NATIONAL OILWELL

PARTS LIST

7-P-50
TRIPLEX MUD PUMP

EPL-1219

NATIONAL-OILWELL
P.O. BOX 4638
HOUSTON, TEXAS 77210-4638

As used herein, any references to NATIONAL
shall be deemed to mean NATIONAL-OILWELL.

Issue Date: 9-1-98 (Supersedes Issue: 2-1-73) Printed in U.S.A.

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7-P-50
TRIPLEX SLUSH PUMP
EPL-1219

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Issue Date: September 1998

Printed in U.S.A.

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294000	7-P-50 TRIPLEX PUMP COMPLETE (CONSISTS OF THE FOLLOWING)
1	1	1294001	POWER END COMPLETE
2	6	1290178	SCREW
3	6	G-1290376	WEDGE COMPLETE, LOCKING
4	1	G-2407274	PLATE, WARNING
5	6	1290315	WASHER
6	6	1292140	HOLDER, INSERT
7	6	1292141	INSERT, VALVE GUIDE
8	6	1294085	CLAMP COMPLETE, ROD
9	3	1294130	COVER COMPLETE, CHAMBER
10	3	1294146	SUB-ROD, PISTON
11*	3	1294147	ROD, PISTON (FOR 4" AND LARGER PISTONS)
	3	1294149	ROD, PISTON (FOR 3" AND 3-1/2" PISTONS)
12	3	1294150	MODULE STUDDED, DISCHARGE
13	3	1294156	MODULE, SUCTION
14	3	1294160	PLATE, WEAR
15	3	1294165	BUSHING
16	3	1294166	CLAMP COMPLETE, LINER
17	2	1294170	CONNECTOR, DISCHARGE
18	2	1294171	ADAPTER, CONNECTOR
19	6	1294172	COVER, VALVE
20	6	1294174	RETAINER, SEAL
21	3	1294190	SPRAY SYSTEM, PISTON - LINER
22	6	1294192	SEAL, MODULE
23	3	1540142	SEAL, MANIFOLD
24	16	2402560	STUD, 1-1/4" X 6-1/4" LG.
25	1	2407142	PLATE, INSTRUCTION
26	2	2410031-348	PACKING
27	4	2410031-427	PACKING
28	6	6300160	NUT, 1" HEAVY HEX
29*	3	6308241	NUT, PISTON ROD (FOR 4" AND LARGER PISTONS)
	3	6308160	NUT, PISTON ROD (FOR 3" AND 3-1/2" PISTONS)
30	12	6310040	NUT, 1/4" FLEXLOC
31	6	6511416	PIN, 7/8" X 2" LG. STD. HDN. & GROUND DOWEL
32	12	7000108-10	CAPSCREW, 1/4" X 1" LG. GRADE 5 HEX HEAD
33	16	7000305-10	CAPSCREW, 1/2" X 1-1/2" LG. GRADE 5 HEX HEAD
34	24	7000481-10	CAPSCREW, 7/8" X 2" LG. GRADE 5 HEX HEAD
35	8	7178025	SCREW, NO. 2 X 1/4" LG. TYPE "U" ROUND HEAD DRIVE
36	12	7600016	WASHER, 1/4" N TYPE "A" 0.625" O.D.
37	16	7600034	WASHER, 1/2" W TYPE "A" 1.375" O.D.
38	16	7602050	WASHER, 1/2" REG. SPRING LOCK
39**	3	1294168	COLLAR, LINER
40**	6	1540128	SEAL
41**	6	1560701	SPRING, VALVE
42**	2	6908033	RING, R39-D OVAL JOINT
56**A	1	X12-2553	CAP, PINION SHAFT
ITEMS 43 THRU 49 ARE OPTIONAL FLUID END PARTS			
43	3	K-1134	PISTON, 4" BLUE STRIP SINGLE ACTING
	3	20-021-500	PISTON, 4" SERIES K
	3	K-1034	PISTON, 4-1/2" BLUE STRIP SINGLE ACTING
	3	20-021-501	PISTON, 4-1/2" SERIES B
	3	K-1032	PISTON, 5" BLUE STRIP SINGLE ACTING
	3	20-021-502	PISTON, 5" SERIES B
	3	K-1021	PISTON, 5-1/2" BLUE STRIP SINGLE ACTING
	3	20-021-503	PISTON, 5-1/2" SERIES B
	3	012-180-333	PISTON, 5-1/2"
	3	K-1022	PISTON, 6" BLUE STRIP SINGLE ACTING
	3	20-021-505	PISTON, 6" SERIES B
	3	K-1064	PISTON, 6-1/4" BLUE STRIP SINGLE ACTING
	3	P-9610	PISTON, 6-1/4" POLYURETANE
	3	20-021-506	PISTON, 6-1/4" SERIES L
44	3	L-4627	LINER, 4" BI-METAL
	3	05-466-040	LINER, 4" SUPER DI-HARD
	3	L-4647	LINER, 4-1/2" BI-METAL
	3	05-466-045	LINER, 4-1/2" SUPER DI-HARD
	3	L-4667	LINER, 5" BI-METAL
	3	05-466-050	LINER, 5" SUPER DI-HARD
	3	L-4687	LINER, 5-1/2" BI-METAL
	3	05-466-055	LINER, 5-1/2" SUPER DI-HARD
	3	L-4700	LINER, 6" BLUE STRIP
	3	05-466-060	LINER, 6" SUPER DI-HARD
	3	L-4710	LINER, 6-1/4" BLUE STRIP
	3	05-466-062	LINER, 6-1/4" SUPER DI-HARD

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
45†	3	1540140	PACKING, 4" LINER
	3	1540142	PACKING, 4-1/2" LINER
	3	1540144	PACKING, 5" LINER
	3	1540146	PACKING, 5-1/2" LINER
	3	1540148	PACKING, 6" LINER
	3	1540161	PACKING, 6-1/4" LINER
46	6	1561524	VALVE, "G-2" HYCAR
	6	1561525	VALVE, "G-2" POLYURETHANE
47	6	1561530	SEAT, VALVE
48	1	5912370	FLANGE WITH 3.152" BORE, 4" API 5000# WELD NECK R.J.
49	1	5912373	FLANGE, 4" API 5000# BLIND R.J.
ITEMS 50 THRU 52 ARE SHOWN FOR REFERENCE ONLY. (NUMBER REQ'D. FOR ONE STUDDED CYLINDER ONLY)			
50	6	2408041	STUD, 1-1/4" X 14-5/8" LG. (FOR ITEM 13, SUCTION MODULE)
51	8	2408042	STUD, 1" X 5" LG. (CYLINDER TO FRAME)
52	6	2408043	STUD, 3/4" X 4-1/2" LG. (FOR ITEM 15, BUSHING)
53	1	1294173	MANIFOLD, FRONT INLET SUCTION
	1	1294193	MANIFOLD, DAMPENER
	1	1294289	MANIFOLD, SUCTION
54	1	1294288	STABILIZER, 8" X 90 DEG. SUCTION
	1	1290203	DAMPENER, 8" WELD-IN SUCTION
	1	1290208	DAMPENER, 10" WELD-IN SUCTION
	1	1290210	DAMPENER, 8" WELD-IN SUCTION
	1	1290212	DAMPENER, 8" SINGLE FLANGED
	1	1290277	DAMPENER, 8" SUCTION (R.H. SIDE INLET)
	1	1290278	DAMPENER, 8" SUCTION (L.H. SIDE INLET)
55	1	6874012	PLUG, 1-1/2" STD. SQUARE HEAD (FOR 1294173)
	2	6874012	PLUG, 1-1/2" STD. SQUARE HEAD (FOR 1294185)
REF.	1	G-1294132	LUBE SYSTEM COMPLETE, BELT DRIVEN
	1	1294215	LUBE SYSTEM COMPLETE, 230/460 ELECTRIC MOTOR
	1	1294290	LUBE SYSTEM COMPLETE, 230/460 ELECTRIC MOTOR
	1	1294216	LUBE SYSTEM COMPLETE, 575 VOLT ELECTRIC MOTOR
THE BELOW ITEM IS FURNISHED ONLY AS A SERVICE ITEM			
REF.	1	1294189	MANIFOLD COMPLETE, SPRAY SYSTEM

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
THE BELOW ITEMS ARE NOT SHOWN. THESE ARE STANDARD PARTS FURNISHED FOR PUMP COMPLETE & ARE SHIPPED SEPARATELY.			
REF.	1	M-1023	WRENCH, PISTON ROD NUT
	1	1290183	PULLER, RETAINER
	1	1290206	BOLT, SHORT LIFTING (FOR 1294166)
	1	1290207	BOLT, LONG LIFTING (FOR 1294166)
	1	1292278	HOLDER, RETAINER
	1	1294140	ADAPTER
	1	1294153	DRIVER, VALVE SEAT
	1	M-1060	PULLER, VALVE SEAT
	1	M-1093	HEAD, VALVE SEAT PULLER
	1	1294164	PLATE, LINER BUSHING PULLER
	1	1710270	BAR, WEDGE LOOSENING
	1	2402290	WRENCH (FOR 1294140)
	1	2409010	WRENCH (FOR 1290178)
	1	2409011	WRENCH (FOR 2409010)
	1	2404085	KEY, 1" X 1-1/2" X 12" LG. PINION SHAFT
	1	7500065	VALVE, RELIEF (SET AT 70 P.S.I.)
THE BELOW ITEMS AR2E OPTIONAL PUMP ACCESSORIES			
REF.	1	1294125	HOIST COMPLETE
	1	1294186	CROSS COMPLETE, STRAINER (4" OUTLETS, HYDRIL K20-5000)
	1	1294187	CROSS COMPLETE, STRAINER (4" OUTLETS, HYDRIL K20-3000)
	1	G-1294225	CHARGING PUMP, SIDE INLET SIDE MOUNTED CENTRIFUGAL (R.H.)
	1	G-1294223	CHARGING PUMP, SIDE INLET SIDE MOUNTED CENTRIFUGAL (L.H.)
	1	G-1294239	CHARGING PUMP, FRONT INLET SIDE MOUNTED CENTRIFUGAL
	1	G-1294227	CHARGING PUMP, FRONT INLET SIDE MOUNTED CENTRIFUGAL
	1	1294220	SWITCH COMPLETE, STROKE COUNTER

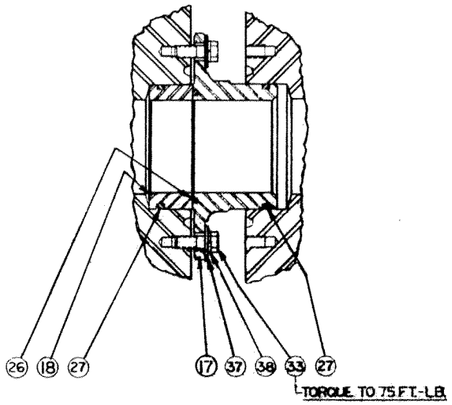
* OPTIONAL, PLEASE SPECIFY WHEN ORDERING.
** STANDARD ITEMS ARE SHIPPED SEPARATELY.
A ITEM 56 FURNISHED ONLY FOR PUMP SHIPPED WITHOUT DRIVE, MECHANICAL LUBE SYSTEM OR CHARGING PUMP.
† ITEM 45 SHOWN FOR REPLACEMENT PURPOSES ONLY. ONE LINER PACKING (ITEM 45), IS INCLUDED WITH EVERY LINER (ITEM 45) ORDERED.

NOTES:
1. TEST PUMP PER PROCEDURE 1290410.
2. MEASURE AND RECORD PISTON ROD-LINER BUSHING ECCENTRICITIES PER 1292345. VERTICAL AND HORIZONTAL ECCENTRICITY NOT TO EXCEED .035".
3. PAINT PUMP PER SPECIFICATION PP-132.
4. APPLY TWO THIN 1" WIDE CIRCULAR COATS OF LOCTITE NO. 68 PLASTIC GASKET ON CYLINDER SIDE OF 1294160 PLATE. INSIDE DIAMETER OF INNER CIRCULAR COAT TO BE APPROXIMATELY 4-1/2" AND INSIDE DIAMETER OF OUTER CIRCULAR COAT TO BE APPROXIMATELY 6-11/16".

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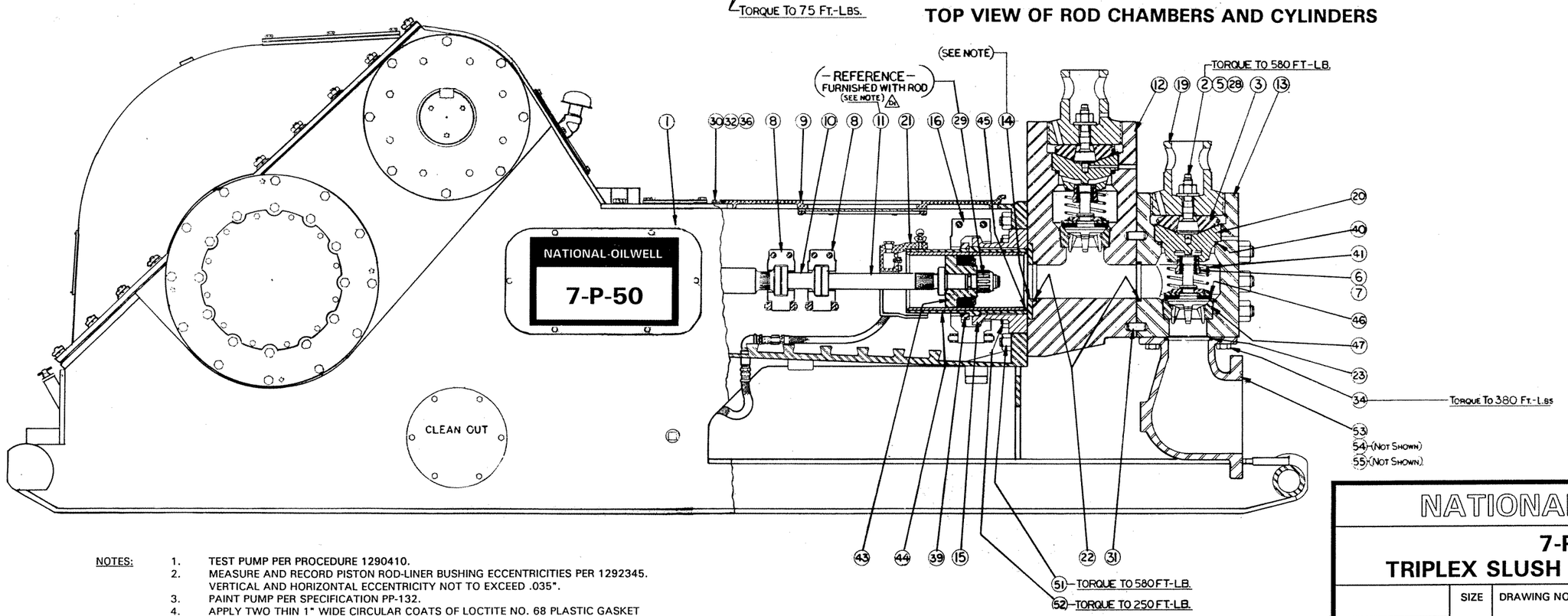
7-P-50
TRIPLEX SLUSH PUMP COMPLETE

	SIZE	DRAWING NO.	REV.
	F	PL 1294000	L



SECTION THRU DISCHARGE CONNECTOR

TOP VIEW OF ROD CHAMBERS AND CYLINDERS



SECTION THRU ROD CHAMBER AND CYLINDER

NOTE: FLUID END SHOWN WITH "TAPR-LOK" VALVE COVERS

NOTES:

1. TEST PUMP PER PROCEDURE 1290410.
2. MEASURE AND RECORD PISTON ROD-LINER BUSHING ECCENTRICITIES PER 1292345. VERTICAL AND HORIZONTAL ECCENTRICITY NOT TO EXCEED .035".
3. PAINT PUMP PER SPECIFICATION PP-132.
4. APPLY TWO THIN 1" WIDE CIRCULAR COATS OF LOCTITE NO. 68 PLASTIC GASKET ON CYLINDER SIDE OF 1294160 PLATE. INSIDE DIAMETER OF INNER CIRCULAR COAT TO BE APPROXIMATELY 4-1/2" AND INSIDE DIAMETER OF OUTER CIRCULAR COAT TO BE APPROXIMATELY 6-11/16".

NATIONAL-OILWELL			
7-P-50 TRIPLEX SLUSH PUMP COMPLETE			
	SIZE	DRAWING NO.	REV.
	F	PL 1294000	L

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294001	POWER END COMPLETE (CONSISTS OF THE FOLLOWING)
1	2	1283191	GASKET, CLEAN-OUT PLATE
2	1	1284106	GASKET, OIL GAUGE PLATE
3	2	1290077	COVER, WRENCH HOLE
4	3	1290078	GASKET, WRENCH HOLE
5	1	1290110	COVER, CENTER WRENCH HOLE
6	3	1290251	SCREW, OIL PASSAGE
7	9	1291074	BOLT, HOOK
8	3	G-1294180	COVER, TOP ACCESS
9	3	G-1294181	GASKET, TOP ACCESS COVER
10	3	1294009	RETAINER, OIL WIPER
11	3	1294016	SHIELD, OIL
12	3	1294023	PLATE, OIL WIPER RETAINER
13	1	1294029	FRAME COMPLETE, MAIN (CONSISTS OF THE FOLLOWING) 3 - 1270113 HOSE ASSEMBLY, 1/2" X 12" LG. 2 - 1294015 CROSSHEAD, CENTER & RIGHT HAND 6 - 1294017 LINER, CROSSHEAD 1 - 1294030 FRAME (ONLY) 3 - 1294089 CONDUCTOR, OIL 1 - 1294090 CROSSHEAD, LEFT HAND 1 - 1294099 SKID, FLUID END EXTENSION 15 - 1294103 SHIM, LINER 2 - 1294118 STIFFENER 36 - 2401310 SCREW, 3/4" X 2-1/4" LG. DRLD. HD. 6 - 6700400 PIPE, 1/2" X 1-3/4" LG. SCH. 40 3 - 6829004 ELBOW, 1/2" X 90 DEG. STREET 1 - 6873008 PLUG, 1" CORED SQ. HEAD 38 - 7618024 WASHER, 3/4" STAT-O-SEAL
14	1	1294062	STRAINER, LUBE SUMP
15	1	1294063	SUMP, LUBE OIL
16	1	1294069	BRACE, OIL TROUGH
17	1	1294070	TROUGH, PINION OIL (LEFT HAND)
18	1	1294071	TROUGH, PINION OIL (RIGHT HAND)
19	1	1294072	WIPER, GEAR OIL (LEFT HAND)
20	1	1294073	WIPER, GEAR OIL (RIGHT HAND)
21	2	1294076	PLATE, CLEAN-OUT
22	3	1294078	GASKET, RETAINER
23	3	1294079	GASKET, OIL WIPER
24	2	1294080	RAIL, SUMP SUPPORT
25	1	1294082	WIPER, PINION OIL (LEFT HAND)
26	3	1294083	ROD, INTERMEDIATE
27	1	1294087	WIPER, PINION OIL (RIGHT HAND)
28	2	1294093	COVER, INSPECTION
29	2	1294094	GASKET, INSPECTION
30	1	1294095	GASKET, MAIN FRAME COVER
31	1	1294114	PLATE, OIL GAUGE
32	1	1294179	TROUGH, CROSSHEAD LUBE OIL
33	12	1294182	WIPER, INTERMEDIATE ROD OIL
34	1	2400029	DIPSTICK, OIL LEVEL
35	8	2400040	SCREW, 3/8" X 3/4" LG. DRILLED HEX HEAD
36	1	2407100	PLATE, NAME AND INSTRUCTION
37	8	6300081	NUT, 1/2" - 13 UNC CAD. PLATED HEX
38	32	6300103	NUT, 5/8" - 11 UNC CAD. PLATED HEX
39	6	6310040	NUT, 1/4" - 20 UNC FLEXLOC
40	8	6310060	NUT, 3/8" - 16 UNC FLEXLOC
41	3	6320060	NUT, 3/8" HEX JAM
42	9	6541612	PIN, 1/4" X 1-1/2" LG. TYPE "C" GROOVE
43	1	6800163	BUSHING, 2" X 1" STD. C.I. HEX
44	2	6829016	ELBOW, 2" X 90 DEG. STD. M.I. STREET
45	6	7000113-11	CAPSCREW, 1/4" X 2-1/4" LG. GR. 5 CAD. PLTD. HEX HEAD
46	36	7000208-11	CAPSCREW, 3/8" X 1" LG. GRADE 5 CAD. PLATED HEX HEAD
47	16	7000209-11	CAPSCREW, 3/8" X 1-1/4" LG. GRADE 5 CAD. PLTD. HEX HEAD
48	4	7000210-11	CAPSCREW, 3/8" X 1-1/2" LG. GRADE 5 CAD. PLTD. HEX HEAD
49	18	7000301-11	CAPSCREW, 1/2" X 3/4" LG. GRADE 5 CAD. PLATED HEX HEAD
50	20	7000303-11	CAPSCREW, 1/2" X 1" LG. GRADE 5 CAD. PLATED HEX HEAD

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
51	12	7000306-11	CAPSCREW, 1/2" X 1-3/4" LG. GRADE 5 CAD. PLATED HEX HEAD
52	6	7000443-11	CAPSCREW, 3/4" X 2-3/4" LG. GRADE 5 CAD. PLATED HEX HEAD
53	2	7027393	SCREW, 5/8" X 1" LG. SOCKET HEAD CUP POINT SET
54	8	7035305-01	SCREW, 1/2" X 1-1/2" LG. CAD. PLTD. FLAT HEAD MACHINE
55	6	7178025	SCREW, NO. 2 X 1/4" LG. TYPE "U" ROUND HEAD DRIVE
56	16	7600024	WASHER, 3/8" N TYPE "A" 0.812" O.D.
57	32	7600040	WASHER, 5/8" N TYPE "A" 1.312" O.D.
58	24	7618014	WASHER, 3/8" STAT-O-SEAL
59	8	7619050	WASHER, 1/2" REG. CAD. PLATED SPRING LOCK
60	32	7619058	WASHER, 5/8" REG. CAD. PLATED SPRING LOCK
61	12	7621016	WASHER, 1/4" N TYPE "A" CAD. PLATED 0.625" O.D.
62	40	7621032	WASHER, 1/2" N TYPE "A" CAD. PLATED 1.062" O.D.
63	1	7802020	CAP, BREATHER
64	3	7805052	FITTING, 1/8" STRAIGHT HYD. GREASE
65	3	7805062	FITTING, 1/8" X 45 DEG. STREET ELBOW
66	3	7815057	PLUG, 1" MAGNETIC POST
116	6	G-1294139	PLATE, OIL WIPER RETAINING
117	18	G-7061091-17	SCREW, NO. 10 - 24 X 5/8" LG. ZINC PLTD. MACHINE
118	18	7619025	WASHER, NO. 10 REG. CAD. PLATED SPRING LOCK
119	6	1294141	SPACER, OIL WIPER
ITEMS 67 THRU 92 ARE SHOWN IN "SECTION THRU CRANKSHAFT"			
67	2	ZT-10003	BEARING, MAIN
68	4	1282147	SHIM (.005" THICK), BEARING SUPPORT
69	2	1282148	SHIM (.007" THICK), BEARING SUPPORT
70	2	1294011	CAGE, MAIN BEARING
71	2	1294012	CAGE, MAIN BEARING END
72	2	1294021	RING, MAIN BEARING LOCK
73	2	1294022	PLATE, MAIN BEARING RETAINER
74	2	1294081	RETAINER, MAIN BEARING CAGE OIL
75	2	1294096	GASKET, END CAP
76	8	1294104	SHIM (.020" THICK), LOCK RING
77	8	1294105	SHIM (.0075" THICK), LOCK RING
78	14	1294108	SHIM (.005" THICK), LOCK RING
79	2	1294115	SHIM (1/16" THICK), RETAINING PLATE
80	4	1294116	SHIM (.020" THICK), RETAINING PLATE
81	6	1294117	SHIM (.005" THICK), RETAINING PLATE
82	1	1294159	CRANKSHAFT SUB-ASSEMBLY, CONN. ROD / CROSSHEAD /
83	24	2400690	SCREW, 3/8" X 1" LG. DRILLED HEAD
84	48	2402680	SCREW, 5/8" X 2" LG. DRILLED HEAD
85	8	2405019	SCREW, 7/8" X 2-1/2" LG. DRILLED HEAD
86	16	5506202	BOLT, 3/8" X 3/4" LG. PLACE
87	2	6310241	NUT, 1-1/2" - 8 UN FLEXLOC
88	2	7400842	TUBING, 1/2" O.D. X 3/8" I.D. X 20" LG. STEEL
89	24	7600024	WASHER, 3/8" N TYPE "A" 0.812" O.D.
90	96	7600040	WASHER, 5/8" N TYPE "A" 1.312" O.D.
91	2	7804146	ELBOW, 1/2" T. X 3/8" P.T. X 90 DEG. MALE
92	2	G-7804202	ELBOW, 1/2" T. X 3/8" P.T. X 45 DEG. MALE
93	REF.	1294014	SPACER, BEARING SUPPORT
94	REF.	1294024	BOLT, BEARING SUPPORT
ITEMS 95 THRU 114 ARE SHOWN IN "SECTION THRU PINION AND CROSSHEADS"			
95	2	YS-6003	SEAL, PINION BEARING OIL
96	REF.	ZB-5620	BEARING, CROSSHEAD PIN
97	REF.	1291114	SHIM, RETAINER
98	2	1294020	RETAINER, PINION BEARING
99	REF.	1294028	PIN, CROSSHEAD
100	2	1294097	GASKET, RETAINER
101	REF.	1294110	RING, BEARING SNAP
102	REF.	1294112	RETAINER, PIN
103	2	1294113	COVER COMPLETE, HAND HOLE
104	1	1294158	PINION SHAFT SUB-ASSEMBLY
105	16	2400051	SCREW, 1/2" X 1-3/4" LG. DRILLED HEAD

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
106	16	2400930	SCREW, 5/8" X 1-3/4" LG. DRILLED HEAD
107	REF.	5506710	BOLT, 3/4" X 2" LG. PLACE
108	REF.	6910054	RING, RETAINING (FOR 1294028, CROSSHEAD PIN)
109	12	7000209-11	CAPSCREW, 3/8" X 1-1/4" LG. GRADE 5 CAD. PLTD. HEX HEAD
110	REF.	2401310	CAPSCREW, 3/4" X 2-1/4" LG. DRILLED HEX HEAD
111	16	7600040	WASHER, 5/8" N TYPE "A" 1.312" O.D.
112	16	7621032	WASHER, 1/2" N TYPE "A" 1.062" O.D. CAD. PLATED
113	REF.	7611036	WASHER, 3/4" LOCOMOTIVE HI-CROME LT. SER. SPRING
114	12	7618014	WASHER, 3/8" STAT-O-SEAL

NOTES:

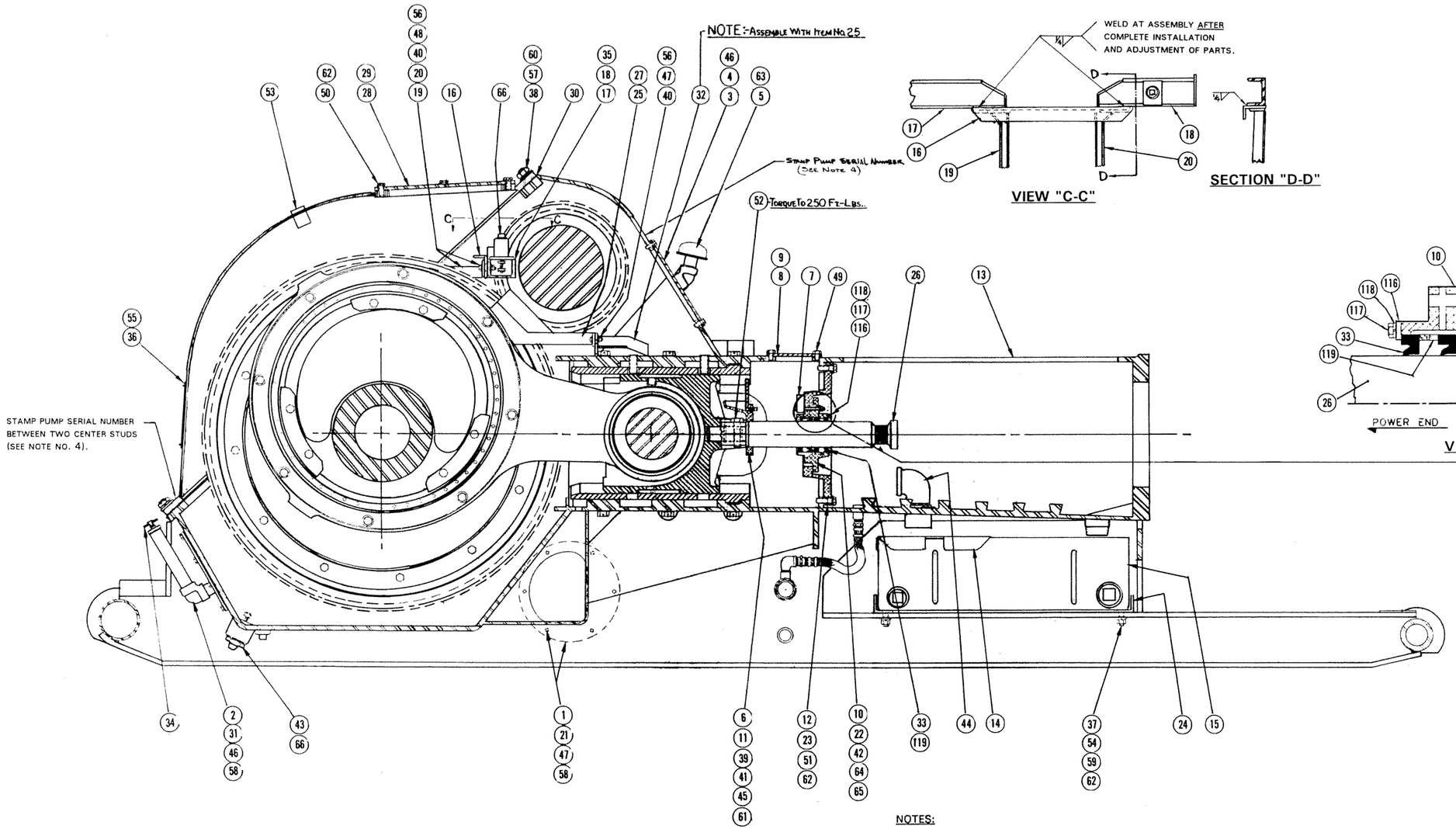
1. ASSEMBLE SPACER (ITEM 93) IN FRAME AND INSERT SHIMS (ITEMS 68 & 69) AS REQUIRED TO OBTAIN A .003" TO .005" LOOSE GAP BETWEEN SPACER AND FRAME. TIGHTEN NUT ON BOLT (ITEM 94) UNTIL SPACER TOUCHES FRAME METAL TO METAL. CHECK BY TAPPING SPACER LIGHTLY WITH HAMMER. THEN MARK THE POSITION OF NUT AND TIGHTEN NUT AN ADDITIONAL TWO FLATS (1/3 TURN).
2. INSTALL SHIM EQUAL TO INNER RACE STAND OFF BEYOND SHAFT, LESS .003" TO .005".
3. TORQUE SCREW (ITEM 110) TO 75 FT./LBS. MEASURE GAP BETWEEN RETAINER (ITEM 102) AND CROSSHEAD INSERT REQUIRED THICKNESS OF SHIM (ITEM 97) TO FIT MEASURED SHIM GAP. TORQUE SCREW (ITEM 110) TO 250 FT./LBS. AT FINAL ASSEMBLY.
4. STAMP (IN 3/8" HIGH LETTERS) PUMP SERIAL NUMBER OF PUMP FRAME IN TWO LOCATIONS: BETWEEN CENTER TWO STUDS ON LOWER FLANGE OF MAIN FRAME COVER. ABOVE WRENCH HOLE COVER (ITEM 5).
   SERIAL NUMBER SHOULD INCLUDE THE PREFIX LETTER(S) OF THE MANUFACTURING LOCATION.

NATIONAL-OILWELL

POWER END COMPLETE
7-P-50 TRIPLEX SLUSH PUMP

	SIZE	DRAWING NO.	REV.
	F	PL 1294001	P

NAME & INSTRUCTION PLATE DATA.		
MODEL 7-P-50. SERIAL NO._____.		
MAX. LINER SIZE 6¼". STROKE 7¾".		
RATED MAX. INPUT 500 H.P. AT 165 SPM.		
RATED MAX. OUTPUT 450 H.P. AT 165 SPM.		
GEAR RATIO 2.742. FLUID END SERIAL NO._____		
FLUID END HYDROSTATIC TEST PRESSURE 10000.		
LINER SIZE	GPM. AT RATED SPM.	MAX. PRESSURE.
6¼	510	1515
6	470	1645
5¾	431	1790
5½	395	1955
5	326	2365
4½	264	2920
4	209	3695
3½	160	4830
CRANKCASE OIL CAPACITY 70 U.S. GALLONS.		



VIEW "C-C"

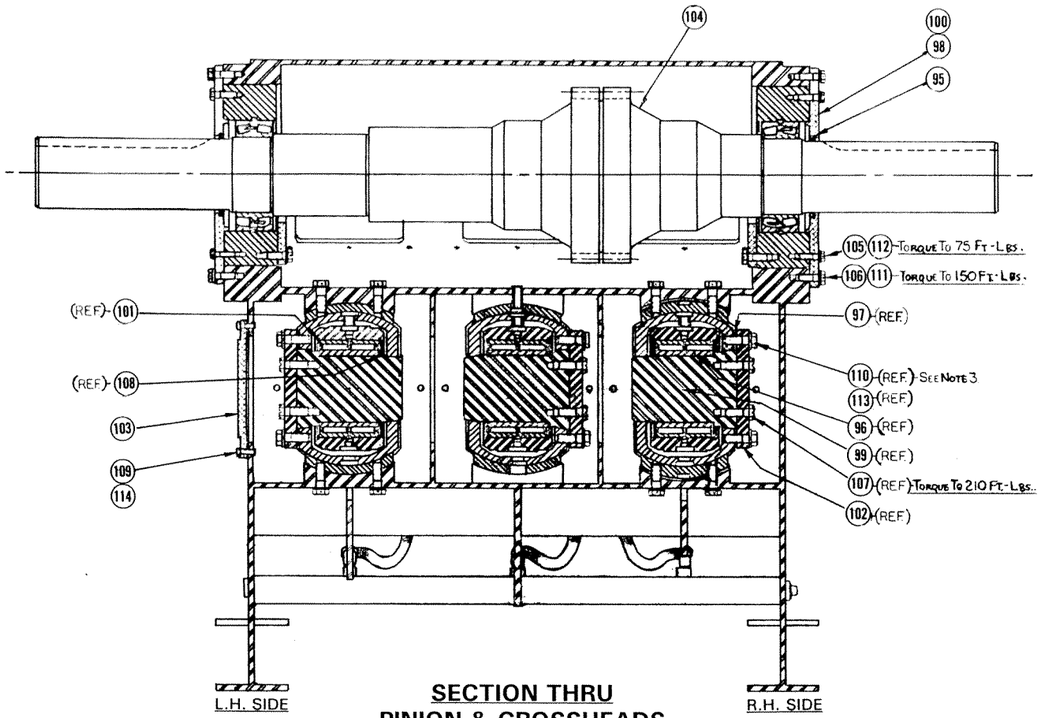
SECTION "D-D"

VIEW "E"

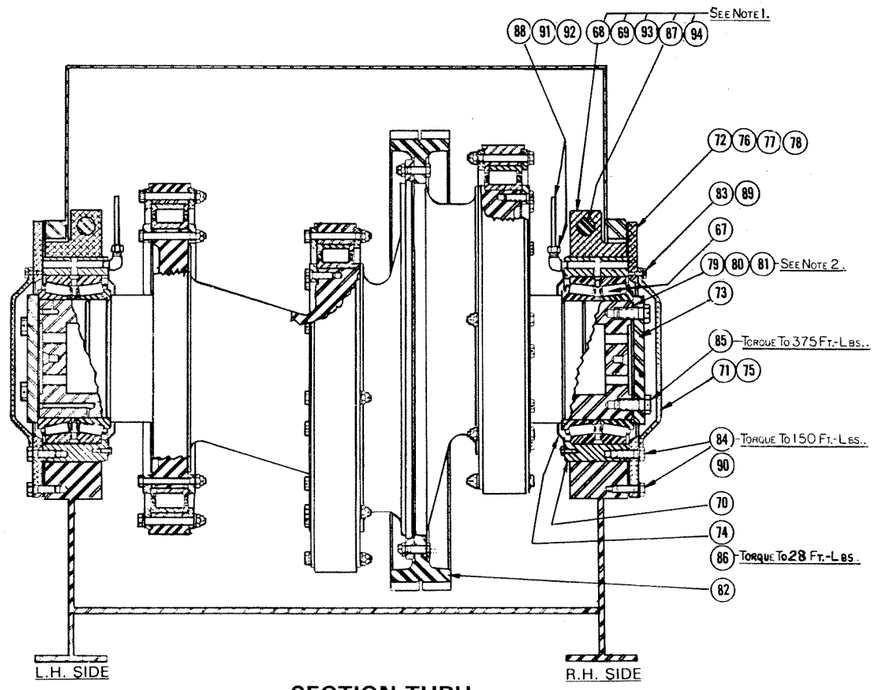
NOTES:

1. ASSEMBLE SPACER (ITEM 93) IN FRAME AND INSERT SHIMS (ITEMS 68 & 69) AS REQUIRED TO OBTAIN A .003" TO .005" LOOSE GAP BETWEEN SPACER AND FRAME. TIGHTEN NUT ON BOLT (ITEM 94) UNTIL SPACER TOUCHES FRAME METAL TO METAL. CHECK BY TAPPING SPACER LIGHTLY WITH HAMMER. THEN MARK THE POSITION OF NUT AND TIGHTEN NUT AN ADDITIONAL TWO FLATS (1/3 TURN).
2. INSTALL SHIM EQUAL TO INNER RACE STAND OFF BEYOND SHAFT, LESS .003" TO .005".
3. TORQUE SCREW (ITEM 110) TO 75 FT./LBS. MEASURE GAP BETWEEN RETAINER (ITEM 102) AND CROSSHEAD INSERT REQUIRED THICKNESS OF SHIM (ITEM 97) TO FIT MEASURED SHIM GAP. TORQUE SCREW (ITEM 110) TO 250 FT./LBS. AT FINAL ASSEMBLY.
4. STAMP (IN 3/8" HIGH LETTERS) PUMP SERIAL NUMBER OF PUMP FRAME IN TWO LOCATIONS: BETWEEN CENTER TWO STUDS ON LOWER FLANGE OF MAIN FRAME COVER. ABOVE WRENCH HOLE COVER (ITEM 5).
SERIAL NUMBER SHOULD INCLUDE THE PREFIX LETTER(S) OF THE MANUFACTURING LOCATION.

NATIONAL-OILWELL			
POWER END COMPLETE 7-P-50 TRIPLEX SLUSH PUMP			
	SIZE	DRAWING NO.	REV.
	F	PL 1294001	P



SECTION THRU
PINION & CROSSHEADS



SECTION THRU
CRANKSHAFT

NOTES:

1. ASSEMBLE SPACER (ITEM 93) IN FRAME AND INSERT SHIMS (ITEMS 68 & 69) AS REQUIRED TO OBTAIN A .003" TO .005" LOOSE GAP BETWEEN SPACER AND FRAME. TIGHTEN NUT ON BOLT (ITEM 94) UNTIL SPACER TOUCHES FRAME METAL TO METAL. CHECK BY TAPPING SPACER LIGHTLY WITH HAMMER. THEN MARK THE POSITION OF NUT AND TIGHTEN NUT AN ADDITIONAL TWO FLATS (1/3 TURN).

2. INSTALL SHIM EQUAL TO INNER RACE STAND OFF BEYOND SHAFT, LESS .003" TO .005".

3. TORQUE SCREW (ITEM 110) TO 75 FT./LBS. MEASURE GAP BETWEEN RETAINER (ITEM 102) AND CROSSHEAD INSERT REQUIRED THICKNESS OF SHIM (ITEM 97) TO FIT MEASURED SHIM GAP. TORQUE SCREW (ITEM 110) TO 250 FT./LBS. AT FINAL ASSEMBLY.

4. STAMP (IN 3/8" HIGH LETTERS) PUMP SERIAL NUMBER OF PUMP FRAME IN TWO LOCATIONS: BETWEEN CENTER TWO STUDS ON LOWER FLANGE OF MAIN FRAME COVER. ABOVE WRENCH HOLE COVER (ITEM 5). SERIAL NUMBER SHOULD INCLUDE THE PREFIX LETTER(S) OF THE MANUFACTURING LOCATION.

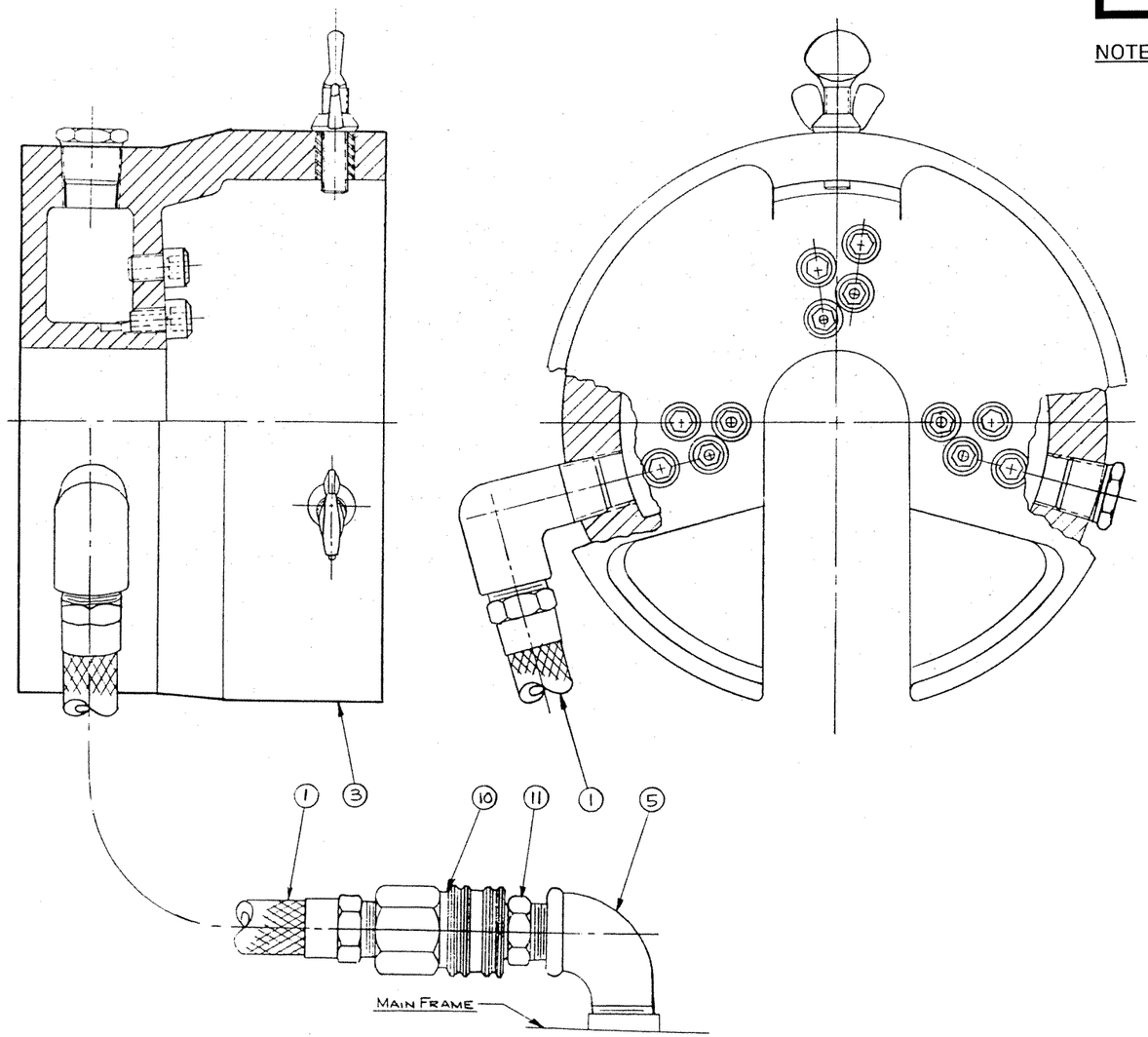
NATIONAL-OILWELL

POWER END COMPLETE
7-P-50 TRIPLEX SLUSH PUMP

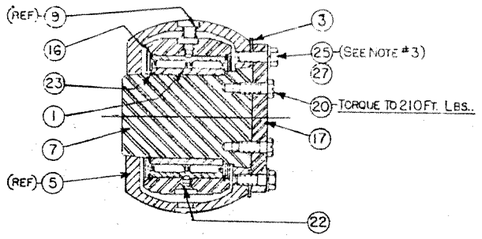
	SIZE	DRAWING NO.	REV.
	F	PL 1294001	P

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294190	PISTON - LINER SPRAY SYSTEM (CONSISTS OF THE FOLLOWING)
1	1	G-2400075	HOSE, 1/2" X 16-1/2" LG.
3	1	1294189	MANIFOLD, SPRAY
5	1	6829004	ELBOW, 1/2" X 90 DEG. STD. M.I. STREET
10	1	7818282	SOCKET, 1/2" F.P.T.
11	1	7815094	PLUG, 1/2" M.P.T.

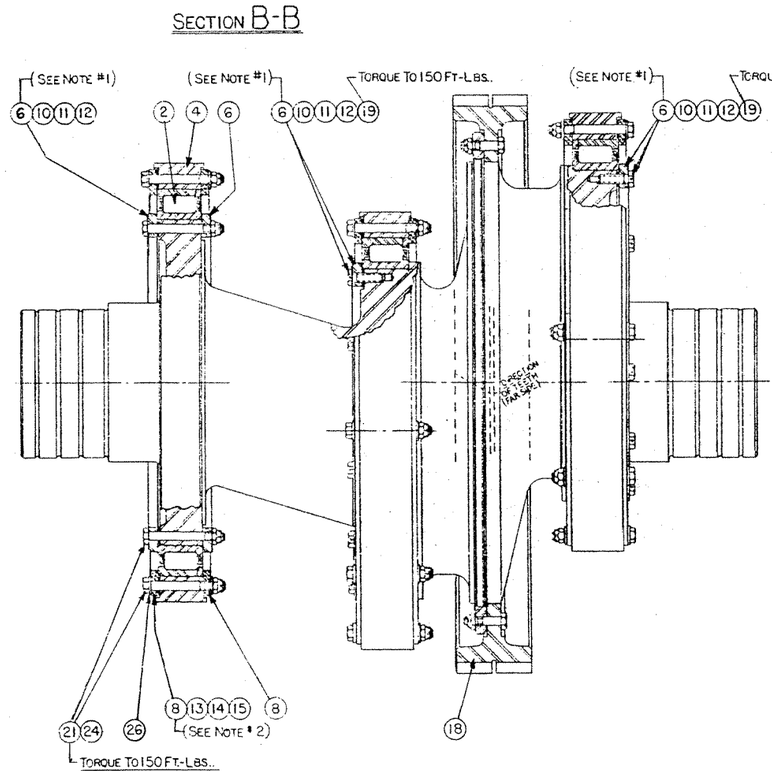
NOTE: FOR SERVICE ITEM USE PART NO. 1294189.



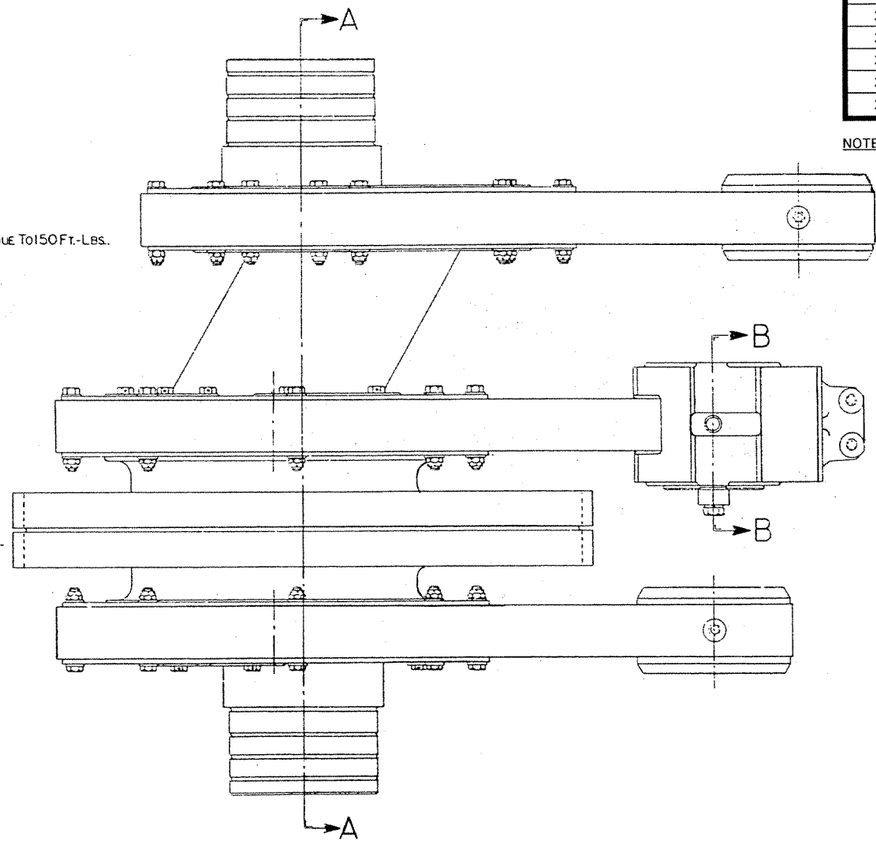
NATIONAL-OILWELL			
PISTON — LINER SPRAY SYSTEM 7-P-50 TRIPLEX SLUSH PUMP			
	SIZE	DRAWING NO.	REV.
	C	PL 1294190	D



SECTION B-B



SECTION A-A



BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294159	CRANKSAFT & CONNECTION ROD SUB-ASSEMBLY (CONSISTS OF THE FOLLOWING)
1	3	ZB-5620	BEARING, CROSSHEAD PIN
2	3	ZB-22000	BEARING, CONNECTING ROD
3	6	1291114	SHIM, PIN RETAINER
4	3	1294007	ROD, CONNECTING
5	REF.	1294015	CROSSHEAD, CENTER
6	12	1294026	PLATE, CONNECTING ROD BEARING RETAINING
7	3	1294028	PIN, CROSSHEAD
8	6	1294061	RETAINER, CONNECTING ROD BEARING OUTER
9	REF.	1294089	CONDUCTOR, OIL
10	9	1294100	SHIM (.020" THICK), CONNECTING ROD BEARING RETAINER PLATE
11	18	1294101	SHIM (.0075" THICK), CONNECTING ROD BEARING RETAINER PLATE
12	27	1294102	SHIM (.005" THICK), CONNECTING ROD BEARING RETAINER PLATE
13	3	1294107	SHIM (.020" THICK), CONNECTING ROD BEARING OUTER RETAINER
14	9	1294108	SHIM (.0075" THICK), CONNECTING ROD BEARING OUTER RETAINER
15	9	1294109	SHIM (.005" THICK), CONNECTING ROD BEARING OUTER RETAINER
16	6	1294110	RING, CROSSHEAD PIN BEARING SNAP
17	3	1294112	RETAINER, CROSSHEAD PIN
18	1	1294136	CRANKSHAFT AND GEAR SUB-ASSEMBLY
19	12	2400930	SCREW, 5/8" X 1-3/4" LG. DRILLED HEAD
20	6	5506710	BOLT, 3/4" X 2" LG. PLACE
21	30	6310101	NUT, 5/8" - 11 UNC FLEXLOC
22	3	6875003	PLUG, 3/8" STD. COUNTERSUNK
23	3	6910054	RING, RETAINING
24	30	7000409-11	CAPSCREW, 5/8" X 5" LG. GRADE 5 CAD. PLATED HEX HEAD
25	6	2401310	CAPSCREW, 3/4" X 2-1/4" LG. DRILLED HEX HEAD
26	96	7600040	WASHER, 5/8" N TYPE "A" 1.312" O.D.
27	6	7611036	WASHER, 3/4" LOCOMOTIVE HI-CROME LT. SER. SPRING

NOTES:

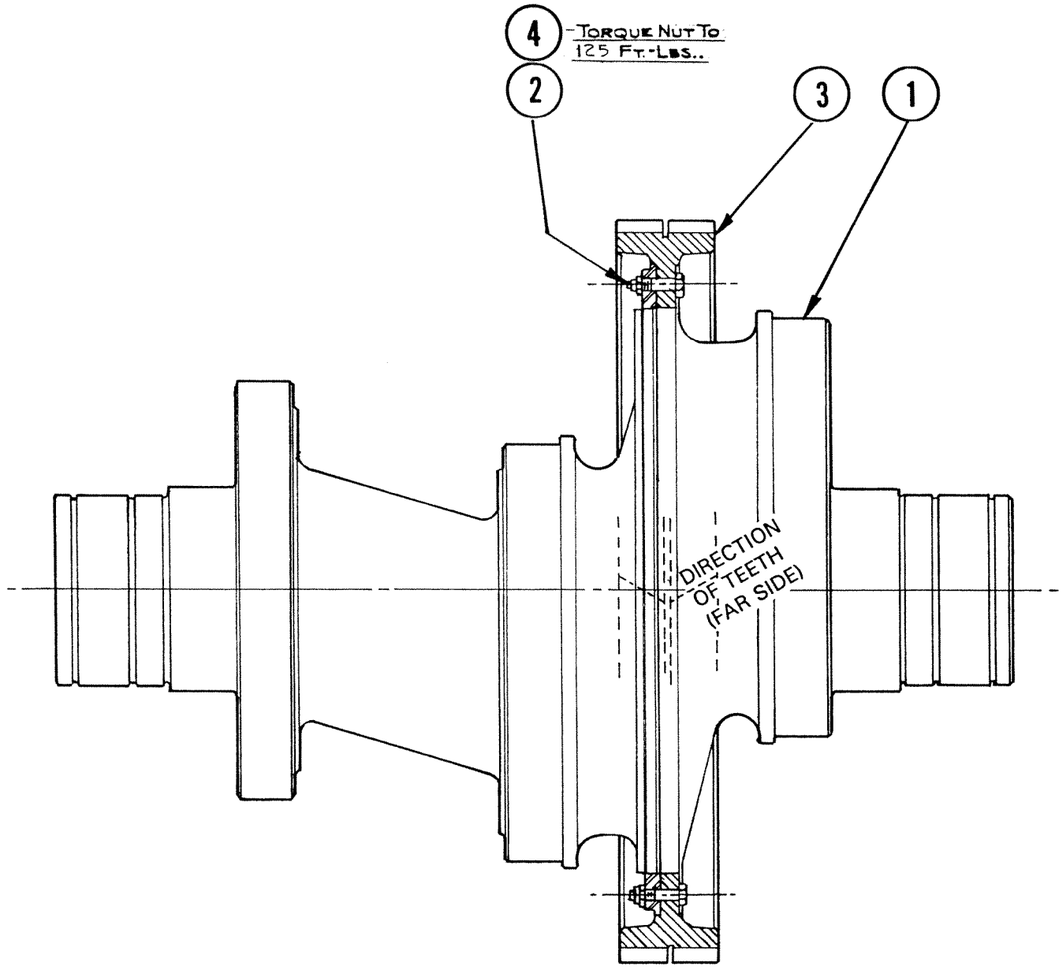
1. SUBTRACT MEASURED WIDTH OF BEARING AREA FROM MEASURED WIDTH OF BEARING INNER RACE TO FIND SHIM GAP. INSTALL SHIMS IN AN AMOUNT TO EQUAL TO ± .001" OF THE MEASURED SHIM GAP.
2. SUBTRACT MEASURED WIDTH OF CONNECTING ROD BEARING AREA FROM MEASURED WIDTH OF BEARING OUTER RACE TO FIND SHIM GAP. SUBTRACT .003" TO .005" FROM SHIM GAP TO OBTAIN AMOUNT OF SHIMS REQUIRED.
3. TORQUE SCREW (ITEM 25) TO 75 FT./LBS. MEASURE GAP BETWEEN RETAINER (ITEM 17) AND CROSSHEAD (ITEM 5), INSERT REQUIRED THICKNESS OF SHIMS (ITEM 3) TO FIT MEASURED SHIM GAP. TORQUE SCREW (ITEM 25) TO 250 FT./LBS. AT FINAL ASSEMBLY.

NATIONAL-OILWELL

CRANKSHAFT & CONNECTING ROD SUB—ASSEMBLY 7-P-50 TRIPLEX SLUSH PUMP

	SIZE	DRAWING NO.	REV.
	D	PL 1294159	A

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294136	CRANKSHAFT AND GEAR SUB-ASSEMBLY (CONSISTS OF THE FOLLOWING)
1	1	1294005	CRANKSHAFT
2	12	1294006	BOLT
3	1	1294008	GEAR
4	12	6310101	NUT, 5/8" FLEXLOC

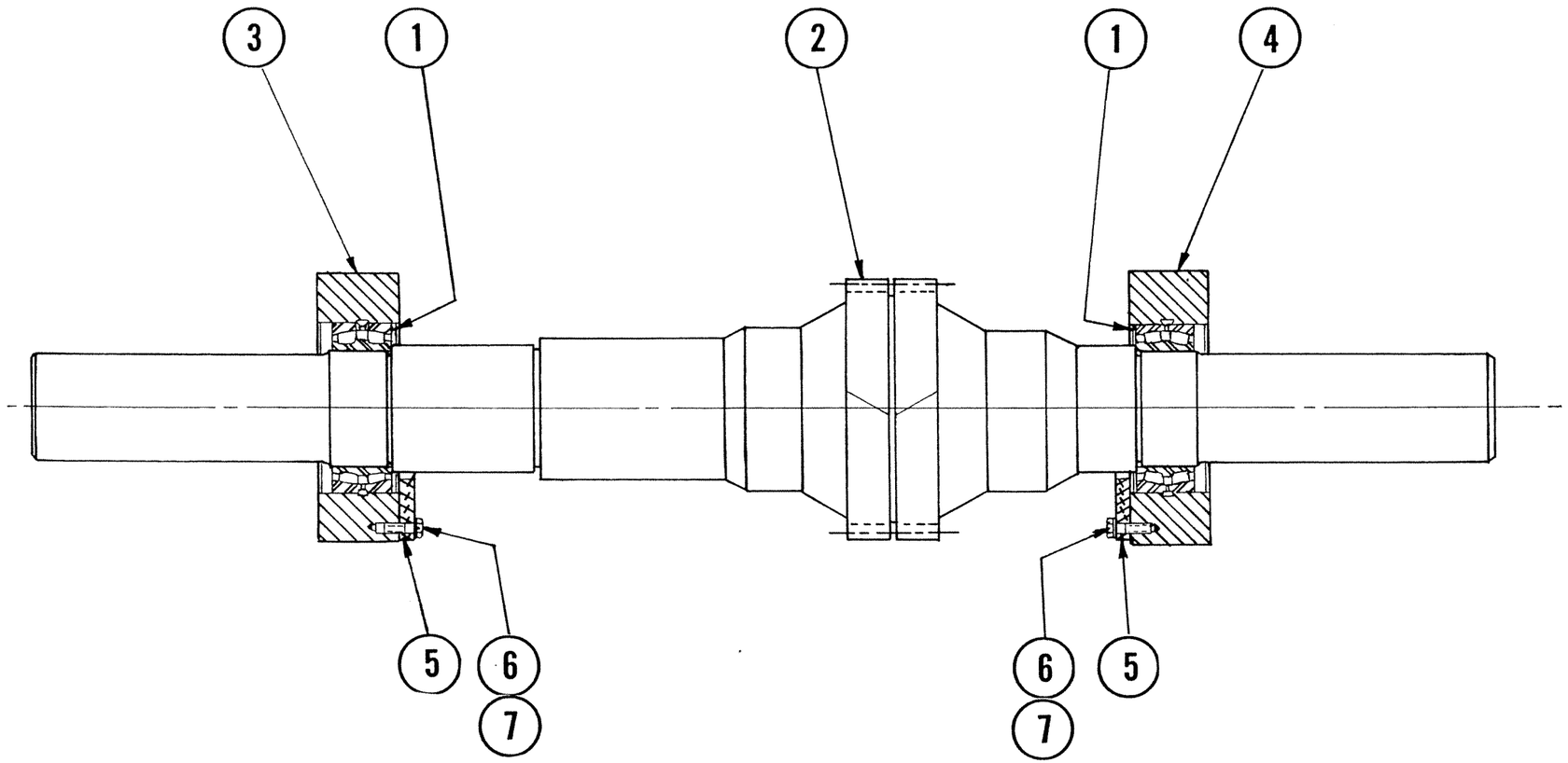


NATIONAL-OILWELL

CRANKSHAFT & GEAR SUB—ASSEMBLY
7-P-50 TRIPLEX SLUSH PUMP

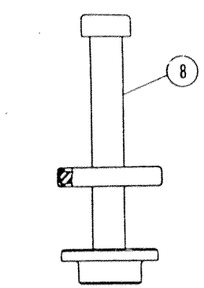
	SIZE	DRAWING NO.	REV.
	D	PL 1294136	A

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294158	PINION SHAFT SUB-ASSEMBLY (CONSISTS OF THE FOLLOWING)
1	2	ZB-6292	BEARING, PINION
2	1	1294010	PINION
3	1	1294018	CAGE, PINION BEARING (LEFT HAND)
4	1	1294019	CAGE, PINION BEARING (RIGHT HAND)
5	2	1294027	PLATE, PINION BEARING CAGE
6	8	2400930	SCREW, 5/8" X 1-3/4" LG. DRILLED HEAD
7	8	7600040	WASHER, 5/8" N TYPE "A" 1.312" O.D.

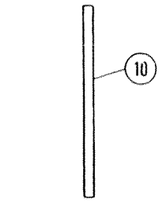


NATIONAL-OILWELL			
PINION SHAFT SUB—ASSEMBLY 7-P-50 TRIPLEX SLUSH PUMP			
	SIZE	DRAWING NO.	REV.
	B	PL 1294158	

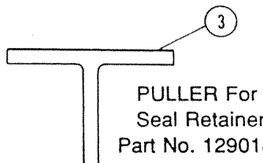
Valve Pot Tools



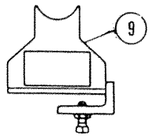
DRIVER For Valve Seat
Part No. 1294153



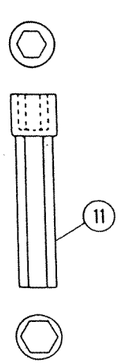
BAR For
Loosening Wedges
Part No. 1710270



PULLER For
Seal Retainer
Part No. 1290183



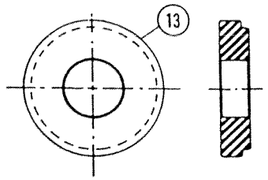
HOLDER For
Seal Retainer
Part No. 1292278



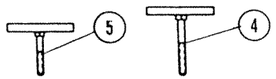
EXTENDED HANDLE WRENCH
For Use With 2409010
Part No. 2409011

WRENCH For Valve Cover
TAPR-LOK Adjusting Screw
10-P-130 Part No. 2409010
(fits 1" Heavy Hex Nut)

Liner Chamber Tools

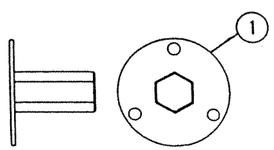


PULLER PLATE For Liner Bushing
Part No. 1294164

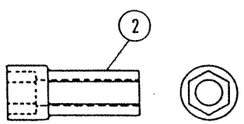


TEE HANDLE BOLT
For Liner Clamp Lifting
Part No. 1290206 (Short)
Part No. 1290207 (Long)

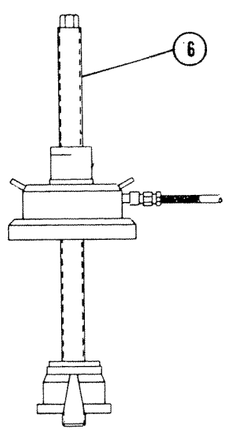
Power End Tools



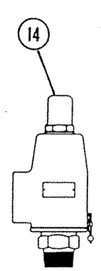
ADAPTER For Pinion Rotating
Part No. 1294140



WRENCH For Pinion
Rotating Adapter
Part No. 2402290



PULLER For Valve Seat
7-P-50 Part No. M1060 & M1120

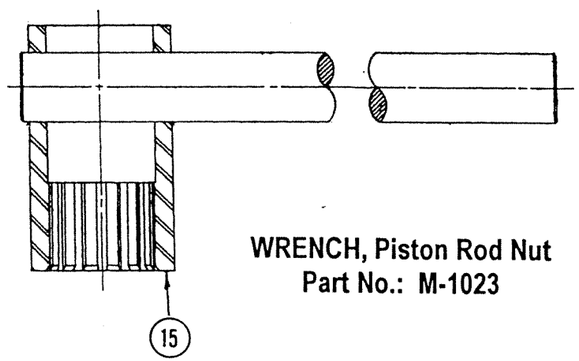


SUCTION LINE RELIEF VALVE
PART NO. 7500065

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
ITEMS BELOW ARE STANDARD PARTS THAT ARE FURNISHED WITH EACH SET OF PUMPS, BUT SHIPPED SEPARATELY.			
1	1	1294140	ADAPTER FOR PINION ROTATING
2	1	2402290	WRENCH FOR PINION ROTATING ADAPTER
3	1	1290183	PULLER FOR SEAL RETAINER
4	1	1290207	TEE HANDLE BOLT FOR LINER CLAMP LIFTING (LONG)
5	1	1290206	TEE HANDLE BOLT FOR LINER CLAMP LIFTING (SHORT)
6	1	M-1060	PULLER, VALVE SEAT
7	1	2404085	KEY, 1" X 1-1/2" X 12" LG. PINION STAFT
8	1	1294153	DRIVER FOR VALVE SEAT
9	1	1292278	HOLDER FOR SEAL RETAINER
10	1	1717270	BAR FOR LOOSENING WEDGES
11	1	2409010	WRENCH FOR VALVE COVER TAP-LOK ADJUSTING SCREW
12	1	2409011	EXTENDED HANDLE WRENCH (USE WITH 2409010)
13	1	1294164	PULLER PLATE FOR LINER BUSHING
14	1	7500065	VALVE, RELIEF (SET AT 70 P.S.I.)
15	1	M-1023	WRENCH, PISTON ROD NUT

Special Tools:

Shown here are sketches of the special tools and wrenches provided with the 7-P-50 Triplex Pump. It is suggested that a storage area, cabinet or chest be provided for these tools convenient to the pumps, to minimize the chance of their being lost. These tools are valuable, not just in value, but in the amount of time and trouble saved in doing the work for which they were designed.



WRENCH, Piston Rod Nut
Part No.: M-1023

NATIONAL-OILWELL
HOUSTON, TEXAS , U.S.A.

SPECIAL TOOLS
7-P-50 TRIPLEX SLUSH PUMP

	SHEET 1 OF 1	SIZE:	DRAWING NO.:	REV.
		B		

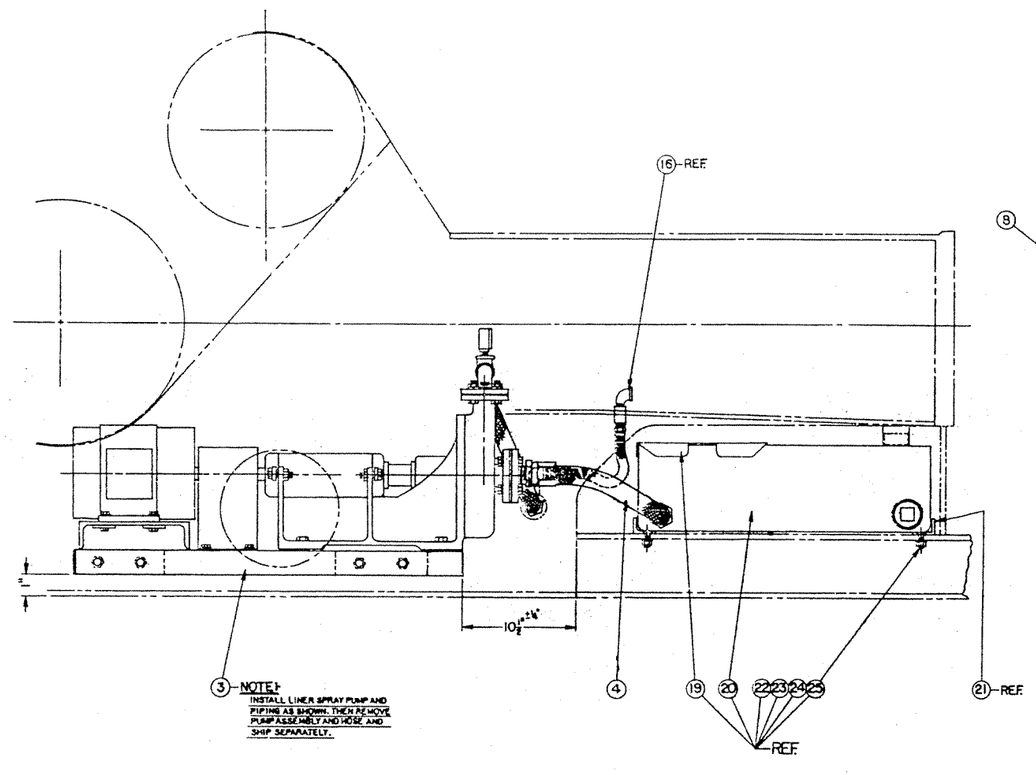
BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294290	LUBE SYSTEM COMPLETE, PISTON LINER (CONSISTS OF THE FOLLOWING)
1	1	1289248	HOSE ASSEMBLY, 1" X 21" LG.
2	2	1292284	SUPPORT, MOTOR AND PUMP
3	1	X12-2989	PUMP COMPLETE, LINER SPRAY
4	1	6106001	HOSE ASSEMBLY, 1-1/2" X 24" LG.
5	4	6310120	NUT, 3/4" - 10 UNC FLEXLOC
6	1	6800081	BUSHING, 1" X 1/4" STD. M.I. HEX PIPE
7	1	6817076	NIPPLE, 1" X 3" LG. STD. PIPE
8	1	6829008	ELBOW, 1" X 90 DEG. STD. M.I. STREET
9	1	6839008	ELBOW, 1" X 45 DEG. STD. M.I. STREET
10	1	6859008	CROSS, 1" STD. PIPE
11	1	6873008	PLUG, 1" STD. CORED SQUARE HEAD PIPE
12	4	7000439-11	CAPSCREW, 3/4" X 1-3/4" LG. GRADE 5 CAD. PLTD. HEX HEAD
13	4	7621044	WASHER, 3/4" N TYPE "A" 1.469" O.D. CAD. PLATED
14	1	7800070	ADAPTER, MALE PIPE
15	1	7806002	GAUGE (0-100 PSI), 2-1/2" DIAL X 1/4" NPT GLYCERIN FILLED PRESSURE
16	REF.	1294190	SPRAY SYSTEM, PISTON - LINER
17	REF.	1270113	HOSE ASSEMBLY, 1/2" X 12" LG.
18	REF.	6829004	ELBOW, 1/2" X 90 DEG. STD. M.I. STREET
19	REF.	1294062	STRAINER, LUBE SUMP
20	REF.	1294063	SUMP, PISTON - LINER LUBE
21	REF.	1294080	RAIL, LUBE SUMP SUPPORT
22	REF.	6300081	NUT, 1/2" - 13 UNC CAD. PLATED HEX
23	REF.	7035305-01	SCREW, 1/2" X 1-1/2" LG. CAD. PLTD. FLAT HEAD MACHINE
24	REF.	7619050	WASHER, 1/2" REG. CAD. PLATED SPRING LOCK
25	REF.	7621032	WASHER, 1/2" N TYPE "A" 1.062" O.D. CAD. PLATED

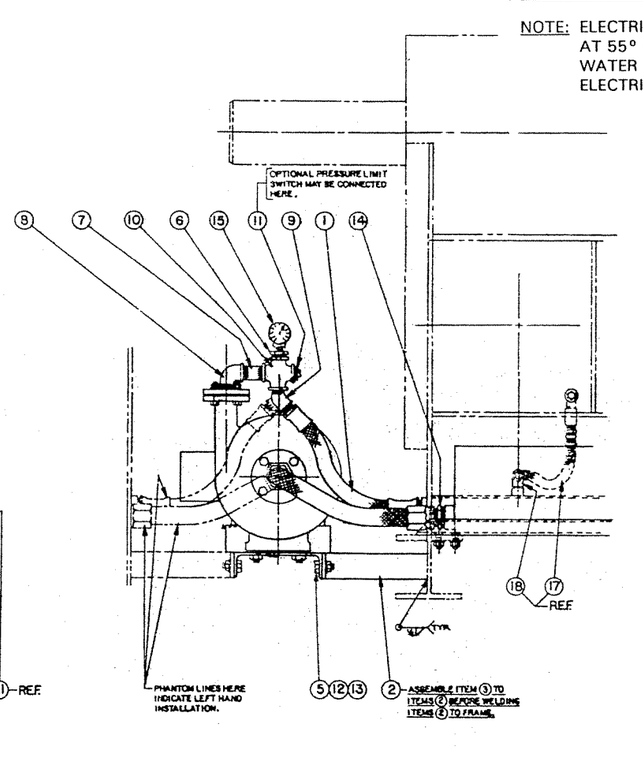
THIS ITEM IS SHOWN ON DRAWING NO. F-1294000 & F-1294250

THESE ITEMS SHOWN ON DRAWING NO. F-1294029 & F-1294259

THESE ITEMS SHOWN ON DRAWING NO. F-1294001 & F-1294251

NOTE: ELECTRIC MOTOR IS: 60 CY., 230/460 VOLT, EXPLOSION-PROOF AT 55° C. AMBIENT TEMP., AND PROTECTED FOR MARINE-SALT WATER ATMOSPHERE. IT IS INTERCHANGEABLE WITH CHAINLUBE ELECTRIC MOTOR.

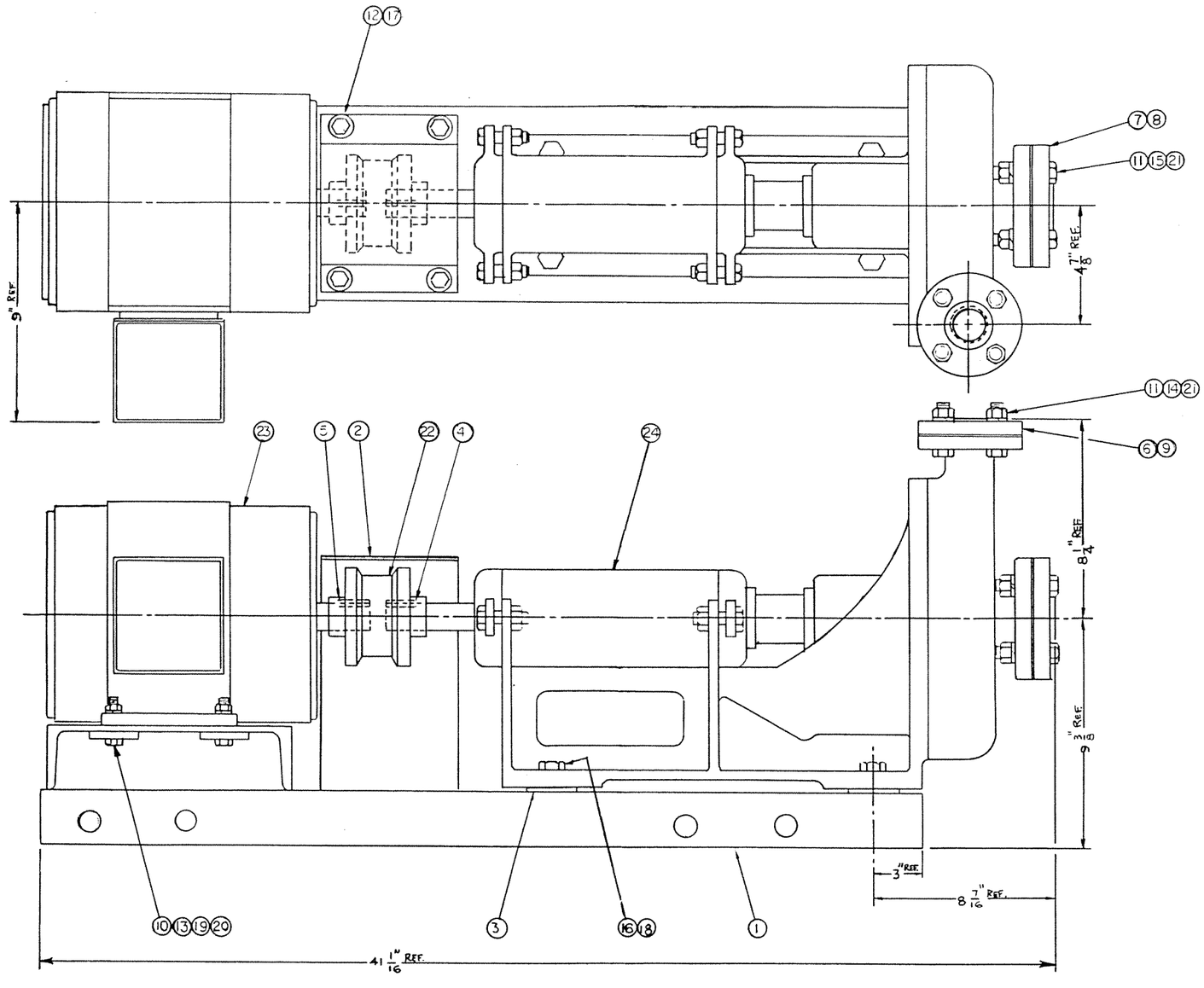




NATIONAL-OILWELL

LUBE SYSTEM FOR PISTON & LINER 7-P-50 TRIPLEX SLUSH PUMP

	SIZE	DRAWING NO.	REV.
	E	PL 1294290	



BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	X12-2989	LINER SPRAY PUMP COMPLETE (CONSISTS OF THE FOLLOWING)
1	1	1292285	BASE, MOTOR AND PUMP
2	1	1292286	GUARD, DRIVE SHAFT
3	4	1292283	SHIM, PUMP
4	1	2401860	KEY, 1/4" X 1/4" X 1-1/4" LG.
5	1	2401860	KEY, 1/4" X 1/4" X 1-1/4" LG.
6	1	5902091	FLANGE, 1" ASA-150# FLAT FACE THREADED
7	1	5902172	FLANGE, 1-1/2" ASA-150# FLAT FACE THREADED
8	1	6010036	GASKET (WITH HOLES), 1-1/2" X 1/16" THK. FULL FACE 150#
9	1	6010037	GASKET (WITH HOLES), 1" X 1/16" THK. FULL FACE 150#
10	4	6300067	NUT, 3/8" CAD. PLATED HEX
11	8	6300081	NUT, 1/2" CAD. PLATED HEX
12	4	7000207-11	CAPSCREW, 3/8" X 7/8" LG. GRADE 5 CAD. PLTD. HEX HEAD
13	4	7000211-11	CAPSCREW, 3/8" X 1-3/4" LG. GRADE 5 CAD. PLTD. HEX HEAD
14	4	7000307-11	CAPSCREW, 1/2" X 2" LG. GRADE 5 CAD. PLTD. HEX HEAD
15	4	7000309-11	CAPSCREW, 1/2" X 2-1/4" LG. GRADE 5 CAD. PLTD. HEX HEAD
16	4	7000396-11	CAPSCREW, 5/8" X 1-3/4" LG. GRADE 5 CAD. PLTD. HEX HEAD
17	4	7600026	WASHER, 3/8" W TYPE "A" 1.000" O.D.
18	4	7600042	WASHER, 5/8" W TYPE "A"
19	4	1292293	WASHER, 1/4" X 1-3/4" SQUARE
20	4	7619041	WASHER, 3/8" REG. CAD. PLATED SPRING LOCK
21	8	7619050	WASHER, 1/2" REG. CAD. PLATED SPRING LOCK
22	1	7802327	COUPLING, 1-1/8" BORE (SIZE 20T10)
23	1	7812650	MOTOR, ELECTRIC (SEE NOTE)
24	1	7815147	PUMP, 1" X 1-1/2" CENTRIFUGAL

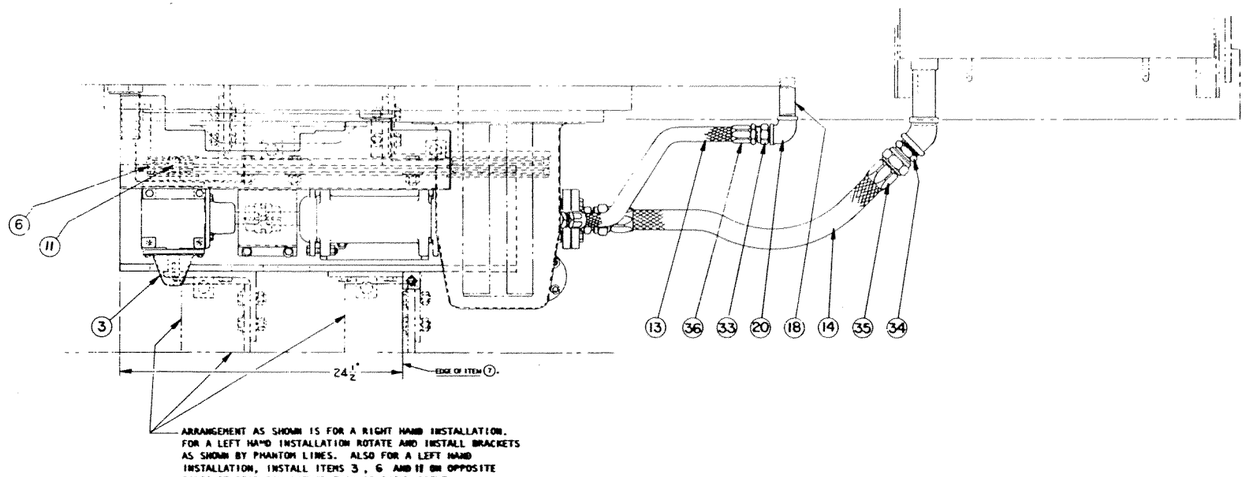
NOTE:

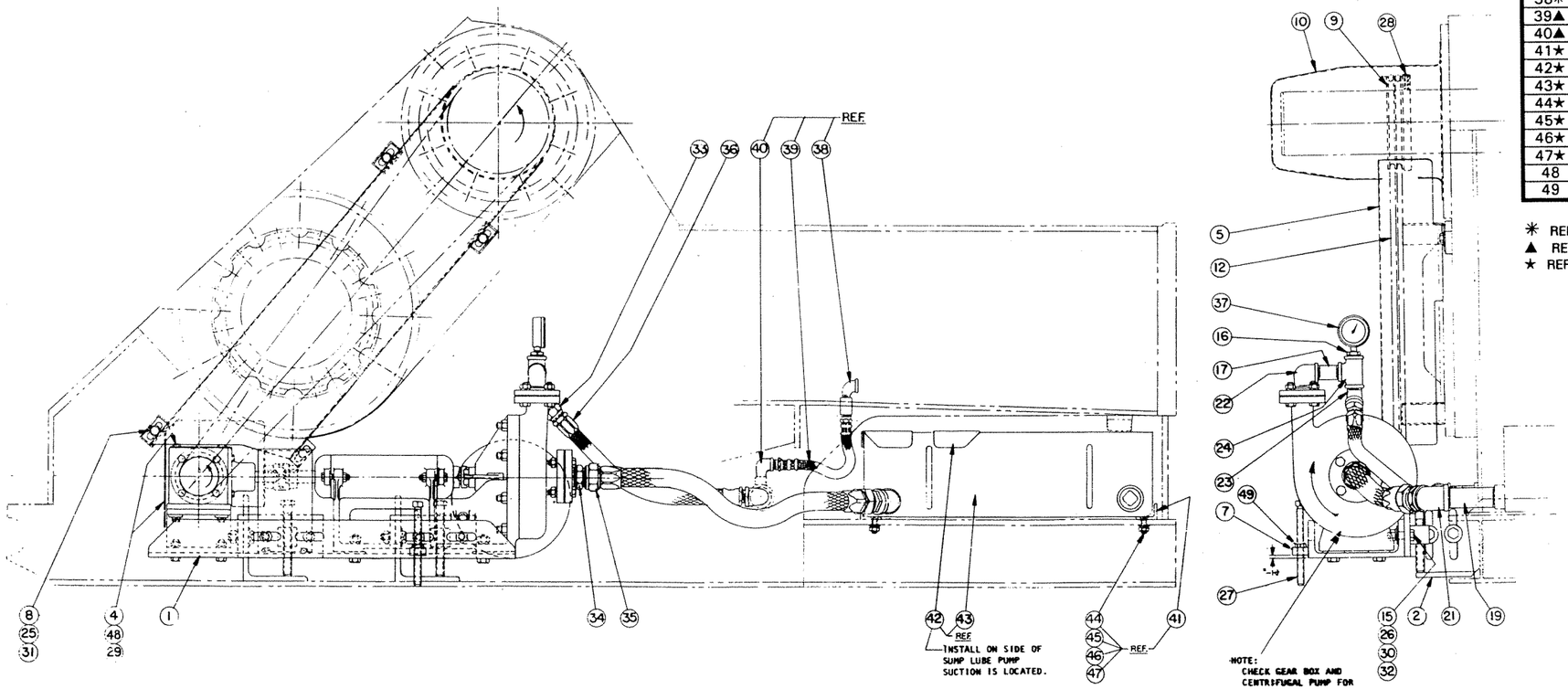
ELECTRIC MOTOR IS: 3 H.P., 1735 R.P.M., 60 CY., 230/460 V., 3 PHASE, 182-T EXPLOSION-PROOF FRAME & PROTECTED FOR MARINE OR SALT WATER ATMOSPHERE. IT IS INTERCHANGEABLE WITH CHAIN LUBE MOTOR. 55° C. AMBIENT MOTOR.

NATIONAL-OILWELL

LINER SPRAY PUMP ASSEMBLY
7-P-50 TRIPLEX SLUSH PUMP

	SIZE	DRAWING NO.	REV.
	D	PL X12-2989	





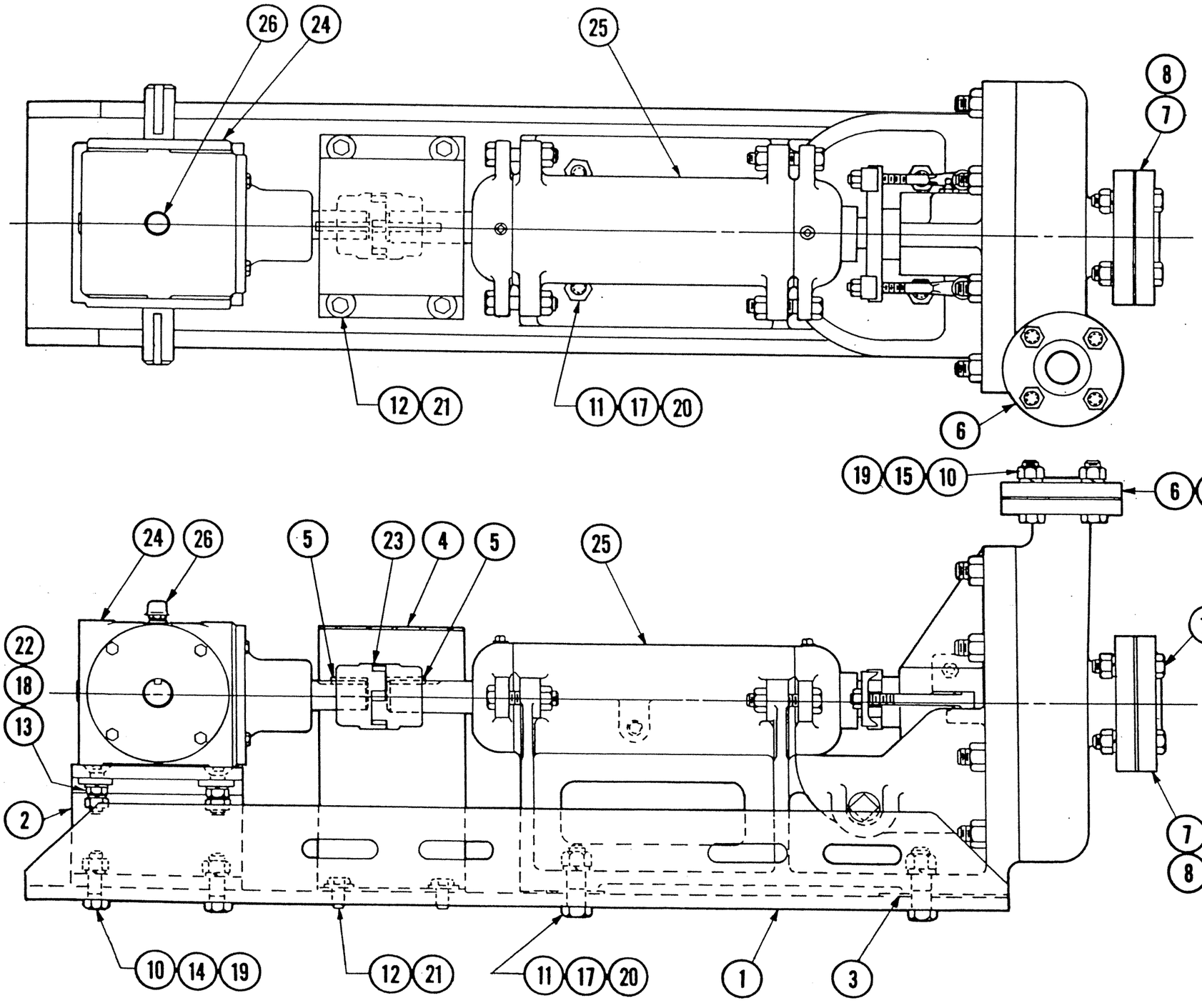
BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
---	---	G1294132-LH G1294132-RH	RIGHT ANGLE DRIVE PISTON & LINER LUBE SYSTEM (CONSISTS OF THE FOLLOWING)
1	1	G1291157	PUMP COMPLETE, LINER SPRAY
2	2	G1291252	BRACKET, PUMP MOUNTING
3	1	G1291258	COVER, CROSS SHAFT
4	1 1	G-1294129 G-1294128	GUARD, GEARBOX SHEAVE (LEFT HAND) GUARD, GEARBOX SHEAVE (RIGHT HAND)
5	1 1	G1294133 G1294134	GUARD, GEARBOX V-BELT (LEFT HAND) GUARD, GEARBOX V-BELT (RIGHT HAND)
6	1	G7200046	SHEAVE WITH TYPE QD HUB, 3.6 P.D. "A" 2 GROOVE
7	1	1290293	BLOCK, ADJUSTING SCREW
8	4	1293064	BLOCK, GUARD MOUNTING
9	1	1294077	SHEAVE, LUBE PUMP DRIVE
10	1	1294098	CAP, PINION SHAFT END
11	1	2401860	KEY, ¼" X ¼" X 1-1/4" LG.
12	2	4701112	V-BELT
13	1	6100036	HOSE, 1" X 23" LG.
14	1	6100037	HOSE, 1-1/2" X 28" LG.
15	4	6300103	NUT, 5/8" - 11 UNC CAD. PLATED HEX
16	1	6800081	BUSHING, 1" X ¼" STD. M.I. HEX HEAD PIPE
17	1	6817076	NIPPLE, 1" X 3" LG. STD. PIPE
18	1	6817080	NIPPLE, 1" X 5-1/4" LG. STD. PIPE
19	1	6817114	NIPPLE, 1-1/2" X 6" LG. STD. PIPE
20	1	6826008	ELBOW, 1" X 90 DEG. STD. M.I. PIPE
21	1	6828012	ELBOW, 1-1/2" X 45 DEG. STD. M.I. PIPE
22	1	6829008	ELBOW, 1" X 90 DEG. STD. M.I. STREET
23	1	6839008	ELBOW, 1" X 45 DEG. STD. M.I. STREET
24	1	6888008	TEE, 1" STD. M.I. PIPE
25	4	7000301-11	CAPSCREW, ½" X ¾" LG. GR. 5 CAD. PLATED HEX HEAD
26	4	7000397-11	CAPSCREW, 5/8" X 2" LG. GR. 5 CAD. PLTD. HEX HEAD
27	1	7016421	SCREW, 5/8" X 8" LG. CUP POINT SQUARE HEAD SET
28	2	7027210-12	SCREW, 3/8" X 1-1/2" LG. SKT. CUP POINT NYLOK SET
29	2	7619045	WASHER, 7/16" REG. CAD. PLTD. SPRING LOCK
30	4	7619058	WASHER, 3/8" REG. CAD. PLATED SPRING LOCK
31	4	7621032	WASHER, ½" N TYPE A 1.062" O.D. CAD. PLATED
32	4	7621042	WASHER, 3/8" N TYPE A 1.750" O.D. CAD. PLATED
33	2	7800076	ADAPTER, 1" HOSE
34	2	7802358	CONNECTOR, 1-1/2"
35	2	7805072	SWIVEL FITTING 1-1/2" FEMALE
36	2	7805083	HOSE FITTING, 1" STEEL
37	1	7806002	GAUGE (0-100 P.S.I.), 2-1/2" DIAL X ¼" N.P.T.
38✳	REF.	1294190	SPRAY SYSTEM, LINER AND PISTON
39▲	REF.	1270113	HOSE ASSEMBLY, ½" X 12" LG.
40▲	REF.	6829004	ELBOW, ½" X 90 DEG. STD. M.I. STREET
41★	REF.	1294080	RAIL, LUBE SUMP SUPPORT
42★	REF.	1294062	STRAINER, LUBE OIL SUMP
43★	REF.	1294063	SUMP, LUBE OIL
44★	REF.	6300081	NUT, ½" CAD. PLATED HEX
45★	REF.	7035305-01	SCREW, ½" X 1-1/2" LG. C.P. FLAT HEAD MACHINE
46★	REF.	7619050	WASHER, ½" REG. C.P. SPRING LOCK
47★	REF.	7621032	WASHER, ½" N TYPE A 1.062" O.D. CAD. PLTD.
48	2	G7000254-11	CAPSCREW, 7/16" X ¾" LG. GR. 5 C.P. HEX HEAD
49	1	6320100	NUT, 5/8" HEX JAM

✳ REFERENCE ITEM, SHOWN ON PUMP COMPLETE DRAWINGS 1294000 AND 1294250.
▲ REFERENCE ITEM, SHOWN ON MAIN FRAME COMPLETE DRAWINGS 1294029 AND 1294259.
★ REFERENCE ITEM, SHOWN ON POWER END COMPLETE DRAWINGS 1294001 AND 1294251.

NATIONAL-OILWELL

RIGHT ANGLE DRIVE LUBE SYSTEM FOR LINER AND PISTON 7-P-50 TRIPLEX SLUSH PUMP

SHEET 1 OF 1	DWG. SIZE	DRAWING NO.	DWG. REV.
	E	PL 1294132	



BILL OF MATERIAL

ITEM	REQ'D	PART NO.	DESCRIPTION
1	1	G1291158	BRACKET, PUMP AND GEAR BOX MOUNTING
2	1	G1291159	PEDESTAL, GEAR BOX
3	4	G1292283	SHIM, PUMP
4	1	1292286	GUARD, COUPLING
5	2	2401860	KEY (1/4" X 1/4" X 1-1/4")
6	1	5902091	FLANGE, 1" A.S.A. 150# THREADED FLAT FACE
7	1	5902172	FLANGE, 1-1/2" A.S.A. 150# THREADED FLAT FACE
8	1	6010036	GASKET, 1-1/2" 150# FLANGE
9	1	6010037	GASKET, 1" 150# FLANGE
10	10	6300081	NUT, 1/2" CAD. PLATED HEX
11	4	6300103	NUT, 5/8" - 11 UNC CAD. PLATED HEX
12	4	7000206-11	CAPSCREW, 3/8" X 3/4" CAD. PLT HEX HEAD GR5
13	4	7000211-11	CAPSCREW, 3/8" X 1-3/4" CAD. PLT HEX HEAD GR5
14	2	7000306-11	CAPSCREW, 1/2" X 1-3/4" CAD. PLT HEX HEAD GR5
15	4	7000307-11	CAPSCREW, 1/2" X 2" CAD. PLT HEX HEAD GR5
16	4	7000309-11	CAPSCREW, 1/2" X 2-1/4" CAD. PLT HEX HEAD GR5
17	4	7000398-11	CAPSCREW, 5/8" X 2-1/4" CAD. PLT HEX HEAD GR5
18	4	7619041	WASHER, 3/8" CAD. PLATED SPRING LOCK
19	10	7619050	WASHER, 1/2" CAD. PLATED SPRING LOCK
20	4	7619058	WASHER, 5/8" CAD. PLATED SPRING LOCK
21	4	7621024	WASHER, 3/8" CAD. PLATED TYPE "A"
22	4	G7624021	WASHER, 1/2" I.D. X 1-1/4" O.D. X .217" THICK FLAT
23	1	G7802332	COUPLING
24	1	7806091	BOX, GEAR
25	1	7815147	PUMP, 1" X 1-1/2" CENTRIFUGAL
26	1	7801121	BREATHER

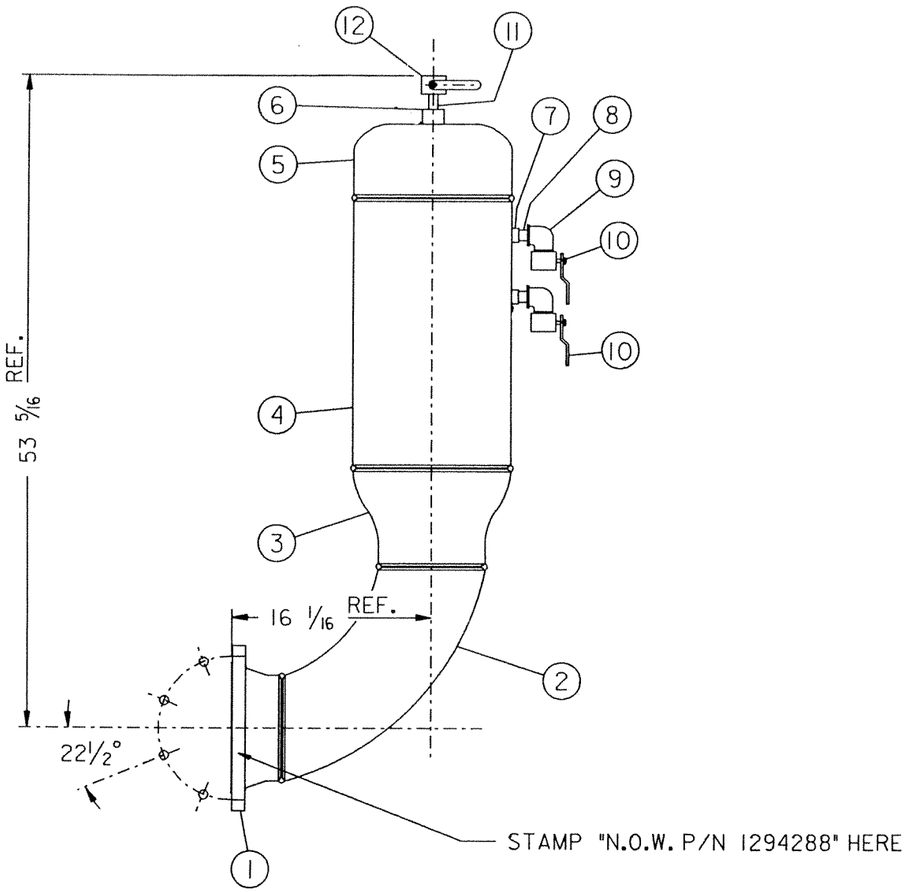
NOTE: OPTIONAL EQUIPMENT,
SPECIFY WHEN ORDERING.

NATIONAL OILWELL

NATIONAL-OILWELL
HOUSTON, TEXAS , U.S.A.

PUMP & RIGHT ANGLE GEARBOX ASSY.
7-P-50 TRIPLEX SLUSH PUMP

	SHEET 1 OF 1	SIZE:	DRAWING NO.:	REV.
		D	PL 1291157	B



BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294288	SUCTION STABILIZER ASSEMBLY (CONSISTS OF THE FOLLOWING)
1	1	5902443	FLANGE, 8" A.N.S.I. 150# R.J. WELD NECK
2	1	98-016-230	ELBOW, 8" X 90 DEG. LONG RADIUS WELD
3	1	98-052-101	REDUCER, 12" X 8" CONCENTRIC WELD
4	1	6709658B	PIPE, 12" STD. WELD
5	1	98-012-034	CAP, 12" STD. WELD
6	1	78-105-206	COUPLING, 3/4" 3000# HALF THREADED FEMALE PIPE
7	2	78-105-204	COUPLING, 1/2" 3000# HALF THREADED FEMALE PIPE
8	2	86-424-001	NIPPLE, 1/2" X CLOSE SCH. 40 BW STEEL PIPE
9	2	78-179-004	ELBOW, 1/2" X 90 DEG. 3000# STREET
10	2	78-101-081	VALVE, 1/2" BALL
11	1	86-425-013	NIPPLE, 3/4" X 4" LG. SCH. 40 BW STEEL PIPE
12	1	78-101-082	VALVE, 3/4" BALL

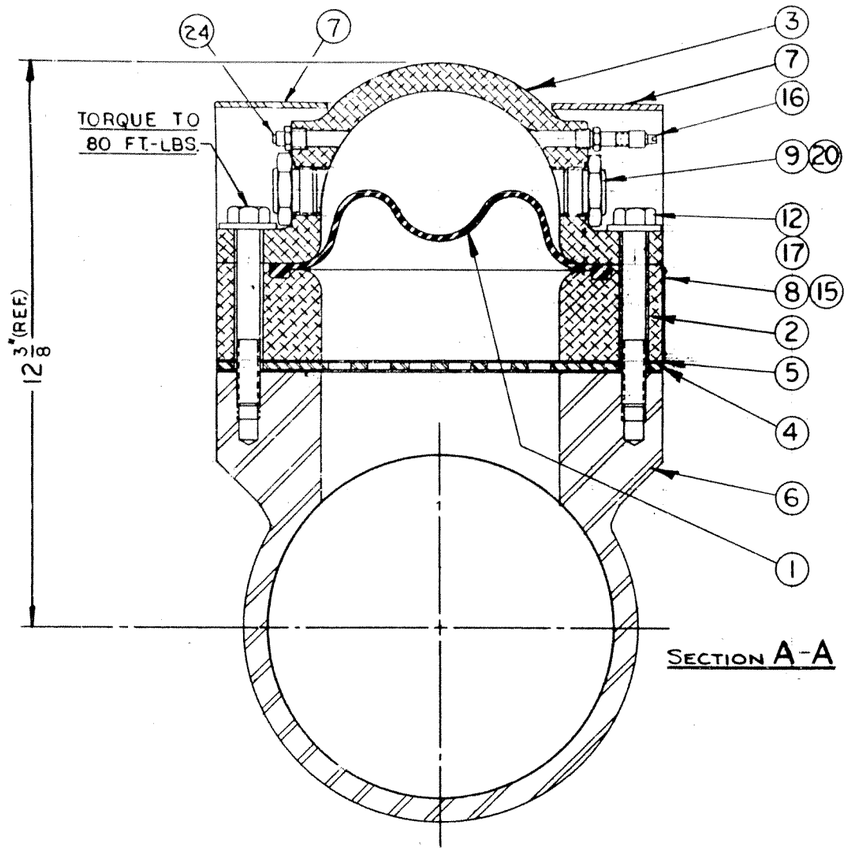
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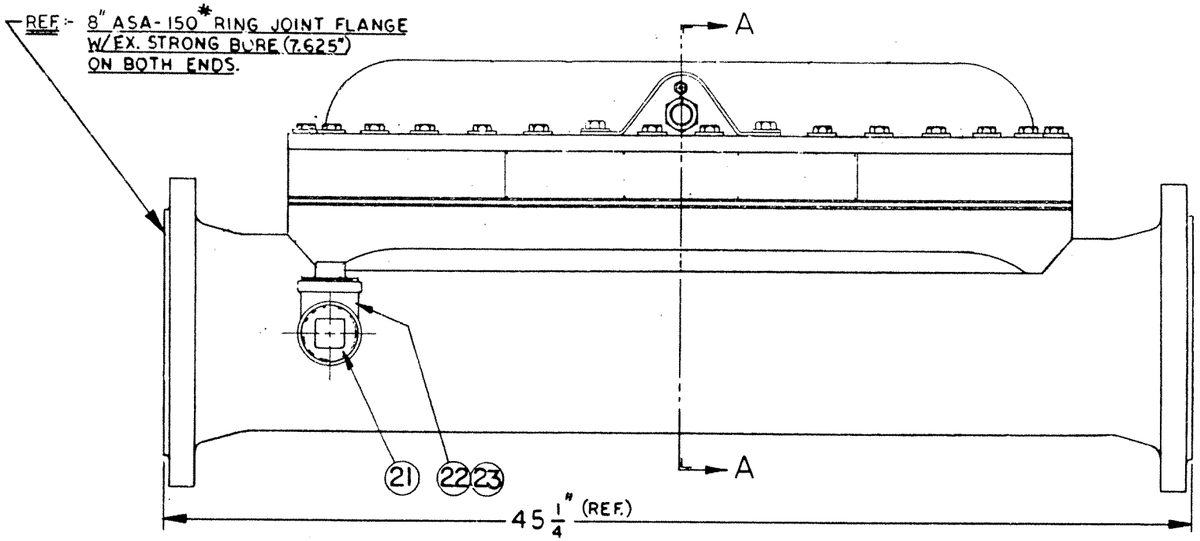
1. WELDING SHALL BE IN ACCORDANCE WITH Y111-208-A.
2. HYDRO. TEST TO 375 P.S.I.
3. VALVE AND FITTINGS TO BE REMOVED FOR LONG TERM STORAGE WITH WEATHER-PROOF PAPER AND STORED WITH UNIT FOR FIELD ASSEMBLY.

NATIONAL-OILWELL

SUCTION STABILIZER ASSEMBLY
7-P-50 TRIPLEX SLUSH PUMP

	SIZE	DRAWING NO.	REV.
	C	PL 1294288	





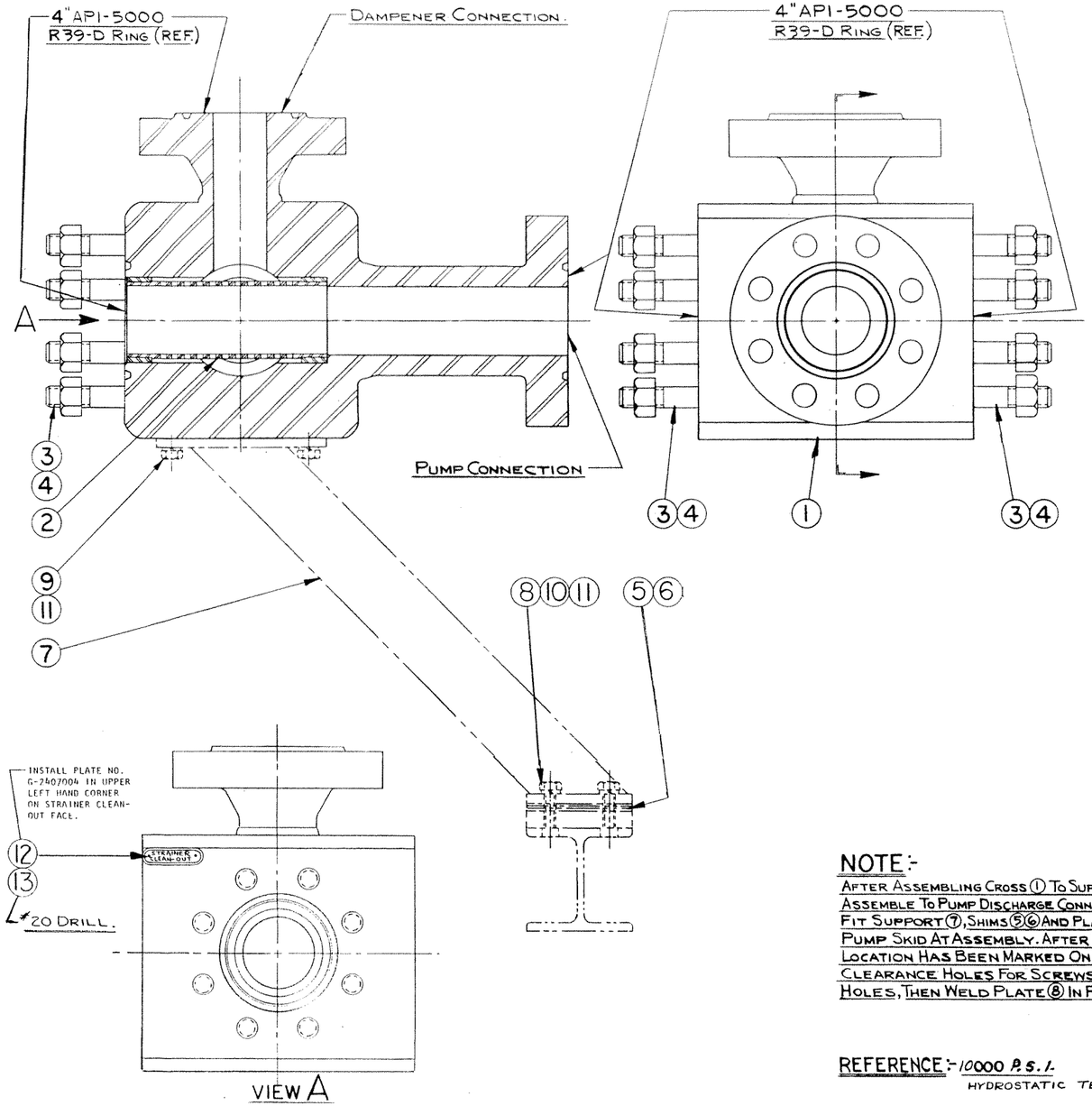
BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
---	---	1290203	DAMPENER ASSY. FOR 8" SUCTION LINE, DOUBLE FLANGED (CONSISTS OF THE FOLLOWING)
1	1	1290195	DIAPHRAGM, RUBBER
2	1	1290196	SPACER
3	1	1290197	COVER
4	1	1290198	RETAINER
5	1	1290199	GASKET
6	1	1290200	BODY COMPLETE
7	2	1290228	GUARD, AIR VALVE
8	1	2407136	PLATE, INSTRUCTION
9	2	2410031-024	PACKING
10*	8	6300121	NUT, ¾" CAD. PLATED HEX
11*	2	6908041	RING, OVAL JOINT
12	32	7000361-11	CAPSCREW, 9/16" X 4" LG. GR. 5 CAD. PLATED HEX HEAD
13*	8	7000445-11	CAPSCREW, ¾" X 3-1/4" LG. GR. 5 CAD. PLATED HEX HEAD
14*	8	7000448-11	CAPSCREW, ¾" X 4" LG. GR. 5 CAD. PLATED HEX HEAD
15	8	7178025	SCREW, NO. 2 X ¼" LG. TYPE U ROUND HEAD DRIVE
16	1	7500021	VALVE, CHECK
17	32	7621036	WASHER, 9/16" N TYPE A 1.159" O.D. CAD. PLATED
20	2	7815106	PLUG, SIGHT
21	2	6874016	PLUG, 2" SOLID STD. SQUARE HEAD
22	1	6817121	NIPPLE, 2" X 3" LG. STD. PIPE
23	1	6888016	TEE, 2" STD. M.I. PIPE
24	2	7500396	VALVE, ¼" RELIEF

* ITEMS NOT SHOWN AND SHIPPED SEPARATELY.

NATIONAL-OILWELL

DOUBLE FLANGED DAMPENER ASSY.
FOR 8" SUCTION LINE
7-P-50 TRIPLEX SLUSH PUMP

SHEET 1 OF 1	DWG. SIZE	DRAWING NO.	DWG. REV.
	C	PL 1290203	M



BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294186	STRAINER CROSS COMPLETE (CONSISTS OF THE FOLLOWING)
1	1	1291208	CROSS (ONLY)
2	1	1291212	STRAINER COMPLETE
3	24	2402560	STUD, 1-1/4" X 6-1/4" LG.
4	24	6300200	NUT, 1-1/4" HEAVY HEX
5*	2	1291180	SHIM (1/8" THICK)
6*	4	1291184	SHIM (1/32" THICK)
7*	1	1294188	SUPPORT, CROSS
8*	1	1291221	PLATE, BASE
9*	4	7000439-11	CAPSCREW, 3/4" X 1 – 3/4" LG. GRADE 5 CAD. PLTD. HEX HEAD
10*	4	7000440-11	CAPSCREW, 3/4" X 2" LG. GRADE 5 CAD. PLATED HEX HEAD
11*	8	7619066	WASHER, 3/4" REG. CAD. PLATED SPRING LOCK
12	1	2407004	TAG, STRAINER CLEAN-OUT
13	2	7178088	SCREW, NO. 10 X 3/8" LG. TYPE "U" ROUND HEAD DRIVE

* ITEMS MUST BE FURNISHED WITH CROSS COMPLETE AND ASSEMBLED TO PUMP SKID AT ASSEMBLY.

FLANGE AND GASKET KIT FOR STRAINER CROSS 1294186		
REQ'D	PART NO.	DESCRIPTION
2	5912370	FLANGE, 4" API 5000# WELD NECK RING JOINT WITH 3.152" BORE
1	1290305	FLANGE, STRAINER CLEAN-OUT
4	6908033	RING, R39D OVAL JOINT

NOTE:-
AFTER ASSEMBLING CROSS ① TO SUPPORT ⑦, ASSEMBLE TO PUMP DISCHARGE CONNECTION. FIT SUPPORT ⑦, SHIMS ⑤⑥ AND PLATE ⑧ TO PUMP SKID AT ASSEMBLY. AFTER PLATE ⑧ LOCATION HAS BEEN MARKED ON SKID, MARK CLEARANCE HOLES FOR SCREWS ⑩, TORCH HOLES, THEN WELD PLATE ⑧ IN PLACE.

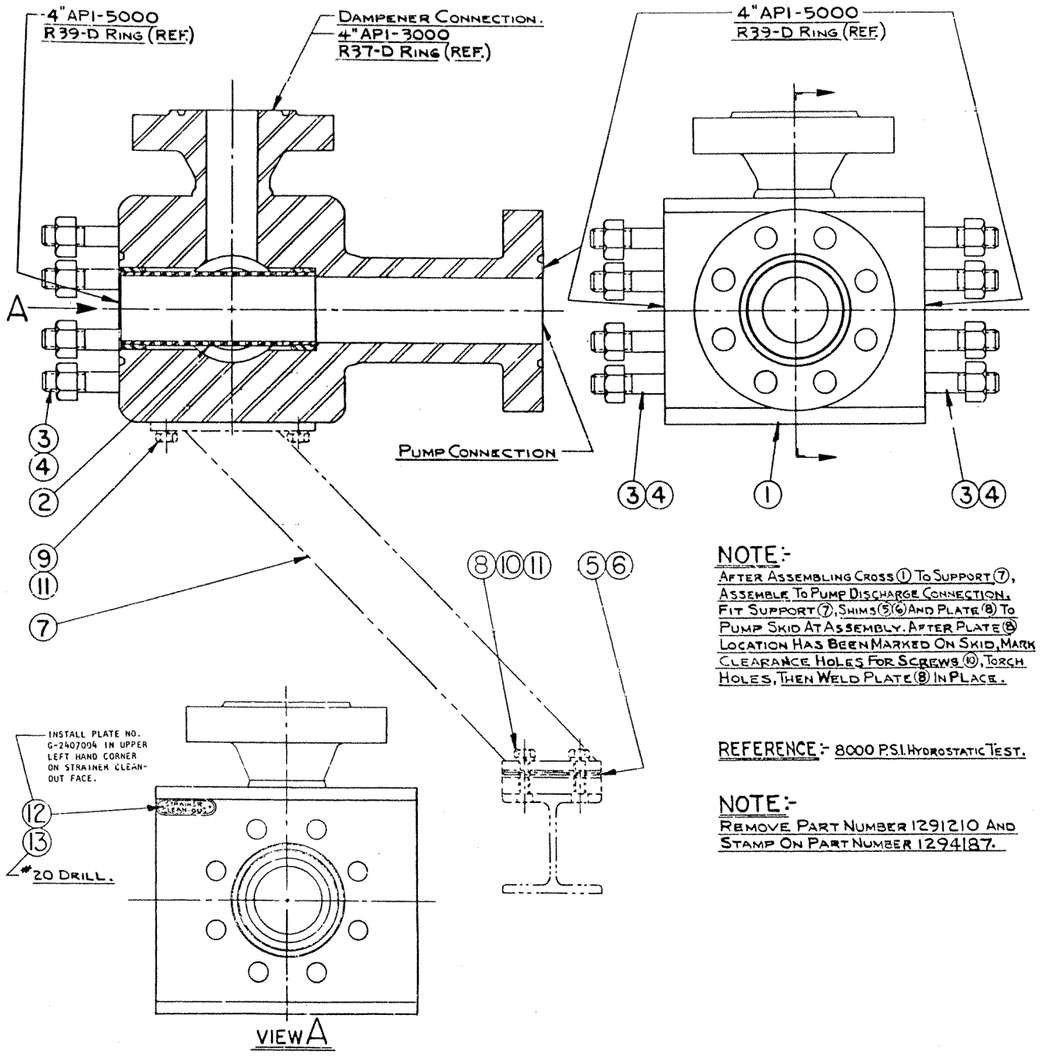
REFERENCE:- 10000 P.S.I. HYDROSTATIC TEST.

NOTE:-
REMOVE PART NUMBER 1291208 AND STAMP ON PART NUMBER 1294186.

NATIONAL-OILWELL

STRAINER CROSS ASSEMBLY
7-P-50 TRIPLEX SLUSH PUMP

	SIZE	DRAWING NO.	REV.
	C	PL 1294186	C



NOTE:-
AFTER ASSEMBLING CROSS (1) TO SUPPORT (7), ASSEMBLE TO PUMP DISCHARGE CONNECTION. FIT SUPPORT (7), SHIMS (5)(6) AND PLATE (8) TO PUMP SKID AT ASSEMBLY. AFTER PLATE (8) LOCATION HAS BEEN MARKED ON SKID, MARK CLEARANCE HOLES FOR SCREWS (10), TORCH HOLES, THEN WELD PLATE (8) IN PLACE.

REFERENCE:- 8000 P.S.I. HYDROSTATIC TEST.

NOTE:-
REMOVE PART NUMBER 1291210 AND STAMP ON PART NUMBER 1294187.

BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
---	---	1294187	STRAINER CROSS COMPLETE (CONSISTS OF THE FOLLOWING)
1	1	1291210	CROSS (ONLY)
2	1	1291212	STRAINER COMPLETE
3	24	2402560	STUD, 1-1/4" X 6-1/4" LG.
4	24	6300200	NUT, 1-1/4" HEAVY HEX
5*	2	1291180	SHIM, 1/8" THICK
6*	4	1291184	SHIM, 1/32" THICK
7*	1	1294188	SUPPORT, CROSS
8*	1	1291221	PLATE, BASE
9*	4	7000439-11	CAPSCREW, ¾" X 1-3/4" LG. GR. 5 CAD. PLTD. HEX HEAD
10*	4	7000440-11	CAPSCREW, ¾" X 2" LG. GR. 5 CAD. PLTD. HEX HEAD
11*	8	7619066	WASHER, ¾" REG. CAD. PLTD. SPRING LOCK
12	1	2407004	TAG, STRAINER CLEAN-OUT
13	2	7178088	SCREW, NO. 10 X 3/8" LG. GR. 5 CAD. PLTD. ROUND HEAD DRIVE

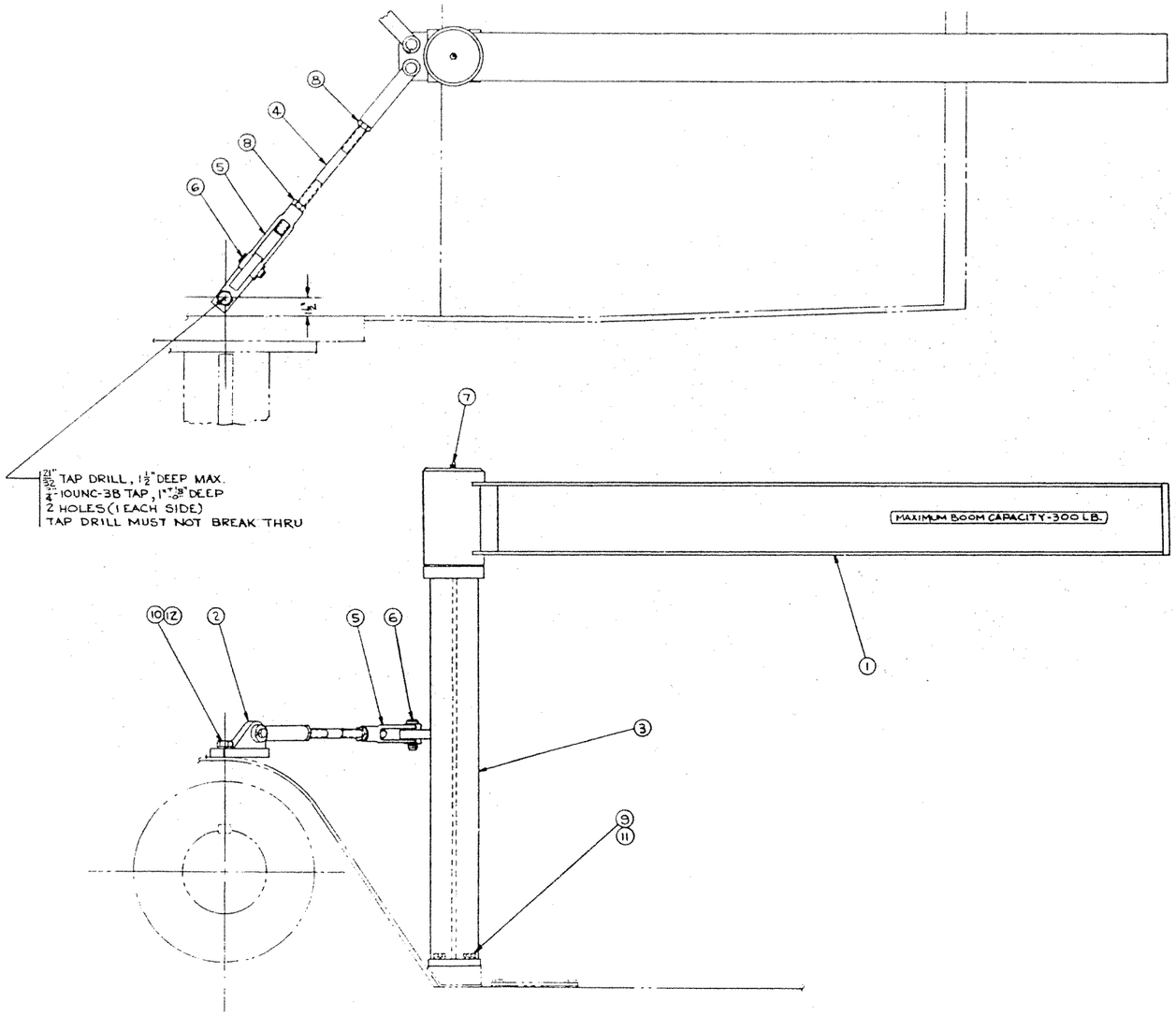
* ITEMS MUST BE FURNISHED WITH CROSS COMPLETE AND ASSEMBLED TO PUMP SKID AT ASSEMBLY.

FLANGE AND GASKET KIT FOR STRAINER CROSS 1294187		
REQ'D	PART NO.	DESCRIPTION
2	5912370	FLANGE, 4" API 5000# WELD NECK RING JOINT WITH 3.152" BORE
1	1290305	FLANGE, STRAINER CLEAN-OUT
3	6908033	RING, R39D OVAL JOINT
1	6908030	RING, R37D OVAL JOINT

NATIONAL-OILWELL

STRAINER CROSS COMPLETE
7-P-50 TRIPLEX SLUSH PUMP

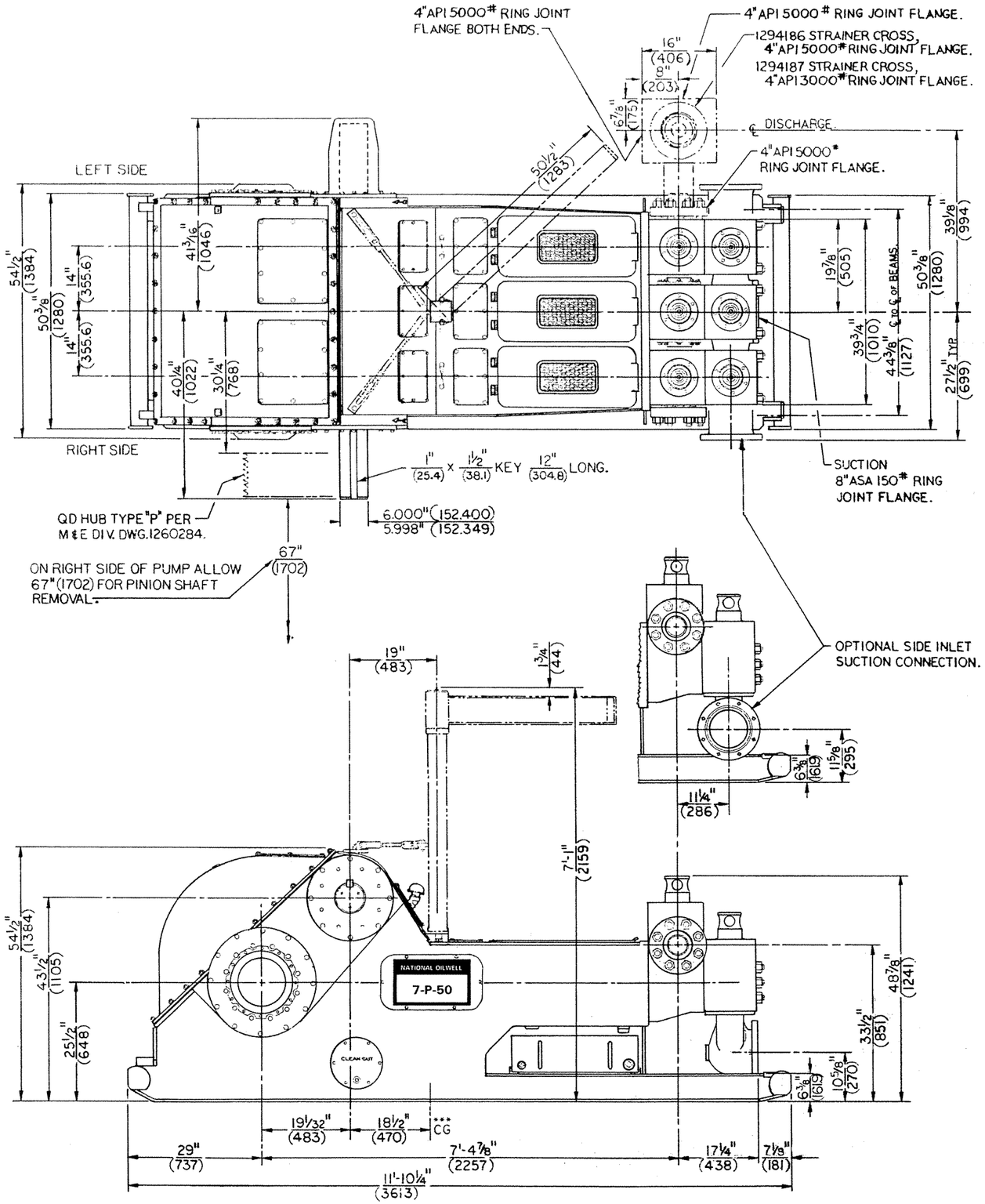
SHEET 1 OF 1	DWG. SIZE	DRAWING NO.	DWG. REV.
	C	PL 1294187	B



BILL OF MATERIAL			
ITEM	REQ'D	PART NO.	DESCRIPTION
--	--	1294125	HOIST ASSEMBLY LESS TROLLEY (CONSISTS OF ITEMS 1 THRU 12)
1	1	1291126	BOOM
2	2	1290127	BRACKET
3	1	1294126	MAST
4	2	1294127	ROD
5	4	7804019	END, YOKE
6	4	7800044	PIN ASSEMBLY, YOKE
7	1	7805052	FITTING, 1/8" HYD. GREASE
8	4	6320120	NUT, 3/4" HEX JAM
9	2	7000395-10	CAPSCREW, 5/8" X 1-1/2" LG. GRADE 5 HEX HEAD
10	2	7000439-10	CAPSCREW, 3/4" X 1-3/4" LG. GRADE 5 HEX HEAD
11	2	7602058	WASHER, 5/8" REG. SPRING LOCK
12	2	7602066	WASHER, 3/4" REG. SPRING LOCK
REF.*	1	7819040	TROLLEY, 1/2" TON PLAIN*

* NOT SHOWN.

NATIONAL-OILWELL			
HOIST COMPLETE 7-P-50 TRIPLEX SLUSH PUMP			
	SIZE	DRAWING NO.	REV.
	D	PL 1294125	B



NOTE: THE DIMENSIONS, AS SHOWN, ARE ACCURATE BUT SHOULD NOT BE USED FOR INSTALLATION UNLESS CERTIFIED.

DIMENSIONS IN PARENTHESIS ARE MEASURED IN MILLIMETERS.

NATIONAL-OILWELL			
OUTLINE & INSTALLATION DRAWING 7-P-50 TRIPLEX SLUSH PUMP			
	SIZE	DRAWING NO.	REV.
	E	PL 1294004	D