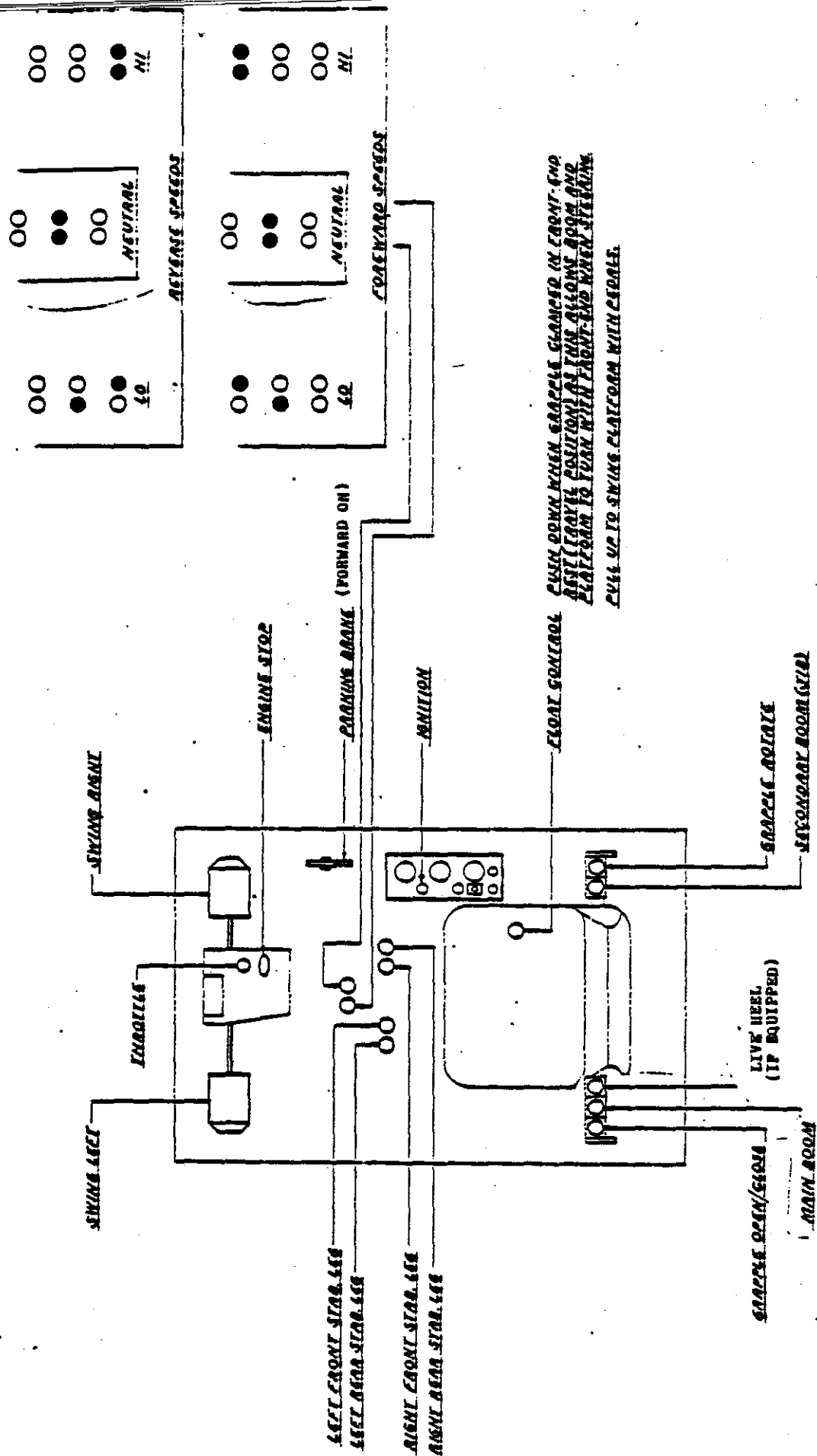
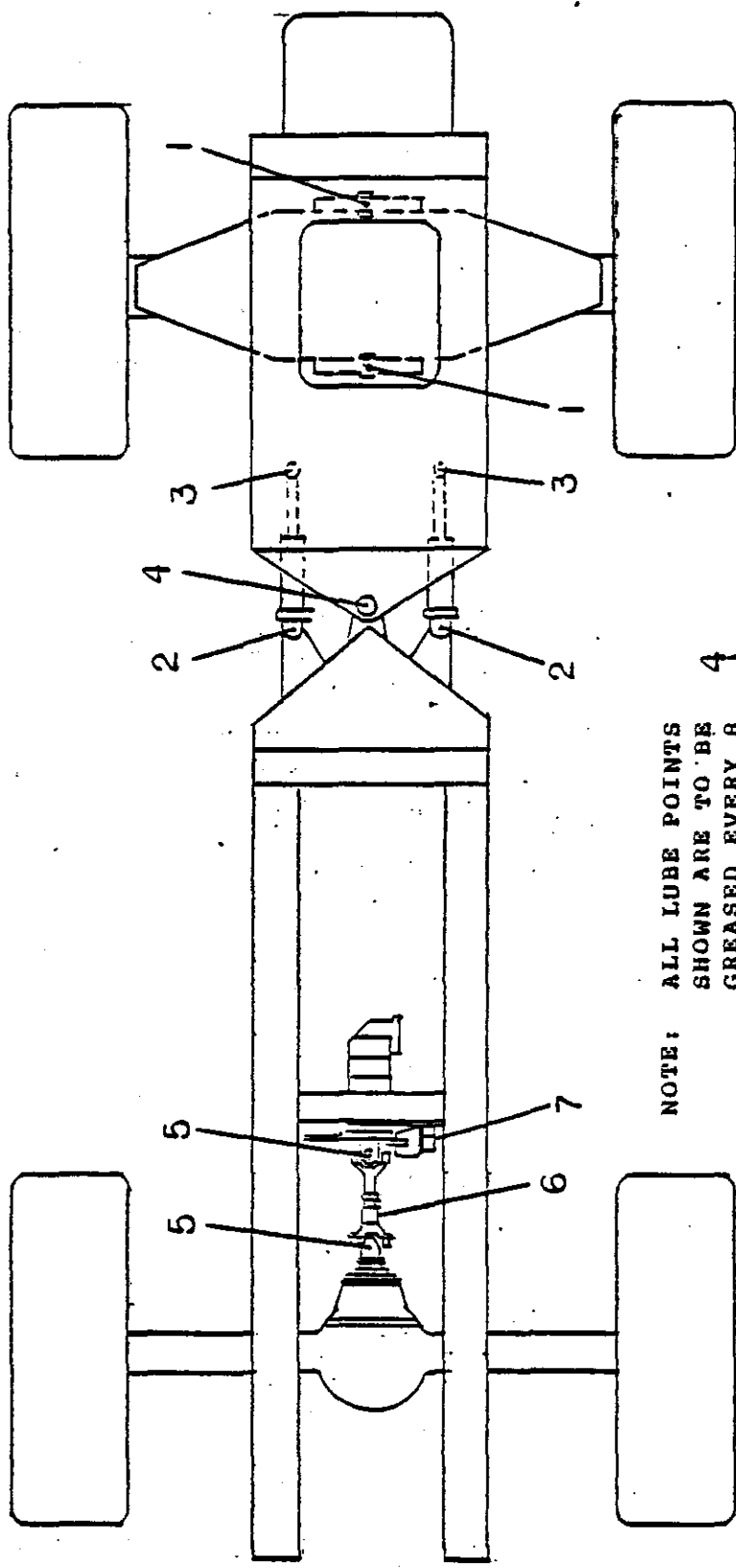
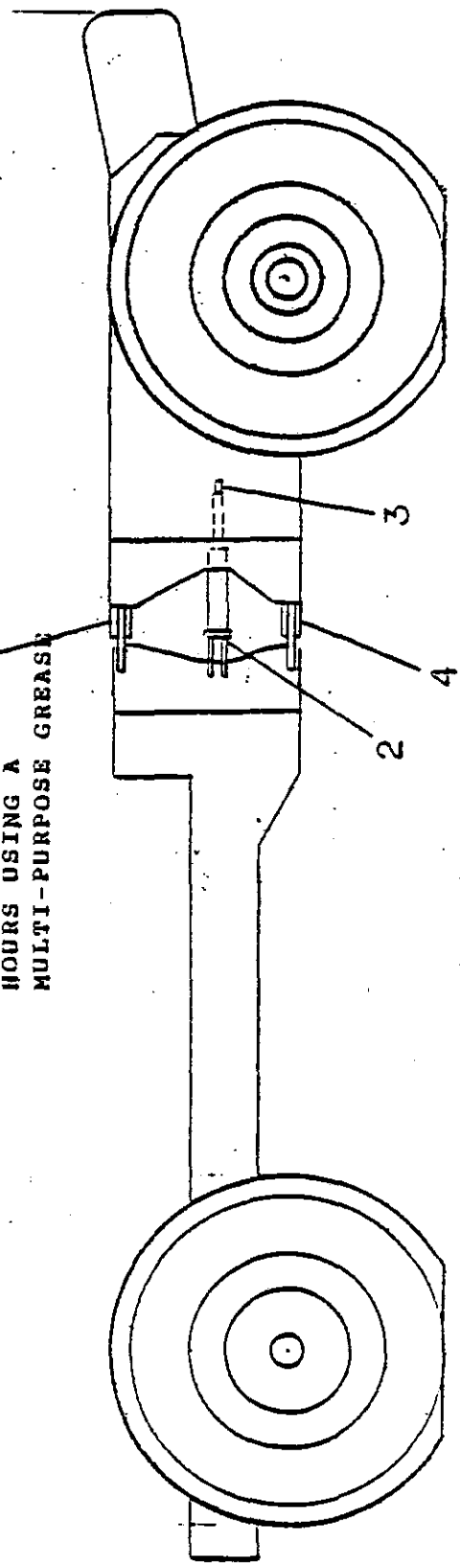


FRONT OF MACHINE

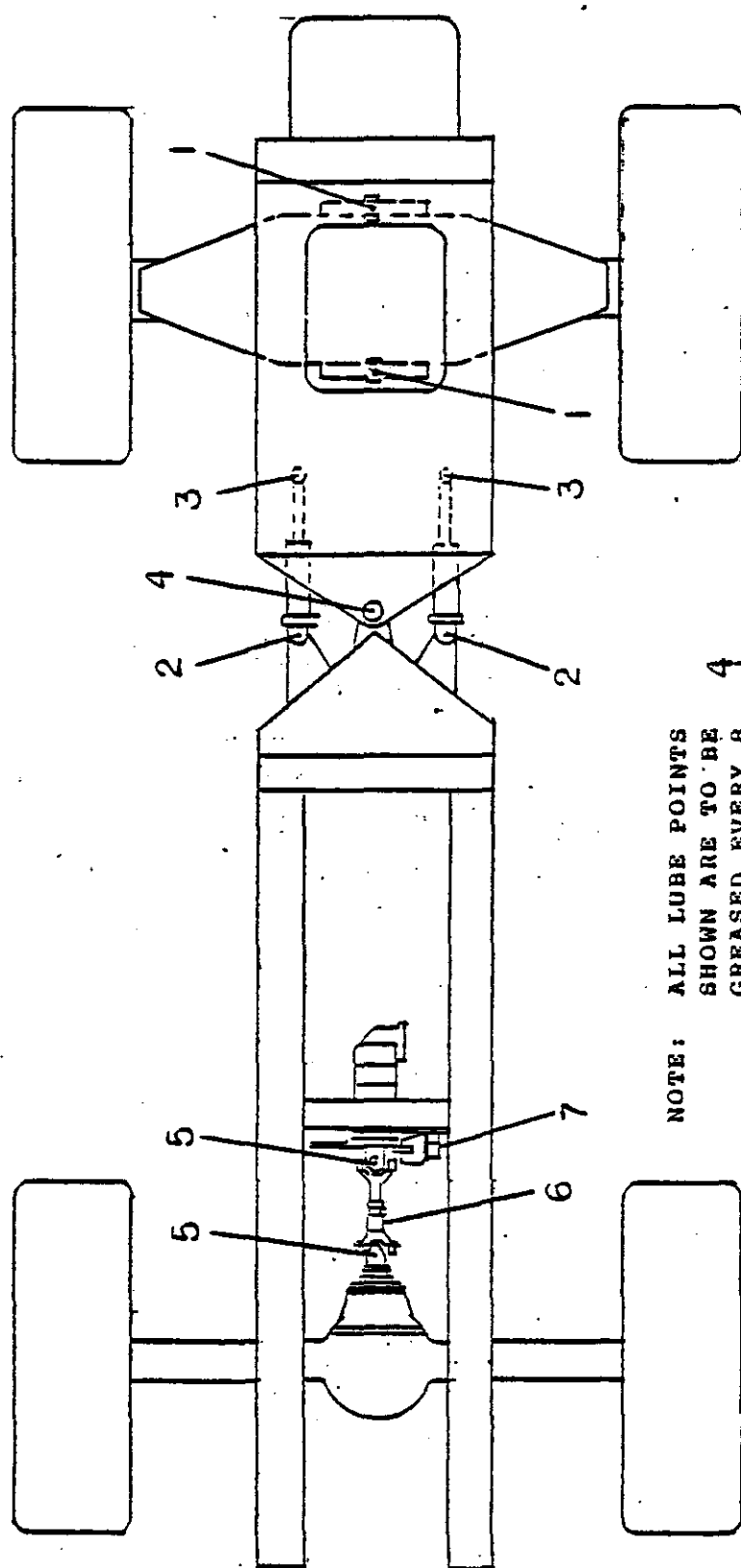




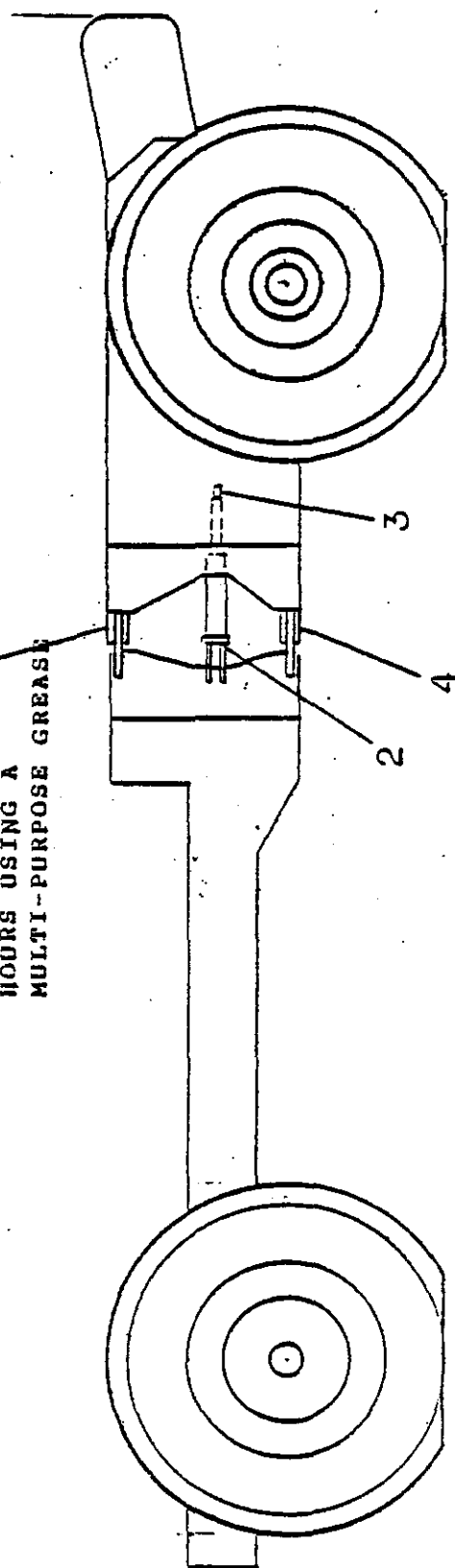
NOTE: ALL LUBE POINTS
SHOWN ARE TO BE
GREASED EVERY 8
HOURS USING A
MULTI-PURPOSE GREASE



LUBRICATION POINTS-CARRIER FRAME



NOTE: ALL LUBE POINTS
SHOWN ARE TO BE
GREASED EVERY 8
HOURS USING A
MULTI-PURPOSE GREASE



LUBRICATION POINTS-CARRIER FRAME

160

ART CAR

STANDARD SPECIFICATIONS & FEATURES

AVERAGE LIFT CAPACITY (LESS ATTACHMENT)

- 10' Radius 20,000 lbs.
- 15' Radius 13,300 lbs.
- 20' Radius 10,000 lbs.
- Full Reach 6,300 lbs.

BOOM REACH

- Horizontal—24'-5".
- Vertical—32'-8".

BOOM DATA

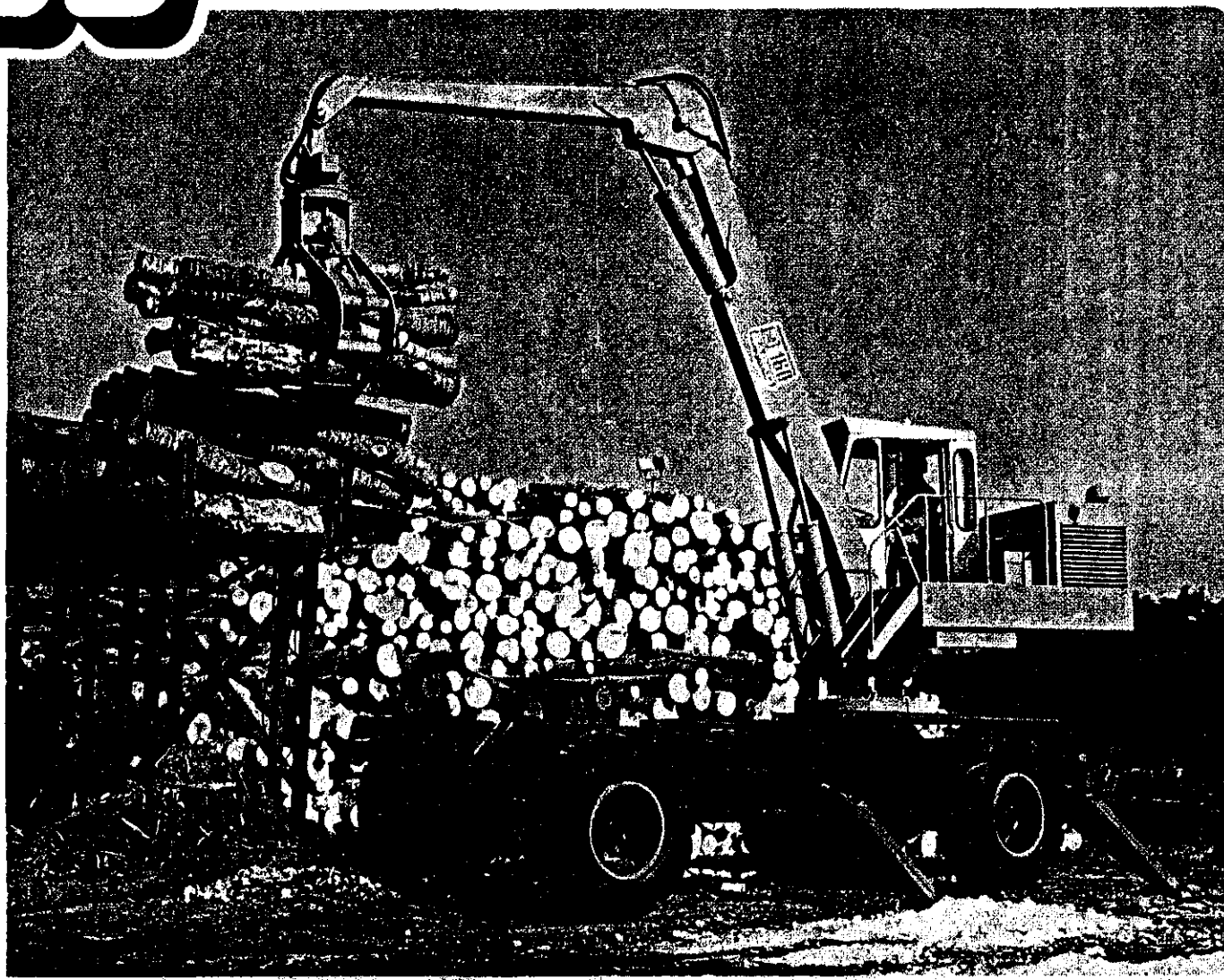
- Main boom length—14'-6".
- Secondary boom length—10'-6".
- Hi-tensile 50,000 PSI yield fabricated tube structure 8" wide x 12" high.
- Tapered roller bearings at boom pivot points.

SWING SYSTEM

- Rotation continuous on 38" turntable bearing.
- Swing speed 7 RPM—power transmitted by dual hydraulic motors.

CYLINDERS

- Bako built—double acting with extra heavy chromed rods—aircraft aluminum pistons and glands—micro-uniform walled tubing honed to exacting tolerances.
- Main boom—twin 6" x 36" with 2½" rods.
- Secondary boom—7" x 30" with 3" rod.



P.O. BOX 6227 / DULUTH, MINNESOTA 55806



HYDRAULIC SYSTEM

- 75 gallon multi-baffled reservoir with submerged suction and external return line filters.
- Control valves—stack type V42 Gresen with main system relief and safety port reliefs for each control function.
- Pumps—One tandem vane and one variable volume swing pump produce 100 GPM @ 2000 RPM with 10 GPM steering pump.
- Continuous rotation—Barko designed and built hydraulic collector.
- Heavy wall tubing and 2-wire braided hose with reusable fittings throughout system.
- Operating pressure—2000 PSI.

CONTROL DECK

- Central console with engine instrumentation and start/stop controls.
- Foot swing controls.
- Automatic power steer/single lever accelerator and brake control.
- Spring applied hydraulic released parking brakes.

OPERATORS CAB

- 34" x 51" with double insulation and roof vent.
- Deluxe adjustable hi-back bucket seat.
- Tinted windshield, wiper/washer, defroster fan, heater, dome lights, first aid kit and fire extinguisher.

STABILIZERS/SUBFRAME

- Unitized sub-frame and stabilizer assembly.
- 2-sets fold-away stabilizers with double acting 6" x 17" cylinders with 3" rods.

POWER SOURCE

- GM 353 diesel 72 HP at 2000 RPM.
- Fuel reservoir—60 gallon.

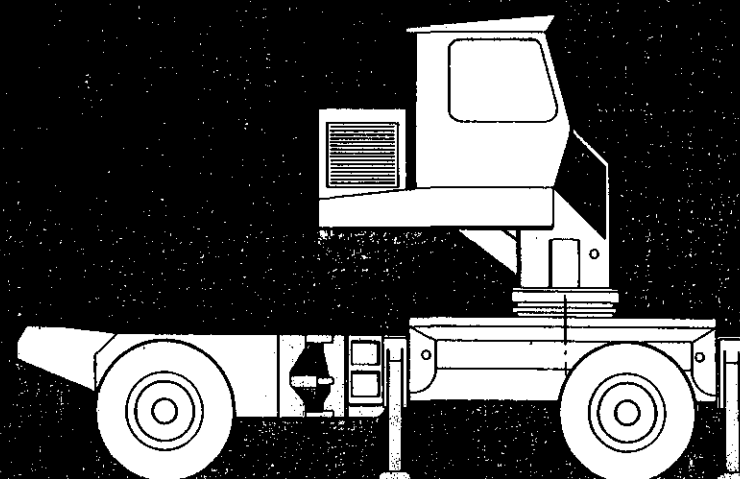
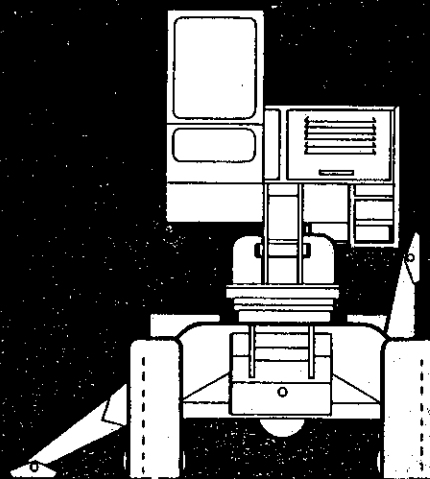
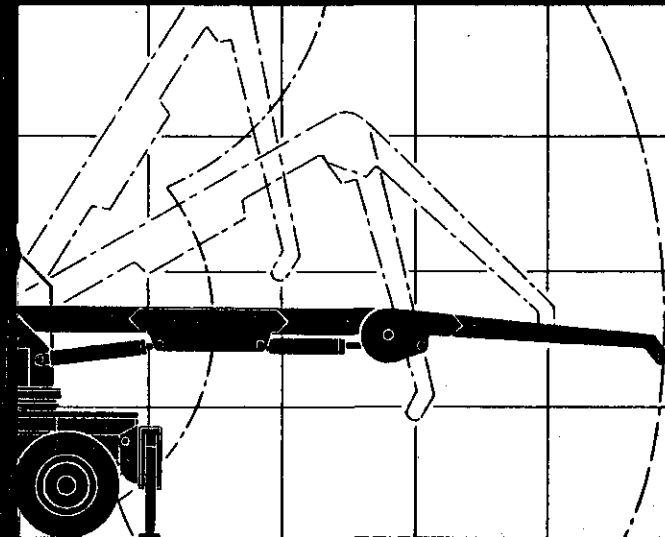
MISCELLANEOUS

- Weight—23,500 lbs. with standard equipment (less attachment).
- Enclosed muffler system.
- Hydraulic tank filled, equipment greased and tested prior to shipment.

OPTIONS/ACCESSORIES

- Fixed and live heel booms.
- Boom extensions to 27'.
- Boom lights.
- Log and pulp grapples.
- Air conditioner.
- Joystick & Comfort package.

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WARRANTY

Barko Hydraulic Loader

Barko Hydraulics Warranty to Dealers and/or original Buyers of hydraulic loaders and parts thereof, manufactured by Barko Hydraulics is:

- A. Hydraulic loaders and parts manufactured by Barko Hydraulics will conform to the designation or description under which they are sold.
- B. Hydraulic loaders and parts manufactured by Barko Hydraulics shall be delivered free from all security interests, liens and other encumbrances, good title shall be conveyed, and transfer rightful.
- C. Hydraulic loaders manufactured by Barko Hydraulics will be free from defects in materials and workmanship for a period of three (3) months or five hundred (500) hours of operation from first day in service, whichever occurs first, provided first day of service is not later than sixty (60) days from delivery to Dealer and/or original Buyer, unless Barko Hydraulics extends the period in which such first day of service is to occur, and Barko Hydraulics or Dealer certifies such extended period for Warranty to commence.
- D. Replacement parts manufactured by Barko Hydraulics will be free from defects in material and workmanship for a period of three (3) months or five hundred (500) hours of operation from first day in service, whichever occurs first, provided first day of service is not later than one hundred twenty (120) days from delivery to Dealer and/or original Buyer, and installation of repair parts is made by authorized Dealer.

Barko Hydraulics liability under this Warranty or otherwise shall be limited to providing a replacement part for any non-conforming part, not including freight, special charges or cost of installation, or in the alternative, at Barko Hydraulics' sole option, the cost of repairs (excluding travel) during normal working hours to that non-conforming part.

Proof of any defect in any hydraulic loader or replacement part must be submitted to designated Dealer or Barko Hydraulics' factory within ten (10) days from the date on which the defect was originally discovered.

Barko Hydraulics makes no warranty with respect to parts supplied to it by other manufacturers; these components shall be subject to the warranties of their respective manufacturers.

This Warranty does not extend to any of the following:

1. Defects, damage or deterioration due to normal use, wear and tear, exposure, storage or corrosion. Normal use ordinarily affects hoses, seals and packings, work surfaces and the like.
2. Normal maintenance service or the replacement or repair of parts required to be replaced or repaired in the course of normal maintenance service. Normal maintenance ordinarily includes replacement of filters, seals and the like.
3. Defects, damage or deterioration due to failure to properly maintain equipment or parts, including but not limited to inspections or maintenance not in accordance with manuals, schedules or good practice.
4. Damage or defects caused by abuse of the equipment or parts by overloading, misapplication, improper operation or use, installation of unapproved accessories or unauthorized alterations.
5. Damage or defects resulting from repairs of equipment or parts in an unauthorized manner or the installation of components other than Barko Hydraulics or authorized parts.

The liability of Barko Hydraulics, except as to Paragraphs A and B above, arising out of supplying hydraulic loaders or replacement parts therefore, or their use, whether premised on warranties, contract, negligence or otherwise, shall not in any case exceed the cost of correcting the defects in the hydraulic loaders or replacement parts therefore as herein provided, and upon expiration of the applicable Warranty period herein all such liability shall terminate.

Barko Hydraulics shall in no event be liable for any incidental, consequential, or special damages or for any expenses or delays caused by defective material or workmanship, and no allowance will be made for repairs, replacements or alterations without Barko Hydraulics prior written approval. The foregoing shall constitute the sole and exclusive remedy of Dealer and Buyer and the sole and exclusive liability of Barko Hydraulics.

The warranties stated herein are in lieu of all other warranties whether written or oral, statutory, express or implied, including any warranty of merchantability or fitness for purpose.

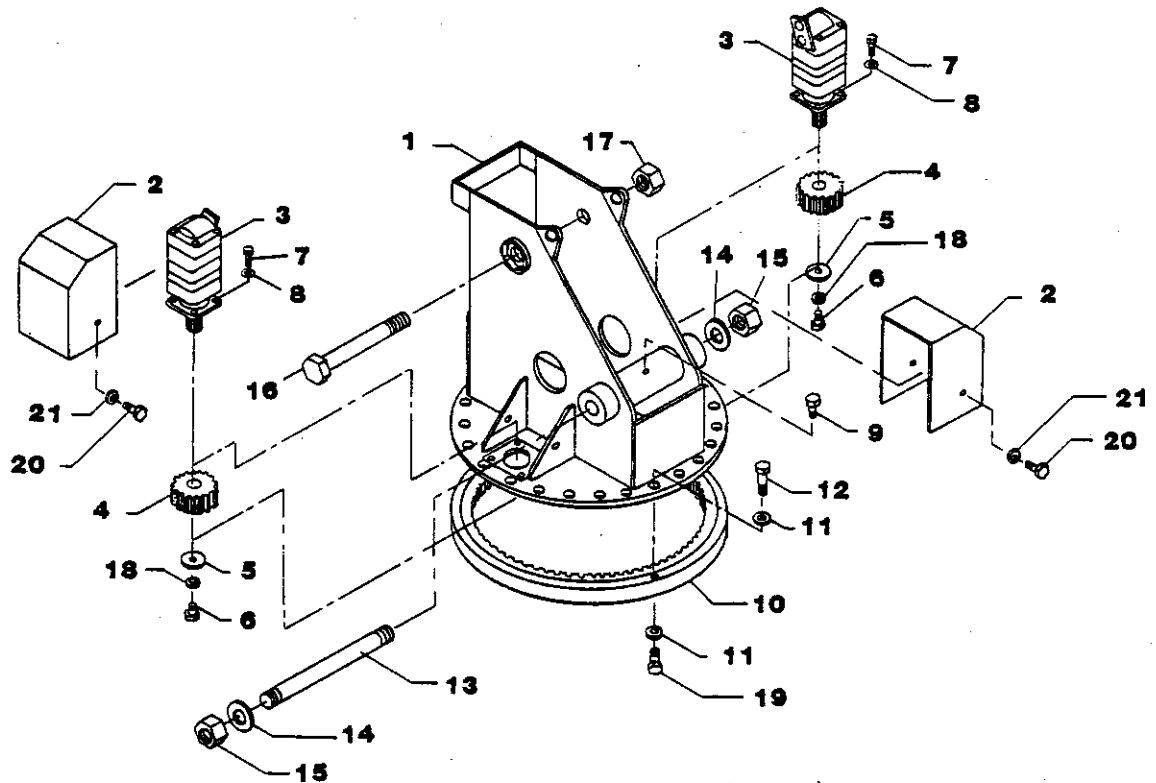
SECTION II (Structural Upper)

DESCRIPTION	Page No.
HEAD, assembly	2-2
SHROUDING, assembly	2-3
PLATFORM & CONTROL, linkage assembly	2-4 & 2-5
CAB, assembly	2-6
MAIN BOOM, assembly	2-7
SECONDARY BOOM, assembly (straight)	2-8
SECONDARY BOOM, assembly (live heel)	2-9
SECONDARY BOOM, assembly (dead heel)	2-10
BOLT, on dead heel assembly	2-11
GRAPPLE HANGER, assembly	2-12

INDEX



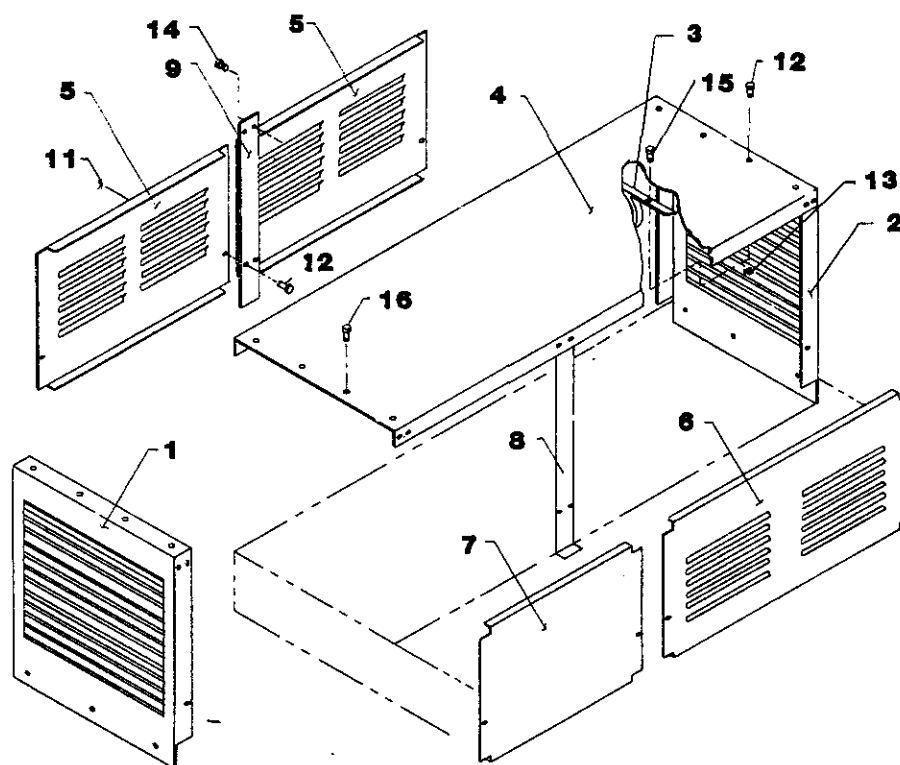
MODEL 160 HEAD ASSEMBLY STANDARD ROTATION



ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	ASSEMBLY, head-std rotation	123-00015
1	1	WELDMENT, head-std rotation	123-00127
2	2	WELDMENT, swing motor shroud	123-00150
3	2	MOTOR, swing	560-00016
4	2	PINION	401-00808
5	2	RETAINER	211-00204
6	2	BOLT-HH 5/8-11 x 20 LG	511-00003
7	8	BOLT-HH 5/8-11 x 1 3/4 LG	511-00403
8	8	WASHER, flat 5/8	514-00150
9	1	BOLT, HH 5/8-11 x 1 1/2 LG	510-00753
10	1	BEARING, turntable	541-00511
11	60	WASHER, flat 3/4	514-00151
12	30	BOLT, HH 3/4-10 x 2 LG	511-00424
13	1	PIN, cylinder	481-00953
14	2	WASHER, flat 40.D x 2 I.D. x 1/4 THK	514-00096
15	2	NUT, nylock 2" - 4 1/2 UNC	513-00269
16	1	BOLT, bf 2 1/2-12 x 17 LG	482-00335
17	1	NUT, nylock 2 1/2-12 Un	513-00419
18	2	WASHER, lock 1/2"	514-00013
19	30	BOLT, HH 3/4-10 x 2 1/2 LG	511-00425
20	4	BOLT, HH 5/16-18 x 3/4 LG	510-00629
21	4	WASHER, flat 5/16	514-00081

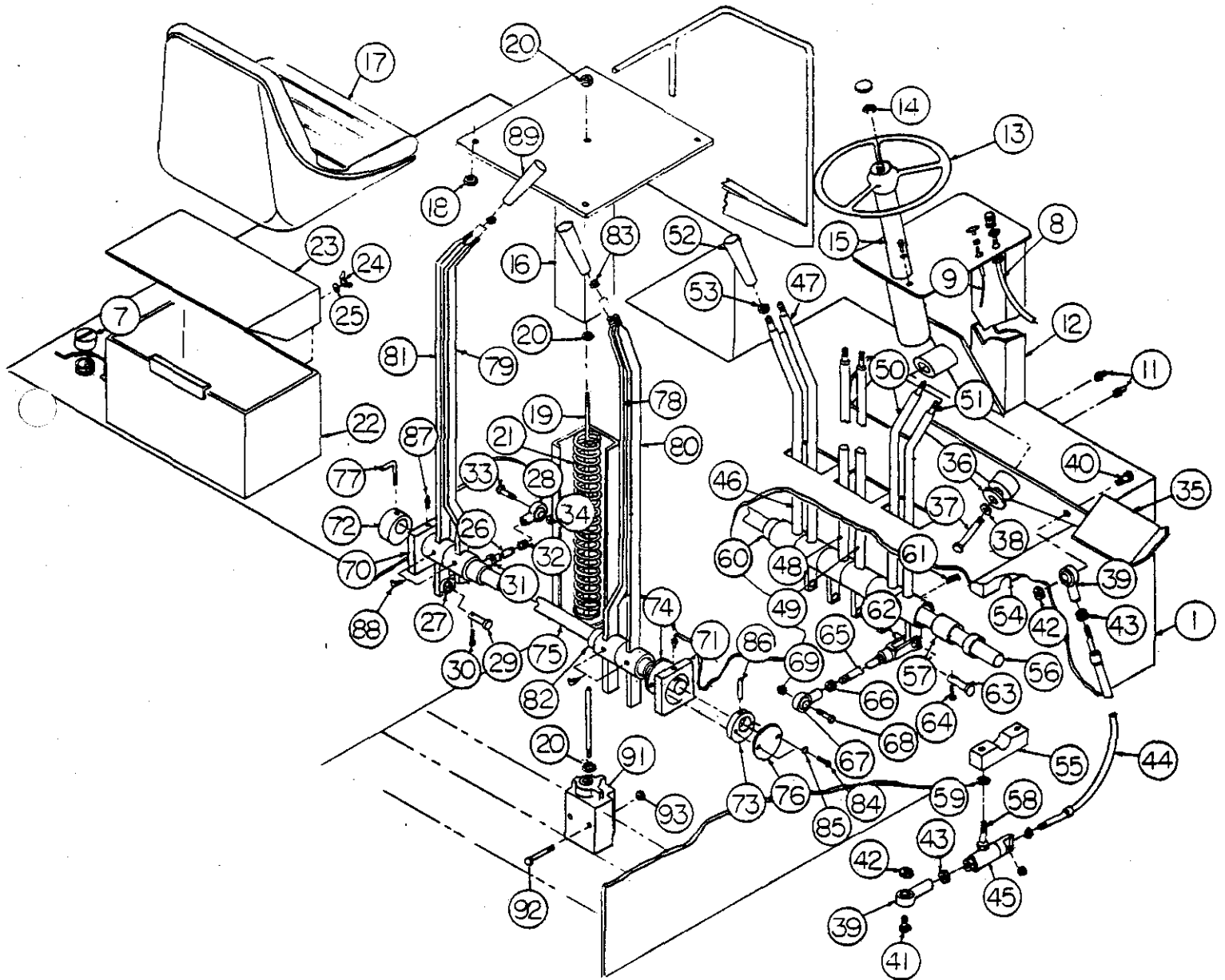
EFFECTIVE DATE 1/1/81

MODEL 160 SHROUDING ASSEMBLY



ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	ASSEMBLY, complete	254-00001
1	1	WELDMENT, end panel	251-00101
2	1	WELDMENT, end panel	251-00100
3	2	WELDMENT, muffler clamp	252-00113
4	1	HOOD	252-00201
5	2	PANEL, back	701-00250
6	1	PANEL, left front	253-00200
7	1	PANEL, right front	252-00200
8	1	BAR, front support	251-00002
9	1	PLATE, rectangular	441-00349
10	4	PIN, 1/2" x 3/4"	515-00087
11	4	PIN, hitch	514-00415
12	24	BOLT, 5/16"-24 x 3/4" lg	510-00929
13	32	NUT, nylock 5/16-24	513-00401
14	2	BOLT, 5/16"-18 x 1" lg	510-00931
15	6	BOLT, 5/16"-24 x 1 1/2" lg	510-00933
16	2	BOLT, 5/16" x 3/4" lg	514-00442

MODEL 160 AC PLATFORM ASSEMBLY



MODEL 160 ART CAR
PLATFORM & CONTROL ASSEMBLY

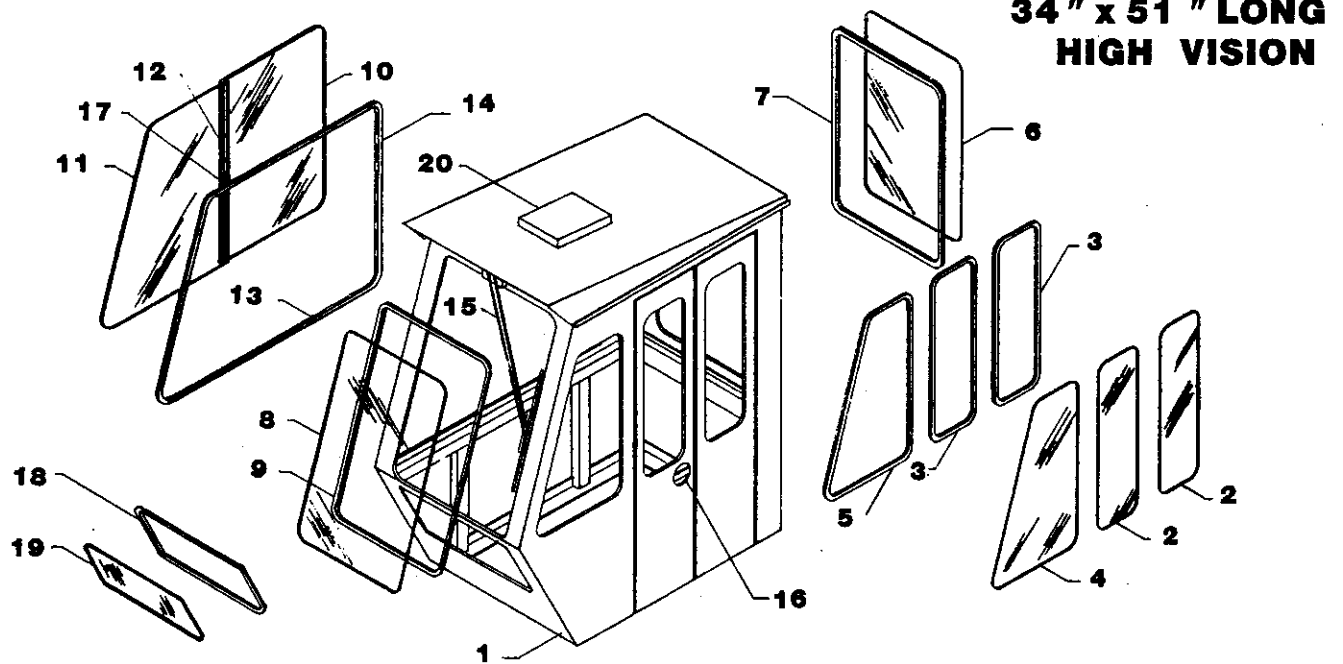
<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	1	ASSEMBLY, platform complete (straight boom application).....	164-00209
-	1	ASSEMBLY, platform complete live heel boom application.....	
1	1	WELDMENT, platform.....	164-00207
2	1	ASSEMBLY, control included items 46-69.....	453-00012
3	1	ASSEMBLY, swing pedal included items 35-45.....	212-00008
4	1	ASSEMBLY, seat includes items 16-21.....	162-00038
5	1	ASSEMBLY, swing away controls (strt boom application includes items 70-89.....	453-00007
5	1	ASSEMBLY, swing away controls live heel boom application includes items 70-90.....	
6	4	ASSEMBLY, linkage includes items 26-34. Add qty 2 for live heel application.....	453-00023
7	1	CAP, fuel.....	558-00507
8	1	CABLE, throttle.....	535-00200
9	1	CABLE, stop.....	535-00203
10	1	ASSEMBLY, battery box includes items 23-25.....	162-00168
11	2	ADAPTOR, bulkhead 4MJ-4MJ.....	569-00100
12	1	WELDMENT, steering column.....	352-00211
13	1	WHEEL, steering.....	539-00648
14	1	NUT, steering column.....	539-00649
15	1	COLUMN, steering.....	554-00020
16	1	WELDMENT, seat stand.....	162-00189
17	1	SEAT.....	536-00023
18	4	NUT, nylock.....	513-00426
19	1	ROD, threaded.....	512-00310
20	3	NUT, hex.....	513-00208
21	1	SPRING.....	547-00100
22	1	WELDMENT, battery box base.....	163-00128
23	1	WELDMENT, battery box cover.....	163-00129
24	2	NUT, wing 1/4-20.....	514-00435
25	2	WASHER, flat 1/4".....	514-00080
26	A/R	WELDMENT, linkage.....	451-00454
27	A/R	CLEVIS.....	524-00006
28	A/R	BALL, swivel.....	524-00100
29	A/R	PIN, clevis.....	515-00092
30	A/R	PIN, cotter.....	543-00714
31	A/R	NUT, jam.....	513-00333
32	A/R	NUT, jam.....	513-00330
33	A/R	BOLT, hex head.....	510-00932
34	A/R	NUT, nylock.....	513-00401
35	1	WELDMENT, swing pedal.....	212-00101
36	1	RETAINER, pedal.....	211-00204
37	1	BOLT, hex head 1/4 UNC x 1".....	510-00703
38	1	WASHER, lock 1/4".....	514-00013
39	2	BALL, joint 5/16"UNC.....	524-00100
40	1	BOLT, hex head.....	510-00633
41	1	BOLT, hex head.....	510-00632
42	2	NUT, nylock.....	513-00426
43	3	NUT, jam.....	513-00330
44	1	CABLE, swing.....	535-00221

Cont.

45	1	HYDRO, pack.....	539-00656
46	1	WELDMENT, valve control lever.....	451-00181
47	1	WELDMENT, valve control lever.....	451-00182
48	1	WELDMENT, valve control lever.....	451-00183
49	1	WELDMENT, valve control lever.....	451-00184
50	1	WELDMENT, valve control lever.....	451-00185
51	1	WELDMENT, valve control lever.....	451-00186
52	6	KNOB, control.....	539-00552
53	6	NUT, hex 3/8 - 24 UNF.....	513-00308
54	2	BAR, mount top.....	161-00286
55	2	BAR, mount bottom.....	161-00285
56	1	PIN, pivot.....	161-00648
57	6	BUSHING, bronze.....	542-00020
58	4	BOLT, hex 3/8 x 16UNC x 2½"Gr5.....	510-00660
59	4	WASHER, lock.....	514-00011
60	2	COLLAR, lock 1½".....	514-00446
61	6	FITTING, grease.....	517-00300
62	6	CLEVIS, 5/16".....	524-00002
63	6	PIN, yoke.....	515-00047
64	6	PIN, cotter.....	543-00712
65	6	ROD, threaded 5/16UNF x 2½".....	512-00345
66	12	NUT, hex 5/16"UNF.....	513-00307
67	6	JOINT, 5/16"UNF.....	524-00100
68	6	BOLT, hex 5/16"UNF x 1½"Gr5.....	510-00932
69	6	NUT, nylock 5/16 - 24"UNF.....	513-00401
70	1	WELDMENT, mount.....	162-00300
71	1	PLATE, mount.....	162-00301
72	1	CAM, eccentric.....	162-00302
73	1	CAM, eccentric.....	162-00303
74	1	RETAINER, cam-inner.....	162-00304
75	1	SHAFT, control.....	162-00305
76	1	RETAINER, cam-outer.....	161-00359
77	1	LEVER, control positioning.....	161-00417
78	1	WELDMENT, control lever.....	453-00108
79	1	WELDMENT, control lever.....	453-00105
80	1	WELDMENT, control lever.....	453-00107
81	1	WELDMENT, control lever.....	453-00106
82	2	COLLAR, lock 1½"ID.....	514-00448
83	4	NUT, jam 3/8-24".....	513-00331
84	2	BOLT, hex head 3/8-16 - 1-3/4" Long.....	510-00655
85	2	WASHER, spring lock.....	514-00011
86	1	PIN, roll.....	514-00911
87	2	FITTING, grease straight.....	517-00300
88	4	FITTING, grease 90°.....	517-00304
89	4	HANDLE, control.....	539-00552
90	1	WELDMENT, control lever (not shown) used with live heel boom.....	
91	1	VALVE, selector.....	563-00046
92	2	BOLT, hex head.....	510-00660
93	1	NUT, nylock.....	513-00402

A/R - AS REQUIRED

OPERATORS CAB & ACCESSORIES

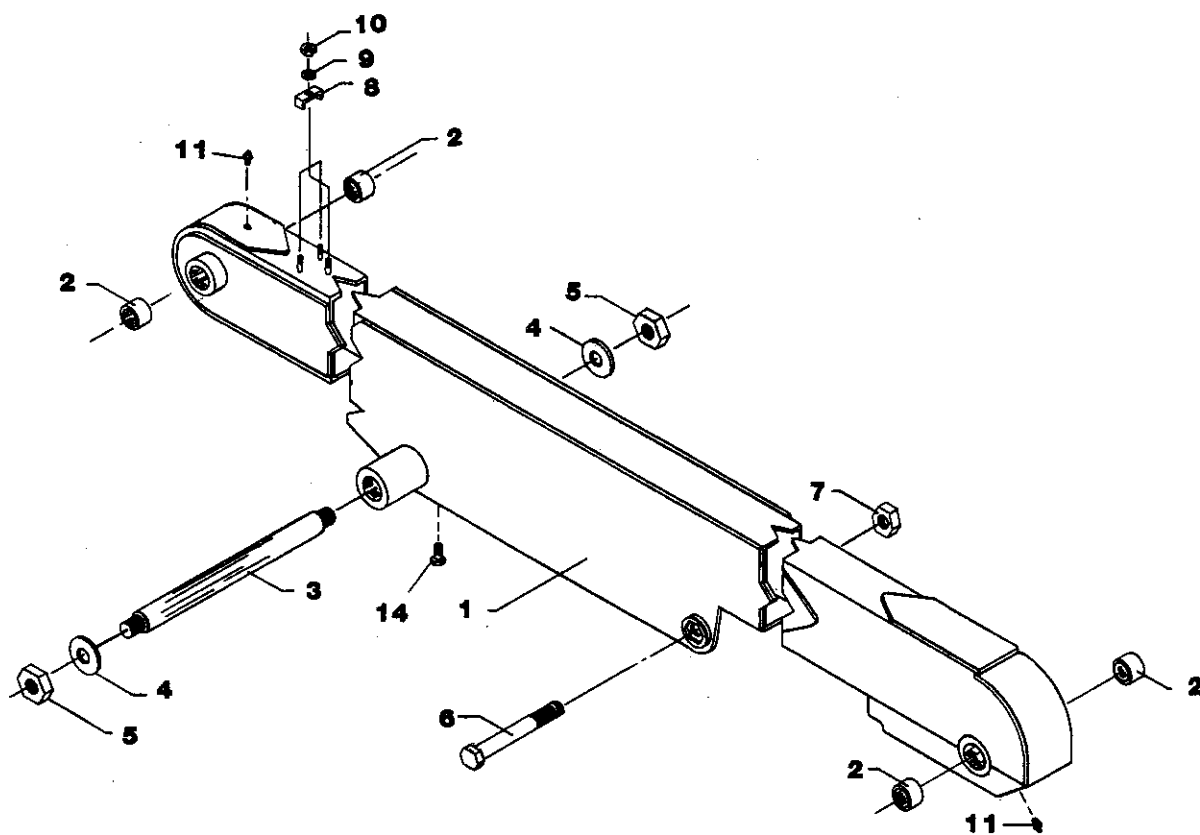


ITEM NO.	QTY.	DESCRIPTION	PART NO.
		CAB, complete	536-00400
1	1	DECALS, (in cab) see decal page no. _____ Not Shown	
2	1	GLASS, door pattern	536-00101
* 3	A/R	CASING, door glass, 69½" lg	536-00200
4	1	GLASS, left front panel pattern	536-00111
* 5	A/R	CASING, left front panel, 67½" lg	536-00200
6	1	GLASS, rear pattern	536-00123
* 7	1	CASING, rear glass 105" lg	536-00200
8	1	GLASS, windshield pattern	536-00113
* 9	A/R	CASING, windshield, 11½" lg	536-00200
10	1	GLASS, right side, rear section pattern	536-00124
11	1	GLASS, right side, sliding section pattern	536-00125
12	1	CHANNEL EDGE, sliding glass	536-00251
** 13	A/R	CHANNEL, sliding 120" lg	536-00250
* 14	A/R	CASING, right side glass, 120" lg	536-00205
15	1	WIPER, assembly	548-00921
16	1	HANDLE, door	536-00300
17	1	GRIP, finger	536-00301
18	A/R	CASING, lower front 77" lg	536-00200
19	1	GLASS, lower front pattern	536-00119
20	1	VENT, dome	536-00204
21	1	FAN, defroster (not pictured)	548-00909
22	1	KIT, windshield washer (see page no.)	548-00920
23	1	LIGHT, dome (not pictured)	548-00306
24	1	VENT, dome	536-00204
25	1	HEATER, hot water (not pictured)	548-00910

* All window casing is sold by the foot. Approximate lengths are given in parts list above. When ordering, order by part number 536-00200 and proper length in feet, except item number 14, order by part number 536-00205.

**Channel for sliding window number 536-00250 is sold in 5 foot lengths. When ordering, order 10 feet of sliding channel for complete window.

MODEL 160 MAIN BOOM ASSEMBLY

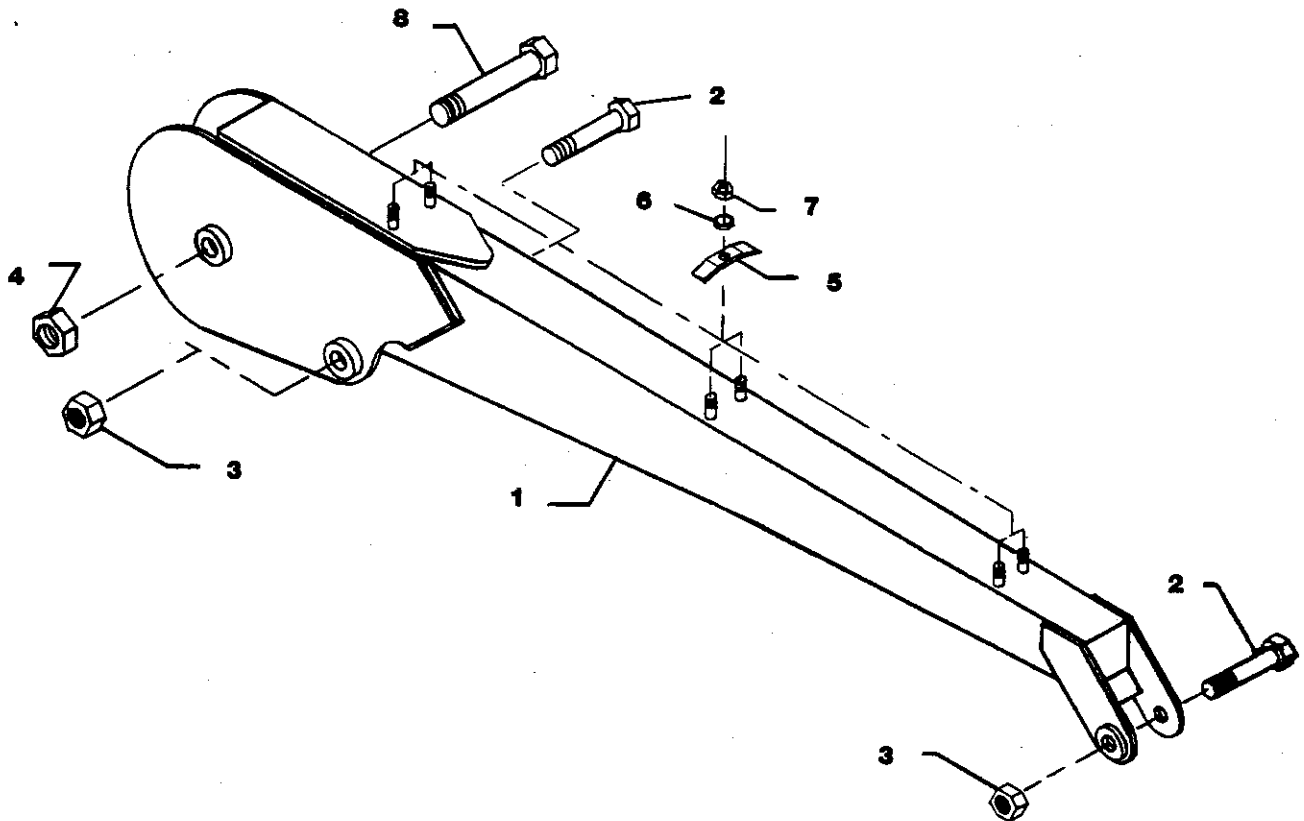


ITEM NO.	QTY.	DESCRIPTION	PART NO.
1	1	WELDMENT, main boom (14'-6")	103-00254
1	1	WELDMENT, main boom (15'-6")	103-00255
1	1	WELDMENT, main boom (14'-6") used on live heel assembly only	103-00262
1	1	WELDMENT, main boom (15'-6") used on live heel assembly only	103-00263
2	4	BEARING, tapered roller	541-00038
3	1	PIN, cylinder 2 1/2 x 28-1/8	481-00953
4	2	WASHER, flat 2"	514-00096
5	2	NUT, nylock 2"	513-00269
6	1	BOLT, body fit	482-00249
7	1	NUT, nylock 2" - 12 UN	513-00417
8	*	CLAMP, pipe	491-00000
9	*	WASHER, lock 3/8"	514-00011
10	*	NUT, hex 3/8-16	513-00208
11	2	FITTING, grease	517-00300
12	2	DECAL, blank background (not pictured)	539-00566
13	2	DECAL, 160 insert (not pictured)	539-00568
14	1	BOLT, hex head 5/8" x 1 1/2 long	510-00753
15	A/R	DECAL, (model 160) see decal page	

* QUANTITY MAY VARY. ORDER QUANTITY AS REQUIRED.

NOTE: Main boom length is measured from the center of main boom pivot pin to center of secondary boom pivot pin.

MODEL 160 STRAIGHT SECONDARY BOOM ASSEMBLY

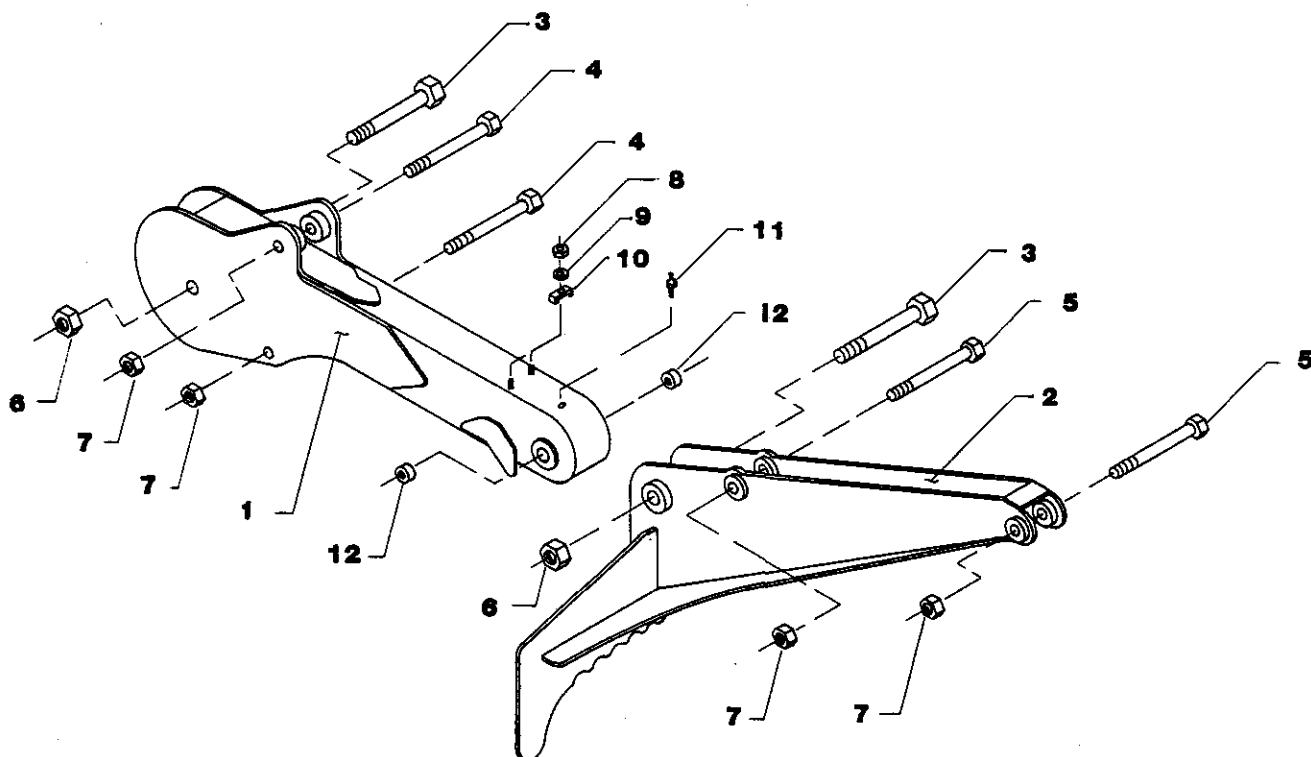


ITEM NO.	QTY.	DESCRIPTION	PART NO.
1	1	WELDMENT, straight secondary boom (10'-6")	113-00281
1	1	WELDMENT, straight secondary boom (11'-6")	113-00289
1	1	WELDMENT, straight secondary boom (10'-6")	
		used with bolt on heel	113-00297
1	1	WELDMENT, straight secondary boom (11'-6")	
		used with bolt on heel	113-00318
2	2	BOLT, body fits 2" x 11 3/4" long	482-00303
3	2	NUT, nylock 2"-12 UN	513-00417
4	1	NUT, nylock 2 1/2"-12 UN	513-00419
5	*	CLAMP, pipe	491-00000
6	*	WASHER, lock 3/8"	514-00011
7	*	NUT, hex 3/8 - 16	513-00208
8	1	BOLT, body fit 2 1/2" x 15" long	482-00308

* Quantity may vary. Order quantity as required.

NOTE: Secondary boom length is measured from the center of the secondary boom pivot pin to center of grapple hanger pin.

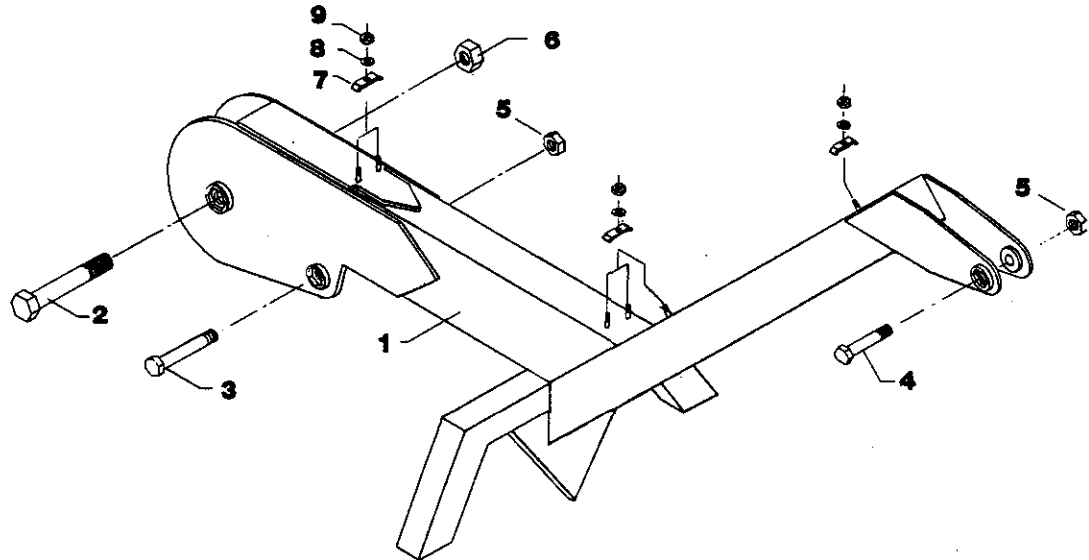
MODEL 160 LIVE HEEL BOOM ASSEMBLY



ITEM NO.	QTY.	DESCRIPTION	PART NO.
1	1	WELDMENT, secondary boom used on 25' live heel boom	114-00245
1	1	WELDMENT, secondary boom used on 27' live heel boom	114-00247
2	1	WELDMENT, heel boom used on 25' live heel boom	114-00246
2	1	WELDMENT, heel boom used on 27' live heel boom	114-00246
3	2	BOLT, body fit, 2½ dia x 15½ Lg	482-00308
4	2	BOLT, body fit, 2 dia x 11-7/8 Lg	482-00303
5	2	BOLT, body fit, 2 dia x 13-7/8 LG	482-00225
6	2	NUT, nylock 2½"-12	513-00419
7	2	NUT, nylock 2"-Un	513-00417
8	*	NUT, hex 3/8-16 Unc	513-00208
9	*	WASHER, lock 3/8	514-00011
10	*	CLAMP, tube	491-00000
11	1	GREASE FITTING 1/8 NPT	517-00300
12	2	BEARING, tapered roller 2½	541-00038

* QUANTITY MAY VARY. ORDER QUANTITY AS REQUIRED

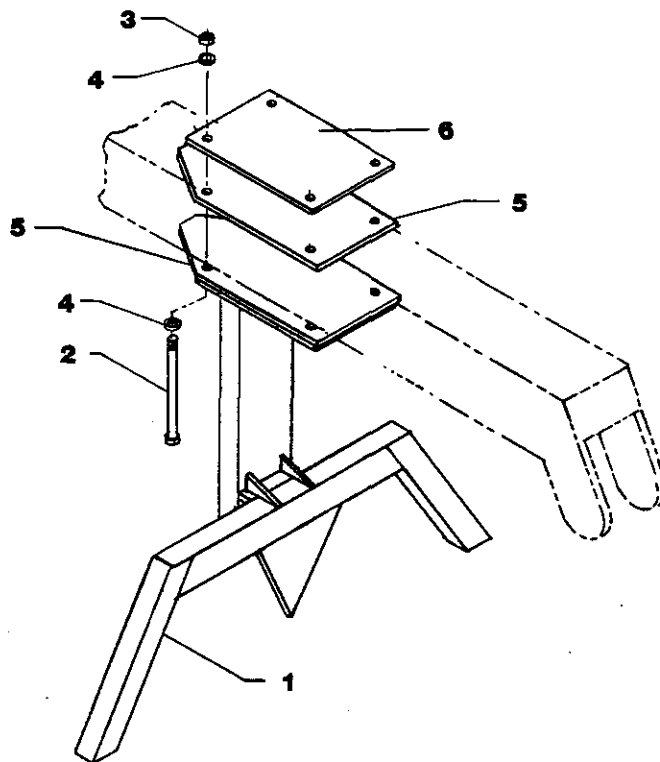
MODEL 160 DEAD HEEL BOOM ASSEMBLY



ITEM NO.	QTY.	DESCRIPTION	PART NO.
1	1	WELDMENT, secondary boom 10'6" used on 25'	
		standard length boom	113-00282
1	1	WELDMENT, secondary boom 11'6" used on 27' boom	113-00290
2	1	BOLT, body fit 2½" x 15½"	482-00308
3	1	BOLT, body fit 2" x 11¼"	482-00303
4	1	BOLT, body fit 2" x 11¼"	482-00249
5	2	NUT, nylock 2" - 12UN	513-00417
6	1	NUT, nylock 2½" - 12UN	513-00419
7	*	CLAMP, pipe	491-00000
8	*	WASHER, lock 3/8"	514-00011
9	*	NUT, hex 3/8" - 16	513-00208

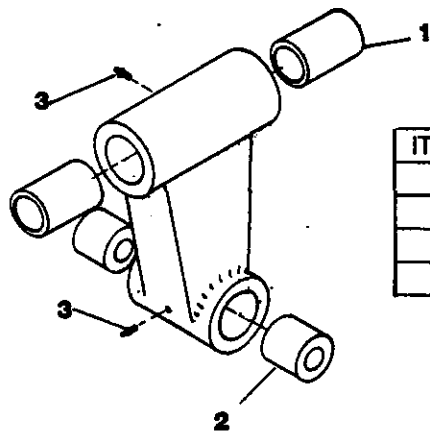
* QUANTITY MAY VARY. ORDER QUANTITY AS REQUIRED

MODEL 160 BOLT ON DEAD HEEL ASSEMBLY



ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	ASSEMBLY, complete	104-00095
1	1	WELDMENT, dead heel	114-00235
2	4	BOLT, hex head	512-00407
3	4	NUT, hex nylock	513-00409
4	8	WASHER, flat	514-00466
5	2	PLATE, mounting	111-00842
6	1	PLATE, rectangular	111-00843

GRAPPLE HANGERS

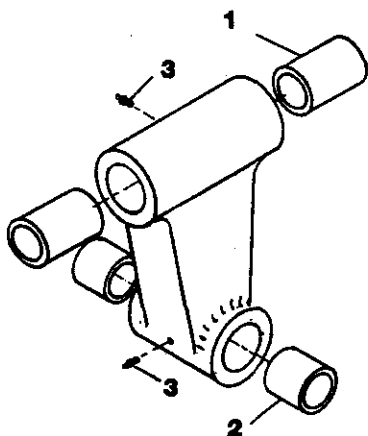
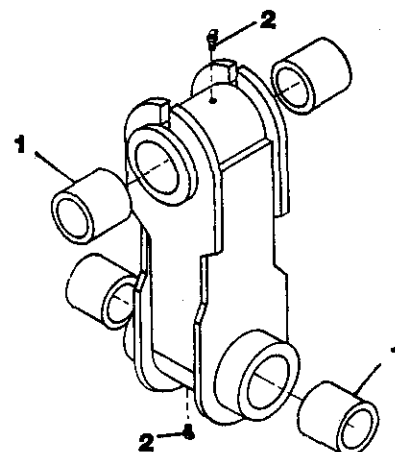


ITEM NO.	QTY.	DESCRIPTION	PART NO.
—	1	ASSEMBLY, complete	152-00007
1	2	BUSHING, bronze	542-00032
2	2	BUSHING, bronze	542-00022
3	2	FITTING, grease	517-00300

(USED ON 360° NON CONTINUOUS)

ITEM NO.	QTY.	DESCRIPTION	PART NO.
—	1	ASSEMBLY, complete	153-00027
1	4	BUSHING, bronze	542-00031
2	2	FITTING, grease	517-00304

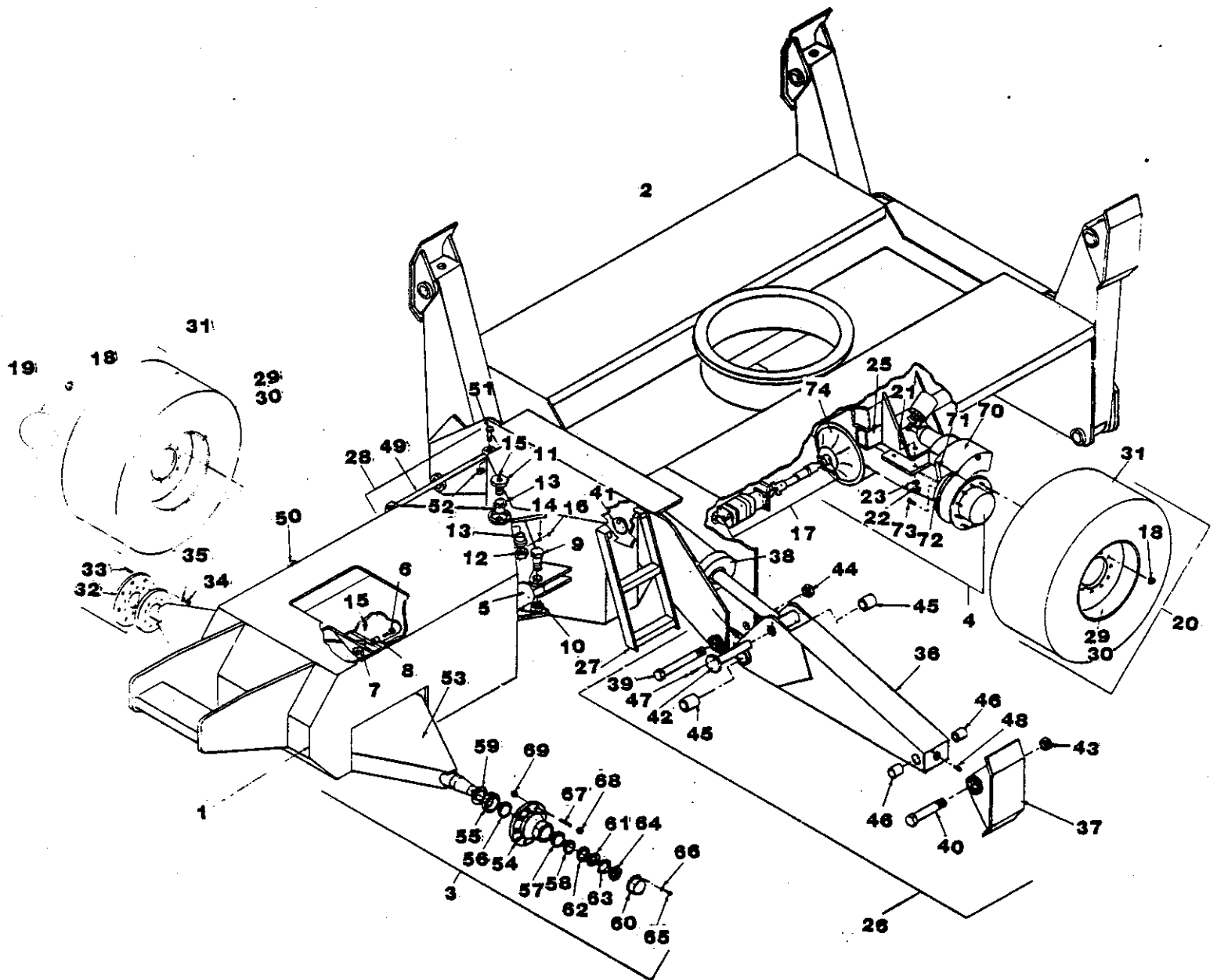
(USED ON CONTINUOUS ROTATION GRAPPLES)



ITEM NO.	QTY.	DESCRIPTION	PART NO.
—	1	ASSEMBLY, complete	152-00006
1	2	BUSHING, bronze	542-00032
2	2	BUSHING, bronze	542-00033
3	2	FITTING, grease	517-00300

(USED ON 280° ROTATION)

MODEL 160 AC SUBFRAME ASSEMBLY



MODEL 160 AC SUBFRAME ASSEMBLY

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	1	ASSEMBLY, lower complete 20 Cu. in. motor application.....	354-00027
-	1	ASSEMBLY, lower complete 40 Cu.in. motor application.....	354-00028
1	1	WELDMENT, front frame.....	354-00201
2	1	WELDMENT, rear frame.....	354-00234
3	1	ASSEMBLY, front axel includes items 53-69.....	354-00015
4	1	ASSEMBLY, rear axel & breaks includes items	364-00013
5	2	ASSEMBLY, steering cylinder.....	812-00015
6	2	BOLT, hex head 1½-12 UNF x 6½ Gr5.....	482-00207
7	2	NUT, hex lock thin 1½-12 UNF.....	513-00770
8	4	BUSHING, 1½".....	421-00408
9	4	BOLT, hex head 1½-7 UNC x 6 Gr5.....	510-00874
10	4	NUT, hex nylock 1½-7 UNC.....	513-00436
11	2	BOLT, hex head 2-12".....	481-00222
12	2	NUT, hex-set screw lock.....	481-00711
13	4	BUSHING, 2".....	421-00414
14	2	PLUG, teflon.....	550-00000
15	4	FITTING, lub, straight.....	517-00300
16	2	SCREW, set 3/8-16 UNC x 3/8".....	512-00616
17	1	ASSEMBLY, drive line(20 CU.IN. motor application)	364-00015
17	1	ASSEMBLY, drive line(40 CU.IN. motor application)	364-00014
18	24	NUT, wheel lug r.h. 3/4-16 UNF.....	535-00869
19	2	ASSEMBLY, tire & rim right hand includes items 29-31.....	351-00008
20	2	ASSEMBLY, tire & rim, left hand includes items 29-31.....	351-00007
21	8	BOLT, hex head Heavy Duty 7/8-9UNC x 3½ Gr8.....	511-00451
22	8	NUT, hex 7/8-9UNC Gr8.....	513-00614
23	8	WASHER, lock 7/8.....	514-00017
24	2	ASSEMBLY, rim adaptor includes items 32-35.....	353-00000
25	1	WELDMENT, sub-frame.....	164-00252
26	4	ASSEMBLY, stabilizer includes items 36-48.....	173-00011
27	1	WELDMENT, ladder.....	162-00170
28	1	ASSEMBLY, lock steering.....	353-00001
29	4	RIM.....	537-00651
30	4	FLANGE.....	351-00496
31	4	TIRE, 17.5 x 25 x 12 Ply.....	537-00605
32	1	ADAPTOR, rim.....	353-00402
33	12	STUD, wheel.....	535-00868
34	12	NUT, hex 3/4-16 UNF.....	513-00313
35	12	WASHER, lock.....	514-00016
36	1	LEG, stabilizer leg.....	173-00203
37	1	WELDMENT, stabilizer pad.....	172-00301
38	1	ASSEMBLY, hydraulic cylinder.....	812-00506
39	1	BOLT, body fit 2-12 UN-13½ Lg.....	482-00272
40	1	BOLT, body fit 1½-12 UNF x 8-3/4 Lg.....	482-00202
41	1	WELDMENT, pin 2"Dia. x 8-3/4" Lg.....	482-00008
42	1	WELDMENT, pin 2"Dia. x 12½ Lg.....	482-00007
43	1	NUT, self locking 1½-12 UNF.....	513-00438
44	1	NUT, self-locking 2"-12 UN.....	513-00442
45	2	BUSHING, bronze.....	542-00032

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
46	2	BUSHING, bronze.....	542-00020
47	2	BOLT, hex head Gr5 ½-13UNC x 3/4 Lg.....	510-00701
48	2	FITTING, grease.....	517-00300
49	1	WELDMENT, lock steering safety.....	352-00214
50	3	PLATE, ear.....	351-00316
51	2	BOLT, hex head 7/8-9UNC x 3½ Gr5.....	510-00812
52	2	NUT, hex 7/8-9UNC.....	513-00433
53	1	WELDMENT, axle.....	353-00218
54	2	HUB, axle.....	535-00850
55	2	CUP, bearing.....	541-00736
56	2	CONE, bearing.....	541-00737
57	2	CUP, bearing.....	541-00721
58	2	CONE, bearing.....	541-00739
59	2	SEAL, grease.....	535-00866
60	2	CAP, hub.....	535-00851
61	2	NUT, spindle, inner.....	535-00854
62	2	WASHER.....	535-00855
63	2	WASHER, star.....	535-00879
64	2	NUT, spindle, outer.....	535-00856
65	12	BOLT, hex head 5/16-18UNC x ½Gr5.....	510-00627
66	12	WASHER, Lock.....	514-00010
67	20	STUD, wheel.....	535-00868
68	20	NUT, lug.....	535-00869
69	20	NUT, lock.....	513-00359
70	2	ASSEMBLY, break.....	543-00016
71	2	WELDMENT, bracket.....	364-00202
72	2	PLATE, disc break.....	362-00504
73	12	BOLT, hex 3/4-16 UNF Gr8.....	512-00409
74	1	AXLE, Franklin.....	535-00818

SECTION IV (Mechanical)

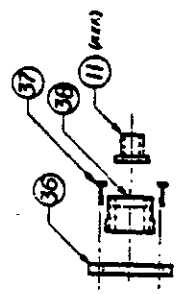
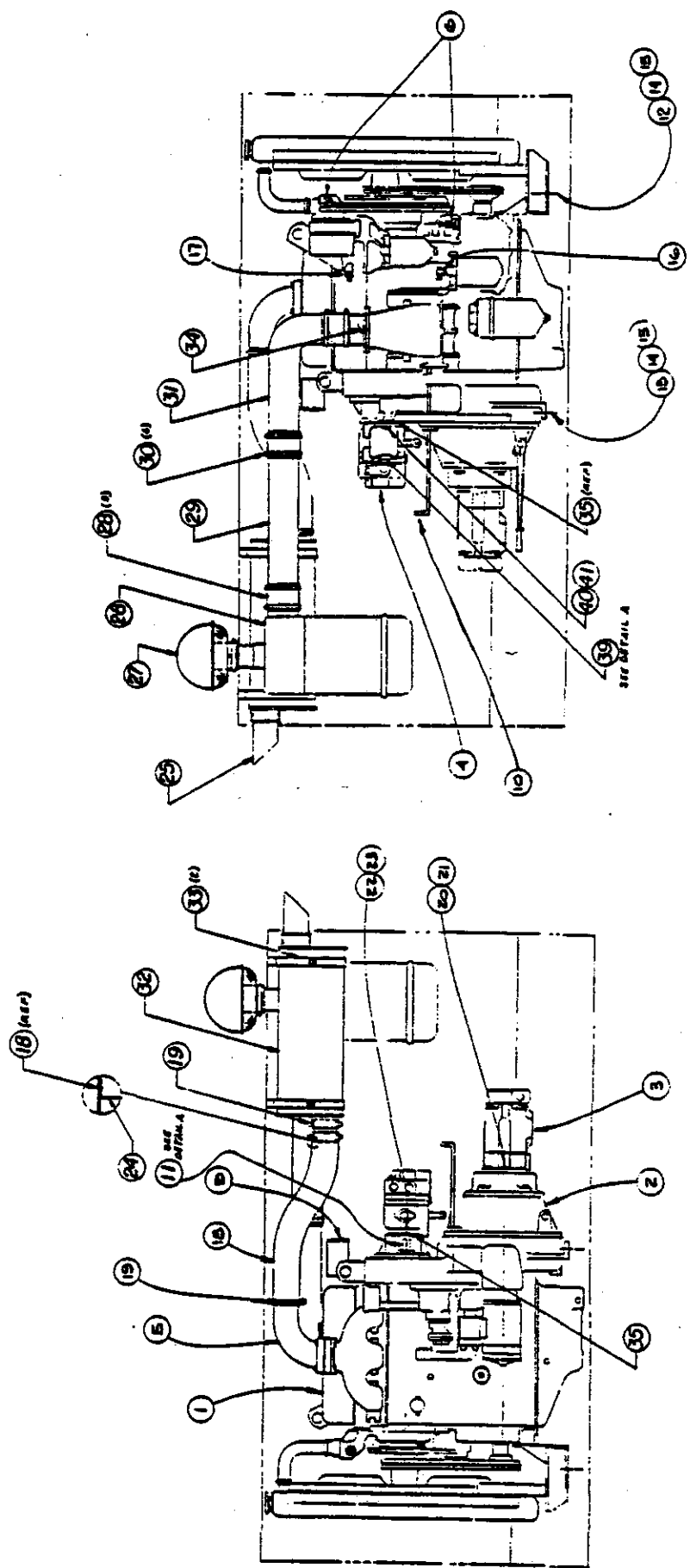
DESCRIPTION

Page No.

POWER PACKAGE, assembly	4-2 & 4-3
DISCONNECT, clutch	4-4 & 4-5
ENGINE, mounting diagram	4-6

INDEX





DETAIL A

POWER PACKAGE ASSEMBLY

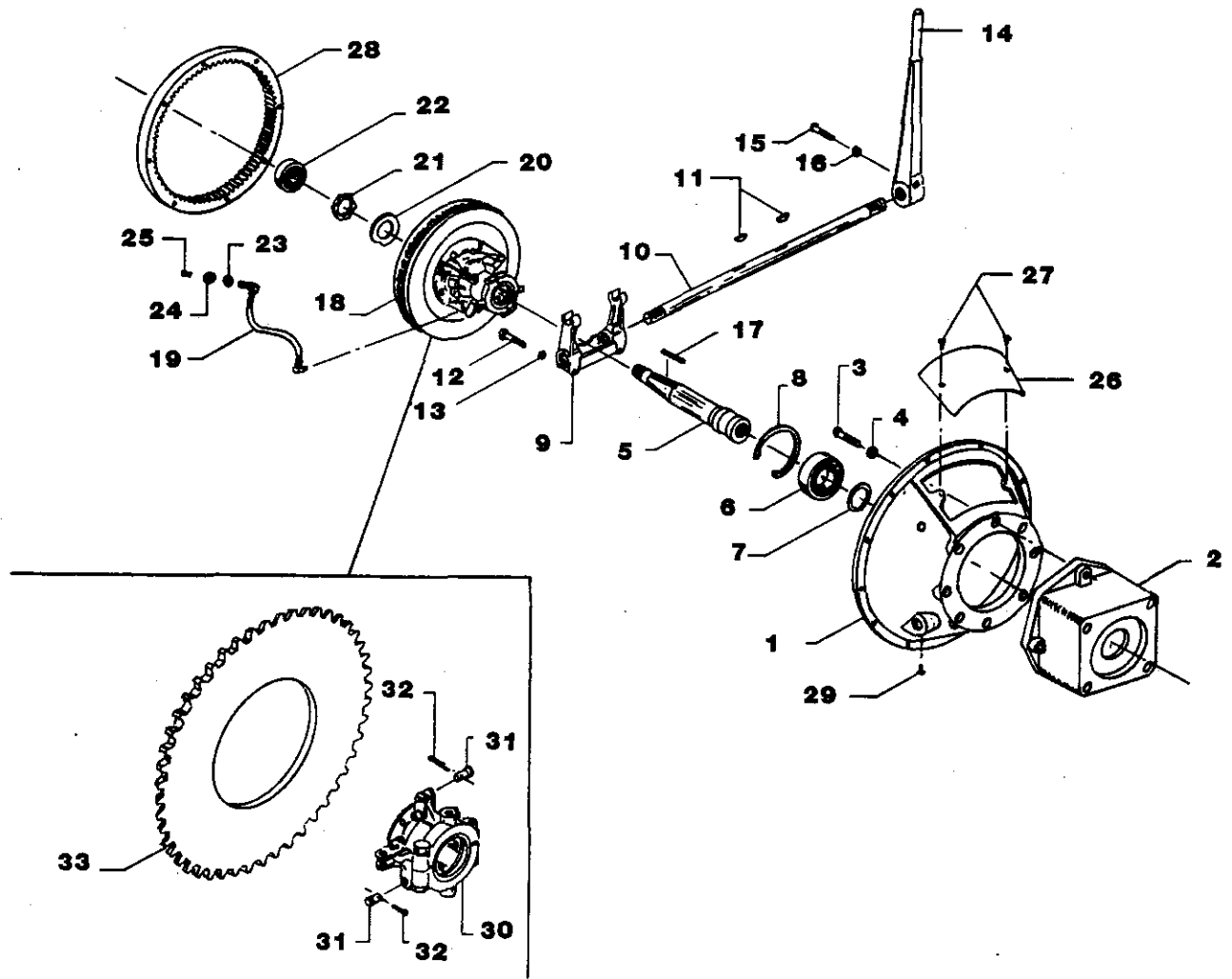
MODEL 160 ART CAR

PARTS LIST

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	1	ASSEMBLY, complete.....	404-00020
1	1	ASSEMBLY, engine.....	535-00005
2	1	ASSEMBLY, clutch.....	539-00000
3	1	ASSEMBLY, pump.....	560-00620
4	1	ASSEMBLY, swing pedal.....	560-00619
5	1	WELDMENT, exhaust sweep.....	402-00126
6	2	VALVE, heater shut-off.....	535-00174
9	1	WELDMENT, control cable bracket.....	452-00132
10	1	BRACKET, swing pump cable.....	162-00137
11	2	ADAPTOR, spline.....	402-00808
12	2	BOLT, hex head 9/16 x 1 1/4".....	510-00731
13	2	BOLT, hex head 9/16 x 1-3/4".....	510-00733
14	8	WASHER, flat 9/16".....	514-00085
15	4	NUT, nylock 9/16".....	513-00430
16	1	ADAPTOR, 04MP-06FPX90.....	566-00053
17	1	ADAPTOR, 04MP-06MS.....	567-00568
18	24	TUBING, flex 3" I.D.....	535-00171
19	3	CLAMP.....	535-00138
20	2	BOLT, hex head 5/8 x 1 1/4".....	510-00753
21	2	WASHER, lock 5/8".....	514-00015
22	2	BOLT, hex head 1/2 x 1 1/4".....	510-00704
23	2	WASHER, lock 1/2".....	514-00013
24	1	PIPE, exhaust coupling.....	251-00323
25	1	PIPE, exhaust end.....	251-00324
26	1	CLEANER, air.....	535-00156
27	1	HOOD, air cleaner.....	535-00165
28	3	HOSE, 4 I.D. x 4"LG.....	535-00163
29	1	EXTENSION, exhaust 4Dia. x 20"LG.....	535-00166
30	6	CLAMP, hose.....	569-00516
31	1	ELBOW, 90° x 4Dia.....	535-00164
32	1	MUFFLER, Donaldson.....	535-00139
33	2	BAND, muffler.....	535-00158
34	1	ADAPTER, air inlet.....	535-00160
35	2	GASKET, hydraulic pump.....	535-00169
36	2	ADAPTER, spline.....	535-00183
37	8	BOLT, hex head 3/8 x 1-3/8"LG.....	514-00542
38	2	ADAPTER, spline.....	535-00168
39	1	ASSEMBLY, pump.....	560-00581
40	2	BOLT, hex head 3/8 x 1".....	510-00654
41	2	WASHER, lock 3/8".....	514-00011

Effective Date 3-30-81

FUNK DISCONNECT CLUTCH



ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	ASSEMBLY, SAE #4 (GMC 353)	539-00000
1	1	HOUSING, SAE #4 (GMC 353)	539-00002
2	1	ADAPTER, SAE C	539-00004
3	6	CAPSCREW, 3/4 - 10 NC x 1 3/4" lg	510-00778
4	6	WASHER, lock	514-00016
5	1	SHAFT, drive	539-00005
6	1	BEARING, ball	541-00038
7	1	RING, snap	542-00434
8	1	RING, snap	542-00563

(Continued Next Page)

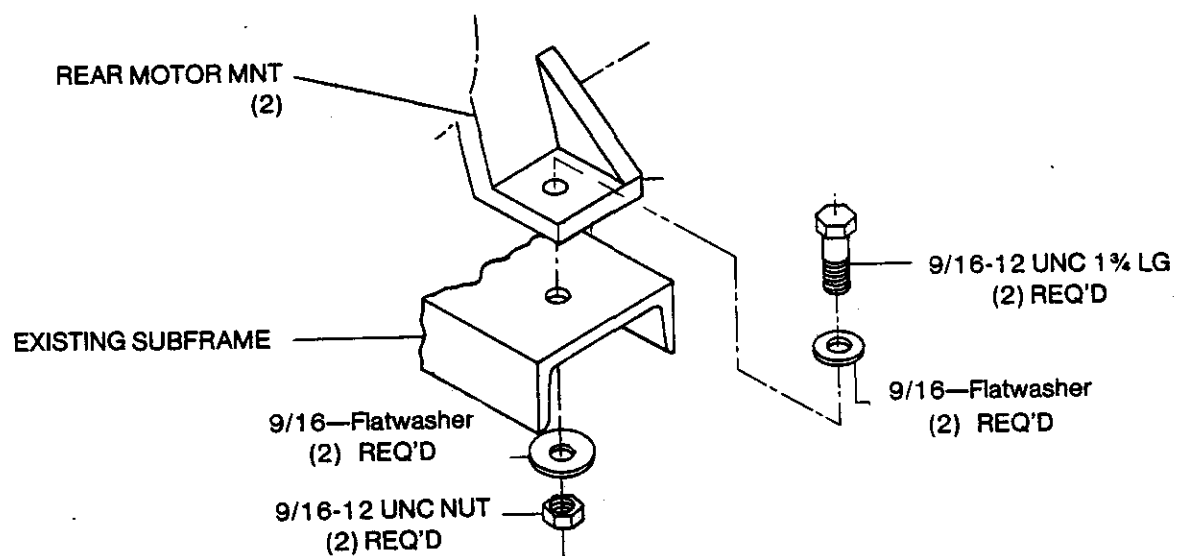
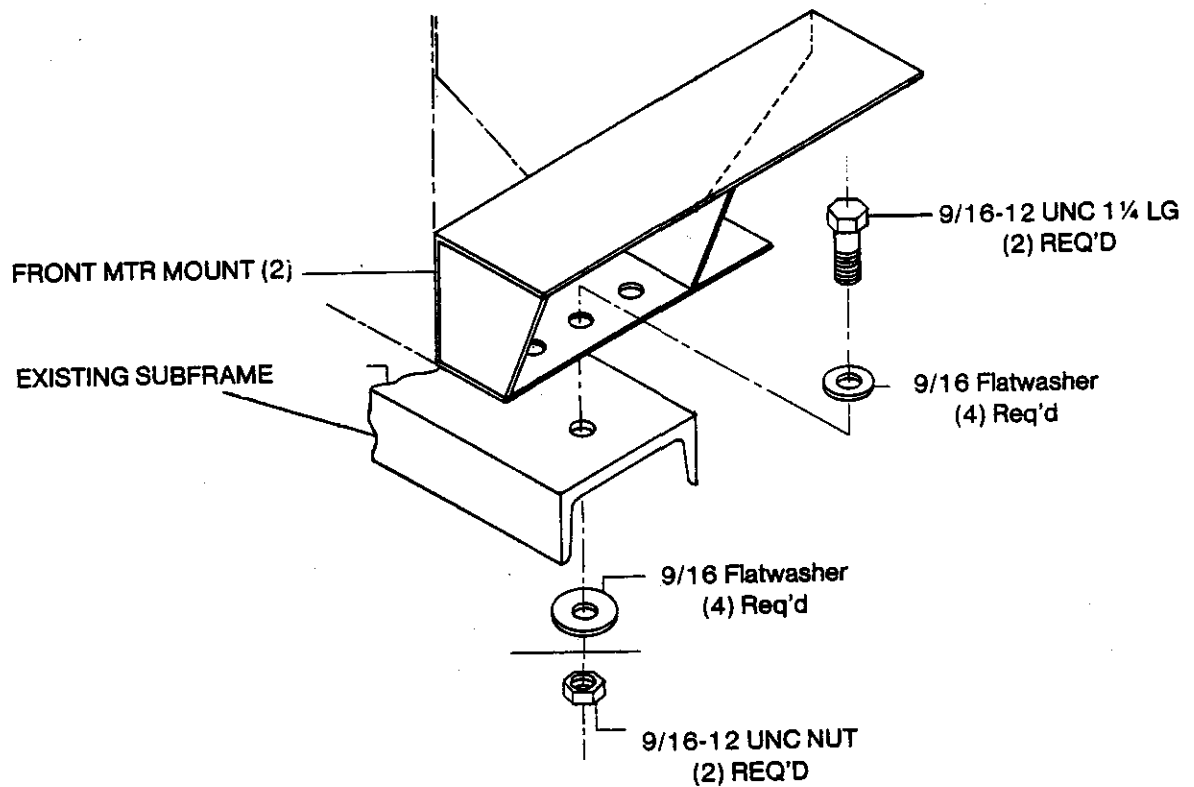
FUNK DISCONNECT CLUTCH (continued)

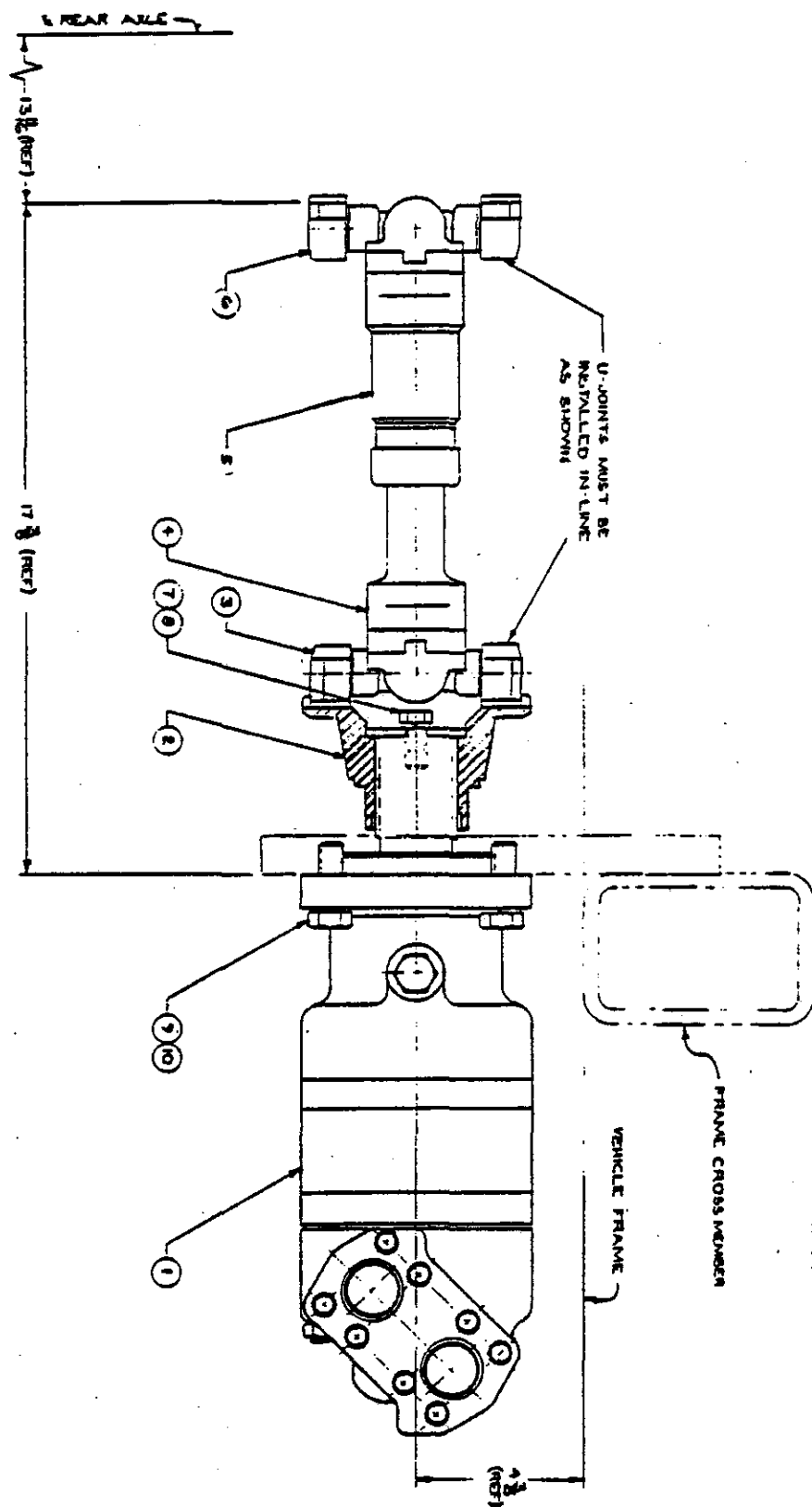
ITEM NO.	QTY.	DESCRIPTION	PART NO.
9	1	YOKE	539-00007
10	1	SHAFT, clutch release	539-00008
11	2	KEY, Woodruff	539-00009
12	2	CAPSCREW, 3/8 - 16 NC x 1 1/2" lg.	510-00656
13	2	WASHER, lock	514-00011
14	1	HANDLE, clutch	539-00010
15	1	CAPSCREW, 1/2 - 13 NC - 1 3/4" lg.	510-00706
16	1	WASHER, lock	514-00013
17	1	KEY, 1/4" x 2" lg.	539-00011
18	1	CLUTCH, assembly (10")	539-00012
19	1	HOSE, grease	539-00013
20	1	WASHER, lock	539-00014
21	1	NUT	539-00015
22	1	BEARING, pilot	541-00531
23	1	WASHER, star	539-00017
24	1	NUT, jam 5/8 - 18 UNF	513-00135
25	1	FITTING, grease	539-00018
26	1	COVER, inspection	539-00019
27	2	SCREW, machine 1/4 - 20 x 1/2" lg.	539-00020
28	1	RING, clutch drive	539-00021
29	1	FITTING, grease	539-00022
*30	1	SLEEVE, sliding assembly	539-00023
*31	8	PIN, clevis	
*32	8	PIN, cotter	
33	1	PLATE, drive	539-00024

NOTE: When ordering parts for the disconnect clutch; be sure to specify the Model Number and the Spec. Number.

* INCLUDED IN SLIDING SLEEVE ASSEMBLY #539-00023.

MODEL 160 ENGINE MOUNTING (GMC Application)





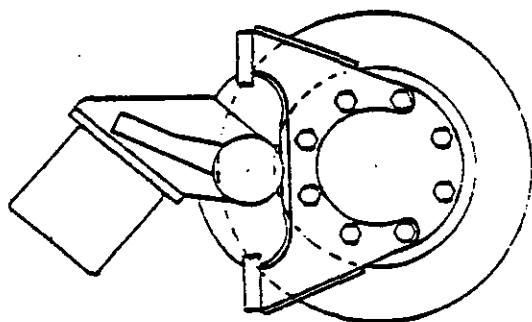
DRIVE LINE ASSEMBLY

MODEL 160

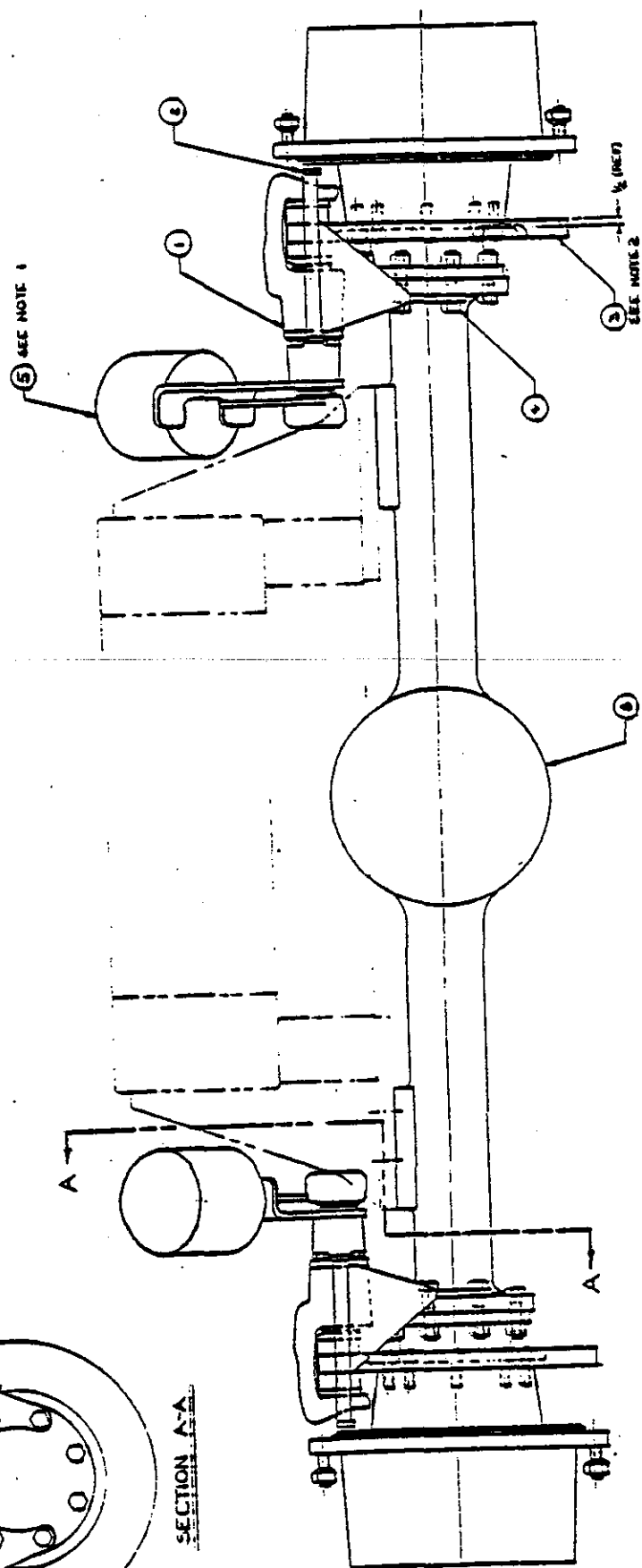
PARTS LIST

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	1	ASSEMBLY, complete.....	364-00015
1	1	MOTOR.....	560-00019
2	1	WELDMENT, yoke.....	362-00220
3	1	KIT, cross & bearing.....	545-00042
4	1	SHAFT, yoke.....	541-00041
5	1	YOKE, slip.....	545-00027
6	1	KIT, cross & bearing.....	545-00028
7	1	BOLT, hex head $\frac{1}{2}$ x $1\frac{1}{4}$ ".....	511-00004
8	1	WASHER, lock $\frac{1}{4}$ ".....	514-00013
9	4	BOLT, hex head $\frac{5}{8}$ x $1\frac{3}{4}$ ".....	510-00754
10	4	WASHER, lock $\frac{5}{8}$ ".....	514-00015

Effective Date 3-26-81



SECTION A-A



AXLE & BRAKES

MODEL 160

PARTS LIST

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	1	ASSEMBLY, complete.....	364-00013
1	2	ASSEMBLY, brake-BF Goodrich.....	543-00016
2	2	WELDMENT, bracket.....	364-00202
3	2	PLATE, disc brake.....	362-00504
4	12	BOLT, hex head 3/4 x 3 1/2".....	512-00409
5	2	MODIFICATION, brake actuator.....	362-00001
6	1	AXLE, Franklin A-230 Planetary.....	535-00818

Effective Date 3-26-81

SECTION V (Electrical)

DESCRIPTION

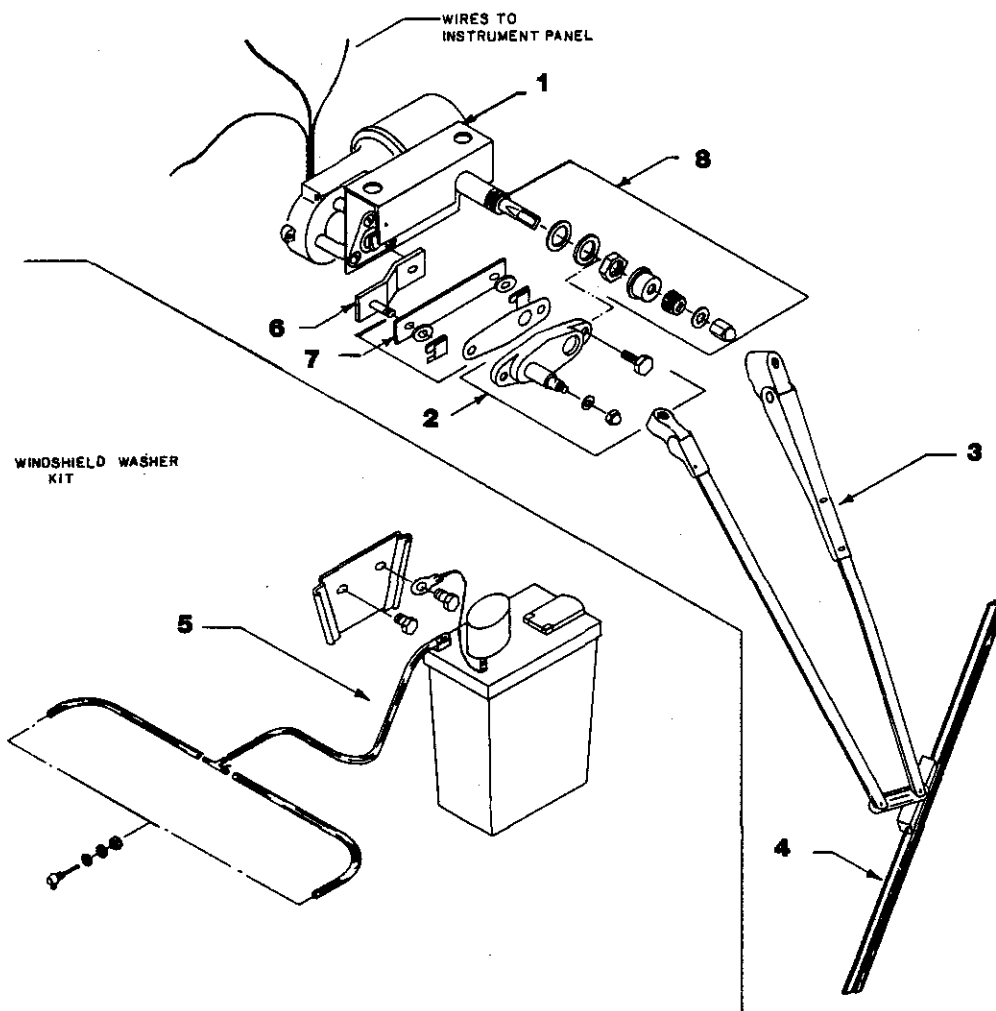
Page No.

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INSTRUMENT PANEL, assembly	5-3
WINDSHIELD WIPER, assembly	5-4
HOUR METER, assembly	5-5
BATTERY CABLE, assembly	5-6

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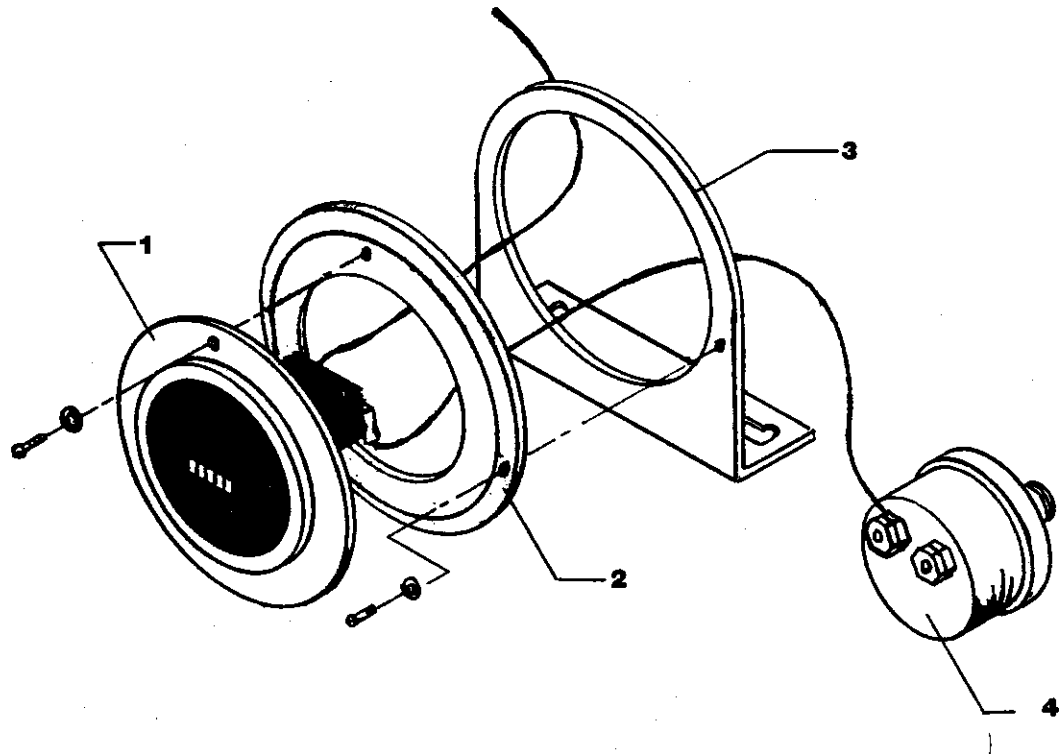


MODEL 160 **WINDSHIELD WIPER ASSEMBLY**



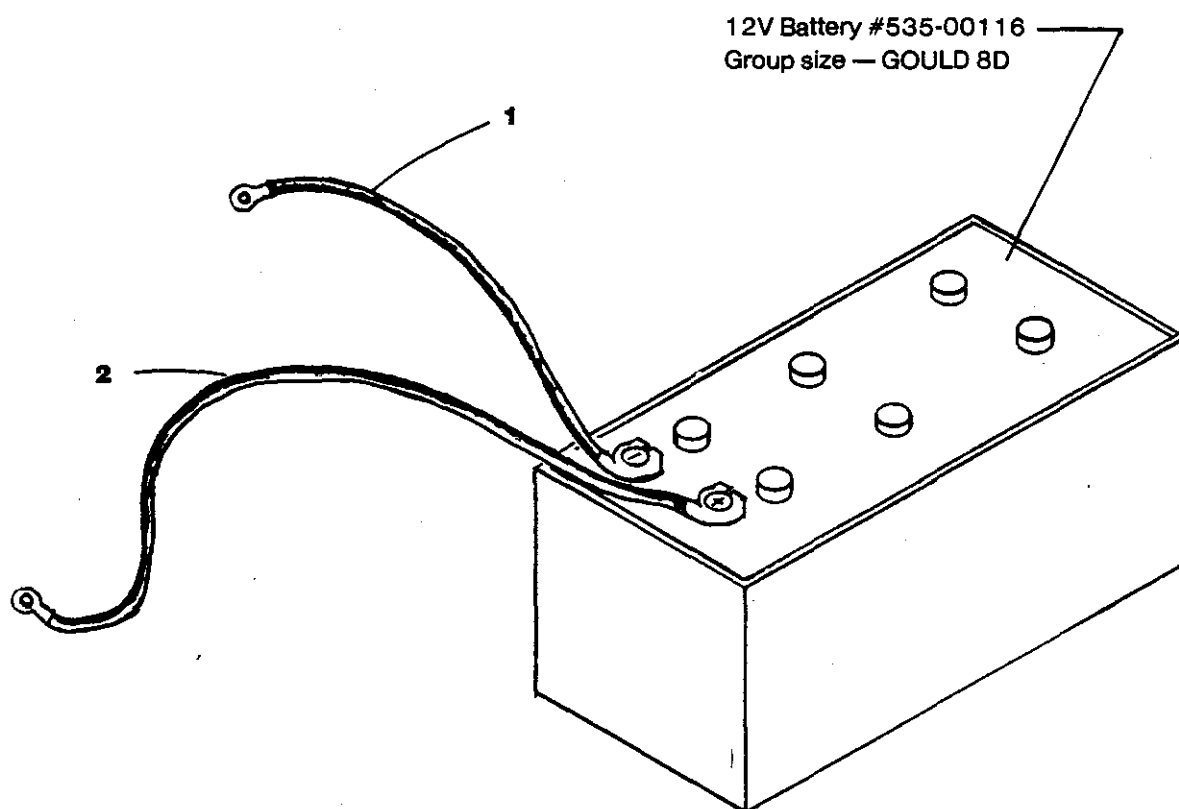
ITEM NO.	QTY.	DESCRIPTION	PART NO.
—	1	ASSEMBLY, complete	548-00921
1	1	ELECTRIC MOTOR	548-00922
2	1	WIPER, arm support	548-00923
3	1	WIPER, arm	548-00924
4	1	WIPER, blade	548-00925
5	1	WINDSHIELD, washer kit	548-00920
*6	1	DRIVE ARM	548-00050
*7	1	connecting, link	548-00051
8	1	WIPER, arm shaft assembly, and accessories	548-00449

HOUR METER ASSEMBLY



ITEM NO.	QTY.	DESCRIPTION	PART NO.
1	1	METER, hour	549-00157
2	1	DAMPER, vibration	549-00169
3	1	BRACKET, mounting	549-00170
4	1	SWITCH, pressure	548-00991

MODEL 160 BATTERY CABLES



*Cranking performance of this battery is rated at 1,000 AMPS at 0°F. If replacement is necessary, replace with Gould or an equivalent battery.

ITEM NO.	QTY.	DESCRIPTION	PART NO.
1	1	CABLE, battery, negative	549-00109
2	1	CABLE, battery, positive	549-00110

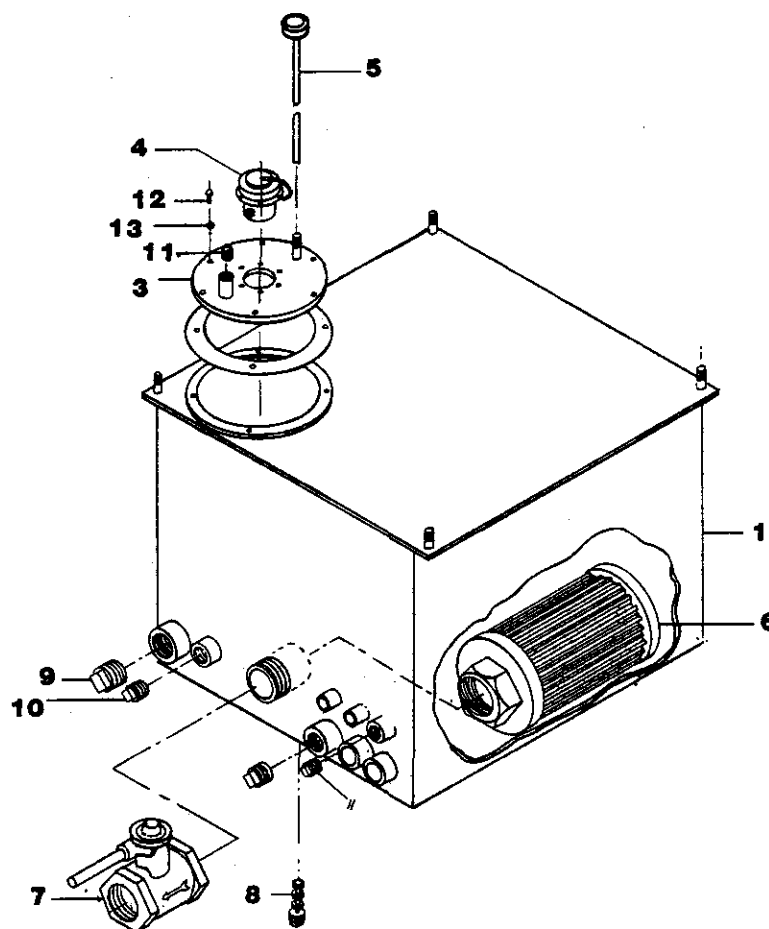
SECTION VI (Hydraulics)

DESCRIPTION	Page No.
HYDRAULIC, schematic	6-2
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MAIN BOOM, cylinder	6-4
SECONDARY BOOM, cylinder	6-5
LIVE HEEL BOOM, cylinder	6-6
STABILIZER, cylinder	6-7
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SWING, pump	6-10 & 6-11
SWING, motor	6-12 & 6-13
VALVE BANK, assembly left hand	6-14 & 6-15
VALVE BANK, assembly right hand	6-16 & 6-17
OUTRIGGER, Load lock valve	6-18
SWING, selector valve	6-19
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FILTER	6-21
BOOM PIPING, assembly straight boom	6-22
BOOM PIPING, assembly live heel	6-23
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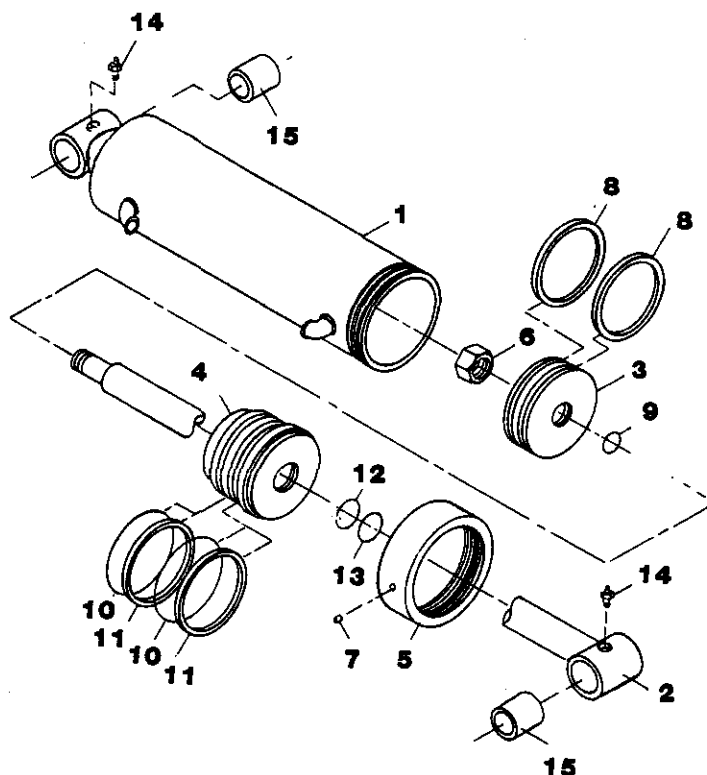


MODEL 160 HYDRAULIC RESERVOIR ASSEMBLY



ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	ASSEMBLY HYDRAULIC RESERVOIR	644-00002
1	1	WELDMENT HYDRAULIC RESERVOIR	644-00111
2	1	ASSEMBLY, access cover (includes item 4 & 5)	643-00201
3	1	WELDMENT, cover	642-02124
4	1	CAP, filler	539-00500
5	1	WELDMENT, dipstick	641-00101
6	1	FILTER, suction	565-00020
7	1	VALVE, shut off	563-00044
8	1	PLUG, magnetic	522-00338
9	1	PLUG, pipe 2"	522-00309
10	1	PLUG, pipe ¾"	522-00324
11	2	PLUG, pipe ½"	522-00323
12	6	BOLT, hex head	510-00650
13	6	WASHER, lock	514-00011

MODEL 160 **MAIN BOOM CYLINDER** **(6 x 36 WITH 2½" ROD)**

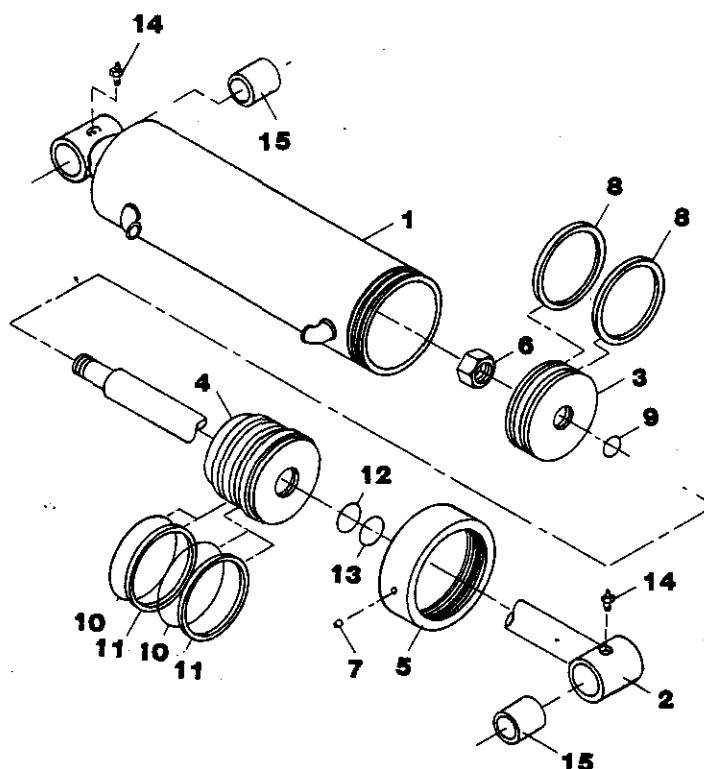


ITEM NO.	QTY.	DESCRIPTION	PART NO.
0	1	ASSEMBLY, complete	812-00507
1	1	WELDMENT, butt and tube	832-00133
2	1	WELDMENT, rod	842-00021
3	1	PISTON	852-00003
4	1	GLAND	852-00304
5	1	CAP, gland	852-00814
6	1	NUT, nylock	513-00476
7	1	SCREW, set	512-00616
(1) (3) 8	2	SEAL, piston (555-00044)	
(1) (3) 9	1	O-RING (565-00318)	
(2) (3) 10	2	O-RING (565-00355)	
(2) (3) 11	1	WASHER, back up (565-00655)	
(2) (3) 12	1	SEAL, rod (555-00288)	
(2) (3) 13	1	SEAL, wiper (556-00902)	
14	2	FITTING, grease	517-00300
15	2	BUSHING, bronze	421-00400

SEAL KITS AVAILABLE

(1)	PISTON SEAL KIT	565-00489
(2)	GLAND SEAL KIT	565-00490
(3)	COMPLETE SEAL KIT	565-00524

**MODEL 160
SECONDARY BOOM CYLINDER
(7 x 30 WITH 3" ROD)**

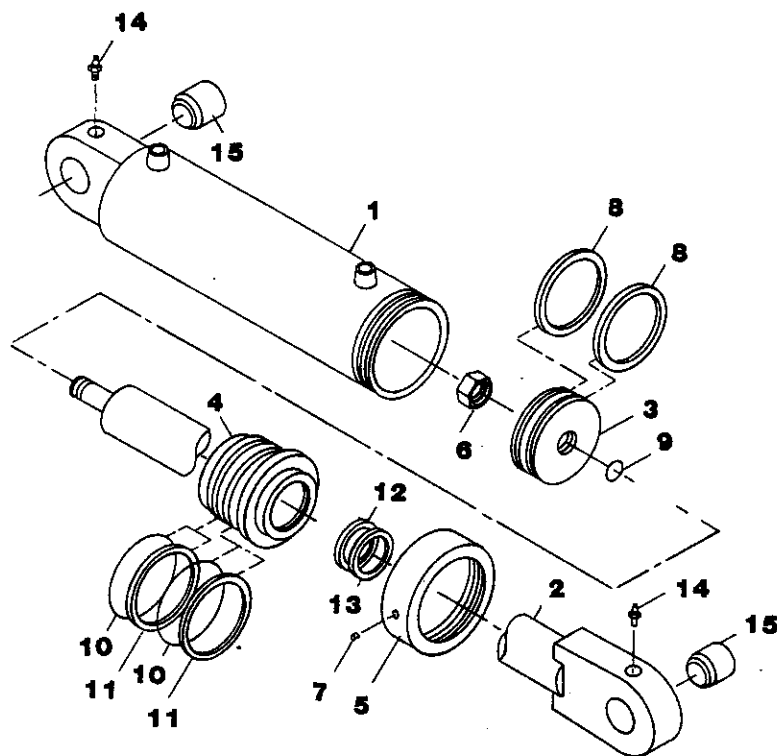


ITEM NO.	QTY.	DESCRIPTION	PART NO.
0	1	ASSEMBLY, complete	812-00426
1	1	WELDMENT, butt and tube	832-00038
2	1	WELDMENT, rod	842-00024
3	1	PISTON	852-00004
4	1	GLAND	852-00306
5	1	CAP, gland	852-00811
6	1	NUT, hex	513-00417
7	1	SCREW, set	512-00616
(1) (3) 8	2	SEAL, piston (555-00056)	
(1) (3) 9	1	O-RING (565-00403)	
(2) (3) 10	2	O-RING (565-00361)	
(2) (3) 11	1	WASHER, back up (565-00661)	
(2) (3) 12	1	SEAL, rod (555-00171)	
(2) (3) 13	1	SEAL, wiper (556-00904)	
14	2	FITTING, grease	517-00300
15	4	BUSHING, bronze	542-00032

SEAL KIT AVAILABLE

(1)	PISTON SEAL KIT	565-00494
(2)	GLAND SEAL KIT	565-00495
(3)	COMPLETE SEAL KIT	565-00523

**MODEL 160
LIVE HEEL BOOM CYLINDER
(6 x 24 WITH 2½" ROD)**

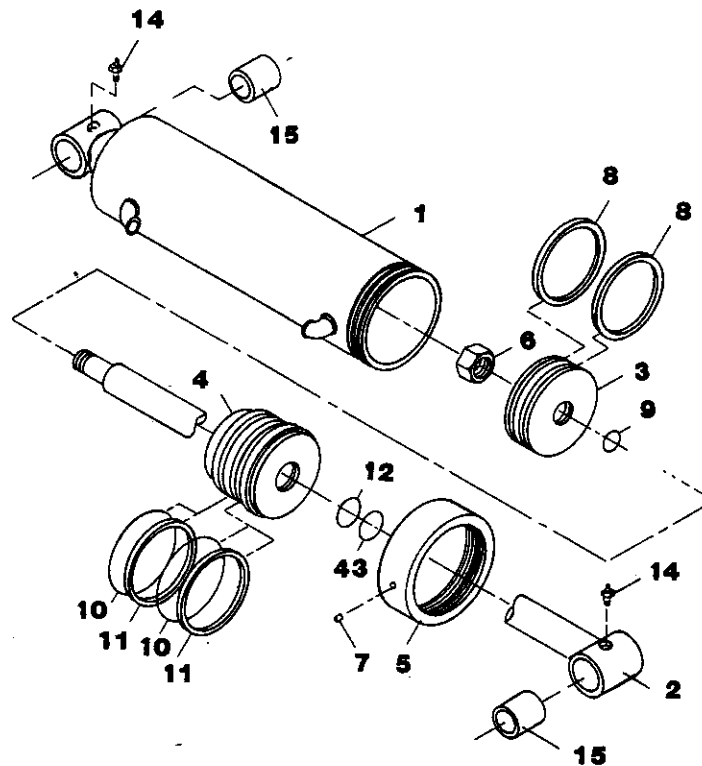


ITEM NO.	QTY.	DESCRIPTION	PART NO.
0	1	ASSEMBLY, complete	812-00421
1	1	WELDMENT, butt and tube	832-00033
2	1	WELDMENT, rod	842-00015
3	1	PISTON	852-00003
4	1	GLAND	852-00304
5	1	CAP, gland	852-00814
6	1	NUT, lock	513-00770
7	1	SCREW, set	512-00616
(1) (3) 8	2	SEAL, piston (555-00044)	
(1) (3) 9	1	O-RING (565-00318)	
(2) (3) 10	2	O-RING (565-00355)	
(2) (3) 11	1	WASHER, back up (565-00655)	
(2) (3) 12	1	SEAL, rod (555-00288)	
(2) (3) 13	1	SEAL, wiper (556-00902)	
14	2	FITTING, grease	517-00300
15	2	BUSHING, ball	541-00515

SEAL KITS AVAILABLE

(1)	PISTON SEAL KIT	565-00489
(2)	GLAND SEAL KIT	565-00490
(3)	COMPLETE SEAL KIT	565-00524

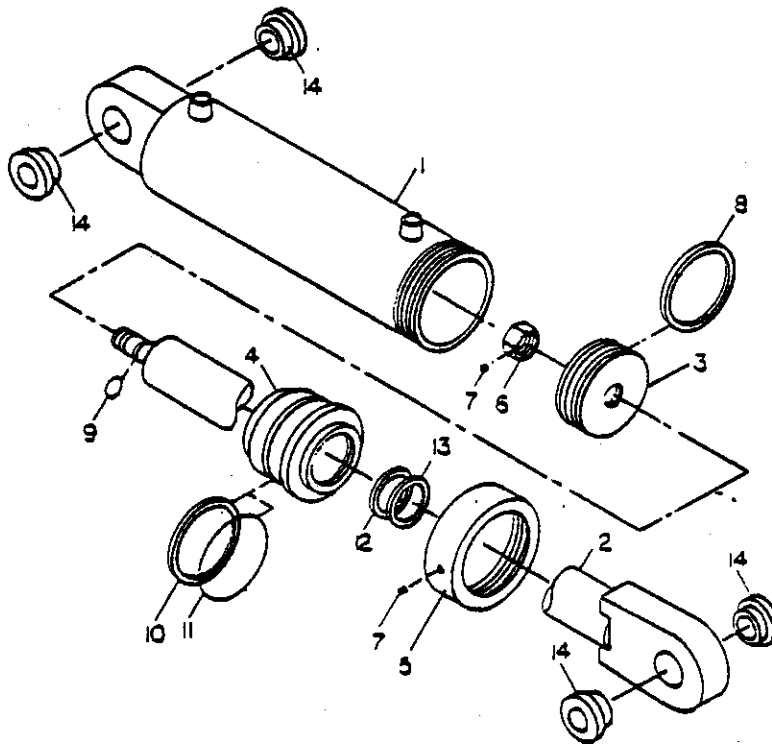
MODEL 160 STABILIZER ARM CYLINDER (6 x 17 WITH 3" ROD)



ITEM NO.	QTY.	DESCRIPTION	PART NO.
0	1	ASSEMBLY, complete	812-00506
1	1	WELDMENT, butt and tube	832-00132
2	1	WELDMENT, rod	842-00014
3	1	PISTON	852-00003
4	1	GLAND	852-00305
5	1	CAP, gland	852-00814
6	1	NUT, lock	513-00770
7	1	SCREW, set	512-00616
(1) (3) 8	2	SEAL, piston (555-00044)	
(1) (3) 9	1	O-RING (565-00318)	
(2) (3) 10	2	O-RING (565-00355)	
(2) (3) 11	1	WASHER, back up (565-00655)	
(2) (3) 12	1	SEAL, rod (555-00171)	
(2) (3) 13	1	SEAL, wiper (556-00904)	
14	2	FITTING, grease	517-00300
15	4	BUSHING, bronze	542-00032

SEAL KITS AVAILABLE

(1)	PISTON SEAL KIT	565-00489
(2)	GLAND SEAL KIT	565-00491
(3)	COMPLETE SEAL KIT	565-00537

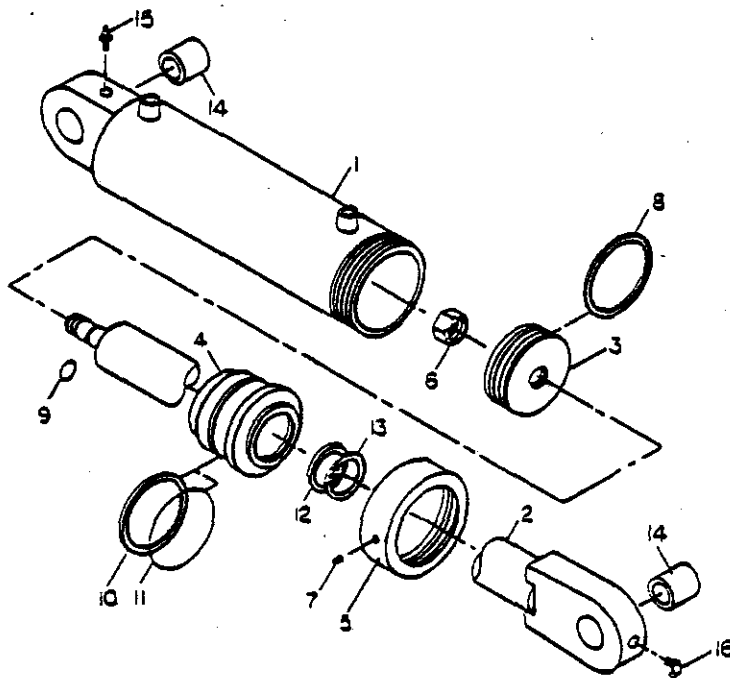


STEERING CYLINDER

(3 1/2 x 17 WITH 2" ROD)

ITEM NO	QTY	DESCRIPTION	PART NO
0	1	ASSEMBLY, complete-----	812023
1	1	WELDMENT, butt and tube-----	832108
2	1	WELDMENT, rod-----	842072
3	1	PISTON-----	852014
4	1	GLAND-----	852300
5	1	CAP, gland-----	852812
6	1	NUT, hex-----	13413
7	1	SCREW, set-----	12616
(1) (3) 8	1	SEAL, piston-----	
(1) (3) 9	1	O-RING-----	
(2) (3) 10	1	O-RING-----	
(2) (3) 11	1	WASHER, back up-----	
(2) (3) 12	1	SEAL, rod-----	
(2) (3) 13	1	SEAL, wiper-----	
14	4	BUSHING, aluminum-----	421414
<u>SEAL KITS AVAILABLE</u>			
(1)		PISTON SEAL KIT-----	65482
(2)		GLAND SEAL KIT-----	65483
(3)		COMPLETE SEAL KIT-----	65533

Effective 4-1-78

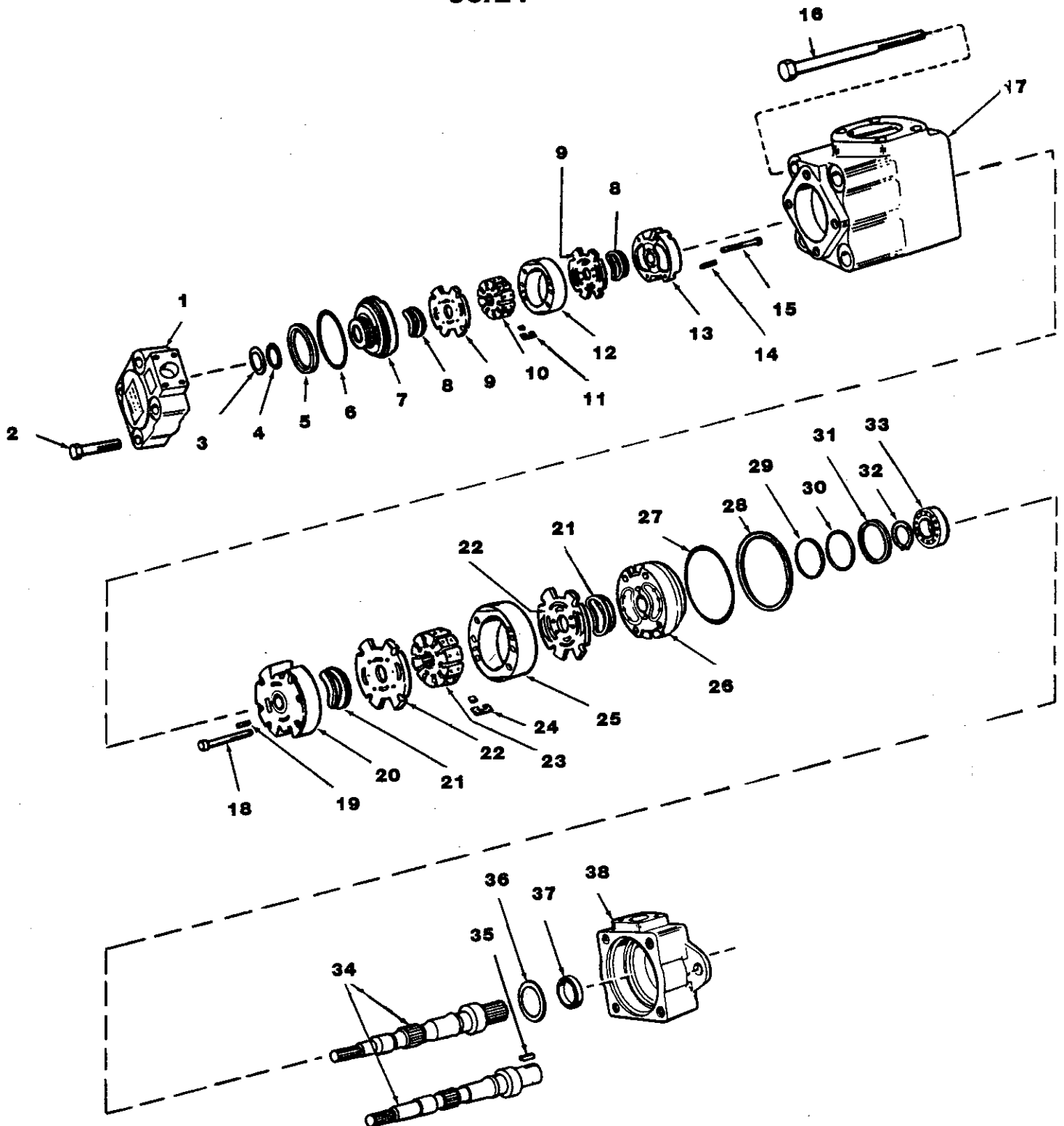


STEERING CYLINDER
(3 1/4 X 12 WITH 2" ROD)

<u>ITEM NO.</u>	<u>QTY</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
0	1	ASSEMBLY, complete -----	812015
1	1	WELDMENT, butt and tube -----	832074
2	1	WELDMENT, rod -----	842049
3	1	PISTON -----	852014
4	1	GLAND -----	852300
5	1	CAP, gland -----	852812
6	1	NUT, hex -----	13413
7	1	SCREW, set -----	12616
(1) (3) 8	1	SEAL, piston -----	
(1) (3) 9	1	O-RING -----	
(2) (3) 10	2	O-RING -----	
(2) (3) 11	2	WASHER, back up -----	
(2) (3) 12	1	SEAL, rod -----	
(2) (3) 13	1	SEAL, wiper -----	
14	2	BUSHING, steel -----	421409
15	1	FITTING, grease -----	17300
16	1	FITTING, grease 45° -----	17302
<u>SEAL KITS AVAILABLE</u>			
(1)		PISTON SEAL KIT -----	65482
(2)		GLAND SEAL KIT -----	65483
(3)		COMPLETE SEAL KIT -----	65533

Effective 4/1/78

VICKERS TANDEM PUMP ASSEMBLY 30/21



ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	PUMP, assembly complete 30-21 R.H. rotation	560-00620
	1	PUMP, assembly complete 30-21 L.H. rotation	560-00510
1	1	COVER	559-00152

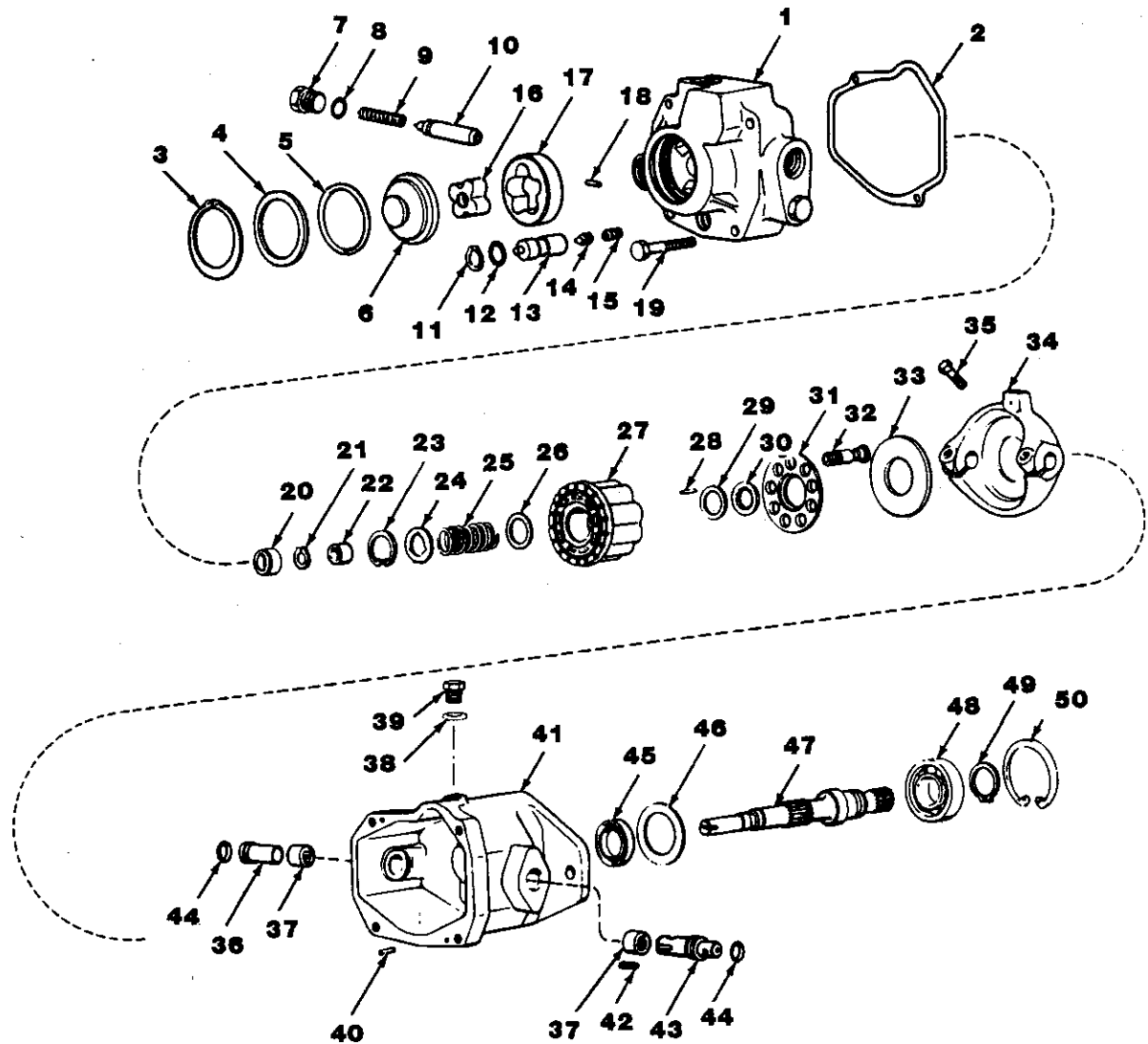
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VICKERS TANDEM PUMP ASSEMBLY
30/21 PARTS LIST
(continued)

ITEM NO.	QTY.	DESCRIPTION	PART NO.
2	4	BOLT	559-00153
(1) (2) 3	1	RING, back up	
(1) (2) 4	1	O-RING	
(1) (2) 5	1	RING, seal	
(1) (2) 6	1	O-RING	
(2) 7	1	PLATE, support outlet	
(1) (2) 8	4	PACK, seal	
(2) 9	2	PLATE, side flex	
(2) 10	1	ROTOR	
(2) 11	1	KIT, vane (10 vanes & inserts)	
(2) 12	1	RING	
(2) 13	1	SUPPORT PLATE, inlet	
(2) 14	2	PIN	
(2) 15	2	SCREW	
16	4	BOLT	559-00158
17	1	HOUSING	550-00157
(3) 18	2	SCREW	
(3) 19	2	PIN	
(3) 20	1	PLATE, support, inlet	
(1) (3) 21	4	PACK, SEAL	
(3) 22	2	PLATE, side, flex	
(3) 23	1	ROTOR	
(3) 24	1	KIT, vane	
(3) 25	1	RING	
(3) 26	1	PLATE, support, outlet	
(1) (3) 27	1	O-RING	
(1) (3) 28	1	RING, sealing	
(1) (3) 29	1	O-RING	
(1) (3) 30	1	RING, back up	
31	1	RING, lock	550-00171
32	1	RING, snap	559-00172
33	1	BEARING	559-00173
34	1	SHAFT, keyed	559-00174
	1	SHAFT, splined	559-00185
35	1	KEY	559-00175
36	1	WASHER	559-00176
(1) 37	1	SEAL	
38	1	BODY	559-00179

(1)	INCLUDED IN SEAL KIT	556-00633
(2)	INCLUDED IN 21 GPM CARTRIDGE KIT	556-00645
(3)	INCLUDED IN 30 GPM CARTRIDGE KIT	556-00647

TA-15 PUMP



ITEM NO.	QTY.	DECSRIPTION	PART NO.
—	1	PUMP	560-00619
1	1	PLATE, valve	559-00100
	1	BEARING, inside valve plate	559-00102
(1) 2	1	GASKET (559-00103)	
(2) 3	1	RING, snap (59-00104)	
(2) 4	1	WASHER (9559-00105)	
(1) (2) 5	1	O-RING (559-00106)	
(2) 6	1	PLATE, end (559-00107)	
(3) 7	2	PLUG, (559-00108)	
(1) (3) 8	2	O-RING (559-00109)	
(3) 9	2	SPRING (559-00110)	

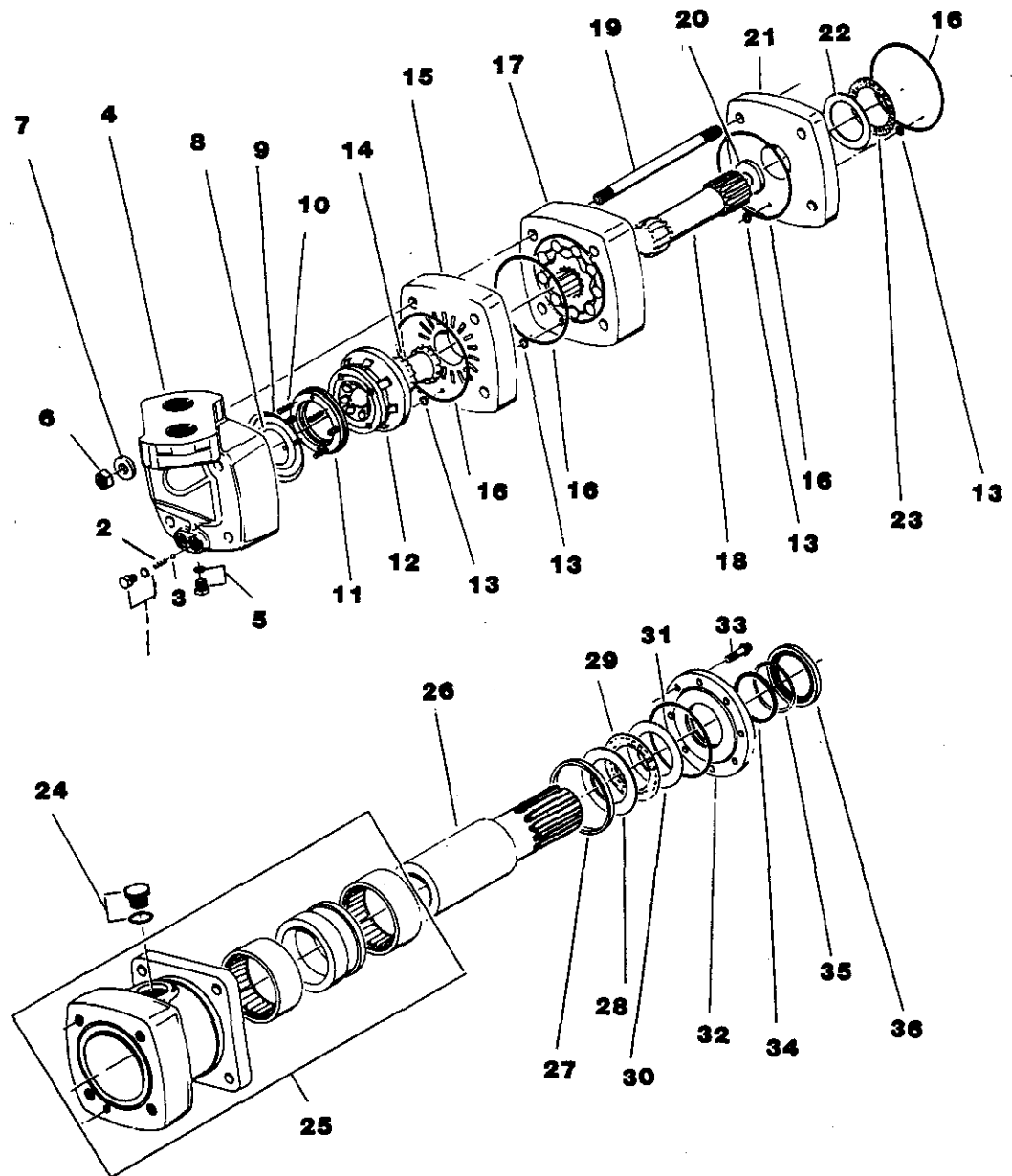
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TA-15 PUMP **PARTS LIST (Continued)**

ITEM NO.	QTY.	DESCRIPTION	PART NO.
(3) 10	2	VALVE, replenishing (559-00111)	
(4) 11	1	RING, snap (559-00112)	
(1) (4) 12	1	O-RING (559-00113)	
(4) 13	1	SLEEVE (559-00114)	
(4) 14	1	POPPET (559-00115)	
(4) 15	1	SPRING (559-00116)	
(2) 16	1	ROTOR, inner (559-00117)	
(2) 17	1	ROTOR, outer (559-00118)	
(2) 18	1	PIN (559-00119)	
19	4	SCREW	559-00120
(5) 20	1	BEARING (559-00109)	
(5) 21	1	RING, snap (559-00122)	
(5) 22	1	SLEEVE (559-00123)	
(5) 23	1	RING, snap (559-00124)	
(5) 24	1	WASHER (559-00125)	
(5) 25	1	SPRING (559-00126)	
(5) 26	1	WASHER, thrust (559-00127)	
(5) 27	1	BLOCK, cylinder (559-00128)	
(5) 28	3	PIN (559-00129)	
(5) 29	1	WASHER (559-00130)	
(5) 30	1	WASHER, spherical (559-00131)	
(5) 31	1	PLATE, shoe (559-00132)	
(5) 32	9	PISTON (559-00133)	
(5) 33	1	PLATE, swash (559-00134)	
34	1	YOKE	559-00135
35	2	SCREW	559-00136
36	1	PINTLE	559-00137
37	2	BEARING	559-00139
(1) 38	1	O-RING (559-00139)	
39	1	PLUG	559-00140
40	2	PIN	559-00141
41	1	HOUSING	559-00142
42	1	KEY	559-00143
43	1	PINTLE, control	559-00144
(1) 44	2	O-RING (559-00145)	
(1) 45	1	SEAL, shaft (559-00146)	
46	1	SPACER	559-00147
47	1	SHAFT	559-00148
48	1	BEARING	559-00149
49	1	RING, snap	559-00150
50	1	RING, snap	559-00151

(1)	INCLUDED IN SEAL KIT	565-00542
(2)	INCLUDED IN REPAIR KIT	565-00276
(3)	INCLUDED IN REPLENISHING VALVE KIT	565-00283
(4)	INCLUDED IN POPPET KIT	565-00284
(5)	INCLUDED IN ROTATING GROUP KIT	565-00275

CHAR-LYNN 10,000 SERIES



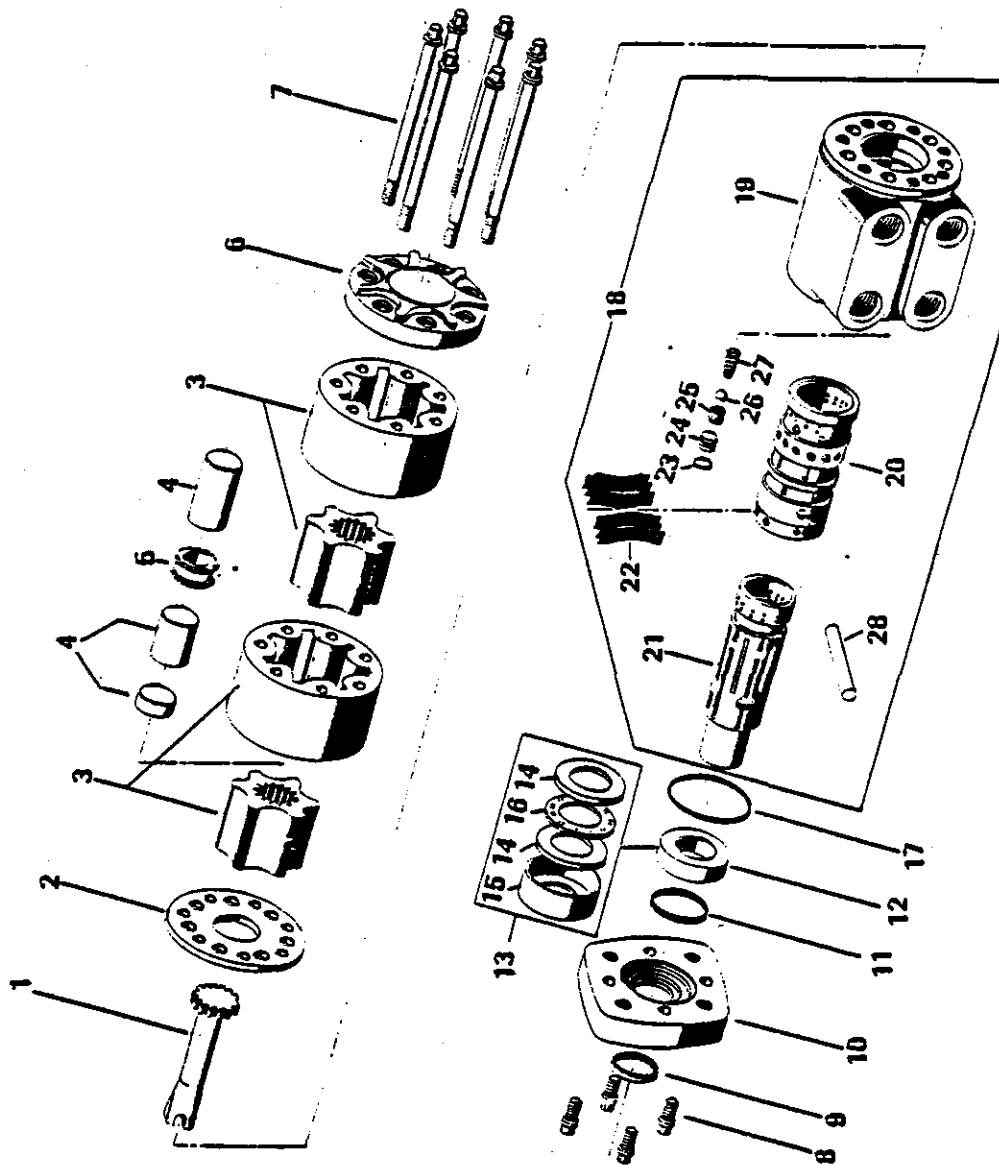
ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	MOTOR, 10,000 series Char-Lynn	560-00016
1	2	VALVE, check plug assembly	560-00450
2	2	SPRING	560-00451
3	2	BALL	560-00452

(Continued Next Page)

**CHAR-LYNN 10,000 SERIES
PARTS LIST
(continued)**

ITEM NO.	QTY.	DESCRIPTION	PART NO.
4	1	HOUSING	560-00453
5	1	PLUG, assembly	560-00454
6	4	NUT, hex	560-00455
7	4	FLATWASHER	560-00456
(1) (3) 8	1	SEAL, inner face (560-00457)	
(1) (3) 9	1	SEAL, outer face (560-00458)	
10	4	SPRING	560-00459
11	1	PLATE, balancing	560-00460
12	1	VALVE	560-00461
(1) (3) 13	4	SEAL (560-00462)	
14	1	VALVE, drive	560-00463
15	1	VALVE, plate	560-00464
(1) (3) 16	4	SEAL (560-00465)	
17	1	GEROLER	560-00466
18	1	DRIVE	560-00467
19	4	STUDS	560-00468
20	1	DRIVE, spacer	560-00469
21	1	WEAR, plate	560-00470
22	1	WASHER, thrust, rear	560-00471
23	1	BEARING, thrust, rear	560-00472
24	2	PLUG, assembly	560-00473
25	1	HOUSING, bearing kit	560-00474
26	1	SHAFT, output, splined	560-00475
27	1	SPACER, front bearing	560-00476
28	1	WASHER, thrust	560-00477
29	1	THRUST, bearing front	560-00478
30	1	WASHER, thrust	560-00479
(2) (3) 31	1	O-RING, front retainer (560-00480)	
32	1	RETAINER, front	560-00481
33	8	SCREW, cap	560-00482
(2) (3) 34	1	SEAL, shaft (560-00483)	
35	1	WASHER, back-up	560-00484
(2) (3) 36	1	SEAL, dirt (560-00485)	

(1)	INCLUDED IN MOTOR SEAL KIT	565-00477
(2)	INCLUDED IN SHAFT SEAL KIT	565-00478
(3)	INCLUDED IN COMPLETE SEAL KIT	565-00480



ORBITROL MOTOR

MODEL 160-250 ARTICULATED CARRIER

ORBITROL ASSEMBLY

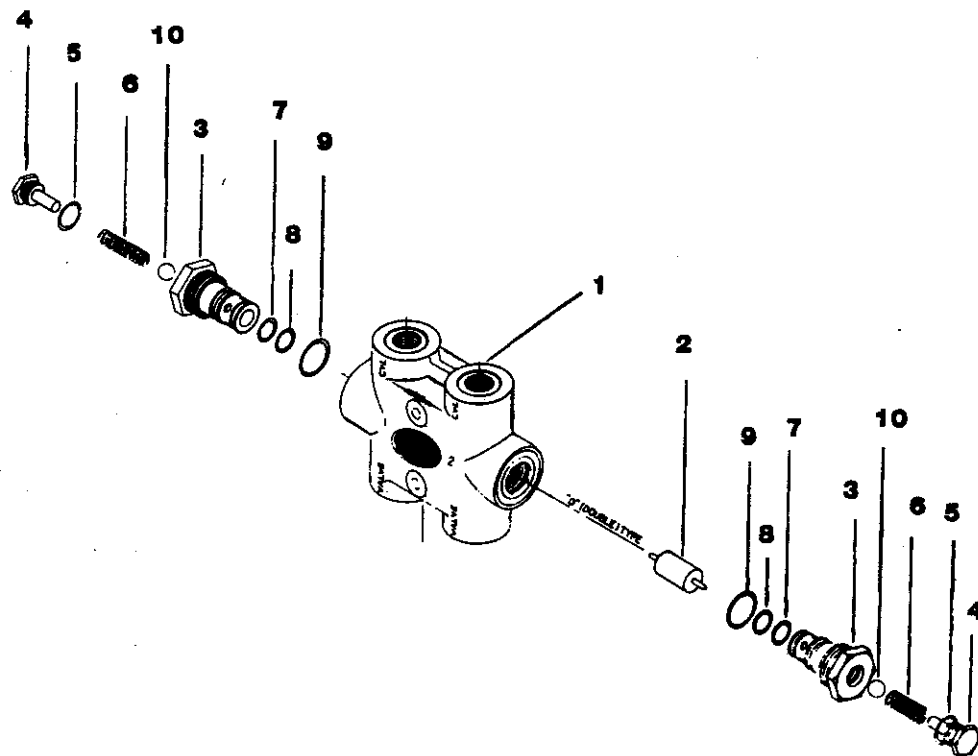
PARTS LIST

<u>ITEM NO.</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
-	-	Complete Orbitrol Assembly.....	54021
1	1	Drive.....	59900
2	1	Plate.....	59901
3	1	Gear Set.....	59902
4	1	Spacer.....	59903
5	1	Spline.....	59904
6	1	End Cap.....	59905
7	7	Cap Screw.....	59906
8	4	Cap Screw.....	59907
9	1	Oil Seal.....	"A"
10	1	Plate, Mtg.....	59908
11	1	Seal.....	"A"
12	1	Bushing.....	59909
13	1	Bearing Kit.....	59910
14	2	Bearing Race.....	59911
15	1	Bearing Locator.....	59912
16	1	Needle Bearing.....	59913
17	1	"o" Ring Seal.....	"A"
18	1	Control Parts Assembly.....	*59914
19	1	Valve Housing.....	*
20	1	Control Sleeve.....	*
21	1	Control Spool.....	*
22	6	Centering Spring.....	*
23	1	"o" Ring Seal.....	*
24	1	Seal Plug.....	*
25	1	Check Seat.....	*
26	1	Steel Ball.....	*
27	1	Compression Spring.....	*
28	1	Centering Pin.....	*

"A" Included in Seal Kit No.

* Item #18 includes items 19-28. Can only be purchased as a complete unit.

MODEL "LO" LOCK VALVE



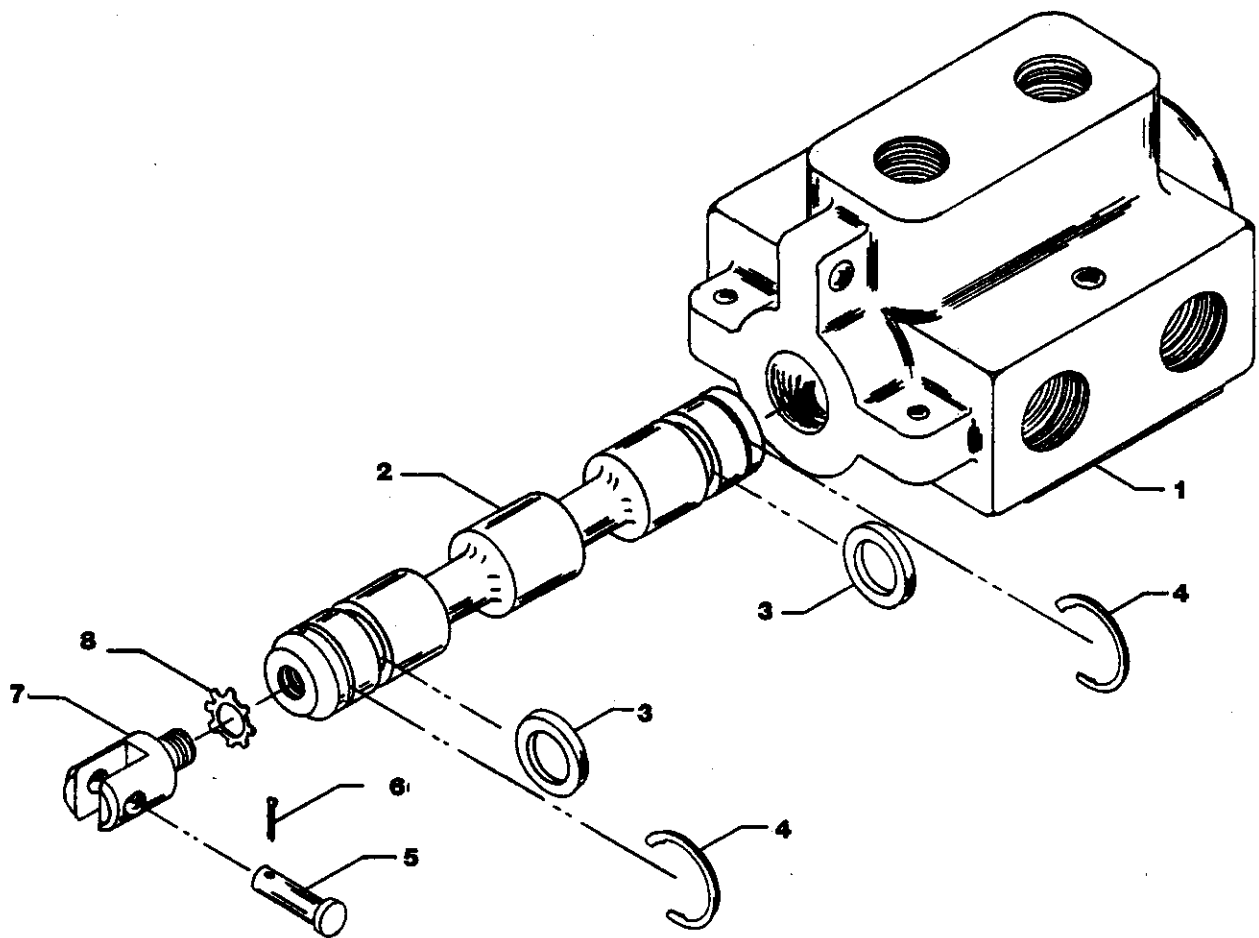
ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	VALVE, "LO" lock	563-00002
1	1	HOUSING, valve N.S.S.	
(1) 2	1	PISTON, N.S.S.	
(1) 3	2	BODY, check N.S.S.	
(1) 4	2	CAP, check body N.S.S.	
(1) 5	2	SEAL, cap N.S.S.	
(1) 6	2	SPRING, check N.S.S.	
(1) 7	2	SEAL, body N.S.S.	
(1) 8	2	SEAL, back-up N.S.S.	
(1) 9	2	SEAL, head N.S.S.	
(1) 10	2	BALL, check N.S.S.	

(1) INCLUDED IN REPAIR KIT
(N.S.S.) NOT SOLD SEPARATELY

552-00144

NOTE: THESE LOAD LOCKS ARE LOCATED
ON THE OUTRIGGER HOUSINGS,
FOUR ARE REQUIRED.

DOUBLE SELECTOR VALVE (Swing)

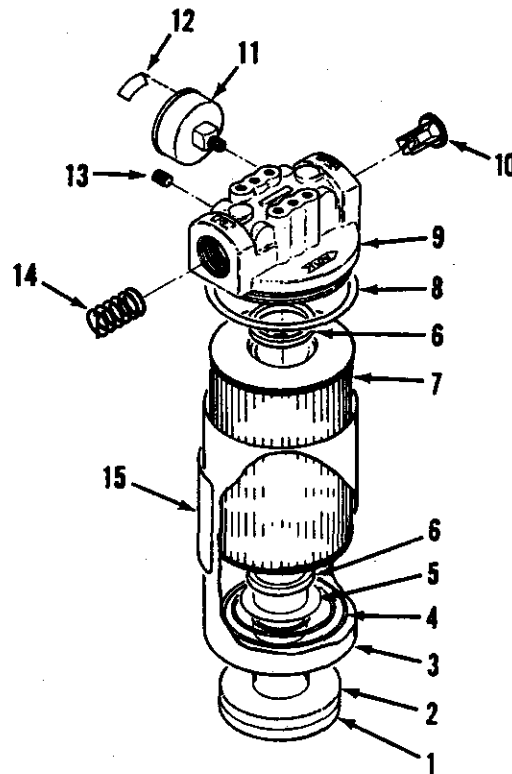


ITEM NO.	QTY.	DESCRIPTION	PART NO.
	1	VALVE, double selector	563-00046
(3) 1	1	HOUSING, valve N.S.S.	
(3) 2	1	SPOOL, valve N.S.S.	
(1) 3	2	SEAL, spool N.S.S.	
(1) 4	2	RING, snap N.S.S.	
(2) 5	1	PIN, handle N.S.S.	
(2) 6	1	PIN, cotter N.S.S.	
(2) 7	1	ADAPTER, handle N.S.S.	
(2) 8	1	LOCKWASHER N.S.S.	

NOTE: N.S.S. - NOT SOLD SEPARATELY

- | | | |
|-----|--|-----------|
| (1) | Included in Seal and Span Ring Kit | 552-00014 |
| (2) | Included in Clevis Adapter Kit | 552-00034 |
| (3) | Not sold as separate items. Spools are factory honed to individual housing and are not interchangeable. Repair Service Available at factory. | |

FILTERS PARTS LIST



ITEM NO.	QTY.	DESCRIPTION	PART NO.
0	1	ASSEMBLY, complete 3 PSI shielded suction, 10 micron	565-00040
0	1	ASSEMBLY, complete 15 PSI return 33 micron	565-00042
1	1	POST, center	559-00001
2	1	GASKET, center post	See Filter Kits
3	1	HOUSING, filter	559-00003
4	1	SPRING, conical	559-00004
5	1	WASHER, back-up	559-00005
6	2	SEAL, filter element	See Filter Kits
7	1	ELEMENT, filter	See Filter Kits
8	1	O RING, housing seal	See Filter Kits
9	1	POPPET, relief valve (see relief assembly)	See Filter Kits
10		INDICATOR, compound	559-00009
		INDICATOR, 30" vacuum	559-00010
11		SPRING, relief valve	See Relief Assy.

FILTER KITS

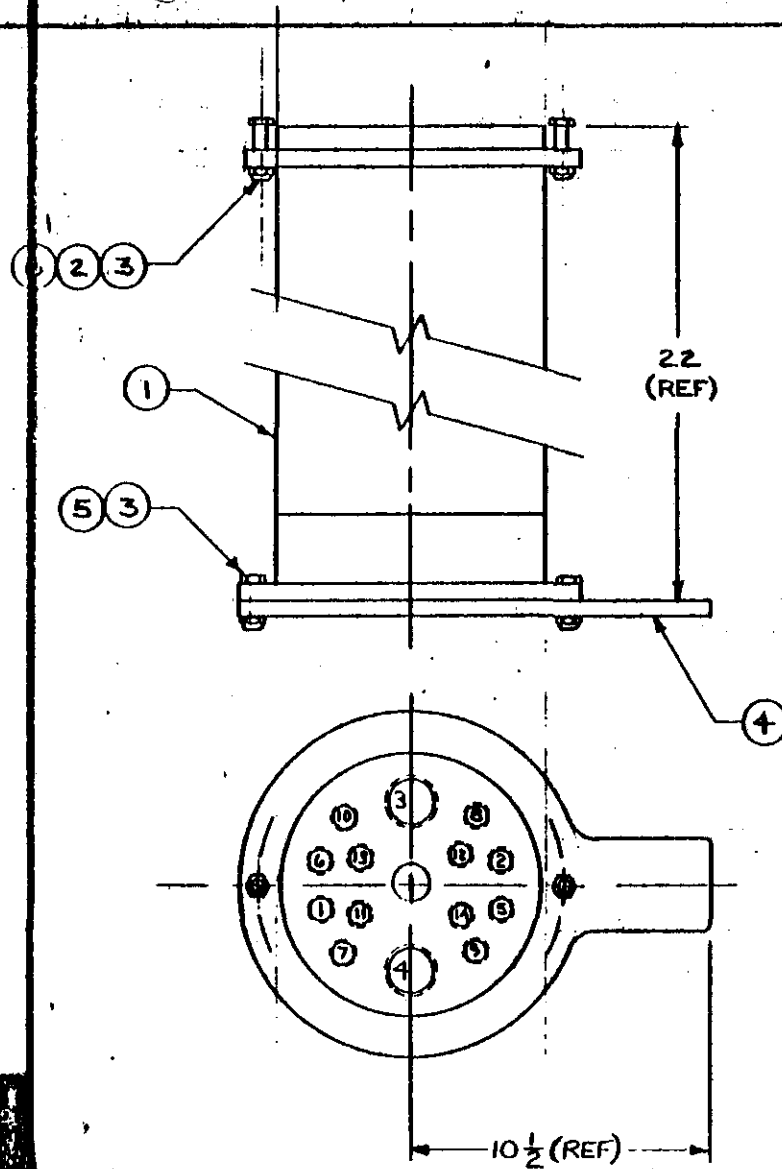
33 MICRON - RETURN LINE WITH SEALS
10 MICRON - SHIELD SUCTION WITH SEALS

552-00019
552-00086

RELIEF ASSEMBLY

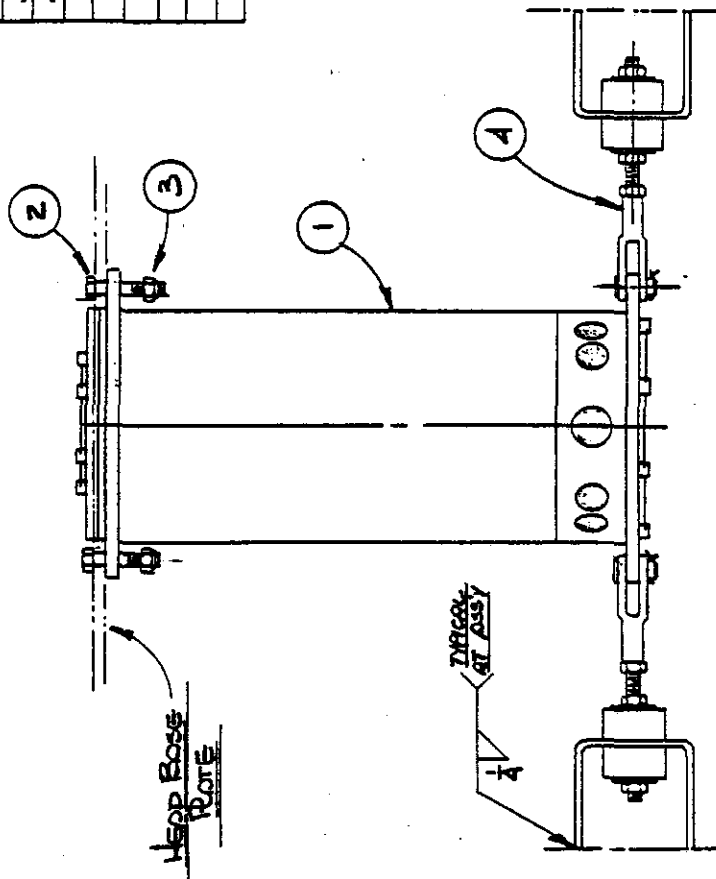
3 PSI SUCTION - BLUE
15 PSI return - SILVER

552-00087
552-00088



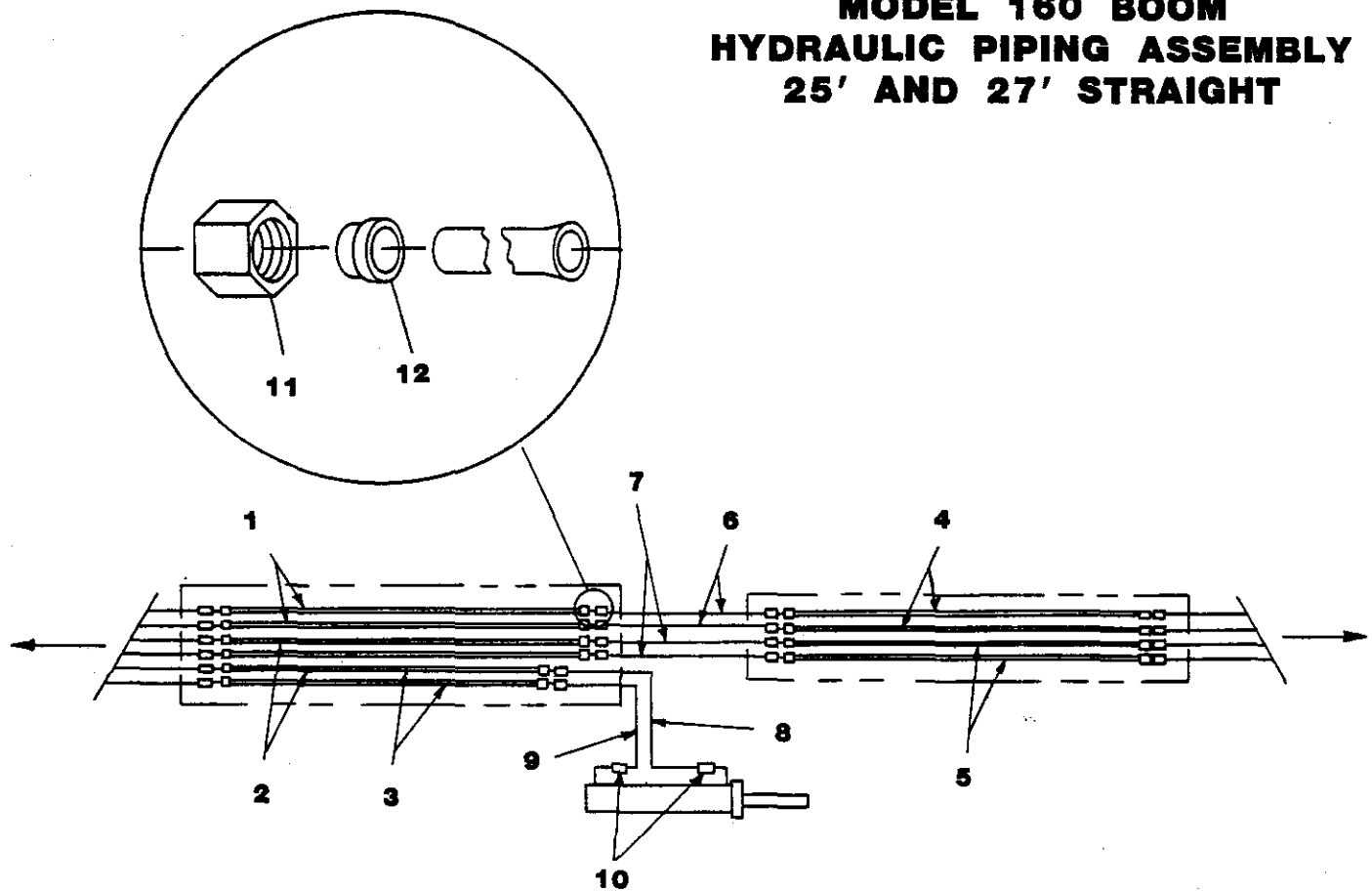
ITEM	QTY	MATL	PART No	DESCRIPTION	VER
1	1	SPEC	553-00028	ASSY - HYD. COLLECTOR	180*
2	4		510-00709	BOLT - HEX HD. $\frac{1}{2}$ - 13UNC x $2\frac{1}{2}$	7
3	6		513-00429	NUT - NYLOCK $\frac{1}{2}$ - 13UNC	7
4	1		691-00729	PLATE - TORQUE ARM	18*
5	2		510-00706	BOLT - HEX HD $\frac{1}{2}$ - 13UNC x $1\frac{3}{4}$	7
6	4		514-00013	WASHER - LOCK 1/2	

BN SEE ECN 2159		RELEASED ECN 1857		 BARKO HYDRAULICS, INC. Office: Superior, Wisconsin Phone: (715) 383-8441 Mailing address: P.O. Box 6327 Duluth, Minnesota 55806			
TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONAL $\pm \frac{1}{16}$ DECIMAL .00 $\pm .010$.000 $\pm .005$ ANGULAR $\pm 1/2^\circ$				TITLE ASSEMBLY-HYD COLLECTOR		FIRST L 160 MC REV A 18 ACT. W	
DRAWN 5 ZIMMERMAN DATE 9-29-80		DATE 10-6-80		SCALE $\frac{1}{4} = 1"$		PART NO B	
REV. DATE D/H/S		DATE 10-6-80		PART NO B		PART NO 692-00034	

[illegible]

	BARKO HYDRAULICS, INC. Office: Superior, Wisconsin Phone: (715) 382-5841 Mailing address: P.O. Box 8277 Duluth, Minnesota 55806		
	TITLE <u>ASSEMBLY, HYDRAULIC</u> <u>CONNECTOR</u>		
TOLERANCES UNLESS OTHERWISE SPECIFIED: FRACTIONAL = $\pm 1/32$ DECIMAL .50 = $\pm .010$ DECIMAL .000 = $\pm .008$		PART USED 160 HUNT ARBY — EST. W.T. ACT. W.T.	
DRAWN <u>9/10/79</u>	DATE <u>9-10-79</u>	NET - CORZ	
APPR. <u>SEM</u>	DATE <u>9-11-79</u>	SCALE <u>-</u>	DRG. NO. <u>092-00029</u>
REV. DATE BY	6/91	79	1028

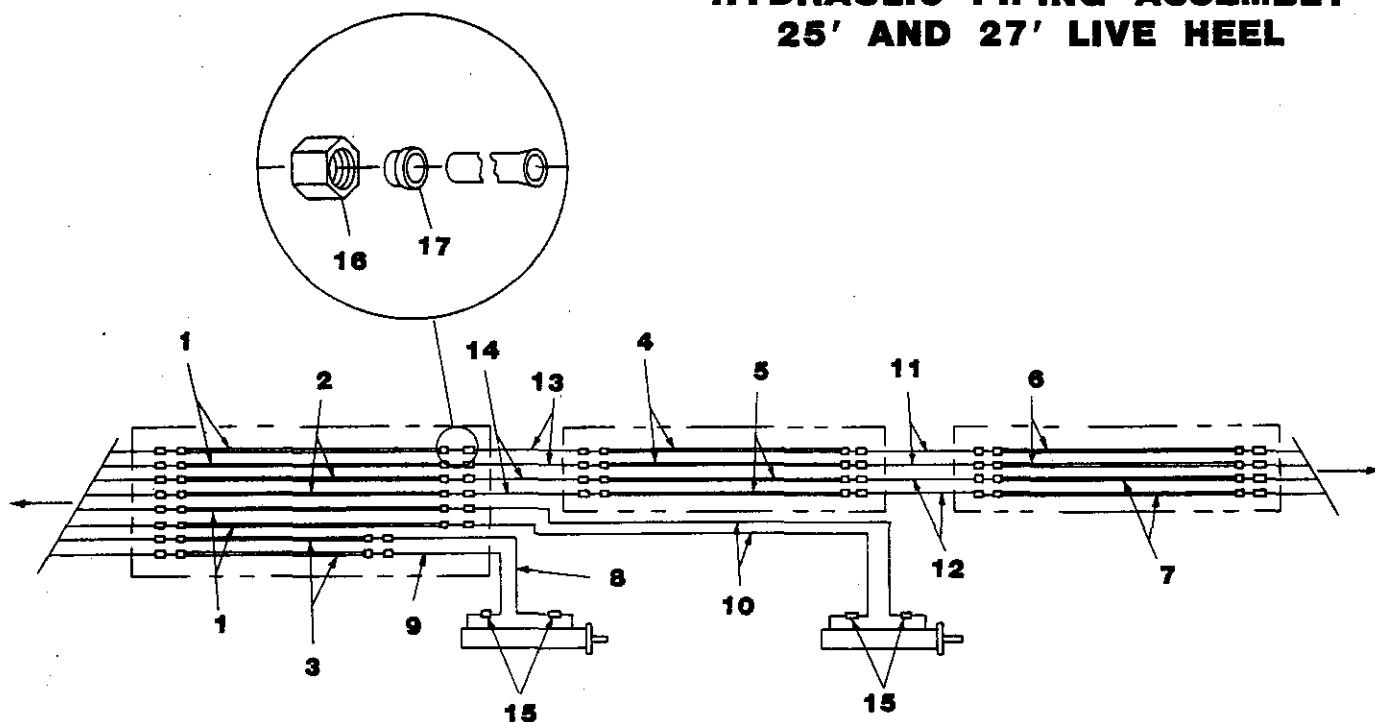
MODEL 160 BOOM HYDRAULIC PIPING ASSEMBLY 25' AND 27' STRAIGHT



ITEM NO.	QTY.	DESCRIPTION	PART NO.
—	1	ASSEMBLY, complete - 25' boom	603-00154
—	1	ASSEMBLY, complete - 27' boom	603-00155
1	2	ASSEMBLY, tubing hydraulic (5/8 x 144) 25' boom	652-00400
1	2	ASSEMBLY, tubing hydraulic (5/8 x 156) 27' boom	652-00405
2	2	ASSEMBLY, tubing hydraulic (3/4 x 144) 25' boom	652-00401
2	2	ASSEMBLY, tubing hydraulic (3/4 x 156) 27' boom	652-00406
3	2	ASSEMBLY, tubing hydraulic (3/4 x 117) 25' boom	652-00402
3	2	ASSEMBLY, tubing hydraulic (3/4 x 129) 27' boom	652-00407
4	2	ASSEMBLY, tubing hydraulic (5/8 x 96) 25' boom	652-00403
4	2	ASSEMBLY, tubing hydraulic (5/8 x 108) 27' boom	652-00408
5	2	ASSEMBLY, tubing hydraulic (3/4 x 96) 25' boom	652-00404
5	2	ASSEMBLY, tubing hydraulic (3/4 x 108) 27' boom	652-00409
6	2	ASSEMBLY, hose 08-2WR2-10MJ-60	662-01301
7	2	ASSEMBLY, hose 12-2WR2-12MJ-12MJ-60	662-01297
8	1	ASSEMBLY, hose 12-2WR2-12FJX-12MJ-48	662-01149
9	1	ASSEMBLY, hose 12-2WR2-12FJX-12MJ-42	662-01148
10	2	12 MP-12 MJ	566-00990
11	* A/R	TUBE, nut 5/8"	569-00206
11	* A/R	TUBE, nut 3/4"	569-00207
12	* A/R	SLEEVE, 5/8"	560-00276
12	* A/R	SLEEVE, 3/4"	569-00273

* ORDERED AS REQUIRED

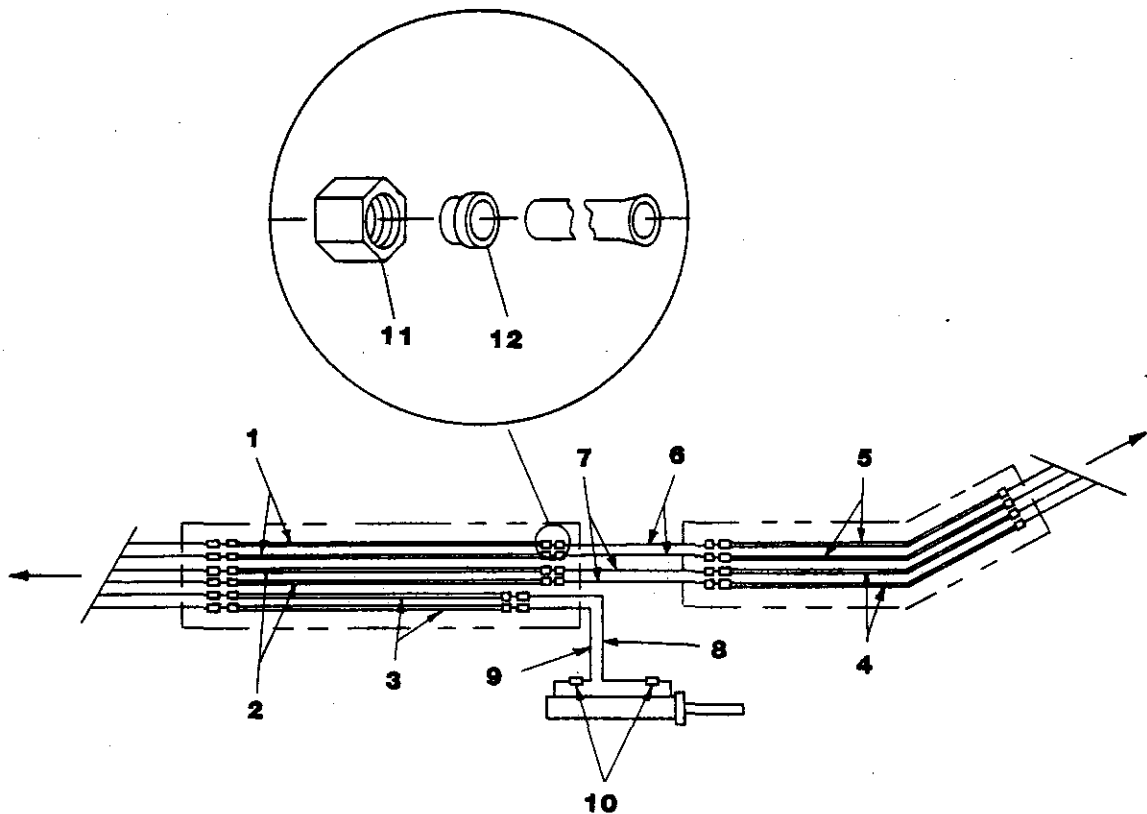
MODEL 160 BOOM HYDRAULIC PIPING ASSEMBLY 25' AND 27' LIVE HEEL



ITEM NO.	QTY.	DESCRIPTION	PART NO.
—	1	ASSEMBLY, complete 25' boom	603-00156
—	1	ASSEMBLY, complete 27' boom	603-00157
1	4	ASSEMBLY, tubing hydraulic (3/4 x 144) 25' boom	652-00401
1	4	ASSEMBLY, tubing hydraulic (3/4 x 156) 27' boom	652-00406
2	2	ASSEMBLY, tubing hydraulic (5/8 x 144) 25' boom	652-00400
2	2	ASSEMBLY, tubing hydraulic (5/8 x 156) 27' boom	652-00405
3	2	ASSEMBLY, tubing hydraulic (3/4 x 117) 25' boom	652-00402
3	2	ASSEMBLY, tubing hydraulic (3/4 x 129) 27' boom	652-00407
4	2	ASSEMBLY, tubing hydraulic (3/4 x 38) 25' boom	652-00414
4	2	ASSEMBLY, tubing hydraulic (3/4 x 50) 27' boom	652-00418
5	2	ASSEMBLY, tubing hydraulic (5/8 x 38) 25' boom	652-00415
5	2	ASSEMBLY, tubing hydraulic (5/8 x 50) 27' boom	652-00419
6	2	ASSEMBLY, tubing hydraulic (3/4 x 41)	652-00416
7	2	ASSEMBLY, tubing hydraulic (5/8 x 41)	652-00417
8	1	ASSEMBLY, hose 12-2WR2-12FJX-12MJ-48	662-01149
9	1	ASSEMBLY, hose 12-2WR2-12FJX-12MJ-42	662-01148
10	2	ASSEMBLY, hose 12-2WR2-12FJX-12MJ-96	662-01304
11	2	ASSEMBLY, hose 12-2WR2-12MJ-12MJ-37	662-01306
12	2	ASSEMBLY, hose 08-2WR2-10MJ-37	662-01307
13	2	ASSEMBLY, hose 12-2WR2-12MJ-12MJ-60	662-01297
14	2	ASSEMBLY, hose 08-2WR2-10MJ-10MJ-60	662-01301
15	4	12MP-12MJ	566-00990
16	* A/R	TUBE, nut 5/8"	569-00206
16	* A/R	TUBE, nut 3/4"	569-00207
17	* A/R	SLEEVE, 5/8"	569-00276
17	* A/R	SLEEVE, 3/4"	559-00273

* ORDER AS REQUIRED

MODEL 160 BOOM HYDRAULIC PIPING ASSEMBLY 25' AND 27' DEAD HEEL



ITEM NO.	QTY.	DESCRIPTION	PART NO.
—	1	ASSEMBLY, complete 25' boom	603-00152
—	1	ASSEMBLY, complete 27' boom	603-00153
1	2	ASSEMBLY, tubing hydraulic (5/8 x 144) 25' boom	652-00400
1	2	ASSEMBLY, tubing hydraulic (5/8 x 156) 27' boom	652-00405
2	2	ASSEMBLY, tubing hydraulic (3/4 x 144) 25' boom	652-00401
2	2	ASSEMBLY, tubing hydraulic (3/4 x 156) 27' boom	652-00406
3	2	ASSEMBLY, tubing hydraulic (3/4 x 117) 25' boom	652-00402
3	2	ASSEMBLY, tubing hydraulic (3/4 x 129) 27' boom	652-00407
4	2	ASSEMBLY, tubing hydraulic (3/4 x 96) 25' boom	652-00410
4	2	ASSEMBLY, tubing hydraulic (5/8 x 108) 27' boom	652-00412
5	2	ASSEMBLY, tubing hydraulic (5/8 x 96) 25' boom	652-00411
5	2	ASSEMBLY, tubing hydraulic (3/4 x 108) 27' boom	652-00413
6	2	ASSEMBLY, hose 08-2WR2-10MJ-10MJ-60	662-01301
7	2	ASSEMBLY, hose 12-2WR2-12MJ-12MJ-60	662-01297
8	1	ASSEMBLY, hose 12-2WR2-12FJX-48	662-01149
9	1	ASSEMBLY, hose 12-2WR2-12FJX-12MJ-42	662-01148
10	2	12MP-12MJ	566-00990
11	* A/R	TUBE, nit 5/8"	569-00206
11	* A/R	TUBE, nut 3/4"	569-00207
12	* A/R	SLEEVE, 5/8"	569-00276
12	* A/R	SLEEVE, 3/4"	569-00273

* order as required

SECTION VII (Options & Accessories)

DESCRIPTION

GRAPPLES

MAGNETS

HOOKS

PALLET FORKS

AIR CONDITIONER

WINCHES

MAGNET GENERATOR

RESERVOIR HEATERS

CAB HEATERS (Electric)

INDEX



MODEL 160
DEFROSTER FAN, CAB HEATER
RESERVOIR HEATER & AIR CONDITIONER
PARTS LIST

ITEM NO.	QTY.	DESCRIPTION	PART NO.
1		ASSEMBLY, cab header, complete (includes items 2, 3, & 4	548-00910
2		FAN, cab heater	548-00426
3		CORE, cab heater	535-00304
4		MOTOR, cab heater	549-00431
5		ASSEMBLY, complete defroster fan	548-00909
6		SWITCH	549-00147
7		ASSEMBLY, complete reservoir heater	548-00917
8		ASSEMBLY, complete air conditioner	548-00939

EFFECTIVE DATE 1/1/81

**DECALS AVAILABLE
FOR
160 TRUCK MOUNT**

	QTY.	DESCRIPTION	PART NO.	LOCATION ON MACHINE
	*A/R	DIESEL FUEL ONLY	539-00553	
	*A/R	HYDRAULIC OIL ONLY	539-00554	
	*A/R	BLANK BACKGROUND	539-00566	MAIN BOOM
	*A/R	160 INSERT	539-00568	MAIN BOOM
	*A/R	HEEL BOOM (Control Knob) up/down	539-00575	ON TOP OF CONTROL KNOB
	*A/R	STABILIZER L. REAR, up/down	539-00576	ON TOP OF CONTROL KNOB
	*A/R	STABILIZER R. REAR, up/down	539-00580	ON TOP OF CONTROL KNOB
	*A/R	STABILIZER L. FRONT, up/down	539-00581	ON TOP OF CONTROL KNOB
	*A/R	STABILIZER, R. FRONT up/down	539-00584	ON TOP OF CONTROL KNOB
	*A/R	MAIN BOOM (Control Knob) up/down	539-00582	ON TOP OF CONTROL KNOB
	*A/R	JIB BOOM (control Knob) up/down	539-00583	ON TOP OF CONTROL KNOB
	*A/R	GRAPPLE (Control Knob) open/close	539-00578	ON TOP OF CONTROL KNOB
	*A/R	GRAPPLE ROTATE (Control Knob)	539-00579	ON TOP OF CONTROL KNOB
	*A/R	DANGER - HIGH POWER WIRE WARNING	539-00590	INSIDE OF CAB DOOR
	*A/R	GREASE ALL BOOM AND CYLINDER POINTS DAILY	539-00637	
	*A/R	NEGATIVE GROUND ELECTRICAL SYSTEM	539-00665	BATTERY BOX & STARTER

*A/R - AS REQUIRED

EFFECTIVE DATE 1/1/81

SUBJECT: TURNTABLE BEARING SERVICE REQUIREMENTS

As noted in the Bearing Storage, Installation and Lubrication sheet included in each Parts Book, periodic servicing must be done to the turntable bearings to insure long bearing life. The turntable bearings must be greased approximately every 50 to 100 operating hours. It is necessary to distribute the grease around the race by injecting grease through any one fitting as the machine is rotated. Rotate at least two complete revolutions. Models equipped with two rows of fittings must be greased in both the upper and lower rows, following the above procedure.

Under extremely dusty or dirty conditions the bearings should be greased every 20 hours with sufficient grease to flush out all contaminated grease. See the Parts Book for recommended grease.

After the first 50 hours of operation, the bearing bolts must be retorqued and should be checked periodically after that to insure they remain tight.

NOTE: These specifications are applicable only to factory installed grade nine bolts with lubrication.
Effective as of July 1, 1978

<u>MODEL</u>	<u>TURNTABLE BOLT SIZE</u>	<u>TORQUE</u>
130	5/8"	175 FT. LBS.
160	5/8"	175 FT. LBS.
250	3/4"	310 FT. LBS.
350	7/8"	500 FT. LBS.
450	7/8"	500 FT. LBS.
550	1-1/4"	1500 FT. LBS.

IMPORTANT: FAILURE TO KEEP THE BOLTS TIGHT CAN LEAD TO
FATIGUE FAILURE OF BOLTS AND CONSEQUENTLY MACHINE
DAMAGE.

