

# Manitowoc

## TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

**3600**

Model

**36063**

Serial Number

**GROUP A = Rotating Structure** (Includes rotating bed, operator's cab, cases, fuel tanks, transfer pump, counterweights, guards, platforms, catwalks, machinery enclosure, horn)

**GROUP B = Upperworks Machinery** (Includes front, rear, and auxiliary drums, boom hoist, swing and drive shafts, hand levers, foot pedals, control linkage, rotation indicators, upperworks hydraulic components, hydraulic piping, hydraulic oil reservoir, lubrication pump and piping, blowers)

**GROUP C = Air Components & Electrical** (Includes control console, air piping, electric wiring, auxiliary light plant and lighting, TV monitoring, compressor and air tank)

**GROUP D = Power Components - Upperworks** (Includes engine or motor, radiator, auxiliary power plant, take off converters and piping, controls, VICON power lowering, torque limiter, hydraulic pumps and piping, fuel piping, battery box)

**GROUP E = Lower Structure & Control** (Includes carbody, crawlers, travel shafts and control, steering travel locks, hydraulic travel, travel power outriggers, carrier, pedestal, lowerworks hydraulic piping, RINGER components, barge mounting and machinery, spud drums)

**GROUP F = Attachments** (Includes booms, jibs, masts, tower, wire rope guides, equalizer, gantry, fairlead, timber guards, boom angle indicator, block-up limit, tag line, hook block, weight ball, upper and lower boom point, wind speed indicator, crowd and retract dipper sticks, dippers, )

**O-NUMBER SECTION =** (Includes lacing drawings and purchased component parts drawings referenced in sections A through F)

*This manual is arranged in sections as listed above. Sections A through F are arranged by group numerical order with an index after each section tab. An alphabetical index for groups A Through F combined is located after the O-number Section. The O-number section is arranged in numerical order by O-number. Following this cover page are the Basic Specifications, Warranty Information, Tool List (if applicable) Outline Dimensions, Weights, and Dealer Listing.*

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## Corrosion and Abrasion

Refer to Figure 3.

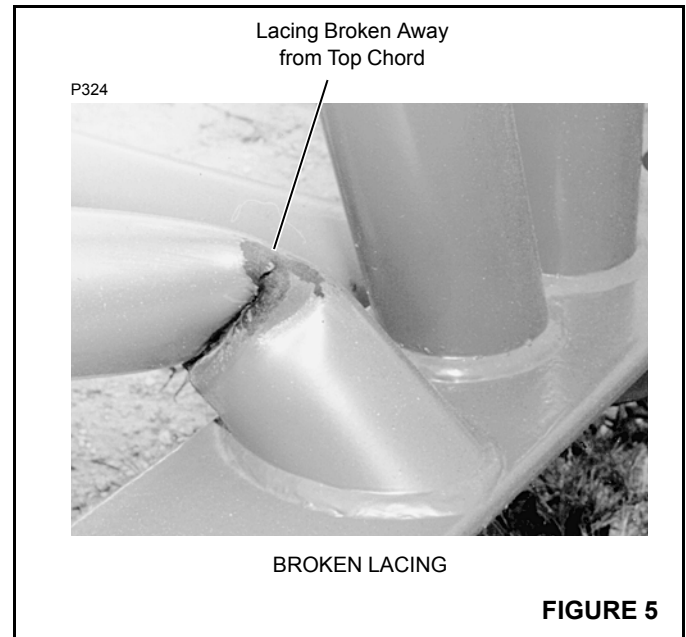
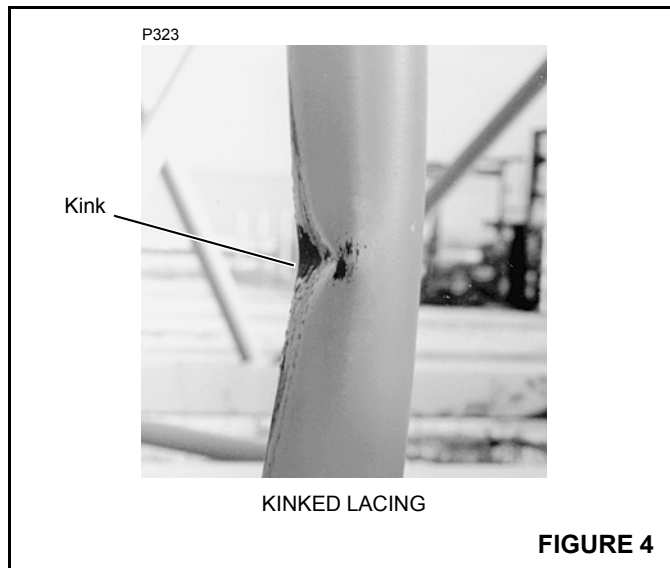
Corrosion and abrasion must not be deeper than 10 percent of the wall thickness, the angle thickness, or the plate thickness.

## Kinks

Refer to Figure 4.

Kinked lacings must be replaced; *do not bend kinked lacings back into alignment.*

If any chord or platework is kinked, contact Manitowoc Crane Care for approved repair instructions. *Do not bend kinked chords or platework back into alignment.*



## Cracks and Breaks

Refer to Figure 5.

Cracked and broken lacings must be replaced; *do not attempt to repair cracked or broken lacings.*

If any chord or platework is cracked or broken, contact Manitowoc Crane Care for approved repair instructions. *Do not attempt to repair cracked or broken chords or platework.*

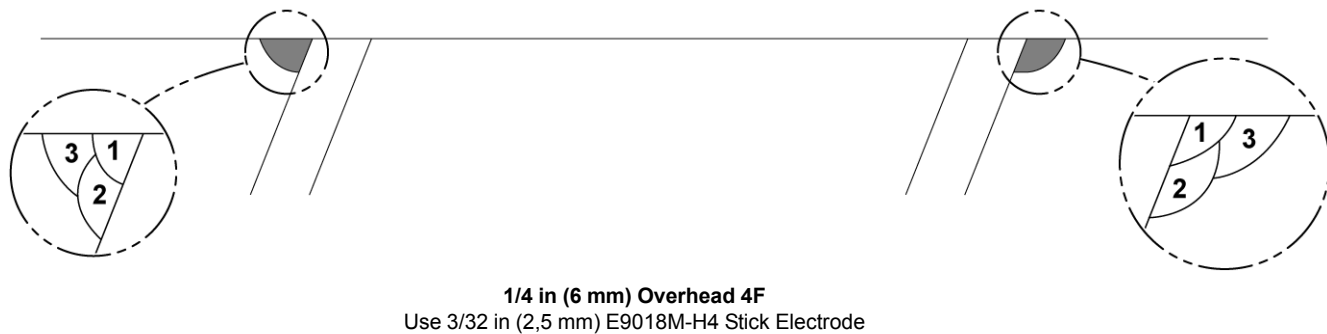
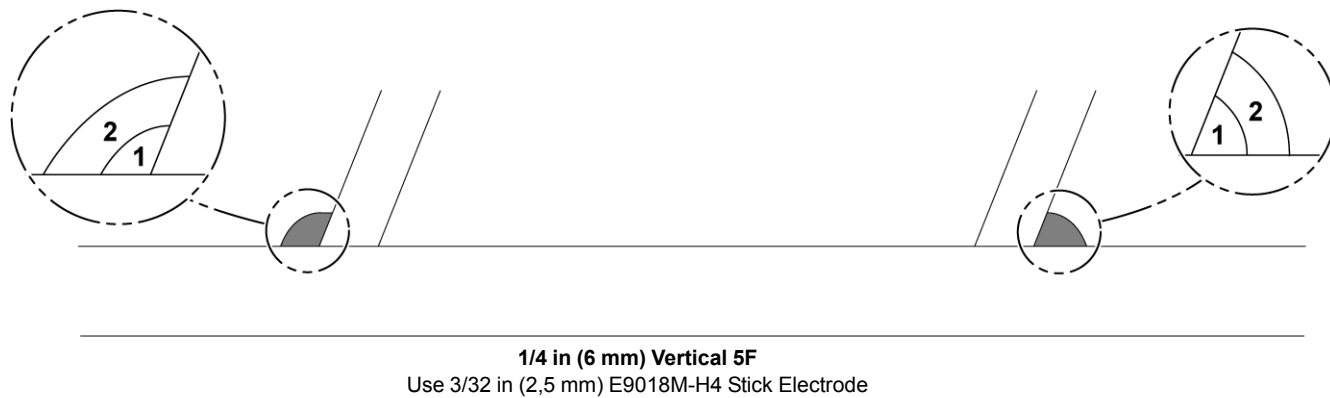
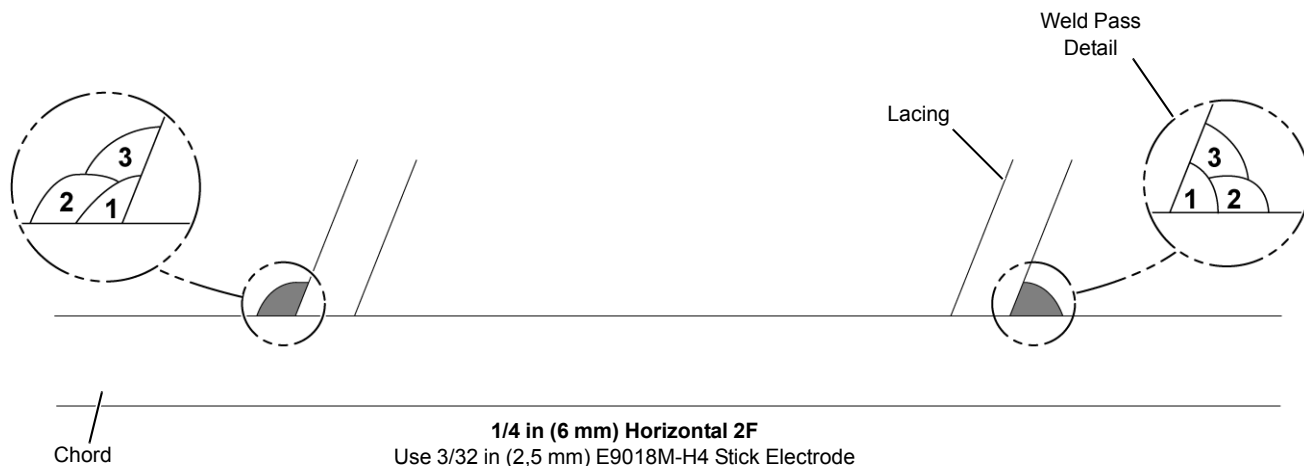


FIGURE 16

# adjustments

# instructions

## MANITOWOC ENGINEERING CO.

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Manitowoc, Wisconsin

### WEIGHTS

### MODEL 3600

| Description  | Approx. Weight |
|--|----------------|
| <b>LIFT CRANE</b> - With 18' 4" crawlers - 38" treads, 2 Pc. counterweight, 140' No. 4 boom, Gantry and back hitch, Block, Ind. boom hoist . . . . .   | 171,000 Lbs.   |
| <b>STANDARD SHOVEL</b> - With 16' 4" crawlers - 38" treads, 1 Pc. counterweight, Gantry and back hitch, 27' shovel boom w/cables, 20' Dipper sticks, 3 Cu. yd. dipper w/bail and sheave . . . . .              | 166,166 Lbs.   |
| <b>HIGH LIFT SHOVEL</b> - With 16' 4" crawlers - 38" treads, 1 Pc. "high lift" counterweight, Gantry and back hitch, 45' Shovel boom w/cables, 34" Dipper sticks, 2 Cu. yd. dipper w/bail and sheave . . . . . | 195,000 Lbs.   |
| <b>ROTATING BED AND UPPER WORKS</b> w/any engine std. equipment but less counterweight . . .   | 51,055 Lbs.    |
| <b>CARBODY</b> - w/roller path, ring gear and kingpin (less crawlers) . . . . .  | 22,000 Lbs.    |
| <b>16' 4" CRAWLERS</b> - w/38" treads (double weight for two) . . . . .  | 15,636 Lbs.    |
| <b>18' 4" CRAWLERS</b> - w/38" treads (double weight for two) . . . . .  | 17,602 Lbs.    |
| <b>SELF REMOVING COUNTERWEIGHT</b> (1 Pc. for Std. shovel) . . . . .   | 28,030 Lbs.    |
| <b>SELF REMOVING COUNTERWEIGHT</b> - 2 Pc. for crane, drag, clam or special shovel . . . . .   | 41,480 Lbs.    |
| <b>SELF REMOVING COUNTERWEIGHT</b> - 1 Pc. for Hi-Lift shovel . . . . .  | 49,060 Lbs.    |
| <b>BOOM NO. 4 (65 TON)</b>   |                |
| Boom Base - 65 Ton . . . . .   | 3,540 Lbs.     |
| Boom Top - 65 Ton (equipped) . . . . .   | 4,345 Lbs.     |
| 10' Insert - parallel . . . . .  | 1,110 Lbs.     |
| 15' Insert - parallel . . . . .  | 1,430 Lbs.     |
| 20' Insert - parallel . . . . .  | 1,890 Lbs.     |
| 25' Insert - cambered . . . . .  | 2,200 Lbs.     |
| 30' Insert - cambered . . . . .  | 2,870 Lbs.     |
| 40' Insert - cambered . . . . .  | 3,420 Lbs.     |
| 45' Insert - cambered . . . . .  | 4,100 Lbs.     |
| 50' Insert - cambered . . . . .  | 4,750 Lbs.     |
| 10' Insert - tapered . . . . .   | 1,150 Lbs.     |
| 25' Insert - tapered - deep parallel . . . . .   | 2,490 Lbs.     |
| 10' Insert - deep parallel . . . . .   | 1,190 Lbs.     |
| 15' Insert - deep parallel . . . . .   | 1,750 Lbs.     |
| 20' Insert - deep parallel . . . . .   | 2,110 Lbs.     |
| <b>GANTRY AND BACKHITCH STRAPS</b> . . . . .   | 1,380 Lbs.     |
| <b>TAGLINE</b> - Model 1248 . . . . .  | 670 Lbs.       |
| <b>JIB</b> - 15' w/Strut, less cable . . . . .   | 1,250 Lbs.     |
| <b>JIB</b> - 20' w/Strut, less cable . . . . .   | 1,450 Lbs.     |
| <b>JIB</b> - 30' w/Strut, less cable . . . . .   | 1,750 Lbs.     |
| <b>JIB</b> - 50' Sectional w/Strut, less cable . . . . .   | 3,500 Lbs.     |
| <b>10' INSERT</b> for Sectional Jib . . . . .  | 250 Lbs.       |
| <b>BLOCK ASSEMBLY</b> w/sheaves and weights . . . . .  | 1,200 Lbs.     |
| <b>IND. BOOM HOIST</b> instead of standard boom hoist . . . . .  | 1,414 Lbs.     |
| <b>IND. SWING AND SWING LOCK</b> . . . . .   | 1,910 Lbs.     |
| <b>27' SHOVEL BOOM</b> w/cables . . . . .  | 13,460 Lbs.    |
| <b>20' DIPPER STICKS</b> . . . . .   | 5,933 Lbs.     |
| <b>45' SHOVEL BOOM</b> w/cables . . . . .  | 20,430 Lbs.    |
| <b>34' DIPPER STICKS</b> . . . . .   | 9,892 Lbs.     |
| <b>3 CU. YD. DIPPER</b> w/Bail and sheave . . . . .  | 10,286 Lbs.    |
| <b>2½ CU. YD. DIPPER</b> w/Bail and sheave . . . . .   | 9,265 Lbs.     |
| <b>2 CU. YD. DIPPER</b> w/Bail and sheave . . . . .  | 8,088 Lbs.     |
| <b>DRAGLINE FAIRLEAD</b> w/guide rollers, strut and dirt pan . . . . .   | 1,527 Lbs.     |
| <b>DRAGLINE FAIRLEAD</b> w/cheek plates, strut and dirt pan . . . . .  | 1,350 Lbs.     |

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|               |        |                       |
|---------------|--------|-----------------------|
| 31719-1 Cont. | REV. J | MODEL 3000-3900 Incl. |
|---------------|--------|-----------------------|

CAB

| REF. NO. | PART NUMBER | QUANTITY REQUIRED | DESCRIPTION OF PART   | VENDORS PART NO. |
|----------|-------------|-------------------|---|------------------|
| 39       | 17864       | 2                 | RAIL, Hand W/hex nuts   |                  |
| 41       | 31631       | 1                 | DOOR, Right Cab (See Sheet 2)   |                  |
| 42       | 17836       | 1                 | GLASS, Window   |                  |
| 29       | 605101      | 1                 | CHANNEL, Rubber (Specify 9'5" - 2.970 m)  |                  |
|          | 41766-6     | 1                 | SIDE, Right (Complete) W/rivets, mach. screws, stove bolts, hex nuts and lockwashers  |                  |
| 7        | 632653      | 1                 | SHEET, Front Upper  |                  |
| 38       | 632652      | 1                 | SHEET, Front  |                  |
| 40       | 587072      | 1                 | RAIL, Door  |                  |
| 45       | 207247      | 1                 | STOP, Door  |                  |
| 46       | 41766-2     | 1                 | SHEET, Rear   |                  |
| 47       | 632656      | 1                 | GUIDE, Door   |                  |
| 49       | 632651      | 1                 | SHEET, Center   |                  |
| 50       | 31590       | 1                 | CABINET, Tool W/padlock   |                  |
| 51       | 632654      | 1                 | SHEET, Upper Rear   |                  |
| 53       | 632655      | 1                 | SHEET, Lower Rear   |                  |
| 48       | 16031       | 1                 | AWNING, Door W/stove bolts, hex nuts and lockwashers  |                  |
| 52       | 30152       | 1                 | SHUTTER, Radiator W/capscrews, hex nuts, lockwashers, mach. screws and cut washers  |                  |
|          | 484352      | 1                 | HOOK  |                  |
|          | 334034      | 1                 | CHAIN, Jack (Specify Length)  |                  |
|          | 31707-6     | 1                 | PANEL, Right Inside (Complete) W/mach. screws, capscrews, stove bolts, hex nuts and lockwashers                               |                  |
| 59       | 31707-2     | 1                 | SHEET, Rear   |                  |
| 58       |             | 1                 | DOOR W/hinges   |                  |
| 60       | 632822      | 1                 | SHEET, Upper  |                  |
| 63       | 632823      | 1                 | SHEET, Upper Front  |                  |
| 64       | 632824      | 1                 | SHEET, Center Front W/door button   |                  |
| 65       | 207328      | 1                 | SUPPORT, Angle  |                  |
| 66       | 632825      | 1                 | SHEET, Lower Front  |                  |
|          | 32390-6     | 1                 | PANEL, Right Inside (Complete) W/mach. screws, capscrews, stove bolts, hex nuts and lockwashers (Mach. W/welded rotating bed) |                  |
| 59       | 32390-2     | 1                 | SHEET, Rear   |                  |
| 58       |             | 1                 | DOOR W/hinges   |                  |
| 60       | 632822      | 1                 | SHEET, Upper  |                  |
| 63       | 632823      | 1                 | SHEET, Upper Front  |                  |
| 64       | 632738      | 1                 | SHEET, Center Front   |                  |
| 65       | 208183      | 1                 | ANGLE (Discontinued 9-1-61)   |                  |
| 66       | 632739      | 1                 | SHEET, Lower Front  |                  |
| 61       | 17833       | 1                 | GLASS, Window   |                  |
| 62       | 605101      | 1                 | CHANNEL, Rubber (Specify 8'5½" - 2.758 m)   |                  |
|          | 31708-6     | 1                 | PANEL, Left Inside (Complete) W/mach. screws, capscrews, hex nuts and lockwashers   |                  |
| 22       | 207329      | 1                 | SUPPORT, Angle  |                  |
| 67       | 632826      | 1                 | SHEET, Lower Front  |                  |
| 68       | 31708-2     | 1                 | SHEET, Upper Front  |                  |
| 69       | 632657      | 1                 | SHEET, Bar  |                  |

|        |               |
|--------|---------------|
| REV. J | 31719-1 Cont. |
|--------|---------------|

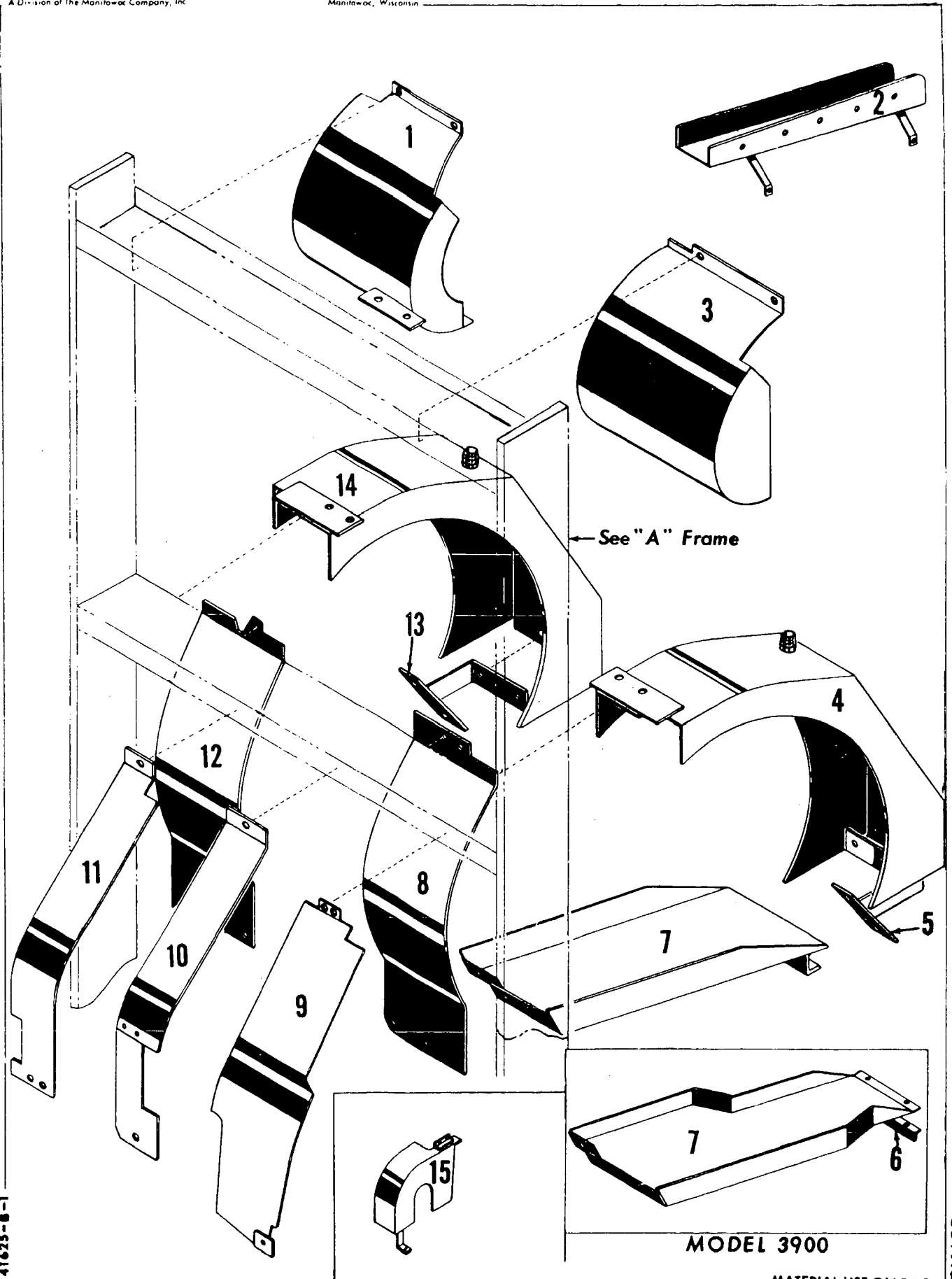
PLEASE GIVE MACHINE S/N W/ORDER

Run as Front

MASTER

31719 J1 Cont'd. -1

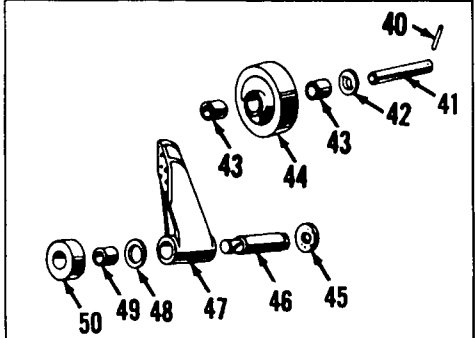
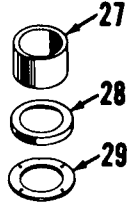
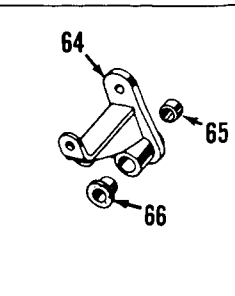
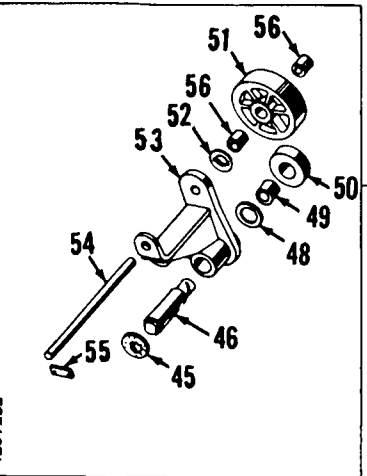
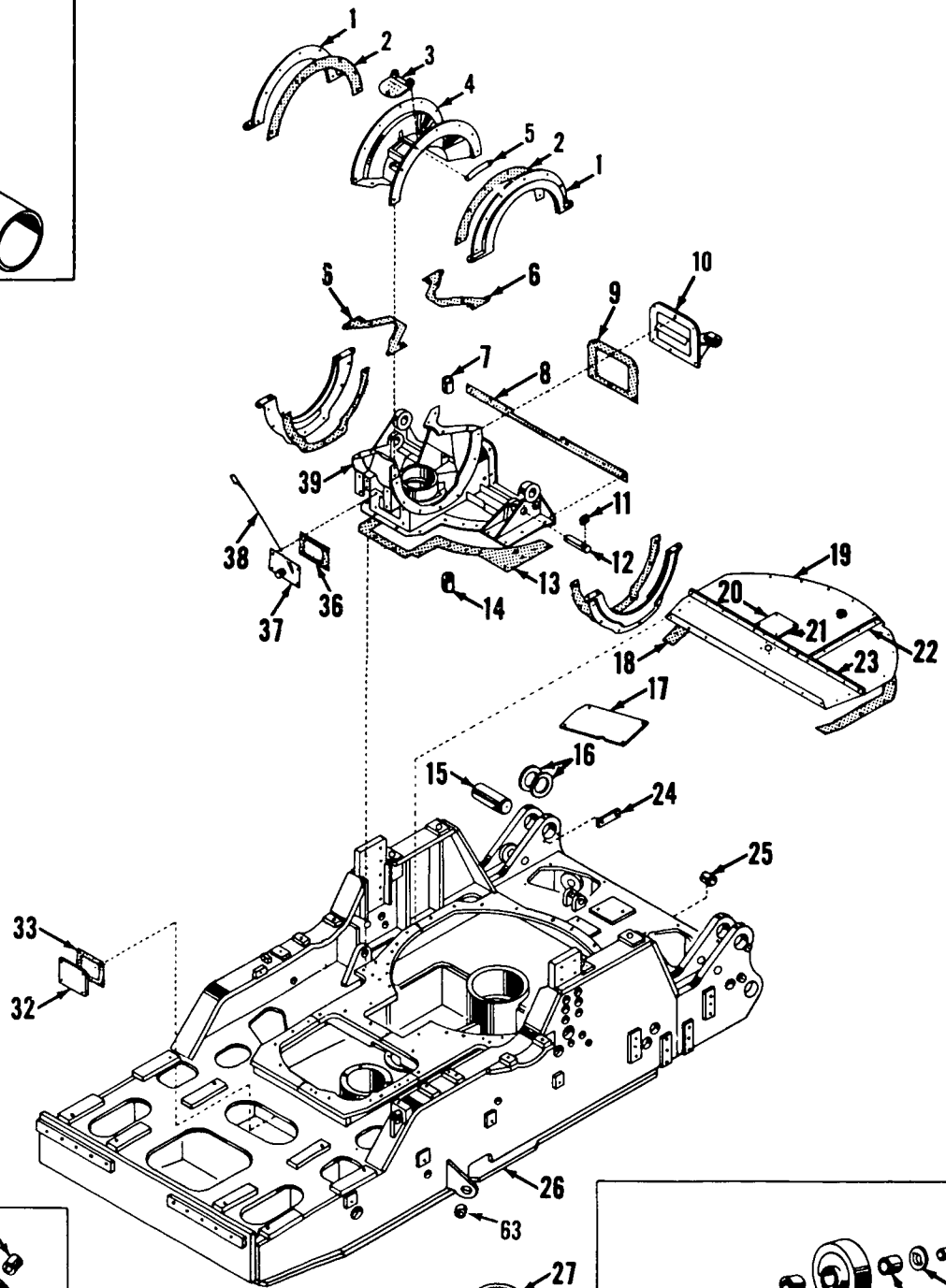
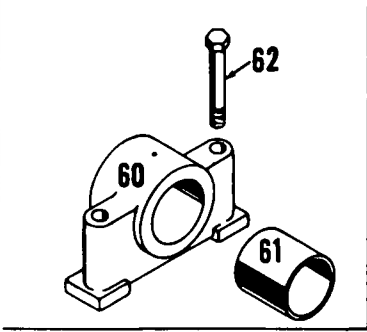
MASTER



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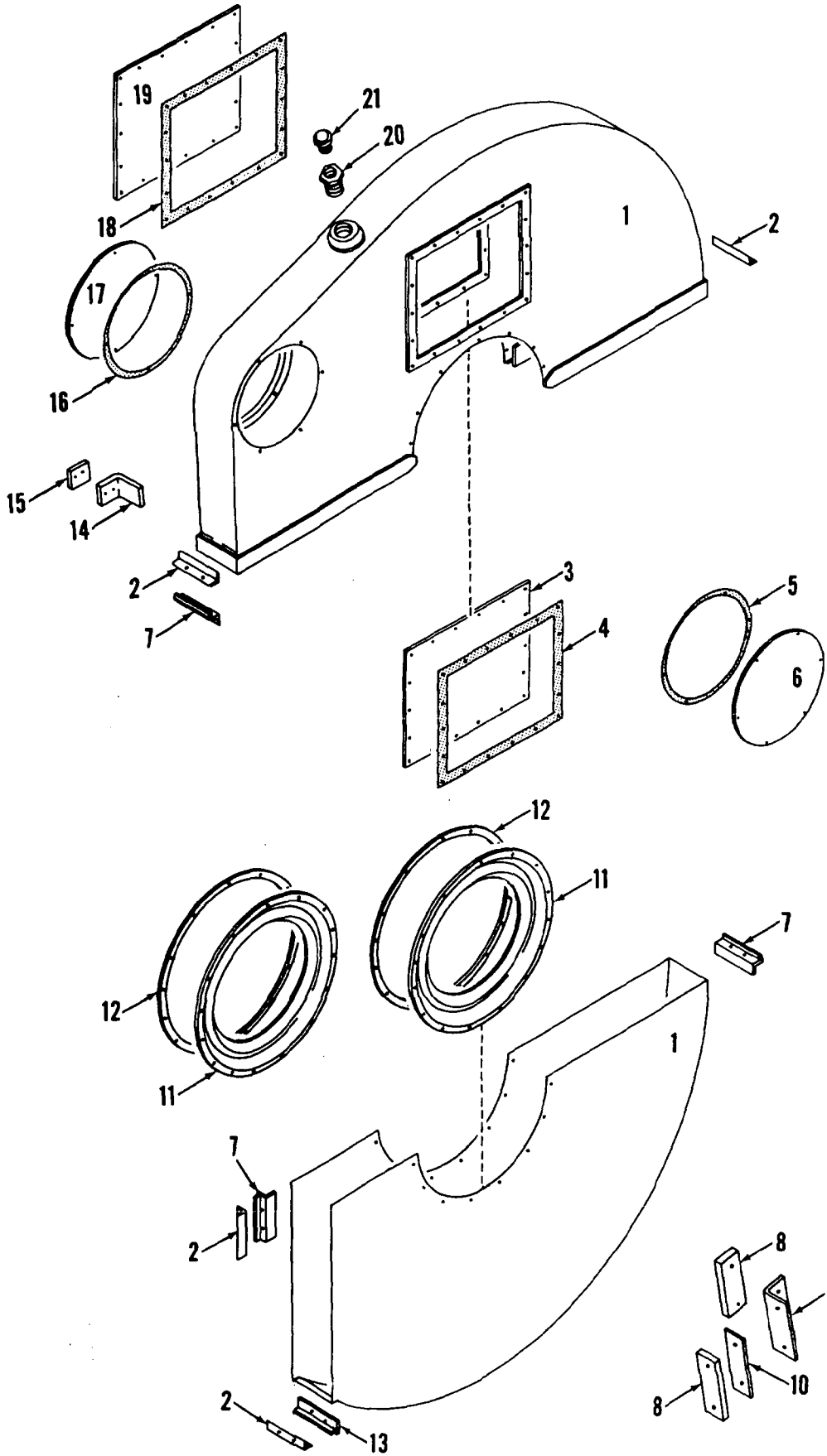
Manitowoc, Wisconsin



4269282

MATERIAL LIST ON BACK

ROTATING BED



MASTER

42906 A 2

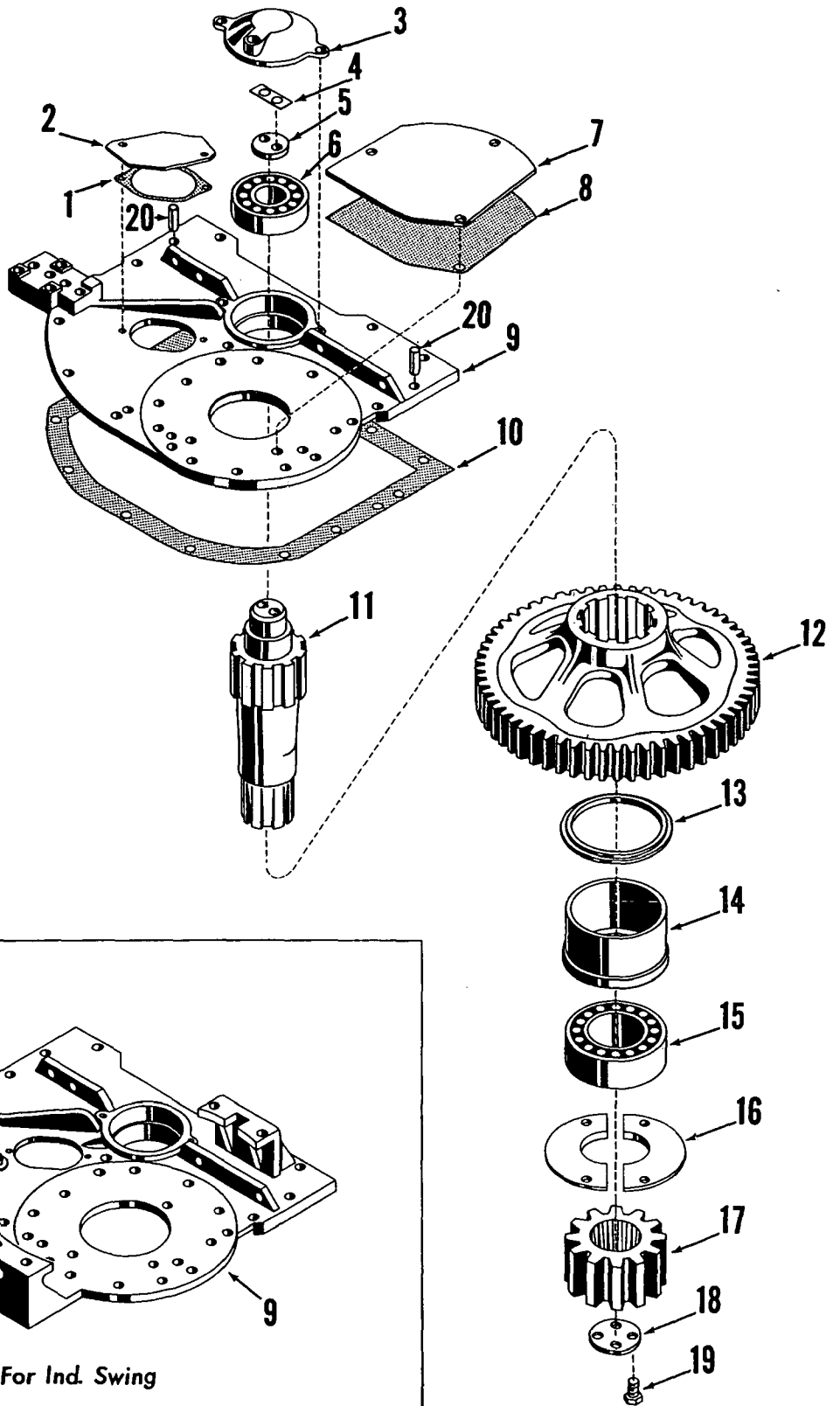
MATERIAL LIST ON BACK

GEAR CASE

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22880-B-1

For Ind. Swing

MATERIAL LIST ON BACK

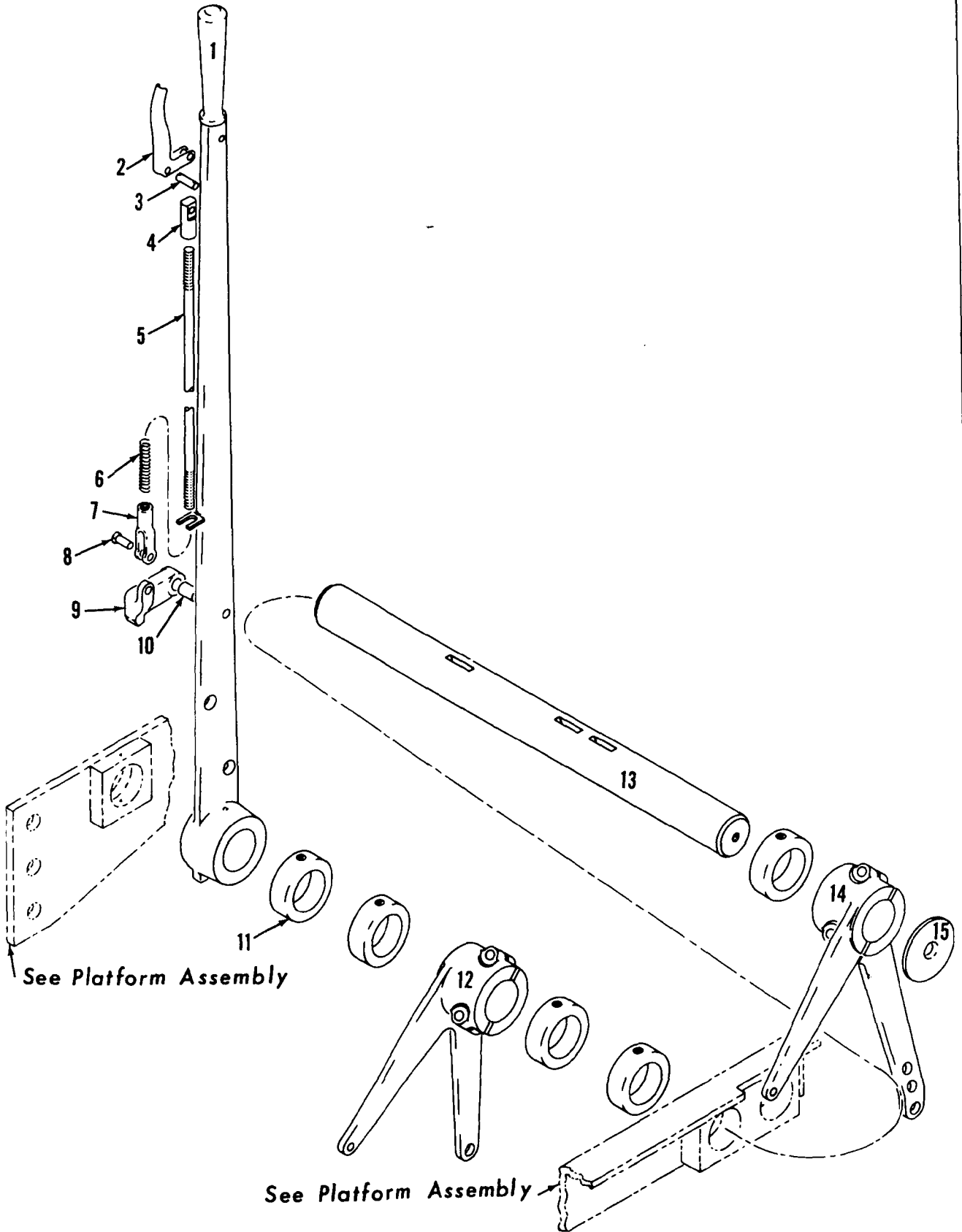
SWING SHAFT

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MASTER



See Platform Assembly

See Platform Assembly

32740A1

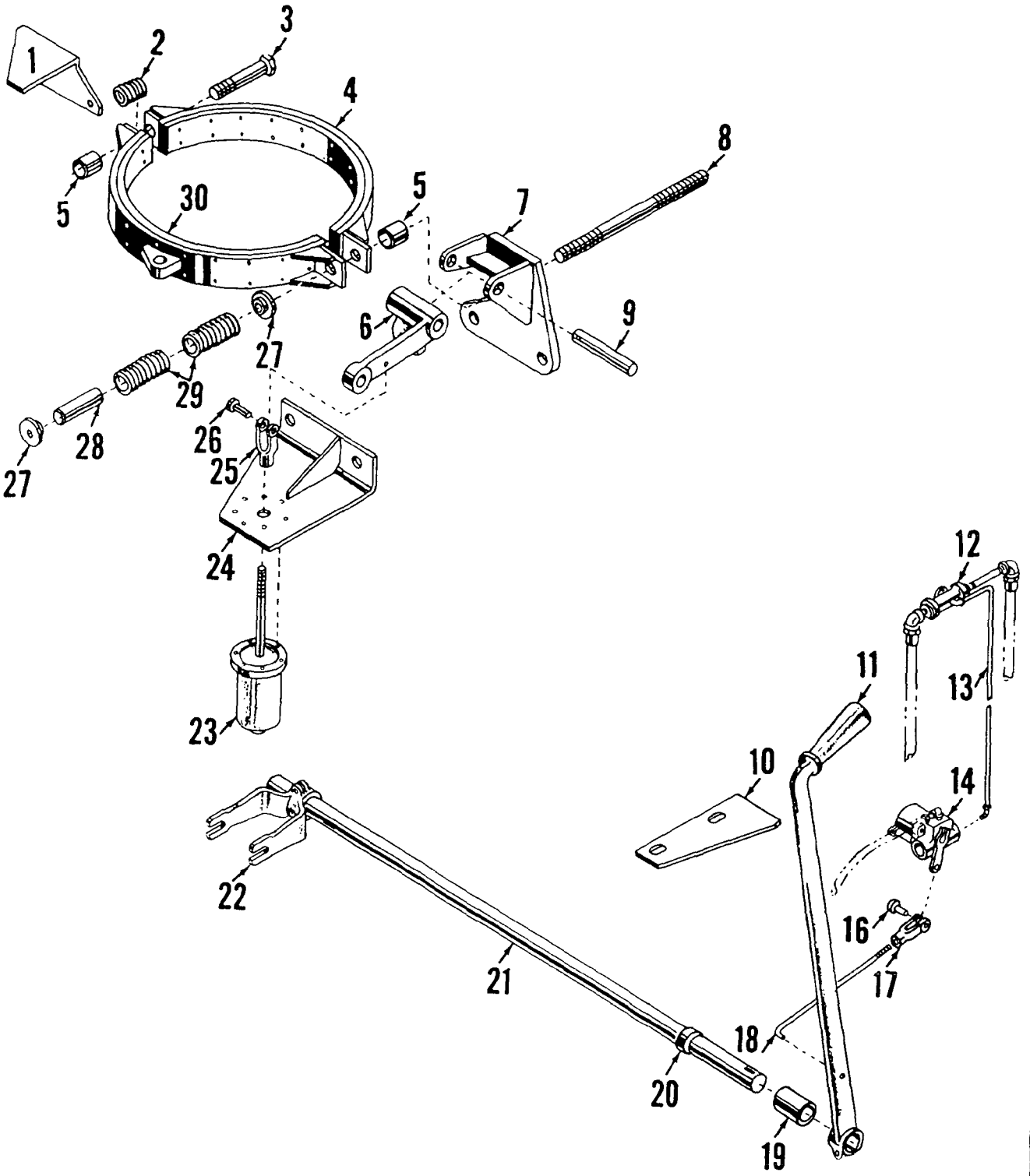
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HAND LEVER

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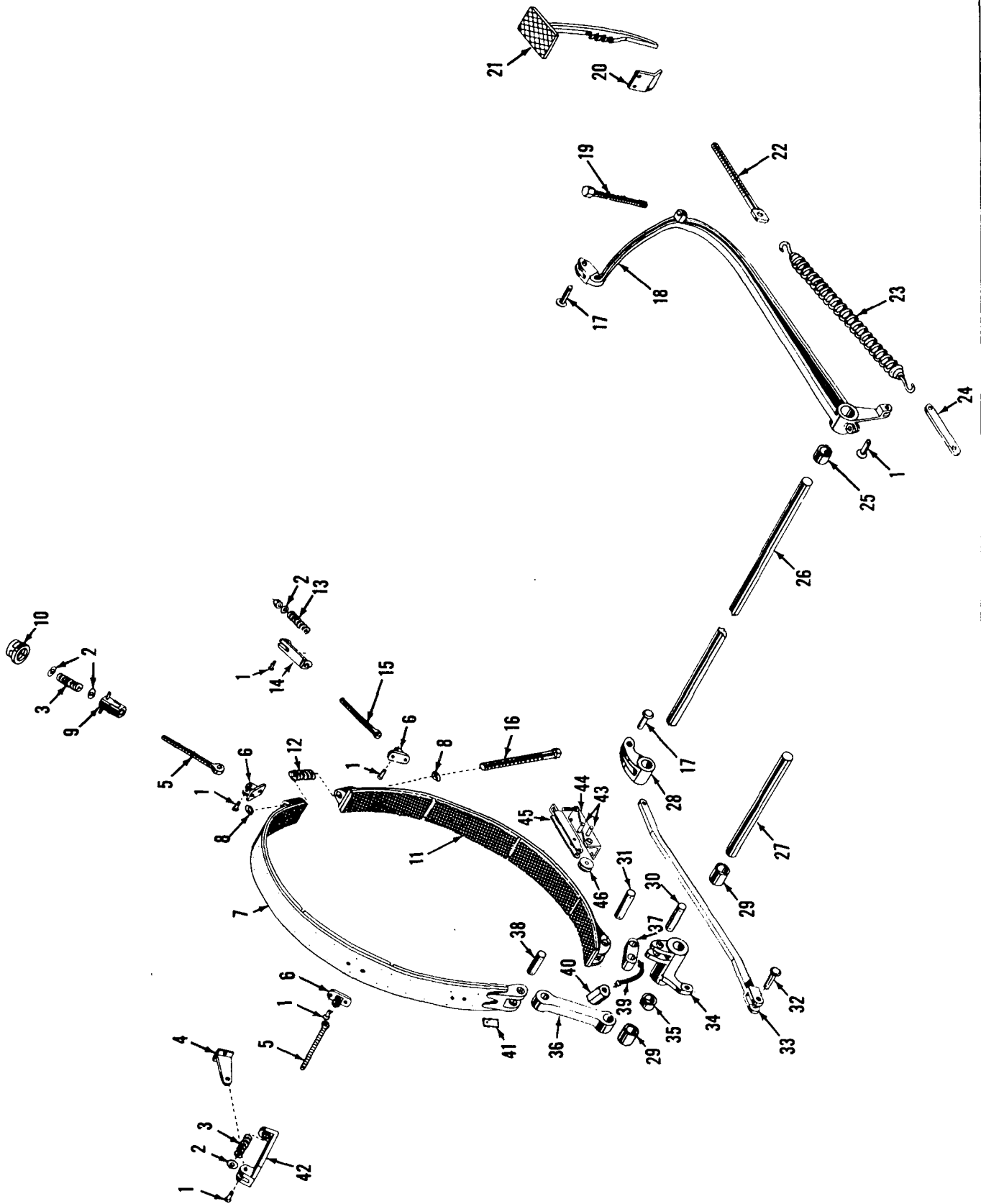
Manitowoc, Wisconsin



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MATERIAL LIST ON BACK

BOOM HOIST CONTROL



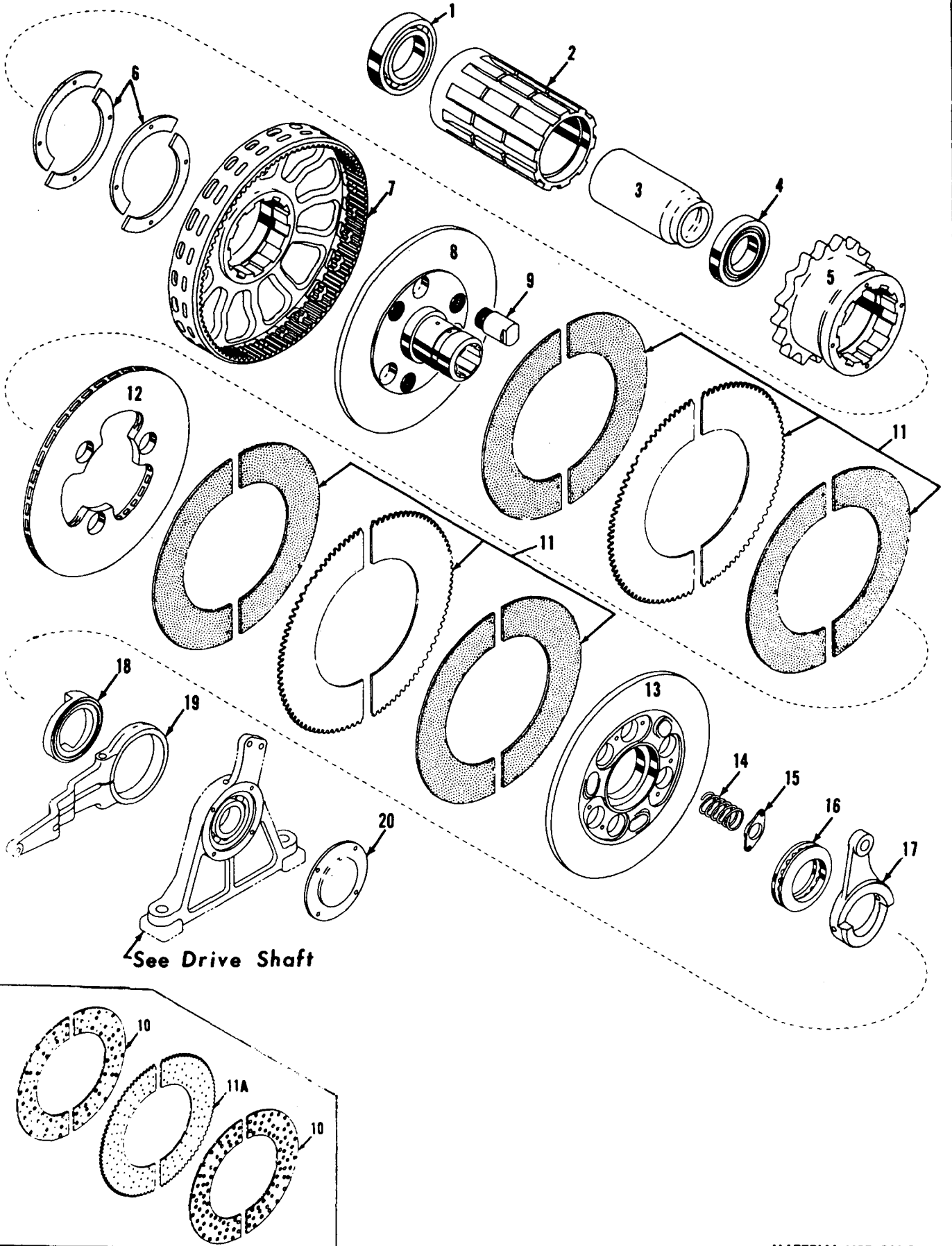
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LEFT DRUM BRAKE

4262381

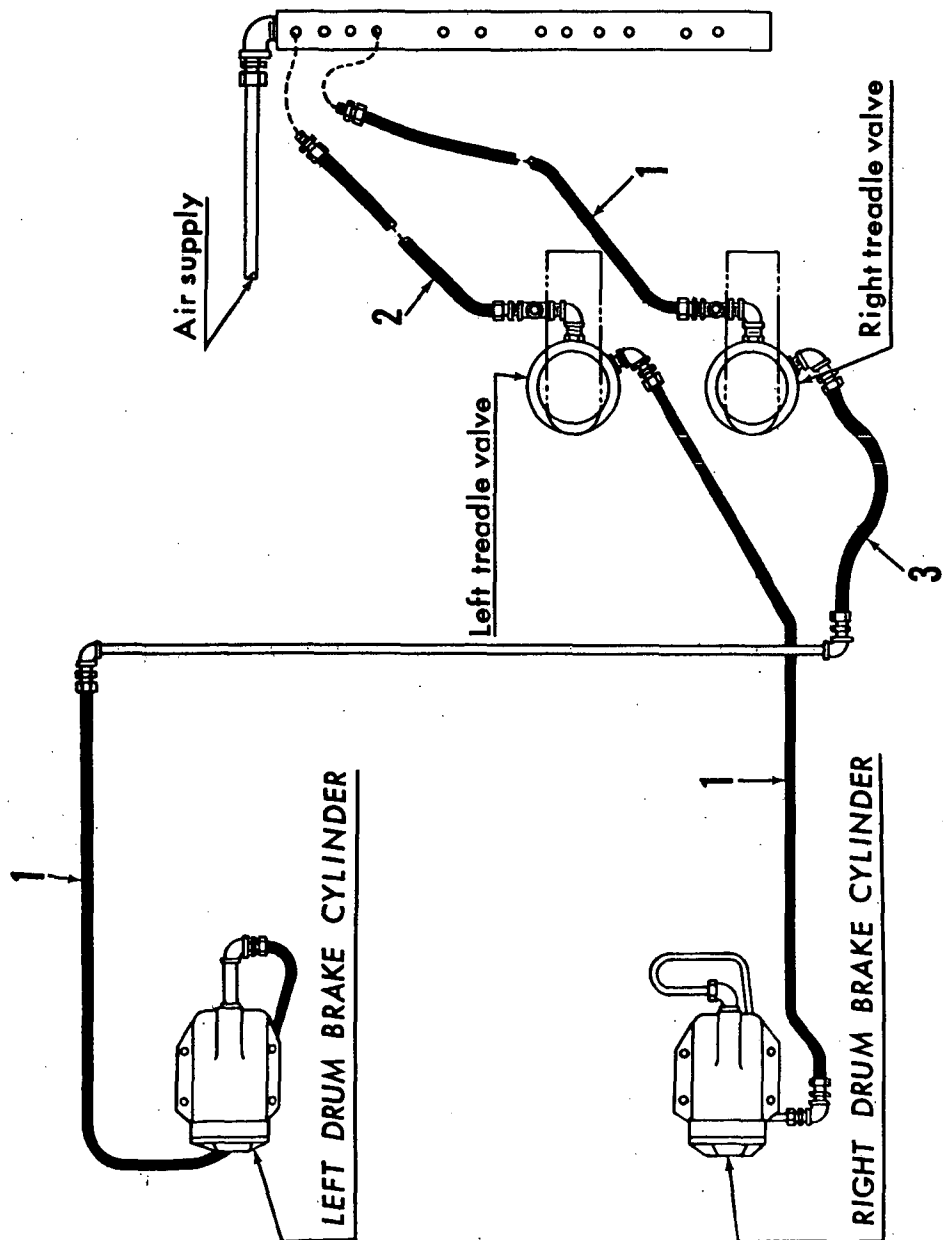
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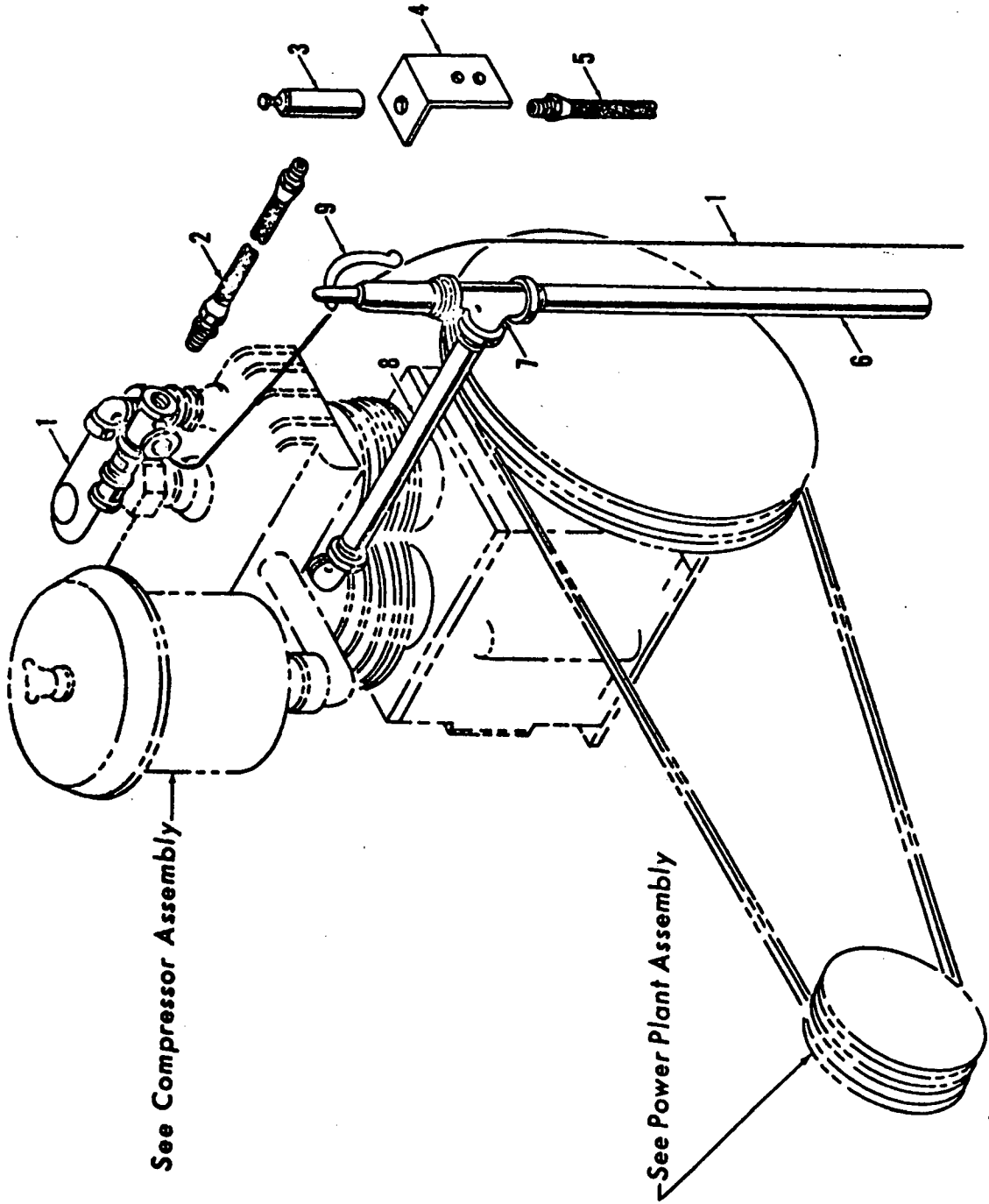


43137A3

MATERIAL LIST ON BACK

MAIN DRIVE SHAFT





See Compressor Assembly

See Power Plant Assembly

**PARTS MANUAL ALPHABETICAL INDEX**  
**Group D - Power Components**

| DESCRIPTION                        | PUBLICATION | REV | START DATE | END DATE | GROUP |
|------------------------------------|-------------|-----|------------|----------|-------|
| Converter Control                  | 32600       | F1  | 02/23/62   | 07/19/77 | D0601 |
| Converter Piping                   | 43051       | E1  | 04/10/63   | 06/09/69 | D0701 |
| Converter Piping                   | 43051       | D2  | 09/22/59   | 06/09/69 | D0701 |
| Converter Piping                   | 43051       | A3  | 04/10/63   | 02/21/64 | D0701 |
| Converter Piping                   | 43051       | A4  | 04/10/63   | 10/05/64 | D0701 |
| Converter Piping                   | 43051       | E5  | 04/10/63   | 06/09/69 | D0701 |
| Converter Piping                   | 43051       | A7  | 03/01/64   |          | D0701 |
| Engine & Clutch Control            | 30268       | -   | 01/30/58   | 04/13/64 | D0501 |
| Engine & Clutch Control            | 30268       | C1  | 01/30/58   | 04/13/64 | D0501 |
| Instrument Panel/Engine            | 90067       | C1  | 05/27/63   | 12/27/68 | D0301 |
| Power Plant                        | 43234       | H1  | 02/10/64   | 12/12/66 | D0101 |
| Power Take Off - Transmission Case | 42749       | P1  | 07/14/62   | 04/25/94 | D0401 |

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MODEL

3000W-3600-3900-3900W-3950W-3950D-4000W-4100W

**TRANSMISSION CASE**  
(VICON MACHINE)

| ITEM | PART # | QTY. | DESCRIPTION OF PART  |
|------|--------|------|--|
|      |        |      | <p><u>Note 3</u> For machines with electric drive, delete Ref. #26-27 above and add:</p>   |
| 26   | 352022 | 1    | SPIDER, Drive  |
| 27   | 352021 | 1    | RING, Drive  |
|      | 352715 | 26   | BLOCK, Rubber (not shown)  |
|      |        |      | <p><u>Note 4</u> Clean splines of shafts and sprockets thoroughly with Loctite Safety Solvent (MEC 622296). Apply Loctite Retaining Compound #620 (MEC 622285) to engine shaft and converter input shafts. Allow to cure 24 hours.</p> |
|      |        |      | <p align="center">PLEASE GIVE MACHINE SERIAL NUMBER WITH ORDER</p>   |

ASSEMBLY

42749

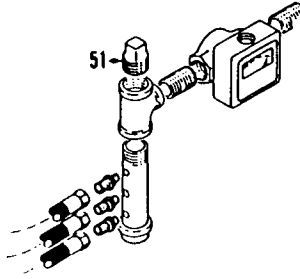
PAGE

3 of 3

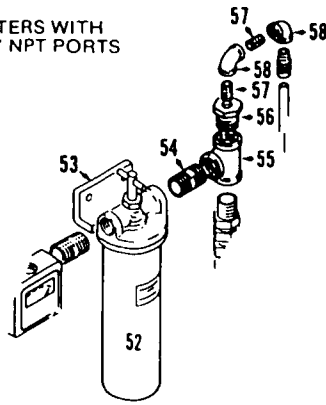
REV.

P-1

MACHINES W/OUT FORCED OIL LUBRICATION TO CONVERTERS



FILTERS WITH 3/4" NPT PORTS



CHAIN CASE

SWING CONVERTER

TRANSMISSION CASE

HOIST CONV.

CHAIN CASE

CHAIN CASE SUMP

OPERATORS COMPARTMENT

CHAIN CASE

TRANSMISSION CASE DRAIN

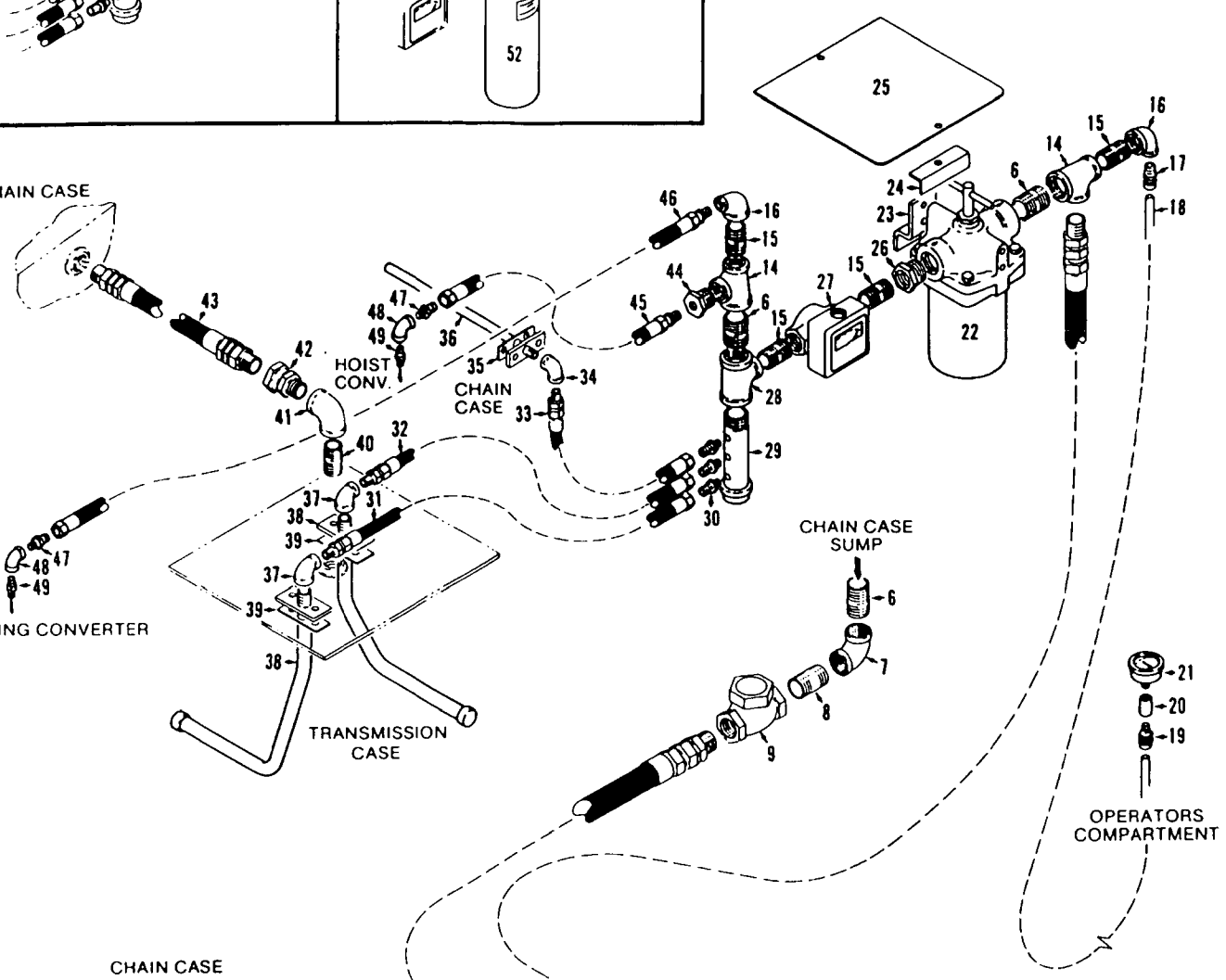
PUMP

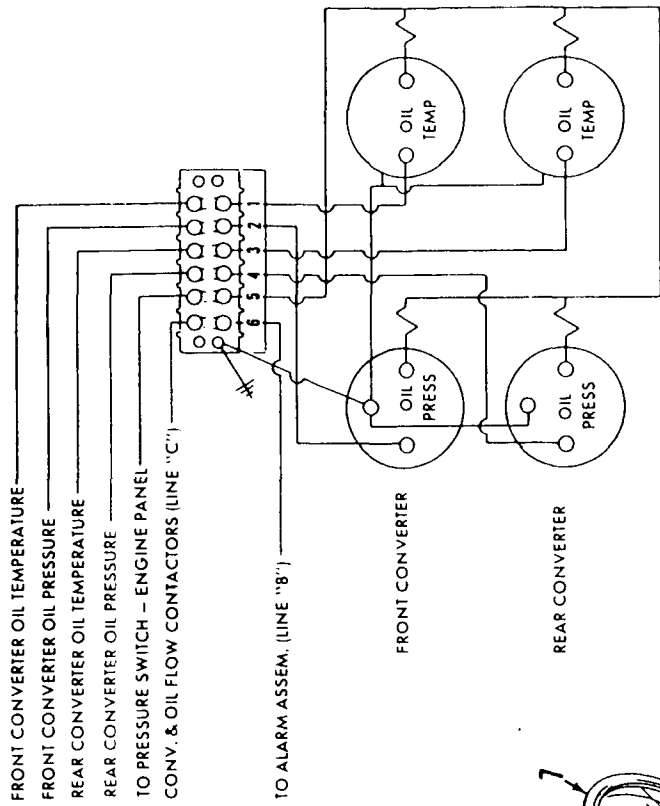
MACHINES W/OUT OIL TRAP UNDER PUMP

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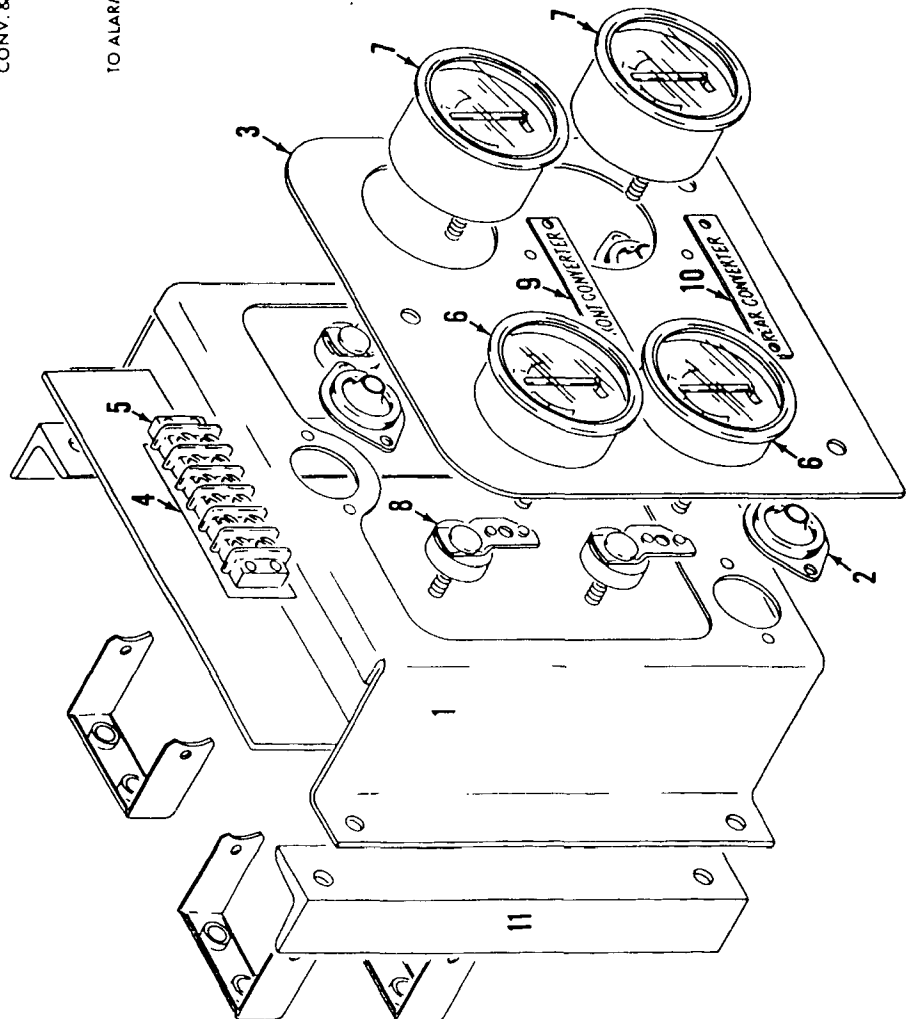
LUBRICATION PIPING

43051ES





WIRING DIAGRAM REAR VIEW  
NEGATIVE OR POSITIVE GROUND



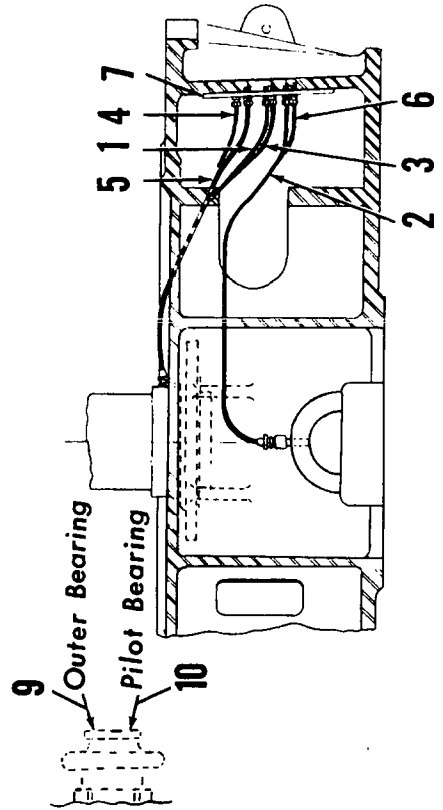
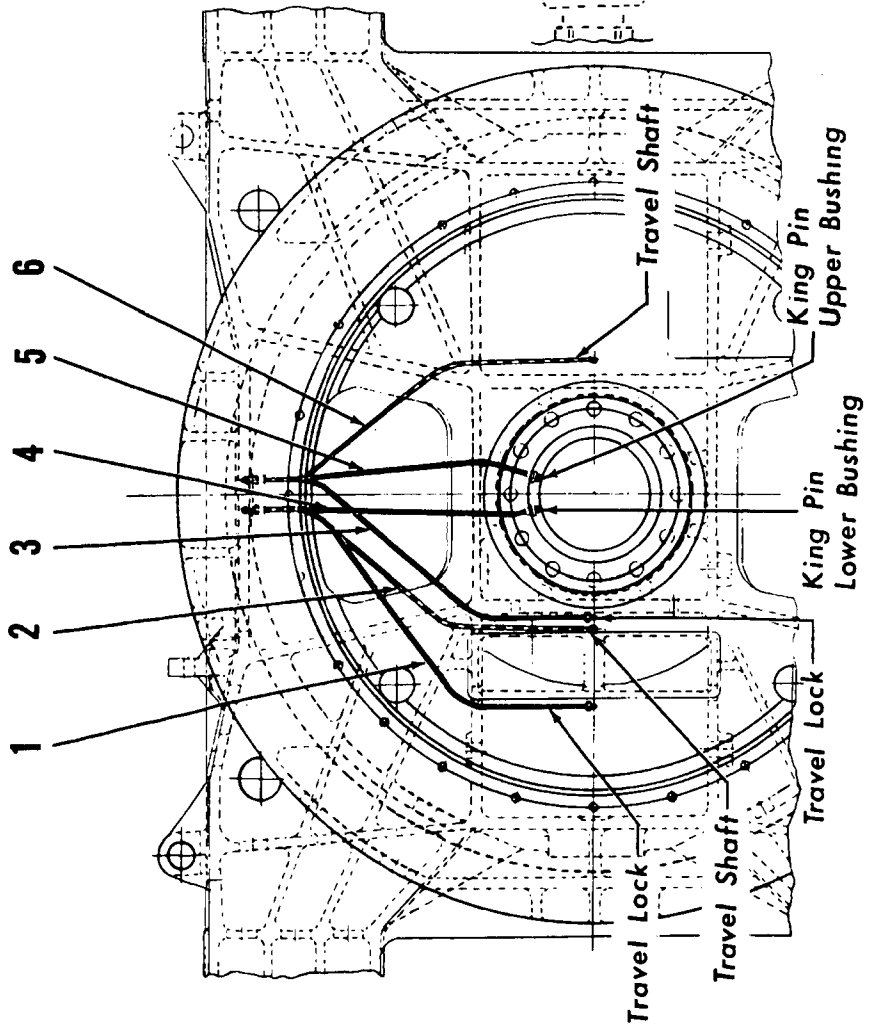
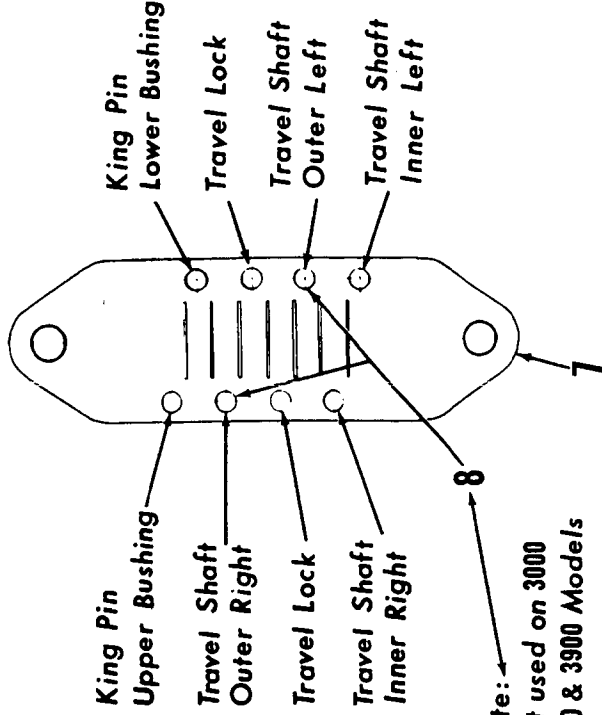
INSTRUMENT PANEL

MATERIAL LIST ON BACK

MASTER

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MASTER

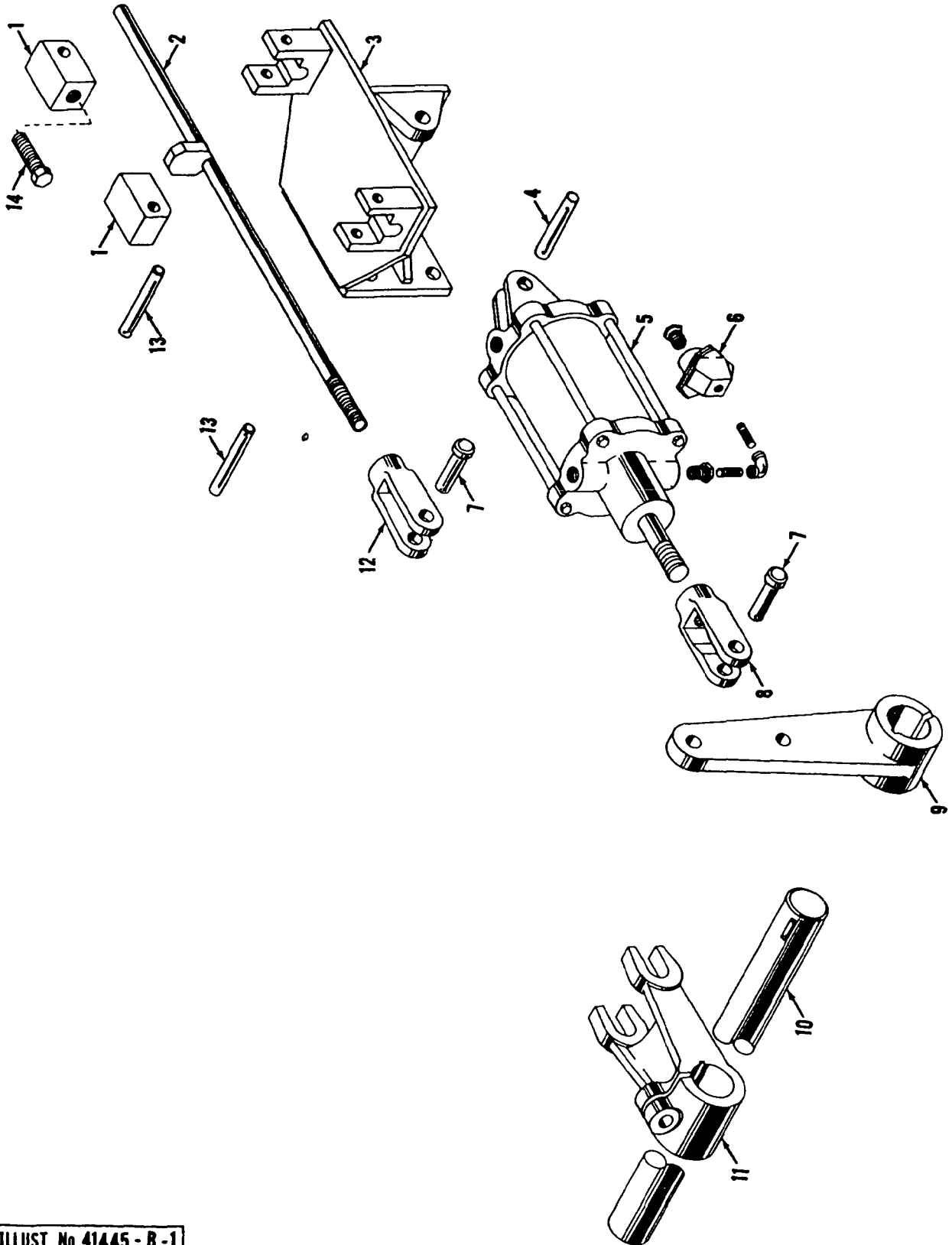


Parts Drawing Only

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Manitowoc, Wisconsin



MASTER

Back

ILLUST No 41445-B-1

MATERIAL LIST ON BACK

STEERING CONTROL ASSEMBLY - ROTATING BED

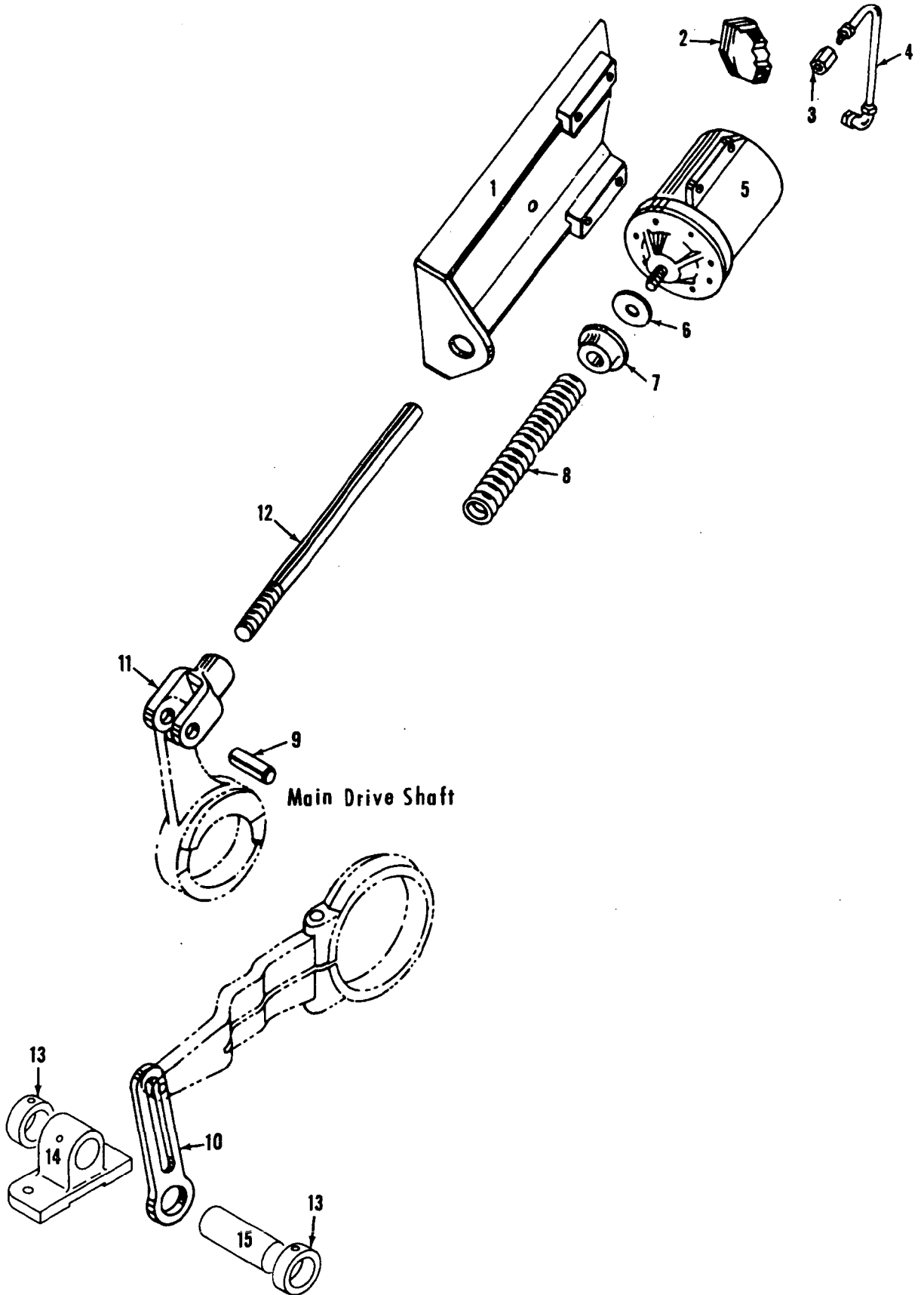
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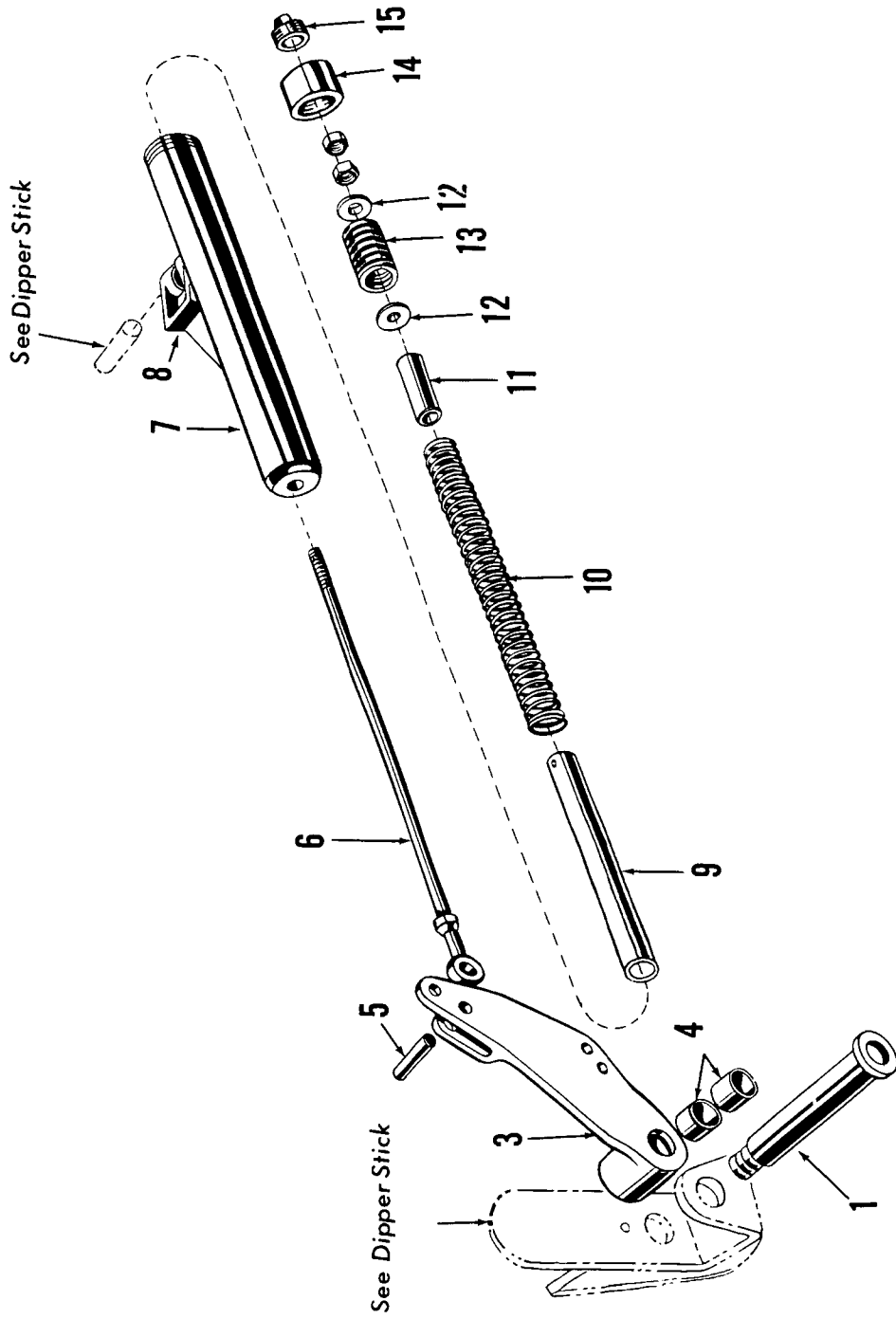
Main Drive Shaft

30476 C1

30476C1

MATERIAL LIST ON BACK

SHOVEL RETRACT CONTROL

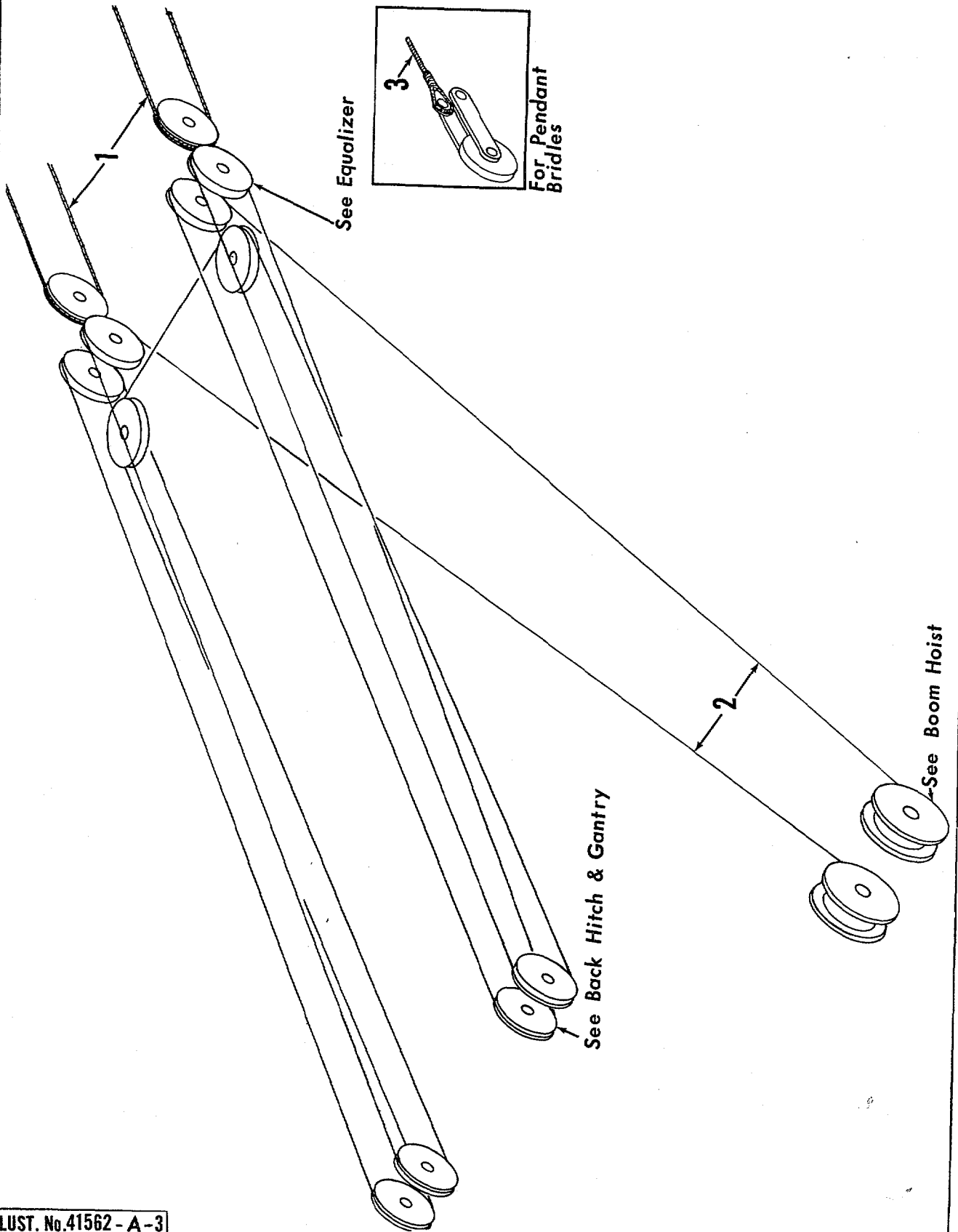


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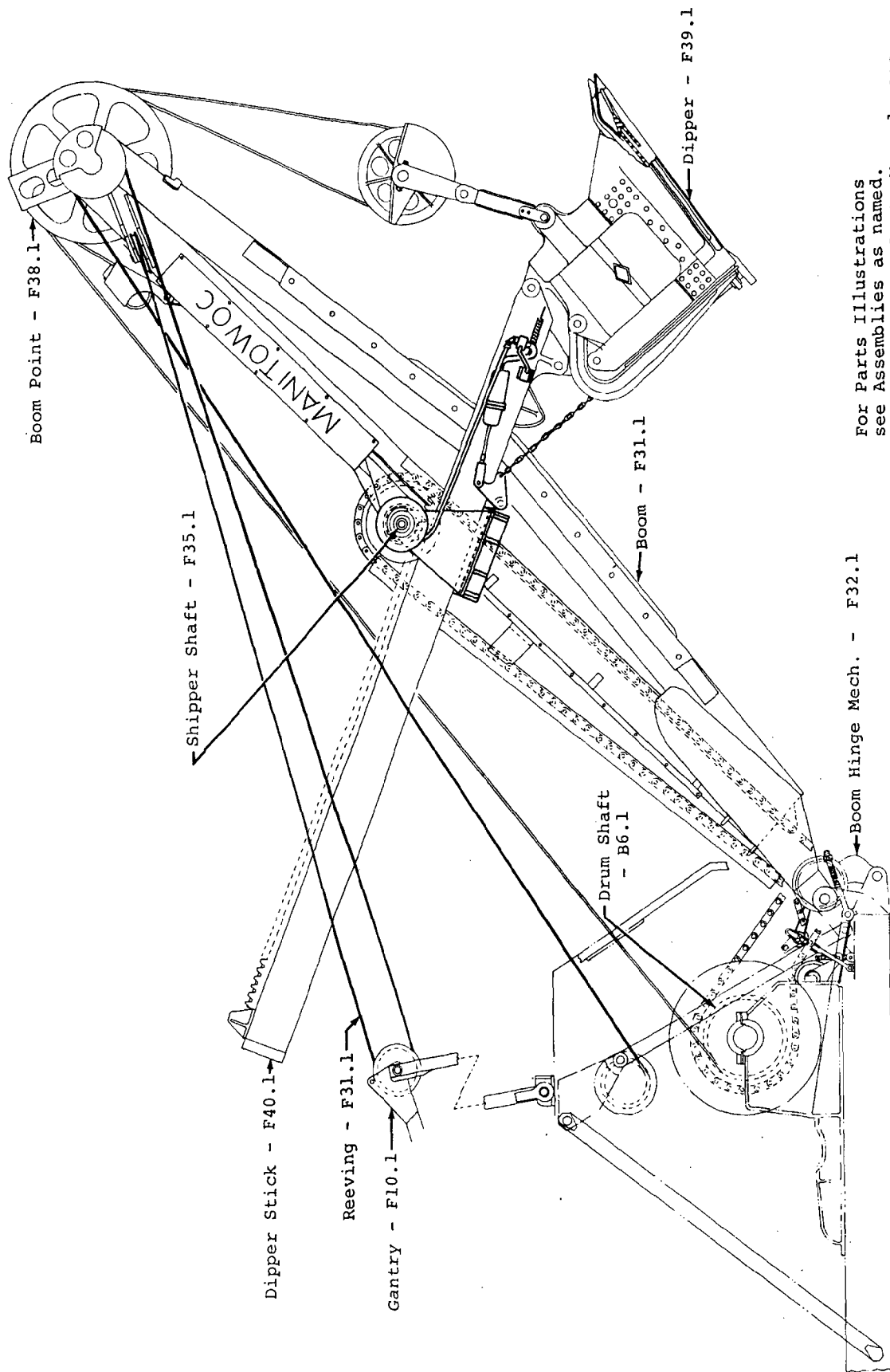


ILLUST. No. 41562 - A - 3

MATERIAL LIST ON BACK

REEVING DIAGRAM

41562 A3  
41918-C2 Back

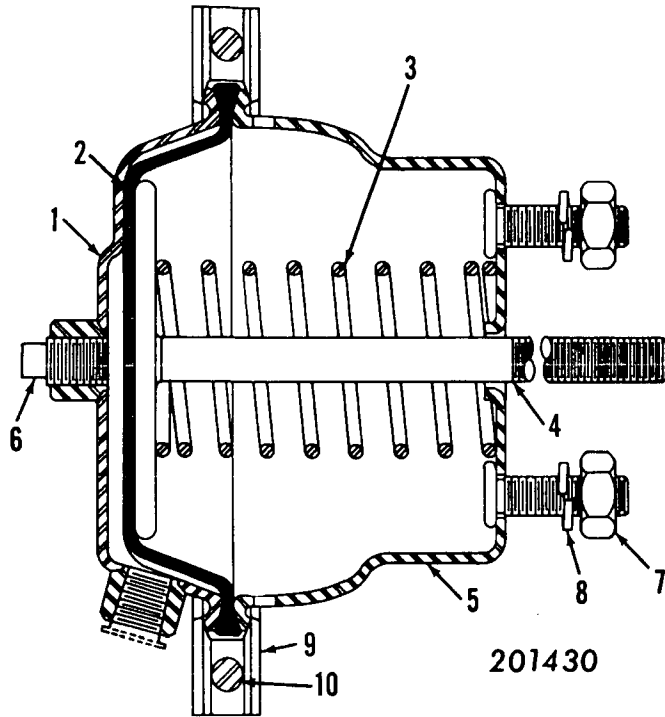


For Parts Illustrations  
see Assemblies as named.  
Number refers to Parts Manual page.

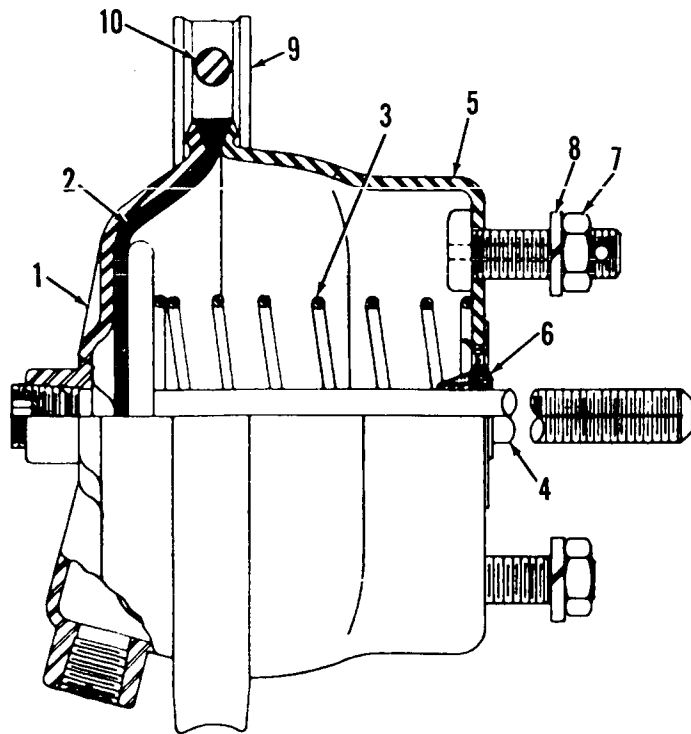
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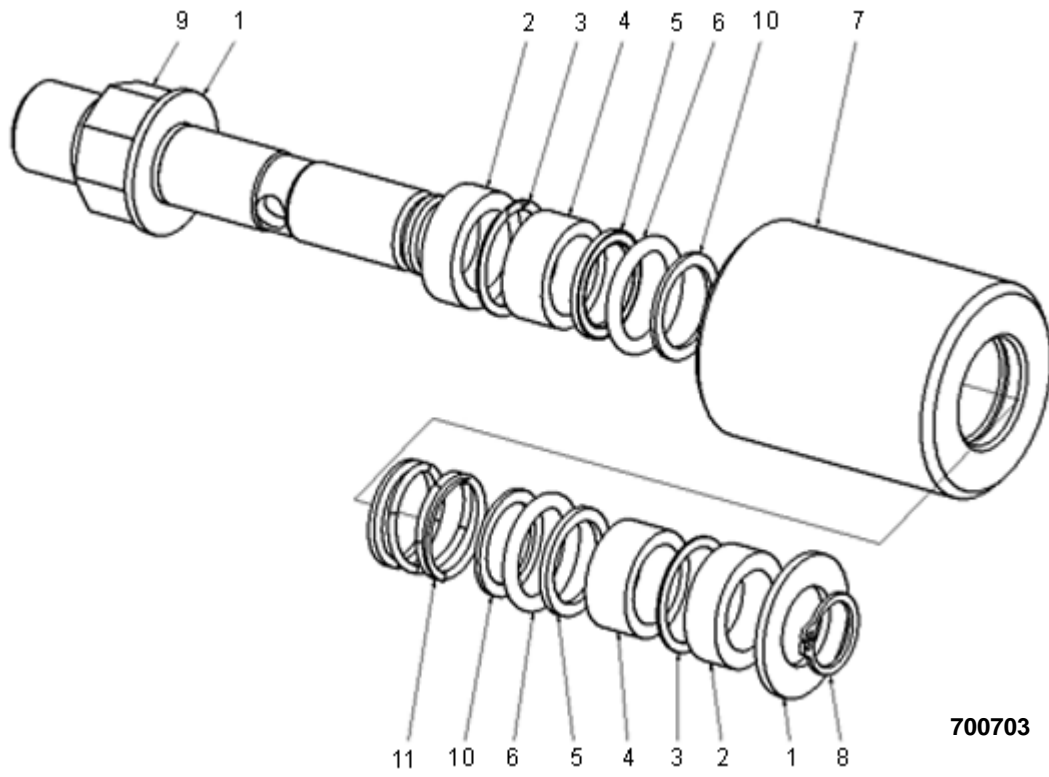
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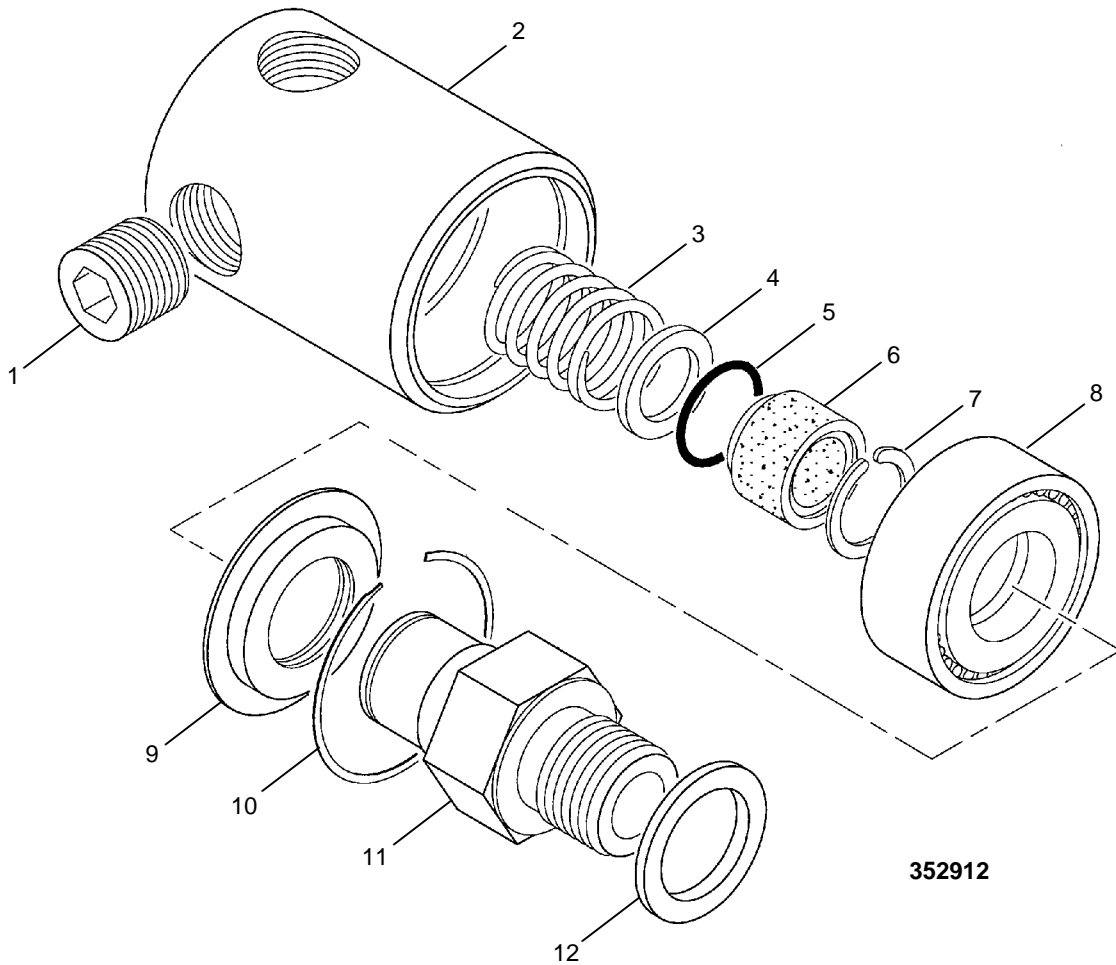
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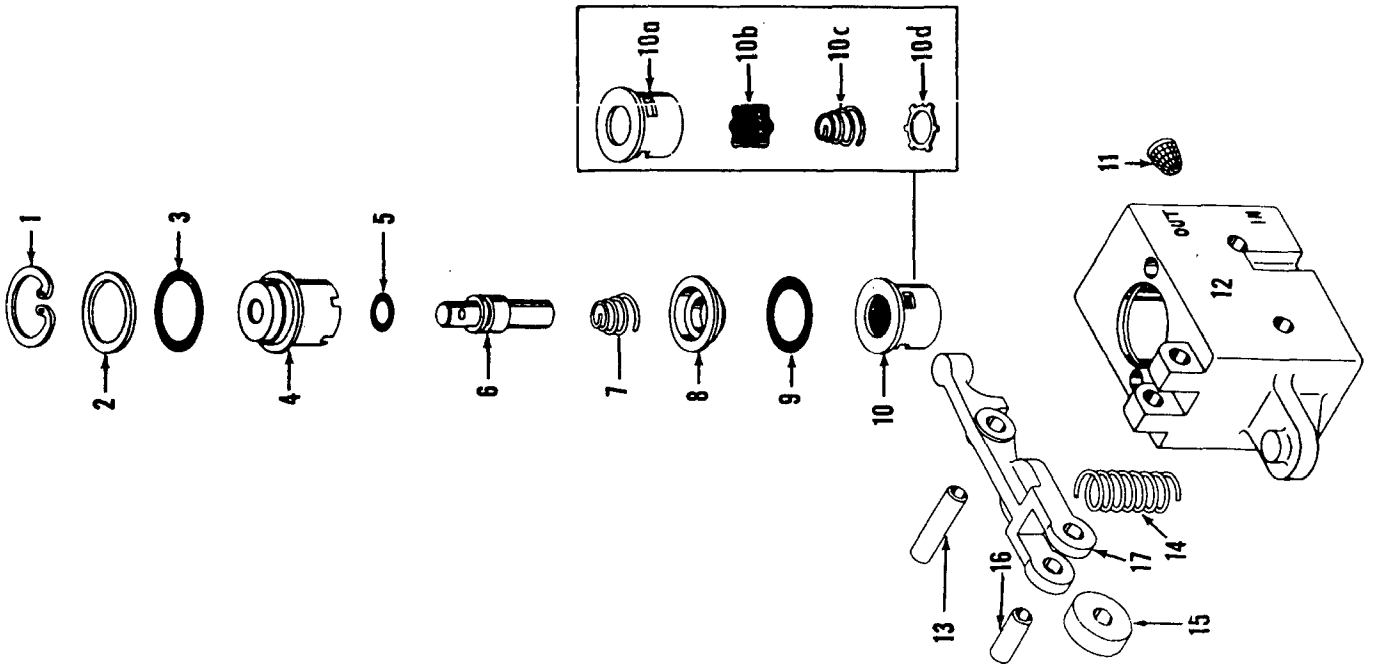
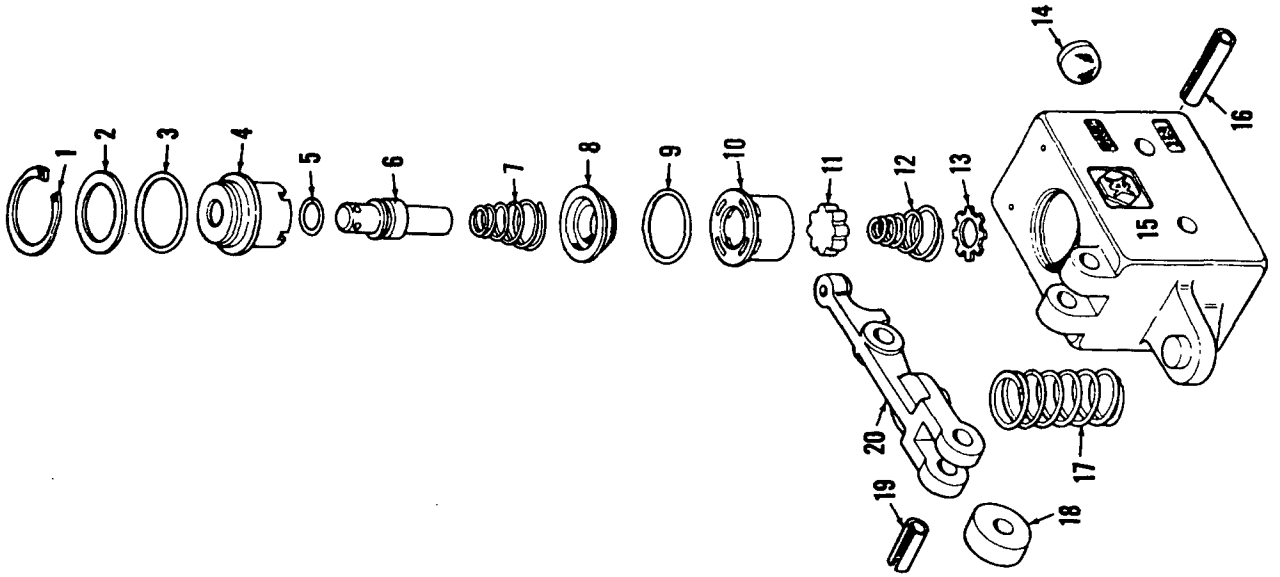
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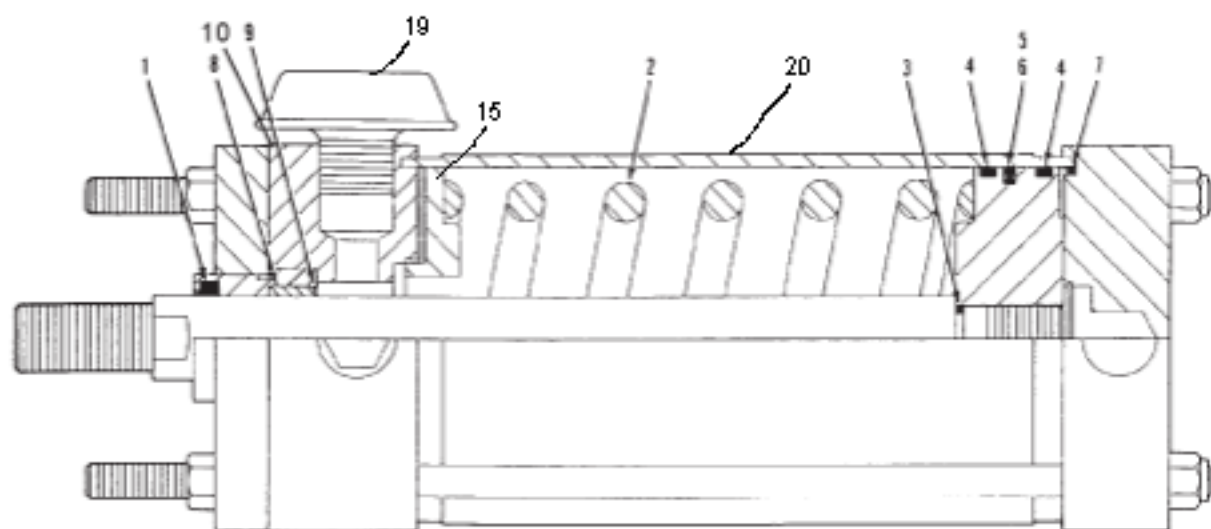


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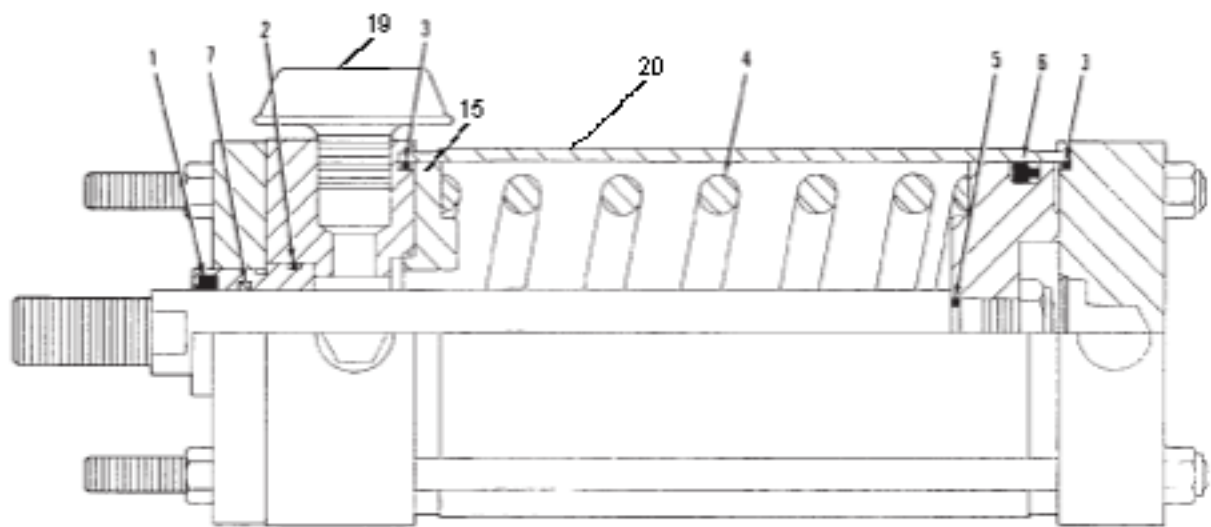
|              |          |
|--------------|----------|
| ASSEMBLY     | REVISION |
| <b>O-157</b> | <b>C</b> |

MASTER



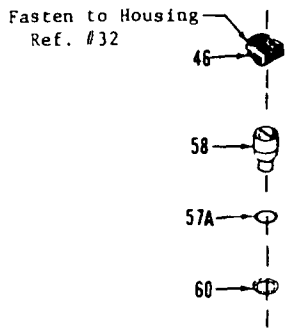


CURRENT PRODUCTION

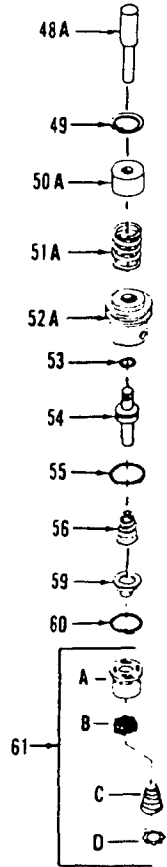


PAST PRODUCTION

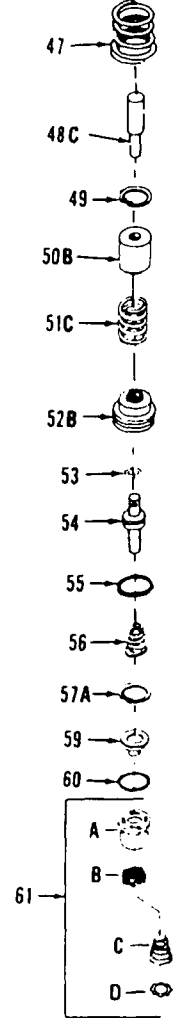
Cavity Plugged



3 Way Valve



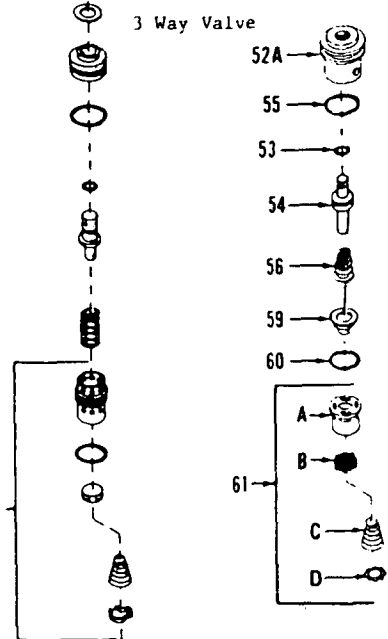
Modulating Valve



REPAIR AND CONVERSION KITS

Obsolete

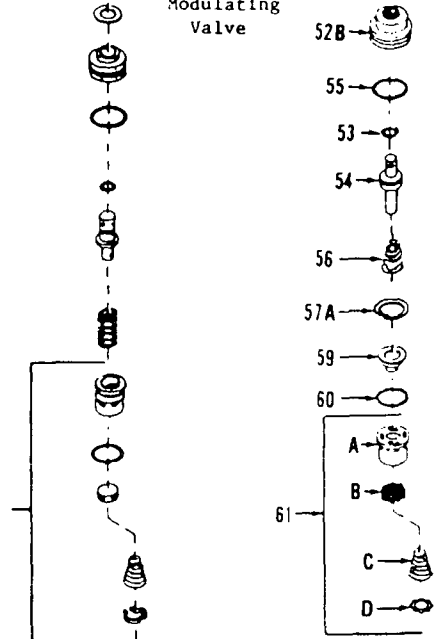
Replace With



Obsolete

Modulating Valve

Replace With

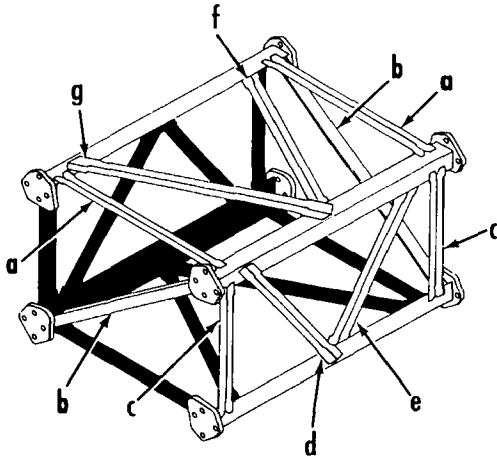


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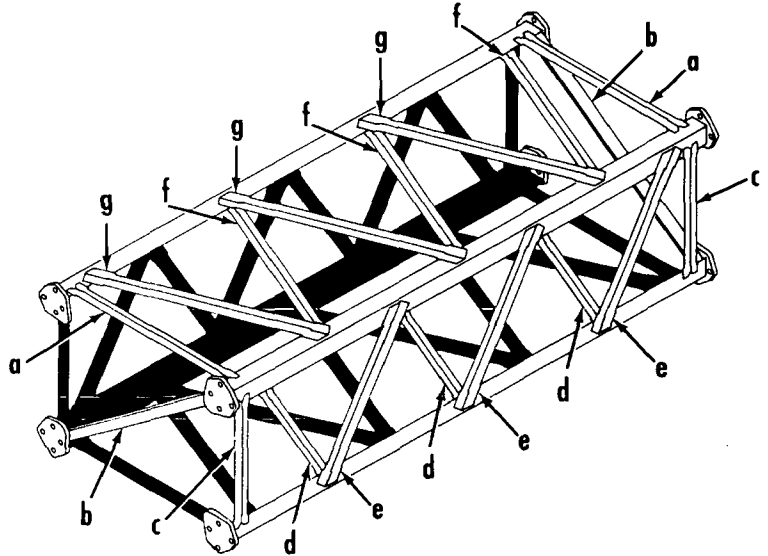
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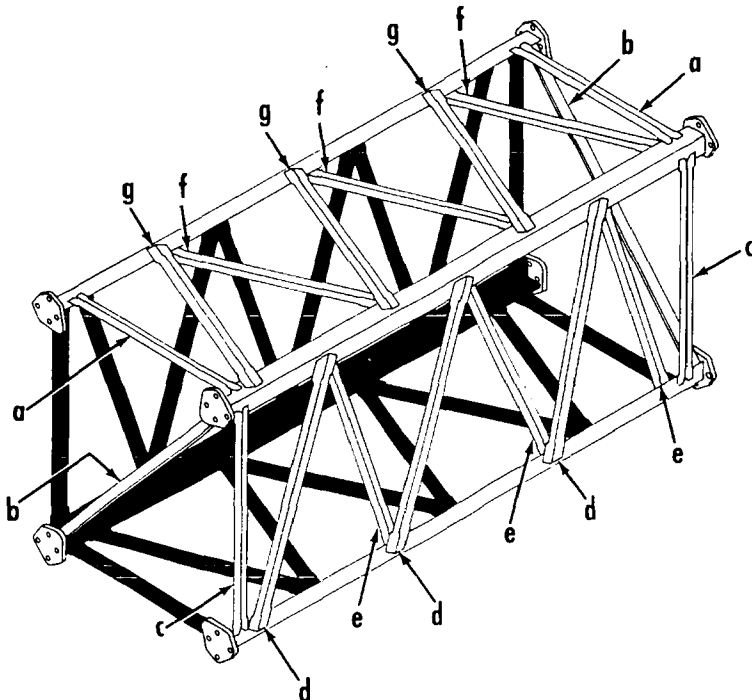
Boom #4  
 Left Side and Bottom Lacings Black  
 Opposite Lacings Same Unless Noted.



5' Insert  
 #21458



10' Insert  
 #30758



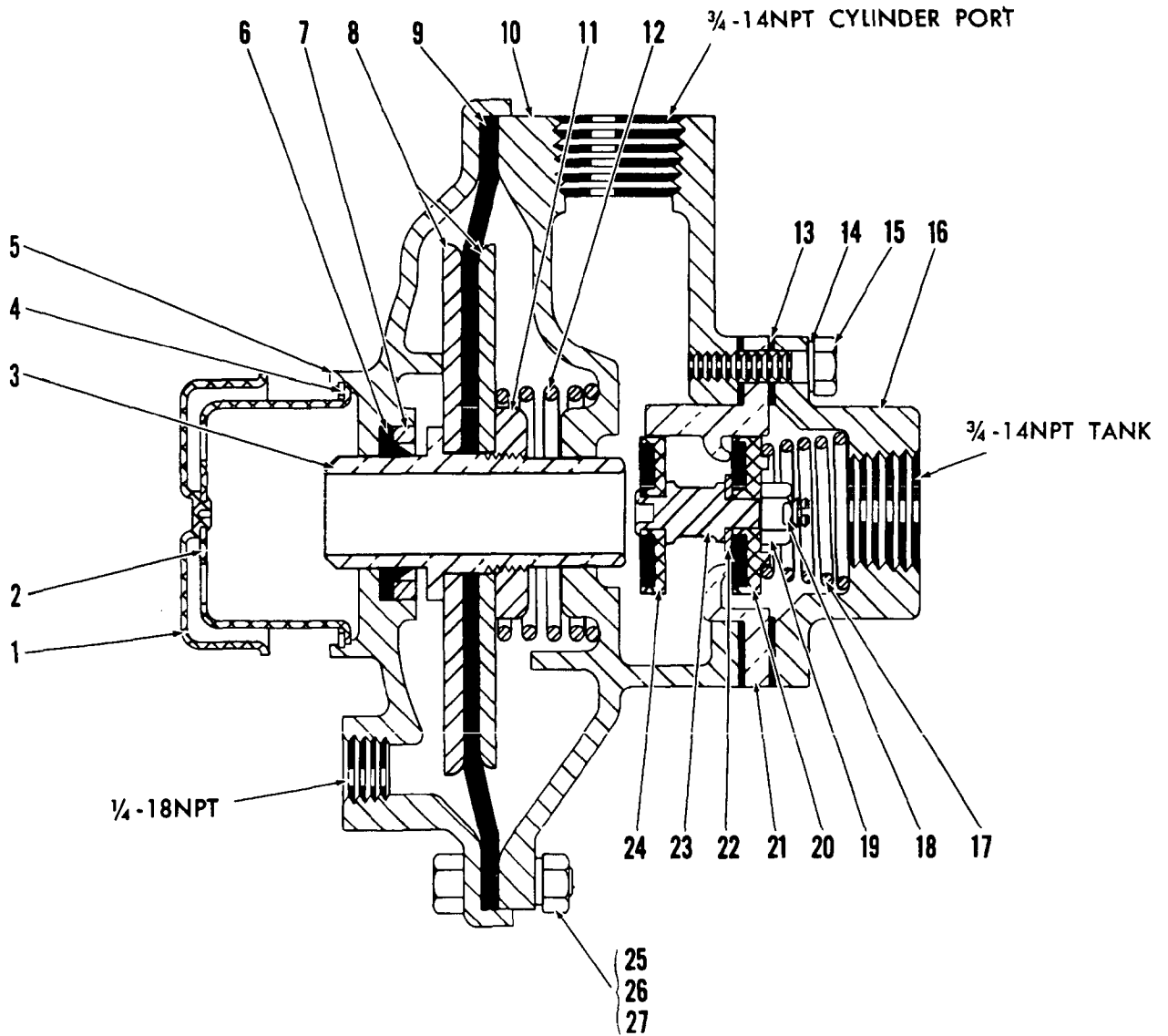
10' Insert  
 #31167

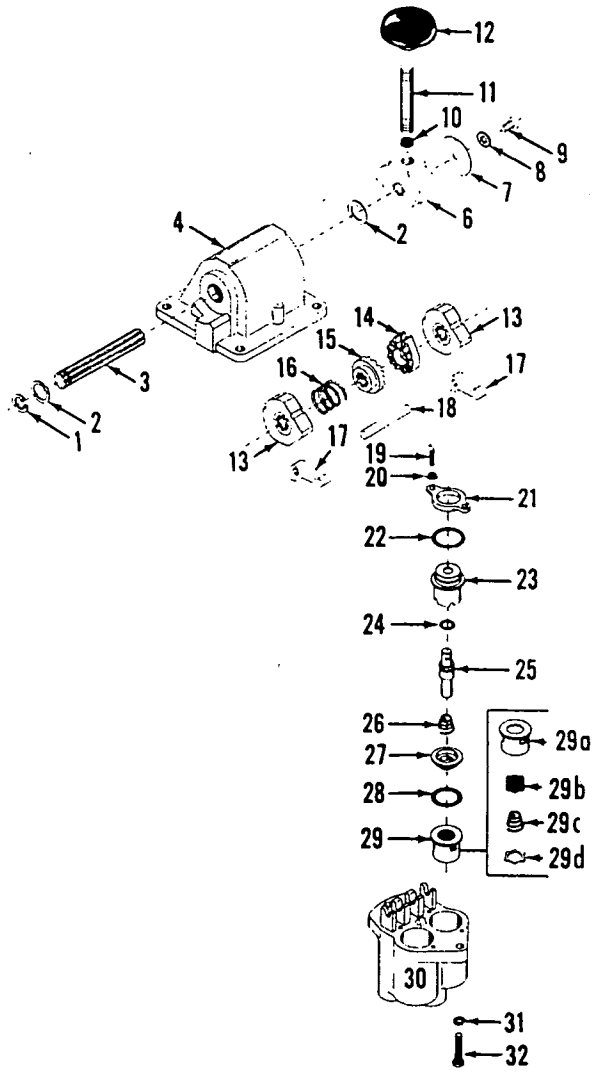
When ordering give the insert  
 number and lacing letter --  
 Example - Lacing #31167-E

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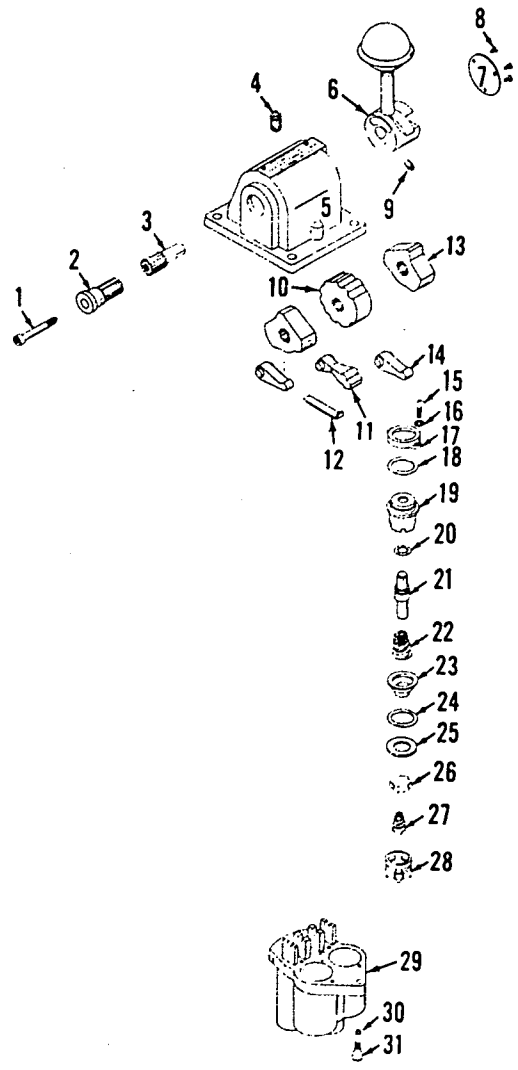
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P59335



P54426-0312

MATERIAL LIST ON BACK

CONTROL VALVE

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