

Lull[®]

Illustrated Parts Manual

Model
844

10709910

February 2000

ANSI

JLG[®]
An Oshkosh Corporation Company

Copyright © 1998, 2000 Lull International, Inc. All rights reserved

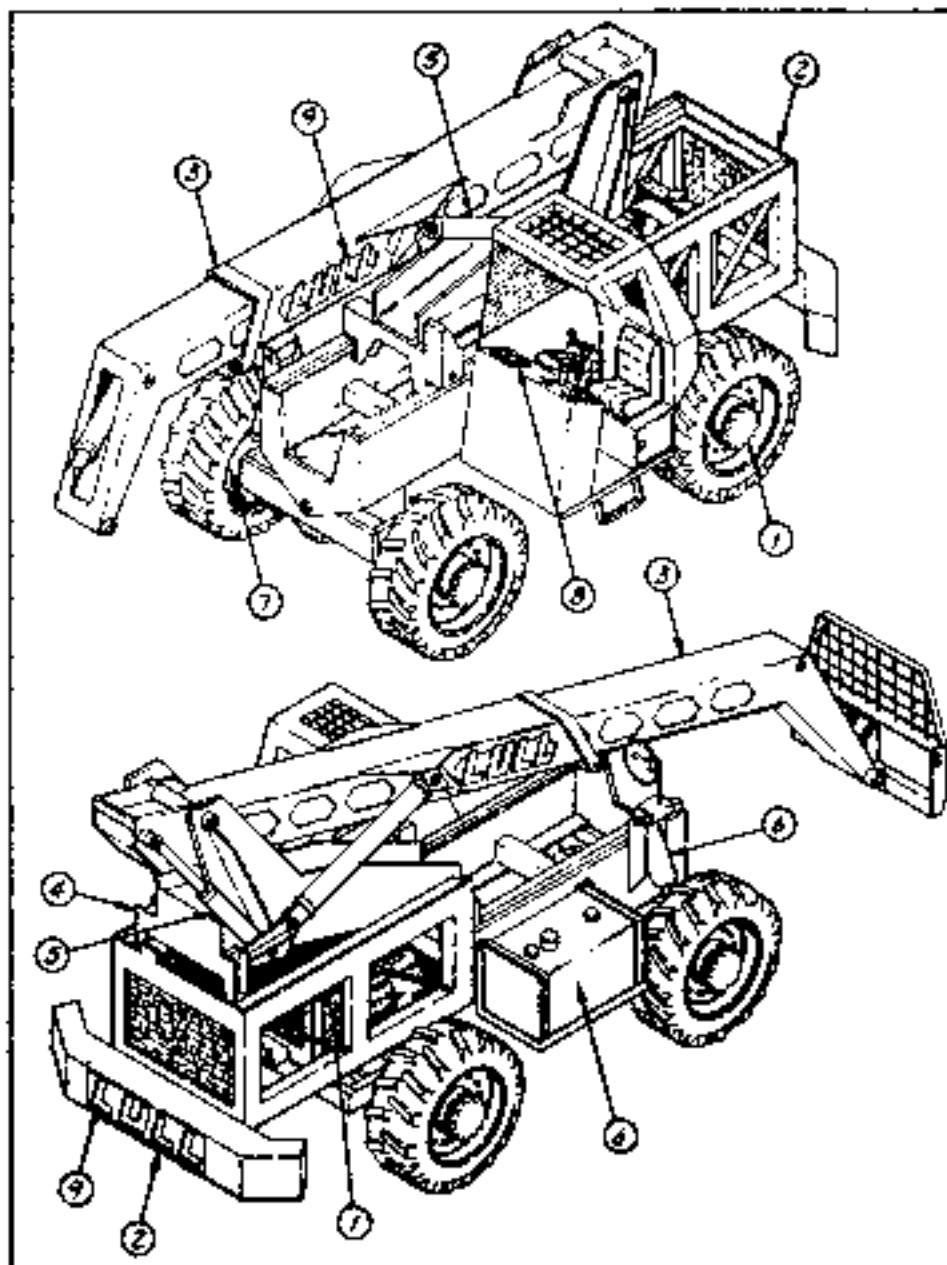
No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means (electronic, mechanical, recording, photocopy, or otherwise) without prior written permission from the copyright holder.

Publication Number 10709910
Compiled Edition 02/00


MODEL 844
MISCELLANEOUS FILTERS

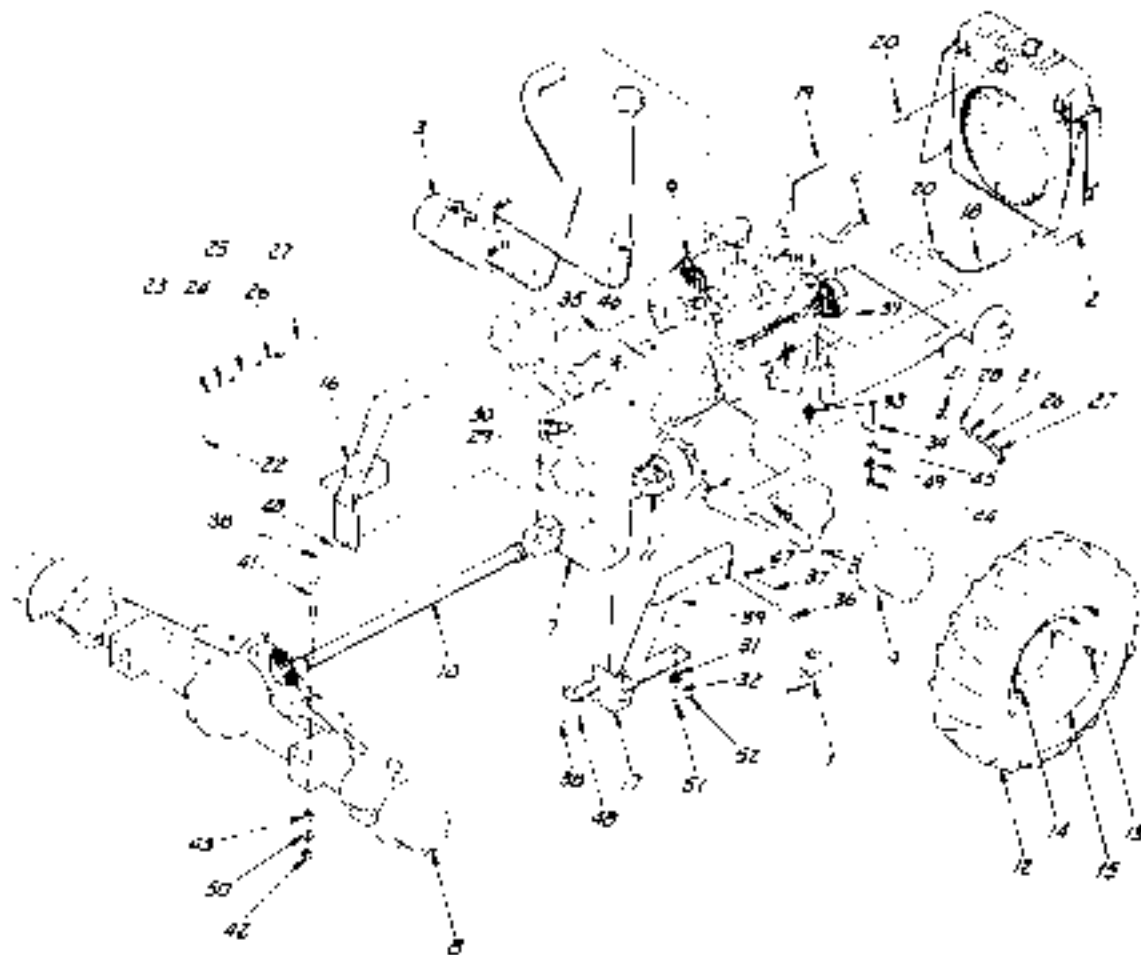
318 Chrysler
 276 John Deere
 159 Detroit
 212 Detroit (3-53)
 287 Deutz (4-53)
 283 Milwaukee

PART NUMBERS							FILTERS	REMARKS
P12389	X						Oil Filter	Spin-On Element
P19513						X	Oil Filter	
P19848					X		Oil Filter	
P22640			X				Oil Filter	
P19535			X				Oil Filter	
P19287				X			Oil Filter	
P22635	X						Oil Filter	
P15267	X						Fuel Filter	Spin-On Element
P17316						X	Fuel Filter	
P19856					X		Fuel Filter	
P22641			X				Fuel Filter-Primary	
P22642			X				Fuel Filter-Secondary	
P19288			X				Fuel Filter-Primary	
P19289			X	X			Fuel Filter-Secondary	
P22636	X						Fuel Filter	
P17276	X					X	Air Filter	For Machine W/Single Filter Air Cleaner For Machine W/Dual Filter Air Cleaner For Machine W/Dual Filter Air Cleaner
P19476			X	X	X		Air Filter	
P12179		X					Air Filter	
P21498		X					Air Filter-Primary	
P21499		X					Air Filter-Safety	
P19133	X	X	X	X	X	X	Transmission	Spin-On Element
P17815	X					X	Transmission	
P19801	X	X	X	X	X	X	Hydraulic Oil	
P13586	X		X	X		X	Hydraulic Oil	
P24315		X	X		X		Hydraulic Oil	



QTY	ASSEMBLY NUMBERS			DESCRIPTION
	BOSS	DETZ	DETROIT	
1	16802	16803	16804	DRIVE TRAIN ASSEMBLY
	16819	16820	16821	THROTTLE ASSEMBLY
	16823	—	16825	RADIATOR + TRANS. COOLER ASSY
	—	16824	—	AIR SHROUD + TRANS. COOLER ASSY
	16827	16828	16829	AIR CLEANER ASSEMBLY
	16831	—	16832	EXHAUST ASSEMBLY
	16838	16839	16838	TRANSMISSION DISCONNECT ASSY
2	16805	16805	16805	MAIN FRAME ASSEMBLY
	16834	16834	16834	OPERATORS PLATFORM ASSEMBLY
	16835	16835	16835	INSTRUMENT PANEL ASSEMBLY
3	16806	16806	16806	TELESCOPIC BOOM ASSEMBLY
4	16807	16807	16807	TRANSFER CARRIAGE ASSEMBLY
5	16808	16808	16808	UPPER HYDRAULIC ASSEMBLY
	16837	16837	16837	HOIST CYLINDER ASSEMBLY
	16838	16838	16838	BOOM EXTENSION CYLINDER ASSY
	16839	16839	16839	FRONT CARRIAGE TILT CYL. ASSY
	16840	16840	16840	REAR CARRIAGE TILT CYLINDER ASSY
6	16809	16809	16809	LOWER HYDRAULIC ASSEMBLY
	16841	16841	16841	HYDRAULIC STEERING ASSEMBLY
	16842	16842	16842	JOYSTICK CONTROL ASSEMBLY
	16843	16843	16843	FOUR SPEED CONTROL HANDLE ASSY
	16844	16844	16844	FRAME TILT CYLINDER ASSEMBLY
	16845	16845	16845	TRANSFER CYLINDER ASSEMBLY
7	16810	16810	16810	BRAKE ASSEMBLY
8	16812	16813	16814	WIRING HARNESS ASSEMBLY
	16847	16848	16849	WIRING DIAGRAM
9	16815	16815	16815	DECAL LOCATION ASSEMBLY
10	16816	16816	16816	LUBRICATION SCHEDULE
				FORK CARRIAGE ASSEMBLY MACHINE OPTIONS AXLE BREAKDOWN TRANSMISSION BREAKDOWN
	16800-3	16800-4	16800-5	FINAL ASSEMBLY

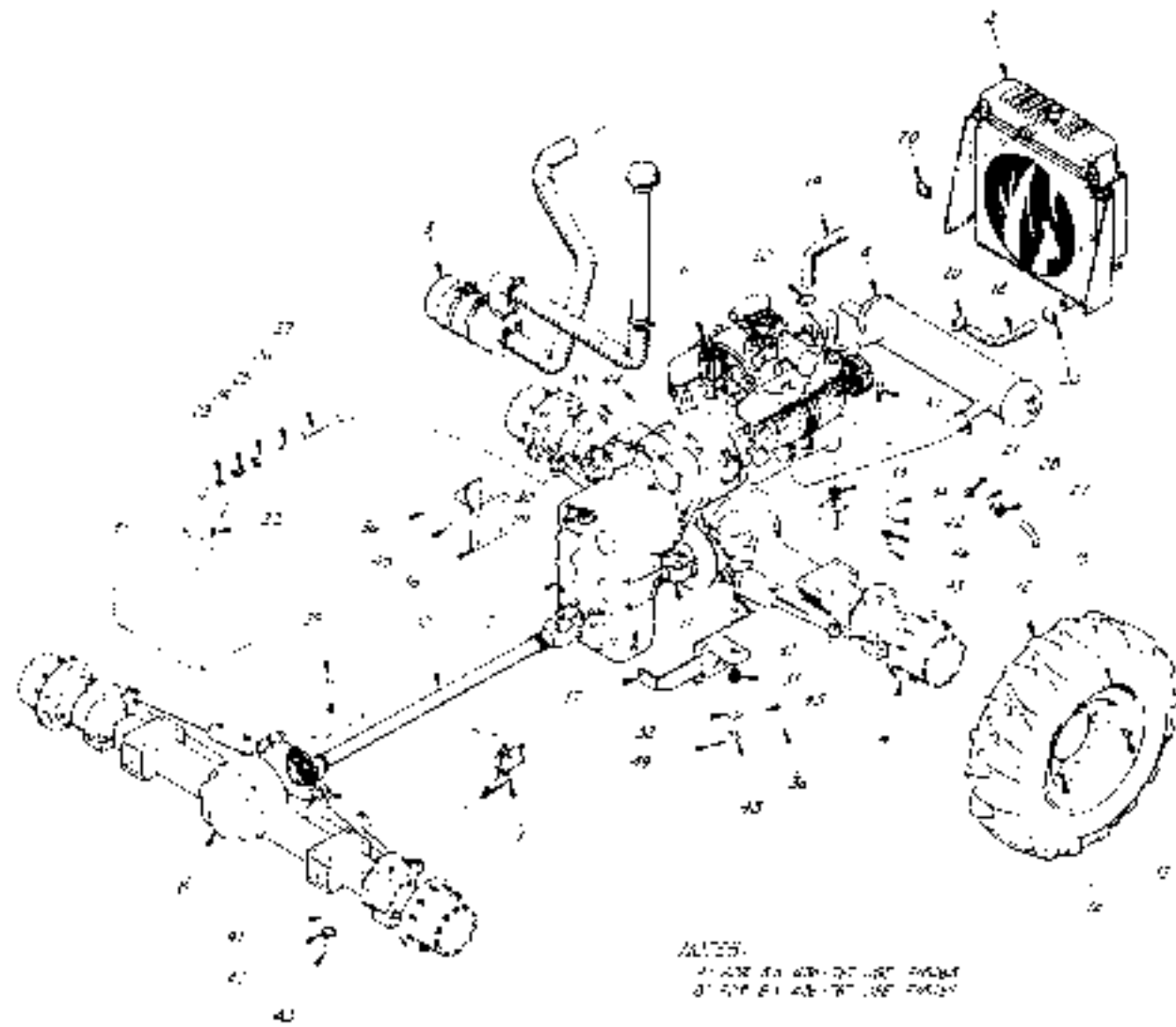
 Lull Equipment Co., Inc.
 DETROIT, MICHIGAN
 MADE IN U.S.A.
 FINAL ASSEMBLY MODEL 600



44	P11450	JAM NUT, HX 3/8-11 NC	1
43	P4225	NUT, HX 3/4-16 NF	16
42	P17602	JAM NUT, HX 3/4-16 NF	16
41	P17653	BOLT, HX 3/4-16 NF x 8	8
40	P17652	BOLT, HX 3/4-16 NF x 9	8
39	P17304	BOLT, HX 3/8-11 NC x 1 1/2	3
38	P17250	BOLT, HX 3/8-11 NC x 1 1/2	4
37	P17667	BOLT, HX 1/2-13 NC x 2	4
36	P17636	BOLT, HX 1/2-13 NC x 1 1/2	4
35	P15126	BOLT, HX 3/8-16 NC x 1 1/2	11
34	P20396	WASHER, ENGINE MT.	1
33	P18180	RUBBER MTG, ENGINE	1
32	P20395	WASHER, TRANS. MT.	2
31	P18181	RUBBER MTG, TRANS	2
30	P2730	PIPE PLUG	1
29	P10231	90° STREET ELBOW	1
28	P16547	RUBBER HOSE	2
27	P16725	ASBESTOS COVER	2
26	P4257	FUEL LINE, COPPER	1
25	P15311	FLARED NUT	1
24	P18629	CONNECTOR, MALE	1
23	P10691	REDUCER BUSHING	1
22	P10554	PLUG, FUEL TANK	1
21	P13613	HOSE CLAMP	2
20	P10601	HOSE CLAMP	6
19	P17682	HOSE, UPPER RAD.	1
18	P17681	HOSE, LOWER RAD.	1
17	15520C	TRANS. SUPPT. L.K.	1
16	15520C	TRANS. SUPPT. R.H.	1
15	12749C	WHEEL WELDMENT	4
14	P13673	VALVE STEM	4
13	P13894	WHEEL NUT	40
12	P11888	TIRE, 13.00-24, 8 PLY	4
11	P17902	DRIVE SHAFT, REAR	1
10	P17901	DRIVE SHAFT, FRONT	1
9	P18069	AXLE, REAR	1
8	P18068	AXLE, FRONT	1
7	P18012	TRANSMISSION, FUNK	1
6	P17576	ENGINE, 318 CHRYSLER	1
5	16833	TRANS. DISCONN. ASS'Y	1
4	16830	EXHAUST ASSEMBLY	1
3	16826	AIR CLEANER ASS'Y	1
2	16822	RADIATOR ASSEMBLY	1
1	16818	THROTTLE ASSEMBLY	1

52	COM'L	COTTER PIN 1/8 x 1	2
51	COM'L	NUT, CASTELATED 3/8"	2
50	COM'L	STARWASHER, 3/4	16
49	COM'L	STARWASHER, 5/8	1
48	COM'L	LOCKWASHER, 3/8	4
47	COM'L	LOCKWASHER, 1/2	8
46	COM'L	LOCKWASHER, 3/8	11
45	P14223	NUT, HX 3/8-11 NC	1

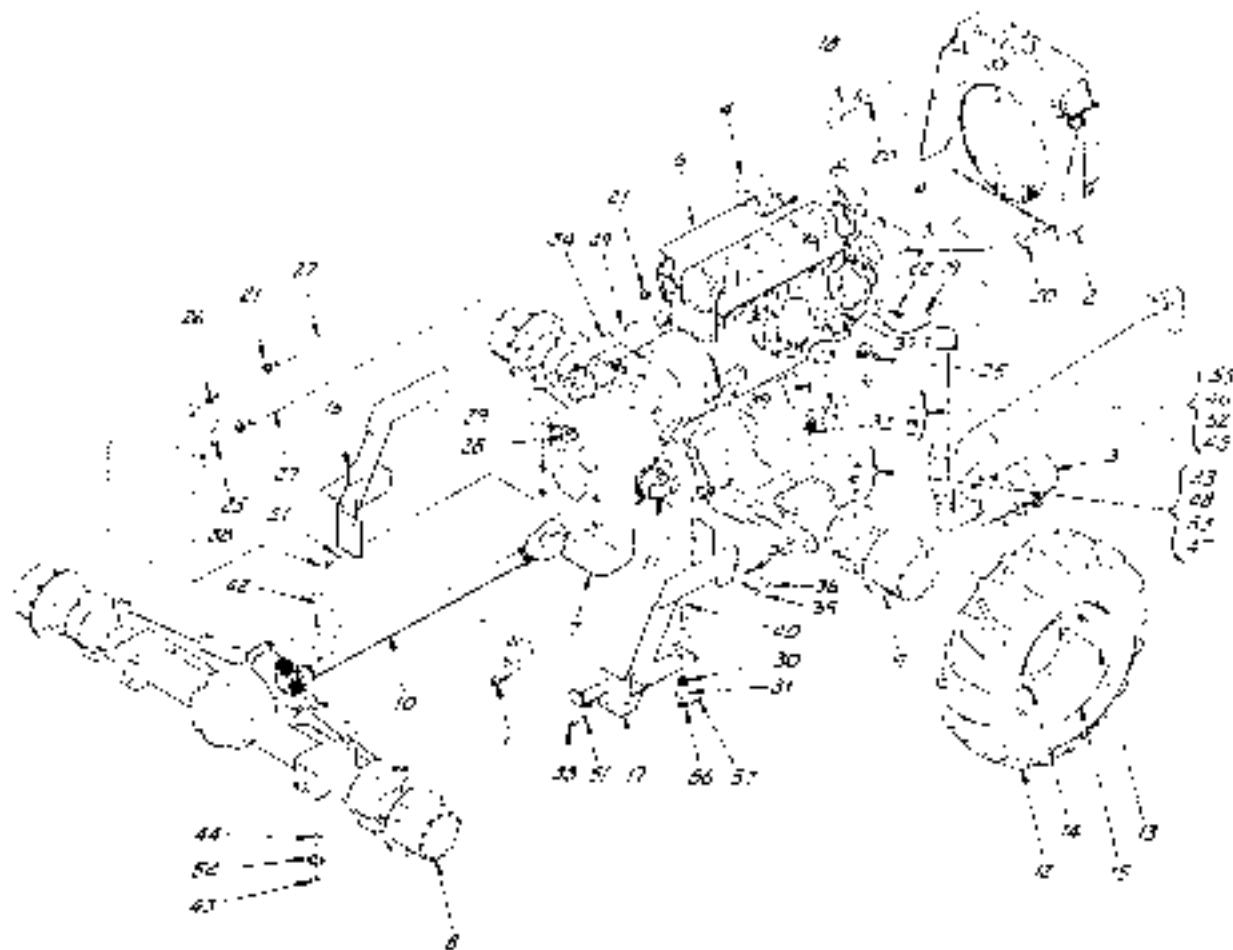
ITEM	QTY	DESCRIPTION	REQ.
WLL Engineering Co., Inc.			
ST. PAUL, MINNESOTA 55111			
DATE BY	S/N: 01-442 + 626-661		
1/24/58			
DATE BY	CHRYSLER		
1/24/58	DRIVE TRAIN		
	ASSEMBLY		
	MODEL 66A		
	16801		



NOTES:
 1. USE 20 1/2" X 27" RT FRONT
 2. USE 21 1/2" X 27" LSC FRONT

10	WHEEL FRONT	20
11	WHEEL FRONT	20
12	WHEEL FRONT	20
13	WHEEL FRONT	20
14	WHEEL FRONT	20
15	WHEEL FRONT	20
16	WHEEL FRONT	20
17	WHEEL FRONT	20
18	WHEEL FRONT	20
19	WHEEL FRONT	20
20	WHEEL FRONT	20
21	WHEEL FRONT	20
22	WHEEL FRONT	20
23	WHEEL FRONT	20
24	WHEEL FRONT	20
25	WHEEL FRONT	20
26	WHEEL FRONT	20
27	WHEEL FRONT	20
28	WHEEL FRONT	20
29	WHEEL FRONT	20
30	WHEEL FRONT	20
31	WHEEL FRONT	20
32	WHEEL FRONT	20
33	WHEEL FRONT	20
34	WHEEL FRONT	20
35	WHEEL FRONT	20
36	WHEEL FRONT	20
37	WHEEL FRONT	20
38	WHEEL FRONT	20
39	WHEEL FRONT	20
40	WHEEL FRONT	20
41	WHEEL FRONT	20
42	WHEEL FRONT	20
43	WHEEL FRONT	20
44	WHEEL FRONT	20
45	WHEEL FRONT	20
46	WHEEL FRONT	20
47	WHEEL FRONT	20
48	WHEEL FRONT	20
49	WHEEL FRONT	20
50	WHEEL FRONT	20
51	WHEEL FRONT	20
52	WHEEL FRONT	20
53	WHEEL FRONT	20
54	WHEEL FRONT	20
55	WHEEL FRONT	20
56	WHEEL FRONT	20
57	WHEEL FRONT	20
58	WHEEL FRONT	20
59	WHEEL FRONT	20
60	WHEEL FRONT	20
61	WHEEL FRONT	20
62	WHEEL FRONT	20
63	WHEEL FRONT	20
64	WHEEL FRONT	20
65	WHEEL FRONT	20
66	WHEEL FRONT	20
67	WHEEL FRONT	20
68	WHEEL FRONT	20
69	WHEEL FRONT	20
70	WHEEL FRONT	20

LULL
 LULL
 LULL
 LULL
 LULL
 LULL



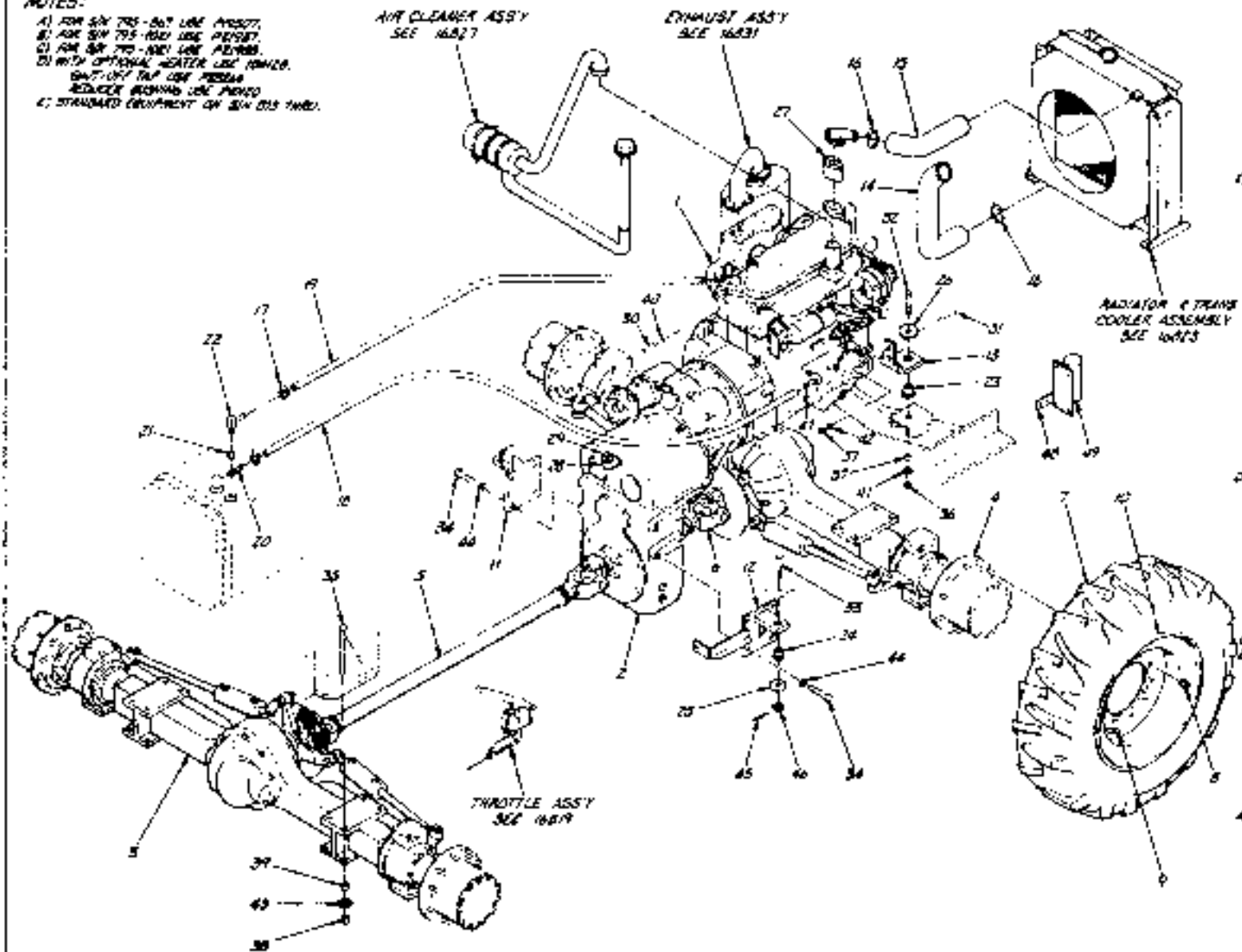
64	P14225	NUT, HX 3/8-16 NF	16
43	P16662	JAM NUT, HX 3/8-16 NF	15
42	P17633	BOLT, HX 3/8-16 NF * 8	8
41	P17632	BOLT, HX 3/8-16 NF * 3	2
40	P17304	BOLT, HX 3/8-11 NC * 4 1/2	2
39	P17795	BOLT, HX 3/8-11 NC * 3 1/2	1
38	P17250	BOLT, HX 3/8-11 NC * 1 1/2	6
37	P18024	BOLT, HX 1/2-13 NC * 2 3/4	3
36	P17857	BOLT, HX 1/2-13 NC * 2	2
35	P17856	BOLT, HX 1/2-13 NC * 1 1/2	4
34	P15126	BOLT, HX 3/8-16 NC * 1 1/2	11
33	P10795	WASHER, ENGIN, NE MT.	1
32	P18184	RUBBER MTS., ENGIN	1
31	P10395	WASHER, TRANS, MT.	2
30	P18181	RUBBER MTS., TRANS	2
29	P16130	PIPE, 2008	1
28	P10231	90° STREET ELBOW	1
27	P17210	HOSE, FULL LINE	1
26	P18019	CONNECTOR	1
25	P18317	90° ELBOW	2
24	P10092	REDUCER 8-5/8" IN	1
23	15588B	MOTOR MOUNT	1
22	15303	HOSE HOLDER, GUARD	1
21	P18613	HOSE CLAMP	4
20	P18601	HOSE CLAMP	4
19	P17682	HOSE, LOWER RAD.	1
18	P17921	HOSE, UPPER RAD.	1
17	15571C	TRANS. SUPPORT, L	1
16	15500C	TRANS. SUPPORT, R	1
15	12749C	WHEEL WELDMENT	4
14	P13673	VALVE STEM	4
13	P13094	WHEEL NUT	140
12	P16686	TIRE, 18.00-24, 8 FLY	4
11	P17902	DRIVE SHAFT, REAR	1
10	P17901	DRIVE SHAFT, FRONT	1
9	P18069	AXLE, REAR	1
8	P18068	AXLE, FRONT	1
7	P17829	TRANSMISSION	1
6	P17743	ENGINE, 283 MAUK	1
5	16833	TRANS DISCONN ASSY	1
4	16831	EXHAUST ASSEMBLY	1
3	16827	AIR CLEANER ASSY	1
2	16823	RADIATOR ASSEMBLY	1
1	16814	THROTTLE ASSEMBLY	1

57	COM'L	CUTTER PIN, 1/8" 1	2
56	COM'L	NUT, CASTELATED 3/8" 10	2
55	COM'L	FLATWASHER, 1/2	4
54	COM'L	STARWASHER, 3/8	10
53	COM'L	STARWASHER, 5/8	1
52	COM'L	STARWASHER, 1/2	2
51	COM'L	LOCKWASHER, 3/8	4
50	COM'L	LOCKWASHER, 1/2	8
49	COM'L	LOCKWASHER, 3/8	11
48	P16223	NUT, HX 3/8-11 NC	1
47	P11450	JAM NUT, HX 3/8-11 NC	1
46	P17671	NUT, HX 1/2-13 NC	3
45	P17661	JAM NUT, HX 1/2-13 NC	3

ITEM	PART NO.	QUANTITY	REV.
<p>LOLL Engineering Co., Inc.</p> <p>1000 JONES ST. N. MINNEAPOLIS, MN 55412</p> <p>PHONE: 512-439-441 + 442</p> <p>TELETYPE: 17400</p> <p>DRIVE TRAIN ASSEMBLY</p> <p>MODEL 846</p>			
			<p>MAUK</p> <p>16802</p>

NOTES:

- A) FOR S/N 795-867 USE P16827.
- B) FOR S/N 795-1061 USE P16827.
- C) FOR S/N 795-1061 USE P16828.
- D) WITH OPTIONAL HEATER USE 104128.
- E) SHUT-OFF TAP USE P16828.
- F) REDUCER BUSHING USE P16828.
- G) STANDARD EQUIPMENT ON S/N 815 THRU.



47	P16822	QUICK START KIT
46	P16826	BONNET, QUICK START CONNECTOR
45	COMPL	COUPLER HOSE, 3/4" ID
44	COMPL	COUPLER HOSE, 3/4" ID
43	COMPL	LOCKWASHER, 3/8"
42	COMPL	LOCKWASHER, 3/8"
41	COMPL	LOCKWASHER, 3/8"
40	COMPL	LOCKWASHER, 3/8"
39	P16825	NUT, 3/8" X 3/4" X 3/8"
38	P16825	NUT, 3/8" X 3/4" X 3/8"
37	P16825	NUT, 3/8" X 3/4" X 3/8"
36	P16825	NUT, 3/8" X 3/4" X 3/8"
35	P16820	BOLT, 3/8" X 3/4" X 3/8"
34	P16820	BOLT, 3/8" X 3/4" X 3/8"
33	P16820	BOLT, 3/8" X 3/4" X 3/8"
32	P16820	BOLT, 3/8" X 3/4" X 3/8"
31	P16820	BOLT, 3/8" X 3/4" X 3/8"
30	P16820	BOLT, 3/8" X 3/4" X 3/8"
29	P16820	PIPE PLUG
28	P16820	PIPE PLUG
27	P16820	PIPE PLUG
26	P16820	PIPE PLUG
25	P16820	PIPE PLUG
24	P16820	PIPE PLUG
23	P16820	PIPE PLUG
22	P16820	PIPE PLUG
21	P16820	PIPE PLUG
20	P16820	PIPE PLUG
19	P16820	PIPE PLUG
18	P16820	PIPE PLUG
17	P16820	PIPE PLUG
16	P16820	PIPE PLUG
15	P16820	PIPE PLUG
14	P16820	PIPE PLUG
13	P16820	PIPE PLUG
12	P16820	PIPE PLUG
11	P16820	PIPE PLUG
10	P16820	PIPE PLUG
9	P16820	PIPE PLUG
8	P16820	PIPE PLUG
7	P16820	PIPE PLUG
6	P16820	PIPE PLUG
5	P16820	PIPE PLUG
4	P16820	PIPE PLUG
3	P16820	PIPE PLUG
2	P16820	PIPE PLUG
1	P16820	PIPE PLUG

NOTES:

A) WITH OPTIONAL HEATER USE 18F1126.
 B) WITH OPTIONAL HEATER USE 18F1126.
 C) WITH OPTIONAL HEATER USE 18F1126.

SEE AIR CLEANER ASSEMBLY
 FOR PARTS BREAKDOWN

SEE EXHAUST ASSEMBLY
 FOR PARTS BREAKDOWN

SEE RADIATOR ASSEMBLY
 FOR PARTS BREAKDOWN

SEE THROTTLE ASSEMBLY
 FOR PARTS BREAKDOWN

TRANSMISSION DISCONNECT
 ASST. SEE PARTS BREAKDOWN

51	175289	WASHER	1
52	175290	STAND TUBE	1
53	175291	QUICK START KIT	1
54	175292	ADAPTATION BRACKET	1
55	175293	WASHER	1
56	175294	WASHER	1
57	175295	WASHER	1
58	175296	WASHER	1
59	175297	WASHER	1
60	175298	WASHER	1
61	175299	WASHER	1
62	175300	WASHER	1
63	175301	WASHER	1
64	175302	WASHER	1
65	175303	WASHER	1
66	175304	WASHER	1
67	175305	WASHER	1
68	175306	WASHER	1
69	175307	WASHER	1
70	175308	WASHER	1
71	175309	WASHER	1
72	175310	WASHER	1
73	175311	WASHER	1
74	175312	WASHER	1
75	175313	WASHER	1
76	175314	WASHER	1
77	175315	WASHER	1
78	175316	WASHER	1
79	175317	WASHER	1
80	175318	WASHER	1
81	175319	WASHER	1
82	175320	WASHER	1
83	175321	WASHER	1
84	175322	WASHER	1
85	175323	WASHER	1
86	175324	WASHER	1
87	175325	WASHER	1
88	175326	WASHER	1
89	175327	WASHER	1
90	175328	WASHER	1
91	175329	WASHER	1
92	175330	WASHER	1
93	175331	WASHER	1
94	175332	WASHER	1
95	175333	WASHER	1
96	175334	WASHER	1
97	175335	WASHER	1
98	175336	WASHER	1
99	175337	WASHER	1
100	175338	WASHER	1
101	175339	WASHER	1
102	175340	WASHER	1
103	175341	WASHER	1
104	175342	WASHER	1
105	175343	WASHER	1
106	175344	WASHER	1
107	175345	WASHER	1
108	175346	WASHER	1
109	175347	WASHER	1
110	175348	WASHER	1
111	175349	WASHER	1
112	175350	WASHER	1
113	175351	WASHER	1
114	175352	WASHER	1
115	175353	WASHER	1
116	175354	WASHER	1
117	175355	WASHER	1
118	175356	WASHER	1
119	175357	WASHER	1
120	175358	WASHER	1
121	175359	WASHER	1
122	175360	WASHER	1
123	175361	WASHER	1
124	175362	WASHER	1
125	175363	WASHER	1
126	175364	WASHER	1
127	175365	WASHER	1
128	175366	WASHER	1
129	175367	WASHER	1
130	175368	WASHER	1
131	175369	WASHER	1
132	175370	WASHER	1
133	175371	WASHER	1
134	175372	WASHER	1
135	175373	WASHER	1
136	175374	WASHER	1
137	175375	WASHER	1
138	175376	WASHER	1
139	175377	WASHER	1
140	175378	WASHER	1
141	175379	WASHER	1
142	175380	WASHER	1
143	175381	WASHER	1
144	175382	WASHER	1
145	175383	WASHER	1
146	175384	WASHER	1
147	175385	WASHER	1
148	175386	WASHER	1
149	175387	WASHER	1
150	175388	WASHER	1
151	175389	WASHER	1
152	175390	WASHER	1
153	175391	WASHER	1
154	175392	WASHER	1
155	175393	WASHER	1
156	175394	WASHER	1
157	175395	WASHER	1
158	175396	WASHER	1
159	175397	WASHER	1
160	175398	WASHER	1
161	175399	WASHER	1
162	175400	WASHER	1
163	175401	WASHER	1
164	175402	WASHER	1
165	175403	WASHER	1
166	175404	WASHER	1
167	175405	WASHER	1
168	175406	WASHER	1
169	175407	WASHER	1
170	175408	WASHER	1
171	175409	WASHER	1
172	175410	WASHER	1
173	175411	WASHER	1
174	175412	WASHER	1
175	175413	WASHER	1
176	175414	WASHER	1
177	175415	WASHER	1
178	175416	WASHER	1
179	175417	WASHER	1
180	175418	WASHER	1
181	175419	WASHER	1
182	175420	WASHER	1
183	175421	WASHER	1
184	175422	WASHER	1
185	175423	WASHER	1
186	175424	WASHER	1
187	175425	WASHER	1
188	175426	WASHER	1
189	175427	WASHER	1
190	175428	WASHER	1
191	175429	WASHER	1
192	175430	WASHER	1
193	175431	WASHER	1
194	175432	WASHER	1
195	175433	WASHER	1
196	175434	WASHER	1
197	175435	WASHER	1
198	175436	WASHER	1
199	175437	WASHER	1
200	175438	WASHER	1
201	175439	WASHER	1
202	175440	WASHER	1
203	175441	WASHER	1
204	175442	WASHER	1
205	175443	WASHER	1
206	175444	WASHER	1
207	175445	WASHER	1
208	175446	WASHER	1
209	175447	WASHER	1
210	175448	WASHER	1
211	175449	WASHER	1
212	175450	WASHER	1
213	175451	WASHER	1
214	175452	WASHER	1
215	175453	WASHER	1
216	175454	WASHER	1
217	175455	WASHER	1
218	175456	WASHER	1
219	175457	WASHER	1
220	175458	WASHER	1
221	175459	WASHER	1
222	175460	WASHER	1
223	175461	WASHER	1
224	175462	WASHER	1
225	175463	WASHER	1
226	175464	WASHER	1
227	175465	WASHER	1
228	175466	WASHER	1
229	175467	WASHER	1
230	175468	WASHER	1
231	175469	WASHER	1
232	175470	WASHER	1
233	175471	WASHER	1
234	175472	WASHER	1
235	175473	WASHER	1
236	175474	WASHER	1
237	175475	WASHER	1
238	175476	WASHER	1
239	175477	WASHER	1
240	175478	WASHER	1
241	175479	WASHER	1
242	175480	WASHER	1
243	175481	WASHER	1
244	175482	WASHER	1
245	175483	WASHER	1
246	175484	WASHER	1
247	175485	WASHER	1
248	175486	WASHER	1
249	175487	WASHER	1
250	175488	WASHER	1
251	175489	WASHER	1
252	175490	WASHER	1
253	175491	WASHER	1
254	175492	WASHER	1
255	175493	WASHER	1
256	175494	WASHER	1
257	175495	WASHER	1
258	175496	WASHER	1
259	175497	WASHER	1
260	175498	WASHER	1
261	175499	WASHER	1
262	175500	WASHER	1
263	175501	WASHER	1
264	175502	WASHER	1
265	175503	WASHER	1
266	175504	WASHER	1
267	175505	WASHER	1
268	175506	WASHER	1
269	175507	WASHER	1
270	175508	WASHER	1
271	175509	WASHER	1
272	175510	WASHER	1
273	175511	WASHER	1
274	175512	WASHER	1
275	175513	WASHER	1
276	175514	WASHER	1
277	175515	WASHER	1
278	175516	WASHER	1
279	175517	WASHER	1
280	175518	WASHER	1
281	175519	WASHER	1
282	175520	WASHER	1
283	175521	WASHER	1
284	175522	WASHER	1
285	175523	WASHER	1
286	175524	WASHER	1
287	175525	WASHER	1
288	175526	WASHER	1
289	175527	WASHER	1
290	175528	WASHER	1
291	175529	WASHER	1
292	175530	WASHER	1
293	175531	WASHER	1
294	175532	WASHER	1
295	175533	WASHER	1
296	175534	WASHER	1
297	175535	WASHER	1
298	175536	WASHER	1
299	175537	WASHER	1
300	175538	WASHER	1
301	175539	WASHER	1
302	175540	WASHER	1
303	175541	WASHER	1
304	175542	WASHER	1
305	175543	WASHER	1
306	175544	WASHER	1
307	175545	WASHER	1
308	175546	WASHER	1
309	175547	WASHER	1
310	175548	WASHER	1
311	175549	WASHER	1
312	175550	WASHER	1
313	175551	WASHER	1
314	175552	WASHER	1
315	175553	WASHER	1
316	175554	WASHER	1
317	175555	WASHER	1
318	175556	WASHER	1
319	175557	WASHER	1
320	175558	WASHER	1
321	175559	WASHER	1
322	175560	WASHER	1
323	175561	WASHER	1
324	175562	WASHER	1
325	175563	WASHER	1
326	175564	WASHER	1
327	175565	WASHER	1
328	175566	WASHER	1
329	175567	WASHER	1
330	175568	WASHER	1
331	175569	WASHER	1
332	175570	WASHER	1
333	175571	WASHER	1
334	175572	WASHER	1
335	175573	WASHER	1
336	175574	WASHER	1
337	175575	WASHER	1
338	175576	WASHER	1
339	175577	WASHER	1
340	175578	WASHER	1
341	175579	WASHER	1
342	175580	WASHER	1
343	175581	WASHER	1
344	175582	WASHER	1
345	175583	WASHER	1
346	175584	WASHER	1
347	175585	WASHER	1
348	175586	WASHER	1
349	175587	WASHER	1
350	175588	WASHER	1
351	175589	WASHER	1
352	175590	WASHER	1
353	175591	WASHER	1
354	175592	WASHER	1
355	175593	WASHER	1
356	175594	WASHER	1
357	175595	WASHER	1
358	175596	WASHER	1
359	175597	WASHER	1
360	175598	WASHER	1
361	175599	WASHER	1
362	175600	WASHER	1
363	175601	WASHER	1
364	175602	WASHER	1
365	175603	WASHER	1
366	17560		

NOTES:

4) HIGH TEMPERATURE HEATER USE 180128.

SEE AIR CLEANER ASSY
FOR PARTS BREAKDOWN

SEE EXHAUST ASSEMBLY
FOR PARTS BREAKDOWN

SEE FAN AND JOINT
FOR PARTS BREAKDOWN

SEE FAN DRIVE ASSEMBLY
FOR PARTS BREAKDOWN

TRANSMISSION DRIVE
ASSY - SEE PARTS BREAKDOWN

1	180128	HEATER
2	180128	HEATER
3	180128	HEATER
4	180128	HEATER
5	180128	HEATER
6	180128	HEATER
7	180128	HEATER
8	180128	HEATER
9	180128	HEATER
10	180128	HEATER
11	180128	HEATER
12	180128	HEATER
13	180128	HEATER
14	180128	HEATER
15	180128	HEATER
16	180128	HEATER
17	180128	HEATER
18	180128	HEATER
19	180128	HEATER
20	180128	HEATER
21	180128	HEATER
22	180128	HEATER
23	180128	HEATER
24	180128	HEATER
25	180128	HEATER
26	180128	HEATER
27	180128	HEATER
28	180128	HEATER
29	180128	HEATER
30	180128	HEATER
31	180128	HEATER
32	180128	HEATER
33	180128	HEATER
34	180128	HEATER
35	180128	HEATER
36	180128	HEATER
37	180128	HEATER
38	180128	HEATER
39	180128	HEATER
40	180128	HEATER
41	180128	HEATER
42	180128	HEATER
43	180128	HEATER
44	180128	HEATER
45	180128	HEATER
46	180128	HEATER
47	180128	HEATER
48	180128	HEATER
49	180128	HEATER
50	180128	HEATER
51	180128	HEATER
52	180128	HEATER
53	180128	HEATER
54	180128	HEATER
55	180128	HEATER
56	180128	HEATER
57	180128	HEATER
58	180128	HEATER
59	180128	HEATER
60	180128	HEATER
61	180128	HEATER
62	180128	HEATER
63	180128	HEATER
64	180128	HEATER
65	180128	HEATER
66	180128	HEATER
67	180128	HEATER
68	180128	HEATER
69	180128	HEATER
70	180128	HEATER
71	180128	HEATER
72	180128	HEATER
73	180128	HEATER
74	180128	HEATER
75	180128	HEATER
76	180128	HEATER
77	180128	HEATER
78	180128	HEATER
79	180128	HEATER
80	180128	HEATER
81	180128	HEATER
82	180128	HEATER
83	180128	HEATER
84	180128	HEATER
85	180128	HEATER
86	180128	HEATER
87	180128	HEATER
88	180128	HEATER
89	180128	HEATER
90	180128	HEATER
91	180128	HEATER
92	180128	HEATER
93	180128	HEATER
94	180128	HEATER
95	180128	HEATER
96	180128	HEATER
97	180128	HEATER
98	180128	HEATER
99	180128	HEATER
100	180128	HEATER

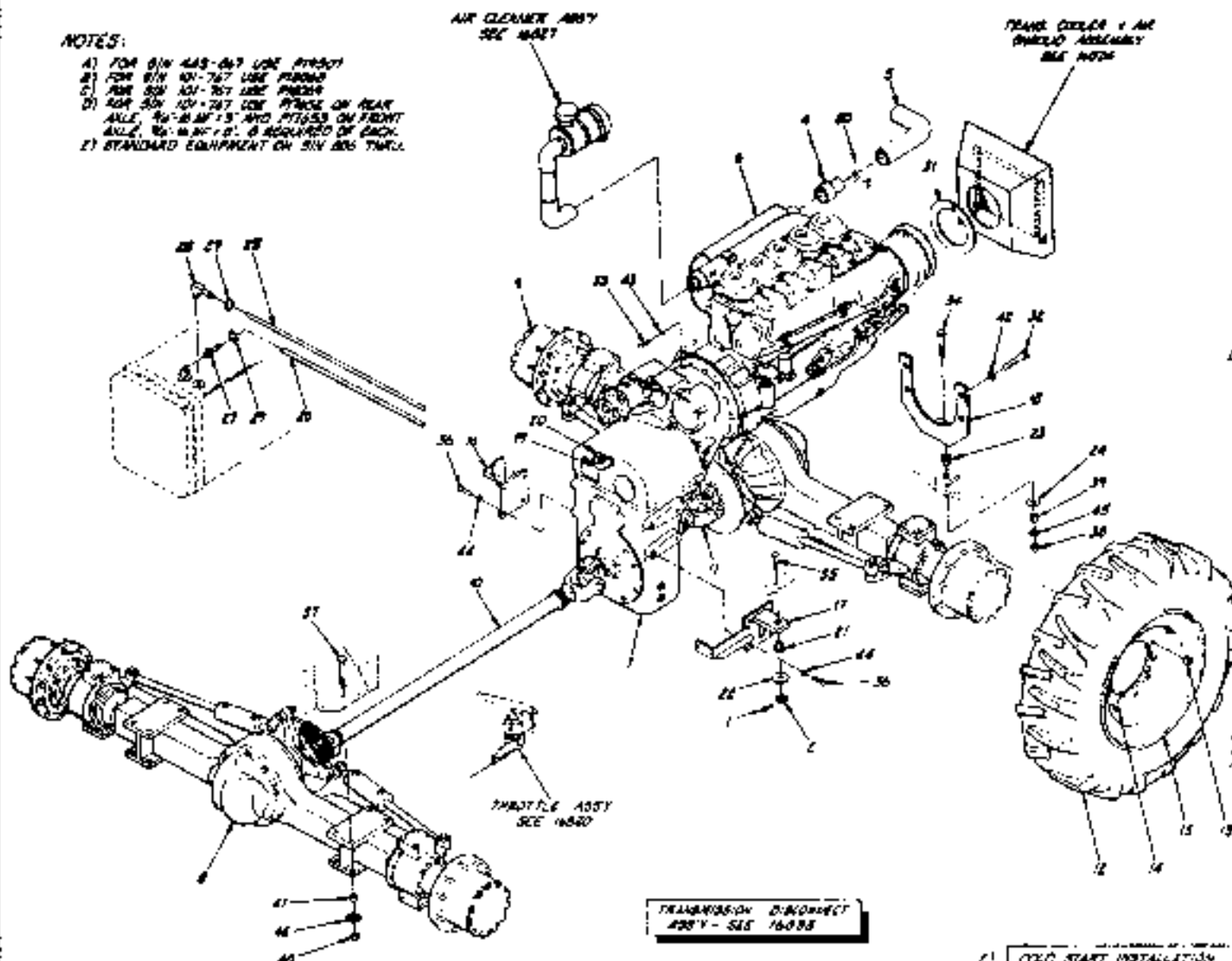
LOLL Engineering Co., Inc.
 1000 S. 10th St., Suite 100
 Denver, CO 80202
 (303) 733-1111
 FAX (303) 733-1112

NOTES:

- A) FOR S/N 443-047 USE P/N 3071
- B) FOR S/N 101-747 USE P/N 3048
- C) FOR S/N 101-747 USE P/N 3049
- D) FOR S/N 101-747 USE P/N 3048 ON REAR AXLE, 3/4" IN DIA. & P/N 3049 ON FRONT AXLE, 3/4" IN DIA. & REQUIRED OF EACH.
- E) STANDARD EQUIPMENT ON S/N 443 TRAIL.

AIR CLEANER ASSY
SEE 16427

FRONT COVER & AIR
SHIELD ASSEMBLY
SEE 16426



THROTTLE ASSY
SEE 16430

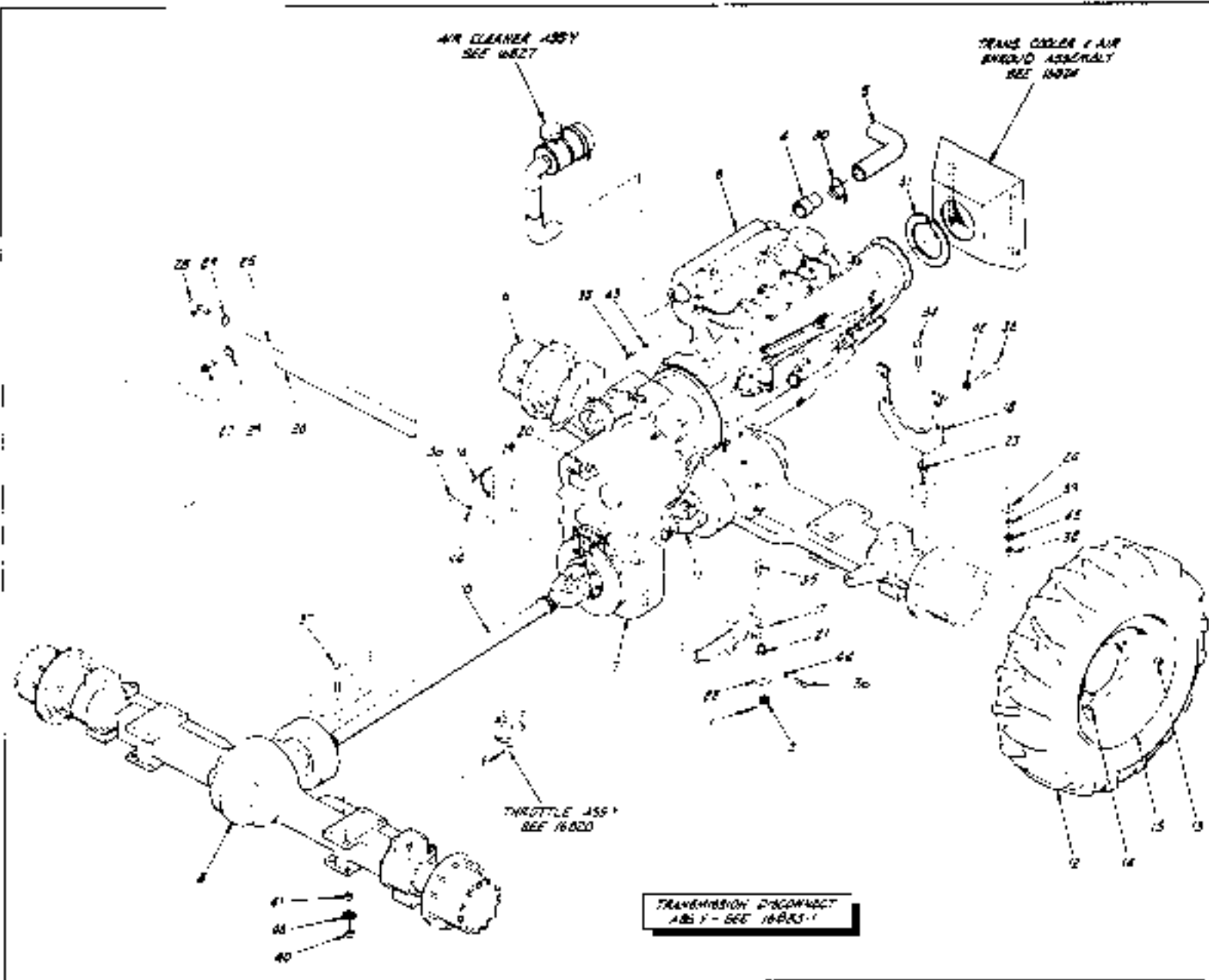
TRANSMISSION DISCONNECT
ASSY - SEE 16435

46	CONV. STARWASHER, 50"	16
45	CONV. STARWASHER, 50"	17
44	CONV. LOCKWASHER, 5/16"	18
43	CONV. LOCKWASHER, 5/16"	19
42	CONV. LOCKWASHER, 5/16"	20
41	WASHER, 1/2" DIA. 1/2" HT.	21
40	WASHER, 1/2" DIA. 1/2" HT.	22
39	WASHER, 1/2" DIA. 1/2" HT.	23
38	WASHER, 1/2" DIA. 1/2" HT.	24
37	WASHER, 1/2" DIA. 1/2" HT.	25
36	WASHER, 1/2" DIA. 1/2" HT.	26
35	WASHER, 1/2" DIA. 1/2" HT.	27
34	WASHER, 1/2" DIA. 1/2" HT.	28
33	WASHER, 1/2" DIA. 1/2" HT.	29
32	WASHER, 1/2" DIA. 1/2" HT.	30
31	WASHER, 1/2" DIA. 1/2" HT.	31
30	WASHER, 1/2" DIA. 1/2" HT.	32
29	WASHER, 1/2" DIA. 1/2" HT.	33
28	WASHER, 1/2" DIA. 1/2" HT.	34
27	WASHER, 1/2" DIA. 1/2" HT.	35
26	WASHER, 1/2" DIA. 1/2" HT.	36
25	WASHER, 1/2" DIA. 1/2" HT.	37
24	WASHER, 1/2" DIA. 1/2" HT.	38
23	WASHER, 1/2" DIA. 1/2" HT.	39
22	WASHER, 1/2" DIA. 1/2" HT.	40
21	WASHER, 1/2" DIA. 1/2" HT.	41
20	WASHER, 1/2" DIA. 1/2" HT.	42
19	WASHER, 1/2" DIA. 1/2" HT.	43
18	WASHER, 1/2" DIA. 1/2" HT.	44
17	WASHER, 1/2" DIA. 1/2" HT.	45
16	WASHER, 1/2" DIA. 1/2" HT.	46
15	WASHER, 1/2" DIA. 1/2" HT.	47
14	WASHER, 1/2" DIA. 1/2" HT.	48
13	WASHER, 1/2" DIA. 1/2" HT.	49
12	WASHER, 1/2" DIA. 1/2" HT.	50
11	WASHER, 1/2" DIA. 1/2" HT.	51
10	WASHER, 1/2" DIA. 1/2" HT.	52
9	WASHER, 1/2" DIA. 1/2" HT.	53
8	WASHER, 1/2" DIA. 1/2" HT.	54
7	WASHER, 1/2" DIA. 1/2" HT.	55
6	WASHER, 1/2" DIA. 1/2" HT.	56
5	WASHER, 1/2" DIA. 1/2" HT.	57
4	WASHER, 1/2" DIA. 1/2" HT.	58
3	WASHER, 1/2" DIA. 1/2" HT.	59
2	WASHER, 1/2" DIA. 1/2" HT.	60
1	WASHER, 1/2" DIA. 1/2" HT.	61

LULL Engineering Co., Inc.
 1001 S.W. 4th St., Ft. Lauderdale, Fla. 33304
 PHONE (305) 461-1001
 DRIVE TRAIN ASSEMBLY
 MODEL 443

C1 C20 START INSTALLATION
KIT - ORDER 16450

WHL SHUT
OFF CABLE
P20078

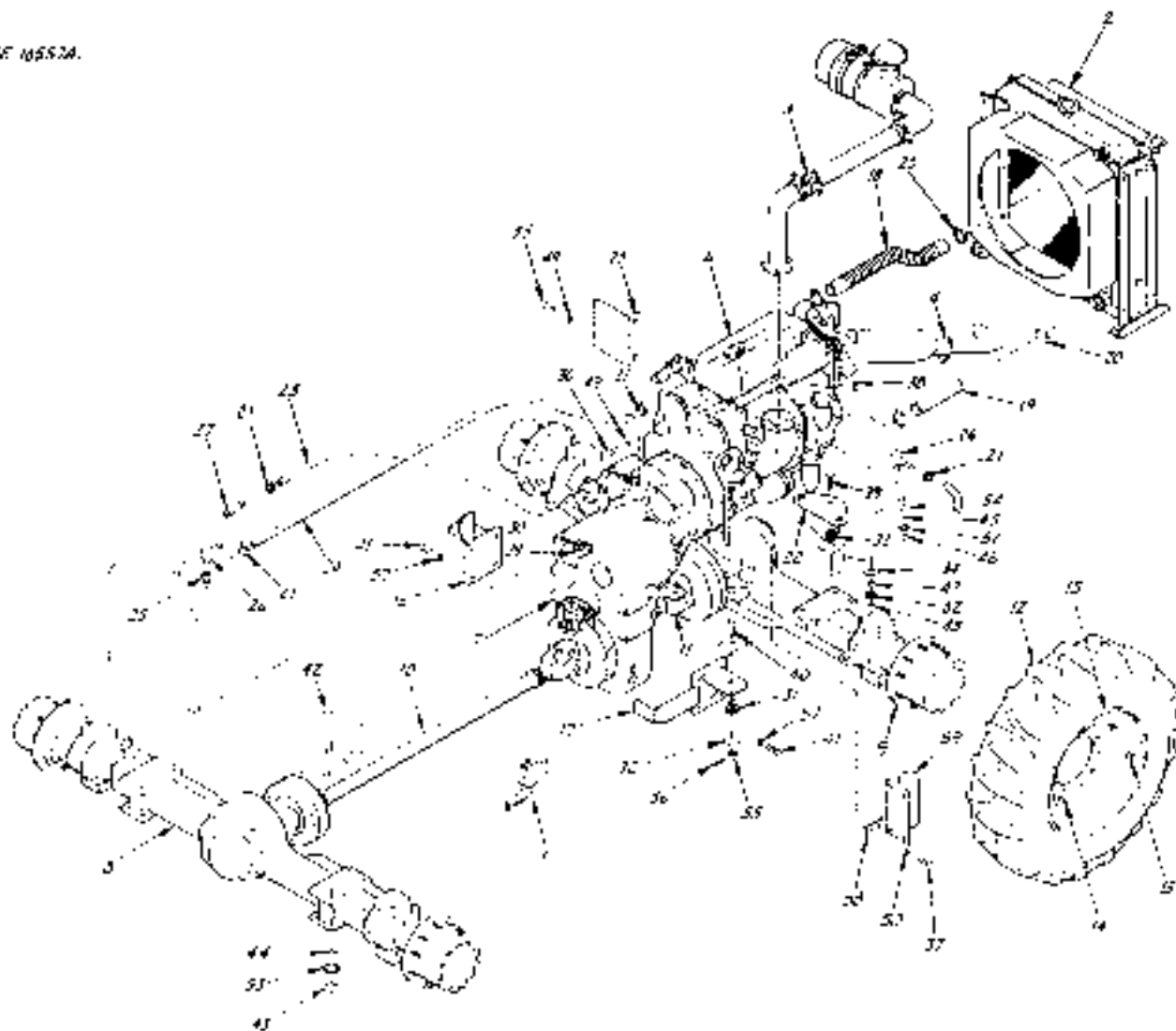


46	COIL SPRINGWASHER, SW	1
45	COIL SPRINGWASHER, SW	1
44	COIL LOCKWASHER, SW	1
43	COIL LOCKWASHER, SW	1
42	COIL LOCKWASHER, SW	1
41	WASHER, SW, SW, SW	1
40	WASHER, SW, SW, SW	1
39	WASHER, SW, SW, SW	1
38	WASHER, SW, SW, SW	1
37	WASHER, SW, SW, SW	1
36	WASHER, SW, SW, SW	1
35	WASHER, SW, SW, SW	1
34	WASHER, SW, SW, SW	1
33	WASHER, SW, SW, SW	1
32	WASHER, SW, SW, SW	1
31	WASHER, SW, SW, SW	1
30	WASHER, SW, SW, SW	1
29	WASHER, SW, SW, SW	1
28	WASHER, SW, SW, SW	1
27	WASHER, SW, SW, SW	1
26	WASHER, SW, SW, SW	1
25	WASHER, SW, SW, SW	1
24	WASHER, SW, SW, SW	1
23	WASHER, SW, SW, SW	1
22	WASHER, SW, SW, SW	1
21	WASHER, SW, SW, SW	1
20	WASHER, SW, SW, SW	1
19	WASHER, SW, SW, SW	1
18	WASHER, SW, SW, SW	1
17	WASHER, SW, SW, SW	1
16	WASHER, SW, SW, SW	1
15	WASHER, SW, SW, SW	1
14	WASHER, SW, SW, SW	1
13	WASHER, SW, SW, SW	1
12	WASHER, SW, SW, SW	1
11	WASHER, SW, SW, SW	1
10	WASHER, SW, SW, SW	1
9	WASHER, SW, SW, SW	1
8	WASHER, SW, SW, SW	1
7	WASHER, SW, SW, SW	1
6	WASHER, SW, SW, SW	1
5	WASHER, SW, SW, SW	1
4	WASHER, SW, SW, SW	1
3	WASHER, SW, SW, SW	1
2	WASHER, SW, SW, SW	1
1	WASHER, SW, SW, SW	1

WHL WHL WHL WHL
 1-4 1082 THRU
 DRIVE TRAIN
 ASSEMBLY
 MODEL 800

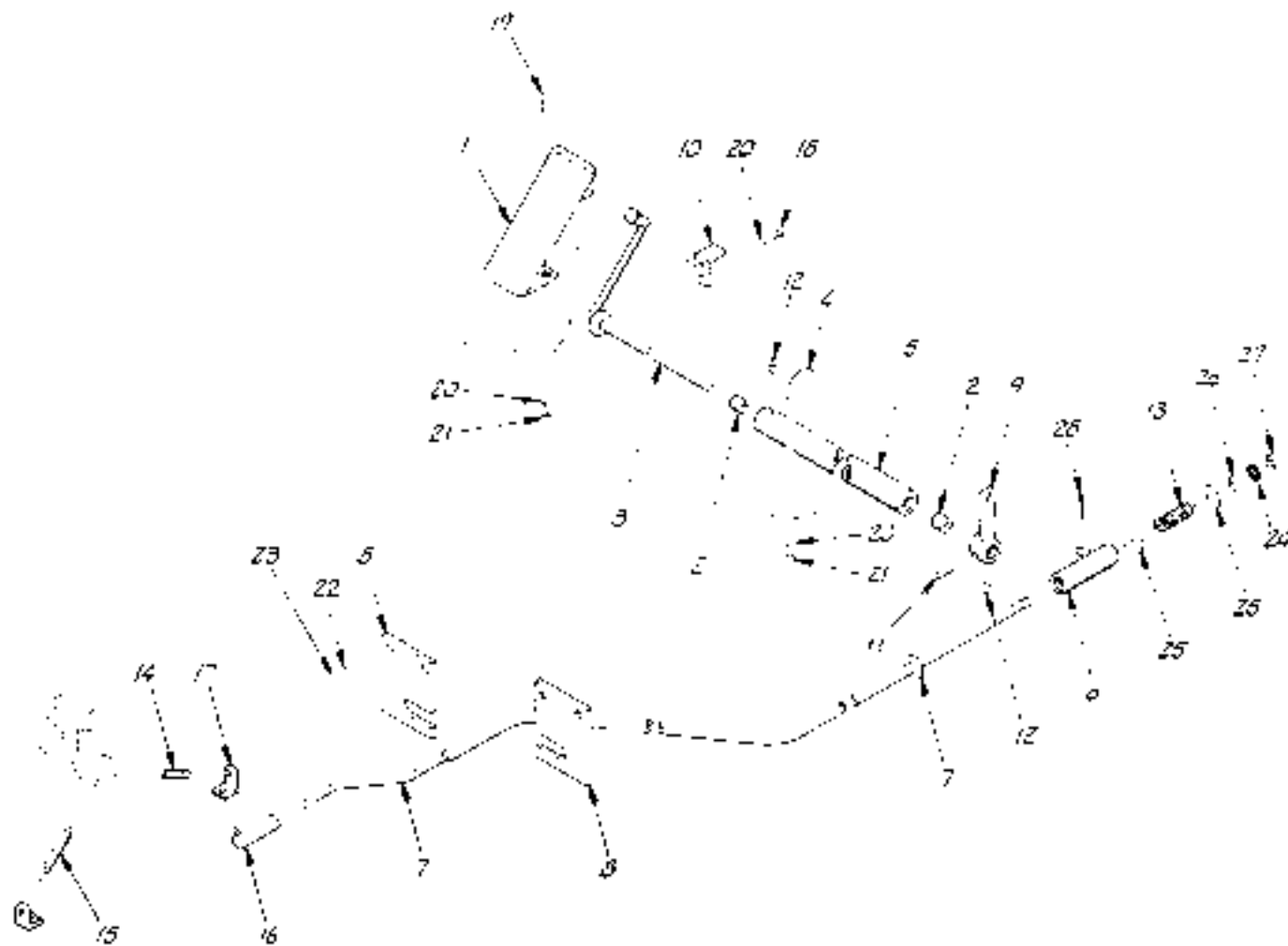
NOTES:

17 104 304 3096 USE 16552A.



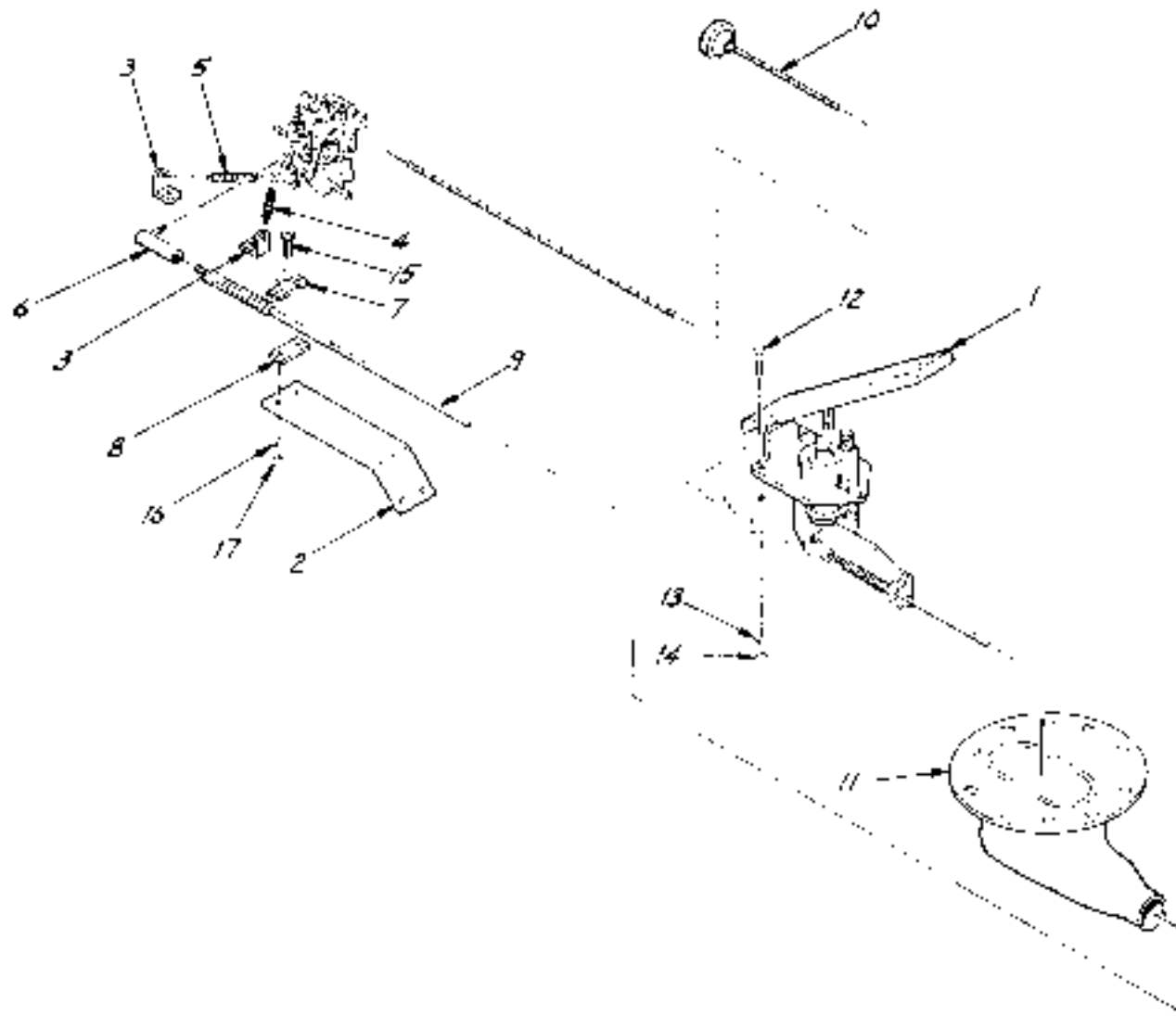
50	WASHER	WASHER	1
49	WASHER	WASHER	1
48	WASHER	WASHER	1
47	WASHER	WASHER	1
46	WASHER	WASHER	1
45	WASHER	WASHER	1
44	WASHER	WASHER	1
43	WASHER	WASHER	1
42	WASHER	WASHER	1
41	WASHER	WASHER	1
40	WASHER	WASHER	1
39	WASHER	WASHER	1
38	WASHER	WASHER	1
37	WASHER	WASHER	1
36	WASHER	WASHER	1
35	WASHER	WASHER	1
34	WASHER	WASHER	1
33	WASHER	WASHER	1
32	WASHER	WASHER	1
31	WASHER	WASHER	1
30	WASHER	WASHER	1
29	WASHER	WASHER	1
28	WASHER	WASHER	1
27	WASHER	WASHER	1
26	WASHER	WASHER	1
25	WASHER	WASHER	1
24	WASHER	WASHER	1
23	WASHER	WASHER	1
22	WASHER	WASHER	1
21	WASHER	WASHER	1
20	WASHER	WASHER	1
19	WASHER	WASHER	1
18	WASHER	WASHER	1
17	WASHER	WASHER	1
16	WASHER	WASHER	1
15	WASHER	WASHER	1
14	WASHER	WASHER	1
13	WASHER	WASHER	1
12	WASHER	WASHER	1
11	WASHER	WASHER	1
10	WASHER	WASHER	1
9	WASHER	WASHER	1
8	WASHER	WASHER	1
7	WASHER	WASHER	1
6	WASHER	WASHER	1
5	WASHER	WASHER	1
4	WASHER	WASHER	1
3	WASHER	WASHER	1
2	WASHER	WASHER	1
1	WASHER	WASHER	1

LOLL
 COMPANY
 DIVISION
 OUTLINE
 ASSEMBLY
 ASSOC. #1



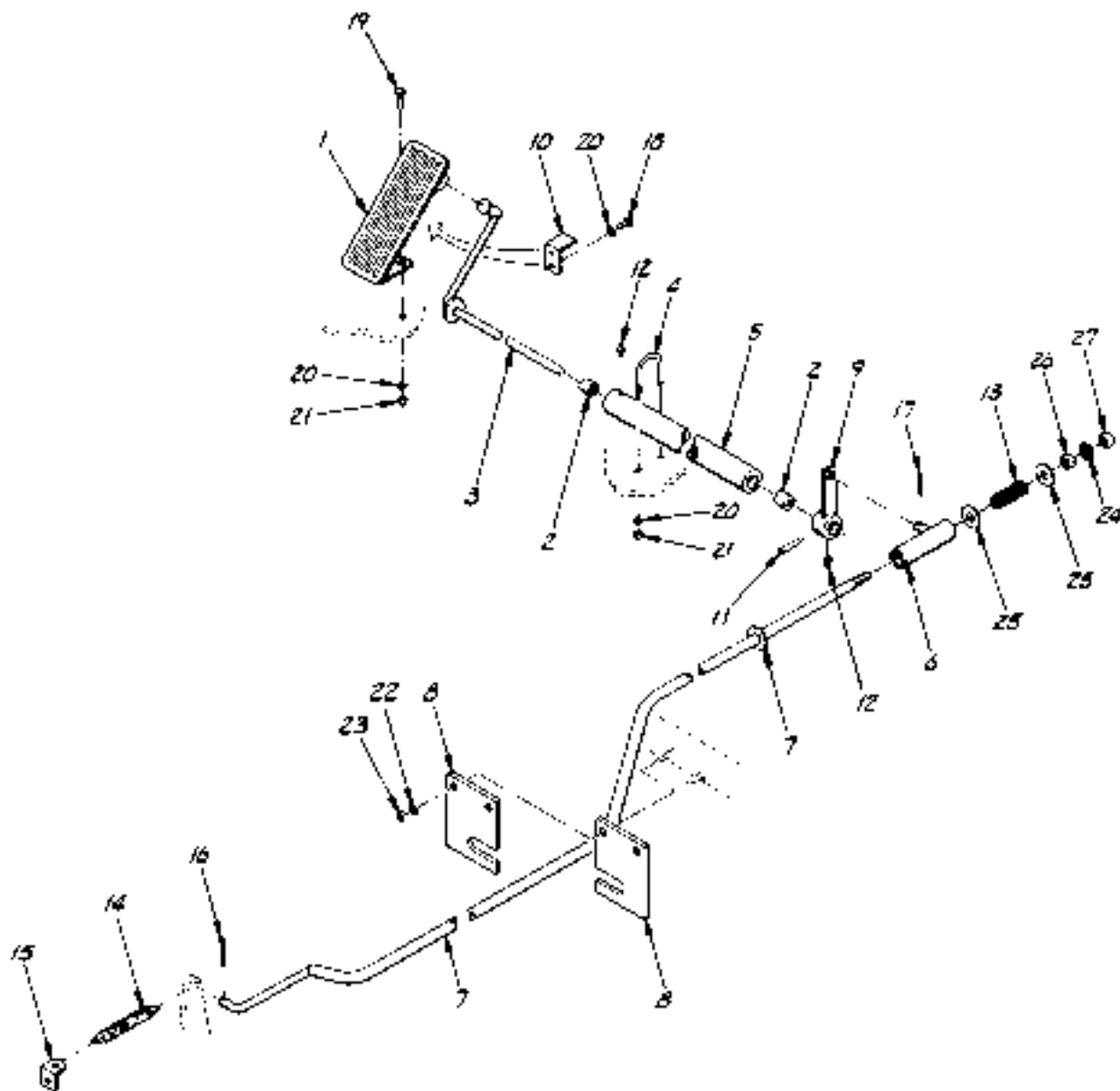
28	CON'L	COTTER P.N. 1/8"x3/16"	1
27	CON'L	WASH. NUT, HK. 7/8"x10 NC	1
26	CON'L	NUT, HK. 3/8"x10 NC	1
25	CON'L	FLAT WASHER, 3/8"	2
24	CON'L	SPR. WASHER, 3/8"	1
23	CON'L	NUT, HK. 3/8"x10 NC	2
22	CON'L	LOCKWASHER, 5/16"	2
21	CON'L	NUT, HK. 1/2"x20 NC	6
20	CON'L	LOCKWASHER, 1/2"	6
19	CON'L	BOLT, HK. 1/4"x20 NC 1/2"	2
18	CON'L	BOLT, HK. 1/4"x20 NC 1/2"	2
17	P17334	ANCHOR, SPRING	2
16	P12979	BALL JOINT	1
15	P15274	SPRING, LONG	1
14	P17337	SPRING, SHORT	1
13	P19187	SPRING, THROTTLE ROD	1
10	P16611	GREASE ZERK	1
7	P10350	ROLL PIN	1
6	15549A	PEDAL STOP	1
6	15547A	LEVER PIVOT	1
5	15546A	SUPPORT BRACE	2
7	15545B	THROTTLE ROD	1
5	15544A	SLEEVE, THROTTLE ROD	1
5	15543A	SLEEVE, PIVOT ROD	1
4	15342A	U-CLAMP	2
3	15541A	PIVOT ROD	1
2	P19115	BUSHING	2
1	P17737	ACCELERATOR PEDAL	1

LULL Engineering Co., Inc.
 SIN 131-194, 197-215, 217-219
 THROTTLE ASSEMBLY
 MODEL 844
 CHRYSLER
 16818



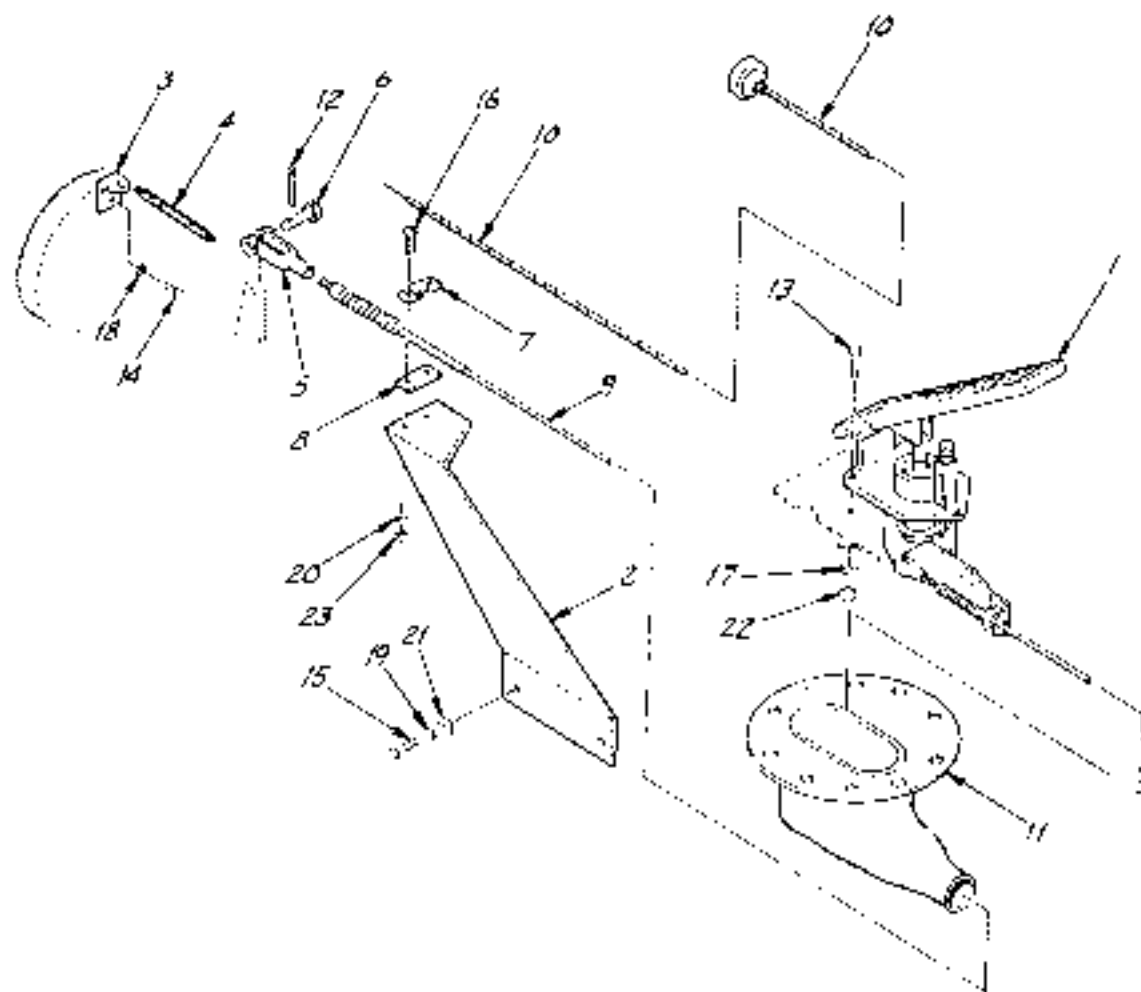
17	COM'L	NUT, FULL #10-24	2
16	COM'L	LOCKWASHER, #10	2
15	COM'L	CAPSCREW, R.H. #10-24 x 1"	2
14	COM'L	NUT, HX #10-20	3
13	COM'L	LOCKWASHER, 1/4"	3
12	COM'L	BOLT, HX #10-20 x 1"	3
11	P19268	BOOT GUARD, RUBBER	1
10	P20078	CABLE, CHOKE	1
9	P19264	CABLE, THROTTLE	1
8	P19128	SHIM	1
7	P17678	CLAMP, CABLE	1
6	P18805	BALL JOINT	1
5	P18274	SPRING, 6"	1
4	P17337	SPRING, 3"	1
3	137584	ANCHOR, SPRING	2
2	161748	CABLE SUPPT BRKT.	1
1	P19263	ACCELERATOR PEDAL	1

LUCC Engineering Co., Inc. ST. PAUL, MINN. 55104
 J. DAUB SIN 196,216,220 THRU
THROTTLE ASSEMBLY **CHRYSLER**
MODEL 844 **C**
16818-1



27	COM'L	JAM NUT, HX. 3/8-16 NC	1
26	COM'L	NUT, HX. 3/8-16 NC	1
25	COM'L	FLATWASHER, 3/8"	2
24	COM'L	STARWASHER, 3/8"	1
23	COM'L	NUT, HX. 3/8-16 NC	2
22	COM'L	LOCKWASHER, 3/16"	2
21	COM'L	NUT, HX. 1/4-20 NC	6
20	COM'L	LOCKWASHER, 1/4"	8
19	COM'L	BOLT, HX. 1/4-20 NC x 3/4"	2
18	COM'L	BOLT, HX. 1/4-20 NC x 1/2"	2
17	COM'L	COTTER PIN, 1/8 x 3/4"	1
16	COM'L	COTTER PIN, 3/32 x 3/4"	1
15		13758A ANCHOR, SPRING	1
14		P17337 SPRING	1
13		P19187 SPRING, THROTTLE ROD	1
12		P16611 GREASE ZERK	1
11		P10350 ROLL PIN	1
10		15549A PEDAL STOP	1
9		15547A LEVER PIVOT	1
8		15546A SUPPORT BRACE	2
7		16285C THROTTLE ROD	1
6		15544A SLEEVE, THROTTLE ROD	1
5		16300A SLEEVE, PIVOT ROD	1
4		15542A U-CLAMP	2
3		15298A PIVOT ROD	1
2		P19115 BUSHING	2
1		P17737 ACCELERATOR PEDAL	1
ITEM	PART NO	DESCRIPTION	REQ.

LULL Engineering Co. Inc.
 ST PAUL
 MINNEAPOLIS
 ILL.
 SIN 101-194, 197-215, 217-219
 THROTTLE
 ASSEMBLY
 MODEL 844
 WAUK.
 Kull C
 16819



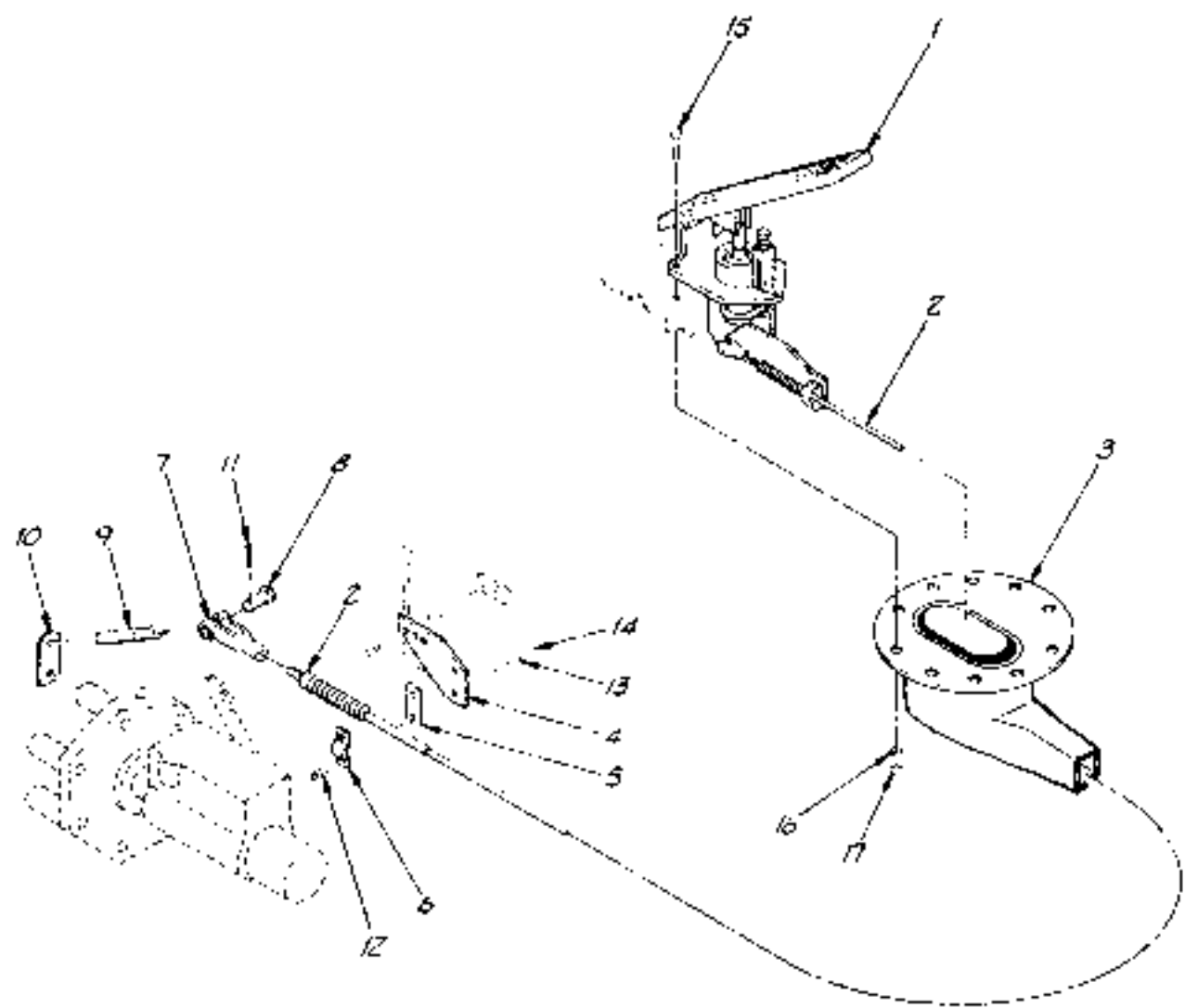
23	COM'L NUT, FULL #10-24	2
22	COM'L NUT, HX 1/4-20	3
21	COM'L FLATWASHER, 3/16"	3
20	COM'L LOCKWASHER, #10	2
19	COM'L LOCKWASHER, 3/16"	2
18	COM'L LOCKWASHER, 3/16"	1
17	COM'L LOCKWASHER, 1/4"	3
16	COM'L CAPSCREW, R.H. #10-24x1	2
15	COM'L BOLT, HX 3/8-18 NCx1"	2
14	COM'L BOLT, HX 3/8-18 NCx3/4"	1
13	COM'L BOLT, HX 1/4-20 NCx1"	3
12	COM'L COTTER PIN, 1/16x7/16"	1
11	PI9268 BOOT GUARD	1
10	PI20078 CABLE, E. S. C.	1
9	PI9264 CABLE, THROTTLE	1
8	PI9128 SHIM	1
7	PI7678 CLAMP, CABLE	1
6	PI0512 PIN, CLEVIS	1
5	PI0508 CLEVIS	1
4	PI7327 SPRING	1
3	137584 ANCHOR, SPRING	1
2	161738 CABLE SUPPT BRKT	1
1	PI9263 ACCELERATOR PEDAL	1

WILL Engineering Co., Inc. ST. PAUL, MINN. 55107-1517

DESIGNED BY J. DAVID SIN 195. 220 THRU

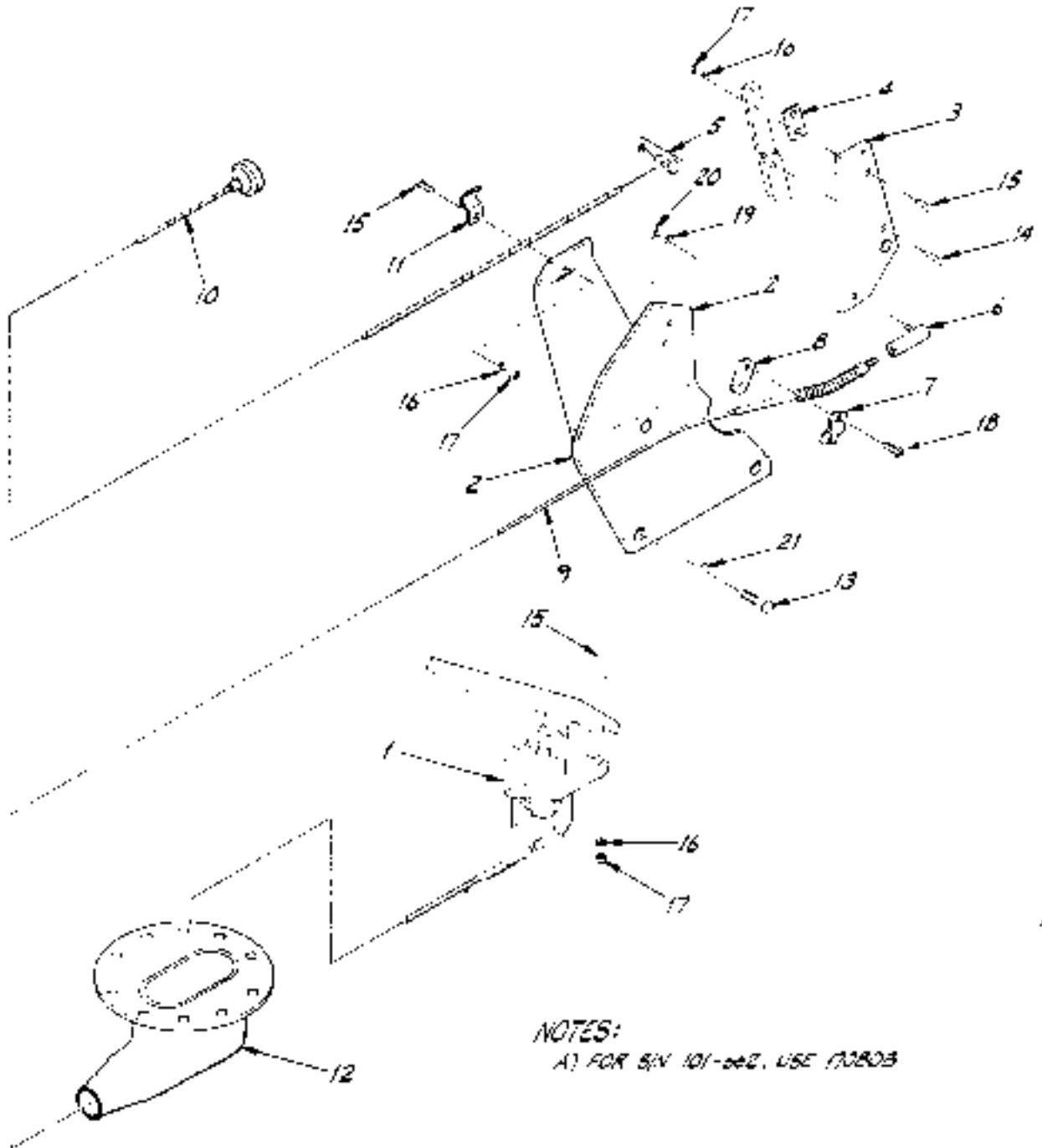
THROTTLE ASSEMBLY MODEL 844

WALK. UNIT C 16219-1



17	COM L	NUT, AX. 1/8-20 NC	3
16	COM L	LOCKWASHER, 1/8	3
15	COM L	BOLT, BK. 1/8-20 NC-1	3
14	COM L	NUT, # 10-24 NC	2
13	COM L	LOCKWASHER, # 10	2
12	COM L	SCREW, RD HD. # 10-24 AF	2
11	COM L	COTTER PIN, #32 "3/4"	2
10	17386A	SPRING ANCHOR	
9	P21260	SPRING	
8	P10509	CLEVIS PIN	
7	P10508	CLEVIS	
6	PF678	CLAMP, CABLE	
5	PF128	SHIM	
4	18764A	BRACKET, CABLE	
3	P19268	BOOT GUARD	
2	P19264	CABLE, THROTTLE	
1	P19263	ACCELERATOR PEDAL	

ITEM	PART NO.	DESCRIPTION	QTY
WILLIAMS Engineering Co., Inc. BY FILE: 16819-6			
SIN 795 THRU			
THROTTLE ASSEMBLY			DEERE
MODEL 844			16819-6

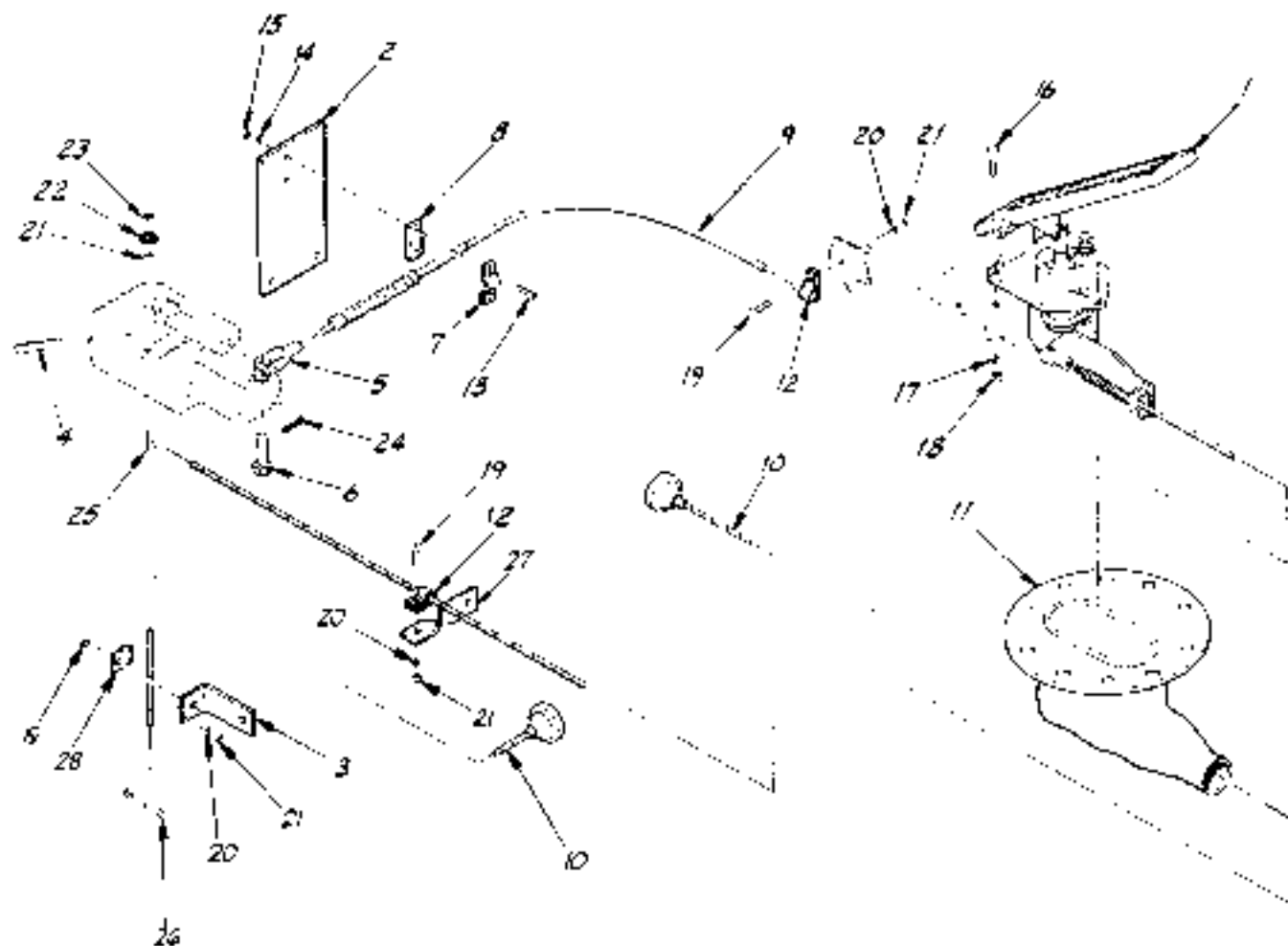


21	COM'L LOCKWASHER, M18	3
20	COM'L NUT, 10-24	2
19	COM'L LOCKWASHER, #10	2
18	COM'L CAPSCREW, A2 10-24 x 1	2
17	COM'L NUT, NY 1/4-20 NC	6
16	COM'L LOCKWASHER, 1/4	6
15	COM'L BOLT, NY 1/4-20 NC x 1"	6
14	COM'L BOLT, NY M8-10 x 15 LG	1
13	COM'L BOLT, NY M8-1.25 x 15 LG	3
12	P19268 BOOT GUARD, RUBBER	1
11	P12497 CLIP, SHUT OFF CABLE	1
10	P20078 CABLE, SHUT OFF	1
9	P19264 CABLE, THROTTLE	1
8	P19128 SHIM	1
7	P17878 CLAMP, CABLE	1
6	P10505 BALL JOINT	1
5	P20055 CABLE STOP	1
4	170844 SPACER	1
3	170854 THROTTLE LINK	1
2	171949 CABLE SUPPT BRKT	1
1	P19263 ACCELERATOR	1

NOTES:
 A) FOR S/N 101-002, USE 170803

LUZZ Engineering Co., Inc.
 72415 S/N 101 THRU
THROTTLE ASSEMBLY
 MODEL 844

DEUTZ
 16820



28	P12497	CLAMP	1
27	12517A	HANGER BRACKET	1
26	P20455	CABLE STOP	1
25	16522A	PIN	1
24	COM L	COTTER PIN, 1/16 x 3/4	1
23	COM L	JAM NUT, HX 1/4-18	1
22	COM L	STARWASHER, 1/4	1
21	COM L	NUT, HX 1/4-18	3
20	COM L	LOCKWASHER, 1/4	2
19	COM L	BOLT, HX 1/4-18-1	2
18	COM L	NUT, HX 1/4-20	3
17	COM L	LOCKWASHER, 1/4	3
16	COM L	BOLT, HX 1/4-20-1	3
15	COM L	NUT, FULL 10-24	2
14	COM L	LOCKWASHER, #10	2
13	COM L	CAPSCREW, NO 10-24 x 1	2
12	P17554	CLAMP	2
11	P19268	RUBBER BOOT GUARD	1
10	P20078	CABLE, 5 5 O.	2
9	P19264	CABLE, THROTTLE	1
8	P19128	SHIM	1
7	P17678	CLAMP, CABLE	1
6	P10060	PIN, CLEVIS	1
5	P17679	CLEVIS	1
4	P15274	SPRING	1
3	16523A	HANGER BRACKET	1
2	16506A	CABLE SUPPT BRKT	1
1	P19263	ACCELERATOR	1

TOP	PART NO	DESCRIPTION	REQ.
-----	---------	-------------	------

WLL Engineering Co., Inc.

ST. PAUL,
MINNESOTA
65121

Drawn by
J. DAUB

THRU

THROTTLE

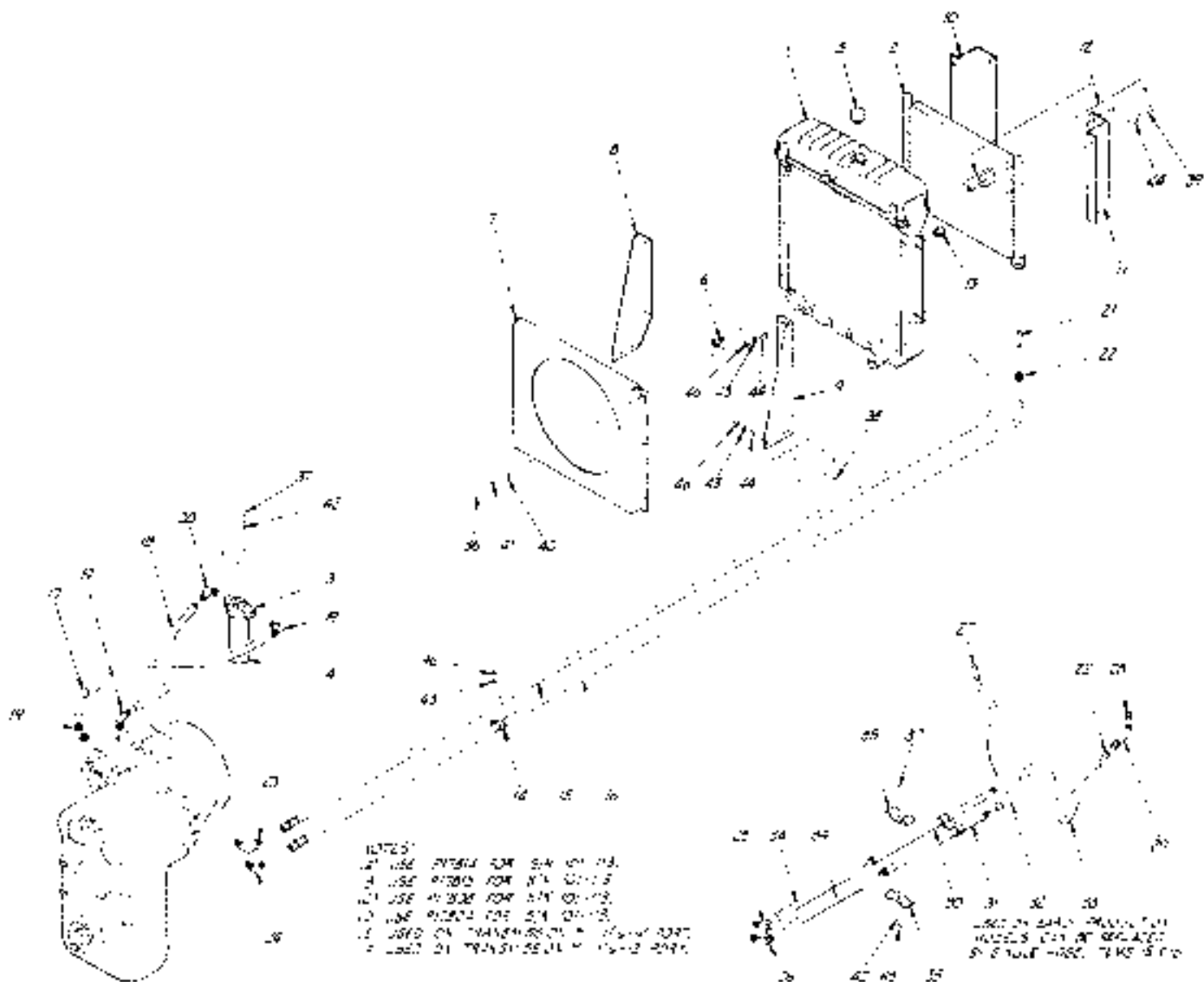
ASSEMBLY

MODEL 344

DETROIT

Sheet C

16821

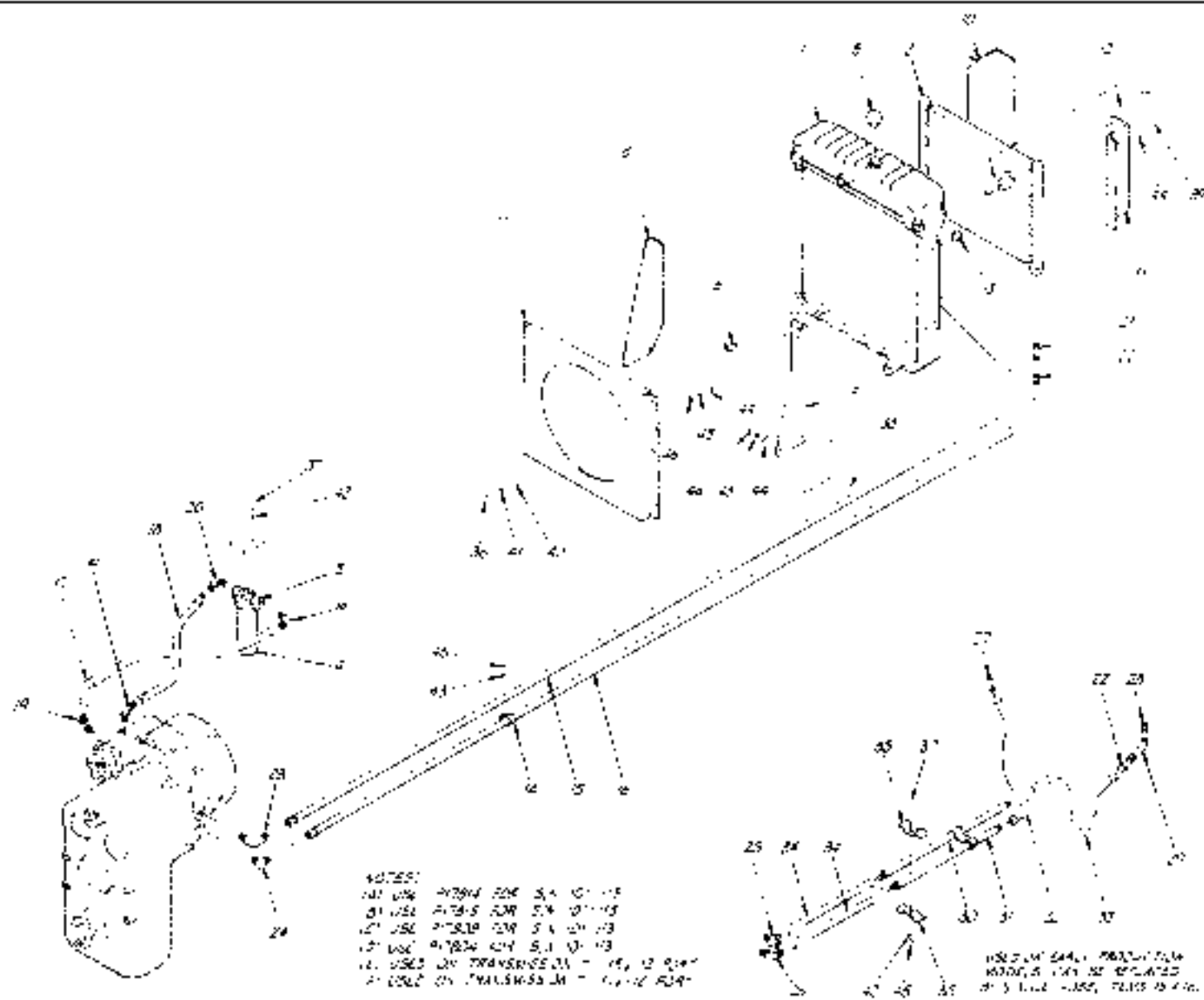


- NOTES:
- 1 USE P/N 204 FOR 24 OR 30.
 - 2 USE P/N 204 FOR 24 OR 30.
 - 3 USE P/N 204 FOR 24 OR 30.
 - 4 USE P/N 204 FOR 24 OR 30.
 - 5 USED ON TRANSDUCER * 15-2-204.
 - 6 USED ON TRANSDUCER * 15-2-204.

USED ON EARLY MODEL FOR
MODELS 24 & 30 ONLY
IF EARLY MODEL TAKE 204

16	COIL	WINDING 14 0 10	50
17	COIL	WINDING 14 0 10	50
18	COIL	WINDING 14 0 10	50
19	COIL	WINDING 14 0 10	50
20	COIL	WINDING 14 0 10	50
21	COIL	WINDING 14 0 10	50
22	COIL	WINDING 14 0 10	50
23	COIL	WINDING 14 0 10	50
24	COIL	WINDING 14 0 10	50
25	COIL	WINDING 14 0 10	50
26	COIL	WINDING 14 0 10	50
27	COIL	WINDING 14 0 10	50
28	COIL	WINDING 14 0 10	50
29	COIL	WINDING 14 0 10	50
30	COIL	WINDING 14 0 10	50
31	COIL	WINDING 14 0 10	50
32	COIL	WINDING 14 0 10	50
33	COIL	WINDING 14 0 10	50
34	COIL	WINDING 14 0 10	50
35	COIL	WINDING 14 0 10	50
36	COIL	WINDING 14 0 10	50
37	COIL	WINDING 14 0 10	50
38	COIL	WINDING 14 0 10	50
39	COIL	WINDING 14 0 10	50
40	COIL	WINDING 14 0 10	50
41	COIL	WINDING 14 0 10	50
42	COIL	WINDING 14 0 10	50
43	COIL	WINDING 14 0 10	50
44	COIL	WINDING 14 0 10	50
45	COIL	WINDING 14 0 10	50
46	COIL	WINDING 14 0 10	50
47	COIL	WINDING 14 0 10	50
48	COIL	WINDING 14 0 10	50
49	COIL	WINDING 14 0 10	50
50	COIL	WINDING 14 0 10	50
51	COIL	WINDING 14 0 10	50
52	COIL	WINDING 14 0 10	50
53	COIL	WINDING 14 0 10	50
54	COIL	WINDING 14 0 10	50
55	COIL	WINDING 14 0 10	50

WILL
 PARTS LIST
 TRANSDUCER
 MODEL 24

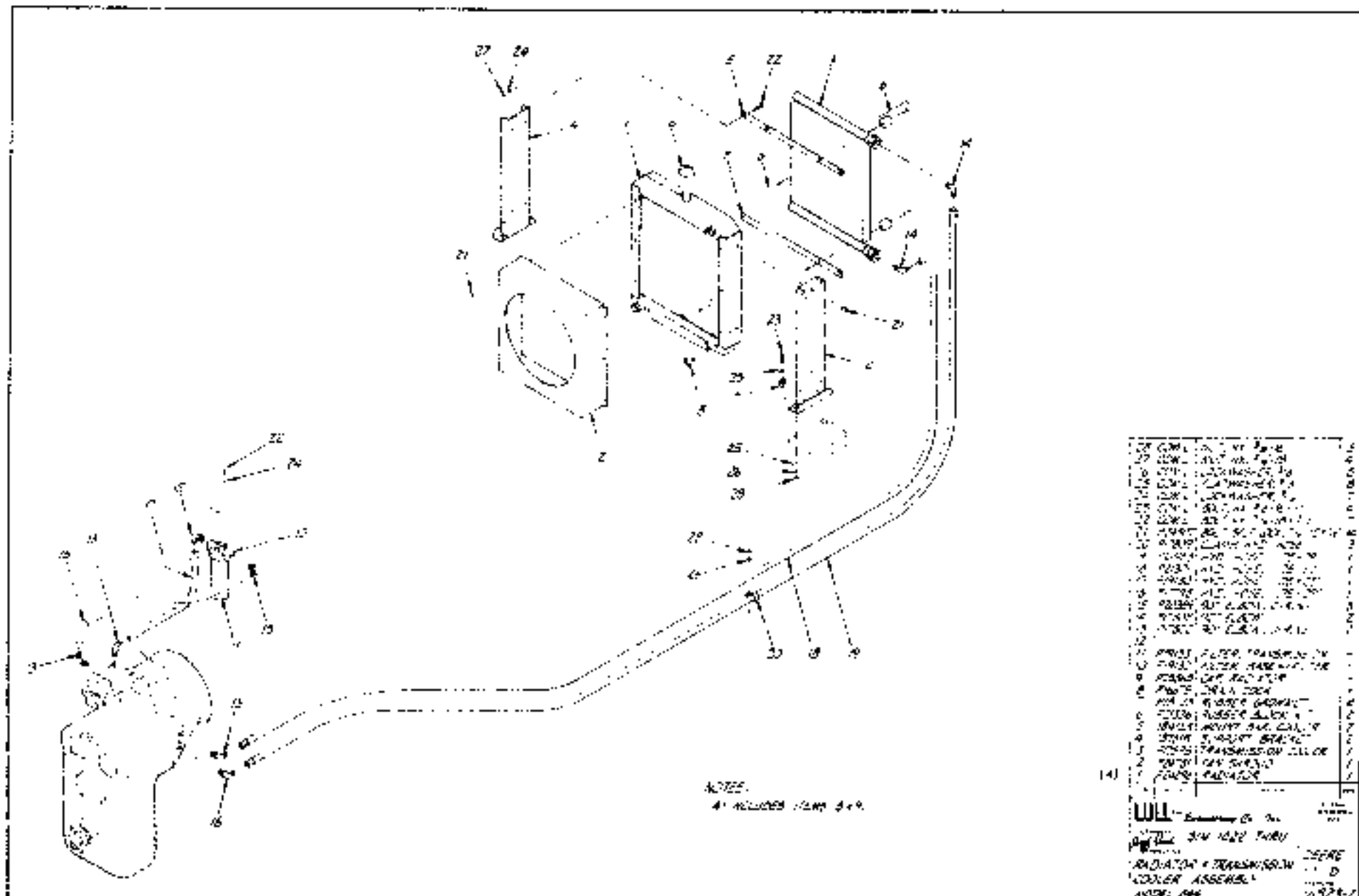


NOTES:
 1. USE P7814 FOR S.A. Q1-13
 2. USE P7815 FOR S.A. Q1-13
 3. USE P7816 FOR S.A. Q1-13
 4. USE P7824 FOR S.A. Q1-13
 5. USED BY TRANSDUCER - 15, 12 Q1-13
 6. USED BY TRANSDUCER - 15, 12 Q1-13

USE P7814 FOR S.A. Q1-13
 15, 12 Q1-13
 15, 12 Q1-13

46	COMP	157-11-12-9-AC	1
45	COMP	157-11-12-9-AC	1
44	COMP	157-11-12-9-AC	1
43	COMP	157-11-12-9-AC	1
42	COMP	157-11-12-9-AC	1
41	COMP	157-11-12-9-AC	1
40	COMP	157-11-12-9-AC	1
39	COMP	157-11-12-9-AC	1
38	COMP	157-11-12-9-AC	1
37	COMP	157-11-12-9-AC	1
36	COMP	157-11-12-9-AC	1
35	COMP	157-11-12-9-AC	1
34	COMP	157-11-12-9-AC	1
33	COMP	157-11-12-9-AC	1
32	COMP	157-11-12-9-AC	1
31	COMP	157-11-12-9-AC	1
30	COMP	157-11-12-9-AC	1
29	COMP	157-11-12-9-AC	1
28	COMP	157-11-12-9-AC	1
27	COMP	157-11-12-9-AC	1
26	COMP	157-11-12-9-AC	1
25	COMP	157-11-12-9-AC	1
24	COMP	157-11-12-9-AC	1
23	COMP	157-11-12-9-AC	1
22	COMP	157-11-12-9-AC	1
21	COMP	157-11-12-9-AC	1
20	COMP	157-11-12-9-AC	1
19	COMP	157-11-12-9-AC	1
18	COMP	157-11-12-9-AC	1
17	COMP	157-11-12-9-AC	1
16	COMP	157-11-12-9-AC	1
15	COMP	157-11-12-9-AC	1
14	COMP	157-11-12-9-AC	1
13	COMP	157-11-12-9-AC	1
12	COMP	157-11-12-9-AC	1
11	COMP	157-11-12-9-AC	1
10	COMP	157-11-12-9-AC	1
9	COMP	157-11-12-9-AC	1
8	COMP	157-11-12-9-AC	1
7	COMP	157-11-12-9-AC	1
6	COMP	157-11-12-9-AC	1
5	COMP	157-11-12-9-AC	1
4	COMP	157-11-12-9-AC	1
3	COMP	157-11-12-9-AC	1
2	COMP	157-11-12-9-AC	1
1	COMP	157-11-12-9-AC	1

Exploded View of
 RADIO RECEIVER
 MODEL 100
 PARTS LIST
 100-100-100

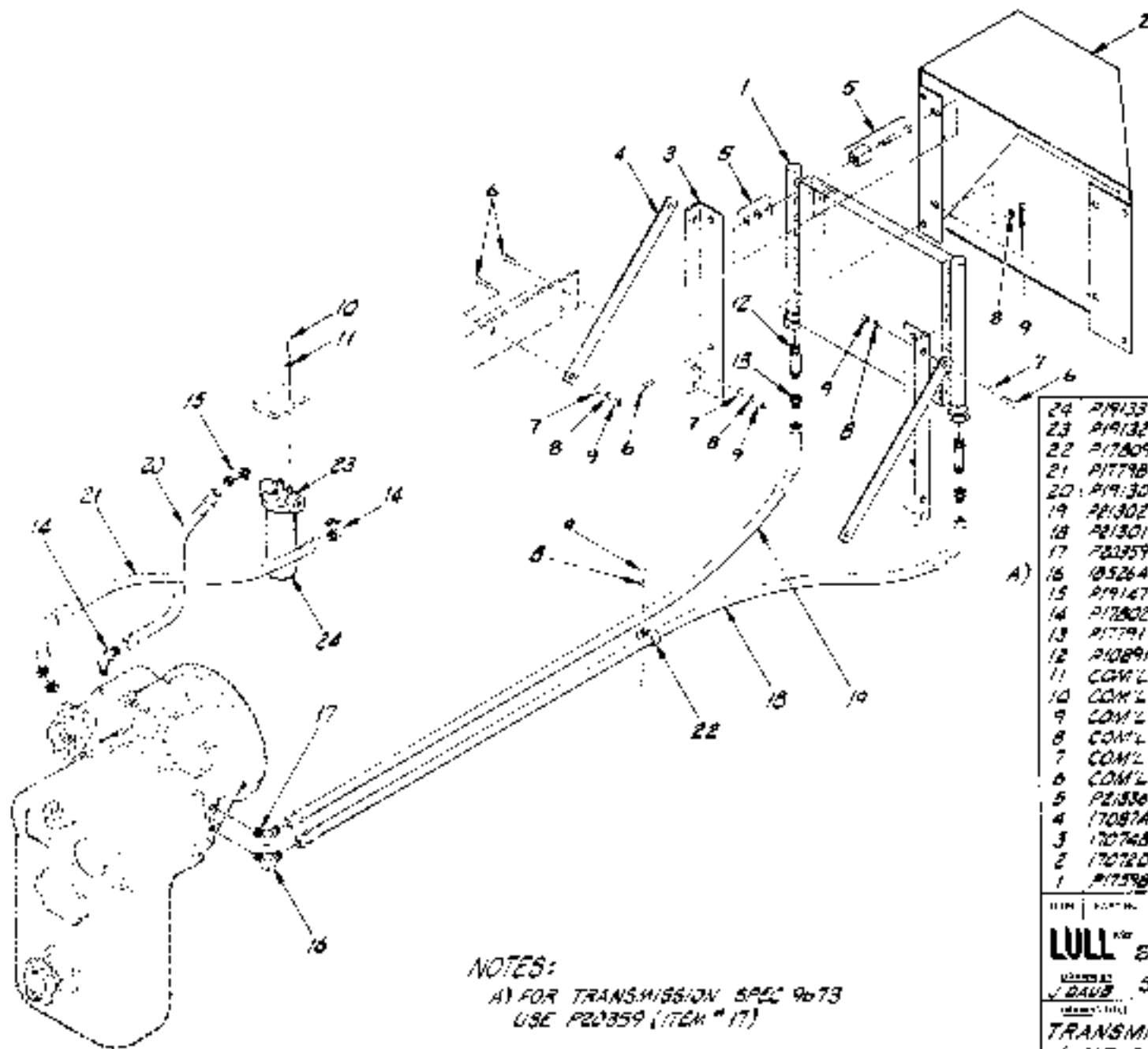


NOTES:
 1. INCLUDES ITEM 249.

14)

1	27	27	27
2	26	26	26
3	25	25	25
4	24	24	24
5	23	23	23
6	22	22	22
7	21	21	21
8	20	20	20
9	19	19	19
10	18	18	18
11	17	17	17
12	16	16	16
13	15	15	15
14	14	14	14
15	13	13	13
16	12	12	12
17	11	11	11
18	10	10	10
19	9	9	9
20	8	8	8
21	7	7	7
22	6	6	6
23	5	5	5
24	4	4	4
25	3	3	3
26	2	2	2
27	1	1	1

WILL
 RADIATOR + TRANSMISSION COOLER ASSEMBLY
 10328-1

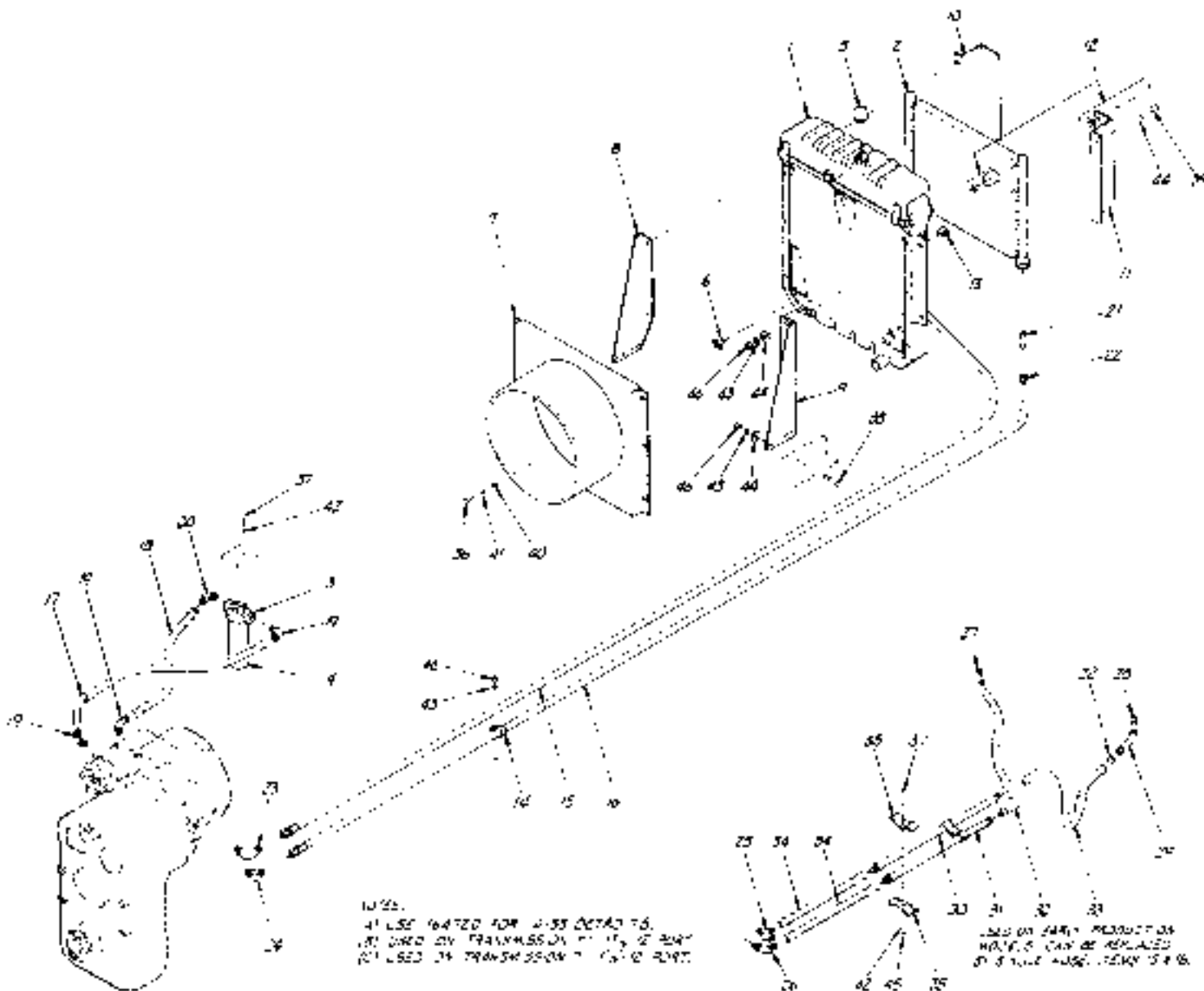


24	P19133 FILTER	1
23	P19132 FILTER BASE	1
22	P17809 HOSE CLAMP	2
21	P17798 HYD HOSE .75" X 29'	1
20	P19130 HYD HOSE .75" X 25'	1
19	P21302 HYD HOSE .75" X 70'	1
18	P21301 HYD HOSE .75" X 60'	1
17	P20359 ELBOW, 90°	1
A) 16	105264 ELBOW, 90°, SPECIAL	1
15	P19147 ELBOW, 45°	1
14	P17802 ELBOW, 90°	3
13	P17791 ADAPTER	2
12	P10891 NIPPLE	2
11	COM'L LOCKWASHER, 3/8	3
10	COM'L BOLT, HX, 3/8-16 NC X 3/4	3
9	COM'L NUT, HX, 3/8-16 NC	13
8	COM'L LOCKWASHER, 3/8	13
7	COM'L FLATWASHER, 3/8	8
6	COM'L BOLT, HX, 3/8-16 NC X 1/2	12
5	P21330 MOUNTING KIT	2
4	17087A CROSS SUPPORT	2
3	17074B UPRIGHT SUPPORT	2
2	17072D SHROUD	1
1	P17598 TRANSMISSION COOLER	1

NOTES:

A) FOR TRANSMISSION SPEC 9673
USE P20359 (ITEM # 17)

LU Engineering Co., Inc.		27 WALL WILMINGTON DE 19381
DESIGNED BY J. DAUB	SIN 101 THRU	
TRANSMISSION COOLER & AIR SHROUD ASS'Y		DEUTZ
MODEL 84*		CLASS C 16824

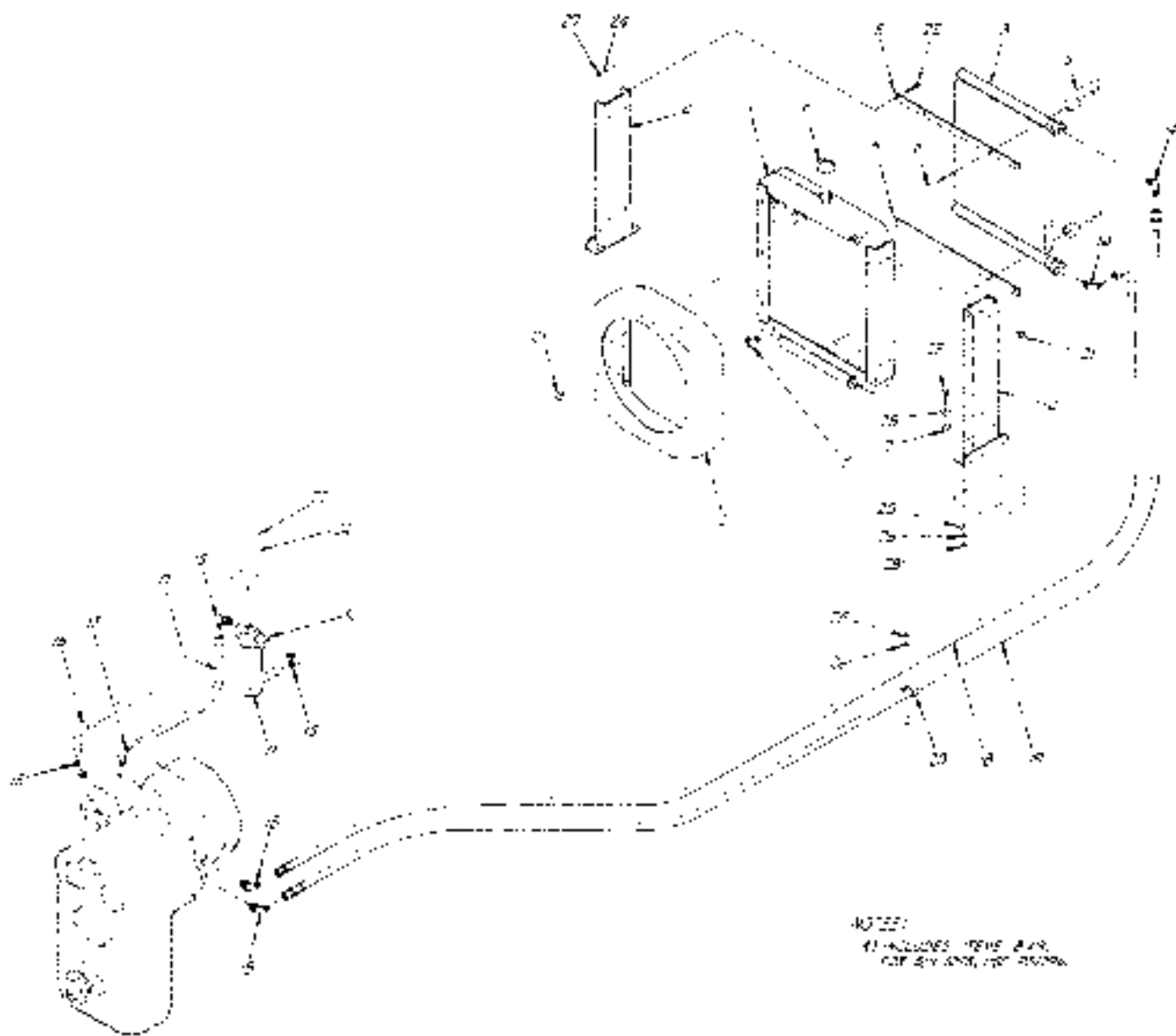


NOTE:
 41 USED 164720 FOR 4-53 DETAIL 75.
 32 USED BY TRANSMISSION 71 17, 2 244
 21 USED BY TRANSMISSION 71 17, 2 244

USED ON 2441, REDUCED ON
 1041, 2 CAN BE REPLACED
 BY 1041 USE, PERY 13 16

46	COIL	W/1. 11. 10 10 10	10
45	COIL	W/1. 11. 10 10 10	10
44	COIL	W/1. 11. 10 10 10	10
43	COIL	W/1. 11. 10 10 10	10
42	COIL	W/1. 11. 10 10 10	10
41	COIL	W/1. 11. 10 10 10	10
40	COIL	W/1. 11. 10 10 10	10
39	COIL	W/1. 11. 10 10 10	10
38	COIL	W/1. 11. 10 10 10	10
37	COIL	W/1. 11. 10 10 10	10
36	COIL	W/1. 11. 10 10 10	10
35	COIL	W/1. 11. 10 10 10	10
34	COIL	W/1. 11. 10 10 10	10
33	COIL	W/1. 11. 10 10 10	10
32	COIL	W/1. 11. 10 10 10	10
31	COIL	W/1. 11. 10 10 10	10
30	COIL	W/1. 11. 10 10 10	10
29	COIL	W/1. 11. 10 10 10	10
28	COIL	W/1. 11. 10 10 10	10
27	COIL	W/1. 11. 10 10 10	10
26	COIL	W/1. 11. 10 10 10	10
25	COIL	W/1. 11. 10 10 10	10
24	COIL	W/1. 11. 10 10 10	10
23	COIL	W/1. 11. 10 10 10	10
22	COIL	W/1. 11. 10 10 10	10
21	COIL	W/1. 11. 10 10 10	10
20	COIL	W/1. 11. 10 10 10	10
19	COIL	W/1. 11. 10 10 10	10
18	COIL	W/1. 11. 10 10 10	10
17	COIL	W/1. 11. 10 10 10	10
16	COIL	W/1. 11. 10 10 10	10
15	COIL	W/1. 11. 10 10 10	10
14	COIL	W/1. 11. 10 10 10	10
13	COIL	W/1. 11. 10 10 10	10
12	COIL	W/1. 11. 10 10 10	10
11	COIL	W/1. 11. 10 10 10	10
10	COIL	W/1. 11. 10 10 10	10
9	COIL	W/1. 11. 10 10 10	10
8	COIL	W/1. 11. 10 10 10	10
7	COIL	W/1. 11. 10 10 10	10
6	COIL	W/1. 11. 10 10 10	10
5	COIL	W/1. 11. 10 10 10	10
4	COIL	W/1. 11. 10 10 10	10
3	COIL	W/1. 11. 10 10 10	10
2	COIL	W/1. 11. 10 10 10	10
1	COIL	W/1. 11. 10 10 10	10

Expanding Co. Inc.
 10000 10000 10000
 DETROIT
 TRANSMISSION
 COOLER ASSEMBLY
 MODEL 344 16025



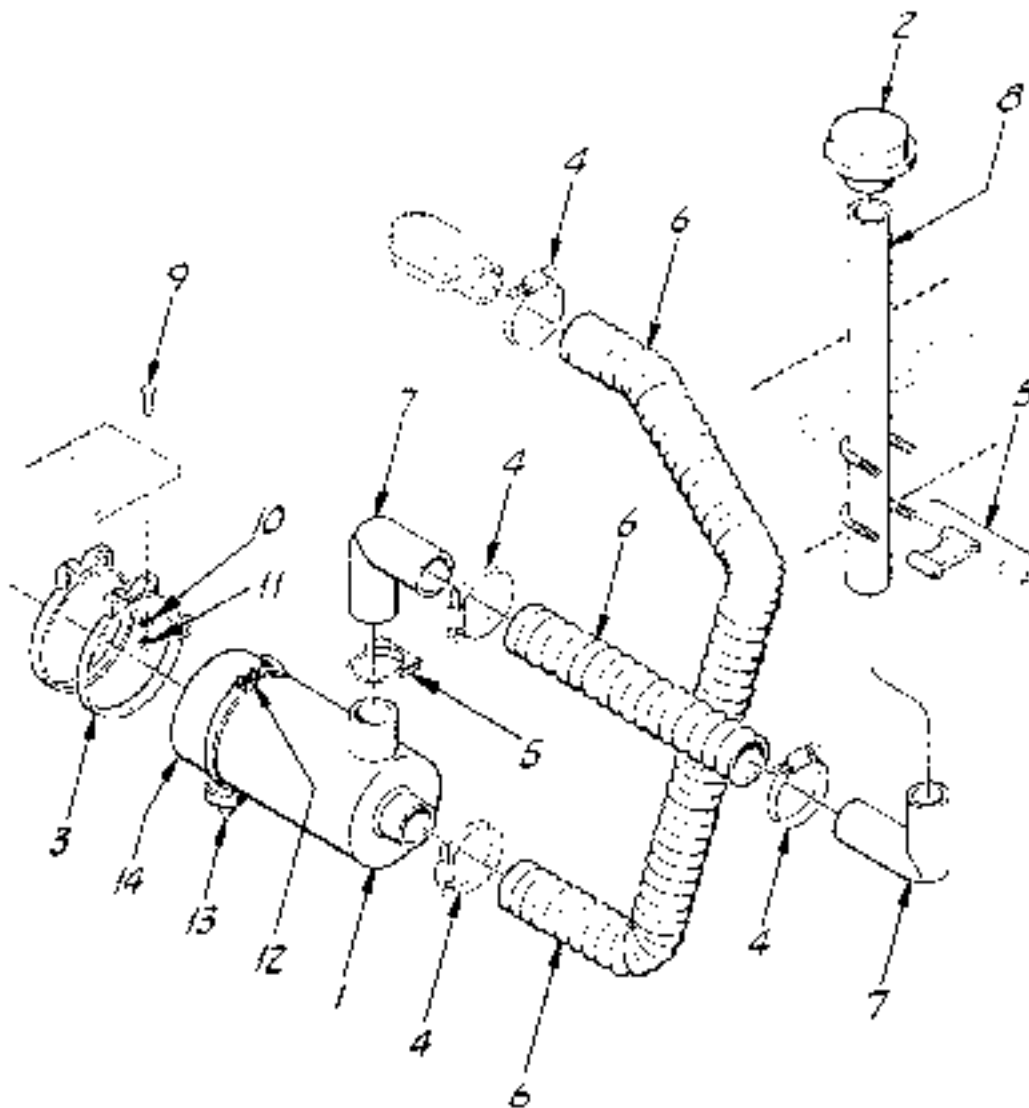
NOTES:
 1) INCLUDES TENS BAR
 FOR END OF BAR

1	COVER	1/2" X 1/2" X 1/2"	1
2	COVER	1/2" X 1/2" X 1/2"	1
3	COVER	1/2" X 1/2" X 1/2"	1
4	COVER	1/2" X 1/2" X 1/2"	1
5	COVER	1/2" X 1/2" X 1/2"	1
6	COVER	1/2" X 1/2" X 1/2"	1
7	COVER	1/2" X 1/2" X 1/2"	1
8	COVER	1/2" X 1/2" X 1/2"	1
9	COVER	1/2" X 1/2" X 1/2"	1
10	COVER	1/2" X 1/2" X 1/2"	1
11	COVER	1/2" X 1/2" X 1/2"	1
12	COVER	1/2" X 1/2" X 1/2"	1
13	COVER	1/2" X 1/2" X 1/2"	1
14	COVER	1/2" X 1/2" X 1/2"	1
15	COVER	1/2" X 1/2" X 1/2"	1
16	COVER	1/2" X 1/2" X 1/2"	1
17	COVER	1/2" X 1/2" X 1/2"	1
18	COVER	1/2" X 1/2" X 1/2"	1
19	COVER	1/2" X 1/2" X 1/2"	1
20	COVER	1/2" X 1/2" X 1/2"	1
21	COVER	1/2" X 1/2" X 1/2"	1
22	COVER	1/2" X 1/2" X 1/2"	1
23	COVER	1/2" X 1/2" X 1/2"	1
24	COVER	1/2" X 1/2" X 1/2"	1
25	COVER	1/2" X 1/2" X 1/2"	1
26	COVER	1/2" X 1/2" X 1/2"	1
27	COVER	1/2" X 1/2" X 1/2"	1
28	COVER	1/2" X 1/2" X 1/2"	1
29	COVER	1/2" X 1/2" X 1/2"	1

40
 LUL
 SUPPLY CO. INC.
 1000 N. 10TH ST.
 MILWAUKEE, WIS. 53233
 PHONE 442-1111

NOTES:

- A) ITEM 1 INCLUDES ITEMS 12 THRU 17.
 B) GIVE LENGTH REQ. WHEN ORDERING.
 C) NOT ILLUSTRATED.



(C)	REF	PI9742	PRE-CLEANER (OPTION)	-
		P17276	FILTER ELEMENT	-
		P21721	BAFFLE	-
		P18169	THUMB SCREW	-
		F19728	VACUATOR CUP	-
		P20342	VACUATOR VALVE	-
		P20905	CLAMP, AIR CLEANER	-
		COM'L	NUT, HX. 3/8-16	4
		COM'L	LOCKWASHER, 3/8"	4
		COM'L	BOLT, HX. 3/8-16 x 1"	4
		18347-B	STACK TUBE	1
		13458C	90° ELBOW	2
(B)		P18037	FLEX HOSE	AIR
		P17169	TUBE CLAMP	4
		P10553	HOSE CLAMP	4
		P17137	MOUNTING BAND	2
		P17136	RAIN CAP	1
(A)		P17135	AIR CLEANER	1

ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

LULL ^{INC} Engineering Co., Inc. ST. PAUL, MINNESOTA 55171

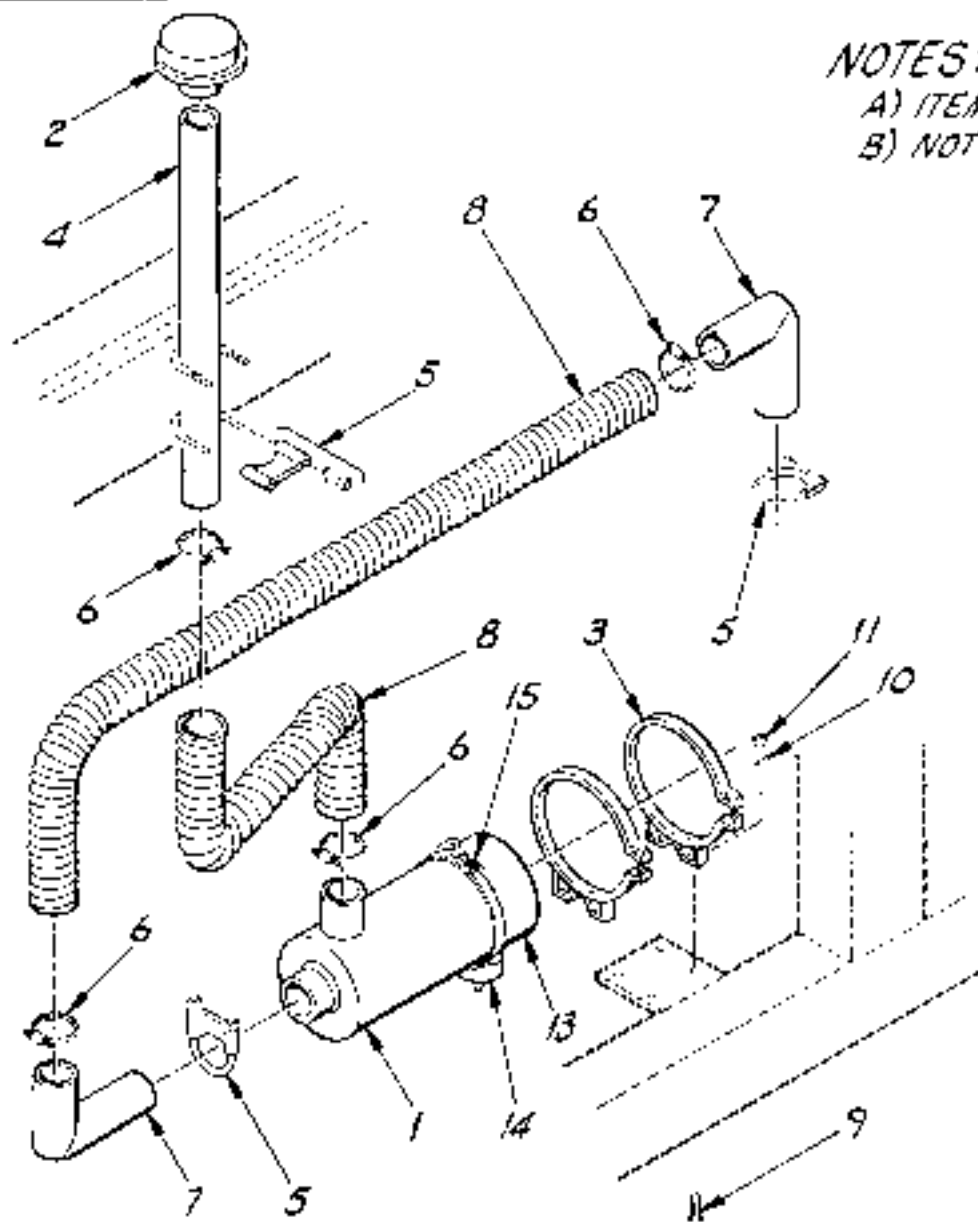
UNAPPROVED BY *Jeff Dault* S/N 101 THRU

AIR CLEANER ASSEMBLY MODEL 844

CHRYSLER
 SCALE **B**
 DRAWING NO. **16826**

NOTES:

- A) ITEM 1 INCLUDES ITEMS 13 THRU 16.
 B) NOT ILLUSTRATED.



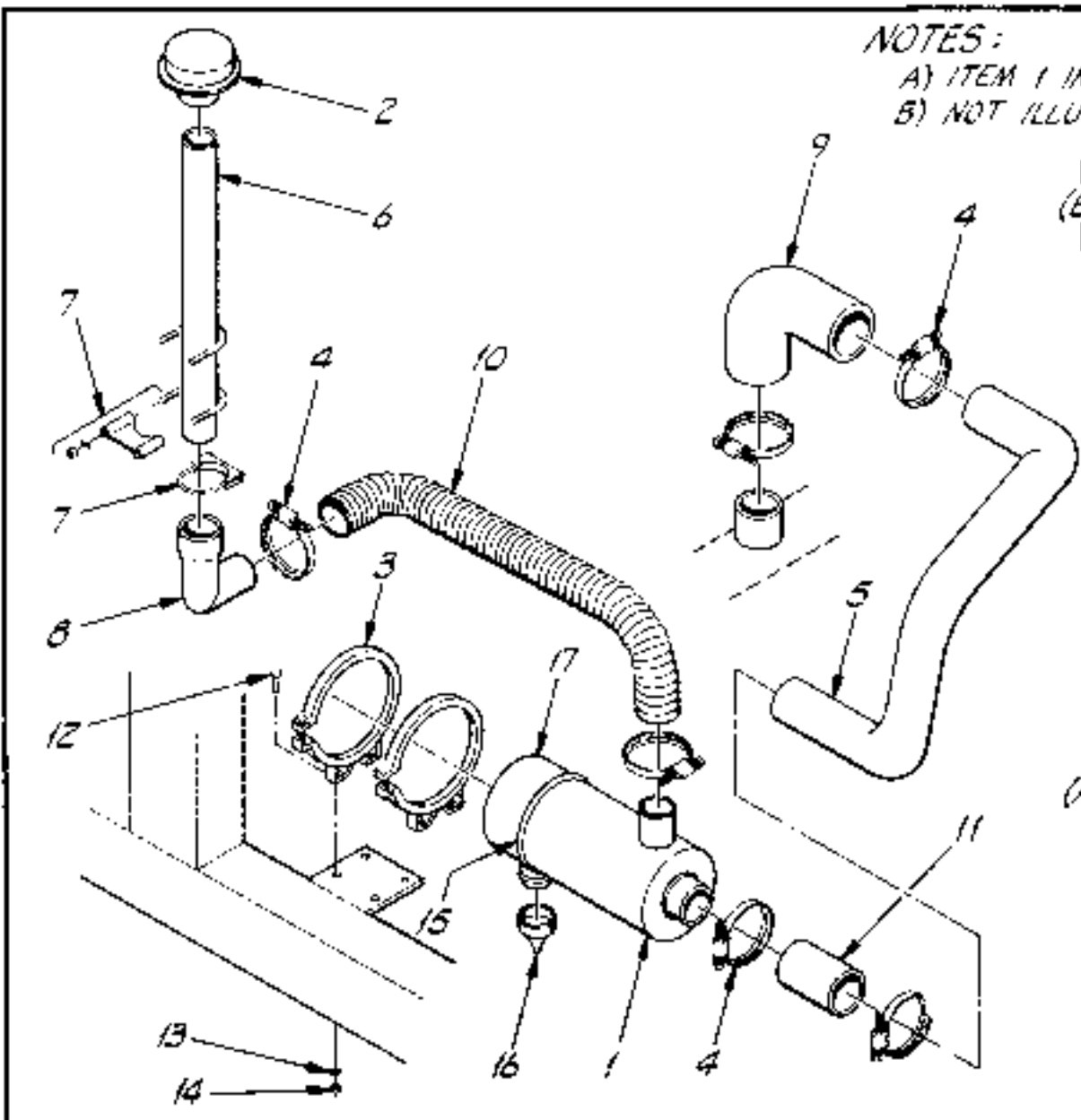
(B)	REF	P19762	PRE-CLEANER (OPTION)	-	
		18	P17276	FILTER ELEMENT	-
		17	P18169	THUMB SCREW	-
		16	P21721	BAFFLE	-
		15	P20905	CLAMP, AIR CLEANER	-
		14	P20342	VACUATOR VALVE	-
		13	P19728	VACUATOR CUP	-
		12			
		11	COM'L	NUT, HX. 3/8-16	4
		10	COM'L	LOCKWASHER, 3/8"	4
		9	COM'L	BOLT, HX. 3/8-16 x 1"	4
		8	P18037	HOSE, FLEX	1/A
		7	13458C	90° ELBOW	2
		6	P10553	HOSE CLAMP	4
		5	P17169	MUFFLER CLAMP	4
		4	18347-13	AIR STACK	1
		3	P17137	MOUNTING BAND	2
		2	P17136	CAP, RAIN	1
(A)		1	P17135	AIR CLEANER	1

ITEM	PART NO.	DESCRIPTION	REQ.
------	----------	-------------	------

LOLL Engineering Co., Inc. ST. PAUL, MINNESOTA 55121

DESIGNED BY J. DAUB S/N 101 - 557

UNION, ILL. **WAUKESHA**
 AIR CLEANER ASSEMBLY
 MODEL 844
 YEAR B
 DRAWING NO. 16827



NOTES:

A) ITEM 1 INCLUDES ITEMS 15 THRU 20.

B) NOT ILLUSTRATED.

REF	PART NO	DESCRIPTION	REQ.
(B)	P19742	PRE-CLEANER (OPTION)	-
	P17276	FILTER ELEMENT	-
	P21721	BAFFLE	-
	P18169	THUMB SCREW	-
	P19728	VACUATOR CUP	-
	P20342	VACUATOR VALVE	-
	P20905	CLAMP, AIR CLEANER	-
	COM'L	NUT, HX. 3/8-16	4
	COM'L	LOCKWASHER, 3/8	4
	COM'L	BOLT, HX. 3/8-16x1	4
	P20475	TUBE ADAPTOR	1
	P16037	FLEXIBLE HOSE	1/2
	P20854	90° ELBOW, RUBBER	1
	13458C	90° ELBOW, METAL	1
	P17169	TUBE CLAMP	3
	18347-13	AIR STACK TUBE	1
	P20832	AIR INTAKE TUBE	1
	P10553	HOSE CLAMP	6
	P17137	MOUNTING BAND	2
	P17136	RAIN CAP	1
(A)	P17135	AIR CLEANER	1

ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

LU Engineering Co., Inc.
ST PAUL, MINNESOTA 55121

DRAWN BY *Jeff Hunt* S/N 55B THRU

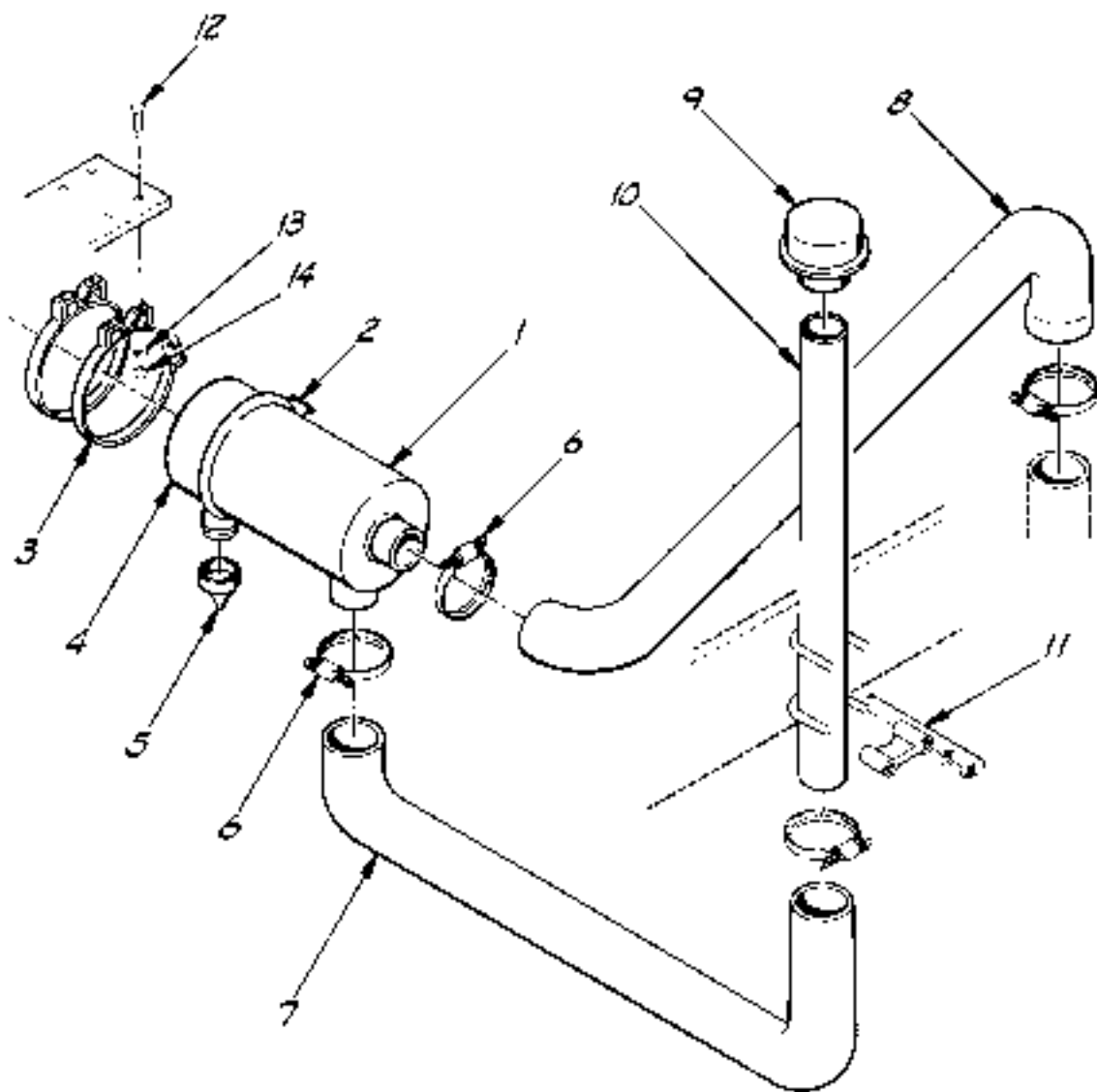
DRAWING TITLE

AIR CLEANER
ASSEMBLY
MODEL 844

WAUKESHA

SCALE B

DRAWING NO.
16827-1



REF	P12179	FILTER ELEMENT	1
	14	COM'L NUT, HX. 3/8-16 NC	4
	13	COM'L LOCKWASHER, 3/8"	4
	12	COM'L BOLT, HX. 3/8-16 NCx1	4
	11	P12169 MUFFLER CLAMP	2
	10	18347-N STACK TUBE	1
	9	P12164 RAIN CAP	1
	8	P21792 INTAKE HOSE	1
	7	P21791 INTAKE HOSE	1
	6	P10601 HOSE CLAMP	4
	5	P20342 VACUATOR VALVE	1
	4	P19727 VACUATOR CUP	1
	3	P12165 MOUNTING BAND	2
	2	P20499 CLAMP	1
	1	P12163 AIR CLEANER, COMPLETE	1

TEM	Part No	DESCRIPTION	REQ.
-----	---------	-------------	------

LULL ^{INC} Engineering Co., Inc.

ST PAUL
MINNESOTA
55121

DRAWN BY

Jeff Hunt

S/N 795-922

ISSUED BY

AIR CLEANER
ASSEMBLY
MODEL 844

DEERE

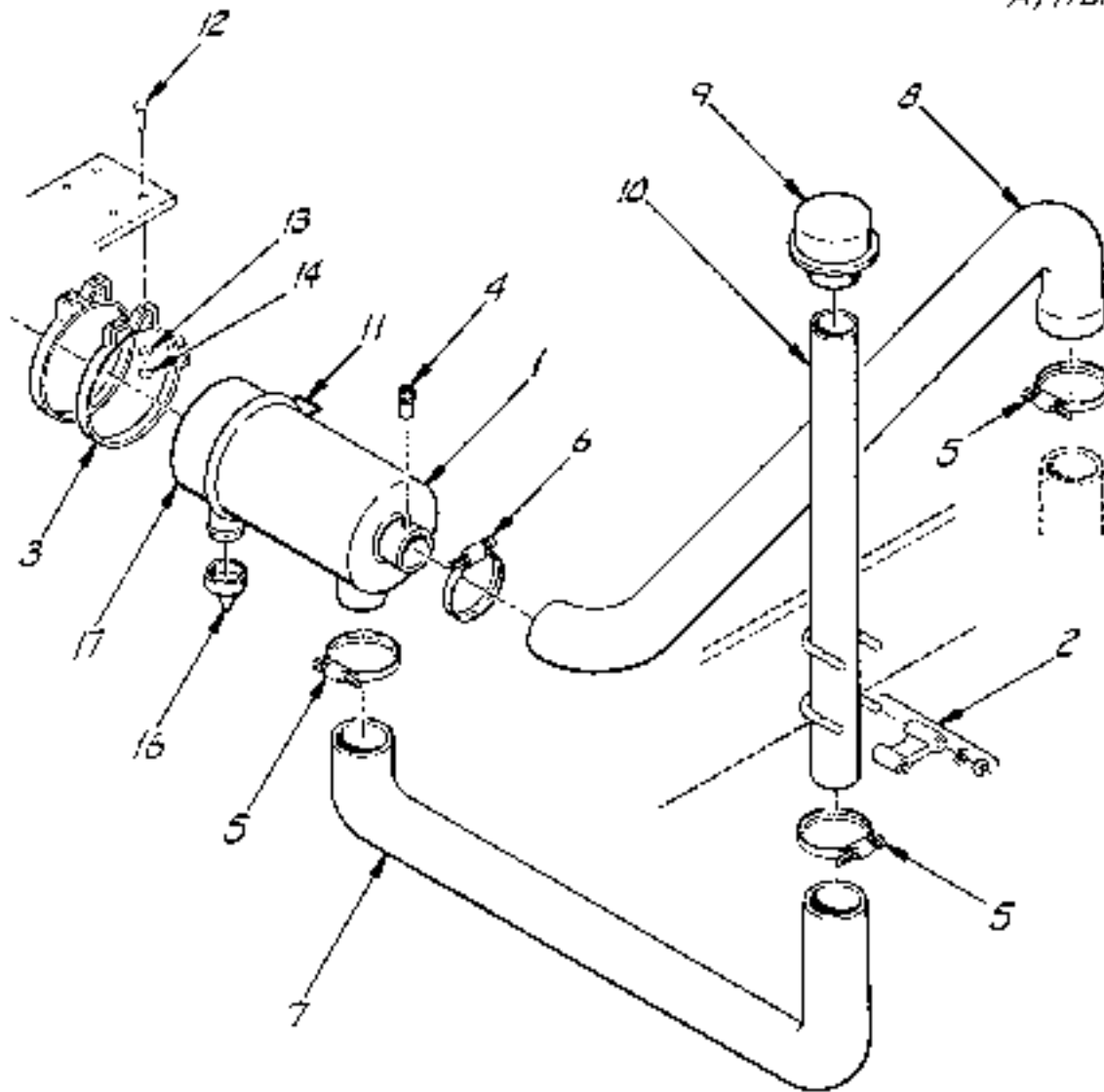
CLASS B

CHANGING NO.

16827-2

NOTES:

A) ITEM 1 INCLUDES ITEMS 11, 15 THRU 20



20	P21499	FILTER ELEMENT, SAFETY	1
19	P21498	FILTER ELEMENT, PRIMARY	1
18	P22076	BAFFLE	1
17	P19727	VACUATOR CUP	1
16	P21497	VACUATOR VALVE	1
15	P21496	WING NUT, w/ GASKET	1
14	COM'L	NUT, HX. 3/8"-16 NC	4
13	COM'L	LOCKWASHER, 3/8"	4
12	COM'L	BOLT, HX. 3/8"-16 NCx1	4
11	P20499	CLAMP	1
10	18347-B	STACK TUBE	1
9	P17136	RAIN CAP	1
8	P21509	INTAKE HOSE	1
7	P21508	INTAKE HOSE	1
6	P10501	HOSE CLAMP	1
5	P10553	HOSE CLAMP	3
4	P21485	SERVICE INDICATOR KIT	1
3	P12165	MOUNTING BAND	2
2	P17169	CLAMP	2
1	P21483	AIR CLEANER	1

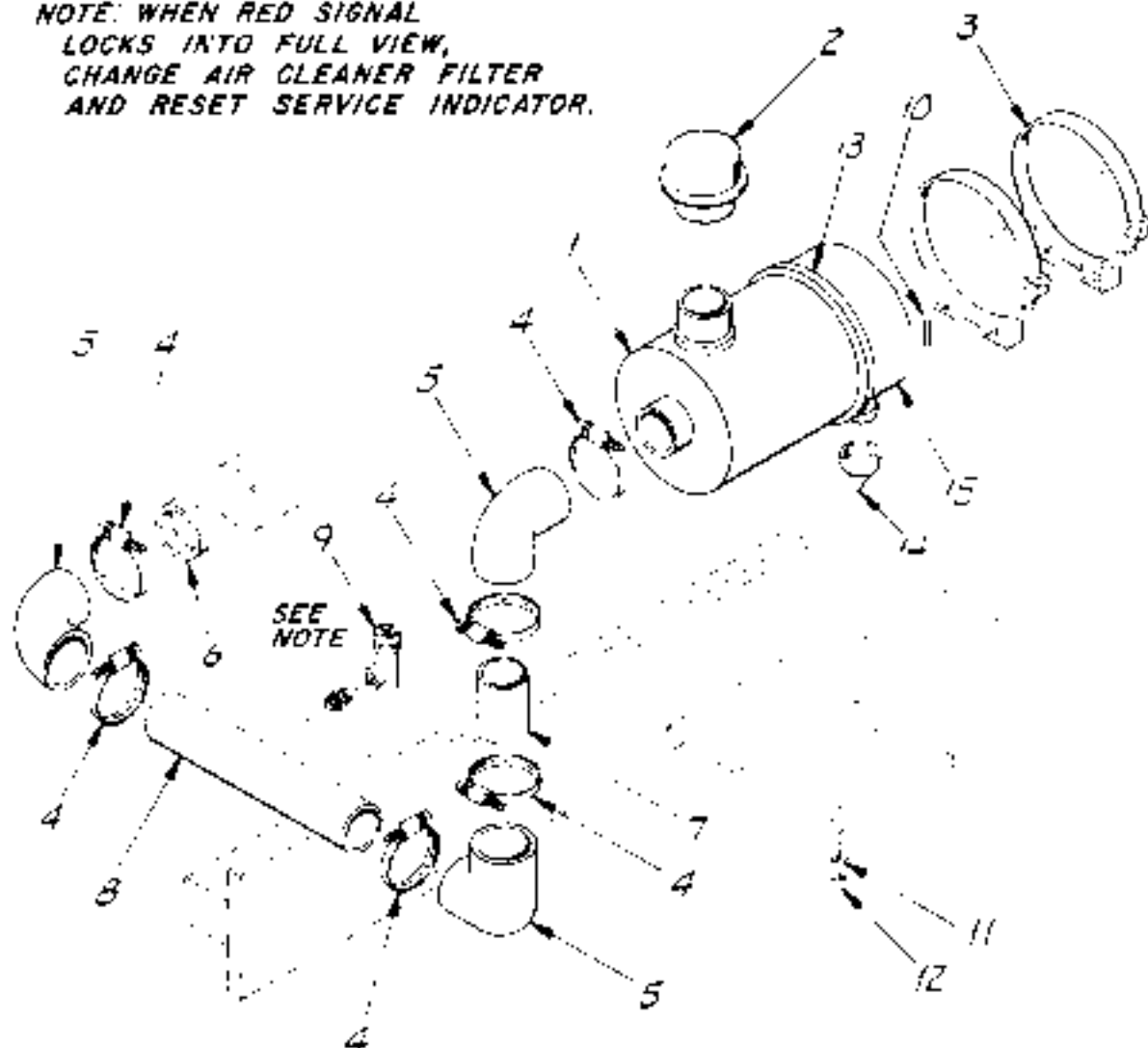
ITEM	PART NO	QTY	REQ
------	---------	-----	-----

LUHL Engineering Co., Inc. ST PAUL, MINNESOTA 55121

DRAWN BY *Jeff Dault* SIN 923 THRU

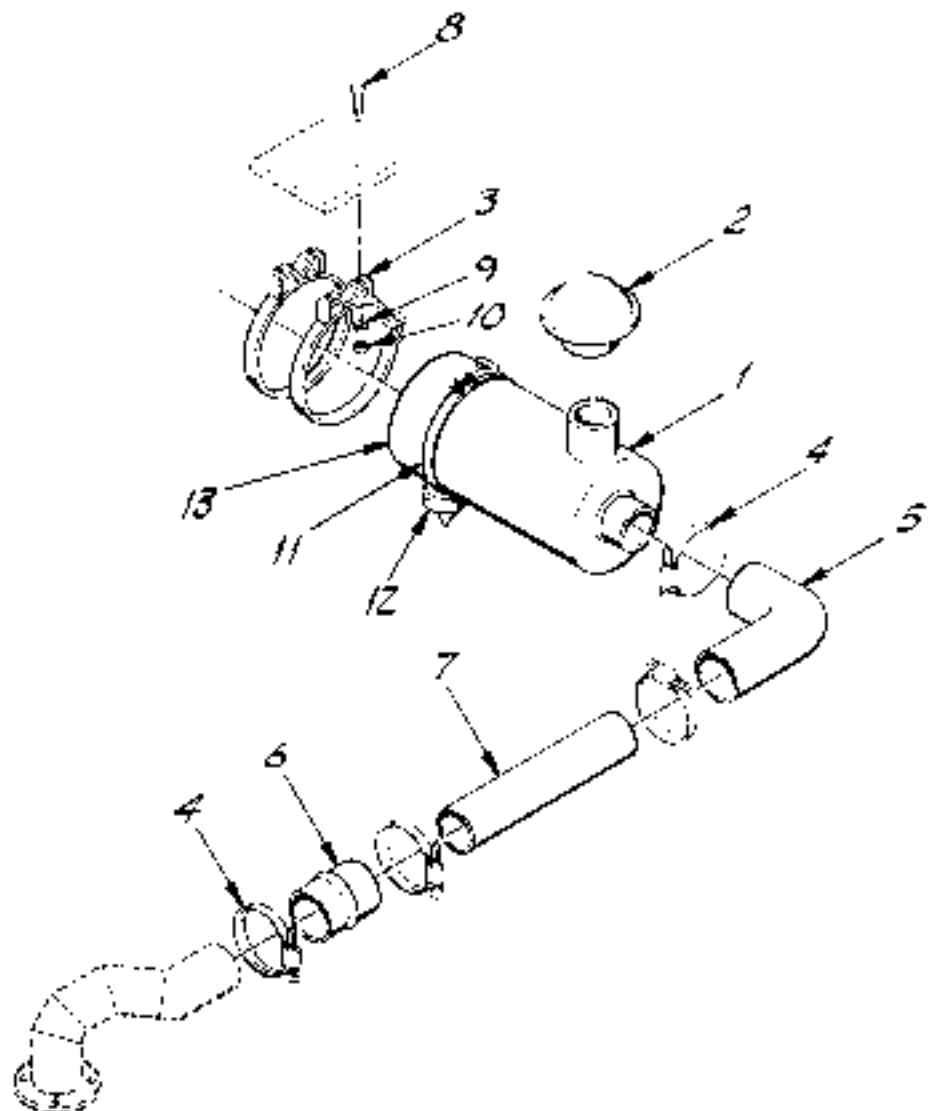
DEERE
SCALE B
DRAWING NO. 16827-3
AIR CLEANER ASSEMBLY MODEL 844

NOTE: WHEN RED SIGNAL
LOCKS INTO FULL VIEW,
CHANGE AIR CLEANER FILTER
AND RESET SERVICE INDICATOR.



REF	P21510	PRE-CLEANER, OPTIONAL	-
REF	P19470	FILTER ELEMENT	-
	P21433	GASKET	-
	P21435	WASHER, 3/8"	-
	P19729	ADJUSTER CUP	-
	P20342	ADJUSTER VALVE	-
	P21431	CLAMP, AIR CLEANER	-
	COM'L	NUT, 3/8-16-10	4
	COM'L	LOCKWASHER, 3/8"	4
	COM'L	BOLT, 3/8-16-10	4
	P21309	SERVICE INDICATOR	1
	170834	TUBE, AIR INTAKE	1
	1530717	TUBE ADAPTOR	1
	170795	ADAPTOR, INTAKE	1
	P19269	90° ELBOW, RUBBER	3
	P19267	HOSE CLAMP	0
	P19266	MOUNTING BAND	2
	P19265	RAIN CAP	1
	P19201	AIR CLEANER	1

<p>LUZZ Engineering Co., Inc.</p> <p>DESIGNED BY <i>Self-Draft</i> SIN 101 THRU</p> <p>PROJECT NO. 111</p> <p>AIR CLEANER ASSEMBLY MODEL 844</p>	<p>STANDARD W. SPECIFICATIONS 30-2"</p> <p>DEJTZ DATE 3 DRAWING NO 1682B</p>
---	--



NOTES:

- A) ITEM 1 INCLUDES ITEMS 11 THRU 16.
- B) NOT ILLUSTRATED.

(B)	REF	P21310	PRE-CLEANER (OPTION)	-
	16	P19476	FILTER ELEMENT	-
	15	P21433	BAFFLE	-
	14	P21435	THUMB SCREW	-
	13	P19729	VACUATOR CUP	-
	12	P20342	VACUATOR VALVE	-
	11	P21431	CLAMP, AIR CLEANER	-
	10	COM'L	NUT, HX. 3/8-16	4
	9	COM'L	LOCKWASHER, 3/8"	4
	8	COM'L	BOLT, HX. 3/8-16x1"	4
	7	16089C	TUBE	1
	6	P19475	ADAPTOR	1
	5	P19269	90° RUBBER ELBOW	1
	4	P19267	HOSE CLAMP	4
	3	P19266	MOUNTING BAND	2
	2	P19265	RAIN CAP	1
(A)	1	P19261	AIR CLEANER	1

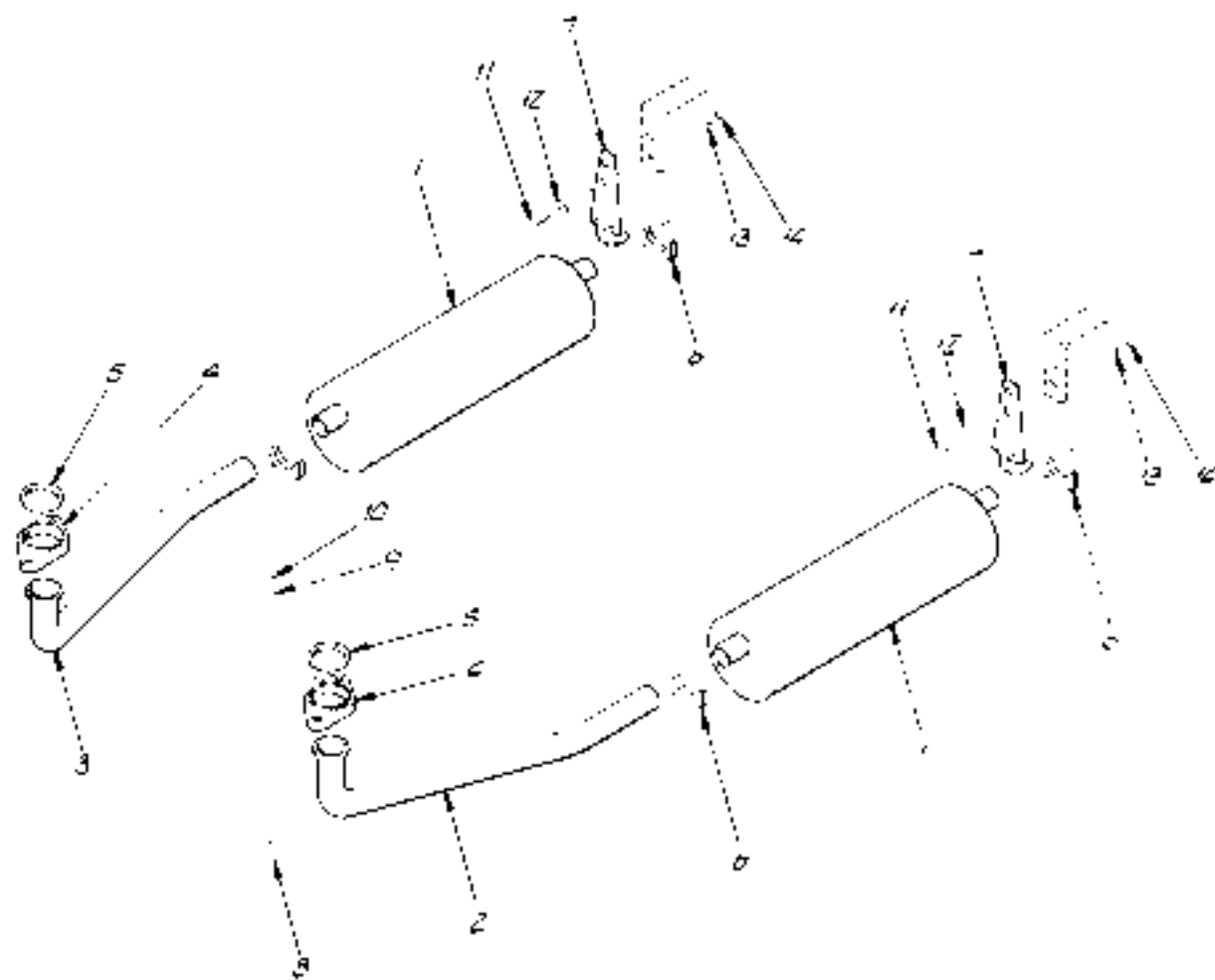
ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

LULL ^{INC} Engineering Co., Inc. ST. PAUL, MINNESOTA 55121

DRAWN BY *Jeff Hunt* S/N 101 THRU

DRAWING TITLE
AIR CLEANER ASSEMBLY
 MODEL 844

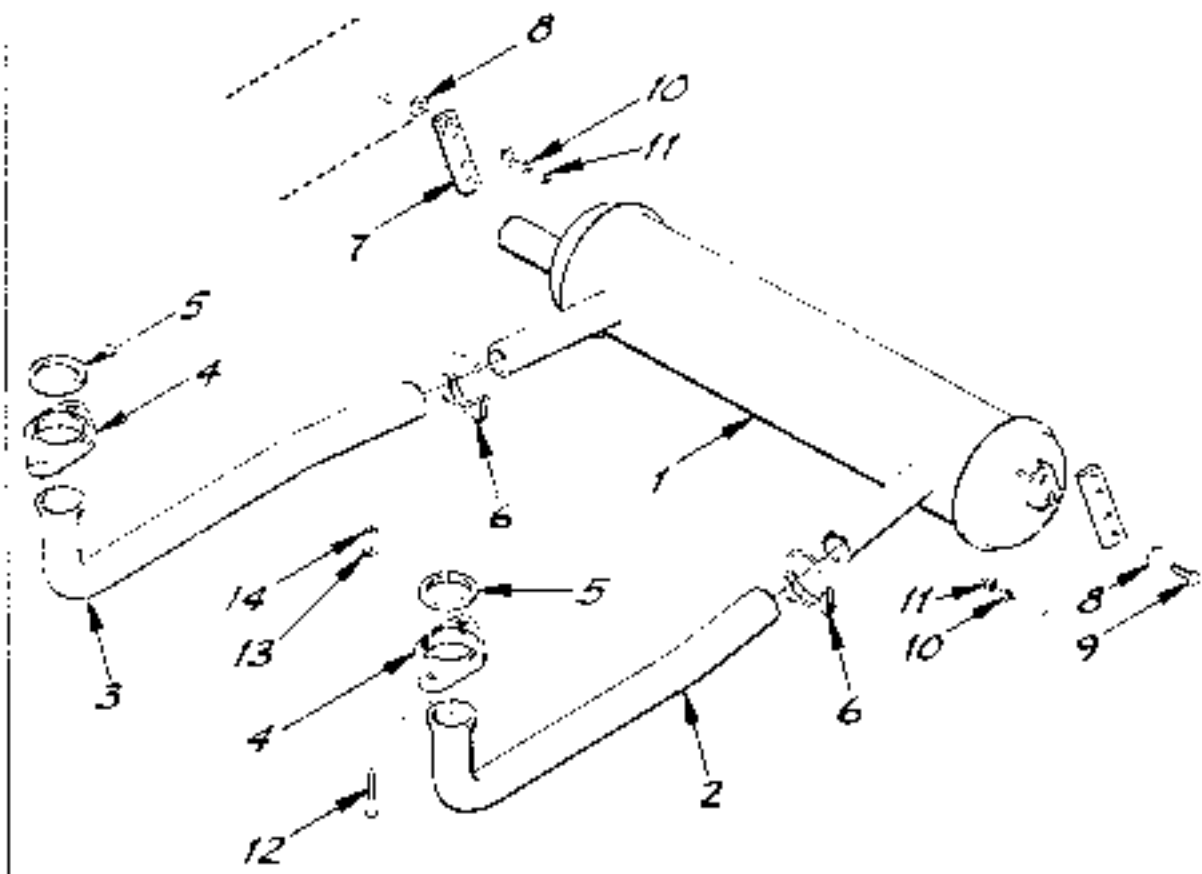
DETROIT
 ISSUE B
 DRAWING NO. 16829



14	PO1528	U.T.A. 5/16	6
13	PO1310	LOCKWASHER, 3/8	6
12	PO1401	FLATWASHER, 3/8	2
11	PO0202	BOLT, AX. 3/8 10x3/4	6
10	PO1509	U.T. AX. 7/16-14	6
9	PO1511	LOCKWASHER, 1/2	2
8	PO1307	BOLT, AX. 7/8-16-2 1/2	4
7	PI9280	MUFFLER HANGER	2
6	PI0548	MUFFLER CLAMP	4
5	PI7307	GASKET, METAL	2
4	PI9260	FLANGE	2
3	PI9135	EXHAUST PIPE, R.H.	1
2	PI9134	EXHAUST PIPE, L.H.	1
1	PI7581	MUFFLER	2

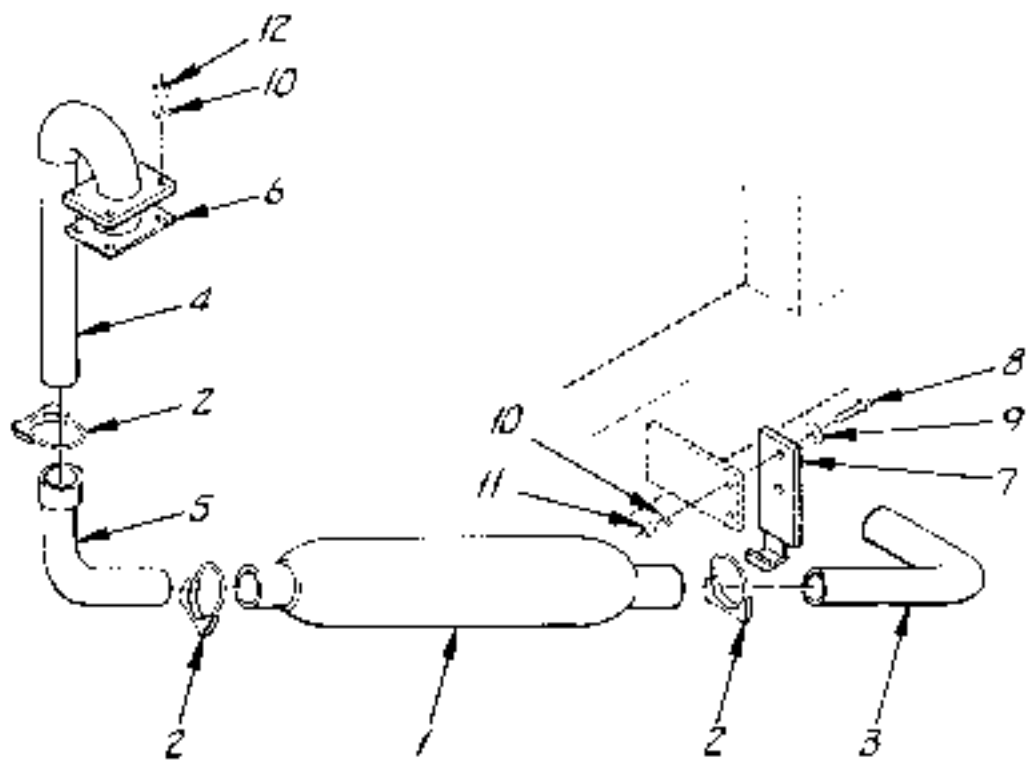
LULL Engineering Co., Inc.
 1000
 1000
 1000

S/N 101-255, 257-302
 CHRYSLER
 EXHAUST ASSEMBLY
 MODEL 644 16830



14	COM'L	NUT, HX. 7/16-14	4
13	COM'L	LOCKWASHER, 7/16	4
12	COM'L	BOLT, HX. 7/16-14 x 2 1/4"	4
11	COM'L	NUT, HX. 5/8-18	8
10	COM'L	LOCKWASHER, 5/16	8
9	COM'L	BOLT, HX. 5/8-18 x 1"	4
8	P20349	FLATWASHER, SPECIAL	12
7	16077A	MUFFLER HANGER	2
6	P10548	MUFFLER CLAMP	2
5	P17387	GASKET, FLANGE	2
4	P19069	FLANGE	2
3	P19135	EXHAUST PIPE, R.H.	1
2	P19134	EXHAUST PIPE, L.H.	1
1	P20348	MUFFLER	1

QTY	PART NO	DESCRIPTION	REQ.
LUCC Engineering Co., Inc. ST PAUL, MINNESOTA 55121			
DRAWN BY		5/N 256, 303 THRU	
DRAWING TITLE		EXHAUST ASSEMBLY	CHRYSLER
		MODEL 644	SCALE B
			DRW'G NO. 16830-1



12	COM'L	NUT, HX. 3/8"-24	4
11	COM'L	NUT, HX. 3/8"-16	4
10	COM'L	LOCKWASHER, 3/8"	8
9	COM'L	FLATWASHER, 3/8"	4
8	COM'L	BOLT, HX. 3/8"-16 x 1 1/4"	4
7	P19280	HANGER, EXHAUST	1
6	P16912	GASKET, EXHAUST	1
5	16352A	EXHAUST PIPE, ELBOW	1
4	16350B	EXHAUST PIPE, FLANGE	1
3	P20978	TAIL PIPE	1
2	P12169	MUFFLER CLAMP	3
1	P14149	MUFFLER	1

ITEM	PART NO.	DESCRIPTION	REQ.
------	----------	-------------	------

LU Engineering Co., Inc.

ST. PAUL,
MINNESOTA
55121

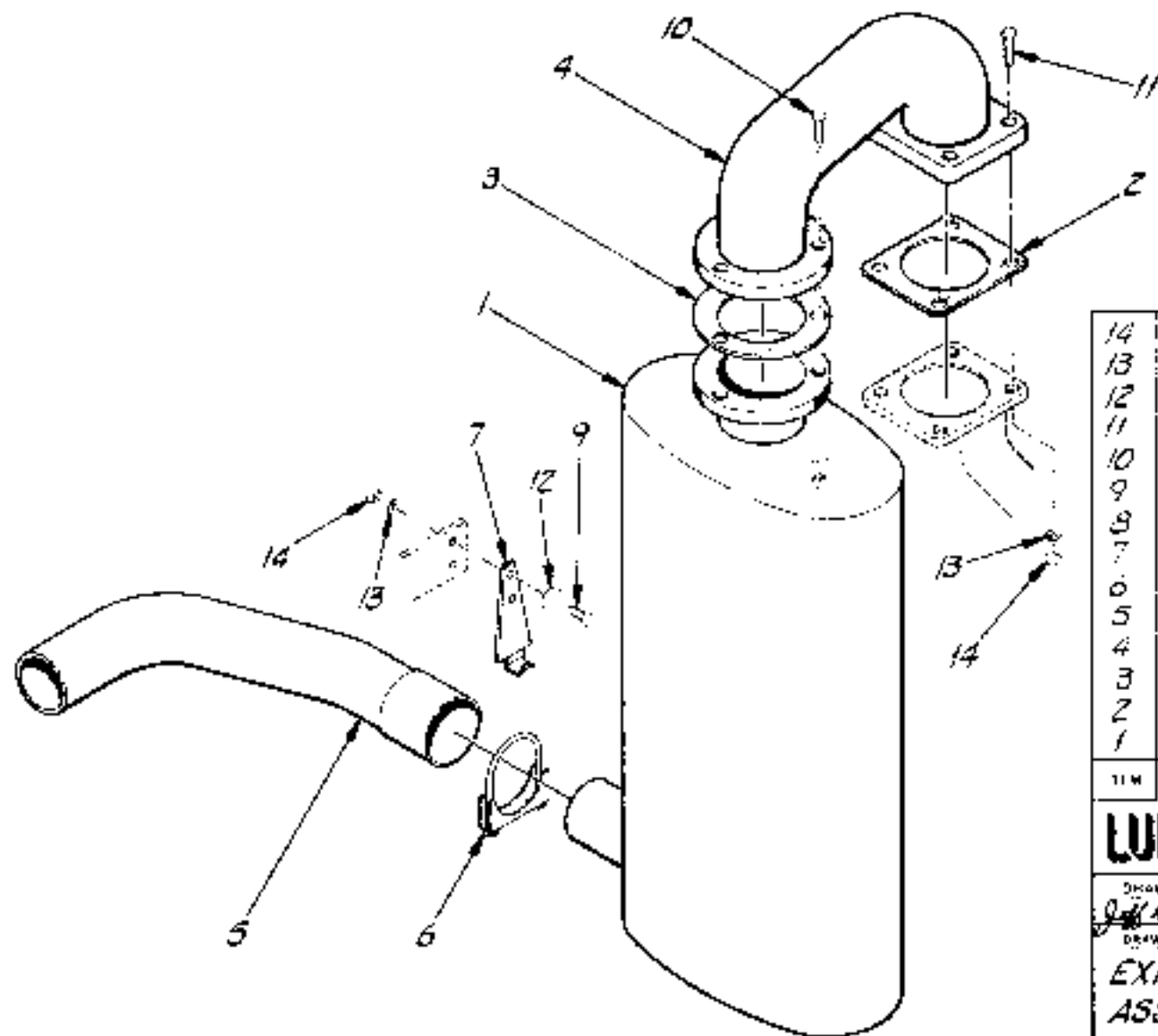
DRAWN BY: *Greg Hunt* S/N 101 THRU

EXHAUST
ASSEMBLY
MODEL 844

WAUKESHA

SCALE: 8

DRAWING NO.
16831



14	COM'L NUT, HX. 3/8-16 NC	9
13	COM'L LOCKWASHER, 3/8"	9
12	COM'L FLATWASHER, 3/8"	2
11	COM'L BOLT, HX. 3/8-16 NC x 1 3/4"	4
10	COM'L BOLT, HX. 3/8-16 NC x 1 1/4"	3
9	COM'L BOLT, HX. 3/8-16 NC x 3/4"	2
8	P12159 MUFFLER CLAMP, 2 1/2"	1
7	P19280 HANGER, TAILPIPE	1
6	P17169 MUFFLER CLAMP, 3"	1
5	P21800 TAIL PIPE	1
4	18990C EXHAUST ELBOW	1
3	P22197 GASKET, MUFFLER	1
2	P21786 GASKET, MANIFOLD	1
1	P21790 MUFFLER	1

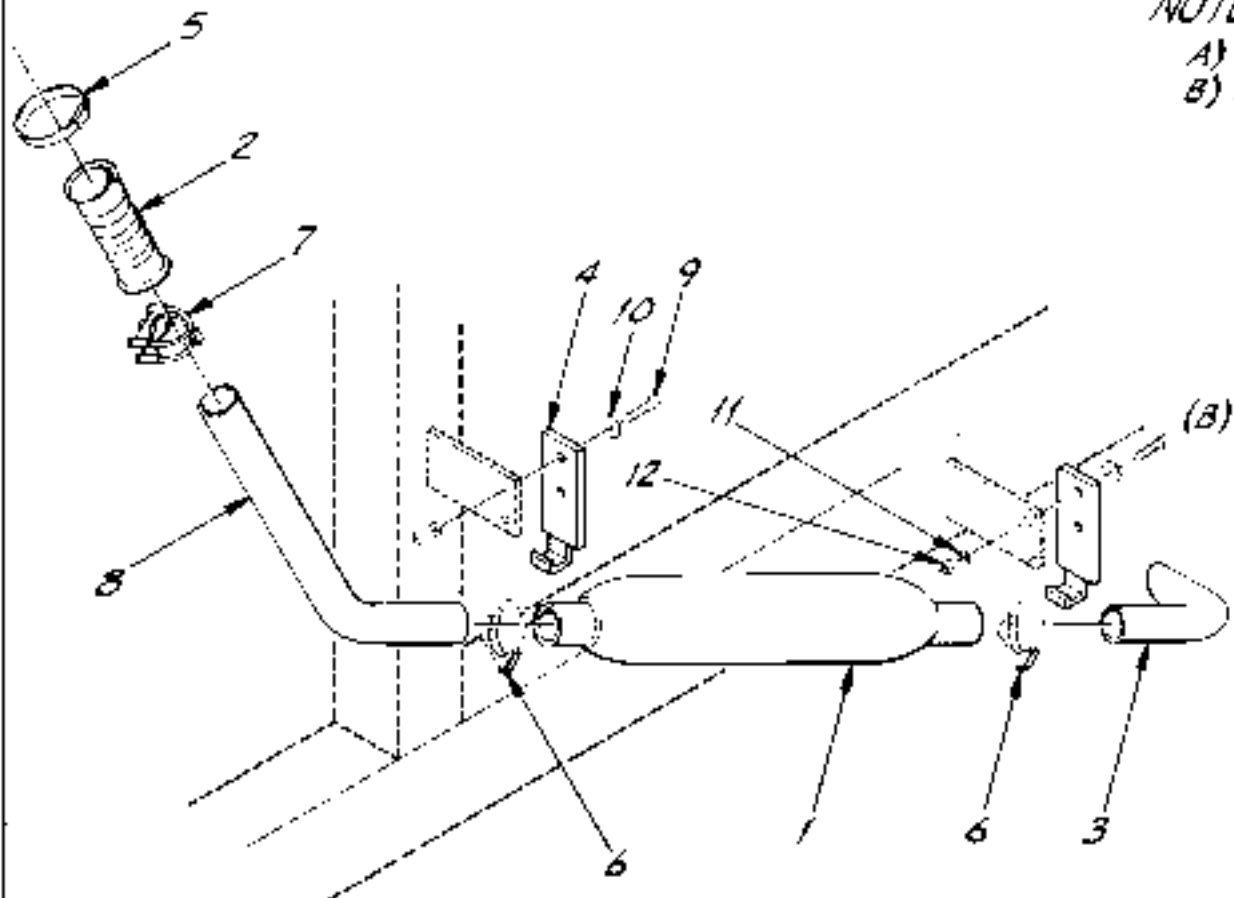
TTM	PART NO.	DESCRIPTION	REQ.
-----	----------	-------------	------

LULL Engineering Co., Inc. ST PAUL, MINNESOTA 55121

DESIGNED BY: *Jeff Dent* S/N 795 THRU

DRAWING TITLE: EXHAUST ASSEMBLY MODEL 844

DEERE
SCALE: 8
DRAWING NO: 16831-1



NOTES:

- A) EXCEPT S/N 367 - 371.
- B) FOR 4-53 DETROITS, USE 16572D.

12	COM'L	NUT, HX. $\frac{3}{8}$ "-16	4
11	COM'L	LOCKWASHER, $\frac{3}{8}$ "	4
10	COM'L	FLATWASHER, $\frac{3}{8}$ "	4
9	COM'L	BOLT, HX. $\frac{5}{8}$ "-16 x 1 $\frac{1}{4}$ "	4
8	16571D	EXHAUST TUBE	1
7	16573B	CLAMP, EXHAUST	1
6	P17169	CLAMP, MUFFLER	2
5	P19518	CLAMP, MANIFOLD	1
4	P19280	MUFFLER HANGER	2
3	P19276	TAIL PIPE	1
2	16574B	FLEX TUBE	1
1	P19262	MUFFLER	1

ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

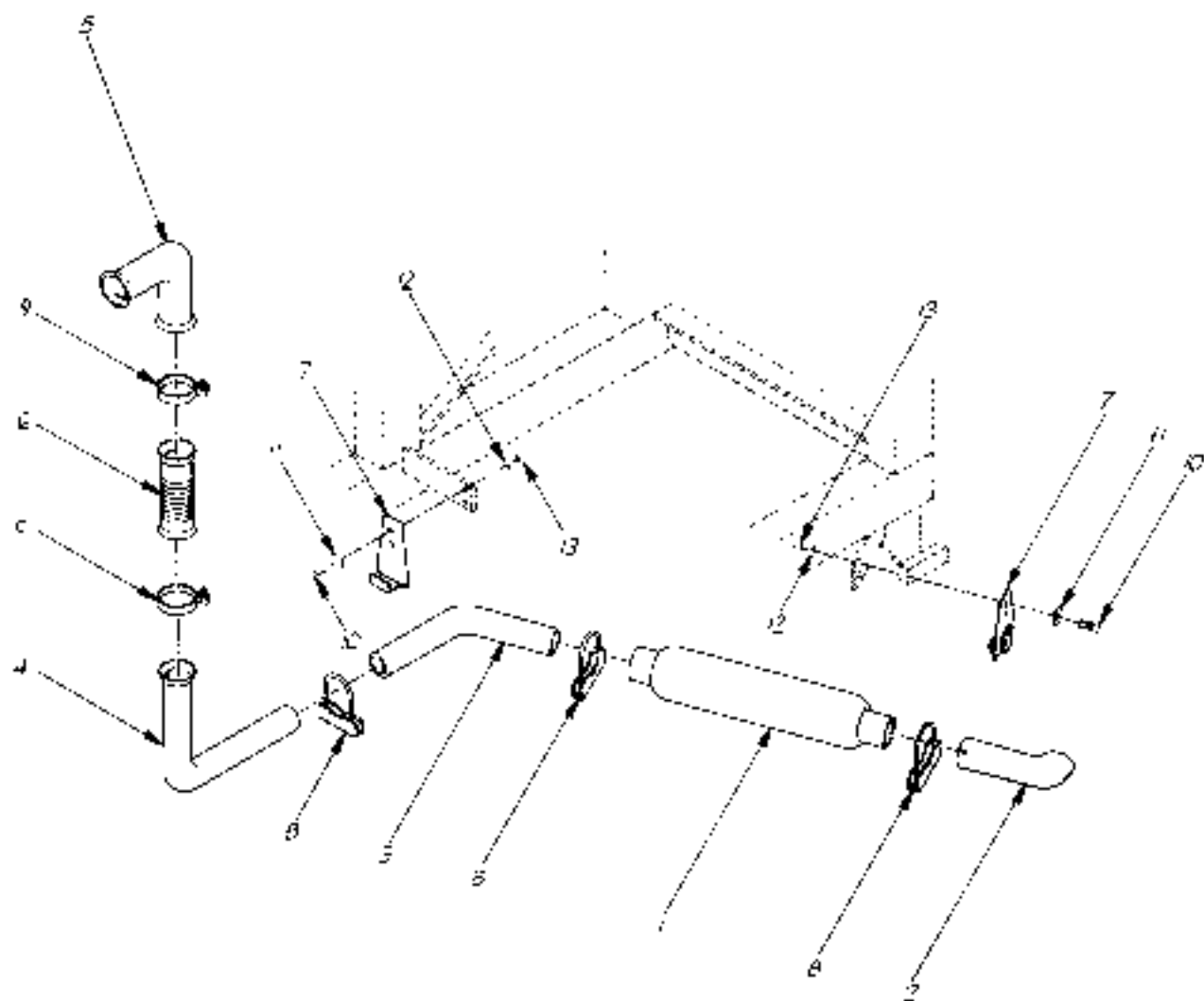
LULL Engineering Co., Inc. ST. PAUL, MINNESOTA 55121

DRAWN BY: *Jeff Deak* S/N 101-1094 (A)

DRAWING TITLE: **EXHAUST ASSEMBLY MODEL 844**

DETROIT SCALE: **B**

DRAWING NO.: **16832**



13	COM'L NUT M 3/8-16	1
12	COM'L LOCKWASHER 3/8	1
11	COM'L FLATWASHER 3/8	1
10	COM'L BOLT M 3/8-16 x 1 1/2	1
9	R19518 CLAMP	2
8	R1769 RATCHET CLAMP	2
7	R19280 MUFFLER HANGER	1
6	P19275 FLEXIBLE TUBE	1
5	Z16324 EXHAUST TUBE 90° ELBOW	1
4	Z16324 EXHAUST TUBE 90° ELBOW	1
3	P19258 EXHAUST TUBE 45° ELBOW	1
2	P19276 TAIL PIPE	1
1	P19262 MUFFLER	1

LULL Engineering Co., Inc.

2 NELSON SQ. 1095 THRU

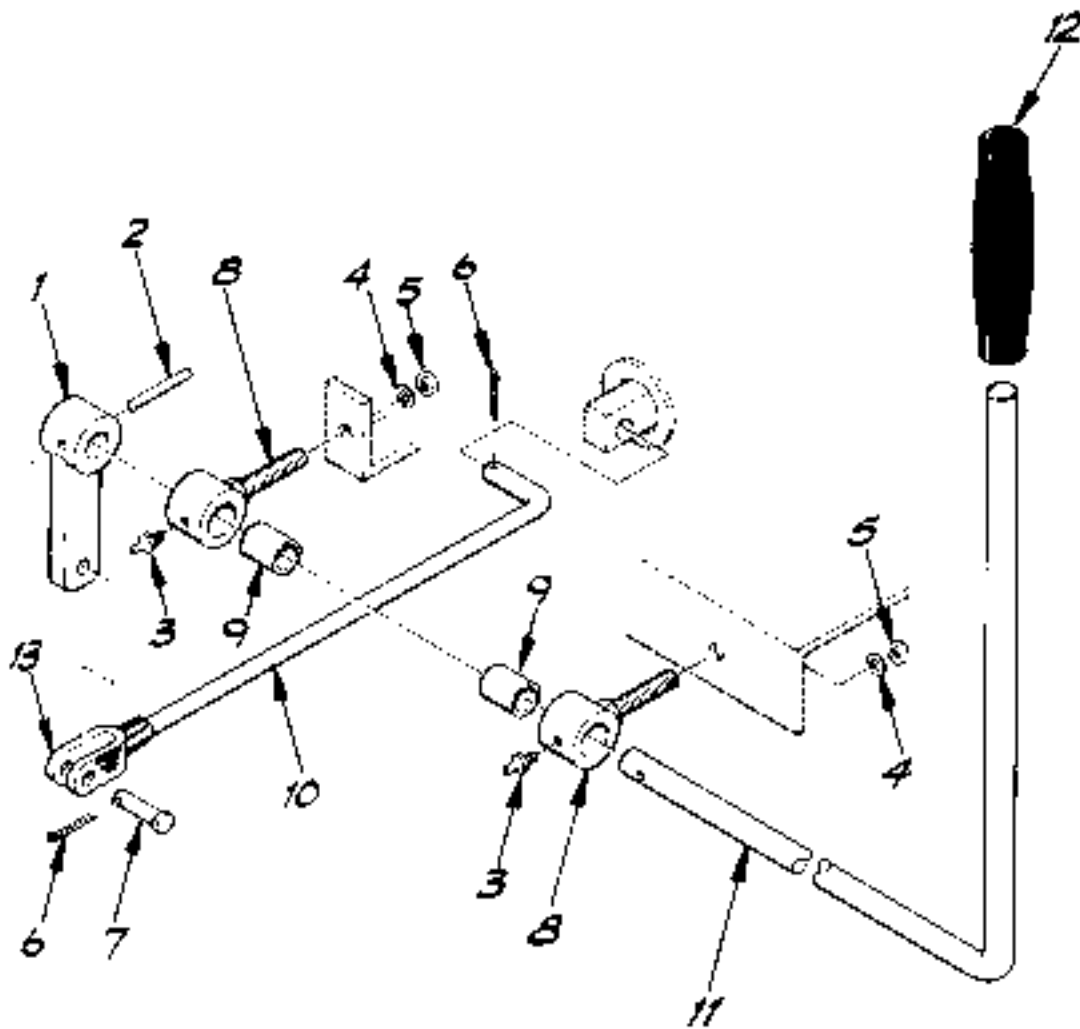
EXHAUST ASSEMBLY

MODEL 844

DETROIT

DETROIT

16832-1



13	P10193	CLEVIS	1
12	P18720	HANDLE GRIP	1
11	15921A	LEVER, DISCONNECT	1
10	15B31A	LINK	1
9	P2036B	BUSHING	2
8	15B18A	LEVER MOUNT	2
7	P10509	CLEVIS PIN	1
6	COM'L	COTTER PIN $\frac{3}{32} \times \frac{3}{4}$ "	2
5	COM'L	NUT, HEX $\frac{7}{16}$ "-20NF	2
4	COM'L	LOCKWASHER, $\frac{7}{16}$ "	2
3	F16611	ZERK FITTING	2
2	P1037B	ROLL PIN $\frac{1}{8} \times \frac{1}{2}$ "	1
1	15B19A	ARM, DISCONNECT	1

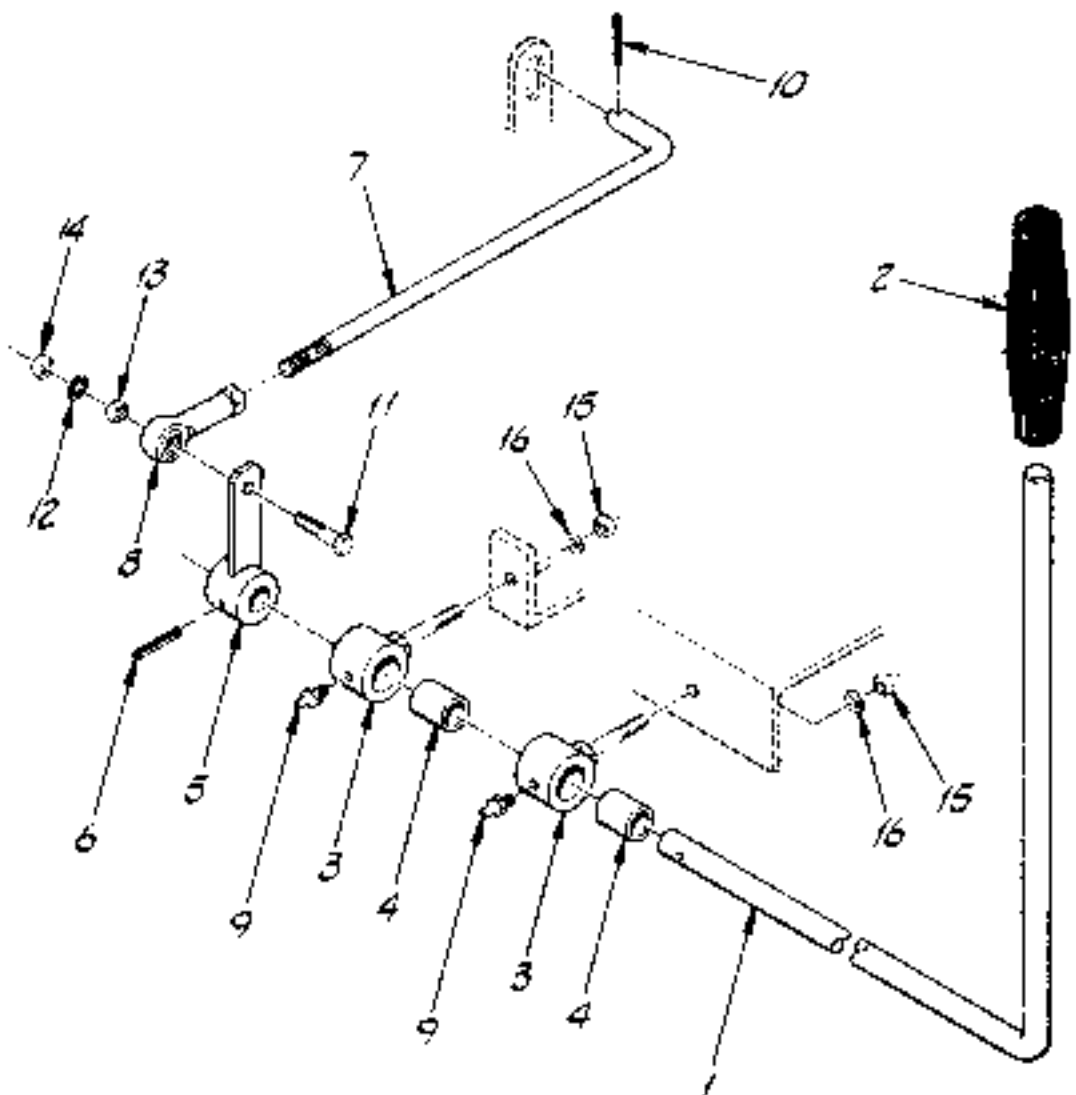
ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

LUSMLL Engineering Co., Inc. ST. PAUL, MINNESOTA 65121

DRAWN BY *Jeff D...* S/N 101-1081

DRAWING TITLE
TRANS DISCONNECT ASSEMBLY

MODEL 844 SCALE **B** DRAWING NO. **16833**



16	COM'L	LOCKWASHER.	2
15	COM'L	NUT, HX. 7/16-20	2
14	COM'L	JAM NUT, HX. 3/8-16	1
13	COM'L	NUT, HX. 3/8-16	1
12	COM'L	STARWASHER, 3/8	1
11	COM'L	BOLT, HX. 5/8-16 x 1 1/2	1
10	COM'L	COTTER PIN, 3/32 x 3/4	1
9	P16611	GREASE ZERK	2
8	P18719	RADIAL ROD END	1
7	15831A	ROD LINK	1
6	P10378	ROLL PIN	1
5	21477A	ARM, DISCONNECT	1
4	P20368	BUSHING	2
3	15818A	LEVER MOUNT	2
2	P18720	HANDLE GRIP	1
1	15921A	LEVER, DISCONNECT	1

ITEM	PART NO.	DESCRIPTION	REQ.
------	----------	-------------	------

LUHL Engineering Co., Inc. ST. PAUL, MINNESOTA 55127

DESIGNED BY *Jeff Hunt* S/N 10B2 THRU

DRAWING TITLE: TRANSMISSION DISCONNECT ASSEMBLY MODEL B44

SCALE: 8

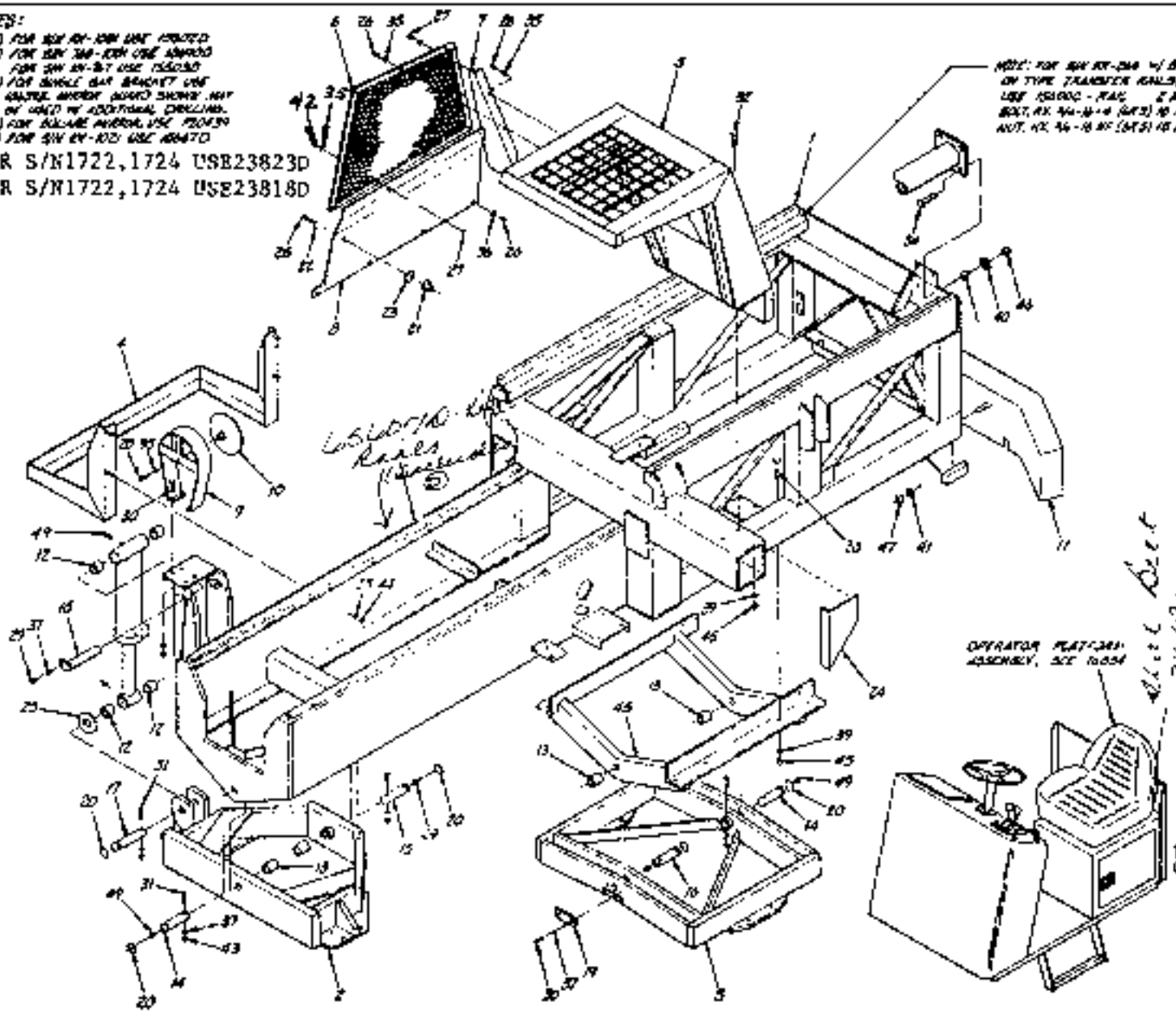
DRAWING NO: 16833-1

NOTES:

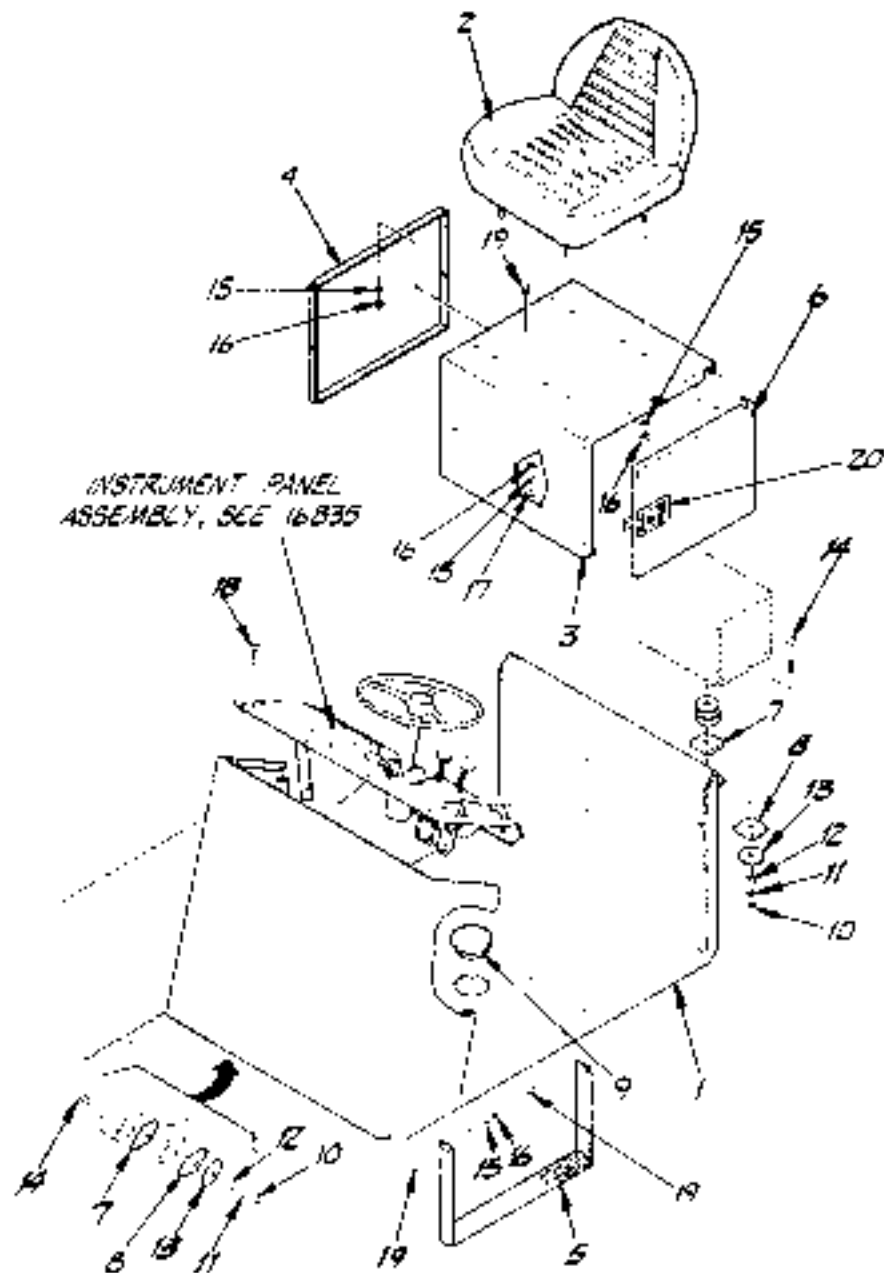
- A) FOR SW BY-100 USE 15032D
- B) FOR SW 300-100 USE 15030D
FOR SW BY-37 USE 15030D
- C) FOR SINGLE BAR BRACKET USE
PARTS WHICH PARTS SHOWS IN
BY 1000 IN ADDITIONAL DRAWING.
- D) FOR BULKHEAD USE 15043D
- E) FOR SW BY-100 USE 15047D

F) FOR S/N 1722, 1724 USE 23823D
 G) FOR S/N 1722, 1724 USE 23818D

NOTE: FOR SW BY-200 W/ BOLT
 ON TYPE TRANSFER RAILS,
 USE 15030C - PAC 2 ASS.
 BOLT, AX. 94-11-14 (473) 15 ASS.
 BOLT, AX. 94-11-14 (473) 15 ASS.



49	FRONT	PLEASE SEE	4
48	15031D	SUBFRAME - MAINFRAME	1
47	15030D	SUBFRAME - CONTROL	1
46	15030D	SUBFRAME - CONSOLE	1
45	15030D	SUBFRAME - CABINET	1
44	15030D	SUBFRAME - CONTROL	1
43	15030D	SUBFRAME - CONTROL	1
42	15030D	SUBFRAME - CONTROL	1
41	15030D	SUBFRAME - CONTROL	1
40	15030D	SUBFRAME - CONTROL	1
39	15030D	SUBFRAME - CONTROL	1
38	15030D	SUBFRAME - CONTROL	1
37	15030D	SUBFRAME - CONTROL	1
36	15030D	SUBFRAME - CONTROL	1
35	15030D	SUBFRAME - CONTROL	1
34	15030D	SUBFRAME - CONTROL	1
33	15030D	SUBFRAME - CONTROL	1
32	15030D	SUBFRAME - CONTROL	1
31	15030D	SUBFRAME - CONTROL	1
30	15030D	SUBFRAME - CONTROL	1
29	15030D	SUBFRAME - CONTROL	1
28	15030D	SUBFRAME - CONTROL	1
27	15030D	SUBFRAME - CONTROL	1
26	15030D	SUBFRAME - CONTROL	1
25	15030D	SUBFRAME - CONTROL	1
24	15030D	SUBFRAME - CONTROL	1
23	15030D	SUBFRAME - CONTROL	1
22	15030D	SUBFRAME - CONTROL	1
21	15030D	SUBFRAME - CONTROL	1
20	15030D	SUBFRAME - CONTROL	1
19	15030D	SUBFRAME - CONTROL	1
18	15030D	SUBFRAME - CONTROL	1
17	15030D	SUBFRAME - CONTROL	1
16	15030D	SUBFRAME - CONTROL	1
15	15030D	SUBFRAME - CONTROL	1
14	15030D	SUBFRAME - CONTROL	1
13	15030D	SUBFRAME - CONTROL	1
12	15030D	SUBFRAME - CONTROL	1
11	15030D	SUBFRAME - CONTROL	1
10	15030D	SUBFRAME - CONTROL	1
9	15030D	SUBFRAME - CONTROL	1
8	15030D	SUBFRAME - CONTROL	1
7	15030D	SUBFRAME - CONTROL	1
6	15030D	SUBFRAME - CONTROL	1
5	15030D	SUBFRAME - CONTROL	1
4	15030D	SUBFRAME - CONTROL	1
3	15030D	SUBFRAME - CONTROL	1
2	15030D	SUBFRAME - CONTROL	1
1	15030D	SUBFRAME - CONTROL	1

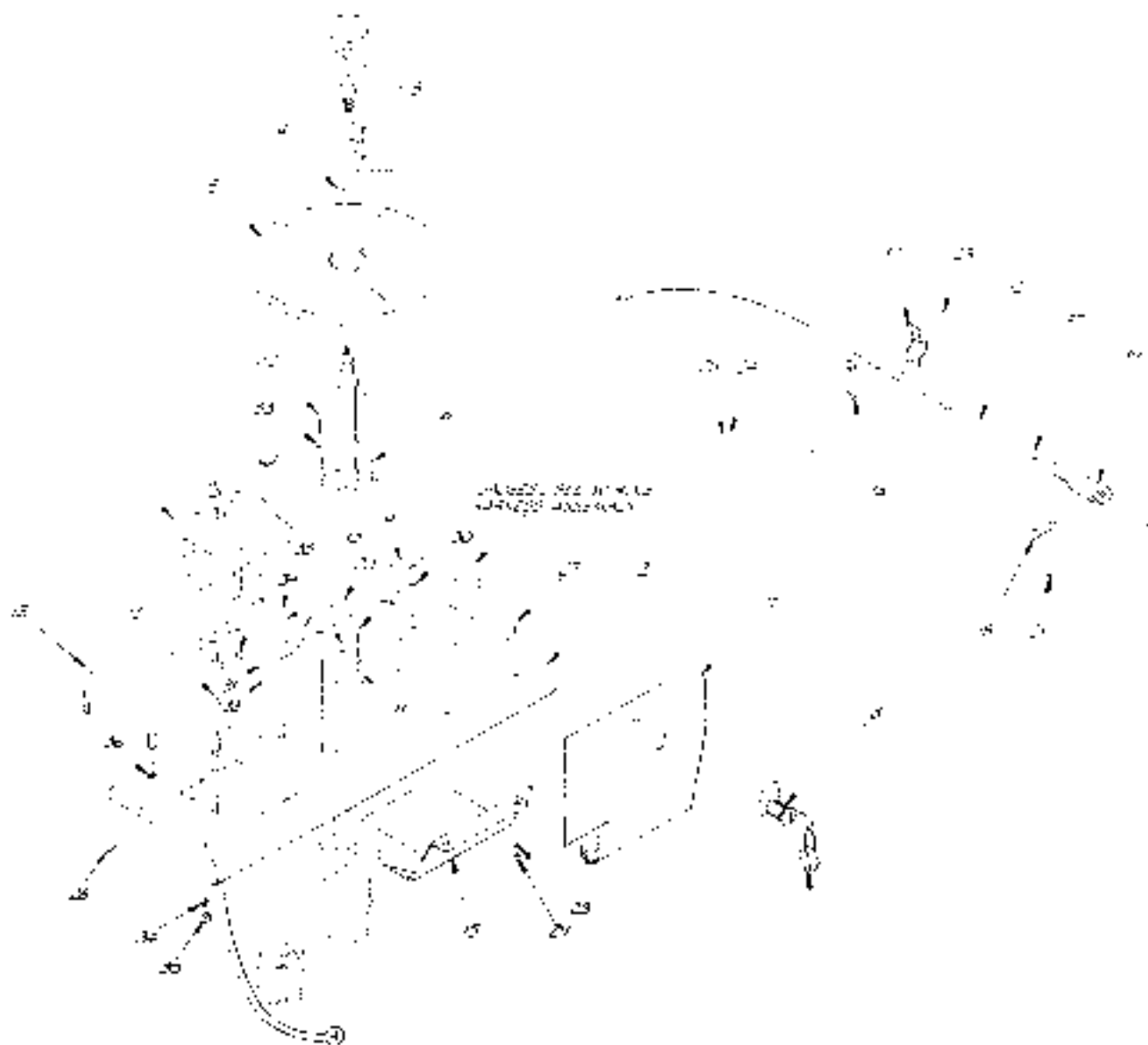


INSTRUMENT PANEL
ASSEMBLY, SEE 16335

20	PROB5	DOOR LOCK	1
19	COM'L	BOLT, HX $\frac{3}{8}$ -16NC-1	4
18	COM'L	SCREW, RND HD $\frac{1}{2}$ -16NC- $\frac{1}{2}$	6
17	COM'L	FLATWASHER $\frac{3}{8}$	9
16	COM'L	NUT, HX $\frac{3}{8}$ -16NC	20
15	COM'L	LOCKWASHER $\frac{3}{8}$	20
14	COM'L	BOLT, HX $\frac{3}{8}$ -16NC-2 $\frac{1}{2}$	2
13	PRO399	FLATWASHER	4
12	COM'L	NUT, HX $\frac{3}{8}$ -16NC	2
11	COM'L	LOCKWASHER $\frac{3}{8}$	2
10	COM'L	JAM NUT, HX $\frac{3}{8}$ -16	2
9	P16186	ACCESS COVER	1
8	15584A	PAD, STEEL	4
7	15962A	PAD, RUBBER	4
6	16378B	DOOR	1
5	15597A	STEP	1
4	16282B	BAFFLE	1
3	15738D	SEAT STAND	1
2	P1774Z	SEAT	1
1	15575D	PLATFORM	1

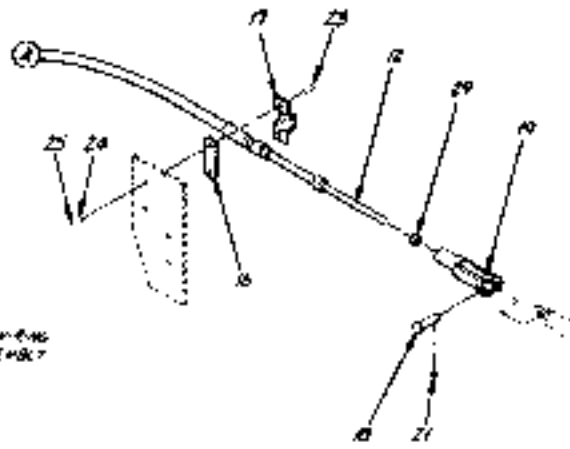
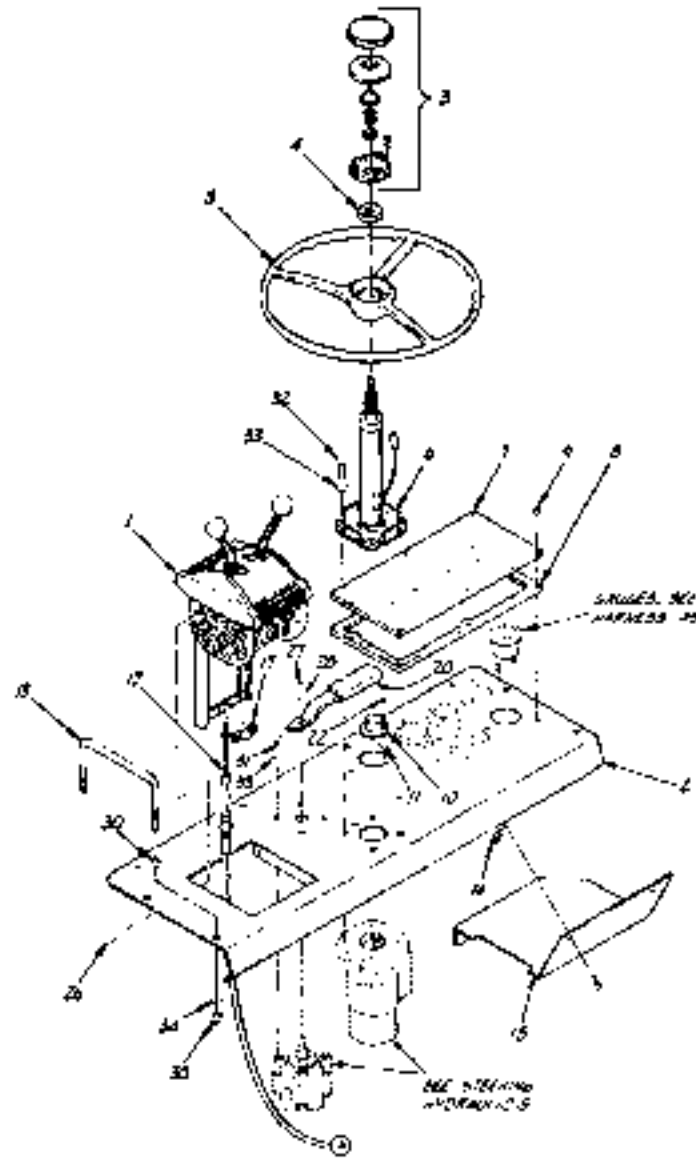
ITEM	PART NO	DESCRIPTION	QTY
LULL Engineering Co., Inc. 5111 S. W. 101 ST THRU MIAMI, FLORIDA 33149 OPERATOR PLATFORM ASSEMBLY MODEL 844			

Mail C
16334



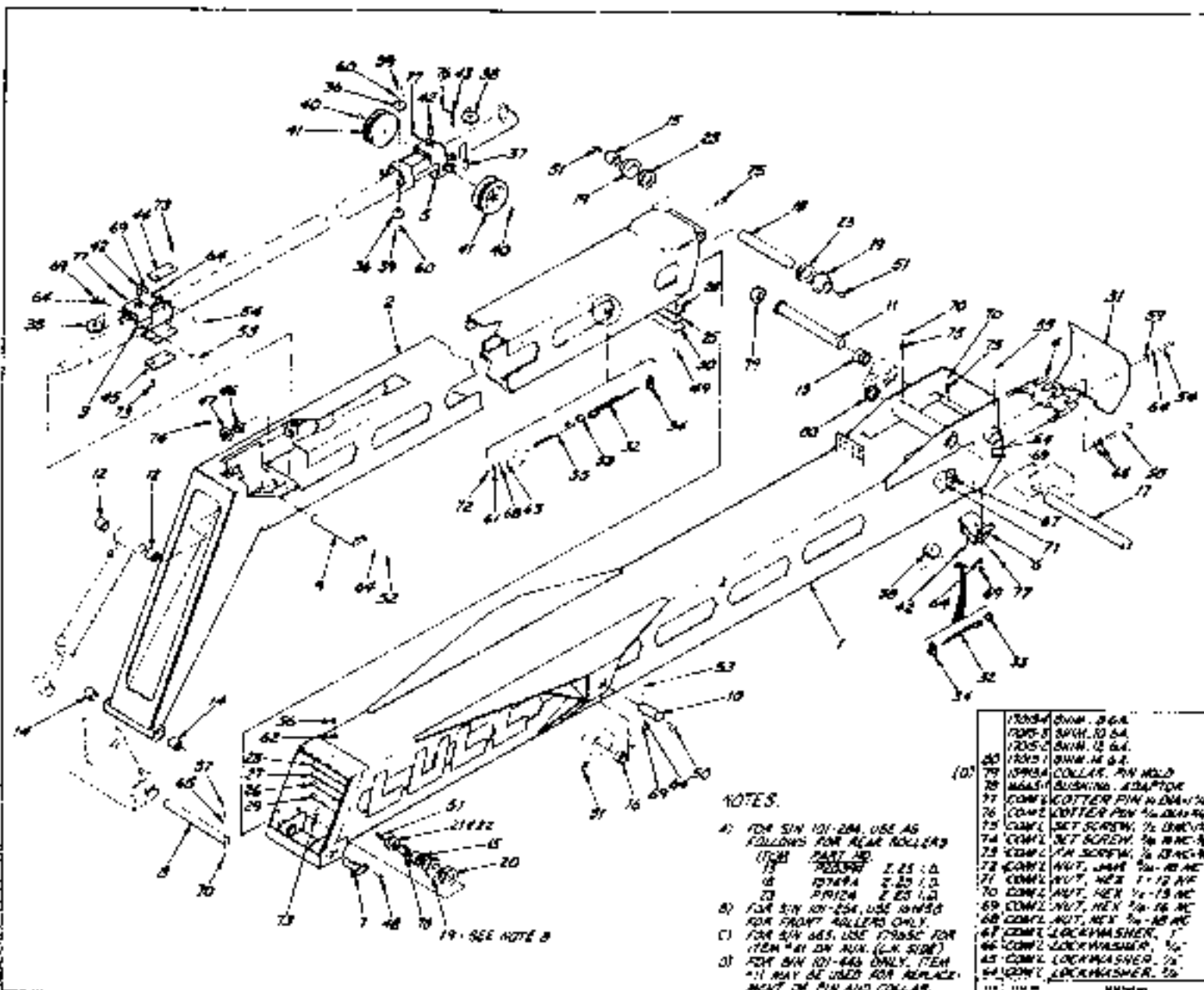
- 1. INSTRUMENT PANEL ASSEMBLY
- 2. INSTRUMENT PANEL ASSEMBLY
- 3. INSTRUMENT PANEL ASSEMBLY
- 4. INSTRUMENT PANEL ASSEMBLY
- 5. INSTRUMENT PANEL ASSEMBLY
- 6. INSTRUMENT PANEL ASSEMBLY
- 7. INSTRUMENT PANEL ASSEMBLY
- 8. INSTRUMENT PANEL ASSEMBLY
- 9. INSTRUMENT PANEL ASSEMBLY
- 10. INSTRUMENT PANEL ASSEMBLY
- 11. INSTRUMENT PANEL ASSEMBLY
- 12. INSTRUMENT PANEL ASSEMBLY
- 13. INSTRUMENT PANEL ASSEMBLY
- 14. INSTRUMENT PANEL ASSEMBLY
- 15. INSTRUMENT PANEL ASSEMBLY
- 16. INSTRUMENT PANEL ASSEMBLY
- 17. INSTRUMENT PANEL ASSEMBLY
- 18. INSTRUMENT PANEL ASSEMBLY
- 19. INSTRUMENT PANEL ASSEMBLY
- 20. INSTRUMENT PANEL ASSEMBLY

WILL *Engineering* *Co.* LITHO
1961
 SERIAL 514 01 61
 INSTRUMENT PANEL 11 B
 ASSEMBLY
 MODEL 444 16835



30	COMP	NUT, HT. 1/2-20 NC	1
29	COMP	LOCKWASHER, 1/2	1
28	COMP	LOCKWASHER, 3/8	1
27	COMP	BOLT, HT. 3/8-20 NC-1/2	1
26	COMP	BOLT, HT. 3/8-20 NC-1/2	1
25	COMP	WASH. HT. 1/2-20 NC	1
24	COMP	NUT, HT. 1/2-20 NC	1
23	COMP	FLAT WASHER, 1/2	1
22	COMP	LOC. WASH. 1/2-20 NC	1
21	COMP	BOLT, HT. 3/8-20 NC-1/2	1
20	COMP	NUT, HT. 1/2-20	1
19	COMP	LOC. WASH. 1/2	1
18	COMP	BOLT, HT. 3/8-20 NC-1/2	1
17	COMP	LOC. WASH. 1/2	1
16	COMP	LOC. WASH. 1/2	1
15	COMP	LOC. WASH. 1/2	1
14	COMP	LOC. WASH. 1/2	1
13	COMP	LOC. WASH. 1/2	1
12	COMP	LOC. WASH. 1/2	1
11	COMP	LOC. WASH. 1/2	1
10	COMP	LOC. WASH. 1/2	1
9	COMP	LOC. WASH. 1/2	1
8	COMP	LOC. WASH. 1/2	1
7	COMP	LOC. WASH. 1/2	1
6	COMP	LOC. WASH. 1/2	1
5	COMP	LOC. WASH. 1/2	1
4	COMP	LOC. WASH. 1/2	1
3	COMP	LOC. WASH. 1/2	1
2	COMP	LOC. WASH. 1/2	1
1	COMP	LOC. WASH. 1/2	1

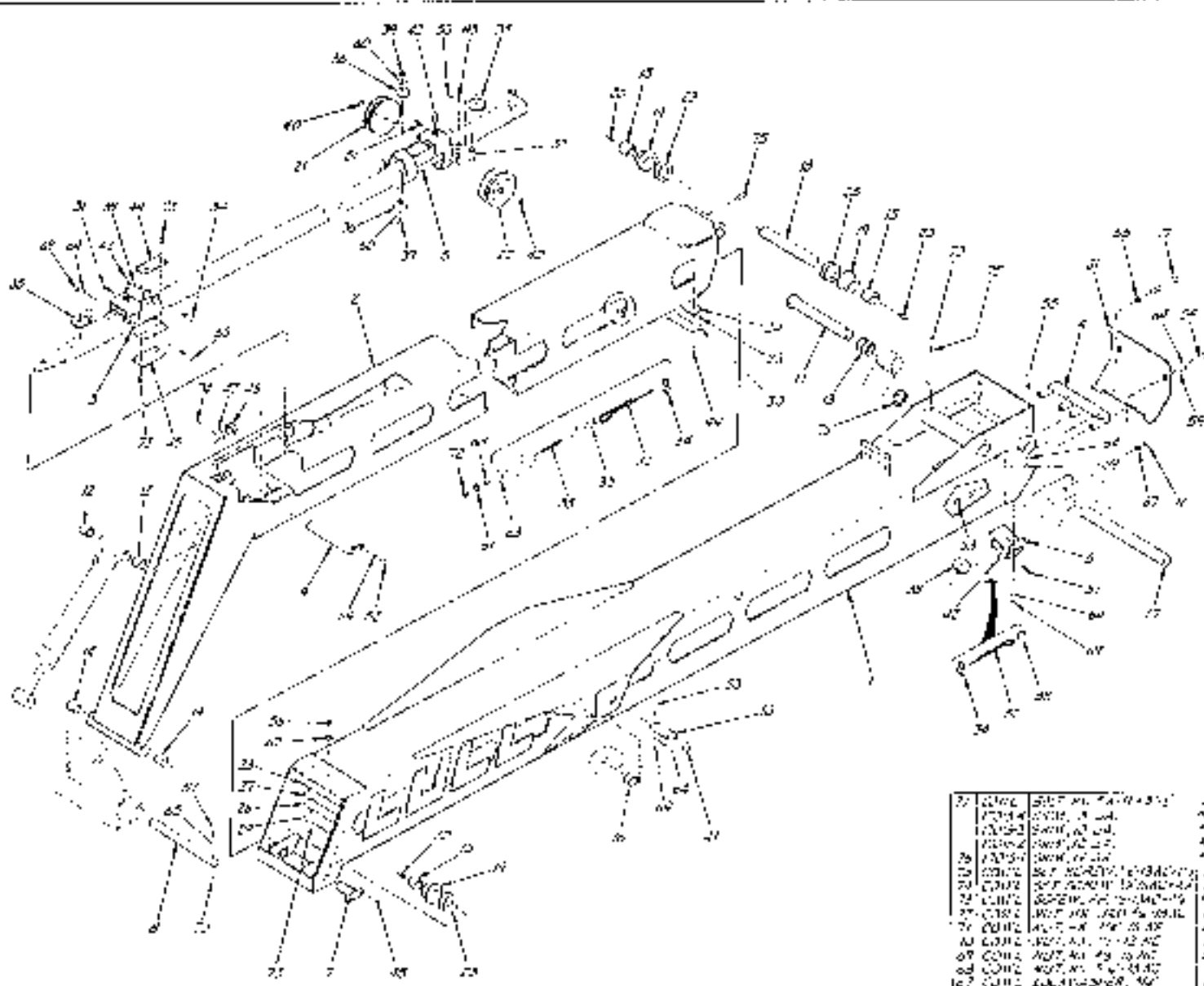
UOL Engineering Co., Inc.
 1000 1st Ave. S.W.
 INSTRUMENT PANEL
 ASSEMBLY
 MODEL 200



- NOTES.
- A) FOR S/N 101-284, USE AS FOLLOWS FOR REAR ROLLERS (ITEM PART NO.)
 - 13 12359 1.25 I.D.
 - 16 12764 2.25 I.D.
 - 23 12124 2.25 I.D.
 - B) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - C) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - D) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - E) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - F) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - G) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - H) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - I) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - J) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - K) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - L) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - M) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - N) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - O) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - P) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - Q) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - R) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - S) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - T) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - U) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - V) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - W) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - X) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - Y) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.
 - Z) FOR S/N 101-284, USE 12122 FOR FRONT ROLLERS ONLY.

43	CONN'2	LOCKWASHER, 1/4"	1
42	CONN'2	STARWASHER, 1/4"	1
41	CONN'2	STARWASHER, 1/4"	1
40	CONN'2	FLATWASHER, 3/8"	1
39	CONN'2	FLATWASHER, 5/8"	1
38	CONN'2	BOLT, NY 1/4-20 NC-45	2
37	CONN'2	BOLT, NY 3/8-16 NC-45	2
36	CONN'2	BOLT, NY 1/2-13 NC-45	2
35	CONN'2	BOLT, NY 3/4-10 NC-45	2
34	CONN'2	BOLT, NY 1-8 NC-45	2
33	CONN'2	BOLT, NY 1-11 NC-45	2
32	CONN'2	BOLT, NY 1-14 NC-45	2
31	CONN'2	BOLT, NY 1-18 NC-45	2
30	CONN'2	BOLT, NY 1-22 NC-45	2
29	CONN'2	BOLT, NY 1-28 NC-45	2
28	CONN'2	BOLT, NY 1-36 NC-45	2
27	CONN'2	BOLT, NY 1-44 NC-45	2
26	CONN'2	BOLT, NY 1-54 NC-45	2
25	CONN'2	BOLT, NY 1-66 NC-45	2
24	CONN'2	BOLT, NY 1-80 NC-45	2
23	CONN'2	BOLT, NY 1-96 NC-45	2
22	CONN'2	BOLT, NY 1-114 NC-45	2
21	CONN'2	BOLT, NY 1-134 NC-45	2
20	CONN'2	BOLT, NY 1-156 NC-45	2
19	CONN'2	BOLT, NY 1-180 NC-45	2
18	CONN'2	BOLT, NY 1-210 NC-45	2
17	CONN'2	BOLT, NY 1-240 NC-45	2
16	CONN'2	BOLT, NY 1-280 NC-45	2
15	CONN'2	BOLT, NY 1-330 NC-45	2
14	CONN'2	BOLT, NY 1-390 NC-45	2
13	CONN'2	BOLT, NY 1-460 NC-45	2
12	CONN'2	BOLT, NY 1-540 NC-45	2
11	CONN'2	BOLT, NY 1-630 NC-45	2
10	CONN'2	BOLT, NY 1-730 NC-45	2
9	CONN'2	BOLT, NY 1-840 NC-45	2
8	CONN'2	BOLT, NY 1-960 NC-45	2
7	CONN'2	BOLT, NY 1-1080 NC-45	2
6	CONN'2	BOLT, NY 1-1200 NC-45	2
5	CONN'2	BOLT, NY 1-1320 NC-45	2
4	CONN'2	BOLT, NY 1-1440 NC-45	2
3	CONN'2	BOLT, NY 1-1560 NC-45	2
2	CONN'2	BOLT, NY 1-1680 NC-45	2
1	CONN'2	BOLT, NY 1-1800 NC-45	2
84	CONN'2	LOCKWASHER, 1/4"	1
83	CONN'2	LOCKWASHER, 1/4"	1
82	CONN'2	LOCKWASHER, 1/4"	1
81	CONN'2	LOCKWASHER, 1/4"	1
80	CONN'2	LOCKWASHER, 1/4"	1
79	CONN'2	LOCKWASHER, 1/4"	1
78	CONN'2	LOCKWASHER, 1/4"	1
77	CONN'2	LOCKWASHER, 1/4"	1
76	CONN'2	LOCKWASHER, 1/4"	1
75	CONN'2	LOCKWASHER, 1/4"	1
74	CONN'2	LOCKWASHER, 1/4"	1
73	CONN'2	LOCKWASHER, 1/4"	1
72	CONN'2	LOCKWASHER, 1/4"	1
71	CONN'2	LOCKWASHER, 1/4"	1
70	CONN'2	LOCKWASHER, 1/4"	1
69	CONN'2	LOCKWASHER, 1/4"	1
68	CONN'2	LOCKWASHER, 1/4"	1
67	CONN'2	LOCKWASHER, 1/4"	1
66	CONN'2	LOCKWASHER, 1/4"	1
65	CONN'2	LOCKWASHER, 1/4"	1
64	CONN'2	LOCKWASHER, 1/4"	1
63	CONN'2	LOCKWASHER, 1/4"	1
62	CONN'2	LOCKWASHER, 1/4"	1
61	CONN'2	LOCKWASHER, 1/4"	1
60	CONN'2	LOCKWASHER, 1/4"	1
59	CONN'2	LOCKWASHER, 1/4"	1
58	CONN'2	LOCKWASHER, 1/4"	1
57	CONN'2	LOCKWASHER, 1/4"	1
56	CONN'2	LOCKWASHER, 1/4"	1
55	CONN'2	LOCKWASHER, 1/4"	1
54	CONN'2	LOCKWASHER, 1/4"	1
53	CONN'2	LOCKWASHER, 1/4"	1
52	CONN'2	LOCKWASHER, 1/4"	1
51	CONN'2	LOCKWASHER, 1/4"	1
50	CONN'2	LOCKWASHER, 1/4"	1
49	CONN'2	LOCKWASHER, 1/4"	1
48	CONN'2	LOCKWASHER, 1/4"	1
47	CONN'2	LOCKWASHER, 1/4"	1
46	CONN'2	LOCKWASHER, 1/4"	1
45	CONN'2	LOCKWASHER, 1/4"	1
44	CONN'2	LOCKWASHER, 1/4"	1
43	CONN'2	LOCKWASHER, 1/4"	1
42	CONN'2	LOCKWASHER, 1/4"	1
41	CONN'2	LOCKWASHER, 1/4"	1
40	CONN'2	LOCKWASHER, 1/4"	1
39	CONN'2	LOCKWASHER, 1/4"	1
38	CONN'2	LOCKWASHER, 1/4"	1
37	CONN'2	LOCKWASHER, 1/4"	1
36	CONN'2	LOCKWASHER, 1/4"	1
35	CONN'2	LOCKWASHER, 1/4"	1
34	CONN'2	LOCKWASHER, 1/4"	1
33	CONN'2	LOCKWASHER, 1/4"	1
32	CONN'2	LOCKWASHER, 1/4"	1
31	CONN'2	LOCKWASHER, 1/4"	1
30	CONN'2	LOCKWASHER, 1/4"	1
29	CONN'2	LOCKWASHER, 1/4"	1
28	CONN'2	LOCKWASHER, 1/4"	1
27	CONN'2	LOCKWASHER, 1/4"	1
26	CONN'2	LOCKWASHER, 1/4"	1
25	CONN'2	LOCKWASHER, 1/4"	1
24	CONN'2	LOCKWASHER, 1/4"	1
23	CONN'2	LOCKWASHER, 1/4"	1
22	CONN'2	LOCKWASHER, 1/4"	1
21	CONN'2	LOCKWASHER, 1/4"	1
20	CONN'2	LOCKWASHER, 1/4"	1
19	CONN'2	LOCKWASHER, 1/4"	1
18	CONN'2	LOCKWASHER, 1/4"	1
17	CONN'2	LOCKWASHER, 1/4"	1
16	CONN'2	LOCKWASHER, 1/4"	1
15	CONN'2	LOCKWASHER, 1/4"	1
14	CONN'2	LOCKWASHER, 1/4"	1
13	CONN'2	LOCKWASHER, 1/4"	1
12	CONN'2	LOCKWASHER, 1/4"	1
11	CONN'2	LOCKWASHER, 1/4"	1
10	CONN'2	LOCKWASHER, 1/4"	1
9	CONN'2	LOCKWASHER, 1/4"	1
8	CONN'2	LOCKWASHER, 1/4"	1
7	CONN'2	LOCKWASHER, 1/4"	1
6	CONN'2	LOCKWASHER, 1/4"	1
5	CONN'2	LOCKWASHER, 1/4"	1
4	CONN'2	LOCKWASHER, 1/4"	1
3	CONN'2	LOCKWASHER, 1/4"	1
2	CONN'2	LOCKWASHER, 1/4"	1
1	CONN'2	LOCKWASHER, 1/4"	1

TELESCOPIC BOOM ASSEMBLY
MODEL 844

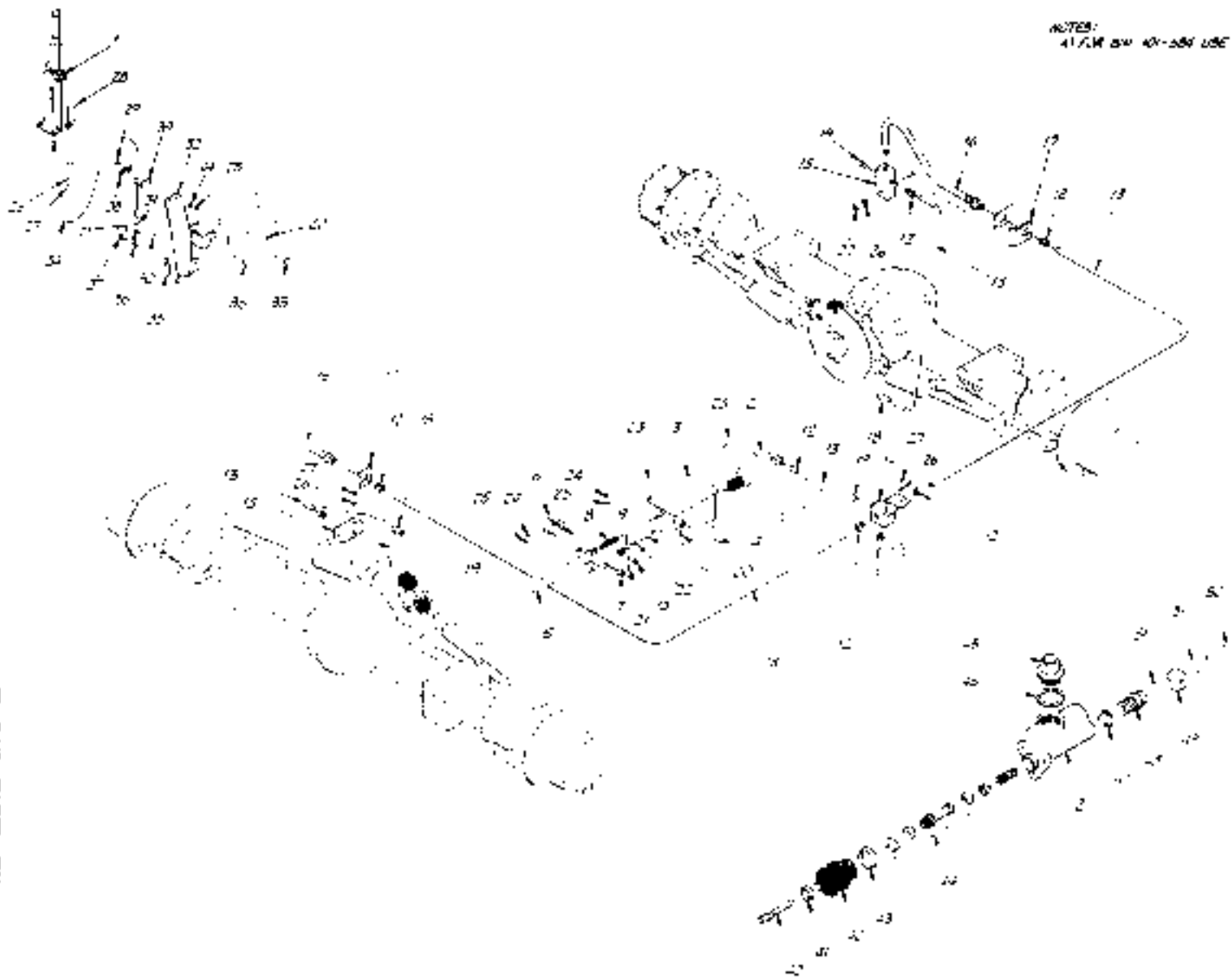


1	CONV	2247 HAWLEY, 7/6
2	CONV	2249 HAWLEY, 7/6
3	CONV	2249 HAWLEY, 7/6
4	CONV	2249 HAWLEY, 7/6
5	CONV	2249 HAWLEY, 7/6
6	CONV	2249 HAWLEY, 7/6
7	CONV	2249 HAWLEY, 7/6
8	CONV	2249 HAWLEY, 7/6
9	CONV	2249 HAWLEY, 7/6
10	CONV	2249 HAWLEY, 7/6
11	CONV	2249 HAWLEY, 7/6
12	CONV	2249 HAWLEY, 7/6
13	CONV	2249 HAWLEY, 7/6
14	CONV	2249 HAWLEY, 7/6
15	CONV	2249 HAWLEY, 7/6
16	CONV	2249 HAWLEY, 7/6
17	CONV	2249 HAWLEY, 7/6
18	CONV	2249 HAWLEY, 7/6
19	CONV	2249 HAWLEY, 7/6
20	CONV	2249 HAWLEY, 7/6
21	CONV	2249 HAWLEY, 7/6
22	CONV	2249 HAWLEY, 7/6
23	CONV	2249 HAWLEY, 7/6
24	CONV	2249 HAWLEY, 7/6
25	CONV	2249 HAWLEY, 7/6
26	CONV	2249 HAWLEY, 7/6
27	CONV	2249 HAWLEY, 7/6
28	CONV	2249 HAWLEY, 7/6
29	CONV	2249 HAWLEY, 7/6
30	CONV	2249 HAWLEY, 7/6
31	CONV	2249 HAWLEY, 7/6
32	CONV	2249 HAWLEY, 7/6
33	CONV	2249 HAWLEY, 7/6
34	CONV	2249 HAWLEY, 7/6
35	CONV	2249 HAWLEY, 7/6
36	CONV	2249 HAWLEY, 7/6
37	CONV	2249 HAWLEY, 7/6
38	CONV	2249 HAWLEY, 7/6
39	CONV	2249 HAWLEY, 7/6
40	CONV	2249 HAWLEY, 7/6
41	CONV	2249 HAWLEY, 7/6
42	CONV	2249 HAWLEY, 7/6
43	CONV	2249 HAWLEY, 7/6
44	CONV	2249 HAWLEY, 7/6
45	CONV	2249 HAWLEY, 7/6
46	CONV	2249 HAWLEY, 7/6
47	CONV	2249 HAWLEY, 7/6
48	CONV	2249 HAWLEY, 7/6
49	CONV	2249 HAWLEY, 7/6
50	CONV	2249 HAWLEY, 7/6
51	CONV	2249 HAWLEY, 7/6
52	CONV	2249 HAWLEY, 7/6
53	CONV	2249 HAWLEY, 7/6
54	CONV	2249 HAWLEY, 7/6
55	CONV	2249 HAWLEY, 7/6
56	CONV	2249 HAWLEY, 7/6
57	CONV	2249 HAWLEY, 7/6
58	CONV	2249 HAWLEY, 7/6
59	CONV	2249 HAWLEY, 7/6
60	CONV	2249 HAWLEY, 7/6
61	CONV	2249 HAWLEY, 7/6
62	CONV	2249 HAWLEY, 7/6
63	CONV	2249 HAWLEY, 7/6
64	CONV	2249 HAWLEY, 7/6

71	CONV	2249 HAWLEY, 7/6
72	CONV	2249 HAWLEY, 7/6
73	CONV	2249 HAWLEY, 7/6
74	CONV	2249 HAWLEY, 7/6
75	CONV	2249 HAWLEY, 7/6
76	CONV	2249 HAWLEY, 7/6
77	CONV	2249 HAWLEY, 7/6
78	CONV	2249 HAWLEY, 7/6
79	CONV	2249 HAWLEY, 7/6
80	CONV	2249 HAWLEY, 7/6
81	CONV	2249 HAWLEY, 7/6
82	CONV	2249 HAWLEY, 7/6
83	CONV	2249 HAWLEY, 7/6
84	CONV	2249 HAWLEY, 7/6
85	CONV	2249 HAWLEY, 7/6
86	CONV	2249 HAWLEY, 7/6
87	CONV	2249 HAWLEY, 7/6
88	CONV	2249 HAWLEY, 7/6
89	CONV	2249 HAWLEY, 7/6
90	CONV	2249 HAWLEY, 7/6
91	CONV	2249 HAWLEY, 7/6
92	CONV	2249 HAWLEY, 7/6
93	CONV	2249 HAWLEY, 7/6
94	CONV	2249 HAWLEY, 7/6
95	CONV	2249 HAWLEY, 7/6
96	CONV	2249 HAWLEY, 7/6
97	CONV	2249 HAWLEY, 7/6
98	CONV	2249 HAWLEY, 7/6
99	CONV	2249 HAWLEY, 7/6
100	CONV	2249 HAWLEY, 7/6

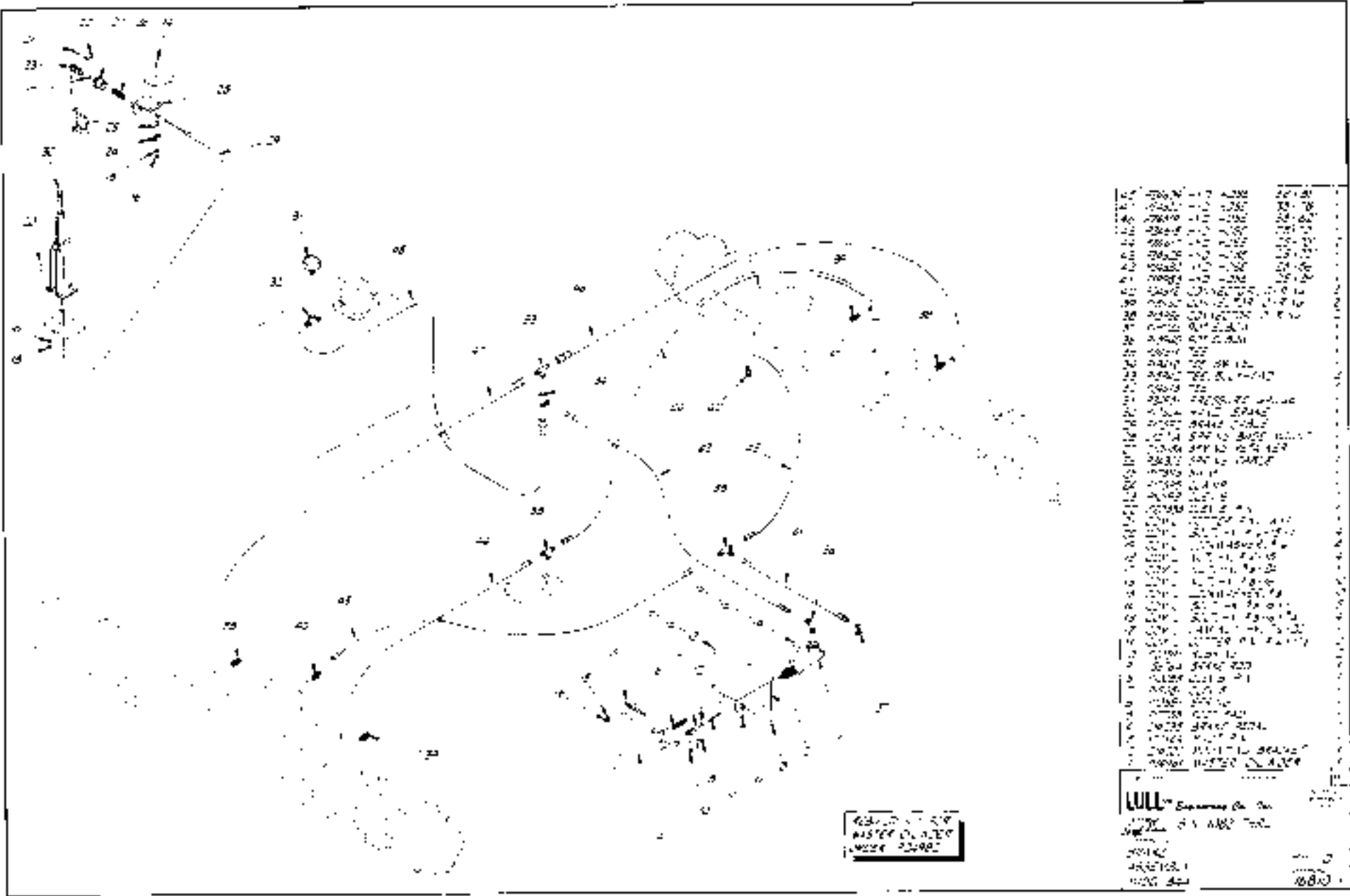
Drawing & Co.
 1234 Main St.
 New York, N.Y.
 10001

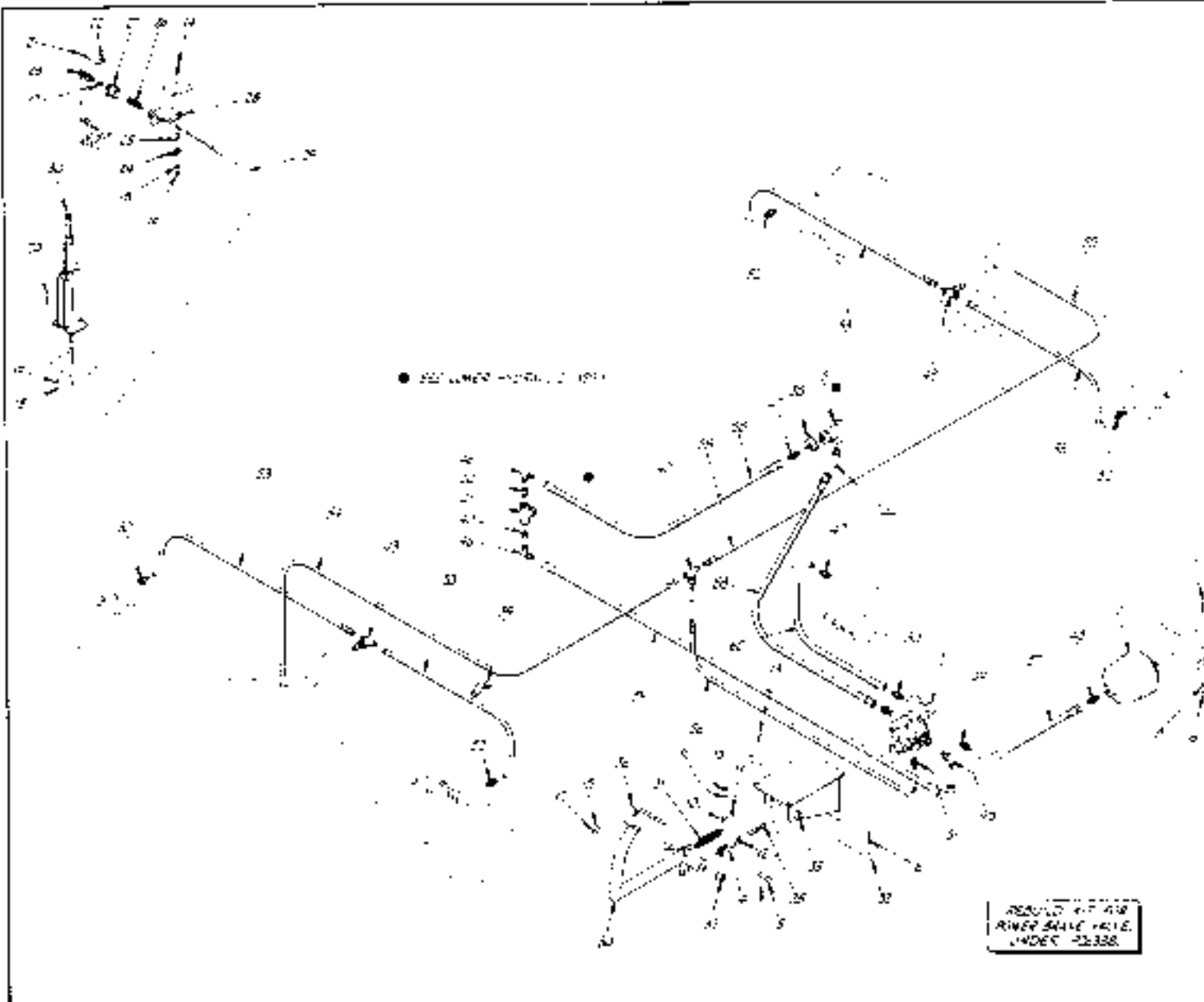
NOTES:
 41/14 BY 40-584 USE PL07Z



- 1. PIN
- 2. BUSHING
- 3. PIN
- 4. BUSHING
- 5. PIN
- 6. BUSHING
- 7. PIN
- 8. BUSHING
- 9. PIN
- 10. BUSHING
- 11. PIN
- 12. BUSHING
- 13. PIN
- 14. BUSHING
- 15. PIN
- 16. BUSHING
- 17. PIN
- 18. BUSHING
- 19. PIN
- 20. BUSHING
- 21. PIN
- 22. BUSHING
- 23. PIN
- 24. BUSHING
- 25. PIN
- 26. BUSHING
- 27. PIN
- 28. BUSHING
- 29. PIN
- 30. BUSHING
- 31. PIN
- 32. BUSHING
- 33. PIN
- 34. BUSHING
- 35. PIN

WLL
 41/14 BY 40-584 USE PL07Z
 1/20 3000
 1/20 3000
 1/20 3000

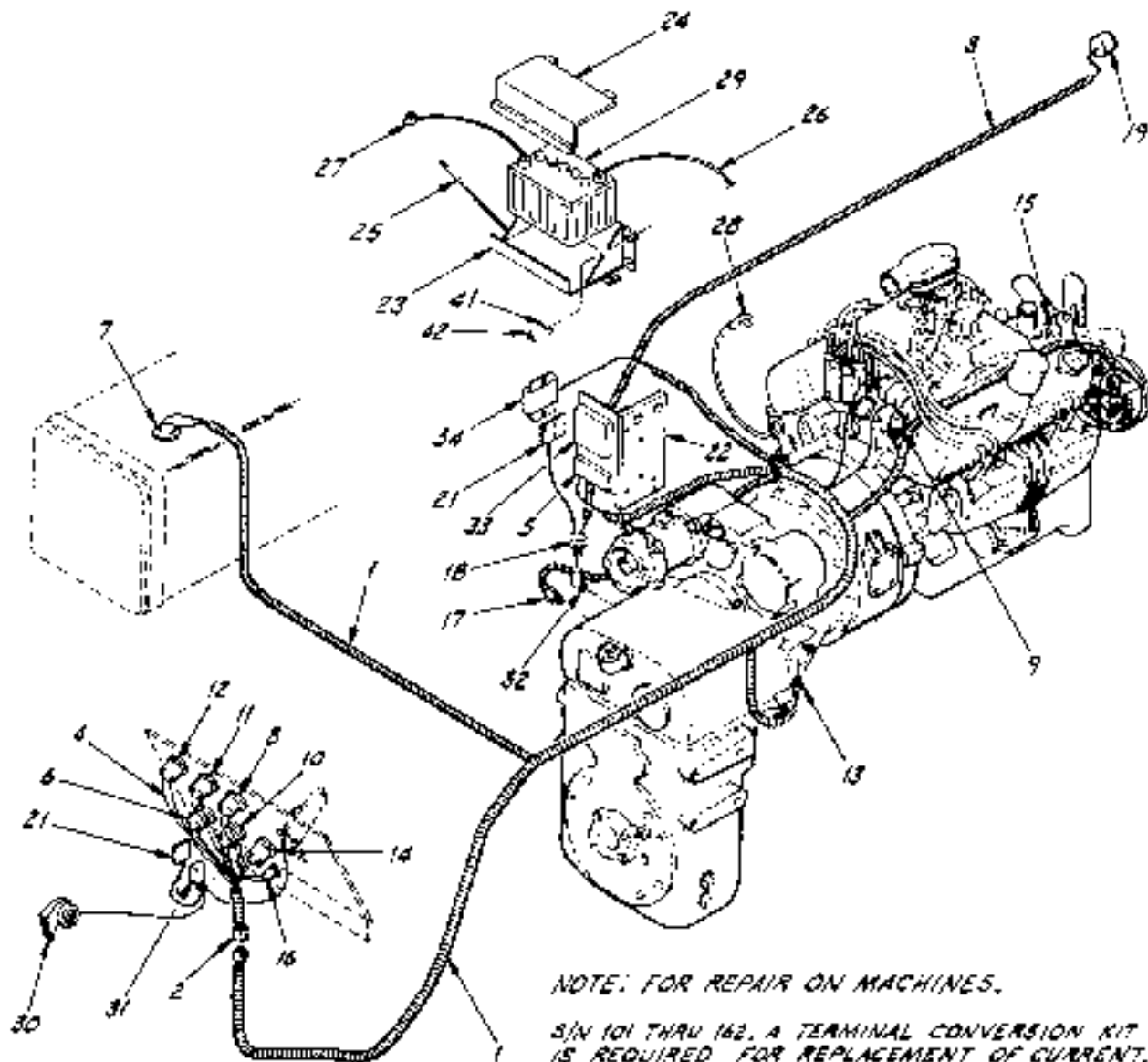




ASSEMBLY OF RIVER GAUGE UNDER 2238

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

LUL - Engineering Co., Inc.
 3100 S. 17th St. Tulsa, Okla.
 FOOT & HAND GAUGE
 ASSEMBLY
 MODEL 200



NOTE: FOR REPAIR ON MACHINES.

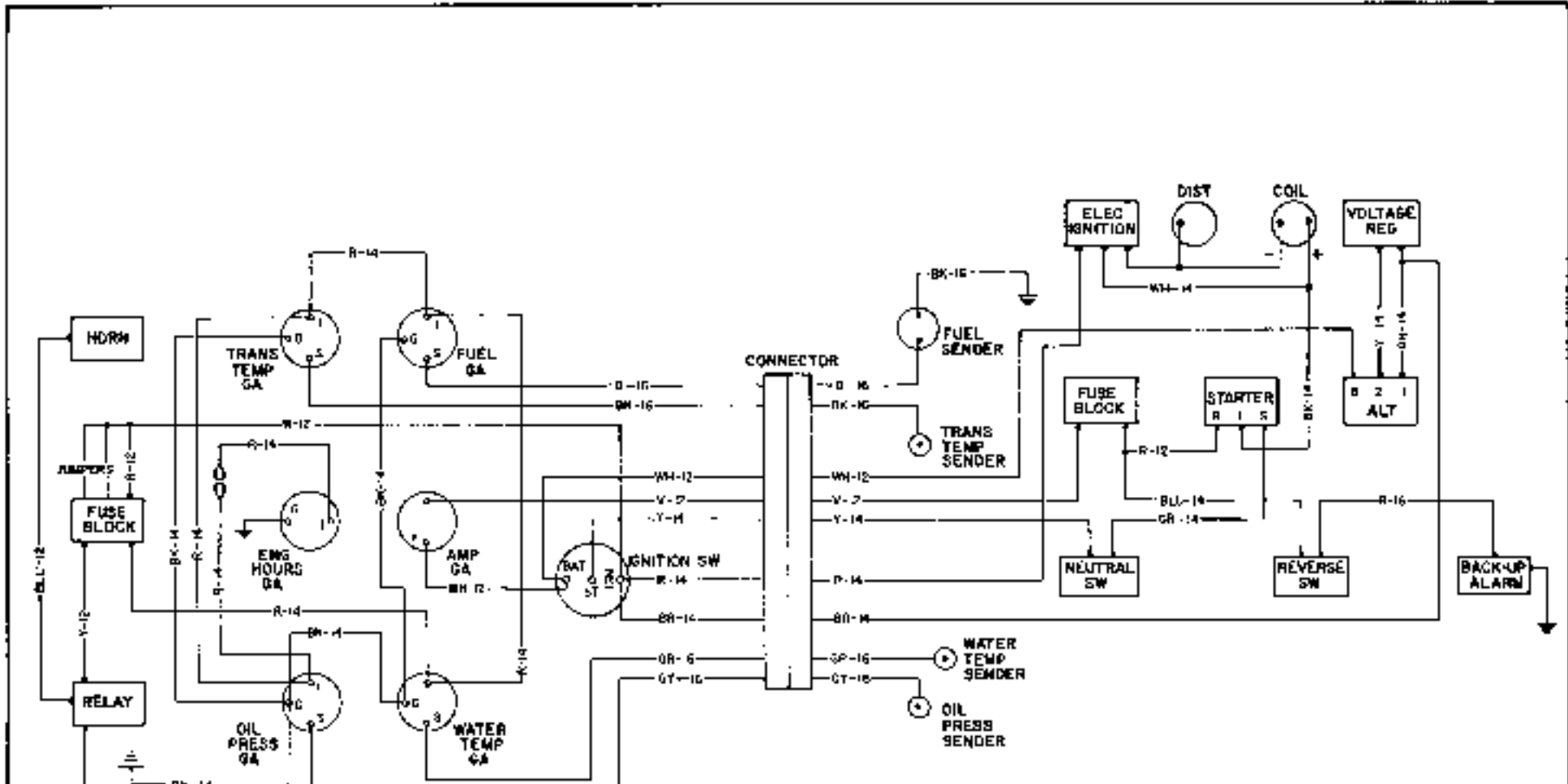
S/N 101 THRU 162, A TERMINAL CONVERSION KIT IS REQUIRED FOR REPLACEMENT OF CURRENT. (NEW) UPPER AND LOWER WIRING HARNESES.
 16567B LOWER TERMINAL CONVERSION KIT
 16567-1B UPPER TERMINAL CONVERSION KIT

S/N 101 THRU 219 GAUGES AND SENDERS MUST BE PURCHASED TOGETHER.

42	COM'L NUT, HX 1/8-16 NC	4
41	COM'L LOCKWASHER, 7/8	4
40	COM'L NUT, HX 10-24 NC	4
39	COM'L LOCKWASHER, # 10	4
38	COM'L CAPSCREW, R.H. 10-24x1/2	4
37	P19830 HARNESS, VOLT. REG.	1
36	P19829 HARNESS, ELEC. IGN.	1
35	P19749 HARNESS, DISTRIBUTOR	1
34	P19204 VOLTAGE REGULATOR	1
33	P19722 ELECTRONIC IGNITION	1
32	P15093 45° ELBOW	1
31	P13709 HORN RELAY	1
30	P13707 HORN	1
29	P11056 BATTERY, 12 VOLT	1
28	P19835 BATTERY CABLE, GRD.	1
27	P16691 BATTERY CABLE, NEG	1
26	P18182 BATTERY CABLE, POS	1
25	155946 HOLD DOWN ROD	2
24	162030 COVER, BATTERIES	1
23	162020 BATTERY BOX	1
22	171534 FUSE MOUNT BRKT.	1
21	P19096 FUSE BLOCK	2
20	P19103 FUSE, SFE 30 AMP	4
19	P13774 BACK-UP ALARM	1
18	P19105 SWITCH, BACK-UP	1
17	P18673 SWITCH, NET. START	1
16	P12634 SWITCH, IGNITION	1
15	P18819 SENDER, WATER TEMP.	1
14	P18735 GAUGE, WATER TEMP.	1
13	P19472 SENDER, TRANS. OIL	1
12	P18734 GAUGE, TRANS. OIL	1
11	P18735 GAUGE, HOURMETER	1
10	P18732 GAUGE, AMMETER	1
9	P18731 SENDER, OIL PRESS.	1
8	P18730 GAUGE, OIL PRESS.	1
7	P18729 SENDER, FUEL	1
6	P18728 GAUGE, FUEL	1
5	P19750 RESISTOR	1
4	P19284 HARNESS, GAUGE-GND.	1
3	P19102 HARNESS, BACK-UP	1
2	P19099 HARNESS, UPPER	1
1	P19100 HARNESS, LOWER	1

ITEM	PART NO.	DESCRIPTION	REQ.
------	----------	-------------	------

LU Engineering Co., Inc.		ST PAUL, MINNESOTA 55111
DESIGNED BY J. GAUB	S/N 101 THRU	
WIRING HARNESS ASSEMBLY		CHRYSLER
MODEL 844		RAM C
		16811



COLOR CODE

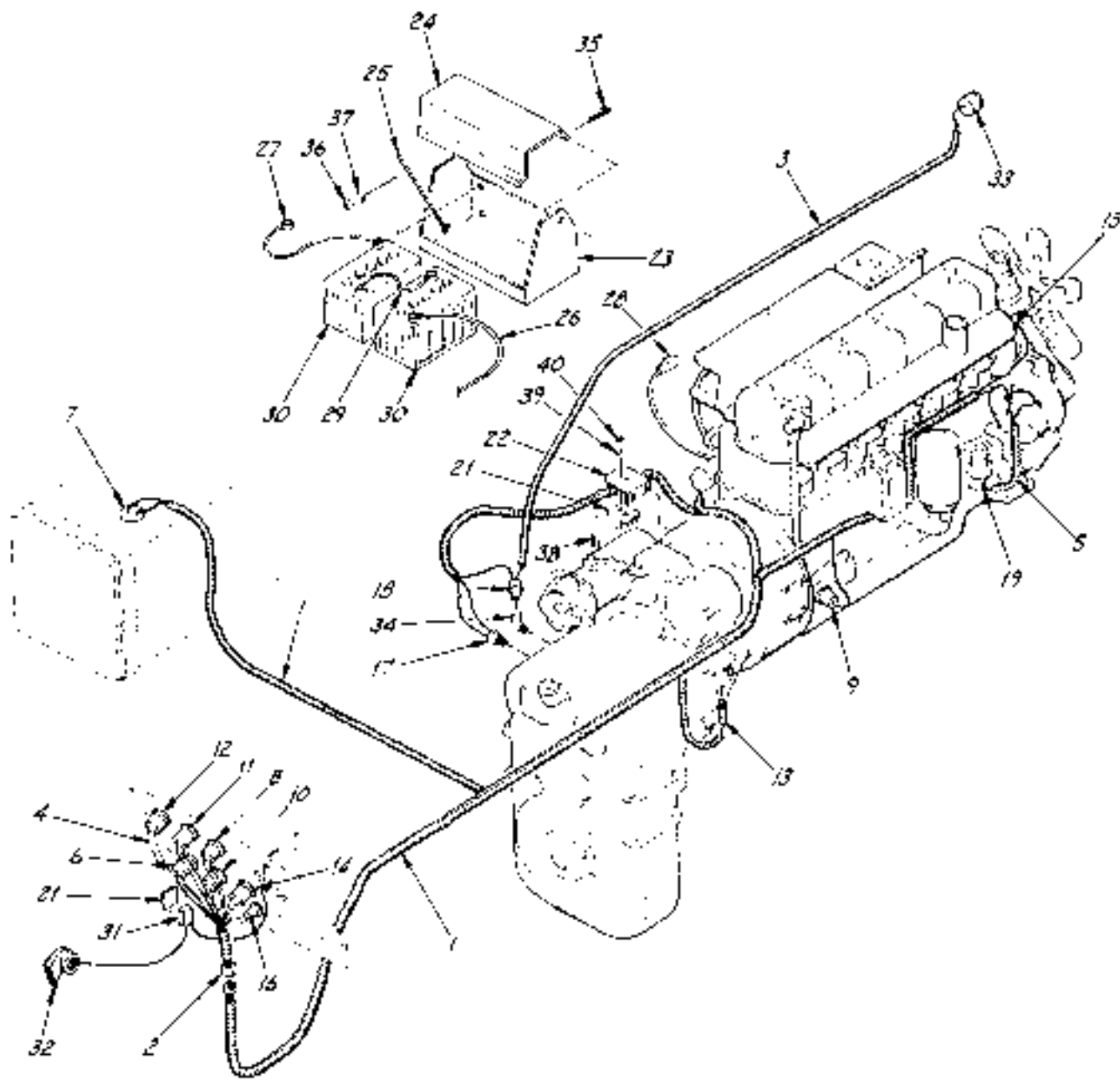
Y	YELLOW
BK	BLACK
WH	WHITE
GR	BROWN
SP	GREEN
BLU	BLUE
R	RED
V	VIOLET
O	ORANGE
GT	GRAY

LOLL Engineering Co. Inc.

Jeff Smith | S/N 101 THRU

WIRING DIAGRAM MODEL 844

CHRYSLER
B
16846



40	COM'L	NUT, HK 10-24 NC	4
39	COM'L	LOCKWASHER, # 10	4
38	COM'L	CAPSCREW, RH. 10-24-1/2	4
37	COM'L	LOCKWASHER, 3/8	4
36	COM'L	NUT, HK 1/8-16 NC	4
35	COM'L	COTTER PIN, 1/16 x 3/8	4
34	P15093	45° ELBOW	1
33	P13774	BACK-UP ALARM	1
32	P13707	HORN	1
31	P13709	HORN RELAY	1
30	P19076	BATTERY, 6 VOLT	2
29	P18122	BATTERY CABLE, C.B.	1
28	P19835	BATTERY CABLE, GND	1
27	P19834	BATTERY CABLE, NEG.	1
26	P19833	BATTERY CABLE, POS.	1
25	16357A	HOLD DOWN ROD	2
24	16355B	COVER, BATTERIES	1
23	16344C	BATTERY BOX	1
22	16273A	FUSE MOUNT BRKT	1
21	P19096	FUSE BLOCK	2
20	P19103	FUSE, SFE 30 AMP	4
19	P20888	SWITCH, ALTERNATOR	1
18	P19105	SWITCH, BACK-UP	1
17	P18673	SWITCH, NEUTRAL	1
16	P11092	SWITCH, IGNITION	1
15	P18813	SENDER, WATER TEMP	1
14	P18735	GAUGE, WATER TEMP	1
13	P19472	SENDER, TRANS. OIL	1
12	P18734	GAUGE, TRANS OIL	1
11	P18733	GAUGE, HOURMETER	1
10	P18732	GAUGE, AMMETER	1
9	P18731	SENDER, OIL PRESS.	1
8	P18730	GAUGE, OIL PRESS.	1
7	P18729	SENDER, FUEL	1
6	P18728	GAUGE, FUEL	1
5	P19929	HARNESS, SWITCH-ALT.	1
4	P19204	HARNESS, GAUGES-GND.	1
3	P19102	HARNESS, BACK-UP	1
2	P19099	HARNESS, UPPER	1
1	P19435	HARNESS, LOWER	1

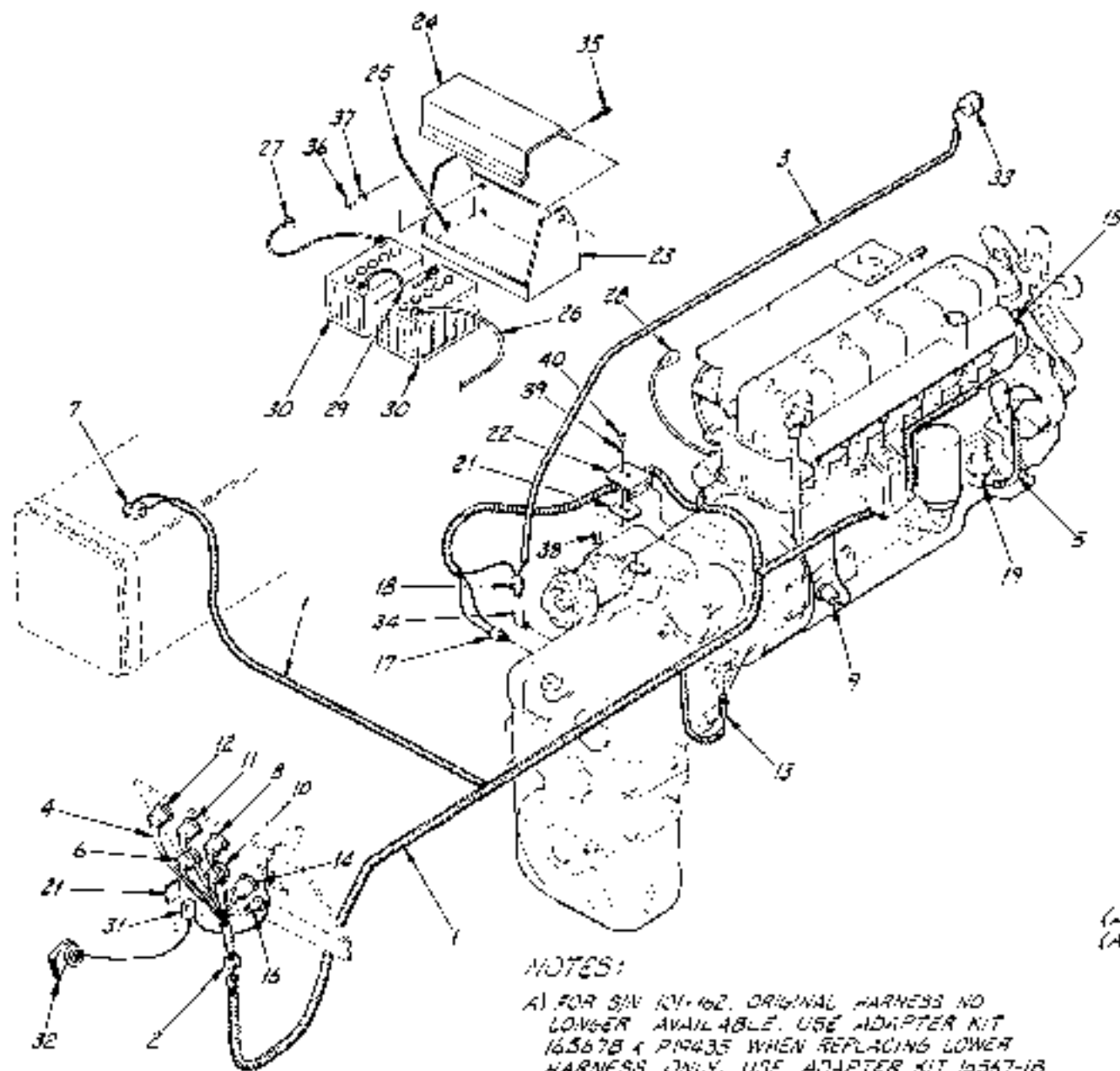
ITEM	QTY	DESCRIPTION	REQ.
------	-----	-------------	------

LLL Engineering Co., Inc. ST PAUL, MINNESOTA 55121

DRAWN BY J. DAUB SIN 220-586

030000-1-113
WIRING HARNESS ASSEMBLY
 MODEL 344

WALK
 SERIAL C
 LISTING NO. 16812



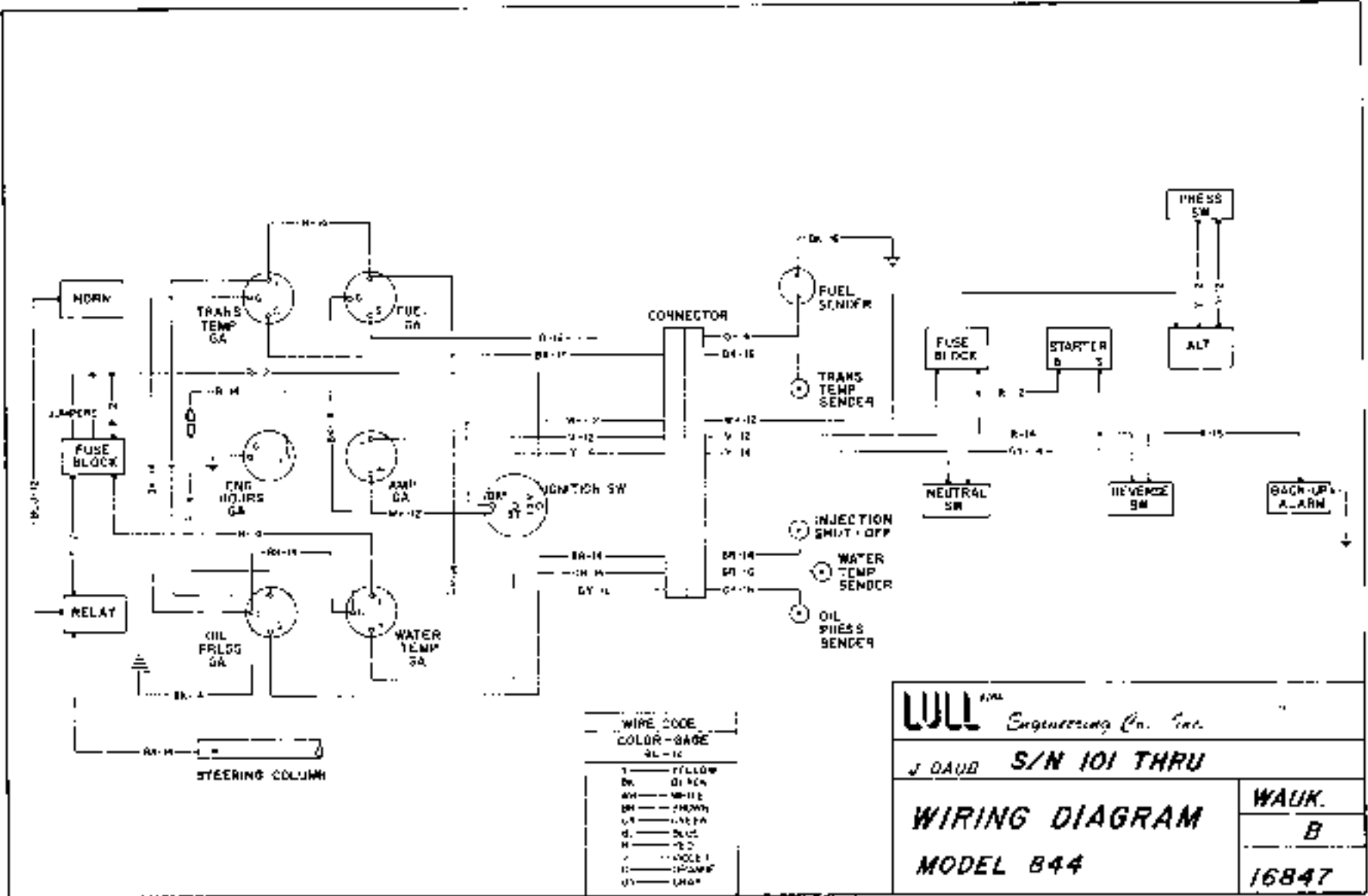
NOTES:

A) FOR SIN 101-102, ORIGINAL HARNESS NO LONGER AVAILABLE. USE ADAPTER KIT 163678 & P19435 WHEN REPLACING LOWER HARNESS ONLY. USE ADAPTER KIT 16567-16 & P19099 WHEN REPLACING UPPER HARNESS. ADAPTER KITS NOT NEEDED WHEN REPLACING BOTH HARNESSES.

40	COM'L	NUT, HX #10-24	4
39	COM'L	LOCKWASHER, # 10	4
38	COM'L	CAPSCREW, R.H. #10-24 x 1/8	4
37	COM'L	LOCKWASHER, 1/8	4
36	COM'L	NUT, HX 1/8-16	4
35	COM'L	COTTER PIN, 1/2 x 3/8	4
34	P10219	45° ELBOW, STREET	1
33	P13774	BACK-UP ALARM	1
32	P13707	HORN	1
31	P13709	HORN RELAY	1
30	P13121	BATTERY, 6 VOLT	2
29	P18122	BATTERY CABLE, C.B.	1
28	P19885	BATTERY CABLE, GND.	1
27	P19834	BATTERY CABLE, NEG.	1
26	P19833	BATTERY CABLE, POS.	1
25	16357A	HOLD DOWN ROD	2
24	16355B	COVER, BATTERIES	1
23	16344C	BATTERY BOX	1
22	16273A	FUSE MOUNT BRKT	1
21	P19096	FUSE BLOCK	2
20	P19103	FUSE, 50 AMP	4
19	P20380	SWITCH, ALTERNATOR	1
18	P19103	SWITCH, BACK-UP	1
17	P18678	SWITCH, NEUTRAL	1
16	P11092	SWITCH, IGNITION	1
15	P23222	SENDER, WATER TEMP	1
14	P23221	GAUGE, WATER TEMP	1
13	P19472	SENDER, TRANS. OIL	1
12	P23220	GAUGE, TRANS. OIL	1
11	P23219	GAUGE, HOURMETER	1
10	P23216	GAUGE, AMMETER	1
9	P23217	SENDER, OIL PRESS.	1
8	P23216	GAUGE, OIL PRESS.	1
7	P23215	SENDER, FUEL	1
6	P23214	GAUGE, FUEL	1
5	P19529	HARNESS, SWITCH-ALT.	1
4	P19284	HARNESS, GND.-GAUGES	1
3	P19102	HARNESS, BACK-UP	1
2	P19099	HARNESS, UPPER	1
1	P19435	HARNESS, LOWER	1

(A)
(A)

ITEM	QUANTITY	DESCRIPTION	REQ.
LUCC Engineering Co., Inc.			
SIN 101-219, 687 THRU			
WIRING HARNESS ASSEMBLY			WAWK size C
MODEL 348			16812-2

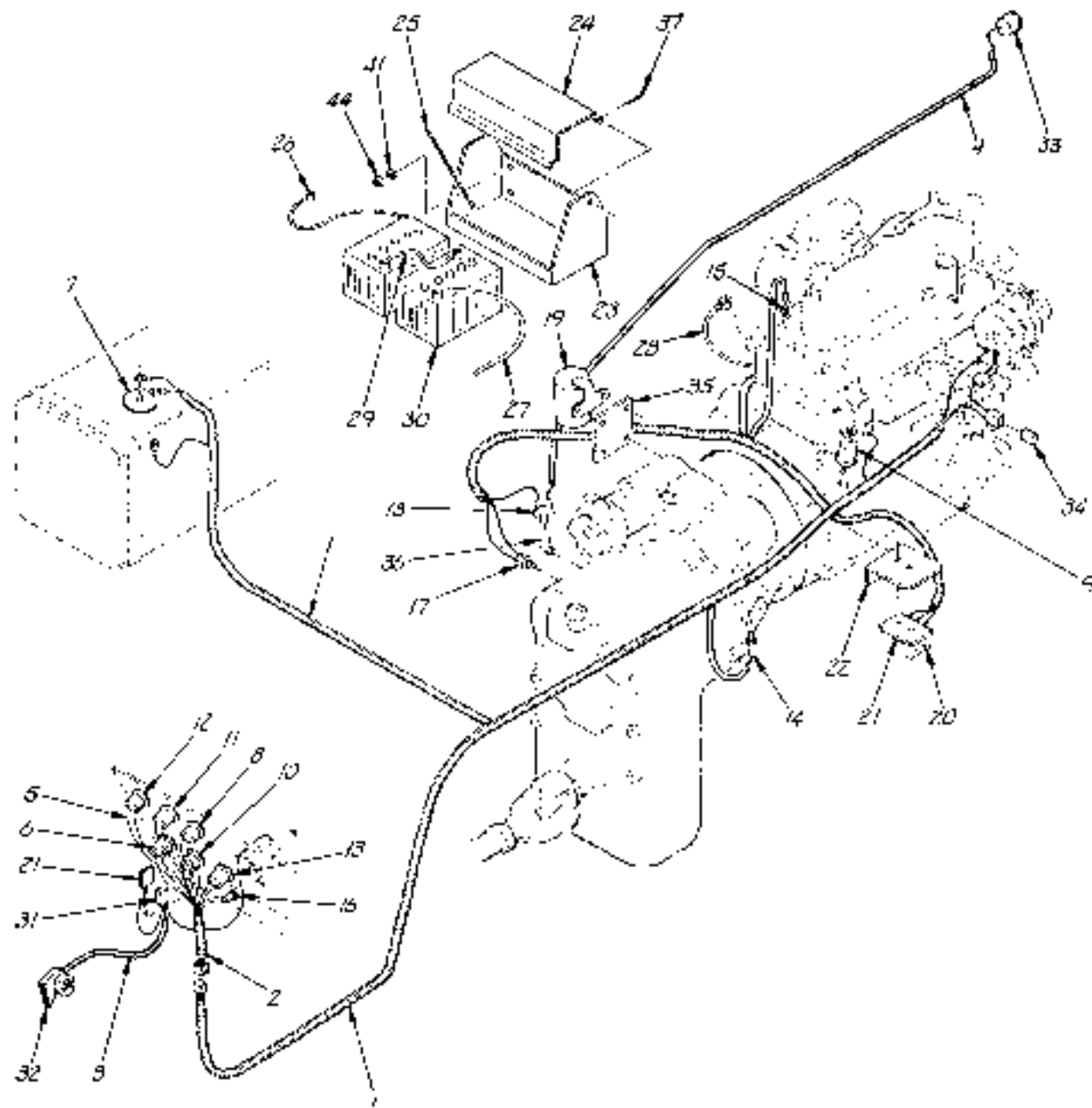


WIRE CODE
COLOR-CAGE

1	YELLOW
BK	BLACK
WH	WHITE
BR	BROWN
LT	LIGHT BLUE
BL	BLUE
RD	RED
GR	GREEN
PK	PINK
OR	ORANGE

WLL ^{INC.} Engineering Co., Inc.
 J DAUB S/N 101 THRU
WIRING DIAGRAM
MODEL B44

WALK.
B
16847



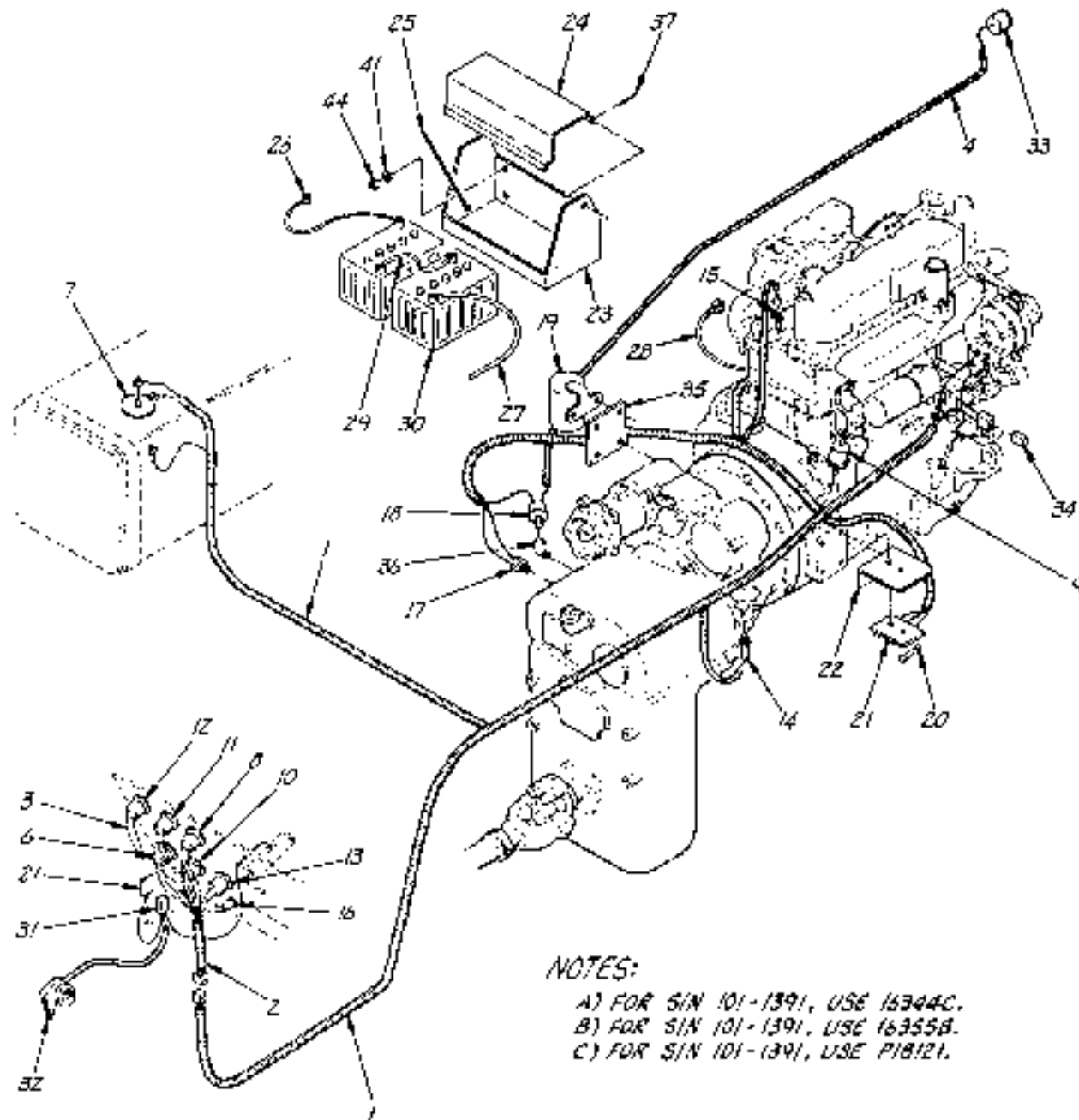
44	COM'L	NUT, HK. 3/8-16 NC	4
43	COM'L	NUT, HK. 1/4-20 NC	2
42	COM'L	LOCKWASHER, 1/2"	4
41	COM'L	LOCKWASHER, 3/16"	4
40	COM'L	LOCKWASHER, 1/4"	2
39	COM'L	BOLT, HK. 1/2-13 NC-11	4
38	COM'L	BOLT, HK. 1/4-20 NC-11	2
37	COM'L	COTTER PIN, 1/32" x 3/4"	2
36	P10215	45° ELBOW	1
35	183204	MOUNT, STARTER RELAY	1
34	P21787	DIODE MODULE	1
33	P13774	BACK-UP ALARM	1
32	P13707	HORN	1
31	P13709	HORN RELAY	1
30	P19076	BATTERY, 6 VOLT	2
29	P18127	BATTERY CABLE, C.B.	1
28	P19835	BATTERY CABLE, GND.	1
27	P19836	BATTERY CABLE, NEG.	1
26	P19833	BATTERY CABLE, POS.	1
25	163574	HOLD DOWN ROD	2
24	163558	COVER, BATTERY BOX	1
23	163460	BATTERY BOX	1
22	162734	BRACKET, FUSE MOUNT	1
21	P19296	FUSE BLOCK	2
20	P19103	FUSE, SFE 30 AMP	4
19	P21777	STARTER RELAY	1
18	P19105	SWITCH, BACK-UP	1
17	P18673	SWITCH, NEUTRAL	1
16	P11092	SWITCH, IGNITION	1
15	P18813	SENDER, WATER TEMP.	1
14	P19472	SENDER, TRANS. OIL	1
13	P18735	GAUGE, WATER TEMP.	1
12	P18734	GAUGE, TRANS. OIL	1
11	P18733	GAUGE, HOUR METER	1
10	P18732	GAUGE, AMMETER	1
9	P18731	SENDER, OIL PRESS.	1
8	P18730	GAUGE, OIL PRESS.	1
7	P18729	SENDER, FUEL	1
6	P18728	GAUGE, FUEL	1
5	P12884	HARNESS, GAUGES-GND.	1
4	P19102	HARNESS, BACK-UP	1
3	P19101	HARNESS, HORN	1
2	P19099	HARNESS, UPPER	1
1	P21780	HARNESS, LOWER	1

ITEM	QTY	DESCRIPTION	REQ.
------	-----	-------------	------

LU Engineering Co., Inc. ST. PAUL, MINNESOTA 55101

Part No. **SIN 795 THRU**

DEERE
WIRING HARNESS ASSEMBLY
MODEL 344
16812-1

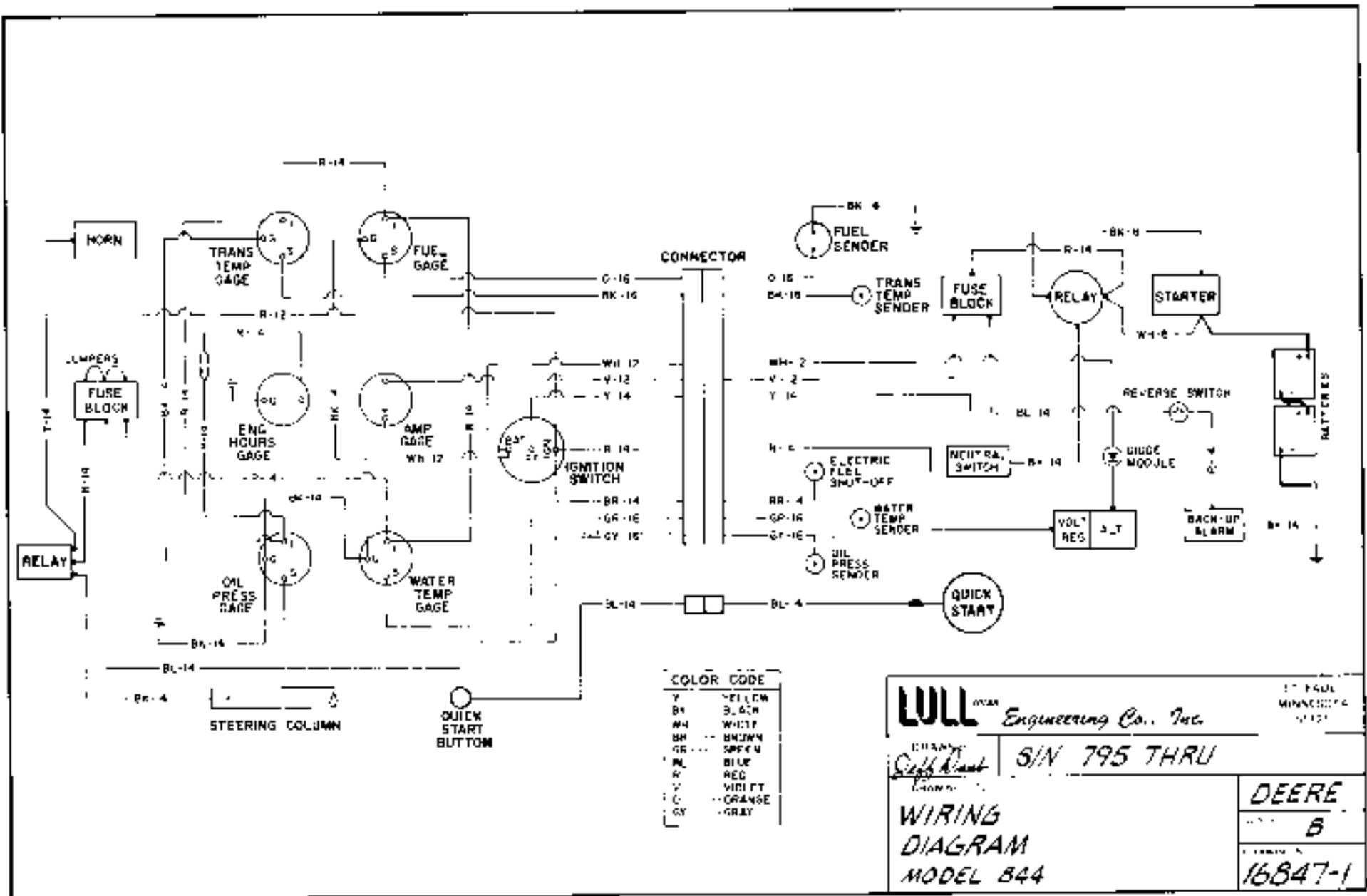


NOTES:

- A) FOR S/N 101-1391, USE 16344C.
- B) FOR S/N 101-1391, USE 16355B.
- C) FOR S/N 101-1391, USE P18121.

44	COM'L	NUT, HK. 3/8"-16	4
43	COM'L	NUT, HK. 1/2"-20	2
42	COM'L	LOCKWASHER, 1/2"	4
41	COM'L	LOCKWASHER, 3/8"	4
40	COM'L	LOCKWASHER, 1/4"	2
39	COM'L	BOLT, HK. 1/2"-13 NC x 1"	4
38	COM'L	BOLT, HK. 1/4"-20 NC x 1/2"	2
37	COM'L	COTTER PIN, 3/16" x 3/4"	2
36	P10215	45° ELBOW	1
35	18320A	MOUNT, STARTER RELAY	1
34	P21787	DIODE MODULE	1
33	P13770	BACK-UP ALARM	1
32	P13707	HORN	1
31	P13709	HORN RELAY	1
(C) 30	P25365	BATTERY, 6 VOLT	2
29	P18122	BATTERY CABLE, C.B.	1
28	P19835	BATTERY CABLE, GND.	1
27	P19834	BATTERY CABLE, NEG.	1
26	P19833	BATTERY CABLE, POS.	1
25	16357A	HOLD DOWN ROD	2
(B) 24	21976B	COVER, BATTERY BOX	1
(A) 23	Z1977C	BATTERY BOX	1
22	16273A	BRACKET, FUSE MOUNT	1
21	P19096	FUSE BLOCK	2
20	P19103	FUSE, SPE 30 AMP	4
19	P21777	STARTER RELAY	1
18	P19105	SWITCH, BACK-UP	1
17	P18673	SWITCH, NEUTRAL	1
16	P11092	SWITCH, IGNITION	1
15	P23222	SENDER, WATER TEMP	1
14	P19472	SENDER, TRANS. OIL	1
13	P23221	GAUGE, WATER TEMP	1
12	P23220	GAUGE, TRANS. OIL	1
11	P23219	GAUGE, HOUR METER	1
10	P23218	GAUGE, AMP/CLER	1
9	P23217	SENDER, OIL PRESS.	1
8	P23216	GAUGE, OIL PRESS.	1
7	P23215	SENDER, FUEL	1
6	P23214	GAUGE, FUEL	1
5			
4	P19102	HARNES, BACK-UP	1
3	P19284	HARNES, GND. GAUGES	1
2	P19091	HARNES, UPPER	1
1	P21730	HARNES, LOWER	1

ITEM	PART NO.	DESCRIPTION	QTY.
LOLL Engineering Co., Inc.			
17 PAUL MINNESOTA 55121			
VINCENT J. L. Lull S/N 832, 883, 887 THRU			
WIRING HARNESS ASSEMBLY MODEL 844			DEERE Model C 16812-3



COLOR CODE

Y	YELLOW
BK	BLACK
WH	WHITE
BN	BROWN
GR	GREEN
BL	BLUE
R	RED
V	VIOLET
C	ORANGE
GY	GRAY

LULL INCORPORATED Engineering Co., Inc. ST. PAUL, MINNESOTA 55107

CHASSIS: *Self-Start* S/N 795 THRU

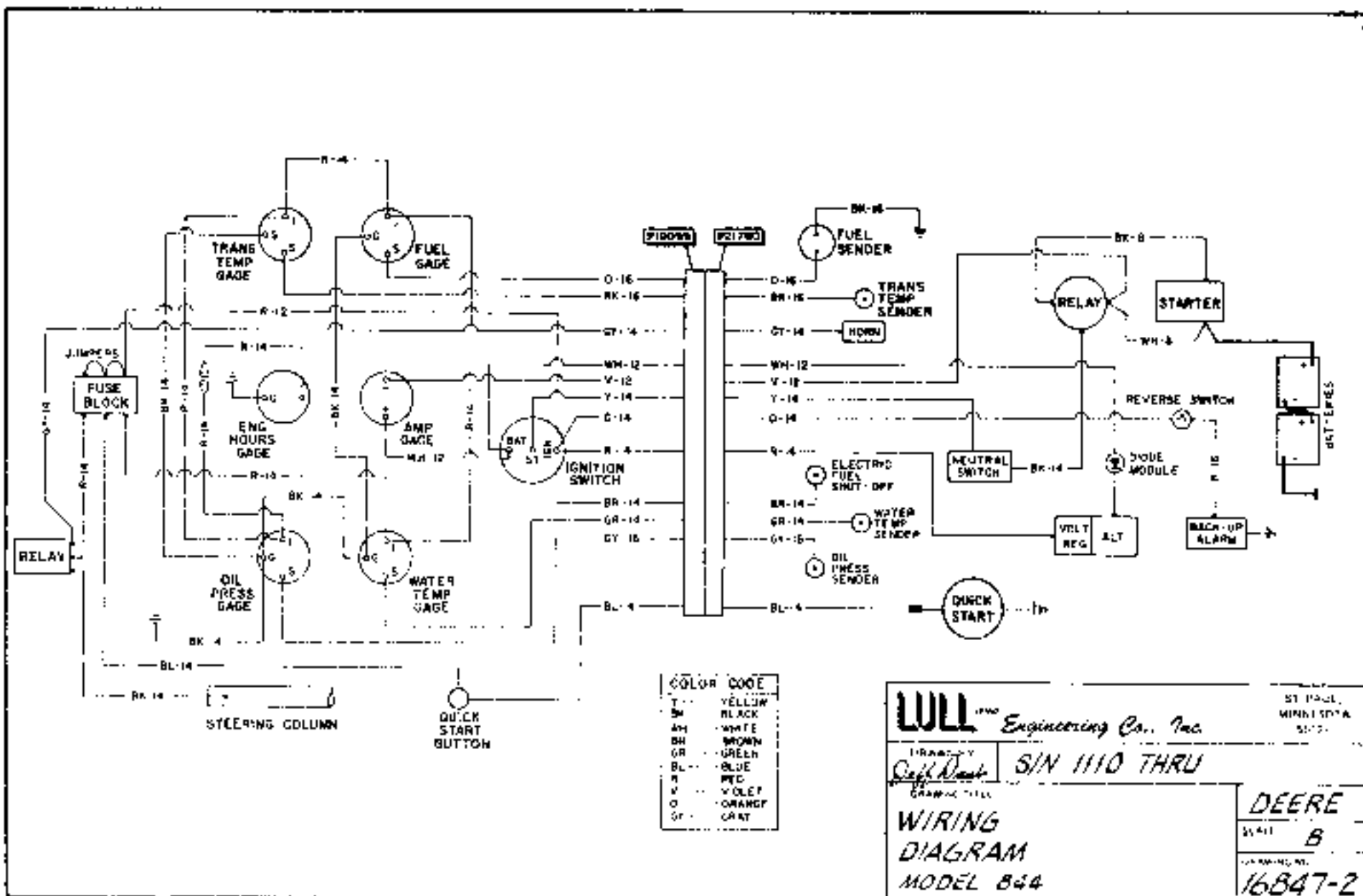
WIRING DIAGRAM

MODEL 844

DEERE

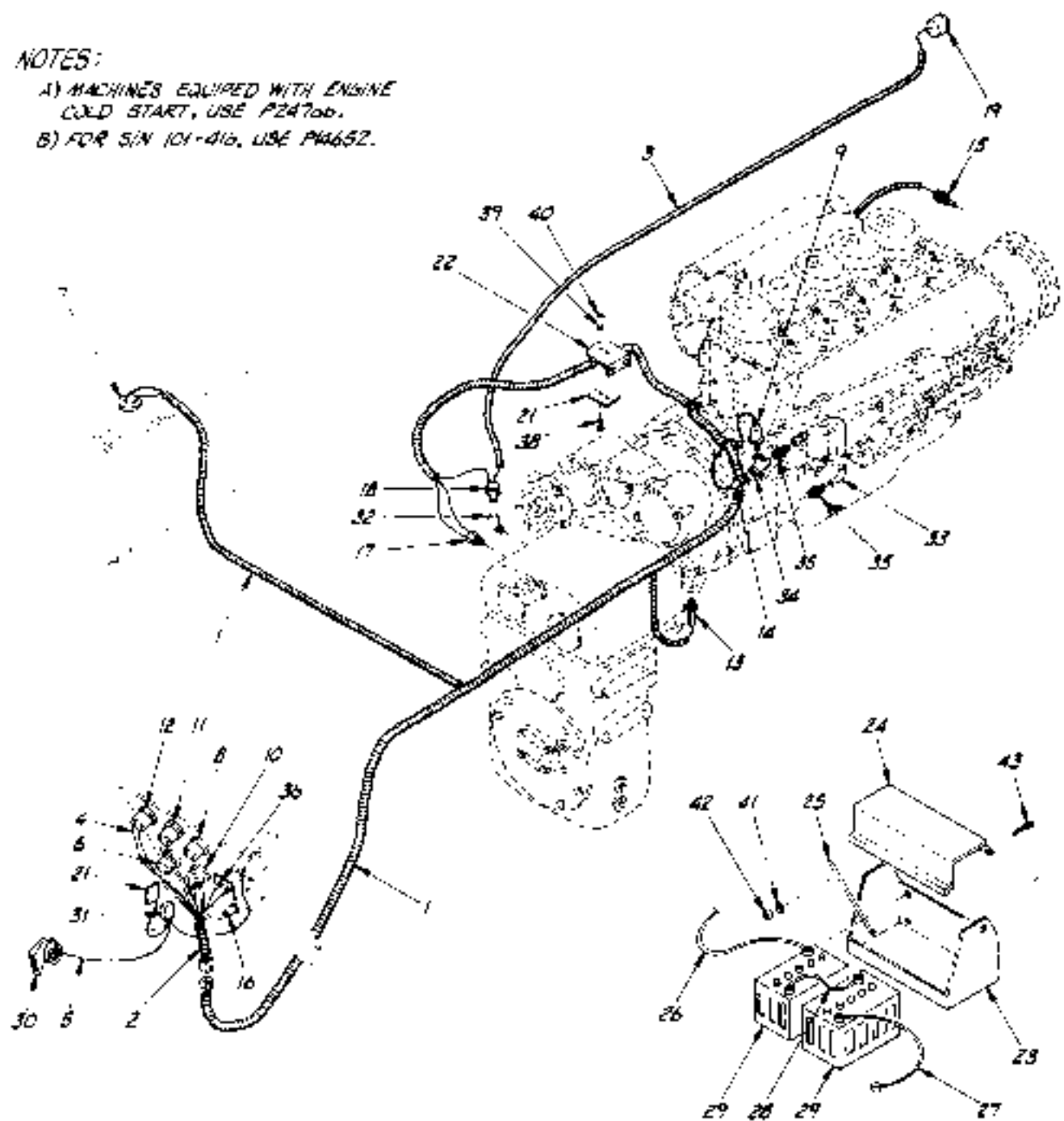
B

16847-1

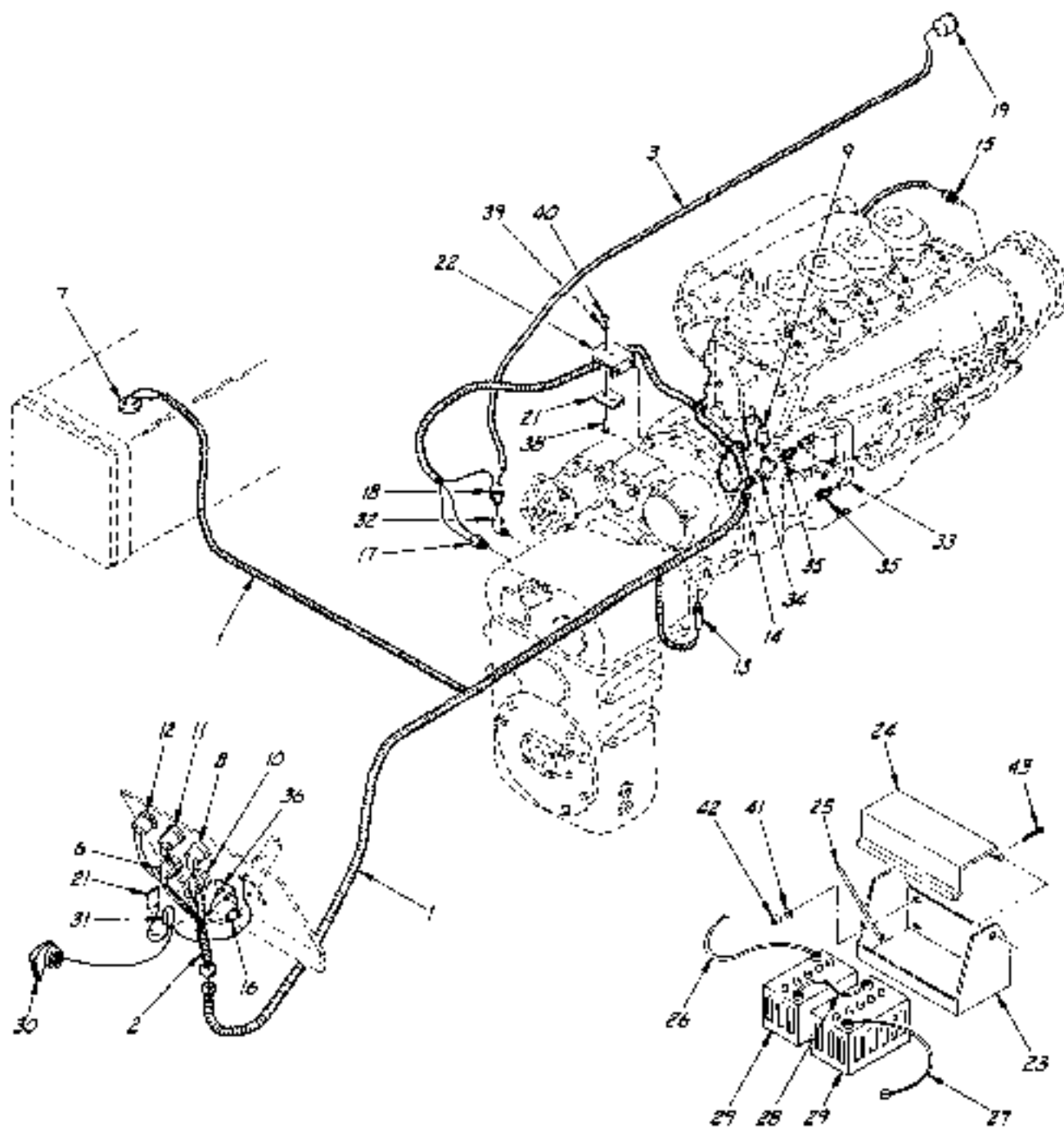


NOTES:

- A) MACHINES EQUIPPED WITH ENGINE COLD START, USE P247ab.
 B) FOR S/N 101-416, USE P44652.

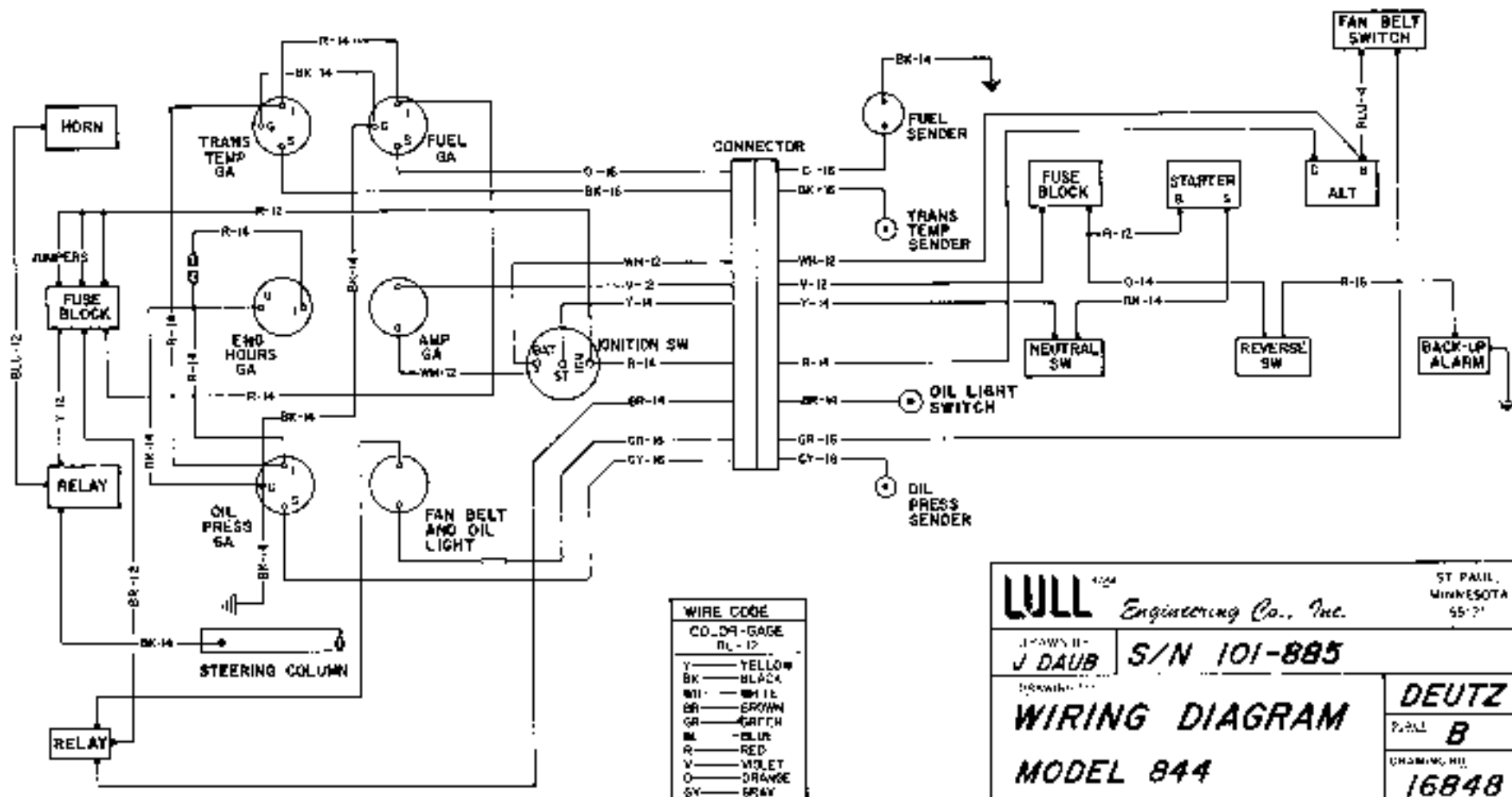


43	COM'L	COTTER PIN, 3/16" x 3/4"	4	
42	COM'L	NUT, HX 3/8" - 16	4	
41	COM'L	LOCKWASHER, 3/16"	4	
40	COM'L	NUT, HX 10-24	4	
39	COM'L	LOCKWASHER, #10	4	
38	COM'L	CAPSCREW, R.H. 10-24 x 1/2	4	
37	P17553	CLAMP, HARNESS	3	
36	P20770	FAN BELT & OIL LIGHT	2	
35	P20860	CONNECTOR, MALE	2	
34	17914A	TEE	1	
B)	33	P20428	OIL LINE	1
	32	P10215	45° ELBOW	1
	31	P13709	RELAY	2
	30	P13707	HORN	1
	29	P18121	BATTERY, 6 VOLT	2
	28	P18122	BATTERY CABLE, C.B.	1
	27	P18334	BATTERY CABLE, NEG.	1
	26	P18333	BATTERY CABLE, POS.	1
	25	17784A	HOLD DOWN ROD	2
	24	16335B	COVER, BATTERIES	1
	23	16344C	BATTERY BOX	1
	22	16273A	FUSE MOUNT BRKT.	1
	21	P19090	FUSE BLOCK	2
	20	P19103	FUSE, 50 AMP	2
	19	P13774	BACK-UP ALARM	1
	18	P19105	SWITCH, BACK-UP	1
	17	P18673	SWITCH, NET. START	1
A)	16	P12630	SWITCH, IGNITION	1
	15	P20954	SWITCH, FAN BELT LIGHT	1
	14	P20953	SWITCH, OIL LIGHT	1
	13	P19672	SENDER, TRANS. OIL	1
	12	P18734	GAUGE, TRANS. OIL	1
	11	P18733	GAUGE, HOURMETER	1
	10	P18732	GAUGE, AMPMETER	1
	9	P18731	SENDER, OIL PRESS.	1
	8	P18730	GAUGE, OIL PRESS.	1
	7	P18729	SENDER, FUEL	1
	6	P18728	GAUGE, FUEL	1
	5	P19101	HARNESS, HORN	1
	4	P19284	HARNESS, GAUGE & GND.	1
	3	P19102	HARNESS, BACK-UP	1
	2	P21359	HARNESS, UPPER	1
	1	P21405	HARNESS, LOWER	1
REV	DATE	BY	CHKD	PRD.
<p>LUCC - Engineering Co., Inc. 27 S.W. 11th St., Miami, Florida 33132</p>				<p>DEUTZ DIV. C 16813</p>
<p>WIRING HARNESS ASSEMBLY MODEL 848</p>				<p>S/N 101-880</p>

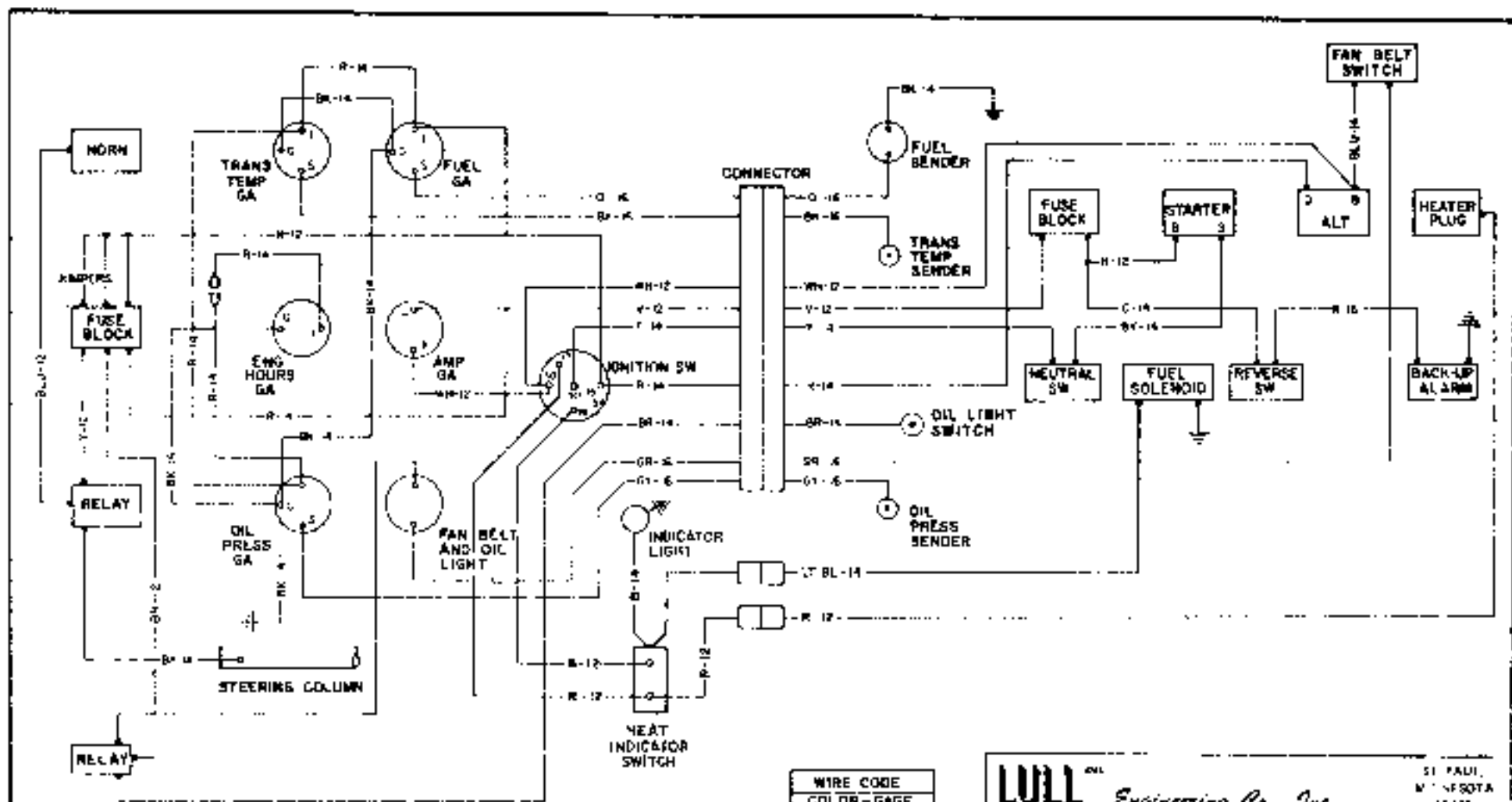


43	COM'L	COTTER PIN, 1/32" x 3/4"	2
42	COM'L	NUT, HK 3/16"-10 NC	4
41	COM'L	LOCKWASHER, 3/8"	4
40	COM'L	NUT, HK 10-24 NC	4
39	COM'L	LOCKWASHER, #10	4
38	COM'L	CAPSCREW, R.H. 10-24 x 1/2	4
37	P17558	CLAMP, HARNESS	3
36	P20970	FAN BELT & OIL LIGHT	2
35	P20866	CONNECTOR, MALE	2
34	17916A	TEE WELDMENT	1
33	P20408	OIL LINE	1
32	P2215	45° ELBOW	1
31	P13709	RELAY	2
30	P13701	HORN	1
29	P18121	BATTERY, 6 VOLT	2
28	P18122	BATTERY CABLE, C.B.	1
27	P19834	BATTERY CABLE, NEG.	1
26	P19833	BATTERY CABLE, POS	1
25	17784A	HOLD DOWN ROD	2
24	163558	COVER, BATTERIES	1
23	16344C	BATTERY BOX	1
22	16273A	FUSE MOUNT BRKT.	1
21	P19096	FUSE BLOCK	2
20	P19103	FUSE, SFE 30 AMP	4
19	P13774	BACK-UP ALARM	1
18	P19105	SWITCH, BACK-UP	1
17	P18623	SWITCH, NET. START	1
16	P24766	SWITCH, IGNITION	REF
15	P20954	SWITCH, FAN BELT LIGHT	1
14	P20953	SWITCH, OIL LIGHT	1
13	P19472	SENDER, TRANS. OIL	1
12	P23220	GAUGE, TRANS. OIL	1
11	P23219	GAUGE, HOURMETER	1
10	P23218	GAUGE, AMMETER	1
9	P23217	SENDER, OIL PRESS.	1
8	P23216	GAUGE, OIL PRESS.	1
7	P23215	SENDER, FUEL	1
6	P23214	GAUGE, FUEL	1
5			1
4			1
3	P19102	HARNESS, BACK-UP	1
2	P21559	HARNESS, UPPER	1
1	P21405	HARNESS, LOWER	1

ITEM	QUANTITY	DESCRIPTION	REMARKS
DEUTZ Engineering Co., Inc. DE MEX. MINNEAPOLIS 16121			
TRANS. NO.	S/N 861, 867 THRU		
DATE	1954.7.15		
WIRING HARNESS ASSEMBLY		DEUTZ	
MODEL 844		PART NO. 16813-1	



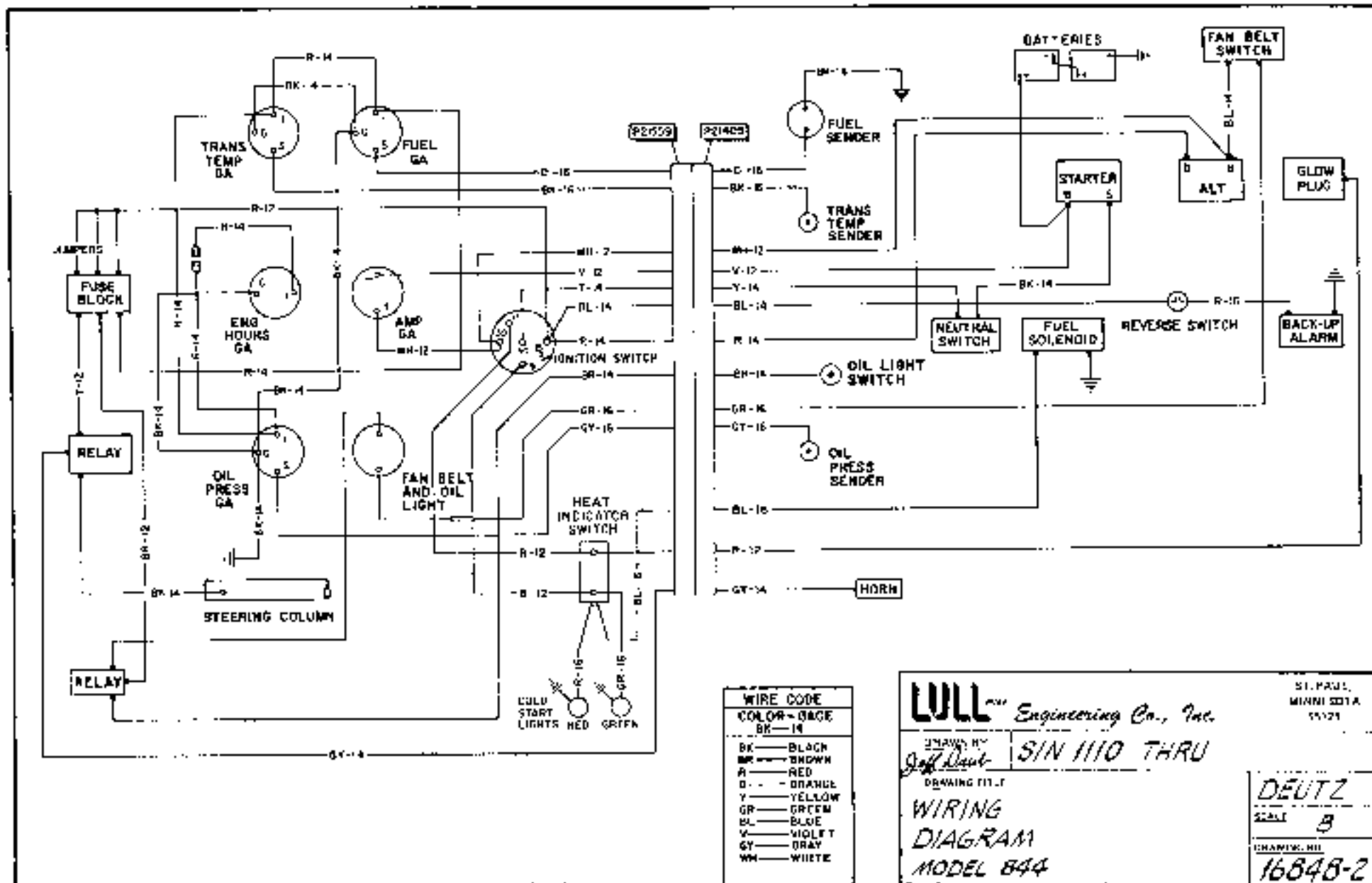
LULL ¹¹²⁴ Engineering Co., Inc.		ST. PAUL, MINNESOTA 55107
DRAWN BY J. DAUB	S/N 101-885	
WIRING DIAGRAM		DEUTZ
MODEL 844		PART B
		DRAWING NO. 16848

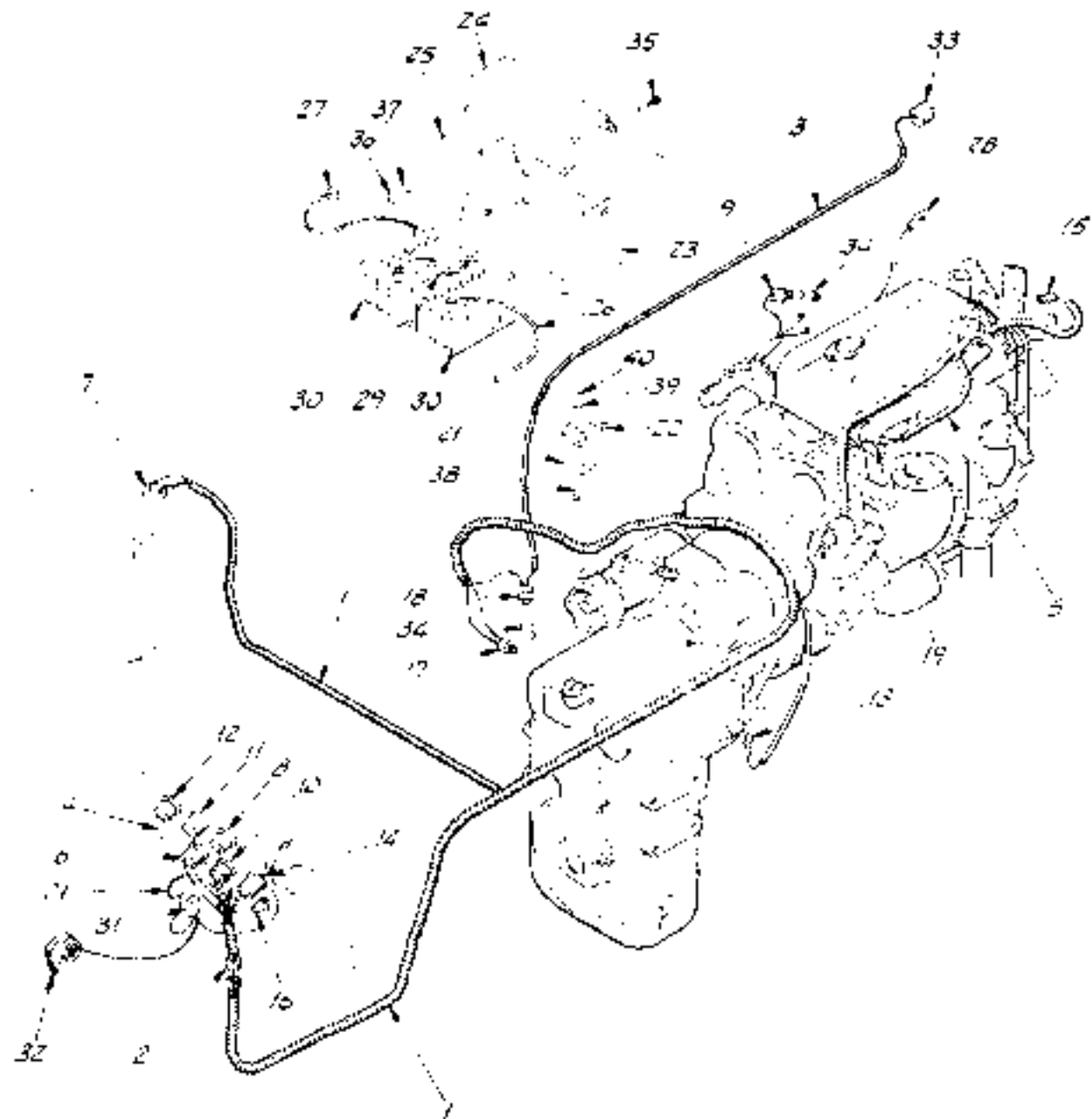


WIRE CODE	COLOR - GAGE
BK	BLACK
BR	BROWN
R	RED
O	ORANGE
Y	YELLOW
GR	GREEN
B	BLUE
V	VIOLET
GY	GRAY
WH	WHITE

LULL Engineering Co., Inc.
 ST. PAUL, MINNESOTA 55101
 DRAWN BY *Jeff Davis* SIN 886 THRU
 DRAWING NO. 1721
WIRING DIAGRAM
MODEL 844

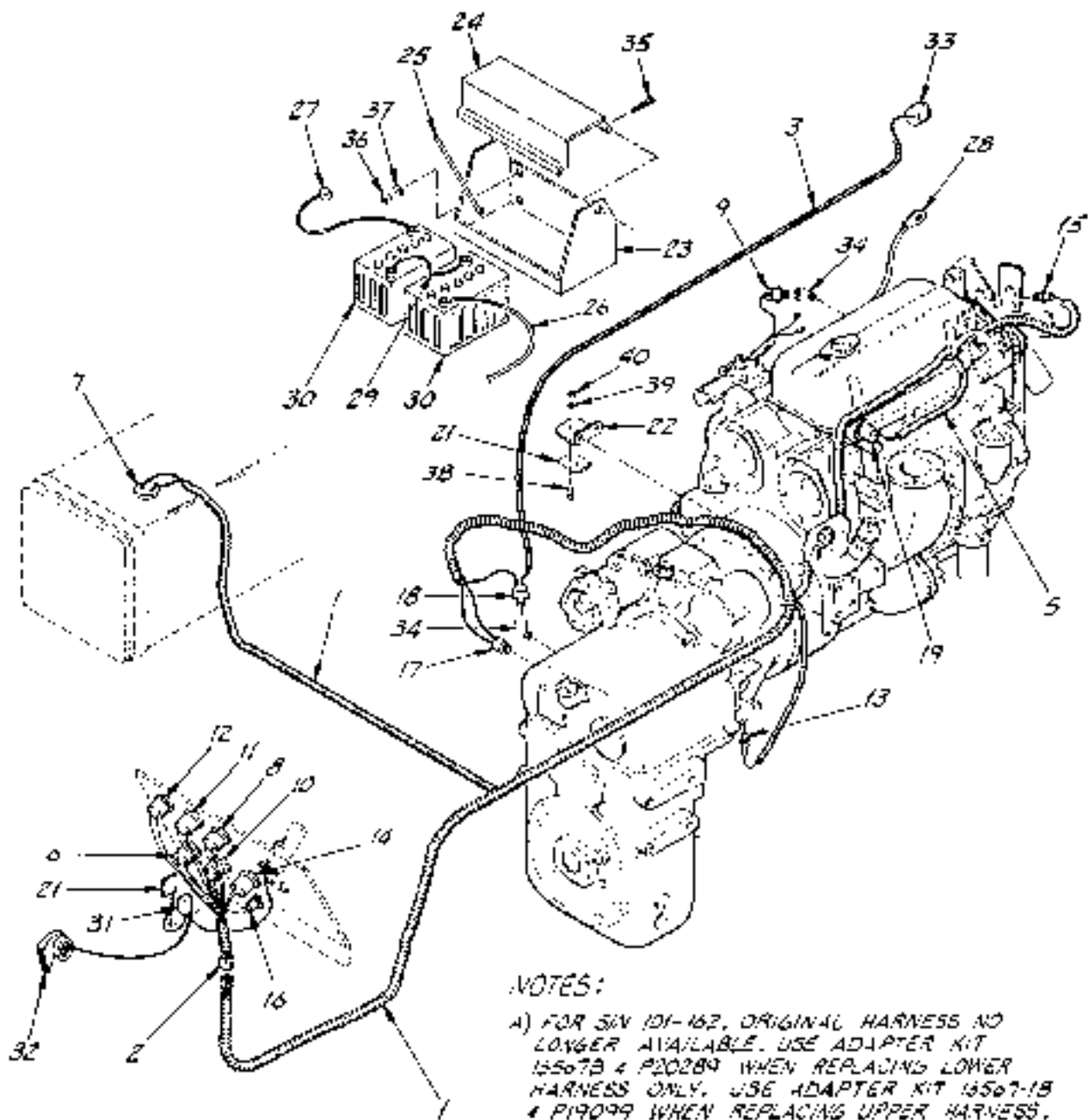
DEUTZ
 ALL B
 DRAWING NO. 16848-1





40	CONN.	WIRE, AX #10-26	2
39	CONN.	LOCKWASHER, # 10	2
38	CONN.	CAPSCREW, #10-24 X 1/2	2
37	CONN.	LOCKWASHER, #8	4
36	CONN.	WIRE, AX #8-10	4
35	CONN.	WIRE, AX #8-10	4
34	PLATE	45" E. BOLL. STREET	2
33	PLATE	BACK-UP 4-4-41	1
32	PLATE	WIRE	1
31	PLATE	WIRE RELAY	1
30	PLATE	BATTERY, 6 VOLT	2
29	PLATE	BATTERY CABLE, C.B.	1
28	PLATE	BATTERY CABLE, END	1
27	PLATE	BATTERY CABLE, LEG	1
26	PLATE	BATTERY CABLE, POS.	1
25	PLATE	WIRE, WIRE	2
24	PLATE	COVER, BATTERY	1
23	PLATE	BATTERY BOX	1
22	PLATE	FUSE MOUNT BRKT	1
21	PLATE	FUSE BLOCK	2
20	PLATE	FUSE, 50A 30 AMP	6
19	PLATE	SWITCH, PRESSURE	1
18	PLATE	SWITCH, BACK-UP	1
17	PLATE	SWITCH, NEUTRAL	1
16	PLATE	SWITCH, IGNITION	1
15	PLATE	SENDER, WATER TEMP	1
14	PLATE	GAUGE, WATER TEMP	1
13	PLATE	SENDER, TRANS. OIL	1
12	PLATE	GAUGE, TRANS. OIL	1
11	PLATE	GAUGE, HOURMETER	1
10	PLATE	GAUGE, AIRMETER	1
9	PLATE	SENDER, OIL PRESS	1
8	PLATE	GAUGE, OIL PRESS	1
7	PLATE	SENDER, FUEL	1
6	PLATE	GAUGE, FUEL	1
5	PLATE	HARNES, SWITCH-ALT.	1
4	PLATE	HARNES, WND-TOUGHS	1
3	PLATE	HARNES, BACK-UP	1
2	PLATE	HARNES, UPPER	1
1	PLATE	HARNES, LOWER	1

ITEM	PART NO.	DESCRIPTION	QTY.
LOLL Engineering Co., Inc.			
DRAWN BY: DAUB 5/14 220-886			
CHECKED BY:			
WIRING HARNESS ASSEMBLY			DETROIT, MICH. C
MODEL 300			16814



NOTES:

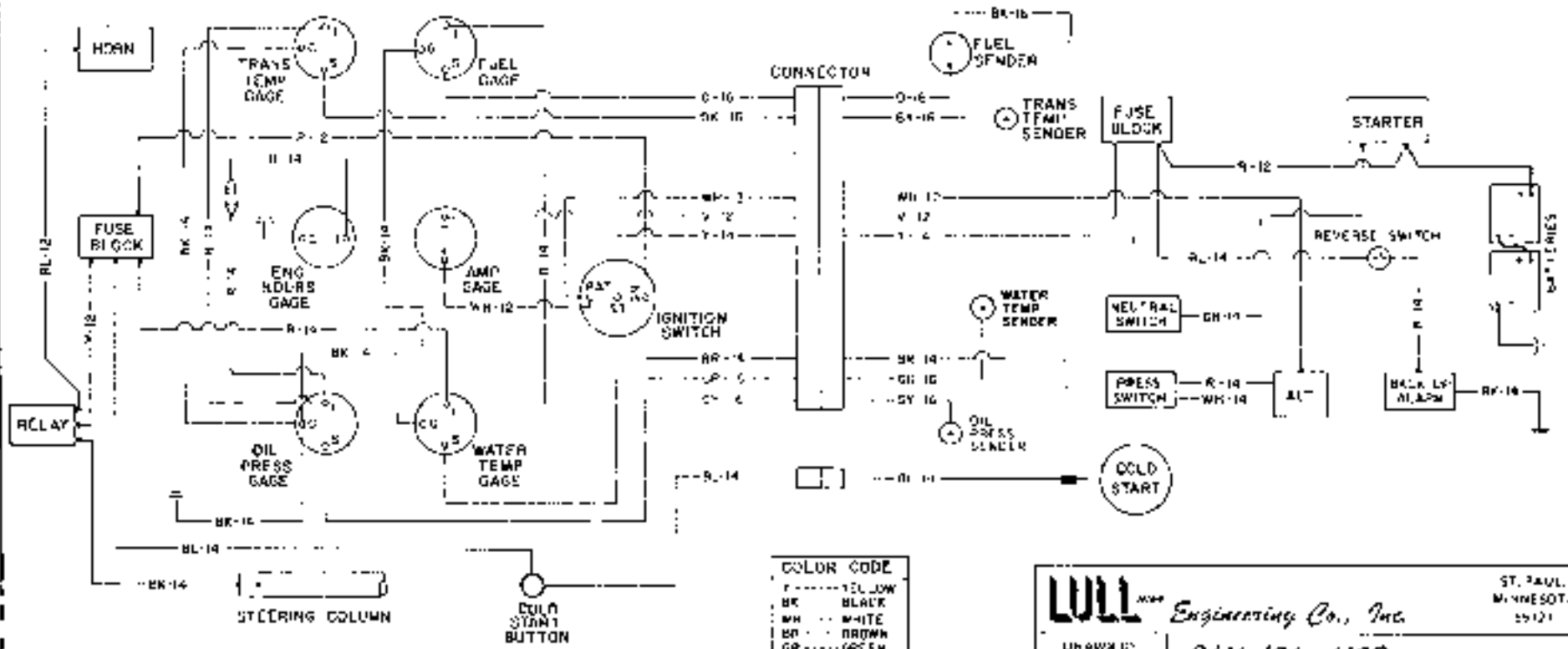
A) FOR SIX 101-162, ORIGINAL HARNESS NO LONGER AVAILABLE. USE ADAPTER KIT 16507B & P20289 WHEN REPLACING LOWER HARNESS ONLY. USE ADAPTER KIT 16507-1B & P19099 WHEN REPLACING UPPER HARNESS. ADAPTER KITS NOT NEEDED WHEN REPLACING BOTH HARNESSES.

40	COM'L	NUT, HX 10-24 NC	2
39	COM'L	LOCKWASHER, # 10	2
38	COM'L	CAPSCREW, RH 10-24-1/2	2
37	COM'L	LOCKWASHER, #18	4
36	COM'L	NUT, HX #8-16 NC	4
35	COM'L	COTTER PIN, #21 x #8	4
34	P15093	45° ELBOW	2
33	P13776	BACK-UP ALARM	1
32	P13707	HORN	1
31	P13709	HORN RELAY	1
30	P19076	BATTERY, 6 VOLT	2
29	P18182	BATTERY CABLE, C.B.	1
28	P19835	BATTERY CABLE, SND.	1
27	P19834	BATTERY CABLE, NEG	1
26	P19833	BATTERY CABLE, POS.	1
25	16357A	HOLD DOWN ROD	2
24	16355B	COVER, BATTERIES	1
23	16344C	BATTERY BOX	1
22	16273A	FUSE MOUNT BRKT	1
21	P19098	FUSE BLOCK	2
20	P19109	FUSE, 5FE 30 AMP	4
19	P20888	SWITCH, ALTERNATOR	1
18	P19105	SWITCH, BACK-UP	1
17	P16673	SWITCH, NEUTRAL	1
16	P12634	SWITCH, IGNITION	1
15	P23227	SENDER, WATER TEMP	1
14	P23221	GAUGE, WATER TEMP	1
13	P19172	SENDER, TRANS. OIL	1
12	P23220	GAUGE, TRANS. OIL	1
11	P23219	GAUGE, HOURMETER	1
10	P23218	GAUGE, AMMETER	1
9	P23217	SENDER, OIL PRESS.	1
8	P23216	GAUGE, OIL PRESS.	1
7	P23215	SENDER, FUEL	1
6	P23214	GAUGE, FUEL	1
5	P19529	HARNESS, SWITCH-ALT.	1
4			
3	P19102	HARNESS, BACK-UP	1
2	P19099	HARNESS, UPPER	1
1	P21279	HARNESS, LOWER	1

A)
A)

ITEM	PART NO.	DESCRIPTION	QTY.
LU Engineering Co., Inc. 1ST FLOOR MILWAUKEE WI 53211			
DRAWN BY: JGAUB			
CHECKED BY: JGAUB			
DATE: 11-11-61			
SIN 101-219, 267 THRU			
WIRING HARNESS ASSEMBLY			DETROIT
MODEL 844			SHEET C
16814-1			OF 1

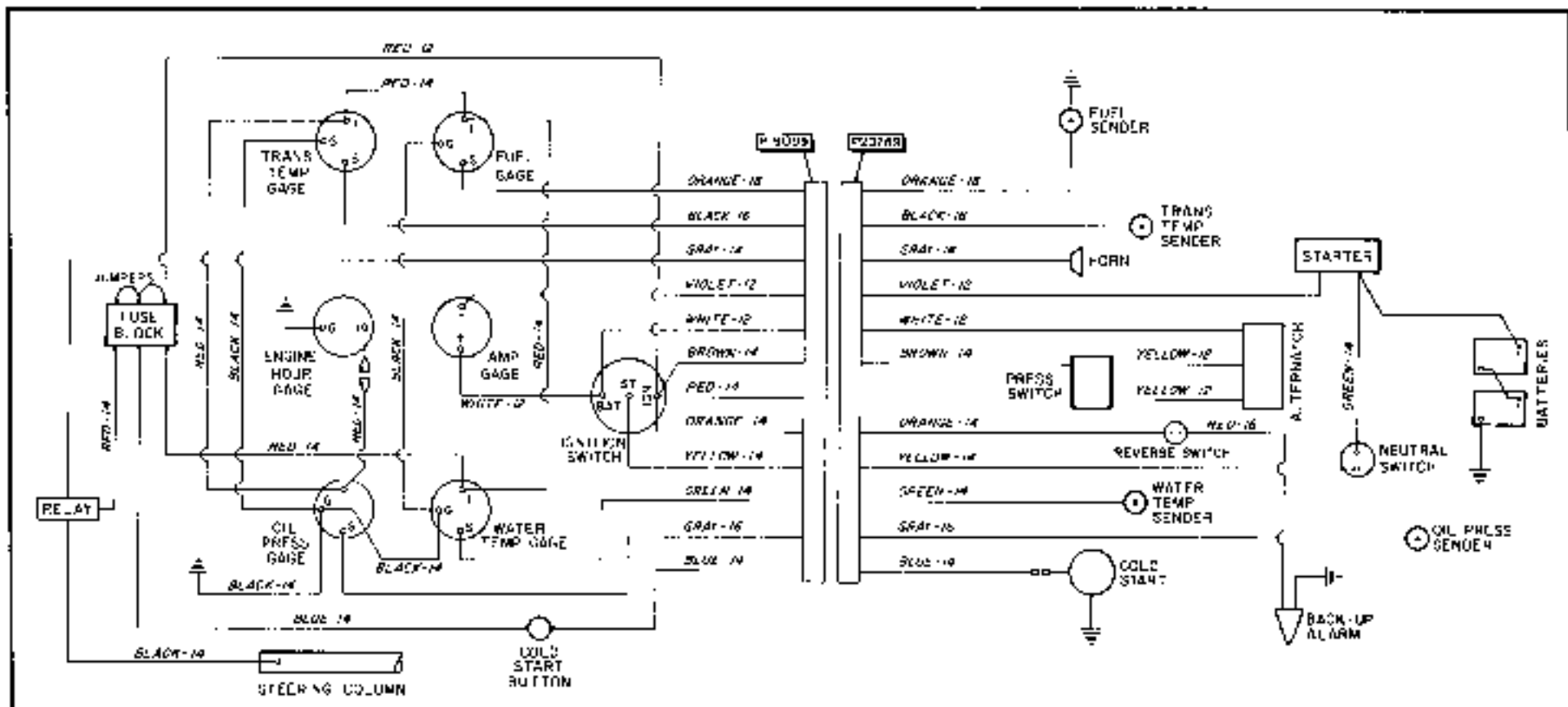
H-4



NOTE:
COLD START STANDARD
EQUIPMENT, S/N 973 THRU.

COLOR CODE	
Y	YELLOW
BK	BLACK
WH	WHITE
BR	BROWN
GR	GREEN
BL	BLUE
R	RED
V	VIOLET
O	ORANGE
GY	GRAY

LULL Engineering Co., Inc. DRAWN BY: <i>Jeff Dault</i> S/N 101-1109 DRAWING NO. 1	ST. PAUL, MINNESOTA 55121
	DETROIT
WIRING DIAGRAM MODEL 844	SHEET B
	16849

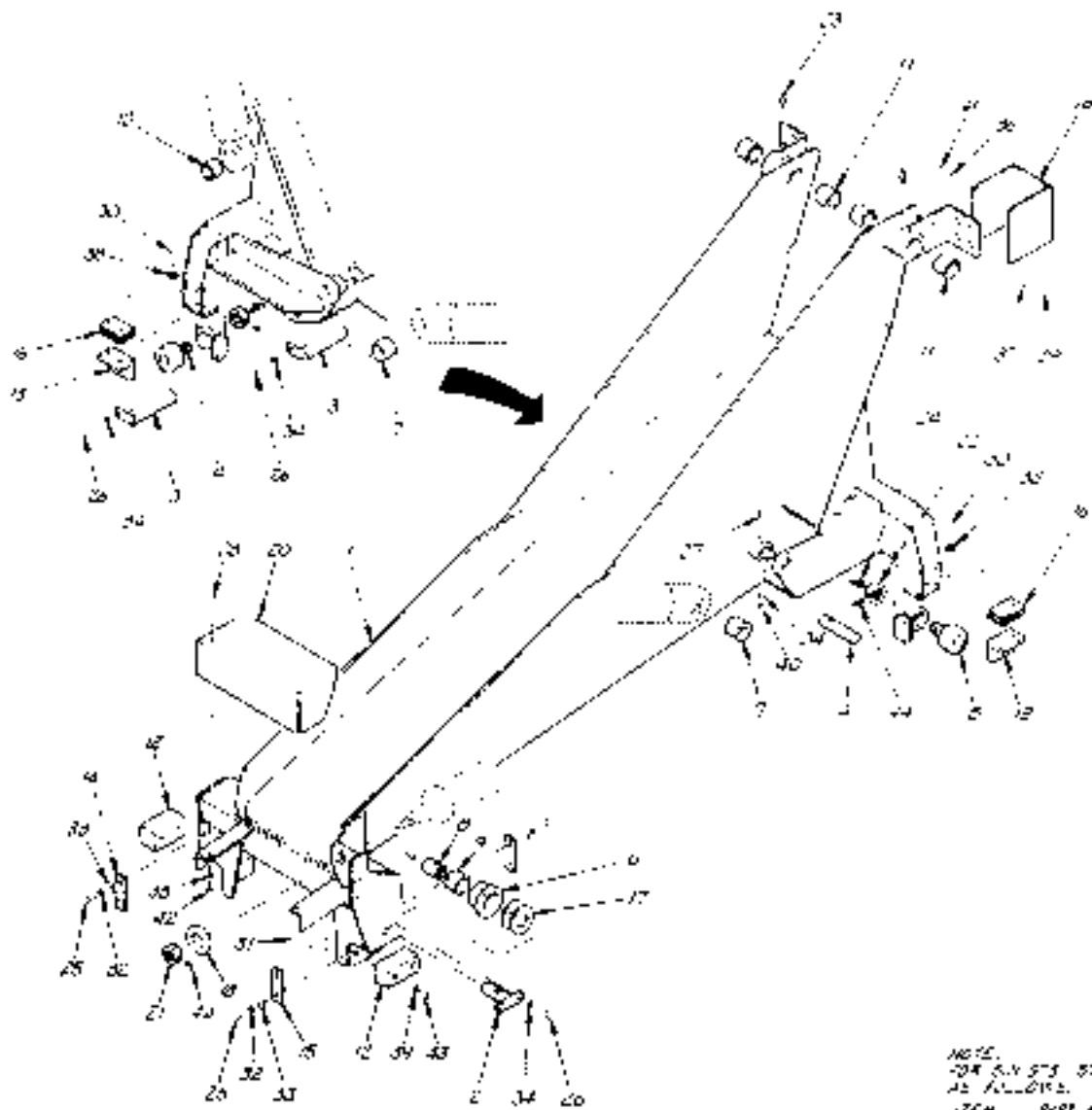


LULL Engineering Co., Inc.
 ST. PAUL, MINNESOTA 55117

DESIGNED BY *Jeff Davis* SIN 1110 THRU
 DRAWN BY [Signature] CHANGE 1111

WIRING DIAGRAM
MODEL 844

DETROIT
 2221 B
 16849-1

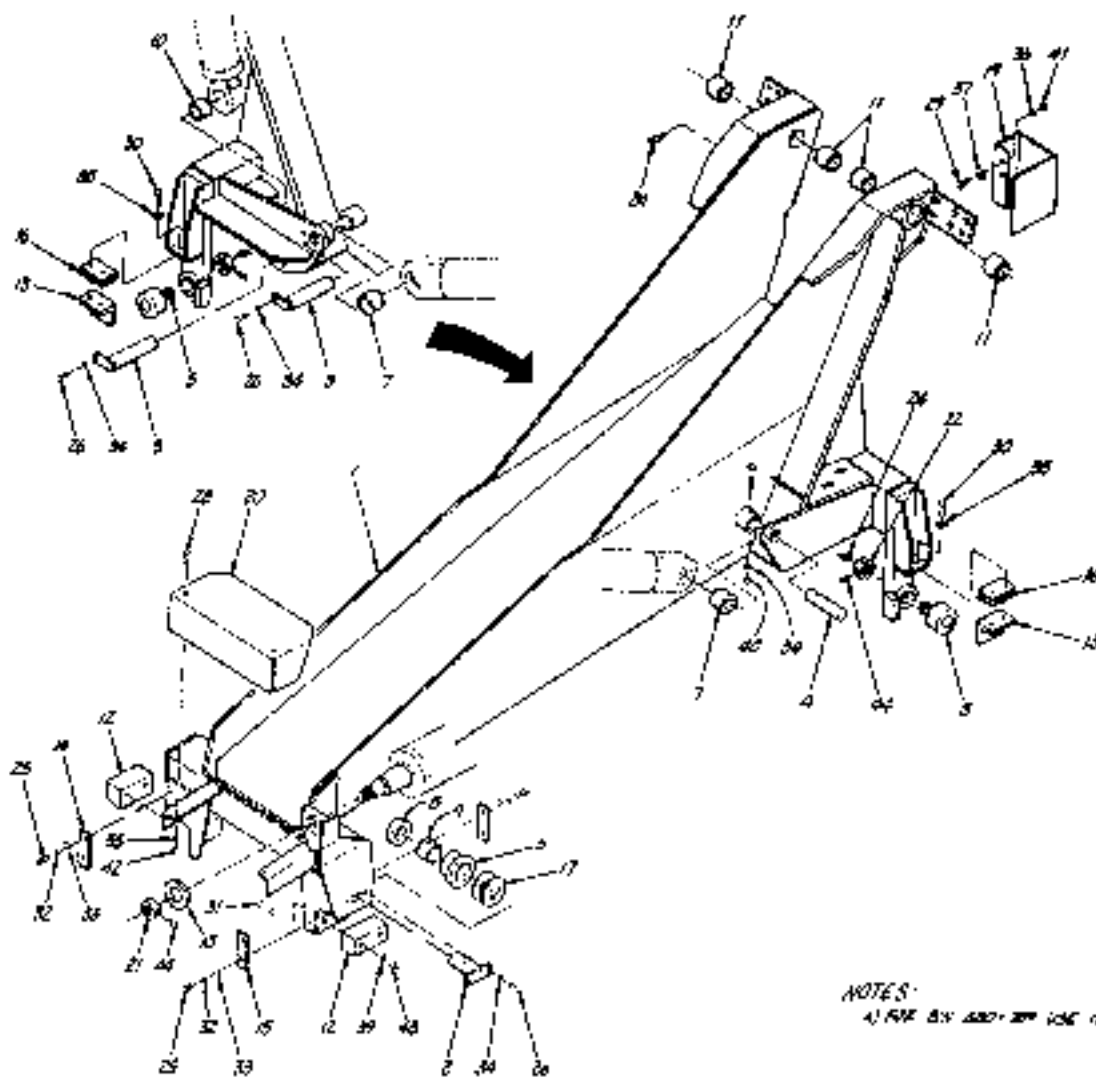


NOTE:
 FOR S.Y. 573 577 USE
 AS ALLOWED.

1208	567 50
7	1714 54
7	1730 4
7	1830 1

1	COM. 1000 0000 00 00 00	1
2	COM. 1000 0000 00 00 00	1
3	COM. 1000 0000 00 00 00	1
4	COM. 1000 0000 00 00 00	1
5	COM. 1000 0000 00 00 00	1
6	COM. 1000 0000 00 00 00	1
7	COM. 1000 0000 00 00 00	1
8	COM. 1000 0000 00 00 00	1
9	COM. 1000 0000 00 00 00	1
10	COM. 1000 0000 00 00 00	1
11	COM. 1000 0000 00 00 00	1
12	COM. 1000 0000 00 00 00	1
13	COM. 1000 0000 00 00 00	1
14	COM. 1000 0000 00 00 00	1
15	COM. 1000 0000 00 00 00	1
16	COM. 1000 0000 00 00 00	1
17	COM. 1000 0000 00 00 00	1
18	COM. 1000 0000 00 00 00	1
19	COM. 1000 0000 00 00 00	1
20	COM. 1000 0000 00 00 00	1
21	COM. 1000 0000 00 00 00	1
22	COM. 1000 0000 00 00 00	1
23	COM. 1000 0000 00 00 00	1
24	COM. 1000 0000 00 00 00	1
25	COM. 1000 0000 00 00 00	1
26	COM. 1000 0000 00 00 00	1
27	COM. 1000 0000 00 00 00	1
28	COM. 1000 0000 00 00 00	1
29	COM. 1000 0000 00 00 00	1
30	COM. 1000 0000 00 00 00	1
31	COM. 1000 0000 00 00 00	1
32	COM. 1000 0000 00 00 00	1
33	COM. 1000 0000 00 00 00	1
34	COM. 1000 0000 00 00 00	1
35	COM. 1000 0000 00 00 00	1
36	COM. 1000 0000 00 00 00	1
37	COM. 1000 0000 00 00 00	1
38	COM. 1000 0000 00 00 00	1
39	COM. 1000 0000 00 00 00	1
40	COM. 1000 0000 00 00 00	1
41	COM. 1000 0000 00 00 00	1
42	COM. 1000 0000 00 00 00	1
43	COM. 1000 0000 00 00 00	1
44	COM. 1000 0000 00 00 00	1
45	COM. 1000 0000 00 00 00	1
46	COM. 1000 0000 00 00 00	1
47	COM. 1000 0000 00 00 00	1
48	COM. 1000 0000 00 00 00	1
49	COM. 1000 0000 00 00 00	1
50	COM. 1000 0000 00 00 00	1
51	COM. 1000 0000 00 00 00	1
52	COM. 1000 0000 00 00 00	1
53	COM. 1000 0000 00 00 00	1
54	COM. 1000 0000 00 00 00	1
55	COM. 1000 0000 00 00 00	1
56	COM. 1000 0000 00 00 00	1
57	COM. 1000 0000 00 00 00	1
58	COM. 1000 0000 00 00 00	1
59	COM. 1000 0000 00 00 00	1
60	COM. 1000 0000 00 00 00	1
61	COM. 1000 0000 00 00 00	1
62	COM. 1000 0000 00 00 00	1
63	COM. 1000 0000 00 00 00	1
64	COM. 1000 0000 00 00 00	1
65	COM. 1000 0000 00 00 00	1
66	COM. 1000 0000 00 00 00	1
67	COM. 1000 0000 00 00 00	1
68	COM. 1000 0000 00 00 00	1
69	COM. 1000 0000 00 00 00	1
70	COM. 1000 0000 00 00 00	1
71	COM. 1000 0000 00 00 00	1
72	COM. 1000 0000 00 00 00	1
73	COM. 1000 0000 00 00 00	1
74	COM. 1000 0000 00 00 00	1
75	COM. 1000 0000 00 00 00	1
76	COM. 1000 0000 00 00 00	1
77	COM. 1000 0000 00 00 00	1
78	COM. 1000 0000 00 00 00	1
79	COM. 1000 0000 00 00 00	1
80	COM. 1000 0000 00 00 00	1
81	COM. 1000 0000 00 00 00	1
82	COM. 1000 0000 00 00 00	1
83	COM. 1000 0000 00 00 00	1
84	COM. 1000 0000 00 00 00	1
85	COM. 1000 0000 00 00 00	1
86	COM. 1000 0000 00 00 00	1
87	COM. 1000 0000 00 00 00	1
88	COM. 1000 0000 00 00 00	1
89	COM. 1000 0000 00 00 00	1
90	COM. 1000 0000 00 00 00	1
91	COM. 1000 0000 00 00 00	1
92	COM. 1000 0000 00 00 00	1
93	COM. 1000 0000 00 00 00	1
94	COM. 1000 0000 00 00 00	1
95	COM. 1000 0000 00 00 00	1
96	COM. 1000 0000 00 00 00	1
97	COM. 1000 0000 00 00 00	1
98	COM. 1000 0000 00 00 00	1
99	COM. 1000 0000 00 00 00	1
100	COM. 1000 0000 00 00 00	1

WILL
 TRANSFER CARTRIDGE
 ASS'Y
 1000 000



NOTES:
 1) SEE BY 480-200 USE 15706

44	CONN	SET SCREW, 3/8-16 X 1/2
43	CONN	NUT, NR. 3/8-16 NC
42	CONN	NUT, NR. 3/8-16 NC
41	CONN	NUT, NR. 3/8-16 NC
40	CONN	NUT, NR. 3/8-16 NC
39	CONN	LOCKWASHER, 3/8"
38	CONN	SPACER WASHER, 3/8"
37	CONN	FLAT WASHER, 3/8"
36	CONN	LOCKWASHER, 3/8"
35	CONN	LOCKWASHER, 3/8"
34	CONN	FLAT WASHER, 3/8"
33	CONN	LOCKWASHER, 3/8"
32	CONN	LOCKWASHER, 3/8"
31	CONN	BOLT, NR. 3/8-16 X 1 1/2
30	CONN	BOLT, NR. 3/8-16 X 1 1/2
29	CONN	BOLT, NR. 3/8-16 X 1 1/2
28	CONN	BOLT, NR. 3/8-16 X 1 1/2
27	CONN	BOLT, NR. 3/8-16 X 1 1/2
26	CONN	BOLT, NR. 3/8-16 X 1 1/2
25	CONN	BOLT, NR. 3/8-16 X 1 1/2
24	CONN	WASHER, 3/8"
23	CONN	NUT, HEX SPECIAL
22	CONN	NUT, HEX SPECIAL
21	CONN	NOSE GUARD, FRONT
20	CONN	NOSE GUARD, REAR
19	CONN	SPACER, CYL. END
18	CONN	SPACER WASHER
17	CONN	SCRAPE, REAR SLIDE SHOE
16	CONN	SCRAPE PLATE, R.H.
15	CONN	SCRAPE PLATE, L.H.
14	CONN	SLIDE SHOE, REAR
13	CONN	SLIDE SHOE, FRONT
12	CONN	BUSHING, PIVOT
11	CONN	BUSHING, TILT CYL.
10	CONN	BUSHING, ROLLER
9	CONN	SPACER, ROLLER
8	CONN	BUSHING, DELTA ALIGN
7	CONN	ROLLER
6	CONN	CAM ROLLER
5	CONN	PIN, ADJUST CYL. BASE
4	CONN	PIN, ADJUST TILT CYL.
3	CONN	ROLLER SHAFT
2	CONN	TRANSFER CARRIAGE
1	CONN	TRANSFER CARRIAGE

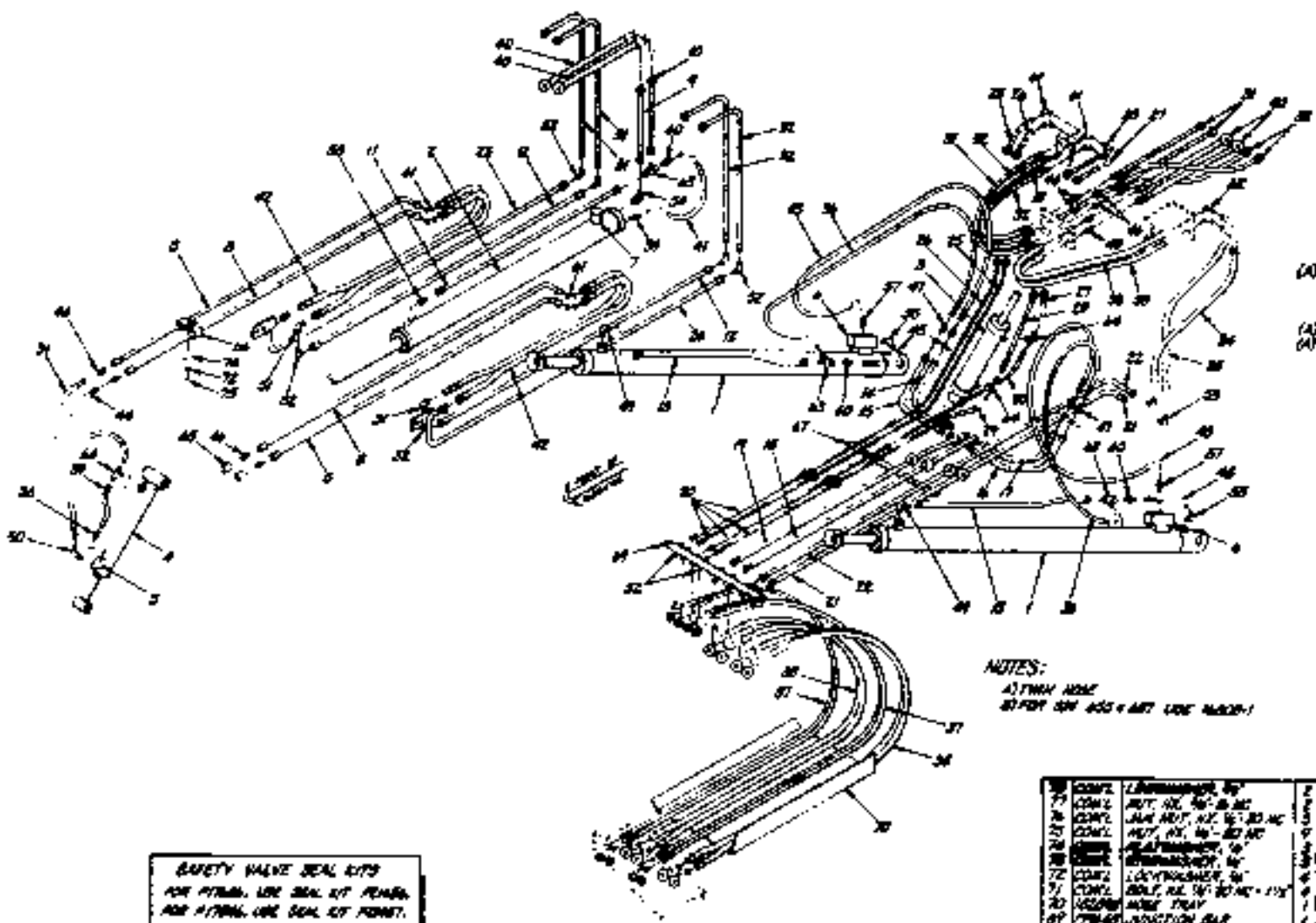
UUL - Equipment Co. Inc.

Part No. 480-200

TRANSFER CARRIAGE ASSEMBLY

MODEL END

15607-1



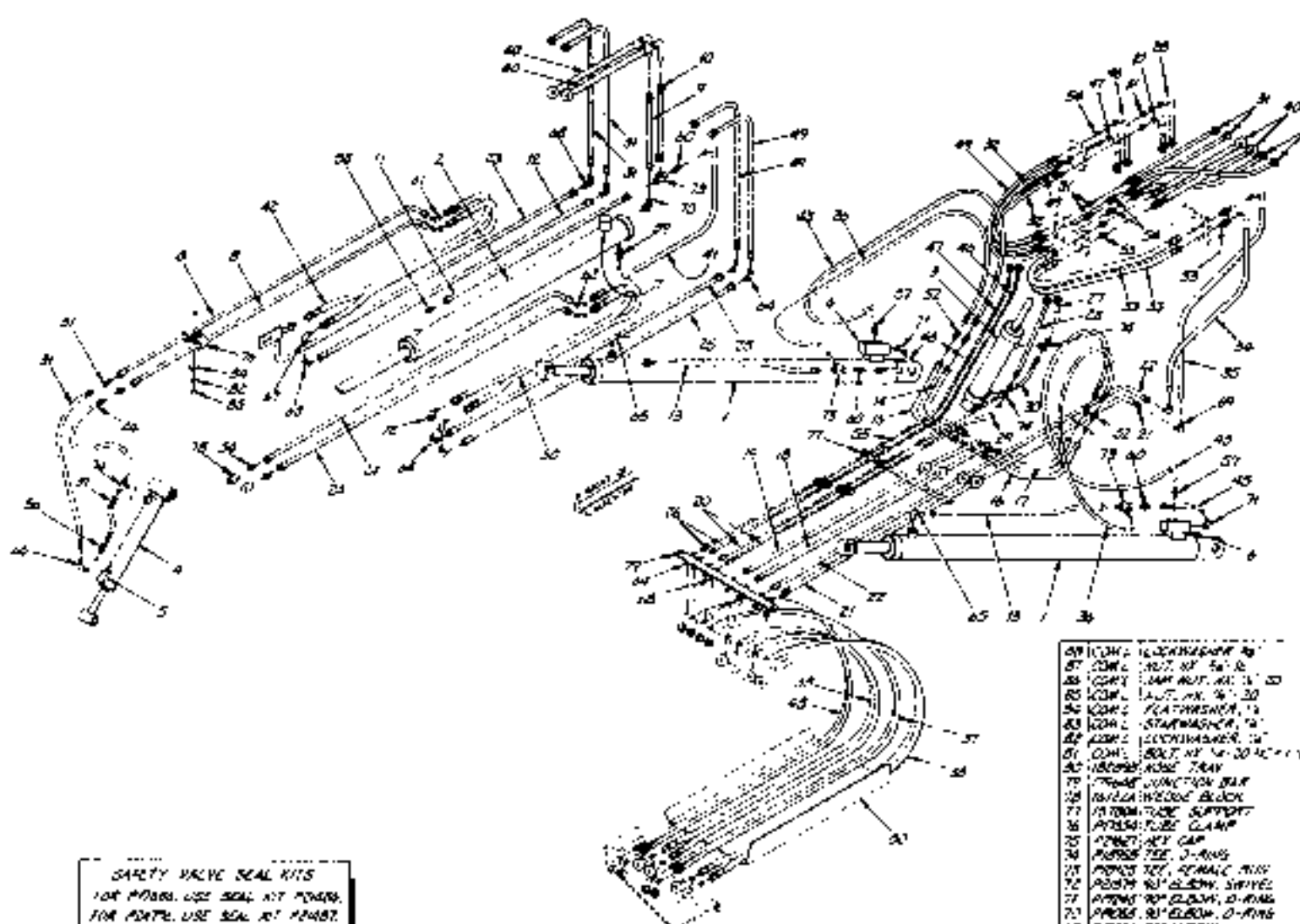
SAFETY VALVE SEAL KIT
 FOR FITTING, USE SEAL KIT P/N 484.
 FOR FITTING, USE SEAL KIT P/N 485.
 FOR FITTING, USE SEAL KIT P/N 486.

NOTES:
 1) FIRM ASSE
 2) FIRM 504 405 4 407 USE 405-1

77	CONN2	LOCKWASHER, 3/16"
76	CONN2	WAL. NUT, 3/16" X 3/16"
75	CONN2	WAL. NUT, 3/16" X 3/16"
74	CONN2	WAL. NUT, 3/16" X 3/16"
73	CONN2	WAL. NUT, 3/16" X 3/16"
72	CONN2	LOCKWASHER, 3/16"
71	CONN2	WAL. NUT, 3/16" X 3/16"
70	CONN2	WAL. NUT, 3/16" X 3/16"
69	CONN2	WAL. NUT, 3/16" X 3/16"
68	CONN2	WAL. NUT, 3/16" X 3/16"
67	CONN2	WAL. NUT, 3/16" X 3/16"
66	CONN2	WAL. NUT, 3/16" X 3/16"
65	CONN2	WAL. NUT, 3/16" X 3/16"
64	CONN2	WAL. NUT, 3/16" X 3/16"

48	FITTING	REG. ANGLE, 90°	1.00
49	FITTING	REG. ANGLE, 90°	1.00
50	FITTING	REG. ANGLE, 90°	1.00
51	FITTING	REG. ANGLE, 90°	1.00
52	FITTING	REG. ANGLE, 90°	1.00
53	FITTING	REG. ANGLE, 90°	1.00
54	FITTING	REG. ANGLE, 90°	1.00
55	FITTING	REG. ANGLE, 90°	1.00
56	FITTING	REG. ANGLE, 90°	1.00
57	FITTING	REG. ANGLE, 90°	1.00
58	FITTING	REG. ANGLE, 90°	1.00
59	FITTING	REG. ANGLE, 90°	1.00
60	FITTING	REG. ANGLE, 90°	1.00
61	FITTING	REG. ANGLE, 90°	1.00
62	FITTING	REG. ANGLE, 90°	1.00
63	FITTING	REG. ANGLE, 90°	1.00
64	FITTING	REG. ANGLE, 90°	1.00
65	FITTING	REG. ANGLE, 90°	1.00
66	FITTING	REG. ANGLE, 90°	1.00
67	FITTING	REG. ANGLE, 90°	1.00
68	FITTING	REG. ANGLE, 90°	1.00
69	FITTING	REG. ANGLE, 90°	1.00
70	FITTING	REG. ANGLE, 90°	1.00
71	FITTING	REG. ANGLE, 90°	1.00
72	FITTING	REG. ANGLE, 90°	1.00
73	FITTING	REG. ANGLE, 90°	1.00
74	FITTING	REG. ANGLE, 90°	1.00
75	FITTING	REG. ANGLE, 90°	1.00
76	FITTING	REG. ANGLE, 90°	1.00
77	FITTING	REG. ANGLE, 90°	1.00
78	FITTING	REG. ANGLE, 90°	1.00
79	FITTING	REG. ANGLE, 90°	1.00
80	FITTING	REG. ANGLE, 90°	1.00
81	FITTING	REG. ANGLE, 90°	1.00
82	FITTING	REG. ANGLE, 90°	1.00
83	FITTING	REG. ANGLE, 90°	1.00
84	FITTING	REG. ANGLE, 90°	1.00
85	FITTING	REG. ANGLE, 90°	1.00
86	FITTING	REG. ANGLE, 90°	1.00
87	FITTING	REG. ANGLE, 90°	1.00
88	FITTING	REG. ANGLE, 90°	1.00
89	FITTING	REG. ANGLE, 90°	1.00
90	FITTING	REG. ANGLE, 90°	1.00
91	FITTING	REG. ANGLE, 90°	1.00
92	FITTING	REG. ANGLE, 90°	1.00
93	FITTING	REG. ANGLE, 90°	1.00
94	FITTING	REG. ANGLE, 90°	1.00
95	FITTING	REG. ANGLE, 90°	1.00
96	FITTING	REG. ANGLE, 90°	1.00
97	FITTING	REG. ANGLE, 90°	1.00
98	FITTING	REG. ANGLE, 90°	1.00
99	FITTING	REG. ANGLE, 90°	1.00
100	FITTING	REG. ANGLE, 90°	1.00

ILL Engineering Co. Inc.
 1000 W. 10th St. (B)
 UPPER HYDRAULIC
 ASSEMBLY
 MODEL 80



SAFETY VALVE SEAL KITS
 FOR P4080, USE SEAL KIT P4080.
 FOR P4076, USE SEAL KIT P4087.
 FOR P4070, USE SEAL KIT P4088.

NOTES:
 1) DIM. 4002

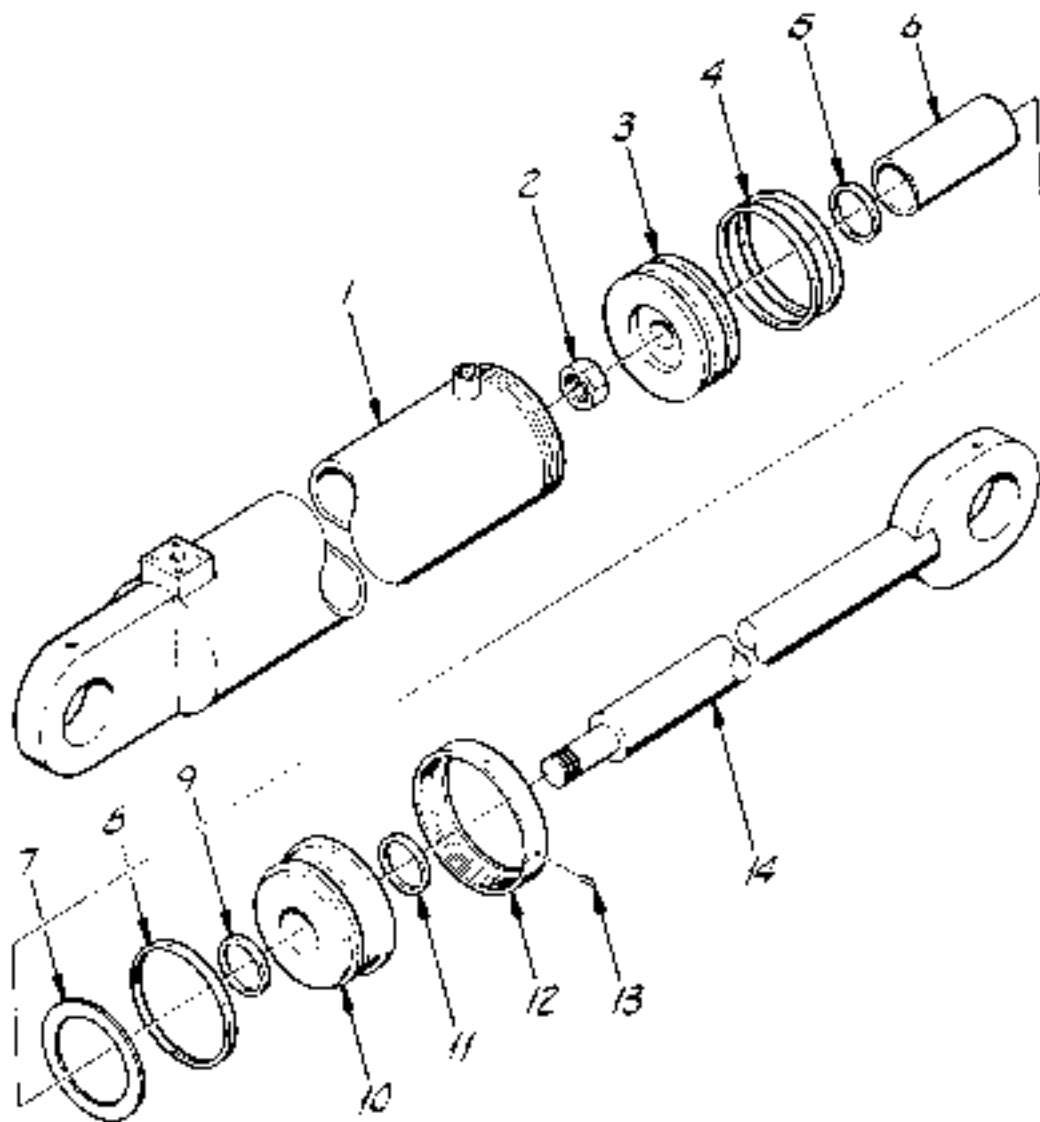
59	COIL	FEATHERING	10
57	COIL	SOFT	1/2" 10
58	COIL	SOFT	1/2" 10
56	COIL	SOFT	1/2" 10
55	COIL	FEATHERING	10
54	COIL	FEATHERING	10
53	COIL	FEATHERING	10
52	COIL	FEATHERING	10
51	COIL	SOFT	1/2" 10
50	UNION	MALE	1/2"
49	UNION	MALE	1/2"
48	UNION	MALE	1/2"
47	UNION	MALE	1/2"
46	UNION	MALE	1/2"
45	UNION	MALE	1/2"
44	UNION	MALE	1/2"
43	UNION	MALE	1/2"
42	UNION	MALE	1/2"
41	UNION	MALE	1/2"
40	UNION	MALE	1/2"
39	UNION	MALE	1/2"
38	UNION	MALE	1/2"
37	UNION	MALE	1/2"
36	UNION	MALE	1/2"
35	UNION	MALE	1/2"
34	UNION	MALE	1/2"
33	UNION	MALE	1/2"
32	UNION	MALE	1/2"
31	UNION	MALE	1/2"
30	UNION	MALE	1/2"
29	UNION	MALE	1/2"
28	UNION	MALE	1/2"
27	UNION	MALE	1/2"
26	UNION	MALE	1/2"
25	UNION	MALE	1/2"
24	UNION	MALE	1/2"
23	UNION	MALE	1/2"
22	UNION	MALE	1/2"
21	UNION	MALE	1/2"
20	UNION	MALE	1/2"
19	UNION	MALE	1/2"
18	UNION	MALE	1/2"
17	UNION	MALE	1/2"
16	UNION	MALE	1/2"
15	UNION	MALE	1/2"
14	UNION	MALE	1/2"
13	UNION	MALE	1/2"
12	UNION	MALE	1/2"
11	UNION	MALE	1/2"
10	UNION	MALE	1/2"
9	UNION	MALE	1/2"
8	UNION	MALE	1/2"
7	UNION	MALE	1/2"
6	UNION	MALE	1/2"
5	UNION	MALE	1/2"
4	UNION	MALE	1/2"
3	UNION	MALE	1/2"
2	UNION	MALE	1/2"
1	UNION	MALE	1/2"

68	P4080	45° ELBOW, BALL HEAD	1
67	P4077	45° ELBOW, BALL HEAD	1
66	P4082	CONNECTOR, MALE	1
65	P4082	CONNECTOR, MALE	1
64	P4084	CONNECTOR, O-RING	1
63	P4084	CONNECTOR, O-RING	1
62	P4084	CONNECTOR, MALE	1
61	P4085	UNION, MALE	1
60	P4078	UNION, BALL HEAD	1
59	P4081	UNION, BALL HEAD	1
58	P4081	UNION, BALL HEAD	1
57	P4081	UNION, BALL HEAD	1
56	P4081	UNION, BALL HEAD	1
(A) 55	P4083	HYD. HOSE	37' 00"
(A) 54	P4083	HYD. HOSE	50' 00"
(A) 53	P4083	HYD. HOSE	50' 00"
52	P4083	HYD. HOSE	50' 00"
51	P4083	HYD. HOSE	50' 00"
(A) 50	P4083	HYD. HOSE	50' 00"
49	P4083	HYD. HOSE	50' 00"
48	P4083	HYD. HOSE	50' 00"
47	P4083	HYD. HOSE	50' 00"
46	P4083	HYD. HOSE	50' 00"
45	P4083	HYD. HOSE	50' 00"
44	P4083	HYD. HOSE	50' 00"
43	P4083	HYD. HOSE	50' 00"
(A) 42	P4083	HYD. HOSE	50' 00"
41	P4083	HYD. HOSE	50' 00"
40	P4083	HYD. HOSE	50' 00"
39	P4083	HYD. HOSE	50' 00"
(A) 38	P4083	HYD. HOSE	50' 00"
(A) 37	P4083	HYD. HOSE	50' 00"
36	P4083	HYD. HOSE	50' 00"
35	P4083	HYD. HOSE	50' 00"
34	P4083	HYD. HOSE	50' 00"
33	P4083	HYD. HOSE	50' 00"
32	P4083	HYD. HOSE	50' 00"
31	P4083	HYD. HOSE	50' 00"
30	P4083	HYD. HOSE	50' 00"
29	P4083	HYD. HOSE	50' 00"
28	P4083	HYD. HOSE	50' 00"
27	P4083	HYD. HOSE	50' 00"
26	P4083	HYD. HOSE	50' 00"
25	P4083	HYD. HOSE	50' 00"
24	P4083	HYD. HOSE	50' 00"
23	P4083	HYD. HOSE	50' 00"
22	P4083	HYD. HOSE	50' 00"
21	P4083	HYD. HOSE	50' 00"
20	P4083	HYD. HOSE	50' 00"
19	P4083	HYD. HOSE	50' 00"
18	P4083	HYD. HOSE	50' 00"
17	P4083	HYD. HOSE	50' 00"
16	P4083	HYD. HOSE	50' 00"
15	P4083	HYD. HOSE	50' 00"
14	P4083	HYD. HOSE	50' 00"
13	P4083	HYD. HOSE	50' 00"
12	P4083	HYD. HOSE	50' 00"
11	P4083	HYD. HOSE	50' 00"
10	P4083	HYD. HOSE	50' 00"
9	P4083	HYD. HOSE	50' 00"
8	P4083	HYD. HOSE	50' 00"
7	P4083	HYD. HOSE	50' 00"
6	P4083	HYD. HOSE	50' 00"
5	P4083	HYD. HOSE	50' 00"
4	P4083	HYD. HOSE	50' 00"
3	P4083	HYD. HOSE	50' 00"
2	P4083	HYD. HOSE	50' 00"
1	P4083	HYD. HOSE	50' 00"

Engineering Co. Inc.
 3101 10th Ave. S.W.
 ALBUQUERQUE, N.M. 87102
 (505) 261-1111
 FAX (505) 261-1112
 WWW.ENGCOMP.COM

DAVID HYDRAULIC
 ASSEMBLY
 MODEL 800

10000-2



REF	P19523	SEAL KIT	1
14	P19206	SHAFT WELDMENT	1
13	P19208	LOCKSCREW	1
12	P19207	RETAINING NUT	1
11	P19209	DUST SEAL	1
10	P19212	END GLAND	1
9	P19210	URETHANE U-CUP	1
8	P19211	O-RING	1
7	P20055	BACK-UP RING	1
6	P19213	STROKE BLOCK	1
5	P19214	O-RING	1
4	P19215	URETHANE U-CUP	2
3	P19216	PISTON	1
2	P19217	LOCKNUT	1
1	P19205	TUBE WELDMENT	1

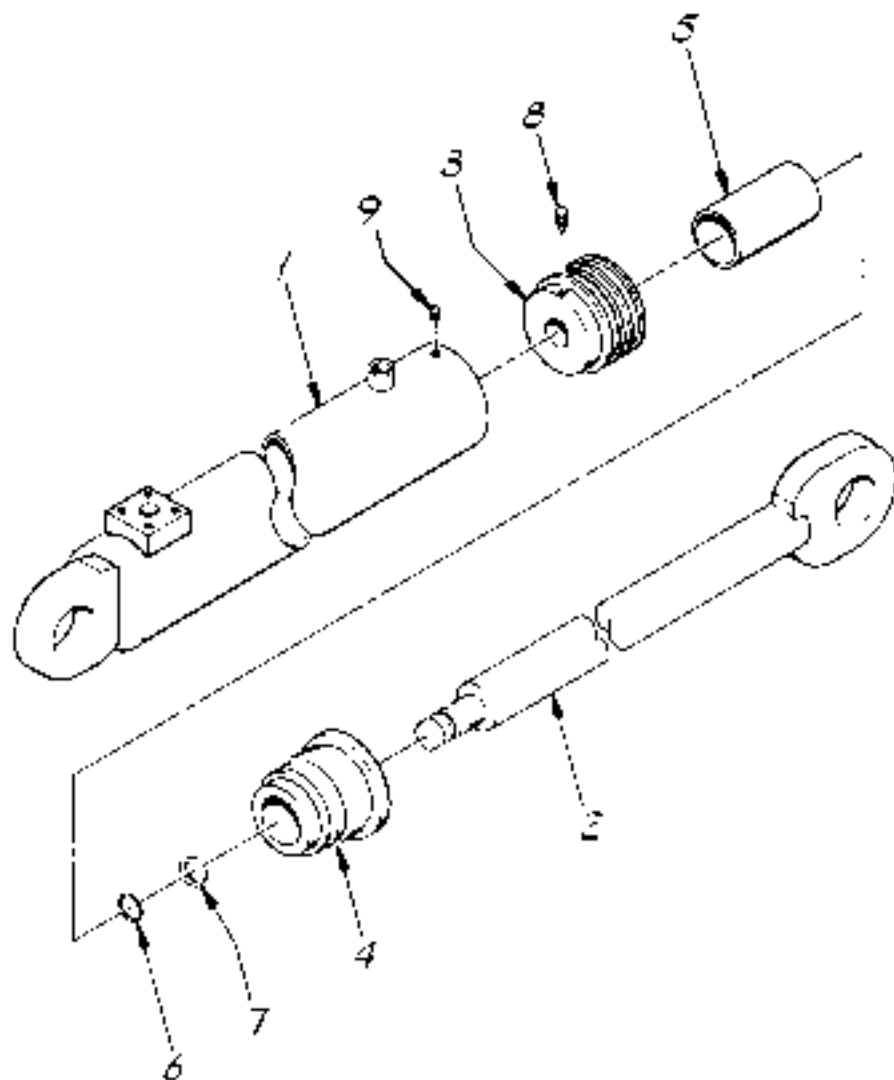
ITEM	PART NO.	DESCRIPTION	QTY.
------	----------	-------------	------

LULL INC. Engineering Co., Inc. ST. PAUL, MINNESOTA 55171

DIAGRAM *Call Hand* S/N 101-1040

DRAWING TITLE
HOIST CYLINDER ASSEMBLY
 MODEL 644

P19169
 SCALE B
 DRAWING NO. 16837



REF	P24438	SEAL KIT	1
	9	SET SCREW	1
	8	SET SCREW	1
	7	BACK-UP RING	2
	6	O-RINGS	1
	5	STROKE LIMITER	1
	4	ROD BEARING	1
	3	PISTON	1
	2	ROD WELDMENT	1
	1	BARREL WELDMENT	1

REV	DESCRIPTION	DATE	BY

LULL

Engineering Co., Inc.

11 Park
Mpls 5016
Mn

DESIGNED BY
S. J. & A. W.

SIN 1041 THRU

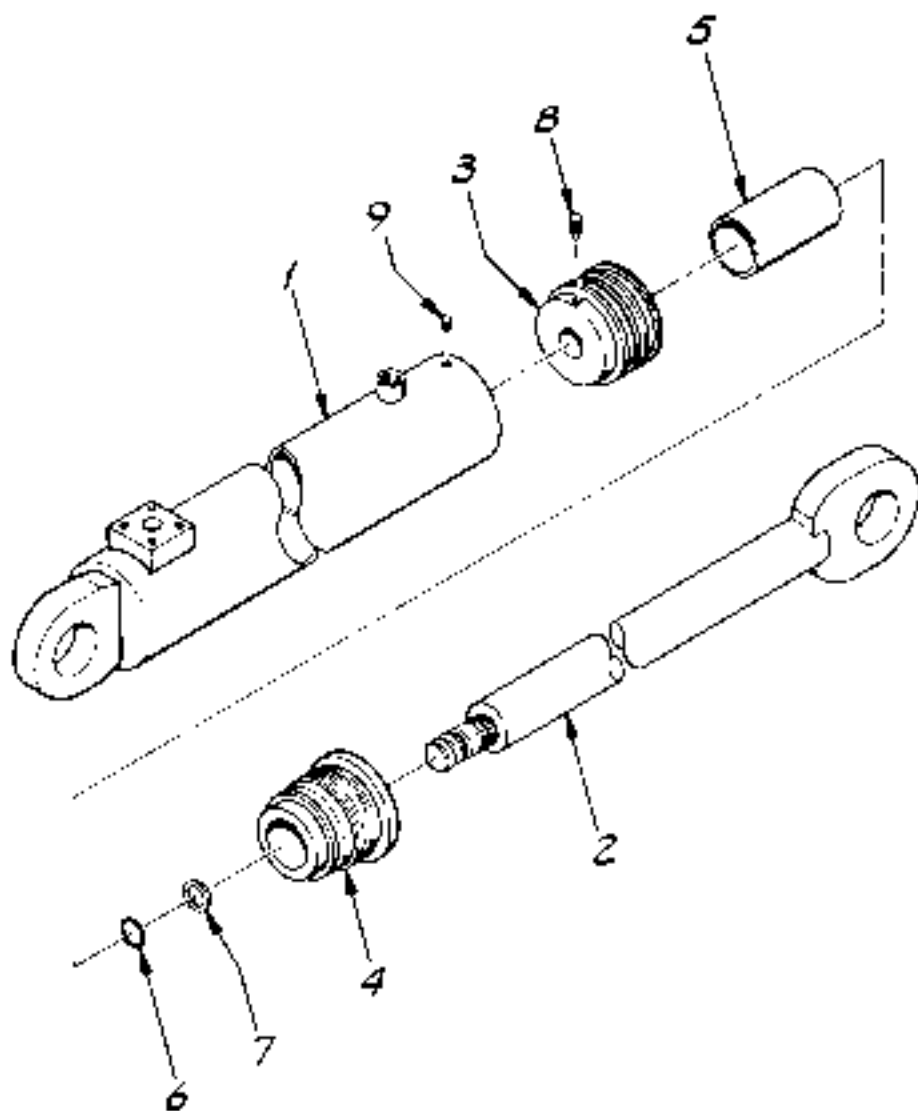
DRAWN BY

HOIST CYLINDER
ASSEMBLY
MODEL 844

P24277

Scale B

DRAWING NO.
16837-1



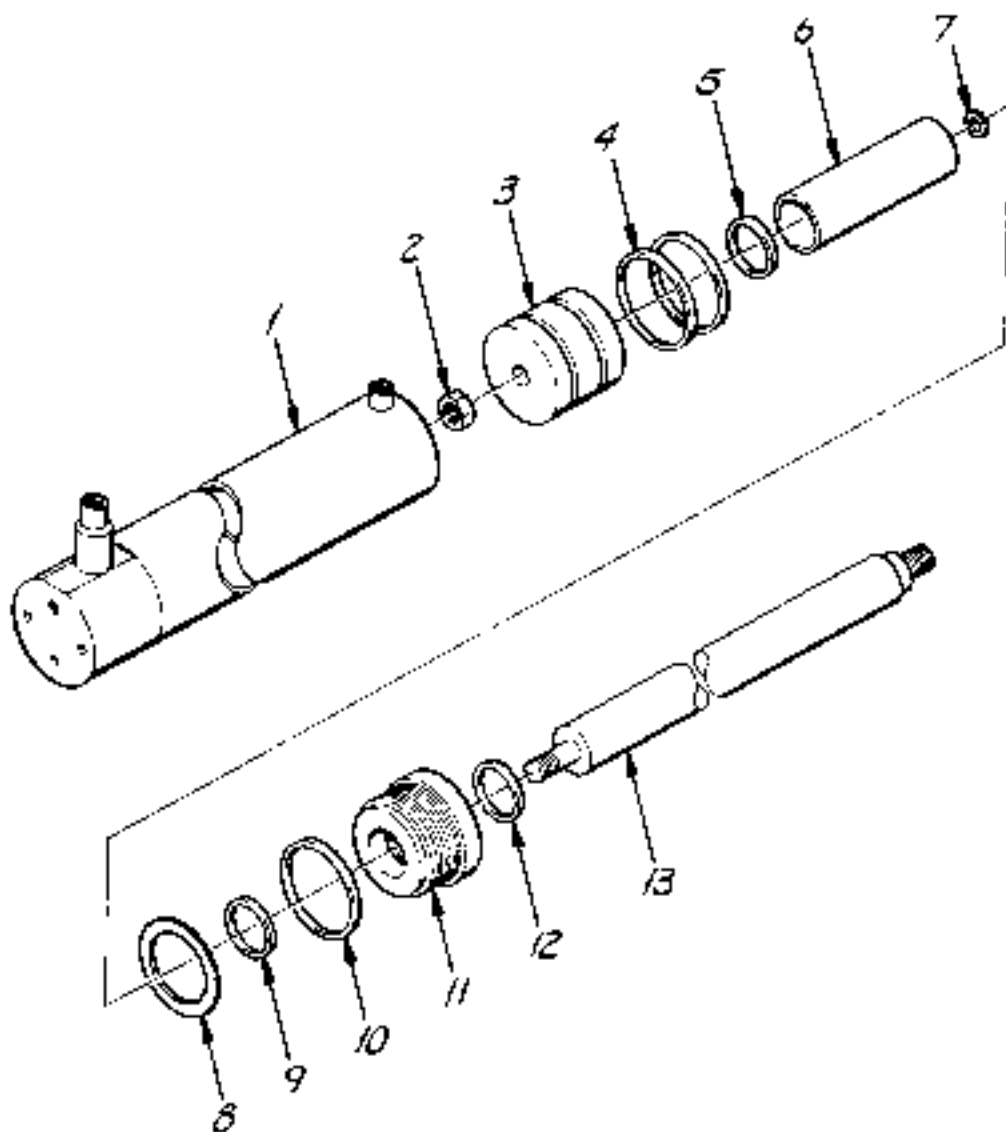
NOTE:

A) ALSO USED ON S/N 1866-67 & 1874-75.

REF	P27295	SEAL KIT	1
	9	P24433 SET SCREW	1
	8	P24435 SET SCREW	1
	7	P24423 BACK-UP RING	2
	6	P24416 O-RING	1
	5	P27261 STROKE LIMITER	1
	4	P27276 ROD BEARING	1
	3	P24357 PISTON	1
	2	P27237 ROD WELDMENT	1
	1	P24359 BARREL WELDMENT	1

ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

LULL CORPORATION		ST PAUL MINNESOTA 55171
DRAWN BY <i>Jeff Wankle</i>	S/N 1888 THRU (A)	
DRAWING TITLE HOIST CYLINDER ASSEMBLY MODEL 844		P27563
		SCALE B
		DRAWING NO. 16837-2



REF	PI9525	SEAL KIT	1
13	PI9236	SHAFT	1
12	PI9209	DUST SEAL	1
11	PI9220	END GLAND	1
10	PI9221	O-RING	1
9	PI9210	URETHANE U-CUP	1
8	P20054	BACK-UP RING	1
7	PI9214	O-RING	1
6	PI9237	STROKE BLOCK	1
5	P20061	O-RING	1
4	PI9223	URETHANE U-CUP	2
3	PI9224	PISTON	1
2	PI9217	LOCKNUT	1
1	PI9235	TUBE WELDMENT	1

ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

LULL INC. Engineering Co., Inc.

ST PAUL
MINNESOTA
56121

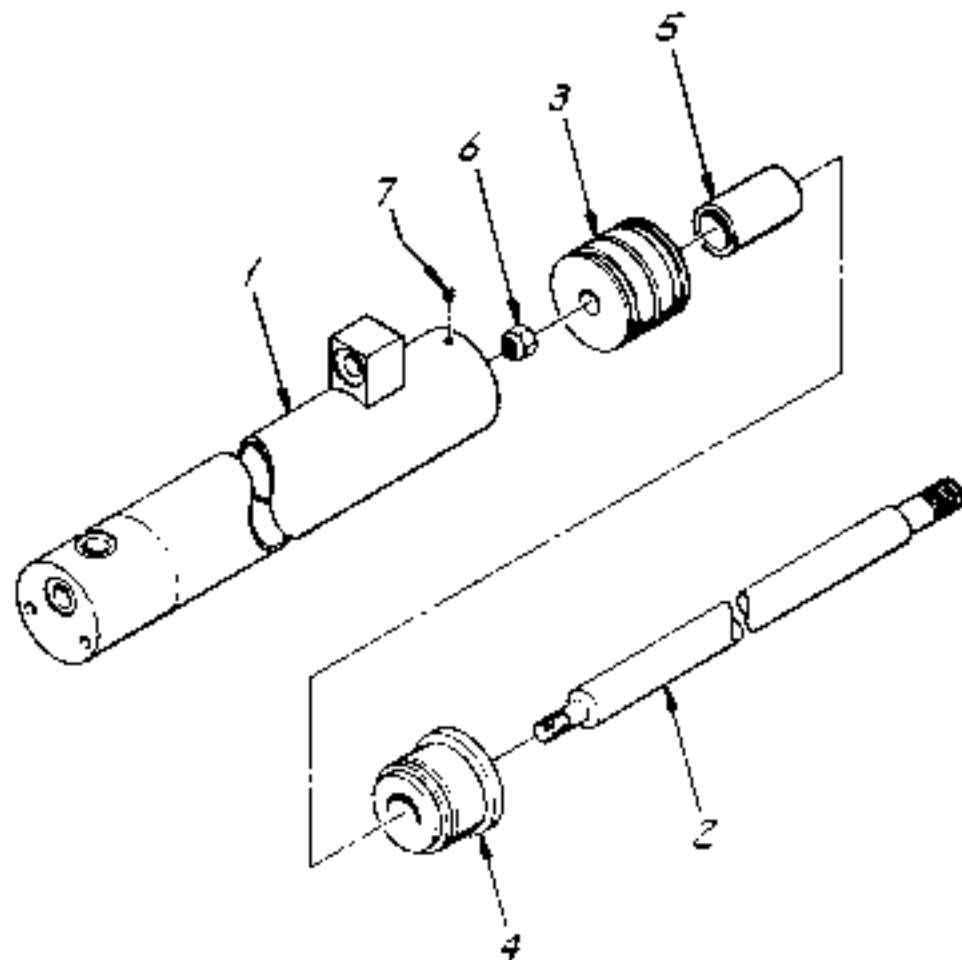
DRAWN BY *Jeff Lewis* SIN 101-1040

DRAWING TITLE
BOOM EXTENSION
CYLINDER ASSEMBLY
MODEL 844

PI9172

SCALE B

DRAWING NO.
16838



REF	P24440	SEAL KIT	1
	7	P24433 SET SCREW	1
	6	P24429 NUT	1
	5	P24407 STROKE LIMITER	1
	4	P24390 ROD BEARING	1
	3	P24389 PISTON	1
	2	P24377 ROD	1
	1	P24363 BARREL WELDMENT	1

ITEM	PART NO.	DESCRIPTION	REQ.
------	----------	-------------	------

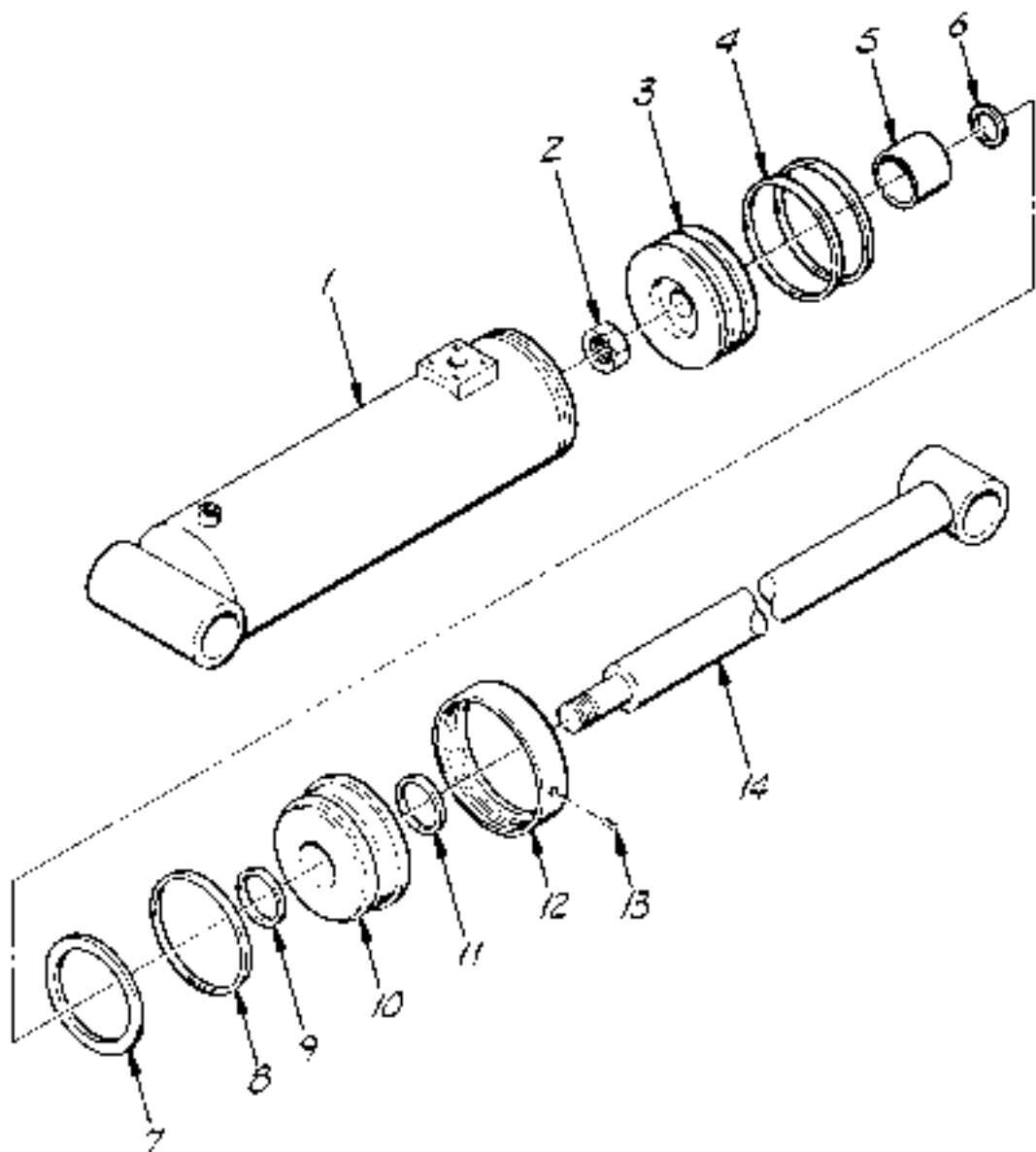
LOLL Engineering Co., Inc.

ST PAUL,
MINNESOTA
55127

DESIGNED BY: *Jeff Mauer* / SIN 1041 THRU

DRAWN BY: [Blank]
BOOM EXTENSION
CYLINDER ASSEMBLY
MODEL 844

P20131
SCALE: B
16838-1



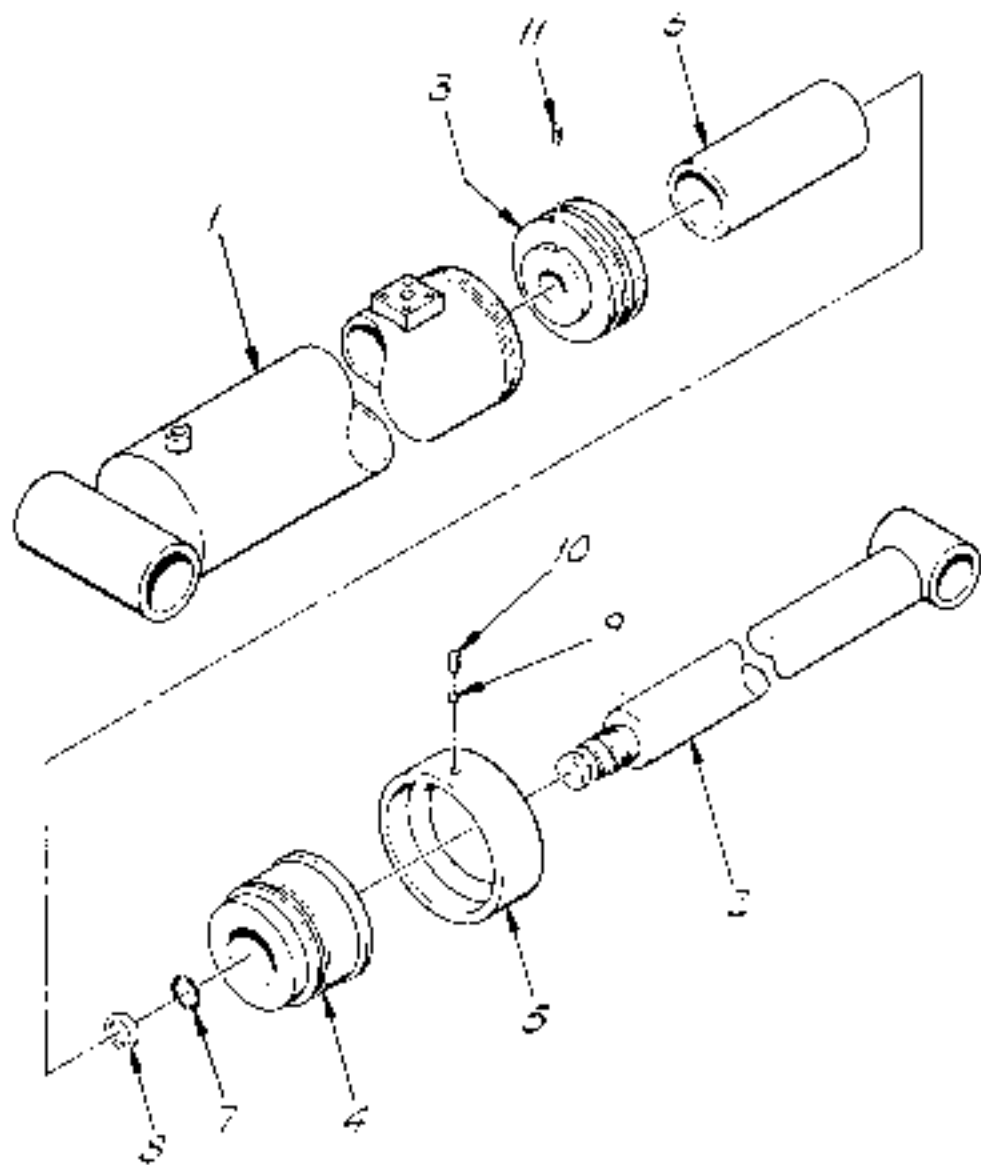
REF	P19522	SEAL KIT	1
14	P19244	SHAFT WELDMENT	1
13	P19208	LOCKSCREW	1
12	P19207	RETAINING NUT	1
11	P19241	DUST SEAL	1
10	P19240	END GLAND	1
9	P19242	URETHANE U-CUP	1
8	P19211	O-RING	1
7	P20055	BACK-UP RING	1
6	P19214	O-RING	1
5	P19245	STROKE BLOCK	1
4	P19215	URETHANE U-CUP	2
3	P19216	PISTON	1
2	P19217	LOCKNUT	1
1	P19243	TUBE WELDMENT	1

ITEM	PART NO	DESCRIPTION	QTY
------	---------	-------------	-----

LU Engineering Co., Inc. ST. PAUL, MINNESOTA 55121

DRAWN BY *Jeff Hunt* S/N 101-1040

DRAWING TITLE: FRONT CARRIAGE TILT CYLINDER ASSEMBLY MODEL 844
 P19174
 SEAL B
 DESIG. NO. 16839



REF	P24439	SEAL KIT	1
11	P24435	SET SCREW	1
10	P24436	SET SCREW	1
9	P24431	NYLON PLUG	1
8	P24426	BACK-UP RING	2
7	P24420	J-RING	1
5	P24919	STROKE LIMITER	1
5	P24402	ROD BEARING RETAINER	1
4	P24910	ROD BEARING	1
3	P24379	PISTON	1
2	P24906	ROD WELDMENT	1
1	P24816	BARREL WELDMENT	1

ITEM	QUANTITY	DESCRIPTION	PLC
------	----------	-------------	-----

LOLL Engineering Co., Inc.

ST. PAUL,
MINNESOTA
55121

DIAGRAM # 31N 1041 THRU

ISSUED BY: 1111

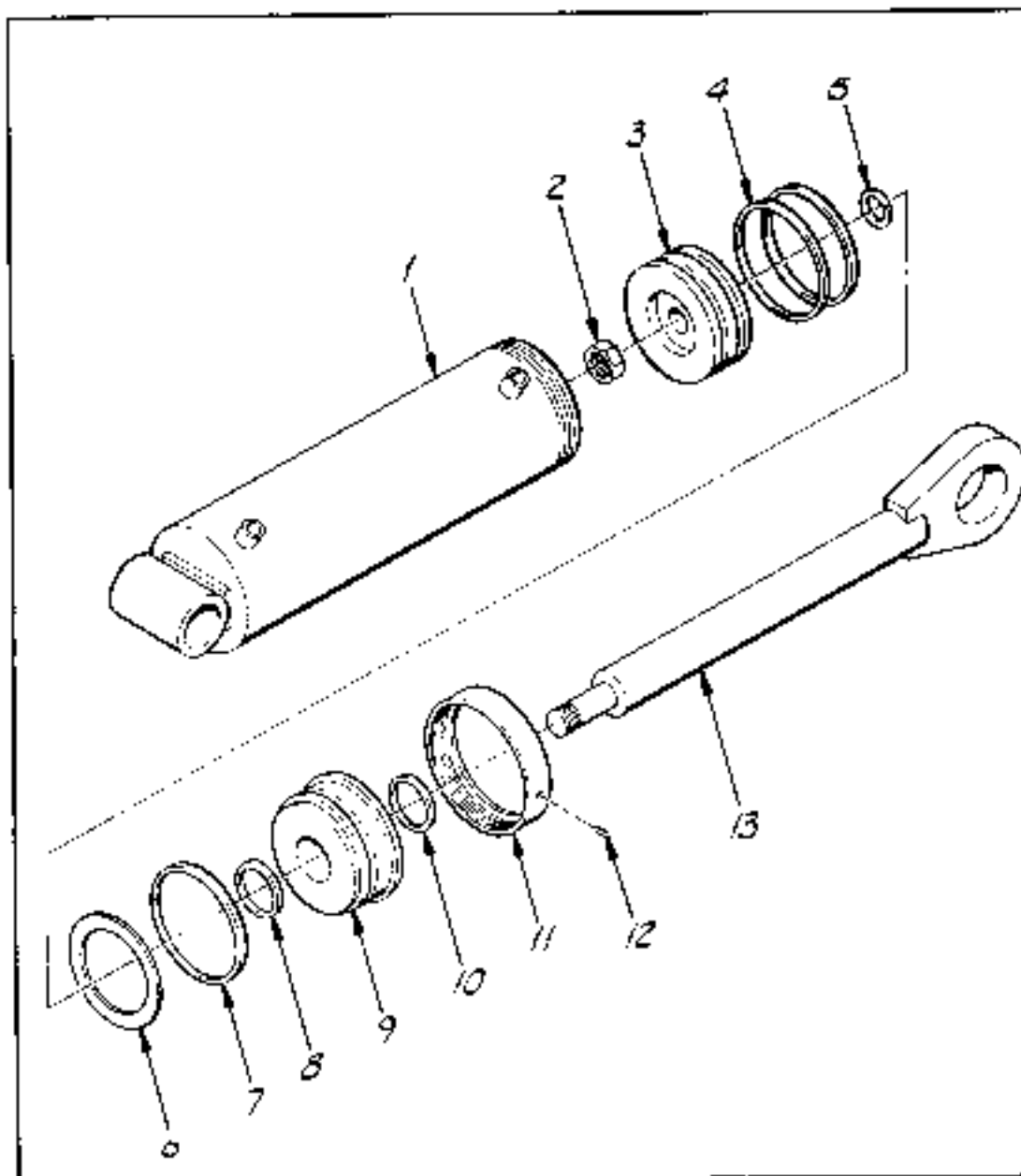
FRONT CARRIAGE TILT
CYLINDER ASSEMBLY
MODEL 844

P24743

CLASS B

ISSUED BY:

16839-1



REF	P19522	SEAL KIT	1
13	P19239	SHAFT WELDMENT	1
12	P19208	LOCKSCREW	1
11	P19207	RETAINING NUT	1
10	P19241	DUST SEAL	1
9	P19240	END GLAND	1
8	P19242	URETHANE U-CUP	1
7	P19211	O-RING	1
6	P20055	BACK-UP RING	1
5	P19214	O-RING	1
4	P19215	URETHANE U-CUP	2
3	P19216	PISTON	1
2	P19217	LOCKNUT	1
1	P19238	TUBE WELDMENT	1

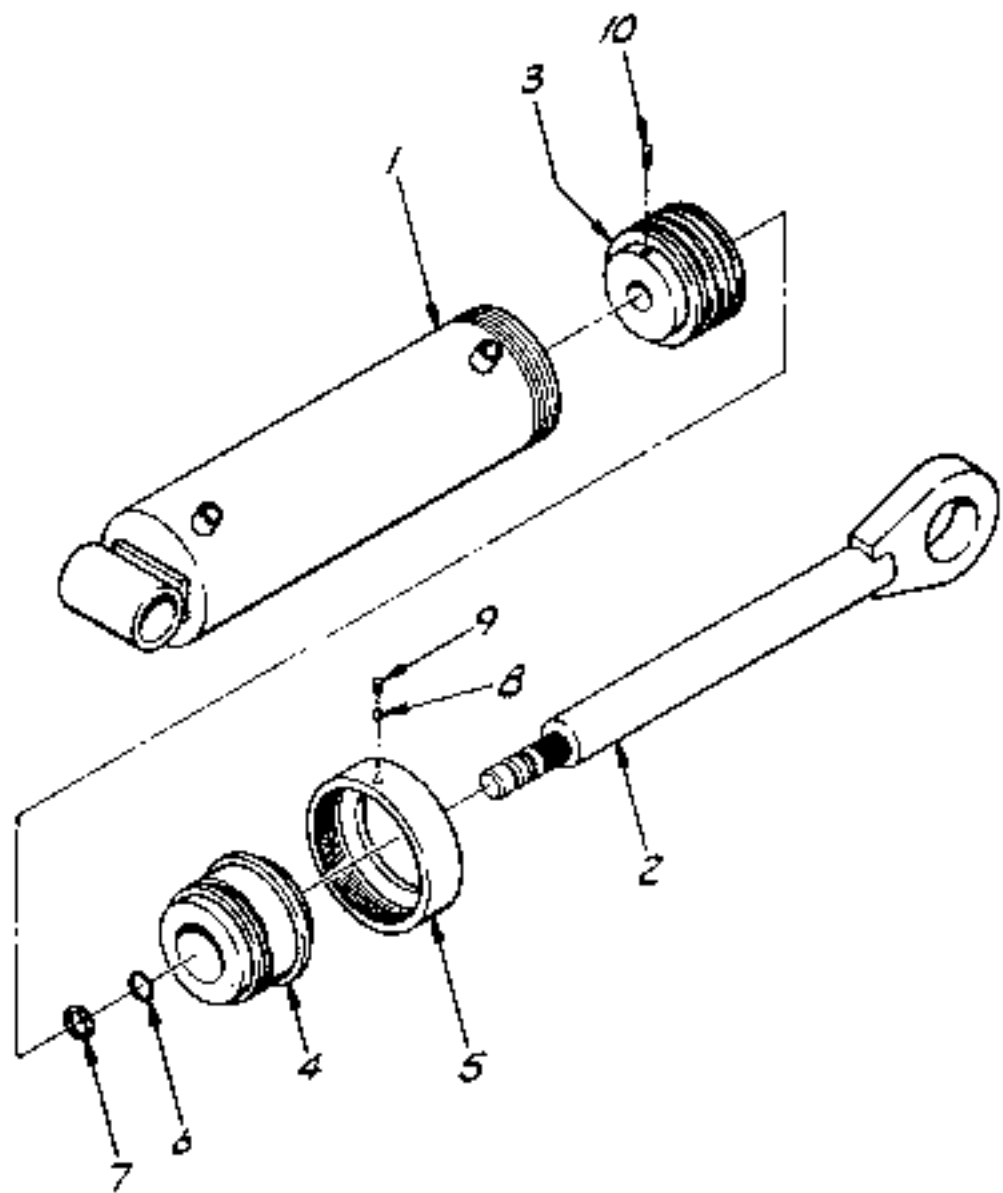
ITEM	PART NO	DESCRIPTION	REQ
------	---------	-------------	-----

LUILL Engineering Co., Inc. ST PAUL, MINNESOTA 55127

DRAWN BY *Jeff Dault* S/N 101-1040

CHANG. TITLE
 REAR CARRIAGE TILT
 CYLINDER ASSEMBLY
 MODEL 844

P19173
 SCALE B
 DRAWING NO. 16840



REF	P24439	SEAL KIT	1
10	P24435	SET SCREW	1
9	P24434	SET SCREW	1
8	P24431	NYLON PLUG	1
7	P24426	BACK-UP RING	2
6	P24420	O-RING	1
5	P24402	ROD BEARING RETAINER	1
4	P24910	ROD BEARING	1
3	P24379	PISTON	1
2	P24908	ROD WELDMENT	1
1	P24893	BARREL WELDMENT	1

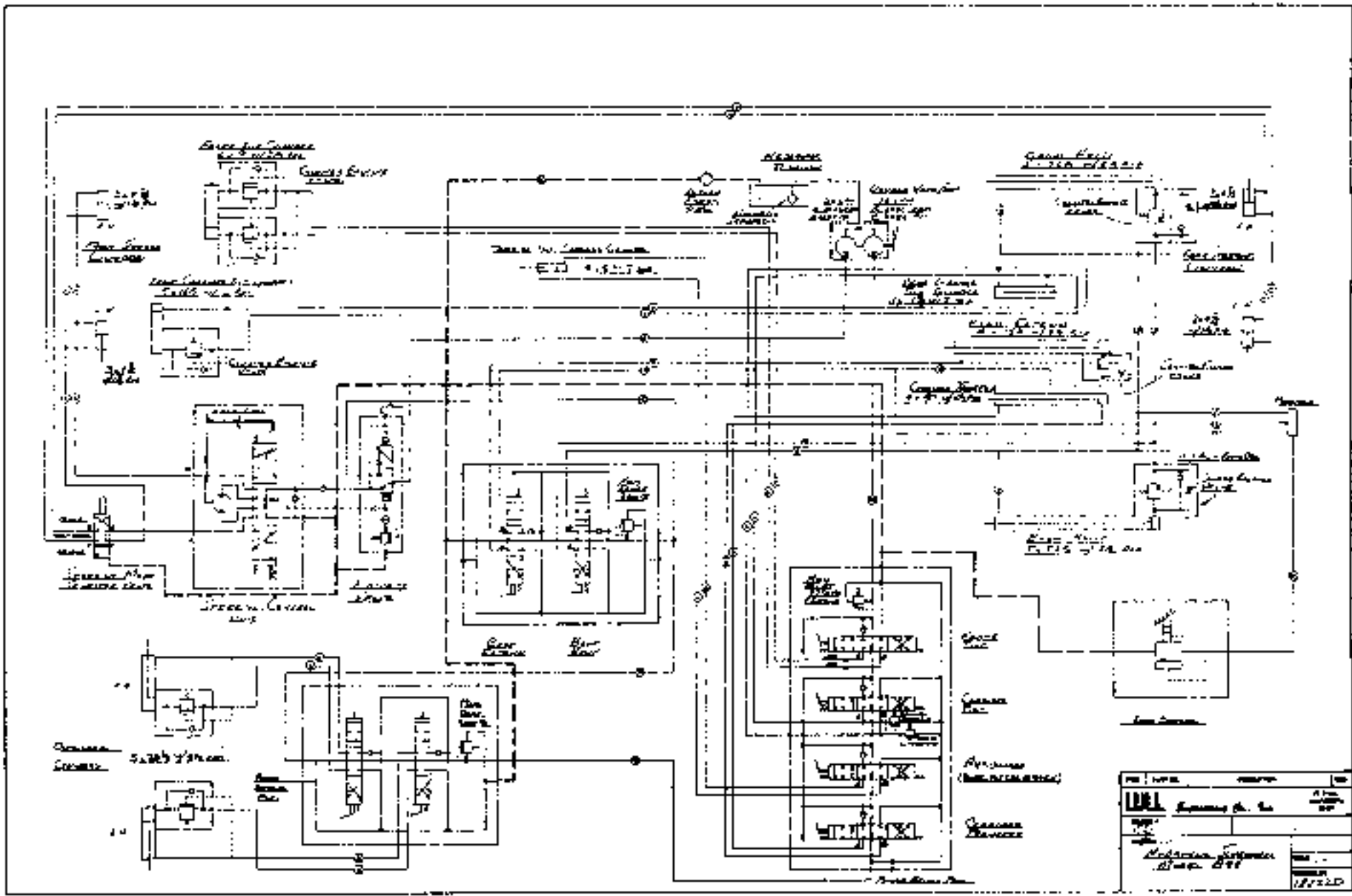
ITEM	PART NO	DESCRIPTION	REQ.
------	---------	-------------	------

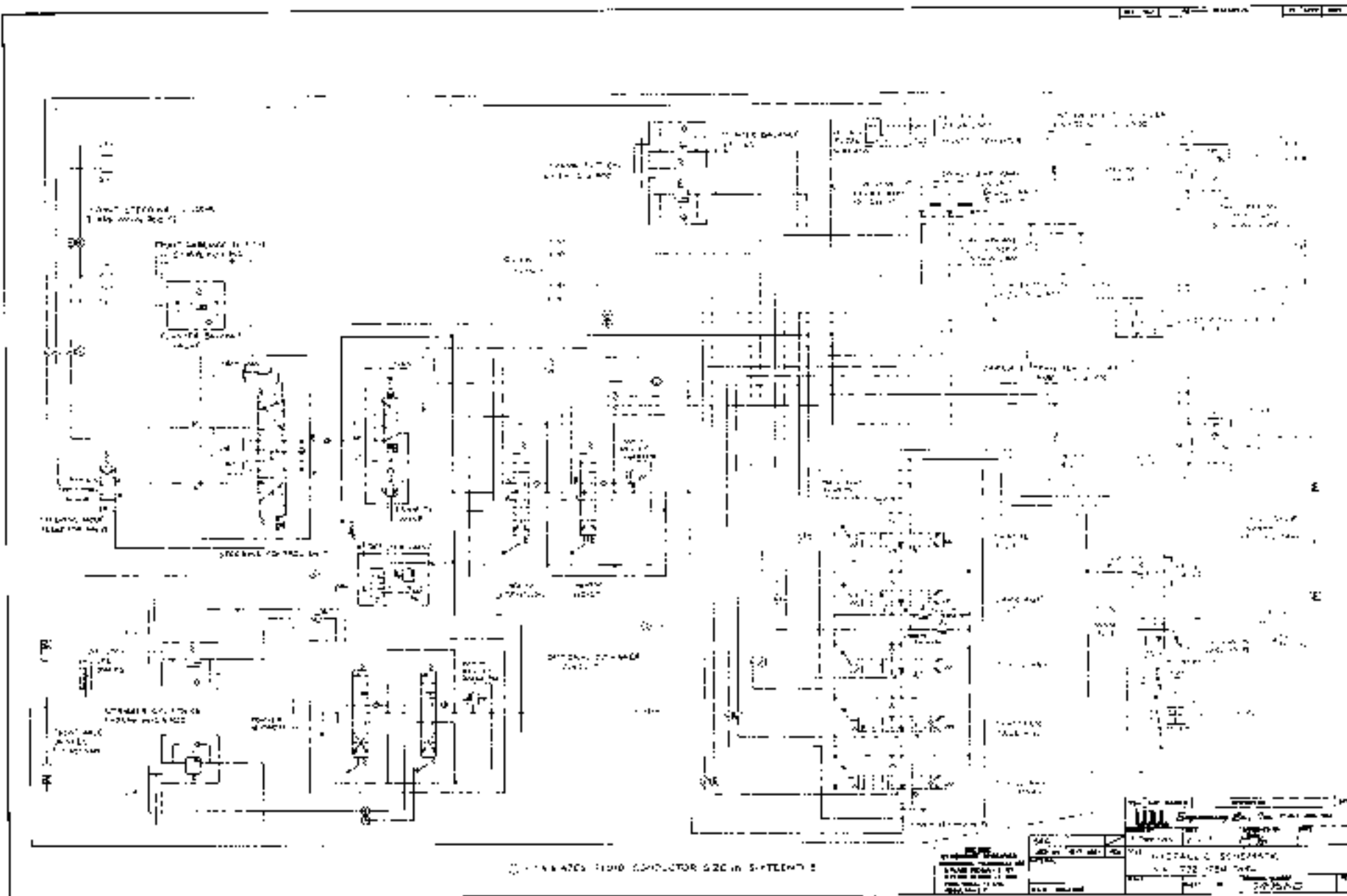
LULL TM Engineering Co., Inc. ST. PAUL, MINNESOTA 55121

DESIGNED BY Jeff Hunt SIN 1041 THRU

DRAWING TITLE: REAR CARRIAGE TILT CYLINDER ASSEMBLY MODEL 844

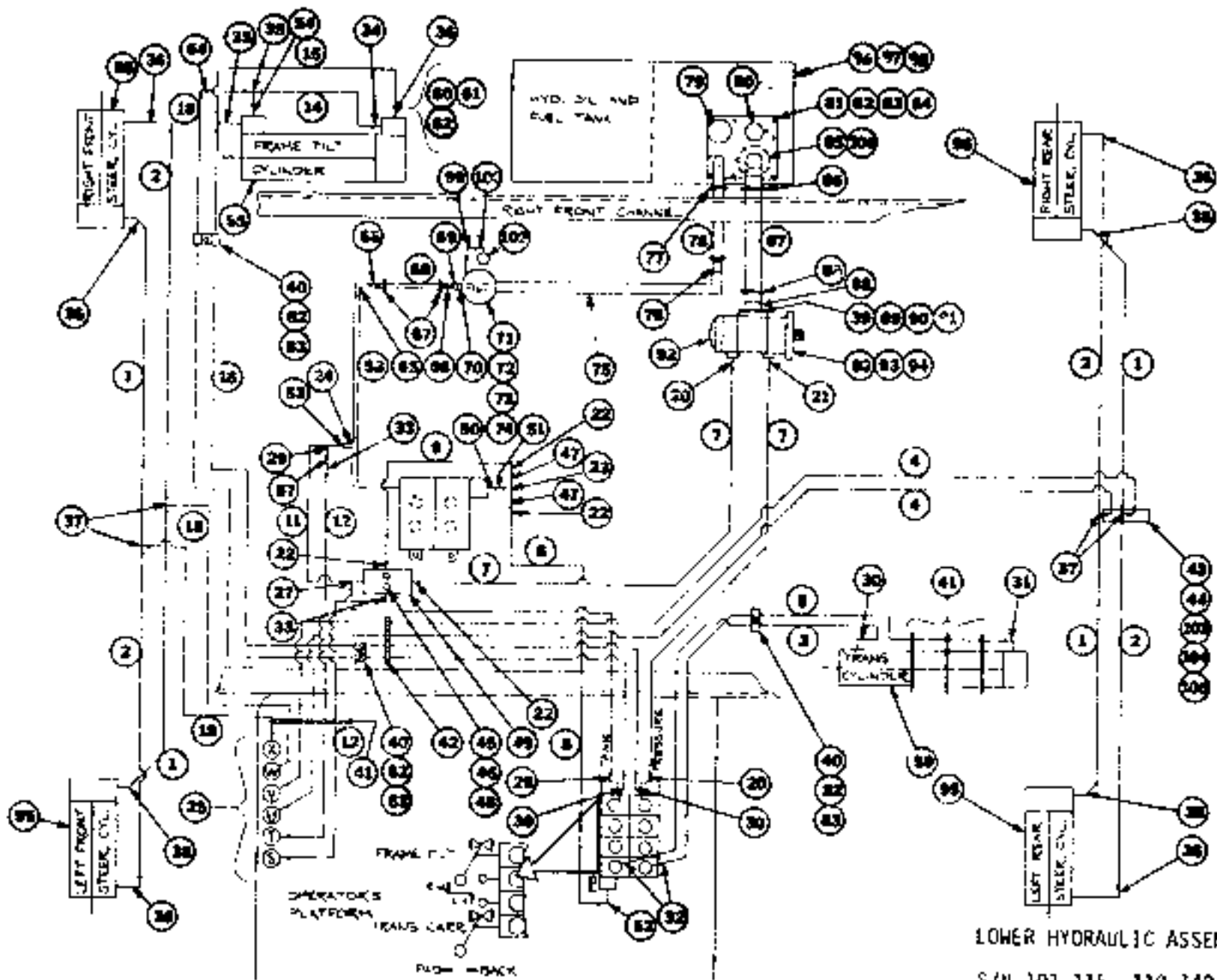
P24740
SCALE B
Drawing No. 16840-1





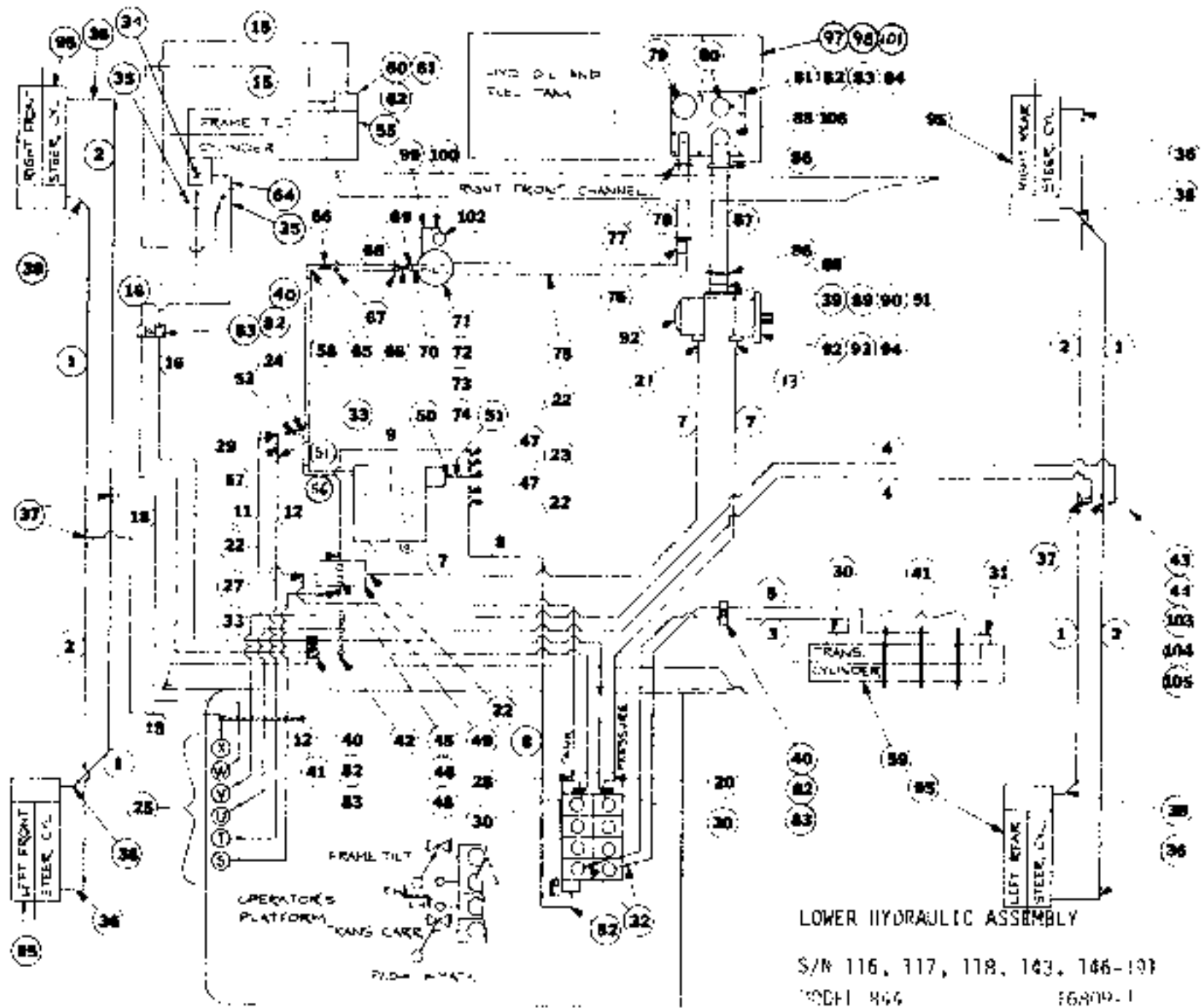
CONDUCTOR SIZE IN SYSTEMS

REVISIONS NO. 1 DATE: 10/15/54 BY: [Signature]		SYMBOLS [Symbol] = [Description]
DESIGNER [Name]	CHECKED [Name]	DATE 10/15/54
TITLE ELECTRICAL SCHEMATIC		PROJECT [Project Name]



LOWER HYDRAULIC ASSEMBLY
 S/N 101-115, 119-142, 144
 MODEL 844 16879

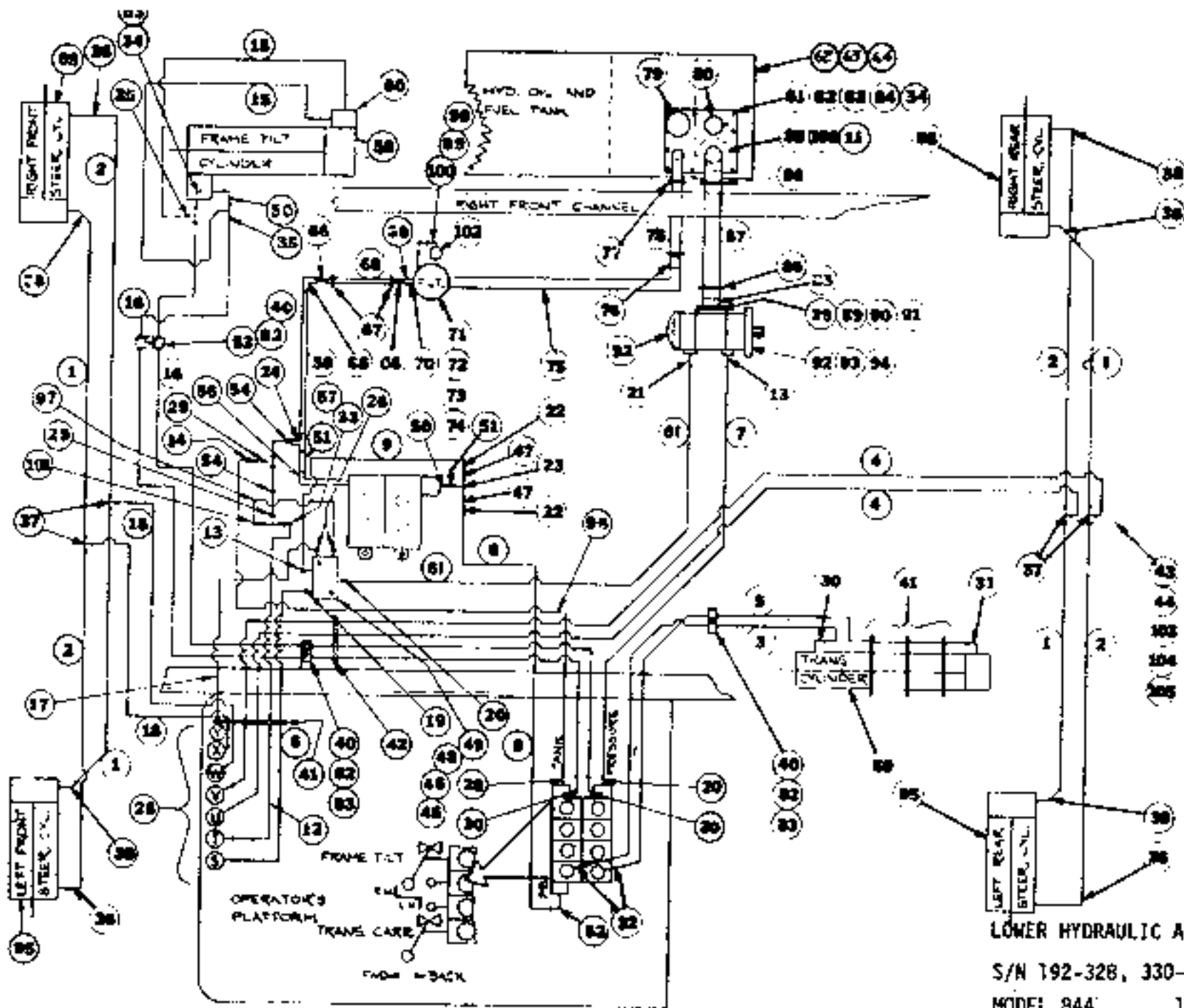
ITEM	PART	DESCRIPTION	QTY	ITEM	PART	DESCRIPTION	QTY
1	P18892	Hose, 1/4" x 17"	4	54	P10691	Reducer Bushing	2
2	P18893	Hose, 1/4" x 22"	4	55	P19370	Cylinder Frame Tilt Assembly	1
3	P18894	Hose, 3/8" x 118"	1	56	P19056	90° Elbow, G-Ring	1
4	P18895	Hose, 3/8" x 112"	2	57	P10120	Reducer Bushing	2
5	P18895	Hose, 3/8" x 56"	1	58	R10675	Nipple, Long	1
6				59	P25171	Transfer Cylinder Assembly	1
7	P18921	Hose, 3/4" x 23"	2	60	P17846	Safety Valve	1
8	P18922	Hose, 3/4" x 23-1/2"	1	61	Com'1	Bolt, Hex, 5/16-20 x 2-1/2 (Gr. 5)	1
9	P19044	Hose, 3/4" x 11-1/4"	1	62	Com'1	Lockwasher, 5/16	1
10	P18947	Hose, 1/2" x 23"	1	63			
11	P19046	Hose, 3/8" x 20"	1	64	P18957	90° Elbow	1
12	P19048	Hose, 3/8" x 30"	2	65	P10120	90° Elbow, Pipe	1
13				66	M10090	Half Nipple	2
14	P18905	Hose, 3/4" x 12-3/4"	1	67	P10270	Hose Clamp	2
15	P18905	Hose, 3/4" x 21"	1	68	P17840	Hose, Green Stripe	2*
16	P19042	Hose, 1/2" x 104"	2	69	P10212	45° Elbow, Street	1
17				70	P10148	Reducer Bushing	1
18	P18957	Hose, 3/8" x 42-3/4"	2	71	P13587	Filter Case	1
19				72	P13596	Filter Element	1
20	P17805	Connector	2	73	Com'1	Bolt, Hex, 5/16-18 x 1"	2
21	P17802	90° Elbow, S/S w/1	1	74	Com'1	Lockwasher, 5/16	2
22	P17804	Adapter	4	75	P10251	90° Elbow, Street	1
23	P10173	Tee, Pipe	1	76	M10890	Nipple	1
24	P19052	Tee, Reducing	1	77	P10000	Hose Clamp	2
25	P18931	90° Elbow, Bullhead	1	78	P19075	Hose, Green Stripe	2*
26				79	P16419	Breather, Oil Filter	1
27	P18992	Tee	1	80	P18923	Cap & O-Ring	1
28	P18997	Connector	1	81	102240	Manifold, Hydraulic Tank Cover	1
29	P10106	Tee, Pipe	1	82	Com'1	Nut, Hex, 5/16-18	15
30	P18935	90° Elbow	3	83	Com'1	Lockwasher, 5/16	15
31	P18936	Connector	1	84	P18824	Seal (For S 101 use P14099)	1
32	P18937	Connector, G-Ring	2	85	P18822	Filter, Suction Magnetic	1
33	P18938	Connector	1	86	P10551	Clamp, M.S.	2
34	P18939	Connector	1	87	P16609	Hose, Green Stripe	2*
35	P19053	Tee	2	88	P17908	Elbow, Pump Inlet	1
36	P18941	10° Elbow	5	89	P17672	Flange	2
37	P18942	Bullhead Tee	4	90	Com'1	Bolt, Hex, 1/2-13 x 1-1/2	1
38	P18943	45° Elbow	4	91	Com'1	Lockwasher, 1/2	1
39	P18971	G-Ring	1	92	P18192	Pump	1
40	P17553	Clamp	6	93	Com'1	Bolt, Hex, 1/2-13 x 1-3/4	2
41	P17987	Ty-Rap, Cable Ties (19" Lg.)	6	94	Com'1	Lockwasher, 1/2	2
42	P17989	Ty-Rap, Cable Ties (7-5/16" Lg.)	1	95	2LF	Cylinder, Steering	4
43	Com'1	Lock Washer, 3/8	1	96	P10555	Plug, Fuel	1
44	Com'1	Nut, 3/8-16	1	97	P10216	Plug, Hyd. Oil	1
45	Com'1	Bolt, Hex, 1/4-20 x 2-3/4	2	98	P14050	Tee, Fuel & Hyd. Oil	1
46	P18722	Rubber Mount	1	99	P10201	90° Elbow, Street	1
47	P10180	Reducer Bushing	2	100	P15093	45° Elbow, Street	1
48	Com'1	Flat Washer, 1/4	2	101			
49	P18126	Priority Valve	1	102	P13588	Gauge	1
50	P19054	Adapter	1	103	16271A	Bracket, Hose Support Rear Axle	1
51	P17179	Nipple, Close	1	104	Com'1	Bolt, Hex, 3/8-16 x 1/2	1
52	P19055	90° Elbow	1	105	Com'1	Nut, Hex, 5/16-18	1
53	P10106	Tee, Pipe	1	106	P16590	G-Ring	1



LOWER HYDRAULIC ASSEMBLY

S/N 116, 117, 118, 143, 146-191
 MOD# 846 16809-1

ITEM	PART	DESCRIPTION	QTY	ITEM	PART	DESCRIPTION	QTY
1	P18892	Hose, 1/4" x 12"	4	54	P10610	Nipple	1
2	P18893	Hose, 1/4" x 22"	4	55	P19170	Frame Tilt Cylinder Assembly	1
3	P18894	Hose, 3/8" x 118"	1	56	P19056	90° Elbow, O-Ring	1
4	P18895	Hose, 3/8" x 117"	2	57	P10120	Reducer Bushing	1
5	P18896	Hose, 3/8" x 56"	1	58	N10695	Nipple, Long	1
6				59	P19171	Transfer Cylinder Assembly	1
7	P18921	Hose, 3/4" x 23"	2	60	P17846	Safety Valve	1
8	P18922	Hose, 3/4" x 23-1/2"	1	61	Com'l	Bolt, Hd., 5/16-20 x 2-1/2 (Gr 5)	1
9	P19044	Hose, 3/4" x 11-1/4"	1	62	Com'l	Lockwasher, 5/16	
10	P19047	Hose, 1/2" x 20"	1	63			
11	P19046	Hose, 3/8" x 20"	1	64	P18957	90° Elbow	2
12	P19048	Hose, 3/8" x 34"	2	65	P10129	Elbow, 90°	
13				66	N10990	Half Nipple	2
14				67	P10270	Hose Clamp	2
15	P18906	Hose, 1/4" x 24"	2	68	P17840	Hose, Green Stripe	2*
16	P19049	Hose, 1/4" x 108"	2	69	P10219	45° Elbow, Street	1
17				70	P10144	Reducer Bushing	1
18	P18857	Hose, 3/8" x 42-3/8"	2	71	P13587	Filter Base	1
19				72	P13586	Filter Element	1
20	P17805	Connector	1	73	Com'l	Bolt, Hd., 5/16-18 x 1"	2
21	P17802	90° Elbow, Street	1	74	Com'l	Lockwasher, 5/16	2
22	P17804	Adapter	4	75	P10211	90° Elbow, Street	1
23	P10175	Tee, Pipe	1	76	N10696	Nipple	1
24	P10182	Tee, Pipe	1	77	P10753	Hose Clamp	2
25	P18711	75 Lock, 60 Tee.	1	78	P19075	Hose, Green Stripe	1*
26				79	P1981	Brilliance	1
27	P18532	Tee	1	80	P10757	End Caps, 1/2"	1
28	P18711	Connector	1	81	P18987	Multistage Hydraulic Tank Lock	1
29	P10176	Tee, Pipe	1	82	Com'l	Nut, Hd., 3/16-19	10
30	P18115	90° Elbow	1	83	Com'l	Lockwasher, 5/16	15
31	P18516	Connector	1	84	P18821	Seal	1
32	P18517	Connector, O-Ring	2	85	P18822	Filter, Fuel (40 Microns)	1
33	P18938	Connector	1	86	P10511	Clamp, Hose	2
34	P17846	Safety Valve	1	87	P16609	Hose, Green Stripe	2
35	P19412	Safety Tee	2	88	LC2908	Elbow, Fuel Inlet	1
36	P18941	90° Elbow	1	89	P4311	Flange	2
37	P18942	End, Bulkhead	4	90	Com'l	Bolt, Hd., 1/2-13 x 1-1/2	4
38	P18943	45° Elbow	4	91	Com'l	Lockwasher, 1/2	4
39	P12971	O-Ring	1	92	P18192	Pump	1
40	P17553	Clamp	6	93	Com'l	Bolt, Hd., 1/2-13 x 1-1/4	2
41	P17887	Ty-Rap, Cable Ties (19" Lg)	8	94	Com'l	Lockwasher, 1/2	2
42	P17889	Ty-Rap, Cable Ties (7-5/16" Lg)	1	95	REF	Cylinders, Straining	4
43	Com'l	Lockwasher, 3/8	1	96	P18825	Magnet	2
44	Com'l	Nut, Hd., 3/8-16	1	97	P10216	Plug, Hyd. Oil	1
45	Com'l	Bolt, Hd., 1/4-20 x 2-1/4	2	98	154050	Tank, Combination Fuel & Hyd. Oil	1
46	15832	Clamber Mount	2	99	P10201	Elbow, Str 90°, 1/2 NPT	1
47	P10180	Reducer Bushing	2	100	P15093	Elbow, Street 45°, 1/2 NPT	1
48	Com'l	Flat Washer, 1/4	2	101	P10956	Plug, Fuel	1
49	15493	Priority Valve	1	102	P13583	Gauge	1
50	P19054	Adapter	1	103	16271A	Bracket, Hose Support Rear Axle	1
51	P17179	Nipple, Close	1	104	Com'l	Nut, Hd., 3/8-18 x 1/2	1
52	P19058	90° Elbow	1	105	Com'l	Nut, Hd., 5/16-18	1
53	P10106	Tee, Pipe	1	106	P16590	O-Ring	1



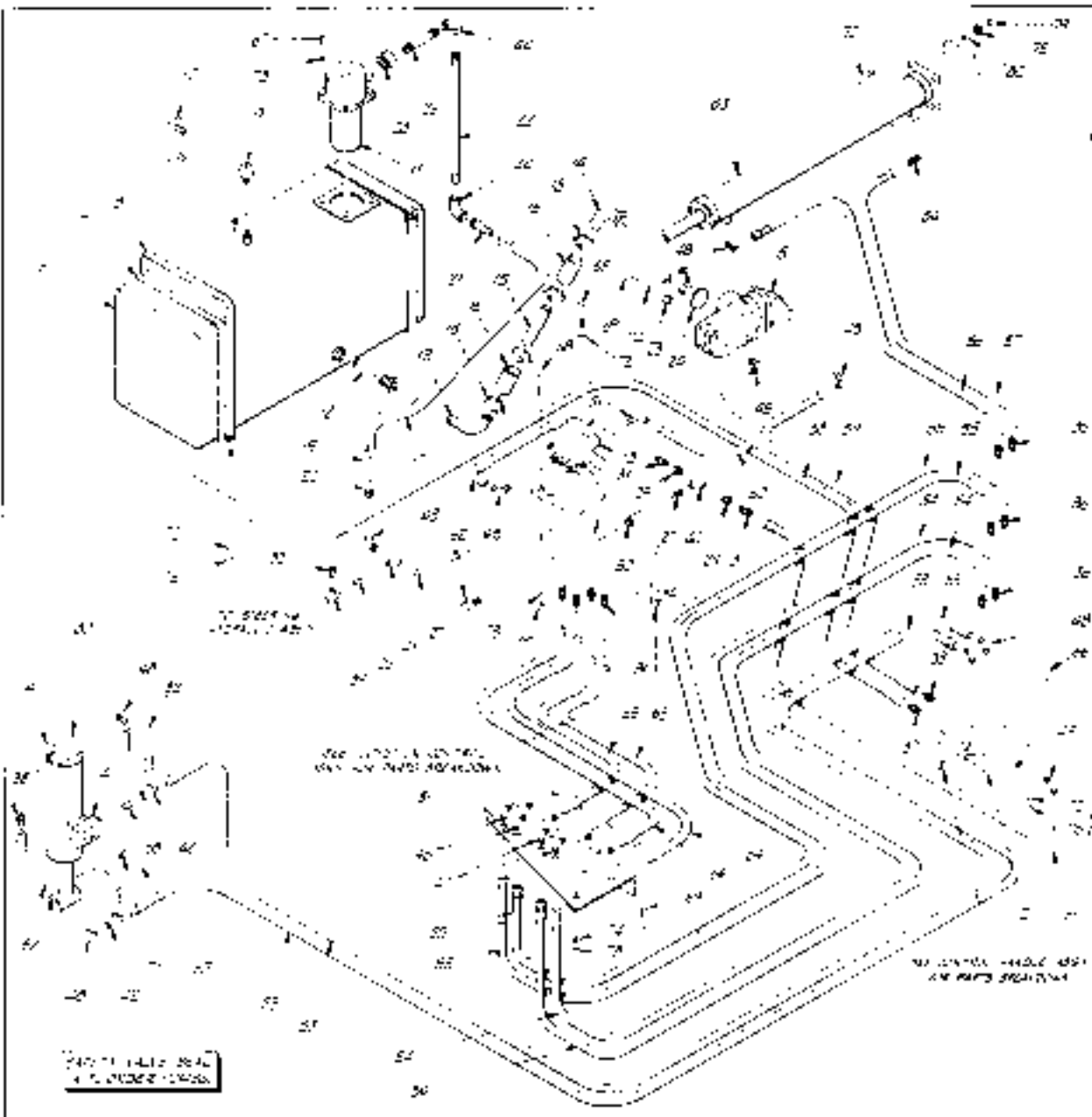
LOWER HYDRAULIC ASSEMBLY

S/N 192-328, 330-337

MODEL 844 16209-2

ITEM	PART	DESCRIPTION	QTY
1	P18892	Hose, 1/4" x 17"	4
2	P18893	Hose, 1/4" x 22"	4
3	P18894	Hose, 3/8" x 116"	1
4	P18895	Hose, 3/8" x 117"	2
5	P18896	Hose, 3/8" x 36"	1
6	P18904	Hose, 3/8" x 36"	1
7	P20411	Hose, 3/4" x 23"	1
8	P18922	Hose, 3/4" x 23-1/2"	1
9	P19494	Hose, 3/4" x 12"	1
10	P19047	Hose, 1/2" x 23"	1
11	P18825	Magnetic Straps	2
12	P19492	Hose, 3/8" x 32"	1
13	P17802	90° Elbow	2
14	P18933	Connector	1
15	P18906	Hose, 1/4" x 24"	2
16	P19049	Hose, 1/4" x 104"	2
17	P19496	Hose, 1/4" x 33"	1
18	P18957	Hose, 3/8" x 42-3/4"	2
19	P15406	Connector	1
20	P17806	Connector	1
21	P19747	45° Elbow	1
22	P17804	Adapter	3
23	P10173	Tee, Pipe	1
24	P19052	Tee, Pipe	1
25	P18931	90° Elbow, Bulkhead	2
26	P18960	Connector	
28	P18997	Connector	1
29	P10106	Tee, Pipe	2
30	P18935	90° Elbow	4
31	P18938	Connector	1
32	P18937	Connector, O-Ring	2
33	P18936	Connector	1
34	P20399	Permatex Silicone Sealer	A/R
35	P19412	Swivel Tee	2
36	P18941	90° Elbow	4
37	P18942	Tee, Bulkhead	4
38	P18943	45° Elbow	4
39	P12971	O-Ring	1
40	P17565	Clamp	6
41	P17987	Ty-Rep, 19" Lg	4
42	P17989	Ty-Rep, 7-5/16" Lg	3
43	Com'1	Lock Washer, Shockproof	1
44	Com'1	Nut, 3/8 NC	1
45	Com'1	Bolt, Hex, 5/16-18 x 2-1/4	2
46	16893A	Rubber Mount	1
47	P10180	Reducer Bushing	2
48	Com'1	Lock Washer, 5/16	2
49	P13292	Load Sensing Valve	1
50	P15064	Adapter	1
51	P17178	Wipple, Close	2
52	P19059	90° Elbow	1
53	P17846	Safety Valve	1

ITEM	PART	DESCRIPTION	QTY
54	P10610	Wipple	1
55	P19170	Freeze Tilt Cylinder Assembly	1
56	P19056	90° Elbow, O-Ring	1
57	P10120	Reducer, Bushing	1
58	M10895	Wipple, Long	1
59	P19171	Transfer Cylinder Assembly	1
60	P17846	Safety Valve	1
61	P20412	Hose, 3/4" x 18"	1
62	P10655	Plug, Fuel	1
63	P10216	Plug, Hyd. Oil	1
64	154050	Tank, Combination Fuel & Hyd Oil	1
65	P10129	Elbow, 90°, Pipe	1
66	M10090	Half Wipple	2
67	P10270	Hose Clamp	2
68	P17840	Hose, Green Stripe	2"
69	P10219	45° Elbow, Street	1
70	P10144	Reducer Bushing	1
71	P13587	Filter Base	1
72	P13586	Filter Element	1
73	Com'2	Bolt, Hex, 5/16-18 x 1"	2
74	Com'3	Lockwasher, 5/16	2
75	P10231	90° Elbow, Street	1
76	M10696	Wipple	1
77	P10552	Hose Clamp	2
78	P19075	Hose, Green Stripe	11"
79	P18819	Breather	1
80	P18823	Cap & Dipstick	1
81	16289C	Manifold, Hydraulic Tank Cover	1
82	Com'1	Nut, Hex, 5/16-18	15
83	Com'1	Lockwasher, 5/16	15
84	P18824	Seal	1
85	P18822	Filter, Suction Magnetic	1
86	P10553	Clamp, hose	2
87	P16609	Hose, Green Stripe	7"
88	16250B	Elbow, Pump Inlet	1
89	P17672	Flange	2
90	Com'1	Bolt, Hex, 1/2-13 x 1-1/2	4
91	Com'1	Lockwasher, 1/2	4
92	P18192	Pump	1
93	Com'2	Bolt, Hex, 1/2-13 x 1-1/4	2
94	Com'1	Lockwasher, 1/2	2
95	REF	Cylinder, Steering	4
96	P18911	Hose, 1/2 x 28"	1
97	P19495	Hose, 1/4 x 18"	1
98	P10757	Wipple	1
99	P10207	90° Elbow, Street	1
100	P15099	45° Elbow, Street	1
101	P19245	Connector	1
102	P13588	Gauge	1
103	16271A	Bracket, Hose Support Rear Axle	1
104	Com'3	Bolt, Hex, 3/8-18 x 1/2	1
105	Com'1	Nut, Hex, 5/16-18	1
106	P18590	O-Ring	1



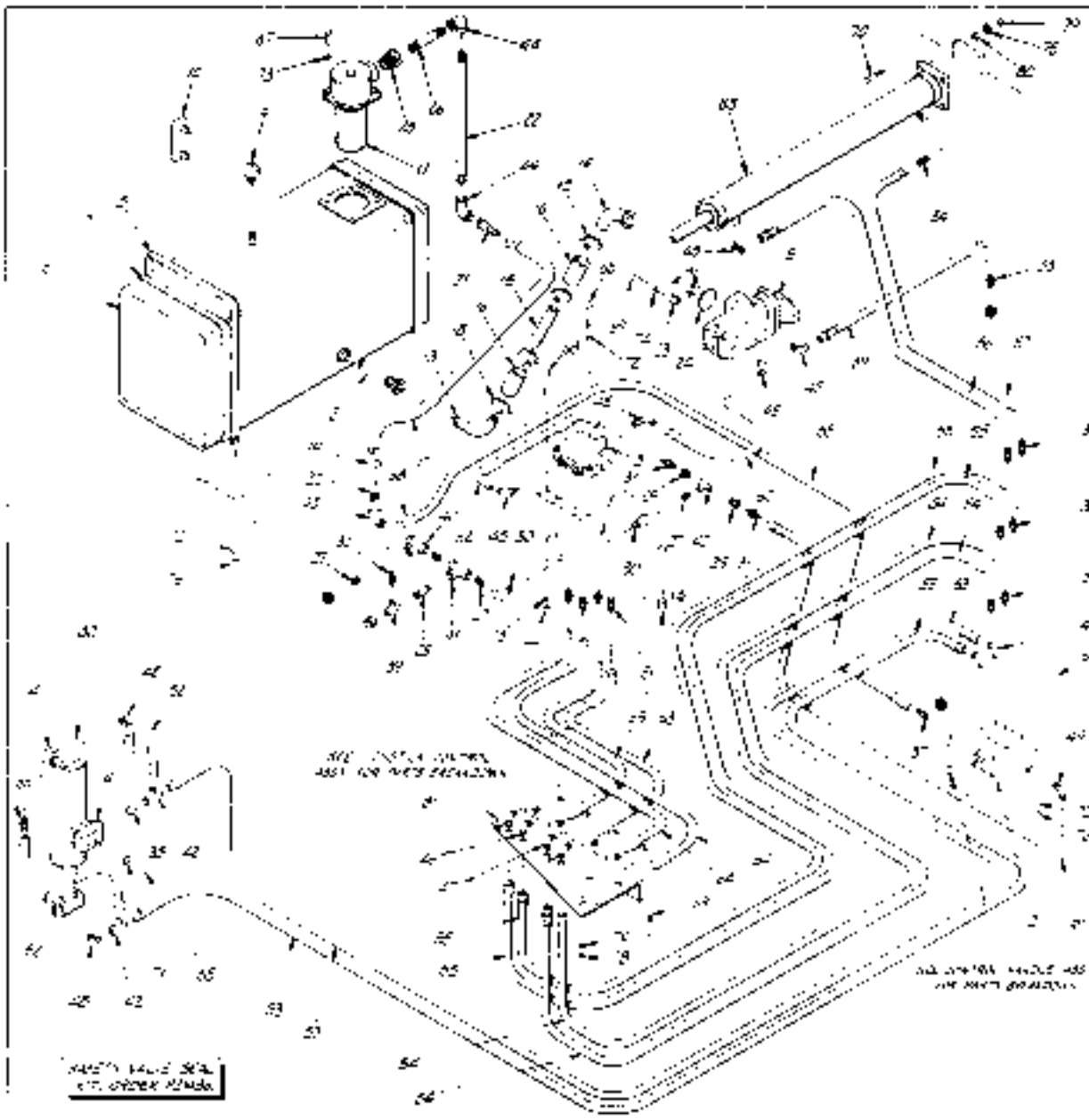
(1) 100%
 (2) 100%
 (3) 100%
 (4) 100%
 (5) 100%

This drawing is a floor plan of a building. It shows the layout of the rooms, corridors, and other structural elements. The drawing is a technical drawing and is intended for use by the building contractor. It is not to be used for any other purpose.

1. 100%
 2. 100%
 3. 100%
 4. 100%
 5. 100%
 6. 100%
 7. 100%
 8. 100%
 9. 100%
 10. 100%

WAL Engineering Co.
 100%
 100%
 100%
 100%

100%
 100%

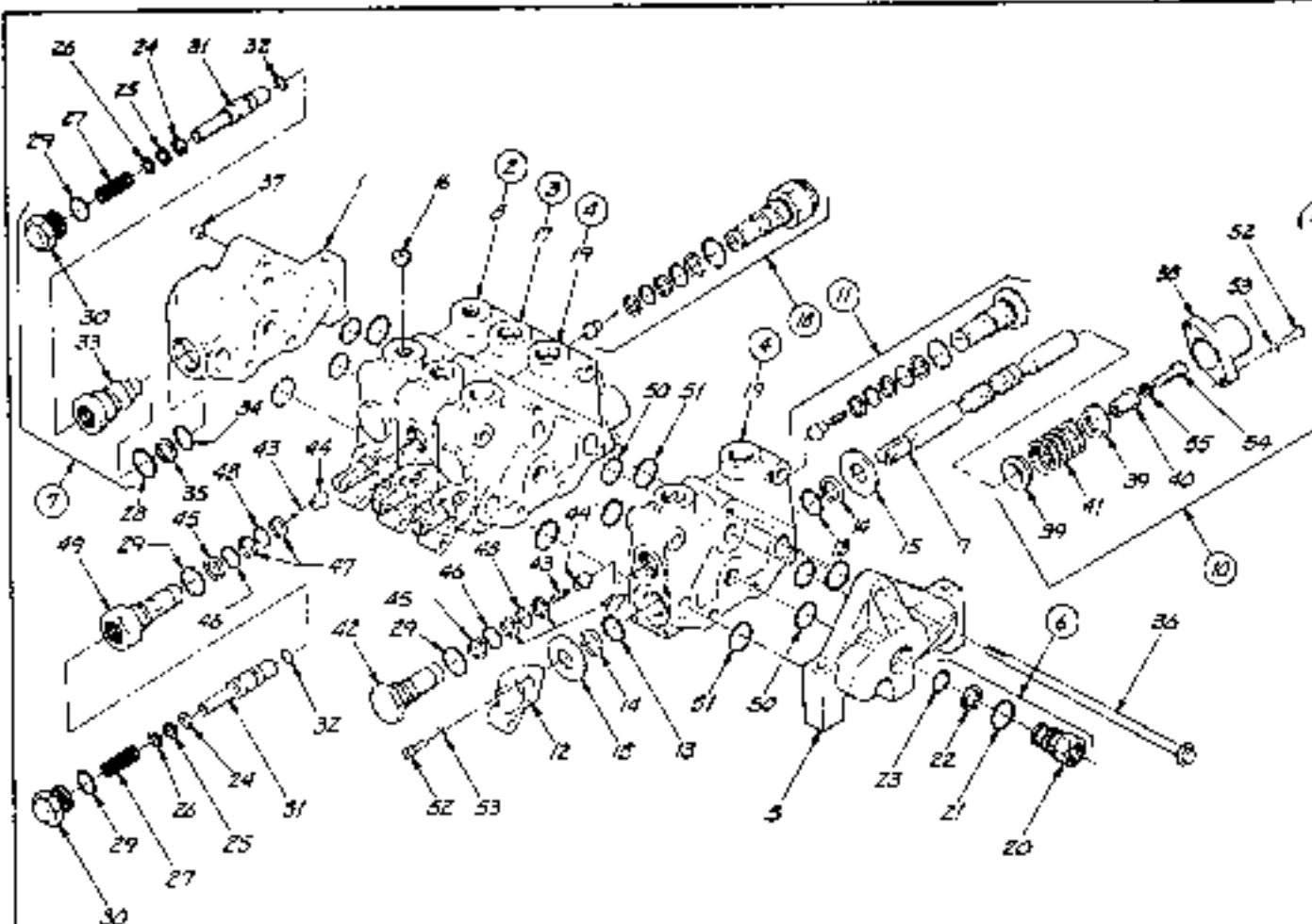


NOTES:
 1) MATERIAL OF PART ELEMENT
 TO BE USED
 2) MATERIAL OF PART ELEMENT

- SEE DRAWING FOR PART NO.
- SEE LIST FOR PART NO.

1	4010000	100	100	100
2	4010001	100	100	100
3	4010002	100	100	100
4	4010003	100	100	100
5	4010004	100	100	100
6	4010005	100	100	100
7	4010006	100	100	100
8	4010007	100	100	100
9	4010008	100	100	100
10	4010009	100	100	100
11	4010010	100	100	100
12	4010011	100	100	100
13	4010012	100	100	100
14	4010013	100	100	100
15	4010014	100	100	100
16	4010015	100	100	100
17	4010016	100	100	100
18	4010017	100	100	100
19	4010018	100	100	100
20	4010019	100	100	100
21	4010020	100	100	100
22	4010021	100	100	100
23	4010022	100	100	100
24	4010023	100	100	100
25	4010024	100	100	100
26	4010025	100	100	100
27	4010026	100	100	100
28	4010027	100	100	100
29	4010028	100	100	100
30	4010029	100	100	100
31	4010030	100	100	100
32	4010031	100	100	100
33	4010032	100	100	100
34	4010033	100	100	100
35	4010034	100	100	100
36	4010035	100	100	100
37	4010036	100	100	100
38	4010037	100	100	100
39	4010038	100	100	100
40	4010039	100	100	100
41	4010040	100	100	100
42	4010041	100	100	100
43	4010042	100	100	100
44	4010043	100	100	100
45	4010044	100	100	100
46	4010045	100	100	100
47	4010046	100	100	100
48	4010047	100	100	100
49	4010048	100	100	100
50	4010049	100	100	100
51	4010050	100	100	100
52	4010051	100	100	100
53	4010052	100	100	100
54	4010053	100	100	100
55	4010054	100	100	100
56	4010055	100	100	100
57	4010056	100	100	100
58	4010057	100	100	100
59	4010058	100	100	100
60	4010059	100	100	100
61	4010060	100	100	100
62	4010061	100	100	100
63	4010062	100	100	100
64	4010063	100	100	100
65	4010064	100	100	100
66	4010065	100	100	100
67	4010066	100	100	100
68	4010067	100	100	100
69	4010068	100	100	100
70	4010069	100	100	100
71	4010070	100	100	100
72	4010071	100	100	100
73	4010072	100	100	100
74	4010073	100	100	100
75	4010074	100	100	100
76	4010075	100	100	100
77	4010076	100	100	100
78	4010077	100	100	100
79	4010078	100	100	100
80	4010079	100	100	100
81	4010080	100	100	100
82	4010081	100	100	100
83	4010082	100	100	100
84	4010083	100	100	100
85	4010084	100	100	100
86	4010085	100	100	100
87	4010086	100	100	100
88	4010087	100	100	100
89	4010088	100	100	100
90	4010089	100	100	100
91	4010090	100	100	100
92	4010091	100	100	100
93	4010092	100	100	100
94	4010093	100	100	100
95	4010094	100	100	100
96	4010095	100	100	100
97	4010096	100	100	100
98	4010097	100	100	100
99	4010098	100	100	100
100	4010099	100	100	100

WILSON ENGINE CO. INC.
 1000 S. 10TH ST. WYOMING, WYOMING
 82001
 (307) 338-1111



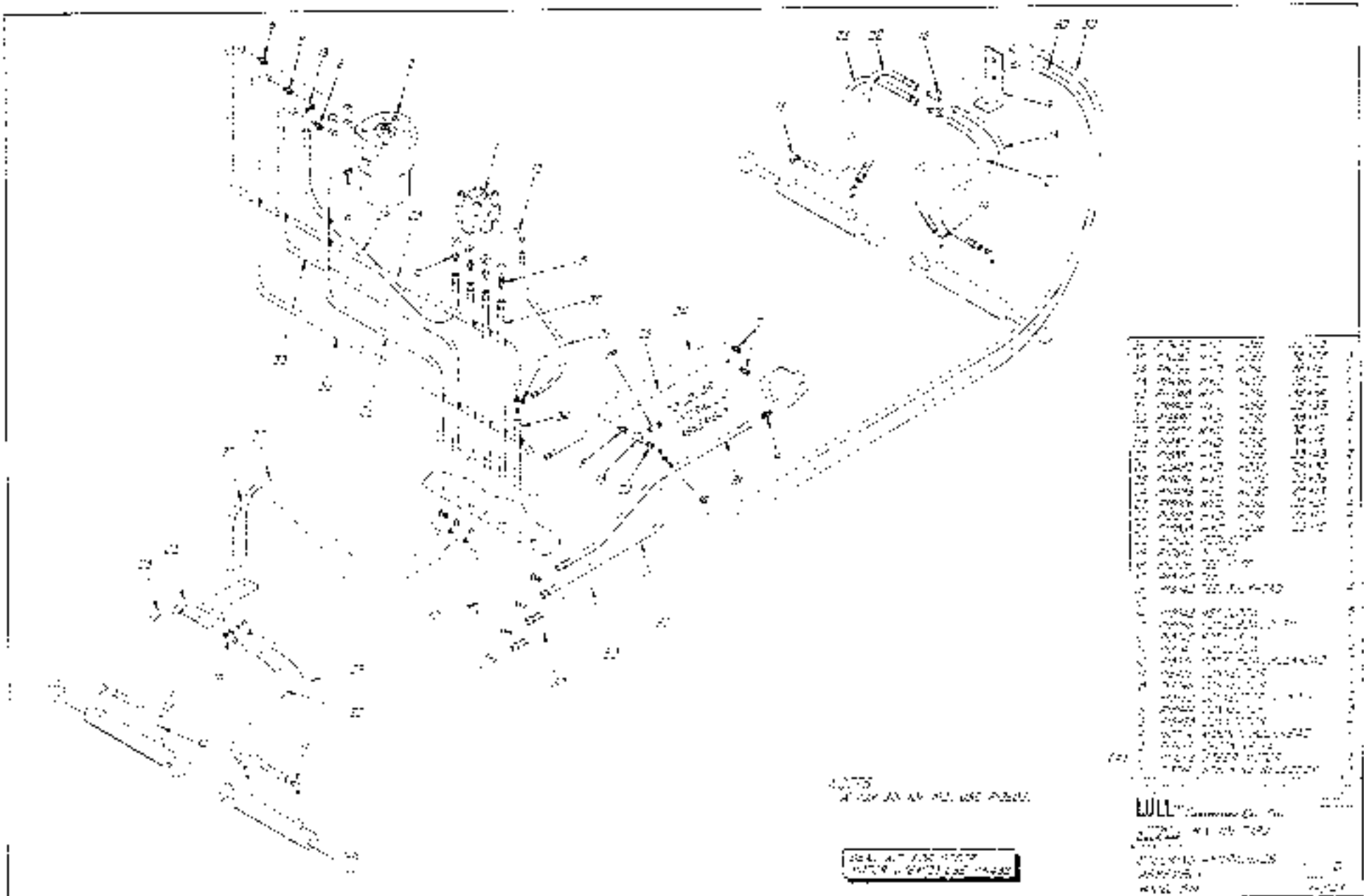
SEAL KITS:
 FOR VALVE SECTIONS (ITEMS 2,3 & 4)
 USE P21758. 4 REQ. PER COMPLETE
 CONTROL VALVE. 5 REQ. - 1 2ND AUX.
 FOR RELIEF (ITEM 7) USE P21759.

NOTE:
 A) STUD KIT FOR 5 SECTION VALVE
 (2ND AUXILIARY) USE P2739. KIT
 INCLUDES STUDS, NUTS & SEALS.

44	P20334	POPPET	8
43	P20333	SPRING, LOAD CHECK	8
42	P20332	PLUG, LOAD CHECK	6
41	P20331	SPRING, POSITIONER	4
40	P20330	SEAT, CAPSCREW	4
39	P20329	COLLAR, SPRING	8
38	P20328	BONNET, POSITIONER	6
37	P20327	LOCKNUT, STUDS	5
36	P20326	STUD, SECTIONS	3
35	P20325	BACK-UP RING	1
34	P20324	SEAL, O-RING	1
33	P20323	BODY, MAIN RELIEF	1
32	P20322	SEAL, POPPET	3
31	P20321	POPPET (SEAL INCL.)	3
30	P20320	CAP, RELIEF	3
29	P20319	SEAL, O-RING	10
28	P20318	SEAL, O-RING	1
27	P20317	SPRING, RELIEF	3
26	P20316	SHIM, .50" x .009"	4 1/2
25	P20315	SHIM, .50" x .020"	4 1/2
24	P20314	SHIM, .50" x .0418"	4 1/2
23	P20313	SEAL, O-RING	1
22	P20312	BACK-UP RING	1
21	P20311	SEAL, O-RING	1
20	P20310	SLEEVE, POWER BEYOND	1
19	P20309	HOUSING, SAE #8 PORT	2
18	P20308	RELIEF ASSEMBLY	2
17	P20307	HOUSING, TANDEM	1
16	P20306	ORIFICE PLATE	2
15	P20305	SEAL, RETAINER PLATE	8
14	P20304	BACK-UP RING	8
13	P20303	SEAL, O-RING	8
12	P20302	LINK, HANDLE MOUNT	4
11	P20301	LOAD CHECK ASSY	6
10	P20300	POSITIONER ASSY	4
9	P20299	SPOOL	4
8	P20298	HOUSING, SAE #6 PORT	1
7	P20297	RELIEF ASSY, MAIN	1
6	P20296	POWER BEYOND ASSY	1
5	P20295	COVER, SECTION	1
4	P20294	SECTION ASSY, 4 WAY	2
3	P20293	SECTION ASSY, TANDEM	1
2	P20292	SECTION ASSY, 4 WAY	1
1	P20291	COVER, SECTION	1

55	COM'L	LOCKWASHER, 5/16"	4
54	COM'L	CAPSCREW, 1/4-18 x 3/16"	4
53	COM'L	LOCKWASHER, 1/8"	16
52	COM'L	CAPSCREW, 1/4-20 x 3/8"	16
51	P20341	SEAL, O-RING	10
50	P20340	SEAL, O-RING	10
49	P20339	BODY, RELIEF	2
48	P20338	SEAL, O-RING	8
47	P20337	BACK-UP RING	16
46	P20336	SEAL, O-RING	8
45	P20335	BACK-UP RING	8

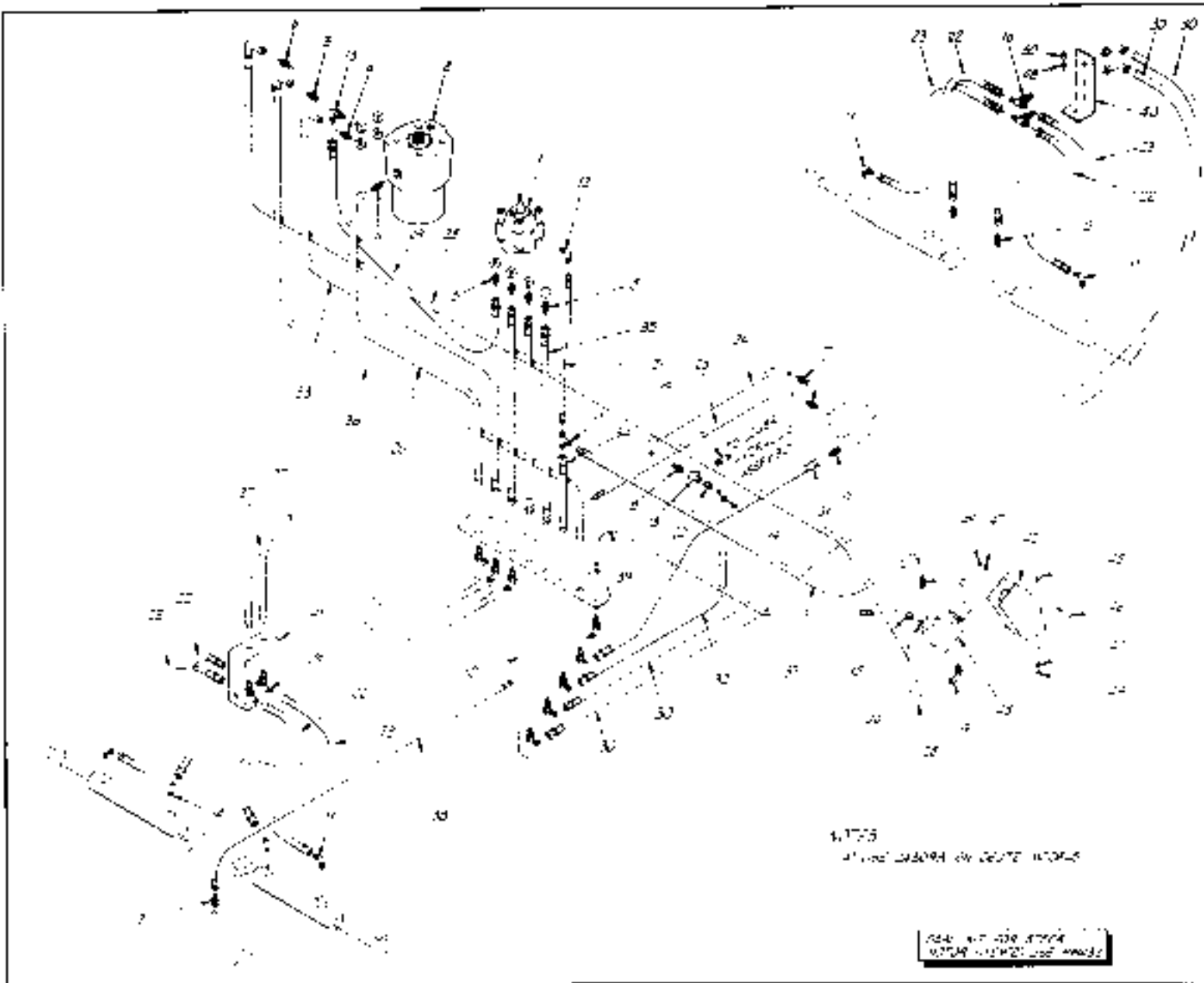
ITEM	QTY	DESCRIPTION	REQ.
WILL Engineering Co., Inc.			
ST. PAUL, MINN. 55114			
SIN 101 THRU			
4 SPOOL CONTROL VALVE ASSEMBLY			
MODEL 644 + 884			
P18197			



NOTES
 1. SEE DRAWING FOR DIMENSIONS

REV. 1.0
 DATE: 01/01/2000

NO.	DESCRIPTION	QTY	UNIT	REMARKS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25



6.1775
 41.1200 24.0000 00.0000 100.0000

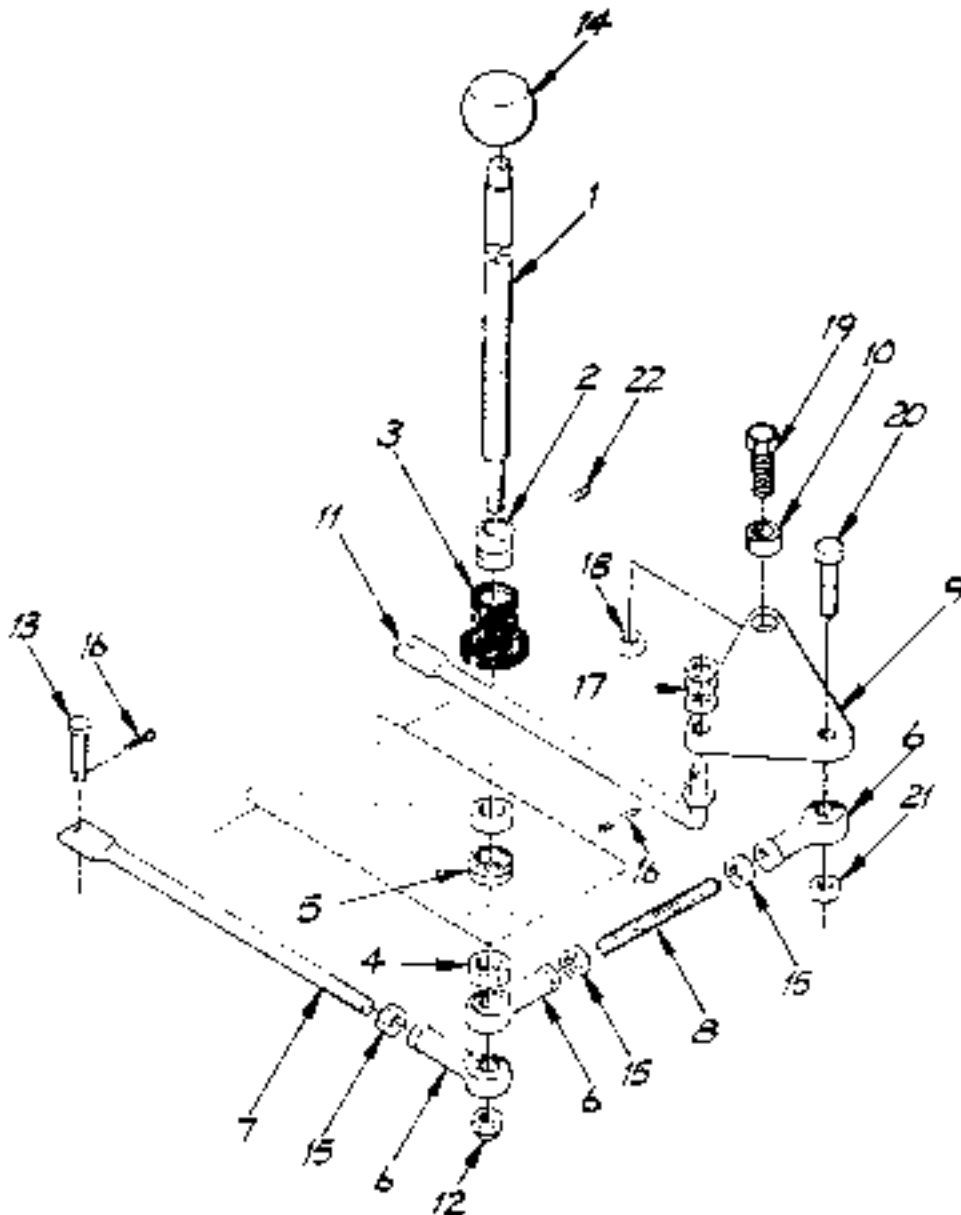
154 41.1200 24.0000 00.0000 100.0000

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

LULL - Spinning Co. Co.
 154 41.1200 24.0000 00.0000 100.0000
 4556K88
 100.0000

NOTE:

A) FOR S/N 101-115, USE P19086



A)

| 22 | COM'L | SOC. HD. SETSCREW $\frac{1}{4}$ -ZINC $\times \frac{1}{8}$ | 1 |
|------|---------|--|-----|
| 21 | COM'L | NUT, HEX $\frac{3}{8}$ -16 | 2 |
| 20 | COM'L | BOLT, HEX, $\frac{3}{8}$ -16NC $\times 1\frac{1}{4}$ " | 1 |
| 19 | COM'L | BOLT, HK $\frac{1}{2}$ -13NC $\times 1\frac{1}{2}$ " | 1 |
| 18 | COM'L | NUT, HEX $\frac{1}{2}$ -13 | 2 |
| 17 | COM'L | FLATWASHER $\frac{3}{8}$ | 5 |
| 16 | COM'L | COTTERPIN $\frac{1}{8}$ DIA $\times 1"$ | 3 |
| 15 | COM'L | NUT, HEX $\frac{3}{8}$ -24 | 3 |
| 14 | P18721 | KNOB | 1 |
| 13 | P18845 | PIN | 1 |
| 12 | COM'L | LOCKNUT, HK, $\frac{3}{8}$ -24 | 1 |
| 11 | 16331A | LINK, BOOM CONTROL | 1 |
| 10 | P19114 | BUSHING, TOGGLE PLATE | 1 |
| 9 | 15583A | TOGGLE PLATE | 1 |
| 8 | 16330A | LINK, BOOM CONTROL | 1 |
| 7 | 16332A | LINK, BOOM CONTROL | 1 |
| 6 | P18719 | BALL BUSHING, ROD END | 5 |
| 5 | P18718 | BALL BUSHING, LEVER | 1 |
| 4 | 15825A | NUT | 2 |
| 3 | P19087 | BOOT, CONTROL LEVER | 1 |
| 2 | 15824A | COLLAR BOOT | 1 |
| 1 | 15823B | LEVER, BOOM CONTROL | 1 |
| ITEM | PART NO | DESCRIPTION | REL |

LUZZ Engineering Co., Inc.

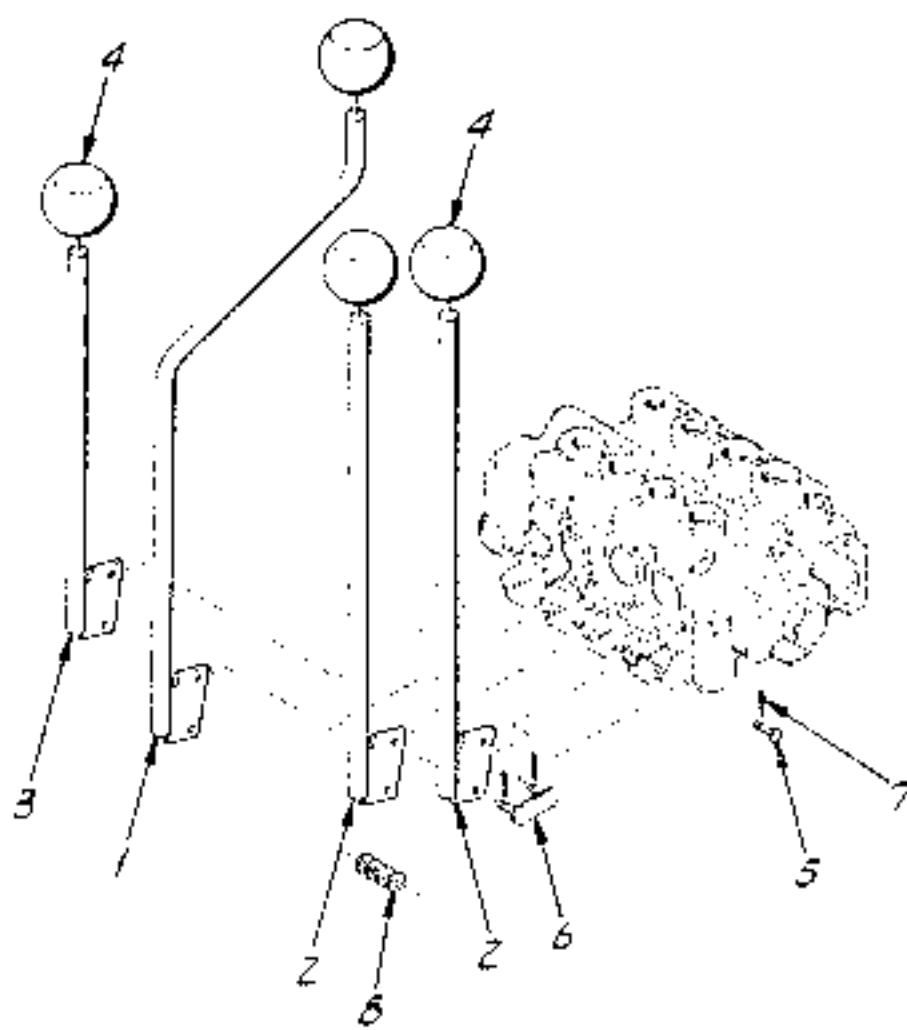
DRAWN BY Jeff Klauke S/N 101 THRU

JOYSTICK CONTROL
ASSEMBLY

MODEL 844

L. PAUL
MINNESOTA
16121

SCALE 3
DRAWING NO.
16842



| | | | |
|---|--------|----------------------------|-----|
| 8 | COM'L | FLATWASHER 3/4" | Qty |
| 7 | COM'L | COTTER PIN 1/8" DIA x 3/4" | 12 |
| 6 | P19505 | PIN LINK | 4 |
| 5 | P10512 | CLEVIS PIN | 4 |
| 4 | P18721 | KNCS | 4 |
| 3 | 16124A | VALVE HANDLE, FRAME TILT | 1 |
| 2 | 16295B | VALVE HANDLE, FORK TILT | 2 |
| 1 | 16294A | VALVE HANDLE, AUX | 1 |

| ITEM | PART NO | DESCRIPTION | REL. |
|------|---------|-------------|------|
|------|---------|-------------|------|

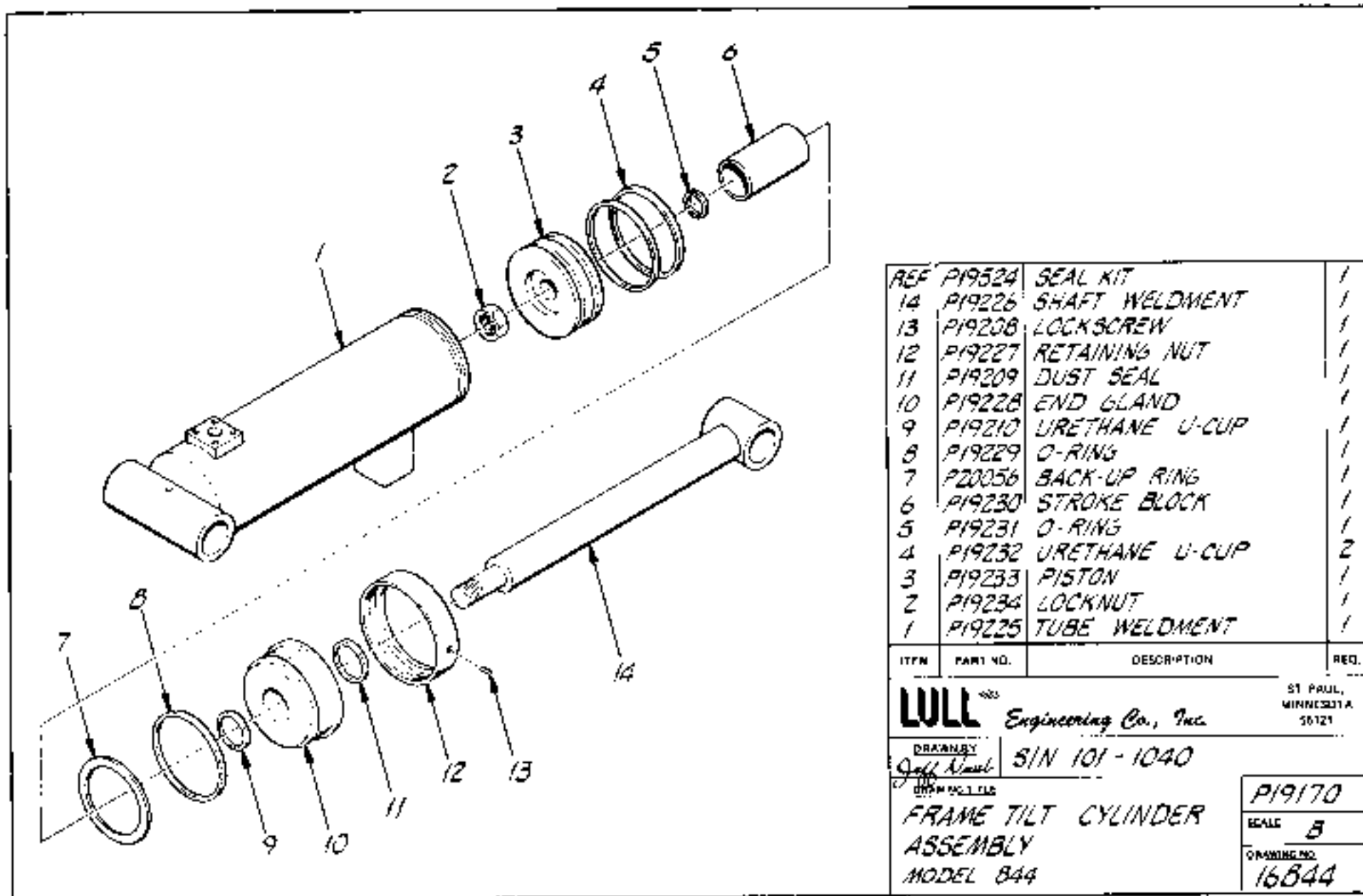
LU Engineering Co., Inc.

ST. PAUL
MINNESOTA
55121

DRAWN BY *Spiff* SIN 101 THRU

REPAIRING TITLE
**FOUR SPOOL CONTROL
 HANDLE ASSEMBLY**
 MODEL 844

SCALE **8**
 DRAWING NO.
16843



| | | | |
|-----|--------|----------------|---|
| REF | PI9524 | SEAL KIT | 1 |
| 14 | PI9226 | SHAFT WELDMENT | 1 |
| 13 | PI9208 | LOCKSREW | 1 |
| 12 | PI9227 | RETAINING NUT | 1 |
| 11 | PI9209 | DUST SEAL | 1 |
| 10 | PI9228 | END GLAND | 1 |
| 9 | PI9210 | URETHANE U-CUP | 1 |
| 8 | PI9229 | O-RING | 1 |
| 7 | P20056 | BACK-UP RING | 1 |
| 6 | PI9230 | STROKE BLOCK | 1 |
| 5 | PI9231 | O-RING | 1 |
| 4 | PI9232 | URETHANE U-CUP | 2 |
| 3 | PI9233 | PISTON | 1 |
| 2 | PI9234 | LOCKNUT | 1 |
| 1 | PI9225 | TUBE WELDMENT | 1 |

| ITEM | PART NO. | DESCRIPTION | REQ. |
|------|----------|-------------|------|
|------|----------|-------------|------|

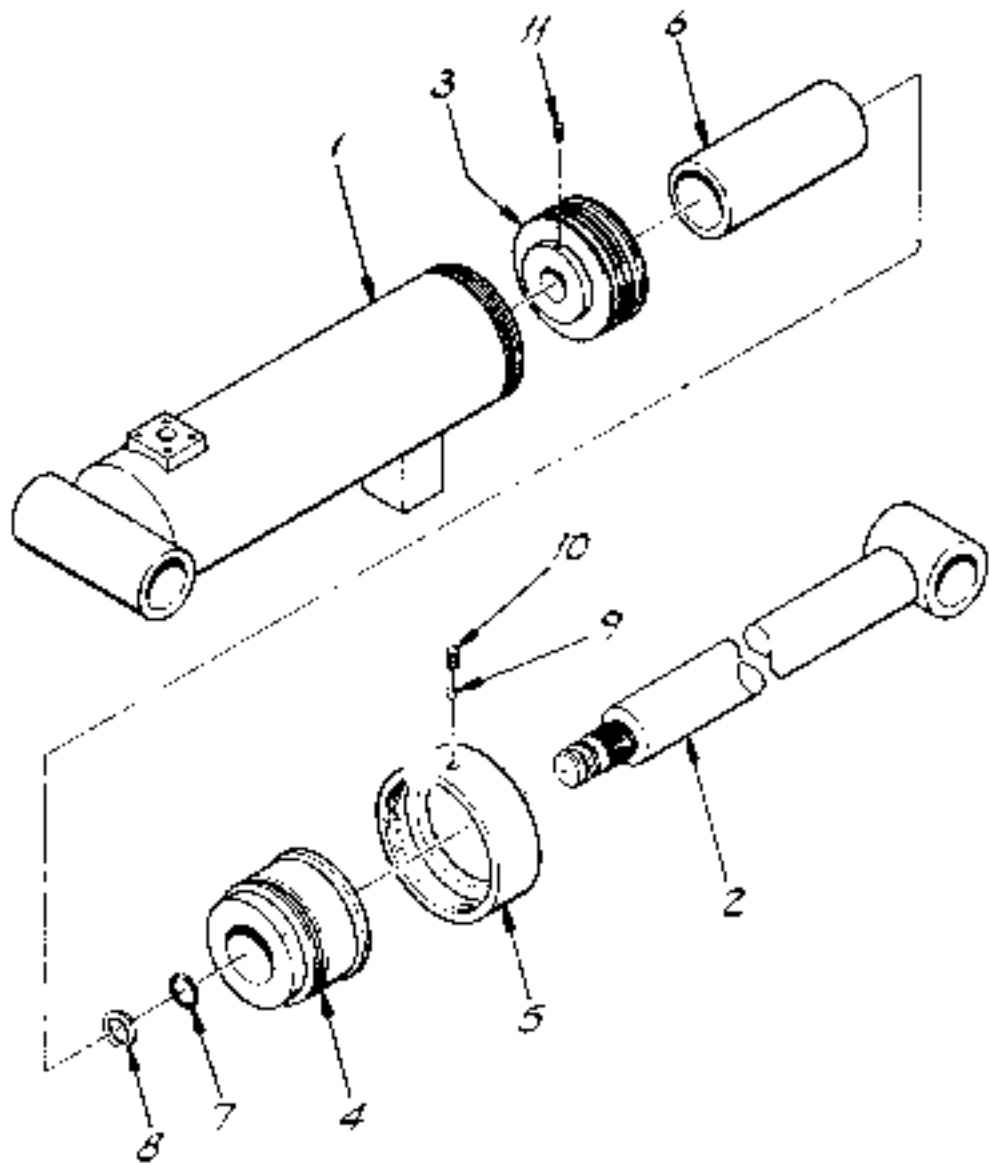
LU Engineering Co., Inc.

ST PAUL,
MINNESOTA
55121

DRAWN BY *Jeff Nault* SIN 101-1040

FRAME TILT CYLINDER
ASSEMBLY
MODEL 844

PI9170
SCALE **B**
DRAWING NO.
16844



| | | | |
|-----|--------|-----------------------------|---|
| REF | P24442 | SEAL KIT | 1 |
| | 11 | P24435 SET SCREW | 1 |
| | 10 | P24434 SET SCREW | 1 |
| | 9 | P24431 NYLON PLUG | 1 |
| | 8 | P24425 BACK-UP RING | 2 |
| | 7 | P24418 O-RING | 1 |
| | 6 | P24916 STROKE LIMITER | 1 |
| | 5 | P24403 ROD BEARING RETAINER | 1 |
| | 4 | P24911 ROD BEARING | 1 |
| | 3 | P24381 PISTON | 1 |
| | 2 | P24904 ROD WELDMENT | 1 |
| | 1 | P24894 BARREL WELDMENT | 1 |

| ITEM | PART NO | DESCRIPTION | REQ. |
|------|---------|-------------|------|
|------|---------|-------------|------|

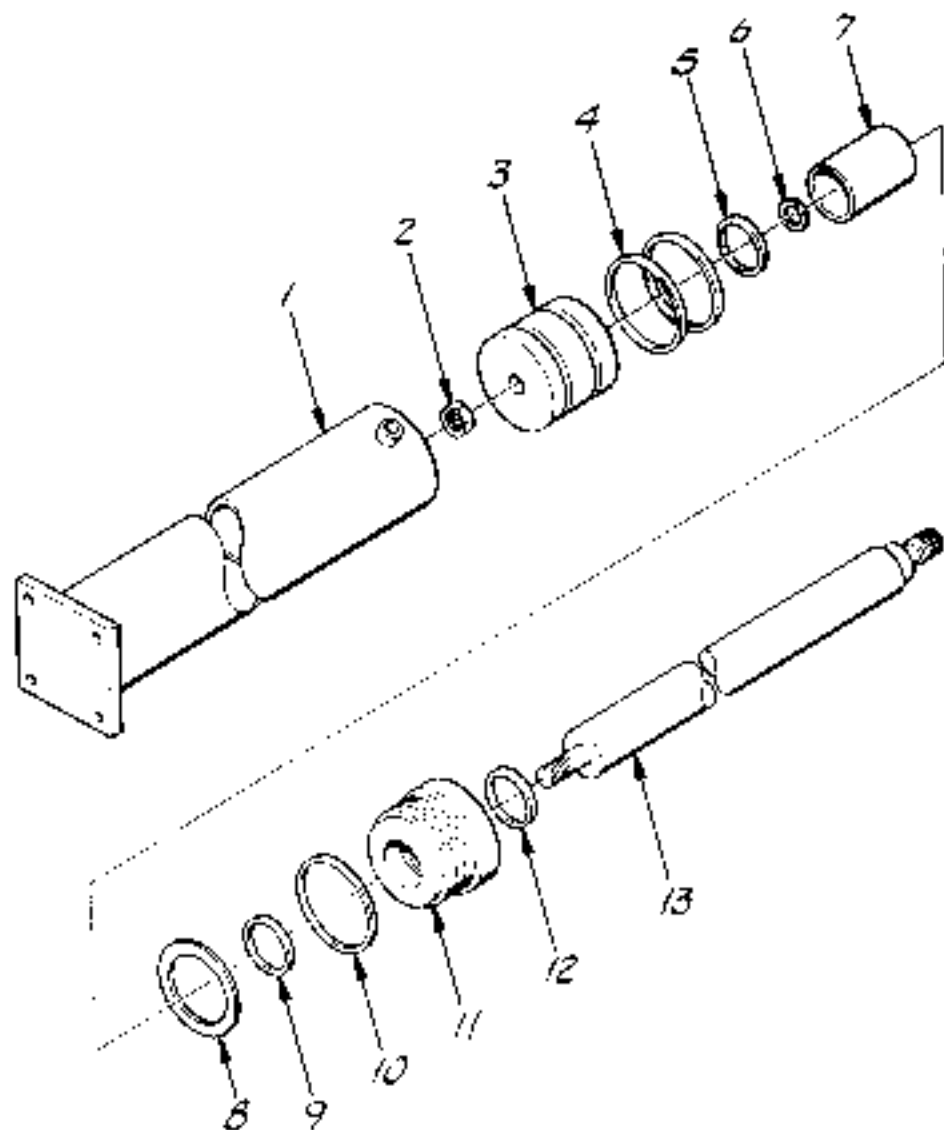
LULL Engineering Co., Inc.

ST PAUL
MINNESOTA
65121

DRAWN BY *Jeff Dault* S/N 1041 THRU

DRAWING TITLE
FRAME TILT CYLINDER
ASSEMBLY
MODEL 844

P24741
SCALE B
DRAWING NO.
16844-1



| | | | |
|-----|--------|----------------|---|
| REF | P19525 | SEAL KIT | 1 |
| 13 | P19219 | SHAFT | 1 |
| 12 | P19209 | DUST SEAL | 1 |
| 11 | P19220 | END GLAND | 1 |
| 10 | P19221 | O-RING | 1 |
| 9 | P19210 | URETHANE U-CUP | 1 |
| 8 | P20055 | BACK-UP RING | 1 |
| 7 | P19222 | STROKE BLOCK | 1 |
| 6 | P19214 | O-RING | 1 |
| 5 | P20061 | O-RING | 1 |
| 4 | P19223 | URETHANE U-CUP | 2 |
| 3 | P19224 | PISTON | 1 |
| 2 | P19217 | LOCKNUT | 1 |
| 1 | P19218 | TUBE WELDMENT | 1 |

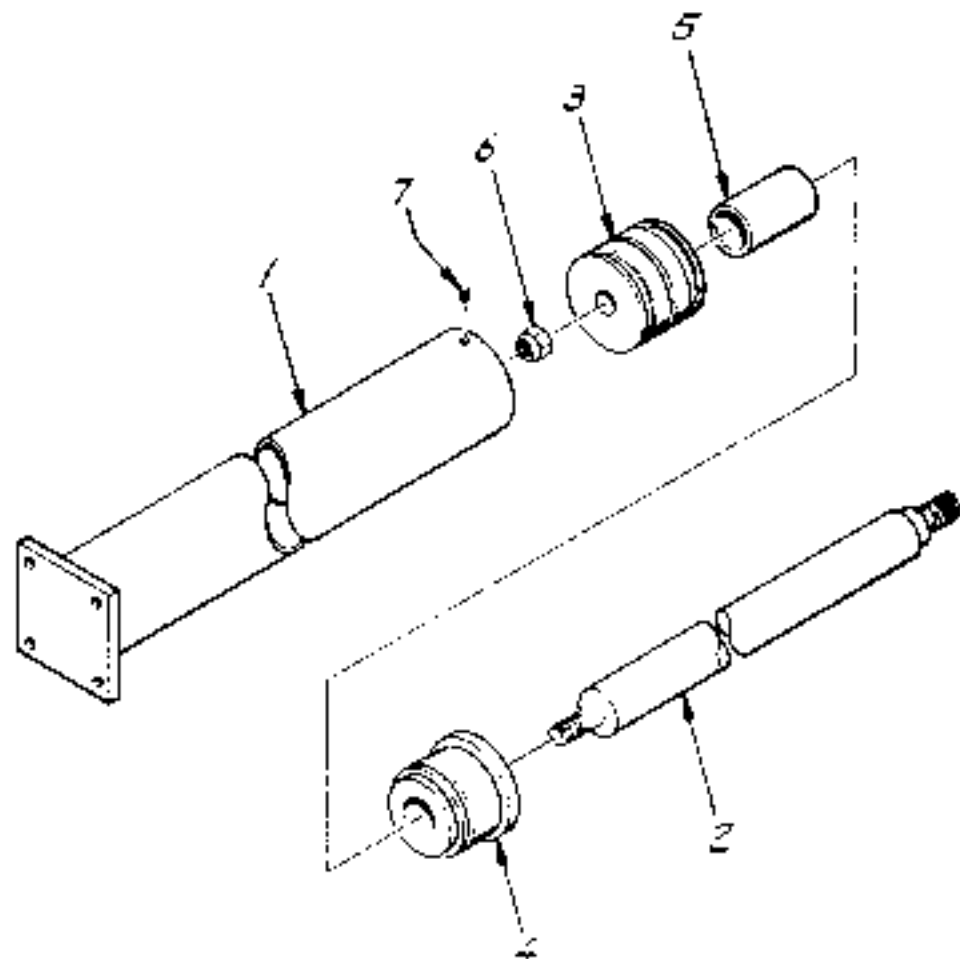
| ITEM | PART NO | DESCRIPTION | REQ |
|------|---------|-------------|-----|
|------|---------|-------------|-----|

LULL INC.
Engineering Co., Inc. ST PAUL,
MINNESOTA
55121

DRAWN BY *Jeff Dient* S/N 101-1040

TRANSFERRING TITLE
TRANSFER CYLINDER
ASSEMBLY
MODEL 844

P19171
SCALE B
DRAWING NO.
16845



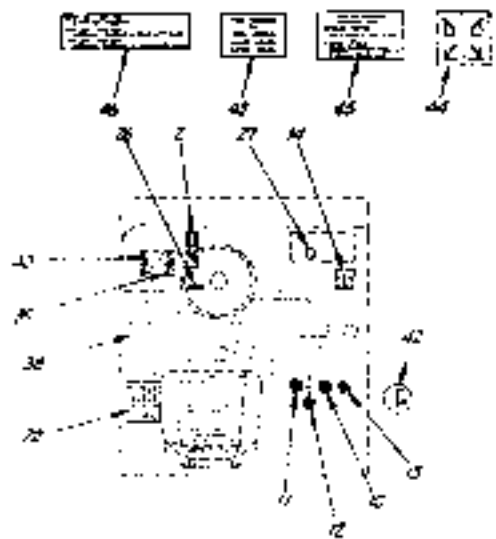
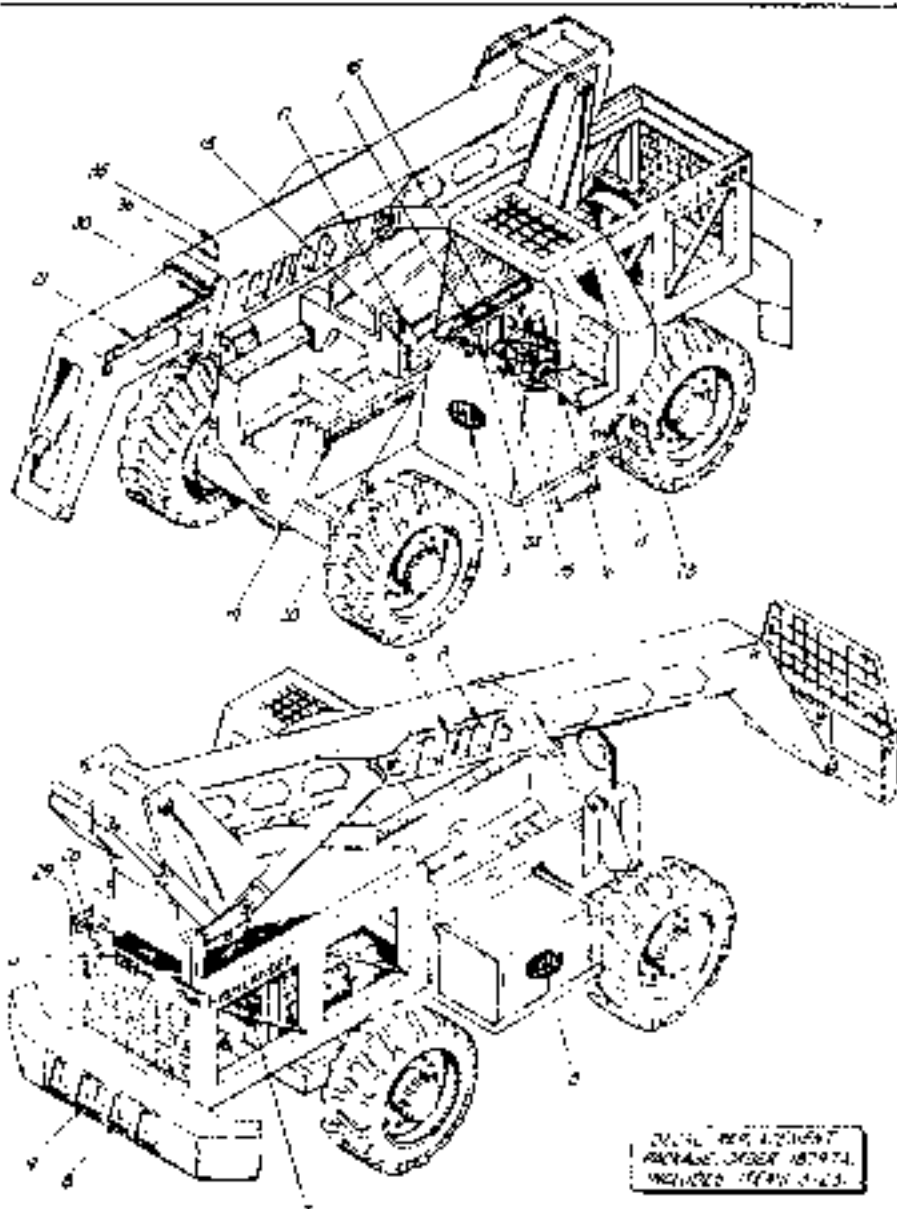
| | | | |
|-----|--------|------------------------|---|
| REF | P24441 | SEAL KIT | 1 |
| | 7 | P24433 SET SCREW | 1 |
| | 6 | P24428 NUT | 1 |
| | 5 | P24408 STROKE LIMITER | 1 |
| | 4 | P24401 ROD BEARING | 1 |
| | 3 | P24378 PISTON | 1 |
| | 2 | P24902 ROD | 1 |
| | 1 | P24892 BARREL WELDMENT | 1 |

| ITEM | PART NO. | DESCRIPTION | REQ. |
|------|----------|-------------|------|
|------|----------|-------------|------|

LULL Engineering Co., Inc. ST. PAUL, MINNESOTA 55121

DESIGNED BY *Jeff Davis* S/N 1041 THRU

| | |
|-------------------|---------|
| TRANSFER | P24742 |
| CYLINDER ASSEMBLY | B |
| MODEL 844 | 16845-1 |



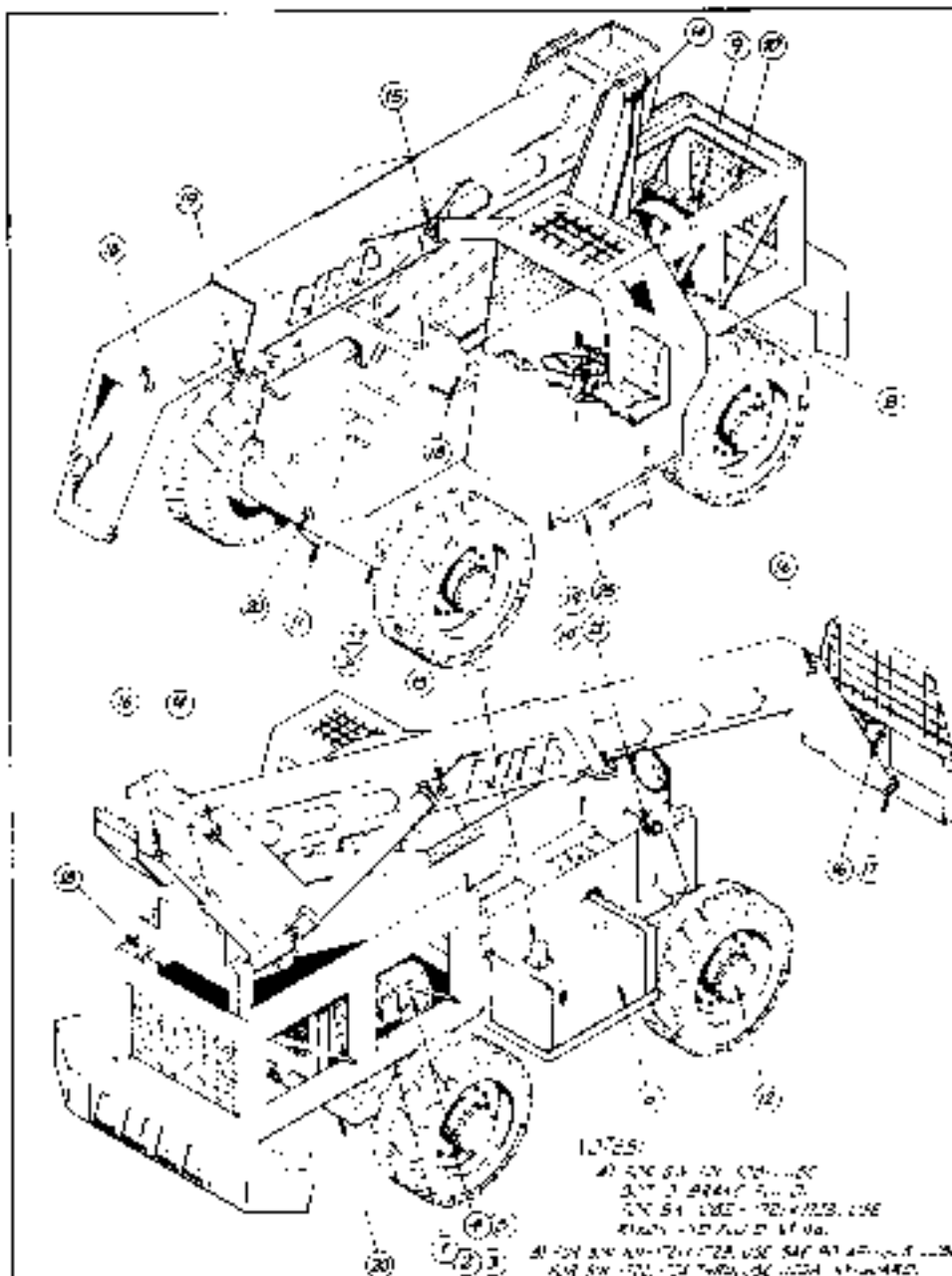
NOTES
 1. ALL MACHINES EQUIPPED WITH
 TUBES FOR TUBES
 2. THE MACHINES IN DETAIL OF DEUCE 24115
 3. THE MACHINES IN DETAIL OF DEUCE 24116
 4. THE MACHINES IN DETAIL OF DEUCE 24117
 5. USED CASES AND TUBES
 PLEASE CONSULT



DECAL REF. LISTENY
 PACKAGE ORDER 187974
 INCLUDES ITEMS 1-15

| QTY | PART NO. | DESCRIPTION |
|-----|----------|------------------------|
| 1 | 10000 | FLAME TREATING |
| 1 | 10001 | PAINT, SILVER ENAMEL |
| 1 | 10002 | PAINT, BLACK ENAMEL |
| 1 | 10003 | PAINT, TRUCKER |
| 1 | 10004 | PAINT, YELLOW |
| 1 | 10005 | PAINT, MARINE ENAMEL |
| 1 | 10006 | ANTIRUST |
| 1 | 10007 | TALCUM POWDER CAPACITY |
| 1 | 10008 | DECAL, DISTRIBUTOR CAP |
| 1 | 10009 | DECAL, FUEL MOUNT |
| 1 | 10010 | DECAL, TIRE PRESSURE |
| 1 | 10011 | DECAL, TIRE MOUNT |
| 1 | 10012 | DECAL, TIRE MOUNT |
| 1 | 10013 | DECAL, TIRE MOUNT |
| 1 | 10014 | DECAL, TIRE MOUNT |
| 1 | 10015 | DECAL, TIRE MOUNT |
| 1 | 10016 | DECAL, TIRE MOUNT |
| 1 | 10017 | DECAL, TIRE MOUNT |
| 1 | 10018 | DECAL, TIRE MOUNT |
| 1 | 10019 | DECAL, TIRE MOUNT |
| 1 | 10020 | DECAL, TIRE MOUNT |
| 1 | 10021 | DECAL, TIRE MOUNT |
| 1 | 10022 | DECAL, TIRE MOUNT |
| 1 | 10023 | DECAL, TIRE MOUNT |
| 1 | 10024 | DECAL, TIRE MOUNT |
| 1 | 10025 | DECAL, TIRE MOUNT |
| 1 | 10026 | DECAL, TIRE MOUNT |
| 1 | 10027 | DECAL, TIRE MOUNT |
| 1 | 10028 | DECAL, TIRE MOUNT |
| 1 | 10029 | DECAL, TIRE MOUNT |
| 1 | 10030 | DECAL, TIRE MOUNT |
| 1 | 10031 | DECAL, TIRE MOUNT |
| 1 | 10032 | DECAL, TIRE MOUNT |
| 1 | 10033 | DECAL, TIRE MOUNT |
| 1 | 10034 | DECAL, TIRE MOUNT |
| 1 | 10035 | DECAL, TIRE MOUNT |
| 1 | 10036 | DECAL, TIRE MOUNT |
| 1 | 10037 | DECAL, TIRE MOUNT |
| 1 | 10038 | DECAL, TIRE MOUNT |
| 1 | 10039 | DECAL, TIRE MOUNT |
| 1 | 10040 | DECAL, TIRE MOUNT |
| 1 | 10041 | DECAL, TIRE MOUNT |
| 1 | 10042 | DECAL, TIRE MOUNT |
| 1 | 10043 | DECAL, TIRE MOUNT |
| 1 | 10044 | DECAL, TIRE MOUNT |
| 1 | 10045 | DECAL, TIRE MOUNT |
| 1 | 10046 | DECAL, TIRE MOUNT |
| 1 | 10047 | DECAL, TIRE MOUNT |
| 1 | 10048 | DECAL, TIRE MOUNT |
| 1 | 10049 | DECAL, TIRE MOUNT |
| 1 | 10050 | DECAL, TIRE MOUNT |
| 1 | 10051 | DECAL, TIRE MOUNT |
| 1 | 10052 | DECAL, TIRE MOUNT |
| 1 | 10053 | DECAL, TIRE MOUNT |
| 1 | 10054 | DECAL, TIRE MOUNT |
| 1 | 10055 | DECAL, TIRE MOUNT |
| 1 | 10056 | DECAL, TIRE MOUNT |
| 1 | 10057 | DECAL, TIRE MOUNT |
| 1 | 10058 | DECAL, TIRE MOUNT |
| 1 | 10059 | DECAL, TIRE MOUNT |
| 1 | 10060 | DECAL, TIRE MOUNT |
| 1 | 10061 | DECAL, TIRE MOUNT |
| 1 | 10062 | DECAL, TIRE MOUNT |
| 1 | 10063 | DECAL, TIRE MOUNT |
| 1 | 10064 | DECAL, TIRE MOUNT |
| 1 | 10065 | DECAL, TIRE MOUNT |
| 1 | 10066 | DECAL, TIRE MOUNT |
| 1 | 10067 | DECAL, TIRE MOUNT |
| 1 | 10068 | DECAL, TIRE MOUNT |
| 1 | 10069 | DECAL, TIRE MOUNT |
| 1 | 10070 | DECAL, TIRE MOUNT |
| 1 | 10071 | DECAL, TIRE MOUNT |
| 1 | 10072 | DECAL, TIRE MOUNT |
| 1 | 10073 | DECAL, TIRE MOUNT |
| 1 | 10074 | DECAL, TIRE MOUNT |
| 1 | 10075 | DECAL, TIRE MOUNT |
| 1 | 10076 | DECAL, TIRE MOUNT |
| 1 | 10077 | DECAL, TIRE MOUNT |
| 1 | 10078 | DECAL, TIRE MOUNT |
| 1 | 10079 | DECAL, TIRE MOUNT |
| 1 | 10080 | DECAL, TIRE MOUNT |
| 1 | 10081 | DECAL, TIRE MOUNT |
| 1 | 10082 | DECAL, TIRE MOUNT |
| 1 | 10083 | DECAL, TIRE MOUNT |
| 1 | 10084 | DECAL, TIRE MOUNT |
| 1 | 10085 | DECAL, TIRE MOUNT |
| 1 | 10086 | DECAL, TIRE MOUNT |
| 1 | 10087 | DECAL, TIRE MOUNT |
| 1 | 10088 | DECAL, TIRE MOUNT |
| 1 | 10089 | DECAL, TIRE MOUNT |
| 1 | 10090 | DECAL, TIRE MOUNT |
| 1 | 10091 | DECAL, TIRE MOUNT |
| 1 | 10092 | DECAL, TIRE MOUNT |
| 1 | 10093 | DECAL, TIRE MOUNT |
| 1 | 10094 | DECAL, TIRE MOUNT |
| 1 | 10095 | DECAL, TIRE MOUNT |
| 1 | 10096 | DECAL, TIRE MOUNT |
| 1 | 10097 | DECAL, TIRE MOUNT |
| 1 | 10098 | DECAL, TIRE MOUNT |
| 1 | 10099 | DECAL, TIRE MOUNT |
| 1 | 10100 | DECAL, TIRE MOUNT |

LULL Corporation
 5111 The Skyway
 DECATUR, GEORGIA
 ASSAULT
 MODEL 441



NOTES:

- 1. USE ONLY THE SPECIFIED GRADES AND VISCOSITIES OF OILS AND GREASES.
- 2. FOR AN APPROVED USE SEE APPROVED USE AND SERVICE THROUGH LOCAL SHOWROOM.

SYSTEM CAPACITIES

| | | | |
|---|----------|----------------------------|----------|
| HYDRAULIC SYSTEM / RESERVOIR | 57 GALS. | TIRES - (3.00 x 14 B.F.P.) | FOR TIRE |
| ADD. TANK | 41 GALS. | CALCIUM CHLORIDE | 118 LBS. |
| COOLING SYSTEM | 12 QTS. | WATER | 53 GALS. |
| ENGINE CRANKCASE - SEE ENGINE MANUAL | | | |
| TRANS. CASE - 2414 X REF. - APPROX. 15 QTS. | | | |
| DRAGLINK ASSEMBLY - APPROX. 15 QTS. | | | |
| PLANTERY HUB ASSEMBLY | 2.6 P.S. | | |

| ITEM NO. | ITEM NAME | MAXIMUM ALLOWED OPER. ON THE LEVELS | | | | | | | | | | REMARKS | |
|----------|-----------|-------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|---------|-------------------|
| | | 1ST GEAR | 2ND GEAR | 3RD GEAR | 4TH GEAR | 5TH GEAR | 6TH GEAR | 7TH GEAR | 8TH GEAR | 9TH GEAR | 10TH GEAR | | |
| 1 | FORWARD | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 2 | REVERSE | | | | | | | | | | | | SEE ENGINE MANUAL |
| 3 | 2ND GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 4 | 3RD GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 5 | 4TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 6 | 5TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 7 | 6TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 8 | 7TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 9 | 8TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 10 | 9TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 11 | 10TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 12 | 11TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 13 | 12TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 14 | 13TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 15 | 14TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 16 | 15TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 17 | 16TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 18 | 17TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |
| 19 | 18TH GEAR | | | | | | | | | | | | SEE ENGINE MANUAL |
| 20 | 19TH GEAR | 150 | | | | | | | | | | | SEE ENGINE MANUAL |

LULL CORPORATION
 1000 LULL DRIVE
 WILSON, N.C. 27157
 PHONE: 704-375-1111
 FAX: 704-375-1112

MODEL 844
MISCELLANEOUS FILTERS

318 Chrysler
 276 John Deere
 159 Detroit
 212 Detroit (3-53)
 287 Deutz (4-53)
 283 Milwaukee

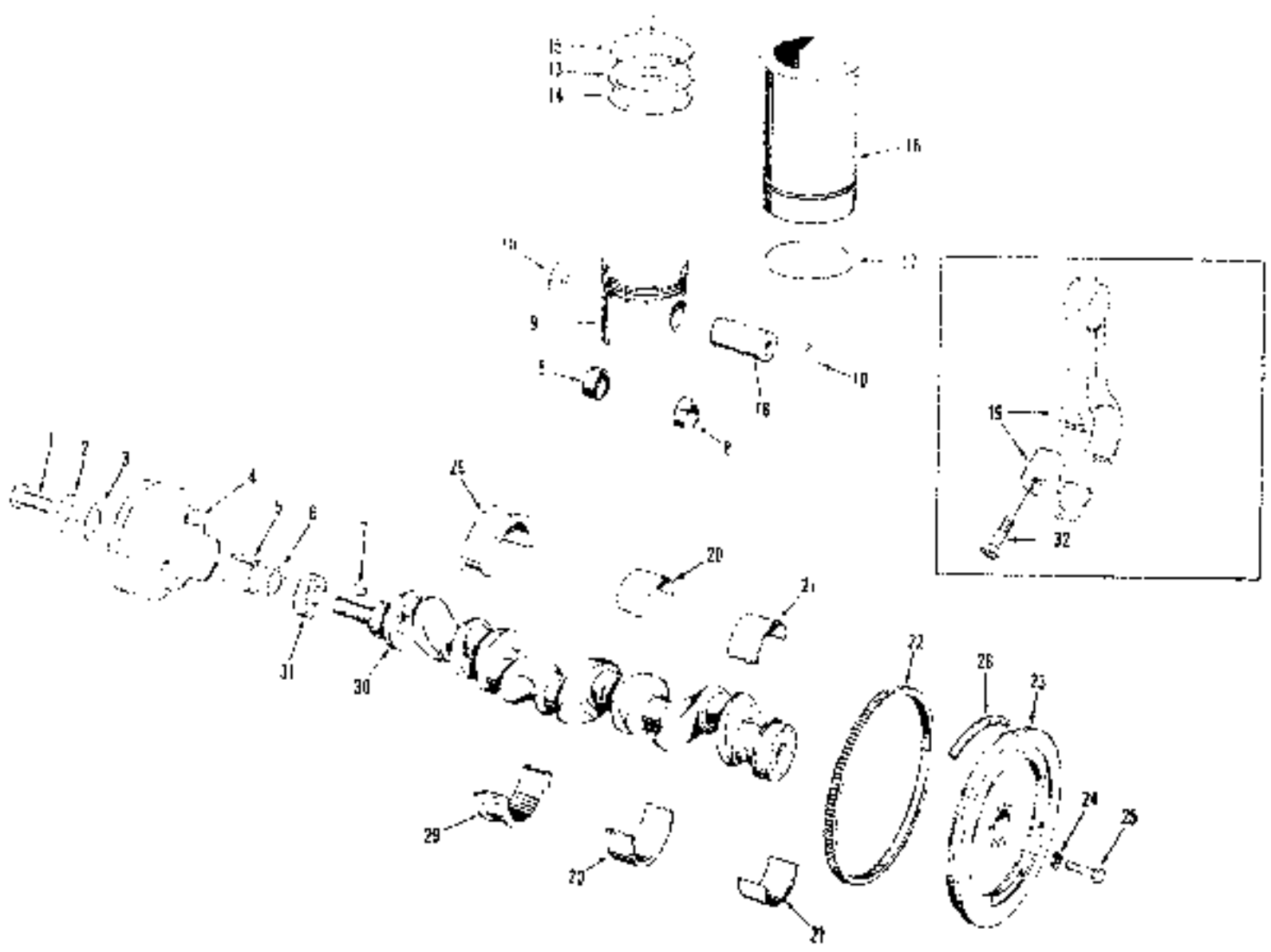
| PART NUMBERS | | | | | | | FILTERS | REMARKS |
|--------------|---|---|---|---|---|---|-----------------------|---|
| | | | | | | | | |
| P12389 | X | | | | | | Oil Filter | Spin-On Element |
| P19513 | | | | | | X | Oil Filter | |
| P19848 | | | | | X | | Oil Filter | |
| P22640 | | | X | | | | Oil Filter | |
| P19535 | | | X | | | | Oil Filter | |
| P19287 | | | | X | | | Oil Filter | |
| P22635 | X | | | | | | Oil Filter | |
| P15267 | X | | | | | | Fuel Filter | Spin-On Element |
| P17316 | | | | | | X | Fuel Filter | |
| P19856 | | | | | X | | Fuel Filter | |
| P22641 | | | X | | | | Fuel Filter-Primary | |
| P22642 | | | X | | | | Fuel Filter-Secondary | |
| P19288 | | | X | | | | Fuel Filter-Primary | |
| P19289 | | | X | X | | | Fuel Filter-Secondary | |
| P22636 | X | | | | | | Fuel Filter | |
| P17276 | X | | | | | X | Air Filter | For Machine W/Single Filter Air Cleaner
For Machine W/Dual Filter Air Cleaner
For Machine W/Dual Filter Air Cleaner |
| P19476 | | | X | X | X | | Air Filter | |
| P12179 | | X | | | | | Air Filter | |
| P21498 | | X | | | | | Air Filter-Primary | |
| P21499 | | X | | | | | Air Filter-Safety | |
| P19133 | X | X | X | X | X | X | Transmission | Spin-On Element |
| P17815 | X | | | | | X | Transmission | |
| P19801 | X | X | X | X | X | X | Hydraulic Oil | |
| P13586 | X | | X | X | | X | Hydraulic Oil | |
| P24315 | | X | X | | X | | Hydraulic Oil | |

INDEX OF PARTS

| <u>PARTS</u> | <u>PAGE</u> | <u>PARTS</u> | <u>PAGE</u> |
|-----------------------|-------------|-----------------|-------------|
| Accessories | 16 | | |
| Align Rocker | 7 | Pistons | 1 |
| Bearings | 1 | Pulley Camshaft | 1 |
| Blocker | 7 | Pump, Water | 19 |
| Camshaft | 3 | Starter | 4 |
| Connecting Rods | 1 | Starter Switch | 4 |
| Cover, Lower | 16 | | |
| Cover, Rocker Arm | 7 | | |
| Cylinder (Left Side) | 13 | | |
| Cylinder (Right Side) | 6 | | |
| Crankshaft | 1 | | |
| Cylinder Head | 3 | | |
| Exhaust Manifold | 17 | | |
| Fan | 19 | | |
| Fuel Filter | 21 | | |
| Gas Filter | 14 | | |
| Ignition Switch | 4 | | |
| Oil Pan | 22 | | |
| Thermostat | 19 | | |
| Injection Pump | 23 | | |
| Intake Manifold | 17 | | |
| Oil Pan | 13 | | |
| Oil Pump | 11 | | |
| Parts Not Illustrated | 25 | | |

MAUKESH ENGINEERS COMPANY, INC.
5065 HIGHWAY 13
ST. PAUL, MINN. 55121

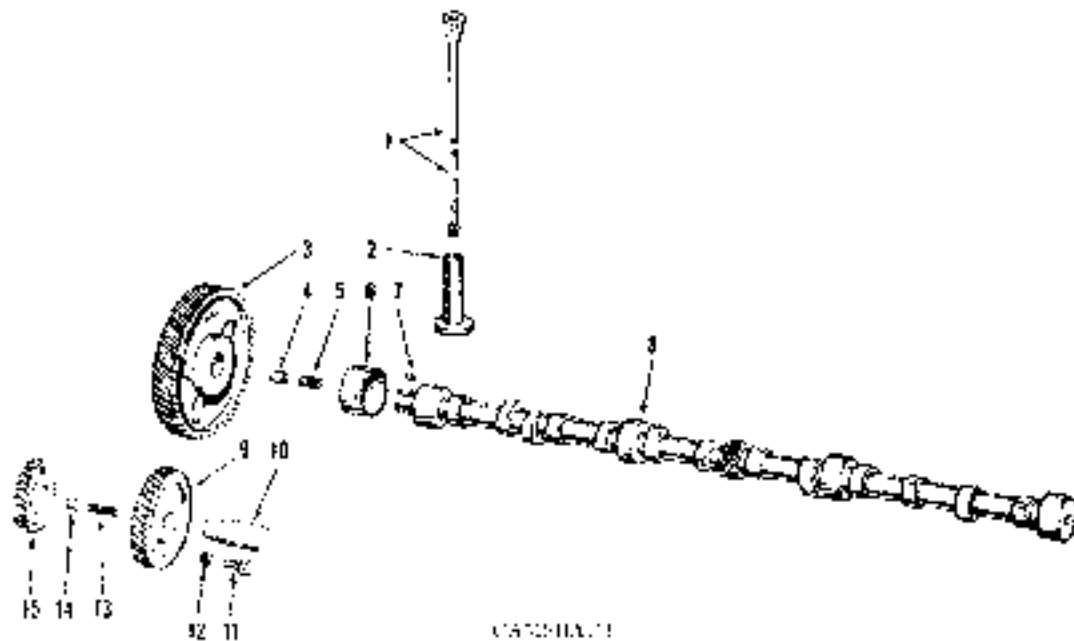
MAUKESHA VRD 283



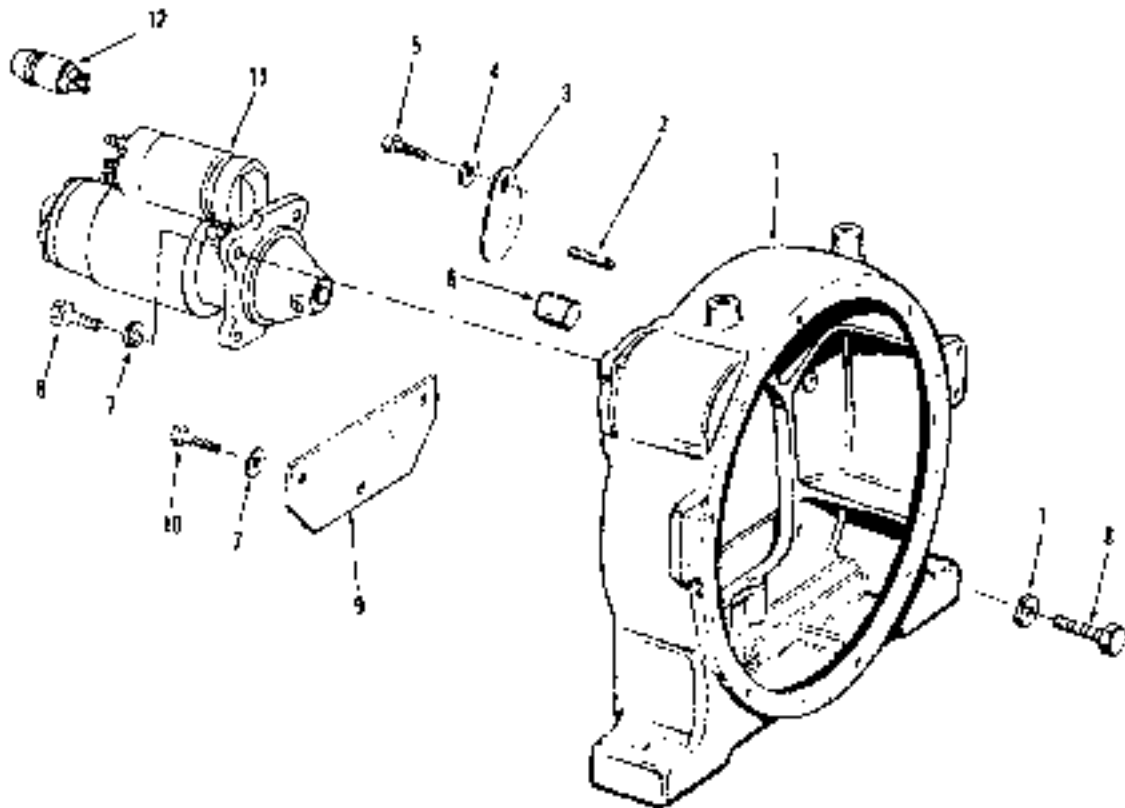
CRANKSHAFT, PISTON, CONNECTING RODS, BEARINGS & PULLEY

| QTY. | PART NO. | DESCRIPTION | QTY. REF. |
|------|----------|-------------------------------------|-----------|
| 1 | 013001 | Screw (3/4" x 1-3/4" WF Hex Hd) | 1 |
| 1 | 013002 | Washer Flat | 1 |
| 1 | 013003 | Basket | 1 |
| 1 | 013004 | Pulley Crankshaft | 1 |
| 1 | 013005 | Turner, Crankshaft Pulley | 1 |
| 1 | 013006 | Basket | 1 |
| 1 | 013007 | Pin, Lockoff | 1 |
| 1 | 013008 | Pushrod, Piston Pin | 12 |
| 1 | 013009 | Piston | 6 |
| 12 | 013010 | Retainer, Piston Pin | 12 |
| 12 | | | |
| 12 | | | |
| 12 | 013006 | Pin Piston, Compression | 6 |
| 12 | 013007 | Pin, Piston Oil | 6 |
| 12 | 013007 | Pin, Piston Top Compression | 6 |
| 12 | 013008 | Sleeve, Cylinder | 6 |
| 12 | 013009 | Pin, Packing, Cylinder Sleeve | 12 |
| 12 | 013011 | Eye Piston | 6 |
| 12 | 013011 | Pin, Connector (Includes 8, 20, 32) | 6 |
| 12 | 013012 | Pin, Connector (Includes 8, 32) | 6 |
| 12 | 013013 | Bearing, Connecting Rod | 12 |
| 12 | 013014 | Main Bearing | 12 |
| 12 | 013015 | Pin Gear, Flange | 1 |
| 12 | 013016 | Pin Top Assy (Includes #20) | 1 |
| 6 | 013017 | Washer Flat | 6 |
| 6 | 013018 | Nut, Flange | 6 |
| 1 | 013019 | Strap, Timing | 1 |
| 12 | | | |
| 12 | | | |
| 12 | 013004 | Bearing, Main, Street | 2 |
| 12 | 013005 | Crankshaft | 1 |
| 12 | 013009 | Gear, Crankshaft | 1 |
| 12 | 013009 | Screen, Fan | 12 |

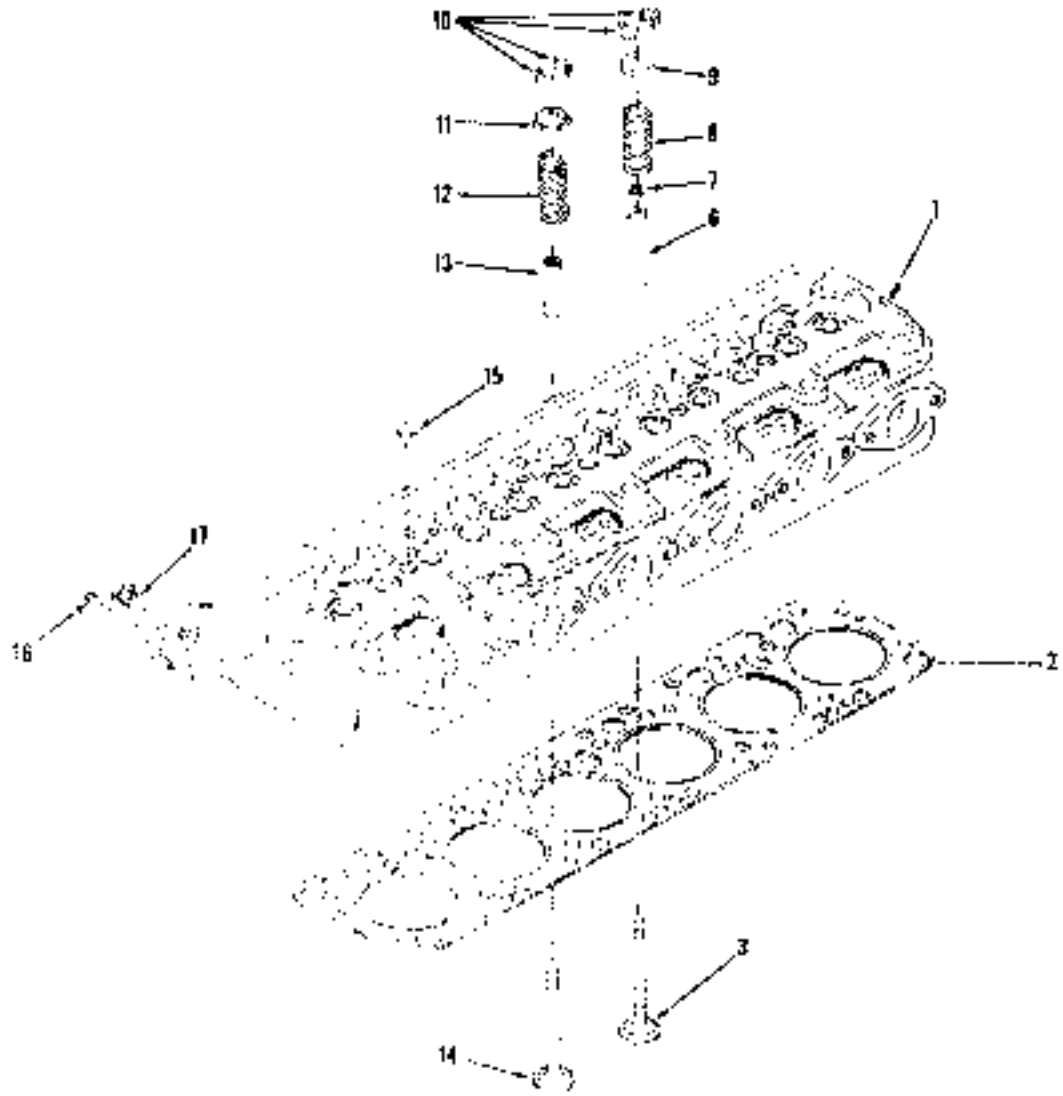
| QTY. | DESCRIPTION | QTY. | REF. |
|------|-------------|------|------|
| 1 | 01 104 | 12 | |
| 1 | 01 105 | 12 | |
| 1 | 01 106 | 1 | |
| 1 | 01 107 | 1 | |
| 1 | 01 108 | 1 | |
| 1 | 01 109 | 1 | |
| 1 | 01 110 | 1 | |
| 1 | 01 111 | 1 | |
| 1 | 01 112 | 1 | |
| 1 | 01 113 | 1 | |
| 1 | 01 114 | 1 | |
| 1 | 01 115 | 1 | |
| 1 | 01 116 | 1 | |
| 1 | 01 117 | 1 | |
| 1 | 01 118 | 1 | |
| 1 | 01 119 | 1 | |
| 1 | 01 120 | 1 | |
| 1 | 01 121 | 1 | |
| 1 | 01 122 | 1 | |
| 1 | 01 123 | 1 | |
| 1 | 01 124 | 1 | |
| 1 | 01 125 | 1 | |
| 1 | 01 126 | 1 | |
| 1 | 01 127 | 1 | |
| 1 | 01 128 | 1 | |
| 1 | 01 129 | 1 | |
| 1 | 01 130 | 1 | |
| 1 | 01 131 | 1 | |
| 1 | 01 132 | 1 | |
| 1 | 01 133 | 1 | |
| 1 | 01 134 | 1 | |
| 1 | 01 135 | 1 | |
| 1 | 01 136 | 1 | |
| 1 | 01 137 | 1 | |
| 1 | 01 138 | 1 | |
| 1 | 01 139 | 1 | |
| 1 | 01 140 | 1 | |
| 1 | 01 141 | 1 | |
| 1 | 01 142 | 1 | |
| 1 | 01 143 | 1 | |
| 1 | 01 144 | 1 | |
| 1 | 01 145 | 1 | |
| 1 | 01 146 | 1 | |
| 1 | 01 147 | 1 | |
| 1 | 01 148 | 1 | |
| 1 | 01 149 | 1 | |
| 1 | 01 150 | 1 | |
| 1 | 01 151 | 1 | |
| 1 | 01 152 | 1 | |
| 1 | 01 153 | 1 | |
| 1 | 01 154 | 1 | |
| 1 | 01 155 | 1 | |
| 1 | 01 156 | 1 | |
| 1 | 01 157 | 1 | |
| 1 | 01 158 | 1 | |
| 1 | 01 159 | 1 | |
| 1 | 01 160 | 1 | |
| 1 | 01 161 | 1 | |
| 1 | 01 162 | 1 | |
| 1 | 01 163 | 1 | |
| 1 | 01 164 | 1 | |
| 1 | 01 165 | 1 | |
| 1 | 01 166 | 1 | |
| 1 | 01 167 | 1 | |
| 1 | 01 168 | 1 | |
| 1 | 01 169 | 1 | |
| 1 | 01 170 | 1 | |
| 1 | 01 171 | 1 | |
| 1 | 01 172 | 1 | |
| 1 | 01 173 | 1 | |
| 1 | 01 174 | 1 | |
| 1 | 01 175 | 1 | |
| 1 | 01 176 | 1 | |
| 1 | 01 177 | 1 | |
| 1 | 01 178 | 1 | |
| 1 | 01 179 | 1 | |
| 1 | 01 180 | 1 | |
| 1 | 01 181 | 1 | |
| 1 | 01 182 | 1 | |
| 1 | 01 183 | 1 | |
| 1 | 01 184 | 1 | |
| 1 | 01 185 | 1 | |
| 1 | 01 186 | 1 | |
| 1 | 01 187 | 1 | |
| 1 | 01 188 | 1 | |
| 1 | 01 189 | 1 | |
| 1 | 01 190 | 1 | |
| 1 | 01 191 | 1 | |
| 1 | 01 192 | 1 | |
| 1 | 01 193 | 1 | |
| 1 | 01 194 | 1 | |
| 1 | 01 195 | 1 | |
| 1 | 01 196 | 1 | |
| 1 | 01 197 | 1 | |
| 1 | 01 198 | 1 | |
| 1 | 01 199 | 1 | |
| 1 | 01 200 | 1 | |



| PART NO. | QTY. REQ. | DESCRIPTION | QTY. REQ. |
|----------|-----------|----------------------|-----------|
| 1 | 1 | Flywheel Housing | 1 |
| 2 | 1 | Timing Pointer | 1 |
| 3 | 1 | Cover, Timing Hole | 1 |
| 4 | 1 | Washer, Lock | 1 |
| 5 | 1 | Screw, Pan, Hex Head | 1 |
| 6 | 2 | Pin, Dowel | 2 |
| 7 | 13 | Washer, Lock | 13 |
| 8 | 8 | Screw, Pan, Hex Head | 8 |
| 9 | 1 | Gasket Plate | 1 |
| 10 | 2 | Screw, Pan, Hex Head | 2 |
| 11 | 1 | Stator | 1 |
| 12 | 1 | Switch, Key Start | 1 |



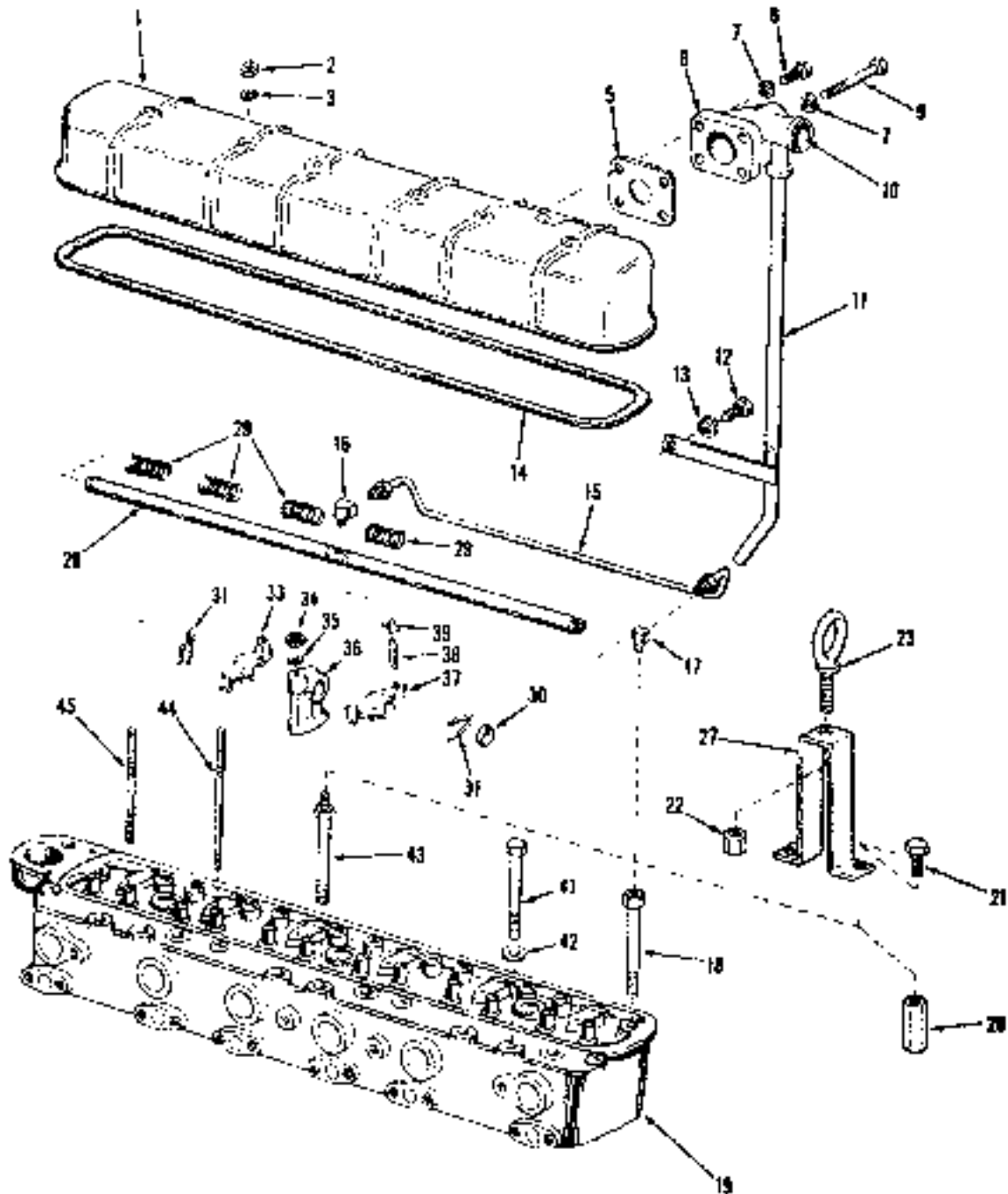
FLYWHEEL HOUSING, STARTER & SWITCH



WILLIAMS DIE COMPANY, INC.
 3045 HIGHWAY 13
 ST. PAUL, MN 55121

WAUKESHA VRD 283

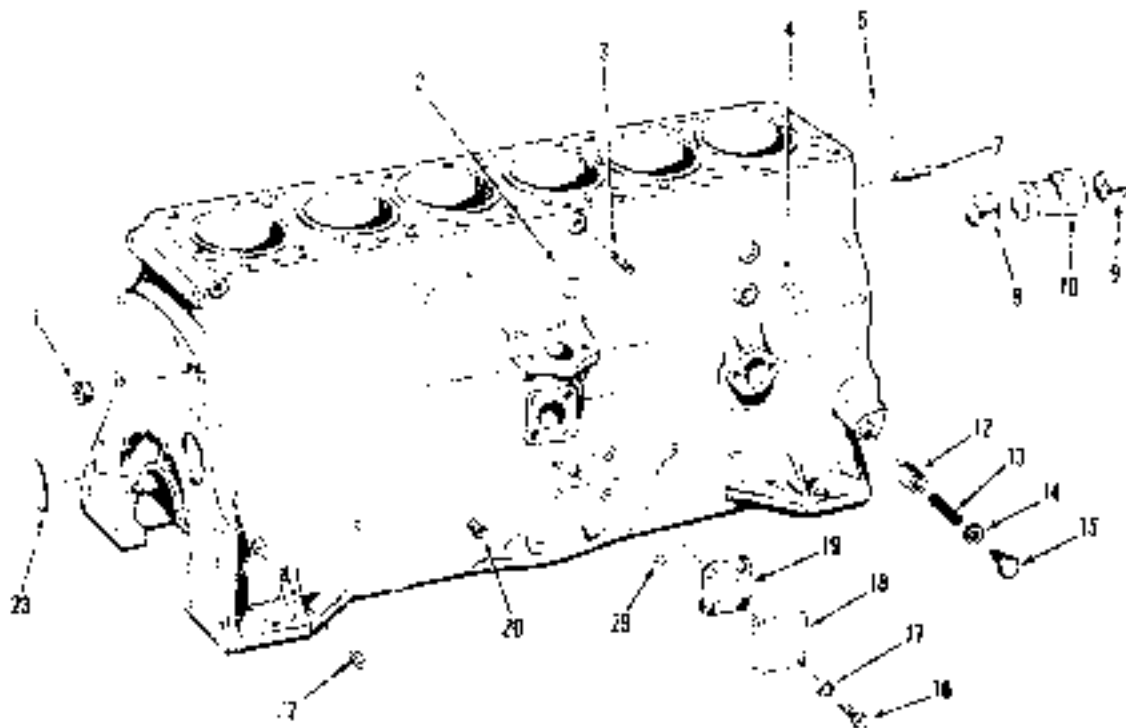
| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|--|-----------|
| 3 | P18252 | Head, Cylinder (Includes 4,6,13,15 & 16) | 1 |
| 1 | P18253 | Head, Cylinder (Includes 3,6-17) | 1 |
| 2 | P17963 | Gasket, Cylinder Head | 1 |
| 3 | P18254 | Valve, Intake | 6 |
| 4 | | | |
| 5 | | | |
| 6 | P18255 | Guide, Intake Valve | 6 |
| 7 | P18256 | Seal, Valve Stem | 12 |
| 8 | P18257 | Spring, Intake Valve | 6 |
| 9 | P18258 | Retainer, Valve Spring | 6 |
| 10 | P18259 | Taper Valve | 24 |
| 11 | P18258 | Retainer, Valve Spring | 6 |
| 12 | P18257 | Spring, Exhaust Valve | 6 |
| 13 | P18255 | Guide, Exhaust Valve | 6 |
| 14 | P18260 | Valve, Exhaust | 6 |
| 15 | P18261 | Plug, Pipe | 5 |
| 16 | P18262 | Plug, Pipe | 1 |
| 17 | P18263 | Plug, Pipe | 1 |



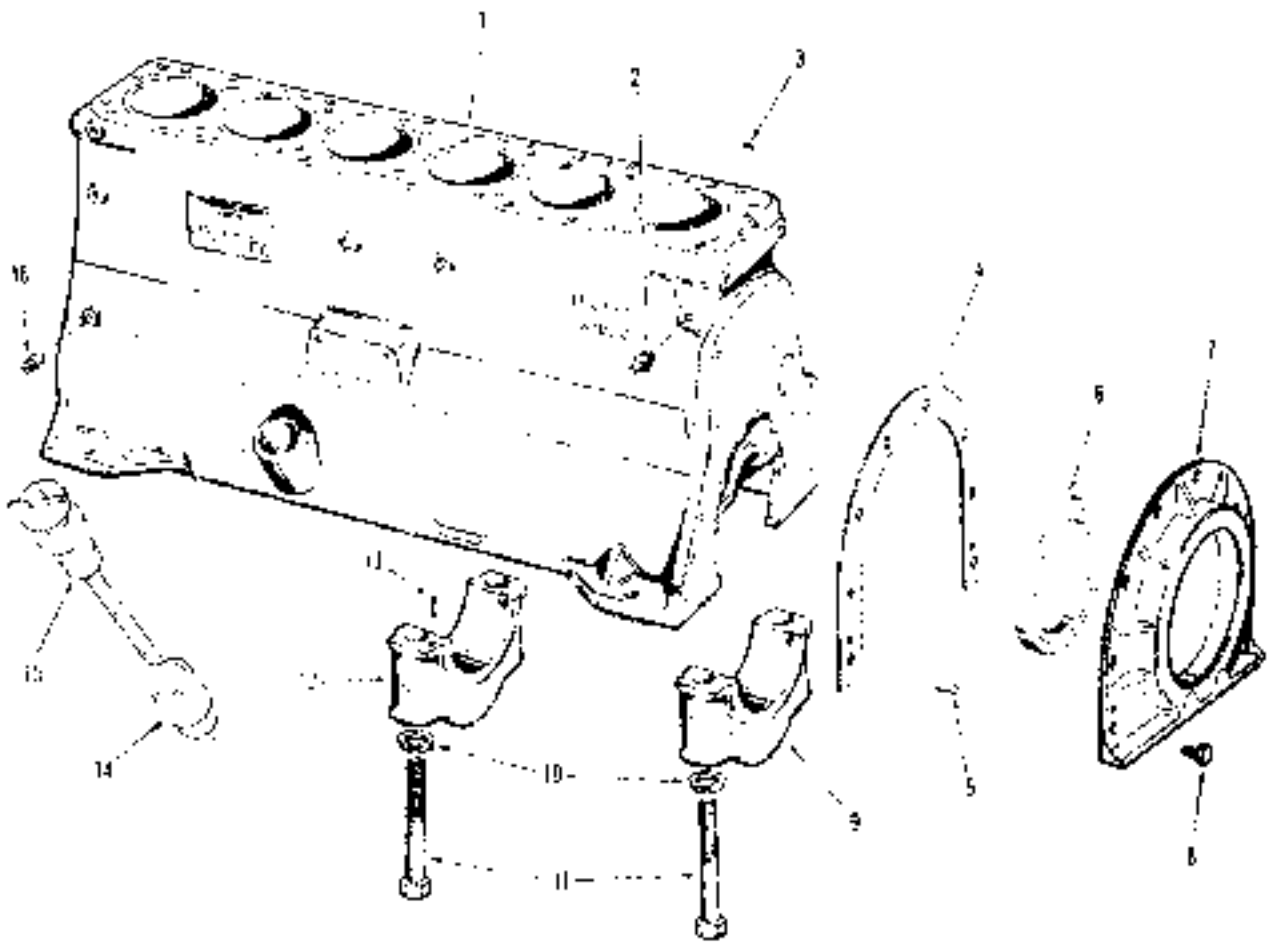
ROCKER ARMS - ROCKER ARM COVER & BREATHER

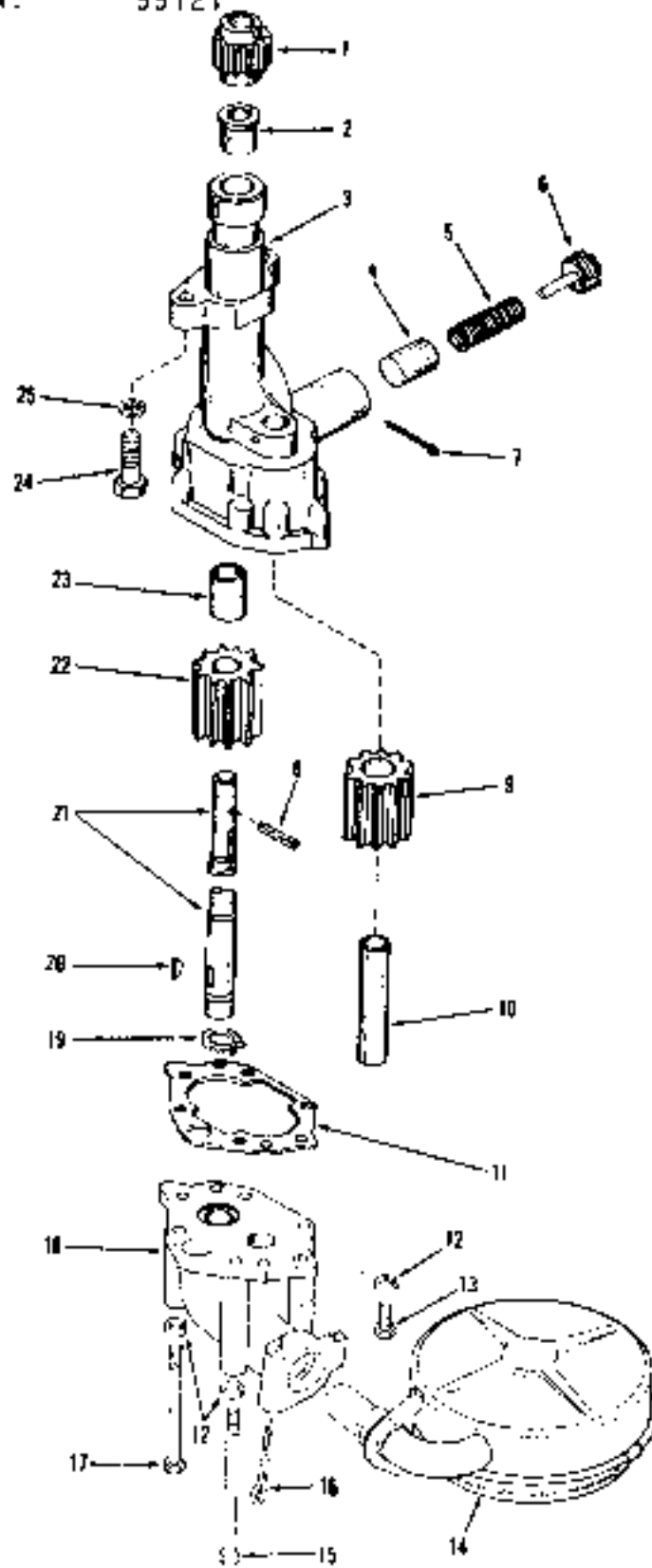
| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|---|-----------|
| 1 | P18264 | Cover, Rocker Arm | 1 |
| 2 | P18265 | Nut, Hex | 6 |
| 3 | P18266 | Washer, Flat | 6 |
| 4 | | Not Required VRD 283 | |
| 5 | P18267 | Gasket | 1 |
| 6 | P18268 | Flange, Breather | 1 |
| 7 | P18269 | Washer, Lock | 4 |
| 8 | P18236 | Screw, Hex Head | 2 |
| 9 | P18270 | Screw, Hex Head | 2 |
| 10 | P18271 | Plug | 1 |
| 11 | P18272 | Tube, Breather | 1 |
| 12 | P18273 | Screw, Hex Head | 1 |
| 13 | P18247 | Washer, Lock | 1 |
| 14 | PT7964 | Gasket | 1 |
| 15 | P18274 | Line Oil Assy | 1 |
| 16 | P18275 | Elbow, Inverted | 1 |
| 17 | P18275 | Elbow, Inverted | 1 |
| 18 | P18276 | Screw, Cap, Cylinder Head | 1 |
| 19 | P18252 | Head, Cylinder | 1 |
| 20 | P18277 | Coupling | 2 |
| 21 | P18278 | Screw, Hex Head | 2 |
| 22 | P18279 | Nut, Hex | 1 |
| 23 | P18280 | Roll. Pin | 1 |
| 24 | | | |
| 25 | | | |
| 26 | | | |
| 27 | P18281 | Oil Pan Bracket | 1 |
| 28 | P18282 | Rocker Arm Shaft Assy.
(Includes 29-31, 33, 36-39) | 1 |
| 28 A | P18283 | Rocker Arm Shaft Assy (Includes 30) | 1 |
| 29 | P18284 | Spring | 4 |
| 30 | P18285 | Plug, Cup | 2 |
| 31 | P18286 | Cotter, Rocker Arm Shaft | 4 |
| 32 | | Not Required VRD 283 | |
| 33 | P18287 | Rocker Arm Assy. RH (Includes 38,39) | 6 |
| 34 | P18466 | Nut, Hex | 6 |
| 35 | P18247 | Washer, Lock | 6 |
| 36 | P18288 | Support, Rocker Arm | 6 |
| 37 | P18289 | Rocker Arm Assy LH (Includes 38,39) | 6 |
| 38 | P18290 | Screw, Adjusting | 12 |
| 39 | P18291 | Nut, Hex | 12 |
| 40 | | Not Required VRD 283 | |
| 41 | P18292 | Screw, Cylinder Head Cap | 11 |
| 42 | P18293 | Washer, Cylinder Head | 14 |
| 43 | P18294 | Screw, Cylinder Head Cap | 2 |
| 44 | P18295 | Stud, Rocker Arm Support | 2 |
| 45 | P18296 | Stud, Rocker Arm Cover | 4 |

| QTY. | NO. | DESCR. | QTY. | NO. |
|------|--------|---|------|-----|
| 1 | P12267 | Block, Cast | 1 | |
| 1 | P12297 | Block, Cast, Hole | 1 | |
| 3 | P18296 | Pin | 1 | |
| 4 | P18371 | Stud | 2 | |
| 5 | P18361 | Pin, Roll | 1 | |
| 6 | | | | |
| 7 | P18352 | Plate, Cast, Timing Gears | 1 | |
| 8 | | | | |
| 9 | P18374 | Pin, Drive, Drive Gear | 2 | |
| 10 | P18366 | Pin, Drive, Drive Gear Assy. (Includes 9) | 1 | |
| 11 | | | | |
| 12 | P18368 | Pin, Drive, Oil Relief Valve | 1 | |
| 13 | P18369 | Spring, Oil Relief Valve | 1 | |
| 14 | P18367 | Washer, Copper | 1 | |
| 15 | P18369 | Spring, Oil Relief Valve | 1 | |
| 16 | P18366 | Pin, Drive, Head | 4 | |
| 17 | P18368 | Pin, Drive, Copper | 4 | |
| 18 | P18311 | Plate, Copper | 1 | |
| 19 | P18312 | Washer, Copper | 1 | |
| 20 | P18313 | Pin, Drive, Oil Relief Valve | 1 | |
| 21 | | | | |
| 22 | P18314 | Pin, Drive, Spring Head | 1 | |
| 23 | P18312 | Washer, Copper | 1 | |
| 24 | | | | |
| 25 | | | | |
| 26 | | | | |
| 27 | | | | |
| 28 | | | | |
| 29 | P18311 | Plate, Copper | 1 | |



| QTY. | NO. | DESCRIPTION | QTY. |
|------|--------|--------------------------------------|------|
| 1 | P13317 | Flange, Top | 1 |
| 1 | P13318 | Flange, Bottom, Four-Tank and Bottom | 1 |
| 2 | P13319 | Ring, Guard | 2 |
| 1 | P13320 | Support, Oil Settling | 1 |
| 2 | P13321 | Ring, Seal | 2 |
| 1 | P13322 | Seal, Oil Seal | 1 |
| 1 | P13323 | Bracket, Seal Oil Seal | 1 |
| 2 | P13324 | Support, Cap, Box Cover | 2 |
| 6 | P13325 | Cap, Main | 6 |
| 12 | P13326 | Washer, Lock | 12 |
| 12 | P13327 | Support, Main Bearing, Cap | 12 |
| 1 | P13328 | Cap, Main Bearing, Thrust | 1 |
| 12 | P13329 | Ring, Lock | 12 |
| 1 | P13330 | Seal, Oil Settling | 1 |
| 1 | P13331 | Ring, Seal | 1 |
| 5 | P13332 | Flange, Disc, Flanged Head | 5 |





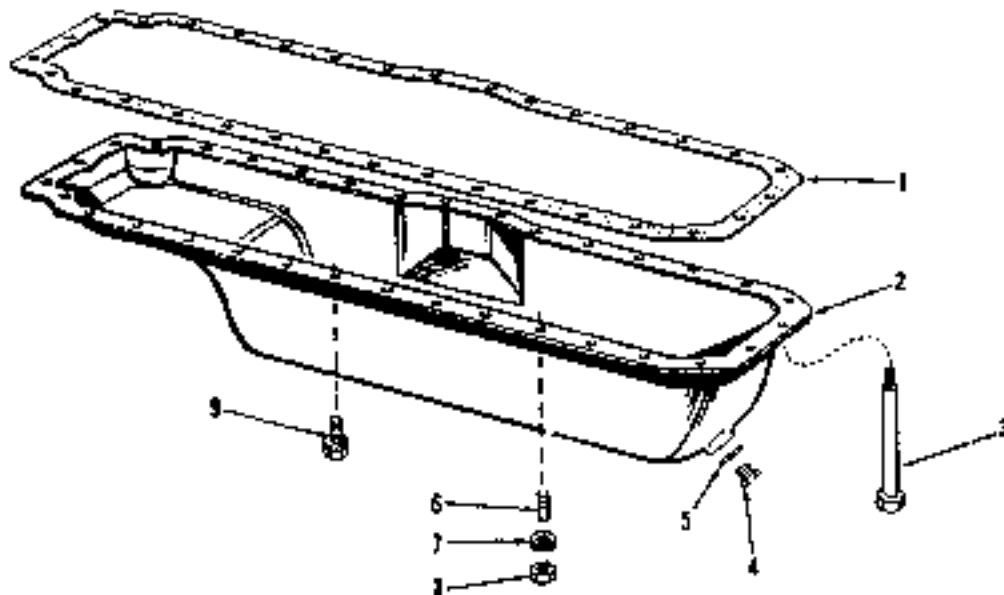
SEE FIG

| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|---|-----------|
| | P18339 | Pump; Oil Assy. (Includes 1-23) | 1 |
| 1 | P18340 | Gear, Oil Pump Drive | 1 |
| 2 | P18341 | Bushing, Oil Pump Body, Upper | 1 |
| 3 | P18342 | Oil Pump Body Assy. (Includes 2 & 23) | 1 |
| 4 | P18343 | Plunger, Relief Valve | 1 |
| 5 | P18344 | Spring, Relief | 1 |
| 6 | P18345 | Screw, Adjustment | 1 |
| 7 | P18346 | Pin, Cotter | 1 |
| 8 | P18347 | Pin, Roll | 1 |
| 9 | P18348 | Gear, Oil Pump Idler | 1 |
| 10 | P18349 | Shaft, Oil Pump Idler | 1 |
| 11 | P18350 | Gasket, Oil Pump | 1 |
| 12 | P18269 | Washer, Lock | 6 |
| 13 | P18236 | Screw, Hex Head | 4 |
| 14 | P18351 | Float, Oil Screen | 1 |
| 15 | P18352 | Screw, Cap, Hex. Head | 1 |
| 16 | P18353 | Pin, Cotter | 1 |
| 17 | P18354 | Screw, Cap, Hex Head | 1 |
| 18 | P18355 | Cover, Oil Pump | 1 |
| 19 | P18356 | Ring, Retaining | 1 |
| 20 | P18357 | Key, Woodruff | 1 |
| 21 | P18358 | Shaft, Oil Pump Drive | 1 |
| 21 | P18359 | Driveshaft, Oil Pump Assy. (Includes 19-22) | 1 |
| 22 | P18360 | Gear, Oil Pump, Driven | 1 |
| 23 | P18361 | Bushing, Oil Pump, Lower | 1 |
| 24 | P18362 | Screw, Cap, Hex Head | 2 |
| 25 | P18247 | Washer, Lock | 2 |

LULL ENGINEERING COMPANY, INC.
 3045 HIGHWAY 13
 ST. PAUL, MINN 55121

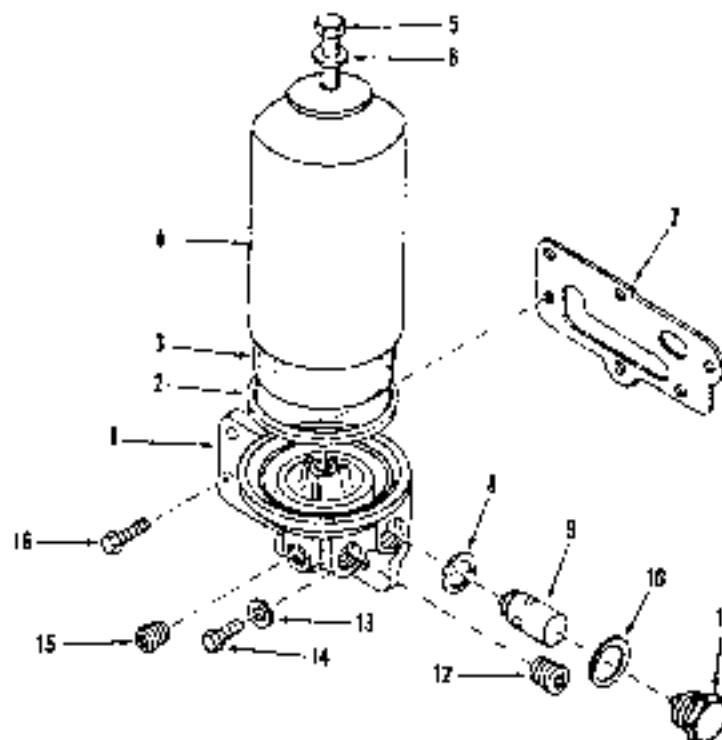
WAUKESHA VRD 283

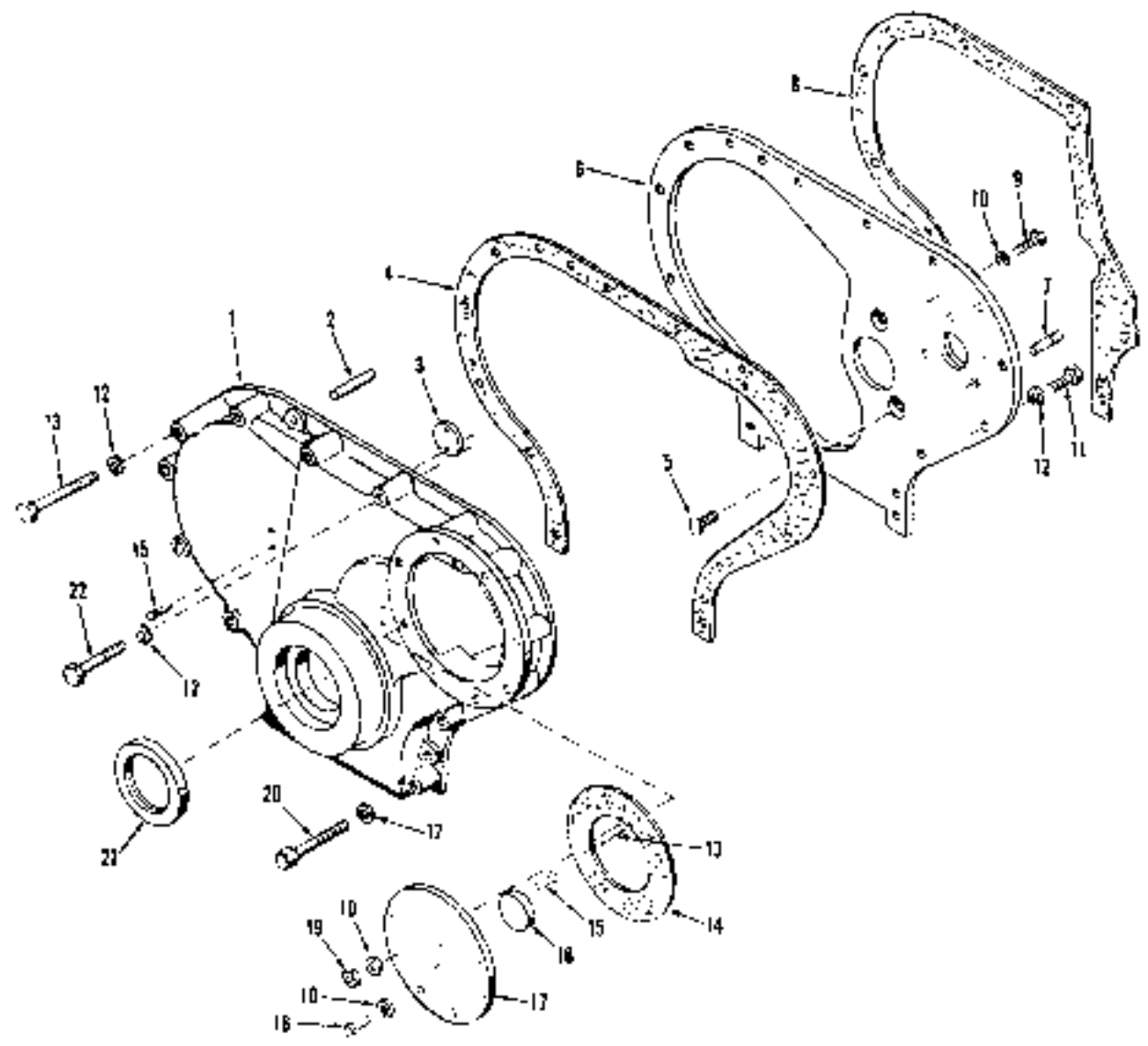
| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|----------------------|-----------|
| 1 | P17967 | Gasket Oil Pan | 1 |
| 2 | P18333 | Oil Pan | 1 |
| 3 | P18334 | Bolt, Oil Pan | 2 |
| 4 | P18335 | Plug, Oil Pan Drain | 1 |
| 5 | P18336 | Gasket | 1 |
| 6 | P18337 | Stud, Oil Pan | 10 |
| 7 | P18244 | Washer, Lock | 10 |
| 8 | P18338 | Nut, Hex | 10 |
| 9 | P18324 | Screw, Cap, Hex Head | 21 |



OIL PAN

| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|----------------------------------|-----------|
| | | Oil Filter Assy. | 1 |
| 1 | P18353 | Base; Oil Filter | 1 |
| 2 | P18364 | Gasket, Filter Shell | 1 |
| 3 | P17517 | Element, Oil Filter (Includes 2) | 2 |
| 4 | P18080 | Shell Assy | 1 |
| 5 | P18091 | Gasket, Center Bolt | 1 |
| 6 | P18092 | Bolt, Center | 1 |
| 7 | P18366 | Gasket, Filter Pass | 1 |
| 8 | P18367 | Seal | 1 |
| 9 | P18368 | Valve, Sw-Pass | 1 |
| 10 | P18369 | Washer, Copper | 2 |
| 11 | P18370 | Plug, Relief Valve | 2 |
| 12 | P18378 | Plug, Pipe | 2 |
| 13 | P18371 | Washer, Brass | 1 |
| 14 | P18372 | Screw; Cap Hex Head | 1 |
| 15 | P18373 | Plug, Pipe | 1 |
| 16 | P18374 | Screw, Hex Head | 6 |

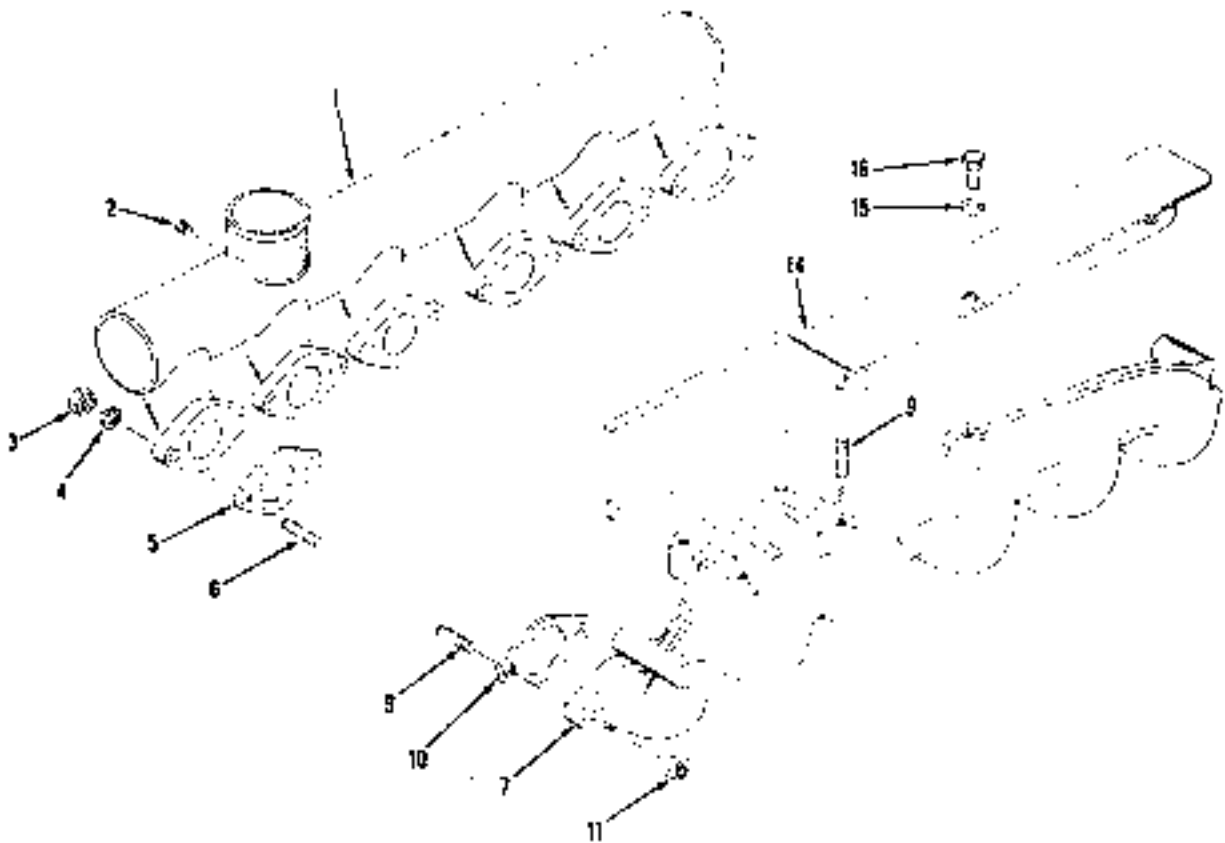




U. ARCOVER

| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|---|-----------|
| 1 | P18375 | Gear Cover Assy. (Includes 3, 15, 21) | 1 |
| 2 | P18391 | Pin Dowel | 2 |
| 3 | P18376 | Button, Thrust | 2 |
| 4 | P17966 | Gasket, Gear Cover | 1 |
| 5 | P18377 | Screw, Flat Head | 2 |
| 6 | P18378 | Front Plate Assy (Includes 7) | 1 |
| 7 | P18379 | Stud, Fuel Injection Pump | 3 |
| 8 | P18380 | Gasket, Front Plate | 1 |
| 9 | P18381 | Screw, Cap, Hex Head | 3 |
| 10 | P18382 | Washer, Coner | 11 |
| 11 | P18383 | Screw, Cap, Hex Head | 5 |
| 12 | P18244 | Washer, Lock | 15 |
| 13 | P18337 | Stud | 1 |
| 14 | P17968 | Gasket, Injection Pump Gear Cover | 1 |
| 15 | P18384 | Rivet, Countersunk Head | 6 |
| 16 | P18385 | Button, Front | 1 |
| 17 | P18386 | Fuel Pump Cover Assy. (Includes 15, 16) | 1 |
| 18 | P18387 | Screw, Cap, Hex Head | 7 |
| 19 | P18338 | Nut, Hex | 1 |
| 20 | P18388 | Screw, Cap, Hex Head | 8 |
| 21 | P17608 | Seal, Shaft Oil | 1 |
| 22 | P18389 | Screw, Cap, Hex Head | 1 |
| 23 | P18390 | Screw, Cap, Hex Head | 1 |

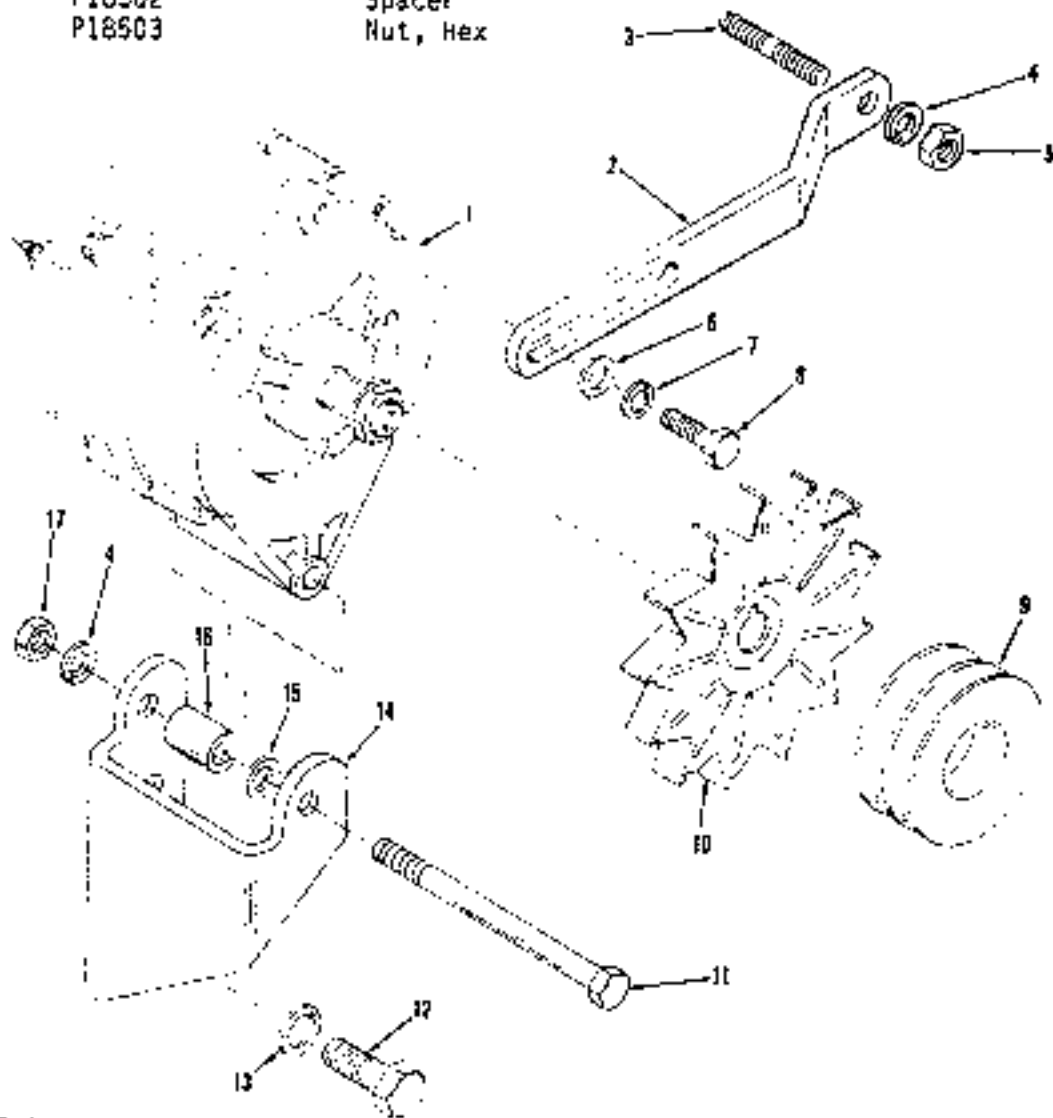
| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|---|-----------|
| | P18300 | Exhaust Manifold Assv. (Includes 7,9,14-16) | 1 |
| 1 | P18392 | Manifold, Intake | 1 |
| 2 | P18313 | Plug, Pipe, Allen Head | 1 |
| 3 | P18265 | Nut, Hex | 12 |
| 4 | P18247 | Washer, Lock | 12 |
| 5 | P18393 | Gasket, Intake Manifold | 6 |
| 6 | P18394 | Stud | 12 |
| 7 | P18395 | Manifold, Exhaust | 1 |
| 8 | | | |
| 9 | P18394 | Stud | 6 |
| 10 | P18396 | Gasket, Exhaust Manifold | 6 |
| 11 | P18397 | Nut, Hex | 12 |
| 12 | | | |
| 13 | | | |
| 14 | P18398 | Shield, Heat | 1 |
| 15 | P18247 | Washer, Lock | 4 |
| 16 | P18273 | Screw, Hex Head | 4 |

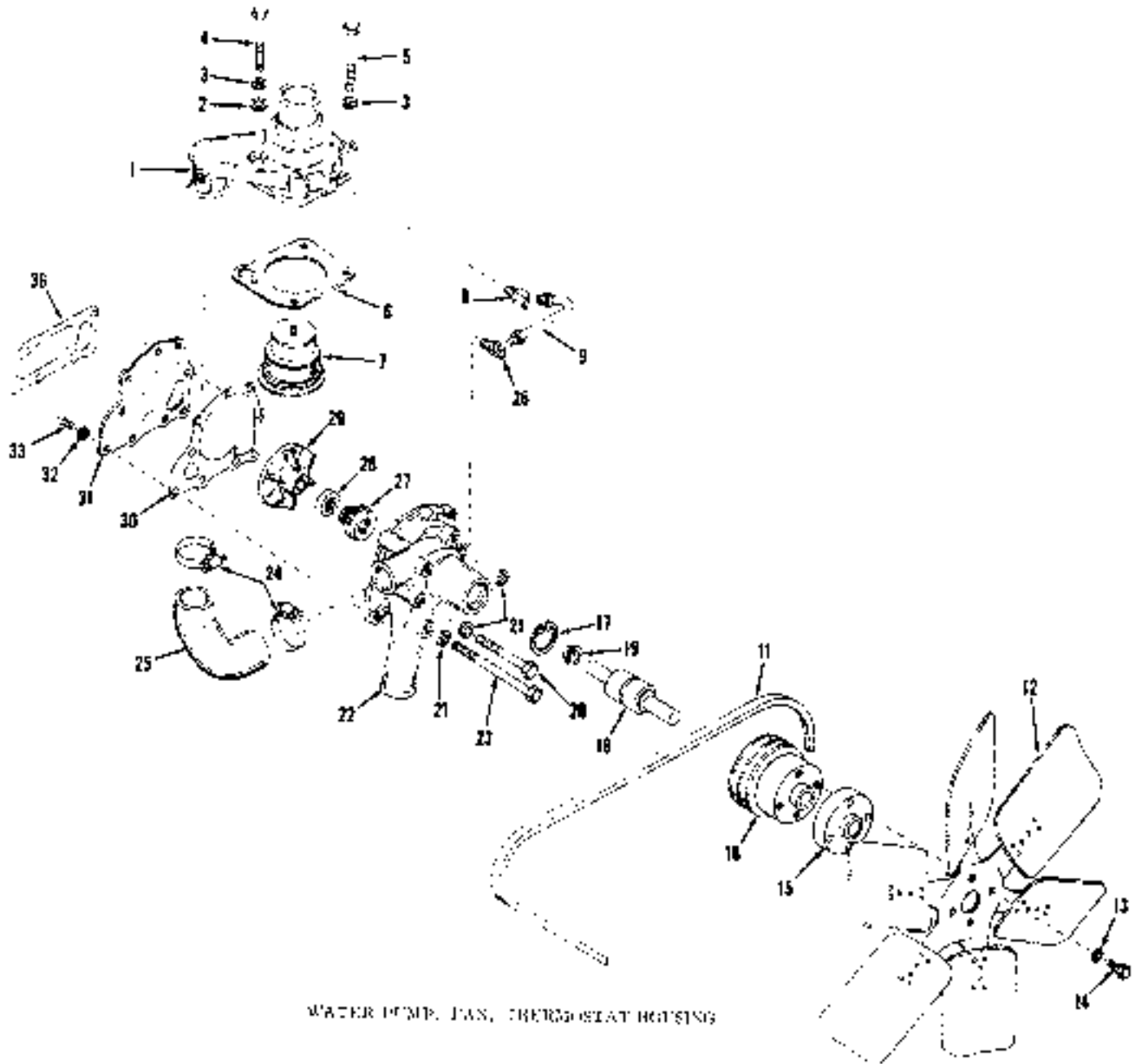


LJLL ENGINEERING COMPANY, INC.
 3045 HIGHWAY 13
 ST. PAUL, MINNESOTA 55121

WAUKESHA VRD 283

| REF. NO. | PART NO. | DESCRIPTION | QTY |
|----------|----------|------------------|-----|
| 1 | P19844 | Alternator | 1 |
| 2 | P18492 | Strap, Adjusting | 1 |
| 3 | P18493 | Stud | 1 |
| 4 | P18247 | Lockwasher | 2 |
| 5 | P18265 | Nut, Hex | 1 |
| 6 | P18494 | Washer, Flat | 1 |
| 7 | P18244 | Washer | 2 |
| 8 | P18495 | Screw, Hex. Hd. | 1 |
| 9 | P18497 | Pulley | 1 |
| 10 | P18496 | Fan | 1 |
| 11 | P18497 | Screw, Hex Hd. | 1 |
| 12 | P18498 | Screw, Hex. Hd. | 2 |
| 13 | P18499 | Lockwasher | 2 |
| 14 | P18500 | Bracket | 1 |
| 15 | P18501 | Washer, Flat | 4 |
| 16 | P18502 | Spacer | 1 |
| 17 | P18503 | Nut, Hex | 1 |

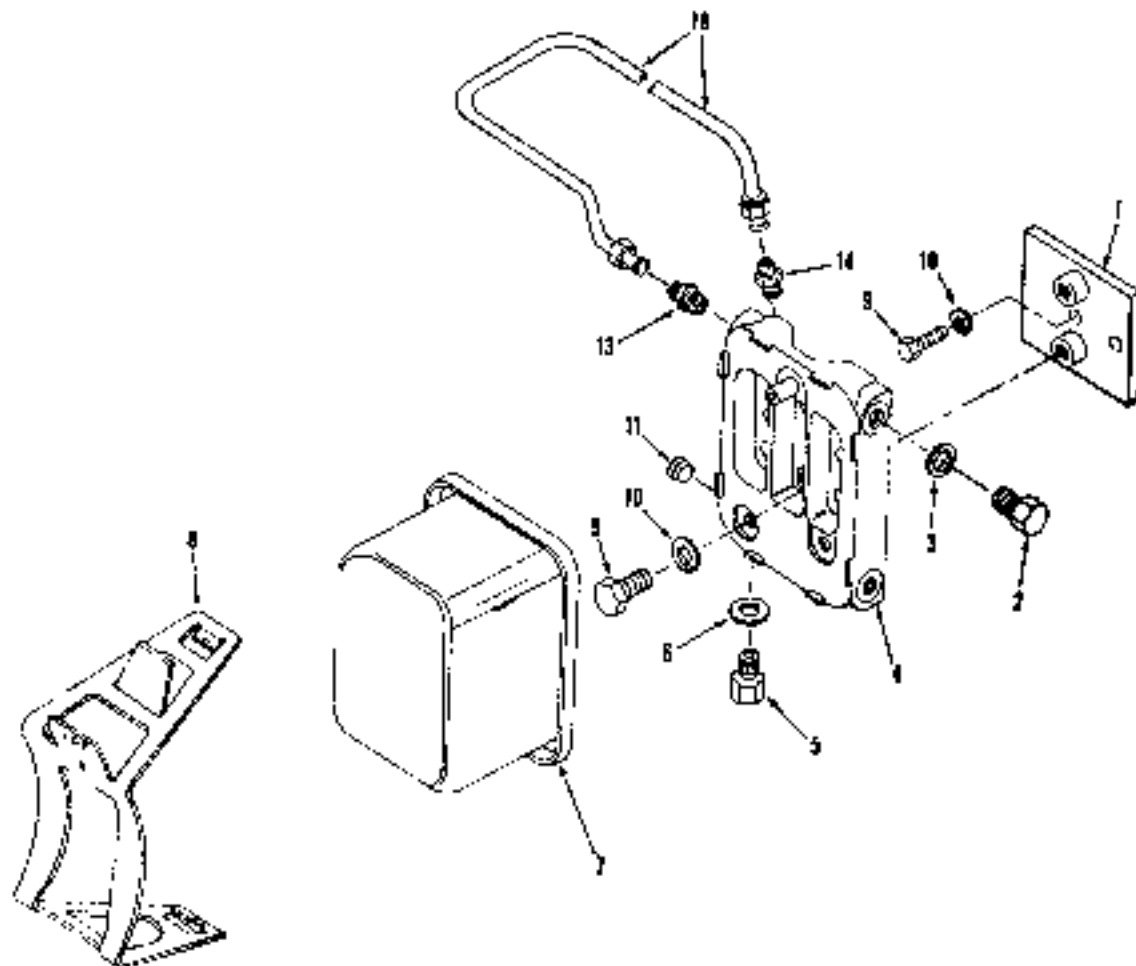




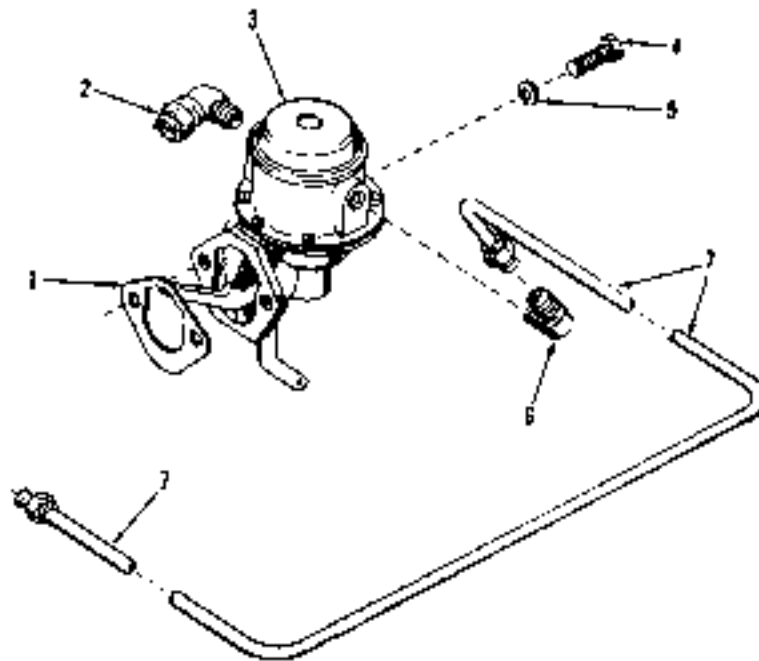
WATER PUMP, FAN, THERMOSTAT HOUSING

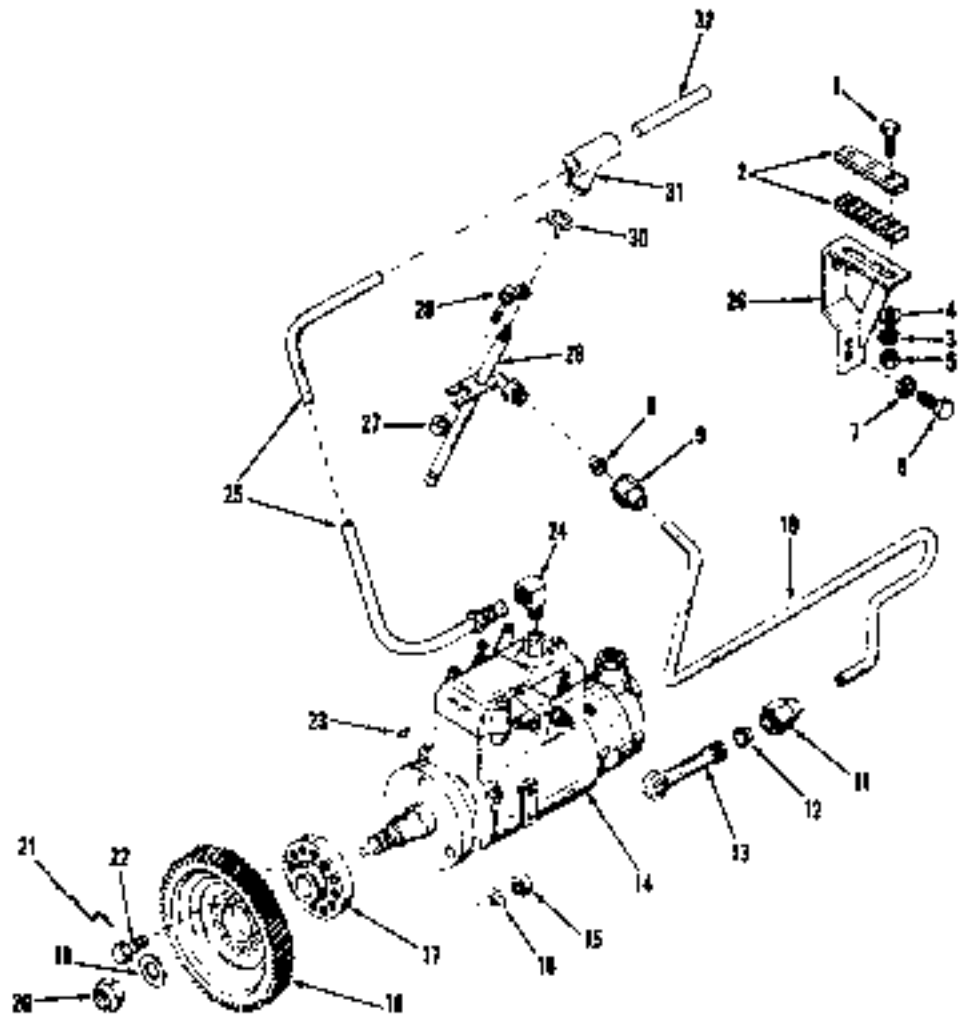
| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|--|-----------|
| | P17437 | Water Pump Assy. (Includes 16-19, 22, 27-33) | 1 |
| 1 | P18400 | Housing, Thermostat | 1 |
| 2 | P18401 | Washer, Flat | 1 |
| 3 | P18402 | Washer, Lock | 4 |
| 4 | P18403 | Screw, Cap | 1 |
| 4 | P18404 | Screw, Cap | 3 |
| 5 | | | |
| 6 | P18405 | Gasket, Thermostat Housing | 1 |
| 7 | P18406 | Thermostat | 1 |
| 8 | P18407 | Elbow, Inverted | 1 |
| 9 | P18408 | Vent Line Assy. | 1 |
| 10 | P18409 | Screw, Cap | 2 |
| 11 | P17323 | Belt, Water Pump (Set of Two) | 1 |
| 12 | P17320 | Blade-Fan | 2 |
| 13 | P18244 | Washer, Lock | 4 |
| 14 | P18410 | Screw, Cap | 4 |
| 15 | P18411 | Spacer, Fan Blade | 1 |
| 16 | P18412 | Pulley, Water Pump | 1 |
| 17 | P18413 | Ring, Retaining | 1 |
| 18 | P18414 | Shaft, Water Pump (Includes 19) | 1 |
| 19 | P18415 | Slinger, Oil | 1 |
| 20 | P18416 | Screw, Cap | 1 |
| 21 | P18247 | Washer, Lock | 4 |
| 22 | P18417 | Body, Water Pump | 1 |
| 23 | P18418 | Screw, Cap | 1 |
| 24 | P18419 | Clamp, Hose | 2 |
| 25 | P18017 | Hose Assy. | 1 |
| 26 | P18420 | Elbow, Inverted | 1 |
| 27 | P18421 | Seat, Water Pump | 1 |
| 28 | P18422 | Seat, Water Pump Seal | 1 |
| 29 | P18423 | Impeller, Water Pump | 1 |
| 30 | P18424 | Gasket | 1 |
| 31 | P18425 | Cover, Water Pump | 1 |
| 32 | P18426 | Washer, Spakenroof | 3 |
| 33 | P18427 | Screw, Flat Head | 5 |
| 34 | | | |
| 35 | | | |
| 36 | P18428 | Gasket, Water Pump | 1 |

| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|-------------------------------|-----------|
| | P18440 | Base Assy. (Includes 2-6, 11) | 1 |
| | P17412 | Base Assy. (Includes 1-11) | 1 |
| 1 | P18429 | Bracket, Fuel Filter | 1 |
| 2 | P18430 | Plug, Filter Vent | 1 |
| 3 | P18431 | Washer, Seal | 1 |
| 4 | P18432 | Base | 1 |
| 5 | P18433 | Plug, Filter Drain | 1 |
| 6 | P18434 | Washer, Seal | 1 |
| 7 | P17316 | Element | 1 |
| 8 | P18435 | Clamp, Spring | 1 |
| 9 | P18248 | Screw, Hex Head | 4 |
| 10 | P18247 | Washer, Lock | 4 |
| 11 | P18436 | Plug, Pine | 1 |
| 12 | | | |
| 13 | P18437 | Connector, Body | 1 |
| 14 | P18438 | Connector | 1 |
| 15 | | | |
| 16 | | | |
| 17 | | | |
| 18 | P18439 | Fuel Line Assy | 1 |



| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|----------------------|-----------|
| 1 | P18441 | Gasket, Fuel Pump | 1 |
| 2 | P18442 | Elbow | 1 |
| 3 | P17573 | Pump, Fuel | 1 |
| 4 | P18443 | Screw, Cap, Hex Head | 2 |
| 5 | P18382 | Washer, Copper | 2 |
| 6 | P18444 | Elbow | 1 |
| 7 | P18445 | Fuel Line Assy. | 1 |



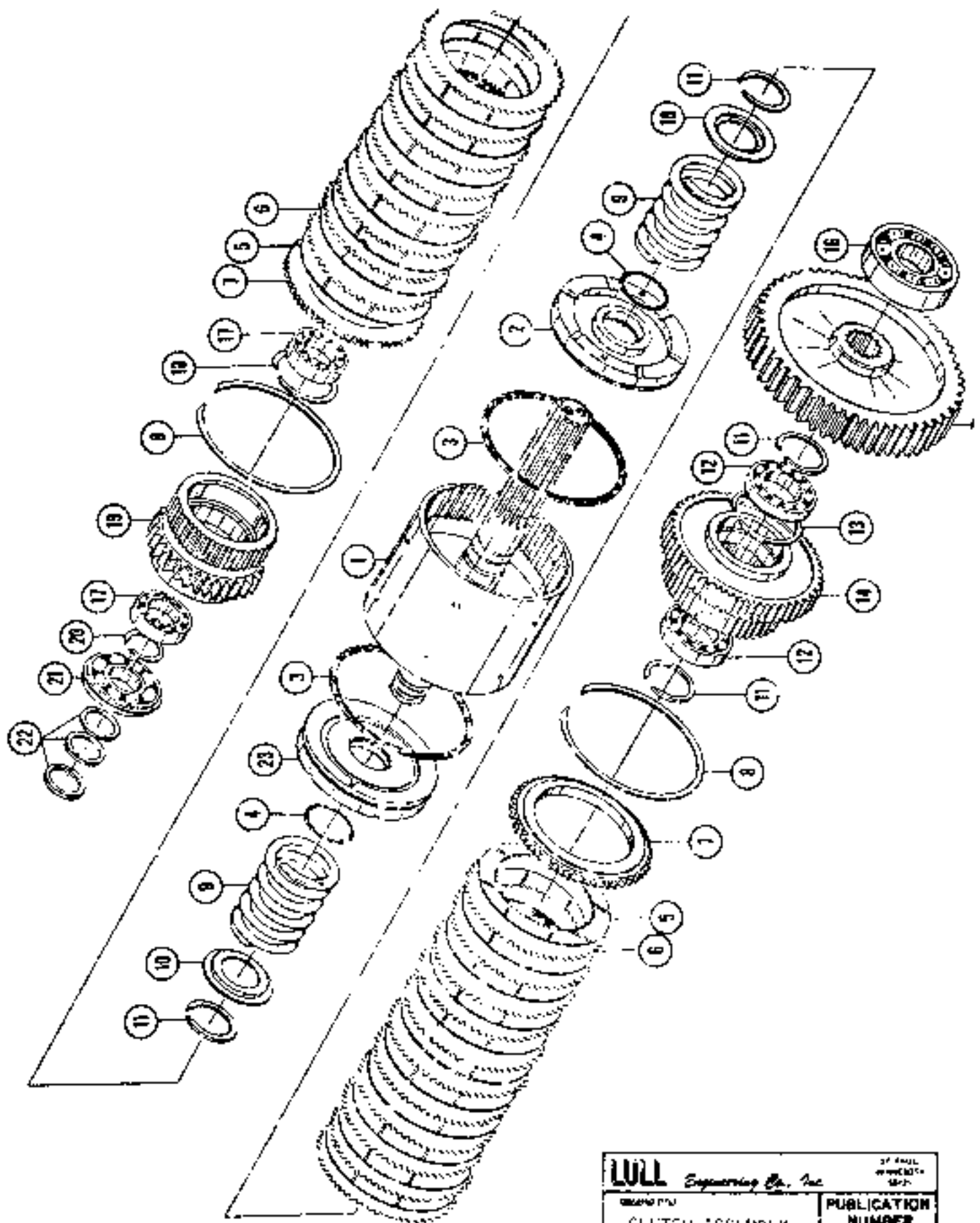


INJECTION PUMP

| REF. NO. | PART NO. | DESCRIPTION | QTY. REQ. |
|----------|----------|---------------------------------------|-----------|
| 1 | P18446 | Screw, Cap, Hex Head | 3 |
| | P18447 | Screw, Cap, Hex Head | 3 |
| 2 | P18448 | Clamp, Injection Tube | 4 |
| 3 | P18269 | Washer, Lock | 6 |
| 4 | | | |
| 5 | P18449 | Nut, Hex | 6 |
| 6 | P18450 | Screw, Cap, Hex Head | 1 |
| 7 | P18247 | Washer, Lock | 1 |
| 8 | P18451 | Ferrule | 6 |
| 9 | P18452 | Nut, Injector | 6 |
| 10 | P18453 | Injection Lines Assy. (Set of 6) | 1 |
| | P18454 | Tube Assy #1 (Includes 8,9,11,12) | 1 |
| | P18455 | Tube Assy #2 (Includes 8,9,11,12) | 1 |
| | P18456 | Tube Assy #3 (Includes 8,9,11,12) | 1 |
| | P18457 | Tube Assy #4 (Includes 8,9,11,12) | 1 |
| | P18458 | Tube Assy #5 (Includes 8,9,11,12) | 1 |
| | P18459 | Tube Assy #6 (Includes 8,9,11,12) | 1 |
| 11 | P18460 | Nut, Fuel Injection Tube | 6 |
| 12 | P18461 | Ferrule | 6 |
| 13 | P18462 | Connector, Fuel Tube | 6 |
| 14 | P18463 | Pump Injection | 1 |
| 15 | P18464 | Nut, Flex-Loc | -3 |
| 16 | P18465 | Washer, Flat | 3 |
| 17 | P18466 | Hub, Fuel Pump Gear | 1 |
| 18 | P18467 | Gear, Fuel Pump | 1 |
| 19 | P18468 | Washer, Flat | 1 |
| 20 | P18469 | Nut, Flex-Loc | 1 |
| 21 | P18470 | Wire, Lock | 1 |
| 22 | P18471 | Screw, Cap, Hex Head | 2 |
| 23 | P18472 | Key, Woodruff | 1 |
| 24 | P18407 | Elbow, Inverted | 1 |
| 25 | P18473 | Line, Leak-off, Pump to No.1 Injector | 1 |
| 26 | P18474 | Bracket | 1 |
| 27 | P18475 | Spacer, Injector Nozzle | 6 |
| 28 | P18476 | Nozzle, Clamp Assy. | 6 |
| 29 | P18477 | Nozzle Assy. | 6 |
| 30 | P18478 | Clamp Leak-Off | 6 |
| 31 | P18479 | Boot, Leak-Off | 6 |
| 32 | P18480 | Leak-Off Line Assy. (Includes 30,31) | 1 |
| | P18481 | Line, Leak-Off | 6 |

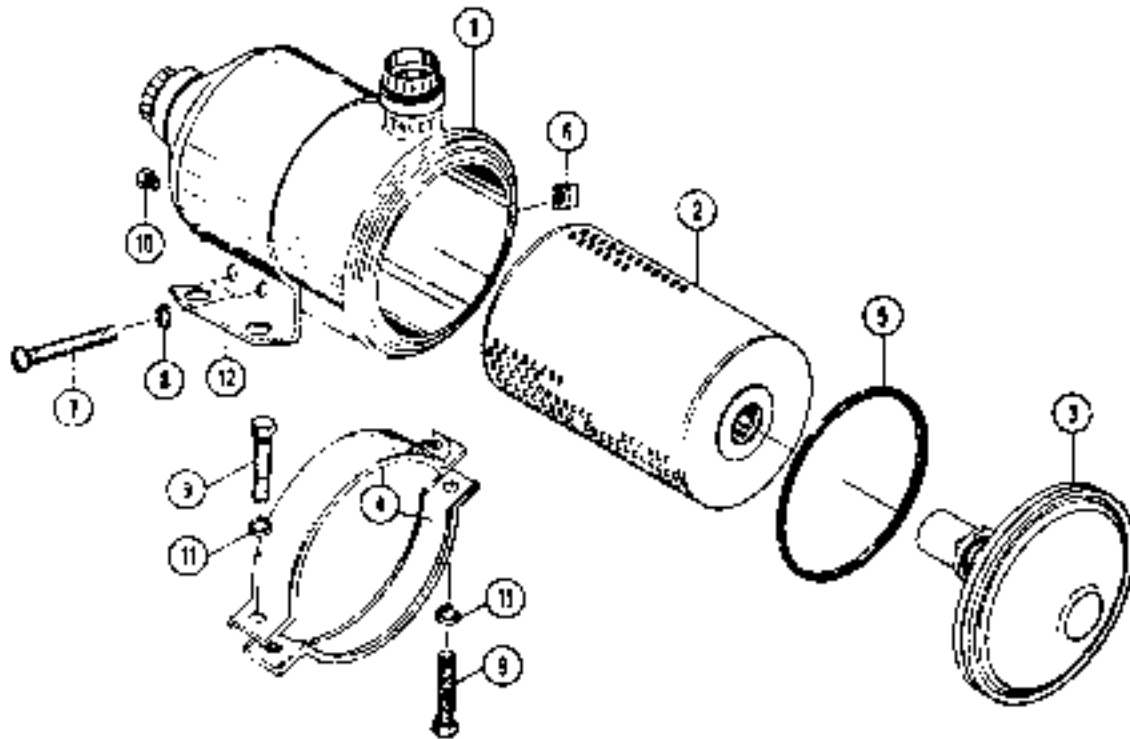
PARTS NOT ILLUSTRATED

| | |
|--------------------------------------|---------|
| Short Block | P-18251 |
| Quick Start Kit | P-17155 |
| Refill Cylinders (Quick Start) | P-17703 |
| Complete Gasket Set | P-18482 |
| Single Piston Ring | P-18483 |
| Plastic Tube, Quick Start | P-18435 |



| | | |
|--|---|---|
| LULL Engineering Co., Inc. | | <small>27 HULL
WHEATON
ILL.</small> |
| <small>DESIGNED BY</small>
CLUTCH ASSEMBLY
3rd STAGE | <small>PUBLICATION
 NUMBER</small>
1804 | |

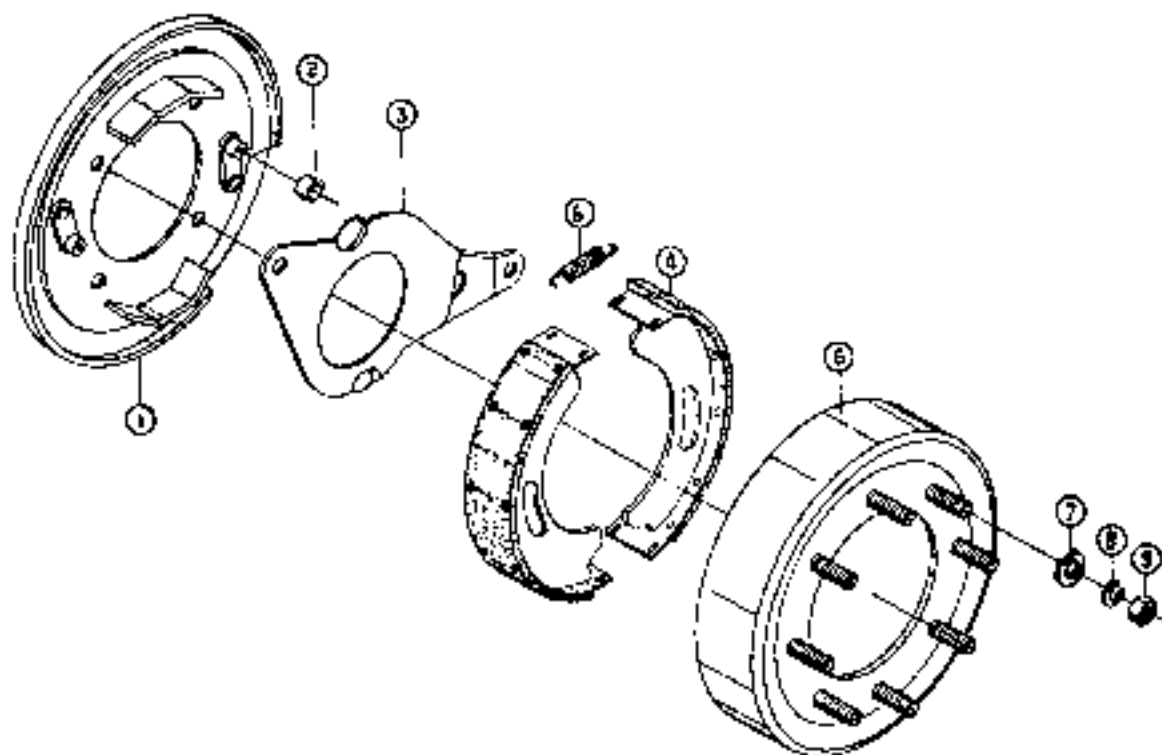
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18628 | Clutch Assembly, 3RD Stage (Spec 5800, 6037 & 7201) | |
| 1. | P18629 | Clutch, 3RD Stage | 1 |
| 2. | P18605 | Piston, Clutch | 1 |
| 3. | P18606 | Ring, Seal | 2 |
| 4. | P18607 | O Ring, Piston | 2 |
| 5. | P18608 | Plate, Clutch | 19 |
| 6. | P18609 | Plate, Separator | 19 |
| 7. | P18610 | Retainer, Clutch Plate | 2 |
| 8. | P18611 | Snap Ring | 2 |
| 9. | P18612 | Clutch Spring | 2 |
| 10. | P18613 | Retainer, Clutch Spring | 2 |
| 11. | P18614 | Ring, Retainer | 4 |
| 12. | P18633 | Bearing | 2 |
| 13. | P18630 | Ring | 1 |
| 14. | P18631 | Asm. Gear & Hub | 1 |
| 15. | P18632 | Gear | 1 |
| 16. | P18626 | Bearing, Roller | 1 |
| 17. | P18615 | Bearing | 2 |
| 18. | P18616 | Ring | 1 |
| 19. | P18634 | Asm. Gear & Hub | 1 |
| 20. | P18618 | Ring, Retainer | 1 |
| 21. | P18619 | Bearing, Roller | 1 |
| 22. | P18620 | Ring, Seal | 3 |
| 23. | P18635 | Piston, Clutch | 1 |



| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P17814 | Remote Oil Filter Assy.* Spec 5800 ONLY | 1 |
| 1 | P18707 | Case | 1 |
| 2 | P17815 | Element | 1 |
| 3 | P18708 | Cover & By-Pass Valve | 1 |
| 4 | P18709 | Clamp Ring | 1 |
| 5 | P18710 | Gasket | 1 |
| 6 | P18711 | Se. Hd. Nut | 2 |
| 7 | P18712 | Screw | 2 |
| 8 | P18713 | Lockwasher | 2 |
| 9 | P18714 | Capscrew | 2 |
| 10 | P18715 | Plug | 1 |
| 11 | P18716 | Lockwasher | 2 |
| 12 | P18717 | Bracket | 1 |

* USED ON 844 S/N 101 THRU 112,114 & 115

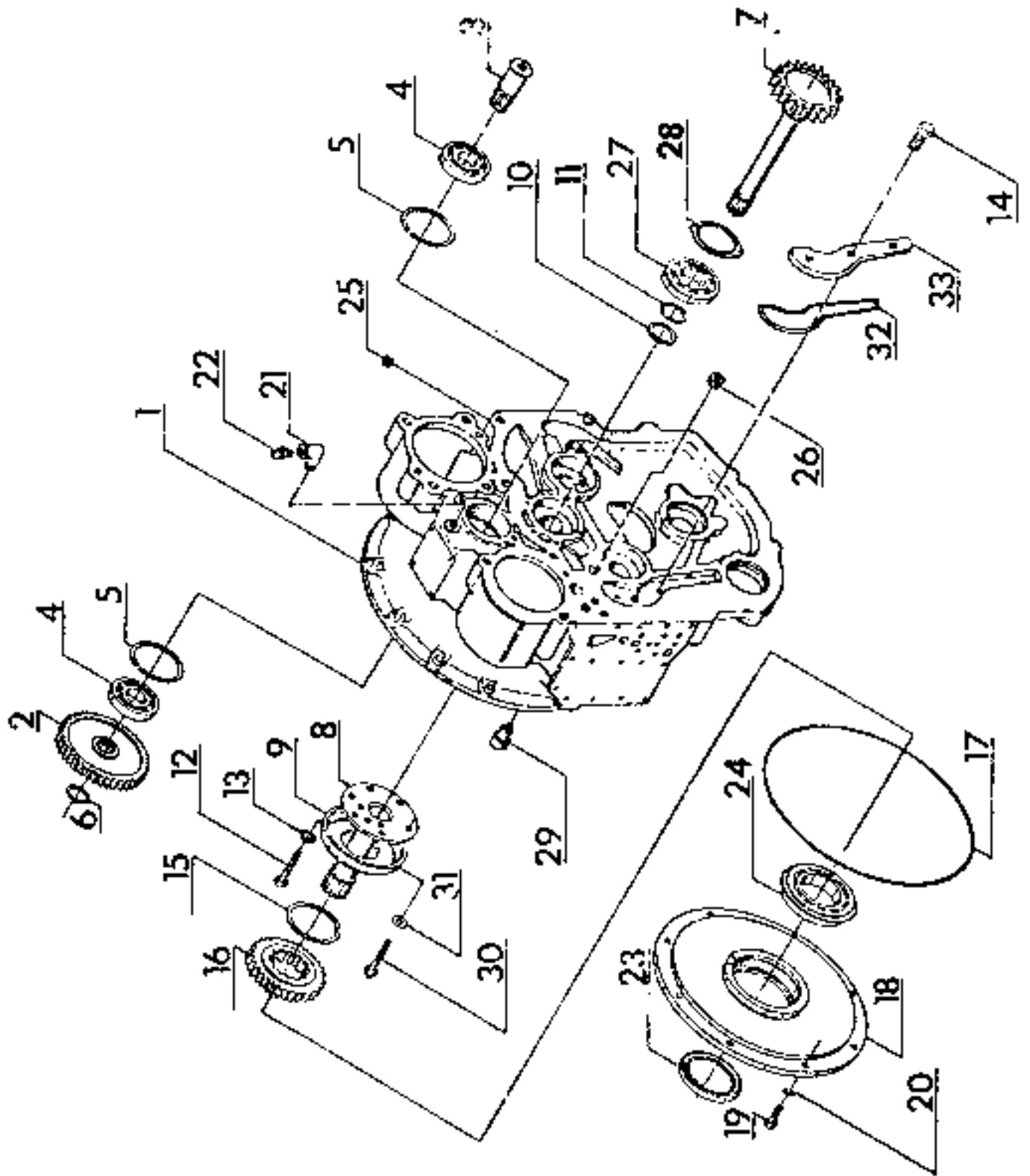
| | | |
|---|--|---|
| LULL Engineering Co. Inc.
<small>EST. 1911</small> | | <small>ST. PAUL,
 MINNESOTA,
 61519</small> |
| OIL FILTER &
 BRAKE ASSEMBLY
 SPEC 5800 ONLY | | PUBLICATION
 NUMBER
 1805 |



| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---------------------------------|------|
| | P18690 | Brake Assembly * Spec 5800 ONLY | 1 |
| 1. | P18691 | Backing Plate | 1 |
| 2. | P18692 | Spacer | 1 |
| 3. | P18693 | Bell Crank | 1 |
| 4. | P18694 | Brake Shoe | 2 |
| 5. | P18695 | Return Spring | 2 |
| 6. | P18696 | Brake Drum | 1 |
| 7. | P18697 | Washer, Clipped | 8 |
| 8. | Com'l | Lockwasher, 3/8" Med. Spring | 8 |
| 9. | Com'l | Nut, 3/8" - 24 Hex Full | 8 |

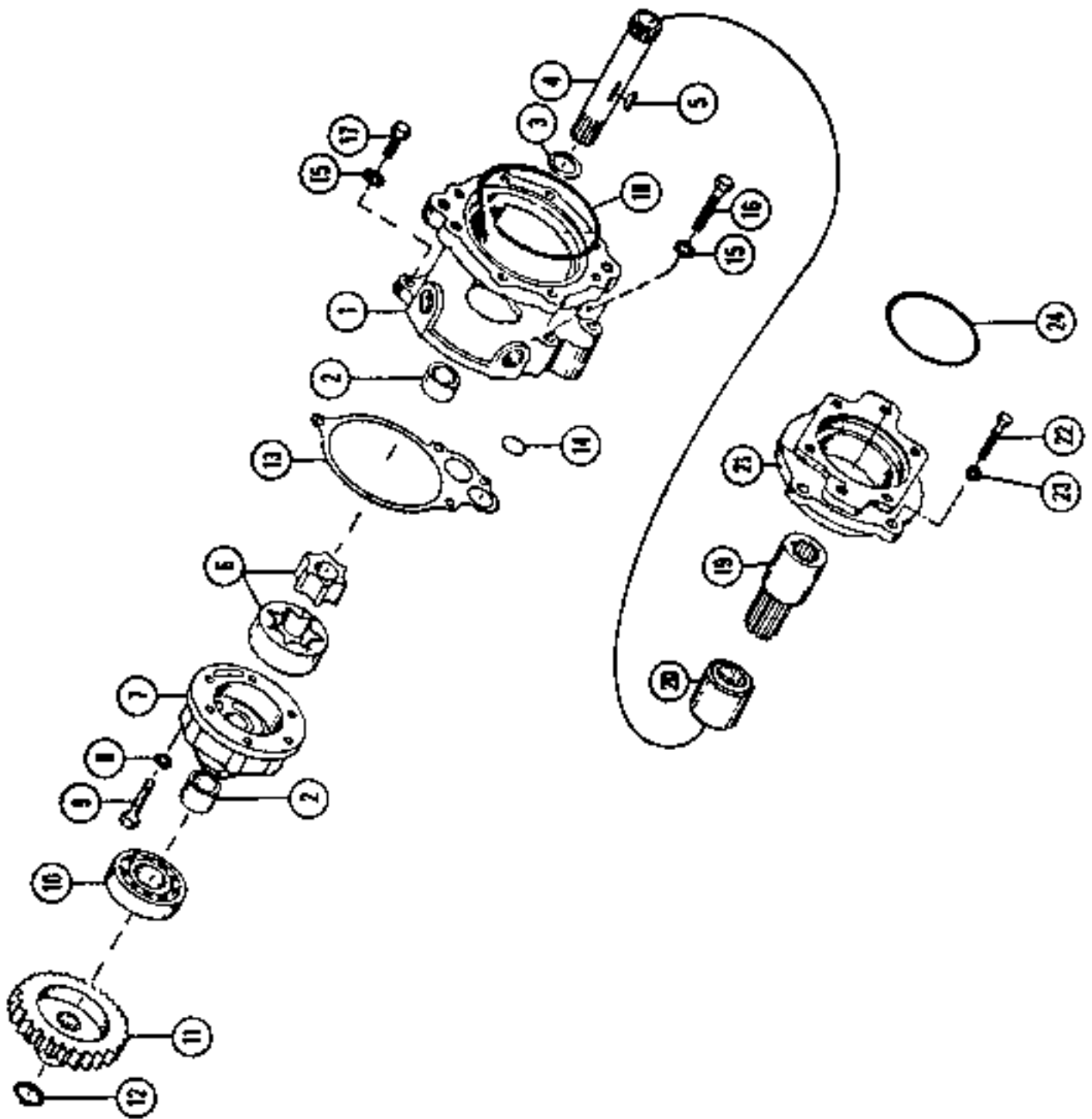
* USED ON 844 S/N 101 THRU 112, 114 & 115

1805-A



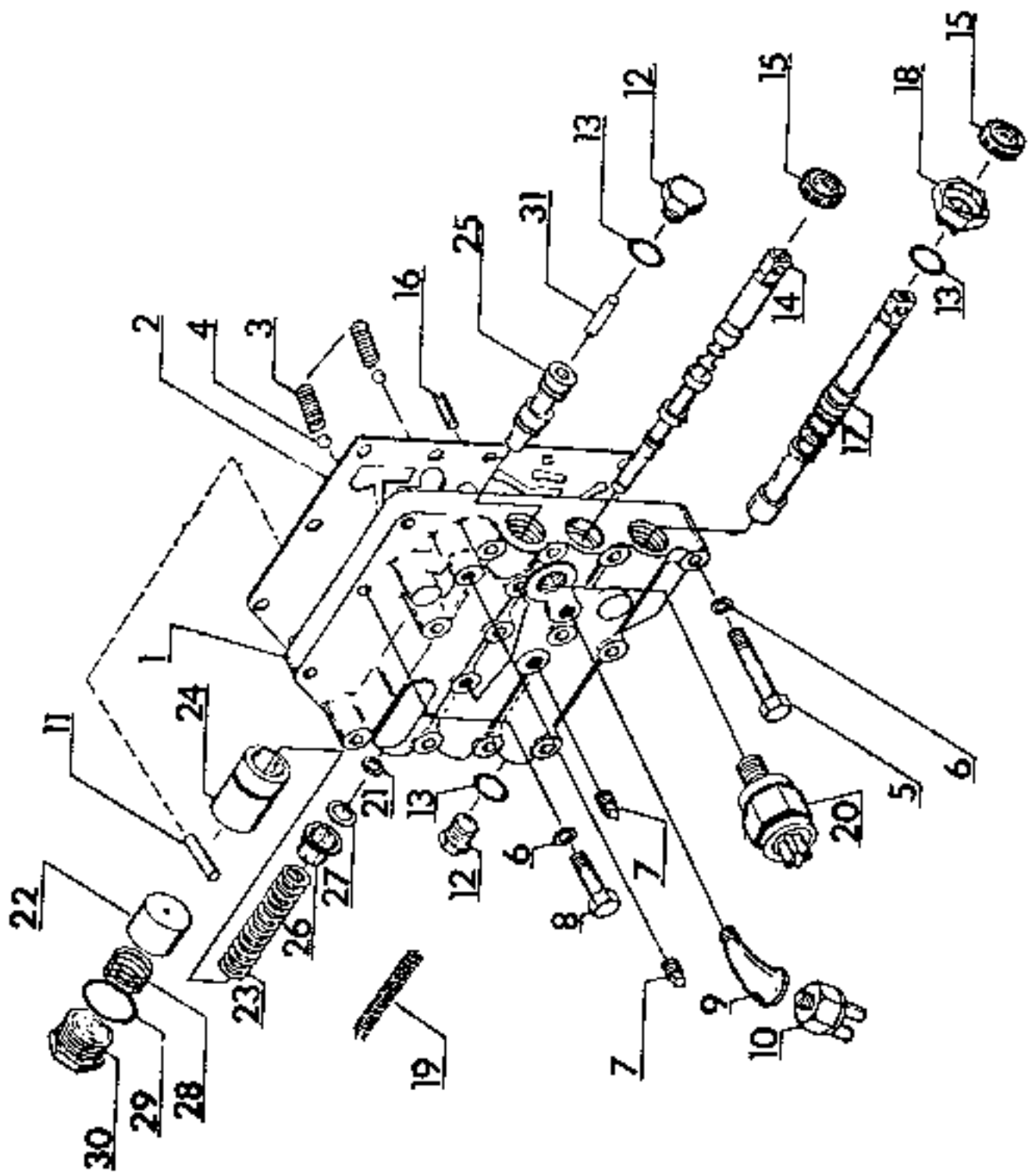
| | |
|--|--------------------------------------|
| LOLL Engineering Co., Inc.
FRONT COVER
ASSEMBLY | PUBLICATION
NUMBER
1812 |
| | IN THE
UNIVERSITY
MUSEUM |

| ITEM | PART NO. | DESCRIPTION | | QTY. |
|------|----------|-----------------------|------------------------------|------|
| | P19433 | Front Cover Assembly | Spec 6037 | 1 |
| | P24531 | Front Cover Assembly | Spec 8239A | 1 |
| | P24523 | Front Cover Assembly | Spec 82395 & 9673 | 1 |
| | P18505 | Front Cover Assembly | Spec 7201 & 5800 | 1 |
| | P24532 | Front Cover Assembly | Spec 7711A | 1 |
| | P24524 | Front Cover Assembly | Spec 7711B | 1 |
| 1 | P18506 | Front Cover | Spec 6037 & 7201 & 5800 | 1 |
| | P24521 | Front Cover | Spec 7711A & 8239A | 1 |
| | P24525 | Front Cover | Spec 7711B, 82395 & 9673 | 1 |
| 2 | P18507 | Gear | | 1 |
| 3 | P18508 | Shaft | | 1 |
| 4 | P18509 | Bearing | | 2 |
| 5 | P18510 | Ring Retainer | | 2 |
| 6 | P18511 | Ring Retainer | | 1 |
| 7 | P18512 | Input Shaft | Spec 5800, 7201, 8239 & 9673 | 1 |
| | P19754 | Input Shaft | Spec 6037 & 7711A | 1 |
| | P24537 | Input Shaft | Spec 7711B | 1 |
| 8 | P18516 | Tube | | 1 |
| | P19443 | Tube | Spec 6037 & 7711A ONLY | 1 |
| 9 | P18517 | Cover Plate | | 1 |
| 10 | P19755 | Ring Seal | | 1 |
| 11 | P18514 | Ring | | 1 |
| 12 | P18518 | Capscrew | | 6 |
| 13 | P18519 | Lockwasher | | 6 |
| 14 | P19756 | Capscrew | | 1 |
| 15 | P19444 | Washer Thrust Pump | | 1 |
| 16 | P18524 | Input Hub Gear | | 1 |
| 17 | P18525 | Gasket | Spec 6037, 7201 & 5800 | 1 |
| | P24582 | Gasket, Plastic Strip | Spec 7711, 8239 & 9673 | 1 |
| 18 | P18526 | Bearing Retainer | | 1 |
| 19 | P18529 | Capscrew | | 7 |
| 20 | P18530 | Lockwasher | | 7 |
| 21 | P18531 | Elbow | | 1 |
| 22 | P18532 | Breather | | 1 |
| | P18034 | Breather | Spec 7711, 8239, & 9673 | 1 |
| 23 | P18528 | O-1 Seal | | 1 |
| 24 | P18527 | Bearing | | 1 |
| 25 | P18072 | Plug | | 1 |
| 26 | P19759 | Plug | | 1 |
| 27 | P18513 | Bearing | | 1 |
| 28 | P18522 | Bearing Retainer | Spec 7711A & 8239A ONLY | 1 |
| | P24570 | Bearing Retainer | | 1 |
| 29 | P19760 | Regulator Valve | | 1 |
| 30 | P18520 | Capscrew | | 4 |
| 31 | P18421 | Starwasher | | 4 |
| 32 | P19758 | O-Ring | | 1 |
| 33 | P19757 | Oil Passage Cover | | 1 |



| | | |
|----------------------------------|--|---|
| LWL Engineering Co., Inc. | | <small>21 WALL
— WAREHOUSING
— 1971</small> |
| PUMP
ASSEMBLY | | PUBLICATION
NUMBER
1813 |

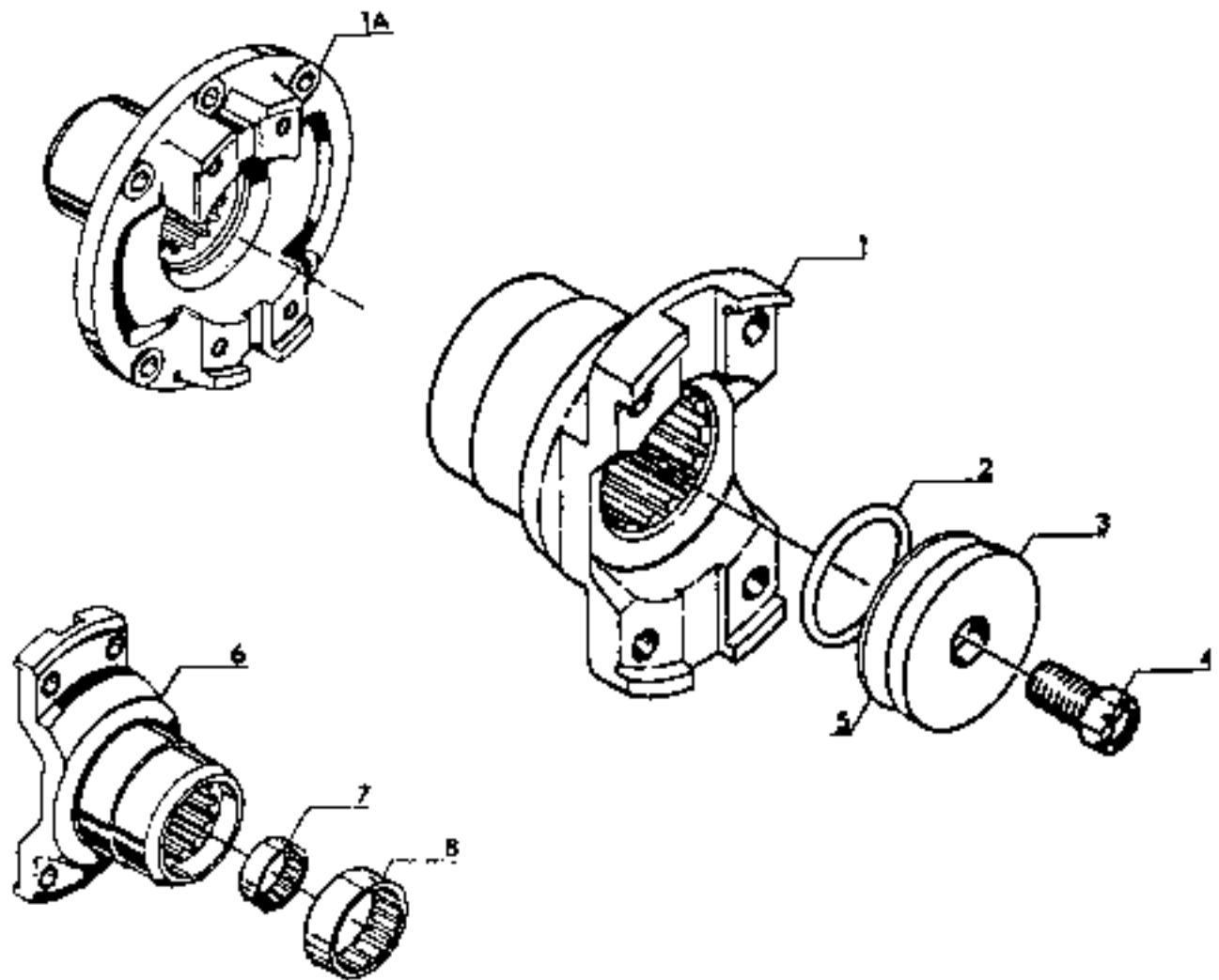
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|--|------|
| | P18004 | Pump Assembly (Use P18581 For Spec 5800) | 1 |
| 1 | P18582 | Housing | 1 |
| 2 | P19826 | Bearing (Use P18583 For Spec 5800) | 2 |
| 3 | P18584 | Thrust Washer | 1 |
| 4 | P19627 | Drive Shaft (Use P18585 For Spec 5800) | 1 |
| 5 | P19628 | Key, Woodruff (Use P18586 For Spec 5800) | 1 |
| 6 | P18587 | Genitor | 1 |
| 7 | P18588 | Pump Retainer | 1 |
| 8 | P18702 | Starwasher, Ext. 5/16" | 6 |
| 9 | P18589 | Capscrew | 6 |
| 10 | P18590 | Bearing | 1 |
| 11 | P18591 | Gear | 1 |
| 12 | P18592 | Retaining Ring | 1 |
| 13 | P18593 | Gasket | 1 |
| 14 | P18594 | O-Ring | 1 |
| 15 | P18703 | Starwasher, 3/8" | 4 |
| 16 | P18595 | Capscrew | 3 |
| 17 | P18596 | Capscrew | 1 |
| 18 | P18597 | O-Ring | 3 |
| 19 | P18598 | Adaptor Sleeve, "8" | 1 |
| 20 | P18599 | Sleeve Spacer | 1 |
| 21 | P18600 | Adaptor Plate | 1 |
| 22 | P18573 | Capscrew | 4 |
| 23 | P18572 | Lockwasher | 4 |
| 24 | P18602 | O-Ring | 1 |



| | | |
|-----------------------------------|--------------------------------------|--|
| LOLL Engineering Co., Inc. | | <small>11 PAUL
 BROADWAY
 N.Y.C.</small> |
| VALVE CONTROL
ASSEMBLY | PUBLICATION
NUMBER
1814 | |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18653 | Valve Control Assy. Spec 5800, 6037, 7201, 7711A, 8239A | 1 |
| | P24530 | Valve Control Assy. Spec 7711B, 8239B, 9673 | 1 |
| 1 | P18654 | Body, Control Valve, Spec 7711A, 8239A, 6037, 7201, 5800 | 1 |
| | P24529 | Body, Control Valve, Spec 7711B, 8239B, 9673 | 1 |
| 2 | P18675 | Gasket, Valve Body | 1 |
| 3 | P18676 | Spring, Detent | 2 |
| 4 | P18677 | Ball | 2 |
| 5 | P22796 | Capscrew | 12 |
| 6 | P22799 | Flat Washer | 15 |
| 7 | P18672 | Plug, Pipe | 4 |
| 8 | P18518 | Capscrew | 3 |
| 9 | P19825 | 45° Elbow, Street | 1 |
| 10 | P19105 | Switch, Reverse Alarm - See Note | 1 |
| 11 | P19822 | Pin, Use P18657, Snap Ring For Spec 5800 | 1 |
| 12 | P18665 | Plug | 2 |
| 13 | P18666 | O-Ring | 3 |
| 14 | P19823 | Stem, Forward - Reverse | 1 |
| 15 | P18668 | Oil Seal | 2 |
| 16 | P18669 | Roll Pin | 1 |
| 17 | P19824 | Stem, Spec 5800, 6037 & 7201 | 1 |
| | P24522 | Stem, Spec 7711, 8239 & 9673 | 1 |
| 18 | P18671 | Plug | 1 |
| 19 | P18662 | Spring, Regulator-Spec 7711A, 8239A, 6037, 7201 & 5800 ONLY | 1 |
| 20 | P18673 | Switch, Neutral Safety | 1 |
| 21 | P18674 | Spacer, Spring | A/R |
| 22 | P18658 | Valve, Pump | 1 |
| 23 | P18656 | Spring, Accumulator | 1 |
| 24 | P18655 | Valve Modulator, Spec 7711A, 8239A, 6037, 7201, 5800 | 1 |
| | P24527 | Valve Modulator, Spec 7711B, 8239B, 9673 | 1 |
| 25 | P18663 | Valve, Regulator, Spec 7711A, 8239A, 6037, 7201, 5800 | 1 |
| | P24528 | Valve, Regulator, Spec 7711B, 8239B, 9673 | 1 |
| 26 | P24526 | Cap, Regulator, Spec 7711B, 8239B, 9673 | 1 |
| 27 | P24599 | Washer, Spec 7711B, 8239B, 9673 | 1 |
| 28 | P18659 | Spring, Pump Valve | 1 |
| 29 | P18661 | O-Ring | 1 |
| 30 | P18660 | Plug, Pump Valve | 1 |
| 31 | P18664 | Dowel Pin | 1 |

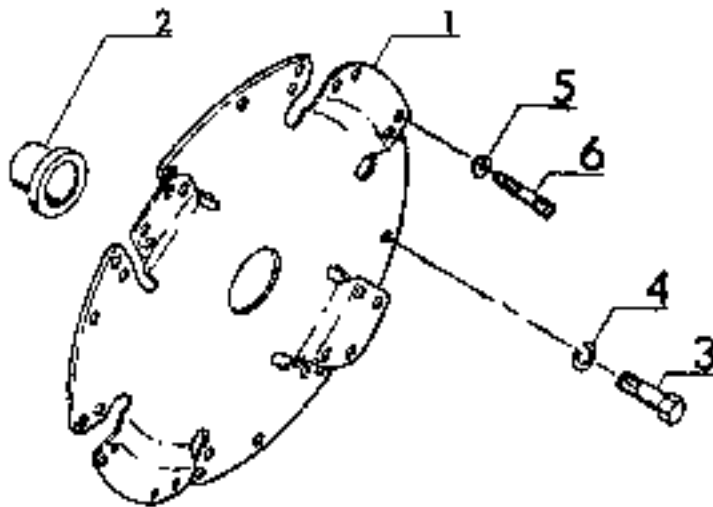
NOTE: There is no port on valve for reverse alarm switch on transmission Spec 5800.



| ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|---|-----|
| | P18683 | Yoke Group Assembly Spec 5800 6037 & 7201 | 1 |
| | P21425 | Yoke Group Assembly Spec 7711 8239 & 9673 | 1 |
| | P25409 | Yoke Group Assembly Spec 9673 only | 1 |
| 1 | P18684 | Yoke Flange, Front | 1 |
| 1A | P25410 | Yoke Flange, Front Spec 9673 only | 1 |
| 2 | P18685 | O-Ring | 1 |
| 3 | P18686 | Washer Spec 5800 6037 & 7201 | 1 |
| | P20427 | Washer Spec 7711 8239 & 9673 | 1 |
| 4 | P20428 | Bolt, Special | 1 |
| 5 | P19820 | Shaft Package (not shown) | 1 |
| 6 | P20429 | Yoke Flange, Rear | 1 |
| 7 | P24457 | Bearing | 1 |
| 8 | P24458 | Bearing | 1 |

YOKE & DRIVE
PLATE ASSEMBLY

1815

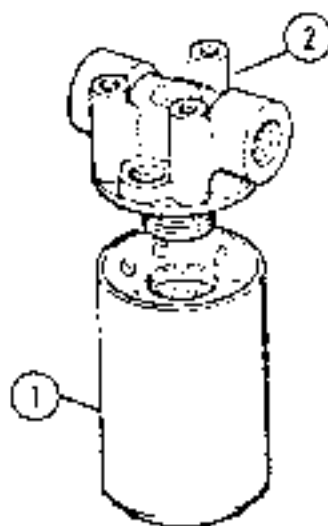


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------------|-------------------|---|------|
| | | Drive Plate Assembly (Incl. Item 2) | |
| 1 | P20968 | CHRYSLER ENGINES | 1 |
| | | Spec 5800, 7201 & 8239 | 1 |
| | P20969 | Spec 6037 & 7711 | 1 |
| | | WAUKESHA ENGINES | 1 |
| | P20968 | Spec 5800 | 1 |
| | P19278 | Spec 6037 & 7711A | 1 |
| | P22802 | Spec 7711B & 9673 | 1 |
| | P19441 | DETROIT ENGINES | 1 |
| | | Spec 7201, 8239 & 9673 | 1 |
| | P19278 | DEUTZ ENGINES | 1 |
| Spec 7711A | | 1 | |
| P22802 | Spec 7711B & 9673 | 1 | |
| P20968 | DEERE ENGINES | 1 | |
| | Spec 8239 | 1 | |
| P22647 | Spec 9673 | 1 | |
| 2 | (A) | Sleeve Hub | 1 |
| 3 | P18536 | Capscrew, 3/8-16 NC x 3/4 | 8 |
| 4 | P18530 | Lockwasher, 3/8 Medium Spring | 8 |
| 5 | P18537 | Washer, Half Round | 8 |
| | P22799 | Washer, Flat | 8 |
| 6 | P18538(B) | Capscrew, Socket Hd., 5/16-24 NF x 2 3/4 (Nylock) | 8 |
| | P19438(C) | Capscrew, Socket Hd., 5/16-24 NF x 1 1/4 (Nylock) | 8 |

ITEMS 3 THRU 6 USED 10 BOLT DRIVE PLATE TO CONVERTER.

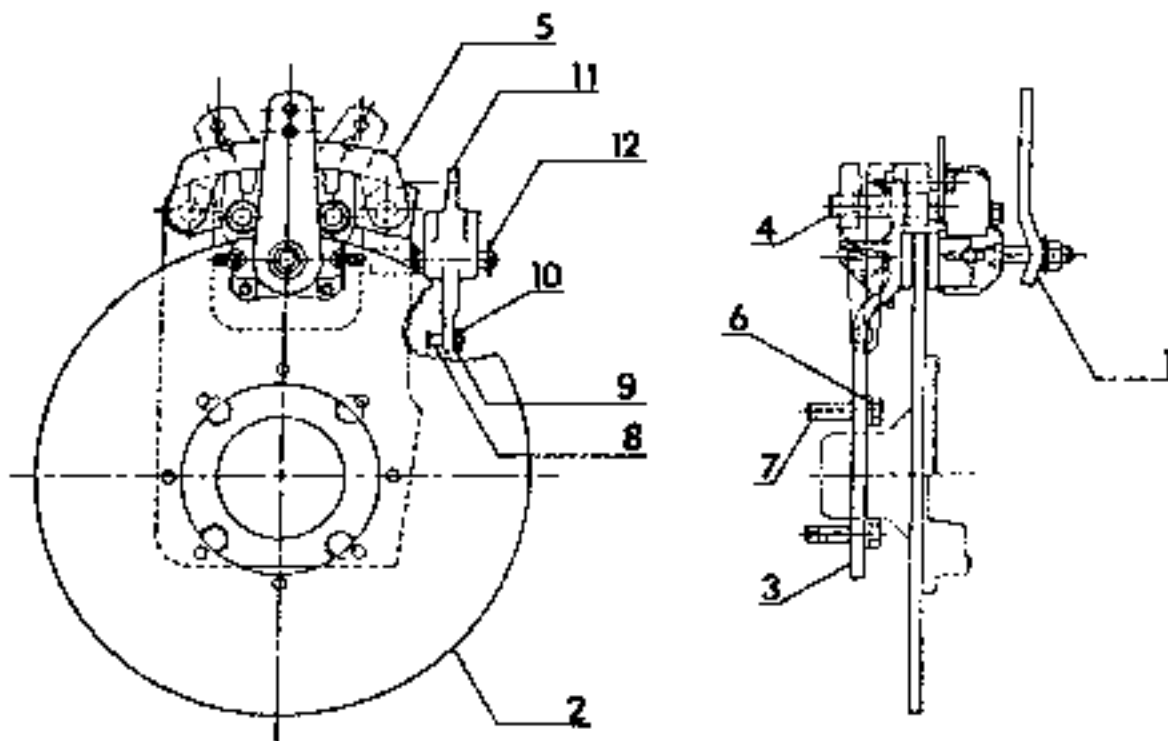
NOTES:

- A) CONSULT FACTORY
- B) USED WITH 12 3/4" CONVERTERS
- C) USED WITH 11 3/4" CONVERTERS

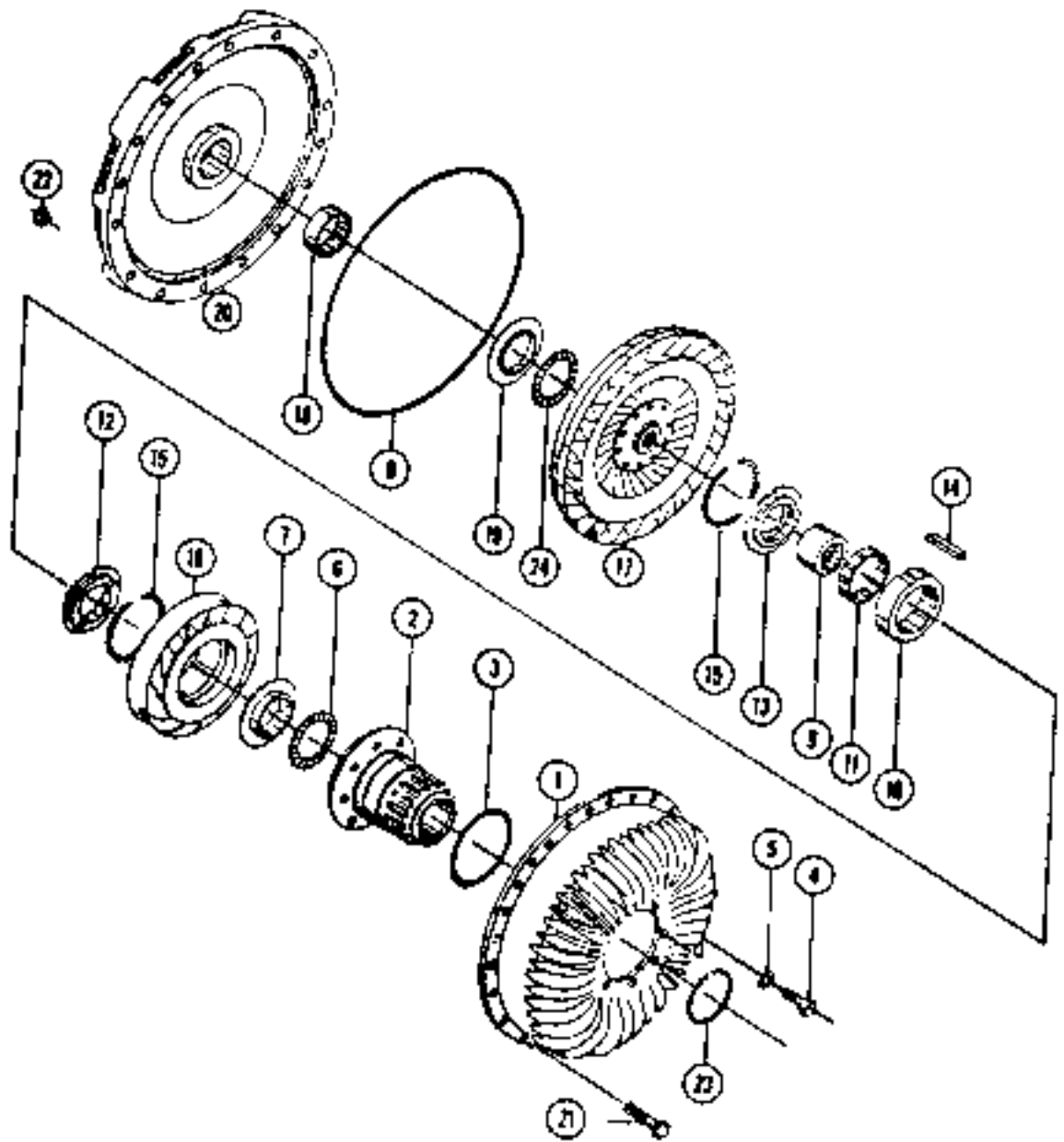


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|-------------------------------|------|
| | P19132 | Remote Filter & Base Assembly | 1 |
| 1. | P19133 | Filter | 1 |
| 2. | P19321 | Base | 1 |

| | |
|--|--|
| WILL <i>Engineering Co., Inc.</i>
<small>ST. PAUL, MINNESOTA 55101</small> | |
| <small>MANUAL NO.</small>
REMOTE FILTER &
COVER PLATE ASS'Y | <small>PUBLICATION NUMBER</small>
1816 |

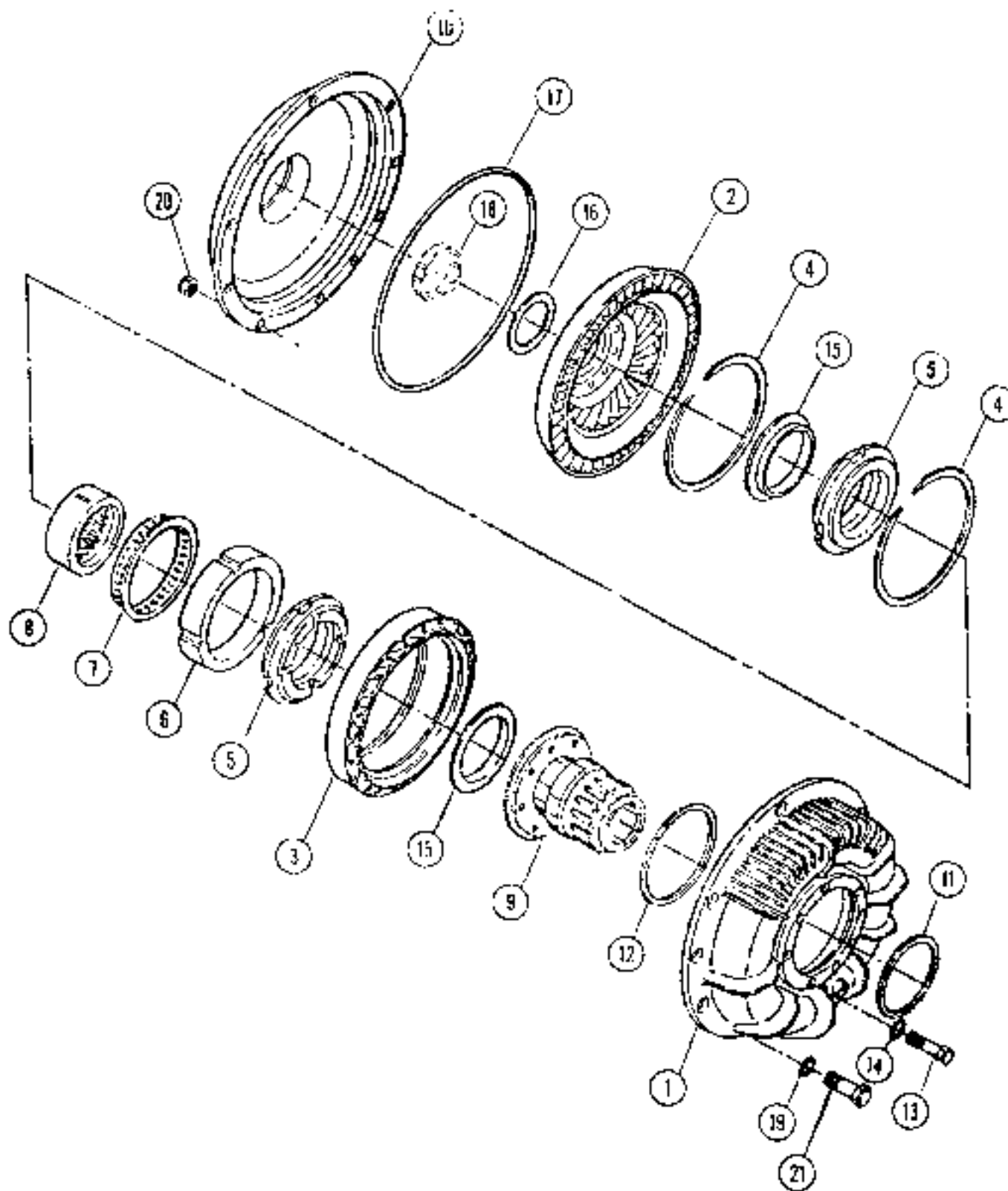


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|----------------------|------|
| 1 | P24539 | Brake Caliper W/Pads | 1 |
| 2 | P25075 | Disc. Brake | 1 |
| 3 | P25402 | Mounting Bracket | 1 |
| 4 | P25424 | Pin | 2 |
| 5 | P25403 | Retainer, Pin | 3 |
| 6 | P13572 | Lockwasher | 4 |
| 7 | P16573 | Capscrew | 4 |
| 8 | P25423 | Clevis Pin | 1 |
| 9 | P25427 | Flatwasher | 3 |
| 10 | P25425 | Cotter Pin | 1 |
| 11 | P25404 | Lever, Disconnect | 1 |
| 12 | P25426 | Cotter Pin | 1 |
| 13 | P24602 | Spring, Short | 2 |
| 14 | P24603 | Spring, Long | 1 |
| 15 | P24600 | Brake Pad | 2 |



| | | |
|--|--|---|
| LULL Engineering Co., Inc. | | <small> ET PAUL,
 MEMPHIS, TN
 38117 </small> |
| <small> U.S. PAT. OFF. TITLE
 CONVERTER
 ASSEMBLY </small> | | PUBLICATION
 NUMBER
 1817 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P17773 | Converter Assembly Spec 5800 | 1 |
| | P19439 | Converter Assembly Spec 7201 | 1 |
| | P20647 | Converter Assembly Spec 8239A & 8239B
Spec 9673 (Detroit Only) | 1 |
| 1 | P18539 | Impeller | 1 |
| 2 | P18540 | Hub | 1 |
| | P20734 | Hub (Use w/P20647 Assy. Only) | 1 |
| 3 | P18541 | O-Ring | 1 |
| 4 | P18542 | Capscrew | 12 |
| 5 | P18543 | Seal Washer | 12 |
| 6 | P18544 | Bearing | 2 |
| 7 | P18545 | Thrust Washer, Rear | 1 |
| 8 | P18546 | O-Ring Gasket | 1 |
| 9 | P18547 | Inner Race Clutch | 1 |
| 10 | P18548 | Outer Race Clutch | 1 |
| 11 | P18549 | Clutch Sprag | 1 |
| 12 | P18550 | Clutch Retainer, Rear | 1 |
| | P20736 | Clutch Retainer, Rear (Use W/P20647 Assy.Only) | 1 |
| 13 | P18551 | Clutch Retainer, Front | 1 |
| 14 | P18552 | Key, Square | 4 |
| 15 | P18553 | Snap Ring | 2 |
| 16 | P18554 | Stator | 1 |
| 17 | P19762 | Turbine | 1 |
| 18 | P18556 | Bearing | 1 |
| 19 | P18557 | Thrust Washer | 1 |
| 20 | P18558 | Front Cover (Use W/P17773 Assy. Only) | 1 |
| | P19761 | Front Cover | 1 |
| 21 | P18559 | Capscrew | 36 |
| 22 | P18560 | Flanged Nut | 16 |
| 23 | P18561 | Ring Seal (Use W/P17773 Assy. ONLY) | 1 |
| | P19466 | Ring Seal | 1 |
| 24 | P20742 | Bearing | 1 |



| | | |
|--|--|---|
| LULL Engineering Co., Inc.
<small>INCORPORATED</small>
<small>MANUFACTURERS</small>
<small>OF TURBINES</small> | | <small>ST. PAUL,</small>
<small>MINNESOTA</small>
<small>U.S.A.</small> |
| <small>REPLICATED</small>
<small>REPRODUCTION</small>
<small>OF ORIGINAL</small> | | <small>REPLICATION</small>
<small>NUMBER</small>
1818 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|--------------------|------|
| | P19434 | Converter Assembly | 1 |
| | | Spec 6037 & 7711A | |
| 1 | P19454 | Impeller | 1 |
| 2 | P19457 | Turbine | 1 |
| 3 | P19450 | Stator | 1 |
| 4 | P19451 | Retaining Ring | 2 |
| 5 | P19449 | Retainer, Stator | 2 |
| 6 | P19446 | Outer Race | 1 |
| 7 | P19447 | Clutch Sprag | 1 |
| 8 | P19448 | Inner Race | 1 |
| 9 | P19452 | Hub, Impeller | 1 |
| 10 | P19459 | Converter Cover | 1 |
| 11 | P19466 | Seal Ring | 1 |
| 12 | P19453 | Seal Ring | 1 |
| 13 | P19455 | Capscrew | 8 |
| 14 | P19456 | Lockwasher | 8 |
| 15 | P19458 | Thrust Washer | 2 |
| 16 | P20649 | Thrust Washer | 1 |
| 17 | P19460 | O-Ring | 1 |
| 18 | P19467 | Bearing | 1 |
| 19 | P19464 | Washer | 10 |
| 20 | P19462 | Lock Nut | 10 |
| 21 | P19461 | Capscrew | 10 |

FUNK TRANSMISSION BREAKDOWN

Spec #7711, 8239 & 9673 Transmission Variations

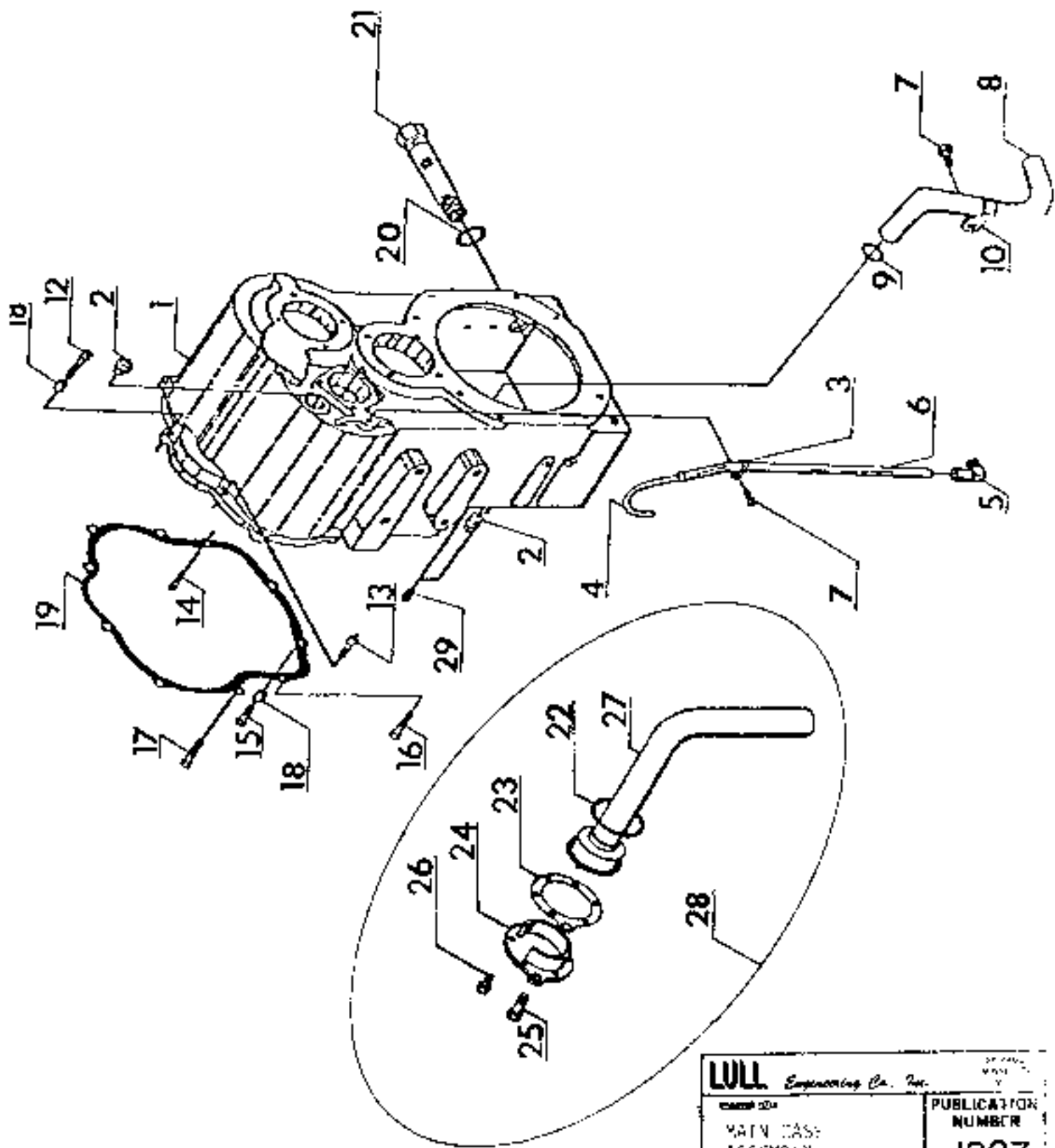
844 S/N 440, 443 THRU
(Except S/N 625, 622, 634, 636, 638, 639, 642, 653, 660 & 661);

400B S/N 2157 THRU

INDEX OF PARTS

| <u>ASSEMBLY</u> | <u>PUBLICATION NO.</u> |
|--|------------------------|
| Main Case Assembly | 1807 |
| Output Group Assembly | 1808 |
| Output Retainer Assembly | 1808 |
| Clutch Assembly, 1st Stage | 1809 |
| Clutch Assembly, 2nd Stage | 1810 |
| Clutch Assembly, 3rd Stage | 1811 |
| Front Cover Assembly | 1812 |
| Pump Assembly | 1813 |
| Valve Control Assembly | 1814 |
| Yoke Group Assembly | 1815 |
| Drive Plate Assembly | 1815 |
| Remote Oil Filter Assembly | 1816 |
| Parking Brake Assembly - Spec 9673C | 1816 |
| Converter Assembly - Spec 8239 & 9673 | 1817 |
| Converter Assembly - Spec 7711A | 1818 |
| Converter Assembly - Spec 7711B & 9673 | 1819 |
| Converter Assembly - Spec 9673D | 1819-1 |

| | |
|--|--------------------------------------|
| IULL Engineering Co., Inc.
<small>OF RALEIGH, VIRGINIA 23112</small> | |
| <small>REVISED</small>
INDEX OF PARTS
FUNK TRANSMISSION | PUBLICATION
NUMBER
1806 |



| | |
|------------------------------------|--------------------------------------|
| LULL Engineering Co., Inc. | |
| MODEL NO.
MAIN CASE
ASSEMBLY | PUBLICATION
NUMBER
1807 |

| ITEM | PART NO. | DESCRIPTION | | QTY |
|------|----------|------------------------|---------------------------|-----|
| | P20860 | Main Case Group Assy. | Spec 7711A & 8239A | 1 |
| | P24572 | Main Case Group Assy. | Spec 7711B & 8239B & 9673 | 1 |
| 1 | P20861 | Main Case | Spec 7711A & 8239A | 1 |
| | P24571 | Main Case | Spec 7711B & 8239B & 9673 | 1 |
| 2 | P18565 | Pipe Plug | | 2 |
| 3 | P24542 | Clamp, Dipstick | Spec 7711B & 8239B & 9673 | 1 |
| 4 | P24544 | Dipstick | Spec 7711B & 8239B & 9673 | 1 |
| 5 | P24540 | 90° Elbow, Male | Spec 7711B & 8239B & 9673 | 1 |
| 6 | P24545 | Tube, Dipstick | Spec 7711B & 8239B & 9673 | 1 |
| 7 | P22788 | Capscrew | Spec 7711B & 8239B & 9673 | 2 |
| 8 | P24568 | Tube, Suction | Spec 7711B & 8239B & 9673 | 1 |
| 9 | P24583 | Retaining Ring | Spec 7711B & 8239B & 9673 | 1 |
| 10 | P24543 | Clamp, Tube | Spec 7711B & 8239B & 9673 | 1 |
| 11 | | | | 1 |
| 12 | P19790 | Capscrew | Spec 7711A & 8239A | 1 |
| | P24595 | Capscrew | Spec 7711B & 8239B & 9673 | 1 |
| 13 | P19791 | Capscrew | Spec 7711A & 8239A | 3 |
| | P24596 | Capscrew | Spec 7711B & 8239B & 9673 | 3 |
| 14 | P18573 | Capscrew | | 3 |
| 15 | P18571 | Capscrew | | 1 |
| 16 | P22792 | Capscrew | | 1 |
| 17 | P18580 | Capscrew | | 1 |
| 18 | P18570 | Locating Bushing | | 2 |
| 19 | P18568 | Gasket, Main Case | | 1 |
| 20 | P20863 | Gasket, Suction Screen | | 1 |
| 21 | P20862 | Suction Screen | Spec 7711A & 8239A | 1 |
| | P24534 | Suction Screen | Spec 7711B & 8239B & 9673 | 1 |
| 22 | P18649 | O-Ring, Strainer | Spec 7711A & 8239A | 1 |
| 23 | P18651 | Gasket, Strainer | Spec 7711A & 8239A | 1 |
| 24 | P24581 | Cover, Strainer | Spec 7711A & 8239A | 1 |
| 25 | P22793 | Capscrew | Spec 7711A & 8239A | 1 |
| 26 | P18542 | Capscrew | Spec 7711A & 8239A | 6 |
| 27 | P24580 | Tube, Suction | Spec 7711A & 8239A | 1 |
| 28 | P20864 | Oil Strainer Assembly | Spec 7711A & 8239A | 1 |
| 29 | P18567 | Pipe Plug | | 2 |

SPEC 5800, 6037 & 7201

FUNK TRANSMISSION-INDEX

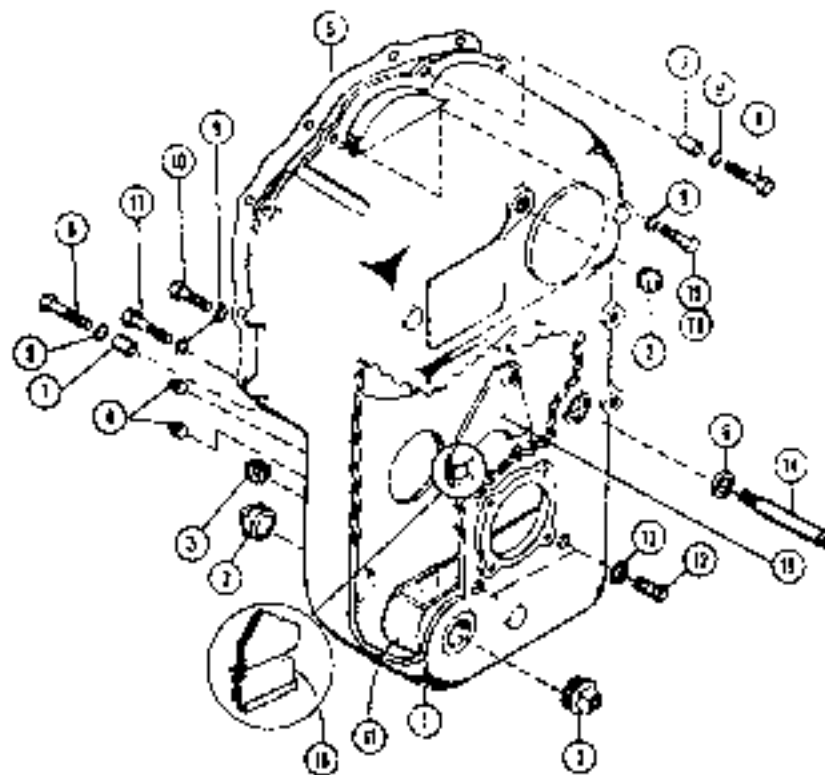
844 S/N 101 THRU 439, 441, 742, 626, 632
634, 626, 638, 639, 642, 653, 660 & 663

4508 S/N 2001 THRU 2156

4040 S/N 1101 THRU

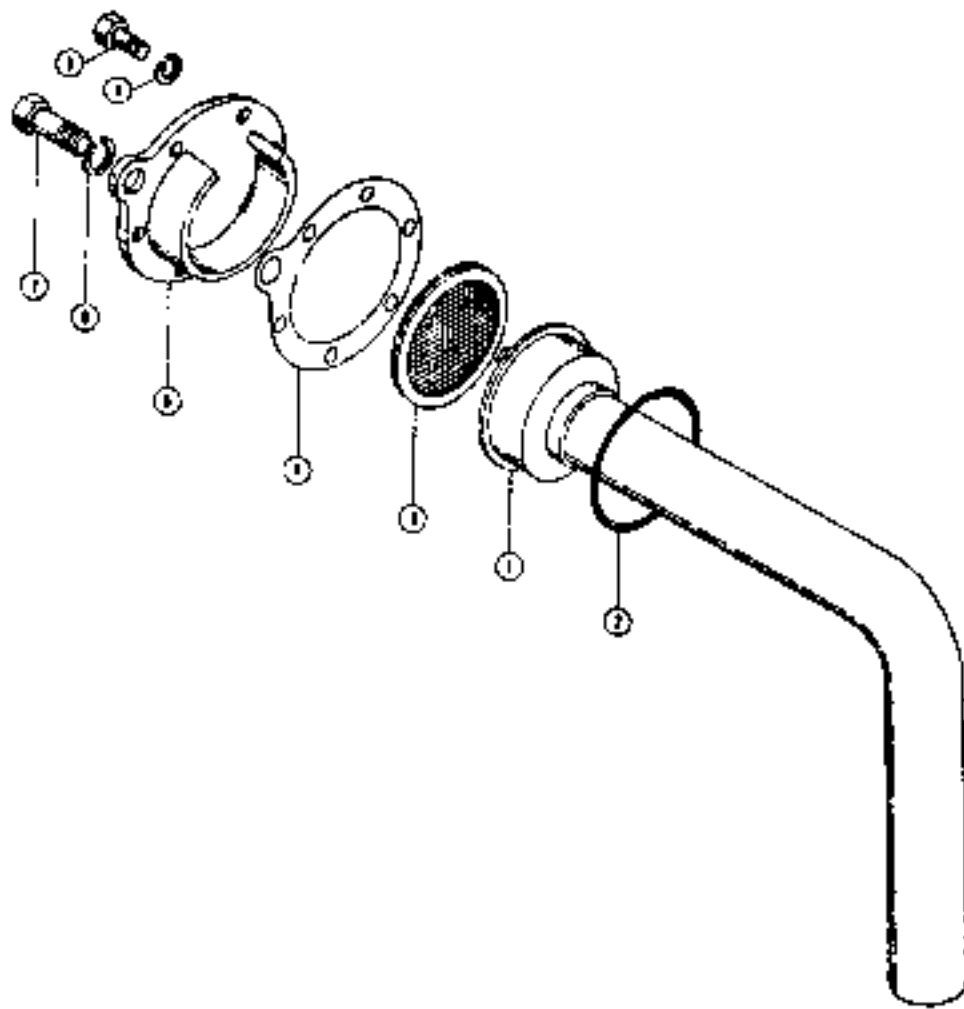
| ASSEMBLY | PUBLICATION NO. |
|---------------------------------------|-----------------|
| Main Case Assembly | 1800 |
| Oil Strainer Assembly | 1800-A |
| Output Group Assembly | 1801 |
| Output Retainer Assembly | 1801-A |
| Clutch Assembly, 1st Stage | 1802 |
| Clutch Assembly, 2nd Stage | 1803 |
| Clutch Assembly, 3rd Stage | 1804 |
| Remote Oil Filter - Spec 5800 ONLY | 1805 |
| Brake Assembly - Spec 5800 ONLY | 1805-A |
| Front Cover Assembly | 1810 |
| Pump Assembly | 1813 |
| Valve Control Assembly | 1814 |
| Yoke Group Assembly | 1815 |
| Drive Plate Assembly | 1815-A |
| Remote Oil Filter Assembly | 1816 |
| Converter Assembly - Spec 5800 & 7201 | 1817 |
| Converter Assembly - Spec 6037 | 1818 |

| | |
|--|--------------------------------------|
| LOLL Engineering Co., Inc. | OF THIS
NUMBER
517 |
| DESCRIPTION
INDEX OF PARTS
FUNK TRANSMISSION | PUBLICATION
NUMBER
1799 |

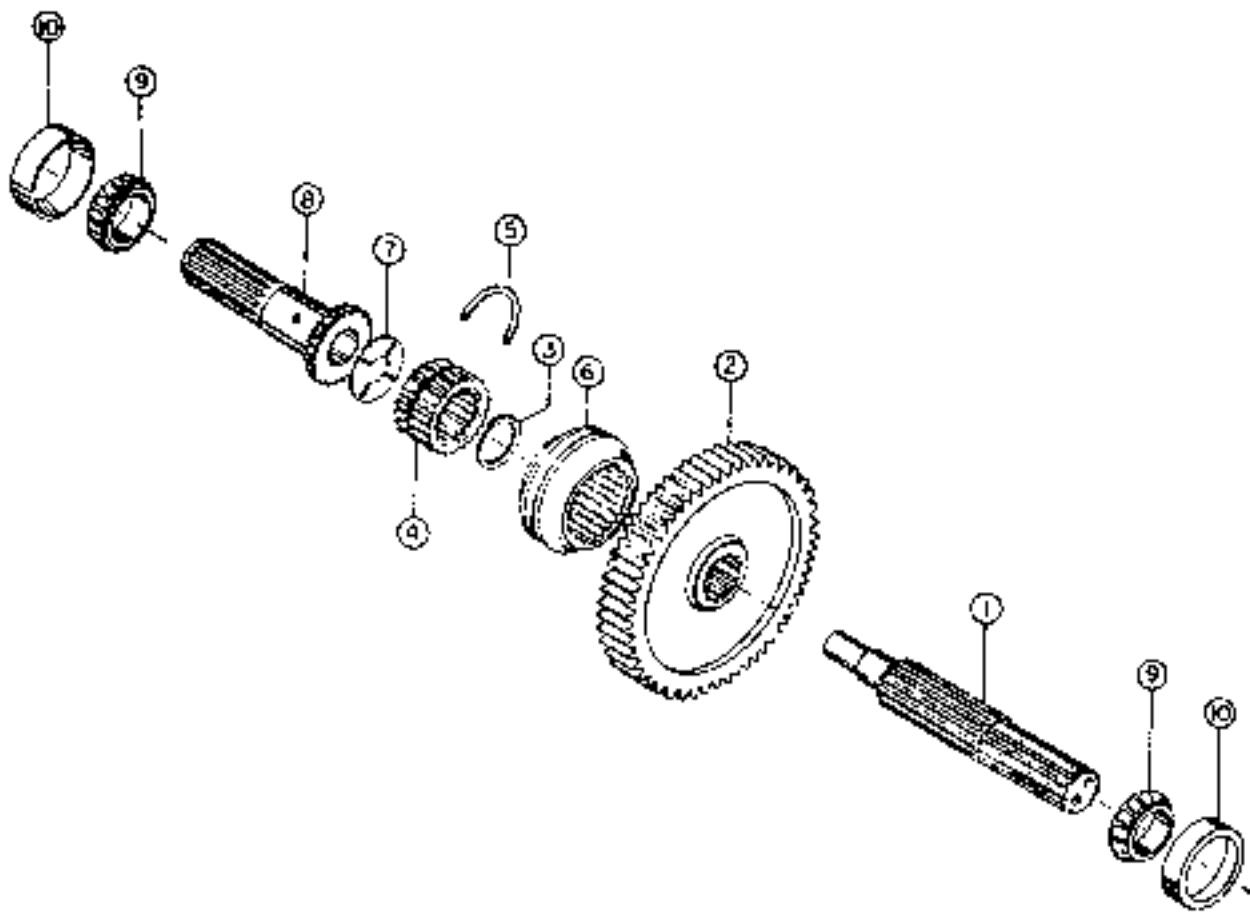


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18563 | Main Case Assembly Spec 8200, 6037 & 1201 | 1 |
| 1. | P18564 | Main Case | 1 |
| 2. | P18565 | Plug | 3 |
| 3. | P18566 | Drain Plug (Magnet) | 1 |
| 4. | P18567 | Plug | 2 |
| 5. | P18568 | Gasket | 1 |
| 6. | P18569 | Seal | 1 |
| 7. | P18570 | Bushing | 2 |
| 8. | P18571 | Capscrew | 1 |
| 9. | P18572 | Lockwasher | 10 |
| 10. | P18573 | Capscrew | 4 |
| 11. | P19799 | Oil Plug | 1 |
| 12. | P19790 | Capscrew | 1 |
| 13. | P19576 | washer | 2 |
| 14. | P18577 | Shaft | 1 |
| 15. | P18578 | Fork | 1 |
| 16. | P18579 | Clip | 2 |
| 17. | P18580 | Capscrew | 1 |
| 18. | P19791 | Capscrew | 3 |

| | |
|---|--|
| WU. <i>Engineering Co., Inc.</i>
<small>ST. PAUL, MINNESOTA, U.S.A.</small> | <small>ST. PAUL, MINNESOTA, U.S.A.</small> |
| | PUBLICATION NUMBER
1800 |
| <small>MINNEAPOLIS</small>
MATH CASE & JEL
STRAINER ASSEMBLY | |

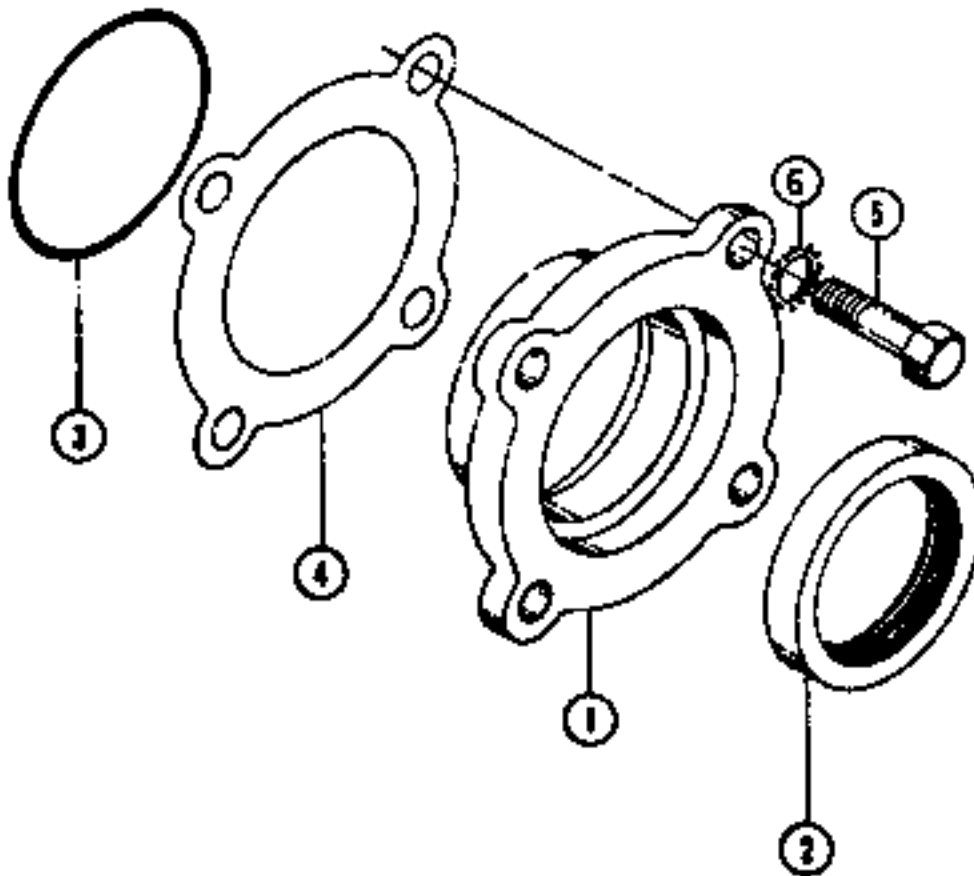


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18647 | 3/4" Strainer Assembly Spec 5800, 6037 & 7201 | 1 |
| 1. | P18648 | 3/4" Strainer | 1 |
| 2. | P18649 | O-Ring | 1 |
| 3. | P18650 | Screen | 1 |
| 4. | P18651 | Gasket | 1 |
| 5. | P18652 | Oil Strainer Cover | 1 |
| 6. | P18572 | Lockwasher, 1/2" | 1 |
| 7. | P22793 | Capscrew, 1/2" - 13 x 2-1/2" Lg. | 2 |
| 8. | P18713 | Lockwasher, 5/16" | 6 |
| 9. | P18542 | Capscrew, 5/16" - 18 x 7/8" Lg. | 6 |



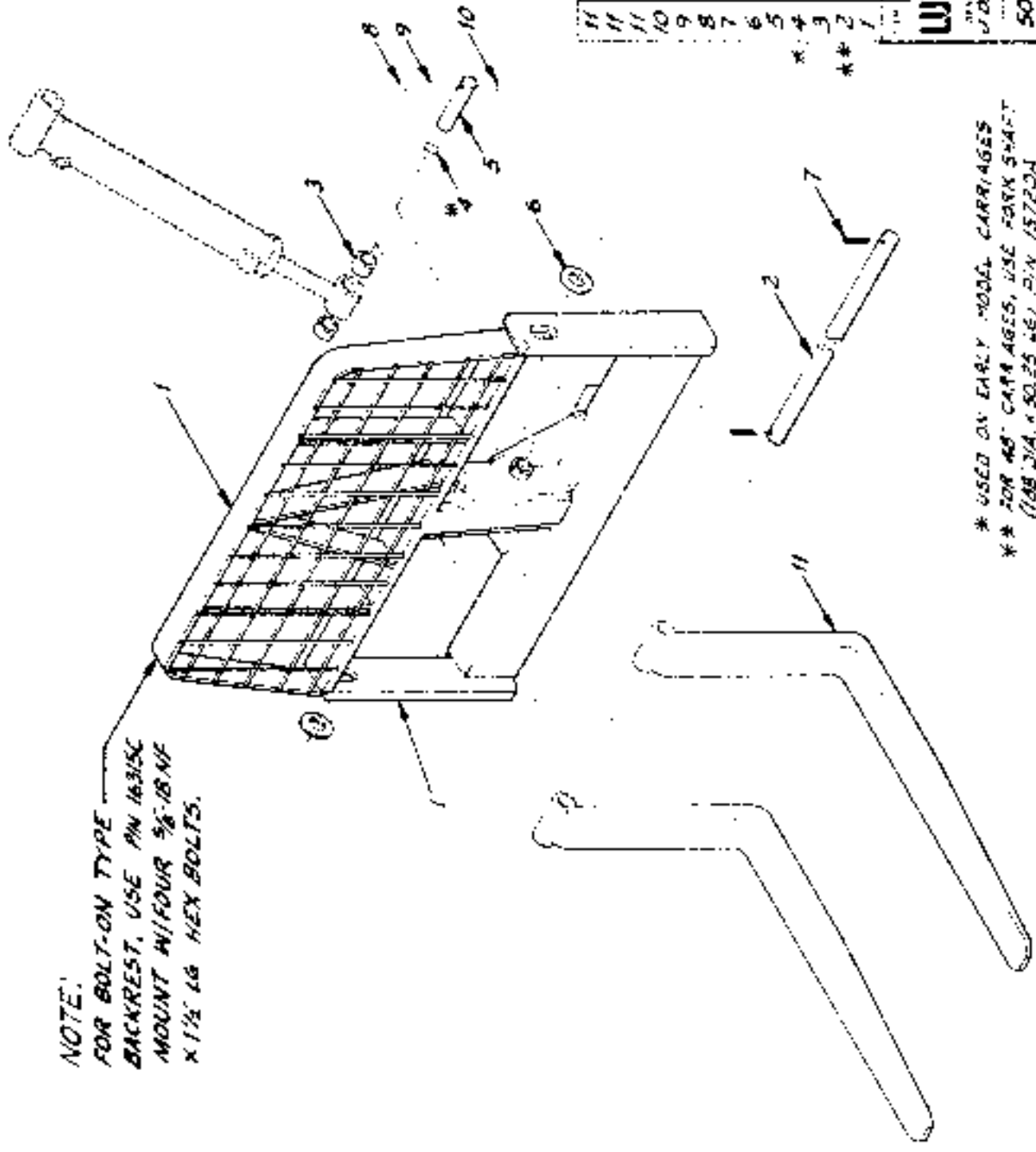
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|--|------|
| | P18636 | Output Group Assembly Spec 5800, 6037 & 7201 | 1 |
| 1. | P18637 | Asm. Shaft | 1 |
| 2. | P18638 | Gear, Output | 1 |
| 3. | P18639 | Ring, Retainer | 1 |
| 4. | P18640 | Hub Disc | 1 |
| 5. | P18641 | Ring, Detent | 1 |
| 6. | P18642 | Collar, Shifting | 1 |
| 7. | P18643 | Washer, Thrust | 1 |
| 8. | P18644 | Asm. Shaft | 1 |
| 9. | P18645 | Cone, Bearing | 2 |
| 10. | P18646 | Cup, Bearing | 2 |

| | | |
|--------------------------------------|--|--------------------------------------|
| LULL Engineering Co., Inc. | | ST. PAUL,
MINNESOTA
16121 |
| OUTPUT & OUTPUT
RETAINER ASSEMBLY | | PUBLICATION
NUMBER
1801 |



| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18678 | Retainer Assembly, Output Group | 1 |
| 1. | P18679 | Bearing Retainer | 1 |
| 2. | P19680 | Oil Seal | 1 |
| 3. | P18681 | O-Ring | 1 |
| 4. | P10682 | Shim, Bearing Retainer | 1 |
| 5. | Com'l | Capscrew, Hex., 1/2" - 13 x 1-1/4" Long | 4 |
| 6. | Com'l | Star Washer, Ext. 1/2" | 4 |

NOTE:
 FOR BOLT-ON TYPE
 BACKREST, USE PIN 16315C
 MOUNT W/ FOUR 5/8-18 NF
 X 1 1/2 LG HEX BOLTS.



| | | | |
|------|--------|--------------------|---------------|
| 11 | P21340 | 48" CLAMPING FORK | REF |
| 11 | P4980 | 48" CARRIAGE FORK | REF |
| 11 | P19256 | 50" STANDARD | 42 FORK |
| 10 | | CON'L NUT, HN | 3/8-18 NF |
| 9 | | CON'L LOCK WASHER, | 3/8 |
| 8 | | CON'L BOLT, HN | 3/8-18 NF X 3 |
| 7 | | CON'L COTTER PIN, | 3/8 X 3 |
| 6 | P19926 | 1/2" WASHER, | 1 1/2" DIA |
| 5 | 162191 | PIN | |
| * 4 | P88338 | SNAP RING | |
| ** 3 | | PACKING BUSHING | |
| ** 2 | 15559A | FORK SHAFT | 30-52 3/8 |
| 1 | 16316D | 50" CARRIAGE WELD | |

WILL Engineering Co., Inc.
 10000 J. DAVIS ST. N.W. 501 7430

50" STANDARD
 CARRIAGE ASSEMBLY
 MODEL 844

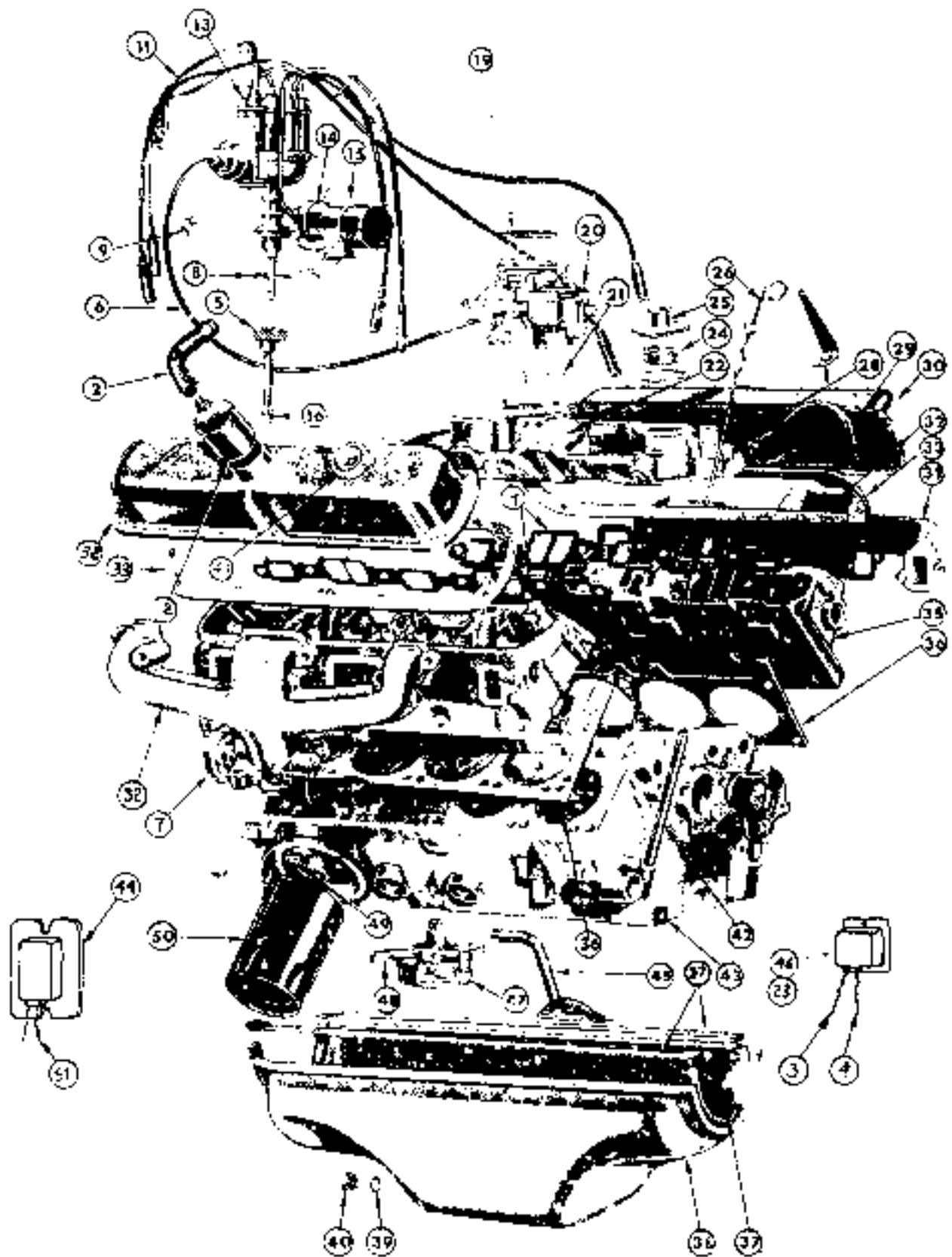
* USED ON EARLY MODEL CARRIAGES
 ** FOR 48" CARRIAGES, USE FORK SHAFT
 (128 DIA. X 50.25 LG) PIN 15720A

LJLL ENGINEERING COMPANY, INC.
3045 HIGHWAY 13
ST. PAUL, MINNESOTA 55121

318 CRYSLER
P17576

INDEX OF PARTS

| <u>PARTS</u> | <u>PAGE</u> |
|----------------------------------|-------------|
| External Engine Parts..... | 1,2 |
| Front External Engine Parts..... | 3,4 |
| Internal Engine Parts..... | 5,6,7 |
| Starter..... | 8 |
| Alternator..... | 9,10 |
| Distributor..... | 11,12 |



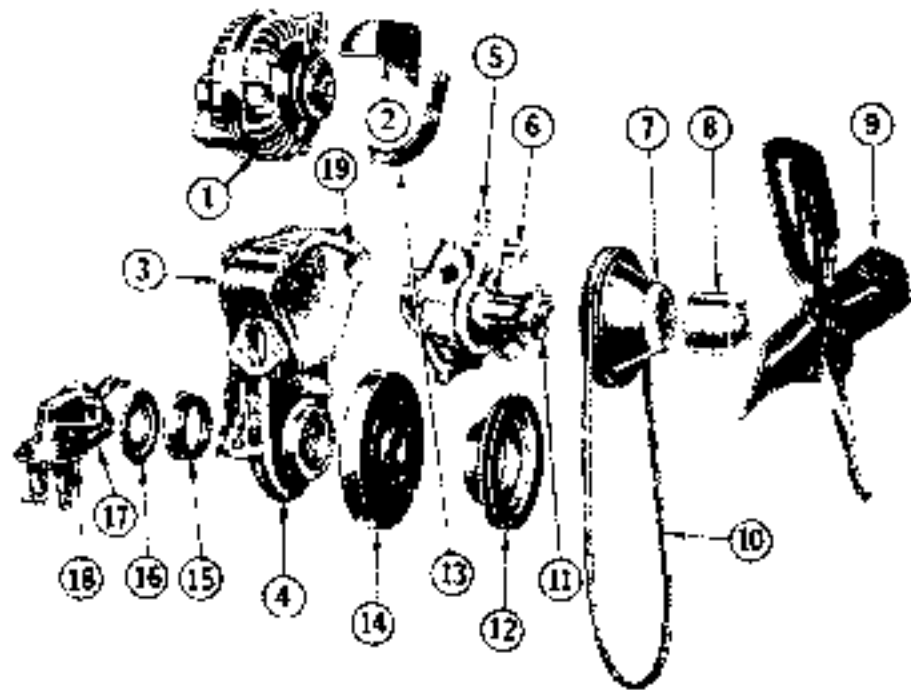
C. L. BENTLEY, INC. (MFRS.)
 3045 HIGHWAY 13
 ST. PAUL, MINN. 55121

EXTERIOR LIGHTS PARTS
 318 CRYSLER

| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|----------|----------|---|------|
| 1 | P19723 | Gasket, Intake Manifold | 2 |
| 2 | P16617 | Hose (13" Lg.) | 1 |
| 3 | P19749 | Harness, Electronic Ignition | 1 |
| 4 | P19829 | Harness, Electronic Ignition (Brown Wire) | 1 |
| 5 | P19685 | Shaft, Oil Pump Drive | 1 |
| 6 | P19686 | Hose, Vacuum | 1 |
| 7 | P19717 | Heat Control Valve | 1 |
| 8 | P19687 | O Ring | 1 |
| 9 | P19688 | Clamp | 1 |
| 10 | P19689 | Spark Plug Cables (No. 1,2,3,4,) | 4 |
| 11 | P19690 | Spark Plug Cables (No. 5,6,7,8,) | 4 |
| 12 | P19718 | Grommet | 1 |
| 13 | REF | Distributor (See page 11) | 1 |
| 14 | P17778 | Coil | 1 |
| 15 | P19691 | Bracket, Ignition Coil | 1 |
| 16 | P19692 | Bushing | 1 |
| 17 | P19720 | Housing, Fly Wheel | 1 |
| 18 | P19721 | Fly Wheel | 1 |
| 19 | P19693 | Gasket, Carburetor (Upper) | 1 |
| 20 | P17333 | Carburetor | 1 |
| 21 | P19694 | Gasket, Carburetor (Lower) | 1 |
| 22 | P19695 | Manifold, Intake | 1 |
| 23 | P19750 | Resistor, Electronic Ignition | 1 |
| 24 | P19696 | Thermostat (160°) | 1 |
| 25 | P19697 | Connector, Water Outlet | 1 |
| 26 | P20287 | Dipstick, Oil | 1 |
| 27 | P19830 | Harness, Voltage Regulator | 1 |
| 28 | P19698 | Nipple, Water Pump Bypass | 2 |
| 29 | P19699 | Hose, Water Pump | 1 |
| 30 | P19700 | Cylinder Head Cover (Left) | 1 |
| 31 | P19704 | Manifold, Exhaust (Left) | 1 |
| 32 | P19701 | Cylinder Head Cover (Right) | 1 |
| 33 | P19702 | Gasket, Valve Cover | 2 |
| 34 | P19703 | Manifold Exhaust (Right) | 1 |
| 35 | P19705 | Head, Cylinder | 2 |
| 36 | P19706 | Gasket, Cylinder Heads | 2 |
| 37 | P19708 | Gasket Set (Oil Pan) | 1 |
| 38 | P19709 | Oil Pan | 1 |
| 39 | P19710 | Gasket, Oil Plug | 1 |
| 40 | P19711 | Oil Plug | 1 |
| 41 | P19719 | Oil Cap, Valve Cover | 1 |
| 42 | P20288 | Tube, Dipstick | 1 |
| 43 | P19712 | Block (Pistons & Rings Included) | 1 |
| 44 | P19204 | Voltage Regulator | 1 |
| 45 | P19713 | Strainer, Oil Pump (Pipe Included) | 1 |
| 46 | P19722 | Electronic Ignition | 1 |
| 47 | P19714 | Cover, Oil Pump | 1 |
| 48 | P19715 | Pump, Oil | 1 |
| 49 | P19716 | Plug, Oil Line | 1 |
| 50 | P12089 | Oil Filter | 1 |

LULL ENGINEERING COMPANY, INC.
3045 HWY 13
ST. PAUL, MN 55122

FRONT EXTERNAL ENGINE PARTS
31B CHYSLER



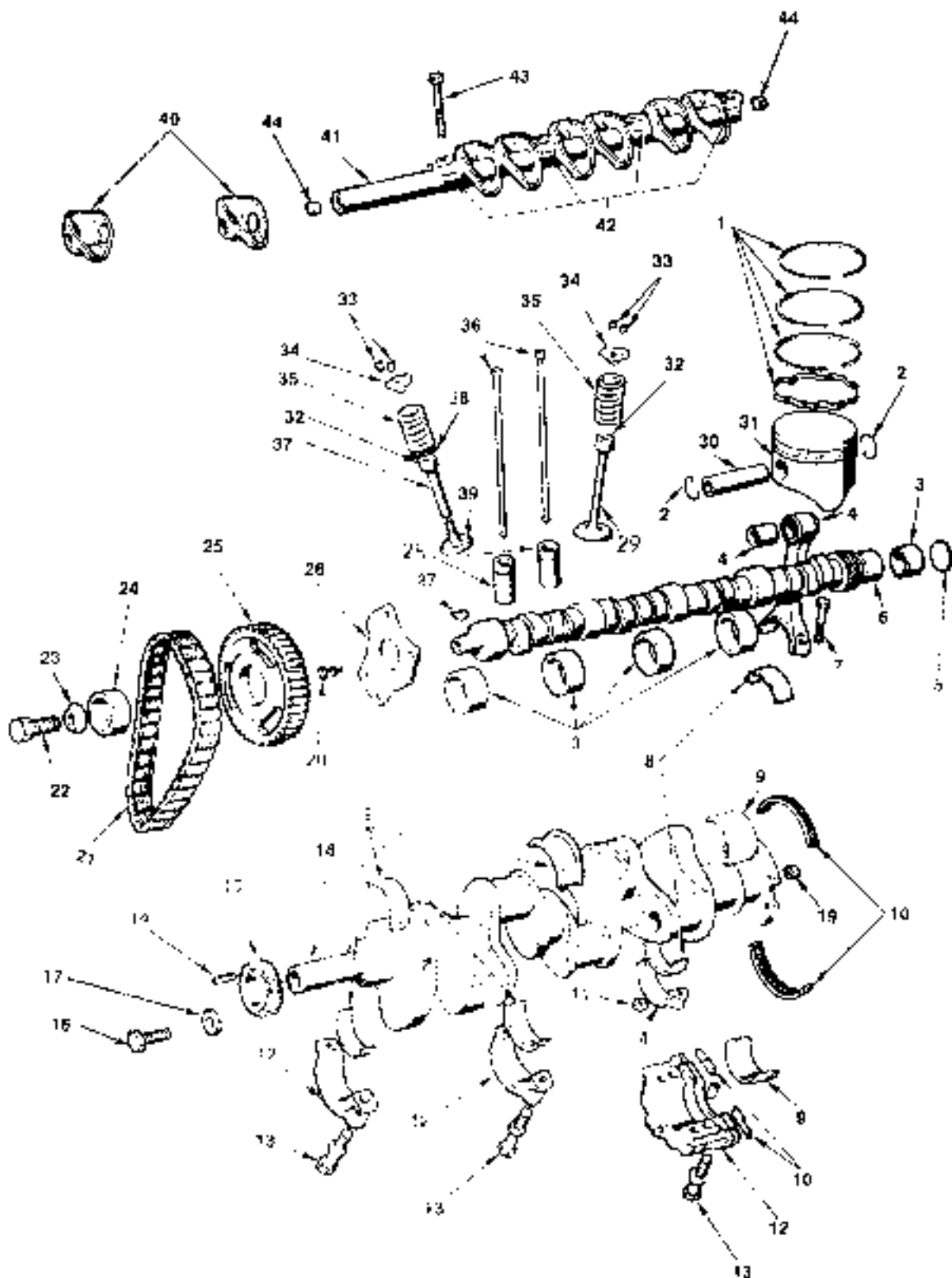
LOEL ENGINEERING COMPANY, INC
3045 HWY 10
ST. PAUL, MN 55121

EXTERNAL PARTS (FRONT)
318 CHRYSLER

| ITEM
NO. | PART
NO. | DESCRIPTION | QTY |
|-------------|-------------|-------------------------|-----|
| 1 | REF | Alternator (See Page 9) | |
| 2 | P19570 | Bracket | 1 |
| 3 | P19571 | Gasket | 1 |
| 4 | P19572 | Cover | 1 |
| 5 | P10554 | Plug | 1 |
| 6 | P17776 | Water pump | 1 |
| 7 | P19575 | Fan Pulley, Double | 1 |
| 8 | P17449 | Spacer | 1 |
| 9 | P17201 | Fan | 1 |
| 10 | P17786 | Belt | 2 |
| 11 | P19574 | nut | 2 |
| 12 | P17779 | Drive Pulley, Double | 1 |
| 13 | P19576 | Strap | 1 |
| 14 | P19577 | Damper | 1 |
| 15 | P19578 | Oil Seal | 1 |
| 16 | P19579 | Oil Slinger | 1 |
| 17 | P19580 | Gasket, Fuel pump | 1 |
| 18 | P17780 | Fuel Pump | 1 |
| 19 | P17781 | Gasket, water pump | 1 |

LULL ENGINEERING COMPANY, INC.
3045 HWY 13
ST. PAUL, MN 55121

ENGINE INTERNAL COMPONENTS
318 CRYSLER



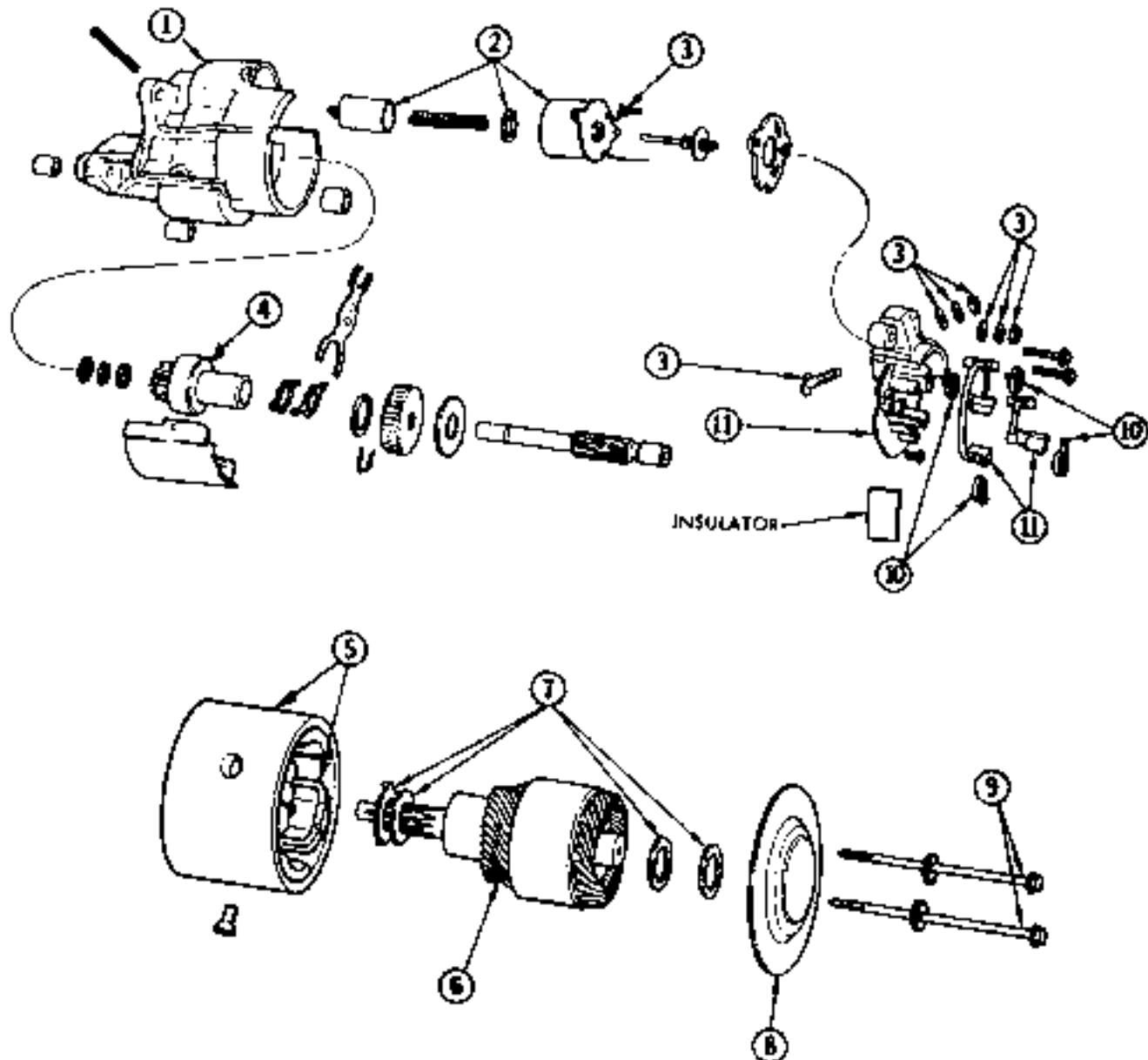
| ITEM NO. | PART NO. | DESCRIPTION | QTY |
|----------|----------|---|-----|
| 1 | P19592 | Rings, Single Cyl. sets Std. to .009 O/S | 8 |
| | P19593 | Rings, Single Cyl. Sets .020 to .029 O/S | 8 |
| | P19594 | Rings, Single Cyl. Sets .040 to .049 O/S | 8 |
| 2 | P19595 | Ring, Piston Retaining | 16 |
| 3 | P19596 | Bearing, camshaft No. 1 | 1 |
| | P19597 | Bearing, camshaft No. 2 | 1 |
| | P19598 | Bearing, camshaft No. 3 | 1 |
| | P19599 | Bearing, camshaft No. 4 | 1 |
| | P19600 | Bearing, camshaft No. 5 | 1 |
| 4 | P19601 | Rod, Connecting | 8 |
| 5 | P19602 | Plug, Cyl. block camshaft rear bearing | 1 |
| 6 | P19603 | Camshaft | 1 |
| 7 | P19604 | Bolt, Connecting rod bearing cap | 16 |
| 8 | P19605 | Bearing Pkg. Connecting rod Std. | 8 |
| | P19606 | Bearing Pkg. Connecting rod .001 U/S | 8 |
| | P19607 | Bearing Pkg. Connecting rod .002 U/S | 8 |
| | P19608 | Bearing Pkg. Connecting rod .003 U/S | 8 |
| | P19609 | Bearing Pkg. Connecting rod .010 U/S | 8 |
| | P19610 | Bearing Pkg. Connecting rod .012 U/S | 8 |
| 9 | P19611 | Bearing Pkg. Crankshaft No. 1, 2, 4 Std. | 3 |
| | P19612 | .001 U/S | 3 |
| | P19613 | .002 U/S | 3 |
| | P19614 | .003 U/S | 3 |
| | P19615 | .010 U/S | 3 |
| | P19616 | .012 U/S | 3 |
| | | No. 3 | |
| | P19617 | Std. | 1 |
| | P19618 | .001 U/S | 1 |
| | P19619 | .002 U/S | 1 |
| | P19620 | .003 U/S | 1 |
| | P19621 | .010 U/S | 1 |
| | P19622 | .012 U/S | 1 |
| | | No. 5 | |
| | P19623 | Std. | 1 |
| | P19624 | .001 U/S | 1 |
| | P19625 | .002 U/S | 1 |
| | P19626 | .003 U/S | 1 |
| | P19627 | .010 U/S | 1 |
| | P19628 | .012 U/S | 1 |
| 10 | P19629 | Seal Pkg. Crankshaft Bearing Oil | 1 |
| 11 | P19630 | Nut, Connecting Rod Bearing Cap Bolt | 16 |
| 12 | P19631 | Cap, Crankshaft Bearing No. 1, 2, 4, and 5 of 6027264 | 3 |
| | P19632 | No. 3 | 1 |
| | P19633 | No. 5 | 1 |
| 13 | P19634 | Screw, Crankshaft Bearing Cap | 10 |
| 14 | P19635 | Key, Crankshaft | 1 |
| 15 | P19636 | Sprocket, Crankshaft | 1 |
| 16 | P19637 | Screw, Crankshaft | 1 |
| 17 | P19638 | Washer, Crankshaft screw | 1 |
| 18 | P19639 | Crankshaft | 1 |

| ITEM NO. | PART NO. | DESCRIPTION | QTY |
|----------|----------|---|-----|
| 19 | P19640 | Bushing, Crankshaft Pilot | 1 |
| 20 | P19641 | Screw, Camshaft Sprocket Thrust Plate | 3 |
| 21 | P19642 | Chain, Timing | 1 |
| 22 | P19643 | Screw, Sprocket Retaining | 1 |
| 23 | P19644 | Washer, Crankshaft Sprocket Retaining Screw | 1 |
| 24 | P19645 | Eccentric, Camshaft | 1 |
| 25 | P19646 | Sprocket, Crankshaft | 1 |
| 26 | P19647 | Plate, Camshaft Sprocket Thrust | 1 |
| 27 | P19648 | Key, Camshaft Sprocket | 1 |
| 28 | P19649 | Tappet, Intake Std | 16 |
| | P19650 | .001 O/S | 16 |
| | P19651 | .008 O/S | 16 |
| | P19652 | .030 O/S | 16 |
| 29 | P19653 | Valve, Intake Std | 8 |
| | P19654 | .005 O/S | 8 |
| | P19655 | .011 O/S | 8 |
| | P19656 | .030 O/S | 8 |
| 30 | P19657 | Pin, Piston Std | 8 |
| | P19658 | .003 O/S | 8 |
| | P19659 | .008 O/S | 8 |
| 31 | P19660 | Piston, w/Pin Std | 8 |
| | P19661 | .005 O/S | 8 |
| | P19662 | .021 O/S | 8 |
| | P19663 | .040 O/S | 8 |
| 32 | P19664 | Shield, Valve Stem Oil Intake | 8 |
| | P19665 | Shield, Valve Stem Oil Exhaust | 8 |
| 33 | P19666 | Lock, Valve Spring Retainer, Intake & Exhaust | 32 |
| 34 | P19667 | Rotator, Valve Spring Intake | 8 |
| | P19668 | Retainer, Valve Spring Exhaust | 8 |
| 35 | P19669 | Spring, Valve Intake | 8 |
| | P19670 | Spring, Valve Exhaust | 8 |
| 36 | P19671 | Pod, Valve Posn | 16 |
| 37 | P19672 | Valve Exhaust Std | 8 |
| | P19673 | .004 O/S | 8 |
| | P19674 | .016 O/S | 8 |
| | P19675 | .030 O/S | 8 |
| 38 | P19676 | Spacer, Valve Spring | AR |
| 39 | P19677 | Rocker Valve Right | 8 |
| | P19678 | Rocker Valve Left | 8 |
| 40 | P19679 | Shaft, Valve Rocker | 2 |
| 41 | P19680 | Retainer, Valve Rocker Shaft Ends & Center | 6 |
| | P19681 | Retainer, Valve Rocker Shaft Intermediate | 4 |
| 42 | P19682 | Screw, Valve Rockershaft Retaining | 10 |
| 43 | P19683 | Plug, Valve Rocker Shaft | 4 |
| 44 | P19684 | Gasket Set, Valve Grind | 1 |

LULL ENGINEERING COMPANY, INC.
 3045 HWY. 13
 ST. PAUL, MN. 55121

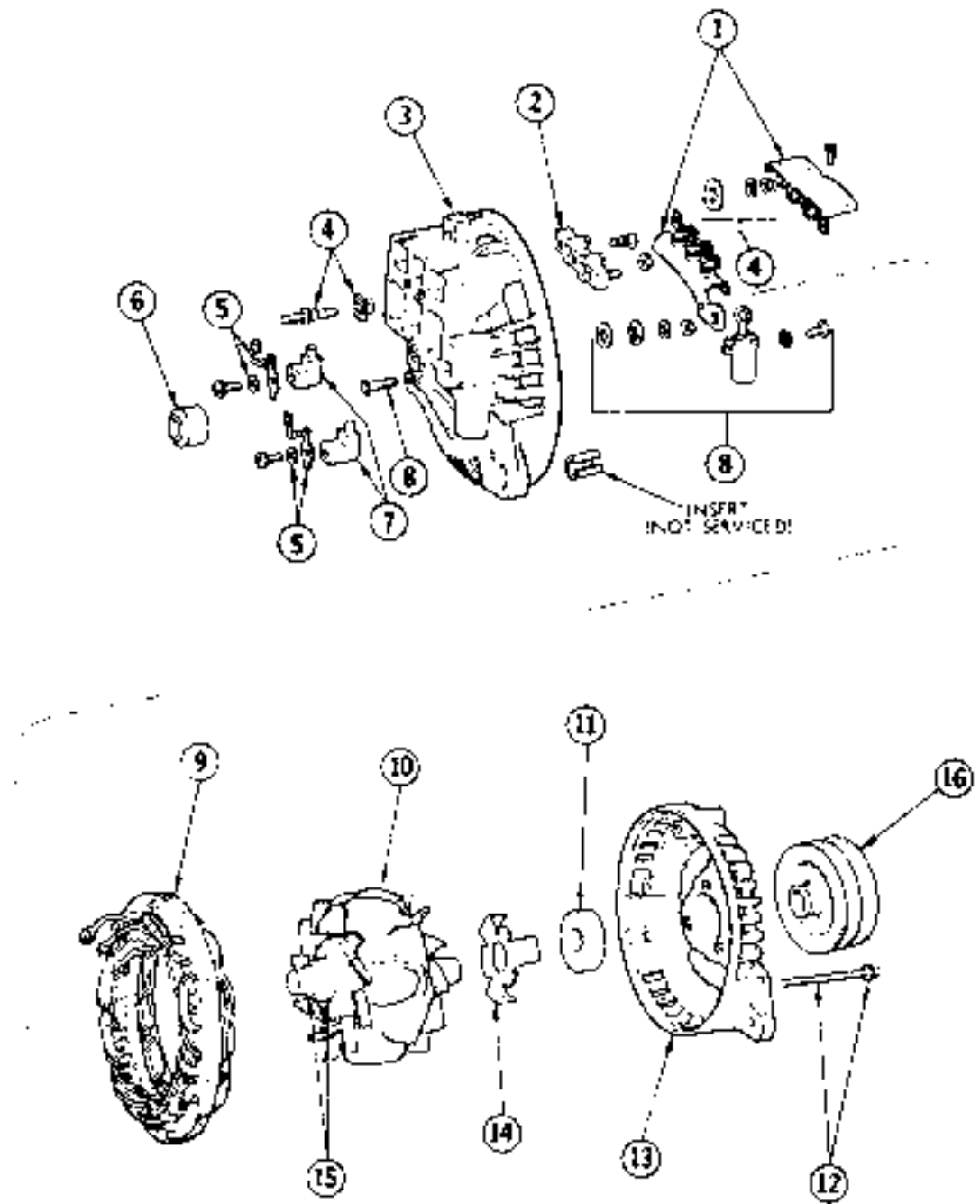
STARTER
 318 CHRYSLER
 P19581
 USED ON S/N 119 & UP

| ITEM | PART | DESCRIPTION | QTY. |
|------|--------|------------------------------------|------|
| 1 | P20425 | Housing | 1 |
| 2 | P20174 | Solenoid Package | 1 |
| 3 | P20175 | Stud & Seal Pkg., Solenoid Contact | 1 |
| 4 | P20176 | Clutch | 1 |
| 5 | P20177 | Coil Package | 1 |
| 6 | P20178 | Armature | 1 |
| 7 | P20179 | Thrust Washer Package | 1 |
| 8 | P20180 | Head, Commutator End | 1 |
| 9 | P20181 | Bolt | 2 |
| 10 | P20182 | Spring Package, Brush | 1 |
| 11 | P20183 | Mounting Plate & Brush Package | 1 |



LULL ENGINEERING COMPANY, INC.
3045 HWY 13
ST PAUL, MN 55121

ALTERNATOR
3 1/8 CRYSLER
P17700



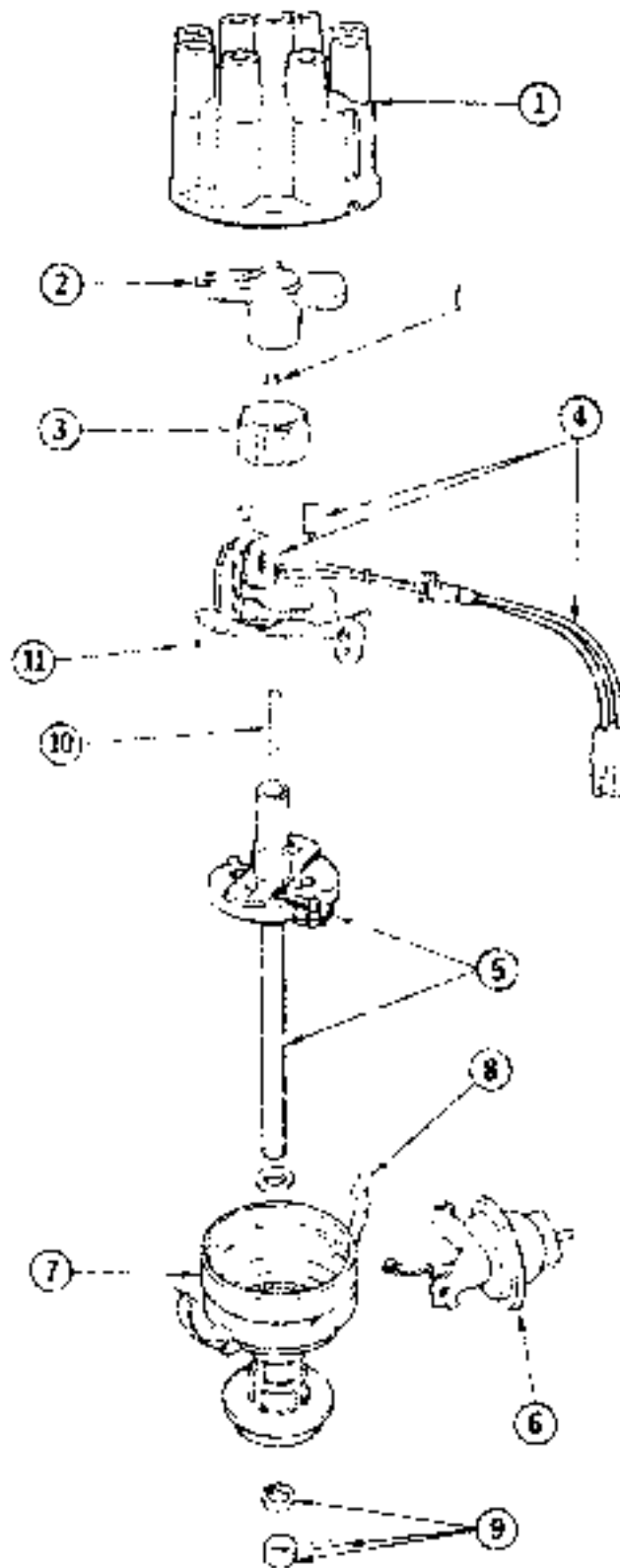
LULL ENGINEERING COMPANY, INC.
3045 HWY 13
ST. PAUL, MN 55121

ALTERNATOR
CHRYSLER 318
P17700

| ITEM
NO. | PART
NO. | DESCRIPTION | QTY |
|-------------|-------------|--------------------------------------|-----|
| 1 | P19551 | Heat Sink and Batt. pkg. Positive | 1 |
| | P19552 | Negative | 1 |
| 2 | P19553 | Insulator | 1 |
| 3 | P19554 | Shield, Rectifier end | 1 |
| 4 | P19555 | Terminal, Battery positive neat sink | 1 |
| 5 | P19556 | Brush, washer and terminal package | 1 |
| 6 | P19557 | Bearing, Rectifier end shield | 1 |
| 7 | P19558 | Holder, Brush Axial | 1 |
| | P19559 | Holder, Brush Radial | 1 |
| 8 | P19560 | Capacitor and insulator package | 1 |
| 9 | P19561 | Stator | 1 |
| 10 | P19562 | Rotor | 1 |
| 11 | P19563 | Bearing, Drive end shield | 1 |
| 12 | P19564 | Screw, Frame | 3 |
| 13 | P19565 | Shield, Drive end | 1 |
| 14 | P19566 | Plate, Drive end bearing retainer | 1 |
| 15 | P19567 | Slip Ring and retainer package | 1 |
| 16 | P19569 | Pulley | 1 |

LULL ENGINEERING COMPANY, INC.
3045 HWY 13
ST. PAUL, MN 55121

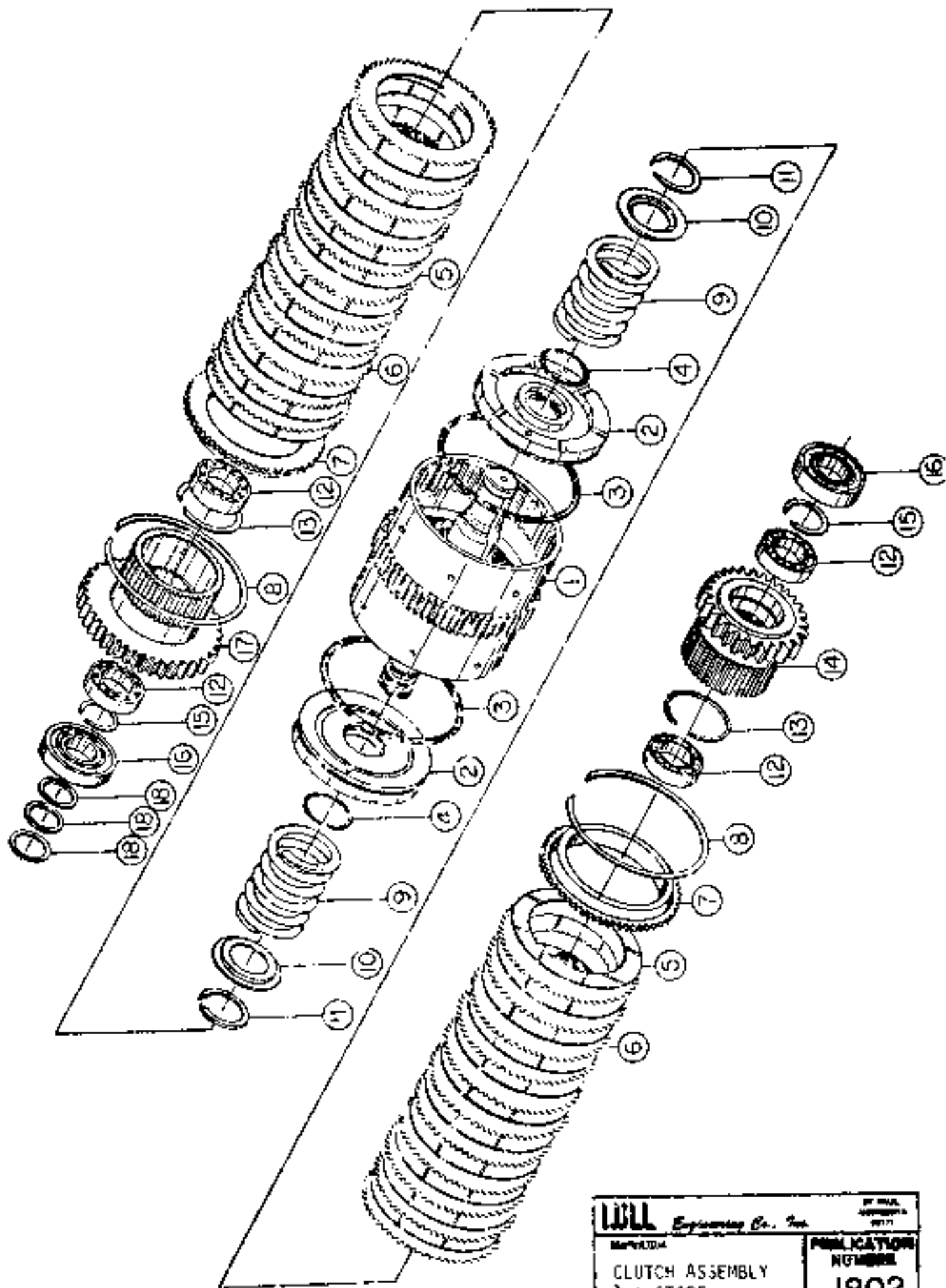
DISTRIBUTOR
318 CRYSLER
919538



LELL ENGINEERING COMPANY, INC.
3045 HWY 13
ST. PAUL, MN 55121

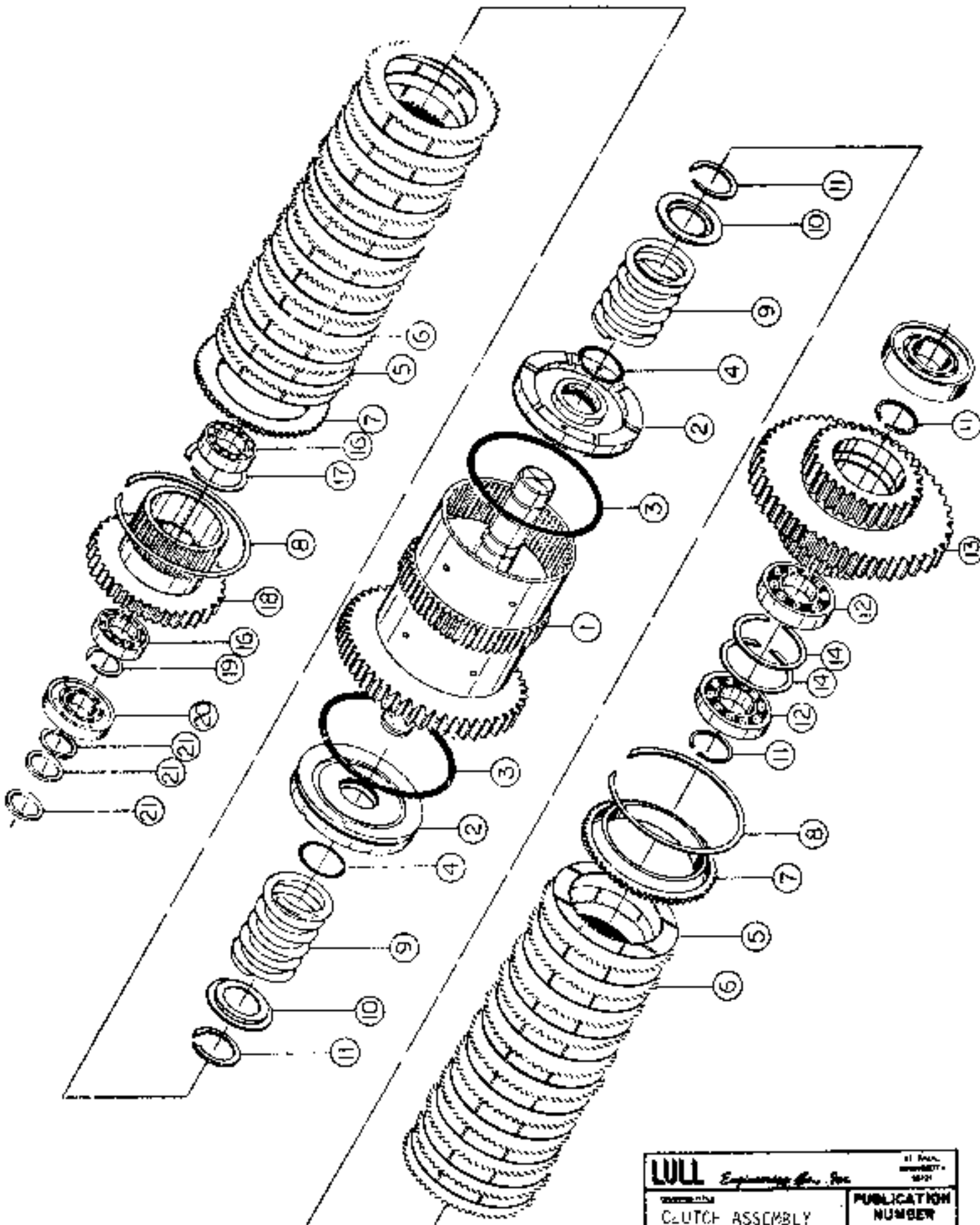
DISTRIBUTOR ASSEMBLY
318 CRYSLER
P19538

| ITEM
NO. | PART
NO. | DESCRIPTION | QTY |
|-------------|-------------|------------------------|-----|
| 1 | P17298 | Cap | 1 |
| 2 | P17297 | Rotor | 1 |
| 3 | P19540 | Reluctor | 1 |
| 4 | P19544 | Pickup and Plate Ass'y | 1 |
| 5 | P19545 | Governor Ass'y | 1 |
| 6 | P19548 | Control, Vacuum | 1 |
| 7 | P19547 | Housing and bearing | 1 |
| 8 | P19546 | Spring, Cap Attaching | 2 |
| | P19549 | Collar and Pin Package | 1 |
| 10 | P19542 | Pin | 1 |
| 11 | P19541 | Pin | 1 |
| 12 | P19539 | Snap Ring | 1 |



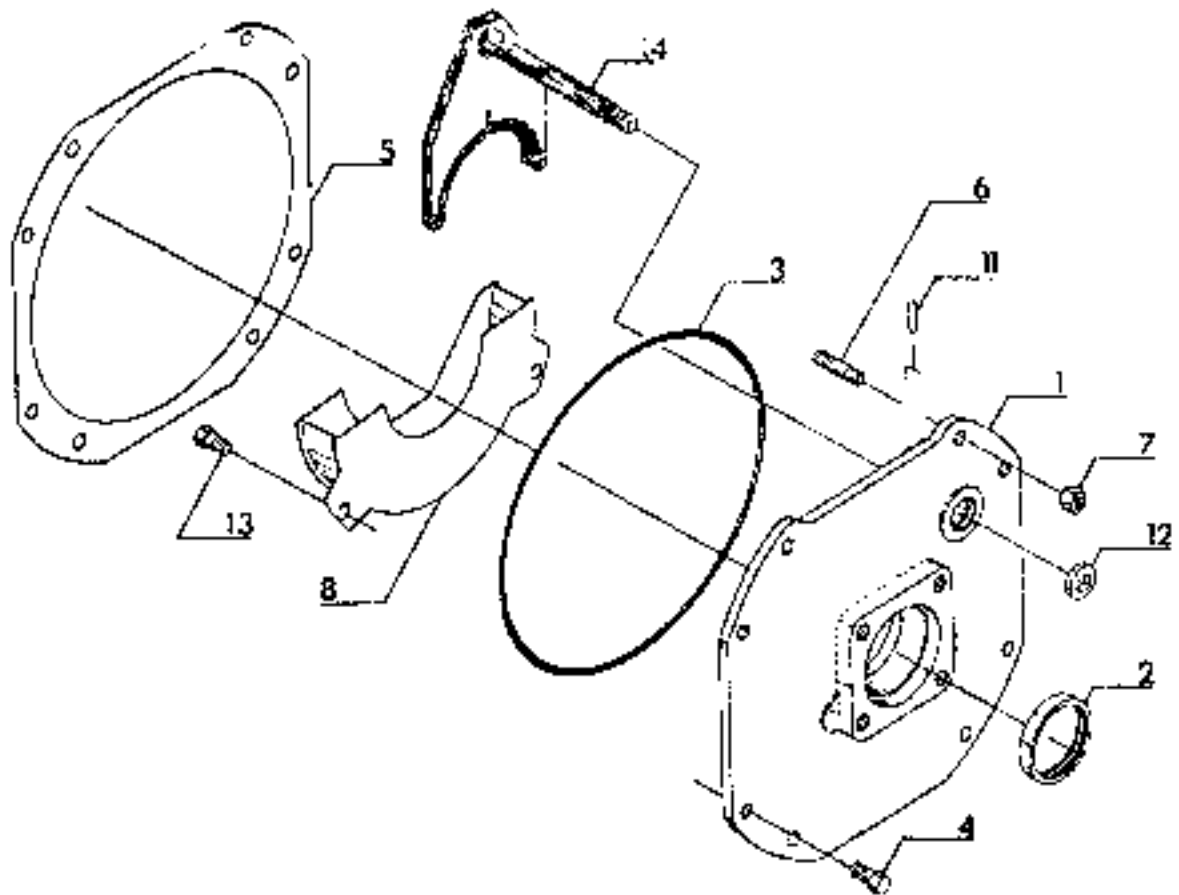
| | |
|---|--------------------------------------|
| WILL Engineering Co., Inc.
<small>BY MAIL, CINCINNATI 2, OHIO</small> | |
| MODEL NO.
CLUTCH ASSEMBLY
 1st STAGE | PUBLICATION
NUMBER
1802 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18603 | Clutch Assembly, 1ST Stage (Spec 7201 & 5800) | 1 |
| | P19817 | Clutch Assembly, 1ST. Stage (Spec 6037) | |
| 1. | P18604 | Clutch, 1ST. Stage | 1 |
| 2. | P18605 | Piston, Clutch | 2 |
| 3. | P18606 | Ring, Seal | 2 |
| 4. | P18607 | O-Ring, Piston | 2 |
| 5. | P18608 | Plate, Clutch | 22 |
| 6. | P18609 | Plate, Separator | 22 |
| 7. | P18610 | Retainer, Clutch Plate | 2 |
| 8. | P18611 | Snap Ring | 2 |
| 9. | P18612 | Clutch Spring | 2 |
| 10. | P18613 | Retainer, Clutch Spring | 2 |
| 11. | P18614 | Ring, Retainer | 2 |
| 12. | P18615 | Bearing | 4 |
| 13. | P18616 | Ring, Retainer | 2 |
| 14. | P18617 | Asm. Gear & Hub | 1 |
| 15. | P18618 | Retaining Ring | 2 |
| 16. | P18619 | Bearing, Roller | 2 |
| 17. | P18627 | Asm. Gear & Hub (Used with P18603 Ass'y.) | 1 |
| | P19763 | Asm. Gear & Hub (Used with P19818 Ass'y.) | 1 |
| 18. | P18620 | Ring, Seal | 3 |

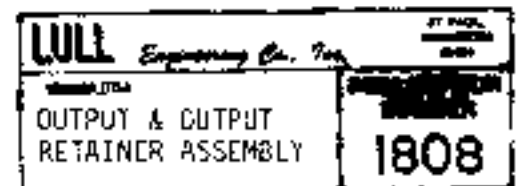


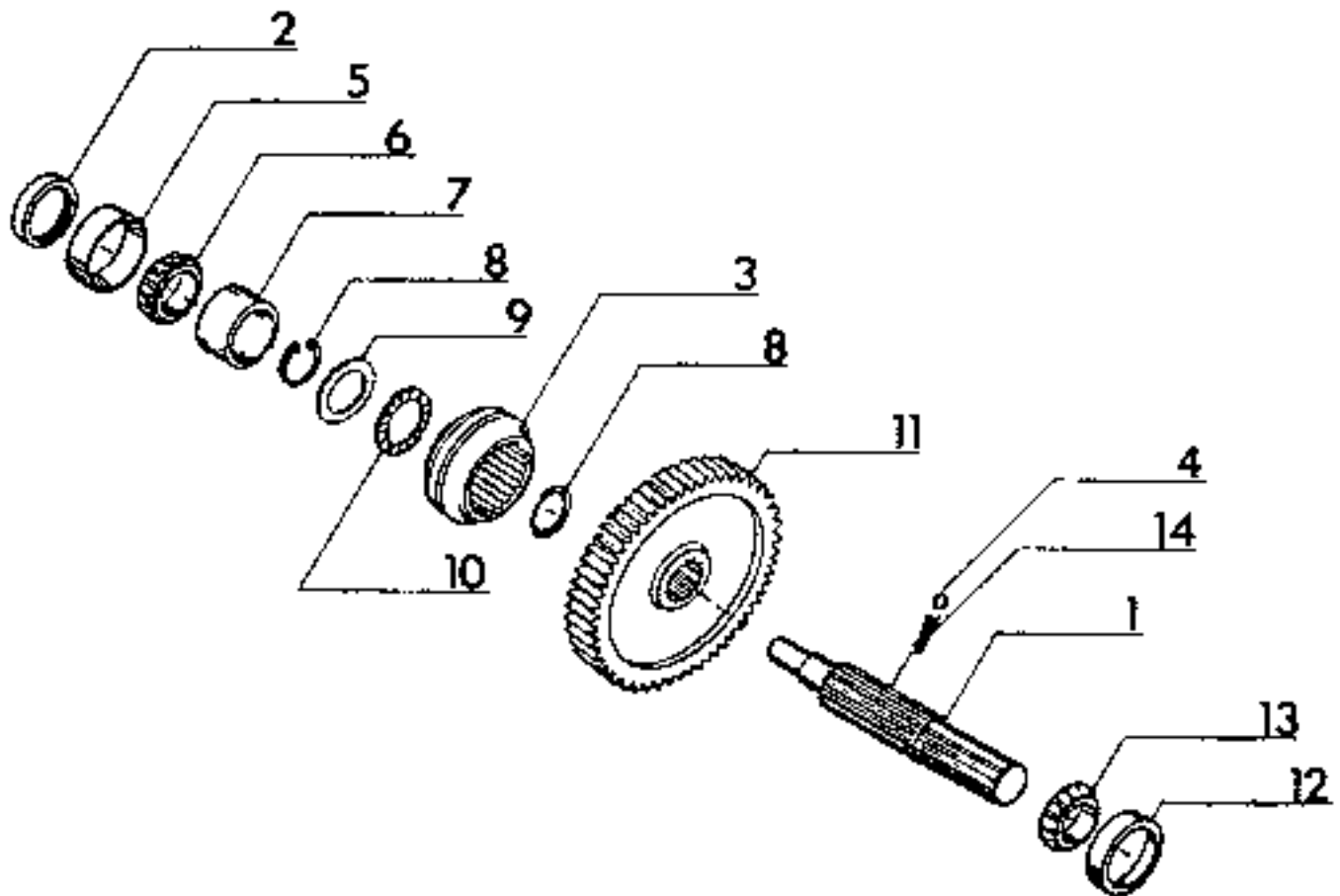
| | |
|---|--|
| LOLL <i>Engineering & Inc.</i>
CLUTCH ASSEMBLY
2nd STAGE | ST. PAUL,
MINNESOTA
55121 |
| | PUBLICATION
 NUMBER
 1803 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18621 | Clutch Assembly, 2ND Stage (Spec 7201 & 5800) | 1 |
| | P19819 | Clutch Assembly, 2ND Stage (Spec 6037) | 1 |
| 1. | P18622 | Clutch, 2ND Stage (Used with P18621 Ass'y.) | 1 |
| | P19819 | Clutch, 2ND Stage (Used with P19819 Ass'y.) | 1 |
| 2. | P18605 | Piston, Clutch | 2 |
| 3. | P18606 | Ring, Seal | 2 |
| 4. | P18607 | O-Ring, Piston | 2 |
| 5. | P18608 | Plate, Clutch | 22 |
| 6. | P18609 | Plate, Separator | 22 |
| 7. | P18610 | Retainer, Clutch Plate | 2 |
| 8. | P18611 | Snap Ring | 2 |
| 9. | P18612 | Clutch Spring | 2 |
| 10. | P18613 | Retainer, Clutch Spring | 2 |
| 11. | P18614 | Ring, Retainer | 4 |
| 12. | P18623 | Bearing | 2 |
| 13. | P18624 | Asm. Gear & Hub | 1 |
| 14. | P18625 | Ring, Retainer | 2 |
| 15. | P18626 | Bearing, Roller | 1 |
| 16. | P18615 | Bearing | 2 |
| 17. | P18616 | Ring, Retainer | 1 |
| 18. | P18627 | Asm. Gear & Hub (Input Side) | 1 |
| 19. | P18618 | Ring, Retainer | 1 |
| 20. | P18619 | Bearing, Roller | 1 |
| 21. | P18620 | Ring, Seal | 3 |

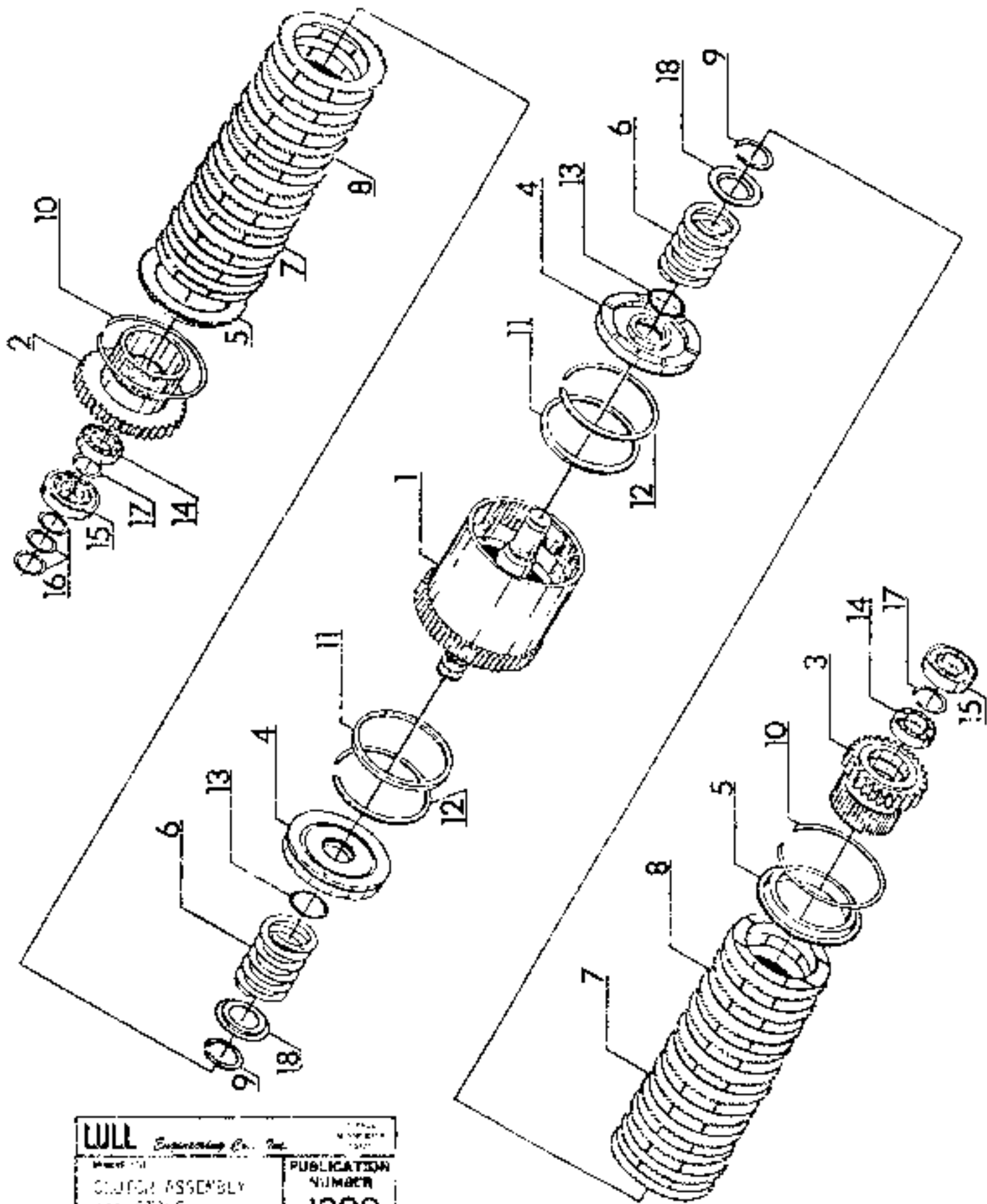


| ITEM | PART NO. | DESCRIPTION | | QTY. |
|------|----------|-----------------------------|--------------------------|------|
| | P20641 | Output Group Retainer Assy. | Spec 7711A & 8239A | 1 |
| | P24573 | Output Group Retainer Assy. | Spec 7711B, 8239B, 9673 | 1 |
| 1 | P20745 | Cap, Output Retainer | Spec 7711A & 8239A | 1 |
| | P24570 | Cap, Output Retainer | Spec 7711B, 8239B, 9673 | 1 |
| 2 | P18680 | Oil Seal | | 1 |
| 3 | P20752 | O-Ring | | 1 |
| 4 | P20753 | Capscrew | | 6 |
| 5 | P20758 | Shim Pack | | 1 |
| | P24564 | Shim - .001 | | A/R |
| | P24565 | Shim - .005 | | A/R |
| | P24566 | Shim - .015 | | A/R |
| 6 | P20767 | Stud | | 2 |
| 7 | P20813 | Nut | | 2 |
| 8 | P23814 | Gill Trough | Spec 7711A & 8239A | 1 |
| | P24569 | Gill Trough | Spec 7711B, 8239B, 9673 | 1 |
| 9 | P20421 | Capscrew | | 3 |
| 10 | P20422 | Dynaseal Washers | | 3 |
| 11 | P20423 | Power Pin | | 2 |
| 12 | P20424 | Gill Seal | | 1 |
| 13 | P24592 | Capscrew | Spec 7711B, 8239B, 9673 | 2 |
| 14 | P20865 | Fork Shaft | Spec 7711A & 8239A | 1 |
| | P24567 | Fork Shaft | Spec 7711B, 8239B & 9673 | 1 |
| | P25407 | Fork Shaft | Spec 9673C | 1 |



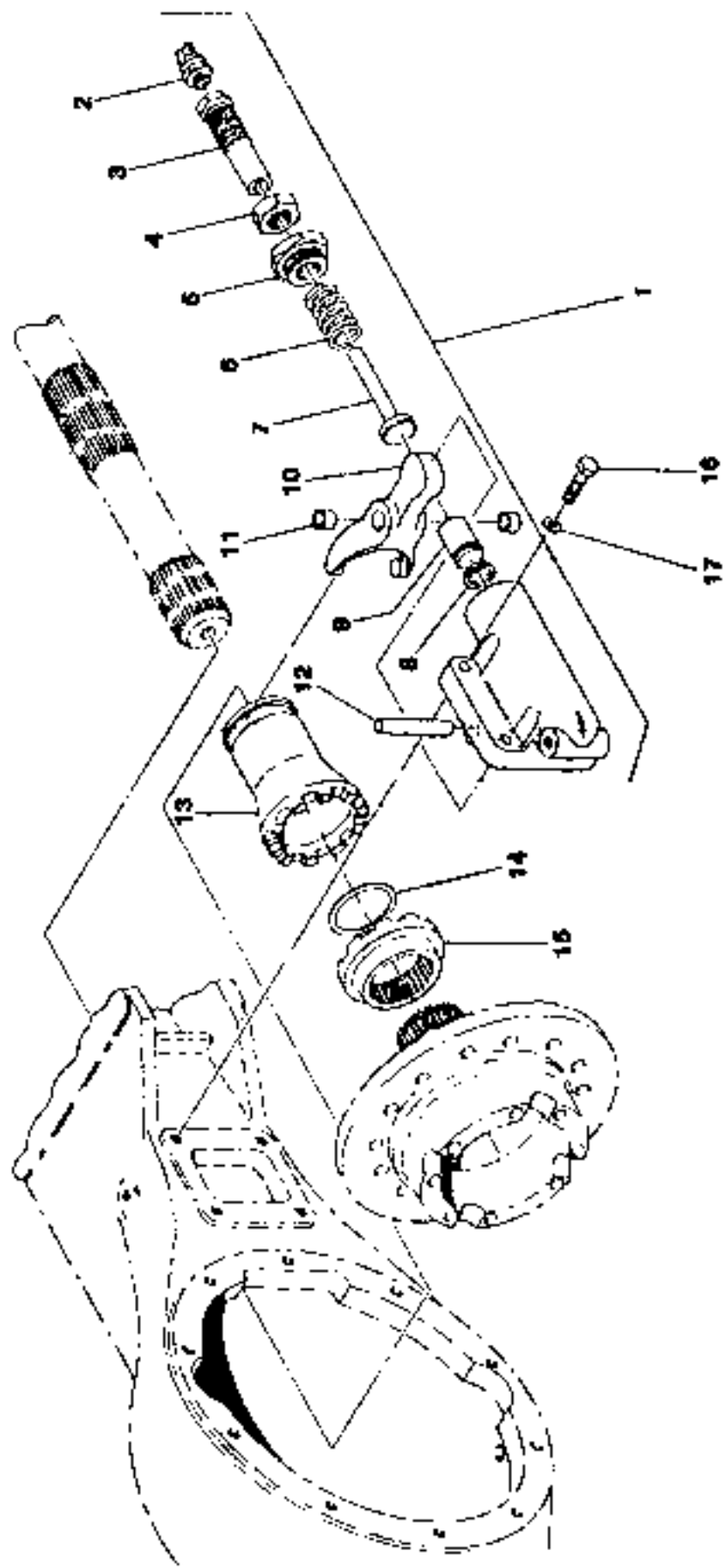


| ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|--|-----|
| | P20629 | Output Group Assembly Spec 7711, 4239 & 9673 | 1 |
| 1 | P20656 | Output Shaft | 1 |
| 2 | P20710 | Oil Seal | 1 |
| 3 | P20658 | Shift Collar | 1 |
| 4 | P20659 | Ball | 3 |
| 5 | P20667 | Cup Bearing | 1 |
| 6 | P20666 | Cone Bearing | 1 |
| 7 | P20690 | Spacer | 1 |
| 8 | P20685 | Snap Ring | 2 |
| 9 | P20686 | Thrust Washer | 1 |
| 10 | P20628 | Thrust Bearing | 1 |
| 11 | P20722 | Output Gear | 1 |
| 12 | P20705 | Cup Bearing | 1 |
| 13 | P20709 | Cone Bearing | 1 |
| 14 | P20728 | Spring | 3 |



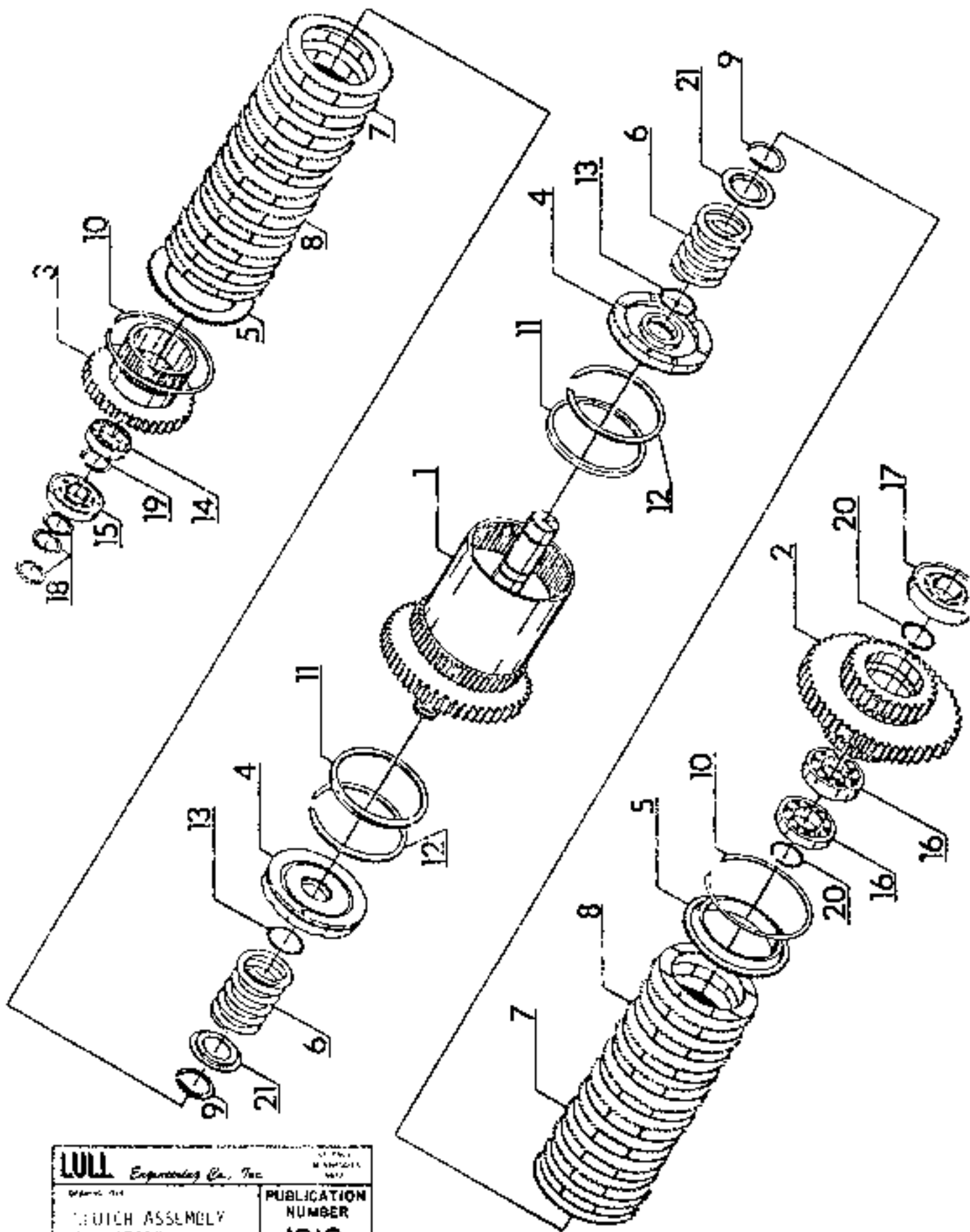
| | |
|---|--------------------------------------|
| WILL
Engineering Co., Inc.
<small>MADE IN U.S.A.</small> | PUBLICATION
NUMBER
1809 |
| CLUTCH ASSEMBLY
incl. STAGE | |

| ITEM | PART NO. | DESCRIPTION | | QTY. |
|------|----------|-------------------------|-------------------------|------|
| | P24518 | Clutch Assy., 1st Stage | Spec 8239A | 1 |
| | P20517 | Clutch Assy., 1st Stage | Spec 8239B & 9673 | 1 |
| | P20521 | Clutch Assy., 1st Stage | Spec 7711A | 1 |
| | P24575 | Clutch Assy., 1st Stage | Spec 7711B | 1 |
| 1 | P20563 | Shaft | Spec 7711A & 8239A | 1 |
| | P24574 | Shaft | Spec 7711B, 8239B, 9673 | 1 |
| 2 | P20642 | Gear & Hub | Spec 8239 & 9673 | 1 |
| | P20573 | Gear & Hub | Spec 7711 | 1 |
| 3 | P20578 | Gear & Hub | | 1 |
| 4 | P20591 | Piston, Clutch | | 2 |
| 5 | P20592 | Retainer Plate | | 2 |
| 6 | P20599 | Belleville Spring | | 8 |
| 7 | P20602 | Clutch Plate | | 12 |
| 8 | P18609 | Separator Plate | | 12 |
| 9 | P20605 | Retaining Ring | | 2 |
| 10 | P18611 | Snap Ring | | 2 |
| 11 | P24541 | Ring Seal | | 2 |
| 12 | P24535 | Back-up Ring | | 2 |
| 13 | P20612 | O-Ring | | 2 |
| 14 | P24451 | Bearing | | 2 |
| 15 | P24450 | Roller Bearing | | 2 |
| 16 | P18620 | Ring Seal | | 3 |
| 17 | P18618 | Retaining Ring | | 2 |
| 18 | P20625 | Spring Retainer | | 2 |



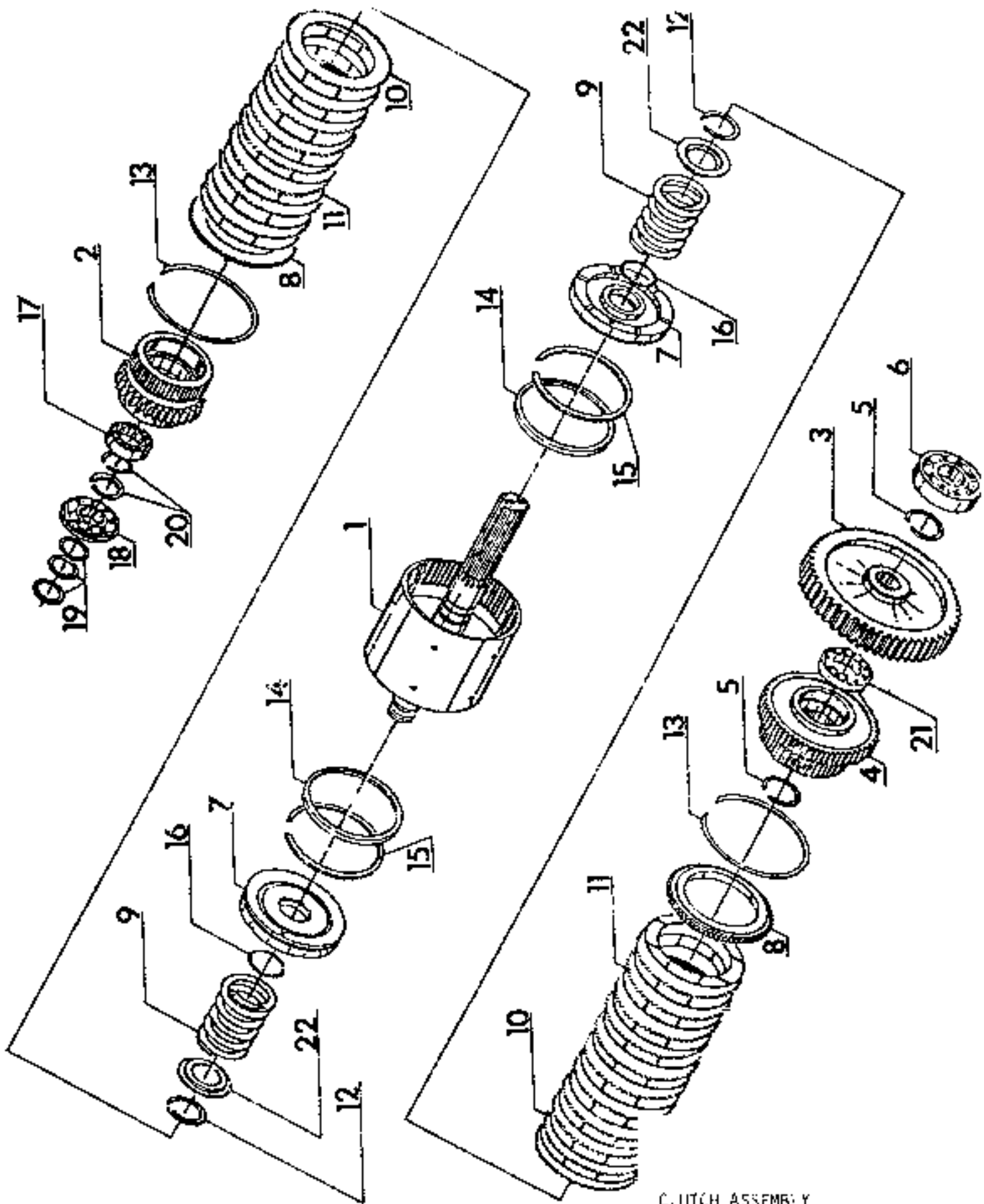
644 S/N 1695 Thru
844 S/N 1722, 1724 Thru
1044 S/N 101 Thru

| ITEM | PART NO. | DESCRIPTION | QUANTITY
PER AXLE |
|------|----------|---|----------------------|
| 1 | P26806 | Differential Lock Ass'y (Incl. Item 2-12) | 1 |
| 2 | P26180 | Switch | 1 |
| 3 | P26815 | Locating Bolt | 1 |
| 4 | P26803 | Jam Nut | 1 |
| 5 | P26819 | Retainer Nut, Spring | 1 |
| 6 | P26174 | Spring | 1 |
| 7 | P26818 | Rod | 1 |
| 8 | P26814 | Oil Seal | 1 |
| 9 | P26823 | Piston | 1 |
| 10 | P26833 | Shift Fork | 1 |
| 11 | P26849 | Bushing | 2 |
| 12 | P26837 | Pin, Shift Fork | 1 |
| 13 | P26805 | Clutch Collar | 1 |
| 14 | P26822 | Retaining Ring | 1 |
| 15 | P26832 | Clutch Collar | 1 |
| 16 | P00206 | Bolt, Hx. 3/8 - 16 X 1 1/2 | 4 |
| 17 | P01404 | Flatwasher, 3/8 | 4 |
| 18 | COM'L | Gasket Sealer | A/R |



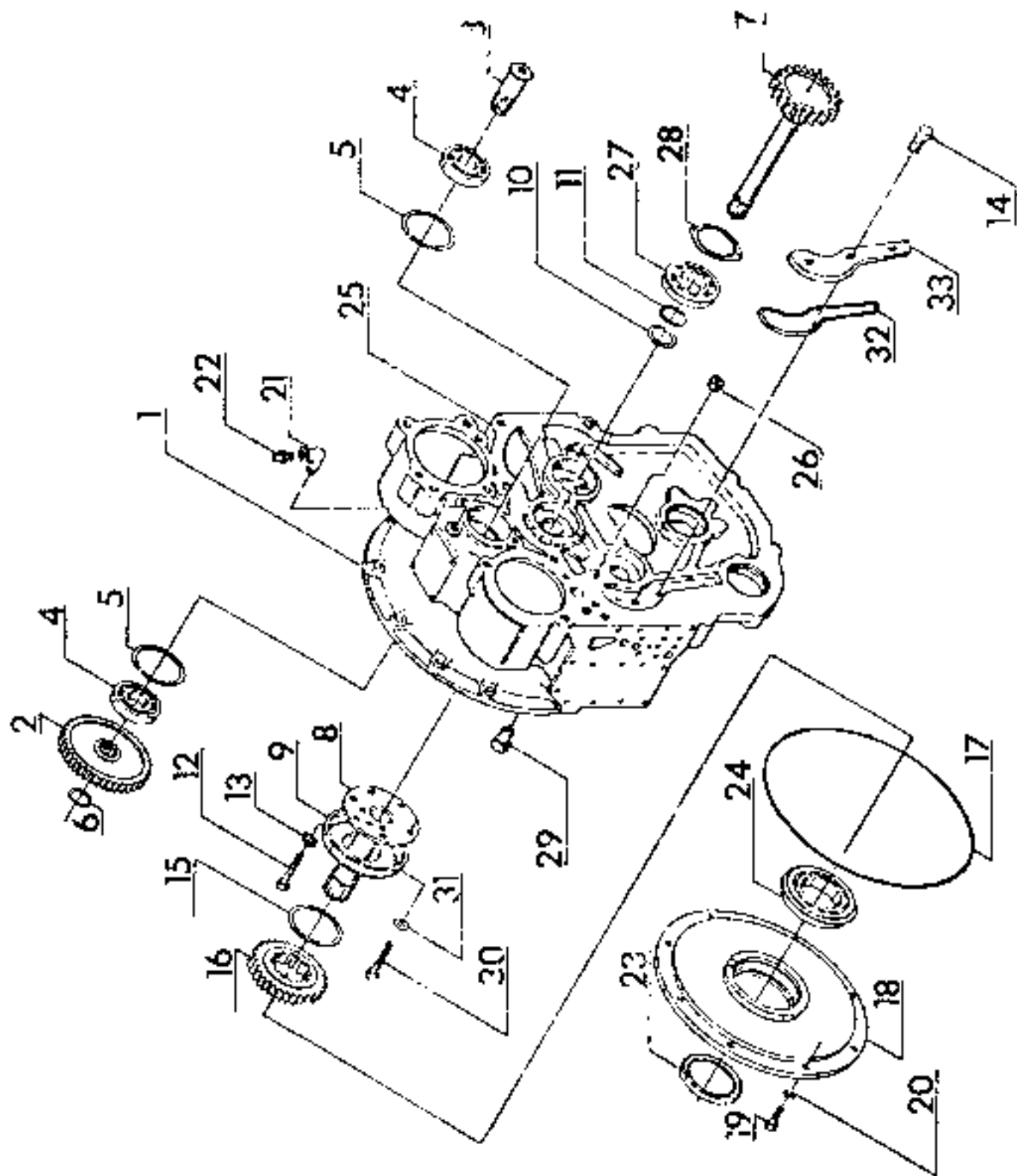
| | |
|---|--------------------------------------|
| LOLL Engineering Co., Inc.
<small>INCORPORATED</small>
<small>1000 W. 10th St. - Chicago, Ill.</small> | |
| CLUTCH ASSEMBLY
2nd STAGE | PUBLICATION
NUMBER
1810 |

| ITEM | PART NO. | DESCRIPTION | QTY. | |
|------|----------|-------------------------|-------------------------|----|
| | P24519 | Clutch Assy., 2nd Stage | Spec 8239A | 1 |
| | P20626 | Clutch Assy., 2nd Stage | Spec 8239B & 9673 | 1 |
| | P20628 | Clutch Assy., 2nd Stage | Spec 7711A | 1 |
| | P24578 | Clutch Assy., 2nd Stage | Spec 7711B | 1 |
| 1 | P20646 | Shaft | Spec 7711A & 8239A | 1 |
| | P24577 | Shaft | Spec 7711B, 8239B, 9673 | 1 |
| 2 | P20669 | Gear & Hub | | 1 |
| 3 | P20573 | Gear & Hub | Spec 7711 | 1 |
| | P20642 | Gear & Hub | Spec 8239 & 9673 | 1 |
| 4 | P20591 | Piston, Clutch | | 2 |
| 5 | P18609 | Separator Plate | | 12 |
| 6 | P20599 | Bellefonte Spring | | 8 |
| 7 | P20592 | Retainer Plate | | 2 |
| 8 | P20602 | Clutch Plate | | 12 |
| 9 | P20605 | Retaining Ring | | 2 |
| 10 | P18611 | Snap Ring | | 2 |
| 11 | P24541 | Ring Seal | | 2 |
| 12 | P24535 | Back-Up Ring | | 2 |
| 13 | P20612 | O-Ring | | 2 |
| 14 | P24451 | Bearing | | 1 |
| 15 | P24450 | Bearing | | 1 |
| 16 | P22741 | Bearing | | 2 |
| 17 | P20670 | Bearing | | 1 |
| 18 | P18620 | Ring Seal | | 3 |
| 19 | P18614 | Retaining Ring | | 2 |
| 20 | P18618 | Retaining Ring | | 1 |
| 21 | P20625 | Retaining Ring | | 2 |



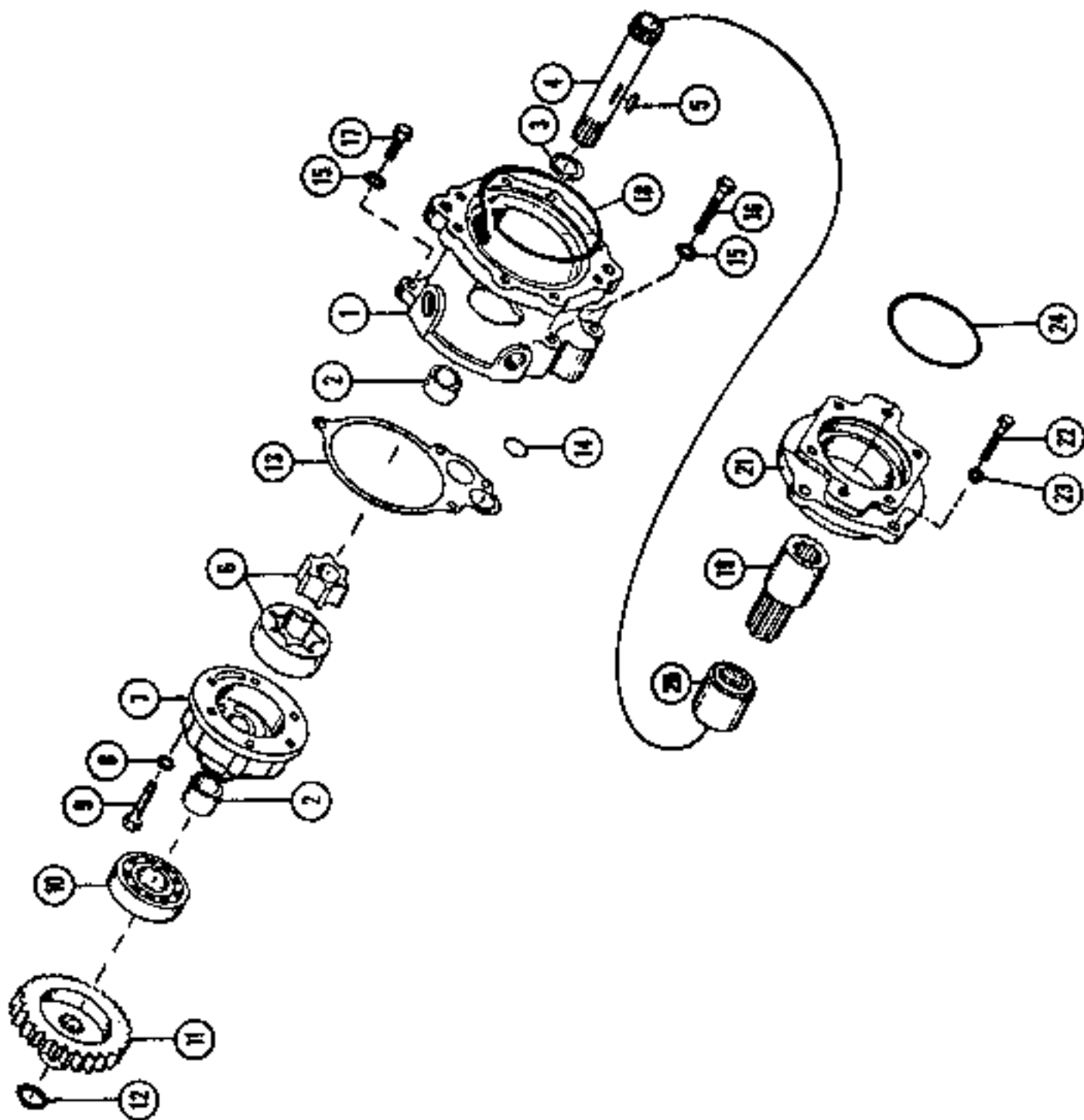
CLUTCH ASSEMBLY
3rd STAGE

| ITEM | PART NO. | DESCRIPTION | QTY. | |
|------|----------|-------------------------|-------------------------|----|
| | P24536 | Clutch Assy., 3rd Stage | Spec 7711A & 8239A | 1 |
| | P20672 | Clutch Assy., 3rd Stage | Spec 7711B, 8239B, 9673 | 1 |
| 1 | P20673 | Shaft | Spec 7711A & 8239A | 1 |
| | P24576 | Shaft | Spec 7711B, 8239B, 9673 | 1 |
| 2 | P20678 | Gear & Hub | | 1 |
| 3 | P20682 | Gear, Hi Range | | 1 |
| 4 | P20693 | Gear & Hub | | 1 |
| 5 | P18614 | Retaining Ring | | 2 |
| 6 | P20670 | Bearing | | 1 |
| 7 | P20591 | Piston, Clutch | | 2 |
| 8 | P20592 | Retainer Plate, Clutch | | 2 |
| 9 | P20593 | Belleville Spring | | 8 |
| 10 | P20602 | Clutch Plate | | 10 |
| 11 | P18609 | Separator Plate | | 10 |
| 12 | P20605 | Retaining Ring | | 2 |
| 13 | P18611 | Snap Ring | | 2 |
| 14 | P24547 | Ring Seal | | 2 |
| 15 | P24535 | Back-Up Ring | | 2 |
| 16 | P20612 | C-Ring | | 2 |
| 17 | P24451 | Bearing | | 1 |
| 18 | P24450 | Bearing | | 1 |
| 19 | P18620 | Ring Seal | | 3 |
| 20 | P18618 | Retaining Ring | | 2 |
| 21 | P22741 | Bearing | | 1 |
| 22 | P20625 | Spring Retainer | | 2 |



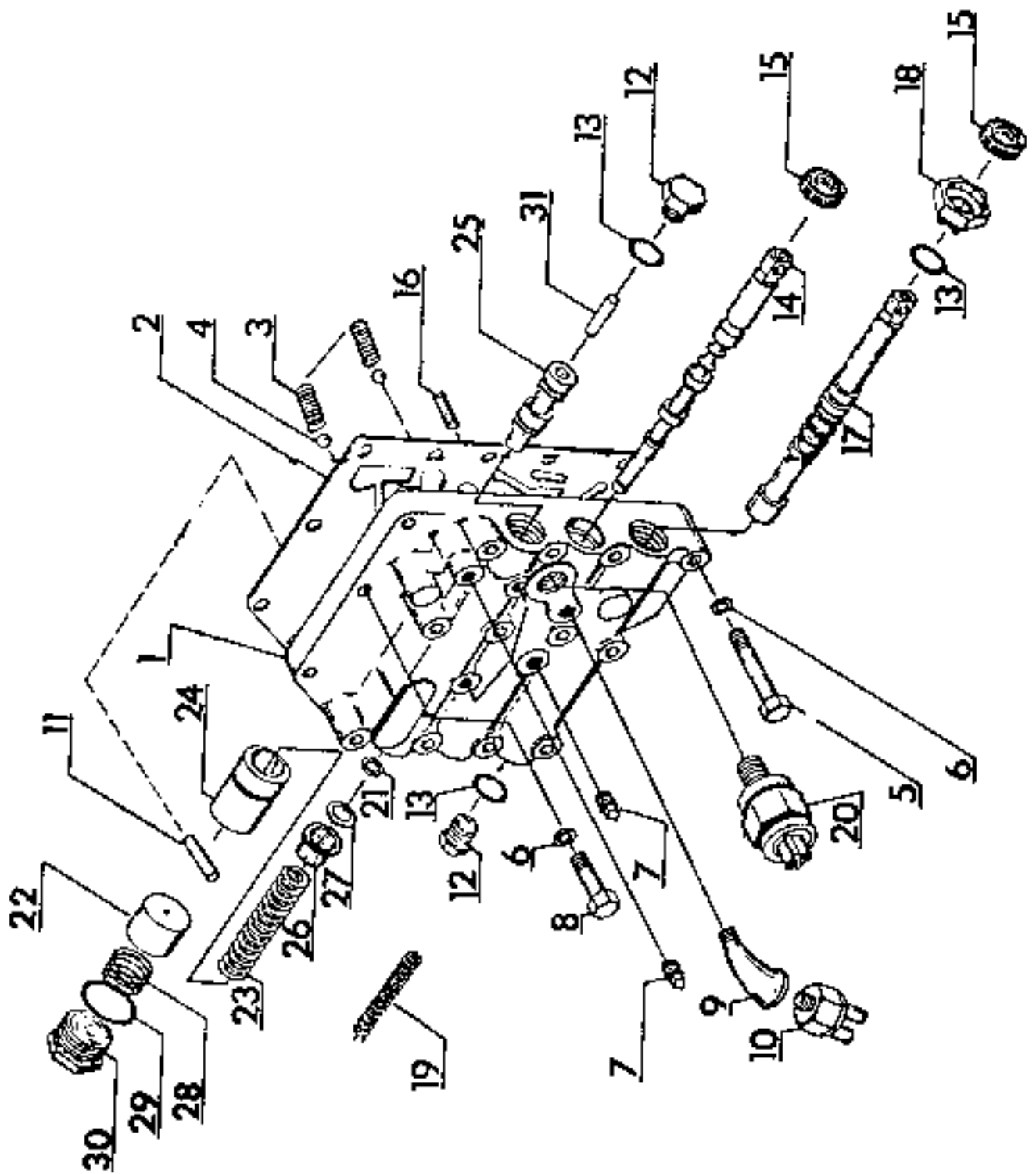
| | |
|---|--------------------------------------|
| LULL Engineering Co., Inc.
<small>ST. PAUL, MINNESOTA 55111</small> | |
| FRONT COVER
ASSEMBLY | PUBLICATION
NUMBER
1812 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|-----------------------|------------------------------|
| | P19433 | Front Cover Assembly | Spec 6037 |
| | P24531 | Front Cover Assembly | Spec 8239A |
| | P24523 | Front Cover Assembly | Spec 8239B & 9673 |
| | P18515 | Front Cover Assembly | Spec 7201 & 5800 |
| | P24532 | Front Cover Assembly | Spec 7711A |
| | P24524 | Front Cover Assembly | Spec 7711B |
| 1 | P18506 | Front Cover | Spec 6037 & 7201 & 5800 |
| | P24523 | Front Cover | Spec 7711A & 8239A |
| | P24526 | Front Cover | Spec 7711B, 8239B & 9673 |
| 2 | P18507 | Gear | |
| 3 | P18508 | Shaft | |
| 4 | P18509 | Bearing | |
| 5 | P18510 | Ring Retainer | |
| 6 | P18511 | Ring Retainer | |
| 7 | P18512 | Input Shaft | Spec 5800, 7201, 8239 & 9673 |
| | P19754 | Input Shaft | Spec 6037 & 7711A |
| | P24537 | Input Shaft | Spec 7711B |
| 8 | P18516 | Tube | |
| | P19443 | Tube | Spec 6037 & 7711A ONLY |
| 9 | P18517 | Cover Plate | |
| 10 | P19755 | Ring Seal | |
| 11 | P18514 | Ring | |
| 12 | P18518 | Capscrew | |
| 13 | P18519 | Lockwasher | |
| 14 | P19756 | Capscrew | |
| 15 | P19444 | Washer Thrust Pump | |
| 16 | P18524 | Input Hub Gear | |
| 17 | P18525 | Gasket | Spec 6037, 7201 & 5800 |
| | P24532 | Gasket, Plastic Strip | Spec 7711, 8239 & 9673 |
| 18 | P18526 | Bearing Retainer | |
| 19 | P18529 | Capscrew | |
| 20 | P18530 | Lockwasher | |
| 21 | P18531 | Elbow | |
| 22 | P18532 | Breather | |
| | P12034 | Breather | Spec 7711, 8239, & 9673 |
| 23 | P18528 | Oil Seal | |
| 24 | P18527 | Bearing | |
| 25 | P18672 | Plug | |
| 26 | P19759 | Plug | |
| 27 | P18513 | Bearing | |
| 28 | P18522 | Bearing Retainer | Spec 7711A & 8239A ONLY |
| | P24579 | Bearing Retainer | |
| 29 | P19760 | Regulator Valve | |
| 30 | P18520 | Capscrew | |
| 31 | P18521 | Starwasher | |
| 32 | P19755 | O-Ring | |
| 33 | P19757 | Oil Passage Cover | |



| | |
|---|--------------------------------------|
| WILL Engineering Co., Inc.
www.will.com
PUMP
ASSEMBLY | ST. PAUL,
MINNESOTA,
55127 |
| | PUBLICATION
NUMBER
1813 |

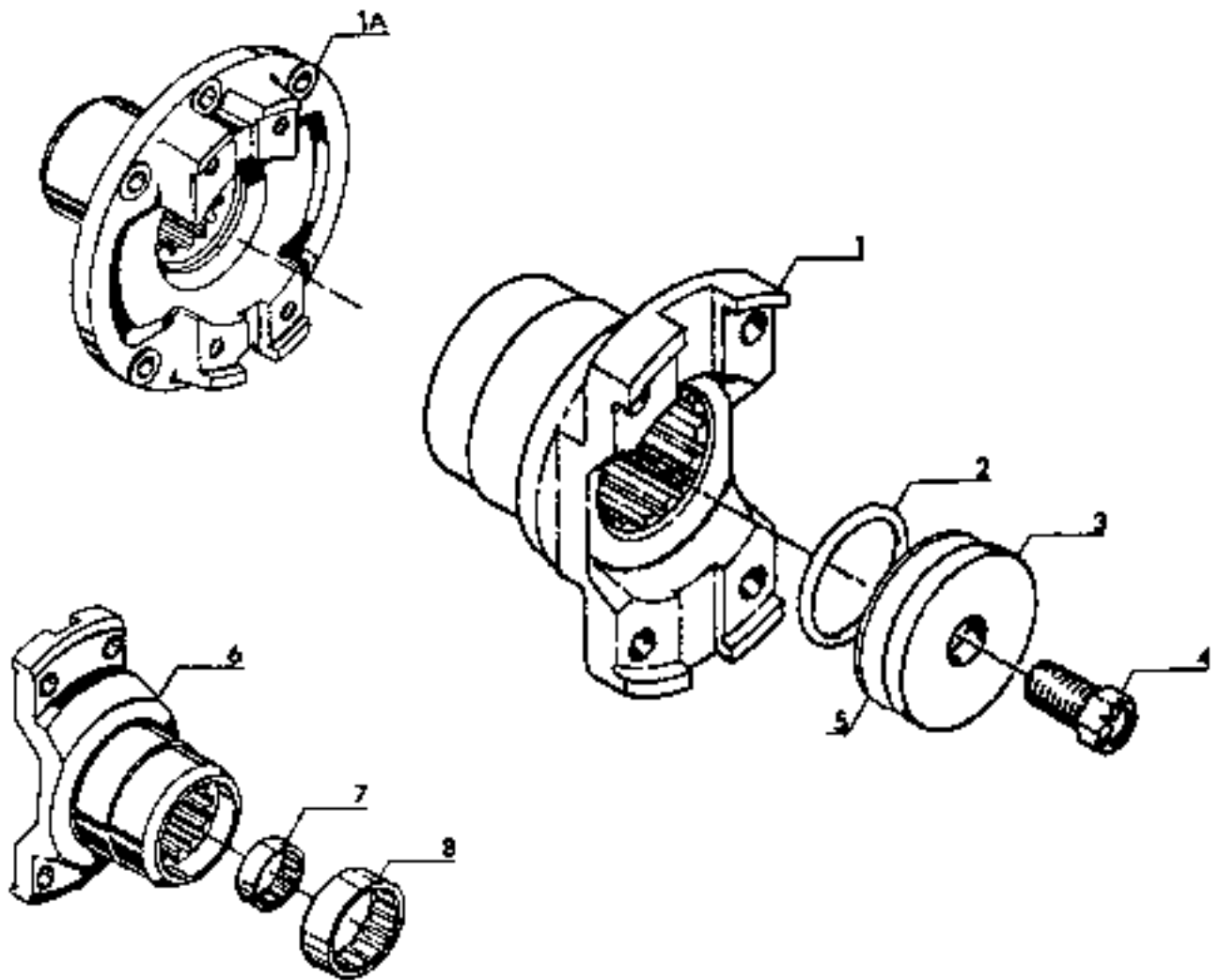
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|--|------|
| | P18004 | Pump Assembly (Use P18581 For Spec 5800) | 1 |
| 1 | P18582 | Housing | 1 |
| 2 | P19826 | Bearing (Use P18583 For Spec 5800) | 2 |
| 3 | P18584 | Thrust Washer | 1 |
| 4 | P19827 | Drive Shaft (Use P18585 For Spec 5800) | 1 |
| 5 | P19828 | Key, Woodruff (Use P18586 For Spec 5800) | 1 |
| 6 | P18587 | Gerotor | 1 |
| 7 | P18588 | Pump Retainer | 1 |
| 8 | P18702 | Starwasher, Ext. 5/16" | 6 |
| 9 | P18589 | Capscrew | 6 |
| 10 | P18590 | Bearing | 1 |
| 11 | P18591 | Gear | 1 |
| 12 | P18592 | Retaining Ring | 1 |
| 13 | P18593 | Gasket | 1 |
| 14 | P18594 | O-Ring | 2 |
| 15 | P18703 | Starwasher, 3/8" | 4 |
| 16 | P18595 | Capscrew | 3 |
| 17 | P18596 | Capscrew | 1 |
| 18 | P18597 | O-Ring | 1 |
| 19 | P18598 | Adaptor Sleeve, "B" | 1 |
| 20 | P18599 | Sleeve Spacer | 1 |
| 21 | P18600 | Adaptor Plate | 1 |
| 22 | P18573 | Capscrew | 4 |
| 23 | P18572 | Lockwasher | 4 |
| 24 | P18602 | O-Ring | 1 |



| | |
|---|-----------------------------------|
| LULL Engineering Co., Inc. ST. PAUL, MINNESOTA 16, 1911 | |
| VALVE CONTROL ASSEMBLY | PUBLICATION NUMBER
1814 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|---|------|
| | P18653 | Valve Control Assy. Spec 5800, 6037, 7201, 7711A, 8239A | 1 |
| | P24530 | Valve Control Assy. Spec 7711B, 8239B, 9673 | 1 |
| 1 | P18654 | Body, Control Valve, Spec 7711A, 8239A, 6037, 7201, 5800 | 1 |
| | P24529 | Body, Control Valve, Spec 7711B, 8239B, 9673 | 1 |
| 2 | P18675 | Gasket, Valve Body | 1 |
| 3 | P18676 | Spring, Detent | 2 |
| 4 | P18677 | Ball | 2 |
| 5 | P22796 | Capscrew | 12 |
| 6 | P22799 | Flat Washer | 15 |
| 7 | P18672 | Plug, Pipe | 4 |
| 8 | P18518 | Capscrew | 3 |
| 9 | P19825 | 45° Elbow, Street | 1 |
| 10 | P19105 | Switch, Reverse Alarm - See Note | 1 |
| 11 | P19822 | Pin, Use P18657, Snap Ring For Spec 5800 | 1 |
| 12 | P18665 | Plug | 2 |
| 13 | P18666 | O-Ring | 3 |
| 14 | P19823 | Stem, Forward - Reverse | 1 |
| 15 | P18668 | Oil Seal | 2 |
| 16 | P18669 | Roll Pin | 1 |
| 17 | P19824 | Stem, Spec 5800, 6037 & 7201 | 1 |
| | P24522 | Stem, Spec 7711, 8239 & 9673 | 1 |
| 18 | P18671 | Plug | 1 |
| 19 | P18662 | Spring, Regulator-Spec 7711A, 8239A, 6037, 7201 & 5800 ONLY | 1 |
| 20 | P18673 | Switch, Neutral Safety | 1 |
| 21 | P18674 | Spacer, Spring | A/R |
| 22 | P18658 | Valve, Pump | 1 |
| 23 | P18656 | Spring, Accumulator | 1 |
| 24 | P18655 | Valve Modulator, Spec 7711A, 8239A, 6037, 7201, 5800 | 1 |
| | P24527 | Valve Modulator, Spec 7711B, 8239B, 9673 | 1 |
| 25 | P18663 | Valve, Regulator, Spec 7711A, 8239A, 6037, 7201, 5800 | 1 |
| | P24528 | Valve, Regulator, Spec 7711B, 8239B, 9673 | 1 |
| 26 | P24526 | Cap, Regulator, Spec 7711B, 8239B, 9673 | 1 |
| 27 | P24599 | Washer, Spec 7711B, 8239B, 9673 | 1 |
| 28 | P18659 | Spring, Pump Valve | 1 |
| 29 | P18661 | O-Ring | 1 |
| 30 | P18660 | Plug, Pump Valve | 1 |
| 31 | P18664 | Dowel Pin | 1 |

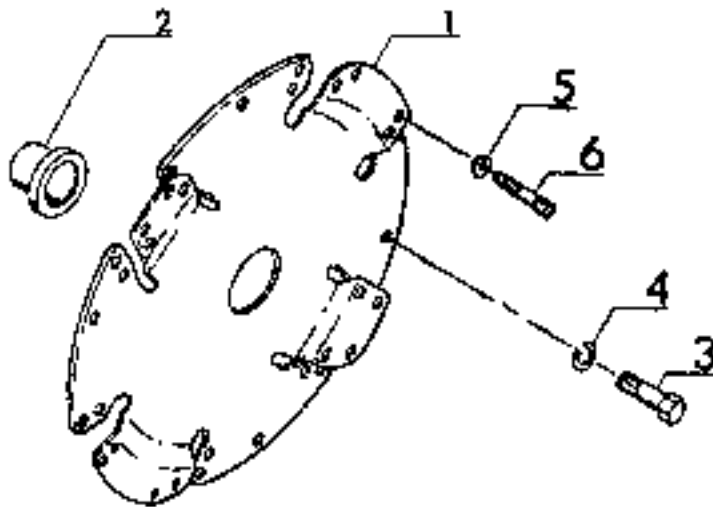
NOTE: There is no port on valve for reverse alarm switch on transmission Spec 5800.



| ITEM | PART NO. | DESCRIPTION | QTY |
|------|----------|---|-----|
| | P18693 | Yoke Group Assembly Spec 5800 6037 & 7201 | 1 |
| | P20426 | Yoke Group Assembly Spec 7711 8239 & 9673 | 1 |
| | P25409 | Yoke Group Assembly Spec 9673 only | 1 |
| 1 | P18684 | Yoke Flange, Front | 1 |
| 1A | P25410 | Yoke Flange, Front Spec 9673 only | 1 |
| 2 | P18685 | O-Ring | 1 |
| 3 | P18696 | Washer Spec 5800 6037 & 7201 | 1 |
| | P20427 | Washer Spec 7711 8239 & 9673 | 1 |
| 4 | P20428 | Bolt, Special | 1 |
| 5 | P19820 | Shim Package (not shown) | 1 |
| 6 | P20429 | Yoke Flange, Rear | 1 |
| 7 | P24457 | Bearing | 1 |
| 8 | P24458 | Bearing | 1 |

YOKE & DRIVE
PLATE ASSEMBLY

1815

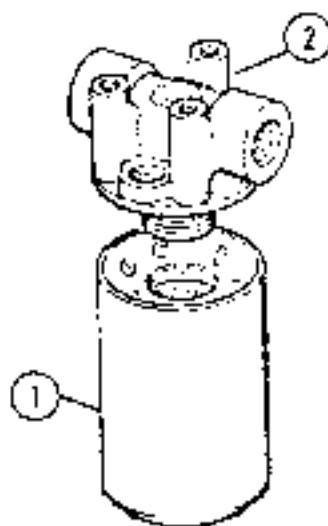


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------------|-------------------|---|---|
| | | Drive Plate Assembly (Incl. Item 2) | |
| 1 | P20968 | CHRYSLER ENGINES | 1 |
| | | Spec 5800, 7201 & 8239 | 1 |
| | P20969 | Spec 6037 & 7711 | 1 |
| | | WAUKESHA ENGINES | 1 |
| | P20968 | Spec 5800 | 1 |
| | P19278 | Spec 6037 & 7711A | 1 |
| | P22802 | Spec 7711B & 9673 | 1 |
| | P19441 | DETROIT ENGINES | 1 |
| | | Spec 7201, 8239 & 9673 | 1 |
| | P19278 | DEUTZ ENGINES | 1 |
| Spec 7711A | | 1 | |
| P22802 | Spec 7711B & 9673 | 1 | |
| | P20968 | DEERE ENGINES | 1 |
| P22647 | | Spec 8239 | 1 |
| | P22647 | Spec 9673 | 1 |
| 2 | | (A) | Sleeve Hub |
| 3 | P18536 | Capscrew, 3/8-16 NC x 3/4 | 8 |
| 4 | P18530 | Lockwasher, 3/8 Medium Spring | 8 |
| 5 | P18537 | Washer, Half Round | 8 |
| | | Washer, Flat | 8 |
| 6 | P18538(B) | Capscrew, Socket Hd., 5/16-24 NF x 2 3/4 (Nylock) | 8 |
| | | P19438(C) | Capscrew, Socket Hd., 5/16-24 NF x 1 1/4 (Nylock) |

ITEMS 3 THRU 6 USED 10 BOLT DRIVE PLATE TO CONVERTER.

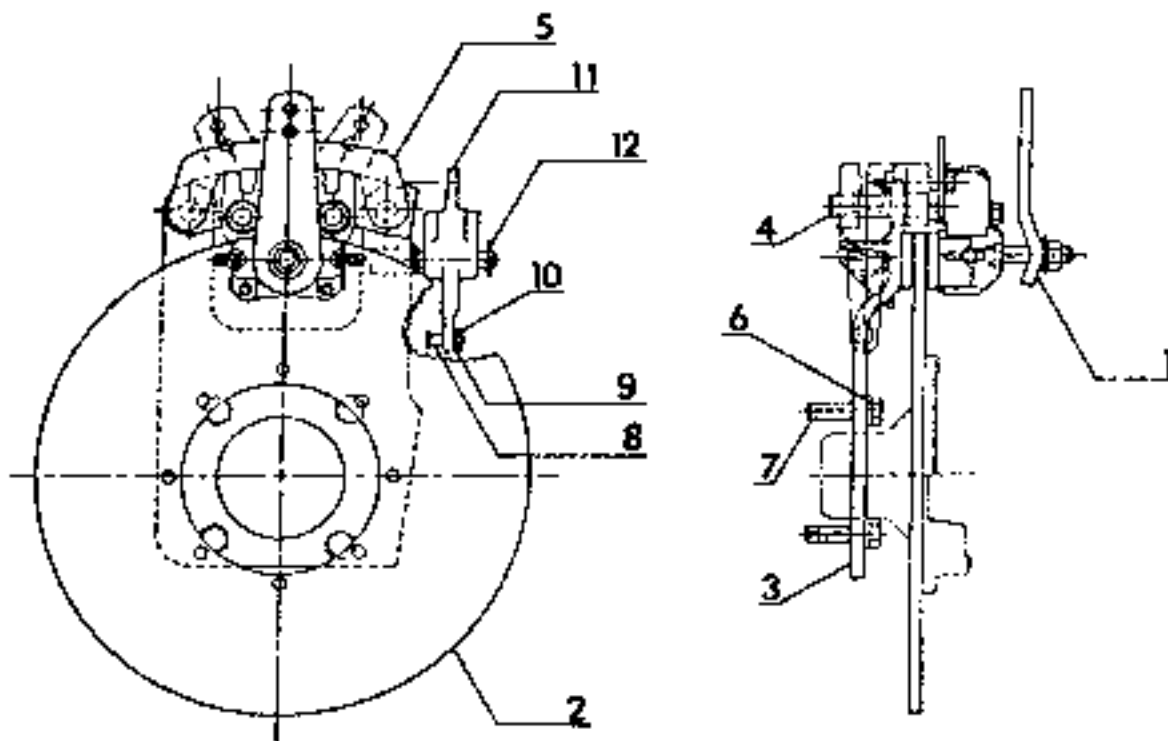
NOTES:

- A) CONSULT FACTORY
- B) USED WITH 12 3/4" CONVERTERS
- C) USED WITH 11 3/4" CONVERTERS

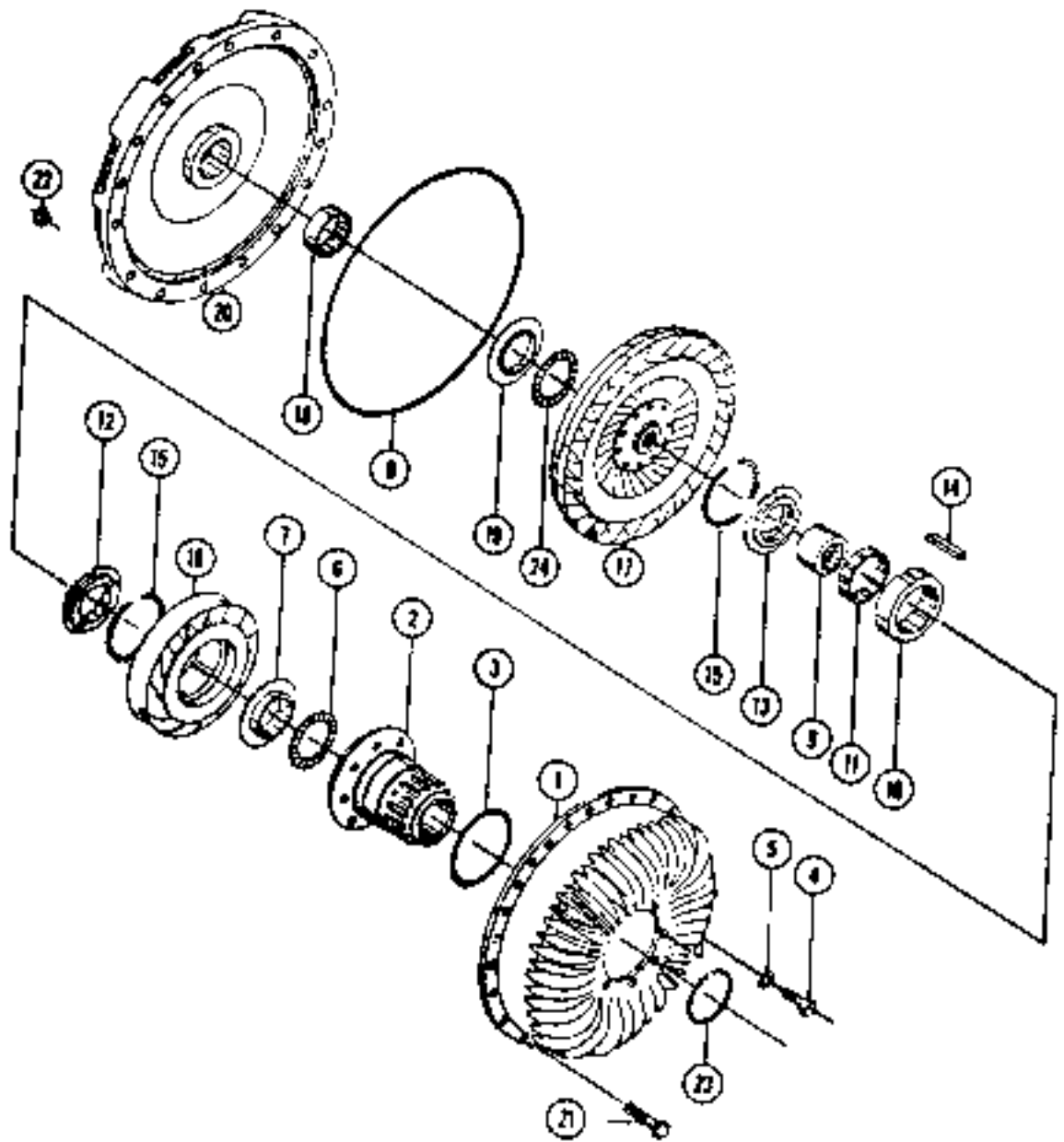


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|-------------------------------|------|
| | P19132 | Remote Filter & Base Assembly | 1 |
| 1. | P19133 | Filter | 1 |
| 2. | P19321 | Base | 1 |

| | |
|--|---|
| WILL <i>Engineering Co., Inc.</i>
<small>17 PAUL
 MINNESOTA
 55121</small> | |
| <small>MANUAL NO.</small>
REMOTE FILTER &
COVER PLATE ASS'Y | <small>PUBLICATION
 NUMBER</small>
1816 |

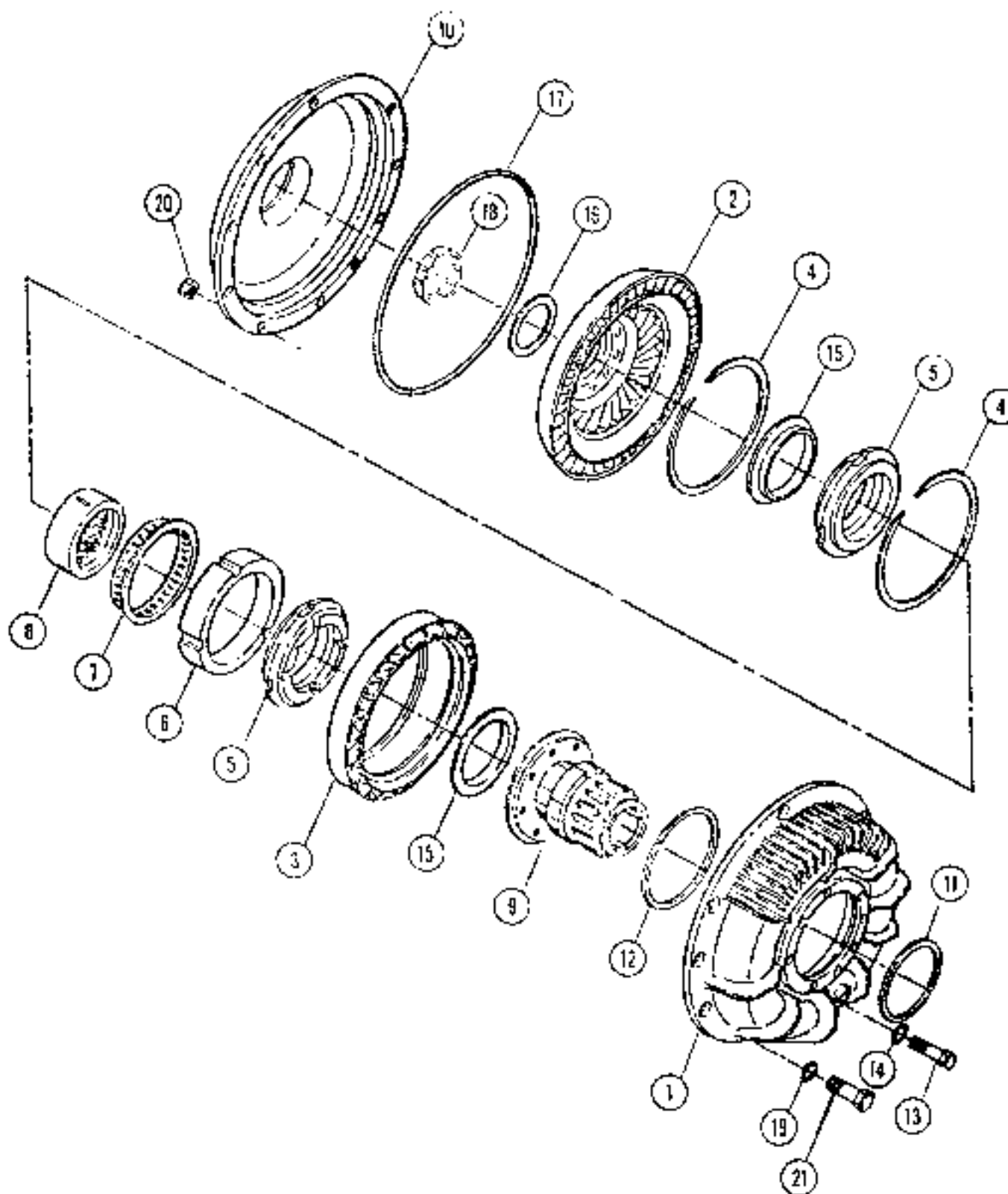


| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|----------------------|------|
| 1 | P24539 | Brake Caliper W/Pads | 1 |
| 2 | P25075 | Disc. Brake | 1 |
| 3 | P25402 | Mounting Bracket | 1 |
| 4 | P25424 | Pin | 2 |
| 5 | P25403 | Retainer, Pin | 3 |
| 6 | P13572 | Lockwasher | 4 |
| 7 | P16573 | Capscrew | 4 |
| 8 | P25423 | Clevis Pin | 1 |
| 9 | P25427 | Flatwasher | 3 |
| 10 | P25425 | Cotter Pin | 1 |
| 11 | P25404 | Lever, Disconnect | 1 |
| 12 | P25426 | Cotter Pin | 1 |
| 13 | P24602 | Spring, Short | 2 |
| 14 | P24603 | Spring, Long | 1 |
| 15 | P24600 | Brake Pad | 2 |



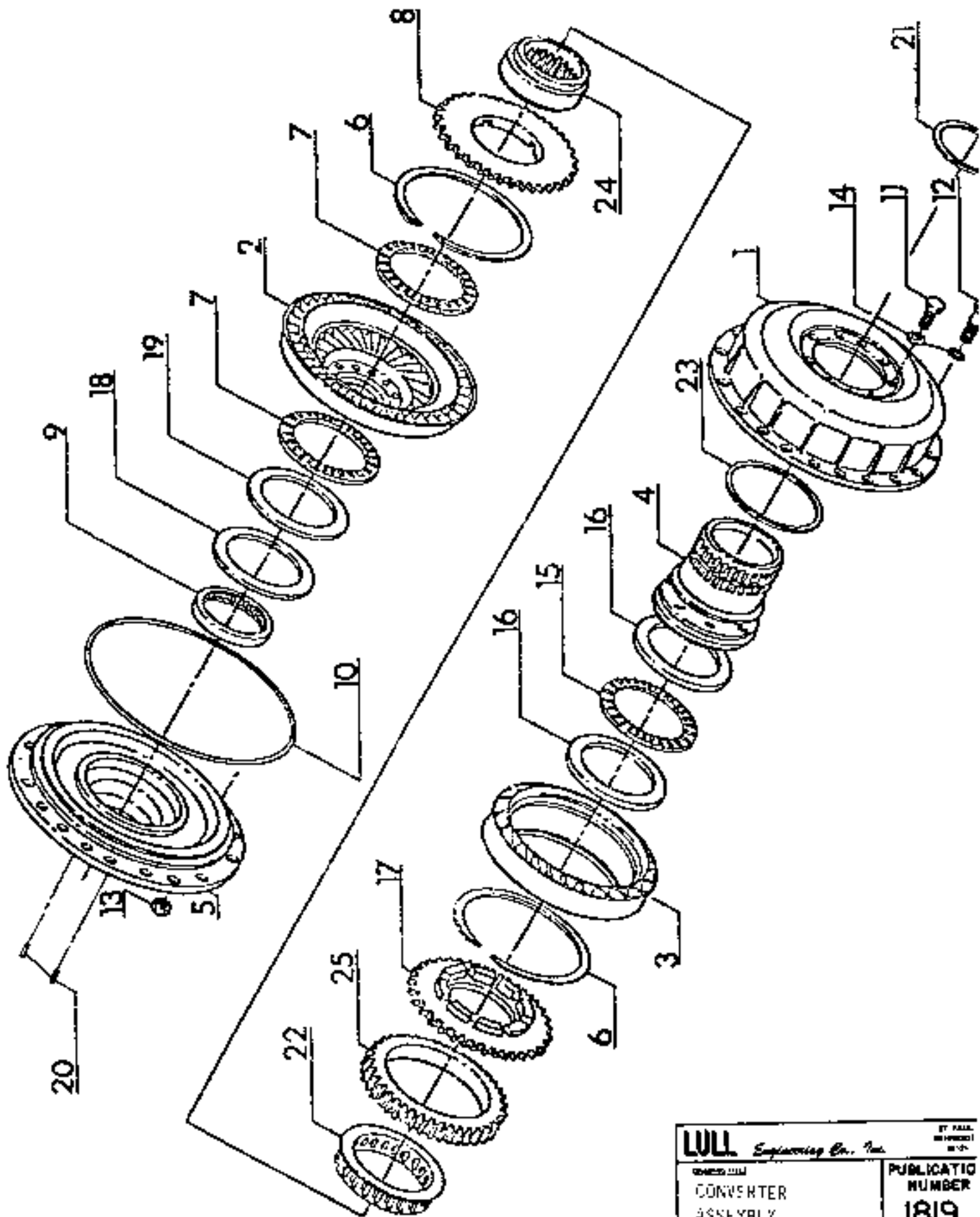
| | | |
|---|--|--|
| LULL Engineering Co., Inc. | | <small>ST PAUL,
MINNESOTA
U.S.A.</small> |
| <small>REGISTERED U.S. PAT. OFF.</small>
CONVERTER
ASSEMBLY | | PUBLICATION
NUMBER
1817 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|--|------|
| | P17773 | Converter Assembly
Spec 5800 | 1 |
| | P19439 | Converter Assembly
Spec 7201 | 1 |
| | P20647 | Converter Assembly
Spec 8239A & 8239B
Spec 9673 (Detroit Only) | 1 |
| 1 | P18539 | Impeller | 1 |
| 2 | P18540 | Hub | 1 |
| | P20734 | Hub (Use w/P20647 Assy. Only) | 1 |
| 3 | P18541 | O-Ring | 1 |
| 4 | P18542 | Capscrew | 12 |
| 5 | P18543 | Seal Washer | 12 |
| 6 | P18544 | Bearing | 2 |
| 7 | P18545 | Thrust Washer, Rear | 1 |
| 8 | P18546 | O-Ring Gasket | 1 |
| 9 | P18547 | Inner Race Clutch | 1 |
| 10 | P18548 | Outer Race Clutch | 1 |
| 11 | P18549 | Clutch Sprag | 1 |
| 12 | P18550 | Clutch Retainer, Rear | 1 |
| | P20736 | Clutch Retainer, Rear (Use W/P20647 Assy.Only) | 1 |
| 13 | P18551 | Clutch Retainer, Front | 1 |
| 14 | P18552 | Key, Square | 4 |
| 15 | P18553 | Snap Ring | 2 |
| 16 | P18554 | Stator | 1 |
| 17 | P19762 | Turbine | 1 |
| 18 | P18556 | Bearing | 1 |
| 19 | P18557 | Thrust Washer | 1 |
| 20 | P18558 | Front Cover (Use W/P17773 Assy. Only) | 1 |
| | P19761 | Front Cover | 1 |
| 21 | P18559 | Capscrew | 36 |
| 22 | P18560 | Flanged Nut | 16 |
| 23 | P18561 | Ring Seal (Use W/P17773 Assy. ONLY) | 1 |
| | P19466 | Ring Seal | 1 |
| 24 | P20742 | Bearing | 1 |



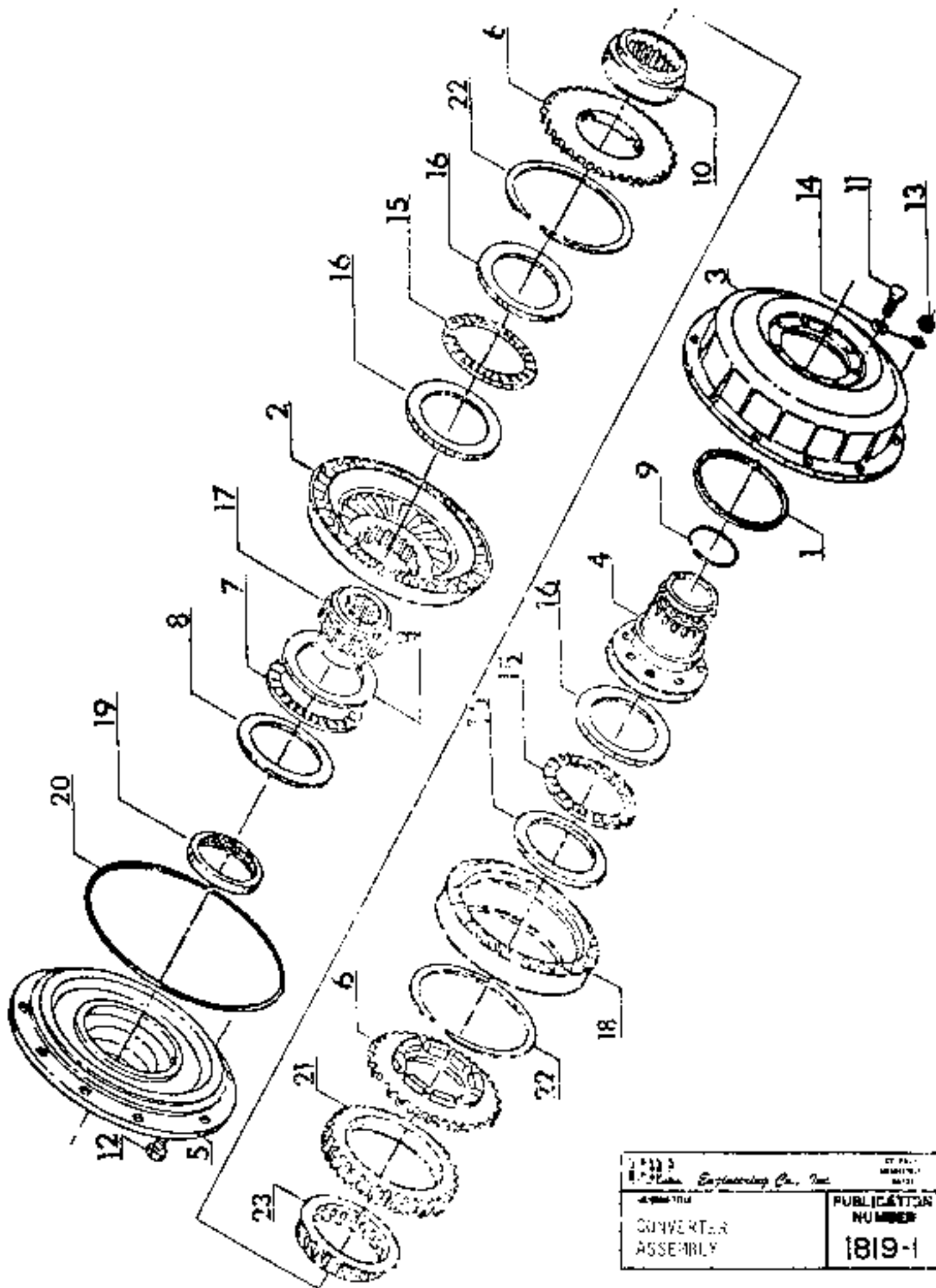
| | | |
|-----------------------------------|-------------|----------------------------------|
| LULL Engineering Co., Inc. | | 21 WALL
NEWARK, N.J.
20-21 |
| DESCRIPTION | REVISION | |
| ASSEMBLY | MEMBER | |
| | 1819 | |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|--------------------|------|
| | P19434 | Converter Assembly | 1 |
| | | Spec 6037 & 7711A | |
| 1 | P19454 | Impeller | 1 |
| 2 | P19457 | Turbine | 1 |
| 3 | P19450 | Stator | 1 |
| 4 | P19451 | Retaining Ring | 2 |
| 5 | P19449 | Retainer, Stator | 2 |
| 6 | P19446 | Outer Race | 1 |
| 7 | P19447 | Clutch Sprag | 1 |
| 8 | P19448 | Inner Race | 1 |
| 9 | P19452 | Hub, Impeller | 1 |
| 10 | P19459 | Converter Cover | 1 |
| 11 | P19466 | Seal Ring | 1 |
| 12 | P19453 | Seal Ring | 1 |
| 13 | P19455 | Capscrew | 8 |
| 14 | P19456 | Lockwasher | 8 |
| 15 | P19458 | Thrust Washer | 2 |
| 16 | P20649 | Thrust Washer | 1 |
| 17 | P19460 | O-Ring | 1 |
| 18 | P19467 | Bearing | 1 |
| 19 | P19464 | Washer | 10 |
| 20 | P19462 | Lock Nut | 10 |
| 21 | P19461 | Capscrew | 10 |



| | | |
|--|--|---|
| LULL <i>Engineering Co., Inc.</i> | | <small>BY FILE
NO. 1819
M-1</small> |
| CONVERTER
ASSEMBLY | | PUBLICATIO
NUMBER
1819 |

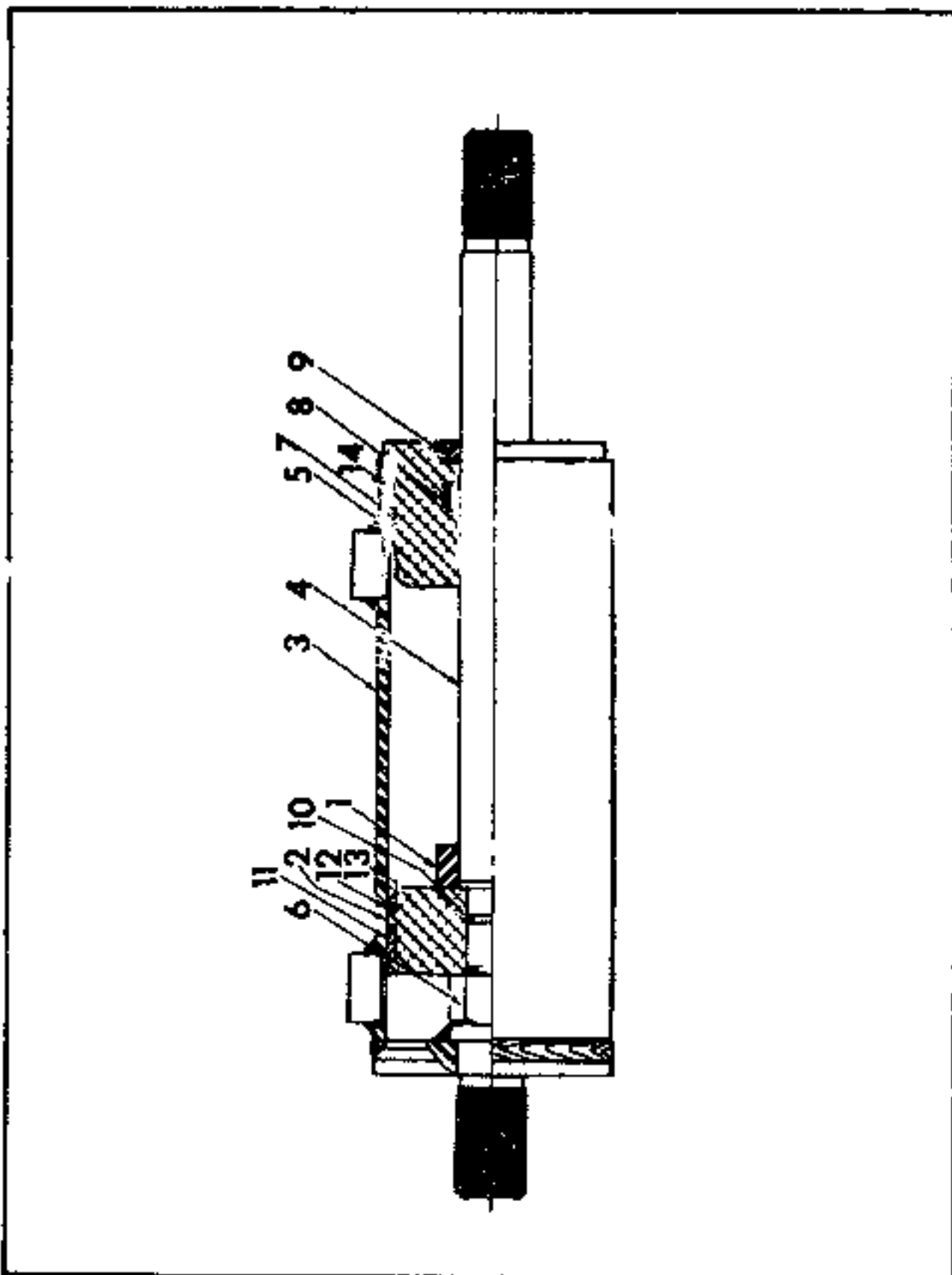
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|-------------------|------|
| | P22803 | Conveter Assembly | 1 |
| | | Spec 7711B & 9673 | |
| 1 | P24506 | Impeller | 1 |
| 2 | P24508 | Turbine | 1 |
| 3 | P22727 | Stator | 1 |
| 4 | P24507 | Impeller Hub | 1 |
| 5 | P22731 | Cover | 1 |
| 6 | P22774 | Retaining Ring | 2 |
| 7 | P22756 | Thrust Bearing | 2 |
| 8 | P22729 | Retainer | 1 |
| 9 | P22750 | Bearing | 1 |
| 10 | P22730 | Seal | 1 |
| 11 | P22789 | Capscrew | 8 |
| 12 | P22790 | Capscrew | 12 |
| 13 | F18560 | Nut, Hex | 12 |
| 14 | P22799 | Flatwasher | 20 |
| 15 | P18544 | Thrust Bearing | 1 |
| 16 | P22758 | Thrust Race | 2 |
| 17 | P22733 | Retainer | 1 |
| 18 | P22759 | Thrust Race | 1 |
| 19 | P22760 | Thrust Race | 1 |
| 20 | P24470 | Roll Pin | 2 |
| 21 | P19466 | Ring Seal | 1 |
| 22 | P18549 | Clutch Sprag | 1 |
| 23 | P22762 | O-Ring | 1 |
| 24 | P24509 | Race, Inner | 1 |
| 25 | P22728 | Race, Outer | 1 |

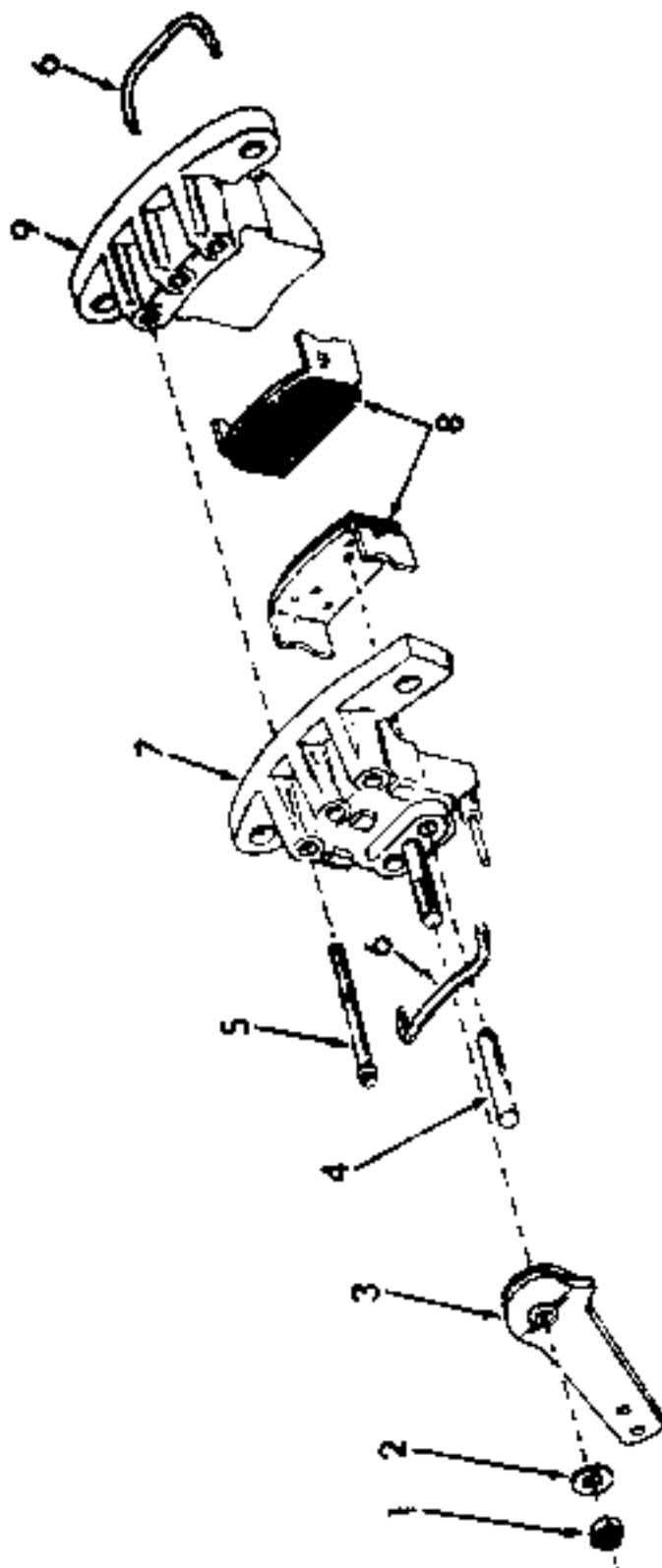


| | |
|---|---------------------------------|
| 1819-1
The Sellen Engineering Co., Inc.
ST. PAUL, MINN. 55112 | |
| TITLE
CONVERTER
ASSEMBLY | PUBLICATION
NUMBER
1819-1 |

| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|--|------|
| | P22603 | Complete Converter Assembly Spec 9673C | 1 |
| 1 | P22762 | O-Ring | 1 |
| 2 | P25414 | Turbine | 1 |
| 3 | P25433 | Impeller | 1 |
| 4 | P25434 | Hub, Impeller | 1 |
| 5 | P22731 | Cover | 1 |
| 6 | P25416 | Clutch Retainer | 2 |
| 7 | P22756 | Thrust Bearing | 1 |
| 8 | P22760 | Thrust Race | 2 |
| 9 | F18567 | Ring Seal | 1 |
| 10 | P24509 | Inner Race | 1 |
| 11 | P22789 | Capscrew | 8 |
| 12 | F18519 | Capscrew | 12 |
| 13 | P25430 | Nut, Hex. | 12 |
| 14 | F22648 | Flatwasher | 20 |
| 15 | P25431 | Thrust Bearing | 2 |
| 16 | P25417 | Thrust Washer | 4 |
| 17 | P25435 | Hub, Turbine | 1 |
| 18 | P25418 | Stator | 1 |
| 19 | P22750 | Bearing | 1 |
| 20 | P22730 | Seal | 1 |
| 21 | P25413 | Outer Race | 1 |
| 22 | P25408 | Retaining Ring | 2 |
| 23 | F18549 | Clutch Sprag | 1 |

SERVICE PARTS
P19383 & P19366
HYDRAULIC STEERING CYLINDER (LANTEX)





DISASSEMBLY

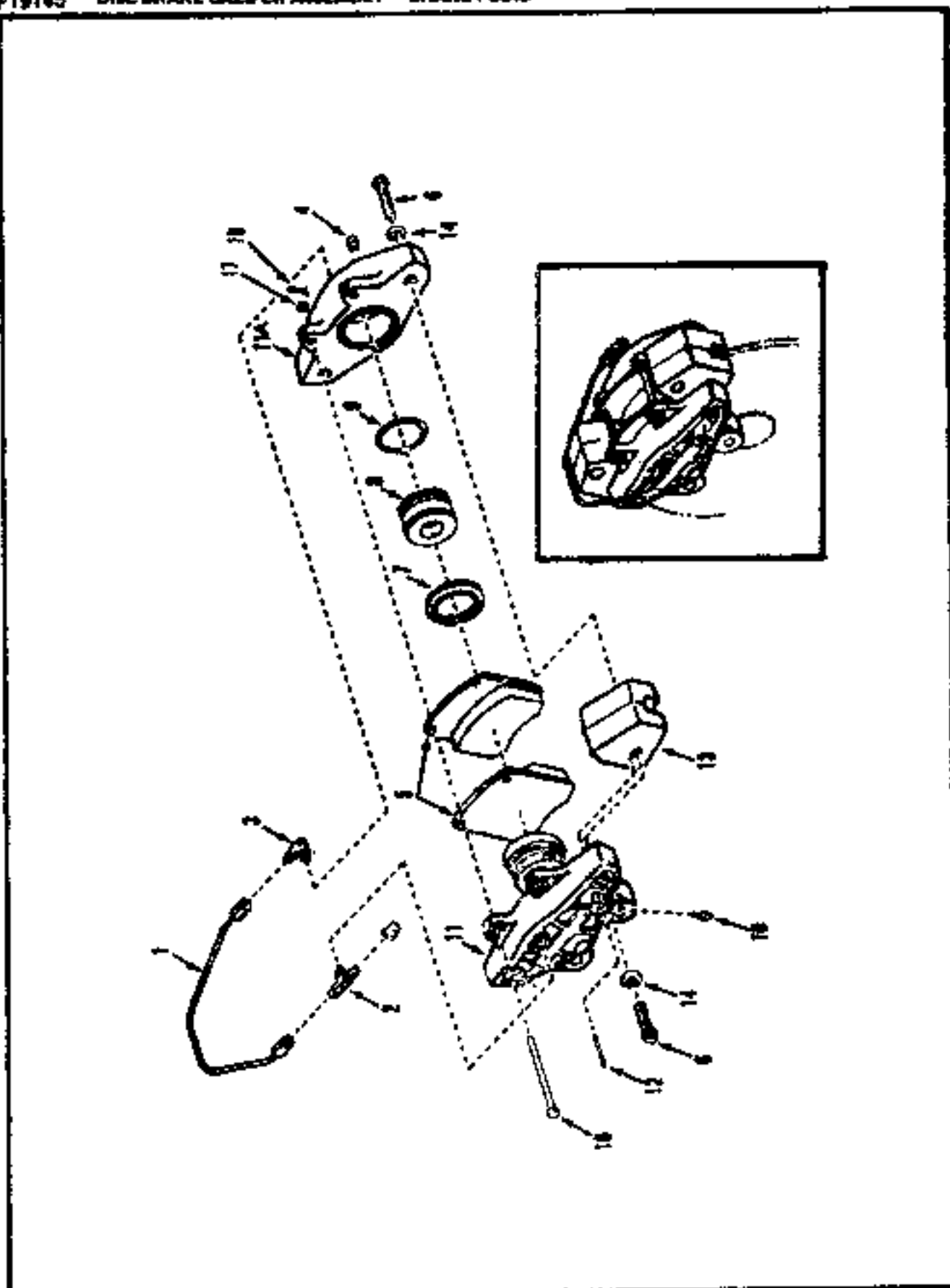
Remove 1/2" hexagon item 1, 1/2" flat washer item 2, rear arm (item 3) from stud. Remove springs (item 6) from brake slip on sides of pad and holder assemblies (item 8). Slide pins out (item 4) from housing (item 7, 9). To separate housing (item 7, 9) remove three tapered bolts (item 5).

REASSEMBLY

Reassemble in reverse order of disassembly.

SERVICE PARTS

P19145 DISC BRAKE CALIPER ASSEMBLY - BRAKE FLUID



**P19145 BRAKE CALIPER
ASSEMBLY**

| ITEM | DESCRIPTION | QUANTITY | | | | PART NO. |
|------|---|----------|---|---|---|----------|
| | | A | B | C | D | |
| | COMPLETE BRAKE CALIPER ASSEMBLY (RED TAG
BRAKE FLUID) NOTE: QUANTITY INDICATED IS
FOR ONE COMPLETE BRAKE CALIPER ASSEMBLY
(LH) OR (RH) | 1 | | | | P-19145 |
| 1 | Transfer Line Assembly | 1 | | | | P-19165 |
| 2 | Tee-Male Branch | 1 | | | | P-19168 |
| 3 | Elbow - Male | 1 | | | | P-19167 |
| 4 | Reducer | 2 | | | | P-19179 |
| 5 | Pad & Holder Assembly | 2 | | | | P-19159 |
| 6 | Screw, 12 PT., 7/16" 14 X 1.50" | 6 | | | | P-19181 |
| 7 | Dust Boot | 2 | | | | P-19162 |
| 8 | Piston | 2 | | | | P-19153 |
| 9 | O-Ring | 2 | | | | P-19164 |
| 10 | Bleeder Valve | 4 | | | | P-19161 |
| 11 | Housing Piston with Ears | 1 | | | | P-19158 |
| 11A | Housing Piston without Ears | 1 | | | | P-19157 |
| 12 | Pin - Drive Lock | 2 | | | | P-19180 |
| 13 | Spacer | 2 | | | | P-19160 |
| 14 | Washer, Flat, Screw Lockup | 4 | | | | P-19182 |
| 15 | Bleeder Valve | 2 | | | | P-19178 |
| 16 | Pin - Pad Retainer | 2 | | | | P-19176 |
| 17 | Washer - Flat | 2 | | | | P-19165 |
| 18 | Pin - Cotter | 2 | | | | P-19177 |
| * | Label - Brake Fluid, Red Tag | 1 | | | | |
| | NOT ILLUSTRATED ITEMS | | | | | |
| LH | Left Hand | | | | | |
| RH | Right Hand | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

MODEL B44 S/N 101-767, (770 & 771) FRG...

MODEL 644 S/N 469 - 529, 531 & 532

SERVICE PARTS

NO. 63186, NO. 63187

PS-1200 PLANETARY STEERING AXLE ASSEMBLY

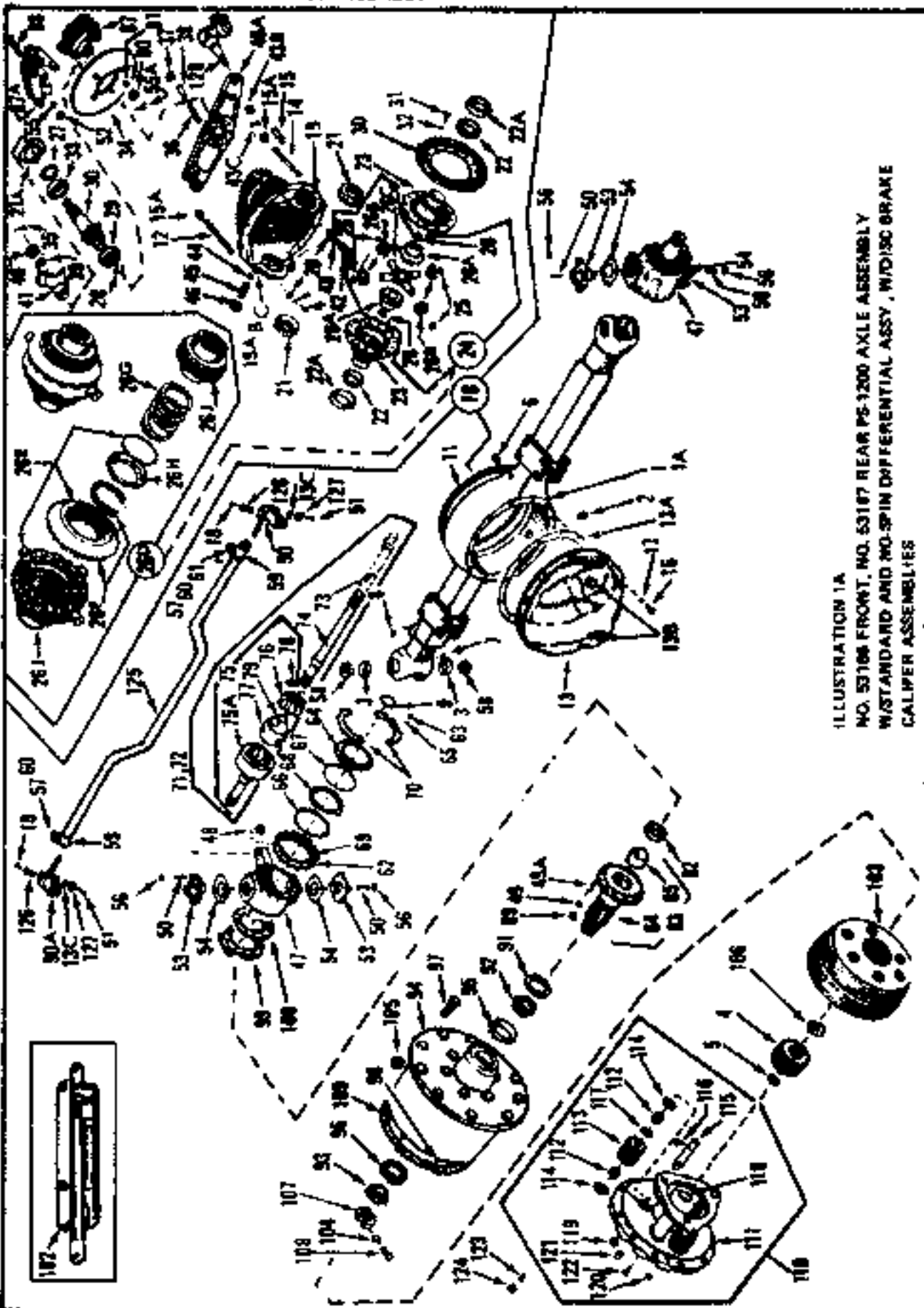


ILLUSTRATION 1A
NO. 63186 FRONT, NO. 63187 REAR PS-1200 AXLE ASSEMBLY
W/STANDARD AND NO-SPIN DIFFERENTIAL ASSY, W/DISC BRAKE
CALIPER ASSEMBLIES

NO. 63187 PS-1200 PLANETARY
STEERING AXLE ASSY. W/STANDARD
DIFFERENTIAL ASSEMBLY

NO. 63186 PS-1200 PLANETARY
STEERING AXLE ASSY. W/NO-SPIN
DIFFERENTIAL ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|-------|--|----------|----|----------|
| | | A | B | |
| | COMPLETE PS-1200 PLANETARY STEERING AXLE ASSEMBLY (Front) | | | |
| | W/NO-SPIN DIFFERENTIAL ASSEMBLY, W/HEAVY DUTY 22 ⁰ | | | |
| | BALL ENDS | 1 | | P-18068 |
| | COMPLETE PS-1200 PLANETARY STEERING AXLE ASSEMBLY (Rear) | | | |
| | W/STANDARD DIFFERENTIAL ASSEMBLY, W/HEAVY DUTY 22 ⁰ | | | |
| | BALL ENDS | | 1 | P-18069 |
| 1 | Axle Housing Weldment (Front) | 1 | | P-19296 |
| 1A | Axle Housing Weldment (Rear) | | 1 | P-19297 |
| 2 | Plugs - Magnetic Drain, 1/2" NPT | 1 | 1 | P-13780 |
| 3 | Cup - Bearing | 4 | 4 | P-19298 |
| 4 | Gear - Sun | 2 | 2 | P-13782 |
| 5 | Ring - Retaining | 2 | 2 | P-13783 |
| 6 | Vent - Axle Air | 1 | 1 | P-13784 |
| 7 | Plug - Ball End Grease, 3/8" NPT | 2 | 2 | P-13785 |
| 8 | Fitting - Lubrication, 1/8" NPT Straight | 2 | 2 | P-13786 |
| 9 | Stud - Oil, Axle Shaft | 2 | 2 | P-13787 |
| 10 | Fitting - Grease, 1/4" 28 (Tie Rod) | 2 | 2 | P-13788 |
| **11 | Gasket - Differential Carrier | 1 | 1 | P-13789 |
| 12 | Stud - Carrier Mounting, 7/16" 14 X 7/16" 20 X 1.88" | 6 | 8 | P-17535 |
| 13 | Cover - Differential Assembly | 1 | 1 | P-13791 |
| **13A | Gasket - Differential Cover | 1 | 1 | P-19299 |
| 13B | Plug - Square Socket, 3/4" 14 (Steel) | 2 | 2 | P-19300 |
| 13C | Washer - Flat, 5/8" | 2 | 2 | P-19306 |
| 14 | Stud - Carrier Mounting, 7/16" 14 X 7/16" 20 X 2.25" | 4 | 4 | P-13795 |
| 15 | Dowel - Tapered, Carrier Mounting | 4 | 4 | P-19307 |
| 15A | Locknut - Carrier Mounting, 7/16" 14 (Grade 8) | 10 | 10 | P-17537 |
| 16 | Bolt - Differential Cover Mounting, 7/16" 20 X 1.00", Hex, (Grade 5PH) | 10 | 10 | P-19308 |
| 17 | Lockwasher - Differential Cover Mounting Bolt, 7/16", P, Regular | | | |
| | Spring | 10 | 10 | P-13797 |
| 18 | Complete Carrier Assembly (6.17:1 Ratio) - Consists of Indented Nuts | | | |

NO. 53187 PS-1200 PLANETARY
STEERING AXLE ASSY. W/STANDARD
DIFFERENTIAL ASSEMBLY

NO. 53186 PS-1200 PLANETARY
STEERING AXLE ASSY. W/NO-SPIN
DIFFERENTIAL ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|---|----------|
| | | A | B | |
| | 19 thru 23, 26D thru 48A | 1 | | P-19342 |
| 18 | Complete Carrier Assembly (6.17:1 Ratio) - Consists of Indented Items | | | |
| | 19 thru 26C, 27 thru 48A | | 1 | P-19343 |
| 19 | Carrier Housing & Cap Assembly | 1 | 1 | P-13799 |
| 19A | Bolt - Hex, 5/8" - 11 X 3.25" (Grade 8PH) | 4 | 4 | P-19309 |
| 19B | Dowel | 4 | 4 | P-13803 |
| 19C | Lockwasher, 5/8", P, Regular Spring | 4 | 4 | P-13804 |
| 20 | Lock - Differential Bearing Adjusting Nut | 2 | 2 | P-13805 |
| 21 | Locknut - Differential Side Bearing | 2 | 2 | P-13806 |
| 21A | Gasket | 1 | 1 | P-13794 |
| 22 | Cone - Differential Side | 2 | 2 | P-17185 |
| 22A | Cup - Differential Side | 2 | 2 | P-17185 |
| 23 | Differential Case & Cover Assembly | 1 | 1 | P-13808 |
| 24 | Complete Differential Assembly - Standard, Consists of Indented | | | |
| | Items 25 thru 28C | | 1 | P-17142 |
| 25 | Washer - Thrust | | 4 | P-17144 |
| 26 | Washer - Thrust | | 2 | P-17145 |
| 26A | Gear - Side | | 2 | P-19310 |
| 26B | Gear - Pinion | | 4 | P-19311 |
| 26C | Spider | | 1 | P-19312 |
| 26D | Complete No-Spin Differential Assembly - Consists of Indented Items | | | |
| | 26E thru 26J | 1 | | P-19344 |
| 26E | Spider Assembly - Consists of Spider, Center Cam, Snap Ring | | | |
| | which are not serviced separately | 1 | | P-19345 |
| 26F | Clutch & Holdout Ring Assembly - Consists of Clutch Member | | | |
| | & Holdout Ring which are not serviced separately | 2 | | P-19346 |
| 26G | Spring | 2 | | P-19347 |
| 26H | Spring Retainer | 2 | | P-19348 |
| 26J | Side Gear | 2 | | P-19349 |
| 27 | Seal Oil | 1 | 1 | P-13843 |
| 28 | Ring - Lock | 1 | 1 | P-13811 |
| | | | | |
| | | | | |

NO. 53137 PS-1200 PLANETARY
STEERING AXLE ASSEMBLY W/STANDARD
DIFFERENTIAL ASSEMBLY

NO. 53186 PS-1200 PLANETARY
STEERING AXLE ASSY. W/NO-SPIN
DIFFERENTIAL ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|----|----------|
| | | A | B | |
| 29 | Bearing - Roller, Pinion Shaft (Rear) | 1 | 1 | P-13812 |
| 30 | Ring Gear & Pinion Assembly (6.17:1 Ratio) | 1 | 1 | P-13813 |
| 31 | Bolt - Hex, Differential Ring Gear, 1/2" - 20 X 2.00" (Grade 7) | 12 | 12 | P-13814 |
| 32 | Lockwasher - Ring Gear Bolt, 1/2", P, Heavy Spring | 12 | 12 | P-13815 |
| 33 | Bearing - Ball, Pinion Shaft (Front) | 1 | 1 | P-13816 |
| 34 | Disc - Brake | 1 | 1 | P-19350 |
| 35 | Cotter Pin - Pinion Nut, 1/8" X 1.75" | 1 | 1 | P-13818 |
| 36 | Stud - Steering Cylinder & Caliper Mounting Bracket, 5/8"-11 & 5/8"
18 X 2.63" | 6 | 6 | P-19351 |
| 37 | Nut - Hex, 5/8" - 18 (Grade 2Z) | 6 | 6 | P-13820 |
| 38 | Dowel - Tapered | 6 | 6 | P-13821 |
| 39 | Washer | 1 | 1 | P-13822 |
| 40 | Nut - Pinion, 1 1/8"-12, Hex | 1 | 1 | P-13823 |
| 41 | Yoke - Brake | 1 | 1 | P-19352 |
| 42 | Bolt - Bearing Adjusting Nut Lock, 5/16" - 18 X 0.62" (Grade 5PH) | 2 | 2 | P-19313 |
| 43 | Lockwasher, Lock Bolt, 5/16", P, Regular Spring | 2 | 2 | P-13826 |
| 43B | Locknut, 1/2" - 20 (Grade 8) | 4 | 4 | P-13842 |
| 43C | Cotter Pin, 1/8" X 1.25", P | 4 | 4 | P-13835 |
| 44 | Pad - Thrust | 1 | 1 | P-13827 |
| 45 | Screw - Thrust Pad | 1 | 1 | P-13828 |
| 46 | Nut - Thrust Pad Screw, 7/8"-14 Jam | 1 | 1 | P-13829 |
| 46A | Stud & Caliper Mounting Assembly (Front) | 1 | 1 | P-19353 |
| 47 | Housing - Steering Knuckle (LH & RH) | 2 | 2 | P-19314 |
| 48 | Bushing - Housing, Steering Knuckle (LH & RH) | 2 | 2 | P-19315 |
| 49 | Washer - Flipped, 7/16" | 24 | 24 | P-19355 |
| 49A | Stud - Spindle to Knuckle, 7/16"-14 & 7/16"-20 X 2.00" | 24 | 24 | P-13833 |
| 50 | Stud - Trunnion to Knuckle, 1/2"-13 & 1/2"-20 X 2.00" | 16 | 16 | P-13834 |
| 51 | Cotter Pin, 1/8" X 1.25" Long (Tie Rod Bolt) | 2 | 2 | P-13835 |
| 52 | Locknut, 1/2"-13 (Grade 8) | 2 | | P-19356 |
| 53 | Trunnion | 4 | 4 | P-19317 |

NO. 63187 PS-1200 PLANETARY
STEERING AXLE ASSY. W/STANDARD
DIFFERENTIAL ASSEMBLY

NO. 63186 PS-1200 PLANETARY
STEERING AXLE ASSY. W/NO-SPIN
DIFFERENTIAL ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|--|----------|----|----------|
| | | A | B | |
| 54 | Shim - Knuckle Bearing (.005" Thick) | AR | AR | P-13839 |
| 54 | Shim - Knuckle Bearing (.010" Thick) | AR | AR | P-13840 |
| 55 | Washer - Flat | 2 | | P-19357 |
| 55A | Cotter Pin, 1/8" X 1.50" P | 2 | 2 | P-19358 |
| 56 | Locknut, 1/2"-20 (Grade B) | 16 | 16 | P-13842 |
| 57 | Lockwasher, 5/8", P, Regular Spring (Tie Rod Clamp Bolt) | 2 | 2 | P-13843 |
| 58 | Cone - Bearing | 4 | 4 | P-19318 |
| 59 | Clamp - Tie Rod | 2 | 2 | P-13845 |
| 60 | Bolt - Hex Head, 5/8"-11 X 2.25" Long (Grade 6PH), (Tie Rod Clamp
Mounting) | 2 | 2 | P-19319 |
| 61 | Nut - Hex, 5/8"-11 (Grade 2P) (Tie Rod Clamp Bolt) | 2 | 2 | P-13847 |
| 62 | Gasket - Knuckle | 2 | 2 | P-13848 |
| 63 | Bolt - Retainer, 5/16"-18 X 0.62" (Grade 2PH) | 24 | 24 | P-19321 |
| 64 | Ring - Split Retainer | 2 | 2 | P-19322 |
| 65 | Lockwasher - Retainer, 5/16", Z, Heavy Spring | 24 | 24 | P-13851 |
| 66 | Seal - Felt, Steering Ball | 2 | 2 | P-19323 |
| 67 | Spring - Ball Seal | 2 | 2 | P-19324 |
| 68 | Seal - Oil, Ball End | 2 | 2 | P-19325 |
| 69 | Flange | 2 | 2 | P-19326 |
| 70 | Ring - Retainer Half | 4 | 4 | P-19327 |
| 71 | Complete Shaft & U-Joint Assembly (LH) - Consists of Indented Items
73 & 75 | 1 | 1 | P-13858 |
| 72 | Complete Shaft & U-Joint Assembly (RH) - Consists of Indented Items
74 & 75 | 1 | 1 | P-13859 |
| 73 | Shaft - Long (37.06") | 1 | 1 | P-13860 |
| 74 | Shaft - Short (30.68") | 1 | 1 | P-13861 |
| 75 | Complete U-Joint Assembly - Consists of Indented Items 76A thru 79 | 1 | 1 | P-13857 |
| 75A | Ball - Outer Race | 1 | 1 | P-13862 |
| 76 | Race - Inner | 1 | 1 | P-13863 |
| 77 | Cage, U-Joint | 1 | 1 | P-13864 |
| 78 | Ball, U-Joint | 6 | 6 | P-13865 |
| 79 | Ring - Snap | 1 | 1 | P-13866 |

NO. 53187 PS-1200 PLANETARY
STEERING AXLE ASSY. W/STANDARD
DIFFERENTIAL ASSEMBLY

NO. 53186 PS-1200 PLANETARY
STEERING AXLE ASSY. W/NO-SPIN
DIFFERENTIAL ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|----|----------|
| | | A | B | |
| 80 | Nut-Heavy, Hex, Blotted, 5/8"-11 (Grade 2P) | 2 | 2 | P-19359 |
| 81 | Washer, 2 1/32" X 3/8" X 3/16" | 2 | 2 | P-19360 |
| 82 | Seal - Oil | 2 | 2 | P-13869 |
| 83 | Complete Spindle Assembly (LH & RH) Consists of indented items 84-86 | 2 | 2 | P-13870 |
| 84 | Spindle Only | 2 | 2 | P-13871 |
| 85 | Shocking - Spindle (LH & RH) | 2 | 2 | P-13872 |
| 87 | Complete Caliper Assy. - See pages 47 & 48 | 1 | 1 | P-19145 |
| 87A | Complete Caliper Assy. - (Mechanical) - See pages 49 & 50 | 1 | | P-19146 |
| 88 | Bolt | 2 | | P-19361 |
| 89 | Locknut - Spindle to Flange, 7/16"-20 (Grade 9) | 24 | 24 | P-13876 |
| 90 | Gears (LH) - Tie Rod End | 1 | 1 | P-13877 |
| 90A | Gears (RH) - Tie Rod End | 1 | 1 | P-13878 |
| 91 | Seal - Oil | 2 | 2 | P-13879 |
| 92 | Cone - Bearing (inner) | 2 | 2 | P-13880 |
| 93 | Cone - Bearing (Outer) | 2 | 2 | P-13881 |
| | Complete Hub Assembly (LH & RH) Consists of indented items 94-98 | 2 | 2 | P-19362 |
| 94 | Hub Only | 2 | 2 | P-13883 |
| 95 | Cup - Bearing (inner) | 2 | 2 | P-13886 |
| 96 | Cup - Bearing (Outer) | 2 | 2 | P-13887 |
| 97 | Stud - Wheel | 20 | 20 | P-13888 |
| 98 | Stud - Hub to Drive Flange, 7/16"-14 X 7/16"-20 X 1.78" | 24 | 24 | P-13889 |
| 99 | Oil Deflector | 2 | 2 | P-19363 |
| 100 | Spacer | 2 | 2 | P-19364 |
| 102 | Hydraulic Strg. Cylinder (Cross) 4-5/8" Stroke, 17-7/16" Collapsed
Length - See pages 41 & 42 - #53003 thru 5/N 803166 | 2 | 2 | P-19389 |
| 102 | Hydraulic Strg. Cylinder (Lateral) 4-5/8" Stroke, 17-7/16" Collapsed
Length - See pages 45 & 46 - #507088 S/N 003166 & up. | 2 | 2 | P-19383 |
| 103 | Ring Gear | 2 | 2 | P-19330 |
| 104 | Lockwasher, 5/16" Heavy Spring | 2 | 2 | P-13804 |
| 105 | Nut - Wheel, 3/4"-16 | 20 | 20 | P-13894 |
| 106 | Spacer - Ring | 2 | 2 | P-13895 |
| 107 | Locknut - Bearing, 2 3/4" - 16 | 2 | 2 | P-13896 |
| 108 | Bolt - Hex, 5/16"-24 X 2.25" (Grade 8PH) | 2 | 2 | P-19331 |

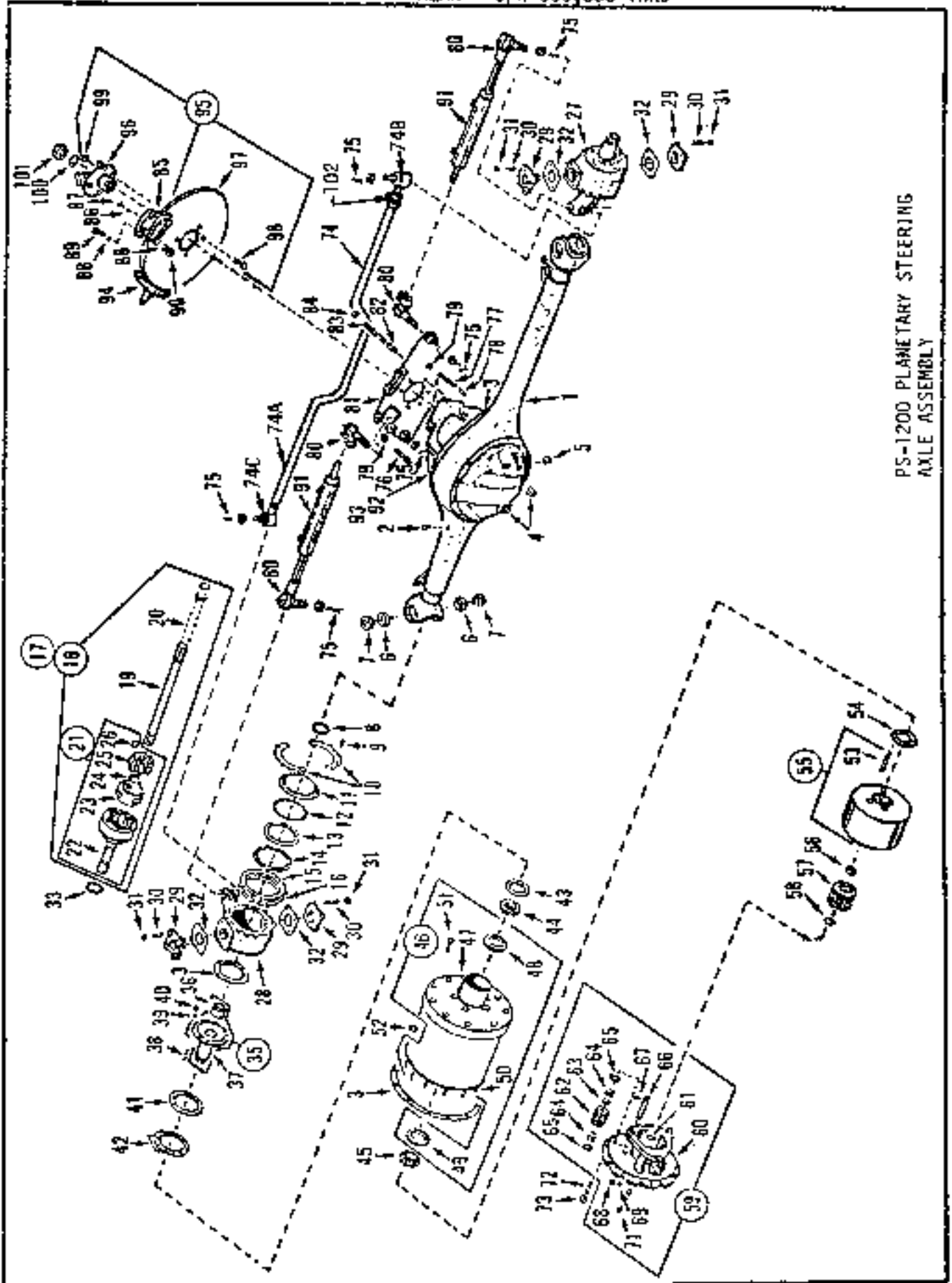
NO. 53187 PS-1200 PLANETARY
STEERING AXLE ASSY, W/STANDARD
DIFFERENTIAL ASSEMBLY

NO. 53188 PS-1200 PLANETARY
STEERING AXLE ASSY, W/NO-SPIN
DIFFERENTIAL ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|-------|--|----------|-----|----------|
| | | A | B | |
| **109 | Gasket - Drive Flange | 2 | 2 | P-13898 |
| 110 | Complete Drive Flange & Planetary Gear Assembly - Consists of indented
Items 111 thru 122 | | | |
| | | 2 | 2 | P-19332 |
| 111 | Drive Flange Only | 2 | 2 | P-19333 |
| 112 | Needle Bearing (50 Quantity Per Gear) | 300 | 300 | P-13901 |
| 113 | Planet Gear | 6 | 6 | P-13902 |
| 114 | Washer - Spacer | 12 | 12 | P-13903 |
| 115 | Pin - Planet Gear | 6 | 6 | P-19334 |
| 116 | Pin - Spring, 3/16" X 1.50" | 6 | 6 | P-19335 |
| 117 | Spacer - Planet Gear | 6 | 6 | P-13906 |
| 118 | Washer - Thrust | 2 | 2 | P-19336 |
| 119 | Plug - Square Socket Pipe, 1/2"-14C | 2 | 2 | P-19337 |
| 120 | Plug - Pipe, 1/8" NPT | 2 | 2 | P-13867 |
| 121 | Plug - Magnetic Drain, 1/2"-14 | 2 | 2 | P-13780 |
| 122 | Fitting - Relief | 2 | 2 | P-13968 |
| *122A | Name Plate (Lull) - Drive Flange & Planetary Gear Assembly | 2 | 2 | P-19338 |
| *122B | Screw - Machine (Name Plate Mounting), #10-32 X 0.31" C | 4 | 4 | P-19339 |
| 123 | Dowel - Tapered | 24 | 24 | P-13910 |
| 124 | Locknut, 7/16" - 20 (Grade B) | 24 | 24 | P-13911 |
| 125 | Tie Rod | 1 | 1 | P-13912 |
| 126 | Stud - Special | 2 | 2 | P-19339 |
| 127 | Nut - Slotted Head, 5/8"-11 (Grade 2P) (Tie Rod) | 2 | 2 | P-13914 |
| 128 | Socket Assembly | 4 | 4 | P-13915 |
| * | Name Plate (Axle Housing) | 1 | 1 | P-19340 |
| * | Drive Screws (Axle Nameplate Mounting), #2 X 1/4" | 4 | 4 | P-13917 |
| * | Bearing Set (Consists of Items 22, 22A, 28, 33) | 1 | 1 | P-13919 |
| * | NOT ILLUSTRATED ITEMS | | | |
| ** | Customer may substitute silicone adhesive/sealant equal or equivalent
to RTV-282 Dow Corning in place of gasket | | | |
| * | Label - Gear Lube | 3 | 3 | P-19314 |
| * | Fitting (No. 507081 Disc Brake Caliper Assembly) | 2 | 2 | |
| * | Bleed Screw (No. 507081 Disc Brake Caliper Assembly) | 2 | 2 | |
| LH | - Left Hand | | | |
| RH | - Right Hand | | | |
| AR | -As Required | | | |
| Assy | - Assembly | | | |

SERVICE PARTS
AXLE ASSEMBLY

844 FRONT S/N 768,769,772 THRU
2500 S/N 76A THRU
644 FRONT S/N 530,530 THRU
REAR S/N 530,533 THRU



PS-1200 PLANETARY STEERING
AXLE ASSEMBLY

SERVICE PARTS
AXLE ASSEMBLY

REAR PLANETARY
STEERING AXLE ASSEMBLY

FRONT PLANETARY
STEERING AXLE ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|----|----------|
| | | A | B | |
| | COMPLETE PLANETARY STEERING AXLE ASSY - 6.17:1 RATIO | 1 | | P21735 |
| | COMPLETE PLANETARY STEERING AXLE ASSY - 6.17:1 RATIO | | 1 | P21736 |
| | COMPLETE PLANETARY STEERING AXLE ASSY - 5.43:1 RATIO | 1 | | P21765 |
| | COMPLETE PLANETARY STEERING AXLE ASSY - 5.43:1 RATIO | | 1 | P21766 |
| | | | | |
| 1 | Axle Housing Weldment | 1 | 1 | P21801 |
| 2 | Vent - Axle Air | 1 | 1 | P13784 |
| *3 | Formed Gasket | AR | AR | |
| 4 | Plug - Square Socket, 3/4"-14 (Steel) | 2 | 2 | P19300 |
| 5 | Plug - Magnetic Drain, 1/2"-14 | 1 | 1 | P13780 |
| 6 | Cup - Bearing | 4 | 4 | P19298 |
| 7 | Cone - Bearing | 4 | 4 | P19318 |
| 8 | Seal - Oil, Axle Shaft | 2 | 2 | P13787 |
| 9 | Bolt, 5/16"-18 X 0.50" (Grade 2 Whit) | 24 | 24 | P17150 |
| 10 | Retainer - Outer (2 LH, 2 RH) | 4 | 4 | P19327 |
| 11 | Retainer - Seal (Split) (LH & RH) | 2 | 2 | P19322 |
| 12 | Spring - Ball Seal (LH & RH) | 2 | 2 | P19324 |
| 13 | Seal - Ball End (LH & RH) | 2 | 2 | P19325 |
| 14 | Seal - Felt (LH & RH) | 2 | 2 | P19323 |
| 15 | Retainer - Felt (LH & RH) | 2 | 2 | P19326 |
| 16 | Gasket - Knuckle (LH & RH) | 2 | 2 | P13848 |
| 17 | Shaft & U-Joint Assembly (Short) - Consists of
Indented Items 19, 21 & Component Parts | 1 | 1 | P21802 |
| 18 | Shaft & U-Joint Assembly (Long) - Consists of
Indented Items 20, 21 & Component Parts | 1 | 1 | P21803 |
| 19 | Axle Shaft (Short) (30.00") | 1 | 1 | P21804 |
| 20 | Axle Shaft (Long) (36.50") | 1 | 1 | P21805 |
| 21 | Complete U-Joint Assembly (LH & RH) - Consists of
Indented Items 22 Thru 26 | 1 | 1 | P21806 |
| 22 | Bell - Outer Race | 1 | 1 | P21807 |
| 23 | Cage, U-Joint | 1 | 1 | P13864 |
| 24 | Ring - Snap | 1 | 1 | P13866 |

SERVILE PARTS
AXLE ASSEMBLY

REAR PLANETARY
STEERING AXLE ASSEMBLY

FRONT PLANETARY
STEERING AXLE ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|----|----------|
| | | A | B | |
| 25 | Race - Inner | 1 | 1 | P21808 |
| 26 | Ball, U-joint | 6 | 6 | P13865 |
| 27 | Housing - Steering Knuckle (LH) | 1 | 1 | P21809 |
| 28 | Housing - Steering Knuckle (RH) | 1 | 1 | P21810 |
| 29 | Trunnion | 4 | 4 | P19312 |
| 30 | Stud, 1/2"-13 & 1/2"-20 X 2.00" (Trunnion Mounting) | 16 | 16 | P13834 |
| 31 | Locknut, 1/2"-20 (Grade 8) (Trunnion Mounting) | 16 | 16 | P13842 |
| 32 | Shim - Knuckle Bearing (.005" Thick) | 4 | 4 | P13839 |
| 32 | Shim - Knuckle Bearing (.010" Thick) | 4 | 4 | P13840 |
| 33 | Seal - Oil (LH & RH) | 2 | 2 | P13869 |
| 35 | Spindle Assembly (LH & RH) - Consists of Items 36, 37 | 2 | 2 | P21811 |
| 36 | Bushing - Spindle (LH & RH) | 2 | 2 | P13872 |
| 37 | Spindle Only (LH & RH) | 2 | 2 | P21812 |
| 38 | Stud - Spindle to Knuckle, 7/16"-14 & 7/16"-20 X
2.00" (12 LH, 12 RH) | 24 | 24 | P13833 |
| 39 | Washer (12 LH, 12 RH) | 24 | 24 | P21813 |
| 40 | Locknut, 7/16"-20 (Grade 8) (12 LH, 12 RH) | 24 | 24 | P13911 |
| 41 | Spacer (LH & RH) | 2 | 2 | P19364 |
| 42 | Oil Deflector (LH & RH) | 2 | 2 | P19363 |
| 43 | Seal - Oil (LH & RH) | 2 | 2 | P13879 |
| 44 | Cone - Bearing (Inner) (LH & RH) | 2 | 2 | P13880 |
| 45 | Cone - Bearing (Outer) (LH & RH) | 2 | 2 | P13881 |
| 46 | Complete Hub Assembly (LH & RH) - Consists of
Items 47 Thru 51 | 2 | 2 | P21814 |
| 47 | Hub Only (LH & RH) | 2 | 2 | P21815 |
| 48 | Cup - Bearing (Inner) (LH & RH) | 2 | 2 | P13886 |
| 49 | Cup - Bearing (Outer) (LH & RH) | 2 | 2 | P13887 |
| 50 | Stud - Hub to Drive Flange, 7/16"-14 X 7/16"-20 X
1.75" (12 LH, 12 RH) | 24 | 24 | P13889 |
| 51 | Stud - Wheel (10 LH, 10 RH) | 20 | 20 | P21816 |
| 52 | Nut - Wheel, 3/4"-16 (10 LH, 10 RH) | 20 | 20 | P13894 |

SERVICE PARTS
AXLE ASSEMBLY

REAR PLANETARY
STEERING AXLE ASSEMBLY

FRONT PLANETARY
STEERING AXLE ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|-----|----------|
| | | A | B | |
| 53 | Roll Pin, .312" x .750" (LH & RH) | 2 | 2 | P21817 |
| 54 | Locknut (LH & RH) | 2 | 2 | P21818 |
| 55 | Ring Gear Assembly (LH & RH) Includes | | | |
| | Roll Pin - Item 53 & | 2 | 2 | P21819 |
| 56 | Spacer (LH & RH) | 2 | 2 | P13895 |
| 57 | Sun Gear (LH & RH) | 2 | 2 | P21820 |
| 58 | Ring - Retaining (LH & RH) | 2 | 2 | P13783 |
| 59 | Complete Drive Flange & Planetary Gear Assembly
(LH & RH) - Consists of Items 60 Thru 71 | 2 | 2 | P19332 |
| 60 | Drive Flange Only (LH & RH) | 2 | 2 | P13900 |
| 61 | Thrust Washer (LH & RH) | 2 | 2 | P19336 |
| 62 | Planetary Gear (3 LH, 3 RH) | 6 | 6 | P13902 |
| 63 | Spacer - Planetary Gear (3 LH, 3 RH) | 6 | 6 | P13906 |
| 64 | Needle Bearing (50 Quantity Per Gear) | 300 | 300 | P13901 |
| 65 | Washer - Special, 7/8" (6 LH, 6 RH) | 12 | 12 | P13903 |
| 66 | Pin - Planetary Gear (3 LH, 3 RH) | 6 | 6 | P19334 |
| 67 | Pin - Tension, 3/16" X 1.50" (3 LH, 3 RH) | 6 | 6 | P19335 |
| 68 | Plug - Magnetic Drain, 1/2"-14 (LH & RH) | 2 | 2 | P13780 |
| 69 | Plug - Hex Soc. Pipe, 1/2"-14 (LH & RH) | 2 | 2 | P13909 |
| 71 | Relief Fitting (LH & RH) | 2 | 2 | P21821 |
| 72 | Dowel - Tapered (12 LH, 12 RH) | 24 | 24 | P13910 |
| 73 | Locknut, 7/16"-20 (Gr. 8) (12 LH, 12 RH) | 24 | 24 | P13911 |
| 74 | Tie Rod Assembly | 1 | 1 | P21822 |
| 74A | Tie Rod | 1 | 1 | P23262 |
| 74B | Tie Rod End, Course Thread | 1 | 1 | P23263 |
| 74C | Tie Rod End, Fine Thread | 1 | 1 | P10345 |
| 75 | Cotter Pin, 1/8" X 1.25", P | 6 | 6 | P13835 |
| 76 | Stud, 7/16"-14 & 7/16"-20 X 1.88" (Carrier Mounting) | 6 | 6 | P17535 |
| 77 | Stud, 7/16"-14 & 7/16"-20 X 2.25" (Carrier Mounting) | 4 | 4 | P17536 |
| 3 | Dowel - Tapered (Carrier Mounting) | 4 | 4 | P13910 |
| 79 | Locknut, 7/16"-14 (Grade 8) | 10 | 10 | P17537 |
| 80 | Vertical Socket | 4 | 4 | P13915 |

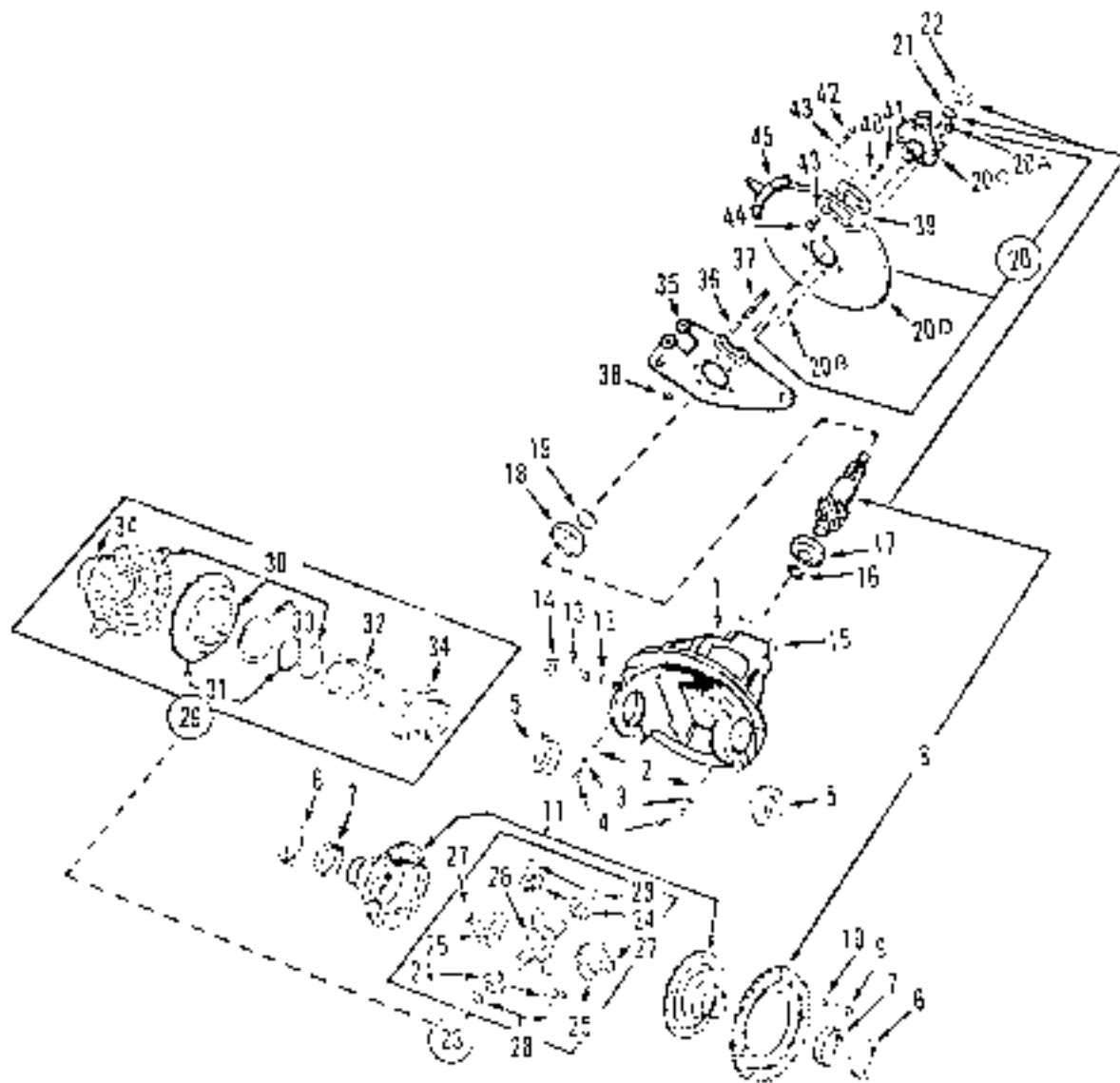
AXLE ASSEMBLY

REAR PLANETARY
STEERING AXLE ASSEMBLY

FRONT PLANETARY
STEERING AXLE ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|---|----------|
| | | A | B | |
| 81 | Bracket - Steering Cylinder | 1 | 1 | P21823 |
| 82 | Dowel - Bracket Mounting | 6 | 6 | P13821 |
| 83 | Stud, 5/8"-18 & 5/8"-11 X 2.530", Bracket Mounting | 6 | 6 | P13819 |
| 84 | Nut, Hex, 5/8"-18 (Grade 5Z), Bracket Mounting | 6 | 6 | P13820 |
| 85 | Complete Caliper Assembly | 1 | 1 | P20780 |
| 86 | Fitting - Bleeder Screw (Caliper Assembly) | 2 | 2 | P19767 |
| 87 | Bleeder Screw (Caliper Assembly) | 2 | 2 | P21824 |
| 88 | Washer - Flat, 5/8" | 4 | 4 | P19306 |
| 89 | Screw, 12 PT., 5/8"-11 X 2.50" (Grade 8 PH) | 2 | 2 | P21825 |
| 90 | Locknut, 5/8"-11 (Grade 8) | 2 | 2 | P21826 |
| 91 | Complete Steering Cylinder Assembly (LH & RH) | 2 | 2 | P21827 |
| 91A | Seal Kit, Steering Cylinder (Not shown) | 2 | 2 | P21828 |
| 92 | Complete Carrier Assembly (6.17:1 Ratio) w/No-Spin | 1 | | P21829 |
| | Complete Carrier Assembly (5.43:1 Ratio)w/No-Spin | 1 | | P21831 |
| 93 | Complete Carrier Assembly (6.17:1 Ratio) Standard | | 1 | P21830 |
| | Complete Carrier Assembly (5.34:1 Ratio) Standard | | 1 | P21832 |
| 94 | Complete Caliper Assembly - Mechanical | 1 | | P20781 |
| 95 | End Yoke Assembly | 1 | 1 | P21837 |
| 96 | Yoke, 6C | 1 | 1 | P19352 |
| 97 | Disc - Brake | 1 | 1 | P21833 |
| 98 | Hex Head Screw - Special | 4 | 4 | P21834 |
| 99 | Locknut, 1/2"-20 (Grade 8) | 4 | 4 | P13842 |
| 100 | Washer - Flat, 1" | 1 | 1 | P21835 |
| 101 | Nut - Pinion | 1 | 1 | P21836 |
| 102 | Clamp, Tie Rod | 2 | 2 | P23264 |
| * | Customer may substitute silicone adhesive/Sealant equal to RTV-732 Dow Coring in place of gasket. | | | |

SERVICE PARTS
LIST FOR ASSEMBLY



SERVICE PARCE
CARRIER ASSEMBLY

CARRIER ASSEMBLY
W/NO-SPIN DIFFERENTIAL

CARRIER ASSEMBLY
W/STANDARD DIFFERENTIAL

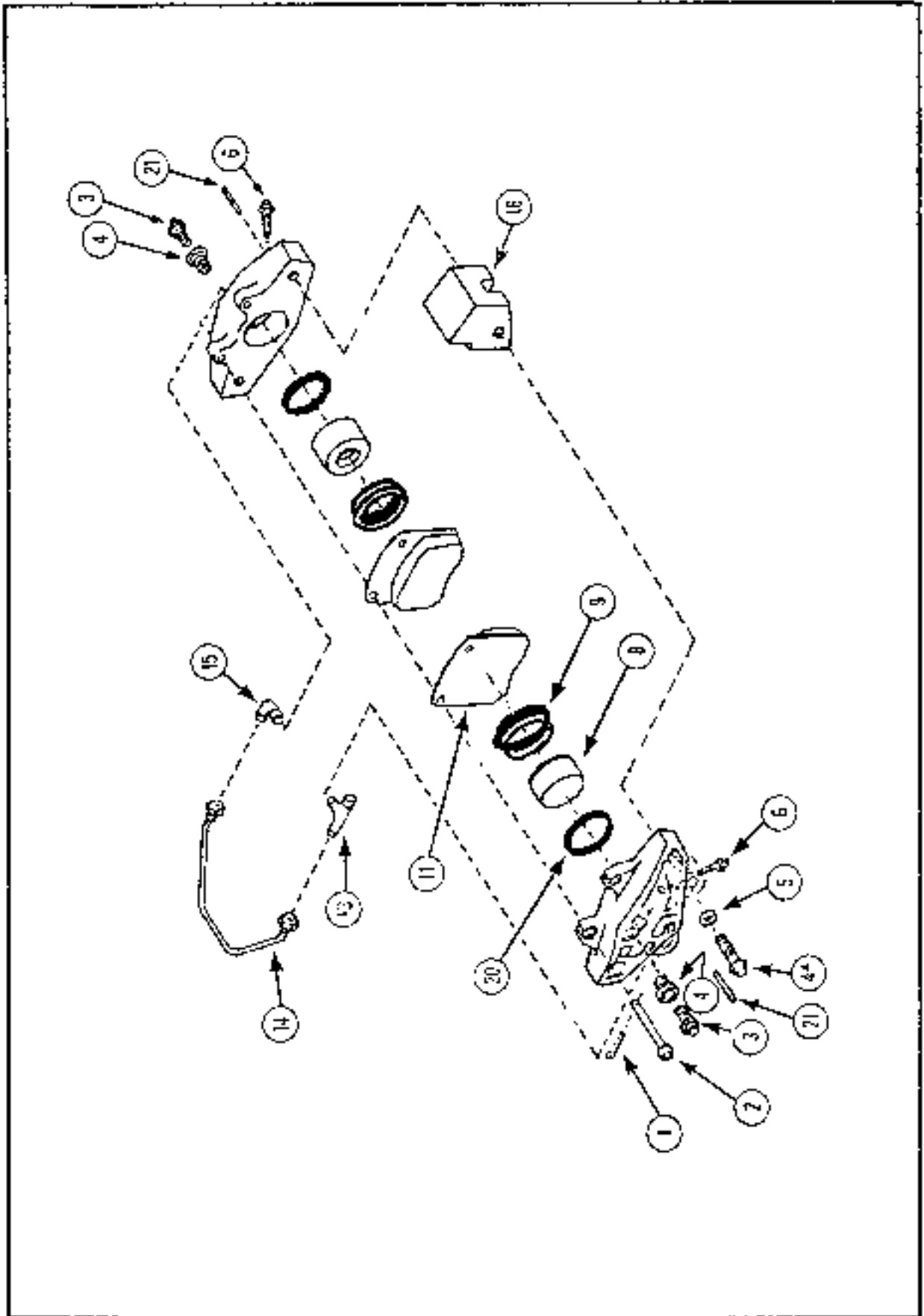
| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---|----------|----|----------|
| | | A | B | |
| | COMPLETE CARRIER ASSY W/NO-SPIN DIFF (6.17:1 RATIO) | | 1 | P21829 |
| | COMPLETE CARRIER ASSY W/NO-SPIN DIFF (5.43:1 RATIO) | | 1 | P21831 |
| | CONSISTS OF ITEMS 1 THRU 22, 29 THRU 38. | | | |
| | COMPLETE CARRIER ASSY W/STANDARD DIFF (6.17:1 RATIO) | 1 | | P21830 |
| | COMPLETE CARRIER ASSY W/STANDARD DIFF (5.43:1 RATIO) | 1 | | P21832 |
| | CONSISTS OF ITEMS 1 THRU 20, 25 THRU 38. | | | |
| 1 | Carrier Housing & Cap Assembly | 1 | 1 | P21842 |
| 2 | Lock - Differential Adjusting Nut | 2 | 2 | P13805 |
| 3 | Lockwasher, Lock Bolt, 5/16", P, Reg. Spring | 2 | 2 | P13826 |
| 4 | bolt - Bearing Adjusting Nut Lock,
5/16"-13 X 0.625" (Grade 5PH) | 2 | 2 | P19313 |
| 5 | Locknut - Bearing Adjusting | 2 | 2 | P13805 |
| 6 | Cup - Bearing, Differential Side | 2 | 2 | P17185 |
| 7 | Cone - Bearing, Differential Side | 2 | 2 | P17105 |
| 8 | Ring Gear & Pinion Kit (6.17:1 Ratio) | 1 | 1 | P13813 |
| | Ring Gear and Pinion Kit (5.43:1 Ratio) | 1 | 1 | P21843 |
| 9 | bolt- Diff. Ring Gear, 1/2"-20 X 2.00"
(Grade 7) | 12 | 12 | P13814 |
| 10 | Lockwasher, Drill, Ring Gear Bolt, 1/2", P,
Heavy Spring | 12 | 12 | P13815 |
| 11 | Differential Case & Cover Assembly | 1 | 1 | P13908 |
| 12 | Ball - Thrust | 1 | 1 | P13827 |
| 13 | Screw - Thrust Pad | 1 | 1 | P13828 |
| 14 | Ball Nut - Thrust Pad Screw, 7/8"-14 | 1 | 1 | P13629 |
| 15 | Casket | 1 | 1 | P13794 |
| 16 | Ring & Lock, Pinion Shaft Bearing | 1 | 1 | P13811 |
| 17 | Bearing, Roller - Pinion Shaft (Rear) | 1 | 1 | P13812 |
| 18 | Bearing, Ball - Pinion Shaft (Front) | 1 | 1 | P13816 |
| 19 | Seal - Oil | 1 | 1 | P13841 |

SERVICE PARTS
CARRIER ASSEMBLY

CARRIER ASSEMBLY
W/NO-SPIN DIFFERENTIAL

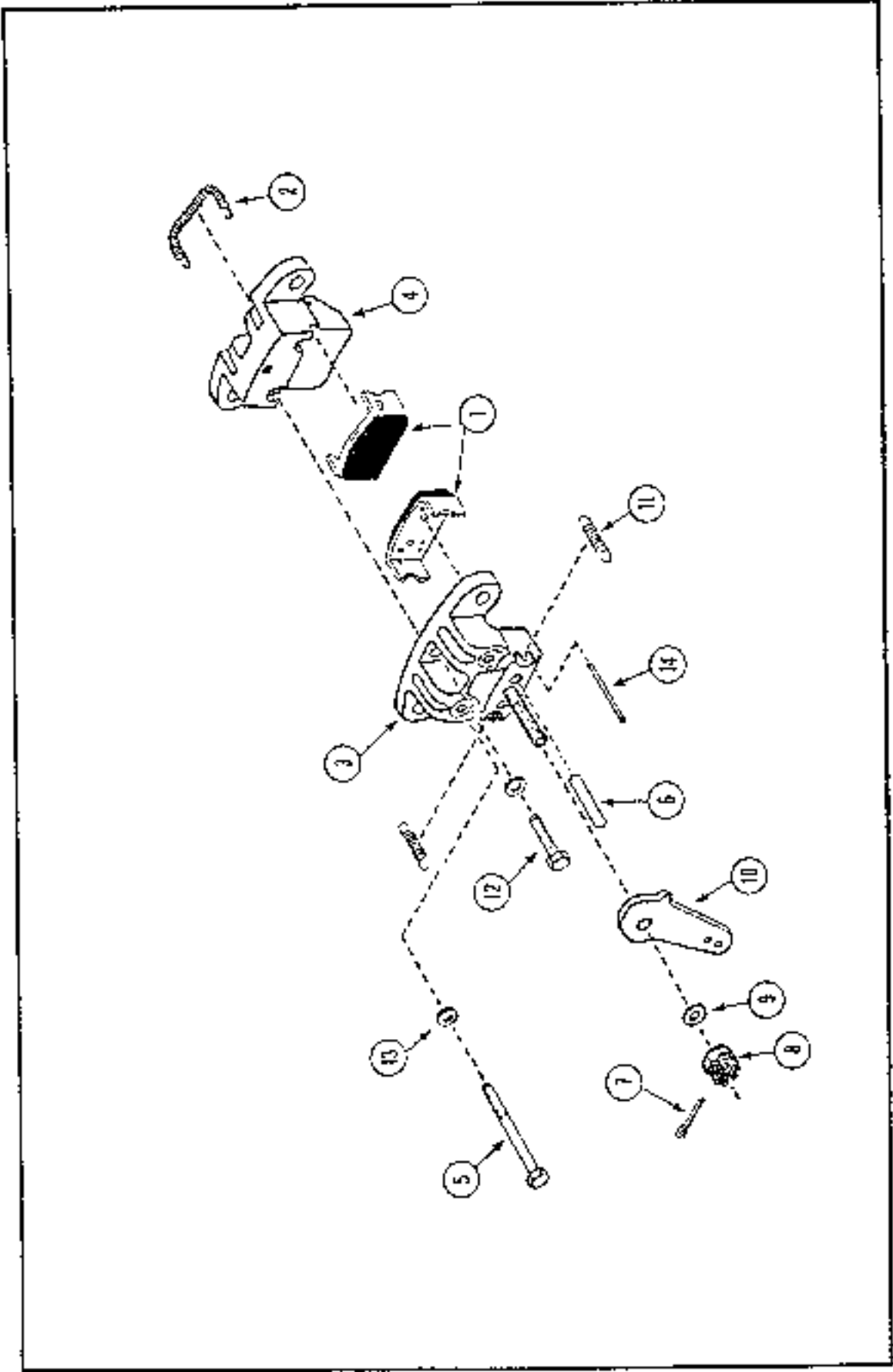
CARRIER ASSEMBLY
W/STANDARD DIFFERENTIAL

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|--|----------|---|----------|
| | | A | B | |
| 20 | End Yoke Assembly | 1 | 1 | P21837 |
| *20A | Locknut, 1/2"-20 (Grade 8) | 4 | 4 | P13842 |
| *20B | Hex Head Screw - Special | 4 | 4 | P21834 |
| *20C | Yoke, 6C | 1 | 1 | P19352 |
| 20D | Disc - Brake | 1 | 1 | P21833 |
| 21 | Washer - Flat, 1" | 1 | 1 | P21835 |
| 22 | Nut - Pinion | 1 | 1 | P21836 |
| 23 | Complete Differential Assembly - Standard,
Consists of Items 24 thru 28 | 1 | | P21838 |
| 24 | Gear - Pinion | 4 | | P19310 |
| 25 | Gear - Side | 2 | | P21839 |
| 26 | Spider | 1 | | P19312 |
| 27 | Washer - Thrust | 2 | | P17145 |
| 28 | Washer - Thrust | 4 | | P17144 |
| 29 | Complete No Spin Differential Assembly -
Consists of Items 30 thru 34 | | 1 | P21840 |
| 30 | Spider Assembly - consists of Spider,
Center Cam, Snap Ring which is not
serviced separately | | 1 | P19345 |
| 31 | Clutch & Holdout Ring Assembly - consists
of Clutch Member & Holdout Ring which is
not serviced separately | | 1 | P21841 |
| 32 | Spring | | 2 | P19347 |
| 33 | Retainer - Spring | | 2 | P19348 |
| 34 | Side Gear (LH & RH) | | 2 | P19349 |
| 35 | Bracket - Steering Cylinder | 1 | 1 | P21823 |
| 36 | Dowel | 6 | 6 | P13821 |
| 37 | Stud, 5/8"-16 x 5/8"-11 X 2.530" | 5 | 6 | P13819 |
| 38 | Nut - Hex, 5/8"-16 (Grade 52) | 6 | 6 | P13820 |
| 39 | Complete Caliper Assembly | 1 | 1 | P20780 |
| 40 | Fitting-Bleeder Screw (Caliper Assembly) | 2 | 2 | P19767 |



CALIPER ASSEMBLY

| ITEM | DESCRIPTION | QUANTITY | | PART NO. |
|------|---------------------------|----------|---|----------|
| | | A | B | |
| | COMPLETE CALIPER ASSEMBLY | 1 | | P20780 |
| 1 | Pin - Center | 2 | | P19177 |
| 2 | Pin - Anchor | 2 | | P19176 |
| 3 | Vent | 2 | | P20789 |
| 4 | Fitting - Hydraulic Brake | 2 | | P20790 |
| 4A | Screw - 12 Fl. Cap | 4 | | P19181 |
| 5 | Washer - Flat | 4 | | P19182 |
| 6 | Vent | 4 | | P20792 |
| 7 | | | | |
| 8 | Piston - Steel Cylinder | 2 | | P20785 |
| 9 | Boot | 2 | | P20794 |
| 10 | | | | |
| 11 | Lin. no. Brake | 2 | | P19159 |
| 12 | | | | |
| 13 | Eye - Flare Tube | 1 | | P19168 |
| 14 | Tubing - Brake | 1 | | P19156 |
| 15 | Elbow - Flare Tube | 1 | | P19167 |
| 16 | Spacer - Brake Cylinder | 2 | | P19160 |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | Ring - O | 2 | | P20786 |
| 21 | Pin - Drive | 2 | | P20791 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



WET DISC BRAKES

Full four wheel drive Highlanders are now equipped with a wet disc brake, which is totally enclosed and mounted on the input end of the axle differential housing. All internal components are sealed in a cast iron housing that is actuated and cooled with hydraulic oil which is supplied by the reservoir. The cooling oil reduces lining wear by dissipating heat produced during repeated braking in a short period, or continuous braking on a long grade. A constant flow of fluid is metered through an orifice at the brake cooling inlet port, and circulated within the housing during machine operation. When the housing chamber fills, the fluid then leaves the outlet port and returns to replenish the master cylinder and hydraulic reservoirs.

The replenishing of the master cylinder serves two (2) purposes. First, it keeps the brake lines and cylinder reservoir full at all times, eliminating the need for refilling. Secondly, it is a visual sign to the operator that the system utilizes hydraulic oil in lieu of brake fluid. A pressure gauge is located at the return line filter (mounted on top of the hydraulic reservoir) to indicate any pressure buildup in the cooling return line caused by a clogged filter element.

SERVICE INFORMATION:

The filter element should be replaced when the pressure exceeds 15 to 18 PSI, to assure maximum filtration of the system. Failure to do so will result in back pressure in the cooling return line, causing possible intermediate seal blow-out, and fluid leakage out the weep hole in the power plate.

To service the filter element, loosen the four (4) nuts and washers and remove the top cover. Lift the element assembly out of the canister and unscrew the nut on the underside to release the element from the insert. Reinstall using reverse procedure.

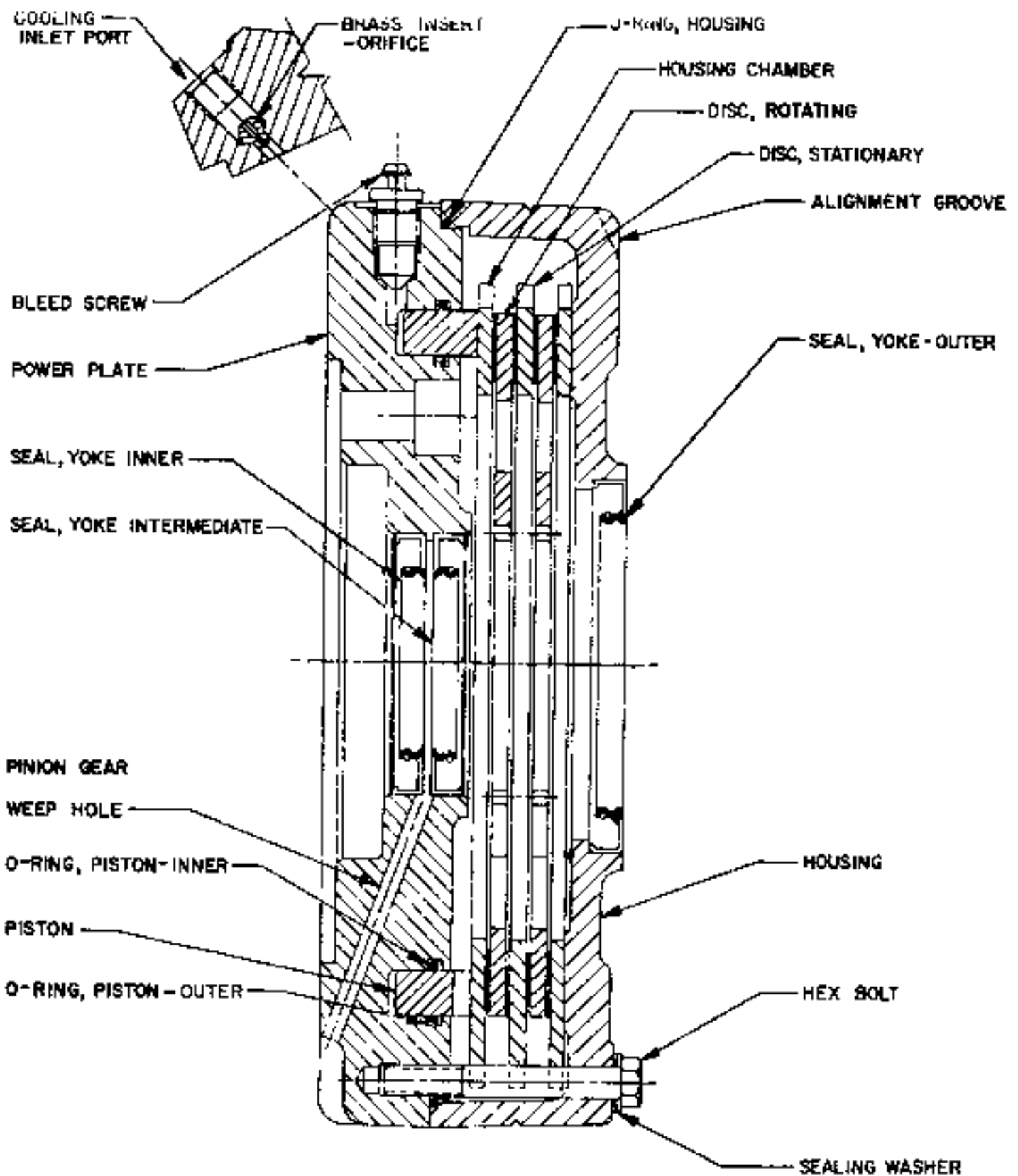
Under normal operating conditions, the temperature of the brake cooling fluids should be 140° - 180° fahrenheit. A temperature reading can be made by removing the pressure gauge located at the return line filter and reinstalling a temperature sending unit. If the temperatures are in excess of 200° fahrenheit, a check should be made to determine the cause. If both front and rear brakes are overheating, it may be an indication that the free travel in the brake pedal linkage needs readjusting. The piston inside the master cylinder must return to its released position with the brake off to allow the trapped fluid in the brake lines to return to the master cylinder reservoir. Should the fluid remain trapped in the lines, the piston in the wet disc brakes cannot fully release, preventing the stationary discs from sliding free of the rotating discs. When this condition prevails, the result is brake linings overheating due to constant friction. The linkage should be adjusted so that with the pedal full up, the push rod has a gap of approximately .06 inch before contacting the returned master cylinder piston. (Alternate method of checking brake temperature: Brake housing should feel no warmer than hydraulic oil reservoir.)

Should the overheating be confined to one brake only, the problem may be a plugged cooling line inlet. Located in the cooling inlet port of each brake is a small brass insert which restricts the amount of fluid entering the housing

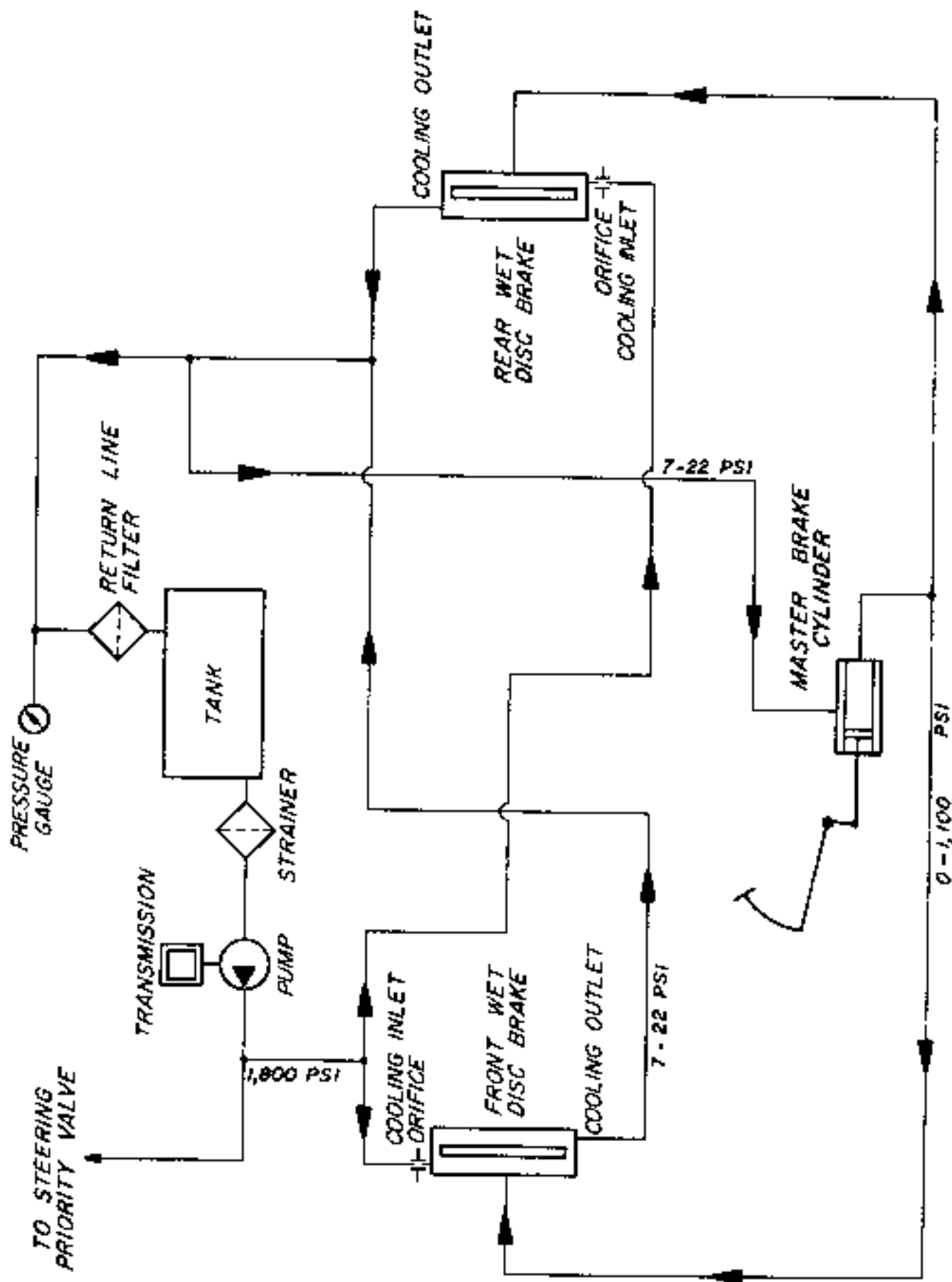
WET DISC BRAKES

SERVICE INFORMATION (continued)

chamber of the wet disc brake. Should these orifices become clogged, it would shut off any fluid circulating through the brake, resulting in overheating. Use either a .020 diameter jewelers ream or a No. 6 acetylene torch tip cleaner to clear the opening. DO NOT redrill the hole to a larger diameter, as this will increase the flow going to the housing chamber, and result in possible intermediate seal blow-out and relaxed steering. This type of brake requires a minimal amount of circulating fluid for cooling, and cannot withstand any surges created by the removal or enlarging of the brass insert.



CUT A WAY VIEW OF WET DISC BRAKE



PLUMBING SCHEMATIC — WET DISC BRAKE

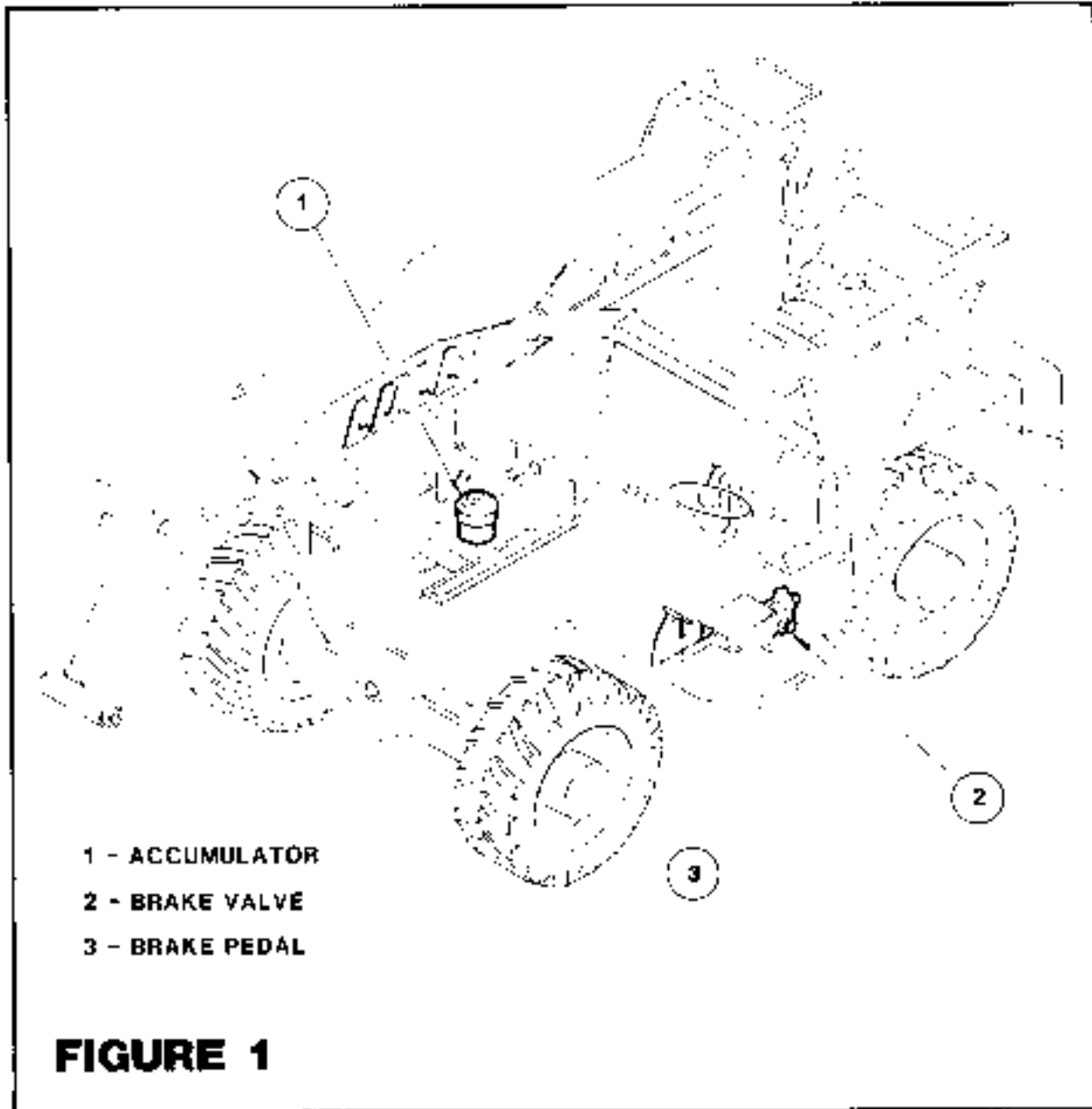
**BRAKE TESTING
AND
BLEEDING PROCEDURE**

**FOR VEHICLES EQUIPPED WITH
WHEEL END WET DISC BRAKES**



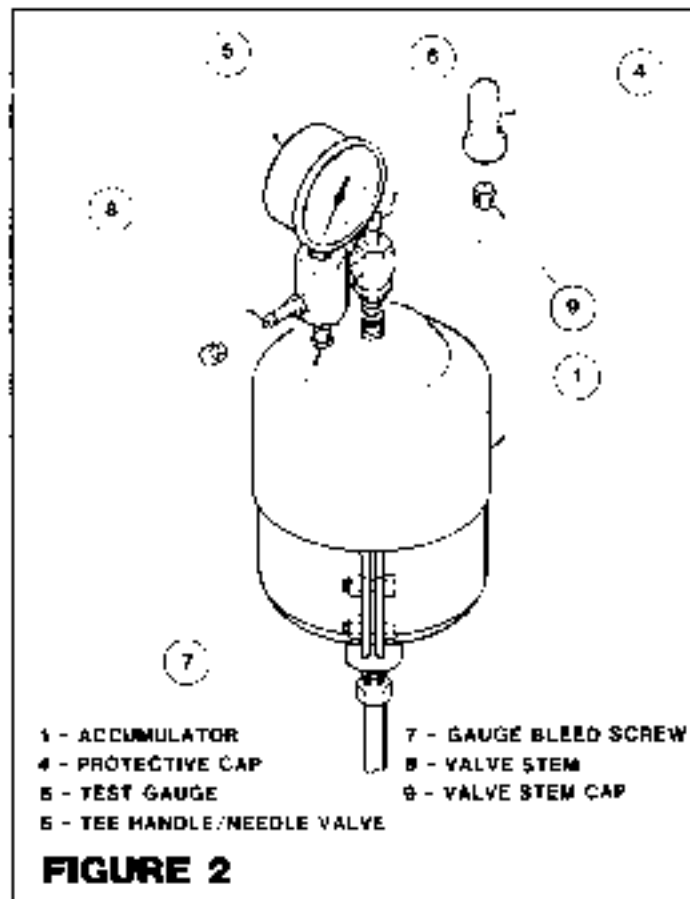
The brake testing and bleeding procedure described herein is performed on each vehicle as it moves off the Lull assembly line. During this time a brake test report is completed by test personnel and placed on file.

This procedure also may be used in the field for checking brake components for failure or adjustment with the aid of test gauges provided by Lull. The bleeding procedure alone does not require use of test equipment.



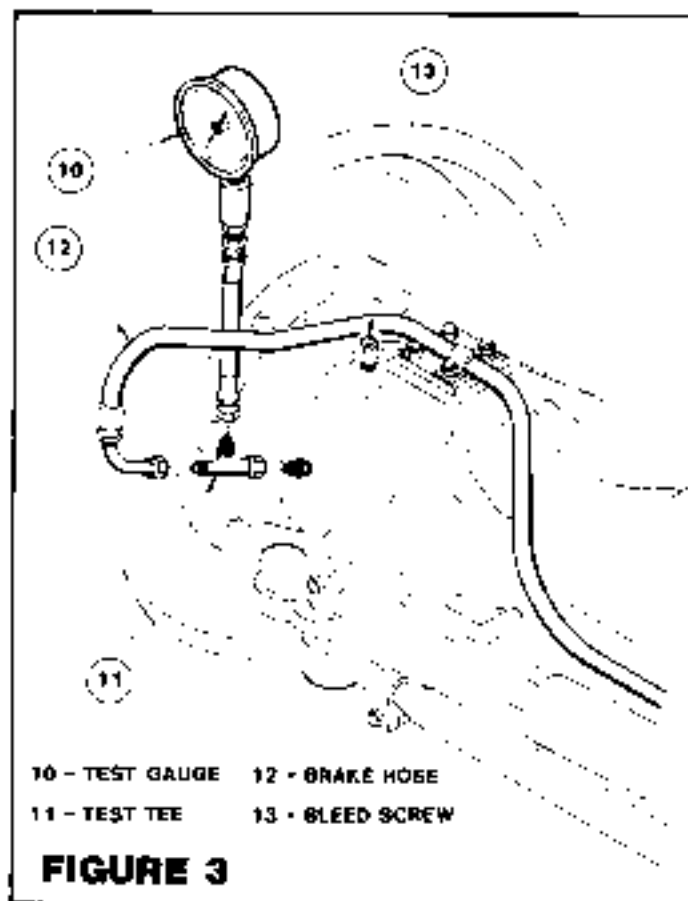
BRAKE TESTING AND BLEEDING PROCEDURE:

1. a. Place transmission selector control in neutral.
b. Apply the emergency brake.
c. Shut off engine.
d. Check hydraulic oil level.
e. Hydraulic pump must be in good operating order.
2. Locate the accumulator (1) on vehicle (See Fig. 1) and remove its protective cap (4) and stem cap (9) (See Fig. 2).



3. a. Mount an appropriate pressure gauge (5) to the accumulator (See Fig. 2). The gauge must be of 2500 PSI capacity (currently calibrated) with 5/16-32 UNEF mounting nut threads.
b. The bleed screw (7) must be tightly closed (turned in).
c. The tee handle/needle valve (6) must be turned out.
d. Be sure of an air-tight connection when mounting gauge.
e. Turn-in the tee handle/needle valve after gauge is mounted.

4. Mount an appropriate pressure testing gauge (10) in the brake line at the left front wheel (See Fig. 3). The gauge must be of 600 PSI capacity (correctly calibrated) with 7/16-20 JIC mounting threads.
NOTE: A test tee (11) will be required which must have 7/16-20 JIC threads.
5. Repeatedly pump (push, hold, release) the brake pedal until all brake line pressure is depleted. Gauge (10) must read 0 PSI.
6. a. At this time the pressure testing gauge (5) must read 400-415 PSI (See Fig. 2).
b. If pressure is correct, proceed to step 7.
c. If pressure is incorrect, proceed to step 13.



7. Start the engine and allow it to run (idle) throughout the remainder of the bleeding and testing procedure. This will allow the accumulator to maintain operating pressure.

8. a. Open bleeder screw (13) at left rear wheel and slowly apply brake pedal pressure until air is bled out of the line, then close bleeder screw.
b. Perform this step at each wheel in the following sequence:

 (As viewed from operator's cab)

 (1) Left Rear
 (2) Right Rear
 (3) Right Front
 (4) Left Front
9. a. For testing brake line pressure, apply brake pedal pressure and hold.
b. Note gauge pressure reading at left front wheel (See Fig. 3).
c. Gauge must indicate 300 to 330 PSI.
d. If pressure is correct:
 (1) Release brake pedal pressure.
 (2) Disassemble gauge (10) and tee (11) from brake line.
 (3) Reassemble brake line.
 (4) Bleed left front wheel following the bleeding instruction in step 8.
e. If pressure is incorrect, proceed to step 14.
10. a. Allow accumulator to reach full charge (high limit) pressure.
b. The test gauge (5) must read between 1150 and 1250 PSI (See Fig. 2).
c. If pressure is correct, proceed to step 11.
d. If pressure is incorrect, proceed to step 13.
11. a. Repeatedly pump (push, hold, release) the brake pedal to allow accumulator pressure to drop.
b. While watching the test gauge (5) (See Fig. 2) note lowest pressure indicated before accumulator begins to recharge (pressure begins to rise).
c. Perform steps (a) and (b) three (3) times.
d. Lowest pressure (low limit) must read between 550 and 650 PSI.
e. If pressure is correct, proceed to step 12.
f. If pressure is incorrect, shut off the engine, replace the brake valve and return to step 7 and continue.
12. a. Turn out tee handle/needle valve (6) on testing gauge (5) (See Fig. 2).
b. Release any remaining air in gauge through bleeding screw (7) and tighten.
c. Remove gauge from accumulator and replace accumulator stem cap (9) and protective cap (4).

The brake testing and bleeding procedure is completed.

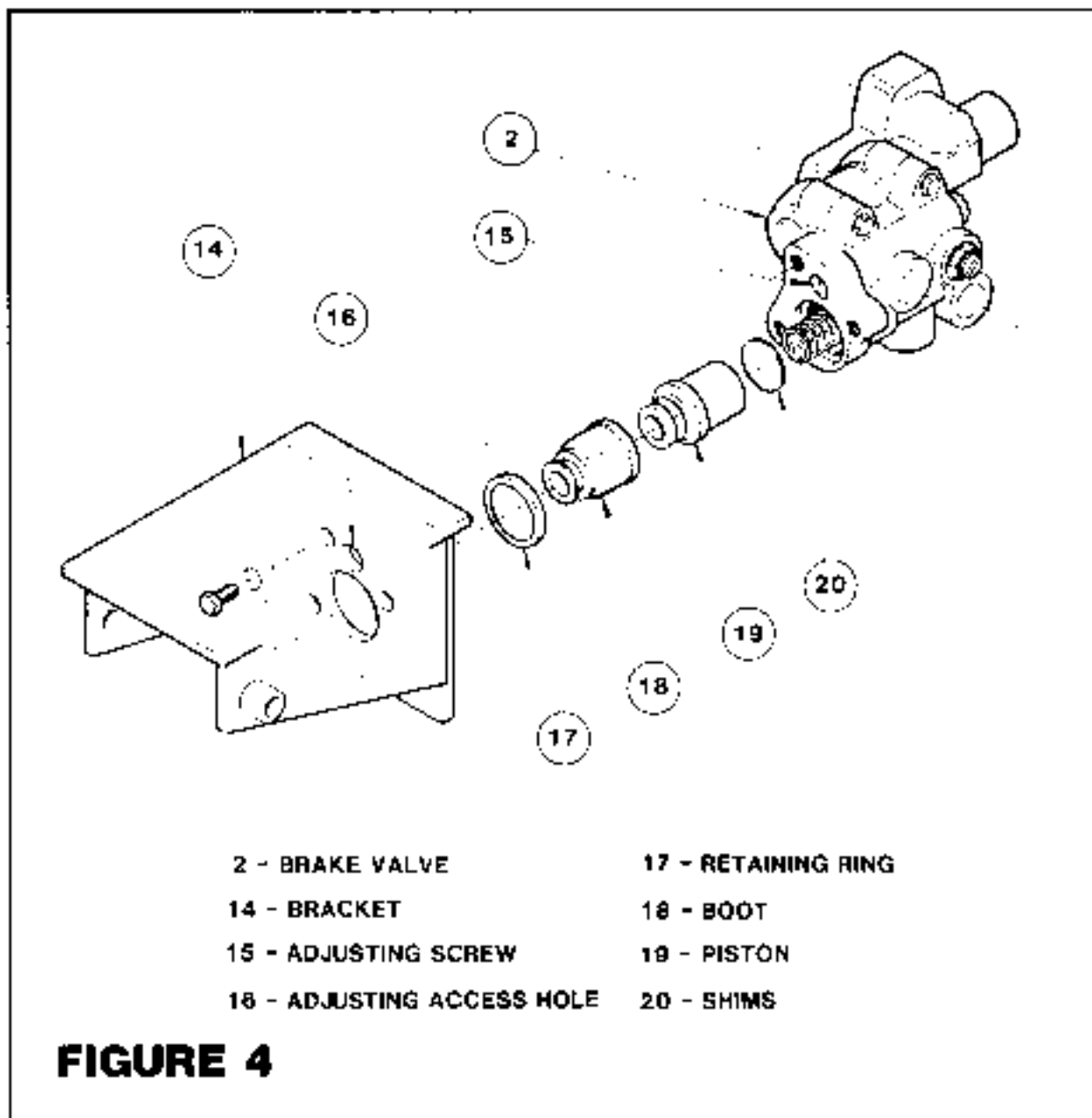
13. Adjusting accumulator precharge (from step 6).
 - a. If test gauge pressure reads too high, slowly turn out gauge bleeding screw (7) to release pressure and tighten when 400 PSI is indicated (See Fig. 2).
 - b. If test gauge pressure reads too low, charge the valve stem (8) on the gauge with dry nitrogen until gauge indicates 400 PSI (See Fig. 2).
 - c. If correct pressure cannot be achieved, replace accumulator, reinstall test gauge and adjust accumulator to correct pressure.
 - d. Return to step 7 and continue.

14. Adjusting the brake valve for correct brake line pressure (from step 9).
 - a. After noting incorrect brake line pressure, shut off the engine and disassemble brake valve (2) from bracket (14) (See Fig. 4). DO NOT REMOVE HOSES.
 - b. Pry ring (17) away from valve housing (2).
 - c. Remove boot (18) and piston (19).
 - d. Add or remove shims (20) as required.
 NOTE: Adding shims (thickness) will increase pressure. Removing shims (thickness) will reduce pressure.
 Shims are provided in the following thicknesses and pressure results:

| <u>SHIM THICKNESS</u> | <u>PRESSURE</u> |
|-----------------------|-----------------|
| .032 | 65 PSI |
| .018 | 37 PSI |
| .007 | 14 PSI |
| .004 | 8 PSI |

- e. Add or remove the necessary shims calculated to arrive at correct brake line pressure.
- f. Reassemble brake valve piston (19) boot (18) and ring (17).
- g. Reassemble brake valve (2) to bracket (14).
- h. Restart engine, return to step 9 and continue.

NOTE: If after completing steps 9 and 14, correct brake line pressure cannot be achieved, shut off the engine and replace the brake valve. Return to step 7 and continue.



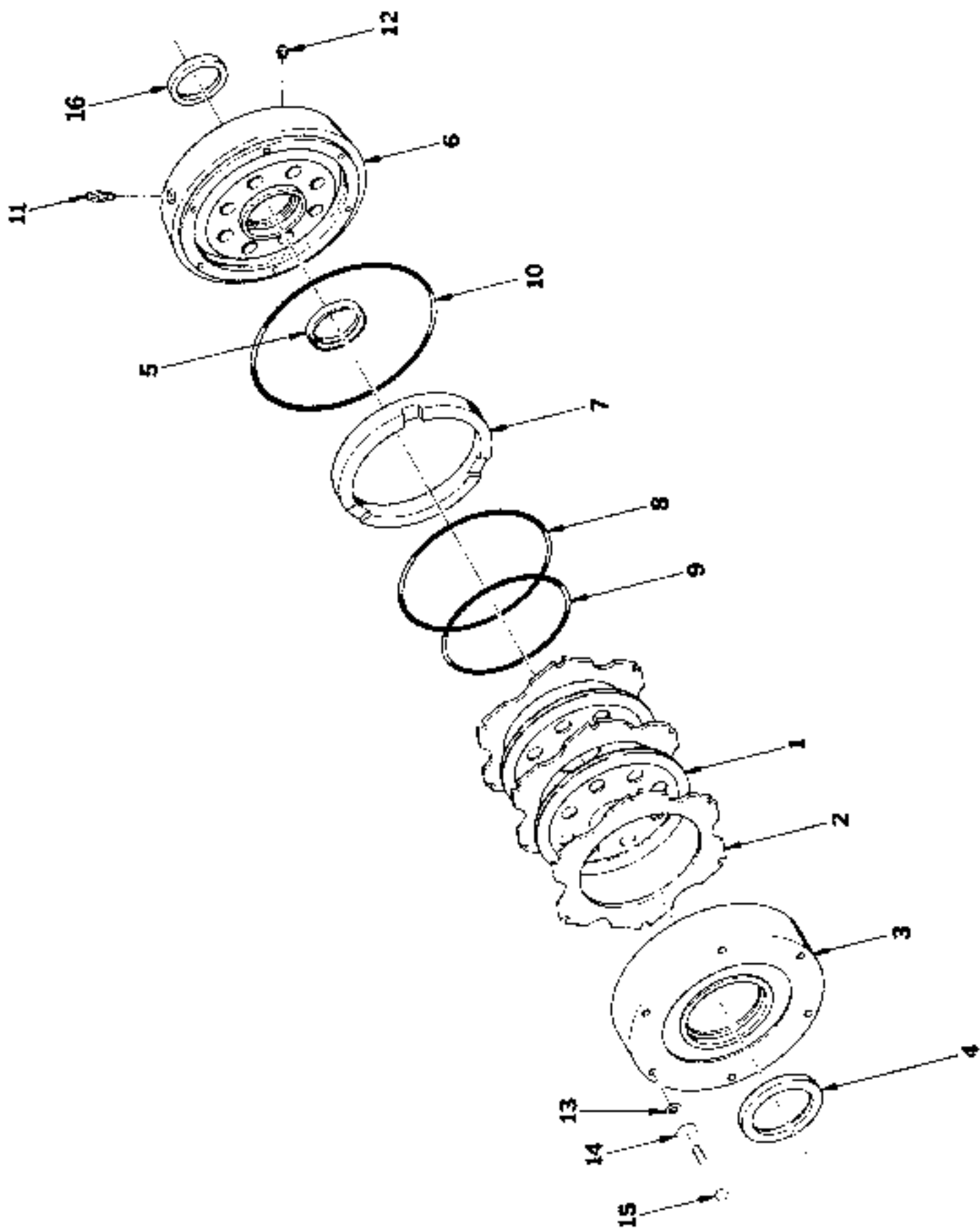
15. Checking and adjusting the brake valve for high limit pressure (From step 10).
 - a. If test gauge pressure reads too high or too low, adjust screw (15) on brake valve (2) to arrive at 1200 PSI (See Fig. 4). The adjusting screw is accessible through access hole (16) in bracket.

NOTE: Pressure is raised by turning screw in and lowered by turning screw out.

- b. If correct pressure is achieved return to step 11 and continue.
 - c. If correct pressure cannot be achieved, shut off the engine and replace the brake valve. Return to step 7 and continue.

Refer to the following part numbers when ordering test equipment or replacement brake components.

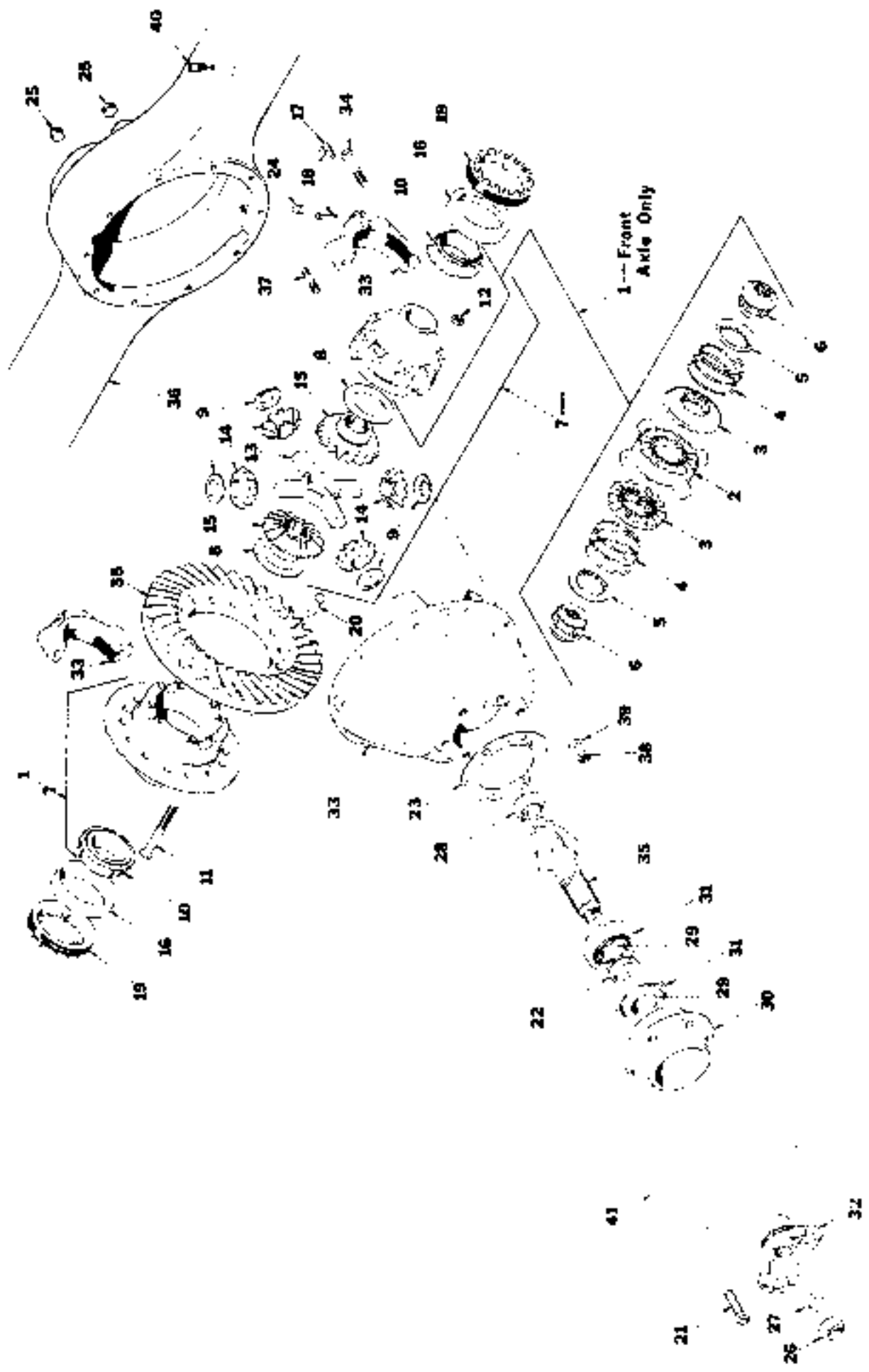
| <u>ITEM</u> | <u>LULL PART NO.</u> |
|------------------------------|----------------------|
| Accumulator | P26017 |
| Brake Valve | P26018 |
| Shims .004 | P27316 |
| .007 | P27317 |
| .018 | P27318 |
| .032 | P27319 |
| Accumulator Test Gauge | P26749 |
| Brake Line Test Gauge | 24905B |
| Brake Line Test Tee | P27399 |



644 S/N 823 Thru 1694

844 S/N 1082 Thru 1721 & 1723

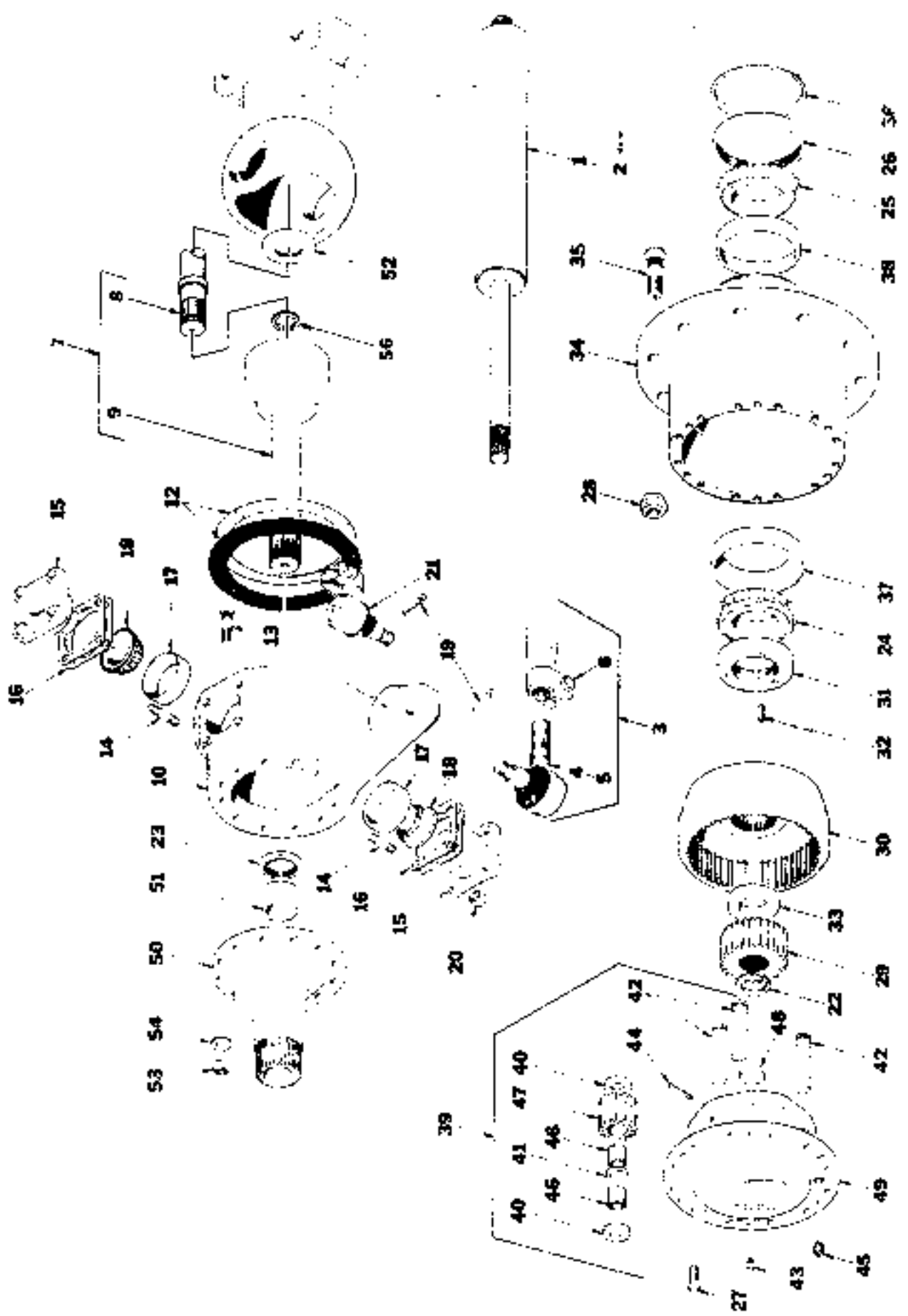
| ITEM | PART NO. | DESCRIPTION | QTY. |
|------|----------|-------------------------------------|------|
| | P24888 | Wet Disc Brake Assembly | |
| 1 | P24886 | Disc - Rotating | 2 |
| 2 | P24887 | Disc - Stationary | 3 |
| 3 | P25090 | Housing | 1 |
| 4 | P25091 | Oil Seal | 1 |
| 5 | P25092 | Oil Seal - SPECIAL | 1 |
| 6 | P25093 | Power Plate | 1 |
| 7 | P25094 | Piston | 1 |
| 8 | P25095 | O-Ring, Piston - Large | 1 |
| 9 | P25096 | O-Ring, Piston - Small | 1 |
| 10 | P25097 | O-Ring, Housing | 1 |
| 11 | P25098 | Bleeder Screw | 1 |
| 12 | P25099 | Orifice | 1 |
| 13 | P25089 | Seal Washer | 6 |
| 14 | P01404 | Flat Washer, 3/8" | 6 |
| 15 | P00238 | Bolt, Hex, 3/8"-16 x 2-3/4" (Gr 8) | 6 |
| 16 | P26311 | Oil Seal | 1 |
| REF | 22494A | Seal Kit (Includes Items 4, 5 & 13) | |



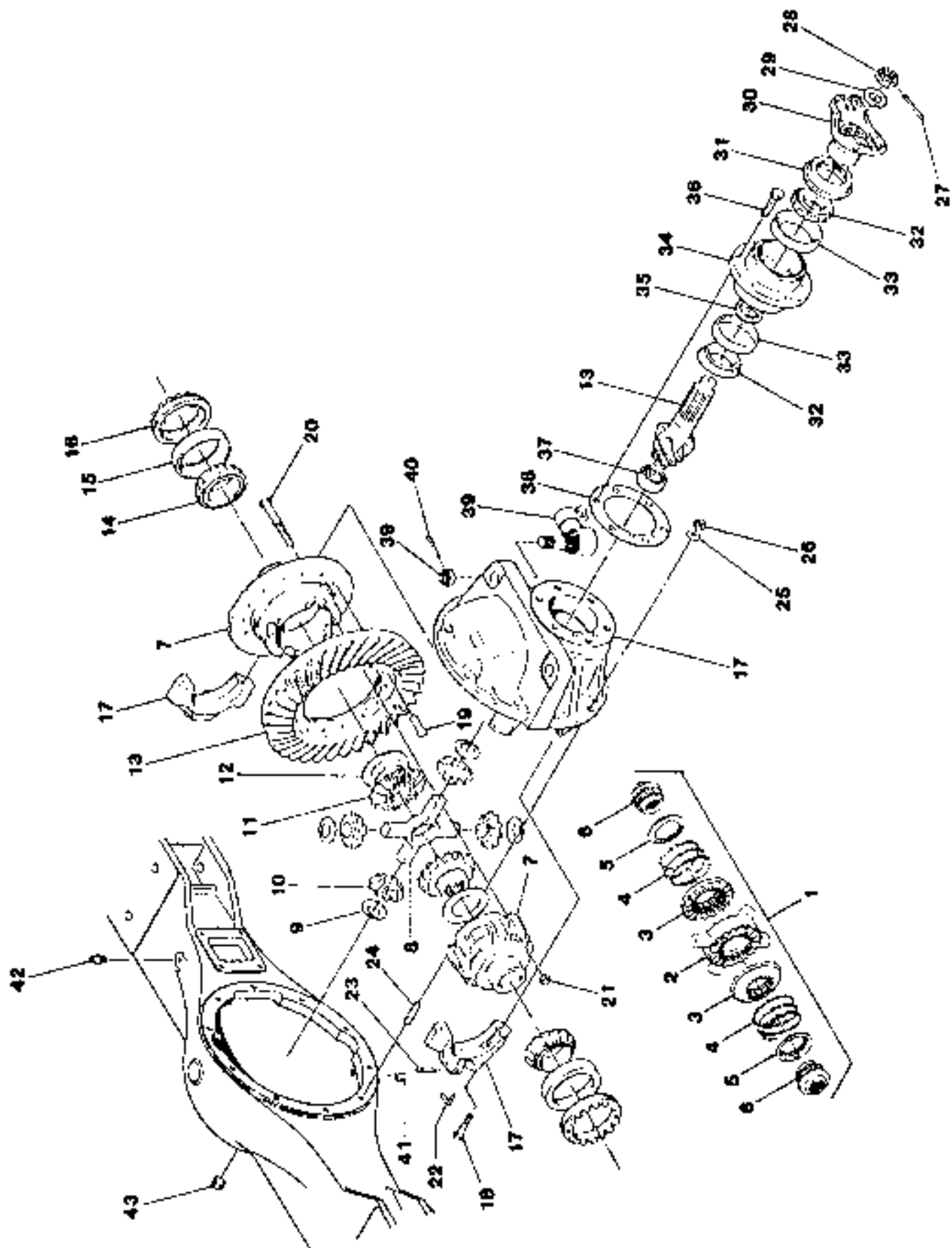
644 S/N 823 Thru 1694
 844 S/N 1082 Thru 1721 & 1723

| ITEM | PART NO. | DESCRIPTION | QTY.
PER AXLE |
|------|----------|--|------------------|
| 1 | P25147 | Differential Ass'y, No-Spin (Incl. Items 2-6,10-12) | 1 |
| 2 | P25142 | Spider | 1 |
| 3 | P25143 | Clutch | 2 |
| 4 | P25144 | Spring | 2 |
| 5 | P25145 | Spring Retainer | 2 |
| 6 | P25146 | Side Gear | 2 |
| 7 | P25136 | Differential Ass'y, Standard (Incl. Items 8-15) | 1 |
| 8 | P24834 | Thrust Washer, Differential Gear | 2 |
| 9 | P24837 | Thrust Washer, Pin Gear | 4 |
| 10 | P24832 | Cone Bearing | 2 |
| 11 | P24841 | Bolt, HX. HD., 1/2-13x5.50 (GBPH) | 8 |
| 12 | P24839 | Nut Lock, 1/2-13, (GBPH) | 8 |
| 13 | P24836 | Spider | 8 |
| 14 | P24838 | Gear, Pinion, Differential | 4 |
| 15 | P24835 | Gear, Differential | 2 |
| 16 | P24831 | Cup, Bearing | 2 |
| 17 | P24829 | Lock, Bearing Adjuster | 2 |
| 18 | P24828 | Pin, Cotter | 2 |
| 19 | P24812 | Ring, Adjuster | 2 |
| 20 | P24869 | Rivet | 14 |
| 21 | P19320 | Bolt, HX., 9/16-12x2.50 (GBPH) | 6 |
| 22 | P24818 | Spacer, Pinion | 1 |
| 23 | P25131 | Shim, Pinion - .010 | A/R |
| | P25132 | Shim, Pinion - .030 | A/R |
| | P25133 | Shim, Pinion - .005 | A/R |
| 24 | P13780 | Drain Plug, Magnet | 1 |
| 25 | P19300 | Plug, Square Socket, 3/4-14, Steel | 2 |
| 26 | P21836 | Nut, Pinion | 1 |
| 27 | P21835 | Flatwasher | 1 |
| 28 | P24814 | Bearing, Roller | 1 |
| 29 | P24816 | Cone, Bearing | 2 |
| 30 | P25141 | Cap Ass'y (Incl. Item 31) | 1 |
| 31 | P24817 | Cup, Bearing | 2 |
| 32 | P25140 | Companion Flange | 1 |
| 33 | P24813 | Carrier & Cap Ass'y (Incl. Item 34) | 1 |
| 34 | P24830 | Bolt, HX. HD., 9/16-18x2.75 (GBPH) | 4 |
| 35 | P24815 | Pin & Ring Gear (6.17) | 1 |
| 36 | P25138 | Axle Housing (Incl. Items 37-39) | 1 |
| 37 | P13833 | Stud, 7/16-14 & 7/16-20x2.00 | 6 |
| | P25162 | Stud, 7/16-14 & 7/16-20x2.38 | 2 |
| | P25163 | Stud, 7/16-14 & 7/16-20x2.81 | 2 |
| 38 | P24884 | Locknut, 7/16-14, GB | 10 |
| 39 | P21873 | Washer, Hardened, 7/16 | 10 |
| 40 | P13784 | Vent, Air | 1 |
| 41 | P24888 | Wet Disc Brake Assembly (See Breakdown) | - |
| REF | P25124 | Carrier Ass'y - No-Spin (Incl. Items 1-6, 16-23, 26-35 & 41) | |
| REF | P25125 | Carrier Ass'y - Standard (Incl. Items 7-23, 26-35 & 41) | |

20



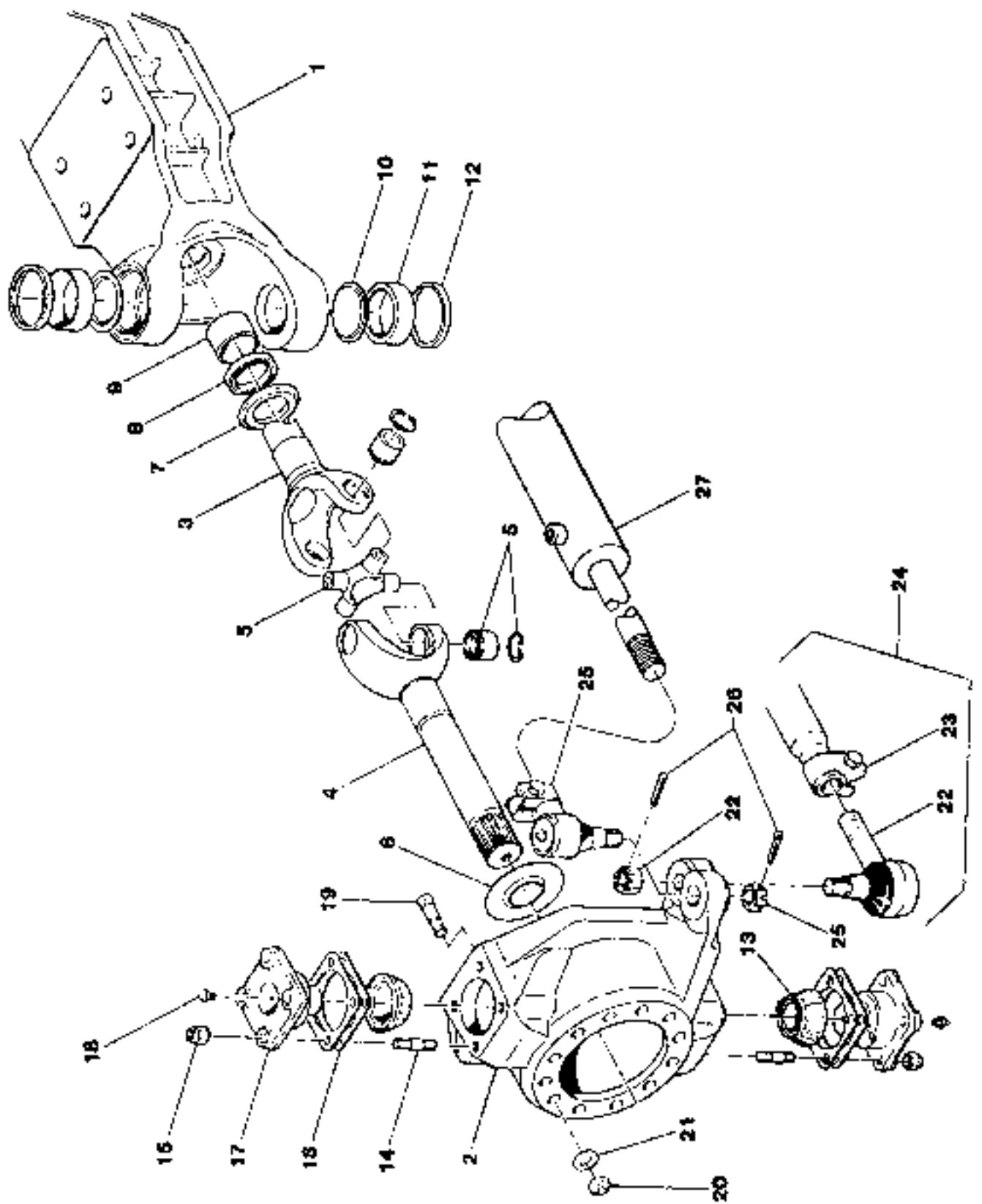
| ITEM | PART NO. | DESCRIPTION | QTY.
PER AXLE |
|------|----------|---|------------------|
| 1 | P21827 | Steer Cylinder | 2 |
| 2 | P25170 | Seal Kit, Steer Cylinder | REF. |
| 3 | P25155 | Tie Rod Ass'y. (Incl. Items 4-6) | 1 |
| 4 | P10345 | Tie Rod End, Fine Thread | 1 |
| 5 | P23263 | Tie Rod End, Coarse Thread | 1 |
| 6 | P21264 | Clamp, Tie Rod | 2 |
| 7 | P25134 | Shaft & U-Joint Ass'y. (incl. Item 8 & 9) | 1 |
| 8 | P25126 | Axle Shaft, R. H. & L. H. | 2 |
| 9 | P25150 | U-Joint Ass'y., R.H. & L.H. (Incl. Item 56) | 2 |
| 10 | P25152 | Steering Knuckle L.H. (incl. Items 12-14) Showr | 1 |
| 11 | P25153 | Steering Knuckle R.H. (incl. Items 12-14) | 1 |
| 12 | P25157 | Seal, Oil | 2 |
| 13 | P25158 | Stud, Spindle | 24 |
| 14 | P25160 | Stud, Trunnion | 16 |
| 15 | P25151 | Trunnion | 4 |
| 16 | P13839 | Shim, .005" | A/R |
| | P13840 | Shim, .010" | A/R |
| 17 | P25148 | Cup Bearing | 4 |
| 18 | P25149 | Cone Bearing | 4 |
| 19 | P13835 | Pin, Cotter | 6 |
| 20 | P13842 | Locknut | 16 |
| 21 | P13915 | Vertical Socket | 4 |
| 22 | P13783 | Ring Retainer | 2 |
| 23 | P13869 | Seal, Oil | 2 |
| 24 | P25115 | Cone, Bearing | 2 |
| 25 | P25116 | Cone, Bearing | 2 |
| 26 | P25118 | Seal, Oil | 2 |
| 27 | P25159 | Bolt, Serrated | 36 |
| 28 | P13894 | Wheel Nut | 20 |
| 29 | P21820 | Svr. Gear | 2 |
| 30 | P13892 | Ring Gear | 2 |
| 31 | P21818 | Locknut | 2 |
| 32 | P21817 | Roll Pin | 2 |
| 33 | P13895 | Spacer | 2 |
| 34 | P25172 | Hud Ass'y. (Incl. Items 35-38) | 2 |
| 35 | P13888 | Wheel Stud | 20 |
| 36 | P25139 | Deflector | 2 |
| 37 | P25117 | Cup Bearing | 2 |
| 38 | P25168 | Cup Bearing | 2 |
| 39 | P25125 | Drive Flange Ass'y. (Incl. Items 40-43) | 2 |
| 40 | P13903 | Washer, Special | 12 |
| 41 | P13906 | Spacer, Planet Gear | 6 |
| 42 | P19334 | Pin, Planet Gear | 6 |
| 43 | P21821 | Relief Fitting | 2 |
| 44 | P19335 | Roll Pin | 5 |
| 45 | P13780 | Drain Plug, Magnet | 2 |
| 46 | P13901 | Needle Bearing | 300 |
| 47 | P13902 | Planet Gear | 6 |
| 48 | P19336 | Thrust Washer | 2 |
| 49 | P25121 | Drive Flange | 2 |
| 50 | P25154 | Spindle Ass'y. (incl. Item 51) | 2 |
| 51 | P13872 | Bushing | 2 |
| 52 | P25156 | Seal, Oil | 2 |
| 53 | P25165 | Nut, Lock | 24 |
| 54 | P25167 | Flatwasher | 24 |
| 55 | | | |
| 56 | P25175 | Retaining Ring, Axle Shaft | 2 |



644 S/N 1695 Thru
 844 S/N 1722, 1724 Thru
 1044 S/N 101 Thru

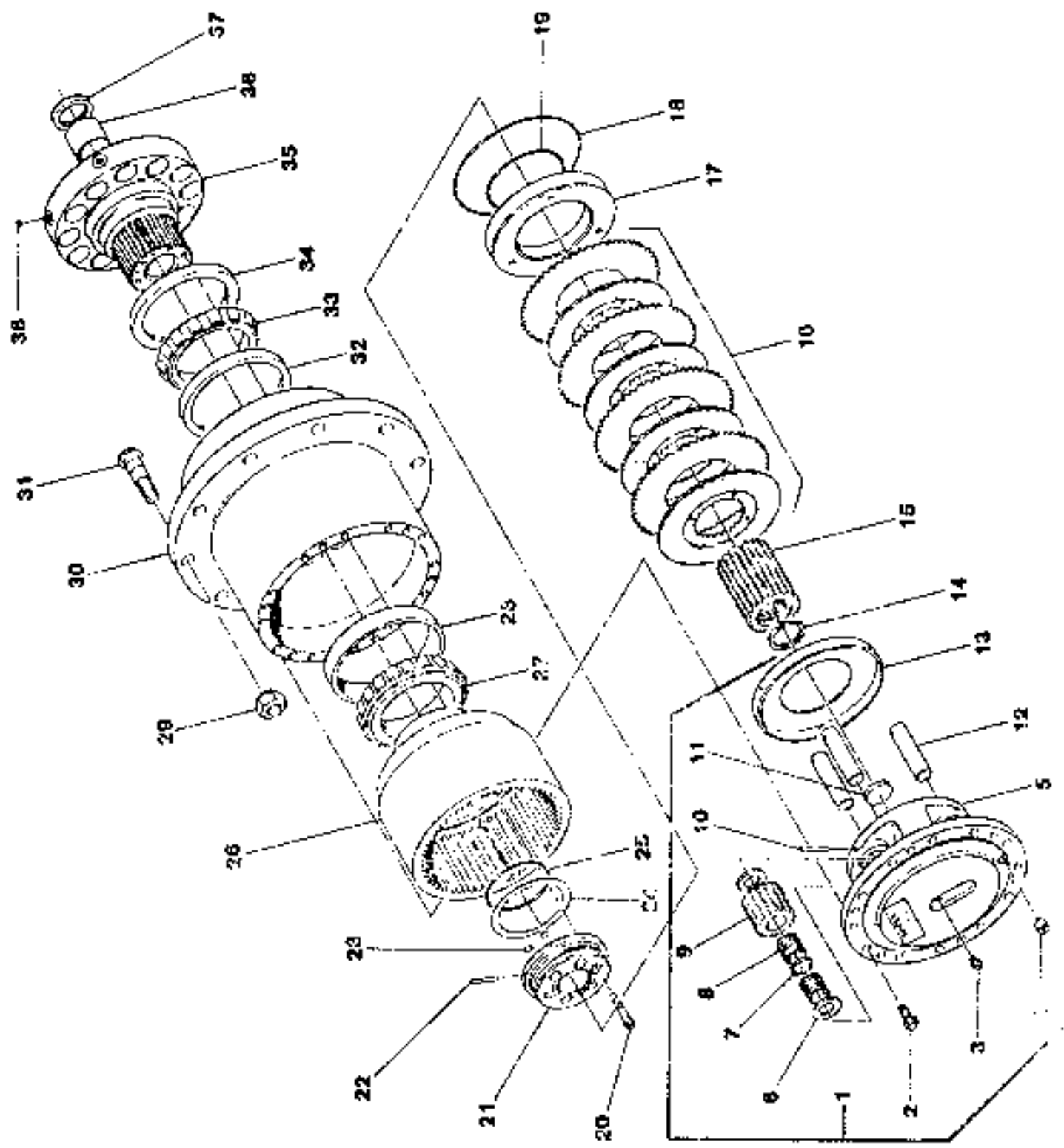
| ITEM | PART NO. | DESCRIPTION | QUANTITY
PER AXLE |
|------|----------|--|----------------------|
| 1 | P26157 | No-Spin Differential Ass'y | 1 |
| 2 | P25142 | Spider | 1 |
| 3 | P25143 | Clutch Member | 2 |
| 4 | P25144 | Spring | 2 |
| 5 | P25145 | Spring Retainer | 2 |
| 6 | P25146 | Side Gear | 2 |
| 7 | P26809 | Differential Case Ass'y (w/Diff. Lock) | 1 |
| | P24840 | Differential Case Ass'y | 1 |
| 8 | P24836 | Spider | 1 |
| 9 | P24837 | Thrustwasher, Pinion | 4 |
| 10 | P26800 | Pinion, Differential | 4 |
| 11 | P26811 | Gear, Differential | 2 |
| 12 | P24834 | Thrustwasher, Gear | 2 |
| 13 | P26160 | Ring Gear & Pinion | 1 |
| 14 | P24812 | Adjusting Ring | 2 |
| 15 | P24831 | Bearing Cup | 2 |
| 16 | P24832 | Bearing Cone | 2 |
| 17 | P26810 | Carrier Housing & Cap (Incl. Item 34) | 1 |
| 18 | P24830 | Bolt, hex | 4 |
| 19 | p24869 | Rivet | 14 |
| 20 | P24841 | Bolt, hex | 8 |
| 21 | P24839 | Lock Nut | 8 |
| 22 | P24829 | Lock, Bearing Adjuster | 2 |
| 23 | P24828 | Cotter Pin | 2 |
| 24 | P13833 | Stud, 7/16 - 14 & 7/16 - 20 X 2.00 | 6 |
| | P25162 | Stud, 7/16 - 14 & 7/16 - 20 X 2.38 | 2 |
| | P25153 | Stud, 7/16 - 14 & 7/16 - 20 X 2.81 | 2 |
| 25 | P21813 | Flatwasher | 10 |
| 26 | P17537 | Locknut | 10 |
| 27 | P13819 | Cotter Pin | 4 |
| 28 | P24826 | Nut, Pinion | 1 |
| 29 | P24827 | Flatwasher | 1 |
| 30 | P26848 | End Yoke | 1 |
| 31 | P24825 | Oil Seal | 1 |
| 32 | P24815 | Bearing Cone | 2 |
| 33 | P24817 | Bearing Cup | 2 |
| 34 | P25141 | Bearing Cap Retainer (Incl. Item 33) | 1 |
| 35 | P24818 | Spacer, Pinion - STD (See Note) | 1 |
| 36 | P24844 | Bolt, hex | 6 |
| 37 | P24814 | Roller Bearing | 1 |
| 38 | P25131 | Shim, Pinion - .010" | A/R |
| | P25132 | Shim, Pinion - .030" | A/R |
| | P25133 | Shim, Pinion - .005" | A/R |
| 39 | P13915 | Socket, Steer Cylinder (Incl. Nut) | 4 |
| 40 | P13835 | Cotter Pin | 4 |
| 41 | P13780 | Drain Plug, Magnetic | 1 |
| 42 | P13784 | Vent | 1 |
| 43 | P19300 | Pipe Plug | 1 |

NOTE: Consult Factory



544 S/N 1695 Thru
 844 S/N 1722, 1724 Thru
 1044 S/N 101 Thru

| ITEM | PART NO. | DESCRIPTION | QUANTITY
PER AXLE |
|------|----------|---|----------------------|
| 1 | P26158 | Axle Housing | 1 |
| | P26159 | Axle Housing W/Diff. Lock | 1 |
| 2 | P26824 | Steer Knuckle, L.H. | 1 |
| | P26836 | Steer Knuckle, R.H. | 1 |
| 3 | P26835 | Inner Yoke Shaft, L.H. | 1 |
| | P26831 | Inner Yoke Shaft, R.H. | 1 |
| 4 | P26817 | Outer Yoke Shaft | 2 |
| 5 | P26175 | U-Joint | 2 |
| 6 | P26846 | Dust Slinger, Outer | 2 |
| 7 | P25847 | Dust Slinger, Inner | 2 |
| 8 | P25156 | Oil Seal | 2 |
| 9 | P26844 | Bushing | 2 |
| 10 | P25802 | Grease Retainer | 4 |
| 11 | P25148 | Bearing Cup | 4 |
| 12 | P26801 | Seal, King Pin | 4 |
| 13 | P25149 | Bearing Cone | 4 |
| 14 | P25160 | Stud, King Pin | 16 |
| 15 | P13842 | Locknut | 16 |
| 16 | P13839 | Shim - .005" | A/R |
| | P13840 | Shim - .010" | A/R |
| 17 | P26804 | Cap, King Pin | 4 |
| 18 | P13786 | Grease Zerk | 4 |
| 19 | P25158 | Stud, Spindle | 24 |
| 20 | P25165 | Locknut | 24 |
| 21 | P25167 | Flatwasher | 24 |
| 22 | P26190 | Tie Rod End, 1.125 - 12 THD (Incl. Nut) | 1 |
| | P26191 | Tie Rod End, 1.125 - 16 THD (Incl. Nut) | 1 |
| 23 | P26193 | Clamp, Tie Rod | 2 |
| 24 | P26843 | Tie Rod Ass'y (Incl. Items 22 & 23) | 1 |
| 25 | P13915 | Socket, Steer Cylinder (Incl. Nut) | 4 |
| 26 | P13835 | Cotter Pin | 6 |
| 27 | P26162 | Steer Cylinder | 2 |
| | P26161 | Steer Cylinder-Model 1044 Only | 2 |
| REF | P25170 | Seal Kit, Steer Cylinder | |



644 S/N 1695 Thru
 644 S/N 1722, 1724 Thru
 1044 S/N 101 Thru

| ITEM | PART NO. | DESCRIPTION | QUANTITY
PER AXLE |
|------|----------|---|----------------------|
| 1 | P26155 | Planetary Gear Ass'y (incl. Items 2-12) | 2 |
| 2 | P25159 | Bolt, Hx. Self Locking | 36 |
| 3 | P21821 | Vent | 2 |
| 4 | P13780 | Drain Plug, Magnetic | 2 |
| 5 | P26830 | Drive Flange | 2 |
| 6 | P13903 | Keyed Washer | 12 |
| 7 | P13906 | Washer, Bearing | 6 |
| 8 | P13901 | Roller Bearing, Needle | 300 |
| 9 | P26812 | Gear, Spur Planet | 6 |
| 10 | P26829 | Roll Pin | 6 |
| 11 | P19336 | Washer, Drive Flange | 2 |
| 12 | P26840 | Shaft, Planet Gear | 6 |
| 13 | P26845 | Plate, Lining Stop | 2 |
| 14 | P13783 | Snap Ring | 2 |
| 15 | P26827 | Gear, Spur | 2 |
| 16 | P26807 | Disc Replacement Kit | 2 |
| 17 | P26825 | Piston | 2 |
| 18 | P26828 | O-Ring, Large | 2 |
| 19 | P26834 | O-Ring, Small | 2 |
| 20 | P26821 | Cap Screw, 12 Pt. | 12 |
| 21 | P26830 | Retainer, Bearing | 2 |
| 22 | P26816 | Tubing, Brake | 2 |
| 23 | P26838 | O-Ring | 4 |
| 24 | P26871 | Shim - .002" | A/R |
| | P26872 | Shim - .005" | A/R |
| | P26873 | Shim - .010" | A/R |
| | P26874 | Shim - .020" | A/R |
| | P26875 | Shim - .030" | A/R |
| 25 | P26841 | O-Ring | 2 |
| 26 | P26813 | Planetary Ring Gear | 2 |
| 27 | P26179 | Bearing Cone, Outer | 2 |
| 28 | P26178 | Bearing Cup, Outer | 2 |
| 29 | P13904 | Lug Nut | 20 |
| 30 | P26156 | Planetary Hub (incl. Items 31-33) | 2 |
| 31 | P13888 | Wheel Stud | 20 |
| 32 | P26176 | Bearing Cup, Inner | 2 |
| 33 | P26177 | Bearing Cone, Inner | 2 |
| 34 | P26820 | Oil Seal | 2 |
| 35 | P26817 | Spindle (incl. Items 36 & 38) | 2 |
| 36 | P13872 | Bushing | 2 |
| 37 | P13869 | Oil Seal | 2 |
| 38 | P26823 | Sect. Insert | 4 |
| 39 | P26111 | Bleeder (Not Shown) | 2 |
| REF | P26803 | O-Ring Kit (incl. Item 18, 19, 23 & 25) | |



An Oshkosh Corporation Company

JLG Industries, Inc.
1 JLG Drive
McConnellsburg PA. 17233-9533
USA
Phone: +1-717-485-5161
Customer Support Toll Free: 1-877-554-5438
Fax: +1-717-485-6417

JLG Worldwide Locations

JLG Industries (Australia)
P.O. Box 5119
11 Bolwarra Road
Port Macquarie
N.S.W. 2444
Australia
Phone: +61 265 811 111
Fax: +61 265 810 122

JLG Latino Americana Ltda.
Rua Eng. Carlos Stevenson,
80-Suite 71
13092-310 Campinas-SP
Brazil
Phone: +55 193 295 0407
Fax: +55 193 295 1025

JLG Industries (UK) Ltd
Bentley House
Bentley Avenue
Middleton
Greater Manchester
M24 2GP
England
Phone: +44 (0)161 654 1000
Fax: +44 (0)161 654 1001

JLG France SAS
Z.I. de Baulieu
47400 Fauillet
France
Phone: +33 (0)5 53 88 31 70
Fax: +33 (0)5 53 88 31 79

JLG Deutschland GmbH
Max-Planck-Str. 21
D - 27721 Ritterhude-Ihlpohl
Germany
Phone: +49 (0)421 69 350 20
Fax: +49 (0)421 69 350 45

JLG Equipment Services Ltd.
Rm 1107 Landmark North
39 Lung Sum Avenue
Sheung Shui N.T.
Hong Kong
Phone: +852 2639 5783
Fax: +852 2639 5797

JLG Industries (Italia) s.r.l.
Via Po. 22
20010 Pregnana Milanese - MI
Italy
Phone: +39 029 359 5210
Fax: +39 029 359 5845

JLG Europe B.V.
Polaris Avenue 63
2132 JH Hoofddorp
The Netherlands
Phone: +31 (0)23 565 5665
Fax: +31 (0)23 557 2493

JLG Polska
Ul. Krolewska
00-060 Warszawa
Poland
Phone: +48 (0)914 320 245
Fax: +48 (0)914 358 200

JLG Industries (Scotland)
Wright Business Centre
1 Lonmay Road
Queenslie, Glasgow G33 4EL
Scotland
Phone: +44 (0)141 781 6700
Fax: +44 (0)141 773 1907

Plataformas Elevadoras
JLG Iberica, S.L.
Trapadella, 2
P.I. Castellbisbal Sur
08755Castellbisbal, Barcelona
Spain
Phone: +34 93 772 4 700
Fax: +34 93 771 1762

JLG Sverige AB
Enkopingsvagen 150
Box 704
SE - 176 27 Jarfalla
Sweden
Phone: +46 (0)850 659 500
Fax: +46 (0)850 659 534
