



TRENCHLESS EQUIPMENT SPECIALISTS

PARTS MANUAL

Tunnel Boring Machine

Wheel Machines

1780 mm

BH S/N: F26050F

Publication No. 050051A

Rev No. 070912

Akkerman Inc. 58256 266th Street Brownsdale, MN 55918
Phone: 507-567-2261 Fax: 507-567-2605 email: akk@akkerman.com

SERVICE • RELIABILITY • INNOVATION

Introduction

This parts manual contains assembly illustrations of the Akkerman Tunnel Boring Machine (TBM). The illustrations in this manual are intended to show typical construction of various parts. In some instances, the details of parts illustrated may not exactly represent their actual appearance, but will help to identify parts performing the same functions. Additional copies of this manual may be purchased from the Akkerman Product Support Department, or downloaded from the Akkerman web site at www.akkerman.com.

The TBM consists of the boring head, cutter head attachment (dirt head, sand head, quad carbide head, or closed face), conveyor, and target laser stand. Tunnel Boring Machines are articulated and can be steered hydraulically in any direction. The TBMs have powerful hydraulic motors which rotate an inner drum. The cutter head or closed face attachment is connected to the drum. As it turns, the teeth excavate the face and the spoil falls into the drum. Scoops in the drum elevate the spoil onto a conveyor that transfers it to the haul unit for removal. Manual or hydraulically operated torque wings prevent rolling of the machine. With the proper use of a laser, the strictest line and grade requirements can be maintained throughout the pipeline installation.

LOCATING PARTS

This parts manual is organized into 13 sections to help you locate parts information quickly. The first page of each section lists the assemblies within the section.

An Alphabetical Index, Section 12, is provided to help you find the page number of a specific assembly. If a part number is known, the Numerical Index, Section 13, can also be utilized to find the page number of an assembly.

USE GENUINE AKKERMAN PARTS

The use of parts other than genuine Akkerman parts could affect the efficient performance of the Tunnel Boring Machine. ALWAYS use genuine Akkerman parts.

PARTS ORDERING

To order fast, accurate, and reliable parts service, call (800) 533-0386, (507) 567-2261, or fax (507) 567-2605, and provide the following information.

1. Model Number
2. Serial Number
3. Part Number, Description, and Quantity
4. Shipping Preference

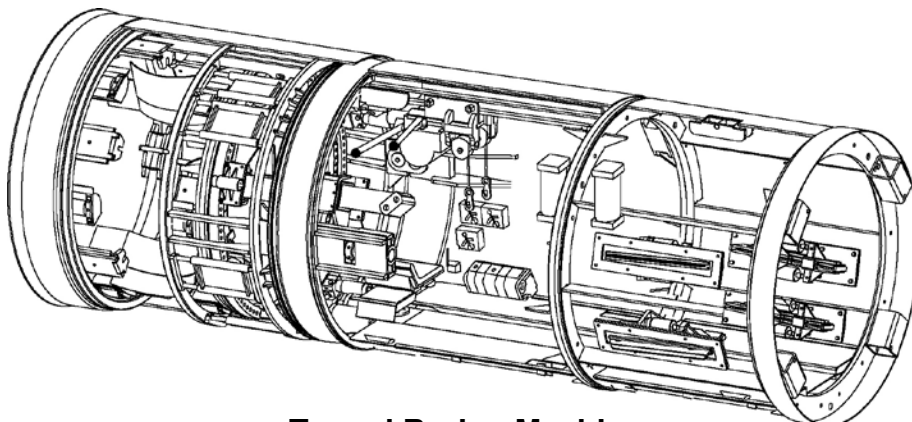
MEASUREMENTS

The unit of measure in this manual is in inches unless indicated otherwise.

HARDWARE SPECIFICATION

All Akkerman products are assembled with SAE Grade 8 bolts, nuts, and washers. ALWAYS use matched fastener hardware when replacing or repairing the unit.

If you find any errors in this manual or have suggestions for improvement, please let us know. Email your comments via the Akkerman web site (Contact Us web page), or mail your suggestions to: Akkerman Inc., ATTN: Technical Publications, 58256 266th Street, Brownsdale, MN.



Tunnel Boring Machine

NOTES



Contents

| | |
|---------------------------------|----|
| General Information | 1 |
| Decals | 2 |
| Structurals | 3 |
| Operator Controls | 4 |
| Electrical | 5 |
| Hydraulics | 6 |
| Valves | 7 |
| Motors | 8 |
| Pumps | 9 |
| Cylinders | 10 |
| Miscellaneous / Conveyors | 11 |
| Alphabetical Index | 12 |
| Numerical Index | 13 |

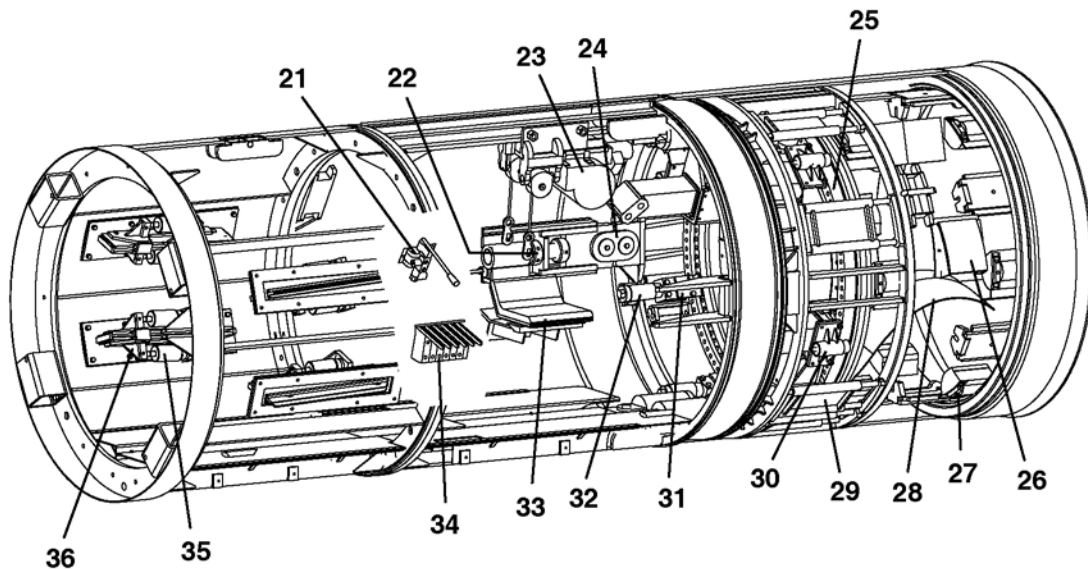
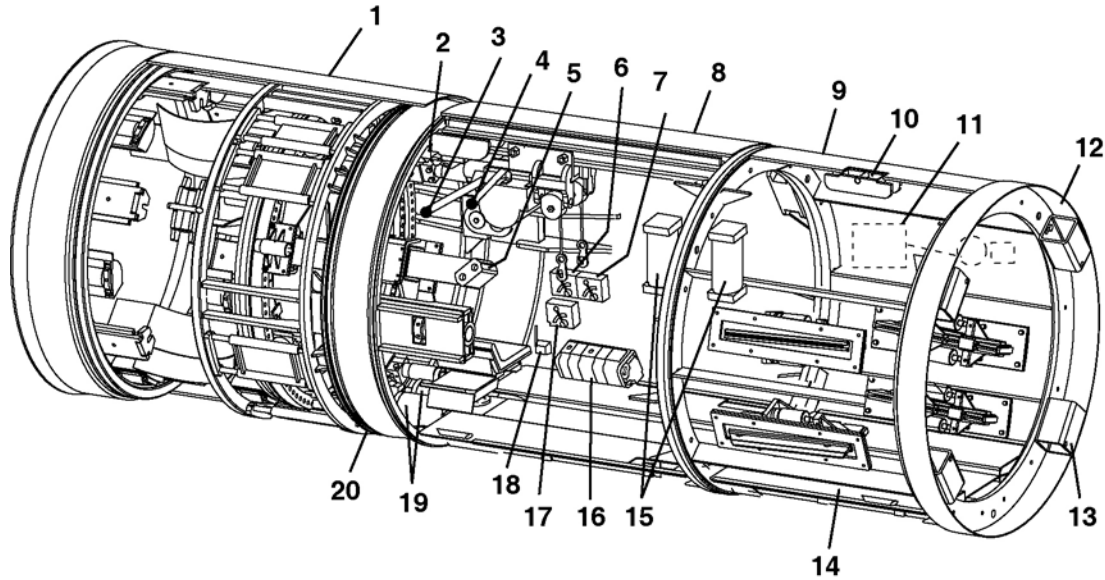
NOTES



General Information

| | |
|-----------------------------|---|
| Terminology | 2 |
| Tunnel Boring Machine | 2 |
| Cutter Head Attachments | |
| Dirt Head | 3 |
| Sand Head | 3 |
| Quad Carbide Head | 3 |
| Conveyor | |
| Belt | 4 |
| Screw | 5 |
| Laser Light Stand | 6 |

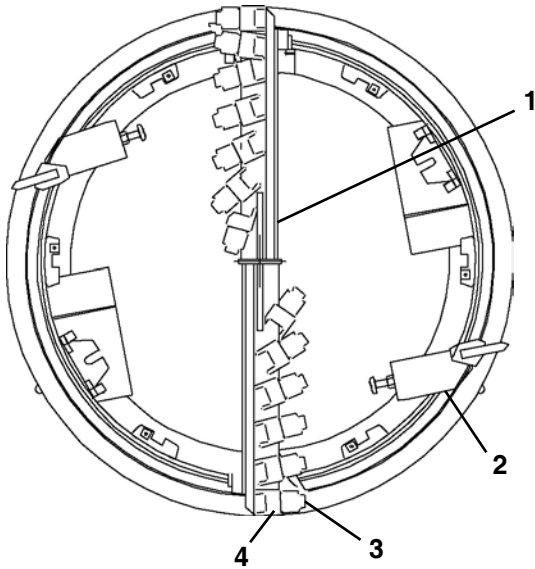
TUNNEL BORING MACHINE



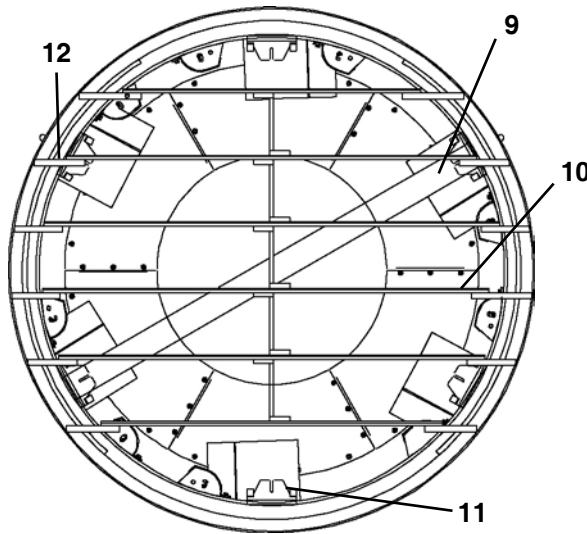
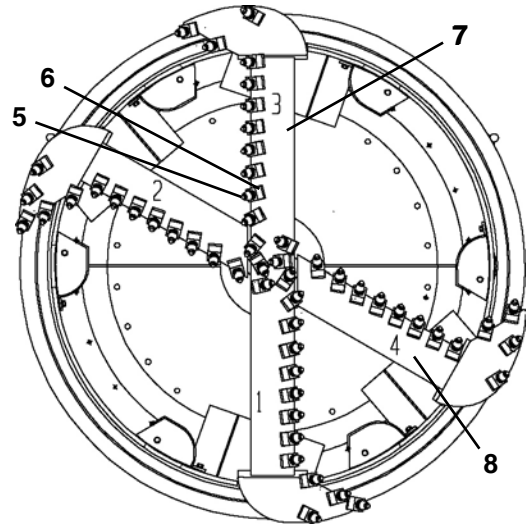
- | | | |
|--------------------------------|----------------------------------------|---------------------------|
| 1. Front Drum & Drive Assembly | 13. Push Block | 25. Gear Ring |
| 2. Steering Cylinders (Top) | 14. Floor Assembly | 26. Dirt Scoop |
| 3. Inner Drum Control | 15. Pressure Filters | 27. Drum Roller |
| 4. Conveyor Drive Control | 16. Flow Divider | 28. Dirt Paddle |
| 5. Drive Motor | 17. Steering Speed Selector | 29. Advance Slide Bracket |
| 6. Inner Drum Speed Control | 18. Conveyor Safety Valve | 30. Idler Roller |
| 7. Conveyor Speed Control | 19. Steering Cylinders (Bottom) | 31. Advance Assembly |
| 8. Mid Drum Assembly | 20. Steering Joint | 32. Advance Cylinder |
| 9. Dirt Wing Drum Assembly | 21. Grade/Alignment Control | 33. Operator Seat |
| 10. Lift Pocket | 22. Steering Adjustment (Side to Side) | 34. TBM Control Valve |
| 11. Gas Detection System | 23. Conveyor Lift | 35. Dirt Wing Cylinder |
| 12. Bell End Ring | 24. Steering Link | 36. Dirt Wing Assembly |

CUTTER HEAD ATTACHMENTS

Dirt Head



Quad Carbide Bar Head



Sand Head

Dirt Cutter

- 1. Cutter Bar
- 2. Adjustable Cutter
- 3. Tooth Cutter
- 4. Tooth Pocket

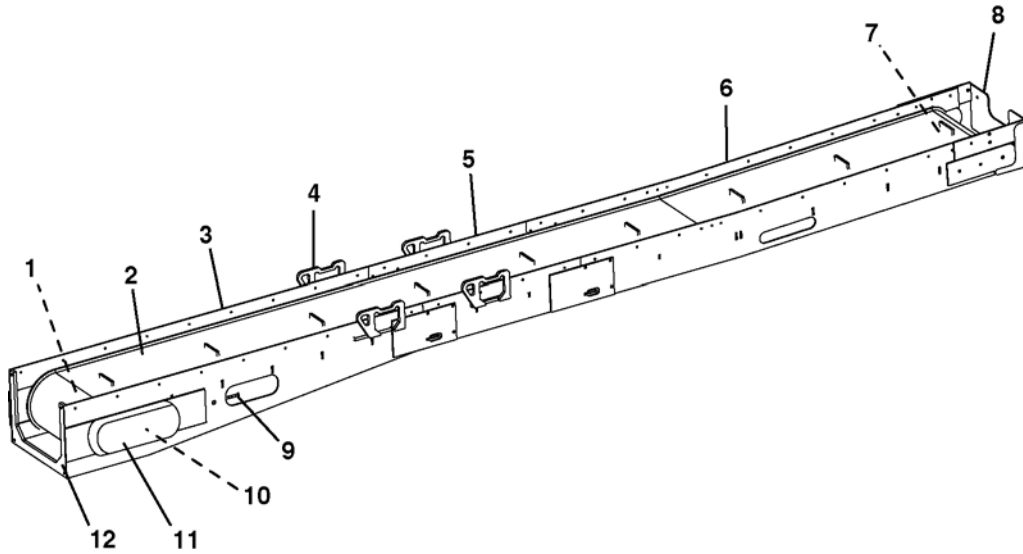
Quad Carbide Bar Head

- 5. Carbide Tooth
- 6. Tooth Holder
- 7. Cutter Bar Weldment
- 8. Quad Bar Weldment

Sand Head

- 9. Cutter Bar
- 10. Sand Shelf
- 11. Cutter Bar Mount
- 12. Sand Shelf Bracket

CONVEYOR - BELT

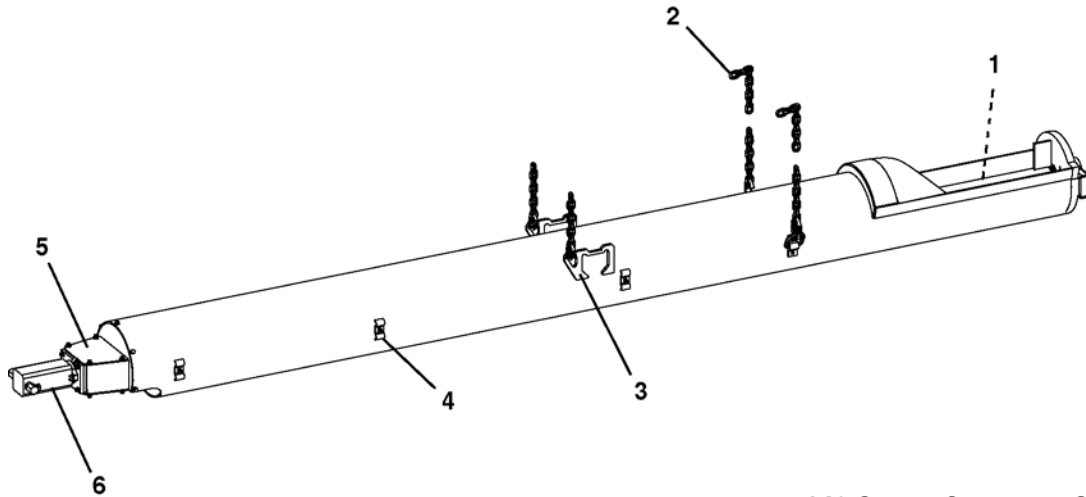


1. Drive Motor Frame Assembly
2. Belting
3. Drive Frame Assembly
4. Lift Bracket

5. Extension Frame Assembly
6. Feed Frame Assembly
7. Front Roller Assembly
8. Dirt Guard

9. Belt Tensioning Screw
10. Drive Motor & Roller Assembly
11. Conveyor Chain Cover
12. Drive Frame Free End Support
13. Safety Chain (not shown)

CONVEYOR - SCREW

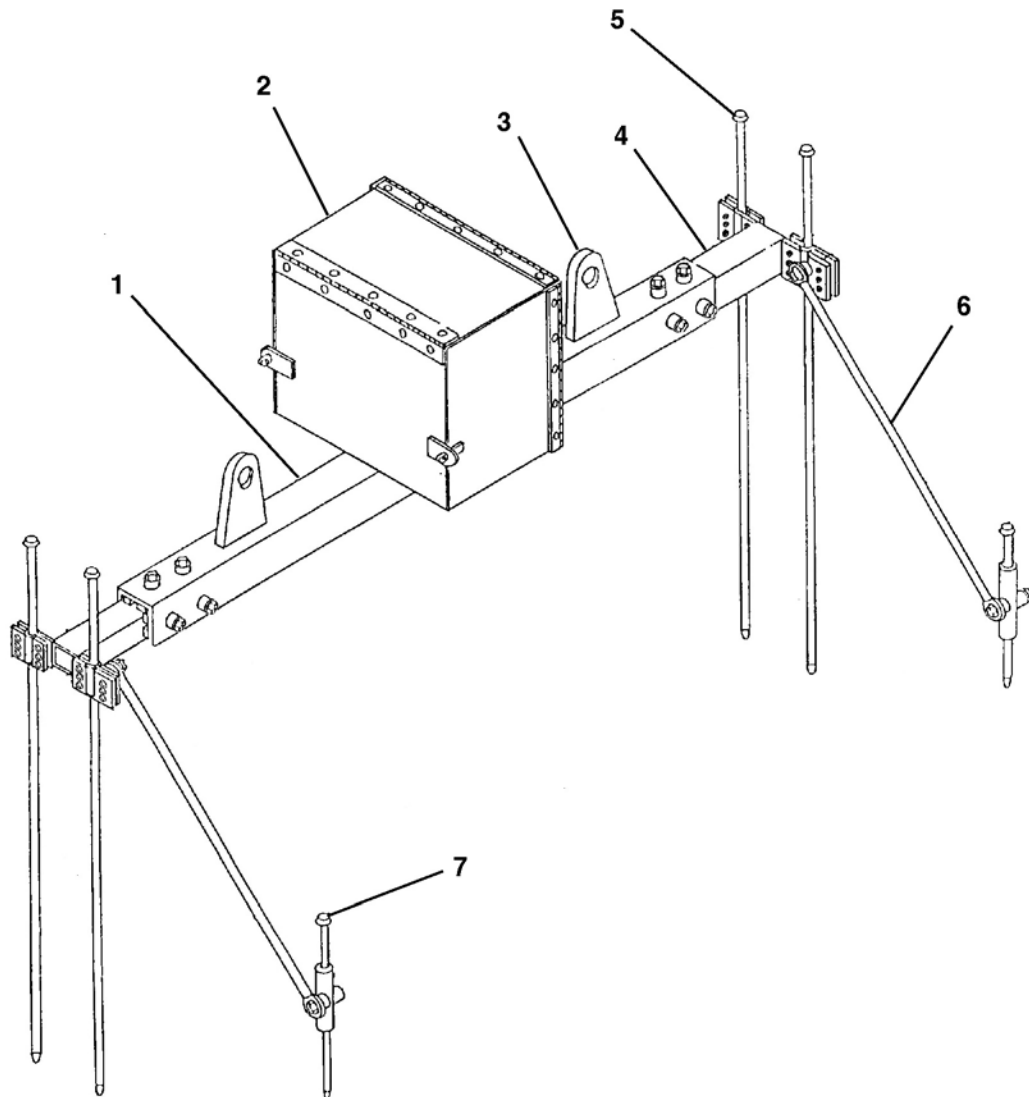


140 Screw Conveyor Shown

- 1. Auger
- 2. Chain
- 3. Lift Bracket

- 4. Hose Clamp
- 5. Motor Mount
- 6. Motor

LASER LIGHT STAND



- 1. Adjustable Frame
- 2. Laser Box Assembly
- 3. Lift Bracket
- 4. Sliding Tube

- 5. Long Stake
- 6. Support Tube
- 7. Short Stake



Decals

| | |
|-------------------------------|---|
| Tunnel Boring Machine | 2 |
| Conveyors | |
| Belt | 4 |
| Screw | 5 |
| Laser Light Laser Stand | 6 |
| Head Box | 7 |

TUNNEL BORING MACHINE DECALS

1 **WARNING**
Covering can pin in rotating cutterhead causing cover to swing into operator, resulting in severe personal injury.
While cutterhead is rotating:
1. Operator MUST remain seated in normal operating position.
2. Cutterhead drive clamp valve MUST be locked to conveyor.
3. ALL LOCK safety chains MUST be secured to conveyor.

2 **NOTICE**
Read and understand the Akkerman Easing operation and maintenance manual before attempting operation of this equipment.
NOTICE
Check grade on all ground to be. To avoid unexpected jacking process, gradually make any steering corrections. Steering set must be free during tight hand steering.
WARNING
Unexpected Jacking System movement may occur unless personal injury.
Shut down Pump Unit before making repairs, adjustments, or moving obstructions.
WARNING
Keep hands and feet locked out and not at all times.
Use an appropriate analyzer to detect hazardous gases and oxygen content.

3 **NOTICE**
GREASE DAILY, MORE OFTEN UNDER WET CONDITIONS

4 **WARNING**
PINCH POINTS!
WATCH YOUR FINGERS, HANDS, AND LEGS WHILE EQUIPMENT IS IN OPERATION.

5 **WARNING**
Do not operate without guards in place.

6

7 **WARNING**
PINCH POINTS!
Watch your fingers, hands, and legs while equipment is in operation.

8

9 DIRT WINGS IN/OUT
DIRT WINGS IN/OUT
AUXILIARY IN/OUT
STEERING LINE & GRADE
CONVEYOR LIFT UP/DOWN
INNER DRUM ADVANCE/RETRACT

10 DIRT WINGS IN/OUT
DIRT WINGS IN/OUT
CLOSED FACE OPEN/CLOSE
STEERING LINE & GRADE
CONVEYOR LIFT UP/DOWN
INNER DRUM ADVANCE/RETRACT

11
TRENCHLESS EQUIPMENT SPECIALISTS
BROWNSDALE, MN USA

12 **WARNING**
Do not operate without guards in place.

13 INNER DRUM CONTROL REVERSE FORWARDED

14 CONVEYOR CONTROL REVERSE FORWARDED

15 INNER DRUM SPEED CONTROL

16 CONVEYER SPEED CONTROL

17 **NOTICE**
CHANGE FILTER ELEMENT (5) WHEN INDICATED

18

19

20

21

22 WORKLIGHT CONNECTORS 12 VDC MAXIMUM 5 AMPS EACH. UNUSED CONNECTORS MUST BE CAPPED.

23 **WARNING**
Do not operate without guards in place.

24 **WARNING**
SAFETY CHAIN MUST BE CONNECTED TO CONVEYOR BEFORE OPERATING INNER DRUM.

25 SELECTOR SPEED CONTROL Do not exceed position 3

26 **WARNING**
PINCH POINTS!
Watch your fingers, hands, and legs while equipment is in operation.

27

28

29

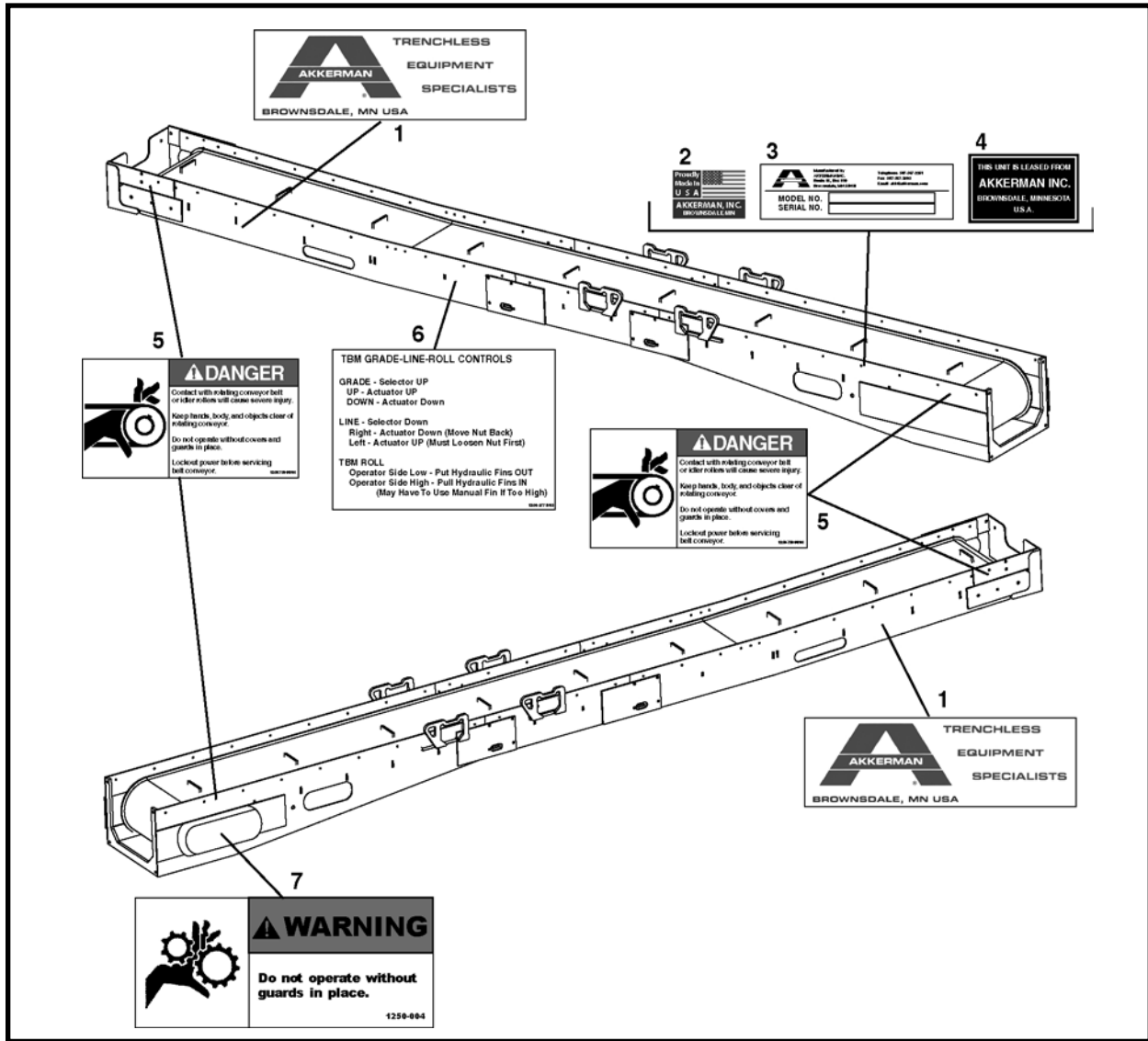
TUNNEL BORING MACHINE DECALS

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----------------|-----------|----------------------------------------------------|
| 1 | 1 | 1250-532a | DECAL, Warning, Conveyor Swing |
| 2 | 1 | 1250-581 | DECAL, Methane Warning System |
| 3 | 1 | 1250-859 | DECAL, TBM Warning Notice |
| 4 | 1 | 1250-480 | DECAL, Warning, Pinch Points |
| 5 | 2 | 1250-004 | DECAL, Warning, Guards Must Be In Place |
| 6 | 2 | 1250-560 | DECAL, USA Flag, Large |
| 7 | 1 per Dirt Wing | 1250-562 | DECAL, Warning, Pinch Points |
| 8 | 1 | 1250-007 | DECAL, Grade/Alignment Control |
| 9 | 1 | 1250-650 | DECAL, Control Valve |
| 10 | 1 | 1250-579 | DECAL, Control Valve (with Closed Face) |
| 11 | 2 | 1250-547 | DECAL, Akkerman, Large |
| 12 | 1 per Motor | 1250-004 | DECAL, Warning, Guards Must Be In Place |
| 13 | 1 | 1250-572 | DECAL, Inner Drum Control |
| 14 | 1 | 1250-573 | DECAL, Conveyor Control |
| 15 | 1 | 1250-030 | DECAL, Inner Drum Speed Control |
| 16 | 1 | 1250-031 | DECAL, Conveyor Speed Control |
| 17 | 2 | 40000-16 | DECAL, Notice, Change Filter |
| 18 | 1 | 1250-471 | DECAL, Fuse Locator |
| 19 | 1 | 1250-470 | DECAL, Schematic |
| 20 | 1 | 1250-475 | DECAL, Connector Designator |
| 21 | 1 | 1250-478 | DECAL, Danger, Warning, Notice, Gas Detector |
| 22 | 1 | 1250-474 | DECAL, Work Light Max. Amp. |
| 23 | 2 | 1250-004 | DECAL, Warning, Guards Must Be In Place |
| 24 | 1 | 1250-006 | DECAL, Warning, Safety Chain Connected To Conveyor |
| 25 | 1 | 1250-837 | DECAL, Selector Speed Control |
| 26 | 2 | 1250-562 | DECAL, Warning, Pinch Points |
| 27 | 1 | 1250-544 | DECAL, Made in USA |
| 28 | 1 | REF | PLATE, Serial Number |
| 29* | 1 | 1250-098 | DECAL, Lease |

* Note: Decal used only on leased equipment.

BELT CONVEYOR DECALS

2415

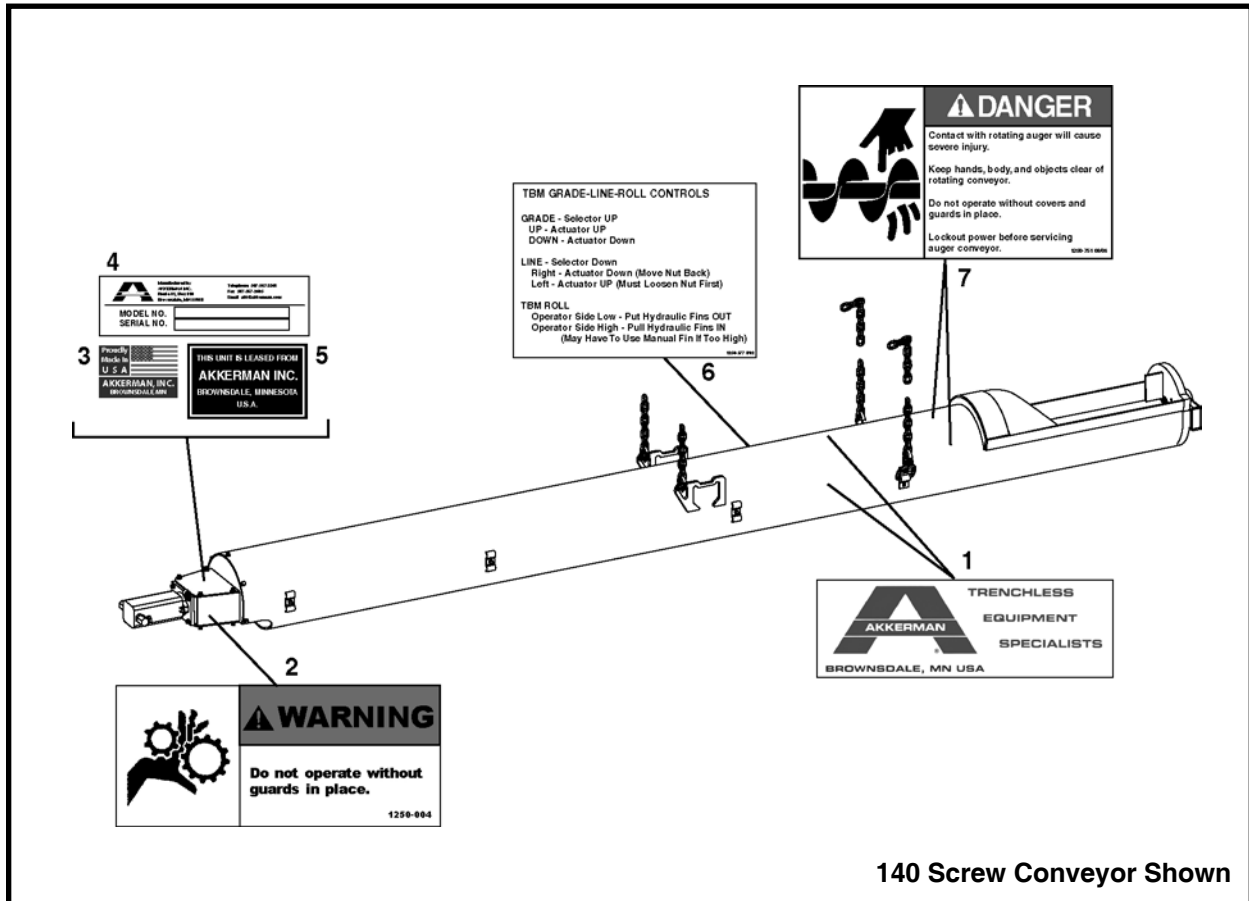


| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|----------|-----------------------------------------|
| 1 | 2 | 1250-547 | DECAL, Akkerman, Large |
| 2 | 1 | 1250-544 | DECAL, Made In USA |
| 3 | 1 | REF | PLATE, Serial Number |
| 4* | 1 | 1250-098 | DECAL, Lease |
| 5 | 4 | 1250-750 | DECAL, Danger Rotating Belt Conveyor |
| 6 | 1 | 1250-577 | DECAL, TBM Steering Controls |
| 7 | 1 | 1250-004 | DECAL, Warning, Guards Must Be In Place |

* Note: Decal used only on leased equipment.

SCREW CONVEYOR DECALS

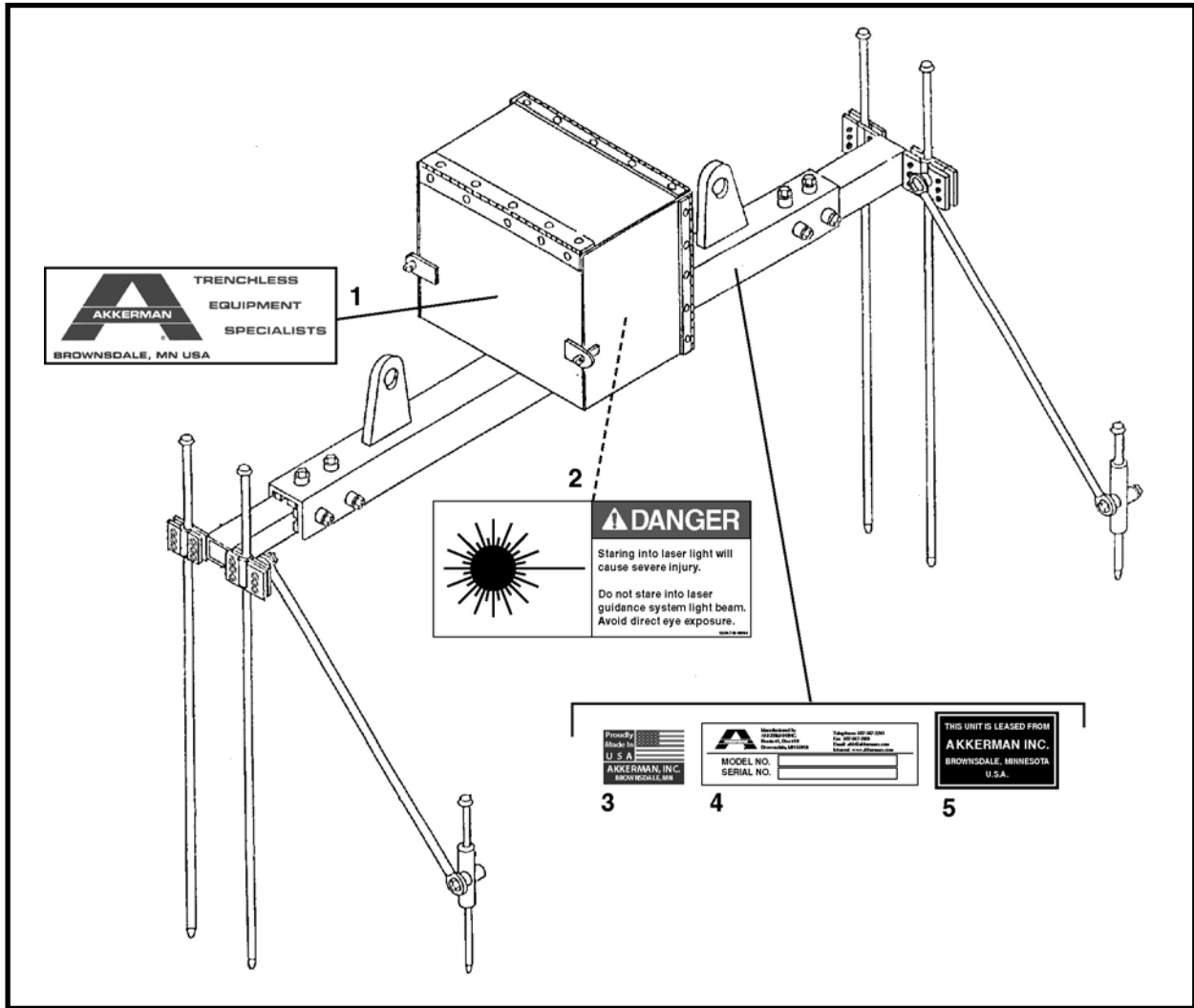
140 - 160



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|----------|-----------------------------------------|
| 1 | 2 | 1250-547 | DECAL, Akkerman, Large |
| 2 | 1 | 1250-004 | DECAL, Warning, Guards Must Be In Place |
| 3 | 1 | 1250-544 | DECAL, Made In USA |
| 4 | 1 | REF | PLATE, Serial Number |
| 5* | 1 | 1250-098 | DECAL, Lease |
| 6 | 1 | 1250-577 | DECAL, TBM Steering Controls |
| 7 | 2 | 1250-751 | DECAL, Danger Rotating Auger Conveyor |

* Note: Decal used only on leased equipment.

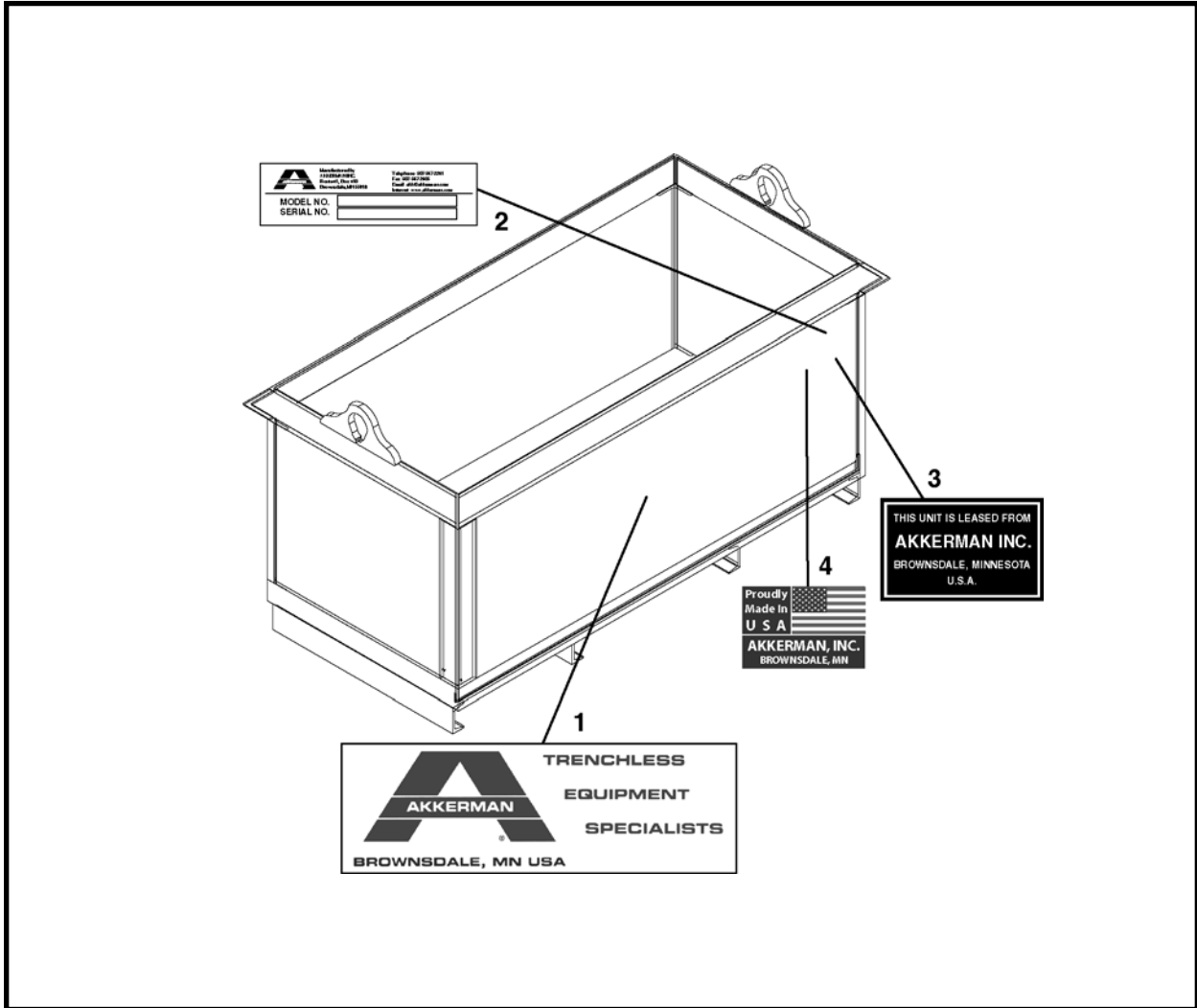
LASER LIGHT STAND DECALS



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|----------|----------------------------|
| 1 | 2 | 1250-547 | DECAL, Akkerman, Large |
| 2 | 2 | 1250-749 | DECAL, Danger, Laser Light |
| 3 | 1 | 1250-544 | DECAL, Made In USA |
| 4 | 1 | REF | PLATE, Serial Number |
| 5* | 1 | 1250-098 | DECAL, Lease |

* Note: Decal used only on leased equipment.

HEAD BOX DECALS



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|----------|------------------------|
| 1 | 2 | 1250-547 | DECAL, Akkerman, Large |
| 2 | 1 | REF | PLATE, Serial Number |
| 3 | 1 | 1250-544 | DECAL, Made In USA |
| 4* | 1 | 1250-098 | DECAL, Lease |

* Note: Decal used only on leased equipment.

NOTES

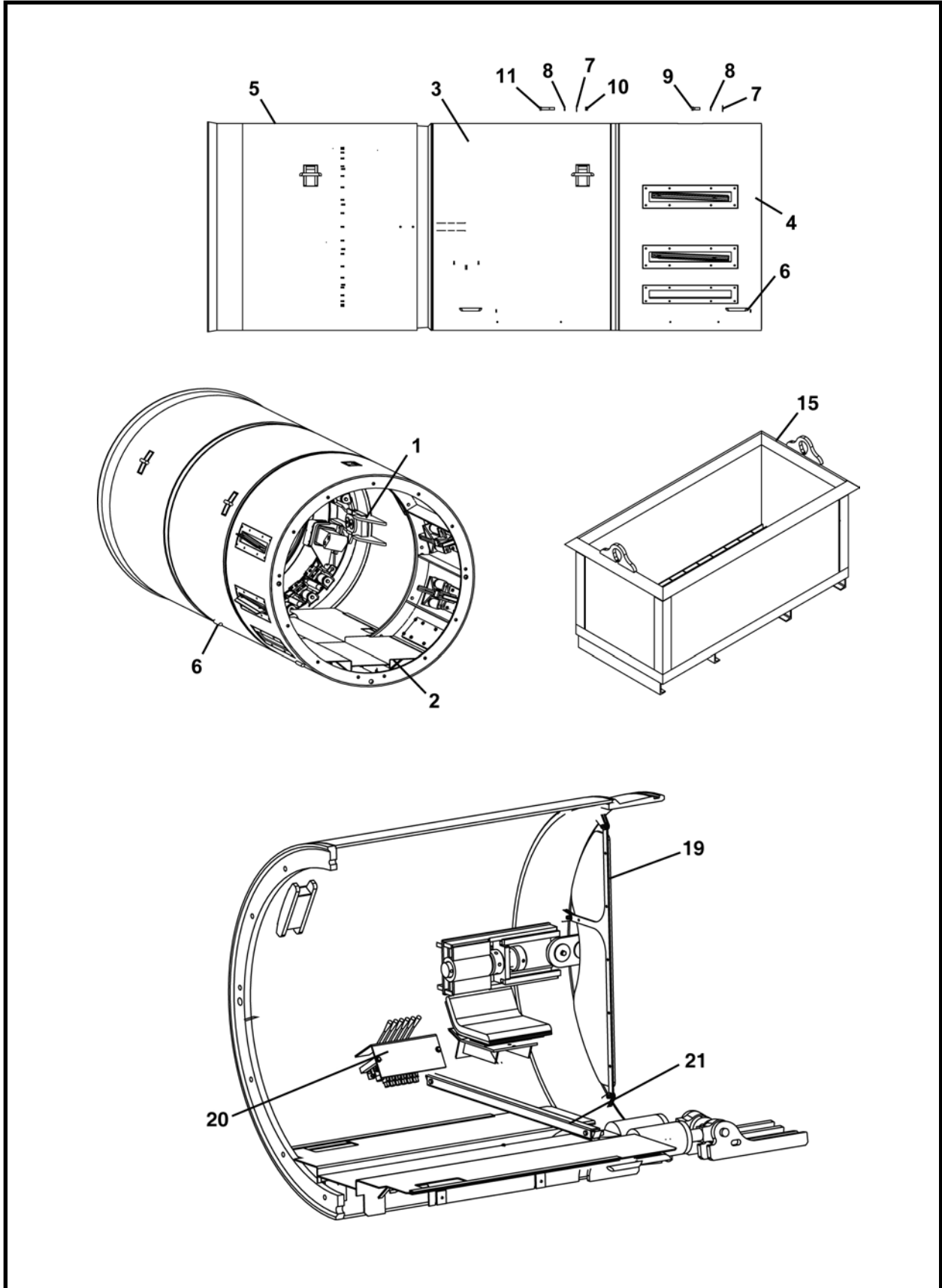


Structurals

TBM Frame

| | |
|-----------------------------------------------------|-----------------------------------------------|
| Final Assembly, F26050F | 2 |
| Steering Cylinder & Link Assembly, 019318A01 | 4 |
| Floor Assembly, 019372A00 | 6 |
| Mid Drum Assembly 026076A | 7 |
| Seat Assembly, 009992A01 | 8 |
| Conveyor Lift Assembly, 012609A01..... | 9 |
| Cable Assembly, 012795A00 | 10 |
| Dirt Wing Drum Assembly, 026067A | 11 |
| Hydraulic Dirt Wing (CW) Assembly, 014600A00..... | 12 |
| Hydraulic Dirt Wing (CCW) Assembly, 014617A00 | 13 |
| Front Drum & Drive Assembly, 026095A | 14 |
| Drum Advance Standard Assembly, 026083A | 15 |
| Thrust Roller Assembly, 001296A02 | 16 |
| Motor Assembly, 013814A00 | 17 |
| Idler Roller Assembly, 001231A01 | 18 |
| Drum Advance For Motor Assembly, 026084A | 19 |
| Thrust Roller Assembly, 001296A02 | 20 |
| Inner Drum Assembly, 026090A | 21 |
| Inner Drum Weldment, 026068A | 22 |
| Bulkhead Seal & Door Assembly, 026153A | 23 |
| Dirt Paddle Assembly, 020841A | 24 |
| Common Drum Roller Assembly, 026435A | 25 |
| Drum Roller Assembly, 011845A00 | 26 |
| Gear Ring Assembly, 026127A | 27 |
| Dirt Scoop Assembly, 002289A00 | 28 |
| Dirt Head Assembly, 026110A | 29 |
| Sand Head Assembly, 026135A | 30 |
| Sand Shelf Assembly, 026086A | 31 |
| Quad Bar Assembly, 026099A | 32 |
| Pipe Adapter Assembly, 026077A | 33 |
| Operator Shield Assembly, 016846A | 34 |
| Plexi Cover Assembly, 016852A | 35 |
| Haul Unit Stop Tube Assembly, 016853A | 36 |
| | |
| Laser Light Stand, F05866F00 | 37 |
| | |
| Conveyors | See Section 11 Miscellaneous/Conveyors |

FINAL ASSEMBLY, F26050F

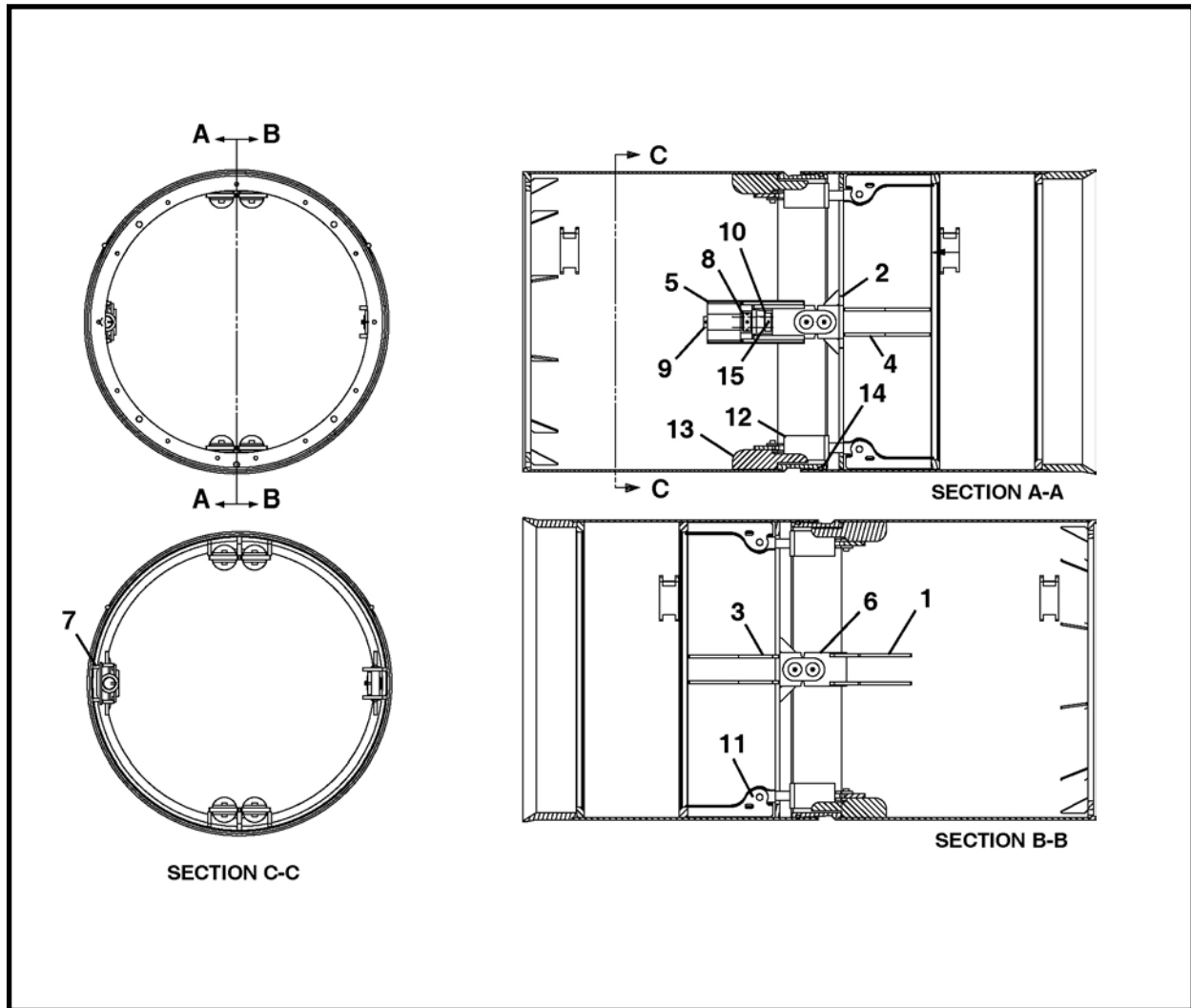


Structurals

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------|
| 0 | 1 | F26050F | FINAL ASSEMBLY |
| 1 | 1 | 019318A01 | ASSEMBLY, Steering Cyl. & Lk. |
| 2 | 1 | 019372A00 | ASSEMBLY, Floor |
| 3 | 1 | 026076A | ASSEMBLY, Mid Drum |
| 4 | 1 | 026067A | ASSEMBLY, Dirt Wing Drum |
| 5 | 1 | 026095A | ASSEMBLY, Front Drum & Drive |
| 6 | 4 | 002279P01 | GUIDE, Skid |
| 7 | 26 | P0040-012 | WASHER, Flat 3/4 |
| 8 | 26 | P0045-012 | WASHER, Lock 3/4 |
| 9 | 13 | P0001-12-009 | BOLT, 3/4-10 x 2-1/4 |
| 10 | 13 | P0003-12-000 | NUT, 3/4-10 |
| 11 | 13 | P0001-12-018 | BOLT, 3/4-10 x 4-1/2 |
| 12* | 1 | 026110A | ASSEMBLY, Dirt Head |
| 13* | 1 | 026135A | ASSEMBLY, Sand Head |
| 14* | 1 | 026099A | ASSEMBLY, Quad Carbide Head |
| 15 | 1 | F10360F00 | BOX, Head |
| 16* | 1 | 016400A | ASSEMBLY, Electrical System |
| 17* | 1 | 010199A01 | ASSEMBLY, Hydraulic System |
| 18* | 1 | 026077A | ADAPTER, Pipe |
| 19 | 1 | 016846A | ASSEMBLY, Operator Shield |
| 20 | 1 | 016852A | ASSEMBLY, Plexi Cover |
| 21 | 1 | 016853A | ASSEMBLY, Haul Unit Stop Tube |

* Not Shown

STEERING CYLINDER & LINK ASSEMBLY, 019318A01



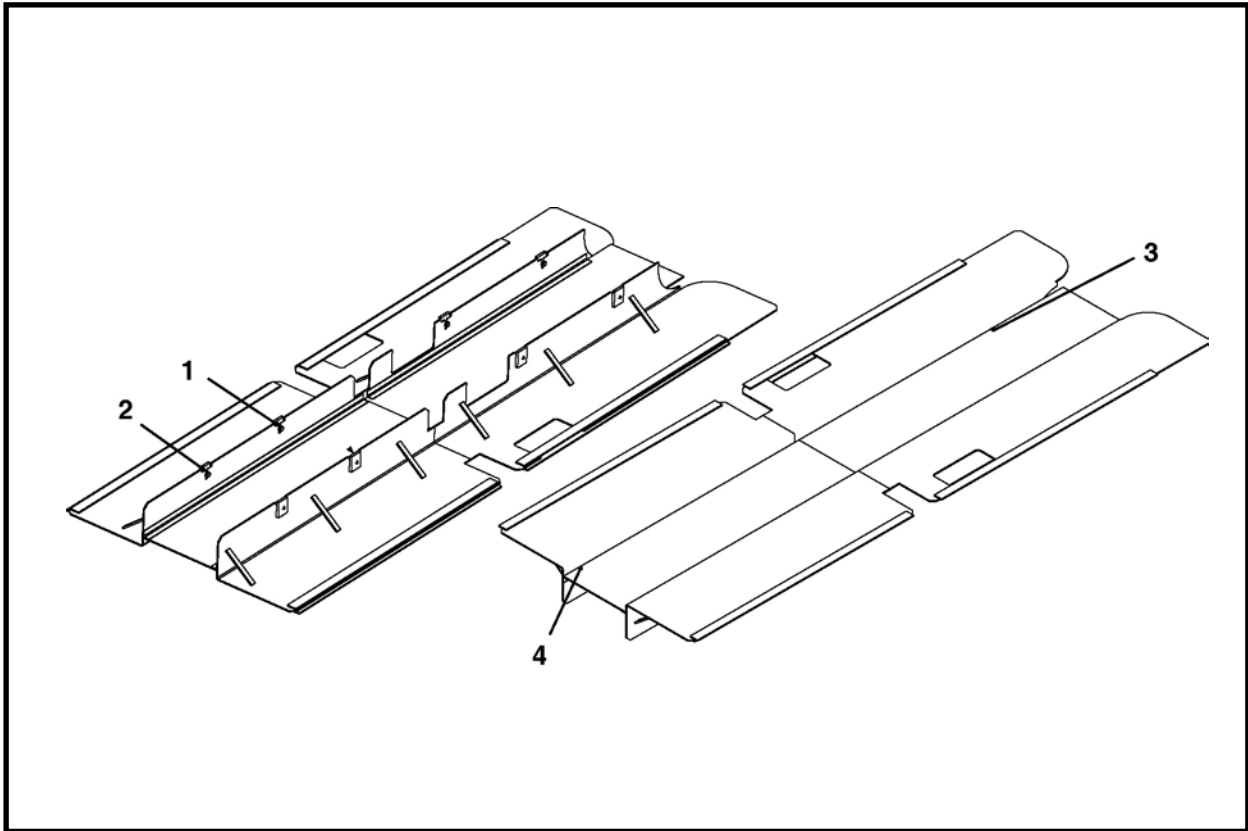
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------------|
| 0 | 1 | 019318A01 | ASSEMBLY, Steering Cyl. & Link |
| 1 | 2 | 019329P00 | GUSSET |
| 2 | 1 | 018354P | GUSSET, Link Assembly |
| 3 | 2 | 013789P | GUSSET, Steering Link Front |
| 4 | 2 | 019348P00 | GUSSET, Steering Link Front |
| 5 | 1 | 006288A00 | BOX, Steering Link |
| 6 | 2 | 006303A00 | ASSEMBLY, Link (Incl items 6a - 6d) |
| 6a | 1 | 005783P00 | LINK, Steering |
| 6b | 2 | 003640P00 | WASHER |
| 6c | 2 | P0001-08-005 | BOLT, Hex 1/2-13 x 1-1/4 |
| 6d | 2 | P0045-008 | WASHER, Lock 1/2 |
| 7 | 2 | 019347P00 | BAR, Lift |
| 8 | 1 | 005853P01 | NUT, Steering |
| 9 | 1 | 006301P00 | SCREW, Steering Link |
| 10 | 1 | 006302P01 | NUT, Steering Link Assembly |
| 11 | 8 | 019346P00 | ANCHOR, Steering Cylinder |
| 12 | 4 | 010385A01 | CYLINDER, Steering |
| 13 | 2 | 019317A00 | ASSEMBLY, Steering Saddle |
| 14 | 1 | P0088-019 | O-RING, Steering Joint |

STEERING CYLINDER & LINK ASSEMBLY, 019318A01

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------|
| 15 | 1 | P0033-08-014 | SCREW, Sockt Hd Set 1/2-13 x 7/8 |
| 16* | 1 | 005912P00 | WRENCH, Steering |
| 17* | 1 | P0088-012 | LUBE, Seal |

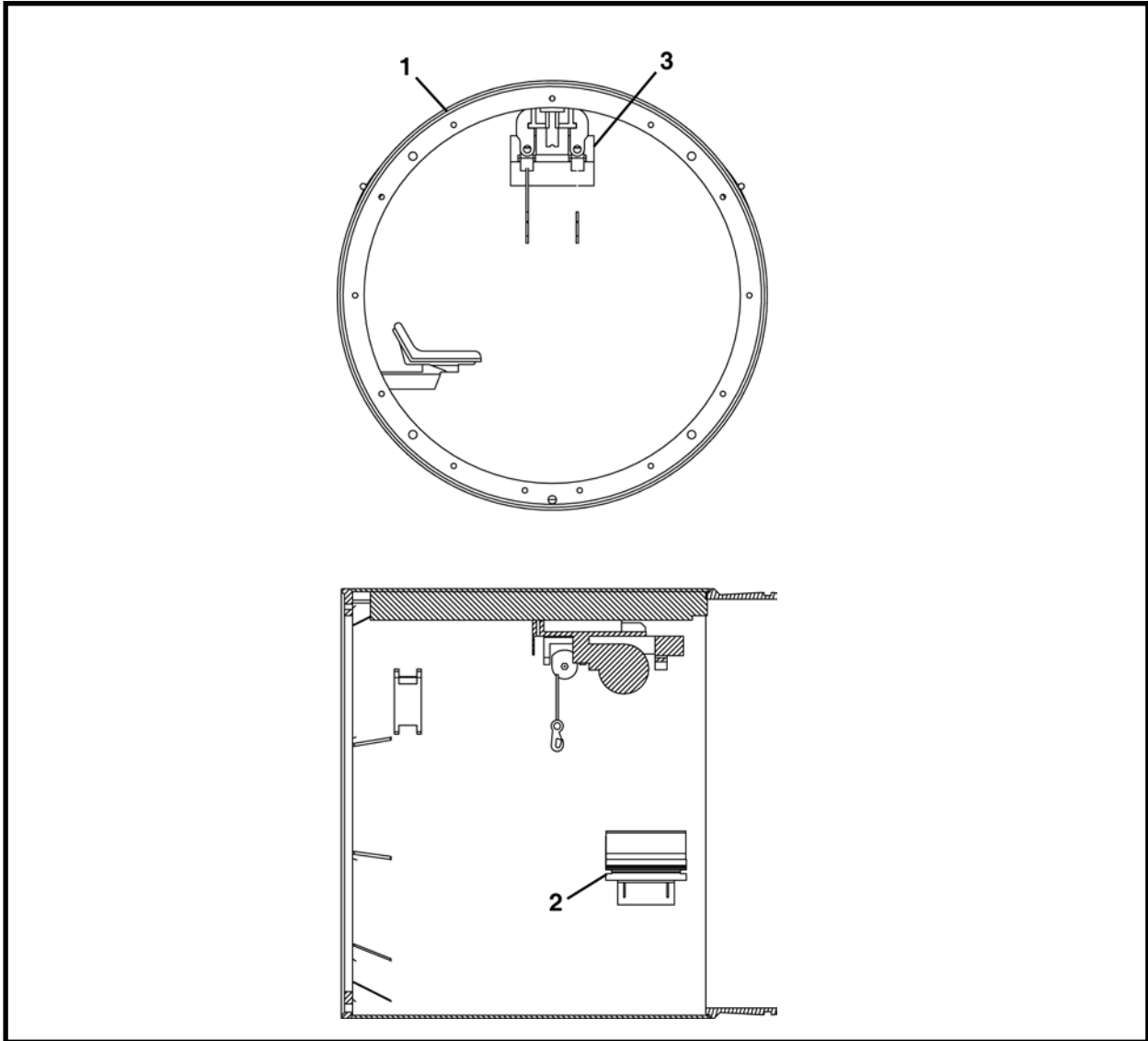
* Not Shown

FLOOR ASSEMBLY, 019372A00



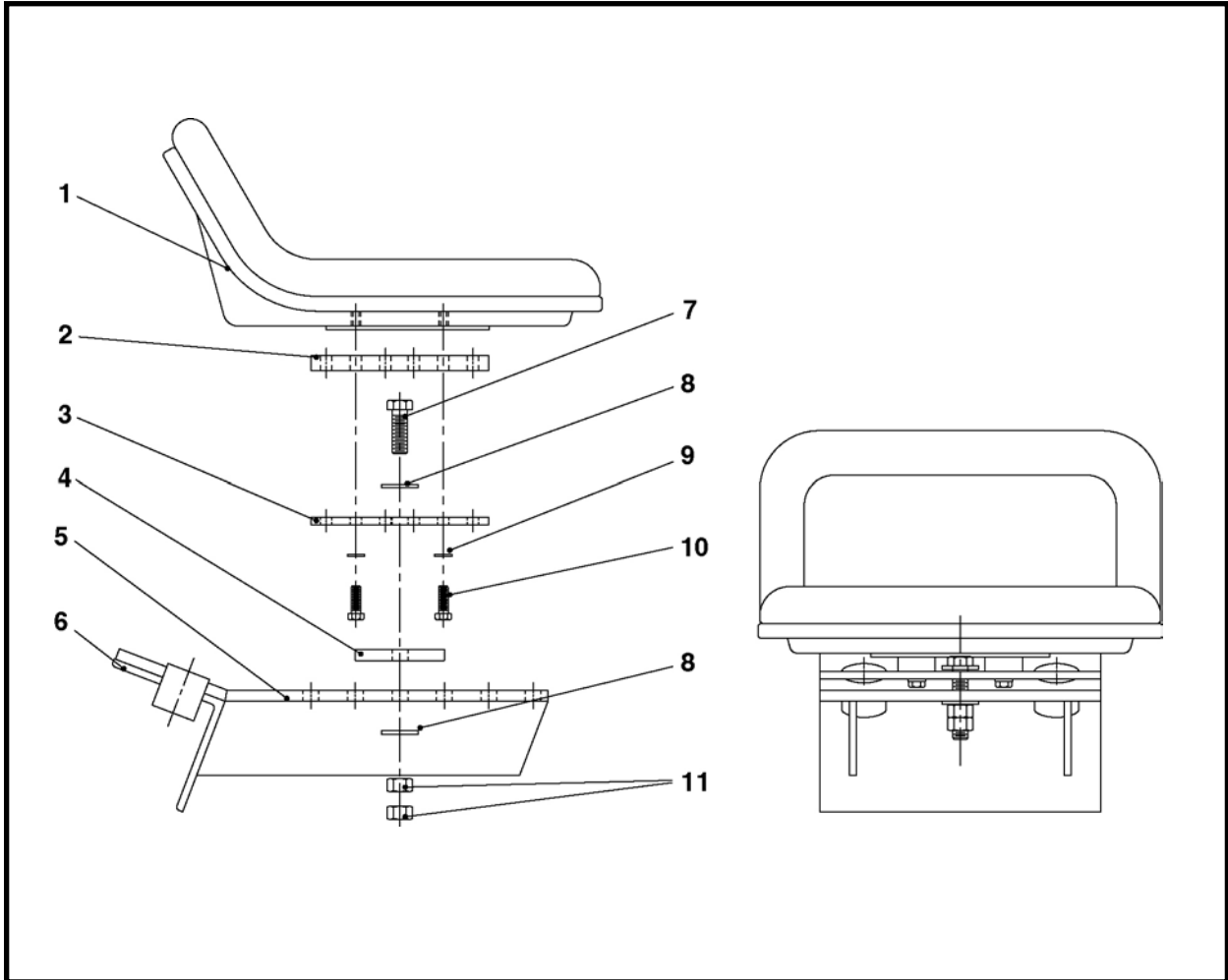
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------|
| 0 | 1 | 019372A00 | ASSEMBLY, Floor |
| 1 | 8 | P0001-06-004 | BOLT, 3/8-16 UNC x 1 |
| 2 | 8 | P0045-006 | WASHER, Lock 3/8 |
| 3 | 2 | P0001-04-004 | BOLT, 1/4-20 UNC x 1 |
| 4 | 2 | P0045-004 | WASHER, Lock 1/4 |

MID DRUM ASSEMBLY, 026076A



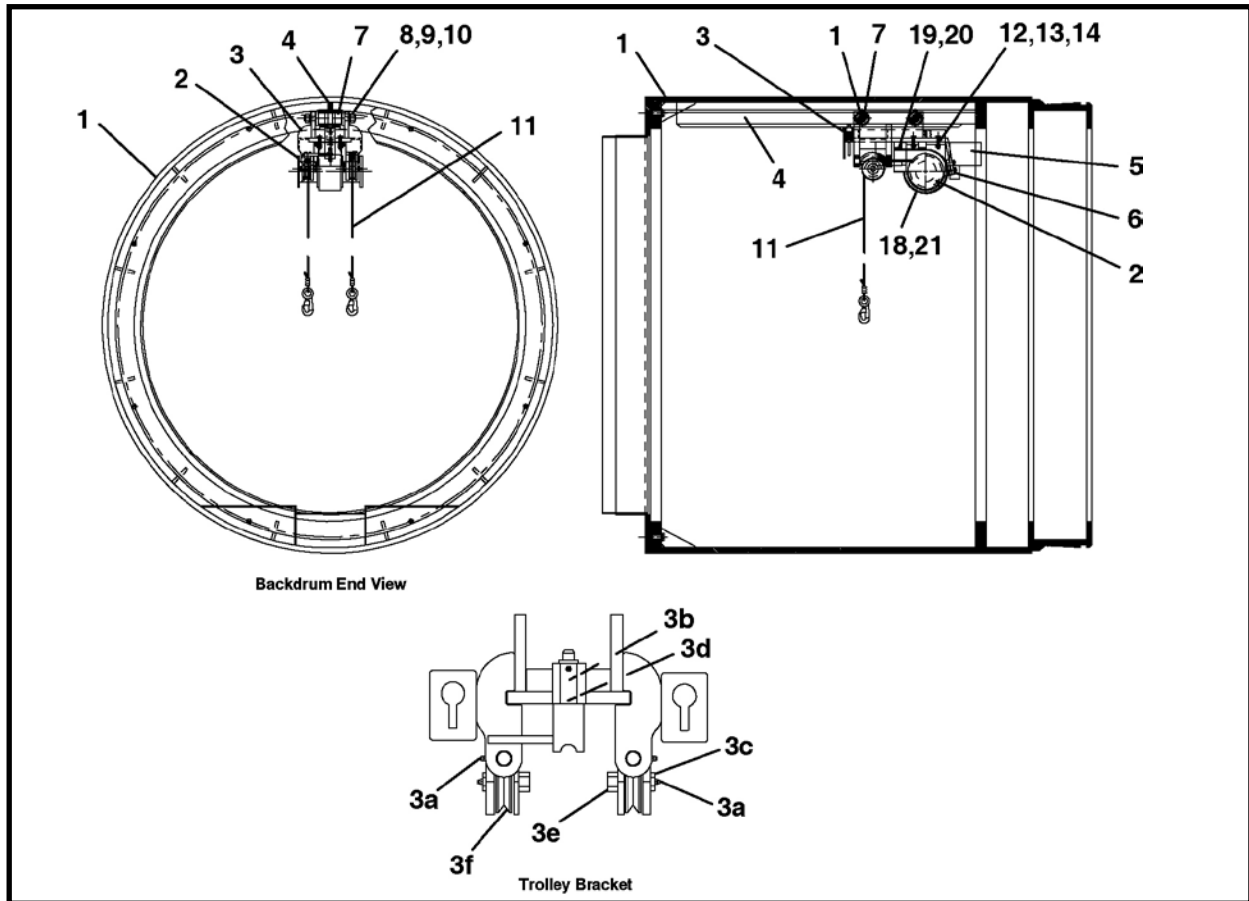
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|-------------------------|
| 0 | 1 | 026076A | ASSEMBLY, Mid Drum |
| 1 | 1 | 026075A | WELDMENT, Mid Drum |
| 2 | 1 | 009992A01 | ASSEMBLY, Seat |
| 3 | 1 | 012609A01 | ASSEMBLY, Conveyor Lift |

SEAT ASSEMBLY, 009992A01



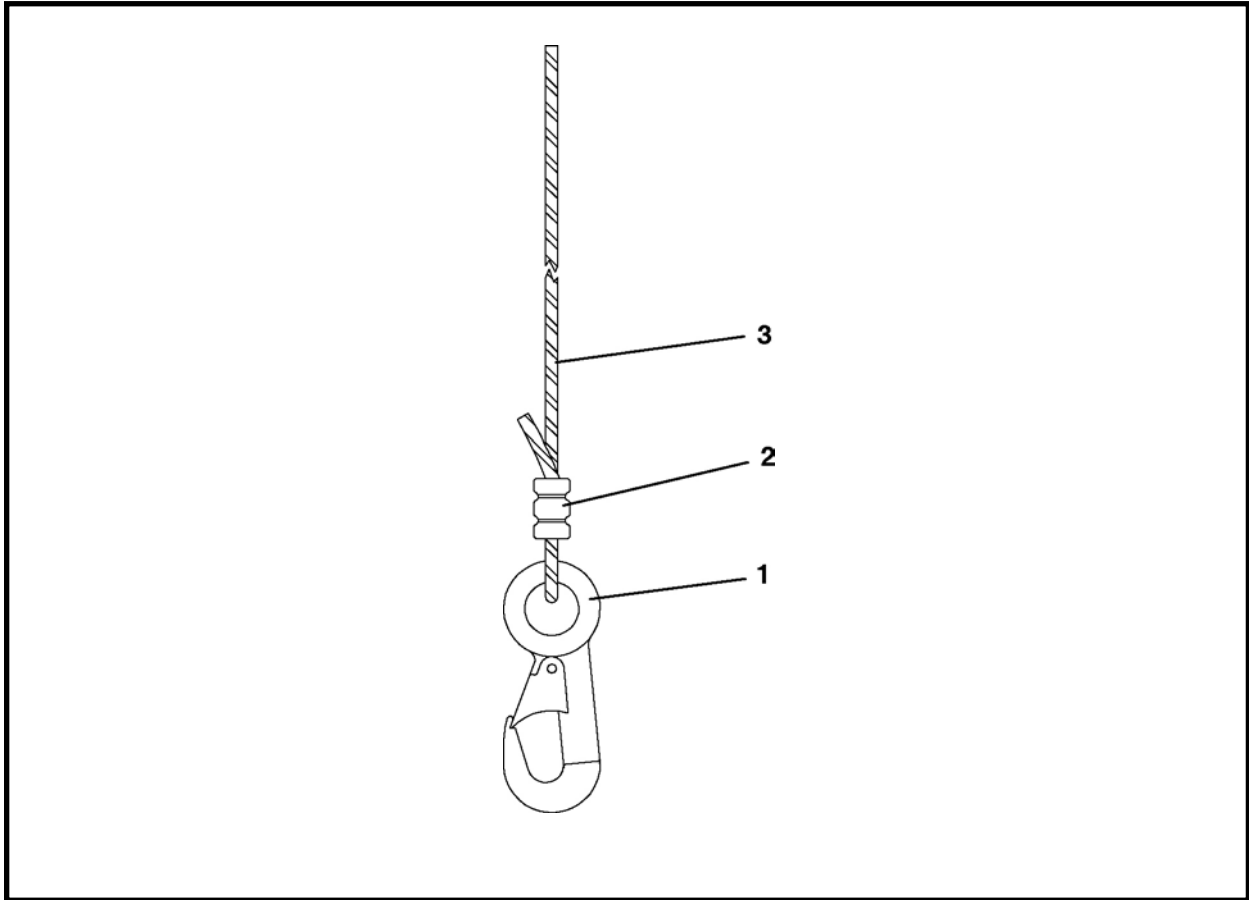
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|------------------------------------|
| 0 | 1 | 009992A01 | ASSEMBLY, Seat |
| 1a | 1 | P0113-001 | SEAT, Lower Back - Standard |
| 1b | 1 | P0113-001A | SEAT, Lower Back - Flame Resistant |
| 2 | 2 | 009993P00 | BAR |
| 3 | 1 | 009994P00 | BAR |
| 4 | 1 | 009995P00 | BAR |
| 5 | 1 | 019378A00 | BRACKET, Seat |
| 6 | 1 | 019382P00 | ANGLE |
| 7 | 1 | P0001-08-009 | BOLT, 1/2-13 UNC x 2-1/4 |
| 8 | 2 | P0040-008 | WASHER, Flat 1/2 |
| 9 | 4 | P0045-005 | WASHER, Lock 5/16 |
| 10 | 4 | P0001-05-004 | BOLT, 5/16-18 UNC x 1 |
| 11 | 2 | P0003-08-000 | NUT, Hex 1/2 |

CONVEYOR LIFT ASSEMBLY, 012609A01



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------------------|
| 0 | 1 | 012609A01 | ASSEMBLY, Conveyor Lift |
| 1 | - | - | DRUM, Back |
| 2 | 1 | P0106-002 | WINCH, Hydraulic |
| 3 | 1 | 012785A00 | WELDMENT, Trolley Bracket (Includes items 3a - 3f) |
| 3a | 7 | P0063-001 | FITTING, Grease 1/4 |
| 3b | 1 | P0070-024 | SPRING |
| 3c | 2 | 003661P00 | BOLT, Conveyor Lift |
| 3d | 1 | P0044-021 | RING, Snap |
| 3e | 2 | P0007-12-000 | NUT, Jam 3/4-10 UNC |
| 3f | 2 | 003660A01 | ASSEMBLY, Pulley (Includes item 3f1) |
| 3f1 | 1 | P0066-003 | BUSHING, Bronze |
| 4 | 1 | 012790A00 | WELDMENT, Trolley Rail |
| 5 | 1 | P0304-131 | MOTOR, Hydraulic |
| 6 | 1 | P0304-132 | VALVE, Crossover Relief (1300 PSI) |
| 7 | 4 | P0065-082 | BEARING |
| 8 | 4 | P0040-014 | WASHER, Flat 7/8 |
| 9 | 4 | P0045-014 | WASHER, Lock 7/8 |
| 10 | 4 | P0004-14-000 | NUT, 7/8-14 UNF |
| 11 | 2 | 012795A00 | ASSEMBLY, Cable 1/4 Dia. x 180 Inches |
| 12 | 4 | P0001-08-008 | BOLT, 1/2-13 UNC x 2 |
| 13 | 4 | P0045-008 | WASHER, Lock 1/2 |
| 14 | 4 | P0003-08-000 | NUT, 1/2-13 UNC |
| 15 | - | - | - |
| 16 | - | - | - |
| 17 | - | - | - |
| 18 | 1 | 012765A01 | WELDMENT, Winch Guard - Right |
| 19 | 4 | 027113P00 | BRACKET, Winch Cover Mounting |
| 20 | 4 | P0001-04-002 | BOLT, 1/4-20 UNC x 1/2 |
| 21 | 1 | 012798A01 | WELDMENT, Winch Guard - Left |

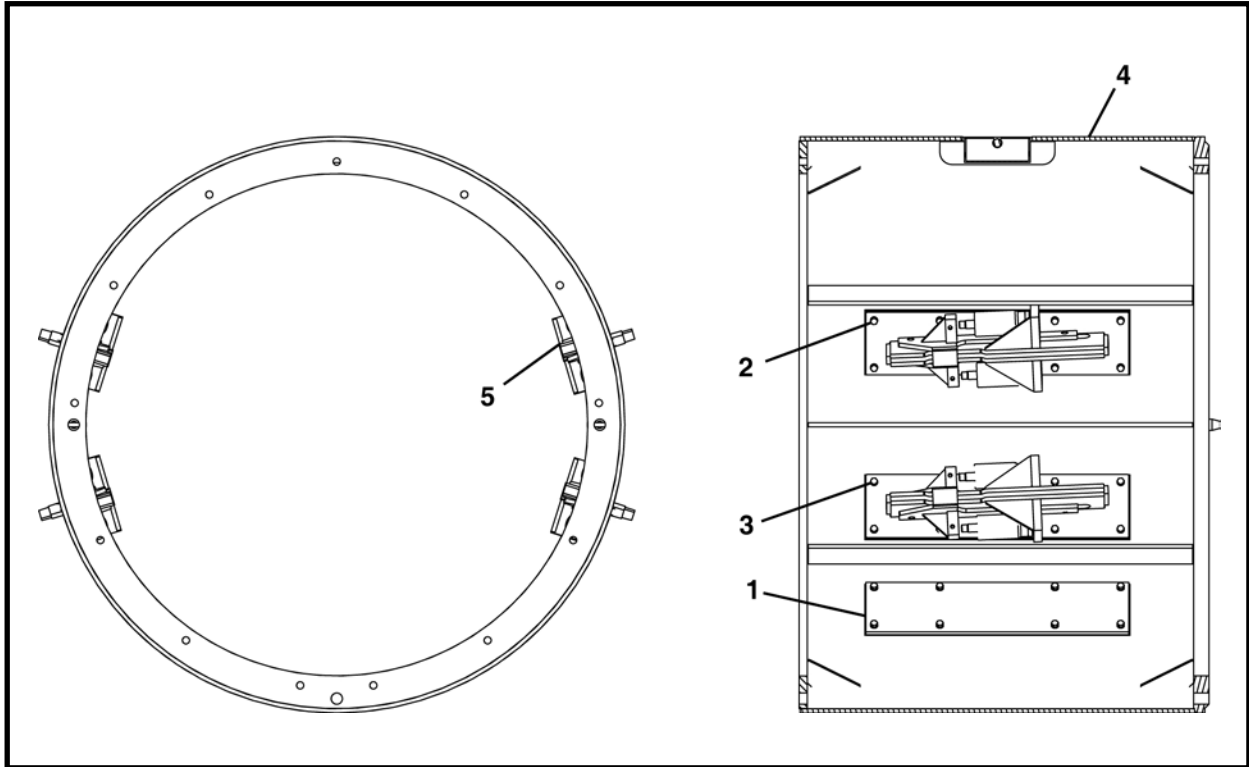
CABLE ASSEMBLY, 012795A00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|--------|-----------|------------------|
| 0 | 1 | 012795A00 | ASSEMBLY, Cable |
| 1 | 1 | P0079-001 | HOOK |
| 2 | 1 | P0073-001 | SLEEVE |
| 3 | 180 LI | P0075-002 | CABLE, 1/4 x 180 |

LI - Linear Inch

DIRT WING DRUM ASSEMBLY, 026067A



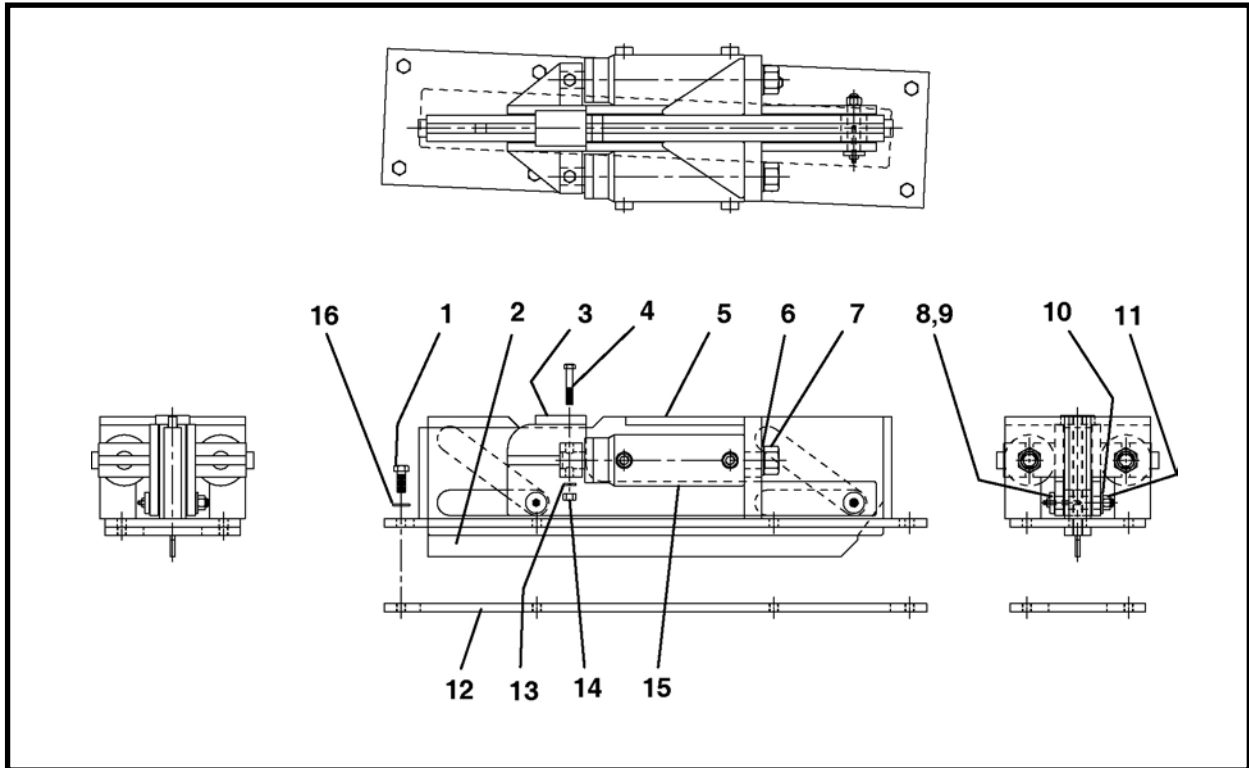
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|------------------------------|
| 0 | 1 | 026067A | ASSEMBLY, Dirt Wing Drum |
| 1 | 2 | 014619P00 | COVER, Blank |
| 2 | 48 | P0001-08-005 | BOLT, Hex 1/2-13 x 1-1/4 |
| 3 | 48 | P0045-008 | WASHER, Lock 1/2 |
| 4 | 1 | 026080A | WELDMENT, Dirt Wing Drum |
| 5 | 4 | 014600A00 | ASSEMBLY, Hyd. Dirt Wing-CW |
| 6* | 4 | 014617A00 | ASSEMBLY, Hyd. Dirt Wing-CCW |

* Optional, not shown

Note: Optional bolt on dirt wings are available:

- 014654A00 - Single Wing - CW
- 014655A00 - Single Wing - CCW
- 014653A00 - Double Wing

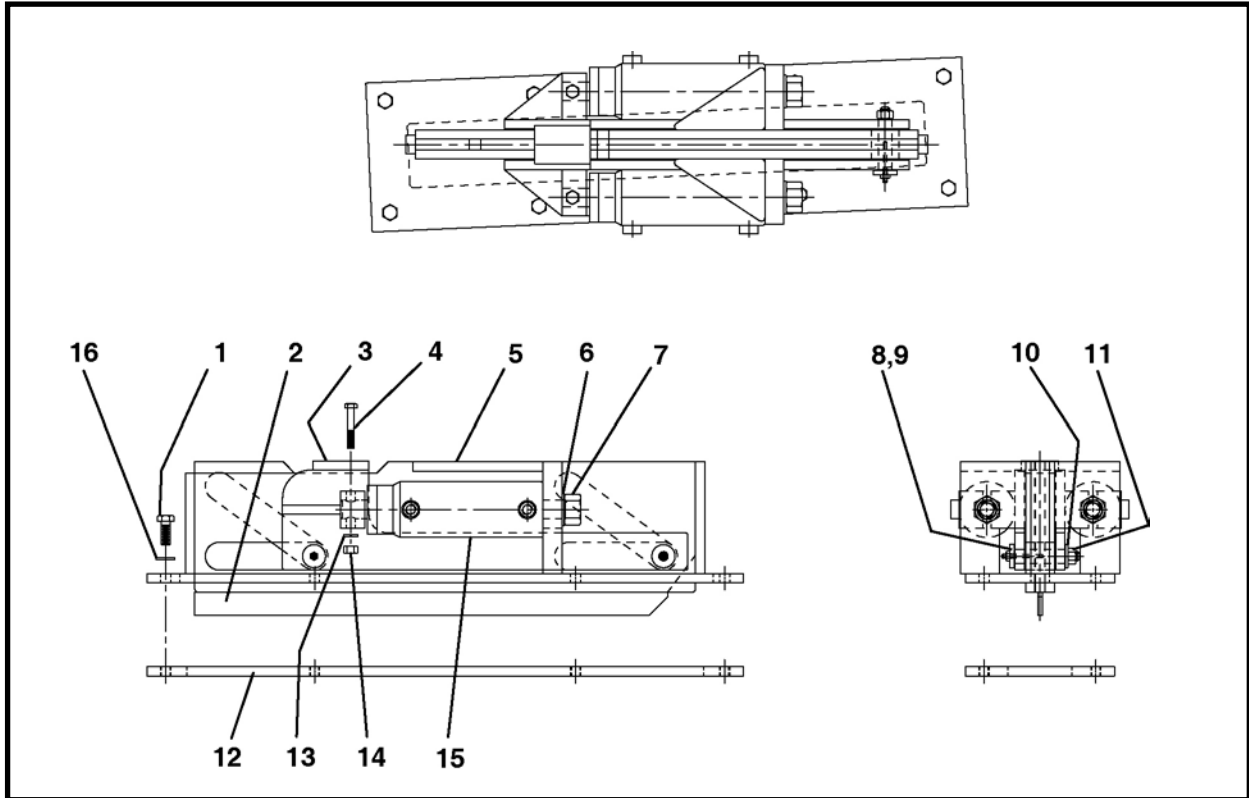
HYDRAULIC DIRT WING (CW) ASSEMBLY, 014600A00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------------------------|
| 0 | 1 | 014600A00 | ASSEMBLY, Hydraulic Dirt Wing (CW Rotation) |
| 1 | 8 | P0001-08-004 | BOLT, Hex 1/2-13 UNC x 1 |
| 2 | 1 | 014601A00 | WING |
| 3 | 1 | 014606A01 | WELDMENT, Thruster Bar |
| 4 | 2 | P0001-07-010 | BOLT, Hex 7/16-14 UNC x 2-1/2 |
| 5 | 1 | 014602A00 | WELDMENT, Bracket (CW) |
| 6 | 2 | P0040-014 | WASHER, Flat 7/8 |
| 7 | 2 | P0004-14-000 | NUT, 7/8 |
| 8 | 2 | 007239P00 | PIN, Axle |
| 9 | 6 | 07240P00 | ROLLER |
| 10 | 2 | P0040-008 | WASHER, Flat 1/2 |
| 11 | 2 | P0013-08-000 | NUT, Lock1/2 |
| 12 | * | 011583P00 | PLATE |
| 13 | 2 | P0045-007 | WASHER, Lock 7/16 |
| 14 | 2 | P0003-07-000 | NUT, 7/16 |
| 15 | 2 | 014603A00 | ASSEMBLY, Cylinder |
| 16 | 8 | P0045-008 | WASHER, Lock 1/2 |

* Part of Dirt Wing Drum Weldment.

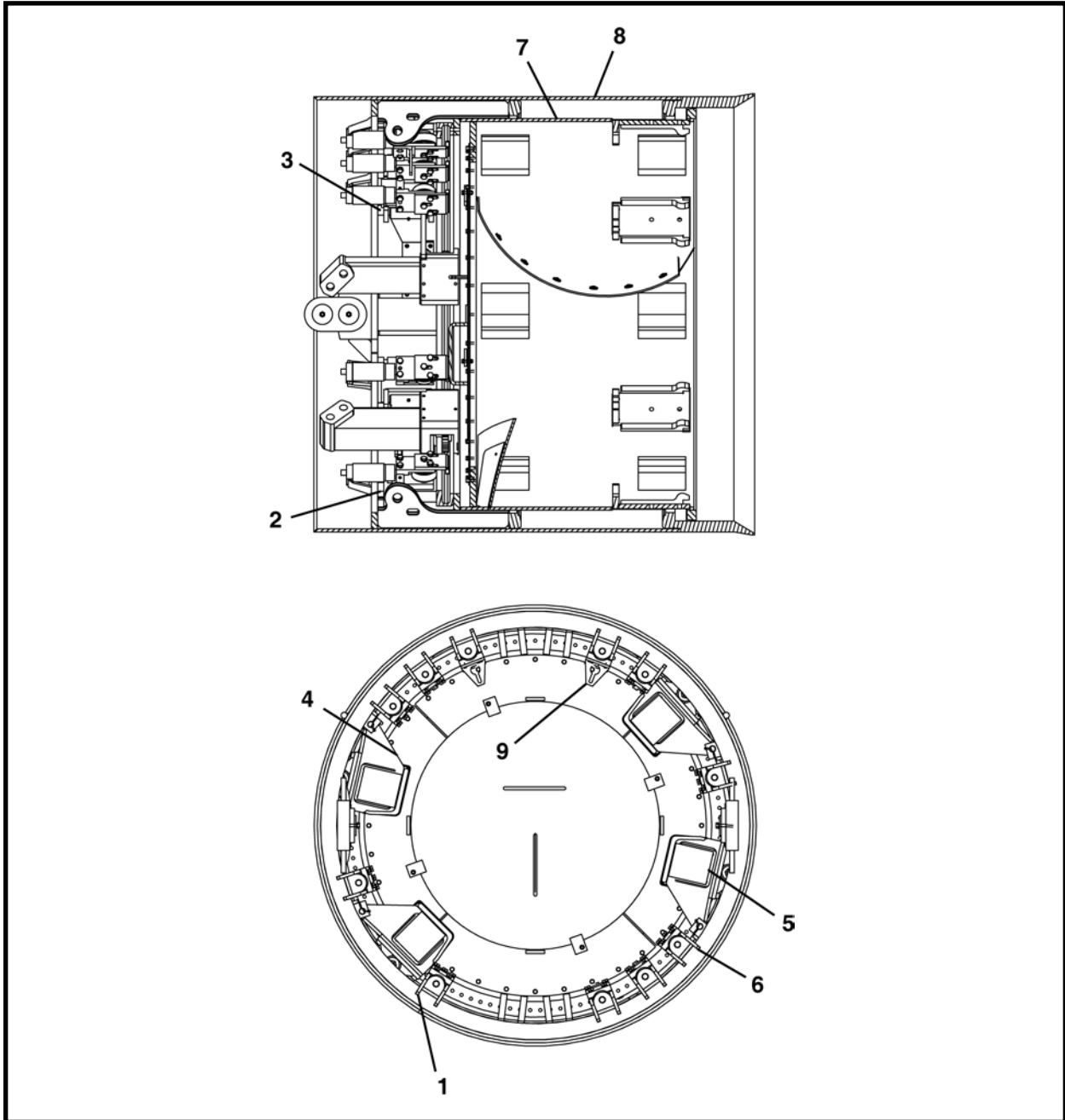
HYDRAULIC DIRT WING (CCW) ASSEMBLY, 014617A00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------------|
| 0 | 1 | 014617A00 | ASSEMBLY, Hydraulic Dirt Wing (CCW Rotation) |
| 1 | 8 | P0001-08-004 | BOLT, Hex 1/2-13 UNC x 1-1/4 |
| 2 | 1 | 014601A00 | WING |
| 3 | 1 | 014606A01 | WELDMENT, Thruster Bar |
| 4 | 2 | P0001-07-010 | BOLT, Hex 7/16-14 UNC x 2-1/2 |
| 5 | 1 | 014618A00 | WELDMENT, Bracket (CW) |
| 6 | 2 | P0040-014 | WASHER, Flat 7/8 |
| 7 | 2 | P0004-14-000 | NUT, 7/8 |
| 8 | 2 | 007239P00 | PIN, Axle |
| 9 | 6 | 007240P00 | ROLLER |
| 10 | 2 | P0040-008 | WASHER, Flat 1/2 |
| 11 | 2 | P0013-08-000 | NUT, Lock 1/2 |
| 12 | * | 011583P00 | PLATE |
| 13 | 2 | P0045-007 | WASHER, Lock 7/16 |
| 14 | 2 | P0003-07-000 | NUT, 7/16 |
| 15 | 2 | 014603A00 | ASSEMBLY, Cylinder |
| 16 | 8 | P0045-008 | WASHER, Lock 1/2 |

* Part of Dirt Wing Drum Weldment.

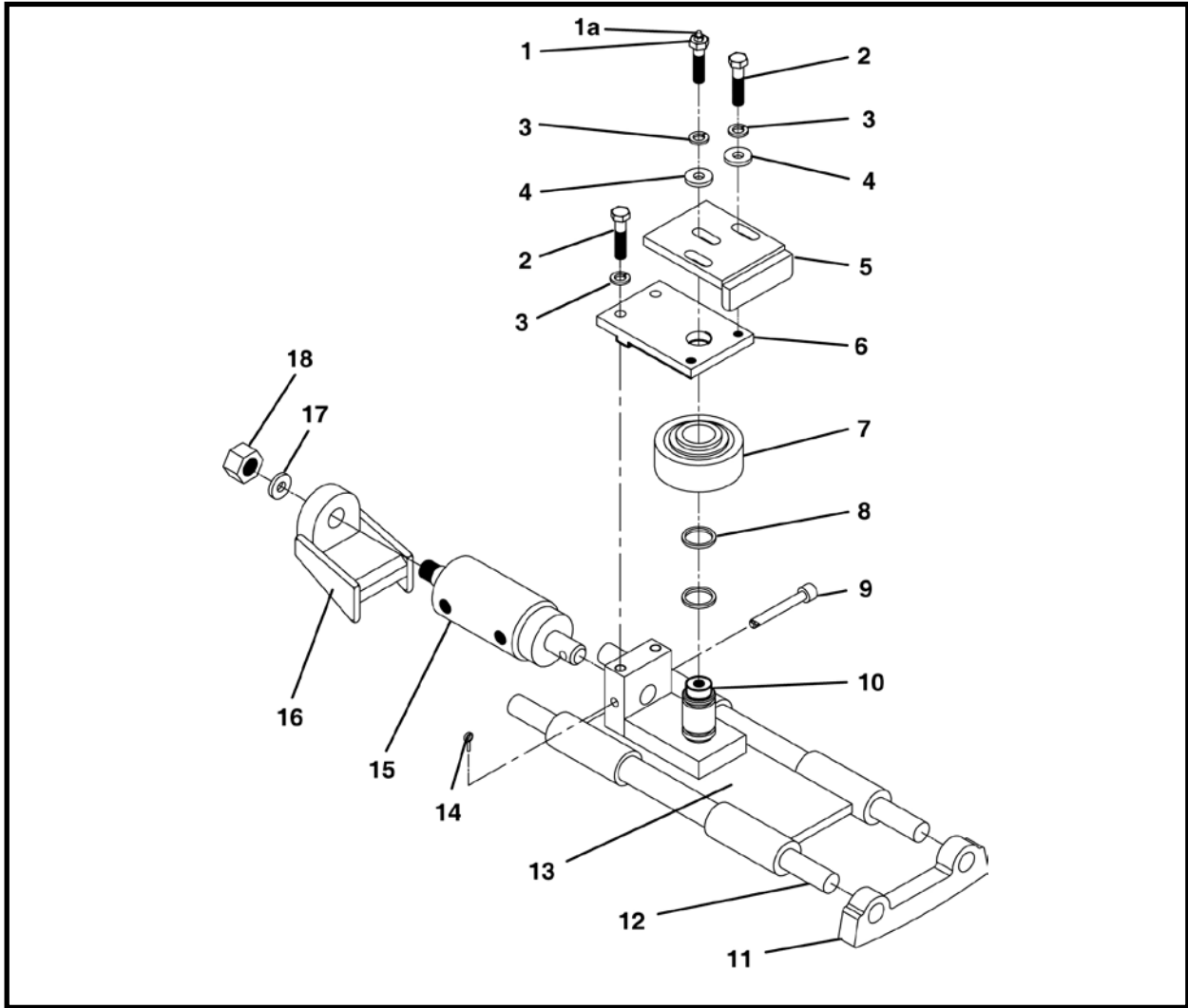
FRONT DRUM & DRIVE ASSEMBLY, 026095A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|-----------------------------------|
| 0 | 1 | 026095A | FRONT DRUM & DRIVE ASSEMBLY |
| 1 | 7 | 026083A | ASSEMBLY, Drum Advance |
| 2 | 14 | 026156P | MOUNT, Drum Advance Assy. |
| 3 | 8 | 025157P | MOUNT, Drum Advance w/Motor |
| 4 | 4 | 009695A00 | BRACKET, Motor (Includes item 4a) |
| 4a* | 1 | P0063-001 | FITTING, Grease 1/4 |
| 5 | 4 | 013814A00 | ASSEMBLY, Motor |
| 6 | 4 | 026084A | DRUM ADVANCE, for Motor Assy. |
| 7 | 1 | 026090A | ASSEMBLY, Inner Drum |
| 8 | 1 | 026070A | WELDMENT, Front Drum |
| 9 | 2 | 002225P | BRACKET, Convyr. Safety Retain. |

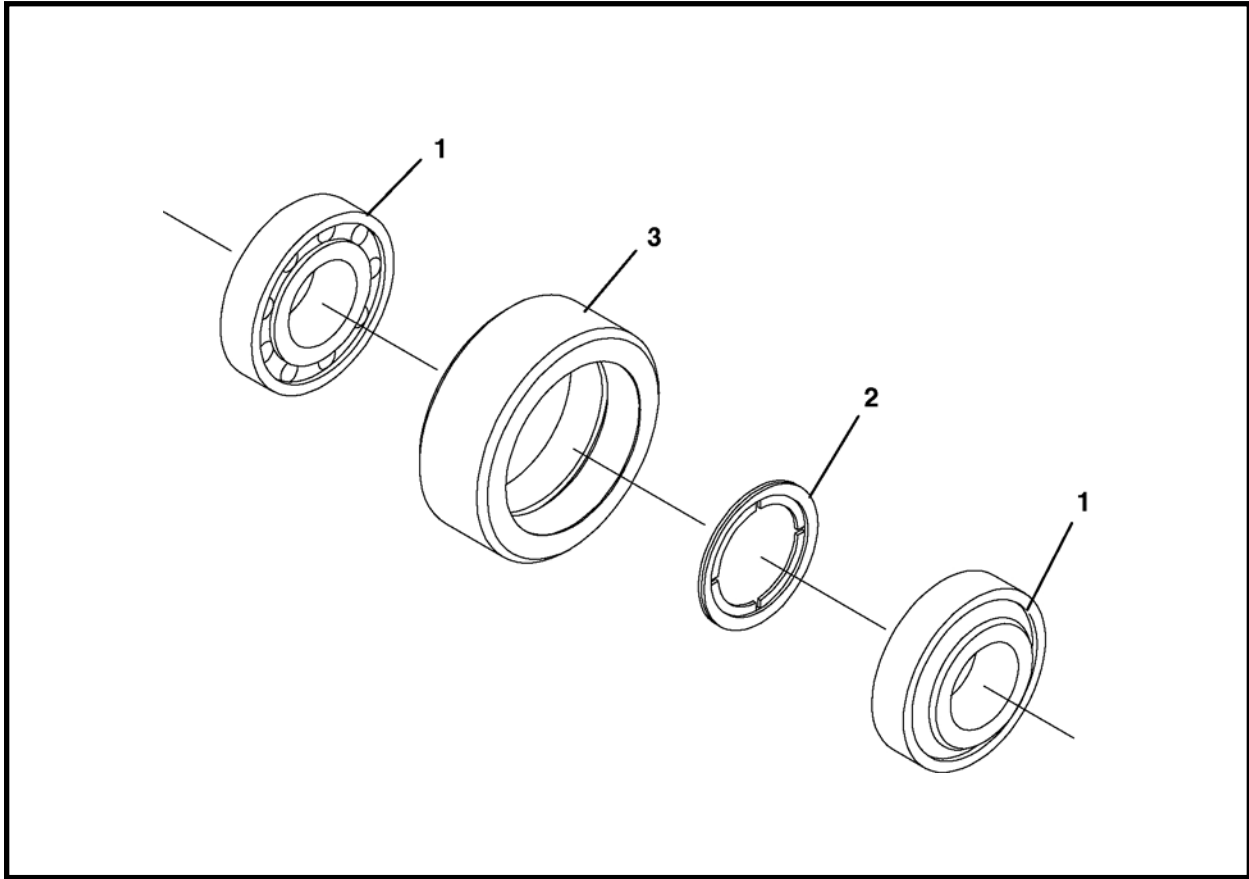
* Not Shown

DRUM ADVANCE STANDARD ASSEMBLY, 026083A



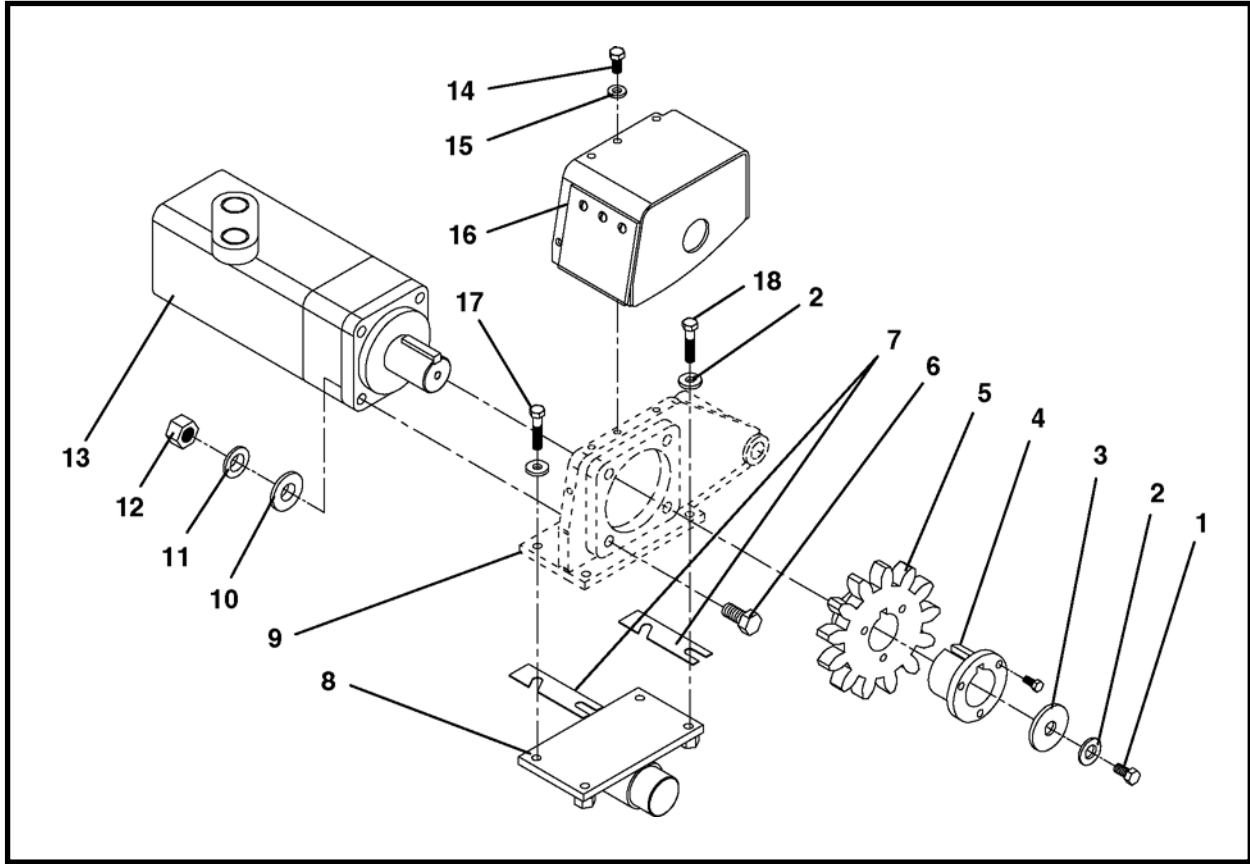
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------------|
| 0 | 1 | 026083A | ASSEMBLY, Drum Advance Standard |
| 1 | 1 | 001906A00 | BOLT & FITTING (Includes item 1a) |
| 1a | 1 | P0063-001 | FITTING, Grease 1/4 UNF |
| 2 | 4 | P0001-08-006 | BOLT, 1/2-13 UNC x 1-1/2 |
| 3 | 5 | P0045-008 | WASHER, Lock 1/2 |
| 4 | 2 | 001887P00 | WASHER |
| 5 | 1 | 001328A00 | GUIDE, Thrust Roller |
| 6 | 1 | 026073P | PLATE |
| 7 | 1 | 001296A02 | THRUST ROLLER (Standard) |
| 8 | 2 | P0085-218 | ORING (For Standard Duty) |
| 9 | 1 | 002243P00 | PIN, Cylinder Mount |
| 10 | 1 | 026074P | SHAFT, Thrust Roller |
| 11 | REF | 026156P | PLATE |
| 12 | 2 | 006825P01 | ROD |
| 13 | 1 | 010737A02 | BRACKET, Thrust (Includes item 13a) |
| 13a | 2 | P0063-003 | FITTING, Grease 90 Degree (not shown) |
| 14 | 1 | P0048-024 | PIN, Cotter |
| 15 | 1 | 010747A00 | CYLINDER, Advance (Includes items 17 and 18) |
| 16 | 1 | 002261A00 | HOLDER, Advance Cylinder |
| 17 | 1 | P0040-014 | WASHER, Hardened 7/8 |
| 18 | 1 | P0004-14-000 | NUT, 7/8 UNF |

THRUST ROLLER ASSEMBLY, 001296A02



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|-------------------------|
| 0 | 1 | 001296A02 | ASSEMBLY, Thrust Roller |
| 1 | 2 | P0065-004 | BEARING |
| 2 | 1 | 010740P01 | SPACER, Bearing |
| 3 | 1 | 010741P00 | HOUSING, Roller |

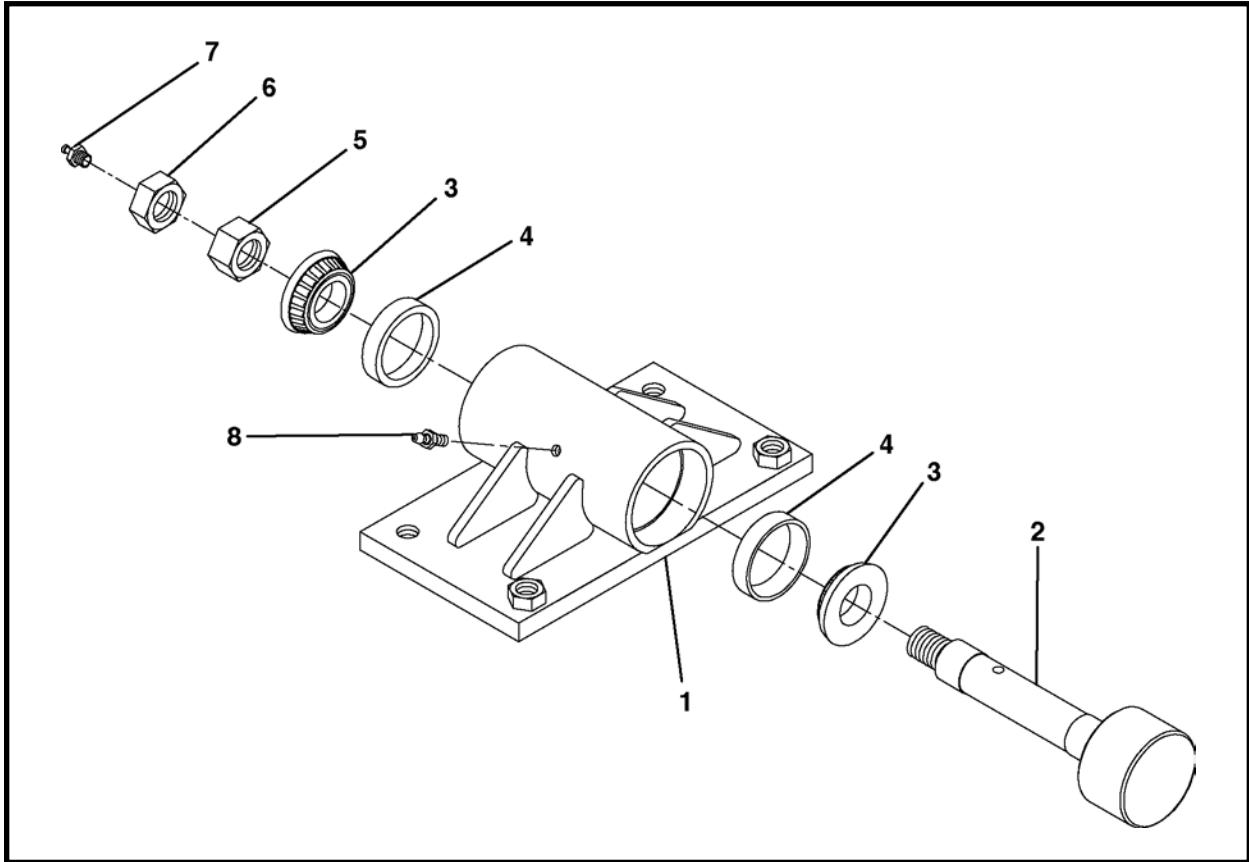
MOTOR ASSEMBLY, 013814A00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------------------|
| 0 | 1 | 013814A00 | ASSEMBLY, Motor |
| 1 | 1 | P0002-08-004 | BOLT, 1/2-20 UNF x 1 |
| 2 | 5 | P0045-008 | WASHER, Lock 1/2 |
| 3 | 1 | 001320P00 | WASHER |
| 4 | 1 | P0066-036 | BUSHING |
| 5 | 1 | 002995P04 | SPROCKET |
| 6 | 4 | P0001-10-008 | BOLT, 5/8-11 UNC x 2-1/2 |
| 7 | 8 | 007332P00 | SHIM |
| 8 | 1 | 001231A01 | ASSEMBLY, Idler Roller |
| 9 | - | - | ASSEMBLY, Motor Bracket |
| 10 | 4 | P0040-010 | WASHER, Flat 5/8 |
| 11 | 4 | P0045-010 | WASHER, Lock 5/8 |
| 12 | 4 | P0003-10-000 | NUT, 5/8 |
| 13* | 1 | P0304-123 | MOTOR |
| 14 | 4 | P0001-06-003 | BOLT, 3/8-16 UNC x 3/4 |
| 15 | 4 | P0045-006 | WASHER, Lock 3/8 |
| 16 | 1 | 008289A00 | ASSEMBLY, Motor Guard (Includes item 16a) |
| 16a | 6 | P0020-14-203 | SCREW, Truss 1/4 UNC x 3/4 |
| 17 | 2 | P0001-08-006 | BOLT, 1/2-13 UNC x 1-1/2 |
| 18 | 2 | P0001-08-008 | BOLT, 1/2-13 UNC x 2 |

* Refer to Section 8, Motors for parts breakdown.

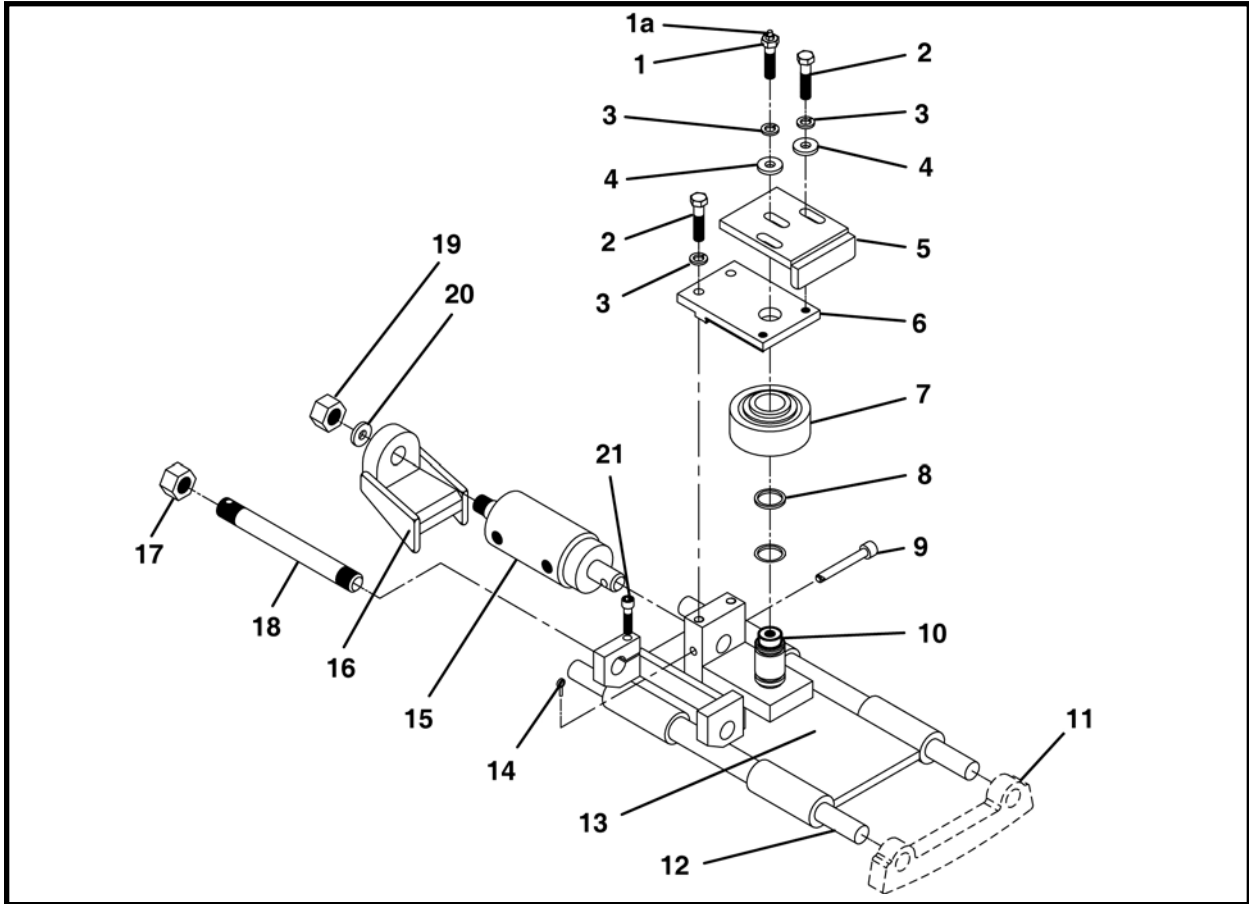
IDLER ROLLER ASSEMBLY, 001231A01



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------|
| 0 | 1 | 001231A01 | ASSEMBLY, Idler Roller |
| 1 | 1 | 001229A01 | ASSEMBLY, Housing |
| 2 | 1 | 001922P01 | SHAFT, Idler Roller |
| 3 | 2 | P0065-020 | BEARING CONE |
| 4 | 2 | P0065-021 | BEARING CUP |
| 5 | 1 | P0004-12-000 | NUT, 3/4 UNF |
| 6 | 1 | P0008-12-000 | NUT, Jam 3/4 UNF |
| 7 | 1 | P0063-001 | FITTING, Grease 1/4 UNF |
| 8 | 1 | P0063-012 | FITING, Grease 1/4 NPT |

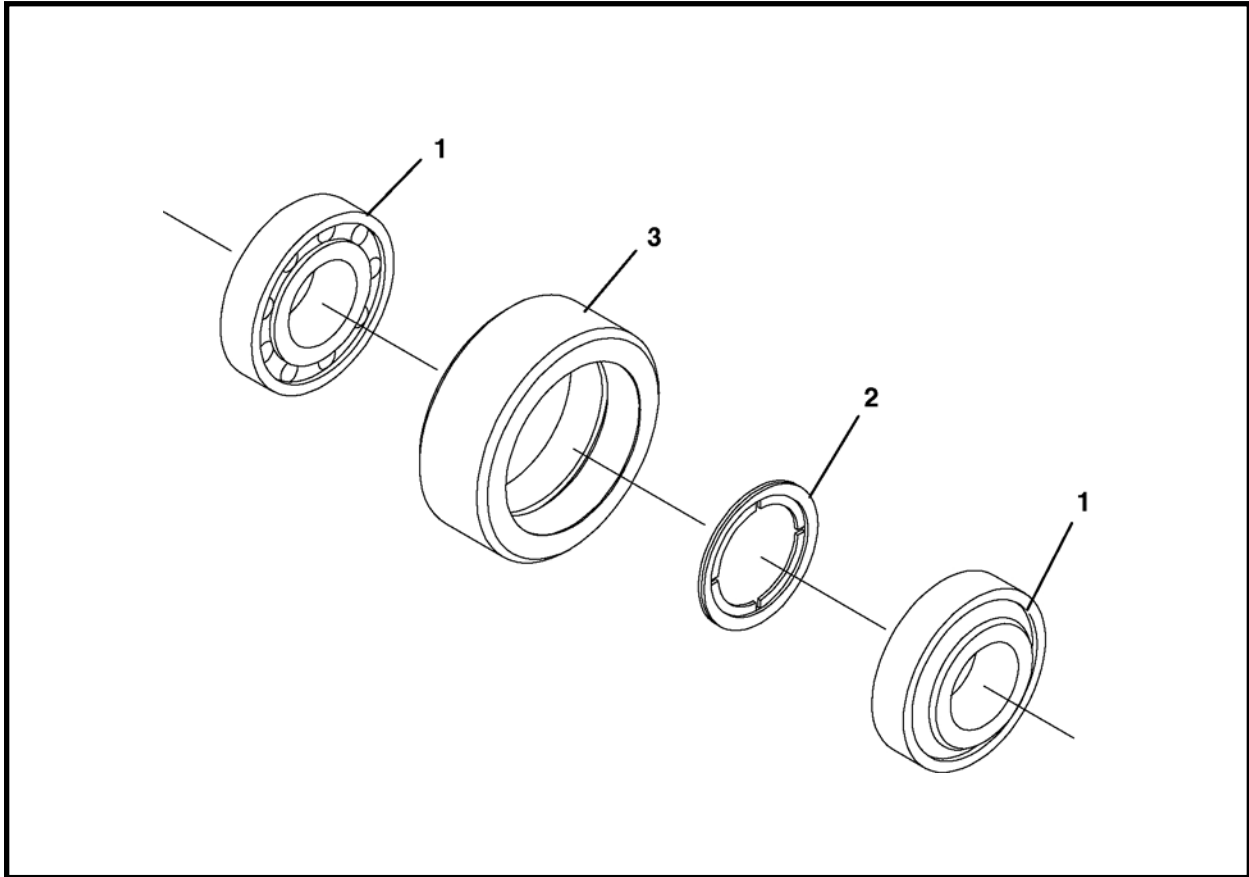
Note: Contact your Akkerman Product Support Representative for proper assembly.

DRUM ADVANCE FOR MOTOR ASSEMBLY, 026084A



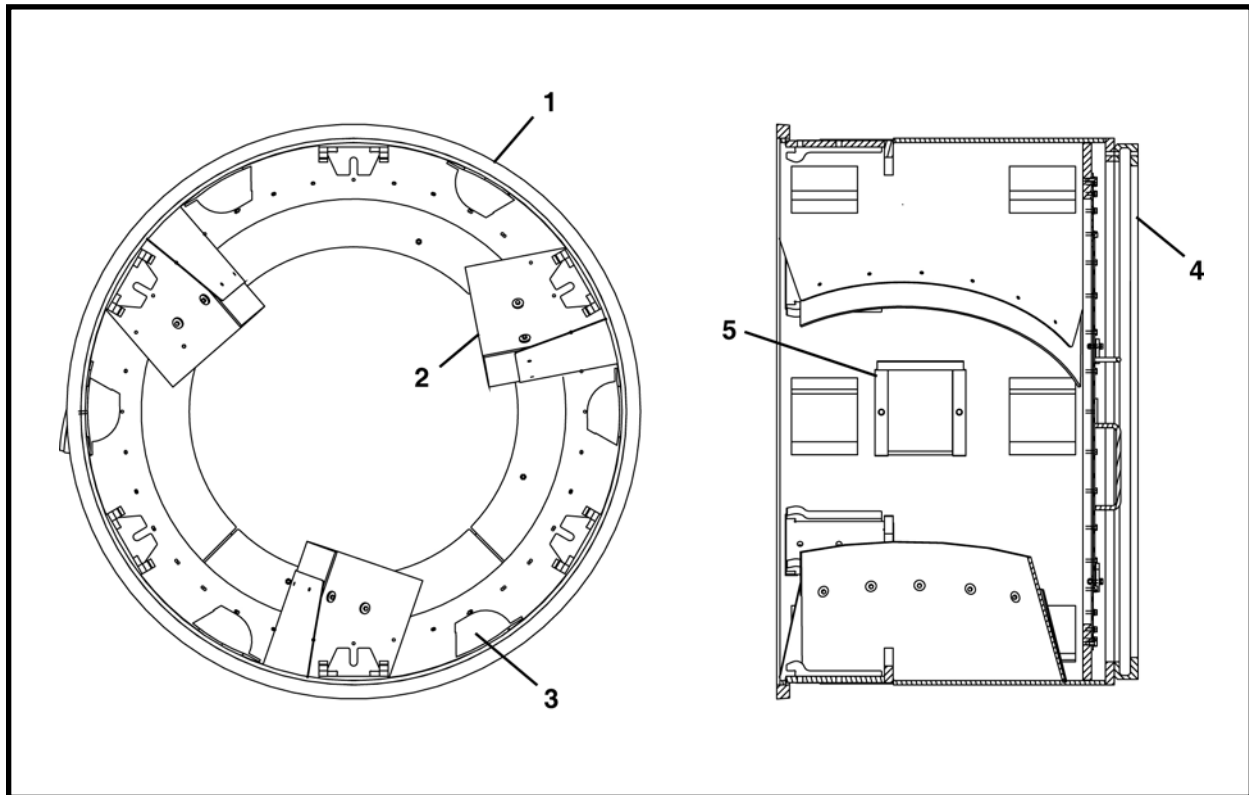
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-----------------------------------------------------|
| 0 | 1 | 026084A | ASSEMBLY, Drum Advance For Motor |
| 1 | 1 | 001906A00 | BOLT & FITTING (Includes item 1a) |
| 1a | 1 | P0063-001 | FITTING, Grease 1/4 UNF |
| 2 | 4 | P0001-08-006 | BOLT, 1/2-13 UNC x 1-1/2 |
| 3 | 5 | P0045-008 | WASHER, Lock 1/2 |
| 4 | 2 | 001887P00 | ADVANCE, Washer |
| 5 | 1 | 001328A00 | GUIDE, Thrust Roller |
| 6 | 1 | 026073P | PLATE, Thrust Roller |
| 7 | 1 | 001296A02 | ASSEMBLY, Thrust Roller |
| 8 | 2 | P0085-218 | ORING (For Standard Duty) |
| 9 | 1 | 002243P00 | PIN, Cylinder |
| 10 | 1 | 026074P | SHAFT, Thrust Roller |
| 11 | REF | 026157P | PLATE |
| 12 | 2 | 006825P01 | ROD |
| 13 | 1 | 010744A02 | BRACKET, Motor & Thrust Roller (Includes item 13a) |
| 13a | 2 | P0063-001 | FITTING, Grease 1/4 UNF (not shown) |
| 14 | 1 | P0048-024 | PIN, Cotter 1/8 x 3/4 |
| 15 | 1 | 010747A00 | ASSEMBLY, Advance Cylinder (Includes items 19 & 20) |
| 16 | 1 | 002261A01 | CYLINDER, Advance Holder |
| 17 | 1 | P0003-16-000 | NUT, 1-8 UNC |
| 18 | 1 | 010742P00 | SHAFT, Motor Mount |
| 19 | 1 | P0004-14-000 | NUT, 7/8 |
| 20 | 1 | P0040-014 | WASHER, 7/8 |
| 21 | 1 | P0031-07-007 | SCREW, Socket Head Cap 7/16-14 UNC x 1.75 |

THRUST ROLLER ASSEMBLY, 001296A02



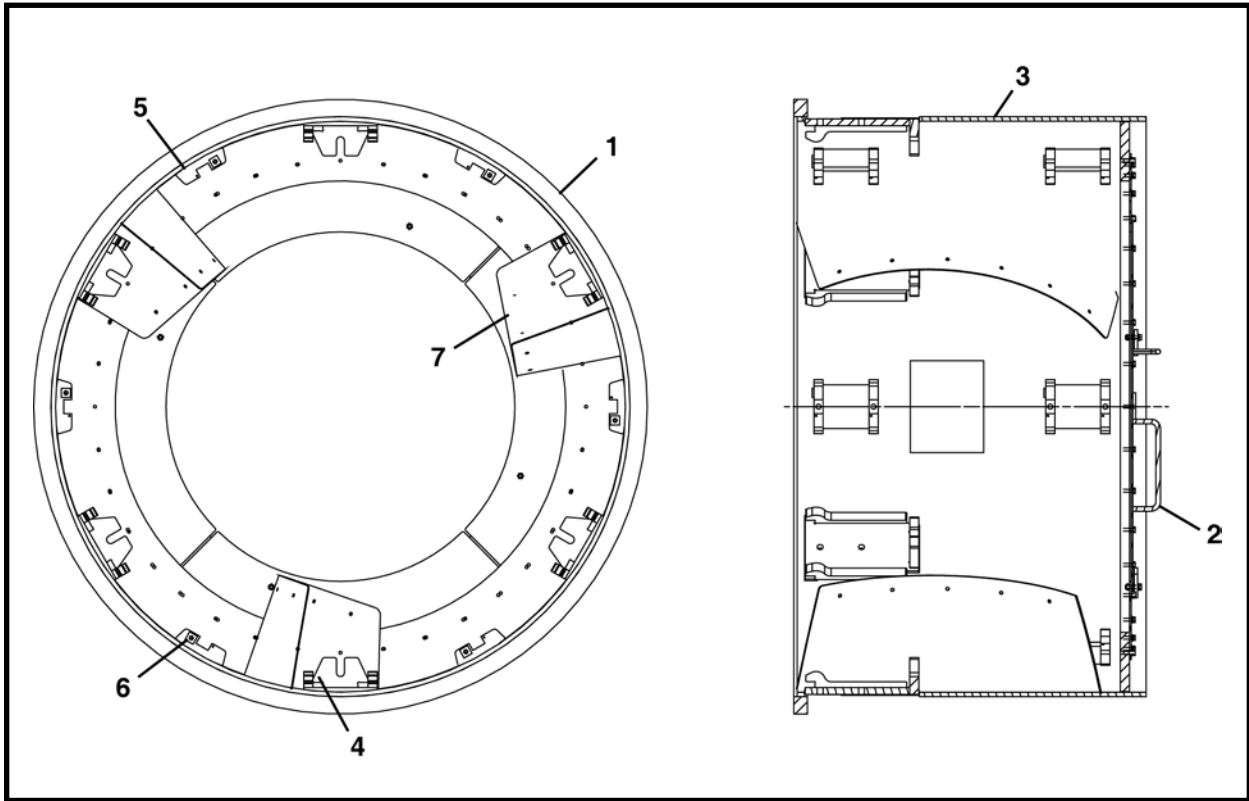
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|-------------------------|
| 0 | 1 | 001296A02 | ASSEMBLY, Thrust Roller |
| 1 | 2 | P0065-004 | BEARING |
| 2 | 1 | 010740P01 | SPACER, Bearing |
| 3 | 1 | 010741P00 | HOUSING, Roller |

INNER DRUM ASSEMBLY, 026090A



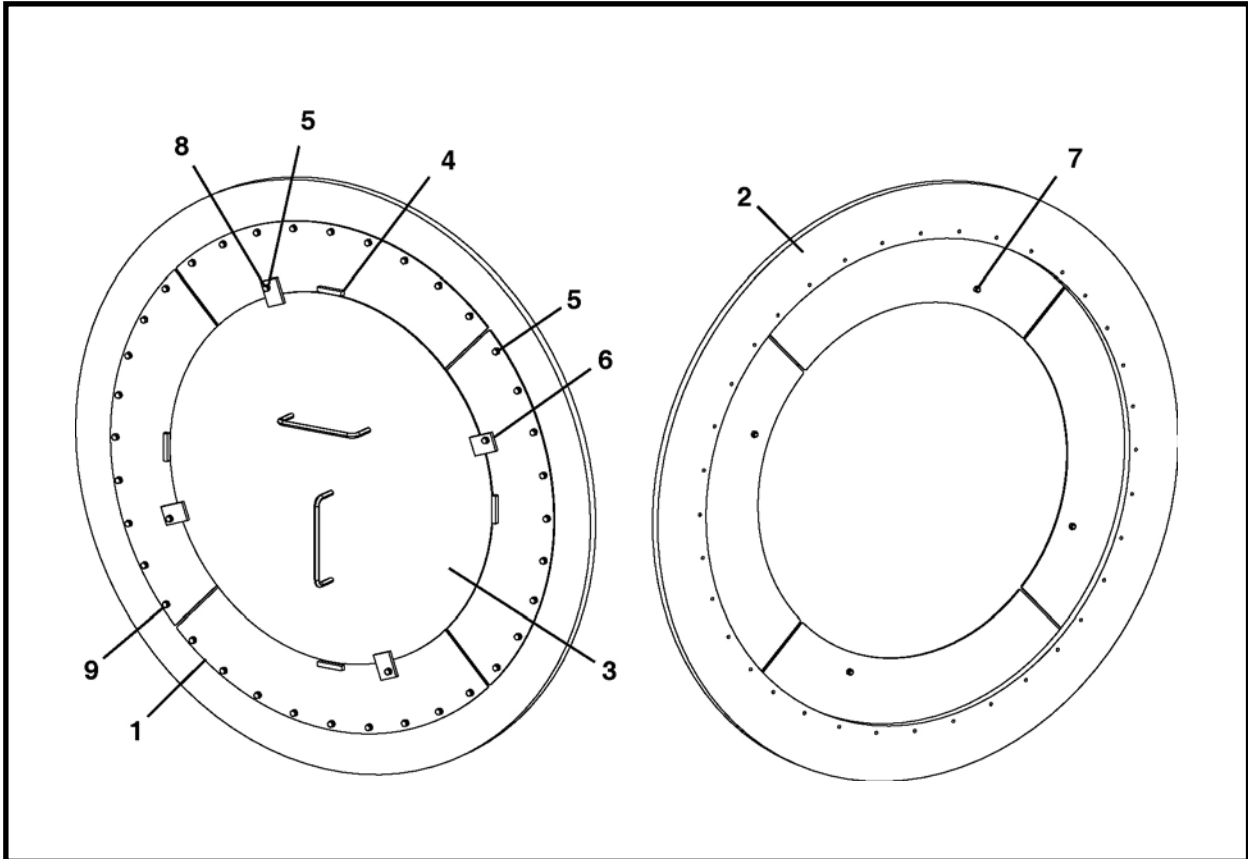
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|------------------------------|
| 0 | 1 | 026090A | ASSEMBLY, Inner Drum |
| 1 | 1 | 026068A | WELDMENT, Inner Drum |
| 2 | 3 | 020841A | ASSEMBLY, Dirt Paddle |
| 3 | 12 | 026435A | ASSEMBLY, Common Drum Roller |
| 4 | 1 | 026127A | ASSEMBLY, Gear Ring |
| 5 | 1 | 002289A00 | ASSEMBLY, Dirt Scoop |

INNER DRUM WELDMENT, 026068A



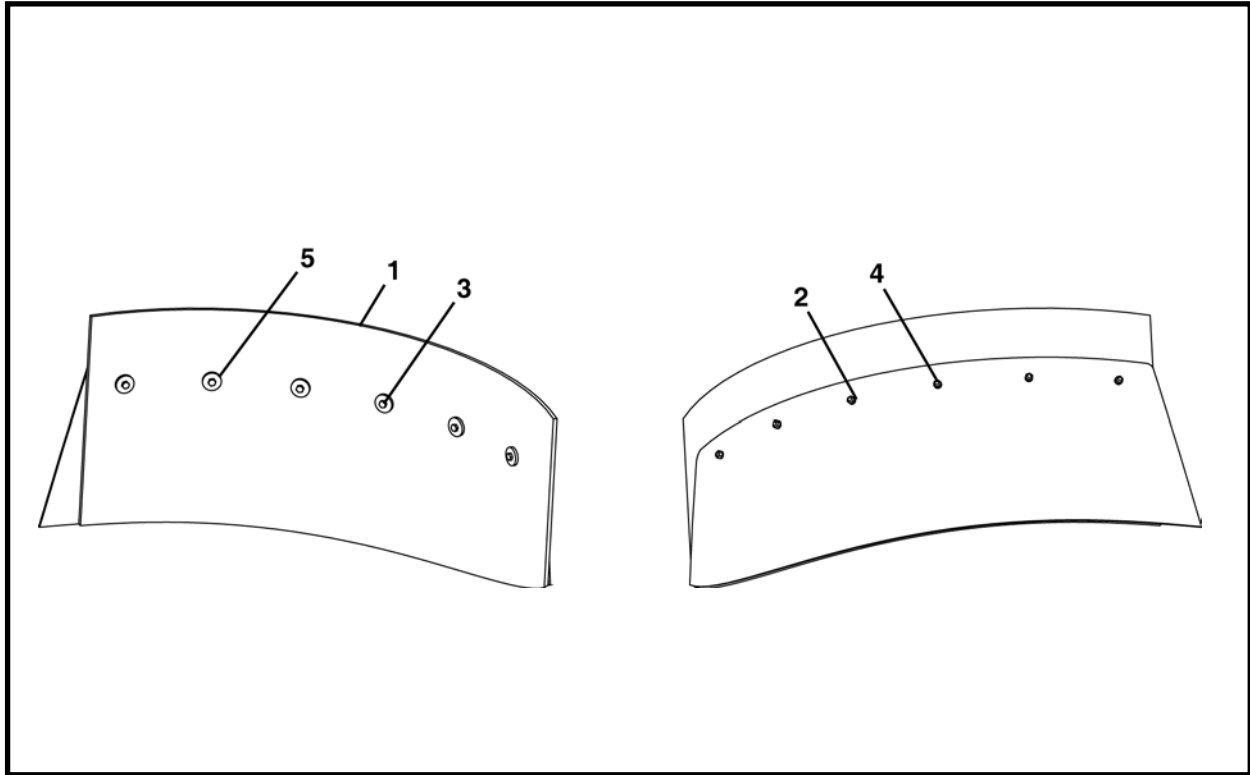
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|---------------------------|
| 0 | 1 | 026068A | WELDMENT, Inner Drum |
| 1 | 1 | 026051P | RING, Inner Drum |
| 2 | 1 | 026153A | ASSEMBLY, Bulkhead Door |
| 3 | 1 | 026052P | SKIN, Inner Drum |
| 4 | 6 | 004666A00 | WELDMENT, Cutter Mount |
| 5 | 24 | 011807P00 | MOUNT, Drum Rollers |
| 6 | 12 | 003924P00 | SPACER MOUNT, Drum Roller |
| 7 | 3 | 025231P | PLATE, Dirt Paddle |

BULKHEAD SEAL & DOOR ASSEMBLY, 026153A



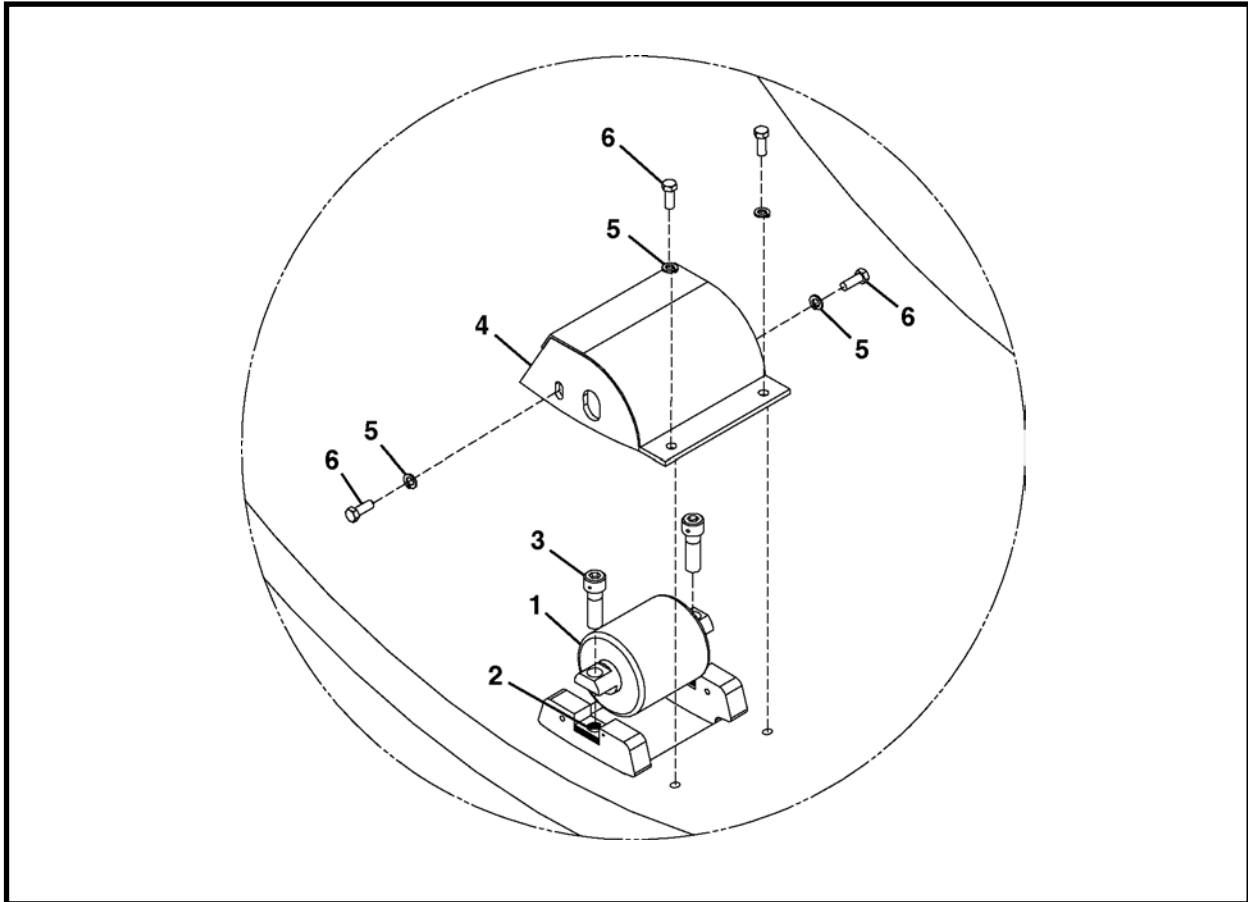
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|------------------------------|
| 0 | 1 | 026153A | ASSEMBLY, Bulkhead Seal Door |
| 1 | 4 | 014426P00 | RING, Base |
| 2 | 1 | 026053P | RING, Rear, Inner Drum |
| 3 | 1 | 009981A00 | WELDMENT, Center Enclosure |
| 4 | 4 | 009987P00 | BAR, Centering |
| 5 | 40 | P0045-006 | WASHER, Lock 3/8 |
| 6 | 4 | 009986P00 | BLOCK, Clamp |
| 7 | 8 | P0003-06-000 | NUT, 3/8 |
| 8 | 4 | P0001-06-006 | BOLT, 3/8-16 x 1-1/2 |
| 9 | 36 | P0001-06-004 | BOLT, 3/8-16 x 1 |

DIRT PADDLE ASSEMBLY, 020841A



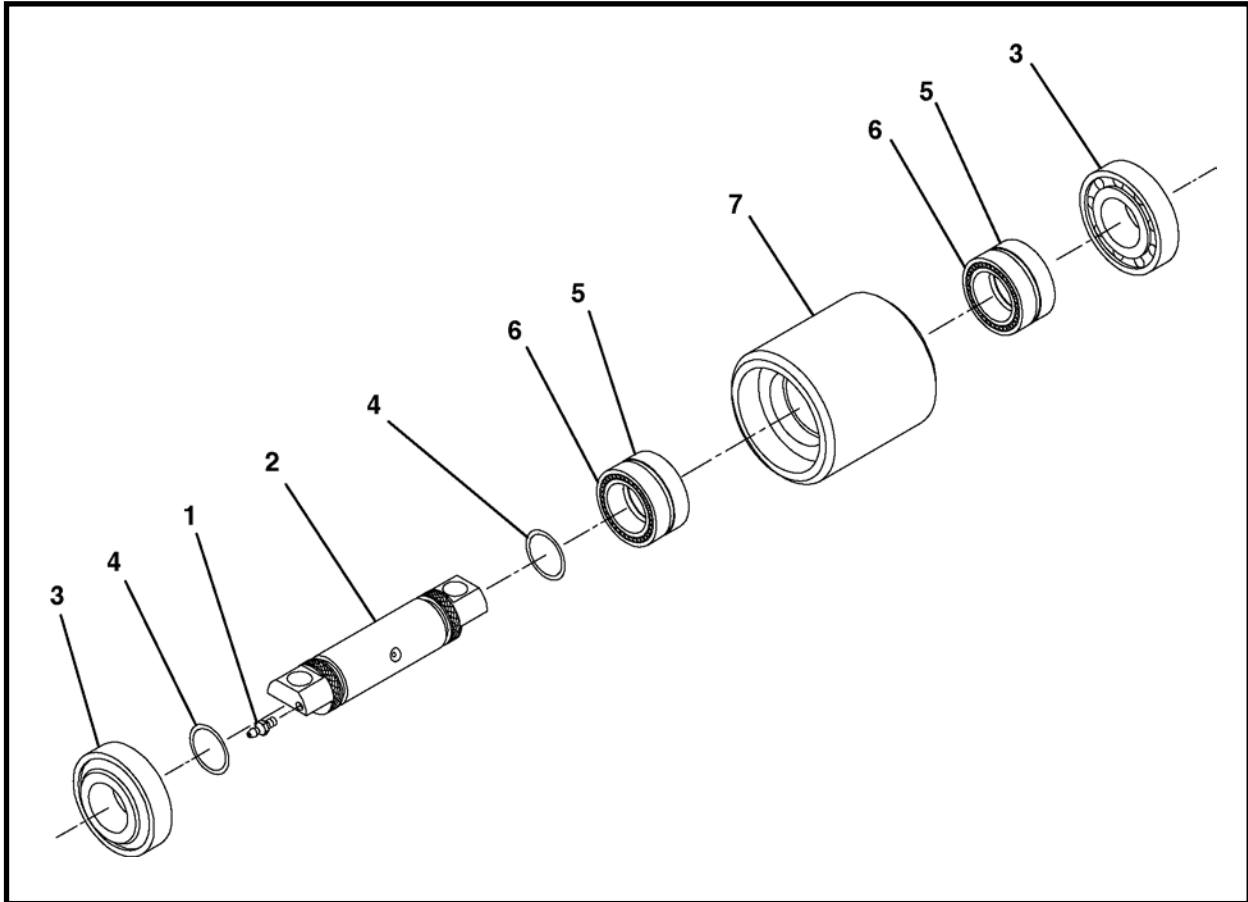
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-----------------------|
| 0 | 1 | 020841A | ASSEMBLY, Dirt Paddle |
| 1 | 1 | 020842P | RUBBER, Dirt Paddle |
| 2 | 6 | P0045-004 | WASHER, Lock 1/4 |
| 3 | 6 | P0001-04-004 | BOLT, 1/4-20 x 1 |
| 4 | 6 | P0003-04-000 | NUT, 1/4 |
| 5 | 6 | 002624P00 | WASHER |

COMMON DRUM ROLLER ASSEMBLY, 026435A



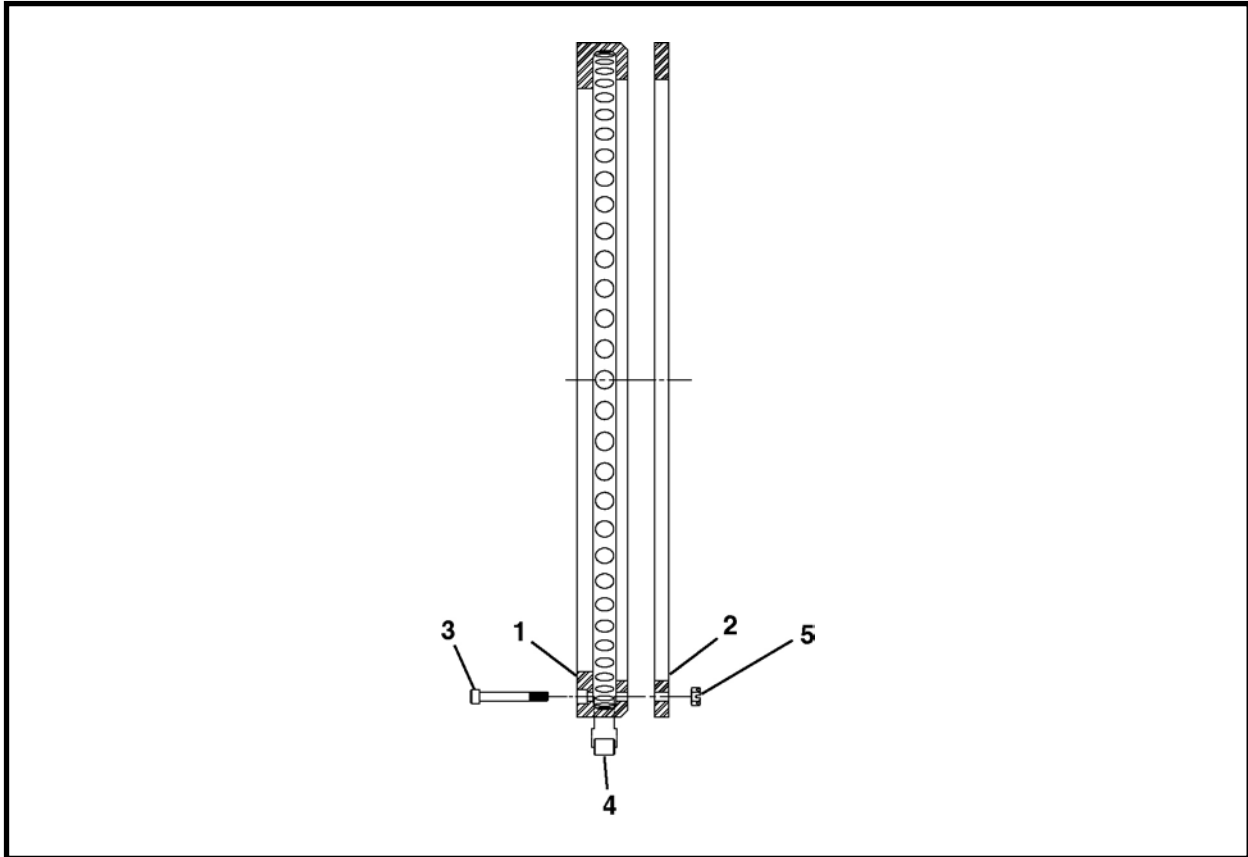
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------------|
| 0 | 1 | 026435A | ASSEMBLY, Common Drum Roller |
| 1 | 1 | 011845A00 | ASSEMBLY, Drum Roller |
| 2 | 12 | 011809P00 | SHIM |
| 3 | 2 | 011808P00 | SCREW, Socket Head Cap, 5/8 x 2 |
| 4 | 1 | 002082A01 | ASSEMBLY, Cover |
| 5 | 4 | P0045-006 | WASHER, Lock 3/8 |
| 6 | 4 | P0001-06-004 | BOLT, 3/8-16 x 1 |

DRUM ROLLER ASSEMBLY, 011845A00



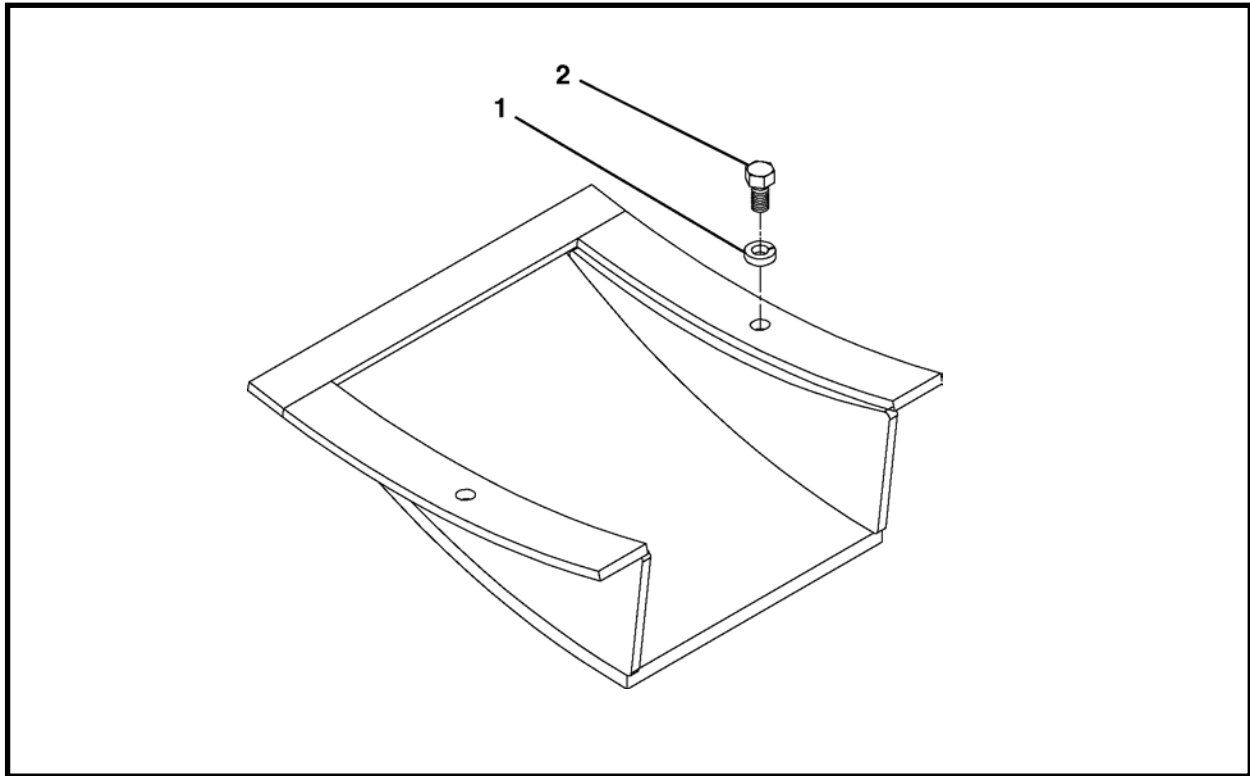
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|----------------------------|
| 0 | 1 | 011845A00 | ASSEMBLY, Drum Roller |
| 1 | 1 | P0063-001 | FITTING, Grease 1/4-28 UNF |
| 2 | 1 | 011805P00 | ROD |
| 3 | 2 | P0065-004 | BEARING |
| 4 | 2 | P0085-218 | ORING |
| 5 | 2 | P0065-099 | BEARING, Roller |
| 6 | 2 | P0065-100 | RING, Inner |
| 7 | 1 | 011846P00 | ROLLER |

GEAR RING ASSEMBLY, 026127A



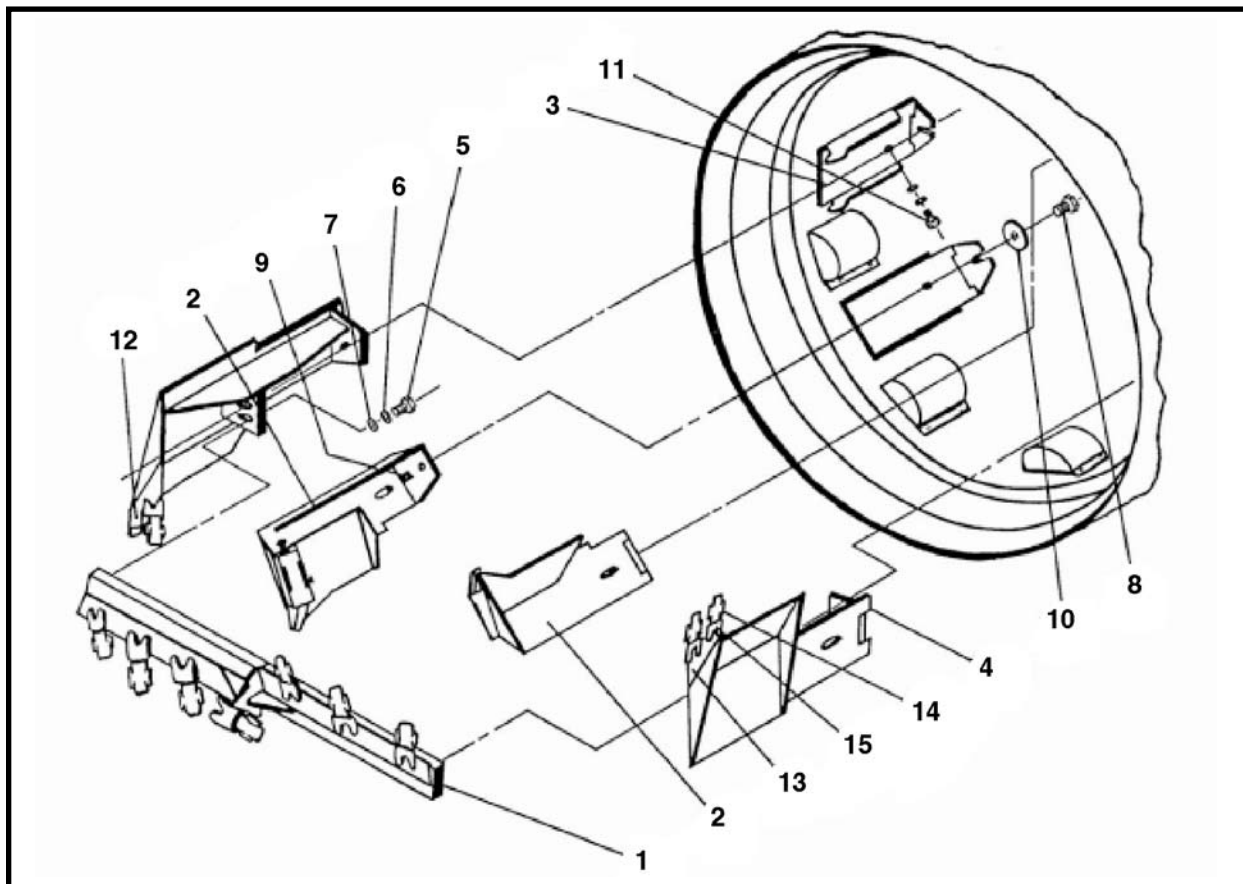
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|--------------------------------------------|
| 0 | 1 | 026127A | ASSEMBLY, Gear Ring |
| 1 | 1 | 014152P00 | RING, Gear |
| 2 | 1 | 026054P | PLATE |
| 3 | 115 | 009183P01 | SCREW, Socket Head Cap, 1/2-13 UNC x 4-1/2 |
| 4 | 115 | 001151P01 | ROLLER |
| 5 | 115 | P0013-08-000 | NUT, Lock 1/2 |

DIRT SCOOP ASSEMBLY, 002289A00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|------------------------|
| 0 | 1 | 002289A00 | ASSEMBLY, Dirt Scoop |
| 1 | 2 | P0045-006 | WASHER, Lock 3/8 |
| 2 | 2 | P0001-06-003 | BOLT, 3/8-16 UNC x .75 |

DIRT HEAD ASSEMBLY, 026110A
DIRT BAR

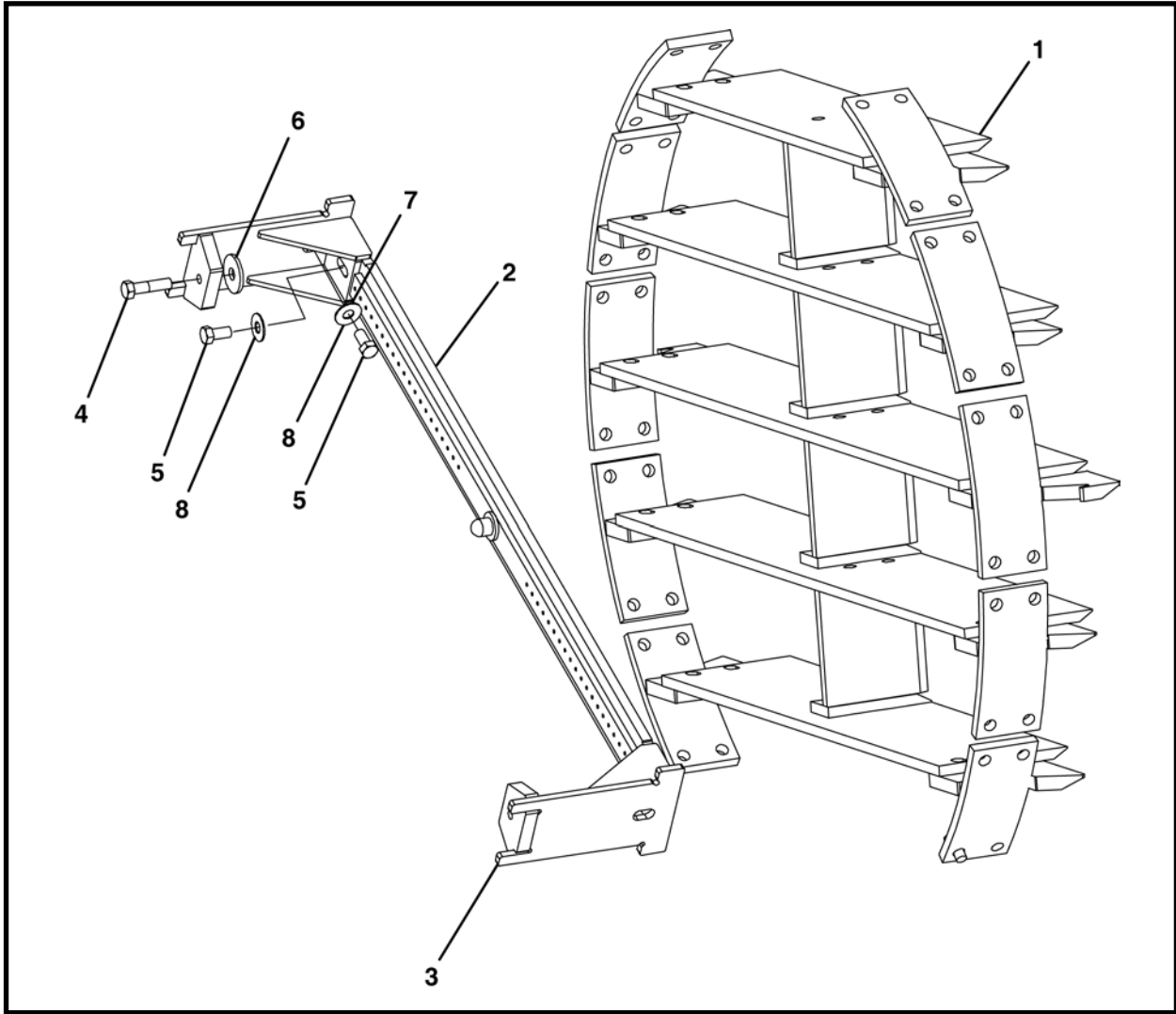


| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------------------------|
| 0 | 1 | 026110A | ASSEMBLY, Dirt Head |
| 1 | 1 | 026111A | WELDMENT, Dirt Bar (Includes items 1a - 1d) |
| 1a | 11 | P0050-001 | TOOTH, Cutter #7A |
| 1b | 11 | P0051-001 | POCKET, Tooth #2 |
| 1c* | 1 | P0035-002 | BOLT, Target 5/16 UNC x 3/4 |
| 1d* | 1 | P0003-05-000 | NUT, 5/16 |
| 2 | 2 | 004742A00 | PLATE, Cutter Adjust.(Inc. items 2a - 2d) |
| 2a | 1 | P0034-12-014 | BOLT, Square Head 3/4 x 3-1/2 |
| 2b | 1 | P0007-12-000 | NUT, Jam |
| 2c | 1 | P0001-08-004 | BOLT, 1/2-13 UNC x 1 |
| 2d.1 | AR | 004750P01 | TOOTH, Overcut (Standard) |
| 2d.2 | AR | 004750P02 | TOOTH, Overcut (Long) |
| 2d.3 | AR | 004750P03 | TOOTH, Overcut (Extra Long) |
| 3 | - | - | CUTTER MOUNTNG PLATE |
| 4 | 2 | 004753A00 | CUTTER PLATE |
| 5 | 4 | P0001-12-010 | BOLT, Hex 3/4-10 x 2-1/2 |
| 6 | 8 | P0045-012 | WASHER, Lock 3/4 |
| 7 | 8 | P0040-012 | WASHER, Flat 3/4 |
| 8 | 4 | P0001-12-012 | BOLT, Hex 3/4-10 x 3 |
| 9 | 4 | P0003-12-000 | NUT, 3/4 |
| 10 | 4 | 004124P01 | WASHER, 2-3/8 |
| 11 | 2 | P0001-12-006 | BOLT, Hex 3/4-10 x 1-1/2 |
| 12 | 1 | 004782P00 | CUTTER BAR |
| 13 | 1 | 004783P01 | MOUNTING, Plate Tooth |
| 14 | 3 | P0050-001 | TOOTH, #7A |
| 15 | 3 | P0051-001 | POCKET, Tooth #2 |

AR - As Required

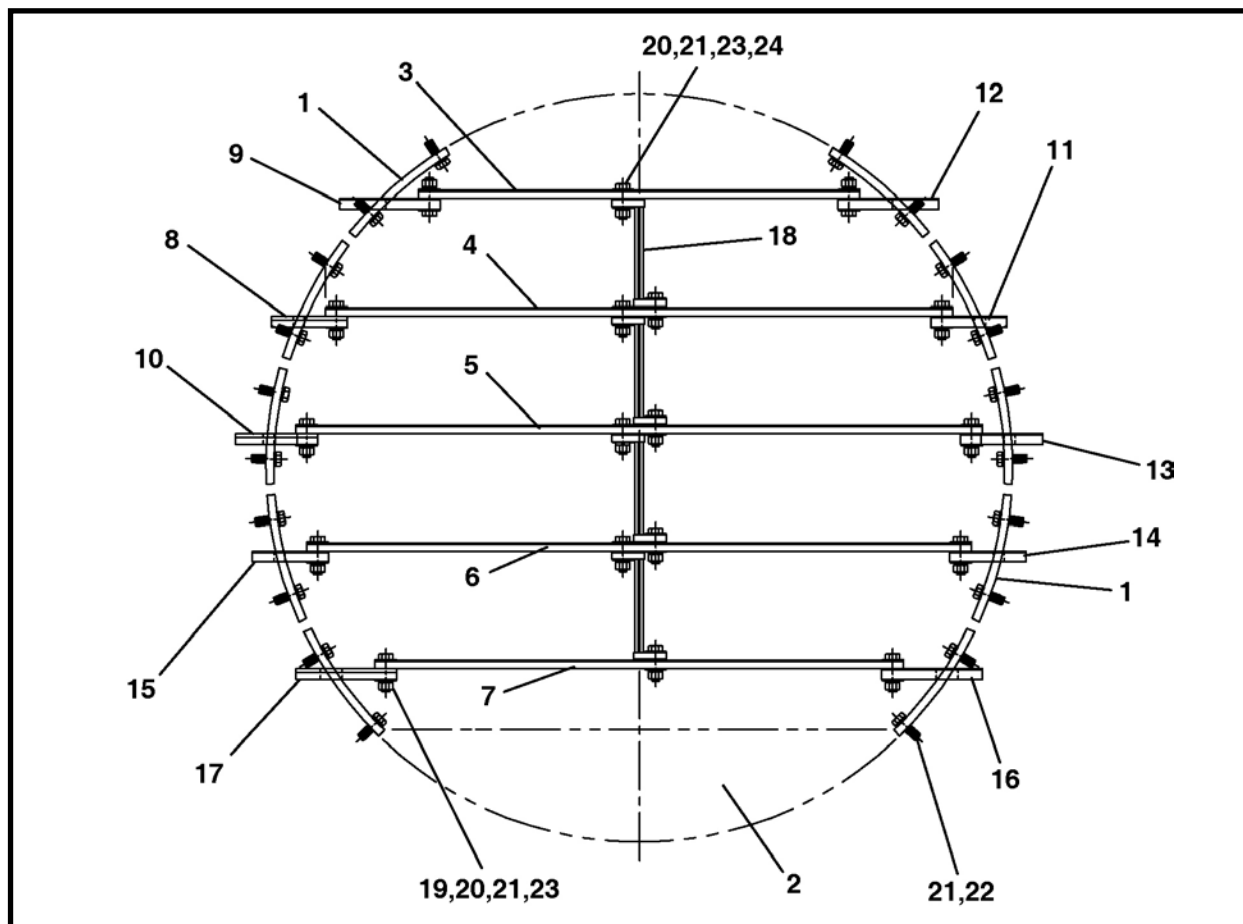
* Not Shown

SAND HEAD ASSEMBLY, 026135A



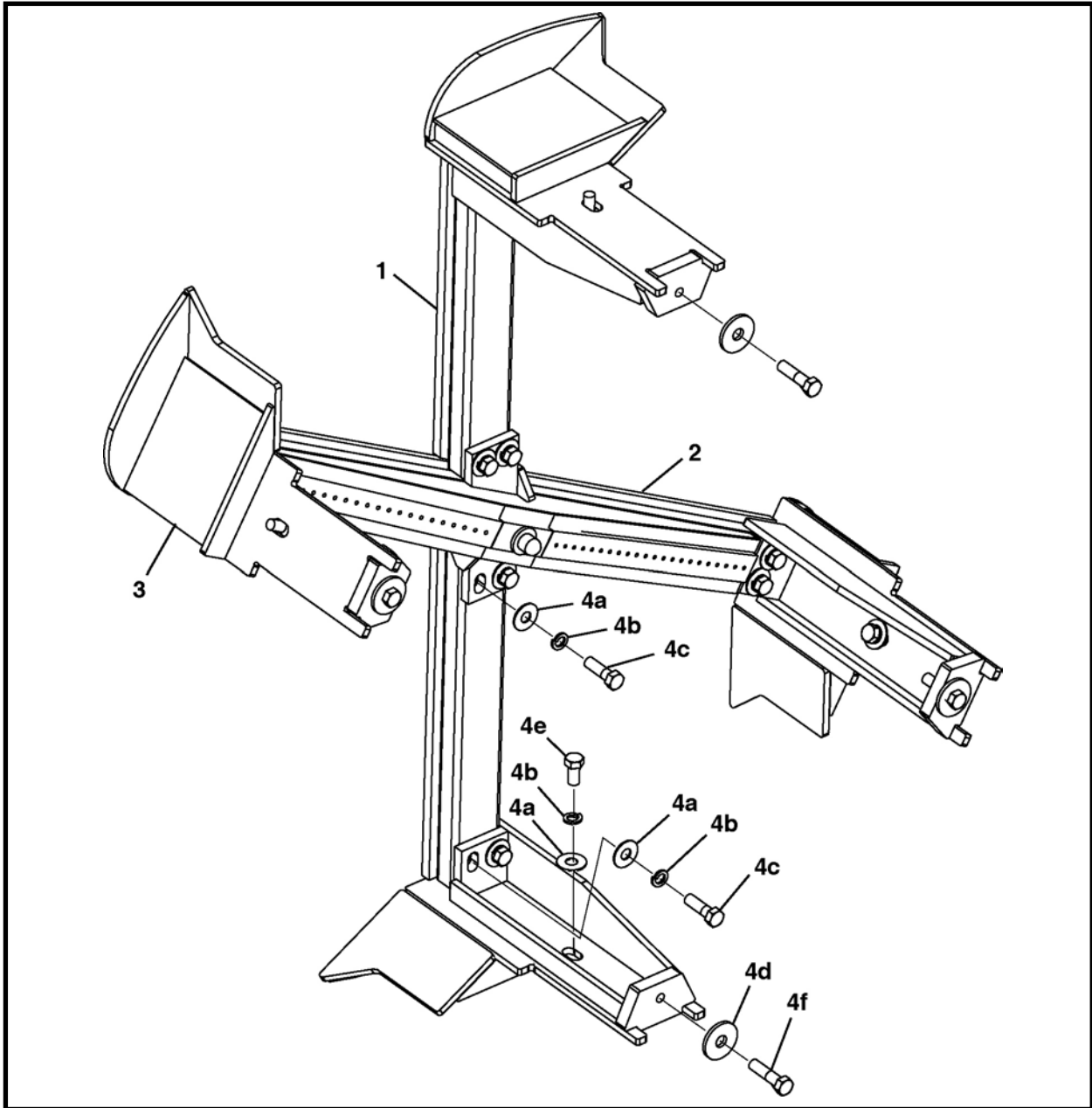
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|--------------------------|
| 0 | 1 | 026135A | ASSEMBLY, Sand Head |
| 1 | 1 | 026086A | ASSEMBLY, Sand Shelf |
| 2 | 1 | 026094A | WELDMENT, Sand Bar |
| 3 | 2 | 004644A01 | PLATE, Cutter |
| 4 | 2 | P0001-12-012 | BOLT, 3/4-10 UNC x 3 |
| 5 | 4 | P0001-12-006 | BOLT, 3/4-10 UNC x 1-1/2 |
| 6 | 2 | 004124P01 | WASHER |
| 7 | 4 | P0040-012 | WASHER, Flat 3/4 |
| 8 | 4 | P0045-012 | WASHER, Lock 3/4 |

SAND SHELF ASSEMBLY, 026086A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|--------------------------|
| 0 | 1 | 026086A | ASSEMBLY, Sand Head |
| 1 | 2 | 026087P | BAR, Curved Mounting |
| 2 | - | - | - |
| 3 | 1 | 026088P | SHELF, Sand |
| 4 | 1 | 026089P | SHELF, Sand |
| 5 | 1 | 026091P | SHELF, Sand |
| 6 | 1 | 026092P | SHELF, Sand |
| 7 | 1 | 026093P | SHELF, Sand |
| 8 | 1 | 004947P00 | SHELF, End |
| 9 | 1 | 004943P00 | SHELF, End |
| 10 | 1 | 004445P00 | SHELF, End |
| 11 | 1 | 004948P00 | SHELF, End |
| 12 | 1 | 004944P00 | SHELF, End |
| 13 | 1 | 004946P00 | SHELF, End |
| 14 | 1 | 004948P00 | SHELF, End |
| 15 | 1 | 004947P00 | SHELF, End |
| 16 | 1 | 004944P00 | SHELF, End |
| 17 | 1 | 004943P00 | SHELF, End |
| 18 | 4 | 005117P00 | BRACKET, Z |
| 19 | 36 | P0001-12-011 | BOLT, 3/4-10 UNC x 2-3/4 |
| 20 | 36 | P0003-12-000 | NUT, 3/4-10 |
| 21 | 76 | P0045-012 | WASHER, Lock 3/4 |
| 22 | 40 | P0001-12-008 | BOLT, 3/4-10 UNC x 2 |
| 23 | 36 | P0040-012 | WASHER, Flat 3/4 |
| 24 | 16 | P0001-12-010 | BOLT, 3/4-10 UNC x 2-1/2 |

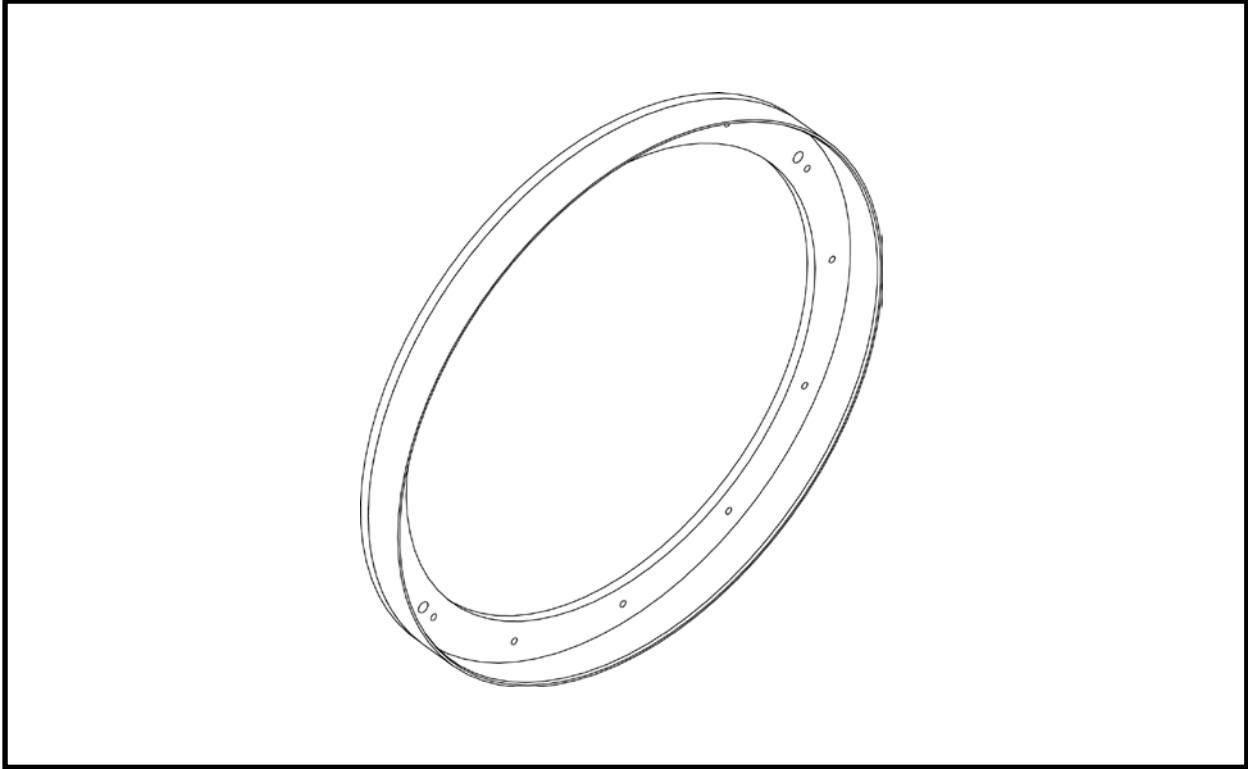
QUAD BAR ASSEMBLY, 026099A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-----------------------------------|
| 0 | 1 | 026099A | ASSEMBLY, Quad Bar |
| 1 | 2 | 026107A | WELDMENT, Short Bar |
| 2 | 1 | 026105A | WELDMENT, Long Bar |
| 3 | 4 | 005539A01 | ASSEMBLY, Cutter |
| 4 | 1 | 026150A | KIT, Hardware (Incl. items 4a-4f) |
| 4a | 16 | P0040-012 | WASHER, Flat 3/4 |
| 4b | 16 | P0045-012 | WASHER, Lock 3/4 |
| 4c | 12 | P0001-12-010 | BOLT, 3/4-10 UNC x 2-1/2 |
| 4d | 4 | 004124P01 | WASHER |
| 4e | 4 | P0001-12-006 | BOLT, 3/4-10 UNC x 1-1/2 |
| 4f | 4 | P0001-12-012 | BOLT, 3/4-10 UNC x 3 |
| 5* | 69 | P0051-004 | HOLDER, Tooth |
| 6* | 69 | P0050-011 | TOOTH, Carbide |

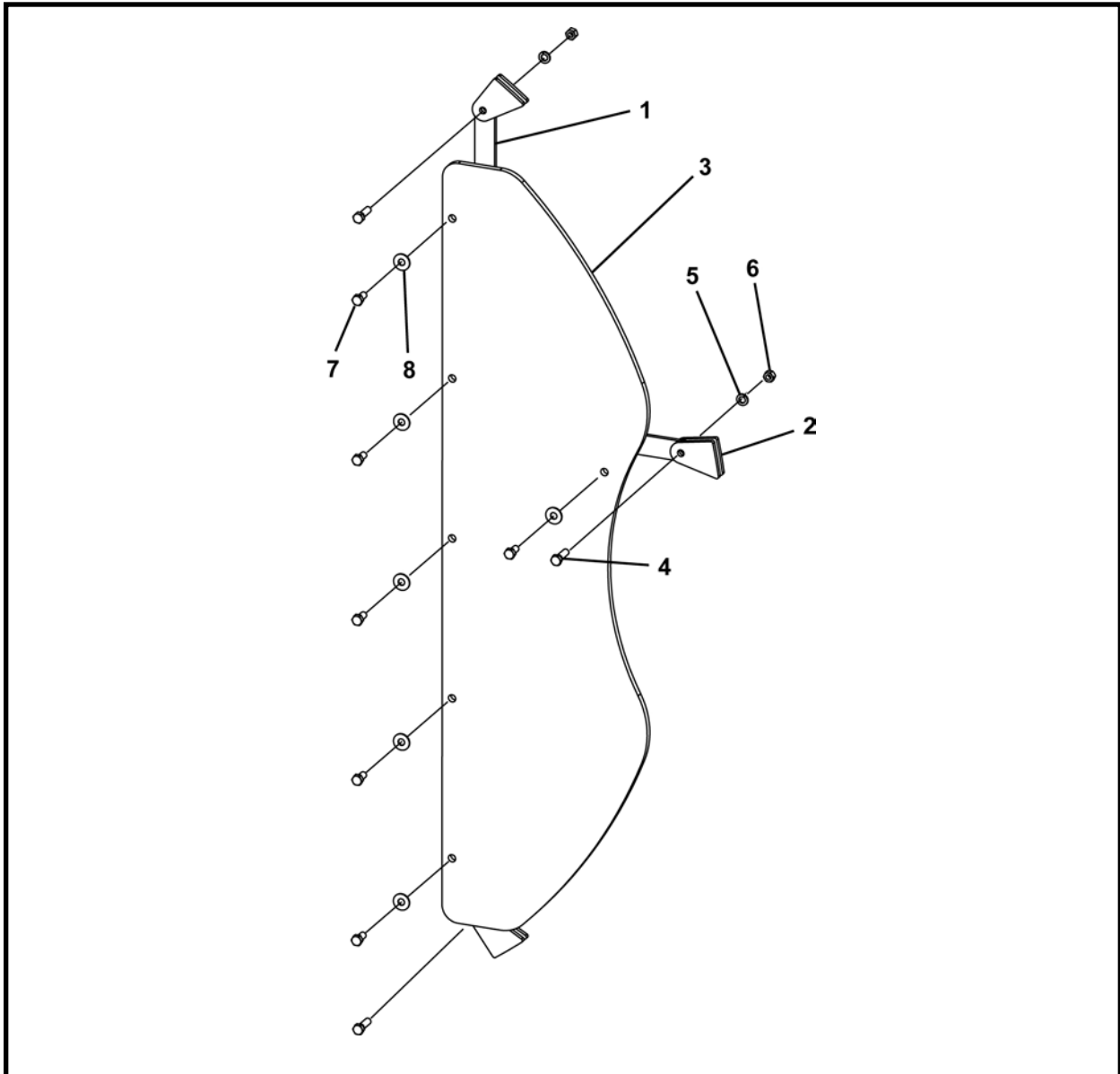
* Not Shown

PIPE ADAPTER ASSEMBLY, 026077A



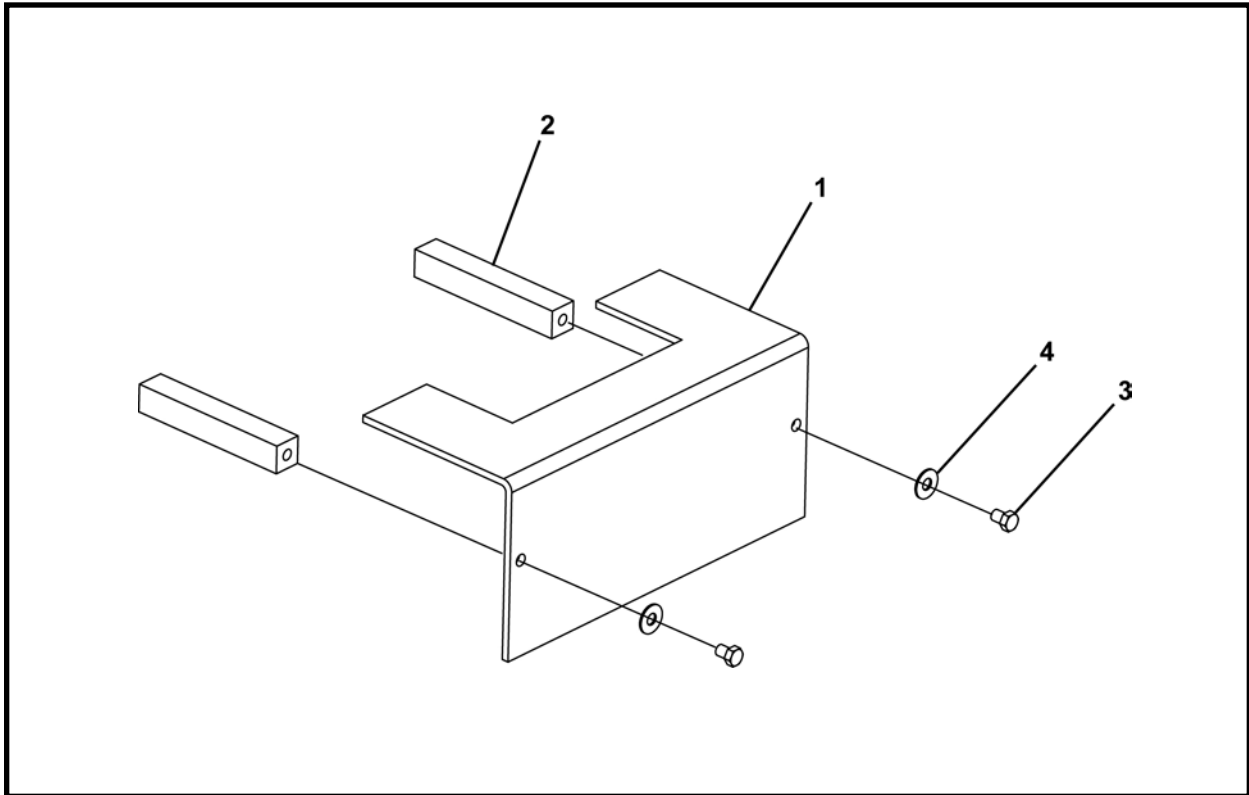
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|----------|------------------------|
| 0 | 1 | 026077A | ASSEMBLY, Pipe Adapter |

OPERATOR SHIELD ASSEMBLY, 016846A



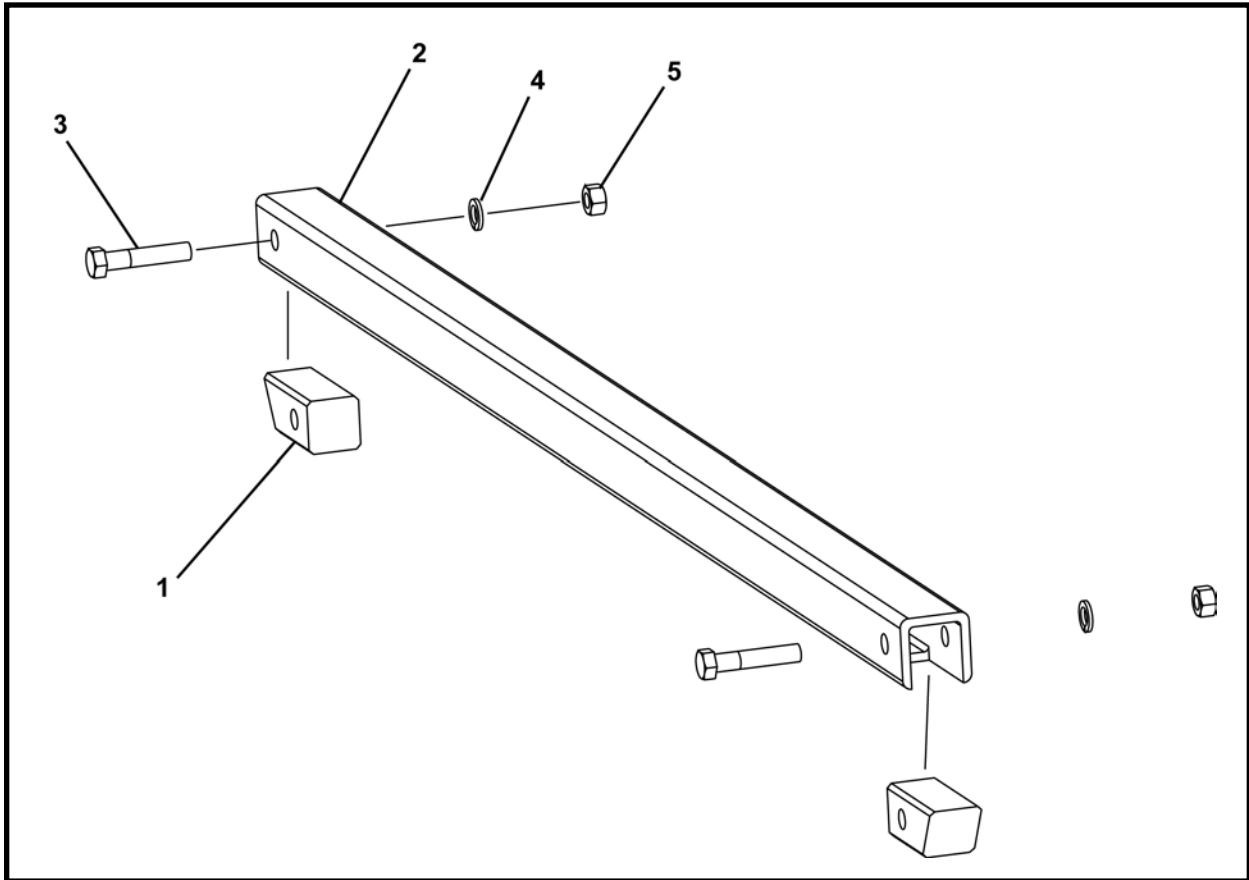
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------|
| 0 | 1 | 016846A | ASSEMBLY, Operator Shield |
| 1 | 1 | 016845P | SUPPORT, Plexi Cover |
| 2 | 6 | 016844P | WELDMENT, Plate |
| 3 | 1 | 016842P | SHIELD, Plexi |
| 4 | 3 | P0001-06-005 | BOLT, Hex 3/8 UNC x 1.25 |
| 5 | 3 | P0045-006 | WASHER, Lock 3/8 |
| 6 | 3 | P0003-06-000 | NUT, 3/8 |
| 7 | 6 | P0001-06-003 | BOLT, Hex 3/8 UNC x .75 |
| 8 | 6 | P0040-006 | WASHER, Hardened Flat 3/8 |

PLEXI COVER ASSEMBLY, 016852A



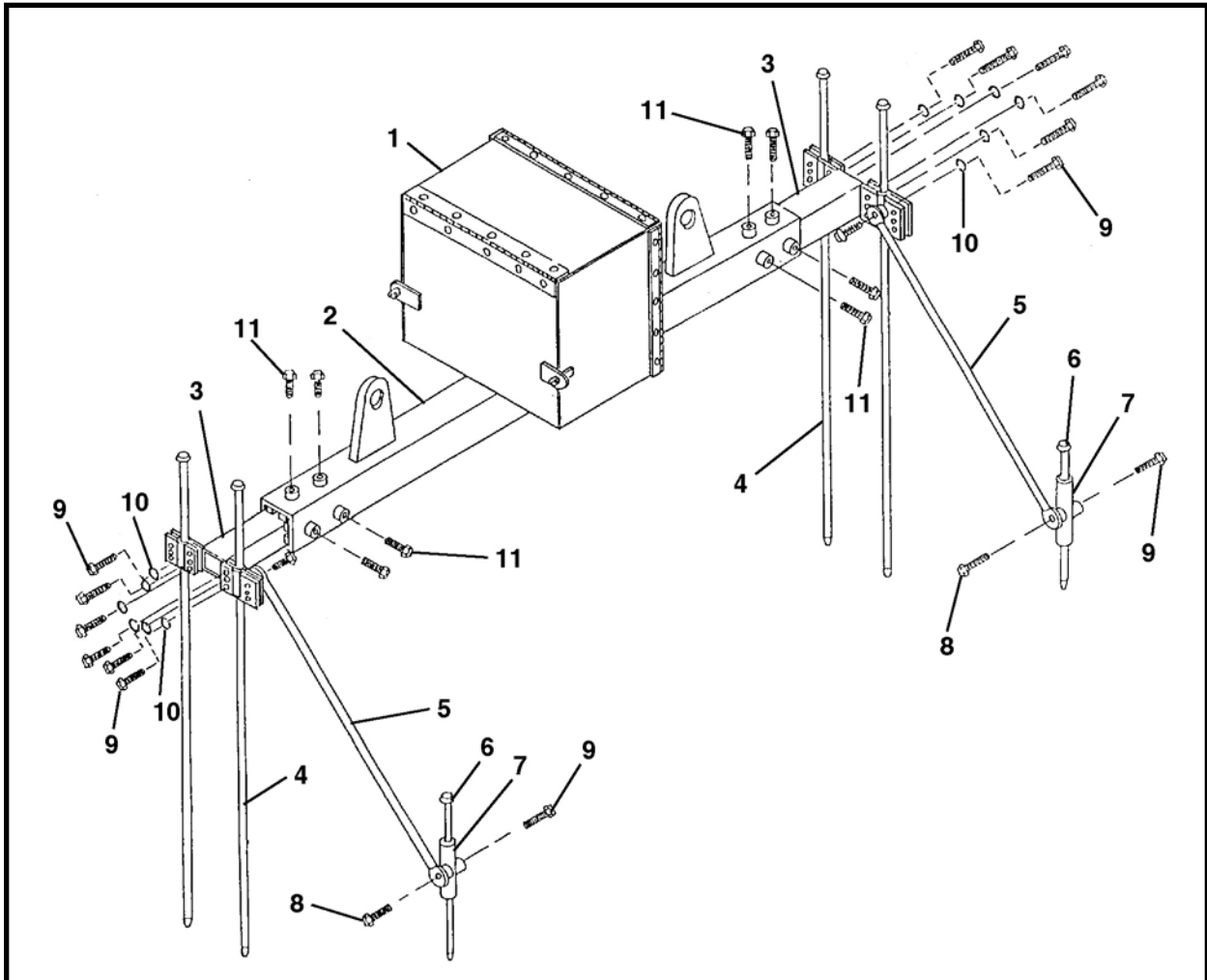
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------|
| 0 | 1 | 016852A | ASSEMBLY, Plexi Cover |
| 1 | 1 | 016848P | COVER |
| 2 | 2 | 016847P | BAR, Threaded |
| 3 | 2 | P0001-06-002 | BOLT, Hex 3/8 UNC x .5 |
| 4 | 2 | P0040-006 | WASHER, Hardened Flat 3/8 |

HAUL UNIT STOP TUBE ASSEMBLY, 016853A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------|
| 0 | 1 | 016853A | ASSEMBLY, Haul Unit Stop Tube |
| 1 | 2 | 016851P | BAR, Stop |
| 2 | 1 | 016849P | TUBE, Stop |
| 3 | 2 | P0001-08-010 | BOLT, Hex 1/2 UNC x 2.5 |
| 4 | 2 | P0046-008 | WASHER, Lock, Hi-Collar 1/2 |
| 5 | 2 | P0003-08-000 | NUT, 1/2 |

LASER LIGHT STAND, F05866F00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|------------------------|
| 0 | 1 | F05866F00 | LASER LIGHT STAND |
| 1 | 1 | 006068A00 | ASSEMBLY, Laser Box |
| 2 | 1 | 006047A00 | WELDMENT, Tube |
| 3 | 2 | 006034A00 | WELDMENT, Sliding Tube |
| 4 | 4 | 006039A00 | STAKE, Long |
| 5 | 2 | 006044A00 | TUBE, Support |
| 6 | 2 | 006040A00 | STAKE, Short |
| 7 | 2 | 006025A00 | TUBE, Swivel |
| 8 | 4 | P0001-08-003 | BOLT, 1/2 UNC x 3/4 |
| 9 | 26 | P0001-08-005 | BOLT, 1/2 UNC x 1-1/2 |
| 10 | 24 | P0045-008 | WASHER, Lock 1/2 |
| 11 | 8 | P0001-08-007 | BOLT, 1/2 UNC x 1-3/4 |

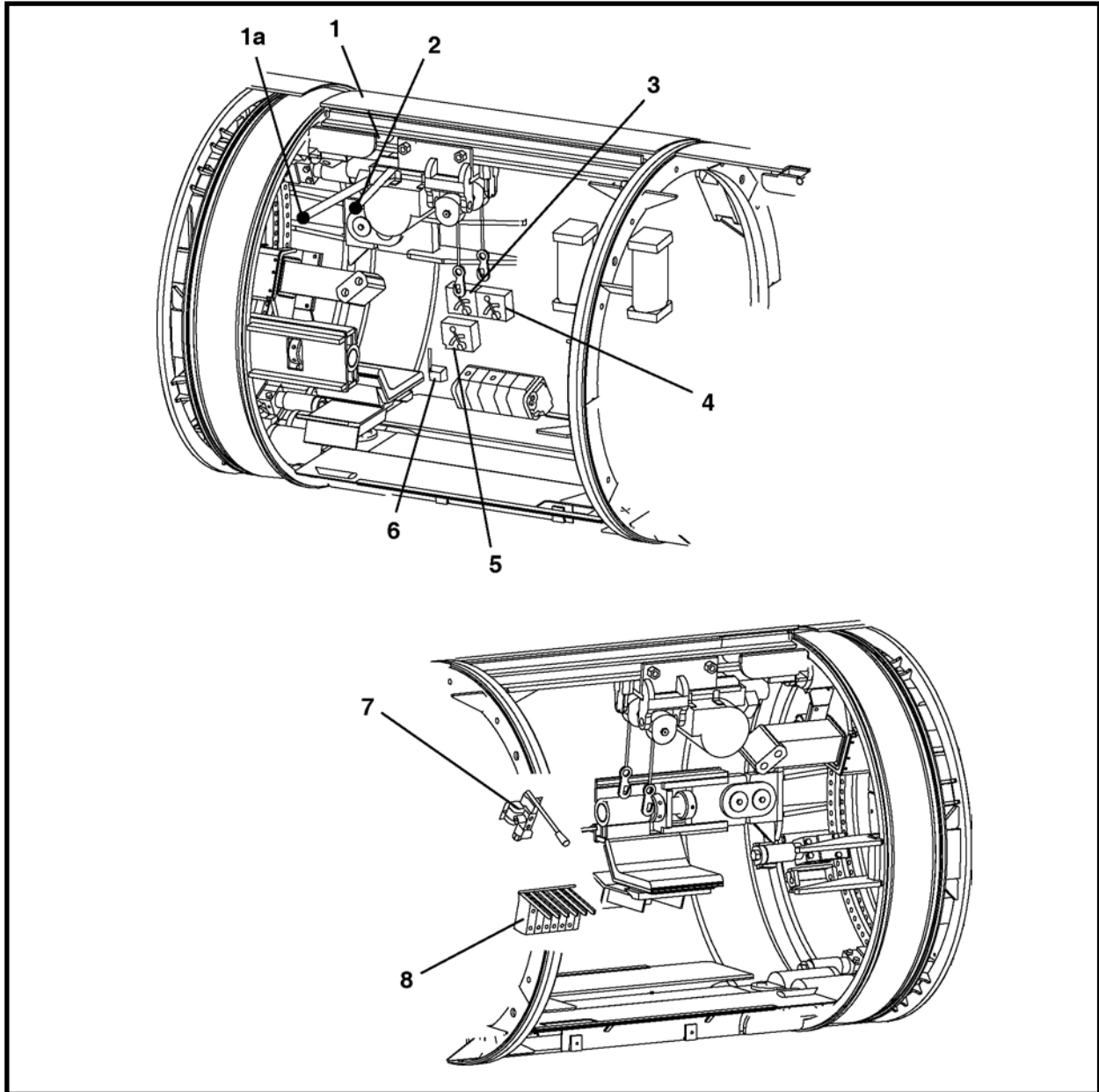
NOTES



Operator Controls

Operator Controls 2

OPERATOR CONTROLS



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|---------------------------------------|
| 1* | 1 | 007579A00 | VALVE, Inner Drum Motor Control |
| 1a | - | - | Inner Drum Control Lever |
| 2* | 1 | P0302-109 | VALVE, Conveyor Drive Control |
| 3* | 1 | P0302-112 | VALVE, Inner Drum Speed Flow Control |
| 4* | 1 | P0302-112 | VALVE, Conveyor Speed Flow Control |
| 5* | 1 | P0302-112 | VALVE, Steering Selector Flow Control |
| 6* | 1 | P0302-183 | VALVE, Conveyor Control |
| 7* | 1 | P0302-118 | VALVE, Steering (Grade/Alignment) |
| 8* | 1 | P0302-260 | VALVE, TBM Control |

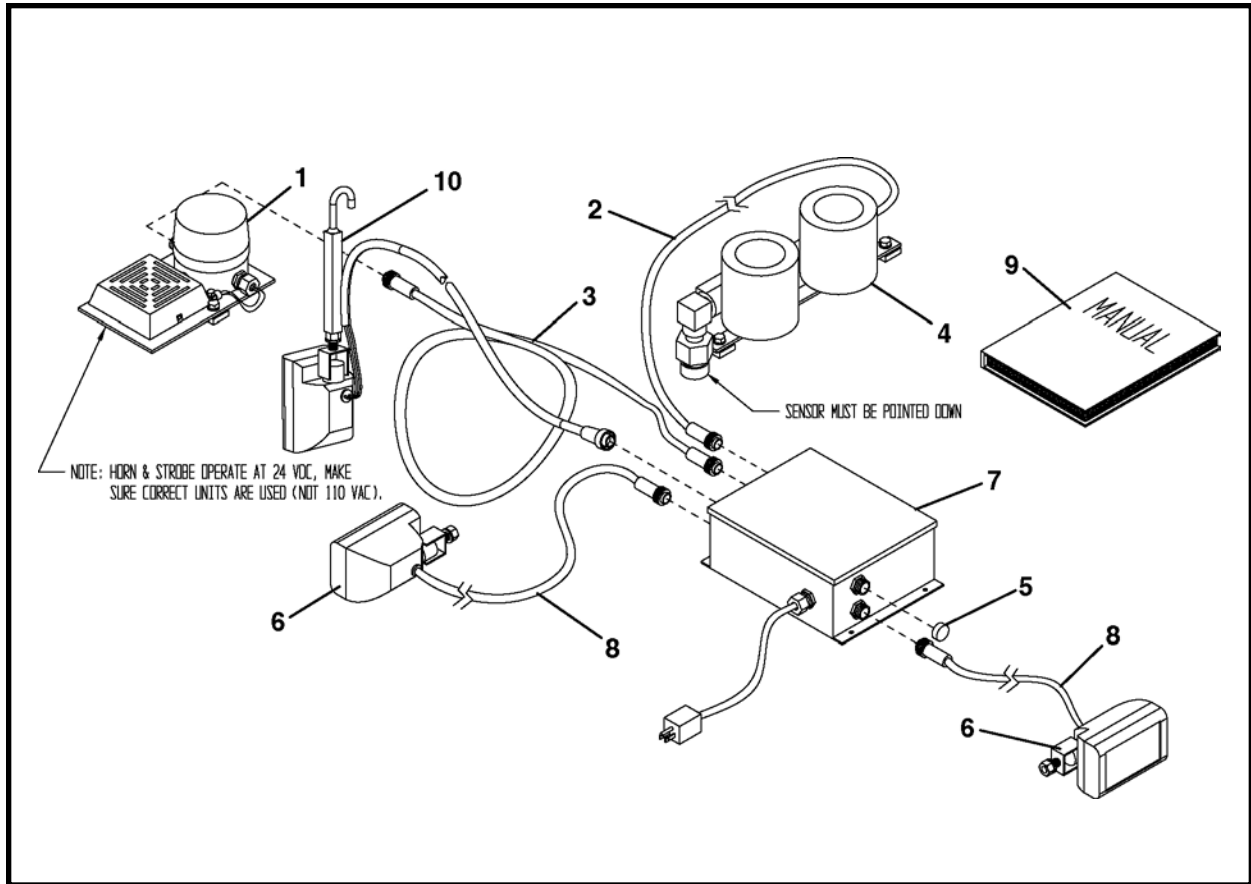
* Refer to Section 7, Valves for parts breakdown.



Electrical

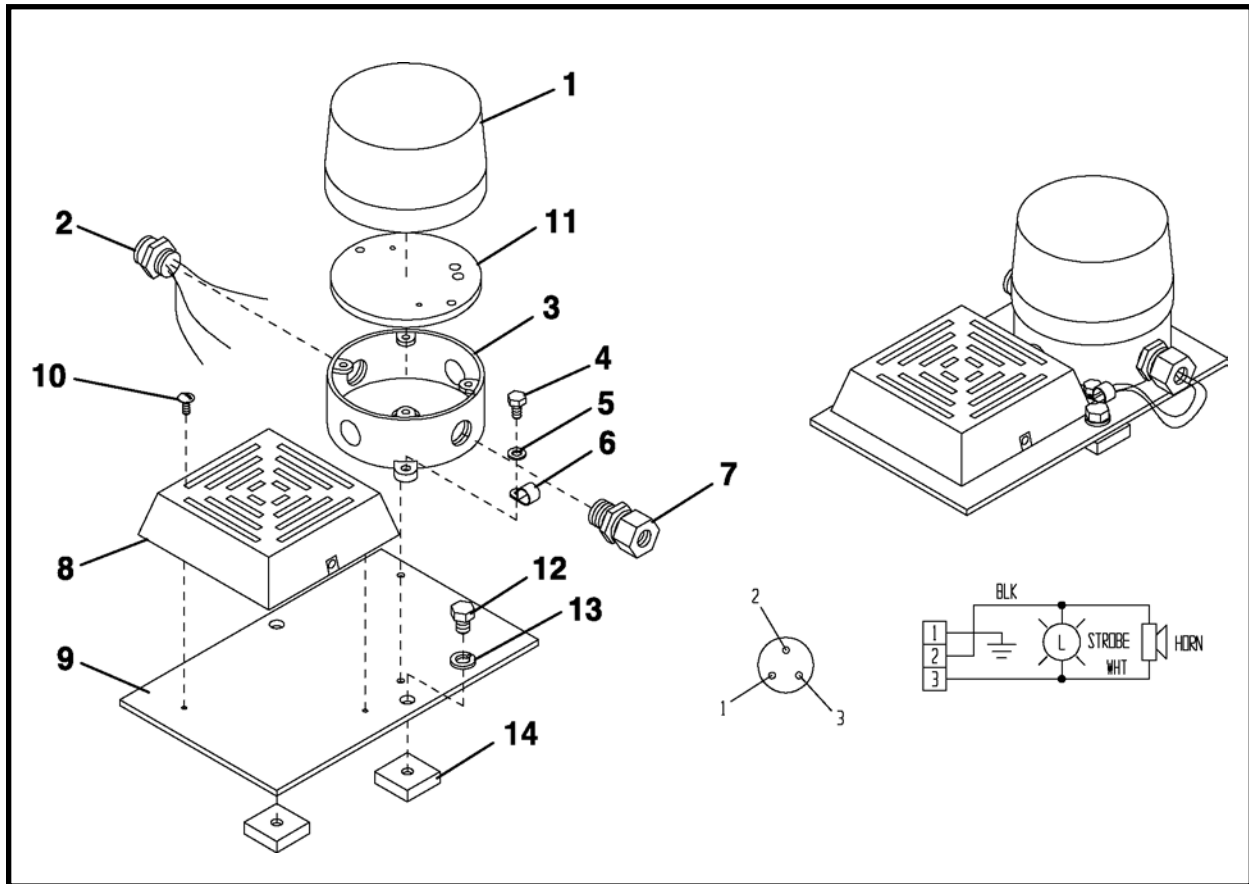
| | |
|-------------------------------------------|---|
| Electrical System Assembly, 016400A | 2 |
| Strobe - Horn Assembly, 016404A | 3 |
| Gas Detector Assembly, 016401A | 4 |
| Gas Challenge Kit, P0310-266 | 5 |
| Gas Detector Schematic | 6 |
| Electrical Box Assembly, 016402A | 7 |
| Electrical Box Schematic | 8 |
| Extension Light Assembly, 016415A | 9 |

ELECTRICAL SYSTEM ASSEMBLY, 016400A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|-----------------------------------------|
| 0 | 1 | 016400A | ELECTRICAL SYSTEM ASSEMBLY |
| 1 | 1 | 016404A | STROBE-HORN ASSEMBLY |
| 2 | 1 | P0054-287 | CABLE |
| 3 | 1 | P0054-087 | CABLE |
| 4 | 1 | 016401A | GAS DETECTOR ASSEMBLY |
| 5 | 2 | P0054-090 | CAP |
| 6 | 2 | 016409A | LIGHT ASSEMBLY (Includes items 6a & 6b) |
| 6a | 1 | P0053-026 | LIGHT |
| 6b | 1 | P0053-026A | BULB, Light |
| 7 | 1 | 016402A | ELECTRICAL BOX ASSEMBLY |
| 8 | 2 | 016410A | CABLE ASSEMBLY |
| 9 | 1 | 050006A | MANUAL, Gas Detection System |
| 10 | 1 | 016415A | ASSEMBLY, Extension Light |

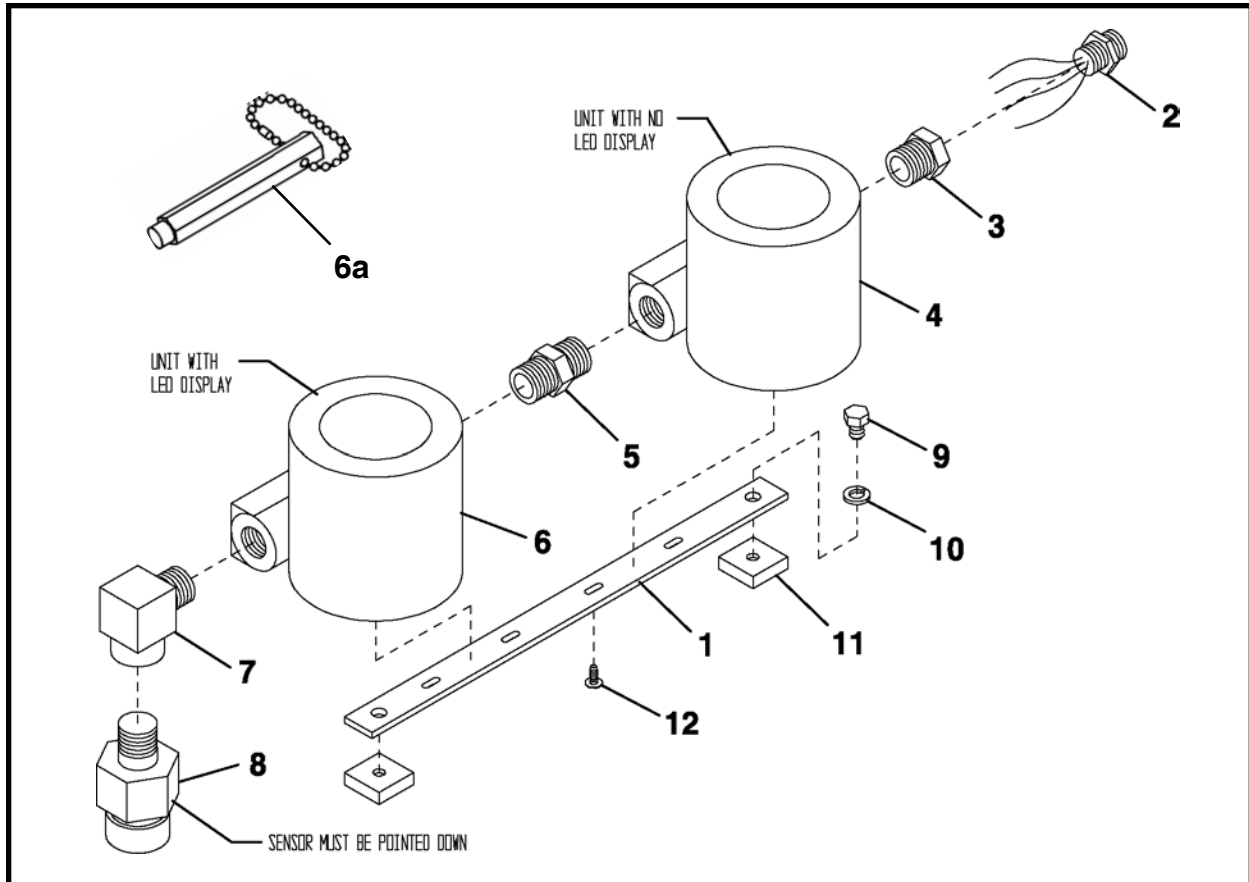
STROBE - HORN ASSEMBLY, 016404A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------------|
| 0 | 1 | 016404A | STROBE - HORN ASSEMBLY |
| 1 | 1 | P0310-286B | STROBE LIGHT, Red 24VDC (includes 1a and 1b) |
| 1a* | 1 | P0310-286A | LENS |
| 1b* | 1 | P0310-286B | STROBE LIGHT 24VDC |
| 2 | 1 | P0054-069 | RECEPTACLE, Mini |
| 3 | 1 | P0310-251 | HOLDER BOX |
| 4 | 2 | P0001-04-002 | BOLT, 1/4-20 UNC x 1/2 |
| 5 | 2 | P0045-004 | WASHER, Lock 1/4 |
| 6 | 1 | P0055-123 | CLAMP, Nylon |
| 7 | 1 | P0311-121 | CONNECTOR, Strain Relief |
| 8 | 1 | P0310-287D | HORN, Warning 24VDC |
| 9 | 1 | 016405P | PLATE, Mounting |
| 10 | 2 | P0017-08-323 | SCREW, Round Head Machine 8-32 x 1/2 |
| 11 | 1 | 023534P00 | COVER, Back |
| 12 | 2 | P0001-06-002 | BOLT, 3/8-16 UNC x 1/2 |
| 13 | 2 | P0045-006 | WASHER, Lock 3/8 |
| 14 | 2 | P0011-006A | NUT, Strut Square |

* Not Shown

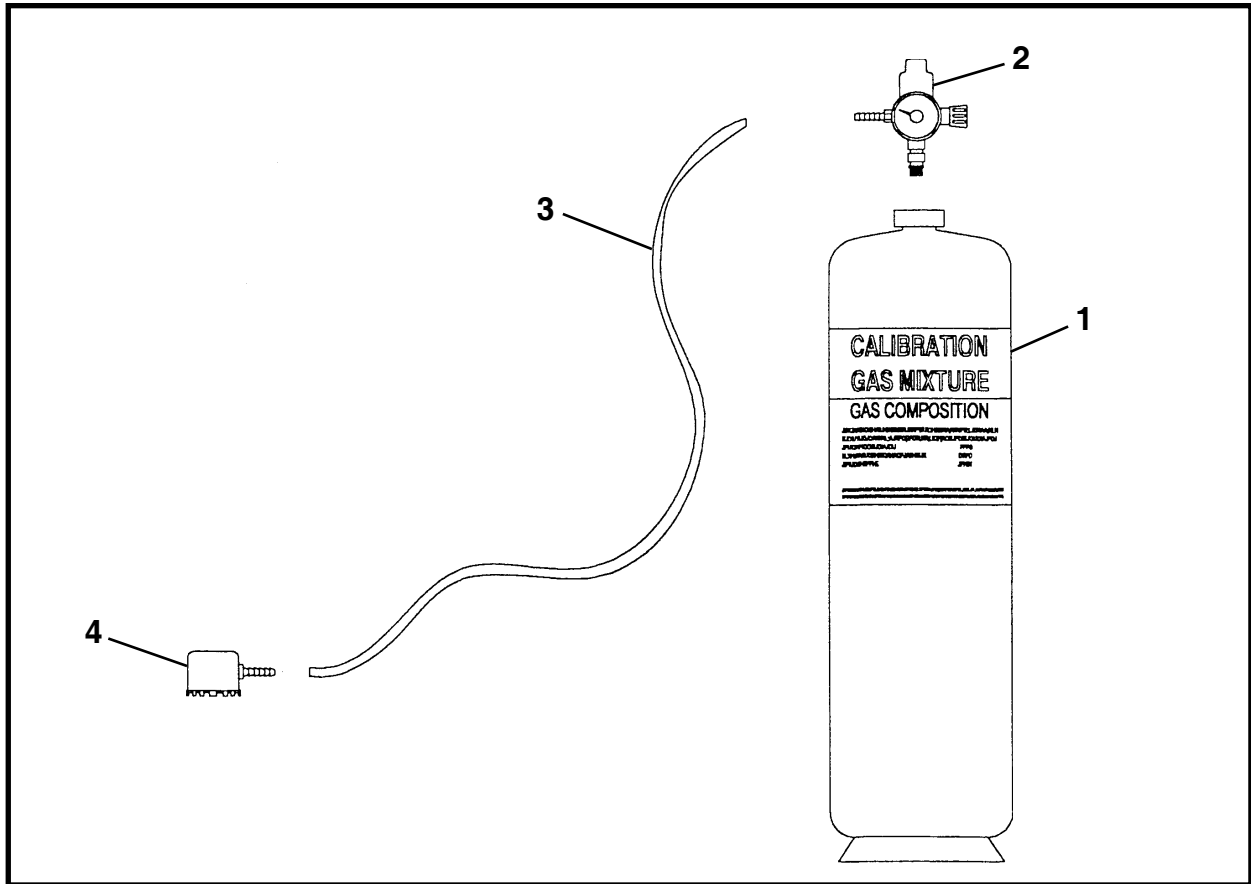
GAS DETECTOR ASSEMBLY, 016401A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------------|
| 0* | 1 | 016401A | GAS DETECTOR ASSEMBLY |
| 1 | 1 | 016403A | BRACKET, Mounting |
| 2 | 1 | P0054-286 | RECEPTACLE |
| 3 | 1 | P0300-012 | BUSHING, Reducer |
| 4 | 1 | P0310-284E | RELAY MODULE, Gas Detector |
| 5 | 1 | P0300-107 | NIPPLE |
| 6 | 1 | P0310-283A | TRANSMITTER, Gas Detector (includes item 6a) |
| 6a | 1 | P0310-283B | MAGNETIC WAND |
| 7 | 1 | P0300-009 | ELBOW, Street 3/4 - 90 Degree |
| 8 | 1 | P0310-284D | SENSOR, Gas Detector |
| 9 | 2 | P0001-06-002 | BOLT, 3/8-16 UNC x 1/2 |
| 10 | 2 | P0045-006 | WASHER, Lock 3/8 |
| 11 | 2 | P0011-006A | NUT, Strut Square |
| 12 | 4 | P0017-10-324 | SCREW, Round Head Machine 10-32 |

* Do not use pipe dope or tape on threads, must have good ground.
All fittings must be plated noncorrosive configuration.

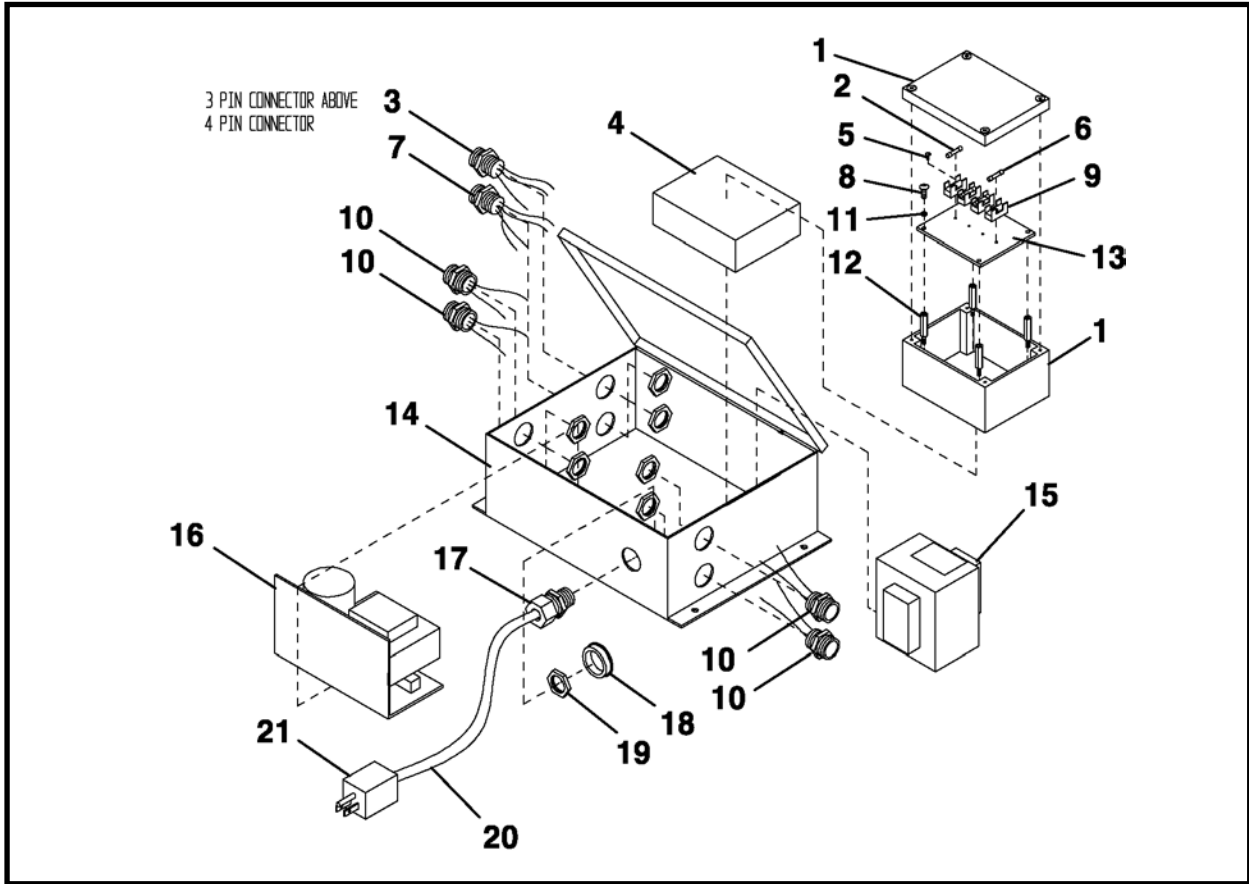
GAS CHALLENGE KIT, P0310-266



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|---------------------------------------------|
| 0 | 1 | P0310-266 | GAS CHALLENGE KIT |
| 1 | 2 | - | CYLINDER, 50% LEL Methane Gas Concentration |
| 2 | 1 | - | REGULATOR VALVE & GAUGE |
| 3 | 1 | - | TUBE, Plastic |
| 4 | 1 | - | CALIBRATION NOZZLE |
| 5* | 1 | - | PROTECTIVE CASE |

* Not Shown

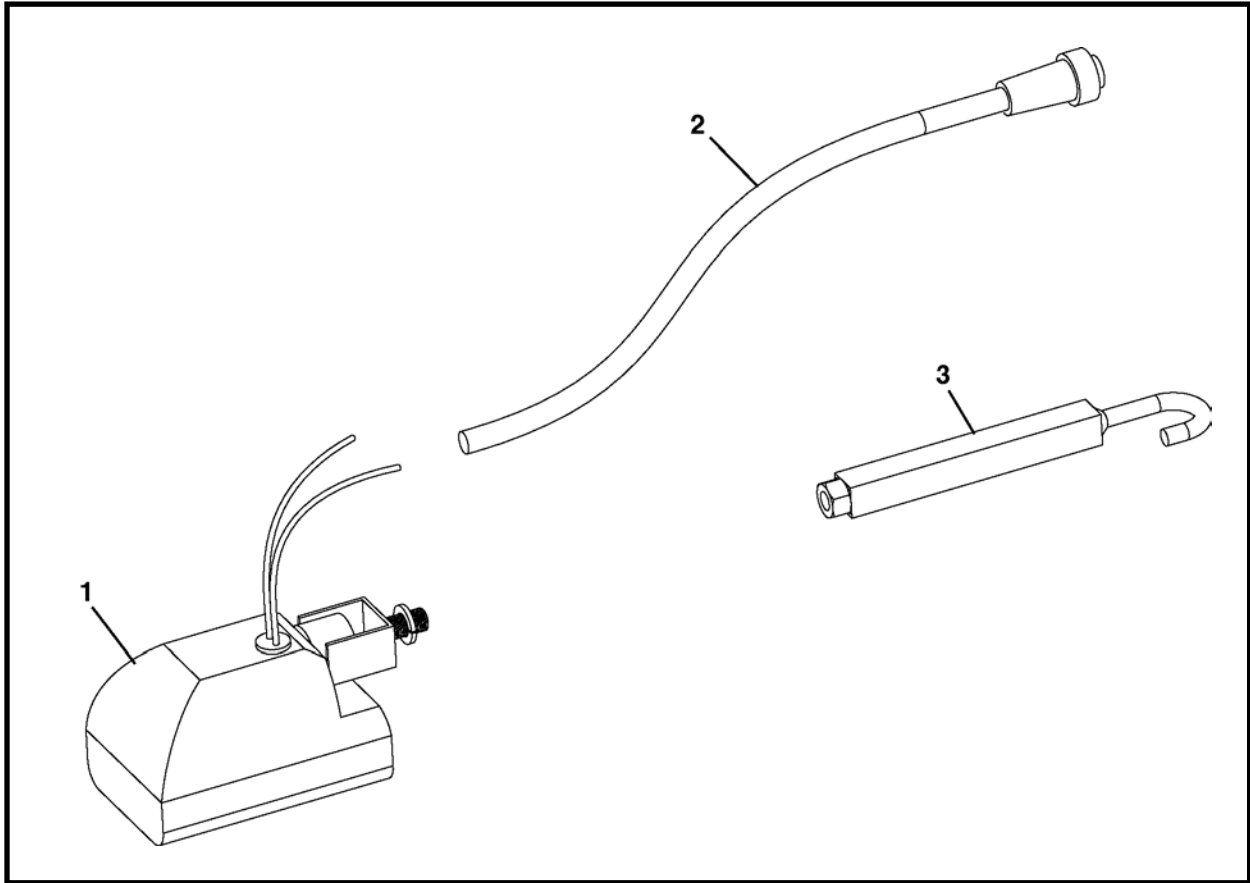
ELECTRICAL BOX ASSEMBLY, 016402A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-------|--------------|----------------------------------------|
| 0 | 1 | 016402A | ELECTRICAL BOX ASSEMBLY |
| 1 | 1 | P0310-712 | FUSE BOX |
| 2 | 2 | P0310-582 | FUSE |
| 3 | 1 | P0054-068 | RECEPTACLE, Mini |
| 4 | 1 | REF | REF |
| 5 | 4 | P0031-03-375 | SCREW, Slotted Head Cap 3-48 UNC x 3/8 |
| 6 | 2 | P0310-579 | FUSE |
| 7 | 1 | P0313-049 | RECEPTACLE, 4 Pin Connector |
| 8 | 4 | P0031-M3-010 | SCREW, Slotted Head Cap, M3-.5 x 10mm |
| 9 | 4 | P0310-713 | FUSE BLOCK |
| 10 | 4 | P0313-044 | RECEPTACLE |
| 11 | 4 | P0043-010 | WASHER, #6 Star |
| 12 | 4 | P0027B-12MM | KEYSTONE |
| 13 | 1 | 016412P | PLATE, Fuse Block |
| 14 | 1 | 016406P | ELECTRICAL BOX |
| 15 | 1 | P0310-701 | TRANSFORMER |
| 16 | 1 | P0310-285A | POWER SUPPLY |
| 17 | 1 | P0311-121 | CONNECTOR, Strain Relief |
| 18 | 1 | P0311-032 | BUSHING, Insulating 1/2 |
| 19 | 7 | P0311-018 | NUT, Lock 1/2 |
| 20 | 12 LI | P0054-021 | CONDUIT |
| 21 | 1 | P0311-041 | PLUG, Grounding 3 Wire |
| 22 | 18 OZ | P0310-390A | SYLGARD SILICONE ELASTOMER |
| 23 | 18 OZ | P0310-390B | SYLGARD SILICONE ELASTOMER |
| 24 | 1 | 1250-471 | DECAL, Fuse Locator |
| 25 | 1 | 1250-478 | DECAL, Notice, Danger, Warning |
| 26 | 1 | 1250-470 | DECAL, Schematic |
| 27 | 1 | 1250-475 | DECAL, Connector Designator |
| 28 | 1 | 1250-474 | DECAL, Work Light Max. Amp |

LI - Linear Inch, OZ - Ounce

EXTENSION LIGHT ASSEMBLY, 016415A



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|---------------------------|
| 0 | 1 | 016415A | ASSEMBLY, Extension Light |
| 1 | 1 | P0053-026 | LIGHT (Includes item 1a) |
| 1a | 1 | P0053-026A | BULB, Light |
| 2 | 1 | P0054-167A | CABLE, 25' |
| 3 | 1 | 016416A | HANDLE, Extension Light |

NOTES



Hydraulics

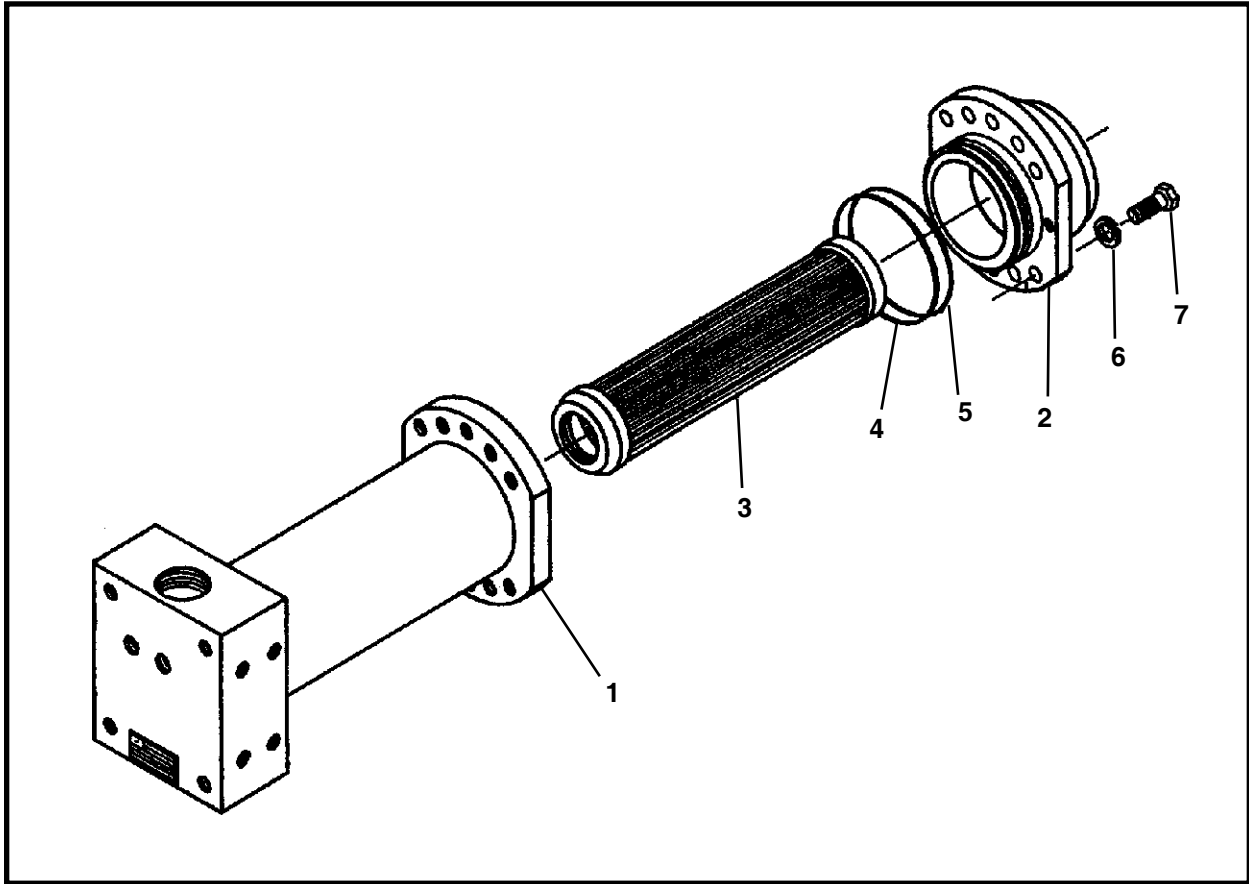
| | |
|--------------------------------------|---|
| TBM | |
| Hydraulic Schematic, 010199A01 | 2 |
| Filter Assembly, 004500A04 | 4 |
| Coupler Assembly | |
| 1-1/4", 005349A01 | 5 |

HYDRAULIC SCHEMATIC, 010199A01

| ITEM | QTY | PART NO. | DESCRIPTION |
|---------|-----|-------------|------------------------------------------------------|
| 0 | - | 010199A01 | SCHEMATIC, Hydraulic |
| C-1-12 | REF | 010747A00 | CYLINDER, Advance |
| C-14-17 | REF | 010385A01 | CYLINDER, Steering (600 - 660) |
| C-14-17 | REF | 020815A01 | CYLINDER, Steering (720 [SN20800F] & 780 [SN25000F]) |
| C-14-17 | REF | 011700A00 | CYLINDER, Steering (720 [SN5645F] & 780 [SN9310F]) |
| C-18-25 | REF | 014603A00 | CYLINDER, Torque (Dirt) Wing (optional) |
| C-26-27 | REF | 019306A00 | CYLINDER, Closed Face (600) (optional) |
| C-26-27 | REF | 018658A00 | CYLINDER, Closed Face (660) (optional) |
| C-26-27 | REF | 020906A00 | CYLINDER, Closed Face (720-780) (optional) |
| C-28-37 | REF | 011720A00 | CYLINDER, Liner Can, 38" Stroke (optional) |
| C-28-37 | REF | 002617A01 | CYLINDER, Liner Can, 30" Stroke (optional) |
| CK-1 | 1 | P0302-101 | VALVE, Check 1/4 |
| CK-2 | 1 | P0302-163 | VALVE, Check 1-1/4 |
| DPC-1,2 | 2 | P0302-104 | CHECK, Pilot (Double) |
| E-1-2 | 2 | P0309-121 | ELEMENT |
| F-1-2 | 2 | 004500A04 * | ASSEMBLY, Filter |
| FC-1-3 | 3 | P0302-112 | VALVE, Flow Control |
| FD-1 | 1 | P0303-163 | FLOW DIVIDER |
| FI-1-2 | 2 | P0301-108 | GAUGE, Filter Indicator |
| G-1-3 | 3 | P0301-100 | GAUGE, 5000 psi |
| M-1-4 | REF | P0304-123 | MOTOR, TBM Drive |
| M5 | REF | P0304-157 | MOTOR, Conveyor Drive (2415 Belt) |
| M5 | REF | P0304-121 | MOTOR, Conveyor Drive (RB20) |
| M5 | REF | P0304-145 | MOTOR, Conveyor Drive (140 & 160 Screw) |
| N-1 | 1 | P0302-167 | VALVE, Needle |
| OL-1 | 1 | 007968A00 | OILER, Gear Ring (Includes item OL-1a) |
| OL-1a | 1 | P0300-144 | PLUG, 1/8 Hex |
| PB-1 | 1 | 008385P00 | PRESSURE MANIFOLD BLOCK |
| PP-1-3 | 3 | 008149A00 | PRESSURE PLUG, Male |
| PP-2-4 | 3 | 008146P00 | PRESSURE PLUG, Female |
| Q-1-10 | 8 | 005349A01 * | ASSEMBLY, Coupler 1-1/4 |
| Q-11-16 | 2 | P0100-004A | COUPLER, Female |
| Q-11-16 | 2 | P0100-004B | COUPLER, Male |
| RB-1-3 | 3 | 010129P00 | BODY, Relief Valve |
| RH-1 | REF | 018700A00 | HUB, Rotary (Closed Face) |
| RV-1 | 1 | P0302-103 | VALVE, Relief 1200 psi |
| RV-2-4 | 3 | P0302-144 | VALVE, Relief 3000 psi |
| SPC-1-5 | 5 | P0302-154 | VALVE, Single Pilot Operated Check |
| SLV-2 | 1 | P0302-183 | VALVE, Conveyor Control |
| TB-1 | 1 | 008386P00 | BLOCK, Tank Manifold |
| V-1 | 1 | 007579A00 | VALVE, Motor (Inner Drum Drive) |
| V-2 | 1 | P0302-109 | VALVE, Motor (Conveyor Drive) |
| V-3-8 | 1 | P0302-260 | VALVE, TBM Control |
| V-9-16 | 8 | P0302-388 | VALVE, Ball (Liner Can Cylinders) |
| V-17 | 1 | P0302-118 | VALVE, Steering |

* Refer to this section for parts breakdown.

FILTER ASSEMBLY, 004500A04

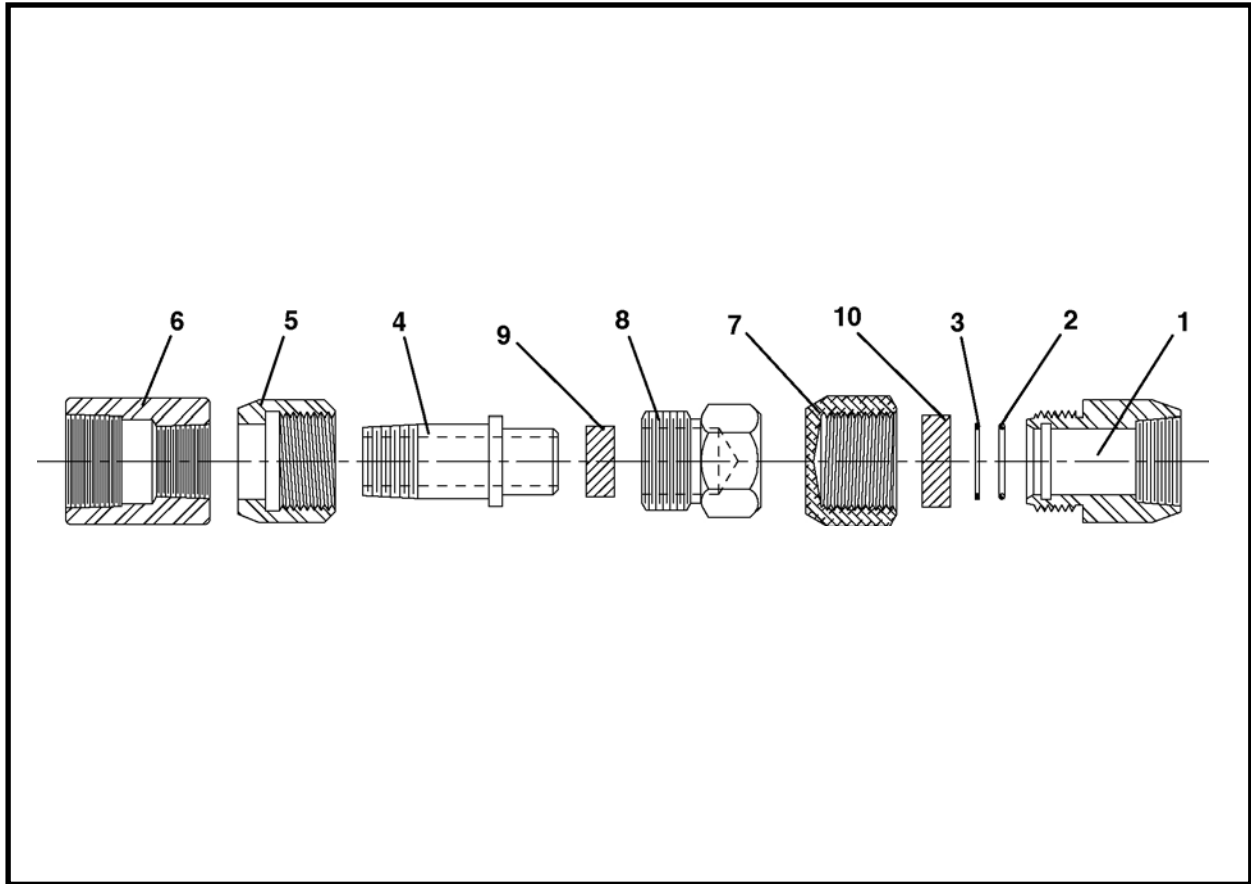


| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-----------------------|
| 0 | 1 | 004500A04 | ASSEMBLY, Filter |
| 1 | 1 | 007965A01 | HOUSING, Filter |
| 2 | 1 | 007966P01 | COVER, Filter |
| 3 | REF | P0309-121 | ELEMENT, Filter |
| 4* | 1 | P0085-156 | ORING |
| 5* | 1 | P0084-156 | ORING, Back Up |
| 6 | 10 | P0045-008 | WASHER, Lock 1/2 |
| 7 | 10 | P0001-08-007 | BOLT, 1/2 UNC x 2-1/2 |
| 8** | REF | 008190A00 | KIT, Seal |
| 9** | REF | P0301-108 | GAUGE, Indicator |

* Included in item 8, Seal Kit, 008190A00.

** Not Shown

1-1/4" COUPLER ASSEMBLY, 005349A01



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|--------------------------|
| 0 | 1 | 005349A01 | ASSEMBLY, Coupler 1-1/4" |
| 1 | 1 | 005348P00 | COUPLER, Female |
| 2 | 1 | P0085-123 | ORING |
| 3 | 1 | P0084-123 | RING, Back Up |
| 4 | 1 | 004899P00 | COUPLER UNION |
| 5 | 1 | 004901P00 | COUPLER |
| 6 | 1 | P0421-012 | REDUCER |
| 7 | 1 | 007002P02 | CAP, Coupler |
| 8 | 1 | 005350P03 | CAP, Coupler |
| 9 | 1 | 007087P00 | PLUGS, Rubber |
| 10 | 1 | 007086P00 | PLUGS, Rubber |

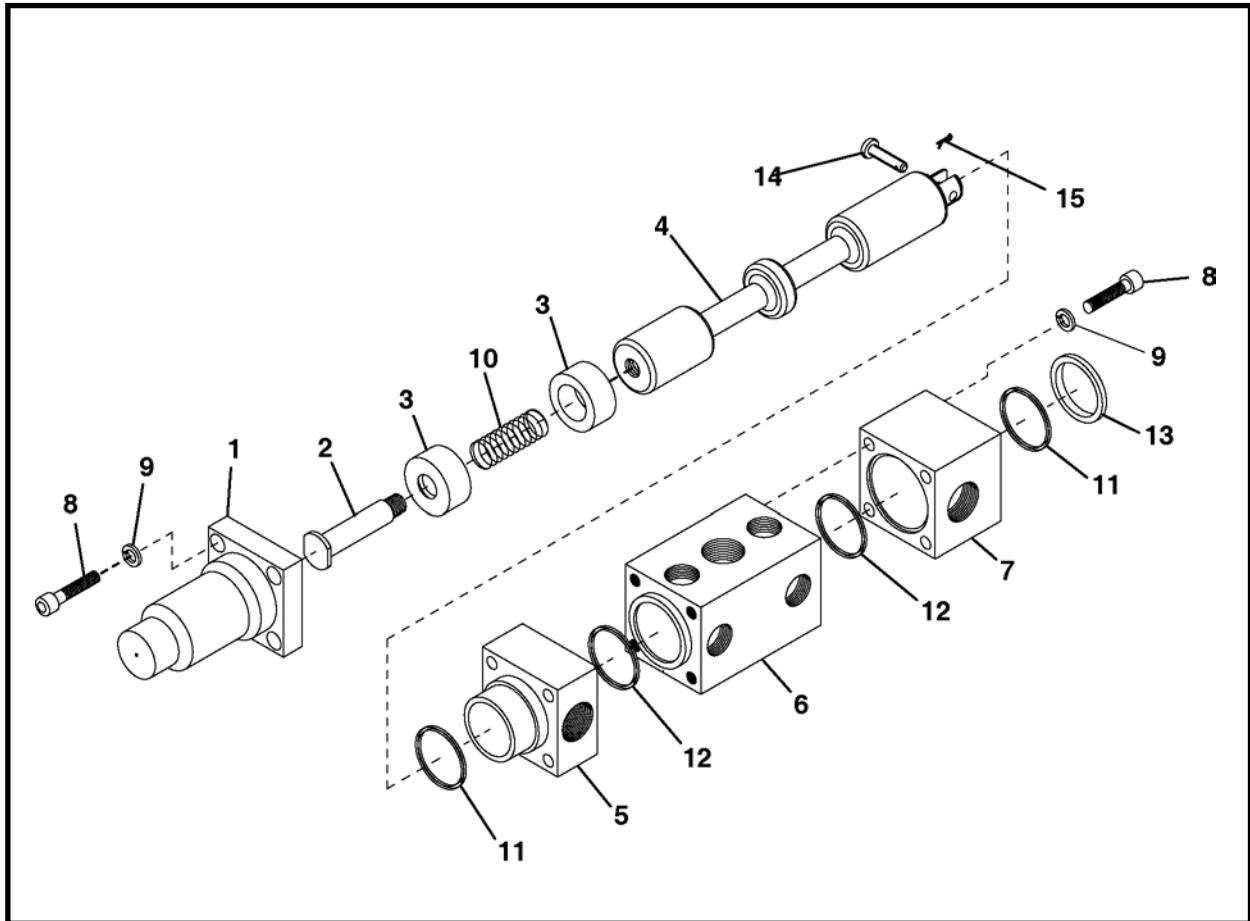
NOTES



Valves

| | |
|-------------------------------------------------|---|
| Inner Drum Motor Control Valve, 007579A00 | 2 |
| Conveyor Drive Control Valve, P0302-109 | 3 |
| Flow Control Valve, P0302-112 | 4 |
| Conveyor Control Valve, P0302-183 | 5 |
| Steering Valve, P0302-118 | 6 |
| TBM Control Valve, P0302-260 | 7 |

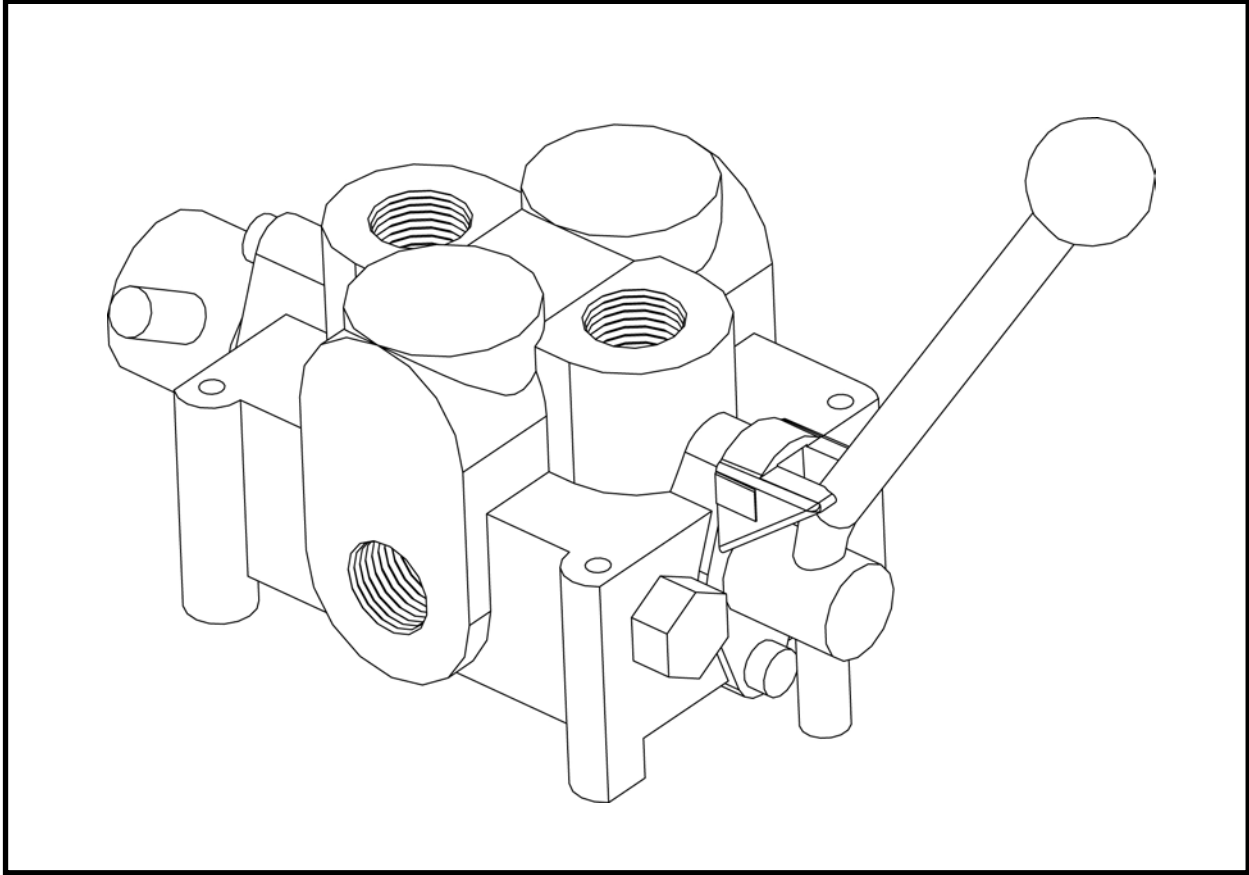
INNER DRUM MOTOR CONTROL VALVE, 007579A00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------------------------------------|
| 0 | 1 | 007579A00 | VALVE, Inner Drum Motor Control (Includes items 1 - 15) |
| 1 | 1 | 007585P01 | BLOCK |
| 2 | 1 | 007583P00 | PIN |
| 3 | 2 | 007582P00 | SPACER |
| 4 | 1 | 007581P00 | SHAFT |
| 5 | 1 | 007584P01 | BLOCK, End |
| 6 | 1 | 007586P01 | BODY |
| 7 | 1 | 007580P01 | BLOCK, End |
| 8 | 8 | P0031-08-014 | SCREW, Socket Head Cap 1/2-13 UNC x 3-1/2 |
| 9 | 8 | P0046-008 | WASHER, Hi-Collar Lock 1/2 |
| 10 | 1 | P0070-019 | SPRING |
| 11* | 2 | P0085-228 | ORING |
| 12* | 2 | P0085-234 | ORING |
| 13* | 1 | P0087-004 | WIPER |
| 14 | 1 | 003860P01 | PIN, Valve BH |
| 15 | 1 | P0048-012 | KEY, Cotter |
| 16 | A/N | 007587A00 | KIT, Seal |

* Included in item 16, 007587A00, Seal Kit.
A/N - As Needed

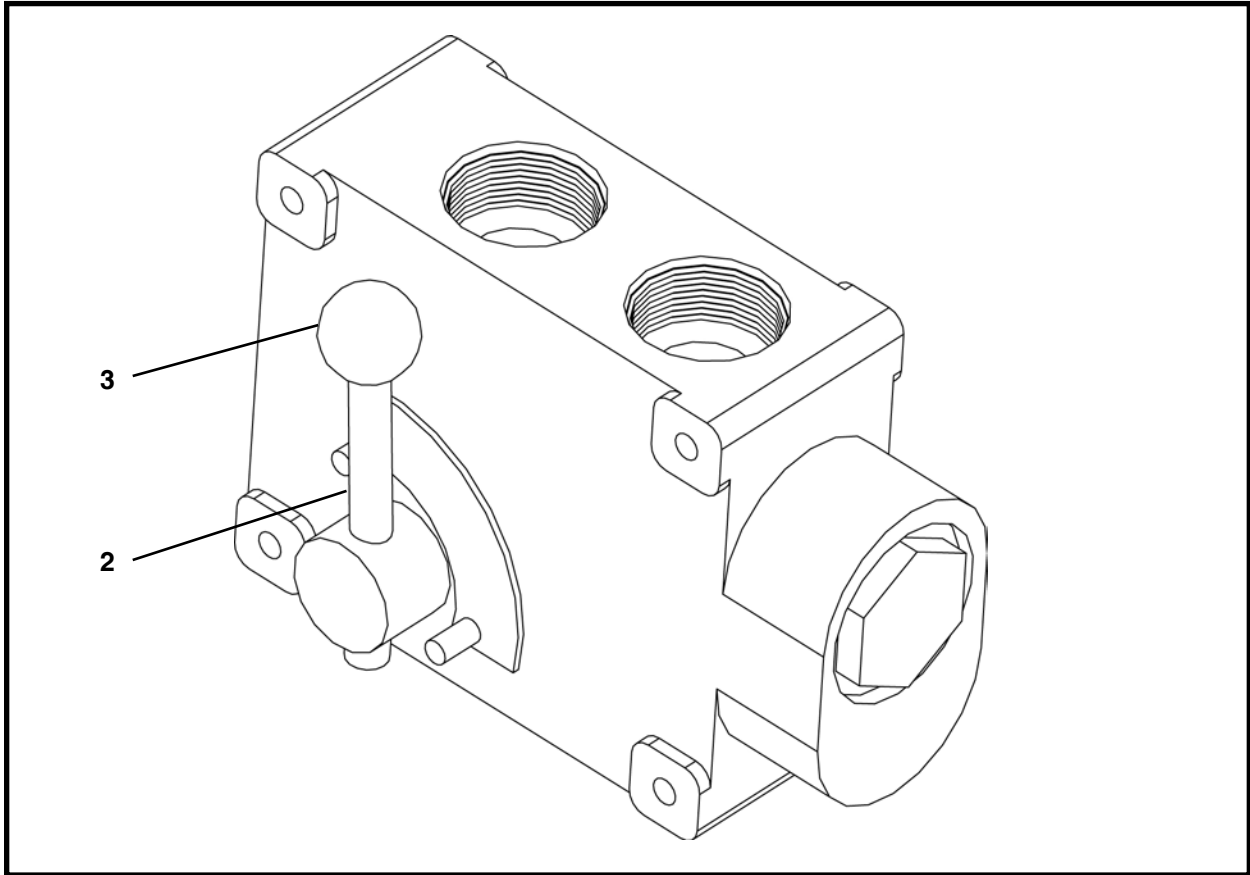
CONVEYOR DRIVE CONTROL VALVE, P0302-109



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|-------------------------------|
| 0 | 1 | P0302-109 | VALVE, Conveyor Drive Control |
| 1* | 1 | P0302-109A | KIT, Seal |

* Not Shown

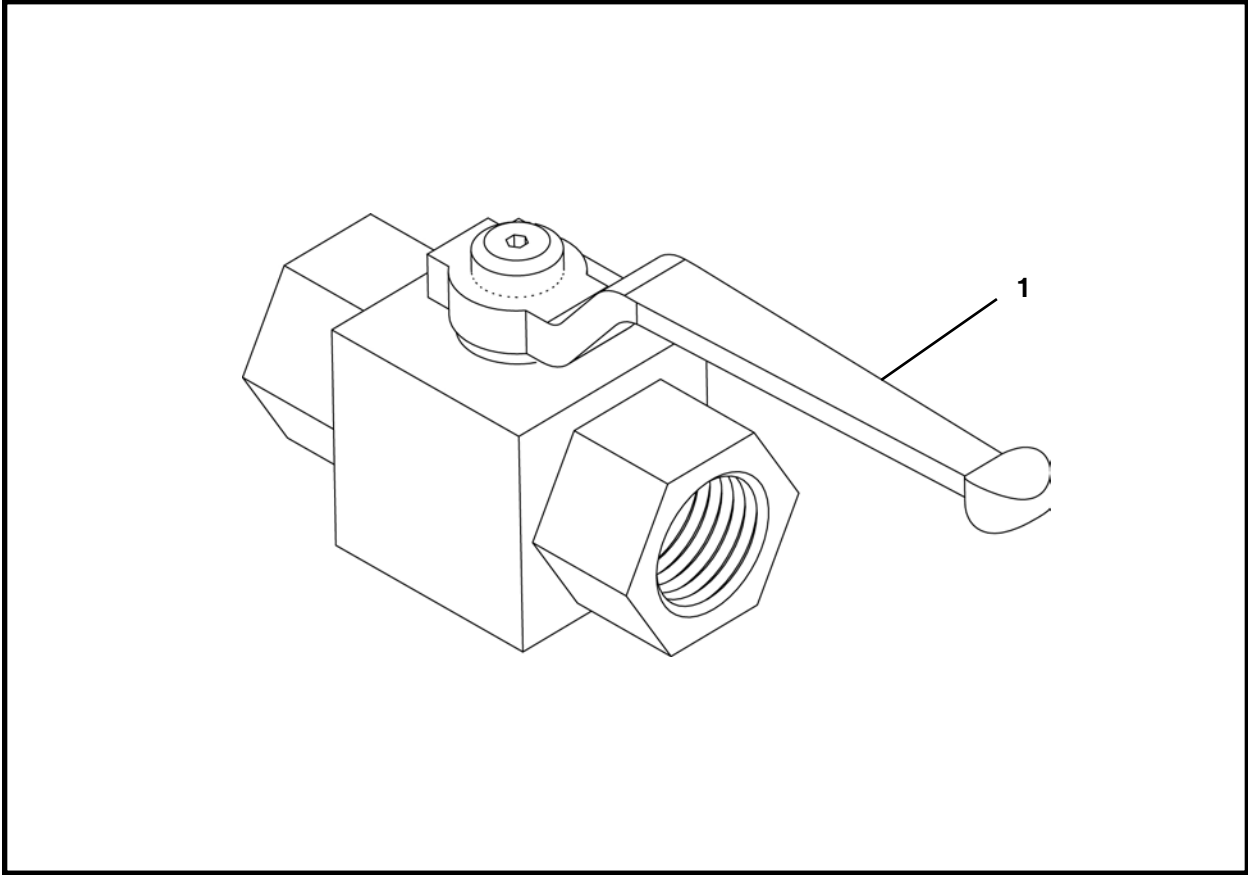
FLOW CONTROL VALVE, P0302-112



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|---------------------|
| 0 | 1 | P0302-112 | VALVE, Flow Control |
| 1* | 1 | P0302-112A | KIT, Seal |
| 2 | 1 | P0302-112B | HANDLE |
| 3 | 1 | P0302-112C | KNOB |

* Not Shown

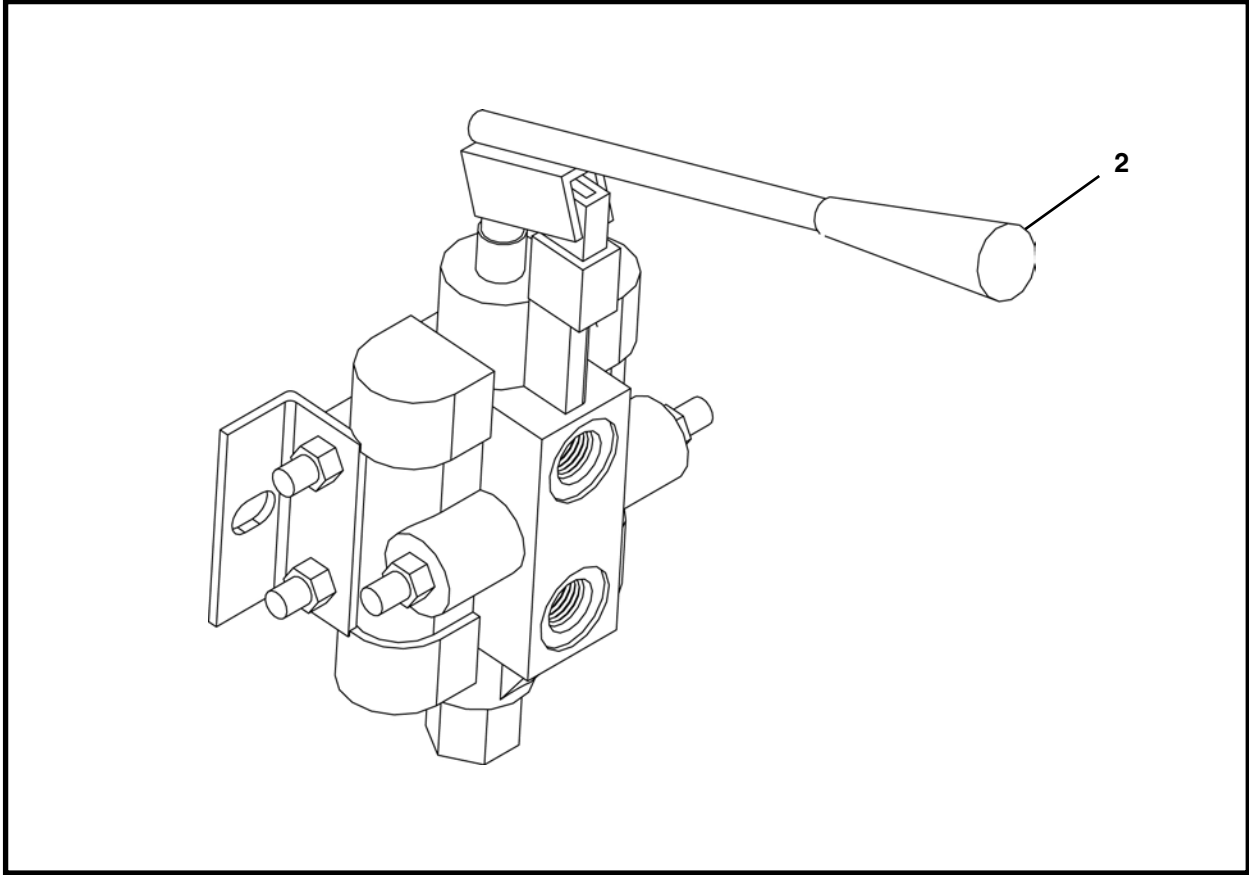
CONVEYOR CONTROL VALVE, P0302-183



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|-------------------------|
| 0 | 1 | P0302-183 | VALVE, Conveyor Control |
| 1 | 1 | P0302-197 | HANDLE |
| 2* | 1 | P0302-198 | KIT, Seal |

* Not Shown

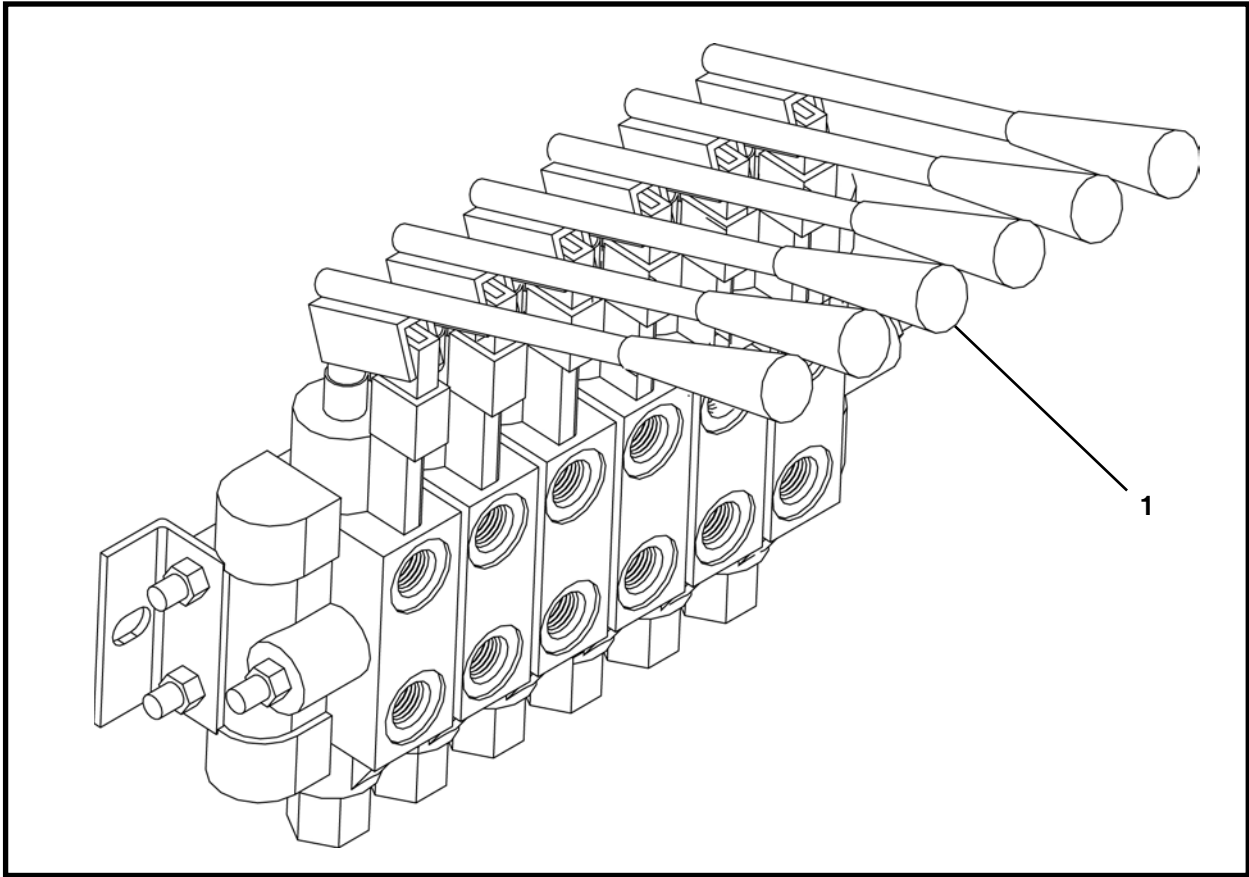
STEERING VALVE, P0302-118



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|-----------------|
| 0 | 1 | P0302-118 | VALVE, Steering |
| 1* | 1 | P0302-118A | SPOOL |
| 2 | 1 | P0302-118B | KIT, Valve |
| 3* | 1 | P0302-118C | KIT, Handle |
| 4* | 1 | P0302-118E | ORING |
| 5* | 1 | P0302-118F | WASHER |

* Not Shown

TBM CONTROL VALVE, P0302-260



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|--------------------|
| 0 | 1 | P0302-260 | VALVE, TBM Control |
| 1 | 6 | P0302-118C | KIT, Handle |

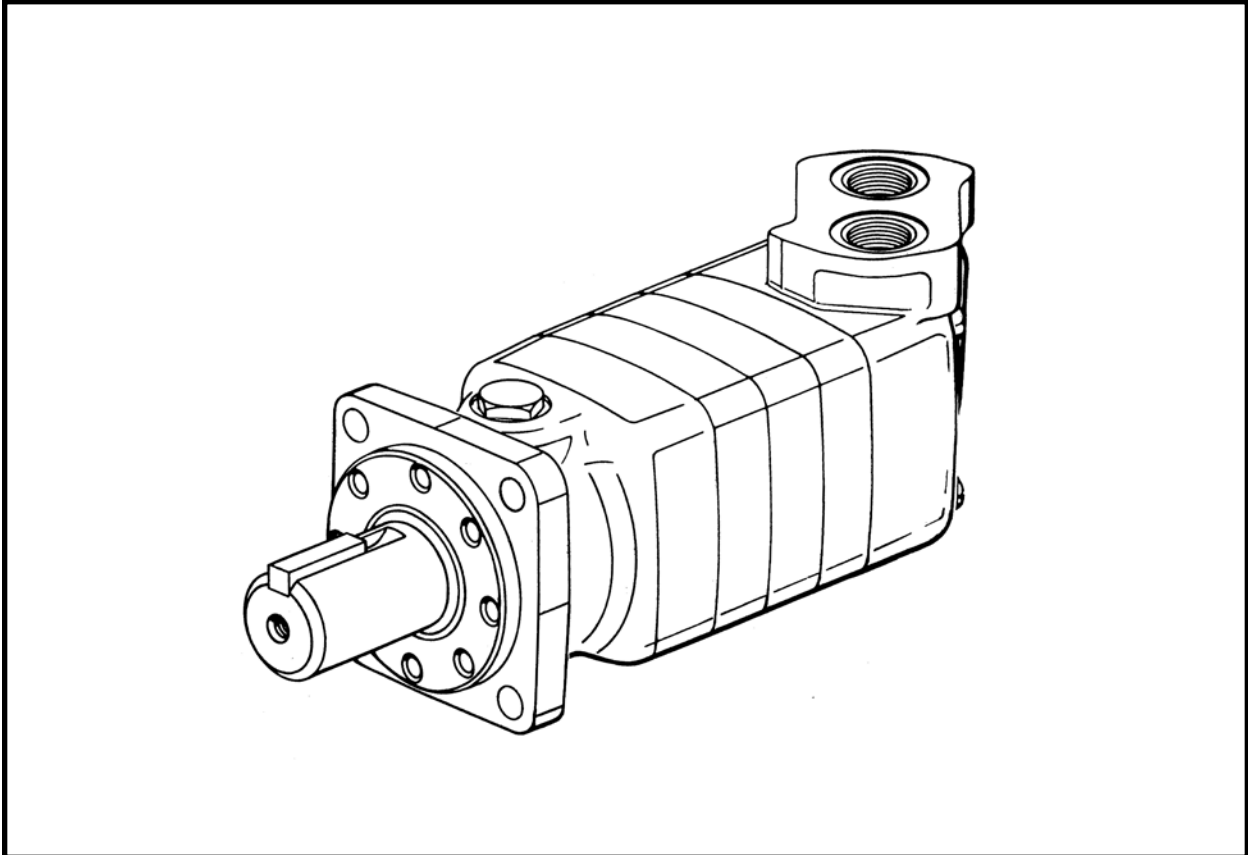
NOTES



Motors

| | |
|-------------------------------------------------------|---|
| TBM Drive Motor, P0304-123 | 2 |
| 2415 Conveyor Drive Motor, P0304-157 | 3 |
| 140 & 160 Screw Conveyor Drive Motor, P0304-145 | 4 |

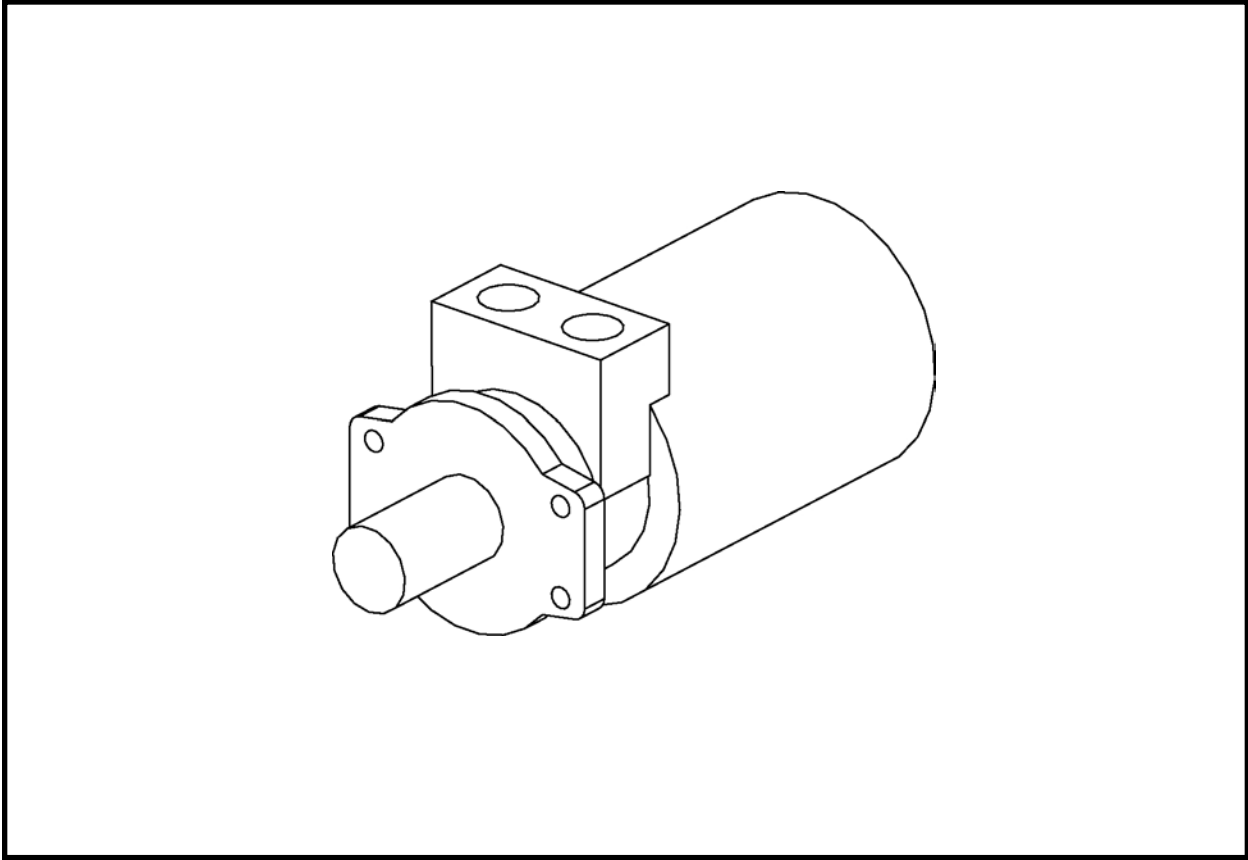
TBM DRIVE MOTOR, P0304-123



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|----------------------|
| 0 | 1 | P0304-123 | MOTOR, TBM Drive |
| 1* | 1 | P0304-107 | KIT, Shaft End Seal |
| 2* | 4 | P0304-107A | SCREW, Shaft End Cap |

* Not Shown

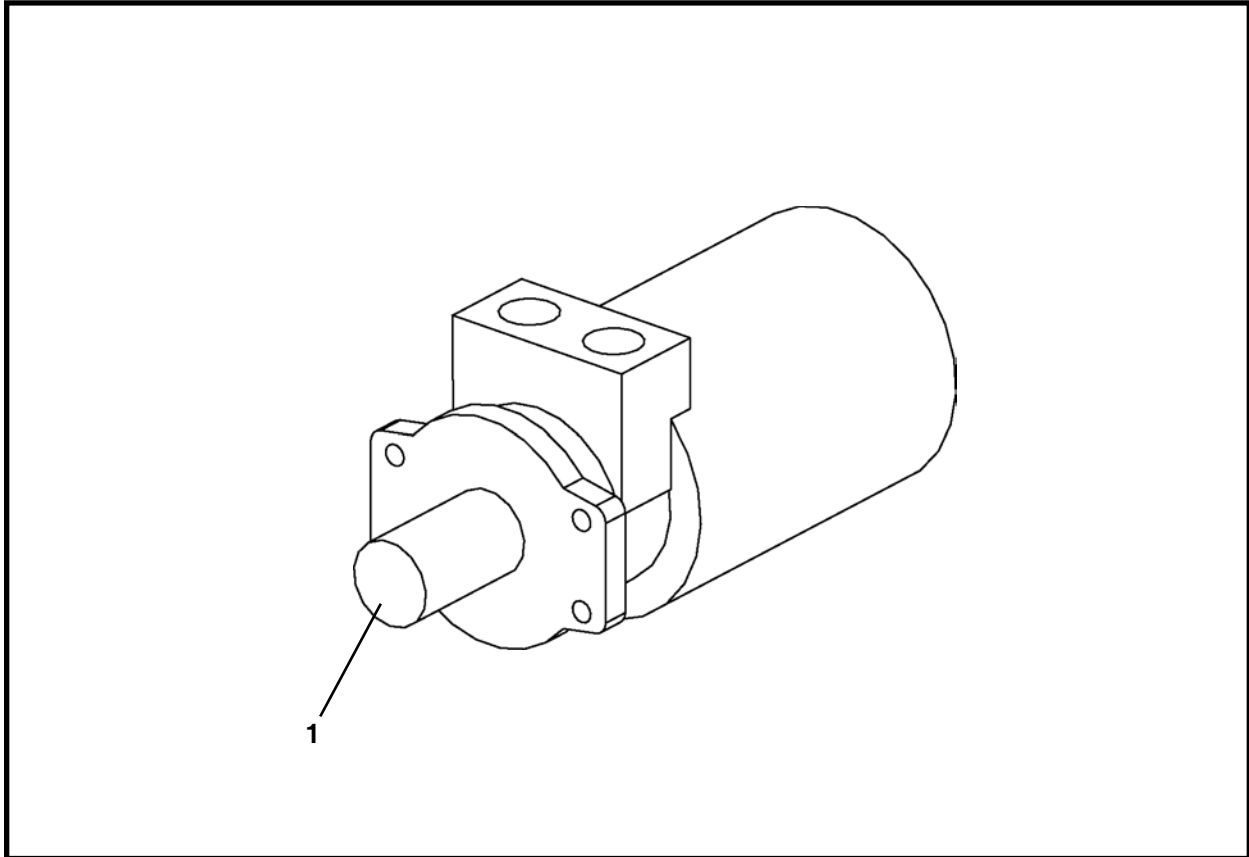
2415 CONVEYOR DRIVE MOTOR, P0304-157



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|----------------------------|
| 0 | 1 | P0304-157 | MOTOR, 2415 Conveyor Drive |

SCREW CONVEYOR DRIVE MOTOR, P0304-145

140 - 160



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|-----------------------------|
| 0 | 1 | P0304-145 | MOTOR, Screw Conveyor Drive |
| 1 | 1 | P0304-147 | SHAFT |
| 2* | 1 | P0304-148 | KIT, Seal |

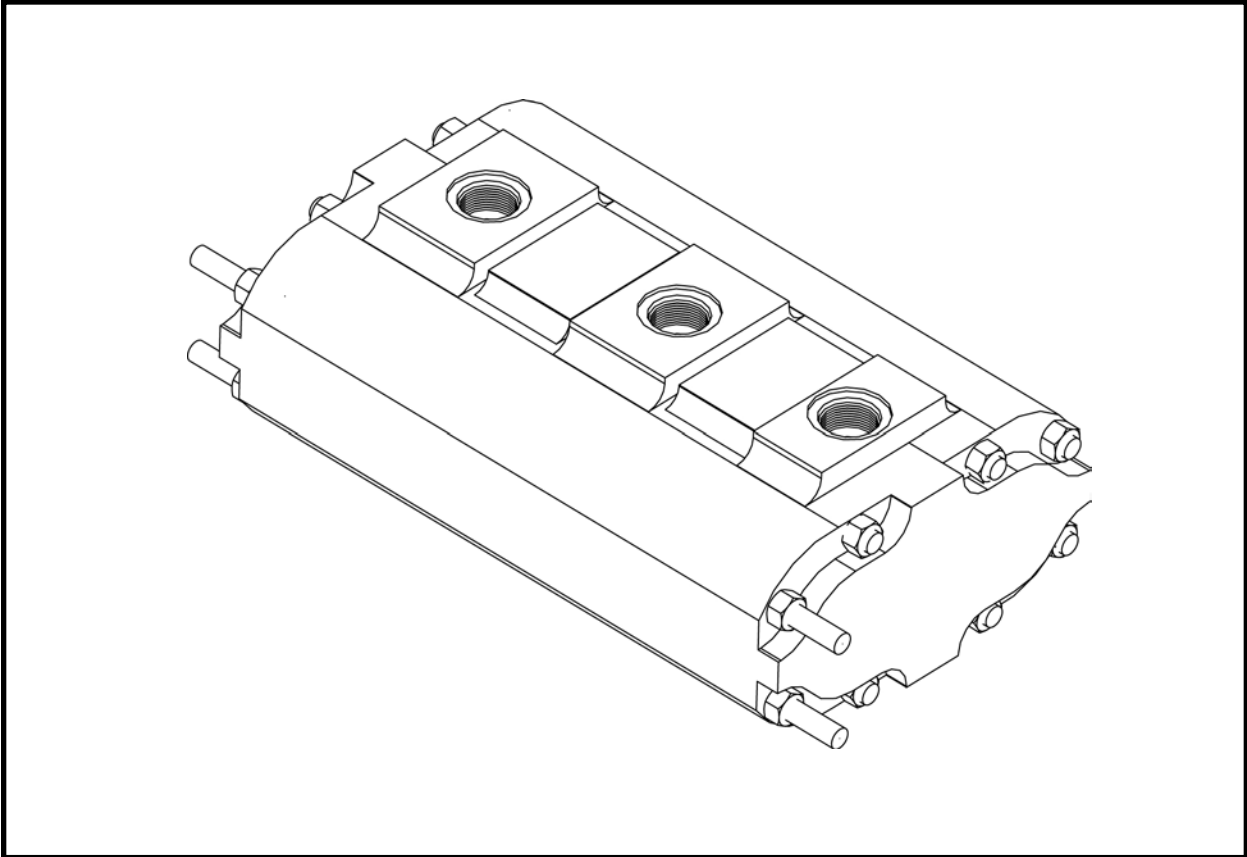
* Not Shown



Pumps

Flow Divider, P0303-163 2

FLOW DIVIDER, P0303-163



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|------------|--------------|
| 0 | 1 | P0303-163 | FLOW DIVIDER |
| 1* | 6 | P0303-163B | RING |
| 2* | 3 | P0303-163D | SEAL, Pocket |

* Not Shown



Cylinders

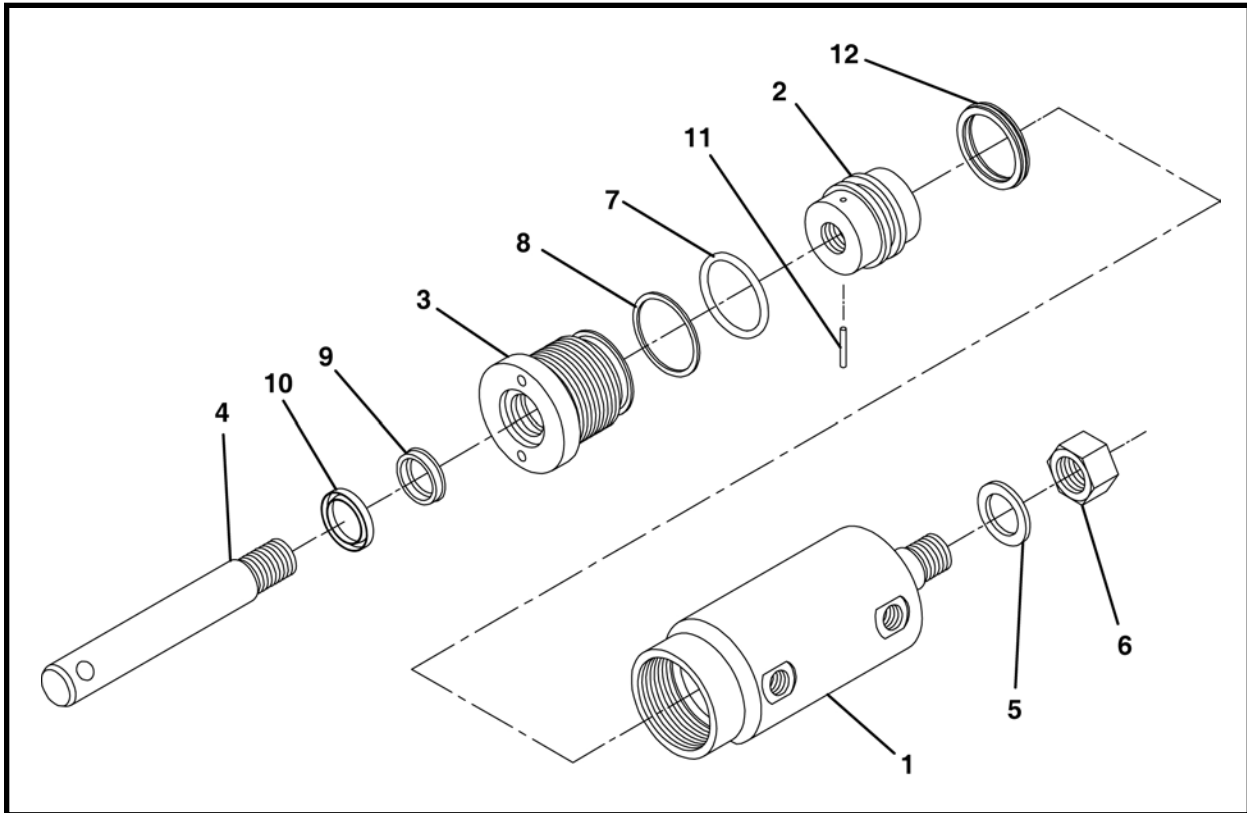
TBM

| | |
|-----------------------------------------------------------------|---|
| Advance & Dirt (Torque) Wing Cylinder Assembly, 010747A00 | 2 |
| Hydraulic Dirt Wing Cylinder Assembly, 014603A00 | 3 |
| Steering Cylinder Assembly, 010385A01 | 4 |

Liner Can

| | |
|----------------------------------------------------------|---|
| Liner Can Cylinder Assembly, 30" Stroke, 002617A01 | 5 |
| Liner Can Cylinder Assembly, 38" Stroke, 011720A00 | 6 |

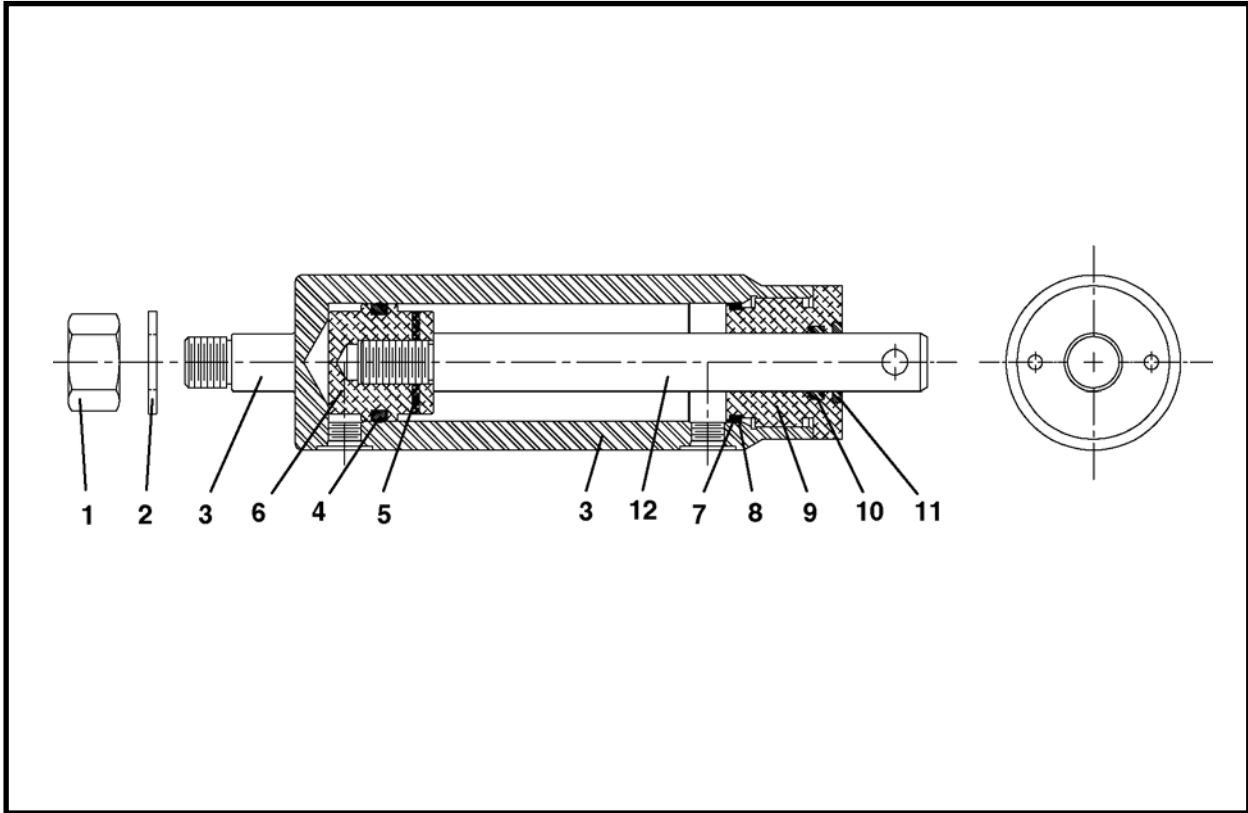
**CYLINDER ASSEMBLY, 010747A00
ADVANCE CYLINDERS**



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------|
| 0 | 1 | 010747A00 | ASSEMBLY, Advance Cylinder |
| 1 | 1 | 010865P00 | BARREL, Cylinder |
| 2 | 1 | 010864P00 | PISTON |
| 3 | 1 | 001245P00 | GLAND |
| 4 | 1 | 001243P01 | SHAFT |
| 5 | 1 | P0040-014 | WASHER, 7/8 |
| 6 | 1 | P0004-14-000 | NUT, 7/8 UNF |
| 7* | 1 | P0085-224 | ORING |
| 8* | 1 | P0084-224 | RING, Back Up |
| 9* | 1 | P0086-001 | POLYSEAL |
| 10* | 1 | P0080-001 | WIPER |
| 11 | 1 | P0049-042 | PIN, Spring |
| 12* | 1 | P0085-C2 | SEAL |
| 13 | 1 | 010748A00 | KIT, Seal |

* Items included in item 13, 010748A00 Seal Kit.

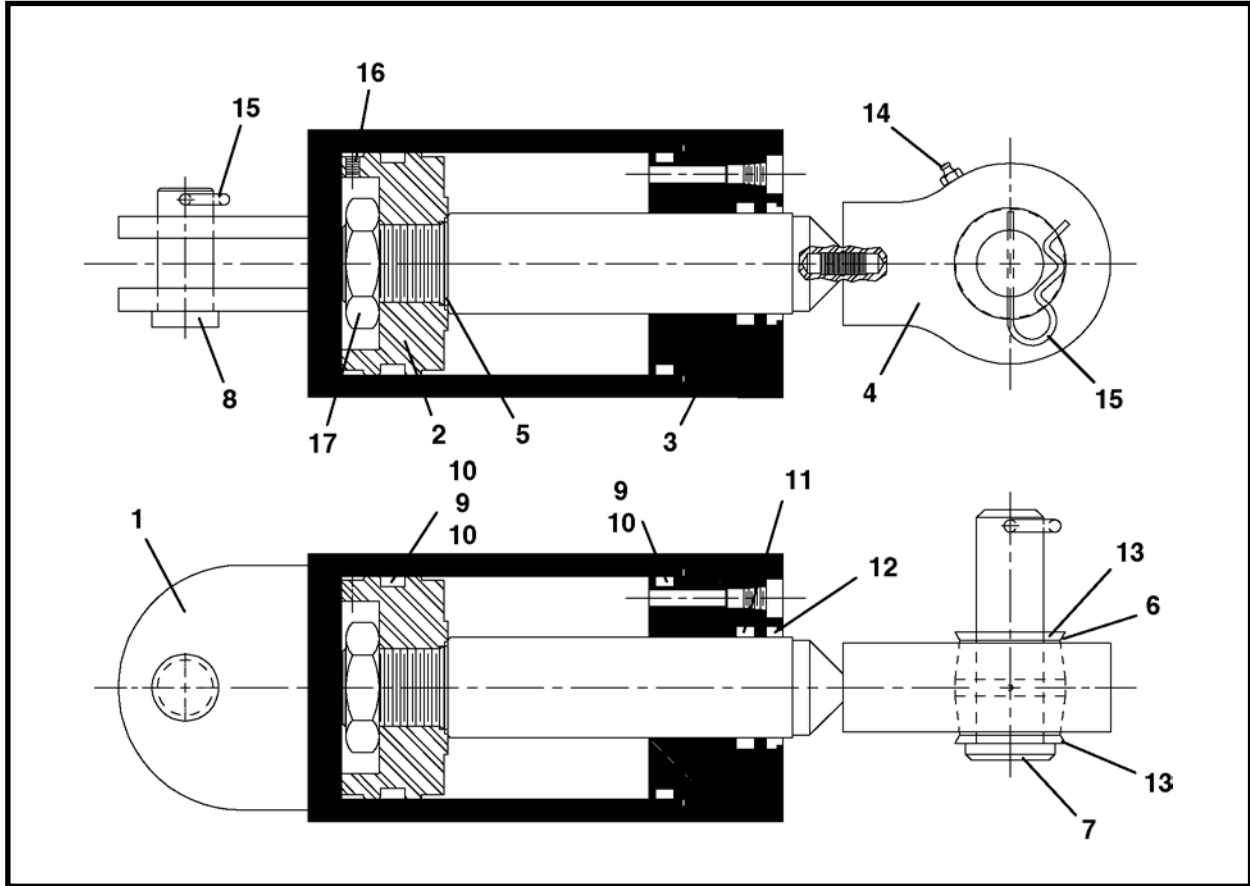
**CYLINDER ASSEMBLY, 014603A00
HYDRAULIC DIRT WING CYLINDERS**



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------|
| 0 | 1 | 014603A00 | ASSEMBLY, Hydraulic Dirt Wing Cylinder |
| 1 | 1 | P0004-14-000 | NUT, 7/8 UNF |
| 2 | 1 | P0040-014 | WASHER, 7/8 |
| 3 | 1 | 014605P00 | BARREL, Cylinder |
| 4* | 1 | P0085-C2 | SEAL |
| 5 | 1 | P0049-042 | PIN, Roll |
| 6 | 1 | 010864P00 | PISTON |
| 7* | 1 | P0085-224 | ORING |
| 8* | 1 | P0084-224 | RING, Back Up |
| 9 | 1 | 001245P00 | GLAND |
| 10* | 1 | P0086-001 | POLYSEAL |
| 11* | 1 | P0080-001 | WIPER |
| 12 | 1 | 014604P00 | SHAFT |
| 13 | 1 | 010748A00 | KIT, Seal |

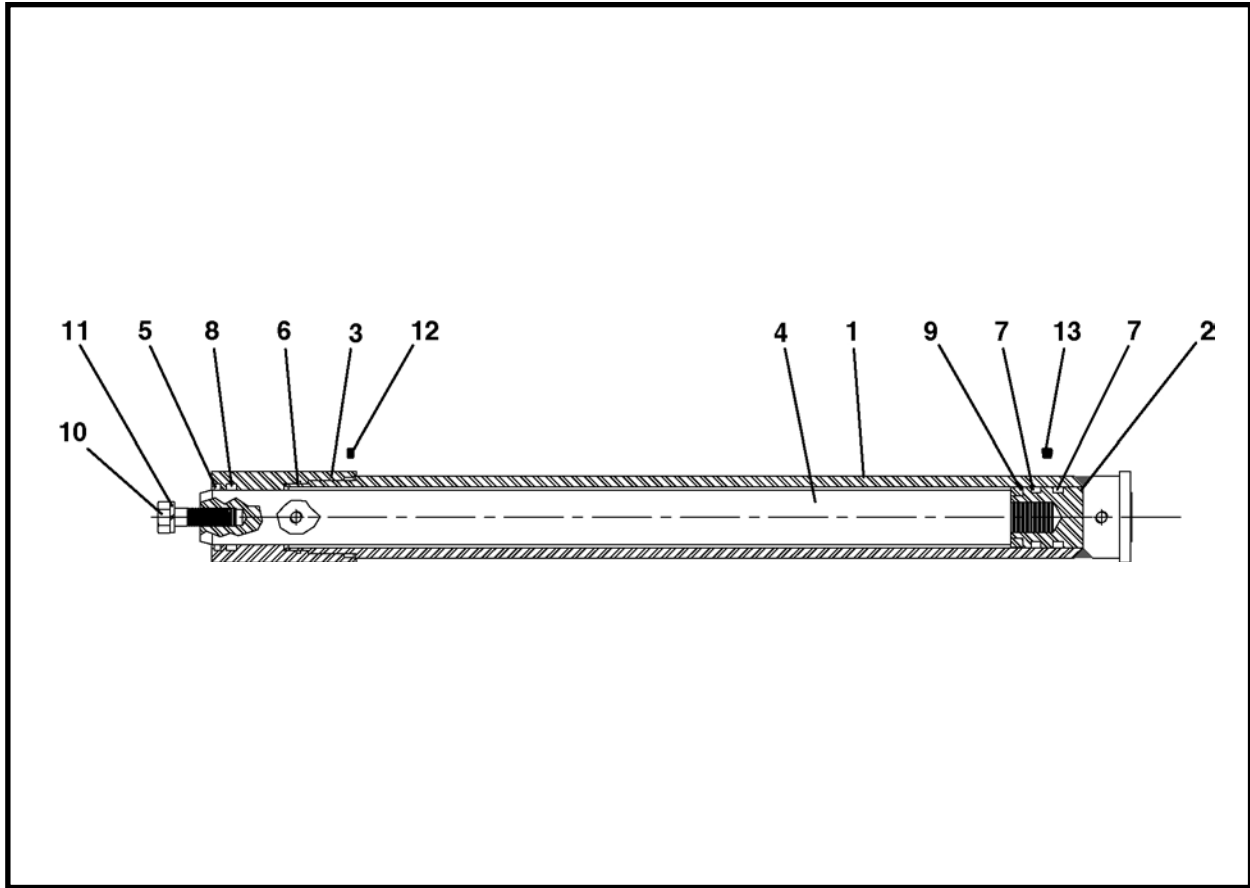
* Items included in item 13, 010748A00 Seal Kit.

STEERING CYLINDER, 010385A01



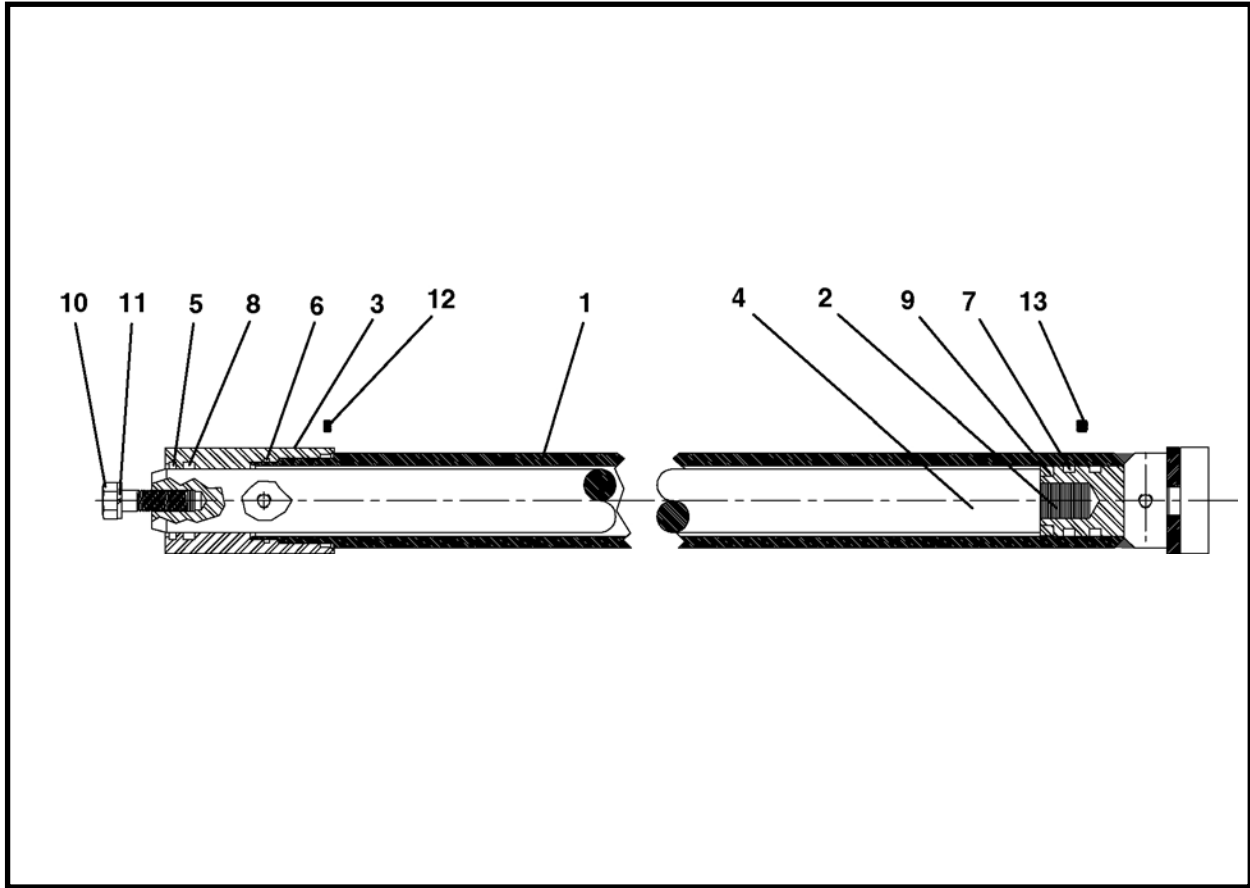
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|------|--------------|---------------------------------------|
| 0 | 1 | 010385A01 | STEERING CYLINDER |
| 1 | 1 | 003602A02 | WELDMENT, Steering Cylinder |
| 2 | 1 | 011704P00 | ROD |
| 3 | 1 | 007407P00 | GLAND |
| 4 | 1 | 011711A00 | WELDMENT, Shaft & Clevis |
| 5 | 1 | P0085-134 | ORING |
| 6 | 1 | 007412P00 | BUSHING |
| 7 | 1 | 005868P00 | PIN, Steering Cylinder |
| 8 | 1 | 002856P00 | PIN, Cylinder |
| 9 | 2 | P0085-426 | ORING |
| 10 | 3 | P0084-426 | RING, Back Up |
| 11 | 1 | P0086-005 | POLYSEAL |
| 12 | 1 | P0087-004 | WIPER |
| 13 | 2 | P0085-328 | ORING |
| 14 | 1 | P0063-001 | FITTING, Grease 1/4-28 UNF |
| 15 | 3 | P0090-005 | PIN, Hitch |
| 16 | 1 | P0033-06-016 | SCREW, Socket Head Set 3/8-16 UNC x 1 |
| 17 | 1 | 011713P00 | NUT |
| 18 | REF. | 011709A00 | SEAL KIT |

**CYLINDER ASSEMBLY, 30" STROKE, 002617A01
LINER CAN**



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------------------|
| 0 | 1 | 002617A01 | ASSEMBLY, Cylinder, 30" Stroke |
| 1 | 1 | 003051P00 | BARREL |
| 2 | 1 | 003050P00 | PISTON |
| 3 | 1 | 003054P00 | CAP |
| 4 | 1 | 003053P00 | SHAFT |
| 5 | 1 | P0087-004 | WIPER |
| 6 | 1 | P0085-S1 | ORING, Square |
| 7 | 2 | P0086-009 | POLYSEAL |
| 8 | 1 | P0086-005 | POLYSEAL |
| 9 | 1 | 006723P00 | ROD |
| 10 | 1 | P0001-12-012 | BOLT, 3/4 UNC x 2-1/2 |
| 11 | 1 | P0045-012 | WASHER, Lock 3/4 |
| 12 | 1 | P0033-04-006 | SCREW, Socket Head Cap, 1/4 UNC x 3/8 |
| 13 | 1 | P0033-06-006 | SCREW, Socket Head Cap, 3/8 UNC x 3/8 |

**CYLINDER ASSEMBLY, 38" STROKE, 011720A00
LINER CAN**



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------------------|
| 0 | 1 | 011720A00 | ASSEMBLY, Cylinder, 38" Stroke |
| 1 | 1 | 011721A00 | BARREL |
| 2 | 1 | 003050P00 | PISTON |
| 3 | 1 | 003054P00 | CAP |
| 4 | 1 | 011723P00 | SHAFT |
| 5 | 1 | P0087-004 | WIPER |
| 6 | 1 | P0085-S1 | ORING, Square |
| 7 | 2 | P0086-009 | POLYSEAL |
| 8 | 1 | P0086-005 | POLYSEAL |
| 9 | 1 | 006723P00 | ROD |
| 10 | 1 | P0001-12-012 | BOLT, 3/4 UNC x 2-1/2 |
| 11 | 1 | P0045-012 | WASHER, Lock 3/4 |
| 12 | 1 | P0033-04-006 | SCREW, Socket Head Cap, 1/4 UNC x 3/8 |
| 13 | 1 | P0033-06-006 | SCREW, Socket Head Cap, 3/8 UNC x 3/8 |



Miscellaneous / Conveyors

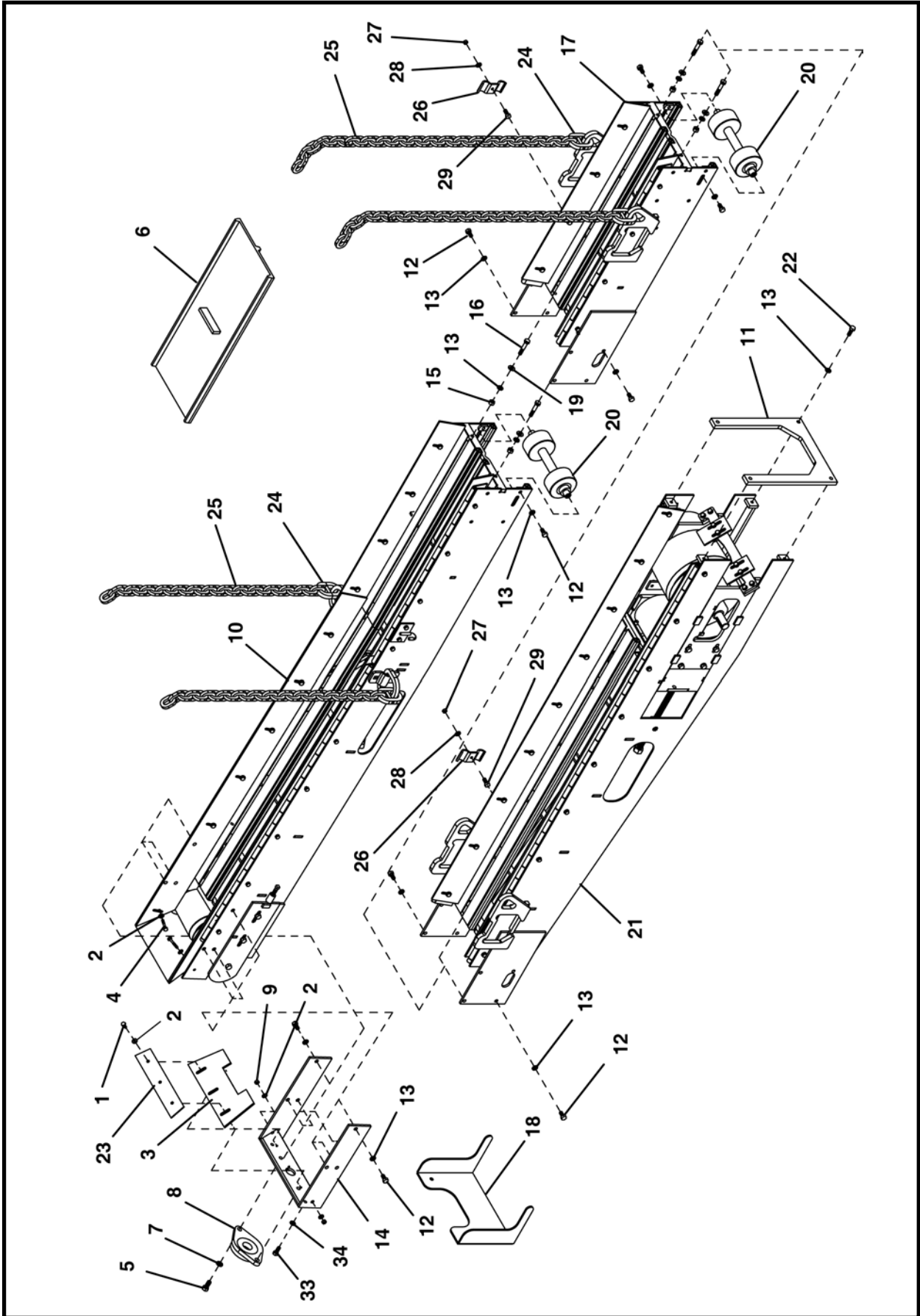
Belt Conveyors

| | |
|-----------------------------------------------------------------|----|
| 2415 Belt Conveyor, F27450F00 | 2 |
| Feed Frame Assembly, 027313A00 | 4 |
| Feed Frame Spoils Guide Assembly - Left Front, 027137A00 | 5 |
| Feed Frame Spoils Guide Assembly - Left Rear, 027221A00 | 6 |
| Front Roller Assembly, 027307A00 | 7 |
| Feed Frame Spoils Guide Assembly - Right Front, 027265A00 | 8 |
| Feed Frame Spoils Guide Assembly - Right Rear, 027266A00 | 9 |
| Extension Frame Assembly, 027314A00 | 10 |
| Short Spoils Guide Assembly - Front, 027134A00 | 11 |
| Short Spoils Guide Assembly - Rear, 027267A00 | 12 |
| Idler Roller Assembly, 027311A00 | 13 |
| Drive Frame Assembly, 027425A | 14 |
| Drive Frame Spoils Guide Assembly - Front, 027131A00 | 15 |
| Drive Frame Spoils Guide Assembly - Rear, 027219A00 | 16 |
| Drive Motor & Roller Assembly, 027420A | 18 |

Screw Conveyor

| | |
|-------------------------------------|----|
| 140 Screw Conveyor, F24500F00 | 20 |
| 160 Screw Conveyor, F09885F00 | 22 |

BELT CONVEYOR, F27450F00
2415 CONVEYOR

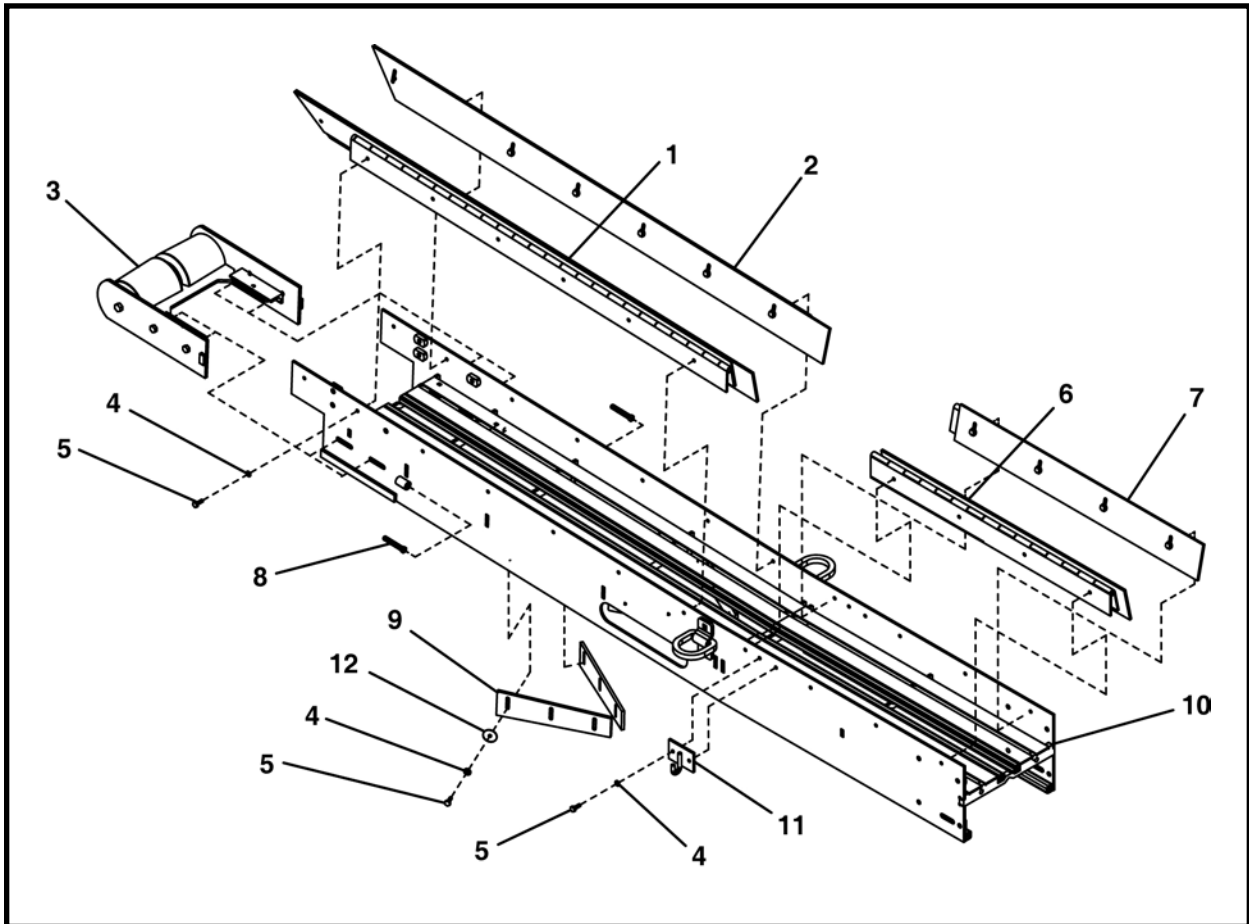


**BELT CONVEYOR, F27450F00
2415 CONVEYOR**

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------------|
| 0 | 1 | 027250F00 | CONVEYOR, Belt |
| 1 | 3 | P0020-14-204 | SCREW, Slotted Truss Head 1/4-20 UNC x 3/4 |
| 2 | 7 | P0040-004 | WASHER, Flat 1/4 |
| 3 | 1 | 027339P00 | SCRAPER, External Belt, Front End |
| 4 | 2 | P0020-14-207 | SCREW, Slotted Truss Head 1/4-20 UNC x 1-1/2 |
| 5 | 2 | P0001-07-004 | BOLT, Hex 7/16-14 UNC x 1 |
| 6 | 1 | P0067-042 | BELTING, 24" X 29' 8" |
| 7 | 2 | P0045-007 | WASHER, Lock 7/16 |
| 8 | 1 | P0065-017 | BEARING |
| 9 | 2 | P0003-04-000 | NUT, Hex 1/4-20 UNC |
| 10 | 1 | 027313A00 | ASSEMBLY, Feed Frame |
| 11 | 1 | 027336P00 | SUPPORT, Drive Frame End |
| 12 | 26 | P0001-06-003 | BOLT, Hex 3/8-16 UNC x 3/4 |
| 13 | 34 | P0040-006 | WASHER, Lock 3/8 |
| 14 | 1 | 027150A | WELDMENT, Nose Bearing Mount |
| 15 | 4 | P0003-06-000 | NUT, Hex 3/8-16 UNC |
| 16 | 4 | P0001-06-008 | BOLT, HEx 3/8-16 x 2 |
| 17 | 1 | 027314A00 | ASSEMBLY, Extension Frame |
| 18 | 1 | 027155A | GUARD, Dirt |
| 19 | 4 | P0045-006 | WASHER, Flat 3/8 |
| 20 | 2 | 027311A00 | ASSEMBLY, Idler Roller |
| 21 | 1 | 027425A | ASSEMBLY, Drive Frame |
| 22 | 4 | P0001-06-004 | BOLT, 3/8 UNC x 1 |
| 23 | 1 | 027411P | PLATE, Retainer |
| 24 | 4 | P0098-010 | LINK, 3/8 Hammerlock Link |
| 25 | 4 | P0094-003 | CHAIN, 3/8 Alloy Steel |
| 26 | 2 | 002269P01 | CLAMP, Line |
| 27 | 2 | P0004-05-000 | NUT, Hex 5/16-18 |
| 28 | 2 | P0045-005 | WASHER, Lock 5/16 |
| 29 | 2 | P0001-05-003 | BOLT, Hex 5/16-18 x 3/4 |
| 30* | 2 | A10320A-132 | ASSEMBLY, Hose 1/2 x 132 |
| 31* | 1 | P0100-004A | COUPLER, Quick 1/2 Male |
| 32* | 1 | P0100-004B | COUPLER, Quick 1/2 Female |
| 33 | 2 | P0001-08-004 | BOLT, Hex 1/2 UNC x 1 |
| 34 | 2 | P0040-008 | WASHER, Hardened Flat 1/2 |

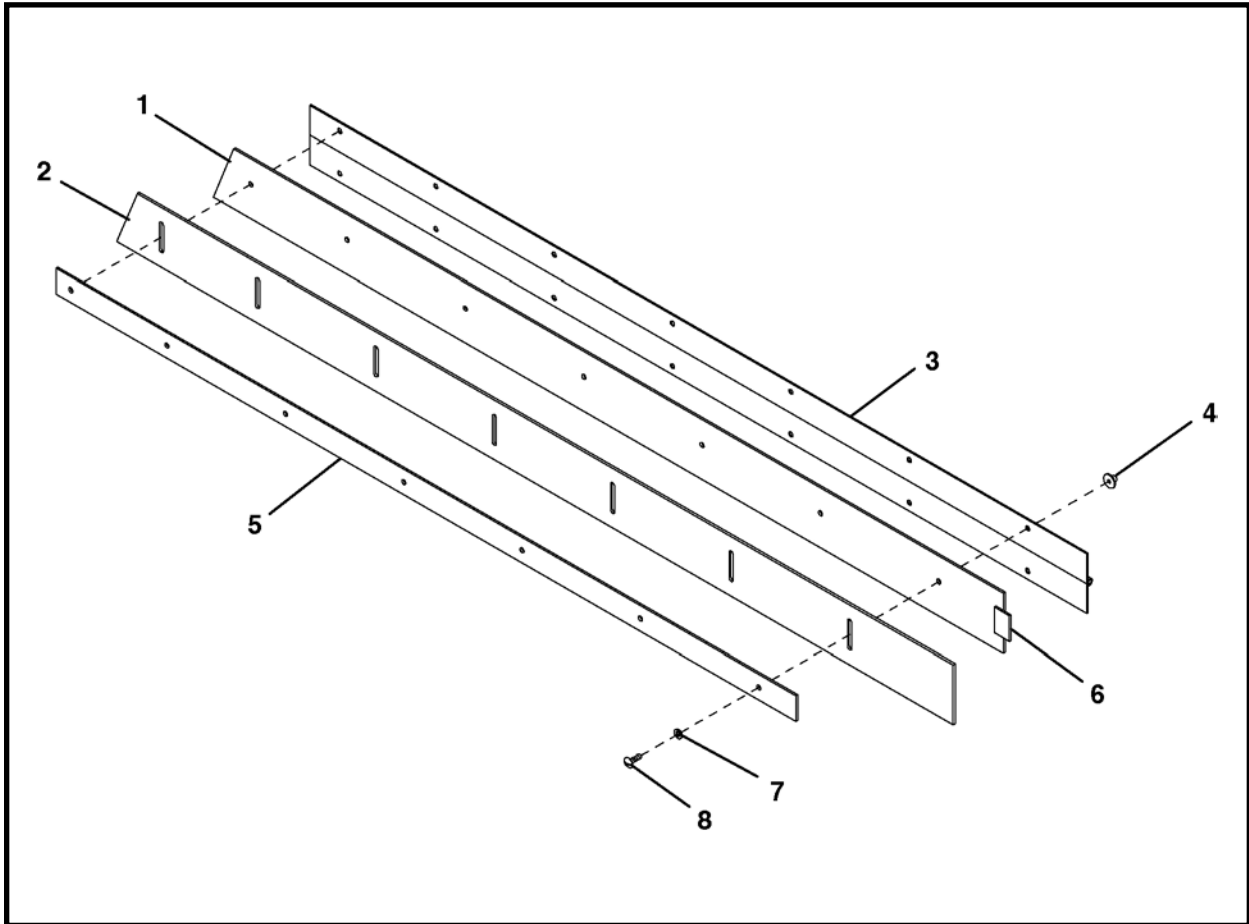
* Not Shown

FEED FRAME ASSEMBLY, 027313A00
2415 CONVEYOR



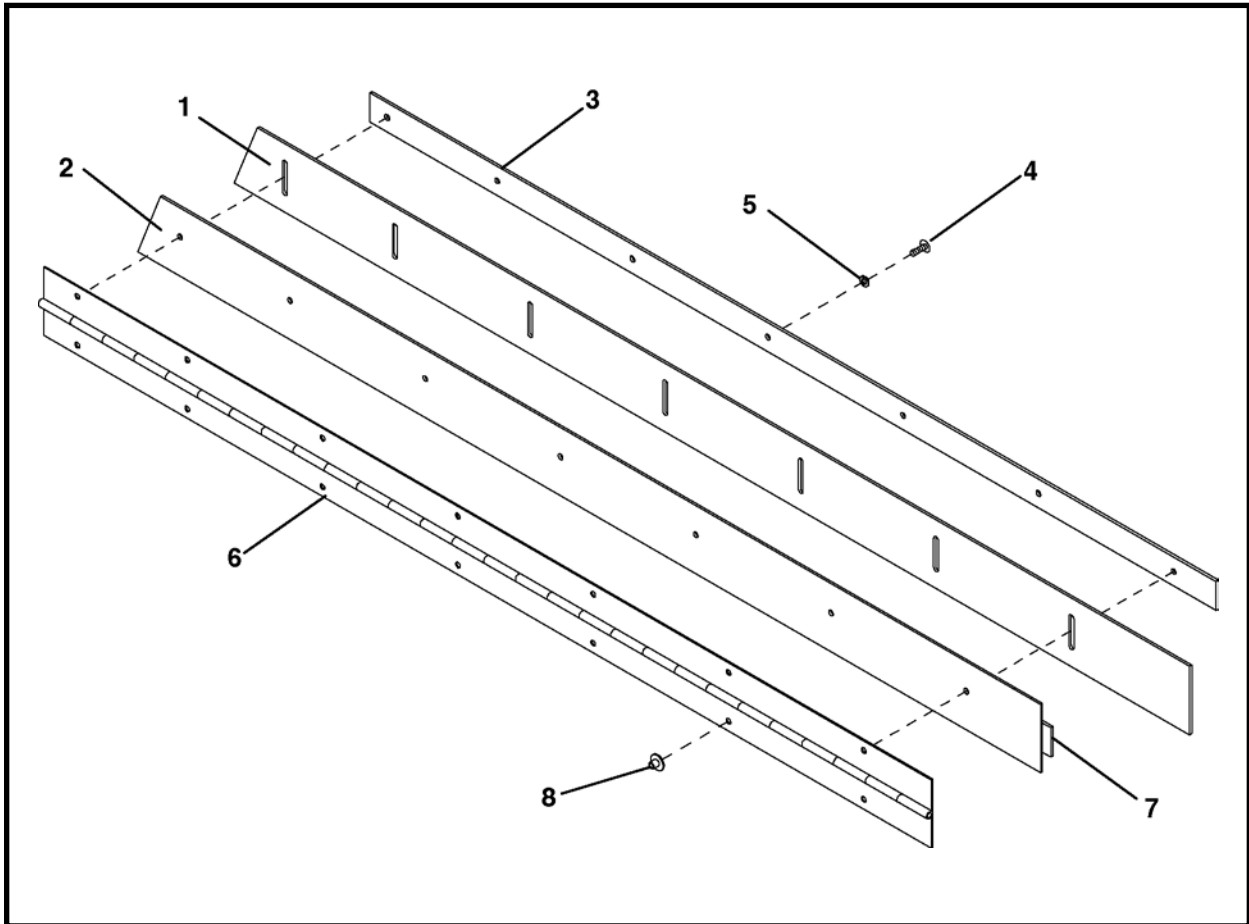
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------------------------|
| 0 | 1 | 027313A00 | ASSEMBLY, Feed Frame |
| 1 | 1 | 027137A00 | ASSEMBLY, Feed Frame Spoils Guide - Left Front |
| 2 | 1 | 027221A00 | ASSEMBLY, Feed Frame Spoils Guide - Left Rear |
| 3 | 1 | 027307A00 | ASSEMBLY, Front Roller |
| 4 | 24 | P0045-004 | WASHER, Lock 1/4 |
| 5 | 30 | P0001-04-003 | BOLT, Hex 1/4 UNC x 3/4 |
| 6 | 1 | 027265A00 | ASSEMBLY, Feed Frame Spoils Guide - Right Front |
| 7 | 1 | 027266A00 | ASSEMBLY, Feed Frame Spoils Guide - Right Rear |
| 8 | 2 | P0034-06-012 | SCREW, Square Head Set 3/8-16 UNC x 3 |
| 9 | 2 | 027346P00 | BELTING, Inner Belt Scraper |
| 10 | 1 | 027302A00 | WELDMENT, Feed Frame (Includes items 10a-10c) |
| 10a | 2 | 001496P00 | NUT, Adjustment |
| 10b | 14 | P0007-06-000 | NUT, Jam 3/8-16 UNC |
| 10c | 2 | P0079-003 | D-RING, 1/2 |
| 11 | 1 | 005436A00 | PLATE, Hook |
| 12 | 6 | 002624P00 | WASHER |

**FEED FRAME SPOILS GUIDE ASSEMBLY - LEFT FRONT, 027137A00
2415 CONVEYOR**



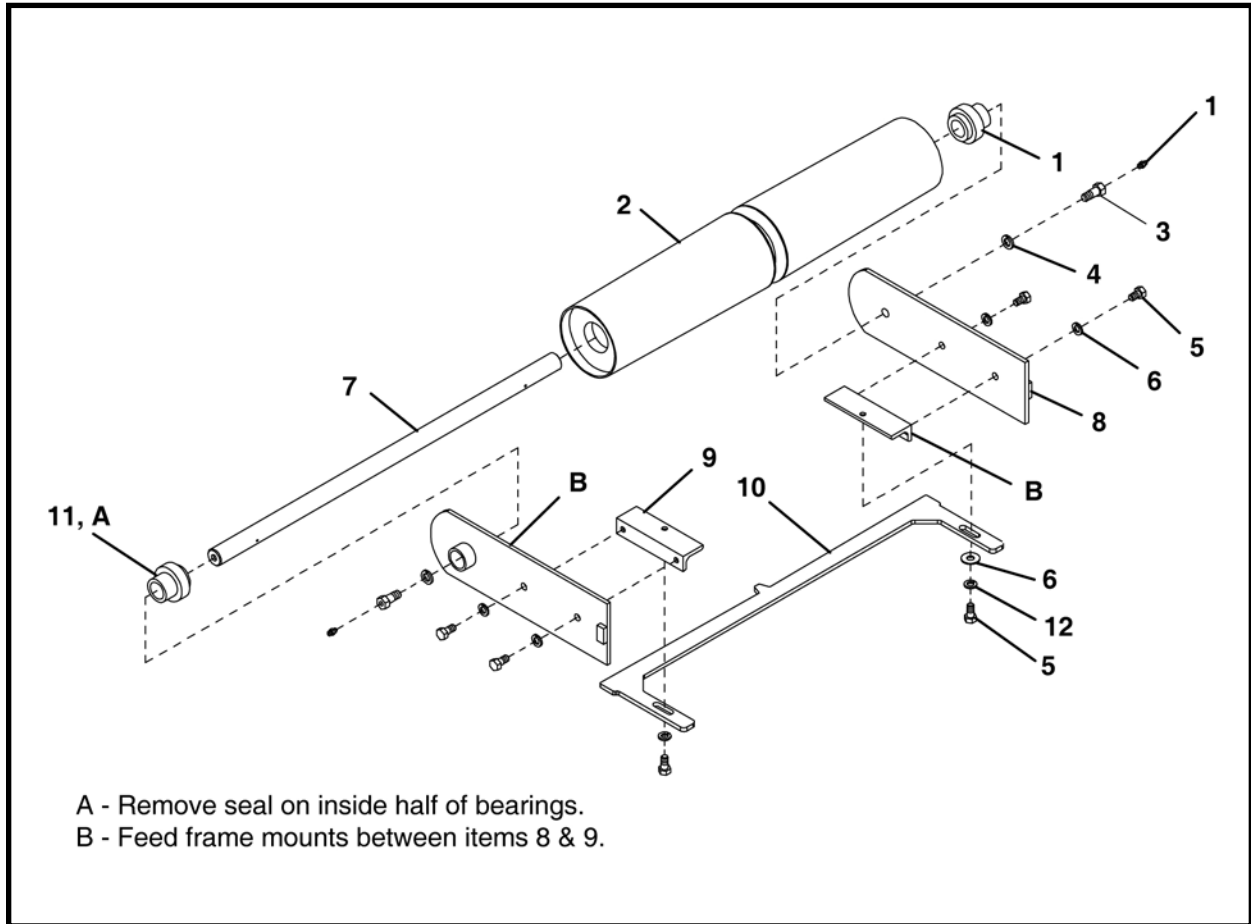
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|------------------------------------------------|
| 0 | 1 | 027137A00 | ASSEMBLY, Feed Frame Spoils Guide - Left Front |
| 1 | 1 | 027139P00 | SUPPORT BAR, Feed Frame Spoils - Left |
| 2 | 1 | 027140P00 | STRIP, Wear, Feed Frame Spoils |
| 3 | 1 | 027138P00 | HINGE, Feed Frame Spoils |
| 4 | 12 | P0011-004B | NUT, Weld 1/4-20 UNC |
| 5 | 1 | 027248P00 | BRACKET, Feed Frame Wear Strip |
| 6 | 1 | 027216P00 | TAB, Feed Frame Support Bar |
| 7 | 6 | P0045-004 | WASHER, Lock 1/4 |
| 8 | 6 | P0001-04-003 | BOLT, Hex 1/4-20 UNC x 3/4 |

FEED FRAME SPOILS GUIDE ASSEMBLY - LEFT REAR, 027221A00
2415 CONVEYOR



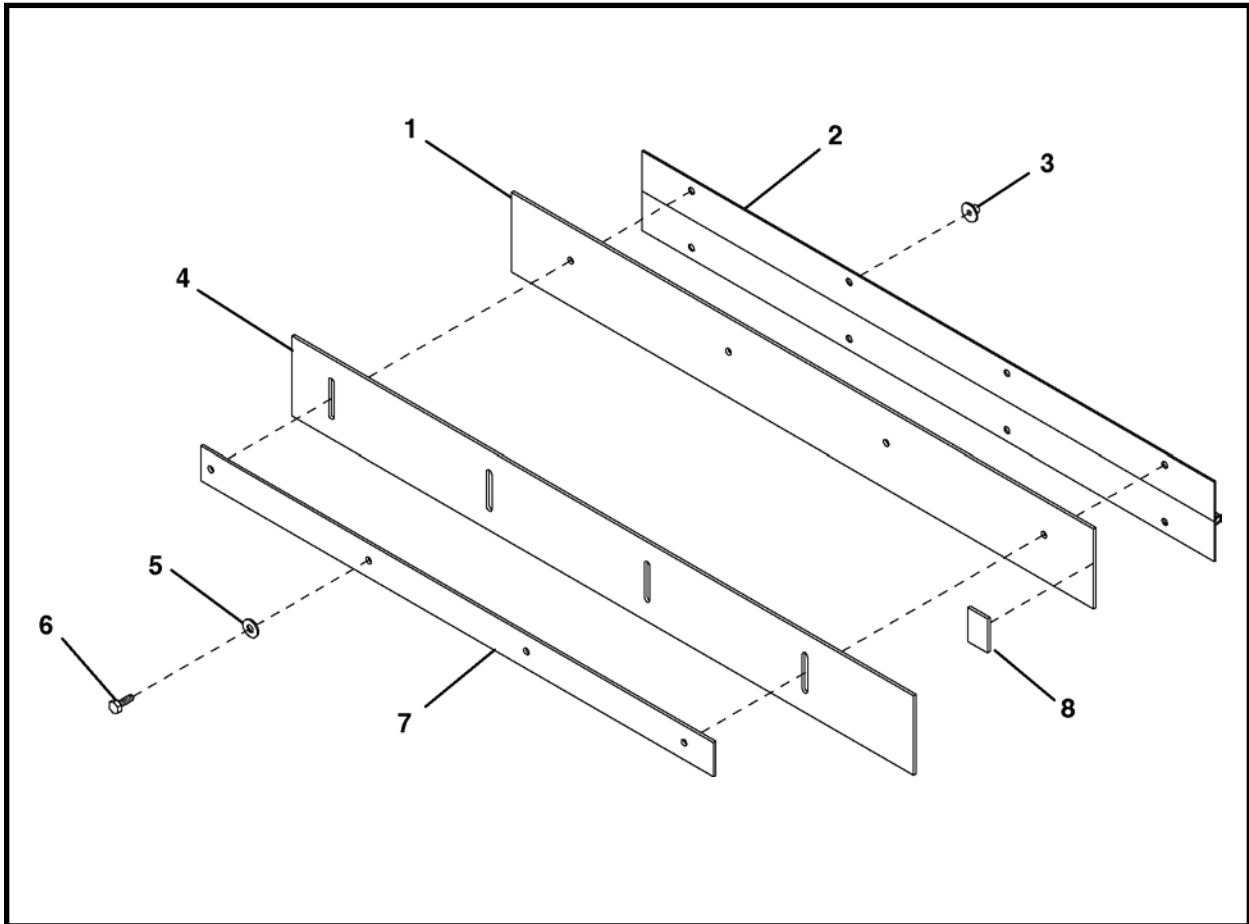
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-----------------------------------------------|
| 0 | 1 | 027221A00 | ASSEMBLY, Feed Frame Spoils Guide - Left Rear |
| 1 | 1 | 027140P00 | STRIP, Wear, Feed Frame Spoils |
| 2 | 1 | 027139P00 | SUPPORT BAR, Feed Frame Spoils - Left |
| 3 | 1 | 027248P00 | BRACKET, Feed Frame Wear Strip |
| 4 | 6 | P0001-04-003 | BOLT, Hex 1/4-20 UNC x 3/4 |
| 5 | 6 | P0045-004 | WASHER, Lock 1/4 |
| 6 | 1 | 027138P00 | HINGE, Feed Frame Spoils |
| 7 | 1 | 027216P00 | TAB, Feed Frame Support Bar |
| 8 | 12 | P0011-004B | NUT, Weld 1/4-20 UNC |

FRONT ROLLER ASSEMBLY, 027307A00
2415 CONVEYOR



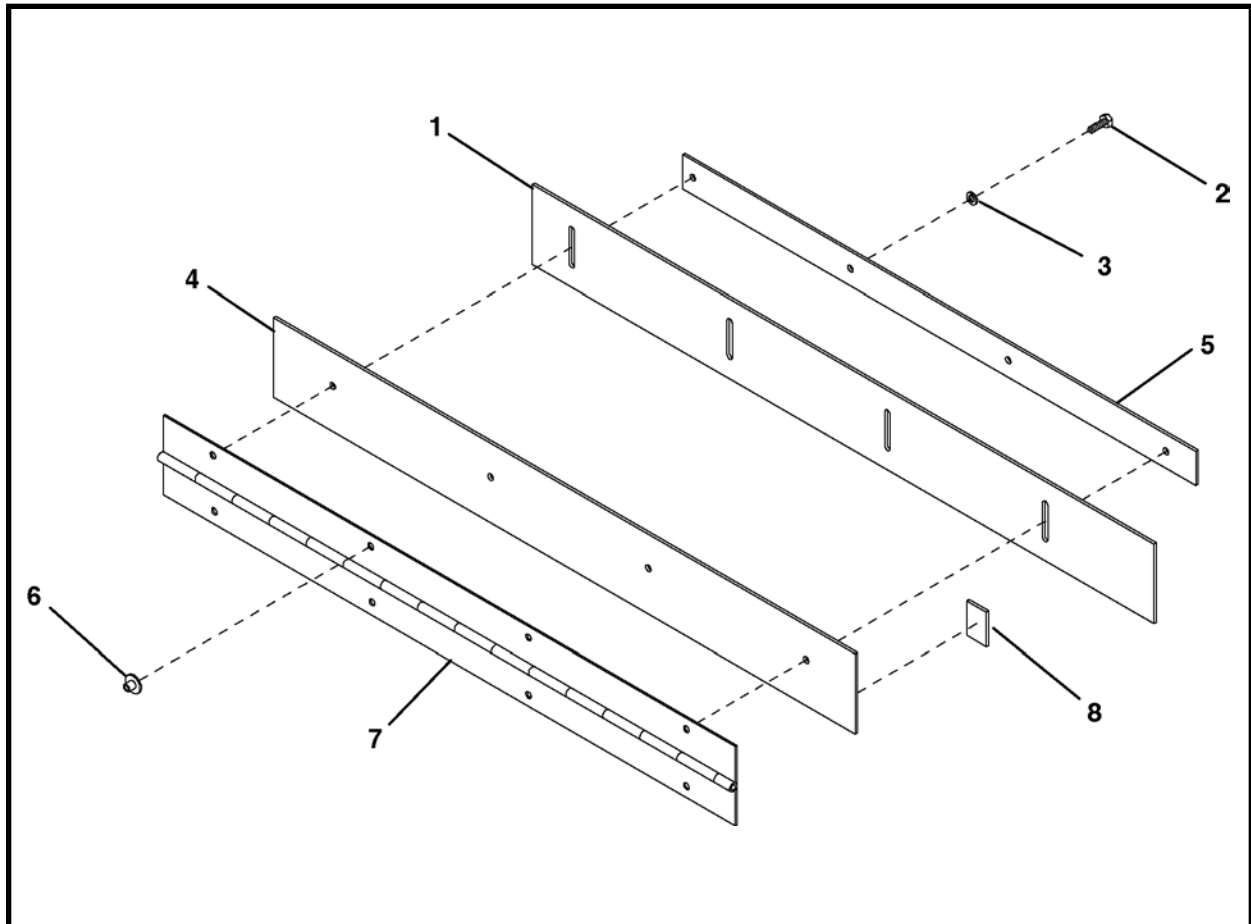
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-----------------------------------------|
| 0 | 1 | 027307A00 | ASSEMBLY, Front Roller |
| 1 | 2 | P0063-001 | FITTING, Grease Str. |
| 2 | 1 | 027347A00 | WELDMENT, Front Roller |
| 3 | 2 | 002386P04 | BOLT, Grease |
| 4 | 2 | P0045-007 | WASHER, Lock 7/16 |
| 5 | 6 | P0001-06-003 | BOLT, Hex 3/8 UNC x 3/4 |
| 6 | 6 | P0045-006 | WASHER, Lock 3/8 |
| 7 | 1 | 027343P00 | SHAFT, Front Roller |
| 8 | 2 | 027109A00 | WELDMENT, Front Roller Mounting Bracket |
| 9 | 2 | 027130P00 | MOUNT, Front Roller Scraper |
| 10 | 1 | 027340A00 | SCRAPER, Front Roller |
| 11 | 2 | P0065-006 | BEARING |
| 12 | 2 | P0040-006 | WASHER, Flat Hardened 3/8 |

FEED FRAME SPOILS GUIDE ASSEMBLY - RIGHT FRONT, 027265A00
2415 CONVEYOR



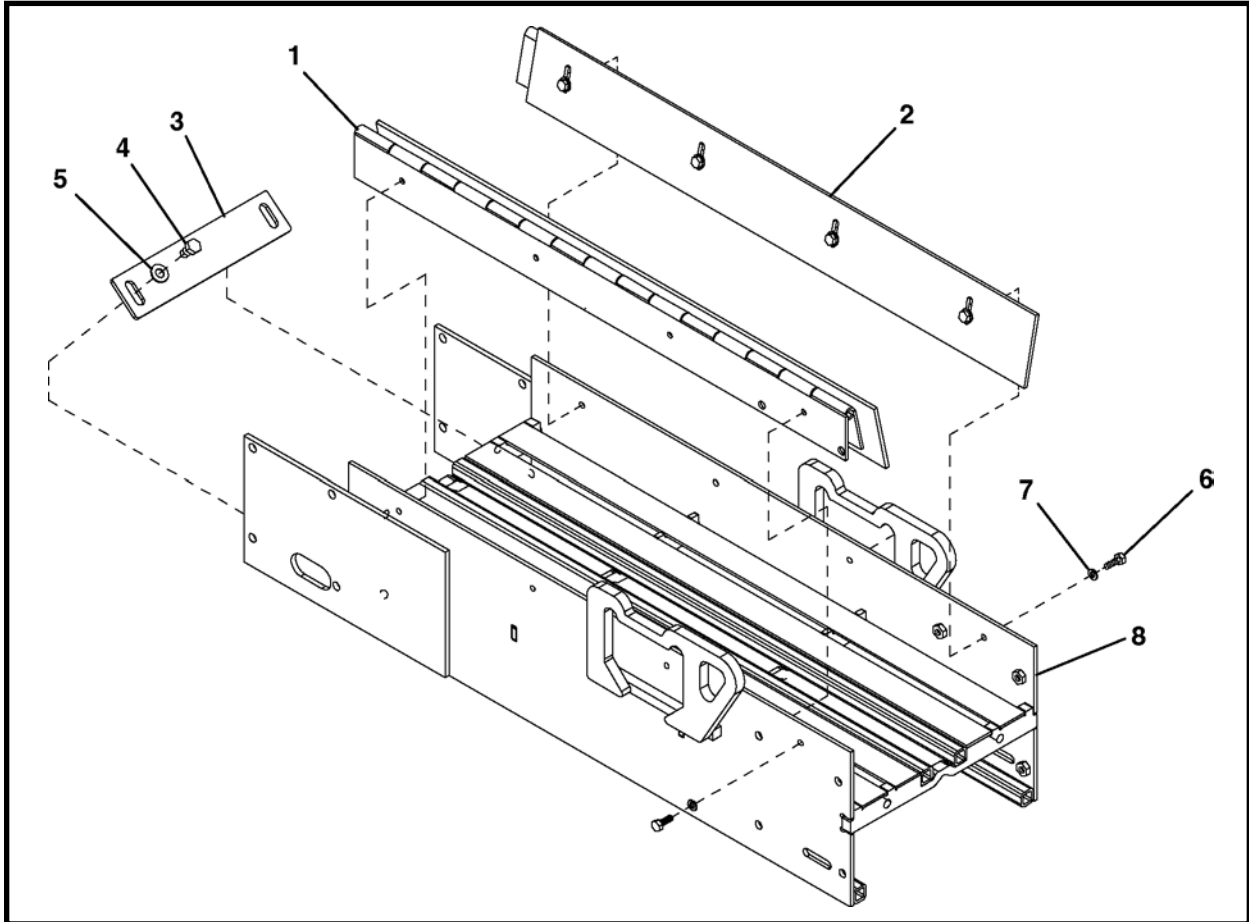
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------------------------|
| 0 | 1 | 027265A00 | ASSEMBLY, Feed Frame Spoils Guide - Right Front |
| 1 | 1 | 027217P00 | SUPPORT BAR, Feed Frame Spoils - RIGHT |
| 2 | 1 | 027135P00 | HINGE, Short Spoils Guide |
| 3 | 8 | P0011-004B | NUT, Weld 1/4-20 UNC |
| 4 | 1 | 027136P00 | STRIP, Short Spoils Guide Wear |
| 5 | 4 | P0045-004 | WASHER, Lock 1/4 |
| 6 | 4 | P0001-04-003 | BOLT, Hex 1/4-20 UNC x 3/4 |
| 7 | 1 | 027249P00 | BRACKET, Short Spoils Wear Strip |
| 8 | 1 | 027216P00 | TAB, Feed Frame Support Bar |

FEED FRAME SPOILS GUIDE ASSEMBLY - RIGHT REAR, 027266A00
2415 CONVEYOR



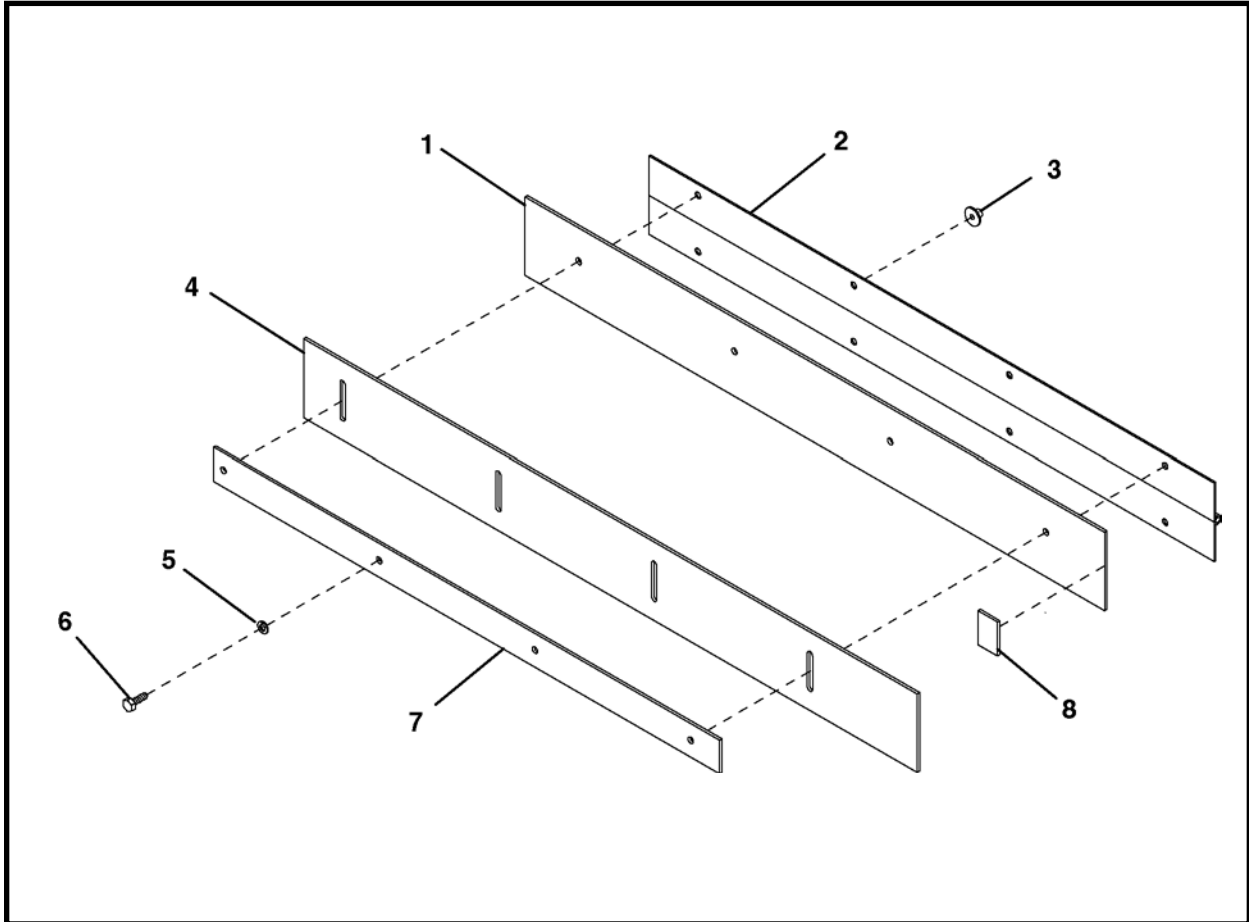
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|------------------------------------------------|
| 0 | 1 | 027266A00 | ASSEMBLY, Feed Frame Spoils Guide - Right Rear |
| 1 | 1 | 027136P00 | STRIP, Short Spoils Guide Wear |
| 2 | 4 | P0001-04-003 | BOLT, Hex 1/4-20 UNC x 3/4 |
| 3 | 4 | P0045-004 | WASHER, Lock 1/4 |
| 4 | 1 | 027217P00 | SUPPORT BAR, Feed Frame Spoils - Right |
| 5 | 1 | 027249P00 | BRACKET, Short Spoils Wear Strip |
| 6 | 8 | P0011-004B | 1/4-20 UNC WELD NUT |
| 7 | 1 | 027135P00 | HINGE, Short Spoils Guide |
| 8 | 1 | 027216P00 | TAB, Feed Frame Support Bar |

EXTENSION FRAME ASSEMBLY, 027314A00
2415 CONVEYOR



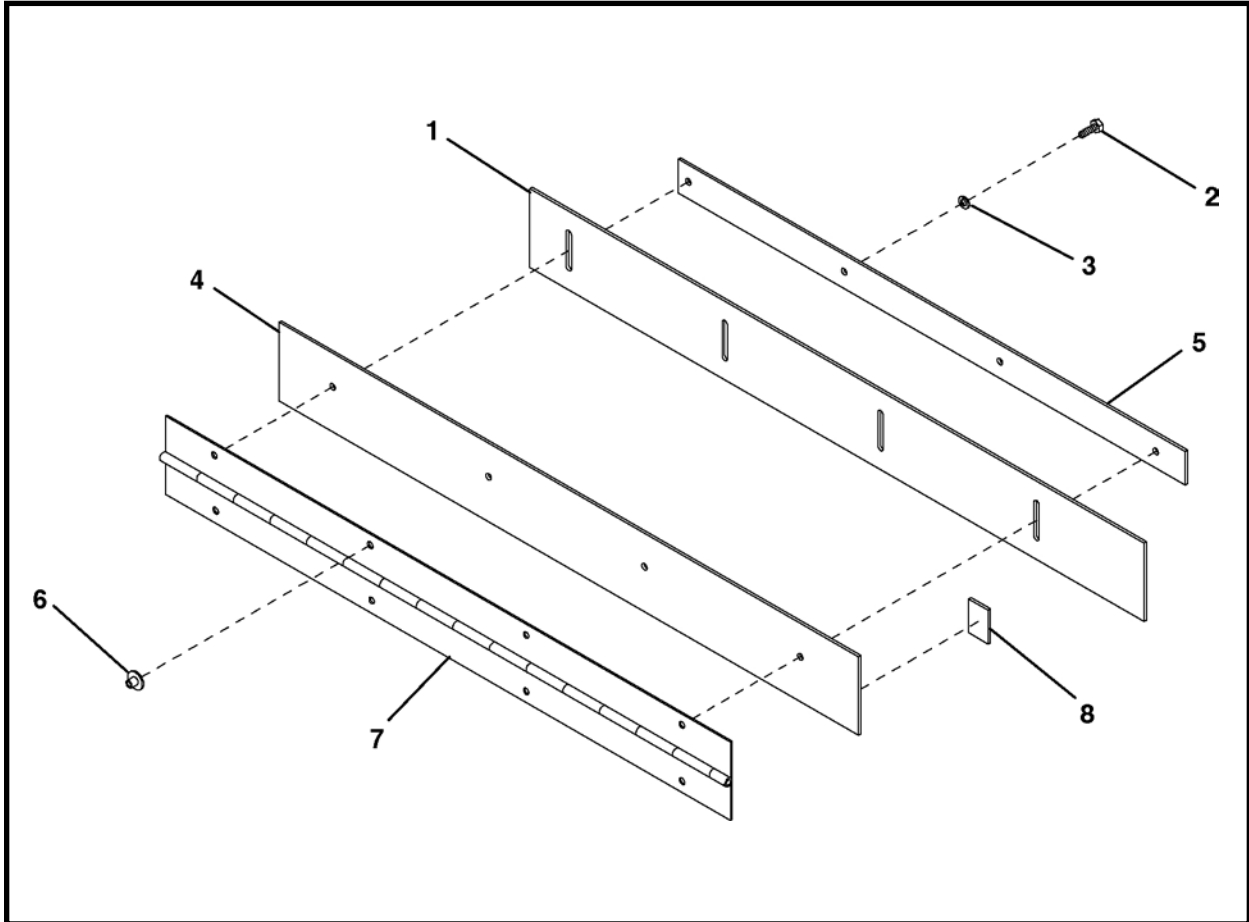
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|--------------------------------------------------|
| 0 | 1 | 027314A00 | ASSEMBLY, Extension Frame |
| 1 | 1 | 027134A00 | ASSEMBLY, Short Spoils Guide - Front |
| 2 | 1 | 027267A00 | ASSEMBLY, Short Spoils Guide - Rear |
| 3 | 1 | 027345A00 | PLATE, Idler Roller Scraper |
| 4 | 2 | P0001-06-002 | BOLT, Hex 3/8 UNC x 1/2 |
| 5 | 2 | P0040-006 | WASHER, Lock 3/8 |
| 6 | 8 | P0001-04-003 | BOLT, Hex 1/4 UNC x 3/4 |
| 7 | 8 | P0045-004 | WASHER, Lock 1/4 |
| 8 | 1 | 027303A00 | WELDMENT, Extension Frame (Includes items 8a-8c) |
| 8a | 2 | 023524P00 | LIFT EYE |
| 8b | 2 | P0011-006A | NUT, Strut Square 3/8 |
| 8c | 8 | P0007-06-000 | NUT, Jam 3/8-16 UNC |

SHORT SPOILS GUIDE ASSEMBLY - FRONT, 027134A00
2415 CONVEYOR



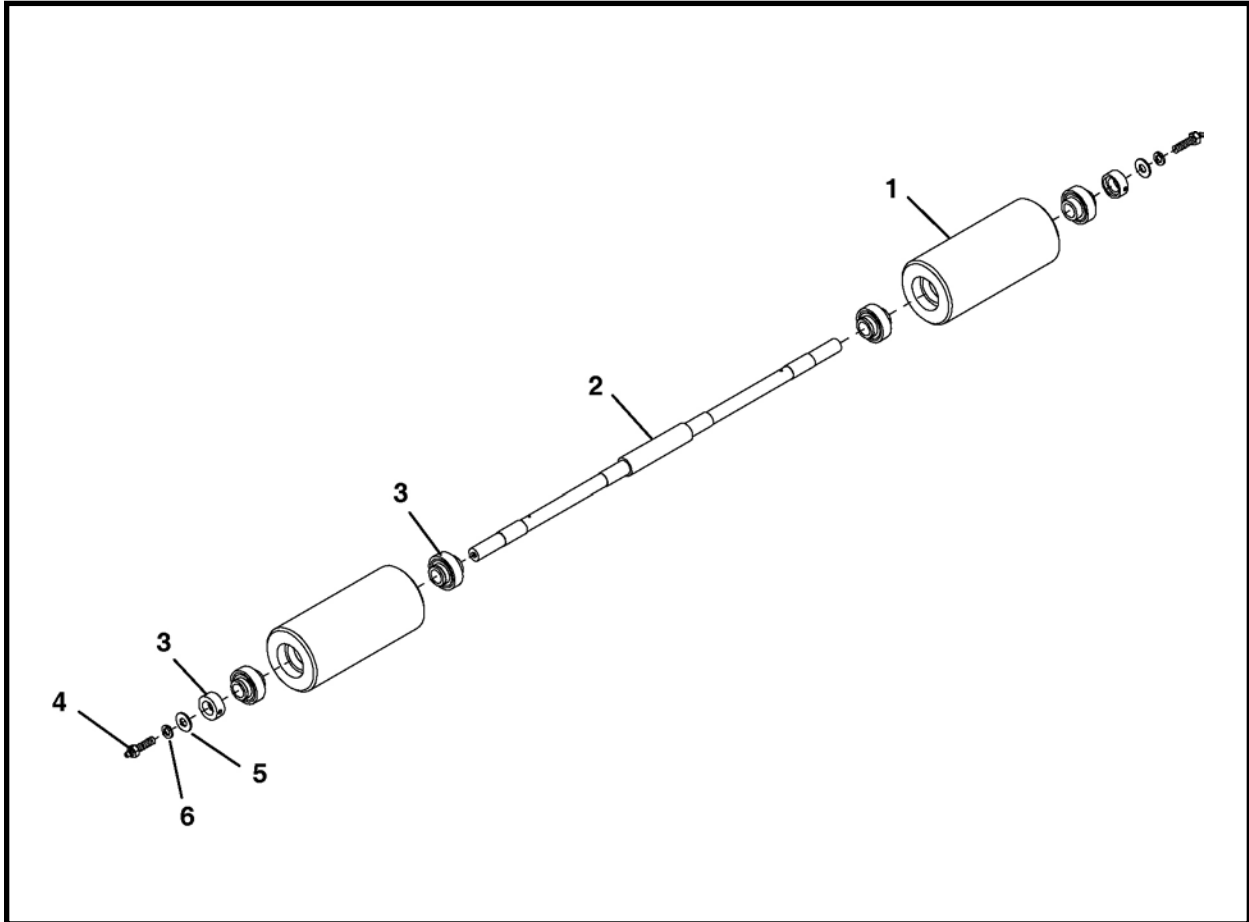
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------|
| 0 | 1 | 027134A00 | ASSEMBLY, Short Spoils Guide |
| 1 | 1 | 027217P00 | SUPPORT BAR, Feed Frame Spoils - RIGHT |
| 2 | 1 | 027135P00 | HINGE, Short Spoils Guide |
| 3 | 8 | P0011-004B | NUT, Weld 1/4-20 UNC |
| 4 | 1 | 027136P00 | STRIP, Short Spoils Guide Wear |
| 5 | 4 | P0045-004 | WASHER, Lock 1/4 |
| 6 | 4 | P0001-04-003 | BOLT, Hex 1/4-20 UNC x 3/4 |
| 7 | 1 | 027249P00 | BRACKET, Short Spoils Wear Strip |
| 8 | 1 | 027216P00 | TAB, Feed Frame Support Bar |

SHORT SPOILS GUIDE ASSEMBLY - REAR, 027267A00
2415 CONVEYOR



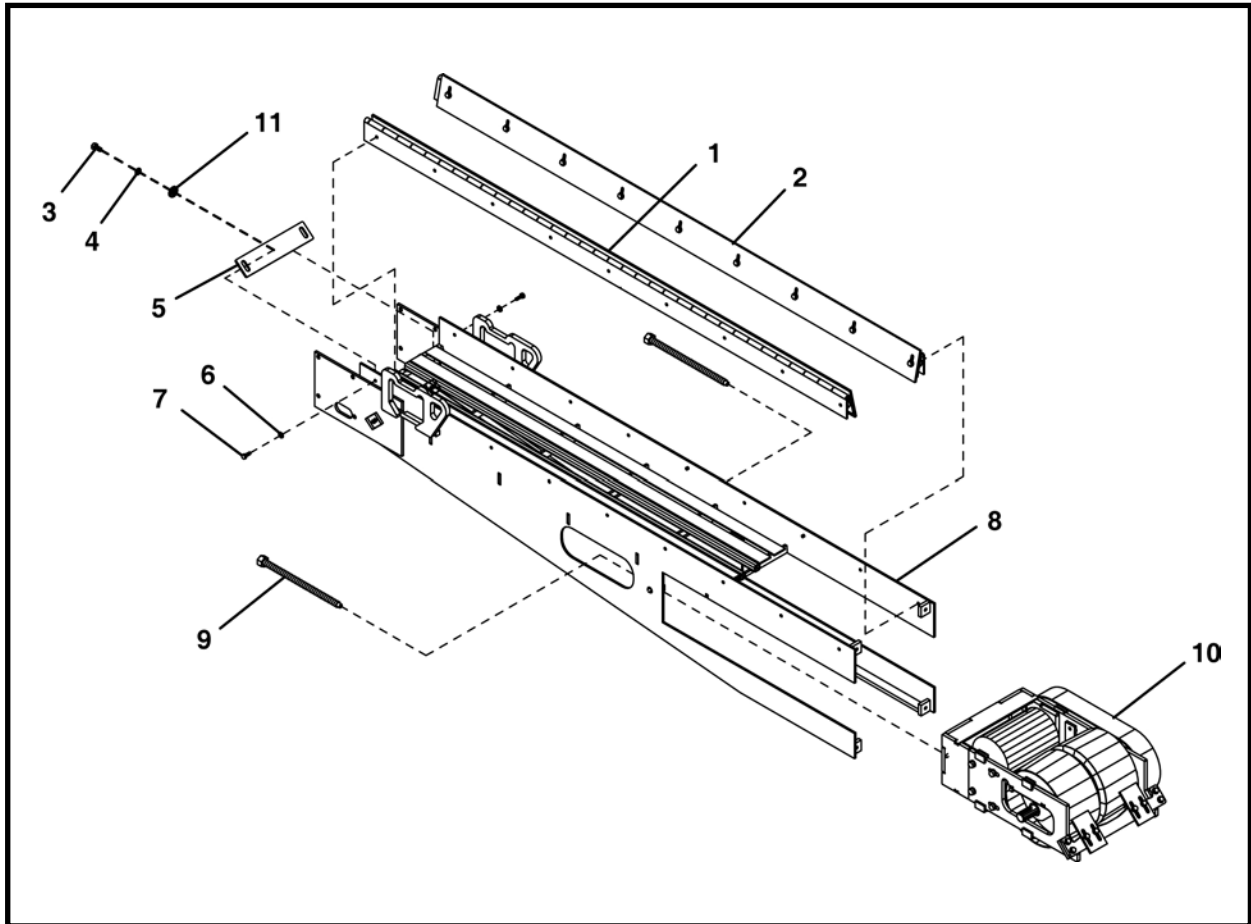
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------|
| 0 | 1 | 027267A00 | ASSEMBLY, Short Spoils Guide |
| 1 | 1 | 027136P00 | STRIP, Short Spoils Guide Wear |
| 2 | 4 | P0001-04-003 | BOLT, Hex 1/4-20 UNC x 3/4 |
| 3 | 4 | P0045-004 | WASHER, Lock 1/4 |
| 4 | 1 | 027217P00 | SUPPORT BAR, Feed Frame Spoils - Right |
| 5 | 1 | 027249P00 | BRACKET, Short Spoils Wear Strip |
| 6 | 8 | P0011-004B | NUT, Weld 1/4-20 UNC |
| 7 | 1 | 027135P00 | HINGE, Short Spoils Guide |
| 8 | 1 | 027216P00 | TAB, Feed Frame Support Bar |

IDLER ROLLER ASSEMBLY, 027311A00
2415 CONVEYOR



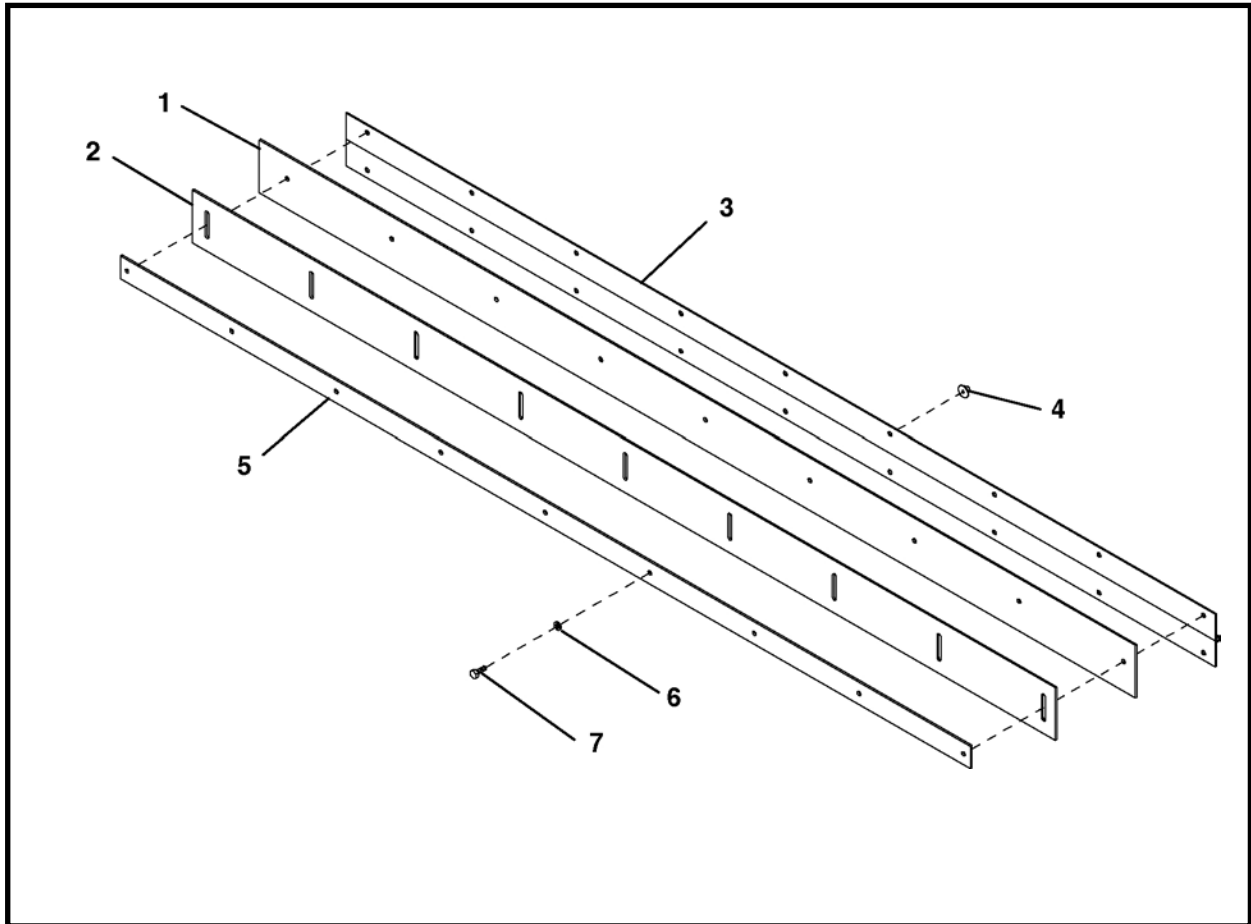
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------|--------------------------------------------------------------|
| 0 | 1 | 027311A00 | ASSEMBLY, Idler Roller |
| 1 | 2 | 007645P00 | ROLLER, Conveyor Idler |
| 2 | 1 | 007646P00 | SHAFT, Conveyor Idler |
| 3 | 4 | P0065-007 | BEARING |
| 4 | 2 | 001341A00 | BOLT, 3/8 UNC x 1-1/4 With Grease Fitting (Includes item 4a) |
| 4a | 2 | P0063-001 | FITTING, Grease |
| 5 | 2 | P0040-006 | WASHER, Flat 3/8 |
| 6 | 2 | P0045-006 | WASHER, Lock 3/8 |

DRIVE FRAME ASSEMBLY, 027425A
2415 CONVEYOR



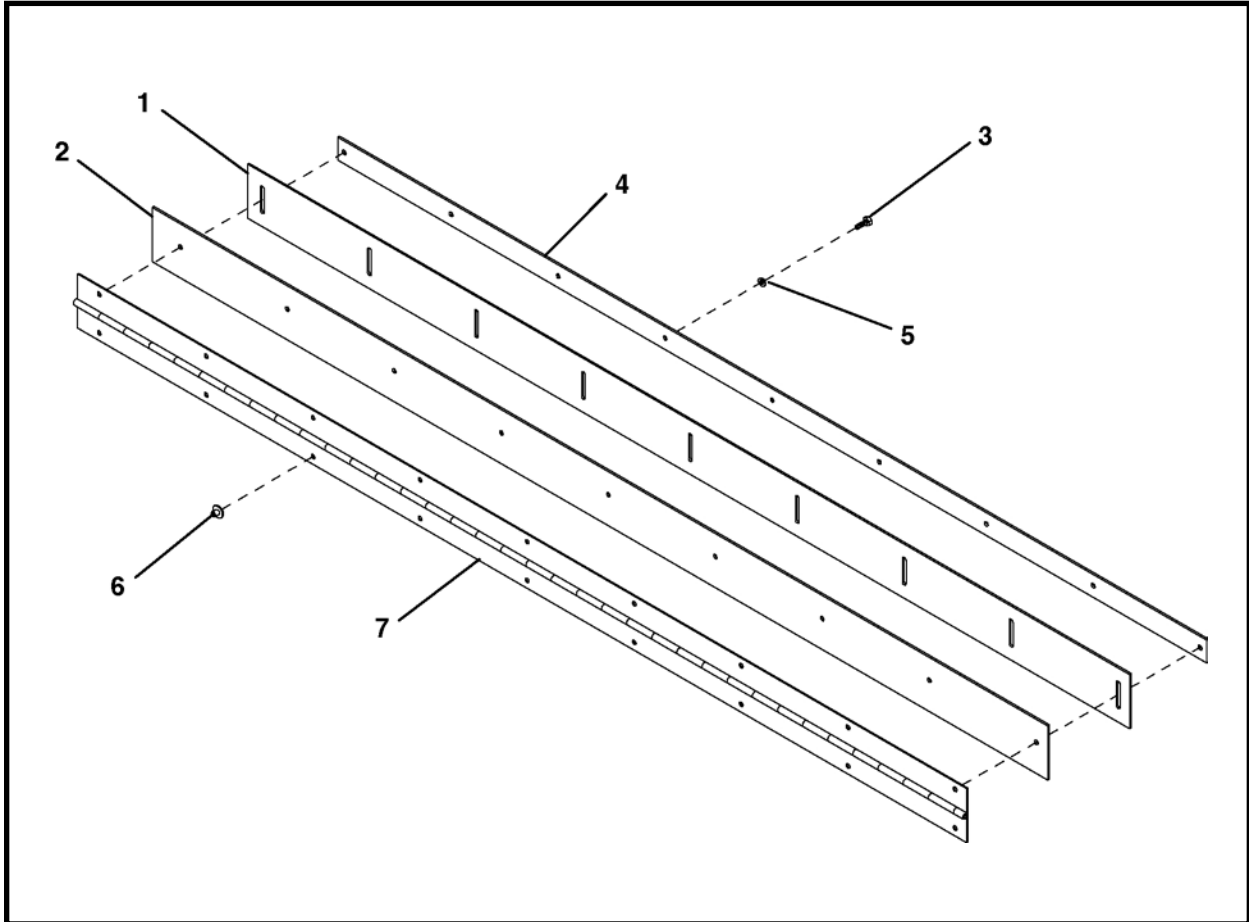
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|----------------------------------------------|
| 0 | 1 | 027425A | ASSEMBLY, Drive Frame |
| 1 | 1 | 027131A00 | ASSEMBLY, Drive Frame Spoils Guide - Front |
| 2 | 1 | 027219A00 | ASSEMBLY, Drive Frame Spoils Guide - Rear |
| 3 | 2 | P0001-06-003 | BOLT, Hex 3/8 UNC x 3/4 |
| 4 | 2 | P0045-006 | WASHER, Lock 3/8 |
| 5 | 1 | 027345P00 | PLATE, Idler Roller Scraper |
| 6 | 18 | P0045-004 | WASHER, Lock 1/4 |
| 7 | 18 | P0001-04-003 | BOLT, Hex 1/4 UNC x 3/4 |
| 8 | 1 | 027451A | WELDMENT, Drive Frame (Includes items 8a-8c) |
| 8a | 6 | P0011-006A | NUT, Strut Square 3/8 |
| 8b | 2 | 023524P00 | LIFT EYE |
| 8c | 2 | P0063-001 | FITTING, Grease 1/4 |
| 9 | 2 | 002824A01 | WELDMENT, Adjusting Screw |
| 10 | 1 | 027420A | ASSEMBLY, Drive Motor Frame |
| 11 | 2 | P0040-006 | WASHER, Hardened Flat 3/8 |

DRIVE FRAME SPOILS GUIDE ASSEMBLY - FRONT, 027131A00
2415 CONVEYOR



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|--------------------------------------------|
| 0 | 1 | 027131A00 | ASSEMBLY, Drive Frame Spoils Guide - Front |
| 1 | 1 | 027218P00 | SUPPORT BAR, Drive Frame Spoils |
| 2 | 1 | 027133P00 | STRIP, Feed Frame Spoils Wear |
| 3 | 1 | 027132P00 | HINGE, Drive Frame Spoils Guide |
| 4 | 18 | P0011-004B | NUT, Weld 1/4-20 UNC |
| 5 | 1 | 027247P00 | BRACKET, Drive Frame Wear Strip |
| 6 | 9 | P0045-004 | WASHER, Lock 1/4 |
| 7 | 9 | P0001-04-003 | BOLT, Hex 1/4-20 UNC x 3/4 |

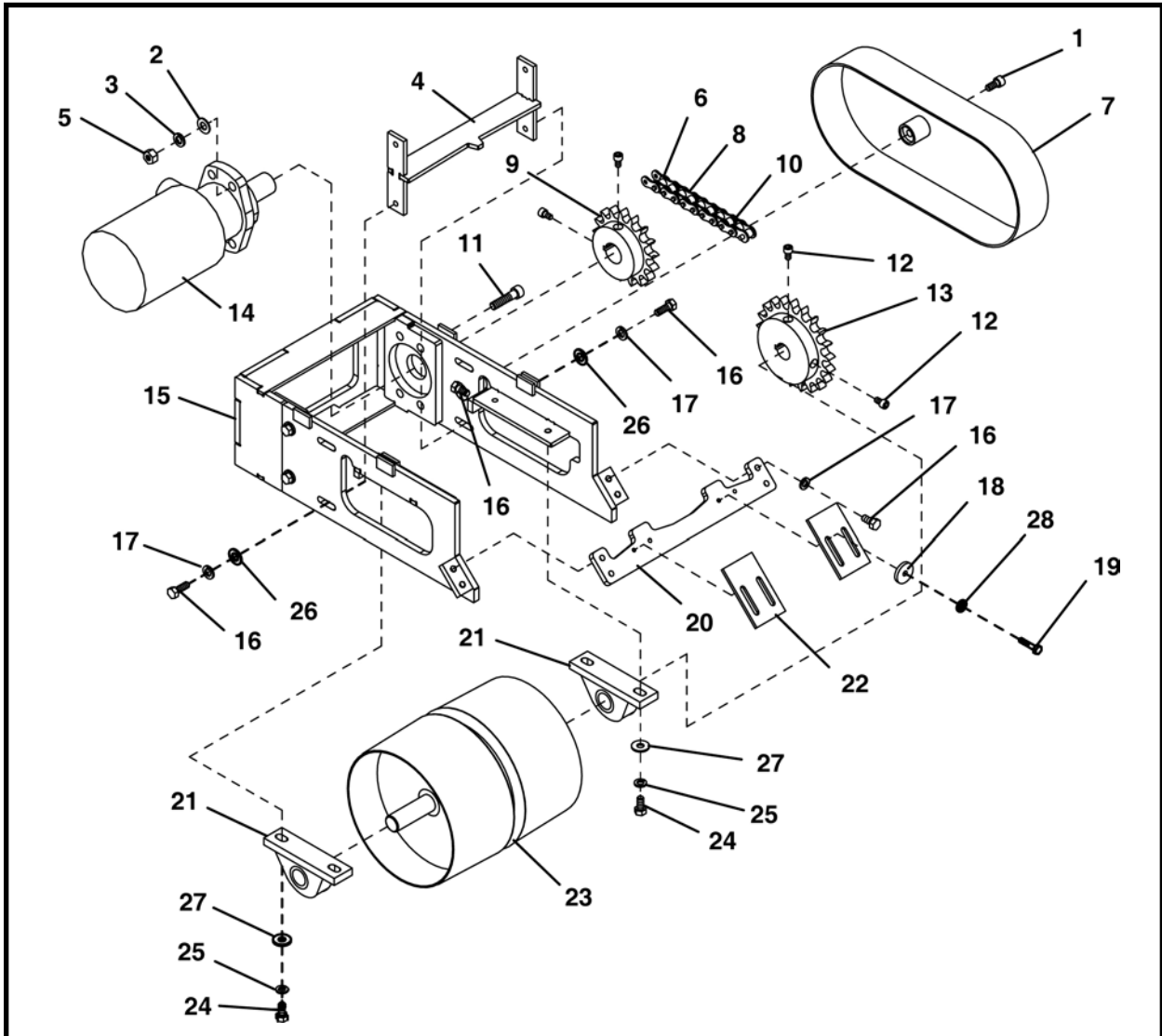
DRIVE FRAME SPOILS GUIDE ASSEMBLY - REAR, 027219A00
2415 CONVEYOR



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------------------|
| 0 | 1 | 027219A00 | ASSEMBLY, Drive Frame Spoils Guide - Rear |
| 1 | 1 | 027133P00 | STRIP, Drive Frame Spoils Wear |
| 2 | 1 | 027218P00 | SUPPORT BAR, Drive Frame Spoils |
| 3 | 9 | P0045-004 | BOLT, Hex 1/4-20 UNC x 3/4 |
| 4 | 1 | 027247P00 | BRACKET, Drive Frame Wear Strip |
| 5 | 9 | P0001-04-003 | WASHER, Lock 1/4 |
| 6 | 18 | P0011-004B | NUT, Weld 1/4-20 UNC |
| 7 | 1 | 027132P00 | HINGE, Drive Frame Spoils Guide |

NOTES

DRIVE MOTOR & ROLLER ASSEMBLY, 027420A
2415 CONVEYOR



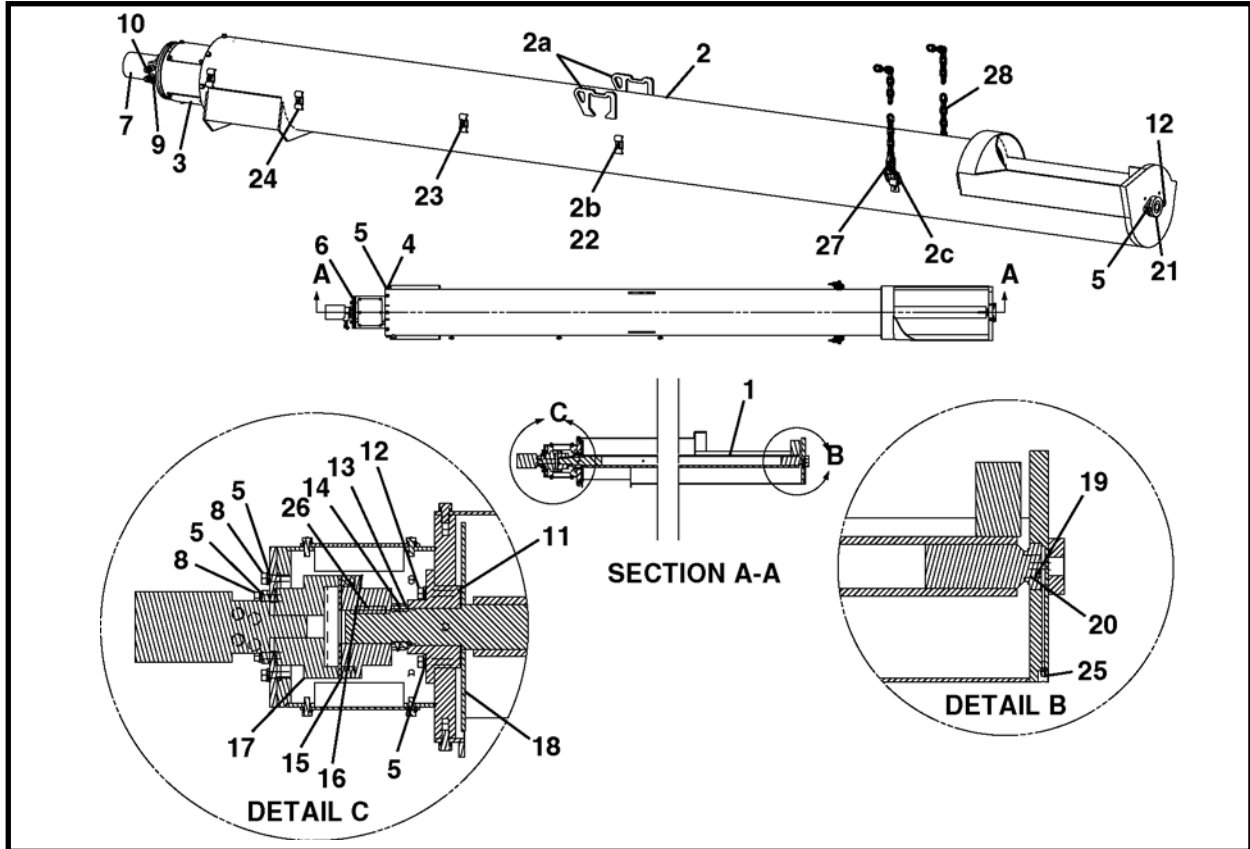
| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-------|--------------|-------------------------------------------------|
| 0 | 1 | 027420A | ASSEMBLY, Drive Motor & Roller |
| 1 | 1 | P0031-06-003 | SCREW, Socket Head Cap 3/8-16 UNC x 3/4 |
| 2 | 4 | P0040-007 | WASHER, Flat 7/16 |
| 3 | 4 | P0045-007 | WASHER, Lock 7/16 |
| 4 | 1 | 027306A00 | SCRAPER, Internal Drive Roller |
| 5 | 4 | P0003-07-000 | NUT, 7/16-14 UNC |
| 6 | 35 LI | P0078-002 | CHAIN, Roller #60 x 35 |
| 7 | 1 | 027470A | COVER, Conveyor Chain |
| 8 | 1 | P0078-008 | LINK, Connect #60 |
| 9 | 1 | 027374P | SPROCKET, Drive 14 Teeth |
| 10 | 1 | P0078-005 | LINK, Repair #60 |
| 11 | 4 | P0001-07-007 | SCREW, Socket Head Cap 7/16-14 UNC x 1-3/4 |
| 12 | 4 | P0033-06-012 | SCREW, Socket Head Set 3/8-16 UNC x 1/2 |
| 13 | 1 | 027369P | SPROCKET, Drive 21 Teeth |
| 14 | 1 | P0304-157 | MOTOR |
| 15 | 1 | 027415A00 | WELDMENT, Drive Motor Frame (Includes item 15a) |
| 15a | 2 | P0001-06-003 | BOLT, Hex 3/8-16 UNC x 3/4 |
| 16 | 10 | P0001-06-003 | BOLT, Hex 3/8-16 UNC x 3/4 |
| 17 | 8 | P0045-006 | WASHER, Lock 3/8 |

DRIVE MOTOR & ROLLER ASSEMBLY, 027420A
2415 CONVEYOR

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|---------------------------|
| 18 | 4 | 002624P00 | WASHER, 1/4 |
| 19 | 4 | P0001-04-005 | BOLT, 1/4-20 UNC x 1-1/4 |
| 20 | 1 | 027333P00 | MOUNT, External Scraper |
| 21 | 2 | P0065-016 | BEARING |
| 22 | 2 | 027335P00 | SCRAPER, External Belt |
| 23 | 1 | 027465A | ROLLER, Drive |
| 24 | 4 | P0001-08-005 | BOLT, 1/2-13 UNC x 1-1/4 |
| 25 | 4 | P0045-008 | WASHER, Lock 1/2 |
| 26 | 4 | P0040-006 | WASHER, Flat 3/8 |
| 27 | 4 | P0040-008 | WASHER, Hardened Flat 1/2 |
| 28 | 4 | P0045-004 | WASHER, Lock 1/4 |

LI - Linear Inch

140 SCREW CONVEYOR, F24500F00

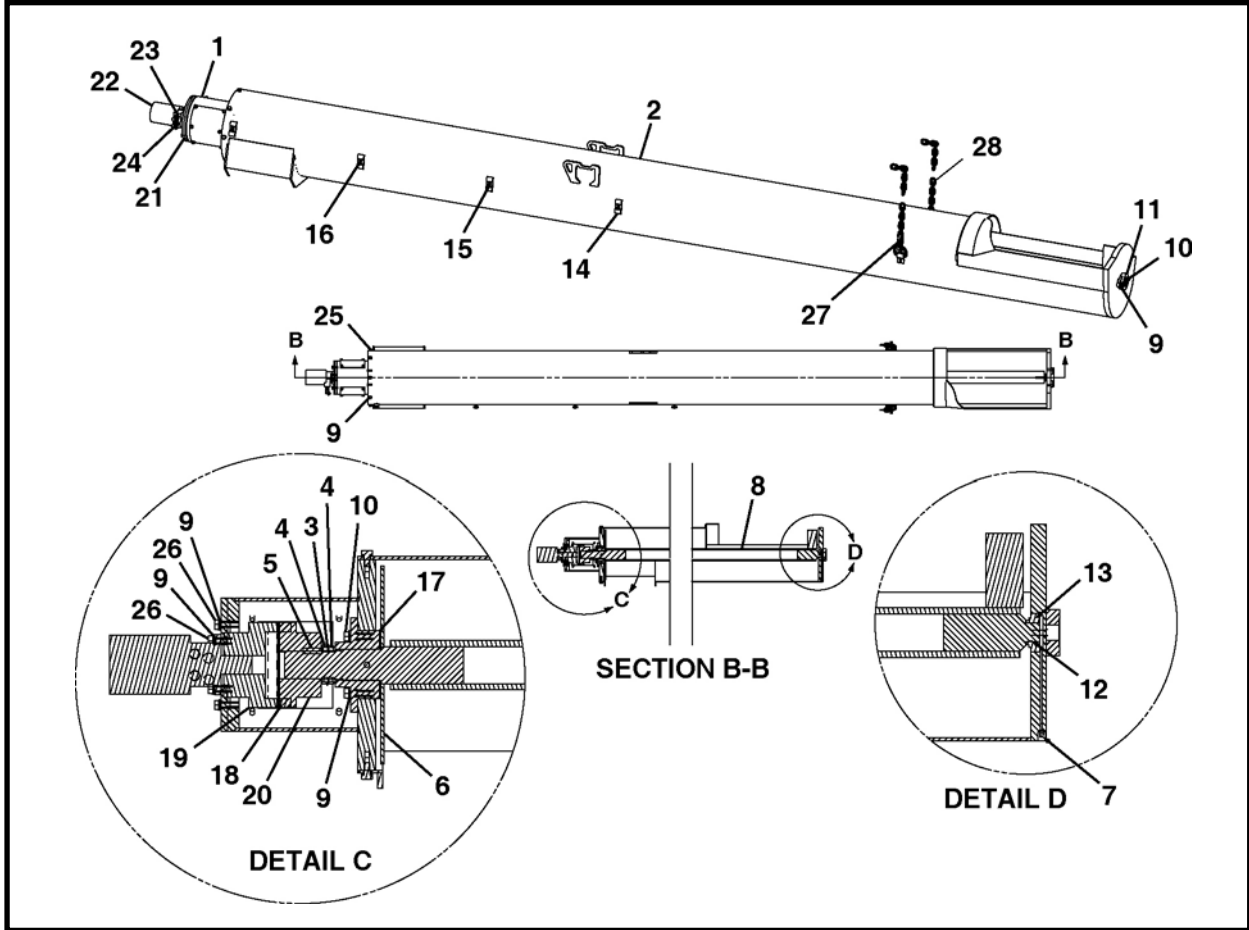


| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|--------------|-------------------------------------------|
| 0 | 1 | F24500F00 | CONVEYOR, Screw, 140 |
| 1 | 1 | 024501A00 | WELDMENT, 14" Screw |
| 2 | 1 | 024503A00 | WELDMENT, 14" Pipe (Includes items 2a-2c) |
| 2a | 2 | 023524P00 | BRACKET, Conveyor |
| 2b | 4 | P0001-05-003 | BOLT, Hex 5/16-18 x 3/4 |
| 2c | 2 | P0079-003 | D-RING 1/2 |
| 3 | 1 | 024502A00 | WELDMENT, Motor Adaptor |
| 4 | 8 | P0001-08-004 | BOLT, Hex 1/2-13 x 1 |
| 5 | 24 | P0045-008 | WASHER, Lock 1/2 |
| 6 | 1 | 009893P00 | PLATE, Mounting |
| 7 | 1 | P0304-145 | MOTOR, Hydraulic |
| 8 | 8 | P0001-08-006 | BOLT, Hex 1/2-13 x 1-1/2 |
| 9 | 2 | P0300-167 | FITTING, 7/8 ORB Male x 1/2 NPT |
| 10 | 2 | P0300-173 | SWIVEL, 1/2 Male, 45 Degree |
| 11 | 1 | P0065-107 | BEARING, Pilot Flange |
| 12 | 6 | P0001-08-008 | BOLT, Hex 1/2-13 x 2 |
| 13 | 2 | P0065-108 | NUT, Lock |
| 14 | 1 | P0065-109 | WASHER, Lock |
| 15 | 1 | P0305-134C | INSERT, Coupler |
| 16 | 1 | P0305-134A | COUPLER, Keyway |
| 17 | 1 | P0305-134B | COUPLER, Spline |
| 18 | 1 | 024559P | WASHER, Conveyor Flighting |
| 19 | 1 | P0065-004 | BEARING |
| 20 | 1 | P0085-028 | O-RING |
| 21 | 1 | P0065-017 | BLOCK, Bearing |

140 SCREW CONVEYOR, F24500F00

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|------|---------------|-----------------------------|
| 22 | 4 | P0004-05-000 | NUT, 5/16 |
| 23 | 4 | P0045-005 | WASHER, Lock 5/16 |
| 24 | 4 | 002269P01 | CLAMP, Line |
| 25 | 1 | P0063-001 | FITTING, Grease 1/4 |
| 26 | 1 LI | P0047-007 | KEY |
| 27 | 2 | P0098-010 | LINK, 3/8 |
| 28 | 4 | P0094-003-030 | CHAIN, Steel Alloy 3/8 x 30 |
| 29 | 2 | A10320A0-200 | HOSE, 1/2 x 200 |
| 30 | 1 | P0100-004A | COUPLER, Quick 1/2 Female |
| 31 | 1 | P0100-004B | COUPLER, Quick 1/2 Male |

160 SCREW CONVEYOR, F09885F00



| ITEM | QTY | PART NO. | DESCRIPTION |
|------|------|--------------|-------------------------------------------|
| 0 | 1 | F09885F00 | CONVEYOR, Screw, 160 |
| 1 | 1 | 009883A00 | WELDMENT, Motor Adaptor |
| 2 | 1 | 009881A00 | WELDMENT, 16" Pipe (Includes items 2a-2c) |
| 2a | 2 | 023524P00 | BRACKET, Conveyor |
| 2b | 4 | P0001-05-003 | BOLT, Hex 5/16-18 x 3/4 |
| 2c | 2 | P0079-003 | D-RING 1/2 |
| 3 | 1 | P0065-109 | WASHER, Lock |
| 4 | 2 | P0065-108 | NUT, Lock |
| 5 | 1 LI | P0047-007 | KEY |
| 6 | 1 | 009874P | WASHER, Conveyor Flighting |
| 7 | 1 | P0063-001 | FITTING, Grease 1/4 |
| 8 | 1 | 009882A00 | WELDMENT, 14" Screw |
| 9 | 22 | P0045-008 | WASHER, Lock 1/2 |
| 10 | 6 | P0001-08-008 | BOLT, Hex 1/2-13 x 2 |
| 11 | 1 | P0065-017 | BLOCK, Bearing |
| 12 | 1 | P0085-028 | O-RING |
| 13 | 1 | P0065-004 | BEARING |
| 14 | 4 | 002269P01 | CLAMP, Line |
| 15 | 4 | P0045-005 | WASHER, Lock 5/16 |
| 16 | 4 | P0004-05-000 | NUT, 5/16 |
| 17 | 1 | P0065-107 | BEARING, Pilot Flange |
| 18 | 1 | P0305-134C | INSERT, Coupler |
| 19 | 1 | P0305-134B | COUPLER, Spline |

160 SCREW CONVEYOR, F09885F00

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|---------------|---------------------------------|
| 20 | 1 | P0305-134A | COUPLER, Keyway |
| 21 | 1 | 009893P00 | PLATE, Mounting |
| 22 | 1 | P0304-145 | MOTOR, Hydraulic |
| 23 | 2 | P0300-167 | FITTING, 7/8 ORB Male x 1/2 NPT |
| 24 | 2 | P0300-173 | SWIVEL, 1/2 Male, 45 Degree |
| 25 | 8 | P0001-08-004 | BOLT, Hex 1/2-13 x 1 |
| 26 | 8 | P0001-08-006 | BOLT, Hex 1/2-13 x 1-1/2 |
| 27 | 4 | P0098-010 | LINK, 3/8 |
| 28 | 4 | P0094-003-030 | CHAIN, Steel Alloy 3/8 |
| 29 | 2 | A10320A0-200 | ASSEMBLY, Hose 1/2 x 200 |
| 30 | 1 | P0100-004A | COUPLER, Quick 1/2 Female |
| 31 | 1 | P0100-004B | COUPLER, Quick 1/2 Male |

NOTES



Alphabetical Index

a

| | |
|------------------------------------------------|-------|
| advance cylinders assembly | 10-2 |
| advance for motor assembly, drum | 3-19 |
| advance standard assembly, drum, 026140a | 3-15 |
| assembly, | |
| 1-1/4" coupler | 6-5 |
| 30" stroke, cylinder, liner can | 10-5 |
| 38" stroke, cylinder, liner can | 10-6 |
| bulkhead seal & door | 3-23 |
| cable | 3-10 |
| common drum roller, 026435a | 3-25 |
| conveyor lift | 3-9 |
| cylinder, advance | 10-2 |
| dirt head | 3-29 |
| dirt paddle | 3-24 |
| dirt scoop | 3-28 |
| dirt wing cylinder | 10-3 |
| dirt wing drum | 3-11 |
| drive frame, 2415 | 11-14 |
| drive motor & roller, 2415 | 11-18 |
| drum advance for motor | 3-19 |
| drum advance standard | 3-15 |
| drum roller, 011845a00 | 3-26 |
| electrical box | 5-7 |
| electrical system | 5-2 |
| extension frame, 2415 | 11-10 |
| extension light | 5-9 |
| feed frame, 2415 | 11-4 |
| filter | 6-4 |
| final | 3-2 |
| floor | 3-6 |
| front roller, 2415 | 11-7 |
| gas detector | 5-4 |
| gear ring | 3-27 |
| hydraulic dirt wing (ccw) | 3-13 |
| hydraulic dirt wing (cw) | 3-12 |
| idler roller | 3-18 |
| idler roller, 2415 | 11-13 |
| inner drum | 3-21 |
| mid drum | 3-7 |
| motor | 3-17 |
| pipe adapter | 3-33 |
| quad bar | 3-32 |
| sand head | 3-30 |
| sand shelf, | 3-31 |
| seat | 3-8 |

a (continued)

| | |
|------------------------------------------------|------------|
| assembly | |
| strobe - horn | 5-3 |
| thrust roller | 3-16, 3-20 |
| front, drive frame spoils guide, 2415..... | 11-15 |
| front, short spoils guide, 2415 | 11-11 |
| left front, feed frame spoils guide, 2415..... | 11-5 |
| left rear, feed frame spoils guide, 2415..... | 11-6 |
| rear, drive frame spoils guide, 2415 | 11-16 |
| rear, short spoils guide, 2415 | 11-12 |
| right front, feed frame spoils guide, 2415... | 11-8 |
| right rear, feed frame spoils guide, 2415.... | 11-9 |
| schematic, gas detector | 5-6 |
| cutter head, general information | 1-3 |

b

| | |
|--------------------------------------------------|------|
| bar, drit | 3-29 |
| bar assembly, quad | 3-32 |
| belt conveyor, 2415 | 1-2 |
| belt conveyor, general information | 1-4 |
| belt conveyor decals | 2-4 |
| boring machine, tunnel, general information | 1-2 |
| boring machine decals, tunnel | 2-2 |
| box assembly, electrical | 5-7 |
| box decals, head | 2-7 |
| box schematic, electrical | 5-8 |
| bulkhead seal & door assembly | 3-23 |

c

| | |
|---------------------------------------------|-------|
| cable assembly | 3-10 |
| challenge kit, gas | 5-5 |
| common drum roller assembly, 026435a | 3-25 |
| contents | iii |
| controls, operator | 4-1 |
| controls, operator | 4-2 |
| control valve, conveyor | 7-5 |
| control valve, conveyor drive | 7-3 |
| control valve, flow | 7-4 |
| control valve, inner drum motor | 7-2 |
| control valve, tbm | 7-7 |
| conveyor, belt, 2415 | 11-2 |
| conveyor, screw, 140 | 11-20 |
| conveyor, screw, 160 | 11-22 |
| conveyor - belt, general information | 1-4 |
| conveyor - screw, general information | 1-5 |

c (continued)

conveyor control valve 7-5
 conveyor decals, belt 2-4
 conveyor decals, screw 2-5
 conveyor drive control valve 7-3
 conveyor drive motor, 2415 8-3
 conveyor drive motor, screw 8-4
 conveyor lift assembly 3-9
 conveyors 11-1
 coupler assembly, 1-1/4" 6-5
 cutter head attachments, general information .. 1-3
 cylinder, steering, 600-660 10-4
 cylinder assembly, 30" stroke, liner can 10-5
 cylinder assembly, 38" stroke, liner can 10-6
 cylinder assembly, advance 10-2
 cylinder assembly, dirt wing 10-3
 cylinders 10-1

d

decals 2-1
 decals, belt conveyor 2-4
 decals, boring machine, tunnel 2-2
 decals, head box 2-7
 decals, laser light stand 2-6
 decals, screw conveyor 2-5
 decals, tunnel boring machine 2-2
 detector assembly, gas 5-4
 detector assembly schematic, gas 5-6
 dirt bar 3-29
 dirt head assembly 3-29
 dirt paddle assembly 3-24
 dirt scoop assembly 3-28
 dirt wing (ccw) assembly, hydraulic 3-13
 dirt wing (cw) assembly, hydraulic 3-12
 dirt wing drum assembly 3-11
 divider, flow 9-2
 door assembly & bulkhead seal 3-23
 drive assembly & front drum 3-14
 drive control valve, conveyor 7-3
 drive frame assembly, 2415 11-14
 drive frame spoils guide assembly
 - front, 2415 11-15
 drive frame spoils guide assembly
 - rear, 2415 11-16
 drive motor & roller assembly, 2415 11-18
 drive motor, conveyor, 2415 8-3
 drive motor, tbm 8-2
 drum advance for motor assembly 3-19
 drum advance standard assembly 3-15
 drum assembly, dirt wing 3-11
 drum assembly, inner 3-21
 drum assembly, mid 3-7
 drum motor control valve, inner 7-2
 drum roller assembly, 011845a00 3-26
 drum roller assembly, common, 026435a 3-25
 drum weldment, drum 3-22

e

electrical 5-1
 electrical box assembly 5-7
 electrical box schematic 5-8
 electrical system assembly 5-2
 extension frame assembly, 2415 11-10
 extension light assembly 5-9

f

feed frame
 assembly, 2415 11-4
 spoils guide assembly - left front, 2415.... 11-5
 spoils guide assembly - left rear, 2415 11-6
 spoils guide assembly - right front, 2415 .. 11-8
 spoils guide assembly - right rear, 2415 .. 11-9
 filter assembly 6-4
 final assembly 3-2
 floor assembly 3-6
 flow control valve 7-4
 flow divider 9-2
 frame assembly, drive, 2415 11-14
 frame assembly, extension, 2415 11-10
 frame assembly, feed, 2415 11-4
 frame spoils
 guide assembly - front, drive, 2415 11-15
 guide assembly - left front, feed, 2415 11-5
 guide assembly - left rear, feed, 2415 11-6
 guide assembly - rear, drive, 2415 11-16
 guide assembly - right front, feed, 2415.... 11-8
 guide assembly - right rear, feed, 2415 11-9
 front drum & drive assembly 3-14
 front roller assembly, 2415 11-7

g

gas challenge kit 5-5
 gas detector assembly 5-4
 gas detector assembly schematic 5-6
 gear ring assembly 3-27
 general information 1-1
 conveyor - belt 1-4
 conveyor - screw 1-5
 conveyor - belt 1-4
 cutter head attachments 1-3
 tunnel boring machine 1-2
 guide assembly
 front, short spoils, 2415 11-11
 front drive frame spoils, 2415 11-15
 left front, feed frame spoils, 2415 11-5
 left rear, feed frame spoils, 2415 11-6
 rear, drive frame spoils, 2415 11-16
 rear, short spoils, 2415 11-12
 right front, feed frame spoils, 2415 11-8
 right rear, feed frame spoils, 2415 11-9

h

hardware specifications i
 head assembly, dirt 3-29

h (continued)

head assembly, sand 3-30
 head box decals 2-7
 horn assembly, strobe 5-3
 hydraulic dirt wing (ccw) assembly 3-13
 hydraulic dirt wing (cw) assembly 3-12
 hydraulics 6-1
 hydraulic schematic 6-2

i

idler roller assembly 3-18
 idler roller assembly, 2415 11-13
 information, general 1-1
 conveyor - belt 1-4
 conveyor - screw 1-5
 conveyor - belt 1-4
 cutter head attachments 1-3
 tunnel boring machine 1-2
 inner drum assembly 3-21
 inner drum motor control valve 7-2
 inner drum weldment 3-22
 introduction i

k

kit, gas challenge 5-5

l

laser light stand 3-34
 laser light stand, general information 1-6
 laser light stand decals 2-6
 lift assembly, conveyor 3-9
 light assembly, extension 5-9
 light stand, laser 3-34
 light stand, laser, general information 1-6
 light stand, laser, information, general 1-6
 light stand decals, laser 2-6
 liner can cylinder assembly, 30" stroke 10-5
 link assembly, steering cylinder, 3-4
 locating parts i

m

measurements i
 mid drum assembly 3-7
 miscellaneous 11-1
 motor & roller assembly, drive, 2415 11-18
 motor, conveyor drive, 2415 8-3
 motor, screw conveyor drive 8-4
 motor, tbm drive 8-2
 motor assembly 3-17
 motor assembly, drum advance for 3-19
 motor control valve, inner drum 7-2
 motors 8-1

o

operator controls 4-1
 operator controls 4-2
 ordering, parts i

p

paddle assembly, dirt 3-24
 parts, locating i
 parts ordering i
 pipe adapter assembly 3-33
 pumps 9-1

q

quad bar assembly 3-32

r

roller assembly,
 common drum, 026435a 3-25
 drive motor, 2415 11-18
 drum, 011845a00 3-26
 front, 2415 11-7
 idler 3-18
 idler, 2415 11-13
 thrust 3-16, 3-20

s

sand head assembly 3-30
 sand shelf assembly 3-31
 schematic,
 electrical box 5-8
 gas detector assembly 5-6
 hydraulic 6-2
 scoop assembly, scoop 3-28
 screw conveyor,
 140 11-20
 160 11-22
 general information 1-5
 decals 2-5
 drive motor 8-4
 seat assembly 3-8
 shelf assembly, sand, 3-31
 short spoils guide assembly
 front, 2415 11-11
 short spoils guide assembly
 rear, 2415 11-12
 specification, hardware i
 spoils guide assembly -
 front, drive frame, 2415 11-15
 front, short, 2415 11-11
 left front, feed frame, 2415 11-5
 left rear, feed frame, 2415 11-6
 rear, drive frame, 2415 11-16
 rear, short, 2415 11-12
 right front, feed frame, 2415 11-8
 right rear, feed frame, 2415 11-9

Alphabetical Index

s (continued)

stand, laser light 3-34
standard assembly, drum advance 3-15
steering cylinder & link assembly 3-4
steering cylinder 10-4
steering valve 7-6
strobe - horn assembly 5-3
structurals 3-1
system assembly, electrical 5-2

t

tbm control valve 7-7
tbm drive motor 8-2
thrust roller assembly 3-16, 3-20
tunnel boring machine, general information 1-2
tunnel boring machine decals 2-2

v

valve, conveyor control 7-5
valve, conveyor drive control 7-3
valve, flow control 7-4
valve, inner drum motor control 7-2
valve, steering 7-6
valve, tbm control 7-7
valves 7-1

w

weldment, inner drum 3-22
wing (ccw) assembly, hydraulic dirt 3-13
wing (cw) assembly, hydraulic dirt 3-12
wing drum assembly, dirt 3-11



Numerical Index

| PART NO. | PAGE NO. | PART NO. | PAGE NO. | PART NO. | PAGE NO. |
|-----------------|----------|-----------------|----------|-----------------|----------|
| 001151P01 | 3-27 | 002824A01 | 11-14 | 005349A01 | 6-3 |
| 001229A01 | 3-18 | 002856P00 | 10-4 | 005349A01 | 6-5 |
| 001231A01 | 3-17 | 002995P04 | 3-17 | 005350P03 | 6-5 |
| 001231A01 | 3-18 | 003050P00 | 10-5 | 005436A00 | 11-4 |
| 001243P01 | 10-2 | 003050P00 | 10-6 | 005539A01 | 3-32 |
| 001245P00 | 10-2 | 003051P00 | 10-5 | 005783P00 | 3-4 |
| 001245P00 | 10-3 | 003053P00 | 10-5 | 005853P01 | 3-4 |
| 001296A02 | 3-15 | 003054P00 | 10-5 | 005868P00 | 10-4 |
| 001296A02 | 3-16 | 003054P00 | 10-6 | 005912P00 | 3-5 |
| 001296A02 | 3-19 | 003602A02 | 10-4 | 006025A00 | 3-37 |
| 001296A02 | 3-20 | 003640P00 | 3-4 | 006034A00 | 3-37 |
| 001320P00 | 3-17 | 003660A01 | 3-9 | 006039A00 | 3-37 |
| 001328A00 | 3-15 | 003661P00 | 3-9 | 006040A00 | 3-37 |
| 001328A00 | 3-19 | 003860P01 | 7-2 | 006044A00 | 3-37 |
| 001341A00 | 11-13 | 003924P00 | 3-22 | 006047A00 | 3-37 |
| 001496P00 | 11-4 | 004124P01 | 3-29 | 006068A00 | 3-37 |
| 001887P00 | 3-15 | 004124P01 | 3-30 | 006288A00 | 3-4 |
| 001887P00 | 3-19 | 004124P01 | 3-32 | 006301P00 | 3-4 |
| 001906A00 | 3-15 | 004445P00 | 3-31 | 006302P01 | 3-4 |
| 001906A00 | 3-19 | 004500A04 | 6-3 | 006303A00 | 3-4 |
| 001922P01 | 3-18 | 004500A04 | 6-4 | 006723P00 | 10-5 |
| 002082A01 | 3-25 | 004644A01 | 3-30 | 006723P00 | 10-6 |
| 002225P | 3-14 | 004666A00 | 3-22 | 006825P01 | 3-15 |
| 002243P00 | 3-15 | 004742A00 | 3-29 | 006825P01 | 3-19 |
| 002243P00 | 3-19 | 004750P01 | 3-29 | 007002P02 | 6-5 |
| 002261A00 | 3-15 | 004750P02 | 3-29 | 007086P00 | 6-5 |
| 002261A01 | 3-19 | 004750P03 | 3-29 | 007087P00 | 6-5 |
| 002269P01 | 11-3 | 004753A00 | 3-29 | 007239P00 | 3-12 |
| 002269P01 | 11-21 | 004782P00 | 3-29 | 007239P00 | 3-13 |
| 002269P01 | 11-22 | 004783P01 | 3-29 | 007240P00 | 3-13 |
| 002279P01 | 3-3 | 004899P00 | 6-5 | 007332P00 | 3-17 |
| 002289A00 | 3-21 | 004901P00 | 6-5 | 007407P00 | 10-4 |
| 002289A00 | 3-28 | 004943P00 | 3-31 | 007412P00 | 10-4 |
| 002386P04 | 11-7 | 004944P00 | 3-31 | 007579A00 | 4-2 |
| 002617A01 | 6-3 | 004946P00 | 3-31 | 007579A00 | 6-3 |
| 002617A01 | 10-5 | 004947P00 | 3-31 | 007579A00 | 7-2 |
| 002624P00 | 3-24 | 004948P00 | 3-31 | 007580P01 | 7-2 |
| 002624P00 | 11-4 | 005117P00 | 3-31 | 007581P00 | 7-2 |
| 002624P00 | 11-19 | 005348P00 | 6-5 | 007582P00 | 7-2 |

Numerical Index

| PART NO. | PAGE NO. | PART NO. | PAGE NO. | PART NO. | PAGE NO. |
|-----------|----------|-----------|----------|-----------|----------|
| 007583P00 | 7-2 | 010864P00 | 10-3 | 014655A00 | 3-11 |
| 007584P01 | 7-2 | 010865P00 | 10-2 | 016400A | 3-3 |
| 007585P01 | 7-2 | 011583P00 | 3-12 | 016400A | 5-2 |
| 007586P01 | 7-2 | 011583P00 | 3-13 | 016401A | 5-2 |
| 007587A00 | 7-2 | 011700A00 | 6-3 | 016401A | 5-4 |
| 007645P00 | 11-13 | 011704P00 | 10-4 | 016402A | 5-2 |
| 007646P00 | 11-13 | 011709A00 | 10-4 | 016402A | 5-7 |
| 007965A01 | 6-4 | 011711A00 | 10-4 | 016403A | 5-4 |
| 007966P01 | 6-4 | 011713P00 | 10-4 | 016404A | 5-2 |
| 007968A00 | 6-3 | 011720A00 | 6-3 | 016404A | 5-3 |
| 008146P00 | 6-3 | 011720A00 | 10-6 | 016405P | 5-3 |
| 008149A00 | 6-3 | 011721A00 | 10-6 | 016406P | 5-7 |
| 008190A00 | 6-4 | 011723P00 | 10-6 | 016409A | 5-2 |
| 008289A00 | 3-17 | 011805P00 | 3-26 | 016410A | 5-2 |
| 008385P00 | 6-3 | 011807P00 | 3-22 | 016412P | 5-7 |
| 008386P00 | 6-3 | 011808P00 | 3-25 | 016415A | 5-2 |
| 009183P01 | 3-27 | 011809P00 | 3-25 | 016415A | 5-9 |
| 009695A00 | 3-14 | 011845A00 | 3-25 | 016416A | 5-9 |
| 009874P | 11-22 | 011845A00 | 3-26 | 016842P | 3-34 |
| 009881A00 | 11-22 | 011846P00 | 3-26 | 0168444P | 3-34 |
| 009882A00 | 11-22 | 012609A01 | 3-7 | 016845P | 3-34 |
| 009883A00 | 11-22 | 012609A01 | 3-9 | 016846A | 3-3 |
| 009893P00 | 11-20 | 012765A01 | 3-9 | 016846A | 3-34 |
| 009893P00 | 11-23 | 012785A00 | 3-9 | 016847P | 3-35 |
| 009981A00 | 3-23 | 012790A00 | 3-9 | 016848P | 3-35 |
| 009986P00 | 3-23 | 012795A00 | 3-10 | 016849P | 3-36 |
| 009987P00 | 3-23 | 012795A00 | 3-9 | 016851P | 3-36 |
| 009992A01 | 3-7 | 012798A01 | 3-9 | 016852A | 3-3 |
| 009992A01 | 3-8 | 013789P | 3-4 | 016852A | 3-35 |
| 009993P00 | 3-8 | 013814A00 | 3-14 | 016853A | 3-3 |
| 009994P00 | 3-8 | 013814A00 | 3-17 | 016853A | 3-36 |
| 009995P00 | 3-8 | 014152P00 | 3-27 | 018354P | 3-4 |
| 010129P00 | 6-3 | 014426P00 | 3-23 | 018658A00 | 6-3 |
| 010199A01 | 3-3 | 014600A00 | 3-11 | 018700A00 | 6-3 |
| 010199A01 | 6-3 | 014600A00 | 3-12 | 019306A00 | 6-3 |
| 010385A01 | 3-4 | 014601A00 | 3-12 | 019317A00 | 3-4 |
| 010385A01 | 6-3 | 014601A00 | 3-13 | 019318A01 | 3-3 |
| 010385A01 | 10-4 | 014602A00 | 3-12 | 019318A01 | 3-4 |
| 010737A02 | 3-15 | 014603A00 | 3-12 | 019329P00 | 3-4 |
| 010740P01 | 3-16 | 014603A00 | 3-13 | 019346P00 | 3-4 |
| 010740P01 | 3-20 | 014603A00 | 6-3 | 019347P00 | 3-4 |
| 010741P00 | 3-16 | 014603A00 | 10-3 | 019348P00 | 3-4 |
| 010741P00 | 3-20 | 014604P00 | 10-3 | 019372A00 | 3-3 |
| 010742P00 | 3-19 | 014605P00 | 10-3 | 019372A00 | 3-6 |
| 010744A02 | 3-19 | 014606A01 | 3-12 | 019378A00 | 3-8 |
| 010747A00 | 3-15 | 014606A01 | 3-13 | 019382P00 | 3-8 |
| 010747A00 | 3-19 | 014617A00 | 3-11 | 020815A01 | 6-3 |
| 010747A00 | 6-3 | 014617A00 | 3-13 | 020841A | 3-21 |
| 010747A00 | 10-2 | 014618A00 | 3-13 | 020841A | 3-24 |
| 010748A00 | 10-2 | 014619P00 | 3-11 | 020842P | 3-24 |
| 010748A00 | 10-3 | 014653A00 | 3-11 | 020906A00 | 6-3 |
| 010864P00 | 10-2 | 014654A00 | 3-11 | 023524P00 | 11-10 |

Numerical Index

| PART NO. | PAGE NO. | PART NO. | PAGE NO. | PART NO. | PAGE NO. |
|-----------|----------|-----------|----------|-----------|----------|
| 023524P00 | 11-14 | 026111A | 3-29 | 027218P00 | 11-15 |
| 023524P00 | 11-20 | 026127A | 3-21 | 027218P00 | 11-16 |
| 023524P00 | 11-22 | 026127A | 3-27 | 027219A00 | 11-14 |
| 023534P00 | 5-3 | 026135A | 3-3 | 027219A00 | 11-16 |
| 024501A00 | 11-20 | 026135A | 3-30 | 027221A00 | 11-4 |
| 024502A00 | 11-20 | 026150A | 3-32 | 027221A00 | 11-6 |
| 024503A00 | 11-20 | 026153A | 3-22 | 027247P00 | 11-15 |
| 024559P | 11-20 | 026153A | 3-23 | 027247P00 | 11-16 |
| 025157P | 3-14 | 026156P | 3-14 | 027248P00 | 11-5 |
| 025231P | 3-22 | 026156P | 3-15 | 027248P00 | 11-6 |
| 026051P | 3-22 | 026157P | 3-19 | 027249P00 | 11-8 |
| 026052P | 3-22 | 026435A | 3-21 | 027249P00 | 11-9 |
| 026053P | 3-23 | 026435A | 3-25 | 027249P00 | 11-11 |
| 026054P | 3-27 | 027109A00 | 11-7 | 027249P00 | 11-12 |
| 026067A | 3-3 | 027113P00 | 3-9 | 027250F00 | 11-3 |
| 026067A | 3-11 | 027130P00 | 11-7 | 027265A00 | 11-4 |
| 026068A | 3-21 | 027131A00 | 11-14 | 027265A00 | 11-8 |
| 026068A | 3-22 | 027131A00 | 11-15 | 027266A00 | 11-4 |
| 026070A | 3-14 | 027132P00 | 11-15 | 027266A00 | 11-9 |
| 026073P | 3-15 | 027132P00 | 11-16 | 027267A00 | 11-10 |
| 026073P | 3-19 | 027133P00 | 11-15 | 027267A00 | 11-12 |
| 026074P | 3-15 | 027133P00 | 11-16 | 027302A00 | 11-4 |
| 026074P | 3-19 | 027134A00 | 11-10 | 027303A00 | 11-10 |
| 026075A | 3-7 | 027134A00 | 11-11 | 027306A00 | 11-18 |
| 026076A | 3-3 | 027135P00 | 11-8 | 027307A00 | 11-4 |
| 026076A | 3-7 | 027135P00 | 11-9 | 027307A00 | 11-7 |
| 026077A | 3-3 | 027135P00 | 11-11 | 027311A00 | 11-3 |
| 026077A | 3-33 | 027135P00 | 11-12 | 027311A00 | 11-13 |
| 026080A | 3-11 | 027136P00 | 11-8 | 027313A00 | 11-3 |
| 026083A | 3-14 | 027136P00 | 11-9 | 027313A00 | 11-4 |
| 026083A | 3-15 | 027136P00 | 11-11 | 027314A00 | 11-3 |
| 026084A | 3-14 | 027136P00 | 11-12 | 027314A00 | 11-10 |
| 026084A | 3-19 | 027137A00 | 11-4 | 027333P00 | 11-19 |
| 026086A | 3-30 | 027137A00 | 11-5 | 027335P00 | 11-19 |
| 026086A | 3-31 | 027138P00 | 11-5 | 027336P00 | 11-3 |
| 026087P | 3-31 | 027138P00 | 11-6 | 027339P00 | 11-3 |
| 026088P | 3-31 | 027139P00 | 11-5 | 027340A00 | 11-7 |
| 026089P | 3-31 | 027139P00 | 11-6 | 027343P00 | 11-7 |
| 026090A | 3-14 | 027140P00 | 11-5 | 027345A00 | 11-10 |
| 026090A | 3-21 | 027140P00 | 11-6 | 027345P00 | 11-14 |
| 026091P | 3-31 | 027150A | 11-3 | 027346P00 | 11-4 |
| 026092P | 3-31 | 027155A | 11-3 | 027347A00 | 11-7 |
| 026093P | 3-31 | 027216P00 | 11-5 | 027369P | 11-18 |
| 026094A | 3-30 | 027216P00 | 11-6 | 027374P | 11-18 |
| 026095A | 3-3 | 027216P00 | 11-8 | 027411P | 11-3 |
| 026095A | 3-14 | 027216P00 | 11-9 | 027415A00 | 11-18 |
| 026099A | 3-3 | 027216P00 | 11-11 | 027420A | 11-14 |
| 026099A | 3-32 | 027216P00 | 11-12 | 027420A | 11-18 |
| 026105A | 3-32 | 027217P00 | 11-8 | 027425A | 11-3 |
| 026107A | 3-32 | 027217P00 | 11-9 | 027425A | 11-14 |
| 026110A | 3-3 | 027217P00 | 11-11 | 027451A | 11-14 |
| 026110A | 3-29 | 027217P00 | 11-12 | 027465A | 11-19 |

Numerical Index

| PART NO. | PAGE NO. | PART NO. | PAGE NO. | PART NO. | PAGE NO. |
|-----------|----------|--------------|----------|--------------|----------|
| 027470A | 11-18 | A10320A0-200 | 11-21 | P0001-08-004 | 3-13 |
| 050006A | 5-2 | A10320A0-200 | 11-23 | P0001-08-004 | 3-29 |
| 07240P00 | 3-12 | A10320A-132 | 11-3 | P0001-08-004 | 11-3 |
| 1250-004 | 2-3 | F05866F00 | 3-37 | P0001-08-004 | 11-20 |
| 1250-004 | 2-4 | F09885F00 | 11-22 | P0001-08-004 | 11-23 |
| 1250-004 | 2-5 | F10360F00 | 3-3 | P0001-08-005 | 3-4 |
| 1250-006 | 2-3 | F24500F00 | 11-20 | P0001-08-005 | 3-11 |
| 1250-007 | 2-3 | F26050F | 3-3 | P0001-08-005 | 3-37 |
| 1250-030 | 2-3 | P0001-04-002 | 5-3 | P0001-08-005 | 11-19 |
| 1250-031 | 2-3 | P0001-04-002 | 3-9 | P0001-08-006 | 3-15 |
| 1250-098 | 2-3 | P0001-04-003 | 11-4 | P0001-08-006 | 3-17 |
| 1250-098 | 2-4 | P0001-04-003 | 11-5 | P0001-08-006 | 3-19 |
| 1250-098 | 2-5 | P0001-04-003 | 11-6 | P0001-08-006 | 11-20 |
| 1250-098 | 2-6 | P0001-04-003 | 11-8 | P0001-08-006 | 11-23 |
| 1250-098 | 2-7 | P0001-04-003 | 11-9 | P0001-08-007 | 3-37 |
| 1250-470 | 2-3 | P0001-04-003 | 11-10 | P0001-08-007 | 6-4 |
| 1250-470 | 5-7 | P0001-04-003 | 11-11 | P0001-08-008 | 3-17 |
| 1250-471 | 2-3 | P0001-04-003 | 11-12 | P0001-08-008 | 11-20 |
| 1250-471 | 5-7 | P0001-04-003 | 11-14 | P0001-08-008 | 11-22 |
| 1250-474 | 2-3 | P0001-04-003 | 11-15 | P0001-08-008 | 3-9 |
| 1250-474 | 5-7 | P0001-04-003 | 11-16 | P0001-08-009 | 3-8 |
| 1250-475 | 2-3 | P0001-04-004 | 3-6 | P0001-08-010 | 3-36 |
| 1250-475 | 5-7 | P0001-04-004 | 3-24 | P0001-10-008 | 3-17 |
| 1250-478 | 2-3 | P0001-04-005 | 11-19 | P0001-12-006 | 3-29 |
| 1250-478 | 5-7 | P0001-05-003 | 11-3 | P0001-12-006 | 3-30 |
| 1250-480 | 2-3 | P0001-05-003 | 11-20 | P0001-12-006 | 3-32 |
| 1250-532a | 2-3 | P0001-05-003 | 11-22 | P0001-12-008 | 3-31 |
| 1250-544 | 2-3 | P0001-05-004 | 3-8 | P0001-12-009 | 3-3 |
| 1250-544 | 2-4 | P0001-06-002 | 3-35 | P0001-12-010 | 3-29 |
| 1250-544 | 2-5 | P0001-06-002 | 5-3 | P0001-12-010 | 3-31 |
| 1250-544 | 2-6 | P0001-06-002 | 5-4 | P0001-12-010 | 3-32 |
| 1250-544 | 2-7 | P0001-06-002 | 11-10 | P0001-12-011 | 3-31 |
| 1250-547 | 2-3 | P0001-06-003 | 3-17 | P0001-12-012 | 3-29 |
| 1250-547 | 2-4 | P0001-06-003 | 3-28 | P0001-12-012 | 3-30 |
| 1250-547 | 2-5 | P0001-06-003 | 3-34 | P0001-12-012 | 3-32 |
| 1250-547 | 2-6 | P0001-06-003 | 11-3 | P0001-12-012 | 10-5 |
| 1250-547 | 2-7 | P0001-06-003 | 11-7 | P0001-12-012 | 10-6 |
| 1250-560 | 2-3 | P0001-06-003 | 11-14 | P0001-12-018 | 3-3 |
| 1250-562 | 2-3 | P0001-06-003 | 11-18 | P0002-08-004 | 3-17 |
| 1250-572 | 2-3 | P0001-06-004 | 3-6 | P0003-04-000 | 3-24 |
| 1250-573 | 2-3 | P0001-06-004 | 3-23 | P0003-04-000 | 11-3 |
| 1250-577 | 2-4 | P0001-06-004 | 3-25 | P0003-05-000 | 3-29 |
| 1250-577 | 2-5 | P0001-06-004 | 11-3 | P0003-06-000 | 3-23 |
| 1250-579 | 2-3 | P0001-06-005 | 3-34 | P0003-06-000 | 3-34 |
| 1250-581 | 2-3 | P0001-06-006 | 3-23 | P0003-06-000 | 11-3 |
| 1250-650 | 2-3 | P0001-06-008 | 11-3 | P0003-07-000 | 3-12 |
| 1250-749 | 2-6 | P0001-07-004 | 11-3 | P0003-07-000 | 3-13 |
| 1250-750 | 2-4 | P0001-07-007 | 11-18 | P0003-07-000 | 11-18 |
| 1250-751 | 2-5 | P0001-07-010 | 3-12 | P0003-08-000 | 3-8 |
| 1250-837 | 2-3 | P0001-07-010 | 3-13 | P0003-08-000 | 3-36 |
| 1250-859 | 2-3 | P0001-08-003 | 3-37 | P0003-08-000 | 3-9 |
| 40000-16 | 2-3 | P0001-08-004 | 3-12 | P0003-10-000 | 3-17 |

Numerical Index

| PART NO. | PAGE NO. | PART NO. | PAGE NO. | PART NO. | PAGE NO. |
|-------------------|----------|-------------------|----------|----------------|----------|
| P0003-12-000..... | 3-3 | P0033-08-014..... | 3-5 | P0045-005..... | 11-22 |
| P0003-12-000..... | 3-29 | P0034-06-012..... | 11-4 | P0045-006..... | 3-6 |
| P0003-12-000..... | 3-31 | P0034-12-014..... | 3-29 | P0045-006..... | 3-17 |
| P0003-16-000..... | 3-19 | P0035-002..... | 3-29 | P0045-006..... | 3-23 |
| P0004-05-000..... | 11-3 | P0040-004..... | 11-3 | P0045-006..... | 3-25 |
| P0004-05-000..... | 11-21 | P0040-006..... | 3-35 | P0045-006..... | 3-28 |
| P0004-05-000..... | 11-22 | P0040-006..... | 11-3 | P0045-006..... | 3-34 |
| P0004-12-000..... | 3-18 | P0040-006..... | 11-7 | P0045-006..... | 5-3 |
| P0004-14-000..... | 3-12 | P0040-006..... | 11-10 | P0045-006..... | 5-4 |
| P0004-14-000..... | 3-13 | P0040-006..... | 11-13 | P0045-006..... | 11-3 |
| P0004-14-000..... | 3-15 | P0040-006..... | 11-14 | P0045-006..... | 11-7 |
| P0004-14-000..... | 3-19 | P0040-006..... | 11-19 | P0045-006..... | 11-13 |
| P0004-14-000..... | 10-2 | P0040-006..... | 3-34 | P0045-006..... | 11-14 |
| P0004-14-000..... | 10-3 | P0040-007..... | 11-18 | P0045-006..... | 11-18 |
| P0004-14-000..... | 3-9 | P0040-008..... | 3-8 | P0045-007..... | 3-12 |
| P0007-06-000..... | 11-4 | P0040-008..... | 3-12 | P0045-007..... | 3-13 |
| P0007-06-000..... | 11-10 | P0040-008..... | 3-13 | P0045-007..... | 11-3 |
| P0007-12-000..... | 3-9 | P0040-008..... | 11-3 | P0045-007..... | 11-7 |
| P0007-12-000..... | 3-29 | P0040-008..... | 11-19 | P0045-007..... | 11-18 |
| P0008-12-000..... | 3-18 | P0040-010..... | 3-17 | P0045-008..... | 3-4 |
| P0011-004B..... | 11-5 | P0040-012..... | 3-3 | P0045-008..... | 3-11 |
| P0011-004B..... | 11-6 | P0040-012..... | 3-29 | P0045-008..... | 3-12 |
| P0011-004B..... | 11-8 | P0040-012..... | 3-30 | P0045-008..... | 3-13 |
| P0011-004B..... | 11-9 | P0040-012..... | 3-31 | P0045-008..... | 3-15 |
| P0011-004B..... | 11-11 | P0040-012..... | 3-32 | P0045-008..... | 3-17 |
| P0011-004B..... | 11-12 | P0040-014..... | 3-12 | P0045-008..... | 3-19 |
| P0011-004B..... | 11-15 | P0040-014..... | 3-13 | P0045-008..... | 3-37 |
| P0011-004B..... | 11-16 | P0040-014..... | 3-15 | P0045-008..... | 6-4 |
| P0011-006A..... | 5-3 | P0040-014..... | 3-19 | P0045-008..... | 11-19 |
| P0011-006A..... | 5-4 | P0040-014..... | 10-2 | P0045-008..... | 11-20 |
| P0011-006A..... | 11-10 | P0040-014..... | 10-3 | P0045-008..... | 11-22 |
| P0011-006A..... | 11-14 | P0040-014..... | 3-9 | P0045-008..... | 3-9 |
| P0013-08-000..... | 3-12 | P0043-010..... | 5-7 | P0045-010..... | 3-17 |
| P0013-08-000..... | 3-13 | P0044-021..... | 3-9 | P0045-012..... | 3-3 |
| P0013-08-000..... | 3-27 | P0045-004..... | 3-6 | P0045-012..... | 3-29 |
| P0017-08-323..... | 5-3 | P0045-004..... | 3-24 | P0045-012..... | 3-30 |
| P0017-10-324..... | 5-4 | P0045-004..... | 5-3 | P0045-012..... | 3-31 |
| P0020-14-203..... | 3-17 | P0045-004..... | 11-4 | P0045-012..... | 3-32 |
| P0020-14-204..... | 11-3 | P0045-004..... | 11-5 | P0045-012..... | 10-5 |
| P0020-14-207..... | 11-3 | P0045-004..... | 11-6 | P0045-012..... | 10-6 |
| P0027B-12MM..... | 5-7 | P0045-004..... | 11-8 | P0045-014..... | 3-9 |
| P0031-03-375..... | 5-7 | P0045-004..... | 11-9 | P0046-008..... | 3-36 |
| P0031-06-003..... | 11-18 | P0045-004..... | 11-10 | P0046-008..... | 7-2 |
| P0031-07-007..... | 3-19 | P0045-004..... | 11-11 | P0047-007..... | 11-21 |
| P0031-08-014..... | 7-2 | P0045-004..... | 11-12 | P0047-007..... | 11-22 |
| P0031-M3-010..... | 5-7 | P0045-004..... | 11-14 | P0048-012..... | 7-2 |
| P0033-04-006..... | 10-5 | P0045-004..... | 11-15 | P0048-024..... | 3-15 |
| P0033-04-006..... | 10-6 | P0045-004..... | 11-16 | P0048-024..... | 3-19 |
| P0033-06-006..... | 10-5 | P0045-004..... | 11-19 | P0049-042..... | 10-2 |
| P0033-06-006..... | 10-6 | P0045-005..... | 3-8 | P0049-042..... | 10-3 |
| P0033-06-012..... | 11-18 | P0045-005..... | 11-3 | P0050-001..... | 3-29 |
| P0033-06-016..... | 10-4 | P0045-005..... | 11-21 | P0050-011..... | 3-32 |

Numerical Index

| PART NO. | PAGE NO. | PART NO. | PAGE NO. | PART NO. | PAGE NO. |
|------------|----------|-----------|----------|---------------|----------|
| P0051-001 | 3-29 | P0066-036 | 3-17 | P0094-003 | 11-3 |
| P0051-004 | 3-32 | P0067-042 | 11-3 | P0094-003-030 | 11-21 |
| P0053-026 | 5-2 | P0070-019 | 7-2 | P0094-003-030 | 11-23 |
| P0053-026 | 5-9 | P0070-024 | 3-9 | P0098-010 | 11-3 |
| P0053-026A | 5-2 | P0073-001 | 3-10 | P0098-010 | 11-21 |
| P0053-026A | 5-9 | P0075-002 | 3-10 | P0098-010 | 11-23 |
| P0054-021 | 5-7 | P0078-002 | 11-18 | P0100-004A | 6-3 |
| P0054-068 | 5-7 | P0078-005 | 11-18 | P0100-004A | 11-3 |
| P0054-069 | 5-3 | P0078-008 | 11-18 | P0100-004A | 11-21 |
| P0054-087 | 5-2 | P0079-001 | 3-10 | P0100-004A | 11-23 |
| P0054-090 | 5-2 | P0079-003 | 11-4 | P0100-004B | 6-3 |
| P0054-167A | 5-9 | P0079-003 | 11-20 | P0100-004B | 11-3 |
| P0054-286 | 5-4 | P0079-003 | 11-22 | P0100-004B | 11-21 |
| P0054-287 | 5-2 | P0080-001 | 10-2 | P0100-004B | 11-23 |
| P0055-123 | 5-3 | P0080-001 | 10-3 | P0106-002 | 3-9 |
| P0063-001 | 3-9 | P0084-123 | 6-5 | P0113-001 | 3-8 |
| P0063-001 | 3-14 | P0084-156 | 6-4 | P0113-001A | 3-8 |
| P0063-001 | 3-15 | P0084-224 | 10-2 | P0300-009 | 5-4 |
| P0063-001 | 3-18 | P0084-224 | 10-3 | P0300-012 | 5-4 |
| P0063-001 | 3-19 | P0084-426 | 10-4 | P0300-107 | 5-4 |
| P0063-001 | 3-26 | P0085-028 | 11-20 | P0300-144 | 6-3 |
| P0063-001 | 10-4 | P0085-028 | 11-22 | P0300-167 | 11-20 |
| P0063-001 | 11-7 | P0085-123 | 6-5 | P0300-167 | 11-23 |
| P0063-001 | 11-13 | P0085-134 | 10-4 | P0300-173 | 11-20 |
| P0063-001 | 11-14 | P0085-156 | 6-4 | P0300-173 | 11-23 |
| P0063-001 | 11-21 | P0085-218 | 3-15 | P0301-100 | 6-3 |
| P0063-001 | 11-22 | P0085-218 | 3-19 | P0301-108 | 6-3 |
| P0063-003 | 3-15 | P0085-218 | 3-26 | P0301-108 | 6-4 |
| P0063-012 | 3-18 | P0085-224 | 10-2 | P0302-101 | 6-3 |
| P0065-004 | 3-16 | P0085-224 | 10-3 | P0302-103 | 6-3 |
| P0065-004 | 3-20 | P0085-228 | 7-2 | P0302-104 | 6-3 |
| P0065-004 | 3-26 | P0085-234 | 7-2 | P0302-109 | 4-2 |
| P0065-004 | 11-20 | P0085-328 | 10-4 | P0302-109 | 6-3 |
| P0065-004 | 11-22 | P0085-426 | 10-4 | P0302-109 | 7-3 |
| P0065-006 | 11-7 | P0085-C2 | 10-2 | P0302-109A | 7-3 |
| P0065-007 | 11-13 | P0085-C2 | 10-3 | P0302-112 | 4-2 |
| P0065-016 | 11-19 | P0085-S1 | 10-5 | P0302-112 | 6-3 |
| P0065-017 | 11-3 | P0085-S1 | 10-6 | P0302-112 | 7-4 |
| P0065-017 | 11-20 | P0086-001 | 10-2 | P0302-112A | 7-4 |
| P0065-017 | 11-22 | P0086-001 | 10-3 | P0302-112B | 7-4 |
| P0065-020 | 3-18 | P0086-005 | 10-4 | P0302-112C | 7-4 |
| P0065-021 | 3-18 | P0086-005 | 10-5 | P0302-118 | 4-2 |
| P0065-082 | 3-9 | P0086-005 | 10-6 | P0302-118 | 6-3 |
| P0065-099 | 3-26 | P0086-009 | 10-5 | P0302-118 | 7-6 |
| P0065-100 | 3-26 | P0086-009 | 10-6 | P0302-118A | 7-6 |
| P0065-107 | 11-20 | P0087-004 | 7-2 | P0302-118B | 7-6 |
| P0065-107 | 11-22 | P0087-004 | 10-4 | P0302-118C | 7-6 |
| P0065-108 | 11-20 | P0087-004 | 10-5 | P0302-118C | 7-7 |
| P0065-108 | 11-22 | P0087-004 | 10-6 | P0302-118E | 7-6 |
| P0065-109 | 11-20 | P0088-012 | 3-5 | P0302-118F | 7-6 |
| P0065-109 | 11-22 | P0088-019 | 3-4 | P0302-144 | 6-3 |
| P0066-003 | 3-9 | P0090-005 | 10-4 | P0302-154 | 6-3 |

Numerical Index

| PART NO. | PAGE NO. | PART NO. | PAGE NO. |
|------------|----------|------------|----------|
| P0302-163 | 6-3 | P0310-390B | 5-7 |
| P0302-167 | 6-3 | P0310-579 | 5-7 |
| P0302-183 | 4-2 | P0310-582 | 5-7 |
| P0302-183 | 6-3 | P0310-701 | 5-7 |
| P0302-183 | 7-5 | P0310-712 | 5-7 |
| P0302-197 | 7-5 | P0310-713 | 5-7 |
| P0302-198 | 7-5 | P0311-018 | 5-7 |
| P0302-260 | 4-2 | P0311-032 | 5-7 |
| P0302-260 | 6-3 | P0311-041 | 5-7 |
| P0302-260 | 7-7 | P0311-121 | 5-3 |
| P0302-388 | 6-3 | P0311-121 | 5-7 |
| P0303-163 | 6-3 | P0313-044 | 5-7 |
| P0303-163 | 9-2 | P0313-049 | 5-7 |
| P0303-163B | 9-2 | P0421-012 | 6-5 |
| P0303-163D | 9-2 | | |
| P0304-107 | 8-2 | | |
| P0304-107A | 8-2 | | |
| P0304-121 | 6-3 | | |
| P0304-123 | 3-17 | | |
| P0304-123 | 6-3 | | |
| P0304-123 | 8-2 | | |
| P0304-131 | 3-9 | | |
| P0304-132 | 3-9 | | |
| P0304-145 | 6-3 | | |
| P0304-145 | 8-4 | | |
| P0304-145 | 11-20 | | |
| P0304-145 | 11-23 | | |
| P0304-147 | 8-4 | | |
| P0304-148 | 8-4 | | |
| P0304-157 | 6-3 | | |
| P0304-157 | 8-3 | | |
| P0304-157 | 11-18 | | |
| P0305-134A | 11-20 | | |
| P0305-134A | 11-23 | | |
| P0305-134B | 11-20 | | |
| P0305-134B | 11-22 | | |
| P0305-134C | 11-20 | | |
| P0305-134C | 11-22 | | |
| P0309-121 | 6-3 | | |
| P0309-121 | 6-4 | | |
| P0310-251 | 5-3 | | |
| P0310-266 | 5-5 | | |
| P0310-283A | 5-4 | | |
| P0310-283B | 5-4 | | |
| P0310-284D | 5-4 | | |
| P0310-284E | 5-4 | | |
| P0310-285A | 5-7 | | |
| P0310-286A | 5-3 | | |
| P0310-286B | 5-3 | | |
| P0310-286B | 5-3 | | |
| P0310-287D | 5-3 | | |
| P0310-390A | 5-7 | | |

NOTES