



# PARTS MANUAL

## Tunnel Boring Machine Series II

**48SC - 420 - 480 - 540**

**S/N: F24600F - F31000F - F28500F - F28600F**

Publication No. 050113A

Rev No. 170314 R201019

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# Introduction

This parts manual contains assembly illustrations of the Akkerman Series II Tunnel Boring Machines (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 Aftermarket Support Department, or downloaded from the Akkerman web site at [www.akkerman.com](http://www.akkerman.com).

The TBM consists of the boring head, cutter head attachment (quad carbide head, sand head or closed face), conveyor, and target laser stand. Tunnel Boring Machines are articulated and can be steered hydraulically in any direction. The TBM has powerful hydraulic motors which rotate an bearing/inner drum. The cutter head or closed face attachment is connected to the drum. As it rotates, the teeth excavate the face and the spoils fall into the drum. Scoops and paddles in the drum dump the spoils onto a conveyor which carries the material to the dirt bucket. Once the dirt bucket is full, the dirt bucket is removed from the pipeline via a haul nit to the unloading area in the launch shaft where the dirt bucket is hoisted out of the shaft and unloaded. 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 unless otherwise indicated. 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, 55918.

Akkerman Inc. reserves the right to improve its product without notice or obligation.



**Akkerman 420 Series II Tunnel Boring Machine**

## **NOTES**



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**NOTES**

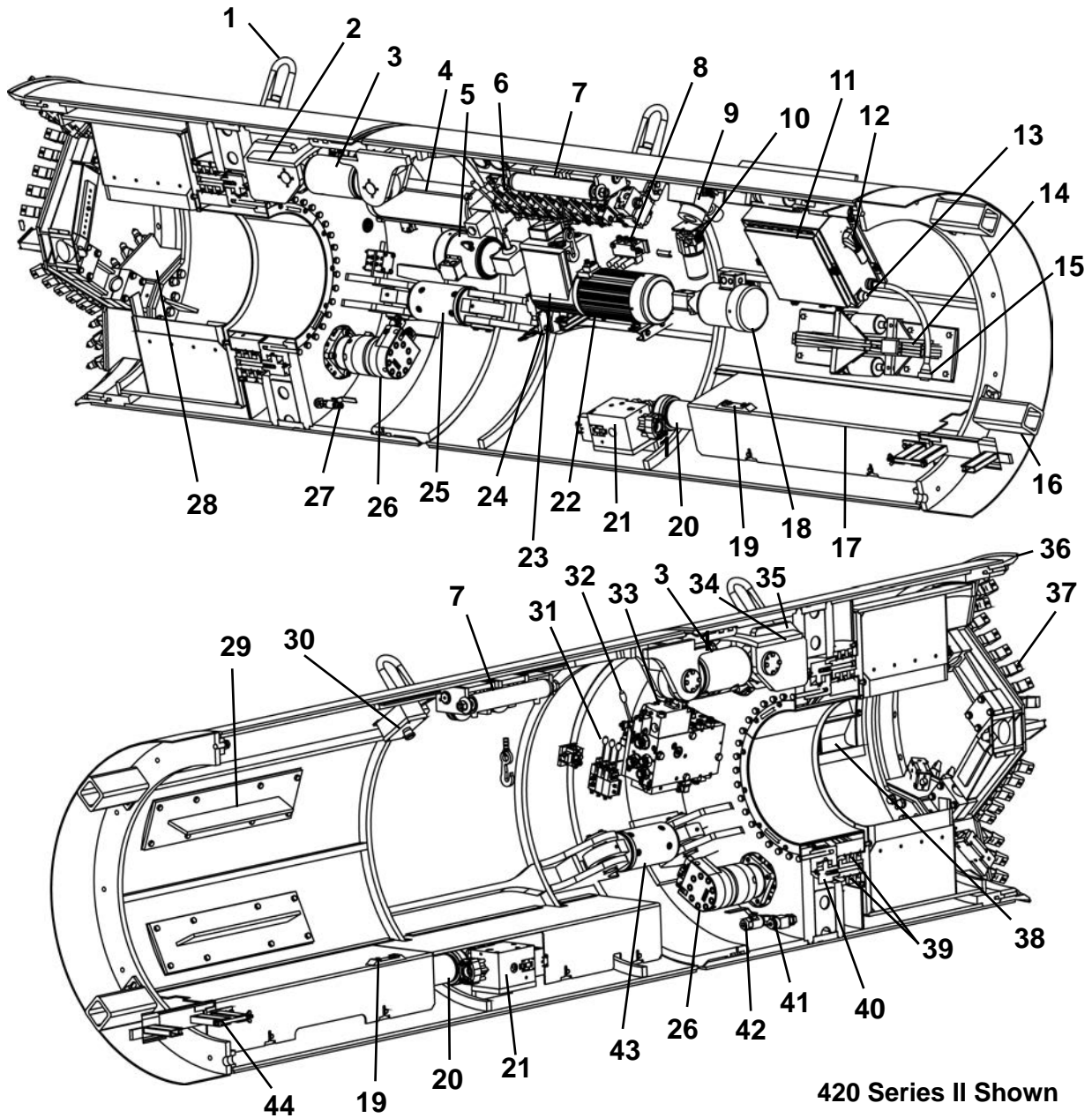


# General Information

## Terminology

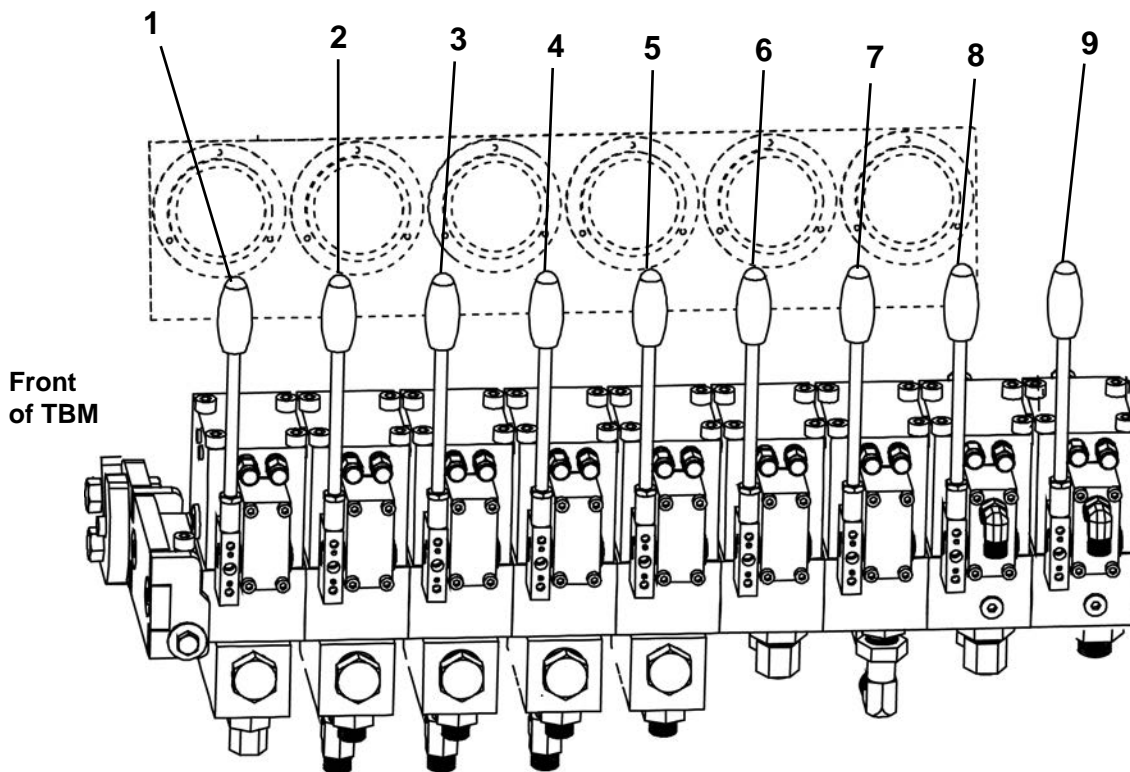
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# TUNNEL BORING MACHINE - SERIES II: 48SC - 420 - 480 - 540

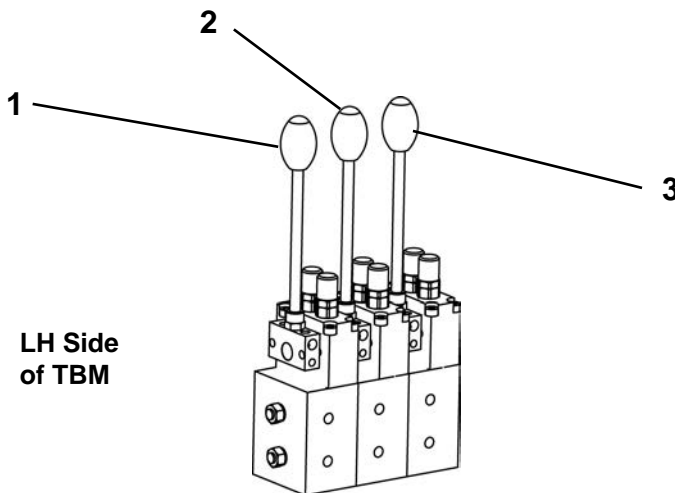


- |                                    |                                      |                                    |
|------------------------------------|--------------------------------------|------------------------------------|
| 1. Lift Eye                        | 16. Push Block                       | 31. Three Bank Control             |
| 2. Bearing Cavity Oil Fill Port    | 17. Floor Assembly                   | 32. Boring Head Control            |
| 3. Steering Cylinders (Top)        | 18. Bearing Lube Pump                | 33. Boring Head Control Manifold   |
| 4. Seal Grease Reservoir           | 19. Haul Unit Stop                   | 34. Boring Head Cavity Sight Gauge |
| 5. Seal Grease Pump                | 20. Pressure Filter                  | 35. Boring Head Cavity Vent        |
| 6. TBM Control Valve & PSI Gauges  | 21. Unloading Compensator Block      | 36. Cutter Ring                    |
| 7. Conveyor Lift Assembly          | 22. Scavenging Pump                  | 37. Cutter Head & Teeth            |
| 8. Steering Pressure Relief Valve  | 23. Scavenging Pump Reservoir        | 38. Dirt Scoop                     |
| 9. Gas Detector Horn & Strobe      | 24. Conveyor Safety Switch           | 39. Bearing Seals                  |
| 10. Bearing Oil Lube Filter        | 25. Steering Cylinders (Right)       | 40. Bearing                        |
| 11. Electrical Control Box         | 26. Drive Motor                      | 41. Bearing Oil Magnetic Rod       |
| 12. Main Power Switch              | 27. Bearing Oil Cavity Shutoff Valve | 42. Bearing Oil Drain Valve        |
| 13. Tunnel Power Phase OK Light    | 28. Dirt Paddles                     | 43. Steering Cylinders (Left)      |
| 14. Dirt Wing/Torque Wing          | 29. Torque Wing                      | 44. Haul Unit Track Adapter        |
| 15. 480V Incoming Power Connection | 30. Emergency Stop                   |                                    |

# TBM CONTROL VALVES



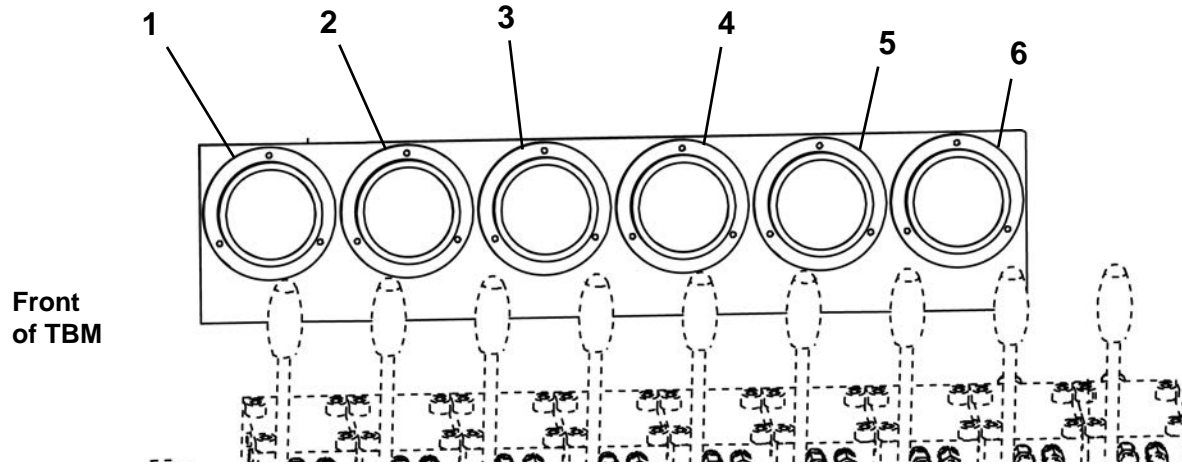
- |                     |                          |
|---------------------|--------------------------|
| 1. Closed Face      | 7. Conveyor Lift         |
| 2. Steering - Left  | 6. Auxiliary/Dirt Wings  |
| 3. Steering - Top   | 8. Jacking Can Cylinders |
| 4. Steering - Right | 9. Conveyor Drive        |
| 5. Dirt Wings       |                          |



- |                          |
|--------------------------|
| 1. Conveyor              |
| 2. Jacking Can Cylinders |
| 3. Boring Head Control   |

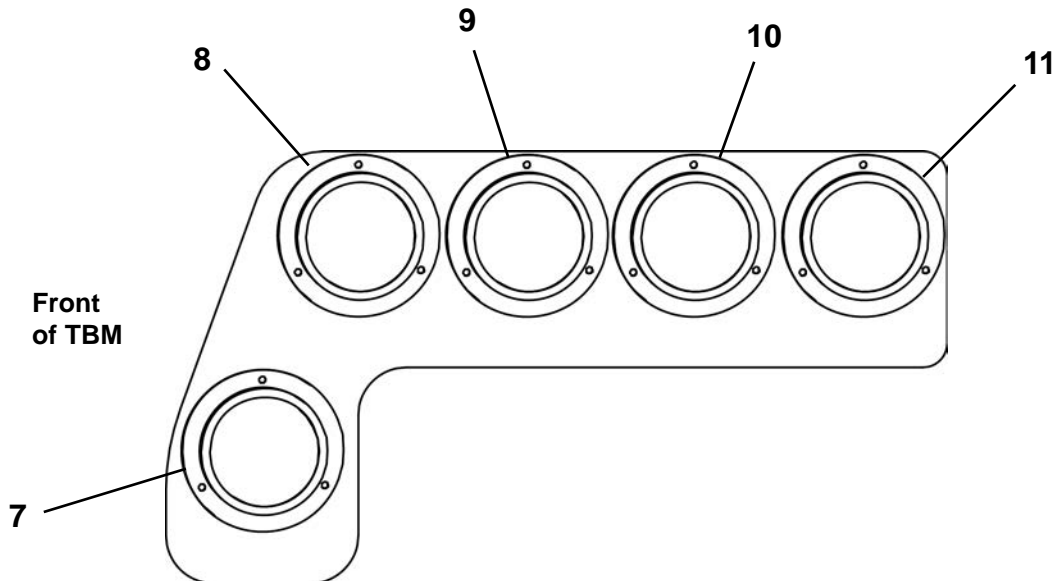
## TBM PRESSURE GAUGES

### Earlier Models



- |                                       |                               |
|---------------------------------------|-------------------------------|
| 1. Steering Cylinder Pressure - Left  | 4. Boring Head Pressure - CCW |
| 2. Steering Cylinder Pressure - Top   | 5. Boring Head Pressure - CW  |
| 3. Steering Cylinder Pressure - Right | 6. System Pressure            |

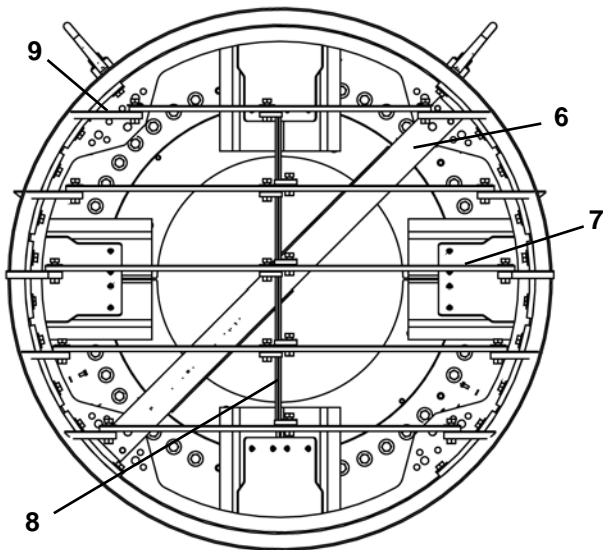
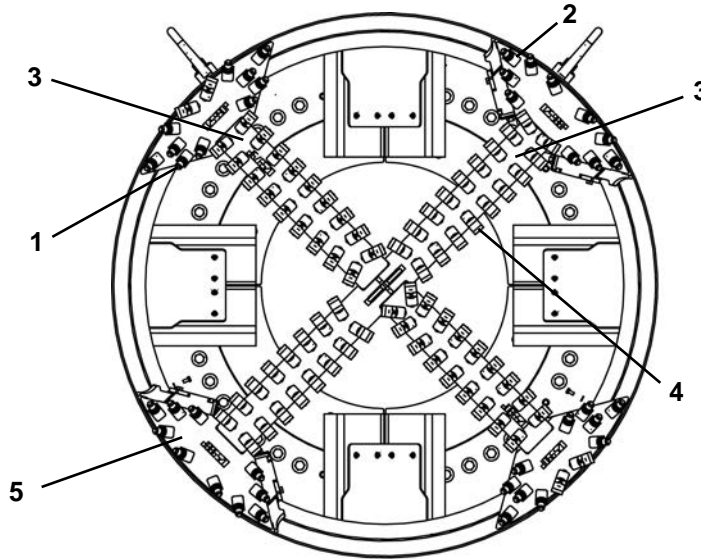
### Later Models



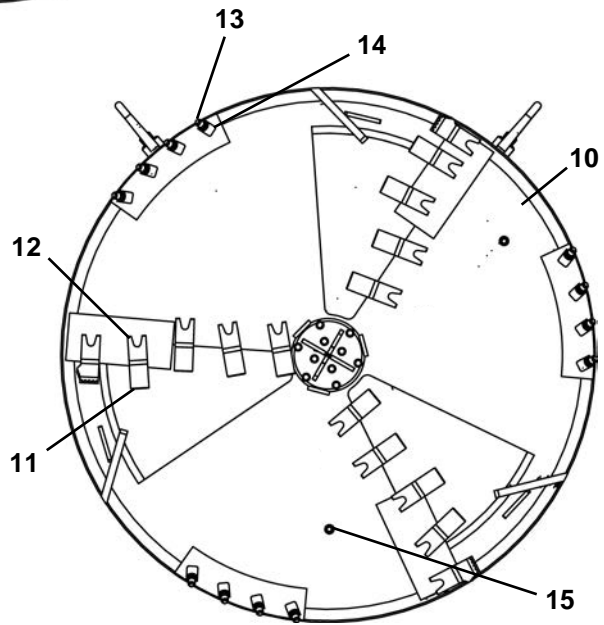
- |                         |  |
|-------------------------|--|
| 7. Boring Head Pressure | 9. Steering Cylinder Pressure - Left   |
| 8. System Pressure      | 10. Steering Cylinder Pressure - Top   |
|                         | 11. Steering Cylinder Pressure - Right |

# CUTTER HEAD ATTACHMENTS

## Quad Carbide Bar Head



**Sand Head**



**Closed Face**

### Quad Carbide Bar Head

- 1. Carbide Tooth
- 2. Tooth Holder
- 3. Quad Bar Weldment
- 4. Cutter Tooth
- 5. Cutter Bar Mount

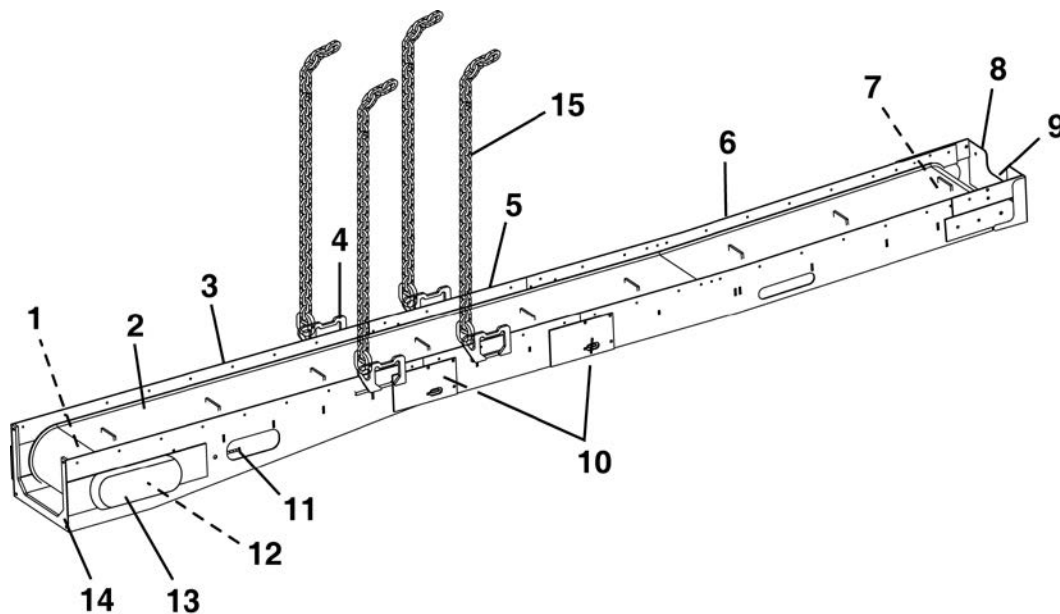
### Sand Head

- 6. Sand Bar Weldment
- 7. Sand Shelf
- 8. Sand Shelf Z Bracket
- 9. Sand Shelf End Bracket

### Closed Face

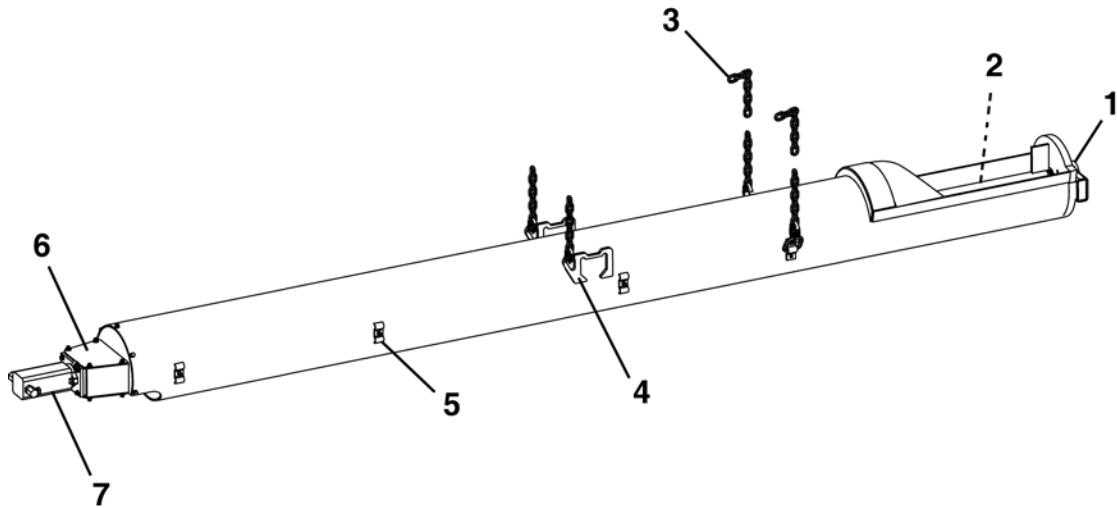
- 10. Closed Face
- 11. Cutter Tooth
- 12. Tooth Pocket
- 13. Cutter Bit
- 14. Bit Holder
- 15. Water/Lubrication Ports

## CONVEYOR - BELT



- |                               |                          |                                   |
|-------------------------------|--------------------------|-----------------------------------|
| 1. Drive Motor Frame Assembly | 6. Feed Frame Assembly   | 11. Belt Tensioning Screw         |
| 2. Belting                    | 7. Front Roller Assembly | 12. Drive Motor & Roller Assembly |
| 3. Drive Frame Assembly       | 8. Dirt Guard            | 13. Conveyor Chain Cover          |
| 4. Lift Bracket               | 9. Carrier Bearing       | 14. Drive Frame Free End Support  |
| 5. Extension Frame Assembly   | 10. Idler Roller         | 15. Safety Chain                  |

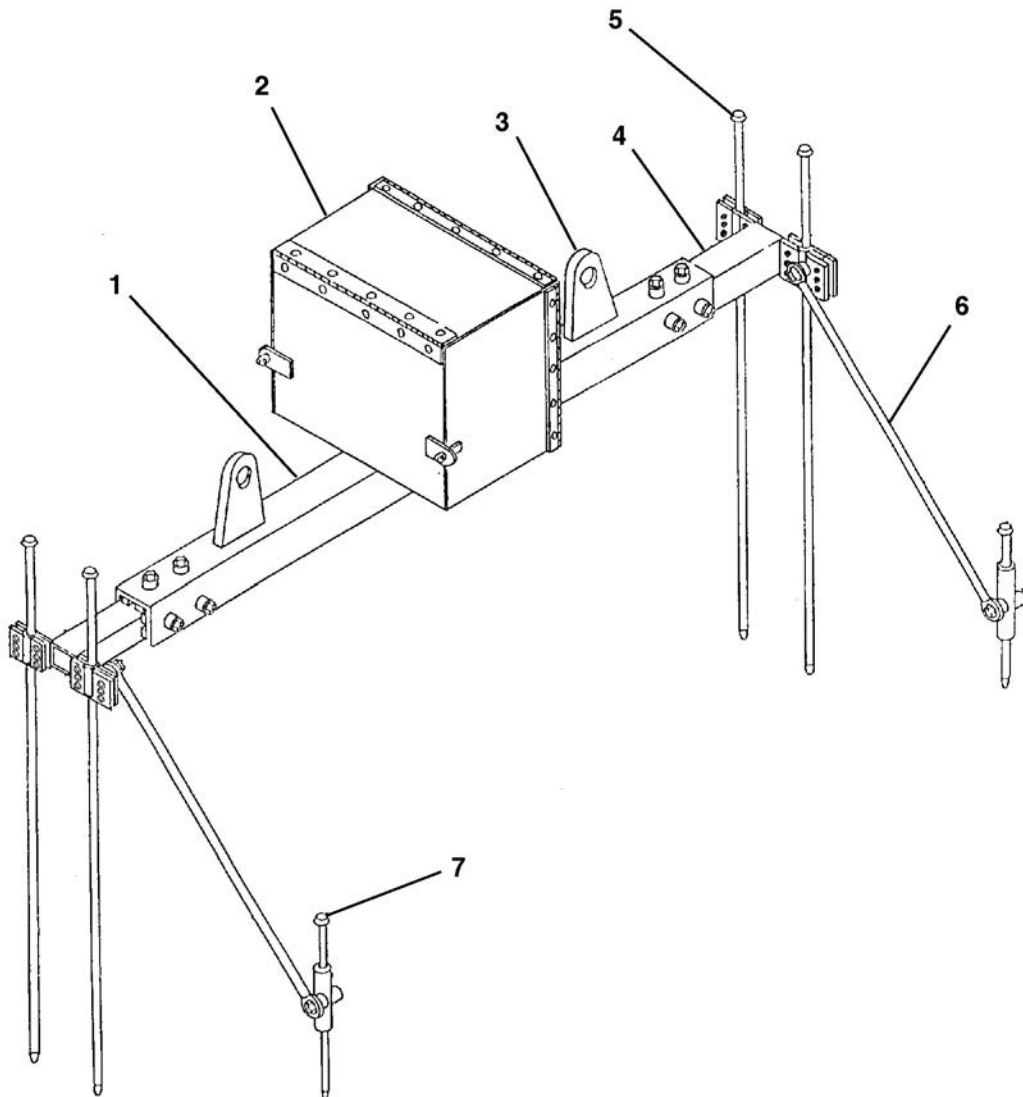
## CONVEYOR - SCREW



- 1. Carrier Bearing
- 2. Auger
- 3. Safety Chain
- 4. Lift Bracket

- 5. Hose Clamp
- 6. Motor Mount
- 7. 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

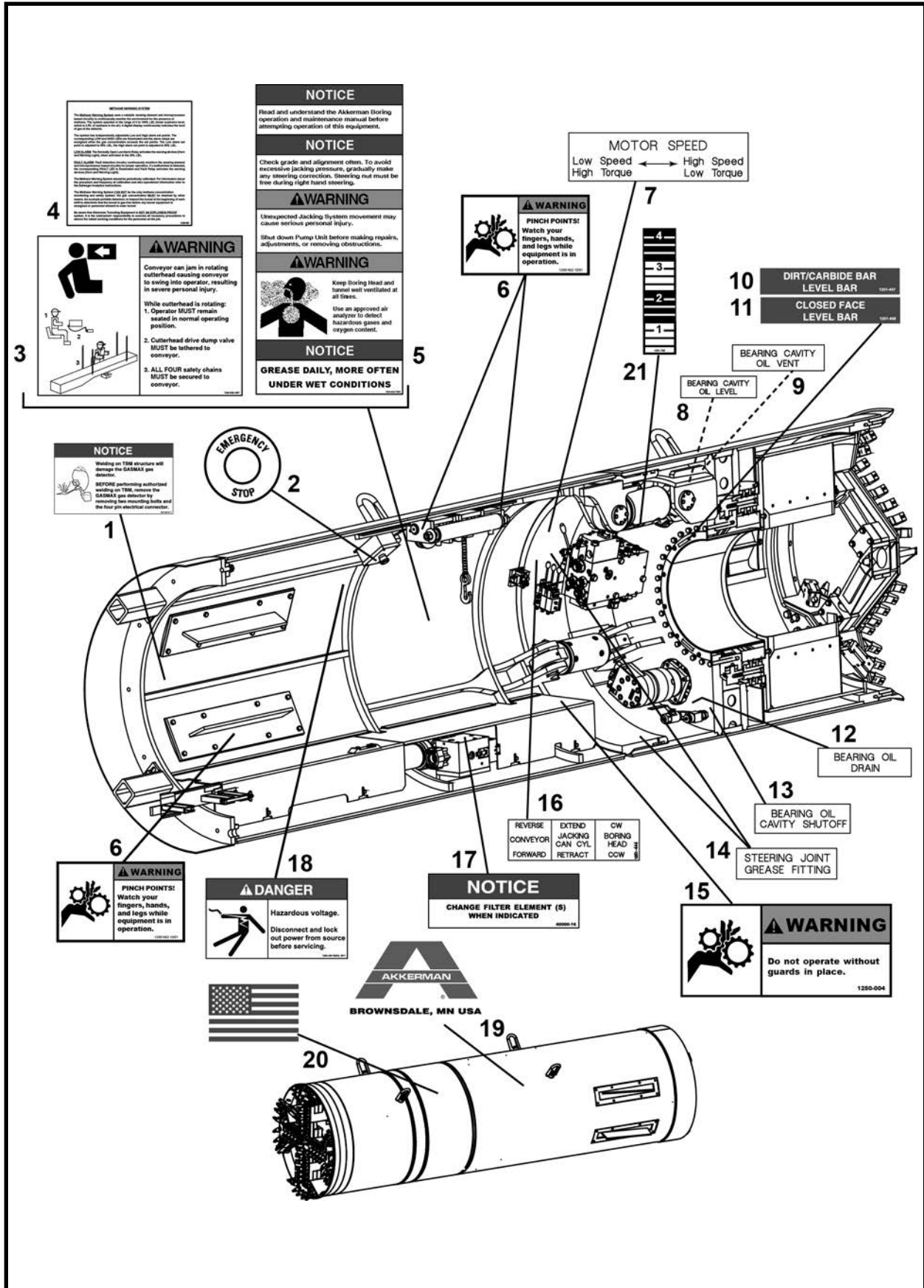


## Decals

<b>Tunnel Boring Machine</b> .....	2
48SC - 420 - 480 - 540 Series II, 1255-093	
Left Side .....	2
Right Side .....	4
 <b>Conveyors</b>	
Belt, 1255-018 .....	6
Screw, 1255-009 .....	7
 <b>Laser Light Laser Stand, 1255-020</b> .....	8
 <b>Head Box, 1255-019</b> .....	9

# TUNNEL BORING MACHINE DECALS - LEFT SIDE, 1255-093

## TBM Series II: 48SC - 420 - 480 - 540

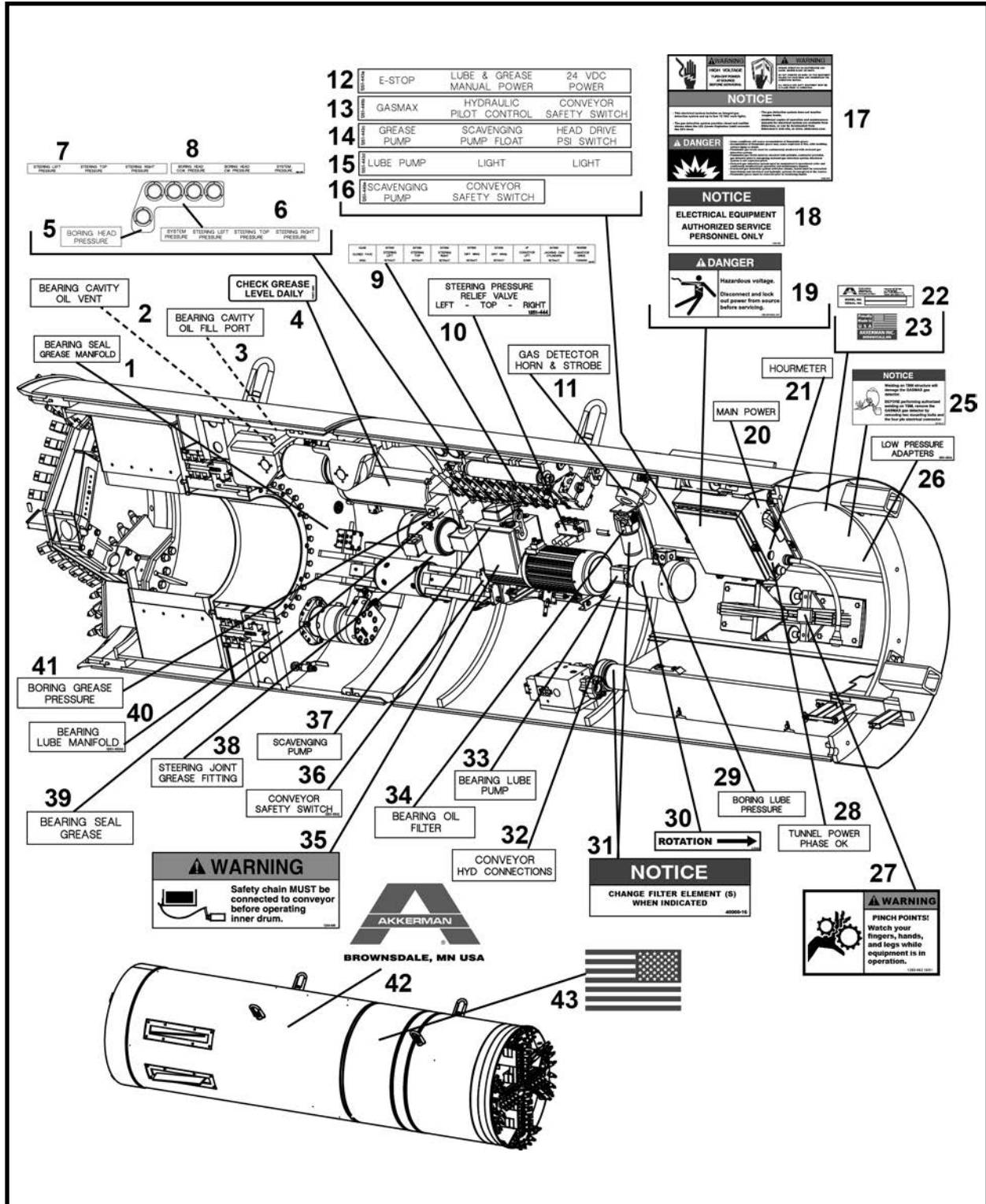


**TUNNEL BORING MACHINE DECALS - LEFT SIDE, 1255-093**  
**TBM Series II: 48SC - 420 - 480 - 540**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-093	KIT, Decal TBM Series II Orig
1	1	1251-320	DECAL, Notice, Welding Gas Detector Damage
2	1	F0310-474F	DECAL, Emergency Stop
3	1	1250-532a	DECAL, Warning, Conveyor Swing
4	1	1250-581	DECAL, Methane Warning System
5	1	1250-859	DECAL, TBM Warning Notice
6	3	1250-562	DECAL, Warning, Pinch Points
7	1	1251-450ab	DECAL, Motor Speed Control
8	1	1251-450n	DECAL, Bearing Cavity Oil Level
9	1	1251-450q	DECAL, Bearing Cavity Oil Vent (420, 480, 540 only)
10	1	1251-447	DECAL, Dirt/Carbide Bar Level Bar
11	1	1251-448	DECAL, Closed Face Level Bar
12	1	1251-450g	DECAL, Bearing Oil Drain
13	1	1251-450p	DECAL, Bearing Oil Cavity Shutoff
14	2	1251-450b	DECAL, Steering Joint Grease Fitting
15	1	1250-004	DECAL, Warning, Guards Must Be In Place
16	1	1251-450a	DECAL, Conveyor, Jack Can Cylinder, Boring Head Control
17	1	40000-16	DECAL, Notice, Change Filter
18	1	1250-385	DECAL, Danger, Hazardous Voltage
19	1	1251-245	DECAL, Akkerman X-Large
20	1	1250-559	DECAL, USA Flag, Medium - Left
21	3	1251-785	DECAL, Cylinder Stroke Indicator

# TUNNEL BORING MACHINE DECALS - RIGHT SIDE, 1255-093

## TBM Series II: 48SC - 420 - 480 - 540



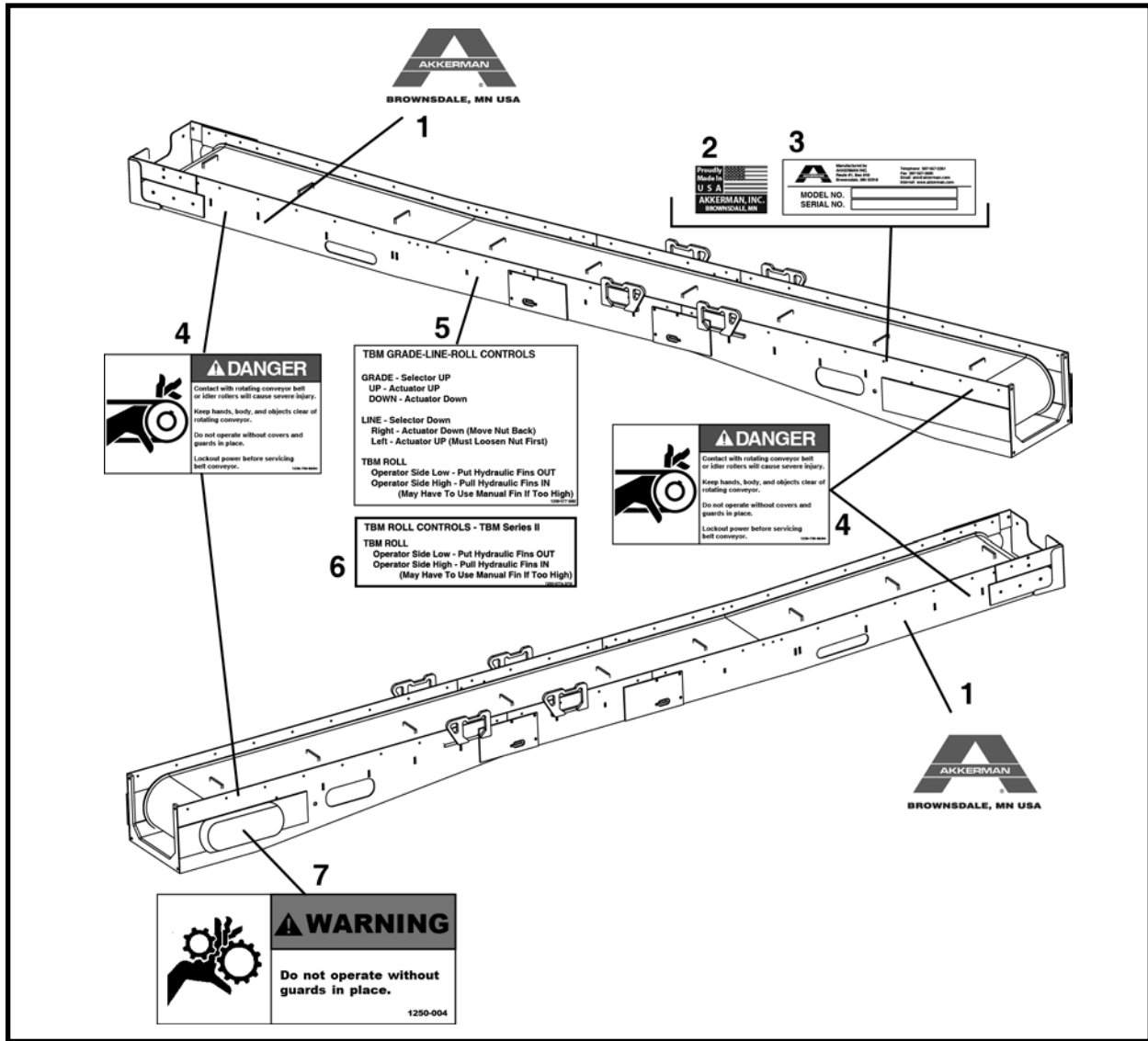
ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-093	KIT, Decal TBM Series II Orig
1	1	1251-450h	DECAL, Bearing Seal Grease Manifold
2	1	1251-450q	DECAL, Bearing Cavity Oil Vent (48SC Only)
3	1	1251-450o	DECAL, Bearing Cavity Oil Fill Port
4	1	1251-382	DECAL, Check Grease Level Daily

**TUNNEL BORING MACHINE DECALS - RIGHT SIDE, 1255-093**  
**TBM Series II: 48SC - 420 - 480 - 540**

ITEM	QTY	PART NO.	DESCRIPTION
5	1	1251-450ad	DECAL, Boring Head Pressure (Later Models)
6	1	1251-450ac	DECAL, System-Steering Pressure (Later Models)
7	1	1251-450ae	DECAL, Steering Pressure (Early Models)
8	1	1251-450af	DECAL, Boring Head-System Pressure (Early Models)
9	1	1251-444	LABEL, 9 Bank Valve
10	1	1251-450	DECAL, Steering Pressure Relief Valve
11	1	1251-450	DECAL, Gas Detector Horn & Strobe
12	1	1251-443a	DECAL, E-Stop-Grease Power-24VDC Power
13	1	1251-443b	DECAL, Gasmax-Hydraulic Pilot-Conveyor Safety Switch
14	1	1251-443c	DECAL, Grease Pump-Scavenging Float-Head Drive
15	1	1251-443d	DECAL, Lube Pump-Light-Light
16	1	1251-443e	DECAL, Scavenging Pump-Conveyor Safety Switch
17	1	1251-649	DECAL, Danger, Warning, Notice, Gas Detector
18	1	1250-383	DECAL, Notice, Electrical Equipment
19	1	1250-385	DECAL, Danger, Hazardous Voltage
20	1	1251-450t	DECAL, Main Power
21	1	1251-450w	DECAL, Hourmeter (Later Models)
22	1	REF	PLATE, Serial Number
23	1	1250-544	DECAL, Made In USA
24	-	-	-
25	1	1251-320	DECAL, Notice, Welding Gas Detector Damage
26	1	1251-450x	DECAL, Low Pressure Adapters
27	1 per dirt wing	1250-562	DECAL, Warning, Pinch Points
28	1	1251-450k	DECAL, Tunnel Power Phase OK
29	1	1251-450u	DECAL, Boring Lube Pressure
30	1	3-700R	DECAL, Notice, Rotation Right
31	2	40000-16	DECAL, Notice, Change Filter
32	2	1251-450e	DECAL, Conveyor Hyd Connections
33	1	1251-450r	DECAL, Bearing Lube Pump
34	1	1251-450c	DECAL, Bearing Oil Filter
35	1	1250-006	DECAL, Warning, Safety Chain To Conveyor
36	1	1251-450j	DECAL, Conveyor Safety Switch
37	1	1251-450s	DECAL, Scavenging Pump
38	1	1251-450b	DECAL, Steering Joint Grease Fitting
39	1	1251-450f	DECAL, Bearing Seal Grease
40	1	1251-450d	DECAL, Bearing Lube Manifold
41	1	1251-450l	DECAL, Bearing Grease Pressure
42	1	1251-245	DECAL, Akkerman X-Large
43	1	1251-325	DECAL, USA Flag, Medium - Right

# BELT CONVEYOR DECALS, 1255-018

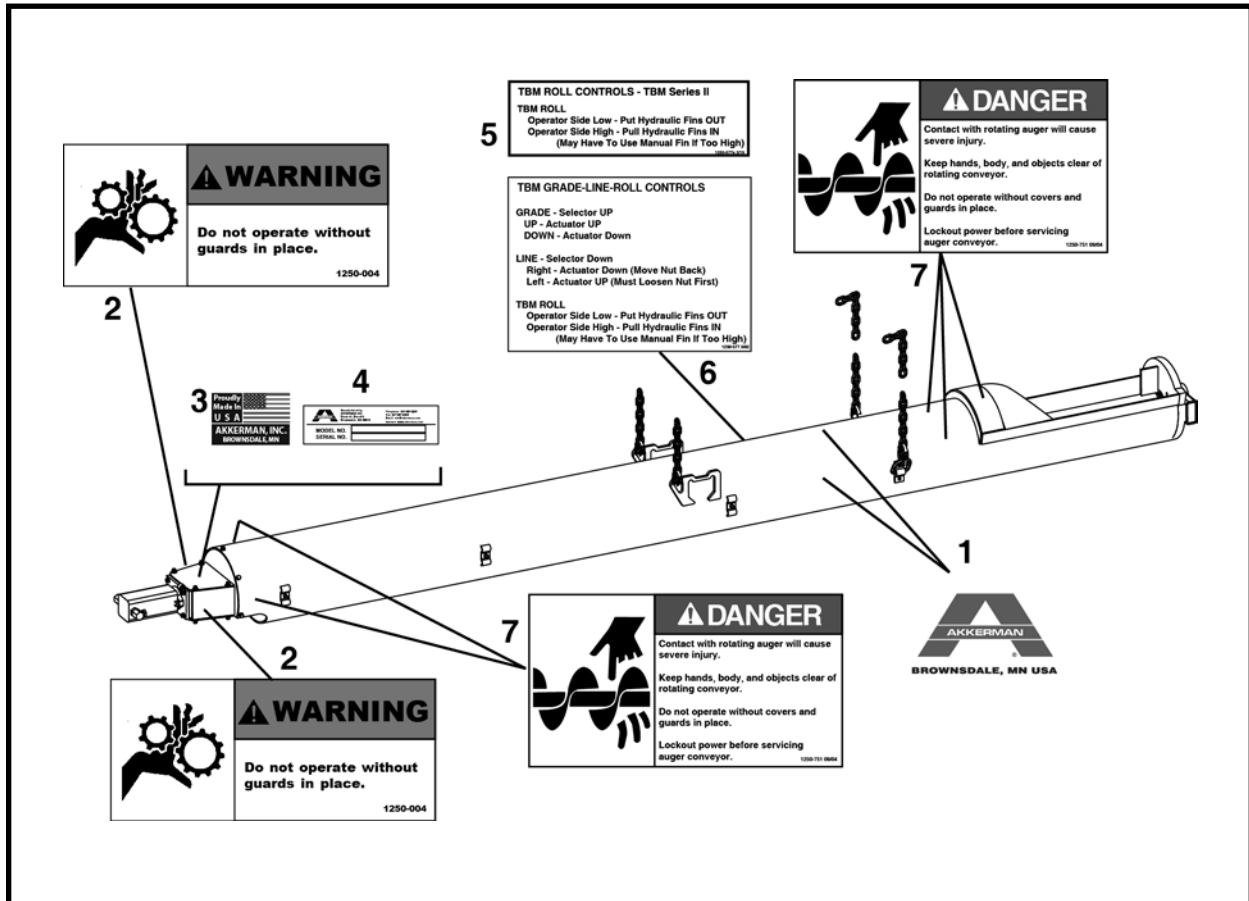
## 1015 - 1215 - 1615 BELT CONVEYORS



ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-018	KIT, Decal Belt Conveyor
1	2	1251-246	DECAL, Akkerman, Large
2	1	1250-544	DECAL, Made In USA
3	1	REF	PLATE, Serial Number
4	4	1250-750	DECAL, Danger Rotating Belt Conveyor
5	1	1250-577	DECAL, TBM Steering Controls
6	1	1250-577	DECAL, TBM Steering Controls
7	1	1250-004	DECAL, Warning, Guards Must Be In Place

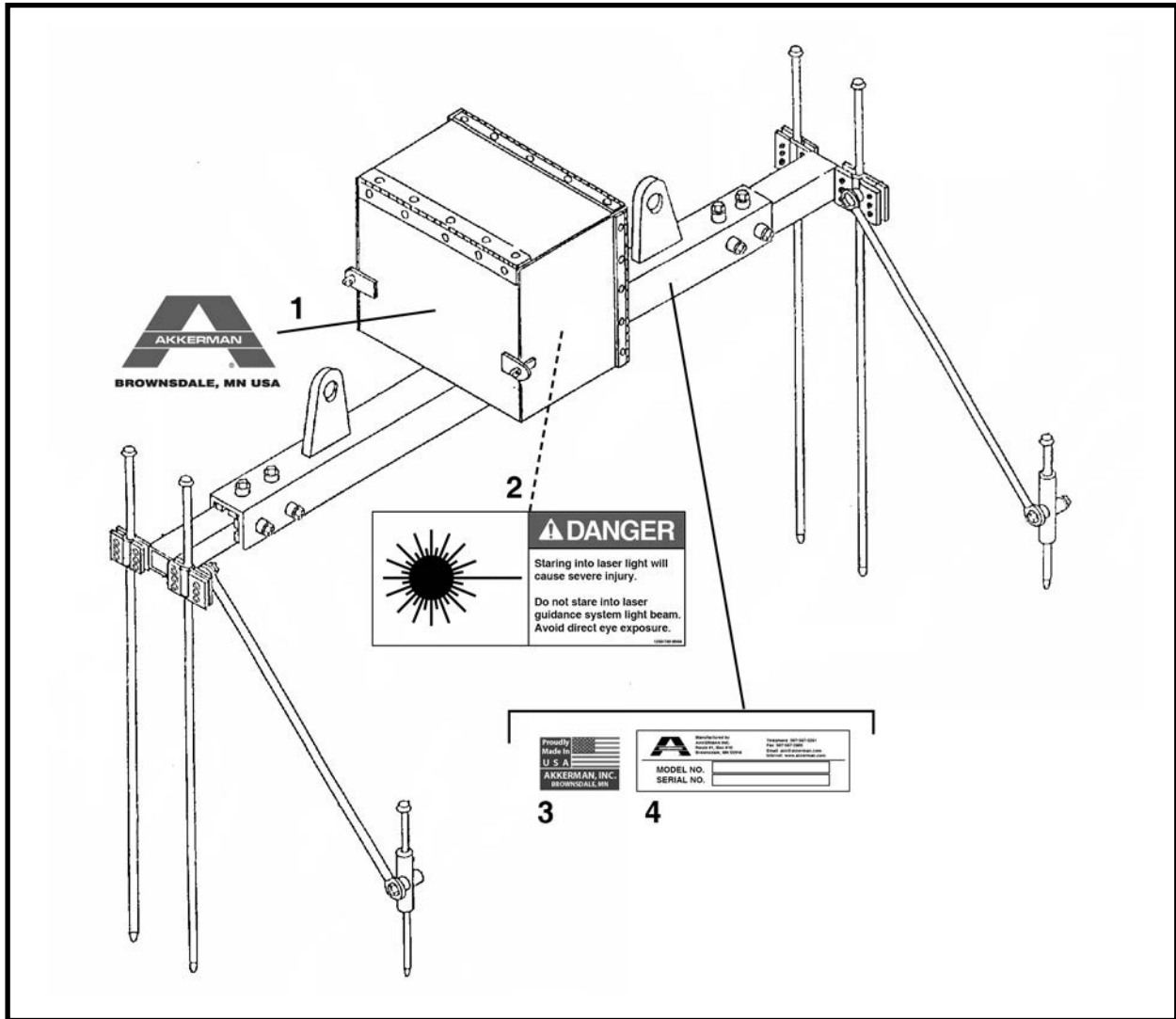
# SCREW CONVEYOR DECALS, 1255-009

120EX - 140EX



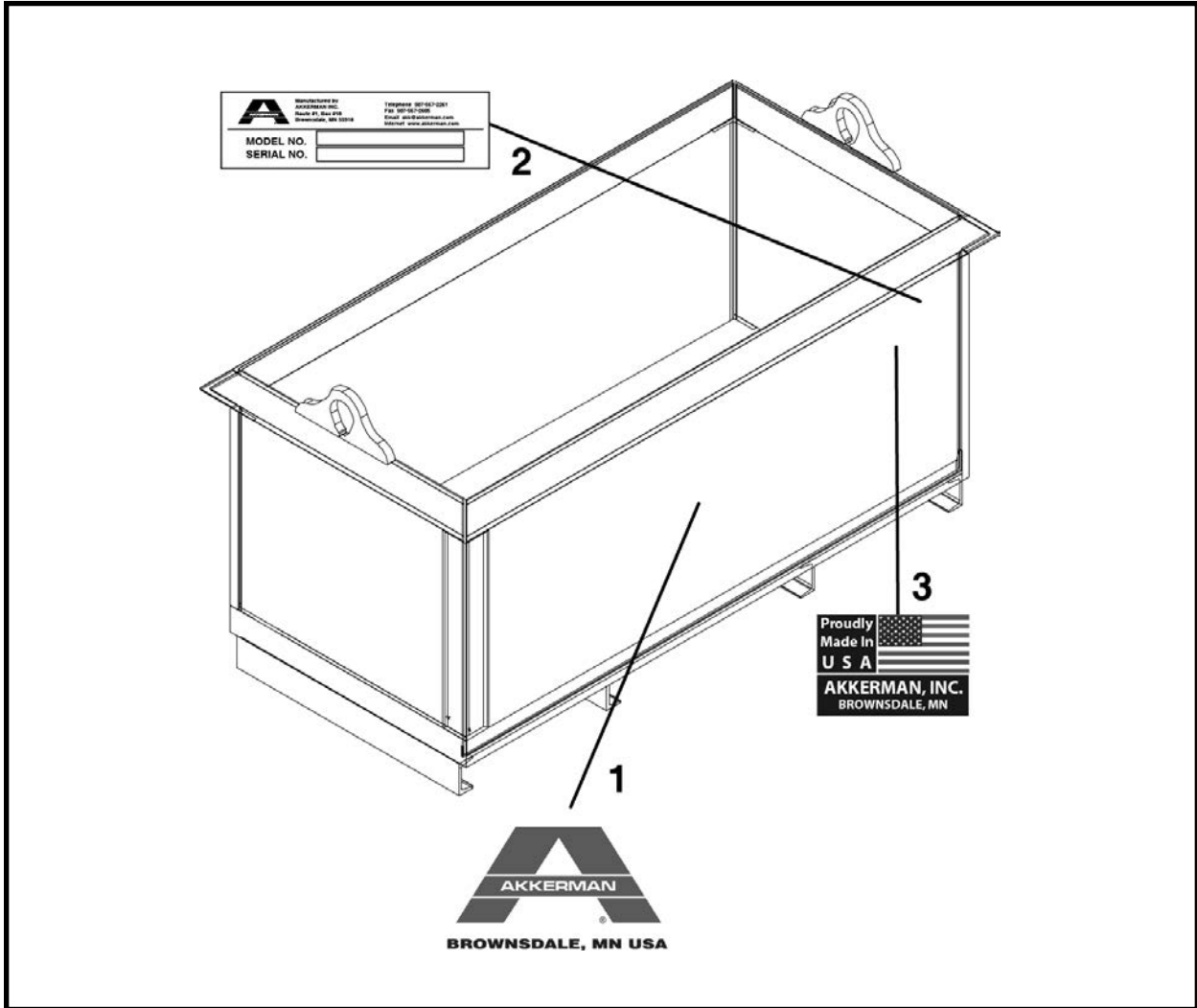
ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-009	KIT, Decal Screw Conveyor
1	2	1251-246	DECAL, Akkerman, Large
2	1	1250-004	DECAL, Warning, Guards Must Be In Place
3	1	1250-544	DECAL, Made In USA
4	1	REF	PLATE, Serial Number
5	1	1250-577A	DECAL, TBM Steering Controls - TBM Series II
6	1	1250-577	DECAL, TBM Steering Controls
7	5	1250-751	DECAL, Danger Rotating Auger Conveyor

# LASER LIGHT STAND DECALS, 1255-020



ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-020	KIT, Decal Laser Light Stand
1	2	1251-245	DECAL, Akkerman, X Large
2	2	1250-749	DECAL, Danger, Laser Light
3	1	1250-544	DECAL, Made In USA
4	1	REF	PLATE, Serial Number

## HEAD BOX DECALS, 1255-019



ITEM	QTY	PART NO.	DESCRIPTION
0	1	1255-019	KIT, Decal Head Box
1	2	1251-245	DECAL, Akkerman, X Large
2	1	REF	PLATE, Serial Number
3	1	1250-544	DECAL, Made In USA

## **NOTES**



# Structurals

## TBM Frame Assembly

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Continued on next page.

# Structurals (continued)

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48SC - 420 Series II .....	36
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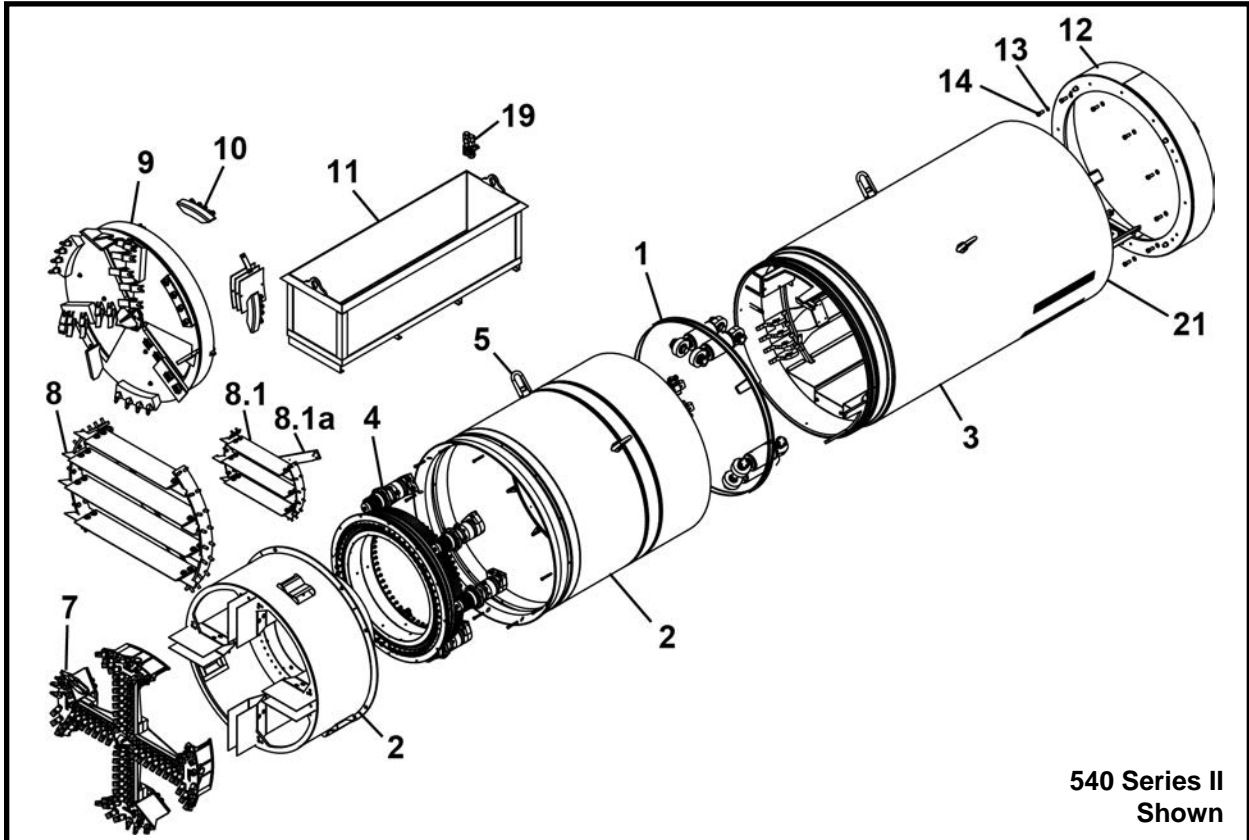
## Laser Light Stand

Laser Light Stand, F05866F00 (5000 Pump Unit) .....	40
Laser Light Stand, F21675F (All Pump Units).....	41

**Conveyors** ..... See Section 11 Miscellaneous/Conveyors/IJS

**Intermediate Jacking Stations** ..... See Section 6 Hydraulics

**FINAL ASSEMBLY**  
**TBM Series II: 48SC - 420 - 480 - 540**



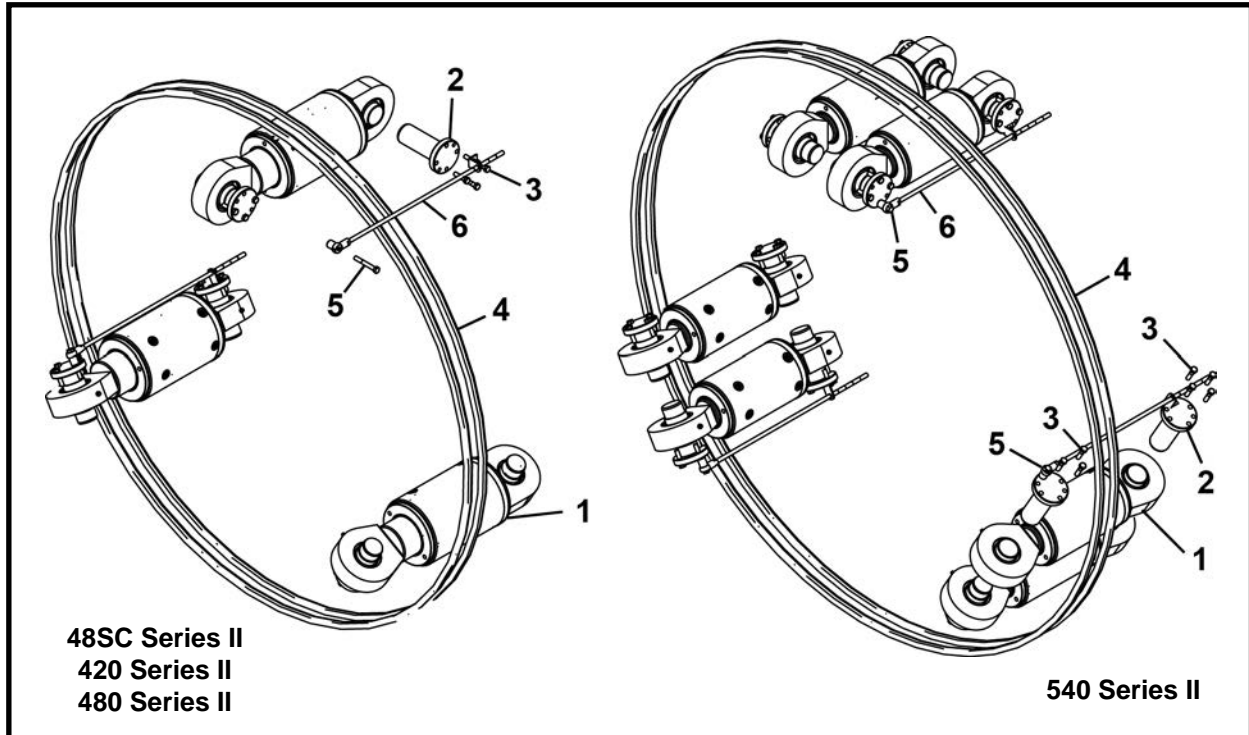
ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	F24600F	F31000F	F28500F	F28600F	FINAL ASSEMBLY
1***	1	024602A	027902A	028502A	028602A	STEERING ASSEMBLY
2***	1	024603A	031003A	028503A	028603A	FRONT SECTION ASSEMBLY
3***	1	024604A	031004A	028504A	028604A	BACK SECTION ASSEMBLY
4***	1	024605A	031005A	028505A	028605A	DRIVE ASSEMBLY
5	1	024606A	031006A	028506A	028606A	WELD, Front Section
6**,^	1	027901A	027901A	028501A	028601A	HYDRAULICS ASSEMBLY
7***	1	024682A	027955A	028575A	028682A	CUTTER BAR ASSEMBLY
8***	0	023465A	-	028549A	023427A	SAND HEAD ASSEMBLY
8.1***	0	-	004645A02	-	-	SAND HEAD ASSEMBLY
8.1a	0	-	027974A	-	-	SAND BAR ASSEMBLY
9***	0	F24665F	F27965F	F28565F	F28665F	CLOSED FACE ASSEMBLY
10.1	0	024698A	031098A	028598A	028698A	MOUNT, Closed Face Ser. II
10.2	0	024699A	031099A	028599A	028699A	MOUNT, Closed Face To Ser. I
11	1	F10350F00	F10350F00	F10350F00	F10360F00	BOX, Boring Head
12	1	-	023710A00	023810A00	018310A00	RING, Bell End
13	13	P0040-012	P0040-012	P0040-012	P0040-012	WASHER, Hardened Flat 3/4
14	13	P0001-12-008	P0001-12-008	-	P0001-12-008	BOLT, Hex 3/4 UNC x 2
14	13	-	-	P0001-12-009	-	BOLT, Hex 3/4 UNC x 2.25
15**,^	1	027933A	027933A	027933A	025698A	GREASE ASSEMBLY
16**,^	1	027932A	027932A	028532A	028532A	LUBE ASSEMBLY
17**,^	1	024650A	024650A	024650A	024650A	ELECTRICAL ASSEMBLY
18**60/70QT*		P0126-050	P0126-050	-	-	OIL, MOBIL GEAR 600 XP 460
18**75/90QT*		-	-	P0126-050	P0126-050	OIL, MOBIL GEAR 600 XP 460
19	1	027698A	027698A	027698A	027698A	KIT, Adapter, Low PSI to Ser. II
20**	1	027934A	027934A	028531A	-	GREASE HOSE ASSEMBLY
21	1	014000A01	-	-	-	ADAPTER, Steel Casing
22**	1	1255-093	1255-093	1255-093	1255-093	KIT, Decal

\* Quarts \*\* Not Shown

\*\*\* Refer to this section for parts information. ^ Refer to Section 6, Hydraulics for parts information.

^^ Refer to Section 5, Electrical for parts information.

**STEERING ASSEMBLY**  
**TBM Series II: 48SC - 420 - 480 - 540**

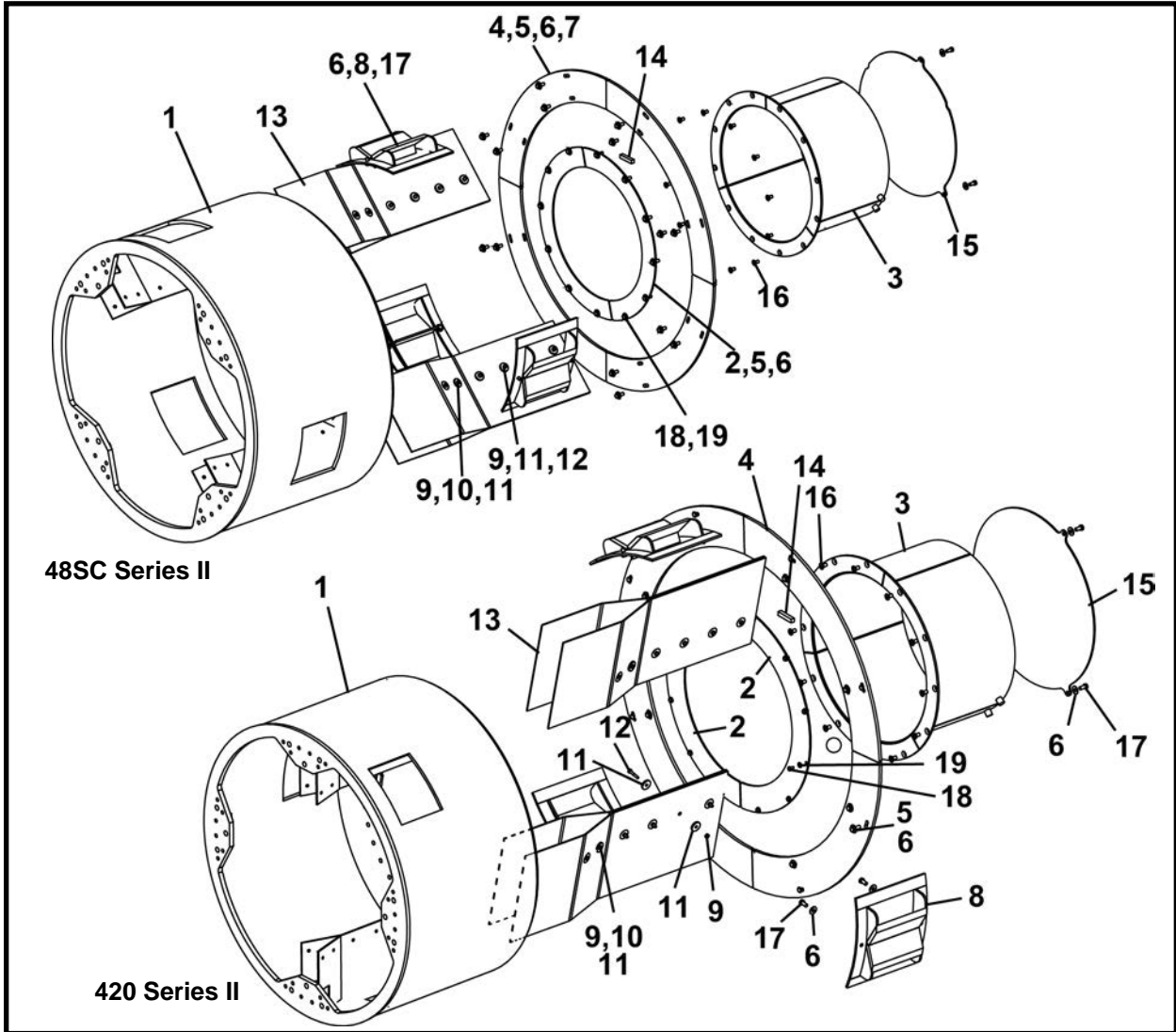


ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	024602A	027902A	028502A	028602A	STEERING ASSEMBLY
1*	3/3/3/6	021175A	021175A	031075A	021175A	CYLINDER
2	6/6/6/12	023174P	023174P	023174P	023174P	PIN, Cylinder
3	21/21	P0001-06-006	P0001-06-006	-	-	BOLT, Hex 3/8 UNC x 1.5
3	21/45	-	-	P0001-06-006	P0001-06-006	BOLT, Hex 3/8 UNC x 1.5
4	2	P0088-260	P0088-028	P0088-029	P0088-261	ORING
5	3	P0001-06-011	P0001-06-011	P0001-06-011	P0001-06-011	BOLT, Hex 3/8 UNC x 2.75
6	3	028794A	028794A	028793A	028794A	GAGE, 3 PT Steer

\* Refer to section 10, Cylinders for parts information.

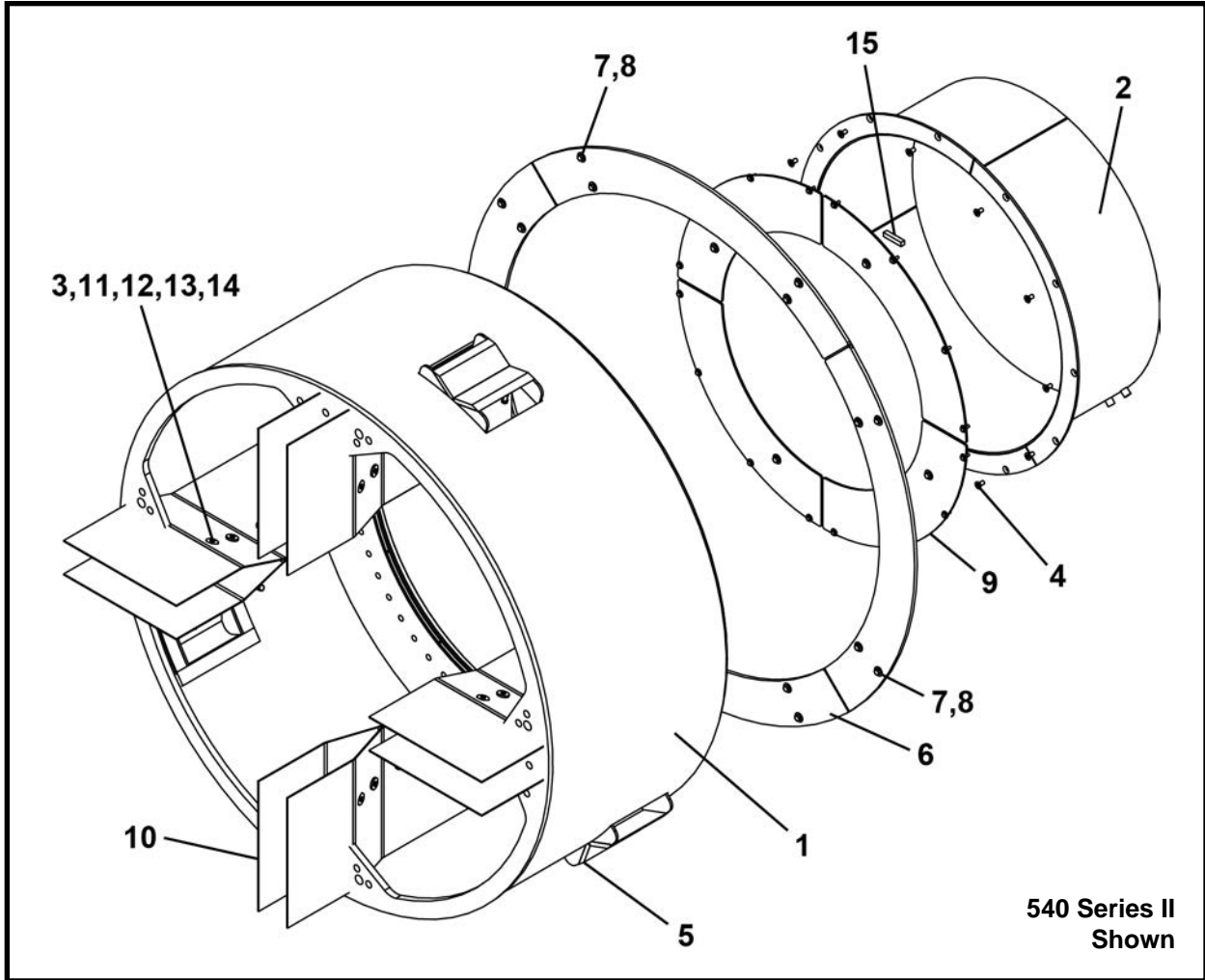
## **NOTES**

**FRONT SECTION ASSEMBLY**  
TBM Series II: 48SC - 420



ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	DESCRIPTION
0	1	024603A	031003A	FRONT SECTION ASSEMBLY
1	1	024607A	031007A	INNER DRUM
2	2	024663P	031063P	MOUNT, Bulkhead Door
3	1	024659A	027655A	GUARD, Grease Tube
4	4	024655A	031055A	PLATE, Front Closeout
5	28/16	P0001-06-004	P0001-06-004	BOLT, Hex 3/8 UNC x 1
6	37/25	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
7	-	-	-	-
8	3	028658A	028658A	DIRT SCOOP
9	16	P0003-04-000	P0003-04-000	NUT, 1/4 UNC
10	8	P0001-04-004	P0001-04-004	BOLT, Hex 1/4 UNC x 1
11	24	002624P00	002624P00	WASHER, Dirt Paddle
12	8	P0001-04-006	P0001-04-006	BOLT, Hex 1/4 UNC x 1.5
13	4	024657P	027647P	RUBBER, Dirt Paddle
14	1	023468P	023468P	BAR
15	1	024662A	031062A	DOOR
16	12	P0030-06-003	P0030-06-003	SCREW, Flat Head, Socket Head, Cap 3/8 x .75
17	9	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
18	12	-	P0001-04-002	BOLT, Hex 1/4 UNC x .5
19	12	-	P0040-004	WASHER, Hardened Flat

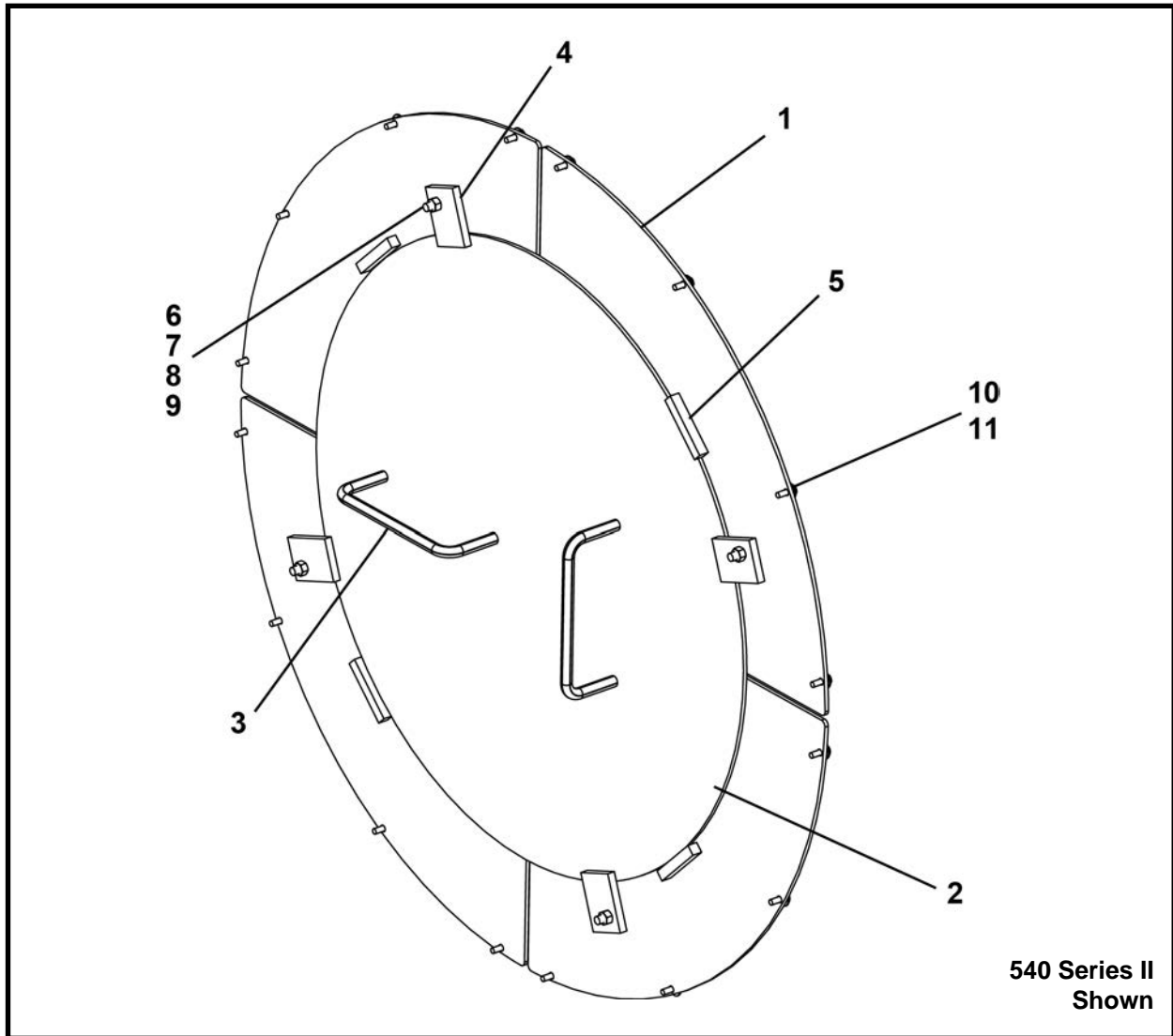
**FRONT SECTION ASSEMBLY**  
TBM Series II: 480 - 540



ITEM	QTY	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	028503A	028603A	FRONT SECTION ASSEMBLY
1	1	028507A	028607A	INNER DRUM
2	1	027885A	028645A	GUARD, Grease Tube
3	48	002624P00	002624P00	WASHER, Dirt Paddle
4	12	P0030-06-003	P0030-06-003	SCREW, Flat Head, Socket Head, Cap 3/8 x .75
5	3	028658A	028658A	DIRT SCOOP
6	4	028555A	028655A	PLATE, Front Closeout
7	16/28	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
8	16	P0001-06-004	P0001-06-004	BOLT, Hex 3/8 UNC x 1
9*	1	028562A	028662A	BULKHEAD DOOR ASSEMBLY
10	8	027871P	027871P	RUBBER, Dirt Paddle
11	32	P0003-04-000	P0003-04-000	NUT, 1/4 UNC
12	16	P0001-04-006	P0001-04-006	BOLT, Hex 1/4 UNC x 1.5
13	16	P0040-004	P0040-004	WASHER, Hardened Flat 1/4
14	20/16	P0001-04-004	P0001-04-004	BOLT, Hex 1/4 UNC x 1
15	1	023468P	023468P	BAR

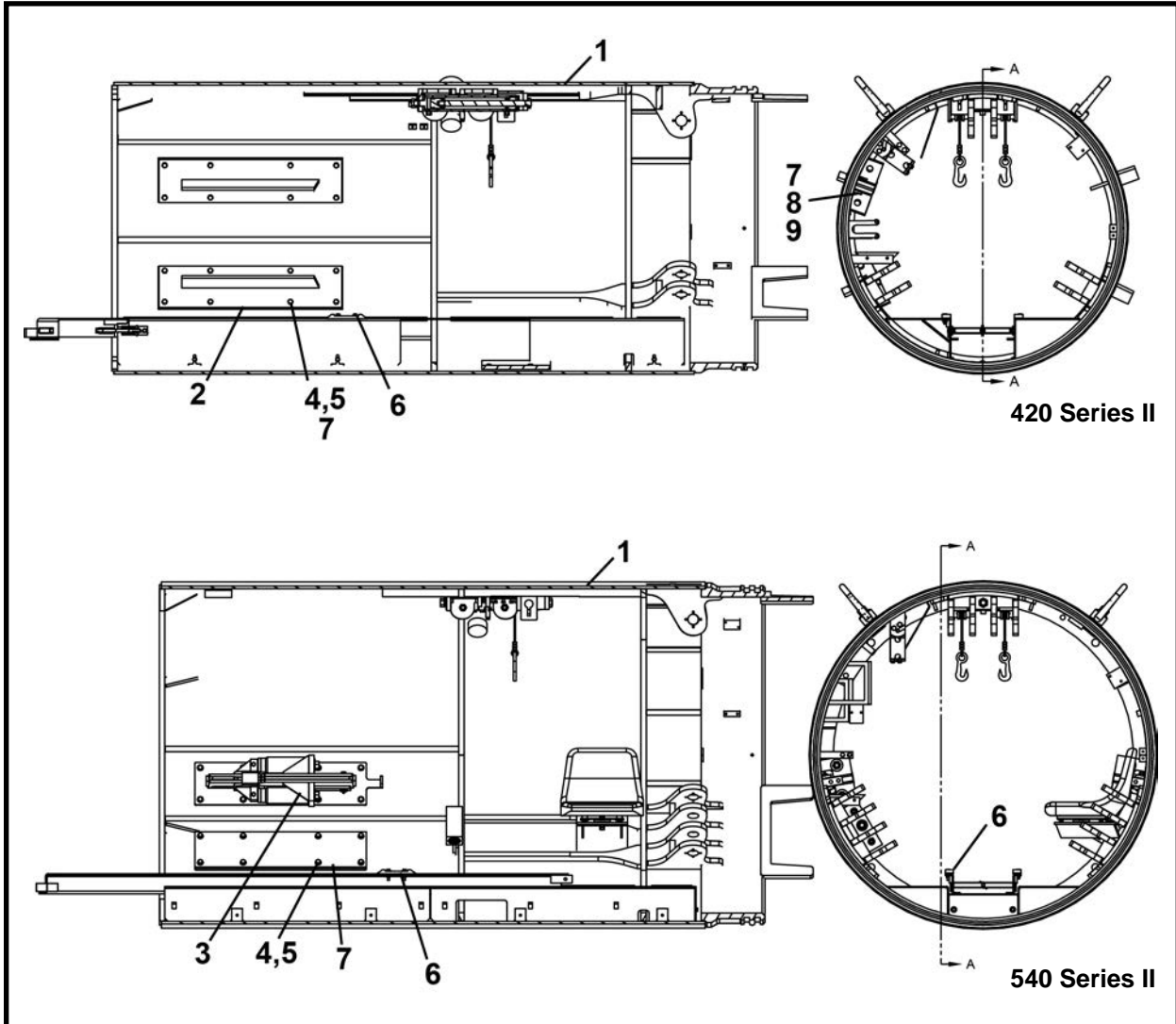
\* Refer to this section for parts information.

**BULKHEAD DOOR ASSEMBLY**  
**TBM Series II: 480 - 540**



ITEM	QTY	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	028562A	028662A	BULKHEAD DOOR ASSEMBLY
1	4	028563P	028663P	MOUNT, Door
2	1	028564P	028664P	DOOR, Bulkhead
3	2	012875P00	012875P00	HANDLE
4	4	009986P00	009986P00	ENCLOSER
5	4	009987P00	009987P00	BAR
6	4	P0001-06-006	P0001-06-006	BOLT, Hex 3/8 UNC x 1.5
7	4	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
8	4	P0003-06-000	P0003-06-000	NUT, Hex 3/8
9	4	-	P0007-06-000	NUT, Jam 3/8 UNC
10	16	P0040-004	P0040-004	WASHER, Hardened Flat 1/4
11	16	-	P0001-04-003	BOLT, Hex 1/4 UNC x .75
11	16	P0001-04-002	-	BOLT, Hex 1/4 UNC x .5

**BACK SECTION ASSEMBLY**  
TBM Series II: 48SC - 420 - 480 - 540



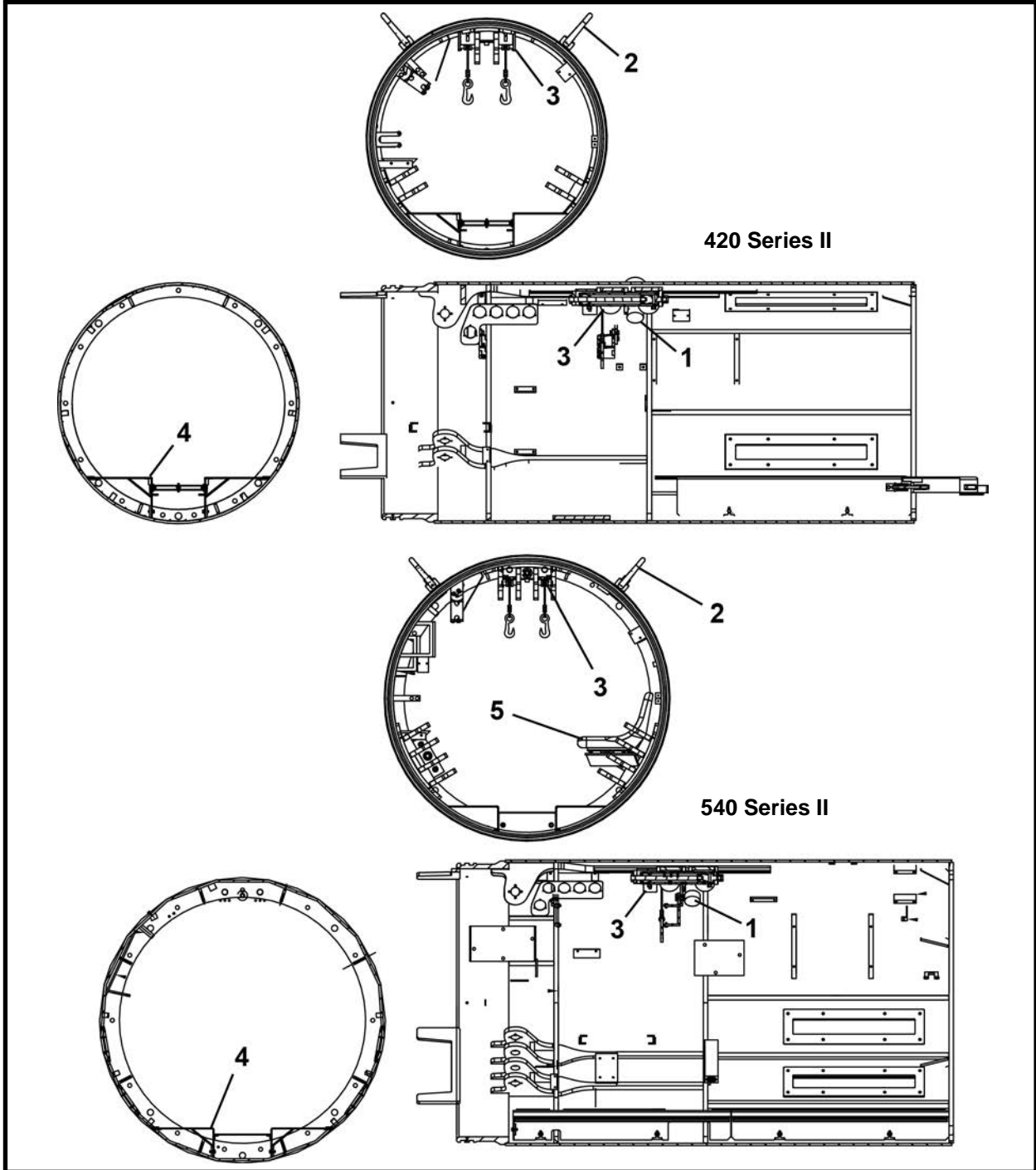
ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	024604A	031004A	028504A	028604A	BACK SECTION ASSEMBLY
1*	1	024608A	031008A	028508A	028608A	BACK DRUM ASSEMBLY
2	2	023469A	027991A	-	-	DIRT WING, Manual
3*	2	-	-	014685A	014679A	DIRT WING, Hyd. Bi-Directional
4	16/32/16/32	P0040-008	P0040-008	P0040-008	P0040-008	WASHER, Hardened Flat 1/2
5	16/32/16/32	P0001-08-004	P0001-08-004	P0001-08-004	P0001-08-004	BOLT, Hex 1/2 UNC x 1
6	2	023416A	023416A	023416A	023416A	STOP, 524 Haul Unit
7	2	**014619P00	014619P00	014619P00	014619P00	COVER, Blank
8*	2	-	011555A00	-	-	DIRT WING, Hydraulic
9	2	-	***027992A	-	-	BRACKET, Dirt Wing Straight Hyd.

\* Refer to this section for parts information.

\*\* Not included with complete assembly.

\*\*\* Use components from item 8 for complete hydraulic dirt wing.

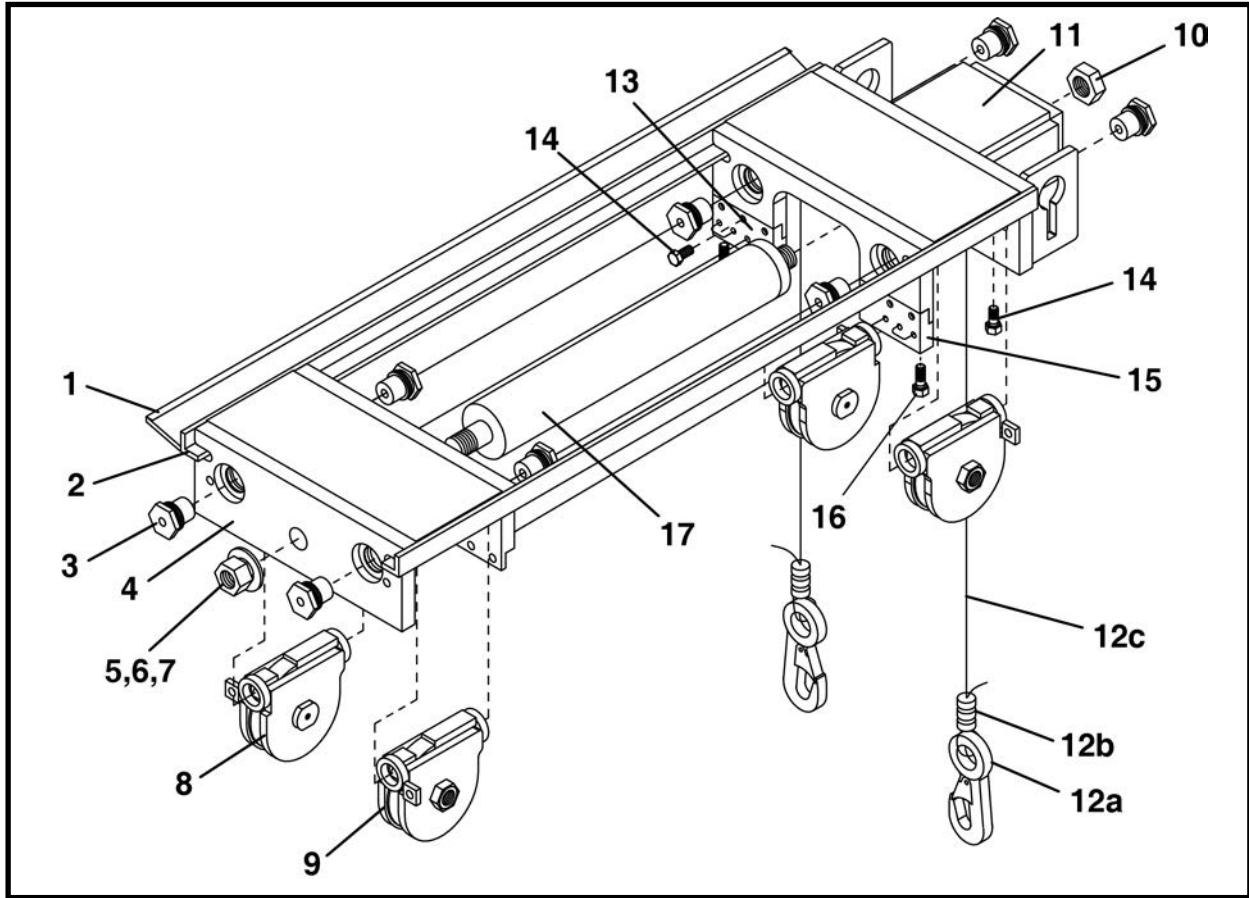
**BACK DRUM ASSEMBLY**  
**TBM Series II: 48SC - 420 - 480 - 540**



ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	024608A	031008A	028508A	028608A	BACK DRUM ASSEMBLY
1	2	021158P	021158P	021158P	021157P	MOUNT, Hoist Ring
2	2	P0098-067	P0098-067	P0098-067	-	RING, Hoist 7,000 lbs
2	2	-	-	-	P0098-068	RING, Hoist 10,000 lbs
3*	1	025315A00	025315A00	025315A00	025315A00	CONVEYOR LIFT ASSEMBLY
4*	1	024609A	027909A	028509A	028609A	FLOOR ASSEMBLY
5*	1	-	-	003695A00	024510A	SEAT ASSEMBLY

\* Refer to this section for parts information.

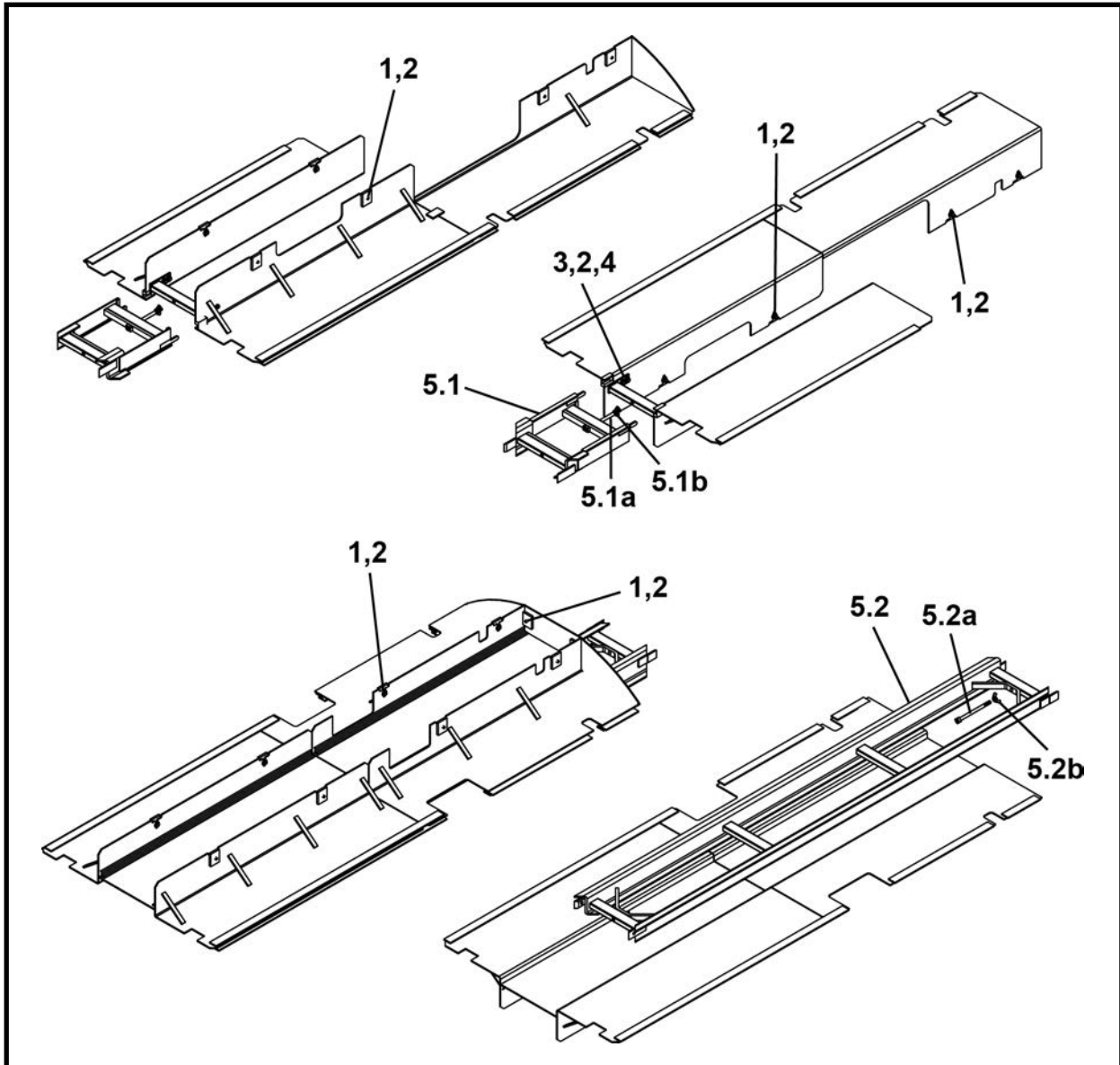
**CONVEYOR LIFT ASSEMBLY, 025315A00**  
**TBM Series II: 48SC - 420 - 480 - 540**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	025315A00	ASSEMBLY, Conveyor Lift
1	2	-	BAR
2	2	-	ANGLE
3	8	025398P00	ROD, Cylinder Lift
4	1	-	BRACKET, Slide
5*	1	P0004-14-000	NUT, 7/8 UNF
6	1	P0045-014	WASHER, Lock 7/8
7	2	P0040-016	WASHER, Hardened Flat 1
8	2	025316A01	ASSEMBLY, L.H. Pulley (Includes items 8a & 8b)
8a**	1	P0063-001	FITTING, Grease
8b**	1	P0007-12-000	NUT, Jam 3/4 UNC
9	2	025318A01	ASSEMBLY, R.H. Pulley (Includes items 9a & 9b)
9a**	1	P0063-001	FITTING, Grease
9b**	1	P0007-12-000	NUT, Jam 3/4 UNC
10*	1	P0008-16-000	NUT, Jam 1 UNF
11	1	025319A00	BRACKET, Shaft End Slide
12	2	018368A-060	HOOK & CABLE ASSEMBLY (Includes items 12a - 12c)
12a	1	P0079-001	HOOK, Snap
12b	1	P0073-001	SLEEVE
12c1	60 LI	P0075-002-060	CABLE, 1/4 x 60 (48SC-420-480)
12c2	72 LI	P0075-002-072	CABLE, 1/4 x 72 (540)
13	1	-	BAR
14	12	P0001-06-003	BOLT, 3/8 UNC x .75
15	1	-	BAR
16	2	P0001-06-004	BOLT, 3/8 UNC x 1
17.1***	1	002691A00	CYLINDER, Conveyor Lift (With NPT Fittings)(Earlier Models)
17.2***	1	020300A	CYLINDER, Conveyor Lift (With ORB Fittings)

LI - Linear Inch      \* After assembly complete, tack weld nuts to conveyor lift.      \*\* Not Shown  
 \*\*\* Refer to section 10, Cylinders for parts information.

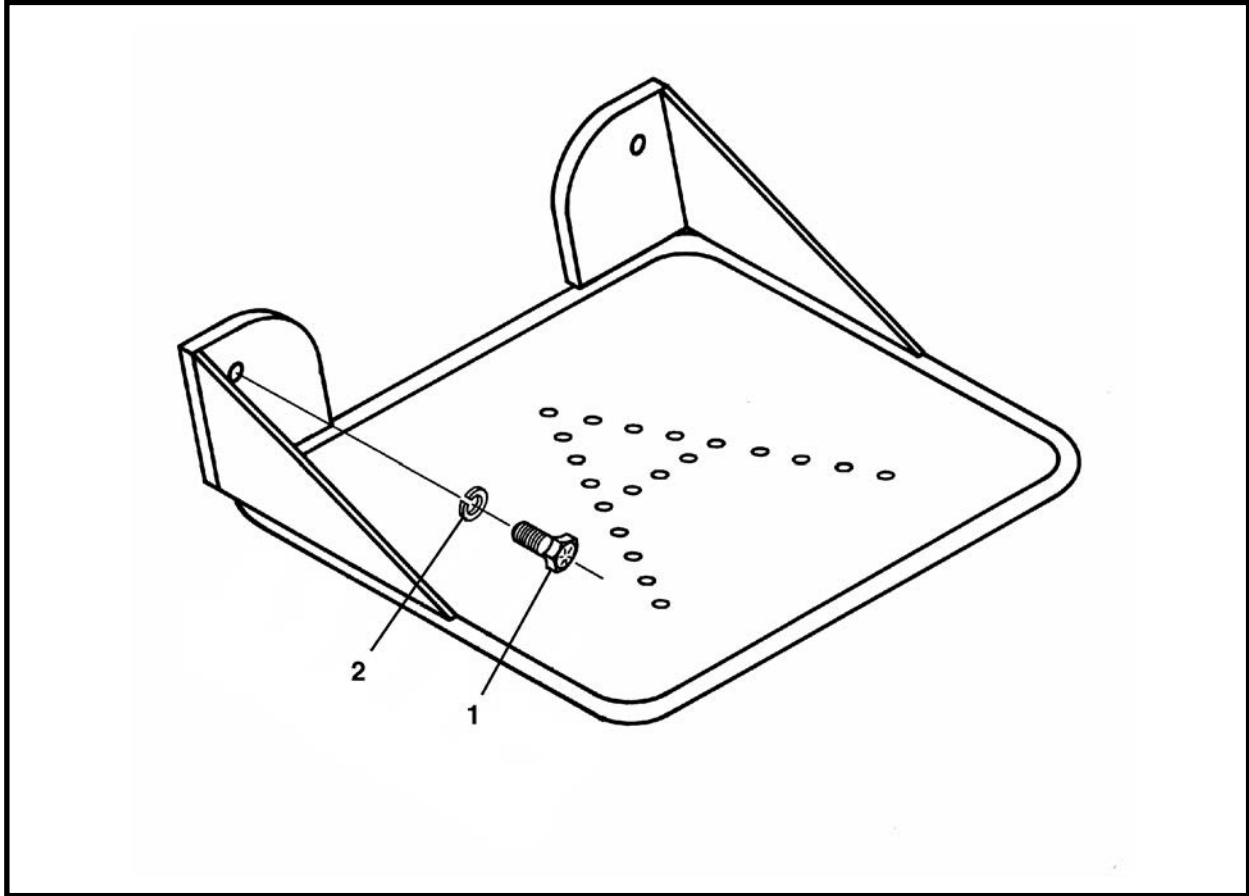
**FLOOR ASSEMBLY**  
**TBM Series II: 48SC - 420 - 480 - 540**



ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	024609A	027909A	028509A	028609A	FLOOR ASSEMBLY
1	5/5/6/10	P0001-06-004	P0001-06-004	P0001-06-004	P0001-06-004	BOLT, 3/8 UNC x 1
2	9/9/10/10	P0040-006	P0040-006	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
3	4	P0001-06-003	P0001-06-003	P0001-06-003	-	BOLT, 3/8 UNC x .75
4	4	P0003-06-000	P0003-06-000	-	-	NUT, Hex 3/8 UNC
5.1	1	030560A	030560A	030560A	-	TRACK ADAPTER (Incl 5.1a-b)
5.1a	1	007242A00	007242A00	007242A00	-	BOLT, Track
5.1b	1	P0012-08-000	P0012-08-000	P0012-08-000	-	NUT, Wing 1/2 UNC
5.2	1	-	-	-	F14750F00	TRACK, Z Section 8 Ft (Incl 5.2a-b)
5.2a	1	-	-	-	007242A00	BOLT, Track
5.2b	1	-	-	-	P0012-08-000	NUT, Wing 1/2 UNC

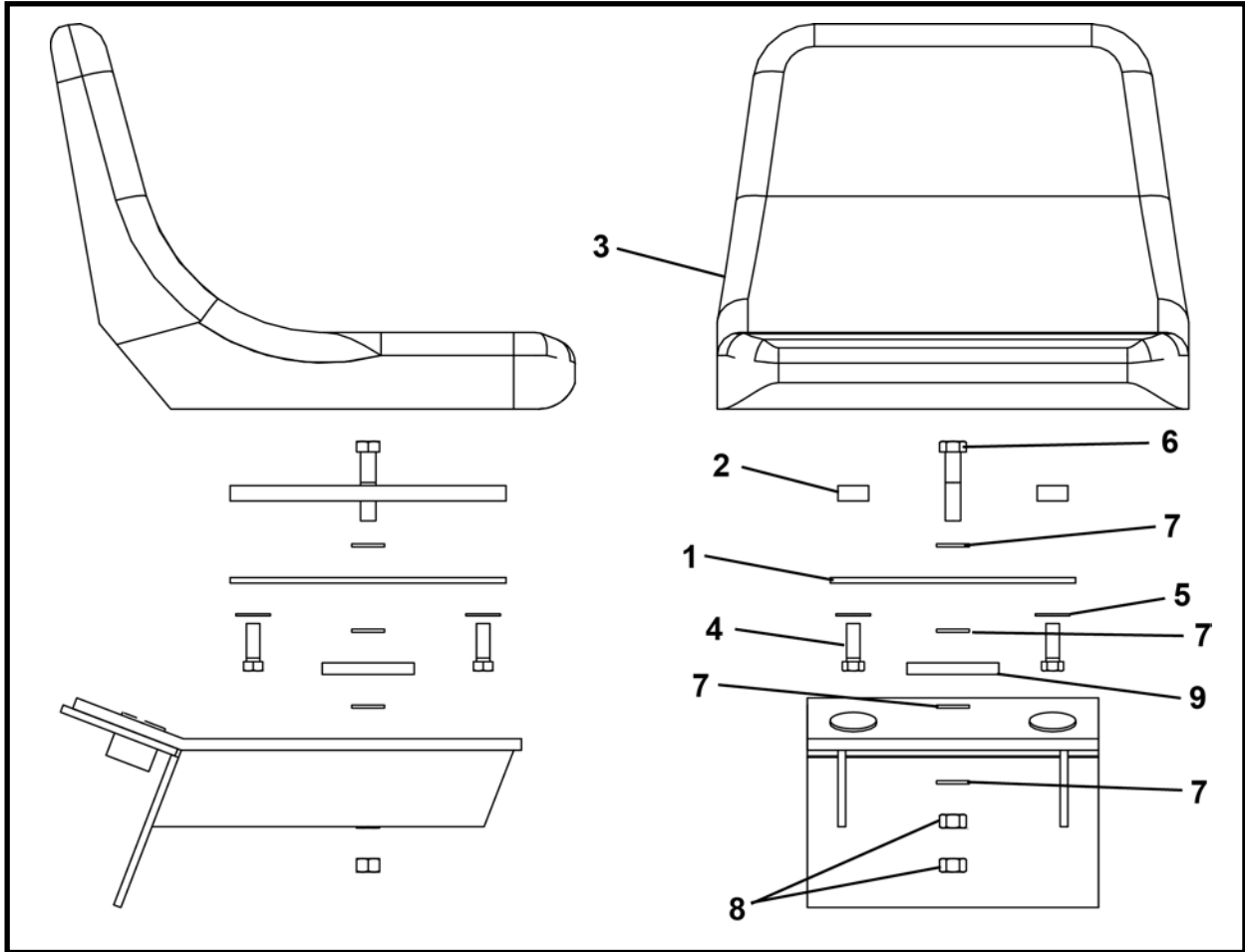
## **NOTES**

**SEAT ASSEMBLY, 003695A00**  
**TBM Series II: 480**



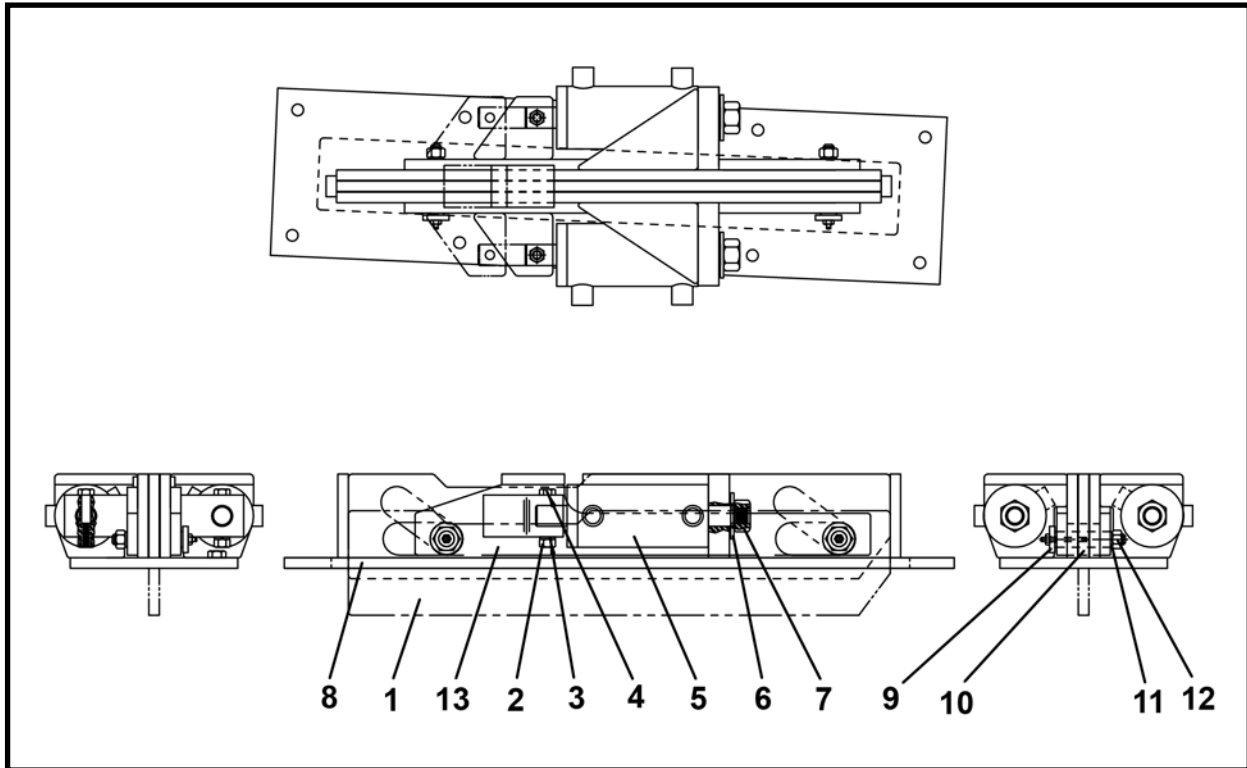
ITEM	QTY	PART NO.	DESCRIPTION
0	1	003695A00	SEAT ASSEMBLY
1	2	P0001-08-004	BOLT, Hex 1/2 UNC x 1
2	2	P0045-008	WASHER, Lock 1/2 UNC

**SEAT ASSEMBLY, 024510A**  
**TBM Series II: 540**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	024510A	SEAT ASSEMBLY
1	1	024512P	PLATE, Seat Mount
2	2	024513P	MOUNT, Seat
3	1	P0113-002	SEAT, High Back
4	4	P0001-05-005	BOLT, Hex 5/16 UNC x 1.25
5	4	P0040-005	WASHER, Hardened Flat 5/16
6	1	P0001-08-009	BOLT, Hex 1/2 UNC x 2.25
7	4	P0040-008	WASHER, Hardened Flat 1/2
8	2	P0003-08-000	NUT, Hex 1/2 UNC
9	1	009995P00	PAD, Mounting

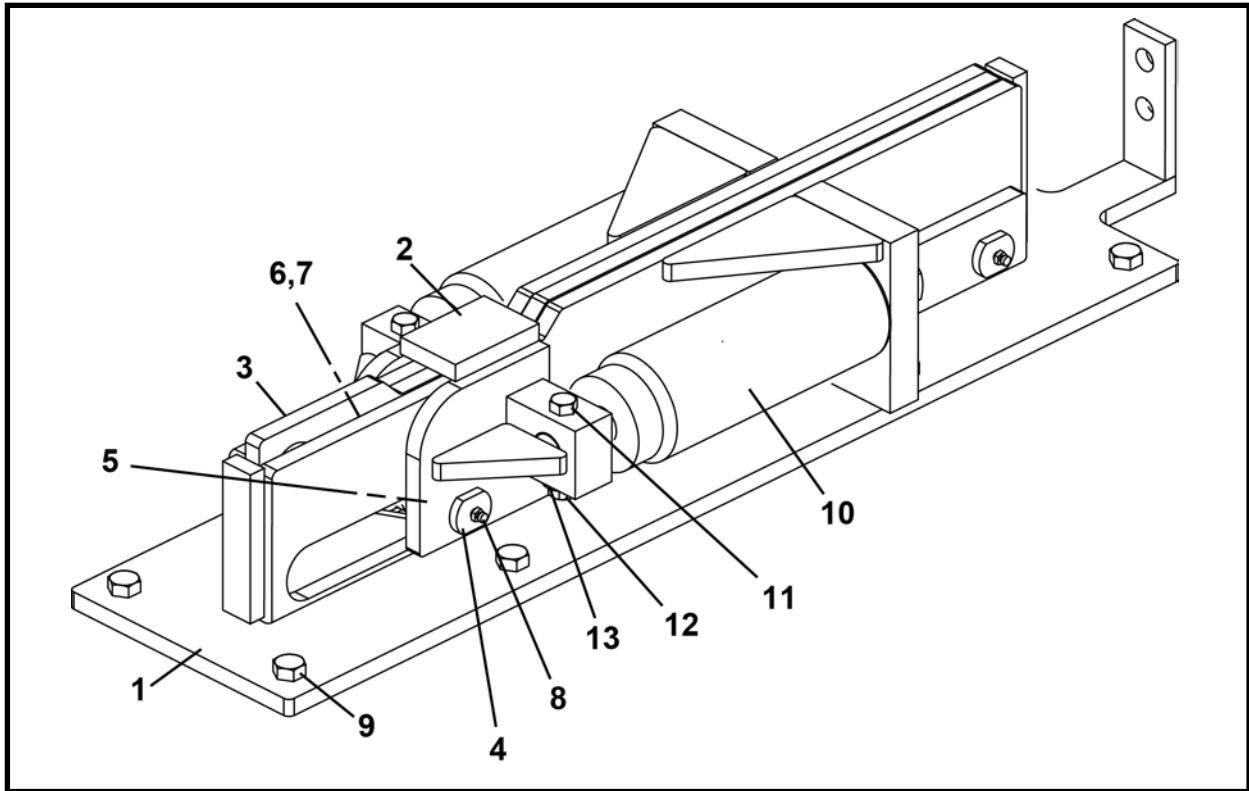
**HYDRAULIC DIRT WING (CW) ASSEMBLY, 011555A00**  
**TBM Series II: 420**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	011555A00	DIRT WING, Hydraulic CW
1	1	011586P01	WING
2	2	P0003-07-000	NUT, Hex 7/16 UNC
3	2	P0040-007	WASHER, Hardened Flat 7/16
4	2	P0001-07-010	BOLT, Hex 7/16 UNC x 2.5
5*	2	010747A00	CYLINDER ASSEMBLY
6	2	P0040-014	WASHER, Hardened Flat 7/8
7	2	P0004-14-000	NUT, Hex 7/8 UNF
8	1	011557A00	BRACKET, Dirt Wing
9	2	007239P00	PIN, Axle
10	6	007240P00	ROLLER
11	2	P0040-008	WASHER, Hardened Flat 1/2
12	2	P0015-08-000	NUT, Lock 1/2 UNC
13	1	011561A01	THRUST BAR

\* Refer to section 10, Cylinders for parts information.

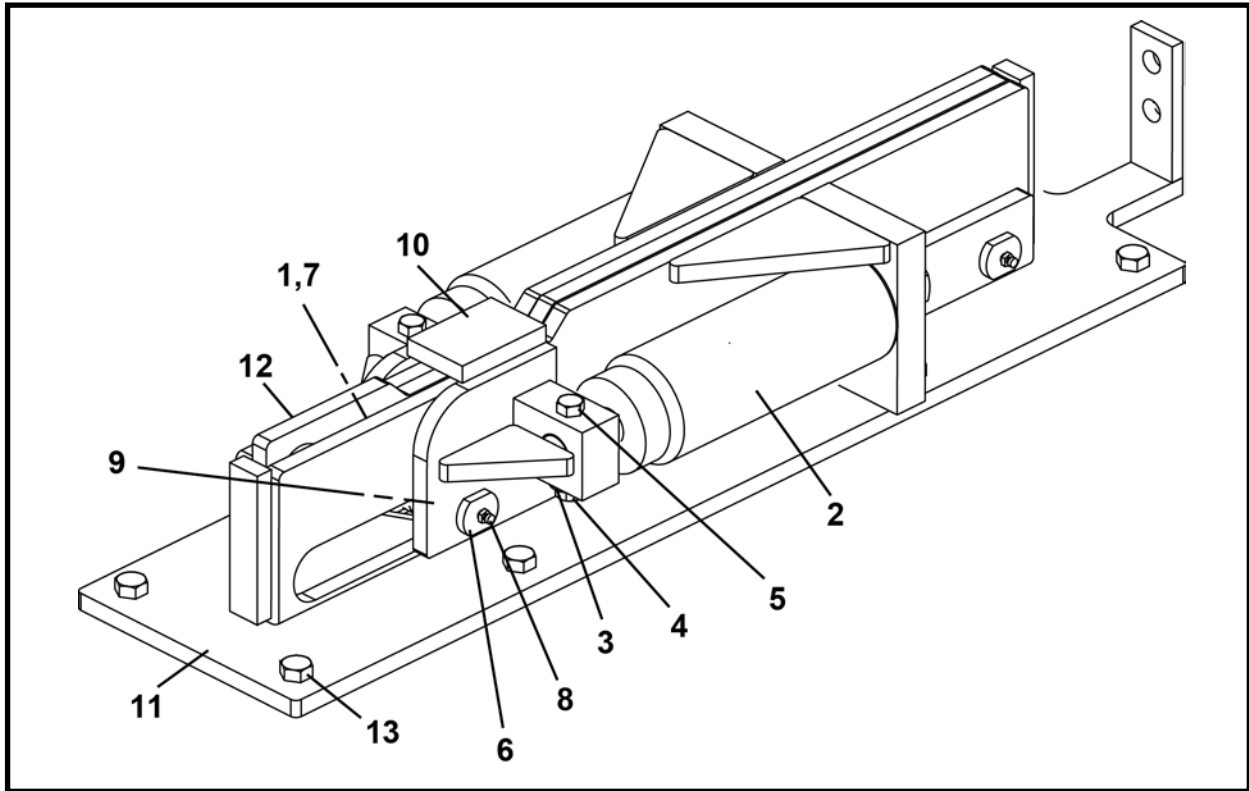
**HYDRAULIC DIRT WING (Bi-Directional) ASSEMBLY, 014685A**  
**TBM Series II: 480**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	014685A	DIRT WING ASSEMBLY
1	1	014696A	BRACKET, Bi-Directional
2	1	014632A00	THRUST BAR
3	1	014644P00	BLADE
4	2	007239P00	PIN, Axle
5	6	007240P00	ROLLER
6	2	P0040-008	WASHER, Hardened Flat 1/2
7	2	P0015-08-000	NUT, Lock Thin 1/2 UNC
8	2	P0063-001	FITTING, Grease Straight
9	8	P0001-08-004	BOLT, Hex 1/2 UNC x 1
10*	2	014603A00	CYLINDER, Dirt Wing
11	2	P0001-07-010	BOLT, Hex 7/16 UNC x 2.5
12	2	P0003-07-000	NUT, Hex 7/16 UNC
13	2	P0040-007	WASHER, Hardened Flat 7/16

\* Refer to section 10, Cylinders for parts information.

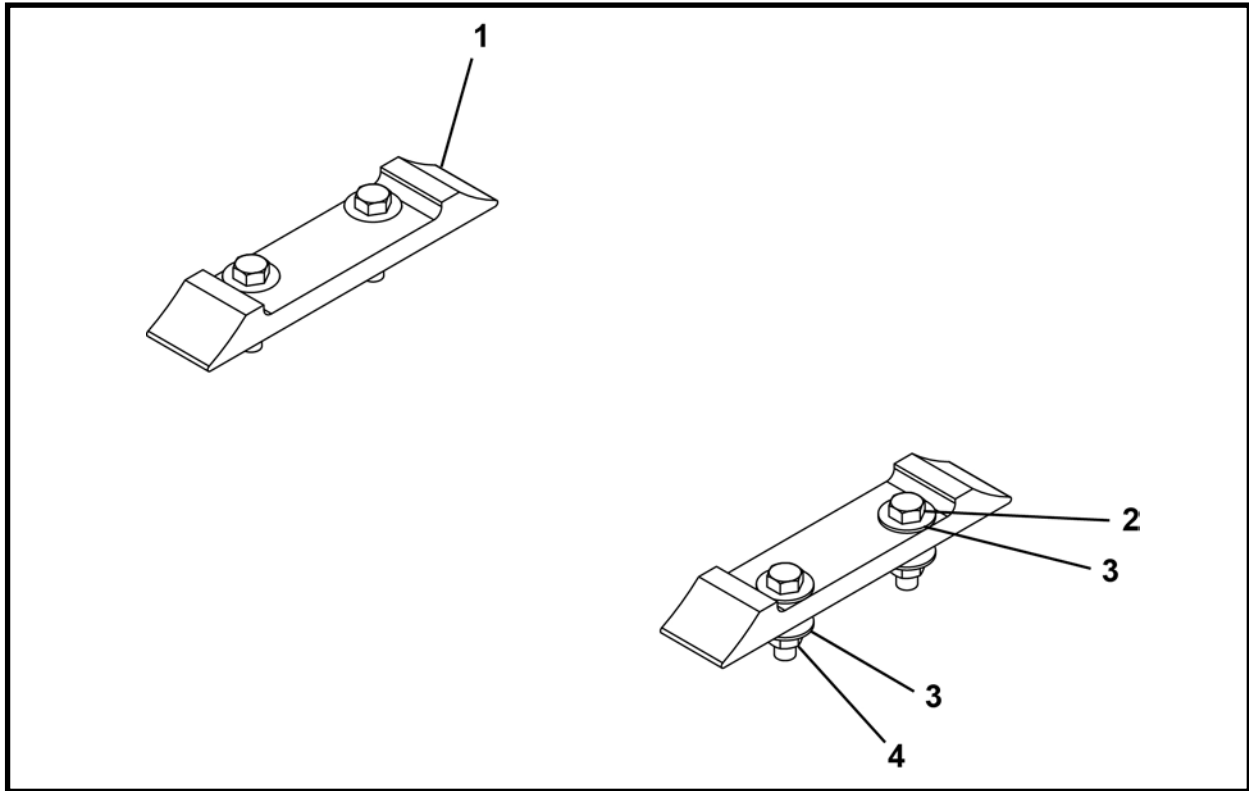
**HYDRAULIC DIRT WING (Bi-Directional) ASSEMBLY, 014679A**  
**TBM Series II: 540**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	014679A	DIRT WING ASSEMBLY
1	2	P0040-008	WASHER, Hardened Flat 1/2
2*	2	014603A00	CYLINDER, Dirt Wing
3	2	P0040-007	WASHER, Hardened Flat 7/16
4	2	P0003-07-000	NUT, Hex 7/16 UNC
5	2	P0001-07-010	BOLT, Hex 7/16 UNC x 2.5
6	2	007239P00	PIN, Axle
7	2	P0015-08-000	NUT, Lock Thin 1/2 UNC
8	2	P0063-001	FITTING, Grease Straight
9	6	007240P00	ROLLER
10	1	014606A01	THRUST BAR
11	1	014680A	BRACKET, Bi-Directional
12	1	014610P00	BLADE
13	8	P0001-08-004	BOLT, Hex 1/2 UNC x 1

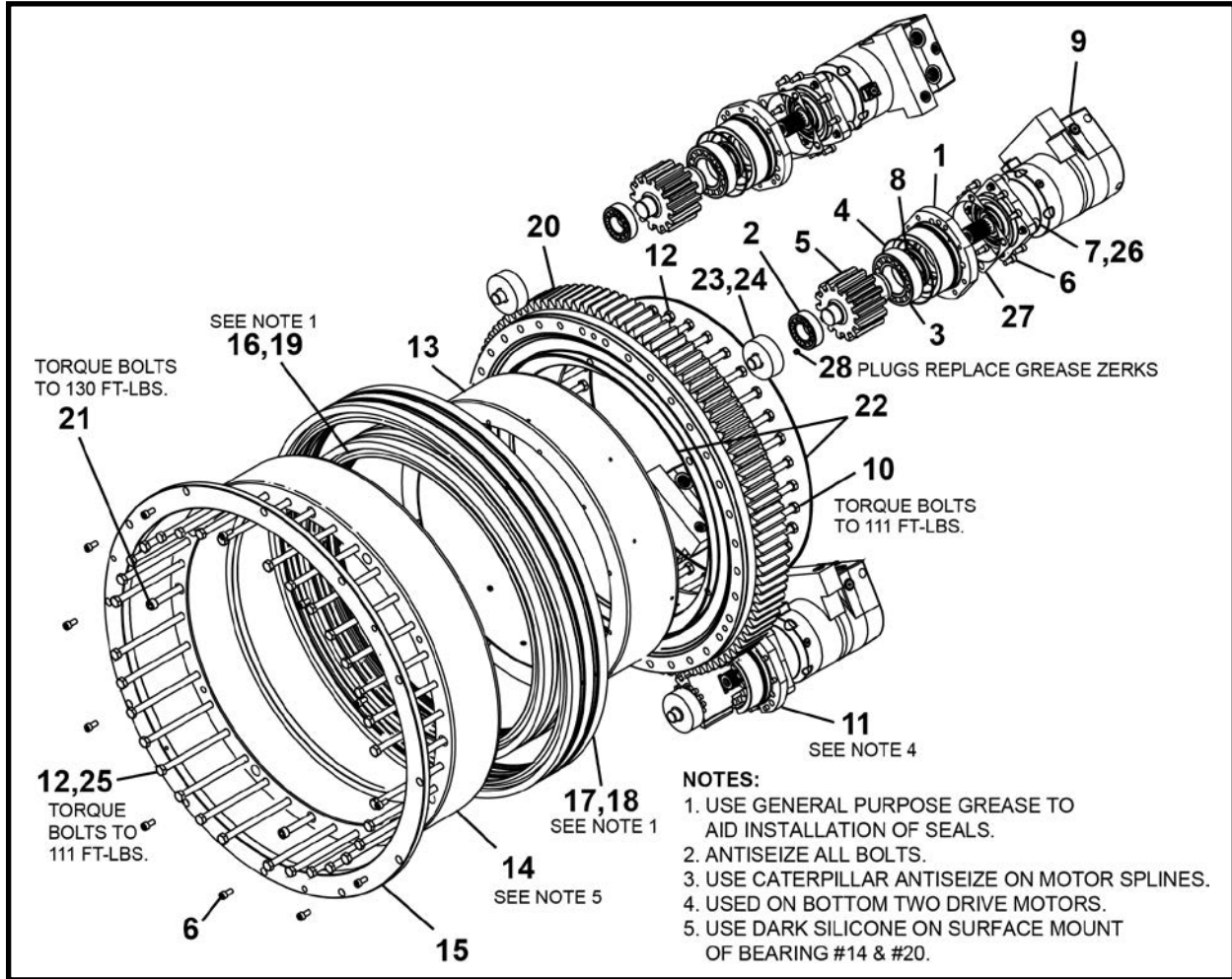
\* Refer to section 10, Cylinders for parts information.

## 524 HAUL UNIT WHEEL STOP ASSEMBLY, 023146A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	023416A	STOP, 524 Haul Unit Wheel
1	2	028619P	BLOCK, 524 HU WHEEL STOP
2	4	P0001-06-006	BOLT, Hex 3/8 UNC x 1.5
3	8	P0040-006	WASHER, Hardened Flat 3/8
4	4	P0003-06-000	NUT, Hex 3/8 UNC

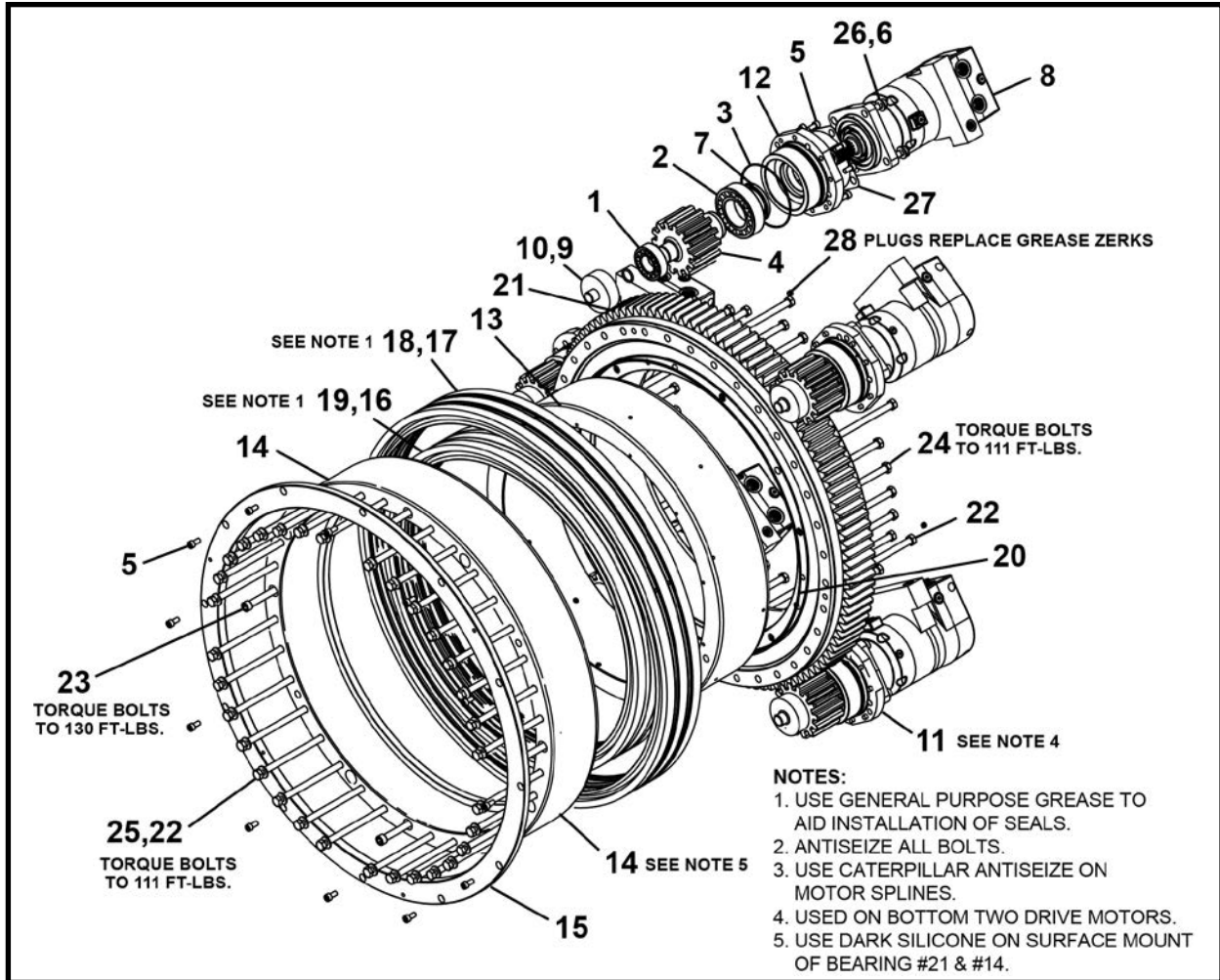
**DRIVE ASSEMBLY, 024605A**  
**TBM Series II: 48SC**



- NOTES:**
1. USE GENERAL PURPOSE GREASE TO AID INSTALLATION OF SEALS.
  2. ANTISEIZE ALL BOLTS.
  3. USE CATERPILLAR ANTISEIZE ON MOTOR SPLINES.
  4. USED ON BOTTOM TWO DRIVE MOTORS.
  5. USE DARK SILICONE ON SURFACE MOUNT OF BEARING #14 & #20.

ITEM	QTY	PART NO.	DESCRIPTION
0	1	024605A	DRIVE ASSEMBLY, 48SC TBM
1	2	023109P	RETAINER, Pinion
2	4	P0065-266	BEARING, Roller
3	4	P0065-192	BEARING, Roller
4	4	P0085-162	ORING
5	4	023150P	PINION
6	44	P0031-06-003	SCREW, Socket Head Cap 3/8 UNC x .75
7	16	P0031-08-006	SCREW, Socket Head Cap 1/2 UNC x 1.5
8	4	P0065-268	SEAL
9	4	P0304-344	MOTOR (Refer to Section 8, Motors for parts information)
10	30	PM14A-2.0-160	BOLT, Hex M14x2.0x160 mm, 10.9
11	2	026939P	RETAINER, Pinion Bottom
12	38	PM14A-2.0-220	BOLT, Hex M14x2.0x220 mm, 10.9
13	1	024612P	SEAL RING, Inner
14	1	024613P	SEAL RING, Outer
15	1	024614P	PLATE, Seal Retainer
16	1	P0080-045	KIT, TBM Seal 670mm
17	1	P0080-046	KIT, TBM Seal 835mm
18	2	024615P	RING, Lantern OD
19	2	024616P	RING, Lantern ID
20	1	P0065-270-048S	BEARING, Slewing
21	4	PM14B-2.0-160	SCREW, Socket Head Cap M14x2.0x160 mm
22	2	P0088-196	ORING
23	4	027944P	PUCK, Pinion Bearing Mount
24	4	P0085-214	ORING
25	32	P0040-008	WASHER, Hardened Flat 1/2
26	16	P0043-003	WASHER, Nord-Lock 1/2
27	4	P0304-341A	SHIM, Motor Friction
28	3	P0300-144	PLUG, 02MP-HHP

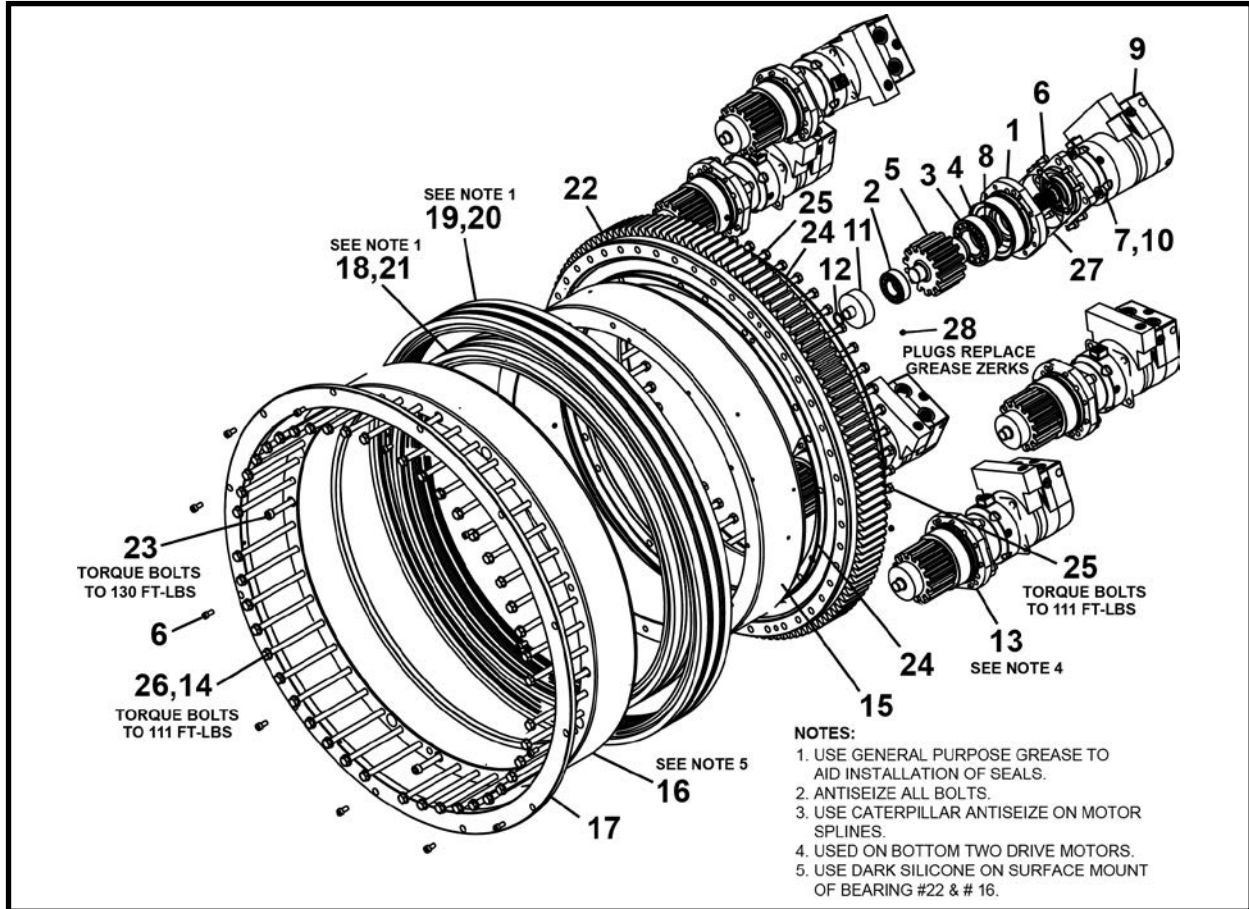
**DRIVE ASSEMBLY, 031005A**  
TBM Series II: 420



- NOTES:**
1. USE GENERAL PURPOSE GREASE TO AID INSTALLATION OF SEALS.
  2. ANTISEIZE ALL BOLTS.
  3. USE CATERPILLAR ANTISEIZE ON MOTOR SPLINES.
  4. USED ON BOTTOM TWO DRIVE MOTORS.
  5. USE DARK SILICONE ON SURFACE MOUNT OF BEARING #21 & #14.

ITEM	QTY	PART NO.	DESCRIPTION
0	1	031005A	DRIVE ASSEMBLY, 420 TBM
1	5	P0065-266	BEARING, Roller
2	5	P0065-192	BEARING, Roller
3	5	P0085-162	ORING
4	5	023150P	PINION
5	52	P0031-06-003	SCREW, Socket Head Cap 3/8 UNC x .75
6	20	P0031-08-006	SCREW, Socket Head Cap 1/2 UNC x 1.5
7	5	P0065-268	SEAL
8	5	P0304-344	MOTOR (Refer to Section 8, Motors for parts information)
9	5	027944P	PUCK, Pinion Bearing Mount
10	5	P0085-214	ORING
11	2	026939P	RETAINER, Pinion Bottom
12	3	023109P	RETAINER, Pinion
13	1	031012P	SEAL RING, Inner
14	1	031013P	SEAL RING, Outer
15	1	031014P	PLATE, Seal Retainer
16	1	P0080-053	KIT, TBM Seal 720mm
17	1	P0080-054	KIT, TBM Seal 885mm
18	2	031015P	RING, Lantern OD
19	2	031016P	RING, Lantern ID
20	2	P0088-215	ORING
21	1	P0065-270-0420	BEARING, Slewing
22	38	PM14A-2.0-220	BOLT, Hex M14x2.0x220 mm, 10.9
23	4	PM14B-2.0-160	SCREW, Socket Head Cap M14x2.0x160 mm, 10.9
24	30	PM14A-2.0-160	BOLT, Hex M14x2.0x160 mm, 10.9
25	32	P0040-008	WASHER, Hardened Flat 1/2
26	20	P0043-003	WASHER, Nord-Lock 1/2
27	5	P0304-341A	SHIM, Friction Motor
28	3	P0300-144	PLUG, 02MP-HHP

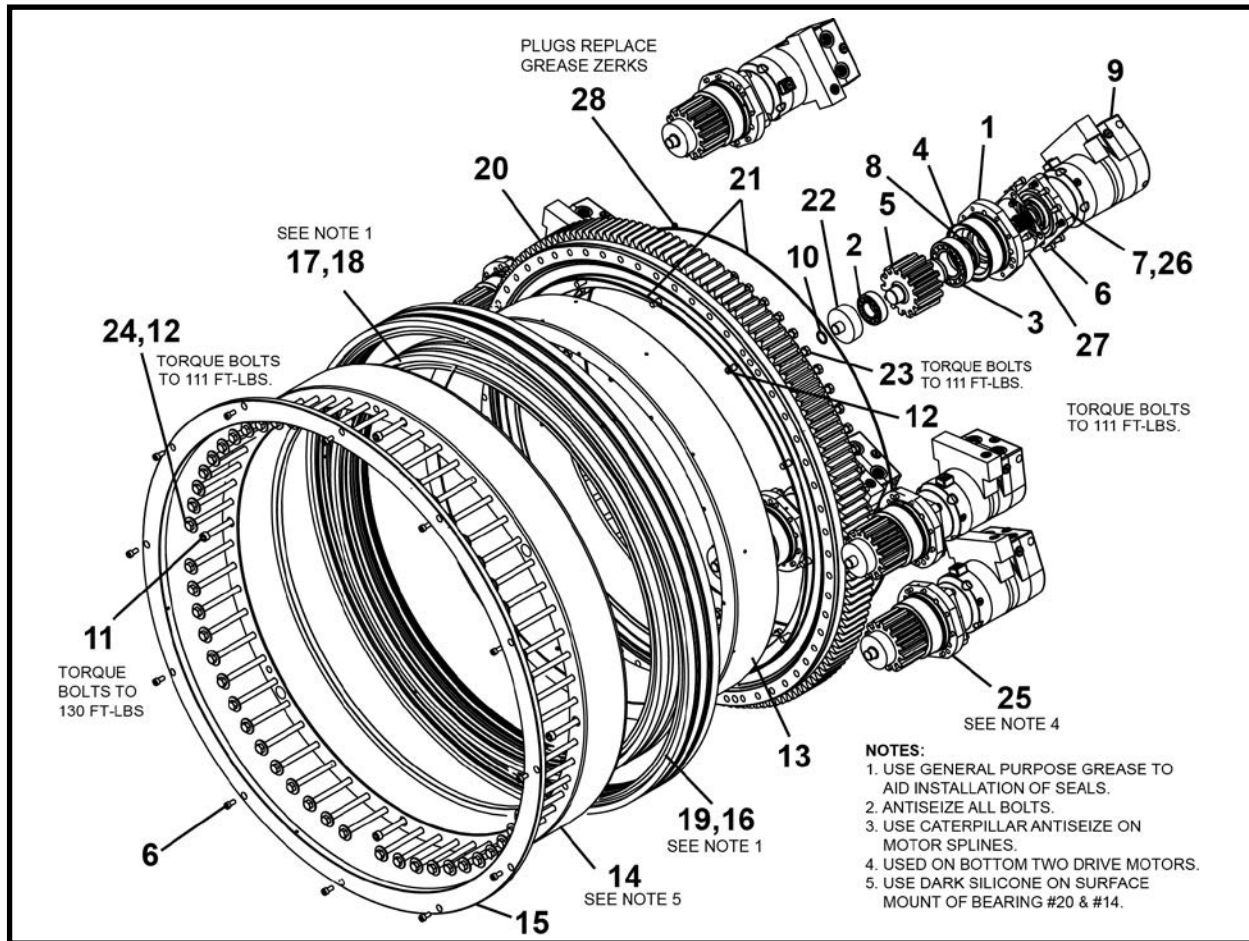
**DRIVE ASSEMBLY, 028505A**  
**TBM Series II: 480**



- NOTES:**
1. USE GENERAL PURPOSE GREASE TO AID INSTALLATION OF SEALS.
  2. ANTISEIZE ALL BOLTS.
  3. USE CATERPILLAR ANTISEIZE ON MOTOR SPLINES.
  4. USED ON BOTTOM TWO DRIVE MOTORS.
  5. USE DARK SILICONE ON SURFACE MOUNT OF BEARING #22 & # 16.

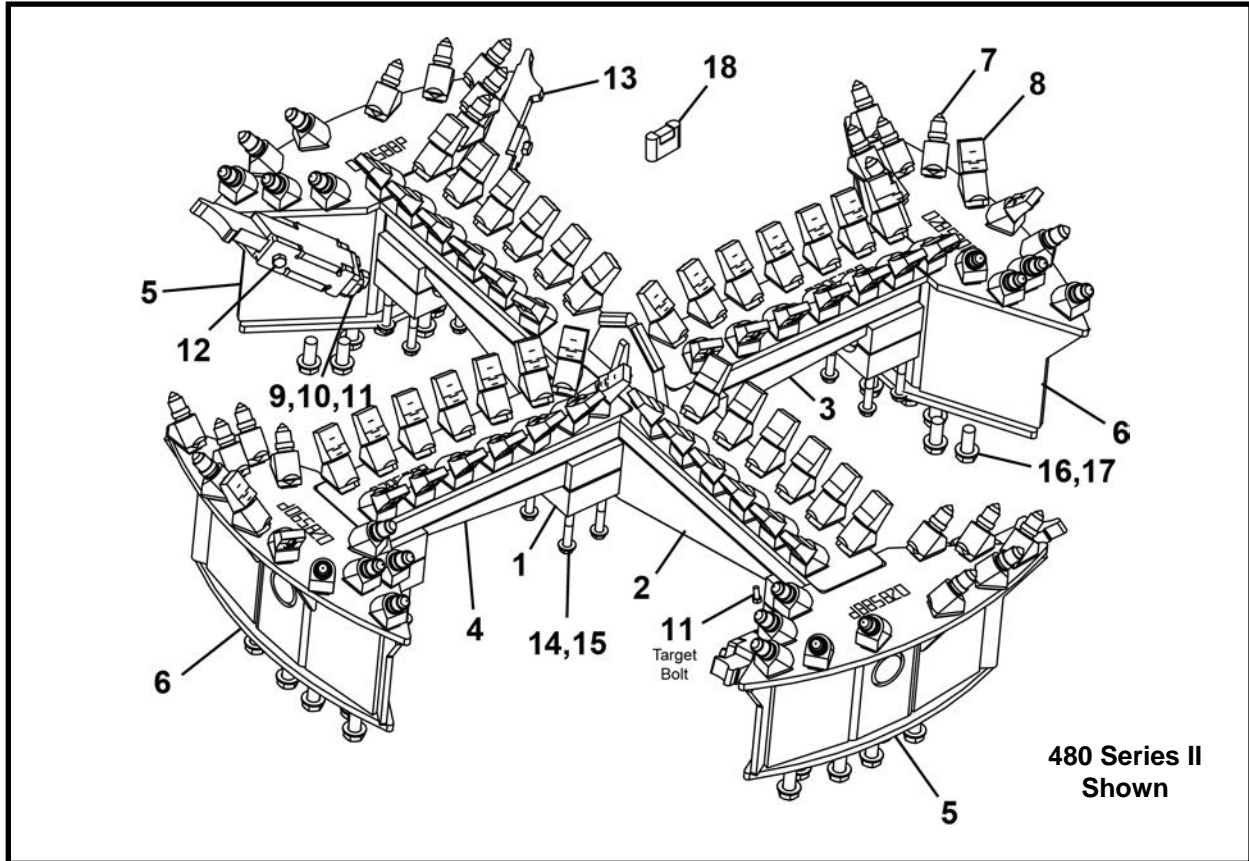
ITEM	QTY	PART NO.	DESCRIPTION
0	1	028505A	DRIVE ASSEMBLY, 480 TBM
1	4	023109P	RETAINER, Pinion
2	6	P0065-266	BEARING, Roller
3	6	P0065-192	BEARING, Roller
4	6	P0085-162	ORING
5	6	023150P	PINION
6	60	P0031-06-003	SCREW, Socket Head Cap 3/8 UNC x .75
7	24	P0031-08-006	SCREW, Socket Head Cap 1/2 UNC x 1.5
8	6	P0065-268	SEAL
9	6	P0304-344	MOTOR (Refer to Section 8, Motors for parts information)
10	24	P0043-003	WASHER, Nord-Lock 1/2
11	6	027944P	PUCK, Pinion Bearing Mount
12	6	P0085-214	ORING
13	2	026939P	RETAINER, Pinion Bottom
14	56	PM14A-2.0-220	BOLT, Hex M14x2.0x220 mm, 10.9
15	1	028512P	SEAL RING, Inner
16	1	028513P	SEAL RING, Outer
17	1	028514P	PLATE, Seal Retainer
18	1	P0080-051	KIT, TBM Seal 900mm
19	1	P0080-043	KIT, TBM Seal 1065mm
20	2	028515P	RING, Lantern OD
21	2	028516P	RING, Lantern ID
22	1	P0065-270-0480	BEARING, Slewing
23	4	PM14B-2.0-160	SCREW, Socket Head Cap M14x2.0x160 mm, 10.9
24	2	P0088-212	ORING
25	36	PM14A-2.0-160	BOLT, Hex M14x2.0x160 mm, 10.9
26	44	P0040-008	WASHER, Hardened Flat 1/2
27	6	P0304-341A	SHIM, Friction Motor
28	4	P0300-144	PLUG, 02MP-HHP

**DRIVE ASSEMBLY, 028605A**  
**TBM Series II: 540**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	028605A	DRIVE ASSEMBLY, 540 TBM
1	4	023109P	RETAINER, Pinion
2	6	P0065-266	BEARING, Roller
3	6	P0065-192	BEARING, Roller
4	6	P0085-162	ORING
5	6	023150P	PINION
6	60	P0031-06-003	SCREW, Socket Head Cap 3/8 UNC x .75
7	24	P0031-08-006	SCREW, Socket Head Cap 1/2 UNC x 1.5
8	6	P0065-268	SEAL
9	6	P0304-344	MOTOR (Refer to Section 8, Motors for parts information)
10	6	P0085-214	ORING
11	4	PM14B-2.0-160	SCREW, Socket Head Cap M14x2.0x160 mm, 10.9
12	68	PM14A-2.0-220	BOLT, Hex M14x2.0x220 mm, 10.9
13	1	028612P	SEAL RING, Inner
14	1	028613P	SEAL RING, Outer
15	1	028614P	PLATE, Seal Retainer
16	2	028615P	RING, Lantern OD
17	2	028616P	RING, Lantern ID
18	1	P0080-043	KIT, TBM Seal 1065mm
19	1	P0080-044	KIT, TBM Seal 1240mm
20	1	P0065-270-0540	BEARING, Slewing
21	2	P0088-201	ORING
22	6	027944P	PUCK, Pinion Bearing Mount
23	48	PM14A-2.0-160	BOLT, Hex M14x2.0x160 mm, 10.9
24	56	P0041-003A	WASHER, Hardened Flat 14mm
25	2	026939P	RETAINER, Pinion Bottom
26	24	P0043-003	WASHER, Nord-Lock 1/2
27	6	P0304-341A	SHIM, Friction Motor
28	5	P0300-144	PLUG, 02MP-HHP

**CUTTER BAR ASSEMBLY**  
**TBM Series II: 48SC - 420 - 480 - 540**



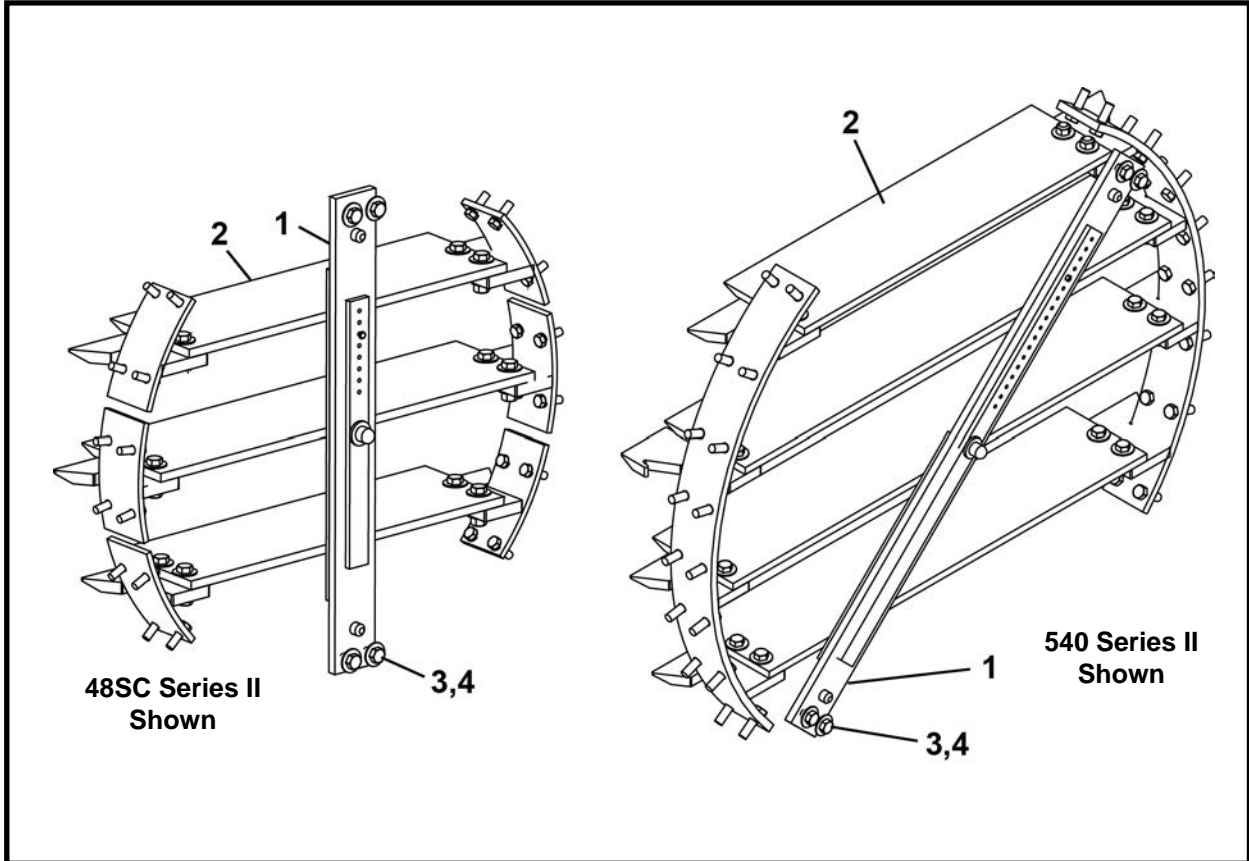
ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	024682A	027955A	028575A	028682A	CUTTER BAR ASSEMBLY
1	6	024796P	024796P	024796P	024796P	CLAMP, Block
2	1	024683A	027956A	028576A	028683A	CUTTER BAR
3	1	024683A	027962A	028577A	028688A	CUTTER BAR, Short Bar RH
4	1	024692A	027961A	028578A	028692A	CUTTER BAR, Short Bar LH
5	2	024696A	024696A	028587A	028696A	MOUNT, Cutter Bar
6	2	024694A	024694A	028589A	028694A	MOUNT, Cutter Bar
7	*	P0050-011	P0050-011	P0050-011	P0050-011	CUTTER BIT, Conical
8	*	P0050-010	P0050-010	P0050-010	P0050-010	CUTTER BIT, Spade
9	4	024765P	024765P	024765P	024765P	PLATE, BOLT CAP
10	4	024766P	024766P	024766P	024766P	PIN, Adjustable Threaded Cutter
11	9	P0001-05-003	P0001-05-003	P0001-05-003	P0001-05-003	BOLT, Hex 5/16 UNC x .75
12	8	P0001-08-003	P0001-08-003	P0001-08-003	P0001-08-003	BOLT, Hex 1/2 UNC x .75
13	4	024799A	024799A	024799A	024799A	TOOTH, Adjustable Cutter
14	24	P0001-08-012	P0001-08-012	P0001-08-012	P0001-08-012	BOLT, Hex 1/2 UNC x 3
15	24	P0040-008	P0040-008	P0040-008	P0040-008	WASHER, Hardened Flat 1/2
16	24	P0040-008	P0040-008	-	-	WASHER, Hardened Flat 1/2
16	24	-	-	P0040-012	P0040-012	WASHER, Hardened Flat 3/4
17	24	P0001-08-007	P0001-08-007	-	-	BOLT, Hex 1/2 UNC x 1.75
17	24	-	-	P0001-12-007	P0001-12-007	BOLT, Hex 3/4 UNC x 1.75
18	1	P0091-027	P0091-027	P0091-027	P0091-027	LEVEL, Magnet
19**	*	P0051-004	P0051-004	P0051-004	P0051-004	HOLDER, Tooth

\* Quantities for items 7, 8 and 19 are as follows:

	48SC-SII	420-SII	480-SII	540-SII
7	82	88	96	106
8	82	88	96	106
19	164	176	192	212

\*\* Item 19, Tooth Holder is part of items 2, 3, 4, 5 and 6.

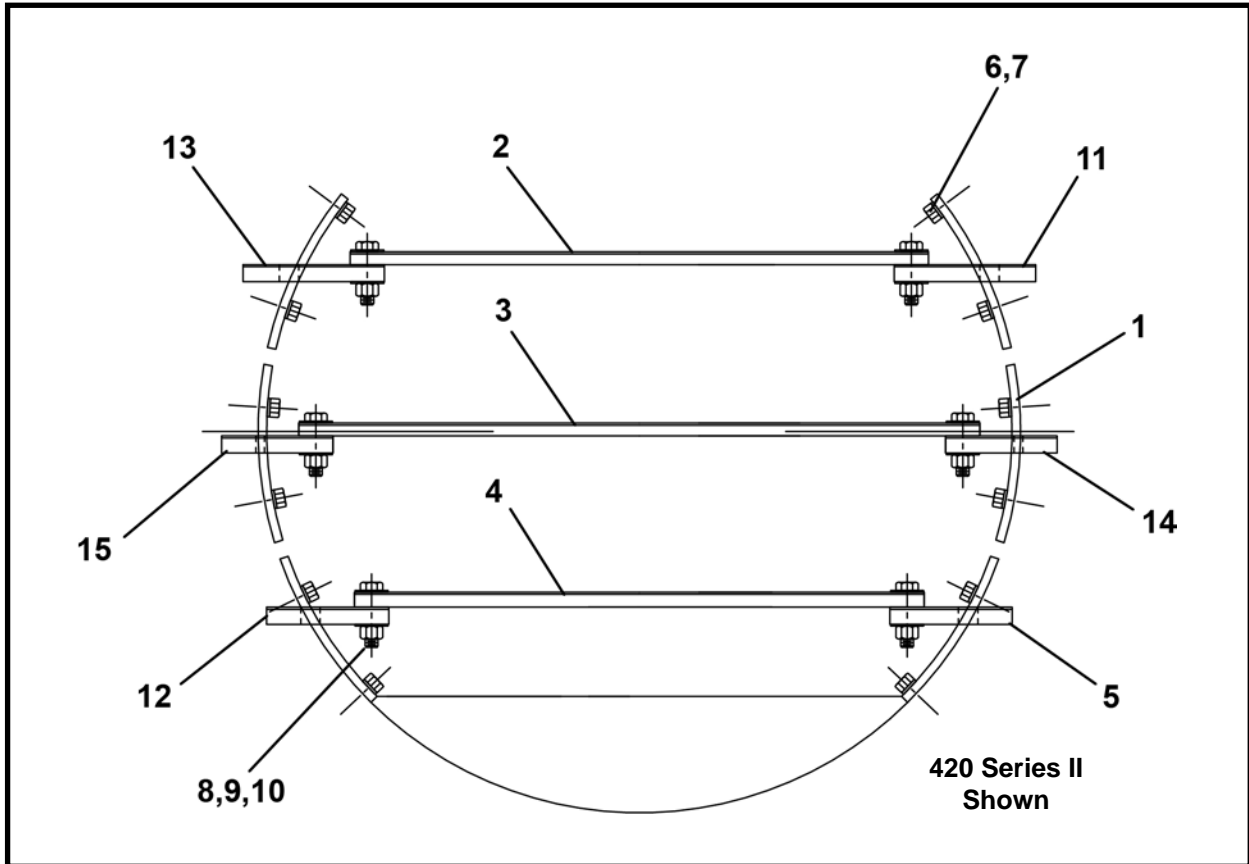
**SAND HEAD ASSEMBLY**  
**TBM Series II: 48SC - 420 - 480 - 540**



ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	023465A	-	028549A	023427A	SAND HEAD ASSEMBLY
1	1	023466A	027974A	028550A	023428A	BAR, Sand
2*	1	006326A02	004645A02	004825A02	004889A02	ASSEMBLY, Sand Shelf
3	4	P0001-12-007	-	-	-	BOLT, Hex 3/4 UNC x 1.75
3	4	-	P0001-10-006	-	-	BOLT, Hex 5/8 UNC x 1.5
3	4	-	-	P0001-12-006	P0001-12-006	BOLT, Hex 3/4 UNC x 1.5
4	4	-	P0040-010	-	-	WASHER, Hardened Flat 5/8
4	4	P0040-012	-	P0040-012	P0040-012	WASHER, Hardened Flat 3/4

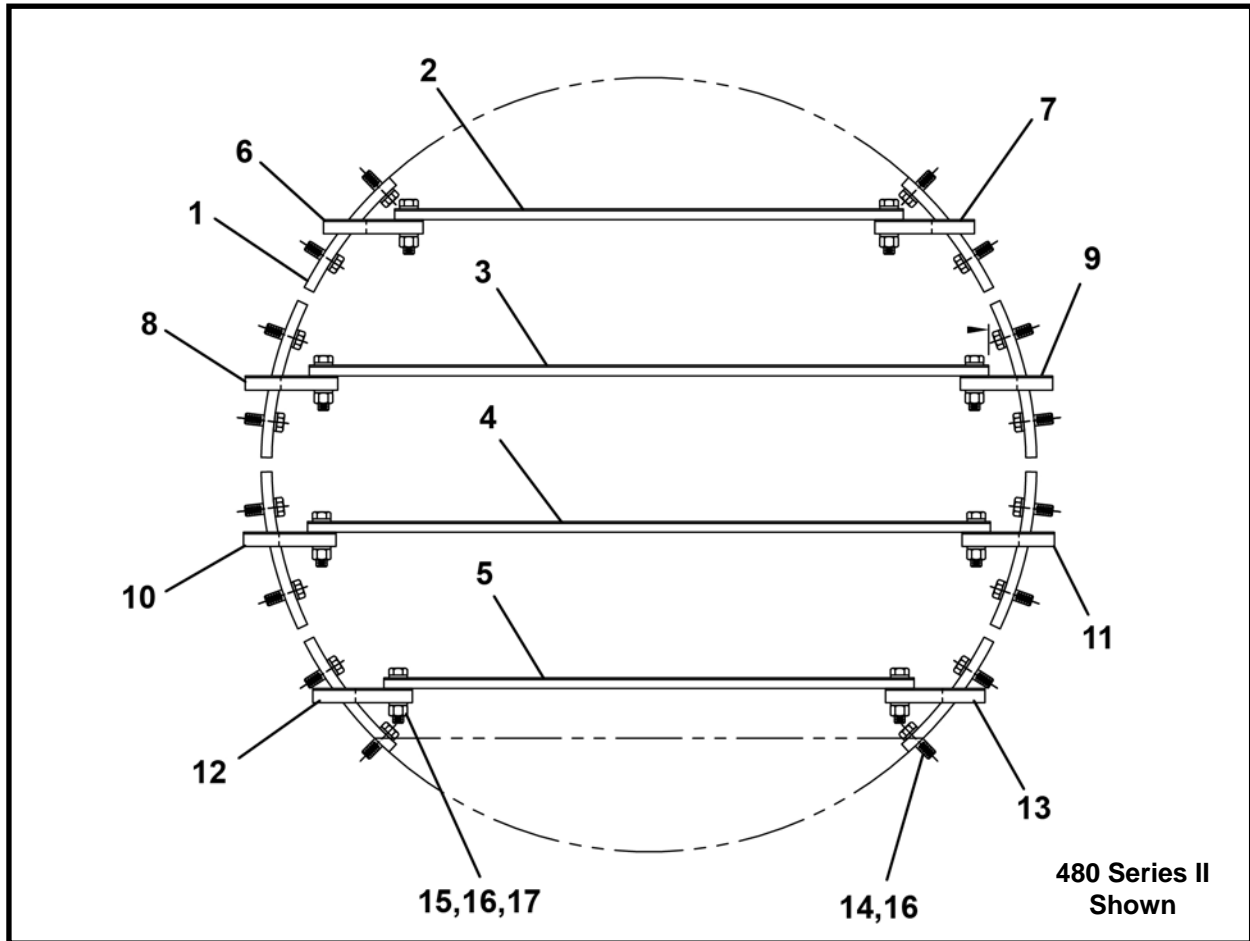
\* Refer to this section for parts information.

**SAND SHELF ASSEMBLY**  
TBM Series II: 48SC - 420



ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	DESCRIPTION
0	1	006326A02	004645A02	SAND SHELF ASSEMBLY
1	2	006328P01	004646P01	BAR, Sand Shelf
2	1	006329P00	004647P00	SHELF, Sand
3	1	006330P00	004648P00	SHELF, Sand
4	1	006331P00	004649P00	SHELF, Sand
5	1	005384P00	004652P00	PLATE, Sand Shelf
6	24	P0001-10-008	P0001-10-008	BOLT, Hex 5/8 UNC x 2
7	24	P0040-010	P0040-010	WASHER, Hardened Flat 5/8
8	12	P0001-12-011	P0001-12-011	BOLT, Hex 3/4 UNC x 2.75
9	24	P0040-012	P0040-012	WASHER, Hardened Flat 3/4
10	12	P0003-12-000	P0003-12-000	NUT, Hex 3/4 UNC
11	1	005373P00	004654P00	PLATE, Sand Shelf
12	1	005385P00	004653P00	PLATE, Sand Shelf
13	1	005374P00	004655P00	PLATE, Sand Shelf
14	1	004652P00	004650P00	PLATE, Sand Shelf
15	1	004653P00	004651P00	PLATE, End.

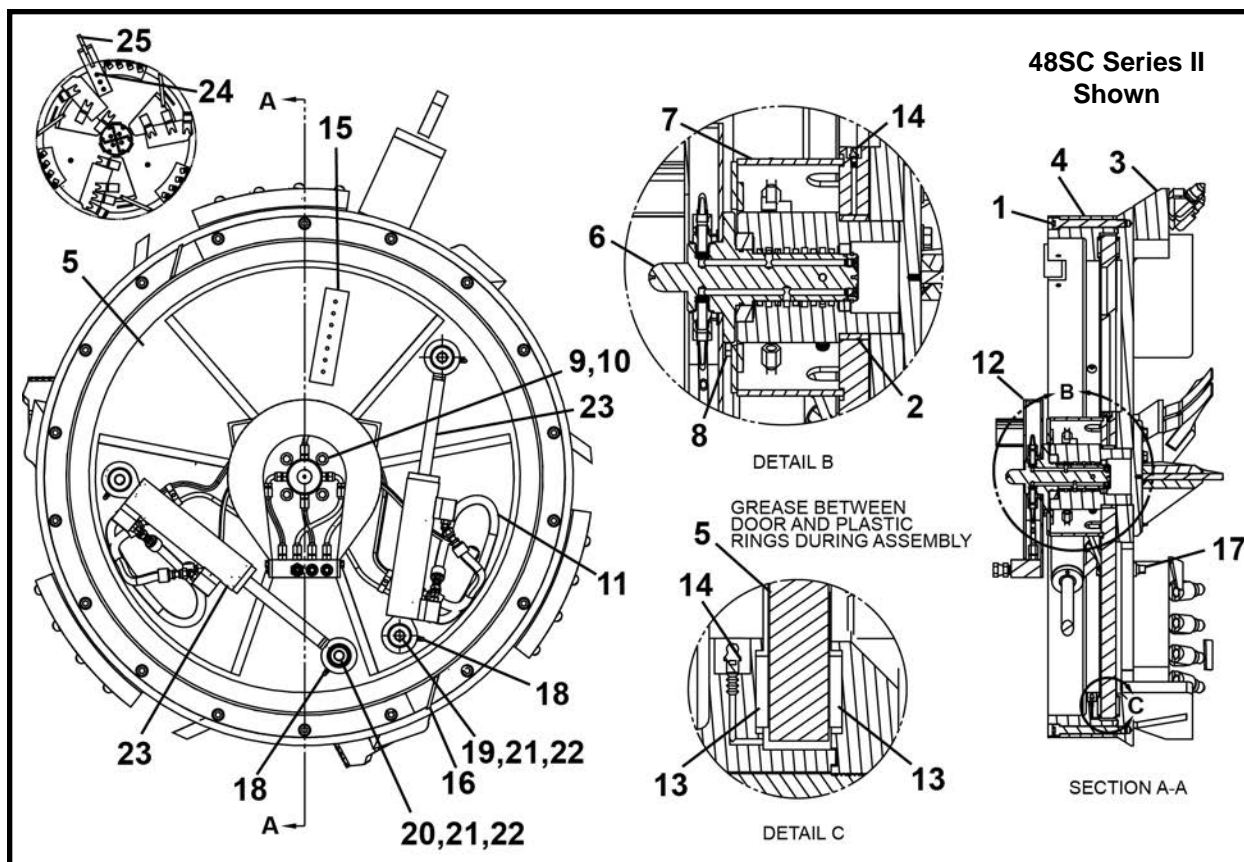
**SAND SHELF ASSEMBLY**  
TBM Series II: 480 - 540



ITEM	QTY	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	004825A02	004889A02	SAND SHELF ASSEMBLY
1	2	004823P01	005915P01	BAR, Sand Shelf
2	1	004826P00	005916P00	SHELF, Sand
3	1	004827P00	005917P00	SHELF, Sand
4	1	004828P00	005918P00	SHELF, Sand
5	1	004829P00	005919P00	SHELF, Sand
6	1	009411P00	002032P	PLATE, Sand Shelf
7	1	009412P00	002026P	PLATE, Sand Shelf
8	1	009413P00	004946P00	PLATE, Sand Shelf
9	1	009414P00	004945P00	PLATE, Sand Shelf
10	1	004830P00	004948P00	PLATE, Sand Shelf
11	1	004831P00	004947P00	PLATE, Sand Shelf
12	1	009415P00	005442P00	PLATE, Sand Shelf
13	1	009416P00	005439P00	PLATE, Sand Shelf
14	32	P0001-12-008	P0001-12-008	BOLT, Hex 3/4 UNC x 2
15	16	P0001-12-011	P0001-12-011	BOLT, Hex 3/4 UNC x 2.75
16	64	P0040-012	P0040-012	WASHER, Hardened Flat 3/4
17	16	P0003-12-000	P0003-12-000	NUT, Hex 3/4 UNC

## CLOSED FACE ASSEMBLY

### TBM Series II: 48SC - 420



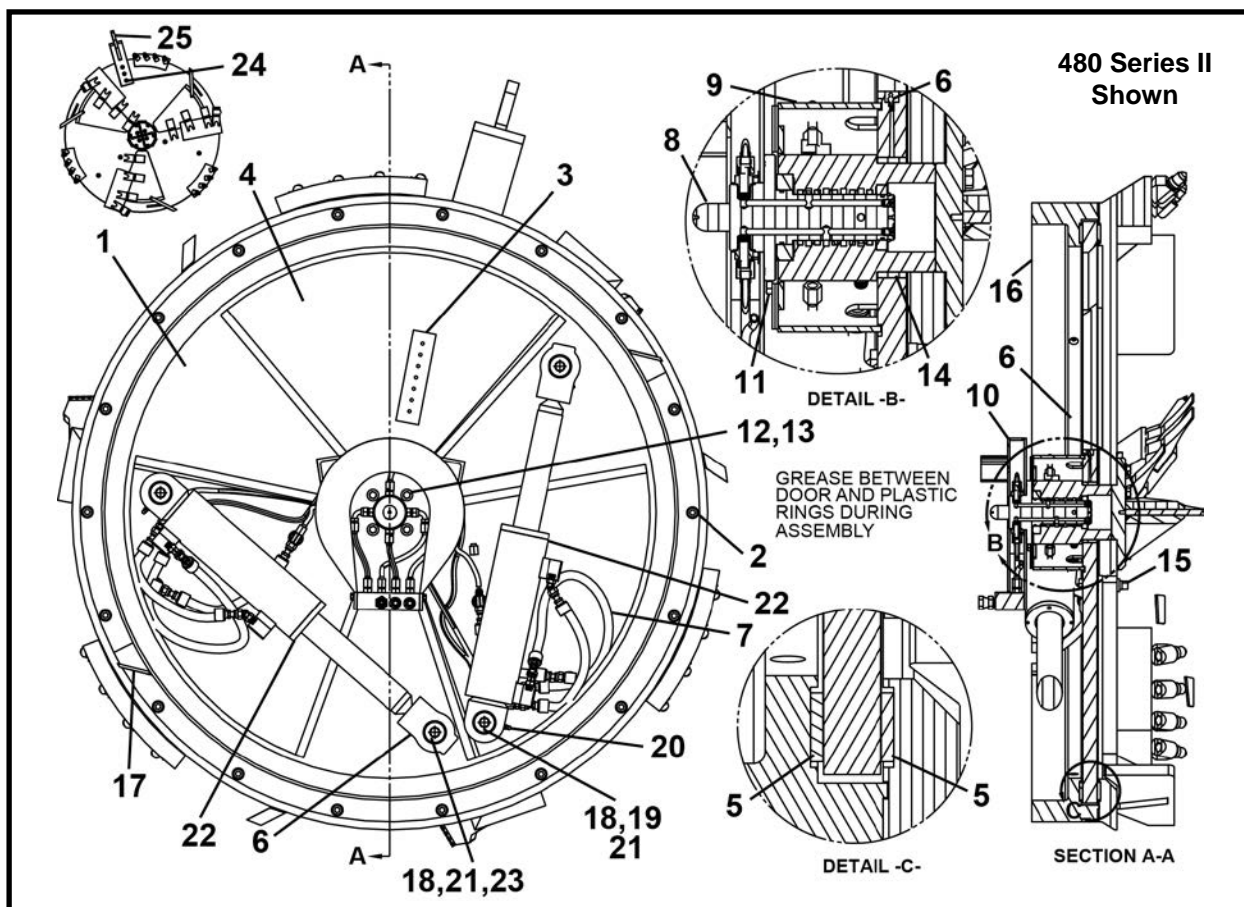
ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	DESCRIPTION
0	1	F24665F	F27965F	CLOSED FACE ASSEMBLY
1	18	P0031-10-022	P0031-10-024	SCREW, Socket Head Cap 5/8 UNC x 5.5 / 6
2	1	P0066-125	P0066-125	BUSHING
3*	1	024667A	027967A	FACE, Front
4	1	024669P	027931P	RING, Rear
5	1	024666P	027966P	DOOR, Rotary
6*	1	028671A	028671A	ROTARY HUB ASSEMBLY
7	1	028676A	028676A	COVER, Swivel
8	4	P0001-06-002	P0001-06-002	BOLT, Hex 3/8 UNC x .5
9	4/8	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
10	4/8	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
11**	1	023986A	023986A	HYDRAULIC ASSEMBLY
12	1	018670A00	018670A00	GUARD, Conveyor & Rotary
13	10/12	016620P	023994P	RING, Plastic Wear
14	6	P0063-001	P0063-001	FITTING, Grease - Straight
15	1	023763P00	023763P00	PLATE, Target Bar
16	2	027558P	027558P	SCRAPER, Outside
17	2	P0416-003	P0416-003	PLUG, Square Head 1/2
18	4	P0063-003	P0063-003	FITTING, Grease - 90 Degree
19	2	015098P	015098P	MOUNT, Cylinder Barrel
20	2	028678P	028678P	PIN, Cylinder Mounting
21	4	018718P00	018718P00	WASHER
22	4	P0001-08-006	P0001-08-006	BOLT, Hex 1/2 UNC x 1.5
23***	2	015090A	015085A	CYLINDER ASSEMBLY
24	3	P0031-12-008	P0031-12-008	SCREW, Cap 3/4 x 2
25	1	027509A	027509A	LIFT, Closed Face

\* Refer to this section for parts information. \*\* Refer to section 6, Hydraulics for parts information.

\*\*\* Refer to section 10, Cylinders for parts information.

# CLOSED FACE ASSEMBLY

## TBM Series II: 480 - 540

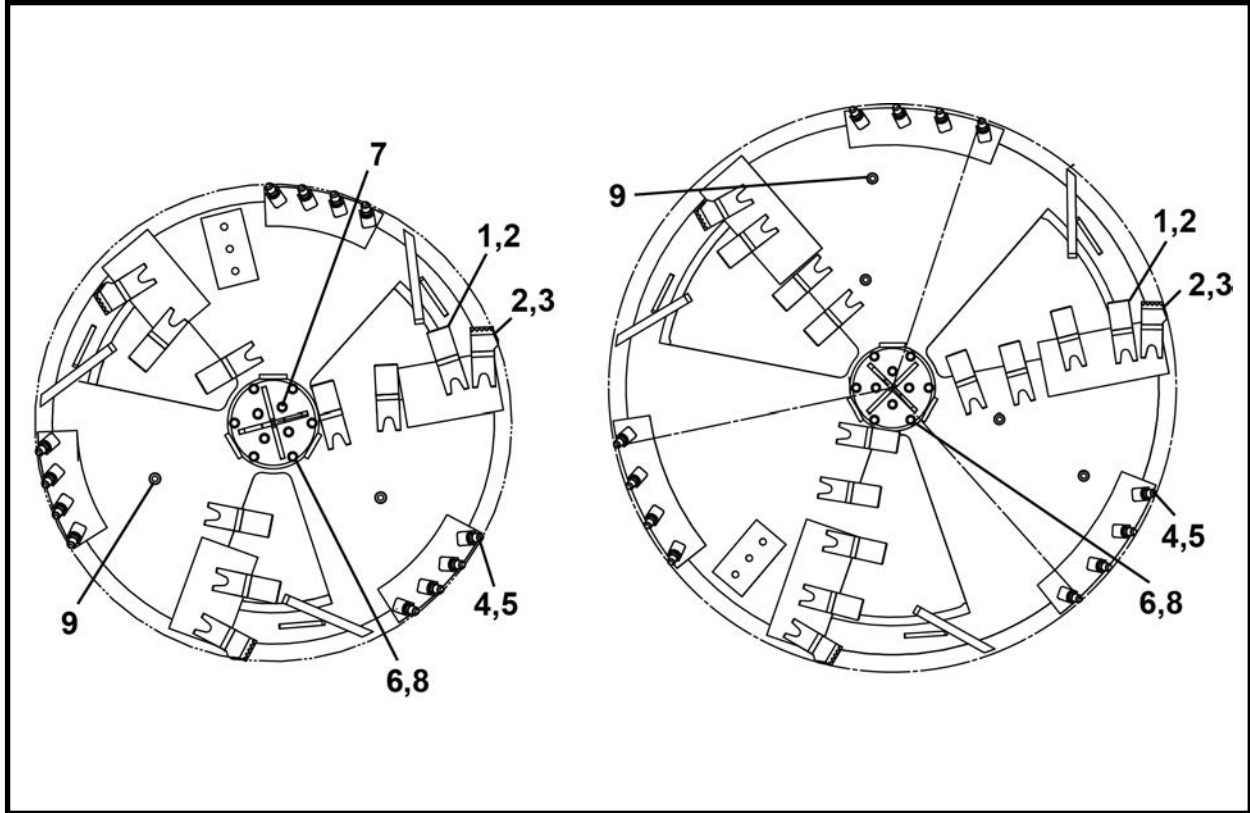


ITEM	QTY	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	F28565F	F28665F	CLOSED FACE ASSEMBLY
1	1	028537P	028666P	DOOR, Rotary
2	18/24	P0031-10-022	P0031-10-022	SCREW, Socket Head Cap 5/8 UNC x 5.5
3	1	023763P00	014215P00	PLATE, Target Bar
4*	1	028552A	028667A	FACE, Front
5	16	025647P	026241P	RING, Plastic Wear
6	8	P0063-001	P0063-001	FITTING, Grease - Straight
7**	1	023986A	027561A	HYDRAULIC ASSEMBLY
8*	1	028671A	028671A	ROTARY HUB ASSEMBLY
9	1	028676A	028676A	COVER, Swivel
10	1	018670A00	018671A00	GUARD, Conveyor & Rotary
11	4	P0001-06-002	P0001-06-002	BOLT, Hex 3/8 UNC x .5
12	4	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
13	4	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
14	1	P0066-125	P0066-125	BUSHING
15	4	P0416-003	P0416-003	PLUG, Square Head 1/2
16	1	028536P	028631P	RING, Rear
17	2	027558P	027558P	SCRAPER, Outside
18	4	018718P00	018718P00	WASHER
19	2	028681P	028681P	PIN, Cylinder Mounting
20	2	P0063-003	P0063-003	FITTING, Grease - 90 Degree
21	4	P0001-08-006	P0001-08-006	BOLT, Hex 1/2 UNC x 1.5
22***	2	015065A	015060A	CYLINDER ASSEMBLY
23	2	028678P	028678P	PIN, Cylinder Mounting
24	3	P0031-12-008	P0031-12-008	SCREW, Cap 3/4 x 2
25	1	027509A	027509A	LIFT, Closed Face

\* Refer to this section for parts information. \*\* Refer to section 6, Hydraulics for parts information.

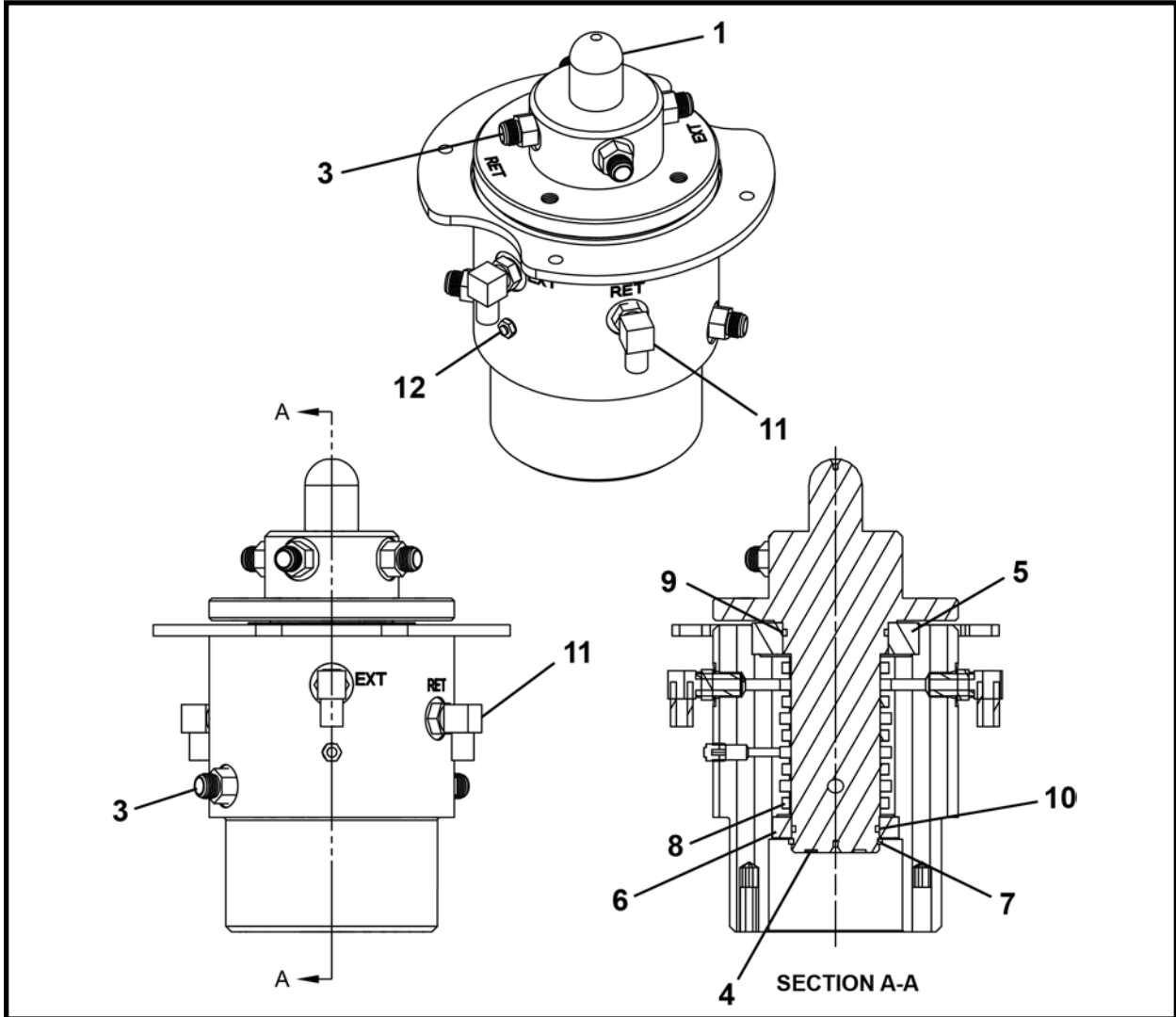
\*\*\* Refer to section 10, Cylinders for parts information.

**FRONT FACE ASSEMBLY**  
**TBM Series II: 48SC - 420 - 480 - 540**



ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
1	7/7/9/11	P0050-026	P0050-026	P0050-026	P0050-026	TEETH, Cutter
2	10/10/12/14	P0051-011	P0051-011	P0051-011	P0051-011	POCKET, Tooth
3	3	P0050-030	P0050-030	P0050-030	P0050-030	TEETH, Carbide Cutter Bar
4	12	P0050-011	P0050-011	P0050-011	P0050-011	CUTTER BIT
5	12	P0051-004	P0051-004	P0051-004	P0051-004	HOLDER, Cutter Bit
6	6/10/10/10	P0001-08-008	P0001-08-008	P0001-08-008	P0001-08-008	BOLT, Hex 1/2 UNC x 2
7	4	P0001-08-007	-	-	-	BOLT, Hex 1/2 UNC x 1.75
8	10	P0040-008	P0040-008	P0040-008	P0040-008	WASHER, Hardened Flat 1/2
9	2/2/4/4	P0400-003	P0400-003	P0400-003	P0400-003	COUPLING, Pipe

**ROTARY HUB ASSEMBLY, 028671A**  
**TBM Series II: 48SC - 420 - 480 - 540**

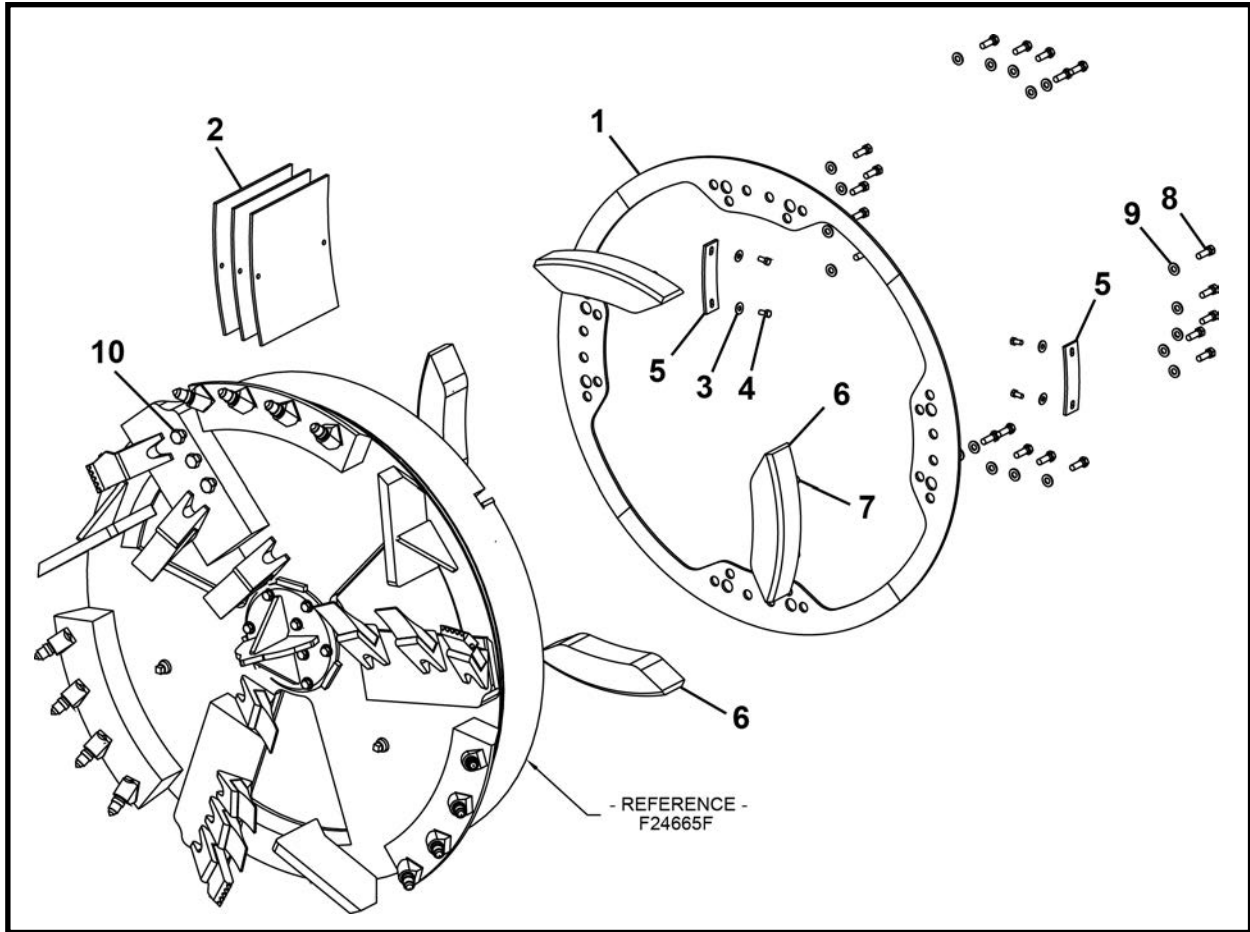


ITEM	QTY	PART NO.	DESCRIPTION
0	1	028671A	ROTARY HUB ASSEMBLY
1	1	028672P	SHAFT, Swivel
2	1	028673A	HUB, Swivel
3	6	P0300-041	FITTING, 06MJ-06MB
4	4	P0300-224	FITTING, 02MB-HHP
5	1	P0065-106	BEARING
6	1	P0065-013	BEARING
7	1	P0077-029	SNAP RING
8	5	P0080-019	SEAL, Quad
9	1	P0085-139	ORING
10	1	P0085-132	ORING
11	4	P0300-042	FITTING, 06MJ-06MB90
12	1	P0063-012	FITTING, Grease

NOTE: When replacing parts:

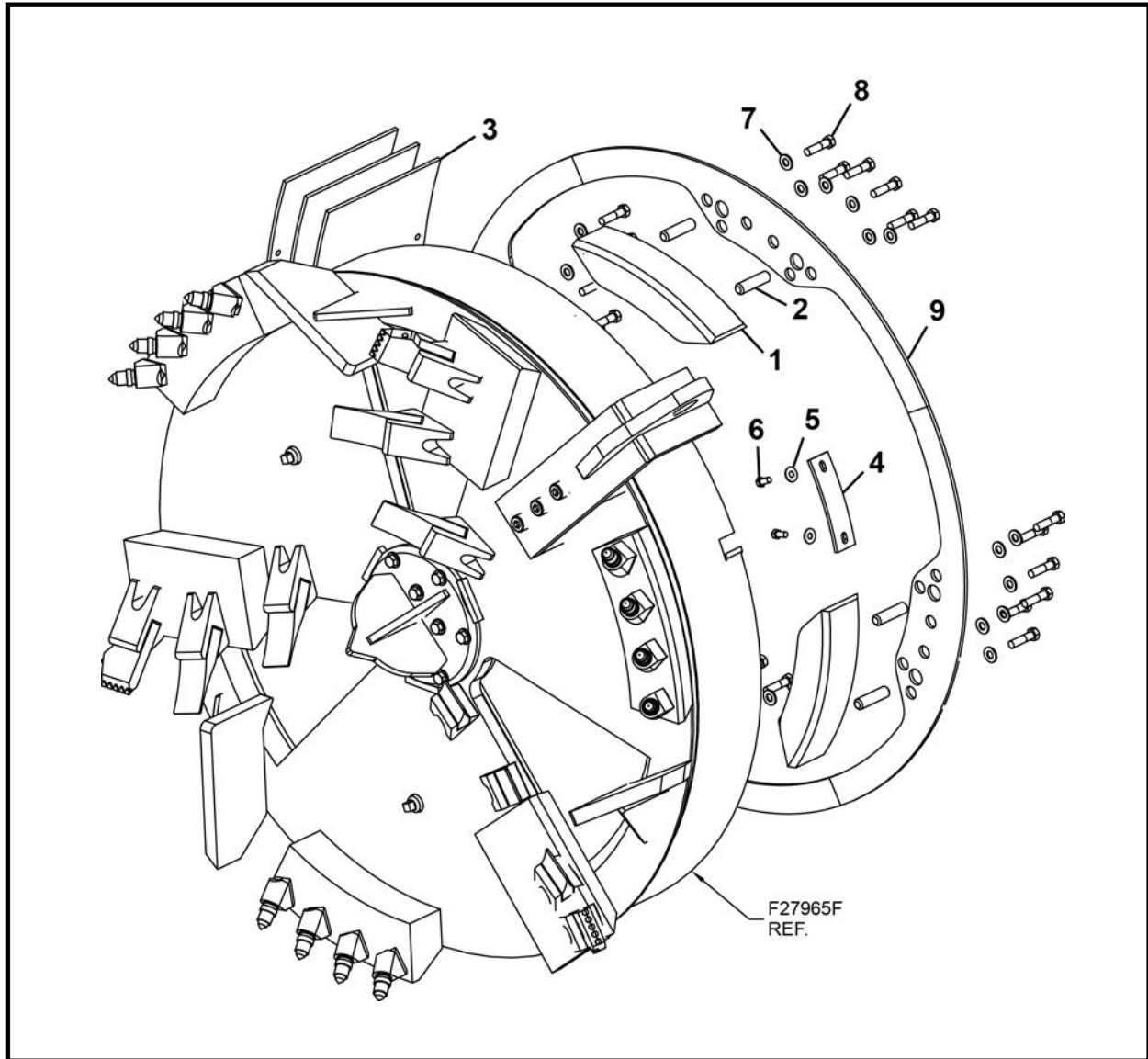
1. Pack bearings with grease before pressing into item 2.
2. Lubricate seals and shaft before assembly in item 2.
3. After shaft is in place, slide item 10 on shaft.
4. Press item 6 into housing after shaft is in place.
5. Pressure test all ports of hub to 3,000 psi.

**CLOSED FACE MOUNT ASSEMBLY TO SERIES II TBM, 024698A**  
**TBM Series II: 48SC**



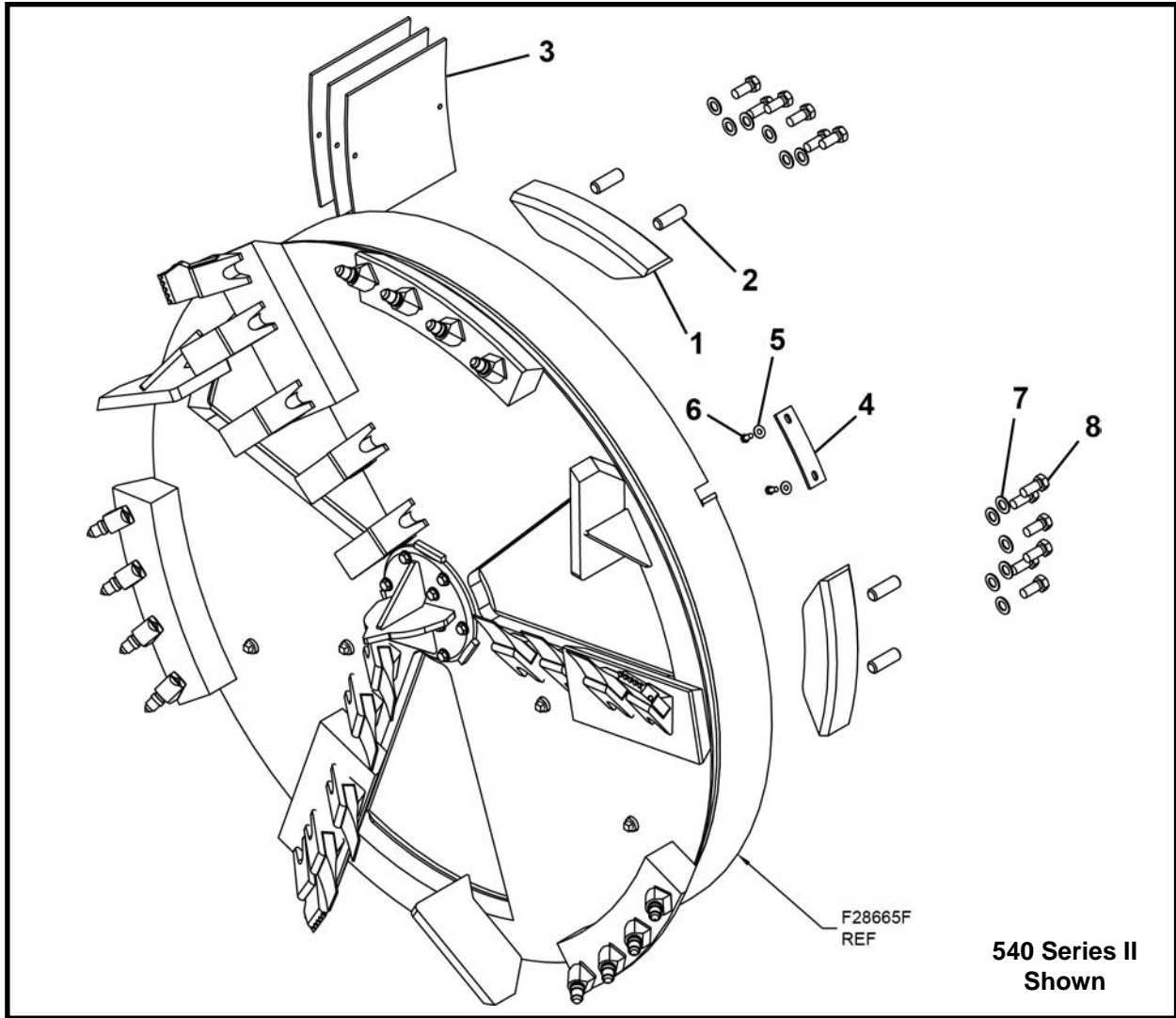
ITEM	QTY	PART NO.	DESCRIPTION
0	1	024698A	CLOSED FACE MOUNT ASSEMBLY, TBM 48SC Series II
1	4	024674P	SPACER
2	3	024444P	COVER, Dirt Scoop
3	4	P0040-006	WASHER, Hardened Flat 3/8
4	4	P0001-06-003	BOLT, Hex 3/8 UNC x .75
5	2	024445P	COVER, Closed Face Scraper
6	4	024658P	BLOCK
7	8	024660P	PIN
8	20	P0001-08-008	BOLT, Hex 1/2 UNC x 2
9	20	P0040-008	WASHER, Hardened Flat 1/2
10	3	P0001-12-005	SCREW, Hex 3/4 UNC x 1.25

**CLOSED FACE MOUNT ASSEMBLY TO SERIES II TBM, 031098A**  
**TBM Series II: 420**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	031098A	CLOSED FACE MOUNT ASSEMBLY
1	4	024658P	BLOCK
2	8	024660P	PIN
3	3	024444P	COVER, Dirt Scoop
4	2	024445P	COVER, Closed Face Scraper
5	4	P0040-006	WASHER Hardened Flat 3/8
6	4	P0001-06-003	BOLT, Hex 3/8 UNC x .75
7	24	P0040-008	WASHER, Hardened Flat 1/2
8	24	P0001-08-008	BOLT, Hex 1/2 UNC x 2
9	4	027915P	SPACER

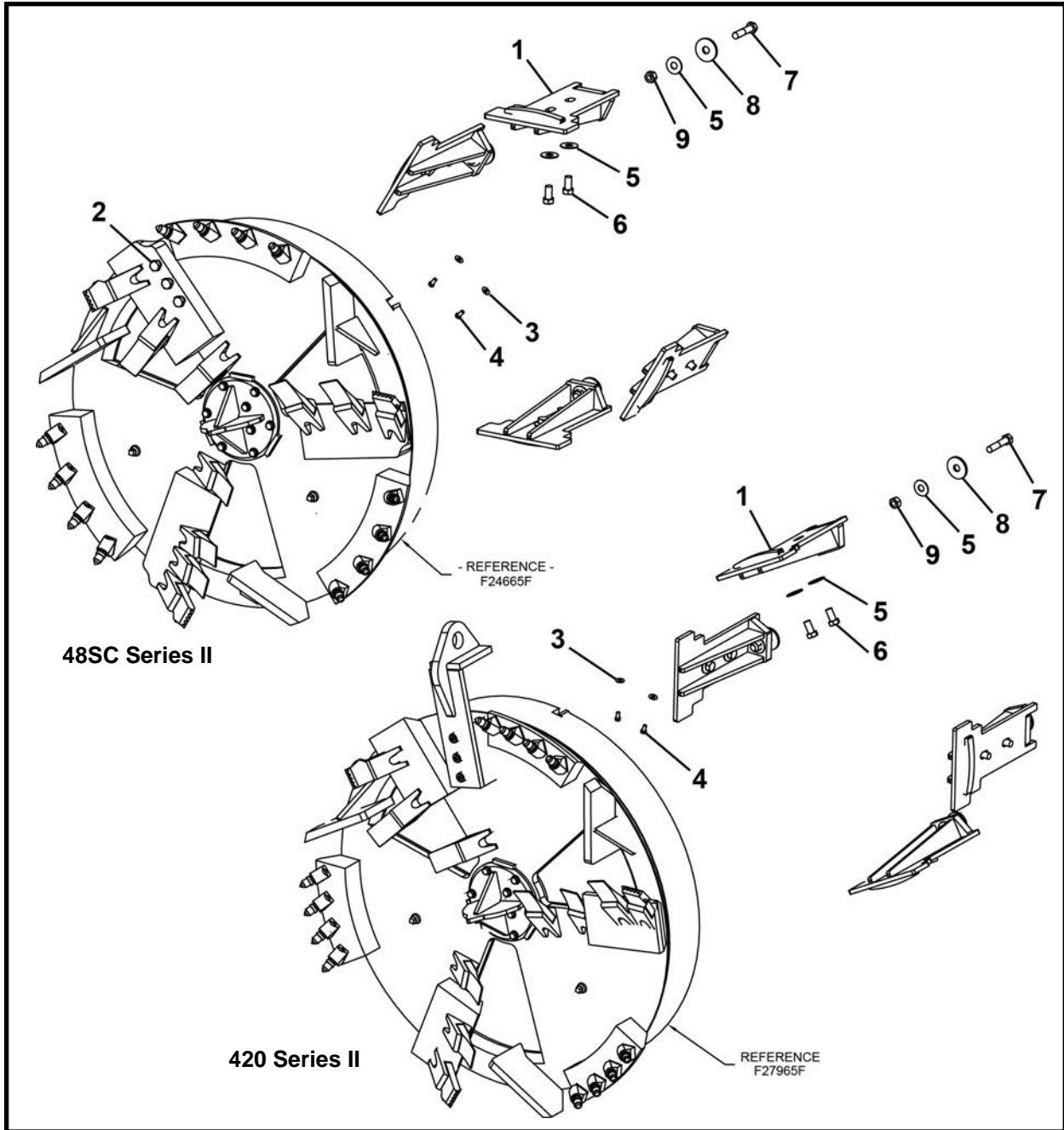
**CLOSED FACE MOUNT ASSEMBLY TO SERIES II TBM**  
**TBM Series II: 480 - 540**



ITEM	QTY	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	028598A	028698A	CLOSED FACE MOUNT ASSEMBLY
1	4	028546P	024908P	BLOCK
2	8	024907P	024907P	PIN
3	3	024444P	024444P	COVER, Dirt Scoop
4	2	024445P	024445P	COVER, Closed Face Scraper
5	4	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
6	4	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
7	24	P0040-012	P0040-012	WASHER, Hardened Flat 3/4
8	24	P0001-12-007	P0001-12-007	BOLT, Hex 3/4 UNC x 1.75

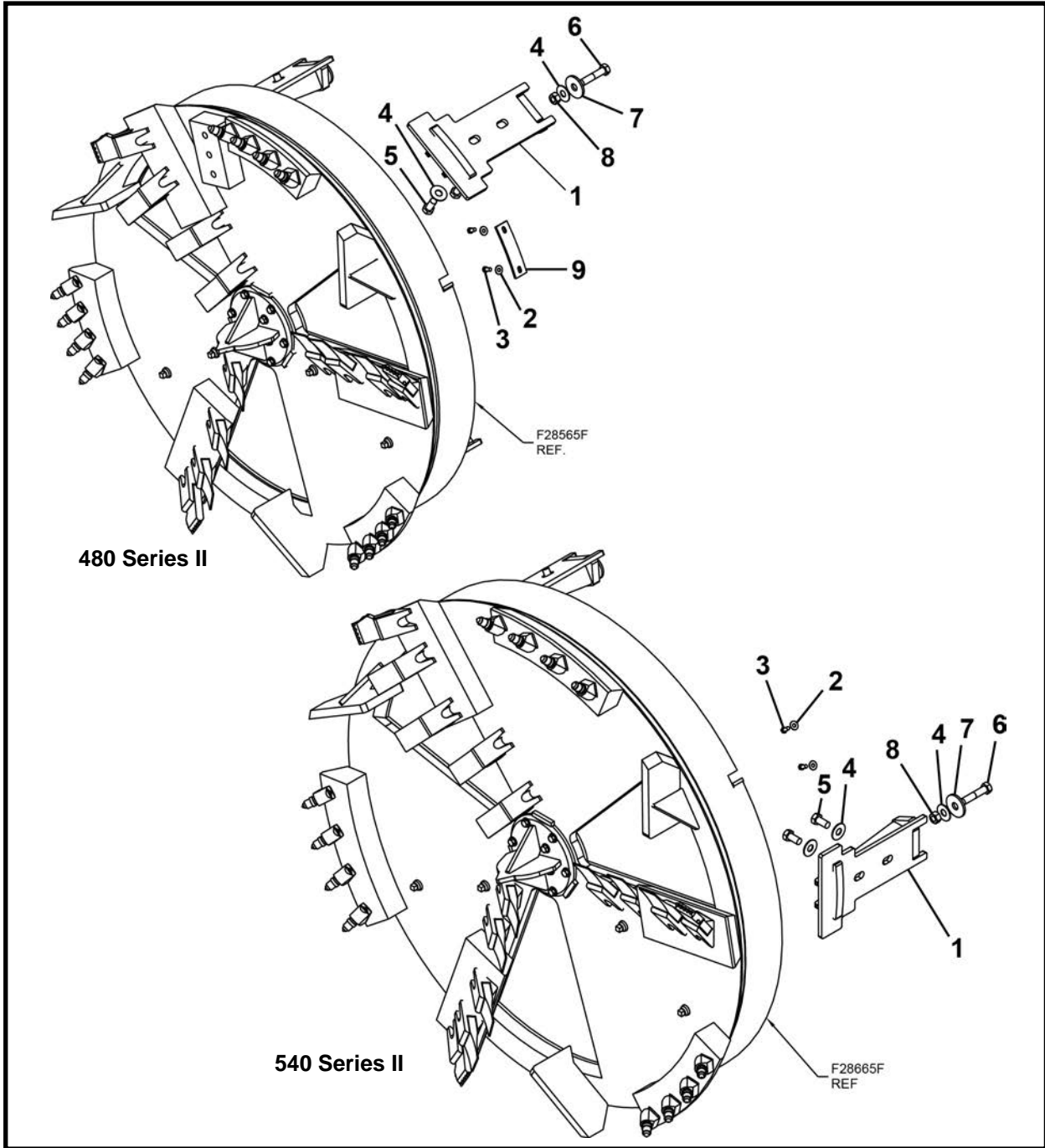
**NOTES**

**CLOSED FACE MOUNT ASSEMBLY TO SERIES I TBM**  
**TBM Series II: 48SC - 420**



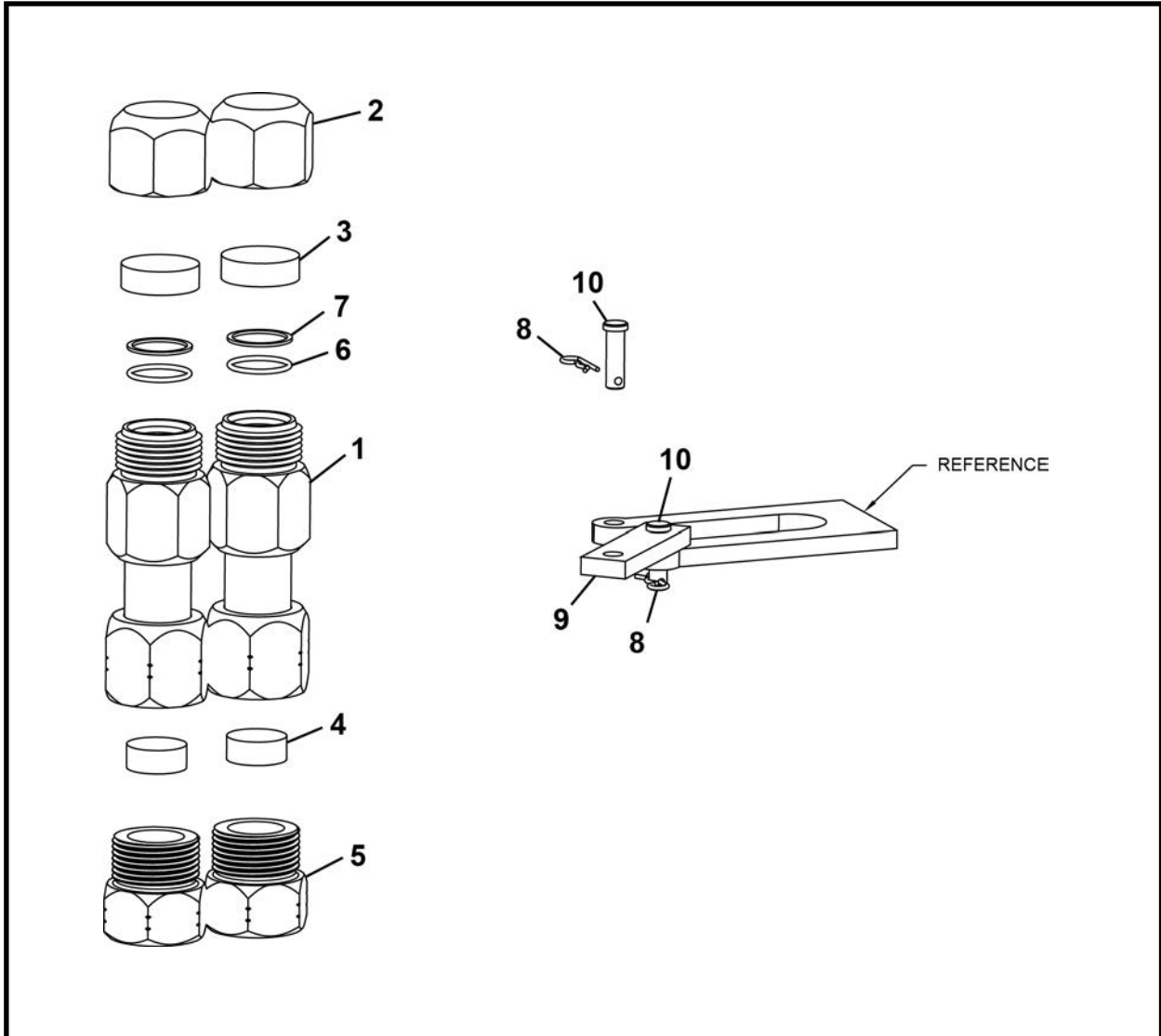
ITEM	QTY	48SC-SII PART NO.	420-SII PART NO.	DESCRIPTION
0	1	024699A	031099A	CLOSED FACE MOUNT ASSEMBLY To Ser. I
1	4	024988A	024988A	MOUNT, Closed Face
2	3	P0001-12-005	-	SCREW, Hex 3/4 UNC x 1.25
3	4	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
4	4	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
5	12	P0040-012	P0040-012	WASHER, Hardened Flat 3/4
6	8	P0001-12-006	P0001-12-006	BOLT, Hex 3/4 UNC x 1.5
7	4	P0001-12-014	P0001-12-014	BOLT, Hex 3/4 UNC x 3.5
8	4	004124P01	004124P01	WASHER
9	4	P0003-12-000	P0003-12-000	NUT, Hex 3/4 UNC

**CLOSED FACE MOUNT ASSEMBLY TO SERIES I TBM**  
**TBM Series II: 480 - 540**



ITEM	QTY	480-SII PART NO.	540-SII PART NO.	DESCRIPTION
0	1	028599A	028699A	CLOSED FACE MOUNT ASSEMBLY To Ser. I
1	4/3	024904A	024904A	MOUNT, Closed Face
2	4	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
3	4	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
4	12/9	P0040-012	P0040-012	WASHER, Hardened Flat 3/4
5	8/6	P0001-12-006	P0001-12-006	BOLT, Hex 3/4 UNC x 1.5
6	4/3	P0001-12-014	P0001-12-014	BOLT, Hex 3/4 UNC x 3.5
7	4/3	004124P01	004124P01	WASHER
8	4/4	P0003-12-000	P0003-12-000	NUT, Hex 3/4 UNC
9	2	024445P	-	COVER, Closed Face Scraper

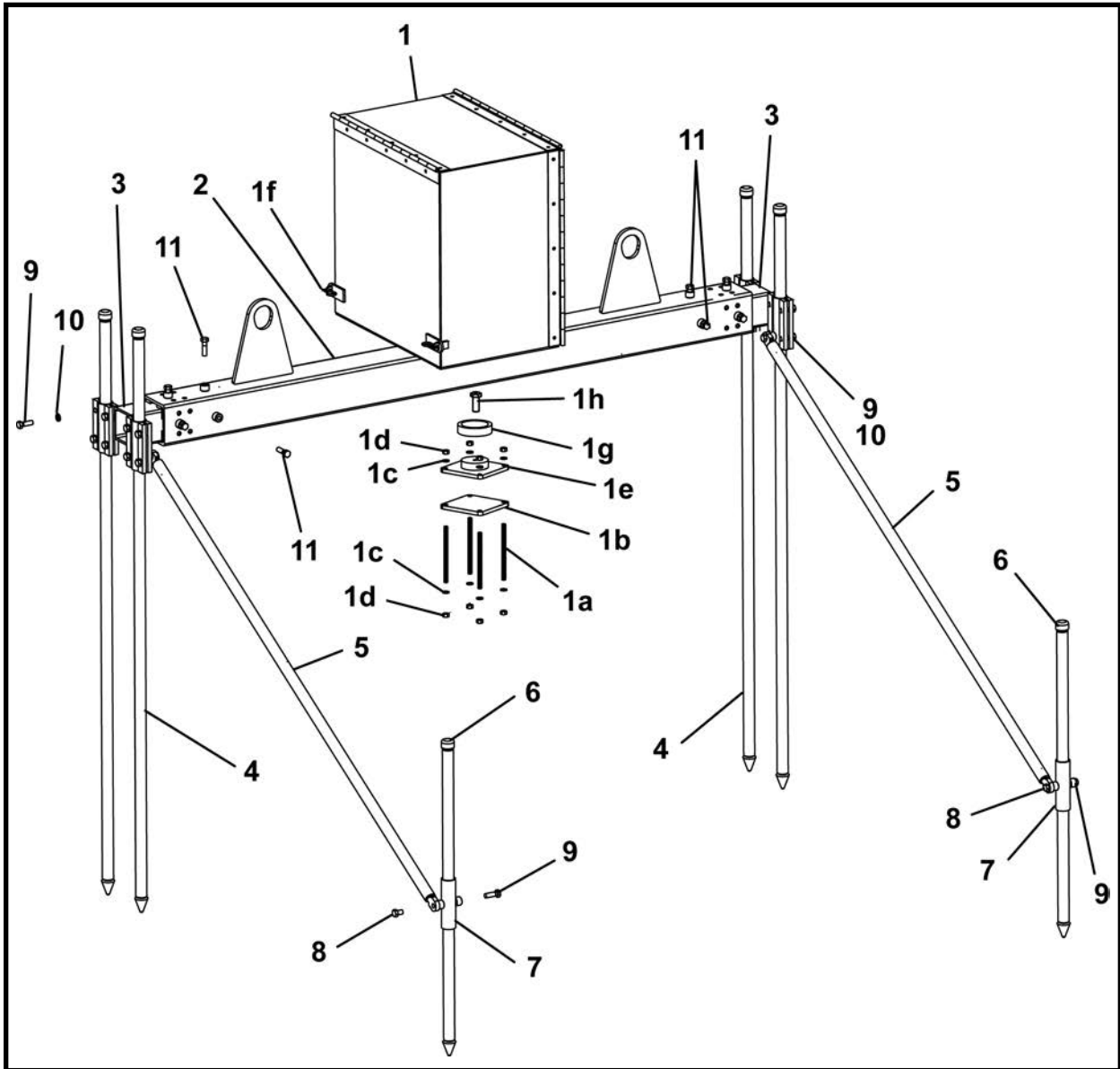
**KIT, LOW PSI TO SERIES II ADAPTER, 027698A**  
**TBM Series II: 48SC - 420 - 480 - 540**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	027698A	KIT, Adapter, LP to Series II
1	2	027694A	FITTING, Adapter, Low Pressure To TBM Series II
2	2	007002P02	CAP, Coupler 1-1/4
3	2	007086P00	PLUG, Rubber 1/2
4	2	007087P00	PLUG, Rubber 1/2
5	2	027672P	PLUG, Storage, TBM High Pressure
6	2	P0085-123	ORING
7	2	P0084-123	RING, Back-Up
8	2	P0090-001	CLIP, Hitch Pin
9	1	027696P	RETAINER
10	2	P0024-006	PIN, Clevis 3/8 x 1.25

## **NOTES**

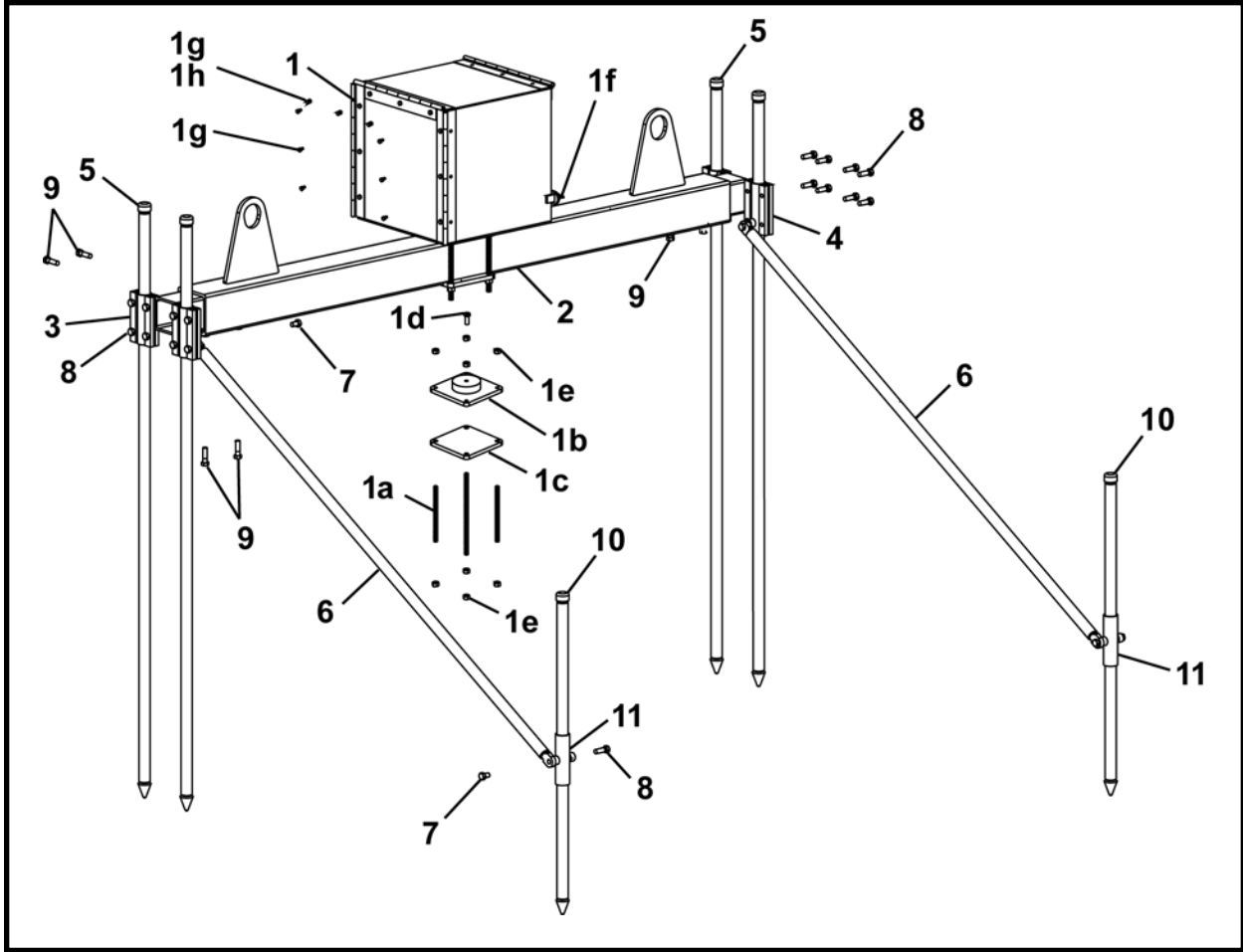
**LASER LIGHT STAND, F05866F00**  
Use With 5000 Pump Unit



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F05866F00	LASER LIGHT STAND
1	1	006068A01	LASER BOX ASSEMBLY ( Includes items 1a - 1h)
1a	4	P0023-500A-008	ROD, Threaded
1b	1	006051P00	PLATE, Laser Box
1c	8	P0045-008	WASHER, Lock 1/2
1d	8	P0003-08-000	NUT, 1/2
1e	1	006050A00	BASE, Swivel
1f	2	P0090-004	PIN, Hitch
1g	1	006055P01	BUSHING
1h*	1	006069P00	BOLT, Pivot
2	1	006047A00	TUBE
3	2	006034A00	TUBE, Sliding
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, Hex 1/2 UNC x .75
9	26	P0001-08-005	BOLT, Hex 1/2 UNC x 1.25
10	24	P0045-008	WASHER, Lock 1/2
11	8	P0001-08-007	BOLT, Hex 1/2 UNC x 1.75

\* Adjust pivot bolt and use blue thread lock to ensure bolt does not tighten or loosen while stand is adjusted.

**LASER LIGHT STAND, F21675F**  
 Use With All Pump Units (5000, 5000 Series II & 5200)



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F21675F	LASER LIGHT STAND
1	1	021681A	LASER BOX ASSEMBLY ( Includes items 1a - 1h)
1a	4	P0023-500A-008	ROD, Threaded
1b	1	006050A00	BASE. Swivel
1c	1	006051P00	PLATE, Laser Box
1d*	1	006069P00	BOLT, Pivot
1e	8	P0003-08-000	NUT, 1/2
1f	2	P0090-004	PIN, Hitch
1g	9	P0001-04-002	BOLT, Hex 1/4 UNC x .5
1h	3	P0003-04-000	NUT, 1/4
2	1	021682A	TUBE
3	1	021683A	TUBE, Slide - Right
4	1	021684A	TUBE, Slide - Left
5	4	006039A00	STAKE, Long
6	2	006044A00	TUBE, Support
7	4	P0001-08-003	BOLT, Hex 1/2 UNC x .75
8	18	P0001-08-006	BOLT, Hex 1/2 UNC x 1.5
9	8	P0001-08-007	BOLT, Hex 1/2 UNC x 1.75
10	2	006040A00	STAKE, Short
11	2	006025A00	TUBE, Swivel

\* Adjust pivot bolt and use blue thread lock to ensure bolt does not tighten or loosen while stand is adjusted.

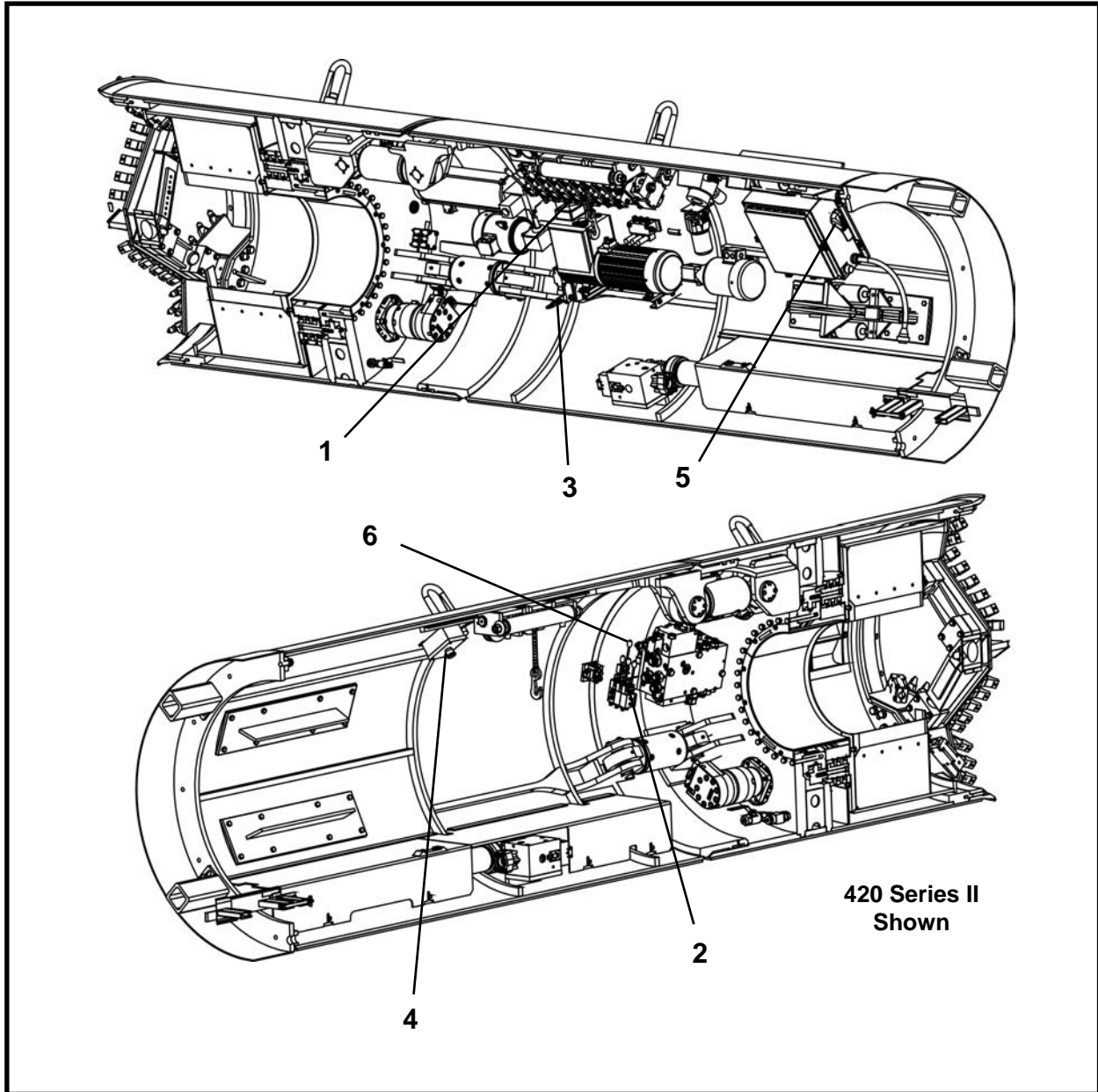
**NOTES**



# Operator Controls

Operator Controls ..... 2

**OPERATOR CONTROLS**  
**TBM Series II: 48SC - 420 - 480 - 540**



ITEM	QTY	PART NO.	DESCRIPTION
1*	1	P0302-700	VALVE, TBM 9 Section Control
2*	1	P0302-709	VALVE, Three Section Control
3**	1	024590A	SWITCH, Conveyor Safety Stop
4**	1	019023A	E-STOP ASSEMBLY
5a	1	P0251-482	HANDLE, Main Breaker
5b	1	P0251-481	BREAKER
6*	1	P0302-784	VALVE, 2 Speed Motor (Models equipped with 2 Speed Motors)

\* Refer to Section 7, Valves for parts information.

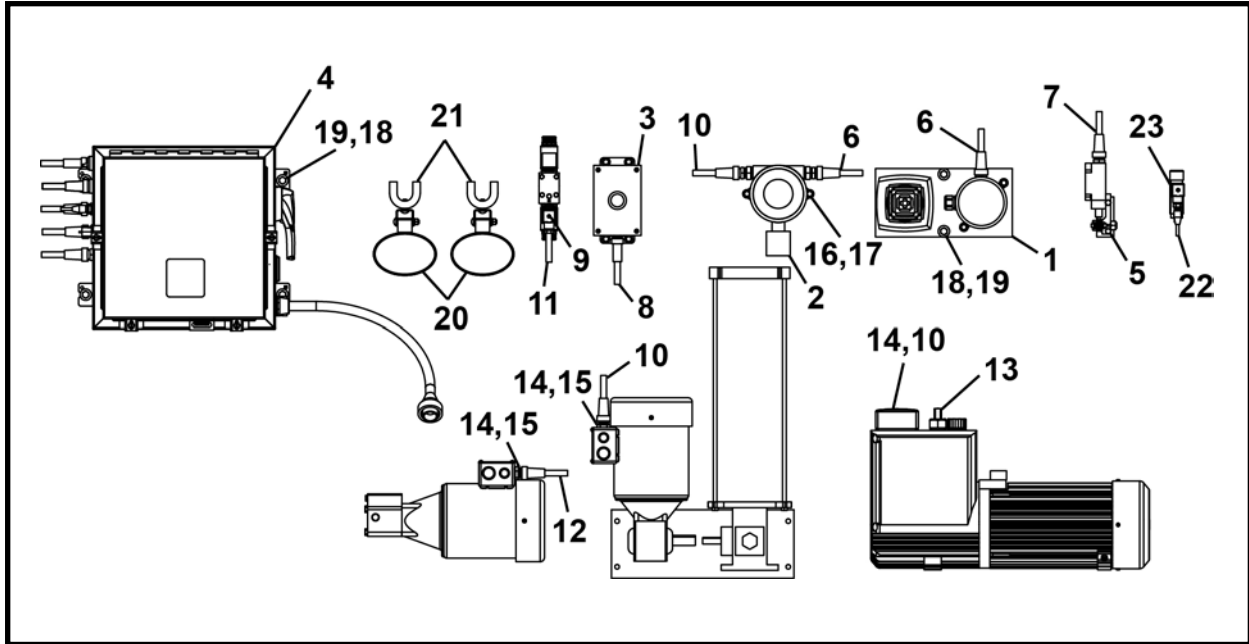
\*\* Refer to Section 5, Electrical for parts information.



## Electrical

Electrical System Assembly, 024650A .....	2
Electrical System Schematic .....	3
Strobe - Horn Assembly, 024401A .....	4
Gas Detector Assembly GasMax II, 019049A .....	6
Gas Detector Schematic .....	7
Gas Challenge Kit, P0310-266 .....	8
Electrical Box E-Stop Assembly, 019023A .....	9
Electrical Box Assembly, 019050A .....	10
Electrical Panel Assembly, 019055A .....	11
Conveyor Safety Stop Switch Assembly, 024590A .....	12

## ELECTRICAL SYSTEM ASSEMBLY, 024650A



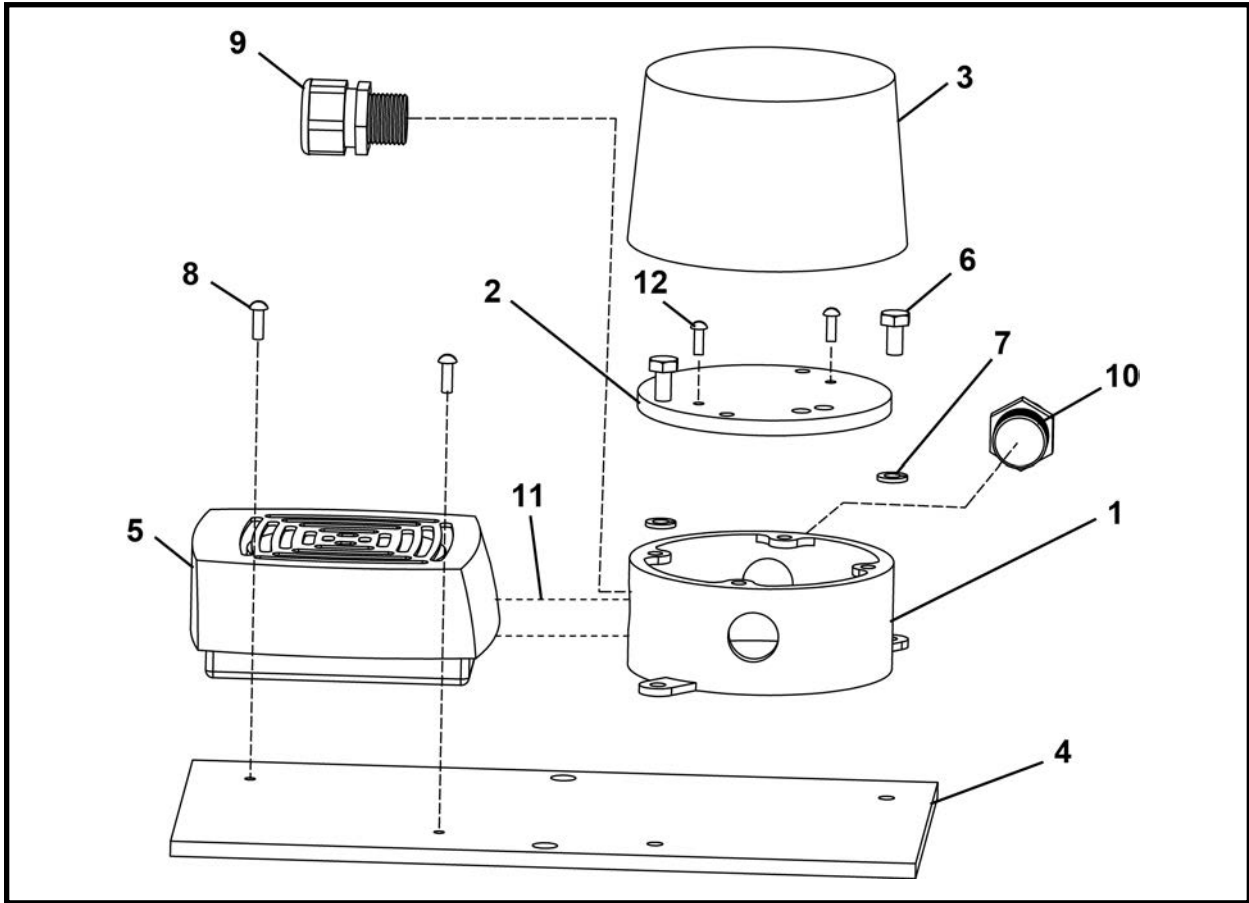
ITEM	QTY	PART NO.	DESCRIPTION
0	1	024650A	ELECTRICAL SYSTEM ASSEMBLY - Series II
1*	1	024401A	STROBE-HORN ASSEMBLY
2*	1	019049A	GAS DETECTOR ASSEMBLY - GasMax II
3*	1	019023A	ASSEMBLY, E-Stop Electrical Box
4*	1	019050A	ASSEMBLY, Electrical Box Series II
5*	1	024590A	SWITCH, Conveyor Safety Stop
6	1	P0054-106	CABLE
7	1	P0054-087	CABLE
8	1	P0054-105A	CABLE
9	1	P0302-508A	CONNECTOR, Electrical
10	3	P0054-287	CABLE
11	1	P0054-347	CABLE
12	1	P0054-288	CABLE
13	1	P0054-431	CABLE
14	3	P0054-286	RECEPTACLE
15	2	P0311-018	NUT, Lock 1/2
16	2	P0040-004	WASHER, Hardened Flat 1/4
17	2	P0001-04-003	BOLT, Hex 1/4 UNC x .75
18	6	P0040-006	WASHER, Hardened Flat 3/8
19	6	P0001-06-002	BOLT, Hex 3/8 UNC x .5
20	2	019026A-120	ASSEMBLY, CABLE-LIGHT
21	2	022156P	MAGNET, Light
22	1	P0054-700	CABLE
23**	1	P0302-706	SWITCH, Pressure

\* Refer to this section for parts information.

\*\* Not included with assembly. Part P0302-706 is found in Section 6, Hydraulics.



## STROBE - HORN ASSEMBLY, 024401A

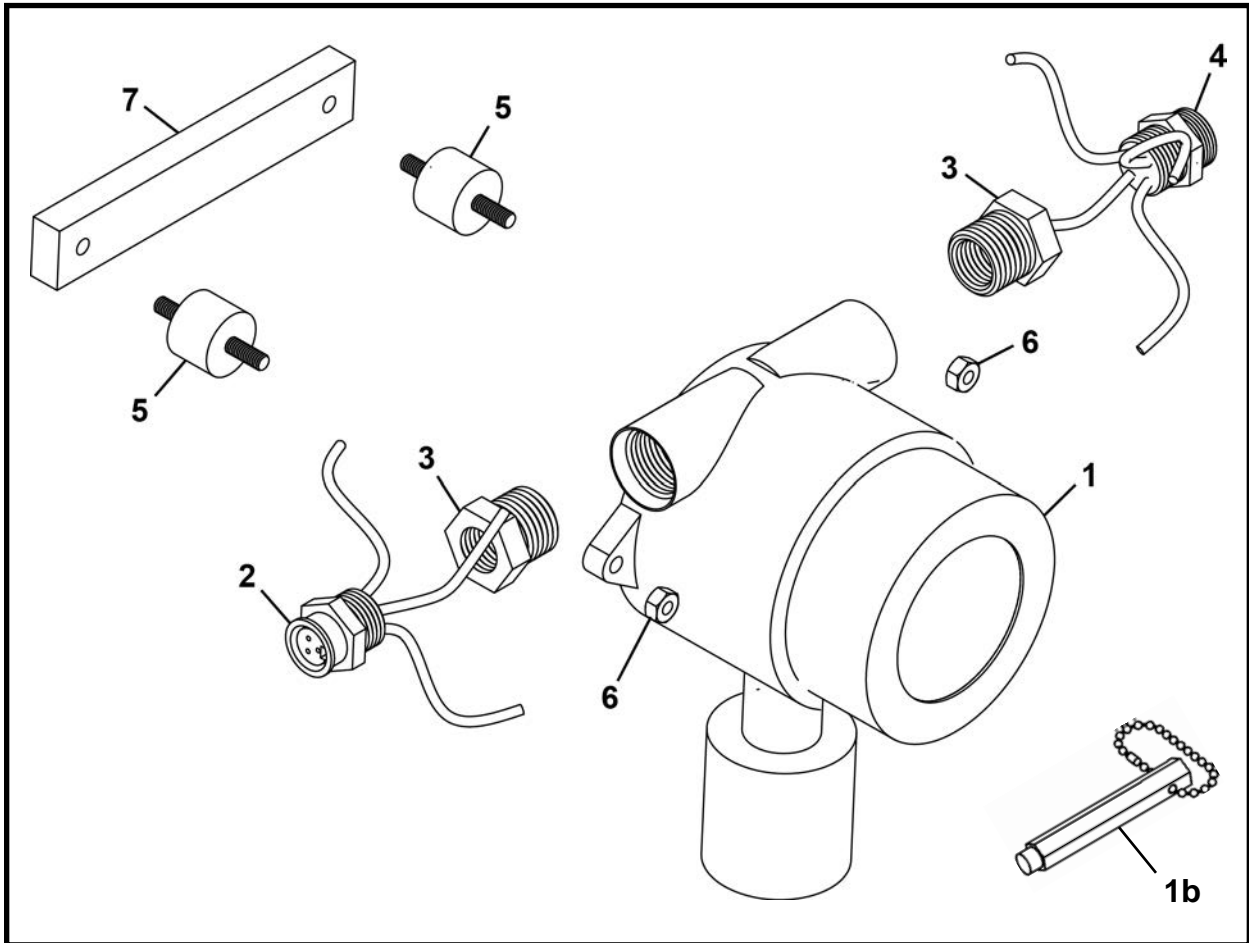


ITEM	QTY	PART NO.	DESCRIPTION
0	1	024401A	STROBE - HORN ASSEMBLY
1	1	P0310-251	HOLDER BOX
2	1	023534P00	COVER, Back
3	1	P0310-286B	STROBE LIGHT, Red 24VDC (Includes item 3a)
3a	1	P0310-286A	LENS
4	1	016405P	PLATE, Mounting
5	1	P0310-287D	HORN, Warning 24VDC
6	2	P0001-04-002	BOLT, Hex 1/4 UNC x .5
7	2	P0040-004	WASHER, Hardened Flat 1/4
8	2	P0017-08-323	SCREW, Machine 8-32 x .5
9	1	P0311-121	CONNECTOR, Strain Relief
10	1	P0054-069	RECEPTACLE, Mini
11	8 LI	P0054-018	CABLE
12	2	P0017-10-375	SCREW, Round Machine 10-24 x 3/8

LI - Linear Inch

## **NOTES**

**GAS DETECTOR ASSEMBLY, 019049A**  
**GDS GasMax II**



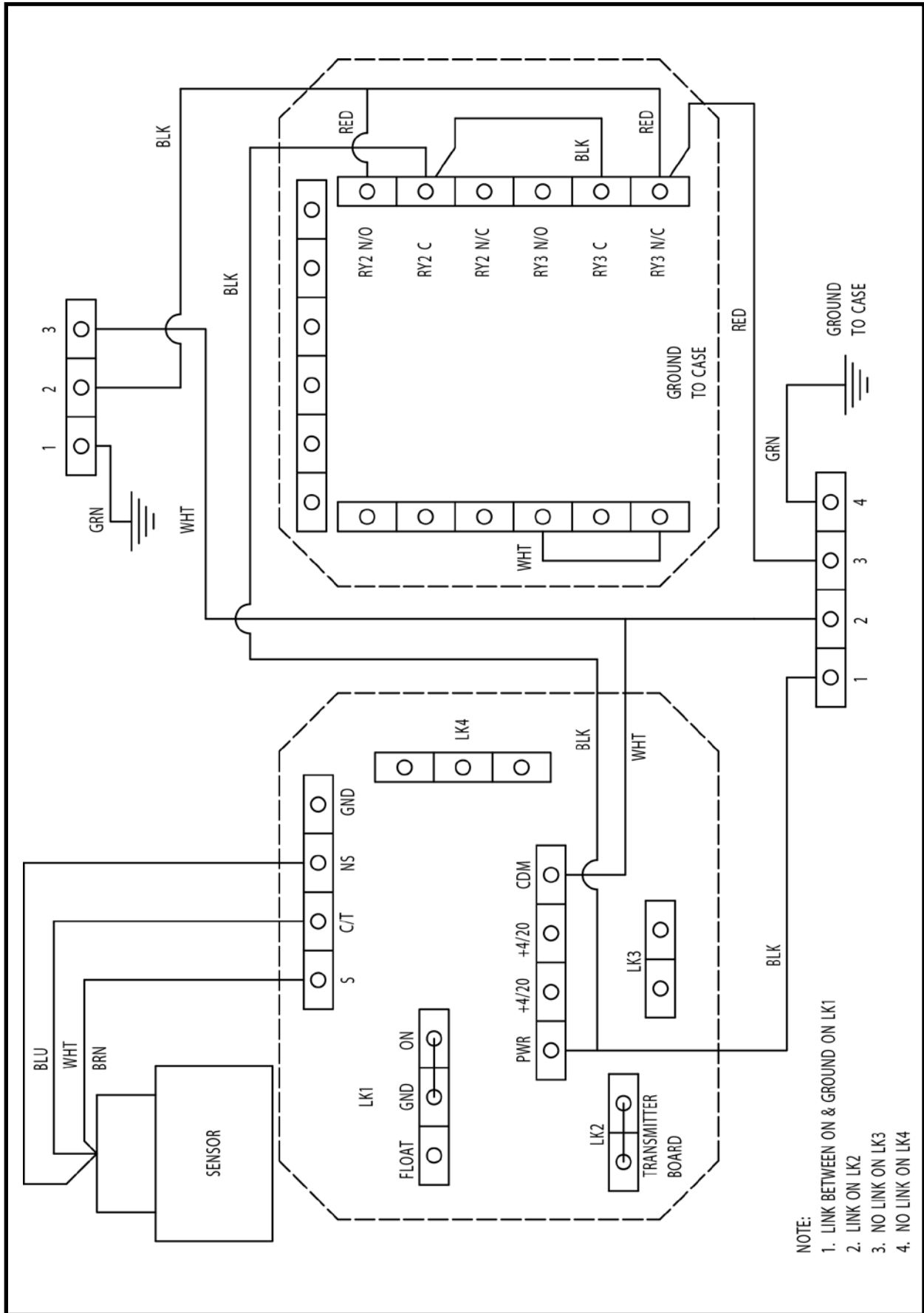
ITEM	QTY	PART NO.	DESCRIPTION
0	1	019049A	GAS DETECTOR ASSEMBLY - GasMax II
1	1	P0251-197	DETECTOR, GDS (Includes items 1a and 1b)
1a	1	P0251-197A	ELEMENT, Sensor
1b	1	P0310-283B	MAGNETIC WAND
2	1	P0054-068	RECEPTACLE, Mini Cable
3	2	P0300-012	FITTING, 12MP-08FPS
4	1	P0054-286	RECEPTACLE, 4 Pin Male
5	2	P0070-065	MOUNT, Vibration Isolation
6	2	P0003-04-000	NUT, Hex 1/4 UNC
7*	1	016407P	BRACKET, Mounting

Note: Contact your Akkerman Aftermarket Support representative for proper set up and calibration of this gas detector assembly.

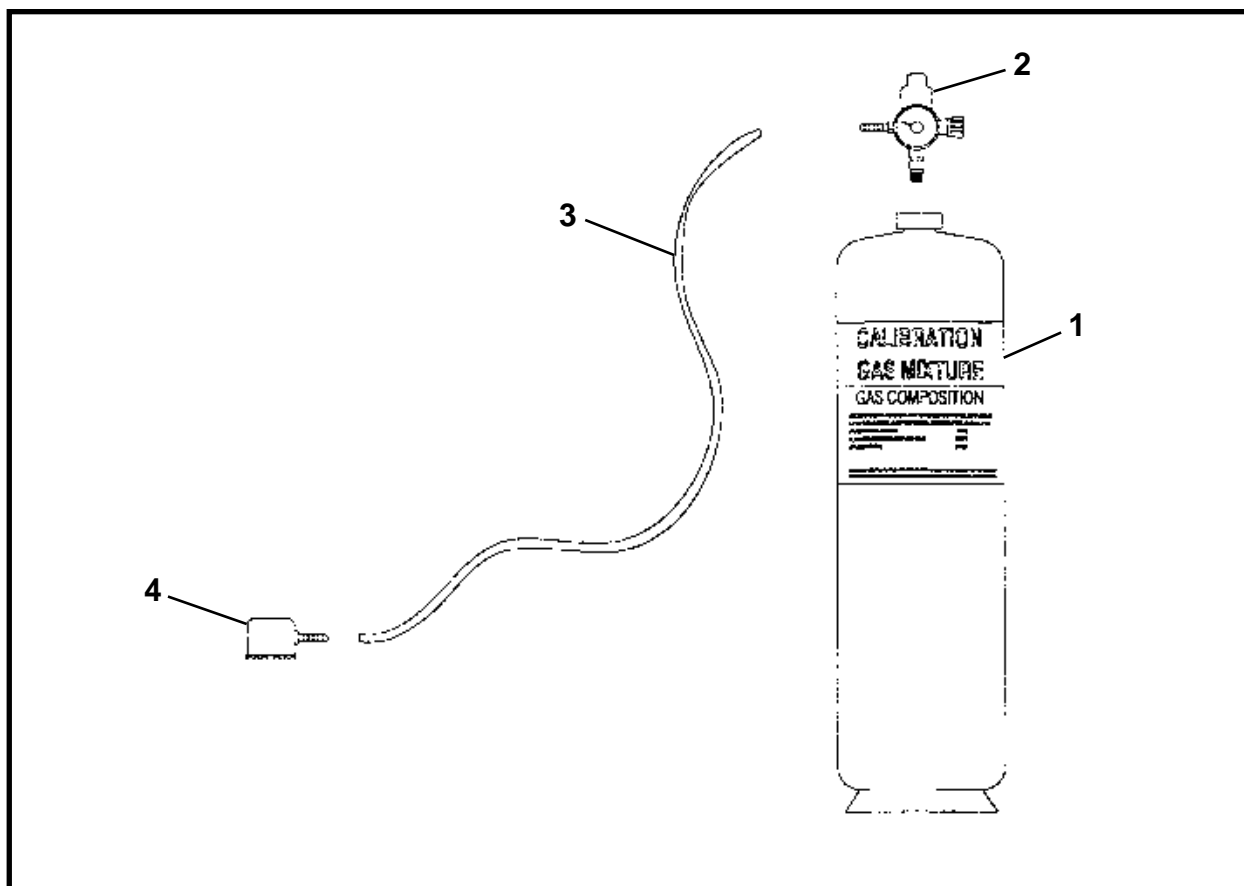
\* Not part of this assembly.

# GAS DETECTOR ASSEMBLY, 019049A

## GDS GasMax II



## GAS CHALLENGE KIT, P0310-266

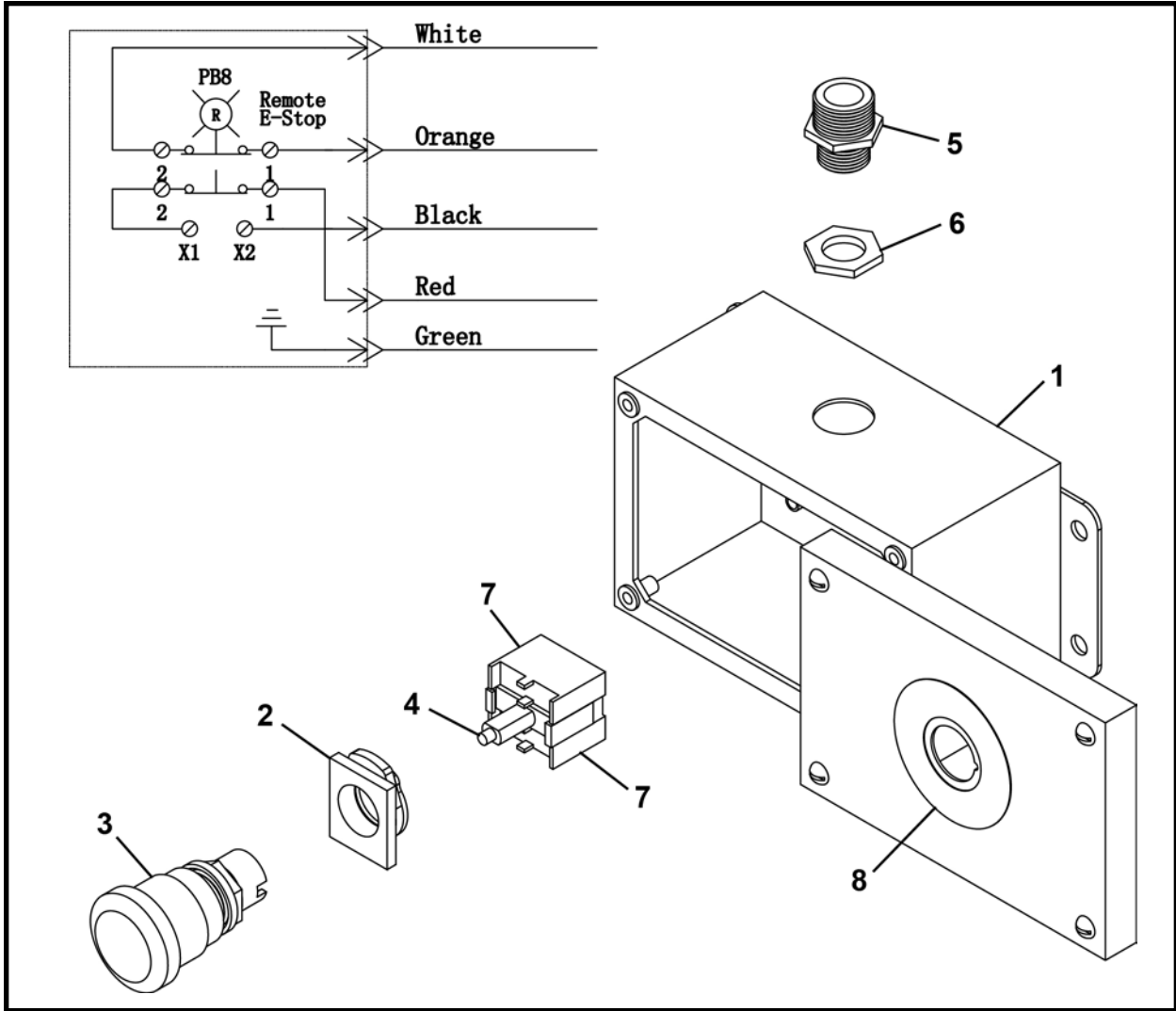


ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0310-266	GAS CHALLENGE KIT
1	2	P0310-266A	CYLINDER, 50% LEL Methane Gas Concentration
2	1	P0310-266C	REGULATOR VALVE & GAUGE
3	1	P0310-266D	TUBE, Plastic
4a	1	P0310-266B	CALIBRATION CUP, Sensor (Zellweger Gas Detector)
4b**	1	016422A	CALIBRATION CUP, Sensor (GasMaxII) (Includes items 4b1-4b2)
4b1	1	016421P	CUP, Calibration (GasMaxII)
4b2	1	P0300-742	BARB, Hose 1/4
5*	1	-	PROTECTIVE CASE

\* Not Shown

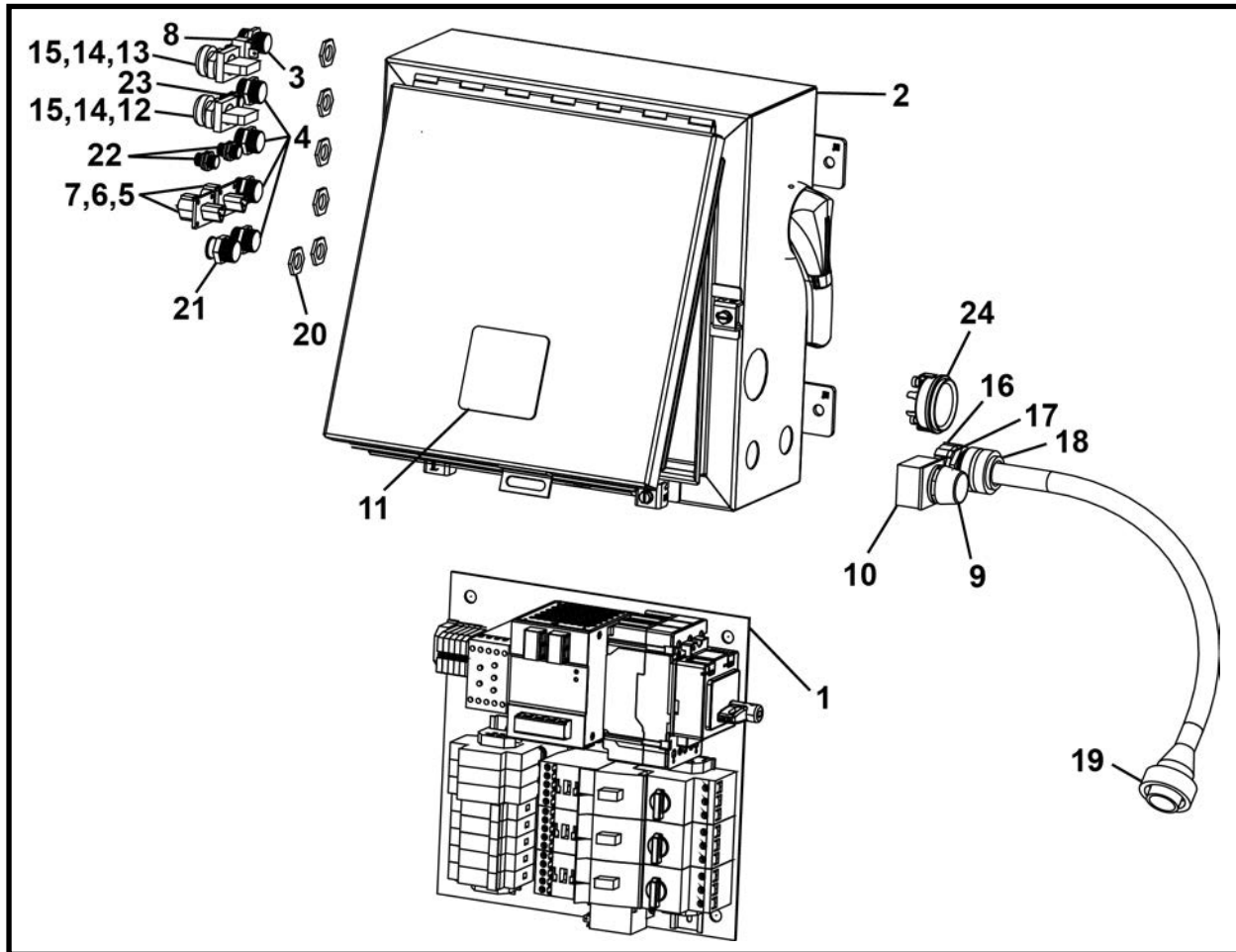
\*\* Not included in kit, order separately.

## ELECTRICAL BOX E-STOP ASSEMBLY, 019023A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	019023A	ELECTRICAL BOX E-STOP ASSEMBLY
1	1	019024P	BOX, Electrical
2	1	P0310-419F	LATCH, Mounting
3	1	P0310-420F	PUSHBUTTON, Illuminated
4	1	P0251-171	MODULE, LED
5	1	P0054-073A	RECEPTACLE
6	1	P0311-018	NUT, Lock 1/2
7	2	P0056-122F	BLOCK, Contact
8	1	P0310-474F	DECAL, Emergency Stop

## ELECTRICAL BOX ASSEMBLY, 019050A

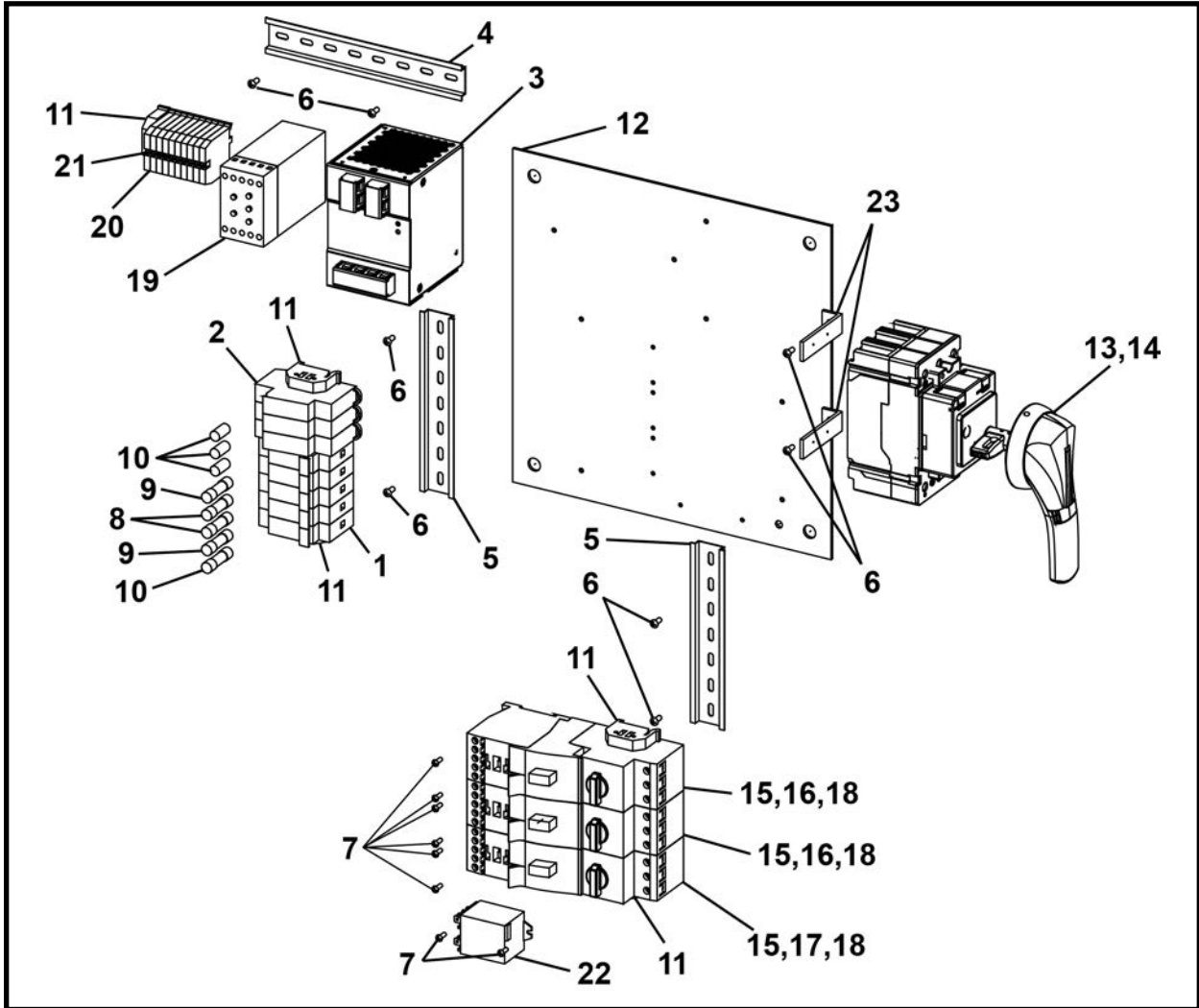


ITEM	QTY	PART NO.	DESCRIPTION
0	1	019050A	ELECTRICAL BOX ASSEMBLY, Series II
1*	1	019055A	ASSEMBLY, Electrical Panel
2	1	019056P	BOX, Electrical
3	1	P0054-073B	RECEPTACLE
4	4	P0313-049	RECEPTACLE
5	2	P0054-575	CONNECTOR
6	2	P0054-576	WEDGE
7	6	P0313-007	PINS
8	1	P0056-147	SWITCH, Toggle
9	1	P0251-514	LENS, Green Plastic
10	1	P0251-463	LIGHT, Red Pilot
11	1	P0251-457	INTERLOCK, Electrical
12	1	P0056-129F	LIGHT, Red Pilot
13	1	P0251-439	LIGHT, Green Indicator
14	2	P0056-131F	LATCH, Mounting
15	2	P0251-563	LIGHT, White Pilot LED
16	1	P0311-034	BUSHING, Insulating
17	1	P0311-020	NUT, Lock
18	1	P0311-112	CORD GRIP
19	1	P0054-067G	CABLE
20	6	P0311-018	NUT, Lock 1/2
21	1	P0054-068	RECEPTACLE
22	2	P0054-335	RECEPTACLE
23	1	P0054-402	RECEPTACLE
24**	1	P0251-410	HOURMETER

\* Refer to this section for parts information.

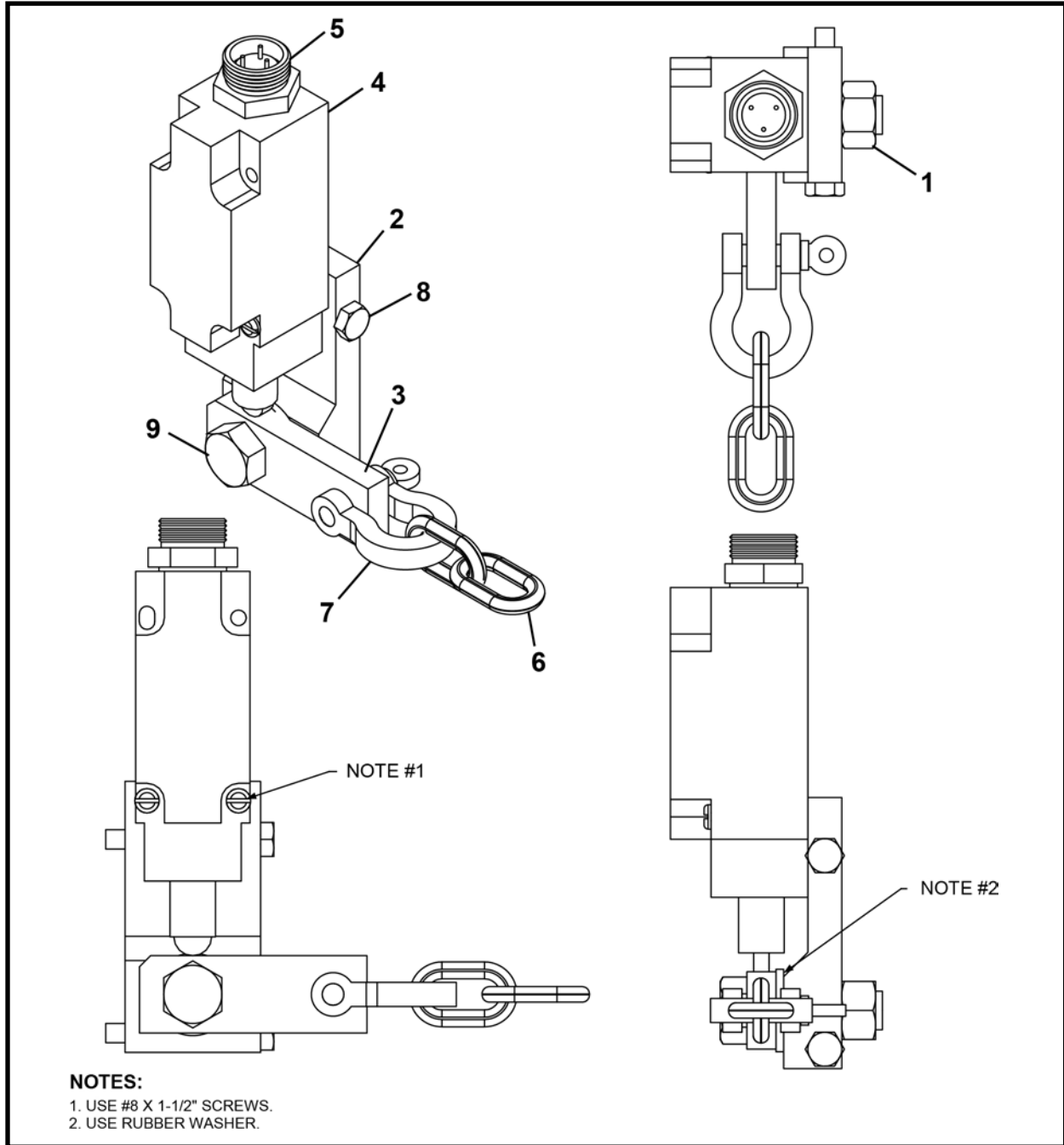
\*\* Later models are equipped with hourmeter.

## ELECTRICAL PANEL ASSEMBLY, 019055A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	019055A	ELECTRICAL PANEL ASSEMBLY
1	5	P0251-388	HOLDER, Fuse
2	3	P0310-473B	HOLDER, Fuse
3	1	P0251-616	POWER SUPPLY, 24V, 10 AMP
4	1	P0310-503-008	RAIL, Din 8
5	2	P0310-503-007	RAIL, Din 7
6	8	P0020-83-022	SCREW, Truss Head 8-32 x .375
7	8	P0020-63-022	SCREW, Truss Head 6-32 x .375
8	2	P0251-401	FUSE
9	2	P0251-468	FUSE
10	4	P0310-954	FUSE, TIME DELAY
11	5	P0310-571	END, Fuse Holder
12	1	019054P	PANEL, Electrical
13	1	P0251-481	BREAKER 480V 3PH 15/3 W/Lugs
14	1	P0251-482	HANDLE & BREAKER SHAFT
15	3	P0251-478	CONTACTOR, 3/4 HP 480V 3PH 24VDC
16	2	P0251-479	PROTECTOR, Motor 3/4 HP
17	1	P0251-560	PROTECTOR, Motor 3 HP
18	3	P0251-480	KIT, Connector
19	1	P0251-443	PHASE DETECTOR 480V
20	10	P0310-500	BLOCK, Terminal
21	1	P0310-573	JUMPER, Terminal Strip
22	1	P0310-409	RELAY, 10 Amp
23	2	026181P	MOUNT, Side Breaker

## CONVEYOR SAFETY STOP SWITCH ASSEMBLY, 024590A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	024590A	SAFETY STOP SWITCH ASSEMBLY
1	1	P0003-08-000	NUT, Hex 1/2 UNC
2	1	024588P	HOUSING
3	1	024589P	INSERT
4	1	P0251-540	SWITCH
5	1	P0054-069	RECEPTACLE
6	1	P0094-004-072	CHAIN, 3/16 x 72
7	1	P0091-003	SHACKLE, Anchor
8	2	P0001-04-008	BOLT, Hex 1/4 UNC x 2
9	1	P0001-08-007	BOLT, Hex 1/2 UNC x 1.75



# Hydraulics

## Hydraulic Assembly

TBM Series II 48SC - 420, 027901A .....	4
Main Parts Kit, 028597A .....	6
Hose Kit, 031033A .....	8
Fitting Kit, 031034A .....	9
TBM Series II 480, 028501A .....	10
Main Parts Kit, 028597A .....	12
Hose Kit, 031001A .....	14
Fitting Kit, 031035A .....	16
TBM Series II 540, 028601A .....	18
Hose Kit, 025695A .....	20
Fitting Kit, 025696A .....	22

## Grease Assembly

TBM Series II 48SC - 420 - 480, 027933A .....	24
TBM Series II 540, 025698A .....	25

## Lube Assembly

TBM Series II 48SC - 420, 027932A .....	26
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## Closed Face Hydraulic Assembly

TBM Series II 48SC - 420 - 480, 023986A .....	30
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## TBM Hydraulic Tunnel Hoses & Lines .....

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Hydraulic Starter Hose Assembly (5,000 psi), F27691F .....	35
TBM Hydraulic Lines LP Assembly (3,000 psi), F13326F00 .....	36
TBM Hydraulic Lines HP Assembly (5,000 psi), F27674F .....	37
Adapter Kit - 5000 Pump Unit (3,000 psi) To TBM Series II (HP), 027698A .....	38
Adapter Kit - 5200 Pump Unit (3,000 psi) To TBM Series I, 027699A .....	39

**Intermediate Jacking Station** ..... Continued on next page

*(continued on next page)*

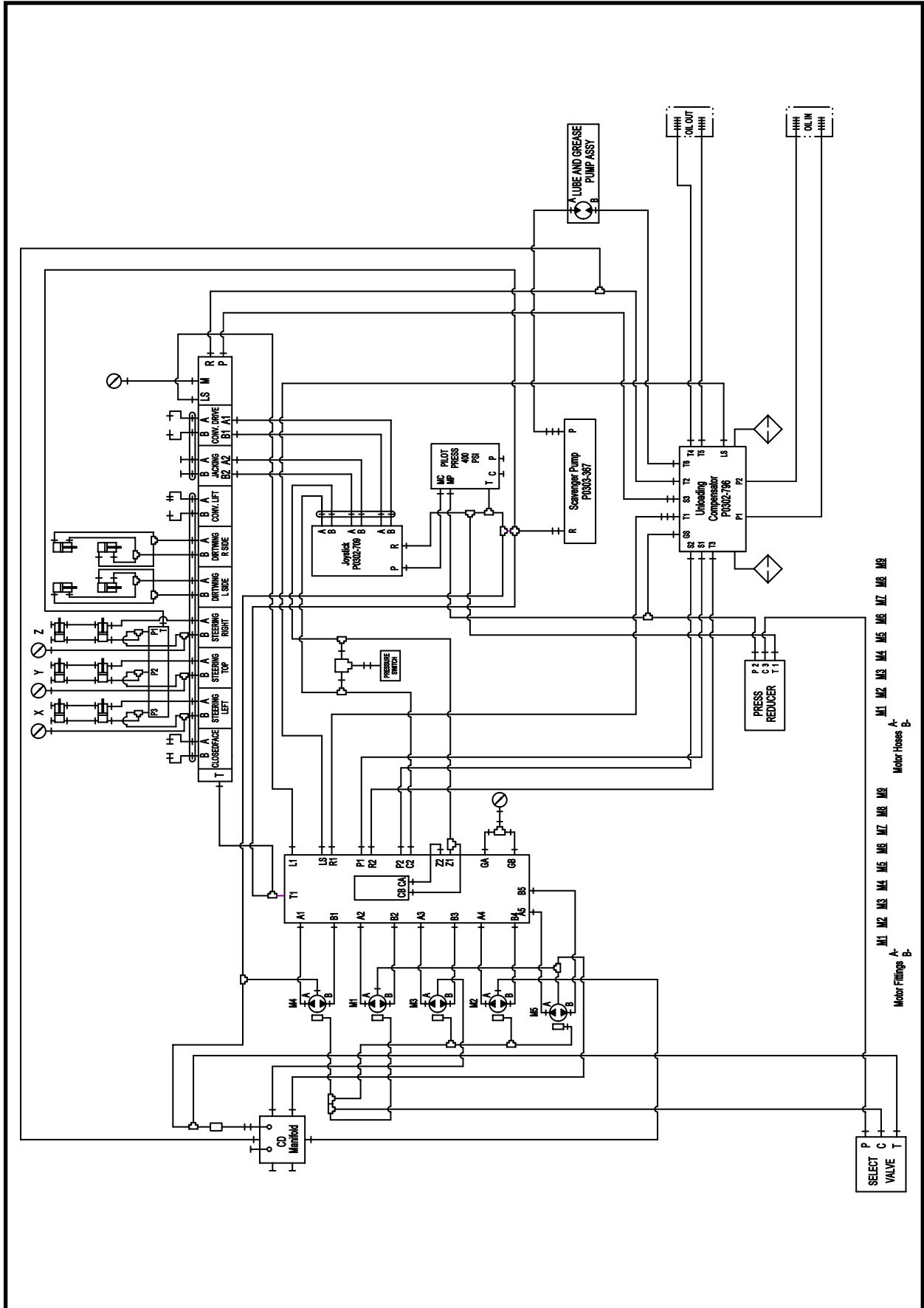
# Hydraulics (continued)

- Intermediate Jacking Station** ..... 40
  - Starter Hose, High Pressure 30 Ft, F09802F01 ..... 41
  - Starter Hose, Low Pressure 30 Ft, F09803F01 ..... 42
  - IJS Tunnel Line 10 Ft 6 In., F09800F00 ..... 43
  - Tee Connector, F09804F00 ..... 44
  - IJS Valve (With Cable), F04908F01 ..... 46
  - IJS Starter Connection, F09805F00 ..... 48
  - IJS Coupler Assembly, 005133A02 ..... 49
  - IJS Segment Assembly ..... 50
    - IJS Cylinder, F03531F02 ..... 51
  - IJS Hydraulic Schematic ..... 52

## **NOTES**

# HYDRAULIC ASSEMBLY, 027901A

## TBM Series II: 48SC - 420

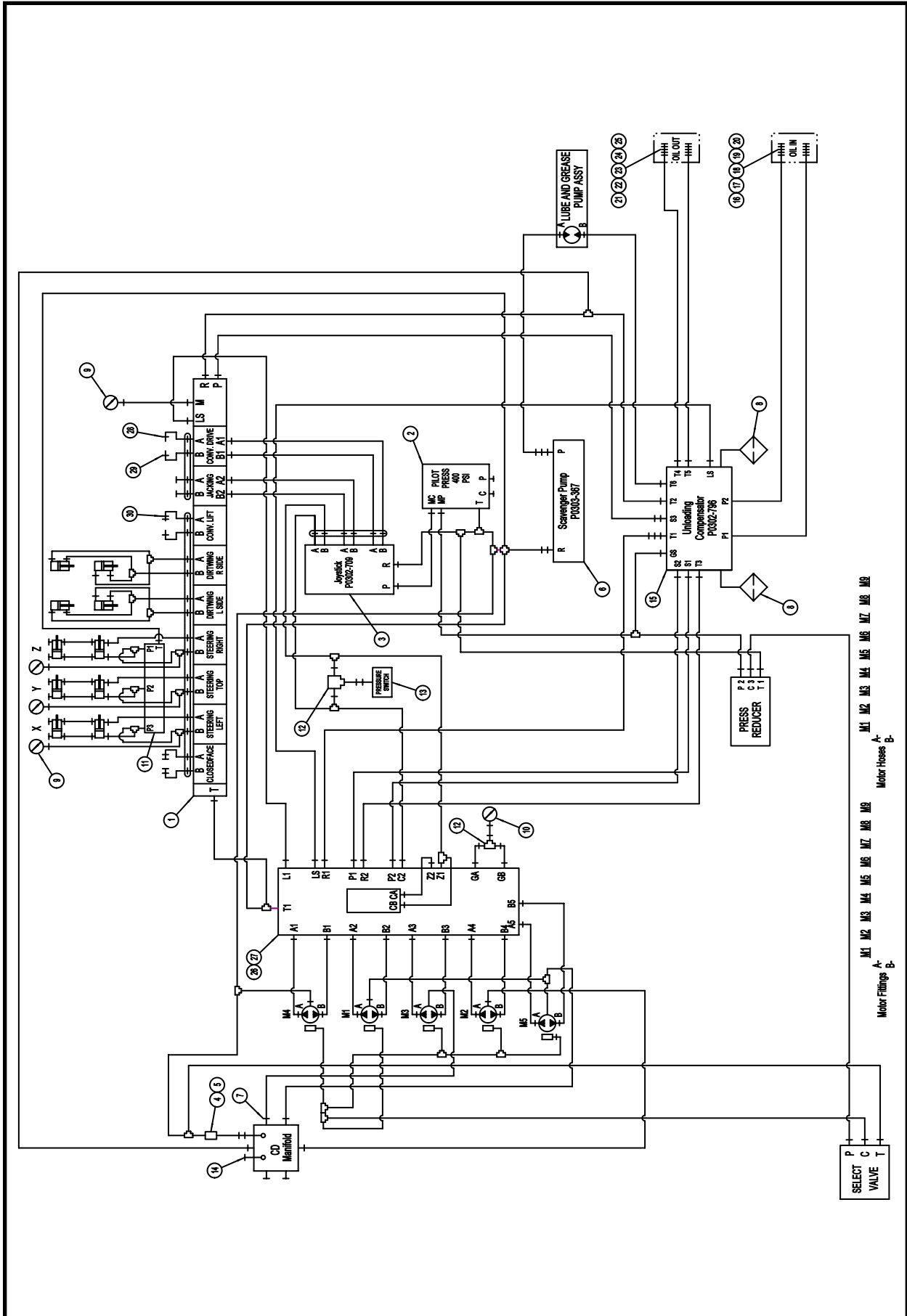


**HYDRAULIC ASSEMBLY, 027901A**  
**TBM Series II: 48SC - 420**

ITEM	QTY	PART NO.	DESCRIPTION
0	-	027901A	ASSEMBLY, Hydraulic, 48SC - 420 Series II
1*	1	028597A	KIT, Main Hydraulic Parts
2*	1	031033A	KIT, Hose
3*	1	031034A	KIT, Fitting

\* Refer to this section for parts information.

**MAIN PARTS KIT, 028597A**  
**TBM Series II: 48SC - 420**



**MAIN PARTS KIT, 028597A**  
**TBM Series II: 48SC - 420**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	028597A	MAIN PARTS KIT ASSEMBLY, 48SC - 420 Series II
1	1	P0302-700	VALVE, 9 Section (Includes items 1a - 1e)
1a	1	P0302-700A	SPOOL 80/80
1b	1	P0302-700B	SPRING
1c	1	P0302-700C	BLOCK, Ancillary PO Check
1d	1	P0302-700D	SPOOL 63/63
1e	1	P0302-700E	INSERTS, PSI Limiter Valve
2	1	P0302-705	MANIFOLD, Pilot Supply
3	1	P0302-709	VALVE, 3 Section
4	1	P0302-513	CARTRIDGE
5	1	P0302-514	BODY, Port 3/8
6*	1	P0303-367	PUMP, Scavenger
7	1	A43766P	MANIFOLD, Case Drain
8	2	P0309-208	ASSEMBLY, High Pressure Filter (Includes items 8a - 8b)
8a	1	P0309-208A	ELEMENT, Filter
8b	1	P0309-208B	SENSOR, Filter
9	4	P0301-146	GAUGE, 6000 PSI
10	2	P0301-142	GAUGE, 5000 PSI
11	1	P0302-731	LIMITER, Steering Pressure
12	1	P0302-530	SHUTTLE VALVE SEA #6 PORT
13	1	P0302-706	SWITCH, Pressure 5000 PSI
14	1	P0302-536	CHECK VALVE
15	1	P0302-796	MANIFOLD
16	2	P0421-012	COUPLER, Reducer
17	2	004901P01	COUPLER
18	2	004899P00	UNION, Coupler
19	2	007087P00	PLUG, Rubber
20	2	005350P03	CAP, Coupler
21	2	005348P00	COUPLER, Female 1-1/4
22	2	P0084-123	RING, Back-Up
23	2	P0085-123	ORING
24	2	007086P00	PLUG, Rubber
25	2	007002P02	CAP, Coupler
26	1	P0302-792	MANIFOLD, Motor
27	8	P0031-12-008	SCREW, Cap 3/4 x 2
28	1	P0100-004A	COUPLER, Female
29	1	P0100-004B	COUPLER, Male
30	1	P0302-680	VALVE, Conveyor Lift (Includes items 30a - 30b)
30a	1	P0302-680A	CARTRIDGE
30b	1	P0302-680B	BODY, Valve

\* Refer to Section 9, Pumps for parts information.

**HOSE KIT, 031033A**  
**TBM Series II: 48SC - 420**

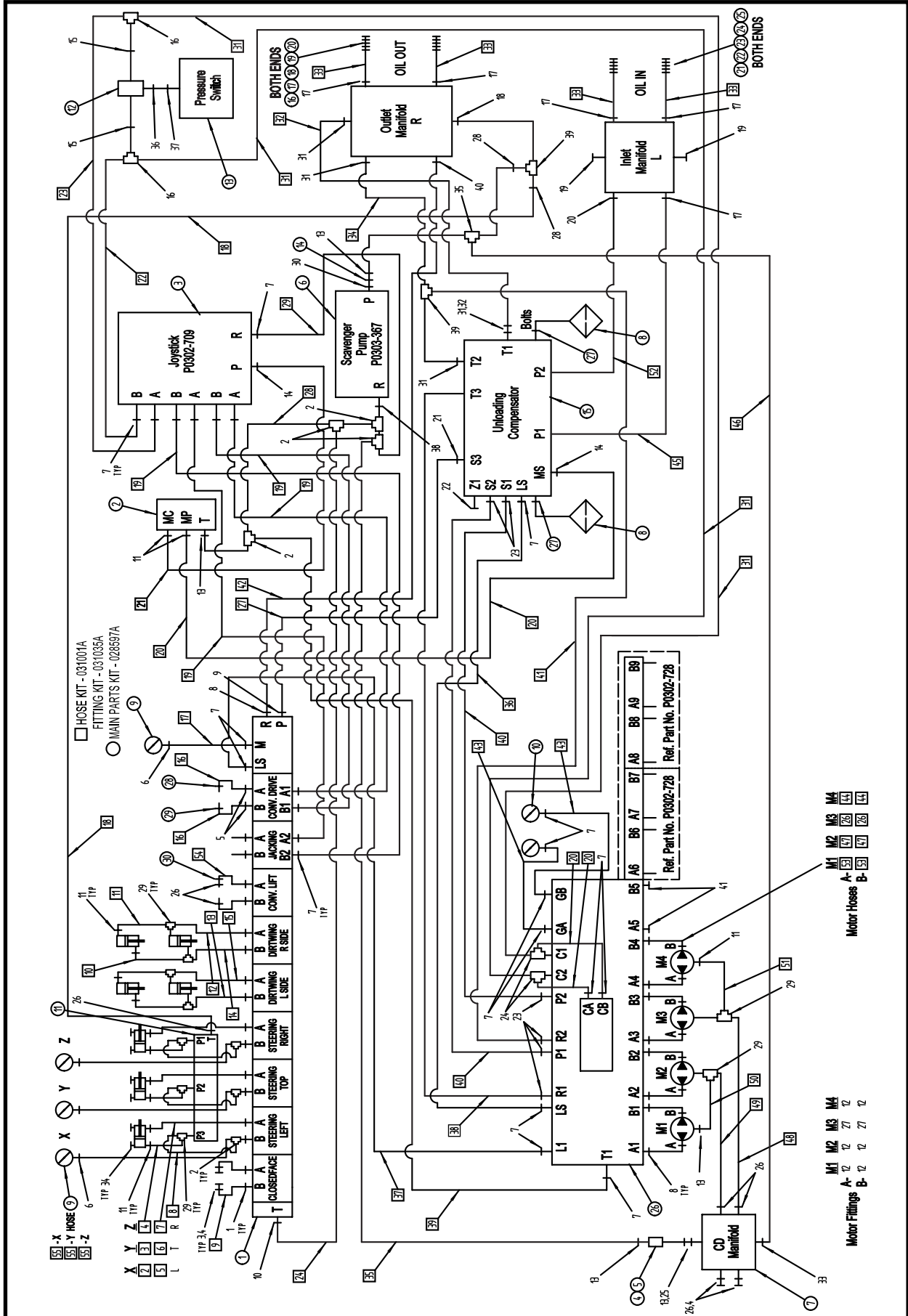
ITEM	QTY	PART NO.	DESCRIPTION
0	1	031033A	KIT, Hose, 48SC - 420 Series II
1	6	A10086A-014	HOSE ASSEMBLY, 3/8 x 14
2	1	A10364A-108	HOSE ASSEMBLY, 1/4 x 108
3	1	A10364A-040	HOSE ASSEMBLY, 1/4 x 40
4	1	A10364A-054	HOSE ASSEMBLY, 1/4 x 54
5	1	A10364A-114	HOSE ASSEMBLY, 1/4 x 114
6	1	A10364A-046	HOSE ASSEMBLY, 1/4 x 46
7	1	A10364A-060	HOSE ASSEMBLY, 1/4 x 60
8	3	A09971A-018	HOSE ASSEMBLY, 3/8 x 18
9	2	A10313A-054	HOSE ASSEMBLY, 3/8 x 54
10	2	A10313A-038	HOSE ASSEMBLY, 3/8 x 38
11	2	A10313A-026	HOSE ASSEMBLY, 3/8 x 26
12	1	A10079A-070	HOSE ASSEMBLY, 3/8 x 70
13	1	A10079A-150	HOSE ASSEMBLY, 3/8 x 150
14	1	A10079A-076	HOSE ASSEMBLY, 3/8 x 76
15	1	A10079A-144	HOSE ASSEMBLY, 3/8 x 144
16	2	A10080A-060	HOSE ASSEMBLY, 1/2 x 60
17	1	A10326A-024	HOSE ASSEMBLY, 1/4 x 24
18	1	A09971A-028	HOSE ASSEMBLY, 3/8 x 28
19	4	A10325A-130	HOSE ASSEMBLY, 1/4 x 130
20	3	A10326A-020	HOSE ASSEMBLY, 1/4 x 20
21	1	A10326A-144	HOSE ASSEMBLY, 1/4 x 144
22	1	A10326A-136	HOSE ASSEMBLY, 1/4 x 136
23	1	A10326A-132	HOSE ASSEMBLY, 1/4 x 132
24	1	A10314A-033	HOSE ASSEMBLY, 1/4 x 33
25	2	A10468A-080	HOSE ASSEMBLY, 3/4 x 80
26	2	A10467A-044	HOSE ASSEMBLY, 3/4 x 44
27	1	A09815A-048	HOSE ASSEMBLY, 3/4 x 48
28	1	A10338A-015	HOSE ASSEMBLY, 1/4 x 15
29	1	A10338A-136	HOSE ASSEMBLY, 1/4 x 136
30	1	A10313A-016	HOSE ASSEMBLY, 3/8 x 16
31	2	A10326A-028	HOSE ASSEMBLY, 1/4 x 28
32	1	A10374A-039	HOSE ASSEMBLY, 1 x 39
33	4	A10094A-100	HOSE ASSEMBLY, 1-1/4 x 100
34	1	A10342A-048	HOSE ASSEMBLY, 1 x 48
35	1	A10079A-090	HOSE ASSEMBLY, 3/8 x 90
36	1	A10326A-032	HOSE ASSEMBLY, 1/4 x 32
37	1	A10325A-028	HOSE ASSEMBLY, 1/4 x 28
38	1	A10342A-039	HOSE ASSEMBLY, 1 x 39
39	1	A10325A-026	HOSE ASSEMBLY, 1/4 x 26
40	2	A09814A-028	HOSE ASSEMBLY, 1 x 28
41	1	A10342A-044	HOSE ASSEMBLY, 1 x 44
42	1	A10467A-048	HOSE ASSEMBLY, 3/4 x 48
43	2	A10325A-060	HOSE ASSEMBLY, 1/4 x 60
44	2	A10467A-064	HOSE ASSEMBLY, 3/4 x 64
45	1	A09823A-095	HOSE ASSEMBLY, 1 x 95
46	1	A10324A-120	HOSE ASSEMBLY, 1/2 x 120
47	2	A10468A-040	HOSE ASSEMBLY, 3/4 x 40
48	1	A10079A-080	HOSE ASSEMBLY, 3/8 x 80
49	1	A10079A-050	HOSE ASSEMBLY, 3/8 x 50
50	1	A10313A-050	HOSE ASSEMBLY, 3/8 x 50
51	1	A10313A-020	HOSE ASSEMBLY, 3/8 x 20
52	1	A09814A-090	HOSE ASSEMBLY, 1 x 90
53	2	A09815A-046	HOSE ASSEMBLY, 3/4 x 46
54	2	A10079A-132	HOSE ASSEMBLY, 3/8 x 132
55	3	A10059A-020	HOSE ASSEMBLY, 1/4 x 20

**FITTING KIT, 031034A**  
**TBM Series II: 48SC - 420**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	031034A	KIT, Fitting, 48SC - 420 Series II
1	16	P0300-634	FITTING, 6MFFOR-10MB
2	7	P0300-613	FITTING, 6MFFOR-6FFORX-6MFFOR
3	2	P0300-581	FITTING, 6MFFOR-6MFFOR-BKHD
4	4	P0300-390	FITTING, 06FFOR-CAP
5	2	P0300-300	FITTING, 8MFFOR-10MB
6	4	P0300-594	FITTING, 4FB-4MFFOR
7	23	P0300-362	FITTING, 4MFFOR-4MB
8	11	P0300-329	FITTING, 12MFFOR-12MB
9	1	P0300-327	FITTING, 16MFFOR-16MP
10	1	P0300-314	FITTING, 4MFFOR-5MB
11	13	P0300-355	FITTING, 6MFFOR-6MB90
12	6	P0300-372	FITTING, 12MFFOR-12MB90
13	5	P0300-356	FITTING, 6MFFOR-6MB
14	2	P0300-427	FITTING, 4MFFOR-4MB90
15	2	P0300-310	FITTING, 4MFFOR-6MB
16	2	P0300-313	FITTING, 4MFFOR-4MFFOR-4FFORX
17	5	P0300-366	FITTING, 20MFFOR-20MB
18	1	P0300-450	FITTING, 16MFFOR-20MB90
19	2	P0300-146	FITTING, 20MB-PLUG-HOLLOW BACK
20	1	P0300-620	FITTING, 20MFFOR-20MB90
21	1	P0300-378	FITTING, 12MFFOR-16MB
22	1	P0300-185	PLUG, 4MB-PLUG
23	6	P0300-319	FITTING, 16MFFOR-16MB
24	2	P0300-821	FITTING, 4MFFOR-4MB-4MFFOR
25	1	P0300-618	FITTING, 6FFORX-6MB90
26	7	P0300-430	FITTING, 6MFFOR-8MB
27	2	P0300-359	FITTING, 12MFFOR-12MB45
28	2	P0300-631	FITTING, 16FFOR-8MFFOR-T
29	9	P0300-386	FITTING, 6MFFOR-6MB-6MFFOR
30	1	P0300-724	FITTING, 06MFFOR-06MBSPP
31	4	P0300-374	FITTING, 16MFFOR-20MB
32	1	P0300-668	FITTING, 16MFFOR-16FFORX90
33	1	P0300-305	FITTING, 8MFFOR-8MB
34	3	P0300-027	PLUG, 6MB-PLUG
35	1	P0300-318	FITTING, 8MFFOR-8FFORX-8MFFOR
36	1	P0300-575	FITTING, 6MB-4FB
37	1	P0300-541	ORING, #4 OR
38	1	P0300-597	FITTING, 6MJ-6MBSPP
39	2	P0300-328	FITTING, 16MFFOR-16FFORX-16MFFOR
40	1	P0300-765	FITTING, 12MFFOR-20MB
41	2	P0300-028	FITTING, 16MP-PLUG-SOLID BACK

# HYDRAULIC ASSEMBLY, 028501A

## TBM Series II: 480



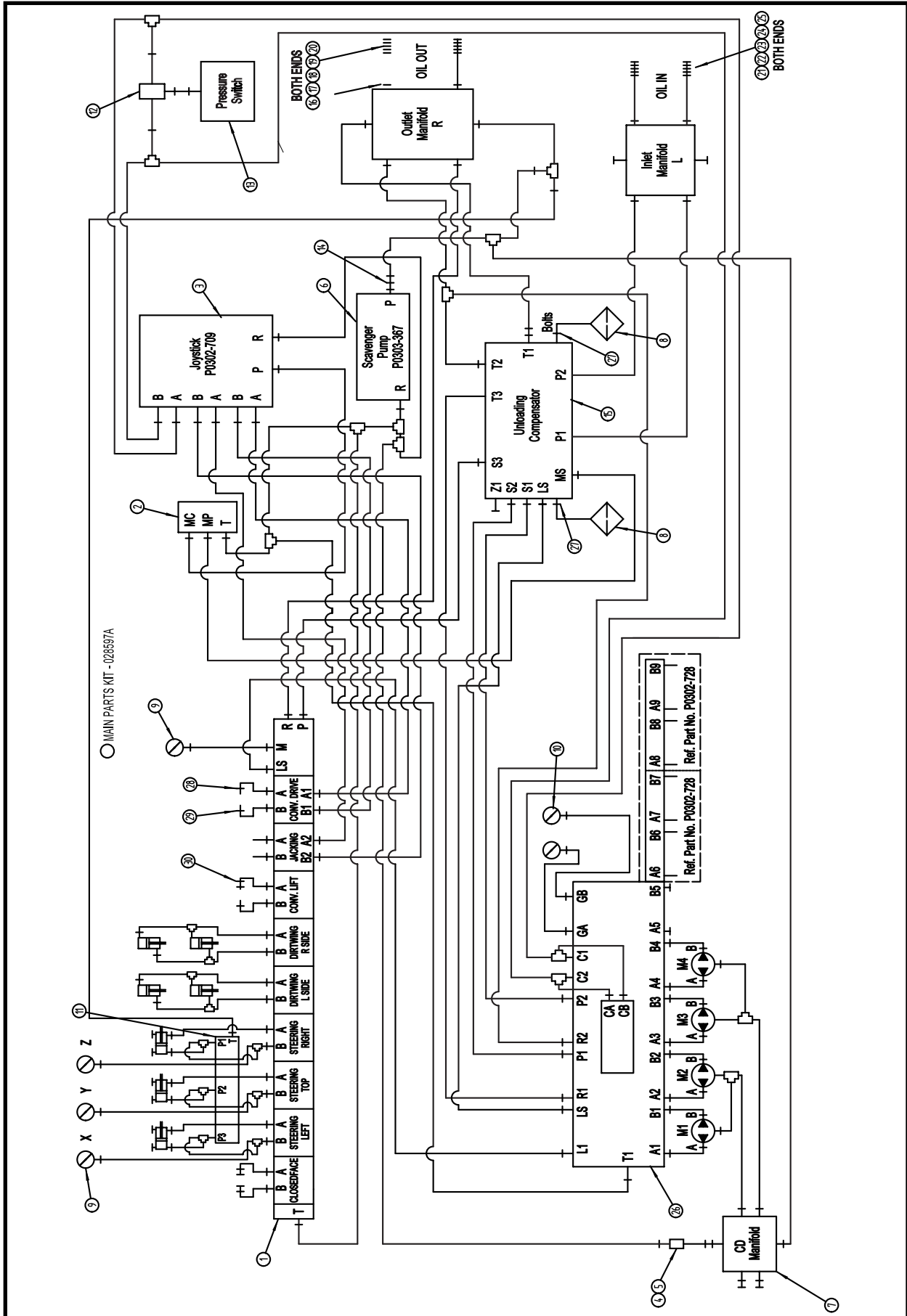
**HYDRAULIC ASSEMBLY, 028501A**  
**TBM Series II: 480**

ITEM	QTY	PART NO.	DESCRIPTION
0	-	028501A	ASSEMBLY, Hydraulic, 480 Series II
1*	1	028597A	KIT, Main Hydraulic Parts
2*	1	031001A	KIT, Hose
3*	1	031035A	KIT, Fltting

\* Refer to this section for parts information.

# MAIN PARTS KIT, 028597A

## TBM Series II: 480



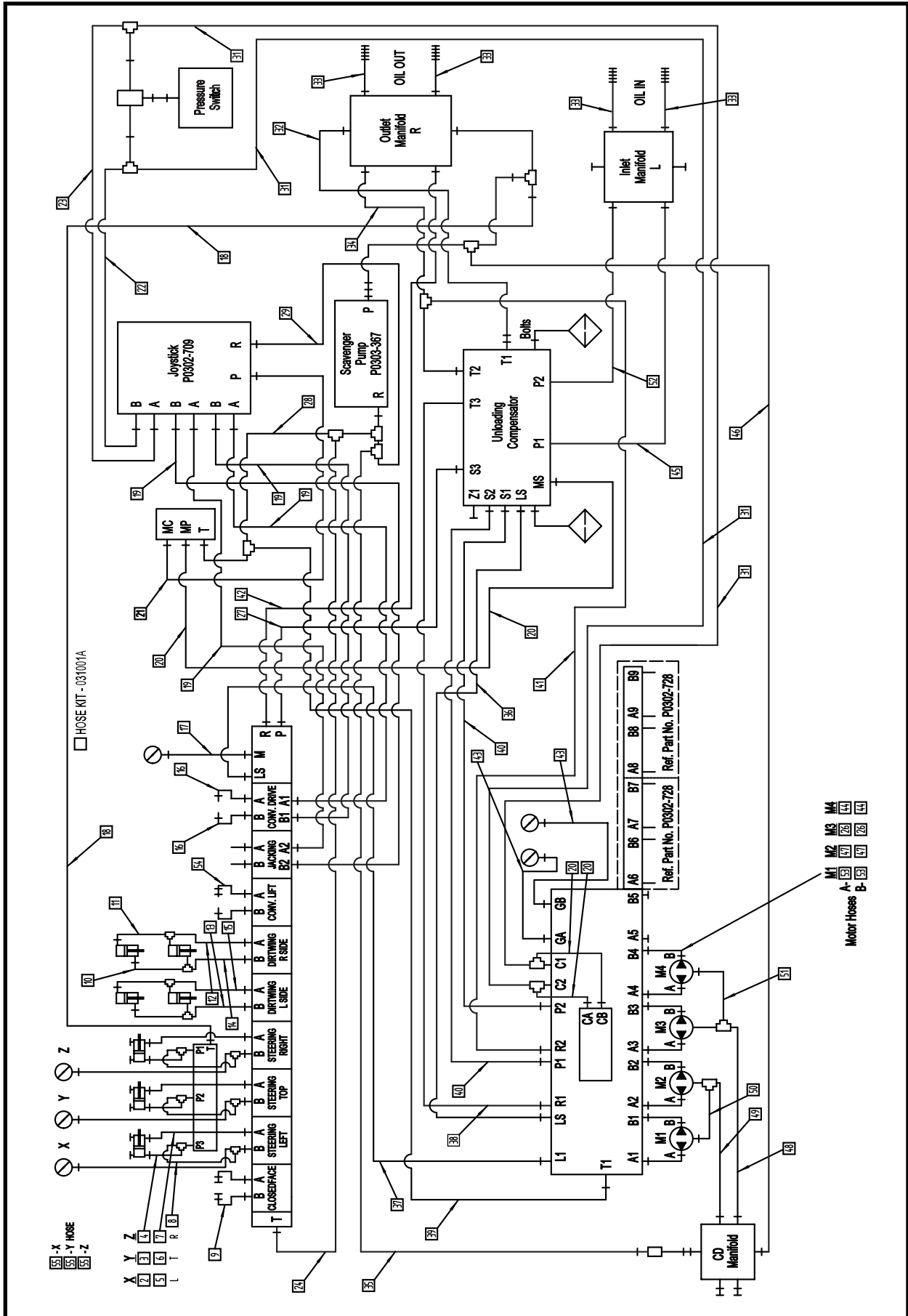
**MAIN PARTS KIT, 028597A**  
**TBM Series II: 480**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	028597A	MAIN PARTS KIT ASSEMBLY, 480 Series II
1	1	P0302-700	VALVE, 9 Section (Includes items 1a - 1e)
1a	1	P0302-700A	SPOOL 80/80
1b	1	P0302-700B	SPRING
1c	1	P0302-700C	BLOCK, Ancillary PO Check
1d	1	P0302-700D	SPOOL 63/63
1e	1	P0302-700E	INSERTS, PSI Limiter Valve
2	1	P0302-705	MANIFOLD, Pilot Supply
3	1	P0302-709	VALVE, 3 Section
4	1	P0302-513	CARTRIDGE
5	1	P0302-514	BODY, Port 3/8
6*	1	P0303-367	PUMP, Scavenger
7	1	A43766P	MANIFOLD, Case Drain
8	2	P0309-208	ASSEMBLY, High Pressure Filter (Includes items 8a - 8b)
8a	1	P0309-208A	ELEMENT, Filter
8b	1	P0309-208B	SENSOR, Filter
9	4	P0301-146	GAUGE, 6000 PSI
10	2	P0301-142	GAUGE, 5000 PSI
11	1	P0302-731	LIMITER, Steering Pressure
12	1	P0302-530	SHUTTLE VALVE SEA #6 PORT
13	1	P0302-706	SWITCH, Pressure 5000 PSI
14	1	P0302-536	CHECK VALVE
15	1	P0302-796	MANIFOLD
16	2	P0421-012	COUPLER, Reducer
17	2	004901P01	COUPLER
18	2	004899P00	UNION, Coupler
19	2	007087P00	PLUG, Rubber
20	2	005350P03	CAP, Coupler
21	2	005348P00	COUPLER, Female 1-1/4
22	2	P0084-123	RING, Back-Up
23	2	P0085-123	ORING
24	2	007086P00	PLUG, Rubber
25	2	007002P02	CAP, Coupler
26	1	P0302-792	MANIFOLD, Motor
27	8	P0031-12-008	SCREW, Cap 3/4 x 2
28	1	P0100-004A	COUPLER, Female
29	1	P0100-004B	COUPLER, Male
30	1	P0302-680	VALVE, Conveyor Lift (Includes items 30a - 30b)
30a	1	P0302-680A	CARTRIDGE
30b	1	P0302-680B	BODY, Valve

\* Refer to Section 9, Pumps for parts information.

# HOSE KIT, 031001A

## TBM Series II: 480

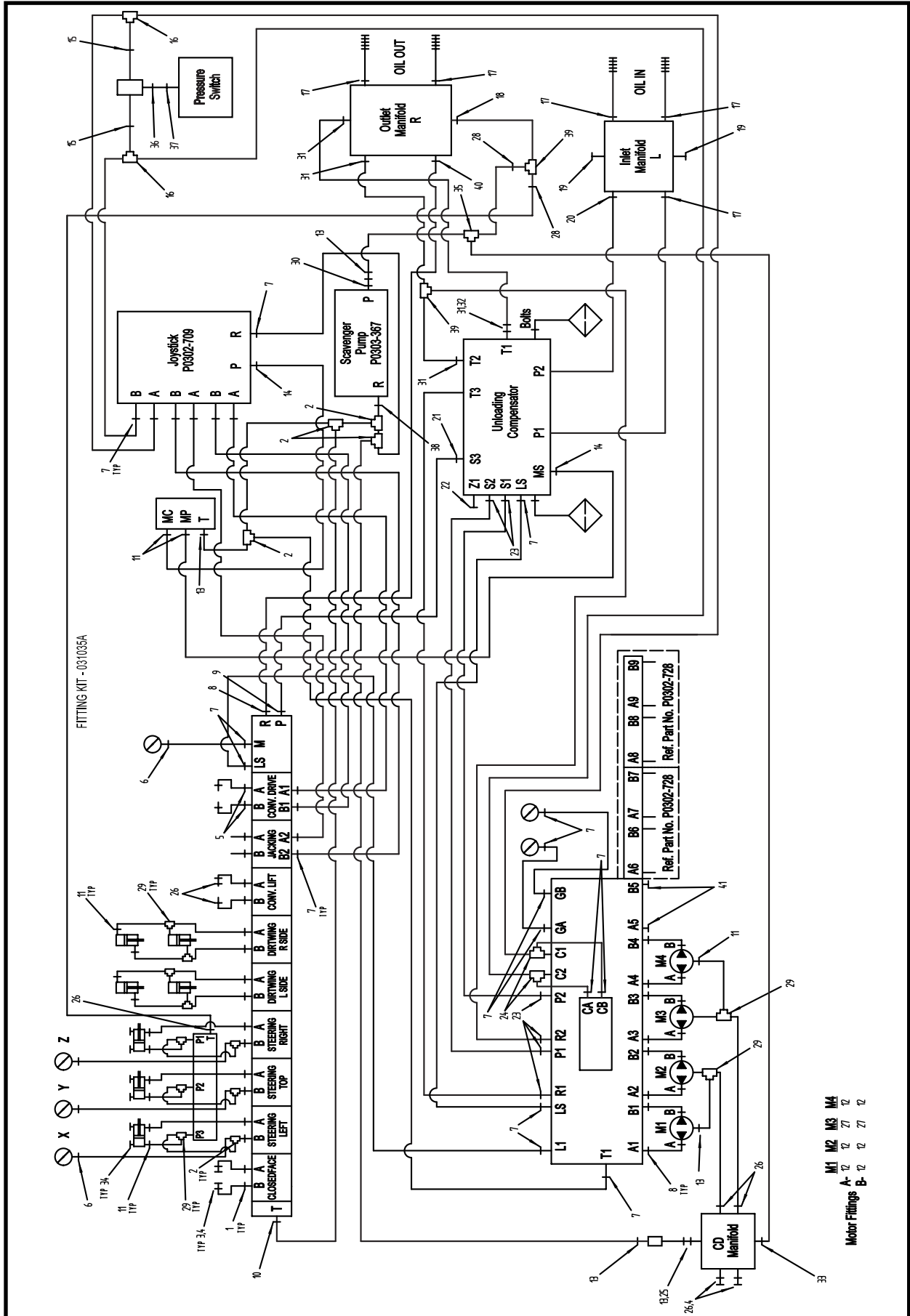


**HOSE KIT, 031001A**  
**TBM Series II: 480**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	031001A	KIT, Hose, 480 Series II
1	6	A10086A-014	HOSE ASSEMBLY, 3/8 x 14
2	1	A10364A-096	HOSE ASSEMBLY, 1/4 x 96
3	1	A10364A-040	HOSE ASSEMBLY, 1/4 x 40
4	1	A10364A-042	HOSE ASSEMBLY, 1/4 x 42
5	1	A10364A-102	HOSE ASSEMBLY, 1/4 x 102
6	1	A10364A-046	HOSE ASSEMBLY, 1/4 x 46
7	1	A10364A-048	HOSE ASSEMBLY, 1/4 x 48
8	3	A09971A-018	HOSE ASSEMBLY, 3/8 x 18
9	2	A10313A-054	HOSE ASSEMBLY, 3/8 x 54
10	2	A10313A-038	HOSE ASSEMBLY, 3/8 x 38
11	2	A10313A-026	HOSE ASSEMBLY, 3/8 x 26
12	1	A10079A-058	HOSE ASSEMBLY, 3/8 x 58
13	1	A10079A-138	HOSE ASSEMBLY, 3/8 x 138
14	1	A10079A-064	HOSE ASSEMBLY, 3/8 x 64
15	1	A10079A-131	HOSE ASSEMBLY, 3/8 x 131
16	2	A10080A-060	HOSE ASSEMBLY, 1/2 x 60
17	1	A10326A-024	HOSE ASSEMBLY, 1/4 x 24
18	1	A09971A-028	HOSE ASSEMBLY, 3/8 x 28
19	4	A10325A-114	HOSE ASSEMBLY, 1/4 x 114
20	3	A10326A-020	HOSE ASSEMBLY, 1/4 x 20
21	1	A10326A-131	HOSE ASSEMBLY, 1/4 x 131
22	1	A10326A-114	HOSE ASSEMBLY, 1/4 x 114
23	1	A10326A-108	HOSE ASSEMBLY, 1/4 x 108
24	1	A10314A-033	HOSE ASSEMBLY, 1/4 x 33
25	2	A10468A-068	HOSE ASSEMBLY 3/4 x 68
26	2	A10467A-033	HOSE ASSEMBLY, 3/4 x 33
27	1	A09815A-048	HOSE ASSEMBLY, 3/4 x 48
28	1	A10338A-015	HOSE ASSEMBLY, 1/4 x 15
29	1	A10338A-136	HOSE ASSEMBLY, 1/4 x 136
30	1	A10313A-016	HOSE ASSEMBLY, 3/8 x 16
31	2	A10326A-028	HOSE ASSEMBLY, 1/4 x 28
32	1	A10374A-039	HOSE ASSEMBLY, 1 x 39
33	4	A09850A-100	HOSE ASSEMBLY, 1-1/4 x 100
34	1	A10342A-048	HOSE ASSEMBLY, 1 x 48
35	1	A10079A-090	HOSE ASSEMBLY, 3/8 x 90
36	1	A10326A-032	HOSE ASSEMBLY, 1/4 x 32
37	1	A10325A-028	HOSE ASSEMBLY, 1/4 x 28
38	1	A10342A-039	HOSE ASSEMBLY, 1 x 39
39	1	A10325A-026	HOSE ASSEMBLY, 1/4 x 26
40	2	A09814A-028	HOSE ASSEMBLY, 1 x 28
41	1	A10342A-044	HOSE ASSEMBLY, 1 x 44
42	1	A10467A-048	HOSE ASSEMBLY, 3/4 x 48
43	2	A10325A-060	HOSE ASSEMBLY, 1/4 x 60
44	2	A10467A-040	HOSE ASSEMBLY, 3/4 x 40
45	2	A09823A-083	HOSE ASSEMBLY, 1 x 83
46	1	A10324A-120	HOSE ASSEMBLY, 1/2 x 120
47	2	A10468A-030	HOSE ASSEMBLY, 3/4 x 30
48	1	A10079A-056	HOSE ASSEMBLY, 3/8 x 56
49	1	A10079A-050	HOSE ASSEMBLY, 3/8 x 50
50	1	A10313A-050	HOSE ASSEMBLY, 3/8 x 50
51	2	A10313A-020	HOSE ASSEMBLY, 3/8 x 20
52	1	A09814A-050	HOSE ASSEMBLY, 1 x 50
53	2	A09815A-022	HOSE ASSEMBLY, 3/4 x 22
54	2	A10079A-132	HOSE ASSEMBLY, 3/8 x 132
55	3	A10059A-020	HOSE ASSEMBLY, 1/4 x 20
56	2	A10046A-096	HOSE ASSEMBLY, 3/4 x 96

# FITTING KIT, 031035A

## TBM Series II: 480

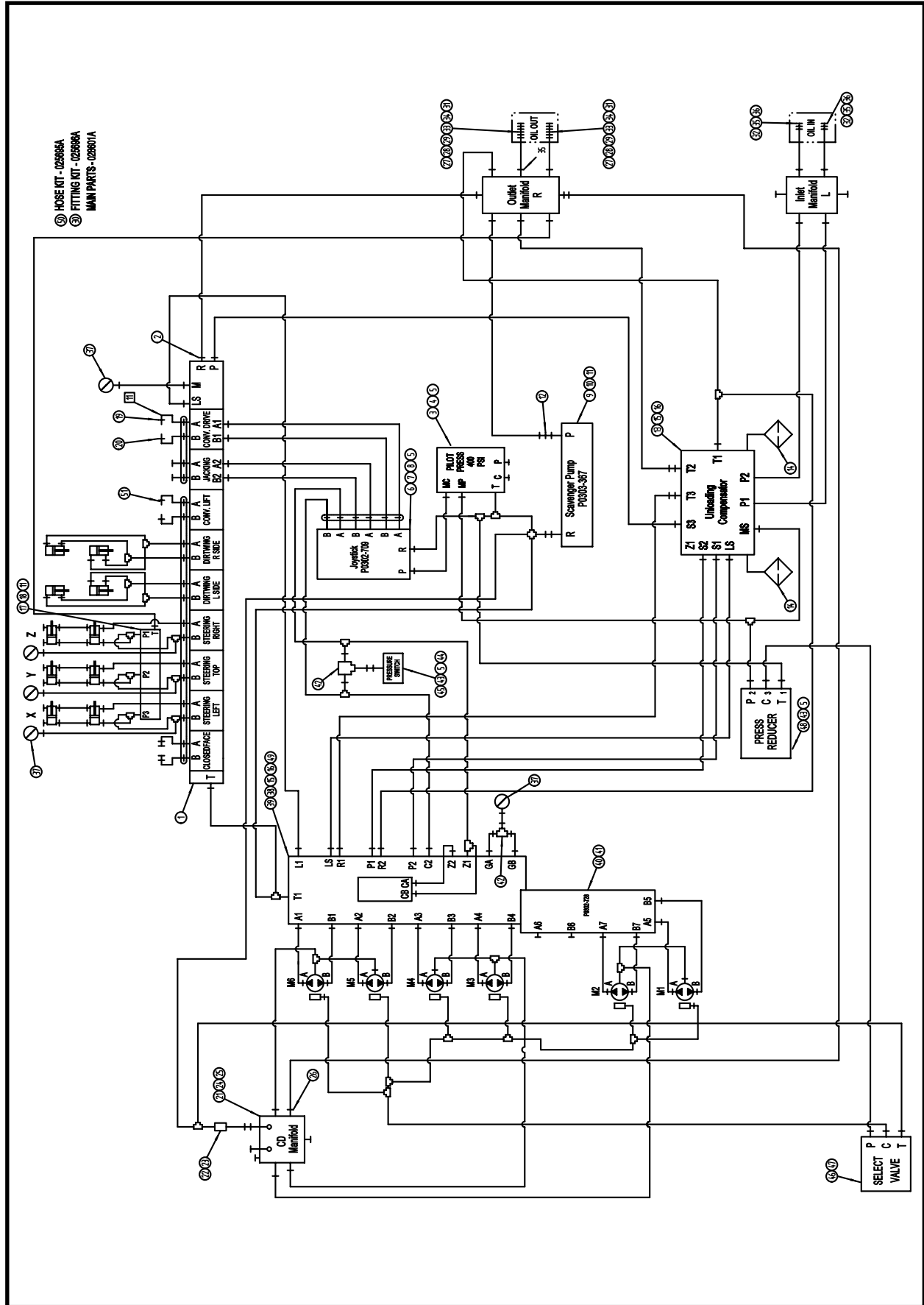


**FITTING KIT, 031035A**  
**TBM Series II: 480**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	031035A	KIT, Fitting, 480 Series II
1	16	P0300-634	FITTING, 6MFFOR-10MB
2	7	P0300-613	FITTING, 6MFFOR-6FFORX-6MFFOR
3	2	P0300-581	FITTING, 6MFFOR-6MFFOR-BKHD
4	4	P0300-390	FITTING, 06FFOR-CAP
5	2	P0300-300	FITTING, 8MFFOR-10MB
6	4	P0300-594	FITTING, 4FB-4MFFOR
7	23	P0300-362	FITTING, 4MFFOR-4MB
8	11	P0300-329	FITTING, 12MFFOR-12MB
9	1	P0300-327	FITTING, 16MFFOR-16MP
10	1	P0300-314	FITTING, 4MFFOR-5MB
11	13	P0300-355	FITTING, 6MFFOR-6MB90
12	6	P0300-372	FITTING, 12MFFOR-12MB90
13	5	P0300-356	FITTING, 6MFFOR-6MB
14	2	P0300-427	FITTING, 4MFFOR-4MB90
15	2	P0300-310	FITTING, 4MFFOR-6MB
16	2	P0300-313	FITTING, 4MFFOR-4MFFOR-4FFORX
17	5	P0300-366	FITTING, 20MFFOR-20MB
18	1	P0300-450	FITTING, 16MFFOR-20MB90
19	2	P0300-146	FITTING, 20MB-PLUG-HOLLOW BACK
20	1	P0300-620	FITTING, 20MFFOR-20MB90
21	1	P0300-378	FITTING, 12MFFOR-16MB
22	1	P0300-185	PLUG, 4MB-PLUG
23	6	P0300-319	FITTING, 16MFFOR-16MB
24	2	P0300-821	FITTING, 4MFFOR-4MB-4MFFOR
25	1	P0300-618	FITTING, 6FFORX-6MB90
26	7	P0300-430	FITTING, 6MFFOR-8MB
27	2	P0300-359	FITTING, 12MFFOR-12MB45
28	2	P0300-631	FITTING, 16FFOR-8MFFOR-T
29	9	P0300-386	FITTING, 6MFFOR-6MB-6MFFOR
30	1	P0300-724	FITTING, 06MFFOR-06MBSPP
31	4	P0300-374	FITTING, 16MFFOR-20MB
32	1	P0300-668	FITTING, 16MFFOR-16FFORX90
33	1	P0300-305	FITTING, 8MFFOR-8MB
34	3	P0300-027	PLUG, 6MB-PLUG
35	1	P0300-318	FITTING, 8MFFOR-8FFORX-8MFFOR
36	1	P0300-575	FITTING, 6MB-4FB
37	1	P0300-541	ORING, #4 OR
38	1	P0300-597	FITTING, 6MJ-6MBSPP
39	2	P0300-328	FITTING, 16MFFOR-16FFORX-16MFFOR
40	1	P0300-765	FITTING, 12MFFOR-20MB
41	2	P0300-028	PLUG, 16MP-PLUG-SOLID BACK

# HYDRAULIC ASSEMBLY, 028601A

## TBM Series II: 540



**HYDRAULIC ASSEMBLY, 028601A**  
**TBM Series II: 540**

ITEM	QTY	PART NO.	DESCRIPTION
0	-	028601A	ASSEMBLY, Hydraulic, 540 Series II
1	1	P0302-700	VALVE, 9 Section (Includes items 1a - 1e)
1a	1	P0302-700A	SPOOL 80/80
1b	1	P0302-700B	SPRING
1c	1	P0302-700C	BLOCK, Ancillary PO Check
1d	1	P0302-700D	SPOOL 63/63
1e	1	P0302-700E	INSERTS, PSI Limiter Valve
2	1	P0302-693	CHECK VALVE
3	1	P0302-705	MANIFOLD, Pilot Supply
4	2	P0001-04-004	BOLT, Hex 1/4 UNC x 1
5	14	P0040-004	WASHER, Hardened Flat 1/4
6	1	P0302-709	VALVE, Three Section Control
7	1	026168P	MOUNT, Joystick
8	8	P0001-04-003	BOLT, Hex 1/4 UNC x .75
9	1	P0303-367	PUMP, Scavenger (Refer to Section 9, Pumps for parts information)
10	4	P0001-05-003	BOLT, Hex 5/16 UNC x .75
11	6	P0040-005	WASHER, Hardened Flat 5/16
12	1	P0302-536	CHECK VALVE
13	1	P0302-796	MANIFOLD
14	2	P0309-208	ASSEMBLY, High Pressure Filter (Includes items 14a - 14b)
14a	1	P0309-208A	ELEMENT, Filter
14b	1	P0309-208B	SENSOR, Filter
15	7	P0001-10-026	BOLT, Hex 5/8 UNC x 6.5
16	7	P0040-010	WASHER, Hardened Flat 5/8
17	1	P0302-731	LIMITER, Steering Pressure
18	2	P0001-05-010	BOLT, Hex 5/16 UNC x 2.5
19	1	P0100-004A	COUPLER, Female
20	1	P0100-004B	COUPLER, Male
21	1	A43766P	MANIFOLD, Case Drain
22	1	P0302-513	CARTRIDGE
23	1	P0302-514	BODY, Port 3/8
24	4	P0001-06-002	BOLT, Hex 3/8 UNC x .5
25	4	P0040-006	WASHER, Hardened Flat 3/8
26	1	P0302-701	CHECK VALVE
27	2	P0421-012	COUPLER, Reducer
28	2	004901P01	COUPLER
29	2	004899P00	UNION, Union
30*	1	025696A	KIT, Fitting 540 Series II
31	2	008146P00	CAP, Aux Unit Pressure Line
32	2	005348P00	COUPLER, Female 1-1/4
33	2	P0084-123	RING, Back-Up
34	2	P0085-123	ORING
35	2	007086P00	PLUG, Rubber 1/2 x 1.625
36	2	007002P02	CAP, Coupler 1-1/4
37	5	P0301-146	GAUGE, 6000 PSI
38	1	025693P	HANDLE, Motor Manifold
39	1	P0302-792	MANIFOLD, Motor
40	1	P0302-728	PLATES, Motor Manifold
41	3	P0031-08-010	SCREW, Socket Head Cap 1/2 UNC x 2.5
42	2	P0302-530	VALVE, Shuttle
43	4	P0001-04-006	BOLT, Hex 1/4 UNC x 1.5
44	1	024545P	PLATE, Pressure Switch
45	1	P0302-706	SWITCH, Pressure 5000 PSI
46	1	P0302-784	VALVE, Selector
47	2	P0001-05-007	BOLT, Hex 5/16 UNC x 1.75
48	1	P0302-421A	VALVE, Pressure Reducing
49	1	PM06A-1.00-016	BOLT, Hex M6 x 16
50*	1	025695A	KIT, Hose 540 Series II
51	1	P0302-680	VALVE, Conveyor Lift (Includes items 30a - 30b)
51a	1	P0302-680A	CARTRIDGE
51b	1	P0302-680B	BODY, Valve

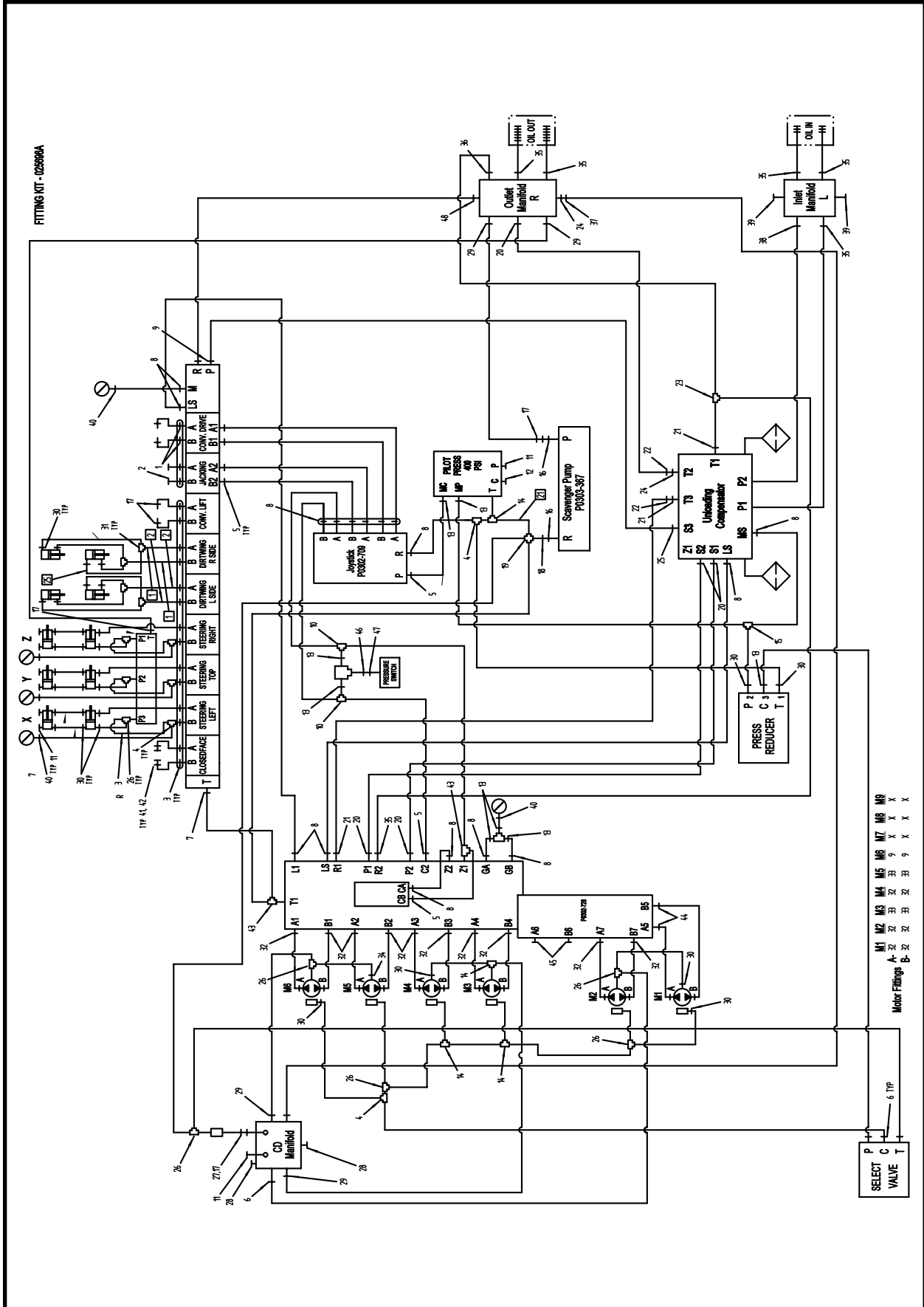
\* Refer to this section for parts information.  
TBMseriesII-48sc-540pm\_050113A-028601a\_revB



**HOSE KIT, 025695A**  
**TBM Series II: 540**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	025695A	KIT, Hose 540
1	2	A10313A-055	HOSE ASSEMBLY, 3/8 x 55
2	2	A10313A-150	HOSE ASSEMBLY, 3/8 x 150
3	3	A10313A-010	HOSE ASSEMBLY, 3/8 x 10
4	1	A10313A-101	HOSE ASSEMBLY, 3/8 x 101
5	1	A10313A-041	HOSE ASSEMBLY, 3/8 x 41
6	1	A10313A-076	HOSE ASSEMBLY, 3/8 x 76
7	1	A10313A-116	HOSE ASSEMBLY, 3/8 x 116
8	2	A10313A-050	HOSE ASSEMBLY, 3/8 x 50
9	1	A09847A-080	HOSE ASSEMBLY, 3/8 x 80
10	1	A09847A-090	HOSE ASSEMBLY, 3/8 x 90
11	2	A10080A-010	HOSE ASSEMBLY, 1/2 x 10
12	1	A09815A-040	HOSE ASSEMBLY, 3/4 x 40
13	3	A10326A-036	HOSE ASSEMBLY, 1/4 x 36
14	1	A10468A-050	HOSE ASSEMBLY, 3/4 x 50
15	1	A09920A-090	HOSE ASSEMBLY, 1/4 x 90
16	1	A10326A-030	HOSE ASSEMBLY, 1/4 x 30
17	1	A10325A-118	HOSE ASSEMBLY, 1/4 x 118
18	2	A10325A-120	HOSE ASSEMBLY, 1/4 x 120
19	1	A10325A-115	HOSE ASSEMBLY, 1/4 x 115
20	2	A10325A-130	HOSE ASSEMBLY, 1/4 x 130
21	1	A10327A-085	HOSE ASSEMBLY, 1/4 x 85
22	1	A10338A-017	HOSE ASSEMBLY, 1/4 x 17
23	1	A10342A-038	HOSE ASSEMBLY, 1 x 38
24	1	A10342A-030	HOSE ASSEMBLY, 1 x 30
25	5	A10313A-018	HOSE ASSEMBLY, 3/8 x 18
26	1	A10313A-040	HOSE ASSEMBLY, 3/8 x 40
27	1	A10079A-026	HOSE ASSEMBLY, 3/8 x 26
28	2	A10079A-024	HOSE ASSEMBLY, 3/8 x 24
29	1	A10079A-071	HOSE ASSEMBLY, 3/8 x 71
30	1	A09912A-083	HOSE ASSEMBLY, 1/2 x 83
31	10	A10313A-024	HOSE ASSEMBLY, 3/8 x 24
32	4	A09850A-100	HOSE ASSEMBLY, 1-1/4 x 100
33	1	A10313A-046	HOSE ASSEMBLY, 3/8 x 46
34	1	A10313A-048	HOSE ASSEMBLY, 3/8 x 48
35	1	A10099A-078	HOSE ASSEMBLY, 1 x 78
36	1	A09849A-081	HOSE ASSEMBLY, 1 x 81
37	3	A09922A-015	HOSE ASSEMBLY, 1/4 x 15
39	1	A09920A-044	HOSE ASSEMBLY, 1/4 x 44
40	2	A10079A-033	HOSE ASSEMBLY, 3/8 x 33
41	1	A10342A-046	HOSE ASSEMBLY, 1 x 46
42	1	A10342A-052	HOSE ASSEMBLY, 1 x 52
43	2	A09814A-036	HOSE ASSEMBLY, 1 x 36
44	1	A10325A-026	HOSE ASSEMBLY, 1/4 x 26
45	1	A10326A-038	HOSE ASSEMBLY, 1/4 x 38
46	1	A10314A-052	HOSE ASSEMBLY, 1/4 x 52
47	1	A10314A-024	HOSE ASSEMBLY, 1/4 x 24
48	1	A10326A-012	HOSE ASSEMBLY, 1/4 x 12
49	1	A10326A-017	HOSE ASSEMBLY, 1/4 x 17
50	1	A10325A-011	HOSE ASSEMBLY, 1/4 x 11
51	1	A10325A-024	HOSE ASSEMBLY, 1/4 x 24
52	1	A10331A-032	HOSE ASSEMBLY, 3/4 x 32
53	1	A10056A-032	HOSE ASSEMBLY, 3/4 x 32
54	1	A10331A-057	HOSE ASSEMBLY, 3/4 x 57
55	1	A10331A-062	HOSE ASSEMBLY, 3/4 x 62
56	2	A10467A-078	HOSE ASSEMBLY, 3/4 x 78
57	2	A10467A-064	HOSE ASSEMBLY, 3/4 x 64
58	1	A10327A-030	HOSE ASSEMBLY, 1/4 x 30
59	1	A10327A-040	HOSE ASSEMBLY, 1/4 x 40
60	2	A10364A-016	HOSE ASSEMBLY, 1/4 x 16
61	1	A10327A-060	HOSE ASSEMBLY, 1/4 x 60
62	1	A10364A-027	HOSE ASSEMBLY, 1/4 x 27
63	1	A10331A-044	HOSE ASSEMBLY, 3/4 x 44
64	1	A10056A-038	HOSE ASSEMBLY, 3/4 x 38
65	1	A10467A-036	HOSE ASSEMBLY, 3/4 x 36
66	1	A10467A-034	HOSE ASSEMBLY, 3/4 x 34
67	1	A10327A-028	HOSE ASSEMBLY, 1/4 x 28
68	1	A10327A-088	HOSE ASSEMBLY, 1/4 x 88
69	1	A10338A-011	HOSE ASSEMBLY, 1/4 x 11
70	1	A10364A-024	HOSE ASSEMBLY, 1/4 x 24

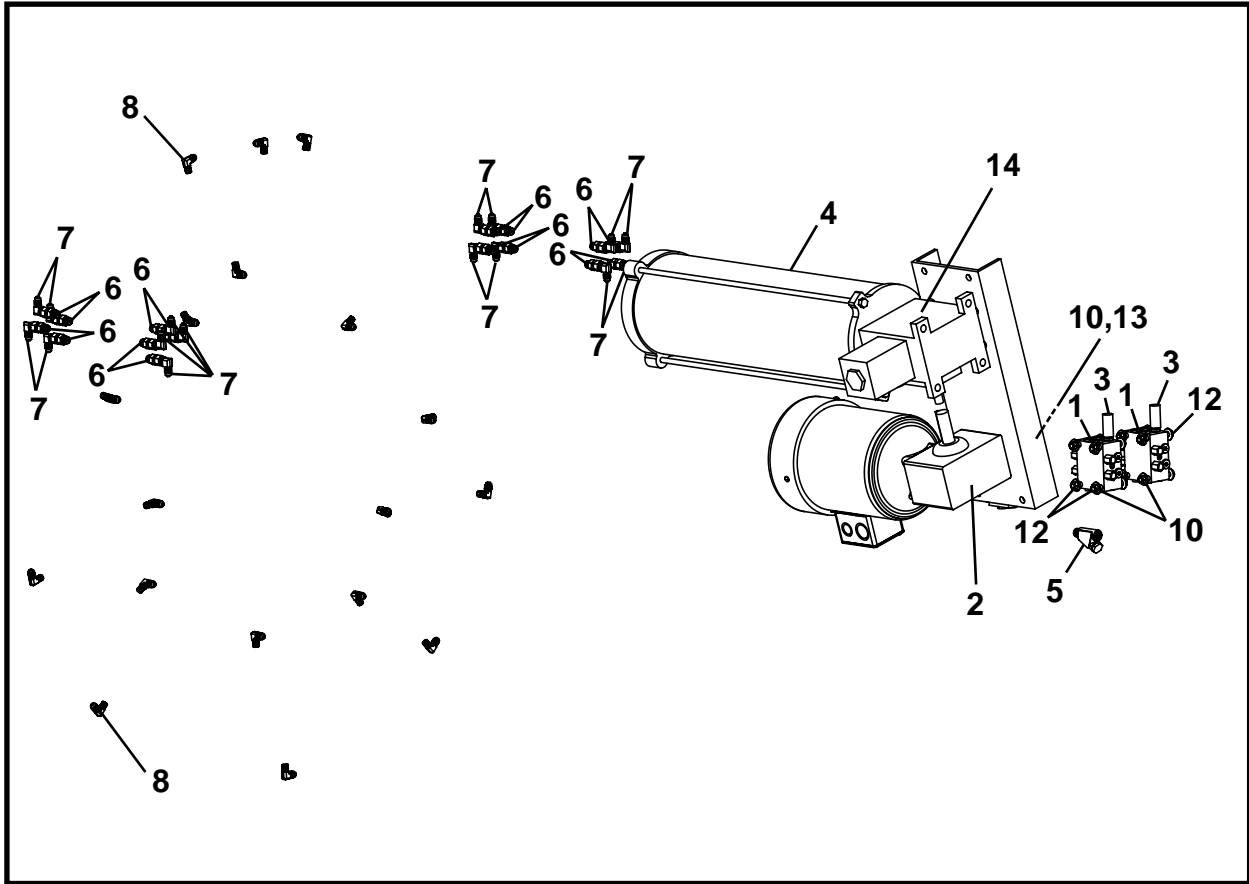
# FITTING KIT, 025696A TBM Series II: 540



**FITTING KIT, 025696A**  
**TBM Series II: 540**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	025696A	KIT, Fitting 540
1	4	P0300-375	FITTING, 08MFOR-12MB
2	2	P0300-408	FITTING, 08FFOR-CAP
3	14	P0300-634	FITTING, 06MFOR-10MB
4	5	P0300-613	FITTING, 06MFOR-06FFORX-06MFOR
5	7	P0300-427	FITTING, 04MFOR-04MB90
6	4	P0300-430	FITTING, 06MFOR-08MB
7	1	P0300-314	FITTING, 04MFOR-05MB
8	17	P0300-362	FITTING, 04MFOR-04MB
9	3	P0300-372	FITTING, 12MFOR-12MB90
10	1	P0300-311	FITTING, 04MFFOR-06MB90
11	8	P0300-027	PLUG, 06MB-PLUG
12	1	P0300-176	FITTING, 06MB-HHP
13	8	P0300-310	FITTING, 04MFOR-06MB
14	4	P0300-376	FITTING, 06MFOR-06MFOR-06MB
15	1	P0300-312	FITTING, 04MFOR-04FFORX-04MFOR
16	2	P0300-724	FITTING, 06MFFOR-06MBSPP
17	5	P0300-356	FITTING, 06MFOR-06MB
18	1	P0300-847	FITTING, 06FFORX-06FFORX
19	1	P0300-815	FITTING, 6MFFOR-6MFFOR-6MFFOR-6MFFOR
20	5	P0300-319	FITTING, 16MFOR-16MB
21	3	P0300-374	FITTING, 16MFOR-20MB
22	2	P0300-668	FITTING, 16MFFOR-16FFORX90
23	1	P0300-328	FITTING, 16MFOR-16FFORX-16MFOR
24	2	P0300-450	FITTING, 16MFOR-20MB90
25	2	P0300-378	FITTING, 12MFOR-16MB
26	8	P0300-386	FITTING, 06MFOR-06MB-06MFOR
27	1	P0300-618	FITTING, 06FFORX-06MB90
28	2	P0300-193	PLUG, 08MB-PLUG
29	4	P0300-717	FITTING, 6MFFOR-8MB90
30	30	P0300-355	FITTING, 06MFOR-06MB90
31	4	P0300-814	TEE, Bulkhead
32	16	P0300-329	FITTING, 12MFOR-12MB
33	4	P0300-359	FITTING, 12MFOR-12MB45
34	2	P0300-612	FITTING, 06MFOR-06MB45
35	6	P0300-366	FITTING, 20MFOR-20MB
36	1	P0300-434	FITTING, 16MFOR-16MB45
37	1	P0300-631	FITTING, 16FFOR-08MFFOR
38	1	P0300-620	FITTING, 20MFOR-20MB90
39	2	P0300-146	PLUG, 20MB-PLUG HOLLOW BACK
40	5	P0300-594	FITTING, 4FB-4MFFOR
41	2	P0300-581	FITTING, 6MFFOR-6MFFOR-BKHD
42	2	P0300-390	CAP, 06FOR-CAP
43	2	P0300-821	FITTING, 4MFFOR-4MB-4MFFOR
44	2	P0300-561	FITTING, 12MFFOR-16MB45
45	2	P0300-145	PLUG, 12MB-PLUG
46	1	P0300-575	FITTING, 06MORB-04FORB, ST
47	1	P0300-541	ORING, #4 OR
48	2	P0300-313	FITTING, 04MFOR-04MFOR-04FFORX

**GREASE ASSEMBLY, 027933A**  
**TBM Series II: 48SC - 420 - 480**



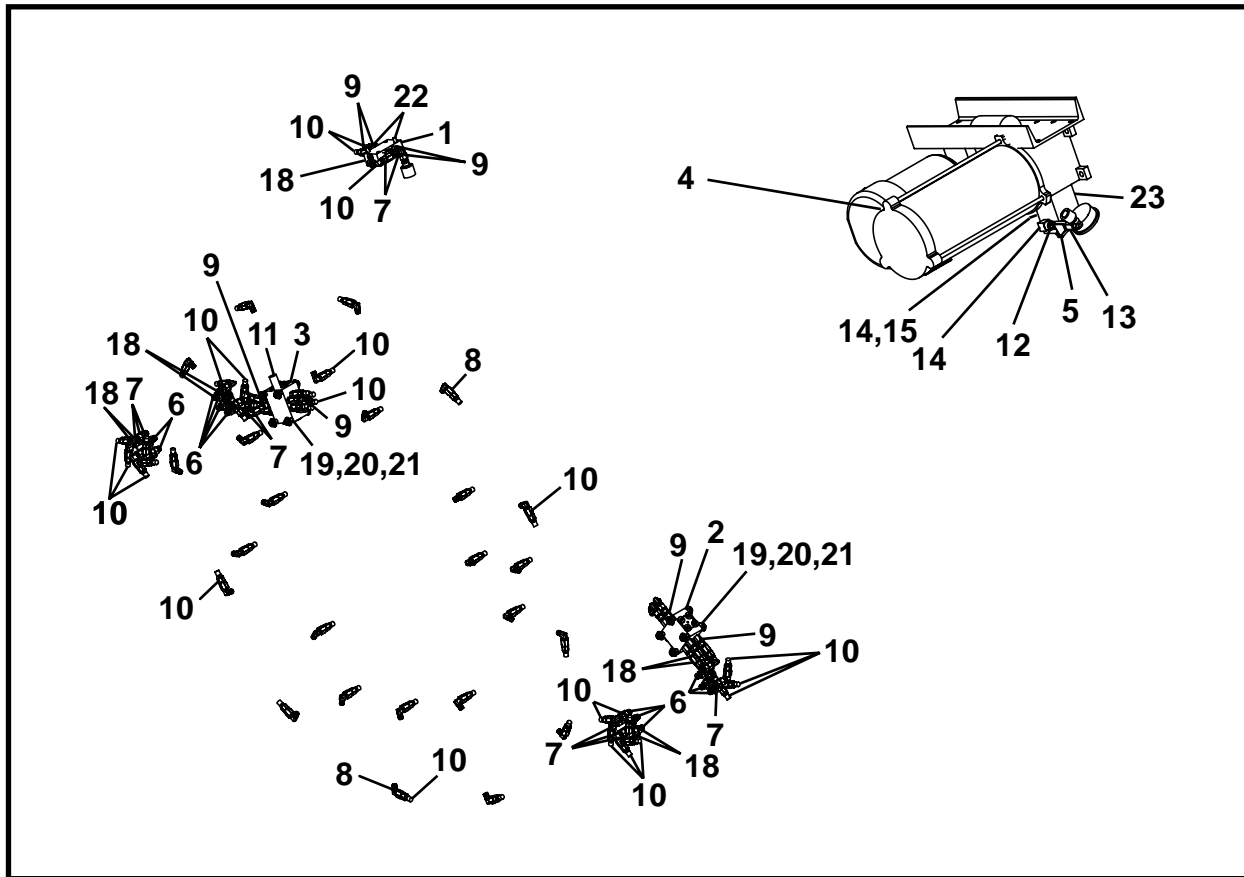
ITEM	QTY	PART NO.	DESCRIPTION
0	1	027933A	GREASE ASSEMBLY, 48SC - 420 - 480 Series II
1	2	P0302-741	BLOCK, 6 Port Grease Distribution
2	1	P0302-743	DIVIDER, Grease 3 Port
3	2	P0302-744	INDICATOR, Grease Flow
4*	1	P0303-375	GREASE PUMP w/RESERVOIR
5	1	P0309-210	FILTER, Grease
6	16	P0300-250	FITTING, 04MJ-04MB
7	16	P0300-271	FITTING, 04MJ-04FJX90
8	18	P0300-418	FITTING, 04MJ-02MP90-FGD
9**	35 LB	P0126-049	GREASE, Mobil SHC 101 EAL
10	18	P0040-004	WASHER, Hardened Flat 1/4
11	8	P0003-04-000	NUT, Hex 1/4 UNC
12	8	P0001-04-010	BOLT, Hex 1/4 UNC x 2.5
13	2	P0001-04-006	BOLT, Hex 1/4 UNC x 1.5
14	1	P0303-375A	DISK, Blowout 1/4
15**	1	P0303-375B	KIT, B/O Disc - 6 Pak (Inside Electrical Box)

LB - Pound (Grease)

\* Refer to Section 9, Pumps for parts information.

\*\* Not Shown

**GREASE ASSEMBLY, 025698A**  
TBM Series II: 540

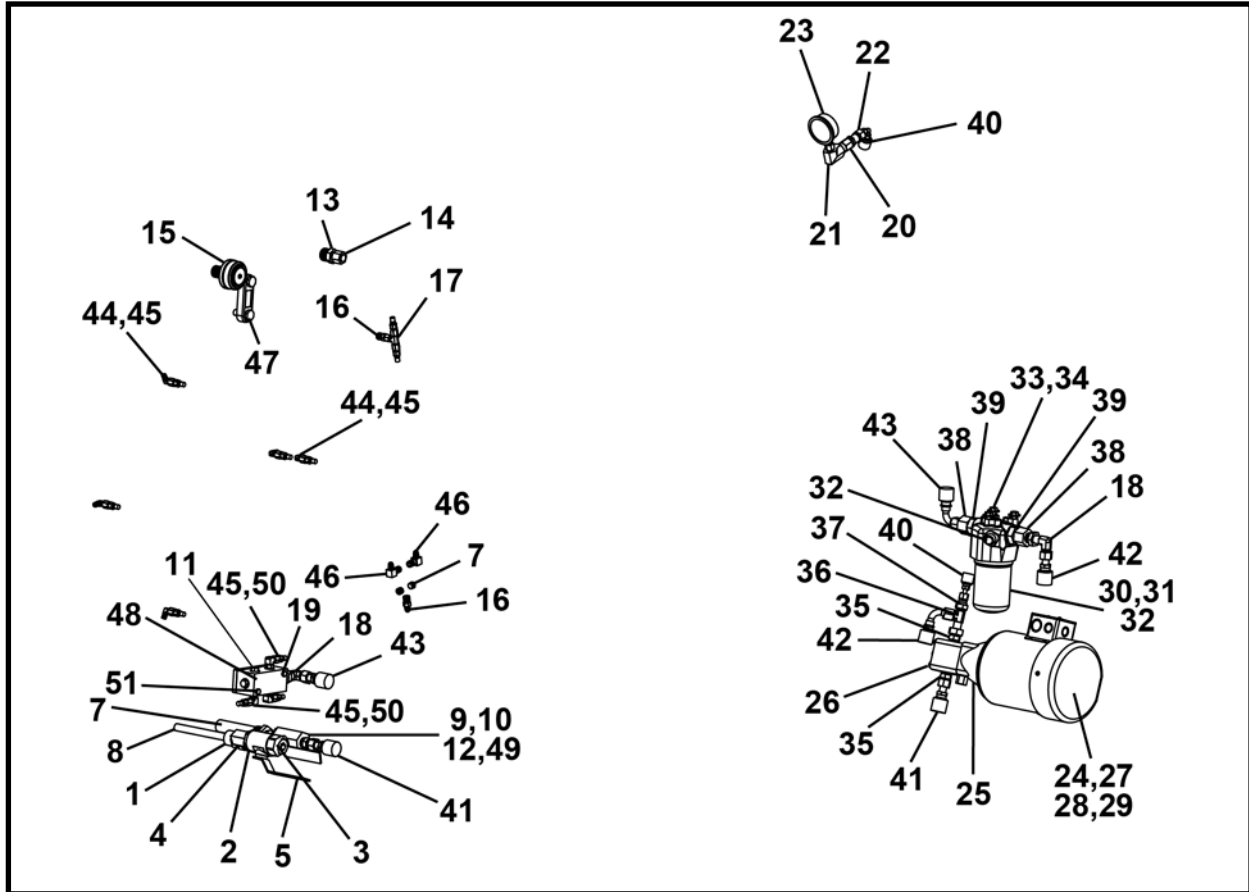


ITEM	QTY	PART NO.	DESCRIPTION
0	1	025698A	GREASE ASSEMBLY, 540 Series II
1	1	P0302-743	DIVIDER, Grease 3 PORT
2	1	P0302-741	BLOCK, 6 Port Grease Distribution
3	1	P0302-742	BLOCK, 12 Port Grease Distribution
4*	1	P0303-375	GREASE PUMP W/RESERVOIR
5	1	P0309-210	FILTER, Grease
6	20	P0300-250	FITITNG, 04MJ-04MB
7	26	P0300-271	FITTING, 04MJ-04FJX90
8	26	P0300-418	FITTING, 04MJ-02MP90-FGD
9	23	P0300-363	FITTING, 04MJ-02MP
10	68	P0220-303	HOSE FITTING
11	1	P0302-744	INDICATOR, Grease Flow
12	1	P0300-113	FITTING, 04MP-04MP
13	1	P0300-268	FITTING, 04MJ-04FP
14	2	P0300-164	FITTING, 04MP-04FP90-BRZ
15	1	P0063-016	FITITNG, Greased1/4-NPT Straight
16	400 LI	P0201-290	HOSE, Thermo Plastic 1/8
17	35 LB	P0126-049	GREASE, MOBIL SHC 101EAL
18	8	P0300-682	FITTING, 4MB-HHP
19	18	P0040-004	WASHER, Hardened Flat 1/4
20	8	P0003-04-000	NUT, Hex 1/4 UNC
21	8	P0001-04-010	BOLT, Hex 1/4 UNC x 2.5
22	8	P0001-04-006	BOLT, Hex 1/4 UNC x 1.5
23	1	P0303-375A	DISK, Blowout 1/4
24	1	P0303-375B	KIT, B/O Disc - 6 Pak

LI - Linear Inch      LB - Pound (Grease)

\* Refer to Section 9, Pumps for parts information.

**LUBE ASSEMBLY, 027932A**  
**TBM Series II: 48SC - 420**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	027932A	LUBE ASSEMBLY, 48SC - 420 Series II
1	1	P0300-074	FITTING, 16MP-16FPX
2	1	P0300-076	FITTING, 16MP-16FP-16FP
3	1	024449P	FITTING, Tank Magnetic Plug
4	1	P0300-090	FITTING, 16MP-16MP90
5	1	P0302-231	VALVE, Ball
6	1	P0300-104	FITTING, 16MP-HHP
7	3	P0300-026	FITTING, 04MP-HHP
8	1	P0091-022	MAGNET, Tank
9	1	P0300-048	FITTING, 08MP-08MP
10	1	P0309-205	STRAINER, Suction
11	1	P0302-185	VALVE, Ball 1/2
12	1	P0300-382	FITTING, 08MFOR-08MP
13	1	P0300-636	FITTING, 08MFOR-12MP
14	1	P0300-408	FITTING, 08FFOR-CAP
15	1	P0308-110	BREATHER, 3/4 NPT
16	2	P0300-249	FITTING, 04MJ-04MP
17	1	P0300-805	FITTING, 04MJ-04MJ-04FJX
18	2	P0300-317	FITTING, 08MFOR-08FFORX90
19	1	P0302-498	VALVE, Check
20	1	P0300-596	FITTING, 8MJ-8FPBKHD
21	1	P0300-003	FITTING, 08MP-04FPX90
22	1	P0300-334	FITTING, 08FJ-04MJ
23	1	P0301-100	GAUGE, 5000 PSI
24*	1	P0304-334	MOTOR, 3/4 HP

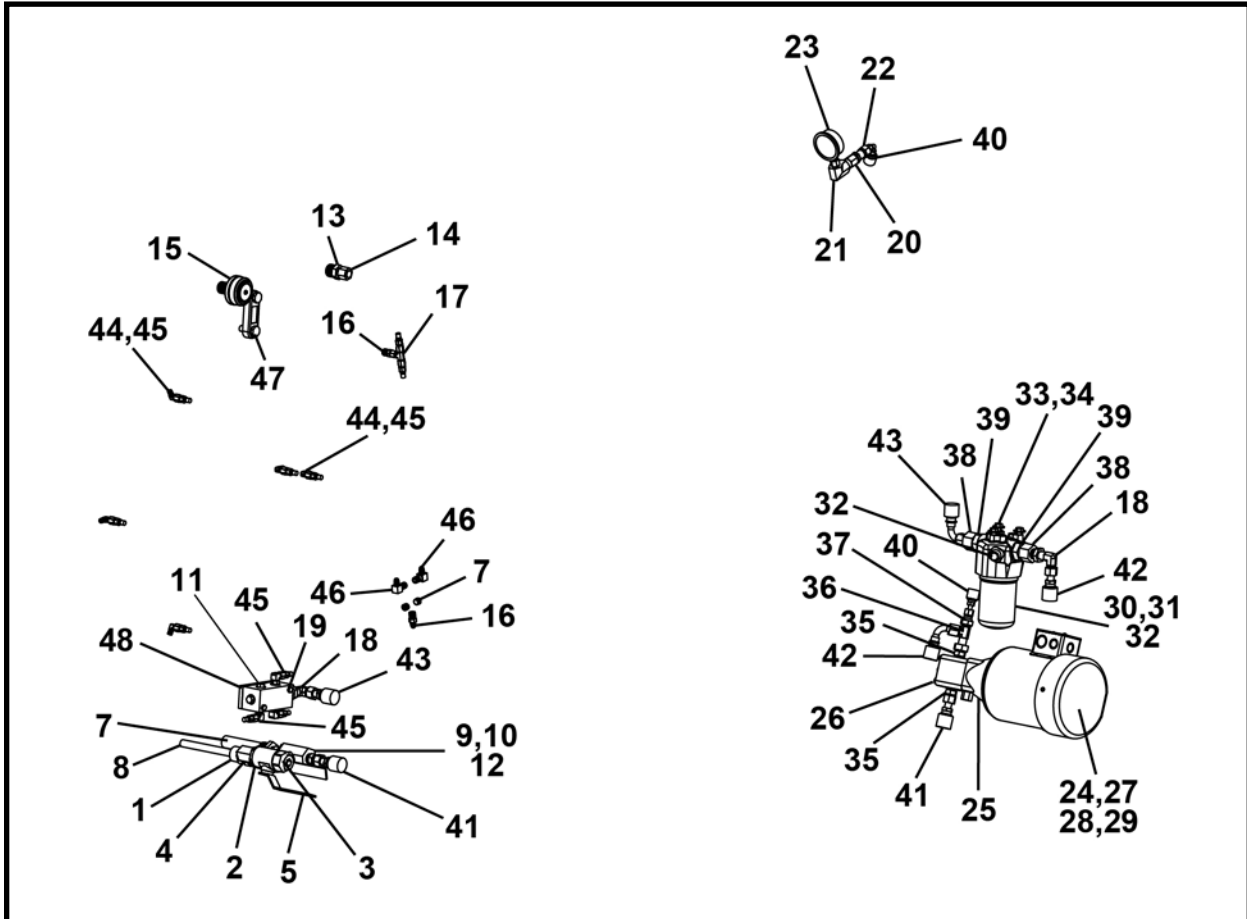
**LUBE ASSEMBLY, 027932A**  
**TBM Series II: 48SC - 420**

ITEM	QTY	PART NO.	DESCRIPTION
25	1	P0305-214	BRACKET, Drive
26**	1	P0303-361	PUMP
27	8	P0040-005	WASHER, Hardened Flat 5/16
28	4	P0001-05-004	BOLT, Hex 5/16 UNC x 1
29	4	P0003-05-000	NUT, Hex 5/16 UNC
30	1	P0309-206	FILTER
31	1	P0309-206A	ELEMENT, Filter
32	1	P0301-154	INDICATOR
33	3	P0040-006	WASHER, Hardened Flat 3/8
34	3	P0001-06-003	BOLT, Hex 3/8 UNC x .75
35	2	P0300-795	FITTING, 06MP-08MFFOR
36	1	P0300-318	FITTING, 08MFOR-08FFORX-08MFOR
37	1	P0300-395	FITTING, 08FFOR-04MFOR
38	2	P0300-622	FITTING, 12FFOR-08MFOR
39	2	P0300-378	FITTING, 12MFOR-16MB
40	1	A10319A-040	HOSE ASSEMBLY, 1/4 x 40
41	1	A10372A-061	HOSE ASSEMBLY, 1/2 x 61
42	1	A10324A-016	HOSE ASSEMBLY, 1/2 x 16
43	1	A10324A-041	HOSE ASSEMBLY, 1/2 x 41
44	5	P0300-418	FITTING, 04MJ-02MP90-FGD
45	10	P0220-303	FITTING, Hose
46	2	P0300-247	FITTING, 04MJ-04MP90
47	1	P0303-364	GAUGE, Sight
48	1	024495P	BLOCK, Lube Manifold
49	1	P0302-325	VALVE, Ball 1/2
50	3	P0300-251	FITTING, 04MJ-04MB90
51	2	P0001-04-009	BOLT, Hex 1/4 UNC x 2.25

\* Refer to Section 8, Motors for parts information.

\*\* Refer to Section 9, Pumps for parts information.

**LUBE ASSEMBLY, 028532A**  
TBM Series II: 480 - 540



ITEM	QTY	PART NO.	DESCRIPTION
0	1	028532A	LUBE ASSEMBLY, 480 - 540 Series II
1	1	P0300-074	FITTING, 16MP-16FPX
2	1	P0300-076	FITTING, 16MP-16FP-16FP
3	1	024449P	FITTING, TANK MAGNET PLUG
4	1	P0300-090	FITTING, 16MP-16MP90
5	1	P0302-231	VALVE, Ball
6	1	P0300-104	FITTING, 16MP-HHP
7	3	P0300-026	FITTING, 04MP-HHP
8	1	P0091-022	MAGNET, Tank
9	1	P0300-048	FITTING, 08MP-08MP
10	1	P0309-205	STRAINER, Suction
11	1	P0302-185	VALVE, Ball
12	1	P0300-382	FITTING, 08MFOR-08MP
13	1	P0300-636	FITTING, 08MFOR-12MP
14	1	P0300-408	FITTING, 08FFOR-CAP
15	1	P0308-110	BREATHER, 3/4 NPT
16	2	P0300-249	FITTING, 04MJ-04MP
17	1	P0300-805	FITTING, 04MJ-04MJ-04FJX
18	2	P0300-317	FITTING, 08MFOR-08FFORX90
19	1	P0302-498	VALVE, Check
20	1	P0300-596	FITTING, 8MJ-8FPBKHD
21	1	P0300-003	FITTING, 08MP-04FPX90
22	1	P0300-334	FITTING, 08FJ-04MJ
23	1	P0301-100	GAUGE, 5000 PSI
24*	1	P0304-334	MOTOR 3/4 HP

**LUBE ASSEMBLY, 028532A**  
**TBM Series II: 480 - 540**

ITEM	QTY	PART NO.	DESCRIPTION
25	1	P0305-214	BRACKET, Drive
26**	1	P0303-361	PUMP
27	8	P0040-005	WASHER, Hardened Flat 5/16
28	4	P0001-05-004	BOLT, Hex 5/16 UNC x 1
29	4	P0003-05-000	NUT, Hex 5/16 UNC
30	1	P0309-206	FILTER
31	1	P0309-206A	ELEMENT, Filter
32	1	P0301-154	INDICATOR
33	4	P0040-006	WASHER, Hardened Flat 3/8
34	4	P0001-06-003	BOLT, Hex 3/8 UNC x .75
35	2	P0300-795	FITTING, 06MP-08MFFOR
36	1	P0300-318	FITTING, 08MFOR-08FFORX-08MFOR
37	1	P0300-395	FITTING, 08FFOR-04MFOR
38	2	P0300-622	FITTING, 12FFOR-08MFOR
39	2	P0300-378	FITTING, 12MFOR-16MB
40	1	A10319A-040	HOSE ASSEMBLY, 1/4 x 40
41	1	A10372A-061	HOSE ASSEMBLY, 1/2 x 61
42	1	A10324A-016	HOSE ASSEMBLY, 1/2 x 16
43	1	A10324A-041	HOSE ASSEMBLY, 1/2 x 41
44	6	P0300-418	FITTING, 04MJ-02MP90-FGD
45	12	P0220-303	FITTING, Hose
46	4	P0300-247	FITTING, 04MJ-04MP90
47	1	P0303-364	GAUGE, sight
48	1	024497A	MANIFOLD, Lube
49***	400 LI	P0201-290	HOSE, Thermo Plastic 1/8

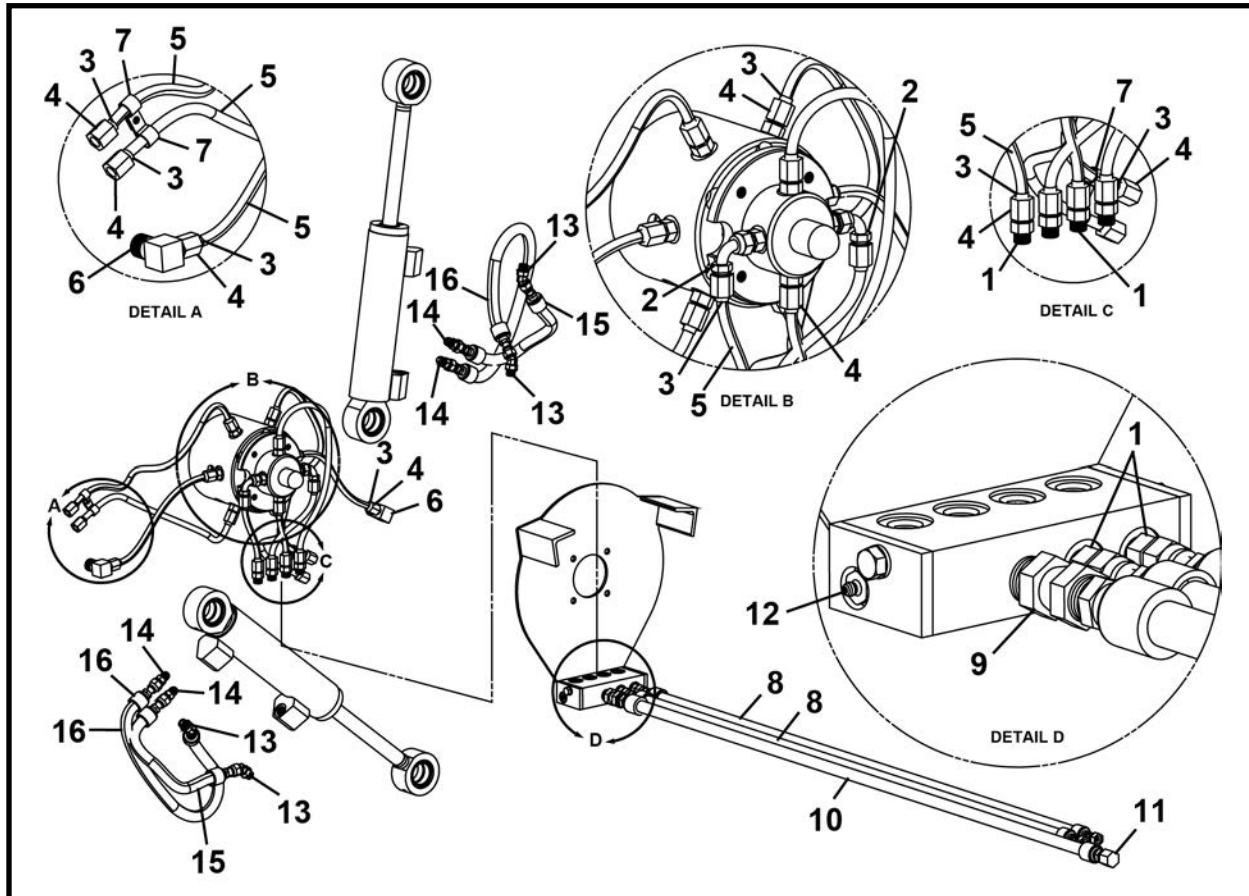
LI - Linear Inch

\* Refer to Section 8, Motors for parts information.

\*\* Refer to Section 9, Pumps for parts information.

\*\*\* Not Shown

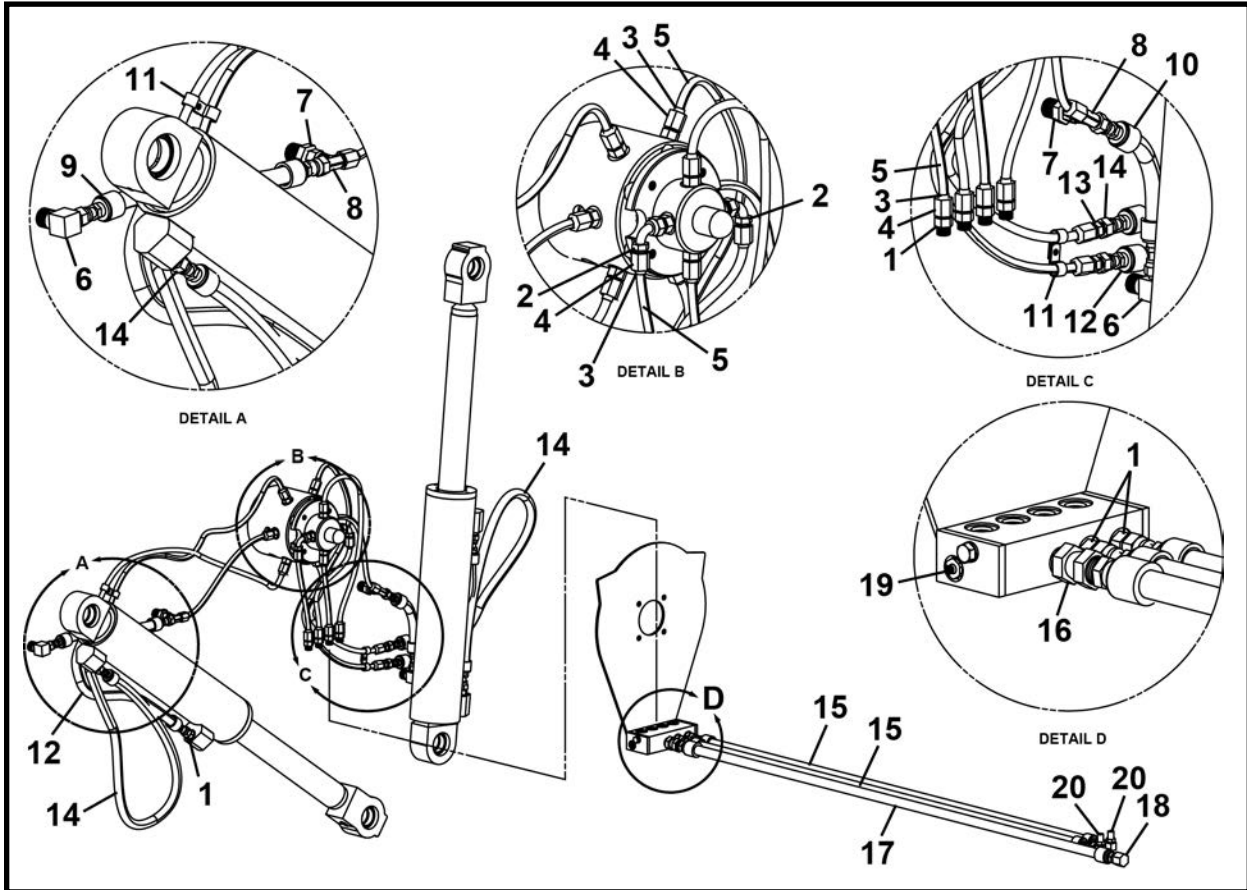
**CLOSED FACE HYDRAULIC ASSEMBLY, 023986A**  
**TBM Series II: 48SC - 420 - 480**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	023986A	HYDRAULIC ASSEMBLY, 48SC - 420 - 480 Series II
1	6	P0300-041	FITTING, 06MJ-06MB
2	2	P0300-123	FITTING, 500454-6S
3	20	P0300-127	FITTING, 06TS
4	20	P0300-128	FITTING, 06TSN
5	190 LI	P0110-106	TUBING, Hydraulic Steel 3/8 x 190
6	2	P0300-014	FITTING, 06MJ-08MP90
7	4	P0055-126	CLAMP, Insulated Tube
8	2	A10311A-090	HOSE ASSEMBLY, 3/8 x 90
9	1	P0300-010	FITTING, 08MP-08FPX
10	1	A10320A-120	HOSE ASSEMBLY, 1/2 x 120
11	1	P0417-003	CAP, Pipe 1/2
12	1	P0063-016	FITTING, Grease 1/4-NPT Straight
13	4	P0300-043	FITTING, 06MJ-06MB45
14	4	P0300-129	FITTING, 06MJ-06MJ
15	2	A10311A-021	HOSE ASSEMBLY, 3/8 x 21
16	2	A10311A-037	HOSE ASSEMBLY, 3/8 x 37

LI - Linear Inch

**CLOSED FACE HYDRAULIC ASSEMBLY, 027561A**  
**TBM Series II: 540**

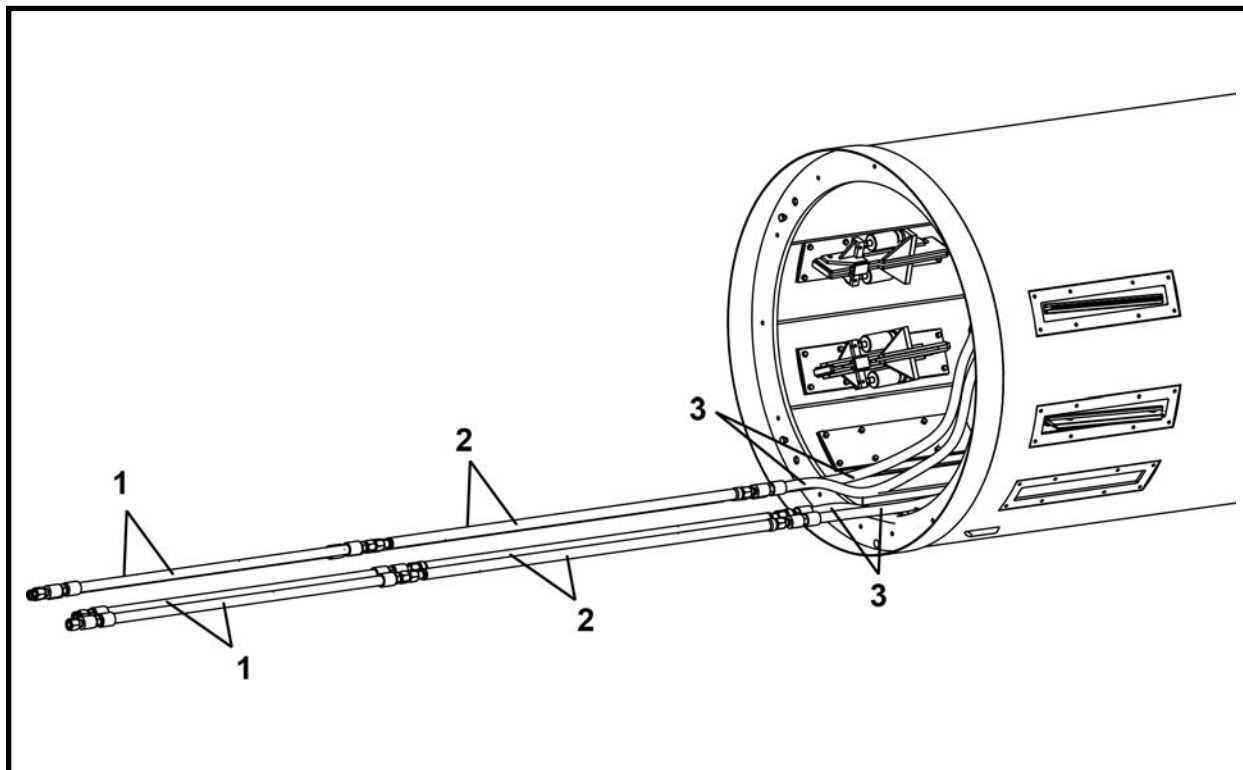


ITEM	QTY	PART NO.	DESCRIPTION
0	1	027561A	HYDRAULIC ASSEMBLY, 540 Series II
1	10	P0300-041	FITTING, 06MJ-06MB
2	2	P0300-123	FITTING, 500454-6S
3	20	P0300-127	FITTING, 06TS
4	20	P0300-128	FITTING, 06TSN
5	190 LI	P0110-106	TUBING, Hydraulic Steel 3/8 x 190
6	2	P0300-014	FITTING, 06MJ-08MP90
7	2	P0300-120	FITTING, 06MJ-08MP
8	2	P0300-131	FITTING, 06MJ-06MJ-06FJX
9	1	A10311A-014	HOSE ASSEMBLY, 3/8 x 14
10	1	A10311A-008	HOSE ASSEMBLY, 3/8 HOSE
11	4	P0055-126	CLAMP, Insulated Tube
12	2	A10311A-025	HOSE ASSEMBLY, 3/8 x 25
13	4	P0300-129	FITTING, 06MJ-06MJ
14	2	A10311A-040	HOSE ASSEMBLY, 3/8 x 40
15	2	A10311A-090	HOSE ASSEMBLY, 3/8 x 90
16	1	P0300-010	FITTING, 08MP-08FPX
17	1	A10320A-120	HOSE ASSEMBLY, 1/2 x 120
18	1	P0417-003	CAP, Pipe 1/2
19	1	P0063-016	FITTING, Grease 1/4-NPT Straight
20	2	P0300-042	FITTING, 06MJ-06MB90

LI - Linear Inch

**NOTES**

## TBM HYDRAULIC TUNNEL HOSES & LINES



ITEM	QTY	PART NO.	DESCRIPTION
1.1 <sup>^</sup>	AR	F13597F00	HOSE ASSEMBLY, Hydraulic Starter 1-1/4 x 35' (3,000 psi)
1.2 <sup>^</sup>	AR	F27691F	HOSE ASSEMBLY, Hydraulic Starter 1-1/4 x 35' (5,000 psi)
2.1 <sup>^</sup>	AR	F13326F00	HYDRAULIC LINE, TBM 1.5 x 21' (1-1/4 Ends) (3,000 psi)
2.2 <sup>^</sup>	AR	F27674F	HYDRAULIC LINE, TBM 1.5 x 21' (1-1/4 Ends) (5,000 psi)
3.1 <sup>^</sup>	4	A09850A-100	HOSE ASSEMBLY 1-1/4 x 100 (5,000 psi)
3.2 <sup>^</sup>	4	A10094A-100	HOSE ASSEMBLY 1-1/4 x 100 (3,000 psi)

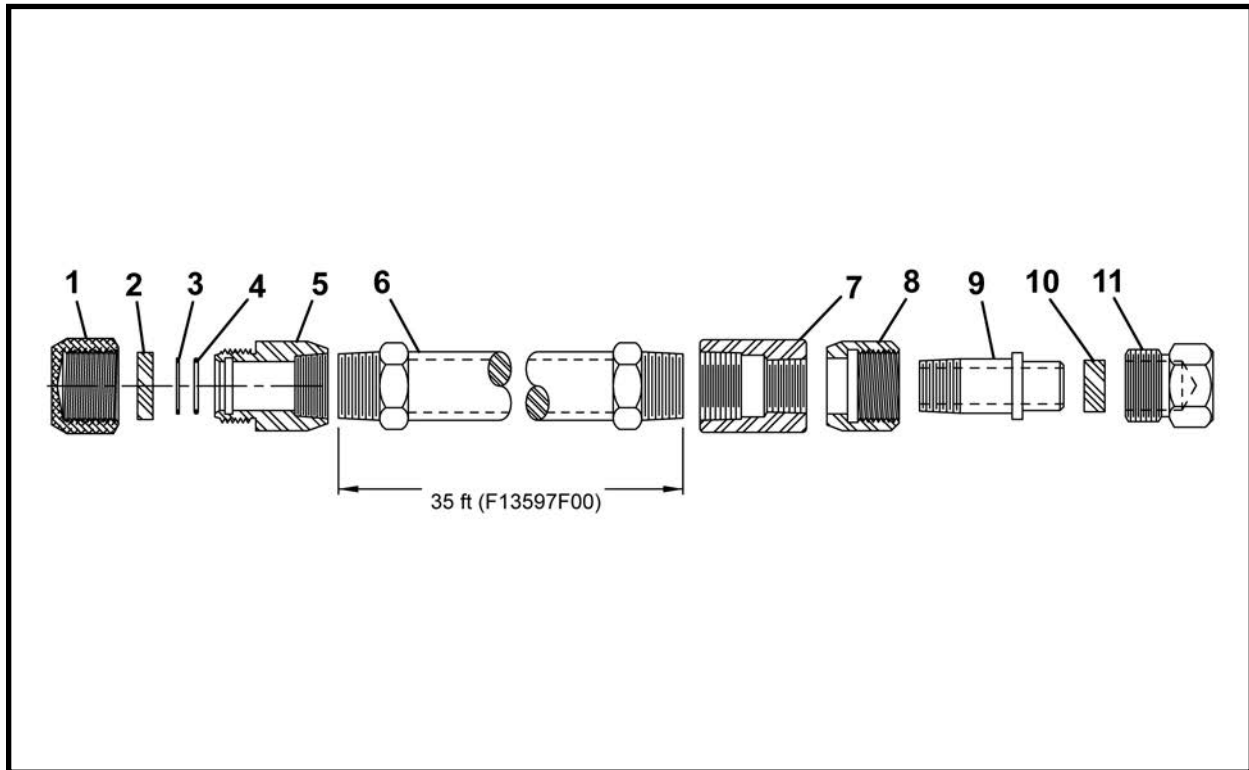
**<sup>^</sup> IMPORTANT: If using 5,000 psi supply hydraulic oil to the Series II TBM, the supply hoses/lines MUST be rated at a minimum of 5,000 psi.**

\* Refer to this section for parts information.

AR - As Required (Per Job)

NOTE: Use 027698A Adapter Kit (included in Series II TBM) to adapt the TBM to low and high pressure lines. Refer to this section for parts information.

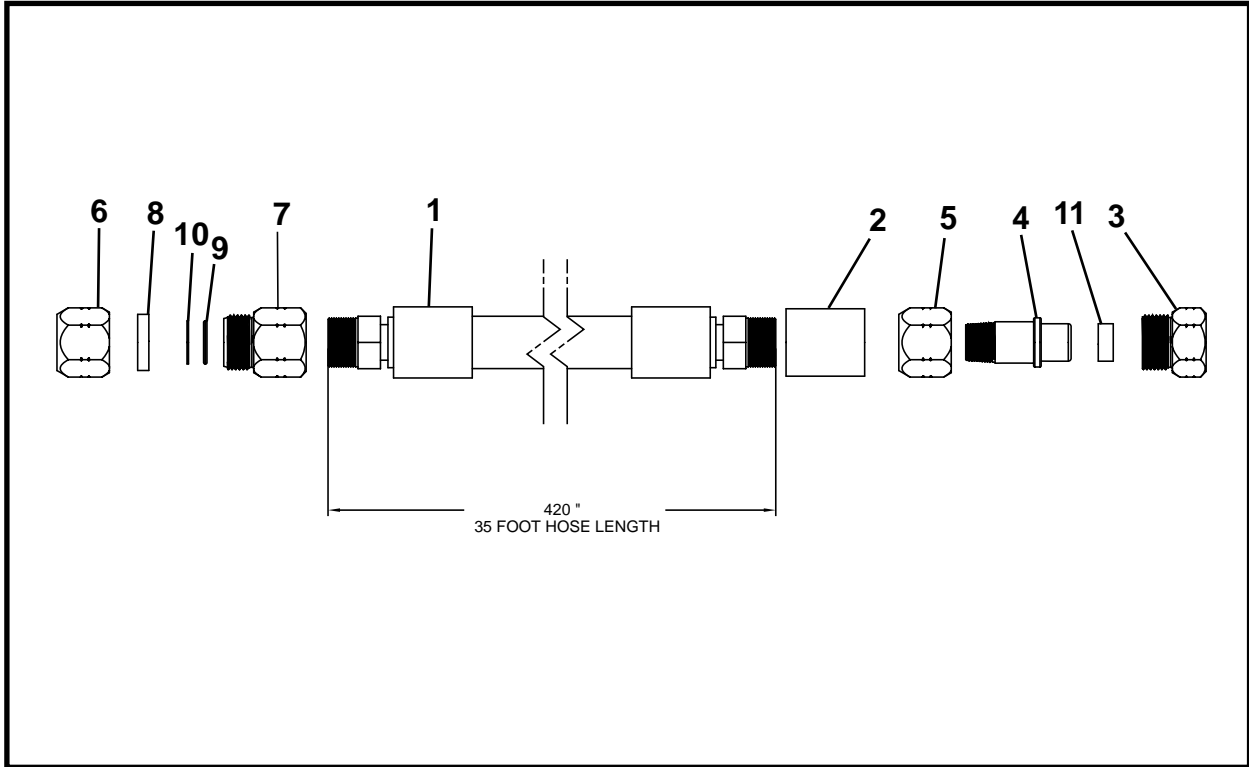
## HYDRAULIC STARTER HOSE ASSEMBLY (3,000 PSI), F13597F00



ITEM	QTY	PART NO.	DESCRIPTION
0	AR	F13597F00	HOSE ASSEMBLY 1-1/4 x 35'
1	1	023567P	CAP, 1-1/4
2	1	007086P00	PLUGS, Rubber 1/2 x 1.625 OD
3	1	P0084-123	RING, Back-Up
4	1	P0085-123	ORING
5	1	005348P00	COUPLER, Female 1-1/4
6	1	A10350A-420	HOSE ASSEMBLY 1-1/4 x 420
7	1	P0421-012	COUPLER, Reducer
8	1	004901P01	COUPLER
9	1	004899P00	UNION, Coupler
10	1	007087P00	PLUGS, Rubber 1/2 x 1.25 OD
11	1	023566P	PLUG, 1-1/4

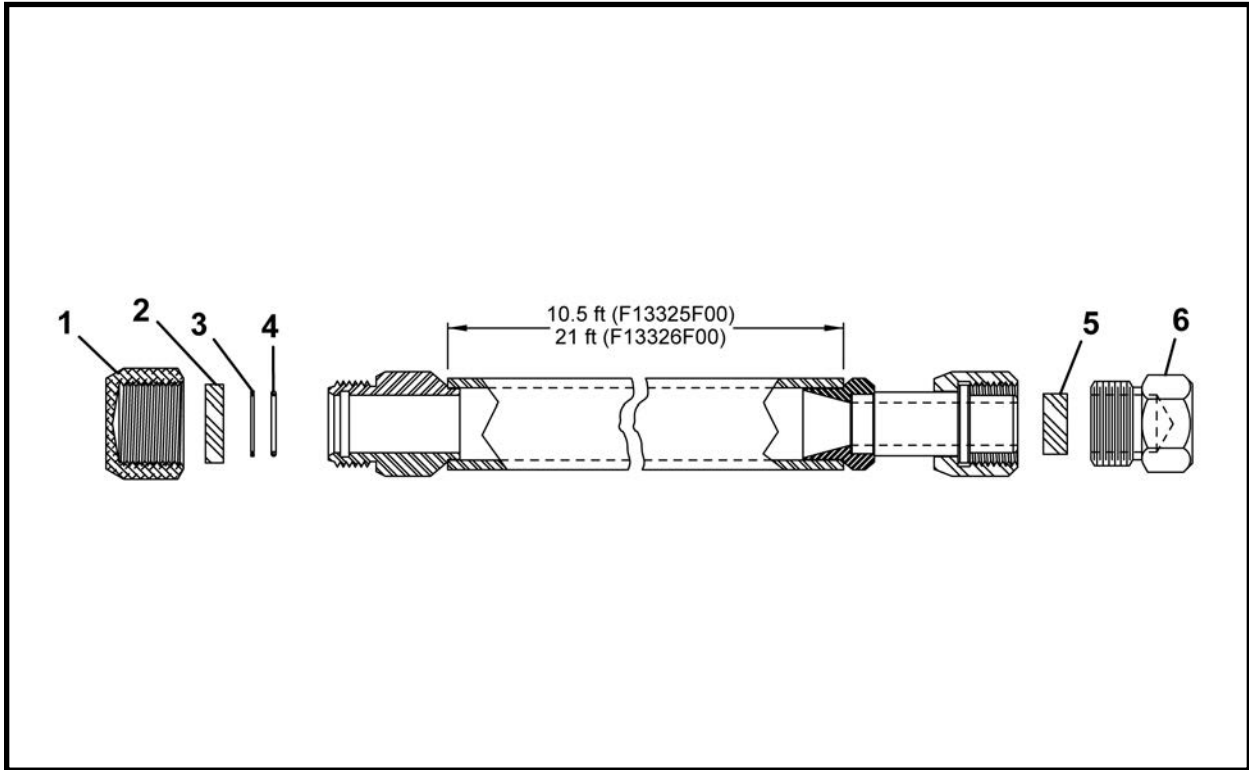
AR - As Required

## HYDRAULIC STARTER HOSE ASSEMBLY (5,000 PSI), F27691F



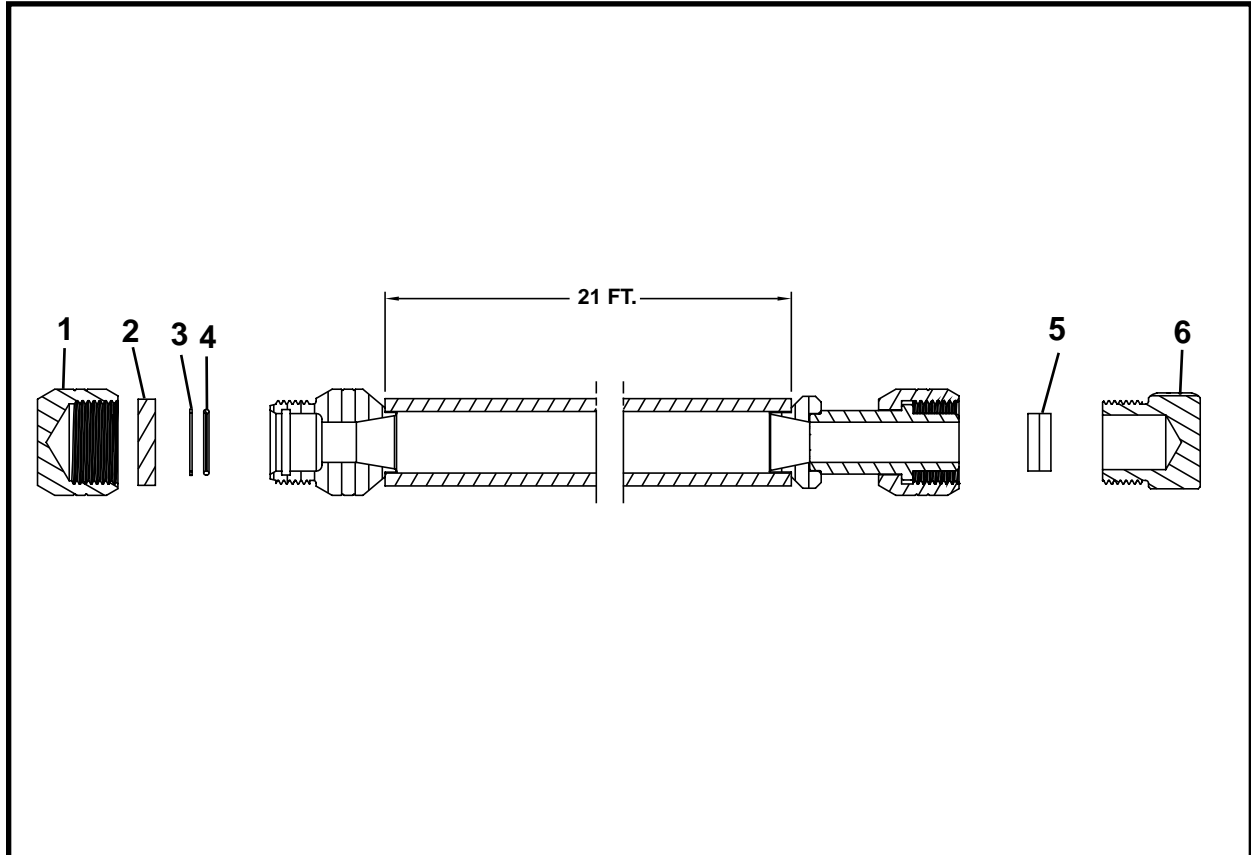
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F27691F	STARTER HOSE ASSEMBLY, 35'
1	1	A09851A-420	HOSE ASSEMBLY, 1-1/4 x 420 (35 ft)
2	1	P0421-022	REDUCER
3	1	023564P	PLUG, 1-1/4 TBM High Pressure
4	1	027669P	NIPPLE, Threaded, TBM High Pressure
5	1	027667P	NUT, Couple, TBM High Pressure
6	1	023565P	CAP, 1-1/4 TBM High Pressure
7	1	027687P	FITTING, Threaded, TBM High Pressure
8	1	027651P	INSERT, Rubber
9	1	P0085-124A	ORING
10	1	P0084-124	RING, Back-Up
11	1	007087P00	PLUG, Rubber

## TBM HYDRAULIC LINES LP (3,000 PSI) ASSEMBLY, F13326F00



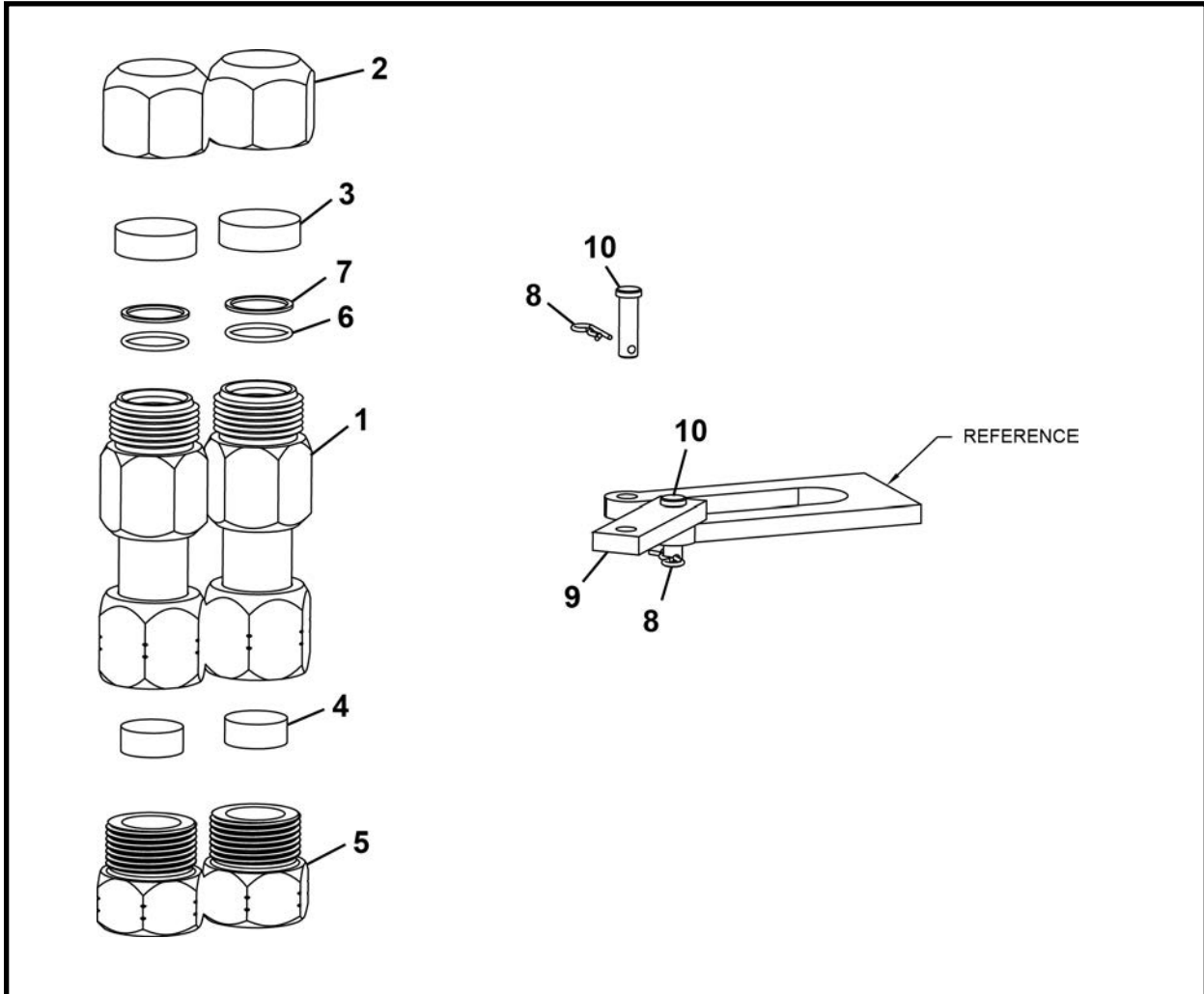
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F13326F00	HYDRAULIC LINE 1.5 x 21' (1-1/4 Ends)
1	1	023567P	CAP, 1-1/4
2	1	007086P00	PLUGS, Rubber 1/2 x 1.625 OD
3	1	P0084-123	RING, Back-Up
4	1	P0085-123	ORING
5	1	007087P00	PLUGS, Rubber 1/2 x 1.25 OD
6	1	023566P	PLUG, 1-1/4

## TBM HYDRAULIC LINES HP (5,000 PSI) ASSEMBLY, F27674F



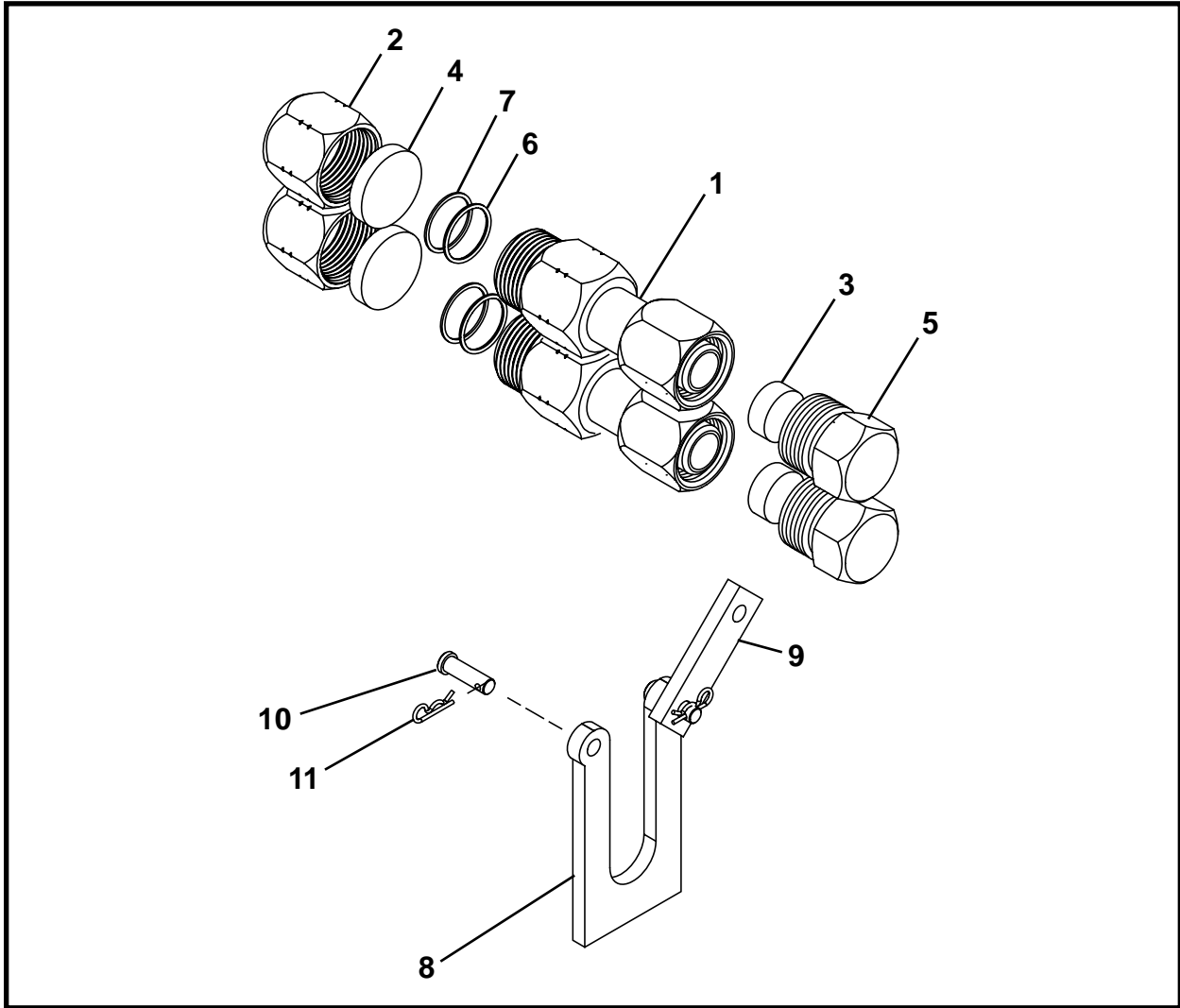
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F27674F	ASSEMBLY, Hydraulic Line HP (5,000 psi)
1	1	023565P	CAP, 1-1/4 TBM High Pressure
2	1	027612P	INSERT, Rubber
3	1	P0084-124	RING, Back-Up
4	1	P0085-124A	ORING
5	1	007087P00	PLUG, Rubber
6	1	023564P	PLUG, 1-1/4 TBM High Pressure

**ADAPTER KIT - 5000 PUMP UNIT (3,000 PSI) TO TBM Series II (HP), 027698A**  
**5000 PUMP UNIT/TBM Series II**



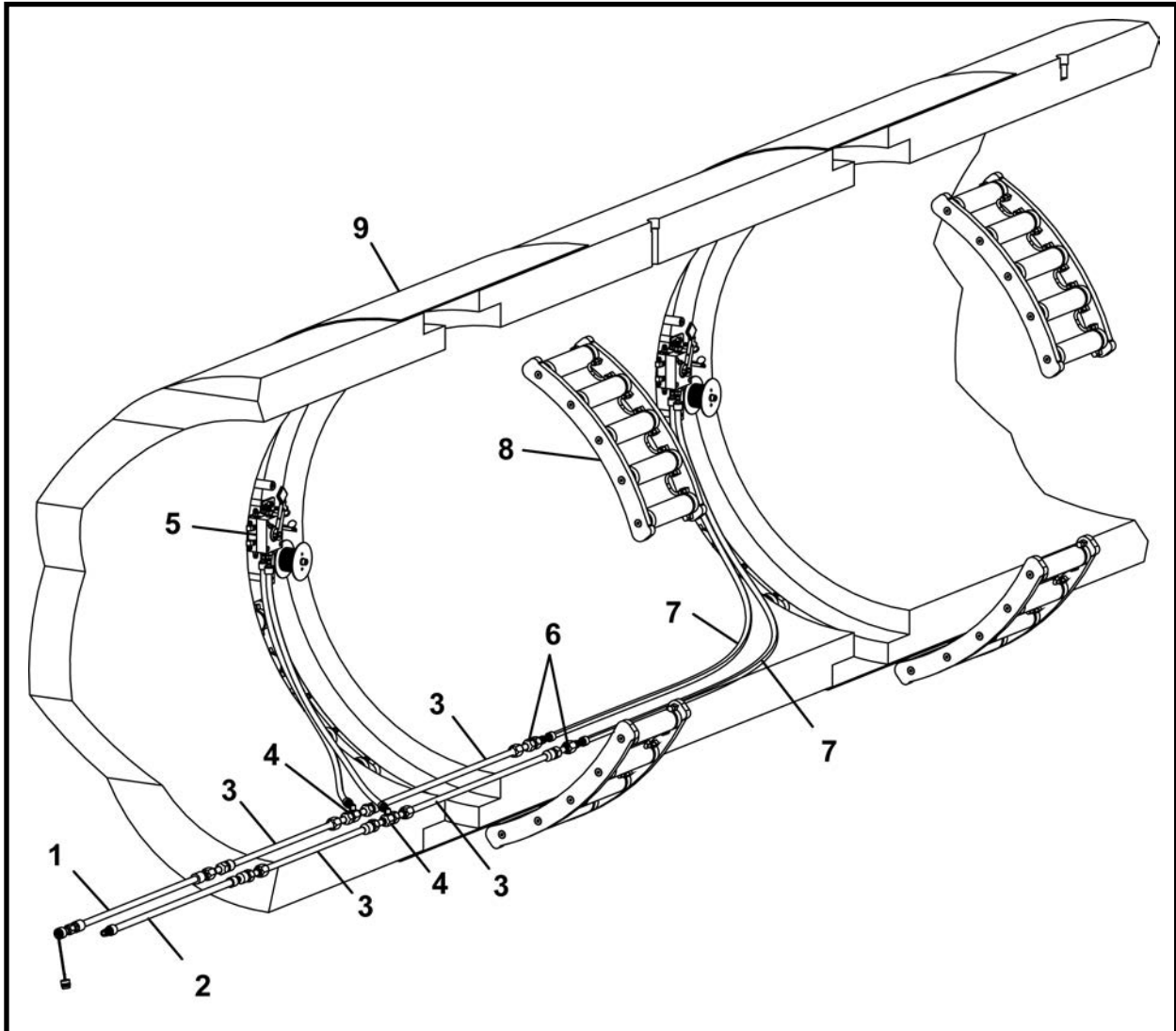
ITEM	QTY	PART NO.	DESCRIPTION
0	1	027698A	KIT, Adapter, 5000 Pump Unit To TBM Series II (HP)
1	2	027694A	FITTING, Adapter, Low Pressure To TBM Series II
2	2	007002P02	CAP, Coupler 1-1/4
3	2	007086P00	PLUG, Rubber 1/2
4	2	007087P00	PLUG, Rubber 1/2
5	2	027672P	PLUG, Storage, TBM High Pressure
6	2	P0085-123	ORING
7	2	P0084-123	RING, Back-Up
8	2	P0090-001	CLIP, Hitch Pin
9	1	027696P	RETAINER
10	2	P0024-006	PIN, Clevis 3/8 x 1.25

**ADAPTER KIT - 5200 PUMP UNIT (3,000 PSI) TO TBM Series I, 027699A**  
**5200 PUMP UNIT/TBM Series I**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	027699A	KIT, Adapter, 5200 Pump Unit To TBM Series I
1	2	027695A	FITTING, Adapter, 5200 To TBM Series I
2	2	027671P	CAP, Storage, TBM High Pressure
3	2	007087P00	PLUG, Rubber
4	2	027651P	INSERT, Rubber
5	2	005350P03	CAP, Coupler 1-1/4
6	2	P0085-124A	ORING
7	2	P0084-124	RING, Back-Up
8	1	027697P	MOUNT
9	1	027696P	BAR, Retainer
10	2	P0024-006	PIN, Clevis 3/8 x 1-1/4
11	2	P0090-001	CLIP, Hitch Pin

## INTERMEDIATE JACKING STATION



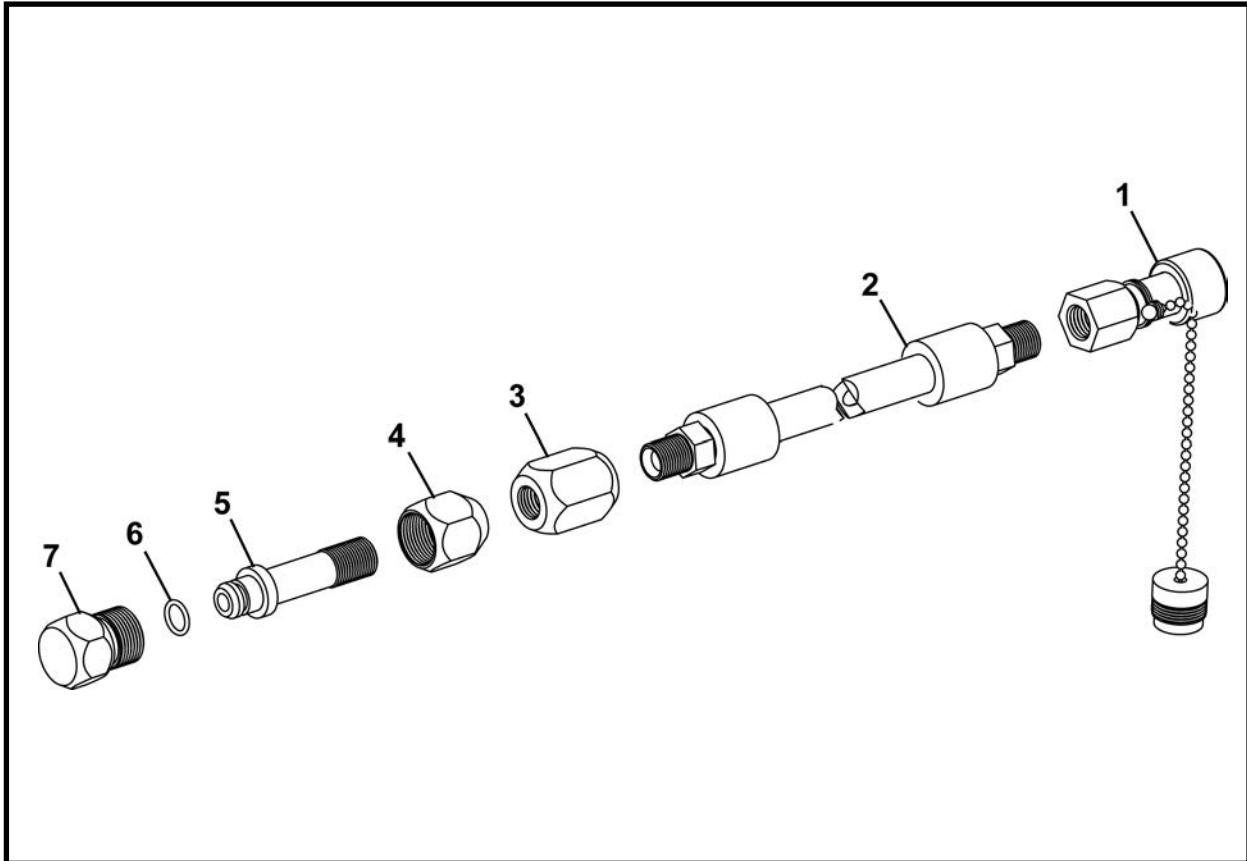
ITEM	QTY	PART NO.	DESCRIPTION
1*	1	F09802F01	STARTER HOSE, High Pressure 30'
2*	1	F09803F01	STARTER HOSE, Low Pressure 30'
3*	AR	F09800F00	TUNNEL LINE
4*	AR	F09804F00	TEE CONNECT
5*	AR	F04908F01	VALVE, IJS (With Cable)
6*	1	F09805F00	STARTER CONNECTION
7	2	A10311A-xxx	HOSE ASSEMBLY, 3/8 JIC x length
8.1*	4	007299A00	IJS SEGMENT ASSEMBLY - 48SC/420
8.2*	4	007300A00	IJS SEGMENT ASSEMBLY - 480
8.3*	5	007301A00	IJS SEGMENT ASSEMBLY - 540
9**	AR	-	IJS HOUSING

AR - As Required (Per Job)

\* Refer to this section for parts information.

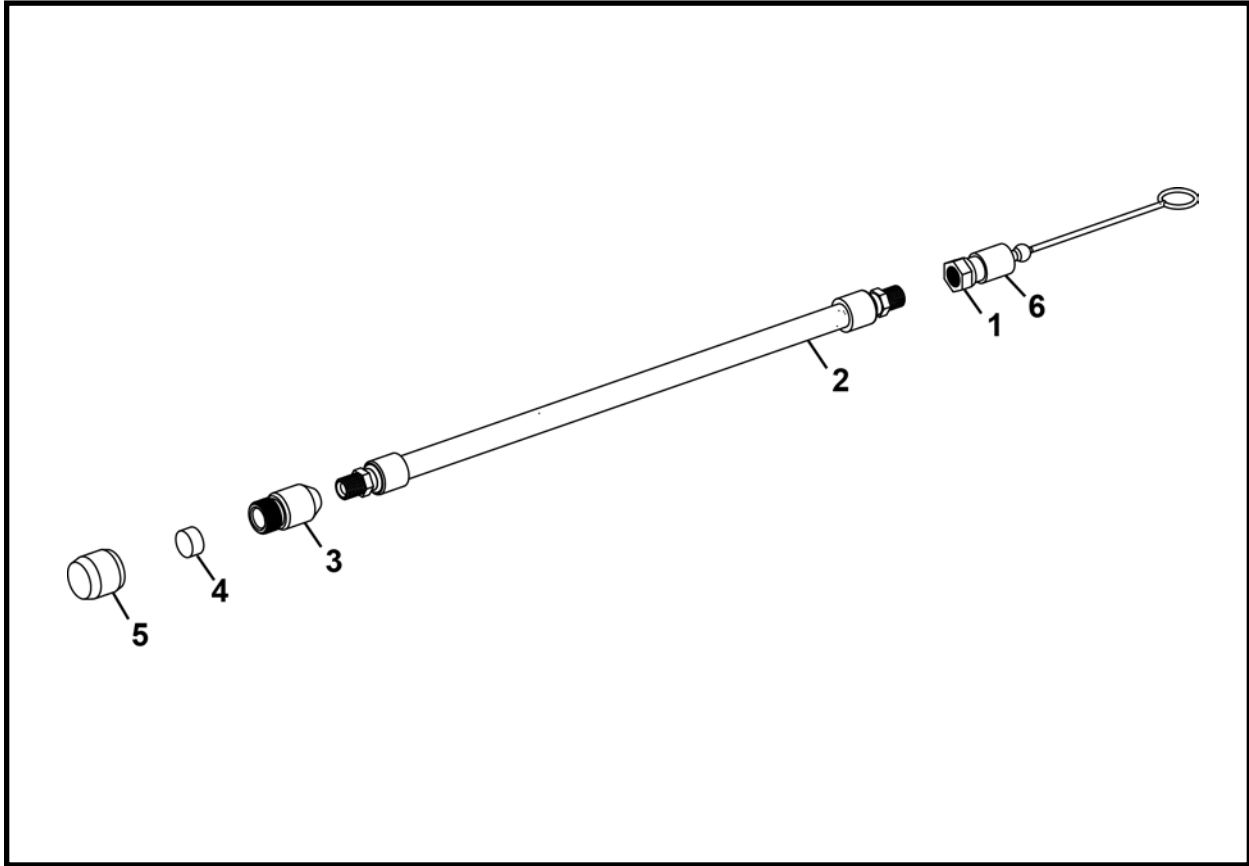
\*\* Contact your Akkerman Sales Representative for information regarding IJS housings.

## STARTER HOSE 30 FT (HIGH PRESSURE) ASSEMBLY, F09802F01



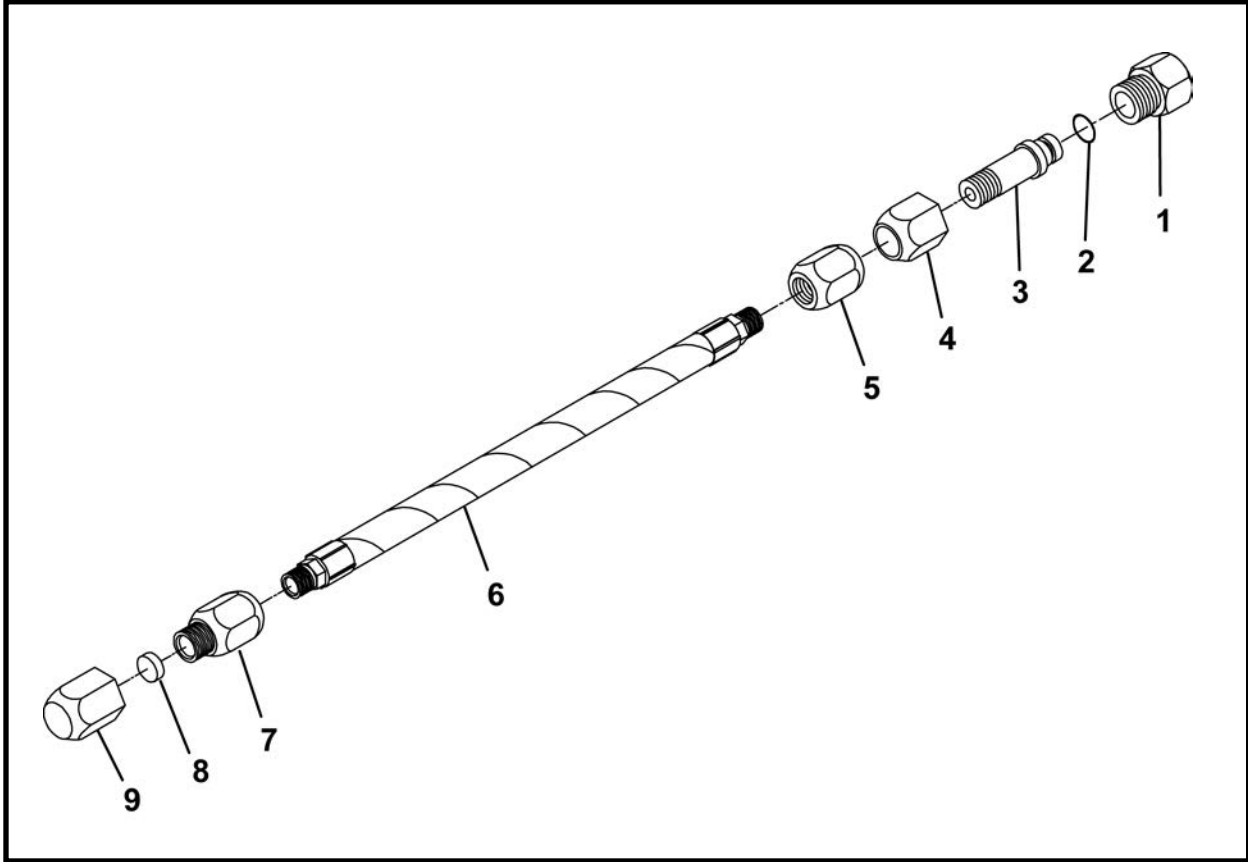
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09802F01	HOSE, High Pressure Starter 30'
1	1	P0100-001B	COUPLER, Male
2	1	A10420A-360	HOSE ASSEMBLY, 1/2 x 360
3	1	009812P01	COUPLER, Hi-Pressure 1/2 NPT
4	1	005135P00	COUPLER, 1/2
5	1	005134P00	COUPLER, Male 1/2
6	1	P0085-113	ORING
7	1	023568P	PLUG

# IJS STARTER HOSE 30 FT (LOW PRESSURE) ASSEMBLY, F09803F01



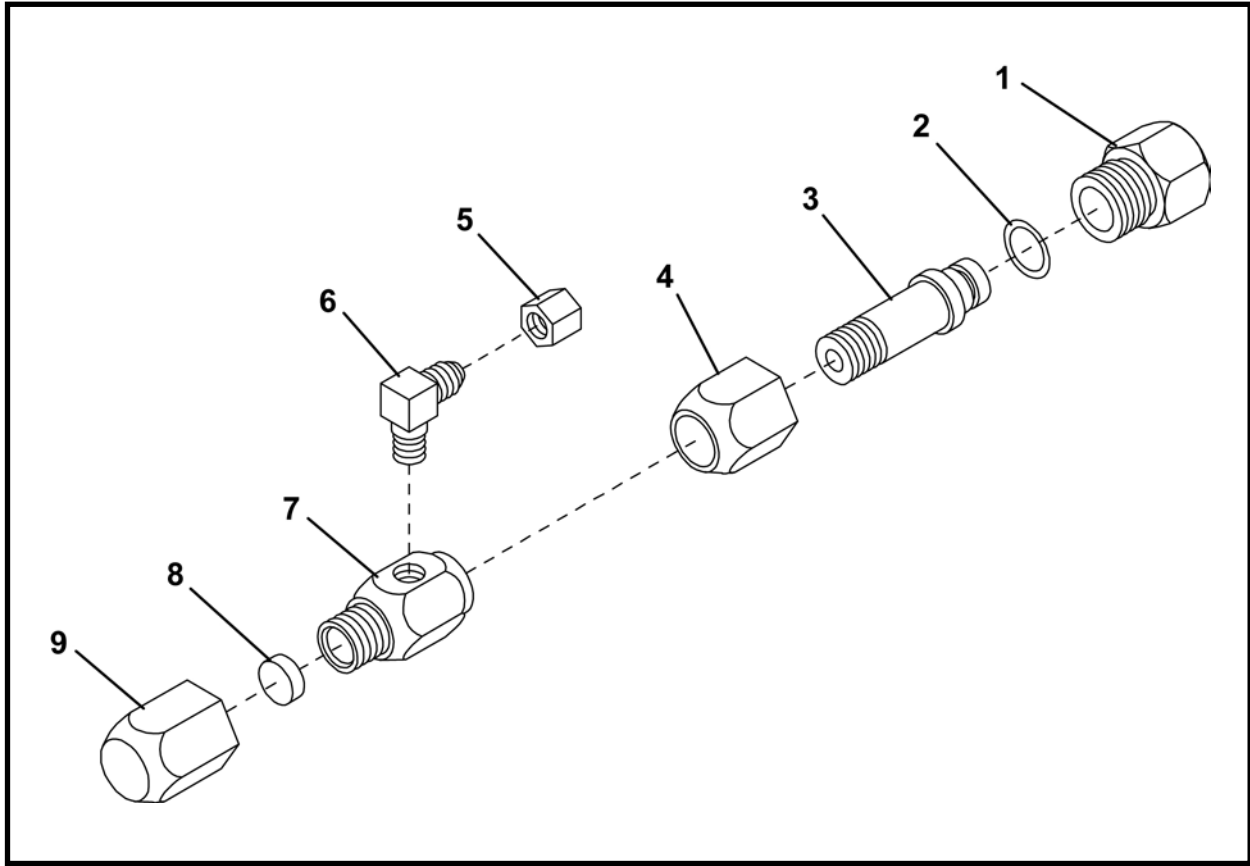
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09803F01	IJS STARTER HOSE ASSEMBLY, Low Pressure
1	1	P0100-013B	NIPPLE, Female 1/2 NPT
2	1	A10320A-360	HOSE ASSEMBLY 1/2 x 360
3	1	009809P00	COUPLER, Female 1/2
4	1	007085P00	PLUG, Coupler Cap
5	1	023569P	CAP
6	1	P0100-013D	PLUG, Dust

## IJS TUNNEL LINE 10' 6", F09800F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09800F00	IJS TUNNEL LINE 10' 6"
1	1	023568P	PLUG
2	1	P0085-113	ORING
3	1	005134P00	COUPLER, Male
4	1	005135P00	COUPLER
5	1	009812P01	COUPLER, High Pressure
6	1	009806P00	PIPE
7	1	009809P00	COUPLER, Female
8	1	007085P00	PLUG, Coupler
9	1	023569P	CAP

## TEE CONNECTOR, F09804F00

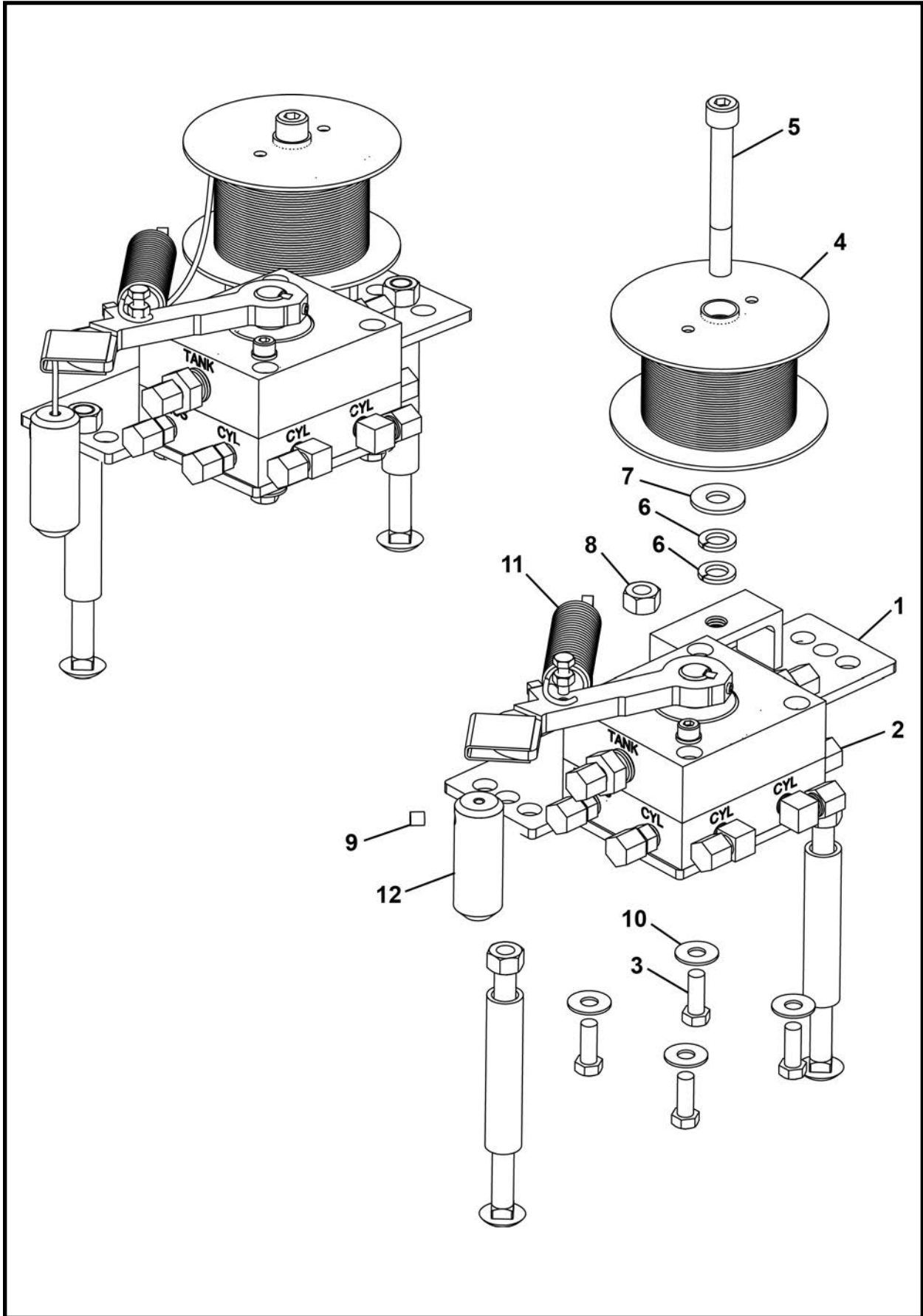


ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09804F00	TEE CONNECTOR
1	1	023568P	PLUG
2	1	P0085-113	ORING
3	1	005134P00	COUPLER, Male
4	1	005135P00	COUPLER, 1/2
5	1	P0300-126	CAP, 06FJ
6	1	P0300-125	FITTING, 06MJ-04MP90
7	1	009810P00	COUPLER, Female
8	1	007085P00	PLUG, Coupler Cap
9	1	023569P	CAP

NOTE: Two connectors required per jack station.

**NOTES**

# IJS VALVE (With Cable), F04908F01



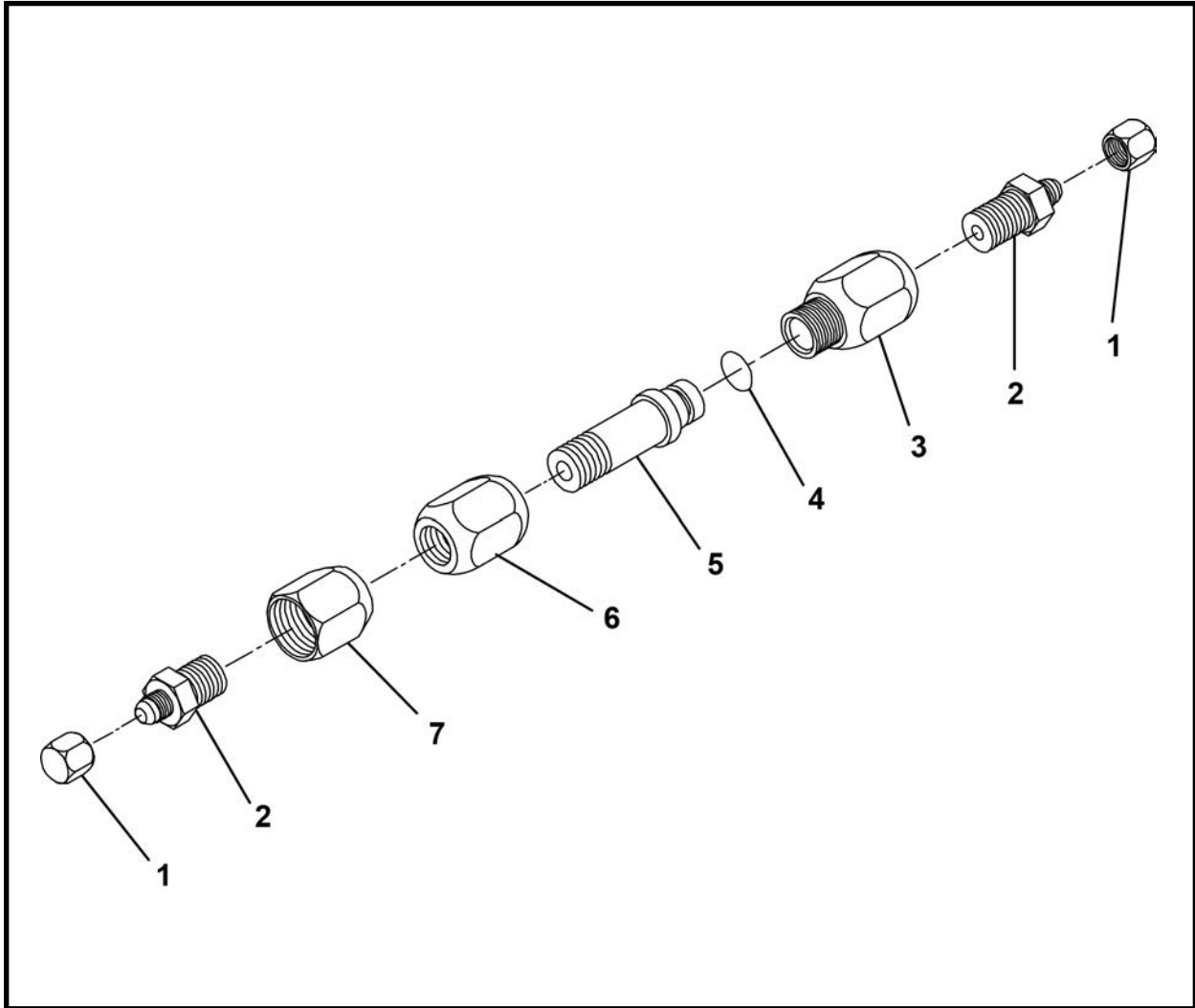
## IJS VALVE (With Cable), F04908F01

ITEM	QTY	PART NO.	DESCRIPTION
0	1	F04908F01	IJS VALVE (With Cable)
1	1	005764A00	PLATE ASSEMBLY
2*	1	004725A00	VALVE
3	4	P0001-06-004	BOLT, Hex 3/8 UNC x 1
4	1	002323A	ASSEMBLY, Cable & Spool (Includes items 4a - 4b)
4a	1	002373A00	SPOOL ASSEMBLY
4b	7200 LI	P0075-001	CABLE
5	1	P0031-08-016	SCREW, Socket Head Cap 1/2 UNC x 4
6	2	P0043-008	WASHER, Spring 1/2
7	1	P0040-008	WASHER, Hardened Flat 1/2
8	1	P0003-08-000	NUT, 1/2 UNC
9	1	P0033-05-004	SCREW, Socket Set 5/16 x .25
10	4	P0040-006	WASHER, Hardened Flat 3/8
11	1	P0070-031	SPRING
12	1	001335P00	WEIGHT, Valve

\* Refer to Section 7, Valves for parts information.

LI - Linear Inch

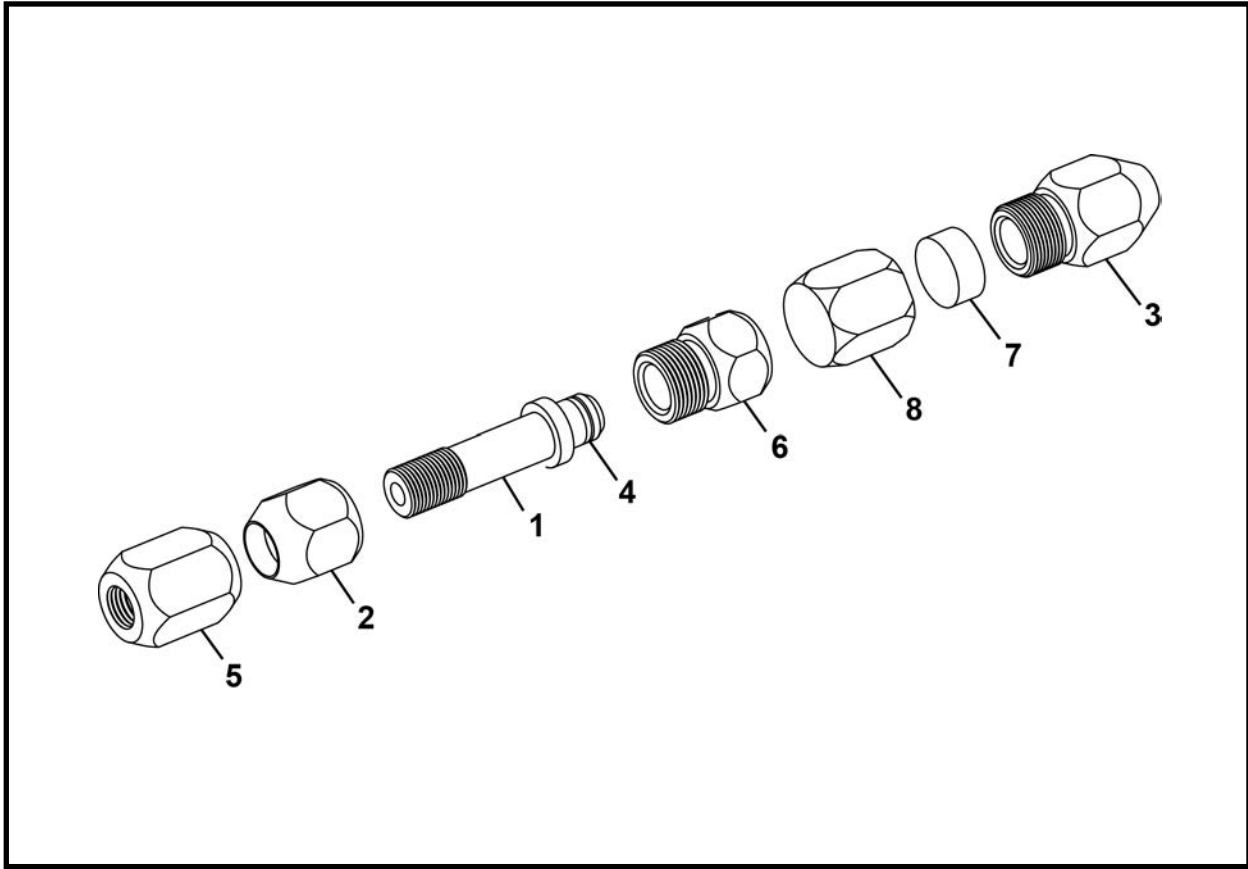
## IJS STARTER CONNECTION, F09805F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09805F00	STARTER CONNECTION
1	2	P0300-126	CAP, 06FJ
2	2	P0300-120	FITTING, 06MJ-08MP
3*	1	009809P00	COUPLER, Female
4*	1	P0085-113	ORING
5*	1	005134P00	COUPLER, Male
6*	1	005135P00	COUPLER
7*	1	009812P01	COUPLER, High Pressure

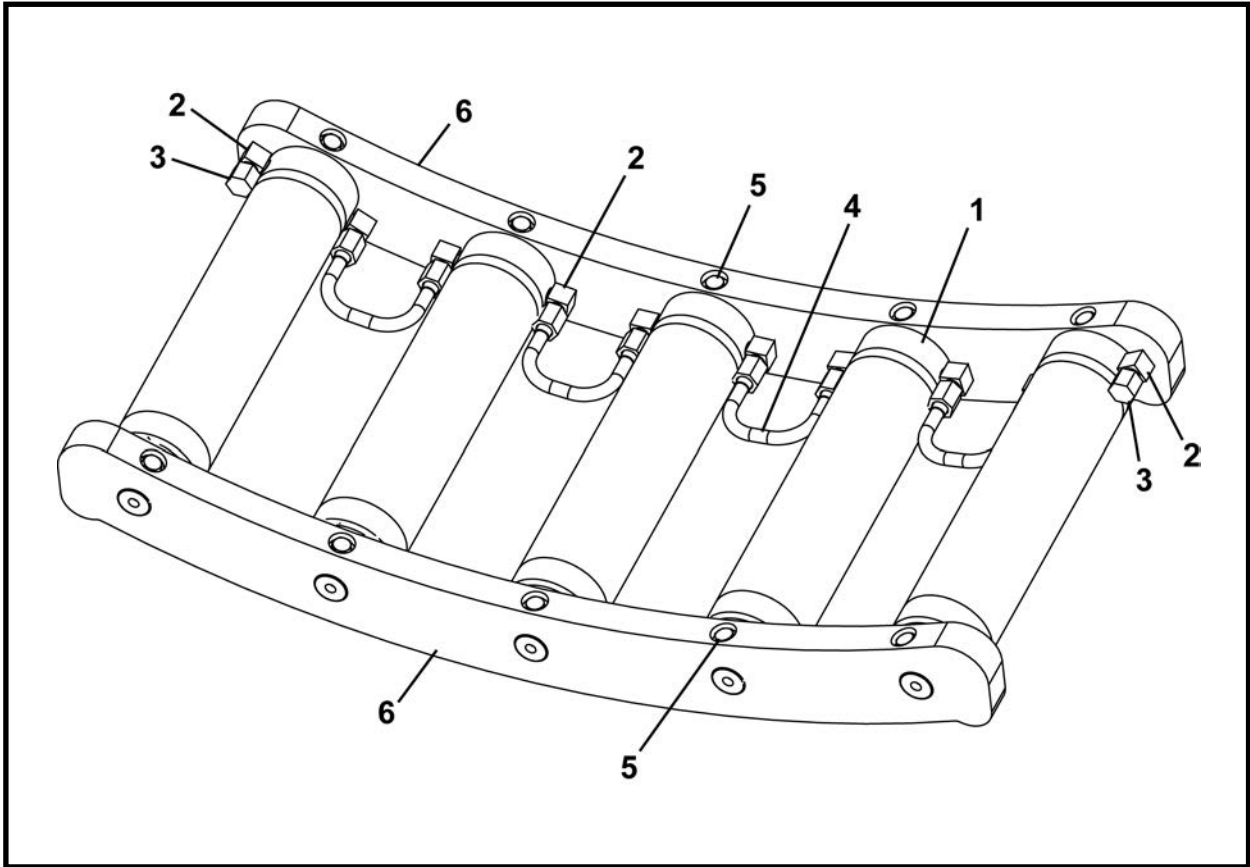
\* Included in IJS Coupler Assembly, 005133A02. Refer to this section for parts information.

## IJS COUPLER ASSEMBLY, 005133A02



ITEM	QTY	PART NO.	DESCRIPTION
0	1	005133A02	IJS COUPLER ASSEMBLY
1	1	005134P00	COUPLER, Male
2	1	005135P00	COUPLER
3	1	009809P00	COUPLER, Female
4	1	P0085-113	ORING
5	1	009812P01	COUPLER, High Pressure
6	1	009808P00	CAP, Female
7	1	007085P00	PLUG, Coupler
8	1	009811P01	CAP, Male

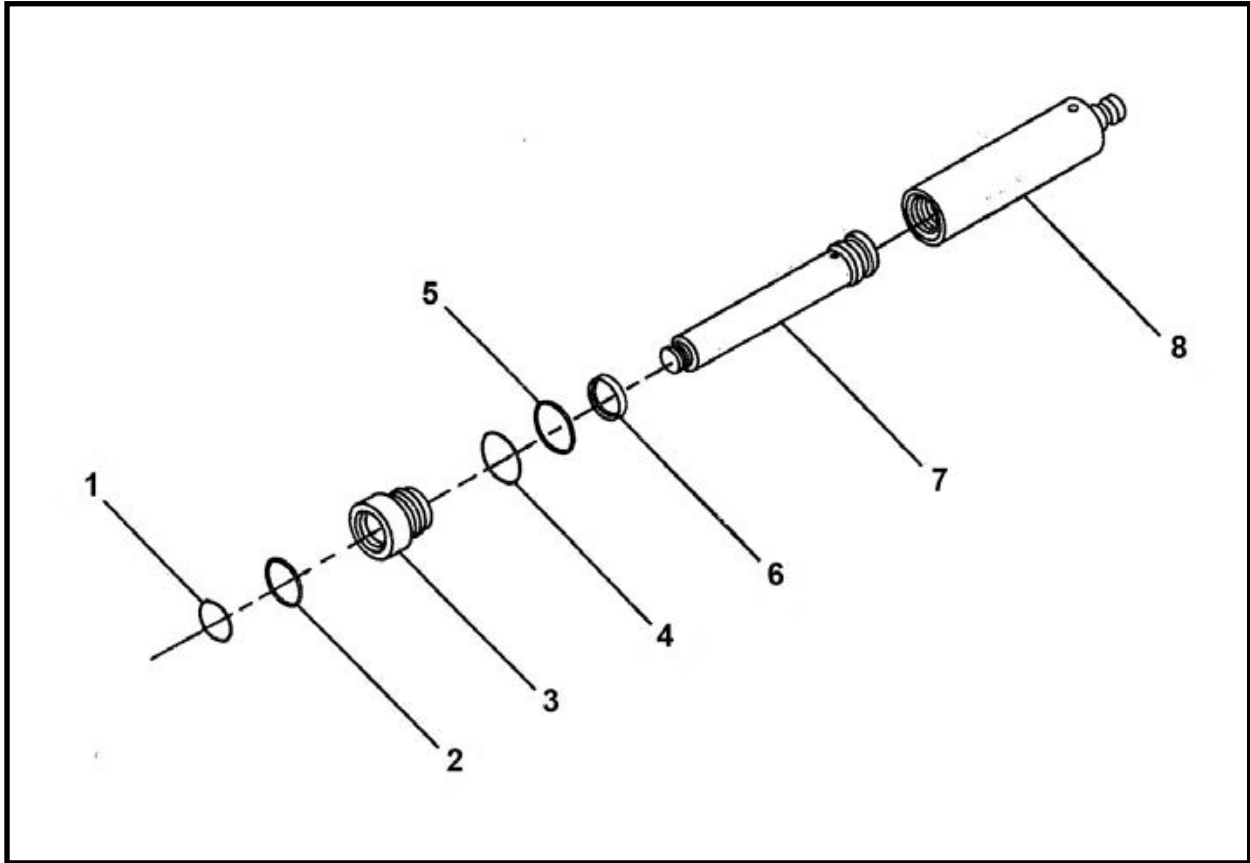
## IJS SEGMENT ASSEMBLY



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	007299A00	IJS SEGMENT ASSEMBLY - 48SC /420
0.2	1	007300A00	IJS SEGMENT ASSEMBLY - 480
0.3	1	007301A00	IJS SEGMENT ASSEMBLY - 540
1*	5	F03531F02	CYLINDER, IJS
2	10	P0300-125	FITTING, 04MP-06MJ
3	2	P0300-126	CAP
4	4	001907A00	TUBE
5	10	P0001-05-003	BOLT, 5/16 UNC x .75
6.1	2	F01480F00	END IRONS, Plate - 48SC /420
6.2	2	F01390F00	END IRONS, Plate - 480
6.3	2	F07297F00	END IRONS, Plate - 540

\* Refer to this section for parts information.

## IJS CYLINDER, F03531F02

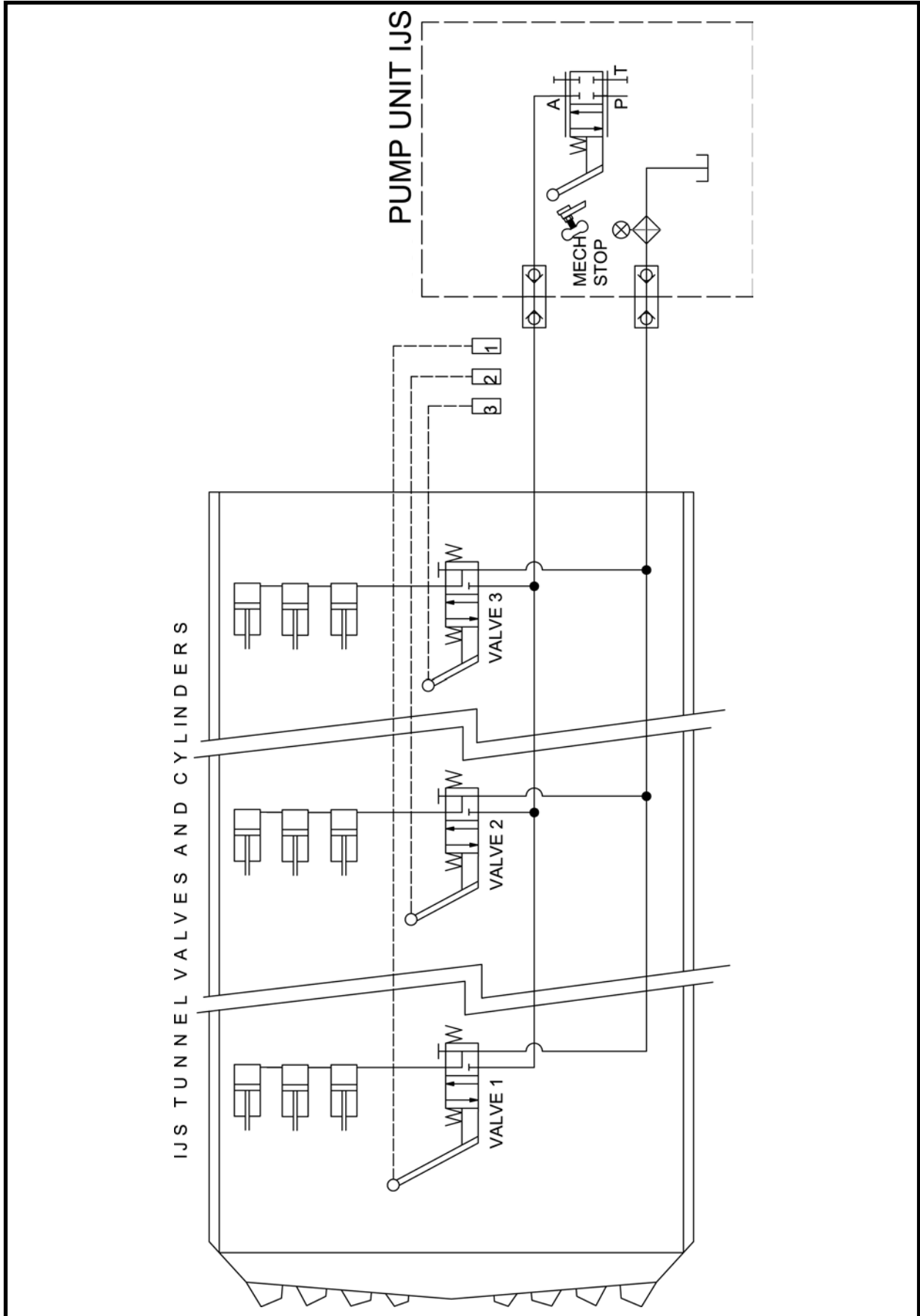


ITEM	QTY	PART NO.	DESCRIPTION
0	1	F03531F02	CYLINDER, IJS
1*	1	P0087-001	WIPER
2*	1	P0086-003	POLYSEAL
3	1	003095P02	CAP, End
4*	1	P0084-139	RING, Back-Up
5*	1	P0085-139	ORING
6*	1	P0088-002	RING, Wear
7	1	003348P02	SHAFT
8	1	003364A01	BARREL
9	REF	007344A00	KIT, Seal

\* Included in item 9, 007344A00 Seal Kit.

NOTE: Apply anti-sieze to barrel/gland threads.

# INTERMEDIATE JACKING STATION SCHEMATIC





# Valves

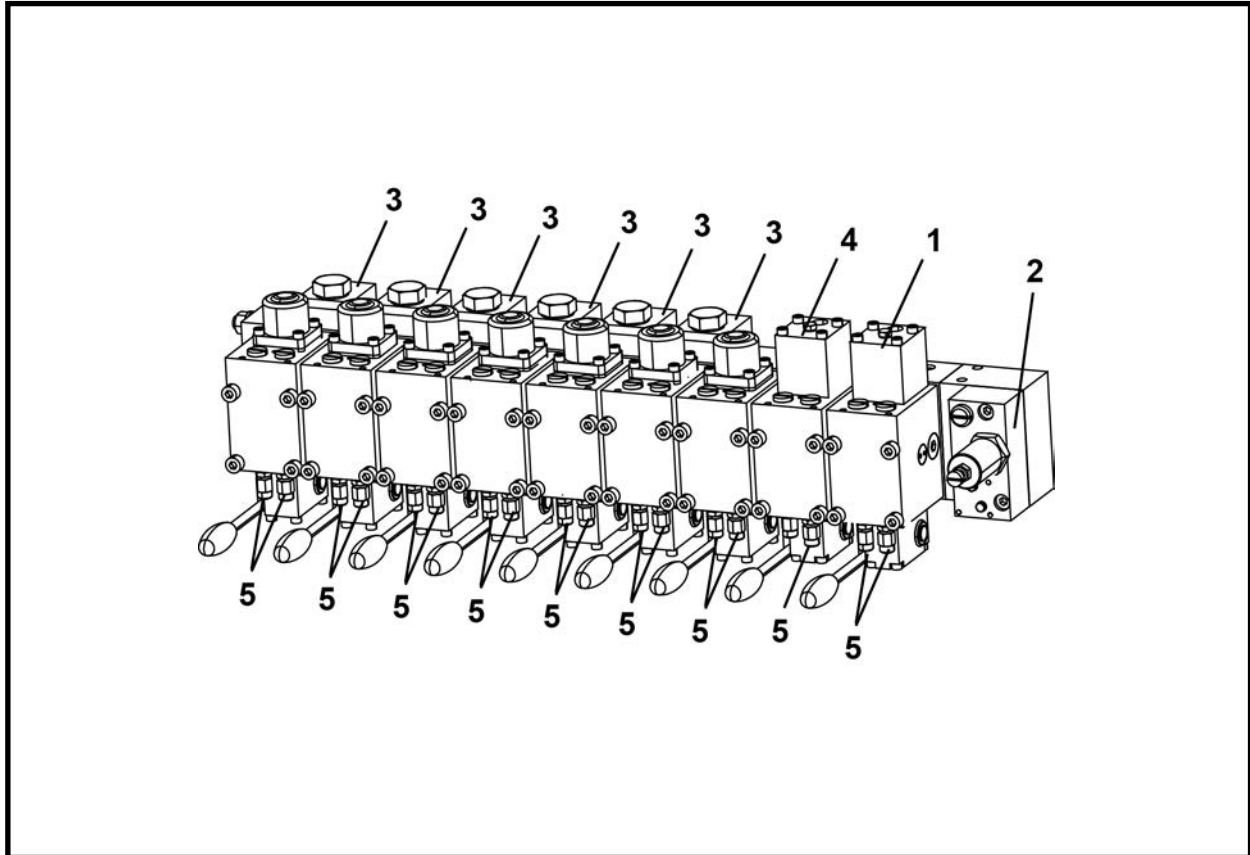
## **Tunnel Boring Machine**

TBM Nine Section Valve, P0302-700 .....	2
TBM Three Section Valve, P0302-709 .....	3
Two Speed Motor Valve, P0302-784 .....	4
Conveyor Lift Valve, P0302-680 .....	5

## **Intermediate Jacking Station**

IJS Valve, 004725A00 .....	6
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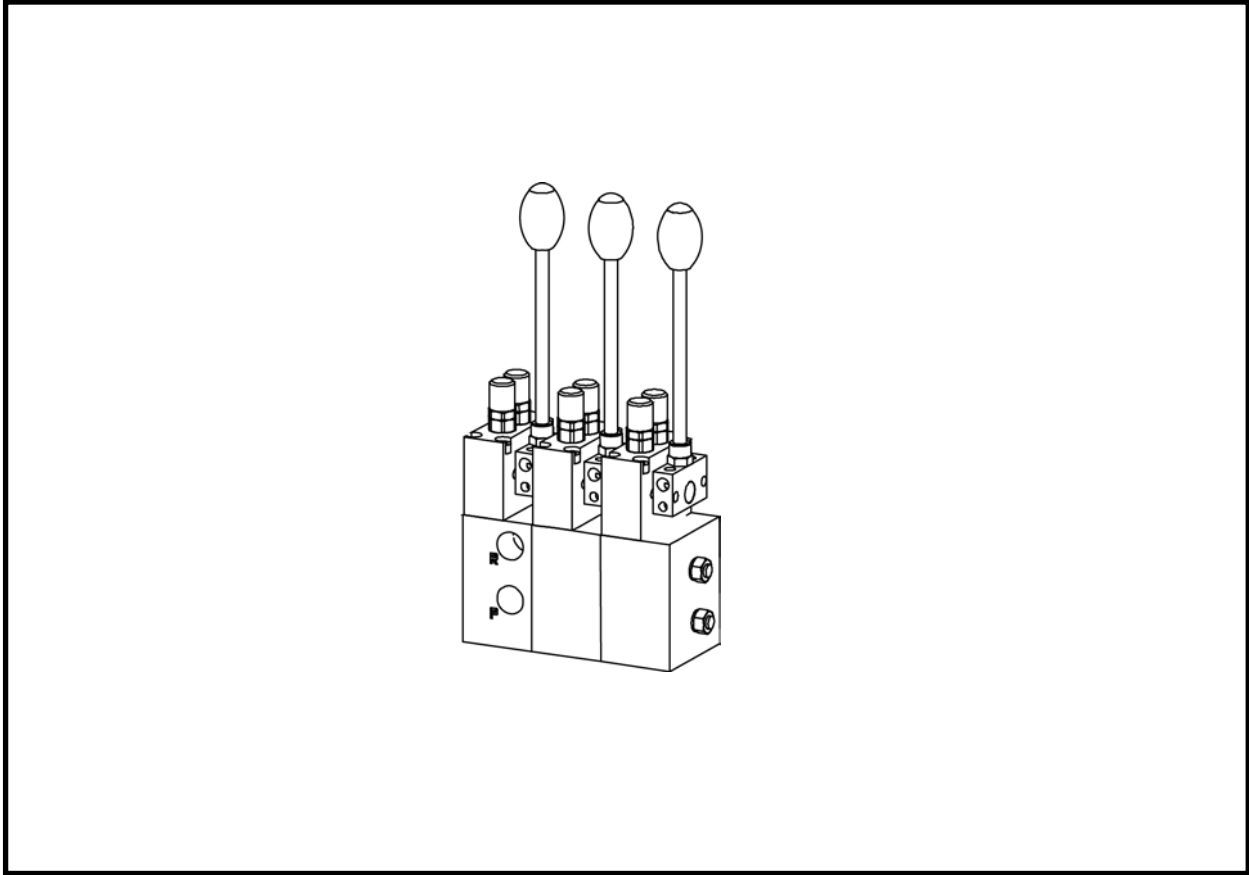
## TBM NINE SECTION VALVE, P0302-700



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-700	VALVE, Nine Section
1	1	P0302-700A	SPOOL 80/80
2	1	P0302-700B	SPRING
3	6	P0302-700C	BLOCK, Ancillary PO Check
4	1	P0302-700D	SPOOL 63/63
5	17	P0302-700E	INSERTS, PSI Limiter Valve

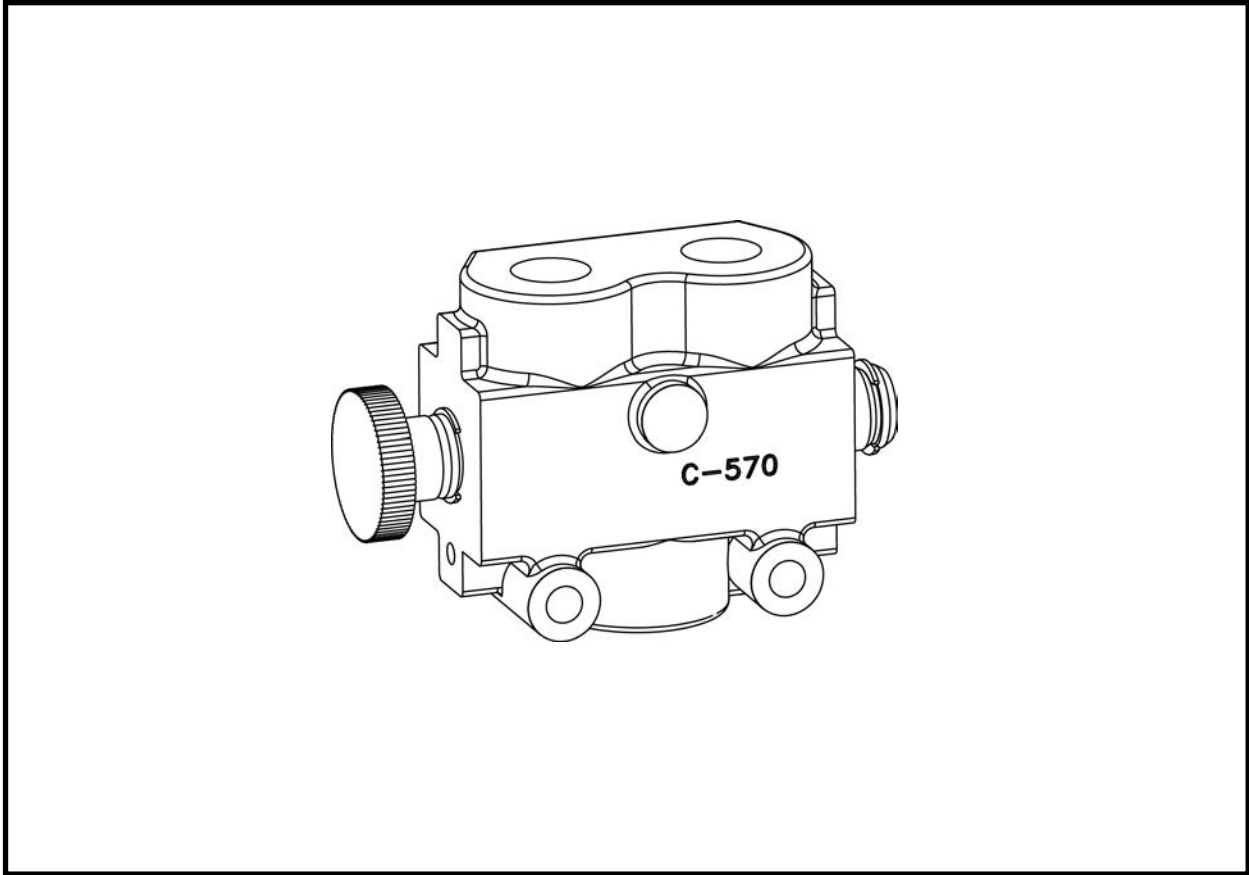
NOTE: Valve and handle positions vary depending on TBM model.

# TBM THREE SECTION CONTROL VALVE, P0302-709



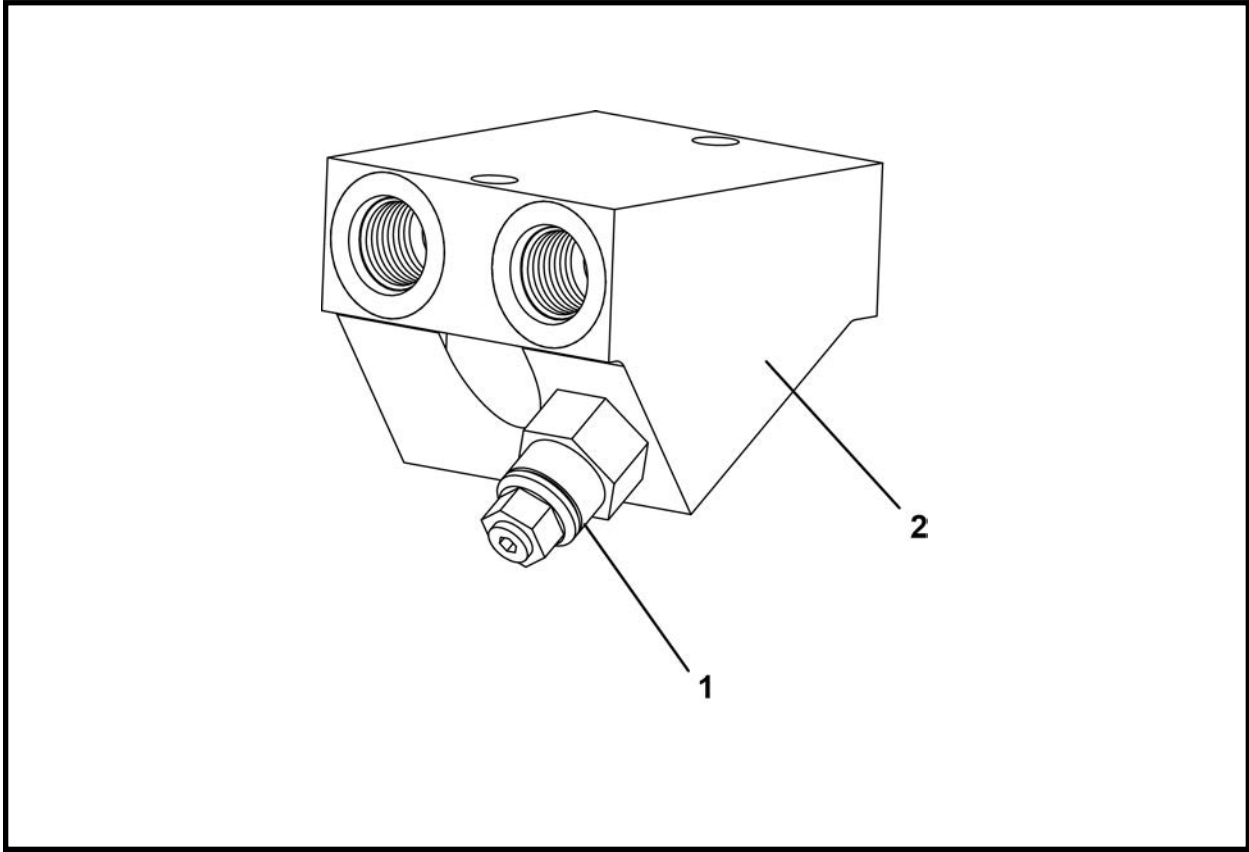
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-709	VALVE, TBM Three Section Control

# TWO SPEED MOTOR VALVE, P0302-784



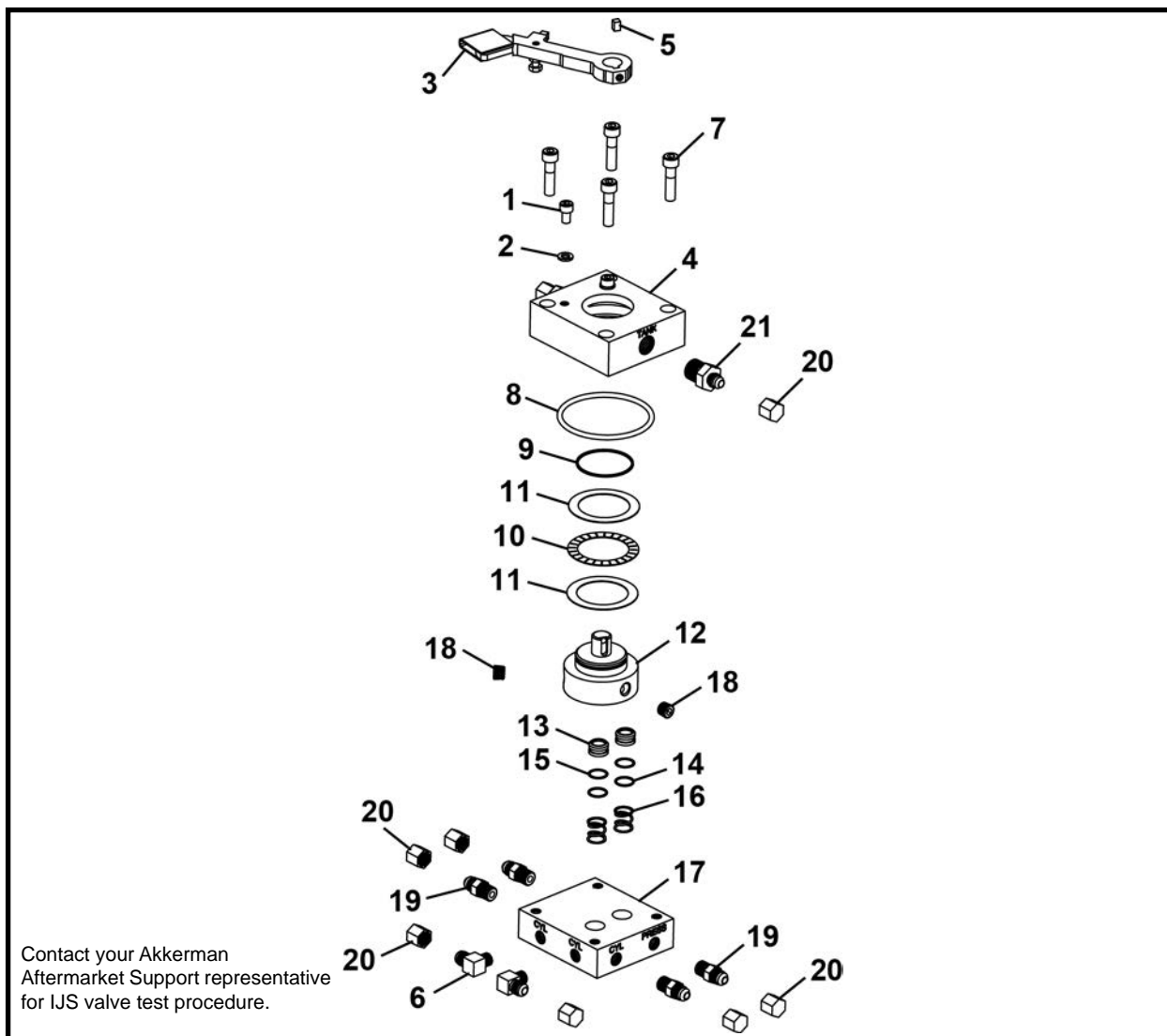
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-784	VALVE, Two Speed Motor

# CONVEYOR LIFT VALVE, P0302-680



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-680	VALVE, Conveyor Lift
1	1	P0302-680A	CARTRIDGE
2	1	P0302-680B	BODY, Valve

# IJS VALVE, 004725A00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	004725A00	VALVE, IJS
1	2	P0031-05-002	SCREW, Socket Head Cap 5/16 UNC x .5
2	2	P0046-005	WASHER, Lock Hi-Collar 5/16
3	1	002188A00	HANDLE
4	1	004722P00	VALVE, Top
5	0.38	P0047-003	KEY
6	2	P0300-125	FITTING, 06MJ-04MP90
7	4	P0031-06-006	SCREW, Socket Head Cap 3/8 UNC x 1.5
8*	1	P0085-340	ORING
9*	1	P0085-032	ORING
10	1	P0065-030	BEARING
11	2	P0065-031	BEARING
12	1	004724P00	SPOOL
13	2	003842P01	SPOOL
14*	2	P0085-016	ORING
15*	2	P0084-016	RING, Back-Up
16*	2	P0070-020	SPRING
17	1	004723P01	VALVE, Base
18	2	P0300-026	FITTING, 04MP-HHP
19	4	P0300-121	FITTING, 06MJ-04MP
20	8	P0300-126	CAP, 06FJ-CAP
21	2	P0300-120	FITTING, 06MJ-08MP
22**	1	005763A00	KIT, Seal

\* Item included in item 22, Seal Kit

\*\* Not Shown



# Motors

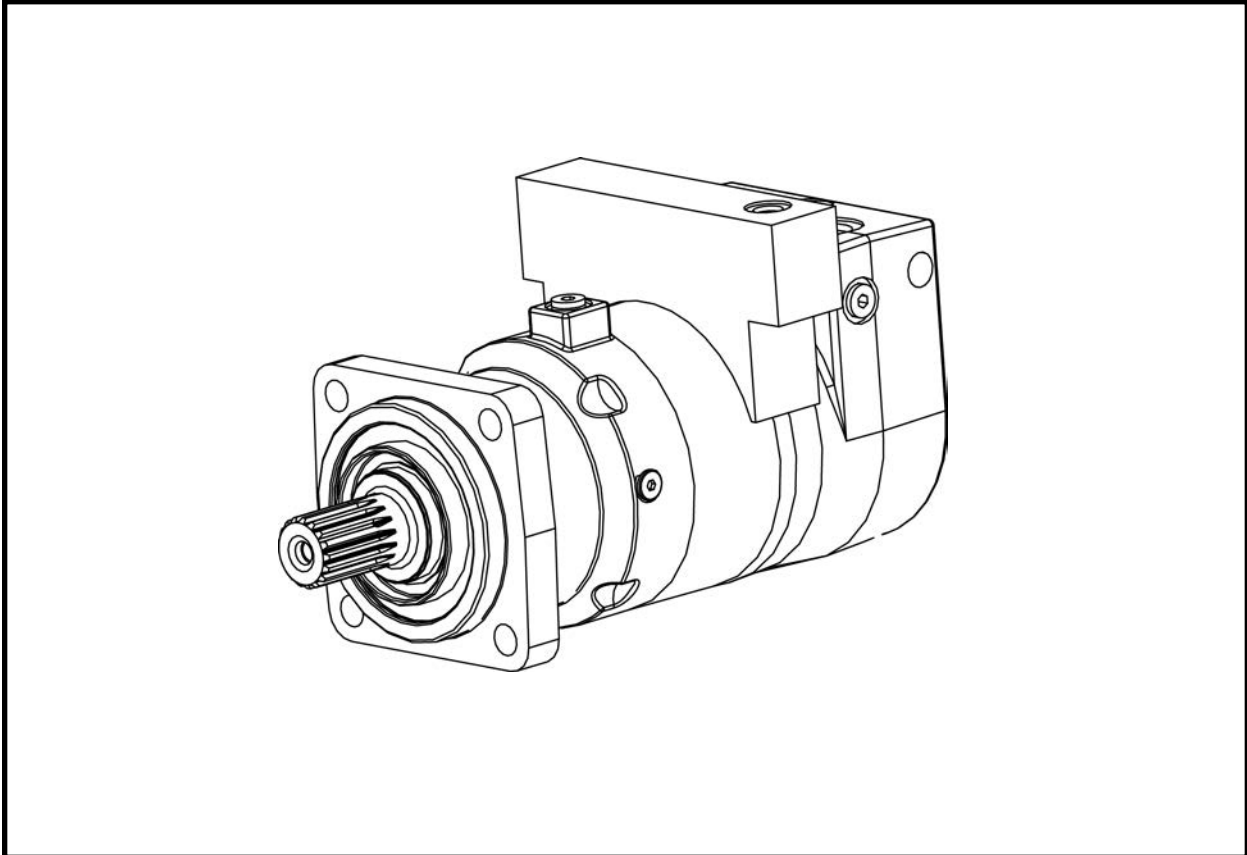
## Tunnel Boring Machine

TBM Drive Motor, P0304-344 .....	2
Lube Motor, P0304-334 .....	3

## Conveyors

Conveyor Drive Motor	
1015/1215/1615 Belt Conveyor, P0304-157 .....	4
120EX Screw Conveyor, P0304-109 .....	5
140EX Screw Conveyor, P0304-145 .....	6

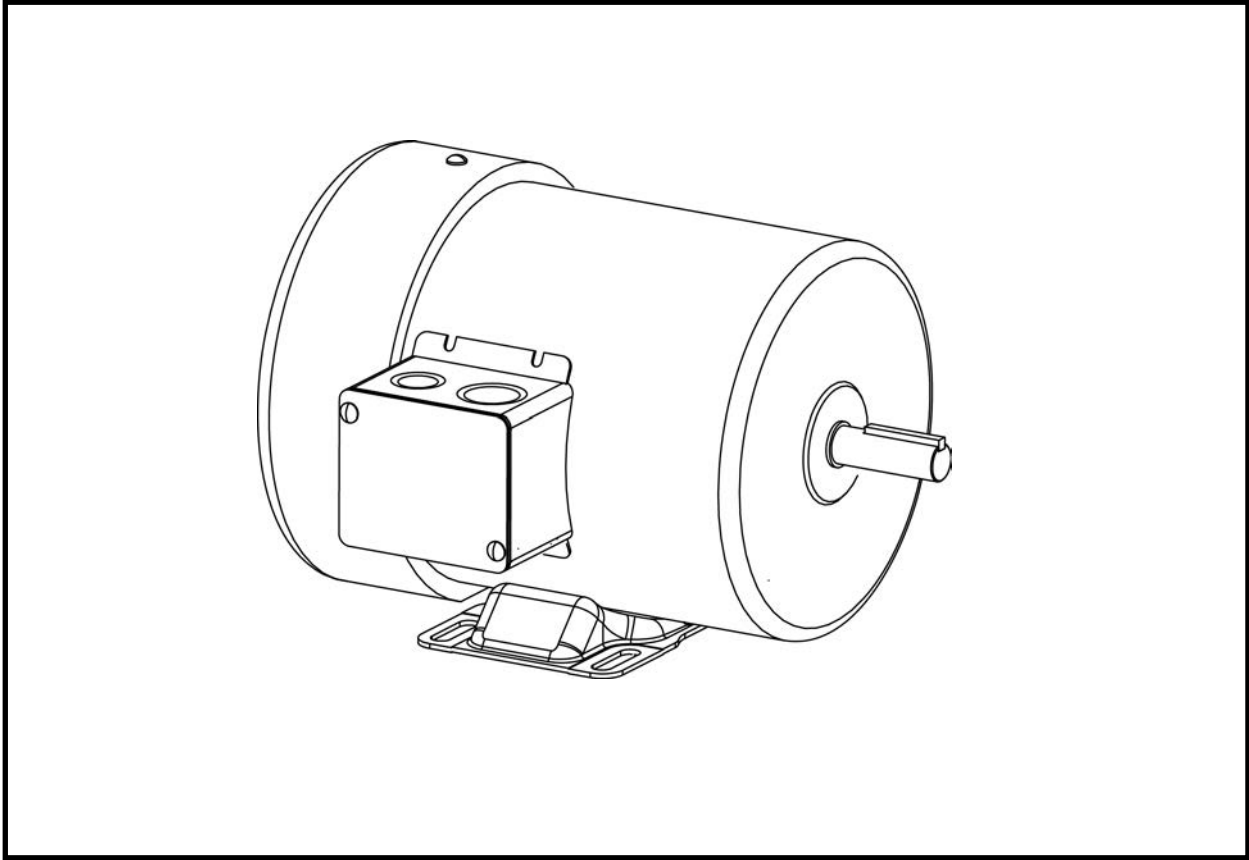
**TBM TWO SPEED DRIVE MOTOR, P0304-344**  
**TBM MOTOR**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0304-344	MOTOR, TBM Two Speed Drive
1	1	P0304-344A	KIT, Seal Motor

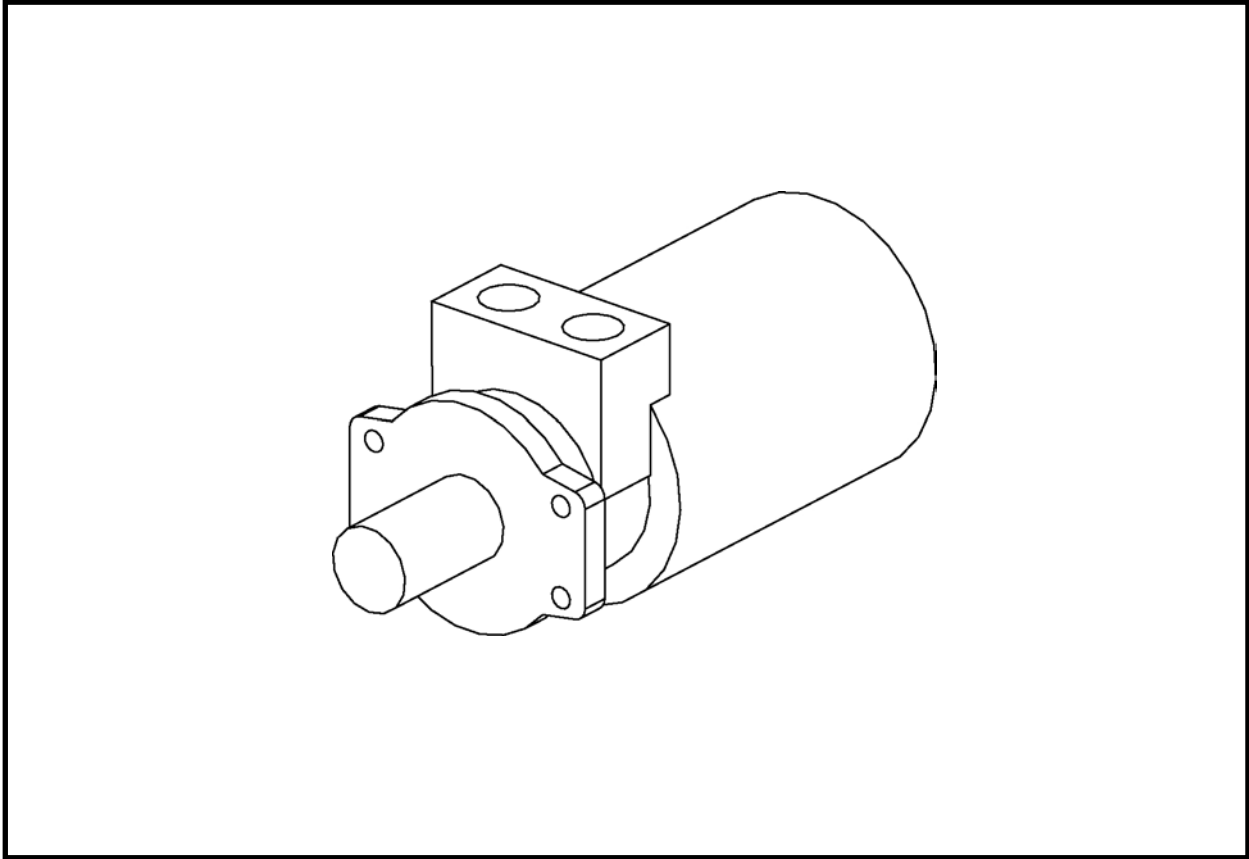
NOTE: If equipped with single speed motor P0304-333, replace iwth P0304-344.

**LUBE MOTOR, P0304-334**  
**TBM LUBE MOTOR**



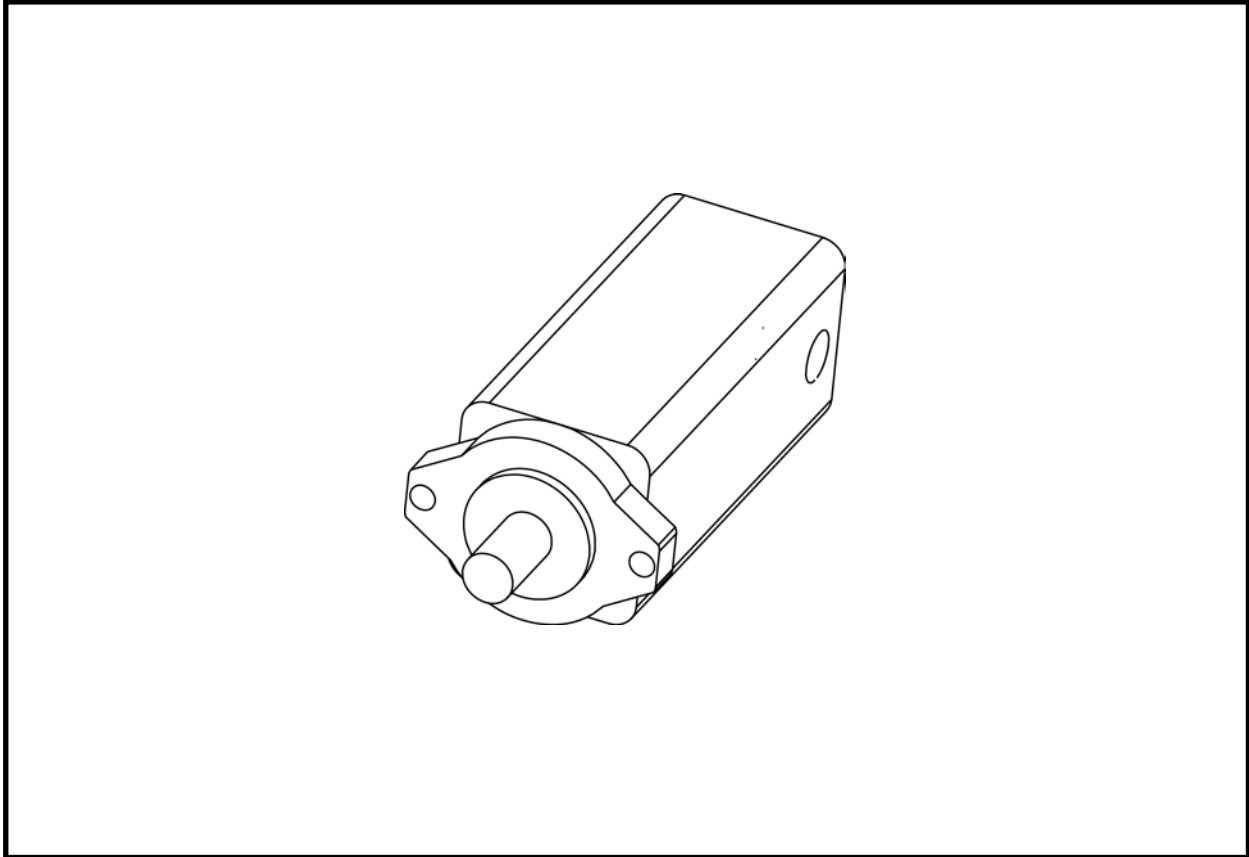
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0304-334	MOTOR, Lube

**CONVEYOR DRIVE MOTOR, P0304-157**  
**1015/1215/1615 BELT CONVEYOR**



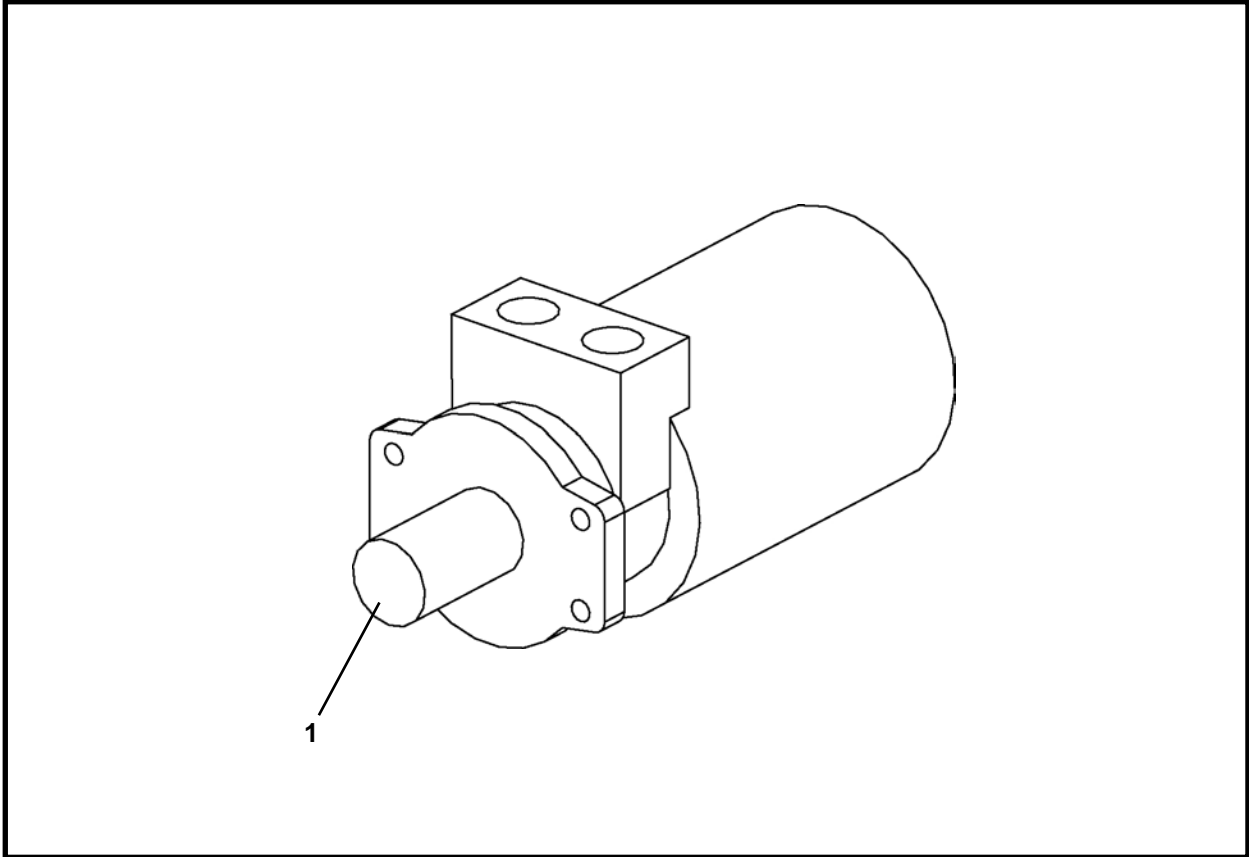
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0304-157	MOTOR, Conveyor Drive

**120 SCREW CONVEYOR DRIVE MOTOR, P0304-109**  
**120EX SCREW CONVEYOR**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0304-109	MOTOR, 120 Screw Conveyor Drive

**140 SCREW CONVEYOR DRIVE MOTOR, P0304-145**  
**140EX SCREW CONVEYOR**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0304-145	MOTOR, 140 Screw Conveyor Drive
1	1	P0304-147	SHAFT
2*	1	P0304-148	KIT, Seal

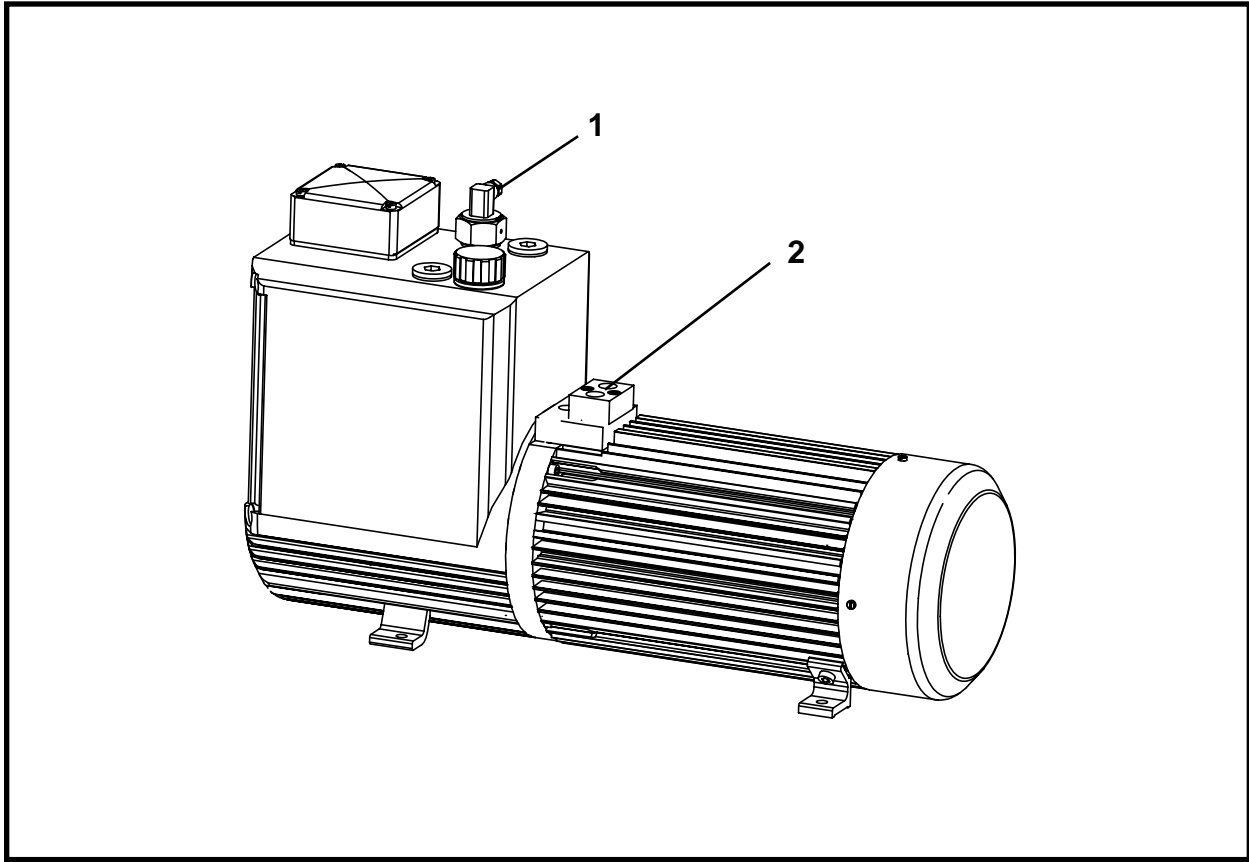
\* Not Shown



# Pumps

Scavenging Pump, P0303-367 .....	2
Grease Pump, P0303-375 .....	3
Lube Pump, P0303-361 .....	4

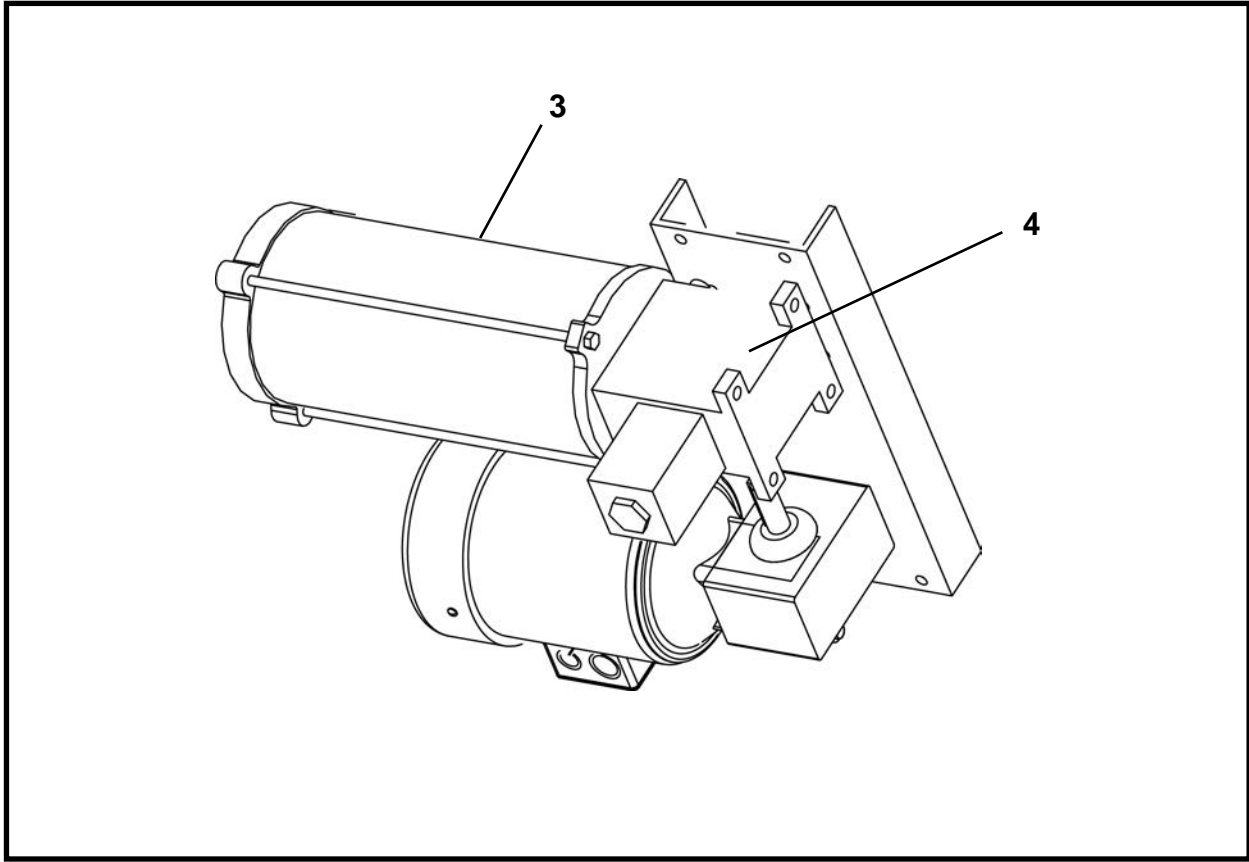
## SCAVENGING PUMP, P0303-367



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0303-367	PUMP, Scavenging
1	1	P0303-367G	SWITCH, Float
2	2	P0303-367C	PLUG
3*	1	P0303-367D	PIPE, Flex
4*	1	P0303-367E	ORING, 7.65 C 2.78 FPM 70 SCH
5*	1	P0303-367F	ORING, 13.94 x 2.62 FPM 80 SCH

\* Not Shown

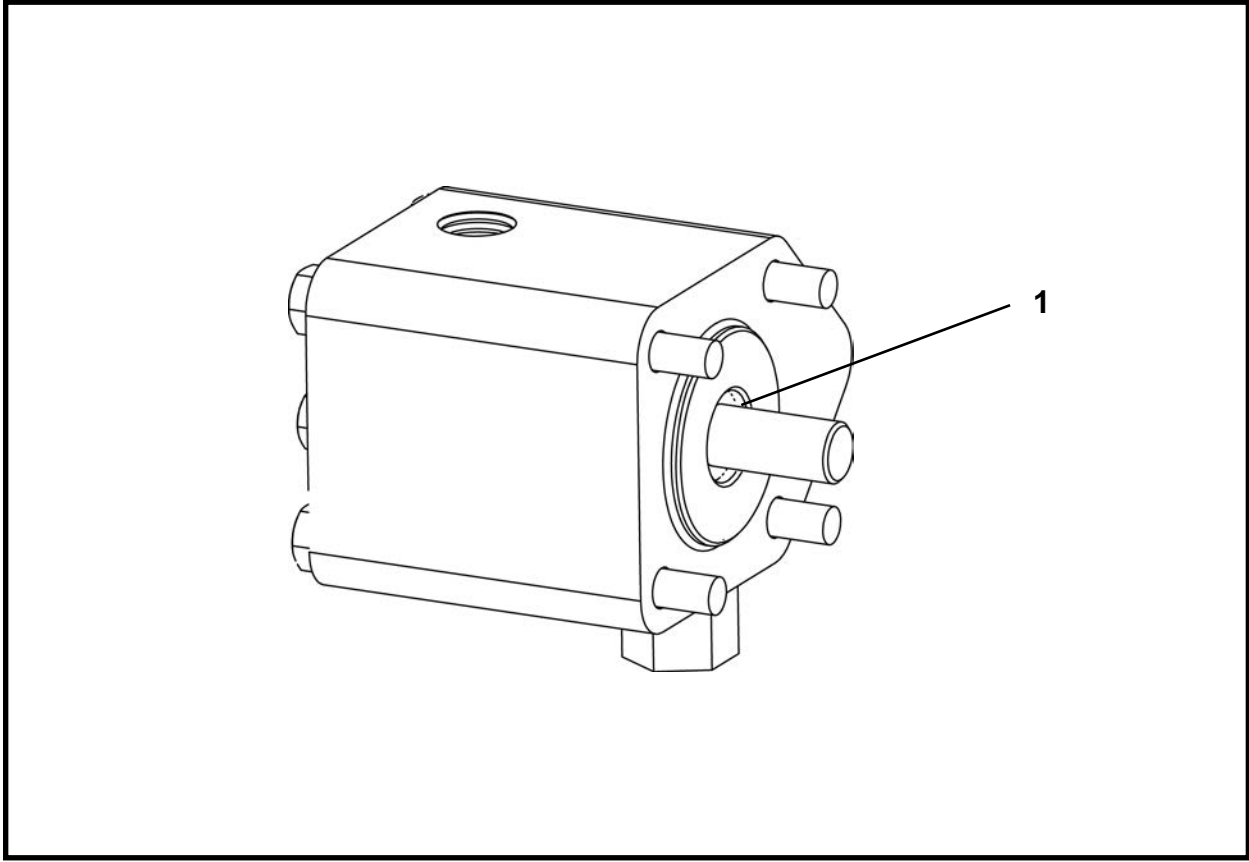
## GREASE PUMP WITH RESERVOIR, P0303-375



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0303-375	PUMP, Grease With Reservoir
1*	1	P0303-375A	DISK, Blowout
2*	1	P0303-375B	KIT, B/O Disk
3	1	P0303-375D	RESERVOIR
4	1	P0303-375E	PUMP ASSEMBLY

\* Not Shown

# LUBE PUMP, P0303-361



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0303-361	PUMP, Lube
1	1	P0303-361A	SEAL, Shaft



# Cylinders

## TBM

### Steering Cylinder

Steering Cylinder Assembly (48SC, 420, 540 Series II), 021175A .....	2
Steering Cylinder Assembly (480 Series II), 031075A .....	3

### Conveyor Lift Cylinder

With NPT Fittings, 002691A00 .....	4
With ORB Fittings, 020300A .....	5

### Hydraulic Dirt Wing Cylinder

Hydraulic Dirt Wing Cylinder Assembly (420 Series II), 010747A00 .....	6
Hydraulic Dirt Wing Cylinder Assembly (480, 540 Series II), 014603A00 .....	7

## Attachments

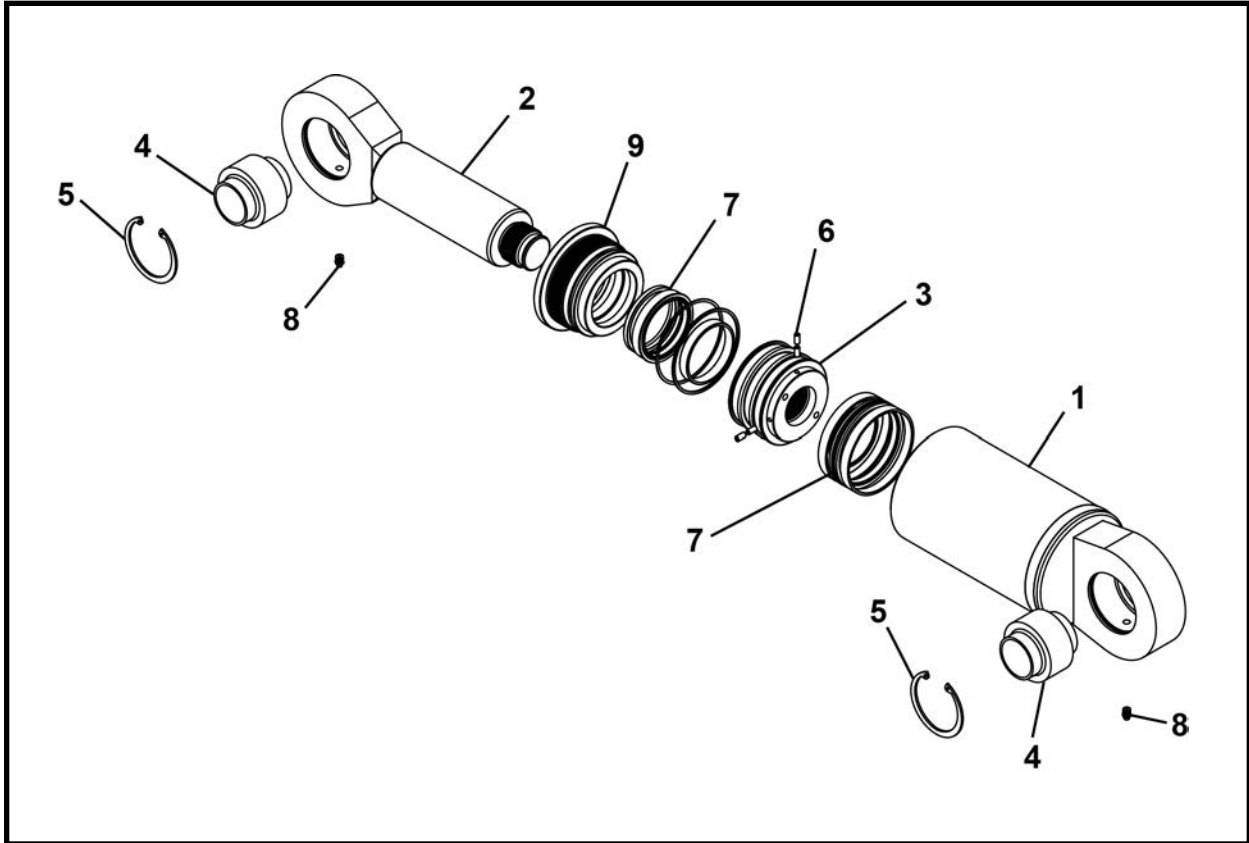
### Closed Face

Closed Face Cylinder Assembly (48SC Series II), 015090A .....	8
Closed Face Cylinder Assembly (420 Series II), 015085A .....	9
Closed Face Cylinder Assembly (480 Series II), 015065A .....	10
Closed Face Cylinder Assembly (540 Series II), 015060A .....	11

## Intermediate Jacking Station

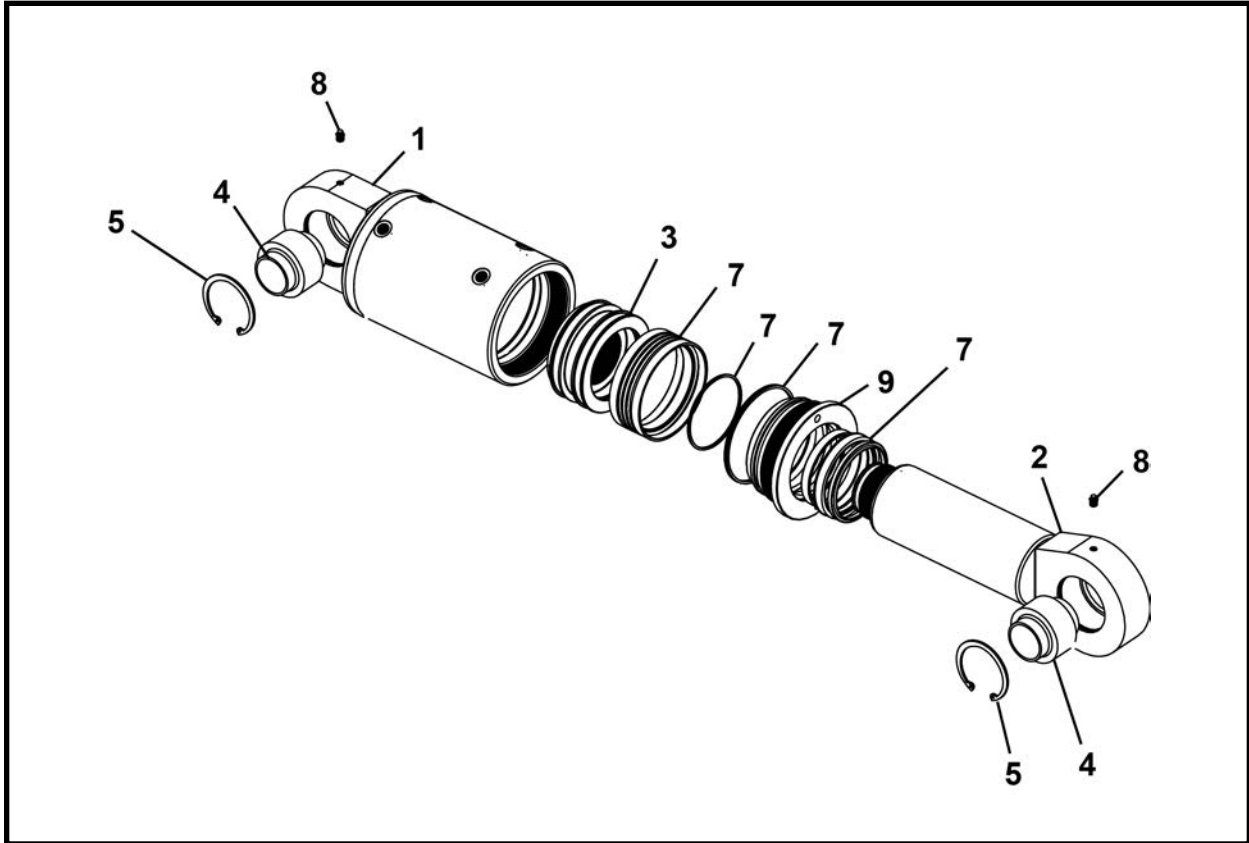
Intermediate Jacking Station Cylinder, F03531F02 .....	12
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**STEERING CYLINDER ASSEMBLY, 021175A**  
**TBM Series II: 48SC - 420 - 540**



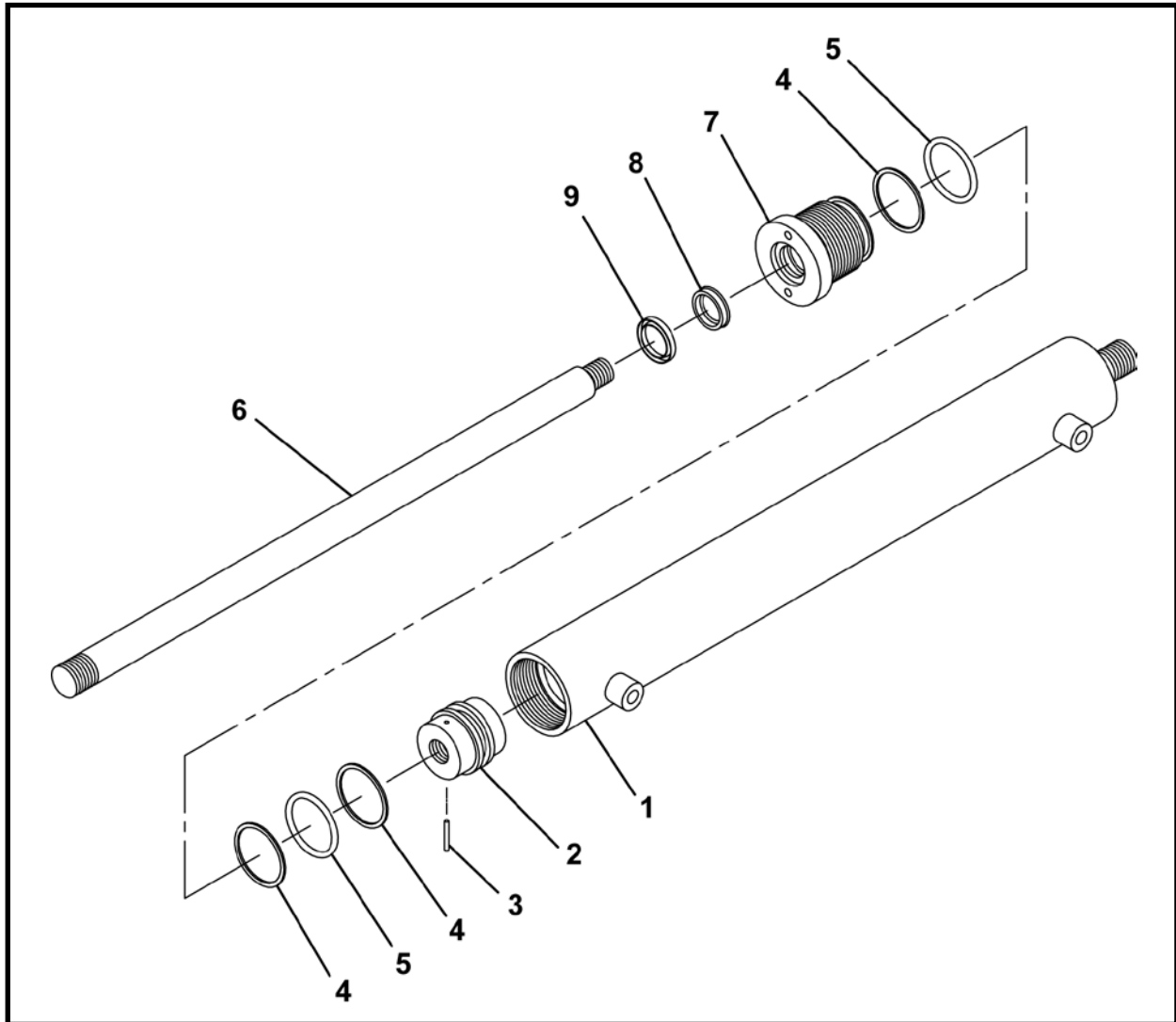
ITEM	QTY	PART NO.	DESCRIPTION
0	1	021175A	ASSEMBLY, Steering Cylinder
1	1	021176A	BARREL
2	1	021177A	ROD
3	1	021179P	PISTON
4	2	P0065-269	BEARING, Spherical
5	2	P0077-059	RING, Retaining
6	4	P0033-04-008	SCREW, Socket Set Hex 1/4 UNC x .5
7	1	P0307-225	KIT, Seal
8	2	P0063-004	FITTING, Grease 1/8-NPT Straight
9	1	021178P	GLAND

**STEERING CYLINDER ASSEMBLY, 031075A**  
**TBM Series II: 480**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	031075A	ASSEMBLY, Steering Cylinder
1	1	031076A	BARREL
2	1	023177A	ROD
3	1	023179P	PISTON
4	2	P0065-269	BEARING, Spherical
5	2	P0077-059	RING, Retaining
6	4	P0033-04-008	SCREW, Socket Set Hex 1/4 UNC x .5
7	1	P0307-217	KIT, Seal
8	2	P0063-004	FITTING, Grease 1/8-NPT Straight
9	1	023178P	GLAND

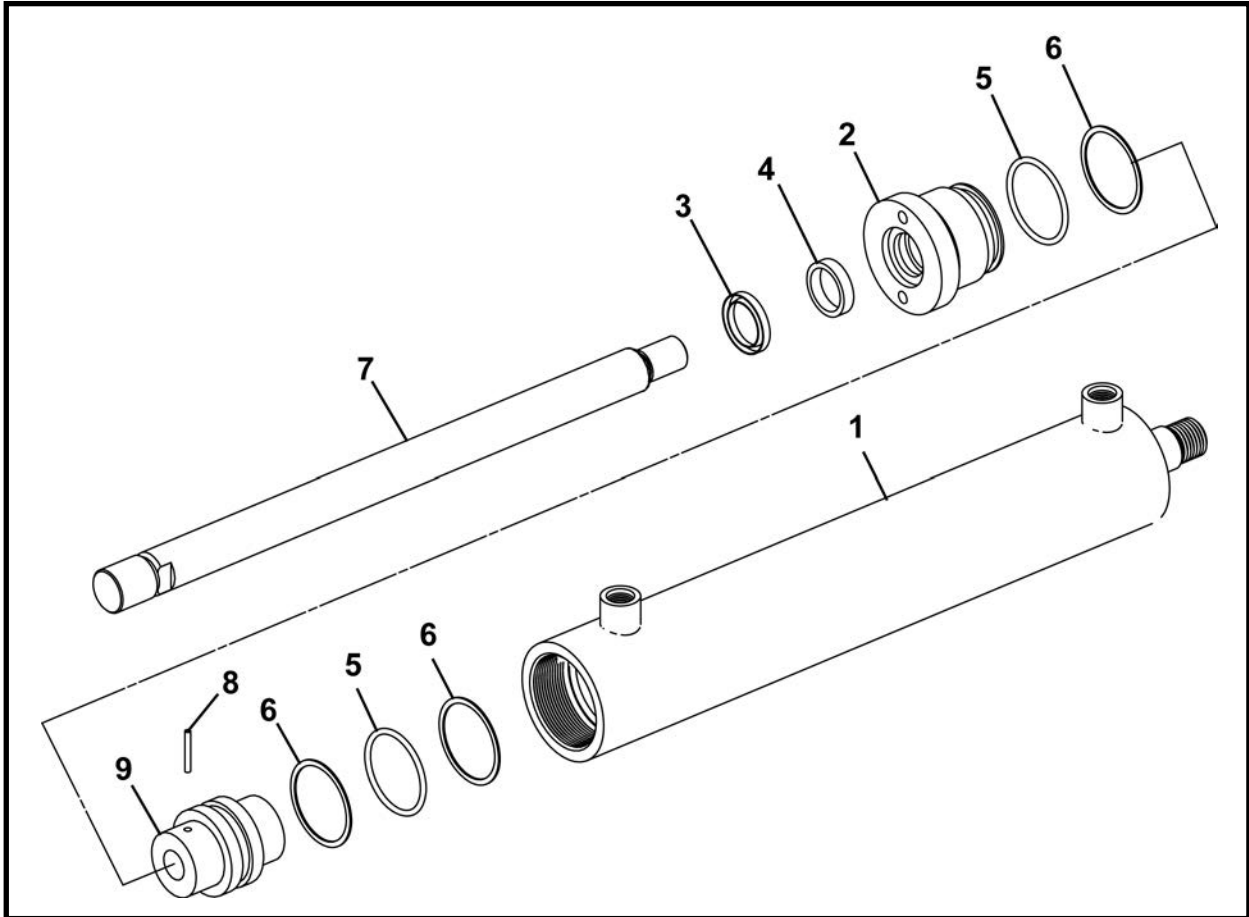
## CONVEYOR LIFT CYLINDER WITH NPT FITTINGS, 002691A00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	002691A00	CYLINDER, Conveyor Lift (With NPT Fittings)
1	1	002683A00	BARREL, Cylinder
2	1	001303P01	PISTON
3	1	P0049-042	PIN, Spring
4	3	P0085-224	ORING
5	2	P0084-224	RING, Back Up
6	1	002684P00	SHAFT
7	1	001245P00	GLAND
8	1	P0086-001	POLYSEAL
9	1	P0080-001	WIPER

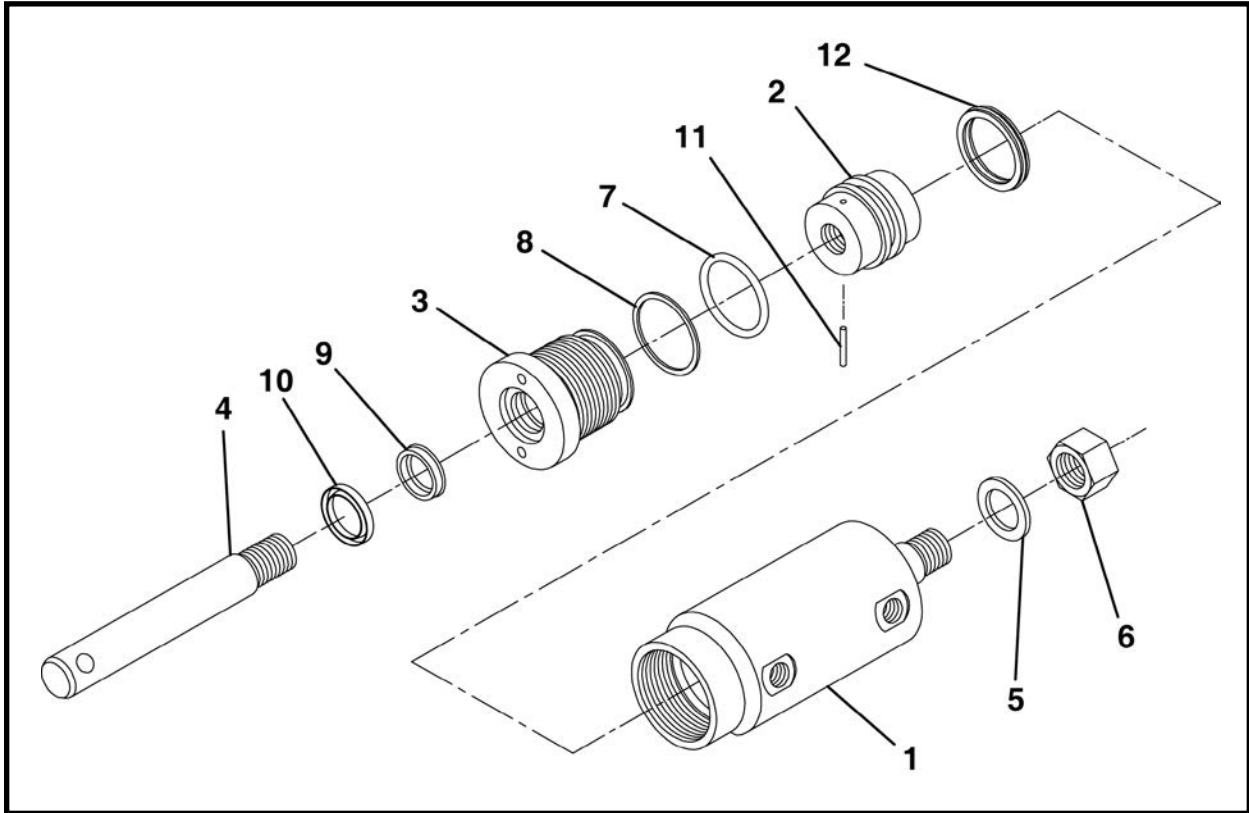
NOTE: Gland must be put on rod from piston end only.

## CONVEYOR LIFT CYLINDER WITH ORB FITTINGS, 020300A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	020300A	CYLINDER, Conveyor Lift (With ORB Fittings)
1	1	020305A	BARREL, Cylinder
2	1	001245P00	GLAND
3	1	P0080-001	WIPER
4	1	P0086-001	POLYSEAL
5	2	P0085-224	ORING
6	3	P0084-224	RING, Back Up
7	1	002684P00	SHAFT
8	1	P0049-042	PIN, Spring
9	1	001303P01	PISTON

**DIRT WING CYLINDER ASSEMBLY, 010747A00**  
**HYDRAULIC DIRT WING CYLINDERS**  
**TBM Series II: 420**

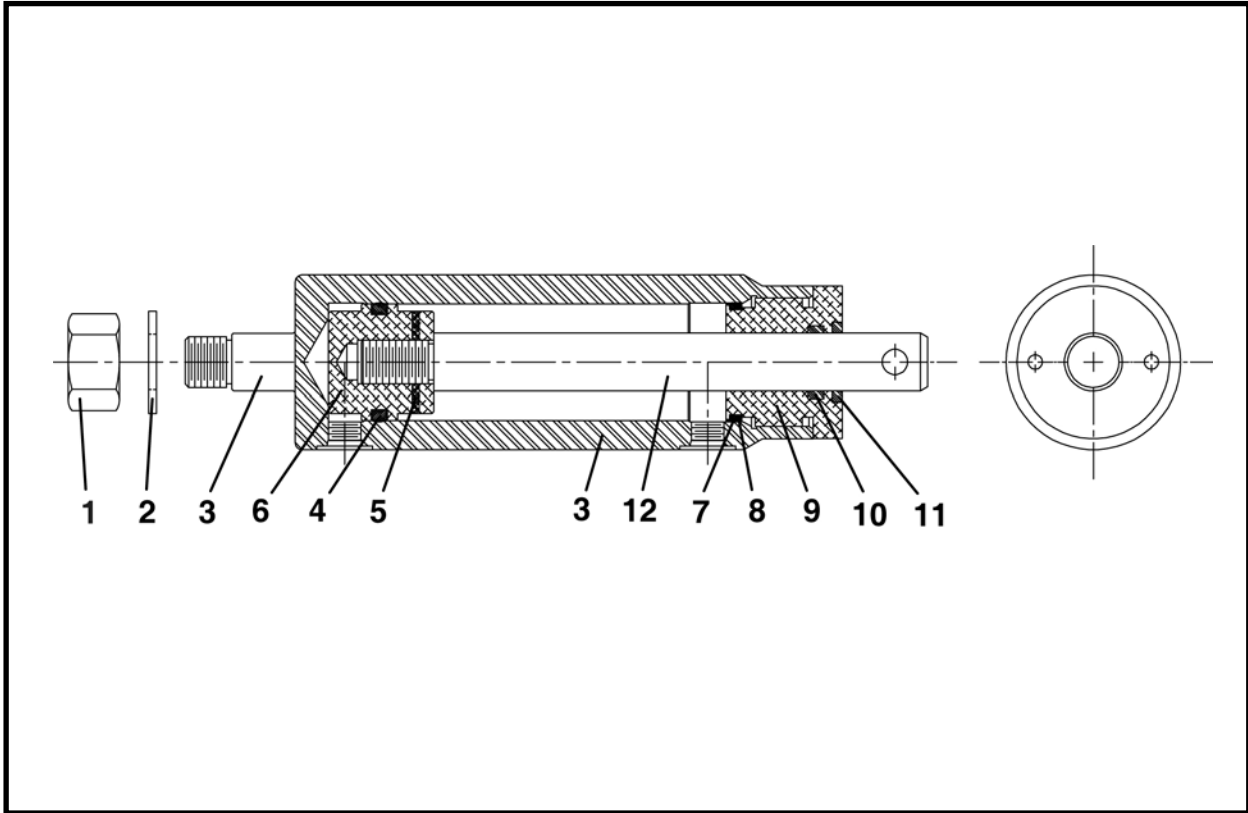


ITEM	QTY	PART NO.	DESCRIPTION
0	1	010747A00	ASSEMBLY, Advance/Dirt Wing Cylinder
1	1	010865P00	BARREL, Cylinder
2	1	010864P00	PISTON
3	1	001245P00	GLAND
4	1	001243P01	SHAFT
5	1	P0040-014	WASHER, 7/8
6	1	P0004-14-000	NUT, 7/8 UNF
7*	1	P0085-224	ORING
8*	1	P0084-224	RING, Back Up
9*	1	P0086-001	POLYSEAL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

\* Included in item 13, 010748A00 Seal Kit.

NOTE: Install item 10 as shown with "cupped" side pointing toward rod end.

**DIRT WING CYLINDER ASSEMBLY, 014603A00**  
**HYDRAULIC DIRT WING CYLINDERS**  
**TBM Series II: 480 - 540**

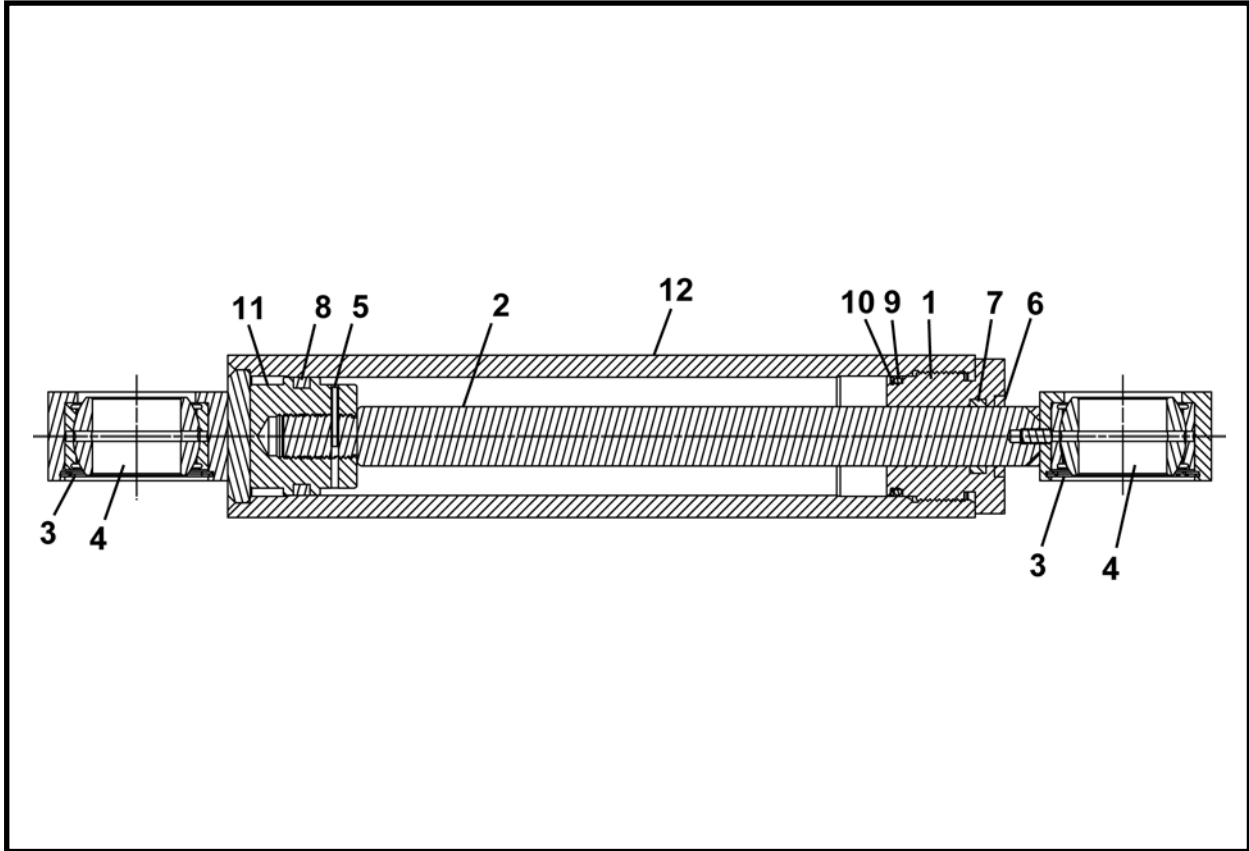


ITEM	QTY	PART NO.	DESCRIPTION
0	1	014603A00	ASSEMBLY, Hydraulic Dirt Wing Cylinder
1	1	P0004-14-000	NUT, 7/8 UNF
2	1	P0040-014	WASHER, 7/8
3	1	014605P00	BARREL, Cylinder
4*	1	P0085C2	SEAL
5	1	P0049-042	PIN, Roll
6	1	010864P00	PISTON
7*	1	P0085-224	ORING
8*	1	P0084-224	RING, Back Up
9	1	001245P00	GLAND
10*	1	P0086-001	POLYSEAL
11*	1	P0080-001	WIPER
12	1	014604P00	SHAFT
13	1	010748A00	KIT, Seal

\* Included in item 13, 010748A00 Seal Kit.

# CLOSED FACE CYLINDER ASSEMBLY, 015090A

CLOSED FACE  
TBM Series II: 48SC



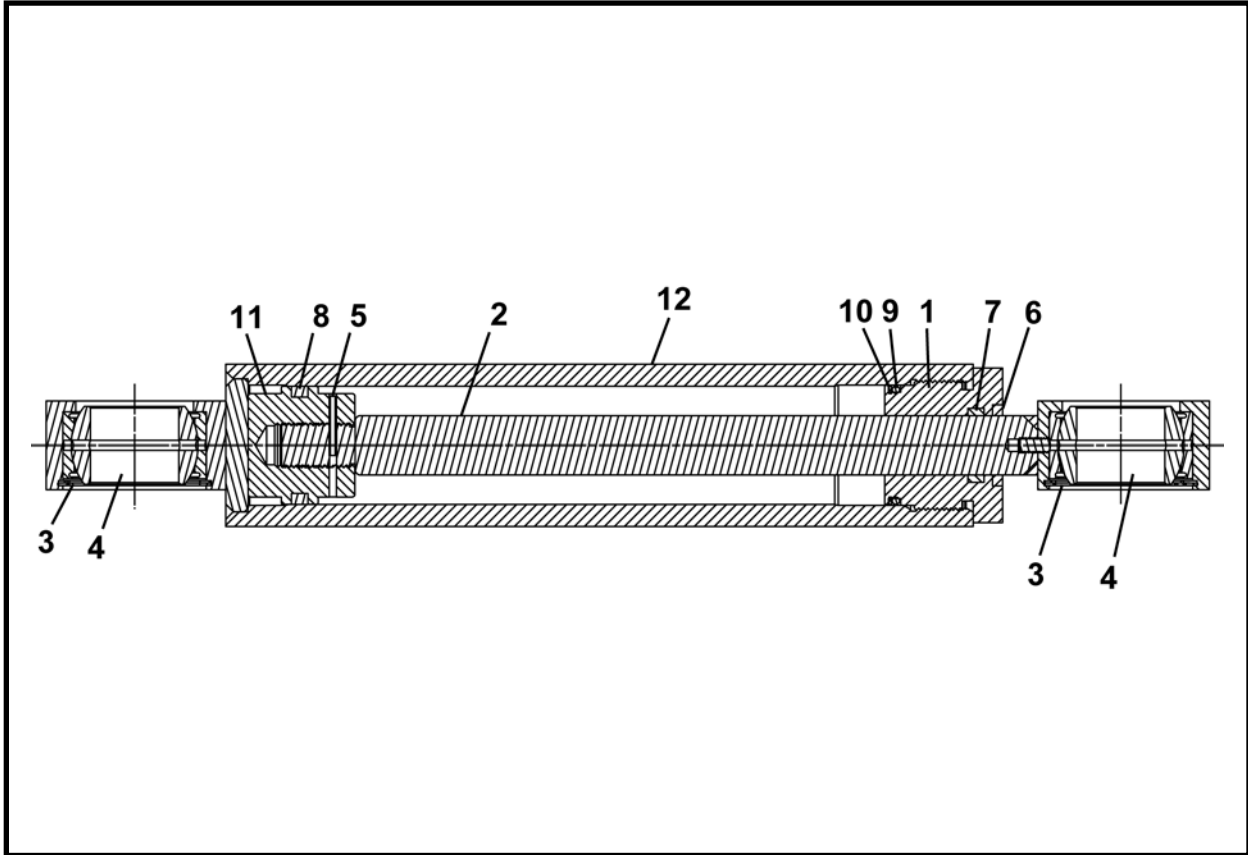
ITEM	QTY	PART NO.	DESCRIPTION
0	1	015090A	ASSEMBLY, Cylinder
1	1	001245P00	GLAND
2	1	015093A	SHAFT
3	2	P0076-050	RING, Snap
4	2	P0065-086	BEARING
5	1	P0049-042	PIN, Spring
6*	1	**P0080-001	RETAINER, Seal
7*	1	P0086-001	POLYSEAL
8*	1	P0085-C2	RING, Seal
9*	1	P0085-224	ORING
10*	1	P0084-224	RING, Back Up
11	1	010864P00	PISTON
12	1	015091A	BARREL

\* Included in 010748A00, Seal Kit

\*\* Installed with "cupped" side pointing toward rod end.

# CLOSED FACE CYLINDER ASSEMBLY, 015085A

CLOSED FACE  
TBM Series II: 420



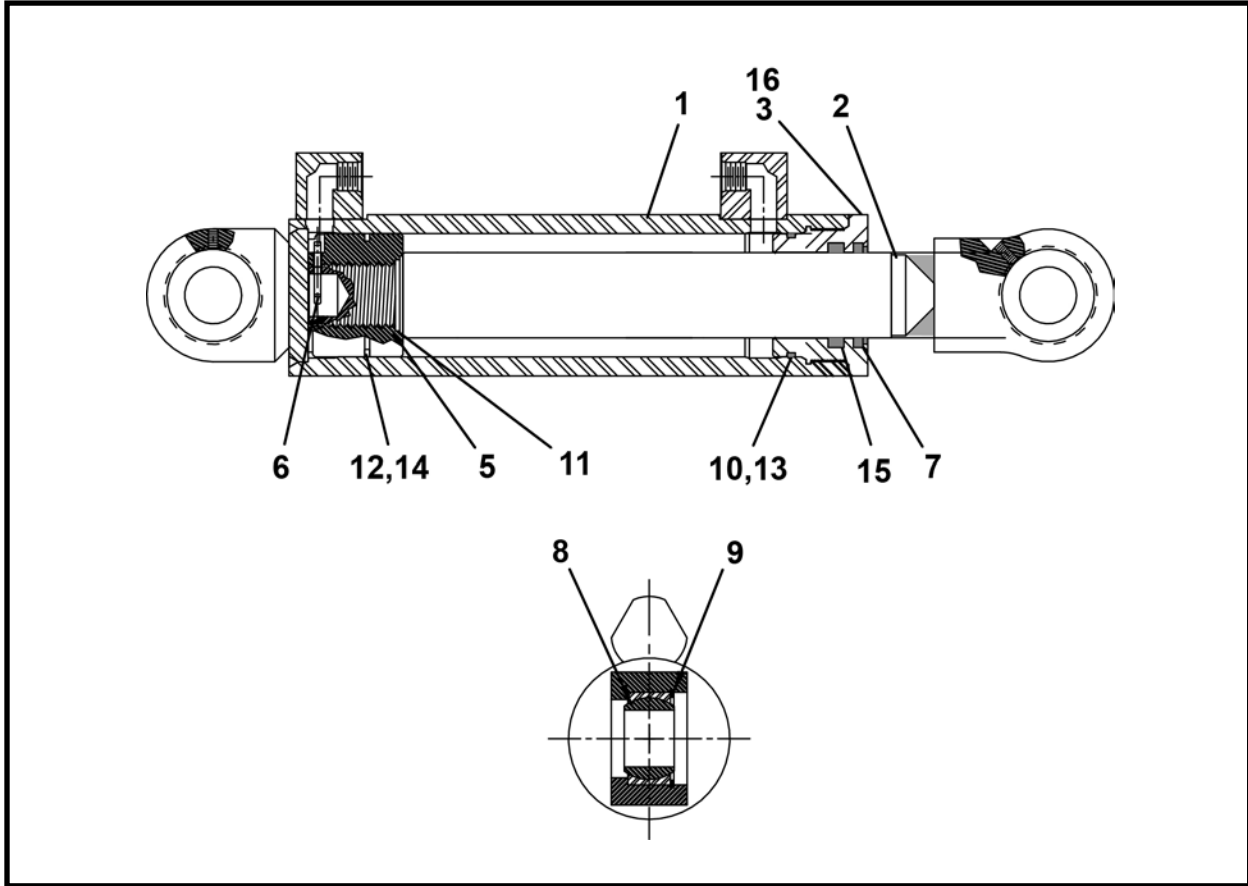
ITEM	QTY	PART NO.	DESCRIPTION
0	1	015085A	ASSEMBLY, Cylinder
1	1	001245P00	GLAND
2	1	015088A	SHAFT
3	2	P0076-050	RING, Snap
4	2	P0065-086	BEARING
5	1	P0049-042	PIN, Spring
6*	1	**P0080-001	RETAINER, Seal
7*	1	P0086-001	POLYSEAL
8*	1	P0085-C2	RING, Seal
9*	1	P0085-224	ORING
10*	1	P0084-224	RING, Back Up
11	1	010864P00	PISTON
12	1	015086A	BARREL

\* Included in 010748A00, Seal Kit

\*\* Installed with "cupped" side pointing toward rod end.

# CLOSED FACE CYLINDER ASSEMBLY, 015065A

CLOSED FACE  
TBM Series II: 480

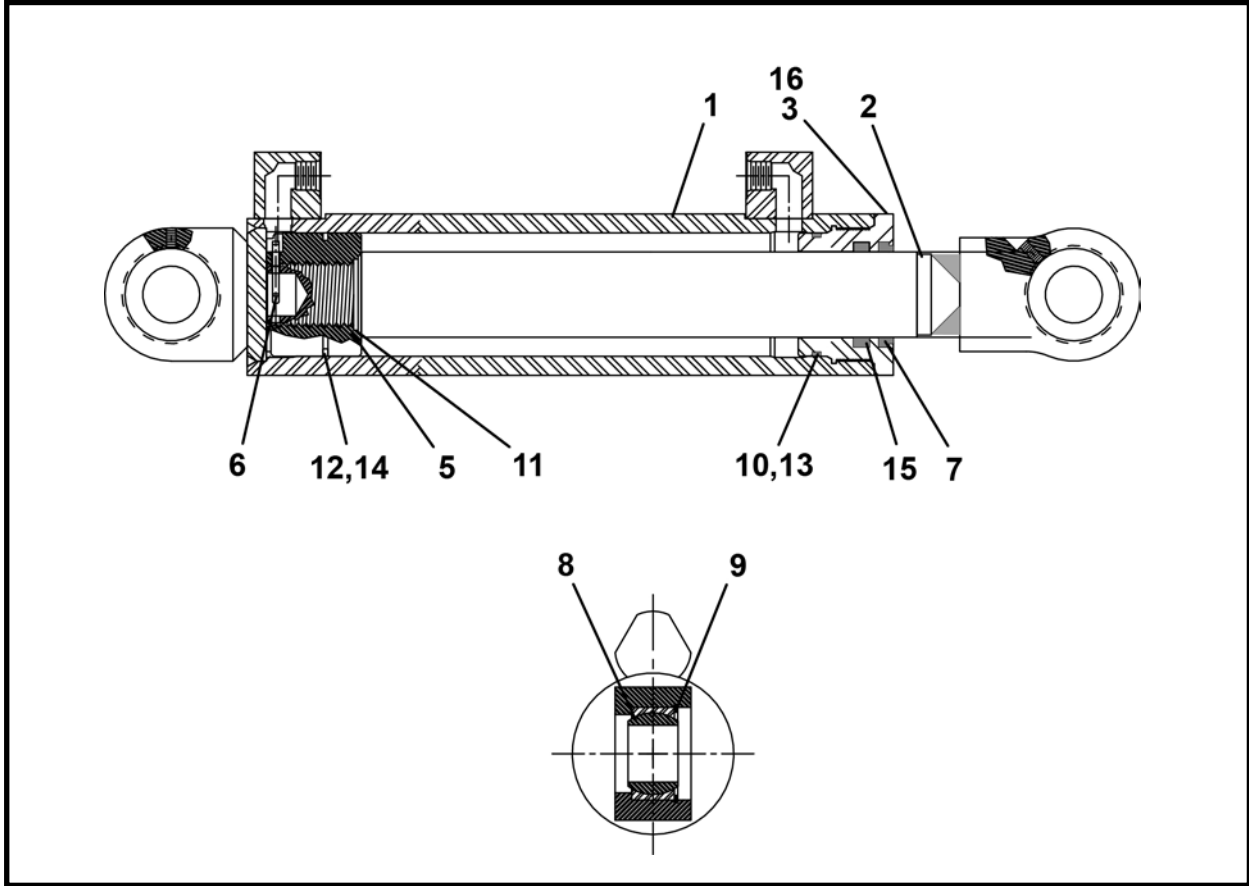


ITEM	QTY	PART NO.	DESCRIPTION
0	1	015065A	ASSEMBLY, Cylinder
1	1	015066A	BARREL
2	1	015068A	SHAFT
3	1	008945P01	GLAND
4	REF	009918A00	KIT, Seal
5	1	014481P00	PISTON
6	1	P0048-033	PIN, Cotter
7*	1	P0087-004	WIPER
8	2	P0065-086	BEARING
9	2	P0076-050	RING, Snap
10*	1	P0084-234	RING, Back Up
11*	1	P0085-134	ORING
12*	1	P0085-149	ORING
13*	1	P0085-234	ORING
14*	1	P0085-C3	SEAL, Piston
15*	1	P0086-005	POLYSEAL
16	2	P033-04-008	SCREW, Socket Set 1/4 UNC x .5

\* Included in item 4, 009918A00, Seal Kit

# CLOSED FACE CYLINDER ASSEMBLY, 015060A

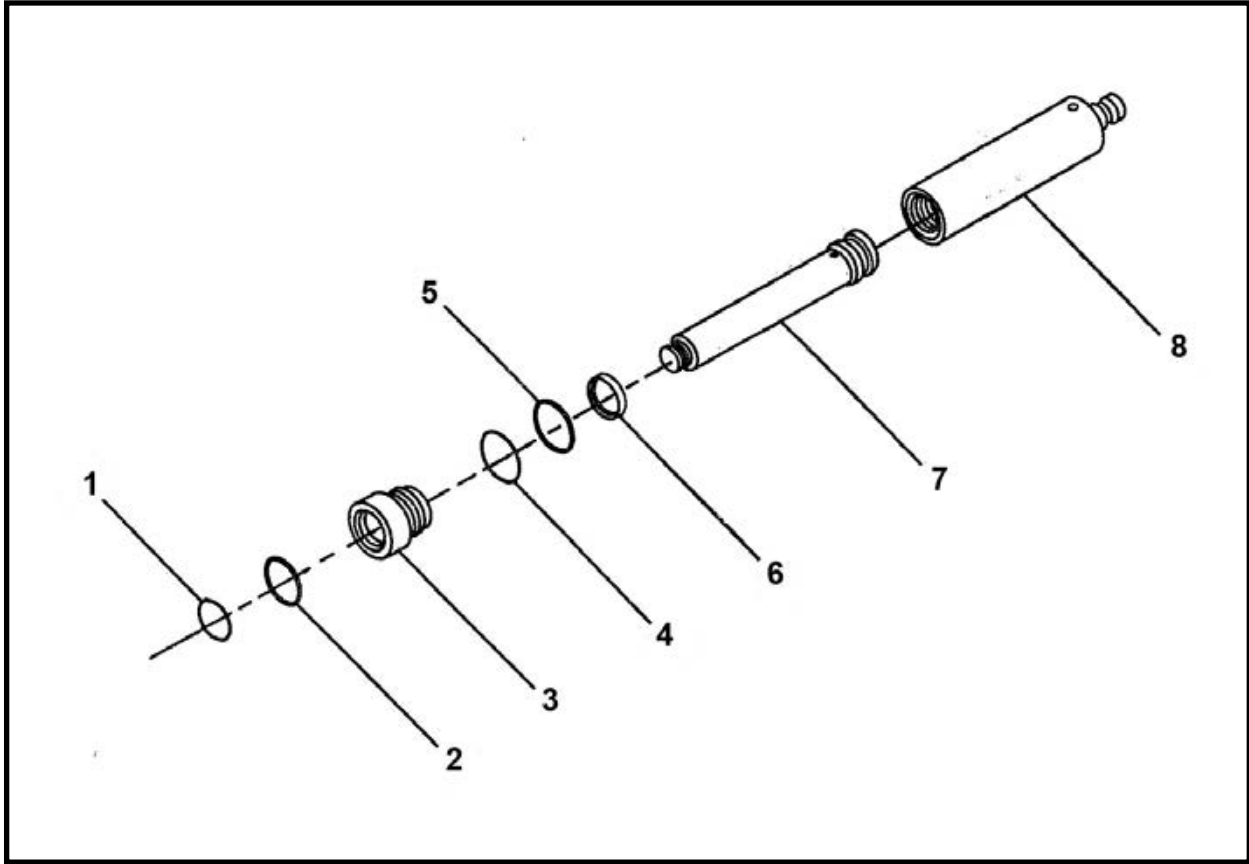
CLOSED FACE  
TBM Series II: 540



ITEM	QTY	PART NO.	DESCRIPTION
0	1	015060A	ASSEMBLY, Cylinder
1	1	015061A	BARREL
2	1	015063A	SHAFT
3	1	008945P01	GLAND
4	REF	009918A00	KIT, Seal
5	1	014481P00	PISTON
6	1	P0048-033	PIN, Cotter
7*	1	P0087-004	WIPER
8	2	P0065-086	BEARING
9	2	P0076-050	RING, Snap
10*	1	P0084-234	RING, Back Up
11*	1	P0085-134	ORING
12*	1	P0085-149	ORING
13*	1	P0085-234	ORING
14*	1	P0085-C3	SEAL, Piston
15*	1	P0086-005	POLYSEAL
16	2	P033-04-008	SCREW, Socket Set 1/4 UNC x .5

\* Included in item 4, 009918A00, Seal Kit

## IJS CYLINDER ASSEMBLY, F03531F02



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F03531F02	CYLINDER ASSEMBLY, IJS
1*	1	P0087-001	WIPER
2*	1	P0086-003	POLYSEAL
3	1	003095P02	CAP, End
4*	1	P0084-139	RING, Back-Up
5*	1	P0085-139	ORING
6*	1	P0088-002	RING, Wear
7	1	003348P02	SHAFT
8	1	003364A01	BARREL
9	REF	007344A00	KIT, Seal

\* Included in item 9, 007344A00 Seal Kit.



# Miscellaneous / Conveyors

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Drive Motor & Roller Assembly	
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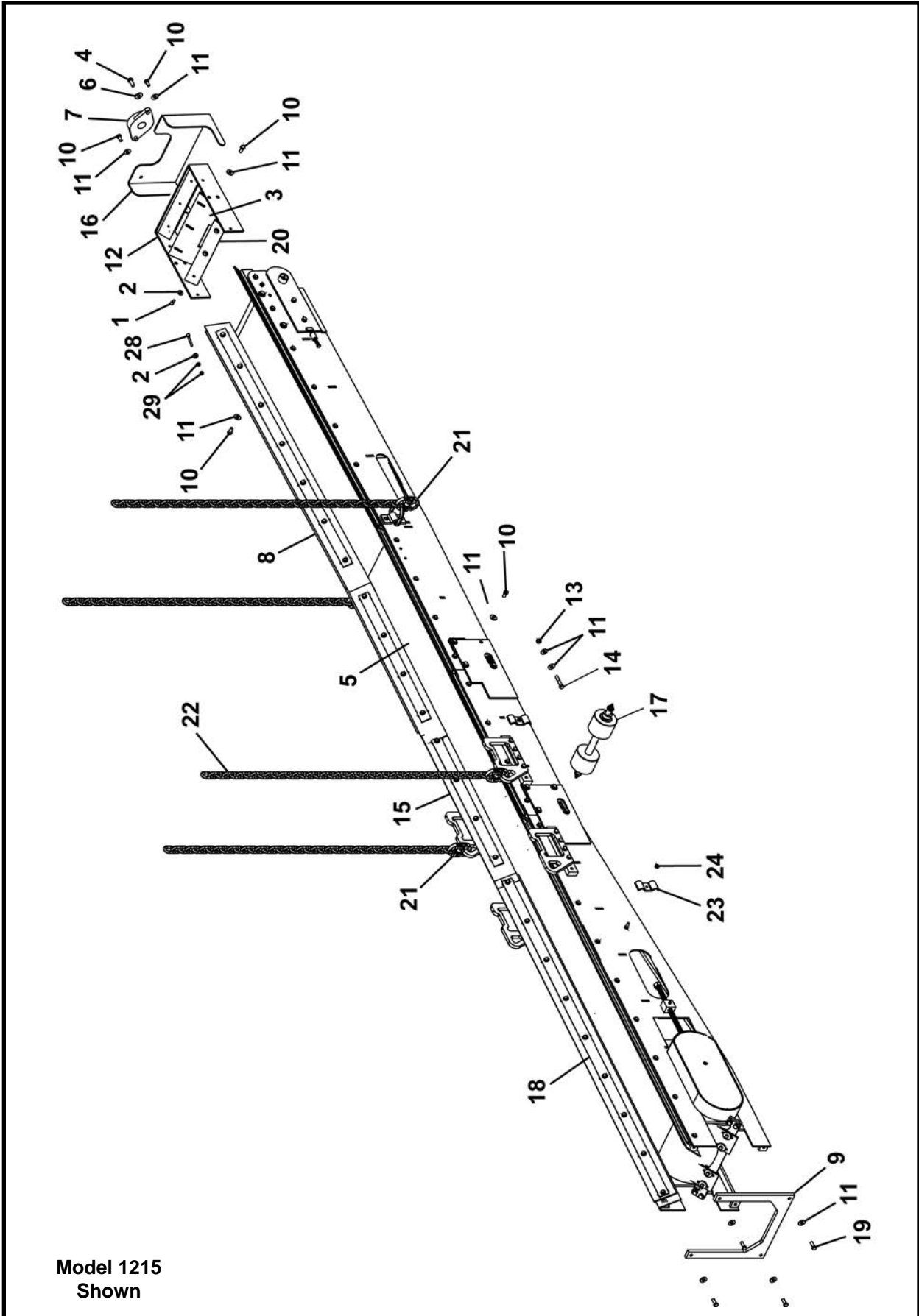
## Screw Conveyor

Screw Conveyor 120EX, F32070F .....	22
Motor Mount Assembly, 023543A .....	23
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## Intermediate Jacking Station

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IJS Tunnel Line 10 Ft 6 In., F09800F00 .....	30
Tee Connector, F09804F00 .....	31
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**BELT CONVEYOR**  
1015 - 1215 - 1615 CONVEYORS



Model 1215  
Shown

**BELT CONVEYOR  
1015 / 1215 CONVEYORS**

ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	F27200F00	F27350F00	F27250F00	CONVEYOR, Belt
1	3	P0001-04-003	P0001-04-003	P0001-04-003	BOLT, Hex 1/4 UNC x .75
2	5	P0040-004	P0040-004	P0040-004	WASHER, Hardened Flat 1/4
3	1	027239P00	027389P00	027289P00	SCRAPER, External Belt
4	2	P0001-07-004	P0001-07-004	P0001-07-004	BOLT, Hex 7/16 UNC x 1
5	1	P0067-044	-	-	BELTING, 10" x 29' 8"
5	1	-	P0067-048	-	BELTING, 12" X 29' 8"
5	1	-	-	P0067-041	BELTING, 16" X 29' 8"
6	2	P0040-007	P0040-007	P0040-007	WASHER, Hardened Flat 7/16
7	1	P0065-017	P0065-017	P0065-017	BEARING
8*	1	027213A00	027363A00	027263A00	FEED FRAME ASSEMBLY
9	1	027236P00	027386A00	027286P00	SUPPORT, Drive Frame Free End
10	24	P0001-06-003	P0001-06-003	P0001-06-003	BOLT, Hex 3/8-16 UNC x .75
11	36	P0040-006	P0040-006	P0040-006	WASHER, Lock 3/8
12	1	027209A00	027359A00	027259A00	MOUNT, Nose Bearing
13	4	P0003-06-000	P0003-06-000	P0003-06-000	NUT, Hex 3/8 UNC
14	4	P0001-06-008	P0001-06-008	P0001-06-008	BOLT, Hex 3/8 UNC x 2
15*	1	027214A00	027364A00	027264A00	EXTENSION FRAME ASSEMBLY
16	1	027208A00	027358A00	027258A00	GUARD, Dirt
17*	2	027211A00	027361A00	027261A00	ASSEMBLY, Idler Roller
18*	1	027212A00	027362A00	027262A00	ASSEMBLY, Drive Frame
19	4	P0001-06-004	P0001-06-004	P0001-06-004	BOLT, Hex 3/8 UNC x 1
20	1	027142P	027143P	027144P	PLATE, Feed Belt Retainer
21	4	P0098-009	-	-	LINK, 9/32 Hammerloc
21	4	-	P0098-010	P0098-010	LINK, 3/8 Hammerloc
22	4	P0094-009-030	-	-	CHAIN, 5/16 x 30
22	4	-	P0094-003-030	P0094-003-030	CHAIN, 3/8 x 30
23	2	002269P01	002269P01	002269P01	CLAMP, Line
24	2	P0003-05-000	P0003-05-000	P0003-05-000	NUT, Hex 5/16
25**	2	A10320A-132	A10320A-132	A10320A-132	HOSE ASSEMBLY 1/2 x 132
26**	1	P0100-004A	P0100-004A	P0100-004A	COUPLER, Female
27**	1	P0100-004B	P0100-004B	P0100-004B	COUPLER, Male
28	2	P0001-04-010	P0001-04-010	P0001-04-010	BOLT, Hex 1/4 UNC x 2.5
29	4	P0003-04-000	P0003-04-000	P0003-04-000	NUT, 1/4

\* Refer to this section for parts information.

\*\* Not Shown

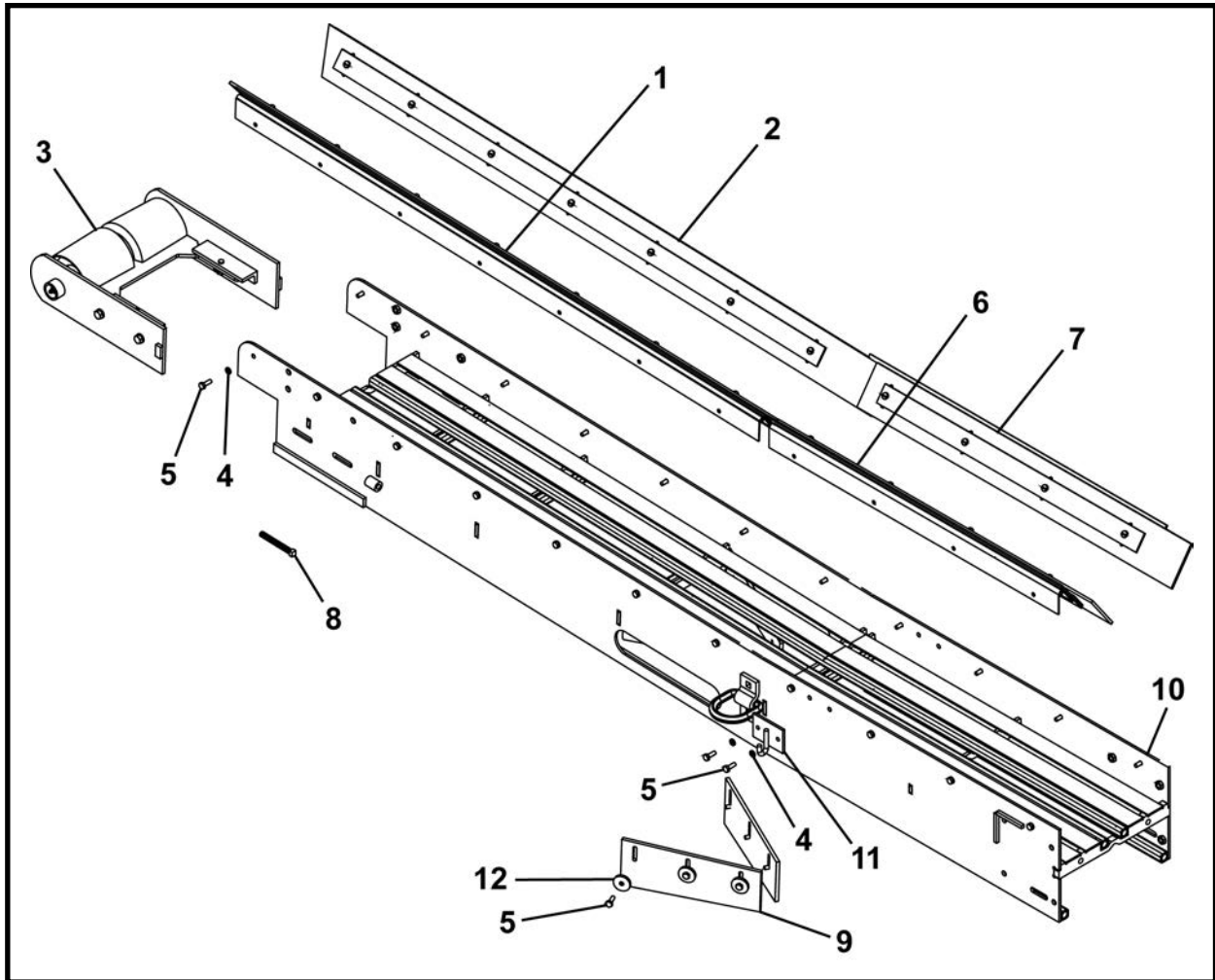
**NOTE:**

1. For 1013 Belt Conveyor (027220A00), the parts are the same as the 1015 conveyor with the two following exceptions: item 6, Belting is P0067-003 (10" x 24'8") with no extension frame assembly item 15.

2. For 1213 Belt Conveyor (027370A00), the parts are the same as the 1215 conveyor with the two following exceptions: item 6, Belting is P0067-009 (12" x 24'8") with no extension frame assembly item 15.

## **NOTES**

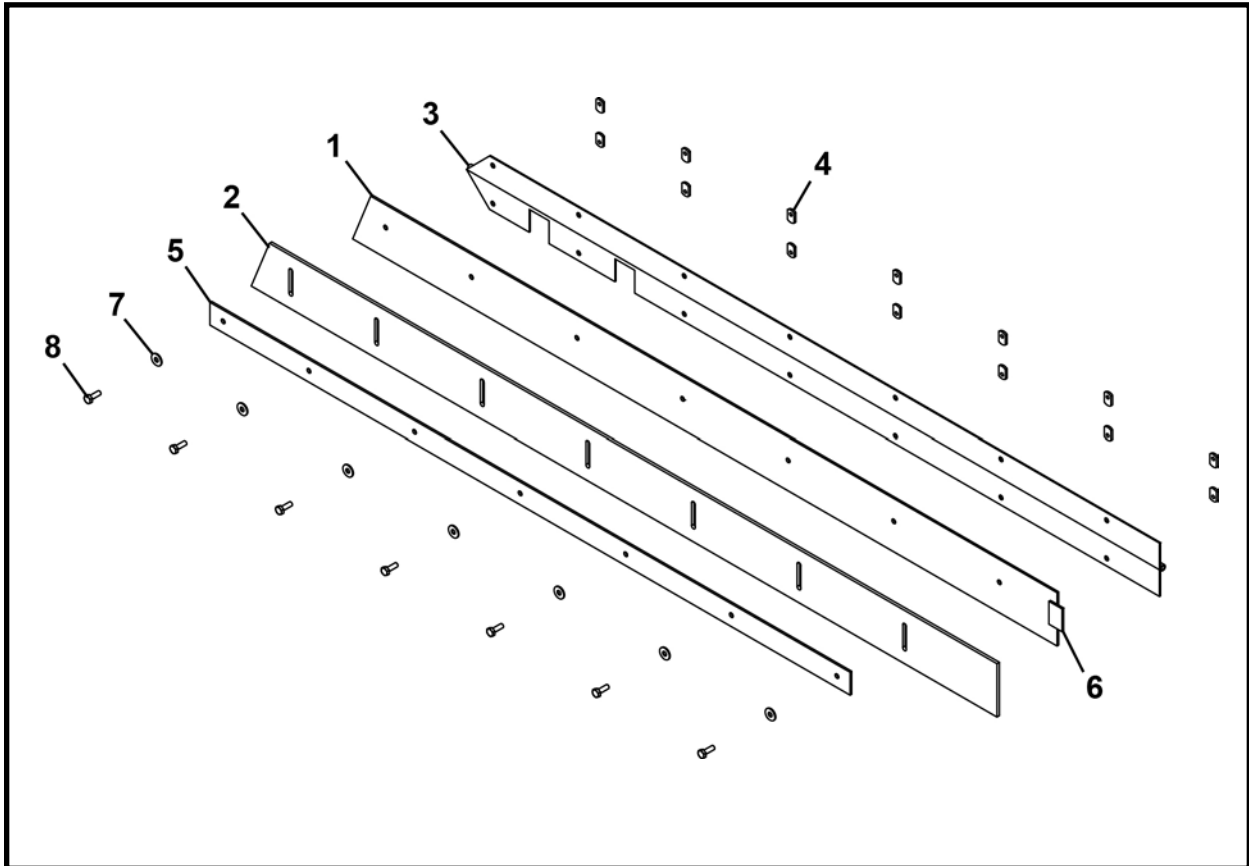
**FEED FRAME ASSEMBLY**  
**1015 - 1215 - 1615 BELT CONVEYORS**



ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	027213A00	027363A00	027263A00	ASSEMBLY, Feed Frame
1*	1	027137A00	027137A00	027137A00	GUIDE, Feed Frame Spoils - Left Front
2*	1	027221A00	027221A00	027221A00	GUIDE, Feed Frame Spoils - Right Front
3*	1	027207A00	027357A00	027257A00	FRONT ROLLER ASSEMBLY
4	24	P0040-004	P0040-004	P0040-004	WASHER, Hardened Flat 1/4
5	30	P0001-04-003	P0001-04-003	P0001-04-003	BOLT, Hex 1/4 UNC x .75
6*	1	027265A00	027265A00	027265A00	GUIDE, Feed Frame Spoils - Left Rear
7*	1	027266A00	027266A00	027266A00	GUIDE, Feed Frame Spoils - Right Rear
8	2	P0034-06-012	P0034-06-012	P0034-06-012	SCREW, Square Head Set 3/8 UNC x 3
9	2	027246P00	027396P00	027296P00	BELTING, Inner Belt Scraper
10	1	027202A00	027352A00	027252A00	FRAME, Feed (Includes items 10a-10c)
10a	2	001496P00	001496P00	001496P00	ROD, Adjustment
10b	14	P0007-06-000	P0007-06-000	P0011-006C	NUT, Jam/Weld 3/8 UNC
10c	2	P0079-003	P0079-003	P0079-003	D-RING, 1/2
11	1	005436A00	005436A00	005436A00	PLATE, Hook
12	6	002624P00	002624P00	002624P00	WASHER, Dirt Paddle

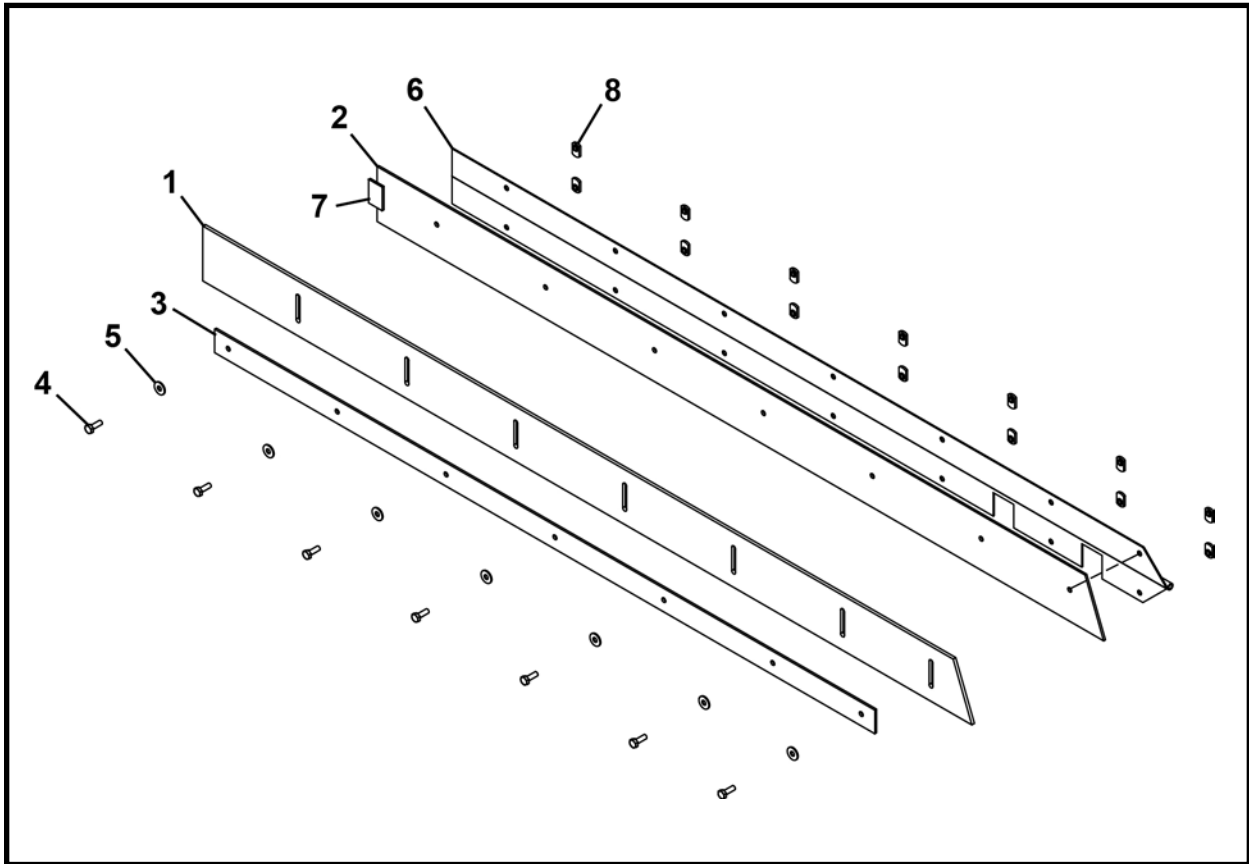
\* Refer to this section for parts information.

**FEED FRAME SPOILS GUIDE ASSEMBLY - LEFT FRONT, 027137A00**  
**1015 - 1215 - 1615 BELT CONVEYORS**



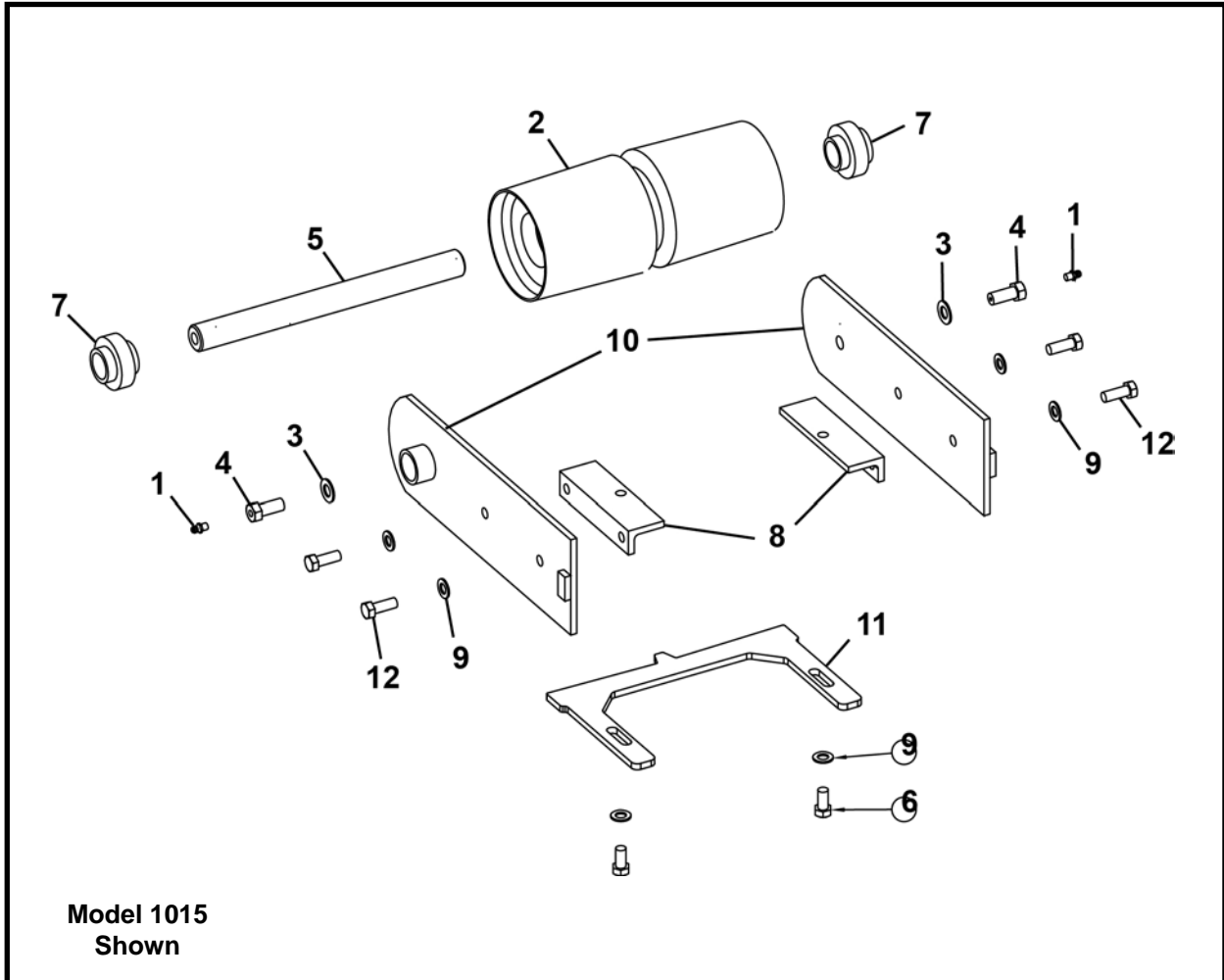
ITEM	QTY	PART NO.	DESCRIPTION
0	1	027137A00	ASSEMBLY, Feed Frame Spoils Guide - Left Front
1	1	027139P00	SUPPORT BAR, Feed Frame Spoils
2	1	027140P00	STRIP, Wear, Feed Frame Spoils
3	1	027138P00	HINGE, Feed Frame Spoils
4	14	P0011-004B	NUT, Weld 1/4 UNC
5	1	027248P00	BRACKET, Feed Frame Wear Strip
6	1	027216P00	TAB, Feed Frame Support Bar
7	7	P0040-004	WASHER, Hardened Flat 1/4
8	7	P0001-04-003	BOLT, Hex 1/4 UNC x .75

**FEED FRAME SPOILS GUIDE ASSEMBLY - RIGHT FRONT, 027221A00**  
**1015 - 1215 - 1615 BELT CONVEYORS**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	027221A00	ASSEMBLY, Feed Frame Spoils Guide - Right Front
1	1	027140P00	STRIP, Wear, Feed Frame Spoils
2	1	027139P00	SUPPORT BAR, Feed Frame Spoils - Right
3	1	027248P00	BRACKET, Feed Frame Wear Strip
4	7	P0001-04-003	BOLT, Hex 1/4 UNC x .75
5	7	P0040-004	WASHER, Lock 1/4
6	1	027156P	HINGE, Feed Frame Spoils
7	1	027216P00	TAB, Feed Frame Support Bar
8	14	P0011-004B	NUT, Weld 1/4 UNC

**FRONT ROLLER ASSEMBLY**  
**1015 - 1215 - 1615 BELT CONVEYORS**

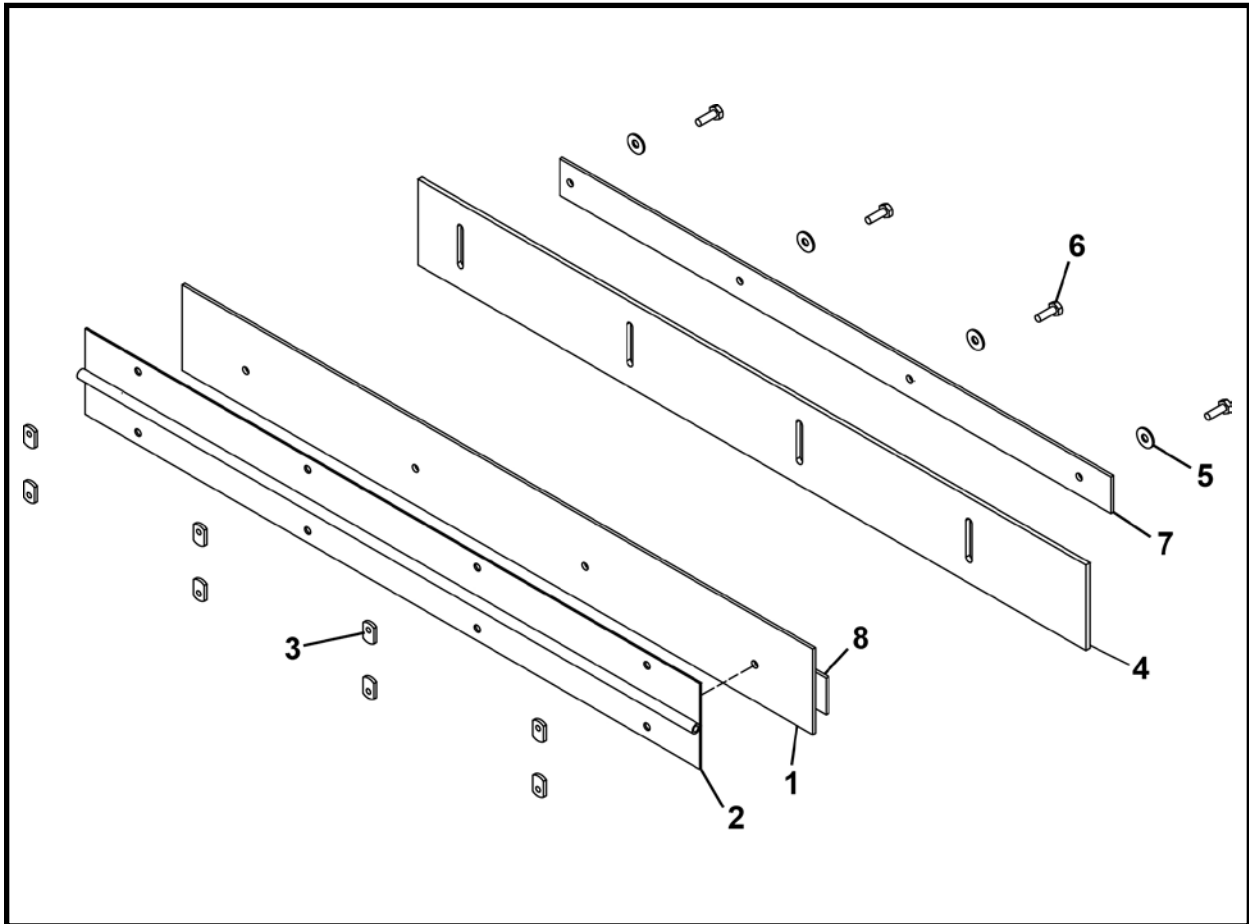


ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	027207A00	027357A00	027257A00	FRONT ROLLER ASSEMBLY
1	2	P0063-001	P0063-001	P0063-001	FITTING, Grease Straight
2	1	002941P00	002940A00	002256A00	ROLLER, Front
3	2	P0040-007	P0040-007	P0040-007	WASHER, Hardened Flat 7/16
4	2	002386P01	002386P01	002386P01	BOLT, Grease
5	1	027243P00	027393P00	027293P00	SHAFT, Front Roller
6	2	P0001-06-003	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
7	2	P0065-006	P0065-006	P0065-006	BEARING
8	2	027130P00	027130P00	027130P00	MOUNT, Front Roller Scraper
9	6	P0040-006	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
10	2	027109A00	027109A00	027109A00	BRACKET, Front Roller Mounting
11	1	027240P00	027390P00	027290P00	SCRAPER, Front Roller
12	4	P0001-06-004	P0001-06-004	P0001-06-004	BOLT, 3/8 UNC x 1

**NOTE:**

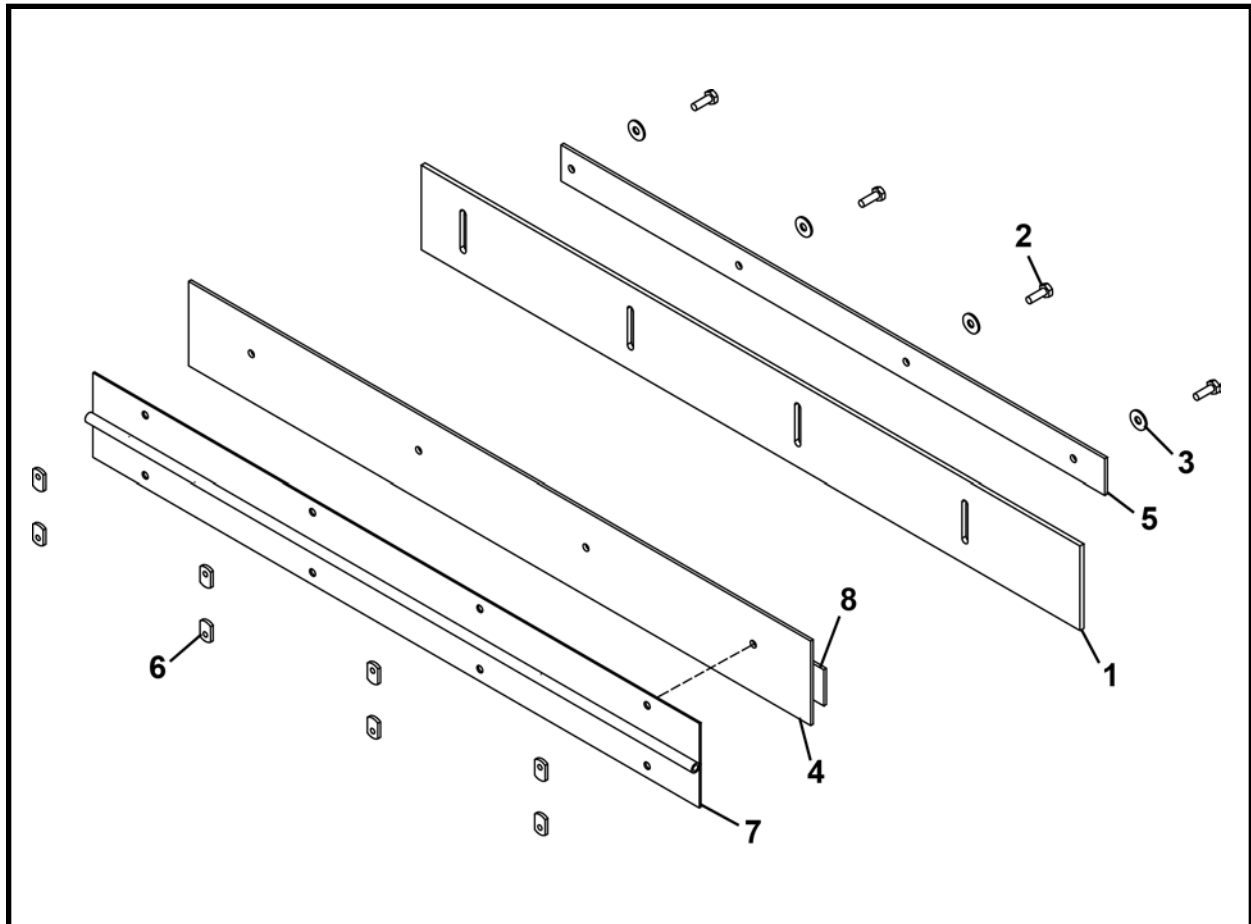
1. Remove seal on inside half of bearings (item 7).
2. 3/16" Feed Frame mounts between items 8 and 10.

**FEED FRAME SPOILS GUIDE ASSEMBLY - LEFT REAR, 027265A00**  
**1015 - 1215 - 1615 BELT CONVEYORS**



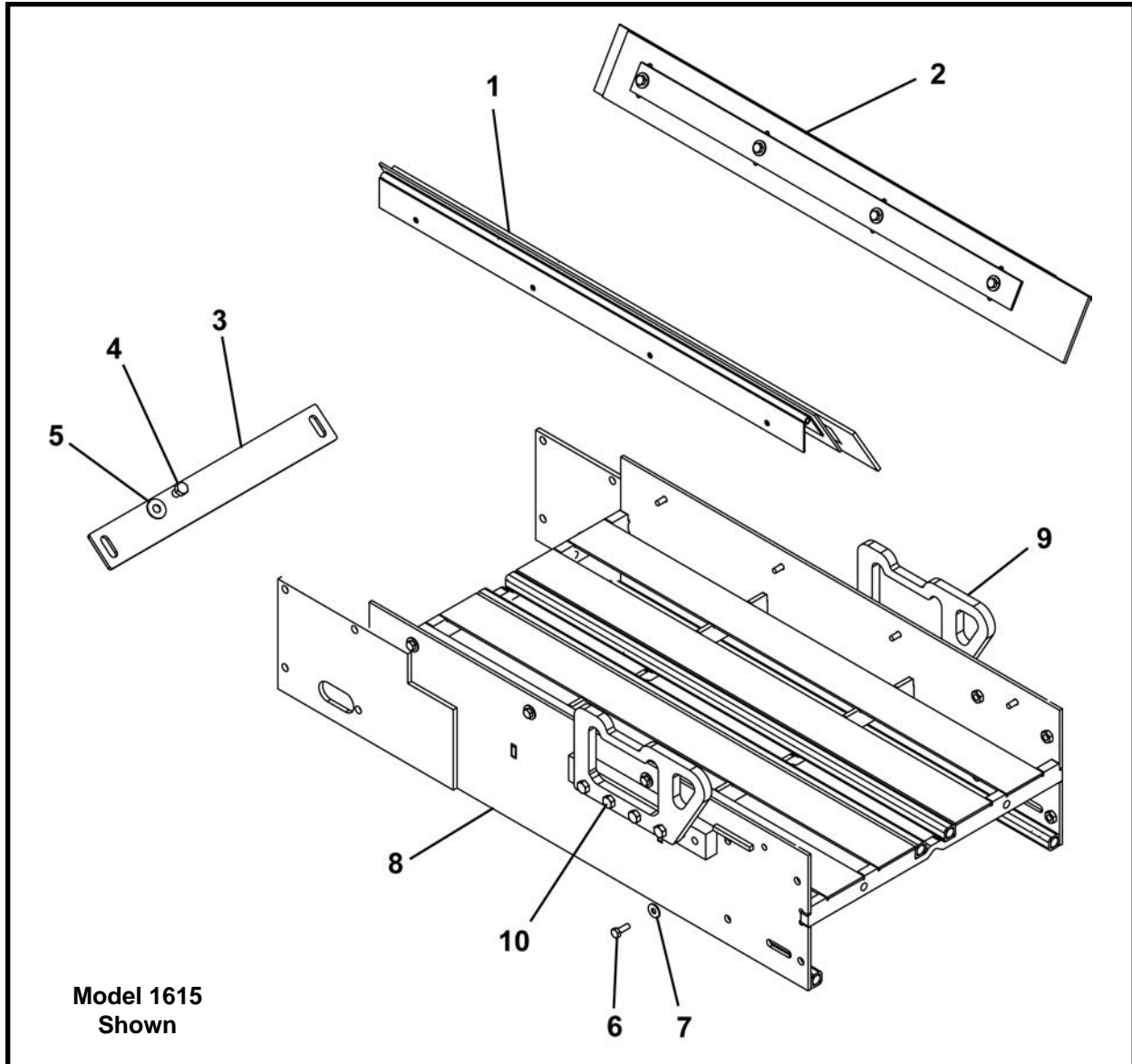
ITEM	QTY	PART NO.	DESCRIPTION
0	1	027265A00	ASSEMBLY, Feed Frame Spoils Guide - Left Rear
1	1	027217P00	SUPPORT BAR, Feed Frame Spoils - Left
2	1	027135P00	HINGE, Short Spoils Guide
3	8	P0011-004B	NUT, Weld 1/4 UNC
4	1	027136P00	STRIP, Short Spoils Guide Wear
5	4	P0040-004	WASHER, Hardened Flat 1/4
6	4	P0001-04-003	BOLT, Hex 1/4 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**  
**1015 - 1215 - 1615 BELT CONVEYORS**



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 UNC x .75
3	4	P0040-004	WASHER, Hardened Flat 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 UNC
7	1	027135P00	HINGE, Short Spoils Guide
8	1	027216P00	TAB, Feed Frame Support Bar

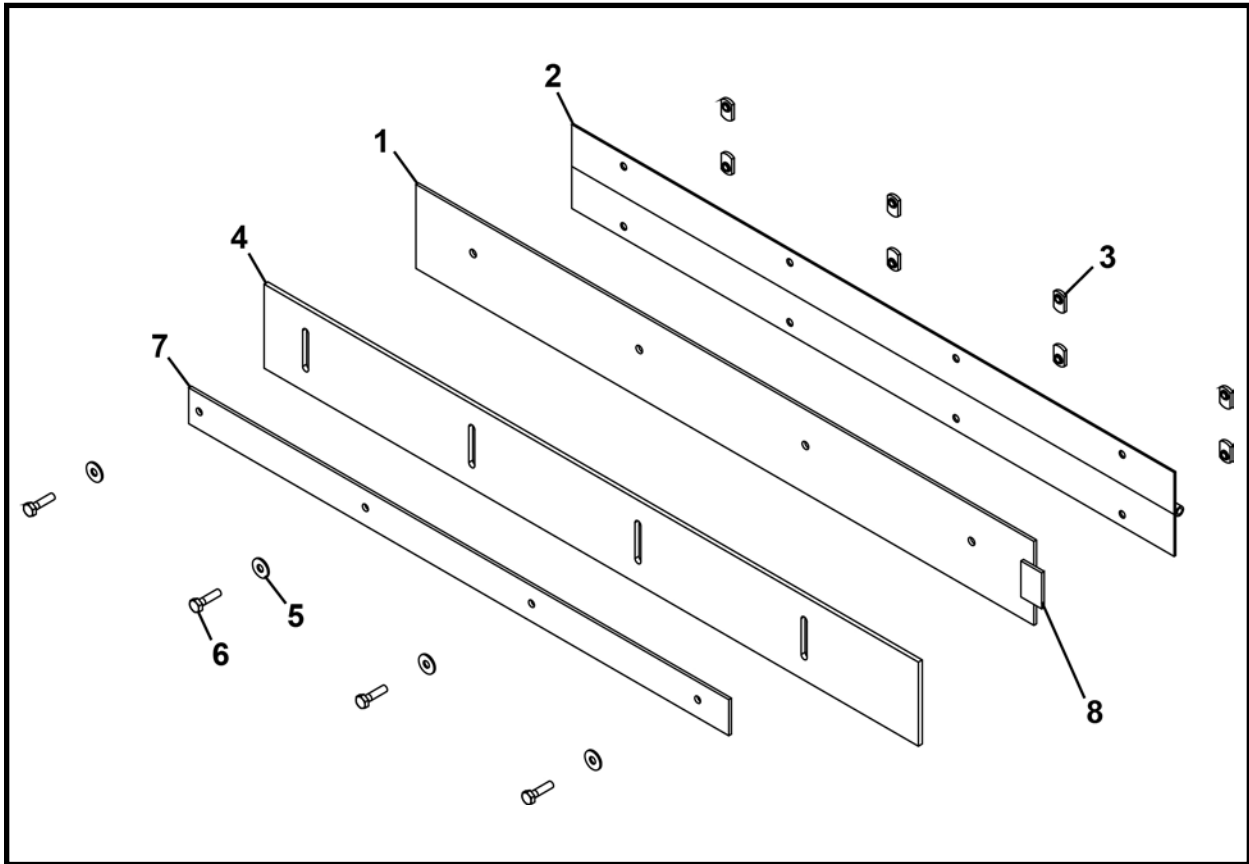
## EXTENSION FRAME ASSEMBLY 1015 - 1215 - 1615 BELT CONVEYORS



ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	027214A00	027364A00	027264A00	EXTENSION FRAME ASSEMBLY
1*	1	027134A00	027134A00	027134A00	GUIDE, Short Spoils - Left
2*	1	027267A00	027267A00	027267A00	GUIDE, Short Spoils - Right
3	1	027245P00	027395P00	027295P00	SCRAPER, Idler Roller
4	2	P0001-06-002	P0001-06-002	P0001-06-002	BOLT, Hex 3/8 UNC x .5
5	2	P0040-006	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
6	8	P0001-04-003	P0001-04-003	P0001-04-003	BOLT, Hex 1/4 UNC x .75
7	8	P0040-004	P0040-004	P0040-004	WASHER, Hardened Flat 1/4
8	1	027203A00	027353A00	027253A00	FRAME, Extension (Includes items 8a-8c)
8a	2	P0011-006A	P0011-006A	P0011-006A	NUT, Strut Square 3/8
8b	8	P0011-006C	P0011-006C	P0011-006C	NUT, Weld 3/8 UNC
8c	1	P0001-05-003	P0001-05-003	P0001-05-003	BOLT, Hex 5/16 UNC x .75
9	2	025344P	025344P	025344P	LIFT EYE
10	8	P0001-06-005	P0001-06-005	P0001-06-005	BOLT, Hex 3/8 UNC x 1.25

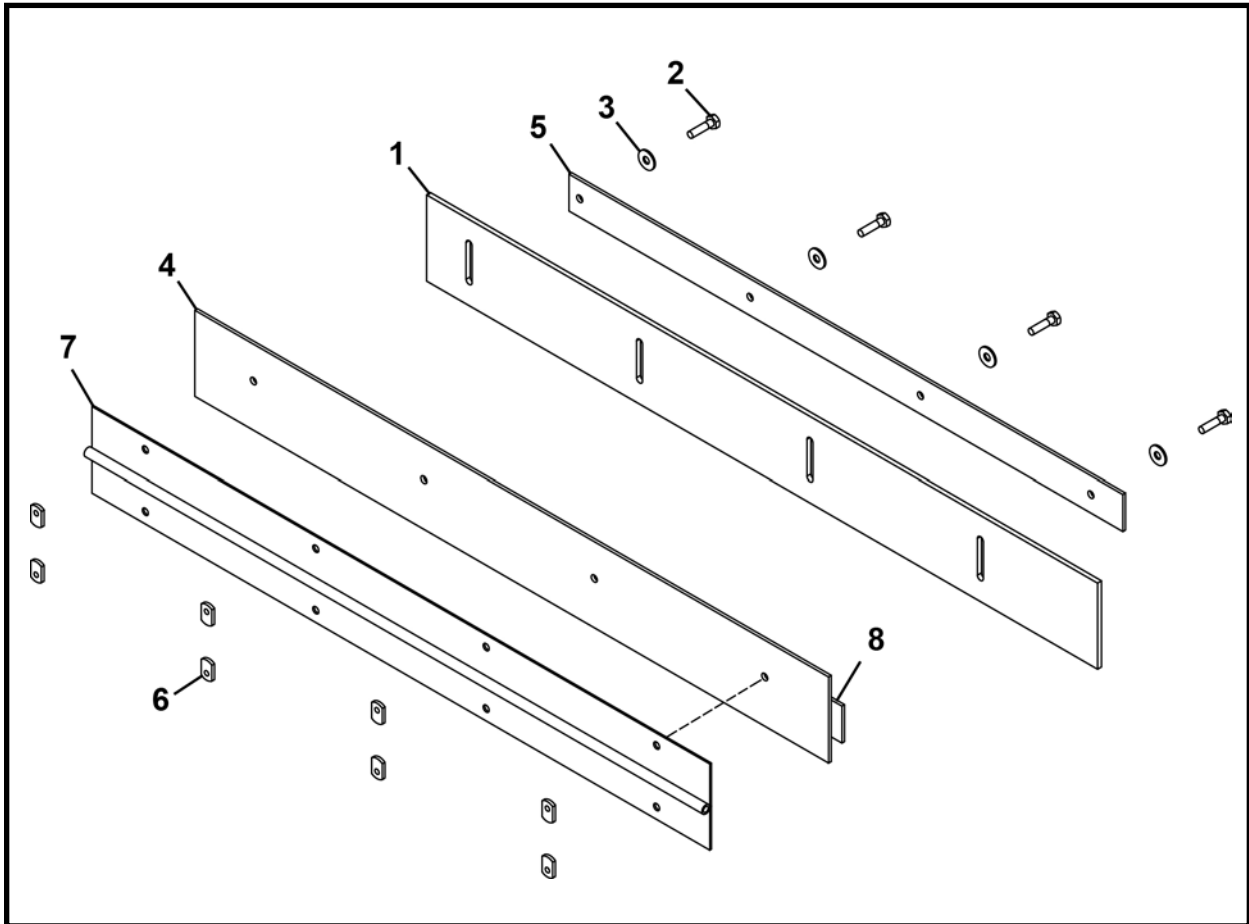
\* Refer to this section for parts information.

**SHORT SPOILS GUIDE ASSEMBLY - LEFT, 027134A00**  
**1015 - 1215 - 1615 BELT CONVEYOR - EXTENSION**



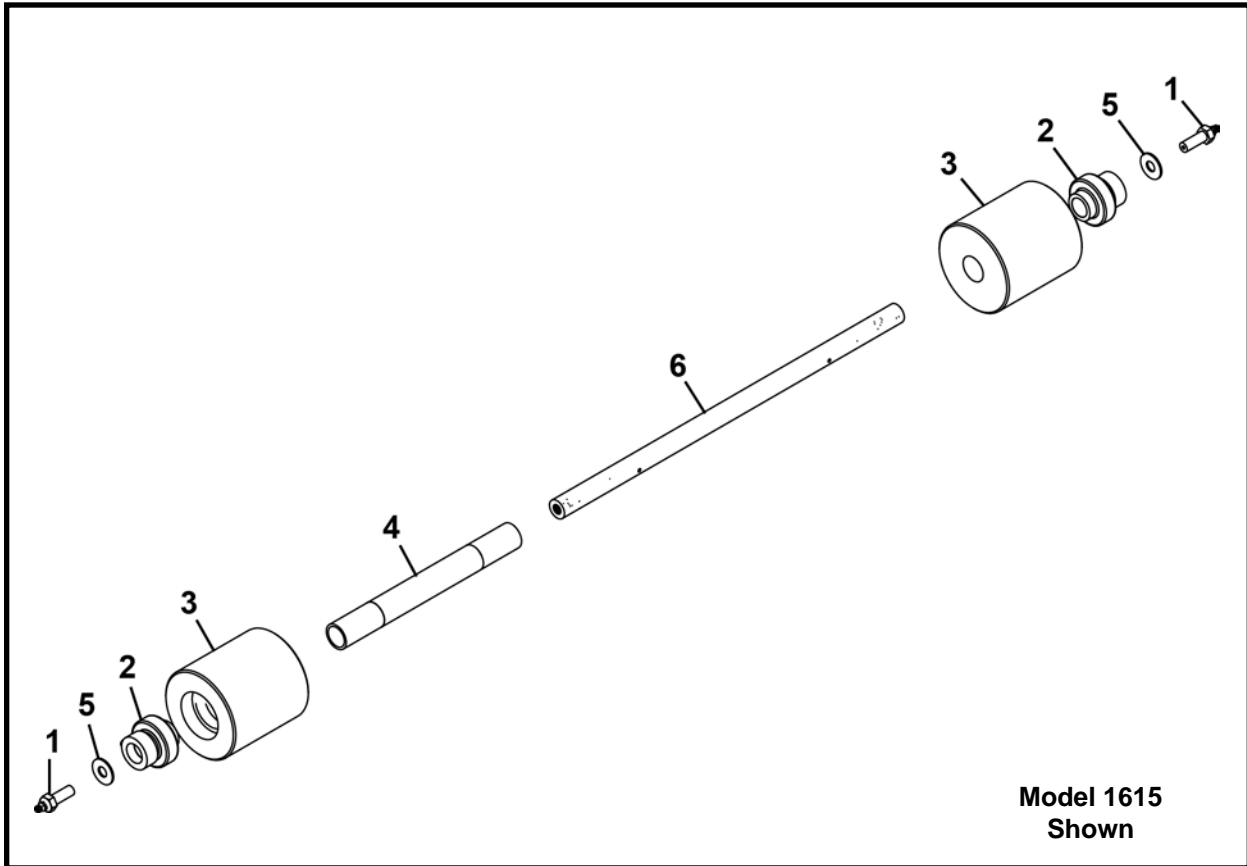
ITEM	QTY	PART NO.	DESCRIPTION
0	1	027134A00	ASSEMBLY, Short Spoils Guide - Left
1	1	027217P00	SUPPORT BAR, Feed Frame Spoils - Left
2	1	027135P00	HINGE, Short Spoils Guide
3	8	P0011-004B	NUT, Weld 1/4 UNC
4	1	027136P00	STRIP, Short Spoils Guide Wear
5	4	P0040-004	WASHER, Hardened Flat 1/4
6	4	P0001-04-003	BOLT, Hex 1/4 UNC x .75
7	1	027249P00	BRACKET, Short Spoils Wear Strip
8	1	027216P00	TAB, Feed Frame Support Bar

**SHORT SPOILS GUIDE ASSEMBLY - RIGHT, 027267A00**  
**1015 - 1215 - 1615 BELT CONVEYOR - EXTENSION**



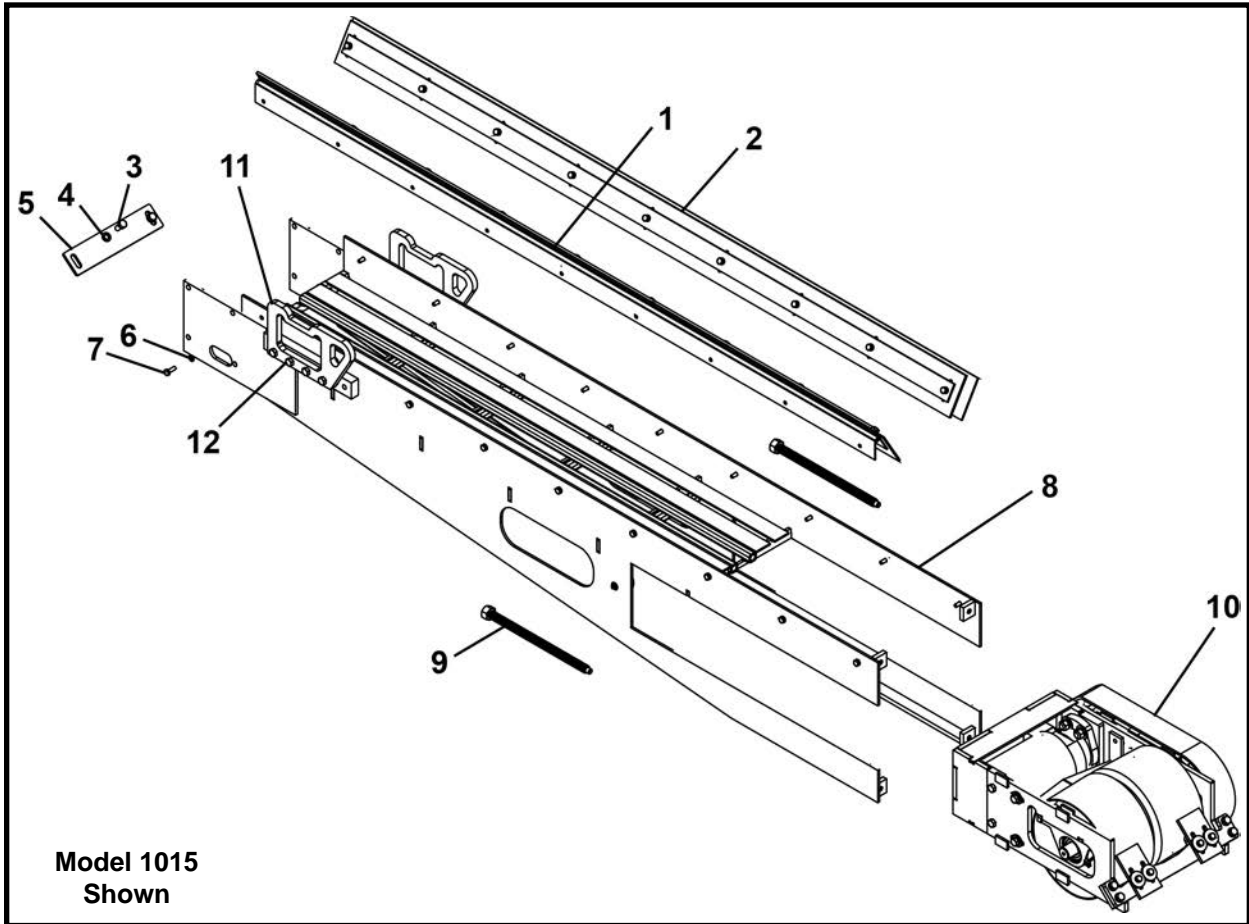
ITEM	QTY	PART NO.	DESCRIPTION
0	1	027267A00	ASSEMBLY, Short Spoils Guide - Right
1	1	027136P00	STRIP, Short Spoils Guide Wear
2	4	P0001-04-003	BOLT, Hex 1/4 UNC x 3/4
3	4	P0040-004	WASHER, Hardened Flat 1/4
4	1	027217P00	SUPPORT BAR, Feed Frame Spoils - Right
5	1	027249P00	BRACKET, Short Spoils Wear Strip
6	8	P0011-004B	NUT, Weld 1/4 UNC
7	1	027135P00	HINGE, Short Spoils Guide
8	1	027216P00	TAB, Feed Frame Support Bar

**IDLER ROLLER ASSEMBLY**  
**1015 - 1215 - 1615 BELT CONVEYORS**



ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	027211A00	027361A00	027261A00	IDLER ROLLER ASSEMBLY
1	2	001341A00	001341A00	001341A00	BOLT, 3/8 UNC x 1.25 W/Fitting (Includes item 1a)
1a	2	P0063-001	P0063-001	P0063-001	FITTING, Grease
2	2	027397P	027397P	027397P	BEARING
3	2	001086P00	001087P00	02306P00	ROLLER, Idler
4	1	001083P00	001084P00	001085P00	TUBE, Idler
5	2	P0040-006	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
6	1	001082P00	001081P00	002416P00	SHAFT, Idler

**DRIVE FRAME ASSEMBLY**  
**1015 - 1215 - 1615 BELT CONVEYORS**



**Model 1015  
Shown**

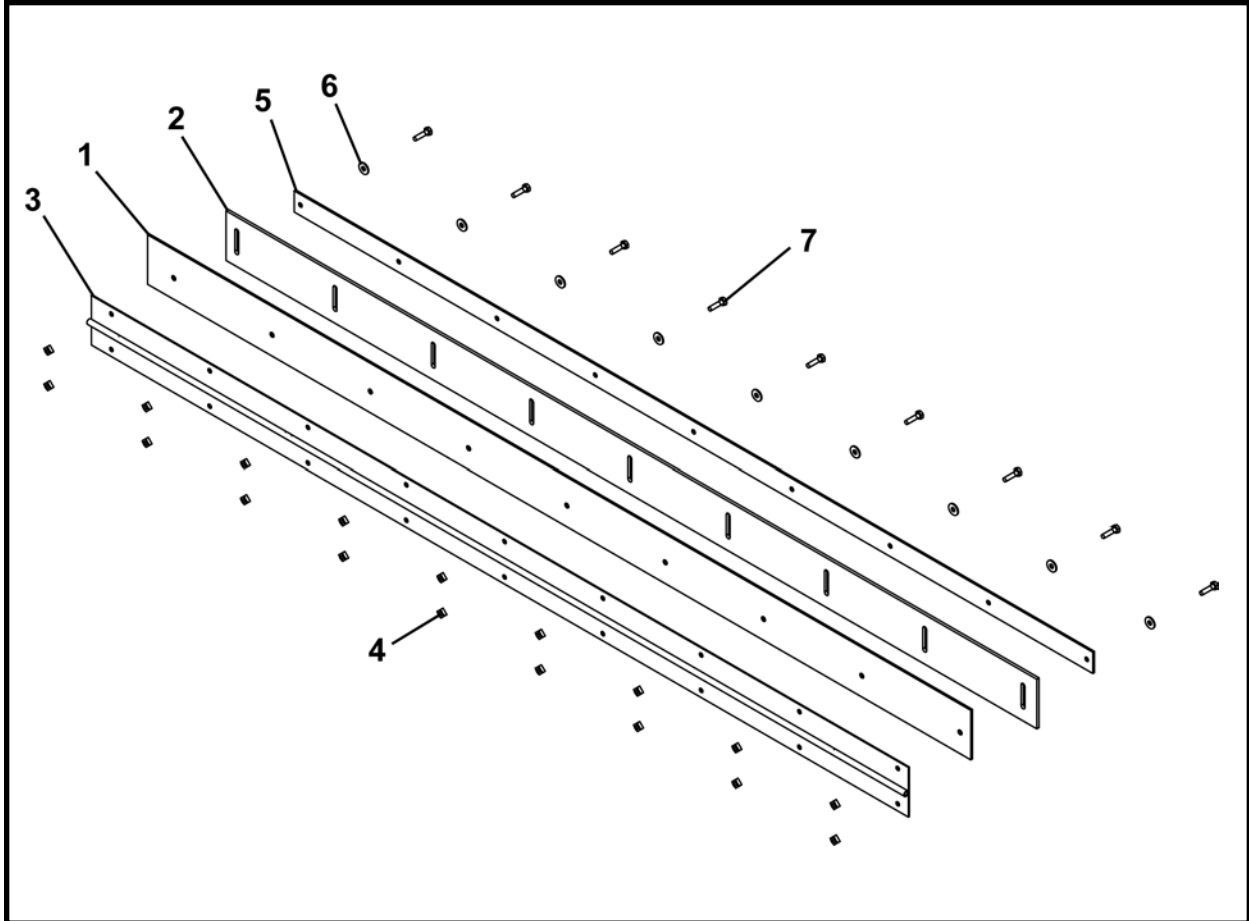
ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	027212A00	027362A00	027262A00	DRIVE FRAME ASSEMBLY
1*	1	027131A00	027131A00	027131A00	GUIDE, Drive Frame Spoils - Left
2*	1	027219A00	027219A00	027219A00	GUIDE, Drive Frame Spoils - Right
3	2	P0001-06-003	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
4	2	P0040-006	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
5	1	027245P00	027395P00	027295P00	SCRAPER, Idler Roller
6	18	P0040-004	P0040-004	P0040-004	WASHER, Hardened Flat 1/4
7	18	P0001-04-003	P0001-04-003	P0001-04-003	BOLT, Hex 1/4 UNC x .75
8	1	027201A00	027351A00	027251A00	FRAME, Drive (Includes items 8a-8b)
8a	6	P0011-006A	P0011-006A	P0011-006A	NUT, Strut Square 3/8
8b	2	P0063-001	P0063-001	P0063-001	FITTING, Grease 1/4
9	2	002824A01	002824A01	002824A01	SCREW, Adjusting
10*	1	027204A00	027354A00	027254A00	ASSEMBLY, Drive Motor & Roller (See <b>Note</b> )
10*	1	031867A	031864A	031857A	ASSEMBLY, Drive Motor & Roller (See <b>Note</b> )
11	2	025344P	025344P	025344P	LIFT EYE
12	8	P0001-06-005	P0001-06-005	P0001-06-005	BOLT, Hex 3/8 UNC x 1.25

\* Refer to this section for parts information.

**NOTE:** Item 10 Serial Number Breaks

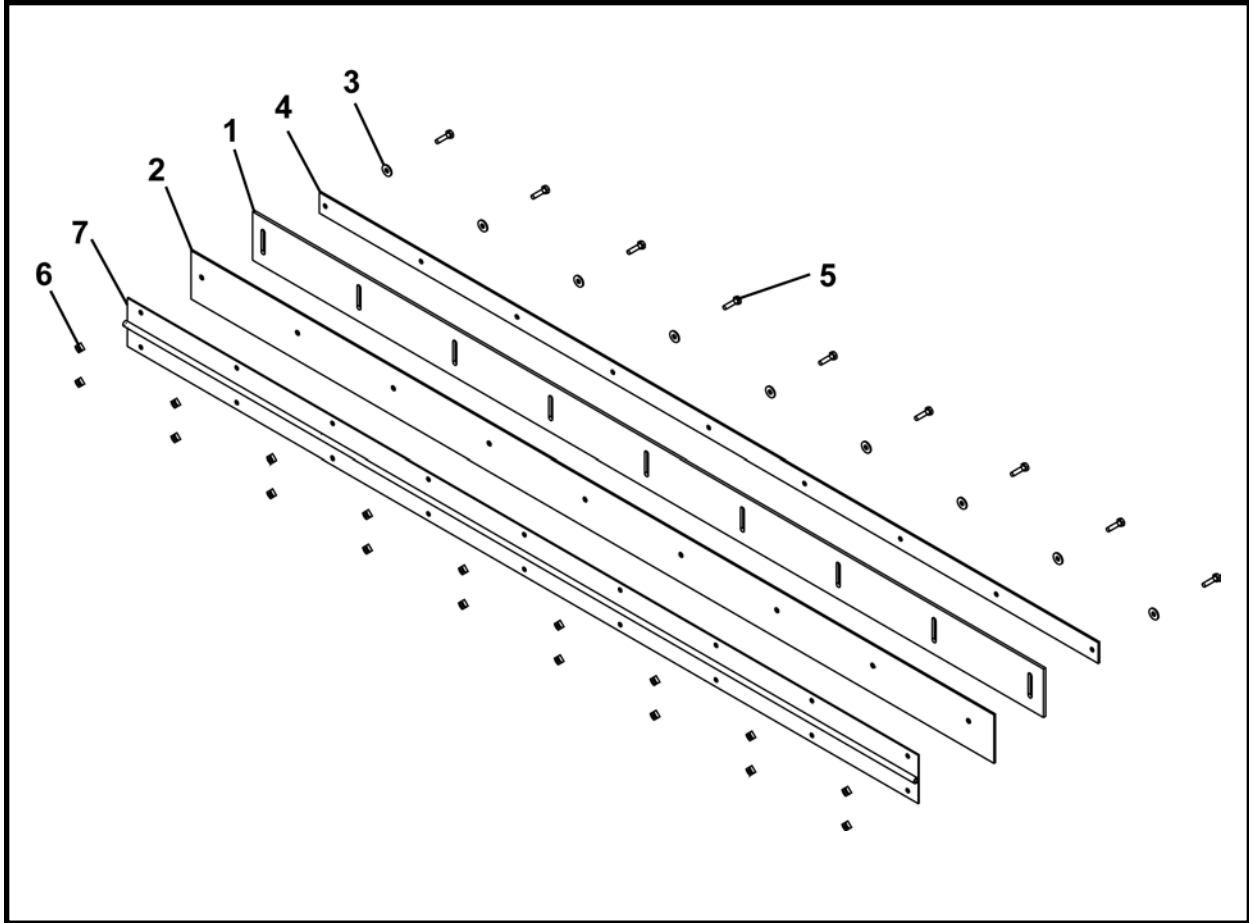
- 1015 F27200F00: SN 1 - 7 027204A00; SN 8 & After - 031867A
- 1215 F27350F00: SN 1 - 28 027354A00; SN 29 & After - 031864A
- 1615 F27250F00: SN 1 - 38 027204A00; SN 39 & After - 031857A

**DRIVE FRAME SPOILS GUIDE ASSEMBLY - LEFT, 027131A00**  
**1015 - 1215 - 1615 BELT CONVEYORS**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	027131A00	GUIDE, Drive Frame Spoils - Left
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 UNC
5	1	027247P00	BRACKET, Drive Frame Wear Strip
6	9	P0040-004	WASHER, Hardened Flat 1/4
7	9	P0001-04-003	BOLT, Hex 1/4 UNC x .75

**DRIVE FRAME SPOILS GUIDE ASSEMBLY - RIGHT, 027219A00**  
**1015 - 1215 - 1615 BELT CONVEYORS**

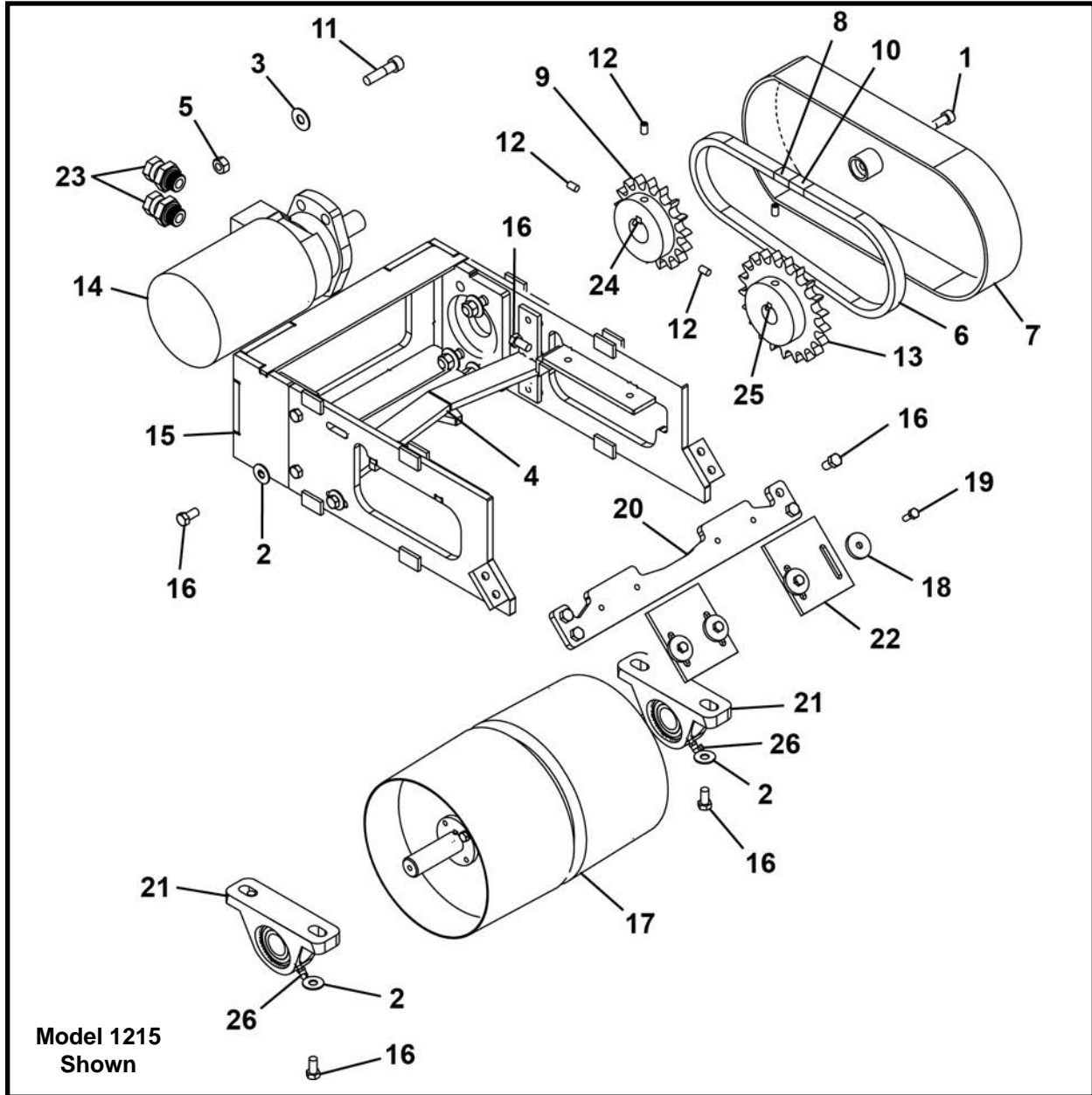


ITEM	QTY	PART NO.	DESCRIPTION
0	1	027219A00	GUIDE, Drive Frame Spoils - Right
1	1	027133P00	STRIP, Drive Frame Spoils Wear
2	1	027218P00	SUPPORT BAR, Drive Frame Spoils
3	9	P0040-004	WASHER, Hardened Flat 1/4
4	1	027247P00	BRACKET, Drive Frame Wear Strip
5	9	P0001-04-003	BOLT, Hex 1/4 UNC x .75
6	18	P0011-004B	NUT, Weld 1/4 UNC
7	1	027132P00	HINGE, Drive Frame Spoils Guide

# DRIVE MOTOR & ROLLER ASSEMBLY

1015 - 1215 - 1615 BELT CONVEYORS

1015 SN F27200F00-01-07; 1215 SN F27350F00-01-28; 1615 SN F27250F00-01-38



ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	027204A00	027354A00	027254A00	ASSEMBLY, Drive Motor & Roller
1	1	P0031-06-003	P0031-06-003	P0031-06-003	SCREW, Socket Head Cap 3/8 UNC x .75
2	8	P0040-006	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
3	4	P0040-007	P0040-007	P0040-007	WASHER, Hardened Flat 7/16
4	1	027206A00	027356A00	027256A00	SCRAPER, Internal Drive Roller
5	4	P0003-07-000	P0003-07-000	P0003-07-000	NUT, 7/16 UNC
6	36	P0078-002	P0078-002	P0078-002	CHAIN, Roller #60 x 35
7	1	001429A00	001429A00	001429A00	COVER, Conveyor Chain
8	1	P0078-008	P0078-008	P0078-008	LINK, Connect #60
9	1	001399P00	001399P00	001399P00	SPROCKET, Drive 17 Teeth
10	1	P0078-005	P0078-005	P0078-005	LINK, Half #60
11	4	P0031-07-007	P0031-07-007	P0031-07-007	SCREW, Socket Head Cap 7/16 UNC x 1.75

## DRIVE MOTOR & ROLLER ASSEMBLY

1015 - 1215 - 1615 BELT CONVEYORS

1015 SN F27200F00-01-07; 1215 SN F27350F00-01-28; 1615 SN F27250F00-01-38

ITEM	QTY	1015	1215	1615	DESCRIPTION
		PART NO.	PART NO.	PART NO.	
12	4	P0033-05-005	-	-	SCREW, Socket Head Set 5/16 UNC x .3125
12	4	-	P0033-05-008	P0033-05-008	SCREW, Socket Head Set 5/16 UNC x .5
13	1	001398P00	001398P00	001398P00	SPROCKET
14*	1	P0304-157	P0304-157	P0304-157	MOTOR
15	1	027205A00	027355A00	027255A00	FRAME, Drive Motor
16	14	P0001-06-003	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
17	1	001233A00	001232A00	001969A00	ROLLER, Drive
18	4	002624P00	002624P00	002624P00	WASHER
19	4	P0001-04-005	-	-	BOLT, Hex 1/4 UNC x 1.25
19	4	-	P0001-04-003	P0001-04-003	BOLT, Hex 1/4 UNC x .75
20	1	027233P00	027383P00	027283P00	SCRAPER, External
21	2	P0065-014	P0065-014	P0065-014	BEARING
22	2	027235P00	027385P00	027285P00	SCRAPER, External Belt
23	2	P0300-094	P0300-094	P0300-094	FITTING, 10MB-08FPX
24	1.25 LI	P0047-004	P0047-004	P0047-004	KEY, 5/16
25	1.25 LI	P0047-003	P0047-003	P0047-003	KEY, 1/4
26	2	P0063-003	P0063-003	P0063-003	FITTING, Grease 1/4 90 Deg.

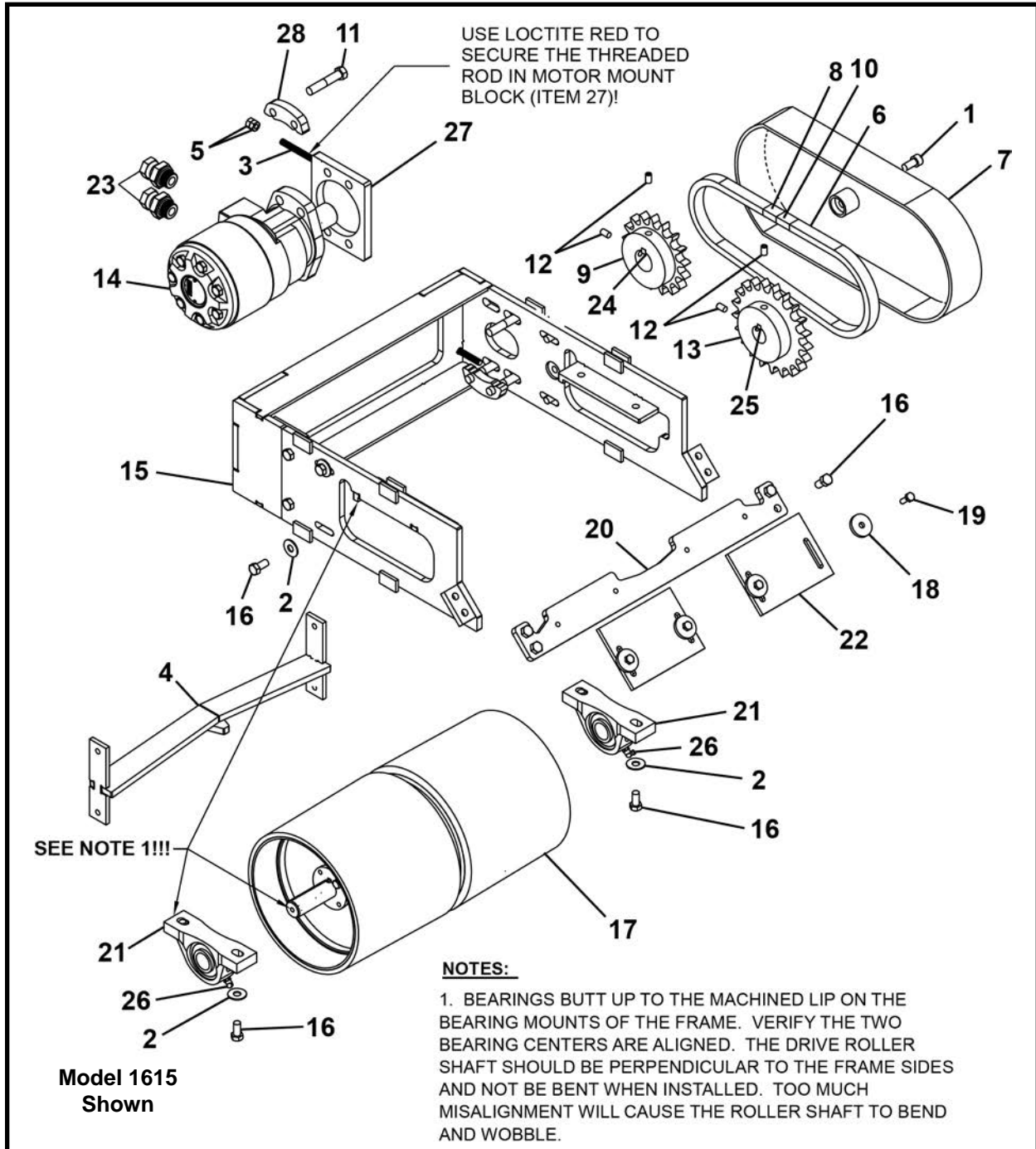
LI - Linear Inch

\* Refer to Section 8, Motors for parts information.

# DRIVE MOTOR & ROLLER ASSEMBLY

1015 - 1215 - 1615 BELT CONVEYORS

1015 SN F27200F00-08 & After; 1215 SN F27350F00-029 & After; 1615 SN F27250F00-39 & After



ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
0	1	031867A	031864A	031857A	ASSEMBLY, Drive Motor & Roller
1	1	P0031-06-003	P0031-06-003	P0031-06-003	SCREW, Socket Head Cap 3/8 UNC x .75
2	8	P0040-006	P0040-006	P0040-006	WASHER, Hardened Flat 3/8
3	2	P0033-05-048	P0033-05-048	P0033-05-048	SCREW, Set 5/16 UNC x 3
4	1	027206A00	027356A00	027256A00	SCRAPER, Internal Drive Roller
5	4	P0003-05-000	P0003-05-000	P0003-05-000	NUT, 5/16 UNC
6	36	P0078-002	P0078-002	P0078-002	CHAIN, Roller #60 x 35
7	1	001429A00	001429A00	001429A00	COVER, Conveyor Chain

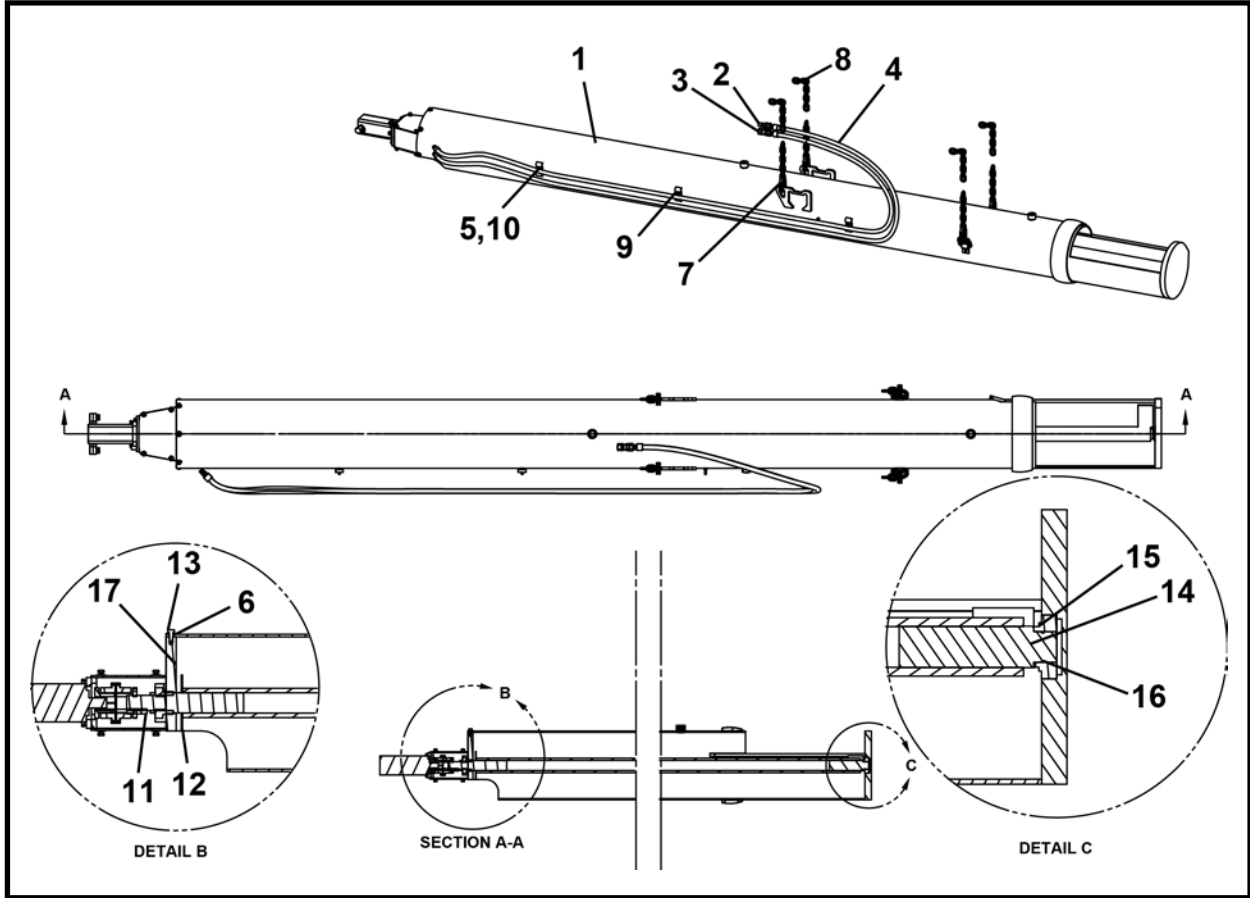
**DRIVE MOTOR & ROLLER ASSEMBLY  
1015 - 1215 - 1615 BELT CONVEYORS**

ITEM	QTY	1015 PART NO.	1215 PART NO.	1615 PART NO.	DESCRIPTION
8	1	P0078-008	P0078-008	P0078-008	LINK, Connect #60
9	1	001399P00	001399P00	001399P00	SPROCKET, Drive 17 Teeth
10	1	P0078-005	P0078-005	P0078-005	LINK, Half #60
11	4	P0031-07-009	P0031-07-009	P0031-07-009	SCREW, Socket Head Cap 7/16 UNC x 2.25
12	4	P0033-05-008	P0033-05-008	P0033-05-008	SCREW, Socket Head Set 5/16 UNC x .5
13	1	001398P00	001398P00	001398P00	SPROCKET
14*	1	P0304-157	P0304-157	P0304-157	MOTOR
15	1	031868A	031865A	031860A	FRAME, Drive Motor
16	12	P0001-06-003	P0001-06-003	P0001-06-003	BOLT, Hex 3/8 UNC x .75
17	1	031885A	031883A	031880A	ROLLER, Drive
18	4	002624P00	002624P00	002624P00	WASHER
19	4	P0001-04-003	P0001-04-003	P0001-04-003	BOLT, Hex 1/4 UNC x .75
20	1	027233P00	027383P00	027283P00	SCRAPER, External
21	2	P0065-014	P0065-014	P0065-014	BEARING
22	2	027235P00	027385P00	027285P00	SCRAPER, External Belt
23	2	P0300-094	P0300-094	P0300-094	FITTING, 10MB-08FPX
24	1.25 LI	P0047-004	P0047-004	P0047-004	KEY, 5/16
25	1.25 LI	P0047-003	P0047-003	P0047-003	KEY, 1/4
26	2	P0063-003	P0063-003	P0063-003	FITTING, Grease 1/4 90 Deg.
27	1	031858P	031858P	031858P	MOUNT, Motor
28	2	031859P	031859P	031859P	PAD, Motor Bolt

LI - Linear Inch

\* Refer to Section 8, Motors for parts information.

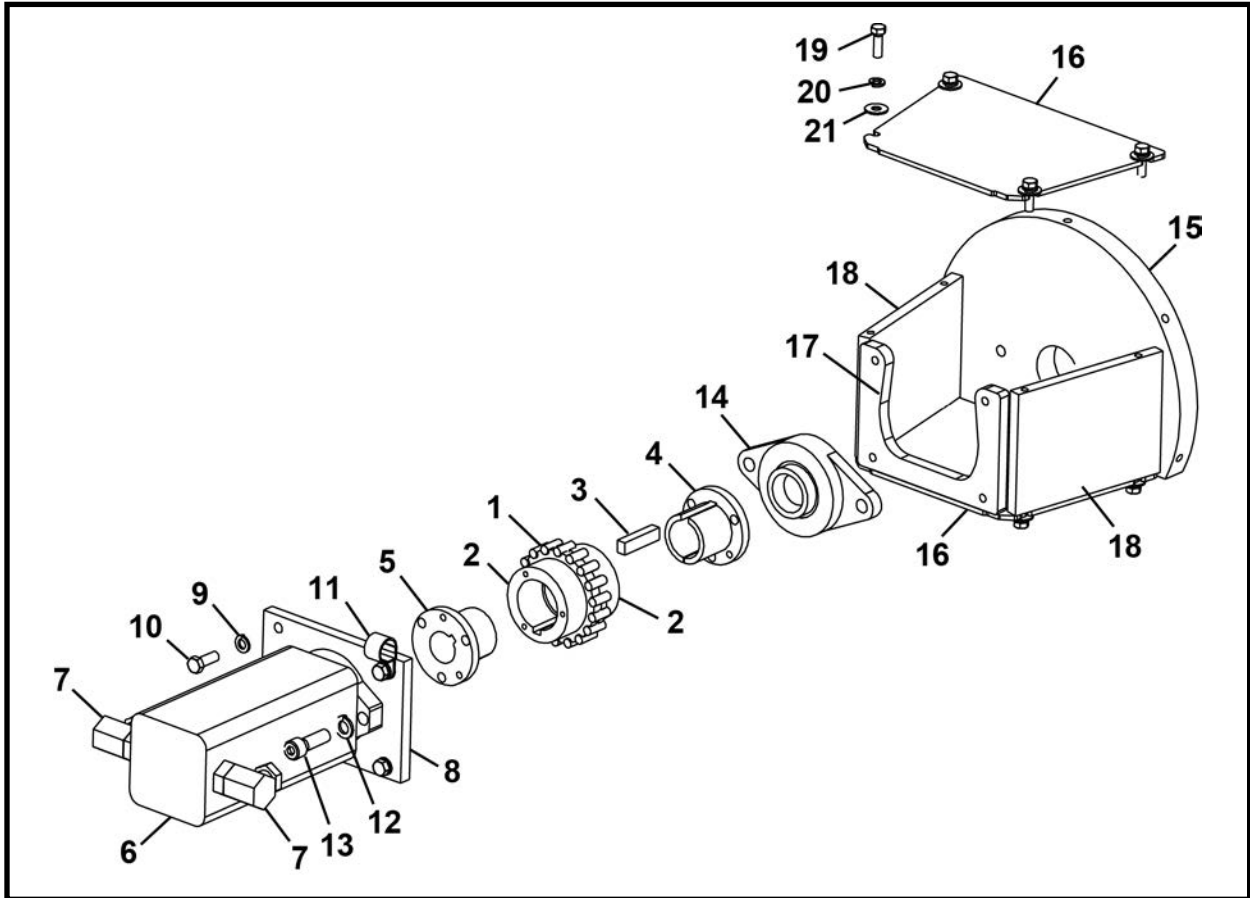
**120EX SCREW CONVEYOR, F32070F**  
**120EX SCREW CONVEYOR**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F32070F	CONVEYOR, Screw, 120EX
1	1	032066A	TUBE 12
2	1	P0100-004B	COUPLER, Male
3	1	P0100-004A	COUPLER, Female
4	2	A10320A-200	HOSE ASSEMBLY, 1/2 x 200
5	3	P0040-005	WASHER, Hardened Flat 5/16
6	5	P0040-006	WASHER, Hardened Flat 3/8
7	4	P0098-010	LINK, Hammerlock 3/8
8	4	P0094-003-030	CHAIN, 3/8
9	3	002269P01	CLAMP, Line
10	3	P0003-05-000	NUT, Hex 5/16 UNC
11	1	P0047-010	KEY
12	1	023522P00	SHIELD, Conveyor Shaft
13	5	P0001-06-004	BOLT, hex 3/8 UNC x 1
14	1	031892A	ASSEMBLY, Auger Ext 12
15	1	P0065-004	BEARING
16	1	P0085-028	ORING
17*	1	023543A	ASSEMBLY, Motor Mount

\* Refer to this section for parts information.

**MOTOR MOUNT ASSEMBLY, 023543A**  
**120EX SCREW CONVEYOR**

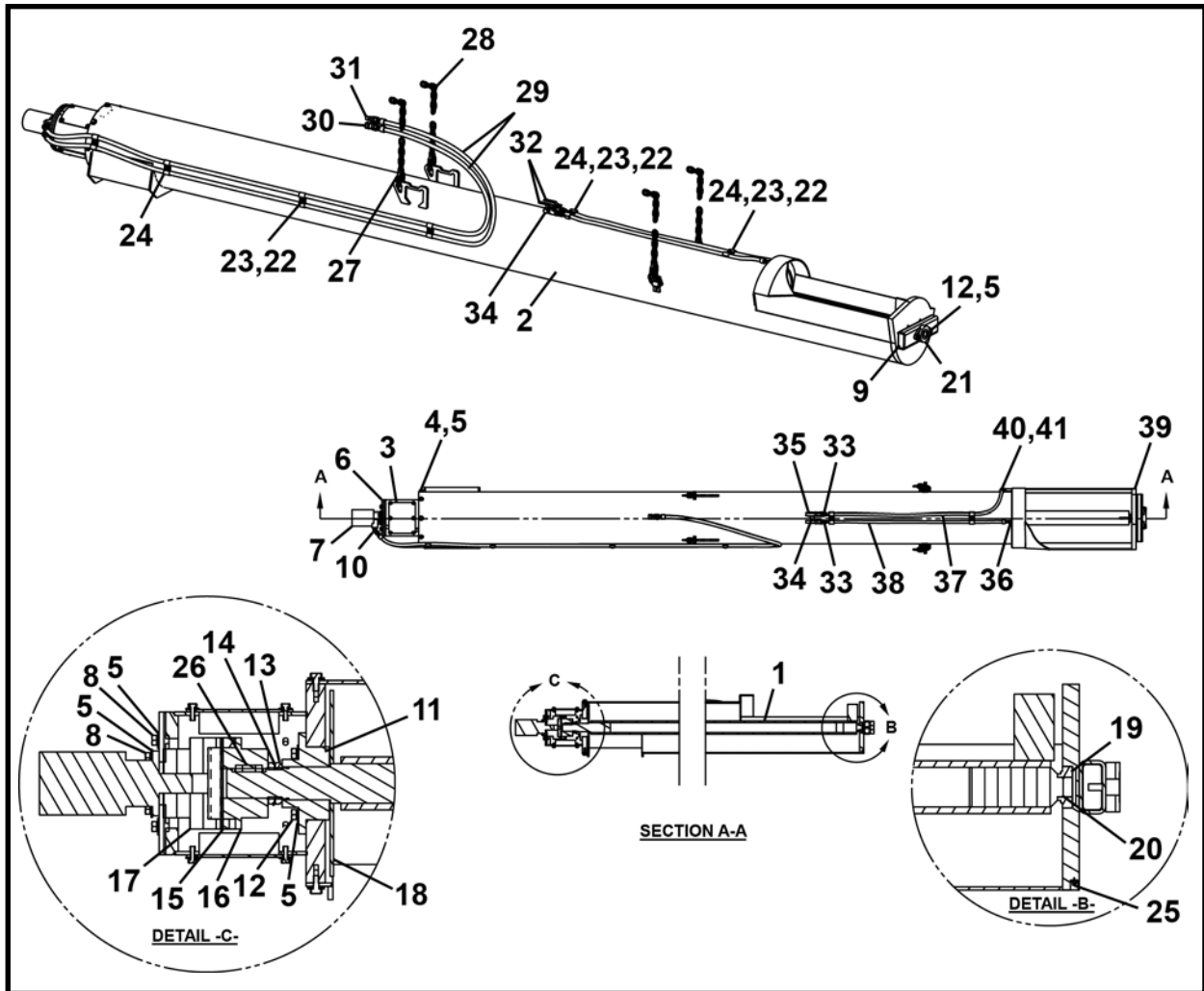


ITEM	QTY	PART NO.	DESCRIPTION
0	1	023543A	MOTOR MOUNT ASSEMBLY
1	1	P0305-114A	CHAIN
2	2	P0305-114C	SPROCKET
3	1	P0047-010	KEY
4	1	P0066-028	BUSHING 1-1/2
5	1	004544P00	BUSHING, Power Drive
6*	1	P0304-109	MOTOR
7	2	P0300-198	FITTING, 12MB-08FPX90
8	1	007142P00	PLATE, Conveyor
9	0	P0045-006	WASHER, Lock 3/8
10	4	P0001-06-004	BOLT, Hex 3/8 UNC x 1
11	1	P0055-129	CLAMP 3/4
12	0	P0045-008	WASHER, Lock 1/2
13	2	P0031-08-006	SCREW Socket Head 1/2 UNC x 1.5
14	1	P0065-163	BEARING
15	1	NSS	PLATE, Conveyor
16	2	007143P00	PLATE
17	1	NSS	PLATE, 12" AUGER
18	2	NSS	BAR
19	8	P0001-05-003	BOLT, Hex 5/16 UNC x .75
20	0	P0045-005	WASHER, Lock 5/16
21	8	P0040-005	WASHER, Hardened Flat 5/16

\* Refer to Section 8, Motors for parts information.

NSS - Not Sold Separately

**140EX SCREW CONVEYOR, F20645F00**  
**140EX SCREW CONVEYOR**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F20645F00	CONVEYOR, Screw, 140EX
1	1	020644A	SCREW, Extended
2	1	020646A	PIPE, Extended
3	1	024502A00	ADAPTER, Motor
4	8	P0001-08-004	BOLT, Hex 1/2 UNC x 1
5	22	P0040-008	WASHER, Hardened Flat 1/2
6	1	009893P00	PLATE, Mounting
7*	1	P0304-145	MOTOR
8	8	P0001-08-006	BOLT, Hex 1/2 UNC x 1.5
9	2	023544A	SPACER
10	2	P0300-165	FITTING, 10MB-08FPX45
11	1	P0065-107	BEARING
12	6	P0001-08-008	BOLT, Hex 1/2 UNC x 2
13	2	P0065-108	NUT, Lock N-12
14	1	P0065-109	WASHER, Lock W-12
15	1	P0305-134C	INSERT
16	1	P0305-134A	COUPLER
17	1	P0305-134B	SPLINE, Coupler
18	1	024559P	WASHER, Conveyor Flighting
19	1	P0065-004	BEARING

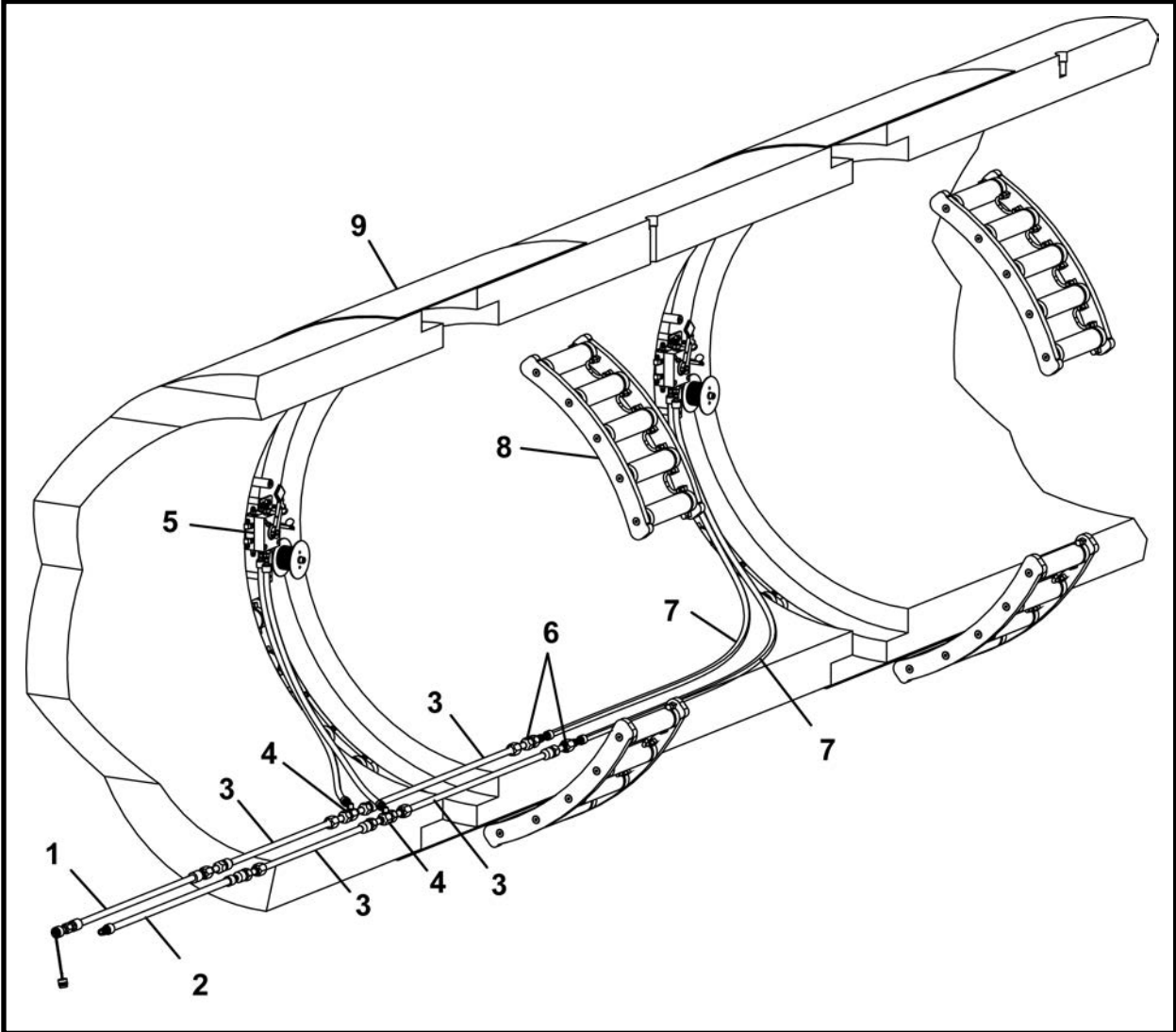
**140EX SCREW CONVEYOR, F20645F00**  
**140EX SCREW CONVEYOR**

ITEM	QTY	PART NO.	DESCRIPTION
20	1	P0085-028	ORING
21	1	P0065-017	BEARING, Conveyor End Pivot
22	6	P0003-05-000	NUT, Hex 5/16
23	6	P0040-005	WASHER, Hardened Flat 5/16
24	6	002269P01	CLAMP, Line
25	1	P0063-001	FITTING, Grease Straight
26	1	P0047-007	KEY
27	4	P0098-010	LINK, Hammerlock 3/8
28	4	P0094-003-030	CHAIN, 3/8
29	2	A10320A-200	HOSE ASSEMBLY, 1/2 x 200
30	1	P0100-004A	COUPLER, Female
31	1	P0100-004B	COUPLER, Male
32	2	P0302-185	VALVE 1/2" BALL
33	2	P0300-120	FITTING, 06MJ-08MP
34	1	P0300-025	FITTING, 08MP-08MP90
35	1	P0300-049	FITTING, 08MP-08FP-08FP
36	1	P0300-331	FITTING, 06MJ-06MJBKHD
37	1	A10311A-060	HOSE ASSEMBLY, 3/8 x 60
38	1	A10311A-056	HOSE ASSEMBLY, 3/8 x 56
39	1	P0417-002	CAP, Pipe 3/8
40	1	P0300-130	FITTING, 06MJ-06MP
41	1	P0400-002	COUPLING, Pipe 3/8

\* Refer to Section 8, Motors for parts information.

## **NOTES**

# INTERMEDIATE JACKING STATION



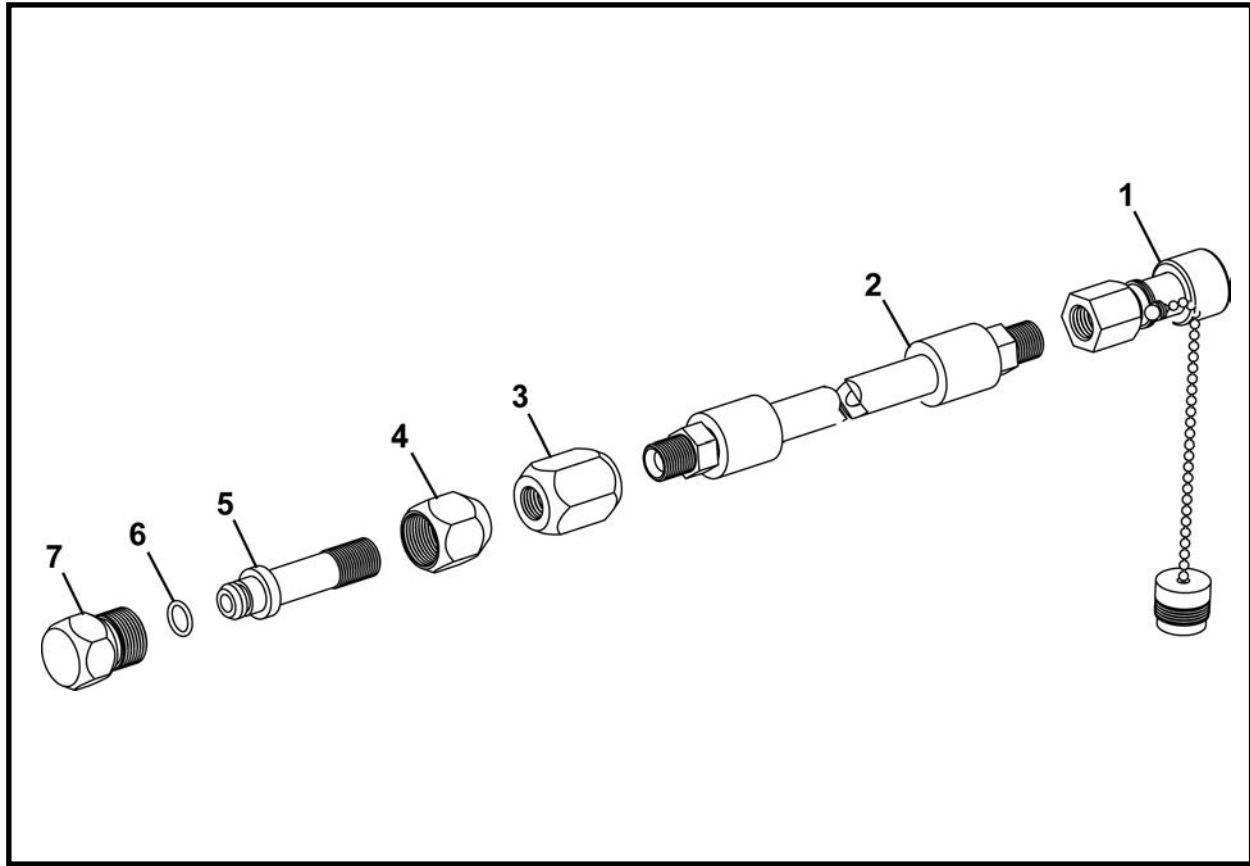
ITEM	QTY	PART NO.	DESCRIPTION
1*	1	F09802F01	STARTER HOSE, High Pressure 30'
2*	1	F27868F	STARTER HOSE, Low Pressure 30'
3*	AR	F09800F00	TUNNEL LINE
4*	AR	F09804F00	TEE CONNECT
5*	AR	F04908F01	VALVE, IJS (With Cable)
6*	1	F09805F00	STARTER CONNECTION
7	2	A10311A-xxx	HOSE ASSEMBLY, 3/8 JIC x length
8.1*	4	007299A00	IJS SEGMENT ASSEMBLY - 48SC/420
8.2*	4	007300A00	IJS SEGMENT ASSEMBLY - 480
8.3*	5	007301A00	IJS SEGMENT ASSEMBLY - 540
9**	AR	-	IJS HOUSING

AR - As Required (Per Job)

\* Refer to this section for parts information.

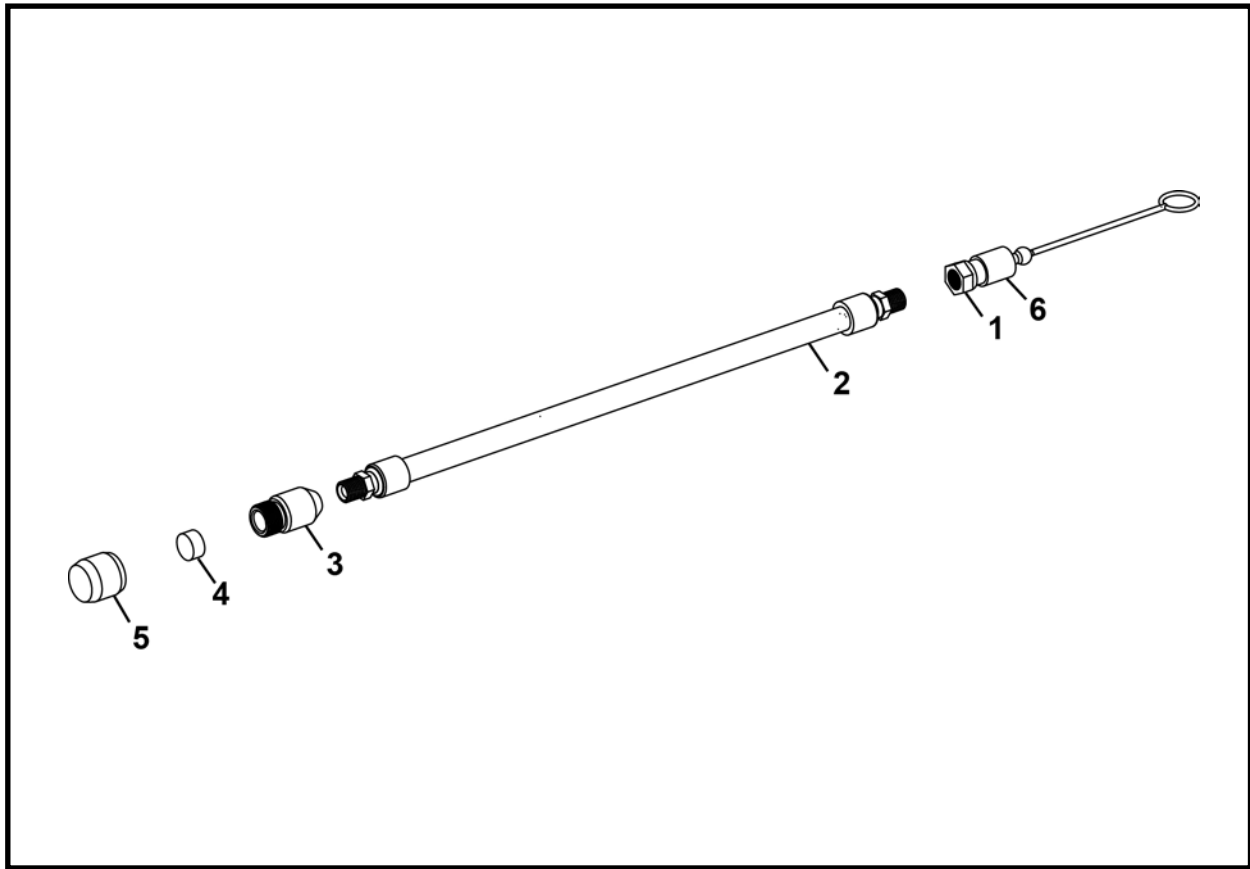
\*\* Contact your Akkerman Sales Representative for information regarding IJS housings.

## STARTER HOSE 30 FT (HIGH PRESSURE) ASSEMBLY, F09802F01



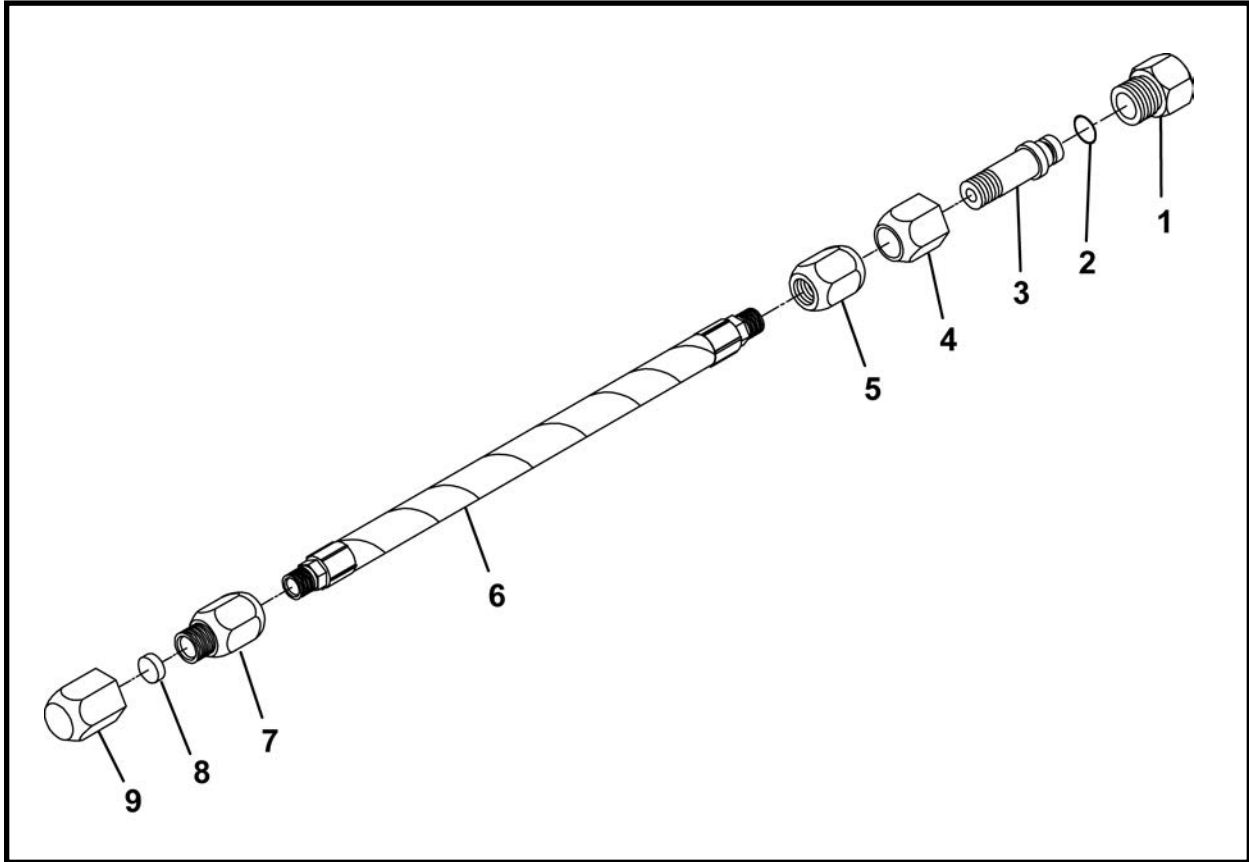
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09802F01	HOSE, High Pressure Starter 30'
1	1	P0100-001B	COUPLER, Male
2	1	A10420A-360	HOSE ASSEMBLY, 1/2 x 360
3	1	009812P01	COUPLER, Hi-Pressure 1/2 NPT
4	1	005135P00	COUPLER, 1/2
5	1	005134P00	COUPLER, Male 1/2
6	1	P0085-113	ORING
7	1	023568P	PLUG

# IJS STARTER HOSE 30 FT (LOW PRESSURE) ASSEMBLY, F09803F01



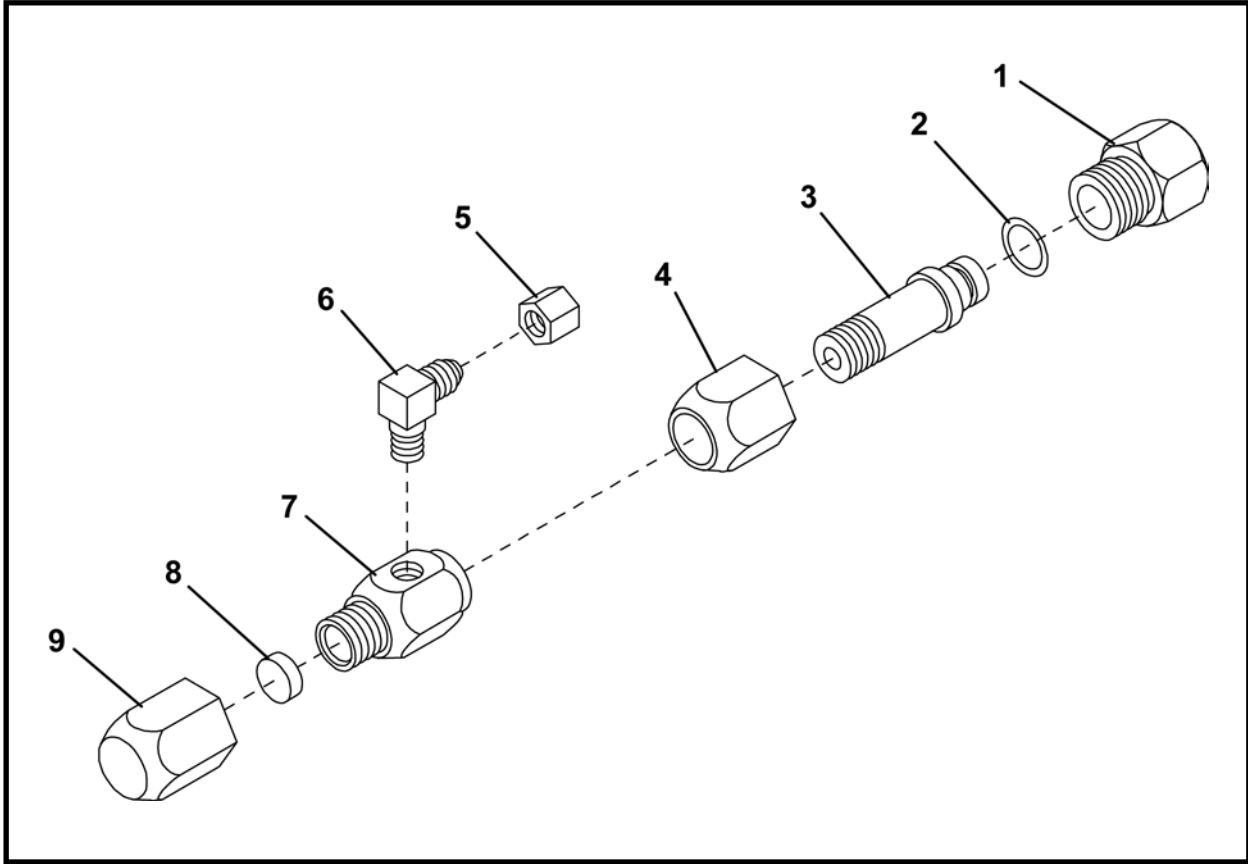
ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09803F01	IJS STARTER HOSE ASSEMBLY, Low Pressure
1	1	P0100-013B	NIPPLE, Female 1/2 NPT
2	1	A10320A-360	HOSE ASSEMBLY 1/2 x 360
3	1	009809P00	COUPLER, Female 1/2
4	1	007085P00	PLUG, Coupler Cap
5	1	023569P	CAP
6	1	P0100-013D	PLUG, Dust

## IJS TUNNEL LINE 10' 6", F09800F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09800F00	IJS TUNNEL LINE 10' 6"
1	1	023568P	PLUG
2	1	P0085-113	ORING
3	1	005134P00	COUPLER, Male
4	1	005135P00	COUPLER
5	1	009812P01	COUPLER, High Pressure
6	1	009806P00	PIPE
7	1	009809P00	COUPLER, Female
8	1	007085P00	PLUG, Coupler
9	1	023569P	CAP

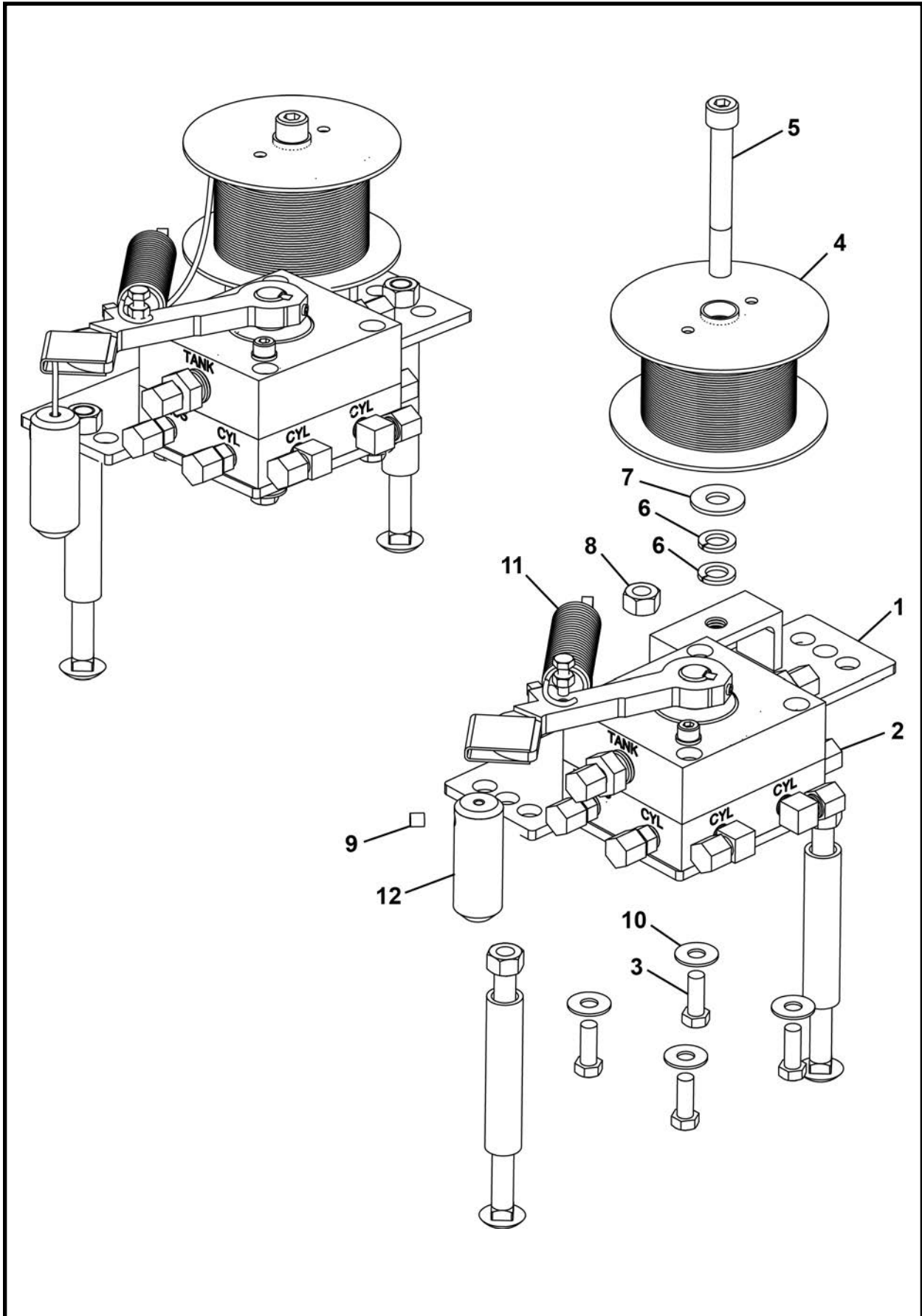
## TEE CONNECTOR, F09804F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09804F00	TEE CONNECTOR
1	1	023568P	PLUG
2	1	P0085-113	ORING
3	1	005134P00	COUPLER, Male
4	1	005135P00	COUPLER, 1/2
5	1	P0300-126	CAP, 06FJ
6	1	P0300-125	FITTING, 06MJ-04MP90
7	1	009810P00	COUPLER, Female
8	1	007085P00	PLUG, Coupler Cap
9	1	023569P	CAP

NOTE: Two connectors required per jack station.

# IJS VALVE (With Cable), F04908F01



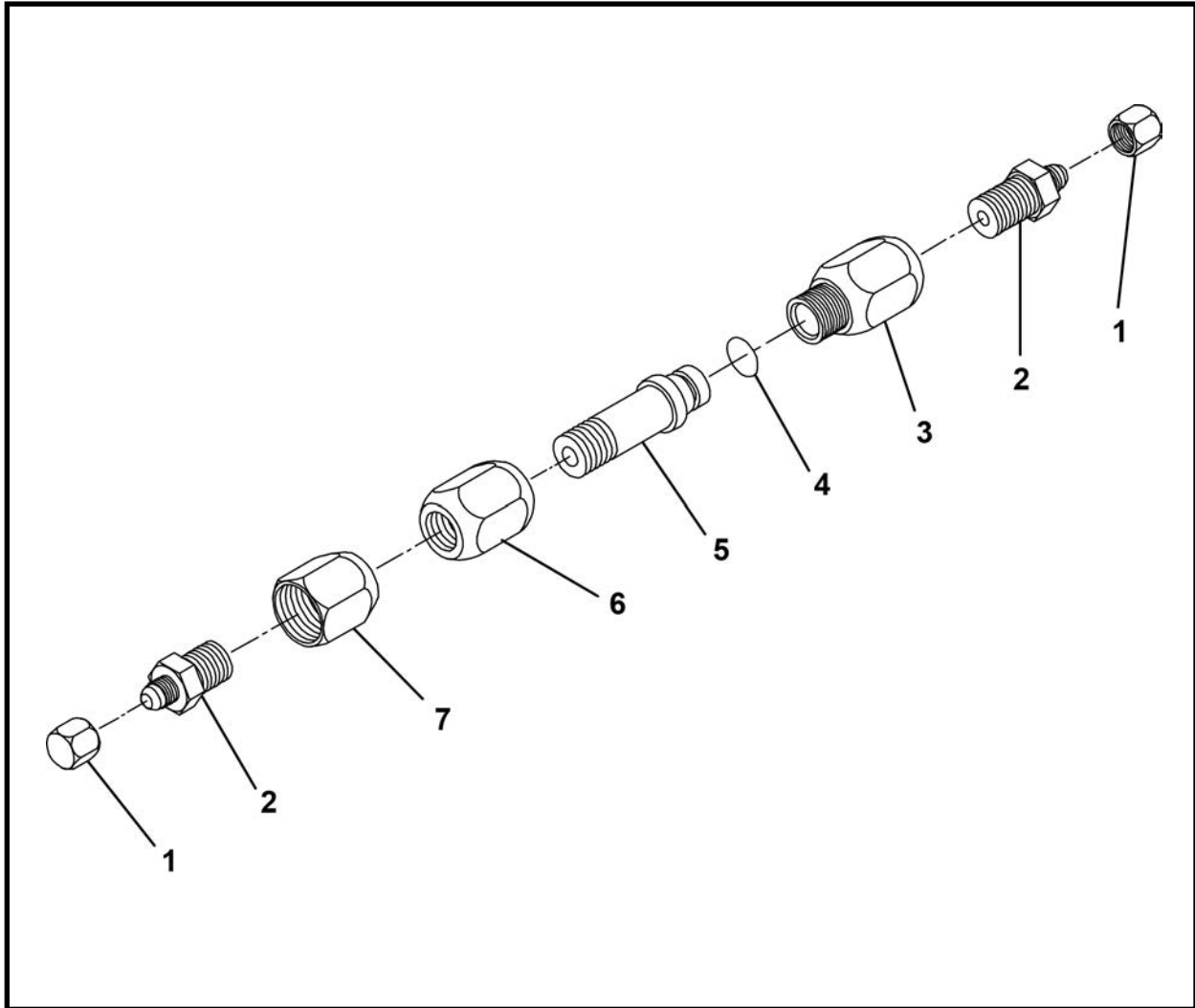
## IJS VALVE (With Cable), F04908F01

ITEM	QTY	PART NO.	DESCRIPTION
0	1	F04908F01	IJS VALVE (With Cable)
1	1	005764A00	PLATE ASSEMBLY
2*	1	004725A00	VALVE
3	4	P0001-06-004	BOLT, Hex 3/8 UNC x 1
4	1	002323A	ASSEMBLY, Cable & Spool (Includes items 4a - 4b)
4a	1	002373A00	SPOOL ASSEMBLY
4b	7200 LI	P0075-001	CABLE
5	1	P0031-08-016	SCREW, Socket Head Cap 1/2 UNC x 4
6	2	P0043-008	WASHER, Spring 1/2
7	1	P0040-008	WASHER, Hardened Flat 1/2
8	1	P0003-08-000	NUT, 1/2 UNC
9	1	P0033-05-004	SCREW, Socket Set 5/16 x .25
10	4	P0040-006	WASHER, Hardened Flat 3/8
11	1	P0070-031	SPRING
12	1	001335P00	WEIGHT, Valve

\* Refer to Section 7, Valves for parts information.

LI - Linear Inch

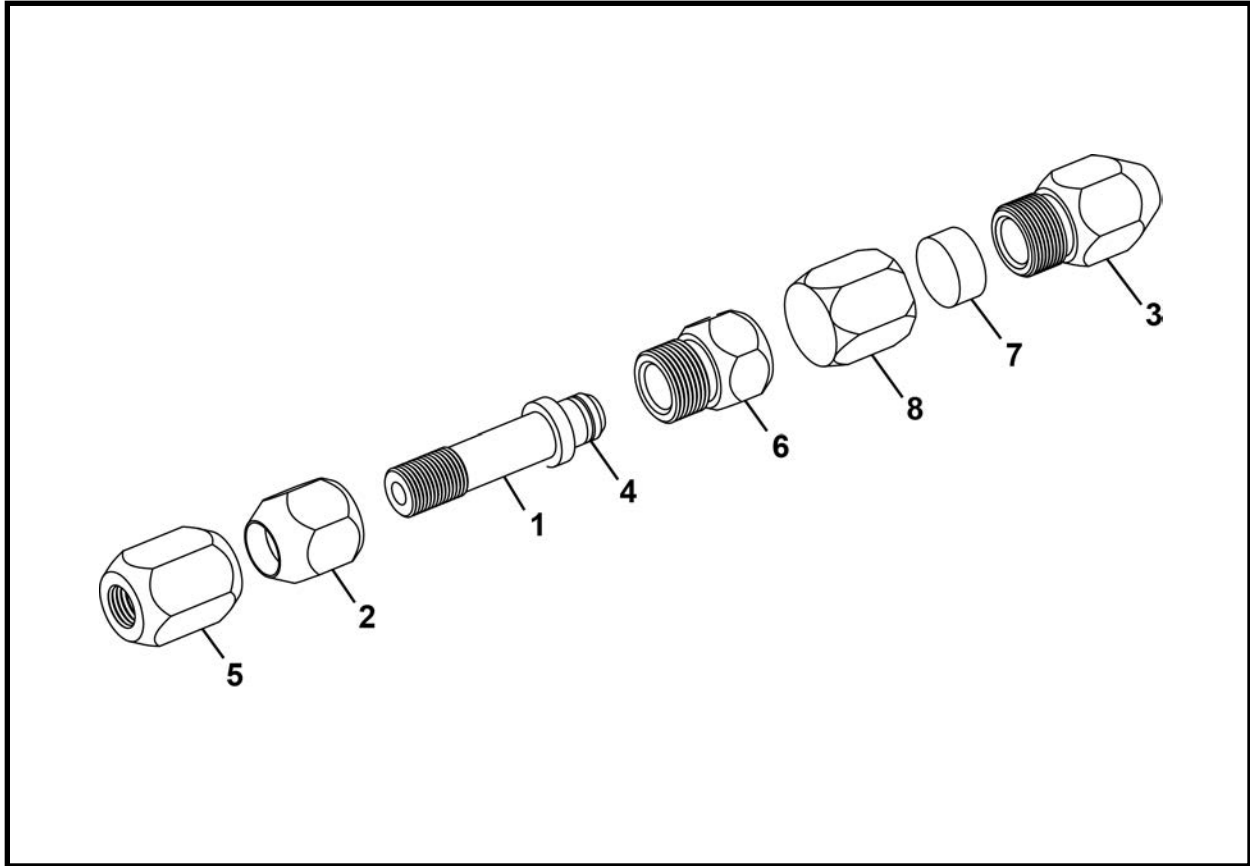
## IJS STARTER CONNECTION, F09805F00



ITEM	QTY	PART NO.	DESCRIPTION
0	1	F09805F00	STARTER CONNECTION
1	2	P0300-126	CAP, 06FJ
2	2	P0300-120	FITTING, 06MJ-08MP
3*	1	009809P00	COUPLER, Female
4*	1	P0085-113	ORING
5*	1	005134P00	COUPLER, Male
6*	1	005135P00	COUPLER
7*	1	009812P01	COUPLER, High Pressure

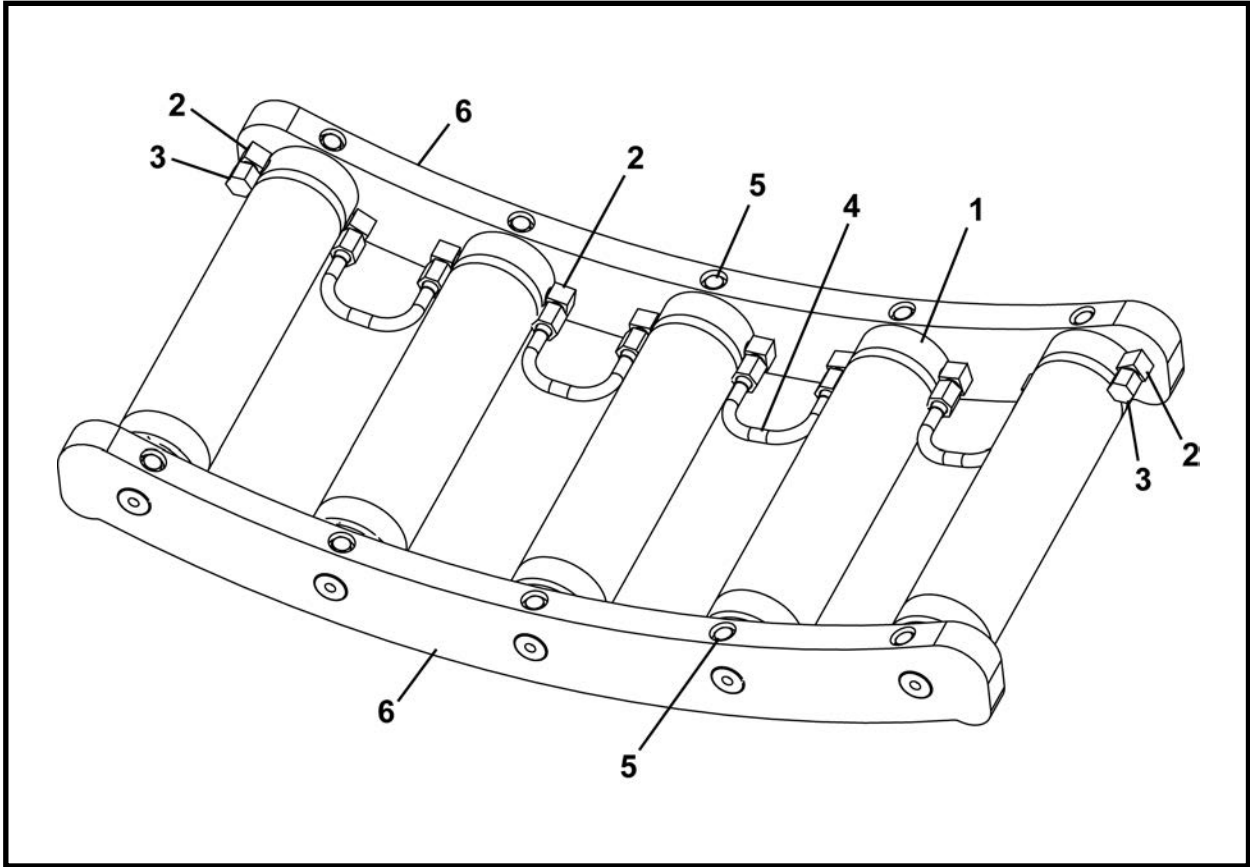
\* Included in IJS Coupler Assembly, 005133A02. Refer to this section for parts information.

## IJS COUPLER ASSEMBLY, 005133A02



ITEM	QTY	PART NO.	DESCRIPTION
0	1	005133A02	IJS COUPLER ASSEMBLY
1	1	005134P00	COUPLER, Male
2	1	005135P00	COUPLER
3	1	009809P00	COUPLER, Female
4	1	P0085-113	ORING
5	1	009812P01	COUPLER, High Pressure
6	1	009808P00	CAP, Female
7	1	007085P00	PLUG, Coupler
8	1	009811P01	CAP, Male

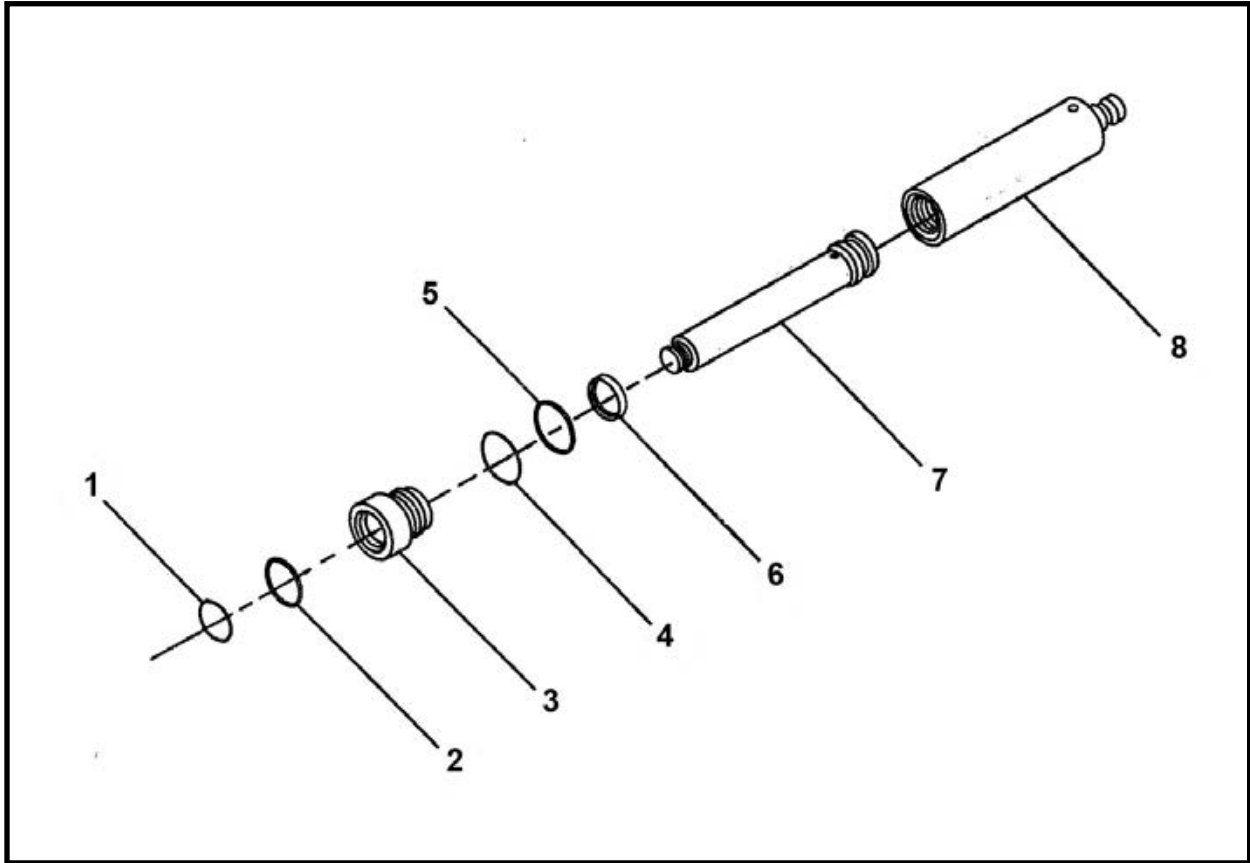
## IJS SEGMENT ASSEMBLY



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	007299A00	IJS SEGMENT ASSEMBLY - 48SC /420
0.2	1	007300A00	IJS SEGMENT ASSEMBLY - 480
0.3	1	007301A00	IJS SEGMENT ASSEMBLY - 540
1*	5	F03531F02	CYLINDER, IJS
2	10	P0300-125	FITTING, 04MP-06MJ
3	2	P0300-126	CAP
4	4	001907A00	TUBE
5	10	P0001-05-003	BOLT, 5/16 UNC x .75
6.1	2	F01480F00	END IRONS, Plate - 48SC /420
6.2	2	F01390F00	END IRONS, Plate - 480
6.3	2	F07297F00	END IRONS, Plate - 540

\* Refer to this section for parts information.

## IJS CYLINDER ASSEMBLY, F03531F02

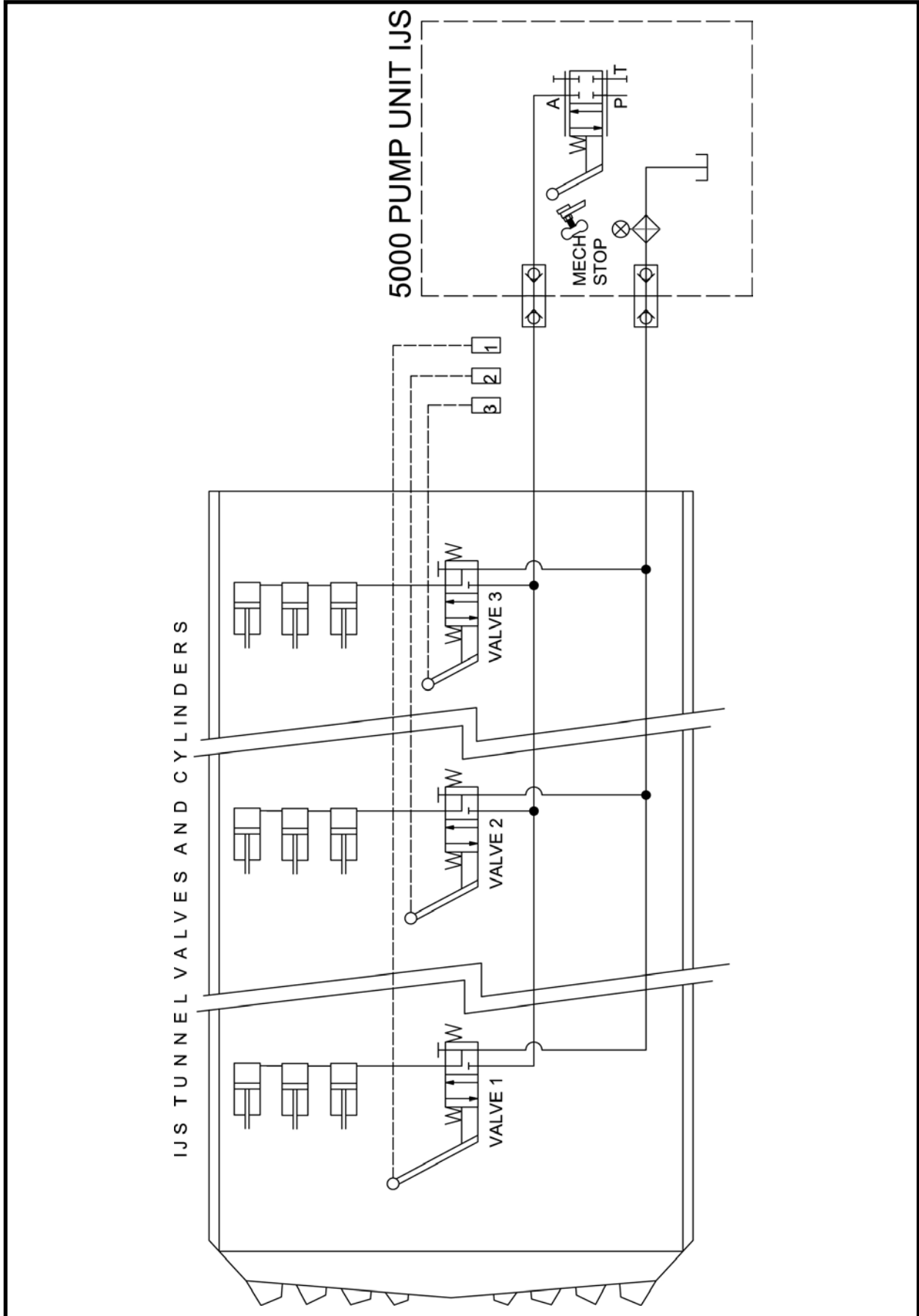


ITEM	QTY	PART NO.	DESCRIPTION
0	1	F03531F02	CYLINDER ASSEMBLY, IJS
1*	1	P0087-001	WIPER
2*	1	P0086-003	POLYSEAL
3	1	003095P02	CAP, End
4*	1	P0084-139	RING, Back-Up
5*	1	P0085-139	ORING
6*	1	P0088-002	RING, Wear
7	1	003348P02	SHAFT
8	1	003364A01	BARREL
9	REF	007344A00	KIT, Seal

\* Included in item 9, 007344A00 Seal Kit.

NOTE: Apply anti-sieze to barrel/gland threads.

# INTERMEDIATE JACKING STATION HYDRAULIC SCHEMATIC





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