



TRADITIONAL CRANE PARTS MANUAL

This manual has been prepared for and is considered part of

3900

Model

3920

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.

MANITOWOC CRANES, INC.

2401 South 30th Street • PO Box 70

Manitowoc, WI 54221-0070

Phone: 920-684-6621 • Fax: 920-683-6278

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B. Ordering Lacings without Lacing Drawings

The parts order must contain the following information to ensure that Manitowoc provides you with the correct lacings:

1. Crane serial number (can be found on builders plate in operator's cab.)
2. Boom or jib identification number.
3. Quantity, lacing location, and lacing number.
4. Boom or jib component name (butt, insert, or top) and part number.

NOTE: To obtain the lacing location and number, view the boom or the jib from the butt end looking forward. Identify the side on which the damaged lacing is located: left side, top side, right side, or bottom side. Count each lacing up to and including the damaged lacing, starting with **first lacing nearest butt end** of the component as shown in Figure e3.

Do not count a diagonal lacing as the first lacing. Identify diagonal lacing separately; lower end diagonal lacing or upper end diagonal lacing.

ASSISTANCE

If you are in doubt as to which lacings to order, DO NOT GUESS. Contact your nearest Manitowoc distributor for assistance; doing so may prevent the wrong parts from being shipped.

EXAMPLE: Assume you have a number 22 boom and the lacings with circled numbers in Figure 3 are damaged. Your parts order should be similar to the following example:

Crane Serial Number: **00000** (from builders plate).

Boom Identification Number: **#22 Boom**

Required:

- 1 each Top Side Lacing (1) for 30 ft Butt 48153-9
- 1 each Right Side Lacing (5) for 30 ft Butt 48153-9
- 1 each Bottom Side Lacing (3) for 20 ft Insert 33426-3
- 1 each Bottom Side Lacing (6) for 20 ft Insert 33426-3
- 1 each Top Side Lacing (2) for 40 ft Top 50453-2

| Quantity | Lacing Location | Lacing Identification Number | Component Name and Part Number |
|----------|-----------------|------------------------------|--------------------------------|
| 1 | Top Side | (1) | 30 ft Butt 48153-9 |
| 1 | Right Side | (5) | 30 ft Butt 48153-9 |
| 1 | Bottom Side | (3) | 20 ft Insert 33426-3 |
| 1 | Bottom Side | (6) | 20 ft Insert 33426-3 |
| 1 | Top Side | (2) | 40 ft Top 50453-2 |

WELDING INSTRUCTIONS

Each lacing order is shipped with welding instructions and a copy of Form 00SPFM006 which identifies the chord and lacing material.

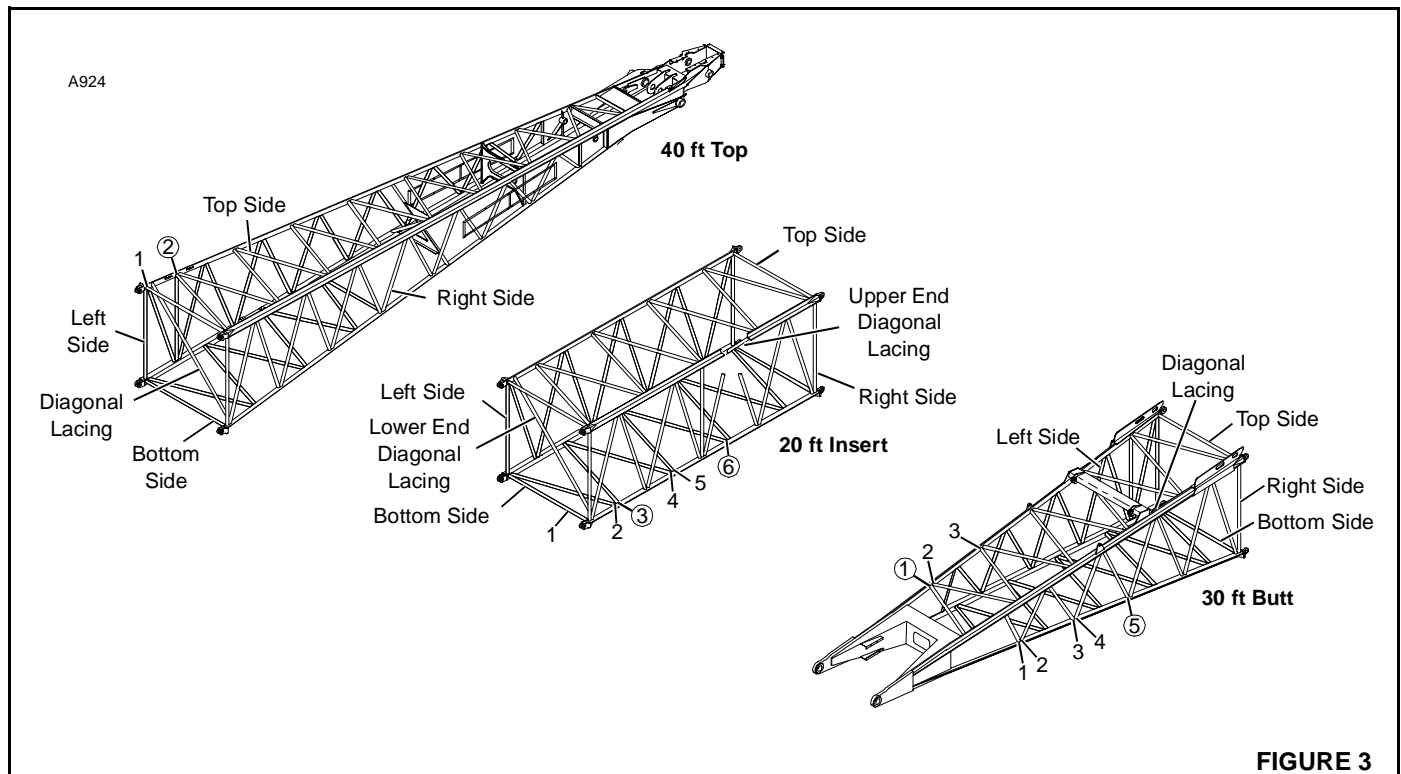


FIGURE 3

**PARTS MANUAL ALPHABETICAL INDEX
GROUP A - Rotating Structure**

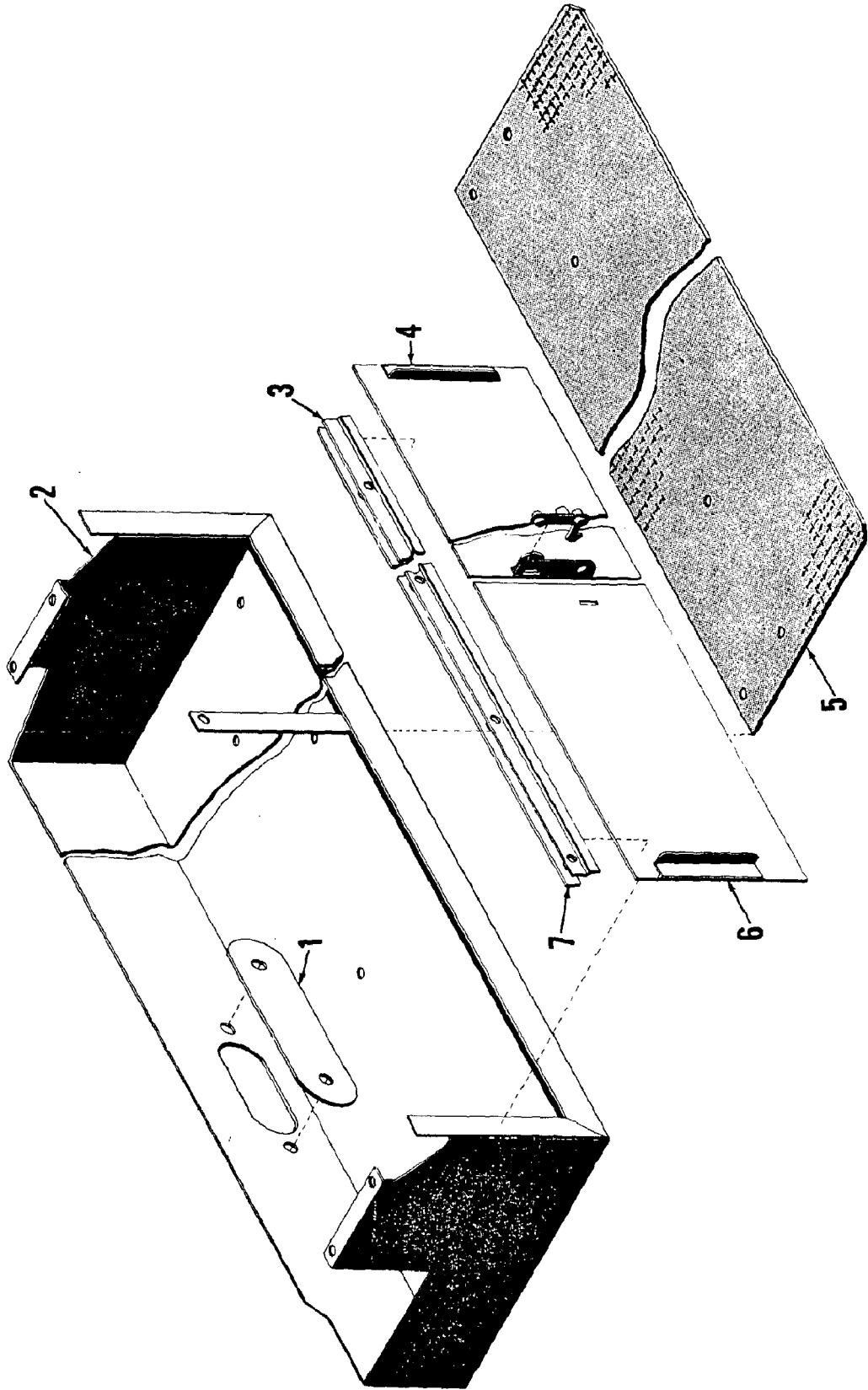
| DESCRIPTION | PUBLICATION | REV | START DATE | END DATE | GROUP |
|---|-------------|-----|------------|----------|-------|
| "A" Frame | 40343 | - | 12/21/40 | 11/07/51 | A0101 |
| Cab | 30973 | A1 | 11/18/49 | 12/07/50 | A0201 |
| Catwalk | 41172 | - | 04/30/51 | 03/17/52 | A0801 |
| Chain & Gear Case | 40337 | A1 | 11/25/40 | 03/16/50 | A0401 |
| Guards | 30450 | - | 11/10/42 | | A0501 |
| Guards | 30452 | - | 11/05/42 | 06/06/52 | A0501 |
| Platform | 40164 | B1 | 02/15/38 | 09/14/55 | A0701 |
| Rotating Bed Lubrication Piping | 30375 | A1 | 06/30/41 | 11/07/72 | A0104 |
| Rotating Bed/Hoist Frame/Transporter Platform | 41378 | - | 12/11/51 | 07/09/53 | A0102 |
| Tool Box | 31050 | A1 | 01/10/50 | 03/14/56 | A0901 |

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MASTER



31050 A1

ILLUST. No. 31050-A-1

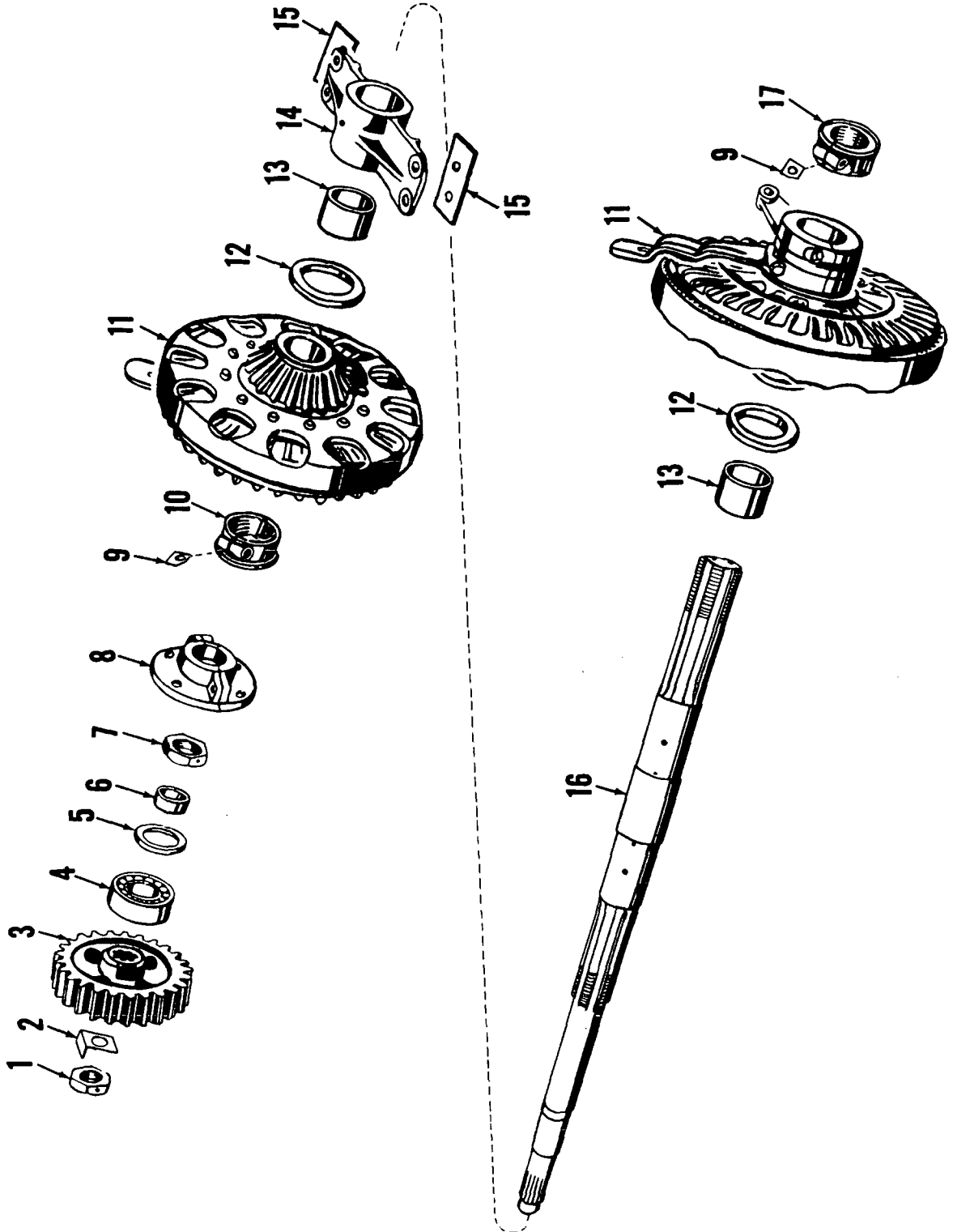
MATERIAL LIST ON BACK

TOOL BOX

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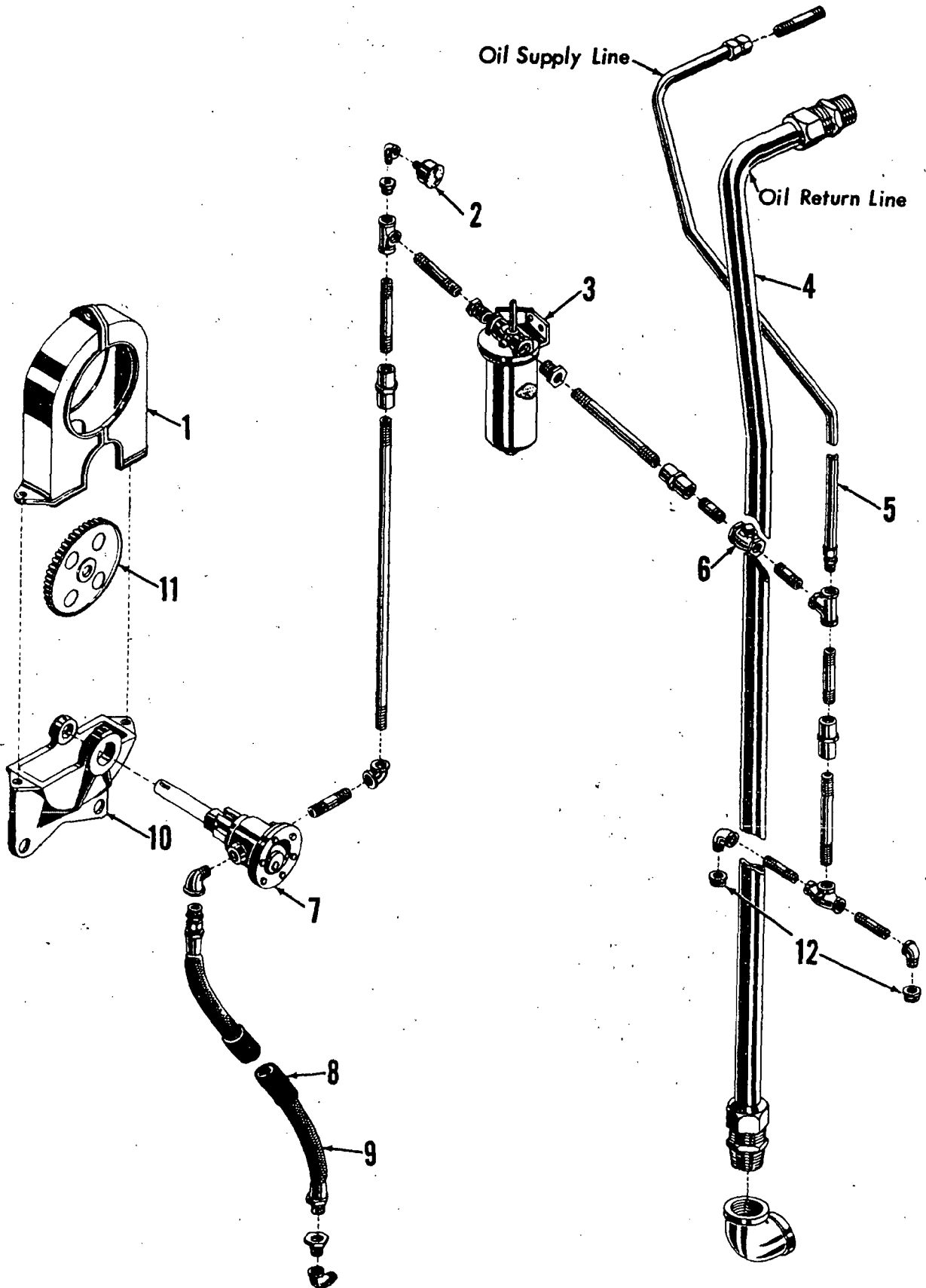
Manitowoc, Wisconsin



ILLUST. No. 20961-A-1

MATERIAL LIST ON BACK

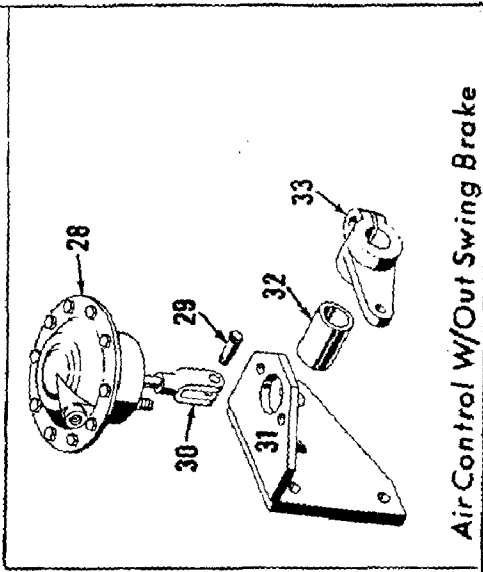
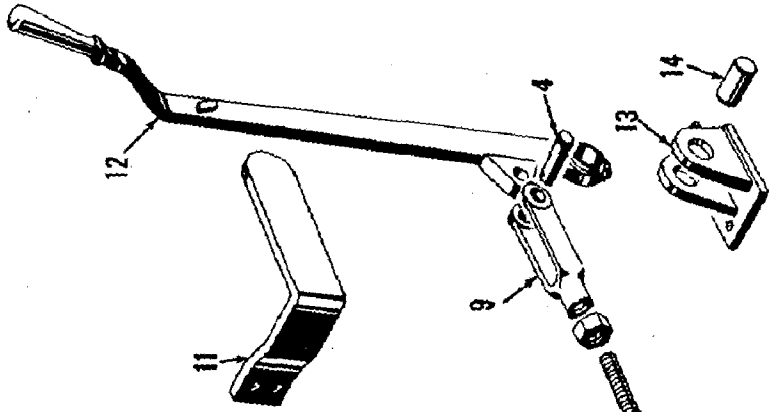
IND. SWING DRIVE SHAFT ASSEMBLY



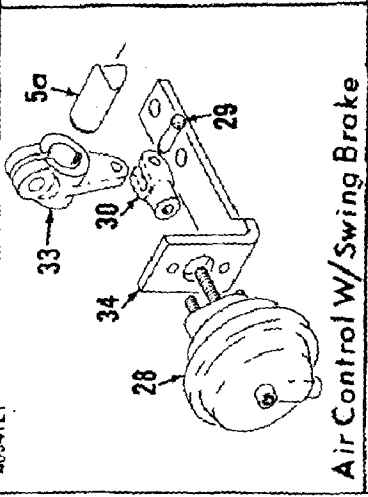
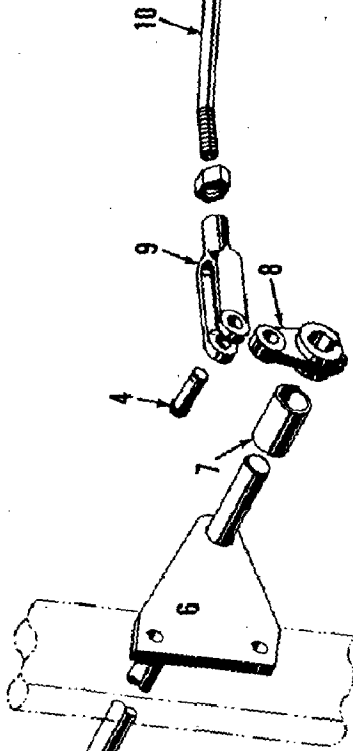
ILLUST. No. 30207-A-1

MATERIAL LIST ON BACK

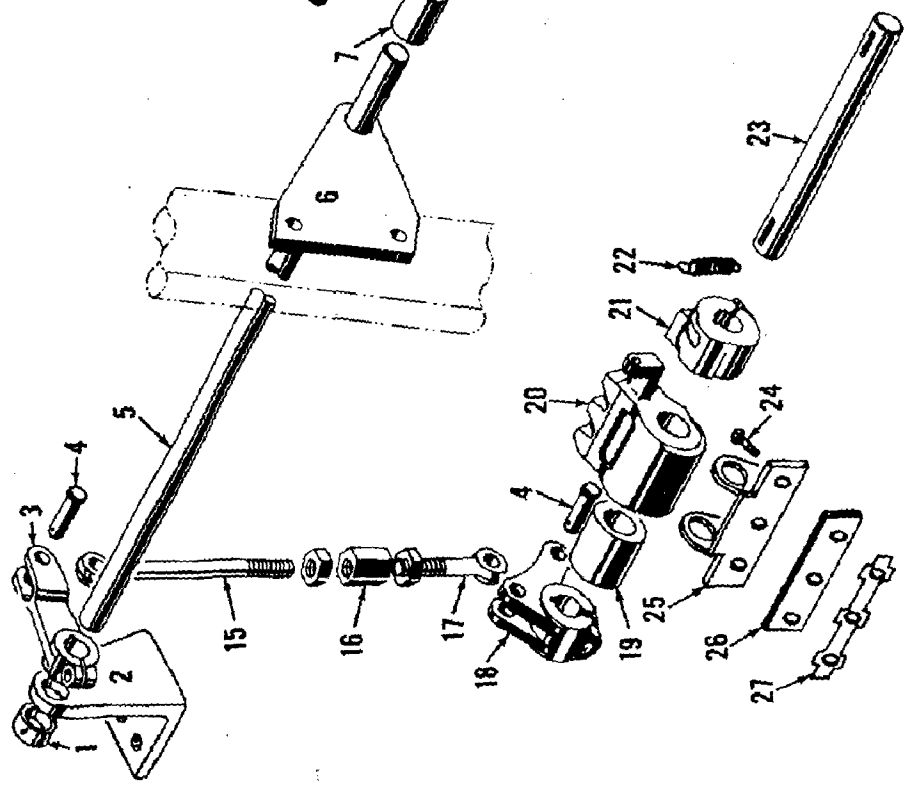
OIL PUMP ASSEMBLY



Air Control W/Out Swing Brake



Air Control W/Swing Brake

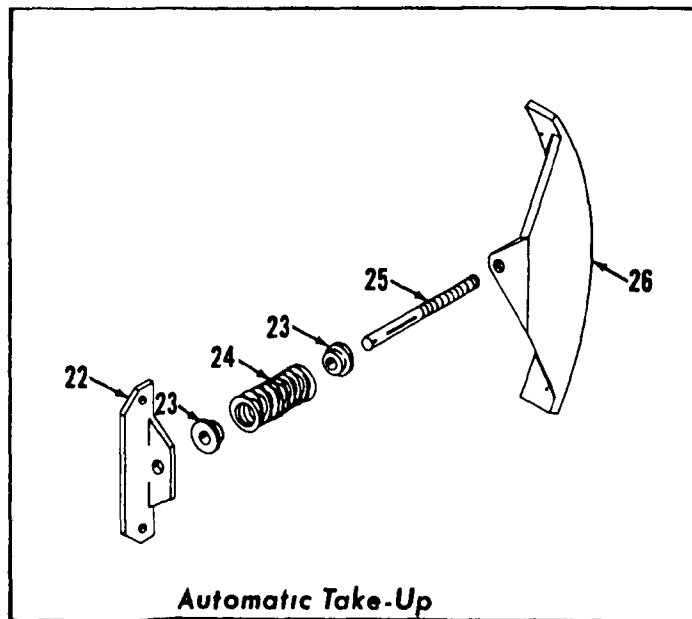
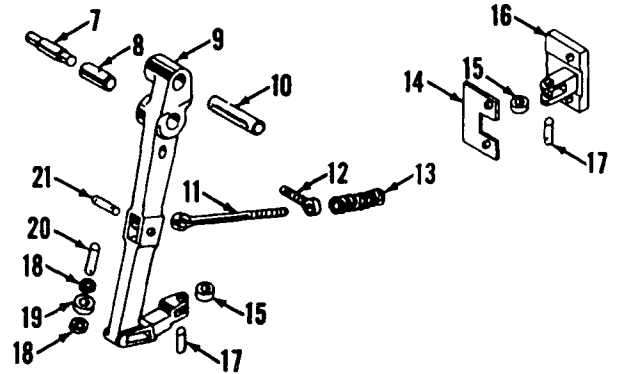
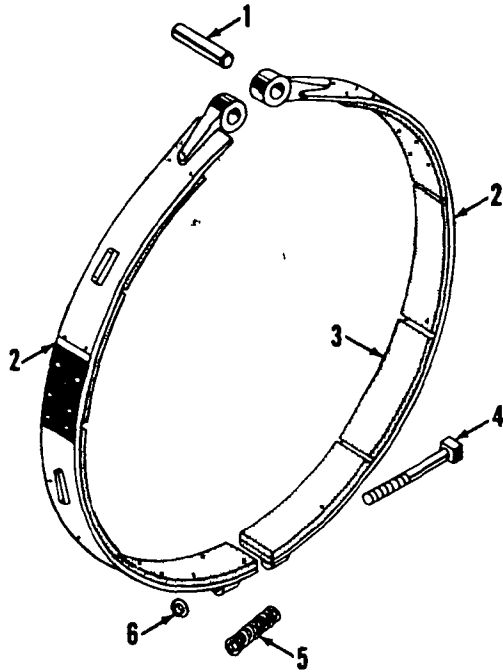


SWING LOCK CONTROL

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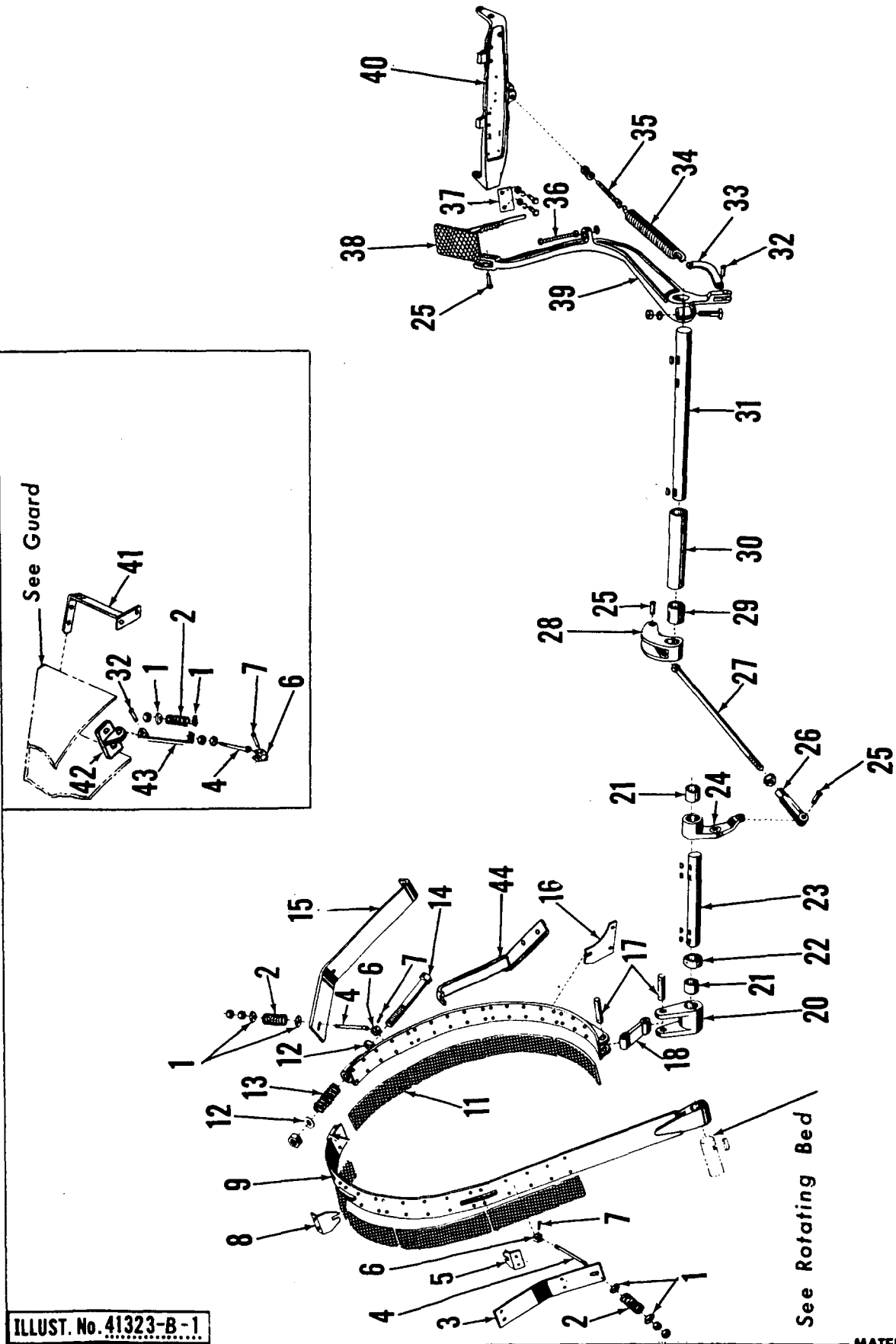
Automatic Take-Up

ILLUST No 40908-B-2

MATERIAL LIST ON BACK

DRUM CLUTCH ASSEMBLY

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ILLUST. No. 41323-B-1

See Rotating Bed

MATERIAL LIST ON BACK

CONTROL - BRAKE - RIGHT HAND MANUAL for EXTERNAL CLUTCH DRUM

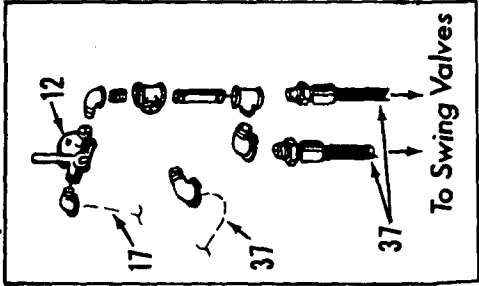
41323 B1

GROUP C - Air Components & Electrical

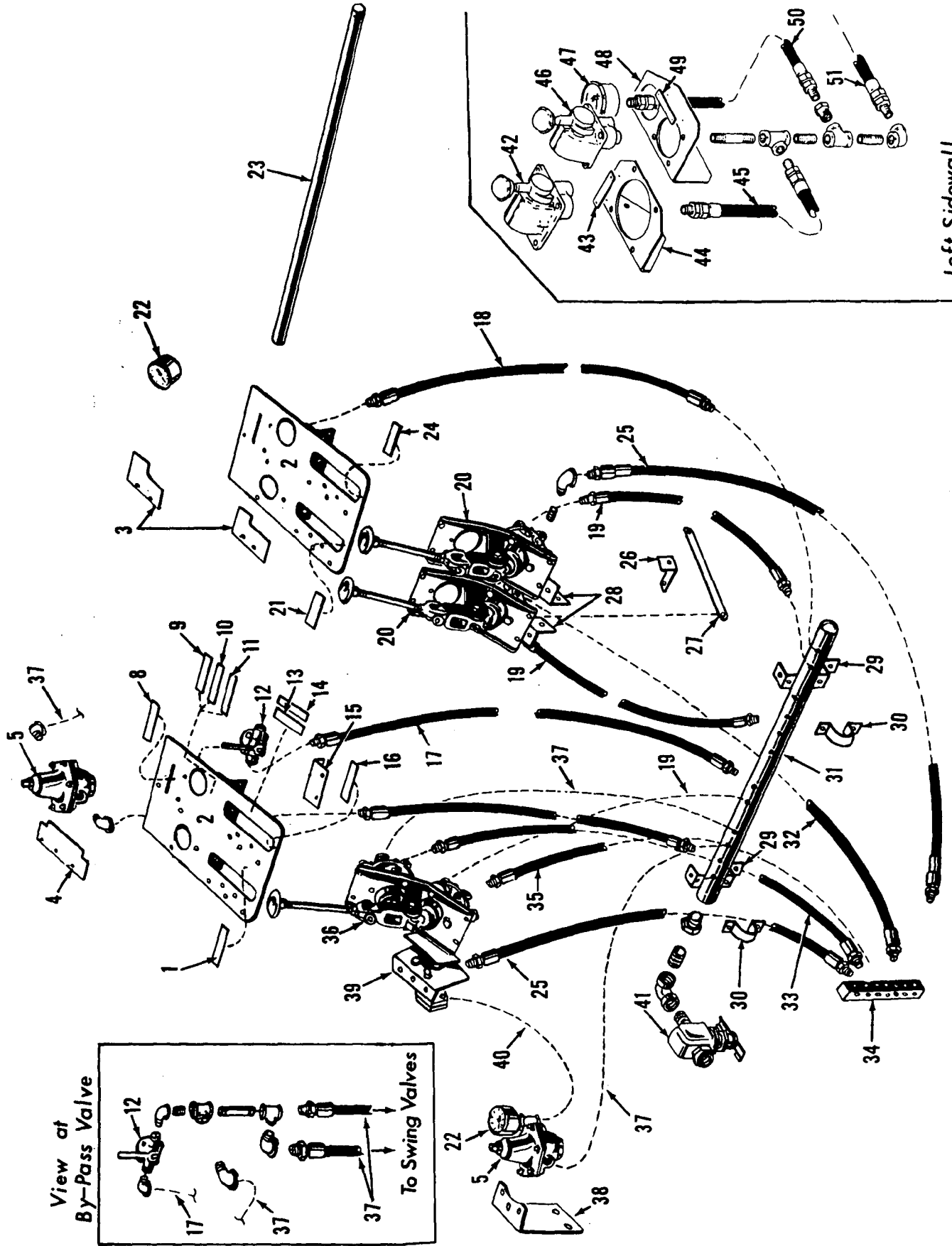
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41415 DI

View of By-Pass Valve



To Swing Valves



Left Sidewall

VALVE BOARD

MATERIAL LIST ON BACK

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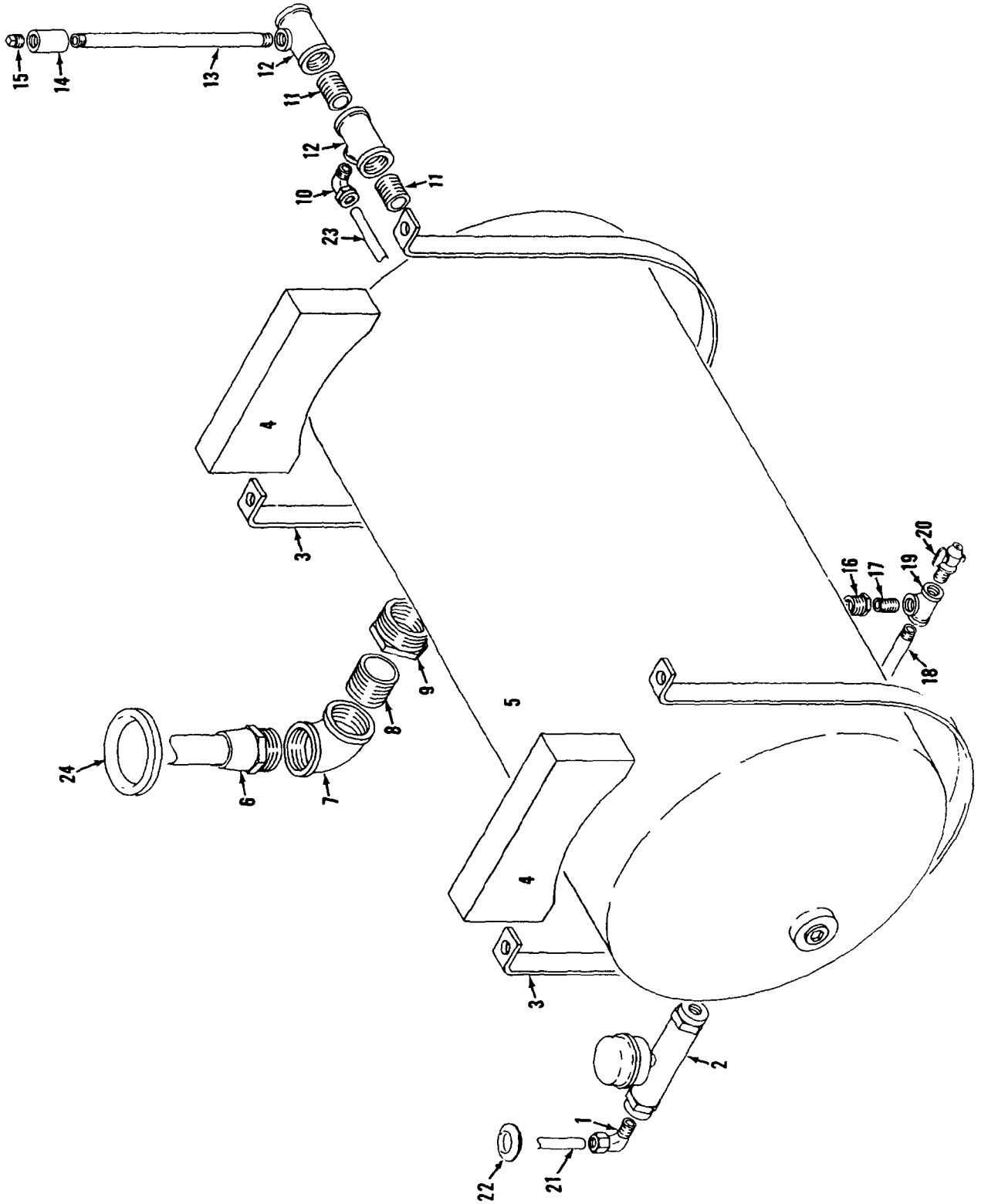
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4201383

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AIR TANK

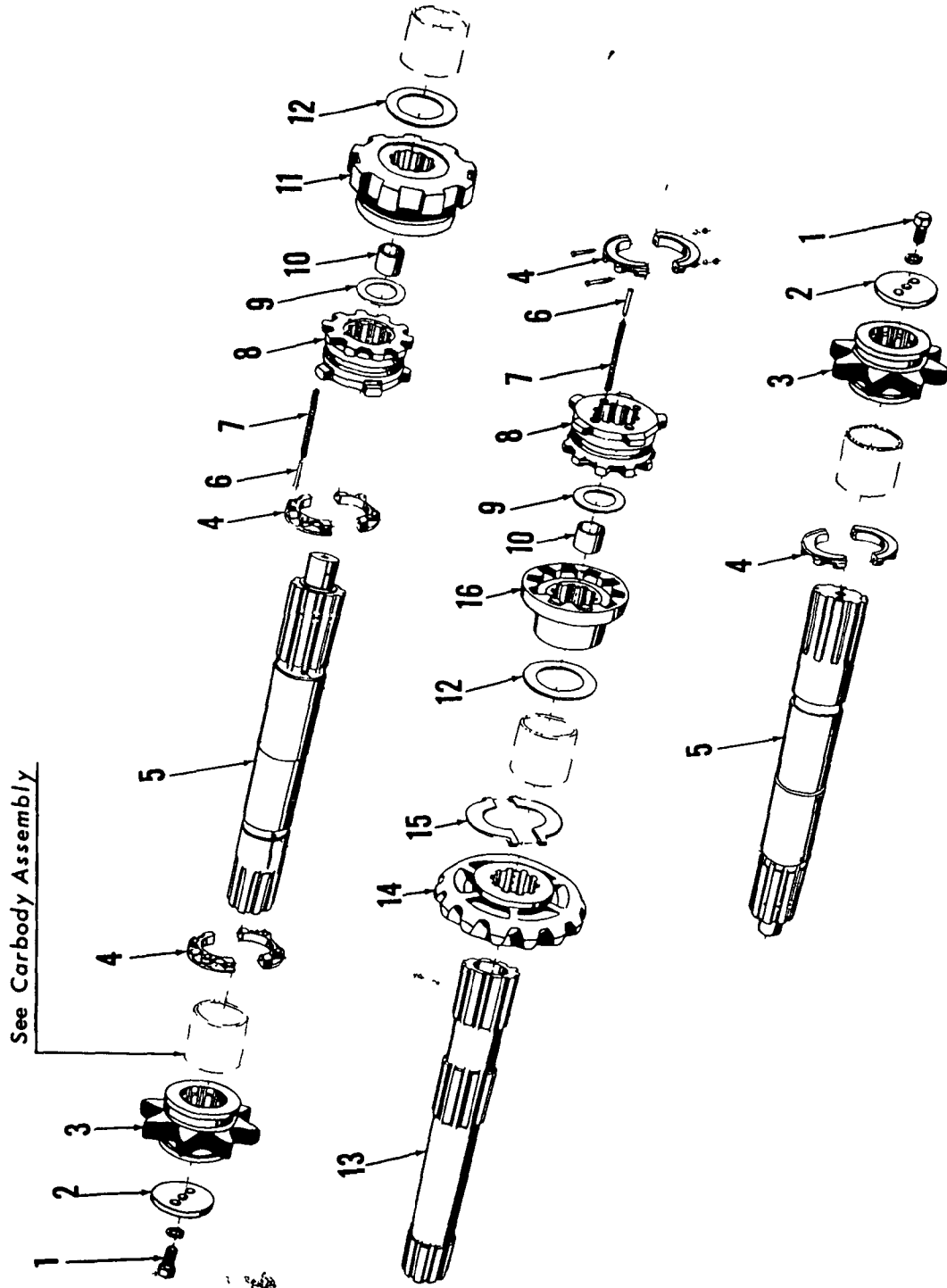
48013 B3

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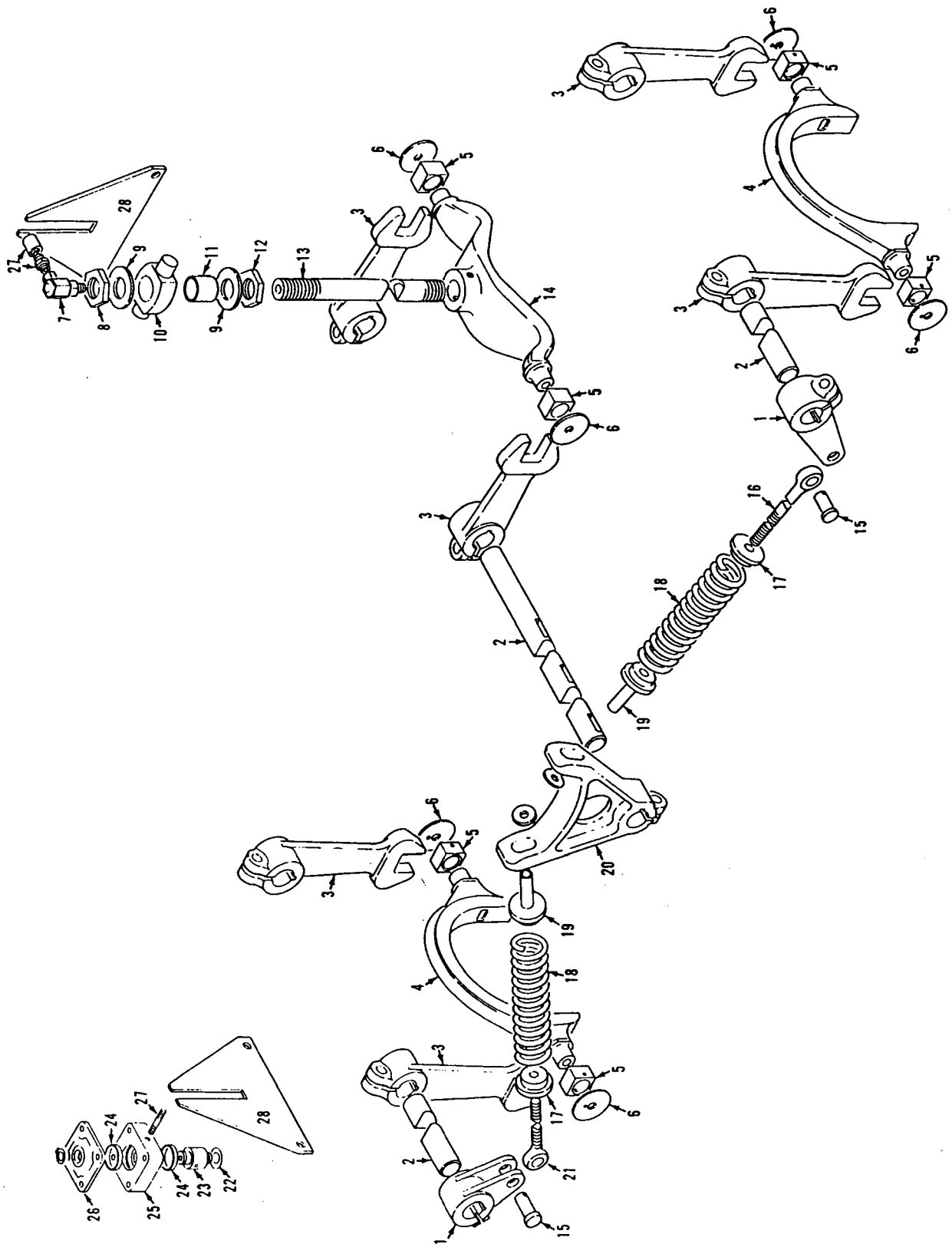


ILLUST No 30335

MATERIAL LIST ON BACK

HORIZONTAL TRAVEL SHAFT

30335 A1



40218B2

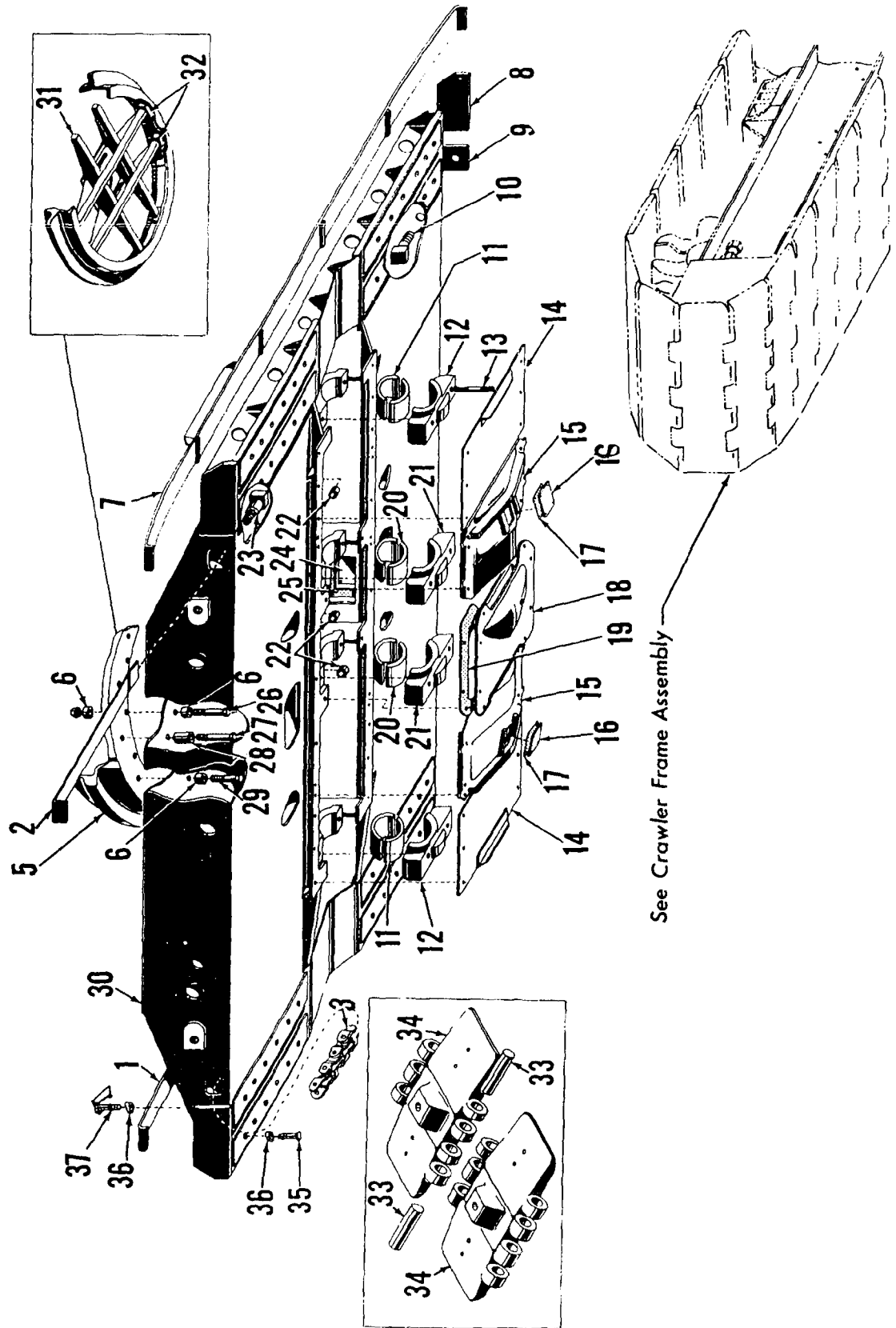
MATERIAL LIST ON BACK

STEERING CONTROL — CARBODY

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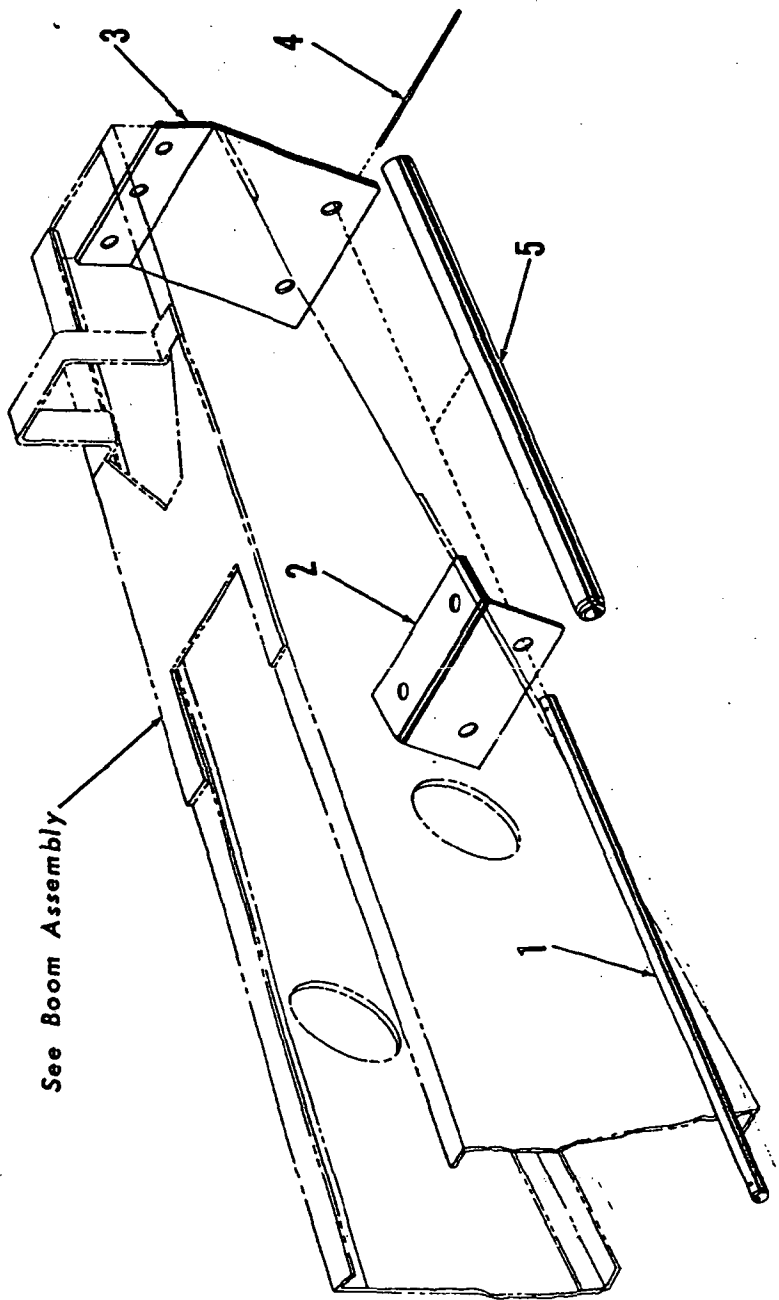
ILLUST. No. 41154-A-1

MATERIAL LIST ON BACK

CARBODY

MASTER

7113 4 A1



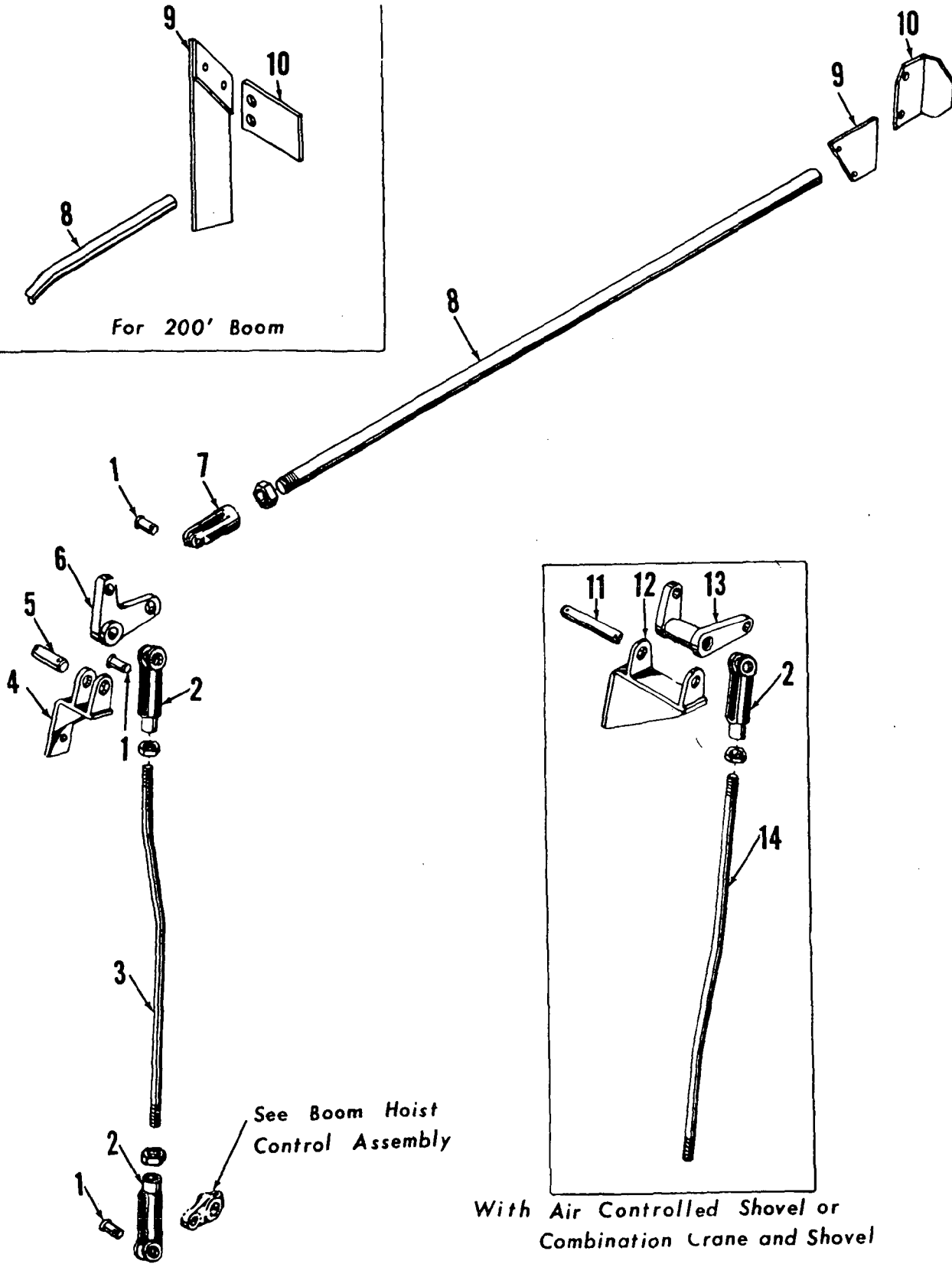
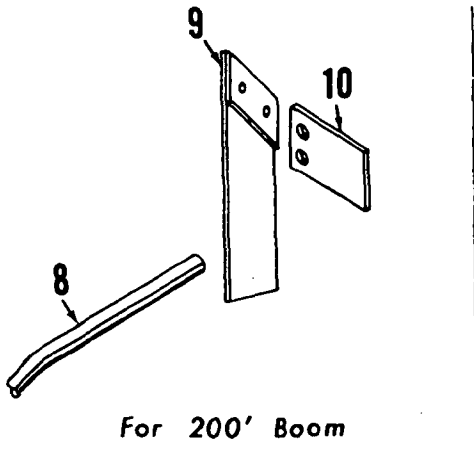
See Boom Assembly

SHEAVE GUARD ASSEMBLY - UPPER

ILLUST. No. 20410-A-1

ORDER BY PART NUMBER ONLY
MATERIAL LIST FOR THIS ASSEMBLY WILL BE FOUND ON BACK OF THIS PAGE

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See Boom Hoist Control Assembly

With Air Controlled Shovel or Combination Crane and Shovel

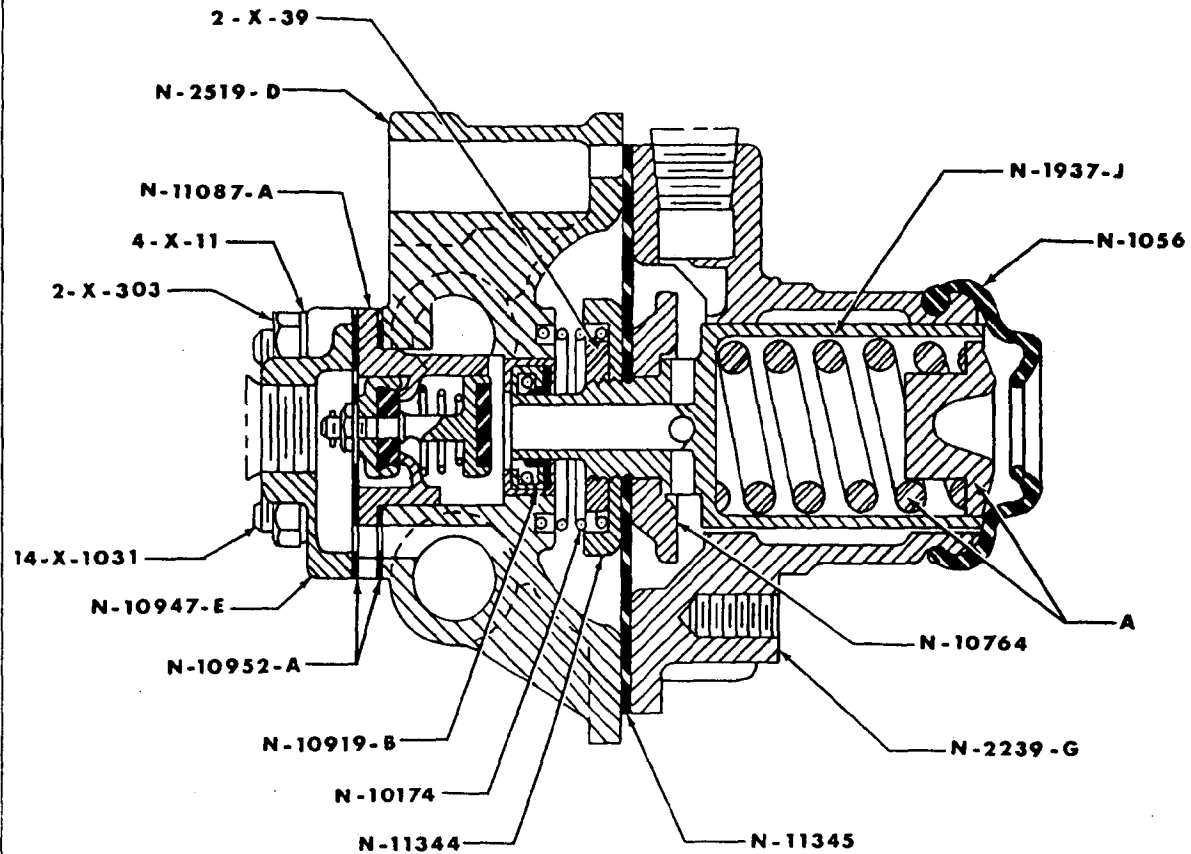
O-NUMBER NUMERICAL INDEX

| PUBLICATION | REV |
|-------------|-----|
| 0-68 | - |
| 0-71 | - |
| 0-72 | - |
| 0-99 | - |
| 0-114 | - |
| 0-147 | D2 |
| 0-156 | C1 |
| 0-242 | - |
| 0-519 | - |

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| MIDLAND VALVE | WHERE USED | "A" | CODE NUMBER | RN-10-G REPAIR KIT |
|-------------------|-----------------------------|-----------|-------------|--------------------|
| N 3440 | | N 12316 | 703913 | 702434 |
| N 3440 W/BRACKET | SWINGERS | N 12316 A | 702418 | 702434 |
| N 3440A W/BRACKET | CROWD & RETRACT | N 12316 A | 702419 | 702434 |
| N 3440B W/BRACKET | DRUM CLUTCHES & SWING BRAKE | N 12316 A | 702420 | 702434 |

"A" SPRING ASSEMBLY (ORDER FROM ABOVE)

- | | | | |
|-------------|----------------------|-------------|----------------------|
| * N 1056 | BOOT | N 10947 E | INLET COVER |
| N 1937 J | PISTON | * N 10952 A | GASKET |
| N 2239 G | VALVE COVER | * N 11087 A | INLET VALVE ASSEMBLY |
| N 2519 D | BODY | * N 11344 | WASHER |
| N 10174 | VALVE RELEASE SPRING | * N 11345 | DIAPHRAGM |
| N 10764 | DIAPHRAGM WASHER | 2 X 39 | NUT |
| * N 10919 B | SEAL | 2 X 303 | NUT |
| 14 X 1031 | STUD | 4 X 11 | LOCKWASHER |

* PARTS FURNISHED IN RN-10-G REPAIR KIT.

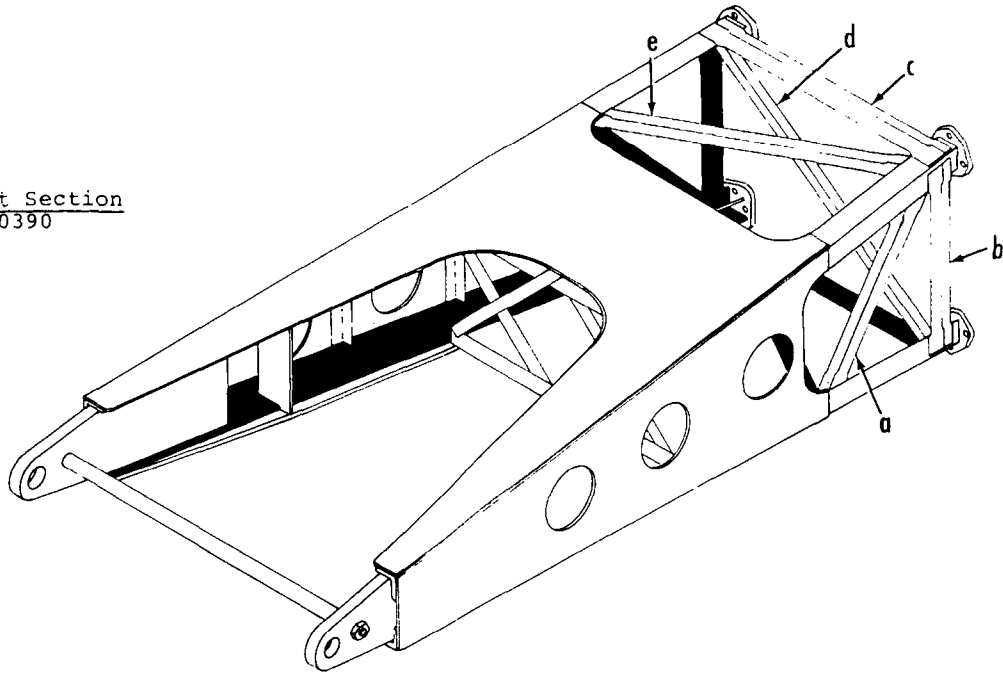
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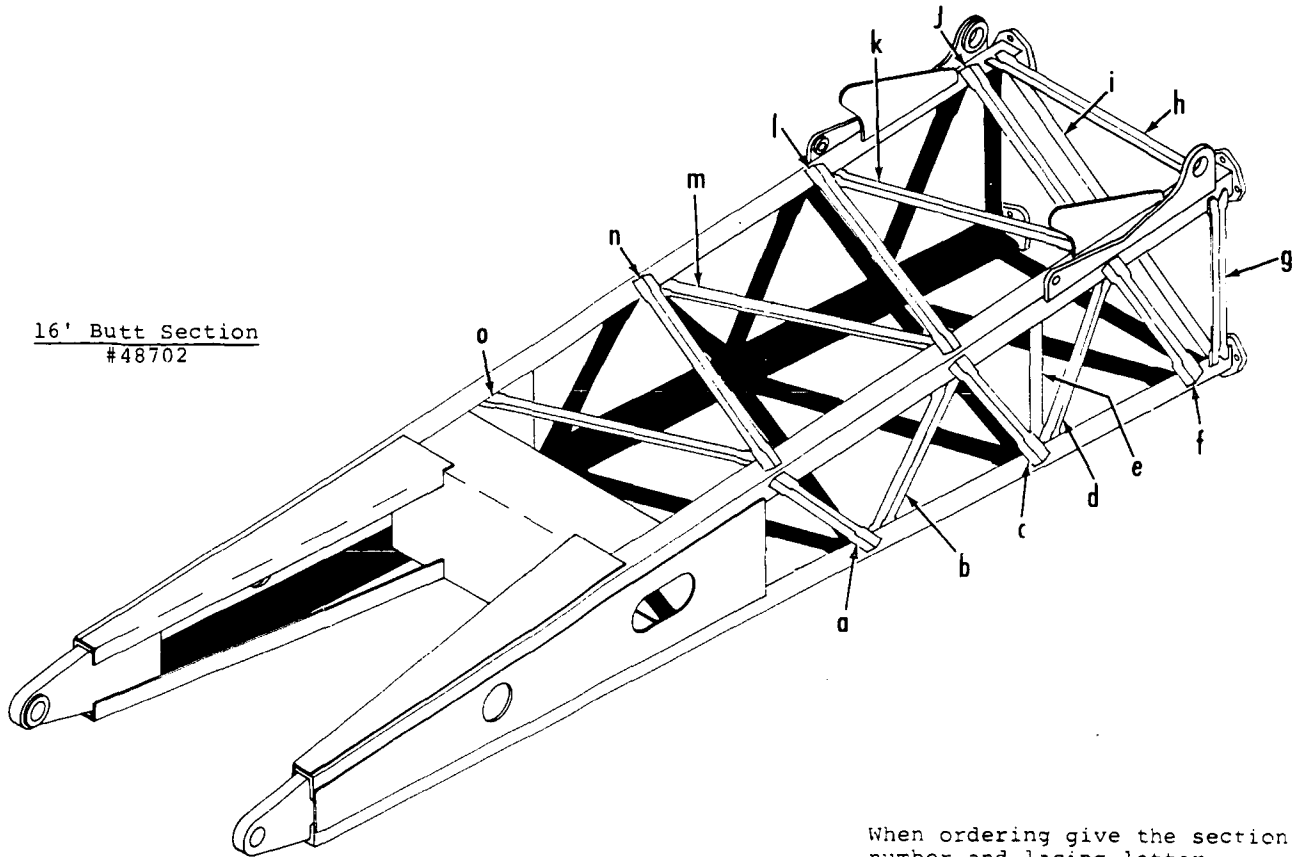
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Boom #4
Left Side and Bottom Lacings Black
Opposite Lacings Same Unless Noted.

11' Butt Section
#30390



16' Butt Section
#48702



When ordering give the section number and lacing letter --
Example - Lacing #48702-E

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519.3

-519.3

LACINGS

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