

**Lull**®

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***Illustrated Parts Manual***

***Model***  
***7C2***

**10709902**  
January 2000

***ANSI***

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***JLG***®



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## MAINTENANCE

This machine was checked and tested before shipment, but due to jolts and vibrations during shipment, it should be thoroughly checked upon delivery. A through inspection should be made of all nuts, bolts, and hose connections. Tighten where necessary. All drive wheel lug bolts should be tightened to 100 lbs. torque when the machine is received. They should be retightened after a day or two of use to above torque factor. Check all parts for breakage, and check oil leaks. Oil levels should be replenished if necessary, and should be maintained at check plug levels at all times.

Upon delivery, lubricate all points as shown on the lubrication chart and follow its instructions thereafter. Steering axle spindle bearings check and adjust if necessary.

## CARE OF TIRES

For best results in operating a Lull 702 High-Lift, be sure to have all tires inflated properly. (When you receive the machine the 14.9-24 tires are carrying 50 lbs. air pressure each; this high pressure in shipping is to eliminate bouncing during transportation.) When working with this machine, lower the traction tires to 45 psi in the left-hand drive tire; change the pressure in the right-hand drive tire to 42 psi. This is the proper pressure under most working conditions. For light loads and soft ground conditions, lower pressures can be used, but reinflate to above for heavy loads. Rear or steering tires should be inflated to at least 50 P.S.I.

## CALCIUM-CHLORIDE FILLED TIRES

For an added safety feature in lifting heavy loads to great heights, Lull Engineering Co. insists on 450 lbs. of calcium chloride water solution in each of the driving tires for additional stability and improved traction. Each driving tire is three-quarters full with 450 lbs. When the solution comes up to the valve stem when it is on the high side of the tire, this is the proper location when filling.

NOTE: THE WARRANTY ON THE MACHINE IS VOID WITHOUT THE 450 LBS. OF CALCIUM CHLORIDE SOLUTION IN EACH DRIVE TIRE AND 160 LBS. CALCIUM CHLORIDE IN EACH STEERING TIRE.

Special attention should be given to the hydraulic system. It's failure could result in danger to the load and to persons and property in the immediate area. Any oil leak should be repaired and all worn hoses should be replaced. It is essential that these parts are replaced with genuine LULL ENGINEERING CO. parts, and no other.

CAUTION: DO NOT USE STANDARD HARDWARE STORE PIPES AND FITTINGS. VERY FEW HARDWARE STORES OR PLUMBERS STOCK EXTRA STRONG PIPES OR AAS FITTINGS.

How to fill the hydraulic tank and systems: fill the tank full of hydraulic oil. Then have the operator raise and lower the hoist cylinder; fully extend and retract every cylinder on the entire system slowly. This also includes the steering booster by turning it from extreme right to extreme left position, and back to center. After all cylinders and the hydraulic system are full of oil and collapsed, refill the supply tank to the lower check level plug.

Never run the engine unless the hydraulic tank intake line to the pump is connected and filled with oil.

When hydraulic fluid is added to the system, always pour it thru a micron filter. If a micron filter is not available, use a funnel with a fine wire screen (at least 200 mesh) inserted in the small end.

Be certain that the hydraulic fluid meets the specifications as listed in the lubrication chart.

Never operate the control levers when the engine is not running. This causes air cavitation above the piston and results in momentary shifting action. If air cavitation should occur, the oil can be replaced by working the control lever until by-pass clutter is heard in full forward or full back position.

Steering booster operating pressures are governed by relief valves. The system operating pressure, checked with the steering knuckles blocked, should not exceed the recommended pressure setting of 1400 psi. These operating pressures should be reduced if it is found that the thrust developed is appreciable greater than that required for normal steering conditions.

Fluctuating pressure or loss of pressure to the system may result from faulty operation of the relief valve. Usually this is caused by a damaged spring, a worn poppet, or by score, sludge, etc., lodging between the poppet and it's seat.

These parts can be inspected by uncoupling the drag link and ball stud from the steering gear and lowering the booster to clear the drag link. Disassembly may then be accomplished.

Pitman arm stops limit the number of degrees that the pitman arm can move in either direction. Proper adjustment of these stops is important to the prevention of excessive thrust and cramping of the booster. Wheel stops should have 3/16 inch clearance at each wheel when pitman arm is in contact with the stop under operators platform.

NOTE: Company facilities provide for complete valve overhaul on 24 hour basis when sent to the factory.

## MAINTENANCE - 702-40'

This machine was checked and tested before shipment, but due to jolts and vibrations during shipment, it should be thoroughly checked upon delivery. A through inspection should be made of all nuts, bolts, and hose connections. Tighten where necessary. All drive wheel lug bolts should be tightened to 100 lbs. torque when the machine is received. They should be retightened after a day or two of use to above torque factor. Check all parts for breakage, and check for oil leaks. Oil levels should be replenished, if necessary, and should be maintained at check plug levels at all times.

Upon delivery, lubricate all points as shown on the lubrication chart and follow its instructions thereafter. Steering axle spindle bearings check and adjust if necessary.

### CARE OF TIRES

For the best results in operating a Lull 702 High-Lift, be sure to have all tires inflated properly. (When you receive the machine the 14.9-24 tires are carrying 50 lbs. air pressure each; this high pressure in shipping is to eliminate bouncing.)

When working with this machine, lower the traction tires to 35 psi in the left inside tire, and 33 psi in the right inside tire. The outside drive tires should be 16 psi. The two steering tires should be inflated to 50 lbs. This is the proper pressure under most working conditions, lower pressure when working in soft ground or sand but reinflate to above for heavy loads.

### CALCIUM-CHLORIDE FILLED TIRES

For an added safety feature in lifting heavy loads to great heights, Lull Engineering Company, Inc. insists on 450 lbs. of calcium chloride water solution in each of the inside driving tires for additional stability and improved traction. Each driving tire is three-quarters full with 450 lbs. When the solution comes up to the valve stem when it is on the high side of the tire, this is the proper location when filling.

NOTES: THE WARRANTY ON THE MACHINE IS VOID WITHOUT THE 450 LBS. OF CALCIUM CHLORIDE SOLUTION IN EACH INSIDE DRIVING TIRE ONLY AND 160 LBS. CALCIUM CHLORIDE IN EACH STEERING TIRE. NO CALCIUM CHLORIDE SOLUTION IN OUTSIDE DRIVE TIRES. WHEN HIGH FLOTATION TIRES ARE INSTALLED ON THE REAR ADD 160 LBS. CALCIUM CHLORIDE SOLUTION AND INFLATE THE TIRES 40 TO 50 PSI.

Special attention should be given to the hydraulic system. Its failure could result in danger to the load and to persons and property in the immediate area. Any oil leak should be repaired and all worn hoses should be replaced. It is essential that these parts are replaced with genuine LULL ENGINEERING COMPANY, INC. parts and no other.

CAUTION: DO NOT USE STANDARD HARDWARE STORE PIPES AND FITTINGS. VERY FEW HARDWARE STORES OR PLUMBERS STOCK EXTRA STOCK PIPES OR AAS FITTINGS.

How to fill the hydraulic tank and system: Fill the tank full of hydraulic oil. Then have the operator raise and lower the hoist cylinder; fully extend and retract every cylinder in the entire system slowly. This also includes the steering booster by turning it from extreme right to extreme left position, and back to center. After all cylinders and the hydraulic system are full of oil and collapsed, refill the supply tank to the lower check level plug.

Never run the engine unless the hydraulic tank intake line to the pump is connected and filled with oil.

When hydraulic fluid is added to the system, always pour it thru a micron filter. If a micron filter is not available, use a funnel with a fine wire screen (at least 200 mesh) inserted in the small end.

Be certain that the hydraulic fluid meets the specifications as listed in the lubrication chart.

Never operate the control levers when the engine is not running. This causes air cavitation above the piston and results in momentary drifting action. If air cavitation should occur, the oil can be replaced by working the control lever until bypass flutter is heard in full forward or full back position.

Steering booster operating pressures are governed by relief valves. The system operating pressure, checked with the steering knuckles blocked, should not exceed the recommended pressure setting of 1000 psi. Those operating pressures should be reduced if it is found that the thrust developed is appreciable greater than that required for normal steering conditions.

Fluctuating pressure or loss of pressure in the system may result from faulty operation of one relief valve. Usually this is caused by a damaged spring, a worn poppet, or by scale, sludge, etc., wedging between the poppet and its seat.

These parts can be inspected by uncoupling the drag link and ball stud from the steering gear and lowering the booster to clear the drag link. Disassembly may then be accomplished.

Pitman arm stops limit the number of degrees that the pitman arm can move in either direction. Proper adjustment of these stops is important to the prevention of excessive thrust and cramping of the booster. Wheel stops should have 3/16 inch clearance at each wheel when pitman arm is in contact with the stop under operators platform.

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NOTE: Company facilities provide for complete valve overhaul on 24 hour basis when sent to the factory.

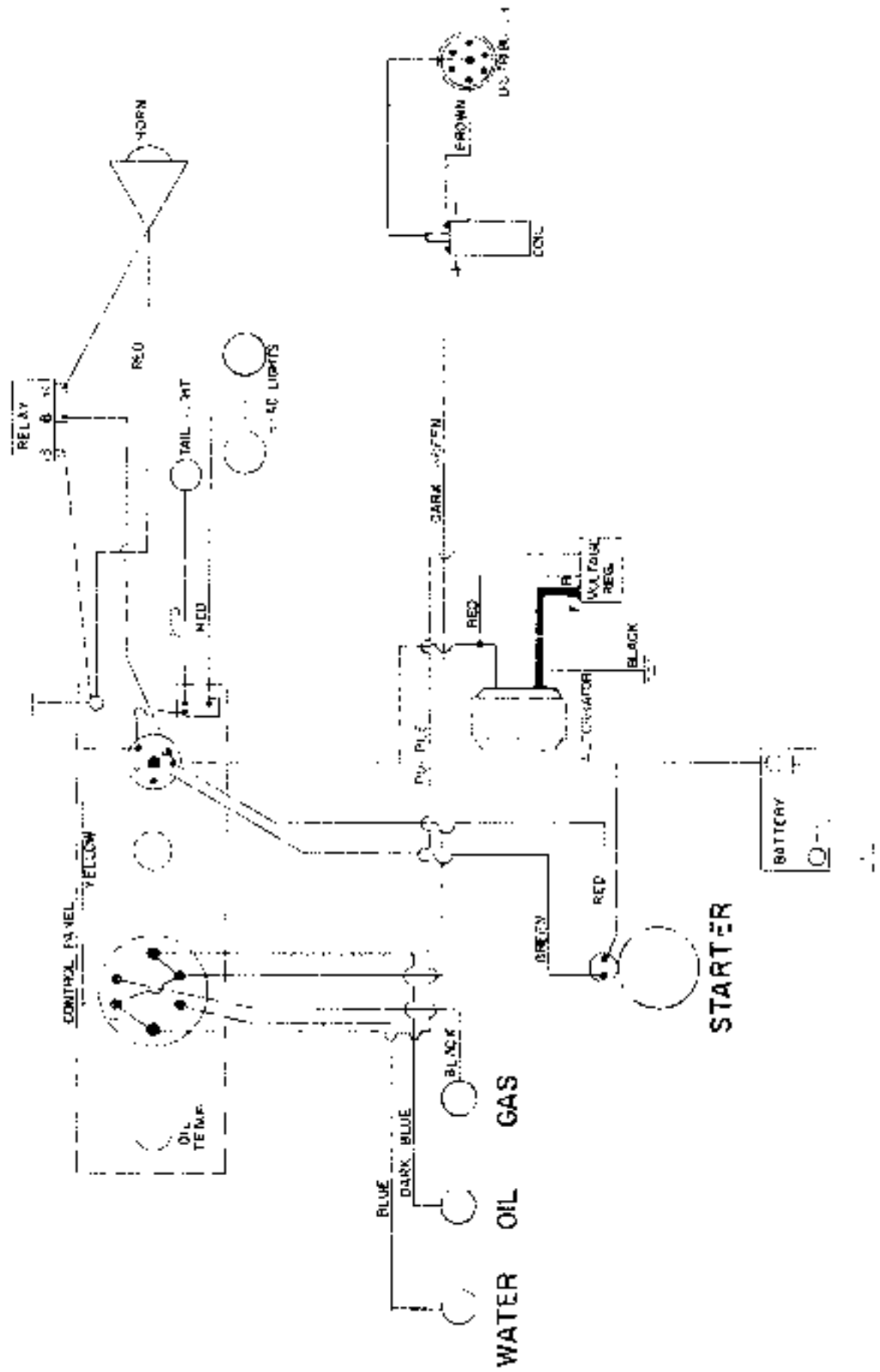




CAPACITIES - 702 MODELS

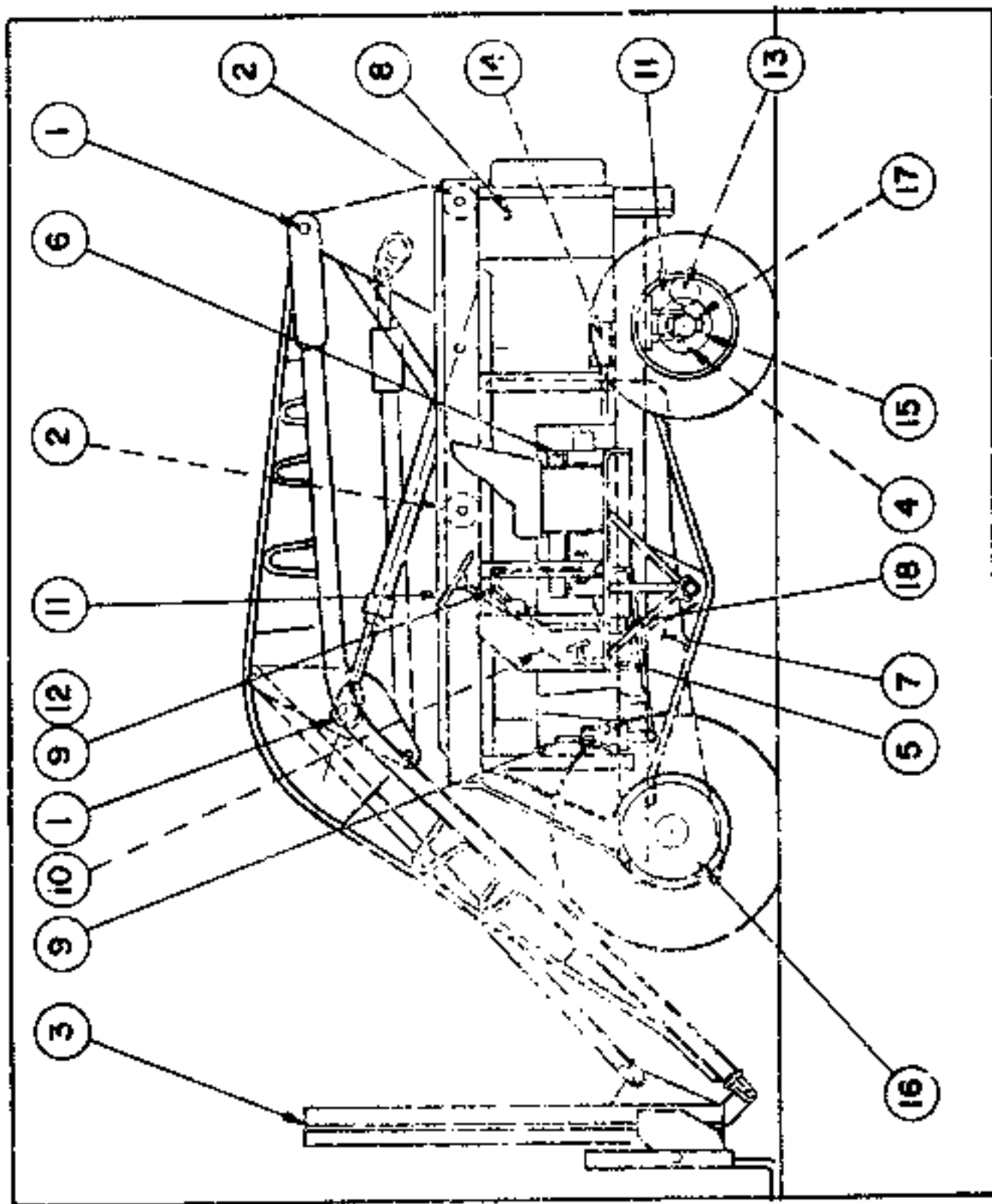
HYDRAULIC SYSTEM & RESERVIOR . . . . .	23 GAL.
RADIATOR COOLING SYSTEM . . . . .	20 QTS.
CRANKCASE . . . . .	5 QTS.
TORQUE CONVERTER . . . . .	2.5 GAL.
TRANSMISSION AND DIFFERENTIAL . . . . .	11 GAL.
FUEL TANK . . . . .	27 1/2 GAL.
TIRES (CALCIUM CHLORIDE)	
STEERING TIRES . . . . .	150-160 LBS. PER TIRE.
DRIVE TIRES . . . . .	450 LBS. PER TIRE

NOTE: DUAL WHEEL MODELS REQUIRE 450 LBS. ON INNER  
DRIVE TIRES ONLY AND 150 to 160 LBS. PER  
TIRE IN STEERING TIRES.



WIRING DIAGRAM NO. 11309 (FOR 7C1 & 7C2 MODELS)





LUBRICATION CHART  
MODEL 702

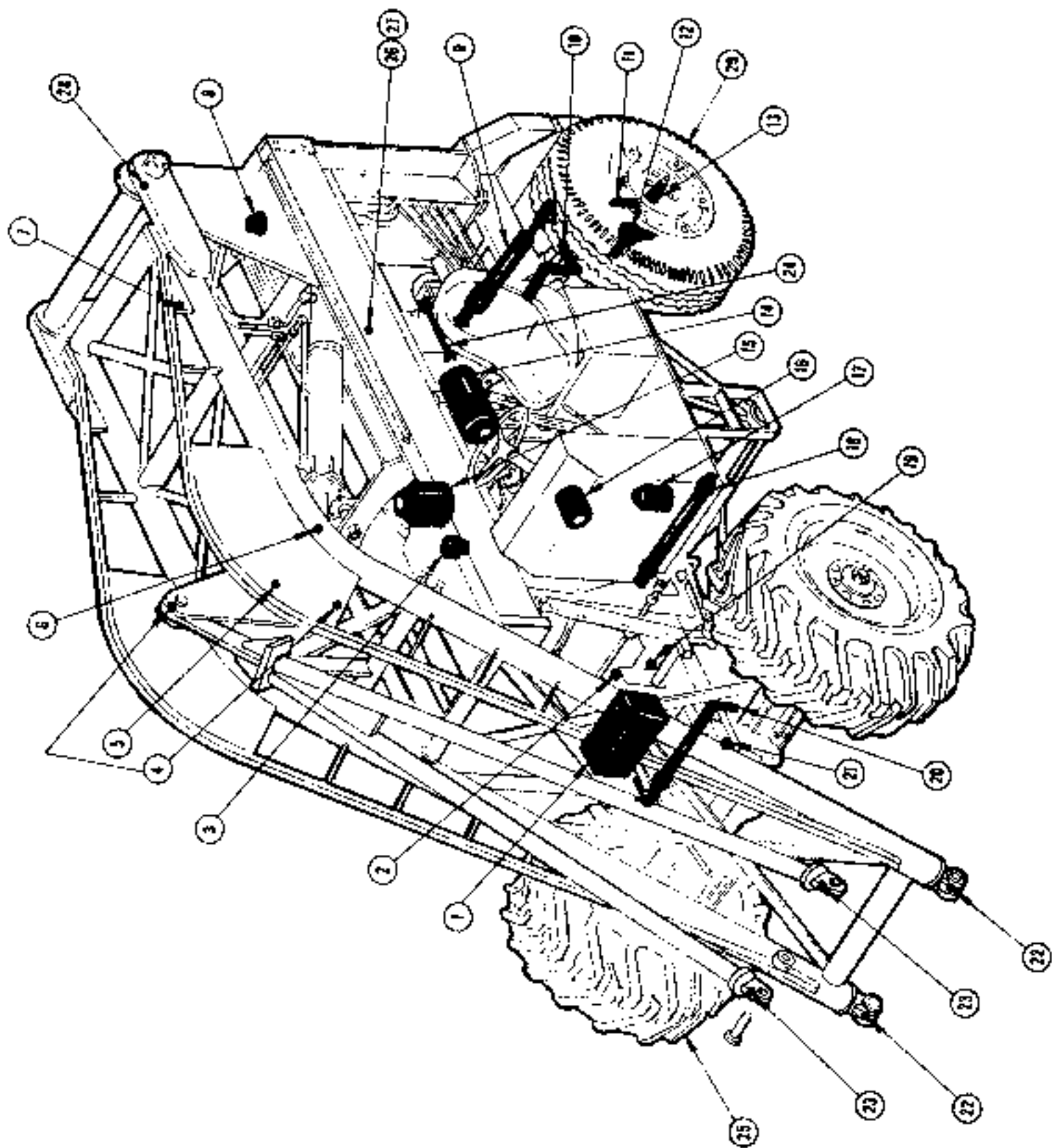
ITEM	PART	LUBRICANT	SERVICE	CHANGE
1	Lift Arm, Tilt Linkage Toggle And Cylinder Pivots	Super Permalube Grease	Daily	---
2	Transverse Frame Rollers	Super Permalube Grease	Daily	---
3	Tower	Super Permalube Grease	Daily	---
4	King Pins, Steering Toggles And Pivots	Super Permalube Grease	Daily	---
5	Brake Pivot Shaft	Super Permalube Grease	Daily	---
6	Engine: Below 32° F.	AMOCO 200 SAE 10W	Daily	300 Hrs.
	Above 32° F.	AMOCO 200 SAE 30	Daily	100 Hrs.
	Oil Filter element			300 Hrs.
	Air Cleaner: Oil Bath	AMOCO 200 SAE 20	Daily	As Req.
	Radiator	Perma-Guard Anti-Freeze	Daily	Yearly
	Battery	Distilled Water	Daily	---
7	Torque Converter (SEE NOTE)	AMOCO Dexron ATF	Daily	300 Hrs.
	Torque Converter Filter Element			300 Hrs.
8	Hydraulic Tank	Rykon Oil No. 21	Daily	Yearly
9	Shuttle Gear Linkage	Super Permalube Grease	Weekly	---
	Shuttle Gear Linkage	AMOCO 200 SAE 20	Weekly	---
	Shift Lever Linkage	Super Permalube Grease	Weekly	---
	Shift Lever Linkage	AMOCO 200 SAE 20	Weekly	---
10	Emergency Brake	AMOCO 200 SAE 20	Weekly	---
11	Rear Steering	Super Permalube Grease	Weekly	---
12	Forward & Reverse Controls	Super Permalube Grease	Weekly	---
13	Steering Cylinders & Boosters	Super Permalube Grease	Weekly	---
14	Pump Drive Shaft	Super Permalube Grease	Weekly	---
15	Tie Rod Ends	Super Permalube Grease	Weekly	---
16	Transmission & Final Drive			
	Below 32° F.	American MP Gear SAE 80	Monthly	Yearly
	Above 32° F.	American MP Gear SAE 90	Monthly	Yearly
17	Wheel Bearing	Repack yearly or every 1000 hrs. with Super Permalube Grease or Equal.		
18	Steering Gear	Inspect & Adjust 500 Hrs. or 6 Months. American MP Gear SAE 90 Monthly		Yearly

(TIRE PRESSURES - RIGHT FRONT 42# - LEFT FRONT 45# - REAR 50#)

NOTE: USE AMERICAN OIL COMPANY LUBRICANTS SHOWN OR EQUAL.

CHANGE TORQUE CONVERTER OIL AFTER FIRST 20 HOURS OPERATION ON NEW MACHINES. AFTER THAT CHANGE EVERY 300 HOURS OPERATION. CHANGE CONVERTER OIL FILTER AT SAME INTERVAL.

DRAIN ENGINE BREAK IN OIL AT 20 HOURS. CHANGE OIL FILTER THEN REFILL WITH OIL



## LUBRICATION CHART GUIDE

LUBRICATION CHART

ITEM NO.	PART NAME	FREQUENCY CHECK	NO. OF ZERKS OR TYPE OF LUBRICATION
1	Battery . . . . .	Weekly . . . . .	Fill with Distilled water
2	Forward and reverse toggle . . . . .	Weekly . . . . .	1
3	Engine Crank Case . . . . .	90 Hrs. . . . .	Above 32°F./SAE 20 or 30. Below 32°F./SAE 10
4	Parallel-O-Gram Joints . . . . .	Daily . . . . .	2
5	Center Toggle . . . . .	Daily . . . . .	2
6	Hoist Cylinders . . . . .	Daily . . . . .	4
7	Tilt Cylinder Cushing . . . . .	Daily . . . . .	1
8	Hydraulic Oil Reservoir . . . . .	Weekly . . . . .	Non-Foam, Non-Detergent Hyd. Oil (Sinclair Rocket "3" or equal.)
9	Power Steering Booster . . . . .	Weekly . . . . .	3
10	Steering Toggles & Pivots . . . . .	Daily . . . . .	6
11	King Pins . . . . .	Daily . . . . .	4
12	Steering Tie Rod Ends . . . . .	Weekly . . . . .	3
13	Steering Axle Wheel Bearings . . . . .	Yearly . . . . .	Clean & Repack with Lithium or Calcium Base Grease.
14	Generator . . . . .	Weekly . . . . .	SAE #20 Oil (2 Cops)
15	Air Filter . . . . .	Daily . . . . .	Clean and Fill with clean engine oil.
16	Engine Oil Filter # 104397-A. . . . .	300 Hrs. . . . .	Change Filter, Add 1 Qt. Crank Case Oil.
17	Steering Gear . . . . .	Monthly . . . . .	Fill with SAE 90
18	Brake Shafts . . . . .	Daily . . . . .	11
19	Torque Converter (See Note) . . . . .	Daily . . . . .	1 Type "A" Transmission Fluid.
20	Brake Shafts. . . . .	Daily . . . . .	11
21	Transmission (Change Yearly) . . . . .	Weekly . . . . .	SAE 60 or 90 Transmissio. Oil.
22	Lift Arm Pin - Front . . . . .	Daily . . . . .	2
23	Parallel-O-Gram Arm Pin . . . . .	Daily . . . . .	2
24	Pump Drive Shaft . . . . .	Weekly . . . . .	3 (Hand Gun Only)
25	Right Drive Tire (Outside) . . . . .	Weekly . . . . .	16 P.S.I.
	Right Drive Tire (Inside) . . . . .	Weekly . . . . .	33 P.S.I.
	Left Drive Tire (Outside) . . . . .	Weekly . . . . .	16 P.S.I.
	Left Drive Tire (Inside) . . . . .	Weekly . . . . .	35 P.S.I.
26	Transverse Frame Rollers . . . . .	Daily . . . . .	4
27	Transverse Frame . . . . .	Daily . . . . .	4

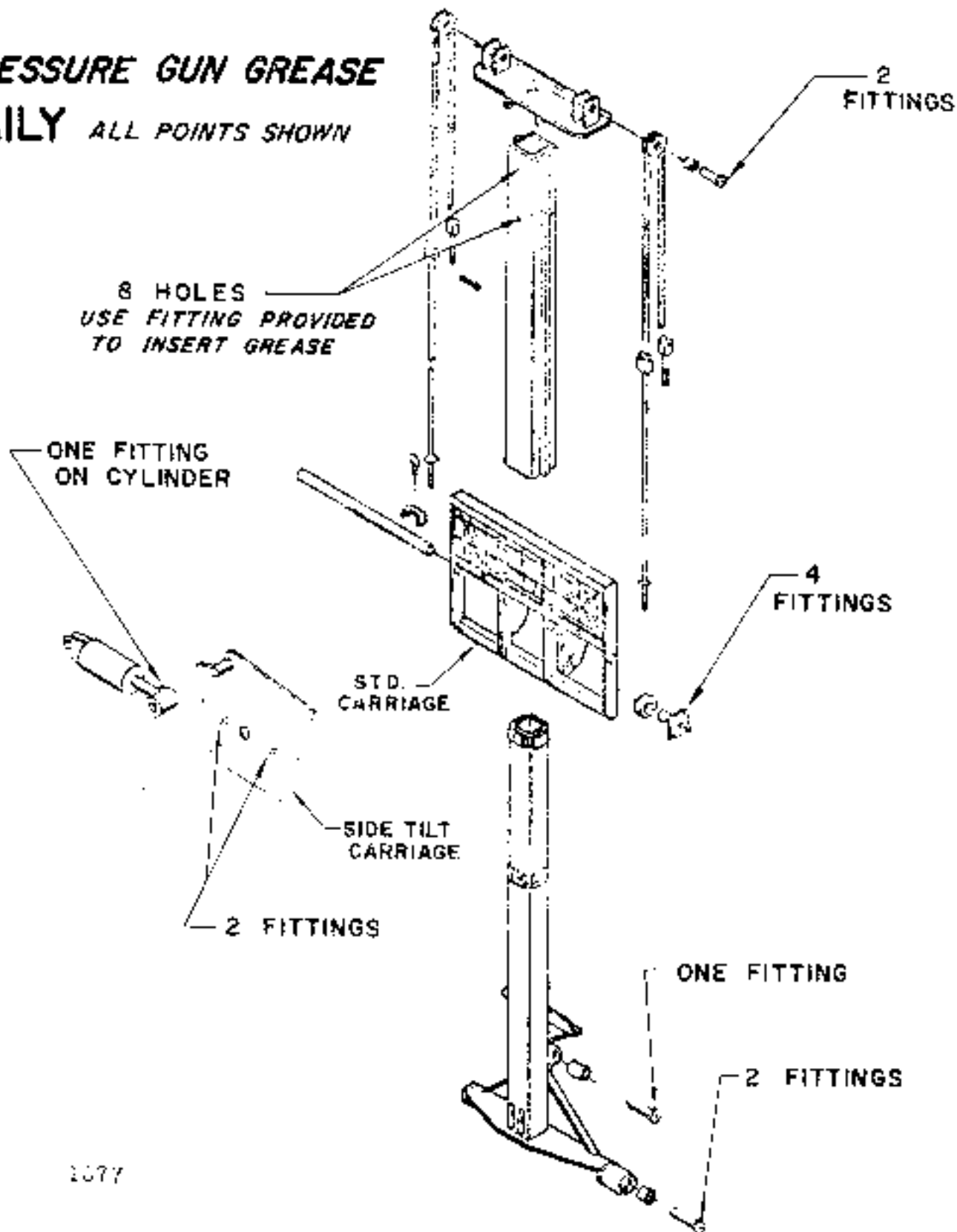
NOTE: CHANGE TORQUE CONVERTER OIL AFTER FIRST 20 HOURS OPERATION ON NEW MACHINES. AFTER THAT CHANGE EVERY 300 HOURS OPERATION. CHANGE CONVERTER OIL FILTER AT SAME INTERVAL. FILTER # 105234-A.

DRAIN ENGINE BREAK IN OIL AT 20 HRS. CHANGE OIL FILTER THEN REFILL WITH OIL ACCORDING TO ITEM # 3 ABOVE.

INLL ENGINEERING COMPANY, INC.  
7015 HIGHWAY 13,  
ST. PAUL 11, MINNESOTA 55111

20w-40 LUBRICATION CHART  
702-31 SINGLE WAST

# **PRESSURE GUN GREASE DAILY ALL POINTS SHOWN**

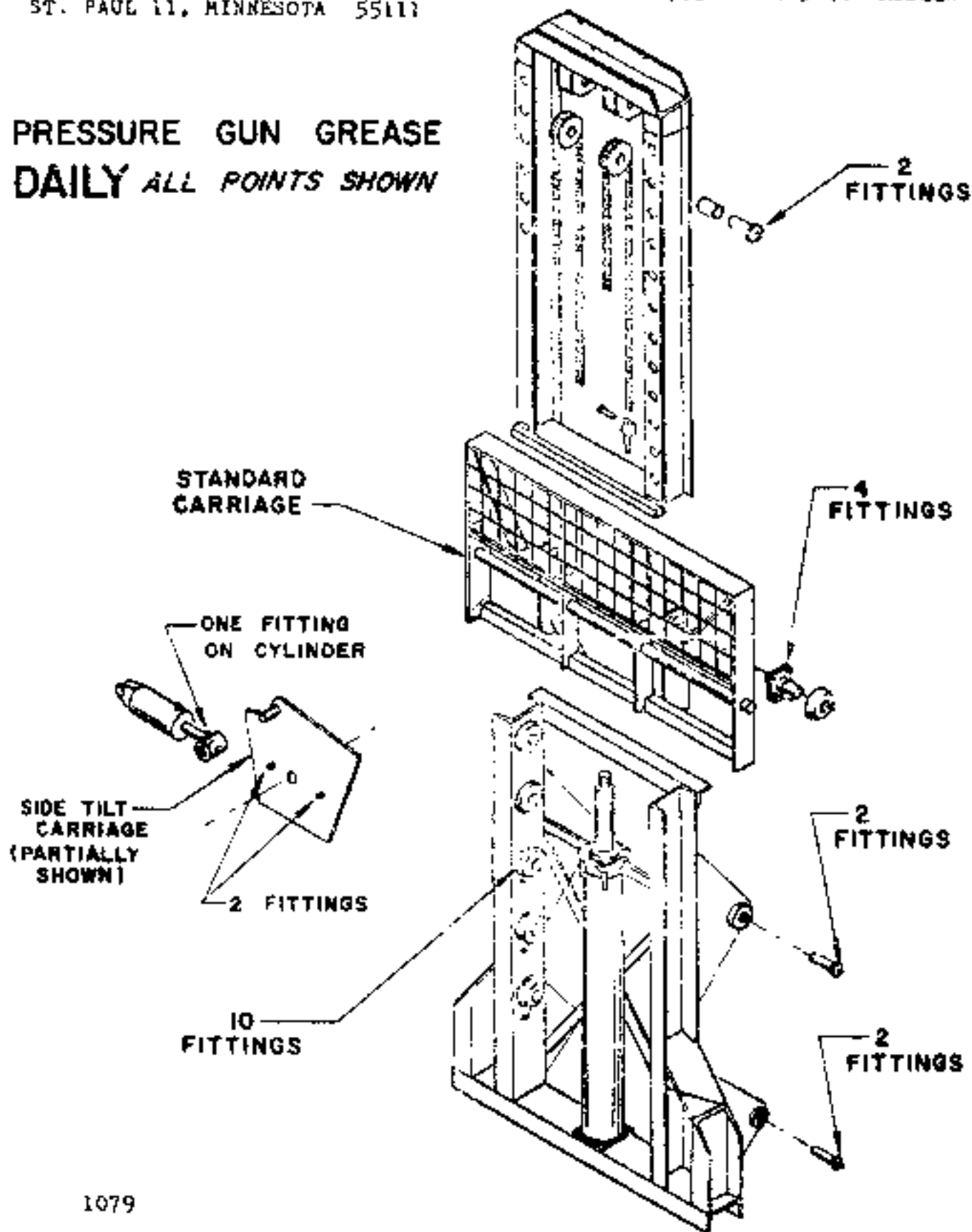


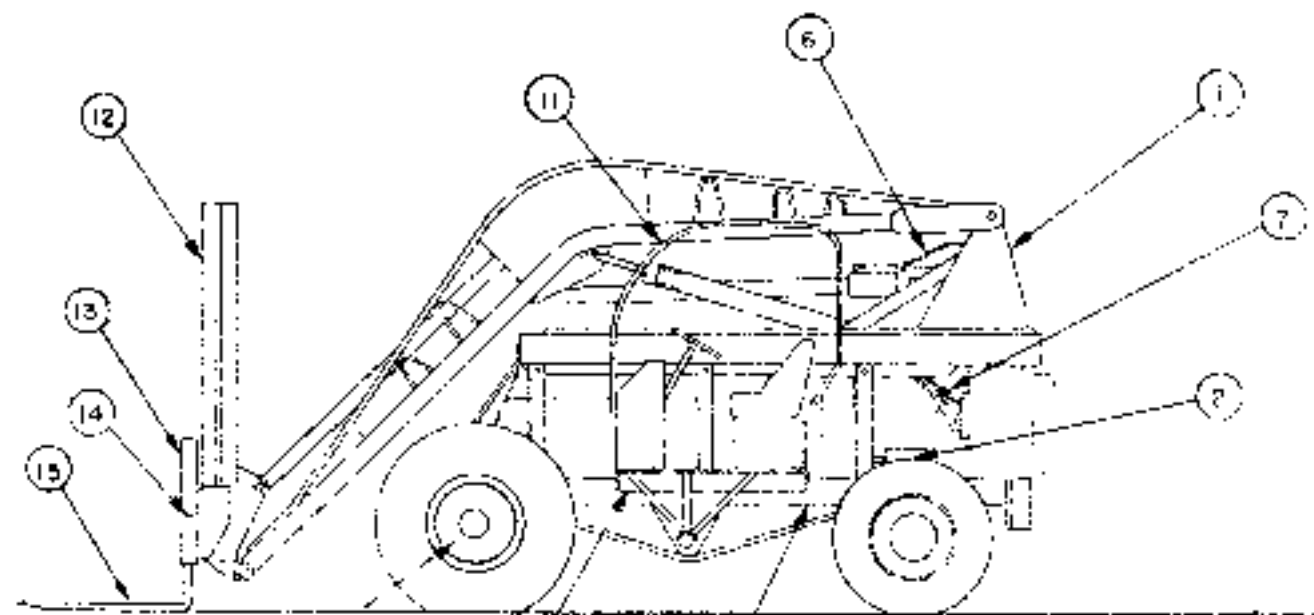
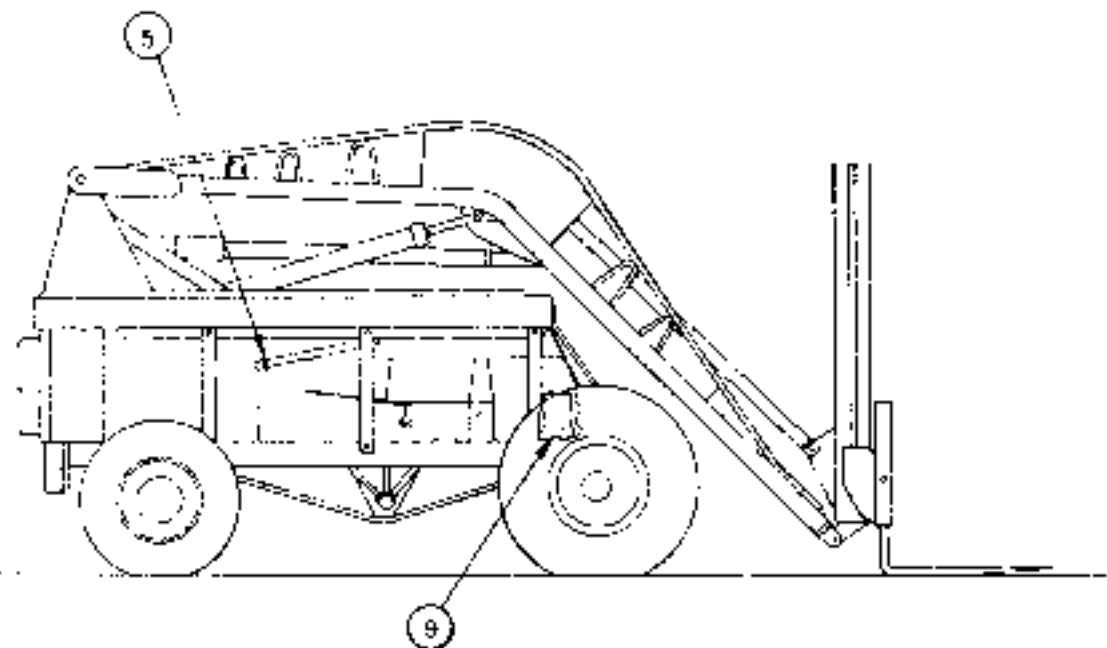


LULL ENGINEERING COMPANY, INC.  
3045 HIGHWAY 13,  
ST. PAUL 11, MINNESOTA 55111

TOWER LUBRICATION CHART  
702 AND 403-40' MODELS

**PRESSURE GUN GREASE  
DAILY ALL POINTS SHOWN**





4 TRUSS ROD  
 10 AXLE PAD  
 WELUMENT

8

3

5/8" 2050 & UP

1 3/4" DIA. FORK SHAFT

# GENERAL ASSEMBLY

NO. 17,233 -

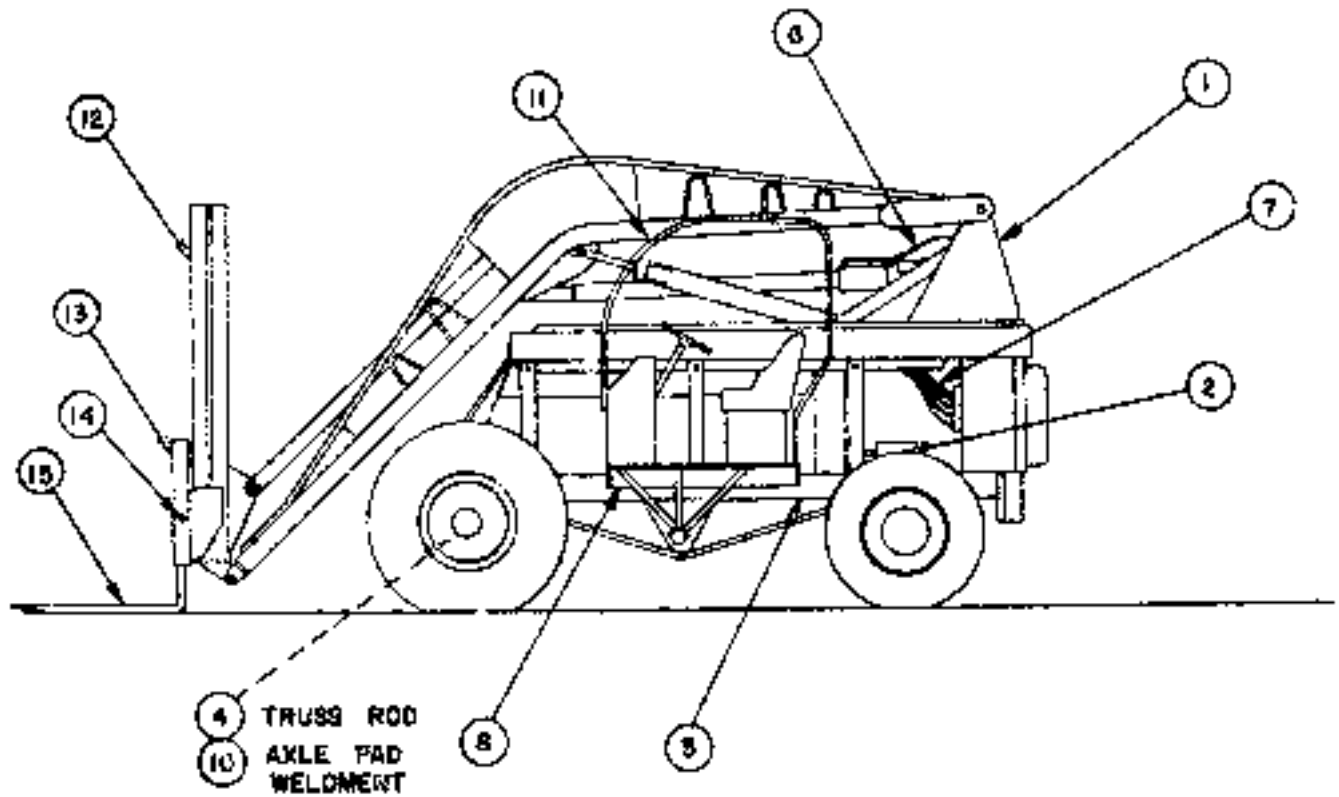
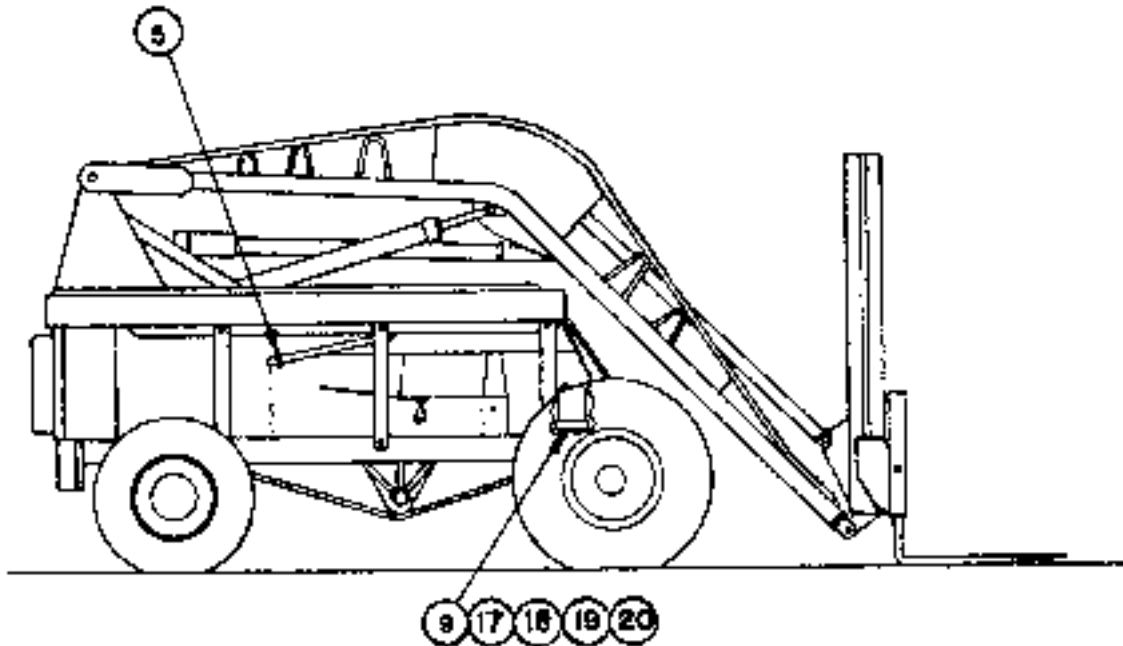
LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55111

GENERAL ASSEMBLY  
 702-31' HIGH-LIFT  
 NO. 11,233

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1		11,229	Loader Assembly (Page 32)	1
2		11,205	Pump & Drive Ass'y (Page 42)	1
3	11,000		Main Frame	1
4	11,300		Truss Rod	1
5	7528		Exhaust Pipe Bracket	1
6	11,313		Hydraulic System (Page 60)	1
7	11,302		Hydraulic System (Pump to Valves) p-38	1
8		11,239	Operator's Platform Ass'y (Page 13)	1
9	11,043		Battery Support	1
10	11,227		Axle Pad Weldment	1
11	11,235		Overhead Guard	1
12		1265	Tower Assembly (Page 66)	1
13	6891		Carriage	1
14	11,369		Shaft	1
15	11,290		Forks	2
16	7840		Headlight Bracket (Optional)	1

LULL ENGINEERING COMPANY, I.N.C.  
 3045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

GENERAL ASSEMBLY  
 NO. 13,483

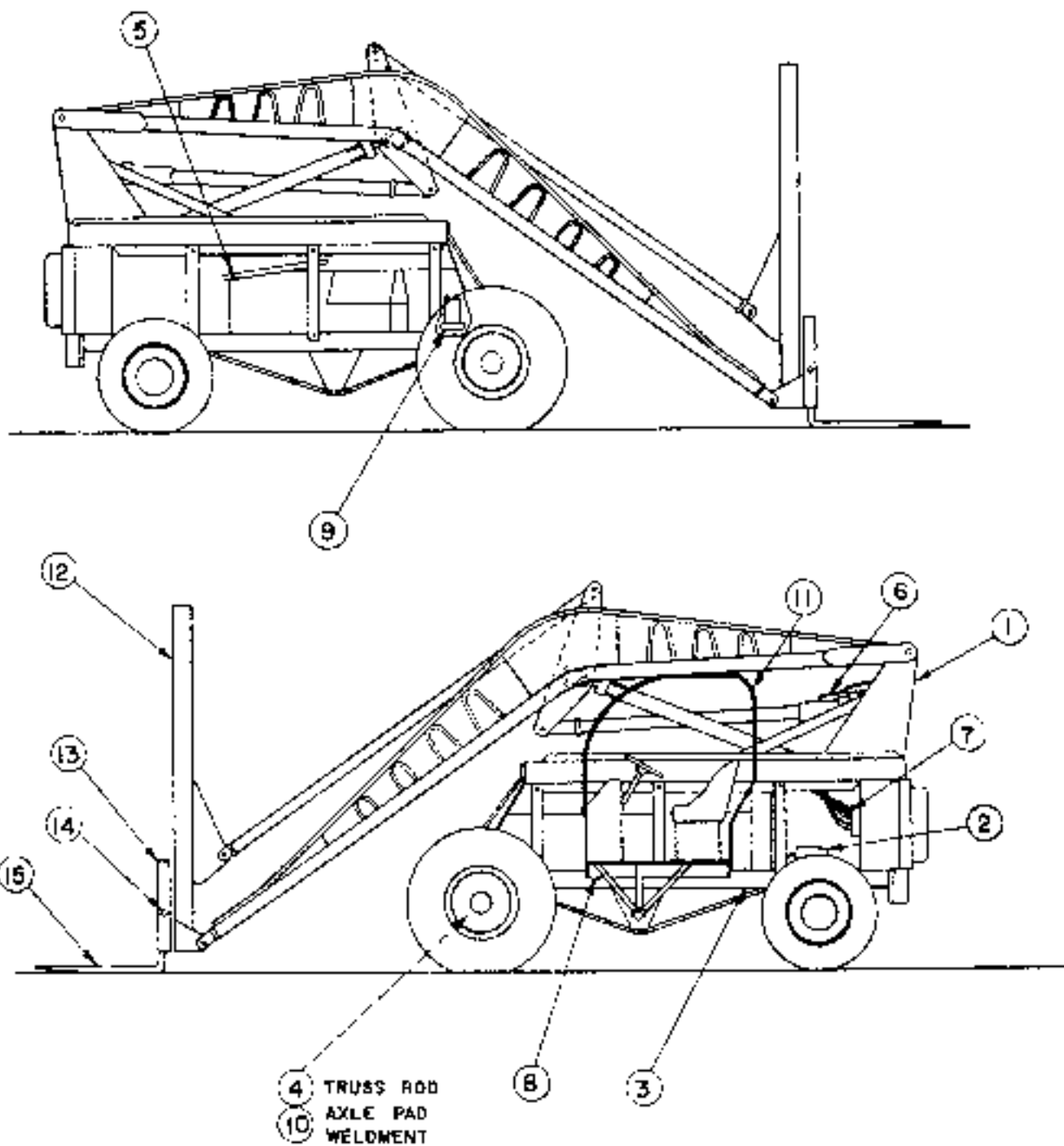


LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

GENERAL ASSEMBLY  
 702-31' HIGH-LIFT  
 NO. 13,483

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1		11,229	Loader Assembly (Page 32)	1
2		11,205	Pump & Drive Ass'y (Page 42)	1
3	11,000		Main Frame	1
4	11,300		Truss Rod	1
5	7528		Exhaust Pipe Bracket	1
6		11,313	Hydraulic System (Page 60)	1
7		11,302	Hydraulic System (Pump to Valve) Page 38)	1
8		13,481	Operator's Platform Ass'y (Page 18)	1
9	11,043		Battery Support	1
10	11,227		Axle Pad Weldment	1
11	11,235		Overhead Guard	1
12		1265	Tower Assembly (Page 66)	1
13	6891		Carriage	1
14	11,369		Shaft	1
15	11,290		Forks	2
16	7840		Headlight Bracket (Optional)	1
*17	11,757		Battery Support Ass'y	1
*18	P-13057		Battery	1
*19	P-13040		Cable	1
*20	P-12505		Cable	1

\*DIESEL MODELS ONLY



## GENERAL ASS'Y.

NO. 11,236

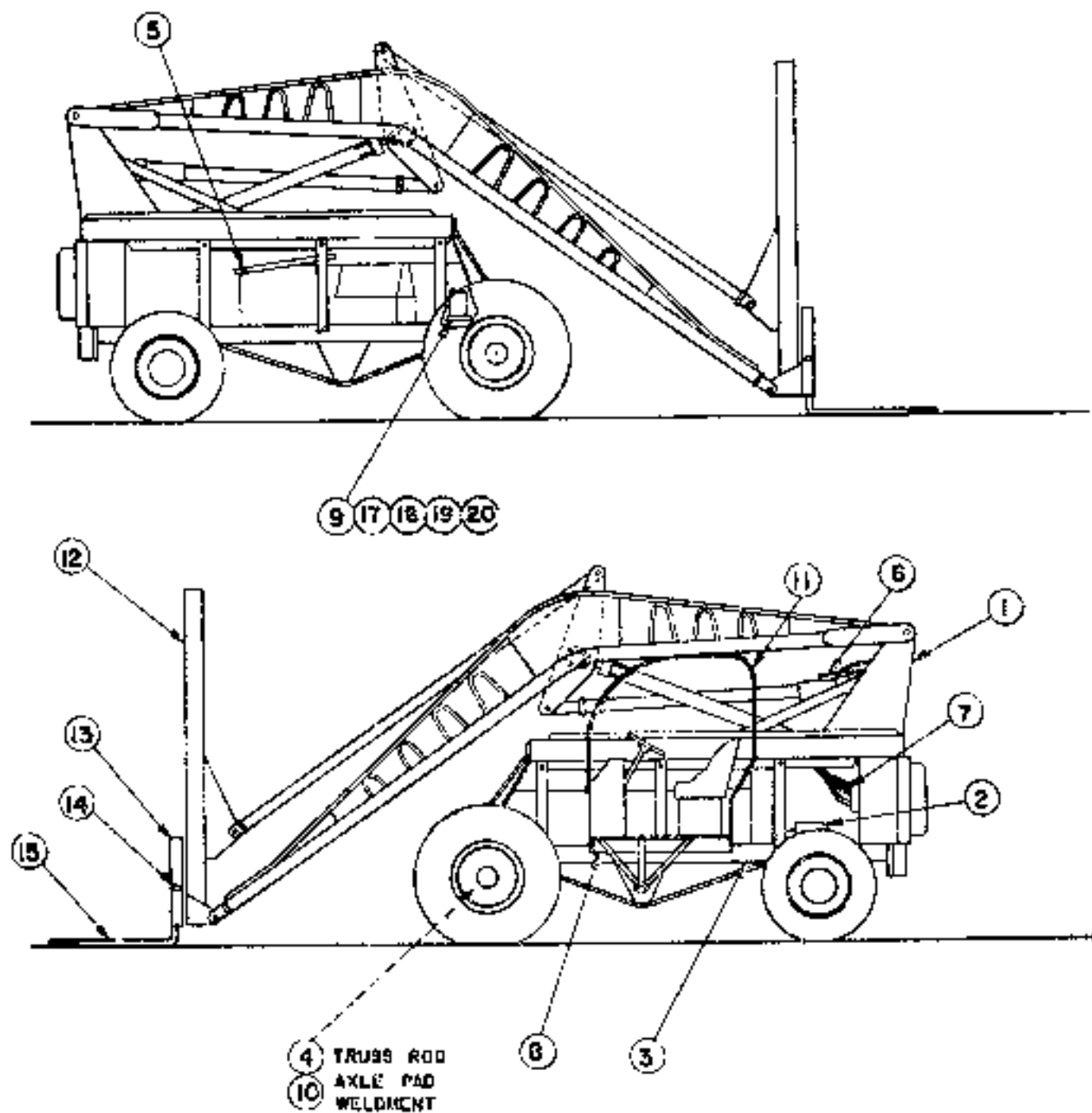
S/N 2050 AND UP

GENERAL ASSEMBLY  
NO. 11,236

ITEM	PART	DESCRIPTION	RE'Q.
1	11,237	Loader Ass'y (Page 32)	1
2	11,205	Pump & Drive Ass'y (Page 42)	1
3	11,072	Main Frame	1
4	11,300	Truss Rod	1
5	7528	Exhaust Pipe Bracket	1
6	11,312	Hydraulic System (Junction Block to Lift Arm)	1
7	11,303	Hydraulic System (Pump to Valves)	1
8	11,240	Operator's Platform Ass'y (Page 18)	1
9	11,043	Battery Support	1
10	11,227	Axle Pad Weldment	2
11	11,235	Overhead Guard Ass'y (Page 110)	1
12	11,293	Tower Assembly (Page 66)	1
13	11,296	Carriage	1
14	11,378	Shaft	1
15	11,290	Forks	2
16	7840	Headlight Bracket (Optional)	1

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

GENERAL ASSEMBLY  
 NO. 13,484



7C2-40'

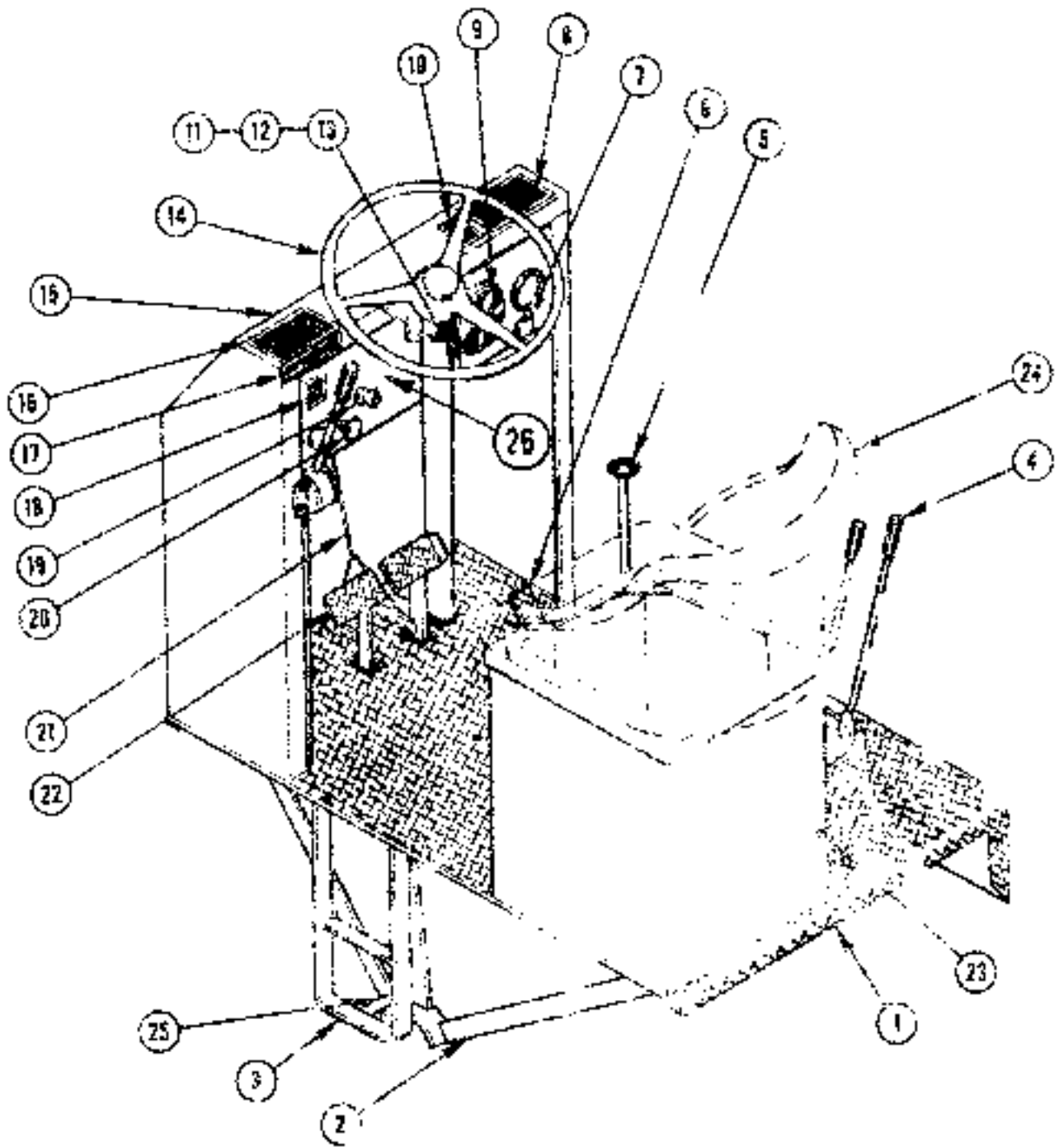


LESLIE ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 33,  
 ST. PAUL, MINNESOTA 55101

GENERAL ASSEMBLY  
 No. 13,484

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1		11,207	Loader Assembly (Page 32)	1
2		11,205	Pump and Drive Ass'y (Page 42)	1
3	11,019		Main Frame	1
4	11,300		Truss Rod	1
5	7528		Exhaust Pipe Bracket	1
6		11,312	Hydraulic System (Page 60)	1
7		11,303	Hydraulic System (Pump to Valve) P-38	1
8		13,483	Operators Platform Ass'y (Page 18)	1
9	11,043		Battery Support	1
10	11,227		Axle Pad Weldment	2
11		11,205	Overhead Guard Ass'y (Page 110)	1
12		11,293	Tower Assembly (Page 66)	1
13	11,357		Carriage	1
14	11,363		Shaft	1
15	11,270		Forks	2
16	7840		Headlight Bracket (Optional)	1
*17	11,257		Battery Support Ass'y	1
*18	P-13057		Battery	1
*19	P-13040		Cable	1
*20	P-12500		Cable	1

MINIMUM STOCKS ONLY

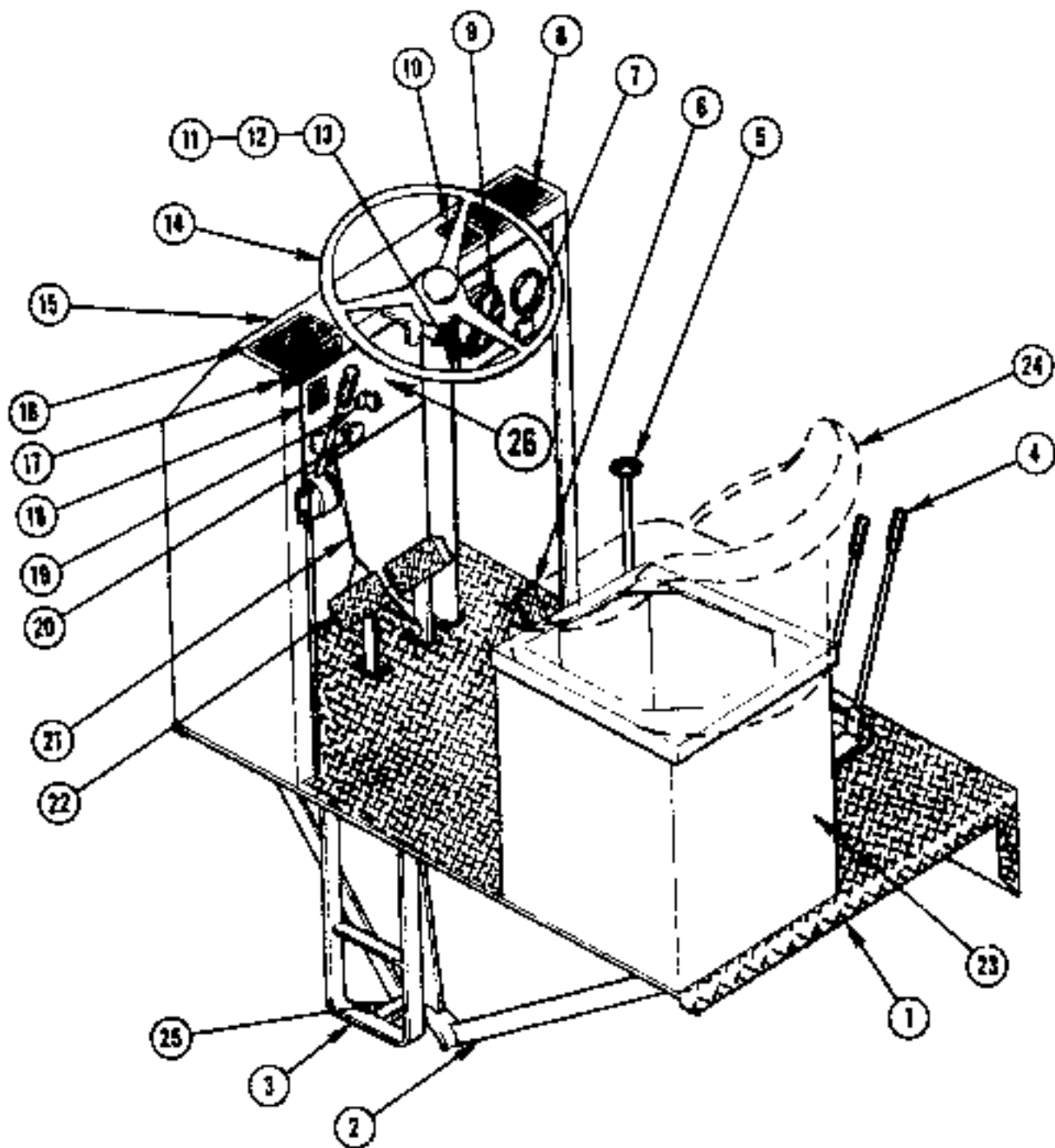


**OPERATOR'S PLATFORM ASSEMBLY  
NO. 11,239**

DUELL ENGINEERING COMPANY, INC.  
 3047 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55111

OPERATORS PLATFORM ASS'Y  
 702-311 HIGH-LIFT LOADER  
 NO. 11,239

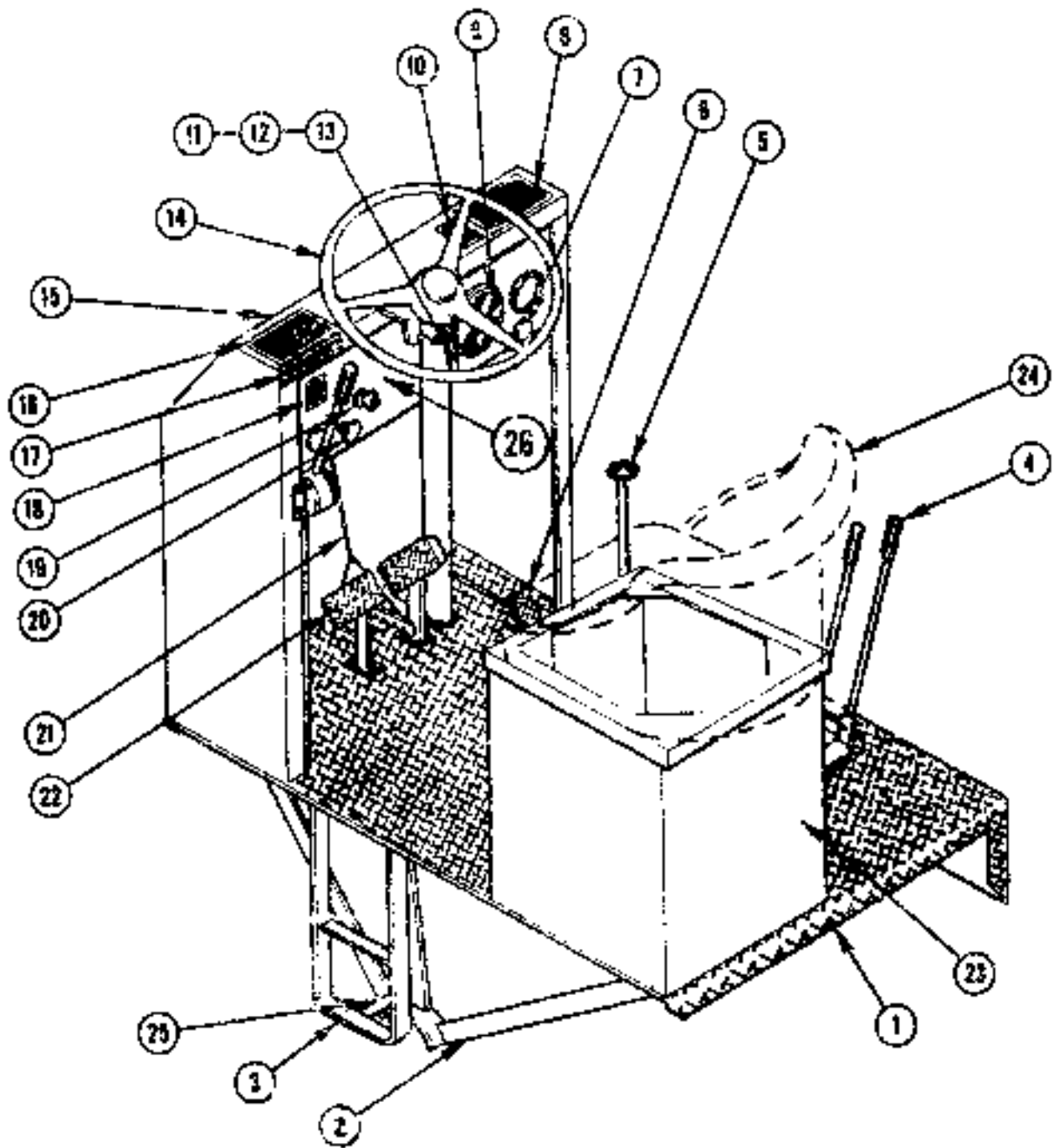
<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,088		Operator's Platform	1
2	11,126		Platform Support	1
3	8513		Step Weldment	1
4		11,262	Valve Control Ass'y (Page 50)	4
5		11,250	Shifting Ass'y (Page 30)	1
6		11,260	Accelerator Ass'y (Page 50)	1
7	P-10035		Choke Control	1
8	7371		Hand Lever Control Tag	1
9	P-10036		Cluster Gauge	4
10	11,206		Shifting Tag	1
11	7633		Strap	1
12	7652		Cover	1
13	P-10070		Hour Meter (Optional)	1
14		11,242	Steering Ass'y (Page 22)	1
15	11,244		Instrument Panel	1
16	450		Serial Number Tag	1
17	7521		Caution Tag	1
18	7524		Torque Converter Tag	1
19	P-10037		Ignition Switch	1
20	P-10007		Brake Lock Cable	1
21		7597	Brake Lock Ass'y (Page 4)	1
22		11,253	Brake & Torque Conv. Ass'y (Page 26)	1
23	6952		Tool Box & Seat Stand	1
24	P-11618		Seat	1
25	11,195		Support Strap	1
26	8638		Dashboard	1



**OPERATOR'S PLATFORM ASSEMBLY  
NO. 11,239**



REF.	PART NO.	DESCRIPTION	REQ.
		OPERATORS PLATFORM ASSEMBLY NO. 11,239	
1	11,089	Operators Platform	1
2	11,108	Platform Support	1
3	8913	Sleeve Bolts	1
4	11,269	Valve Control Ass'y (Page 50)	1
5	11,230	Shifting Ass'y (Page 34)	1
6	*12,046	Accelerator Ass'y (Page 30)	1
7	P-10035	Choke Control	1
8	7571	Hand Lever Control Tag	1
9	P-10036	Cluster Gauge	1
10	11,208	Shifting Tag	1
11	7683	Strap	1
12	7682	Cover	1
13	P-10074	Hour Meter (Optional)	1
14	12,327	Steering Ass'y (Page 22)	1
15	11,244	Instrument Panel	1
16	456	Serial Number Tag	1
17	7521	Caution Tag	1
18	7004	Torque Converter Tag	1
19	P-10137	Inertia Switch	1
20	P-10007	Brake Lock Cable	1
21	7597	Brake Lock Ass'y (Page 64)	1
22	11,253	Brake & Torque Conv. Ass'y (Page 26)	1
23	6952	Tool Box & Seat Stand	1
24	P-11618	Seat	1
25	11,193	Support Strap	1
26	8638	Dashboard	1
		*Start With S/N 7379.	



OPERATOR'S PLATFORM ASSEMBLY

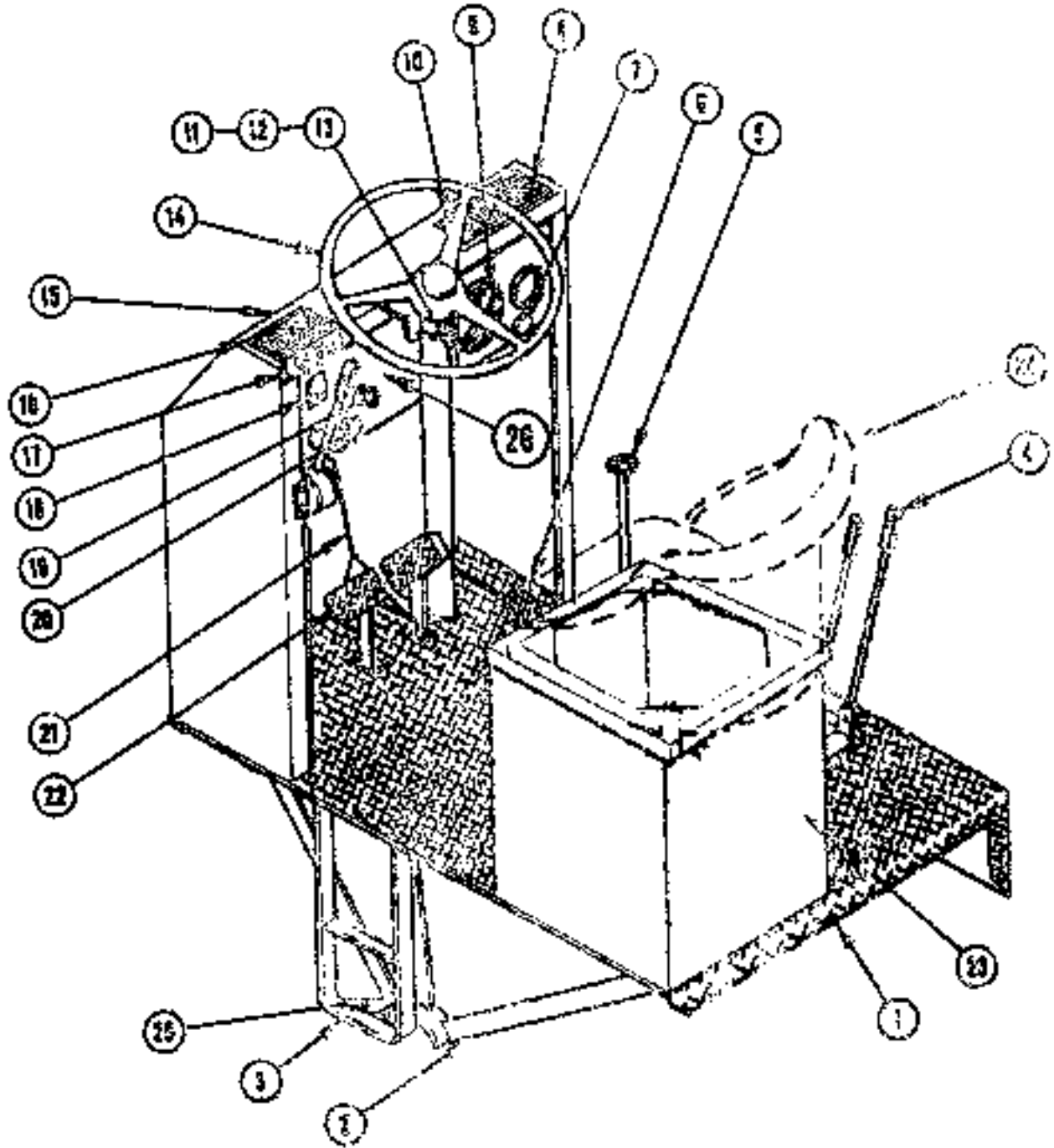
NO. 11,239

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

OPERATORS PLATFORM ASS'Y  
 NO. 11.239

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,090		Operators Platform	1
2	11,126		Platform Support	1
3	8813		Step Weldment	1
*4		13,187	Valve Control Ass'y (Page 50)	1
5		11,250	Shifting Ass'y (Page 34)	1
*6		12,566	Accelerator Ass'y (Page 30)	1
7	P-10035		Clutch Control	1
8	7371		Hand Lever Control Tag	1
9	P-10036		Cluster Gauge	1
10	11,208		Shifting Tag	1
11	7683		Strap	1
12	7682		Cover	1
13	P-10074		Hour Meter (Optional)	1
*14		12,928	Steering Ass'y (Page 22)	1
15	11,244		Instrument Panel	1
16	450		Serial Number Tag	1
17	7521		Caution Tag	1
18	7524		Torque Converter Tag	1
19	P-10037		Ignition Switch	1
20	P-10007		Brake Lock Cable	1
21		7597	Brake Lock Ass'y (Page 64)	1
22		11,253	Brake & Torq. Conv. Ass'y (Page 26)	1
23	6952		Tool Box & Seat Stand	1
24	P-11618		Seat	1
25	11,193		Support Strap	1
26	8638		Dashboard	1

- \*4 Use No. 11,262 Before Serial Number 2456
- \*6 Use No. 11,260 Thru Serial Number 2378.
- \*14 Was No. 12,327 Up to Serial Number 2450.

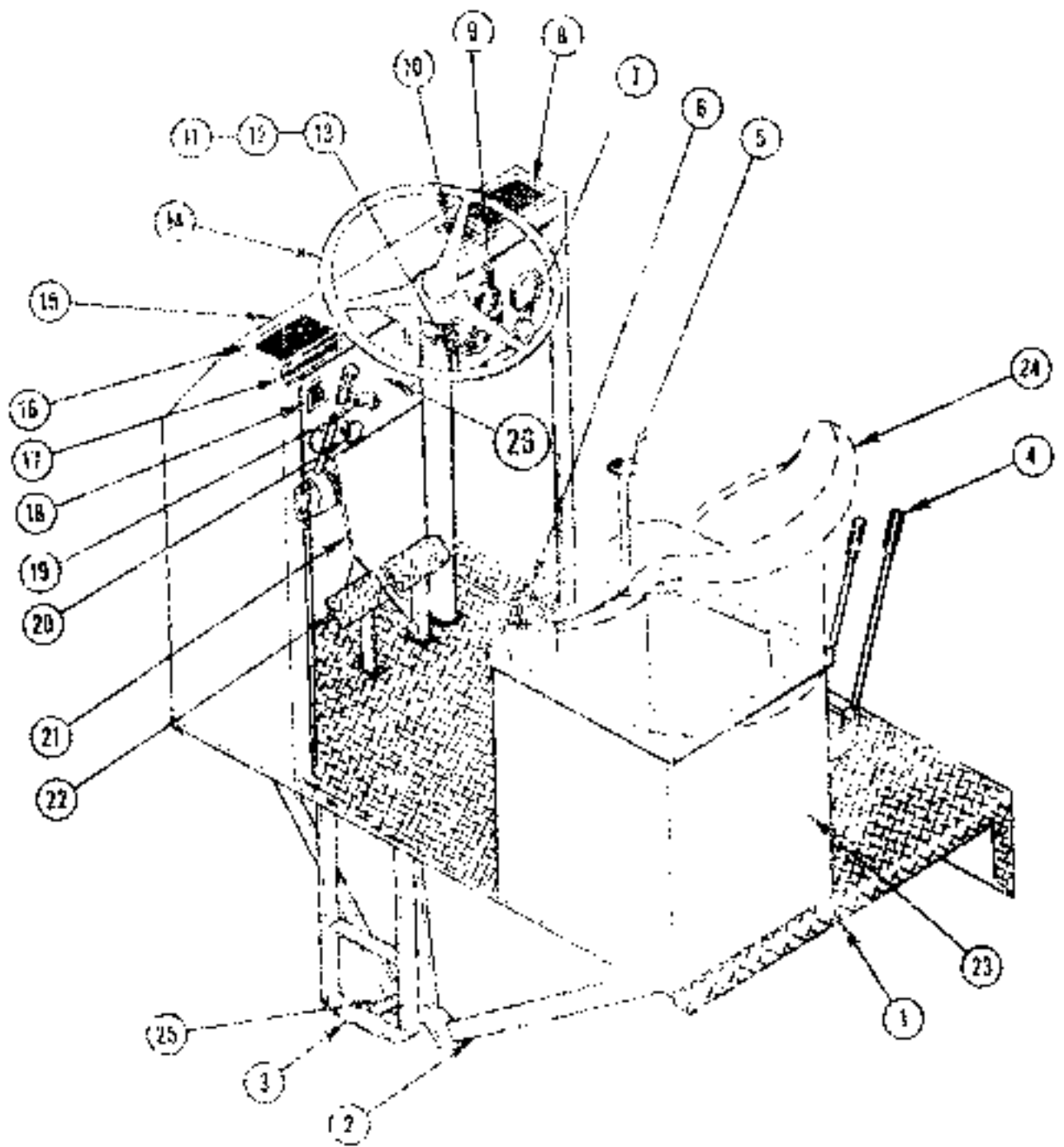


702-31'



<u>ITM.</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,090		Operators Platform	1
2	11,126		Platform Support	1
3	8813		Step Weldment	1
4		13,479	Valve Control Ass'y (Page 50)	1
5		11,250	Shifting Ass'y (Page 34)	1
6		12,540	Accelerator Ass'y (Page 30)	1
7	P-10035		Choke Control	1
8	7571		Hand Lever Control Tag	1
9	P-10036		Cluster Gauge	1
10	11,228		Shifting Tag	1
11	7683		Strap	1
12	7682		Cover	1
13	P-12631		Hour Meter	1
14		*14,106	Steering Ass'y (Page 22)	1
15	11,244		Instrument Panel	1
16	450		Serial Number Tag	1
17	7521		Caution Tag	1
18	7524		Torque Converter Tag	1
19	P-10007		Ignition Switch	1
20	P-10007		Brake Lock Cable	1
21		7597	Brake Lock Ass'y (Page 64)	1
22		11,253	Brake & Torq. Conv. Ass'y (Page 26)	1
23	6952		Tool Box and Seat Stand	1
24	P-11618		Seat	1
25	11,153		Support Strap	1
26	8838		Dashboard	1

\*NOTE: Use 313,405 Steering Assembly through S/N 2535.



OPERATION: PRACTICAL ASSEMBLY

Nov. 11, 1946

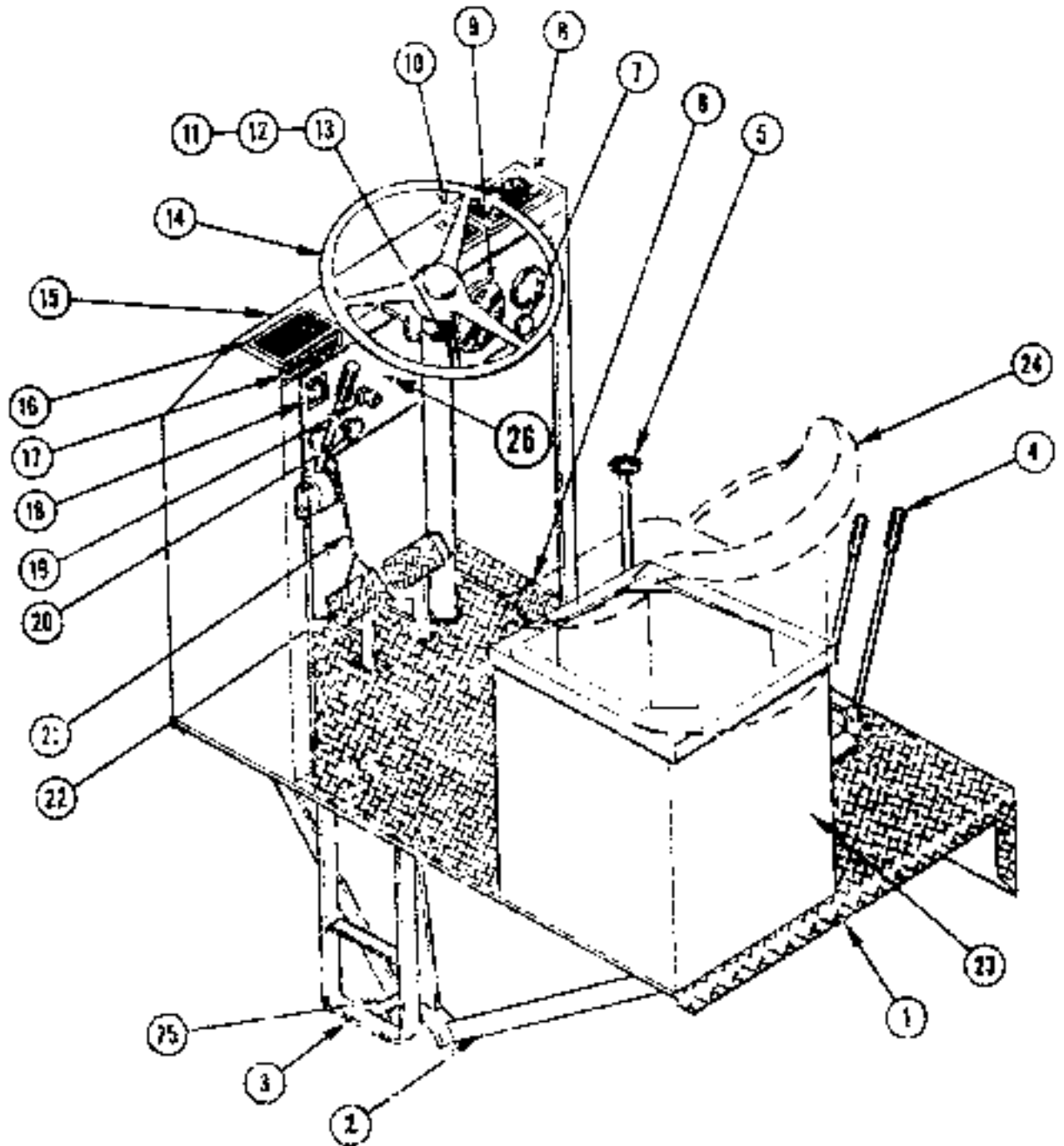
LOLL ENGINEERING COMPANY, INC.  
 3005 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55111

OPERATORS PLATFORM ASS'Y  
 NO. 11,200

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,080		Operators Platform	1
2	11,125		Platform Support	1
3	8813		Step Weldment	1
4		11,263	Valve Control Ass'y (Page 50)	1
5		11,251	Shifting Ass'y (Page 34)	1
6		11,260	Accelerator Ass'y (Page 30)	1
7	P-10035		Choke Control	1
8	7371		Hand Lever Control Tag	1
9	P-10036		Cluster Gauge	1
10	11,205		Shifting Tag	1
11	7683		Strap	1
12	7682		Cover	1
13	P-10074		Hour Meter	1
14		11,243	Steering Ass'y (Page 22)	1
15	11,244		Instrument Panel	1
16	450		Serial Number Tag	1
17	7521		Caution Tag	1
18	7524		Torque Converter Tag	1
19	P-10037		Ignition Switch	1
20	P-10007		Brake Lock Cable	1
21		7597	Brake Lock Ass'y (Page 64)	1
22		11,253	Brake & Torque Conv. Ass'y (Page 26)	1
23	6952		Tool Box & Seat Stand	1
24	P-11618		Seat	1
25	11,193		Support Strap	1
26	8638		Dashboard	1

LULL ENGINEERING COMPANY, INC.  
3045 HIGHWAY 13,  
ST. PAUL, MINNESOTA 55127

OPERATOR'S PLATFORM ASSEMBLY  
NO. 13,482



702-001

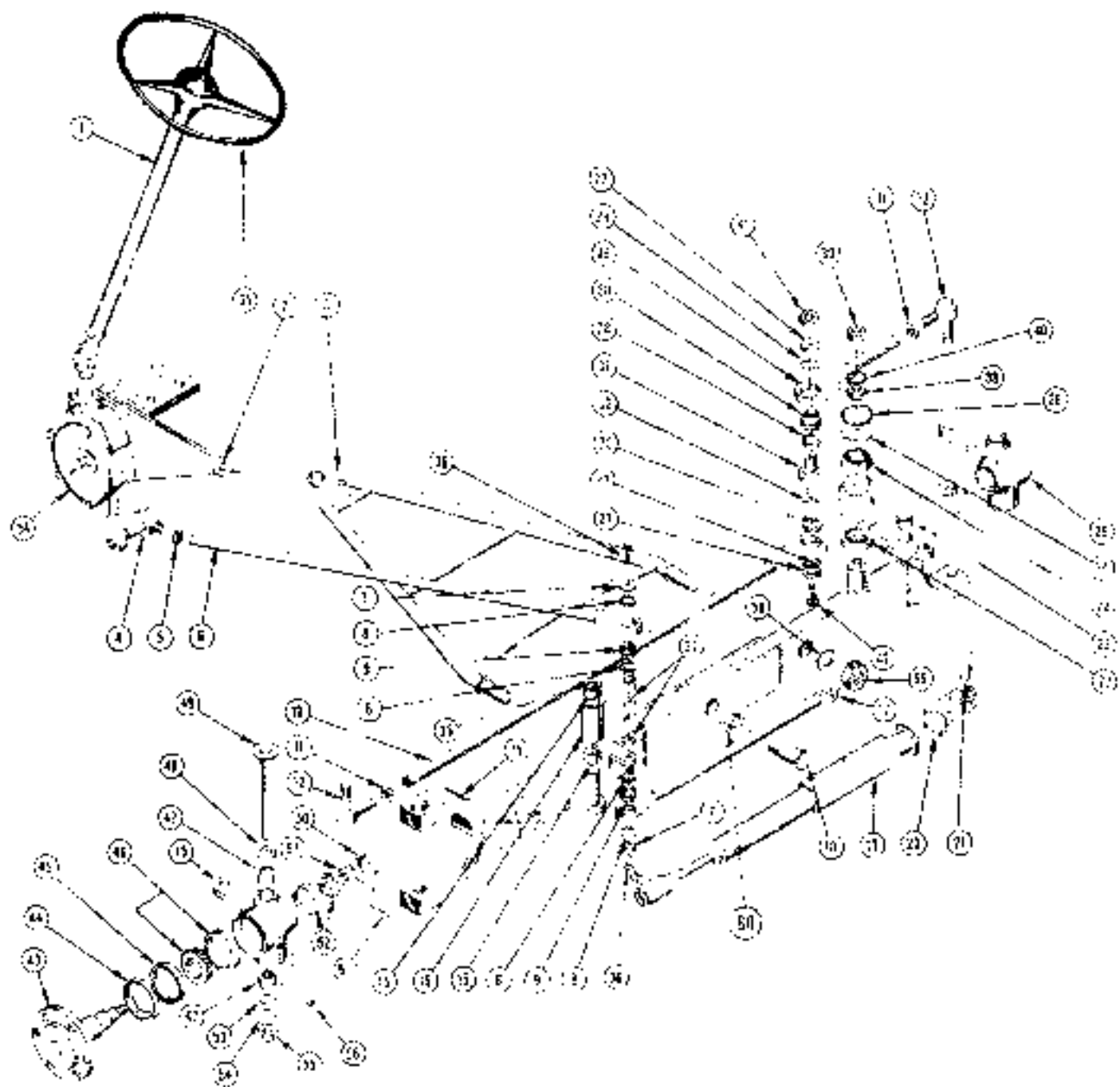
1539

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

OPERATOR'S PLATFORM ASS'Y  
 NO. 13,452

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION:</u>	<u>NO.</u> <u>REQ.</u>
1	11,080		Operator's Platform	1
2	11,126		Platform Support	1
3	8813		Step Weldment	1
4		13,420	Valve Control Ass'y (Page 50)	1
5		11,251	Shifting Ass'y (Page 34)	1
6		12,546	Accelerator Ass'y (Page 30)	1
7	P-10035		Choke Control	1
8	7371		Hand Lever Control Tag	1
9	P-10036		Cluster Gauge	1
10	11,208		Shift <sup>2</sup> no Tag	1
11	7683		Strap	1
12	7682		Cover	1
13	P-10031		Hour Meter	1
14		*14,007	Steering Ass'y (Page 22)	1
15	11,244		Instrument Panel	1
16	450		Serial Number Tag	1
17	7521		Caution Tag	1
18	7524		Torque Converter Tag	1
19	P-10037		Ignition Switch	1
20	P-10037		Brake Lock Cable	1
21		7597	Brake Lock Ass'y (Page 64)	1
22		13,253	Brake & Torq. Conv. Ass'y (Page 2E)	1
23	8952		Tool Box & Seat Stand	1
24	P-10016		Seat	1
25	11,195		Support Strap	1
26	8828		Dashboard	1

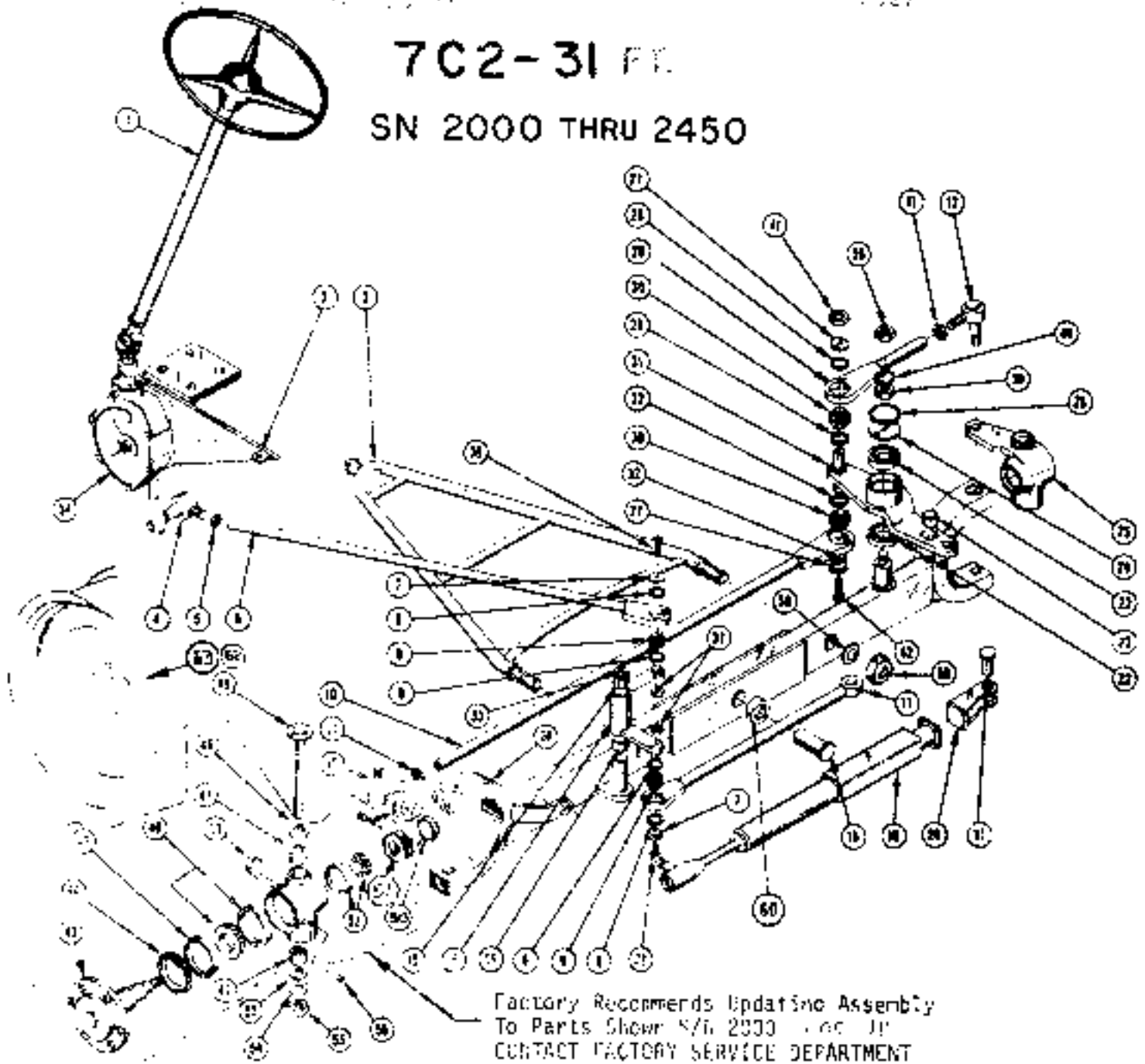
\*Do not Use 13,420 Steering Assembly through 5/4 253E.



STEERING ASSEMBLY 11242

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1		P-11653	Steering Column Ass'y (Page 24)	1
2	1171		Steering Gear Bracket	1
3	11,136		Wish Bone	1
4	P-10343		Tie Rod End	1
5	7502		Special Nut	1
6	11,151		Drag Link	1
7	8802		Retainer	2
8	P-11495		Felt Washer	4
9	P-11496		Swivel Bushing	2
10	8275		Tie Rod	1
11	7615		Special Nut	2
12	P-10345		Tie Rod End	2
13	8230		Axle Spindle (LH)	1
14	11,135		Axle	1
15	5209		Bushing	2
16	8801		Bell Crank	1
17	8759		Recoster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Recoster Assembly (Page 46)	1
20	7931		Recoster Clevis	1
21	7927		Clevis Pin	1
22	P-11306		Bearing	2
23	7965		Bushing	1
24	7930		Bearing Retainer	1
25	8229		Axle Spindle (R.H.)	1
26	P-10314		"O" Ring	1
27	8300		Retainer	1
28	P-11428		Felt Washer	2
29	8273		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8301		Retainer	1
34		P-11652	Steering Gear Box Ass'y (Page 25)	1
35	P-10339		Steering Wheel	1
36	COM'L		5/16 NC x 2" F.H. Screw	2
37	COM'L		5/16 NC Cast Nut	2
38	COM'L		Nut, 3/4-16 N.F. Full	1
39	COM'L		Nut, 3/4-16 NF, Jam	1
40	COM'L		Washer, 3/4" Shakeproof	1
41	COM'L		Nut Cast 1/2-20 N.F.	1
42	COM'L		Bolt, 1/2-20 N.F. x 20"	1
43	IK-713-G		Spindle	2
44	IK-738-A		Cap	2
45	IK-737-A		Seal	2
46	IKS-5014		Bearing	2
47	105434-A		Bearing	4
48	IKS-5039		Bearing	2
49	105-431-A		Pivot, Spindle Carrier	2
50	105-438-A		Cap	2
51	IK-731-A		Nut	2
52	IKS-5013		Bearing	2
53	105437-A		Seal	2
54	IK-727-A		Washer, Thrust	2
55	105436-A		Nut	2
56	943-420		Plug	1
57	932-047		Cotter Pin	2
58	920097		Lockwasher 1 1/4"	2
59	915-011		Nut, 1 1/4-12 Hex	2
60	8746		Collar	1

**7C2-31 FK**  
**SN 2000 THRU 2450**



Factory Recommends Updating Assembly  
 To Parts Show N/A 2000 and Up  
 CONTACT FACTORY SERVICE DEPARTMENT

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO.	RE
1			Steering Column Ass'y (Page 24)	1	
2			Steering Gear Bracket	1	
3	11,736		Wishbone	1	
4	P-10345		Tie Rod End	2	
5	7602		Special Nut	1	
6	11,754		Drag Link	1	
7	8802		Retainer	2	
8	P-11495		Felt Washer	2	
9	P-11496		Swivel Bushing	2	
10	8275		Tie Rod	1	
11	7615		Special Nut	2	
12	P-10345		Tie Rod End	2	

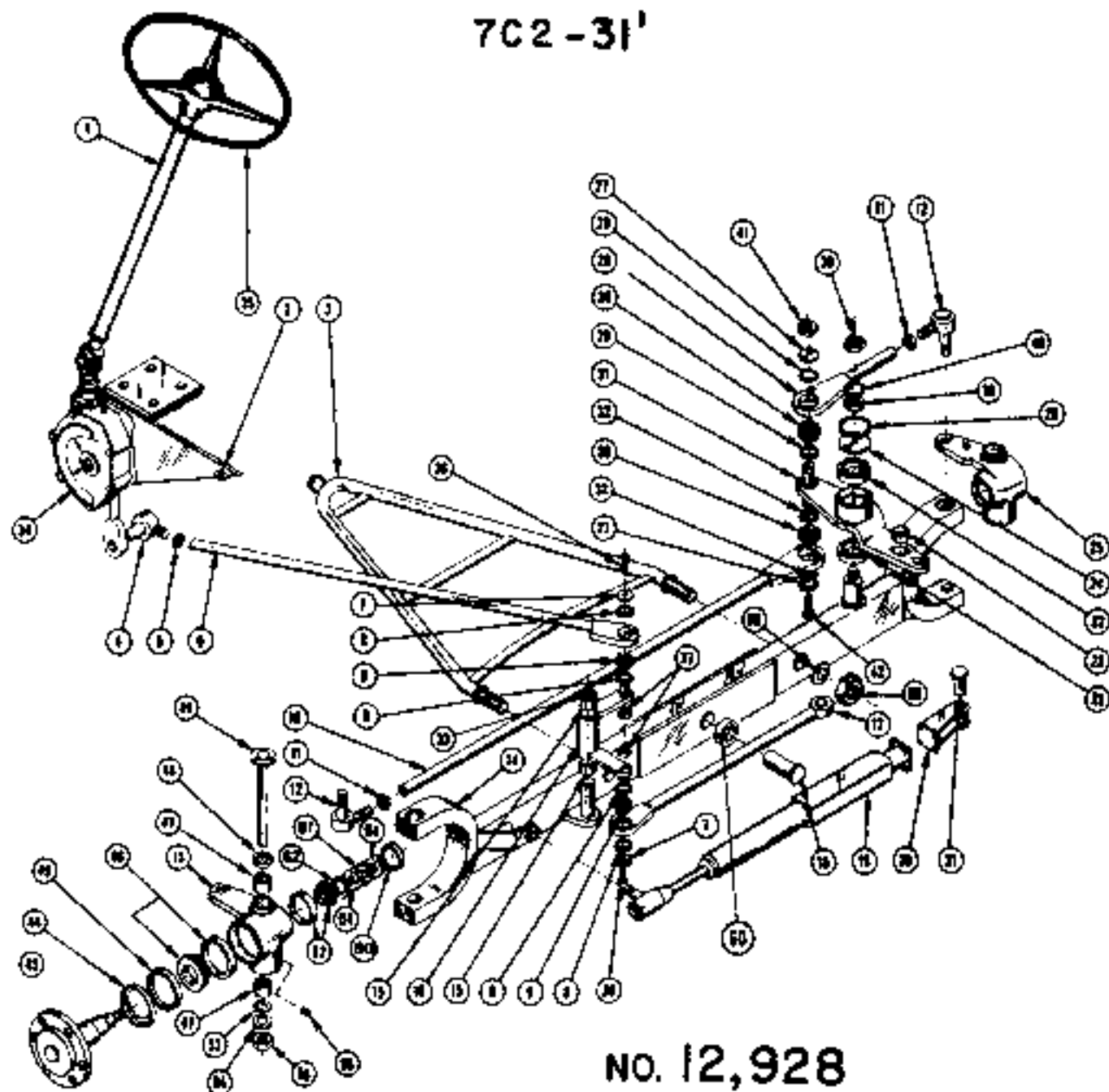


## STEERING ASSEMBLY Vol. 12327

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	QTY.
12	P-16012		Axle Spindle, Left Hand	1
13	11,135		Axle	1
14	4209		Bushing	2
15	8801		Ball Crank	1
17	8759		Coaster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Coaster Assembly (Page 45)	1
20	7931		Booster Clevis	3
21	7927		Clevis Pin	1
22	P-11305		Bearing	2
23	7955		Bushing	1
24	7930		Bearing Retainer	1
25	P-16013		Axle Spindle, Right Hand	1
26	P-10314		O-Ring	1
27	8300		Retainer	2
28	P-11428		Felt Washer	2
29	8273		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8301		Retainer	1
34	*P-11652		Steering Gear (Page 25)	1
35				
36	COM'L		Screw, 5/16-18 N.C. x 2"	2
37	COM'L		Nut, Cast. 5/16 N.C.	2
38	COM'L		Nut, 3/4-16 N.F. Full	1
39	COM'L		Nut, 3/4-16 N.F. Jam	1
40	COM'L		Washer, Shakeproof 3/4"	1
41	COM'L		Nut, Cast. 1/2-20 N.F.	1
42	COM'L		Bolt, 1/2-20 N.F. x 4"	1
43	P-17456		Spindle	2
44	P-14080		Seal	2
45	P-13999		SLEEVE	2
46	P-14001		Bearing	2
47	P-13984		Bearing	4
48	P-13985		Bearing	2
49	P-14742		Pivot Spindle Carrier	2
50	P-15963		Cap	2
51	P-13983		Nut	2
52	P-14007		Bearing	2
53	P-13990		Seal	2
54	P-13991		Washer, Thrust	2
55	P-13992		Nut	2
56	P-13993		Plug	1
57	P-13996		Cotter Pin	2
58	P-16050		Lockwasher	2
59	P-16567		Nut, Hex	2
60	8746		Collar	1
62	P-13494		TIRE	2
63	12,326 — (P-16011)		Wheel Weldment	2

NOTE: Item 63 P-13494 Steering Gear is no longer available as a complete new assembly. If complete new assembled gear box is necessary order Bracket P-10901, P-13702 Coaster Assembly and P-13700 Gear Box. Pitman Arm not included. P-11126 not included.

702-31'



NO. 12,928

**STEERING ASSEMBLY**

S/N 2451 AND UP

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1		P-13702	Steering Column Ass'y (Page 24)	1
2	12,891		Steering Gear Bracket	1
3	11,136		Wishbone	1
4	P-10343		Tie Rod End	3
5	7602		Special Nut	1
6	11,154		Drag Link	1
7	8802		Retainer	2
8	P-11495		Felt Washer	4

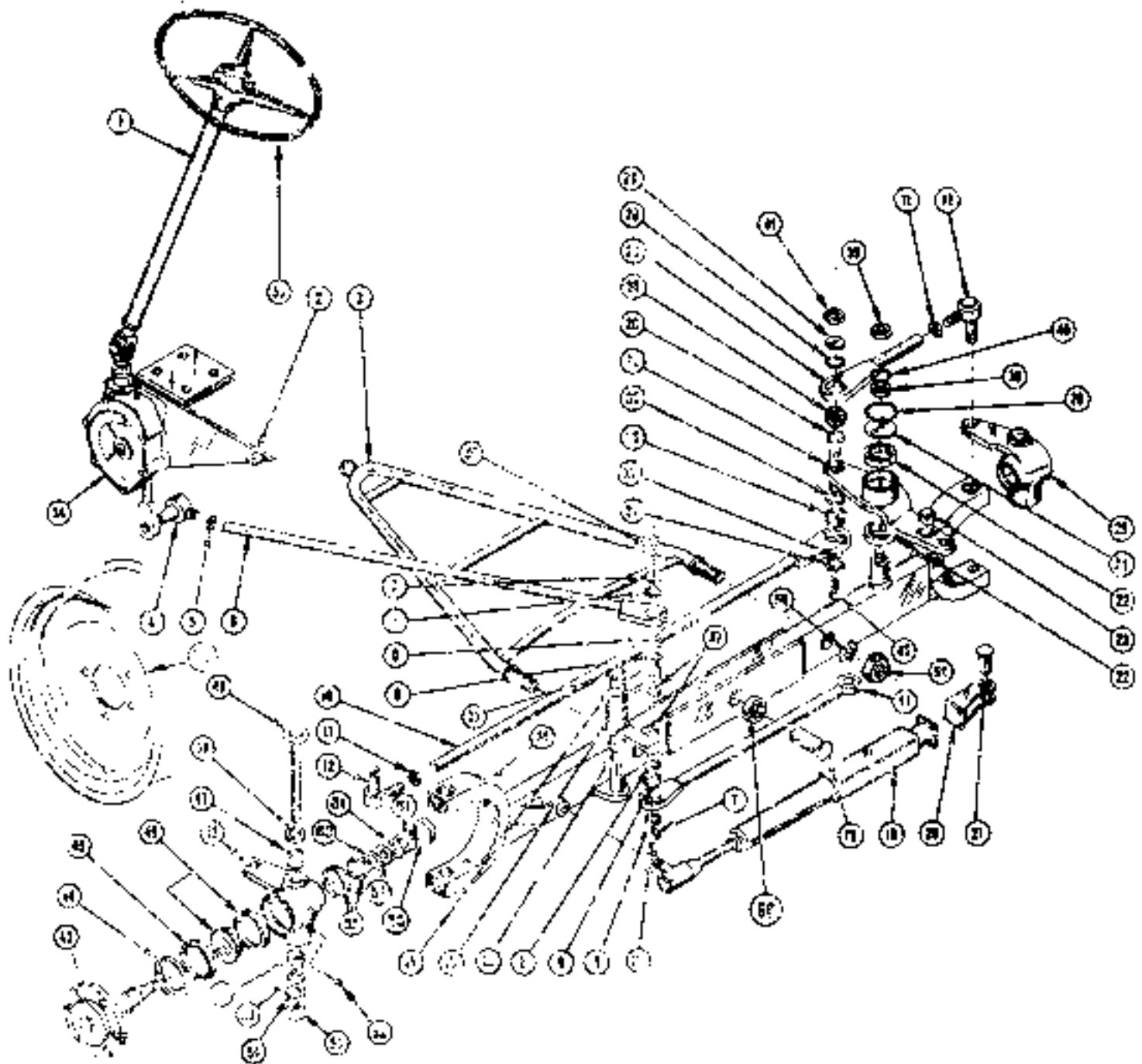
## STEERING ASSEMBLY

NO. 12,928

702 Series

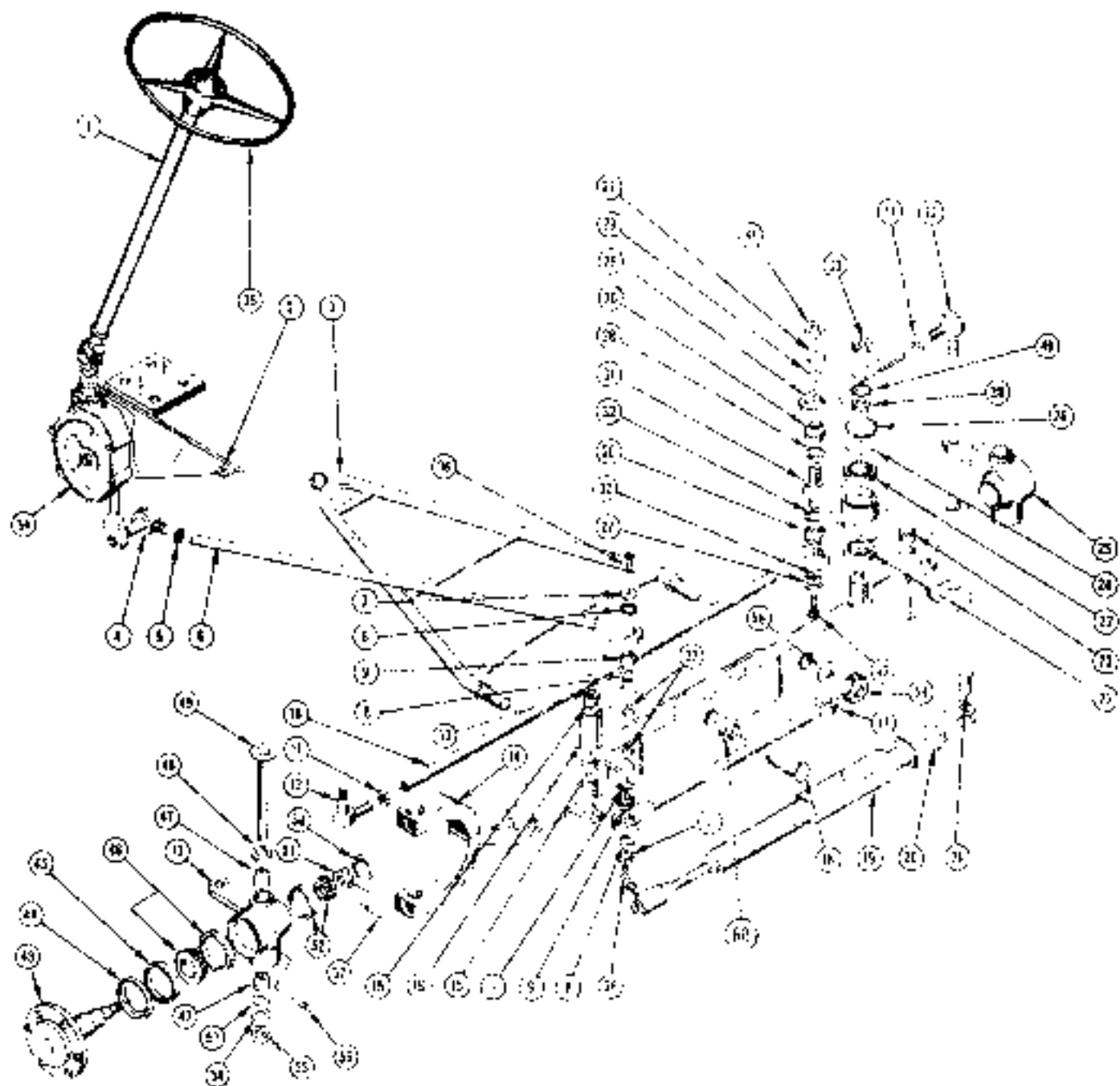
S/R 2451 AND UP

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
9	P-11496		Swivel Bushing	2
10	8275		Tie Rod	1
11	7615		Special Nut	2
12	P-10345		Tie Rod End	2
13	303025403		Axle Spindle (L.H.)	1
14	11,135		Axle	1
15	5209		Bushing	2
16	8801		Bell Crank	1
17	8759		Booster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Booster Assembly (Page 46)	1
20	7931		Booster Clevis	1
21	7927		Clevis Pin	1
22	P-11306		Bearing	2
23	7965		Bushing	1
24	7930		Bearing Retainer	1
25	303025411		Axle Spindle (R.H.)	1
26	P-10314		O-Ring	1
27	8300		Retainer	2
28	P-11428		Felt Washer	2
29	8273		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8301		Retainer	1
34	P-13701		Steering Gear	1
35	P-10339		Steering Wheel	1
36	COM'L		Screw, 5/16 NC x 2" F.H.	2
37	COM'L		Nut, Cast 5/16 H.C.	2
38	COM'L		Nut, 3/4-16 NF Full	1
39	COM'L		Nut, 3/4-16 NF Jam	1
40	COM'L		Washer, Shakeproof 3/4"	1
41	COM'L		Nut, Cast 1/2-20 NF	1
42	COM'L		Bolt, 1/2-20 NF x 20"	1
43	303025438		Spindle	2
44	165756-A		Cap	2
45	165-757		Seal	2
46	165-804-A		Bearing	2
47	105434-A		Bearing	2
48	1K5-5039		Bearing	2
49	105-431-A		Pivot, Spindle Carrier	2
50	165-762-A		Cap	2
51	30-3026884		Nut	4
52	165-805		Bearing	2
53	105437-A		Seal	2
54	1K-727-A		Washer, Thrust	2
55	105436-A		Nut	2
56	943-420		Plug	1
57				
58	920-097		Lockwasher	2
59	915-011		Nut, Hex	2
60	8746		Collar	1
61	303026892		Lockwasher Steering Knuckle	2
62	303026906		Washer Steering Knuckle	2



ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1		9-13702	Steering Column Assy (Page 24)	1
2	12-191		Steering Gear Bracket	1
3	12-108		Wishbone	1
4	P-10343		Tie Rod End	1
5	7-97		Special Nut	1
6	11-157		Drag Link	1
7	8-12		Retainer	2
8	p-11495		Felt Washer	4
9	P-11496		Swivel Bushing	2
10	8-75		Tie Rod	1
11	7-15		Special Nut	2
12	P-10345		Tie Rod End	2

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
13	P-16012		Axle Spindle, Left Hand	1
14	11,135		Axle	1
15	5209		Bushing	2
16	8801		Bell Crank	1
17	8759		Booster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Booster Assembly (Page 46)	1
20	7931		Booster Clevis	1
21	7927		Clevis Pin	1
22	P-11306		Bearing	2
23	7965		Bushing	1
24	7930		Bearing Retainer	1
25	P-16013		Axle Spindle, Right Hand	1
26	P-10314		O-Ring	1
27	8300		Retainer	2
28	P-11428		Felt Washer	2
29	8273		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8301		Retainer	1
34	P-13701		Steering Gear	1
35	P-10339		Steering Wheel	1
36	COM'L		Screw, 5/16-18 N.C. x 2"	2
37	COM'L		Nut, Cast 5/16 N.C.	2
38	COM'L		Nut, 3/4-16 N.F. Full	1
39	COM'L		Nut, 3/4-16 N.F. Jam	1
40	COM'L		Washer, Shakeproof 3/4"	1
41	COM'L		Nut, Cast 1/2-20 N.F.	1
42	COM'L		Bolt, 1/2-20 N.F. x 20"	1
43	P-16974		Spindle	2
44	P-13999		Cup	2
45	P-14000		Seal	2
46	P-14001		Bearing	2
47	P-13984		Bearing	2
48	P-13985		Bearing	2
49	P-14742		Pivot Spindle Carrier	2
50	P-15963		Cap	2
51	P-17188		Nut	4
52	P-14007		Bearing	2
53	P-13990		Seal	2
54	P-13991		Washer, Thrust	2
55	P-13992		Nut	2
56	P-13993		Plug	1
58	P-14350		Lockwasher	2
59	P-14662		Nut, Hex	2
60	8746		Coil Spring	1
61	P-14039		Lockwasher, Steering Knuckle	2
62	P-14612		Washer, Steering Knuckle	2
63	12,339		Wheel Weldment	2

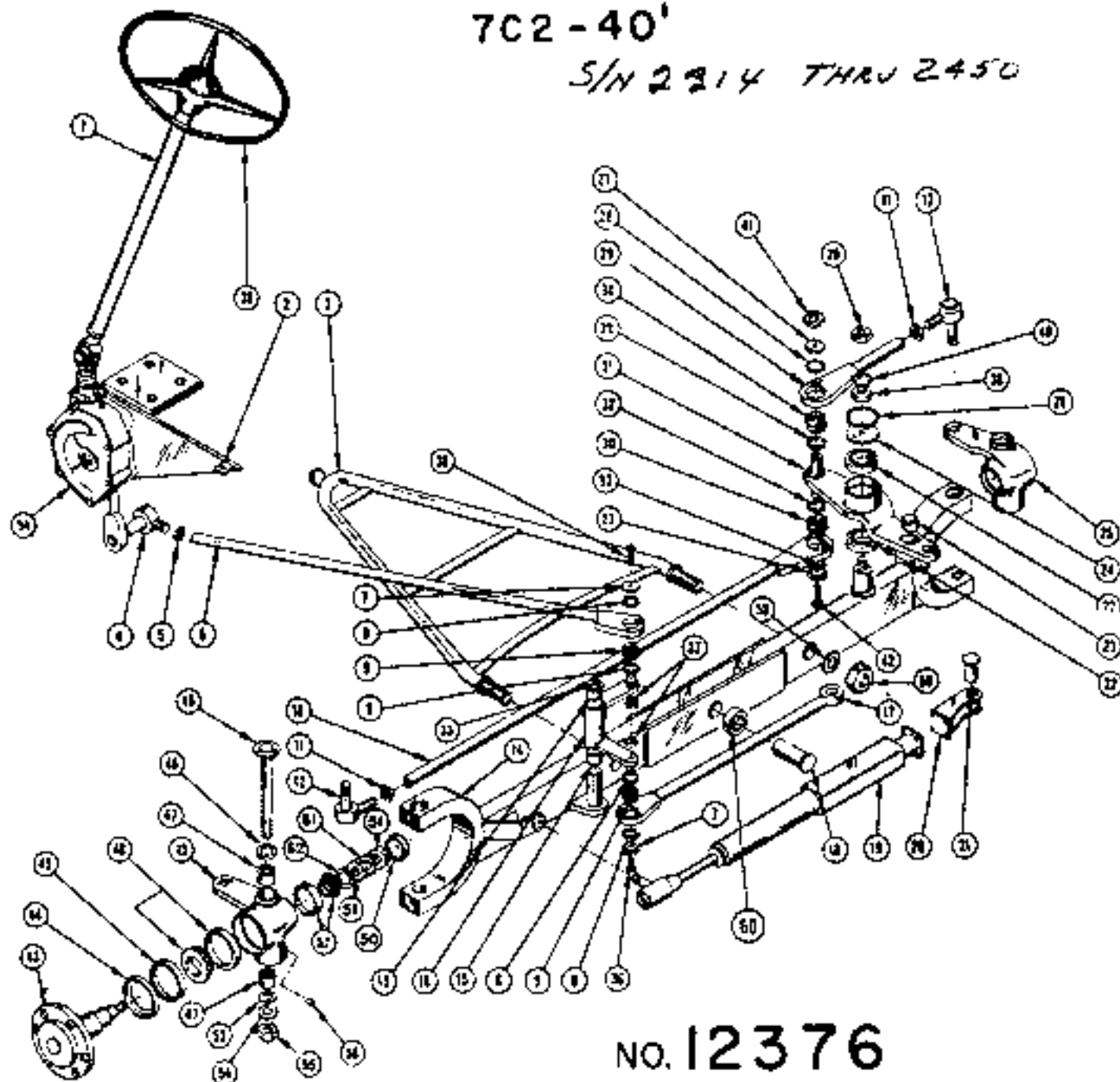


**STEERING ASSEMBLY 11243**

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1		P-11655	Steering Assembly (Page 44)	1
2	1171		Steering Bracket	1
3	11,090		Wishbone	1
4	P-10343		Tie Rod End	1
5	7602		Special Nut	1
6	11,188		Drag Link	1
7	5902		Retainer	2
8	P-11495		Felt Washer	6
9	P-11496		Swivel Bushing	2
10	8275		Tie Rod	1
11	7615		Special Nut	2
12	P-10345		Tie Rod End	2
13	8230		Axle Spindle (L.H.)	1
14	11,135		Axle	1
15	5209		Bushing	2
16	8801		Bell Crank	1
17	8759		Booster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Booster Ass'y (Page 46)	1
20	7931		Booster Clevis	1
21	7927		Clevis Pin	1
22	P-11306		Bearing	2
23	7965		Bushing	1
24	7930		Bearing Retainer	1
25	8229		Axle Spindle (R.H.)	1
26	P-10314		O-Ring	1
27	8300		Retainer	2
28	P-11428		Felt Washer	2
29	8273		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8301		Retainer	1
34		P-11652	Steering Gear Box Ass'y (Page 22)	1
35	P-10339		Steering Wheel	1
36	Com'l		Screw, 5/16 NC x 2" F.H.	2
37	Com'l		Nut, Cast 5/16 NC	2
38	Com'l		Nut, Full 3/4-16 NF	1
39	Com'l		Nut, Jam 3/4-16 NF	1
40	Com'l		Washer, Shakeproof 3/4"	1
41	Com'l		Nut, Cast. 1/2-20 NF	1
42	Com'l		Bolt, 1/2-20 Hi x 20"	1
43	IK-713-G		Spindle	2
44	IX-738-A		Cup	2
45	IK-737-A		Seal	2
46	IKS-501L		Bearing	2
47	105434-A		Bearing	4
48	IKS-5039		Bearing	2
49	105-431-A		Pivot Spindle Carrier	2
50	105-438-A		Cap	2
51	IK-731-A		Nut	2
52	IKS-5013		Bearing	2
53	105L37-A		Seal	2
54	IK-727-A		Washer Thrust	2
55	105-436-A		Nut	2
56	943-420		Plug	1
57	932-047		Cotter Pin	2
58	920-097		Lockwasher	2
59	915-011		Nut	2
60	5746		Collar	1

7C2-40'

S/N 2214 THRU 2450



No. 12376

**STEERING ASSEMBLY**

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1		P-11653	Steering Column Ass'y (Page 24)	1
2	1171		Steering Gear Bracket	1
3	11,090		Wishbone	1
4	P-10343		Tie Rod End	1
5	7602		Special Nut	1
6	11,188		Drag Link	1
7	6802		Retainer	2
8	P-11495		Felt Washer	4

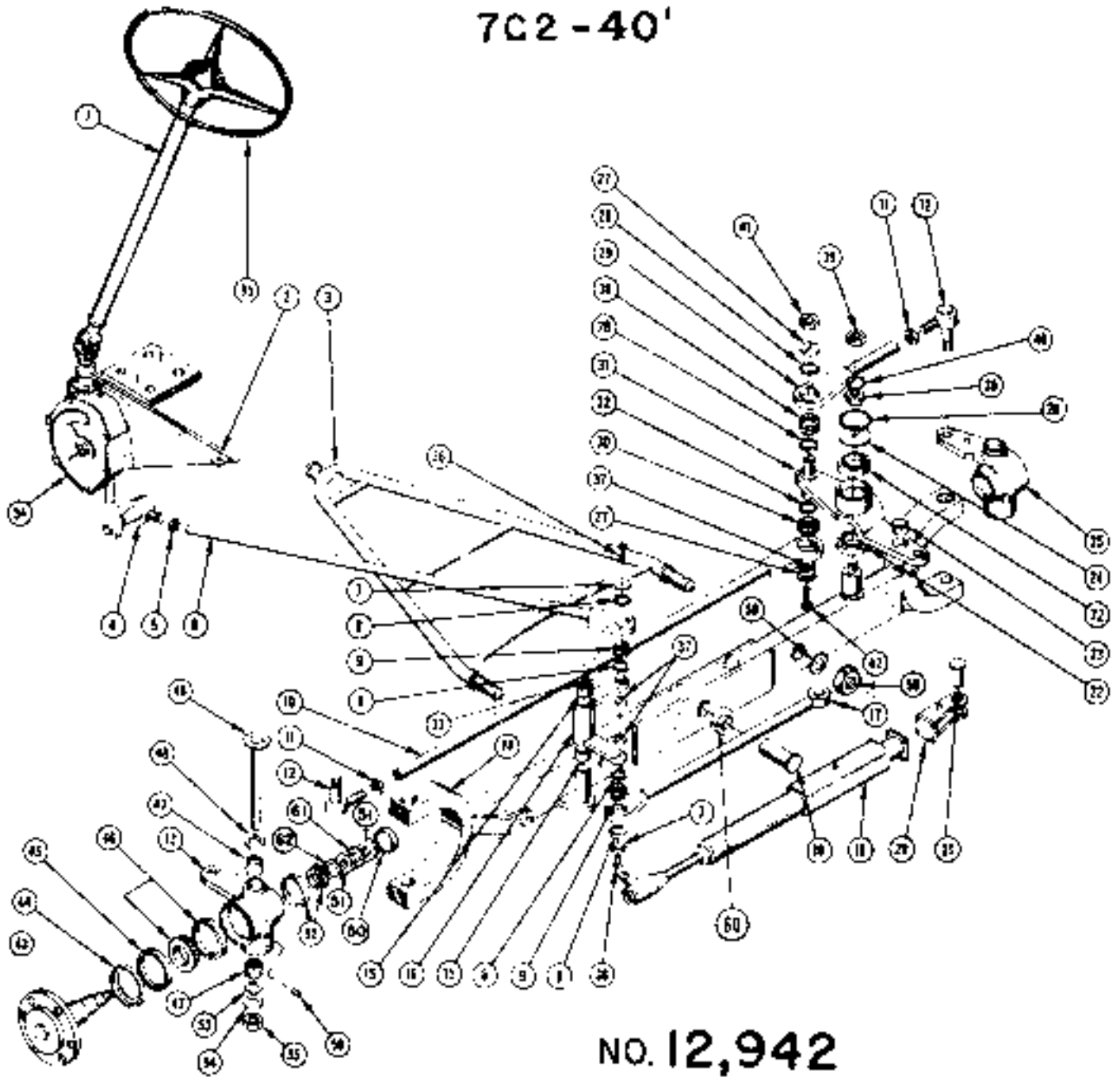


## STEERING ASSEMBLY NO. 12376

ITEM NO.	PAGE NO.	ASSEMBLY NO.	DESCRIPTION	QTY.
13	P-16012		Axle Spindle, Left Hand	1
14	11,135		Axle	1
15	5209		Bushing	2
16	8901		Bell Crank	1
17	8759		Booster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Booster Assembly (Page 46)	1
20	7973		Booster Clevis	1
21	7975		Clevis Pin	1
22	P-11306		Bearing	2
23	7965		Bushing	1
24	7980		Bearing Retainer	1
25	P-15013		Axle Spindle, Right Hand	1
26	P-10314		O-Ring	1
27	8200		Retainer	2
28	P-11428		Felt Washer	2
29	8173		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8201		Retainer	1
34	*P-11652		Steering Gear (See page 25)	1
35				
36	COM'L		Screw, 5/16-18 N.C. x 2"	2
37	COM'L		Nut, Cast. 5/16 N.C.	2
38	COM'L		Nut, 3/4-16 N.F. Full	1
39	COM'L		Nut, 3/2-10 N.F. Jam	1
40	COM'L		Washer, Shakeproof 3/4"	1
41	COM'L		Nut, Cast. 1/2-20 N.F.	1
42	COM'L		Bolt, 1/2-20 N.F. x 4"	1
43	P-14056		Spindle	2
44	P-14000		Seal	2
45	P-13999		SLEEVE	2
46	P-14001		Bearing	2
47	P-13984		Bearing	4
48	P-13985		Bearing	2
49	P-14742		Pivot Spindle Carrier	2
50	P-15953		Cap	2
51	P-13928		Nut	2
52	P-14037		Bearing	2
53	P-13990		Seal	2
54	P-13991		Washer, Thrust	2
55	P-13992		Nut	2
56	P-13993		Plug	1
57	P-13994		Cotter Pin	2
58	P-14350		Lockwasher	2
59	P-14662		Nut, Hex	2
60	8745		Collar	1
61	P-13494		TIE	2
62				
63	12,339 — (P-16012)		Wheel Weldment	1

\*NOTE: Item #34 P-11652 Steering Gear is no longer available as a complete new assembly. If complete new assembled gear box is necessary order Bracket # 12981, P-13702 Column Assembly and P-13701 Gear Box. Pitman Arm not included - Old one can be reused.

7C2-40'

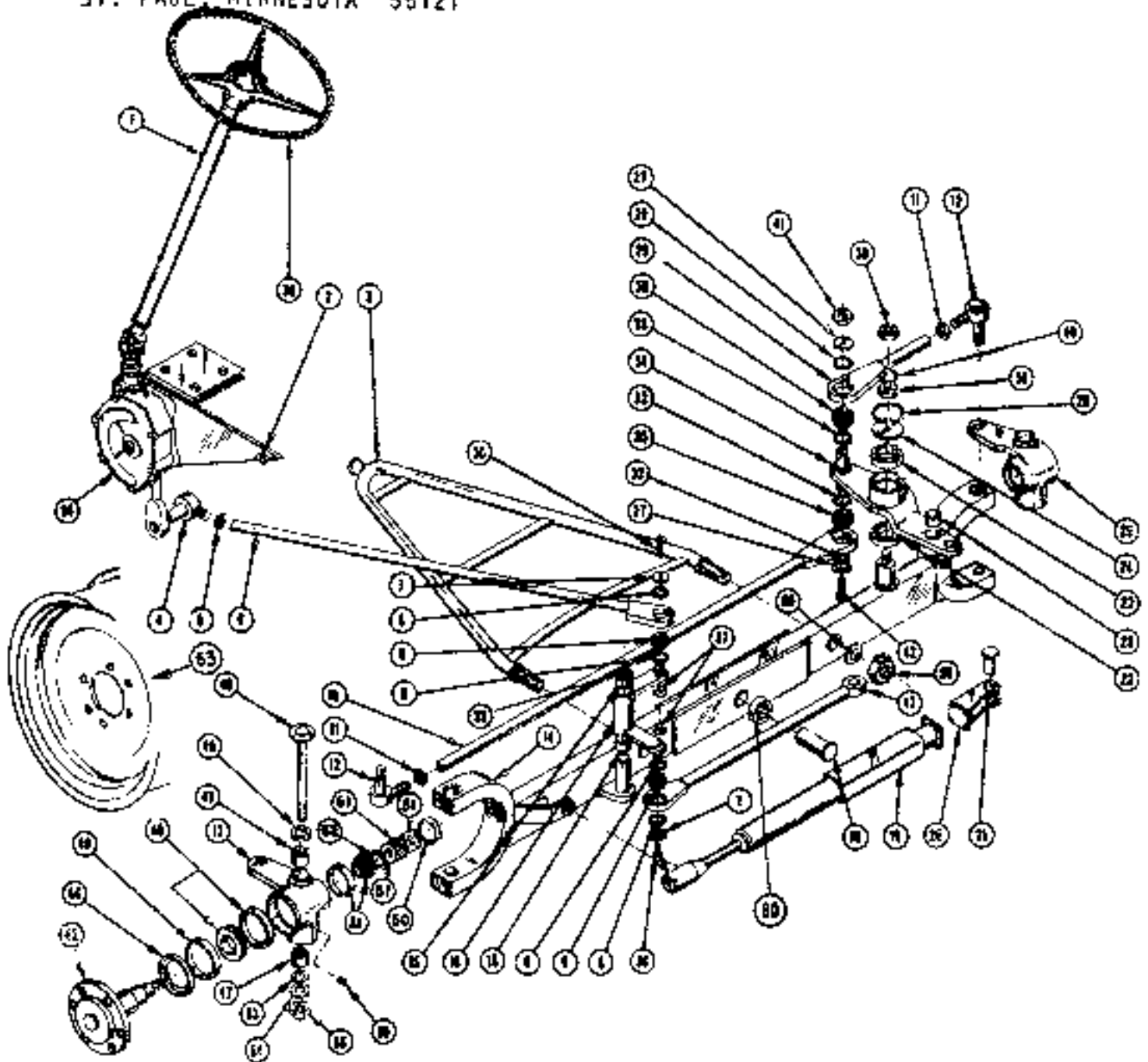


**NO. 12,942**  
**STEERING ASSEMBLY**

S/N 2451 AND UP

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO.	REQ.
1		P-13702	Steering Column Assy (Page 24)	1	
2	12,091		Steering Gear Bracket	1	
3	11,090		Wishbone	2	
4	P-10343		Tie Rod End	2	
5	7602		Special Nut	1	
6	11,188		Drag Link	1	
7	8802		Retainer	2	
8	P-11495		Roll Washer	2	

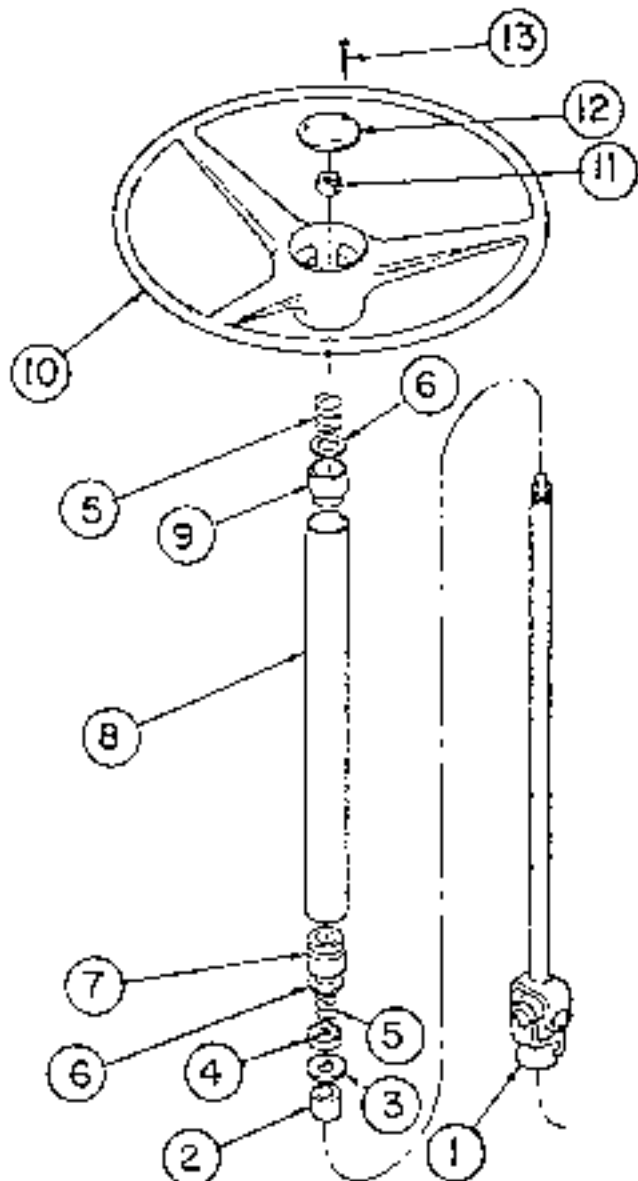
ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	QTY.
9	P-11496		Swivel Bushing	2
10	8775		Tie Rod	1
11	7615		Special Nut	2
12	P-10346		Tie Rod End	2
13	303025103	L.H.	Axle Spindle (L.H.)	1
14	11,135		Axle	1
15	5200		Bushing	2
16	3807		Sell Crank	1
17	8759		Booster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Booster Assembly (Page 46)	1
20	7931		Booster Clevis	1
21	7927		Clevis Pin	1
22	P-11306		Bearing	2
23	7965		Bushing	1
24	7930		Bearing Retainer	1
25	303025411	R.H.	Axle Spindle (R.H.)	1
26	P-10314		O-Ring	1
27	8300		Retainer	2
28	P-11428		Felt Washer	2
29	8273		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8301		Retainer	1
34	P-13701		Steering Gear	1
35	P-10339		Steering Wheel	1
36	COM'L		Screw, 5/16 NC x 2" F.H.	2
37	COM'L		Nut, Cast 5/16 N.C.	2
38	COM'L		Nut, 3/4-16 NF Full	1
39	COM'L		Nut, 3/4-16 NF, Jam	1
40	COM'L		Washer, Shakeproof 3/4"	1
41	COM'L		Nut, Cast 1/2-20 NF	1
42	COM'L		Bolt, 1/2-20 NF x 20"	1
43	303025438		Spindle	2
44	165756-A		Cap	2
45	165-757		Seal	2
46	165-804-A		Bearing	2
47	105434-A		Bearing	4
48	1K-5039		Bearing	2
49	105-451-A		Pivot, Spindle Carrier	2
50	165-762-A		Cap	2
51	30-3026884		Nut	4
52	165-805		Bearing	2
53	105437-A		Seal	2
54	1K-727-A		Washer, Thrust	2
55	105426-A		Nut	2
56	943-420		Plug	1
57				
58	920-097		Lockwasher 1/4	2
59	915-011		Nut, Hex 1 1/4-12	2
60	8746		Collar	1
61	303026892		Lockwasher Steering Knuckle Spindle	2
62	303026906		Washer Steering Knuckle Spindle	2



ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
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1		P-13702	Steering Column Ass'y (Page 24)	1
2	12,891		Steering Gear Bracket	1
3	11,090		Wishbone	1
4	P-10343		Tie Rod End	1
5	7602		Special Nut	1
6	11,188		Drag Link	1
7	8802		Retainer	2
8	P-11495		Felt Washer	4
9	P-11496		Swivel Bushing	2
10	8275		Tie Rod	1
11	7615		Special Nut	2
12	P-10345		Tie Rod End	2

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
13	P-16012		Axle Spindle, Left Hand	1
14	11,135		Axle	1
15	5209		Bushing	2
16	8801		Bell Crank	1
17	8759		Booster Actuating Rod	1
18	11,157		Axle Pivot Pin	1
19		P-11126	Booster Assembly (Page 46)	1
20	7931		Booster Clevis	1
21	7927		Clevis Pin	1
22	P-11306		Bearing	2
23	7965		Bushing	1
24	7930		Bearing Retainer	1
25	P-16013		Axle Spindle, Right Hand	1
26	P-10314		O-Ring	1
27	8300		Retainer	2
28	P-11428		Felt Washer	2
29	8273		Tie Rod	1
30	P-11430		Swivel Bushing	2
31	11,165		Toggle	1
32	P-11429		Felt Washer	2
33	8301		Retainer	1
34	P-13701		Steering Gear	1
35	P-10339		Steering Wheel	1
36	COM'L		Screw, 5/16-18 N.C. x 2"	2
37	COM'L		Nut, Cast 5/16 N.C.	2
38	COM'L		Nut, 3/4-16 N.F. Full	1
39	COM'L		Nut, 3/4-16 N.F. Jam	1
40	COM'L		Washer, Shakeproof 3/4"	1
41	COM'L		Nut, Cast 1/2-20 N.F.	1
42	COM'L		Bolt, 1/2-20 N.F. x 20"	1
43	P-16974		Spindle	2
44	P-13999		Cup	2
45	P-14000		Seal	2
46	P-14001		Bearing	2
47	P-13984		Bearing	4
48	P-13985		Bearing	2
49	P-14742		Pivot Spindle Carrier	2
50	P-15963		Cap	2
51	P-17188		Nut	4
52	P-14007		Bearing	2
53	P-13990		Seal	2
54	P-13991		Washer, Thrust	2
55	P-13992		Nut	2
56	P-13993		Plug	1
58	P-14350		Lockwasher	2
59	P-14662		Nut, Hex	2
60	8746		Collar	1
61	P-14039		Lockwasher, Steering Knuckle	2
62	P-14012		Washer, Steering Knuckle	2
63	12,339		Wheel Weldment	2



## STEERING COLUMN ASSEMBLY

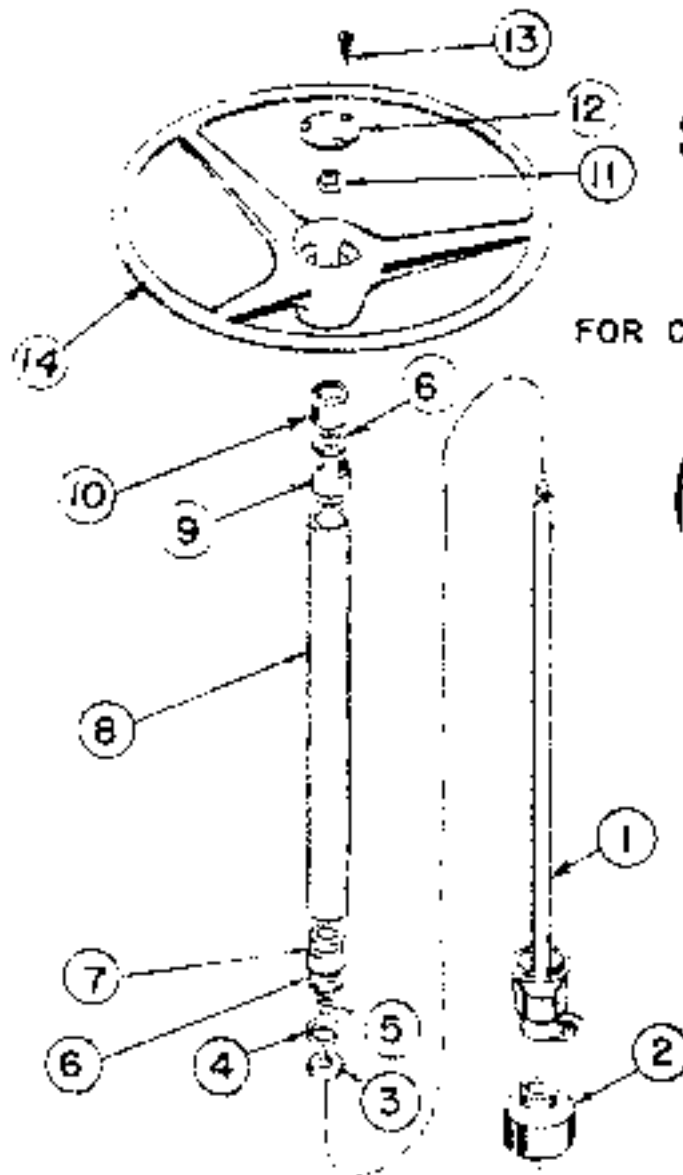
\*NOTE: COLUMN & GEAR BOX NO LONGER AVAILABLE

USE THE FOLLOWING PART NUMBERS  
 P13703 COLUMN  
 P13701 GEAR BOX  
 12891C BRACKET (TO MOUNT GEAR BOX)

ITEM NO.	PART NO.	DESCRIPTION	NO. REQ.
1	*	"U" Joint & Wheel Tube Ass'y	1
2	*	Spacer	1
3	*	Washer	1
4	*	Cup, Dust	1
5	*	Spring	2
5	*	Seat, Spring	1
6	*	Lower Column Bearing	1
6	*	Tube, Jacket	1
7	*	Upper Column Bearing	1
9	*	Steering Wheel	1
10	*	Nut, Wheel	1
11	*	Wheel Cap	1
12	*	Screw, Wood	3



# STEERING COLUMN ASSEMBLY



FOR COMPLETE STEERING COLUMN ASS'Y  
**ORDER NO. P-13702**  
*(COLUMN LESS STEERING WHEEL)*  
*INCLUDES ITEMS 1 THRU 10*

S/N 2451 AND UP

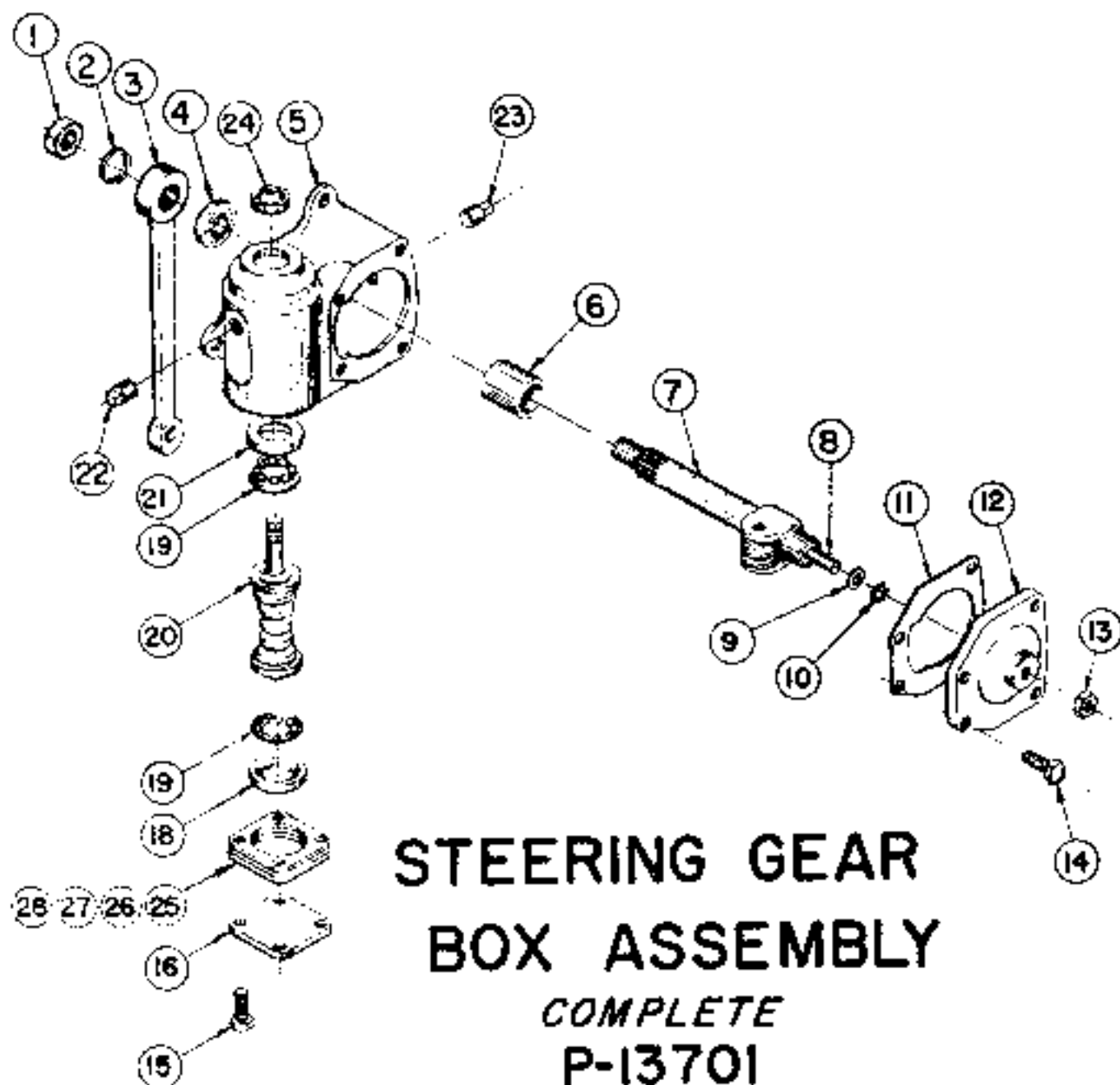
<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	F-13746	"U" Joint & Wheel Tube Ass'y	1
2		Boot Rubber "U" Joint Cover	1
3	F-13747	Washer	1
4	P-13748	Dust Cup	1
5	P-13749	Spring	2
6	P-13750	Seat, Spring	1
7	F-13751	Lower Column Bearing	1
8	P-13752	tube, Jacket	1
9	P-13753	Upper Column Bearing	1
10	P-13754	Spacer	1
11	P-12353	Nut, Wheel	1
12	P-12354	Wheel Cap	1
13	P-12355	Screw, Wood	3
14	P-10339	Wheel, Steering	1



TRUCK MANUFACTURING COMPANY, INC.  
2025 HIGHWAY 13,  
ST. PAUL, MINNESOTA 55121

## STEERING GEAR BOX ASS'Y NO. 12940

7C2 SERIES



## STEERING GEAR BOX ASSEMBLY *COMPLETE* P-13701

### NOTE

P-13701 ASS'Y INCLUDES ITEMS  
1 THRU 28 LESS ITEM NO. 3  
PITMAN ARM



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

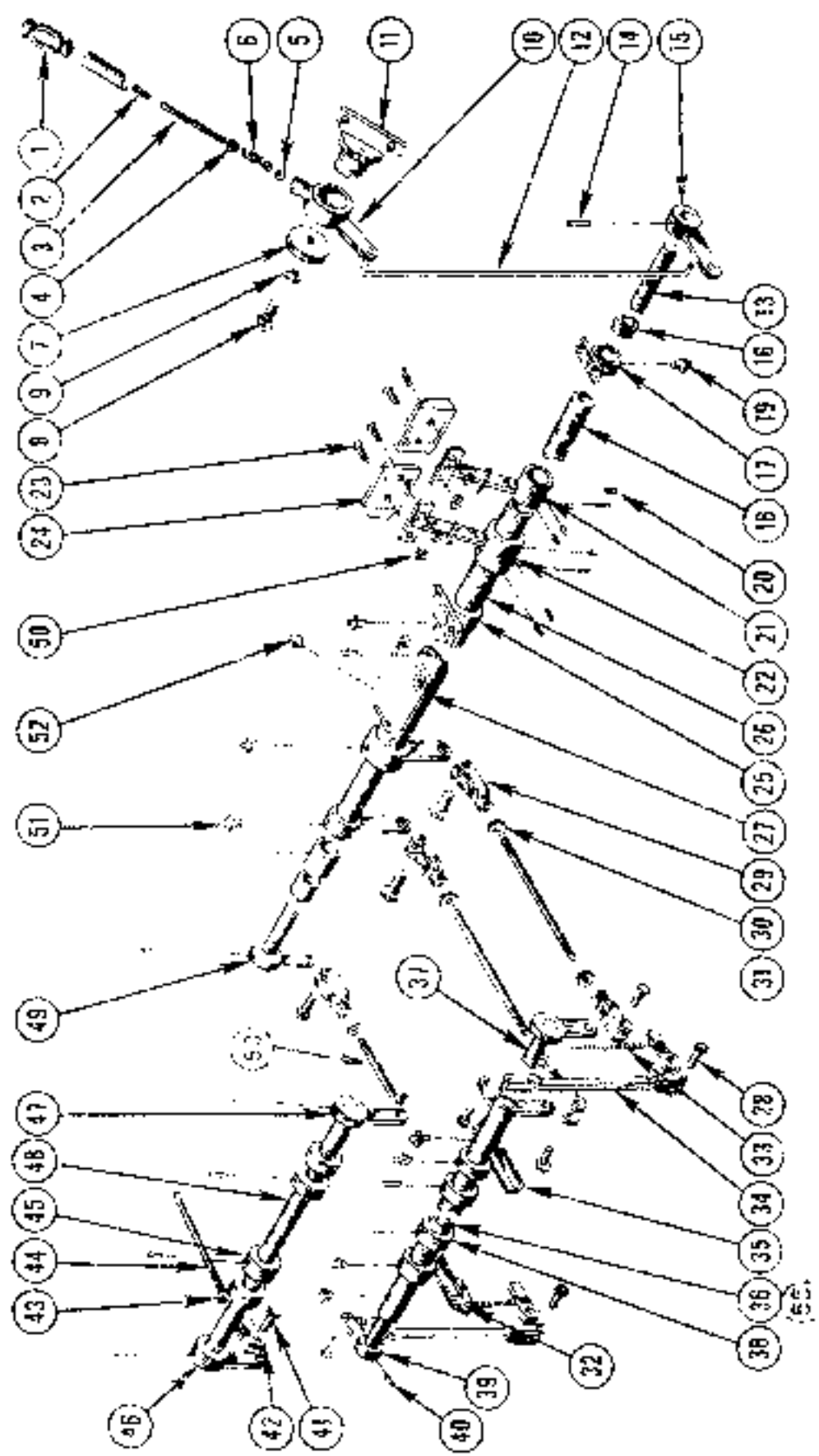
STEERING GEAR BOX ASSEMBLY  
 NO. 12940

ITEM NO.	PART NO.	ASSEMBLY NO.	Description	NO. Req.
1	P-13715		Nut	1
2	P-13716		Lockwasher	1
3	*10,625		Pitman Arm	1
4	P-13717		Oil Seal	1
5	P-13718		Housing	1
6	P-13719		Bushing	1
7	P-13720		Shaft Assembly	1
8	P-13721		Screw, Adjusting	1
9	P-13722		Washer, Thrust	1
10	P-13723		Snap Ring	1
11	P-13724		Gasket	1
12	P-13725		Cover, Shaft	1
13	P-13726		Nut, Jam	3
14	P-13727		Screw	4
15	P-15740		Screw	4
16	P-13732		Cover, Worm	1
17	P-13733		Cup, Bearing	1
18	P-13734		Ball & Cage Assembly	2
19	P-13735		Column & Worm Assembly	1
20	P-13736		Cup, Bearing	1
21	P-13737		Plug, Vent	1
22	P-13738		Plug	1
23	P-13739		Seal	1
24	P-13728		Shim, Worm Cover .002	2
25	P-13729		Shim, Worm Cover .005	1
26	P-13730		Shim, Worm Cover .010	5
28	P-13731		Shim, Worm Cover .003	1

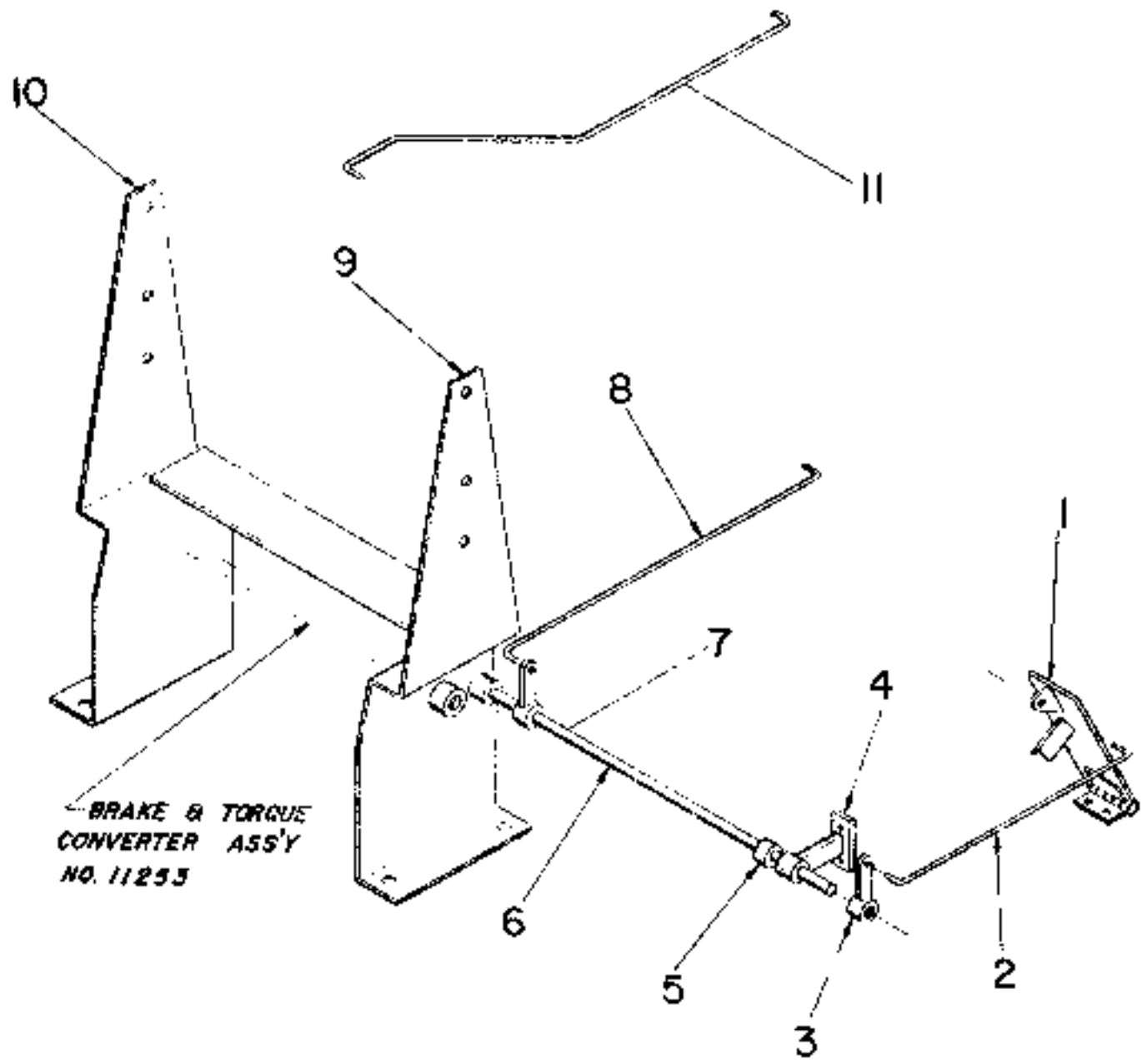
\* When Ordering a Complete P-13701 Gear Box Item # 3  
 10625 Pitman Arm is not included.

A change-E.O.1046 1/9/75

9822 SHUTTLE LEVER ASSY - ITEMS 1 THRU 11



ITEM NO.	AMT. NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1		P-10194	Rubber Grip	1
2		COM'L	Setscrew, 3/8-16 NC x 1/2	1
3		P-10205	Push Rod	1
4		7429	Spring Stop	1
5		P-10139	Check Ball	1
6		7439	Spring	1
7		7434	Washer	1
8		COM'L	Bolt, 3/8-16 NC x 1/2 Long	1
9		COM'L	Lockwasher, 3/8	1
10		12,083	Control Handle	1
11		7436	Lever, Pivot	1
12		7474	Lead Lever Link	1
13		6 26	Cross Shaft	1
14		P-10377	Poil Pin	4
15		7058	Arm Cross Shaft	1
16		7116	Steel Bushings	2
17		7082	Support, Left Brake	1
18		6886	Shaft, Left Brake	1
19		COM'L	Zerk Fitting, 1/8 Straight	8
20		COM'L	Setscrew, 3/8 NC x 3/8	9
21		7408	Brake Foot Pedal - Left Hand	1
22		7409	Brake Foot Pedal - Right Hand	1
23		COM'L	Flat Head Capscrew, 5/16 NC x 1	4
24		7045	Brake Pedal	2
25		7084	Support, Right Brake	1
26		6887	Shaft, Right Brake	1
27		7117	Shaft Support	1
28		P-10040	Clevis Pin	8
29		P-10193	Clevis	4
30		COM'L	Hex Nut, 3/8 NF	4
31		11,035	Sec. Brake Adjustment	2
32		7107	Sec. Brake Spring	2
33		P-10041	Brake Spring	2
34		11,034	Brake Rod	2
35		11,032	Front Brake Shaft Support	2
36		11,217	Front Brake Shaft	1
37		7103	Front Brake Rod, Right	1
38		7102	Front Brake Shaft, Collar	2
39		7105	Front Shaft Arm	1
40		COM'L	Setscrew, 1/4 NC x 1/4	8
41		P-10042	Clevis Pin	2
42		P-10043	Clevis	2
43		COM'L	Jun Nut, 5/16 NF	2
44		11,053	Link	1
45		7425	Collar	2
46		7257	Front Shaft Arm	1
47		7574	Front Shaft Arm	1
48		7359	Traction Cross Shaft	1
49		7407	Shaft Arm	1
50		COM'L	Hex Nut, 5/16-18 NC	4
51		COM'L	Zerk Fitting, 1/8 45°	1
52		COM'L	Zerk Fitting, 1/8 90°	1
53		7106	Link	1
54		6822	Seattle Lever Ass'y. (1 thru 11)	1
55		P- 3500	Bushing	2



← BRAKE & TORQUE  
CONVERTER ASS'Y  
NO. 11255

### THROTTLE ASS'Y. 11260

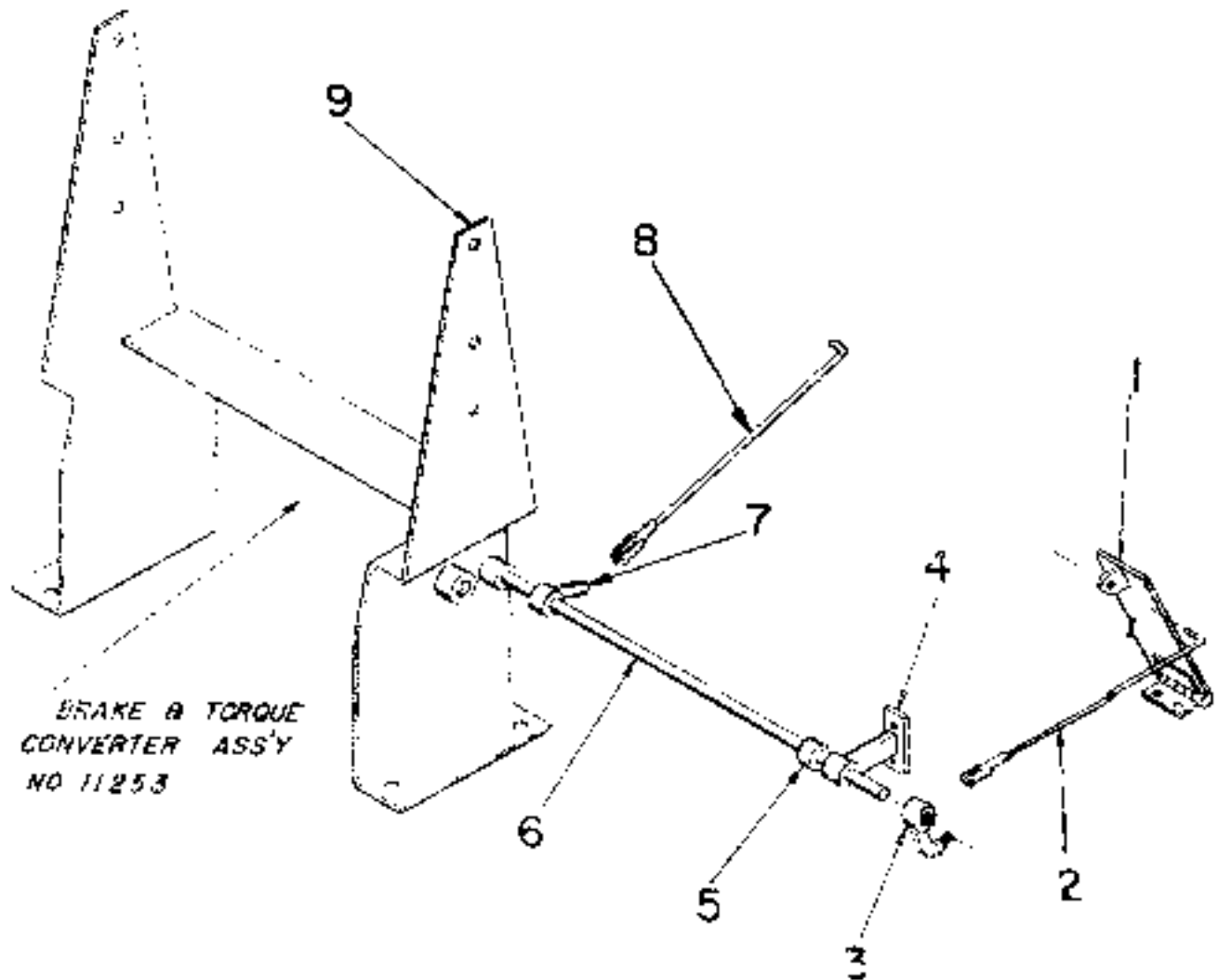
LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55112

THROTTLE ASSEMBLY  
 702 HIGH-LIFT LOADER  
 NO. 11,250

<u>ITEM</u> <u>NO.</u>	<u>FAST</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	1100		Pedal Element	1
2	1135		Link	1
3	1130		Arm Weldment	1
4	7400		Shaft Support	1
5	7424		Collar	1
6	11,000		Control Shaft	1
7	11,041		Arm Weldment	1
8	11,042		Link	1
9	11,139		Support Bracket	1
10	11,135		Support Bracket	1
11	11,207		Governor Rod	1

CEL ENGINEERING COMPANY, INC.  
2045 HIGHWAY 13,  
ST. PAUL, MINNESOTA 55121

THROTTLE ASSEMBLY  
NO. 12,546



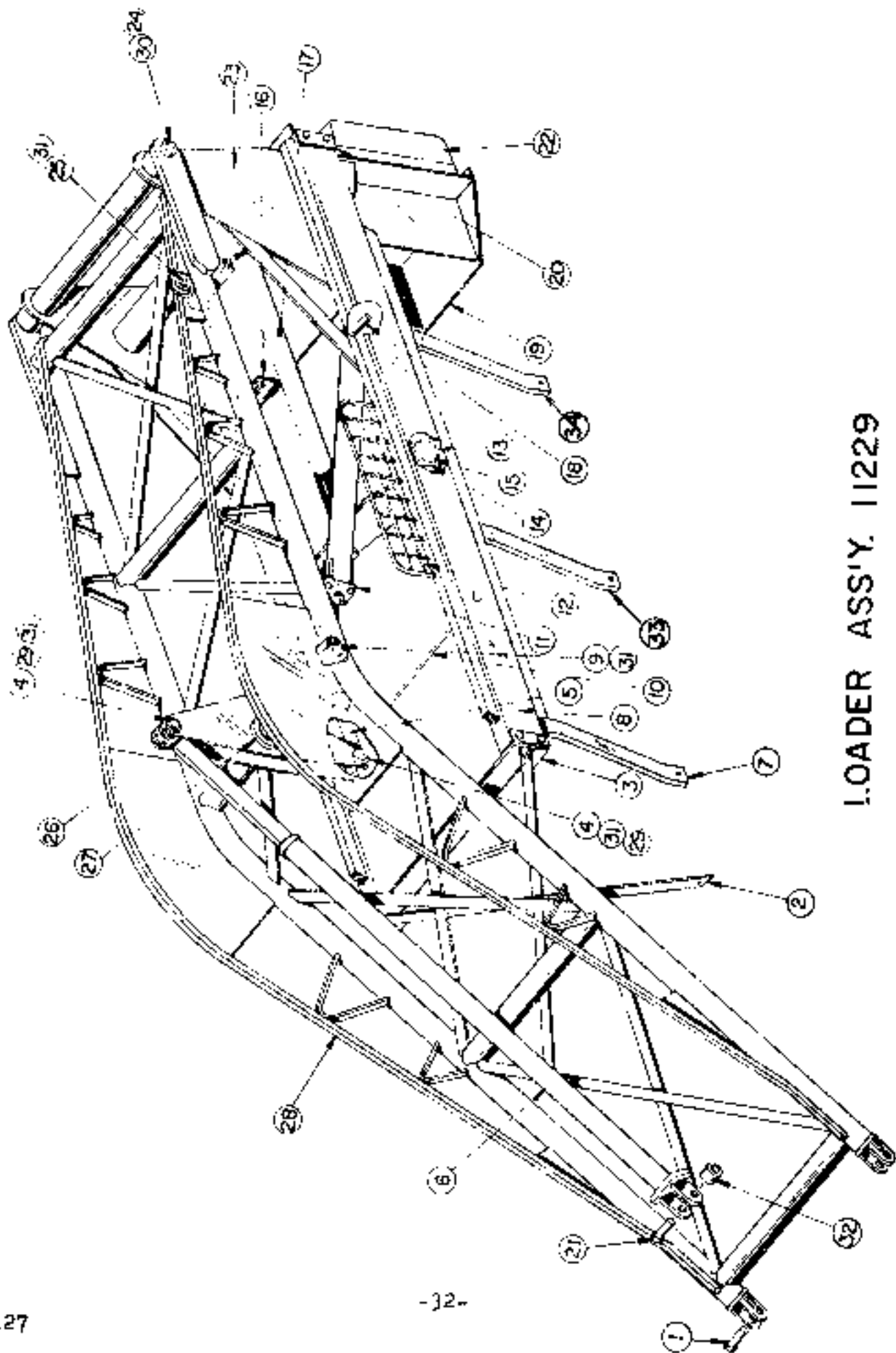
BRAKE & TORQUE  
CONVERTER ASS'Y  
NO 11253



LULL ENGINEERING COMPANY, INC.  
 3005 HIGHWAY 13,  
 S.W. COR. WINGERSOTA 55121

THROTTLE ASSEMBLY  
 NO. 12,546

<u>STEP</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	12,501		Pedal Weldment	1
2	12,501		Link	1
3	12,503		Arm Weldment	1
4	7420		Shaft Support	1
5	7424		Collar	1
6	71,040		Cross Shaft	1
7	12,504		Arm Weldment	1
8	12,509		Link	1
9	12,288		Support Bracket	1
10	12,497		Shaft, Governor Weld't	1
11	12,517		Hanger, Accelerator Support	1
12	12,499		Stop, Governor	1



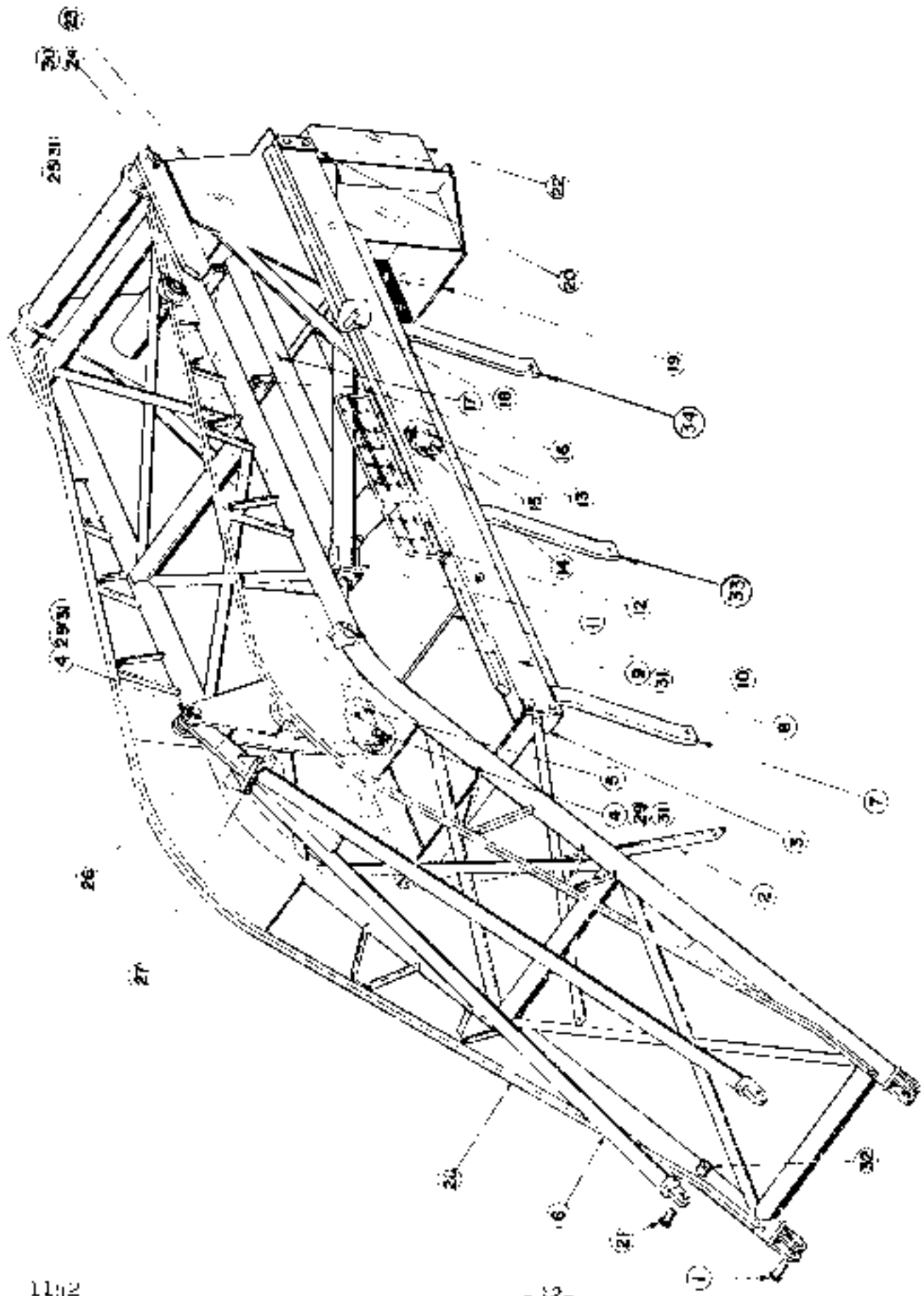
LOADER ASS'Y. 11229

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

LOADER ASSEMBLY  
 NO. 11,229

ITEM NO.	PART NO.	ASSEMBLY NO.		NO. REQ.
1	7072		Pivot Pin	2
2	11,137		X Brace, 1 LH - 1 RH	2
3	6901		Front Frame Bracket	1
4	11,129		Tilt Cylinder Pin	2
5		11,107	Tilt Cylinder Assembly	1
6	11,105		Front Parallel Arm	1
7	11,014		Upright Supports	4
8	11,010		Side Rafts	2
9	5565		Pivot Pin	2
10	11,153		Truss Rod	2
11		11,082	Hoist Cylinder Ass'y	2
12	8789		Operator Side Shield	1
13	6902		Bushing	4
14	6832		Spindle	4
15	6826		Roller	4
16	11,051		Hose Terminal	1
17		11,100	Transverse Cylinder Ass'y (Page 5B)	1
18	6899		Hoist Cylinder Pin	2
19	11,064		Supply Tank	1
20	6983		Rear Support	1
21	6964		Pin	1
22	5596		Counterweight	1
23	11,130		Transfer Carriage	1
24	5544		Pivot Shaft	1
25	11,128		Pin	1
26	11,123		Joggle	1
27	11,168		Bushing	2
28	11,110		Lift Arm	1
29	2727		Bushing	2
30	11,194		Bushing	2
31	11,363		Collar	5
32	1150		Collar	1
*33	13,164		Support, Upright	1
*34	13,165		Support, Upright	1

\*Before Serial Number 2457, Use 11,014.



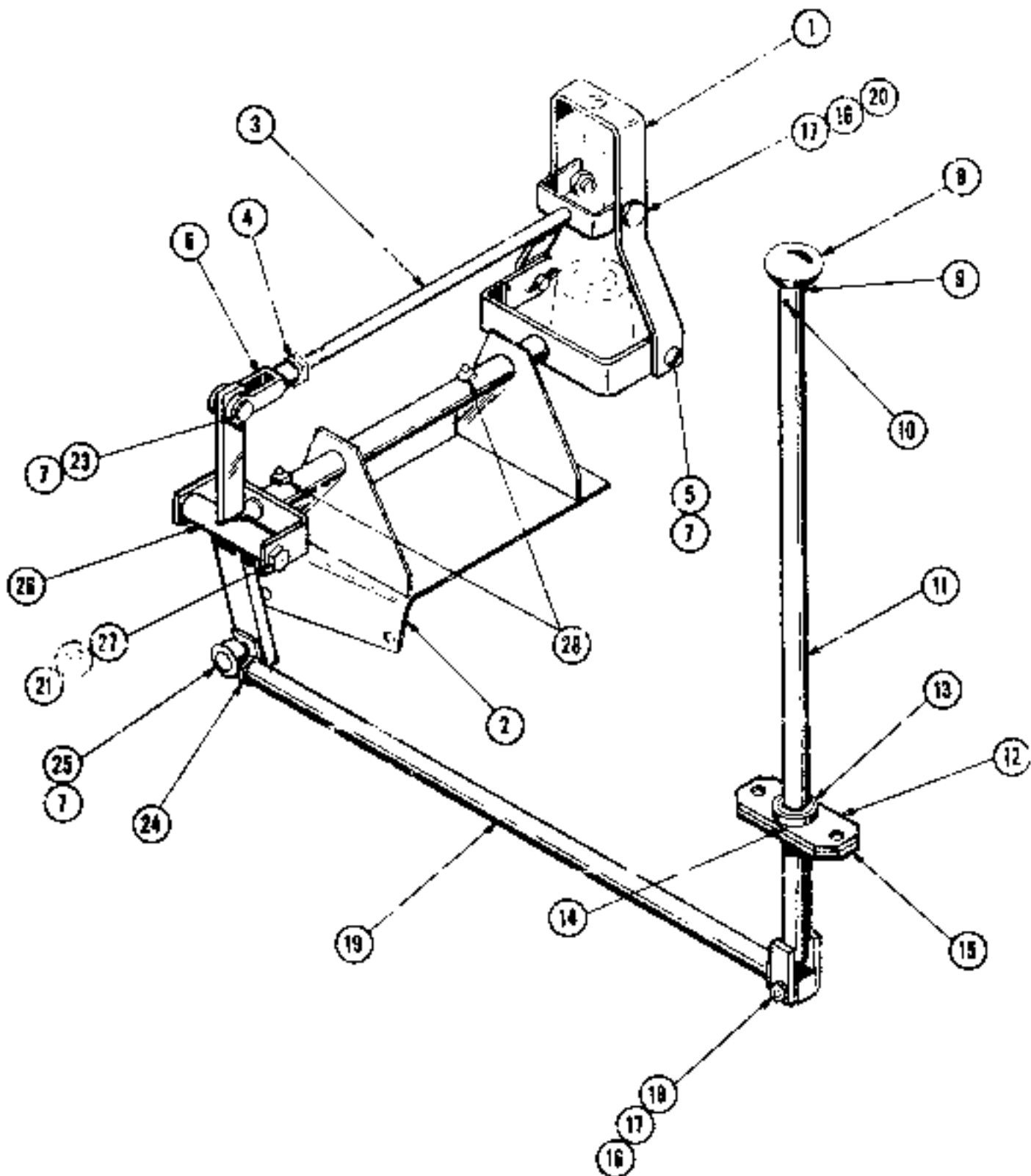
**LOADER ASSEMBLY 11237**

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

LOADER ASSEMBLY  
 JO. 11,237

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	7072		Pivot Pin	2
2	11,137		X-Brace, 1 LH, 1 RH	2
3	6901		Front Frame Bracket	1
4	11,129		Tilt Cylinder Pin	2
5		11,070	Tilt Cylinder Ass'y (Page 54)	1
6	11,071		Front Parallel Arm	1
7	11,076		Upright Supports	4
8	11,010		Side Rails	2
9	5565		Pivot Pin	2
10	11,153		Truss Rod	2
11		11,069	Hoist Cylinder Ass'y (Page 56)	2
12	8789		Operator Side Shield	1
13	6902		Bushing	4
14	6832		Spindle	4
15	6826		Roller	4
16	11,051		Hose Terminal	1
17		11,073	Transverse Cyl. Ass'y (Page 58)	1
18	11,206		Hoist Cylinder Pin	2
19	11,186		Supply Tank	1
20	6983		Rear Support	1
21	5640		Pin	2
22	5596		Counterweight	1
23	11,068		Transfer Carriage	1
24	5620		Pivot Shaft	1
25	11,128		Pin	1
26	11,036		Toggle	1
27	11,168		Bushing	2
28	11,060		Lift Arm	1
29	2727		Bushing	2
30	11,195		Bushing	2
31	11,253		Collar	5
32	5641		Bushing	2
33	*13,135		Support Bar	1
34	*13,134		Support Bar	1

\* Before Serial Number 2450, Use 11,076.

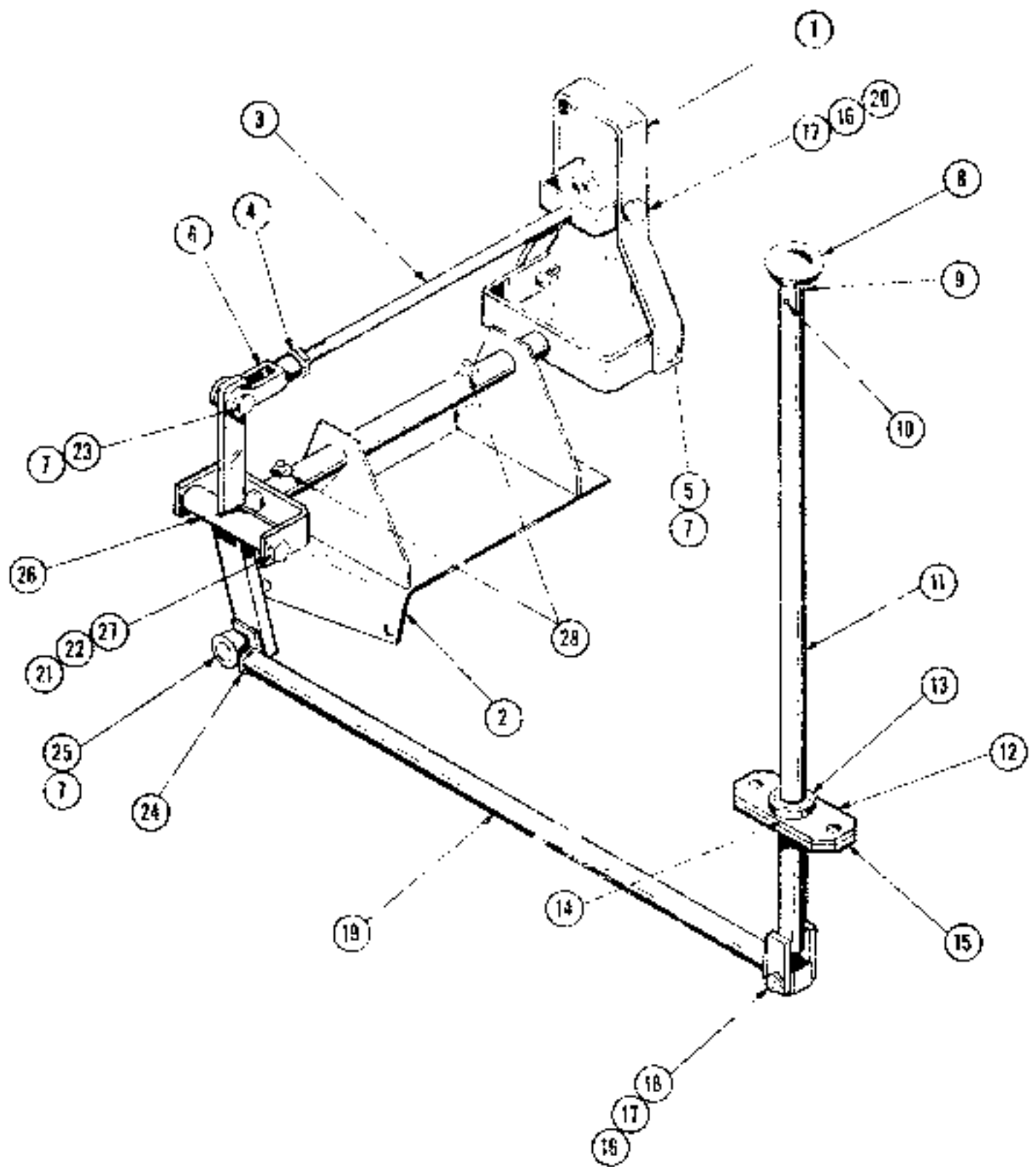


**SHIFTING ASS'Y. 11250**

LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55111

SHIFTING ASSEMBLY  
 702-31' HIGH-LIFT  
 NO. 11,250

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,249		Clevis for Shifting	1
2	11,160		Mounting Plate Assembly	1
3	7232		Upper Link	1
4	COM'L		Jam Nut 1/2" NF	1
5	7593		Pin	2
6	P-10333		Clevis	1
7	COM'L		Cotter Pin 1/8" x 3/4"	2
8	P-10336		Shift Knob	1
9	7614		Stud	1
10	P-10348		Roll Pin	1
11	7419		Shifting Lever	1
12	7238		Mounting Plate Assembly	1
13	7093		Pivot Ball	1
14	P-10379		Roll Pin	1
15	7357		Lower Support Plate	1
16	COM'L		Shakeproof Washer 3/8"	3
17	COM'L		Jam Nuts 3/8" N.C.	4
18	COM'L		Bolt 3/8 x 2 1/4" N.C.	1
19	11,156		Shifting Link	1
20	COM'L		Capacrew 3/8 NC x 1"	1
21	COM'L		Jam Nut 1/2" N.C.	1
22	COM'L		Shakeproof Washer 1/2"	1
23	P-10334		Clevis Pin	1
24	7602		Special Nut	1
25	P-10343		Tie Rod End	1
26	7251		Pivot Assembly	1
27	COM'L		Bolt 1/2" NC x 5" long	1
28	COM'L		Self Tapping Grease Fitting	2



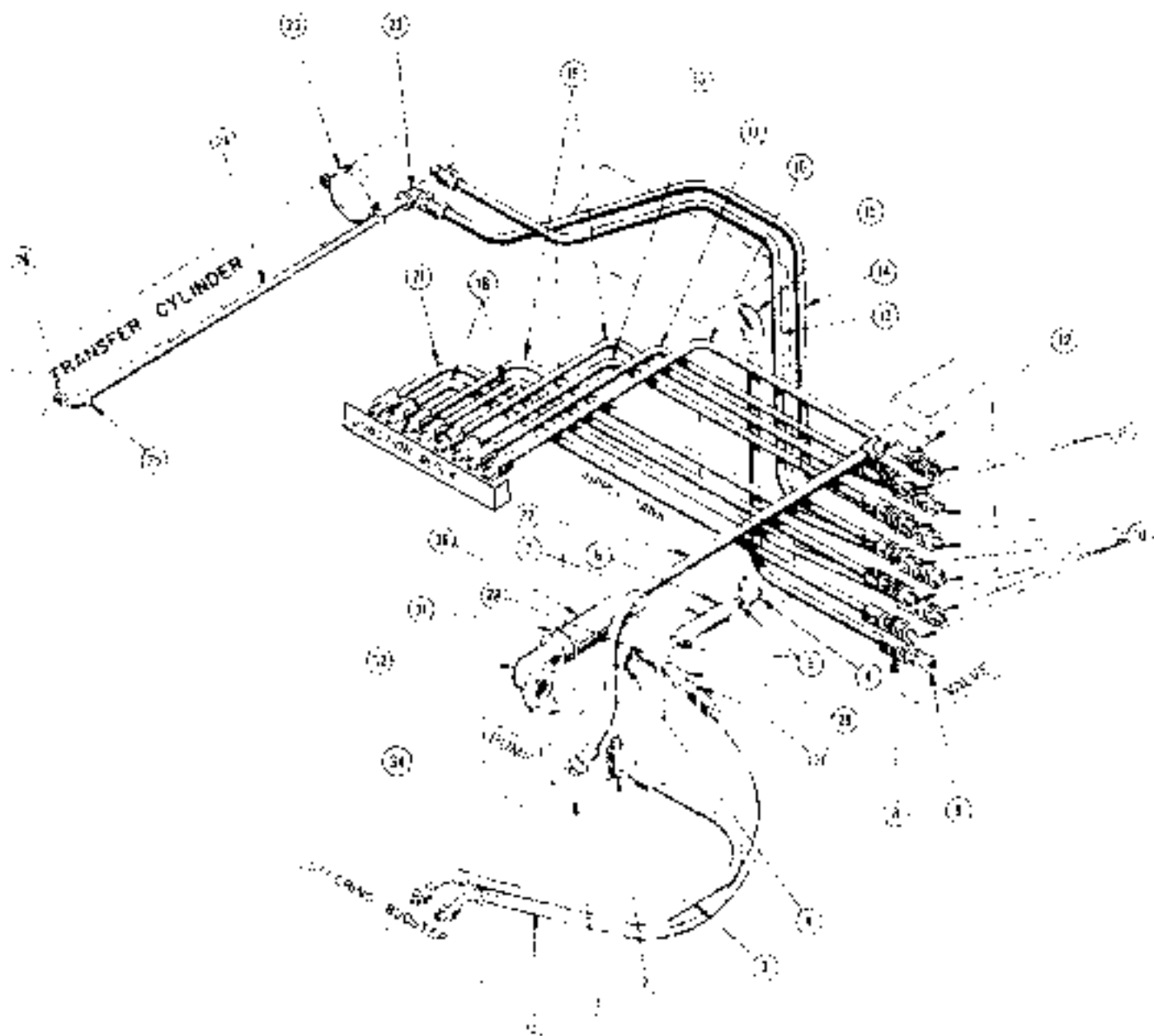
**SHIFTING ASSEMBLY 11251**



## SHIPPING ASSEMBLY

11-12-291

ITEM	PART	DESCRIPTION	RE'Q.
1	11,229	Clevis for Shifting	1
2	11,232	Mounting Plate Assembly	1
3	7232	Upper Link	1
4	COM'L	Jam Nut 1/2" NG	1
5	7593	Pin	2
6	P-10333	Clevis 1/2"	1
7	COM'L	Sector Pin 1/2" x 3/4"	2
8	P-10336	Shift Knob	1
9	7614	Stop	1
10	P-10345	Roll Pin	1
11	7419	Shifting Lever	1
12	7235	Mounting Plate Assembly	1
13	7093	Pivot Ball	1
14	P-10379	Roll Pin	1
15	7357	Lower Support Plate	1
16	COM'L	Shakeproof Washer 3/8"	3
17	COM'L	Jam Nuts 3/8" NG	4
18	COM'L	Bolt 3/8" x 2 1/4" NG	1
19	11,156	Shifting Link	1
20	COM'L	Capscrew 3/8" NG x 1"	1
21	COM'L	Jam Nut 1/2" NG	1
22	COM'L	Shakeproof Washer 1/2"	1
23	P-10334	Clevis Pin 1/2" x 1"	1
24	7602	Special Nut	1
25	P-10343	Tie Rod End	1
26	7251	Pivot Assembly	1
27	COM'L	Bolt 1/2" NG x 5" Long	1
28	COM'L	Self Tapping Grease Fitting	2

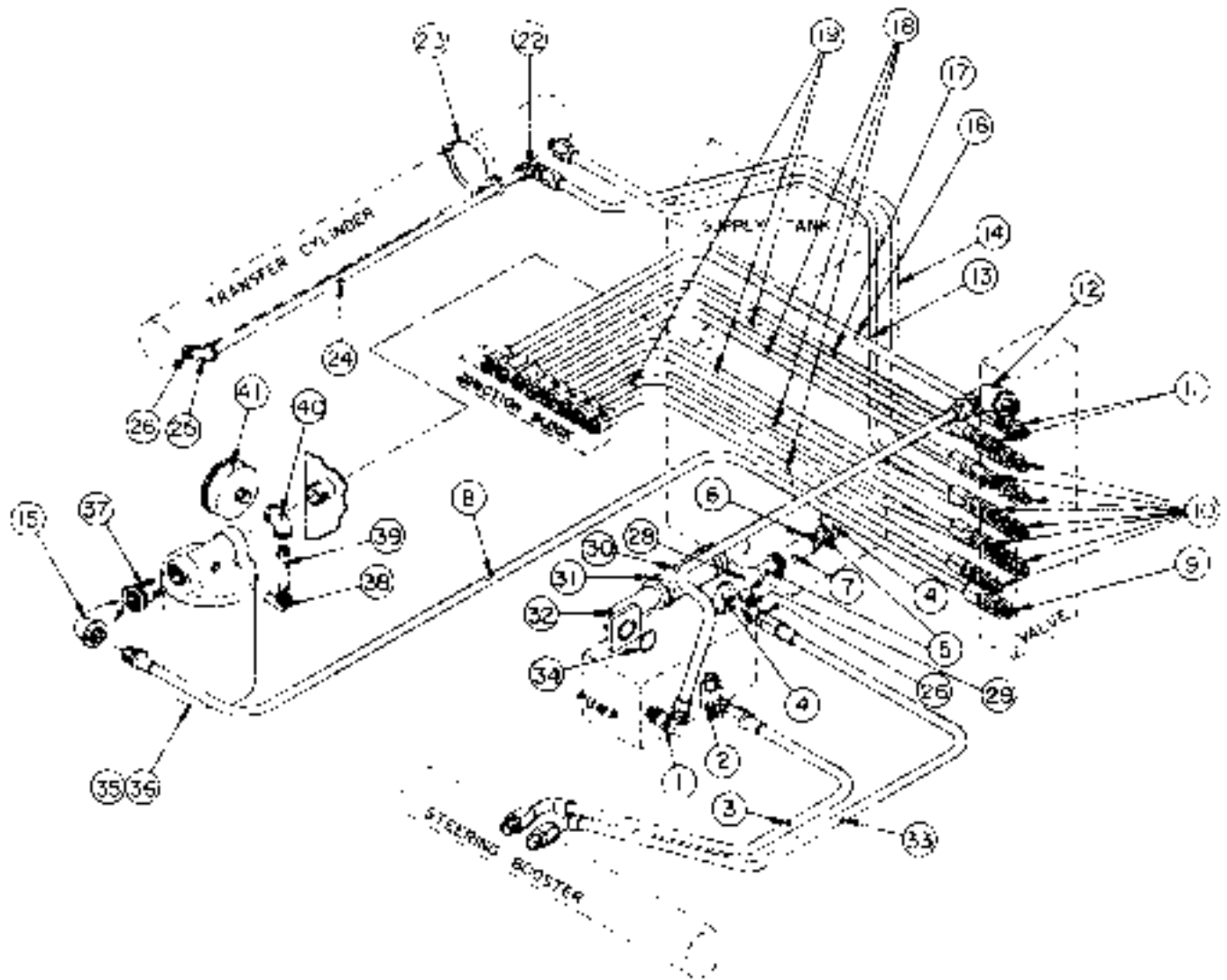


HYDRAULIC SYSTEM (PUMP TO VALVE) 11302

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1	P-12912		Flange	1
2	P-11497		Swivel Fitting	1
3	P-11498		Hose	1
4	P-10111		Street Fitting	2
5	6644		Nipple	2
6	P-10178		Hose Clamp	2
7	COMP		Hose 3/4" ID x 7' Radiator	1
8	P-12910		Hose	1
9	P-12909		Swivel Fitting	1
10	P-12905		Swivel Fitting	2
11	P-12907		Swivel Fitting	2
12	P-12911		Elbow	1
13	P-10272		Hose	1
14	P-11501		Hose	1
15	P-10101		Street Fitting	1
16	P-10276		Hose	1
17	P-10274		Hose	1
18	P-10451		Hose	3
19	P-10390		Hose	2
20				
21	P-11436		Hose	1
22	P-10275		Elbow	1
23	612		Cylinder Pipe Clamp	1
24	P-10276		Hose 3/8" ID x 56"	1
25	P-11117		Street Fitting	1
26	P-10420		Reducing Bushing	2
27	P-10460		Hose	1
28	P-11007		Service Tee	1
29	P-11191		Street Fitting	1
30	COMP		Hose 1 1/2" ID x 9' Radiator	1
31	P-10602		Clamp	1
32	10,915		Elbow	1
33	P-11602		Hose	1
34	P-12971		O-Ring	1

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

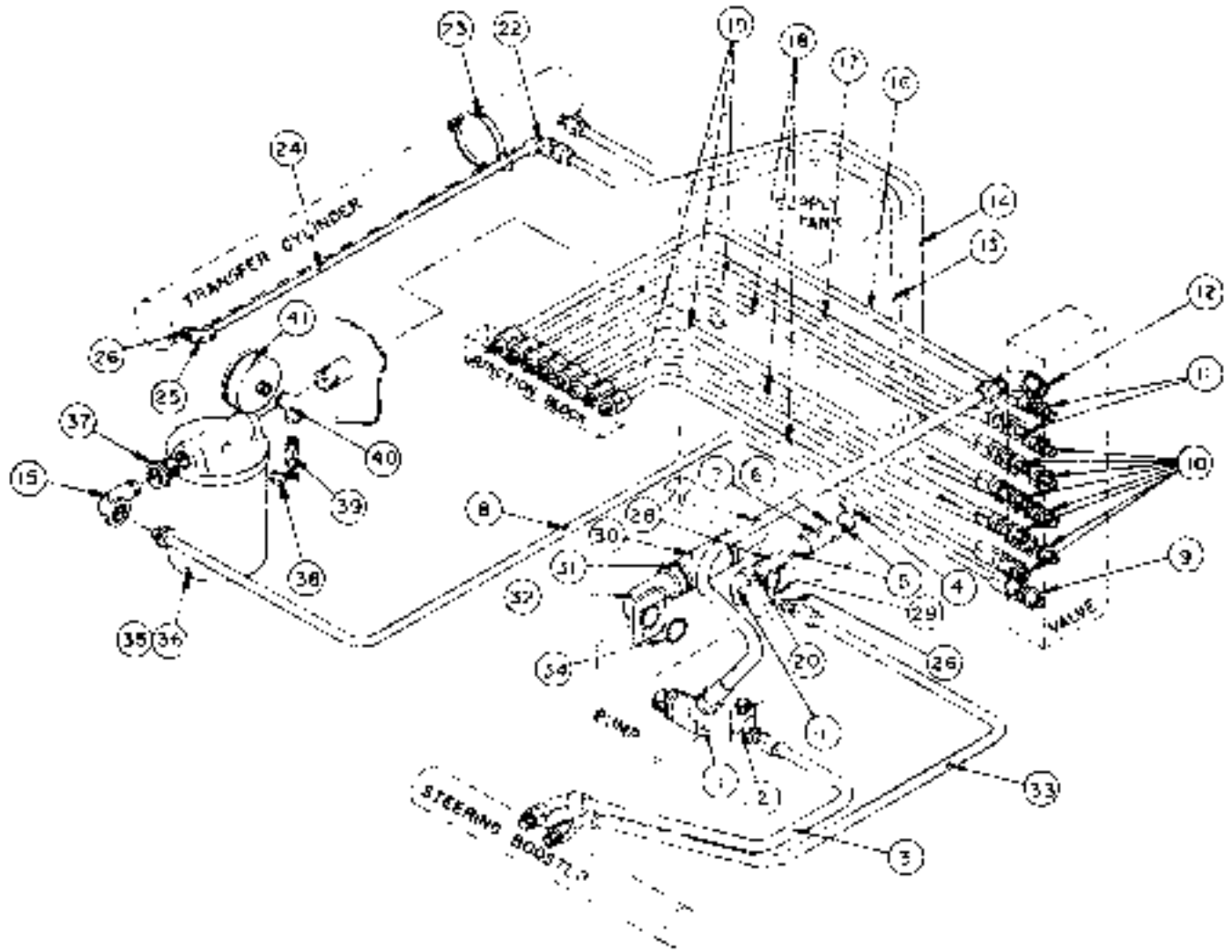
HYDRAULIC SYSTEM ASSEMBLY  
PUMP TO VALVE  
40. 11,302



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

HYDRAULIC SYSTEM ASSEMBLY  
 PUMP TO VALVE  
 NO. 11,302

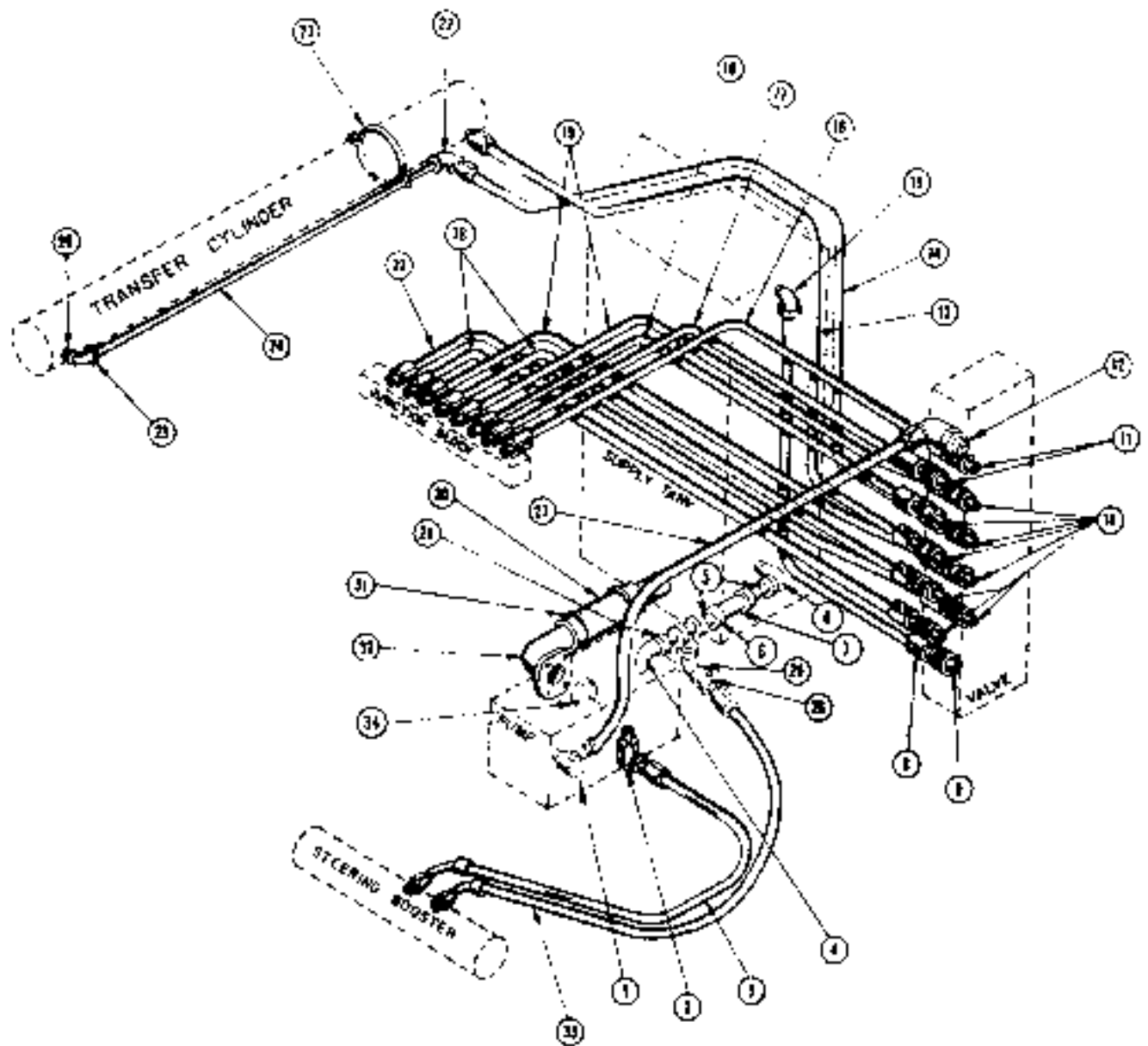
<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	P-12912		Elbow	1
2	P-11497		Fitting	1
3	P-14917		Hose	1
4	P-10111		Street Ell	2
5	9544		Nipple	2
6	P-10178		Hose	2
7	COM'L		Hose	1
8	P-13023		Hose	1
9	P-12909		Fitting, Swivel	1
10	P-12908		Fitting, Swivel	8
11	P-12907		Fitting, Swivel	2
12	P-12911		Elbow	1
13	P-10272		Hose	1
14	P-11501		Hose	1
15	P-10101		Street Ell	1
16	P-10276		Hose	1
17	P-10274		Hose	1
18	P-10451		Hose	3
19	P-10390		Hose	3
20				
21				
22	P-10225		Elbow	1
23	612		Cylinder Pipe Clamp	1
24	N-10276		Pipe	1
25	P-10117		Street Ell	1
26	P-10120		Bushing, Reducing	2
27	P-12968		Hose	1
28	P-11058		Service Tee	1
29	P-10191		Street Ell	1
30	COM'L		Hose	1
31	P-10602		Clamp	1
32	10,915		Elbow	1
33	P-17177		Hose	1
34	P-12971		O-Ring	1
35	P-13587		Filter	1
36	P-13597		Filter Element	1
37	P-10059		Bushing, Reducing	1
38	P-10201		Street Ell	1
39	P-10757		Nipple	1
40	P-10223		Elbow	1
41	P-13588		Gauge	1



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

HYDRAULIC SYSTEM ASSEMBLY  
 PUMP TO VALVE  
 NO. 11,303

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	P-12912		Elbow	1
2	P-11497		Fitting	1
3	P-14917		Hose	1
4	P-10111		Street Ell	2
5	9544		Nipple	2
6	P-10178		Hose Clamp	2
7	COM'L		Hose	1
8	P-13023		Hose	1
9	P-12909		Fitting, Swivel	1
10	P-12908		Fitting, Swivel	3
11	P-12907		Fitting, Swivel	2
12	P-12911		Elbow	1
13	P-10272		Hose	1
14	P-11501		Hose	1
15	P-10103		Street Ell	1
16	P-10276		Hose	1
17	P-10274		Hose	1
18	P-10451		Hose	3
19	P-10390		Hose	3
20	P-10938		Nipple	1
21				
22	P-10225		Elbow	1
23	612		Cylinder Pipe Clamp	1
24	M-10183		Pipe	1
25	P-10117		Street Ell	1
26	P-10120		Bushing, Reducing	2
27	P-10417		Hose	1
28	P-10107		Tee	1
29	P-10191		Street Ell	1
30	COM'L		Hose	1
31	P-10602		Clamp	1
32	11,299		Elbow	1
33	P-17177		Hose	1
34	P-12971		O-Ring	1
35	P-13587		Filter	1
36	P-13597		Filter Element	1
37	P-10059		Reducing Bushing	1
38	P-10207		Street Ell	1
39	P-10757		Nipple	1
40	P-10223		Elbow	1
41	P-13588		Gauge	1

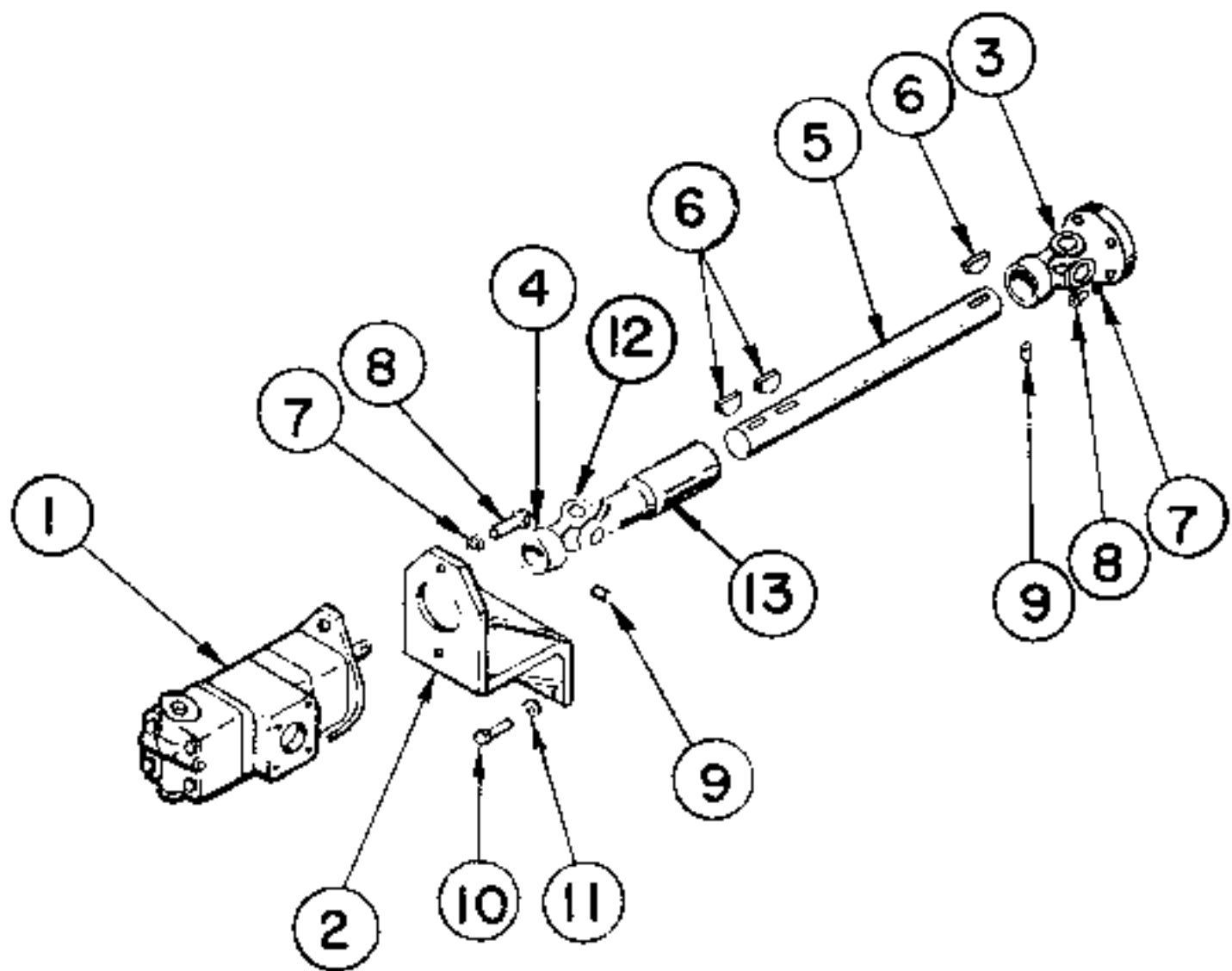


## HYDRAULIC SYSTEM (PUMP TO VALVE) (11303)



HYDRAULIC SYSTEM  
 PUMP TO VALVES  
 NO. 11,303

ITEM	PART	DESCRIPTION	RE'Q.
1	P-12912	Elbow	1
2	P-11497	Swivel Fitting	1
3	P-11195	Hose	1
4	P-10111	Street ell	2
5	9544	Nipple	2
6	P-10175	Hose Clamp	2
7	608" L	Hose 3/4" I.D. x 6" radiator	1
8	P-12910	Hose	1
9	P-12909	Swivel fitting	1
10	P-12906	Swivel Fitting	1
11	P-12907	Swivel Fitting	2
12	P-12911	Elbow	1
13	P-10272	Hose	1
14	P-11501	Hose	1
15	P-10101	Street ell	1
16	P-10276	Hose	1
17	P-10274	Hose	1
18	P-10451	Hose	1
19	P-10390	hose	2
20	P-10938	Nipple	1
21	P-11436	hose	1
22	P-10285	Elbow	1
23	112	Cylinder Pipe Clamp	1
24	N-10107	Pipe 3/4" Strong x 54"	1
25	P-10117	Street ell	1
26	P-10170	Reducing Bushing	1
27	P-10417	hose	1
28	P-10117	Tee	1
29	P-10111	Street ell	1
30	608" L	hose 1 1/2" I.D. x 9" radiator	1
31	P-10402	Clamp	1
32	11,303	Elbow	1
33	P-11682	hose	1
34	P-10411	Elbow	1



PUMP AND DRIVE ASS'Y. 11205

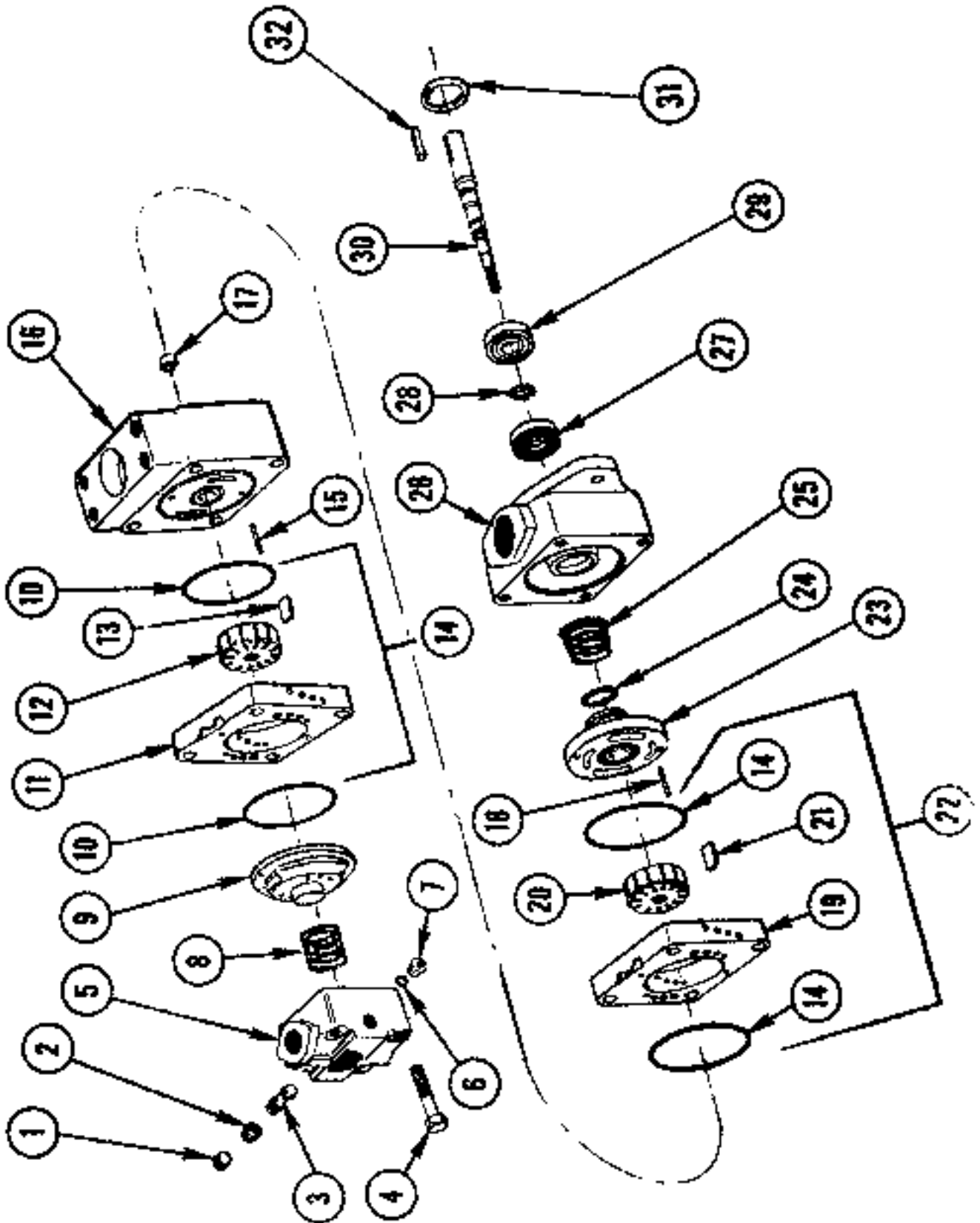
LULL ENGINEERING COMPANY, INC.  
 2045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55120

HYDRAULIC PUMP & DRIVE ASS'Y  
 10. 37. 205

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1		*P-13631	Pump (Page 43)	1
2	11,197		Pump Support	1
3	7185		Fan Pulley Adapter	1
4	P-13700		Cnc Yoke	1
5	3518		Pump Drive Shaft	1
6	P-10617		Key	3
7	COM'L		Shakeproof Washer, 1/2"	2
8	COM'L		Capscrew, 1/2-13 NC x 1 1/4" Long Hex Head	2
9	COM'L		Setscrew, 3/8-16 NC x 3/8" Long	2
10	COM'L		Capscrew, 1/2-13 NC x 1 1/4" Hex Head	3
11	COM'L		Lockwasher, 1/2"	3
12	P-13699		Cross	1
13	P-13696		Slip Joint	1

\* S/N 2001 Thru 2466 - use P-12905.

HYDRAULIC PUMP ASS'Y  
F-12305

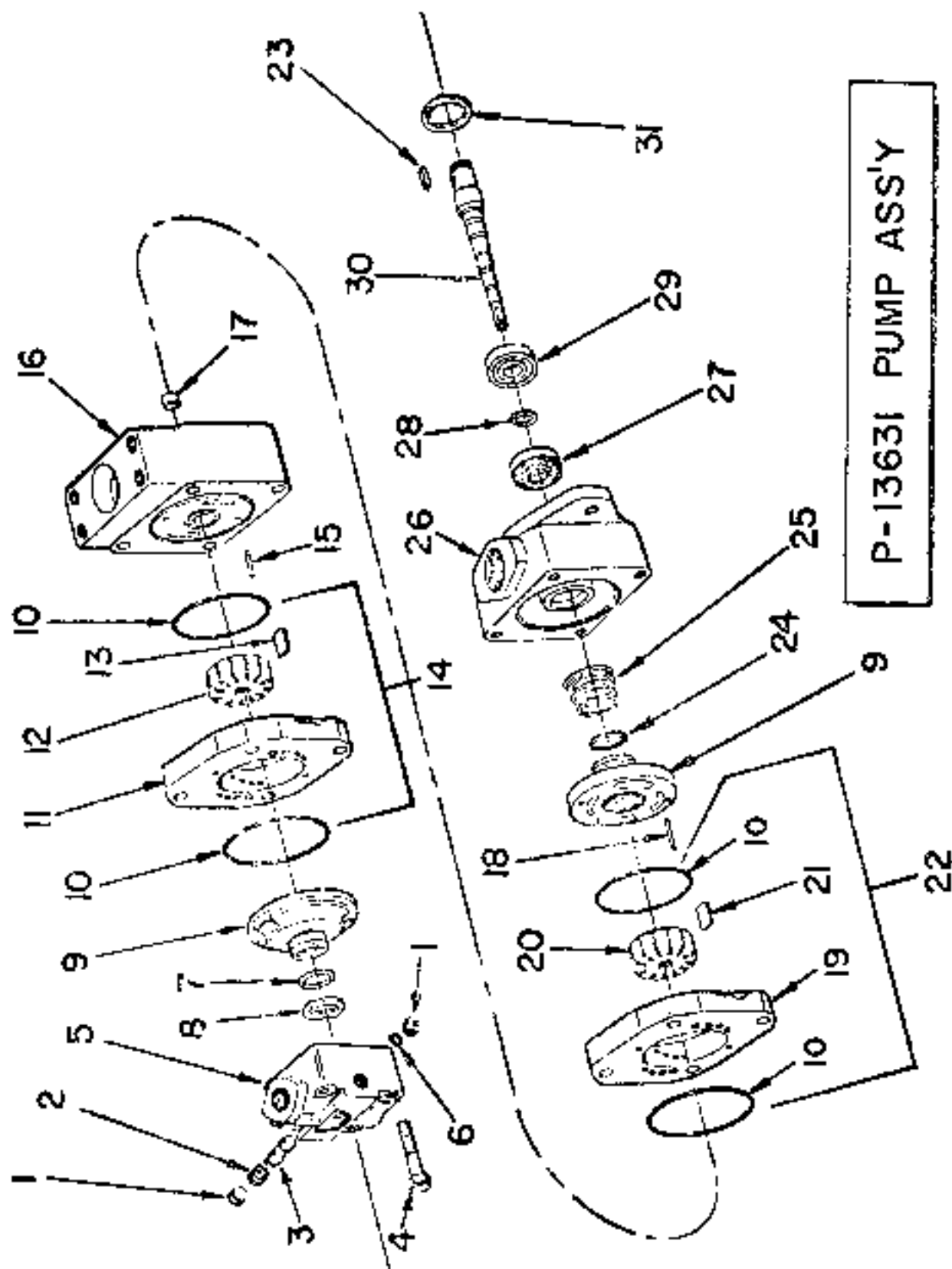


PUMP ASSEMBLY  
P-12905

ITEM	PART	DESCRIPTION	RE'Q
1	P-12904	Plug	1
2	P-12914	Spring	1
3	P-12915	Valve Sub Ass'y	1
4	P-12916	Screw	1
5	P-12917	Cover	1
6	P-12905	Snap Ring	1
7	P-12905	Plug	1
8	P-12919	Spring	1
9	P-12920	Pressure Plate	1
10	* P-12142	O-ring	4
11	P-12913	Ring	1
12	P-12918	Rotor	1
13	P-12922	Vane Kit (12 Vanes)	1
14	P-12923	Service Kit	1
15	P-12924	Pin	2
16	P-12925	Body - Includes P-12926 Bushing	1
17	P-12926	Bushing	1
18	P-12927	Pin	2
19	P-12928	Ring	1
20	P-12929	Rotor	1
21	P-12930	Vane Kit (12 Vanes)	1
22	P-12931	Service Kit	1
23	P-12932	Pressure Plate	1
24	* P-12210	O-Ring	1
25	P-12933	Spring	1
26	P-12934	Outlet Body	1
27	* P-12112	Seal	1
28	P-12935	Snap Ring	1
29	P-12936	Bearing	1
30	P-12937	Shaft	1
31	P-12938	Snap Ring	1
32	P-12939	Key	1
33	P-12940	Seal Kit	1

\* These Parts Are Included in Seal Kit  
P-12940

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

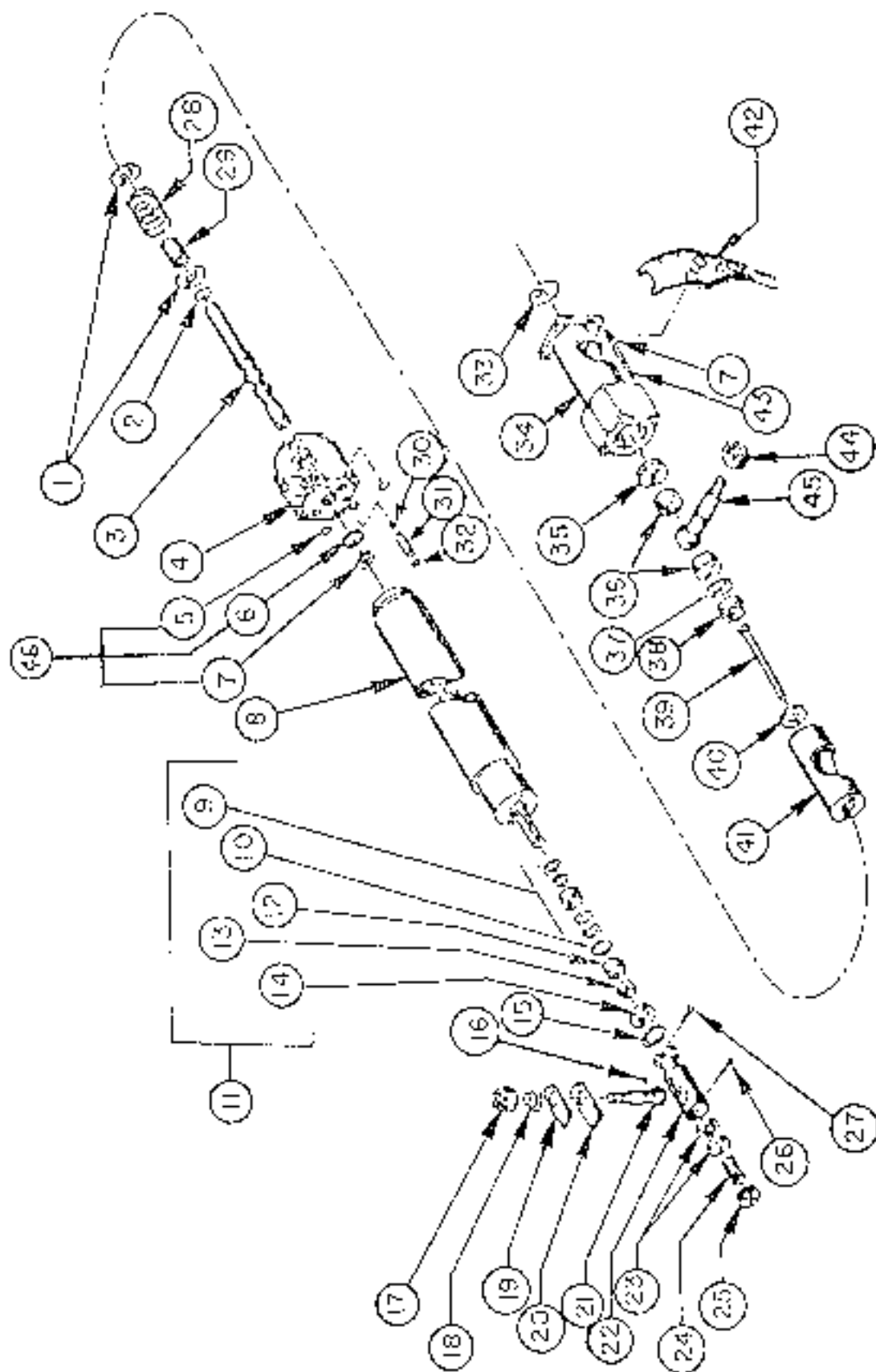


LULL ENGINEERING COMPANY, INC.  
 3046 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

PUMP ASSEMBLY  
 P-1363T

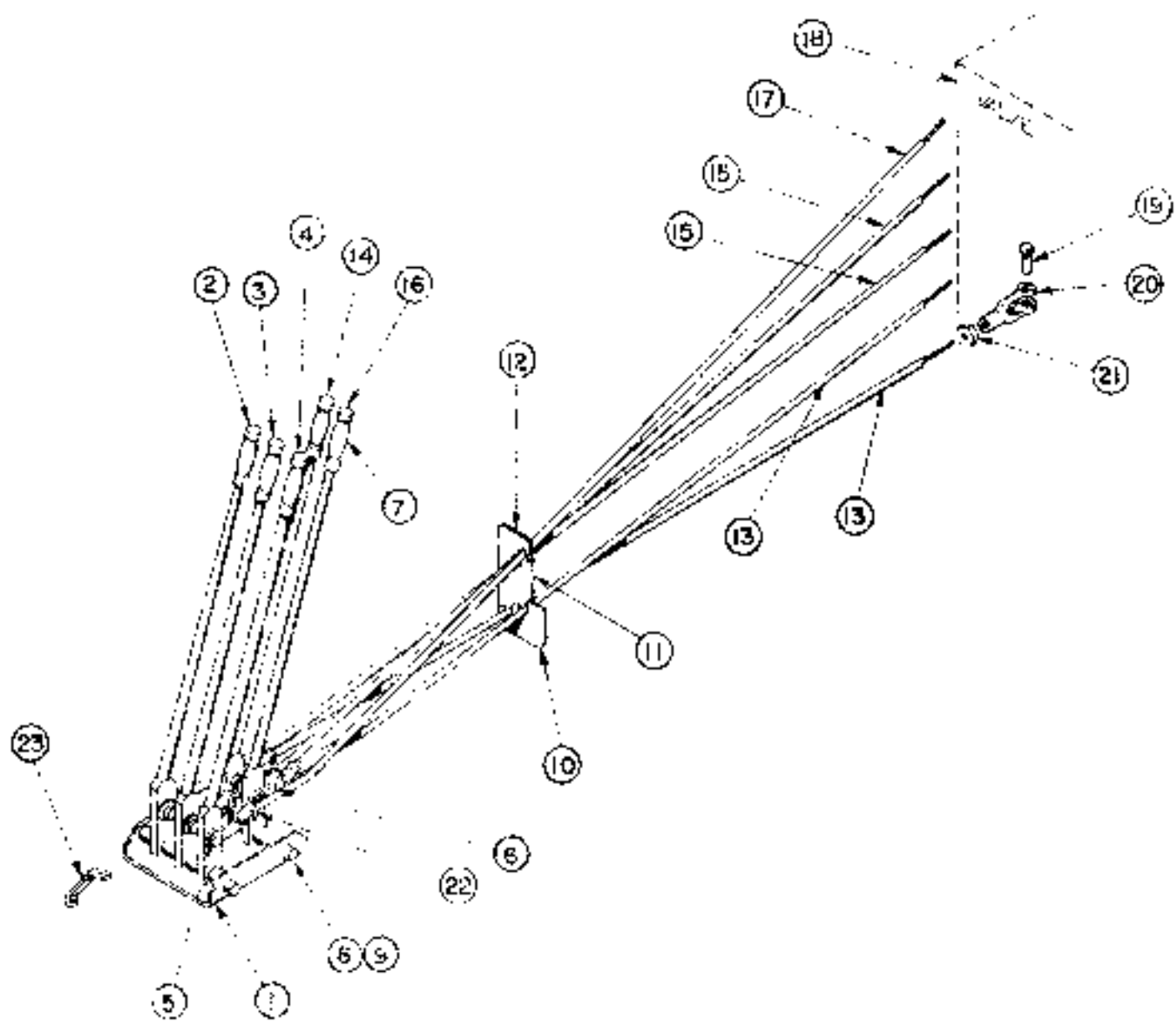
<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	P-12204		Plug	2
2	P-12914		Spring	1
3	P-12915		Valve Sub Assembly	1
4	P-13638		Screw	4
5	P-13639		Cover	1
6	P-12205		Snap Ring	1
7	*P-12210		O-Ring	1
8	P-13656		Washer	1
9	P-13661		Pressure Plate	2
10	*P-12192		O-Ring	4
11	P-13644		Ring	1
12	P-13655		Rotor	1
13	P-13648		Vane Kit (12 Vanes)	1
14	P-13660		Kit	1
15	P-13651		Pin	2
16	P-12925		Body (Includes P-12926 Bushing	1
17	P-12926		Bushing	1
18	P-12927		Pin	2
19	P-13643		Ring	1
20	P-13653		Rotor	1
21	P-13646		Vane Kit (12 Vanes)	1
22	P-13658		Kit	1
23	P-12939		Key	1
24	*P-12210		O-Ring	1
25	P-12933		Spring	1
26	P-12934		Body (Outlet)	1
27	*P-12444		Seal, Shaft	1
28	P-12935		Snap Ring	1
29	P-12936		Bearing	1
30	P-12937		Shaft	1
31	P-12938		Snap Ring	1
32	P-12940		Seal Kit	1

\*Included in P-12940 Seal Kit.





<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1.	P-12224	Washer
2.	P-12225	O-Ring
3.	P-12226	Valve Spool
4.	P-12227	Body Sub Assembly
5.	P-12228	O-Ring, 3 Req'd.
6.	P-12229	O-Ring
7.	P-12230	Nut
8.	P-12231	Cylinder Sub Assembly
9.	P-12232	Seal
10.	P-12233	Washer
11.	P-12234	Gasket Kit
12.	P-12235	Retainer
13.	P-12236	Wiper Ring
14.	P-12237	Scraper
15.	P-12238	Snap Ring
16.	P-12239	Nut
17.	P-12240	Nut
18.	P-12241	Spring
19.	P-12242	Shield
20.	P-12243	Dust Cover
21.	P-12244	Ball Stud
22.	P-12245	Washing
23.	P-12246	Ball Stud Seal
24.	P-12247	Spring
25.	P-12248	Plug
26.	P-12249	Cotton Pin
27.	P-12250	Screw
28.	P-12251	Spring
29.	P-12252	Spacer
30.	P-12253	Ball
31.	P-12254	Valve
32.	P-12255	O-Ring
33.	P-12256	Snap Ring
34.	P-12257	Flange Housing
35.	P-12258	Plug
36.	P-12259	Seat
37.	P-12260	Spring
38.	P-12261	Spacer
39.	P-12262	Screw
40.	P-12263	Washer
41.	P-12264	Sleeve
42.	P-12265	Dust Cover
43.	P-12267	Stud, 6 Req'd.
44.	P-12268	Nut
45.	P-12269	Ball Stud
46.	P-12269	Kit



**VALVE CONTROL ASS'Y. 11263**

VALVE CONTROL ASSEMBLY  
 REF. 11,753

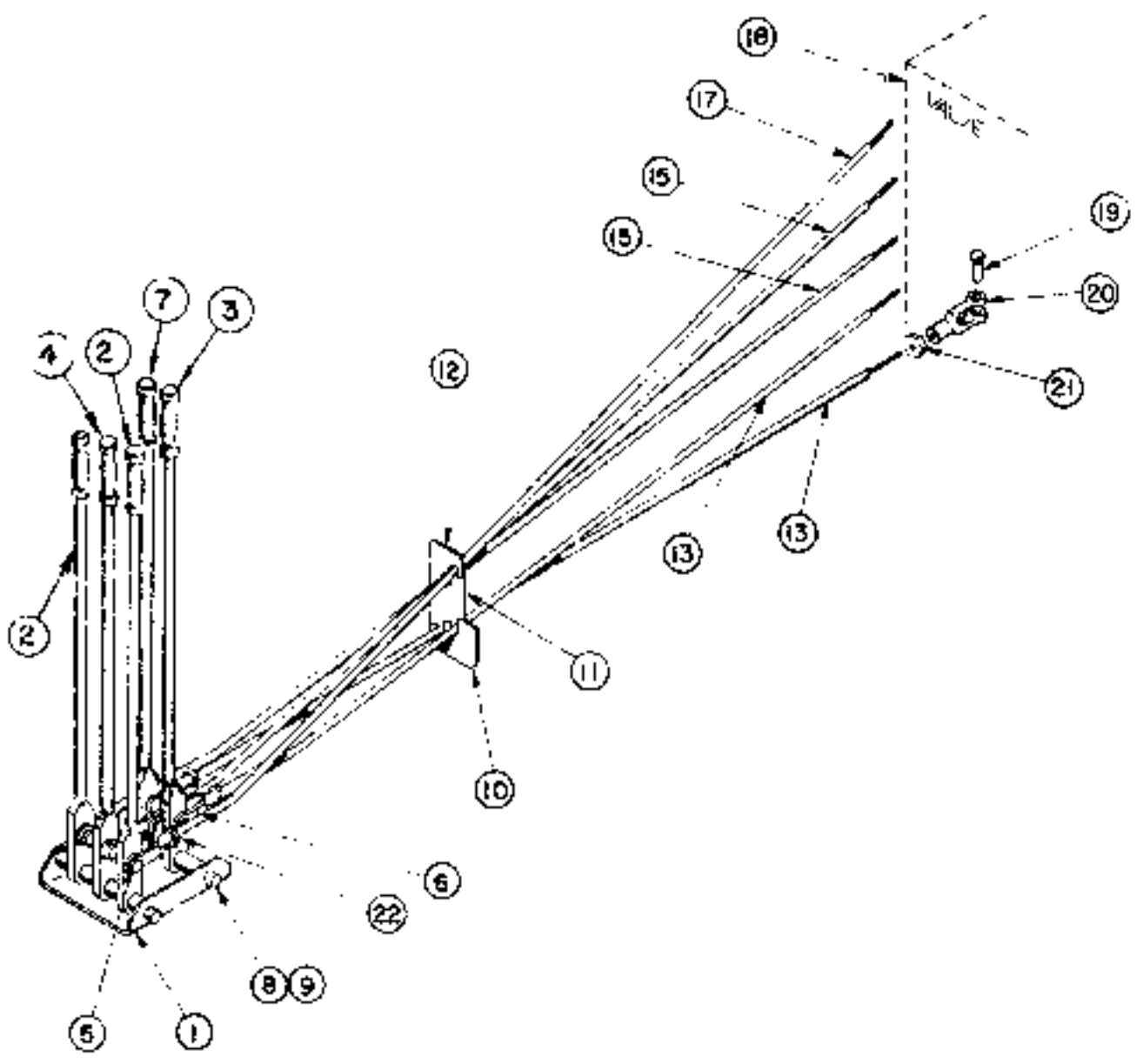
ITEM	PART	DESCRIPTION	RE'Q.
1	11,127	Valve Handle Bracket	1
2	11,255	Valve Control Handle	1
3	11,217	Valve Control Handle	1
4	11,218	Valve Control Handle	1
5	P-10514	Clevis Pin	1
6	P-10333	Clevis	1
7	P-10012	Rubber Handle Grip	1
8	8785	Pivot Shaft	1
9	8786	Spacer	1
10	11,079	Valve Rod Stabilizer	1
11	10,973	Center	1
12	10,922	Top	1
13	11,304	Valve Control Rod	1
14	11,219	Valve Control Handle	1
15	11,223	Valve Control Rod	1
16	11,254	Valve Control Handle	1
17	11,225	Valve Control Rod	1
18	10,958	Valve Ass'y (Page 52)	1
19	P-10043	Clevis Pin	1
20	P-10192	Clevis	1
21	CON'L	Jam Nut 3/8-24 NF	
22	CON'L	Jam Nut 1/2-20 NF	
23	11,030	Support	



LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55111

VALVE CONTROL ASSEMBLY  
 702-31' HIGH-LIFT  
 NO. 11,262

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,127		Valve Handle Bracket	1
2	11,255		Valve Control Handle	1
3	11,217		Valve Control Handle	1
4	11,216		Valve Control Handle	1
5	P-10514		Clevis Pin	5
6	P-10333		Clevis	5
7	P-10012		Rubber Handle Grip	5
8	8785		Pivot Shaft	2
9	8786		Spacer	1
10	10,929		Valve Rod Stabilizer	1
11	10,923		Center	1
12	10,922		Top	1
13	11,221		Valve Control Rod	2
14	11,219		Valve Control Handle	1
15	11,220		Valve Control Rod	2
16	11,254		Valve Control Handle	1
17	11,222		Valve Control Rod	1
18		10,950	Valve Assy (Page 32)	1
19	P-10040		Clevis Pin	5
20	P-10193		Clevis	5
21	CON'L		Jam Nut 3/8-24 RF	5
22	CON'L		Jam Nut 1/2-20 RF	5
23	11,030		Bracket Support	1



**VALVE CONTROL ASS'Y. 13142**

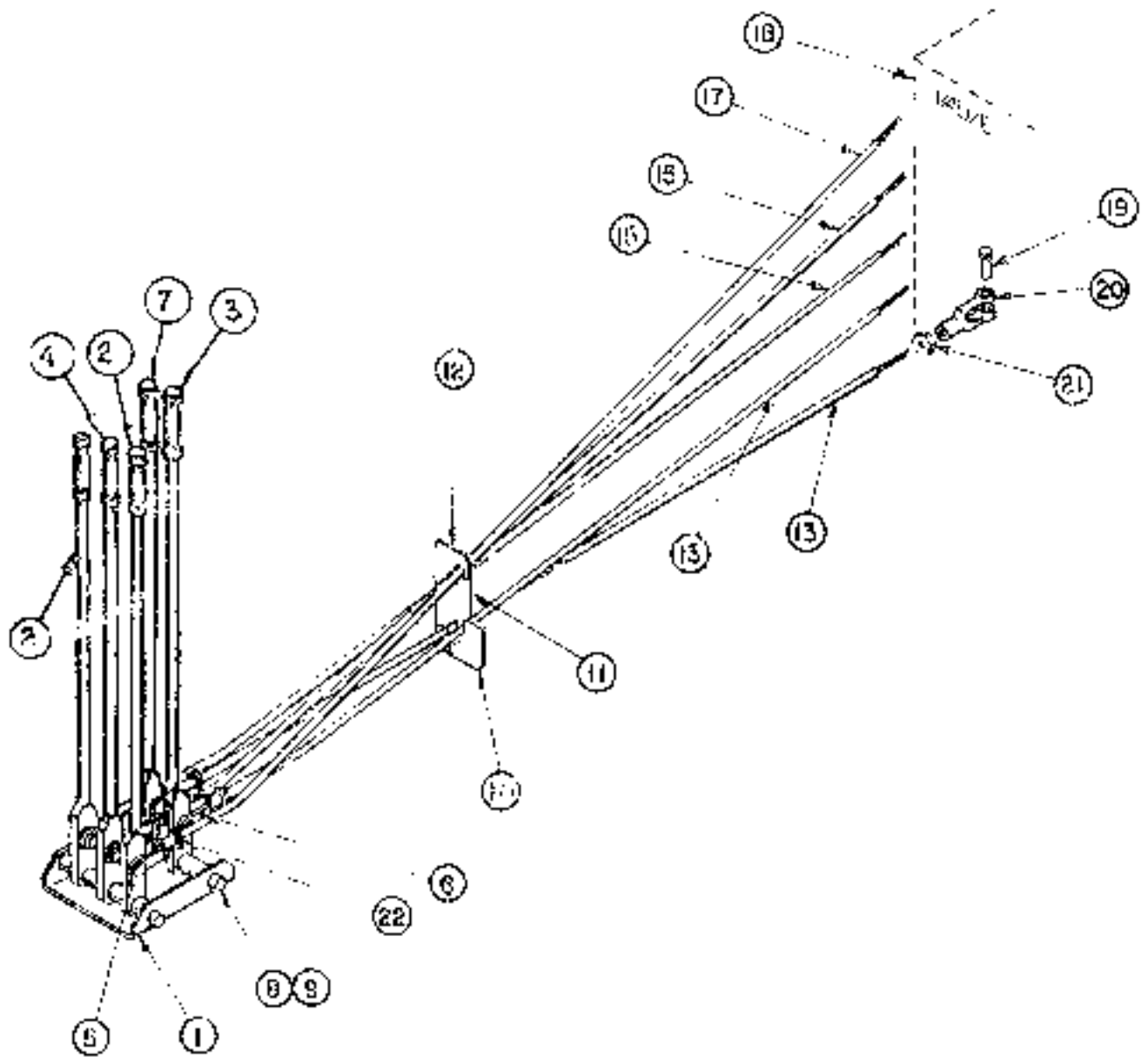
DULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

VALVE CONTROL ASSEMBLY  
 NO. 13,142

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,127		Valve Handle Bracket	1
2	8725		Valve Control Handle	1
3	8727		Valve Control Handle	1
4	8728		Valve Control Handle	1
5	P-10514		Clevis Pin	5
6	P-10333		Clevis	5
7	P-10012		Rubber Handle Grip	5
8	8785		Pivot Shaft	2
9	8786		Spacer	1
10	11,029		Valve Rod Stabilizer	1
11	10,923		Center	1
12	10,922		Top	1
13	11,304		Valve Control Rod	2
14				
15	11,223		Valve Control Rod	2
16				
17	11,224		Valve Control Rod	1
18		10,950	Valve Assembly (Page 52)	1
19	P-10040		Clevis Pin	5
20	P-10193		Clevis	5
21	COM'L		Jam Nut, 3/8-24 NF	5
22	COM'L		Jam Nut, 1/2-20 NF	5

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

VALVE CONTROL ASSEMBLY  
NO. 13,480



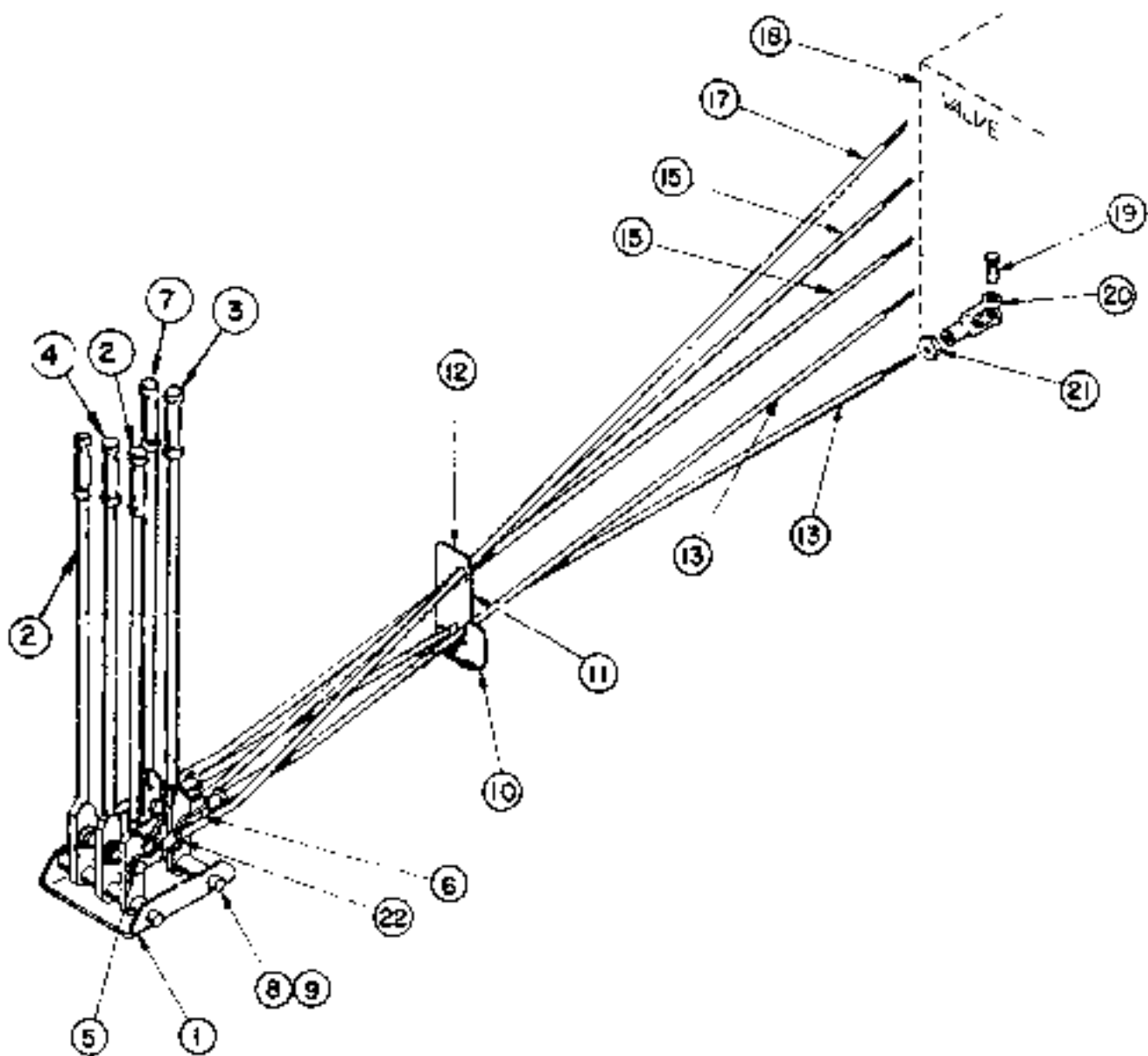
702-40'



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

VALVE CONTROL ASSEMBLY  
 NO. 13,480

ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1	8784		Valve Handle Bracket	1
2	8726		Valve Control Handle	1
3	8727		Valve Control Handle	1
4	8728		Valve Control Handle	1
5	P-10514		Clevis Pin	5
6	P-10333		Clevis	5
7	P-10012		Rubber Handle Grip	5
8	8785		Pivot Shaft	2
9	8786		Spacer	1
10	11,029		Valve Rod Stabilizer	1
11	10,923		Center	1
12	10,922		Top	1
13	11,304		Valve Control Rod	2
14				
15	11,223		Valve Control Rod	2
16				
17	11,224		Valve Control Rod	1
18		10.050	Valve Assembly (Page 52)	1
19	P-10040		Clevis Pin	5
20	P-10333		Clevis	5
21	COM'L		Jam Nut, 3/8-24 NF	5
22	COM'L		Jam Nut, 1/2-20 NF	5



## VALVE CONTROL ASS'Y. 13187

S/N 2467 and UP

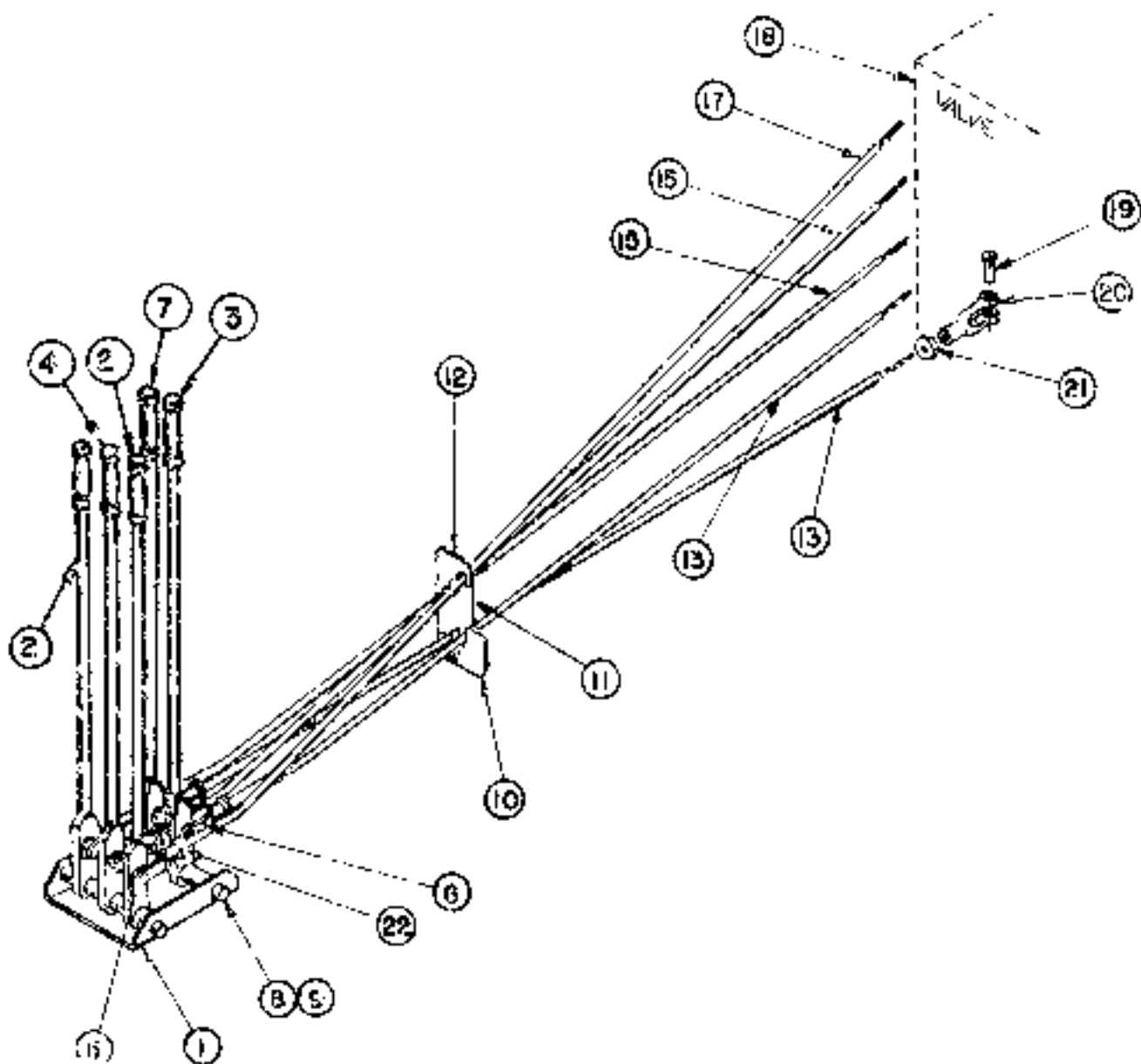
LOLL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

VALVE CONTROL ASSEMBLY  
 NO. 13,187

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	11,127		Valve Handle Bracket	1
2	8726		Valve Control Handle	1
3	8727		Valve Control Handle	1
4	8728		Valve Control Handle	1
5	P-10514		Clevis Pin	5
6	P-10393		Clevis	5
7	P-10012		Rubber Handle Grip	5
8	8785		Pivot Shaft	2
9	8786		Spacer	1
10	11,029		Valve Rod Stabilizer	1
11	10,923		Center	1
12	10,922		Tap	1
13	11,221		Valve Control Rod	2
14				
15	11,220		Valve Control Rod	2
16				
17	11,222		Valve Control Rod	1
18		10,950	Valve Assembly (Page 52)	1
19	P-10040		Clevis Pin	5
20	P-10193		Clevis	5
21	COM'L		Jam Nut, 3/8-24 NF	5
22	COM'L		Jam Nut, 1/2-20 NF	5

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

VALVE CONTROL ASSEMBLY  
NO. 13,479



7C2-31'

LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 19,  
 ST. PAUL, MINNESOTA 55121

VALVE CONTROL ASSEMBLY  
 NO. 13,479

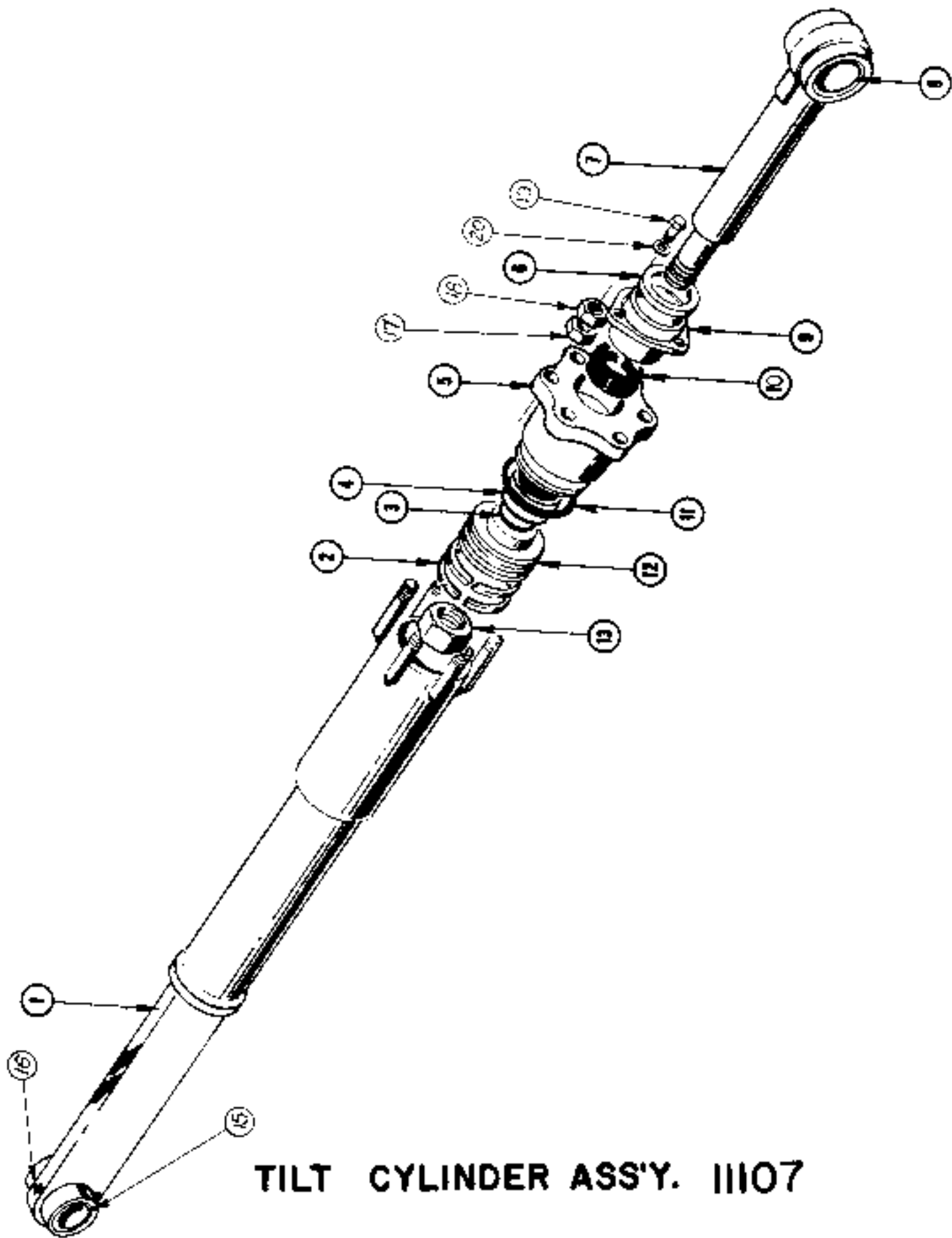
<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	8784		Valve Handle Bracket	1
2	8726		Valve Control Handle	1
3	8727		Valve Control Handle	1
4	8728		Valve Control Handle	1
5	P-10514		Clevis Pin	5
6	P-10333		Clevis	5
7	P-10012		Rubber Handle Grip	5
8	8785		Pivot Shaft	2
9	8786		Spacer	1
10	11,029		Valve Rod Stabilizer	1
11	10,923		Center	1
12	10,922		Top	1
13	11,221		Valve Control Rod	2
14				
15	11,220		Valve Control Rod	2
16				
17	11,222		Valve Control Rod	1
18		10,950	Valve Assembly (Page 52)	1
19	P-10040		Clevis Pin	5
20	P-10193		Clevis	5
21	COM'L		Jam Nut, 3/8-24 N.F.	5
22	COM'L		Jam Nut, 1/2-20 N.F.	5



VALVE ASSEMBLY  
NO. 10,450

ITEM	PART	DESCRIPTION	RE'Q.
1	P-12311	Screw	10
2	P-12312	retainer	
3	P-12313	sleeve	
4	* P-12314	O-ring	
5	* P-12314	Load ring	
6	P-12315	Spring	
7	P-12316	O-Washer	
8	P-12317	Section & Spool	
9	P-12318	Ring	
10	P-12319	Back Up ring	
11	* P-12320	O-ring	
12	P-12321	Spring	
13	P-12322	Ball	
14	P-12323	Nut	
15	P-12324	Section & Spool	
16	P-12225	Ring	
17	P-12226	O-ring	
18	P-12227	Seal	
19	P-12228	Valve Control	
20	* P-12229	Load ring	
21	* P-12230	Back Up Ring	
22	* P-12231	Seal	
23	* P-12232	Seal	
24	* P-12233	Seal	
25	* P-12234	Retainer	
26	P-12235	Section & Spool	
27	P-12236	Stud	
28	P-12317	Dust cover	

\* Included in P-12224 test kit

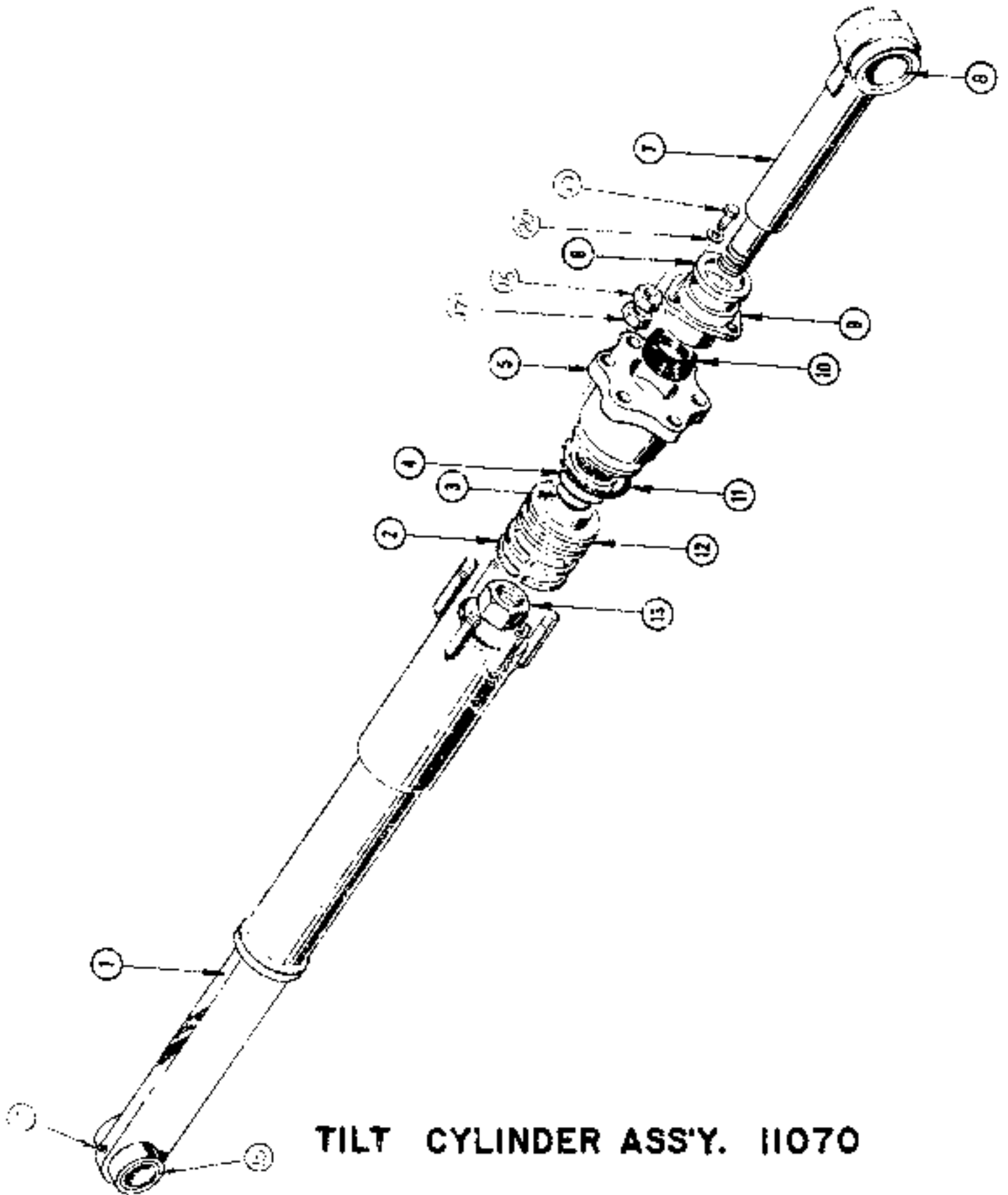


**TILT CYLINDER ASS'Y. III07**





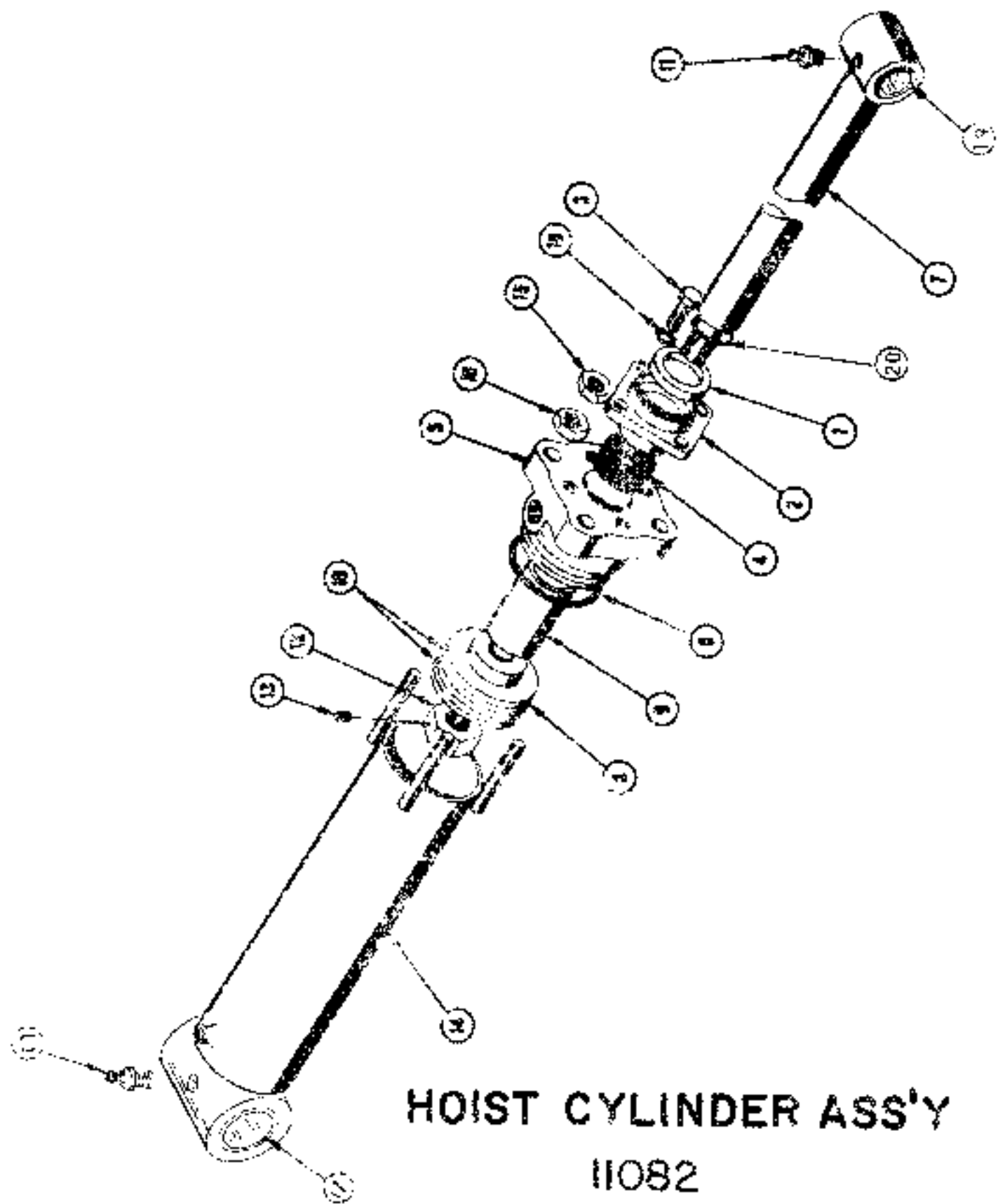
REF.	PART NO.	DESCRIPTION	REQ.
		TILT CYLINDER ASSEMBLY - 7C2-31' NO. 11,107	
1	11,104	Tube Weldment	1
2	P-15312	Ring Assembly	2
3	P-11576	O-Ring	1
4	N-10246	Spacer	1
5	U-110	Head	1
6	P-10307	Closures	1
7	8774	Piston Rod	1
8	7313	Bushing	1
9	U-107	Gland	1
10	P-10304	V-Packing	1
11	P-10317	O-Ring	1
12	9221	Piston	1
13	215	Special Nut	1
14	COM'L	Setscrew, 1/4-20 N.C. x 3/8 Cup Point	1
15	2727	Bushing	1
16	COM'L	Zerk Fitting, 1/8" N.P.T.	1
17	COM'L	Hex Nut, 1/2-20 N.F.	6
18	COM'L	Jam Nut, 1/2-20 N.F. Jam	6
19	COM'L	Setscrew, 3/8-16 N.C. x 1" Hex	3
20	COM'L	Washer, Shakeproof 3/8	3



**TILT CYLINDER ASS'Y. 11070**



REF.	PART NO.	DESCRIPTION	REQ.
		TILT CYLINDER ASS'Y - 702-40' NO. 11,070	
1	11,187	Tube Weldment	1
2	P-11286	Piston Ring Assembly	2
3	P-11576	O-Ring	1
4	S-10322	Spacer	1
5	543	Cylinder Head	1
6	P-10504	wiper	1
7	1138	Piston Rod Weldment	1
8	1313	Bushing	1
9	553	Gland	1
10	P-10503	V-Packing	1
11	P-11576	O-Ring	1
12	955G	Piston	1
13	216	Special Nut	1
14	COM'L	Setscrew, 1/4"-20 NC x 3/8 Cup Point	1
15	2727	Bushing	1
16	COM'L	Zeck Fitting, 1/8 N.P.T.	1
17	COM'L	Nut, Hex 1/8-20 N.F.	6
18	COM'L	Nut, Jam Hex 1/2-20 N.F.	6
19	COM'L	Capscrew, 3/8"-15 N.F. x 1" Long	3
20	COM'L	Washer, Shakeproof 3/8"	3

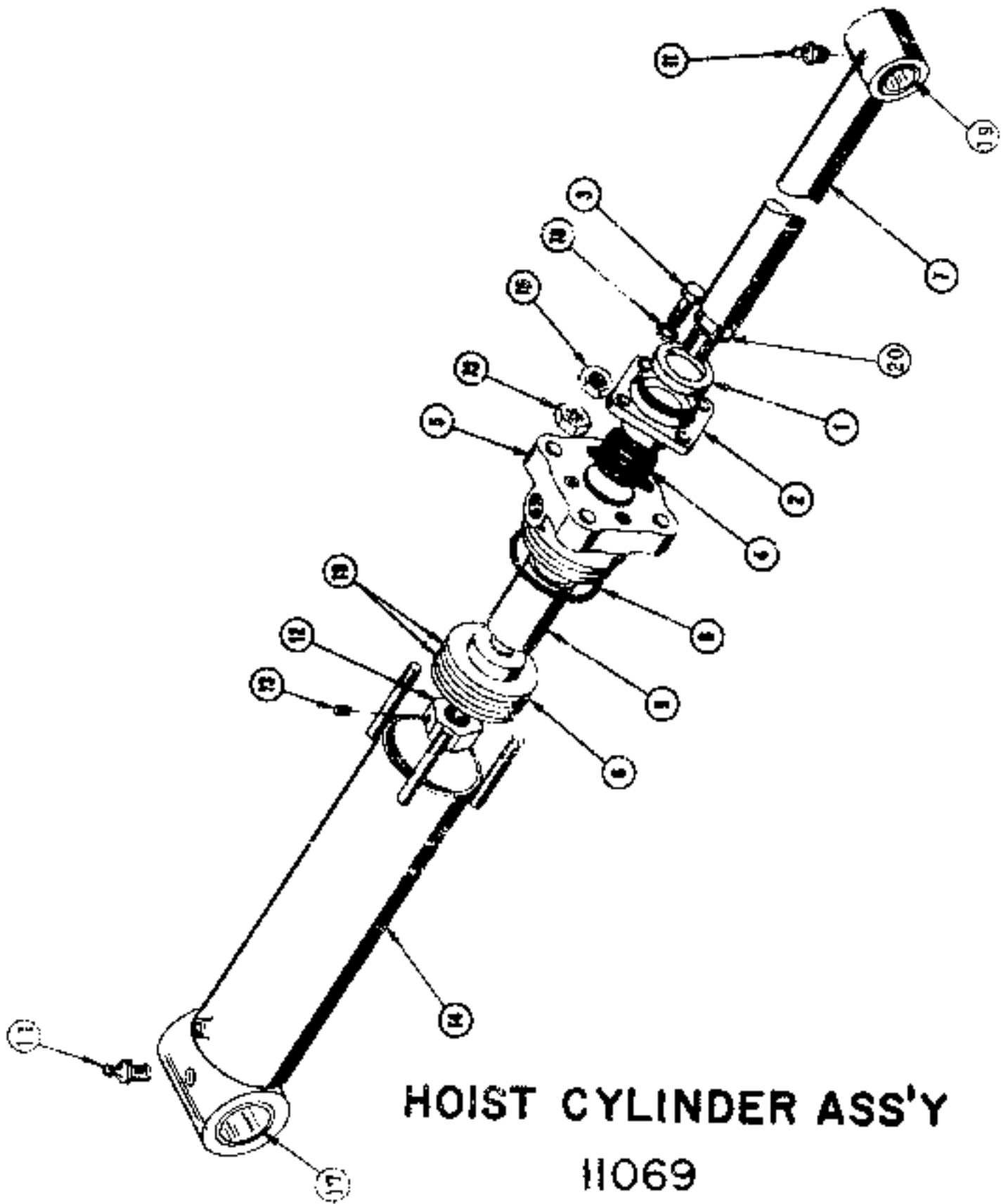


# HOIST CYLINDER ASS'Y

11082



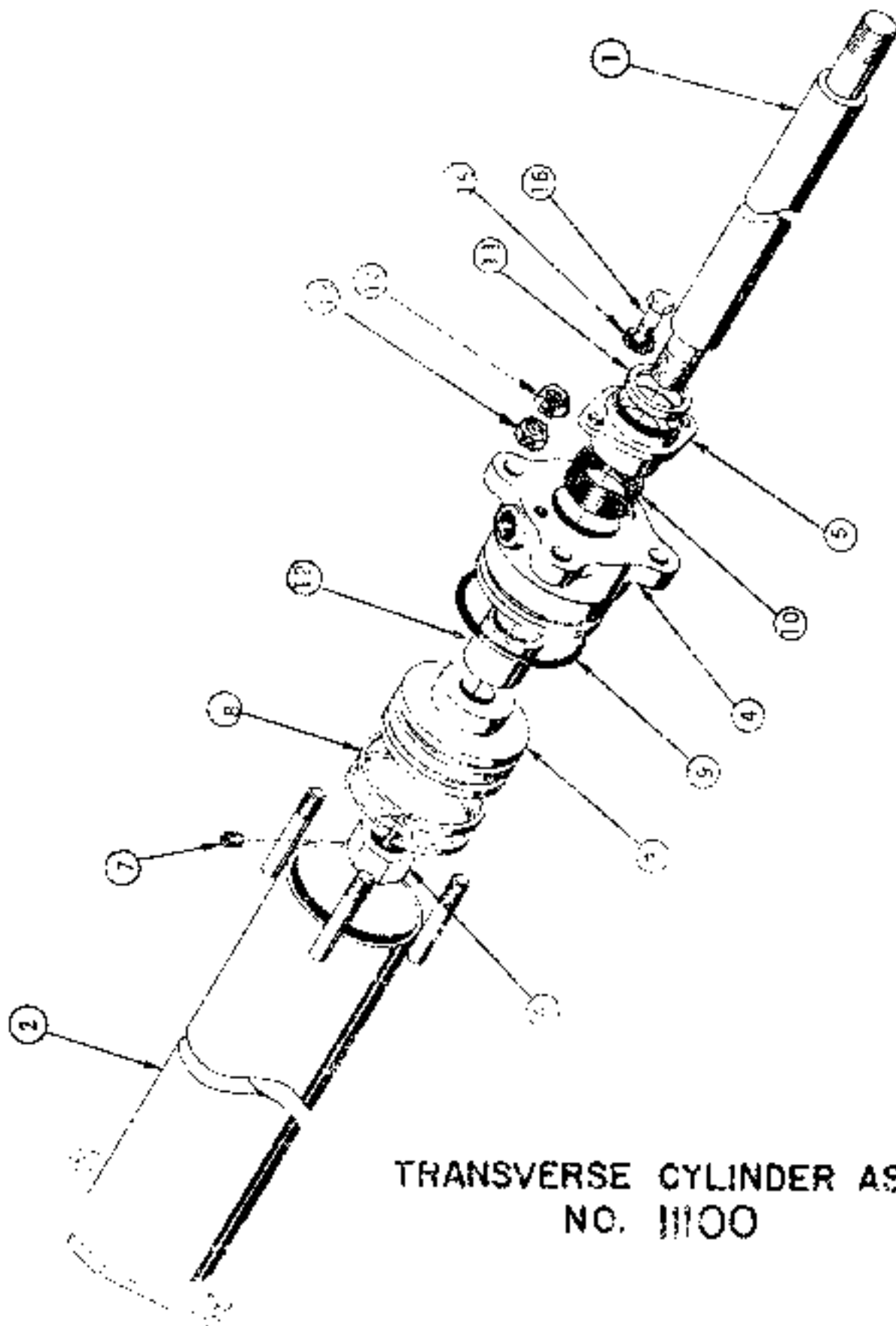
REF.	PART NO.	DESCRIPTION	REQ.
		FOIST CYLINDER ASSEMBLY 707 31' 10-11,080	
1	P-10564	Ringare	1
2	521	Blend	1
3	00712	Canscrew, 5/16 H.F. x 1 1/2" long	4
4	P-10560	V-Packing	1
5	7007	Head	1
6	P-10317	O-Ring	1
7	11,083	Piston Rod	1
8	549	Piston	1
9	N-10574	Spacer	1
10	P-10547	Ring Assembly	2
11	00611	Zerk Fitting	2
12	322	Nut, Special	1
13	00712	Set screw, 1/4-20 H.F. x 3/8 Cup Point	1
14	11,084	Cylinder Tube weldment	1
15	00611	Nut, Hex 1/2 H.F.	2
16	00611	Nut, Hex 1/2 H.F.	2
17	00712	Gushing	1
18	00712	Washer, Snakeproof 5/16	2
19	00712	Gushing	1
20	P-10187	O-Ring	1



**HOIST CYLINDER ASS'Y  
11069**



REF.	PART NO.	DESCRIPTION	REQ.
		ROCKET CYLINDER ASSEMBLY 1.72-401 NO. 11,069	
1	11-3104	Kit, Tube	1
2	001	Spacer	1
3	001 L	Clamp, 5/16 U.S. x 1 1/2	4
4	11-3510	Head	1
5	11-3511	O-Ring	1
6	11,184	Piston Rod	1
7	11-3512	Piston	1
8	11-3513	Spacer	1
9	11-3514	Ring Assembly	2
10	001 L	Zerk Fitting, 1/8 N. Y.	1
11	222	Nut, Special	1
12	001 L	Set screw, 1/4-20 U.S. x 1/8 Cut Point	1
13	11,185	Cylinder Tube Weldment	1
14	001 L	Int. Bar 1/2 N.F.	4
15	001 L	Nut, Hex 1/2 N.F.	4
16	11-3515	Bushing	1
17	11-3516	Washer, Squareroot 5/16	1
18	11-3517	Bushing	1
19	11-3518	O-Ring	1



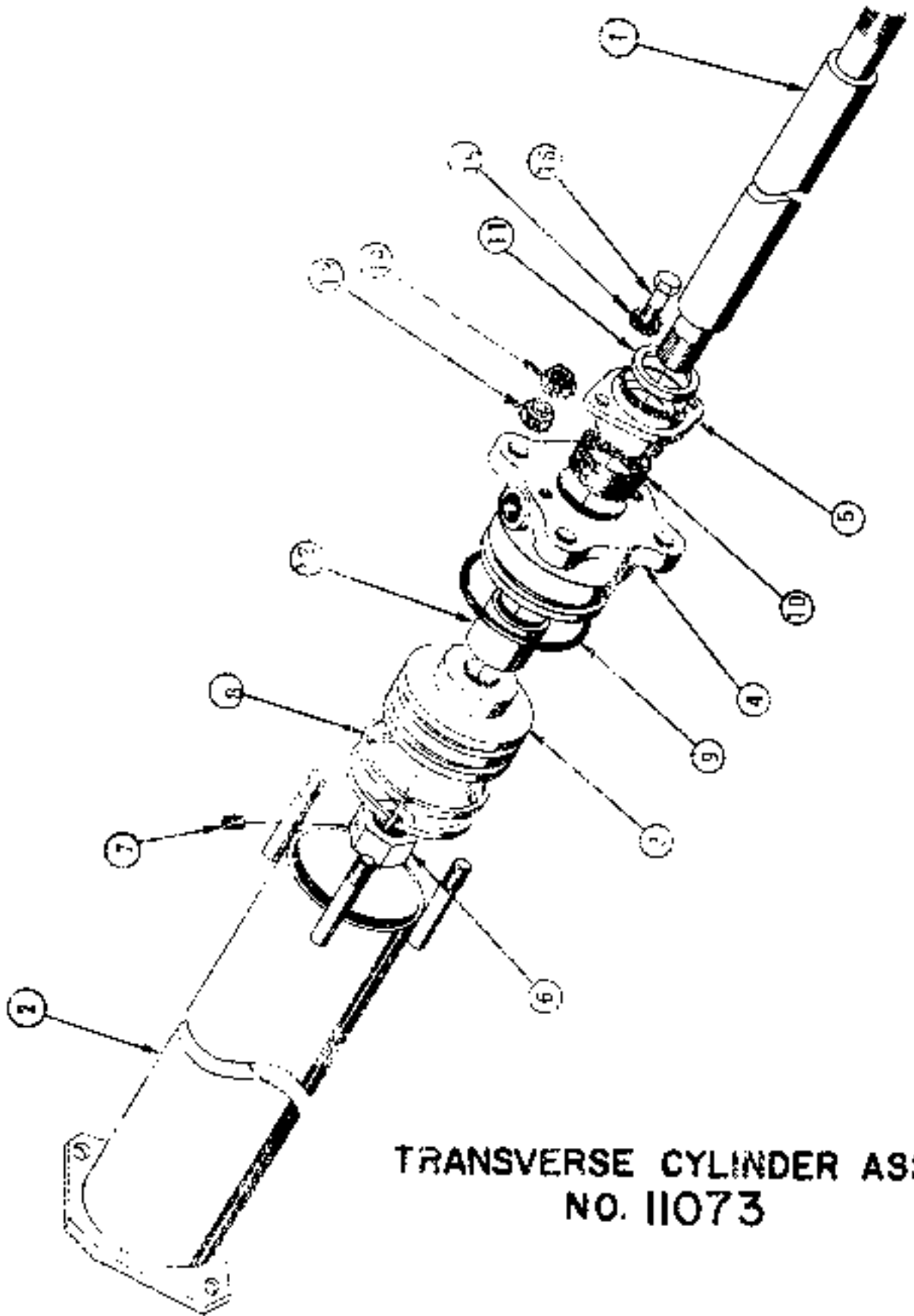
TRANSVERSE CYLINDER ASSY  
NO. 11100



OMIL ENGINEERING COMPANY, INC.  
 3945 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

TRANSVERSE CYLINDER ASSEMBY  
 No. 11,100

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,000		Flange Rod	-
2	11,058		Cylinder Tube weldment	1
3	661		Flange	1
4	1000		Head	1
5	1002		Gland	1
6	222		Nut, Special	1
7	COM'L		Set screw, 1/4" MC x 3/8" Cap Pt.	1
8	P-11245		Ring Assembly	2
9	P-10015		O-Ring	1
10	P-10006		V-Rocking	1
11	P-10100		Knob, Lip	1
12	M-10230		Spacer	1
13	COM'L		Nut, Full 1/2 NF	4
14	COM'L		Nut, Jam 1/2 NF	2
15	COM'L		Washer, Shaker off 3/8	2
16	COM'L		Capscrew, 3/8 MC x 1" Long	2

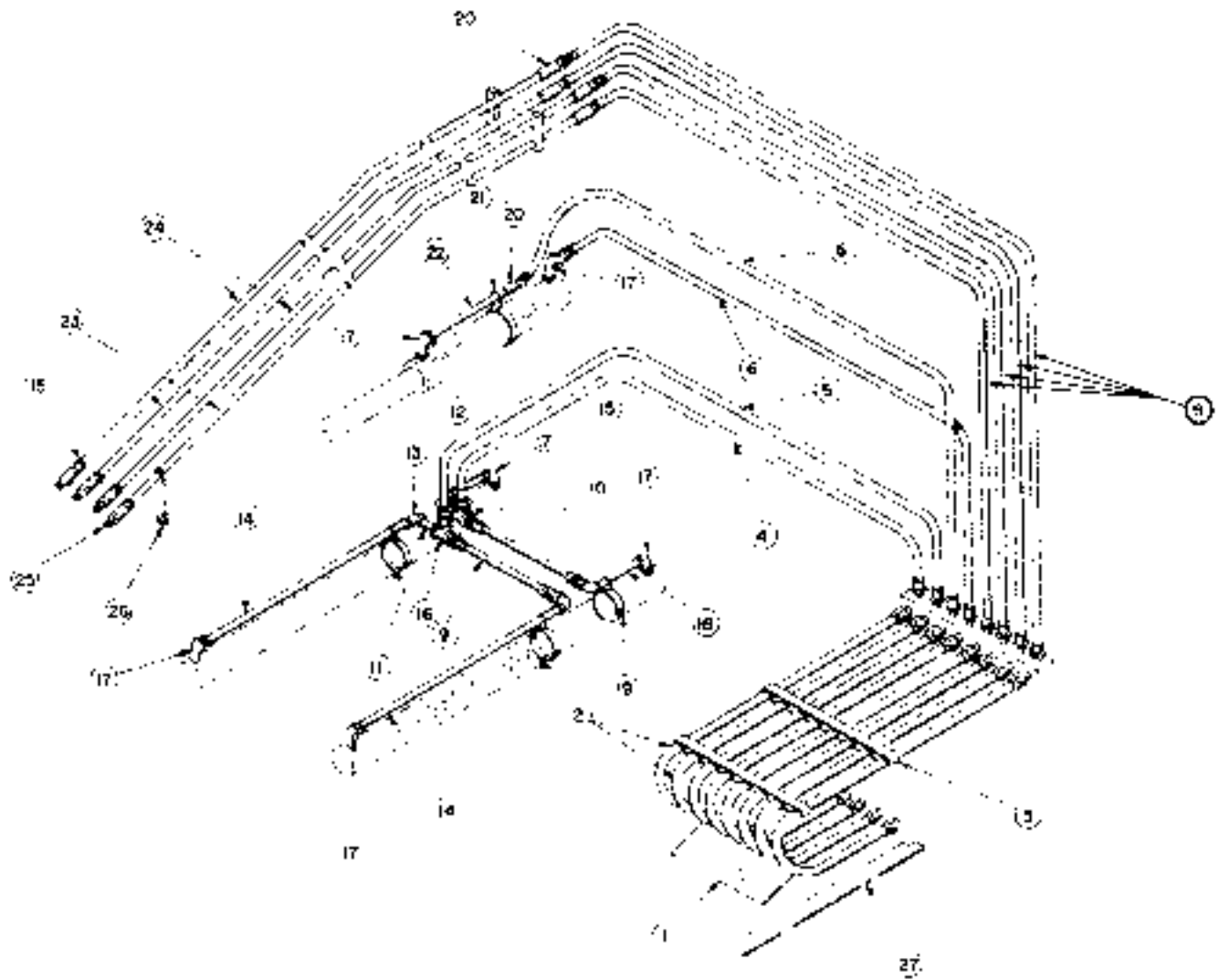


**TRANSVERSE CYLINDER ASS'Y  
NO. 11073**

LULL ENGINEERING COMPANY, INC.  
 1045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55104

TRANSVERSE CYLINDER ASSEMBLY  
 NO. 11,075

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,074		Piston Rod	1
2	11,075		Cylinder Head Weldment	1
3	551		Piston	1
4	1028		Head	1
5	1032		Clad	1
6	222		Gut. Special	1
7	COM'L		Set Screw, 1/4" NC x 3/8 Cup Hd.	1
8	P-11346		Ring Assembly	2
9	P-10314		O-Ring	1
10	P-10306		V-Packing	1
11	P-10308		Cladure, Wiper	1
12	P-10151		Spacer	1
13	COM'L		Nut, Full 1/2 NF	4
14	COM'L		Nut, Jam 1/2 NF	4
15	COM'L		Washer, Flakeproof 3/8	2
16	COM'L		Cap Screw, 3/8 NC x 1" Long	2



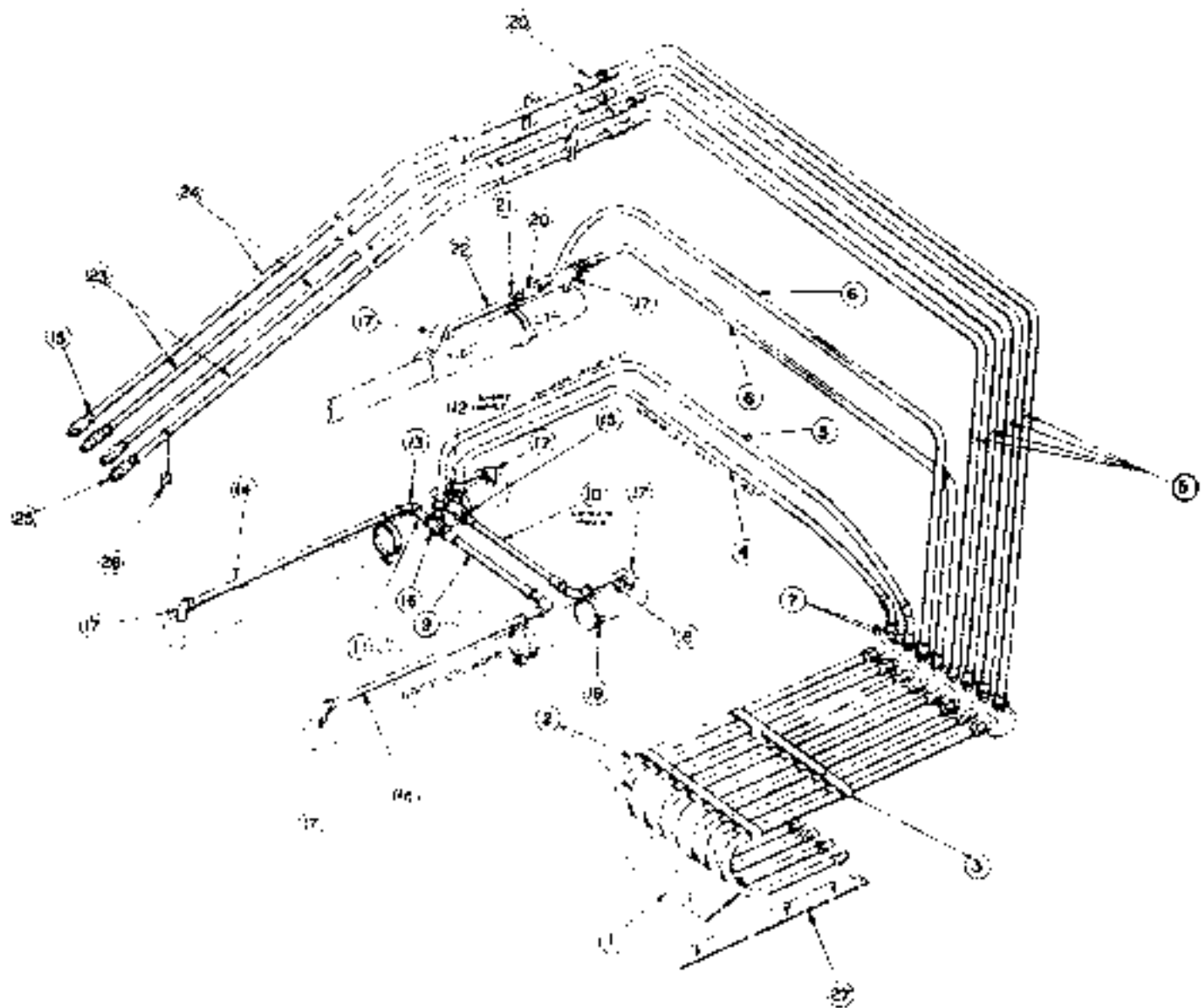
**HYDRAULIC SYSTEM ASS'Y.  
(JUNCTION BLOCK TO LIFT ARM)**

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

HYDRAULIC SYSTEM  
 MODEL 7C2-31'  
 NO. 11,313

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	P-11538	Hose	6
2	P-11299	Hose	2
3	1149	Hose Strap	2
4	P-11505	Hose	1
5	P-11506	Hose	1
6	P-10292	Hose	2
7	P-12969	Fitting	2
8	P-11319	Hose	4
9	P-11541	Hose	1
10	P-11308	Hose	1
11	P-10794	Ripple	1
12	P-10884	Ripple	1
13	P-10225	Elbow	5
14	N-10272	Pipe, 3/8 x 46"	2
15	P-10120	Reducing Bushing	8
16	P-10107	Tee	2
17	P-10117	Street Elb	4
18	P-10868	Pipe	2
19	563	Cylinder Pipe Clamp	4
20	P-13323	Coupling	5
21	613	Cylinder Pipe Clamp	1
22	N-10270	Pipe, 3/8 X Str. x 11"	1
23	N-10153	Pipe, 3/8 X Str. x 16 Ft. 3 Inches	2
24	N-10152	Pipe, 3/8 X Str. x 16 Ft. 4 Inches	2
25	P-11354	Coupling, Female	4
26	P-13516	Dust Cap	4
27	11,155	Hose Support	1
28	6611	Clamp	6
29 "A"	15109	Restrictor 3/32"	1
30	14119	Junction Block Assy	1

REVISION      E.C.O. NO.  
 "A"                1105

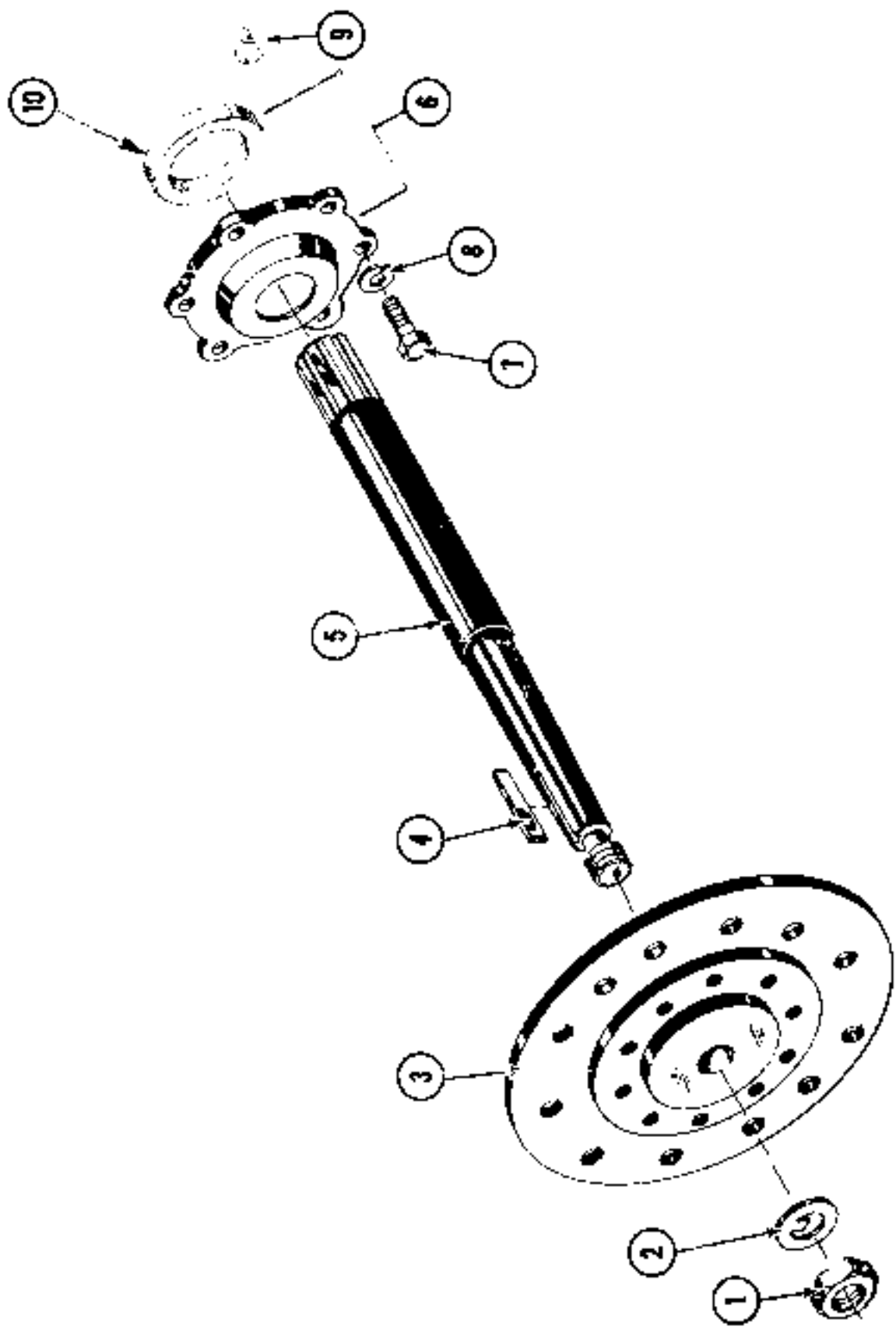


**HYDRAULIC SYSTEM ASS'Y.  
 (JUNCTION BLOCK TO )  
 (LIFT ARM)**

NO. 21,312

HYDRAULIC SYSTEM  
NO. 11,112

ITEM	PART	DESCRIPTION	RE'Q.
1	P-11500	Hose	2 2 1
2	P-11509	Hose	
3	1129	Hose Strap	
4	P-11509	Hose	
5	P-11540	Hose	
6	P-10897	Hose	
7			
8	P-11319	Hose	
9	P-11341	Hose	
10	P-11340	Hose	
11	P-10791	Nipple	
12	P-10831	Nipple	
13	P-10828	Elbow	
14	N-10274	Pipe, 3/8 x 53"	
15	P-10120	Reducing Bushing	
16	P-11542	Tee	
17	P-10117	Street Ell	
18	N-10188	Pipe, 3/8 x Strong x 10"	
19	663	Cylinder Pipe Clamp	
20	P-10325	Coupling	
21	613	Cylinder Pipe Clamp	
22	K-10375	Pipe 3/8 x Strong x 13"	
23	N-10164	Pipe 3/8 x Strong x 19 1/2"	
24	K-10185	Pipe 3/8 x Strong x 20 1/2"	
25	P-10293	Coupling	
26	P-10259	End Cap	
27	11,155	Hose Straps	



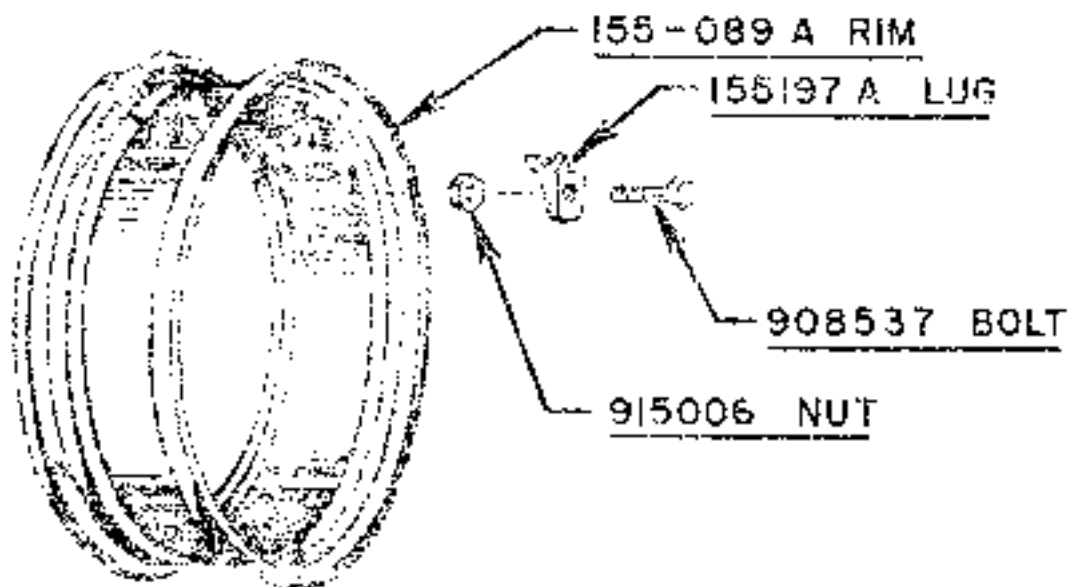
7C2 DRIVE WHEEL AXLE SHAFT & HUB



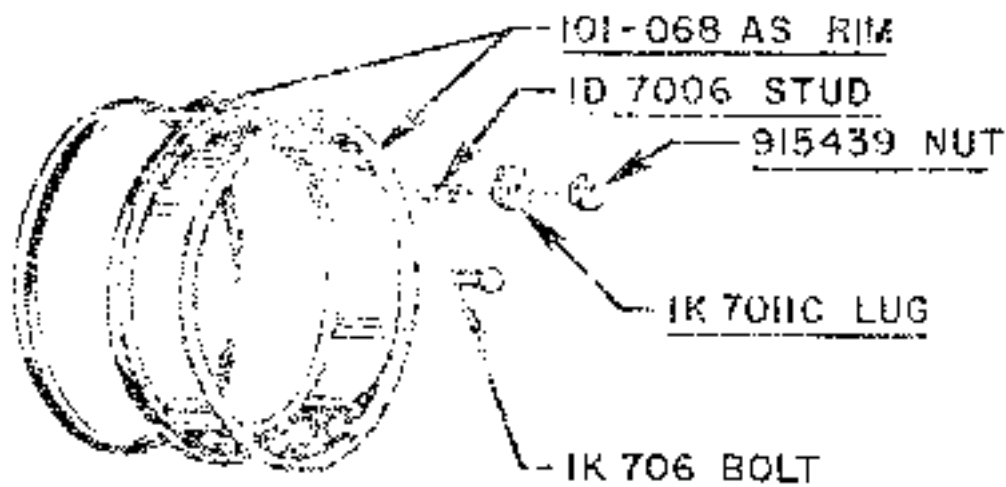


REF.	PART NO.	DESCRIPTION	REQ.
		702 DRIVE WHEEL AXLE SHAFT AND WHEEL HUB.	
1	IK711	Nut	1
2	IK1449	Lockwasher	1
3	135-203A	Wheel	1
4	1F1451	Key	1
5	166-418A	Axle Shaft	1
6	1K5701A	Cap	1
7	908373	Capscrew	5
8	920-083	Lockwasher	6
9	939017	Grease Fitting	2
10	K1443	Oil Seal	1

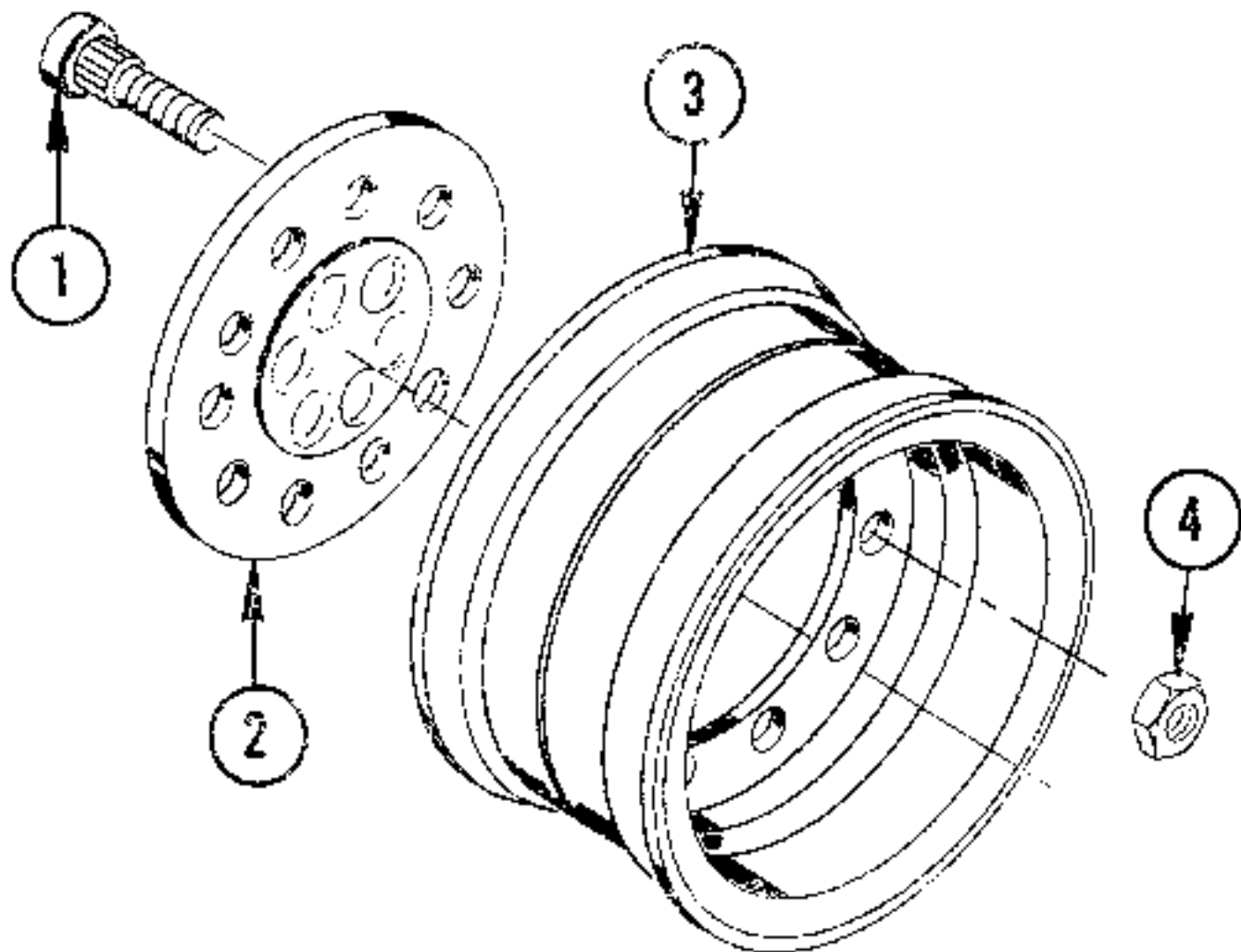
## DRIVE WHEEL RIMS



## STEERING WHEEL RIMS

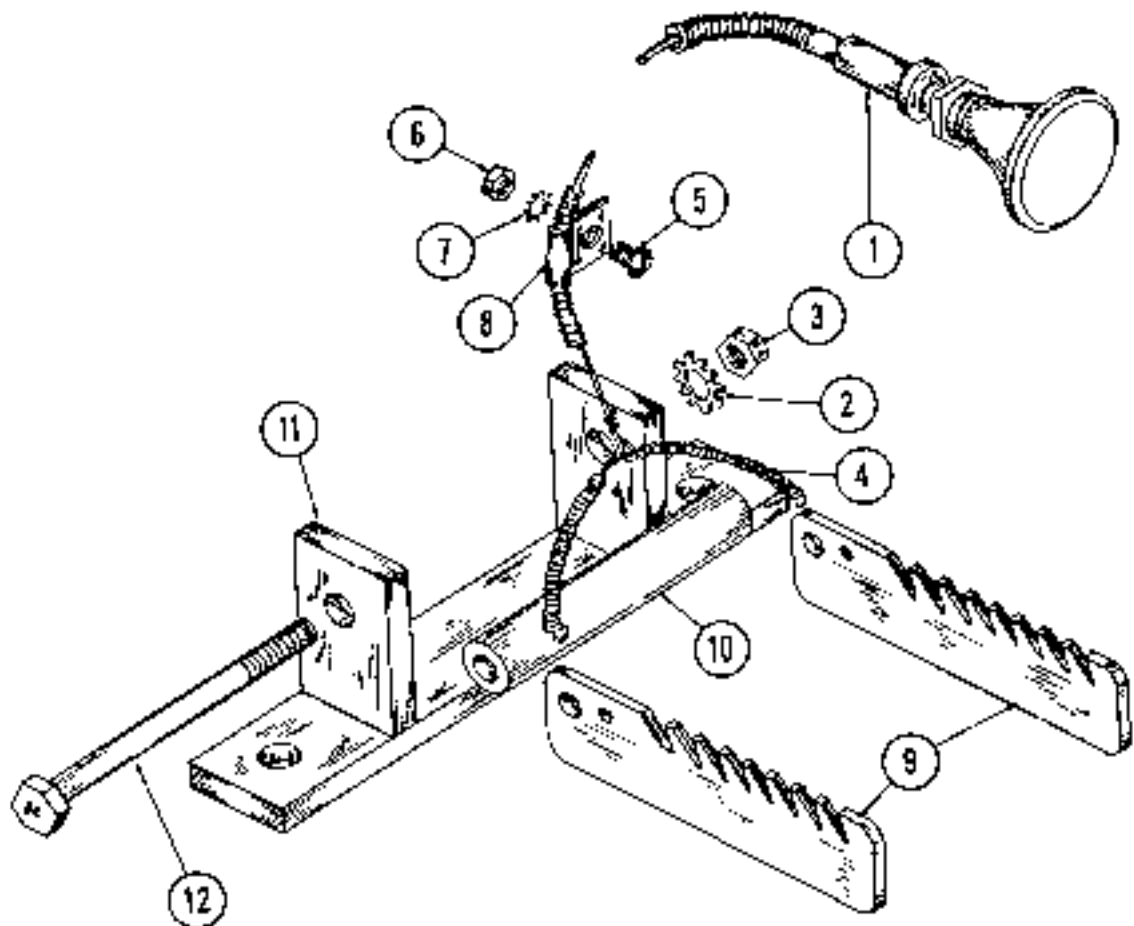






RIM/WHEEL ASSEMBLY  
 (HIGH-FLOTATION TIRE)  
 NO. 11,564

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	155306-A		Stud	10
2	167256-A		Wheel Center	1
3	164309-A		High-Flotation Rim	1
4	155307-A		Nut	10



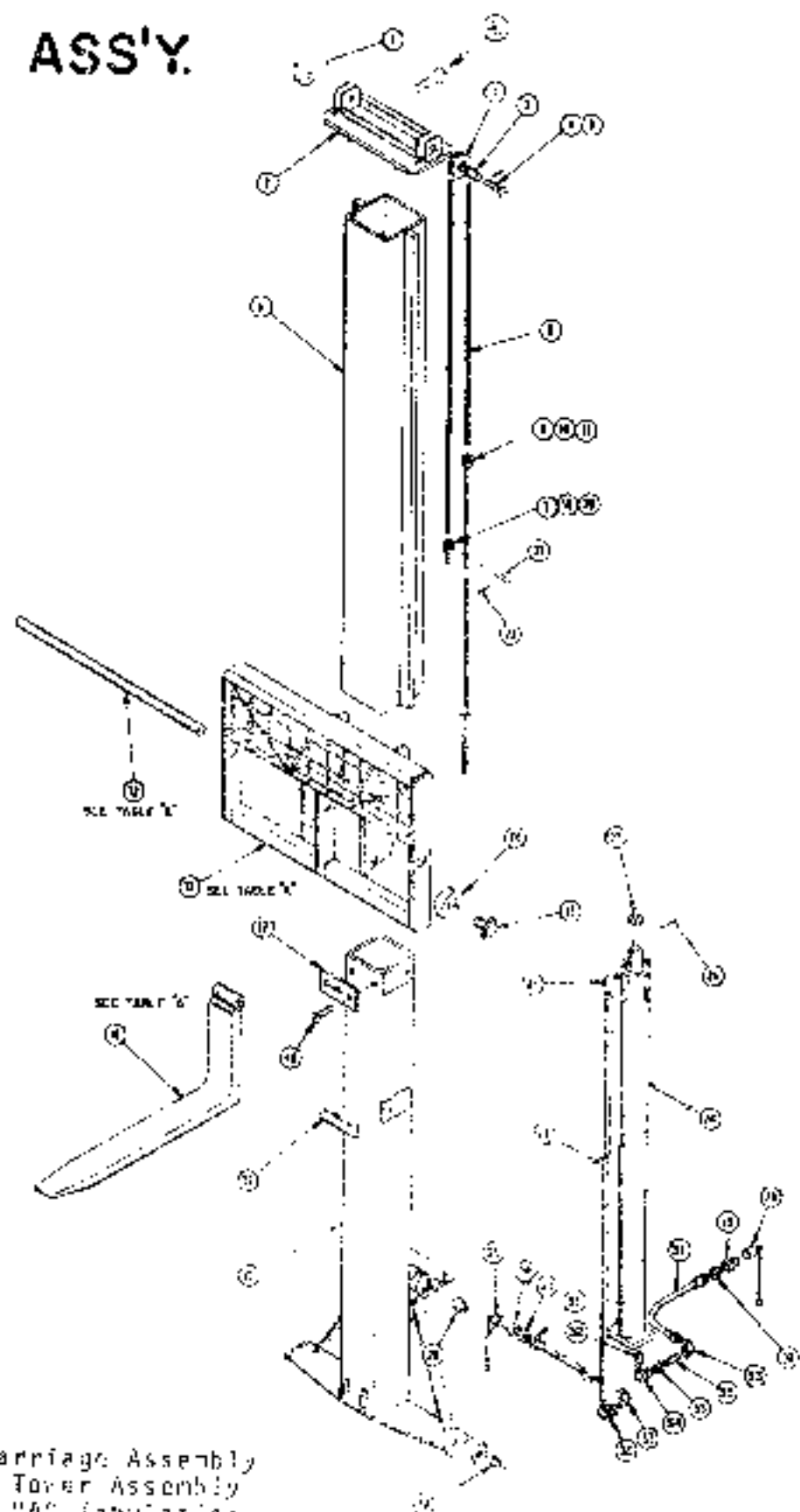
<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION OF PART</u>	<u>NO.</u> <u>REQ.</u>
1	P10007		Control Cable	1
2	Coml.		Shakeproof Washer 5/16"	1
3	Coml.		Hex. Jam Nut 5/16"-15 NC	1
4	P10008		Spring	1
5	Coml.		Screw 10-24 NC x 1/2" Lg.	1
6	Coml.		Hex. Nut 10-24 NC	1
7	Coml.		Lock Washer 3/16"	1
8	P10009		Clamp, Cable	1
9	7152		Brake Pedal Stop	2
10	7395		Pipe Spacer	1
11	7396		Brake Lock Bracket	1
12	Coml.		Hex. Cap Screw 5/16"-18 NC x 3-3/4"	1

NO. 1265

LOWER ASS'Y.

TABLE A

ASS'Y. NO.	DESCRIPTION	CARRIAGE NO.	FORM NO.	FORK LEGS 14	SHAFT 30.
11610	Side T. L. Carriage Ass'y.	11609	* 11,290	42"	11331
11742	Side Mast Mast C. Ass'y.	11731	* 11,290	42"	11345
11751	Instans Self Fork C. Ass'y.	11747	* 13,079	42"	11752
11743	Standard Carriage Ass'y.	11722	* 11,290	42"	11369
11775	Mast C. Side Fork Ass'y.	11783	* 11,290	42"	11772

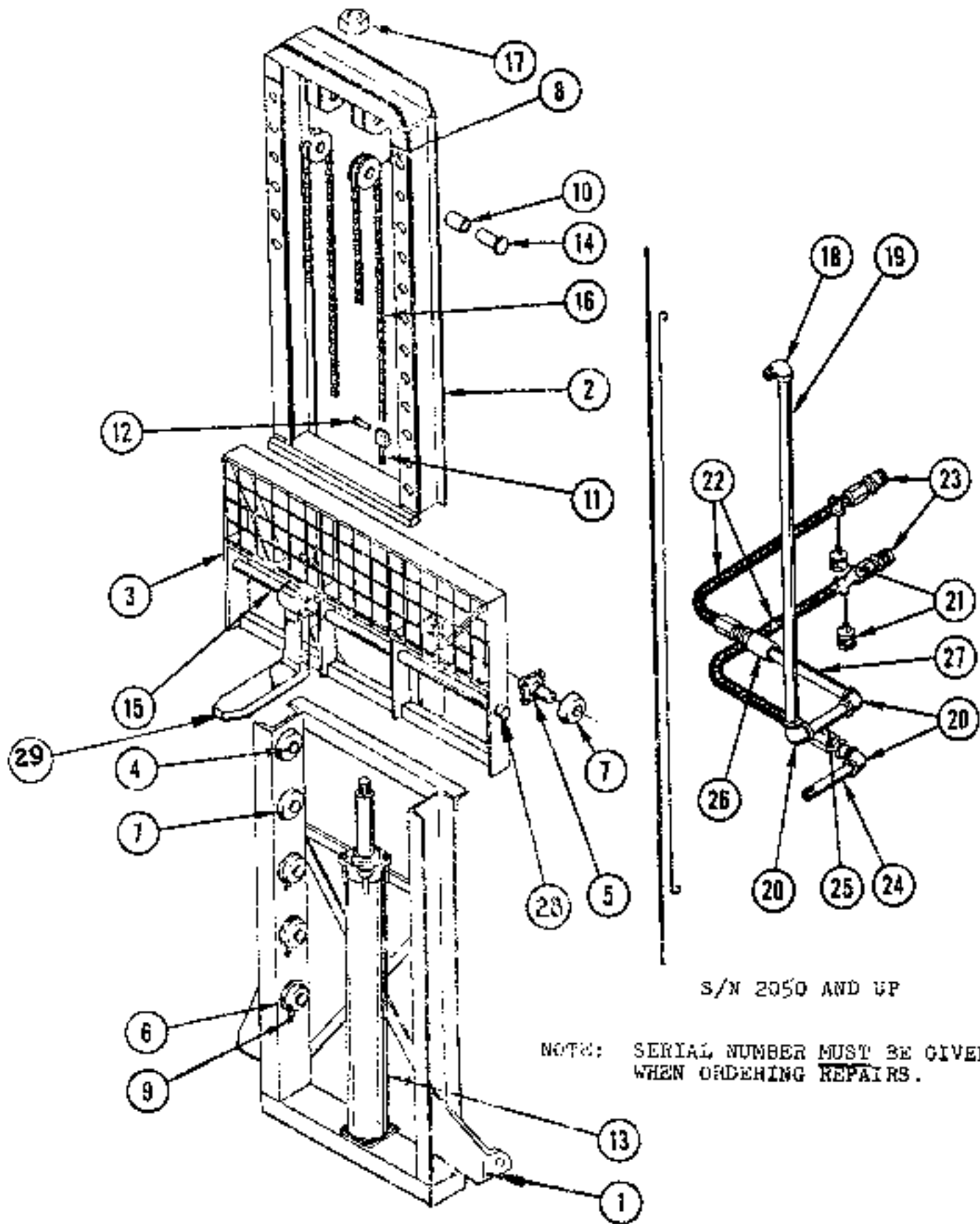


NOTE: For Required Carriage Assembly Used With This Fork Assembly Refer to Table "A" (adjacent).

GULL ENGINEERING COMPANY, INC.  
 2045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

TELESCOPIC TOWER ASS'Y  
 NO. 1265

ITEM NO.	QTY	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1		7202	Chain Pulley	2
2		1879	Chain Pulley Bracket	1
3		7214	Bushing	2
4		7075	Pin	2
5		1661	Chain	2
6		1115	Chain Link	2
7		7200-03	Chain Anchor	2
8		00712	Cotter Pin 3/16" Dia. x 1 3/4" long	2
9		6275	Yoke Weldment	1
10		00711	Washer, Starlock 1/2	2
11		00711	Hex Nut 1/2 N.F.	4
12	See Table "A"		Shaft	1
13	See Table "A"		Carriage	1
14		8803	Roller	4
15		10272	Spindle	2
16		1155	Upright Frame	1
17		8917	Bronze Wear Plate	4
18	See Table "A"		Yoke	2
19		00711	Hex Nut 5/8 N.F.	4
20		00711	Washer, Starlock 5/8	2
21		7272	Anchor Pin	4
22		00711	Cotter Pin 1/16 Dia. x 3/4"	2
23		00711	Finished Hex Castle Nut 1" N.F.	1
24		00711	Cotter Pin 1/8 Dia. x 2" Long	1
25		71501	Street El	1
26		8539	Cylinder Assembly (Page 5A)	1
27		4-12982	Pipe	1
28		4-10386	Dust Cap	2
29		4-11351	Coupling (Male)	2
30		4-11120	Reducing Bushing	3
31		4-10390	Hose	2
32		4-10637	Nipple	1
33		4-10225	Elbow	1
34		4-10227	Elbow	1
35		4-10285	Elbow	1
36		4-10225	Elbow	1
37		4-10117	Elbow	1
38		7330	Rolling	2
39		6974	Bushing	2
40		00711	Slotted Flathead Capscrew 1/2 NC x 1	8
41		4-11517	Capscrew	4



S/N 2050 AND UP

NOTE: SERIAL NUMBER MUST BE GIVEN  
WHEN ORDERING REPAIRS.

## TELESCOPIC TOWER

11,293



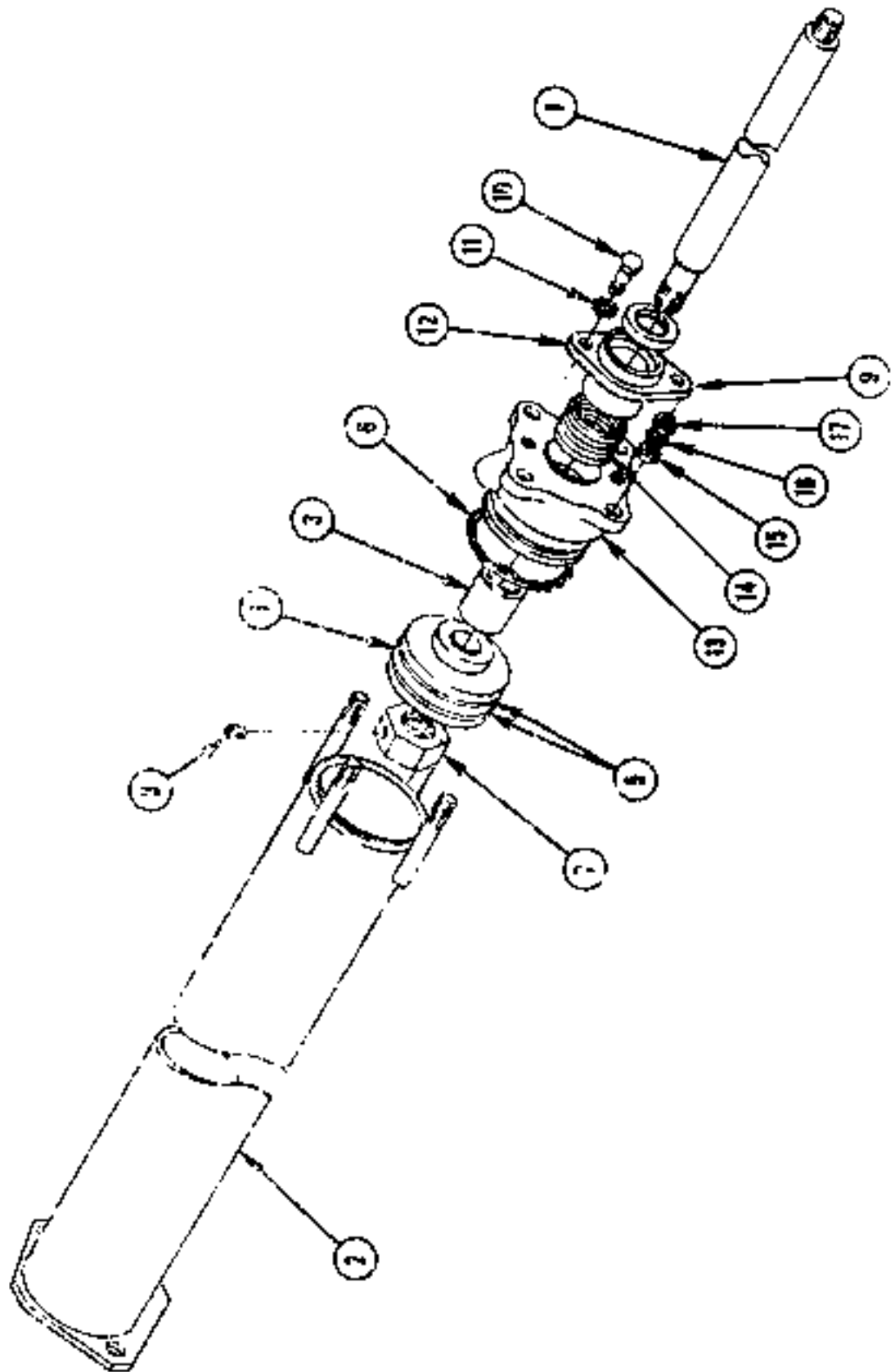
LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL, MINNESOTA 55121

TELESCOPIC TOWER ASSEMBLY  
 NO. 11,293  
 S/N 2050 & UP

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	11,056		Upright Frame	1
2	7833		Yoke	1
3	1479		Special Wide West Coast Carriage	1
	11,367		Carriage, Side Tilt	1
4	7618		Frame, Spindle	10
5	11,387		Carriage, Spindle	4
6	7033		Flange, Roller	8
7	7034		Plain Roller	8
8	7203		Chain Pulley	2
9	7151		Roller Clip	8
10	7214		Bushing	2
11	7207		Chain Anchor	4
12	7078		Chain Anchor Pin	4
13	8336		Cylinder Assembly (Page 68)	1
14	7075		Chain Pulley Pin	2
15	11,363		Fork Line Shaft	1
16	P-11649		Chain	2
17	222		Special Nut	1
18	P-10111		Street Ell	1
19	N-10045		Pipe	1
20	P-10227		Elbow	3
21	P-10325		Dust Cap	2
22	P-10395		Hose	2
23	P-10324		Male Tip	2
24	P-10283		Nipple	1
25	P-10282		Nipple	1
26	P-10260		Coupling	1
27	P-10394		Nipple	1
28	COM'L		Cotter Pin, 3/8 Dia. x 2 1/2"	2
29	13,279		Forks	2

LULL ENGINEERING COMPANY, INC.  
3045 HIGHWAY 13  
ST. PAUL, MINNESOTA 55111

3 1/2" ID CYLINDER ASS'Y.  
NO. 6050



ILLI ENGINEERING COMPANY, INC.  
 2045 HIGHWAY 13  
 ST. PAUL, MINNESOTA 55111

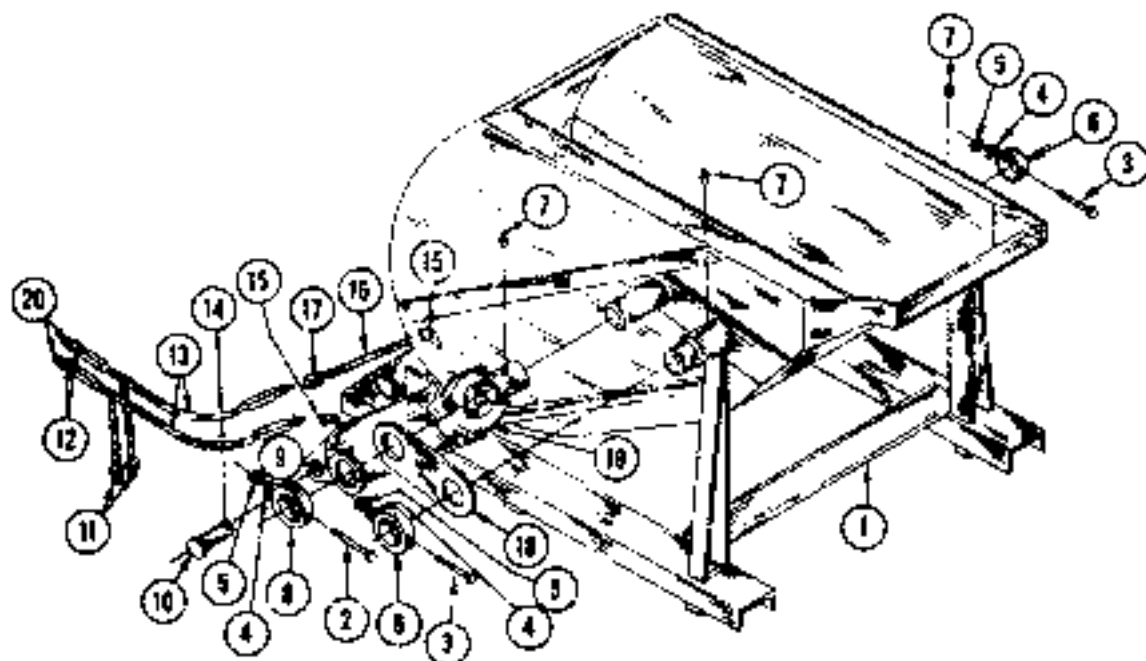
3 1/2" ID CYLINDER ASS'Y.  
 NO. 6959

ITEM NO.	PART NO.	DESCRIPTION	NO. REQ.
1	6963	Piston Rod	1
2	6961	Cylinder Tube	1
3	M-10204	Spacer	1
4	550	Piston	1
5	P-11292	Piston Ring Assembly	2
6	P-10315	C-Ring	1
7	222	Special Nut	1
8	COML.	Setcrew, 1/4 NC x 3/8 Cup Pt.	1
9	P-10300	closure	1
10	COML.	Cap screw, 3/8 NC x 1	2
11	COML.	Spacershaft Washer, 3/8"	2
12	1223	O-ring	1
13	1034	Cylinder head	1
14	P-10305	V-Packing	1
15	COML.	Hex Nut, 7/16"	4
16	COML.	Spacershaft Washer, 7/16"	4
17	COML.	Jam Nut, 7/16 4F	4



3045 HIGHWAY 13,  
ST. PAUL, MINNESOTA 55121

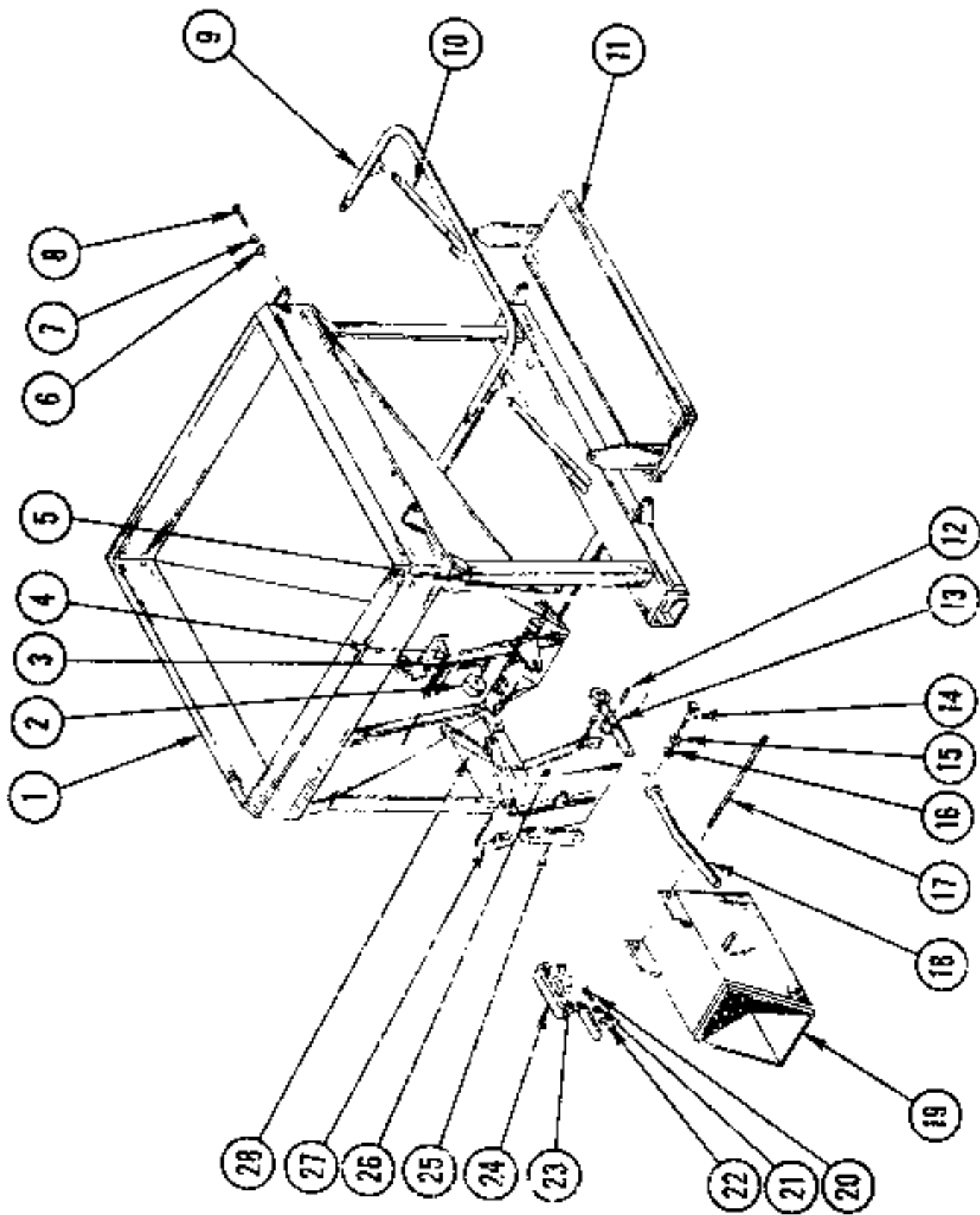
CONCRETE BUCKET ASSEMBLY  
(PALLET FORK FRAME)  
NO. 4396 MODEL 1-3



<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	4080		Concrete Bucket & Frame Ass'y	1
2	COM'L		Capscrew, 1/4-20 NC x 2 Hex	1
3	COM'L		Capscrew, 1/4-20 NC x 2 1/4 Hex	2
4	COM'L		Washer, Shakeproof 1/4	3
5	COM'L		Nut, Hex 1/4-20 NC	3
6	7451		Collar, Bracket	2
7	COM'L		Zerk Fitting 1/8 Str.	3
8	7450		Collar	1
9	COM'L		Washer, 1" I.D.	As Req.
10	7452		Pin, Lower Pivot	1
11	P-10325		Dust Cap, Male Tip	2
12	P-10120		Reducing Bushing	2
13	P-10327		Hose	2
14	COM'L		Cotterpin, 5/32 x 1 1/2	1
15	P-10117		Street Elbow	2
16	N-10321		Pipe	1
17	P-10328		Coupling	1
18	7449		Link, Cylinder Pivot	1
19		5980	Cylinder Assembly (Page 88)	1
20	P-11353		Male Tip-Quick Coupler	2

WALSH AND NEWMAN COMPANY, INC.  
3045 HIGHWAY 13,  
ST. PAUL 11, MINNESOTA

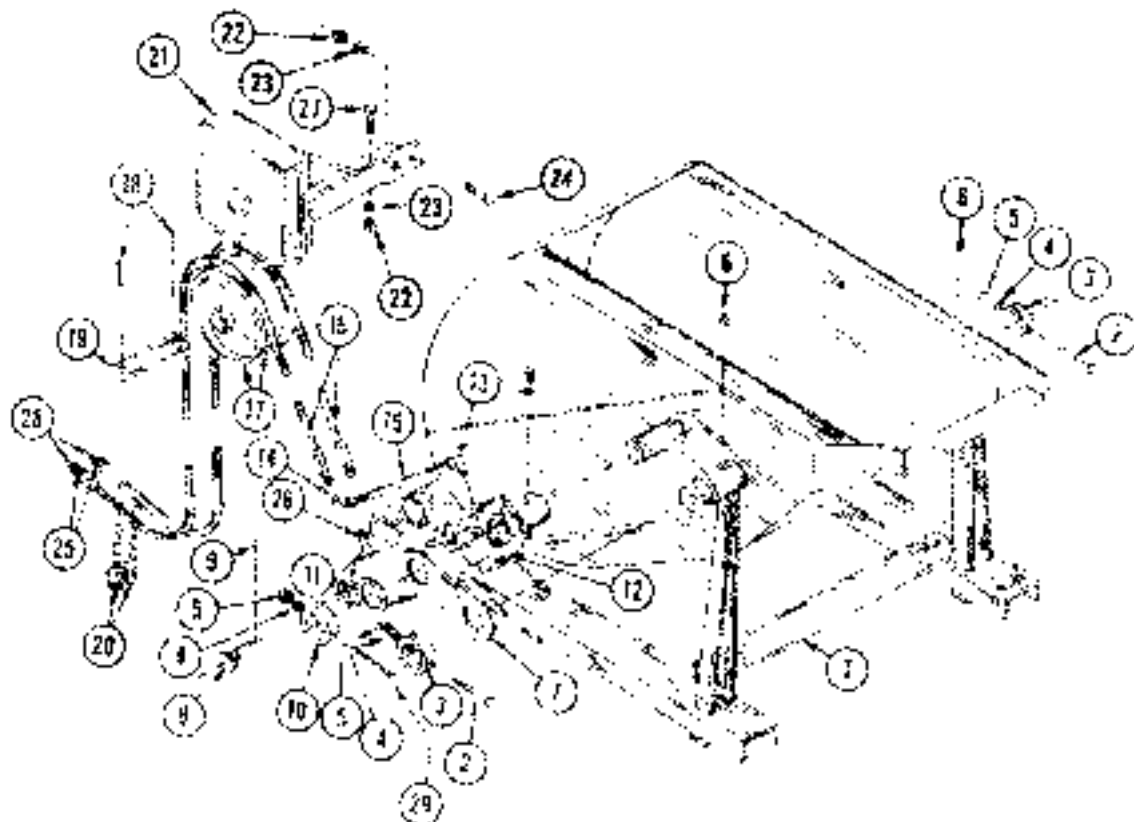
CONCRETE TRIPPER  
(LIFT ARM CARRIAGE)  
NO. 4100



LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55111

CONCRETE HOPPER ASSEMBLY  
 NO. 4100  
 MODEL S-A

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u> <u>REQ.</u>
1	4094		Hopper	1
2	7634		Door Roller	1
3	7651		Pivot Pin	1
4	COM'L		Center Pin, 3/16 x 1 1/8	1 <sup>2</sup>
5	7626		Pivot Pin, Lower	1
6	COM'L		Nut, 3/8-16 NC Hex	8
7	COM'L		Shakeproof Washer, 3/8	8
8	COM'L		Capscrew, 3/8-16 NC x 1 Hex Hd	8
9	7335		Hand nail	1
10	7333		Support Bar	2
11	7330		Platform	1
12	7631		Pivot Pin	1
13	7675		Lower Handle	1
14	COM'L		Capscrew, 1/4-20 NC x 1 3/4 Hex Hd.	1
15	COM'L		Shakeproof Washer, 1/4	2
16	COM'L		Nut, 1/4-20 NC Hex	2
17	7639		Pivot Pin, Chute	1
18	7663		Handle	1
19	7662		Chute	1
20	COM'L		Capscrew, 1/4-20 NC x 3/4 Hex Hd.	2
21	COM'L		Shakeproof Washer 1/4	1
22	COM'L		Nut 1/4-20 NC Hex	1
23	7510		Stiffen. Spring	1
24	7324		Spring Catch	1
25	7631		Door Line	1
26	7627		Hand Lever Line	1
27	7604		Door	1
28	7669		Hand Lever	1



ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	QTY.
1	1080		Concrete Bucket & Frame	1
2	Com1		Washer, 1/4-20 NC x 1/4 Hex	2
3	Com1		Washer	2
4	Com1		Washer, 1/4 Shakeproof	1
5	Com1		Nut, 1/4-20 NC Hex	3
6	Com1		Lock Washer 1/8 Diameter	1
7	Com1		Pin, 1/4 Diameter Steel	1
8	7452		Pin, 1/4" Dia. Pivot	1
9	Com1		Washer, 1/2 x 1/2	1
10	7450		Washer	1
11	Com1		Washer, 1 ID Flat	1
12		Com1	Cylinder Assembly (Part 10)	1
13	7451		Pin, 1/4" Dia.	1
14	7456		Pin	1
15	610-21		Pin	1
16	719-22		Pin	1
17	7273		Pin	2
18	Com1		Washer, 1/4 x 1 1/2	2
19	7177		Pin, 1/4" Dia. Pin	1
20	719-25		Pin, 1/4" Dia. Tip	2

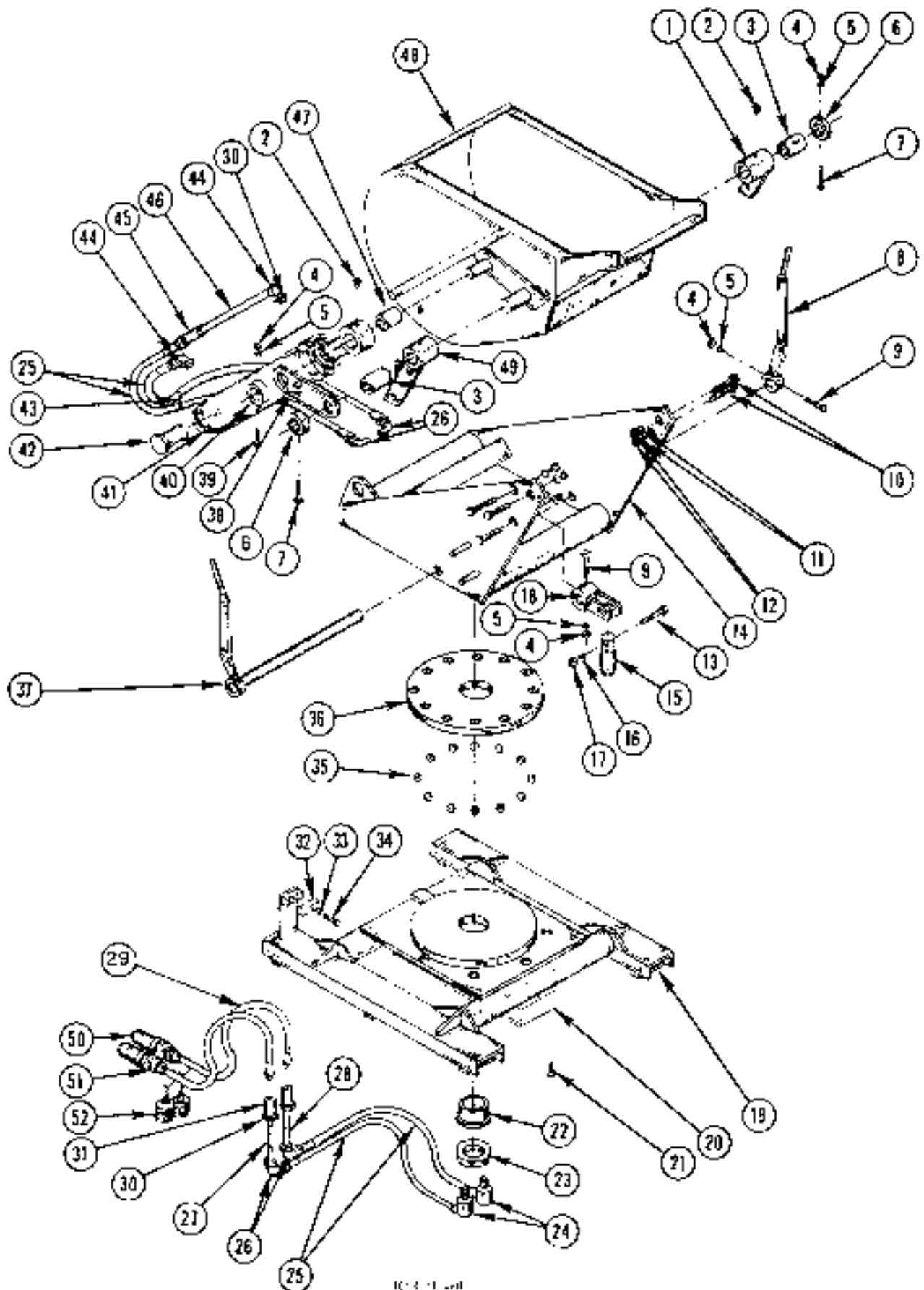


CONCRETE BUCKET ASSEMBLY  
 (TELESCOPIC TOWER) 102-311  
 NO. 4078

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
21	1030	Shield	1
22	COM'L	Nut, 5/16-18 NC Hex	4
23	COM'L	Lockwasher, 5/16	4
24	COM'L	Capscrew, 5/16-18 NC x 1 1/4 Hex	2
25	P-10120	Reducing Bushing	2
26	P-10319	Street Elbow	1
27	COM'L	Capscrew, 5/16 x 1 Hex Hd.	2
28	P-11353	Male Tip-Quick Coupler	2
29	COM'L	Capscrew, 1/4-20 NC x 2 Hex	1

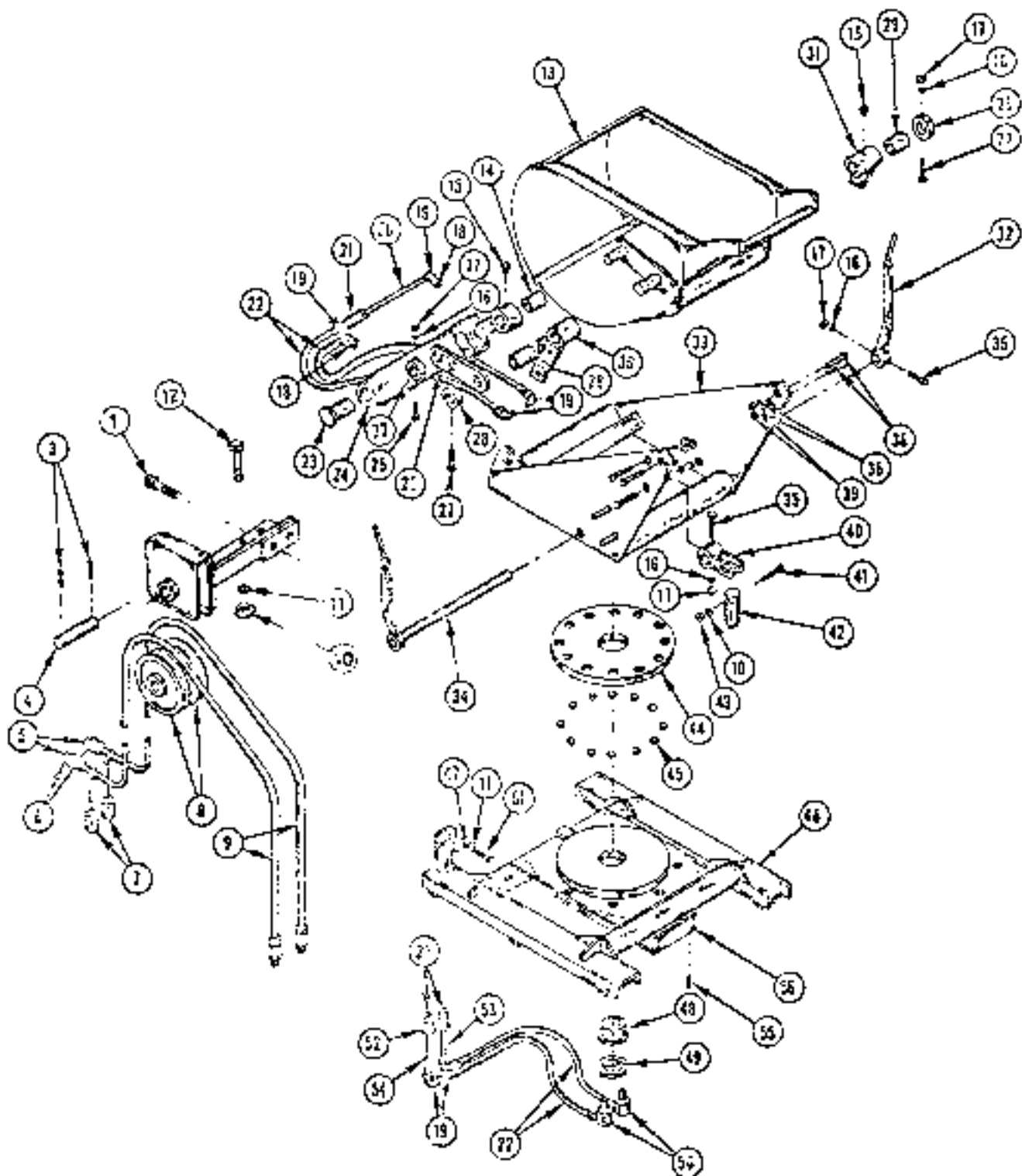
DILL ENGINEERING COMPANY, INC.  
3065 Highway 13,  
ST. PAUL 11, MINN.

SWIVEL CONCRETE BUCKET  
(LIFT ARM CARRIAGE)  
NO. 4071



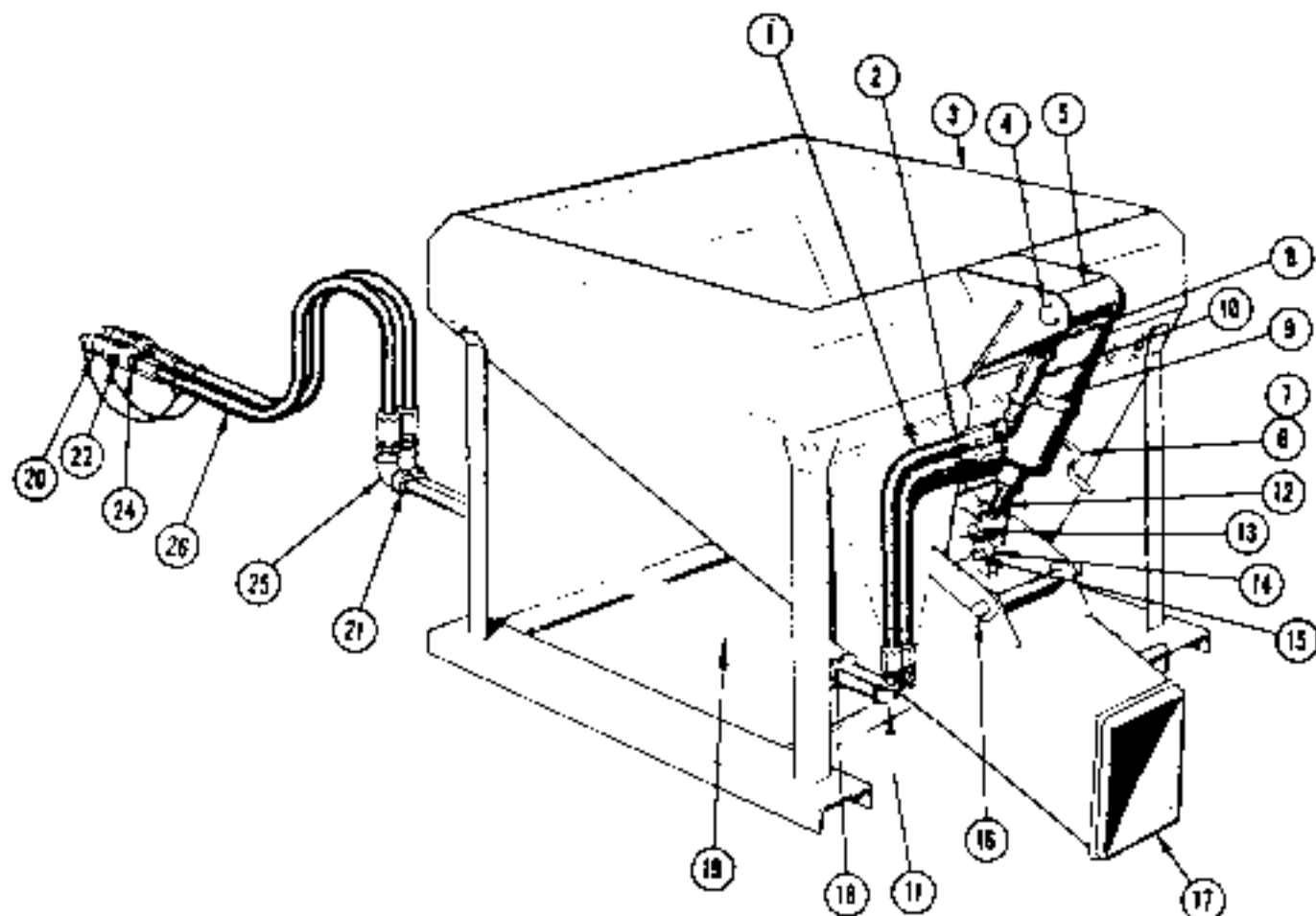
SWIVEL CONCRETE BUCKET  
(LIFT ARM CARRIAGE)  
NO. 4071

ITEM NO.	PART NO.	DESCRIPTION	NO. REQ.
1	7756	Pivot Bracket	1
2	COM'L	Zerk Fitting, 1/8 Straight	4
3	7774	Bushing	2
4	COM'L	Nut, 1/4-20 NC Hex	4
5	COM'L	Washer, Shakeproof 1/4	4
6	7451	Collar	2
7	COM'L	Capscrew, 1/4-20 NC x 2 1/4 Hex	2
8	7777	Lever	1
9	COM'L	Capscrew, 1/4-20 NC x 1 3/4 Hex	2
10	COM'L	Capscrew, 1/2-13 NC x 1 1/2 Hex	5
11	COM'L	Washer, Shakeproof 1/2	5
12	COM'L	Nut, 1/2-13 NC Hex Jam	5
13	COM'L	Capscrew, 5/16-18 x 2 Hex	1
14	7778	Upper Frame	1
15	7782	Lock Pin	1
16	COM'L	Nut, 5/16-18 NC Hex	1
17	COM'L	Nut, 5/16-18 Hex Jam	1
18	7781	Lock Pin Lever	1
19	4059	Base	1
20	7788	Hose Guard	1
21	COM'L	Capscrew, 3/8-16 NC x 3/4 Ft. Hd.	4
22	7784	Bushing	3
23	7785	Nut, Special	1
24	P-10150	Swivel	2
25	P-10155	Hose	4
26	P-10157	Elbow	4
27	P-10781	Nipple	1
28	P-10780	Nipple	1
29	P-10327	Hose	2
30	P-10591	Reducing Bushing	2
31	P-10328	Coupling	2
32	7773-2	Clamo	1
33	COM'L	Washer, Shakeproof 5/16	1
34	COM'L	Capscrew, 5/16-18 NC x 1 1/4 Hex	1
35	P-11344	Ball	12
36	7783	Ball Retainer	1
37	7779	Lever	1
38	7449	Link	1
39	COM'L	Capscrew, 1/4-20 NC x 2 Hex	1
40	7450	Collar	1
41	5980	Cylinder Assembly (Page 88)	1
42	7452	Pin	1
43	COM'L	Cotterpin, 5/32 x 2	1
44	P-10157	Street Elbow	2
45	P-10423	Coupling	1
46	N-10005	Pipe	1
47	7610	Bushing	1 (Ref)
48	7763	Bucket	1
49	7775	Pivot Bracket	1
50	P-11353	Male Tip-Quick Coupler	2
51	P-10120	Reducing Bushing	2
52	P-10325	Dust Cap (Male Tip)	2



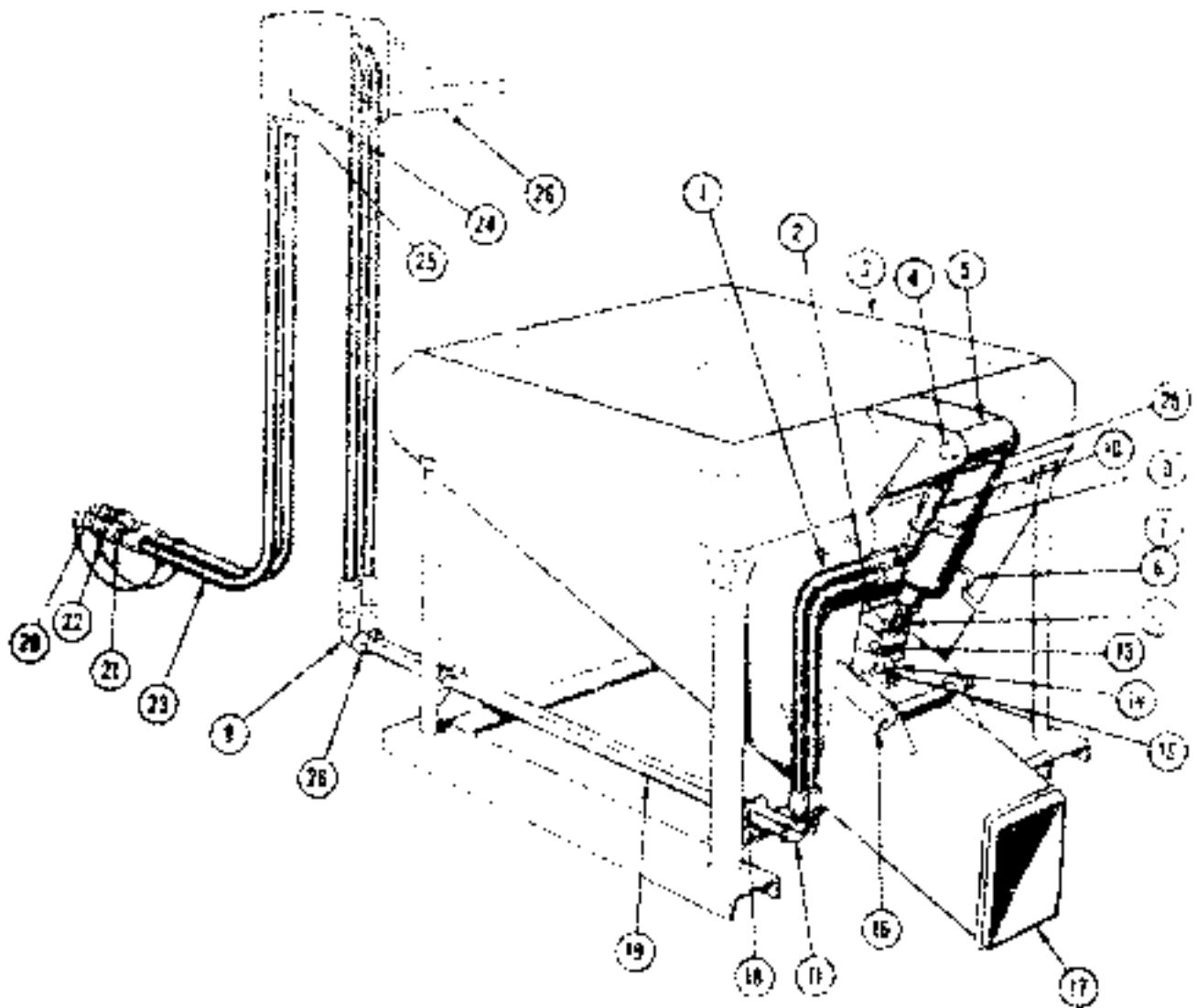
ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1	COM'L		Cap screw 5/16 NC x 1 1/4	2
2	1130		Shield Assembly	1

ITEM NO.	PART NO.	DESCRIPTION	NO. REQ.
3	COM'L	Cotterpin, 1/8 x 1 1/2	2
4	7377	Pin	1
5	P-11363	Male Tip Quick Coupler	1
6	P-10120	Reducing Bushing	2
7	P-10325	Just Cap Male Tip	2
8	7473	Pulley	2
9	P-10322	Hose	2
10	COM'L	Nut, 5/16-18 H.C. Hex	2
11	COM'L	Lockwasher, 5/16	2
12	COM'L	Capscrew, 5/16-18 NC x 1" Long	2
13	7753	Bucket	1
14	7610	Bushing	Ret.
15	COM'L	Zerk Fitting	3
16	COM'L	Washer, Snakeproof 1/4	3
17	COM'L	Nut, Hex 1/4-20 NC	1
18	P-10591	Reducing Bushing	1
19	P-10157	Street Elbow	4
20	N-10005	Pipe	1
21	P-10326	Coupling	3
22	P-10156	Hose	4
23	7452	Pin	1
24	5980	Cylinder Assembly (Page 98)	1
25	COM'L	Capscrew, 1/4-20 NC x 2 Hex	1
26	7449	Link	1
27	COM'L	Capscrew, 1/4-20 NC x 2 1/4 Hex	2
28	7451	Collar	1
29	7774	Bushing	2
30	7775	Pivot Bracket	1
31	7776	Pivot Bracket	1
32	7777	Hand Lever	1
33	7778	Upper Frame	1
34	7779	Hand Lever	1
35	COM'L	Capscrew, 1/4-20 NC x 1 3/4 Hex	2
36	COM'L	Capscrew, 1/2-13 NC x 1 1/2 Hex	5
37	7450	Collar	1
38	COM'L	Washer, Snakeproof	3
39	COM'L	Nut, 1/2-13 NC Hex Cap	5
40	7781	Hand Lever	1
41	COM'L	Capscrew, 5/16-18 NC x 1" Long	1
42	7782	Lock Pin	1
43	COM'L	Nut, 5/16-18 NC Hex Cap	1
44	7783	Ball Retainer	1
45	P-11044	Ball, Steel	12
46	4069	Ball	1
47	7783-2	Clamp	1
48	7784	Bushing	1
49	7785	Nut, Special	1
50	P-10163	Survey Fitting	2
51	COM'L	Capscrew, 5/16-18 NC x 1 1/4 Hex	1
52	P-10691	Reducing Bushing	2
53	P-10780	Nipple	1
54	P-10751	Nipple	1
55	COM'L	Capscrew, 3/8-16 NC x 3/4 Ft. Hd.	4
56	7788	Hose Guard	1



<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	P-11045		Hose	2
2	7801		Door	1
3	4084		Hopper	1
4	7738		Shaft	1
5		5978	Cylinder Ass'y (Page 108)	1
6	7354		Spring Catch	1
7	7510		Stiffener	1
8	P-10157		Street Elbow	1
9	7803		Pipe Clamp	1
10	N-10006		Pipe	1
11	P-10152		Elbow	3
12	7761		Adjustable Boss	Ref.
13	7746		Shaft	1
14	7634		Roller	1
15	7651		Shaft	1
16	7639		Shaft	1
17	7662		Chute	1
18	7773-2		Clamp	2
19	N-10007		Pipe 1/4" x 38"	2
20	P-10325		Dust Cap	2

CIGARETTE HOPPER ASS'Y  
 700-51121, RIQZ 1100  
 No. 4008



UNIT NO.	PART NO.	AMOUNT	DESCRIPTION	NO. REQ.
1	P11045		Flange	1
2	7801		Door	1
3	4081		Hopper	1
4	7338		Base	1
5		1.70	Cylinder Assembly (Page 100)	1
6	7354		Spring Catch	1
7	7510		Stiffener	1
8	P10225		Elbow	2
9	7803		Pipe Clamp	1
10	N10006		Pipe	1
11	P10152		Elbow	3
12	7761		Adjustable Hose	Ref.



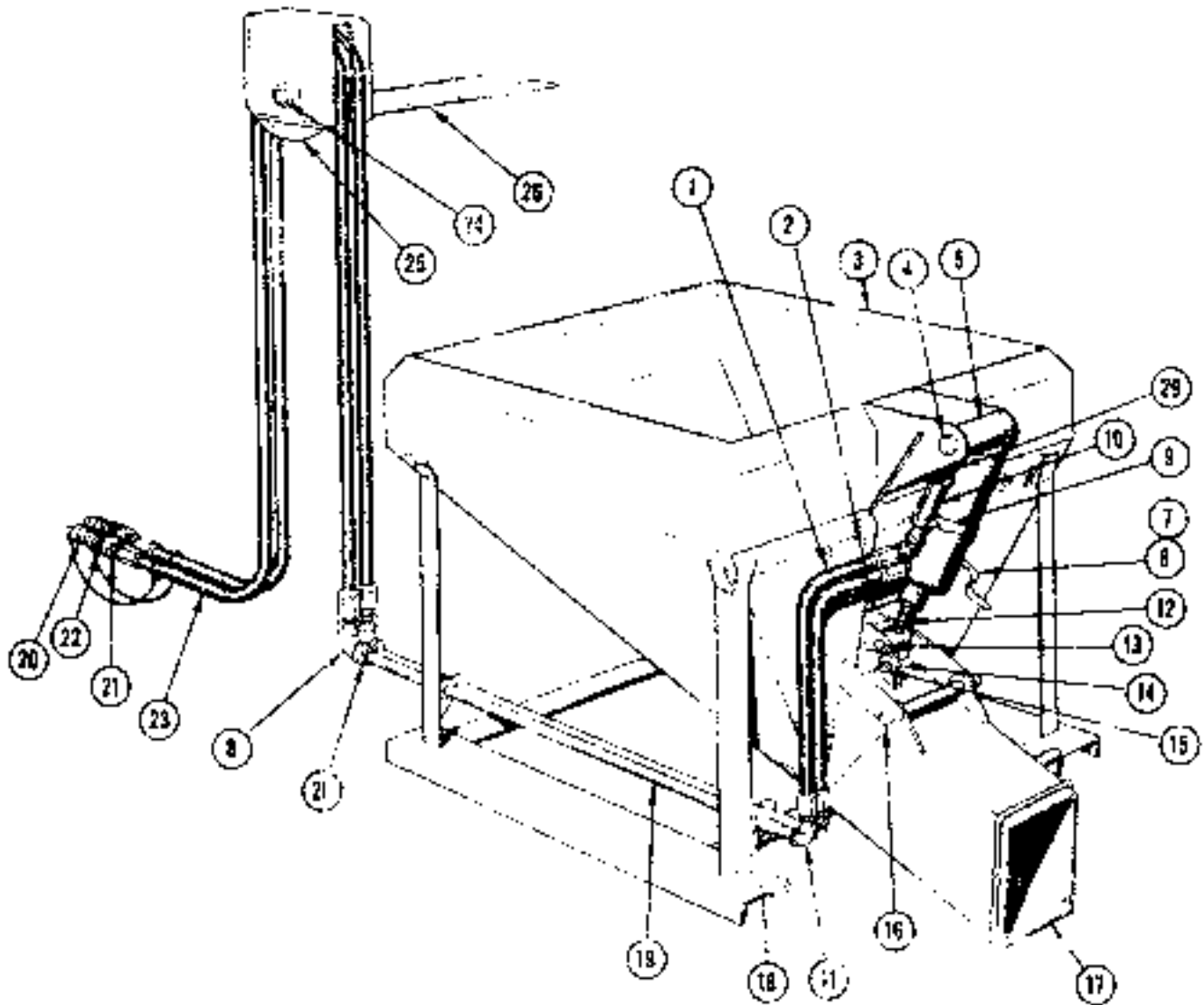


CONCRETE HOPPER ASSEMBLY  
 702-31' HIGH-LIFT LOADER  
 NO. 4086

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
13	7746	Shaft	1
14	7634	Roller	1
15	7651	Shaft	1
16	7639	Shaft	1
17	7662	Chute	1
18	7773-2	Clamp	2
19	P-10007	Pipe	2
20	P-10325	Dust Cap	2
21	P-10129	Reducer	2
22	P-11363	Male Tip	2
23	P-10322	Hose	2
24	7377	Shaft	1
25	7473	Pulley	2
26	1130	Shield	1
27			
28	P-10691	Reducer	2
29	P-10157	Street El	1

LULL ENGINEERING COMPANY, INC  
 3045 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA

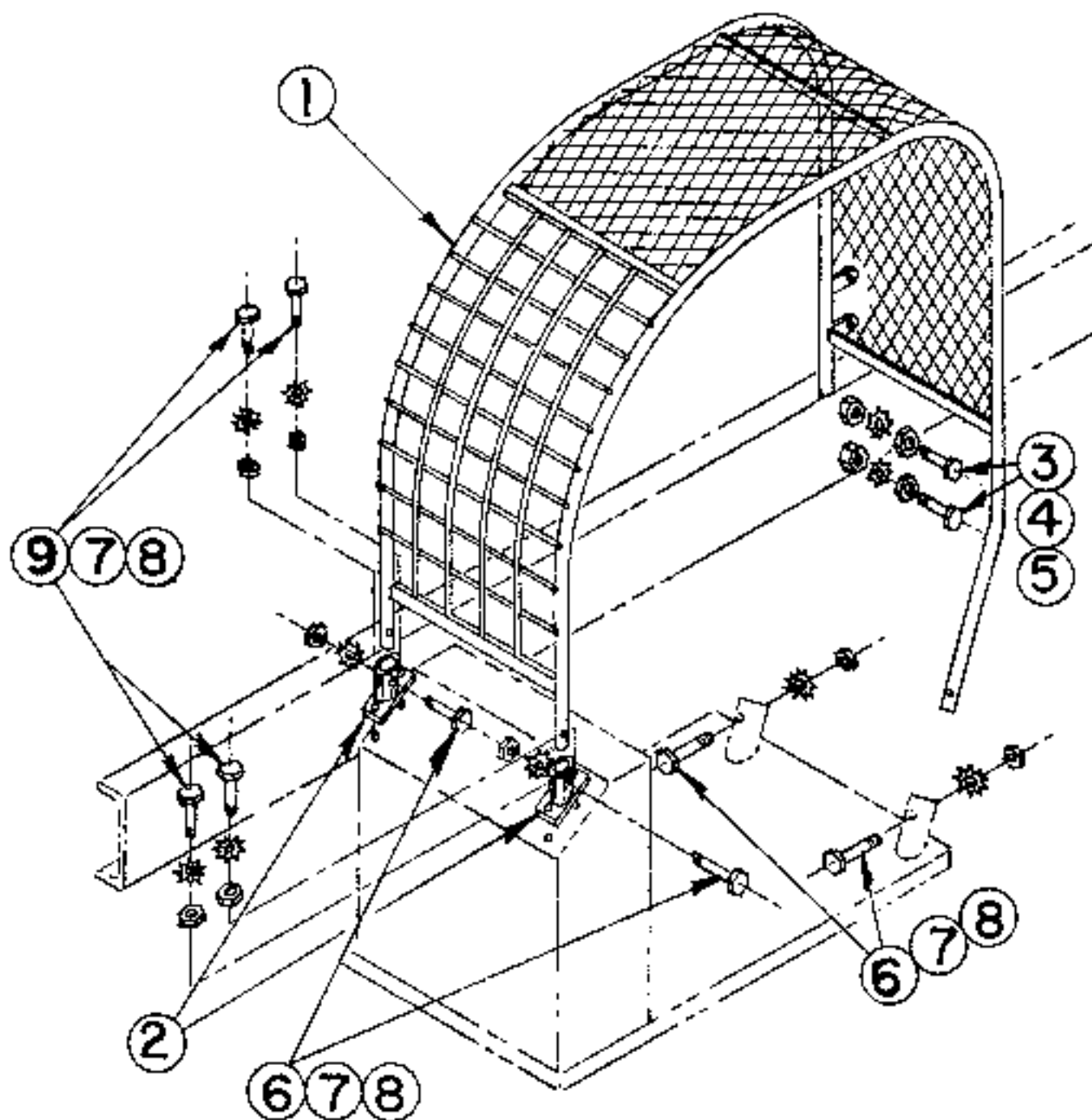
CONCRETE HOPPER ASS'Y  
 TELESCOPIC TOWER 702-UD'  
 NO. 4067



ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	QTY.
1	P-11015		Body	2
2	7001		Door	1
3	5052		Hopper Element	1
4	7735		Shaft	1
5		5975	Cylinder Assy (Part 105)	1
6	7354		Spring Catch	1
7	7510		Roller	1
8	P-15225		Elbow	2
9	7603		Pipe Clamp	1







ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1	11,235		Guard	1
2	3601		Bracket, Mtg.	2
3	COM'L		Capscrew, Hex Hd. 1/2 x 1 3/4-13 NC	2
4	COM'L		Nut, Cap 1/2-13 NC Hex	2
5	COM'L		Washer, Shakeproof 1/2"	2
6	COM'L		Capscrew, Hex Hd. 1/4 x 1 3/4-20 NC	4
7	COM'L		Washer, Shakeproof 1/4"	8
8	COM'L		Nut, Hex 1/4-20 NC	8
9	COM'L		Capscrew, Hex Hd. 1/4 x 1/2-20 NC	4



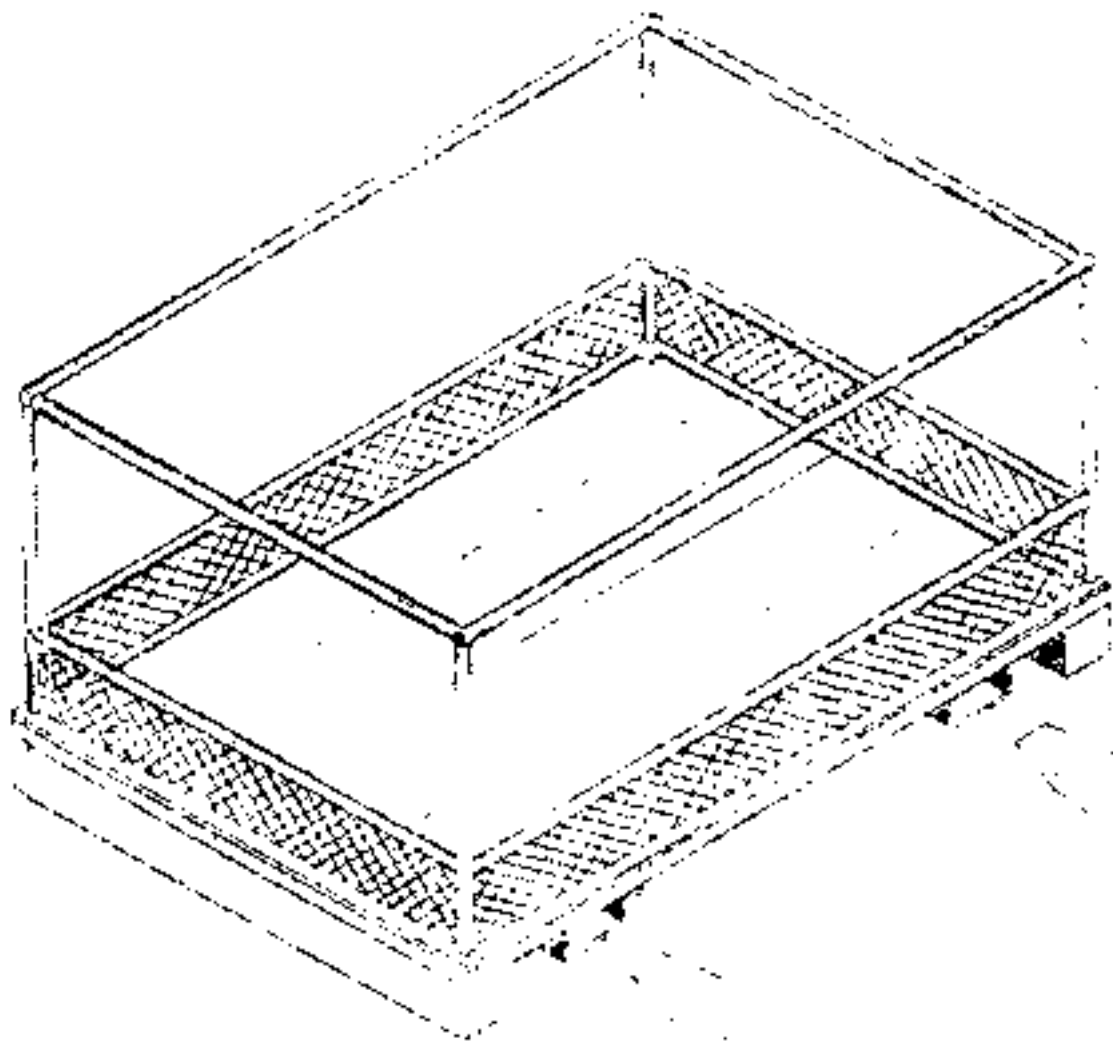
LULL ENGINEERING COMPANY, INC.  
 3045 HIGHWAY 13,  
 ST. PAUL 11, MINNESOTA 55111

SIDE TINE CARRIAGE  
 702-31' HIGH-LIFT LOADER  
 NO. 11,301

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	1170		Collar	1
2	11,286		Carriage, (Outer)	1
3		6320	Cylinder Assembly (Page 124)	1
4	1179		Hydraulic System	1
5	6459		Pin	1
6	10,180		Washer	2
7	11,331		Shaft	1
8	11,279		Carriage, (Inner)	1
9	11,290		Fork Tine 1/2"	2
10	6326		Washer	1
11	11,272		Spindle	4
12	6860		Roller	4
13				
14	11,276		Pin	1
15	4273		Pin	1
16	COM'L		Nut, 7/8-9 NC	2
17	COM'L		Bolt, 7/8-9 NC x 2 1/4 Long	2
18	COM'L		Washer, Shakeproof 7/8	2







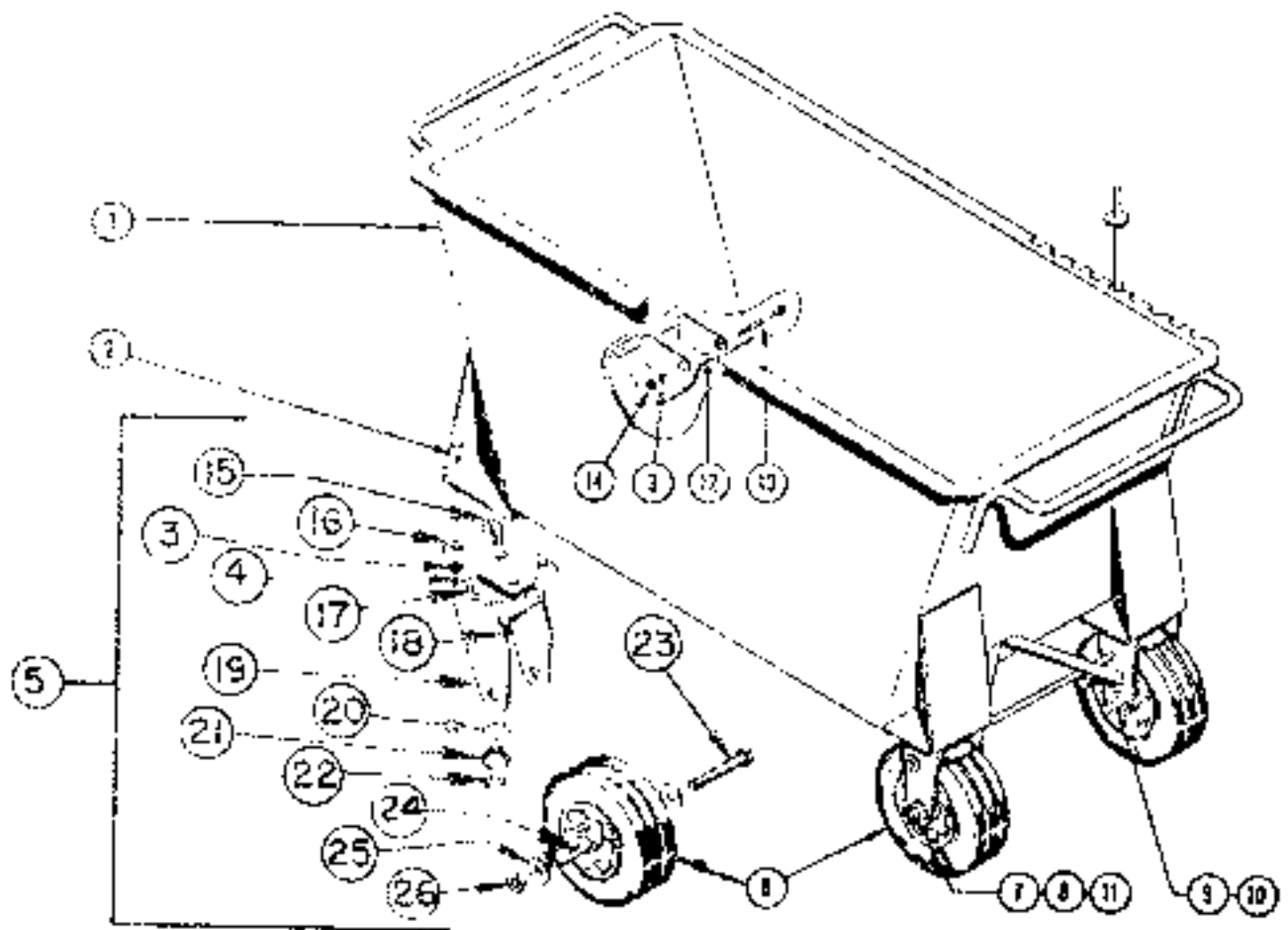
**WORKMANS PLATFORM**

NO. 7813 — TO FIT 4 INCH FORK TINE

NO. 4206 — TO FIT 5 INCH FORK TINE

LOUIS ENGINEERING COMPANY, INC.  
 1046 Highway 13,  
 ST. PAUL, Minnesota 55121

GENERAL ASSEMBLY  
 7 1/2 CU. FT. (20" HIG.)  
 NO. 576 (20" WIDE)

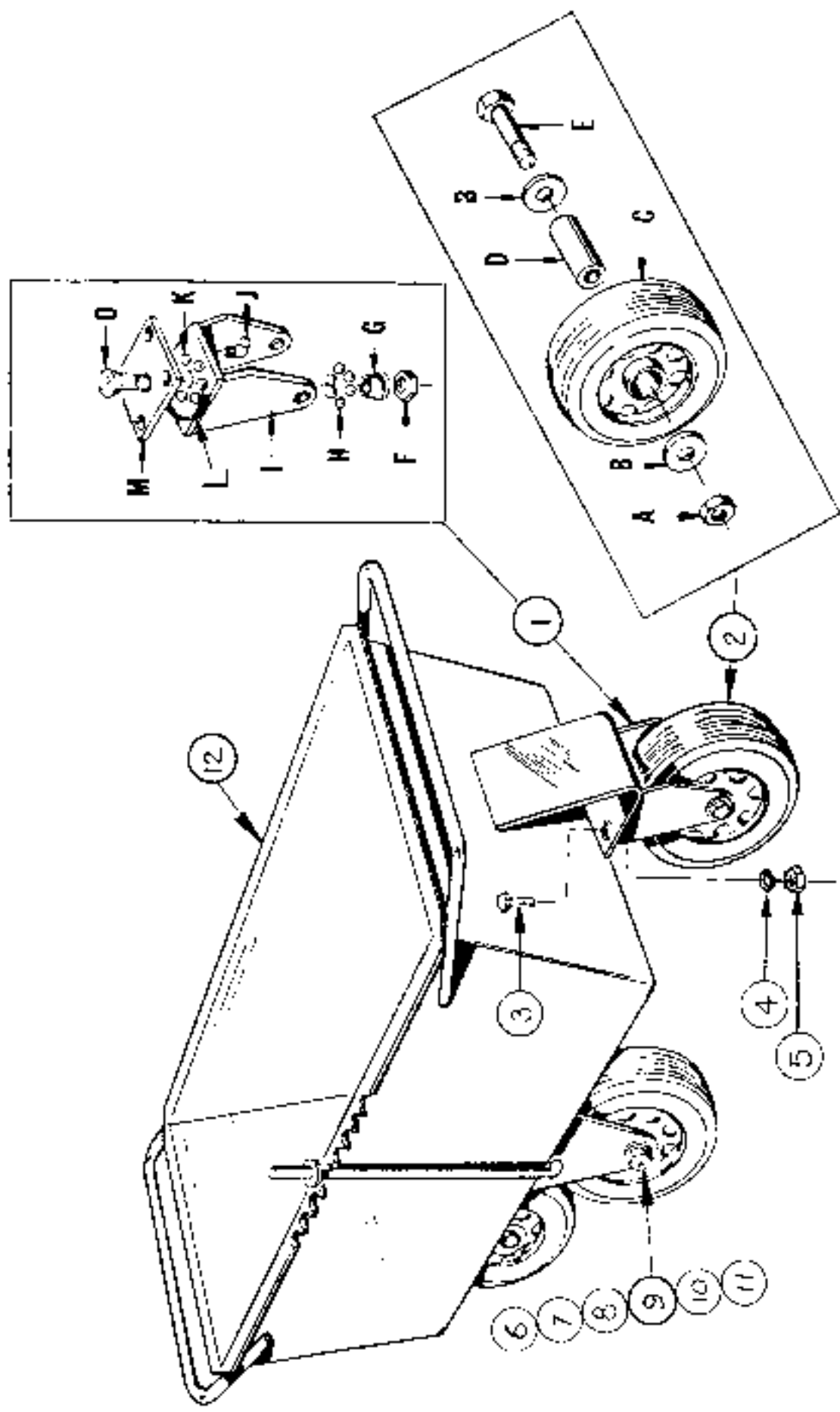


ITEM NO.	PART NO.	ASSEMBLY NO.	DESCRIPTION	NO. REQ.
1	576		Red Buggy	1
2	COMP		Cap screw, 3/8-16 NC x 1 Hex Hd.	3
3	COMP		Washer, 3/8 Shakedown	3
4	COMP		Nut, 3/8-16 NC Hex	3
5	P-12360		Caster Assembly (less wheel)	2
6	P-12347		Wheel	2
7	P-10051		Board	2
8	P-11412		Bush	2
9	COMP		Washer, 5/16 Shakedown	4
10	COMP		Nut, 5/16-18 NC Hex	2
11	COMP		Cap screw, 5/16-18 NC x 4 1/4	2
12	577		Wheel Lock	1
13	COMP		Cap screw, 3/8-16 NC x 5	1
14	COMP		Cam Nut, 3/8-16 NC	1

LOEL ENGINEERING COMPANY, INC.  
5045 HIGHWAY 13  
ST. PAUL, MINNESOTA 55121

GENERAL ASSEMBLY  
NO. 578

<u>ITEM</u> <u>NO.</u>	<u>PART</u> <u>NO.</u>	<u>ASSEMBLY</u> <u>NO.</u>	<u>DESCRIPTION</u>
15	P-12332		Capscrew
16	P-12333		Top Plate
17	P-12334		Rail Bearing, 19 Required
18	P-12335		Drive Zerk
19	P-12340		Fork
20	P-12341		Ball Bearing, 13 Required
21	P-12342		Conc
22	P-12343		Nut, Slotted
23	P-12336		Capscrew
24	P-12336		Spacer
25	P-12329		Washer, 2 Required
26	P-12338		Nut, Slotted



HOD BUGGY IOA TWISTER

LULL ENGINEERING COMPANY, INC.  
 3045 Highway 13  
 St. Paul, Minnesota 55121

HOO BUGGY ASSEMBLY  
 10-A Twister  
 NO. 623

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>ASSEMBLY NO.</u>	<u>DESCRIPTION</u>	<u>NO. REQ.</u>
1	P-12980		Caster Assembly	2
{F}	P-12343		Nut	1
{G}	P-12342		Cone	1
{H}	P-12341		Ball Bearing	13
{I}	P-12340		Fork	1
{J}	P-12339		Drive Zerk	1
{K}	P-12334		Ball	19
{L}	P-16449		Grease Retainer	1
{M}	P-12333		Top Plate	1
{O}	P-12332		Capscrew	1
2	P-12981		Wheel Assembly	2
{A}	P-12338		Nut	1
{B}	P-12349		Washer	4
{C}	P-12327		Wheel	1
{D}	P-12336		Spacer	1
{E}	P-12335		Capscrew	1
3	COM'L		Capscrew, Hex Head 3/8-16 NC x 1" lg.	6
4	COM'L		Washer, Shakeproof 3/8"	8
5	COM'L		Nut, Hex 3/8-16 NC	8
6	P-12337		Wheel	2
7	M-10051		Spacer	2
8	P-11412		Washer	4
9	COM'L		Washer, Shakeproof 5/16"	2
10	COM'L		Nut, Hex 5/16-18 NC	2
11	COM'L		Capscrew, Hex Head 5/16-18 NC x 4 1/4	2
12	1590		Body	1



The parts information in this publication is based on data available at the time it was printed. Because of continual improvement and advancing product design, your vehicle may not be identical to the parts information shown. Whenever there is a question, obtain the latest parts information available from your local dealer. JLG Industries, Inc. continually updates these publications electronically within our *OnLine Services*.



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- Reduces time required to gather information.
- Reduces processing time for warranty claims.

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- Enter orders using part numbers, or order by selecting from graphical parts manuals.
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- Review invoices and credits.
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Serial No. \_\_\_\_\_



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