



**TRENCHLESS EQUIPMENT SPECIALISTS**

# **PARTS MANUAL**

## **Guided Boring Machine**

**GBM S/N: A40019 & A40020**

**Publication No. 050011A**

Rev No. 040728

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**SERVICE • RELIABILITY • INNOVATION**



# Introduction

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

The GBM consists of two jacking frames (the single stage frame for stand alone or auger boring operation, and the latching frame for launch shafts of 8 feet inside diameter or larger), power pack, guidance system, and tooling.

## 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 Guided Boring Machine. ALWAYS use genuine Akkerman parts.

## PARTS ORDERING

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

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

## MEASUREMENTS

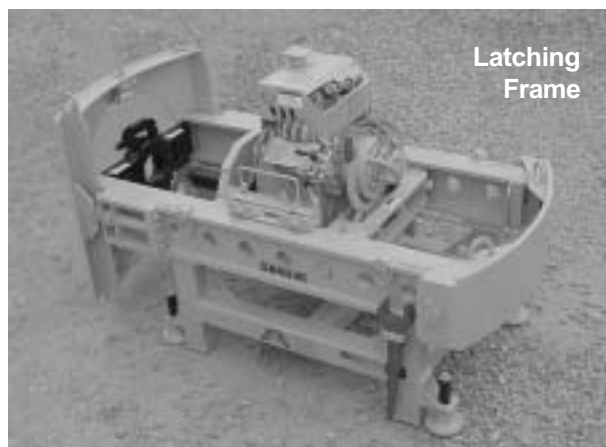
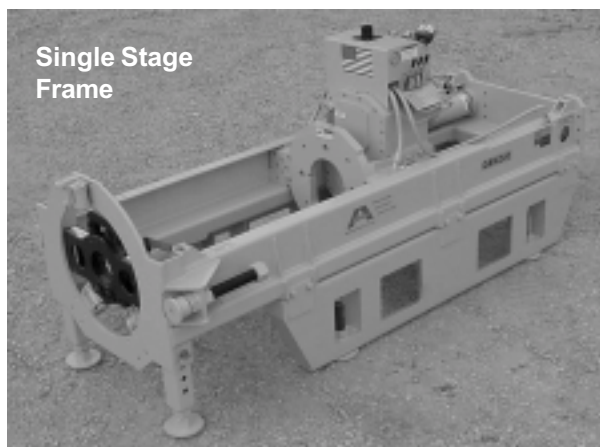
The unit of measure in this manual is in inches unless indicated otherwise.

## HARDWARE SPECIFICATION

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

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

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



## Guided Boring Machine

## **NOTES**



# Contents

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

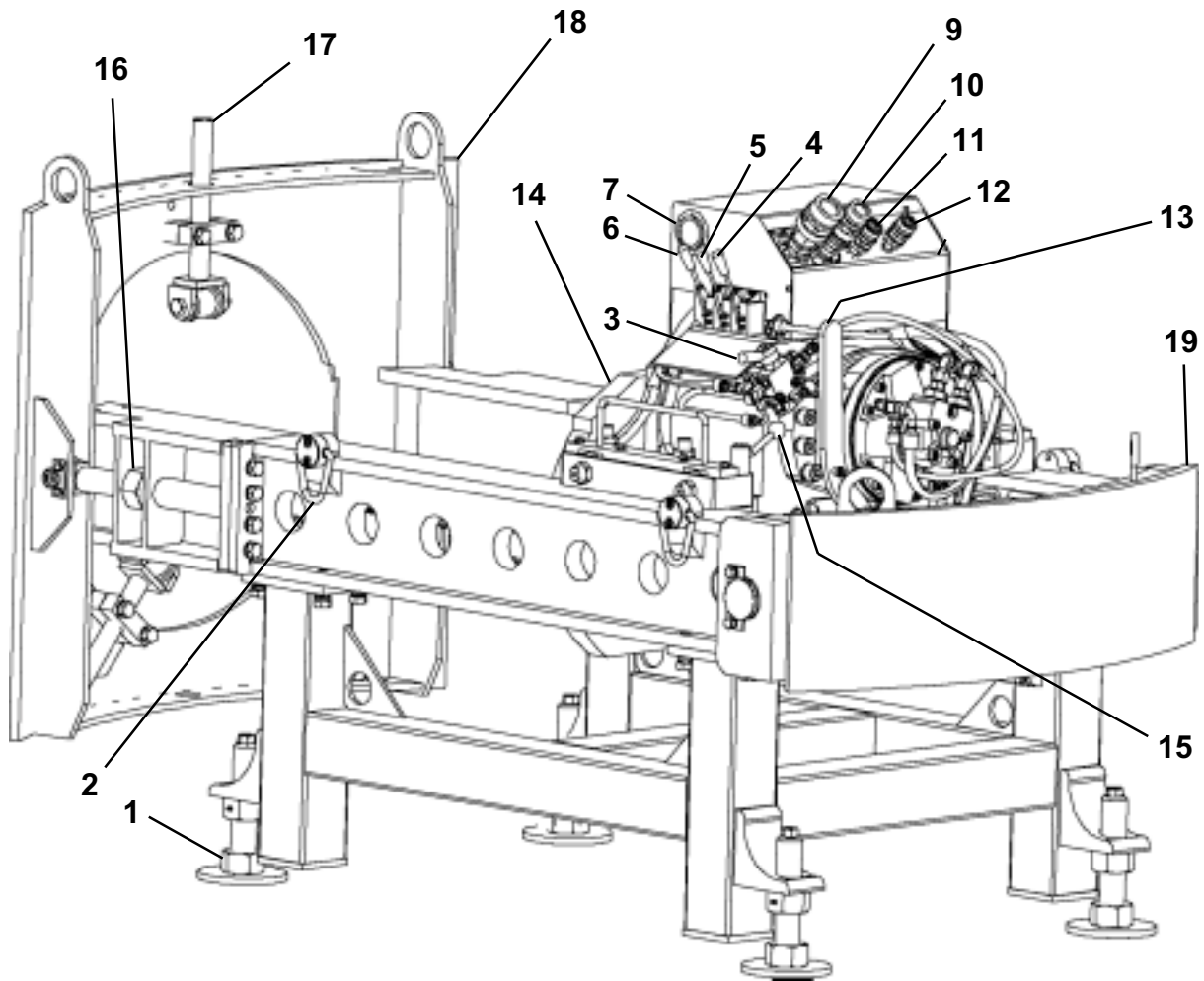
## **NOTES**



# General Information

Terminology .....	1
Latching Frame .....	1
Single Stage Frame .....	2
Power Pack .....	3
Guidance System .....	4
Tooling .....	5
Three Step Method .....	5
Two Pass Method .....	7
Auger Boring Method .....	9

# LATCHING FRAME

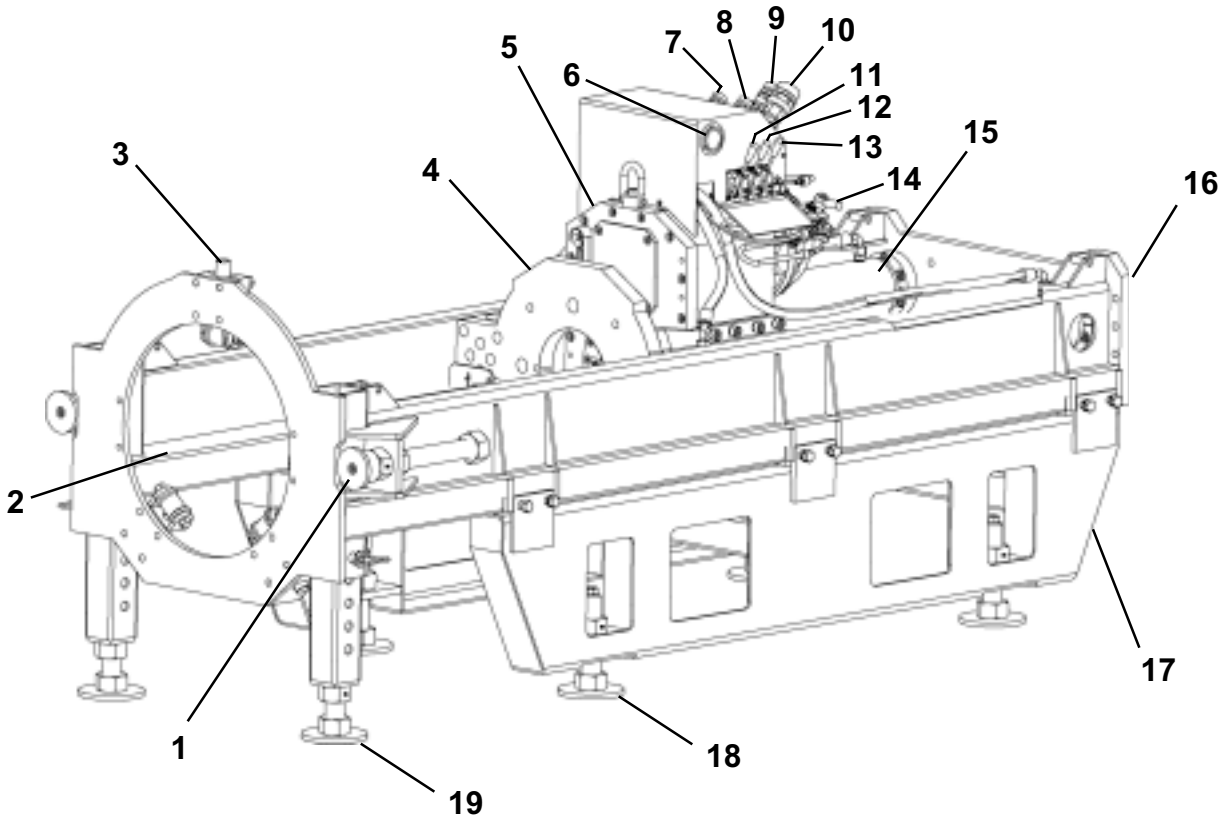


- 1. Leveling Assembly
- 2. Lifting Hook
- 3. Drilling Drive Speed Selector
- 4. Drilling Frame Travel Motor Control
- 5. Drilling Drive Rotation Control
- 6. Drilling Frame Travel Cylinder Control

- 7. Pressure Gauge
- 8. Target Monitor (not shown)
- 9. Return Line Connector
- 10. Pressure Connector
- 11. Case Drain Connector
- 12. Load Sense Connector
- 13. Latch Pin Manual Release Control

- 14. Thrust Frame Assembly
- 15. Gear Box Assembly Cam Lock (optional)
- 16. Shaft Tensioner
- 17. Casing Roller Bracket
- 18. Front Plate
- 19. Back Plate

# SINGLE STAGE FRAME

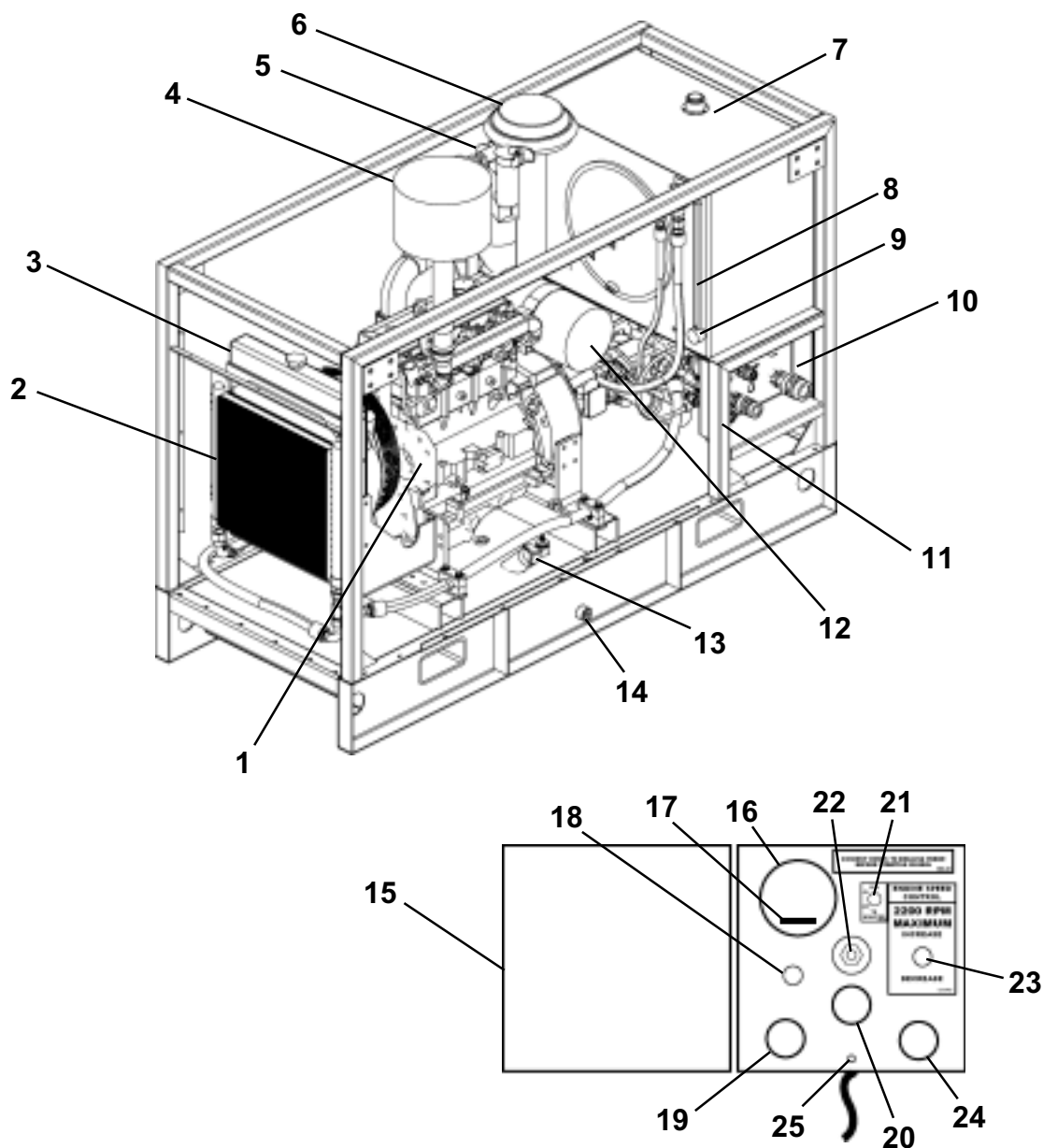


- 1. Shaft Tensioner
- 2. Drilling Guide
- 3. Roller Bracket Assembly
- 4. Thrust Plate
- 5. Thrust Frame Assembly  
(includes Gear Box)
- 6. Pressure Gauge

- 7. Load Sense Connector
- 8. Case Drain Connector
- 9. Pressure Connector
- 10. Return Line Connector
- 11. Drilling Frame Travel Cylinder  
Control
- 12. Drilling Drive Rotation Control

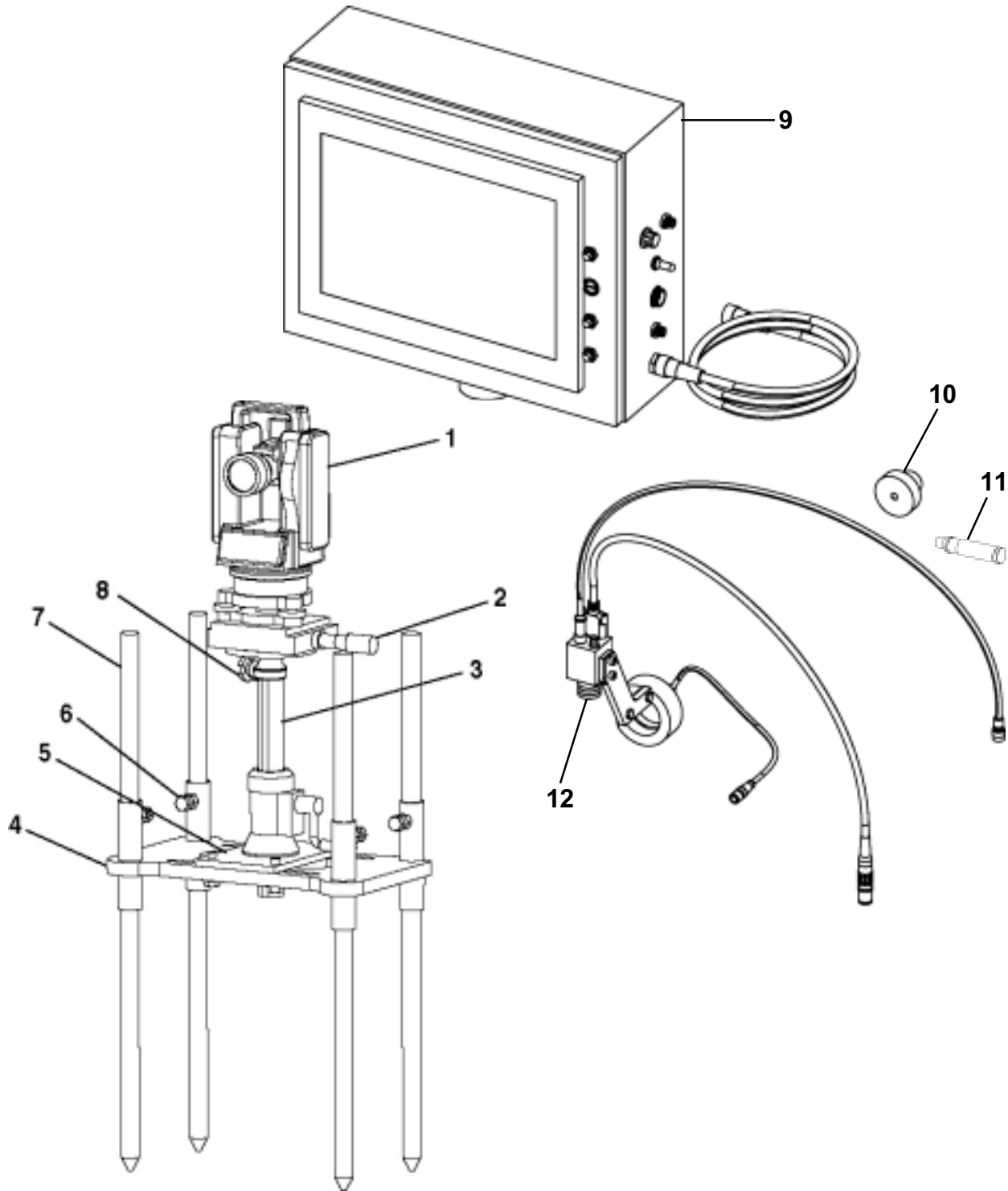
- 13. Auxiliary
- 14. Drilling Drive Speed Selector
- 15. Thrust Cylinders
- 16. Drilling Frame
- 17. Lower Base Frame Assembly
- 18. Leveling Assembly
- 19. Stabilizer Leg

# POWER PACK P75



- |                            |  |                               |
|----------------------------|--|-------------------------------|
| 1. Engine                  | 10. Hydraulic Connections                        | 17. Hourmeter                 |
| 2. Oil Cooler              | 11. Maint. Light Switch,<br>Pendant Connection   | 18. Ignition Switch           |
| 3. Radiator                | 12. Air Cleaner                                  | 19. Oil Pressure Gauge        |
| 4. Muffler                 | 13. Fuel Fill                                    | 20. Water Temp. Gauge         |
| 5. Hydraulic Return Filter | 14. Fuel Drain                                   | 21. Monitor Switch            |
| 6. Air Cleaner Hood        | 15. Remote Instrument Panel<br>(Control Pendant) | 22. Start Button              |
| 7. Hydraulic Reservoir     | 16. Tachometer                                   | 23. Engine Speed Control      |
| 8. Oil Level Gauge         |  | 24. Battery (Voltmeter) Gauge |
| 9. Oil Temperature Gauge   |  | 25. Fuse Holder               |

# GUIDANCE SYSTEM



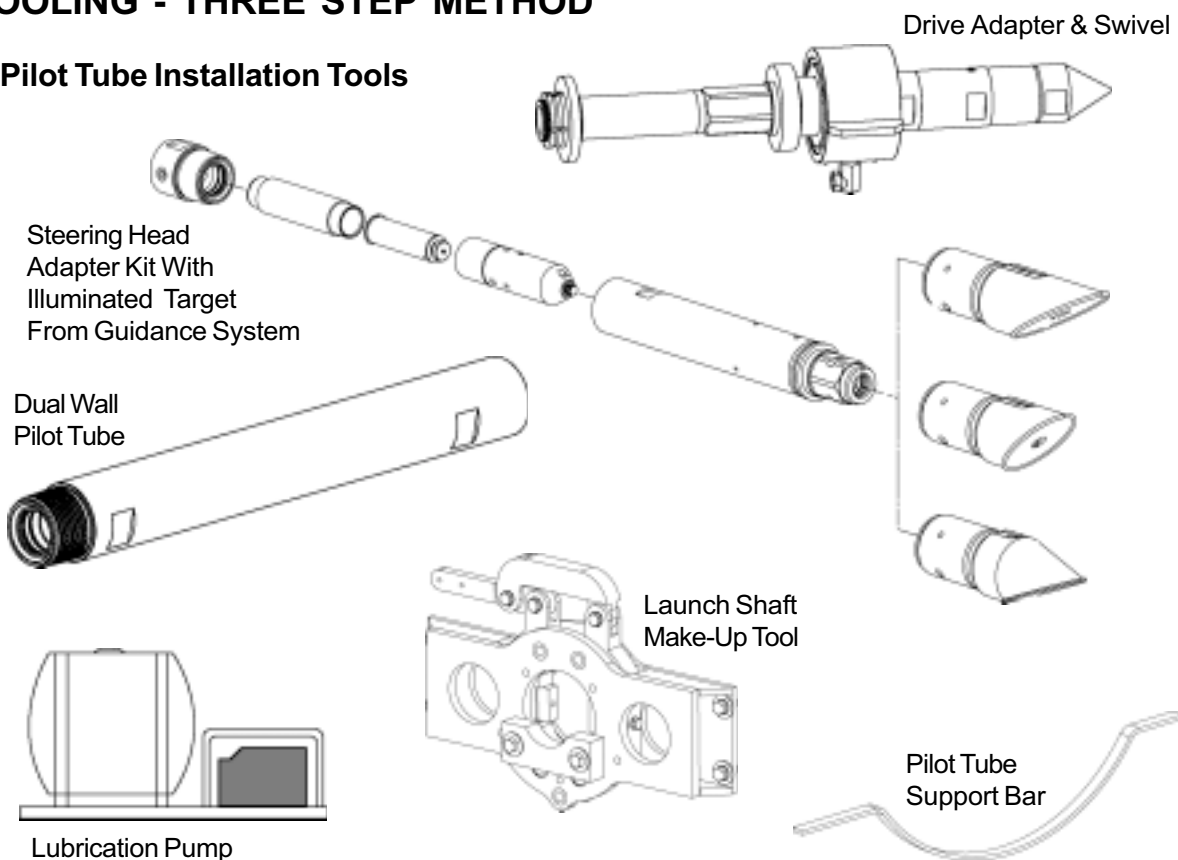
- 1. Theodolite
- 2. Lateral Slide
- 3. Elevator Column
- 4. Mounting Base
- 5. Vertical Lift Mounting Plate
- 6. Bolt & Washer

- 7. Stake Stand
- 8. Column Lock
- 9. Target Monitor
- 10. Laser Sight Alignment Tool
- 11. Laser Sight
- 12. Camera & Optics

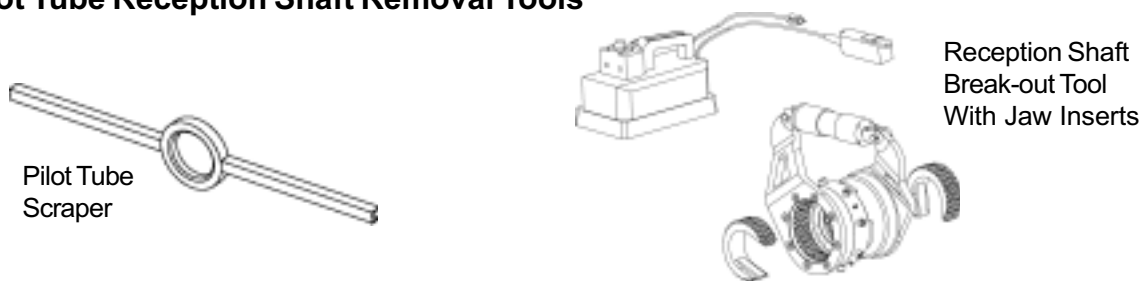
Note: A wide based theodolite stand assembly (not shown) is used for the single stage frame. For parts breakdown, refer to Theodolite Stand Assembly, A4220A in Section 3, Structural.

# TOOLING - THREE STEP METHOD

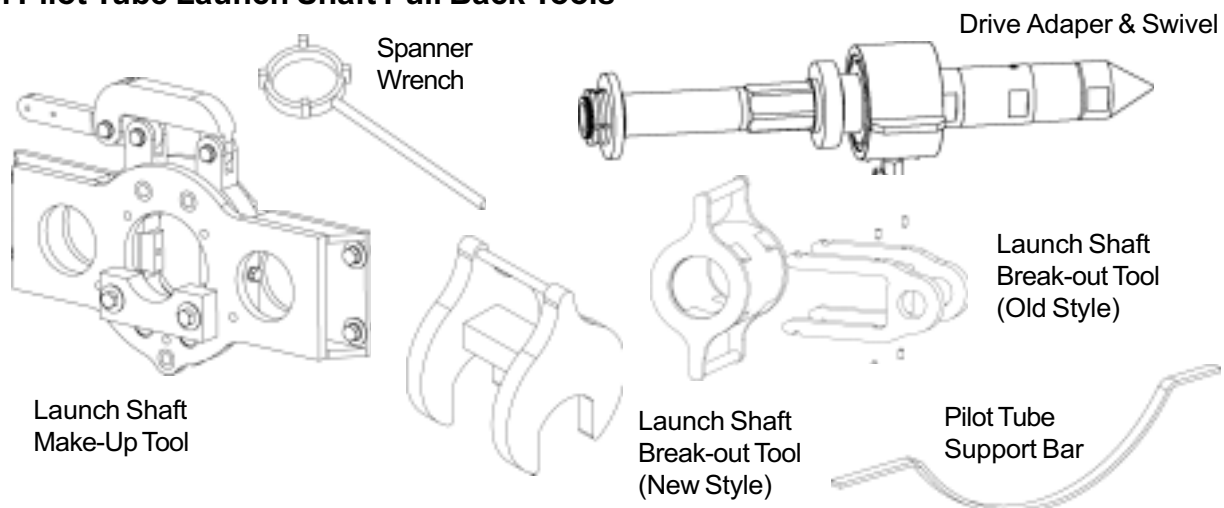
## 1. Pilot Tube Installation Tools



## 2. Pilot Tube Reception Shaft Removal Tools

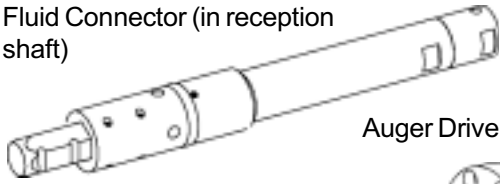


## 3. Pilot Tube Launch Shaft Pull Back Tools



#### 4. Reaming Head Thrust Casing Installation Tools

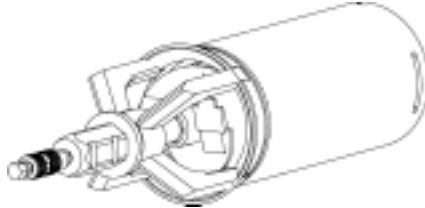
Pilot Tube Adapter With Fluid Connector (in reception shaft)



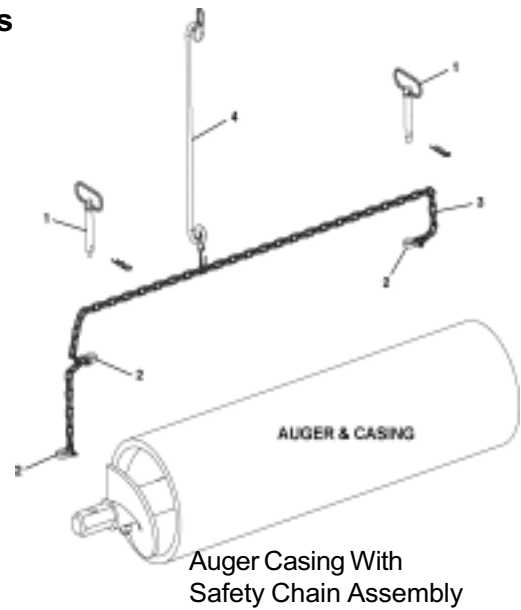
Auger Drive Adapter



Casing Thrust Adapter



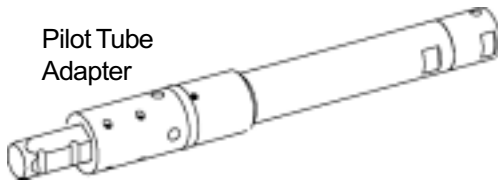
Reaming Head Assembly



Auger Casing With Safety Chain Assembly

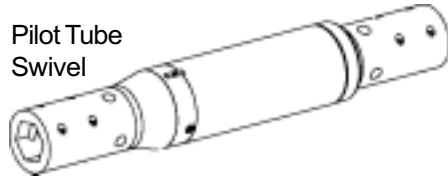
#### 5. Cutter Head Thrust Casing Installation Tools

Pilot Tube Adapter

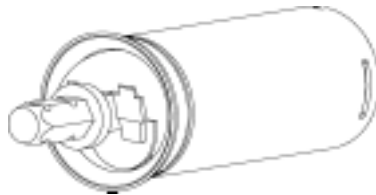


Auger Drive Adapter

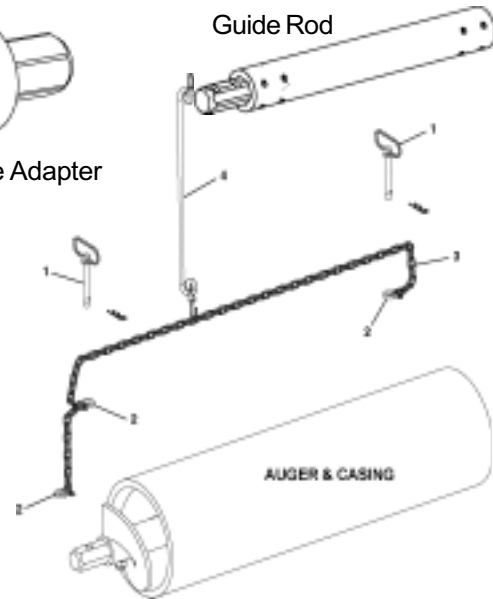
Pilot Tube Swivel



Casing Thrust Adapter



Cutter Head Assembly



Guide Rod

#### 6. Pipe Installation Tools

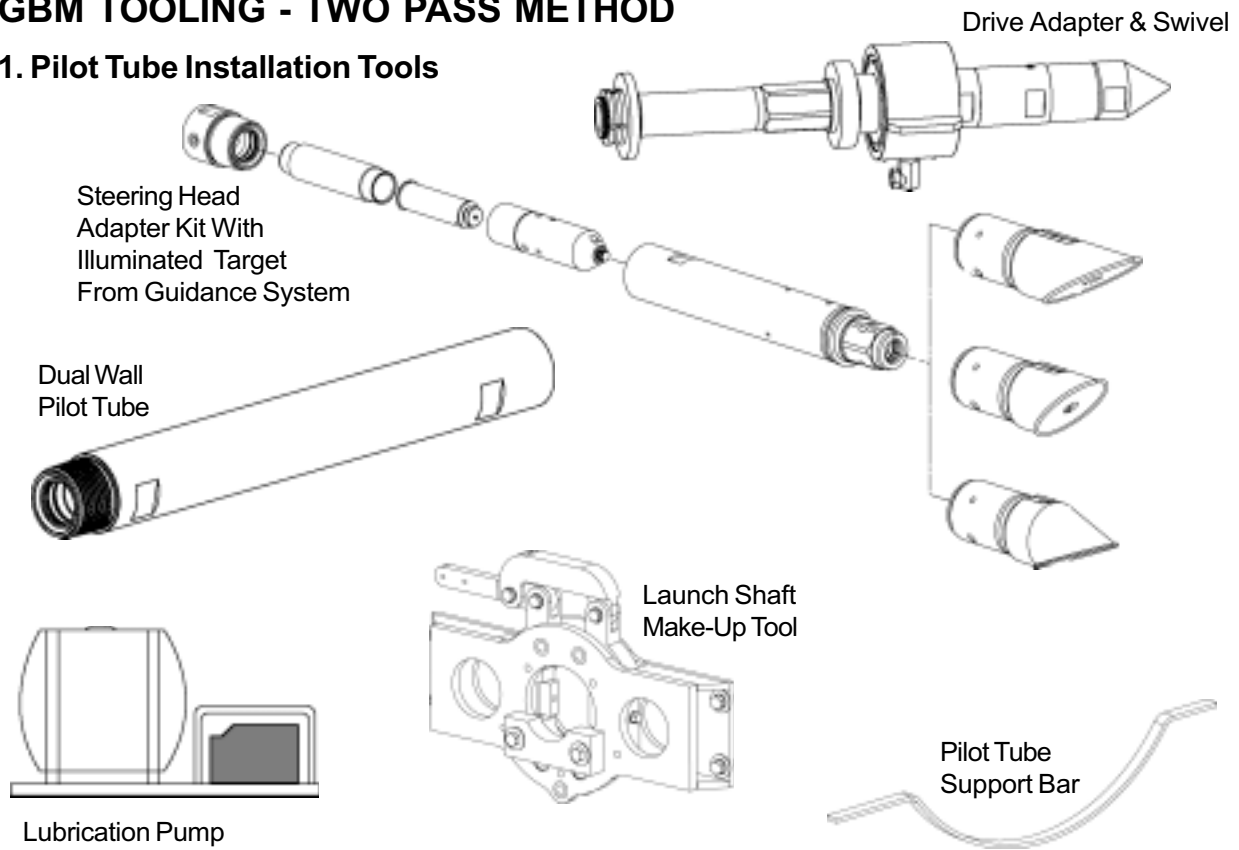
Pipe Thrust Adapter



Casing To Pipe Adapter

# GBM TOOLING - TWO PASS METHOD

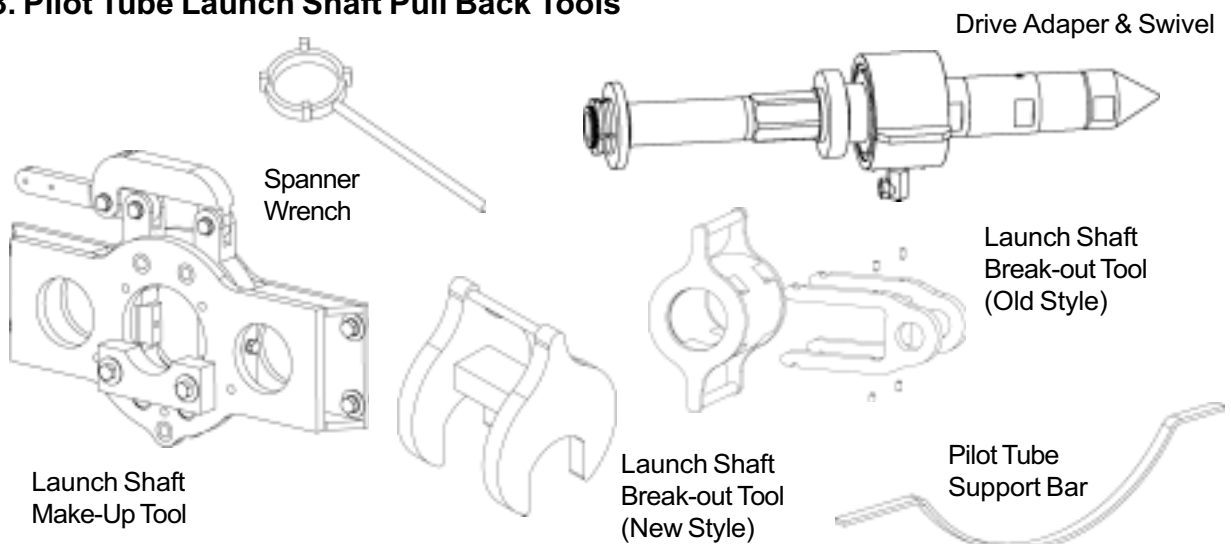
## 1. Pilot Tube Installation Tools



## 2. Pilot Tube Reception Shaft Removal Tools

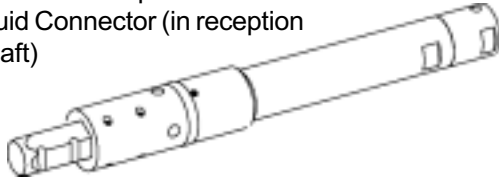


## 3. Pilot Tube Launch Shaft Pull Back Tools

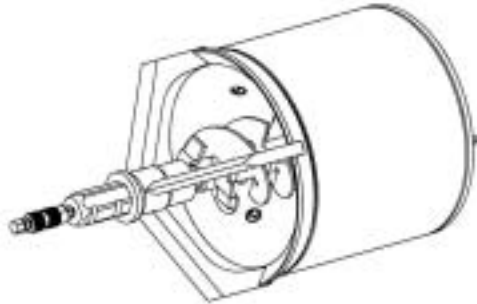


#### 4. Reaming Head Installation Tools

Pilot Tube Adapter With Fluid Connector (in reception shaft)



Auger Drive Adapter



Reaming Head Assembly

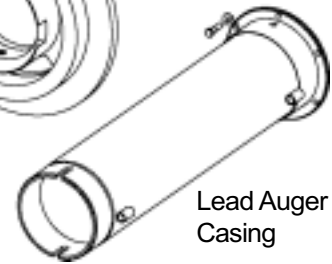
Two Pass Thrust Adapter



Pipe Adapter

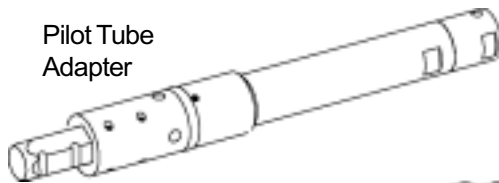


Lead Auger Casing

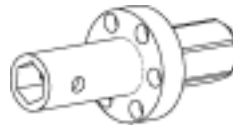


#### 5. Cutter Head Installation Tools

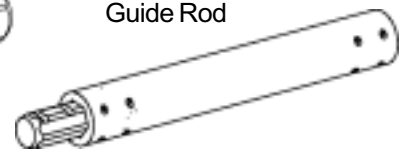
Pilot Tube Adapter



Auger Drive Adapter



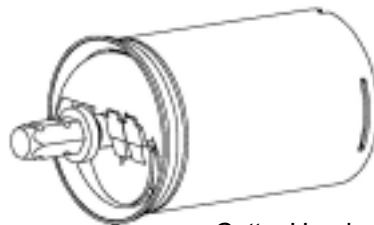
Guide Rod



Pilot Tube Swivel



Lubrication Pump



Cutter Head Assembly

Two Pass Thrust Adapter

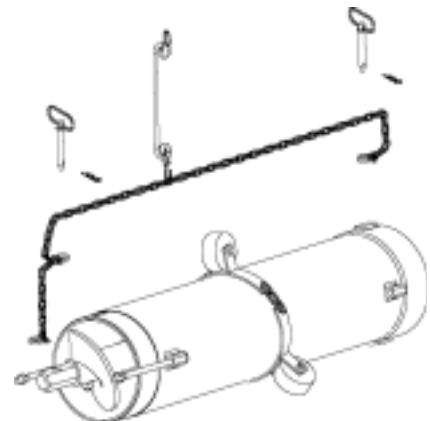


#### 6. Auger Casing With Product Pipe Tools

Two Pass Thrust Adapter



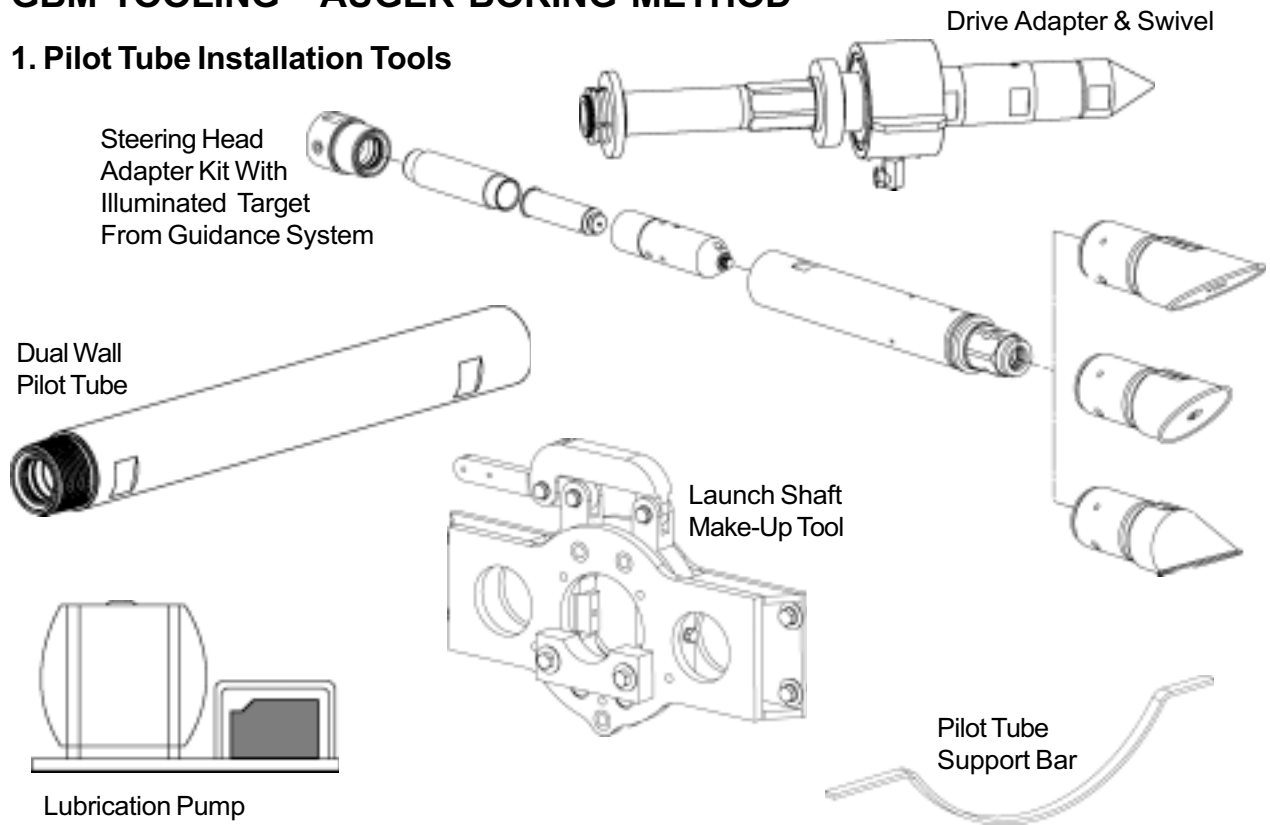
Casing To Pipe Adapter



Auger Casing With Casing Spacer & Safety Chain Assembly

# GBM TOOLING - AUGER BORING METHOD

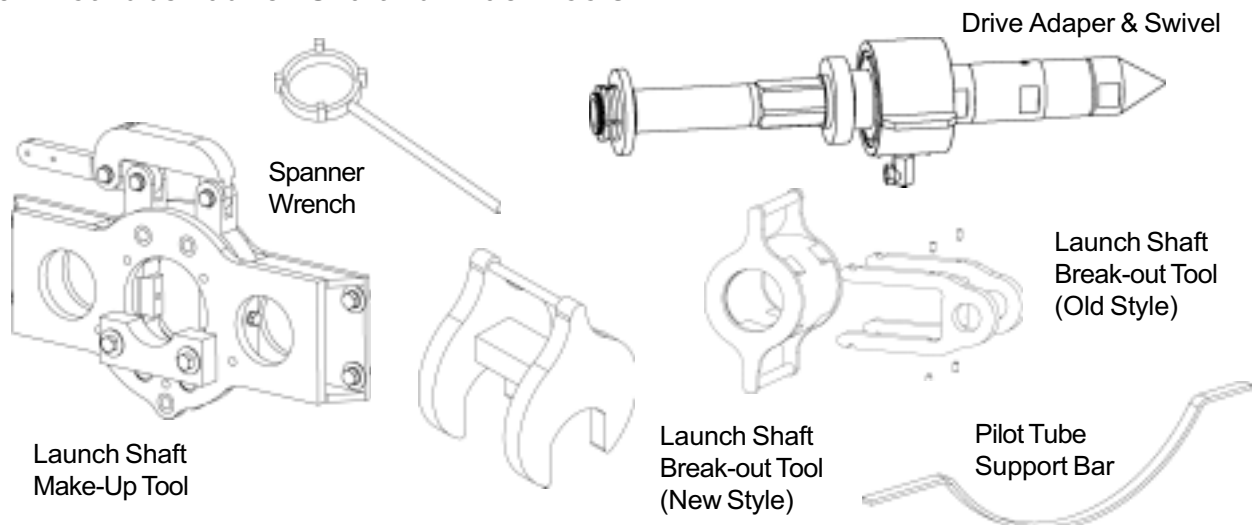
## 1. Pilot Tube Installation Tools



## 2. Pilot Tube Reception Shaft Removal Tools

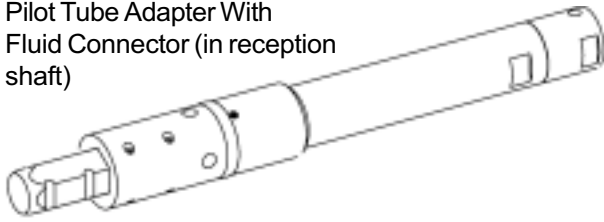


## 3. Pilot Tube Launch Shaft Pull Back Tools

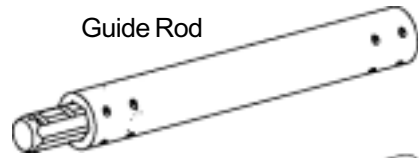


#### 4. Reaming Head Installation Tools

Pilot Tube Adapter With Fluid Connector (in reception shaft)



Guide Rod



\* 10' Pilot Hex Tube



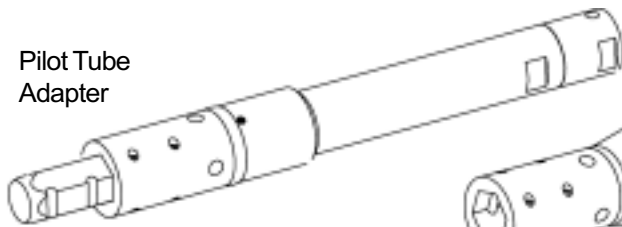
Reaming Head Assembly



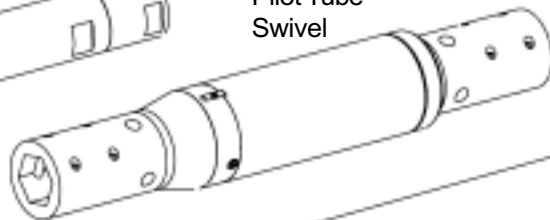
\* On larger diameter auger boring drives, two 10' pilot hex tubes may be required.

#### 5. Open Face Cutter Head Installation Tools

Pilot Tube Adapter



Pilot Tube Swivel



\* 10' Pilot Hex Tube



Pilot Guide Rod Swivel Assembly



Auger Adapter



\* On larger diameter auger boring drives, two 10' pilot hex tubes may be required.

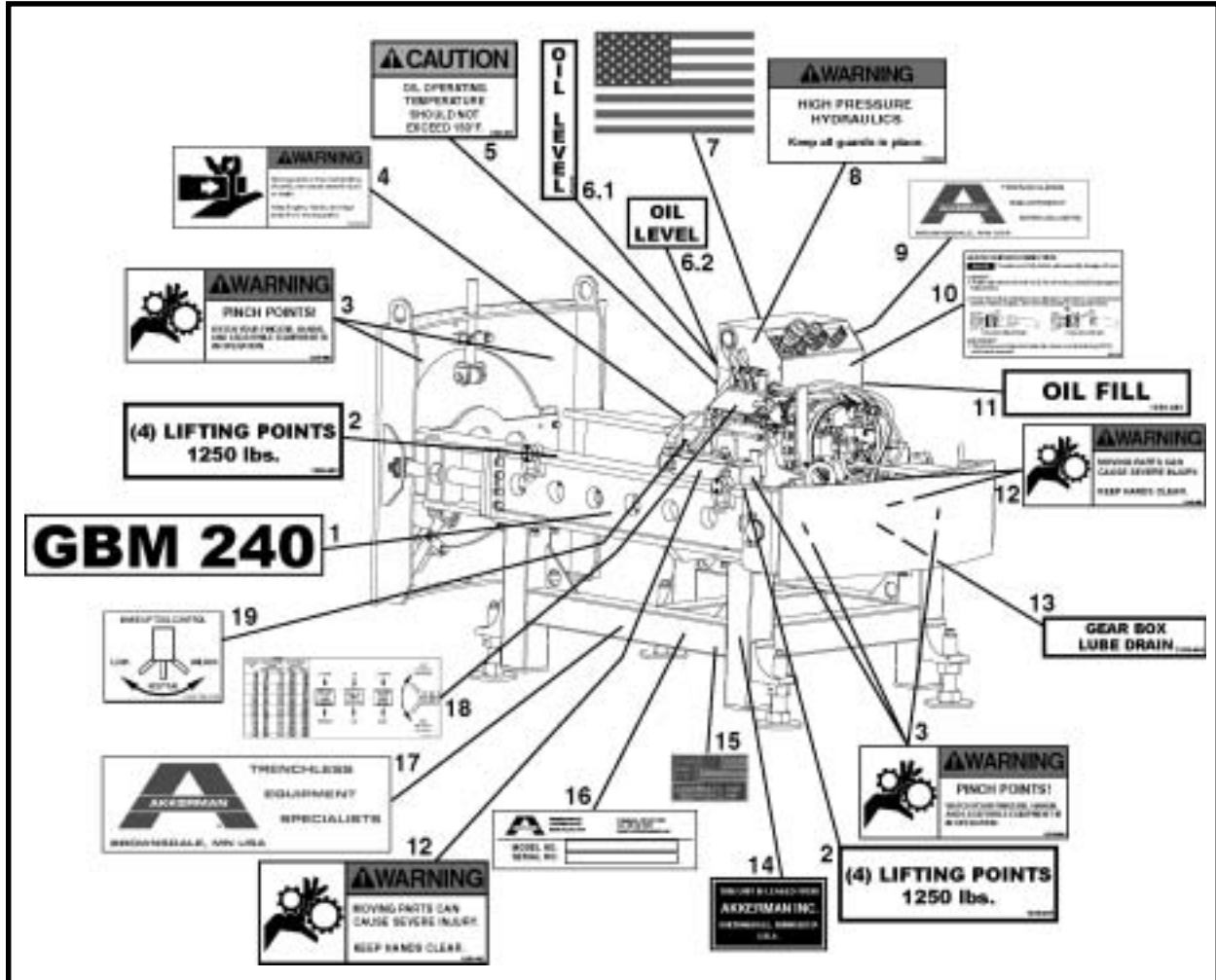
## **NOTES**



## Decals

Latching Frame .....	1
Single Stage Frame .....	2
Power Pack P75 .....	3
Remote Instrument Panel (Control Pendant) .....	4
Guidance System .....	5

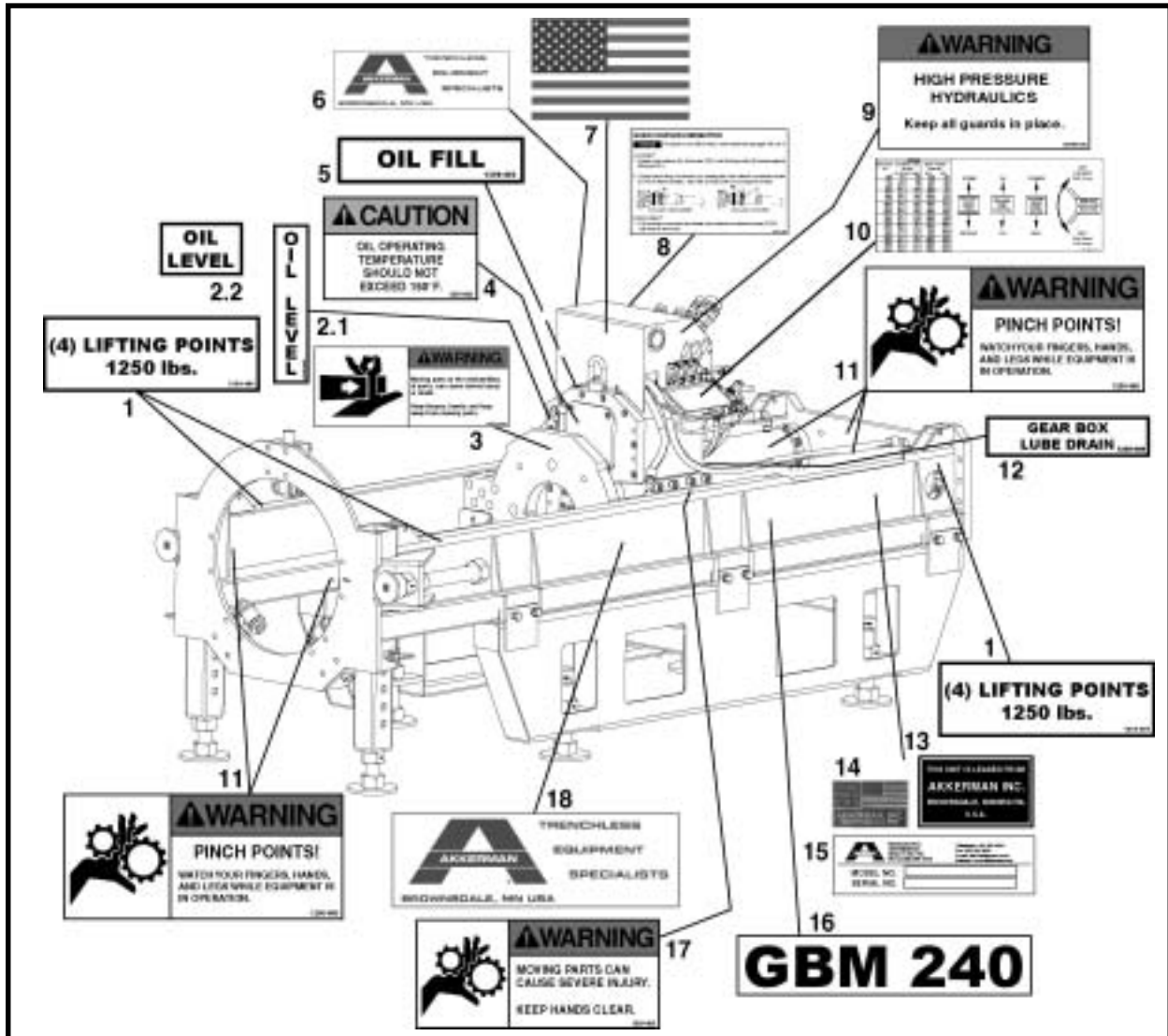
## LATCHING FRAME DECALS



ITEM	QTY	PART NO.	DESCRIPTION
1	2	1250-563	DECAL, GBM 240
2	4	1250-547	DECAL, Lifting Points, 1250 lbs.
3	8	1250-480	DECAL, Warning Pinch Points
4	1	1250-719	DECAL, Warning Moving Parts
5	1	1250-483	DECAL, Caution Oil Temperature
6.1	1	1250-649	DECAL, Oil Level (Gear Box With Sight Gauge)
6.2	1	1250-731	DECAL, Oil Level (Gear Box With Oil Level Plug)
7	1	1250-559	DECAL, USA Flag, Medium
8	1	1250-003	DECAL, Warning High Pressure Hydraulics
9	1	1250-546	DECAL, Akkerman, Medium
10	1	1250-574	DECAL, Quick Coupler Connection
11	1	1250-492	DECAL, Oil Fill
12	3	1250-482	DECAL, Warning Moving Parts
13	1	1250-484	DECAL, Gear Box Oil Drain
14*	1	1250-098	DECAL, Lease
15	1	1250-544	DECAL, Made in USA
16	1	REF	PLATE, Serial Number
17	2	1250-547	DECAL, Akkerman, Large
18	1	1250-647b	DECAL, Valve Bank Control
19	1	1250-726	DECAL, Make-Up Tool Control

\* Note: Decal used only on leased equipment.

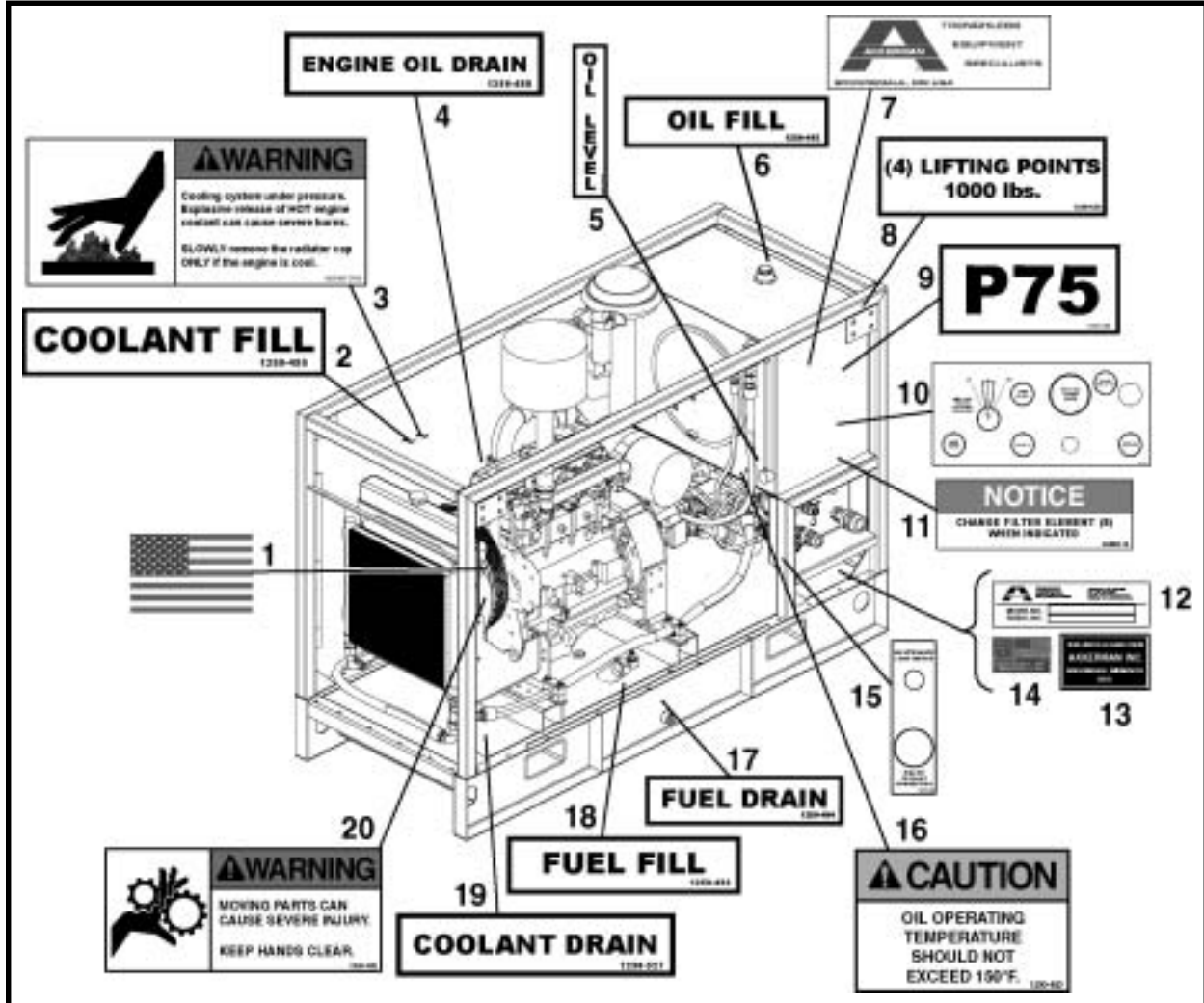
## SINGLE STAGE FRAME DECALS



ITEM	QTY	PART NO.	DESCRIPTION
1	4	1250-547	DECAL, Lifting Points, 1250 lbs.
2.1	1	1250-649	DECAL, Oil Level (Gear Box With Sight Gauge)
2.2	1	1250-731	DECAL, Oil Level (Gear Box With Oil Level Plug)
3	1	1250-719	DECAL, Warning Moving Parts
4	1	1250-483	DECAL, Caution Oil Temperature
5	1	1250-492	DECAL, Oil Fill
6	1	1250-546	DECAL, Akkerman, Medium
7	1	1250-559	DECAL, USA Flag, Medium
8	1	1250-574	DECAL, Quick Coupler Connection
9	1	1250-003	DECAL, Warning High Pressure Hydraulics
10	1	1250-647b	DECAL, Valve Bank Control
11	5	1250-480	DECAL, Warning Pinch Points
12	1	1250-484	DECAL, Gear Box Oil Drain
13*	1	1250-098	DECAL, Lease
14	1	1250-544	DECAL, Made in USA
15	1	REF	PLATE, Serial Number
16	2	1250-563	DECAL, GBM 240
17	2	1250-482	DECAL, Warning Moving Parts
18	2	1250-547	DECAL, Akkerman, Large

\* Note: Decal used only on leased equipment.

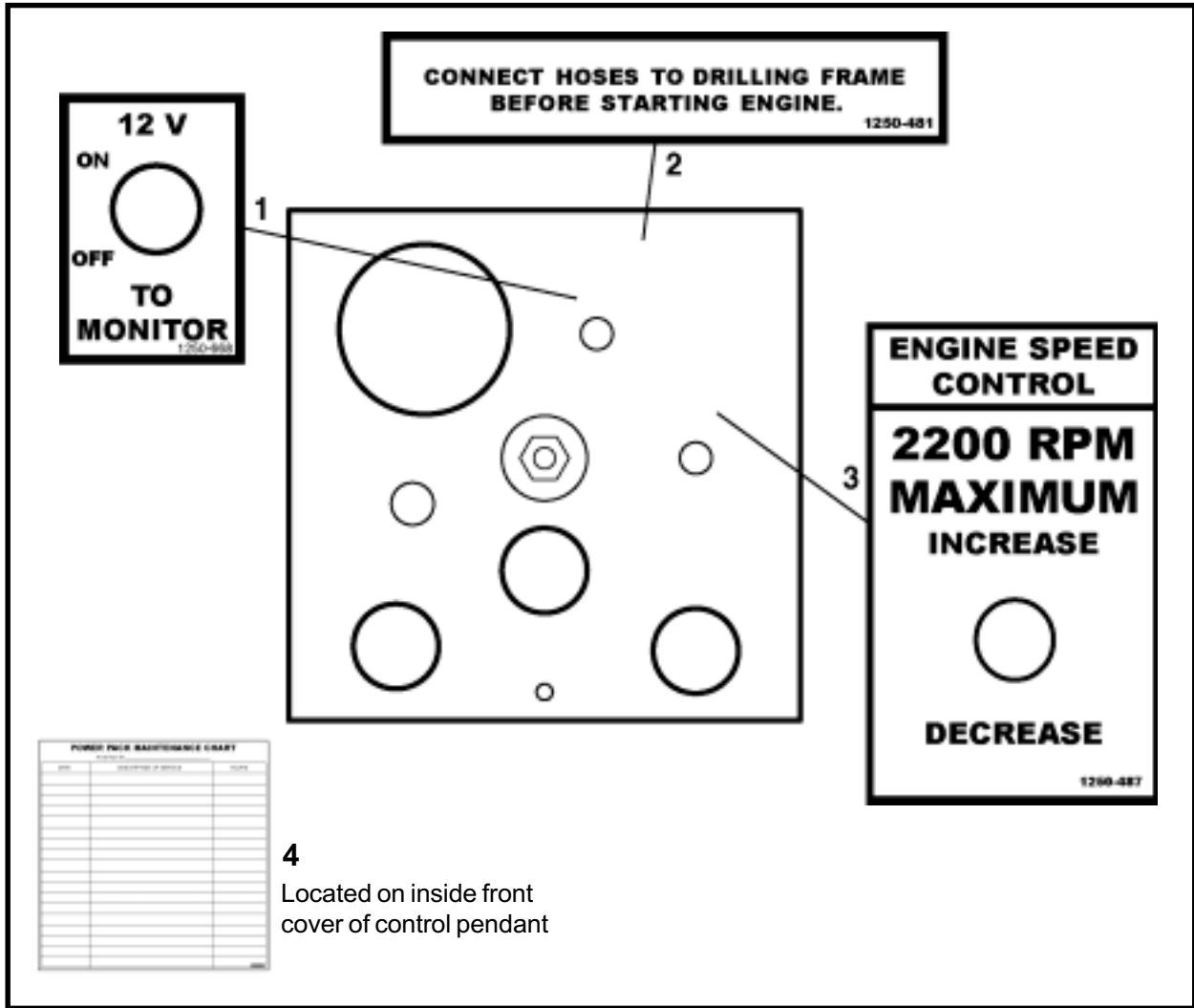
## POWER PACK P75 DECALS



ITEM	QTY	PART NO.	DESCRIPTION
1	2	1250-559	DECAL, USA Flag, Medium
2	1	1250-495	DECAL, Coolant Fill
3	1	1250-697	DECAL, Warning Coolant System Pressure
4	1	1250-498	DECAL, Engine Oil Drain
5	1	1250-649	DECAL, Oil Level
6	1	1250-492	DECAL, Oil Fill
7	2	1250-547	DECAL, Akkerman, Large
8	4	1250-639	DECAL, Lifting Points, 1000 lbs.
9	2	1250-486	DECAL, P75
10	1	1250-496rc	DECAL, Power Pack Controls & Connections
11	1	40000-16	DECAL, Notice Change Filter
12	1	REF	PLATE, Serial Number
13*	1	1250-098	DECAL, Lease
14	1	1250-544	DECAL, Made in USA
15	1	1250-488	DECAL, Light Switch & Pendant Connection
16	1	1250-483	DECAL, Caution Oil Temperature
17	2	1250-494	DECAL, Fuel Drain
18	1	1250-493	DECAL, Fuel Fill
19	1	1250-527	DECAL, Coolant Drain
20	2	1250-482	DECAL, Warning Moving Parts

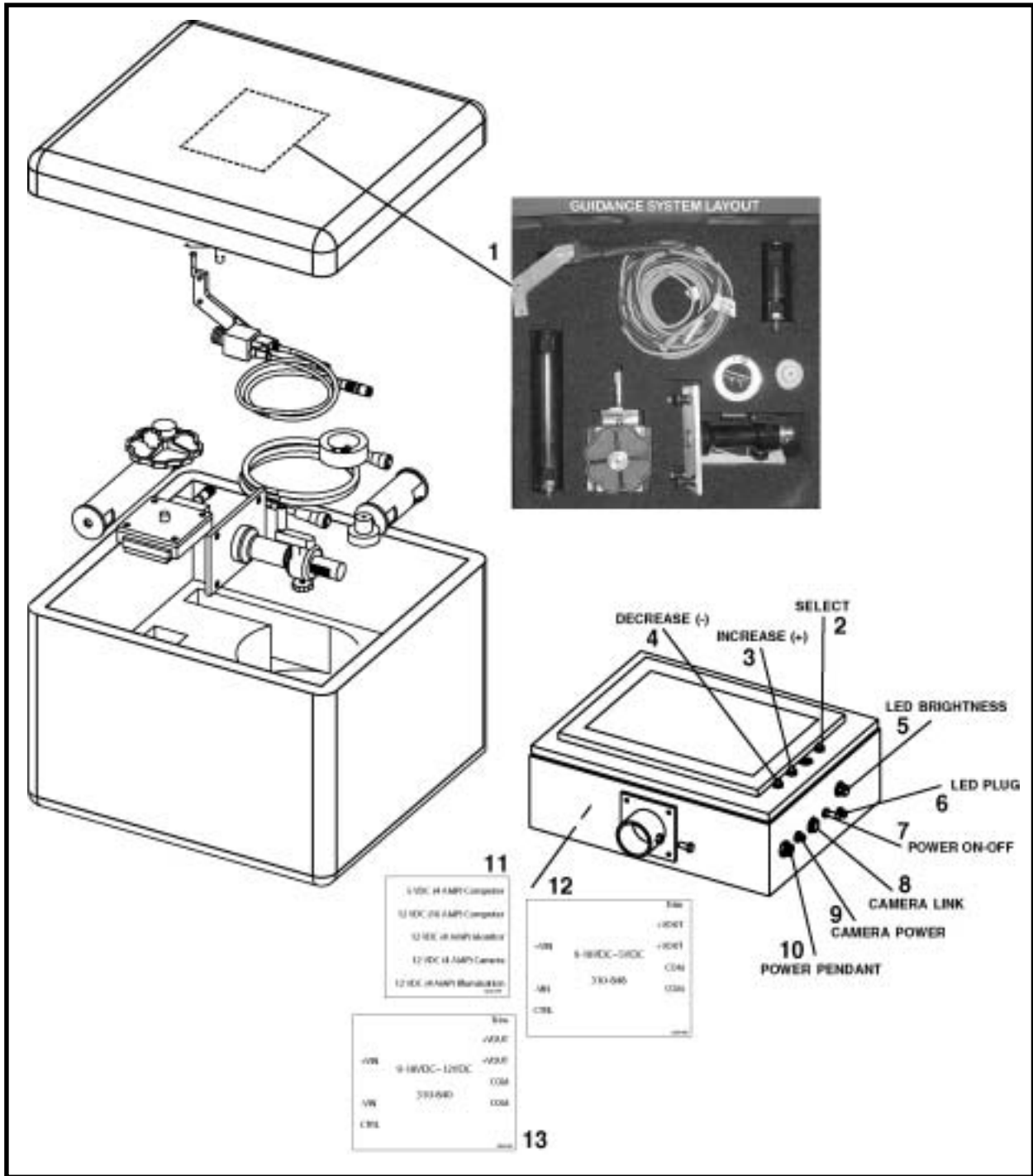
\* Note: Decal used only on leased equipment.

## REMOTE INSTRUMENT PANEL DECALS



ITEM	QTY	PART NO.	DESCRIPTION
1	1	1250-668	DECAL, 12 V To Monitor
2	1	1250-481	DECAL, Connect Hoses
3	1	1250-487	DECAL, Engine Speed Control
4	1	1250-724	DECAL, Power Pack Maintenance Chart

## GUIDANCE SYSTEM DECALS



ITEM	QTY	PART NO.	DESCRIPTION
1	1	1250-730	DECAL, Guidance System Layout
2*	1	1250-670	DECAL, GBM Monitor - Select
3*	1	1250-671	DECAL, GBM Monitor - Increase
4*	1	1250-672	DECAL, GBM Monitor - Decrease
5*	1	1250-673	DECAL, GBM Monitor - LED Brightness
6*	1	1250-674	DECAL, GBM Monitor - LED Plug
7*	1	1250-675	DECAL, GBM Monitor - Power On-Off
8*	1	1250-676	DECAL, GBM Monitor - Camera Link
9*	1	1250-677	DECAL, GBM Monitor - Camera Power
10*	1	1250-678	DECAL, GBM Monitor - Power Pendant

## GUIDANCE SYSTEM DECALS

ITEM	QTY	PART NO.	DESCRIPTION
11*	1	1250-679	DECAL, GBM Monitor - Fuses
12*	1	1250-680	DECAL, GBM Monitor - (310-848) Power Supply
13*	1	1250-681	DECAL, GBM Monitor - (310-840) Power Supply

\* Included in A42019A Decal Set.

## **NOTES**



# Structurals

## GBM Frame

### Latching Frame

Latching Frame Assembly, A42104F .....	1
Latching Frame, A40019A .....	2
Drilling Drive Thrust & Latching Frame, A40147A .....	3
Drilling Drive Thrust Frame Assembly, A40102A .....	4
Drilling Drive Assembly, A40103A .....	5
Staging Assembly (With Single Travel Motor), A40133A .....	6
Staging Assembly (With Dual Travel Motors), A40133A .....	8
Base Assembly, A40132A .....	10
Travel Motor Chain Mounting (With Single Travel Motor), A40745A ..	12
Travel Motor Chain Mounting (With Dual Travel Motors), A40745A ..	13
GBM Wrench Set, A40244F .....	14
Drive Adapter & Swivel Assembly, A40235F .....	16
Spindle Nut Wrench, A40740A .....	18
Shaft Adapters	
Square Shaft Adapter, A42105F .....	19
Frame Ends, 8 FT Square Shaft, A40018F .....	20
Tool, Dual Tube MakeUp, A40229F .....	21
Round Shaft Adapter, A42106F .....	22
Frame Ends, 8 FT Round Shaft, A40017F .....	23
Tool, Dual Tube MakeUp, A40229F .....	24
Frame Extensions	
16" & 24" (With Single Travel Motor) .....	26
16" & 24" (With Dual Travel Motors) .....	27
40" & 80" (With Single Travel Motor) .....	28
40" & 80" (With Dual Travel Motors) .....	29

### Single Stage Frame

Single Stage Frame Assembly, A42107F .....	30
Single Stage Frame, A40020F .....	31
Drilling Drive Thrust Frame Assembly, A40102A .....	32
Drilling Drive Assembly, A40103A .....	33
GBM Wrench Set, A40244F .....	34
Drive Adapter & Swivel Assembly, A40235F .....	36
Spindle Nut Wrench, A40740A .....	38
Tool, Dual Tube MakeUp, A40229F .....	39

*Single Stage Frame, Power Pack Unit, and Guidance System Assembly continued on next page.*

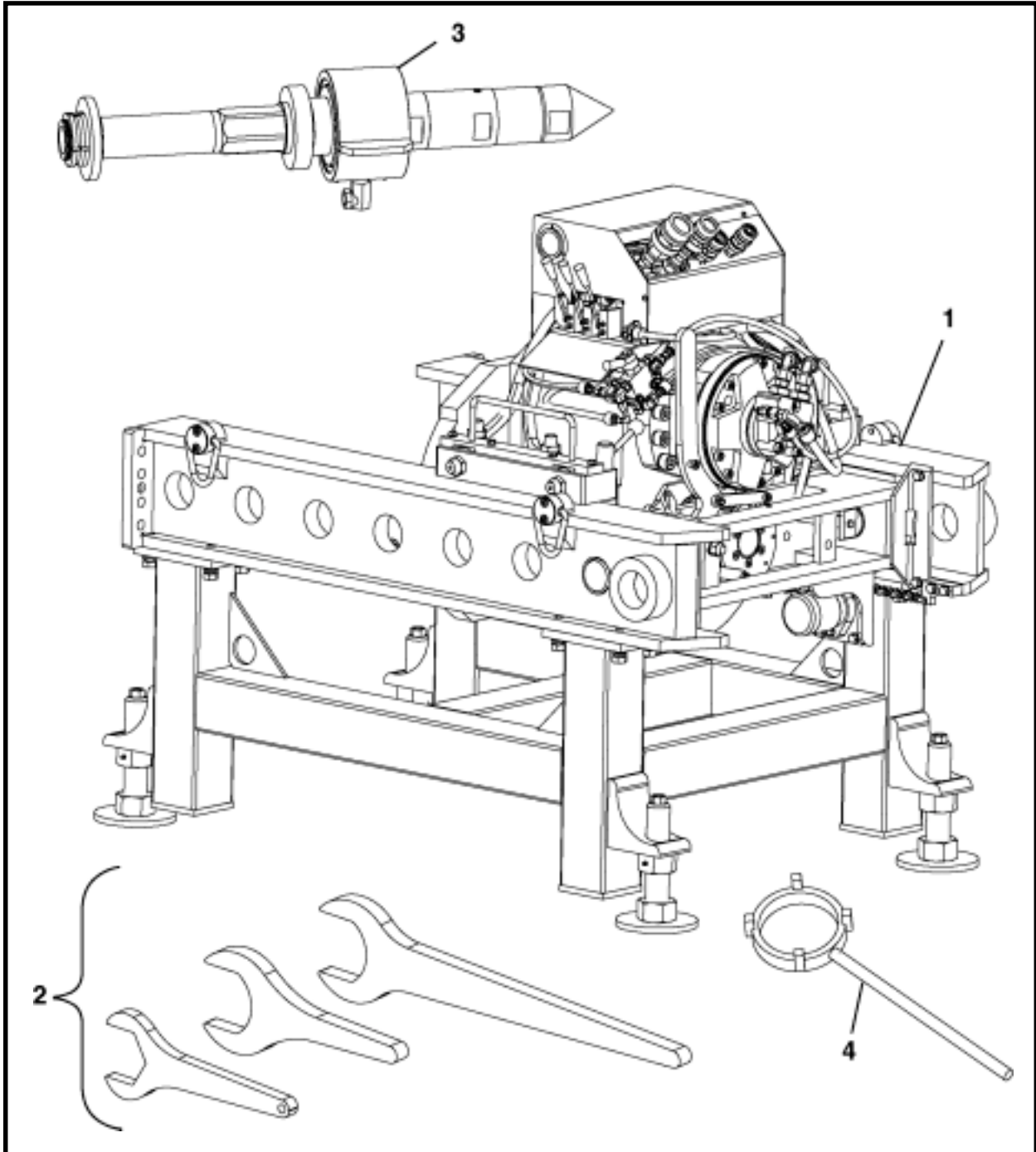
# Structurals (continued)

## GBM Frame (continued)

### *Single Stage Frame (continued)*

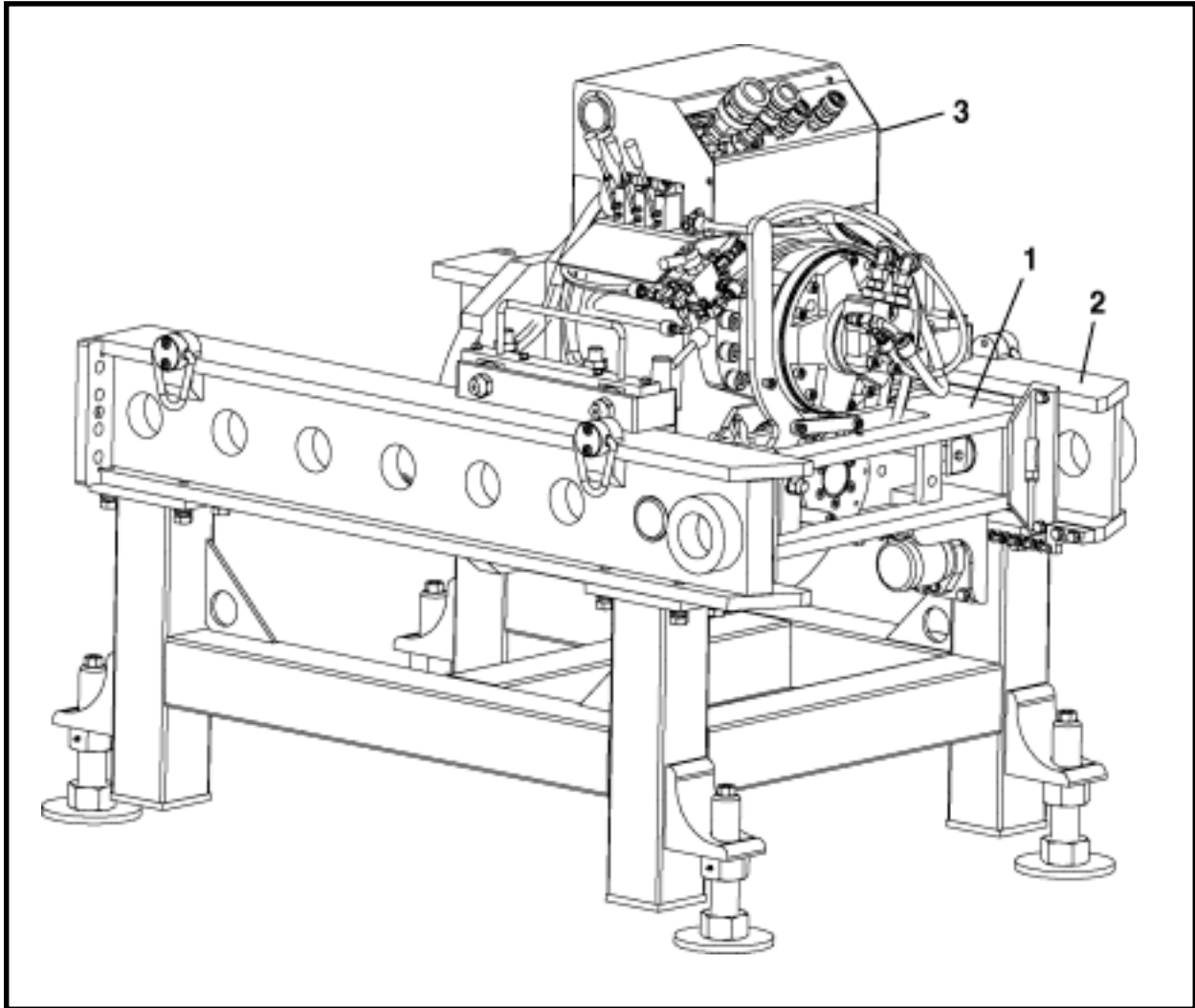
Frame Adapters	
Lower Frame Assembly, A40101A .....	40
Auger Boring Frame Adapters	
Boring Base Adapter, American Augers 36-340, A41000F .....	41
Boring Base Adapter, American Augers 30-225, A41003F .....	42
Boring Base Adapter, American Augers 48-900, A41006F .....	43
Boring Base Adapter, Richmond 54", A41009F .....	44
Boring Base Adapter, American Augers 60-1200, A41025F .....	45
Boring Base Adapter, Allied 48, A41025F .....	46
Boring Base Adapter, American Augers 24-150, A41011F .....	47
<b>Power Pack Unit, P75, A40021F .....</b>	<b>48</b>
Acoustic Panels, A40170A .....	50
Starter Hose Set, A40024F .....	51
<b>Guidance System Assembly, A42000F .....</b>	<b>52</b>
Guidance System Case, A42005A .....	53
Theodolite Stand, A42009A .....	54
Camera & Optics Assembly, A42020A .....	56
Theodolite Assembly, A42021A .....	57
Target, A40150A .....	58
Theodolite Shaft Stand - Latching Frame, A40051F .....	60
Theodolite Stand Assembly - Single Stage Frame, A42220A .....	61
<b>Dirt Buckets</b>	
Latching Frame .....	62
Single Stage Frame .....	63

**LATCHING FRAME ASSEMBLY, A42104F**  
**LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42104F	LATCHING FRAME ASSEMBLY
1	1	A40019A	LATCHING FRAME
2	1	A40244F	SET, GBM Wrench
3	1	A40235F	DRIVE ADAPTER & SWIVEL ASSEMBLY
4	1	A40740A	WRENCH, Spindle Nut

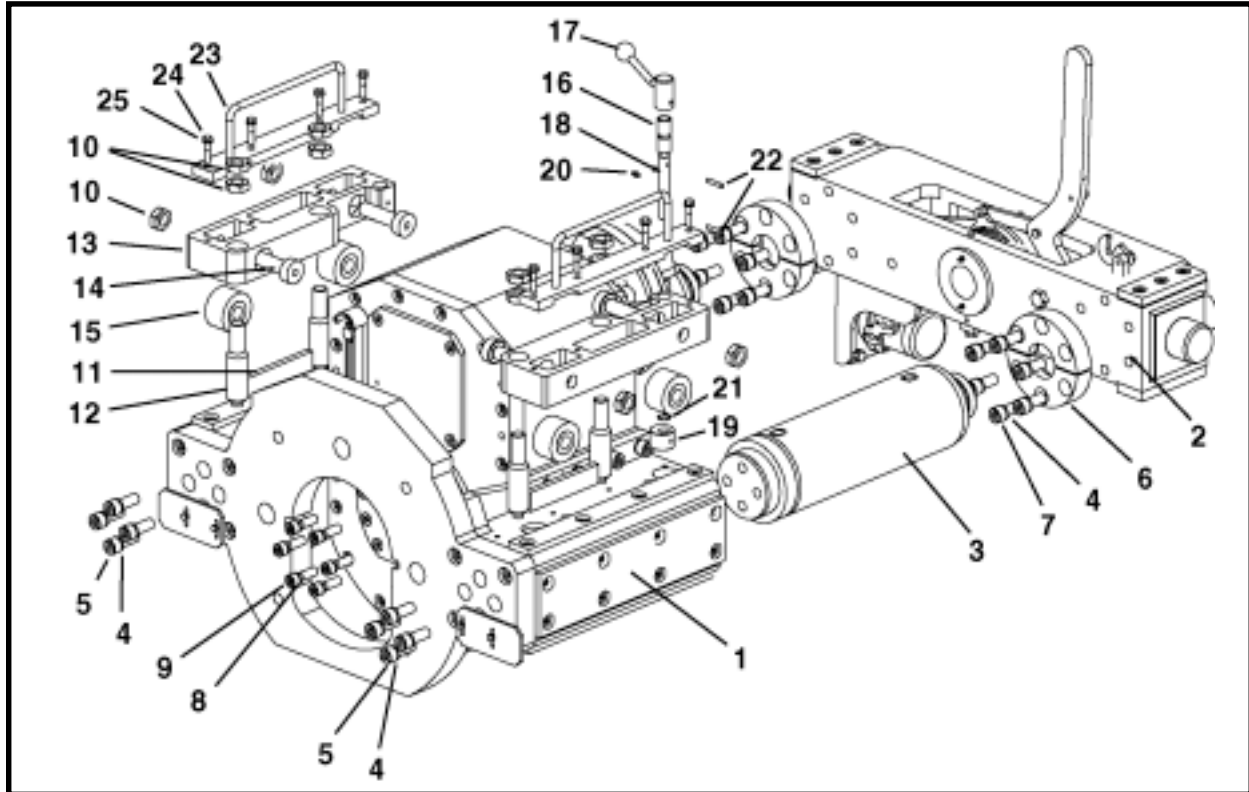
**LATCHING FRAME, A40019A**  
**LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40019A	LATCHING FRAME
1	1	A40147A	DRILLING DRIVE THRUST & LATCHING FRAME
2	1	A40132A	BASE ASSEMBLY
3*	1	A40119A	HYDRAULIC ASSEMBLY

\* Refer to Section 6, Hydraulics for parts breakdown.

**DRILLING DRIVE THRUST & LATCHING FRAME, A40147A**  
**LATCHING FRAME**

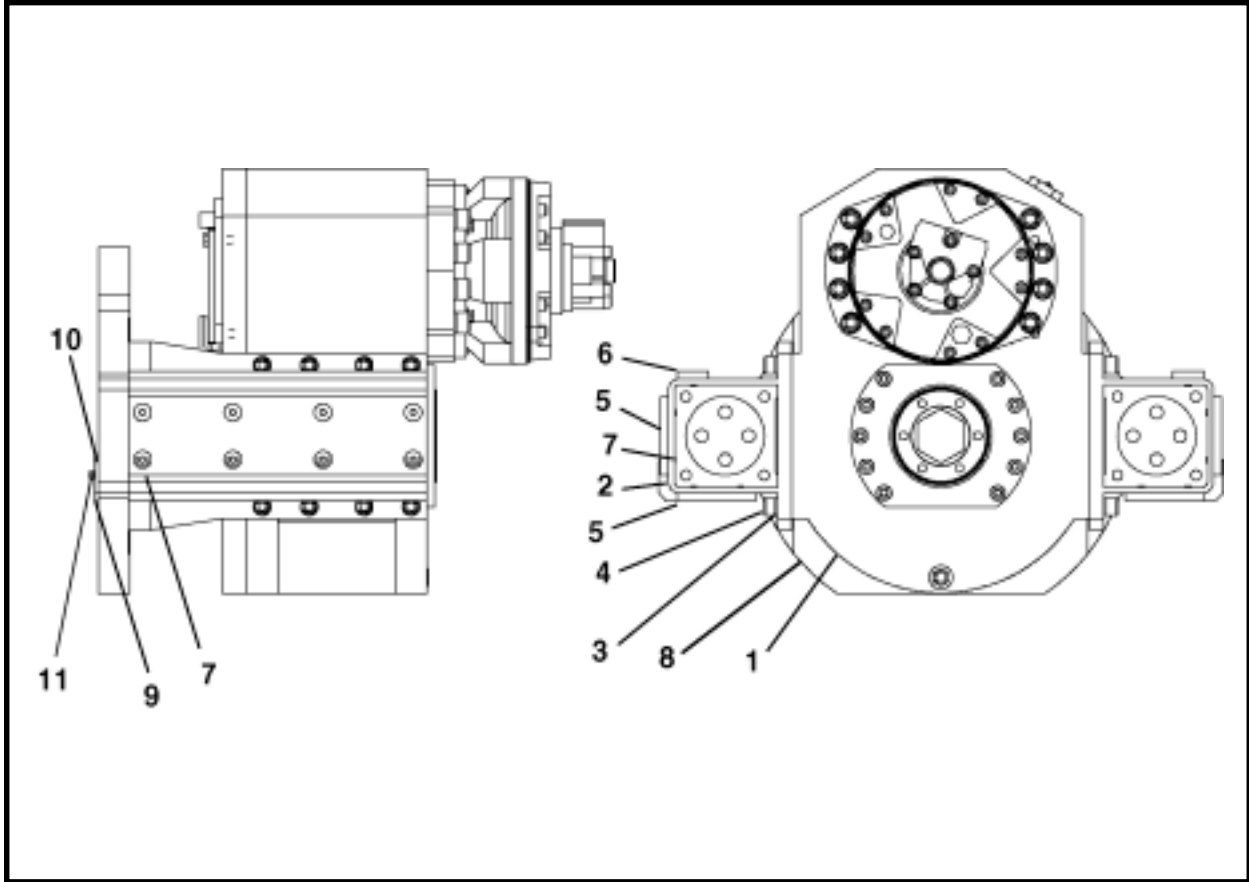


ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40147A	DRILLING DRIVE THRUST & LATCHING FRAME
1	1	A40102A	ASSEMBLY, Drilling Drive Thrust Frame
2	1	A40133A	ASSEMBLY, Staging
3*	2	A40145A	ASSEMBLY, Cylinder
4	20	P0046-012	WASHER, Lock - Hi Collar 3/4
5	8	P0031-12-008	SCREW, Socket Head Cap 3/4-10 UNC x 2
6	2	A40457P	RETAINER, Cylinder
7	12	P0031-12-007	SCREW, Socket Head Cap 3/4-10 UNC x 1.75
8	6	P0046-010	WASHER, Lock - Hi Collar 5/8
9	6	P0031-10-008	SCREW, Socket Head Cap 5/8-11 UNC x 2
10	12	P0008-16	NUT, Hex Jam
11	2	A40869P	GUSSET, Roller Bracket
12	4	A40868P	PIN, Roller Bracket
13	2	A40865P	BRACKET, Roller
14	4	P0065-164	PIN, Roller
15	4	P0065-165	ROLLER
16**	1	A40870P	BUSHING, Cam Lock
17**	1	A40871P	HANDLE, Cam Lock
18**	1	A40872P	SHAFT, Cam Lock
19**	1	A40873P	LOCK, Cam
20**	1	P0063-001	FITTING, Grease 1/4 - 28 UNF
21**	1	P0085-113	O-RING
22	2	P0049-117	PIN, Spring
23	2	A40154A	COVER, Roller Bracket
24	8	P0001-06-007	BOLT, 3/8 -16 UNC x 1.75
25	8	P0045-006	WASHER, Lock 3/8

\* Refer to Section 10, Cylinders for parts breakdown.

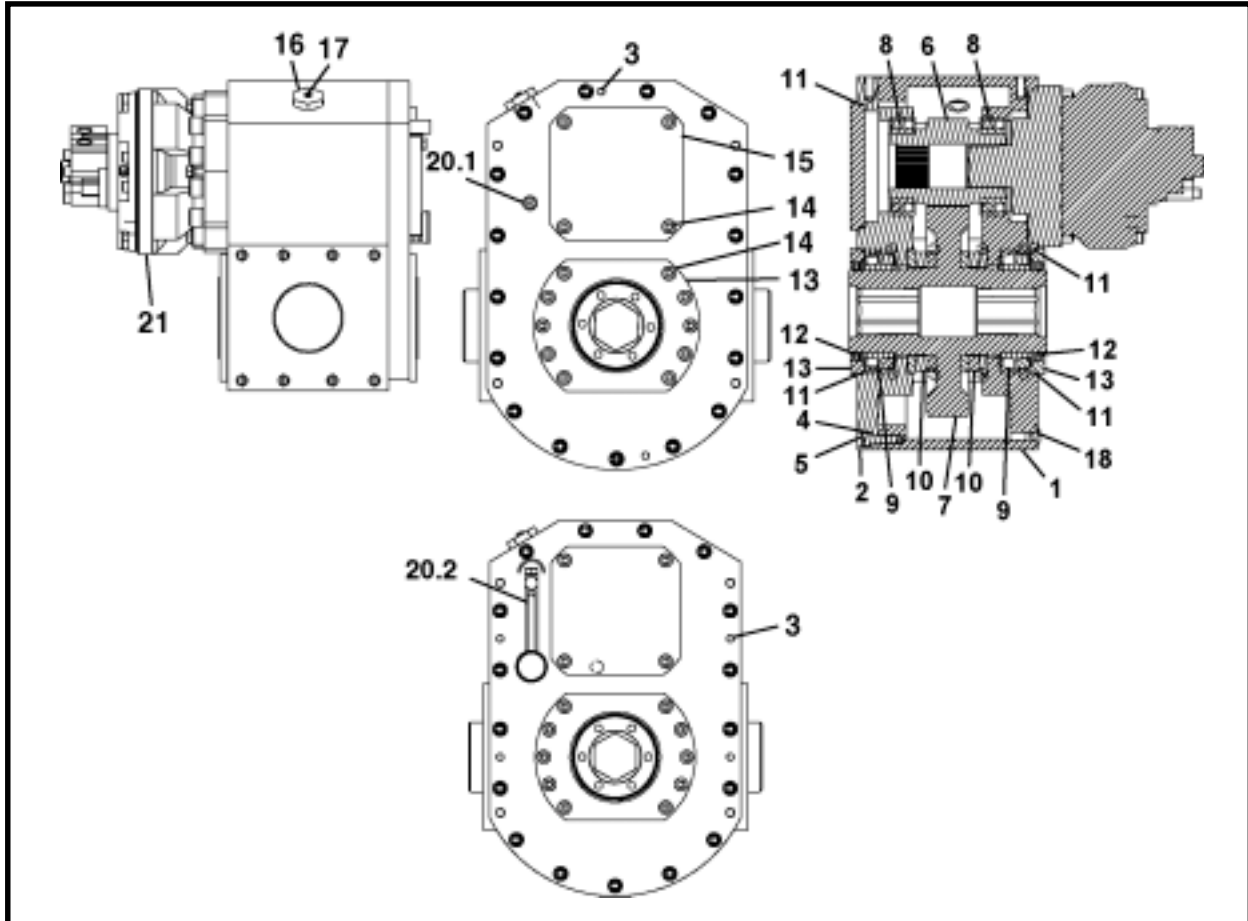
\*\* Used with latching frame cam lock models only.

**DRILLING DRIVE THRUST FRAME ASSEMBLY, A40102A  
LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40102A	DRILLING DRIVE THRUST FRAME ASSEMBLY
1	1	A40103A	ASSEMBLY, Drilling Drive
2	2	A40106A	CYLINDER THRUST GUIDE
3	24	P0046-012	WASHER, Lock Hi-Collar 3/4
4	24	P0031-12-008	SCREW, Socket Head Cap 3/4-10 UNC x 2
5	4	A40417P	WEAR PAD, Side - Bottom
6	2	A40418P	WEAR PAD, Top
7	40	P0030-06-003	SCREW, Flat Head Socket Head Cap 3/8-16 x .75
8	1	A40416P	PLATE, Thrust
9	2	A40419P	SCRAPPER
10	4	P0001-04-005	BOLT, 1/4-10 UNC X 1.25
11	4	P0045-004	WASHER, Lock 1/4

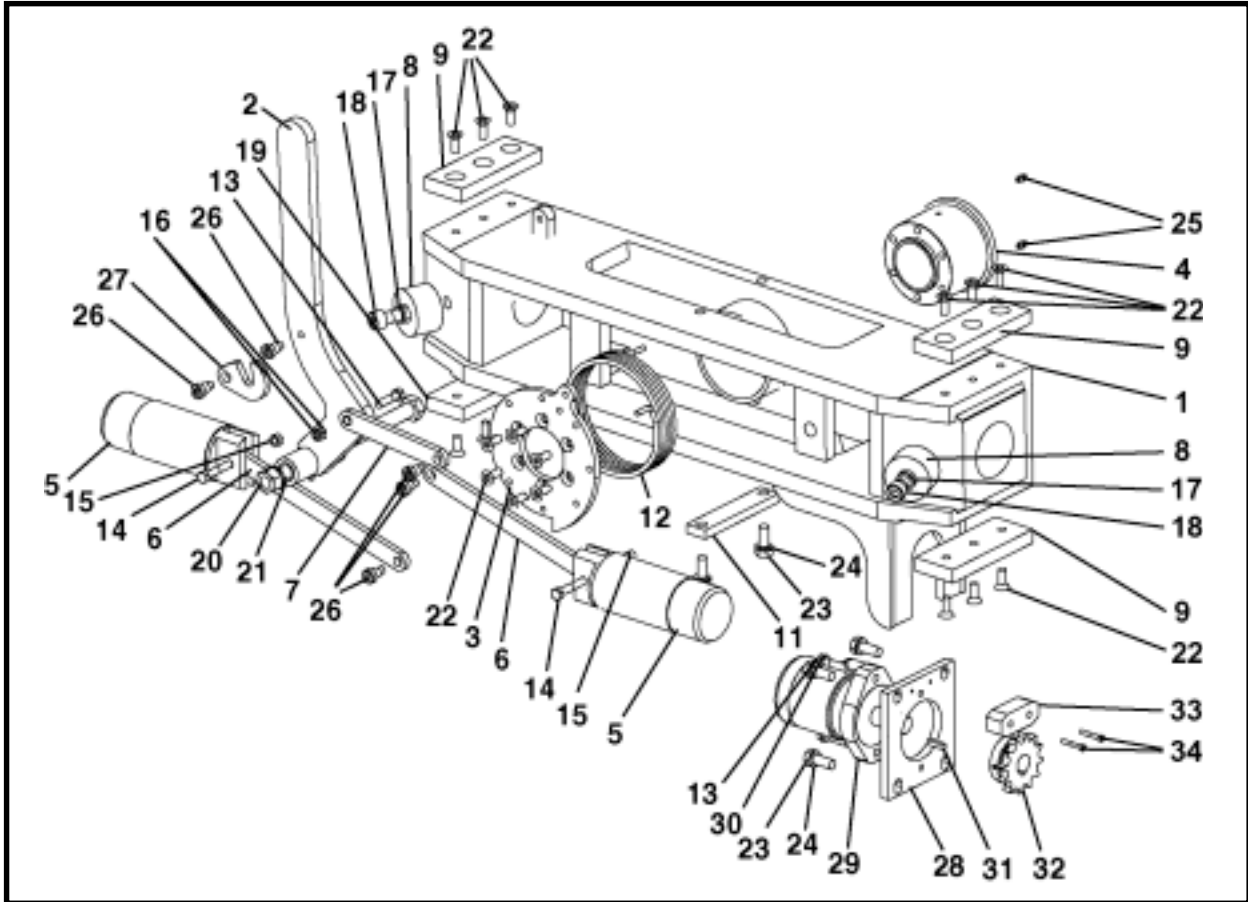
**DRILLING DRIVE ASSEMBLY, A40103A  
LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40103A	DRILLING DRIVE ASSEMBLY
1	1	A40104A	GEAR CASE
2	1	A40105A	COVER, Front Case Gear
3	2	P0037-068	PIN, Dowel (4 used on gear box with sight gauge)
4	17	P0046-010	WASHER, Lock Hi-Collar 5/8
5	17	P0031-10-008	SCREW, Socket Head Cap 5/8-11 UNC x 2
6	1	A40400P	GEAR, Pinion
7	1	A40401P	GEAR, Drive
8	2	P0065-161	BEARING, Spherical Roller
9	2	P0065-162	BEARING, Spherical Roller
10	2	P0065-160	BEARING, Cylindrical Roller
11	3	P0085-269	ORING
12	2	P0080-27	SEAL, Lip
13	2	A40414P	RETAINER, Seal
14	24	P0030-08-005	SCREW, Flat Head Socket Head Cap 1/2-13 X 1.25
15	1	A40415P	COVER, Inspection
16	1	A42369P	PLUG, Filler 1-5/8-12 Hollow Hex Oring
17	1	P0063-012	BREATHER
18	1	P0300-163	PLUG, Magnetic Drain
19	7 gal	P0126-014	GEAR LUBE, 630 Mobil Synthetic
20.1	1	P0300-176	PLUG, 9/16-18 Oring Hollow Hex (Gear box with oil level plug)
20.2	1	P00301-106	GAUGE, Level/Temp (Gear box with sight gauge)
21*	1	REF	MOTOR, Drive

\* For drive motor part number, refer to Hydraulic Assembly, A40119A (Latching Frame), or Hydraulic Assembly A40120A (Single Stage Frame) in Section 6, Hydraulics.

**STAGING ASSEMBLY (WITH SINGLE TRAVEL MOTOR), A40133A  
LATCHING FRAME**

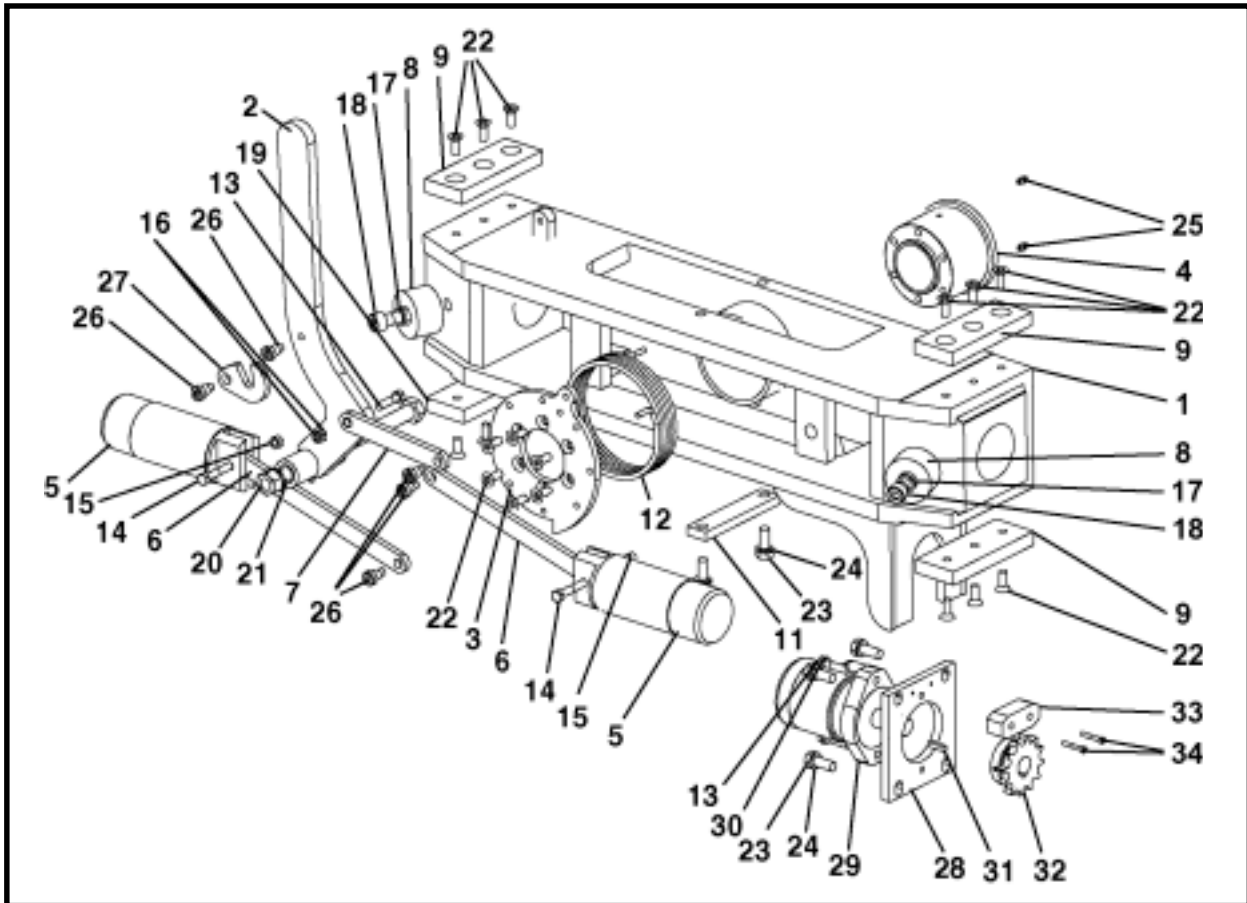


ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40133A	STAGING ASSEMBLY
1	1	A40134A	STAGING FRAME
2	1	A40148A	HANDLE
2a	2	P066-014	BUSHING, Bronze (not shown)
2b	1	P0063-001	FITTING, Grease (not shown)
3	1	A40855P	PLATE, Actuator
4	1	A40856P	BUSHING
5	1	A40854P	PIN, Locking
6	2	A40857P	PIN LINK ARM
7	1	A40858P	HANDLE LINK ARM
8	2	A40859P	BUMPER
9	4	A40860P	PLATE, Wear
10	3	A40862P	BUSHING, Link Arm
11	1	A40863P	STOP LINK PLATE
12	1	P0070-053	SPRING, Pitch Wound Torsion
13	3	P0001-06-006	BOLT 3/8-16 UNC x 1.50
14	2	P0001-06-008	BOLT 3/8-16 UNC x 2
15	2	P0003-06	NUT 3/8
16	2	P0007-06	NUT, Jam 3/8
17	2	P0046-010	WASHER, Lock Hi-Collar 5/8
18	2	P0031-10-008	SCREW, Socket Head Cap 5/8-11 UNC x 2
19	1	P0001-12-028	BOLT, 3/4-10 UNC x 7
20	1	P0003-12	NUT 3/4
21	1	P0045-012	WASHER, LOCK 3/4
22	18	P0030-06-004	SCREW, Flat Head Socket Head Cap 3/8-16 UNC x 1

**STAGING ASSEMBLY (WITH SINGLE TRAVEL MOTOR), A40133A  
LATCHING FRAME**

ITEM	QTY	PART NO.	DESCRIPTION
23	6	P0001-08-005	BOLT 1/2-13 UNC x 1.25
24	6	P0045-008	WASHER, Lock 1/2
25	2	P0063-001	FITTING, Grease
26	5	P0030S-08-004	BOLT, Socket Head Shoulder 1/2 x .50
27	1	P0079-004	WASHER, Swing
28	1	A40746P	PLATE, Motor Mounting
29	1	P0304-159	MOTOR, Travel
30	2	P0045-006	WASHER, Lock 3/8
31	1	P0047-003	KEY
32	1	P0071-001	SPROCKET, Travel
33	1	A40735P	CHAIN GUIDE
34	2	P0031-05-005	SCREW, Socket Head Cap 5/16 UNC x 1.25

**STAGING ASSEMBLY (WITH DUAL TRAVEL MOTORS), A40133A  
LATCHING FRAME**

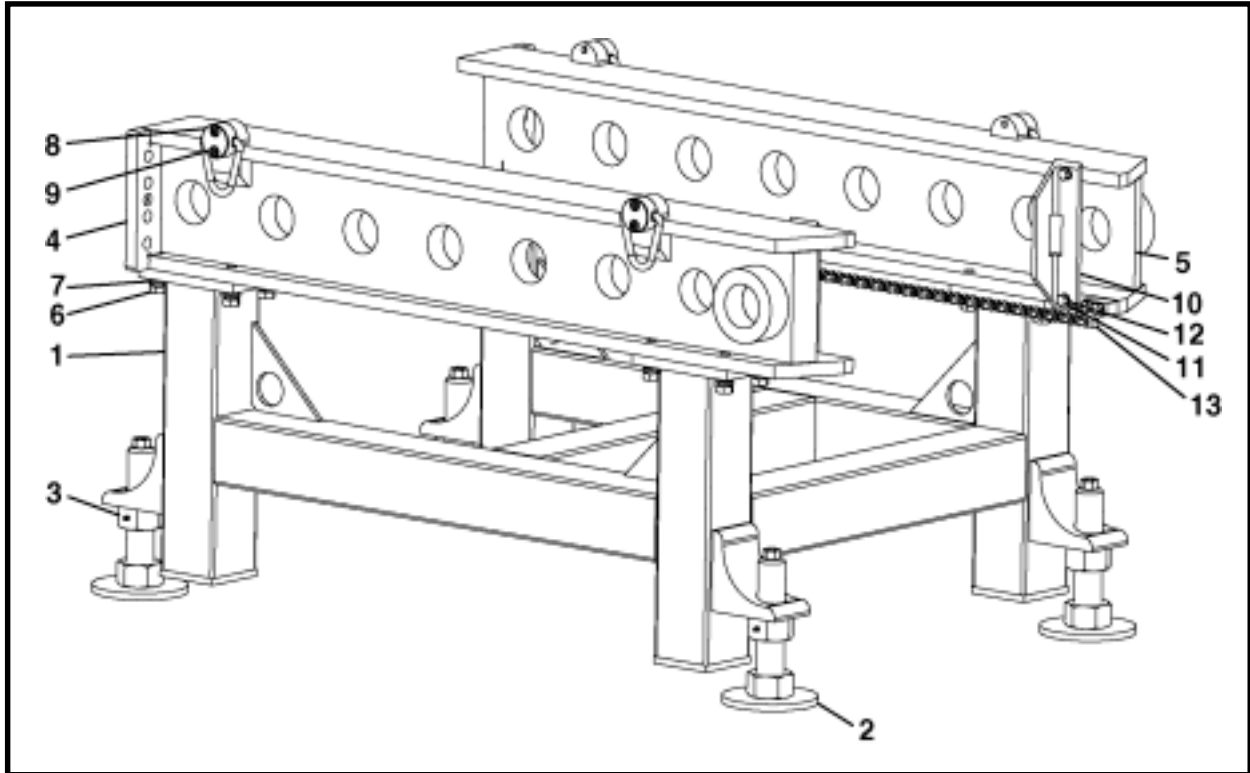


ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40133A	STAGING ASSEMBLY
1	1	A40134A	STAGING FRAME
2	1	A40148A	HANDLE
2a	2	P066-014	BUSHING, Bronze (not shown)
2b	1	P0063-001	FITTING, Grease (not shown)
3	1	A40855P	PLATE, Actuator
4	1	A40856P	BUSHING
5	1	A40854P	PIN, Locking
6	2	A40857P	PIN LINK ARM
7	1	A40858P	HANDLE LINK ARM
8	2	A40859P	BUMPER
9	4	A40860P	PLATE, Wear
10	3	A40862P	BUSHING, Link Arm
11	1	A40863P	STOP LINK PLATE
12	1	P0070-053	SPRING, Pitch Wound Torsion
13	5	P0001-06-006	BOLT 3/8-16 UNC x 1.50
14	2	P0001-06-008	BOLT 3/8-16 UNC x 2
15	2	P0003-06	NUT 3/8
16	2	P0007-06	NUT, Jam 3/8
17	2	P0046-010	WASHER, Lock Hi-Collar 5/8
18	2	P0031-10-008	SCREW, Socket Head Cap 5/8-11 UNC x 2
19	1	P0001-12-028	BOLT, 3/4-10 UNC x 7
20	1	P0003-12	NUT 3/4
21	1	P0045-012	WASHER, LOCK 3/4
22	18	P0030-06-004	SCREW, Flat Head Socket Head Cap 3/8-16 UNC x 1

**STAGING ASSEMBLY (WITH DUAL TRAVEL MOTORS), A40133A  
LATCHING FRAME**

ITEM	QTY	PART NO.	DESCRIPTION
23	6	P0001-08-005	BOLT 1/2-13 UNC x 1.25
24	10	P0045-008	WASHER, Lock 1/2
25	2	P0063-001	FITTING, Grease
26	5	P0030S-08-004	BOLT, Socket Head Shoulder 1/2 x .50
27	1	P0079-004	WASHER, Swing
28	2	A40746P	PLATE, Motor Mounting
29	2	P0304-161	MOTOR, Travel
30	4	P0045-006	WASHER, Lock 3/8
31	2	P0047-003	KEY
32	2	P0071-001	SPROCKET, Travel
33	2	A40735P	CHAIN GUIDE
34	4	P0031-05-005	SCREW, Socket Head Cap 5/16 UNC x 1.25

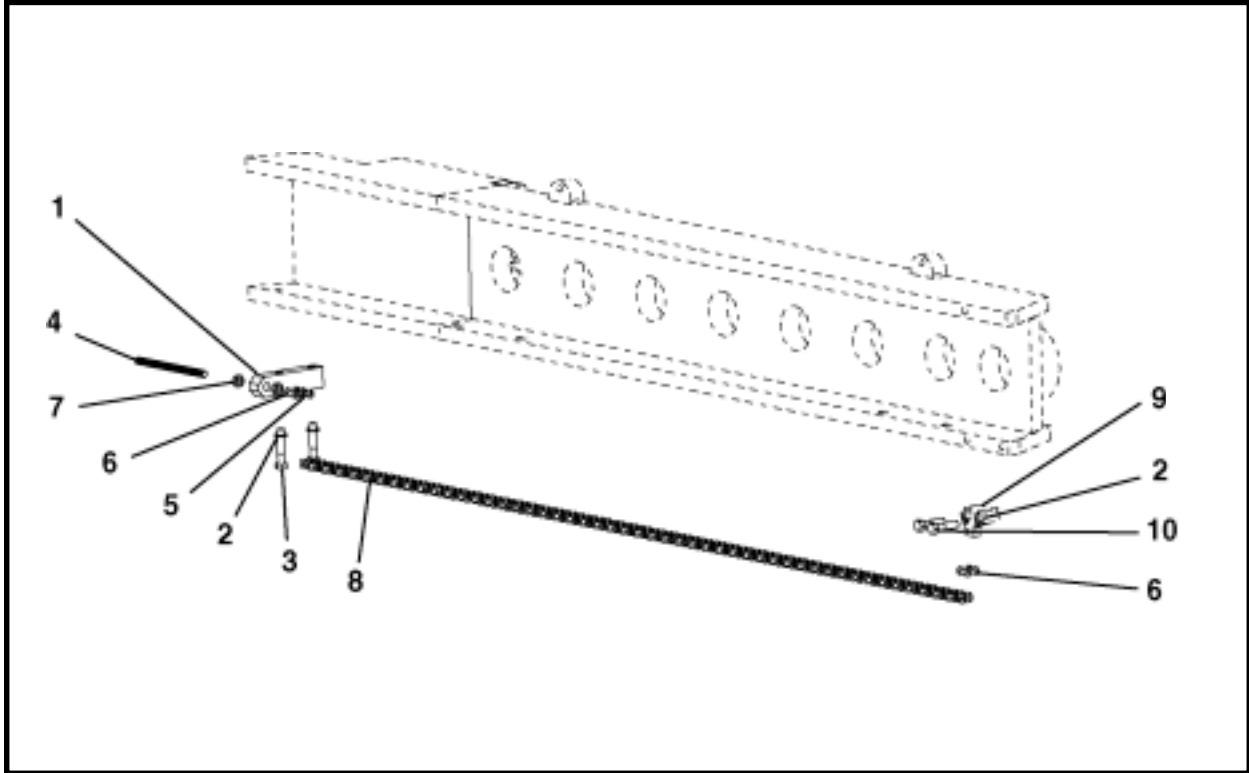
**BASE ASSEMBLY, A40132A  
LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40132A	BASE ASSEMBLY
1	1	A40142A	WELDMENT, Lower Base
2	4	A40113A	WELDMENT, Screw Jack
3	4	P0063-001	FITTING, Grease
4	1	A40130A	WELDMENT, Side
5	1	A40131A	WELDMENT, Side
6	16	P0001-12-008	BOLT, 3/4-10 UNC x 2
7	16	P0045-012	LOCKWASHER 3/4
8	4	P0091-010	LIFT RING, Pivot
9	8	P0031-08-006	SCREW, Socket Head Cap 1/2-13 UNC x 1.50
10	2	A40864P	STOP, Staging Assembly
11	4	P0001-08-001	BOLT, 1/2-13 UNC x 1
12	4	P0045-008	WASHER, Lock 1/2
13.1	1	A40745A	MOUNTING, Travel Motor Chain (Single travel motor)
13.2	2	A40745A	MOUNTING, Travel Motor Chain (Dual travel motors)

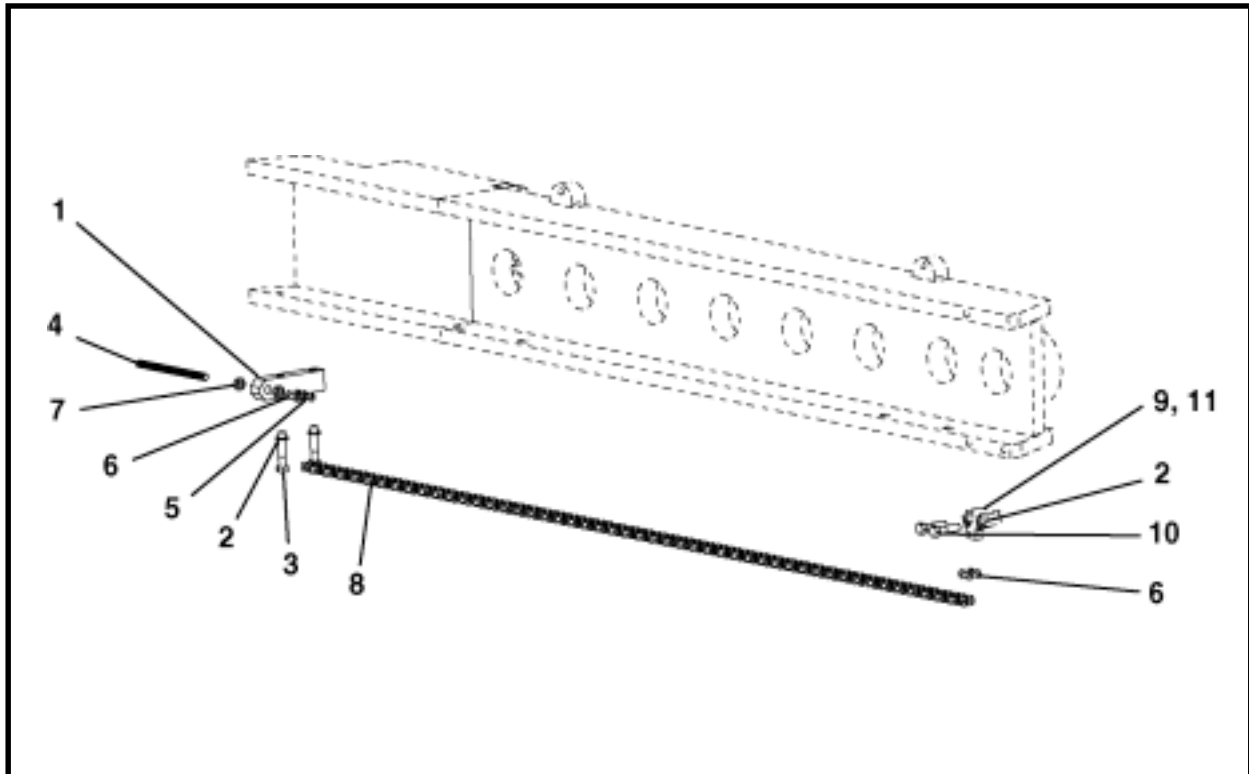
# NOTES

**TRAVEL MOTOR CHAIN MOUNTING (SINGLE TRAVEL MOTOR), A40745A  
LATCHING FRAME**



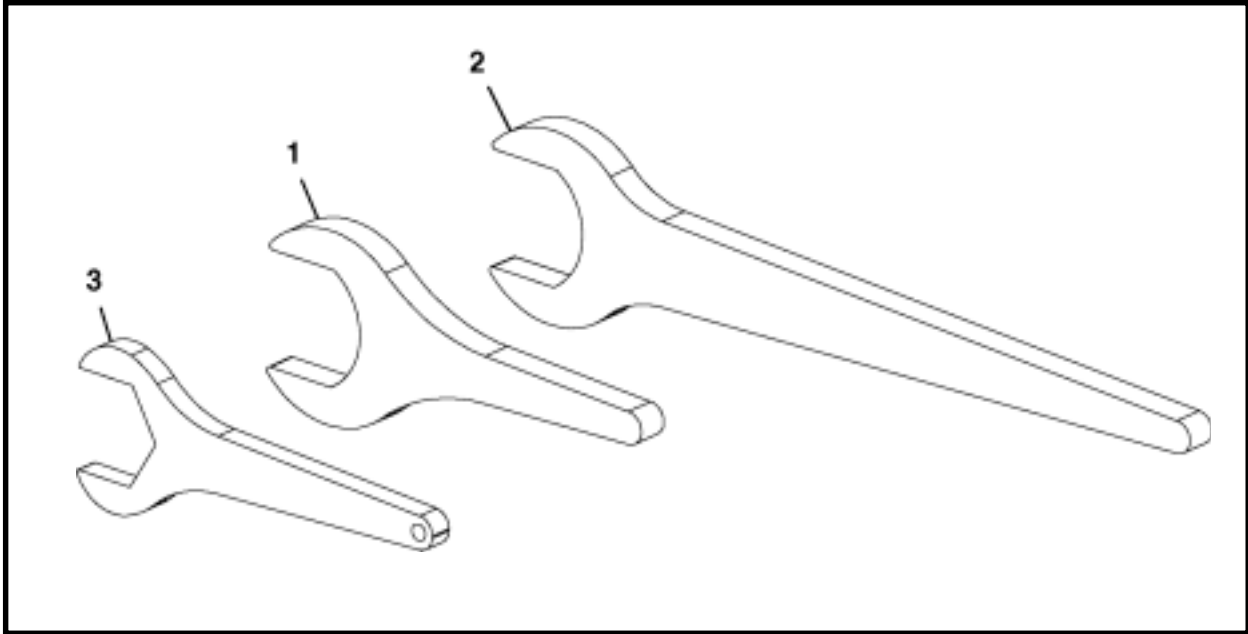
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40745A	TRAVEL MOTOR CHAIN MOUNTING
1	1	A40737P	CHAIN TENSIONER ADJUSTMENT
2	2	P0001-08-010	BOLT, 1/2-13 UNC x 2.50
3	4	P0045-008	WASHER, Lock 1/2
4	1	A40734P	ADJUSTABLE CHAIN TENSIONER
5	2	P0007-08	NUT, Jam 1/2
6	1	P0078-005	LINK, Repair
7	2	P0078-008	LINK, Connector
8	6.5 LF	P0078-002	CHAIN, Roller
9	1	A40736P	ANCHOR, Chain Tensioner, Right
10	2	P0001-08-008	BOLT, 1/2-13 UNC x 2

**TRAVEL MOTOR CHAIN MOUNTING (DUAL TRAVEL MOTORS), A40745A  
LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	2	A40745A	TRAVEL MOTOR CHAIN MOUNTING
1	2	A40737P	CHAIN TENSIONER ADJUSTMENT
2	4	P0001-08-010	BOLT, 1/2-13 UNC x 2.50
3	8	P0045-008	WASHER, Lock 1/2
4	2	A40734P	ADJUSTABLE CHAIN TENSIONER
5	4	P0007-08	NUT, Jam 1/2
6	2	P0078-005	LINK, Repair
7	4	P0078-008	LINK, Connector
8	2 @ 6.5 LF	P0078-002	CHAIN, Roller
9	1	A40736P	ANCHOR, Chain Tensioner, Right
10	4	P0001-08-008	BOLT, 1/2-13 UNC x 2
11	1	A42368P	ANCHOR, Chain Tensioner, Left

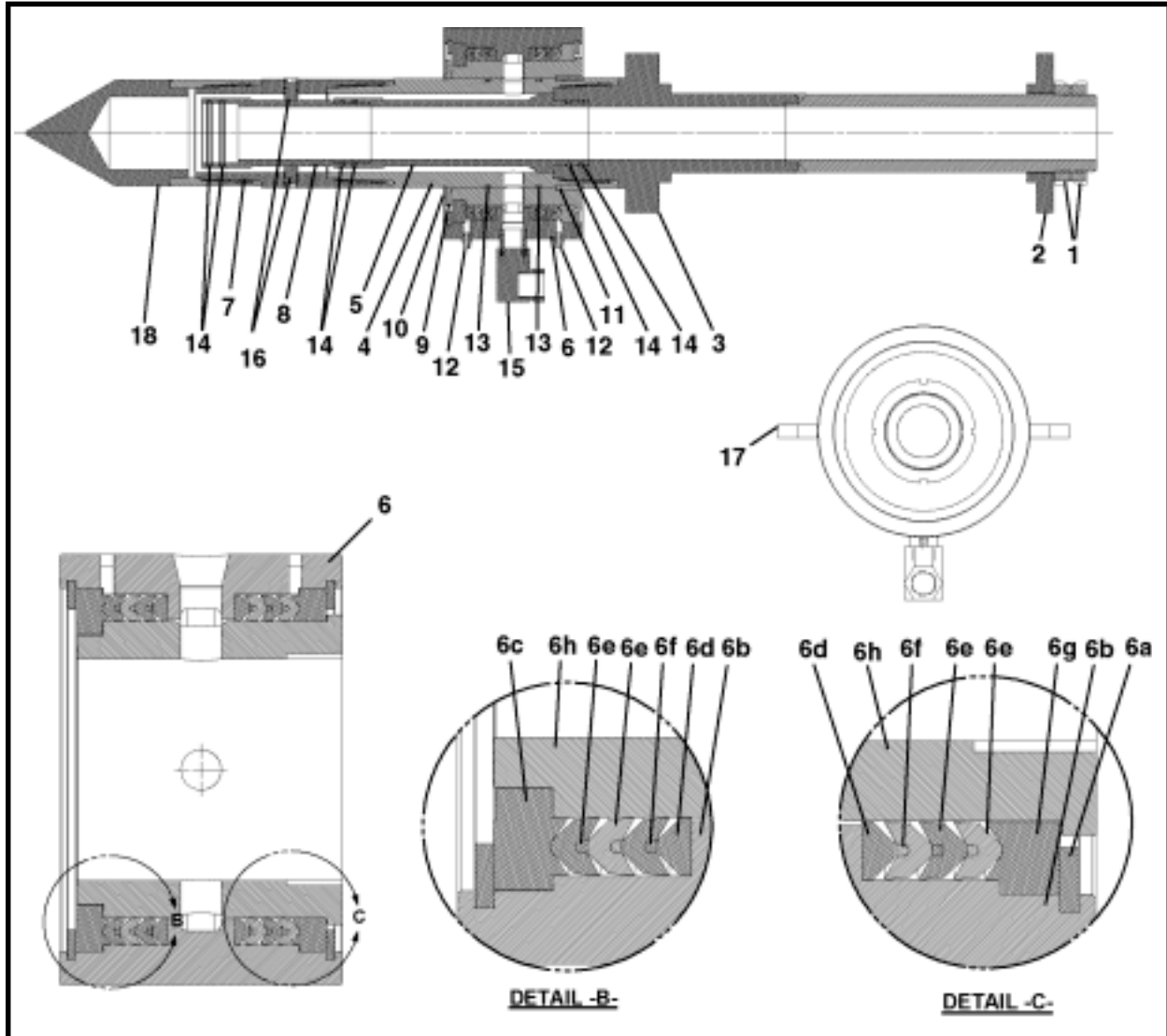
## GBM WRENCH SET, A40244F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40244F	GBM WRENCH SET
1	1	A40583P	WRENCH, 3-5/8 Opening x 12
2	1	A40584P	WRENCH, 3-5/8 Opening x 24
3	1	A40515P	WRENCH, Shaft Tensioner 3-1/8 Opening

# NOTES

## DRIVE ADAPTER & SWIVEL ASSEMBLY, A40235F



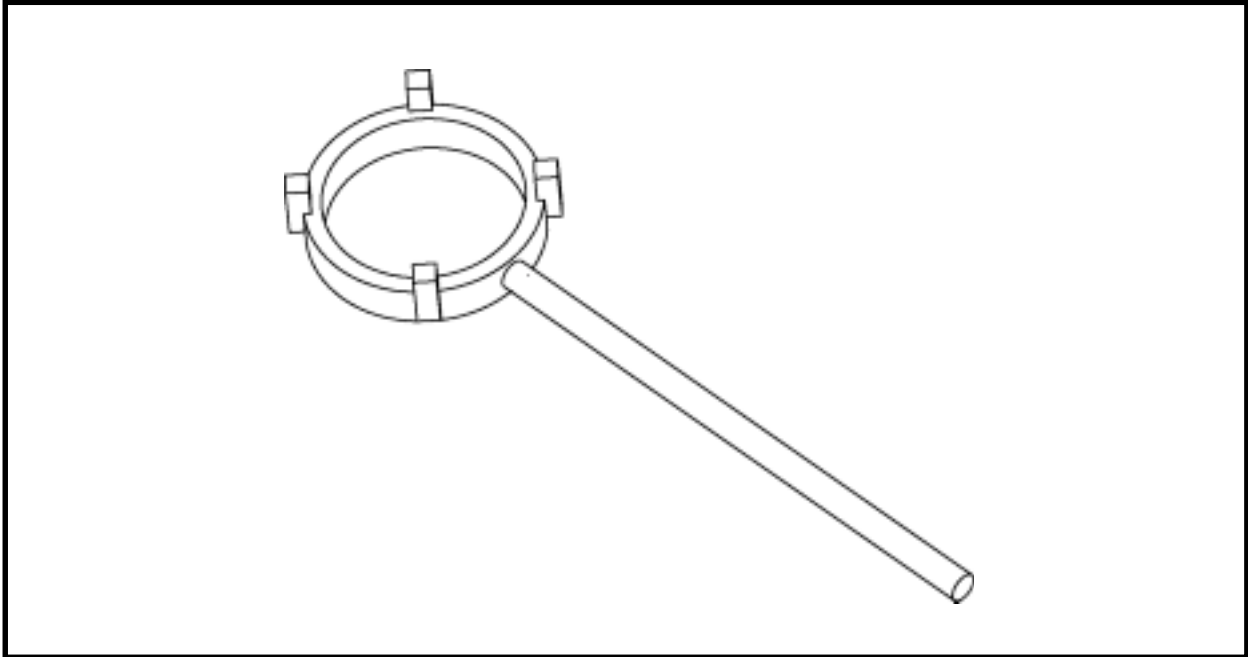
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40235F	DRIVE ADAPTER & SWIVEL ASSEMBLY
1	2	P0065-170	NUT, Lock
2	1	A40556P	WASHER, Fluid Swivel
3	1	A40236A	SWIVEL, Drive Adapter
4	1	A40542P	TUBE, Outer - Swivel Mount
5	1	A40543P	TUBE, Inner - Swivel Mount
6	1	P0119-001	ASSEMBLY, Swivel (Includes items 6a - 6h)
6a	2	P0119-001B	RING, Snap
6b	1	NSS	HOUSING, Swivel
6c	1	P0119-001D	ADAPTER, Lower Packing
6d	2	P0119-001F	ADAPTER, Male
6e	4	P0119-001G	PACKING
6f	2	P0119-001K	PACKING
6g	1	P0119-001H	ADAPTER, Upper Packing
6h	1	NSS	SPINDLE
7	1	A40544P	SUB SAVER
8	1	A40545P	TUBE, Inner - Sub Saver

## DRIVE ADAPTER & SWIVEL ASSEMBLY, A40235F

ITEM	QTY	PART NO.	DESCRIPTION
9	1	A40548P	RING, Retaining Swivel Mount
10	1	P0077-049	RING, Spiral External Snap
11	2	P0047-002	KEY
12	2	P0063-001	GREASE FITTING 1/4
13	2	P0085-241	ORING
14	6	P0085-228	ORING
15	1	P0300-032	FITTING, 90 Degree
16	2	P0033-08-016	SCREW, Set 1/2-13 UNC x 1
17	2	NSS	BAR, Swivel Retainer
18	1	A40253A	ALIGNMENT GUIDE

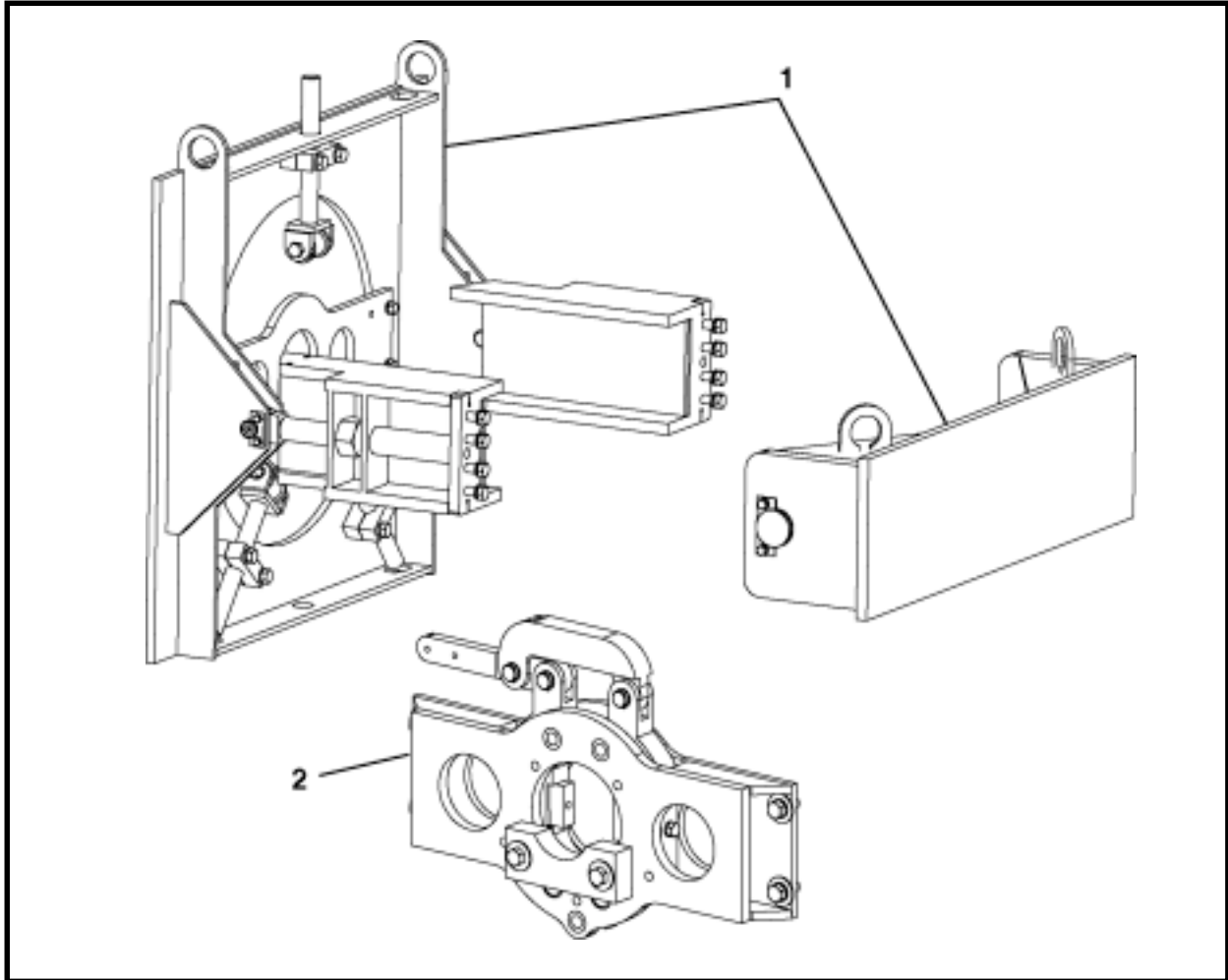
NSS - Not Sold Separately

# SPINDLE NUT WRENCH, A40740A



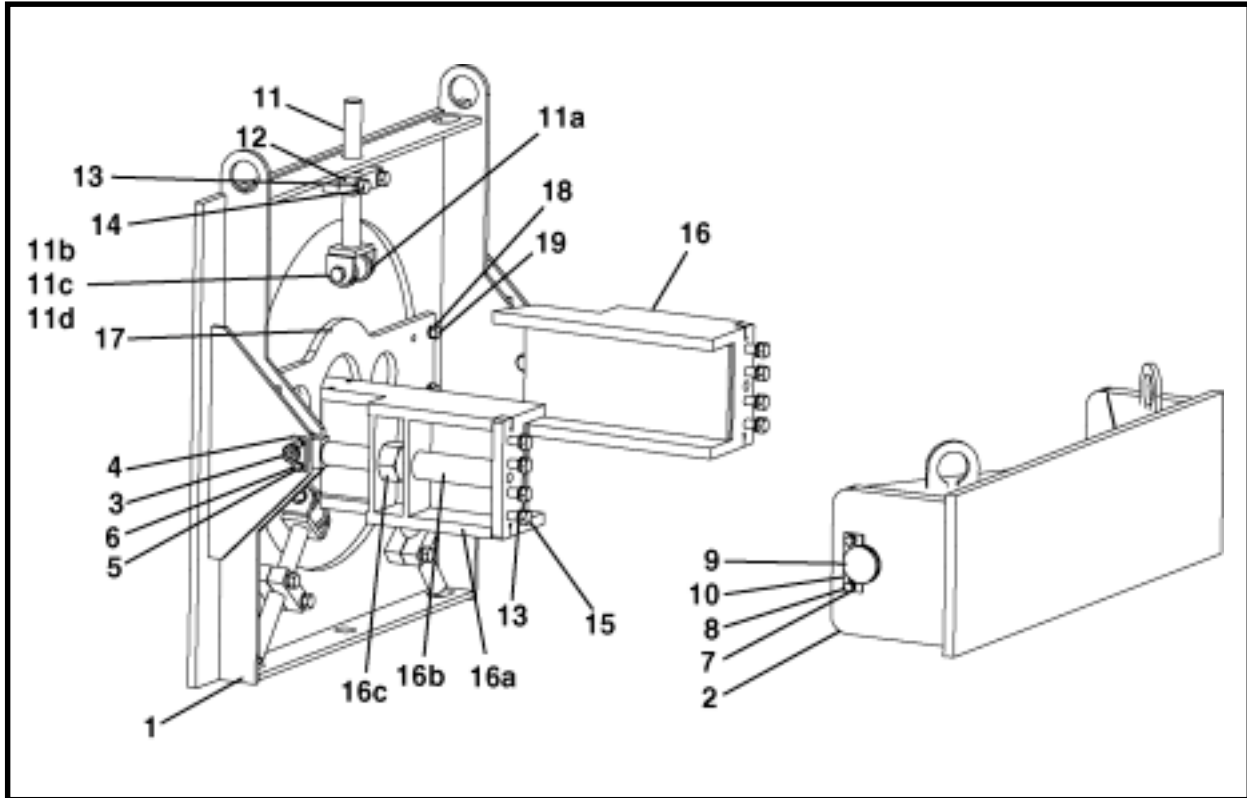
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40740A	WRENCH, Spindle Nut

## SQUARE SHAFT ADAPTER ASSEMBLY, A42105F



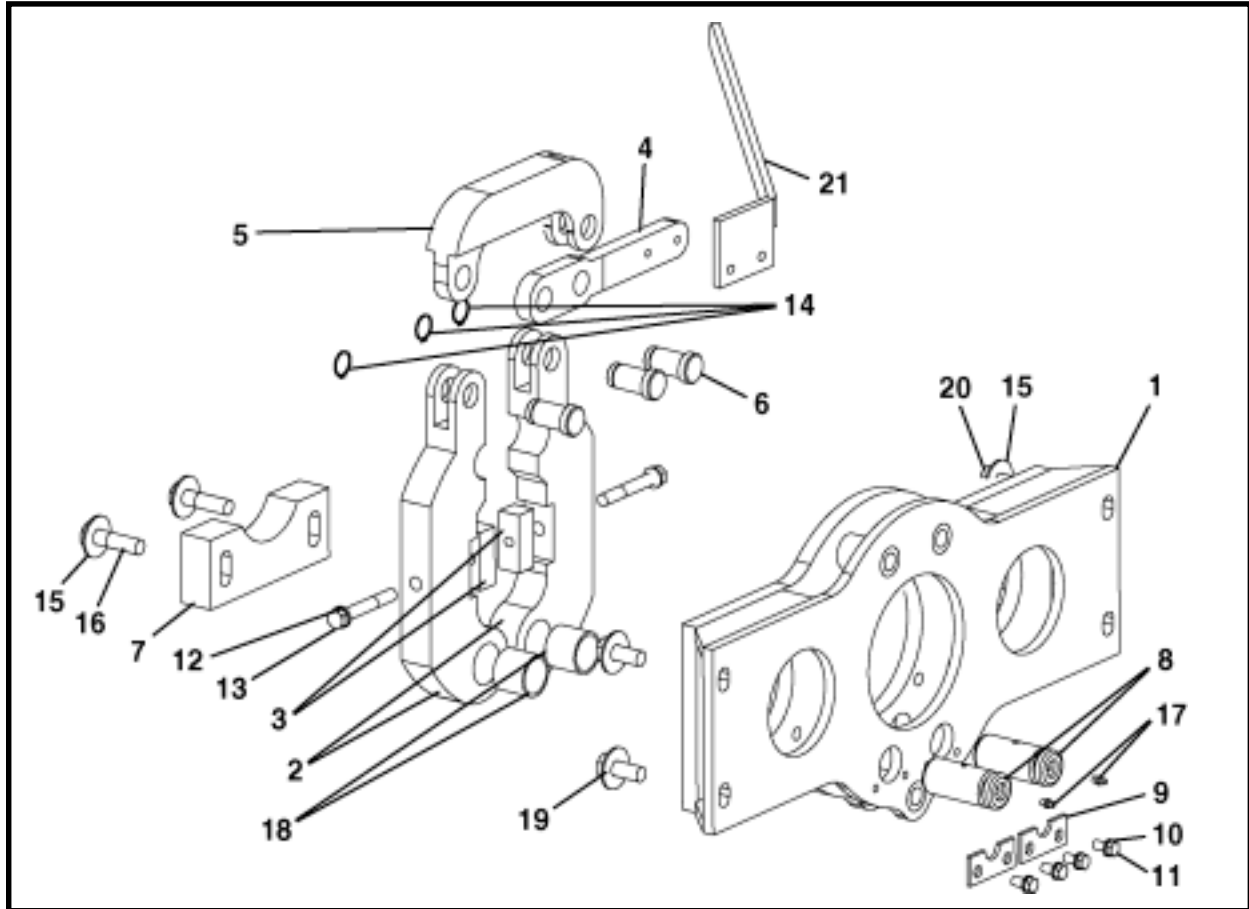
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42105F	ASSEMBLY, Square Shaft Adapter
1	1	A40018F	FRAME ENDS, 8 FT Square Shaft
2	1	A40229F	TOOL, Dual Tube MakeUp

**FRAME ENDS, 8 FT SQUARE SHAFT, A40018F  
LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40018F	FRAME ENDS, 8 FT Square Shaft
1	1	A40140A	WELDMENT, Straight Front
2	1	A40139A	WELDMENT, Straight Back
3	2	A40830P	PIN, Front Plate
4	2	A40831P	PIN KEEPER, Front Plate
5	4	P0045-006	WASHER, Lock 3/8
6	4	P0001-06-003	BOLT, 3/8-16 UNC x .75
7	4	P0045-008	WASHER, Lock 1/2
8	4	P0001-08-004	BOLT 1/2-13 UNC x 1
9	2	A40824P	PIN, Rear Mount
10	2	A40825P	PIN KEEPER, Rear Mount
11	3	A40167A	ASSEMBLY, Roller Bracket (Includes items 11a - 11d)
11a	1	A40448P	ROLLER
11b	1	P0003-12	NUT
11c	1	P0045-012	WASHER, Lock
11d	1	P0001-12-020	BOLT, 3/4-10 UNC x 5
12	6	A40449P	MOUNT, Roller Bracket
13	14	P0045-012	WASHER, Lock 3/4
14	6	P0001-12-016	BOLT 3/4-10 UNC x 4
15	8	P0001-12-008	BOLT 3/4-10 UNC x 2
16	2	A40135A	ASSEMBLY, Frame End (Includes items 16a - 16c)
16a	1	A40136A	WELDMENT, Frame End
16b	1	A40143A	WELDMENT, Tension Screw
16c	1	P0005-32	NUT
17	1	A40956P	ADAPTER PLATE, Mounting Frame
18	4	P0045-010	WASHER, Lock 5/8
19	4	P0001-10-008	BOLT 5/8- 11 UNC x 2

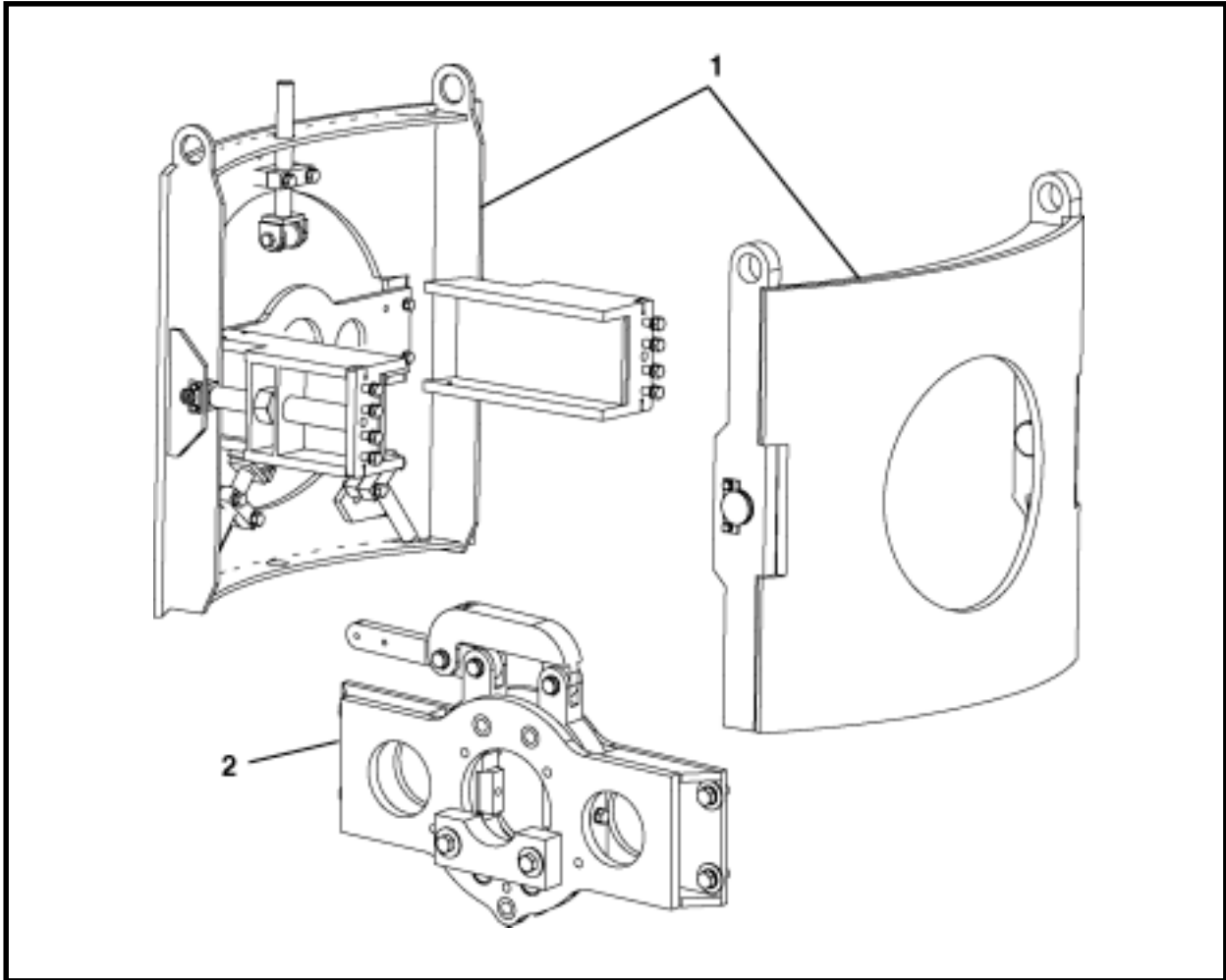
## DUAL TUBE MAKEUP TOOL - LAUNCH SHAFT, A40229F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40229F	DUAL TUBE MAKEUP TOOL - LAUNCH SHAFT
1	1	A40228A	MOUNTING FRAME
2	2	A40954P	ARM, Tension
3*	4	A40956P	INSERT, Jaw
4	1	A40957P	HANDLE
5	1	A40958P	LINK
6	3	A40959P	PIN, Link
7	1	A40960P	WEAR GUIDE
8	2	A40830P	PIN, Front Plate
9	2	A40831P	PIN KEEPER, Front Plate
10	4	P0045-006	WASHER, Lock 3/8
11	4	P0001-06-003	BOLT 3/8-16 UNC x .75
12	2	P0045-008	WASHER, Lock 1/2
13	4	P0001-08-014	BOLT, 1/2-13 UNC x 3.50
14	3	P0077-012	RING, External Snap
15	6	P0040-010	WASHER, Flat 5/8
16	2	P0001-10-009	BOLT 5/8- 11 UNC x 2.25
17	2	P0063-001	FITTING, Grease 1/4
18	2	P0066-007	BUSHING, Bronze
19	4	P0045-010	WASHER, Lock 5/8
20	4	P0001-10-006	BOLT, 5/8- 11 UNC x 1.50
21	1	A42370A	HANDLE, MakeUp Tool

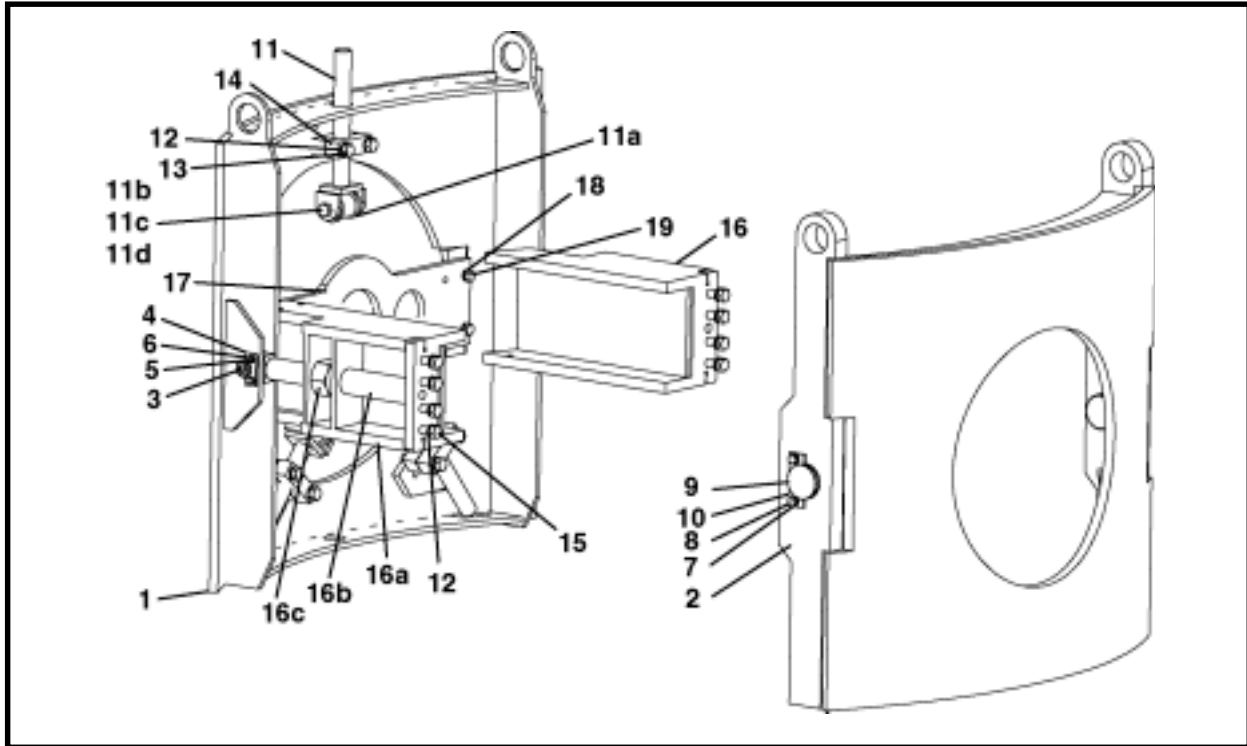
\* Quantity includes one extra set of jaw inserts.

**ROUND SHAFT ADAPTER ASSEMBLY, A42106F  
LATCHING FRAME**



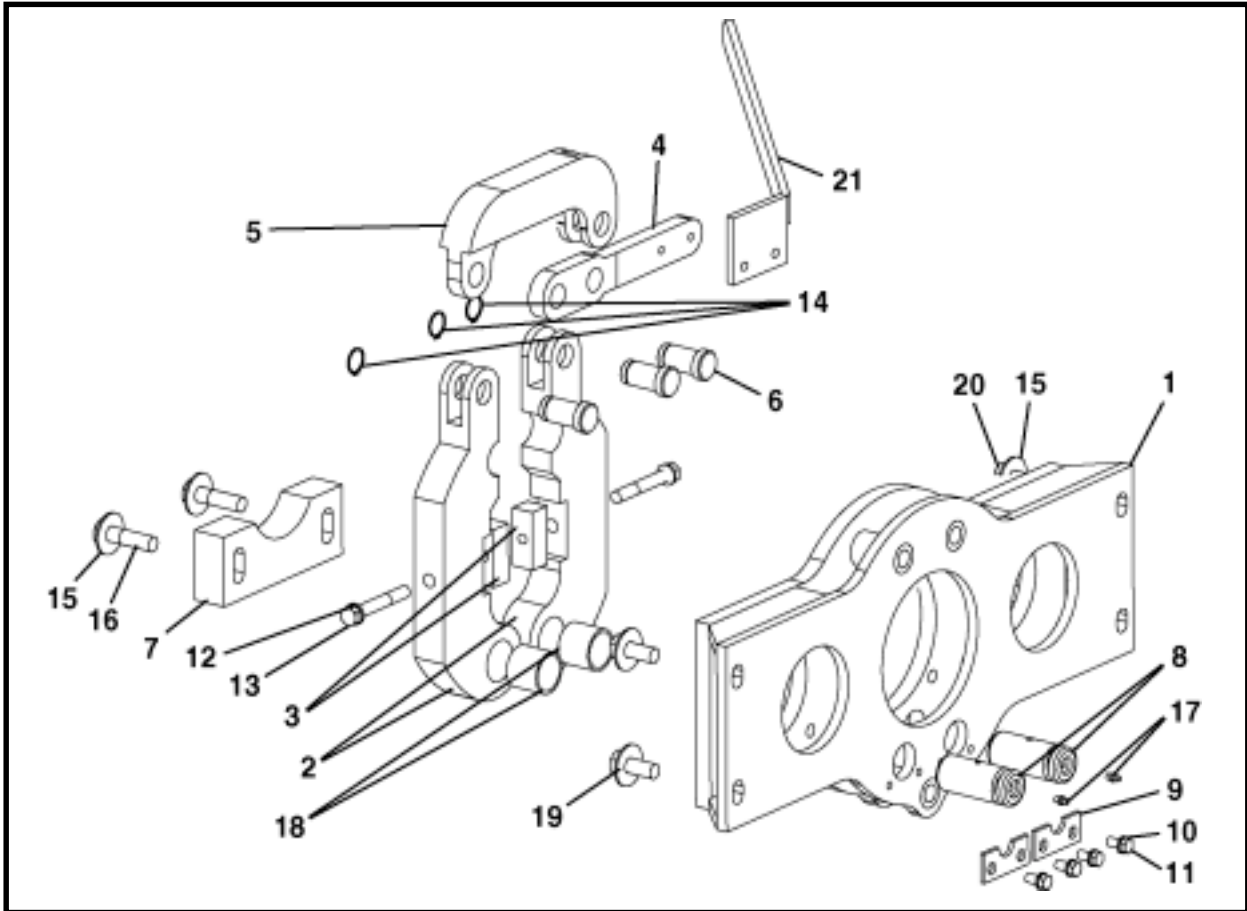
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42106F	ASSEMBLY, Round Shaft Adapter
1	1	A40017F	FRAME ENDS, 8 FT Round Shaft
2	1	A40229F	TOOL, Dual Tube MakeUp

**FRAME ENDS, 8 FT ROUND SHAFT, A40017F  
LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40017F	FRAME ENDS, 8 FT Round Shaft
1	1	A40138A	WELDMENT, Radial Front
2	1	A40137A	WELDMENT, Radial Back, High Profile
3	2	A40830P	PIN, Front Plate
4	2	A40831P	PIN KEEPER, Front Plate
5	4	P0045-006	WASHER, Lock 3/8
6	4	P0001-06-003	BOLT, 3/8-16 UNC x .75
7	4	P0045-008	WASHER, Lock 1/2
8	4	P0001-08-004	BOLT, 1/2-13 UNC x 1
9	2	A40824P	PIN, Rear Mount
10	2	A40825P	PIN KEEPER, Rear Mount
11	3	A40167A	ASSEMBLY, Roller Bracket (Includes items 11a - 11d)
11a	1	A40448P	ROLLER
11b	1	P0003-12	NUT
11c	1	P0045-012	WASHER, Lock
11d	1	P0001-12-020	BOLT, 3/4-10 UNC x 5
12	14	P0045-012	WASHER, Lock 3/4
13	6	P0001-12-016	BOLT, 3/4-10 UNC x 4
14	6	A40449P	MOUNT, Roller Bracket
15	8	P0001-12-008	BOLT, 3/4-10 UNC x 2
16	2	A40135A	ASSEMBLY, Frame End (Includes items 16a - 16c)
16a	1	A40136A	WELDMENT, Frame End
16b	1	A40143A	WELDMENT, Tension Screw
16c	1	P0005-32	NUT
17	1	A40956P	ADAPTER PLATE
18	4	P0045-010	WASHER, Lock 5/8

## DUAL TUBE MAKEUP TOOL - LAUNCH SHAFT, A40229F

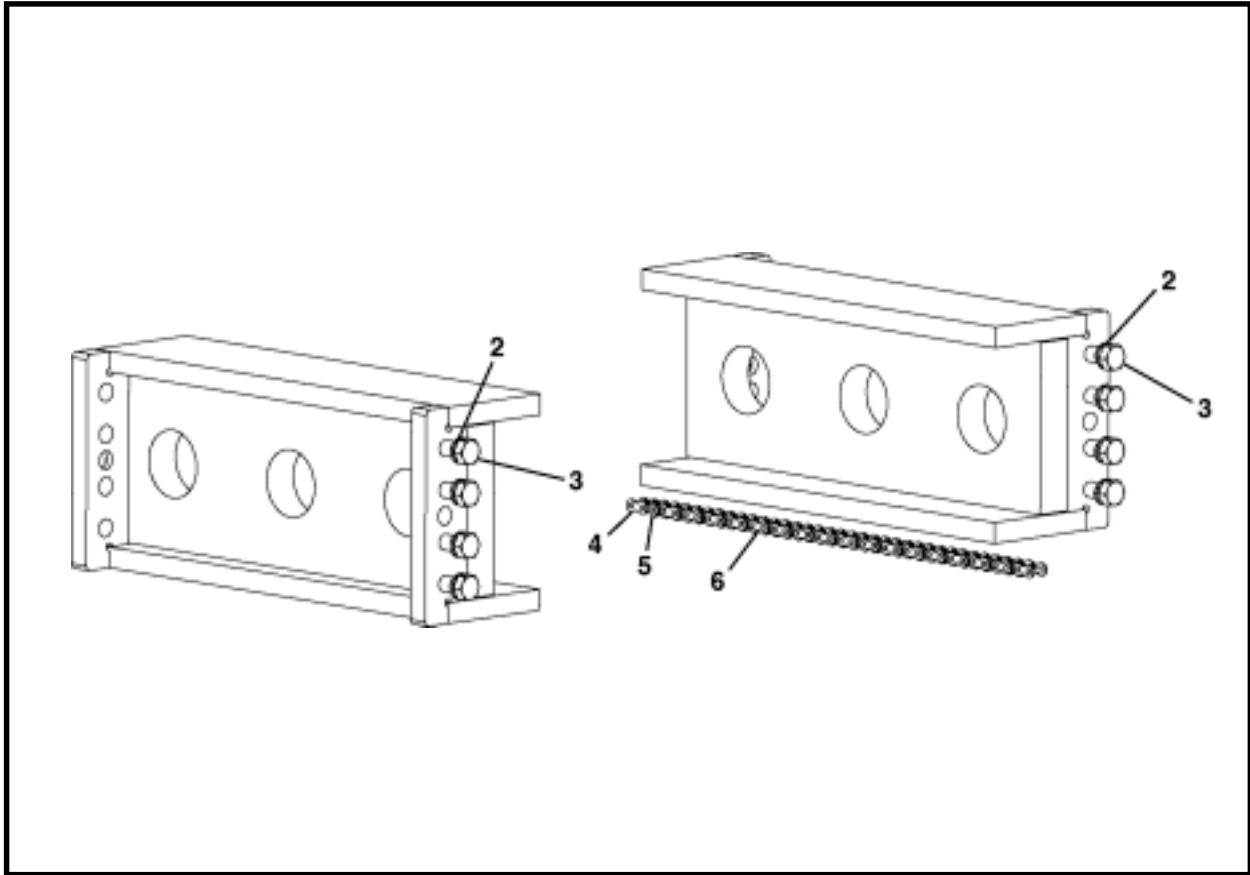


ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40229F	DUAL TUBE MAKEUP TOOL - LAUNCH SHAFT
1	1	A40228A	MOUNTING FRAME
2	2	A40954P	ARM, Tension
3*	4	A40956P	INSERT, Jaw
4	1	A40957P	HANDLE
5	1	A40958P	LINK
6	3	A40959P	PIN, Link
7	1	A40960P	WEAR GUIDE
8	2	A40830P	PIN, Front Plate
9	2	A40831P	PIN KEEPER, Front Plate
10	4	P0045-006	WASHER, Lock 3/8
11	4	P0001-06-003	BOLT 3/8-16 UNC x .75
12	2	P0045-008	WASHER, Lock 1/2
13	4	P0001-08-014	BOLT, 1/2-13 UNC x 3.50
14	3	P0077-012	RING, External Snap
15	6	P0040-010	WASHER, Flat 5/8
16	2	P0001-10-009	BOLT 5/8- 11 UNC x 2.25
17	2	P0063-001	FITTING, Grease 1/4
18	2	P0066-007	BUSHING, Bronze
19	4	P0045-010	WASHER, Lock 5/8
20	4	P0001-10-006	BOLT, 5/8- 11 UNC x 1.50
21	1	A42370PA	HANDLE, MakeUp Tool

\* Quantity includes one extra set of jaw inserts.

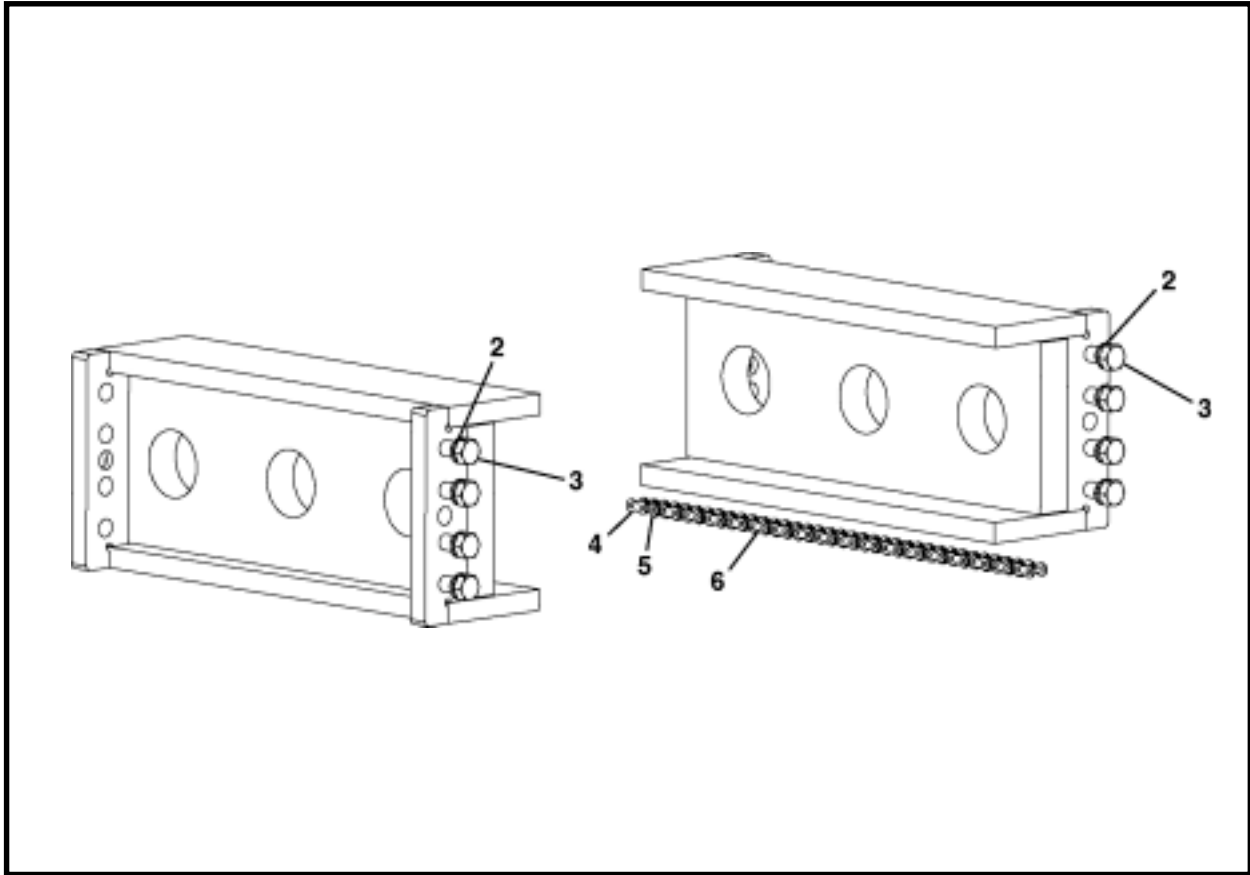
## **NOTES**

**FRAME EXTENSIONS - 16" & 24" (WITH SINGLE TRAVEL MOTOR)  
LATCHING FRAME**



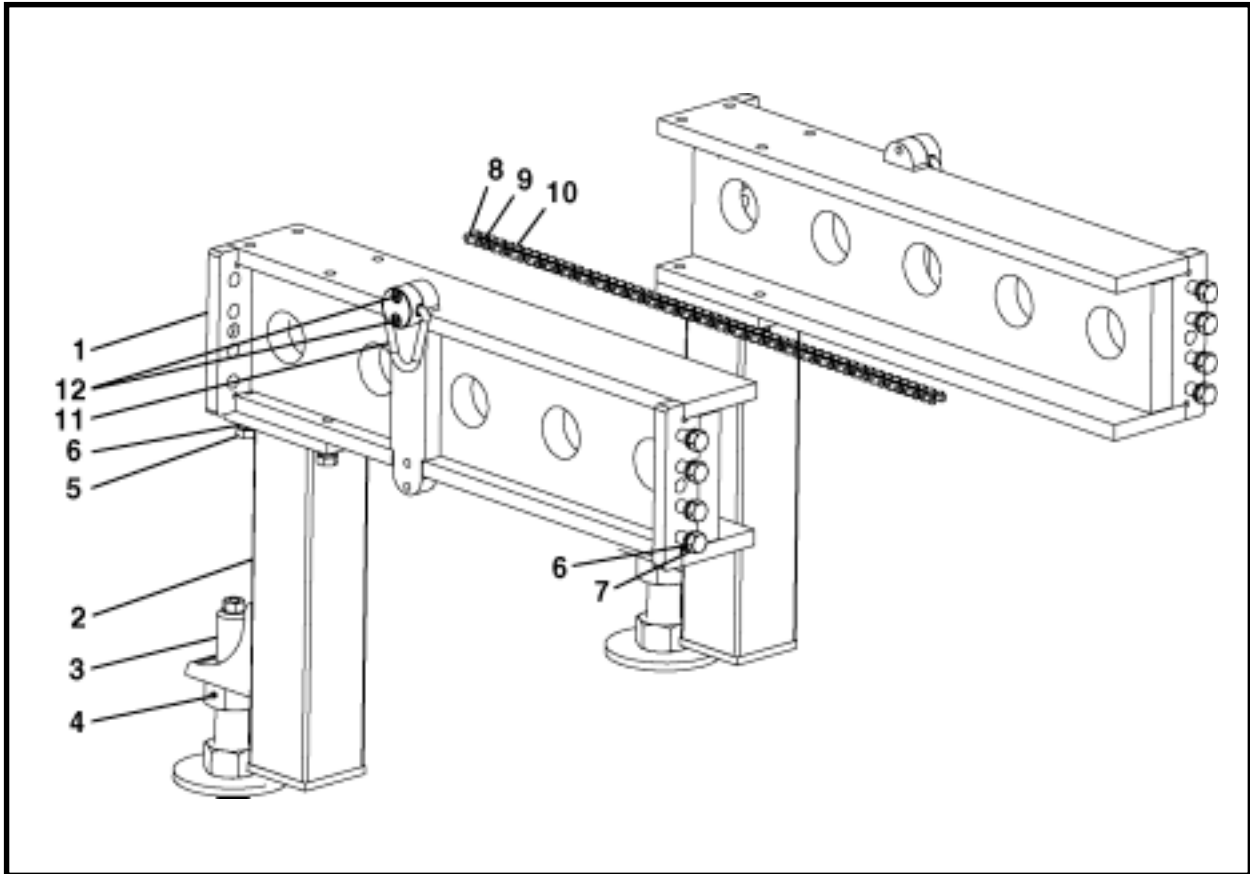
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40015F	FRAME EXTENSION 16"
0.2	1	A40016F	FRAME EXTENSION 24"
1.1	2	A40155A	WELDMENT, 16" Frame Extension
1.2	2	A40156A	WELDMENT, 24" Frame Extension
2	8	P0045-012	WASHER, Lock 3/4
3	8	P001-12-009	BOLT, 3/4-10 UNC x 2.25
4	1	P0078-008	LINK, Connector
5	1	P0078-005	LINK, Repair
6.1	1.5 LF	P0078-002	CHAIN, Roller (for 16" Extension)
6.2	2 LF	P0078-002	CHAIN, Roller (for 24" Extension)

**FRAME EXTENSIONS - 16" & 24"(WITH DUAL TRAVEL MOTORS)  
LATCHING FRAME**



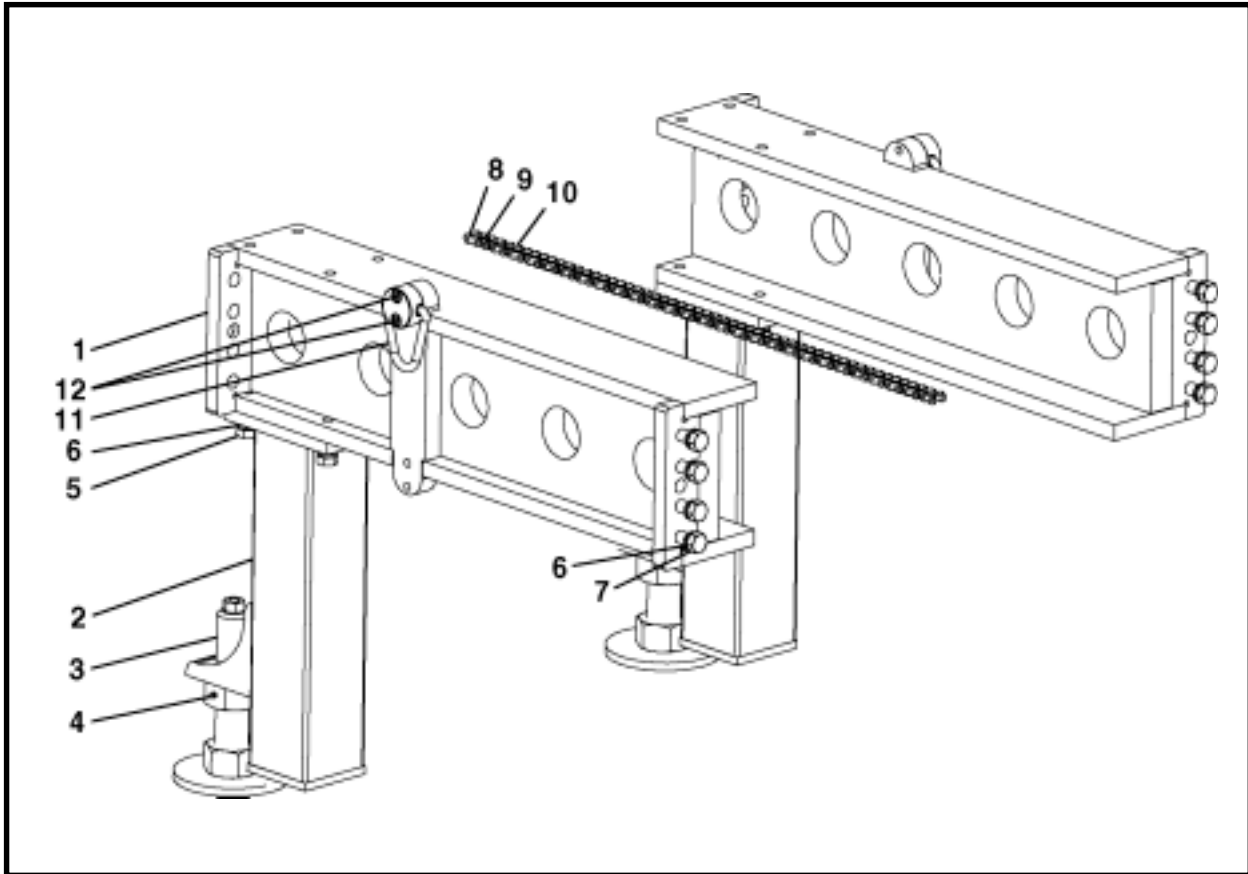
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40015F	FRAME EXTENSION 16"
0.2	1	A40016F	FRAME EXTENSION 24"
1.1	2	A40155A	WELDMENT, 16" Frame Extension
1.2	2	A40156A	WELDMENT, 24" Frame Extension
2	8	P0045-012	WASHER, Lock 3/4
3	8	P001-12-009	BOLT, 3/4-10 UNC x 2.25
4	2	P0078-008	LINK, Connector
5	2	P0078-005	LINK, Repair
6.1	2 @ 1.5 LF	P0078-002	CHAIN, Roller (for 16" Extension)
6.2	2 @ 2 LF	P0078-002	CHAIN, Roller (for 24" Extension)

**FRAME EXTENSIONS - 40" & 80" (WITH SINGLE TRAVEL MOTOR)  
LATCHING FRAME**



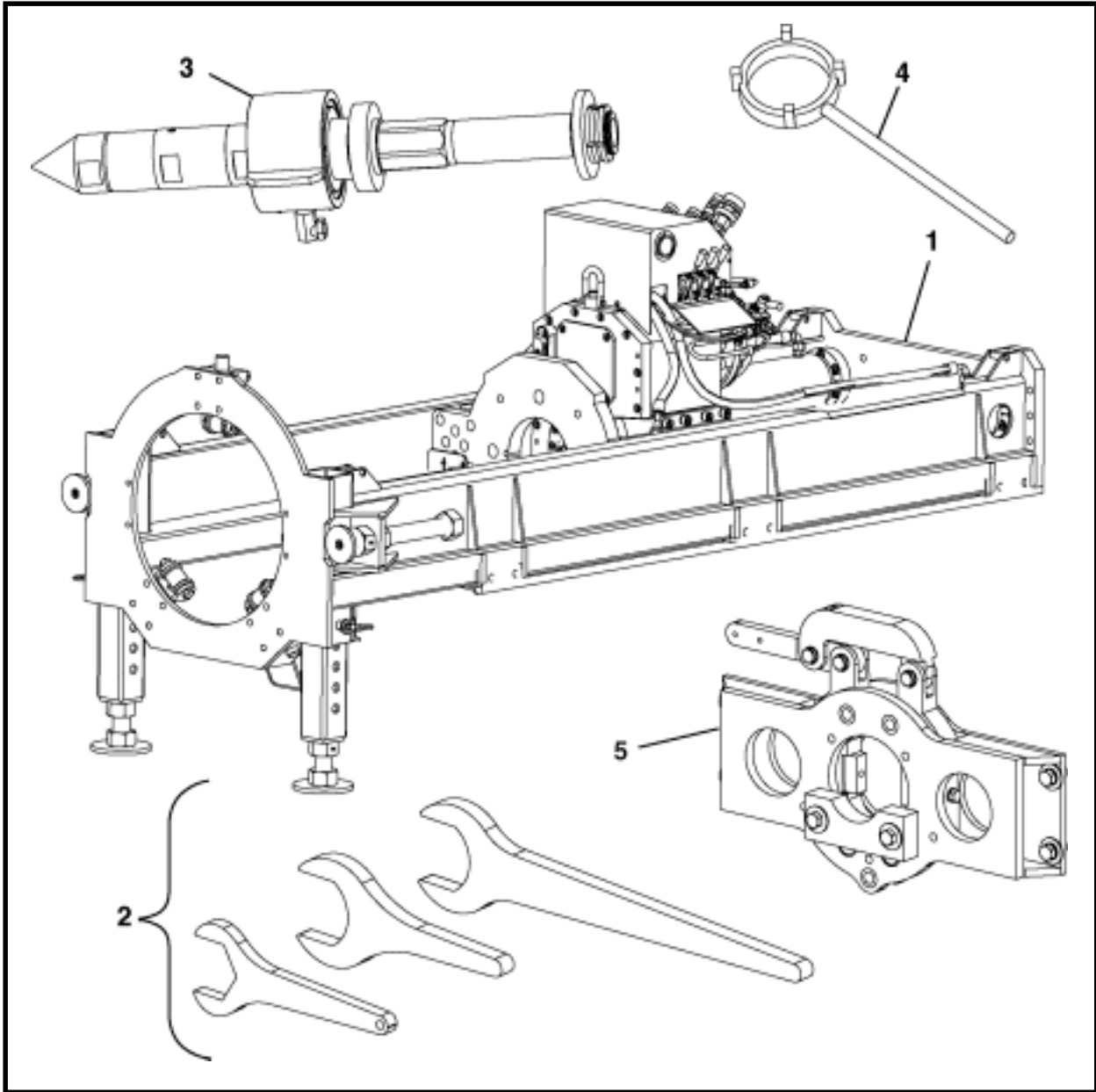
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40012F	FRAME EXTENSION 40"
0.2	1	A40013F	FRAME EXTENSION 80"
1.1	2	A40155A	WELDMENT, 40" Frame Extension
1.2	2	A40163A	WELDMENT, 80" Frame Extension
2	2	A40169A	WELDMENT, Leg
3	2	A40113A	WELDMENT, Screw Jack
4	2	P0063-001	FITTING, Grease
5	8	P001-12-008	BOLT, 3/4-10 UNC x 2
6	16	P0045-012	WASHER, Lock 3/4
7	8	P001-12-009	BOLT, 3/4-10 UNC x 2.25
8	1	P0078-008	LINK, Connector
9	1	P0078-005	LINK, Repair
10.1	3.5 LF	P0078-002	CHAIN, Roller (for 40" Extension)
10.2	7 LF	P0078-002	CHAIN, Roller (for 80" Extension)
11	2	P0091-010	RING, Pivot Lift
12	4	P0031-08-006	SCREW, Socket Head Cap 1/2-13 UNC x 1.5

**FRAME EXTENSIONS - 40" & 80" (WITH DUAL TRAVEL MOTORS)  
LATCHING FRAME**



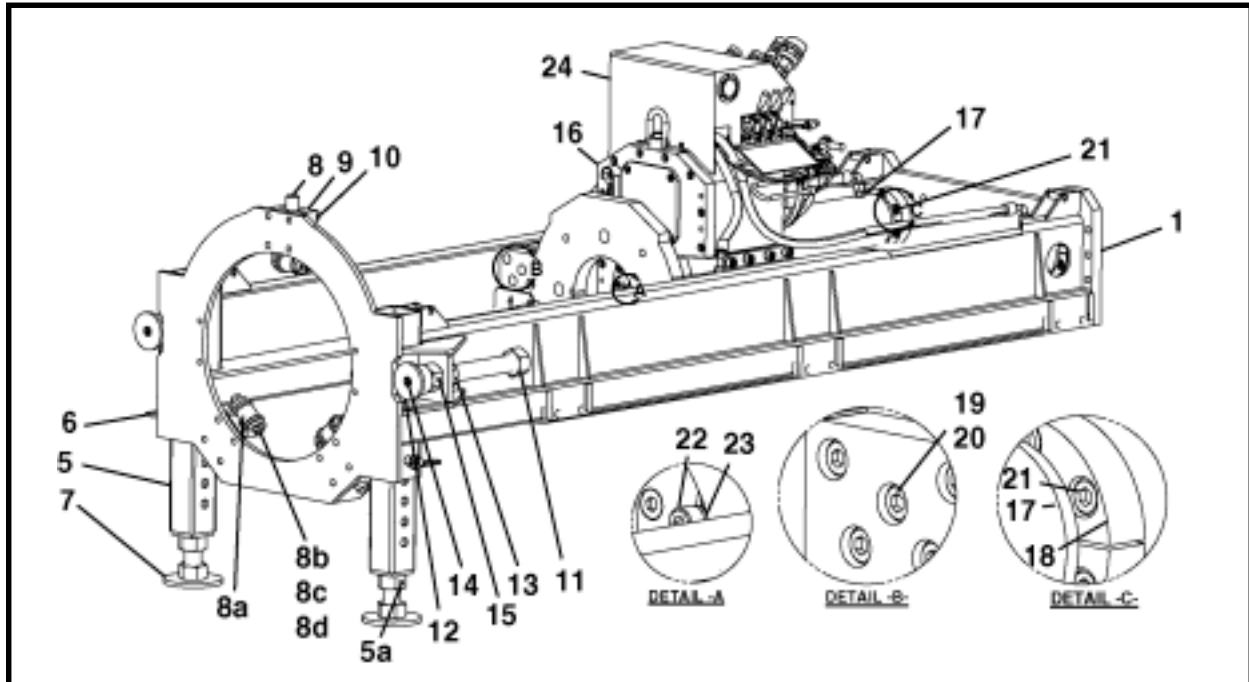
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40012F	FRAME EXTENSION 40"
0.2	1	A40013F	FRAME EXTENSION 80"
1.1	2	A40155A	WELDMENT, 40" Frame Extension
1.2	2	A40163A	WELDMENT, 80" Frame Extension
2	2	A40169A	WELDMENT, Leg
3	2	A40113A	WELDMENT, Screw Jack
4	2	P0063-001	FITTING, Grease
5	8	P001-12-008	BOLT, 3/4-10 UNC x 2
6	16	P0045-012	WASHER, Lock 3/4
7	8	P001-12-009	BOLT, 3/4-10 UNC x 2.25
8	2	P0078-008	LINK, Connector
9	2	P0078-005	LINK, Repair
10.1	2 @ 3.5 LF	P0078-002	CHAIN, Roller (for 40" Extension)
10.2	2 @ 7 LF	P0078-002	CHAIN, Roller (for 80" Extension)
11	2	P0091-010	RING, Pivot Lift
12	4	P0031-08-006	SCREW, Socket Head Cap 1/2-13 UNC x 1.5

**SINGLE STAGE FRAME ASSEMBLY, A42107F**  
**SINGLE STAGE FRAME**



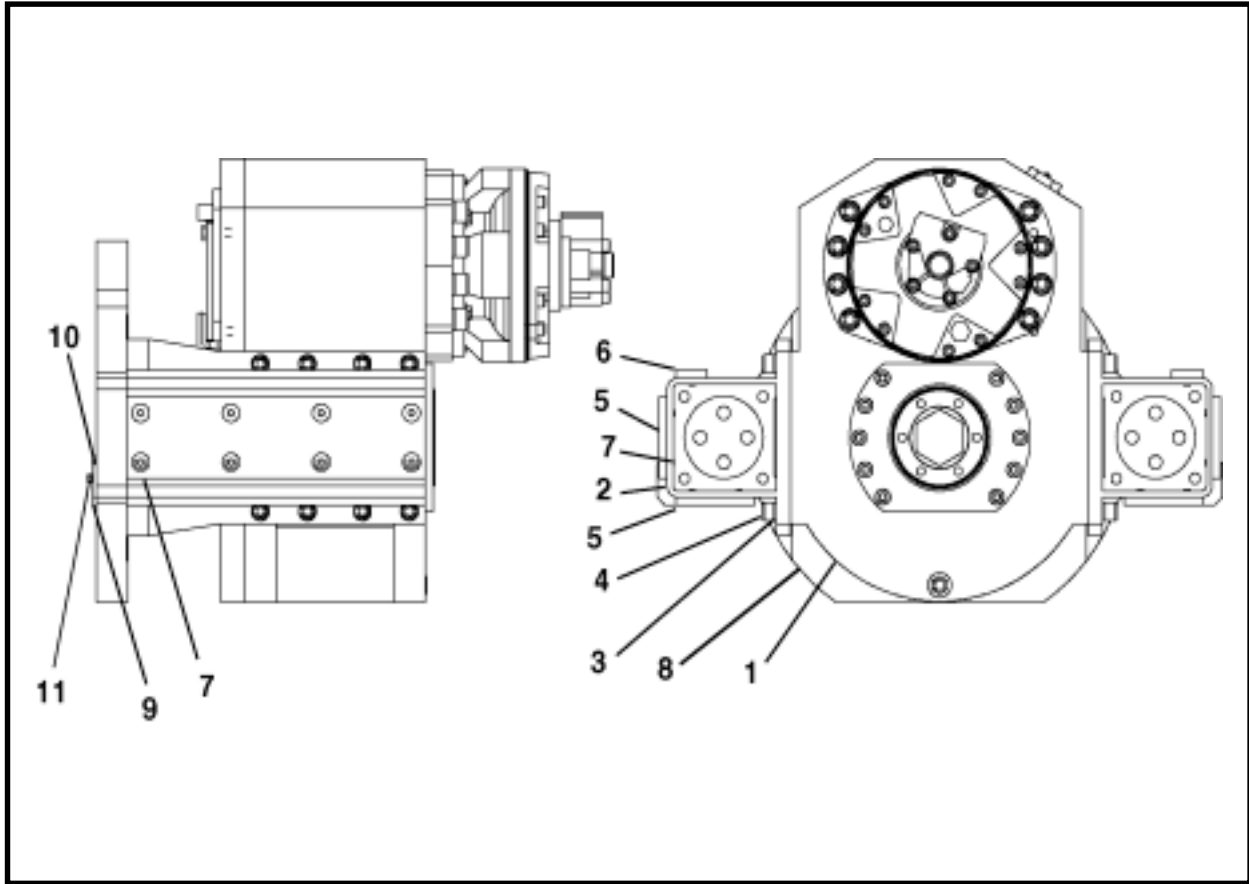
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42107F	SINGLE STAGE FRAME ASSEMBLY
1	1	A40020F	SINGLE STAGE FRAME
2	1	A40244F	SET, GBM Wrench
3	1	A40235F	DRIVE ADAPTER & SWIVEL ASSEMBLY
4	1	A40740A	WRENCH, Spindle Nut
5	1	A40229F	TOOL, Dual Tube MakeUp

**SINGLE STAGE FRAME, A40020F**  
**SINGLE STAGE FRAME**



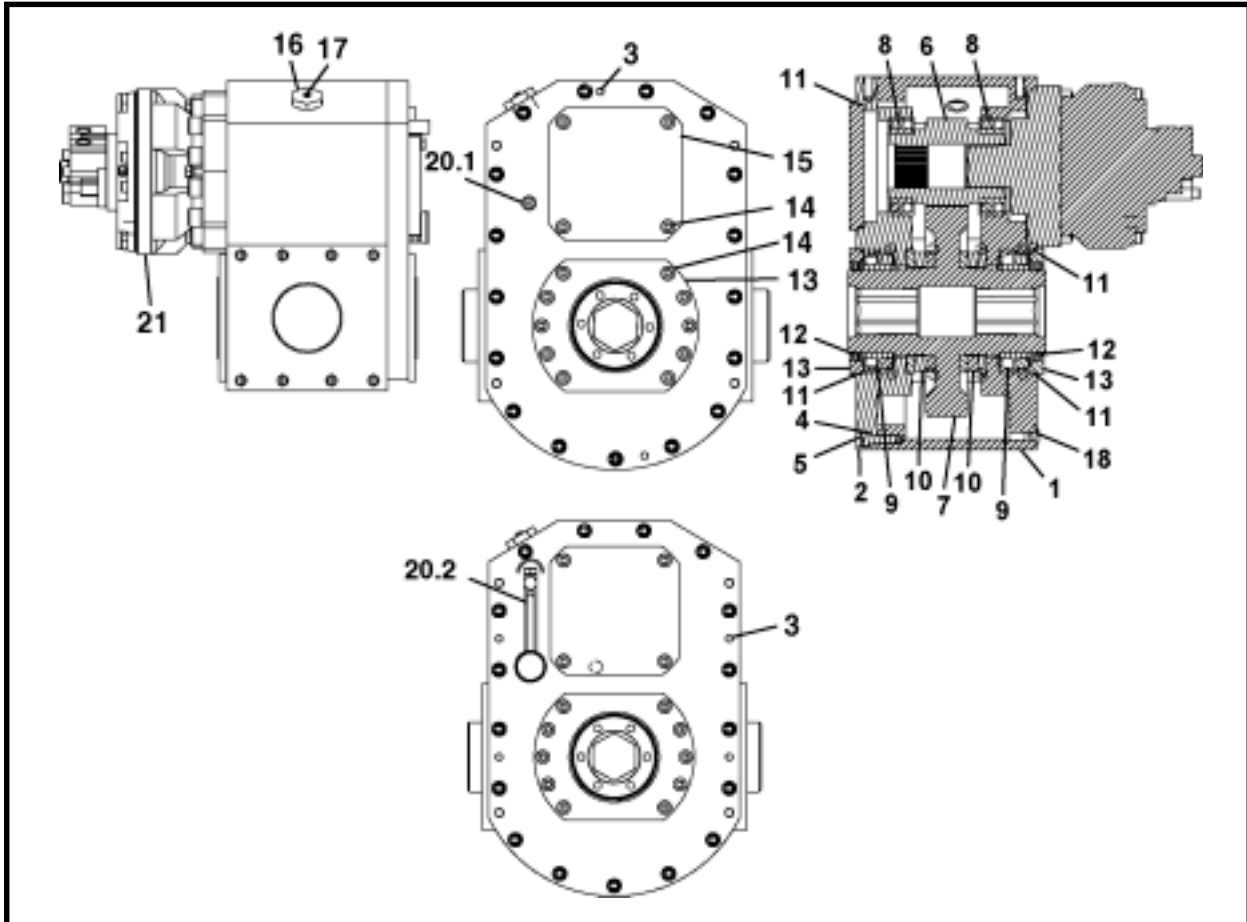
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40020F	SINGLE STAGE FRAME
1	1	A40100A	DRILLING FRAME WELDMENT
2	-	-	-
3	-	-	-
4	-	-	-
5	2	A40111A	WELDMENT, Front Leg (Includes item 5a)
5a	1	P0063-001	FITTING, Grease
6	2	P0090-013	PIN, Hitch
7	2	A40112A	WELDMENT, Screw Jack
8	3	A40107A	ASSEMBLY, Roller Bracket (Includes items 8a - 8d)
8a	1	A40448P	ROLLER
8b	1	P0003-12	NUT
8c	1	P0045-012	WASHER, Lock
8d	1	P0001-12-020	BOLT, 3/4-10 UNC x 5
9	6	A40449P	SUPPORT, Clamp Bar Pipe
10	6	P0001-12-016	BOLT, 3/4-10 UNC x 4
11	2	A40114A	WELDMENT, Tension Screw
12	2	A40460P	PAD, Tension Screw
13	2	P0005-32	NUT
14	2	P0030S-12-003	BOLT, Shoulder 3/4 x 5/8-11 x 3/4
15	2	P0063-001	FITTING, Grease 1/4
16	1	A40102A	DRILLING DRIVE THRUST FRAME ASSEMBLY
17	2	A40115A	ASSEMBLY, Cylinder
18	2	A40457P	RETAINER, Cylinder
19	28	P0046-012	WASHER, Lock - Hi Collar 3/4
20	16	P0031-12-008	SCREW, Socket Head Cap 3/4-10 UNC x 2
21	12	P0031-12-007	SCREW, Socket Head Cap 3/4-10 UNC x 1.75
22	12	P0046-010	WASHER, Lock - Hi Collar 5/8
23	12	P0031-10-008	SCREW, Socket Head Cap 5/8-11 UNC x 2
24	1	A40120A	HYDRAULIC ASSEMBLY

**DRILLING DRIVE THRUST FRAME ASSEMBLY, A40102A  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40102A	DRILLING DRIVE THRUST FRAME ASSEMBLY
1	1	A40103A	ASSEMBLY, Drilling Drive
2	2	A40106A	CYLINDER THRUST GUIDE
3	24	P0046-012	WASHER, Lock Hi-Collar 3/4
4	24	P0031-12-008	SCREW, Socket Head Cap 3/4-10 UNC x 2
5	4	A40417P	WEAR PAD, Side - Bottom
6	2	A40418P	WEAR PAD, Top
7	40	P0030-06-003	SCREW, Flat Head Socket Head Cap 3/8-16 x .75
8	1	A40416P	PLATE, Thrust
9	2	A40419P	SCRAPPER
10	4	P0001-04-005	BOLT, 1/4-10 UNC X 1.25
11	4	P0045-004	WASHER, Lock 1/4

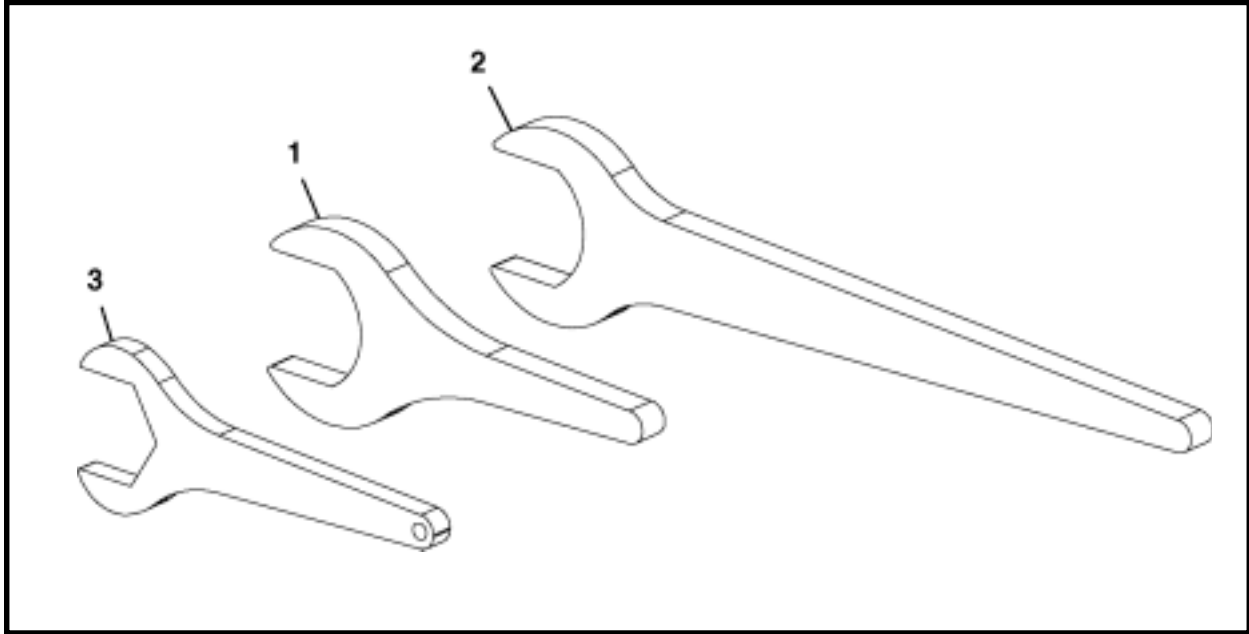
**DRILLING DRIVE ASSEMBLY, A40103A  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40103A	DRILLING DRIVE ASSEMBLY
1	1	A40104A	GEAR CASE
2	1	A40105A	COVER, Front Case Gear
3	2	P0037-068	PIN, Dowel (4 used on gear box with sight gauge)
4	17	P0046-010	WASHER, Lock Hi-Collar 5/8
5	17	P0031-10-008	SCREW, Socket Head Cap 5/8-11 UNC x 2
6	1	A40400P	GEAR, Pinion
7	1	A40401P	GEAR, Drive
8	2	P0065-161	BEARING, Spherical Roller
9	2	P0065-162	BEARING, Spherical Roller
10	2	P0065-160	BEARING, Cylindrical Roller
11	3	P0085-269	ORING
12	2	P0080-27	SEAL, Lip
13	2	A40414P	RETAINER, Seal
14	24	P0030-08-005	SCREW, Flat Head Socket Head Cap 1/2-13 X 1.25
15	1	A40415P	COVER, Inspection
16	1	A42369P	PLUG, Filler 1-5/8-12 Hollow Hex Oring
17	1	P0063-012	BREATHER
18	1	P0300-163	PLUG, Magnetic Drain
19	7 gal	P0126-014	GEAR LUBE, 630 Mobil Synthetic
20.1	1	P0300-176	PLUG, 9/16-18 Oring Hollow Hex (Gear box with oil level plug)
20.2	1	P0301-106	GAUGE, Level/Temp (Gear box with sight gauge)
21*	1	REF	MOTOR, Drive

\* For drive motor part number, refer to Hydraulic Assembly, A40119A (Latching Frame), or Hydraulic Assembly A40120A (Single Stage Frame) in Section 6, Hydraulics.

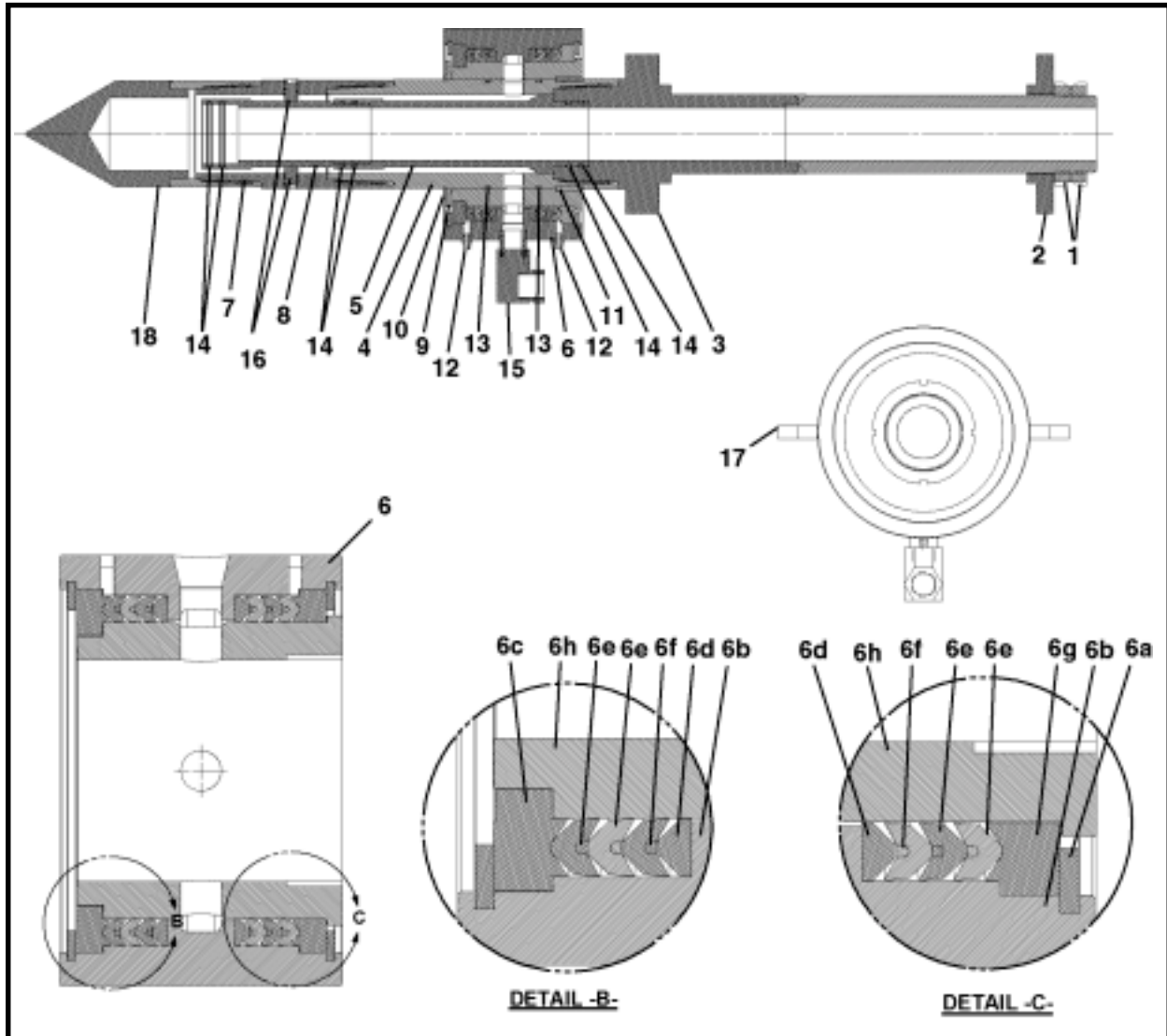
## GBM WRENCH SET, A40244F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40244F	GBM WRENCH SET
1	1	A40583P	WRENCH, 3-5/8 Opening x 12
2	1	A40584P	WRENCH, 3-5/8 Opening x 24
3	1	A40515P	WRENCH, Shaft Tensioner 3-1/8 Opening

## **NOTES**

## DRIVE ADAPTER & SWIVEL ASSEMBLY, A40235F



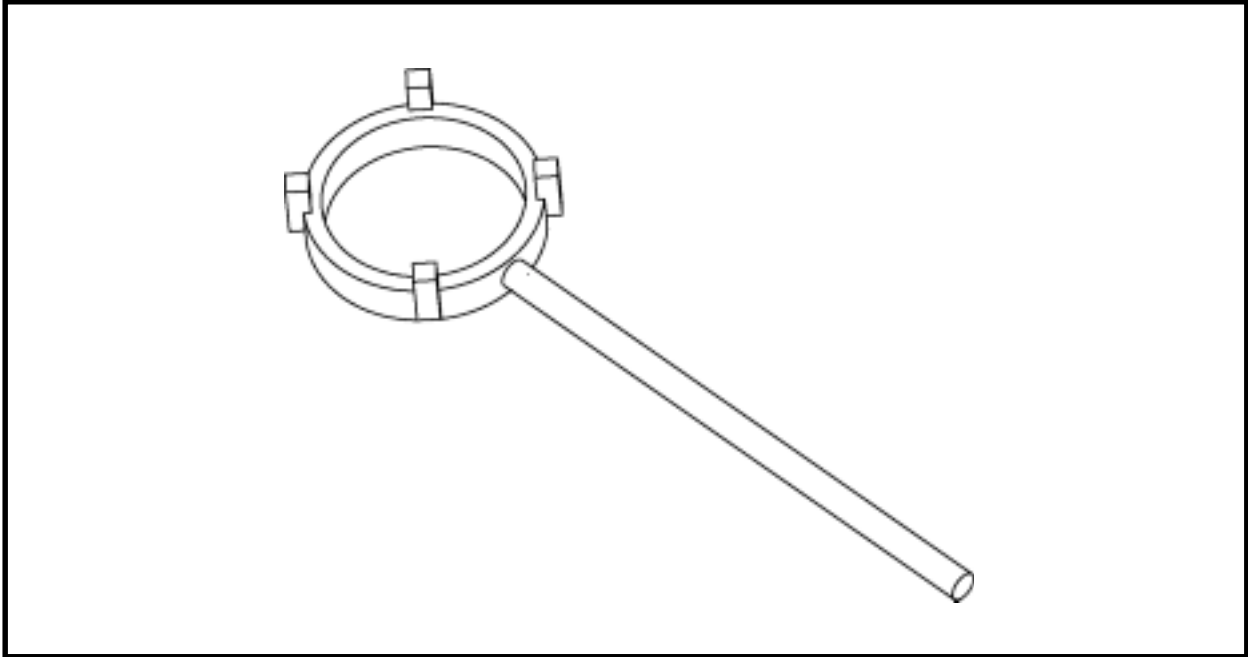
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40235F	DRIVE ADAPTER & SWIVEL ASSEMBLY
1	2	P0065-170	NUT, Lock
2	1	A40556P	WASHER, Fluid Swivel
3	1	A40236A	SWIVEL, Drive Adapter
4	1	A40542P	TUBE, Outer - Swivel Mount
5	1	A40543P	TUBE, Inner - Swivel Mount
6	1	P0119-001	ASSEMBLY, Swivel (Includes items 6a - 6h)
6a	2	P0119-001B	RING, Snap
6b	1	NSS	HOUSING, Swivel
6c	1	P0119-001D	ADAPTER, Lower Packing
6d	2	P0119-001F	ADAPTER, Male
6e	4	P0119-001G	PACKING
6f	2	P0119-001K	PACKING
6g	1	P0119-001H	ADAPTER, Upper Packing
6h	1	NSS	SPINDLE
7	1	A40544P	SUB SAVER
8	1	A40545P	TUBE, Inner - Sub Saver

## DRIVE ADAPTER & SWIVEL ASSEMBLY, A40235F

ITEM	QTY	PART NO.	DESCRIPTION
9	1	A40548P	RING, Retaining Swivel Mount
10	1	P0077-049	RING, Spiral External Snap
11	2	P0047-002	KEY
12	2	P0063-001	GREASE FITTING 1/4
13	2	P0085-241	ORING
14	6	P0085-228	ORING
15	1	P0300-032	FITTING, 90 Degree
16	2	P0033-08-016	SCREW, Set 1/2-13 UNC x 1
17	2	NSS	BAR, Swivel Retainer
18	1	A40253A	ALIGNMENT GUIDE

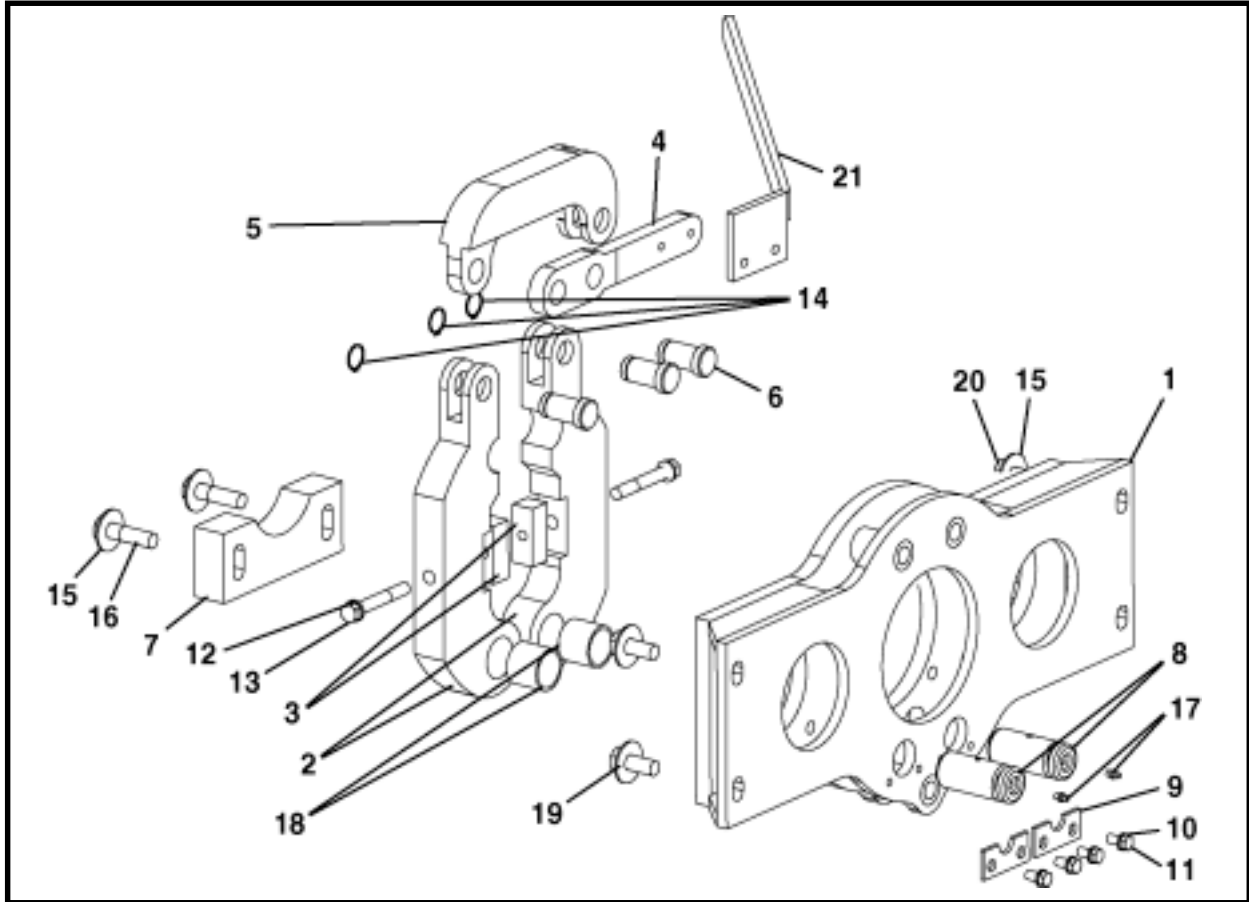
NSS - Not Sold Separately

# SPINDLE NUT WRENCH, A40740A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40740A	WRENCH, Spindle Nut

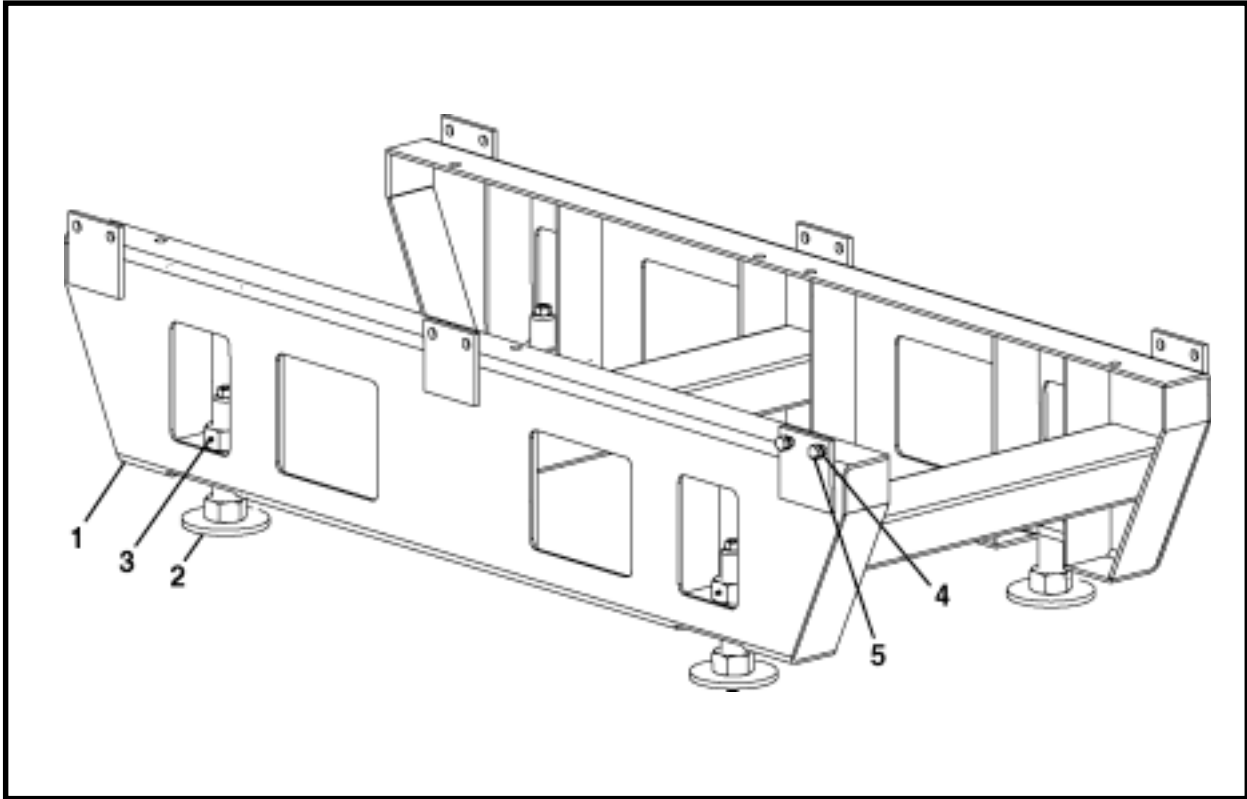
## DUAL TUBE MAKEUP TOOL - LAUNCH SHAFT, A40229F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40229F	DUAL TUBE MAKEUP TOOL - LAUNCH SHAFT
1	1	A40228A	MOUNTING FRAME
2	2	A40954P	ARM, Tension
3*	4	A40956P	INSERT, Jaw
4	1	A40957P	HANDLE
5	1	A40958P	LINK
6	3	A40959P	PIN, Link
7	1	A40960P	WEAR GUIDE
8	2	A40830P	PIN, Front Plate
9	2	A40831P	PIN KEEPER, Front Plate
10	4	P0045-006	WASHER, Lock 3/8
11	4	P0001-06-003	BOLT 3/8-16 UNC x .75
12	2	P0045-008	WASHER, Lock 1/2
13	4	P0001-08-014	BOLT, 1/2-13 UNC x 3.50
14	3	P0077-012	RING, External Snap
15	6	P0040-010	WASHER, Flat 5/8
16	2	P0001-10-009	BOLT 5/8- 11 UNC x 2.25
17	2	P0063-001	FITTING, Grease 1/4
18	2	P0066-007	BUSHING, Bronze
19	4	P0045-010	WASHER, Lock 5/8
20	4	P0001-10-006	BOLT, 5/8- 11 UNC x 1.50
21	1	A42370A	HANDLE, MakeUp Tool

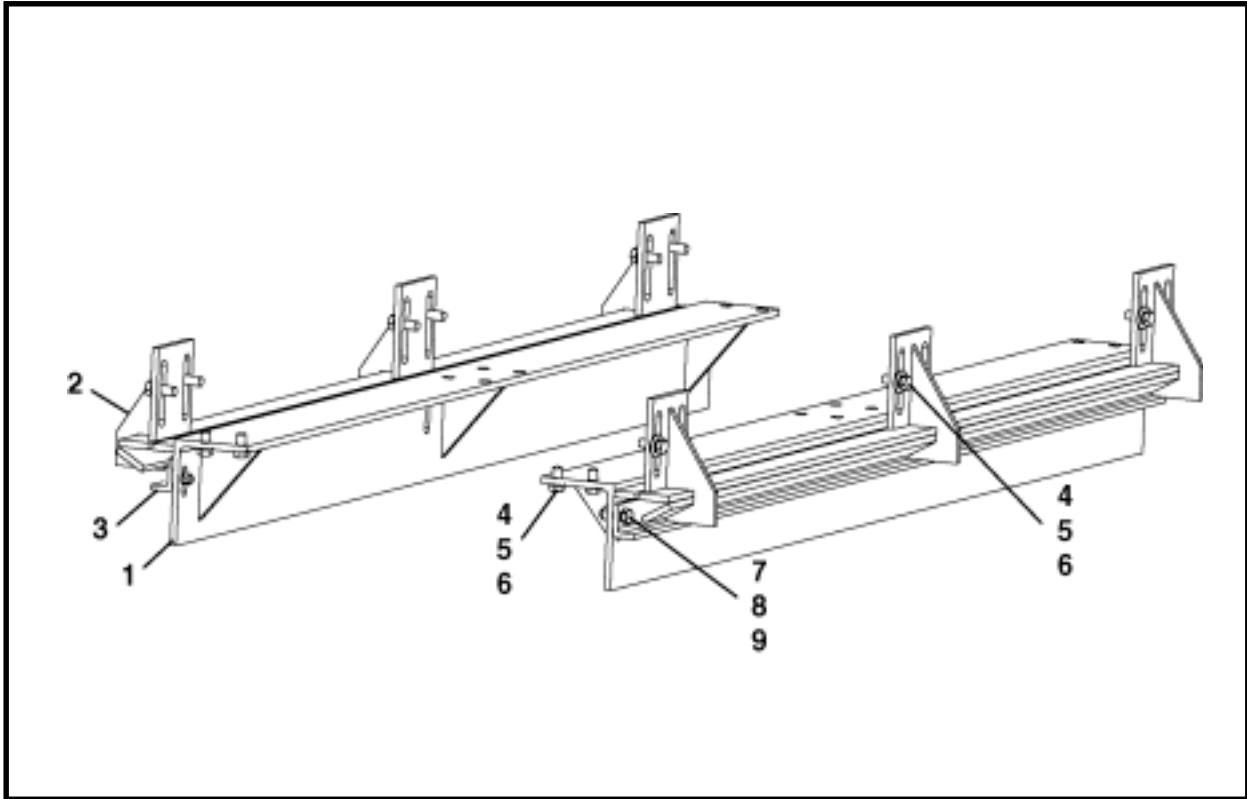
\* Quantity includes one extra set of jaw inserts.

**LOWER BASE ASSEMBLY, A40101A  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40101A	LOWER FRAME ASSEMBLY
1	1	A40110A	WELDMENT, Lower Frame
2	4	A40113A	WELDMENT, Screw Jack
3	4	P0063-001	FITTING, Grease 1/4
4	20	P0045-012	WASHER, Lock 3/4
5	20	P0001-12-008	BOLT, 3/4-10 UNC x 2

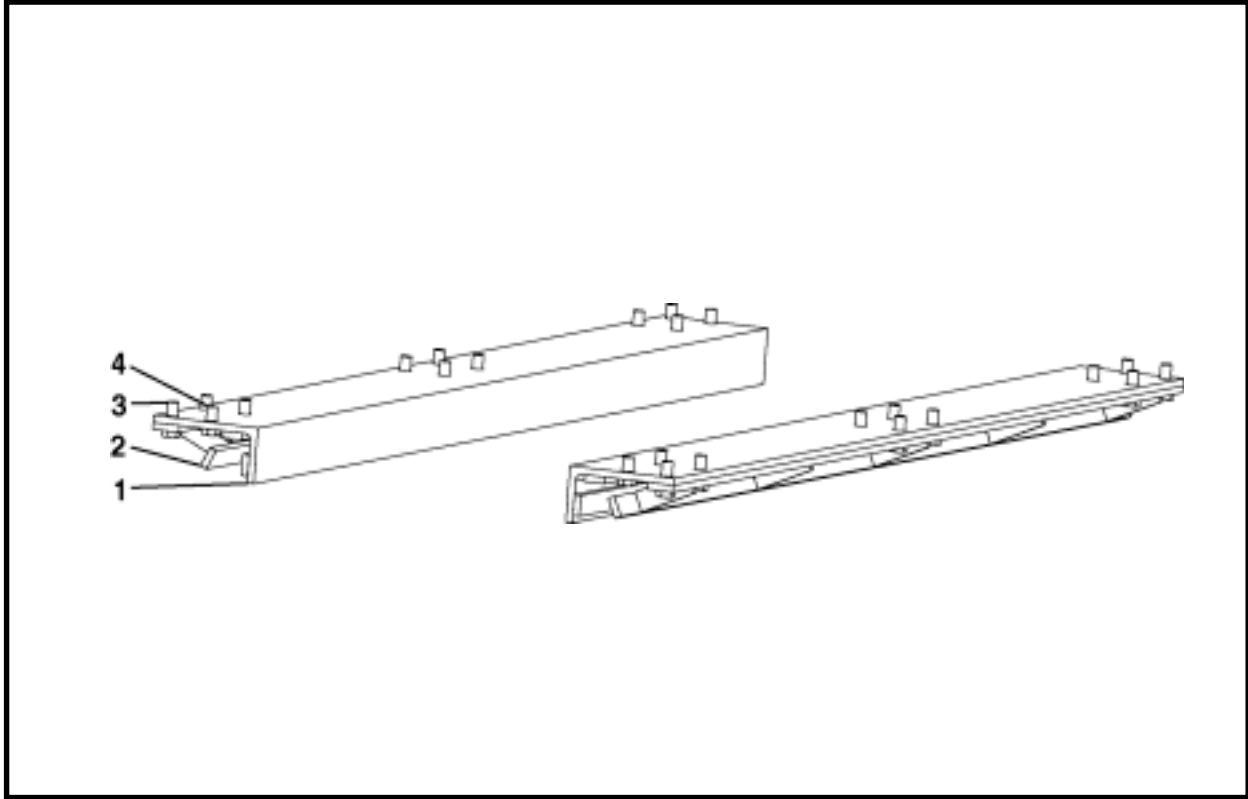
**BORING BASE ADAPTER, AMERICAN AUGERS 36-340, A41000F  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41000F	BORING BASE ADAPTER, American Augers 36-340
1	2	NSS	MOUNTING BASE, Inside
2	2	NSS	MOUNTING BASE, Outside
3	2	NSS	ANGLE, MOUNTING BASE
4	28	P0001-12-006	BOLT, 3/4-10 UNC x 1.50
5	28	P0045-012	WASHER, Lock 3/4
6	12	P0040-012	WASHER, Flat 3/4
7	8	P0001-10-008	BOLT, 5/8-11 UNC x 2
8	8	P0045-010	WASHER, Lock 5/8
9	8	P0003-10	NUT 5/8

NSS - Not Sold Separately

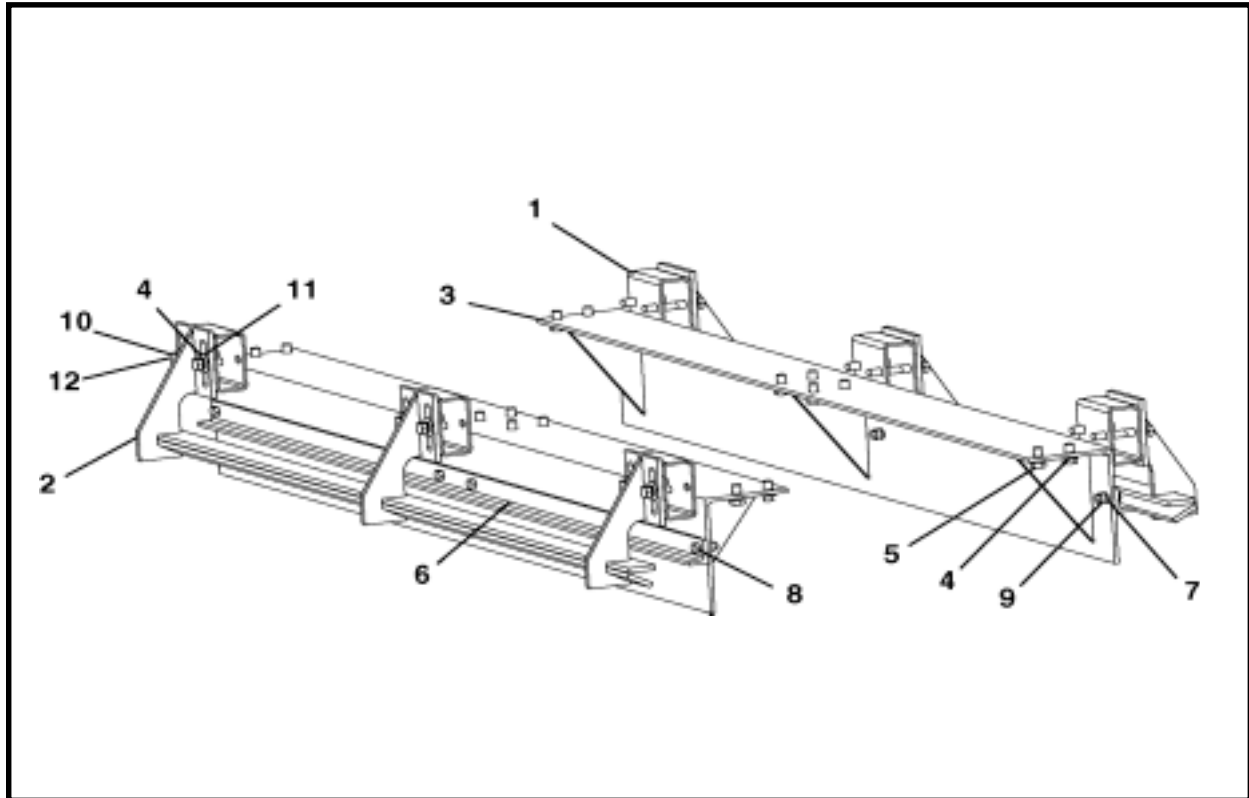
**BORING BASE ADAPTER, AMERICAN AUGERS 30-225, A41003F  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41003F	BORING BASE ADAPTER, American Augers 30-225
1	2	NSS	MOUNTING BASE, Inside
2	2	NSS	MOUNTING BASE, Outside
3	12	P0001-12-008	BOLT, 3/4-10 UNC x 2
4	12	P0001-12-006	BOLT, 3/4-10 UNC x 1.50

NSS - Not Sold Separately

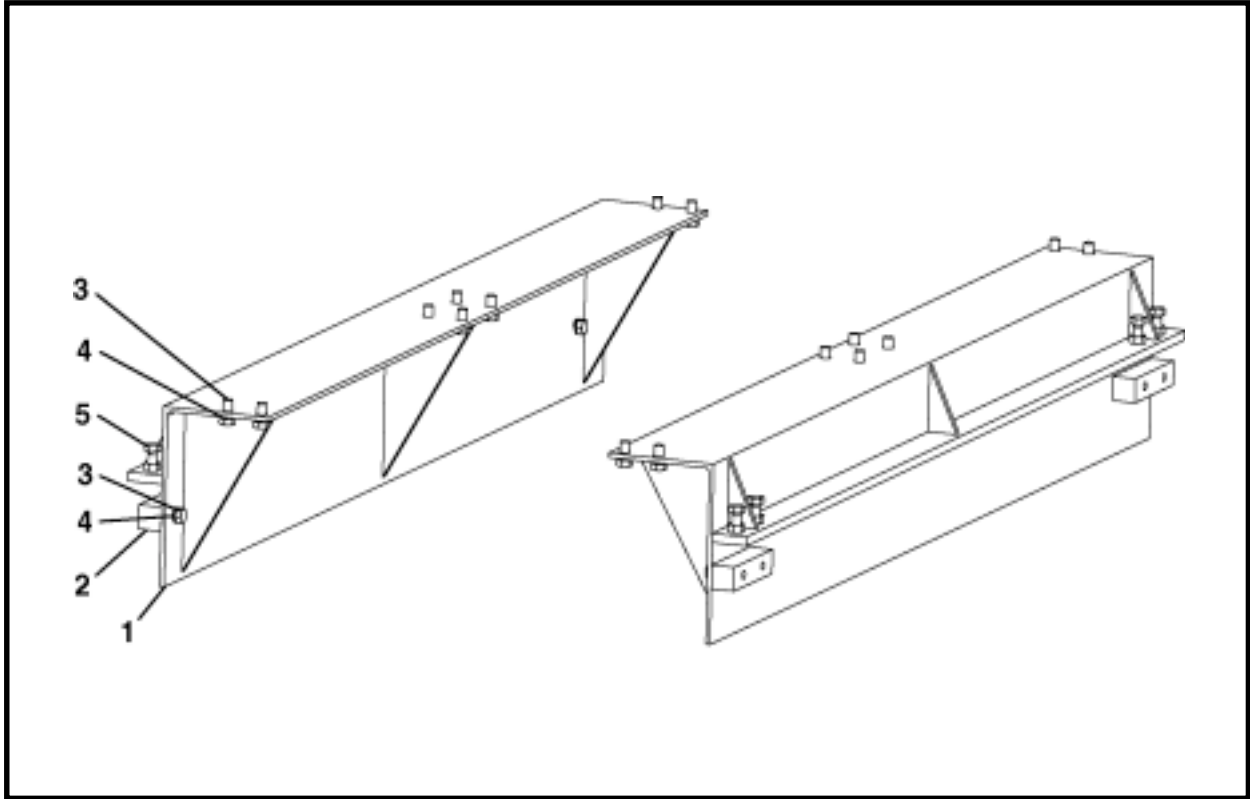
**BORING BASE ADAPTER, AMERICAN AUGERS 48-900, A41006F  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41006F	BORING BASE ADAPTER, American Augers 48-900
1	6	NSS	EXTENSION, Outside Mounting Base
2	2	NSS	MOUNTING BASE, Outside
3	2	NSS	MOUNTING BASE, Inside
4	28	P0045-012	WASHER, Lock 3/4
5	16	P0001-12-006	BOLT, 3/4-10 UNC x 1.50
6	2	NSS	ANGLE, Mounting Base
7	8	P0045-010	WASHER, Lock
8	8	P0001-10-007	BOLT, 5/8-11 UNC x 1.75
9	8	P0003-10	NUT 5/8
10	12	P0001-12-008	BOLT, 3/4-10 UNC x 2
11	12	P0040-012	WASHER, Flat 3/4
12	12	P0001-12-020	BOLT, 3/4-10 UNC x 5

NSS - Not Sold Separately

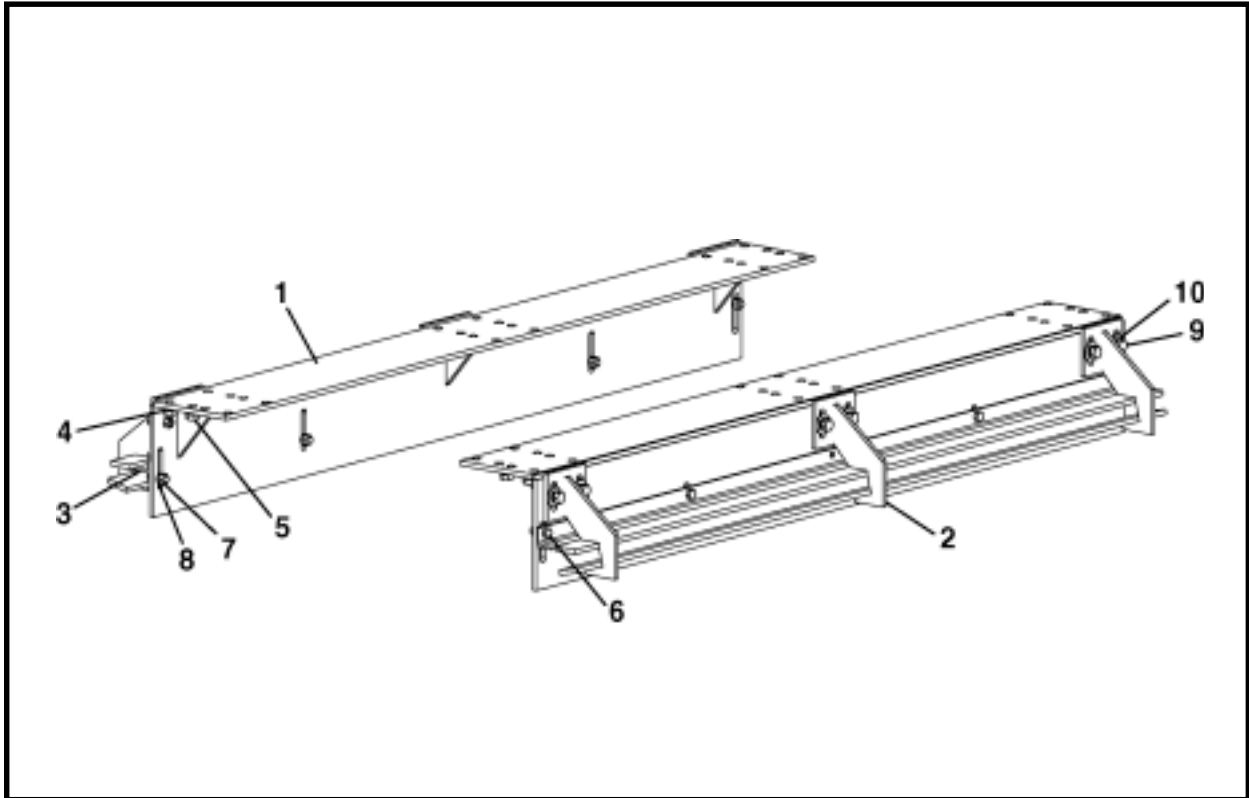
**BORING BASE ADAPTER, RICHMOND 54, A41009F  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41009F	BORING BASE ADAPTER, Richmond 54
1	2	NSS	MOUNTING BASE, Inside
2	4	NSS	BLOCK, Lock
3	24	P0001-12-006	BOLT, 3/4-10 UNC x 1.50
4	24	P0045-012	WASHER, Lock 3/4
5	8	P0001-12-008	BOLT, 3/4-10 UNC x 2

NSS - Not Sold Separately

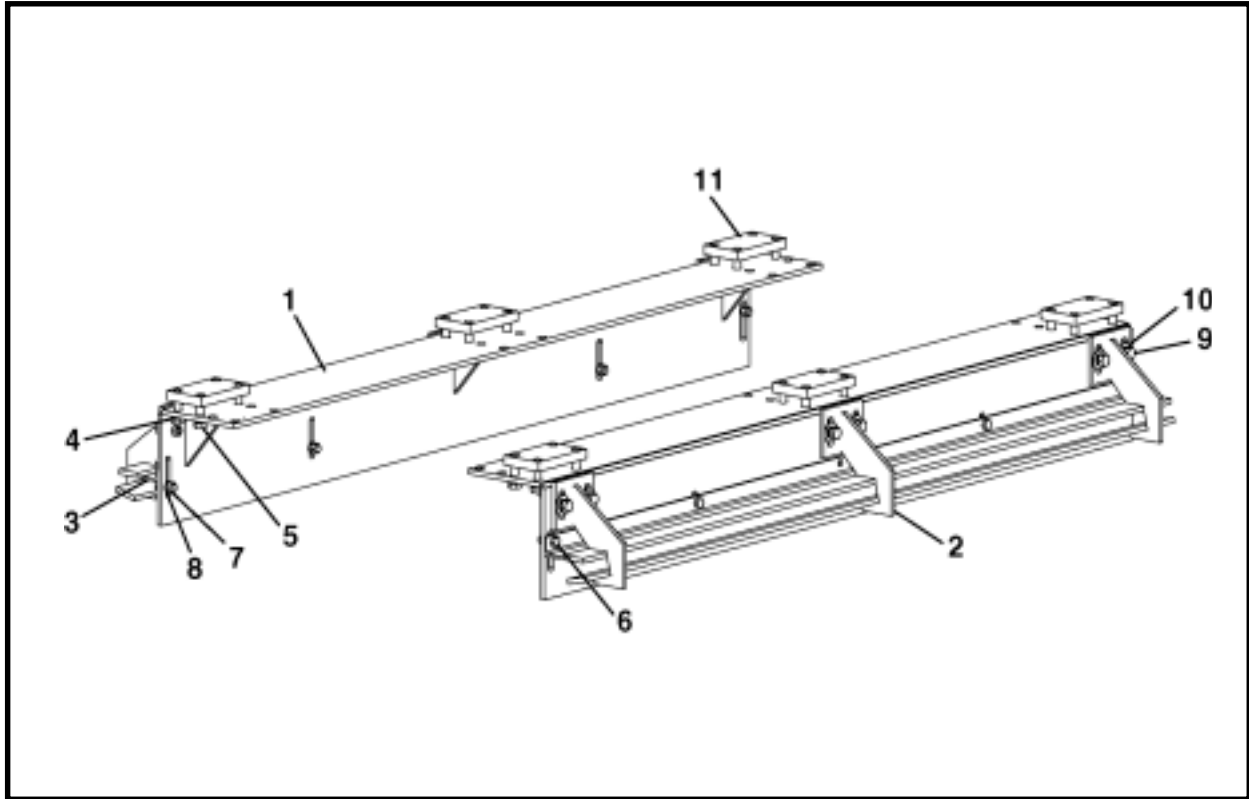
**BORING BASE ADAPTER, AMERICAN AUGERS 60-1200, A41025F  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41025F	BORING BASE ADAPTER, American Augers 60-1200
1	2	NSS	ASSEMBLY, Angle
2	2	NSS	ASSEMBLY, Mounting Clamp
3	2	NSS	BAR, Height
4	24	P0001-12-010	BOLT, 3/4-10 UNC x 2.5
5	36	P0045-012	WASHER, Lock 3/4
6	8	P0001-10-007	BOLT, 5/8-11 UNC x 1.75
7	20	P0003-010	NUT
8	8	P0045-010	WASHER, Lock
9	12	P0001-12-008	BOLT, 3/4-10 UNC x 2
10	12	P0040-012	WASHER, Flat 3/4

NSS - Not Sold Separately

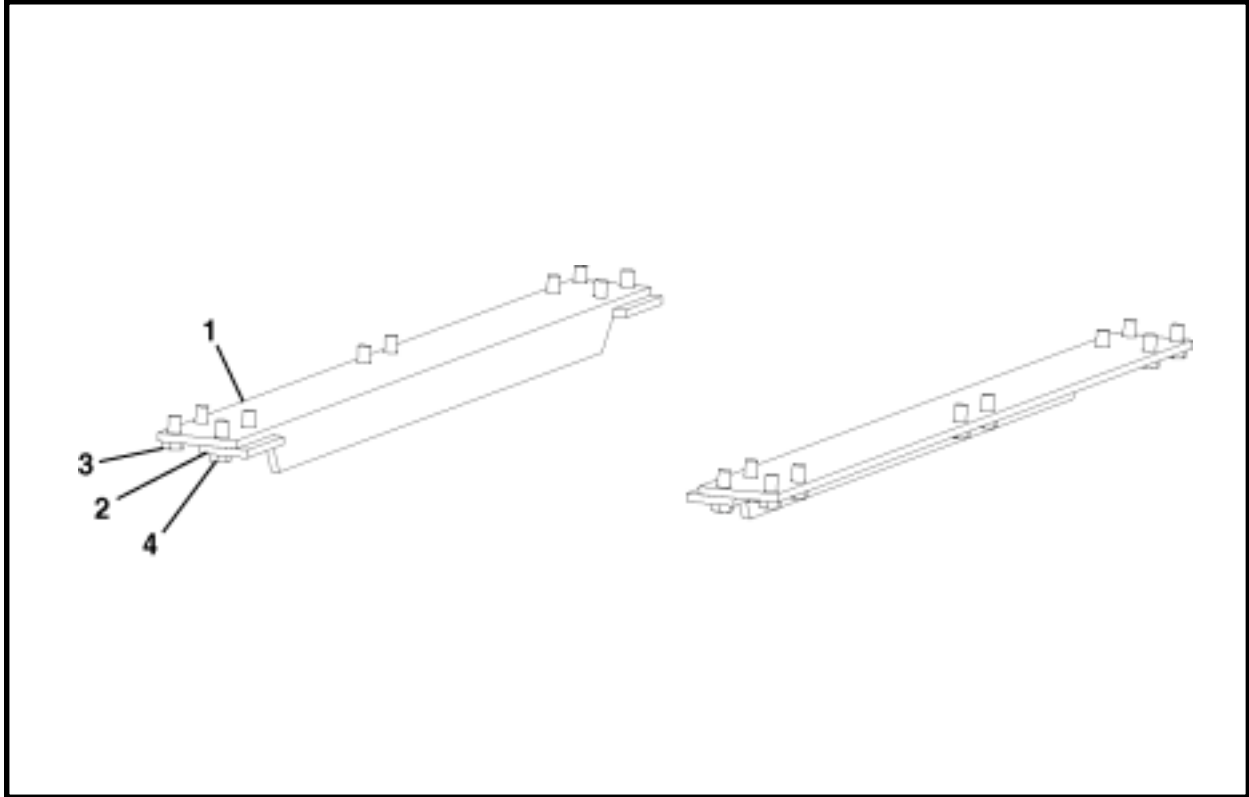
**BORING BASE ADAPTER, ALLIED 48, A41025F  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41025F	BORING BASE ADAPTER, Allied 48
1	2	NSS	ASSEMBLY, Angle
2	2	NSS	ASSEMBLY, Mounting Clamp
3	2	NSS	BAR, Height
4	24	P0001-12-010	BOLT, 3/4-10 UNC x 2.5
5	36	P0045-012	WASHER, Lock 3/4
6	8	P0001-10-007	BOLT, 5/8-11 UNC x 1.75
7	20	P0003-10	NUT
8	8	P0045-010	WASHER, Lock
9	12	P0001-12-008	BOLT, 3/4-10 UNC x 2
10	12	P0040-012	WASHER, Flat 3/4
11	6	NSS	BAR, Spacer

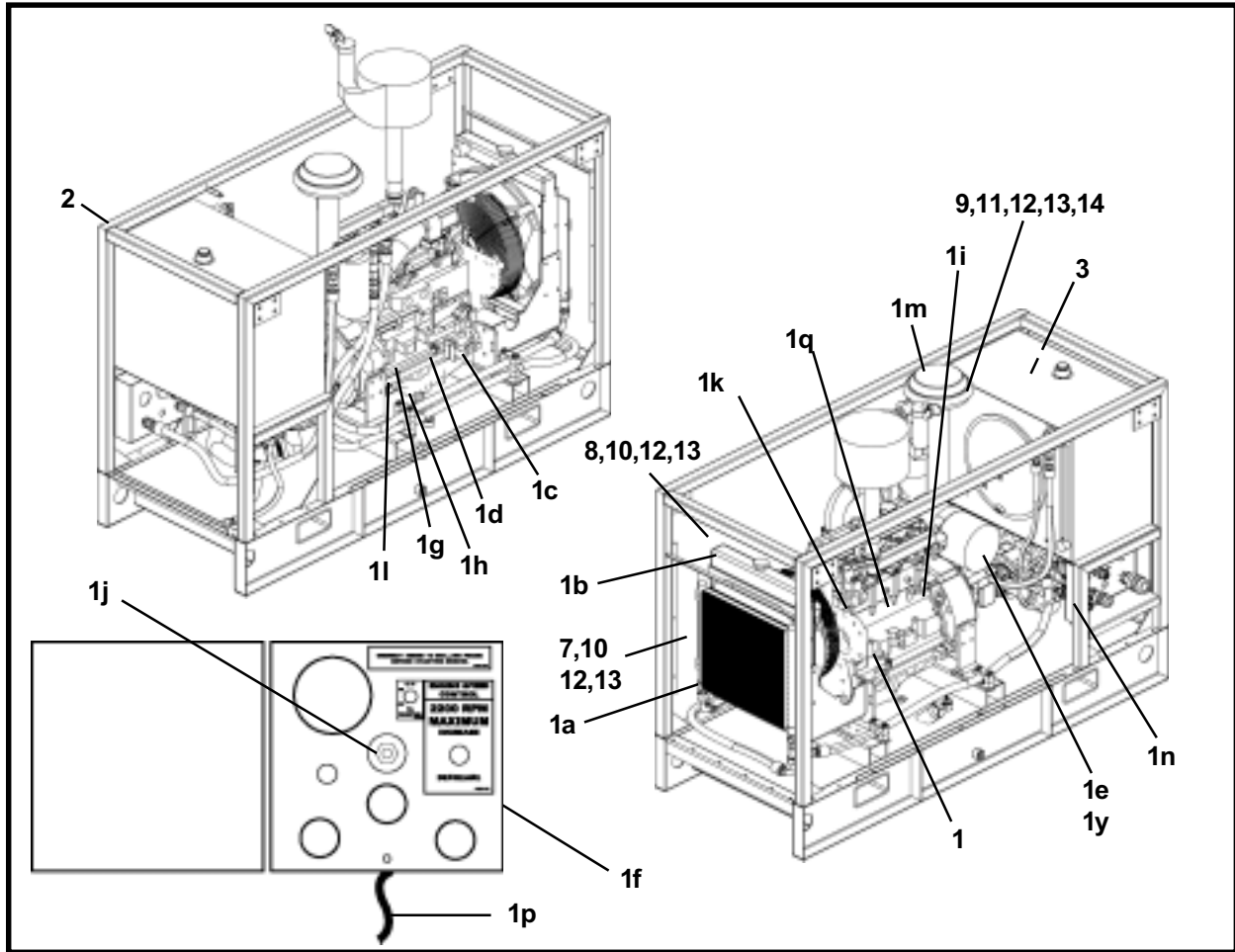
NSS - Not Sold Separately

**BORING BASE ADAPTER, AMERICAN AUGERS 24-150, A41011F  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41011F	BORING BASE ADAPTER, American Augers 24-150
1	2	A41118P	ANGLE - OUTSIDE BASE MOUNTING
2	4	A41119P	CLAMP BLOCK
3	12	P0001-12-006	BOLT 3/4-10 UNC x 1.50
4	8	P0001-12-008	BOLT 3/4-10 UNC x 2

## POWER PACK P75, A40021F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40021F	POWER PACK P75
1	1	P0125-117	ENGINE, John Deere 4045D (Includes Items 1a - 1y)
1a	1	P0125-117A	OIL COOLER
1b	1	P0125-117B	RADIATOR
1c	1	P0125-117C	FILTER, Fuel
1d	1	P0125-117D	FILTER, Oil
1e	1	P0125-117E	FILTER, Air (Primary)
1f	1	P0125-117F	PANEL, Remote Instrument w/50' Cord
1g	1	P0125-117G	STARTER SOLENOID
1h	1	P0125-117H	RELAY
1i	1	P0125-117I	SWITCH, Pressure
1j	1	P0125-117J	SWITCH, Hold To Start
1k	1	P0125-117K	SWITCH, Water Safety
1l	1	P0125-117L	STARTER
1m	1	P0125-117M	INTAKE, Air Filter
1n	1	P0125-117N	RECEPTICLE, Power Pack Wiring Harness
1p	1	P0125-117P	HARNES (50' Cord)
1q	1	P0125-117Q	ENGINE THROTTLE CONTROL
1r***	1	P0125-117R	PLATE, Drive
1s***	1	P0125-117S	SCREW, Flat Head Cap
1t***	1	P0125-117T	O-RING
1u***	1	P0125-117U	ADAPTER, Pump

## POWER PACK P75, A40021F

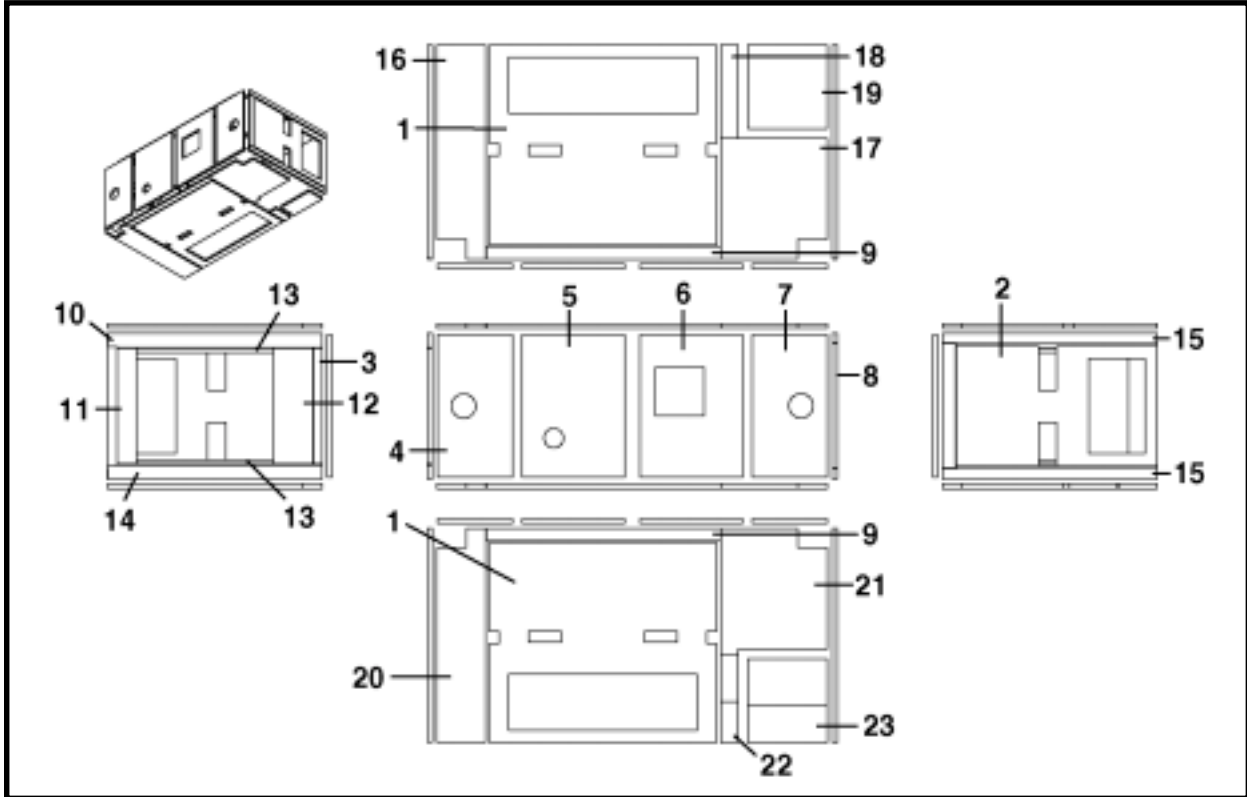
ITEM	QTY	PART NO.	DESCRIPTION
1v***	1	P0125-117V	SHAFT, Drive 14 Tooth (not shown)
1x***	1	P0125-117X	ADAPTER, Engine (not shown)
1y	1	P0125-117Y	FILTER, Secondary (safety)
2	1	P0125-118	ENCLOSURE, Engine (Includes Items 2a - 2c)
2a	1	P0125-118A	ASSEMBLY, Key (not shown)
2b	1	P0125-118B	HAND GRIP, Plastic (not shown)
2c	1	P0125-118C	DOOR, Latch End (not shown)
3	55 gal	P0126-001	OIL, Hydraulic ISO 46
4*	1	A40121A	ASSEMBLY, Fluid Connection (not shown)
5	1	A40126A	FITTINGS
6**	1	A40127A	ELECTRICAL SCHEMATIC P75 (not shown)
7	2	A40710P	BELTING, Side
8	1	A40712P	BELTING, Top
9	1	A40713P	BELTING, Air Intake
10	9	P0001-05-03	BOLT, 5/16-18 UNC x .75
11	4	P0001-05-04	BOLT, 5/16-18 UNC x 1
12	13	P0045-005	WASHER, Lock 5/16
13	13	P0040-005	WASHER, Flat 5/16
14	4	P0003-05	NUT 5/16
15	1	A40170A	PANELS, Acoustic (not shown)
16	1	A40024F	SET, Starter Hose 50 FT (not shown)
17	1	A40720F	BRACKET, Starter Hose (not shown)

\* Refer to section 6, Hydraulics for parts breakdown.

\*\* Refer to section 5, Electrical for parts breakdown.

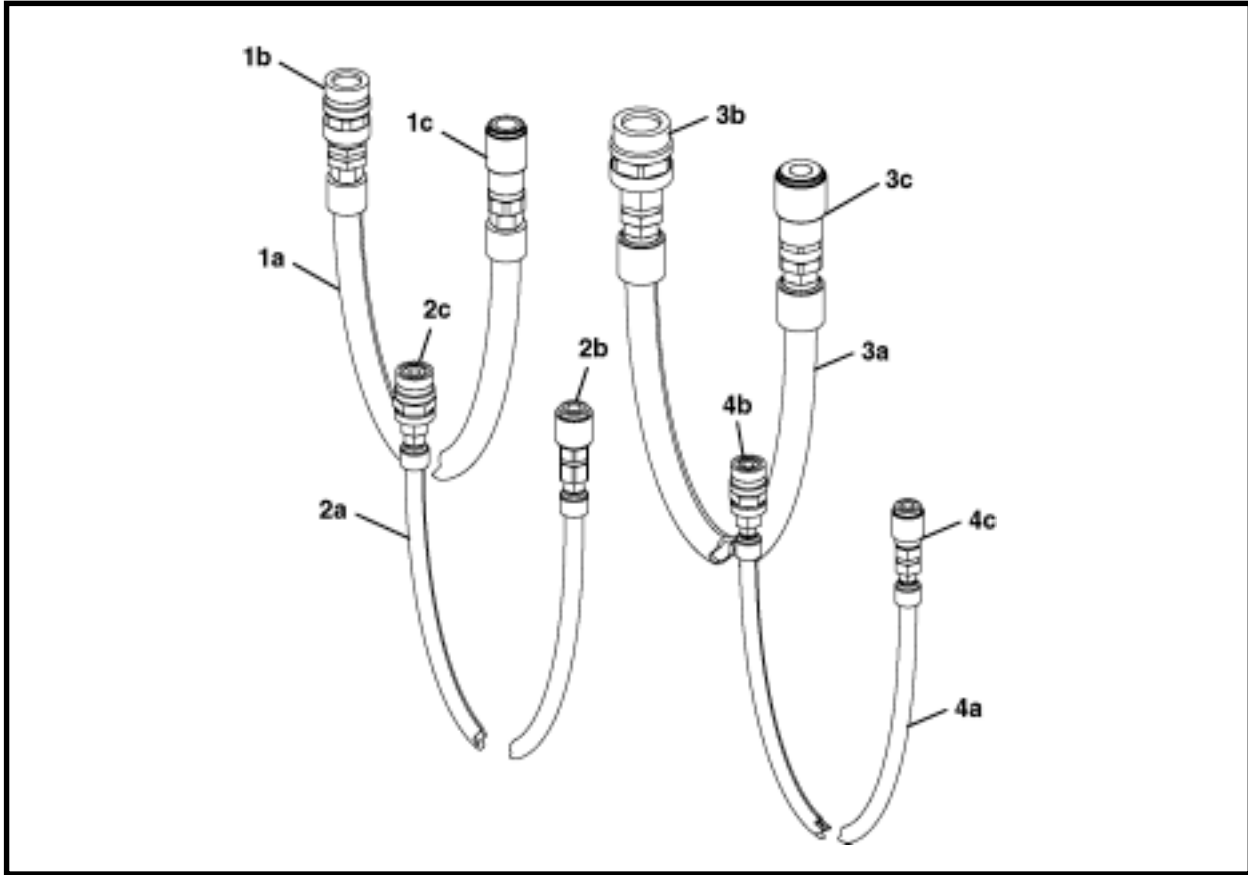
\*\*\* Pump drive components.

**ACOUSTIC PANELS, A40170A  
POWER PACK P75**



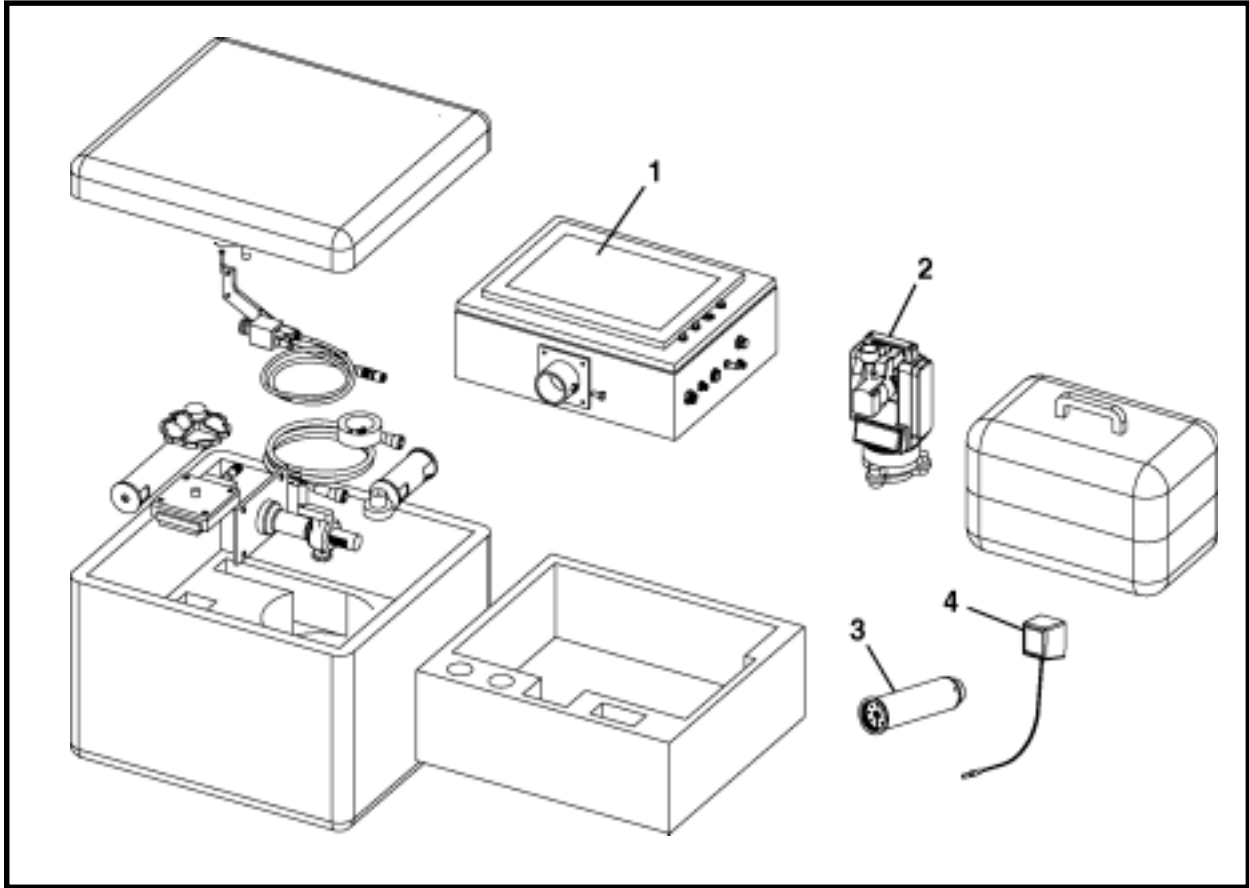
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40170A	ACOUSTIC PANELS
1	2	A40176P	ACOUSTIC PANEL, Large Door (41 x 46.50)
2	1	A40178P	ACOUSTIC PANEL, Small Door (24.5 x 41.25)
3	1	A40179P	ACOUSTIC PANEL, Top Cab Panel (2.75 x 25.63)
4	1	A40180P	ACOUSTIC PANEL, Top Cab Panel (14.81 x 29.25)
5	1	A40181P	ACOUSTIC PANEL, Top Cab Panel (21 x 29.25)
6	1	A40182P	ACOUSTIC PANEL, Top Cab Panel (21 x 29.25)
7	1	A40183P	ACOUSTIC PANEL, Top Cab Panel (14.81 x 29.25)
8	1	A40184P	ACOUSTIC PANEL, Top Cab Panel (1.88 x 23.75)
9	2	A40185P	ACOUSTIC PANEL, Top Cab Panel (2.38 x 48)
10	1	A40186P	ACOUSTIC PANEL, Fan End (2.88 x 43.75)
11	1	A40187P	ACOUSTIC PANEL, Fan End (4 x 23.75)
12	1	A40188P	ACOUSTIC PANEL, Fan End (8 x 23.75)
13	2	A40189P	ACOUSTIC PANEL, Fan End (.88 x 28)
14	1	A40190P	ACOUSTIC PANEL, Fan End (2.88 x 43.75)
15	2	A40191P	ACOUSTIC PANEL, Tank End (2 x 43.88)
16	1	A40192P	ACOUSTIC PANEL, Side Panel (9.88 x 43.88)
17	1	A40193P	ACOUSTIC PANEL, Side Panel (21.75 x 24.75)
18	1	A40194P	ACOUSTIC PANEL, Side Panel (3.50 x 19.13)
19	1	A40195P	ACOUSTIC PANEL, Side Panel (16.25 x 17.13)
20	1	A40196P	ACOUSTIC PANEL, Bulk Head Side (9.88 x 43.88)
21	1	A40197P	ACOUSTIC PANEL, Bulk Head Side (21.75 x 26)
22	1	A40198P	ACOUSTIC PANEL, Bulk Head Side (3.50 x 8.38)
23	1	A40199P	ACOUSTIC PANEL, Bulk Head Side (7.62 x 16.25)

## STARTER HOSE SET, A40024F



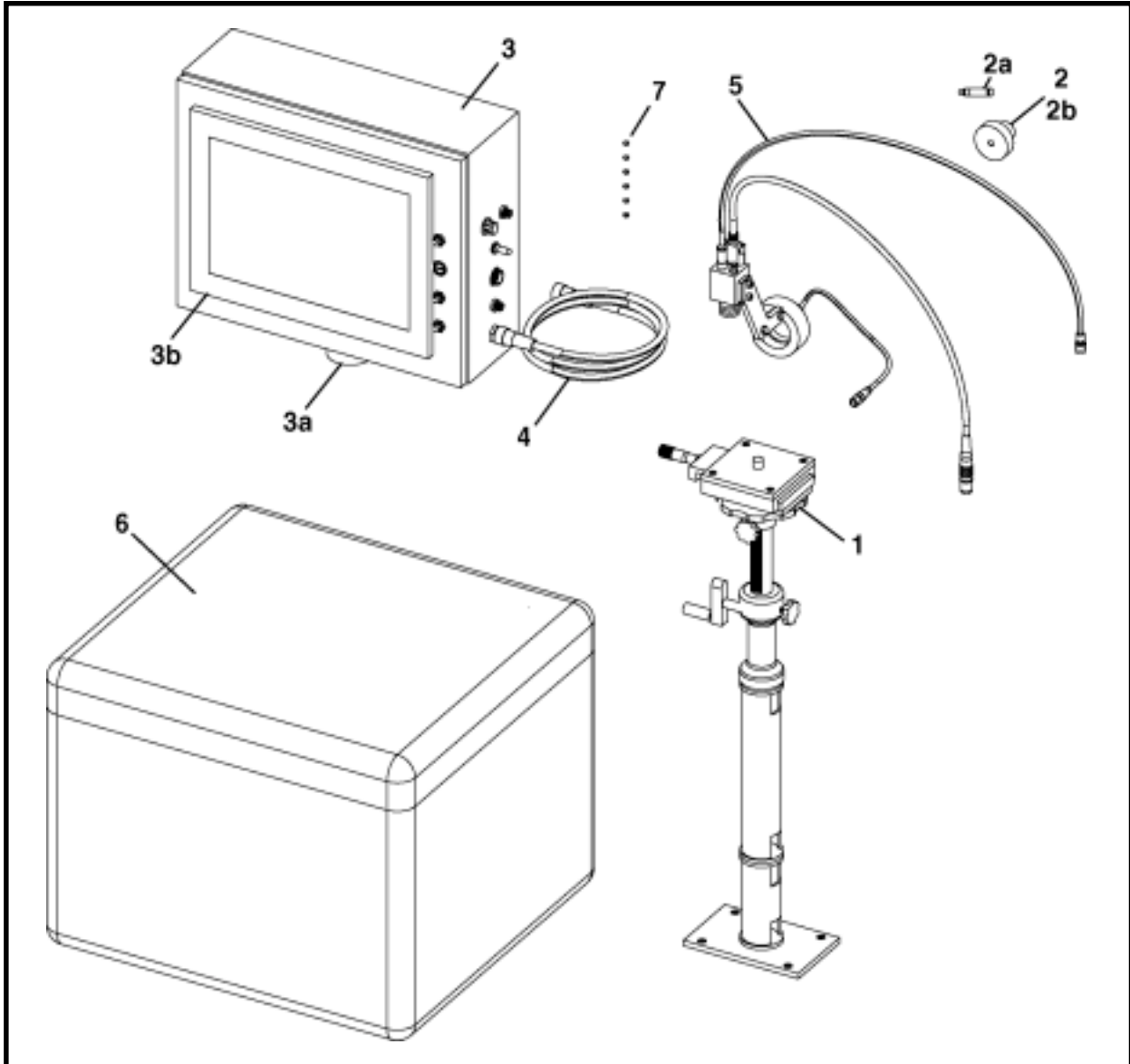
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40024F	SET, Starter Hose
1	1	A40171A	ASSEMBLY, High Pressure Hose 3/4 x 50' (Work Port) (Includes items 1a - 1c)
1a	1	A10431A-600	ASSEMBLY, Hose, 3/4 High Pressure x 50'
1b	1	P0100-036	COUPLER, Quick, 3/4 Female
1c	1	P0100-037	COUPLER, Quick, 3/4 Male
2	1	A40125A	ASSEMBLY, Low Pressure Hose 1/2 x 50' (Case Drain) (Includes items 2a - 2c)
2a	1	A10320A-600	ASSEMBLY, Hose, 1/2 Low Pressure x 50'
2b	1	P0100-039	COUPLER, Quick, 1/2 Male
2c	1	P0100-038	COUPLER, Quick, 1/2 Female
3	1	A40172A	ASSEMBLY, Low Pressure Hose 1 x 50' (Return) (Includes items 3a - 3c)
3a	1	A10440A	ASSEMBLY, Hose, 1" Low Pressure x 50'
3b	1	P0100-034	COUPLER, Quick, 1" Female
3c	1	P0100-035	COUPLER, Quick, 1" Male
4	1	A40173A	ASSEMBLY, Low Pressure Hose 3/8 x 50' (Load Sense) (Includes items 4a - 4c)
4a	1	A10413A-600	ASSEMBLY, Hose, 3/8 High Pressure x 50'
4b	1	P0100-040	COUPLER, Quick, 3/8 Female
4c	1	P0100-041	COUPLER, Quick, 3/8 Male

**GUIDANCE SYSTEM ASSEMBLY, A42000F**  
**GUIDANCE SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42000F	GUIDANCE SYSTEM ASSEMBLY
1	1	A42005A	ASSEMBLY, Guidance System Case
2	1	A42021A	ASSEMBLY, Theodolite
3	1	A40150A	TARGET
4	1	P0310-707	CHARGER

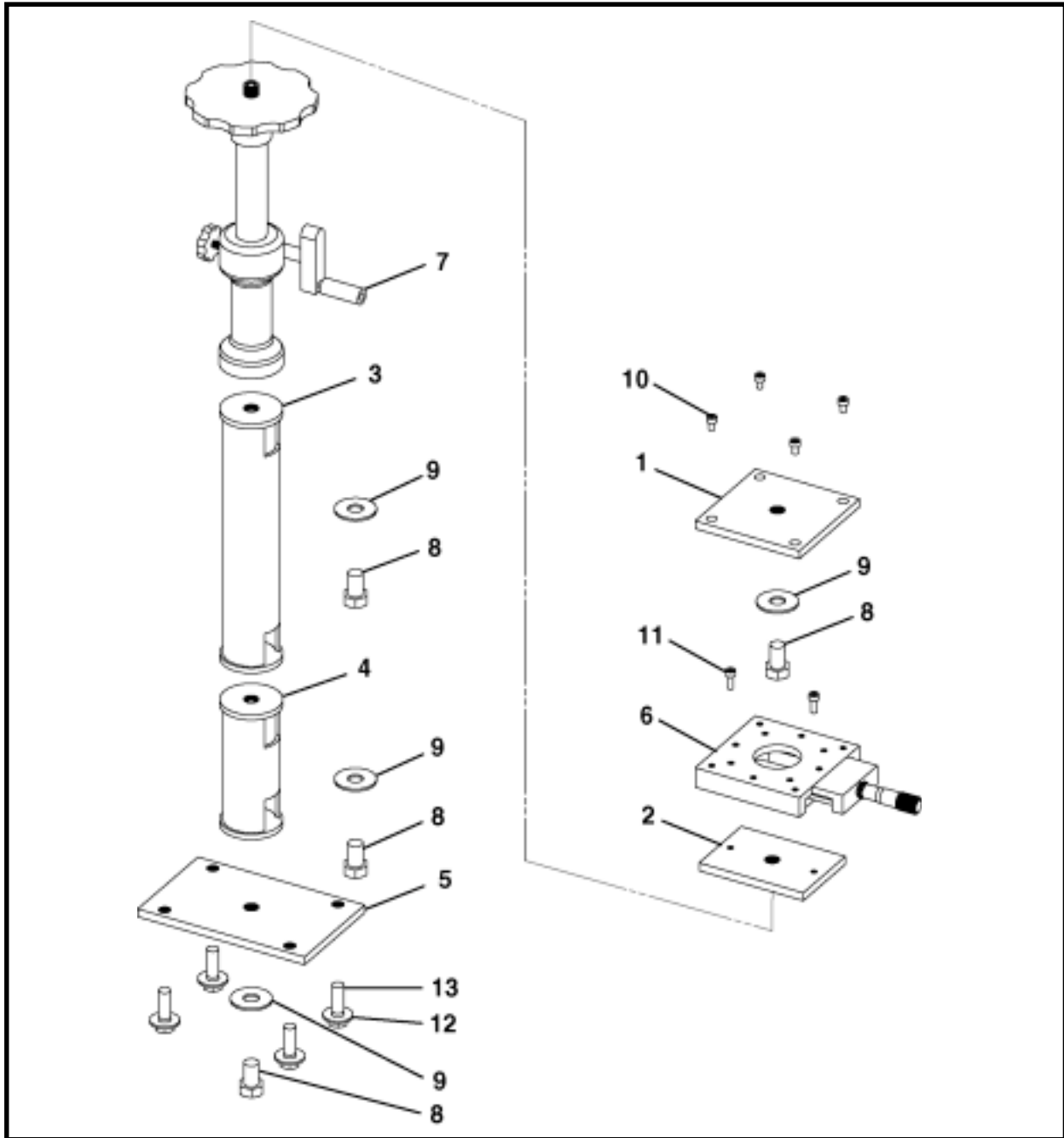
**GUIDANCE SYSTEM CASE, A42005A**  
**GUIDANCE SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42005A	GUIDANCE SYSTEM CASE
1	1	A42009A	STAND, Theodolite
2	1	A42028A	ASSEMBLY, Laser Sight Alignment Tool (Includes items 2a & 2b)
2a	1	P0251-133	BORESIGHT, Laser
2b	1	A42023P	HOLDER, Boresight Laser
3*	1	A42002A	ASSEMBLY, Monitor Box (Includes items 3a & 3b)
3a	1	A42029A	ASSEMBLY, Monitor Top Mount
3b	1	A42025A	ASSEMBLY, Lexan Monitor Cover
4	1	P0054-169	CABLE
5	1	A42020A	ASSEMBLY, Camera Optics
6	1	P0251-132	CASE, Shipping
7	6	P0064-020	BATTERY

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

**THEODOLITE STAND, A42009A  
GUIDANCE SYSTEM**

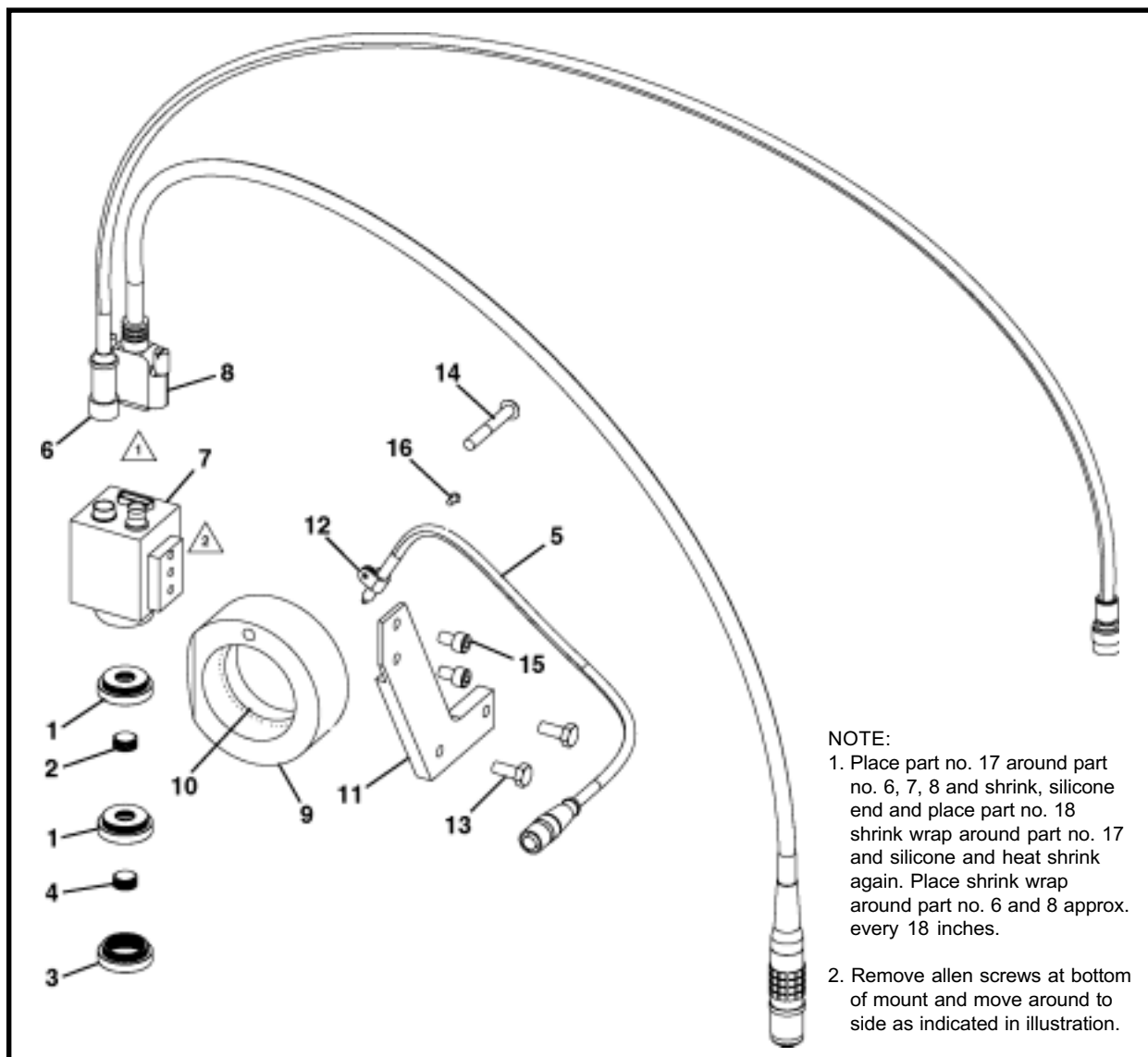


ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42009A	THEODOLITE STAND
1	12	A42010P	PLATE, Upper Adaptor
2	1	A42011P	PLATE, Lower Adaptor
3	1	A42012A	WELDMENT, Riser Tube
4	1	A42013A	WELDMENT, Riser Tube
5	1	A42017P	PLATE, Mounting
6	1	P0251-129	TRANSLATION STAGE
7	1	P0251-128	COLUMN, Elevator
8	4	P0027-032	BOLT, 5/8-11 UNC X 1
9	4	P0027-046	WASHER, Flat 5/8

**THEODOLITE STAND, A42009A**  
**GUIDANCE SYSTEM**

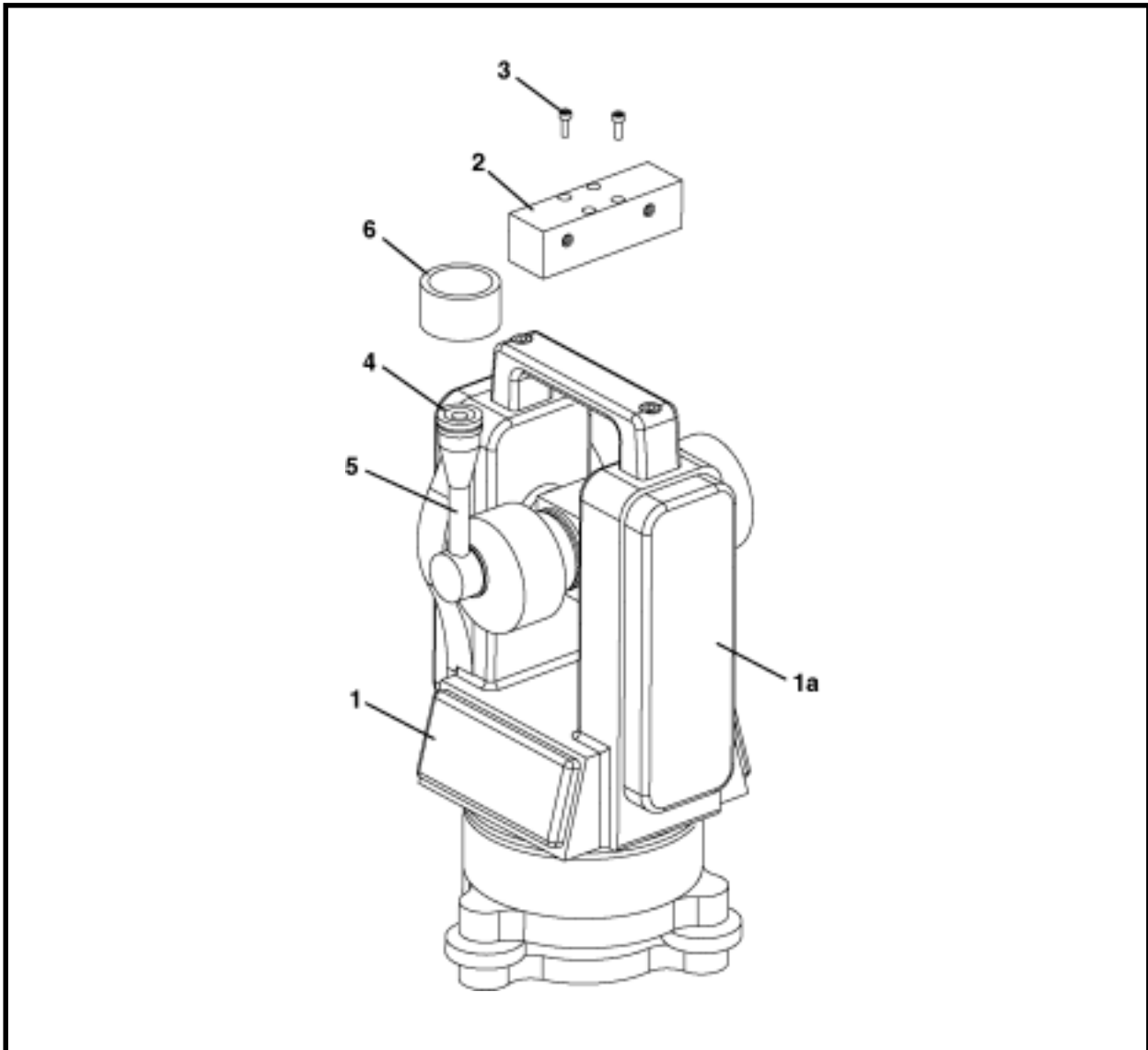
ITEM	QTY	PART NO.	DESCRIPTION
10	4	P0031-04-000	SCREW, Socket Head Cap 1/4-20 X 3/8
11	2	P0031-04-001	SCREW, Socket Head Cap 1/4-20 X 5/8
12	4	P0001-08-006	BOLT, 1/2 UNC x 1.50
13	4	P0040-008	FLAT WASHER FLAT WASHER 4

**CAMERA & OPTICS ASSEMBLY, A42020A  
GUIDANCE SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42020A	ASSEMBLY, Camera & Optics
1	2	P0250-124	MOUNT, Lens
2	1	P0250-125	LENS
3	1	P0250-127	TUBE, Extension
4	1	P0250-126	LENS
5	1	A42006A	CABLE, LED
6	1	A42027A	CABLE, Camera Power
7	1	P0251-127	CAMERA
8	1	P0054-419	CABLE, Camera
9	1	A40773P	COUNTERWEIGHT, Theodolite
10	1	P0253-118	TAPE
11	1	A40774P	BRACKET, Camera
12	1	P0055-122	CLAMP
13	2	P0001-04-002.5	BOLT, 1/4-20 x 5/8 SS
14	1	P0017-14-208	SCREW, Round Head Machine 1/4-20 X 1 3/4 SS
15	2	PM6B-1-10	SCREW, Socket Head Cap, M6 X 10
16	1	P0310-431A	SCREW, #6 With Square Washer
17	8	P0055-212	SUMITUBE
18	10	P0055-207	HEAT SHRINK

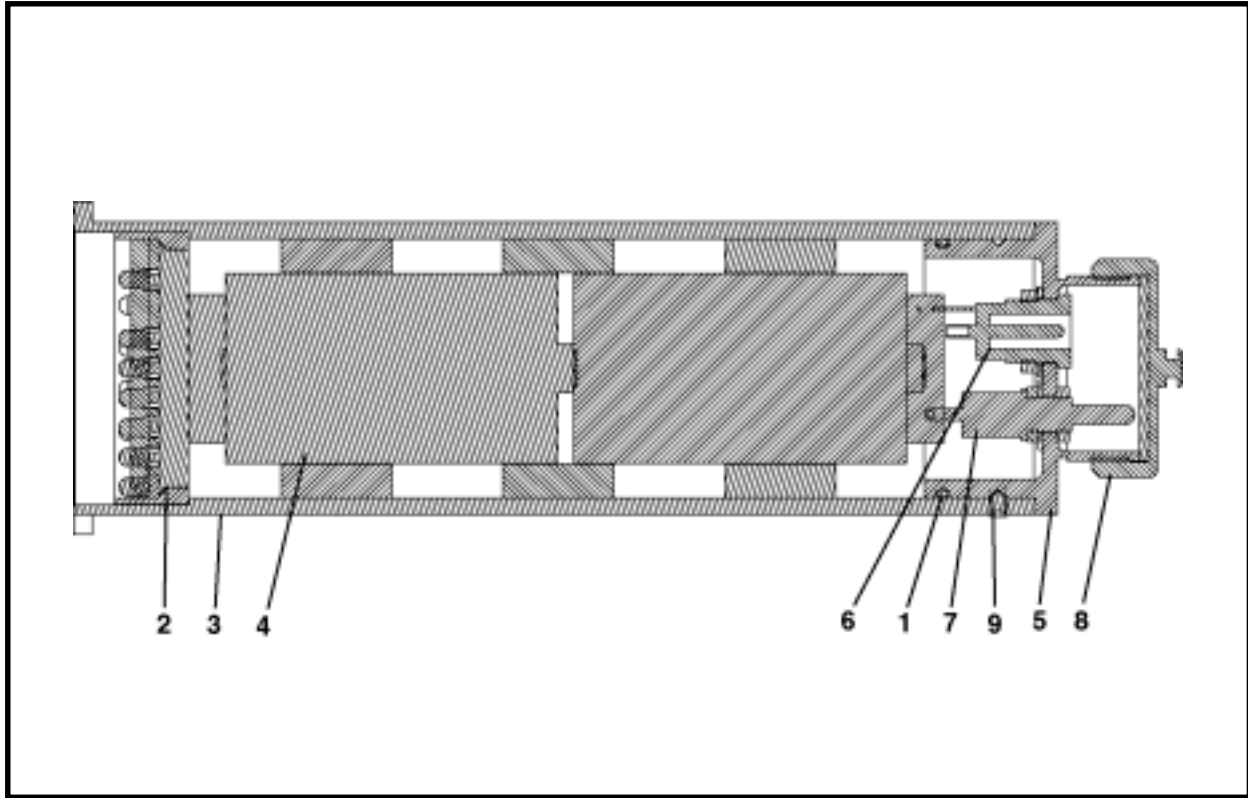
**THEODOLITE ASSEMBLY, A42021A**  
**GUIDANCE SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42021A	ASSEMBLY, Theodolite
1	1	P0251-123	THEODOLITE (Includes item 1a)
1a	1	P0251-123B	CASE, Battery
2	1	A40772P	MOUNT, Camera
3	2	PM3B-.5-10	SCREW, Socket Head Cap SS M3-10
4	1	P0251-123A	EYEPIECE
5	1	P0251-131	PRISM, Diagonal
6	1	A42022P	RING, Seal
7*	1	P0251-123C	MANUAL, Theodolite

\* Not Shown

**TARGET, A40150A  
GUIDANCE SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0*	1	A40150A	TARGET (Includes items 1 - 10)
1	1	P0085-030	ORING
2	1	A40151A	PANEL, LED
3	1	A40553P	BODY, Target
4	1	A40152A	ASSEMBLY, Battery Pack
5	1	NSS	COVER
6	1	NSS	POWER JACK
7	1	NSS	SWITCH, Toggle
8	1	P0100-033	COVER, Protective
9	3	P033-440-03	SCREW, Set
10	1	A40153A	SCHEMATIC, Electrical
11**	1	P0310-707	CHARGER

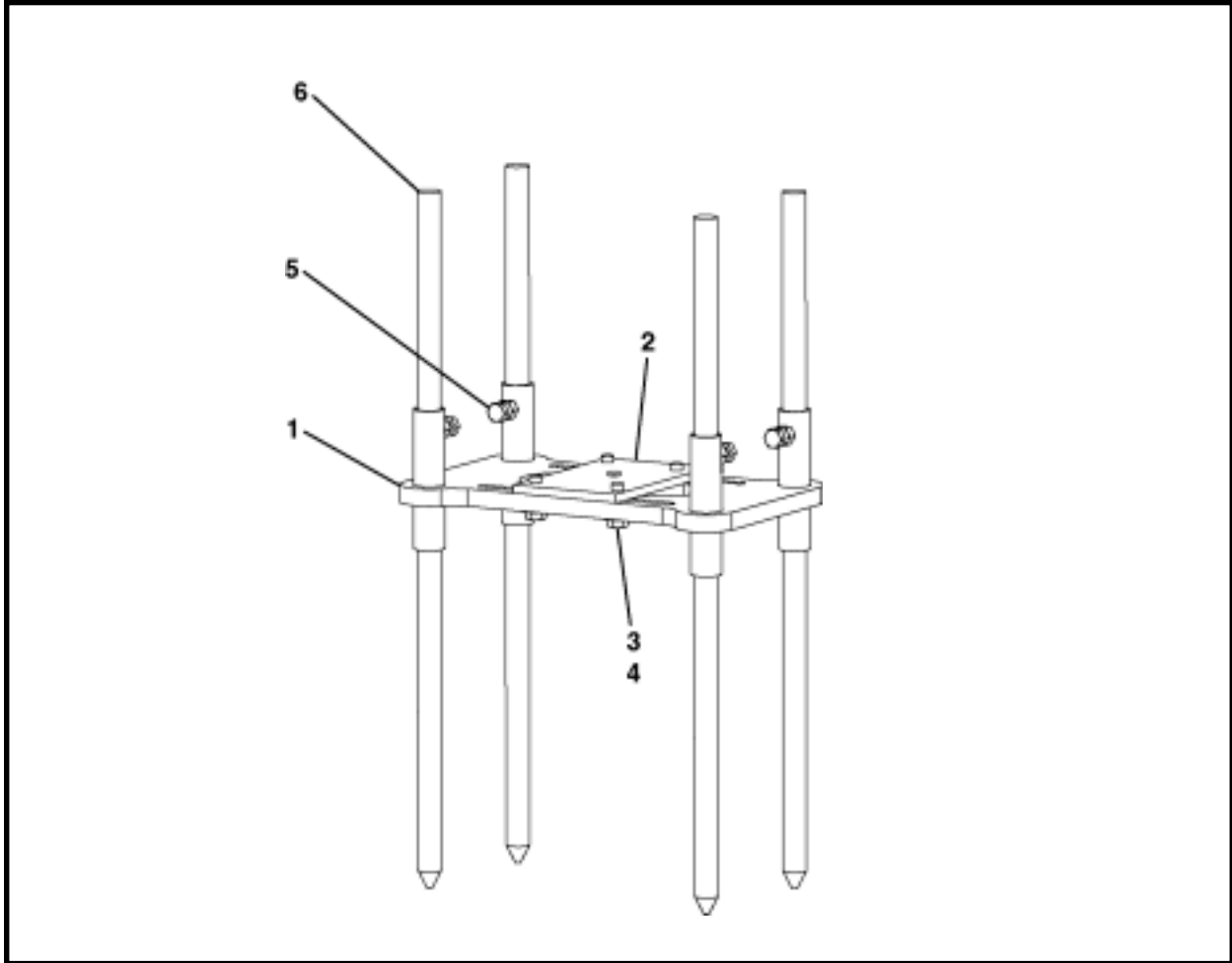
\* Contact your Akkerman Product Support Representative prior to any target part replacement.

\*\* Not included in Target Assembly, A40150A.

NSS - Not Sold Separately

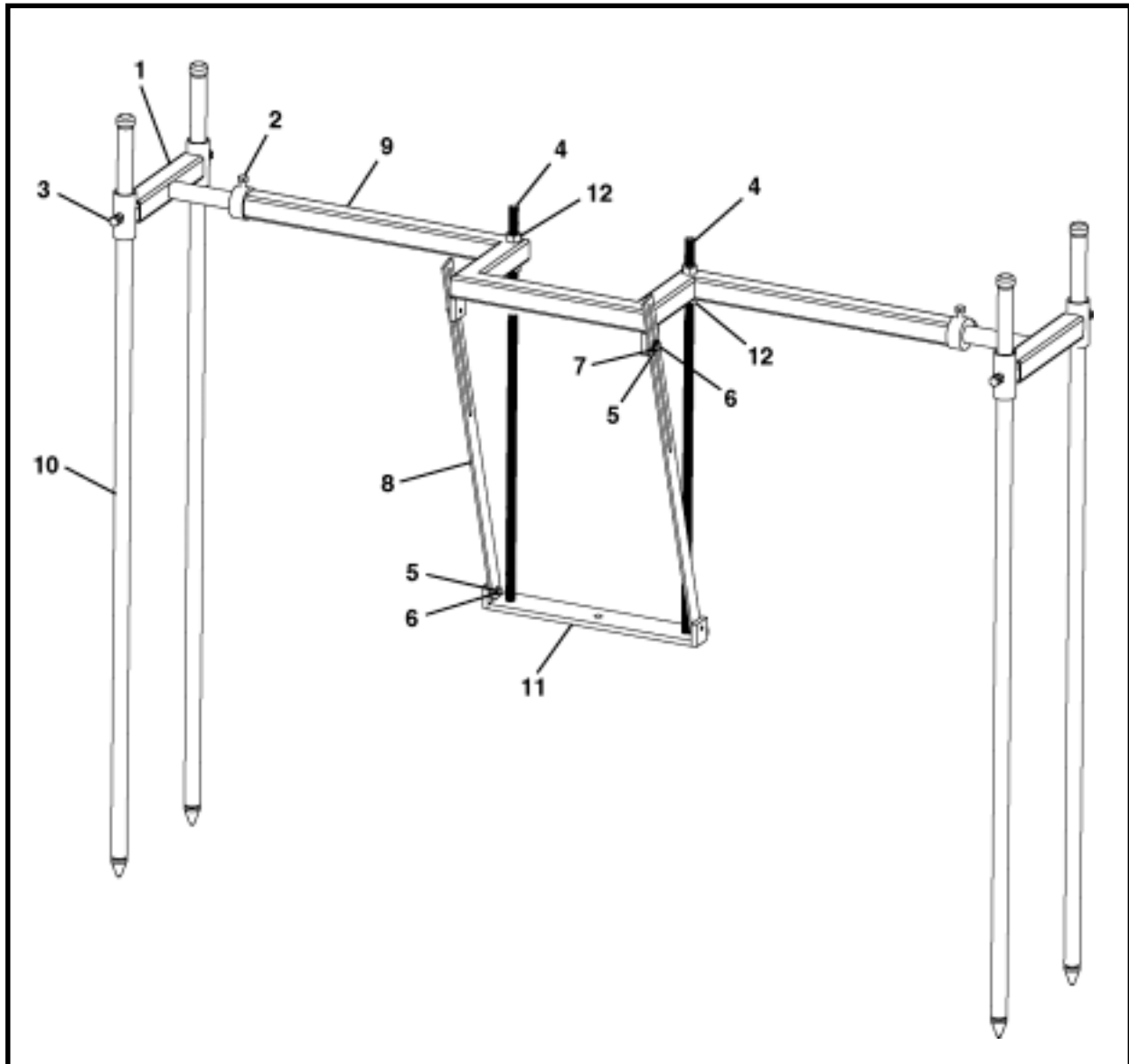
## **NOTES**

**THEODOLITE SHAFT STAND - LATCHING FRAME, A40051F  
GUIDANCE SYSTEM**



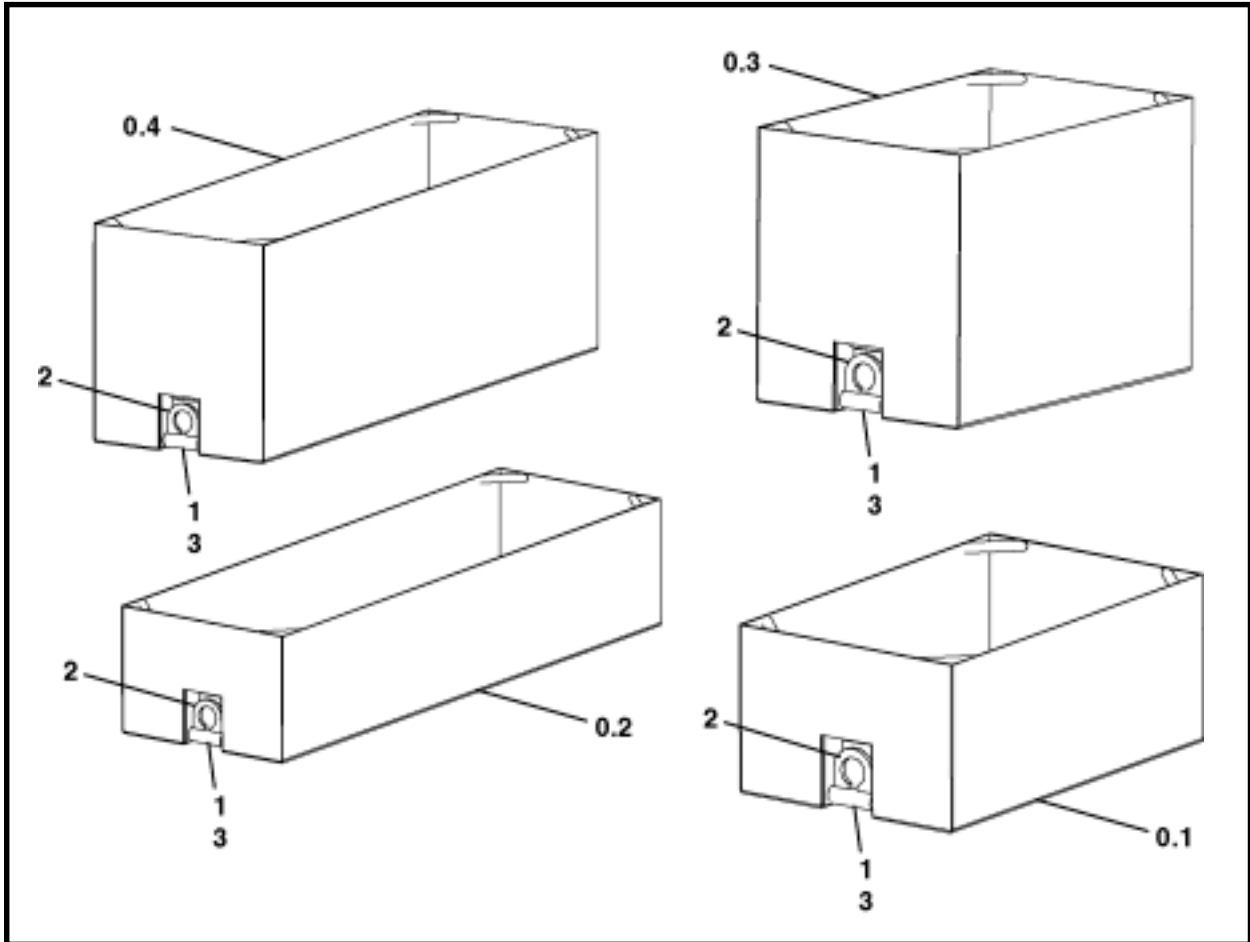
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40051F	THEODOLITE SHAFT STAND
1	1	A40117A	WELDMENT, Mounting Base
2	1	A40467P	PLATE, Vertical Lift Mounting
3	4	P0001-08-006	BOLT, 1/2 UNC x 1.5
4	4	P0040-008	WASHER, Flat 1/2
5	4	P0001-08-004	BOLT, 1/2 UNC x 1
6	4	A40468P	STAKE

**THEODOLITE STAND ASSEMBLY - SINGLE STAGE FRAME, A42220A  
GUIDANCE SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42220A	THEODOLITE STAND ASSEMBLY - SINGLE STAGE FRAME
1	2	A42222A	WELD, Stand End
2	4	P0001-08-005	BOLT, 1/2-13 x 1.25
3	4	P0001-08-004	BOLT 1/2-13 x 1
4	2	A42232P	ADJUSTMENT, Threaded
5	4	P0045-006	WASHER, Lock 3/8
6	4	P0001-06-003	BOLT, 3/8-16 x .75
7	2	P0040-006	WASHER, Flat 3/8
8	2	A42234P	STIFFENER, Theodolite Pad
9	1	A42221A	WELD, Stand- Center
10	4	A42235A	WELD, Medium Stake
11	1	A42233A	WELD, Theodolite Pad
12	4	P0003-12	NUT, 3/4

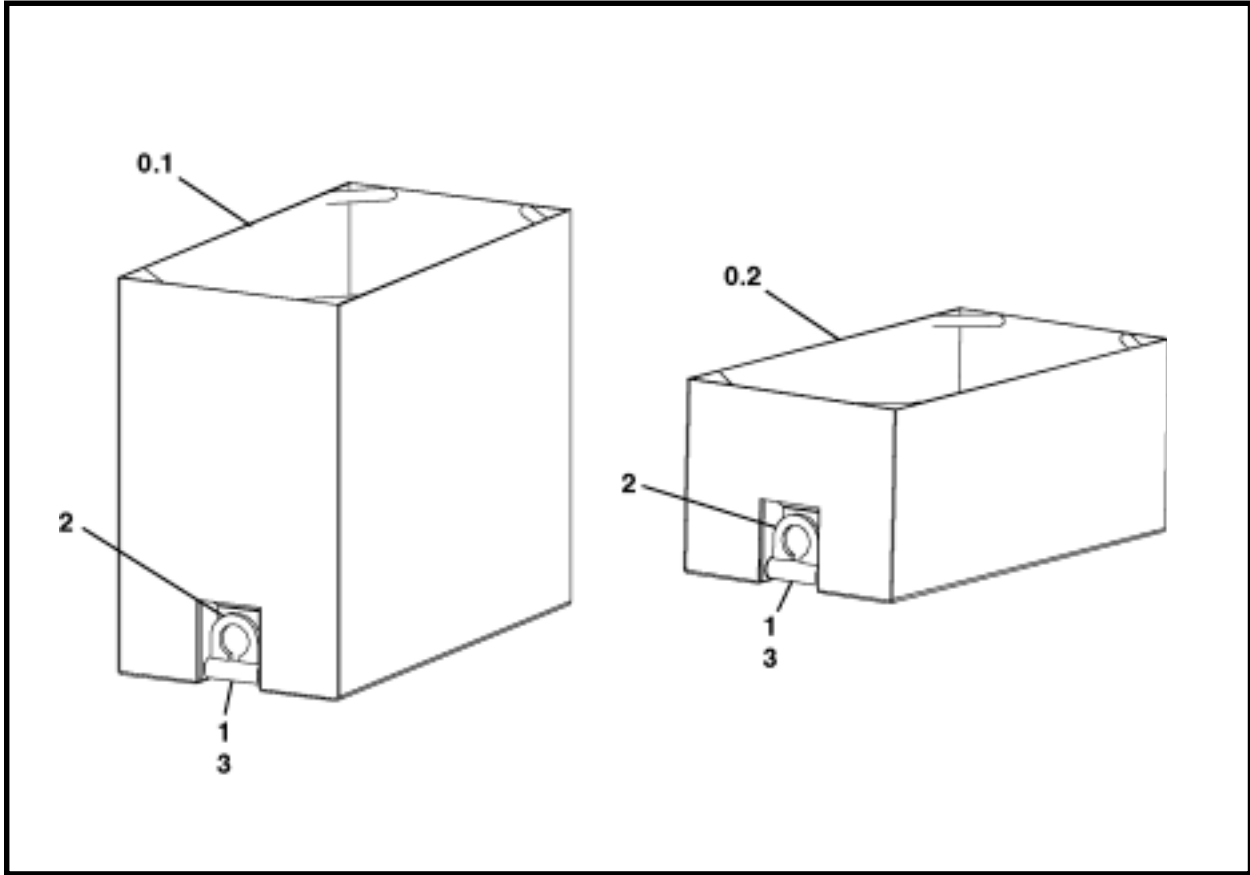
## DIRT BUCKETS LATCHING FRAME



ITEM	QTY	PART NO.	DESCRIPTION	Height	Width	Length
0.1	1	A40223F	DIRT BUCKET (9.207 Cu-Ft)	16.5"	25"	40"
0.2*	1	A40224F	DIRT BUCKET (18.4 Cu-Ft)	16.5"	25"	80"
0.3	1	A40225F	DIRT BUCKET (15.7 Cu-Ft)	28"	25"	40"
0.4*	1	A40226F	DIRT BUCKET (32 Cu-Ft)	28"	25"	80"
1	2	A40524P	PIN, Lifting Eye			
2	2	003529P02	LIFTING EYE			
3	2	010291P00	BUSHING			

\* The 80" long dirt bucket, can only be used with the 40" or 80" frame extensions.

**DIRT BUCKETS  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION	Height	Width	Length
0.1	1	A40207F	DIRT BUCKET (16 Cu-Ft)	34"	21"	40"
0.2	1	A40208F	DIRT BUCKET (8 Cu-Ft)	16.5"	21"	40"
1	2	A40524P	PIN, Lifting Eye			
2	2	003529P02	LIFTING EYE			
3	2	010291P00	BUSHING			

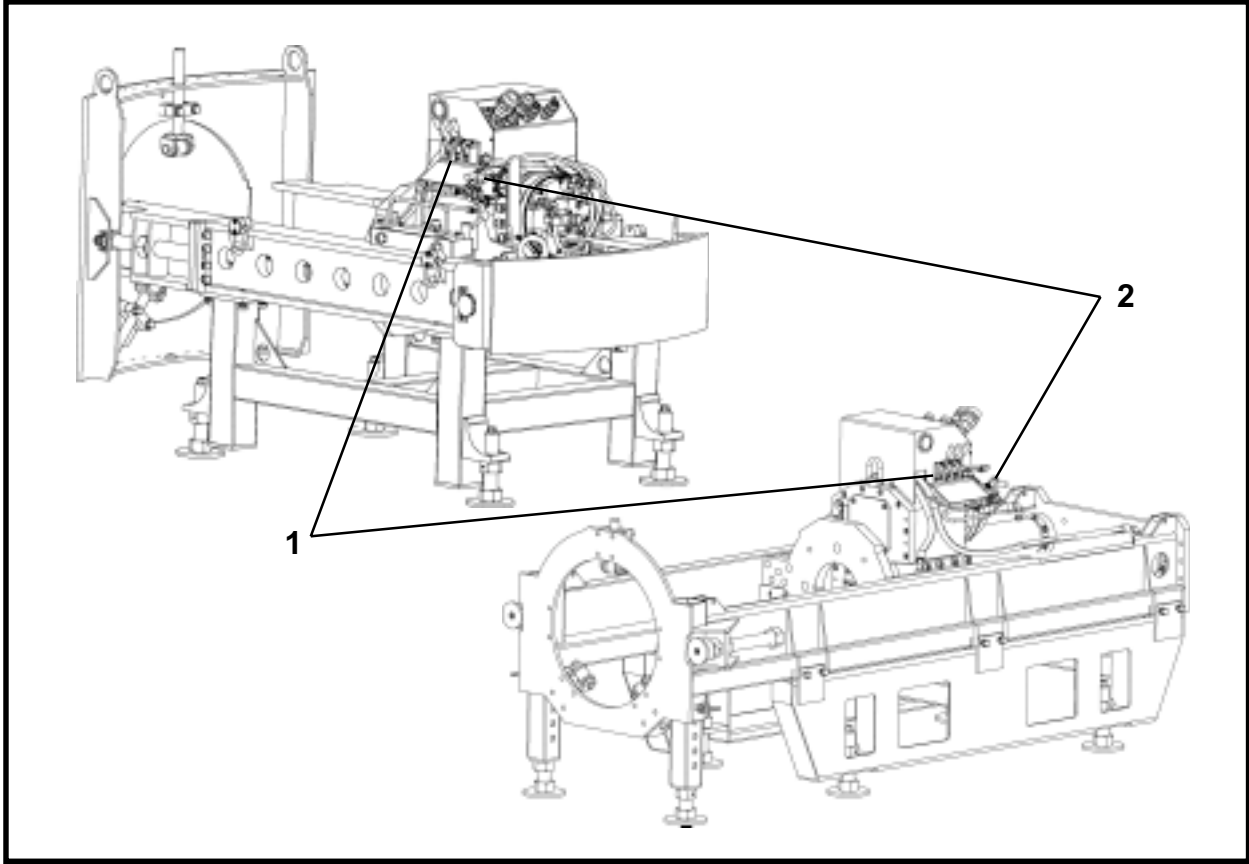
## **NOTES**



# Operator Controls

GBM Frame	
Latching Frame .....	1
Single Stage Frame .....	1
Power Pack	
Power Pack P75 .....	2
Remote Instrument Panel .....	3

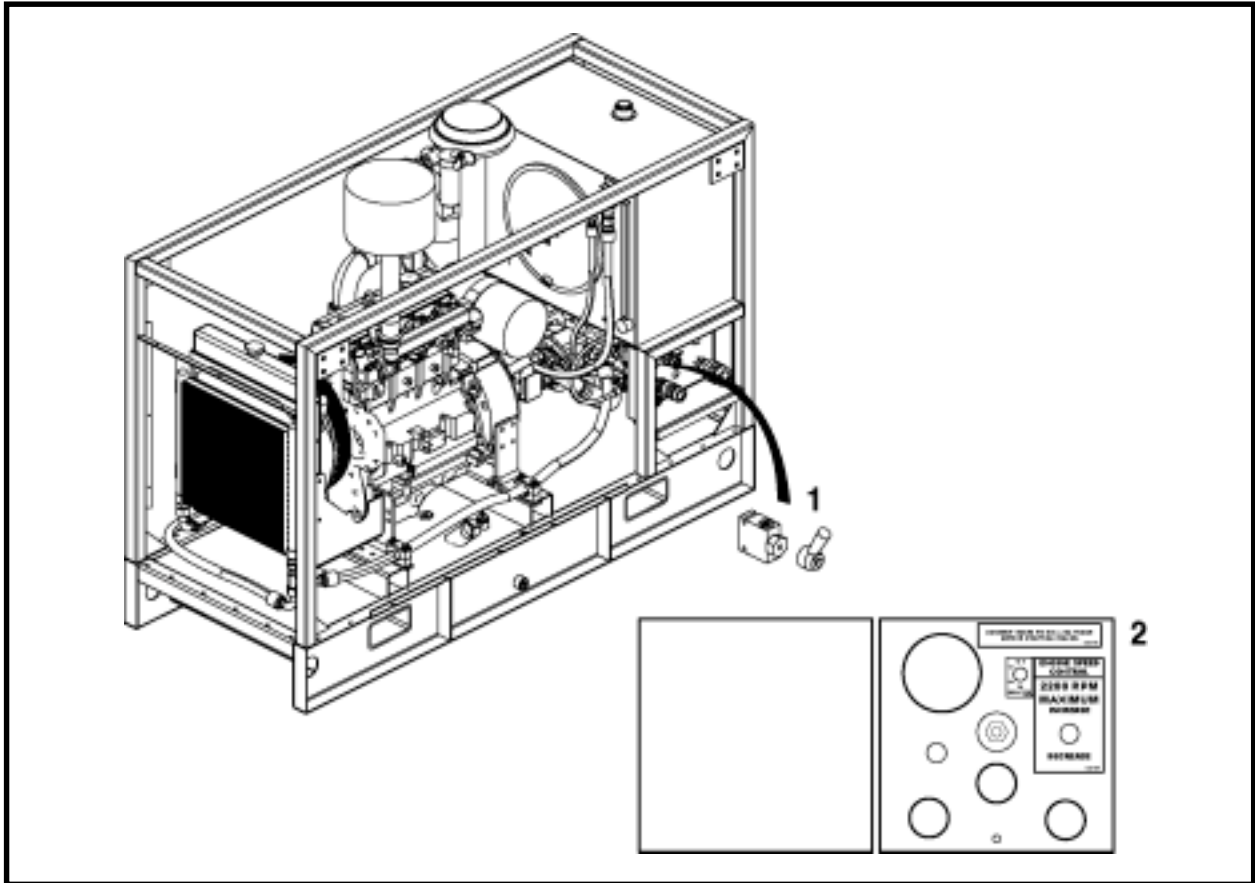
**LATCHING & SINGLE STAGE FRAME CONTROLS  
GBM FRAMES**



ITEM	QTY	PART NO.	DESCRIPTION
1*	1	P0302-383	VALVE, 3 Section Control
2*	1	P0302-410	VALVE, Pressure Reducing w/Steel Body

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

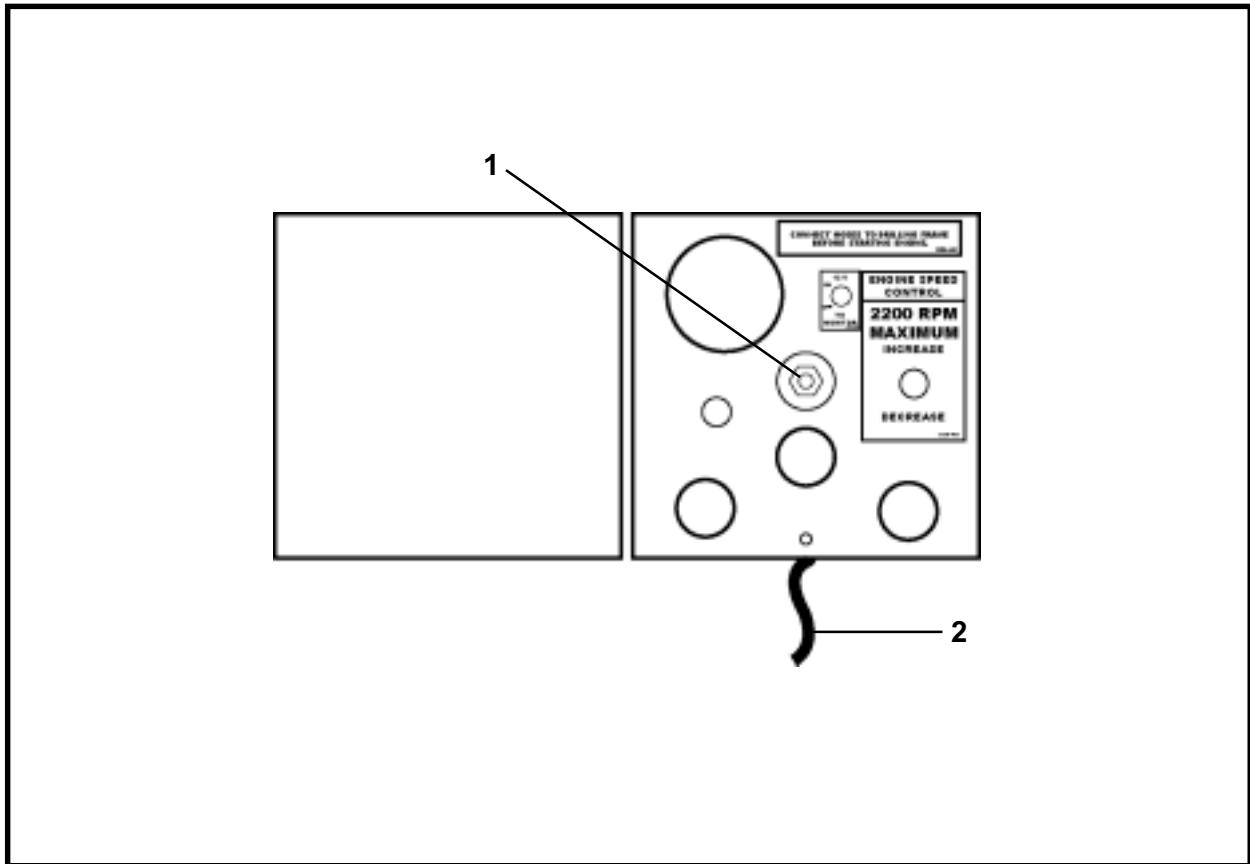
**POWER PACK P75 CONTROLS**  
**POWER PACK P75**



ITEM	QTY	PART NO.	DESCRIPTION
1	1	P0302-401	SELECTOR, Rotary w/Steel Body (Includes Item 1a)
1a	1	P0302-401A	HANDLE
2*	1	P0125-117F	REMOTE INSTRUMENT PANEL with 50' Cord

\* Refer to this section for parts breakdown.

**REMOTE INSTRUMENT PANEL CONTROLS, P0125-117F  
POWER PACK P75**



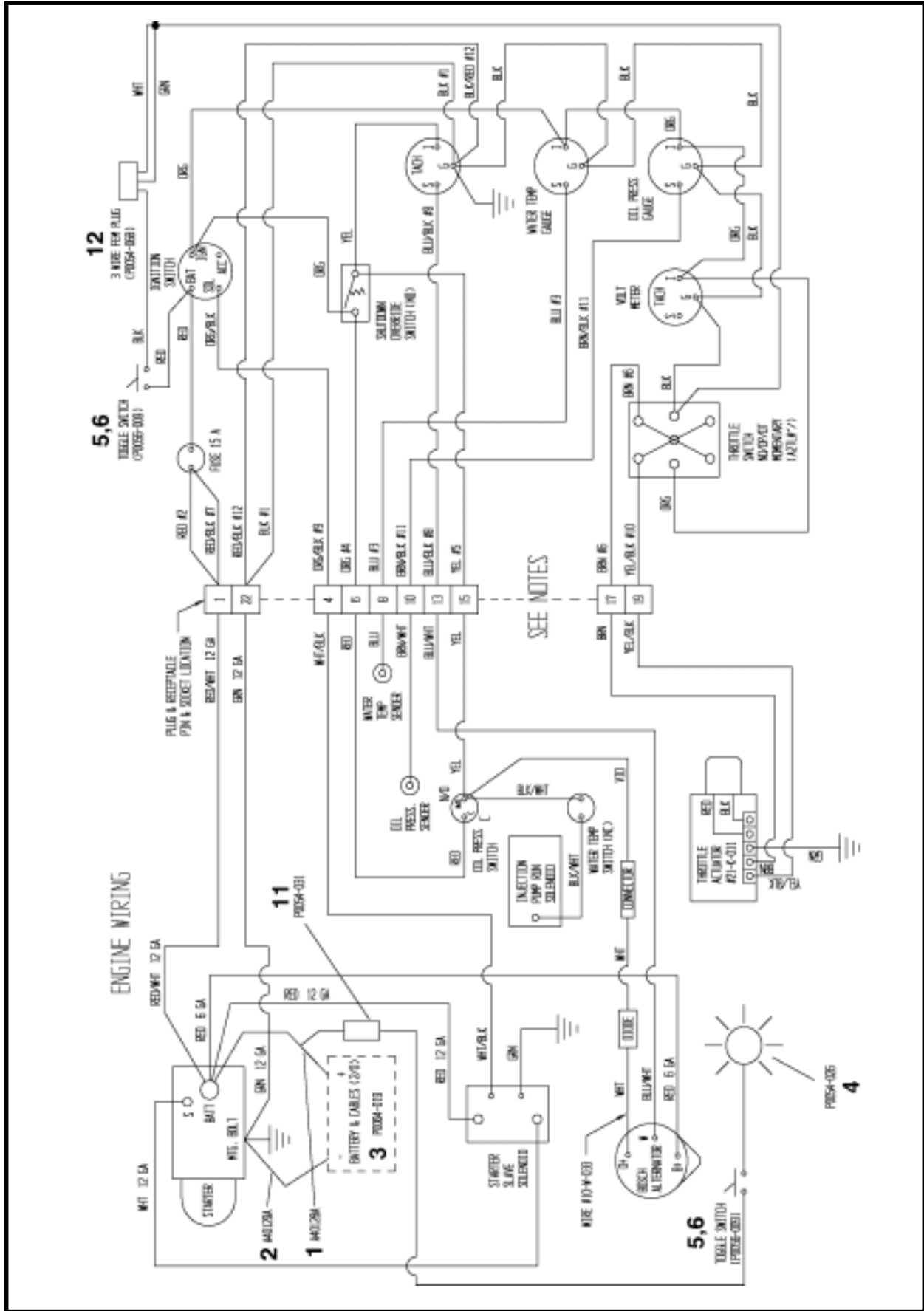
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0125-117F	REMOTE INSTRUMENT PANEL With 50' Cord
1	1	P0125-117J	SWITCH, Hold To Start
2	1	P0125-117P	HARNISS (50' Cord)



# Electrical

Power Pack	
Electrical Schematic P75, A40127A .....	1
Guidance System	
Monitor Box Assembly, A42002A .....	3

POWER PACK P75 ELECTRICAL SCHEMATIC, A40127A



## POWER PACK P75 ELECTRICAL SCHEMATIC, A40127A

ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40127A	ELECTRICAL SCHEMATIC
1	1	A40128A	ASSEMBLY, Positive Cable
2	1	A40129A	ASSEMBLY, Negative Cable
3	1	P0064-019	BATTERY, 12 VDC
4	1	P0053-026	LIGHT, Halogen Flood
5	2	P0056-009	SWITCH, Toggle
6	2	P0056-010	BOOT, Toggle Switch
7	1	P0054-008	WIRE
8	2	P0055-011	TERMINAL
9	1	P0055-100A	TERMINAL
10	1	P0055-101A	TERMINAL
11	1	P0054-031	HOLDER, 10 AMP Fuse
12	1	P0054-068	PLUG, 3 Wire Female



**MONITOR BOX ASSEMBLY, A42002A  
GUIDANCE SYSTEM**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42002A	ASSEMBLY, Monitor Box
1	1	P0250-114	MONITOR, Flat Panel
2	1	P0251-130	CARD, Camera Link Interface
3	1	A42007A	HARNESS, Button
4	1	P0250-116	PROCESSOR
5	1	P0054-418	CABLE, Camera
6	1	P0250-123	CARD, Memory
7	1	P0054-071	RECEPTICAL
8	1	P0054-340	CONNECTOR
9	1	P0310-558	KNOB
10	1	P0310-756	POTENTIOMETER
11	1	P0310-840	POWER SUPPLY
12	1	P0056-009	SWITCH, Toggle
13	1	P0056-010	BOOT, Switch Toggle
14	1	P0054-069	RECEPTICAL
15	1	P0310-848	POWER SUPPLY
16	8	P0310-578	FUSE
17	1	A42004P	BOX
18	20	P0310-713	FUSE Holder
19	1	A42008P	BLOCK, Fuse Mounting
20	1	P0310-432	STRIP, Position Barrier
21	1	P0310-433	STRIP, Position Jumper
22	2	P0310-582	FUSE
23	3	P0310-871	RESISTOR
24	1	P0250-116E	CABLE, Power
25*	1	A42019A	SET, Decal
26*	4	P0001-04-003	BOLT, 1/4-20 UNC x .75
27*	4	P0045-004	WASHER, Lock 1/4
28*	4	P0003-04	NUT, 1/4
29*	1	A42025A	ASSEMBLY, Monitor Cover
29a*	2	P0122-007	TAPE, Velcro
30*	1	A42018P	BRACKET, Mounting
31*	1	A42029A	ASSEMBLY, Monitor Top Mount
32	8	P0122-007	TAPE, Velcro
33*	10	P0055-145B	BASE, Mounting
34*	1	P0027B-12MM	STAND-OFF, 5mm hex x 12mm
35	1	P0250-138	SOFTWARE
36	1	P0250-116D	CABLE
37	1	P0250-116C	CABLE

\* Not Shown

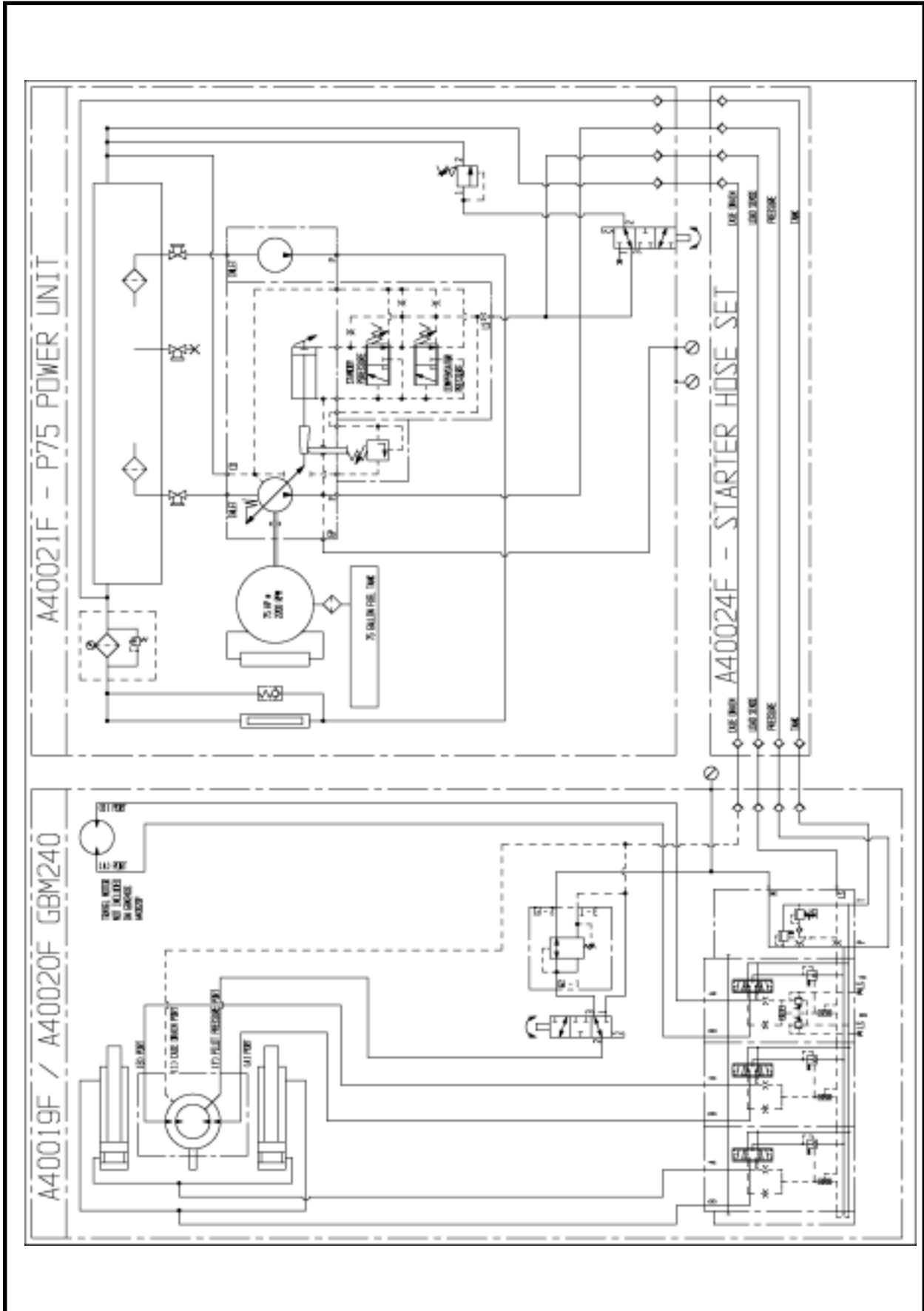
**NOTES**



# Hydraulics

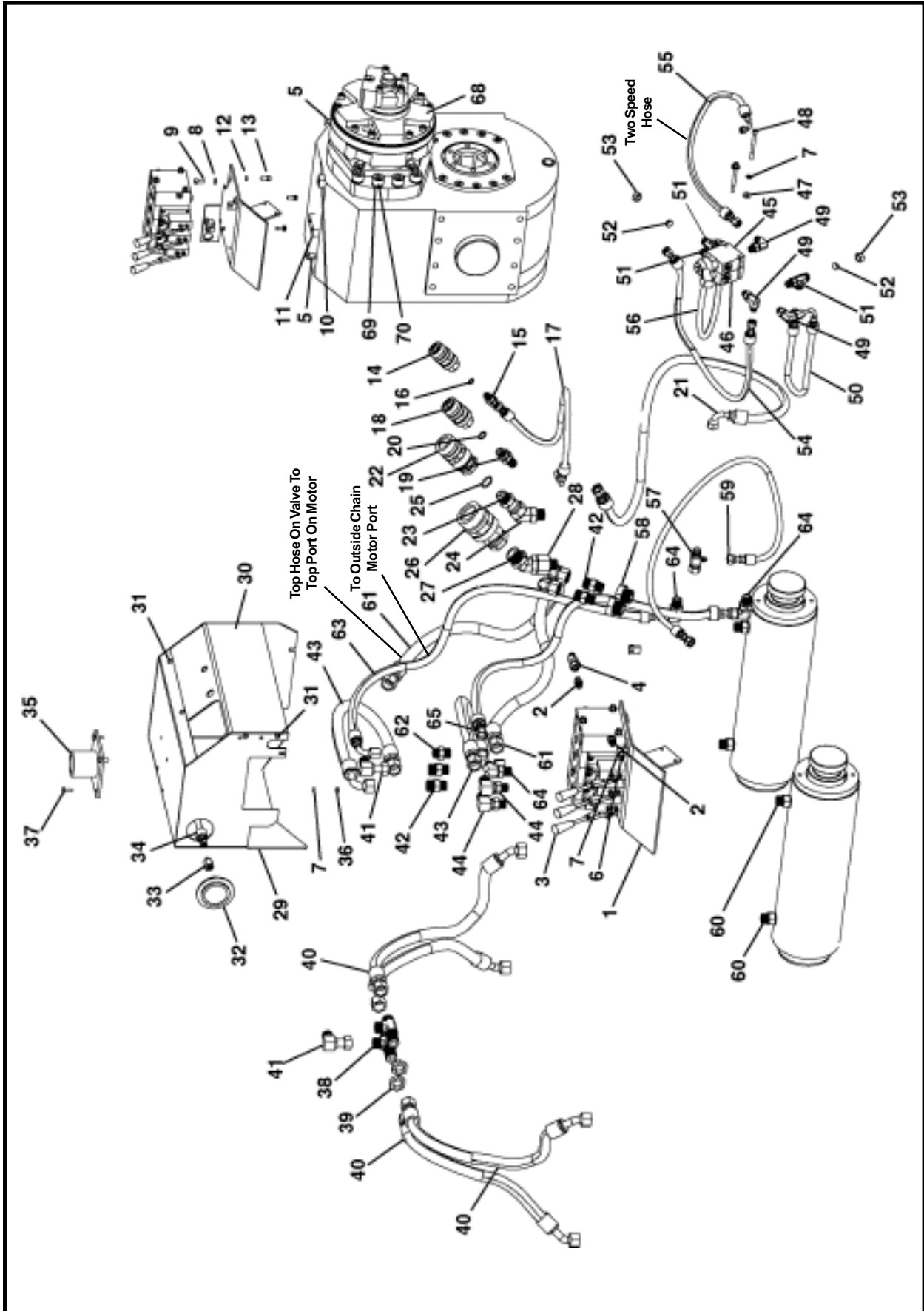
GBM Hydraulic Schematic, A40122A.....	1
GBM Frame	
Latching Frame	
Hydraulic Assembly, A40119A .....	3
Single Stage Frame	
Hydraulic Assembly, A40120A .....	7
Power Pack	
Fluid Connection Assembly (SN A40021A-16 & Before), A40121A .....	11
Fluid Connection Assembly (SN A40021A-17 & After), A40121A .....	15
Starter Hose Set, A40024F .....	19
Pilot Tube Breakout Tool - Reception Shaft	
Hydraulic Plumbing - Breakout Tool .....	20

HYDRAULIC SCHEMATIC, A40122A  
GBM SYSTEM



## **NOTES**

# HYDRAULIC ASSEMBLY, A40119A LATCHING FRAME



**HYDRAULIC ASSEMBLY, A40119A  
LATCHING FRAME**

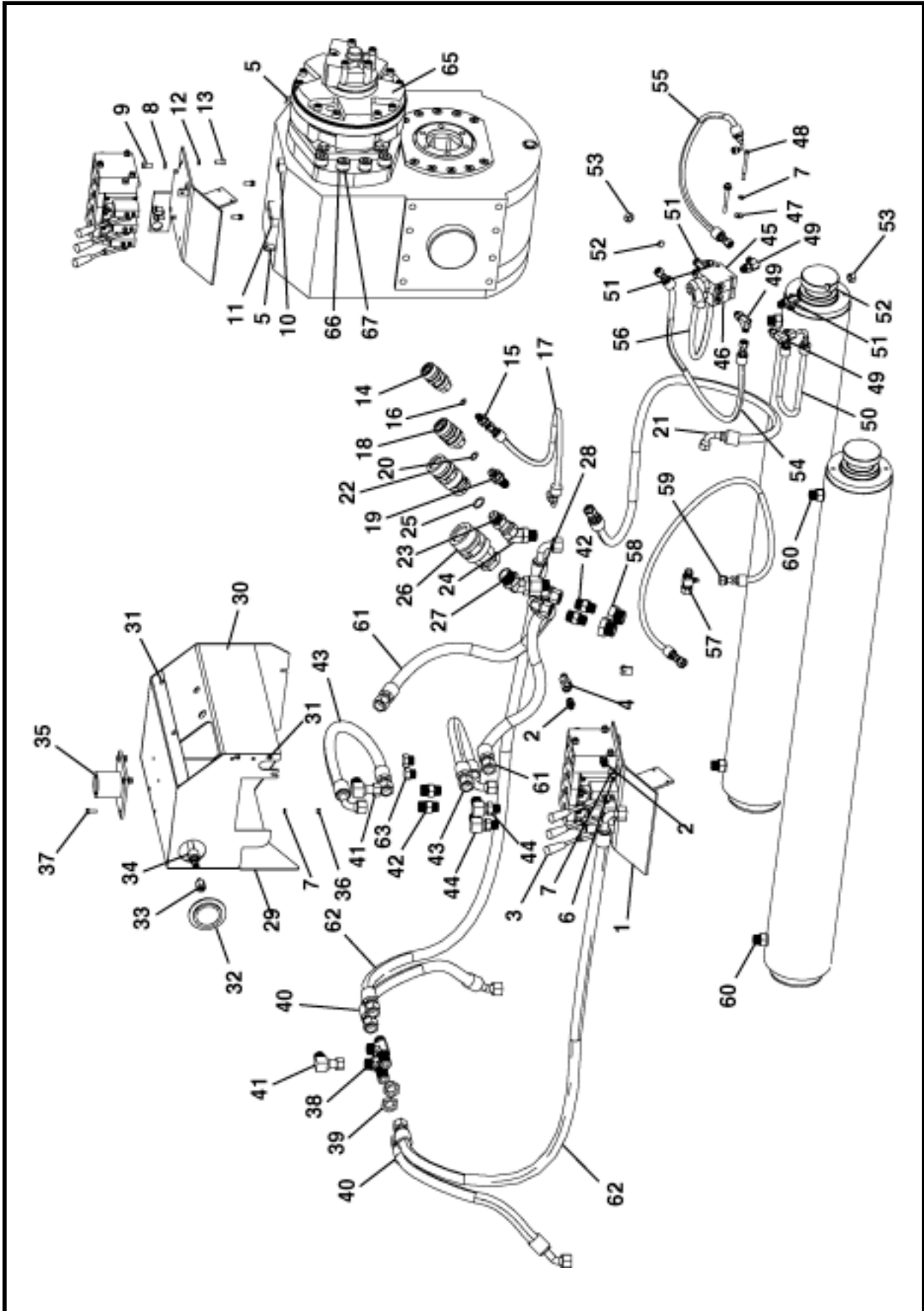
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40119A	HYDRAULIC ASSEMBLY
1	1	A40750A	ASSEMBLY, Valve Mounting Plate
2	2	P0300-314	FITTING
3	1	P0302-383	VALVE, 3 Section Control
4	1	P0300-312	FITTING
5	2	A40755P	COVER MOUNTING TAB
6	3	P0001-04-002	BOLT, 1/4-20 UNC x .5
7	5	P0045-004	WASHER, Lock 1/4
8	3	P0045-006	WASHER, Lock 3/8
9	3	P0001-06-003	BOLT, 3/8-16 UNC x .75
10	1	A40756P	PLATE MOUNT, Small
11	1	A40757P	PLATE MOUNT, Large
12	6	P0045-005	WASHER, Lock Hi-Collar 5/16
13	6	P0031-05-003	SCREW, Socket Head Cap 5/16-18 UNC x .75
14	1	P0100-040	COUPLER 3/8
15	1	P0300-331	FITTING
16	1	P0300-333	ORING
17	1	A10325A-030	ASSEMBLY, Hose 1/4
18	1	P0100-038	COUPLER 1/2
19	1	P0300-325	FITTING
20	1	P0300-332	ORING
21	1	A10344A-024	ASSEMBLY, Hose 1/2
22	1	P0100-036	COUPLER, Quick
23	1	P0300-360	FITTING
24	1	P0300-359	FITTING
25	1	P0300-324	ORING
26	1	P0100-034	COUPLER, Quick
27	1	P0300-323	FITTING
28	1	P0300-306	FITTING
29	1	A40733P	COVER, Valve
30	1	A40730A	COVER, Front Panel
31	6	P0031-04-002	SCREW, Socket Head Cap 1/4-20 UNC x .5
32	1	P0301-140	GAUGE, 5000 PSI
33	1	P0300-268	CONNECTOR
34	1	A10316A-030	ASSEMBLY, Hose 1/4
35	1	A42030A	MOUNT, Bottom, Monitor Assembly
36	4	P0003-04	NUT, 1/4
37	4	P0001-04-003	BOLT, 1/4-20 UNC x .75
38	2	P0300-387	TEE
39	2	P0300-388	NUT #10
40	4	A10333A-023.5	HOSE ASSEMBLY
41	2	P0300-389	FITTING, 90 Degree
42	4	P0300-385	FITTING, Straight
43	2	A10334A-025	ASSEMBLY, Hose 1/2
44	2	P0300-383	FITTING, 90 Degree
45	1	P0302-401	SELECTOR, Rotary w/Steel Body
46	1	P0302-410	VALVE, Pressure Reducing w/Steel Body
47	2	P0040-004	WASHER, Flat 1/4
48	2	P0031-04-012	SCREW, Socket Head Cap 1/4- 20 UNC x 3
49	3	P0300-311	FITTING, 90 Degree



**HYDRAULIC ASSEMBLY, A40119A  
LATCHING FRAME**

ITEM	QTY	PART NO.	DESCRIPTION
50	1	A10338A-018	HOSE ASSEMBLY
51	3	P0300-386	FITTING
52	2	P0300-390	INSERT
53	2	P0300-391	NUT #6
54	1	A10326A-027	ASSEMBLY, Hose 1/4
55	1	A10319A-025	ASSEMBLY, Hose 1/4
56	1	A10327A-013	ASSEMBLY, Hose 1/4
57	1	P0300-335	FITTING
58	2	P0300-396	FITTING
59	1	A10307A-025	HOSE ASSEMBLY
60	4	A40760P	FITTING, 90 Degree
61	2	A10334A-030	ASSEMBLY, Hose 1/2
62	1	P0300-300	8MFS X 10 M ORB 1
63	1	A10309A-048	HOSE ASSEMBLY, 3/8
64	3	P0300-302	FITTING, 90 Degree
65	1	A10308A-048	ASSEMBLY, Hose 3/8
66	2	002269P01	CLAMP, Line
67	2	A40765P	BAR, HOSE CLAMP
68	1	P0304-160	MOTOR, Drive
69	8	P0046-014	WASHER, High Collar Lock
70	8	P0031-14-010	SCREW, Socket Head Cap 7/8 UNC x 2.5

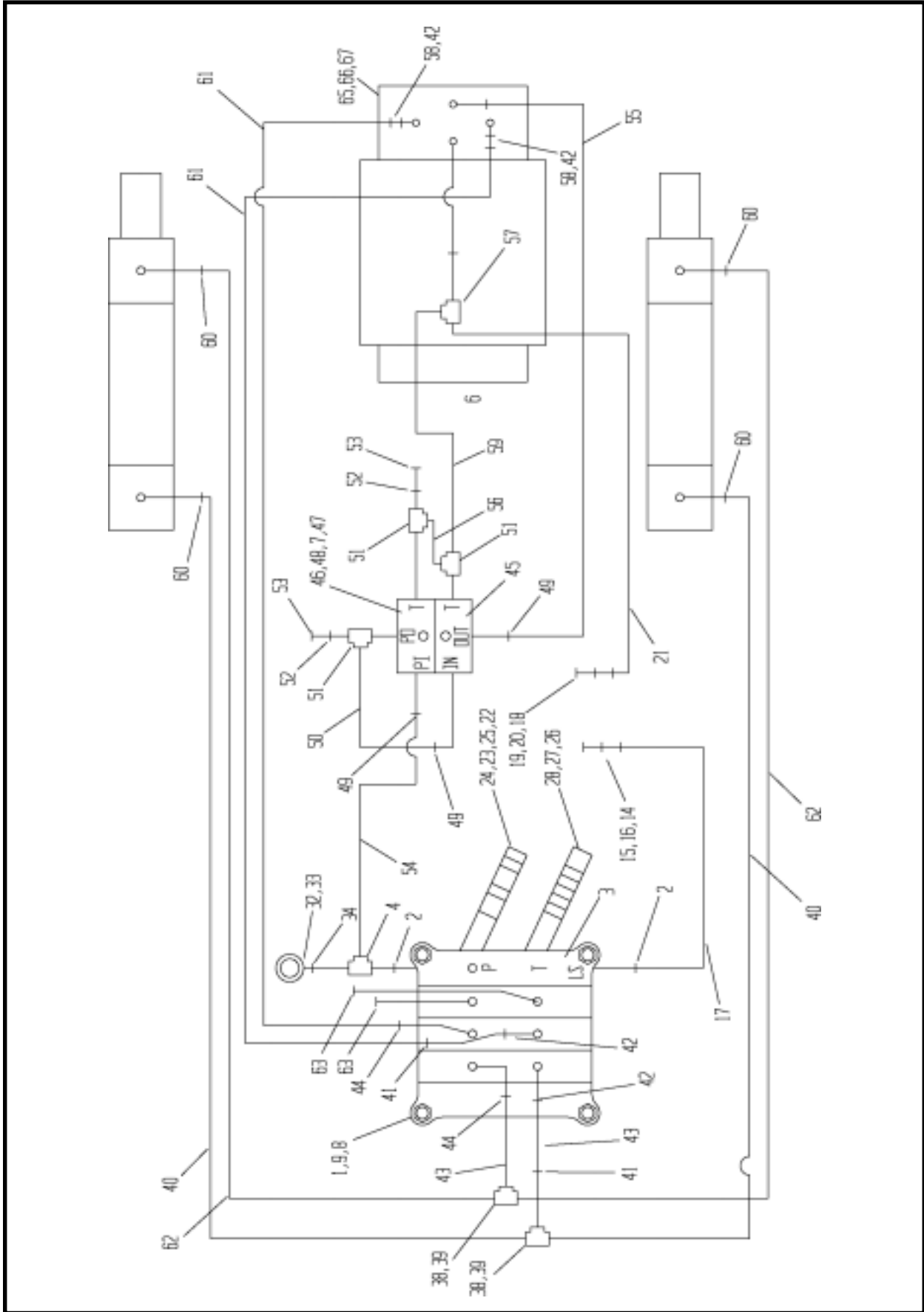
HYDRAULIC ASSEMBLY, A40120A  
SINGLE STAGE FRAME



**HYDRAULIC ASSEMBLY, A40120A  
SINGLE STAGE FRAME**

ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40120A	HYDRAULIC ASSEMBLY
1	1	A40750A	ASSEMBLY, Valve Mounting Plate
2	2	P0300-314	FITTING
3	1	P0302-383	VALVE, 3 Section Control
4	1	P0300-312	FITTING
5	2	A40755P	COVER MOUNTING TAB
6	5	P0001-04-002	BOLT, 1/4-20 UNC x .5
7	11	P0045-004	WASHER, Lock 1/4
8	3	P0045-006	WASHER, Lock 3/8
9	3	P0001-06-003	BOLT, 3/8-16 UNC x .75
10	1	A40756P	PLATE MOUNT, Small
11	1	A40757P	PLATE MOUNT, Large
12	4	P0045-005	WASHER, Lock Hi-Collar 5/16
13	4	P0031-05-003	SCREW, Socket Head Cap 5/16-18 UNC SHCS x .75
14	1	P0100-040	COUPLER 3/8
15	1	P0300-331	FITTING
16	1	P0300-333	ORING
17	1	A10325A-030	ASSEMBLY, Hose 1/4
18	1	P0100-038	COUPLER 1/2
19	1	P0300-325	FITTING
20	1	P0300-332	ORING
21	1	A10344A-024	ASSEMBLY, Hose 1/2
22	1	P0100-036	COUPLER, Quick
23	1	P0300-360	FITTING
24	1	P0300-359	FITTING
25	1	P0300-324	ORING
26	1	P0100-034	COUPLER, Quick
27	1	P0300-323	FITTING
28	1	P0300-306	FITTING
29	1	A40733P	COVER, Valve
30	1	A40730A	COVER, Front Panel
31	6	P0031-04-002	SCREW, Socket Head Cap 1/4-20 UNC x .5
32	1	P0301-140	GAUGE, 5000 PSI
33	1	P0300-268	CONNECTOR
34	1	A10316A-030	ASSEMBLY, Hose 1/4
35	1	A42030A	MOUNT, Bottom, Monitor Assembly
36	4	P0003-04	NUT, 1/4
37	4	P0001-04-003	BOLT 1/4-20 UNC x .75
38	2	P0300-387	TEE
39	2	P0300-388	NUT #10
40	2	A10333A-023.5	ASSEMBLY, Hose
41	2	P0300-389	FITTING, 90 Degree
42	4	P0300-385	FITTING, Straight
43	2	A10334A-025	ASSEMBLY, Hose 1/2
44	2	P0300-383	FITTING, 90 Degree
45	1	P0302-401	SELECTOR, Rotary w/Steel Body
46	1	P0302-410	VALVE, Pressure Reducing w/Steel Body
47	4	P0040-004	WASHER, Flat 1/4
48	2	P0031-04-012	SCREW, Socket Head Cap 1/4- 20 UNC x 3
49	3	P0300-311	FITTING, 90 Degree

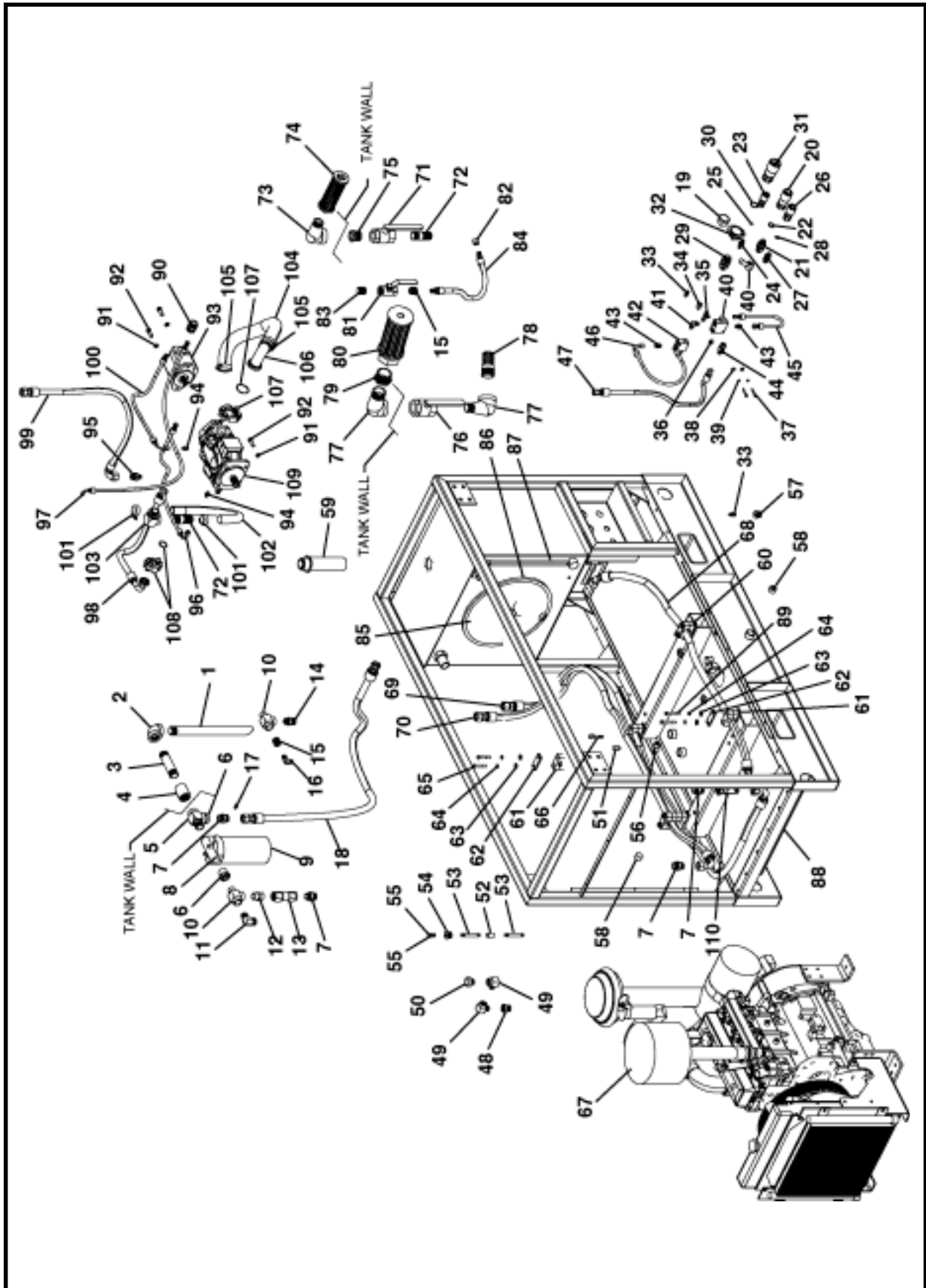
# HYDRAULIC ASSEMBLY, A40120A SINGLE STAGE FRAME



**HYDRAULIC ASSEMBLY, A40120A**  
**SINGLE STAGE FRAME**

ITEM	QTY	PART NO.	DESCRIPTION
50	1	A10338A-018	ASSEMBLY, Hose 1/4
51	3	P0300-386	FITTING
52	2	P0300-390	INSERT
53	2	P0300-391	NUT #6
54	1	A10326A-027	ASSEMBLY, Hose 1/4
55	1	A10319A-025	ASSEMBLY, Hose 1/4
56	1	A10327A-013	ASSEMBLY, Hose 1/4
57	1	P0300-335	FITTING
58	2	P0300-396	FITTING
59	1	A10307A-025	ASSEMBLY, Hose 1/4
60	4	A40760P	FITTING
61	2	A10334A-030	ASSEMBLY, Hose 1/2
62	2	A10334A-062.5	ASSEMBLY, Hose 1/2
63	2	P0300-060	PLUG
64	2	P0055-130	CLAMP
65	1	P0304-160	MOTOR, Drive
66	8	P0046-014	WASHER, High Collar Lock 7/8
67	8	P0031-14-010	SCREW, Socket Head Cap 7/8 UNC x 2.5

**FLUID CONNECTION ASSEMBLY, A40121A**  
**POWER PACK P75**  
**(SN 40021-16 & BEFORE)**



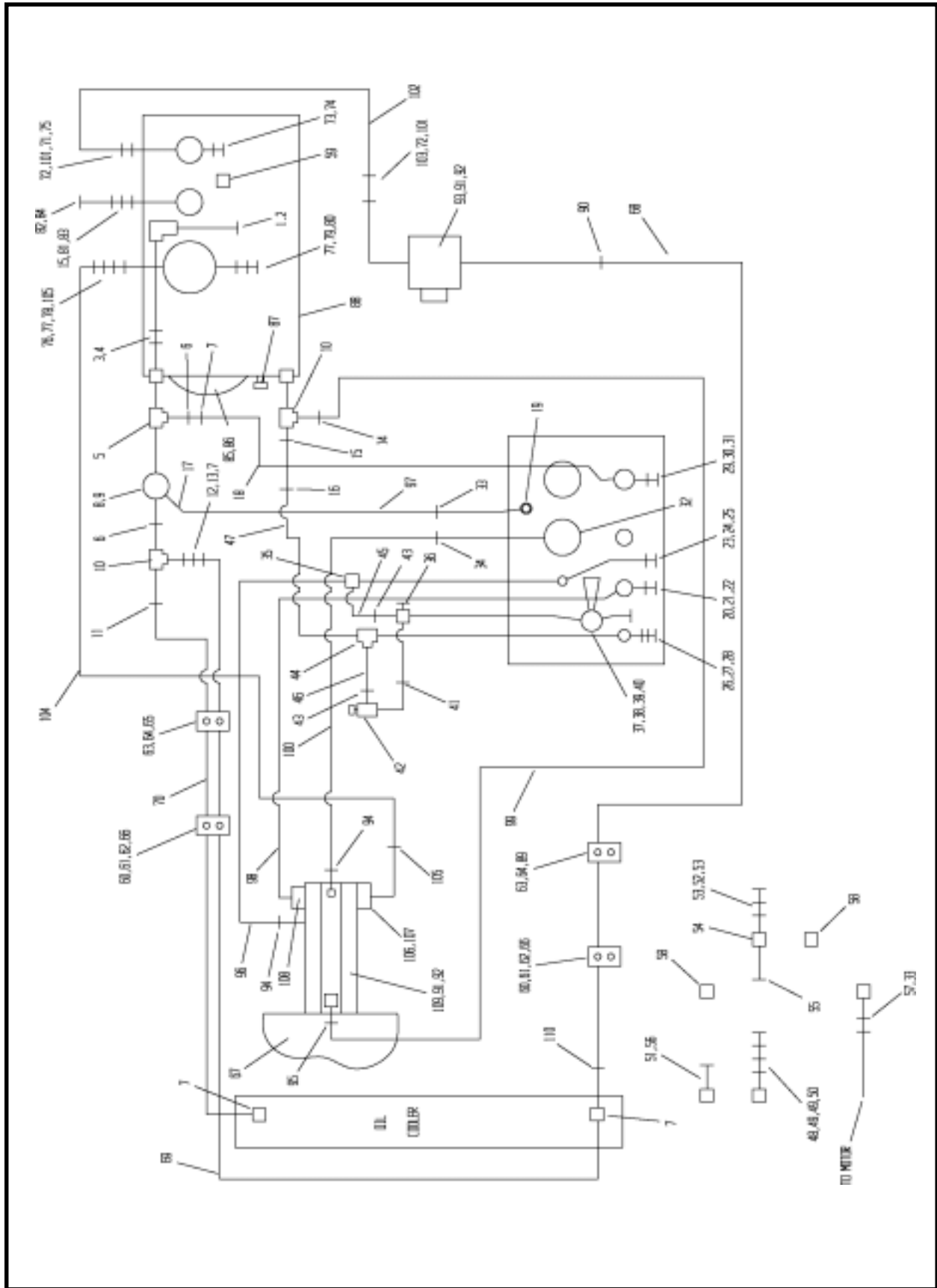
## FLUID CONNECTION ASSEMBLY, A40121A

### POWER PACK P75

(SN A40021-16 & BEFORE)

ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40121A	ASSEMBLY, Connection
1	1	A40718P	PIPE
2	1	P0411-006A	ELBOW, 90 Degree
3	1	P0408-008	NIPPLE
4	1	P0400-006	COUPLING, Pipe
5	1	P0300-336	FITTING
6	2	P0300-001	REDUCER
7	4	P0300-327	FITTING
8	1	P0309-144A	MANIFOLD, Filter
9	1	P0309-172	ELEMENT, Filter
10	2	P0300-076	TEE
11	1	P0300-353	FITTING
12	1	P0300-013	NIPPLE
13	1	P0302-346	VALVE, Check
14	1	P0300-339	FITTING
15	2	P0300-078	REDUCER
16	1	P0300-340	FITTING, 90 Degree
17	1	P0300-363	FITTING
18	1	A10341A-048	ASSEMBLY, Hose 1
19	1	P0301-105	FILTER INDICATOR GAUGE
20	1	P0100-037	QUICK COUPLER, Male
21	1	P0300-330	FITTING
22	1	P0300-324	ORING #12
23	1	P0100-041	COUPLER
24	1	P0300-331	FITTING
25	1	P0300-333	ORING #6
26	1	P0100-039	COUPLER
27	1	P0300-325	FITTING
28	1	P0300-332	ORING #8
29	1	P0300-308	FITTING
30	1	P0300-309	ORING #16
31	1	P0100-035	QUICK COUPLER, Male
32	1	P0301-109	GAUGE, Pressure 5000 PSI
33	2	P0300-249	FITTING
34	1	P0300-268	FITTING
35	1	P0300-354	FITTING
36	1	P0300-027	PLUG
37	2	P0001-04-007	BOLT, 1/4-20 UNC X 1.75
38	2	P0040-004	WASHER, Flat 1/4
39	2	P0045-004	WASHER, Lock 1/4
40	1	P0302-401	SELECTOR, Rotary w/Steel Body
41	1	P0300-338	FITTING, 90 Degree
42	1	P0302-402	VALVE, Relief
43	2	P0300-310	FITTING
44	1	P0300-335	FITTING
45	1	A10315A-024	ASSEMBLY, Hose 1/4
46	1	A10318A-013	ASSEMBLY, Hose 1/4
47	1	A10329A-055	ASSEMBLY, Hose 1/2
48	1	P0300-133	REDUCER 1
49	2	P0300-009	ELBOW, 90 Degree
50	1	P0308-102	BREATHING, Mini
51	1	P0416-003	PLUG
52	1	P0400-001	COUPLING, Pipe
53	2	P0403-007	NIPPLE
54	1	A40716P	FITTING
55	1	P0300-121	FITTING

**FLUID CONNECTION ASSEMBLY, A40121A**  
**POWER PACK P75**  
**(SN A40021A-16 & BEFORE)**



# FLUID CONNECTION ASSEMBLY, A40121A

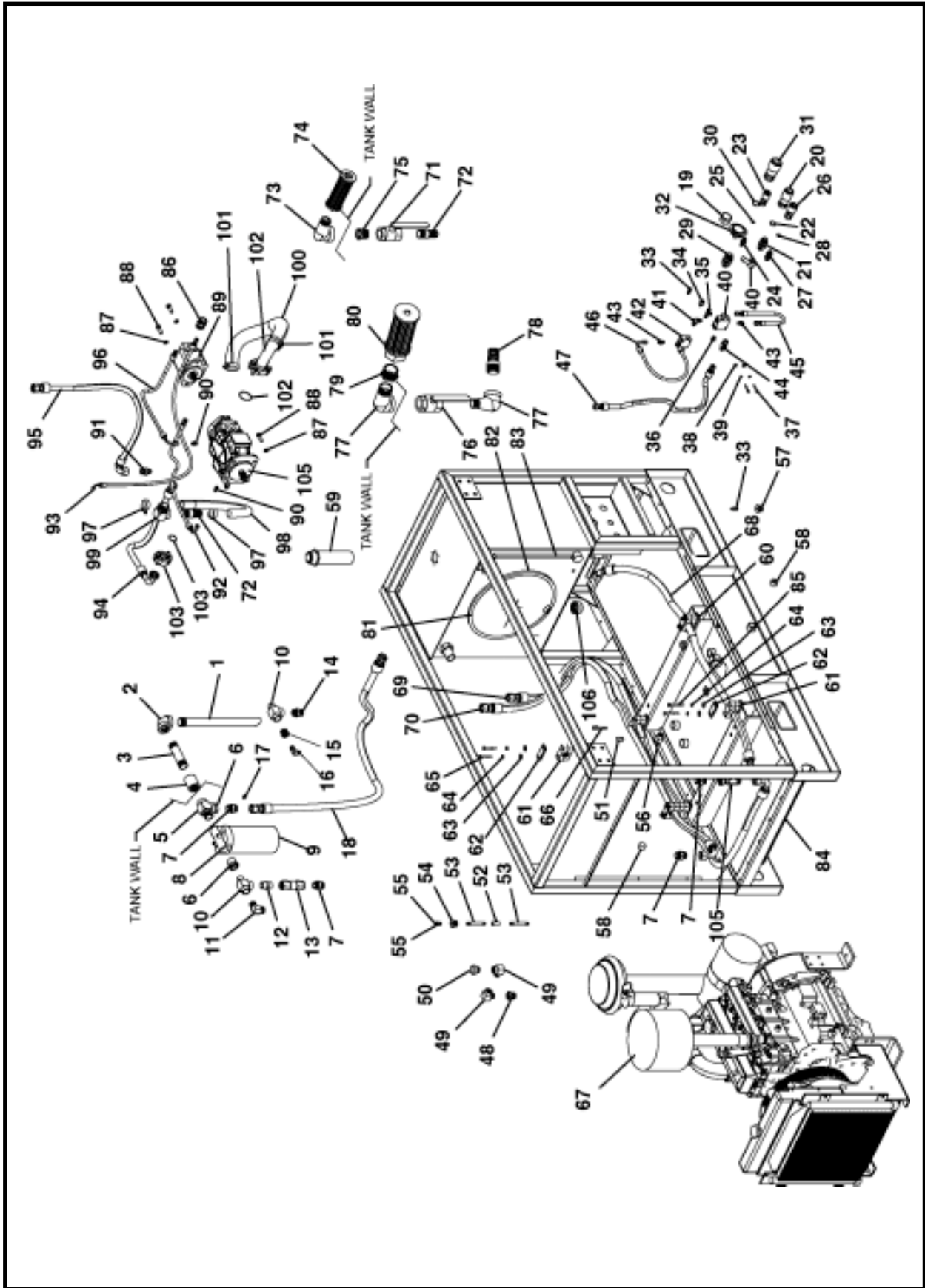
## POWER PACK P75

(SN A40021A-16 & BEFORE)

ITEM	QTY	PART NO.	DESCRIPTION
56	1	P0300-030	ELBOW
57	1	P0300-122	REDUCER
58	2	P0300-104	PLUG
59	1	P0308-100	BREATHING/FILLER
60	4	P0059-053C	PLATE
61	6	P0059-054A	CLAMP, Tube
62	4	P0059-053B	COVER PLATE
63	8	P0040-006	WASHER, Flat 3/8
64	8	P0045-006	WASHER, Lock 3/8
65	4	P0001-06-010	BOLT, 3/8 UNC x 2.5
66	4	P0059-053E	BOLT, Stacking
67*	1	P0125-117	ENGINE, John Deere 4045D
68	1	A10342A-072	ASSEMBLY, Hose 1
69	1	A10343A-089	ASSEMBLY, Hose 1
70	1	A10343A-079	ASSEMBLY, Hose 1
71	1	P0302-207	VALVE, Ball
72	2	P0423-121	NIPPLE
73	1	P0412-007	ELBOW, 90 Degree
74	1	P0309-162	STRAINER, Suction
75	1	P0413-008	BUSHING
76	1	P0302-208	VALVE, Ball
77	2	P0412-008A	ELBOW, 90 Degree
78	1	P0423-010	NIPPLE
79	1	P0413-015	BUSHING
80	1	P0309-153	STRAINER
81	1	P0302-231	VALVE, Ball
82	1	P0417-003	CAP, Pipe
83	1	P0402-005	NIPPLE
84	1	A10320A-032	ASSEMBLY, 1/2 Hose
85	1	P0308-105	COVER, Hydraulic Reservoir End
86	1	P0308-104	COVER, End
87	1	P0301-138	GAUGE, Sight
88	1	P0125-118	ENCLOSURE, Engine
89	4	P0001-06-012	BOLT, 3/8 UNC x 3
90	1	P0300-319	FITTING
91	6	P0045-008	WASHER, Lock 1/2
92	6	P0001-08-006	BOLT, 1/2-13 UNC x 1.5
93	1	P0303-250	PUMP, Gear
94	2	P0300-362	FITTING
95	1	P0300-361	FITTING
96	1	A10318A-030	ASSEMBLY, Hose 1/4
97	1	A10405A-050	ASSEMBLY, Hose 1/4
98	1	A10332A-028	ASSEMBLY, Hose 3/4
99	1	A10331A-038	ASSEMBLY, Hose 3/4
100	1	A10328A0-021	ASSEMBLY, Hose 1/4
101	2	P0201-205	CLAMP, T
102	1	P0201-142	HOSE, 1-1/4
103	1	P0300-046	FITTING
104	1	P0201-150	HOSE, 2
105	2	P0201-180	CLAMP
106	1	P0303-246A1	BARB, Hose 90 Degree
107	1	P0303-246A2	KIT, Inlet Piston Pump Flange
108	1	P0300-341	KIT, Flange
109	1	P0303-249	PUMP, Torque Limiting
110	1	P0300-328	FITTING

\* Refer to Power Pack, A40021F in Section 3, Structural for parts breakdown.

FLUID CONNECTION ASSEMBLY, A40121A  
 POWER PACK P75  
 (SN A40021A-17 & AFTER)



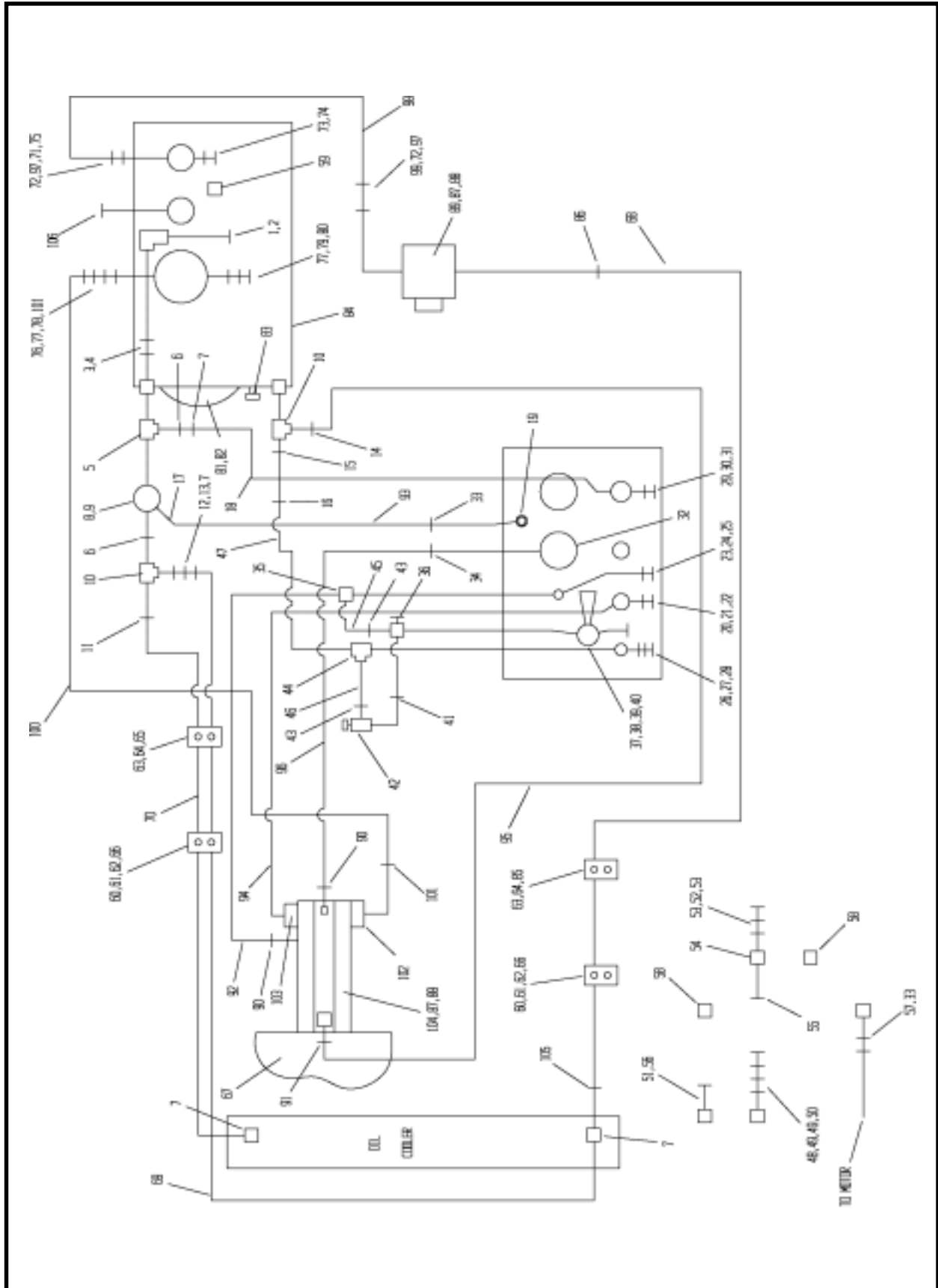
# FLUID CONNECTION ASSEMBLY, A40121A

## POWER PACK P75

(SN A40021A-17 & AFTER)

ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40121A	ASSEMBLY, Connection
1	1	A40718P	PIPE
2	1	P0411-006A	ELBOW, 90 Degree
3	1	P0408-008	NIPPLE
4	1	P0400-006	COUPLING, Pipe
5	1	P0300-336	FITTING
6	2	P0300-001	REDUCER
7	4	P0300-327	FITTING
8	1	P0309-144A	MANIFOLD, Filter
9	1	P0309-172	ELEMENT, Filter
10	2	P0300-076	TEE
11	1	P0300-353	FITTING
12	1	P0300-013	NIPPLE
13	1	P0302-346	VALVE, Check
14	1	P0300-339	FITTING
15	2	P0300-078	REDUCER
16	1	P0300-340	FITTING, 90 Degree
17	1	P0300-363	FITTING
18	1	A10341A-048	ASSEMBLY, Hose 1
19	1	P0301-105	FILTER INDICATOR GAUGE
20	1	P0100-037	QUICK COUPLER, Male
21	1	P0300-330	FITTING
22	1	P0300-324	ORING #12
23	1	P0100-041	COUPLER
24	1	P0300-331	FITTING
25	1	P0300-333	ORING #6
26	1	P0100-039	COUPLER
27	1	P0300-325	FITTING
28	1	P0300-332	ORING #8
29	1	P0300-308	FITTING
30	1	P0300-309	ORING #16
31	1	P0100-035	QUICK COUPLER, Male
32	1	P0301-109	GAUGE, Pressure 5000 PSI
33	2	P0300-249	FITTING
34	1	P0300-268	FITTING
35	1	P0300-354	FITTING
36	1	P0300-027	PLUG
37	2	P0001-04-007	BOLT, 1/4-20 UNC X 1.75
38	2	P0040-004	WASHER, Flat 1/4
39	2	P0045-004	WASHER, Lock 1/4
40	1	P0302-401	SELECTOR, Rotary w/Steel Body
41	1	P0300-338	FITTING, 90 Degree
42	1	P0302-402	VALVE, Relief
43	2	P0300-310	FITTING
44	1	P0300-335	FITTING
45	1	A10315A-024	ASSEMBLY, Hose 1/4
46	1	A10318A-013	ASSEMBLY, Hose 1/4
47	1	A10329A-055	ASSEMBLY, Hose 1/2
48	1	P0300-133	REDUCER 1
49	2	P0300-009	ELBOW, 90 Degree
50	1	P0308-102	BREATHING, Mini
51	1	P0416-003	PLUG
52	1	P0400-001	COUPLING, Pipe
53	2	P0403-007	NIPPLE
54	1	A40716P	FITTING

**FLUID CONNECTION ASSEMBLY, A40121A**  
**POWER PACK P75**  
**(SN A40021A-17 & AFTER)**

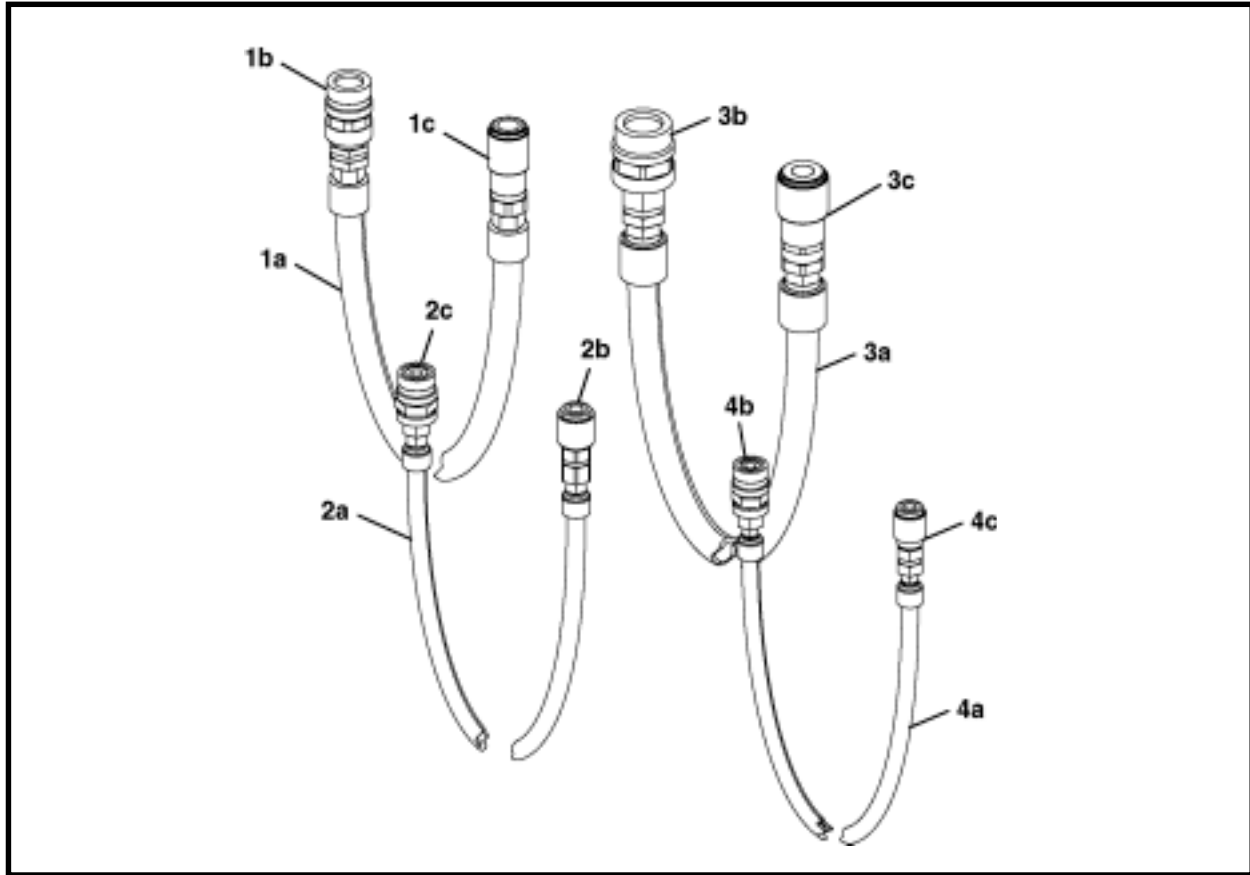


**FLUID CONNECTION ASSEMBLY, A40121A****POWER PACK P75****(SN A40021A-17 & AFTER)**

ITEM	QTY	PART NO.	DESCRIPTION
55	1	P0300-121	FITTING
56	1	P0300-030	ELBOW
57	1	P0300-122	REDUCER
58	2	P0300-104	PLUG
59	1	P0308-100	BREATHER/FILLER
60	4	P0059-053C	PLATE
61	6	P0059-054A	CLAMP, Tube
62	4	P0059-053B	COVER PLATE
63	8	P0040-006	WASHER, Flat 3/8
64	8	P0045-006	WASHER, Lock 3/8
65	4	P0001-06-010	BOLT, 3/8 UNC x 2.5
66	4	P0059-053E	BOLT, Stacking
67*	1	P0125-117	ENGINE, John Deere 4045D
68	1	A10342A-072	ASSEMBLY, Hose 1
69	1	A10343A-089	ASSEMBLY, Hose 1
70	1	A10343A-079	ASSEMBLY, Hose 1
71	1	P0302-207	VALVE, Ball
72	2	P0423-121	NIPPLE
73	1	P0412-007	ELBOW, 90 Degree
74	1	P0309-162	STRAINER, Suction
75	1	P0413-008	BUSHING
76	1	P0302-208	VALVE, Ball
77	2	P0412-008A	ELBOW, 90 Degree
78	1	P0423-010	NIPPLE
79	1	P0413-015	BUSHING
80	1	P0309-153	STRAINER
81	1	P0308-105	COVER, Hydraulic Reservoir End
82	1	P0308-104	COVER, End
83	1	P0301-138	GAUGE, Sight
84	1	P0125-118	ENCLOSURE, Engine
85	4	P0001-06-012	BOLT, 3/8 UNC x 3
86	1	P0300-319	FITTING
87	6	P0045-008	WASHER, Lock 1/2
88	6	P0001-08-006	BOLT, 1/2-13 UNC x 1.5
89	1	P0303-250	PUMP, Gear
90	2	P0300-362	FITTING
91	1	P0300-361	FITTING
92	1	A10318A-030	ASSEMBLY, Hose 1/4
93	1	A10405A-050	ASSEMBLY, Hose 1/4
94	1	A10332A-028	ASSEMBLY, Hose 3/4
95	1	A10331A-038	ASSEMBLY, Hose 3/4
96	1	A10328A0-021	ASSEMBLY, Hose 1/4
97	2	P0201-205	CLAMP, T
98	1	P0201-142	HOSE, 1-1/4
99	1	P0300-046	FITTING
100	1	P0201-150	HOSE, 2
101	2	P0201-180	CLAMP
102	1	P0220-210	ASSEMBLY, Hose 2
103	1	P0300-341	KIT, Flange
104	1	P0303-249	PUMP, Torque Limiting
105	1	P0300-328	FITTING
106	1	P0417-007	CAP, Pipe 1-1/2

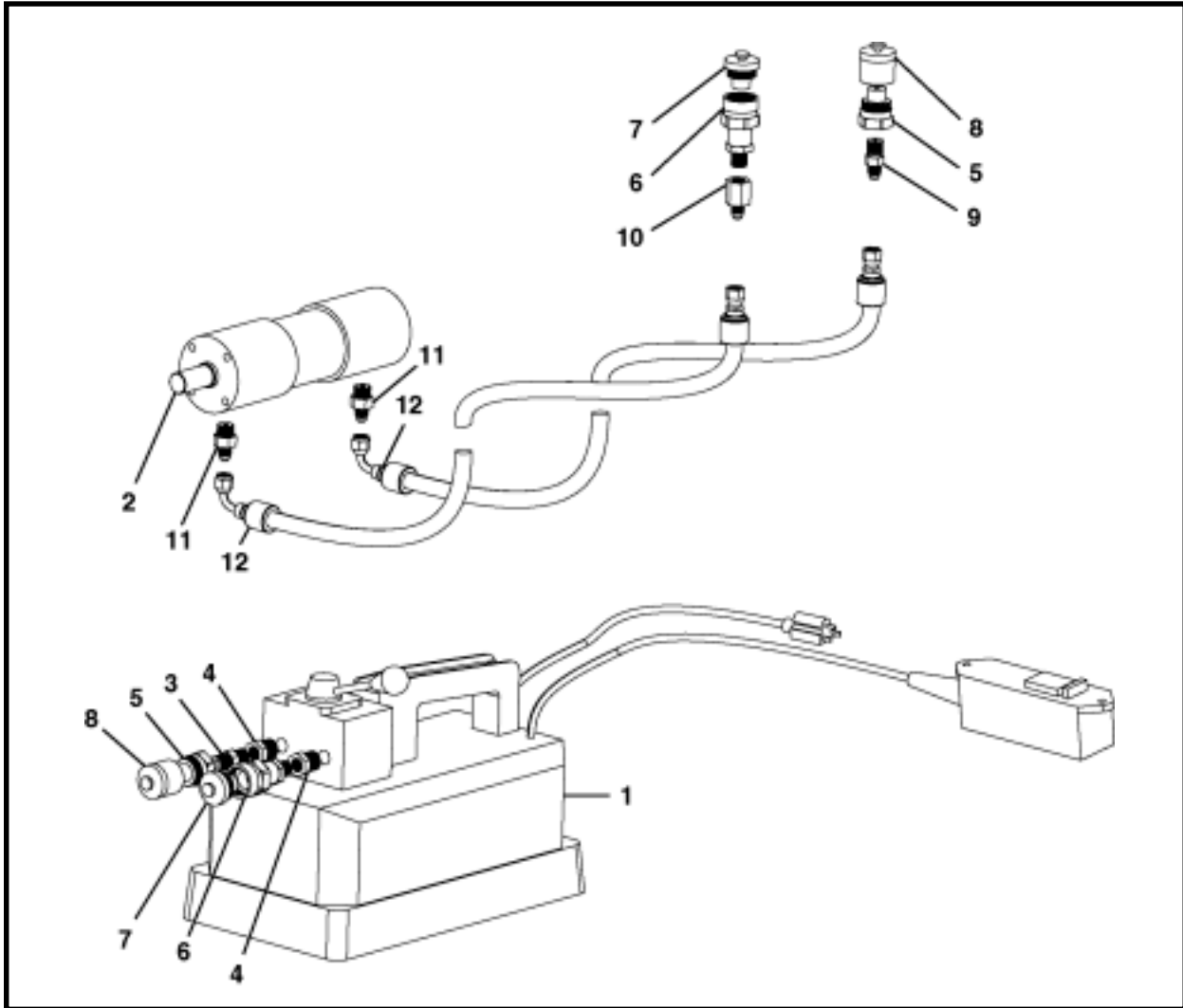
\* Refer to Power Pack, A40021F in Section 3, Structural for parts breakdown.

## STARTER HOSE SET, A40024F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40024F	SET, Starter Hose
1	1	A40171A	ASSEMBLY, High Pressure Hose 3/4 x 50' (Work Port) (Includes items 1a - 1c)
1a	1	A10431A-600	ASSEMBLY, Hose, 3/4 High Pressure x 50'
1b	1	P0100-036	COUPLER, Quick, 3/4 Female
1c	1	P0100-037	COUPLER, Quick, 3/4 Male
2	1	A40125A	ASSEMBLY, Low Pressure Hose 1/2 x 50' (Case Drain) (Includes items 2a - 2c)
2a	1	A10320A-600	ASSEMBLY, Hose, 1/2 Low Pressure x 50'
2b	1	P0100-039	COUPLER, Quick, 1/2 Male
2c	1	P0100-038	COUPLER, Quick, 1/2 Female
3	1	A40172A	ASSEMBLY, Low Pressure Hose 1 x 50' (Return) (Includes items 3a - 3c)
3a	1	A10440A	ASSEMBLY, Hose, 1" Low Pressure x 50'
3b	1	P0100-034	COUPLER, Quick, 1" Female
3c	1	P0100-035	COUPLER, Quick, 1" Male
4	1	A40173A	ASSEMBLY, Low Pressure Hose 3/8 x 50' (Load Sense) (Includes items 4a - 4c)
4a	1	A10413A-600	ASSEMBLY, Hose, 3/8 High Pressure x 50'
4b	1	P0100-040	COUPLER, Quick, 3/8 Female
4c	1	P0100-041	COUPLER, Quick, 3/8 Male

**HYDRAULIC PLUMBING - BREAKOUT TOOL, A40233A**  
**BREAKOUT TOOL - RECEPTION SHAFT**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40233A	HYDRAULIC PLUMBING - BREAKOUT TOOL
1*	-	REF	HYDRAULIC PUMP & REMOTE CONTROL
2*	-	REF	CYLINDER
3	1	P0300-113	NIPPLE
4	2	P0300-093	BUSHING, Reducer
5	2	P0100-010B	NIPPLE
6	2	P0100-010A	COUPLER
7	2	P0100-010E	PLUG, Dust
8	2	P0100-010D	CAP, Dust
9	1	P0300-249	ADAPTER
10	1	P0300-268	ADAPTER
11	2	P0300-245	CONNECTOR
12	2	A10405A-120	ASSEMBLY, Hose 1/4"

\* For parts breakdown, refer to Pilot Tube Breakout Tool - Reception Shaft, A40230F in Section 11, Miscellaneous/Tooling.

# NOTES



# Valves

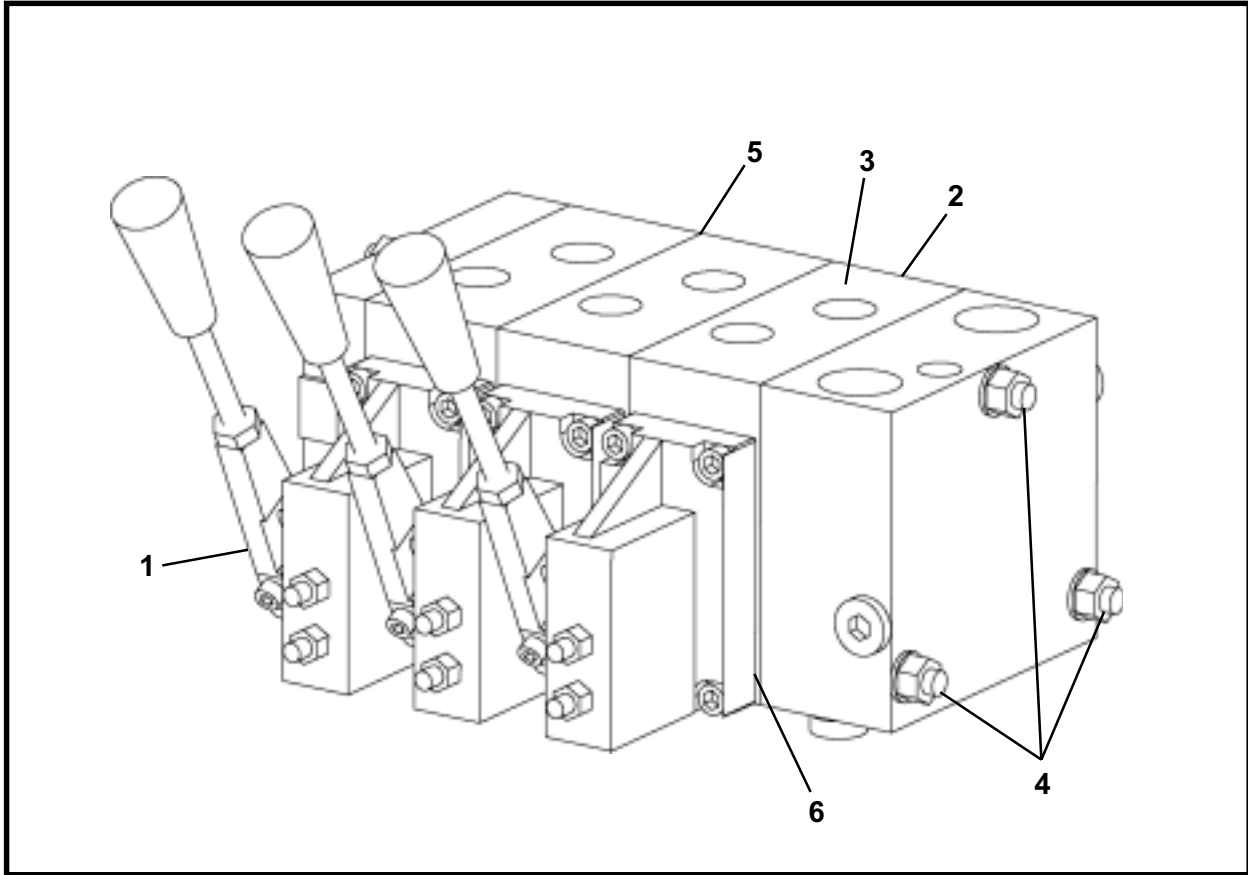
## GBM Frame

Valve, 3 Section, P0302-383 .....	1
Valve Selector, Rotary w/Steel Body, P0302-401 .....	2
Valve, Pressure Reducing w/Steel Body, P0302-410 .....	3

## Pullback Tool Assembly

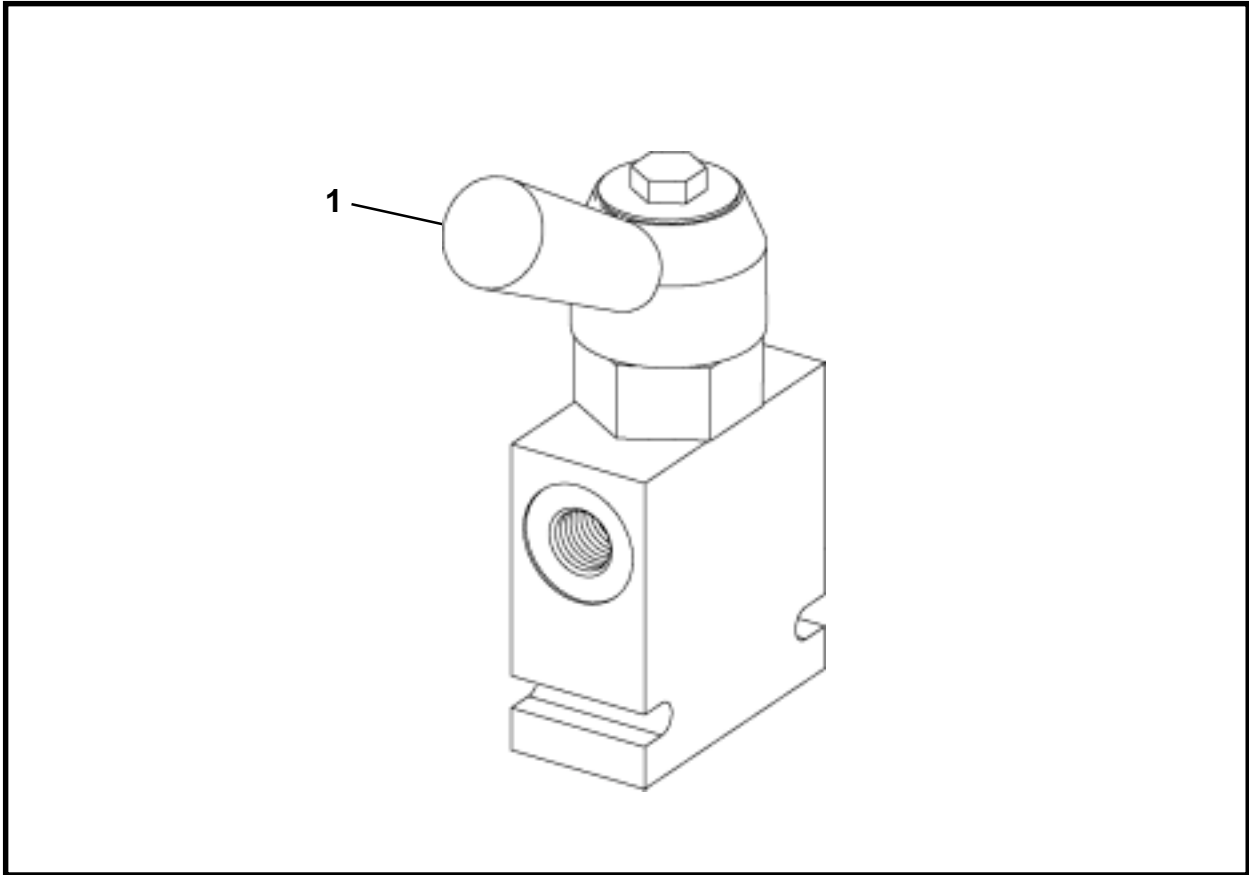
Valve, 2800 PSI, P0302-145 .....	4
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**VALVE, 3 SECTION, P0302-383  
GBM FRAMES**



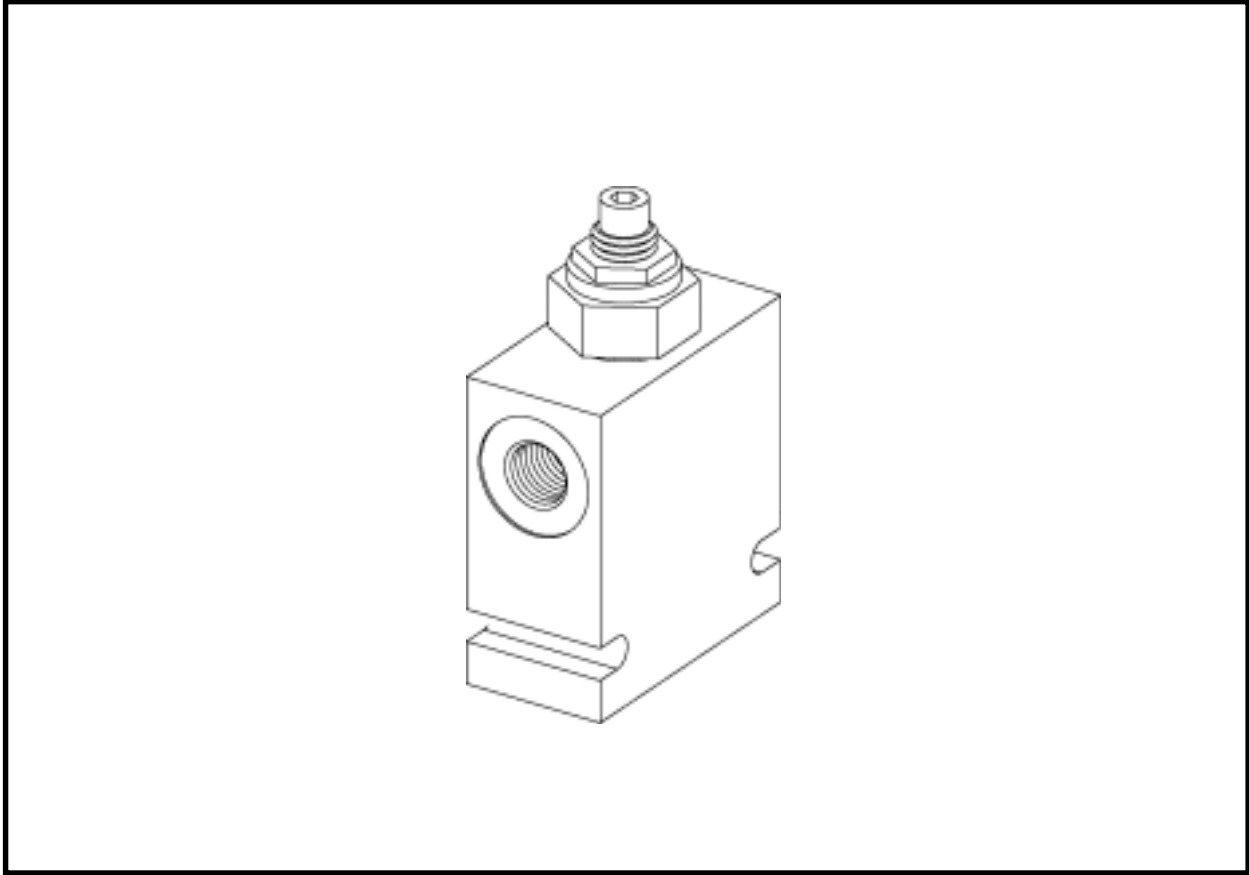
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-383	VALVE, 3 Section
1	3	P0302-383A	ASSEMBLY, Handle
2	3	P0302-383B	COVER
3	3	P0302-383C	BODY, Valve
4	1	P0302-383E	KIT, Tie Rod
5	3	P0302-383F	KIT, Section Seal
6	6	P0302-383G	KIT, Spool Seal

VALVE SELECTOR, ROTARY W/STEEL BODY, P0302-401  
GBM FRAMES



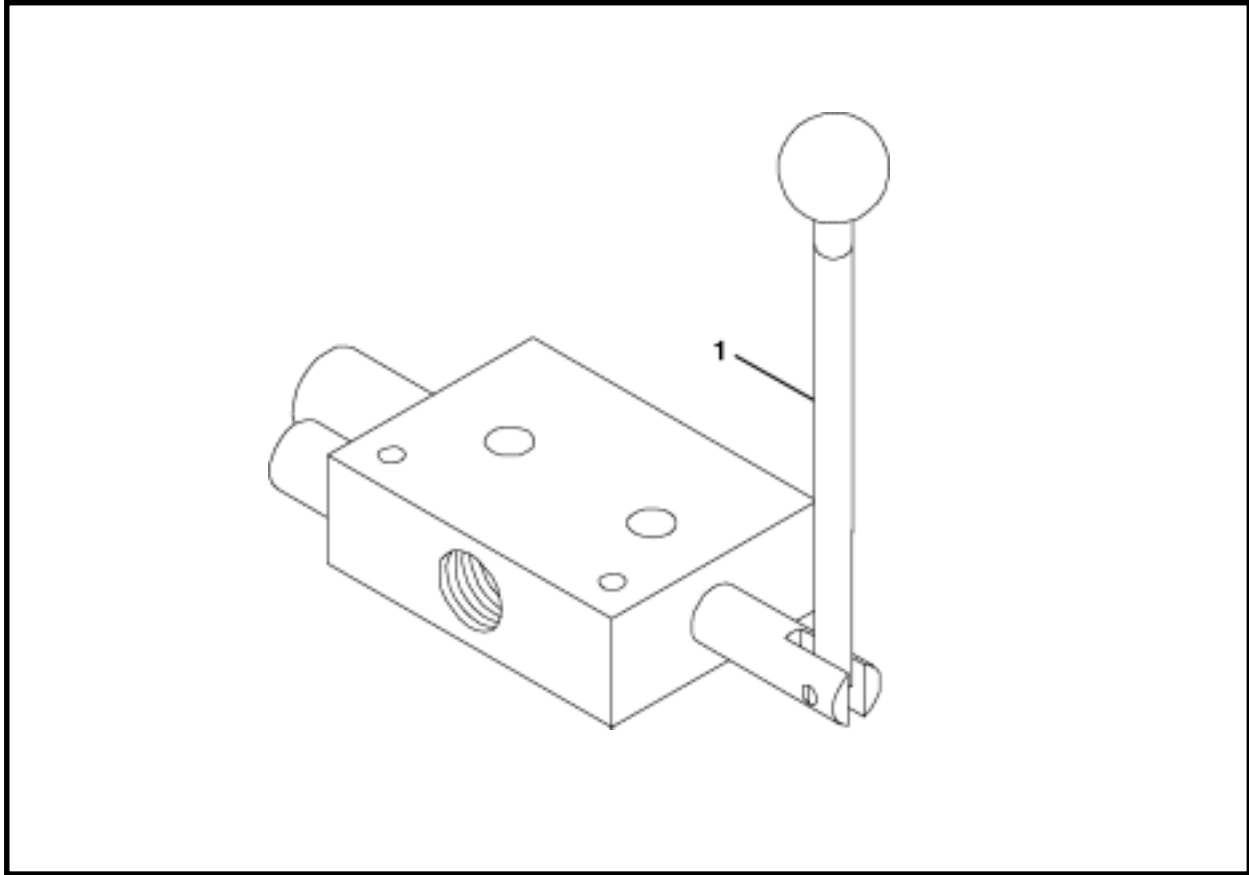
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-401	VALVE SELECTOR, Rotary w/Steel Body
1	1	P0302-401A	HANDLE

**VALVE, PRESSURE REDUCING W/STEEL BODY, P0302-410**  
**GBM FRAMES**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-410	VALVE, Pressure Reducing w/Steel Body

**VALVE, 2800 PSI, P0302-145**  
**PULL ASSIST TOOL ASSEMBLY**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0302-145	VALVE, 2800 PSI
1	1	P0302-110A	HANDLE

**NOTES**

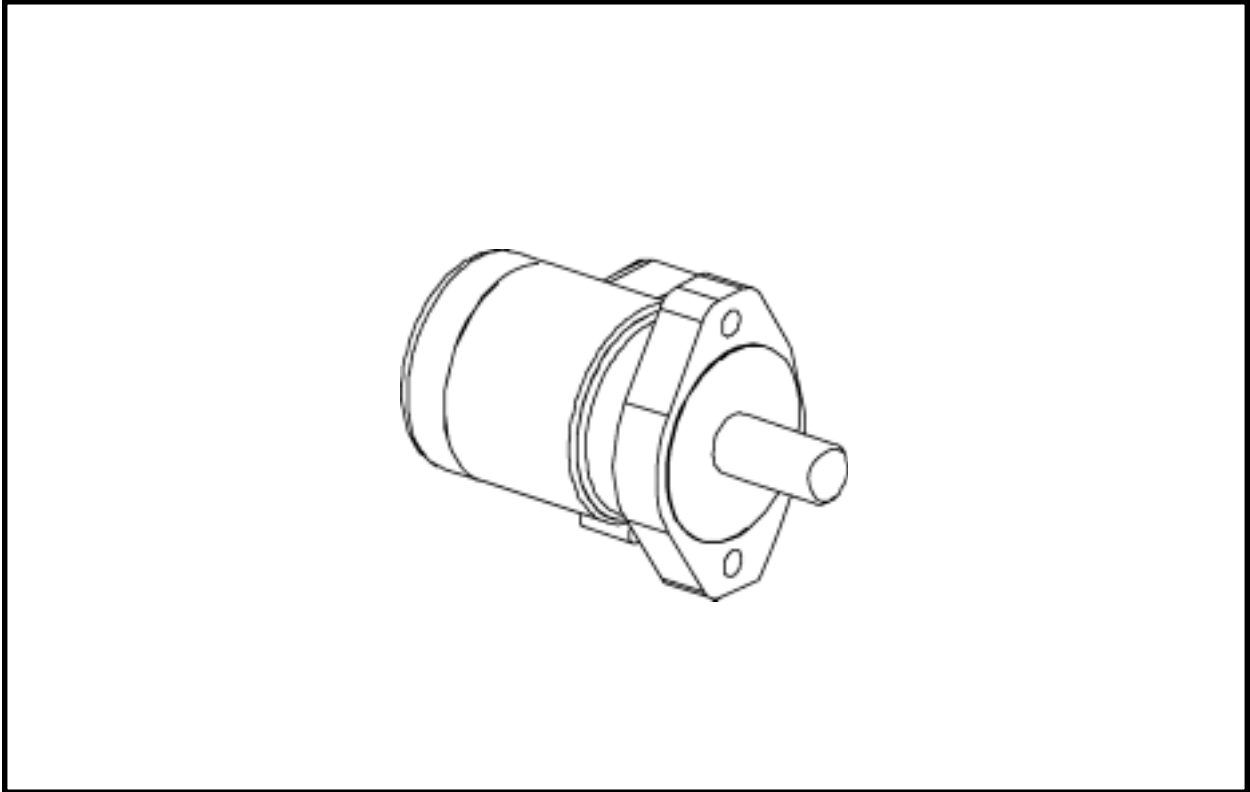


# Motors

## GBM Frame

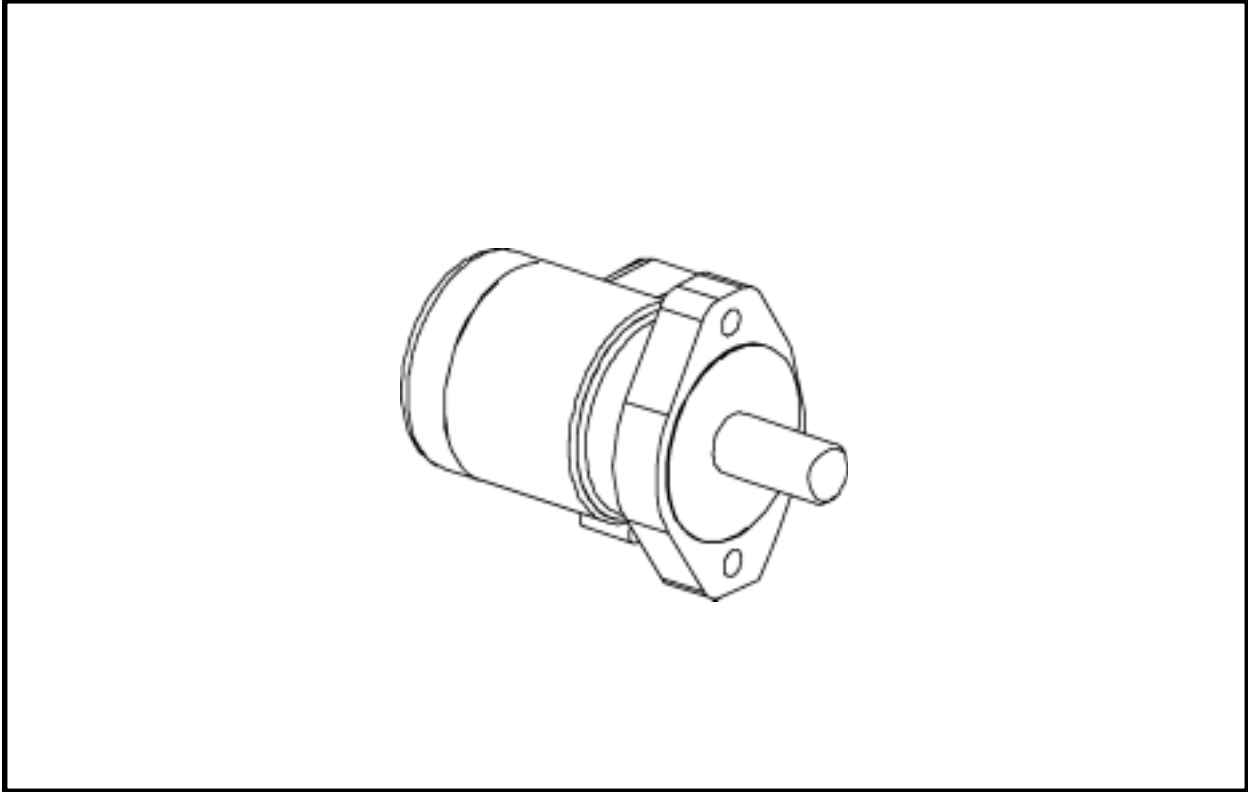
Motor, Travel (Single Motor), P0304-159 (Latching Frame Only) .....	1
Motor, Travel (Dual Motors), P0304-161 (Latching Frame Only) .....	2
Motor, Drive, P0304-160 .....	3

**MOTOR, TRAVEL (SINGLE MOTOR), P0304-159  
LATCHING FRAME**



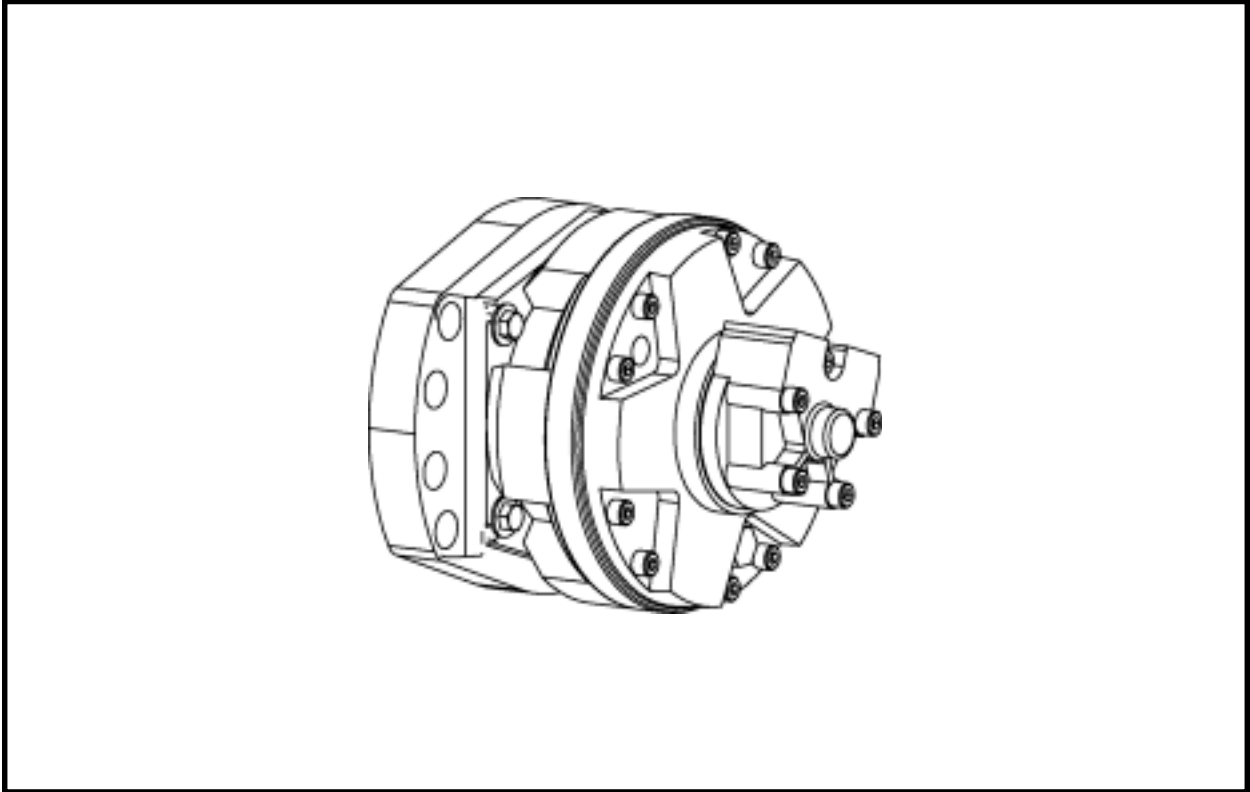
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0304-159	MOTOR, Travel (Single Travel Motor)

**MOTOR, TRAVEL (DUAL MOTORS), P0304-161  
LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	2	P0304-161	MOTOR, Travel (Dual Travel Motors)

**MOTOR, DRIVE, P0304-160**  
**GBM FRAMES**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0304-160	MOTOR, Drive



# Pumps

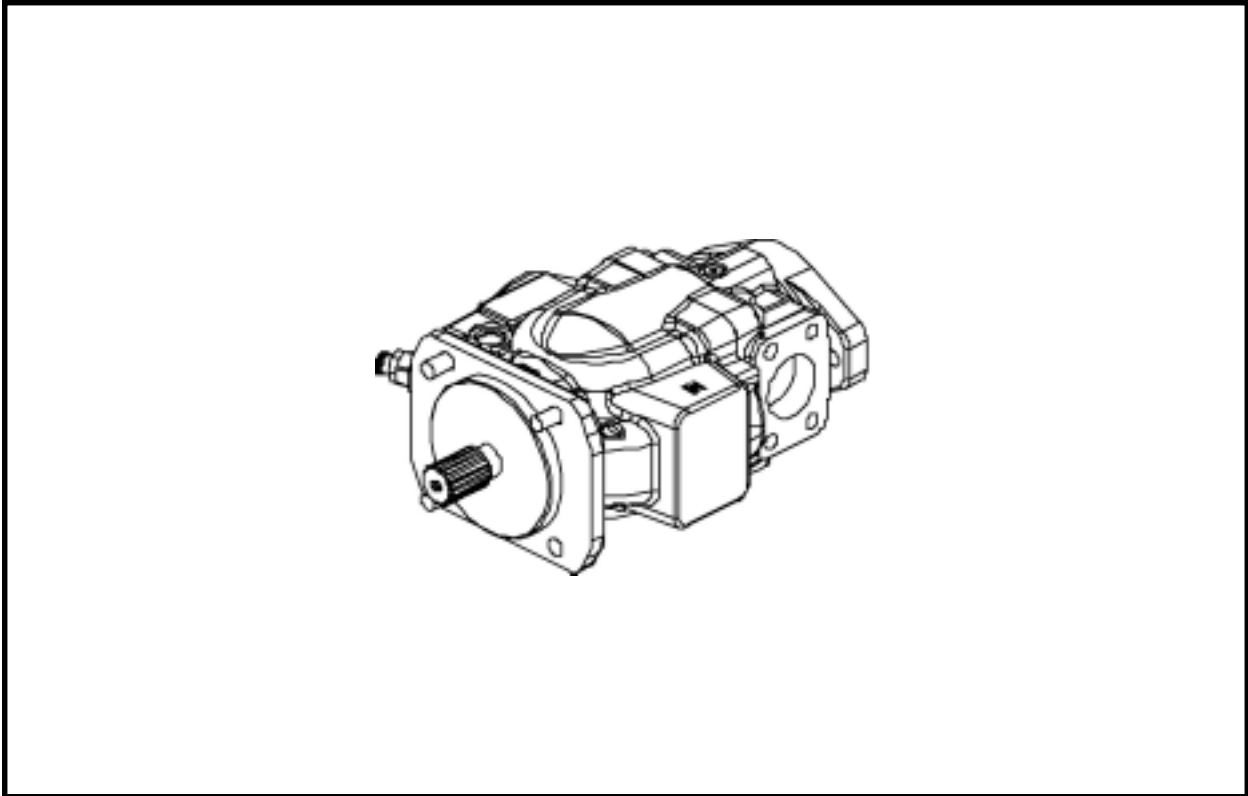
## Power Pack

Torque Limiting Pump, P0303-249 .....	1
Gear Pump, P0303-250 .....	2

## Reception Shaft Breakout Tool

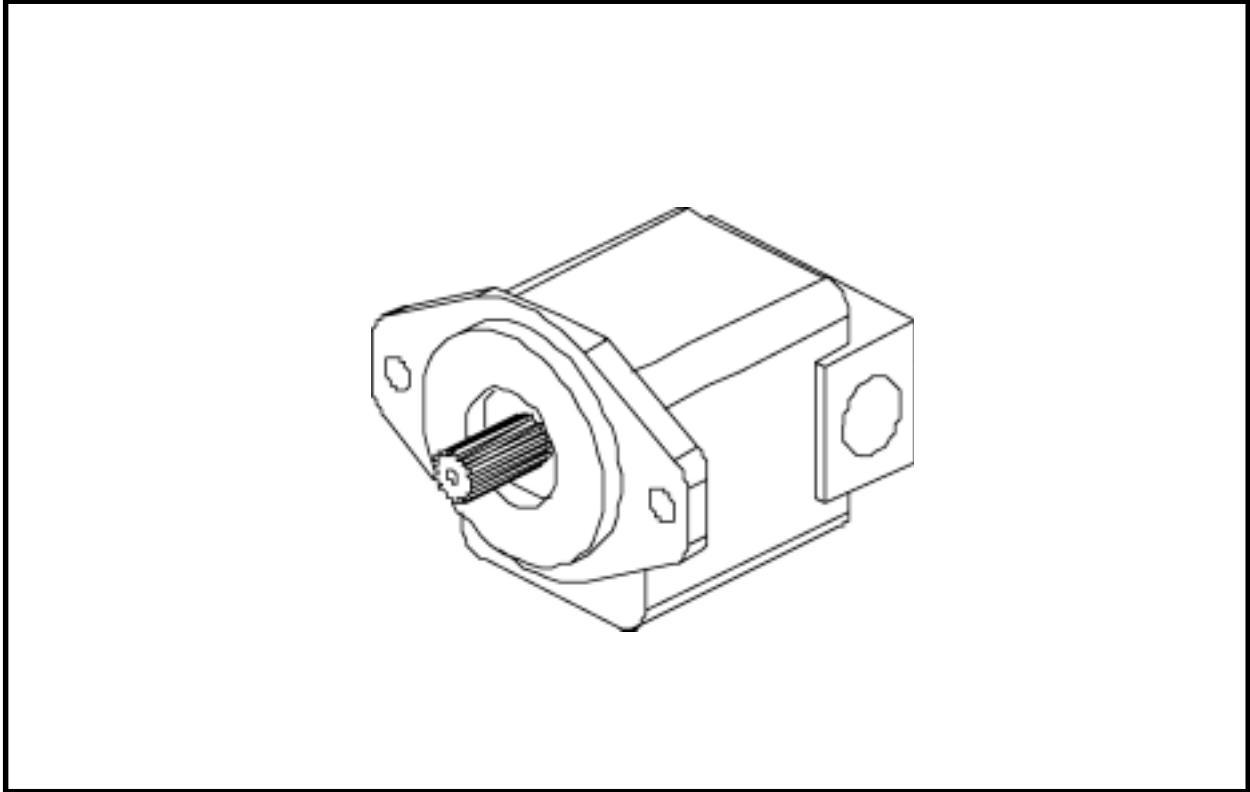
Hydraulic Pump & Remote Control, P0303-251 .....	3
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**TORQUE LIMITING PUMP, P0303-249**  
**POWER PACK P75**



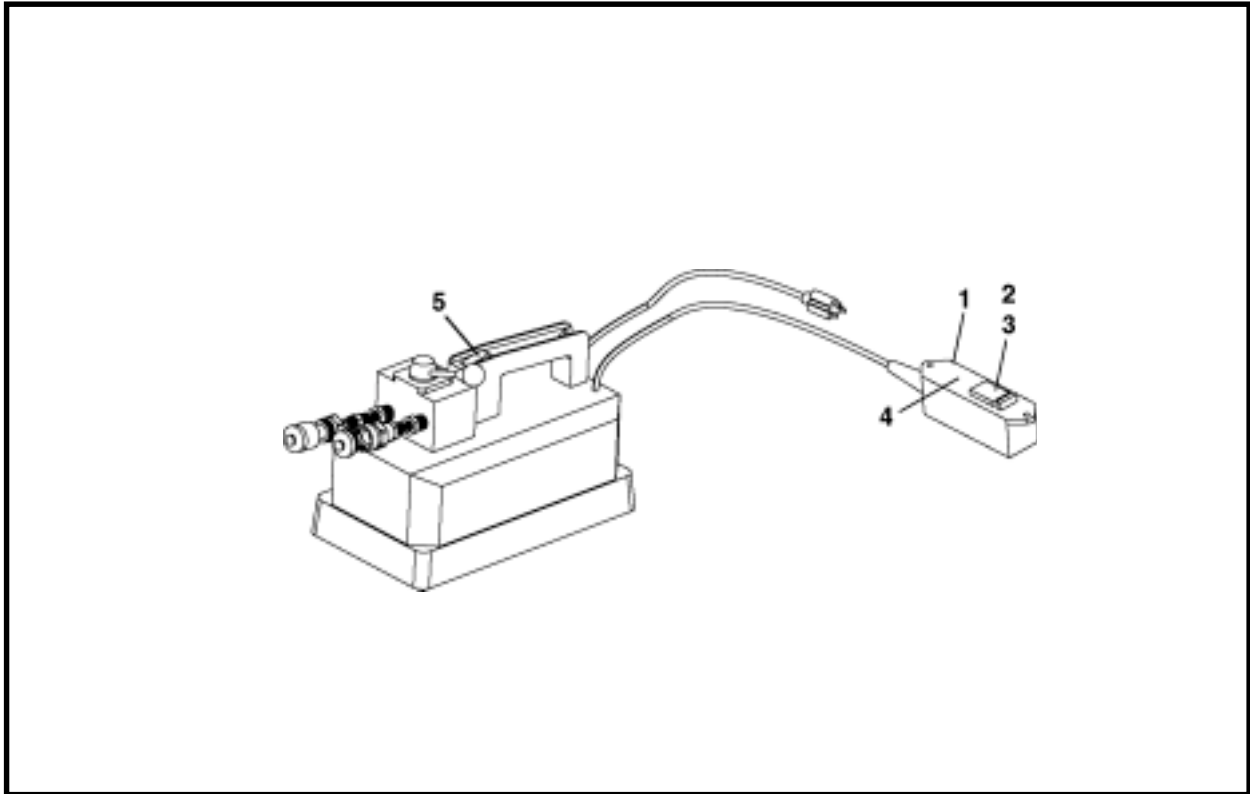
ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0303-249	TORQUE LIMITING PUMP

**GEAR PUMP, P0303-250**  
**POWER PACK P75**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0303-250	GEAR PUMP

**HYDRAULIC PUMP & REMOTE CONTROL, P0303-251  
RECEPTION SHAFT BREAKOUT TOOL**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0303-251	HYDRAULIC PUMP & REMOTE CONTROL
1	1	P0303-251A	COVER, Remote
2	1	P0303-251B	SWITCH, Remote
3	1	P0303-251C	COVER, Remote Switch
4	1	P0303-251D	DECAL
5	1	P0303-251E	SWITCH, Pump Rocker



# Cylinders

## GBM

### Latching Frame

Cylinder Assembly, Frame Extension, A40145A ..... 1

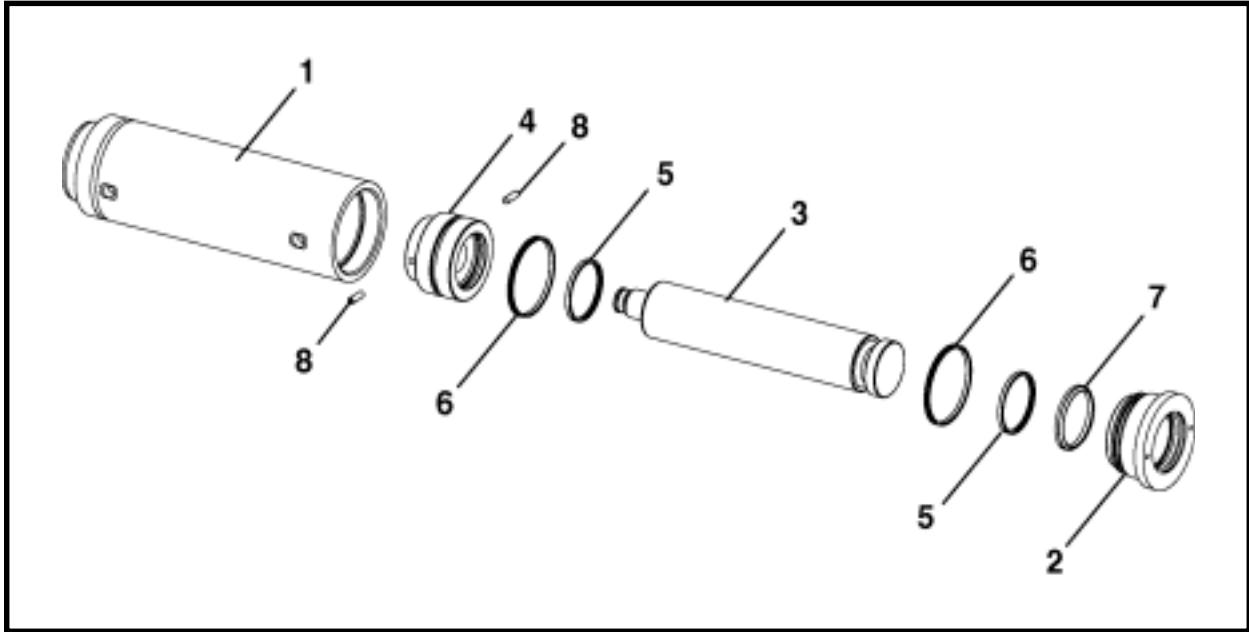
### Single Stage Frame

Cylinder Assembly, Frame Extension, A40115A ..... 2

## Reception Shaft Breakout Tool

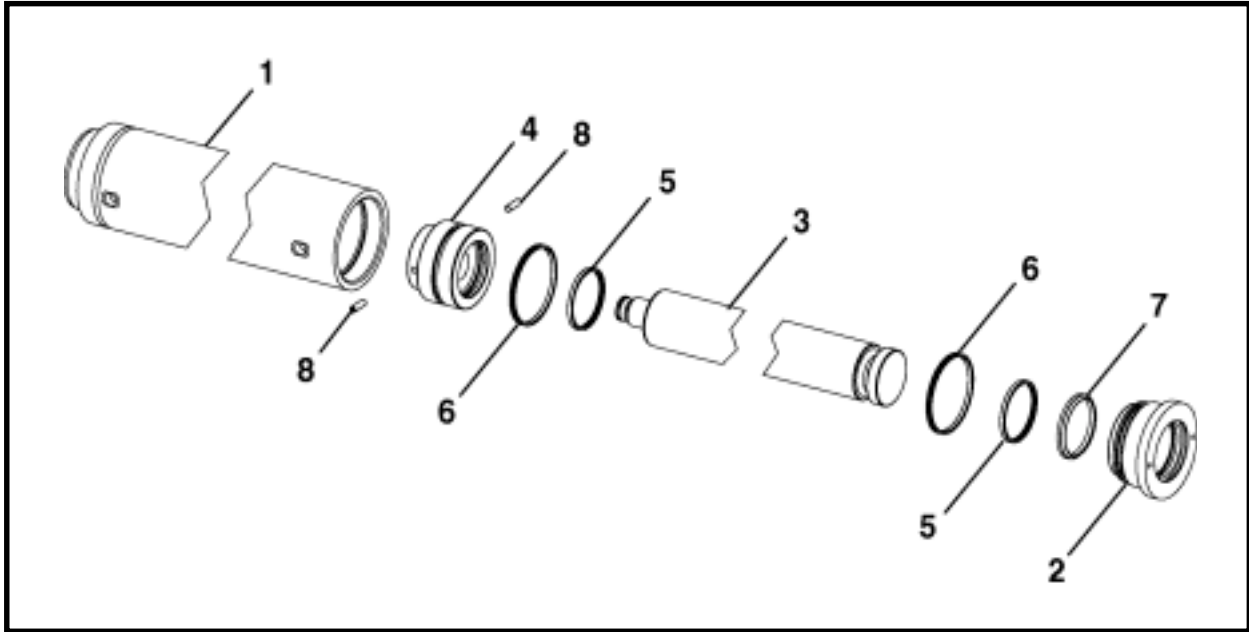
Cylinder Assembly, P0307-146 ..... 3

**CYLINDER ASSEMBLY, FRAME EXTENSION, A40145A  
LATCHING FRAME**



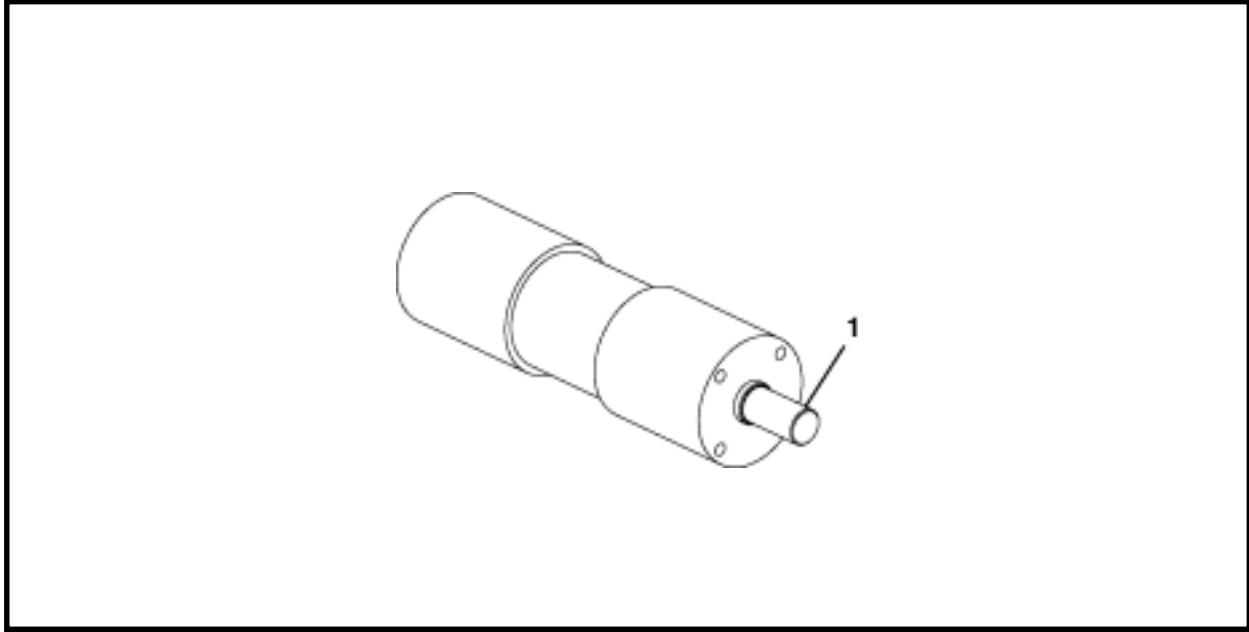
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40145A	CYLINDER ASSEMBLY, Frame Extension
1	1	A40146A	BARREL WELDMENT
2	1	A40452P	GLAND
3	1	A40851P	SHAFT
4	1	A40454P	PISTON
5	2	P0086-028	ROD T SEAL
6	2	P0086-029	PISTON T SEAL
7	1	P0087-011	WIPER, Rod
8	2	P0033-06-020	SCREW, Set

**CYLINDER ASSEMBLY, FRAME EXTENSION, A40115A  
SINGLE STAGE FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40115A	CYLINDER ASSEMBLY, Frame Extension
1	1	A40116A	BARREL WELDMENT
2	1	A40452P	GLAND
3	1	A40453P	SHAFT
4	1	A40454P	PISTON
5	2	P0086-028	ROD T SEAL
6	2	P0086-029	PISTON T SEAL
7	1	P0087-011	WIPER, Rod
8	2	P0033-06-020	SCREW, Set

**CYLINDER ASSEMBLY, P0307-146**  
**RECEPTION SHAFT BREAKOUT TOOL**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	P0307-146	CYLINDER ASSEMBLY
1	1	P0307-146A	ROD
2	1	P0307-136E	KIT, Seal (not shown)



## Miscellaneous/Tooling

<b>Steering Head (Dual Wall Pilot Tube), A40245F</b> .....	1
45 Degree Steering Head, A40247A .....	2
30 Degree Steering Head, A40248A .....	3
Bullet Steering Head, A40249A .....	4
<b>Pilot Tubes</b>	
Pilot Tube Holder, A40255F .....	5
Pilot Tube 30 In., A40237A .....	6
Pilot Tube Lift Holders .....	7
Pilot Tube Support Bar, A40118P .....	8
<b>Storage Box Assembly, A42108F</b> .....	9
Pilot Tube Breakout Tool Reception Shaft, A40230F .....	10
Theodolite Shaft Stand - Latching Frame, A40051F .....	11
Pilot Tube Adapter, A41403F .....	12
<b>Pilot Tube Breakout Tools</b>	
Breakout Tool - Reception Shaft, A40230F .....	10
Breakout Tool - Launch Shaft Assembly (New Style), A42240A .....	14
Breakout Tool - Launch Shaft Assembly (Old Style), A40254F .....	15
<b>Reaming Head Assembly, 11" - 16" OD</b> .....	16
Reaming Head, 11" - 16" OD .....	17
Casing Thrust Adapter .....	18
Reaming Head 21", 22.5" & 24" OD .....	19
Weld On Reaming Head Assembly - Auger Boring	
12" - 24" OD, 3" ID Hex Connection .....	20
For 8' Shaft, 24" OD, 3" ID Hex Connection, A42288F .....	21
30" OD, 4" ID Hex Connection, A42336F .....	22
<b>Cutter Head Assembly, 11" - 16" OD</b> .....	24
Cutter Head, 11" - 16" OD .....	25
Casing Thrust Adapter .....	26
Cutter Head, 22.5" & 28.63" OD .....	27

(continued on next page)

# Miscellaneous/Tooling (continued)

## Swivels

6.25" Pilot Tube Bearing Swivel, A42350F .....	28
8" Pilot Tube Bearing Swivel, A42340F .....	29
Pilot Guide Rod Swivel, 3" ID Hex Connection, A41235F .....	30
Pilot Guide Rod Swivel, 4" ID Hex Connection, A41420F .....	31

Weld On Auger Adapter, A42352P .....	32
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## Thrust Casing Assembly .....

Thrust Casing .....	34
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Safety Chain Assembly (Casing), A42215A .....	36
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Temporary Casing, 10", A41200A .....	37
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Casing Spacer Assembly, A42255A .....	38
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## Pipe Adapters

Pipe Thrust Adapter, A40315F .....	40
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Pipe Casing Adapter .....	41
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Pipe Adapter Reaming Kit - 15" No-Dig, A42390F .....	42
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Pipe Adapter Reaming Kit - 18" No-Dig, A42175F .....	43
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Pipe Adapter Cutter Kit - 18" No-Dig, A42176F .....	44
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Thrust Adapter - 12" - 18" ID Auger Casing & Mission VCP, A41219F .....	45
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Thrust Adapter - Bell End, 18" No-Dig, A42375A .....	46
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Pipe Adapter Assembly, 24" Permalok, A42274A .....	47
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## Pull Assist/Pullback Tooling

Pilot Tube Pull Assist Tool Assembly (Reception Shaft), A42307A .....	48
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Casing Pullback Tool Assembly (Reception Shaft), 14", A42282F .....	49
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## Drilling Seals

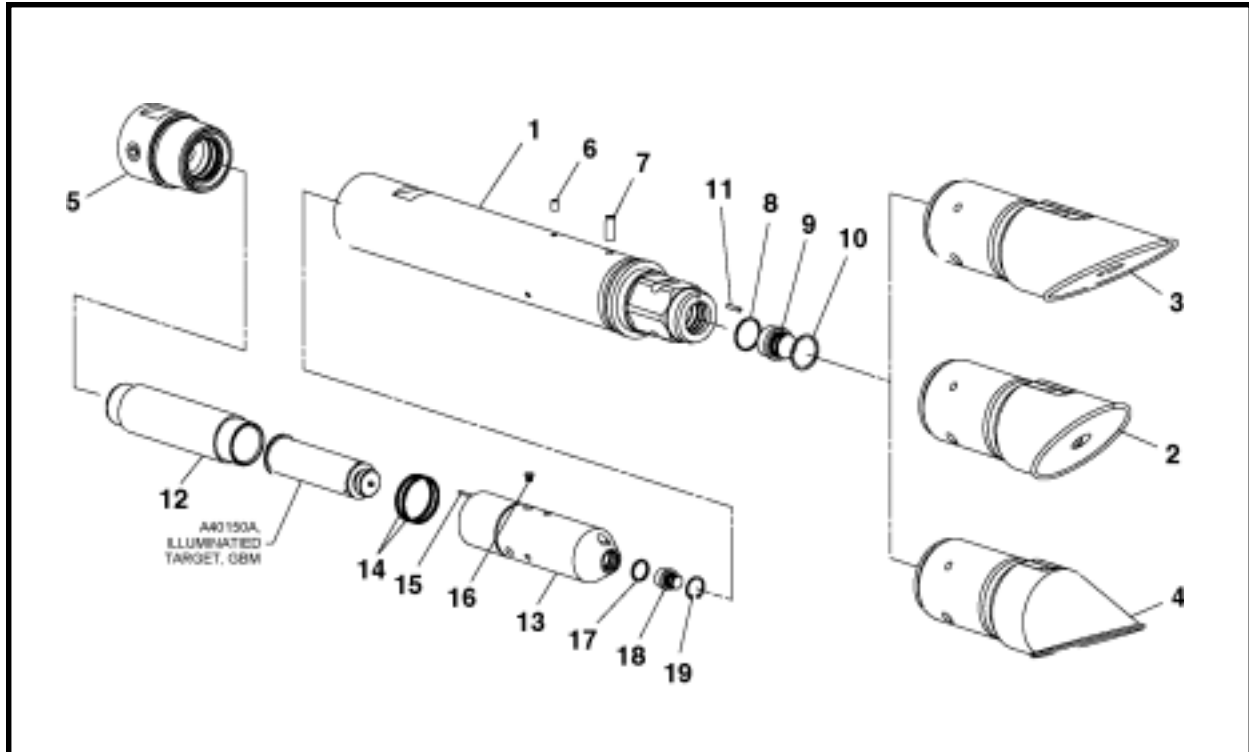
Drilling Seal 11" - 12" OD .....	50
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Drilling Seal Assembly - 18" VCP, A42214A .....	51
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GBM Pit Floor Assembly, Latching Frame, A42138A .....	52
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Lubrication 225 Pump, A42109F .....	53
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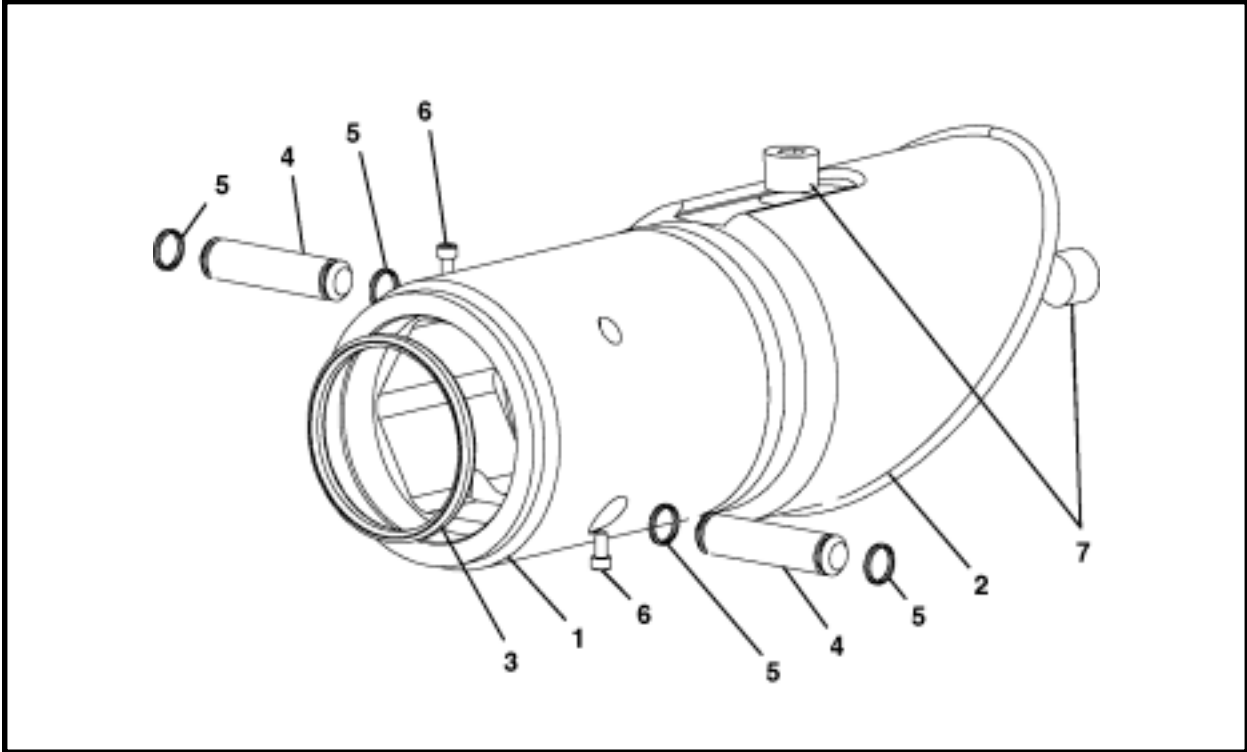
**STEERING HEAD ASSEMBLY, A40245F**  
**STEERING HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40245F	STEERING HEAD ASSEMBLY
1	1	A40246A	ADAPTER, Steering Head
2	1	A40247A	STEERING HEAD, 45 Degree
3	1	A40248A	STEERING HEAD, 30 Degree
4	1	A40249A	STEERING HEAD, Bullet
5	1	A40250A	CONNECTION, Air & Fluid (Includes items 5a and 5b)
5a*	2	P0085-228	ORING
5b*	2	P0416-004	PLUG, Square Head 3/4
6	3	P0033-06-008	SCREW, Socket Head Cap 3/8-16 UNC x 0.5
7	1	P0033-08-020	SCREW, Socket Set 1/2-13 UNC x 1.25
8	1	P0085-130	ORING
9	1	P0302-404	VALVE, Check
10	1	P0076-055	RING, Spiral Snap
11	1	P0049-079	PIN, Roll 3/16 x 1
12	1	A40594P	TUBE, Inner
13	1	A40595A	HOLDER, Target
14	2	P0085-229	ORING
15	1	P0049-044	PIN, Roll 1/8 x 1.25
16	3	P0300-224	PLUG
17	1	P0085-120	ORING
18	1	P0302-405	VALVE, Check
19	1	P0076-056	RING, Internal Snap

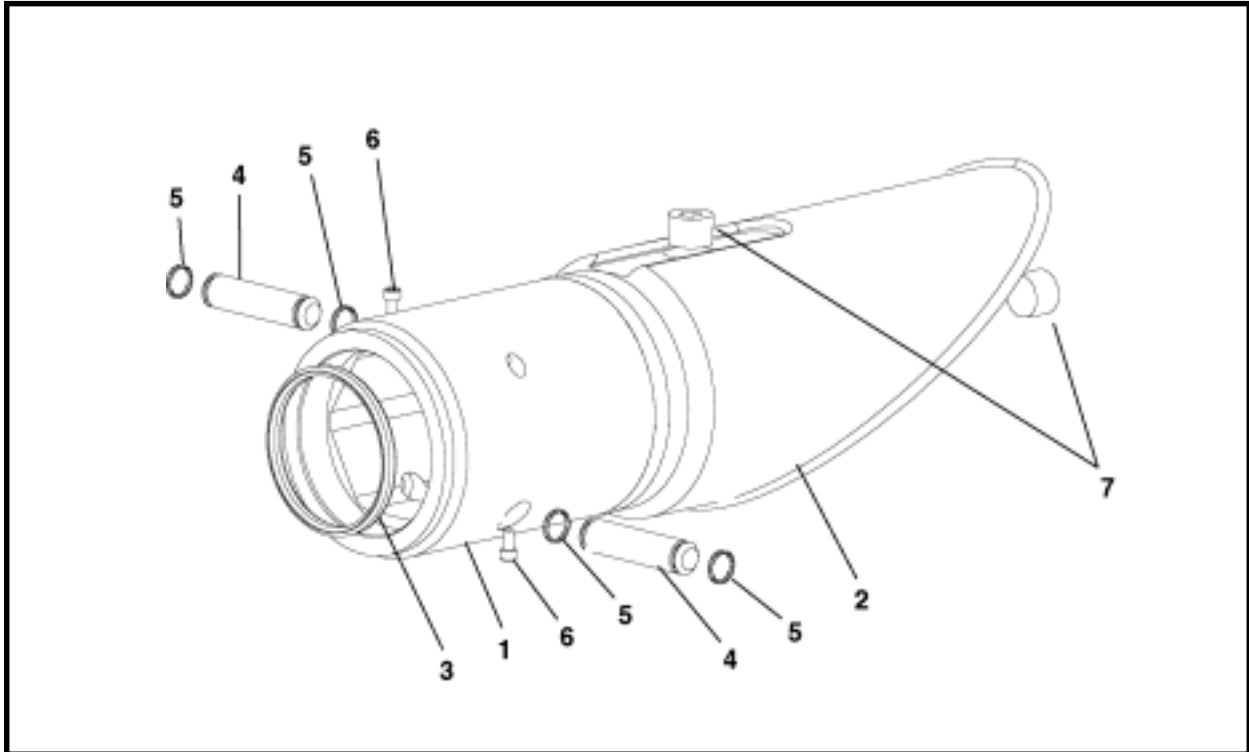
\* Not Shown

**STEERING HEAD, 45 DEGREE, A40247A**  
**STEERING HEAD**



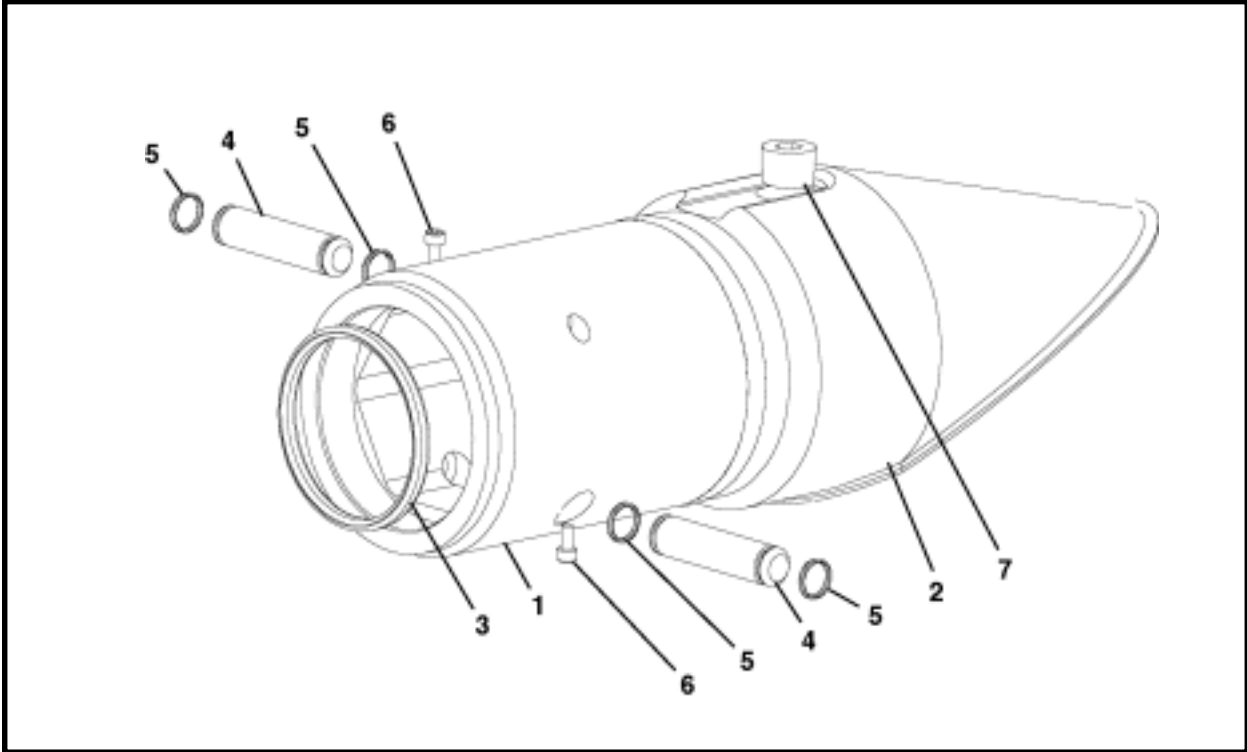
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40247A	STEERING HEAD, 45 Degree
1	1	A40577P	COUPLER
2	1	A40578P	45 DEGREE LEAD
3	1	P0085-336	ORING
4	2	A40582P	PIN, Connection
5	4	P0085-905	ORING
6	2	P0031-1024-001.5	SCREW, Socket Head Cap 10-24 UNC x .375
7	2	P0300-079	PLUG, Pipe 1/2-14 NPT

**STEERING HEAD, 30 DEGREE, A40248A**  
**STEERING HEAD**



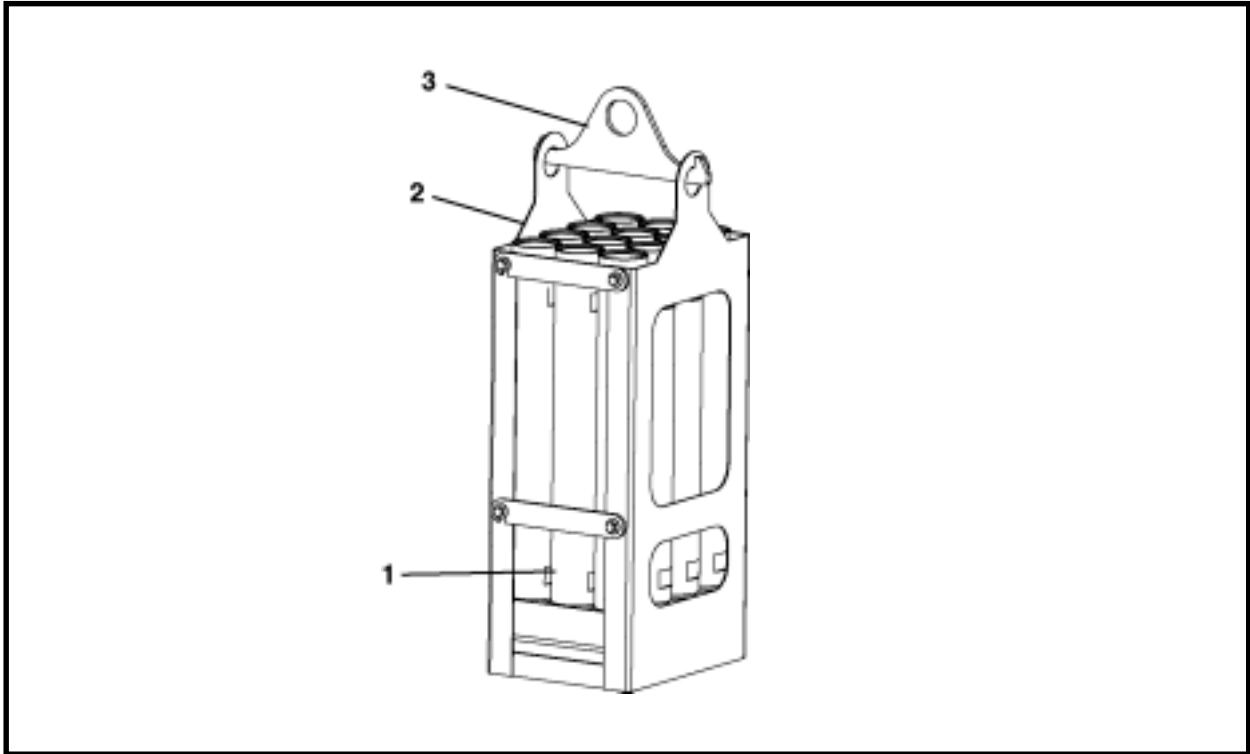
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40248A	STEERING HEAD, 30 Degree
1	1	A40577P	COUPLER
2	1	A40579P	30 DEGREE LEAD
3	1	P0085-336	ORING
4	2	A40582P	PIN, Connection
5	4	P0085-905	ORING
6	2	P0031-1024-001.5	SCREW, Socket Head Cap 10-24 UNC x .375
7	2	P0300-079	PLUG, Pipe 1/2-14 NPT

**STEERING HEAD, BULLET, A40249A**  
**STEERING HEAD**



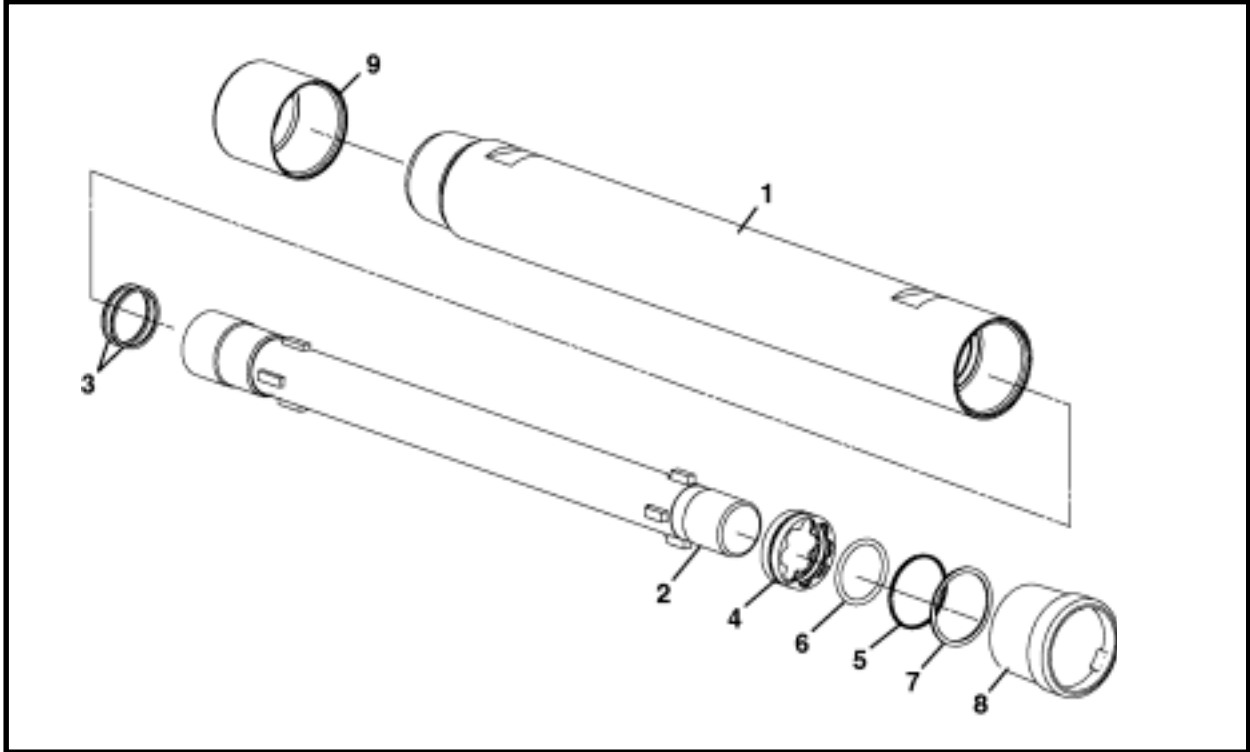
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40249A	STEERING HEAD, Bullet
1	1	A40577P	COUPLER
2	1	A40580P	BULLET LEAD
3	1	P0085-336	ORING
4	2	A40582P	PIN, Connection
5	4	P0085-905	ORING
6	2	P0031-1024-001.5	SCREW, Socket Head Cap 10-24 UNC x .375
7	1	P0300-079	PLUG, Pipe 1/2-14 NPT

**PILOT TUBE HOLDER, A40255F**  
**PILOT TUBE**



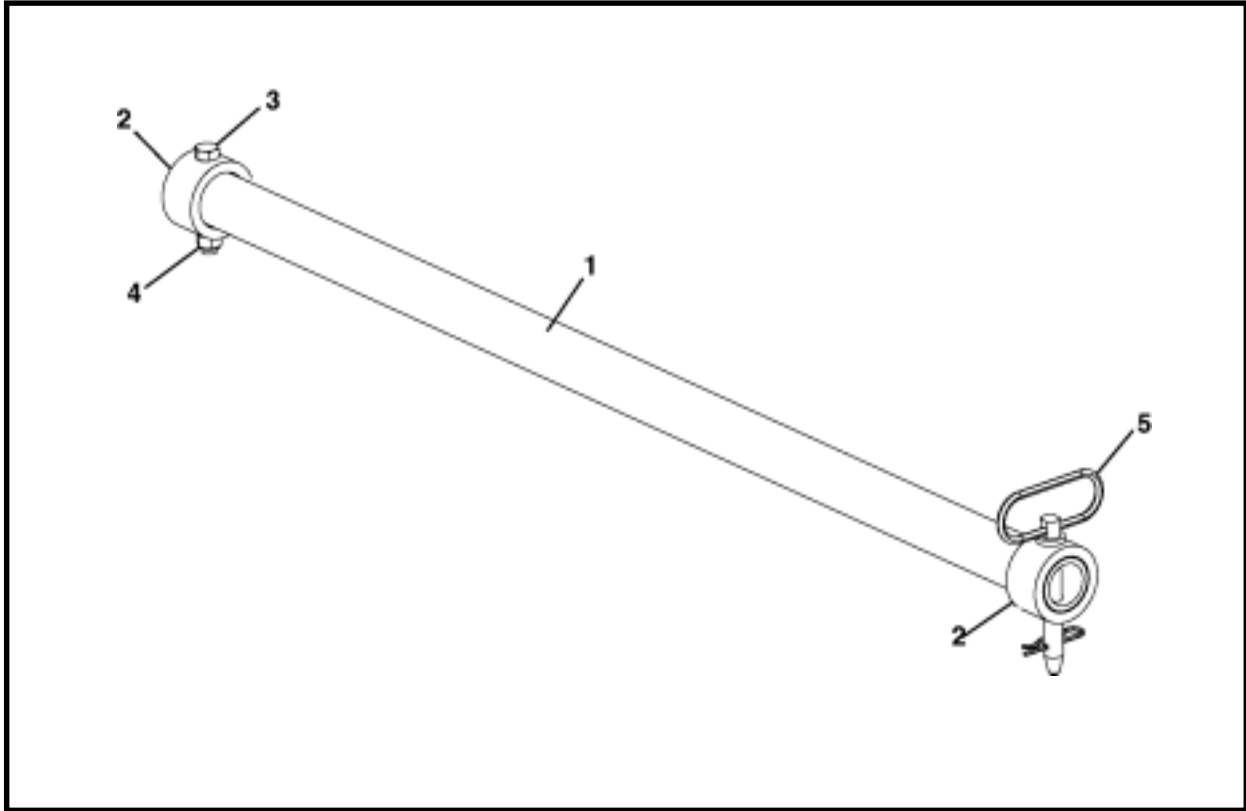
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40255F	PILOT TUBE HOLDER
1	1	A40220F	HOLDER, Pilot Tube
2	12	A40237A	TUBE, Pilot 30 in.
3	1	A40540P	BAR, Lifting

**PILOT TUBE 30 In., A40237A**  
**PILOT TUBE**



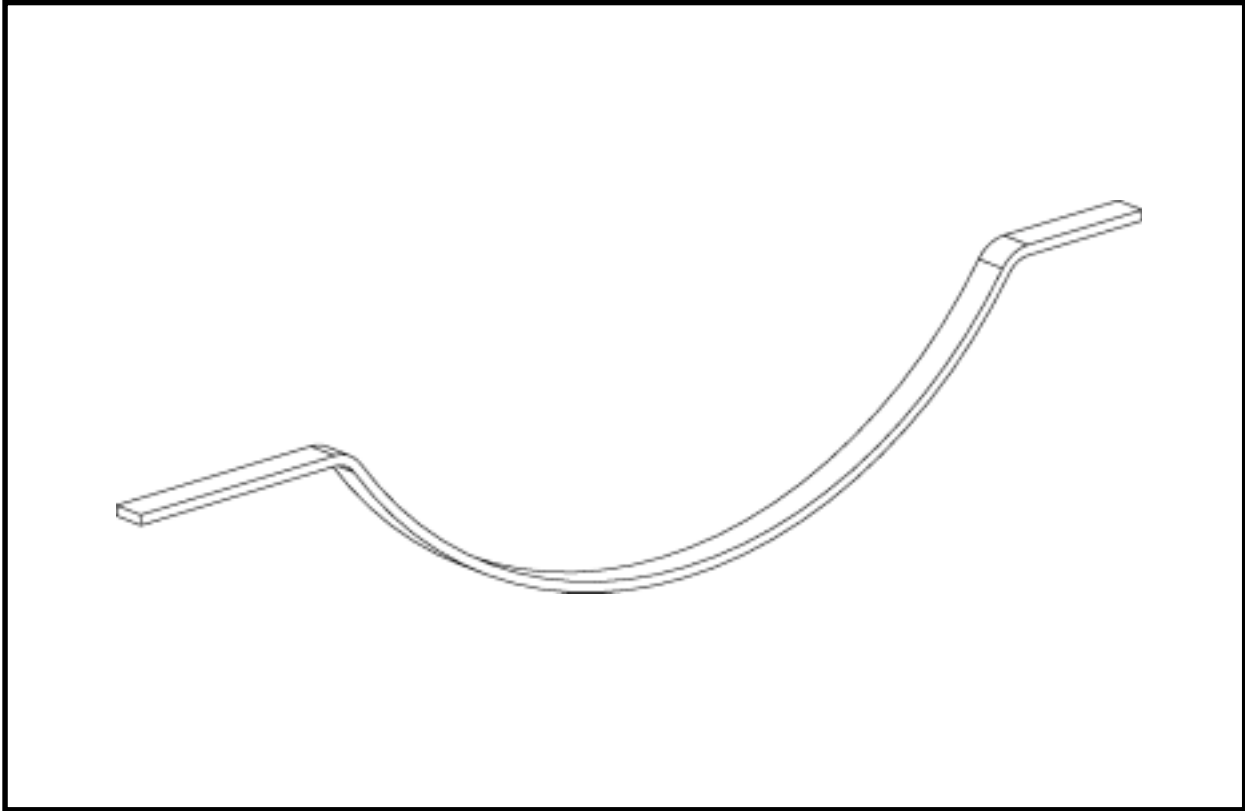
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40237A	PILOT TUBE 30 In.
1	1	A40573P	TUBE, Outer
2	1	A40238A	TUBE, Inner
3	2	P0085-228	ORING
4	1	P0302-384	VALVE, Drip
5	1	P0085-149	ORING
6	1	P0085-331	ORING
7	1	P0076-057	RING, Spiral Internal Snap
8	1	A42361P	PROTECTOR, Box Thread, Water Tight
9	1	A42362P	PROTECTOR, Pin Thread, Water Tight

**PILOT TUBE LIFT HOLDERS  
PILOT TUBE**



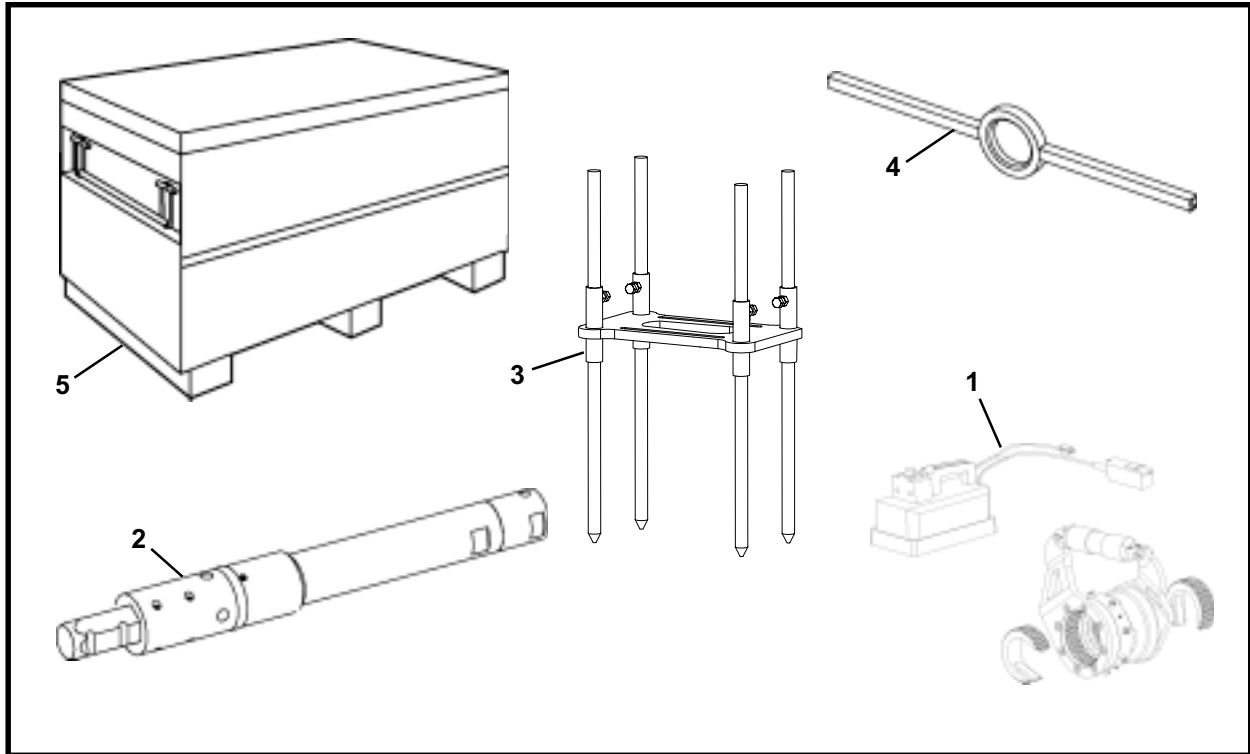
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A42250A	PILOT TUBE LIFT HOLDERS, 4
0.2	1	A42251A	PILOT TUBE LIFT HOLDERS, 3
1.1	1	A42252P	TUBE, Lift 4 Holders
1.2	1	A42254P	TUBE, Lift 3 Holders
2	2	A42253P	TUBE, Collar Lift
3	1	P0001-08-014	BOLT, 1/2-13 x 3.5
4	1	P0013-08	NUT, Self Locking 1/2
5	1	P0090-010	PIN, Hitch 5/8 x 3.75

**PILOT TUBE SUPPORT BAR, A40118P**  
**PILOT TUBE**



ITEM	QTY	PART NO.	DESCRIPTION
0	2	A40118P	PILOT TUBE SUPPORT BAR

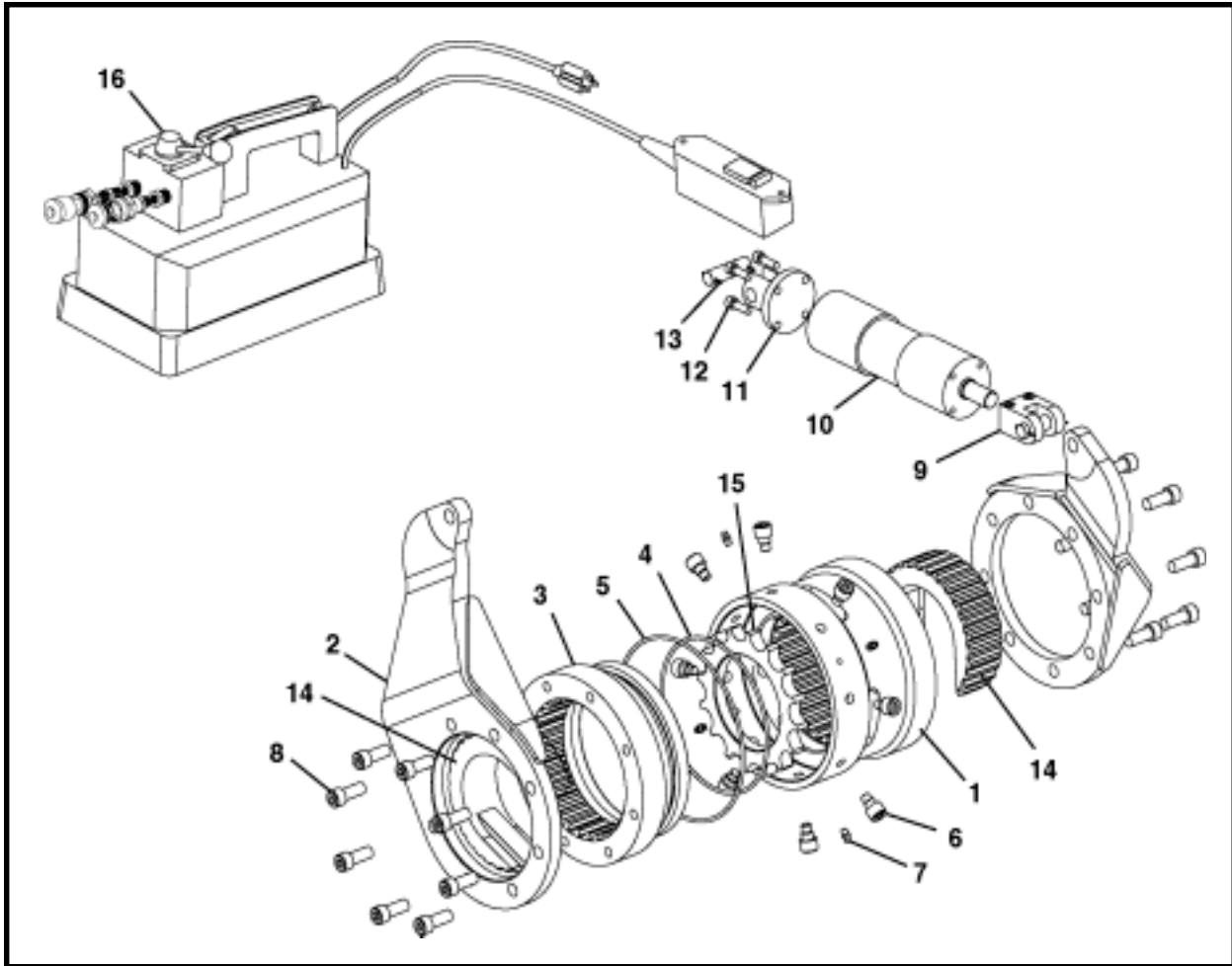
**STORAGE BOX ASSEMBLY, A42108F**  
**STORAGE BOX**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42108F	STORAGE BOX ASSEMBLY
1	1	A40230F	TOOL, Pilot Tube Breakout, Reception Shaft
2	1	A41403A	ADAPTER, Pilot Tube
3	1	A40051F	STAND, Theodolite Shaft
4	1	A40482A	SCRAPER, Pilot Tube
5	1	F0095-115	BOX, Storage
6*	8	A40956P	INSERT, Jaw (for make-up tool)

\* Not Shown

**PILOT TUBE BREAKOUT TOOL - RECEPTION SHAFT, A40230F  
BREAKOUT TOOL**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40230F	TOOL, Pilot Tube Breakout, Reception Shaft
1	1	A40585P	HUB, Female
2	2	A40234A	MOUNT, Cylinder
3	1	A40586P	HUB, Male
4	1	P0085-261	ORING
5	1	P0085-266	ORING
6	8	A40588P	BOLT, Retaining
7	4	P0063-001	FITTING, Grease
8	16	P0031-08-006	SCREW, Socket Head Cap 1/2 UNC x 1.5
9	1	P0307-136B	CLEVIS WITH PINS
10	1	P0307-146	CYLINDER (Includes items 10a and 10b)
10a	1	P0307-146A	ROD
10b	1	P0307-136E	KIT, Seal
11	1	A40589P	MOUNT, Pivot
12	4	P0031A-05-004	SCREW, Socket Head Cap 5/16-24 NF x 1
13	1	P0307-136B1	ROD CLEVIS PINS
14**	2	A40590P	INSERT
15**	1	A40591P	SPACER
16	1	P0303-251	HYDRAULIC PUMP & REMOTE CONTROL
17***	1	A40233A	HYDRAULIC PLUMBING

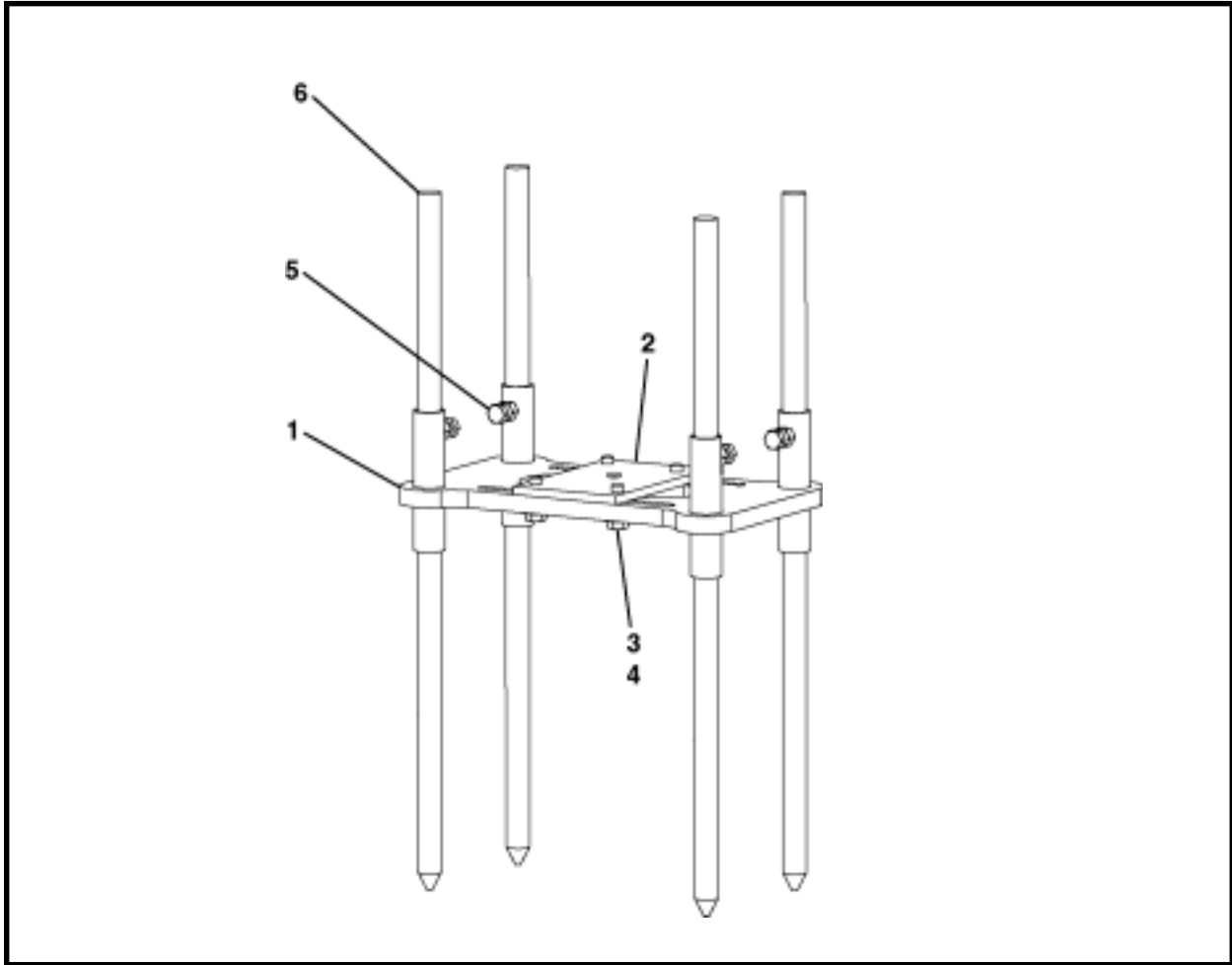
\* Not Shown

\*\* Breakout Tool Inserts Assembly, A40231A includes items 14 and 15.

\*\*\* For parts breakdown, refer to Hydraulic Plumbing - Breakout Tool, A40233A in Section 6, Hydraulics.

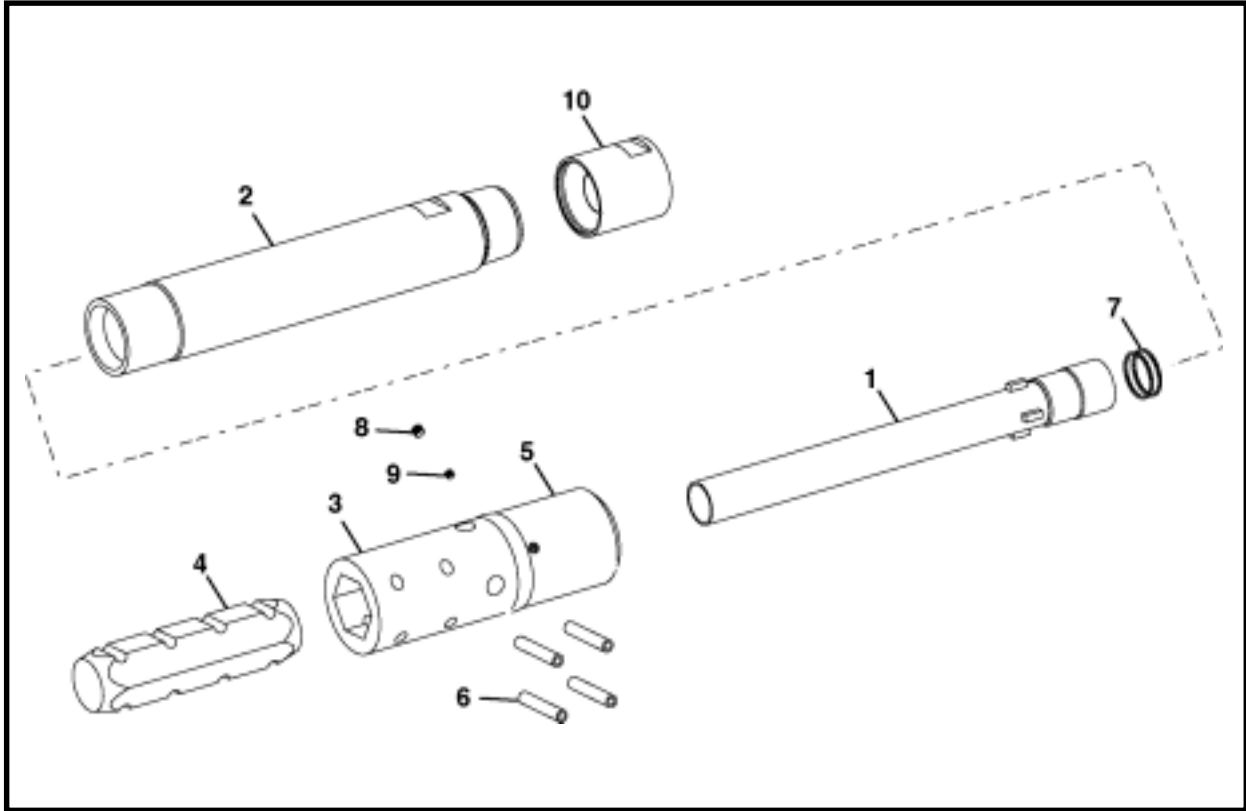
NOTE: Use anti-seize on all bolts.

**THEODOLITE SHAFT STAND - LATCHING FRAME, A40051F  
GUIDANCE SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40051F	THEODOLITE SHAFT STAND - LATCHING FRAME
1	1	A40117A	WELDMNT, Mounting Base
2	1	A40467P	PLATE, Vertical Lift Mounting
3	4	P0001-08-006	BOLT, 1/2 UNC x 1.5
4	4	P0040-008	WASHER, Flat 1/2
5	4	P0001-08-004	BOLT, 1/2 UNC x 1
6	4	A40468P	STAKE

**PILOT TUBE ADAPTER, A41403F  
PILOT TUBE**



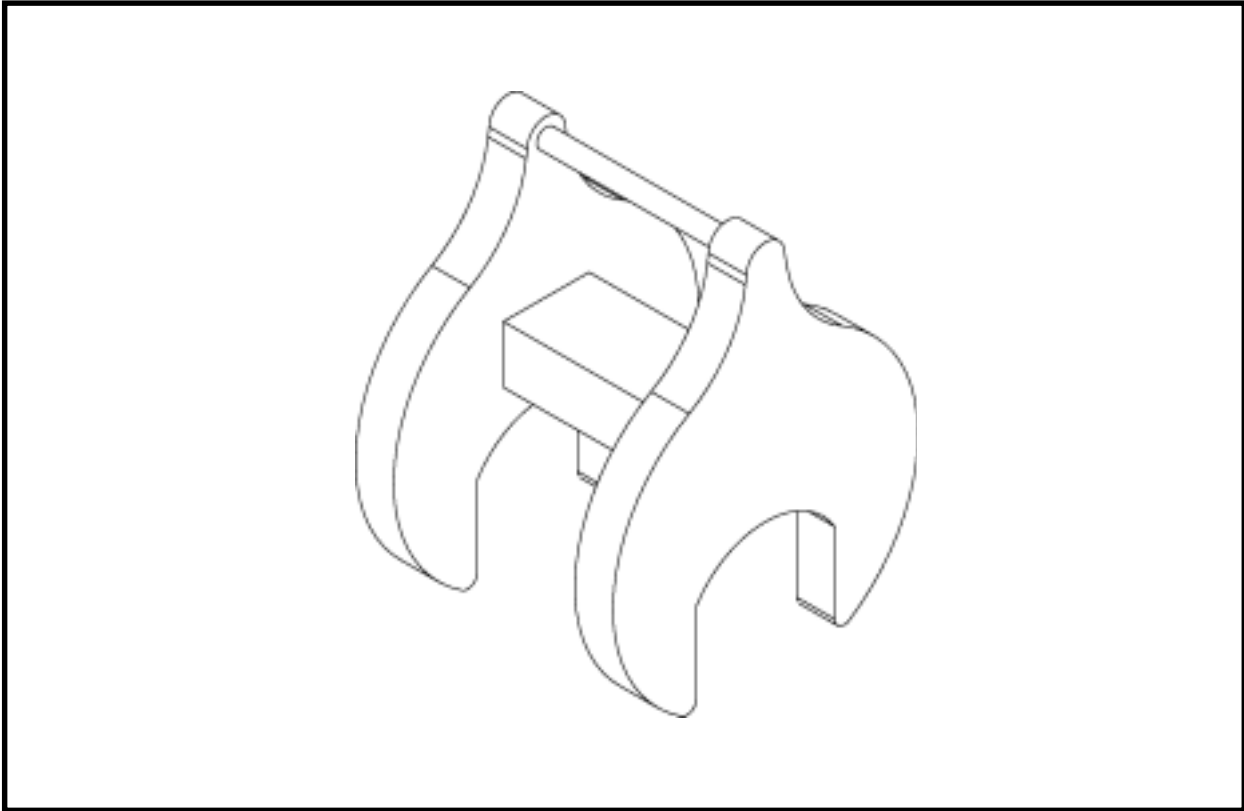
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41403F	PILOT TUBE ADAPTER
1	1	NSS	TUBE, Inner
2	1	NSS	TUBE
3	1	NSS	ADAPTER, Female
4	1	A41332P	STEM, Hex Connection
5	1	NSS	BODY, Fluid Outlet
6	4	P0049-201	PIN, Spiral Spring
7	2	P0085-228	ORING
9	3	P0300-026	PLUG, 1/4-18 NPT
8	3	P0300-144	PLUG, 1/8-27 NPT
10	1	A40243F	CONNECTOR, Fluid, Reception Shaft (Includes item 10a)
10a*	1	P0416-004	PLUG, Square Head 3/4

\* Not Shown

NSS - Not Sold Separately

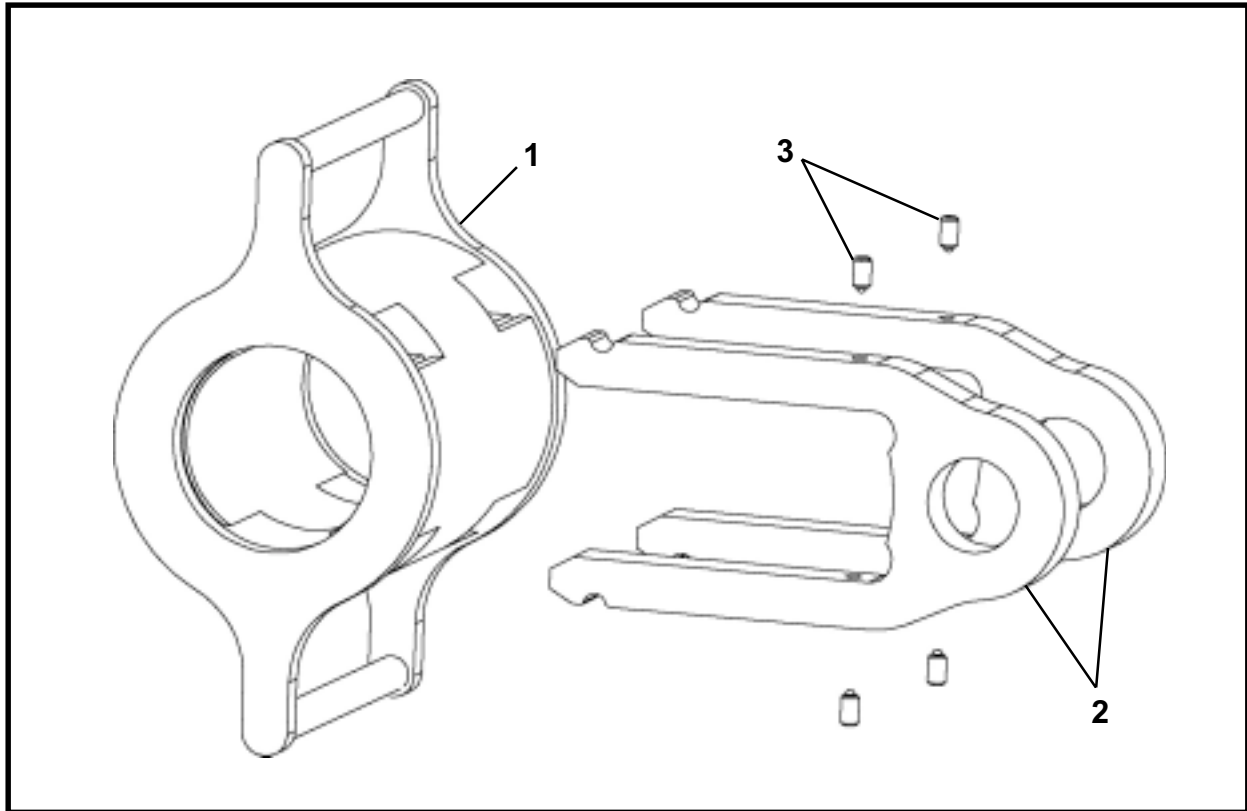
## **NOTES**

**BREAKOUT TOOL - LAUNCH SHAFT ASSEMBLY (NEW STYLE), A42240A  
BREAKOUT TOOL**



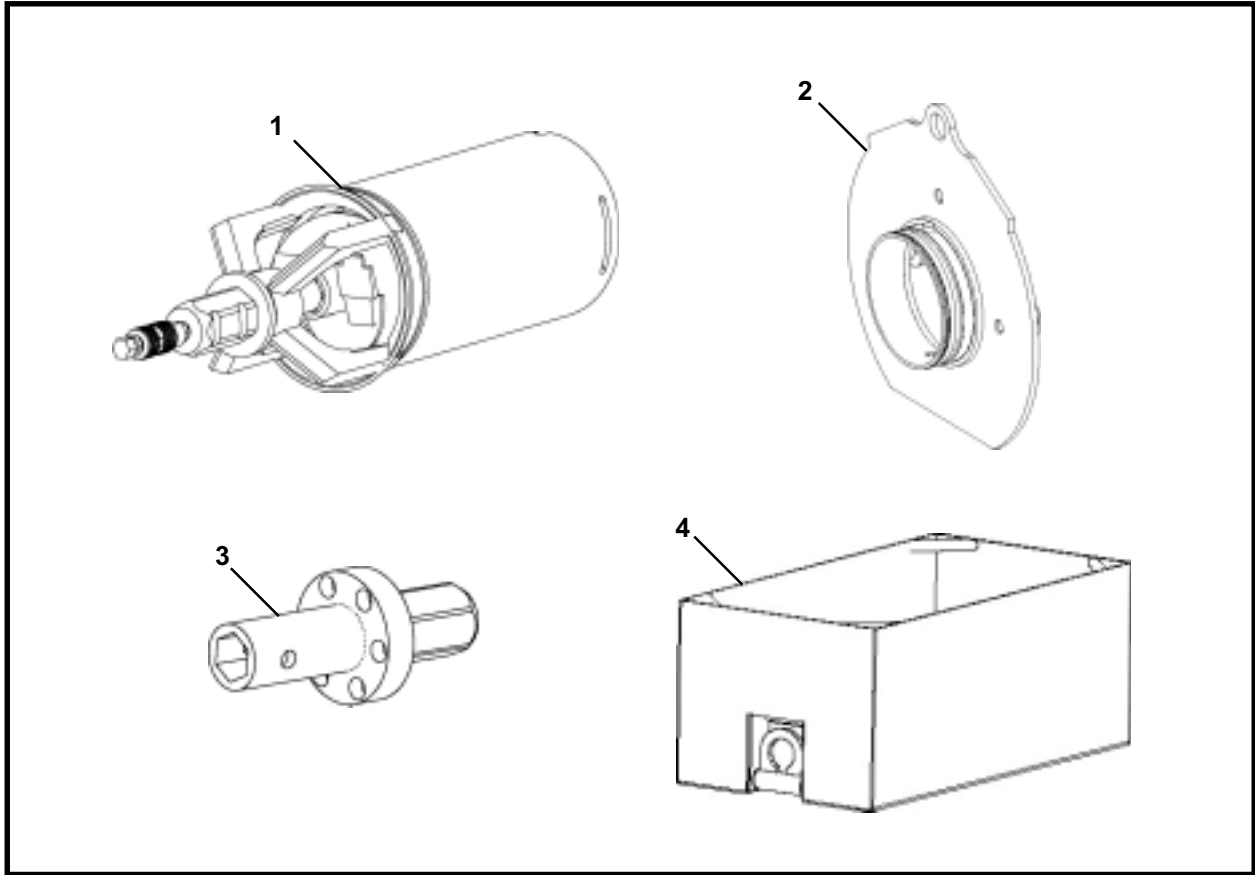
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42240A	BREAKOUT TOOL - LAUNCH SHAFT ASSEMBLY

**BREAKOUT TOOL - LAUNCH SHAFT ASSEMBLY (OLD STYLE), A40254F  
BREAKOUT TOOL**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40254F	BREAKOUT TOOL - LAUNCH SHAFT ASSEMBLY
1	1	A40256A	WELDMENT, Pullback Tool
2	2	A40975P	CLEVIS, Connection
3	4	P0058-011	PLUNGER, Spring

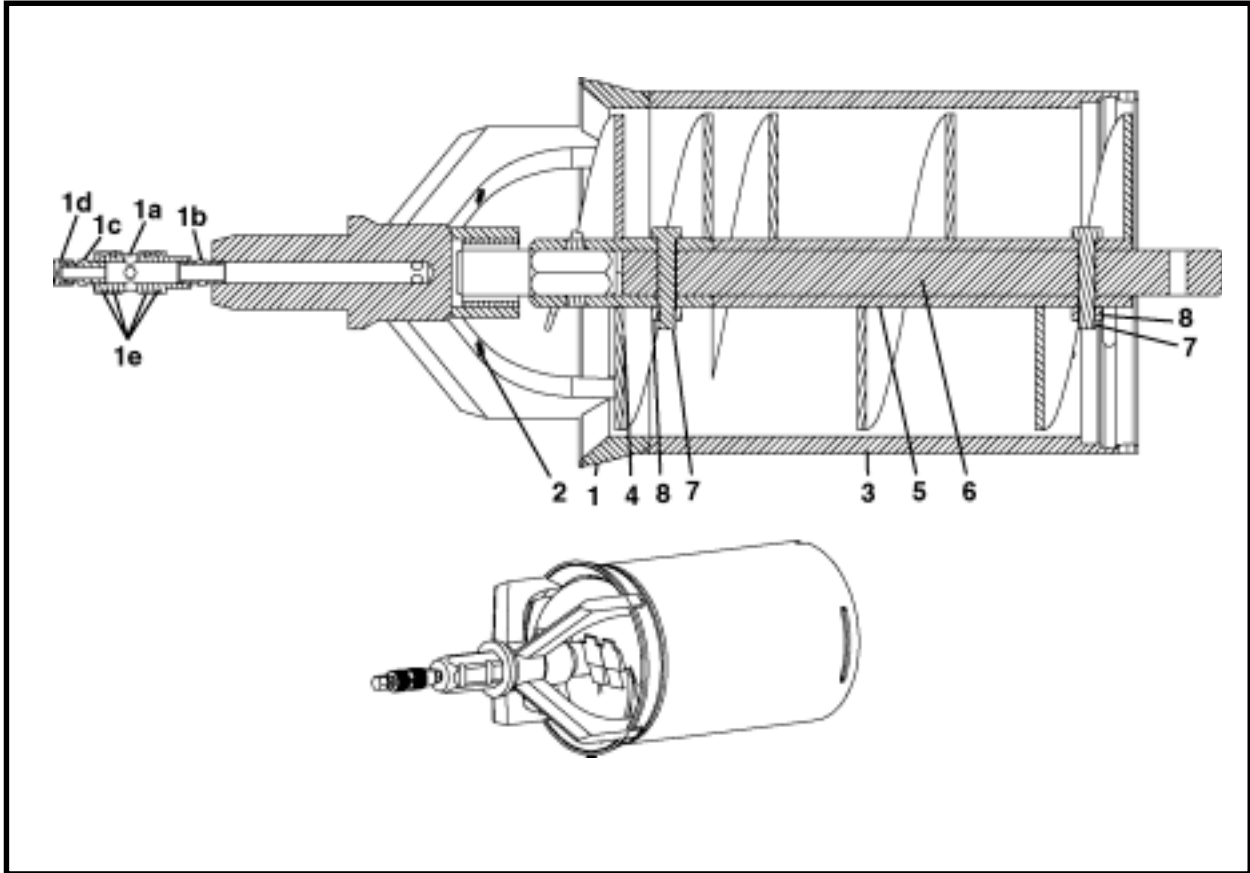
**REAMING HEAD ASSEMBLY, 11" - 16" OD  
REAMING HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A42110F	ASSEMBLY, 11" Reaming Head
0.2	1	A42111F	ASSEMBLY, 12" Reaming Head
0.3	1	A42112F	ASSEMBLY, 14" Reaming Head
0.4	1	A42113F	ASSEMBLY, 16" Reaming Head
1.1	1	A40304F	ASSEMBLY, Reaming Head, 11" OD Casing
1.2	1	A40284F	ASSEMBLY, Reaming Head, 12" OD Casing
1.3	1	A40324F	ASSEMBLY, Reaming Head, 14" OD Casing
1.4	1	A40344F	ASSEMBLY, Reaming Head, 16" OD Casing
2.1	1	A40300F	ADAPTER, Casing Thrust, 11" OD Casing
2.2	1	A40280F	ADAPTER, Casing Thrust, 12" OD Casing
2.3	1	A40320F	ADAPTER, Casing Thrust, 14" OD Casing
2.4	1	A40340F	ADAPTER, Casing Thrust, 16" OD Casing
3	1	A40205F	ADAPTER, Auger Drive, 2" Hex Drive Input
4*	1	A40208F	BUCKET, Dirt

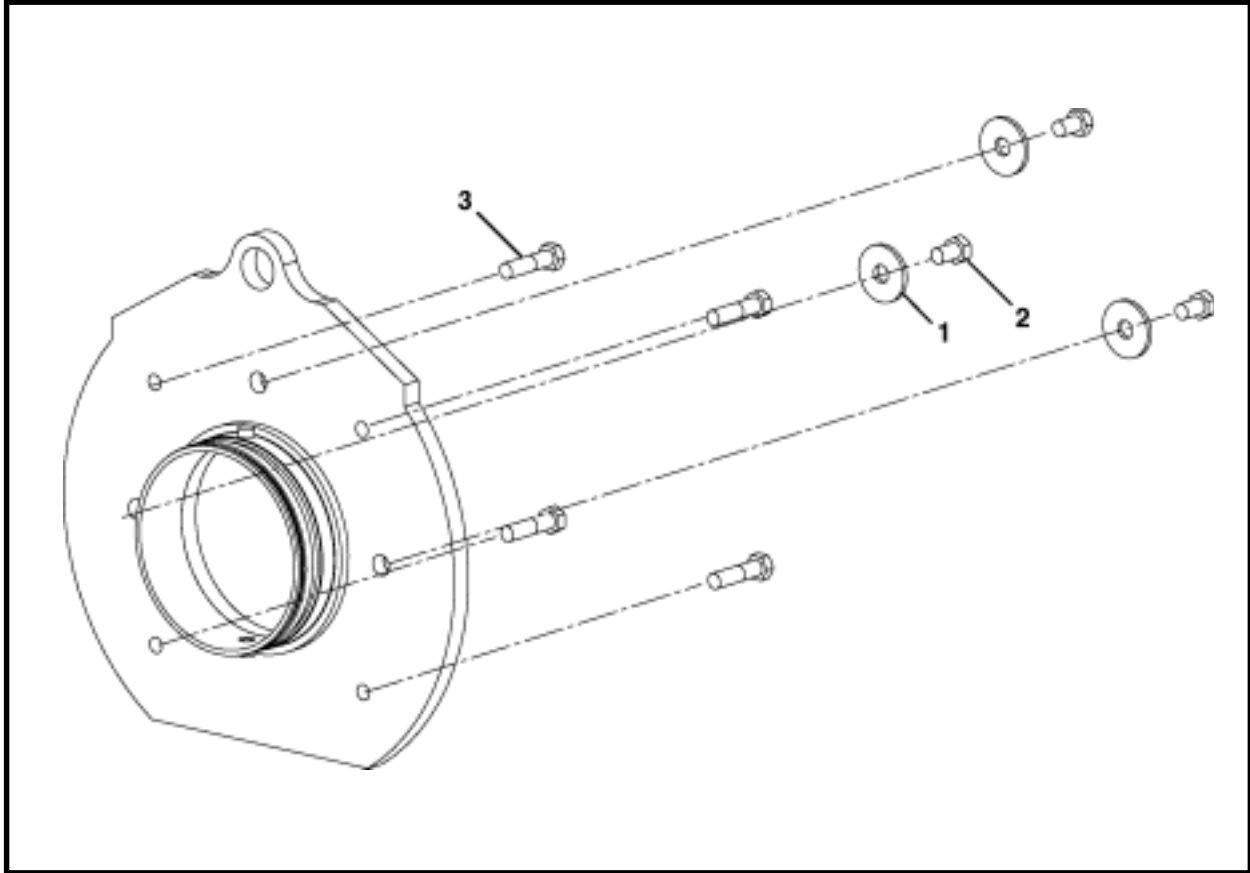
\* For available dirt buckets, refer to Dirt Buckets in Section 3, Structural.

**REAMING HEAD, 11" - 16" OD**  
**REAMING HEAD**



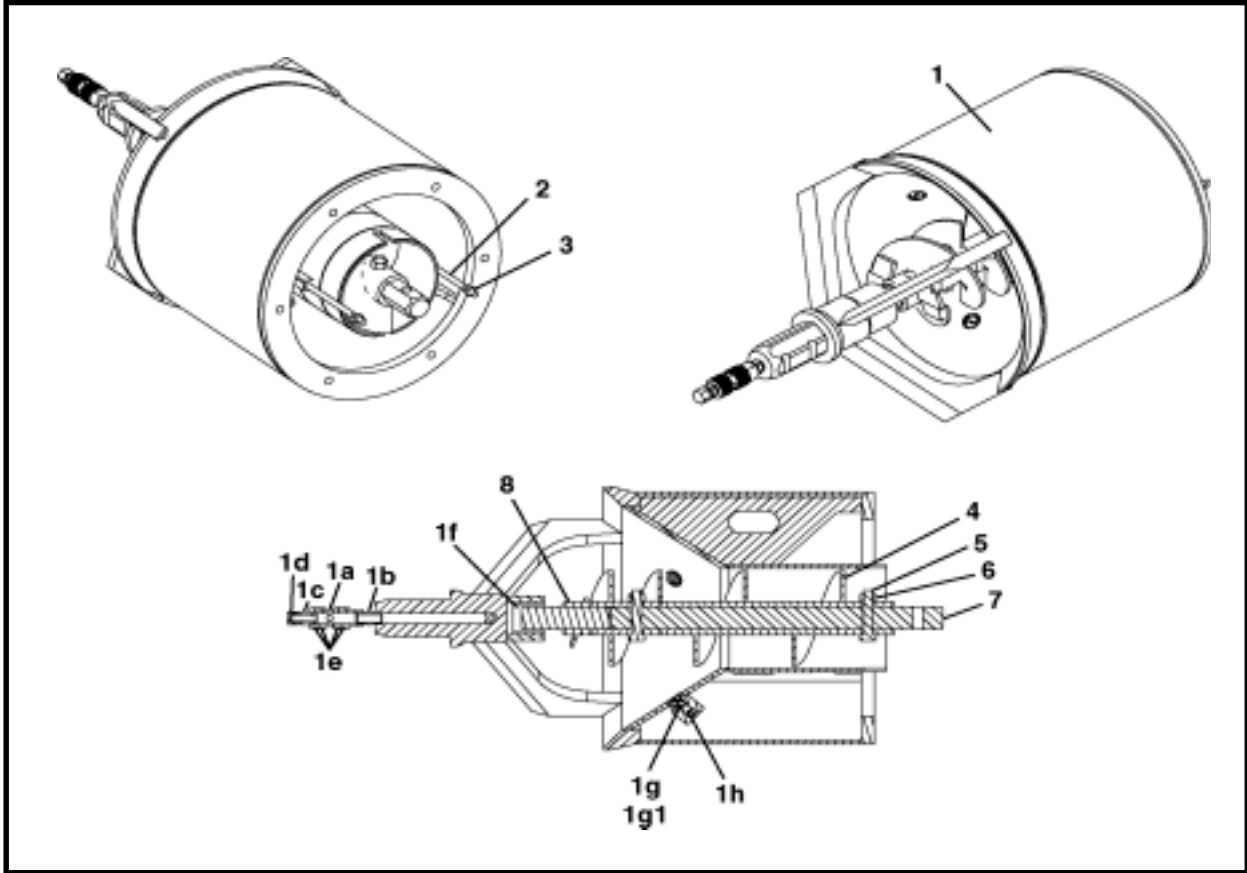
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40304F	REAMING HEAD 11" OD Casing
0.2	1	A40284F	REAMING HEAD 12" OD Casing
0.3	1	A40324F	REAMING HEAD 14" OD Casing
0.4	1	A40344F	REAMING HEAD 16" OD Casing
1.1	1	A40307A	WELDMENT, Reaming Head 11" OD Casing (Includes 1a - 1e)
1.2	1	A40287A	WELDMENT, Reaming Head 12" OD Casing (Includes 1a - 1e)
1.3	1	A40327A	WELDMENT, Reaming Head 14" OD Casing (Includes 1a - 1e)
1.4	1	A40347A	WELDMENT, Reaming Head 16" OD Casing (Includes 1a - 1e)
1a	1	A40976P	ADAPTER, Fluid
1b	1	P0300-107	NIPPLE
1c	1	P0300-174	ADAPTER
1d	1	P0300-140	CAP
1e	4	P0085-325	ORING
2	4	P0300-026	PLUG
3.1	1	A40312A	WELDMENT, Lead Casing 11" OD Casing
3.2	1	A40292A	WELDMENT, Lead Casing 12" OD Casing
3.3	1	A40332A	WELDMENT, Lead Casing 14" OD Casing
3.4	1	A40352A	WELDMENT, Lead Casing 16" OD Casing
4.1	1	A41225A	CUTTER BIT 11" OD Casing
4.2	1	A41225A	CUTTER BIT 12" OD Casing
4.3	1	A40328A	CUTTER BIT 14" OD Casing
4.4	1	A40348A	CUTTER BIT 16" OD Casing
5.1	1	A40313A	WELDMENT, Lead Auger 11" OD Casing
5.2	1	A40293A	WELDMENT, Lead Auger 12" OD Casing
5.3	1	A40333A	WELDMENT, Lead Auger 14" OD Casing
5.4	1	A40353A	WELDMENT, Lead Auger 16" OD Casing
6	1	A40907P	STEM
7	2	P0001-12-016	BOLT, 3/4 UNC x 4
8	2	P0013-12A	NUT, Nylock Lock

## CASING THRUST ADAPTER



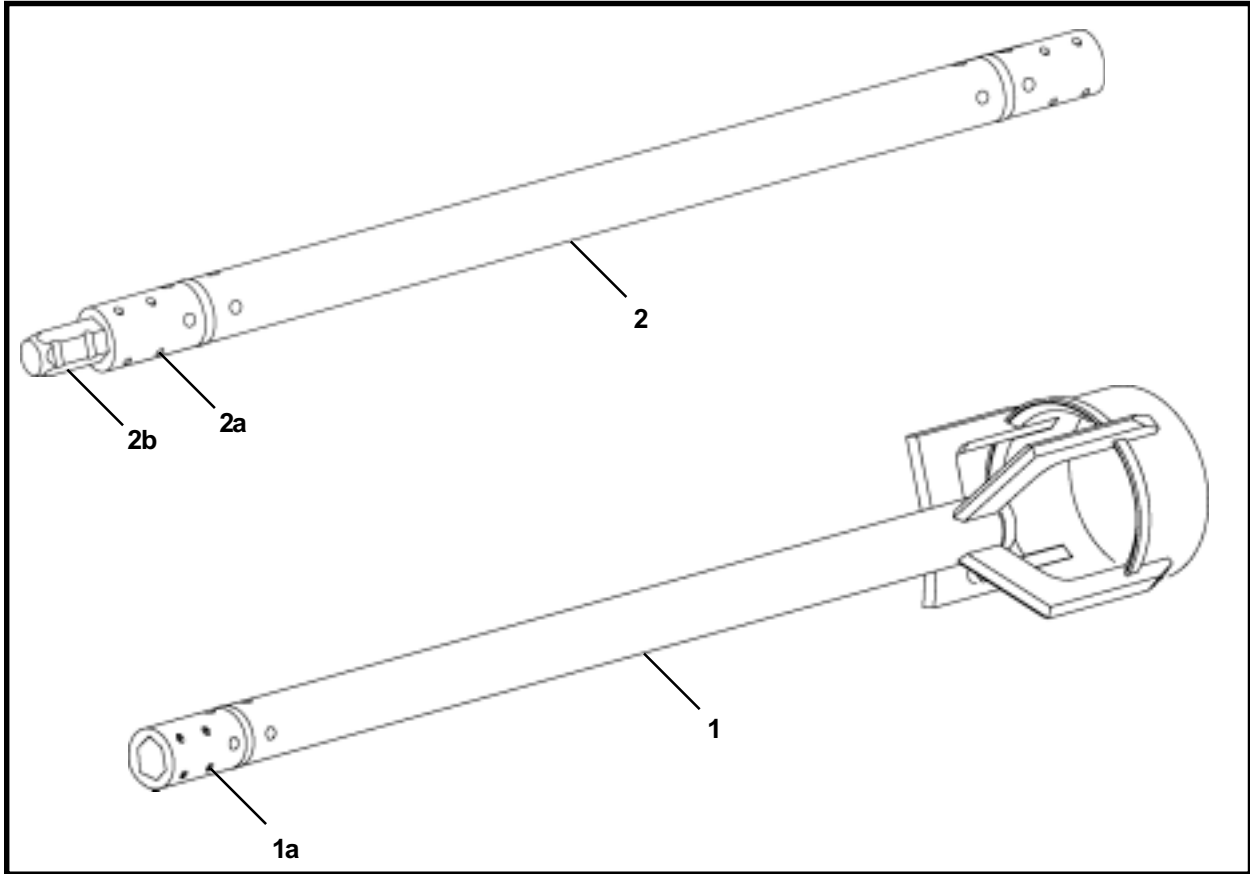
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40300F	ADAPTER, Casing Thrust, 11" OD Casing
0.2	1	A40280F	ADAPTER, Casing Thrust, 12" OD Casing
0.3	1	A40320F	ADAPTER, Casing Thrust, 14" OD Casing
0.4	1	A40340F	ADAPTER, Casing Thrust, 16" OD Casing
1	3	004124P01	WASHER
2	3	P0001-12-005	BOLT, 3/4 UNC x 1.25
3	4	P0001-12-012	BOLT, 3/4 UNC x 3

**REAMING HEAD ASSEMBLY, 21", 22.5" & 24" OD  
REAMING HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A42380F	REAMING HEAD ASSEMBLY, 21" OD
0.2	1	A42180F	REAMING HEAD ASSEMBLY, 22.5" OD
0.3	1	A42273F	REAMING HEAD ASSEMBLY, 24" OD
1.1	1	A42382A	WELDMENT, Reaming Head, 21" OD (Includes 1a - 1h)
1.2	1	A42181A	WELDMENT, Reaming Head, 22.5" OD (Includes 1a - 1h)
1.3	1	A42272A	WELDMENT, Reaming Head 24" OD (Includes 1a - 1h)
1a	1	A40976P	ADAPTER, Fluid
1b	1	P0300-107	NIPPLE
1c	1	P0300-174	ADAPTER
1d	1	P0300-140	CAP
1e	4	P0085-325	ORING
1f	1	P0066-013	BUSHING, Bronze
1g	3	A01213A	MOUNT, Control Orifice (Includes item 1g1)
1g1	1	P0085-116	ORING
1h	3	P0302-342	VALVE, Check
2	2	P0001-08-040	BOLT, 1/2-13 UNC x 10
3	2	P0003-08	NUT, 1/2
4	1	A41224A	WELDMENT, Lead Auger
5	2	P0001-12-016	BOLT, 3/4 UNC x 4
6	2	P0013-12A	NUT, Nylock Lock
7	1	A40907P	STEM
8	1	A41225A	CUTTER BIT

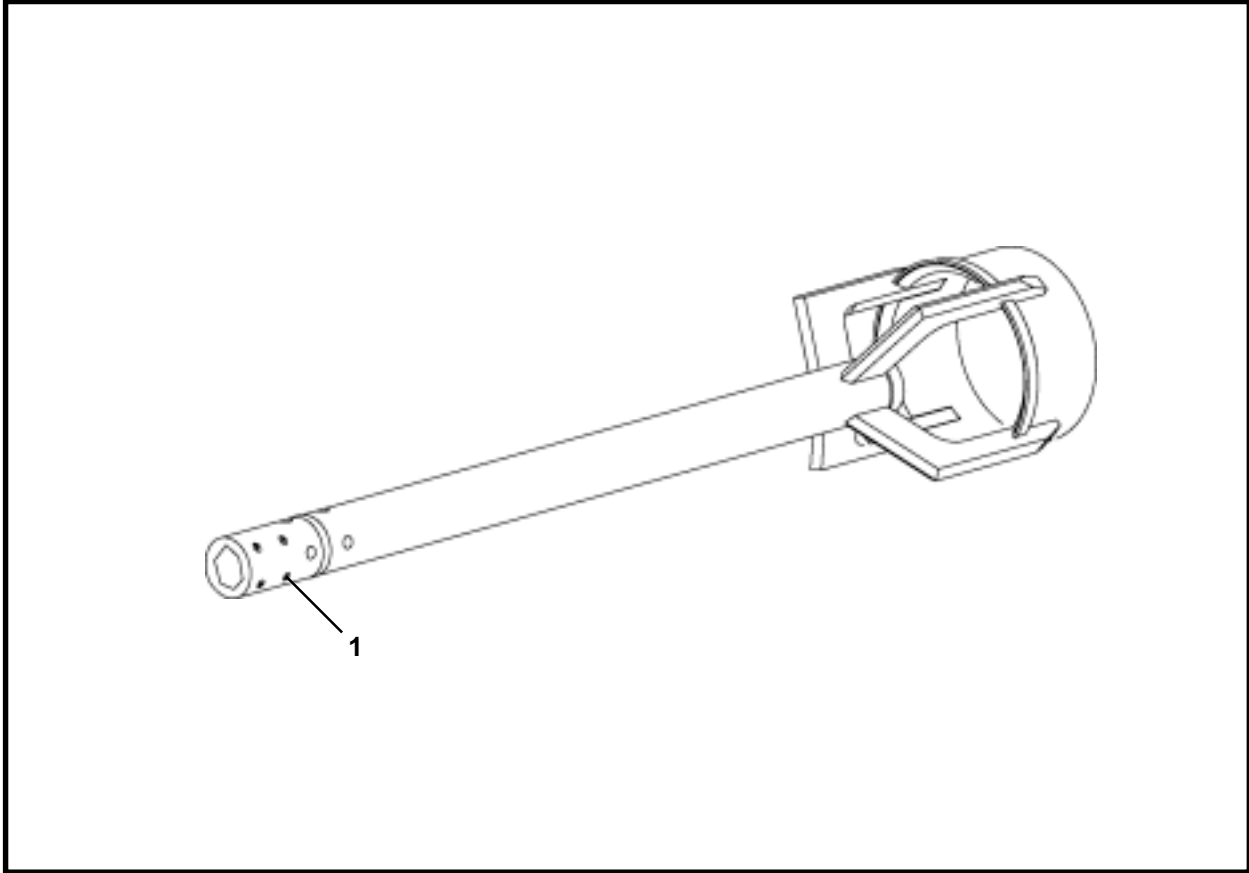
**WELD ON REAMING HEAD ASSEMBLY, 12" OD - 24" OD**  
**3" ID HEX CONNECTION**  
**AUGER BORING**



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A42114F	ASSEMBLY, 12" OD Weld On Reaming Head
0.2	1	A42115F	ASSEMBLY, 14" OD Weld On Reaming Head
0.3	1	A42116F	ASSEMBLY, 16" OD Weld On Reaming Head
0.4	1	A42117F	ASSEMBLY, 18" OD Weld On Reaming Head
0.5	1	A42118F	ASSEMBLY, 20" OD Weld On Reaming Head
0.6	1	A42119F	ASSEMBLY, 22" OD Weld On Reaming Head
0.7	1	A42120F	ASSEMBLY, 24" OD Weld On Reaming Head
1.1	1	A41407F	HEAD, 12" Weld On Reaming (Includes item 1a)
1.2	1	A41406F	HEAD, 14" Weld On Reaming (Includes item 1a)
1.3	1	A41405F	HEAD, 16" Weld On Reaming (Includes item 1a)
1.4	1	A41404F	HEAD, 18" Weld On Reaming (Includes item 1a)
1.5	1	A41401F	HEAD, 20" Weld On Reaming (Includes item 1a)
1.6	1	A41408F	HEAD, 22" Weld On Reaming (Includes item 1a)
1.7	1	A41400F	HEAD, 24" Weld On Reaming (Includes item 1a)
1a	8	P0049-201	PIN, Spiral Spring
2	1	A41402F	TUBE, 10 Ft Pilot (Includes items 2a and 2b)
2a	8	P0049-201	PIN, Spiral Spring
2b	1	A41332P	STEM, Hex Connection

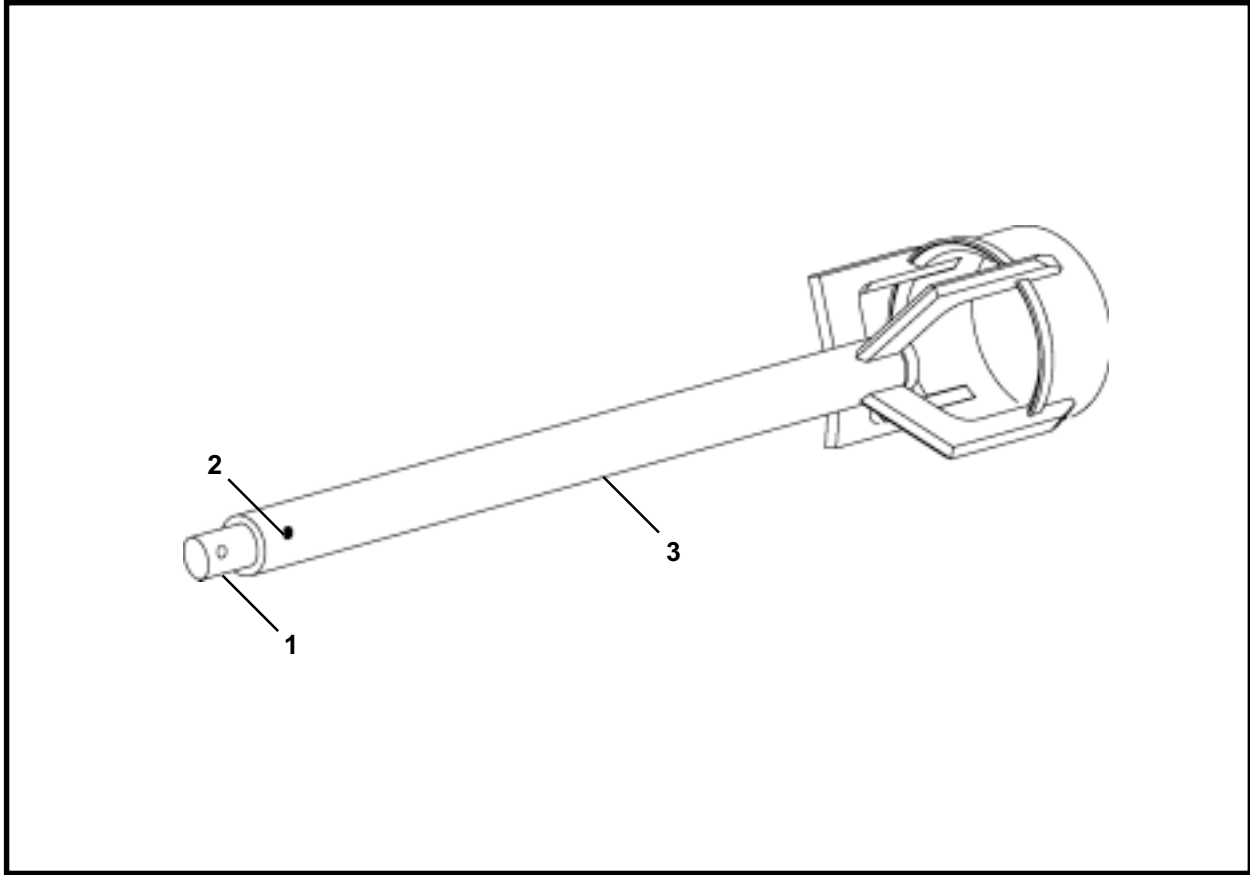
NOTE: Pilot Tube Adapter A41403F, is mounted ahead of 10 ft. Pilot Tube A41402F (item 2).

**24" OD WELD ON REAMING HEAD ASSEMBLY FOR 8' SHAFT, A42288F  
 3" ID HEX, 96" INSTALLED LENGTH  
 AUGER BORING**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42288F	ASSEMBLY, 24" OD Weld On Reaming Head
1	1	P0049-201	PIN, Spiral Spring

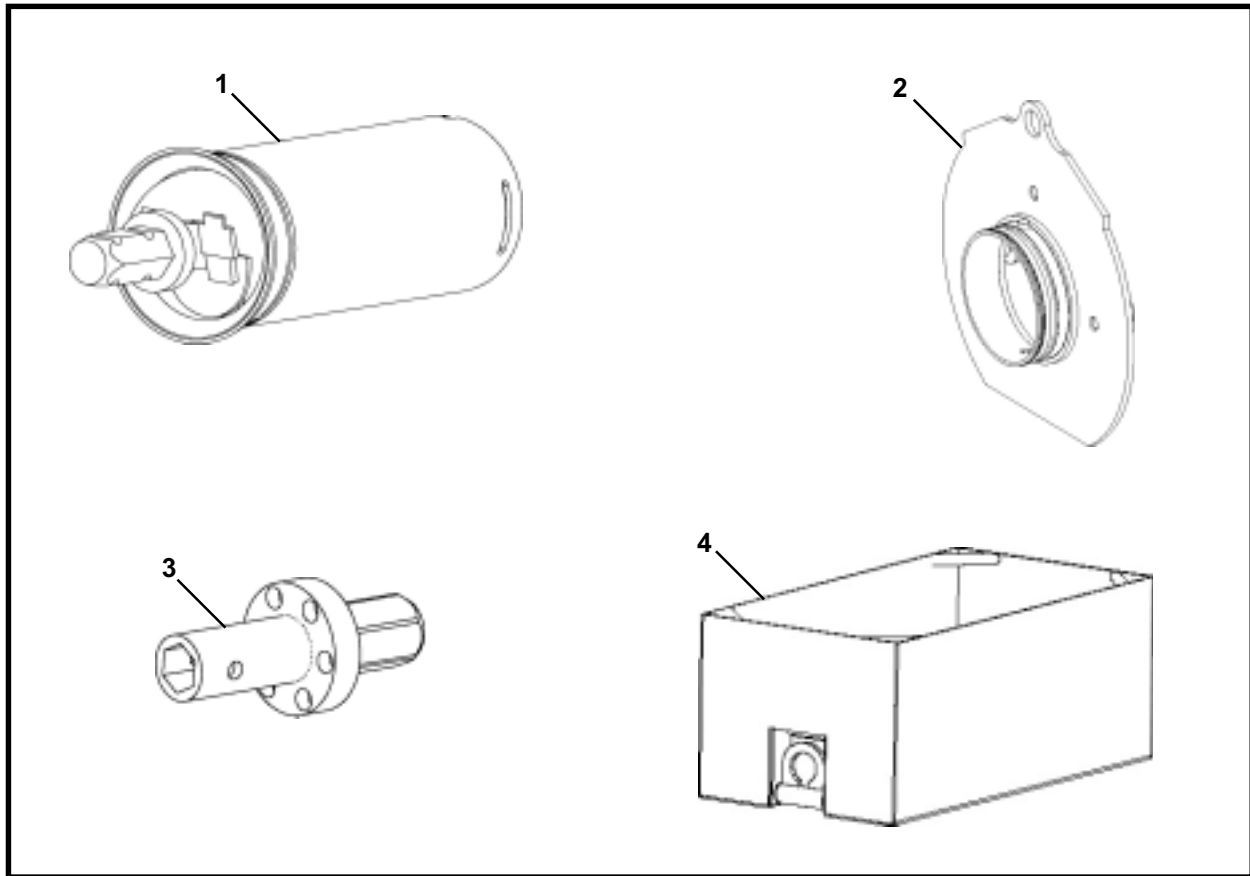
**30" OD WELD ON REAMING HEAD ASSEMBLY, A42336F  
 4" ID HEX, 71.75" INSTALLED LENGTH  
 AUGER BORING**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42336F	ASSEMBLY, 30" OD Weld On Reaming Head
1	1	A41530P	PIN, Coupler 4" ID Hex
2	1	P0031-12-018	SCREW, Socket Head Cap, 3/4-10 x 4.5
3	1	A42342A	WELDMENT, 30" Reaming Head

# NOTES

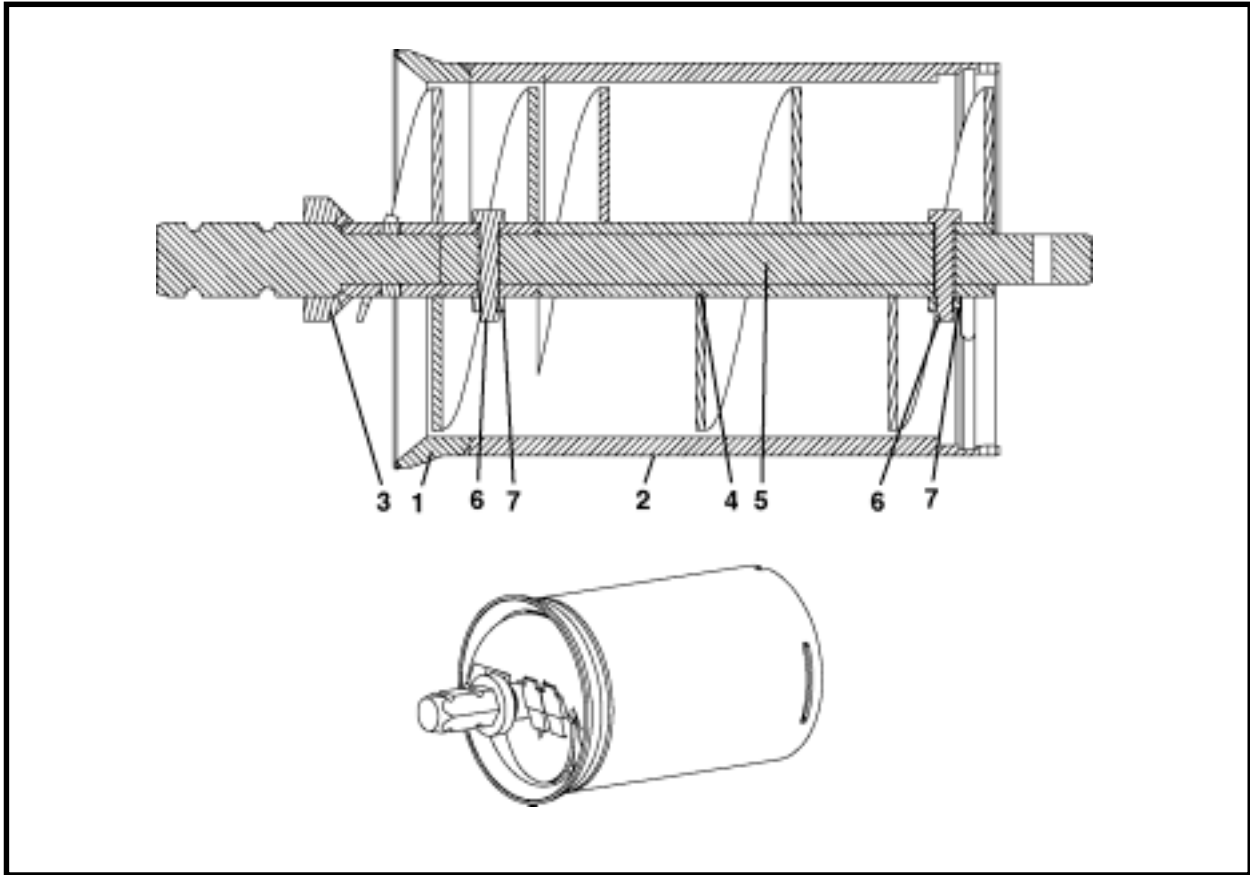
**CUTTER HEAD ASSEMBLY, 11" - 16" OD  
CUTTER HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A42121F	ASSEMBLY, 11" Cutter Head
0.2	1	A42122F	ASSEMBLY, 12" Cutter Head
0.3	1	A42123F	ASSEMBLY, 14" Cutter Head
0.4	1	A42124F	ASSEMBLY, 16" Cutter Head
1.1	1	A40305F	CUTTER HEAD 11" OD Casing
1.2	1	A40285F	CUTTER HEAD 12" OD Casing
1.3	1	A40325F	CUTTER HEAD 14" OD Casing
1.4	1	A40345F	CUTTER HEAD 16" OD Casing
2.1	1	A40300F	ADAPTER, Casing Thrust, 11" OD Casing
2.2	1	A40280F	ADAPTER, Casing Thrust, 12" OD Casing
2.3	1	A40320F	ADAPTER, Casing Thrust, 14" OD Casing
2.4	1	A40340F	ADAPTER, Casing Thrust, 16" OD Casing
3	1	A40205F	ADAPTER, Auger Drive, 2" Hex Drive Input
4*	1	A40208F	BUCKET, Dirt

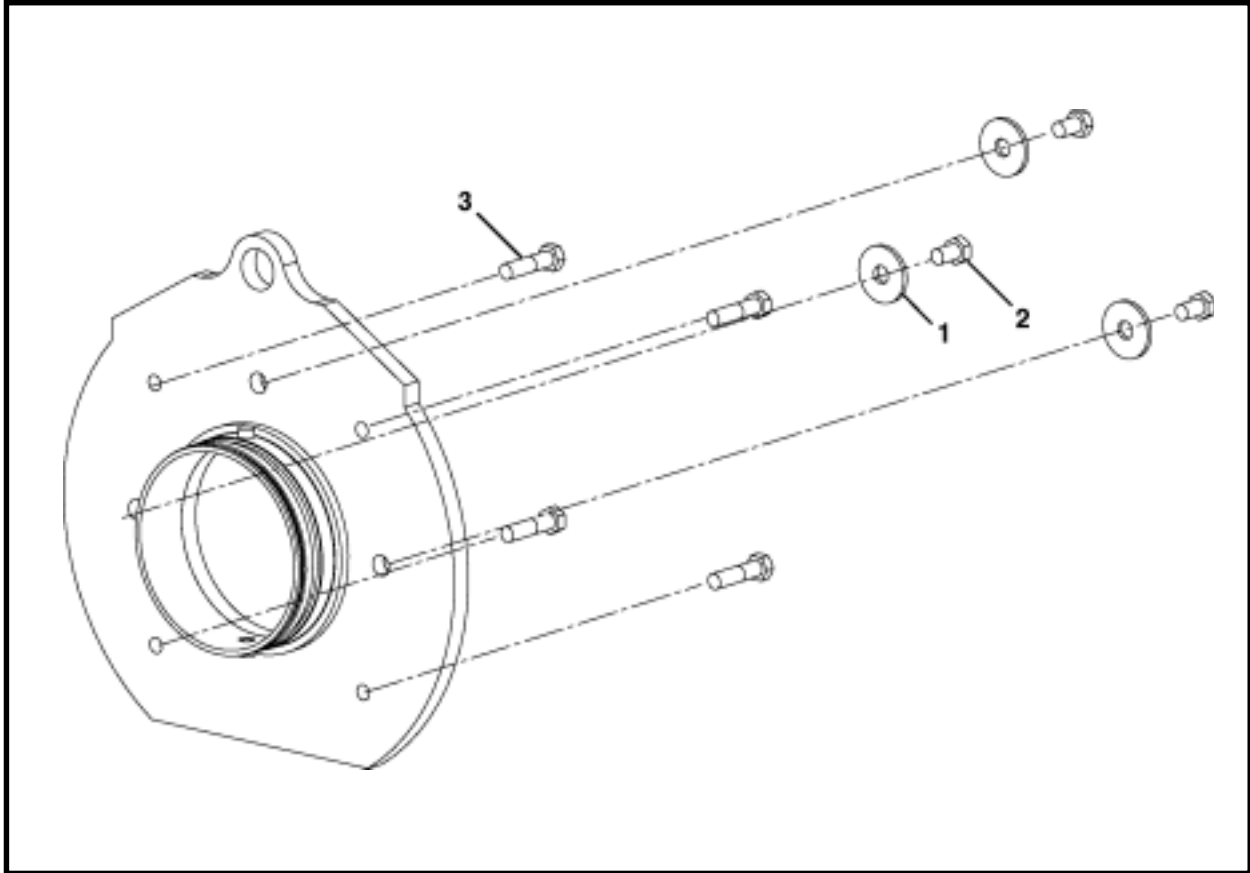
\* For available dirt buckets, refer to Dirt Buckets in Section 3, Structural.

**CUTTER HEAD, 11" - 16" OD**  
**CUTTER HEAD**



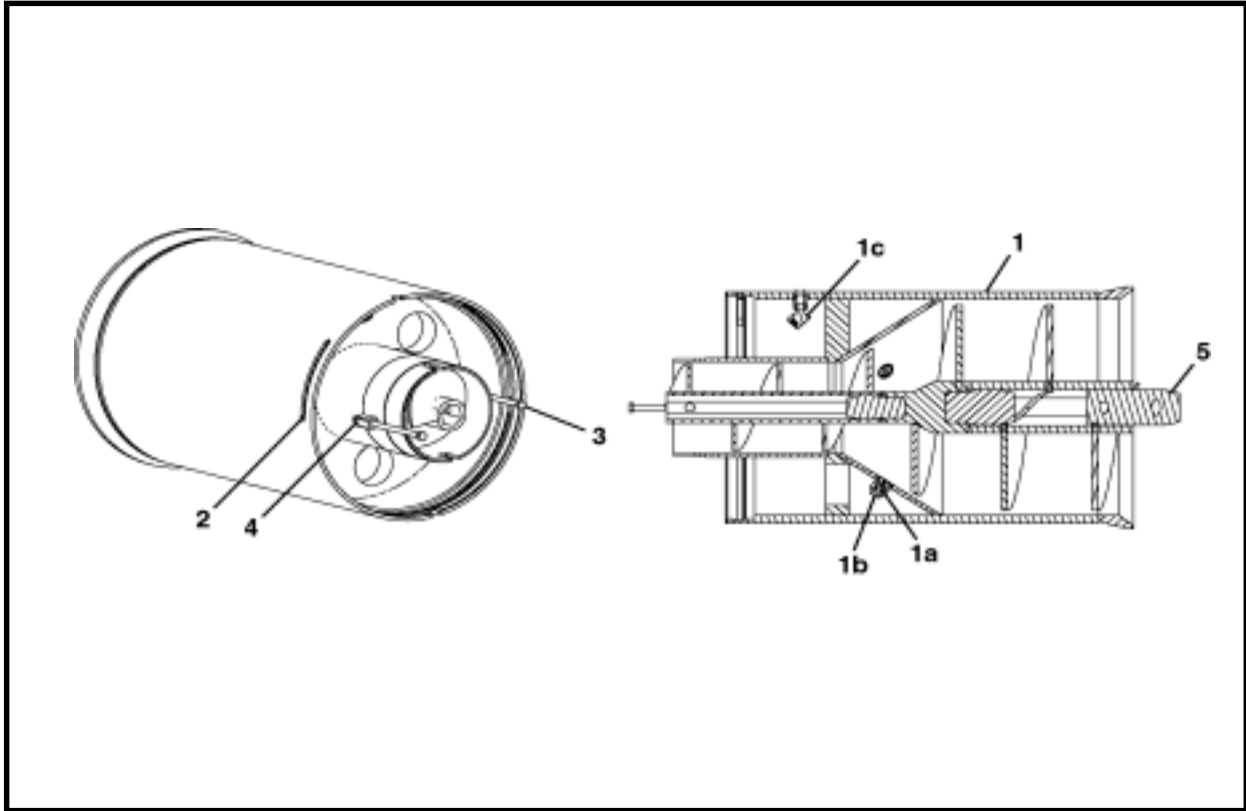
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40305F	CUTTER HEAD 11" OD Casing
0.2	1	A40285F	CUTTER HEAD 12" OD Casing
0.3	1	A40325F	CUTTER HEAD 14" OD Casing
0.4	1	A40345F	CUTTER HEAD 16" OD Casing
1.1	1	A40311A	WELDMENT, Cutter Head 11" OD Casing
1.2	1	A40291A	WELDMENT, Cutter Head 12" OD Casing
1.3	1	A40331A	WELDMENT, Cutter Head 14" OD Casing
1.4	1	A40351A	WELDMENT, Cutter Head 16" OD Casing
2.1	1	A40312A	WELDMENT, Lead Casing 11" OD Casing
2.2	1	A40292A	WELDMENT, Lead Casing 12" OD Casing
2.3	1	A40332A	WELDMENT, Lead Casing 14" OD Casing
2.4	1	A40352A	WELDMENT, Lead Casing 16" OD Casing
3.1	1	A40279A	CUTTER BIT 11" OD Casing
3.2	1	A40289A	CUTTER BIT 12" OD Casing
3.3	1	A40329A	CUTTER BIT 14" OD Casing
3.4	1	A40349A	CUTTER BIT 16" OD Casing
4.1	1	A40313A	WELDMENT, Lead Auger 11" OD Casing
4.2	1	A40293A	WELDMENT, Lead Auger 12" OD Casing
4.3	1	A40333A	WELDMENT, Lead Auger 14" OD Casing
4.4	1	A40353A	WELDMENT, Lead Auger 16" OD Casing
5	1	A40907P	STEM
6	2	P0001-12-016	BOLT, 3/4 UNC x 4
7	2	P0013-12A	NUT, Nylock Lock

## CASING THRUST ADAPTER



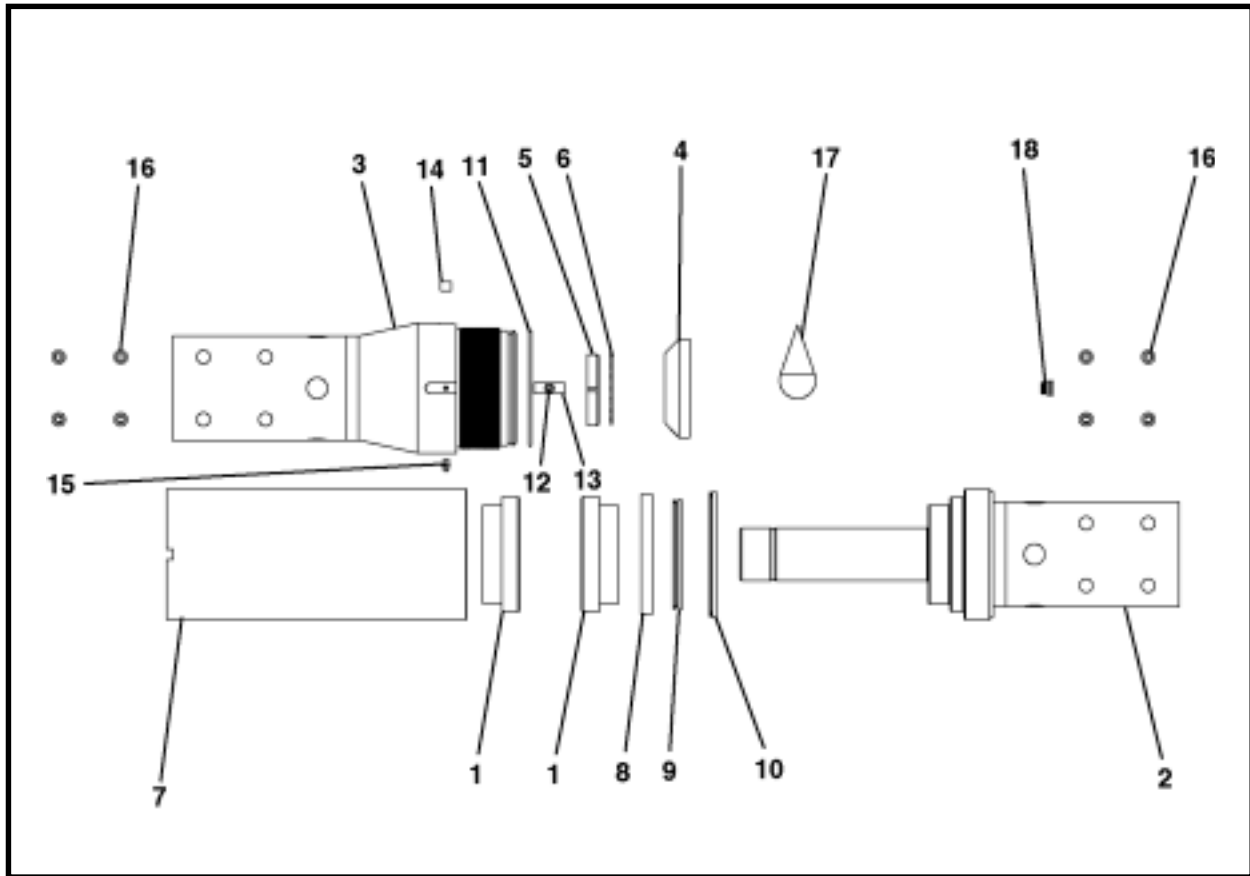
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40300F	ADAPTER, Casing Thrust, 11" OD Casing
0.2	1	A40280F	ADAPTER, Casing Thrust, 12" OD Casing
0.3	1	A40320F	ADAPTER, Casing Thrust, 14" OD Casing
0.4	1	A40340F	ADAPTER, Casing Thrust, 16" OD Casing
1	3	004124P01	WASHER
2	3	P0001-12-005	BOLT, 3/4 UNC x 1.25
3	4	P0001-12-012	BOLT, 3/4 UNC x 3

**CUTTER HEAD, 22.5" & 28.63" OD  
CUTTER HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A42150A	CUTTER HEAD - 22.5" OD
0.2	1	A42160A	CUTTER HEAD - 28.63" OD
1.1	1	A42169A	WELD, Transition (Includes items 1a - 1c)
1.2	1	A42173A	WELD, Transition (Includes items 1a - 1c)
1a	3	A01213A	MOUNT, Control Orifice (Includes item 1a1)
1a1	1	P0085-116	ORING
1b	3	P0302-342	VALVE, Check
1c	1	P0300-029	ELBOW, 1/2 - 45 Deg
2	8	A40638P	CLIP, Retaining
3	2	P0001-08-040	BOLT, 1/2-13 UNC x 10
4	2	P0003-08	NUT, 1/2
5.1	1	A42178A	ASSEMBLY, Transition Auger
5.2	1	A42220A	ASSEMBLY, Transition Auger

## 6.25" PILOT TUBE BEARING SWIVEL, A42350F SWIVEL

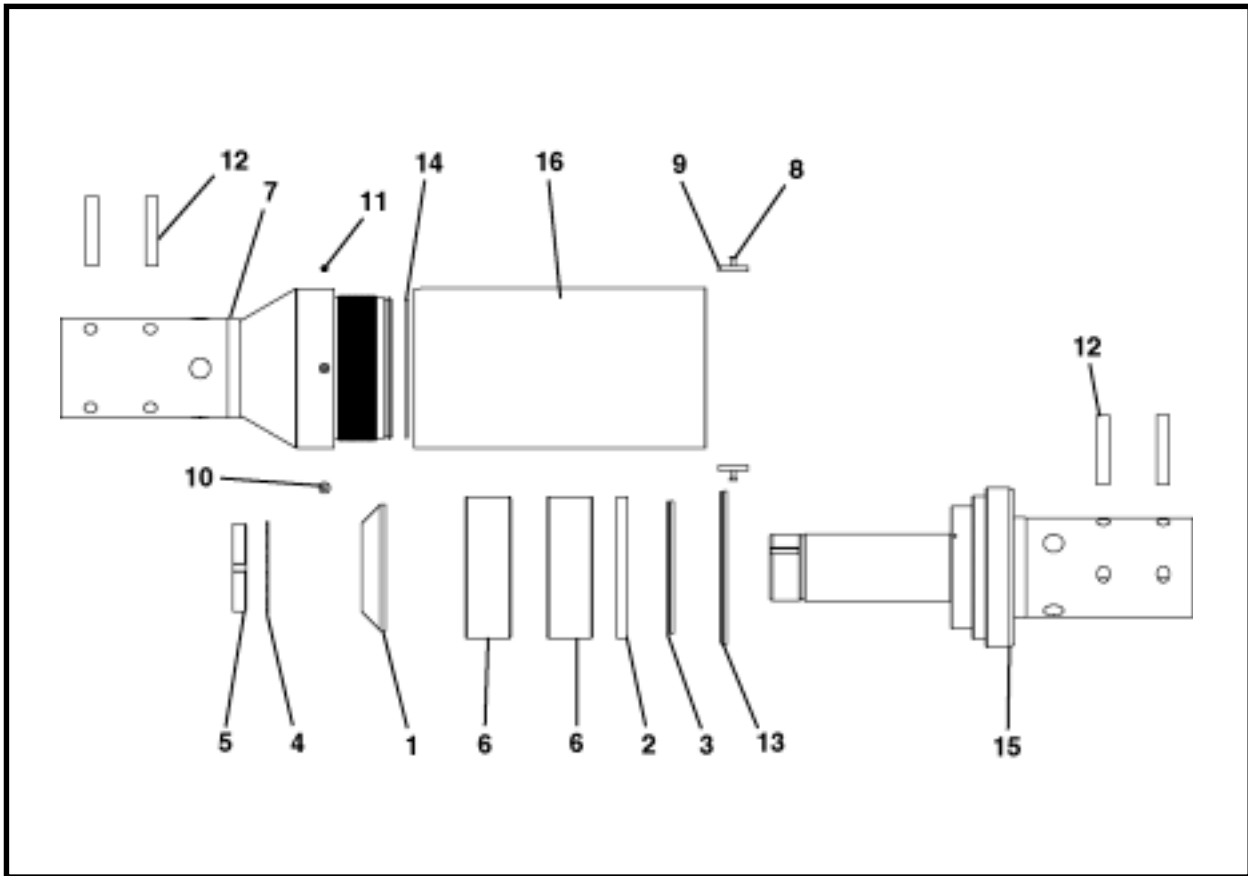


ITEM	QTY	PART NO.	DESCRIPTION
0*	1	A42350F	SWIVEL, 6.25" Pilot Tube Bearing
1	2	P0065-182	BEARING
2	1	NSS	WELDMENT, Rear
3	1	NSS	WELDMENT, Front
4	1	A42351P	WASHER, Support Ring
5	1	P0065-186	NUT, Lock
6	1	P0065-187	WASHER, Lock
7	1	NSS	HOUSING, Bearing Swivel
8	1	P0065-183	SEAL, Oil
9	1	P0065-184	V-SEAL
10	1	P0065-185	V-SEAL
11	1	P0085-252	O-RING
12	2	P0030-03-003	SCREW, Flat Head Socket Cap #10-24 UNC x .75
13	2	A40534P	LOCKTAB
14	1	P0300-026	PLUG, 1/4-18 NPT
15	1	P0063-001	FITTING, Grease 1/4-28
16	8	P0049-201	PIN, Spirol Spring
17	1	P0126-030	OIL, Mobil Gear 636
18	1	P0300-176	PLUG

\* For repair or replacement, contact your Product Support representative for proper installation instructions.

NSS - Not Sold Separately

## 8" PILOT TUBE BEARING SWIVEL, A42340F SWIVEL

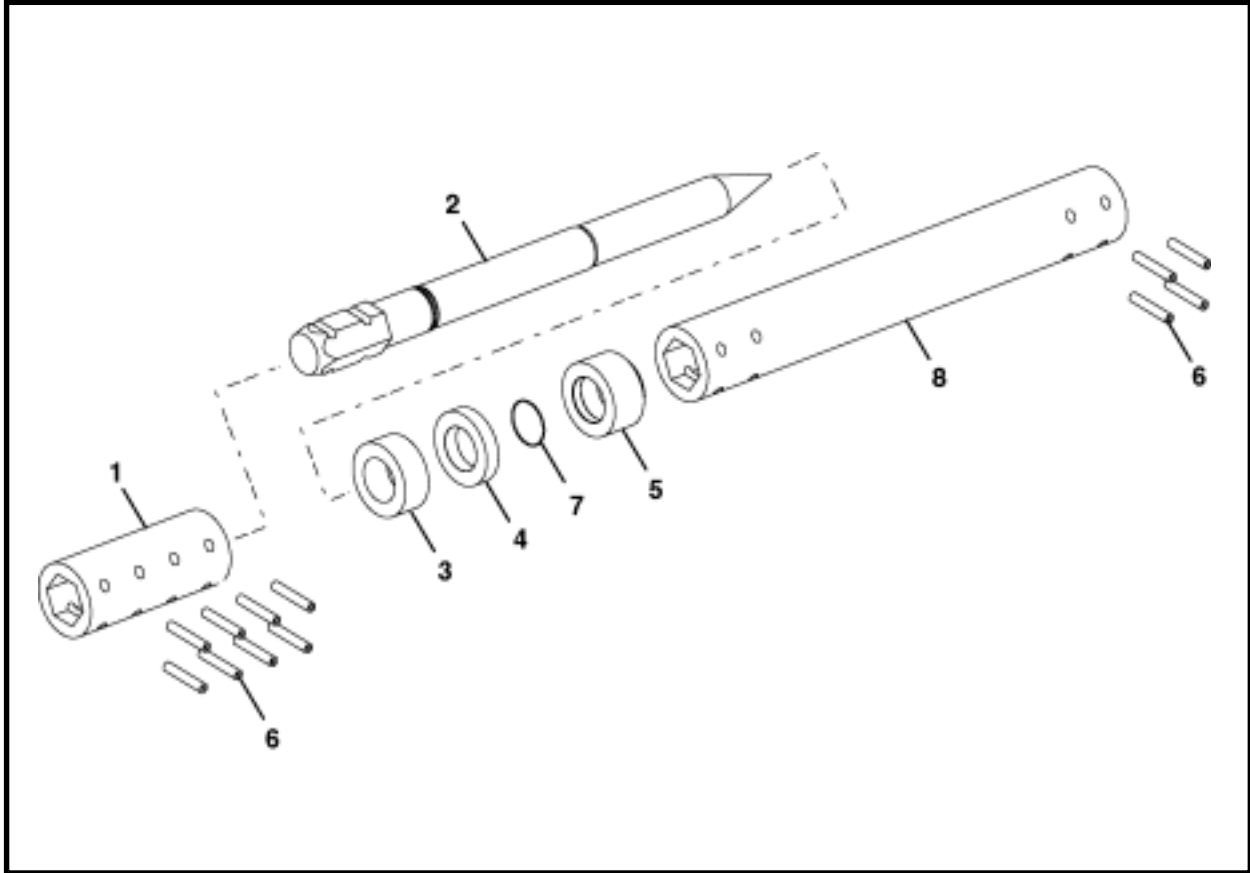


ITEM	QTY	PART NO.	DESCRIPTION
0*	1	A42340F	SWIVEL, 8" Pilot Tube Bearing
1	1	A42331P	WASHER, Support Ring
2	1	P0065-177	SEAL, Oil
3	1	P0065-178	V-SEAL
4	1	P0065-180	WASHER, Lock
5	1	P0065-179	NUT, Lock
6	2	P0065-176	BEARING
7	1	NSS	WELDMENT, Front
8	2	P0030-03-003	SCREW, Flat Head Socket Cap #10-24 UNC x .75
9	2	A40534P	LOCKTAB
10	1	P0300-026	PLUG
11	1	P0063-001	FITTING, Grease 1/4-28
12	8	P0049-201	PIN, Spirol Spring
13	1	P0065-181	V-SEAL
14	1	P0085-261	O-RING
15	1	NSS	WELDMENT, Rear
16	1	NSS	HOUSING, Bearing Swivel
17	1	P0126-030	OIL, Mobil Gear 636

\* For repair or replacement, contact your Product Support representative for proper installation instructions.

NSS - Not Sold Separately

**PILOT GUIDE ROD SWIVEL, A41235F  
3" ID HEX CONNECTION  
AUGER BORING**

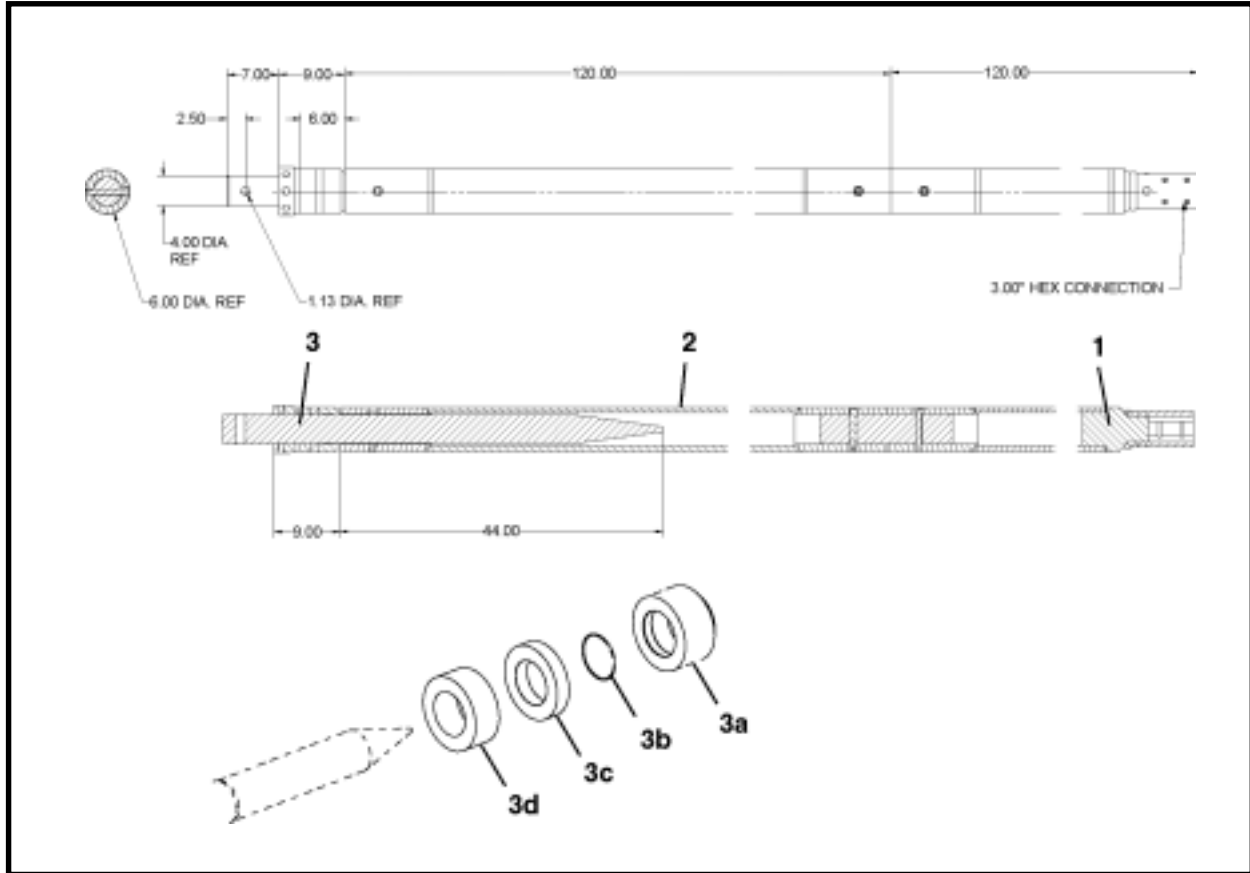


ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41235F	SWIVEL, Pilot Guide Rod
1	1	A41325P	ADAPTER, Female
2	1	A41326P	SHAFT, Guide
3*	2	A41327P	RING, Back Wear
4*	2	A41328P	WASHER, Thrust
5*	2	A41329P	RING, Front Wear
6	16	P0049-201	PIN, Spiral Spring
7*	2	P0085-149	ORING
8	1	A41331P	TUBE, Hex Core Pilot

\* Includes a spare item.

NOTE: Mounts to Cutter Head and Pilot Tube Adapter.

**PILOT GUIDE ROD SWIVEL, A41420F  
4" ID HEX CONNECTION  
AUGER BORING**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41420F	SWIVEL, Pilot Guide Rod
1	1	A41421F	ROD, Lead Guide 3" to 4" ID (10ft long)
2	1	A41422F	ROD, Extension Guide 4" ID (10ft long)
3	1	A41423F	ROD, 4" Swivel Guide (Includes items 3a - 3d)
3a*	2	A41533P	RING, Back Wear
3b*	2	A41534P	WASHER, Thrust
3c*	2	A41535P	RING, Front Wear
3d*	2	P0085-152	O-RING

\* Includes a spare item.

NOTE: Mounts to Pilot Tube Adapter A41403F and auger boring cutter head with 4" hex connection.

**WELD ON AUGER ADAPTER, A42352P**  
**3" ID HEX CONNECTION**  
**AUGER BORING**

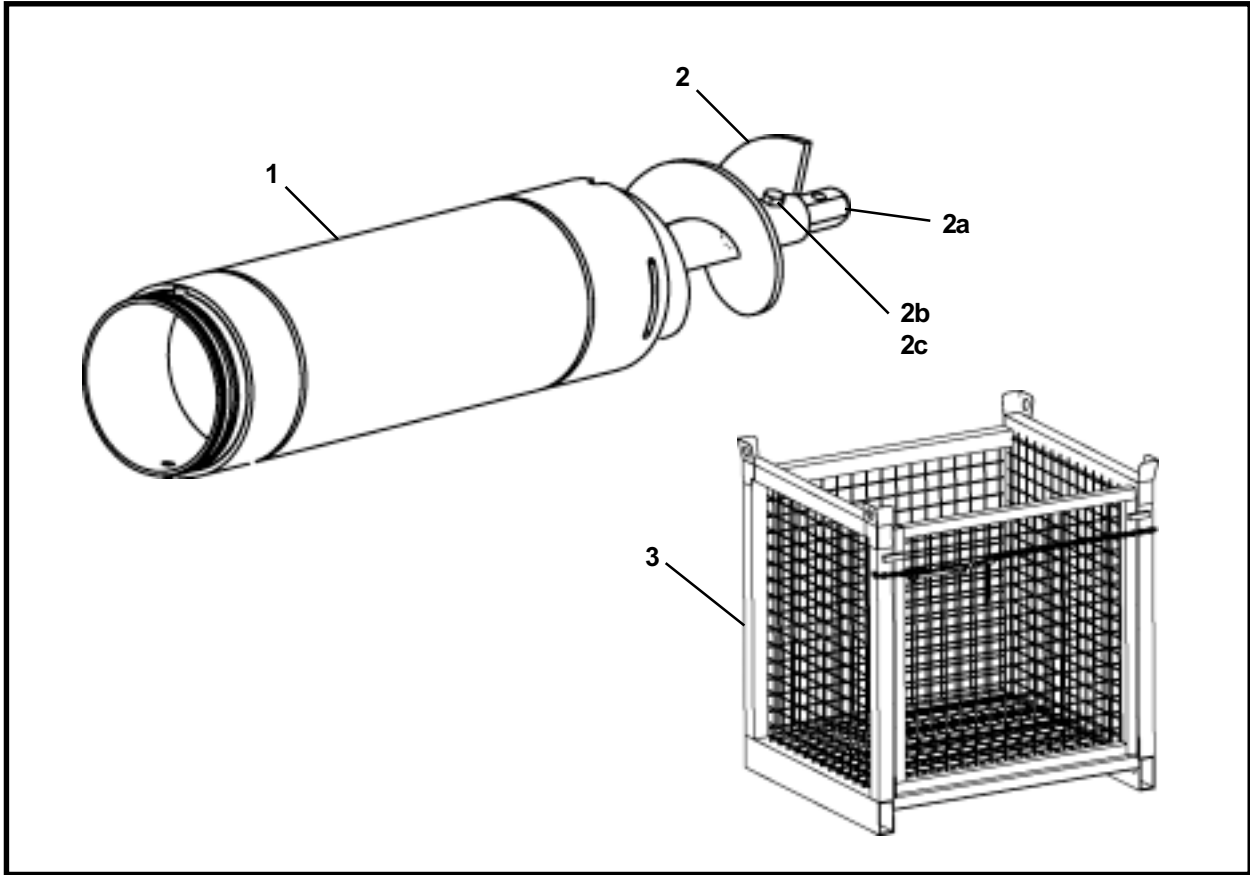


ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42352P	ADAPTER, Weld On Auger

NOTE: Adapter is welded to the auger boring cutter head to provide a connection for guide rod, A41326P.

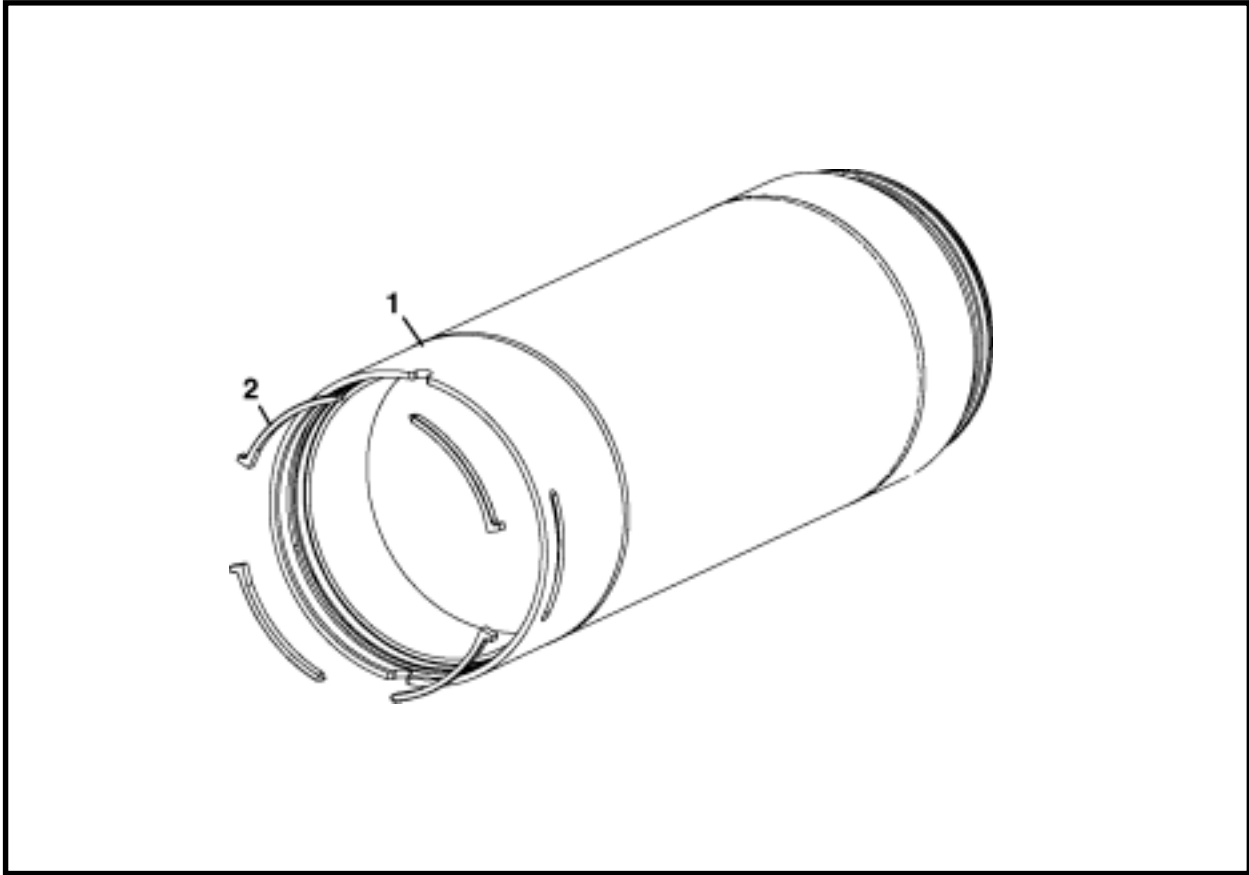
# NOTES

## THRUST CASING ASSEMBLY



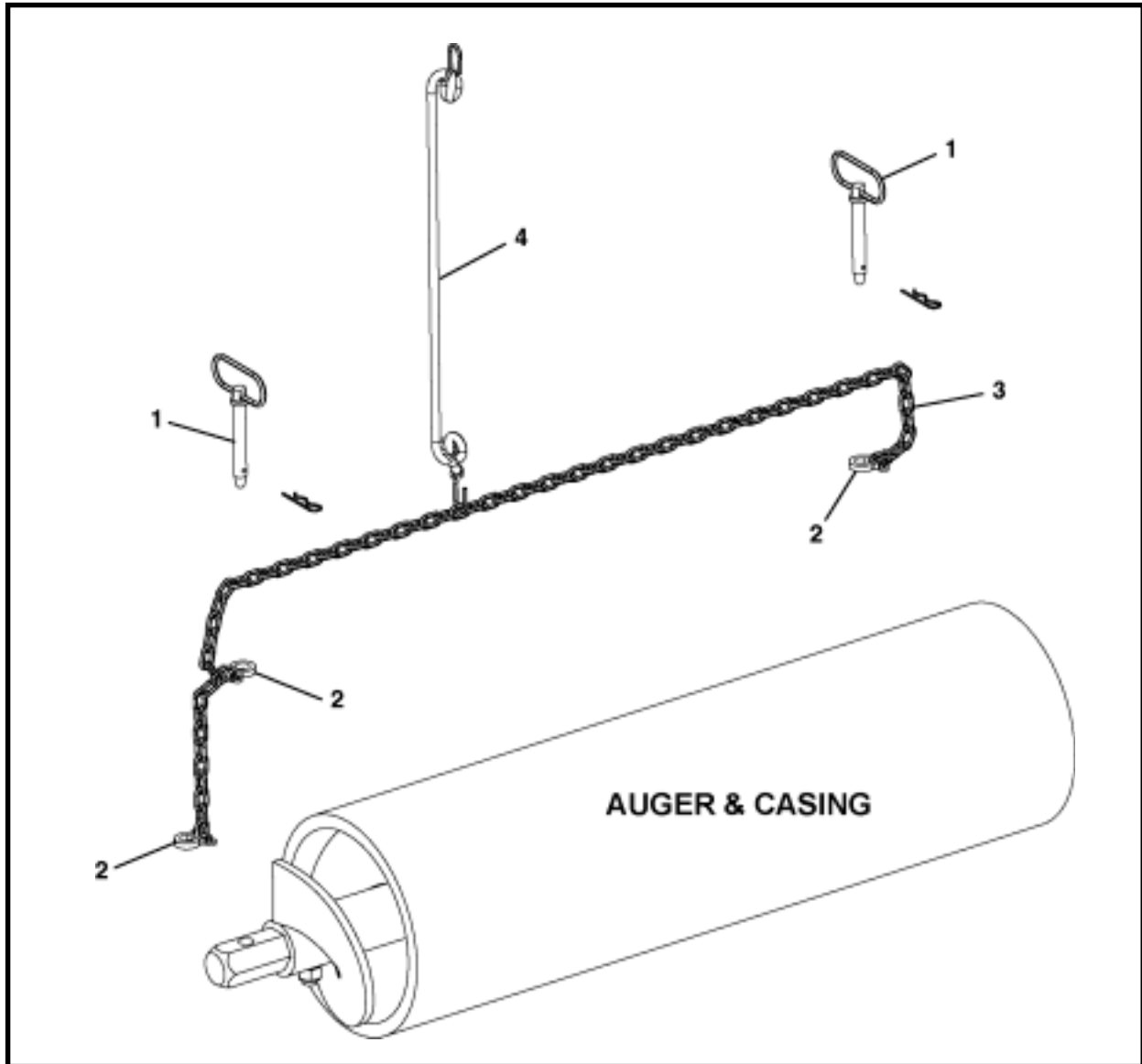
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A42125F	ASSEMBLY, 11" Thrust Casing
0.2	1	A42126F	ASSEMBLY, 12" Thrust Casing
0.3	1	A42127F	ASSEMBLY, 14" Thrust Casing
0.4	1	A42128F	ASSEMBLY, 16" Thrust Casing
1.1	9	A40301F	THRUST CASING 11" OD Casing
1.2	9	A40281F	THRUST CASING 12" OD Casing
1.3	9	A40321F	THRUST CASING 14" OD Casing
1.4	9	A40341F	THRUST CASING 16" OD Casing
2.1	9	A42130A	ASSEMBLY, Auger for 11" OD Casing (Includes items 2a - 2c)
2.2	9	A42140A	ASSEMBLY, Auger for 12" OD Casing (Includes items 2a - 2c)
2.3	9	A42143A	ASSEMBLY, Auger for 14" OD Casing (Includes items 2a - 2c)
2.4	9	A42146A	ASSEMBLY, Auger for 16" OD Casing (Includes items 2a - 2c)
2a	1 ea	A42135P	SHAFT, Hex End
2b	2 ea	P0001-12-016	BOLT, 3/4-10 UNC x 4
2c	2 ea	P0013-12A	NUT, Nylock Lock 3/4
3	1	P0095-102	BASKET, Wire

## THRUST CASING



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40301F	THRUST CASING 11" OD Casing
0.2	1	A40281F	THRUST CASING 12" OD Casing
0.3	1	A40321F	THRUST CASING 14" OD Casing
0.4	1	A40341F	THRUST CASING 16" OD Casing
1.1	1	A40302A	WELDMENT, Thrust Casing 11" OD Casing
1.2	1	A40282A	WELDMENT, Thrust Casing 12" OD Casing
1.3	1	A40322A	WELDMENT, Thrust Casing 14" OD Casing
1.4	1	A40342A	WELDMENT, Thrust Casing 16" OD Casing
2.1	4	P0085-376	CLIP, Retaining 11" OD Casing
2.2	4	P0085-378	CLIP, Retaining 12" OD Casing
2.3	4	P0085-381	CLIP, Retaining 14" OD Casing
2.4	4	P0085-383	CLIP, Retaining 16" OD Casing

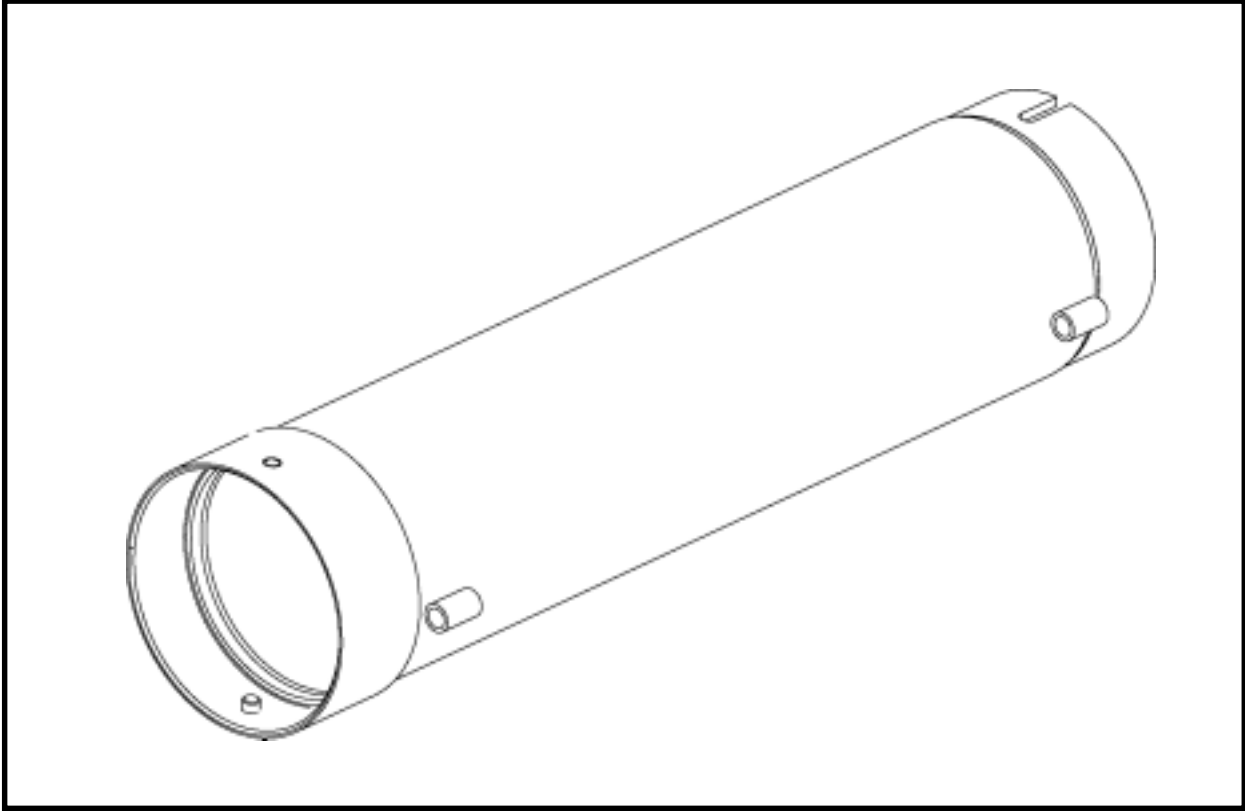
## SAFETY CHAIN ASSEMBLY, A42215A



ITEM	QTY	PART NO.	DESCRIPTION
0*	1	A42215A	SAFETY CHAIN ASSEMBLY
1	2	P0090-010	PIN, Hitch
2	3	P0091-003	SHACKLE, Anchor
3	1	P0094-004	CHAIN
4	1	003060A00	TIE DOWN 20"

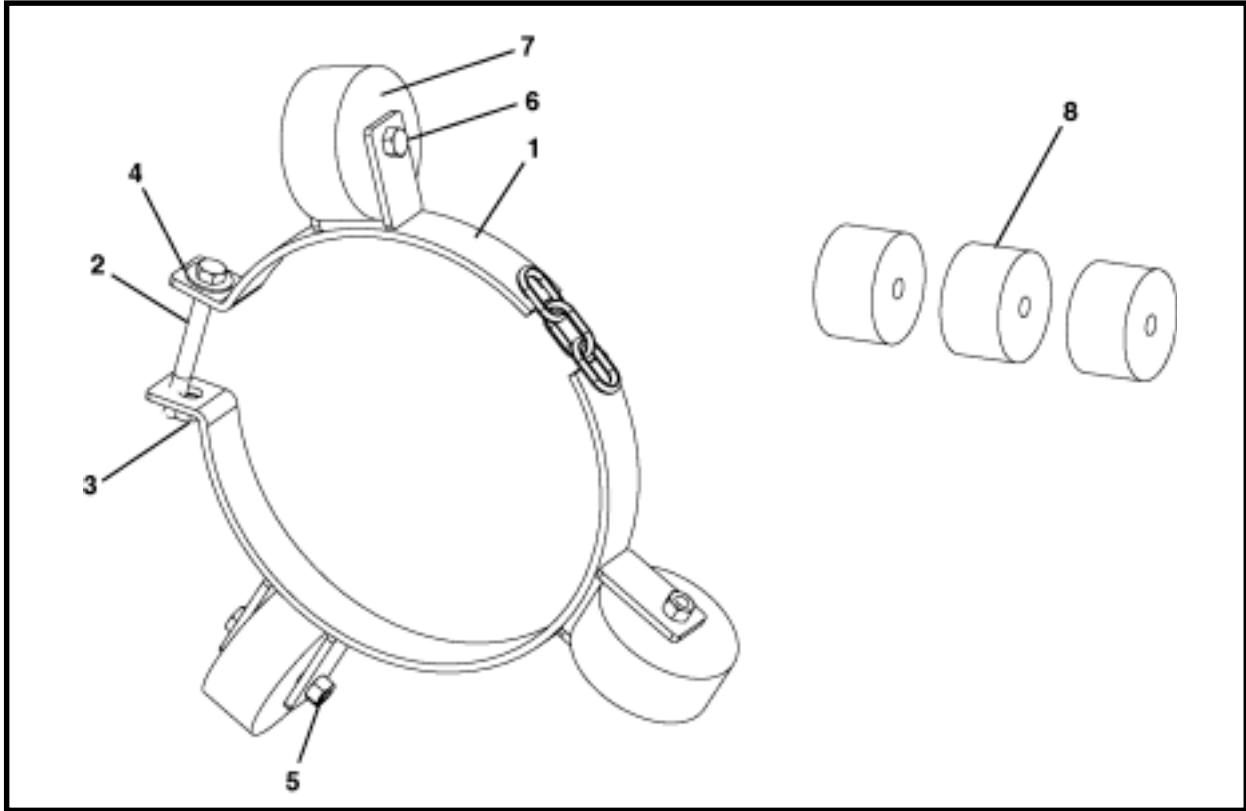
\* Item 1, Pin, goes through Item 2, Shackle, and is placed in holes in auger assembly, and then pinned. Adjust position of Item 2, Shackle, to proper link for length between holes in auger.

**10" TEMPORARY CASING, A41200A  
TWO-PASS SYSTEM**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41200A	10" TEMPORARY CASING

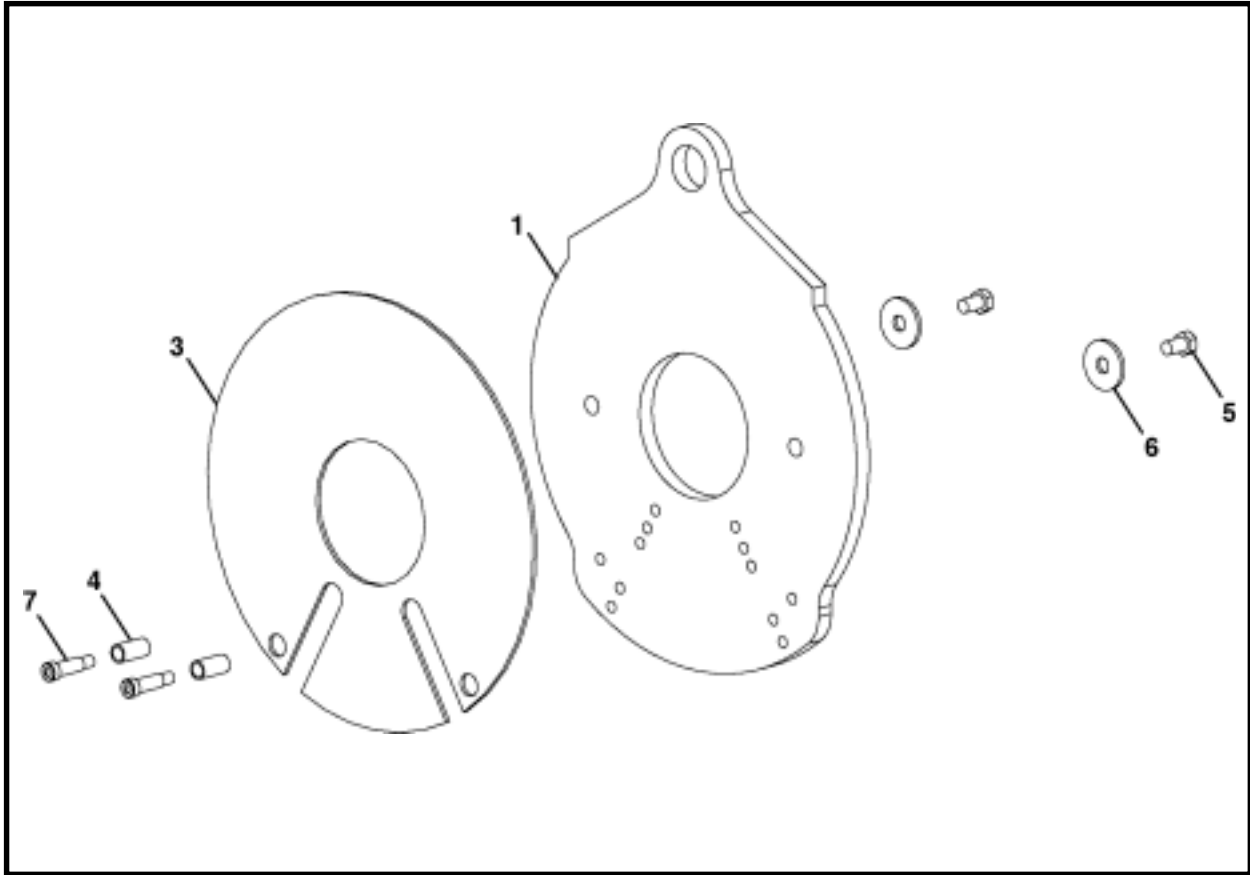
## CASING SPACER ASSEMBLY, A42255A



ITEM	QTY	PART NO.	DESCRIPTION
0*	1	A42255A	CASING SPACER ASSEMBLY
1	1	A42256A	WELDMENT, RING CASING SPACER
2	1	P0001-06-014	BOLT, 3/8 UNC x 3.5
3	1	P0003-06	NUT, 3/8
4	7	P0040-006	WASHER, Flat 3/8
5	3	P0013-06A	NUT, Nylock 3/8
6	3	P0001-06-009A	BOLT, Cadmium Plated 3/8-16 x 2.25
7	3	A42365P	WHEEL, Casing Spacer 3.25" (Use With 18" No Dig Pipe)
8	3	A42366P	WHEEL, Casing Spacer 2.375" (Use With 15" No Dig Pipe)

# NOTES

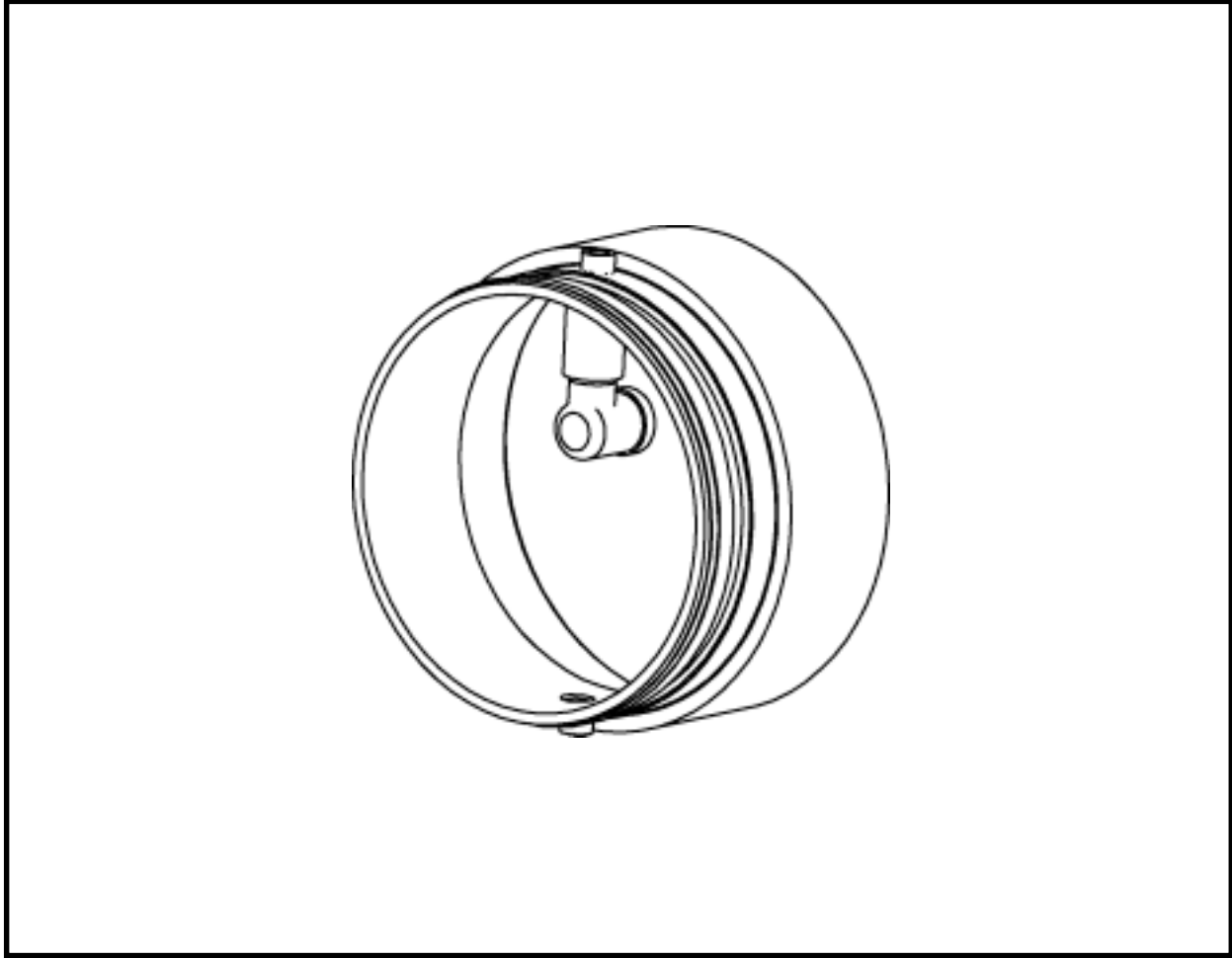
## PIPE THRUST ADAPTER, A40315F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A40315F	ADAPTER, Pipe Thrust
1	1	NSS	PLATE
2*	2	NSS	PIN
3	1	A40610P	RING, Cushion
4	2	A40611P	BUSHING
5	2	P0001-12-005	BOLT, 3/4-10 UNC x 1.25
6	2	004124P01	WASHER
7	2	P0030S-12-008	BOLT, Shoulder, 3/4 x 2

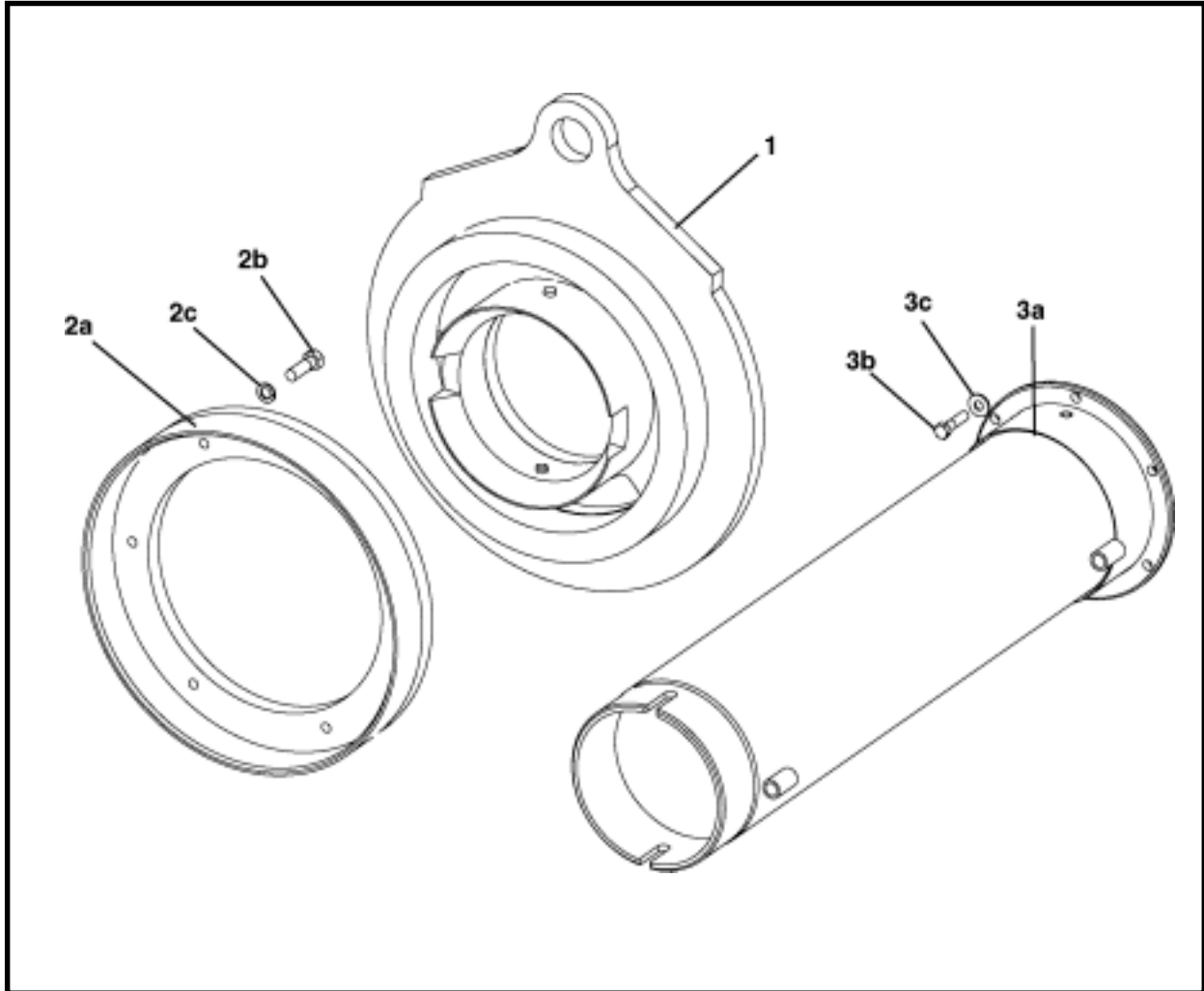
\* Not Shown

## PIPE CASING ADAPTER



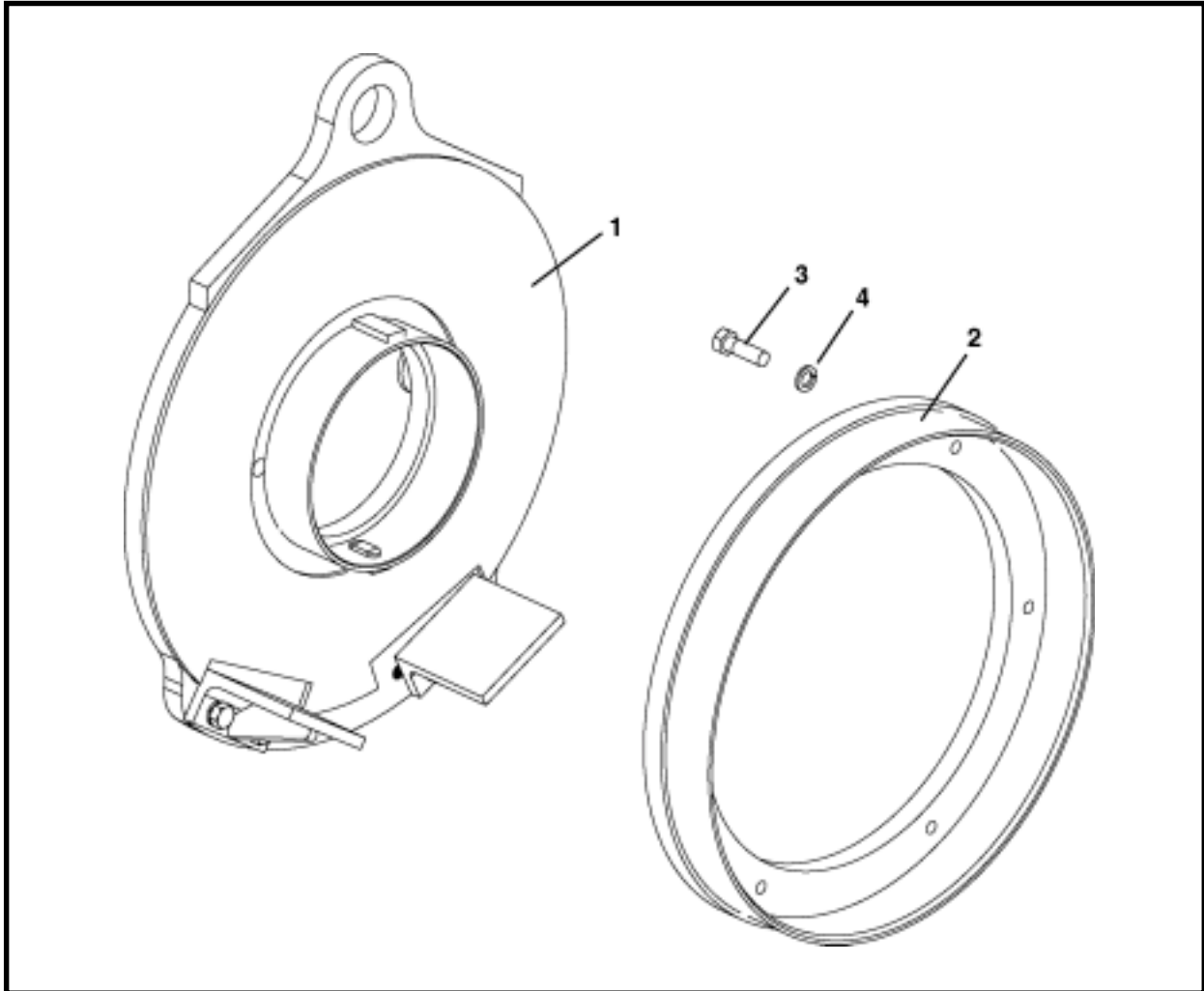
ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40283F	CLAY PIPE TO CASING ADAPTER, 8" DENLOK VCP
0.2	1	A40295F	PIPE TO CASING ADAPTER, 293 MM OD x 225 ID DENLOK
0.3	1	A40303F	CLAY PIPE TO CASING ADAPTER, 8" NO DIG VCP
0.4	1	A40318F	CASING TO PIPE ADAPTER, 10" DUCTILE IRON PIPE
0.5	1	A40323F	CLAY PIPE TO CASING ADAPTER, 10" NO DIG VCP
0.6	1	A40335F	CLAY PIPE TO CASING ADAPTER, 10" DENLOK VCP
0.7	1	A40343F	CLAY PIPE TO CASING ADAPTER, 12" NO DIG VCP
0.8	1	A42294A	11" CASING TO 8" VCP

**PIPE ADAPTER REAMING HEAD KIT - 15" NO-DIG, A42390F  
REAMING HEAD**



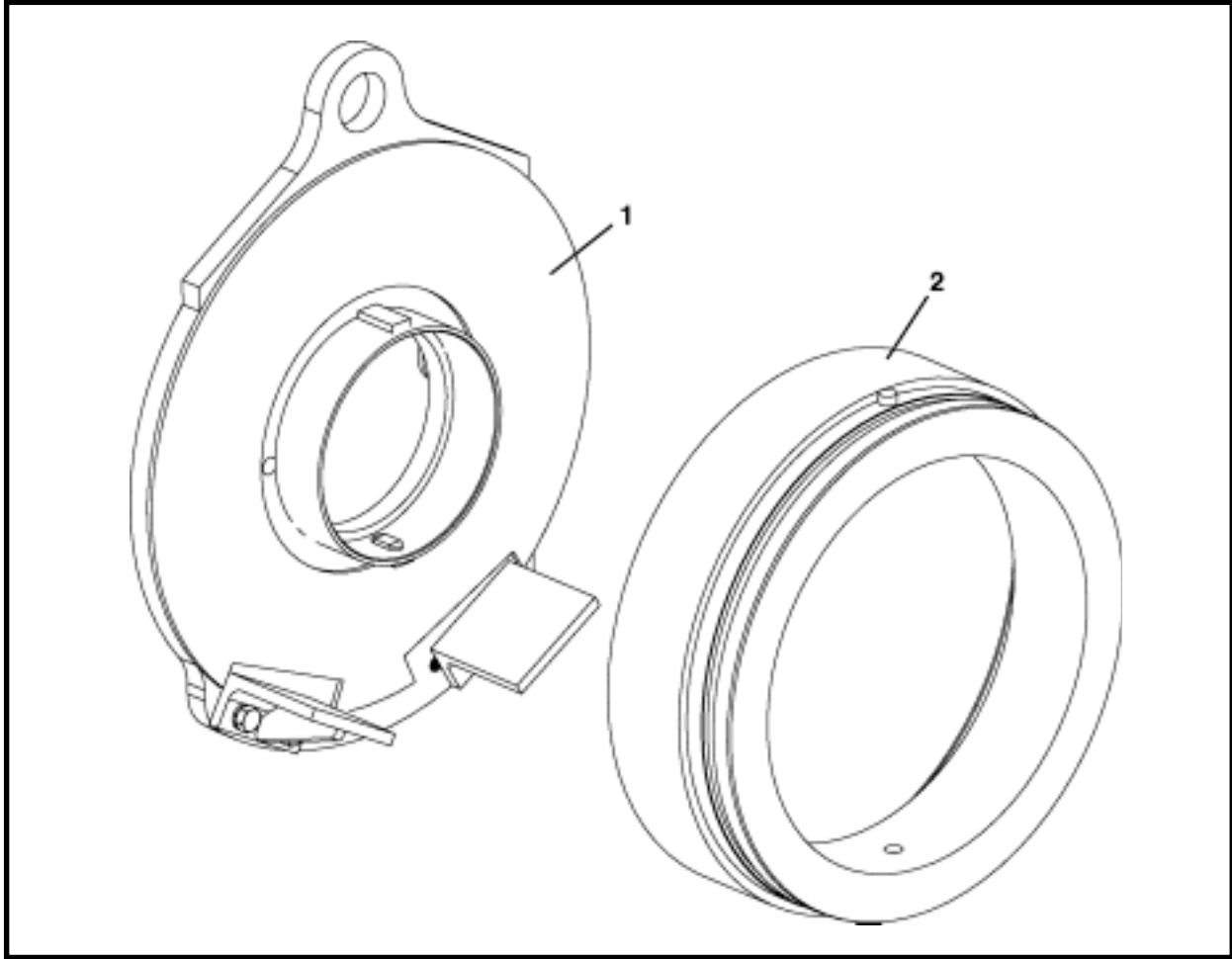
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42390F	PIPE ADAPTER REAMING HEAD KIT - 15" NO DIG
1	1	A42396A	ASSEMBLY, Thrust Adapter, 21" OD (Includes items 1a - 1c)
1a	1	A42398A	WELDMENT, Thrust Plate
1b	3	P0001-12-005	BOLT, 3/4 UNC x 1-1/4 (not shown)
1c	3	004124P01	WASHER (not shown)
2	1	A42386A	ADAPTER, Pipe, 21" OD (Includes items 2a -2c)
2a	1	A42387A	WELDMENT, Pipe Adapter 21" OD
2b	6	P0001-10-008	BOLT, 5/8-11 UNC x 2
2c	6	P0045-010	WASHER, Lock 5/8
3	1	A42404A	ASSEMBLY, Lead Auger Casing (Includes items 3a - 3c)
3a	1	A42403A	WELDMENT, Lead Auger Casing
3b	2	P0001-08-008	BOLT, 1/2-13 UNC x 2
3c	2	P0040-008	WASHER, Flat 1/2

**PIPE ADAPTER REAMING KIT - 18" NO-DIG, A42175F  
REAMING HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42175F	PIPE ADAPTER REAMING KIT - 18" NO DIG
1	1	A41219F	ADAPTER, Thrust
2	1	A42186A	WELDMENT, Pipe Adapter
3	6	P0001-10-008	BOLT, 5/8-11 x 2
4	6	P0045-010	WASHER, Lock 5/8

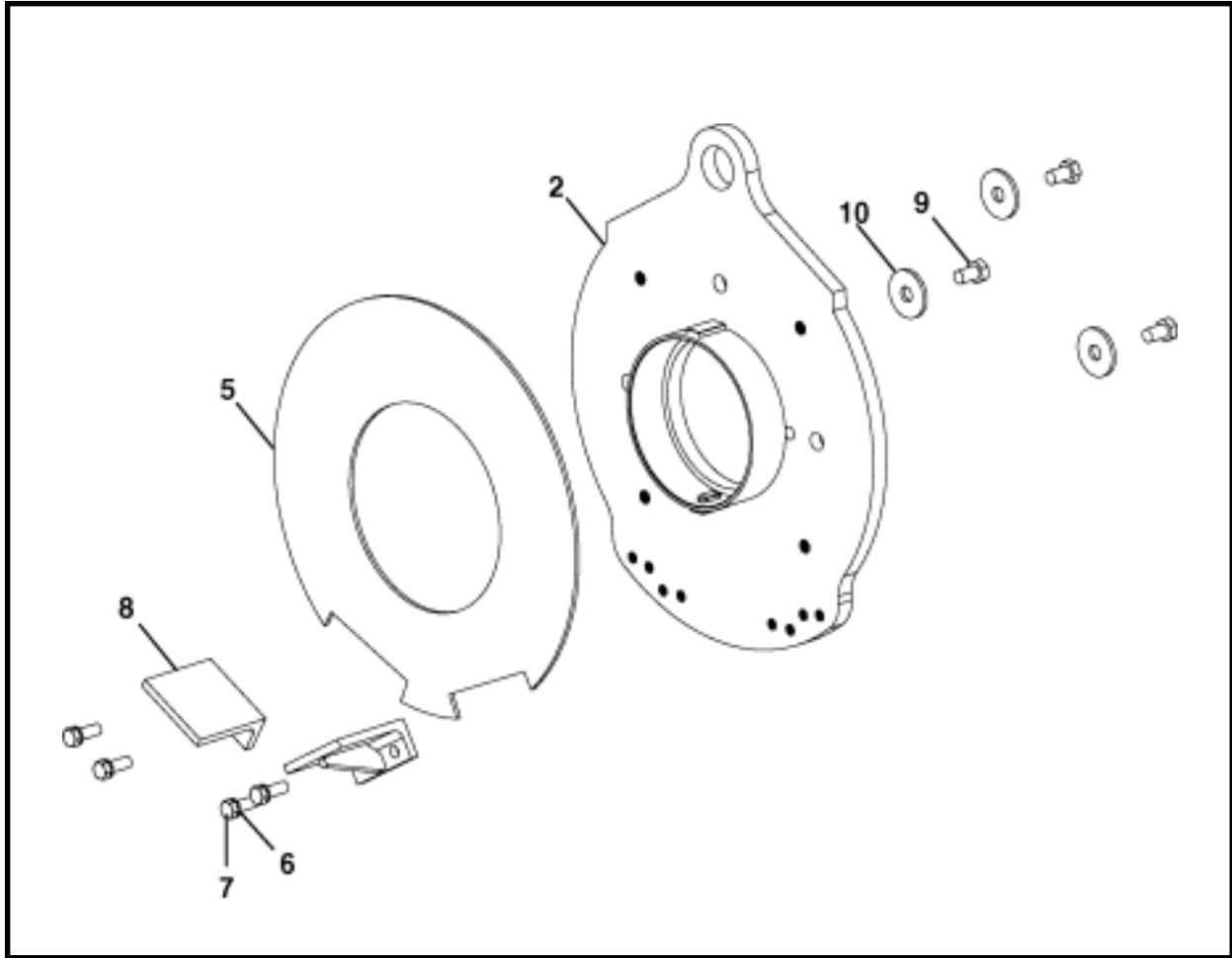
**PIPE ADAPTER CUTTER KIT - 18" NO-DIG, A42176F  
CUTTER HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42176F	PIPE ADAPTER CUTTER KIT - 18" NO DIG
1*	1	A41219F	ADAPTER, Thrust
2	1	A42170A	WELDMENT, Pipe Adapter

\* For parts breakdown, refer to this section.

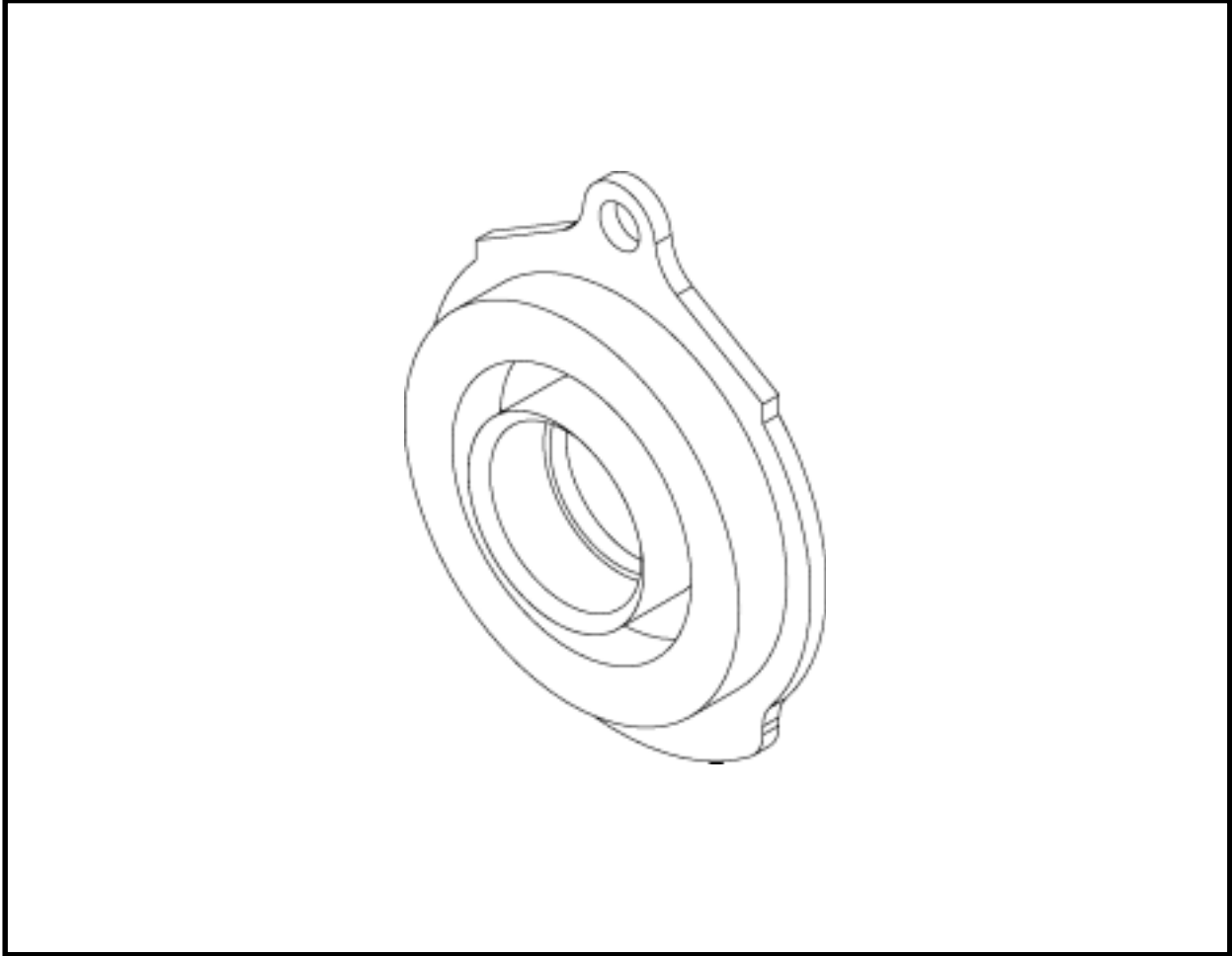
**THRUST ADAPTER - 12" - 18" ID AUGER CASING & MISSION VCP, A41219F  
CUTTER HEAD**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A41219F	ADAPTER, Thrust 12" - 18" ID
1	3	NSS	PIN
2	1	A41314P	PLATE
3	1	NSS	SLEEVE
4	2	NSS	KEY
5	1	A41317P	RING, Cushioning
6	3	004124P01	WASHER
7	3	P0001-12-005	BOLT, 3/4 UNC x 1.25
8	2	A42210A	WELDMENT, Auger Tube Support
9	4	P0001-10-007	BOLT, 5/8-11 UNC x 1.75
10	4	P0045-010	WASHER, Lock

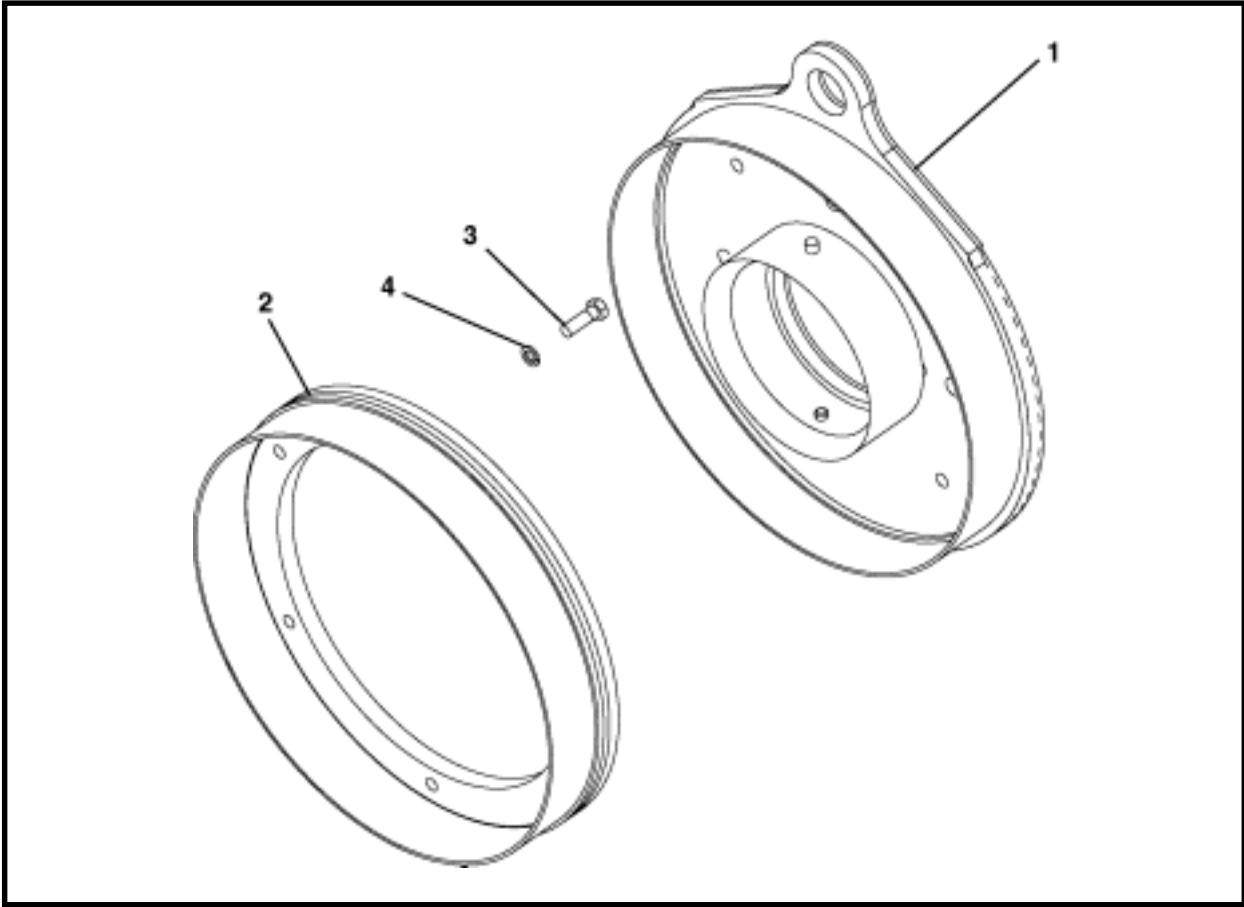
NSS - Not Sold Separately

**THRUST PLATE - BELL END, 18" NO-DIG, A42375A  
CUTTER HEAD**



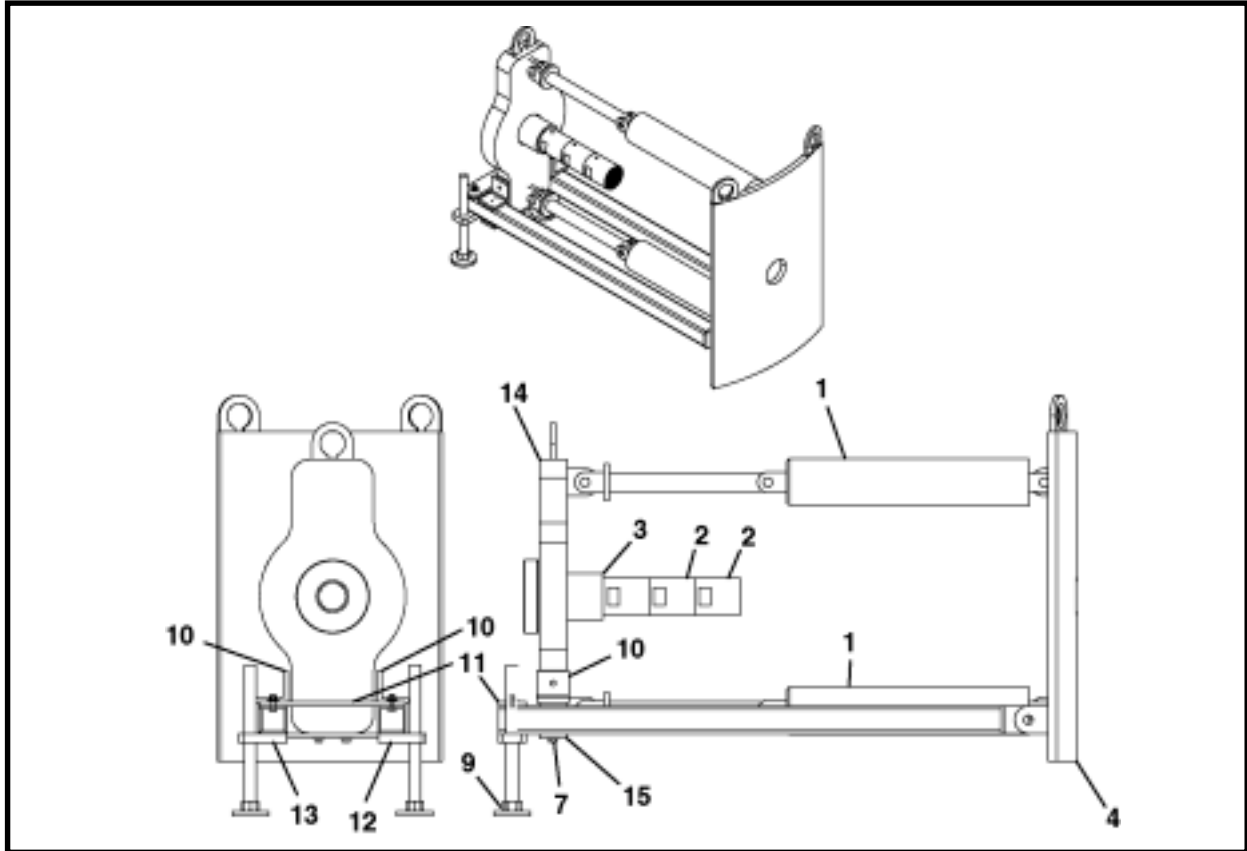
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42375A	THRUST PLATE - BELL END, 18" No-Dig

**PIPE ADAPTER ASSEMBLY, 24" PERMALOK, A42274A**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42274F	PIPE ADAPTER ASSEMBLY, 24" Permalok
1	1	A42276A	WELD, Thrust Plate 24" Permalok
2	1	A42275A	WELD, Pipe Adapter 24" Permalok
3	6	P0001-10-008	BOLT, 5/8-11 x 2
4	6	P0045-010	WASHER, Lock 5/8

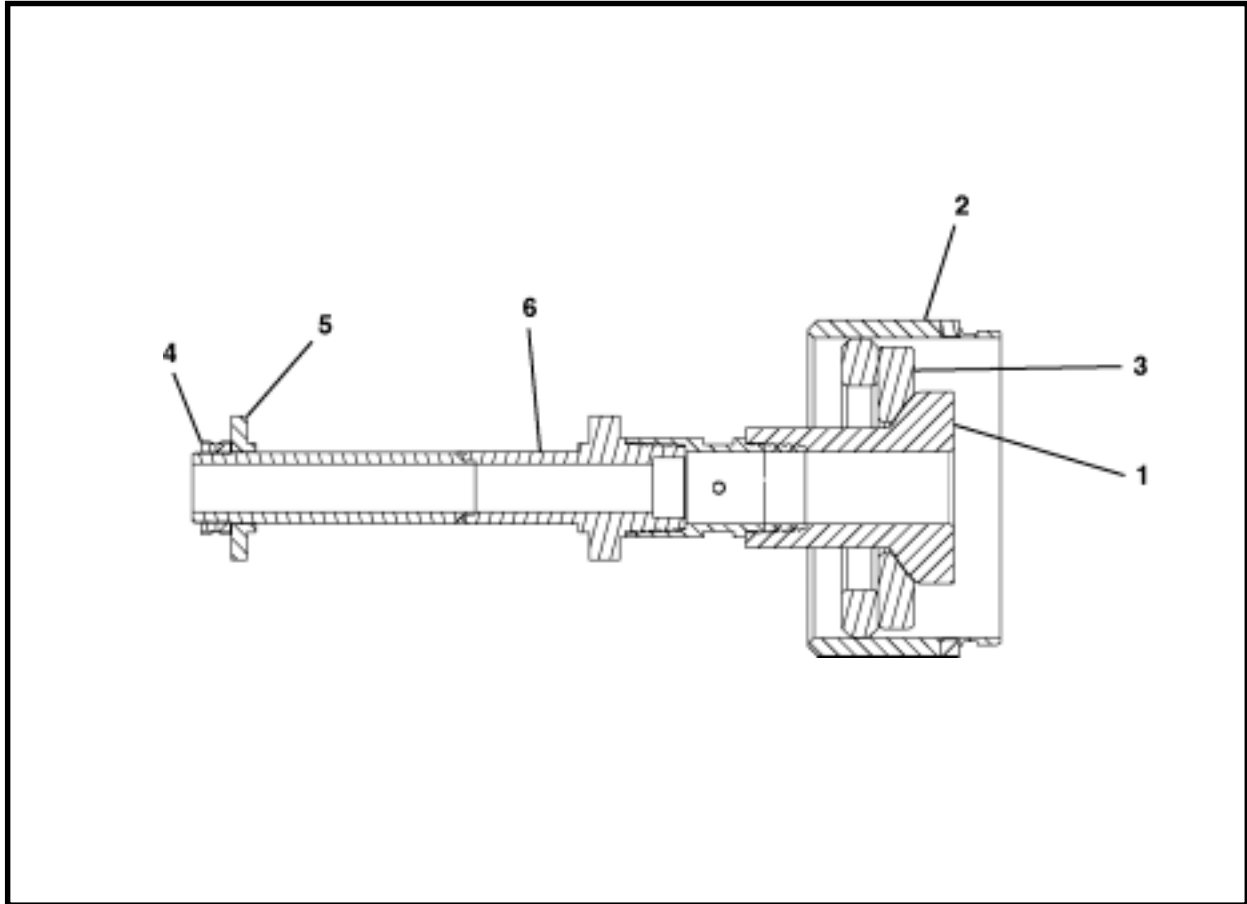
# PILOT TUBE PULL ASSIST TOOL ASSEMBLY (RECEPTION SHAFT), A42307A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42307A	ASSEMBLY, Pilot Tube Pull Assist Tool (Reception Shaft)
1	2	P0307-159	CYLINDER
2	2	A40544P	SUB SAVER
3	1	A42284A	WELDMENT, Pullback Shaft
4	1	A42318A	WELDMENT, Back Plate Pull Assist
5*	4	P0040-008	WASHER, Flat 1/2
6*	2	P0012-08	NUT, Wing 1/2
7	2	P0001-08-005	BOLT, 1/2-13 x 1.25
8*	6	P0032-175	BUSHING, Spherical
9	2	A42321A	LEG
10	2	A42323P	ANGLE, Push Plate Support
11	1	A42322P	BAR
12	1	A42316A	WELDMENT, Support Tube LH
13	1	A42317A	WELDMENT, Support Tube RH
14	1	A42320A	WELDMENT, Push Plate
15	1	A42313P	BAR
16*	1	P0302-145	VALVE
17*	1	P0302-327	PLUG, Control Valve
18*	3	P0300-053	CONNECTOR
19*	2	P0300-012	BUSHING, Reducer
20*	1	P0300-025	ELBOW
21*	1	P0300-116	ELBOW
22*	3	P0300-049	TEE
23*	2	P0300-014	ELBOW
24*	2	P0300-269	ADAPTER
25*	2	P0300-241	CONNECTOR
26*	1	P0300-120	CONNECTOR

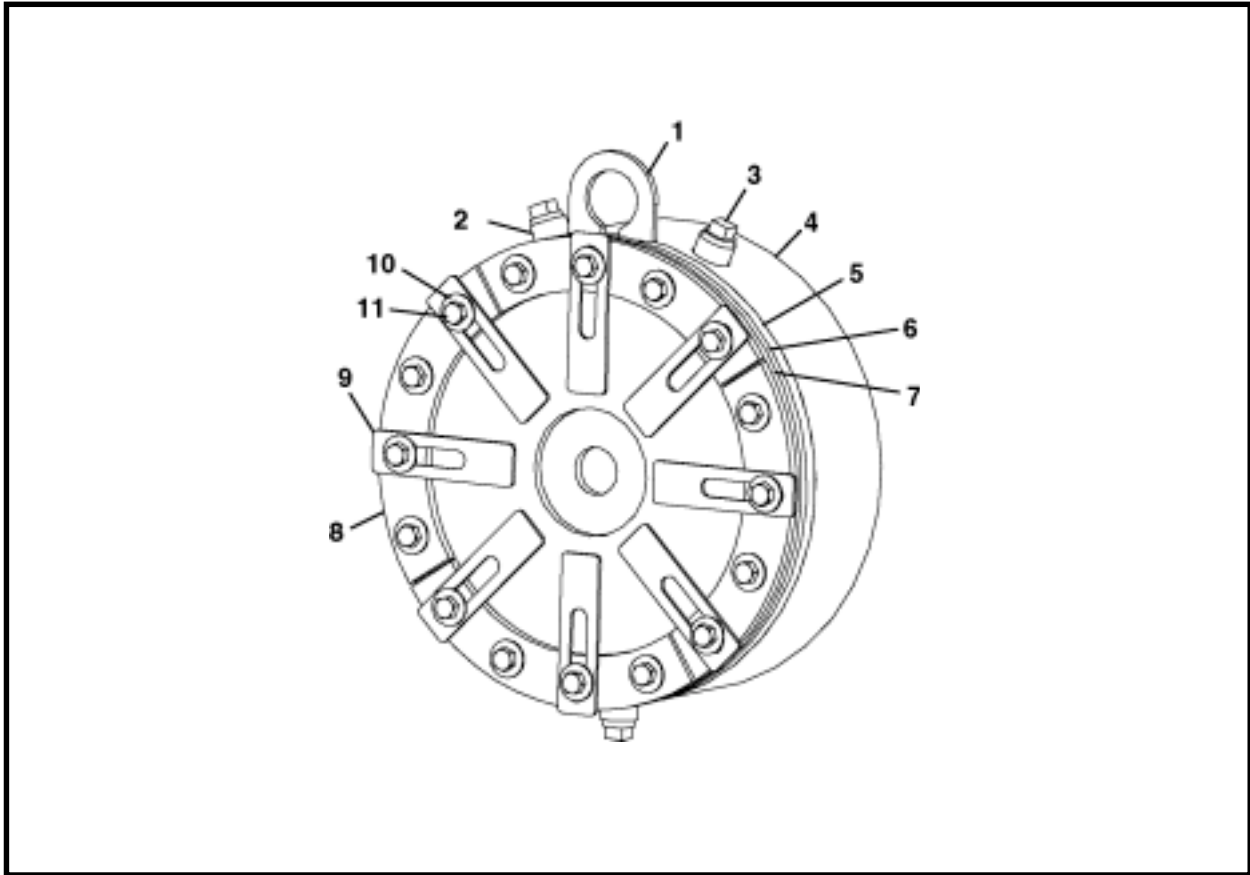
\* Not Shown

## CASING PULLBACK TOOL ASSEMBLY, 14" (LAUNCH SHAFT) A42282F



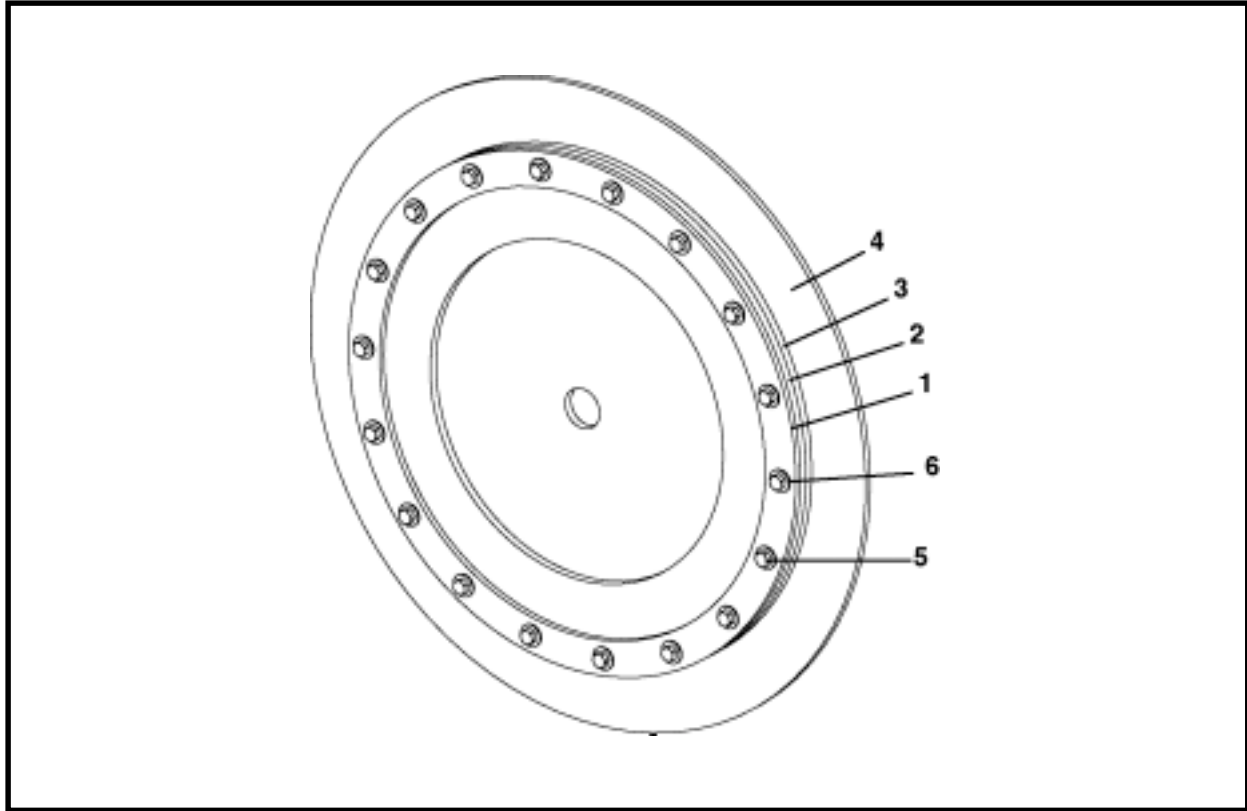
ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42282F	CASING PULLBACK TOOL ASSEMBLY, 14"
1	1	A42284A	WELD, PULLBACK SHAFT
2	1	A42283A	WELD, PULLBACK CASING
3	1	A42286P	PLATE, Float
4	2	P0065-170	NUT, Lock
5	1	A40556P	WASHER
6	1	A40236A	ADAPTER, Drive

## DRILLING SEAL - 11" & 12" OD



ITEM	QTY	PART NO.	DESCRIPTION
0.1	1	A40314F	SEAL, Drilling 11" OD Thrust Casing
0.2	1	A40294F	SEAL, Drilling 12" OD Thrust Casing
1	1	NSS	EYE, Lifting
2	3	NSS	COUPLER, Pipe
3	3	P0416-005	PLUG, Pipe
4	1	NSS	CASING
5	1	NSS	RING, Mounting
6	1	A40623P	SEAL, Inner (Use With Pilot Tubes)
7.1	1	A40624P	SEAL, Outer 11" OD Thrust Casing
7.2	1	A40683P	SEAL, Outer 12" OD Thrust Casing
8	4	A40625P	PLATE, Seal Retaining
9	8	A40626P	PLATE, Seal Supporting
10	16	P0040-010	WASHER, Flat 5/8
11	16	P0001-10-010	BOLT, 5/8-11 UNC x 2.5

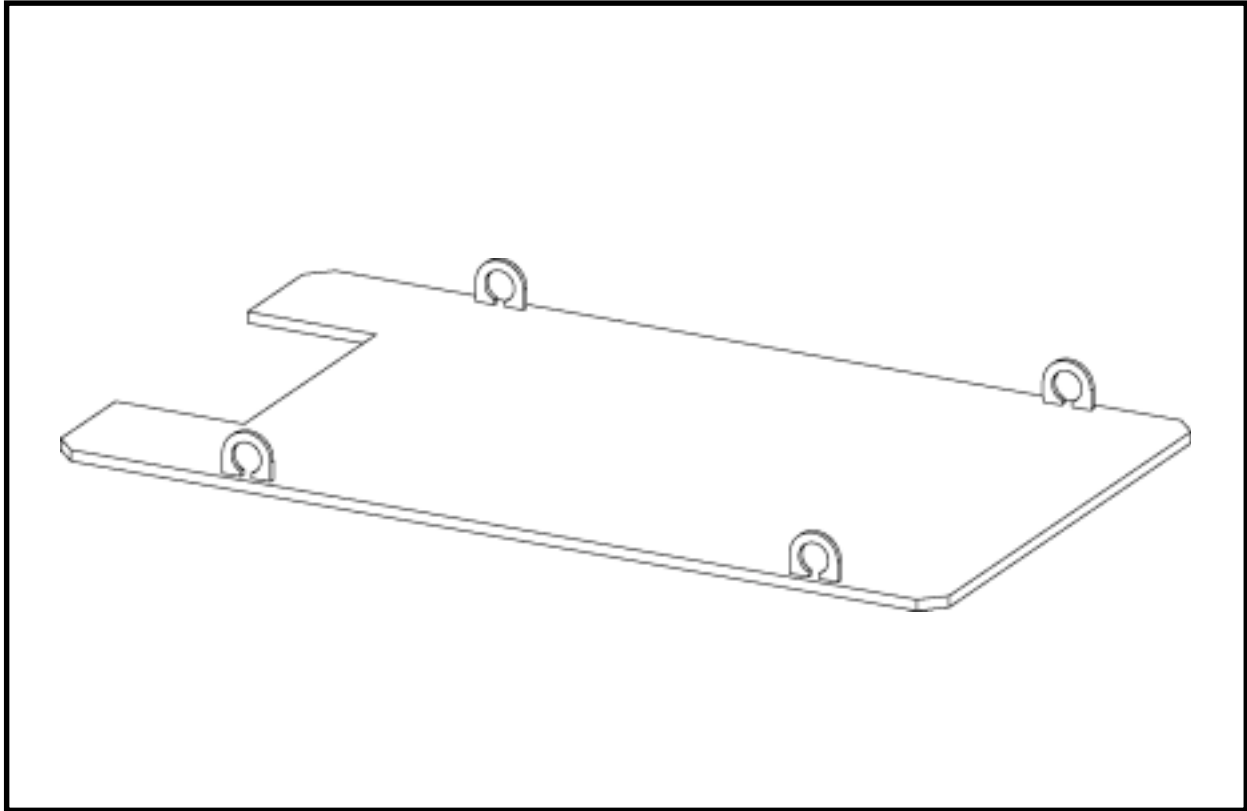
## DRILLING SEAL ASSEMBLY - 18" VCP, A42214A



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42214A	DRILLING SEAL ASSEMBLY - 18" VCP
1	1	A42216P	RING, STEEL SUPPORT
2	1	A42217P	SEAL, Drilling, Rubber-18" VCP
3	1	A42218P	SEAL, Drilling, Rubber-Pilot Tube
4	1	A42219P	PLATE, Drilling Seal Base
5*	18	P0001-08-006	BOLT, 1/2-13 x 1.5
6	18	P0040-008	WASHER, Flat 1/2

\* Use anti-seize on all bolts.

**GBM PIT FLOOR ASSEMBLY, A42138A**  
**LATCHING FRAME**



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42138A	GBM PIT FLOOR ASSEMBLY

## LUBRICATION 225 PUMP, A42109F



ITEM	QTY	PART NO.	DESCRIPTION
0	1	A42109F	LUBRICATION 225 PUMP
1	1	P0303-248	PUMP, Lubrication (Includes items 1a - 1q)
1a*	1	P0303-248A	SWITCH, Fuel, Engine
1b*	1	P0303-248B	BATTERY
1c*	1	P0303-248C	REGULATOR, Voltage, Engine
1d*	1	P0303-248D	HOUSING
1e*	1	P0303-248E	GASKET
1f*	1	P0303-248F	GASKET
1g*	1	P0303-248G	PUMP, Discharge
1h*	1	P0303-248H	STRAINER
1i*	1	P0303-248I	GAUGE W/ISOLATOR
1j*	1	P0303-248J	SEAL, Mixer Pump
1k*	1	P0303-248K	CLUTCH, Throw Out System
1l*	1	P0303-248L	SHROUD, Clutch
1m*	1	P0303-248M	GUARD, Bearing
1n*	1	P0303-248N	PLATE, Valve
1o*	1	P0303-248O	MANIFOLD
1p*	1	P0303-248P	ORING
1q*	1	P0303-248Q	ORING
2	1	P0200-103	ASSEMBLY, Hose 5/8 x 25'

\* Not Shown

# NOTES



# Alphabetical Index

## A

Acoustic panels .....	3-44
Adapter assembly, pipe, 24" permalok .....	11-47
Adapter assembly, round shaft .....	3-22
Adapter assembly, square shaft .....	3-19
Adapter, auger weld on .....	11-32
Adapter, boring base	
Allied 48 .....	3-46
American augers 24-150 .....	3-47
American augers 30-225 .....	3-42
American augers 36-340 .....	3-41
American augers 48-900 .....	3-43
American augers 60-1200 .....	3-45
Richmond 54 .....	3-44
Adapter, casing thrust .....	11-18, 11-26
Adapter cutter kit, pipe - 18" No-Dig .....	11-44
Adapter, drive & swivel assembly .....	3-16, 3-36
Adapter, pilot tube .....	11-12
Adapter, pipe casing .....	11-41
Adapter, pipe thrust .....	11-40
Adapter reaming kit, pipe - 15" No-Dig .....	11-42
Adapter reaming kit, pipe - 18" No-Dig .....	11-43
Adapter, thrust - 12-18" ID auger casing .....	11-45
Assembly, base - latching frame .....	3-10
Assembly, staging - latching frame .....	3-6, 3-8
Assist tool assembly, pilot tube pull - reception shaft .....	11-48
Auger adapter, weld on .....	11-32
Auger boring method, GBM tooling .....	1-9

## B

Bar, pilot tube support .....	11-8
Base assembly - latching frame .....	3-10
Base assembly, lower - single stage frame .....	3-40
Bearing swivel, pilot tube, 6.25" .....	11-28
Bearing swivel, pilot tube, 8" .....	11-29
Bell end thrust plate - 18" No-Dig .....	11-46
Boring base adapter	
Allied 48 .....	3-46
American augers 24-150 .....	3-47
American augers 30-225 .....	3-42
American augers 36-340 .....	3-41
American augers 48-900 .....	3-43
American augers 60-1200 .....	3-45
Richmond 54 .....	3-44
Box assembly, storage .....	11-9

## B (continued)

Box, monitor assembly .....	5-3
Breakout tool - hydraulic plumbing .....	6-20
Breakout tool - launch shaft assembly .....	11-14
Breakout tool, reception shaft .....	11-10
Buckets, dirt - latching frame .....	3-62
Buckets, dirt - single stage frame .....	3-63

## C

Camera & optics assembly .....	3-56
Casing adapter, pipe .....	11-41
Casing assembly, thrust .....	11-34
Casing pullback tool assembly, 14" - reception shaft .....	11-49
Casing spacer assembly .....	11-38
Casing, temporary, 10" .....	11-37
Casing, thrust .....	11-35
Casing thrust adapter .....	11-18, 11-26
Chain assembly, safety .....	11-36
Chain mounting, travel motor .....	3-12, 3-13
Connection assembly, fluid power pack P75 (sn 16 & before) .....	6-11
Connection assembly, fluid power pack P75 (sn 17 & after) .....	6-15
Contents .....	iii
Control pendant decals .....	2-4
Controls, operator .....	Section 4
Cutter head, 11" - 16" OD .....	11-25
Cutter head, 22.5" & 28.63" OD .....	11-27
Cutter head assembly, 11" - 16" OD .....	11-24
Cutter kit, pipe adapter - 18" No-Dig .....	11-44
Cylinder assembly - recept. shaft breakout tool .....	10-3
Cylinder assembly, frame extension - latching frame .....	10-1
Cylinder assembly, frame extension - single stage frame .....	10-2
Cylinders .....	Section 10

## D

Decals .....	Section 2
Decals, control pendant .....	2-4
Decals, guidance system .....	2-5
Decals, P75 power pack .....	2-3
Decals, remote instrument panel .....	2-4
Decals, single stage frame .....	2-2

**D (continued)**

Dirt buckets - latching frame ..... 3-62  
 Dirt buckets - single stage frame ..... 3-63  
 Drilling drive assembly - single stage frame .... 3-33  
 Drilling drive thrust frame assembly ..... 3-32  
 Drilling seal, 11" - 12" OD ..... 11-50  
 Drilling seal assembly - 18" VCP ..... 11-51  
 Drive adapter & swivel assembly ..... 3-16, 3-36  
 Drive assembly, drilling - single stage frame ... 3-33  
 Drive motor, GBM frames ..... 8-3  
 Dual tube makeup tool - launch shaft  
 ..... 3-21, 3-24, 3-39

**E**

Electrical ..... Section 5  
 Electrical schematic, power pack P75 ..... 5-1  
 Extensions, frame - 16" & 24" ..... 3-26, 3-27  
 Extensions, frame - 40" & 80" ..... 3-28, 3-29

**F**

Floor assembly, GBM pit - latching frame ..... 11-52  
 Fluid connection assembly - power pack P75  
 (sn 17 & after) ..... 6-15  
 Fluid connection assembly - power pack P75  
 (sn 16 & before) ..... 6-11  
 Frame assembly, single stage ..... 3-30  
 Frame ends, 8 ft round shaft ..... 3-23  
 Frame ends, 8 ft square shaft ..... 3-20  
 Frame extension, cylinder assembly -  
 latching frame ..... 10-1  
 Frame extension, cylinder assembly -  
 single stage frame ..... 10-2  
 Frame extensions - 16" & 24" ..... 3-26, 3-27  
 Frame extensions - 40" & 80" ..... 3-28, 3-29  
 Frame, single stage ..... 3-31

**G**

GBM pit floor assembly - latching frame ..... 11-52  
 GBM tooling - auger boring method ..... 1-9  
 GBM tooling - two pass method ..... 1-7  
 GBM wrench set ..... 3-14, 3-34  
 Gear pump - power pack P75 ..... 9-2  
 General information ..... Section 1  
 Guidance system, terminology ..... 1-4  
 Guidance system assembly ..... 3-52  
 Guidance system case ..... 3-53  
 Guidance system decals ..... 2-5  
 Guide rod swivel, pilot, 3" ID hex ..... 11-30  
 Guide rod swivel, pilot, 4" ID hex ..... 11-31

**H**

Head assembly, cutter 11" - 16" OD ..... 11-24  
 Head assembly for 8' shaft, weld on reaming  
 24" OD ..... 11-21  
 Head assembly, reaming, 11" - 16" OD ..... 11-16  
 Head assembly, reaming, 21", 22.5" & 24" OD .. 11-19  
 Head assembly, steering ..... 11-1

**H (continued)**

Head assembly, weld on reaming ..... 11-20  
 Head assembly, weld on reaming, 30" OD .... 11-22  
 Head, cutter, 11" - 16" OD ..... 11-25  
 Head, cutter, 22.5" & 28.63" OD ..... 11-27  
 Head, reaming, 11" - 16" OD ..... 11-17  
 Head, steering, 30 degree ..... 11-3  
 Head, steering, 45 degree ..... 11-2  
 Head, steering, bullet ..... 11-4  
 Holder, pilot tube ..... 11-5  
 Holders, pilot tube lift ..... 11-7  
 Hose set, starter ..... 3-51, 6-19  
 Hydraulic connection assembly - power pack P75  
 (sn 16 & before) ..... 6-11  
 Hydraulic connection assembly - power pack P75  
 (sn 17 & after) ..... 6-15  
 Hydraulic assembly - latching frame ..... 6-3  
 Hydraulic assembly - single stage frame ..... 6-7  
 Hydraulic plumbing - breakout tool ..... 6-20  
 Hydraulic pump & remote control ..... 9-3  
 Hydraulic schematic - GBM system ..... 6-1  
 Hydraulics ..... Section 6

**I**

Introduction ..... i

**K**

Kit, pipe adapter cutter - 18" No-Dig ..... 11-44  
 Kit, pipe adapter reaming - 15" No-Dig ..... 11-42  
 Kit, pipe adapter reaming - 18" No-Dig ..... 11-43

**L**

Latching frame, terminology ..... 1-1  
 Latching frame operator controls ..... 4-1  
 Launch shaft assembly - breakout tool ..... 11-14  
 Launch shaft, dual tube makeup tool  
 ..... 3-21, 3-24, 3-39  
 Locating parts ..... i  
 Lower base assembly, single stage frame ..... 3-40  
 Lubrication Pump, 225 ..... 11-53

**M**

Makeup tool, dual tube -  
 launch shaft ..... 3-21, 3-24, 3-39  
 Miscellaneous ..... Section 11  
 Miscellaneous/tooling ..... Section 11  
 Monitor box assembly ..... 5-3  
 Motor, drive - GBM frames ..... 8-3  
 Motor, travel - latching frame ..... 8-1, 8-2  
 Motor, travel chain mounting ..... 3-12, 3-13  
 Motors ..... Section 8  
 Mounting, travel motor chain ..... 3-12, 3-13

**O**

Operator controls ..... Section 4  
 Optics & camera assembly ..... 3-56

**P**

Pack, power, P75 operator controls ..... 4-2  
 Panels, acoustic ..... 3-50  
 Parts, locating ..... iii  
 Pilot guide rod swivel, 3" ID hex ..... 11-30  
 Pilot guide rod swivel, 4" ID hex ..... 11-31  
 Pilot tube ..... 11-6  
 Pilot tube adapter ..... 11-12  
 Pilot tube bearing swivel, 6.25" ..... 11-28  
 Pilot tube bearing swivel, 8" ..... 11-29  
 Pilot tube holder ..... 11-5  
 Pilot tube lift holders ..... 11-7  
 Pilot tube pull assist tool assembly  
     reception shaft ..... 11-48  
 Pipe adapter assembly, 24" permalok ..... 11-47  
 Pipe adapter cutter kit - 18" No-Dig ..... 11-44  
 Pipe adapter reaming kit - 15" No-Dig ..... 11-42  
 Pipe adapter reaming kit - 18" No-Dig ..... 11-43  
 Pipe casing adapter ..... 11-41  
 Pipe thrust adapter ..... 11-40  
 Pit floor assembly, GBM latching frame ..... 11-52  
 Plate, bell end thrust - 18" No-Dig ..... 11-46  
 Plumbing, Hydraulic - Breakout Tool ..... 6-20  
 Power pack P75 ..... 1-3, 3-48  
 Power pack P75 decals ..... 2-3  
 Power pack P75 electrical schematic ..... 5-1  
 Power pack P75 operator controls ..... 4-2  
 Power unit P75 ..... 3-48  
 Power unit P75 operator controls ..... 4-2  
 Pressure reducing w/steel body, valve -  
     GBM frames ..... 7-3  
 Pull assist tool assembly, pilot tube -  
     reception shaft ..... 11-48  
 Pullback tool assembly, casing, 14" -  
     reception shaft ..... 11-49  
 Pump, gear - power pack P75 ..... 9-2  
 Pump, hydraulic & remote control ..... 9-3  
 Pump, Lubrication, 225 ..... 11-53  
 Pump, torque limiting - power pack P75 ..... 9-1  
 Pumps ..... Section 9

**R**

Reaming head, 11" - 16" OD ..... 11-17  
 Reaming head assembly, 11" -16" OD ..... 11-16  
 Reaming head assembly, 21", 22.5" & 24" OD .. 11-19  
 Reaming head assembly for 8" shaft, weld on  
     24" OD ..... 11-21  
 Reaming head assembly, weld on ..... 11-20  
 Reaming head assembly, weld on, 30" OD .... 11-22  
 Reaming kit, pipe adapter - 15" No-Dig ..... 11-42  
 Reaming kit, pipe adapter - 18" No-Dig ..... 11-43  
 Reception shaft breakout tool ..... 11-10  
 Remote control & hydraulic pump ..... 9-3  
 Remote instrument panel decals ..... 2-4  
 Rod swivel, pilot guide, 3" ID hex ..... 11-30  
 Rod swivel, pilot guide, 4" ID hex ..... 11-31  
 Round shaft adapter assembly ..... 3-22  
 Round shaft, frame ends, 8 ft ..... 3-23

**S**

Safety chain assembly ..... 11-36  
 Schematic, hydraulic - GBM system ..... 6-1  
 Schematic, power pack P75 electrical ..... 5-1  
 Seal assembly - 18" VCP, drilling ..... 11-51  
 Seal, drilling 11" - 12" OD ..... 11-50  
 Selector, valve, rotary w/steel body -  
     GBM frames ..... 7-2  
 Set, starter hose ..... 3-51, 6-19  
 Set, wrench ..... 3-14, 3-34  
 Shaft breakout tool, reception ..... 11-10  
 Shaft, frame ends, 8 ft square ..... 3-20  
 Shaft, round, adapter assembly ..... 3-22  
 Shaft, square, adapter assembly ..... 3-19  
 Shaft stand, theodolite - latching frame ..... 11-11  
 Shaft, theodolite stand - latching frame ..... 3-60  
 Single stage frame ..... 1-2, 3-31  
 Single stage frame assembly ..... 3-30  
 Single stage frame decals ..... 2-2  
 Single stage frame operator controls ..... 4-1  
 Spacer assembly, casing ..... 11-38  
 Spindle nut wrench ..... 3-18, 3-38  
 Square shaft adapter assembly ..... 3-19  
 Square shaft, frame ends, 8 ft ..... 3-20  
 Stage frame assembly, single ..... 3-30  
 Staging assembly - latching frame ..... 3-6, 3-8  
 Stand, theodolite - ..... 3-54  
 Stand, theodolite assembly -  
     single stage frame ..... 3-61  
 Stand, theodolite shaft - latching frame .. 3-60, 11-11  
 Starter hose set ..... 3-51, 6-19  
 Steering head, 30 degree ..... 11-3  
 Steering head, 45 degree ..... 11-2  
 Steering head assembly ..... 11-1  
 Steering head, bullet ..... 11-4  
 Storage box assembly ..... 11-9  
 Structurals ..... Section 3  
 Support bar, pilot tube ..... 11-7  
 Swivel assembly, drive adapter ..... 3-16, 3-36  
 Swivel, pilot guide rod, 3" ID hex ..... 11-30  
 Swivel, pilot guide rod, 4" ID hex ..... 11-31  
 Swivel, pilot tube bearing, 6.25" ..... 11-28  
 Swivel, pilot tube bearing, 8" ..... 11-29  
 System assembly, guidance ..... 3-52  
 System case, guidance ..... 3-53

**T**

Target ..... 3-58  
 Temporary casing, 10" ..... 11-37  
 Theodolite assembly ..... 3-57  
 Theodolite shaft stand - latching frame . 3-54, 11-11  
 Theodolite stand ..... 3-54  
 Theodolite stand assembly -  
     single stage frame ..... 3-61  
 Thrust adapter - 12-18" ID auger casing ..... 11-45  
 Thrust adapter, casing ..... 11-18, 11-26  
 Thrust adapter, pipe ..... 11-40

**T (continued)**

Thrust casing ..... 11-35  
 Thrust casing assembly ..... 11-34  
 Thrust frame assembly, drilling drive ..... 3-32  
 Thrust plate - bell end - 18" No-Dig ..... 11-46  
 Tool assembly, casing pullback 14" -  
     reception shaft ..... 11-49  
 Tool assembly, pilot tube pull assist -  
     reception shaft ..... 11-48  
 Tool, breakout - launch shaft assembly ..... 11-14  
 Tool, reception shaft breakout ..... 11-10  
 Tool, makeup ..... 3-21, 3-24, 3-39  
 Tooling ..... Section 11  
 Tooling - three step method ..... 1-5  
 Tooling, GBM - auger boring method ..... 1-9  
 Tooling/miscellaneous ..... Section 11  
 Torque limiting pump - power pack P75 ..... 9-1  
 Travel motor - latching frame ..... 8-1, 8-2  
 Travel motor chain mounting ..... 3-12, 3-13  
 Tube adapter, pilot ..... 11-12  
 Tube bearing swivel, pilot, 6.25" ..... 11-28  
 Tube bearing swivel, pilot tube, 8" ..... 11-29  
 Tube, dual,makeup tool - launch shaft  
     ..... 3-21, 3-24, 3-39  
 Tube holder, pilot ..... 11-5  
 Tube lift holders, pilot ..... 11-6  
 Tube, pilot ..... 11-7  
 Tube pull assist tool assembly, pilot -  
     reception shaft ..... 11-48

**U**

Unit, power, P75 operator controls ..... 4-2

**V**

Valve, 2800 psi - pull assist tool ..... 7-4  
 Valve, 3 section - GBM frames ..... 7-1  
 Valve, pressure reducing w/steel body -  
     GBM frames ..... 7-3  
 Valve selector, rotary w/steel body -  
     GBM frames ..... 7-2  
 Valves ..... Section 7

**W**

Weld on reaming head assembly ..... 11-20  
 Weld on reaming head assembly, 30" OD ..... 11-22  
 Weld on reaming head assembly for 8' shaft,  
     24" OD ..... 11-21  
 Wrench set ..... 3-14, 3-34  
 Wrench, spindle nut ..... 3-18, 3-38



## Numerical Index

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
002269P01 .....	6-6	1250-493 .....	2-3	1250-672 .....	2-5
003060A00 .....	11-36	1250-494 .....	2-3	1250-673 .....	2-5
003529P02 .....	3-62	1250-495 .....	2-3	1250-674 .....	2-5
004124P01 .....	11-18	1250-496rc .....	2-3	1250-675 .....	2-5
004124P01 .....	11-26	1250-498 .....	2-3	1250-676 .....	2-5
004124P01 .....	11-40	1250-527 .....	2-3	1250-677 .....	2-5
004124P01 .....	11-42	1250-544 .....	2-1	1250-678 .....	2-5
004124P01 .....	11-45	1250-544 .....	2-2	1250-679 .....	2-6
010291P00 .....	3-63	1250-544 .....	2-3	1250-680 .....	2-6
010291P00 .....	3-62	1250-546 .....	2-1	1250-681 .....	2-6
1250-003 .....	2-1	1250-546 .....	2-2	1250-697 .....	2-3
1250-003 .....	2-2	1250-547 .....	2-1	1250-719 .....	2-1
1250-098 .....	2-1	1250-547 .....	2-1	1250-719 .....	2-2
1250-098 .....	2-2	1250-547 .....	2-2	1250-724 .....	2-4
1250-098 .....	2-3	1250-547 .....	2-2	1250-726 .....	2-1
1250-480 .....	2-1	1250-547 .....	2-3	1250-730 .....	2-5
1250-480 .....	2-2	1250-559 .....	2-1	1250-731 .....	2-1
1250-481 .....	2-4	1250-559 .....	2-2	1250-731 .....	2-2
1250-482 .....	2-1	1250-559 .....	2-3	3529P02 .....	3-63
1250-482 .....	2-2	1250-563 .....	2-1	40000-16 .....	2-3
1250-482 .....	2-3	1250-563 .....	2-2	A01213A .....	11-19
1250-483 .....	2-1	1250-574 .....	2-1	A01213A .....	11-27
1250-483 .....	2-2	1250-574 .....	2-2	A10307A-025 .....	6-6
1250-483 .....	2-3	1250-639 .....	2-3	A10307A-025 .....	6-10
1250-484 .....	2-1	1250-647b .....	2-1	A10308A-048 .....	6-6
1250-484 .....	2-2	1250-647b .....	2-2	A10309A-048 .....	6-6
1250-486 .....	2-3	1250-649 .....	2-1	A10315A-024 .....	6-12
1250-487 .....	2-4	1250-649 .....	2-2	A10315A-024 .....	6-16
1250-488 .....	2-3	1250-649 .....	2-3	A10316A-030 .....	6-4
1250-492 .....	2-1	1250-668 .....	2-4	A10316A-030 .....	6-8
1250-492 .....	2-2	1250-670 .....	2-5	A10318A-013 .....	6-12
1250-492 .....	2-3	1250-671 .....	2-5	A10318A-013 .....	6-16

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
A10318A-030	6-14	A10413A-600	3-51	A40106A	3-4
A10318A-030	6-18	A10413A-600	6-19	A40106A	3-32
A10319A-025	6-6	A10431A-600	3-51	A40107A	3-31
A10319A-025	6-10	A10431A-600	6-19	A40110A	3-40
A10320A-032	6-14	A10440A	3-51	A40111A	3-31
A10320A-600	3-51	A10440A	6-19	A40112A	3-31
A10320A-600	6-19	A40012F	3-28	A40113A	3-28
A10325A-030	6-4	A40012F	3-29	A40113A	3-29
A10325A-030	6-8	A40013F	3-28	A40113A	3-40
A10326A-027	6-6	A40013F	3-29	A40113A	3-10
A10326A-027	6-10	A40015F	3-26	A40114A	3-31
A10327A-013	6-6	A40015F	3-27	A40115A	10-2
A10327A-013	6-10	A40016F	3-26	A40115A	3-31
A10328A0-021	6-14	A40016F	3-27	A40116A	10-2
A10328A0-021	6-18	A40017F	3-22	A40117A	3-60
A10329A-055	6-12	A40017F	3-23	A40117A	11-11
A10329A-055	6-16	A40018F	3-19	A40118P	11-8
A10331A-038	6-14	A40018F	3-20	A40119A	3-2
A10331A-038	6-18	A40019A	3-1	A40119A	6-4
A10332A-028	6-14	A40019A	3-2	A40120A	6-8
A10332A-028	6-18	A40020F	3-30	A40120A	3-31
A10333A-023.5	6-4	A40020F	3-31	A40121A	6-12
A10333A-023.5	6-8	A40021F	3-48	A40121A	6-16
A10334A-025	6-4	A40024F	3-51	A40121A	3-49
A10334A-025	6-8	A40024F	6-19	A40125A	3-51
A10334A-030	6-6	A40024F	3-49	A40125A	6-19
A10334A-030	6-10	A40051F	3-60	A40126A	3-49
A10334A-062.5	6-10	A40051F	11-9	A40127A	5-2
A10338A-018	6-6	A40051F	11-11	A40127A	3-49
A10338A-018	6-10	A40100A	3-31	A40128A	5-2
A10341A-048	6-12	A40101A	3-40	A40129A	5-2
A10341A-048	6-16	A40102A	3-3	A40130A	3-10
A10342A-072	6-14	A40102A	3-4	A40131A	3-10
A10342A-072	6-18	A40102A	3-32	A40132A	3-2
A10343A-079	6-14	A40102A	3-31	A40132A	3-10
A10343A-079	6-18	A40103A	3-4	A40133A	3-3
A10343A-089	6-14	A40103A	3-5	A40133A	3-6
A10343A-089	6-18	A40103A	3-32	A40133A	3-8
A10344A-024	6-4	A40103A	3-33	A40134A	3-6
A10344A-024	6-8	A40104A	3-5	A40134A	3-8
A10405A-050	6-14	A40104A	3-33	A40135A	3-20
A10405A-050	6-18	A40105A	3-5	A40135A	3-23
A10405A-120	6-20	A40105A	3-33	A40136A	3-20

Numerical Index

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
A40136A	3-23	A40179A	3-50	A40231A	11-10
A40137A	3-23	A40180A	3-50	A40233A	6-20
A40138A	3-23	A40181A	3-50	A40233A	11-10
A40139A	3-20	A40182A	3-50	A40234A	11-10
A40140A	3-20	A40183A	3-50	A40235F	3-1
A40142A	3-10	A40184A	3-50	A40235F	3-16
A40143A	3-20	A40185A	3-50	A40235F	3-30
A40143A	3-23	A40186A	3-50	A40235F	3-36
A40145A	3-3	A40187A	3-50	A40236A	11-49
A40145A	10-1	A40188A	3-50	A40236A	3-16
A40146A	10-1	A40189A	3-50	A40236A	3-36
A40147A	3-2	A40190A	3-50	A40237A	11-5
A40147A	3-3	A40191A	3-50	A40237A	11-6
A40148A	3-6	A40192A	3-50	A40238A	11-6
A40148A	3-8	A40193A	3-50	A40243F	11-12
A40150A	3-52	A40194A	3-50	A40244F	3-1
A40150A	3-58	A40195A	3-50	A40244F	3-14
A40151A	3-58	A40196A	3-50	A40244F	3-30
A40152A	3-58	A40197A	3-50	A40244F	3-34
A40153A	3-58	A40198A	3-50	A40245F	11-1
A40154A	3-3	A40199A	3-50	A40246A	11-1
A40155A	3-26	A40205F	11-16	A40247A	11-2
A40155A	3-27	A40205F	11-24	A40247A	11-1
A40155A	3-28	A40207F	3-63	A40248A	11-3
A40155A	3-29	A40208F	3-63	A40248A	11-1
A40156A	3-26	A40208F	11-16	A40249A	11-4
A40156A	3-27	A40208F	11-24	A40249A	11-1
A40163A	3-28	A40220F	11-5	A40250A	11-1
A40163A	3-29	A40223F	3-62	A40253A	3-17
A40167A	3-20	A40224F	3-62	A40253A	3-37
A40167A	3-23	A40225F	3-62	A40254F	11-15
A40169A	3-28	A40226F	3-62	A40255F	11-5
A40169A	3-29	A40228A	3-21	A40256A	11-15
A40170A	3-50	A40228A	3-24	A40279A	11-25
A40170A	3-49	A40228A	3-39	A40280F	11-16
A40171A	3-51	A40229F	3-19	A40280F	11-18
A40171A	6-19	A40229F	3-21	A40280F	11-24
A40172A	3-51	A40229F	3-22	A40280F	11-26
A40172A	6-19	A40229F	3-24	A40281F	11-34
A40173A	3-51	A40229F	3-30	A40281F	11-35
A40173A	6-19	A40229F	3-39	A40282A	11-35
A40176A	3-50	A40230F	11-9	A40283F	11-41
A40178A	3-50	A40230F	11-10	A40284F	11-16

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
A40284F .....	11-17	A40325F .....	11-24	A40418P .....	3-4
A40285F .....	11-24	A40325F .....	11-25	A40418P .....	3-32
A40285F .....	11-25	A40327A .....	11-17	A40419P .....	3-4
A40287A .....	11-17	A40328A .....	11-17	A40419P .....	3-32
A40289A .....	11-25	A40329A .....	11-25	A40448P .....	3-20
A40291A .....	11-25	A40331A .....	11-25	A40448P .....	3-23
A40292A .....	11-17	A40332A .....	11-17	A40448P .....	3-31
A40292A .....	11-25	A40332A .....	11-25	A40449P .....	3-20
A40293A .....	11-17	A40333A .....	11-17	A40449P .....	3-23
A40293A .....	11-25	A40333A .....	11-25	A40449P .....	3-31
A40294F .....	11-50	A40335F .....	11-41	A40452P .....	10-1
A40295F .....	11-41	A40340F .....	11-16	A40452P .....	10-2
A40300F .....	11-16	A40340F .....	11-18	A40453P .....	10-2
A40300F .....	11-18	A40340F .....	11-24	A40454P .....	10-1
A40300F .....	11-24	A40340F .....	11-26	A40454P .....	10-2
A40300F .....	11-26	A40341F .....	11-34	A40457P .....	3-3
A40301F .....	11-34	A40341F .....	11-35	A40457P .....	3-31
A40301F .....	11-35	A40342A .....	11-35	A40460P .....	3-31
A40302A .....	11-35	A40343F .....	11-41	A40467P .....	3-60
A40303F .....	11-41	A40344F .....	11-16	A40467P .....	11-11
A40304F .....	11-16	A40344F .....	11-17	A40468P .....	3-60
A40304F .....	11-17	A40345F .....	11-24	A40468P .....	11-11
A40305F .....	11-24	A40345F .....	11-25	A40482A .....	11-9
A40305F .....	11-25	A40347A .....	11-17	A40515P .....	3-14
A40307A .....	11-17	A40348A .....	11-17	A40515P .....	3-34
A40311A .....	11-25	A40349A .....	11-25	A40524P .....	3-62
A40312A .....	11-17	A40351A .....	11-25	A40524P .....	3-63
A40312A .....	11-25	A40352A .....	11-17	A40534P .....	11-28
A40313A .....	11-17	A40352A .....	11-25	A40534P .....	11-29
A40313A .....	11-25	A40353A .....	11-17	A40540P .....	11-5
A40314F .....	11-50	A40353A .....	11-25	A40542P .....	3-16
A40315F .....	11-40	A40400P .....	3-5	A40542P .....	3-36
A40318F .....	11-41	A40400P .....	3-33	A40543P .....	3-16
A40320F .....	11-16	A40401P .....	3-5	A40543P .....	3-36
A40320F .....	11-18	A40401P .....	3-33	A40544P .....	11-48
A40320F .....	11-24	A40414P .....	3-5	A40544P .....	3-16
A40320F .....	11-26	A40414P .....	3-33	A40544P .....	3-36
A40321F .....	11-34	A40415P .....	3-5	A40545P .....	3-16
A40321F .....	11-35	A40415P .....	3-33	A40545P .....	3-36
A40322A .....	11-35	A40416P .....	3-4	A40548P .....	3-17
A40323F .....	11-41	A40416P .....	3-32	A40548P .....	3-37
A40324F .....	11-16	A40417P .....	3-4	A40553P .....	3-58
A40324F .....	11-17	A40417P .....	3-32	A40556P .....	11-49

Numerical Index

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
A40556P	3-16	A40733P	6-8	A40831P	3-23
A40556P	3-36	A40734P	3-12	A40831P	3-24
A40573P	11-6	A40734P	3-13	A40831P	3-39
A40577P	11-2	A40735P	3-7	A40851P	10-1
A40577P	11-3	A40735P	3-9	A40854P	3-6
A40577P	11-4	A40736P	3-12	A40854P	3-8
A40578P	11-2	A40736P	3-13	A40855P	3-6
A40579P	11-3	A40737P	3-12	A40855P	3-8
A40580P	11-4	A40737P	3-13	A40856P	3-6
A40582P	11-2	A40740A	3-1	A40856P	3-8
A40582P	11-3	A40740A	3-18	A40857P	3-6
A40582P	11-4	A40740A	3-30	A40857P	3-8
A40583P	3-14	A40740A	3-38	A40858P	3-6
A40583P	3-34	A40745A	3-12	A40858P	3-8
A40584P	3-14	A40745A	3-13	A40859P	3-6
A40584P	3-34	A40745A	3-10	A40859P	3-8
A40585P	11-10	A40746P	3-7	A40860P	3-6
A40586P	11-10	A40746P	3-9	A40860P	3-8
A40588P	11-10	A40750A	6-4	A40862P	3-6
A40589P	11-10	A40750A	6-8	A40862P	3-8
A40590P	11-10	A40755P	6-4	A40863P	3-6
A40591P	11-10	A40755P	6-8	A40863P	3-8
A40594P	11-1	A40756P	6-4	A40864P	3-10
A40595A	11-1	A40756P	6-8	A40865P	3-3
A40610P	11-40	A40757P	6-4	A40868P	3-3
A40611P	11-40	A40757P	6-8	A40869P	3-3
A40623P	11-50	A40760P	6-6	A40870P	3-3
A40624P	11-50	A40760P	6-10	A40871P	3-3
A40625P	11-50	A40765P	6-6	A40872P	3-3
A40626P	11-50	A40772P	3-57	A40873P	3-3
A40638P	11-27	A40773P	3-56	A40907P	11-17
A40683P	11-50	A40774P	3-56	A40907P	11-19
A40710P	3-49	A40824P	3-20	A40907P	11-25
A40712P	3-49	A40824P	3-23	A40954P	3-21
A40713P	3-49	A40825P	3-20	A40954P	3-24
A40716P	6-12	A40825P	3-23	A40954P	3-39
A40716P	6-16	A40830P	3-20	A40956P	11-9
A40718P	6-12	A40830P	3-21	A40956P	3-20
A40718P	6-16	A40830P	3-23	A40956P	3-21
A40720F	3-49	A40830P	3-24	A40956P	3-23
A40730A	6-4	A40830P	3-39	A40956P	3-24
A40730A	6-8	A40831P	3-20	A40956P	3-39
A40733P	6-4	A40831P	3-21	A40957P	3-21

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
A40957P	3-24	A41401F	11-20	A42027A	3-56
A40957P	3-39	A41402F	11-20	A42028A	3-53
A40958P	3-21	A41403A	11-9	A42029A	3-53
A40958P	3-24	A41403F	11-12	A42029A	5-4
A40958P	3-39	A41404F	11-20	A42030A	6-4
A40959P	3-21	A41405F	11-20	A42030A	6-8
A40959P	3-24	A41406F	11-20	A42104F	3-1
A40959P	3-39	A41407F	11-20	A42105F	3-19
A40960P	3-21	A41408F	11-20	A42106F	3-22
A40960P	3-24	A41420F	11-31	A42107F	3-30
A40960P	3-39	A41421F	11-31	A42108F	11-9
A40975P	11-15	A41422F	11-31	A42109F	11-53
A40976P	11-17	A41423F	11-31	A42110F	11-16
A40976P	11-19	A41530P	11-22	A42111F	11-16
A41000F	3-41	A41533P	11-31	A42112F	11-16
A41003F	3-42	A41534P	11-31	A42113F	11-16
A41006F	3-43	A41535P	11-31	A42114F	11-20
A41009F	3-44	A42000F	3-52	A42115F	11-20
A41011F	3-47	A42002A	5-4	A42116F	11-20
A41025F	3-45	A42002A	3-53	A42117F	11-20
A41025F	3-46	A42004P	5-4	A42118F	11-20
A41118P	3-47	A42005A	3-52	A42119F	11-20
A41119P	3-47	A42005A	3-53	A42120F	11-20
A41200A	11-37	A42006A	3-56	A42121F	11-24
A41219F	11-43	A42007A	5-4	A42122F	11-24
A41219F	11-44	A42008P	5-4	A42123F	11-24
A41219F	11-45	A42009A	3-54	A42124F	11-24
A41224A	11-19	A42009A	3-53	A42125F	11-34
A41225A	11-17	A42010P	3-54	A42126F	11-34
A41225A	11-17	A42011P	3-54	A42127F	11-34
A41225A	11-19	A42012A	3-54	A42128F	11-34
A41235F	11-30	A42013A	3-54	A42130A	11-34
A41314P	11-45	A42017P	3-54	A42135P	11-34
A41317P	11-45	A42018P	5-4	A42138A	11-52
A41325P	11-30	A42019A	5-4	A42140A	11-34
A41326P	11-30	A42020A	3-56	A42143A	11-34
A41327P	11-30	A42020A	3-53	A42146A	11-34
A41328P	11-30	A42021A	3-52	A42150A	11-27
A41329P	11-30	A42021A	3-57	A42160A	11-27
A41331P	11-30	A42022P	3-57	A42169A	11-27
A41332P	11-20	A42023P	3-53	A42170A	11-44
A41332P	11-12	A42025A	3-53	A42173A	11-27
A41400F	11-20	A42025A	5-4	A42175F	11-43

Numerical Index

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
A42176F	11-44	A42317A	11-48	P0001-04-007	6-16
A42178A	11-27	A42318A	11-48	P0001-05-03	3-49
A42180F	11-19	A42320A	11-48	P0001-05-04	3-49
A42181A	11-19	A42321A	11-48	P0001-06-003	3-20
A42186A	11-43	A42322P	11-48	P0001-06-003	3-21
A42210A	11-45	A42323P	11-48	P0001-06-003	3-23
A42214A	11-51	A42331P	11-29	P0001-06-003	3-24
A42215A	11-36	A42336F	11-22	P0001-06-003	3-39
A42216P	11-51	A42340F	11-29	P0001-06-003	3-61
A42217P	11-51	A42342A	11-22	P0001-06-003	6-4
A42218P	11-51	A42350F	11-28	P0001-06-003	6-8
A42219P	11-51	A42351P	11-28	P0001-06-006	3-6
A42220A	3-61	A42352P	11-32	P0001-06-006	3-8
A42220A	11-27	A42361A	11-6	P0001-06-007	3-3
A42221A	3-61	A42362A	11-6	P0001-06-008	3-6
A42222A	3-61	A42365P	11-38	P0001-06-008	3-8
A42232P	3-61	A42366P	11-38	P0001-06-009A	11-38
A42233A	3-61	A42368P	3-13	P0001-06-010	6-14
A42234P	3-61	A42369P	3-5	P0001-06-010	6-18
A42235A	3-61	A42369P	3-33	P0001-06-012	6-14
A42240A	11-14	A42370A	3-21	P0001-06-012	6-18
A42250A	11-7	A42370A	3-24	P0001-06-014	11-38
A42251A	11-7	A42370A	3-39	P0001-08-001	3-10
A42252P	11-7	A42375A	11-46	P0001-08-004	3-20
A42253P	11-7	A42380F	11-19	P0001-08-004	3-23
A42254P	11-7	A42382A	11-19	P0001-08-004	3-60
A42255A	11-38	A42386A	11-42	P0001-08-004	3-61
A42256A	11-38	A42387A	11-42	P0001-08-004	11-11
A42272A	11-19	A42390F	11-42	P0001-08-005	11-48
A42273F	11-19	A42396A	11-42	P0001-08-005	3-7
A42274F	11-47	A42398A	11-42	P0001-08-005	3-9
A42275A	11-47	A42403A	11-42	P0001-08-005	3-61
A42276A	11-47	A42404A	11-42	P0001-08-006	11-51
A42282F	11-49	F0095-115	11-9	P0001-08-006	3-55
A42283A	11-49	P0001-04-002	6-4	P0001-08-006	3-60
A42284A	11-48	P0001-04-002	6-8	P0001-08-006	6-14
A42284A	11-49	P0001-04-002.5	3-56	P0001-08-006	6-18
A42286P	11-49	P0001-04-003	5-4	P0001-08-006	11-11
A42288F	11-21	P0001-04-003	6-4	P0001-08-008	11-42
A42294A	11-41	P0001-04-003	6-8	P0001-08-008	3-12
A42307A	11-48	P0001-04-005	3-4	P0001-08-008	3-13
A42313P	11-48	P0001-04-005	3-32	P0001-08-010	3-12
A42316A	11-48	P0001-04-007	6-12	P0001-08-010	3-13

Numerical Index

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
P0001-08-014	11-7	P0001-12-010	3-46	P001-12-008	3-28
P0001-08-014	3-21	P0001-12-012	11-18	P001-12-008	3-29
P0001-08-014	3-24	P0001-12-012	11-26	P001-12-009	3-26
P0001-08-014	3-39	P0001-12-016	11-17	P001-12-009	3-27
P0001-08-040	11-19	P0001-12-016	11-19	P001-12-009	3-28
P0001-08-040	11-27	P0001-12-016	11-25	P001-12-009	3-29
P0001-10-006	3-21	P0001-12-016	11-34	P0012-08	11-48
P0001-10-006	3-24	P0001-12-016	3-20	P0013-06A	11-38
P0001-10-006	3-39	P0001-12-016	3-23	P0013-08	11-7
P0001-10-007	3-43	P0001-12-016	3-31	P0013-12A	11-17
P0001-10-007	11-45	P0001-12-020	3-20	P0013-12A	11-19
P0001-10-007	3-45	P0001-12-020	3-23	P0013-12A	11-25
P0001-10-007	3-46	P0001-12-020	3-31	P0013-12A	11-34
P0001-10-008	11-42	P0001-12-020	3-43	P0017-14-208	3-56
P0001-10-008	11-43	P0001-12-028	3-6	P0027-032	3-54
P0001-10-008	11-47	P0001-12-028	3-8	P0027-046	3-54
P0001-10-008	3-20	P0003-04	5-4	P0027B-12MM	5-4
P0001-10-008	3-41	P0003-04	6-4	P0030-03-003	11-28
P0001-10-009	3-21	P0003-04	6-8	P0030-03-003	11-29
P0001-10-009	3-24	P0003-05	3-49	P0030-06-003	3-4
P0001-10-009	3-39	P0003-06	3-6	P0030-06-003	3-32
P0001-10-010	11-50	P0003-06	3-8	P0030-06-004	3-6
P0001-12-005	11-18	P0003-06	11-38	P0030-06-004	3-8
P0001-12-005	11-26	P0003-08	11-19	P0030-08-005	3-5
P0001-12-005	11-40	P0003-08	11-27	P0030-08-005	3-33
P0001-12-005	11-42	P0003-10	3-43	P00301-106	3-5
P0001-12-005	11-45	P0003-10	3-45	P0030S-08-004	3-7
P0001-12-006	3-41	P0003-10	3-46	P0030S-08-004	3-9
P0001-12-006	3-42	P0003-10	3-41	P0030S-12-003	3-31
P0001-12-006	3-43	P0003-12	3-20	P0030S-12-008	11-40
P0001-12-006	3-44	P0003-12	3-23	P0031-04-000	3-55
P0001-12-006	3-47	P0003-12	3-31	P0031-04-001	3-55
P0001-12-008	3-40	P0003-12	3-6	P0031-04-002	6-4
P0001-12-008	3-43	P0003-12	3-8	P0031-04-002	6-8
P0001-12-008	3-10	P0003-12	3-61	P0031-04-012	6-4
P0001-12-008	3-20	P0005-32	3-20	P0031-04-012	6-8
P0001-12-008	3-23	P0005-32	3-23	P0031-05-003	6-4
P0001-12-008	3-42	P0005-32	3-31	P0031-05-003	6-8
P0001-12-008	3-44	P0007-06	3-6	P0031-05-005	3-7
P0001-12-008	3-45	P0007-06	3-8	P0031-05-005	3-9
P0001-12-008	3-46	P0007-08	3-12	P0031-08-006	3-28
P0001-12-008	3-47	P0007-08	3-13	P0031-08-006	3-29
P0001-12-010	3-45	P0008-16	3-3	P0031-08-006	3-10

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
P0031-08-006	11-10	P0040-008	11-11	P0045-008	6-18
P0031-10-008	3-3	P0040-010	11-50	P0045-010	3-43
P0031-10-008	3-5	P0040-010	3-21	P0045-010	11-42
P0031-10-008	3-33	P0040-010	3-24	P0045-010	11-43
P0031-10-008	3-6	P0040-010	3-39	P0045-010	11-45
P0031-10-008	3-8	P0040-012	3-43	P0045-010	11-47
P0031-10-008	3-31	P0040-012	3-41	P0045-010	3-20
P0031-1024-001.5	11-2	P0040-012	3-45	P0045-010	3-21
P0031-1024-001.5	11-3	P0040-012	3-46	P0045-010	3-23
P0031-1024-001.5	11-4	P0045-004	3-4	P0045-010	3-24
P0031-12-007	3-3	P0045-004	3-32	P0045-010	3-39
P0031-12-007	3-31	P0045-004	5-4	P0045-010	3-41
P0031-12-008	3-3	P0045-004	6-4	P0045-010	3-45
P0031-12-008	3-4	P0045-004	6-8	P0045-010	3-46
P0031-12-008	3-32	P0045-004	6-12	P0045-012	3-20
P0031-12-008	3-31	P0045-004	6-16	P0045-012	3-23
P0031-12-018	11-22	P0045-005	3-49	P0045-012	3-26
P0031-14-010	6-6	P0045-005	6-4	P0045-012	3-27
P0031-14-010	6-10	P0045-005	6-8	P0045-012	3-28
P0031A-05-004	11-10	P0045-006	3-3	P0045-012	3-29
P0032-175	11-48	P0045-006	3-7	P0045-012	3-31
P0033-06-008	11-1	P0045-006	3-9	P0045-012	3-40
P0033-06-020	10-1	P0045-006	3-20	P0045-012	3-43
P0033-06-020	10-2	P0045-006	3-21	P0045-012	3-6
P0033-08-016	3-17	P0045-006	3-23	P0045-012	3-8
P0033-08-016	3-37	P0045-006	3-24	P0045-012	3-10
P0033-08-020	11-1	P0045-006	3-39	P0045-012	3-20
P0037-068	3-5	P0045-006	3-61	P0045-012	3-23
P0037-068	3-33	P0045-006	6-4	P0045-012	3-41
P0040-004	6-4	P0045-006	6-8	P0045-012	3-44
P0040-004	6-8	P0045-006	6-14	P0045-012	3-45
P0040-004	6-12	P0045-006	6-18	P0045-012	3-46
P0040-004	6-16	P0045-008	3-7	P0046-010	3-3
P0040-005	3-49	P0045-008	3-9	P0046-010	3-5
P0040-006	3-61	P0045-008	3-10	P0046-010	3-33
P0040-006	6-14	P0045-008	3-12	P0046-010	3-6
P0040-006	6-18	P0045-008	3-13	P0046-010	3-8
P0040-006	11-38	P0045-008	3-20	P0046-010	3-31
P0040-008	11-42	P0045-008	3-21	P0046-012	3-3
P0040-008	11-48	P0045-008	3-23	P0046-012	3-4
P0040-008	11-51	P0045-008	3-24	P0046-012	3-32
P0040-008	3-55	P0045-008	3-39	P0046-012	3-31
P0040-008	3-60	P0045-008	6-14	P0046-014	6-6

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
P0046-014 .....	6-10	P0059-053E .....	6-18	P0065-182 .....	11-28
P0047-002 .....	3-17	P0059-054A .....	6-14	P0065-183 .....	11-28
P0047-002 .....	3-37	P0059-054A .....	6-18	P0065-184 .....	11-28
P0047-003 .....	3-7	P0063-001 .....	3-3	P0065-185 .....	11-28
P0047-003 .....	3-9	P0063-001 .....	3-6	P0065-186 .....	11-28
P0049-044 .....	11-1	P0063-001 .....	3-8	P0065-187 .....	11-28
P0049-079 .....	11-1	P0063-001 .....	3-28	P0066-007 .....	3-21
P0049-117 .....	3-3	P0063-001 .....	3-29	P0066-007 .....	3-24
P0049-201 .....	11-20	P0063-001 .....	3-31	P0066-007 .....	3-39
P0049-201 .....	11-20	P0063-001 .....	3-40	P0066-013 .....	11-19
P0049-201 .....	11-21	P0063-001 .....	3-7	P0070-053 .....	3-6
P0049-201 .....	11-30	P0063-001 .....	3-9	P0070-053 .....	3-8
P0049-201 .....	11-12	P0063-001 .....	3-10	P0071-001 .....	3-7
P0049-201 .....	11-28	P0063-001 .....	3-17	P0071-001 .....	3-9
P0049-201 .....	11-29	P0063-001 .....	3-21	P0076-055 .....	11-1
P0053-026 .....	5-2	P0063-001 .....	3-24	P0076-056 .....	11-1
P0054-008 .....	5-2	P0063-001 .....	3-31	P0076-057 .....	11-6
P0054-031 .....	5-2	P0063-001 .....	3-37	P0077-012 .....	3-21
P0054-068 .....	5-2	P0063-001 .....	3-39	P0077-012 .....	3-24
P0054-069 .....	5-4	P0063-001 .....	11-10	P0077-012 .....	3-39
P0054-071 .....	5-4	P0063-001 .....	11-28	P0077-049 .....	3-17
P0054-169 .....	3-53	P0063-001 .....	11-29	P0077-049 .....	3-37
P0054-340 .....	5-4	P0063-012 .....	3-5	P0078-002 .....	3-26
P0054-418 .....	5-4	P0063-012 .....	3-33	P0078-002 .....	3-26
P0054-419 .....	3-56	P0064-019 .....	5-2	P0078-002 .....	3-27
P0055-011 .....	5-2	P0064-020 .....	3-53	P0078-002 .....	3-27
P0055-100A .....	5-2	P0065-160 .....	3-5	P0078-002 .....	3-28
P0055-101A .....	5-2	P0065-160 .....	3-33	P0078-002 .....	3-28
P0055-122 .....	3-56	P0065-161 .....	3-5	P0078-002 .....	3-29
P0055-130 .....	6-10	P0065-161 .....	3-33	P0078-002 .....	3-29
P0055-145B .....	5-4	P0065-162 .....	3-5	P0078-002 .....	3-12
P0055-207 .....	3-56	P0065-162 .....	3-33	P0078-002 .....	3-13
P0055-212 .....	3-56	P0065-164 .....	3-3	P0078-005 .....	3-26
P0056-009 .....	5-2	P0065-165 .....	3-3	P0078-005 .....	3-27
P0056-009 .....	5-4	P0065-170 .....	11-49	P0078-005 .....	3-28
P0056-010 .....	5-2	P0065-170 .....	3-16	P0078-005 .....	3-29
P0056-010 .....	5-4	P0065-170 .....	3-36	P0078-005 .....	3-12
P0058-011 .....	11-15	P0065-176 .....	11-29	P0078-005 .....	3-13
P0059-053B .....	6-14	P0065-177 .....	11-29	P0078-008 .....	3-26
P0059-053B .....	6-18	P0065-178 .....	11-29	P0078-008 .....	3-27
P0059-053C .....	6-14	P0065-179 .....	11-29	P0078-008 .....	3-28
P0059-053C .....	6-18	P0065-180 .....	11-29	P0078-008 .....	3-29
P0059-053E .....	6-14	P0065-181 .....	11-29	P0078-008 .....	3-12

Numerical Index

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
P0078-008	3-13	P0086-028	10-2	P0100-040	3-51
P0079-004	3-7	P0086-029	10-1	P0100-040	6-19
P0079-004	3-9	P0086-029	10-2	P0100-040	6-4
P0080-27	3-5	P0087-011	10-1	P0100-040	6-8
P0080-27	3-33	P0087-011	10-2	P0100-041	3-51
P0085-030	3-58	P0090-010	11-7	P0100-041	6-19
P0085-113	3-3	P0090-010	11-36	P0100-041	6-12
P0085-116	11-19	P0090-013	3-31	P0100-041	6-16
P0085-116	11-27	P0091-003	11-36	P0111-014	3-50
P0085-120	11-1	P0091-010	3-28	P0119-001	3-16
P0085-130	11-1	P0091-010	3-29	P0119-001	3-36
P0085-149	11-6	P0091-010	3-10	P0119-001B	3-16
P0085-149	11-30	P0094-004	11-36	P0119-001B	3-36
P0085-152	11-31	P0095-102	11-34	P0119-001D	3-16
P0085-228	11-1	P0100-010A	6-20	P0119-001D	3-36
P0085-228	11-1	P0100-010B	6-20	P0119-001F	3-16
P0085-228	11-6	P0100-010D	6-20	P0119-001F	3-36
P0085-228	3-17	P0100-010E	6-20	P0119-001G	3-16
P0085-228	3-37	P0100-033	3-58	P0119-001G	3-36
P0085-228	11-12	P0100-034	3-51	P0119-001H	3-16
P0085-229	11-1	P0100-034	6-19	P0119-001H	3-36
P0085-241	3-17	P0100-034	6-4	P0119-001K	3-16
P0085-241	3-37	P0100-034	6-8	P0119-001K	3-36
P0085-252	11-28	P0100-035	3-51	P0122-007	5-4
P0085-261	11-29	P0100-035	6-19	P0122-007	5-4
P0085-261	11-10	P0100-035	6-12	P0125-117	3-48
P0085-266	11-10	P0100-035	6-16	P0125-117	6-14
P0085-269	3-5	P0100-036	3-51	P0125-117	6-18
P0085-269	3-33	P0100-036	6-19	P0125-117A	3-48
P0085-325	11-17	P0100-036	6-4	P0125-117B	3-48
P0085-325	11-19	P0100-036	6-8	P0125-117C	3-48
P0085-331	11-6	P0100-037	3-51	P0125-117D	3-48
P0085-336	11-2	P0100-037	6-19	P0125-117E	3-48
P0085-336	11-3	P0100-037	6-12	P0125-117F	3-48
P0085-336	11-4	P0100-037	6-16	P0125-117F	4-2
P0085-376	11-35	P0100-038	3-51	P0125-117F	4-3
P0085-378	11-35	P0100-038	6-19	P0125-117G	3-48
P0085-381	11-35	P0100-038	6-4	P0125-117H	3-48
P0085-383	11-35	P0100-038	6-8	P0125-117I	3-48
P0085-905	11-2	P0100-039	3-51	P0125-117J	3-48
P0085-905	11-3	P0100-039	6-19	P0125-117J	4-3
P0085-905	11-4	P0100-039	6-12	P0125-117K	3-48
P0086-028	10-1	P0100-039	6-16	P0125-117L	3-48

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
P0125-117M	3-48	P0250-138	5-4	P0300-079	11-3
P0125-117N	3-48	P0251-123	3-57	P0300-079	11-4
P0125-117P	3-48	P0251-123A	3-57	P0300-093	6-20
P0125-117P	4-3	P0251-123B	3-57	P0300-104	6-14
P0125-117Q	3-48	P0251-123C	3-57	P0300-104	6-18
P0125-117R	3-48	P0251-127	3-56	P0300-107	11-17
P0125-117S	3-48	P0251-128	3-54	P0300-107	11-19
P0125-117T	3-48	P0251-129	3-54	P0300-113	6-20
P0125-117U	3-48	P0251-130	5-4	P0300-116	11-48
P0125-117V	3-49	P0251-131	3-57	P0300-120	11-48
P0125-117X	3-49	P0251-132	3-53	P0300-121	6-12
P0125-117Y	3-49	P0251-133	3-53	P0300-121	6-18
P0125-118	3-49	P0253-118	3-56	P0300-122	6-14
P0125-118	6-14	P0300-001	6-12	P0300-122	6-18
P0125-118	6-18	P0300-001	6-16	P0300-133	6-12
P0125-118A	3-49	P0300-009	6-12	P0300-133	6-16
P0125-118B	3-49	P0300-009	6-16	P0300-140	11-17
P0125-118C	3-49	P0300-012	11-48	P0300-140	11-19
P0126-001	3-49	P0300-013	6-12	P0300-144	11-12
P0126-014	3-5	P0300-013	6-16	P0300-163	3-5
P0126-014	3-33	P0300-014	11-48	P0300-163	3-33
P0126-030	11-28	P0300-025	11-48	P0300-174	11-17
P0126-030	11-29	P0300-026	11-17	P0300-174	11-19
P0200-103	11-53	P0300-026	11-29	P0300-176	3-5
P0201-142	6-14	P0300-026	11-12	P0300-176	3-33
P0201-142	6-18	P0300-026	11-28	P0300-176	11-28
P0201-150	6-14	P0300-027	6-12	P0300-224	11-1
P0201-150	6-18	P0300-027	6-16	P0300-241	11-48
P0201-180	6-14	P0300-029	11-27	P0300-245	6-20
P0201-180	6-18	P0300-030	6-14	P0300-249	6-20
P0201-205	6-14	P0300-030	6-18	P0300-249	6-12
P0201-205	6-18	P0300-032	3-17	P0300-249	6-16
P0220-210	6-18	P0300-032	3-37	P0300-268	6-20
P0250-114	5-4	P0300-046	6-14	P0300-268	6-4
P0250-116	5-4	P0300-046	6-18	P0300-268	6-8
P0250-116C	5-4	P0300-049	11-48	P0300-268	6-12
P0250-116D	5-4	P0300-053	11-48	P0300-268	6-16
P0250-116E	5-4	P0300-060	6-10	P0300-269	11-48
P0250-123	5-4	P0300-076	6-12	P0300-300	6-6
P0250-124	3-56	P0300-076	6-16	P0300-302	6-6
P0250-125	3-56	P0300-078	6-12	P0300-306	6-4
P0250-126	3-56	P0300-078	6-16	P0300-306	6-8
P0250-127	3-56	P0300-079	11-2	P0300-308	6-12

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
P0300-308	6-16	P0300-335	6-12	P0300-396	6-10
P0300-309	6-12	P0300-335	6-16	P0301-105	6-12
P0300-309	6-16	P0300-336	6-12	P0301-105	6-16
P0300-310	6-12	P0300-336	6-16	P0301-106	3-33
P0300-310	6-16	P0300-338	6-12	P0301-109	6-12
P0300-311	6-4	P0300-338	6-16	P0301-109	6-16
P0300-311	6-8	P0300-339	6-12	P0301-138	6-14
P0300-312	6-4	P0300-339	6-16	P0301-138	6-18
P0300-312	6-8	P0300-340	6-12	P0301-140	6-4
P0300-314	6-4	P0300-340	6-16	P0301-140	6-8
P0300-314	6-8	P0300-341	6-14	P0302-110A	7-4
P0300-319	6-14	P0300-341	6-18	P0302-145	7-4
P0300-319	6-18	P0300-353	6-12	P0302-145	11-48
P0300-323	6-4	P0300-353	6-16	P0302-207	6-14
P0300-323	6-8	P0300-354	6-12	P0302-207	6-18
P0300-324	6-4	P0300-354	6-16	P0302-208	6-14
P0300-324	6-8	P0300-359	6-4	P0302-208	6-18
P0300-324	6-12	P0300-359	6-8	P0302-231	6-14
P0300-324	6-16	P0300-360	6-4	P0302-327	11-48
P0300-325	6-4	P0300-360	6-8	P0302-342	11-19
P0300-325	6-8	P0300-361	6-14	P0302-342	11-27
P0300-325	6-12	P0300-361	6-18	P0302-346	6-12
P0300-325	6-16	P0300-362	6-14	P0302-346	6-16
P0300-327	6-12	P0300-362	6-18	P0302-383	4-1
P0300-327	6-16	P0300-363	6-12	P0302-383	7-1
P0300-328	6-14	P0300-363	6-16	P0302-383	6-4
P0300-328	6-18	P0300-383	6-4	P0302-383	6-8
P0300-330	6-12	P0300-383	6-8	P0302-383A	7-1
P0300-330	6-16	P0300-385	6-4	P0302-383B	7-1
P0300-331	6-4	P0300-385	6-8	P0302-383C	7-1
P0300-331	6-8	P0300-386	6-6	P0302-383E	7-1
P0300-331	6-12	P0300-386	6-10	P0302-383F	7-1
P0300-331	6-16	P0300-387	6-4	P0302-383G	7-1
P0300-332	6-4	P0300-387	6-8	P0302-384	11-6
P0300-332	6-8	P0300-388	6-4	P0302-401	4-2
P0300-332	6-12	P0300-388	6-8	P0302-401	7-2
P0300-332	6-16	P0300-389	6-4	P0302-401	6-4
P0300-333	6-4	P0300-389	6-8	P0302-401	6-8
P0300-333	6-8	P0300-390	6-10	P0302-401	6-12
P0300-333	6-12	P0300-390	6-6	P0302-401	6-16
P0300-333	6-16	P0300-391	6-6	P0302-401A	4-2
P0300-335	6-6	P0300-391	6-10	P0302-401A	7-2
P0300-335	6-10	P0300-396	6-6	P0302-402	6-12

*Numerical Index*

PART NO.	PAGE NO.	PART NO.	PAGE NO.	PART NO.	PAGE NO.
P0302-402	6-16	P0304-160	6-10	P0400-001	6-12
P0302-404	11-1	P0304-160	8-3	P0400-001	6-16
P0302-405	11-1	P0304-161	8-2	P0400-006	6-12
P0302-410	4-1	P0304-161	3-9	P0400-006	6-16
P0302-410	7-3	P0307-136B	11-10	P0402-005	6-14
P0302-410	6-4	P0307-136B1	11-10	P0403-007	6-12
P0302-410	6-8	P0307-136E	10-3	P0403-007	6-16
P0303-246A1	6-14	P0307-136E	11-10	P0408-008	6-12
P0303-246A2	6-14	P0307-146	10-3	P0408-008	6-16
P0303-248	11-53	P0307-146	11-10	P0411-006A	6-12
P0303-248A	11-53	P0307-146A	10-3	P0411-006A	6-16
P0303-248B	11-53	P0307-146A	11-10	P0412-007	6-14
P0303-248C	11-53	P0307-159	11-48	P0412-007	6-18
P0303-248D	11-53	P0308-100	6-14	P0412-008A	6-14
P0303-248E	11-53	P0308-100	6-18	P0412-008A	6-18
P0303-248F	11-53	P0308-102	6-12	P0413-008	6-14
P0303-248G	11-53	P0308-102	6-16	P0413-008	6-18
P0303-248H	11-53	P0308-104	6-14	P0413-015	6-14
P0303-248I	11-53	P0308-104	6-18	P0413-015	6-18
P0303-248J	11-53	P0308-105	6-14	P0416-003	6-12
P0303-248K	11-53	P0308-105	6-18	P0416-003	6-16
P0303-248L	11-53	P0309-144A	6-12	P0416-004	11-1
P0303-248M	11-53	P0309-144A	6-16	P0416-004	11-1
P0303-248N	11-53	P0309-153	6-14	P0416-004	11-12
P0303-248O	11-53	P0309-153	6-18	P0416-005	11-50
P0303-248P	11-53	P0309-162	6-14	P0417-003	6-14
P0303-248Q	11-53	P0309-162	6-18	P0417-007	6-18
P0303-249	9-1	P0309-172	6-12	P0423-010	6-14
P0303-249	6-14	P0309-172	6-16	P0423-010	6-18
P0303-249	6-18	P0310-431A	3-56	P0423-121	6-14
P0303-250	9-2	P0310-432	5-4	P0423-121	6-18
P0303-250	6-14	P0310-433	5-4	P066-014	3-6
P0303-250	6-18	P0310-558	5-4	P066-014	3-8
P0303-251	9-3	P0310-578	5-4	PM3B-.5-10	3-57
P0303-251	11-10	P0310-582	5-4	PM6B-1-10	3-56
P0303-251A	9-3	P0310-707	3-52		
P0303-251B	9-3	P0310-707	3-58		
P0303-251C	9-3	P0310-713	5-4		
P0303-251D	9-3	P0310-756	5-4		
P0303-251E	9-3	P0310-840	5-4		
P0304-159	8-1	P0310-848	5-4		
P0304-159	3-7	P0310-871	5-4		
P0304-160	6-6	P033-440-03	3-58		