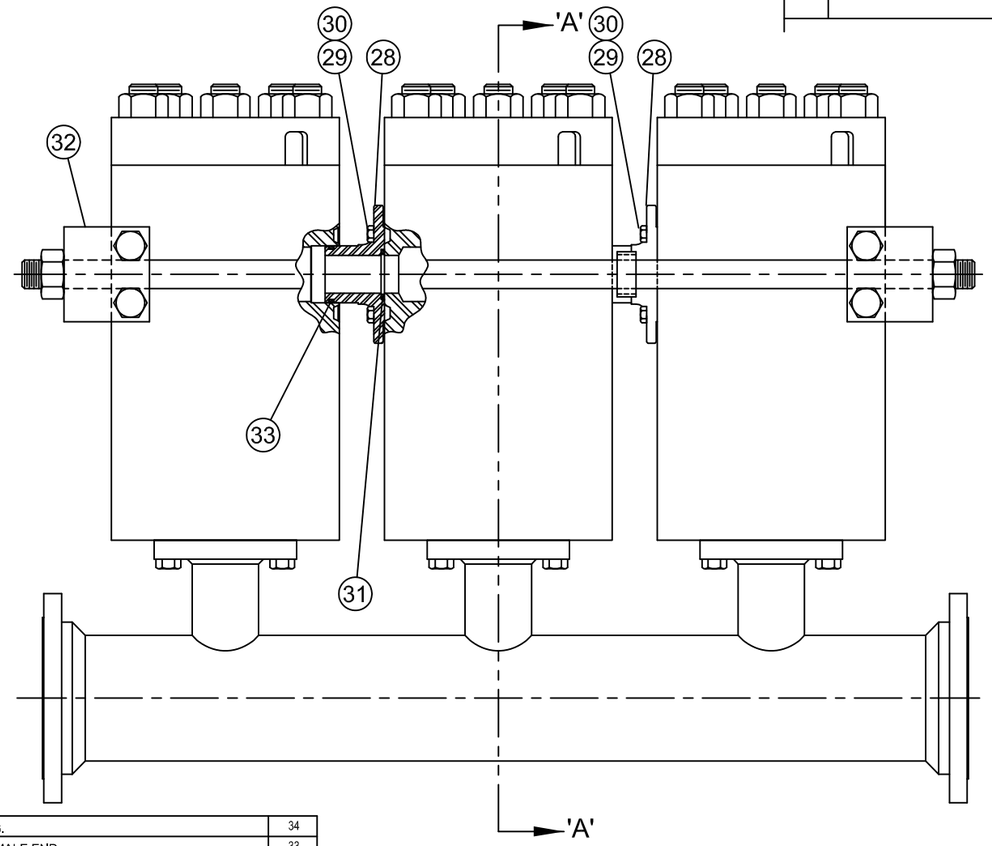
Revisions effective July 28, 2008 – complete parts list revision.

Print Next Home

DWG NO	SH
1714680	1

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M No





ITEM No.	QTY.	PART No.	DESCRIPTION
34	12	49010365	STUD, 1 1/2" x 9 1/4" LG.
33	2	2410031334	SEAL, CONNECTOR - MALE END
32	1	1714395	MODULE TIE ASSEMBLY
31	2	2410031331	SEAL, CONNECTOR - FLANGE END
30	8	7621032	WASHER, 1/2"
29	8	700030511	CAPSCREW, HEX HD 1/2"-13 x 1"
28	2	1714289	CONNECTOR, MODULE JWS-400
27	3	1715146	SEAL, TOP COVER
26	3	1540142	SEAL, LINER
25	3	1715034	RETAINER, LINER
24	3	1294192	SEAL, WEAR PLATE
23	3	1714042	PLATE, WEAR ADAPTER
22	3	1715037	CLAMP
21	3	G1714294	ROD, PISTON
20	3	G1714295	ROD, 2 PIECE SUBROD
19	3	6308160	NUT, 1"-8UNC-3B
18	3	MB44-15	PISTON, 4 1/2" BLUE LIGHTNING
17	3	05524450	LINER, 4 1/2" (INCL. ITEM 26)
16	3	1717296	SPRING, DISCHARGE VALVE
15	3	G1560698	SPRING, SUCTION VALVE
14	3	1561569	SEAT, DISCHARGE
13	1	1560715	RING, RETAINER SNAP
12	1	1560716	LOCK, VALVE
11	1	1561577	DISC, VALVE - POLYURETHANE
10	1	1561570	BODY, VALVE
9	6	1561575	VALVE ASSEMBLY, CPT. - D & S (INCL. ITEMS 10-13)
8	3	1561561	SEAT, SUCTION
7	3	6010019	GASKET, SUCTION MANIFOLD
6	12	700039711	CAPSCREW, HEX HD 5/8" x 2" LG.
5	1	1714286	MANIFOLD, SUCTION JWS-400
4	36	6300240	NUT, 1 1/2"-6UNC HEAVY HEX
3	24	49010362	STUD, 1 1/2" x 6 1/2" LG.
2	3	G17143031	COVER, FLUID END
1	3	171433012	FLUID END, JWS-400

LIST OF MATERIAL

SEE PAGE 9 FOR AVAILABLE PISTONS AND LINERS

MATERIAL SPEC: SEE L / M

NATIONAL OILWELL VARCO
HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

DESIGNED BY	DATE	
DRAWN BY DCP	DATE	01.31.08
CHECKED BY RPQ	DATE	02.05.08
P.E. APPROVAL	DATE	
Q.A. REVIEW	DATE	

TITLE: ASSEMBLY, FLUID END W/ PISTONS JWS-400 TRIPLEX PUMP

SIZE	REFERENCE No.	DRAWING No.	REV
D		1714680	

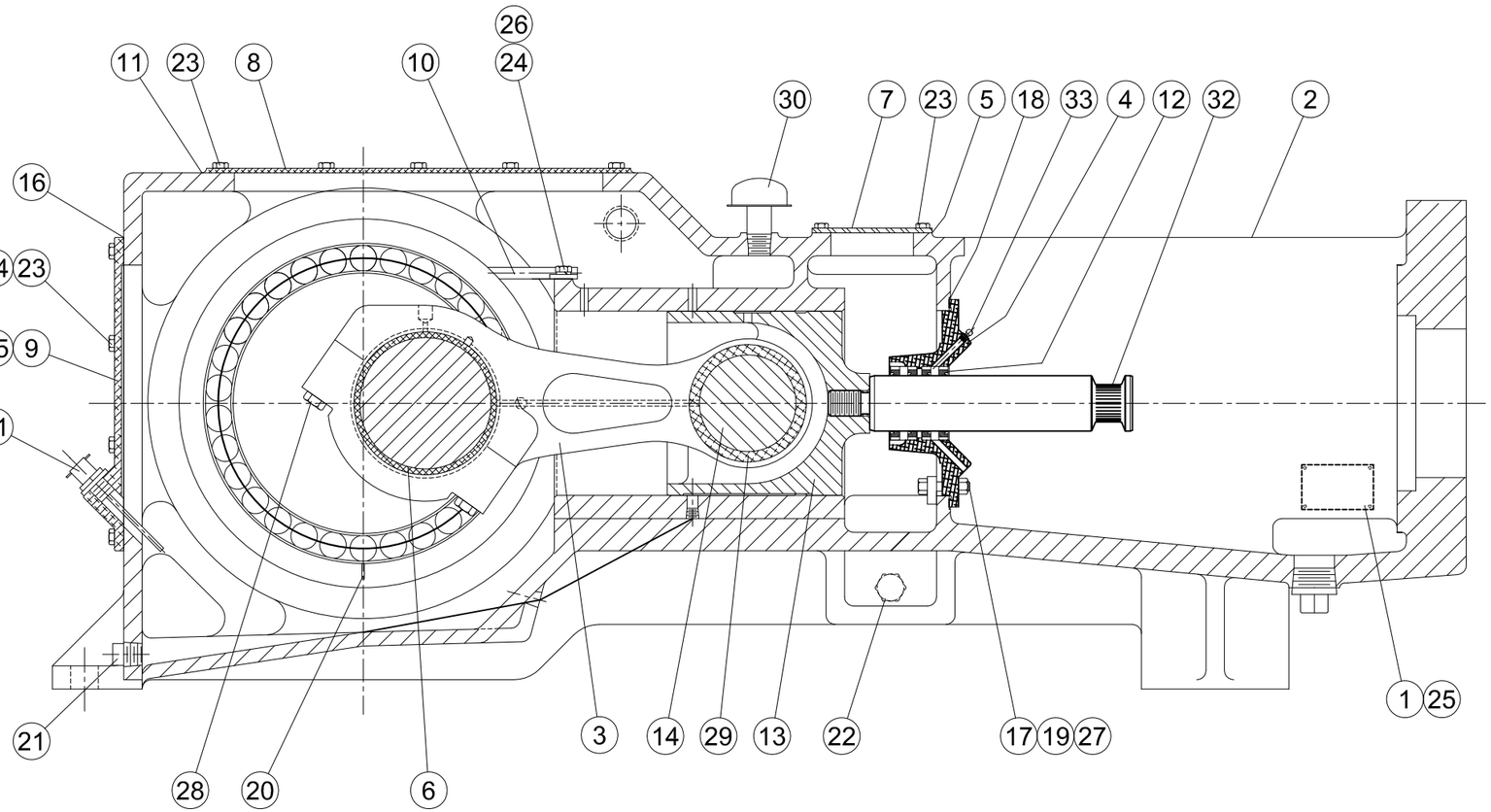
SCALE 1/4 | EST WT | SHEET 1 OF 1

Index Print Next Home

DWG NO 1714146-1 SHT 1

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M No

JWS-400活塞泵



QTY REQ'D	PART No.	DESCRIPTION	ITEM No.
3	180-161020-220	FITTING, LUBE	33
1	1714296	ROD, CROSSHEAD INTERMEDIATE	32
1	2400029	GAGE, DIPSTICK OIL	31
1	7802020	CAP, BREATHER	30
3	1715010	BUSHING, CROSSHEAD PIN	29
12	21032043	SCREW, DRILLED HEAD 3/4" x 4 1/2"	28
6	7618018	WASHER, 1/2"	27
4	7600032	WASHER, 1/2"N TYPE A 1.062 O.D.	26
4	7178025	SCREW, ROUND HD DRIVE TYPE U	25
16	700030311	SCREW, HEX HD CAP 1/2" x 1"	24
96	700030111	SCREW, HEX HD CAP 1/2" x 3/4"	23
1	6874012	PLUG, STD. SOLID SQ. HD. 1 1/2"	22
2	6874008	PLUG, STD. SOLID SQ. HD. 1"	21
4	6570816	PIN,SPRING SLOT STEEL STD.	20
6	6308080	NUT, ESNA 1/2"-13UNC-3B	19
3	2410031274	SEAL, INT. ROD RETAINER	18
6	1716031	BOLT, HOOK INT. ROD RET.	17
3	1715028	GASKET, CENTER COVER	16
2	1715014	COVER, POWER END OUTER	15
3	1715008	PIN, CROSSHEAD	14
3	1715005	CROSSHEAD, ONLY	13
12	1714297	WIPER, OIL	12
3	1714027	GASKET, TOP COVER	11
2	1714024P	OIL TROUGH	10
1	1714443	COVER, CENTER REAR	9
3	1714014	COVER, POWER END TOP	8
3	1714013	COVER, POWER END CROSSHEAD	7
6	1714012	BUSHING, CONN. ROD CRANK END	6
3	1714011	GASKET, CROSSHEAD COVER	5
3	1714299	RETAINER, INT. ROD WIPER	4
3	1714004	ROD, CONNECTING CPT. (INCL. 28 & 29)	3
1	1714041	FRAME, MAIN	2
1	G2407274	PLATE, WARNING	1

LIST OF MATERIAL

2

NATIONAL OILWELL VARCO

HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

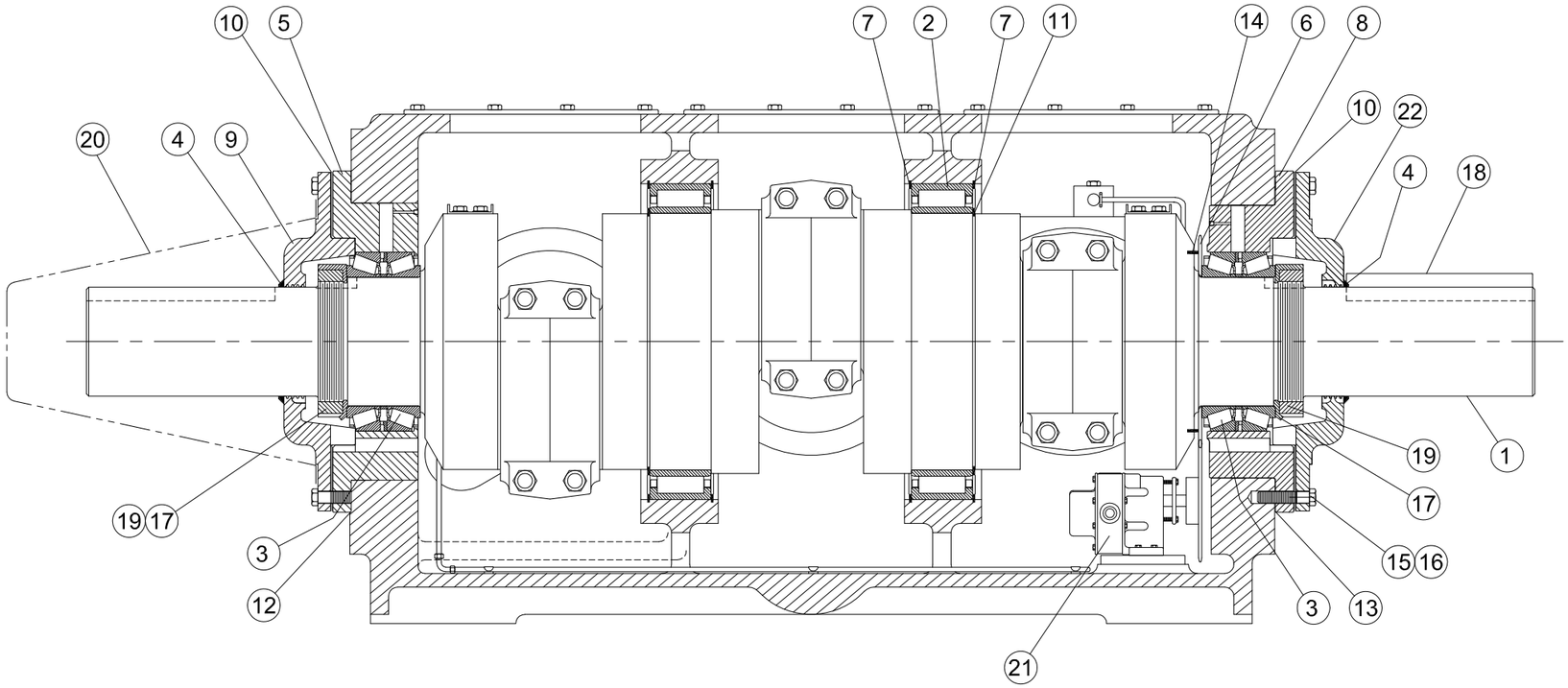
TITLE ASSEMBLY, POWER END
LESS CRANKSHAFT ASSEMBLY
JWS - 400 PUMP

SIZE	REFERENCE No.	DRAWING No.	REV
B		1714146 - 1	-

SCALE	EST WT	SHEET
N.T.S.		1 OF 1

DWG NO 1714146-2 SHT 1

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M No



JWS-400活塞泵

QTY REQ'D	PART No.	DESCRIPTION	ITEM No.
1	1714022SPCL	RETAINER, CRANKSHAFT BRG. SPCL.	22
1	G1714043	PIPING, LUBRICATION	21
1	1714530	COVER, CRANKSHAFT	20
1	6304058	NUT, TIMKEN BEARING LOCK	19
1	2404075	KEY, CRANKSHAFT	18
2	7610058	WASHER, TIMKEN BEARING LOCK	17
16	700040111	SCREW, HEX HD CAP 5/8" x 3"	16
4	700039511	SCREW, HEX HD CAP 5/8" x 1 1/2"	15
2	6572416	PIN, SPRING SLOT STEEL STD.	14
1	1715031	GASKET, MAIN BEARING CAGE RH	13
1	1715030	GASKET, MAIN BEARING CAGE LH	12
2	1715020	RING, MAIN BEARING SNAP	11
2	1714032	GASKET, BEARING RETAINER	10
1	1714022	RETAINER, CRANKSHAFT BRG.	9
1	1714018	CAGE, MAIN BEARING RH	8
4	1714017	RING, SNAP	7
1	1714216	SPROCKET, 3/8"P x 96T	6
1	1714007	CAGE, MAIN BEARING LH	5
2	1121800	SLINGER, CRANKSHAFT	4
2	ZT7086	BEARING, MAIN	3
2	49012081	BEARING, CRANKSHAFT	2
1	1714028	CRANKSHAFT	1

LIST OF MATERIAL

3

NATIONAL OILWELL VARCO

HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

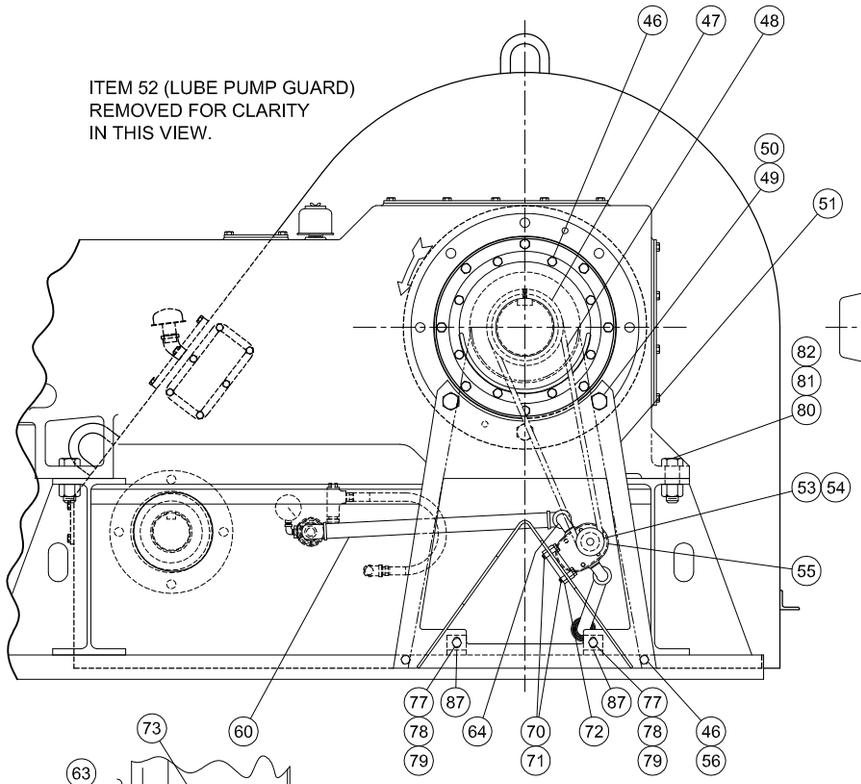
TITLE
CRANKSHAFT ASSEMBLY
JWS-400 PUMP

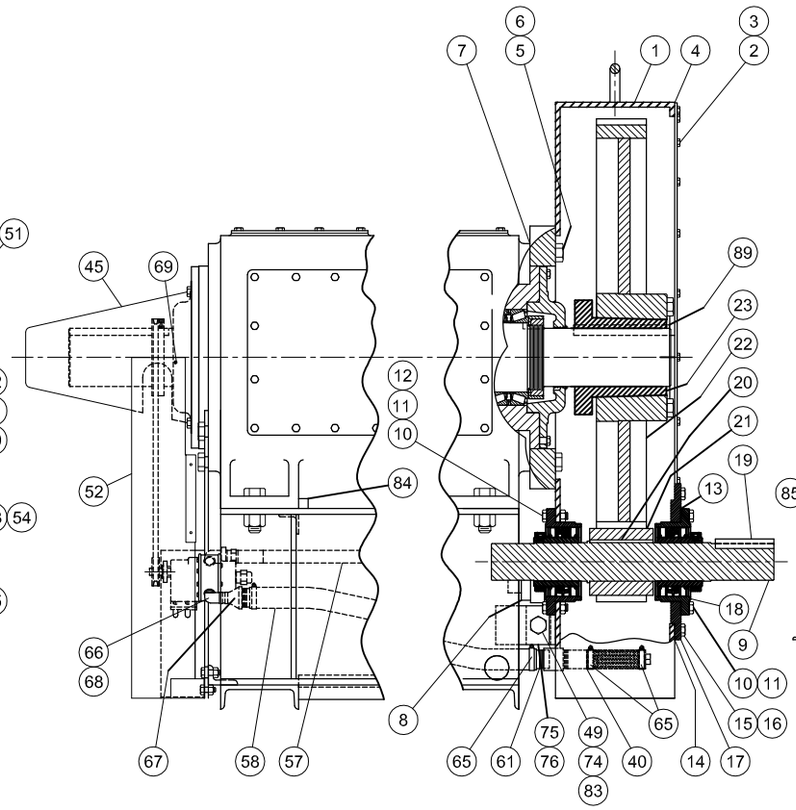
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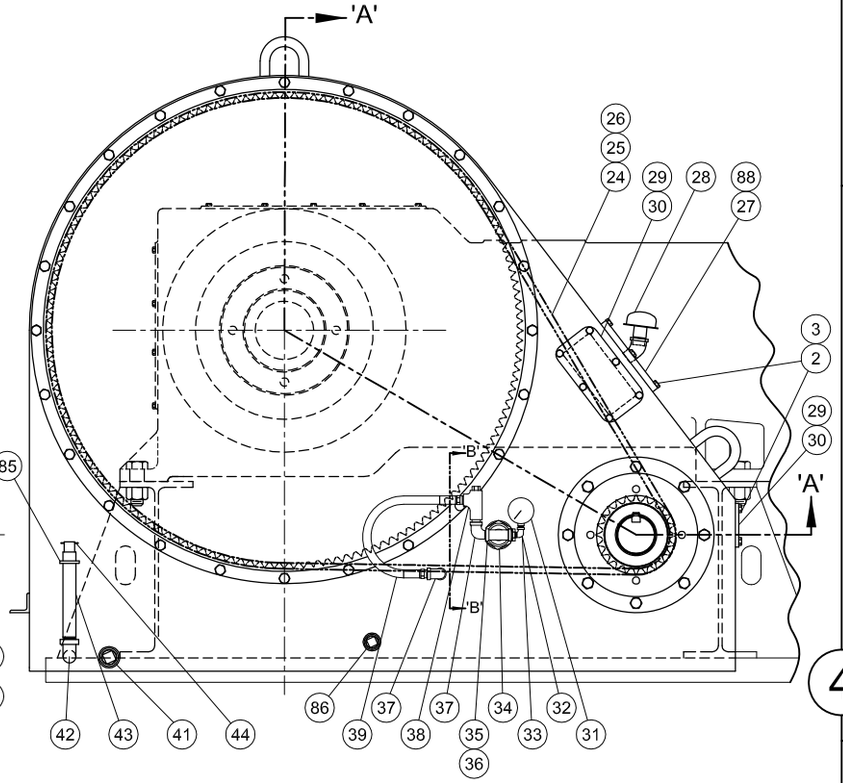
SCALE	EST WT	SHEET
N.T.S.		1 OF 1

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M NO.

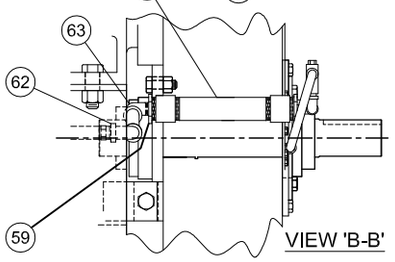
ITEM 52 (LUBE PUMP GUARD)
REMOVED FOR CLARITY
IN THIS VIEW.







SECTION 'A-A'



VIEW 'B-B'

ITEM No.	QTY REQ'D	PART No.	DESCRIPTION
1	1	2404075	KEY, 1 x 1 1/2" x 10" C'SHAFT
2	1	1290110	COVER, TOP HAND HOLE
3	2	1714304	BRACKET, LUBE PLATE SUPPORT
4	1	6873010	PLUG, 1 1/4" SQ. HD PIPE
5	1	1714518	BRACKET, DIPSTICK
6	8	6-1261256	KEYSTOP, 1" SQ. X 3
7	1	6300160	NUT, 1" HVY. HEX
8	4	7602106	WASHER, 1 3/8" REG. SPG. LOCK
9	4	6300220	NUT, 1 3/8" HVY. HEX
10	4	7000649	SCREW, 1 3/8" x 4 HEX HEAD CAP
11	2	7619050	WASHER, 1/2" REG. SPG. LOCK
12	2	6300081	NUT, 1/2" HEX
13	2	7000306-11	SCREW, 1/2" x 1 3/4" HEX HEAD CAP
14	1	1714302	BRACKET, ANGLE SUPPORT

LIST OF MATERIAL

ITEM No.	QTY REQ'D	PART No.	DESCRIPTION
15	1	1714301	BRACKET, SUPPORT PLATE
16	4	G-7619081	WASHER, 1" REG. SPG. LOCK
17	1	1714517	PIPE, SPRAY
18	1	1290064	PLATE, BACKUP
19	4	7619045	WASHER, 7/16" REG. SPG.
20	4	7000258-11	SCREW, HEX HEAD CAP- 7/16" x 1 1/2"
21	2	7818231	SCREW, TAPIT #10 x 1/2"
22	1	7813063	NIPPLE, 3/4" x CLOSE STD. PIPE
23	1	G6884036	REDUCER, 1 1/2" x 3/4" STD. PIPE
24	1	6829006	ELBOW, 3/4" x 90° STD. PIPE- STREET
25	4	7802077	CLAMP, 1 1/2" HOSE
26	1	6830022	ELBOW, 1 x 3/4" REDUCING STREET
27	2	6829008	ELBOW, 1-90° STD. PIPE- STREET
28	1	6826008	ELBOW, 1- 90° STD. PIPE
29	4	6825000	NIPPLE, 1 1/2" KING
30	1	6817094	NIPPLE, 1" x 21" STD. PIPE
31	1	6800163	BUSHING, 2" x 1" STD. PIPE
32	2	6100009	HOSE, 1 1/2" x 47" LONG
33	2	1289605	HOSE, 1" x 54" LONG
34	2	7621032	WASHER, 1/2" FLAT
35	1	7815072	PUMP, #3 B&S
36	1	2401620	KEY, 3/16 x 3/16 x 1 - B&S PUMP SHEAVE
37	1	7200043	SHEAVE, 2.4" P.D.- B&S PUMP
38	1	1714527	GUARD, LUBE PUMP
39	1	G-1714537	PLATE, LUBE AND WASH PUMP SUPPORT

LIST OF MATERIAL

ITEM No.	QTY REQ'D	PART No.	DESCRIPTION
40	3	G-7619081	WASHER, 1 SPRING LOCK- SUPPORT PLATE
41	3	7000522-10	SCREW, 1 x 2 HEX HEAD CAP- SUPPORT PLATE
42	1	4712610	BELT, PUMP VEE (2610)
43	1	1715211	SHEAVE, CRANKSHAFT VEE BELT (7.6" P.D.)
44	11	7000301-11	SCREW, 1/2" x 3/4" HEX HEAD CAP- EXT. CAP
45	1	1714530	COVER, CRANKSHAFT EXTENSION
46	1	2400029	GAGE, OIL LEVEL
47	1	G-6819009	NIPPLE, 1 x 9 1/2" STD. PIPE- T.0.E.
48	1	6829008	ELBOW, 1 -90° STREET
49	1	7815100	PLUG, 1 1/2" MAGNETIC DRAIN
50	1	1714516	STRAINER, SUCTION OIL
51	1	1270113	HOSE, 1/2" x 12"
52	1	1260688	VALVE, PRESSURE RELIEF
53	2	6829004	ELBOW, 1/2" - 90° STREET
54	1	6817044	NIPPLE, 1/2" x CLOSE STD. PIPE
55	1	6888004	TEE, 1/2" STD. PIPE
56	1	6800161	BUSHING, 2 x 1/2" STD. PIPE
57	1	6800041	BUSHING, 1/2" x 1/4" STD. PIPE
58	1	6829002	ELBOW, 1/4" - 90° ST.
59	1	7806605	GAGE, PRESSURE
60	3	1283143	GASKET, HAND HOLE COVER
61	3	1283142	COVER, HAND HOLE
62	1	7802020	BREATHER, CHAIN HOUSING
63	1	1290078	GASKET, TOP HAND HOLE COVER
64	1	1714596	LINK, OFFSET

LIST OF MATERIAL

ITEM No.	QTY REQ'D	PART No.	DESCRIPTION
65	1	1714595	LINK, CONNECTING
66	1	5700020180	CHAIN, 180 PITCHES 80-5
67	1	1714594	HUB, "P" QD TYPE
68	1	1714590	SPROCKET, CRANKSHAFT- 152 TOOTH RC-80-5
69	1	1714591	SPROCKET, INPUT- 24 TOOTH RC-80-5
70	1	2404093	KEY, SPROCKET TO INPUT SHAFT
71	1	2404003	KEY, INPUT SHAFT EXTENSION
72	1	4600075	BEARING, INPUT SHAFT (FREE)
73	1	1714513	RETAINER, BEARING
74	8	7618022	WASHER, 5/8" STAT-O-SEAL
75	8	7000395-11	SCREW, 5/8" x 1 1/2" HEX HEAD CAP
76	1	1273130	GASKET, BEARING RETAINER PLATE
77	2	1714519	GASKET, BEARING TO HOUSING
78	4	6300121	NUT, 3/4" HEX
79	8	7618024	WASHER, 3/4" STAT-O-SEAL
80	8	7000442-11	SCREW, HEX HEAD CAP, 3/4" x 2 1/2"
81	1	1714512	SHAFT, INPUT
82	1	4600074	BEARING, INPUT SHAFT (HELD)
83	1	7817200-68	RESIN, LOCKTITE GASKET
84	8	7602081	WASHER, 1" SPRING LOCK
85	1	G-7000530-11	SCREW, 1" x 4" HEX HEAD CAP
86	1	7817170	GASKET, 3/16" x 2" NEOPRENE SPONGE- 12'6" LG.
87	48	G-7608063	WASHER, 3/8" BARSEAL
88	48	7000208-11	SCREW, 3/8" x 1" HEX HEAD CAP
89	1	1714592	HOUSING, CHAIN- R.H.

LIST OF MATERIAL

ASSOCIATED PARTS DRAWINGS DESCRIPTION	DWG NO	EFFECTIVE SERIAL NO'S
LINER SPRAY PIPING	1714503	

NATIONAL OILWELL VARCO
HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

DESIGNED BY	DATE	
DRAWN BY DCP	DATE 12.10.07	
CHECKED BY RPQ	DATE 12.12.07	
P.E. APPROVAL RPQ	DATE 12.14.07	
Q.A. REVIEW	DATE	

TITLE: CHAIN REDUCER & LUBE PIPING
JWS-400 PISTON PUMP

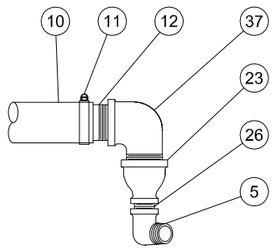
SIZE	REFERENCE No.	DRAWING No.	REV
C		1714504	

SCALE 1/12 EST WT SHEET 1 OF 1

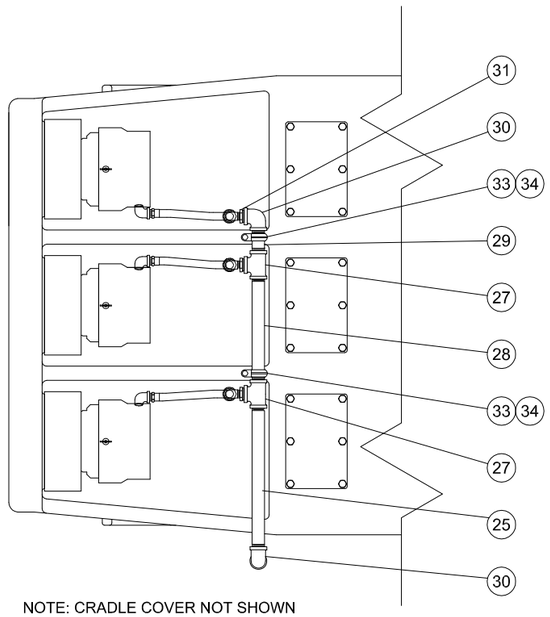
DWG NO 1714504 SH 1

DWG NO	1714503	SH	1

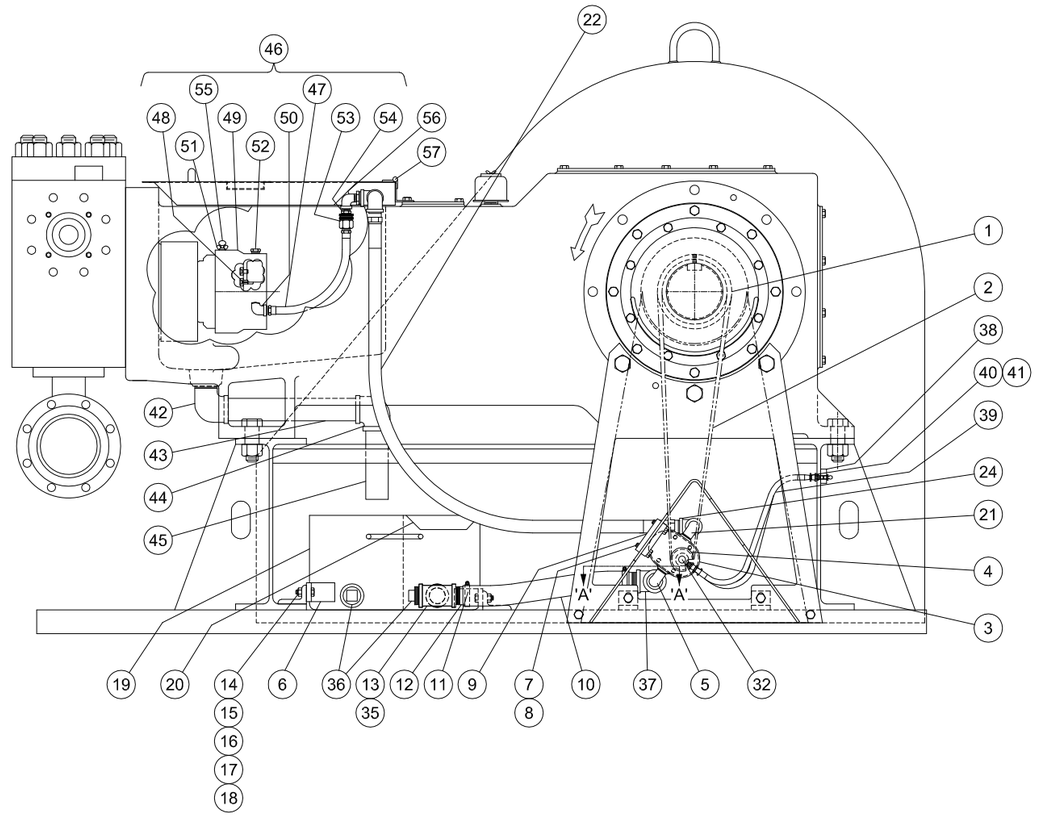
LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M No
H	REDRAWN W/O CHANGE	WFL / RPQ	3-10-03	RPQ	
J	ADDED ITEM 57	WFL / RPQ	11.29.07	RPQ	



VIEW 'A'



NOTE: CRADLE COVER NOT SHOWN
IN THIS VIEW FOR CLARITY



QTY REQ'D	PART No.	DESCRIPTION	ITEM No.
J 1	1714231	CRADLE COVER	57
3	6829004	ELBOW, 1/2" x 90° STREET	56
3	G-7818256	SCREW, 3/8"- 16 STAINLESS THUMB	55
1	7815094	PLUG, 1/2" MALE HOSE	54
1	7818282	SOCKET, 1/2" FEMALE HOSE	53
2	815099	PLUG, 1/2" STAINLESS STEEL PIPE	52
3	7813050	NUT, 3/8"- 16 STAINLESS STEEL WING	51
1	7804075	ELBOW, 1/2" x 90° STAINLESS STEEL- STREET	50
1	1294189	MANIFOLD, SPRAY	49
6	1291193	NOZZLE, SPRAY	48
1	G-2400075	HOSE, 1/2" x 16 1/2"	47
3	1294190	MANIFOLD, SPRAY SYSTEM- ITEMS #47- #55	46
1	6819007	NIPPLE, 2 x 8 T.O.E. STD. PIPE	45
1	6826016	ELBOW, 2" x 90° STD. PIPE	44
1	6817130	NIPPLE, 2 x 15 STD. PIPE	43
1	6829016	ELBOW, 2" x 90° STD. PIPE- STREET	42
4	7800091	ADAPTER, #2021-2-45	41

LIST OF MATERIAL

QTY REQ'D	PART No.	DESCRIPTION	ITEM No.
4	7805081	FITTING, #4411-45	40
2	6100024	HOSE, #1503-4 24"	39
1	1800239	BRACKET, GREASE FITTING	38
2	6829012	ELBOW, 1 1/2" x 90° STREET	37
2	6874012	PLUG, 1 1/2" 90° SQ. HD. PIPE	36
1	6817112	NIPPLE, 1 1/2" x 4 STD. PIPE	35
2	7000153-11	SCREW, HEX HEAD CAP 5/16" x 1/2"	34
2	7802065	CLAMP, 1 PIPE	33
1	2401620	KEY, 3/16" SQ. x 1"	32
3	6800083	BUSHING, STD. HEX 1 x 1/2"	31
2	6826008	ELBOW, 1 STD. PIPE 90°	30
1	6817077	NIPPLE, STD. PIPE 1 3 1/2"	29
1	6817086	NIPPLE, STD. PIPE 1 x 12	28
2	6888008	TEE, 1 STD. PIPE	27
1	7813063	NIPPLE, 3/4" x CLOSE	26
1	6817090	NIPPLE, 1 x 16 STD. PIPE	25
1	6829008	ELBOW, 1 STD. PIPE STREET 90°	24
1	G6884036	REDUCER, 1 1/2" x 3/4"	23
1	1289605	HOSE, 1 x 54 ASSMY.	22
1	6830022	ELBOW, STD. PIPE RED. STREET 90° 1 x 3/4"	21

LIST OF MATERIAL

QTY REQ'D	PART No.	DESCRIPTION	ITEM No.
1	1714529	STRAINER, WATER WASH	20
1	1714535	SUMP, LINER SPRAY	19
2	1260310	CLIP, GUARD MTG.	18
2	6300081	NUT, 1/2" HEX	17
2	7619050	WASHER, 1/2" SPG. LOCK	16
2	7621032	WASHER, 1/2" TYPE A	15
2	7000303-11	SCREW, HEX HEAD CAP 1/2" x 1"	14
1	6888012	TEE, 1 1/2" STD. PIPE	13
2	6825000	NIPPLE, 1 1/2" KING ST-20	12
2	7802077	CLAMP, BREEZE Q5-100-M325	11
1	6100009	HOSE, GATES 24 CITH 1 1/2" I.D. x 50" LG.	10
1	1714539	PLATE, BACK-UP	9
2	7619041	WASHER, 3/8" REG. SPG.	8
2	70002110-11	SCREW, HEX HEAD CAP 3/8" x 1 1/2"	7
4	1714304	BRACKET, ANGLE- 3 x 2 x 1/2" x 2" LG.	6
1	6829006	ELBOW, 3/4" xX 90° STREET	5
1	7200035	SHEAVE, 2 3/4" O.D.- 5/8" BORE	4
1	1714538	PUMP, TEEL #IP-769	3
1	4712700	BELT, V GATES #2700	2
1	1715211	SHEAVE, BELT	1

LIST OF MATERIAL

ASSOCIATED PARTS DRAWINGS	
DESCRIPTION	DWG NO
CHAIN REDUCER & LUBE PIPING	1714504

EFFECTIVE SERIAL NO'S

MATERIAL SPEC

DESIGNED BY	DATE		
DRAWN BY WFL	DATE 10.24.01		
CHECKED BY RPQ	DATE 10.24.01		
P.E. APPROVAL RPQ	DATE 10.24.01		
Q.A. REVIEW	DATE		

NATIONAL OILWELL VARCO

HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

TITLE
LINER SPRAY PIPING
JWS-400 PISTON PUMP

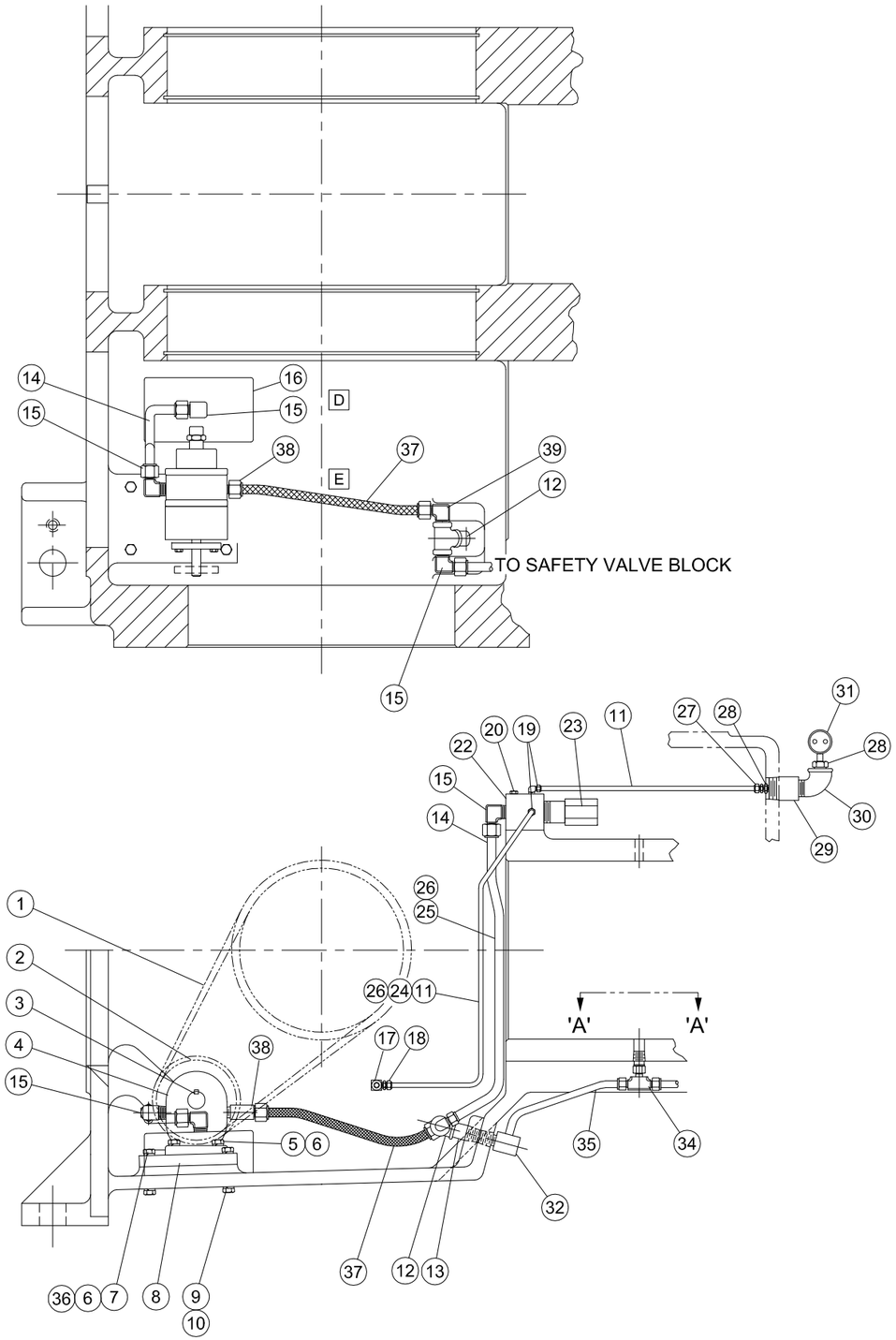
SIZE	REFERENCE No.	DRAWING No.	REV
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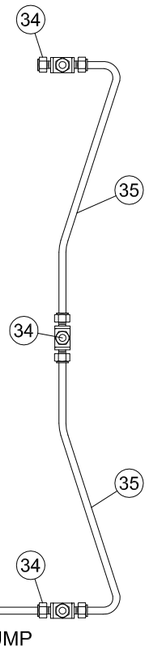
SCALE	EST WT	SHEET
1/8		1 OF 1

5

DWG NO G1714043 SH 1

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M No
B	REDRAWN W/CHANGES	/ RAC	7-28-82		
C	REVISED TUBING & FITTINGS	WFL / RPQ	11-6-00		
D	ADDED STRAINER, REVISED CAPSCREWS	DCP / RPQ	12.07.00		
E	ADDED ITEMS 37-39, REVISED QTY. OF ITEMS 14, 15, 25 & 26	DCP / RPQ	04.30.08	GRL	





VIEW 'A-A'

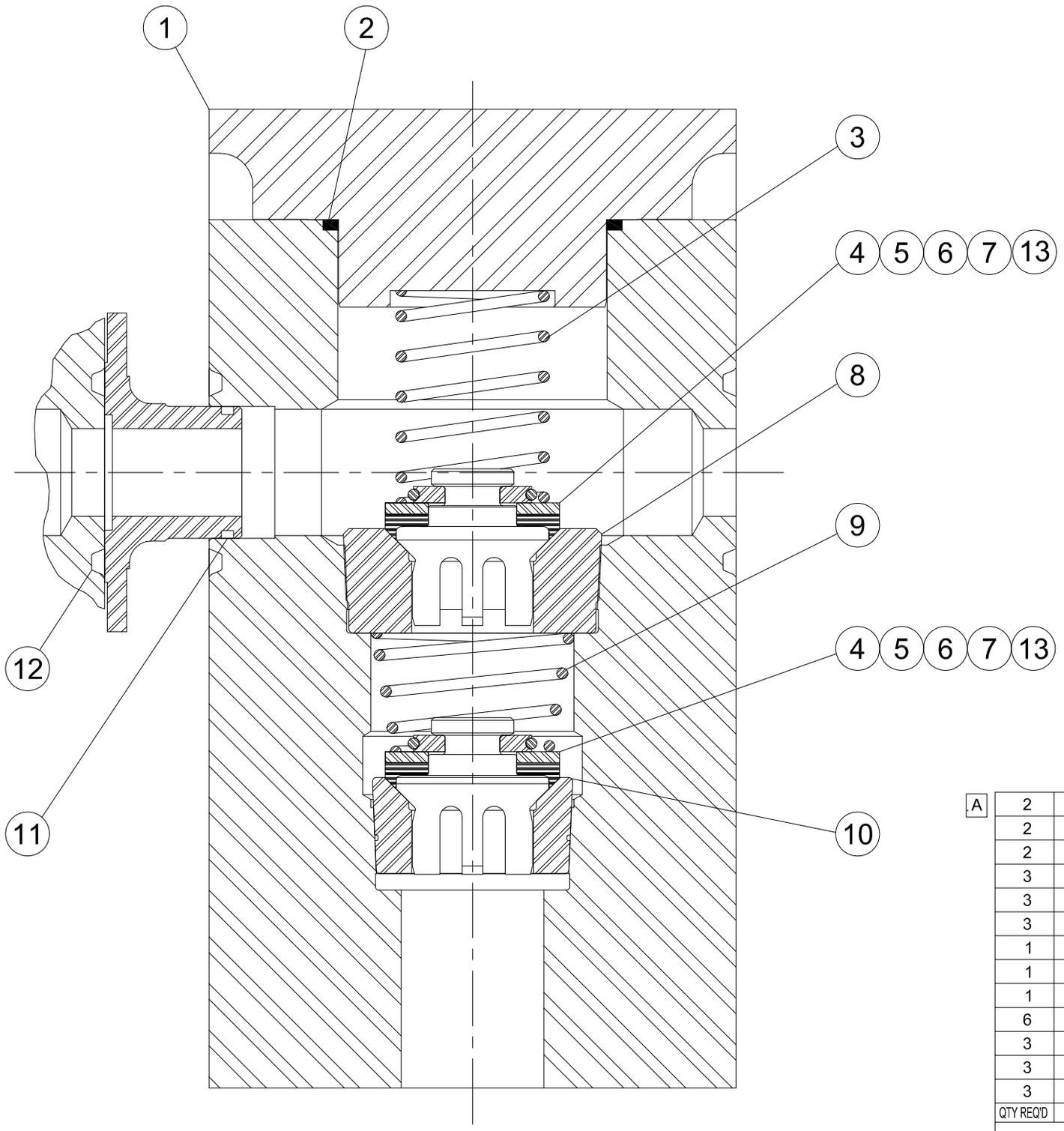
	QTY REQ'D	PART No.	DESCRIPTION/SPECIFICATION	ITEM No.
			LIST OF MATERIAL	
E	1	470-020808-238	MALE, ELBOW 90° 1/2"	39
E	1	470-010808-238	MALE, CONNECTOR 1/2"	38
E	1	482-080120-002	HOSE, 1/2" S.S. BRAIDED	37
	4	7621024	WASHER, 3/8" N TYPE A .81 O.D. CAD. PLT.	36
	3FT	7400620	TUBING, 3/8" COPPER X .032 WALL	35
	2	7804956	TEE, SWAGELOK #B-600-3-6 TTM	34
	1	7804953	ELBOW, SWAGELOK #B-600-2-6	33
	1	7804952	ELBOW, SWAGELOK #B-600-2-8	32
	1	7806605	GAGE, MARSH - 2 1/2" 0-100 P.S.I. 1/4" N.P.T	31
	1	6829003	ELBOW, STD. M.I. STREET 90° x 3/8"	30
	1	G-1717032	ADAPTER, GAGE	29
	2	6800031	BUSHING, STD. PIPE 3/8" x 1/4"	28
	1	7804955	CONNECTOR, SWAGELOK #B-400-1-4	27
E	6	7178088	SCREW, RD. HD. DR. TYPE U #10 x 3/8"	26
E	2	7802215	CLIP, PARKER HANNIFIN 3121-1-8	25
	4	7802204	CLIP 1/4" TUBE PARKER 3121-1-4	24
	1	2232072	VALVE, SAFTEY	23
	1	1715035	BLOCK, SAFTEY VALVE	22
	——	REF	LOCTITE, PIPE SEALANT #70	21
	2	7000113-11	CAPSCREW, HEX HD. 1/4" x 2 1/4"	20
	3	7804951	ELBOW, SWAGELOK #B-400-2-4	19
	2	7804954	CONNECTOR, SWAGELOK #B-400-1-2	18
	2	7805050	FITTING, BODY 1/8" N.P.T. M&F LINCOLN #20029	17
	1	1714375	STRAINER, OIL 1/2"	16
E	4	7804950	ELBOW, SWAGELOK #B-810-2-8	15
E	5 FT	7400820	TUBING, 1/2" COPPER X .032 WALL	14
	1	86424003	NIPPLE, STD. PIPE 1/2" x 1 1/2"	13
	1	6888004	TEE, STD. M.I. PIPE 1/2"	12
	7 FT	7400420	TUBING, 1/4" COPPER X .032 WALL	11
D	4	75632133	CAPSCREW, HEX HD. 3/8" x 1 1/2" NYLOCK SELF-LOCKING	10
	4	7618014	WASHER STAT-O-SEAL PARKER #600-0101 - 3/8"	9
	1	1715327	BLOCK, MOUNTING	8
D	4	76532132	CAPSCREW, HEX HD. 3/8" x 1 1/4" NYLOCK SELF-LOCKING	7
	8	7619041	WASHER, 3/8" SPRING LOCK	6
D	4	75632128	CAPSCREW, HEX HD. 3/8" x 7/8" NYLOK SELF-LOCKING	5
	1	7815071	PUMP, B&S #2	4
	1	2402570	KEY, 3/16" x 3/16" x 3/8" RBE	3
	1	G7818144	SPROCKET, 3/8"P 23 TEETH	2
	1	G5700011128	CHAIN, RC35, 3/8"P-128 PITCHES	1

MATERIAL SPEC: SEE L / M

NATIONAL OILWELL VARCO
HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

DESIGNED BY	DATE		
DRAWN BY JMC	DATE 07.09.82	TITLE	LUBRICATION PIPING-STD. JWS-400 POWER END
CHECKED BY RAC	DATE 07.28.08	SIZE D	REFERENCE No. / DRAWING No. G1714043 / REV E
P.E. APPROVAL RPQ	DATE 11.02.00		
Q.A. REVIEW	DATE	SCALE 1/4	EST WT / SHEET 1 OF 1

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M NO.
A	ADDED ITEM 13	DCP / RPQ	04.01.08	RPQ	



QTY REQ'D	PART No.	DESCRIPTION	ITEM No.
2	1560716	LOCK, VALVE	13
2	2410031-331	SEAL, CONNECTOR SPOOL- FLANGE END	12
2	2410031-334	SEAL, CONNECTOR SPOOL- MALE END	11
3	1561561	SEAT, SUCTION VALVE W/1-2410022-156 "O" RING	10
3	G-1560698	SPRING, SUCTION VALVE	9
3	1561569	SEAT, DISCHARGE VALVE	8
1	1561570	BODY, VALVE	7
1	1561577	DISC, VALVE- POLYURETHANE	6
1	1560715	RETAINER, VALVE DISC	5
6	1561575	VALVE ASSEMBLY CPT. - D & S (INCL. ITEMS 5-7 & 13)	4
3	1717296	SPRING, DISCHARGE VALVE	3
3	1715146	SEAL, TOP COVER PLATE	2
3	G17143031	PLATE, TOP COVER	1

LIST OF MATERIAL

MATERIAL SPEC

NOV NATIONAL OILWELL VARCO

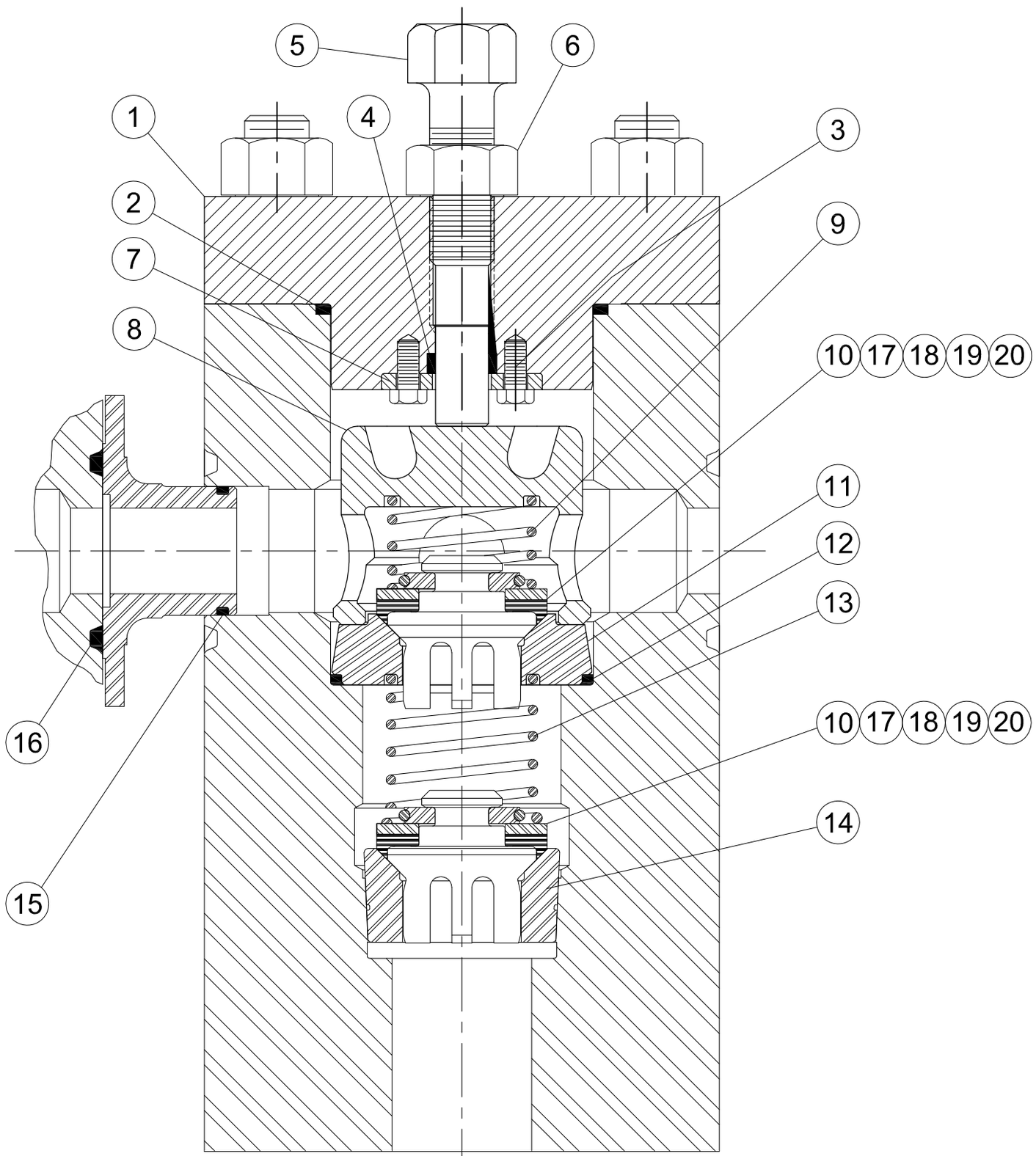
HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

DESIGNED BY	DATE		
DRAWN BY WFL	DATE 11-06-00	TITLE TAPERED VALVES JWS-400	
CHECKED BY	DATE		
P.E. APPROVAL	DATE	SIZE C / REFERENCE No. / DRAWING No. 1714388	REV A
Q.A. REVIEW	DATE	SCALE 1/2 / EST WT	SHEET 1 OF 1

DWG NO 1714388 SH 1

7

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M NO.



8

QTY REQ'D	PART No.	DESCRIPTION	ITEM No.
3	1561577	DISC, POLYURETHANE	20
3	1561570	BODY, VALVE	19
3	1560716	LOCK, VALVE	18
3	1560715	RING, RETAINING	17
2	2410031-331	SEAL, CONNECTOR SPOOL- FLANGE END	16
2	2410031-334	SEAL, CONNECTOR SPOOL- MALE END	15
3	1561561	SEAT, SUCTION VALVE w/1-2410022-156 O-RING	14
3	1712211	SPRING, SUCTION VALVE	13
3	2410031-434	SEAL, DISCHARGE VALVE	12
3	1561562	SEAT, DISCHARGE VALVE	11
6	1561575	VALVE ASSEMBLY, SUCTION & DISCHARGE (INCL. 17-20)	10
3	1712206	SPRING, DISCHARGE VALVE	9
3	1714285	CAGE, DISCHARGE VALVE RETAINER	8
3	1714284	PLATE, PACKING RETAINER	7
3	1561566	NUT, 1 1/2" HEAVY HEX JAM	6
6	1714287	SCREW, CAGE LOADING	5
3	1714288	PACKING, CAGE LOADING SCREW	4
6	7000303-11	CAPSCREW, 1/2" x 1" HEX HEAD- PACKING RETAINER	3
3	1715146	SEAL, TOP COVER PLATE	2
3	1714283-1	PLATE, TOP COVER	1

LIST OF MATERIAL

MATERIAL SPEC

DESIGNED BY	DATE
DRAWN BY DCP	DATE 04.04.08
CHECKED BY RPQ	DATE 04.04.08
P.E. APPROVAL RPQ	DATE 04.10.08
Q.A. REVIEW	DATE

NATIONAL OILWELL VARCO

HOUSTON, TEXAS U.S.A. ENGINEERING, McALESTER, OKLAHOMA

TITLE: CYLINDER, FLUID WITH CAGED VALVE JWS-400

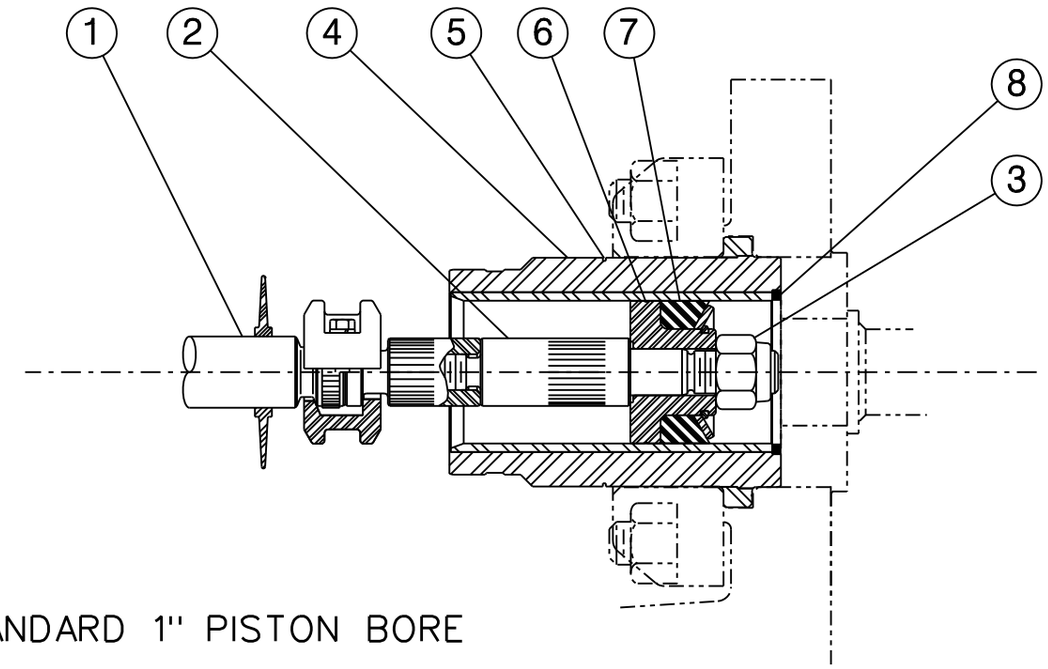
SIZE	REFERENCE No.	DRAWING No.	REV
C		1714402	

SCALE 1/2 EST WT SHEET 1 OF 1

DWG NO 1714402 SH 1

Index Print Next Home

LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M NO.



STANDARD 1" PISTON BORE

ITEM NO.	PART NO. 4"	4½"	5"	5¼"	5½"	DESCRIPTION	NO. REQ'D
1	G1714295	G1714295	G1714295	G1714295	G1714295	SUBROD, PISTON - 2 PC.	3 3
2	G1714294	G1714294	G1714294	G1714294	G1714294	ROD, PISTON - 2 PC - INCLUDES:	3
3	6308160	6308160	6308160	6308160	6308160	NUT, 1" ELASTIC STOP	1
4	05524400	05524450	05524500	05524525	05524550	LINER, PISTON - BI-METAL	3
5	6912030	6912030	6912030	6912030	6912030	RING, SNAP (RS-800 SPIROLOC)	3
6	012180113	012180154	012180279	012180282	012180303	PISTON ASSEMBLY	3
7	015180102	015180144	015180185	015100605	015180227	CUP ASSEMBLY	3
8	1540140	1540142	1540144	1540145	1540146	SEAL, LINER TO CYLINDER	3

STANDARD 1½" PISTON BORE

ITEM NO.	PART NO. 4"	4½"	5"	5¼"	5½"	DESCRIPTION	NO. REQ'D
1	G1714295	G1714295	G1714295	G1714295	G1714295	SUBROD, PISTON - 2 PC.	3
2	G-X17-3276	G-X17-3276	G-X17-3276	G-X17-3276	G-X17-3276	ROD, PISTON - 2 PC - INCLUDES:	3
3	6308241	6308241	6308241	6308241	6308241	NUT, 1½" ELASTIC STOP	1
4	05524400	05524450	05524500	05524525	05524550	LINER, PISTON - BI-METAL	3
5	6912030	6912030	6912030	6912030	6912030	RING, SNAP (RS-800 SPIROLOC)	3
6	012180170	012180220	012180253	012180410	012180337	PISTON ASSEMBLY	3
7	015180102	015180144	015180185	015100605	015180227	CUP ASSEMBLY	3
8	1540140	1540142	1540144	1540145	1540146	SEAL, LINER TO CYLINDER	3

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ADDITIONAL SPECS

LAYOUT No.

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
BREAK SHARP CORNERS
FILLET RADII
CONCENTRICITY
SQUARENESS
PARALLELISM
RFS EXCEPT WHEN (M) MODIFIED

DIMENSIONAL TOL.
FRACTIONS
X.XXX +/-
X.XX +/-
X.X +/-
ANGLE +/- .50 DEG
SURFACE RMS

SIMILAR TO | SUPERSEDES
NEXT ASS'Y | SUPERSEDED BY

MATERIAL SPEC

DESIGNED BY	DATE
DRAWN BY WFL	DATE 11-20-00
CHECKED BY	DATE
P.E. APPROVAL	DATE
Q.A. REVIEW	DATE

NATIONAL OILWELL VARCO

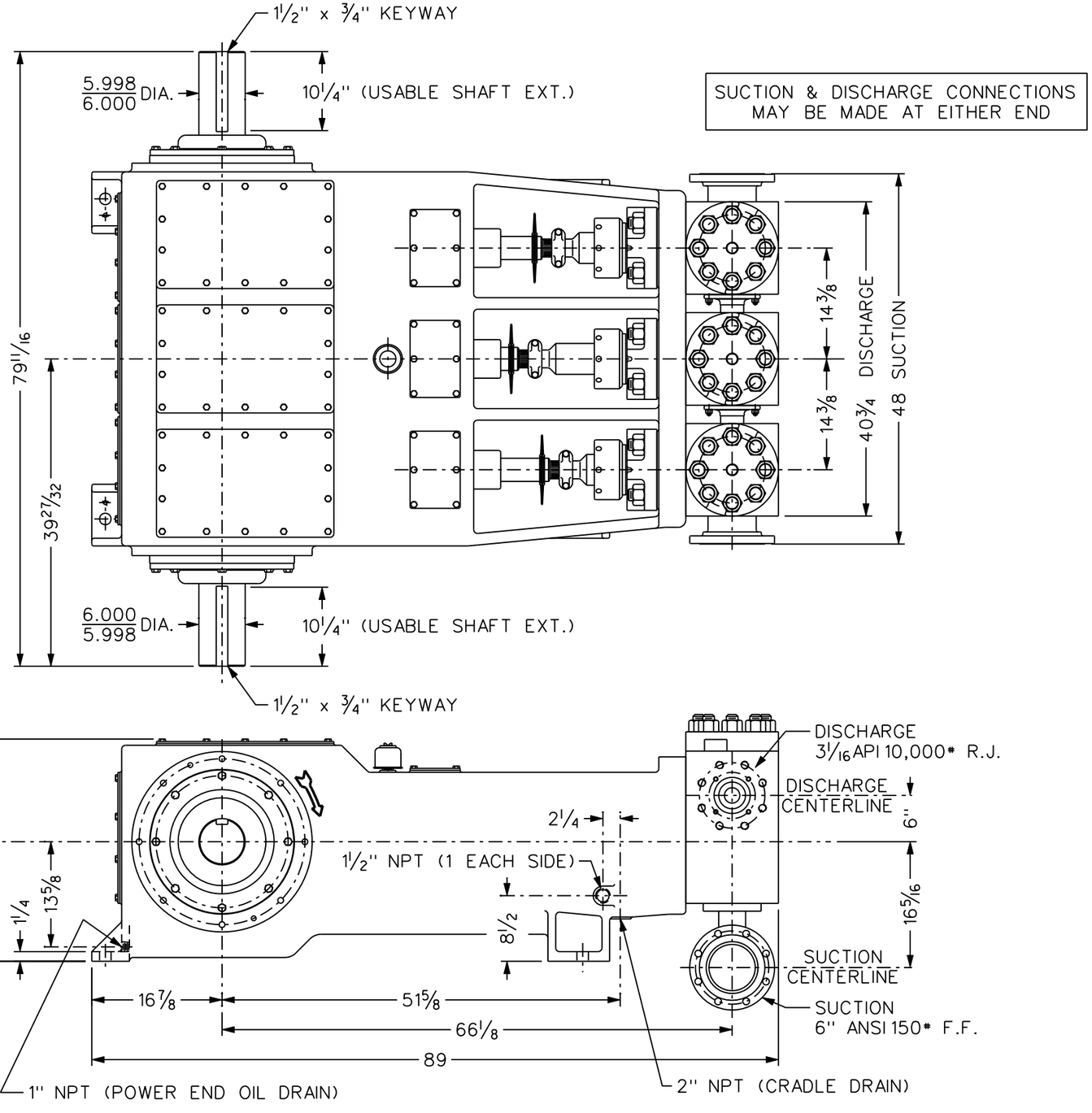
TITLE
PISTON & LINER ASS'Y
JWS-400

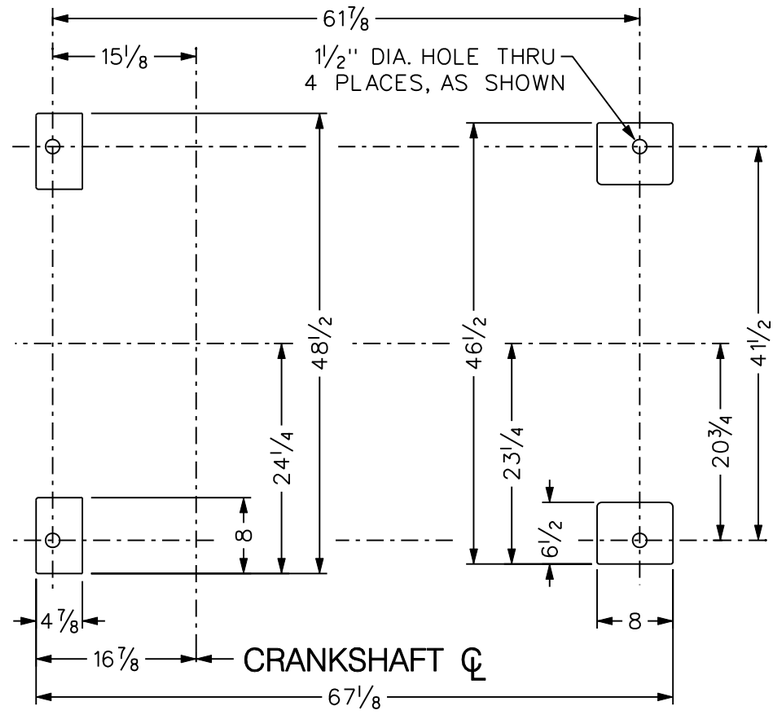
SIZE	REFERENCE No.	DRAWING No.	REV
C		1714398	

SCALE 1/4 | EST WT | SHEET 1 OF 1

DWG NO 1714398 SH 1

9





PUMP FOOTPRINT

10

NATIONAL OILWELL VARCO

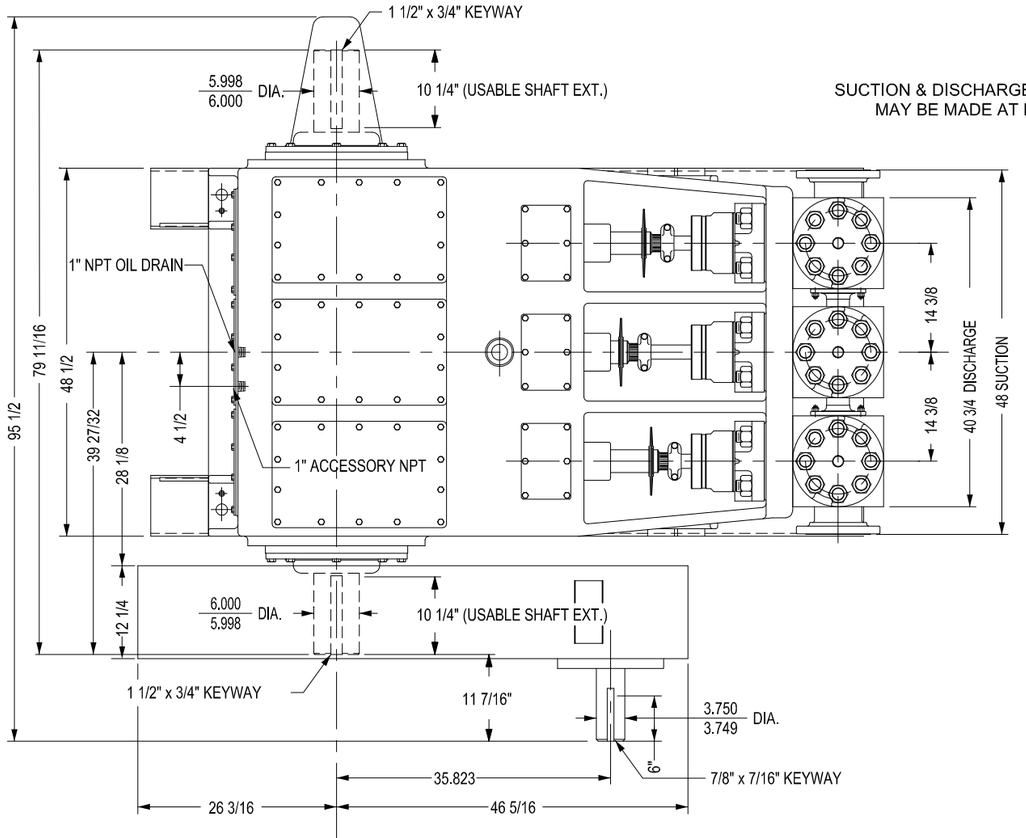
TITLE: OUTLINE DRAWING
JWS-400 TRIPLEX PLUNGER PUMP
WITHOUT GEAR REDUCER

SIZE	REFERENCE No.	DRAWING No.	REV
B		1714339	

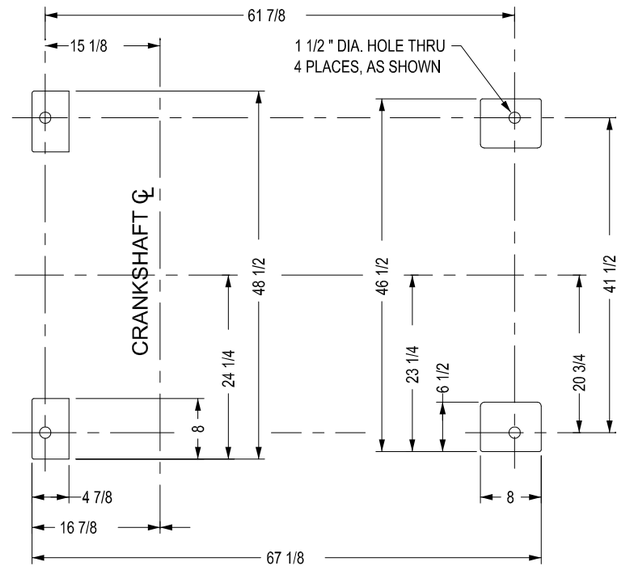
SCALE	EST WT	SHEET
1/16	10,500#	1 OF 1

DWG NO	SH
1714340	1

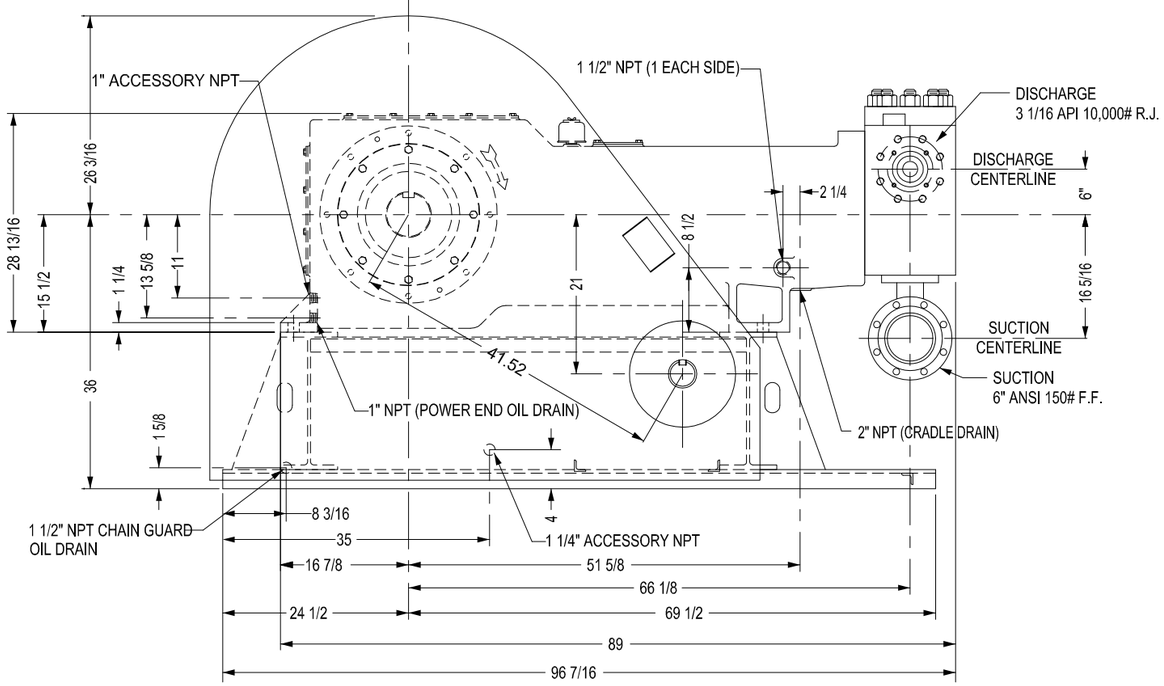
LTR	DESCRIPTION OF CHANGE	MADE / CHKD	DATE	APPROVED	M No



SUCTION & DISCHARGE CONNECTIONS
MAY BE MADE AT EITHER END



PUMP FOOTPRINT



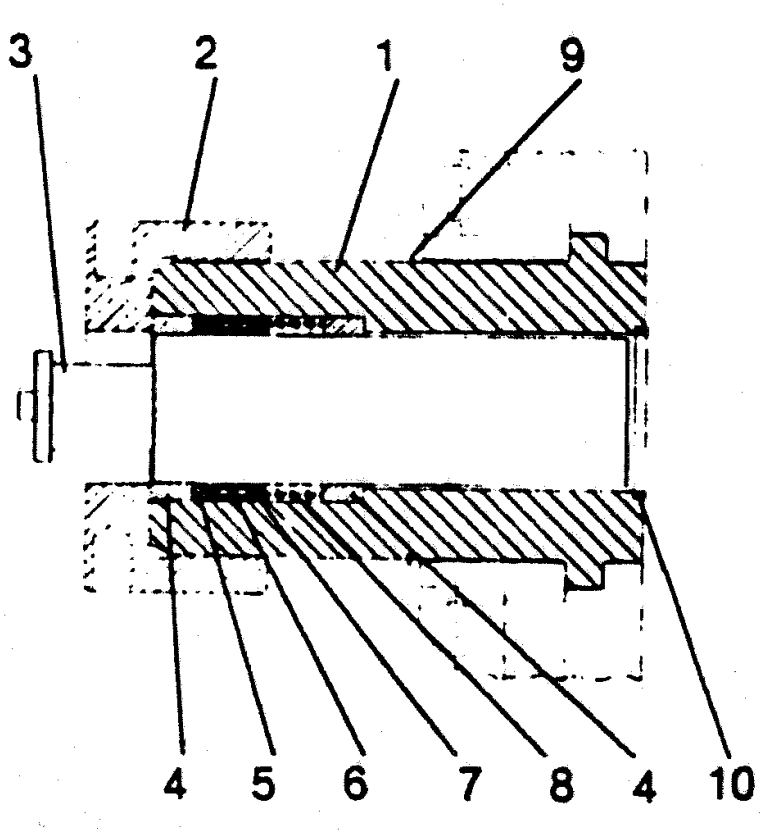
NATIONAL OILWELL VARCO

HOUSTON, TEXAS U.S.A. — ENGINEERING, McALESTER, OKLAHOMA

TITLE			
OUTLINE DRAWING JWS-400 TRIPLEX PLUNGER PUMP WITH CHAIN REDUCER			
SIZE	REFERENCE No.	DRAWING No.	REV
D		1714340	
SCALE	N.T.S.	EST WT 10,500 #	SHEET 1 OF 1

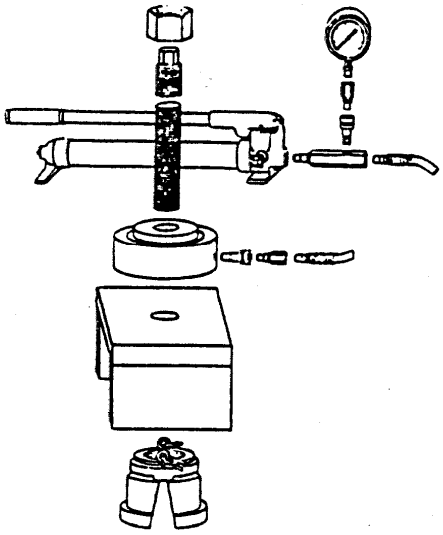
11

STUFFING BOX and PLUNGER ASSEMBLY

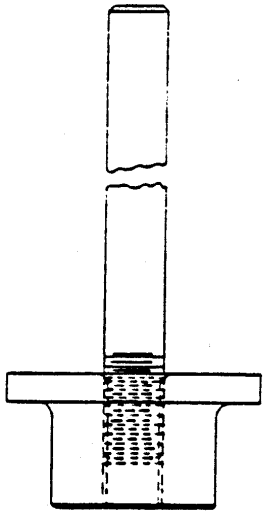


Item No.	Part No.		Description	No. Req'd.
	4"	4½"		
1	1714310-12	1714316-12	BOX, Stuffing	3
2	1714311-2	1714317-2	NUT, Stuffing Box Adjusting	3
3	1715158	1715160	PLUNGER, Hard Coated	3
4	1714312-2	1714318-2	WASHER, Packing	6
	6423224	6423225	PACKING, Spring Loaded Assembly consisting of:	3
5	6423224-3	6423225-3	ADAPTER, Top Packing	1
6	6423224-1	6423225-1	PACKING, Plunger Vee Ring	2
7	6423224-4	6423225-4	ADAPTER, Bottom Spring	1
8	6423224-2	6423225-2	SPRING, Packing	1
9	6912030	6912030	RING, Snap (RS-800 Spiroloc)	3
10	2410031-347	2140031-426	SEAL, Stuffing Box	3

VALVE SERVICING TOOLS



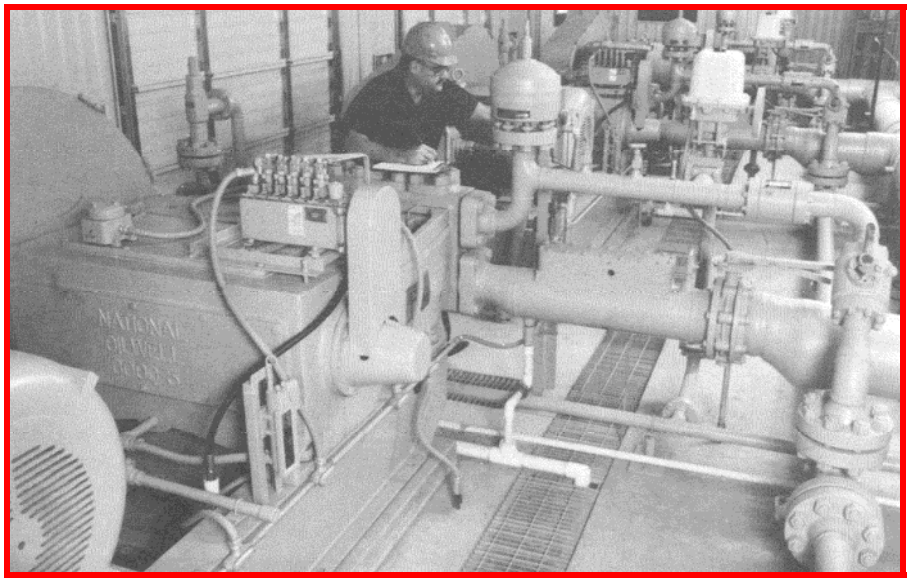
HYDRAULIC SEAT PULLER



SEAT REMOVAL TOOL
1714291

VALVE SERVICING TOOLS		
PUMP	**DISCHARGE VALVE SEAT**	**SUCTION VALVE SEAT**
JWS-400 – Tapered Valve	Use M-1100 Puller with M-1097 Puller Head	Use M-1100 Puller with M-1097 Puller Head
JWS-400 – Cage Valve	Use 1714291 Seat Removal Tool	Use M-1100 Puller with M-1097 Puller Head

NATIONAL OILWELL VARCO



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