NATIONAL OILWELL

PARTS LIST

9-P-100
TRIPLEX MUD PUMP

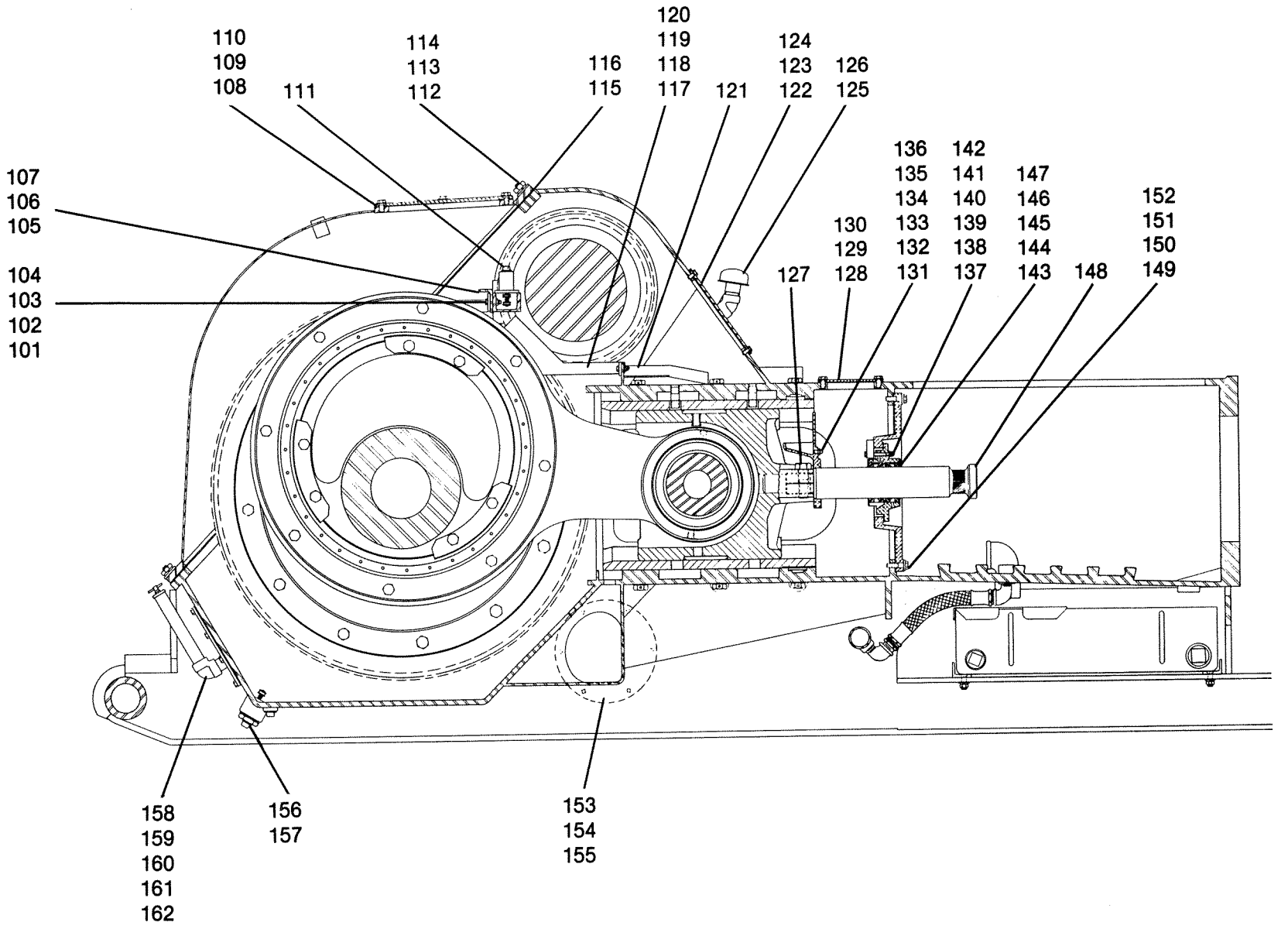
(6-3/4" x 9-1/4")

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: 6-1-1982 (Supersedes Issue: 7-1-76) Printed in U.S.A.

LITHO IN U.S.A.

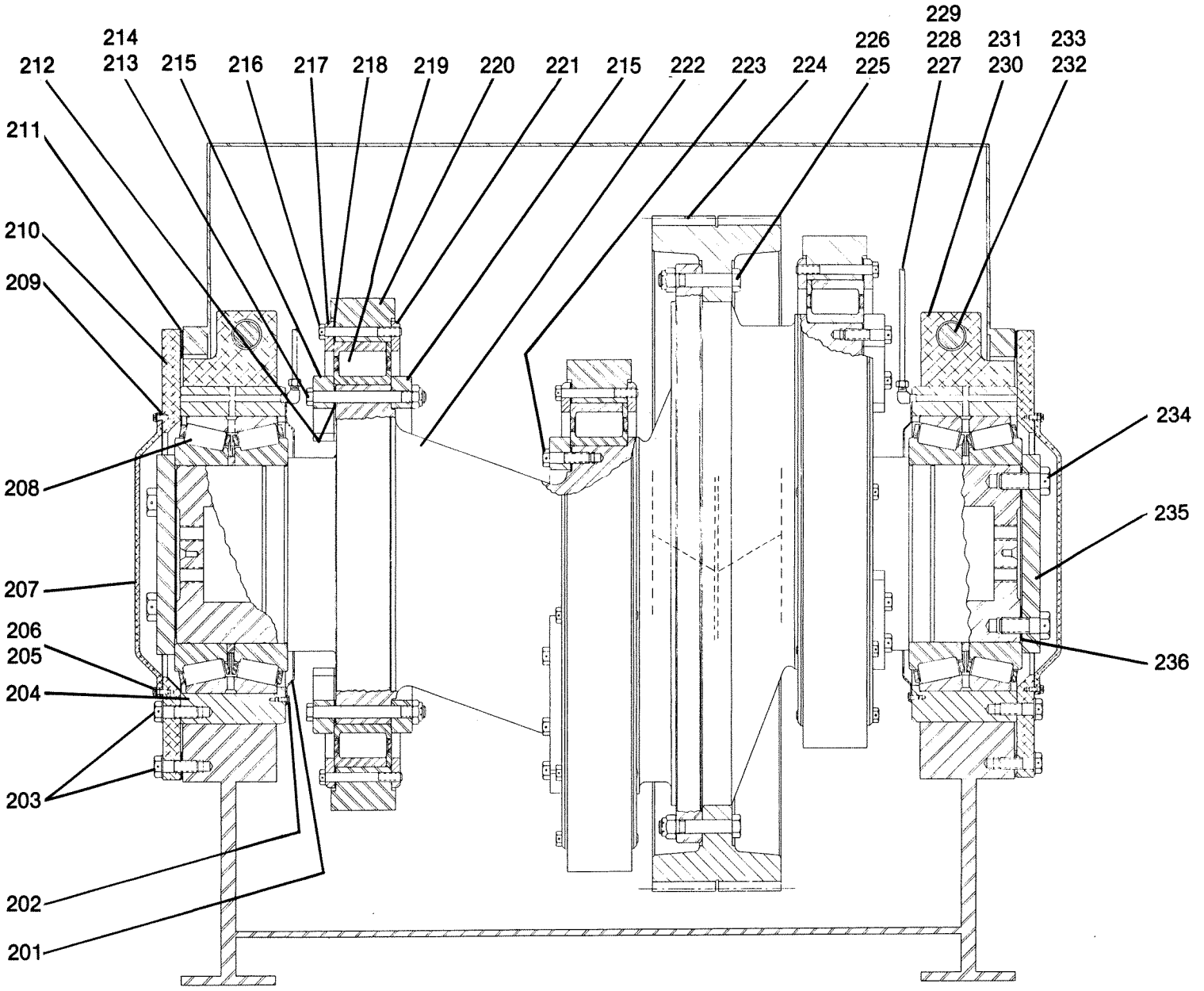


SECTION THRU POWER END

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
101	1293072	WIPER, L.H. Gear Oil	1
	1293073	WIPER, R.H. Gear Oil	1
102	6310060	NUT, 3/8" Flexloc No. 20FA-616	4
103	7000210-11	SCREW, 3/8" x 1-1/2" Grade 5 Cadmium Plated Hex Head Cap	4
104	7621024	WASHER, 3/8" N Type A 0.812" O.D. Cadmium Plated	8
105	1293069	BRACE, Oil Trough	1
106	1293070	TROUGH, L.H. Pinion Oil	1
	1293071	TROUGH, R.H. Pinion Oil	1
107	2400040	SCREW, 3/8" x 3/4" Drilled Head	8
108	1291093	COVER, Inspection	2
109	1291094	GASKET, Inspection Cover	2
110	7000303-11	SCREW, 1/2" x 1" Grade 5 Cadmium Plated Hex Head Cap	20
111	7815057	PLUG, 1" Magnetic Post Lisle No. PM-313	2
112	6300103	NUT, 5/8" Cadmium Plated Hex	34
113	7619058	WASHER, 5/8" Regular Spring Lock Cadmium Plated	34
114	7621040	WASHER, 5/8" N Type A 1.312" O.D. Cadmium Plated	34
115	1293095	GASKET, Main Frame Cover	1
116	7817170	RUBBER, Neoprene Sponge 3/16" x 2" 0'-24" Long	2
117	1293082	WIPER, Left Hand Gear and Pinion Oil	1
	1293089	WIPER, Right Hand Gear and Pinion Oil	1
118	6310060	NUT, 3/8" Flexloc No. 20FA-616	4
119	7000209-11	SCREW, 3/8" x 1-1/4" Grade 5 Cadmium Plated Hex Head Cap	4
120	7621024	WASHER, 3/8" N Type A 0.812" O.D. Cadmium Plated	8
121	1291179	TROUGH, Left Hand Crosshead Lube Oil	1
122	1290078	GASKET, Wrench Hole Cover	3
123	1290077	COVER, Wrench Hole	2
124	7000208-11	SCREW, 3/8" x 1" Grade 5 Cadmium Plated Hex Head Cap	24
125	1290110	COVER, Center Wrench Hole	1
126	7802020	CAP, Donaldson No. S-183 Breather	1
127	7000567-10F	SCREW, 1-1/8" - 12 x 3-3/4" Grade 5 Hex Head Cap	6
128	1290075	COVER, Top Access	3
129	1290076	GASKET, Top Access Cover	3
130	7000303-11	SCREW, 1/2" x 1" Grade 5 Cadmium Plated Hex Head Cap	18
131	1290251	SCREW, Oil Passage	3
132	1293016	SHIELD, Intermediate Rod Oil	3
133	6310040	NUT, 1/4" Flexloc No. 20FA-420	6
134	6320062	NUT, 3/8" Hex Jam	3
135	7000114-11	SCREW, 1/4" x 2-1/2" Grade 5 Cadmium Plated Hex Head Cap	6
136	7621016	WASHER, 1/4" N Type A 0.625" O.D. Cadmium Plated	12
137	1291074	BOLT, Hook	9
138	1293009	RETAINER, Intermediate Rod Oil Wiper	3
139	1293078	GASKET, Intermediate Rod Oil Wiper Retainer	3
140	6541612	PIN, 1/4" x 1-1/2" Groove ANSI Type C	9
141	7805052	FITTING, 1/8" Alemite No. 1610 B	3
142	7805062	FITTING, 1/8" Alemite No. 43716	3
143	1293182	WIPER, Intermediate Rod Oil	12
144	G-1293114	PLATE, Oil Wiper Retaining	6
145	1293141	SPACER, Oil Wiper	6
146	G-7061091-17	SCREW, #10-24 x 5/8" Zinc Plated Hex Head Machine	18
147	7619025	WASHER, #10 Cadmium Plated Regular Spring Lock	18
148	1293083	ROD, Intermediate	3
149	7000307-11	SCREW, 1/2" x 2" Grade 5 Cadmium Plated Hex Head Cap	12
150	1293079	GASKET, Oil Wiper Retainer Plate	3
151	1293023	PLATE, Oil Wiper Retainer	3
152	7621032	WASHER, 1/2" N Type A 1.062" O.D. Cadmium Plated	12
153	1283190	PLATE, Clean-Out	2
154	1283191	GASKET, Clean-Out Plate	2
155	7000304-11	SCREW, 1/2" x 1-1/4" Grade 5 Cadmium Plated Hex Head Cap	12
156	6800163	BUSHING, 2" x 1" Standard C.I. Hex	1
157	7815057	PLUG, 1" Magnetic Post Lisle No. PM-313	1
158	1284106	GASKET, Oil Gage Plate	1
159	1291130	PLATE, Oil Gage	1
160	2400029	DIPSTICK, Oil Level	1
161	7000208-11	SCREW, 3/8" x 1" Grade 5 Cadmium Plated Hex Head Cap	12
162	7618014	WASHER, Stat-O-Seal Parker No. 600-0101-3/8"	12

LITHO IN U.S.A.

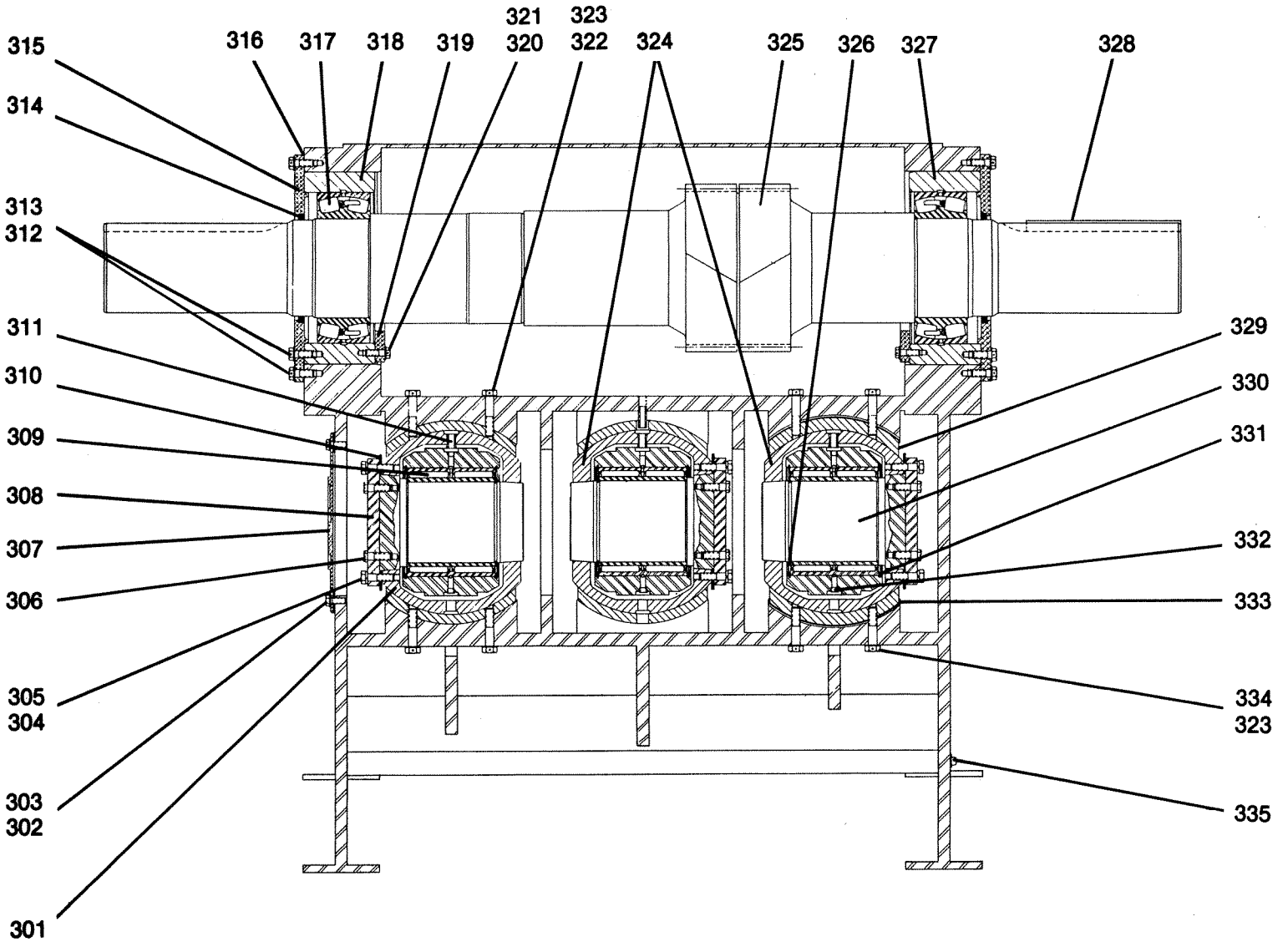


SECTION THRU CRANKSHAFT

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
201	1293081	RETAINER, Main Bearing Cage Oil	2
202	5506202	BOLT, 3/8" x 3/4" Place	16
203	2401960	SCREW, 7/8" x 2-3/4" Drilled Head	48
204	1293011	CAGE, Main Bearing	2
205	2400690	SCREW, 3/8" x 1" Drilled Head	24
206	7600024	WASHER, 3/8" N Type A 0.812" O.D.	24
207	1293012	CAP, Main Bearing End	2
208	ZT-13127	BEARING, Main	2
209	1293096	GASKET, Main Bearing End Cap	2
210	1293021	RING, Main Bearing Lock	2
211	1293104	SHIM, .020" Main Bearing Lock Ring (Yellow)	8
	1293105	SHIM, .0075" Main Bearing Lock Ring (Clear)	8
	1293106	SHIM, .005" Main Bearing Lock Ring (Blue)	14
	G-1293110	SHIM, 1/8" Main Bearing Lock Ring (Steel)	2
212	1293100	SHIM, .020" Connecting Rod Bearing Retainer Plate (Yellow)	9
	1293101	SHIM, .0075" Connecting Rod Bearing Retainer Plate (Clear)	18
	1293102	SHIM, .005" Connecting Rod Bearing Retainer Plate (Blue)	27
213	6310120	NUT, 3/4" - 10 UNC Flexloc No. 31FA-1210	6
214	7000462-11	SCREW, 3/4" x 7-1/2", Grade 5 Cadmium Plated Hex Head Cap	6
215	1293026	PLATE, Connecting Rod Bearing Retainer	12
216	2405025	SCREW, 3/4" x 5-3/4" Drilled Head	24
217	1293061	RETAINER, Connecting Rod Bearing Outer	3
218	1293107	SHIM, .020" Connecting Rod Bearing Outer Retainer (Yellow)	3
	1293108	SHIM, .0075" Connecting Rod Bearing Outer Retainer (Clear)	9
	1293109	SHIM, .005" Connecting Rod Bearing Outer Retainer (Blue)	9
219	ZB-25500	BEARING, Connecting Rod	3
220	1293007	ROD, Connecting	3
221	1293062	PLATE, Connecting Rod Bearing Retainer	3
222	1293005	CRANKSHAFT	1
223	2400710	SCREW, 3/4" x 2-1/2" Drilled Head	12
224	1293008	GEAR, Crankshaft	1
225	1293006	BOLT, Crankshaft Gear	12
226	6310140	NUT, 7/8" - Flexloc #31FA-1409	12
227	7400842	TUBING, 1/2" O.D. x 3/8" I.D. x 21" Long Cold Drawn Seamless Steel	2
228	7804146	ELBOW, 90° Male Weatherhead No. 7405 x 8	2
229	G-7804202	EBLOW, 45° Male Weatherhead No. 7355 x 8	2
230	1283147	SHIM, .005" Main Bearing Support (Steel Shim Stock)	4
	1283148	SHIM, .007" Main Bearing Support (Steel Shim Stock)	2
231	1293014	SPACER, Main Bearing Support	2
232	6310320	NUT, 2" - 8UNC Flexloc 30FO-3208	2
233	1293024	BOLT, Main Bearing Support	2
234	2405026	SCREW, 1-1/8" x 3-1/4" Drilled Head	8
235	1293022	PLATE, Main Bearing Retainer	2
236	1293152	SHIM, 1/16" Main Bearing Retainer Plate	6
	1293153	SHIM, .020" Main Bearing Retainer Plate	4
	1293154	SHIM, .005" Main Bearing Retainer Plate	8

LITHO IN U.S.A.

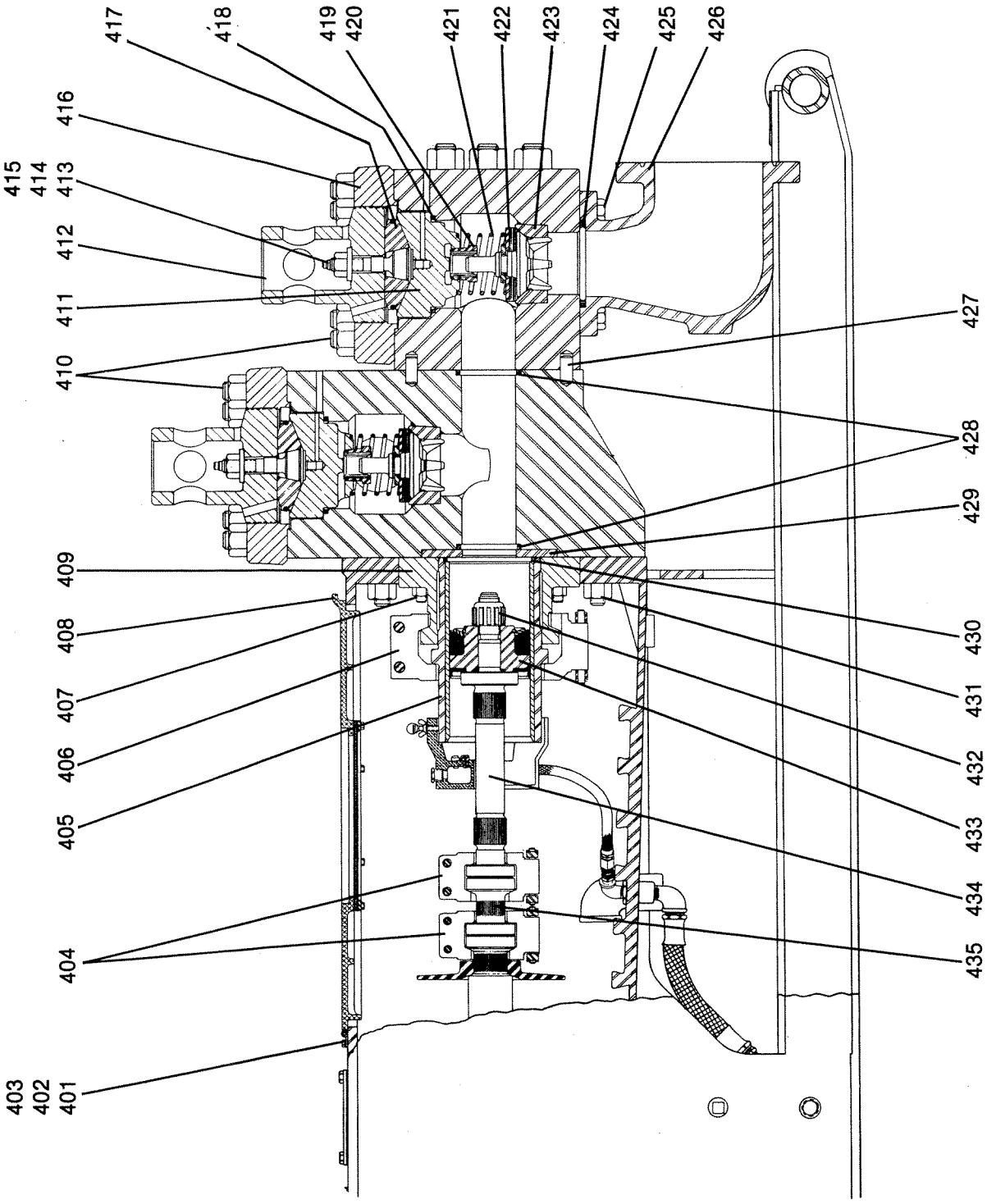


SECTION THRU PINION AND CROSSHEADS

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
301	1293090	CROSSHEAD, Left Hand	1
302	7000394-11	SCREW, 5/8" x 1-1/4" Grade 5 Cadmium Plated Hex Head Cap	8
303	7618022	WASHER, Stat-O-Seal Parker No. 600-0101-5/8"	8
304	7000443-11	SCREW, 3/4" x 2-3/4" Grade 5 Cadmium Plated Hex Head Cap	6
305	7611036	WASHER, 3/4" Locomotive Hi-Crome Light Series Spring	6
306	5506714	BOLT, 3/4" x 2-1/2" Place	6
307	1293113	COVER, Crosshead Hand Hole	2
308	1293112	RETAINER, Crosshead Pin	3
309	ZB-7120	BEARING, Crosshead Pin	3
310	1290114	SHIM, Crosshead Pin Retainer	6
311	1290089	CONDUCTOR, Oil	3
312	2402680	SCREW, 5/8" x 2" Drilled Head	32
313	7600040	WASHER, 5/8" N Type A 1.312" O.D. Cadmium Plated	32
314	YS-7752	SEAL, Pinion Bearing Oil	2
315	1293020	RETAINER, Pinion Bearing Oil	2
316	1293097	GASKET, Bearing Retainer	2
317	ZB-7873	BEARING, Pinion	2
318	1293018	CAGE, Left Hand Pinion Bearing	1
319	1293027	PLATE, Pinion Bearing Cage	2
320	2400930	SCREW, 5/8" x 1-3/4" Drilled Head	8
321	7600040	WASHER, 5/8" N Type A 1.312" O.D.	8
322	2402580	SCREW, 7/8" x 3-1/2" Drilled Head	18
323	7618026	WASHER, Stat-O-Seal Parker No. 600-0101-7/8"	36
324	1293015	CROSSHEAD, Center and Right Hand	2
325	1293010	PINION	1
326	6912020	RING, Eaton No. XAN-700 Retaining	3
327	1293019	CAGE, Right Hand Pinion Bearing	1
328	2404074	KEY, 1-1/4" x 1-3/4" x 16" Long	1
329	1293017	LINER, Crosshead	6
330	1293028	PIN, Crosshead	3
331	1277810	RING, Crosshead Pin Bearing Snap	6
332	6875003	PLUG, 3/8" Standard Countersunk	3
333	1293103	SHIM, Crosshead Liner	15
334	2405007	SCREW, 7/8" x 3-1/4" Drilled Head	18
335	6873008	PLUG, 1" Standard Cored Square Head Pipe	1

LITHO IN U.S.A.

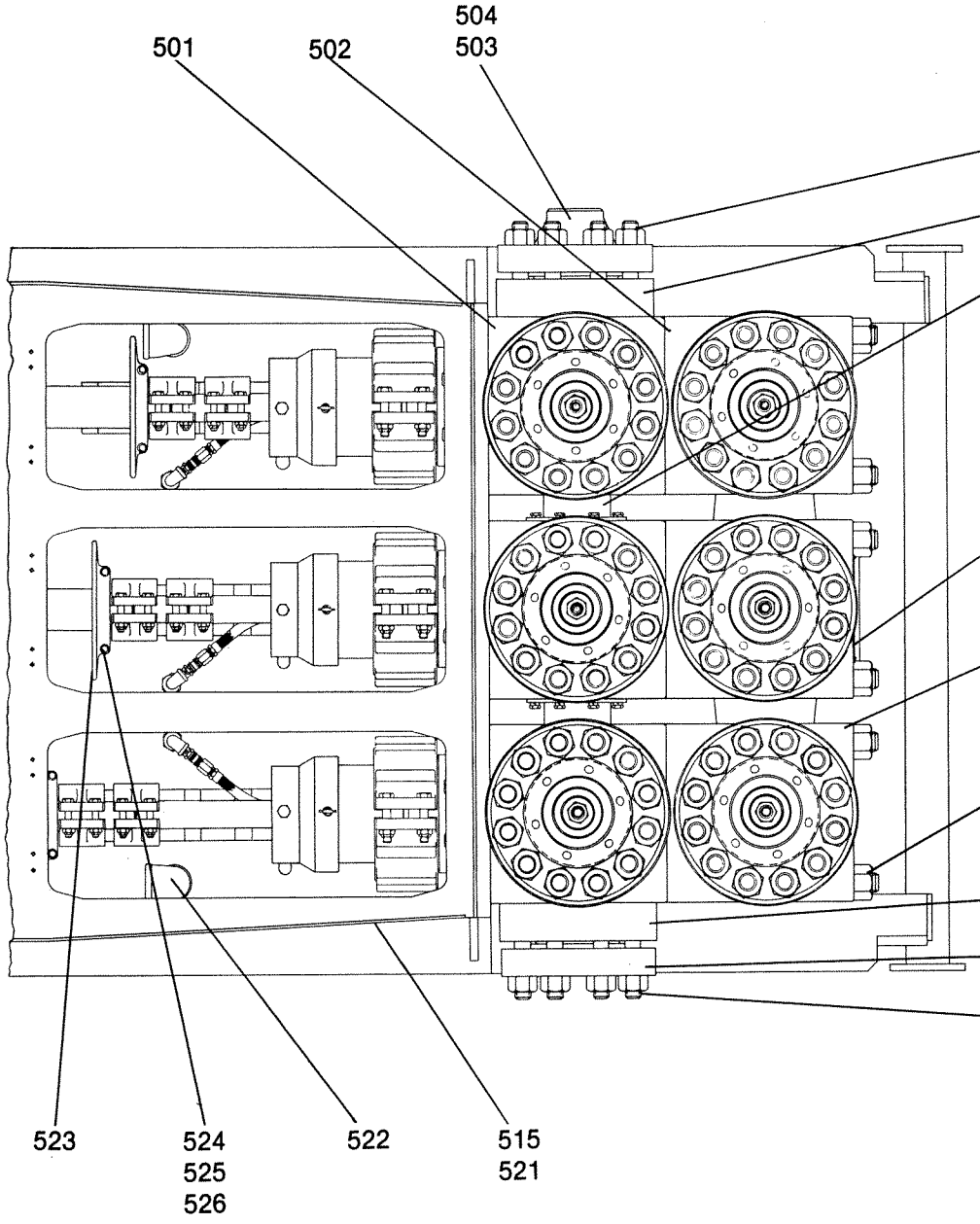


SECTION THRU ROD CHAMBER AND CYLINDER

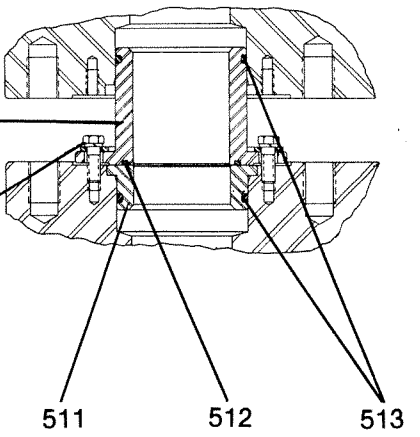
LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
401	6310040	NUT, 1/4" Flexloc No. 20FA-420	15
402	7000111-11	SCREW, 1/4" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	15
403	7621016	WASHER, 1/4" N Type A 0.625" O.D. Cadmium Plated	15
404	1293085	CLAMP COMPLETE, Rod	6
		Composed of:	
		1—1293086 CLAMP ONLY, Rod	
		2—G-1290087-P CONNECTOR, Rod Clamp	
		2—1290088 PIN, Rod Clamp	
		2—6309080 NUT, 1/2" MacLean-Fogg 22TWA-1213 Lock	
		4—6571014 PIN, 5/32" x 7/8" Spring Slot Steel	
		2—7000312-11 SCREW, 1/2" x 3" Grade 5 Cad. Plated Hex Head Cap	
405	See Page 26	LINER, Bi-Metal	3
406	1293166	CLAMP COMPLETE, Liner	3
		Composed of:	
		1—1293167 CLAMP ONLY, Liner	
		2—G-1290168-P CONNECTOR, Liner Clamp	
		2—1290169 PIN, Liner Clamp	
		2—6309120 NUT, 3/4" MacLean-Fogg 22TWA-3410 Lock	
		4—6571420 PIN, 7/32" x 1-1/4" Spring Slot Steel	
		2—7000448-11 SCREW, 3/4" x 4" Grade 5 Cad. Plated Hex Head Cap	
407	2408018	STUD, 1" x 5-7/8" Top Taper Lock	18
	6300160	NUT, 1" Heavy Hex	18
408	1293130	COVER COMPLETE, Rod Chamber	3
		Composed of:	
		1—1293227 COVER ONLY	
		1—1290406 HINGE, Cover	
		5—7041102 SCREW, 1/4" x 3/8" 100 Deg. Flat Head Machine	
409	1293165	BUSHING, Liner	3
410	2408019	STUD, 1-3/8" x 7-1/4" Top Taper Lock	72
	6300220	NUT, 1-3/8" Heavy Hex	72
411	1290174	RETAINER, Valve Cover Seal	6
412	1290307	COVER, Valve	6
413	1290315	WASHER, Wedge Adjusting Screw	6
414	1290178	SCREW, Wedge Adjusting	6
415	6300160	NUT, 1" Heavy Hex	6
416	1290308	RING, Threaded	6
417	G-1290376	WEDGE COMPLETE, Plug Locking	6
		Composed of:	
		6—G-1290179-P CASTING, Wedge Investment	
		1—1290181 SPRING, Wedge Retaining	
418	1540126	SEAL, Valve Cover	6
419	1292140	HOLDER, Valve Guide Insert	6
420	1292141	INSERT, Valve Guide	6
421	1560701	SPRING, Valve	6
422	See Page 26	VALVE	6
423	1561450	SEAT, Valve	6
424	1590051	SEAL, Suction Manifold	3
425	7000483-11	SCREW, 7/8" x 2-1/2" Grade 5 Cadmium Plated Hex Head Cap	24
426	1293173	MANIFOLD, Front Inlet Suction	1
or	1293180	MANIFOLD, Dampener Complete, Double Side Inlet Suction	1
		Composed of:	
		1—1293181 MANIFOLD, Dampener Only	
		1—5902449 FLANGE, 8" ASA 150 lb. Blind R.J.	
		1—6908041 RING, R48-Oval Joint	
		8—7000445-11 SCREW, 3/4" x 3-1/4" Grade 5 Cad. Plated Hex Head Cap	
		1—6817124 NIPPLE, 2" x 5-1/2" Standard Pipe	
		2—6874016 PLUG, 2" Solid Square Head Pipe	
		1—6888016 TEE, 2" Standard M.I. Pipe	
		Items 1101-1115 as illustrated on page 22 are also included.	
427	6511416	PIN, 7/8" x 2" Standard Hardened and Ground Dowel	6
428	1290344	SEAL, Module	6
429	1290357	PLATE, Wear	3
430	See Page 26	PACKING, Liner	3
431	2408030	STUD, 1-1/4" x 6" Top Taper Lock	24
	6300200	NUT, 1-1/4" Heavy Hex	24
432	6308241	NUT, 1-1/2"-8N-3 Elastic Stop No. X59-1781-2408	3
433	See Page 26	PISTON	3
434	1293147	ROD, Piston	3
435	1293146	SUBROD, Piston	3

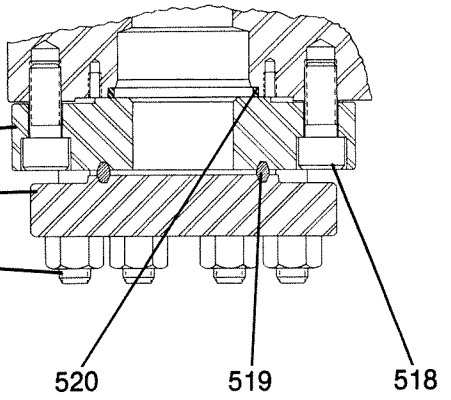
LITHO IN U.S.A.



TOP VIEW OF ROD CHAMBERS AND CYLINDERS



SECTION THRU DISCHARGE CONNECTOR

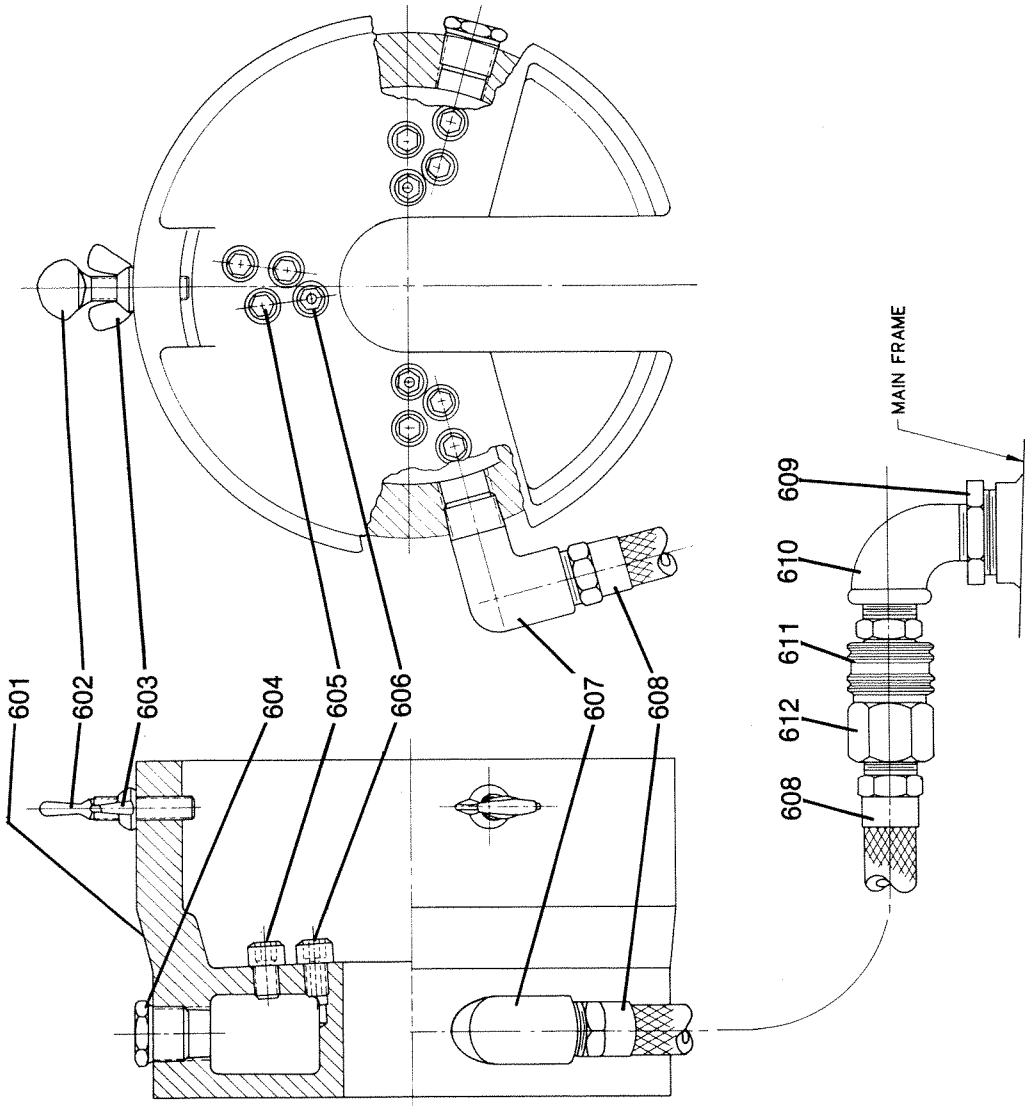


SECTION THRU DISCHARGE OUTLET

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
501	1293240	MODULE STUDDED, Discharge	3
		Composed of:	
		1—1293241 MODULE ONLY, Discharge	
		6—2408018 STUD, 1" x 5-7/8" Top Taper Lock	
		6—6300160 NUT, 1" Heavy Hex	
		12—2408019 STUD, 1-3/8" x 7-1/4" Top Taper Lock	
		12—6300220 NUT, 1-3/8" Heavy Hex	
		8—2408030 STUD, 1-1/4" x 6" Top Taper Lock	
		8—6300200 NUT, 1-1/4" Heavy Hex	
		6—2408034 STUD, 1-1/2" x 19-1/8" Top Taper Lock	
		6—6300241 NUT, 1-1/2"-8UN-3A Heavy Hex	
502	1290338	MODULE STUDDED, Suction	3
		Composed of:	
		1—1290339 MODULE ONLY, Suction	
		12—2408019 STUD, 1-3/8" x 7-1/4" Top Taper Lock	
		12—6300220 NUT, 1-3/8" Heavy Hex	
503	5912370	FLANGE, 4" API-5000 lb. WN RJ with 3.152" Bore	1
504	6908033	RING, R39-D Oval Joint	1
505	2402560	STUD, 1-1/4" x 6-1/4" Bottom Taper Lock	8
	6300200	NUT, 1-1/4" Heavy Hex	8
506	1293243	SPACER STUDDED, Discharge	2
		Composed of:	
		1—1293244 SPACER ONLY, Discharge	
		8—2402560 STUD, 1-1/4" x 6-1/4" Bottom Taper Lock	
		8—6300200 NUT, 1-1/4" Heavy Hex	
507	1290342	CONNECTOR, Discharge	2
508	1290175	RING, Back-Up	4
509	7000305-11	SCREW, 1/2" x 1-1/2" Grade 5 Cadmium Plated Hex Head Cap	16
510	7619050	WASHER, 1/2" Regular Spring Lock Cadmium Plated	16
511	1290343	ADAPTER, Discharge Connector	2
512	2410031-348	PACKING, Rectangular	2
513	2410031-427	PACKING, Rectangular	4
514	2407142	PLATE, Valve Cover Instruction	1
515	7178025	SCREW, Round Head Drive Type U No. 2 x 1/4"	8
516	2408034	STUD, 1-1/2" x 19-1/8" Top Taper Lock	18
	6300241	NUT, 1-1/2"-8UN-3A Heavy Hex	18
517	5912373	FLANGE, 4" API-5000# Blind with RJ Face	1
518	7006606	SCREW, 1-1/4" x 3" Hex Socket Head Cap	16
519	6908033	RING, R39-D Oval Joint	1
520	1290345	SEAL, Discharge Spacer	2
521	G-2407274	PLATE, Warning	1
522	6829016	ELBOW, 90 Deg. x 2" standard M.I. Street	2
523	1293194	BAFFLE, Intermediate Rod - 1/2 Piece	6
524	6300041	NUT, 1/4" Cadmium Plated Hex	6
525	7000124-11	SCREW, 1/4" x 5" Grade 5 Cadmium Plated Hex Head Cap	6
526	7621016	WASHER, 1/4" N Type A 0.625" O.D. Cadmium Plated	12

LITHO IN U.S.A.

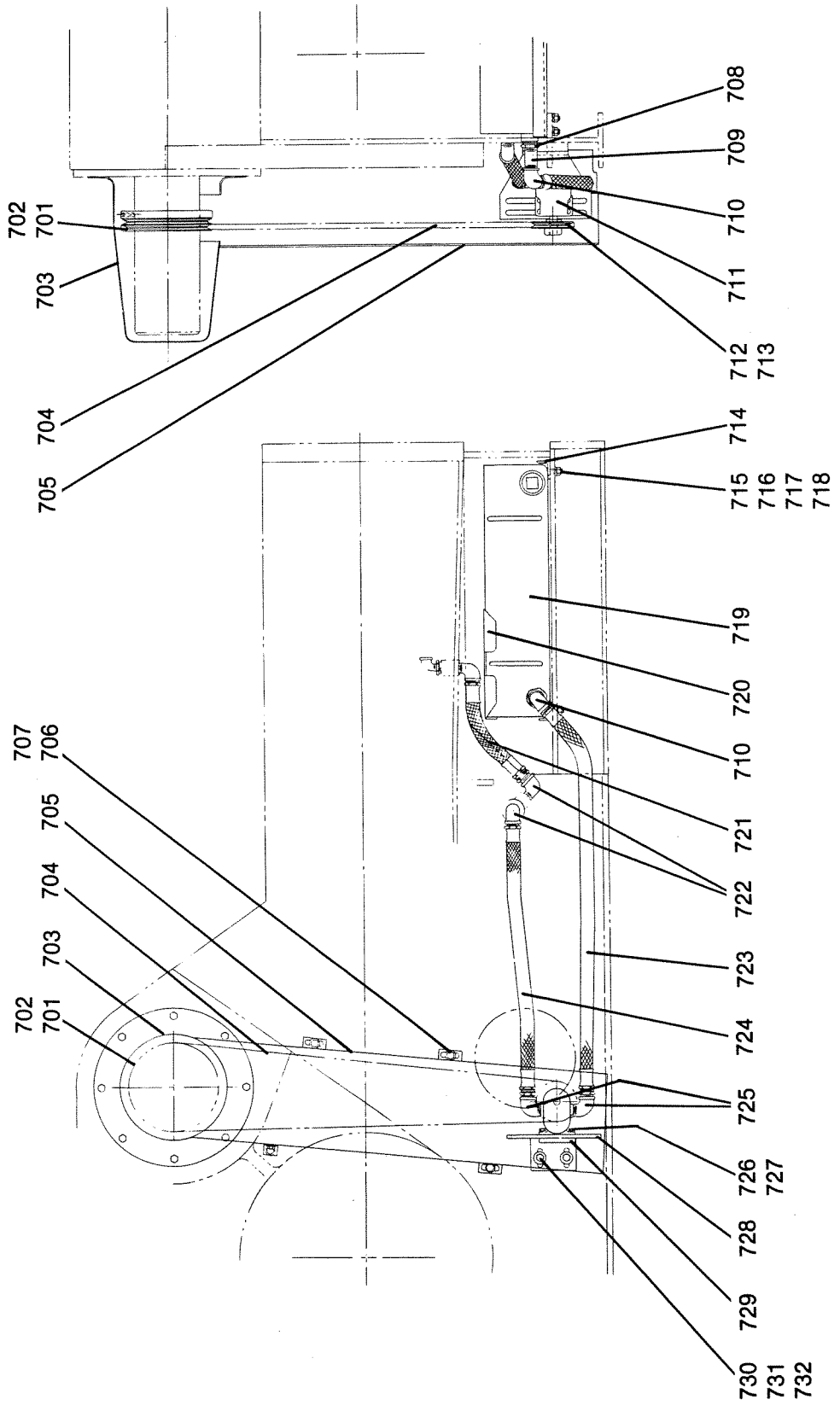


1293115 PISTON-LINER SPRAY SYSTEM

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
601	1293193	MANIFOLD COMPLETE, Piston-Liner Spray ..... Includes items indicated by *.	3
*602	G-7818256	SCREW, 3/8" - 16 x 1-3/4" 18-8 Stainless Steel Thumb.....	9
*603	7813050	NUT, 3/8" - 16 18-8 Stainless Steel Wing	9
*604	7815099	PLUG, 1/2" 150 lb. 316 Stainless Steel Hex Head Cap.....	6
*605	7006204-30	SCREW, 3/8" x 1/2" Stainless Steel Hex Socket Head Cap	18
*606	1291193	NOZZLE, Spray.....	18
*607	7804075	ELBOW, 90° x 1/2" - 150 lbs. 316 Stainless Steel Street.....	3
608	G-2400075	HOSE ASSEMBLY, 1/2" x 16-1/2" Long.....	3
609	6800083	BUSHING, 1" x 1/2" Standard M.I. Hex	3
610	6829004	ELBOW, 90° x 1/2" Standard M.I. Street	3
611	7815094	PLUG, 1/2" Hansen No. B4-T25 Male Pipe Thread	3
612	7818282	SOCKET, 1/2" Hansen No. 4-S26 Female Pipe Thread.....	3

LITHO IN U.S.A.

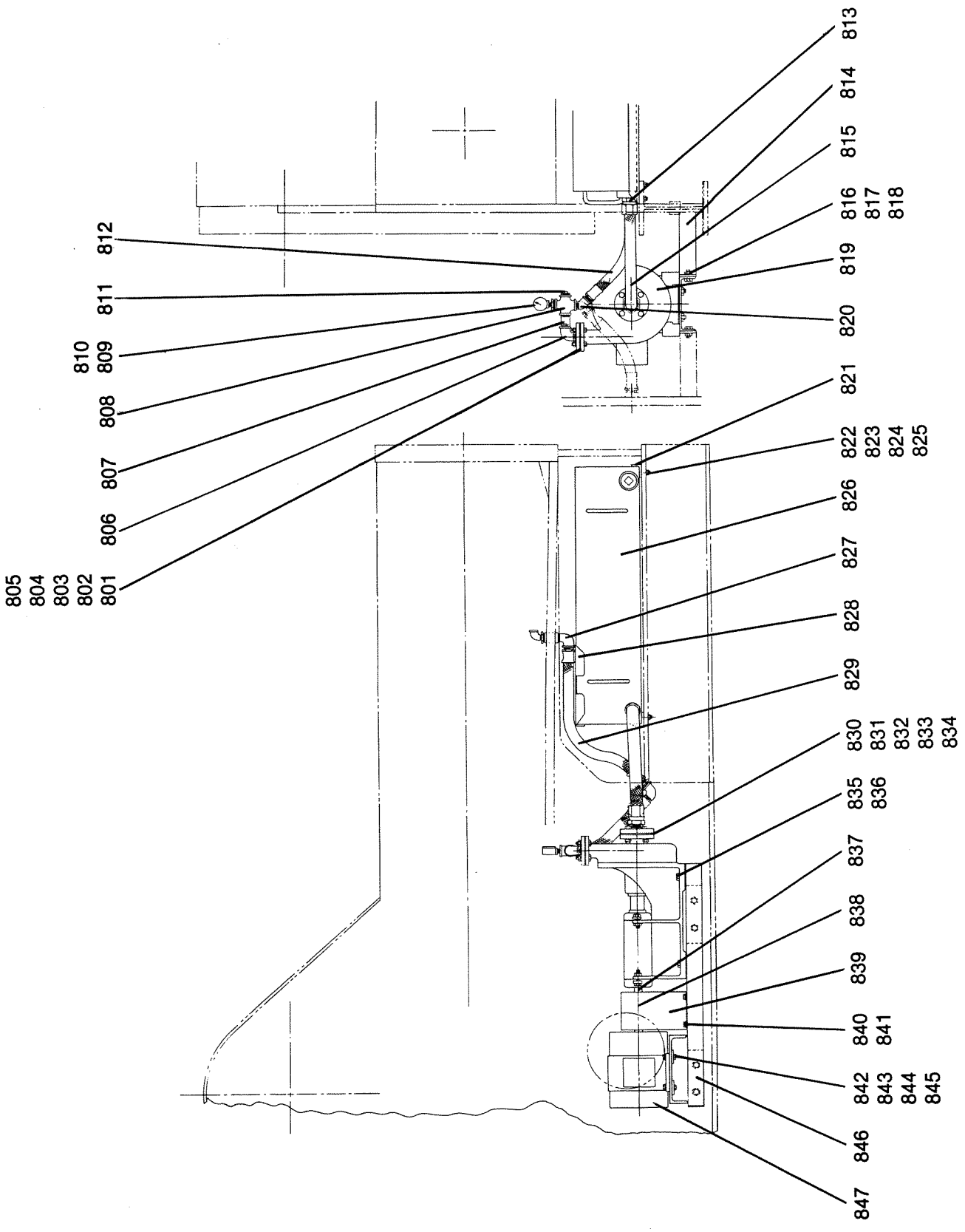


BELT DRIVEN PISTON-LINER LUBE SYSTEM

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
701	1293077	SHEAVE, Lube Pump Drive	1
702	7027206-02	SCREW, 3/8" x 3/4" Hex Socket Head Cup Point Nyloc Set	2
703	1293098	CAP, Pinion Shaft End	1
704	4701112	BELT, A-112 "V"	1
705	1293067	GUARD, Left Hand "V" Belt (For Left Hand Drive)	1
	1293068	GUARD, Right Hand "V" Belt (For Right Hand Drive)	1
706	7000301-11	SCREW, 1/2" x 3/4" Grade 5 Cadmium Plated Hex Head Cap	4
707	7621032	WASHER, 1/2" N Type A 1.062" O.D. Cadmium Plated	4
708	6800120	BUSHING, 1-1/2" x 1" Standard C.I. Hex	1
709	6817079	NIPPLE, 1" x 4-1/2" Standard Pipe	1
710	6826008	ELBOW, 90° x 1" Standard M.I.	1
711	7815072	PUMP, B & S No. 3 Foot Mounting without Relief Valve 713-3-1	1
712	2401620	KEY, 3/16" Square x 1" Long	1
713	7200038	SHEAVE, Single "A" Grove 4-1/2" O.D.	1
714	1293080	RAIL, Sump Support	2
715	6300081	NUT, 1/2" Cadmium Plated Hex	8
716	7035305-01	SCREW, 1/2" x 1-1/2" Cadmium Plated Flat Head Machine	8
717	7619050	WASHER, 1/2" Cadmium Plated Regular Spring Lock	8
718	7621032	WASHER, 1/2" N Type A 1.062" O.D. Cadmium Plated	8
719	1293063	SUMP, Lube Oil	1
720	1293076	STRAINER, Lube Oil Sump	1
721	1289358	HOSE ASSEMBLY, 1" x 24" Long	3
722	6829008	ELBOW, 90° x 1" Standard M.I. Street	7
723	1275228	HOSE ASSEMBLY, 1" x 45-1/2" Long	1
724	1286036	HOSE ASSEMBLY, 1" x 33-1/4" Long	1
725	6830022	ELBOW, 90° x 1" x 3/4" Standard M.I. Reducing Street	2
726	7000259-11	SCREW, 7/16" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	4
727	7619045	WASHER, 7/16" Cadmium Plated Regular Spring Lock	4
728	1292065	BRACKET, Lube Pump Mounting	1
729	1290064	PLATE, Back-Up	1
730	7000304-11	SCREW, 1/2" x 1-1/4" Grade 5 Cadmium Plated Hex Head Cap	2
731	7619050	WASHER, 1/2" Cadmium Plated Regular Spring Lock	2
732	7621032	WASHER, 1/2" N Type A 1.062" O.D. Cadmium Plated	2

LITHO IN U.S.A.

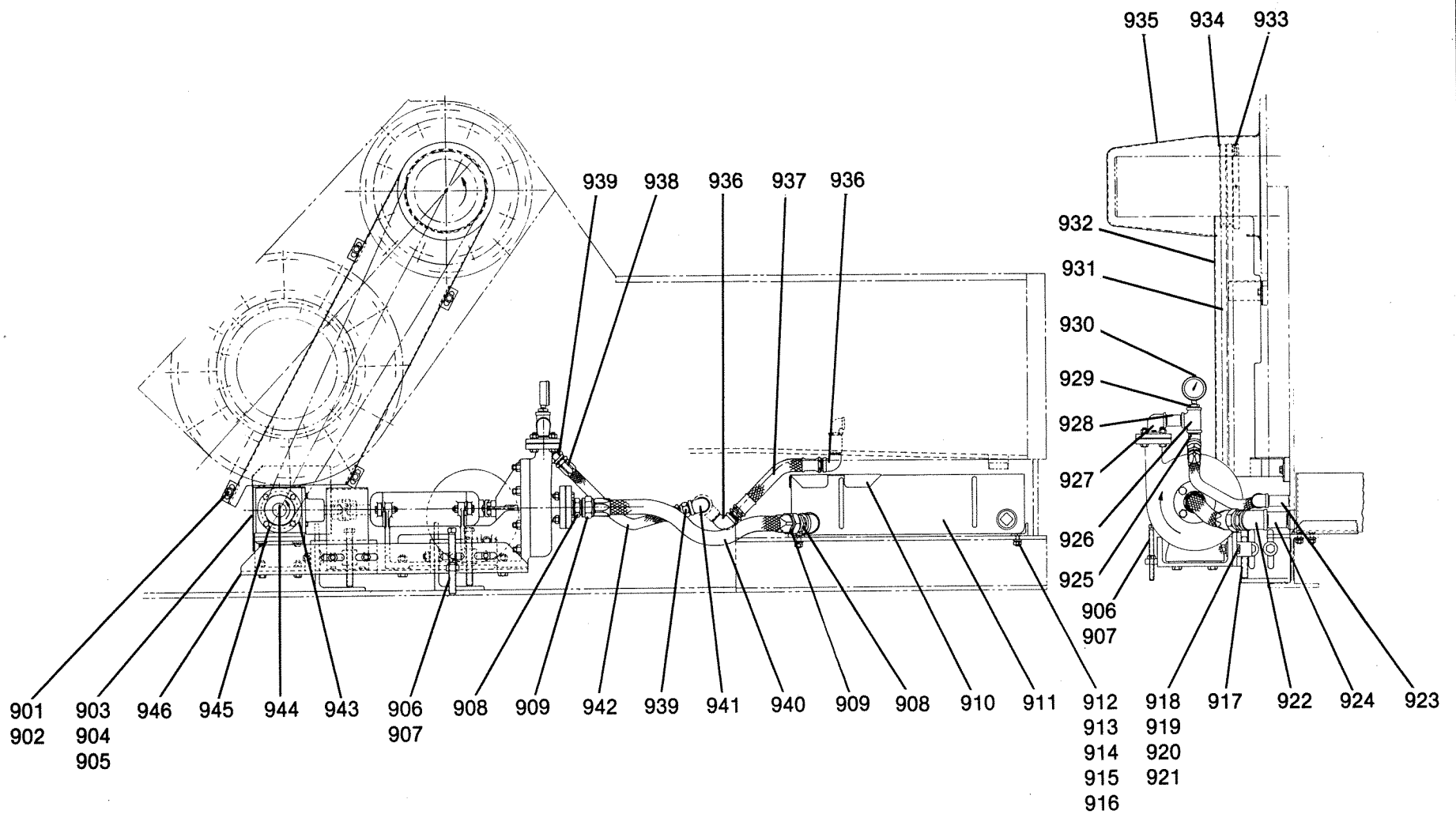


ELECTRIC MOTOR DRIVEN PISTON-LINER SPRAY SYSTEM

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
◄801	5902091	FLANGE, 1" ASA 150 lb. Threaded Flat Face	1
◄802	6010037	GASKET, 1" J-M 76 150 lb. 1/16" with Holes Full Face	1
◄803	7000307-11	SCREW, 1/2" x 2" Grade 5 Cadmium Plated Hex Head Cap	4
◄804	6300081	NUT, 1/2" Cadmium Plated Hex	4
◄805	7619050	WASHER, 1/2" Cadmium Plated Regular Spring Lock	4
806	6829008	ELBOW, 90° x 1" Standard M.I. Street	1
807	6817076	NIPPLE, 1" x 3" Standard Pipe	1
808	6859008	CROSS, 1" Standard Pipe	1
809	7806002	GAUGE, Glycerine 2-1/2" 0-100 PSI 1/4" N.P.T.	1
810	6800081	BUSHING, 1" x 1/4" Standard M.I. Hex	1
811	6873008	PLUG, 1" Standard Cored Square Head	1
812	1289358	HOSE ASSEMBLY, 1" x 24" Long (For Rear Mounted Pump Drive)	1
or	1270115	HOSE ASSEMBLY, 1" x 32" Long (For Top Mounted Pump Drive)	1
813	7800070	ADAPTER, Male Pipe Gates No. 7253-86737	1
814	1292284	SUPPORT, Piston-Liner Spray Pump	2
815	1292294	HOSE ASSEMBLY, 1-1/2" x 26" Long	1
816	6310120	NUT, 3/4"-10UNC Flexloc No. 31FA-1210	4
817	7000439-11	SCREW, 3/4" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	4
818	7621044	WASHER, 3/4" N Type A 1.469" O.D. Cadmium Plated	4
◄819	7815147	PUMP, 1" x 1-1/2" Centrifugal	1
820	6839008	ELBOW, 45° x 1" Standard M.I. Street (For Rear Mounted Pump Drive)	1
or	6829008	ELBOW, 90° x 1" Standard M.I. Street (For Top Mounted Pump Drive)	1
821	1293080	RAIL, Sump Support	2
822	6300081	NUT, 1/2" Cadmium Plated Hex	8
823	7035305-01	SCREW, 1/2" x 1-1/2" Cadmium Plated Flat Head Machine	8
824	7619050	WASHER, 1/2" Cadmium Plated Regular Spring Lock	8
825	7621032	WASHER, 1/2" N Type A 1.062" O.D. Cadmium Plated	8
826	1293063	SUMP, Piston-Liner Spray	1
827	6829008	ELBOW, 90° x 1" Standard M.I. Street	6
828	1293076	STRAINER, Lube Sump	1
829	1289358	HOSE ASSEMBLY, 1" x 24" Long	3
◄830	5902172	FLANGE, 1-1/2" ASA 150 lb. Threaded Flat Face	1
◄831	6010036	GASKET, 1-1/2" J-M 76 150 lb. 1/16" with Holes Full Face	1
◄832	7000309-11	SCREW, 1/2" x 2-1/4" Grade 5 Cadmium Plated Hex Head Cap	4
◄833	6300081	NUT, 1/2" Cadmium Plated Hex	4
◄834	7619050	WASHER, 1/2" Cadmium Plated Regular Spring Lock	4
◄835	1292283	SHIM, Pump (Laminated)	4
◄836	7000396-11	SCREW, 5/8" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	4
◄837	2401860	KEY, 1/4" Square x 1-1/4" Long	2
◄838	7802327	COUPLING, Falk Type T-10 Size 20T10 1-1/8" Bore	1
◄839	1292286	GUARD, Coupling	1
◄840	7000207-11	SCREW, 3/8" x 7/8" Grade 5 Cadmium Plated Hex Head Cap	4
◄841	7600026	WASHER, 3/8" W Type A 1.000" O.D.	4
◄842	7000211-11	SCREW, 3/8" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	4
◄843	6300062	NUT, 3/8" Cadmium Plated Hex	4
◄844	7619041	WASHER, 3/8" Cadmium Plated Regular Spring Lock	4
◄845	1292293	WASHER, 1/4" x 1-3/4" Square	4
◄846	1292285	BASE, Pump and Motor	1
◄847	7812008	230/460 V Motor, 3 HP 182TC 60 Hz 1735 RPM 3 PH	1
or	7812009	575 V Motor, 3 PH 182TC 60 Hz 1735 RPM 3 PH	1
	1292288	PUMP COMPLETE, Piston-Liner Spray with 230/460 V Motor. Includes Items Listed Above Indicated by ◄. (Service Item).	
	1292309	PUMP COMPLETE, Piston-Liner Spray with 575 V Motor. Includes Items Listed Above Indicated by ◄. (Service Item).	

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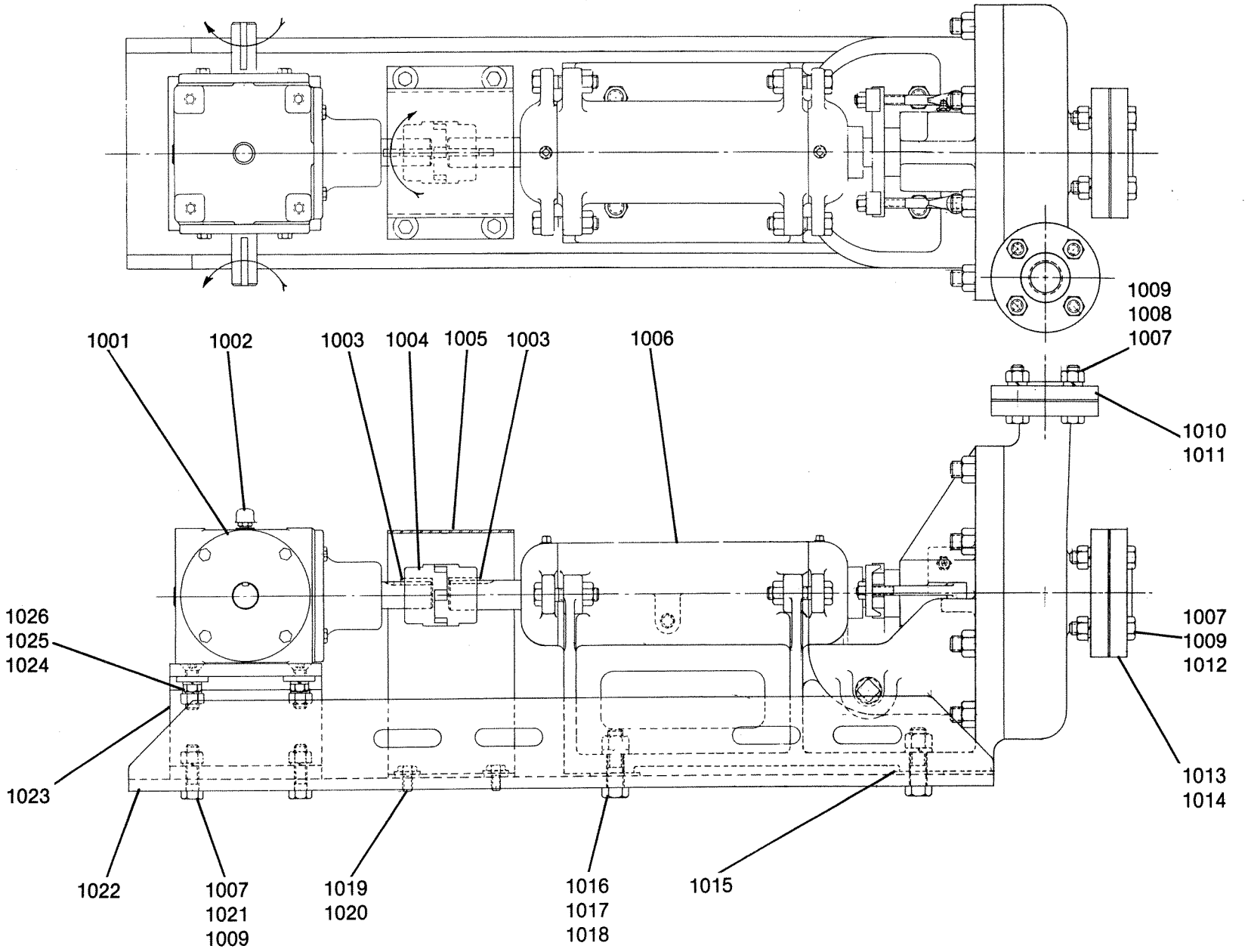


BELT DRIVEN RIGHT ANGLE PISTON-LINER LUBE SYSTEM

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
901	7000301-11	SCREW, 1/2" x 3/4" Grade 5 Cadmium Plated Hex Head Cap	4
902	7621032	WASHER, 1/2" N Type A 1.062" O.D. Cadmium Plated	4
903	G-1293171	GUARD, Left Hand Gear Box Sheave	1
or	G-1293170	GUARD, Right Hand Gear Box Sheave	1
904	G-7000254-11	SCREW, 7/16" x 3/4" Grade 5 Cadmium Plated Hex Head Cap	2
905	7619045	WASHER, 7/16" Regular Spring Lock Cadmium Plated	2
906	7016421	SCREW, 5/8" x 8" Square Head Cup Point Set	1
907	6320100	NUT, 5/8" Hex Jam	1
908	7802358	CONNECTOR, Weatherhead No. C5205 x 24	2
909	7805072	FITTING, 1-1/2" No. 411-24S Swivel Female	2
910	1293076	STRAINER, Lube Oil Sump	1
911	1293063	SUMP, Lube Oil	1
912	1293080	RAIL, Lube Sump Support	2
913	6300081	NUT, 1/2" Cadmium Plated Hex	8
914	7035305-01	SCREW, 1/2" x 1-1/2" Cadmium Plated Flat Head Machine	8
915	7619050	WASHER, 1/2" Regular Spring Lock Cadmium Plated	8
916	7621032	WASHER, 1/2" N Type A 1.062" O.D. Cadmium Plated	8
917	G-1291252	BRACKET, Right Angle Drive Liner Spray Pump Complete Mounting With the Following Replaceable Items: 2—6300103 NUT, 5/8" Cadmium Plated Hex 1—6320120 NUT, 3/4" Hex Jam 2—7000397-11 SCREW, 5/8" x 2" Grade 5 Cad. Plated Hex Head Cap 1—7014456-01 SCREW, 3/4" x 6" Square Head Full Dog Point Set 2—7619058 WASHER, 5/8" Regular Spring Lock Cadmium Plated 2—7621042 WASHER, 5/8" W Type A 1.750" O.D. Cadmium Plated	2
918	6300103	NUT, 5/8" Cadmium Plated Hex	4
919	7000397-11	SCREW, 5/8" x 2" Grade 5 Cadmium Plated Hex Head Cap	4
920	7619058	WASHER, 5/8" Regular Spring Lock Cadmium Plated	4
921	7621042	WASHER, 5/8" W Type A 1.750" O.D. Cadmium Plated	4
922	6828012	ELBOW, 45° x 1-1/2" Standard M.I.	1
923	6817078	NIPPLE, 1" x 4" Standard Pipe	1
924	6817112	NIPPLE, 1-1/2" x 4" Standard Pipe	1
925	6839008	ELBOW, 45° x 1" Standard M.I. Street	1
926	6888008	TEE, 1" Standard M.I. Pipe	1
927	6829008	ELBOW, 90° x 1" Standard M.I. Street	1
928	6817076	NIPPLE, 1" x 3" Standard Pipe	1
929	6800081	BUSHING, 1" x 1/4" Standard M.I. Hex	1
930	7806002	GAGE, Glycerin 2-1/2" 0-100 PSI 1/4" NPT	1
931	4701112	BELT, "V" A-112	2
932	G-1293169	GUARD, Left Hand "V" Belt	1
or	G-1293168	GUARD, Right Hand "V" Belt	1
933	7027206-02	SCREW, 3/8" x 3/4" Hex Socket Cup Point Nylok Set	2
934	1293077	SHEAVE, Lube Pump	1
935	1293098	CAP, Pinion Shaft End	1
936	6829008	ELBOW, 90° x 1" Standard M.I. Street	6
937	1289358	HOSE ASSEMBLY, 1" x 24" Long	1
938	7805083	FITTING, Aeroquip No. 4411-16S	2
939	7800076	ADAPTER, Aeroquip No. 2021-16-16S	2
940	6100037	HOSE, Aeroquip No. 2651-24 0'-27" Long	1
941	6826008	ELBOW, 90° x 1" Standard M.I.	1
942	6100036	HOSE, Aeroquip No. 2651-16 0'-24" Long	1
943	G-1291258	COVER, Cross Shaft	1
944	2401860	KEY, 1/4" Square x 1-1/4" Long	1
945	G-7200046	SHEAVE, 3.6" P.D. "A" 2 Groove with "SH" O.D. Hub	1
946	G-1291157	PUMP COMPLETE, See Page 20	1

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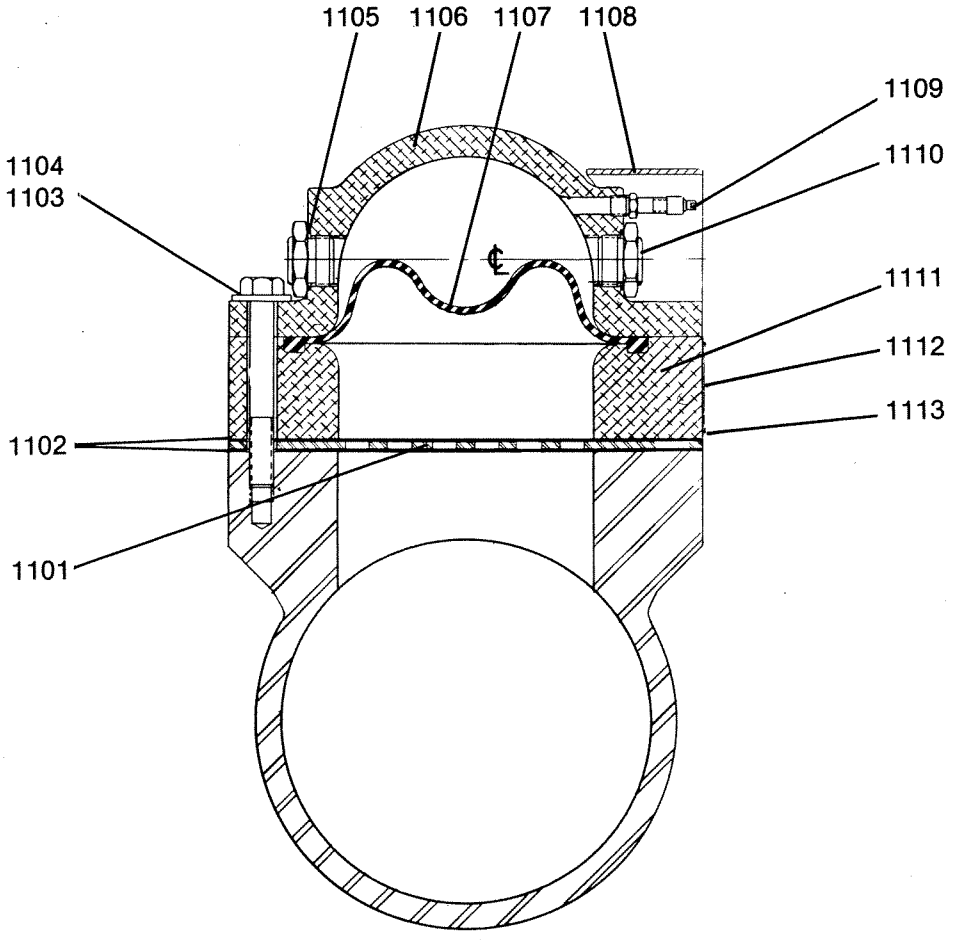


PISTON-LINER LUBE PUMP G-1291157
(RIGHT ANGLE DRIVE)

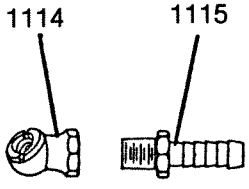
LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
1001	G-7806090	GEAR BOX, Von Ruden Model 55-19 Type E/G 2:1 Reduction Ratio	1
1002	7801121	BREATHER, Bendix No. 568699	1
1003	2401860	KEY, 1/4" x 1/4" x 1-1/4" Plain	2
1004	G-7802332	COUPLING, Bondtru No. B-323 W/1-1/8" and 1" Bore	1
1005	1292286	GUARD, Coupling	1
1006	7815147	PUMP, 1" x 1-1/2" Centrifugal	1
1007	6300081	NUT, 1/2" Cadmium Plated Hex	10
1008	7000307-11	SCREW, 1/2" x 2" Grade 5 Cadmium Plated Hex Head Cap	4
1009	7619050	WASHER, 1/2" Regular Spring Lock Cadmium Plated	10
1010	5902091	FLANGE, 1" ASA-150 lb. Threaded Flat Face	1
1011	6010037	GASKET, 1" J-M76 150 lb. 1/16" w/Holes Full Face	1
1012	7000309-11	SCREW, 1/2" x 2-1/4" Grade 5 Cadmium Plated Hex Head Cap	4
1013	5902172	FLANGE, 1-1/2" ASA-150 lb. Threaded Flat Face	1
1014	6010036	GASKET, 1-1/2" J-M76 150 lb. 1/16" w/Holes Full Face	1
1015	G-1292283	SHIM, Pump	4
1016	6300103	NUT, 5/8"-11UNC Cadmium Plated Hex	4
1017	7000398-11	SCREW, 5/8" x 2-1/4" Grade 5 Cadmium Plated Hex Head Cap	4
1018	7619058	WASHER, 5/8" Cadmium Plated Regular Spring Lock	4
1019	7000206-11	SCREW, 3/8" x 3/4" Grade 5 Cadmium Plated Hex Head Cap	4
1020	7621024	WASHER, 3/8" Type A 0.81" O.D. Cadmium Plated	4
1021	7000306-11	SCREW, 1/2" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	2
1022	G-1291158	BRACKET, Centrifugal Pump and Gear Box Mounting	1
1023	G-1291159	PEDESTAL, Gear Box	1
1024	7000257-11	SCREW, 7/16" x 1-1/4" Grade 5 Cadmium Plated Hex Head Cap	4
1025	7619045	WASHER, 7/16" Cadmium Plated Regular Spring Lock	4
1026	G-7624021	WASHER, 1/2" I.D. x 1-1/4" O.D. x .217" Thick Special Flat	4

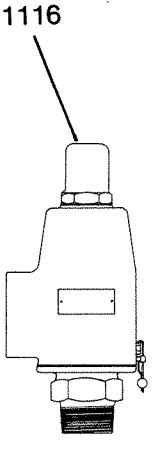
LITHO IN U.S.A.



SECTION THRU SUCTION LINE DAMPENER



AIR CHUCK AND COUPLING



SUCTION LINE RELIEF VALVE

LITHO IN U.S.A.

Item No.	Part No.	Description	No. Req'd.
1101	1290198	RETAINER, Suction Line Dampener Diaphragm	1
1102	1290199	GASKET, Dampener	2
1103	7000361-11	SCREW, 9/16" x 4" Grade 5 Cadmium Plated Hex Head Cap	32
1104	7621036	WASHER, 9/16" N Type A 1.159" O.D. Cadmium Plated	32
1105	2410031-024	PACKING, Rectangular Section	2
1106	1290197	COVER, Suction Line Dampener	1
1107	1290195	DIAPHRAGM, Suction Line Dampener	1
1108	1290228	GUARD, Air Valve	1
1109	7500021	VALVE, 1/4" Dill No. 02500-100AA-643VC Check	1
1110	7815106	PLUG, Tedeco Model No. W-54 Sight	2
1111	1290196	SPACER, Suction Line Dampener	1
1112	2407136	PLATE, Instruction	1
1113	7178025	SCREW, No. 2 x 1/4" Type U Round Head Drive	8
1114	7802028	CHUCK, 1/4" Dill No. 6044 Air	1
1115	7802029	COUPLING, Dill No. 6094 Air Chuck	1
1116	7500065	VALVE, Relief Texstream Series 55-RO Set At 70 PSI	1
*	1290203	DAMPENER, Double Flanged 8" Suction Line Composed of: 1—1290200 BODY COMPLETE, Double Flanged 8" Suction Line Dampener 8—6300121 NUT, 3/4" Cadmium Plated Hex 2—6908041 RING, R48-D Oval Joint 8—7000445-11 SCREW, 3/4" x 3-1/4" Grade 5 Cad. Plated Hex Head Cap 8—7000448-11 SCREW, 3/4" x 4" Grade 5 Cad. Plated Hex Head Cap 2—6874016 PLUG, 2" Standard Solid Square Head 1—6817121 NIPPLE, 2" x 3" Standard Pipe 1—6888016 TEE, 2" Standard Pipe Items 1101 thru 1115 are also included.	1
*	1290212	DAMPENER, Single Flanged 8" Suction Line Composed of: 1—1290213 BODY COMPLETE, Single Flanged 8" Suction Line Dampener 1—6908041 RING, R48-D Oval Joint 8—7000445-11 SCREW, 3/4" x 3-3/4" Grade 5 Cad. Plated Hex Head Cap 1—6874016 PLUG, 2" Standard Solid Square Head Items 1101 thru 1115 are also included.	1
*	1290277	DAMPENER, Right Hand Side Inlet 8" Suction Line Composed of: 1—1290275 BODY COMPLETE, Right Hand Side Inlet 8" Suction Line Dampener 1—6010023 GASKET, 8" Flat Ring 8—6300121 NUT, 3/4" Cadmium Plated Hex 1—6908041 RING, R48-D Oval Joint 16—7000445-11 SCREW, 3/4" x 3-1/4" Grade 5 Cad. Plated Hex Head Cap 1—6874016 PLUG, 2" Standard Solid Square Head Items 1101 thru 1115 are also included.	1
*	1290278	DAMPENER, Left Hand Side Inlet 8" Suction Line Composed of: 1—1290279 BODY COMPLETE, Left Hand Side Inlet 8" Suction Line Dampener 1—6010023 GASKET, 8" Flat Ring 8—6300121 NUT, 3/4" Cadmium Plated Hex 1—6908041 RING, R48-D Oval Joint 16—7000445-11 SCREW, 3/4" x 3-1/4" Grade 5 Cad. Plated Hex Head Cap 1—6874016 PLUG, 2" Standard Solid Square Head Items 1101 thru 1115 are also included.	1
*	1290208	DAMPENER, Suction Line for Field Installation to 10" Pipe Composed of: 1—1290209 PLATE, Mounting Items 1101 thru 1115 are also included.	1
*	1290210	DAMPENER, Suction Line for Field Installation to 8" Pipe Composed of: 1—1290211 PLATE, Mounting Items 1101 thru 1115 are also included.	1

*One Furnished with Pump — Type and Size Optional

LITHO IN U.S.A.

TOOLS FURNISHED — NOT ILLUSTRATED

Part No.	Description	No. Req'd.
1290140	ADAPTER, Pinion Rotating	1
7000394-11	SCREW, 5/8" x 1-1/4" Grade 5 Cadmium Plated Hex Head Cap	3
7619058	WASHER, 5/8" Regular Spring Lock Cadmium Plated	3
2402290	WRENCH, Pinion Rotating Adapter	1
1290183	PULLER COMPLETE, Seal Retainer	1
	Composed of:	
	1—1290182 PULLER ONLY	
	1—2408021 STUD, 3/4" x 1-1/2" Straight All-Thread	
	1—6572024 PIN, 5/16" x 1-1/2" Stainless Steel Spring	
1290207	BOLT, Liner Clamp Tee Handle Lifting (4" Long)	1
1290206	BOLT, Liner Clamp Tee Handle Lifting (3" Long)	1
G-7815046	PULLER, Bluebonnet Model NP-2100 Valve Seat	1
1291181	DRIVER, Fluid Valve Seat	1
	Composed of:	
	1—1291223 COVER, Guide	
	1—1291224 DRIVER ONLY, Fluid Valve Seat	
1292278	HOLDER, Seal Retainer	1
1710270	BAR, Wedge Loosening	1
2409010	WRENCH, Wedge Adjusting Screw	1
2409011	WRENCH, for 2409010	1
1290164	PLATE, Bushing Puller	1
M-1023	WRENCH, Piston Rod Nut	1

OPTIONAL ITEMS — NOT ILLUSTRATED

Part No.	Description	No. Req'd.
1293125	HOIST COMPLETE	1
	Composed of:	
	2—1290127 BRACKET, Hoist Support	
	1—1293126 BOOM, Hoist	
	1—1291128 MAST, Hoist	
	2—1293129 ROD, Hoist Support	
	4—6320120 NUT, 3/4" Hex Jam	
	2—7000395-11 SCREW, 5/8" x 1-1/2" Grade 5 Cadmium Plated Hex Head Cap	
	2—7000440-11 SCREW, 3/4" x 2" Grade 5 Cadmium Plated Hex Head Cap	
	2—7619058 WASHER, 5/8" Regular Spring Lock Cadmium Plated	
	2—7619066 WASHER, 3/4" Regular Spring Lock Cadmium Plated	
	4—7800044 ASSEMBLY, Yoke Pin 2708-1/2-8A	
	4—7804019 END, Adjustable Yoke 2708-8A	
	1—7805052 FITTING, Alemite No. 1610B	
	1—7819040 TROLLEY, 1/2 Ton Plain Yale Model FW	
1293274	STROKE COUNTER SWITCH	1
	Composed of:	
	1—1290273 BRACKET, Switch	
	1—1290324 CONDUIT, Switch Wire	
	2—6300041 NUT, 1/4" Cadmium Plated Hex	
	2—6300062 NUT, 3/8" Cadmium Plated Hex	
	1—6829004 ELBOW, 90° x 1/2" Standard M.I. Street	
	1—6839004 ELBOW, 45° x 1/2" Standard M.I. Street	
	2—7000106-11 SCREW, 1/4" x 3/4" Grade 5 Cadmium Plated Hex Head Cap	
	2—7000212-11 SCREW, 3/8" x 2" Grade 5 Cadmium Plated Hex Head Cap	
	2—7618014 WASHER, Parker No. 600-0101-3/8" Stat-O-Seal	
	2—7619033 WASHER, 1/4" Regular Spring Lock Cadmium Plated	
	2—7619041 WASHER, 3/8" Regular Spring Lock Cadmium Plated	
	1—7818203 SWITCH, Micro EX-Ar	
	1—7822068 WIRE, Romex Cable 14/3 Type NM 600V 22" Long	

LITHO IN U.S.A.

OPTIONAL ITEMS — NOT ILLUSTRATED

Item No.	Description	No. Req'd.
1293174	CROSS COMPLETE, Discharge Strainer (4" Outlets)	1
	Composed of:	
	1—1291208 CROSS ONLY, Discharge Strainer	
	1—1291212 STRAINER, Complete	
	24—2402560 STUD, 1-1/4" x 6-1/4" (For 4" API-5000 lb. Flange)	
	24—6300200 NUT, 1-1/4" Heavy Hex	
	1—2407004 TAG, Strainer Cleanout	
	2—7178088 SCREW, 3/8" - #10 Type U Round Head Drive	
	4—102842-1 SHIM, 1/8" Thick	
	3—102842-2 SHIM, 1/16" Thick	
	4—102842-3 SHIM, 1/32" Thick	
	1—1293176 SUPPORT, Discharge Strainer Cross	
	1—1290221 PLATE, Support Base	
	4—7000439-11 SCREW, 3/4" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	
	4—7000440-11 SCREW, 3/4" x 2" Grade 5 Cadmium Plated Hex Head Cap	
	8—7619066 WASHER, 3/4" Regular Spring Lock Cadmium Plated	
1291214	KIT, Flange and Gasket (Used on 1293174 Cross)	
	Composed of:	
	1—1290305 FLANGE, Strainer Clean Out	
	2—5912370 FLANGE, 4" API-5000 lb. with 3.152" Bore Weld Neck Ring Joint	
	4—6908033 RING, R39-D Oval Joint	
1293175	CROSS COMPLETE, Discharge Strainer (5" Outlets)	1
	Composed of:	
	1—1290311 CROSS ONLY, Discharge Strainer	
	1—1291212 STRAINER, Complete	
	8—2402560 STUD, 1-1/4" x 6-1/4"	
	16—2408017 STUD, 1-1/2" x 7-3/4"	
	8—6300200 NUT, 1-1/4" Heavy Hex	
	16—6300240 NUT, 1-1/2" Heavy Hex	
	1—2407004 TAG, Strainer Clean-Out	
	2—7178088 SCREW, 3/8"-#10 Type U Round Head Drive	
	4—102842-1 SHIM, 1/8" Thick	
	3—102842-2 SHIM, 1/16" Thick	
	4—102842-3 SHIM, 1/32" Thick	
	1—1293176 SUPPORT	
	1—1290221 PLATE, Support Base	
	4—7000439-11 SCREW, 3/4" x 1-3/4" Grade 5 Cadmium Plated Hex Head Cap	
	4—7000440-11 SCREW, 3/4" x 2" Grade 5 Cadmium Plated Hex Head Cap	
	8—7619066 WASHER, 3/4" Regular Spring Lock Cadmium Plated	
1290312	KIT, Flange and Gasket (Used on 1293175 Cross)	
	Composed of:	
	1—1290305 FLANGE, Strainer Clean Out	
	2—5912393 FLANGE, 5" API-5000 lb. with 4.313" Bore Weld Neck Ring Joint	
	2—6908033 RING, R39-D Oval Joint	
	2—6908040 RING, R44-D Oval Joint	
1290313	KIT, Flange and Gasket (Used on 1293175 Cross)	
	Composed of:	
	1—1290305 FLANGE, Strainer Clean Out	
	2—5912391 FLANGE, 5" API-5000 lb. with 4.063" Bore Weld Neck Ring Joint	
	2—6908033 RING, R39-D Oval Joint	
	2—6908040 RING, R44-D Oval Joint	

LITHO IN U.S.A.

NATIONAL LINERS AND PISTONS

Size	*Liner Packing	LINERS		PISTONS		
				COMPLETE	CUP ASSEMBLIES	COMPLETE
		Premium		Blue-Stripe Regular	Blue-Stripe	Blue Solid
4	1540142	L-4167		K-1134	K-1115	G-1502352
4-1/2"	1540142	L-4187		K-1034	K-1117	G-1502362
5	1540120	L-4207		K-1032	K-1102	G-1502382
5-1/2"	1540122	L-4227		K-1021	K-1104	G-1502392
6	1540124	L-4247		K-1022	K-1044	G-1502402
6-1/4"	1540150	L-4257		K-1064	K-1106	G-1502412
6-1/2"	1540126	L-4267	1523821	K-1067	K-1107	G-1502422
6-3/4"	1540126	L-4277	1523820	K-1070	K-1108	G-1502432

*NOTE: One Liner Packing Furnished With Each Liner. Packing May Be Ordered Separately For Service Items.

NATIONAL VALVES

Type	Valve Seat	Valve Complete	Valve Body	Valve Disc	Valve Lock	Valve Spring	Snap Ring
"G-2" Hycar	1561450	1560994	1560990	1560588	1560706	1560701	1560705
"G-2" Polyurethane	1561450	1560995	1560990	1560587	1560706	1560701	1560705