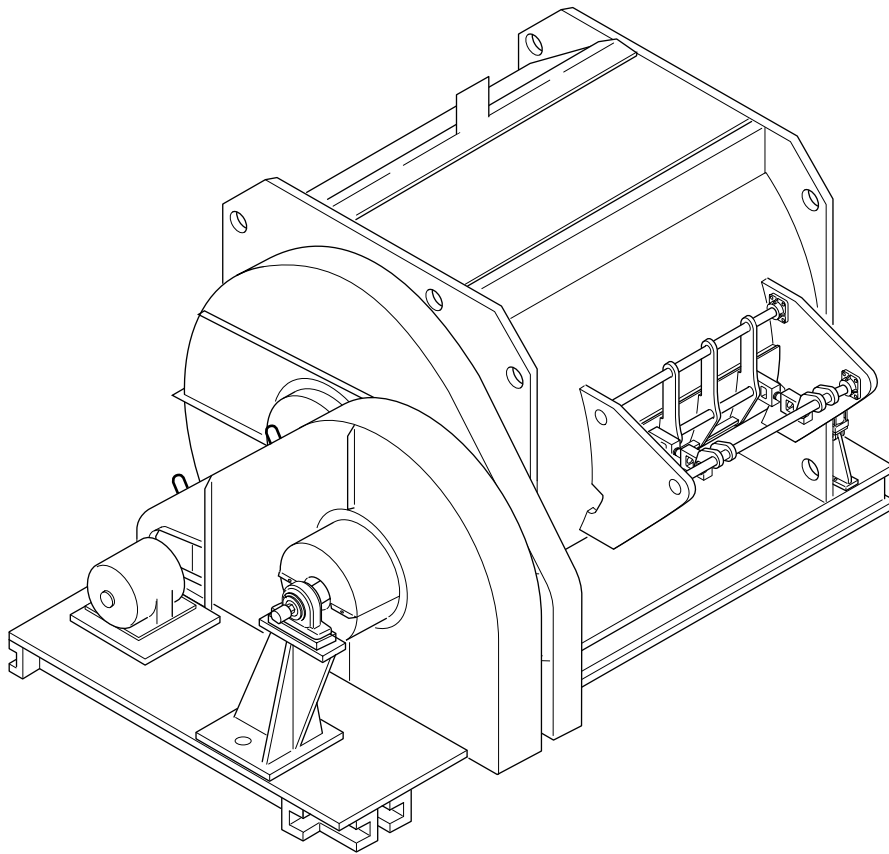


BESSER

MIXER
80/100/120 CUBIC FOOT



PARTS CATALOG
466363F9903

JULY 1999 • US\$250

BESSER World Headquarters
801 Johnson St. • Alpena, Michigan, 49707 • U.S.A.
Phone (517) 354-4111

BESSER

COMPANY NAME:

SERIAL NUMBER:

ASSEMBLY NUMBER:

WIRING DIAGRAM NUMBER:

INSTALLATION DRAWING NUMBER:

MIXER

80/100/120 CUBIC FOOT

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MIXER

80/100/120 CUBIC FOOT

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NOTICE

Information in this manual is subject to change. Updates will be provided when safety issues arise, or when information becomes outdated. The Besser Company drawings and prints provided with your equipment and machinery are current to the date of manufacture.

Illustrations in this manual are provided to help you understand the instructions. The illustrations have not been drawn to scale. Please read and understand this manual and the Operation/Maintenance Manual before operating this machinery. Observe all safety signs and OSHA-approved lockout and tagout procedures. If you have questions about these safety procedures, please contact your Besser Sales and Service Representative before start-up of the machine.

80/100/120 CUBIC FOOT SPECIFICATIONS

SPECIFICATIONS	80 CU FT	100 CU FT	120 CU FT
SHIPPING WEIGHT (APPROXIMATE)	22,000 lb [9979 kg]	22,500 lb [10,206 kg]	23,500 lb [10,660 kg]
OVERALL DIMENSIONS	W: 9 ft 2 3/4 in. [2810 mm] L: 14 ft 2 in. [4.32 m] H: 6 ft 8 in. [2.03 m]	W: 9 ft 2 3/4 in. [2810 mm] L: 14 ft 2 in. [4.32 m] H: 6 ft 8 in. [2.03 m]	W: 9 ft 2 3/4 in. [2810 mm] L: 14 ft 2 in. [4.32 m] H: 6 ft 8 in. [2.03 m]
PRODUCTION CAPACITY			
Maximum volume	80 cu ft [2.27 m ³]	100 cu ft [2.8 m ³]	120 cu ft [3.4 m ³]
Maximum weight	8000 lb [3628.8 kg]	10,000 lb [4536 kg]	12,000 lb [5443 kg]
MIXER ELECTRICAL MOTOR RATING	75 hp [56 kW]	100 hp [74.57 kW]	125 hp [93.13 kW]
BLADE SHAFT SPEED (RPM)	18	18	18
MIXER AIR REQUIREMENTS			
Air inlet supply	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT
Air clutch, each actuation,	1 1/4 cu ft [0.035 m ³] at 40 to 45 psi	1 1/4 cu ft [0.035 m ³] at 45 to 50 psi	1 1/4 cu ft [0.035 m ³] at 50 to 55 psi
Discharge gate, each open/close cycle, at 120 psi [827.4 kPa]	1 3/5 cu ft [0.045 m ³] (23.2 SCFM)	1. 3/5 cu ft [0.045 m ³] (23.2 SCFM)	1 3/5 cu ft [0.045 m ³] (23.2 SCFM)
MIXER WATER REQUIREMENTS			
Water supply inlet	1 1/2 in. [38 mm] ID	1 1/2 in. [38 mm] ID	1 1/2 in. [38 mm] ID
Gallons [liters] per batch	58 [220]	72 [272.5]	86 [326]
SENSOR AND CONTROL PANEL OPERATING RANGES			
Ambient operating temperature	32° to 131° F [0° – 55° C]	32° to 131° F [0° to 55° C]	32° to 131° F [0° to 55° C]
Humidity range	5 to 95 percent, noncondensing	5 to 95 percent, noncondensing	5 to 95 percent, noncondensing
Line voltage	85 to 132 VAC, 50/60 Hz	85 to 132 VAC, 50/60 Hz	85 to 132 VAC, 50/60 Hz
OPERATING CONDITIONS	Besser Company machinery and equipment is designed to comply with the essential health and safety regulations (EHSR) that apply to directives which are applicable to an industrial environment. The buyer shall utilize this equipment in a manner consistent with its design, and only in an industrial environment.		

Table A 80/100/120 Cubic Foot Mixer Specifications

NOTE:
SCFM means standard cubic feet per minute.

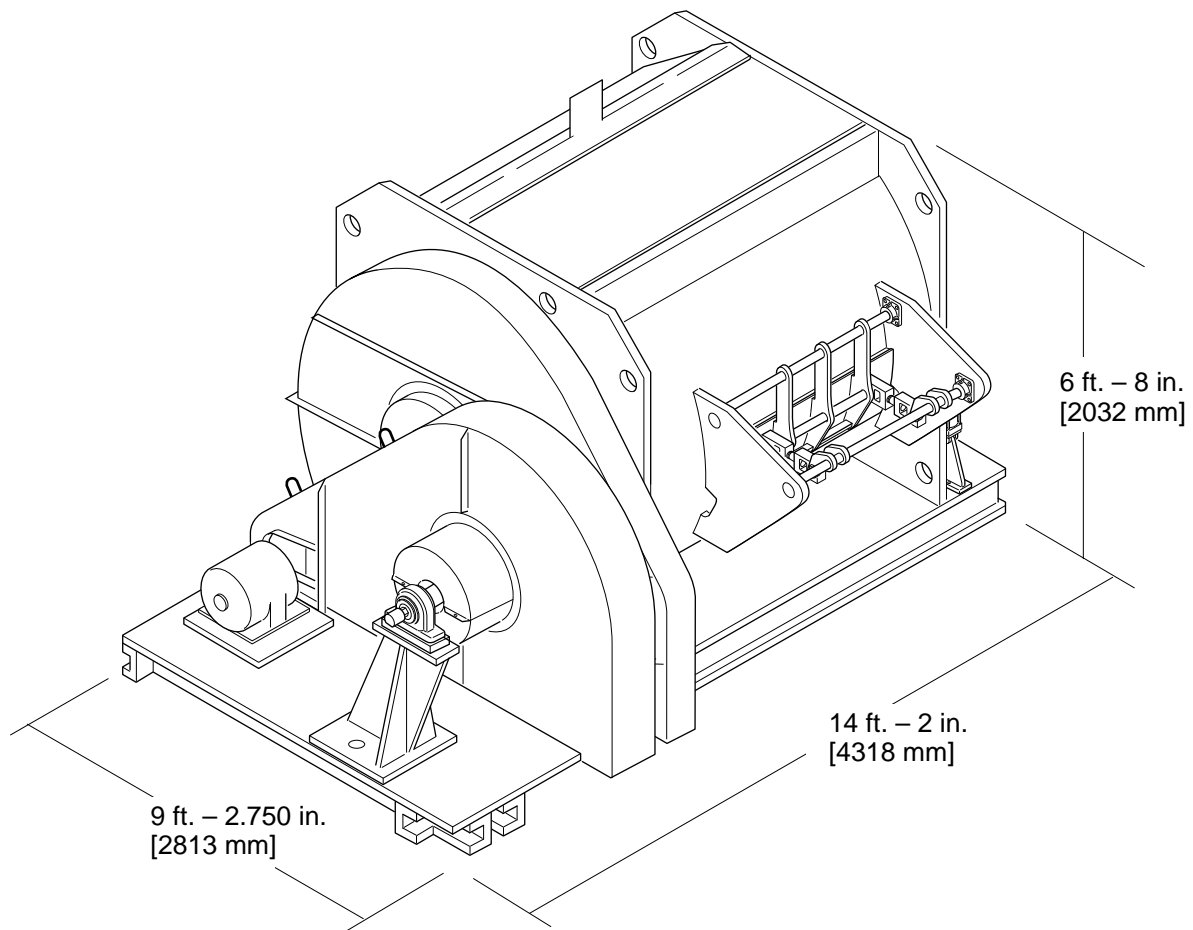


Figure A Primary Mixer Dimensions

80/100/120 CUBIC FOOT MIXER ELECTRICAL DATA

The caution below applies to the 80, 100, and 120 cubic foot mixer electrical data.

**CAUTION:**

To Comply with Articles 110-9 110-10 of the National Electrical Code:

- The customer shall supply a branch circuit protective device to protect the control panel. The protective device shall have a short circuit interrupting rating of no less than the available short circuit current. Failure to do so could result in a rupture of the protective device while personnel are attempting to clear a fault.
- Besser Company recommends the use of protective devices with interrupting ratings of no less than 200,000 amps RMS symmetrical.

80 CUBIC FOOT ELECTRICAL DATA

PLANT POWER SUPPLY (VOLTS)	BRANCH CIRCUIT DISTRIBUTION SWITCH (AMPS)	BRANCH CIRCUIT FUSE FRS-R (AMPS)	BRANCH CIRCUIT FEEDER THHN	BRANCH CIRCUIT FEEDER CONDUIT	SHORT CIRCUIT INTERRUPTING CAPACITY (AIC)	MOTOR AMPS	TOTAL AMPS
208V 60HZ	400	350	350 KCMIL	2.5 IN 64 MM	200,000	203.80	206.20
220V 50HZ	400	300	350 KCMIL	2.5 IN 64 MM	200,000	193.80	195.27
230V 60HZ	400	300	350 KCMIL	2.5 IN 64 MM	200,000	184.80	186.17
380V 50 HZ	200	200	3/0 AWG 85 MM ²	1.5 IN 38 MM	200,000	112.00	113.32
415V 50 HZ	200	175	2/0 AWG 67.5 MM ²	1.5 IN 38 MM	200,000	103.00	104.20
440V 50HZ	200	125	1 AWG 42.4 MM ²	1.25 IN 32 MM	200,000	101.2	102.2
460V 60 HZ	200	150	1 AWG 42.4 MM ²	1.25 IN 32 MM	200,000	92	93
575V 60 HZ	200	125	2 AWG 33.6 MM ²	1.0 IN 25 MM	200,000	73.5	74.4

Table B 80 Cubic Foot Mixer Electrical Data

This information is the same for all 80 Cubic Foot Mixers.

- TOTAL HORSEPOWER:** 75
- NUMBER OF MOTORS/HORSEPOWER:** 1/75
- TOTAL KILOWATTS:** 55.93
- NUMBER OF MOTORS/KILOWATTS:** 1/55.93
- CONTROL PANEL TRANSFORMER:** 500 volt-amperes (If Used)

Please consult the table above to find the appropriate electrical data for your 80 cubic foot Mixer. First, find your corresponding plant power supply in the left column. Then find the corresponding electrical data on the same row as your power plant supply.

NOTE:

Fuses and wire and conduit are sized for 125% of motor full load amperes. Full load amperes may vary from one motor to another.

Example: Your power plant supply is 460V at 60 Hz. According to the table, you will then get these values:

PLANT POWER SUPPLY: 460 volt – 3-phase – 60 hertz

BRANCH CIRCUIT

Distribution Switch Recommended:	200 amp
Fuse Recommended [FRS–R]:	150 amp
Feeder Recommended [THHN]:	No. 1 AWG – [42.4 sq. mm]
Feeder Conduit Recommended:	1.25 in – [32 mm]
Short Circuit Interrupting Capacity:	200,000 AIC

TOTAL AMPERE LOAD: 93

MIXER MOTOR

Total Horsepower	75
Number of Motors/Horsepower	1/75
Total Kilowatts	55.93
Number of Motors/Kilowatts	1/55.93
Amperes	92

CONTROL PANEL TRANSFORMER: 500 volt-amperes (If Used)

ELECTRICAL DATA NOTES

For safety purposes, Besser Company requires that this equipment be connected to a lockable electrical disconnect.

100 CUBIC FOOT ELECTRICAL DATA

PLANT POWER SUPPLY (VOLTS)	BRANCH CIRCUIT DISTRIBUTION SWITCH (AMPS)	BRANCH CIRCUIT FUSE FRS-R (AMPS)	BRANCH CIRCUIT FEEDER THHN	BRANCH CIRCUIT FEEDER CONDUIT	SHORT CIRCUIT INTERRUPTING CAPACITY (AIC)	MOTOR AMPS	TOTAL AMPS
208V 60HZ	600	450	4/0 AWG* 107 MM ²	2 IN* 51 MM	200,000	275.00	277.40
220V 50HZ	400	400	3/0 AWG* 85 MM ²	1.5 IN* 38 MM	200,000	250.00	252.27
230V 60HZ	400	400	3/0 AWG* 85 MM ²	1.5 IN* 38 MM	200,000	239.00	241.17
380V 50 HZ	400	250	250 KCMIL	2 IN 51 MM	200,000	160.00	161.32
415V 50 HZ	400	225	4/0 AWG 107.2 MM ²	2 IN 51 MM	200,000	145.00	146.20
440V 50HZ	200	175	2/0 AWG 67.5 MM ²	1.5 IN 38 MM	200,000	131.45	132.45
460V 60 HZ	200	200	3/0 AWG 95 MM ²	1.5 IN 38 MM	200,000	120.00	121.08
575V 60 HZ	200	150	1/0 AWG 53.5 MM ²	1.25 IN 32 MM	200,000	96.0	96.87

Table C 100 Cubic Foot Mixer Electrical Data

This information is the same for all 100 Cubic Foot Mixers.

TOTAL HORSEPOWER:	100
NUMBER OF MOTORS/HORSEPOWER:	1/100
TOTAL KILOWATTS:	74.57
NUMBER OF MOTORS/KILOWATTS:	1/74.57
CONTROL PANEL TRANSFORMER:	500 volt-amps (If Used)

NOTE:
*2 sets of wires
*2 runs of conduit

Please consult the table above to find the appropriate electrical data for your 100 cubic foot Mixer. First, find your corresponding plant power supply in the left column. Then find the corresponding electrical data on the same row as your power plant supply.

NOTE:
Fuses and wire and conduit are sized for 125% of motor full load amperes.
Full load amperes may vary from one motor to another.

Example: Your power plant supply is 460V at 60 Hz. According to the table, you will then get these values:

PLANT POWER SUPPLY: 460 volt – 3-phase – 60 hertz

BRANCH CIRCUIT

Distribution Switch Recommended:	200 amp
Fuse Recommended [FRS–R]:	200 amp
Feeder Recommended [THHN]:	No. 3/0 AWG – [85 sq. mm]
Feeder Conduit Recommended:	1.5 in – [38 mm]
Short Circuit Interrupting Capacity:	200,000 AIC

TOTAL AMPERE LOAD: 121.08

MIXER MOTOR

Total Horsepower	100
Number of Motors/Horsepower	1/100
Total Kilowatts	74.57
Number of Motors/Kilowatts	1/74.57
Amperes	120

CONTROL PANEL TRANSFORMER: 500 volt-amps (If Used)

ELECTRICAL DATA NOTES

For safety purposes, Besser Company requires that this equipment be connected to a lockable electrical disconnect.

120 CUBIC FOOT ELECTRICAL DATA

PLANT POWER SUPPLY (VOLTS)	BRANCH CIRCUIT DISTRIBUTION SWITCH (AMPS)	BRANCH CIRCUIT FUSE FRS-R (AMPS)	BRANCH CIRCUIT FEEDER THHN	BRANCH CIRCUIT FEEDER CONDUIT	SHORT CIRCUIT INTERRUPTING CAPACITY (AIC)	MOTOR AMPS	TOTAL AMPS
380V 50 HZ	400	300	300 KCMIL	2 IN 51 MM	200,000	199.66	200.98
415V 50 HZ	400	250	250 KCMIL	2 IN 51 MM	200,000	181.66	182.86
440V 50HZ	400	225	4/0 AWG 107.2 MM ²	2 IN 51 MM	200,000	164	165
460V 60 HZ	400	250	250 KCMIL	2 IN 51 MM	200,000	149	150
575V 60 HZ	200	200	3/0 AWG 85 MM ²	1.5 IN 38 MM	200,000	119.2	120

Table D 120 Cubic Foot Mixer Electrical Data

This Information is the same for all 120 Cubic Foot Mixers.

- TOTAL HORSEPOWER:** 125
- NUMBER OF MOTORS/HORSEPOWER:** 1/125
- TOTAL KILOWATTS:** 93.21
- NUMBER OF MOTORS/KILOWATTS:** 1/93.21
- CONTROL PANEL TRANSFORMER:** 500 volt-amps (If Used)

Please consult the table above to find the appropriate electrical data for your 120 cubic foot Mixer. First, find your corresponding plant power supply in the left column. Then find the corresponding electrical data on the same row as your power plant supply.

NOTE:

Fuses and wire and conduit are sized for 125% of motor full load amperes. Full load amperes may vary from one motor to another.

Example: Your power plant supply is 460V at 60 Hz. According to the table, you will then get these values:

PLANT POWER SUPPLY: 460 volt – 3-phase – 60 hertz

BRANCH CIRCUIT

Distribution Switch Recommended:	400 amp
Fuse Recommended [FRS–R]:	250 amp
Feeder Recommended [THHN]:	No. 250 kcmil
Feeder Conduit Recommended:	2 in – [51 mm]
Short Circuit Interrupting Capacity:	200,000 AIC

TOTAL AMPERE LOAD: 150

MIXER MOTOR

Total Horsepower	125
Number of Motors/Horsepower	1/125
Total Kilowatts	93.21
Number of Motors/Kilowatts	1/93.21
Amperes	149

CONTROL PANEL TRANSFORMER: 500 volt-amps (If Used)

ELECTRICAL DATA NOTES

For safety purposes, Besser Company requires that this equipment be connected to a lockable electrical disconnect.

















Due to the high current required, use of 230 VAC or less is not recommended.

SAFETY BULLETIN

This notice is issued to advise you that some previously accepted shop practices may not be keeping up with changing Federal and State Safety and Health Standards. Your current shop practices may not emphasize the need for proper precautions to insure safe operation and use of machines, tools, automatic loaders and allied equipment and/or warn against the use of certain solvents or other cleaning substances that are now considered unsafe or prohibited by law. Since many of your shop practices may not reflect current safety practices and procedures, particularly with regard to the safe operation of equipment, it is important that you review your practices to ensure compliance with Federal and State Safety and Health Standards.

IMPORTANT

The operation of any machine or power-operated device can be extremely hazardous unless proper safety precautions are strictly observed. Observe the following safety precautions:

-  Always be sure proper guarding is in place for all pinch, catch, shear, crush and nip points.
-  Always make sure that all personnel are clear of the equipment before starting it.
-  Always be sure the equipment is properly grounded.
-  Always turn the main electrical panel off and lock it out in accordance with published lockout/tag-out procedures prior to making adjustments, repairs, and maintenance.
-  Always wear appropriate protective equipment like safety glasses, safety shoes, hearing protection and hard hats.
-  Always keep chemical and flammable material away from electrical or operating equipment.
-  Always maintain a safe work area that is free from slipping and tripping hazards.
-  Always be sure appropriate safety devices are used when providing maintenance and repairs to all equipment.
-  Never exceed the rated capacity of a machine or tool.
-  Never modify machinery in any way without prior written approval of the Besser Engineering Department.
-  Never operate equipment unless proper maintenance has been regularly performed.
-  Never operate any equipment if unusual or excessive noise or vibration occurs.
-  Never operate any equipment while any part of the body is in the proximity of potentially hazardous areas.
-  Never use any toxic flammable substance as a solvent cleaner.
-  Never allow the operation or repair of equipment by untrained personnel.
-  Never climb or stand on equipment when it is operational.

It is important that you review Federal and State Safety and Health Standards on a continual basis. All shop supervisors, maintenance personnel, machine operators, tool operators, and any other person involved in the setup, operation, maintenance, repair or adjustment of Besser-built equipment should read and understand this bulletin and Federal and State Safety and Health Standards on which this bulletin is based.

SAFETY SIGNS

Sign	Description	Required
1	All Panels	1
2	Mixer	4
3	Concrete Products Machine.....	1
	Depalleter	2
4	Mixer	2
5	Skiploader	4
6	Skiploader/Mixer Platforms	8
7	Skiploader/Mixer Platforms	8
8	Vertical: Pallet Transport System	2
	Horizontal: LSC-40A/LSC-100	6
	Pallet Transport System	4
9	Besser-Matic	4
10	Besser-Matic	4
11	Skiploader	4
12	All Panels	1
13	Overhead Block Transfer	4
14	Block Pusher	2
	Pallet Transfer System	4
15	Concrete Products Machine.....	2
16	Conveyors	12
17	Cuber	8
18	Cuber	3
	Block Turnovers.....	2
	Slat Conveyors	2

**To order safety decals, contact your local Besser representative
or the Besser Central Order Department.
Thank you!**



1
Large: 113236F0409
High Voltage
Width 4 1/2 inch
Height 9 5/8 inch
Small: 113236F0204
High Voltage
Width 2 inch
Height 4 1/8 inch



2
113237F0410
Mixer Blade Hazard
Width 4 1/2 inch
Height 10 1/4 inch



3
Vertical: 113240F0307
Crush Hazard
Width 3 1/2 inch
Height 7 1/2 inch
Horizontal: 113239F0604
Crush Hazard
Width 6 5/8 inch
Height 4 inch



4
114692F1006
Nip Points
Width 5 3/4 inch
Height 9 1/2 inch



5
114688F0906
Crush Hazard
Width 6 1/4 inch
Height 9 1/2 inch



6
114689F0804
Fall Hazard
Width 4 1/2 inch
Height 7 3/4 inch



7

114690F0805
Falling Objects
Width 4 3/4 inch
Height 8 inch



8

Vertical: 113244F0410
Crush Hazard
Width 4 1/2 inch
Height 10 inch
Horizontal: 113245F1005
Crush Hazard
Width 10 inch
Height 5 3/4 inch



9

113242F0409
Crush Hazard
Width 4 1/2 inch
Height 9 5/8 inch



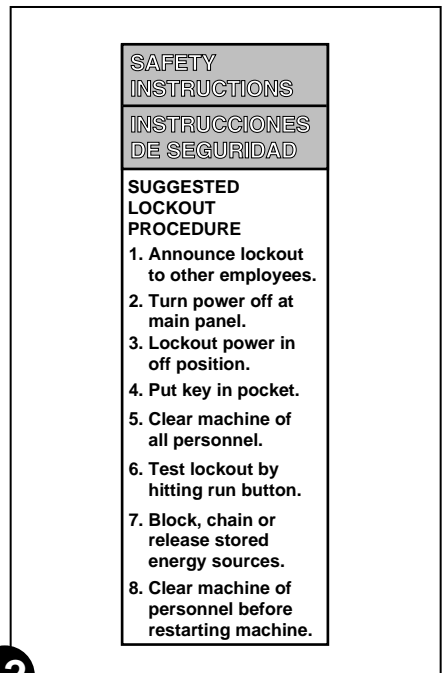
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113243F0410
Falling Objects
Width 4 1/2 inch
Height 10 inch



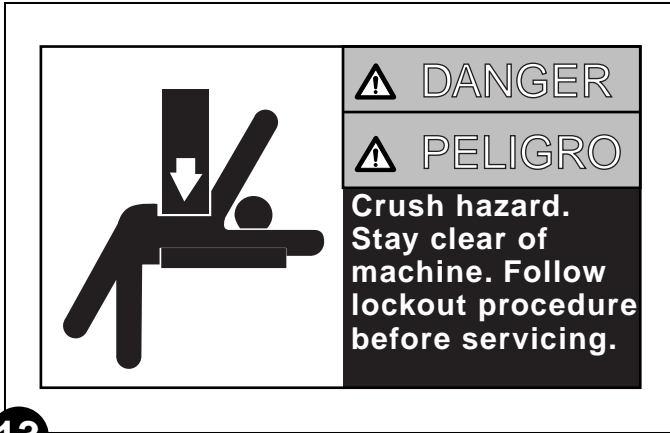
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114691F1006
Shear and Fall Hazards
Width 5 3/4 inch
Height 9 3/4 inch



12

113249F0410
Safety Instructions Decal –
Suggested Lock-out Procedure
Width 4 inch
Height 10 inch



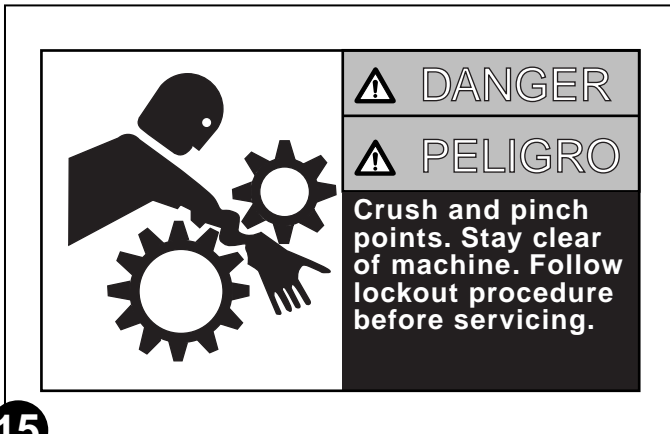
13

113238F1005
Crush Hazard
Width 10 inch
Height 5 3/4 inch



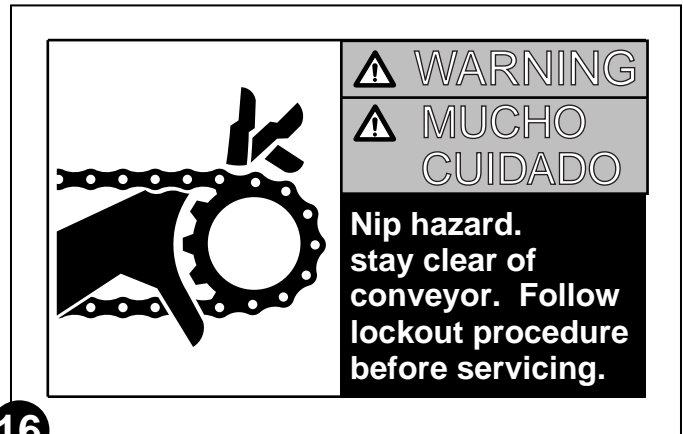
14

113248F1006
Crush Hazard
Width 10 inch
Height 6 inch



15

113241F0605
Crush and Pinch Points
Width 6 5/8 inch
Height 4 inch



16

113246F0704
Nip Hazard
Width 7 inch
Height 4 1/2 inch



17

113247F1006
Crush Hazard
Width 10 inch
Height 6 inch



18

113250F1006
Crush and Pinch Hazard
Width 10 inch
Height 6 inch

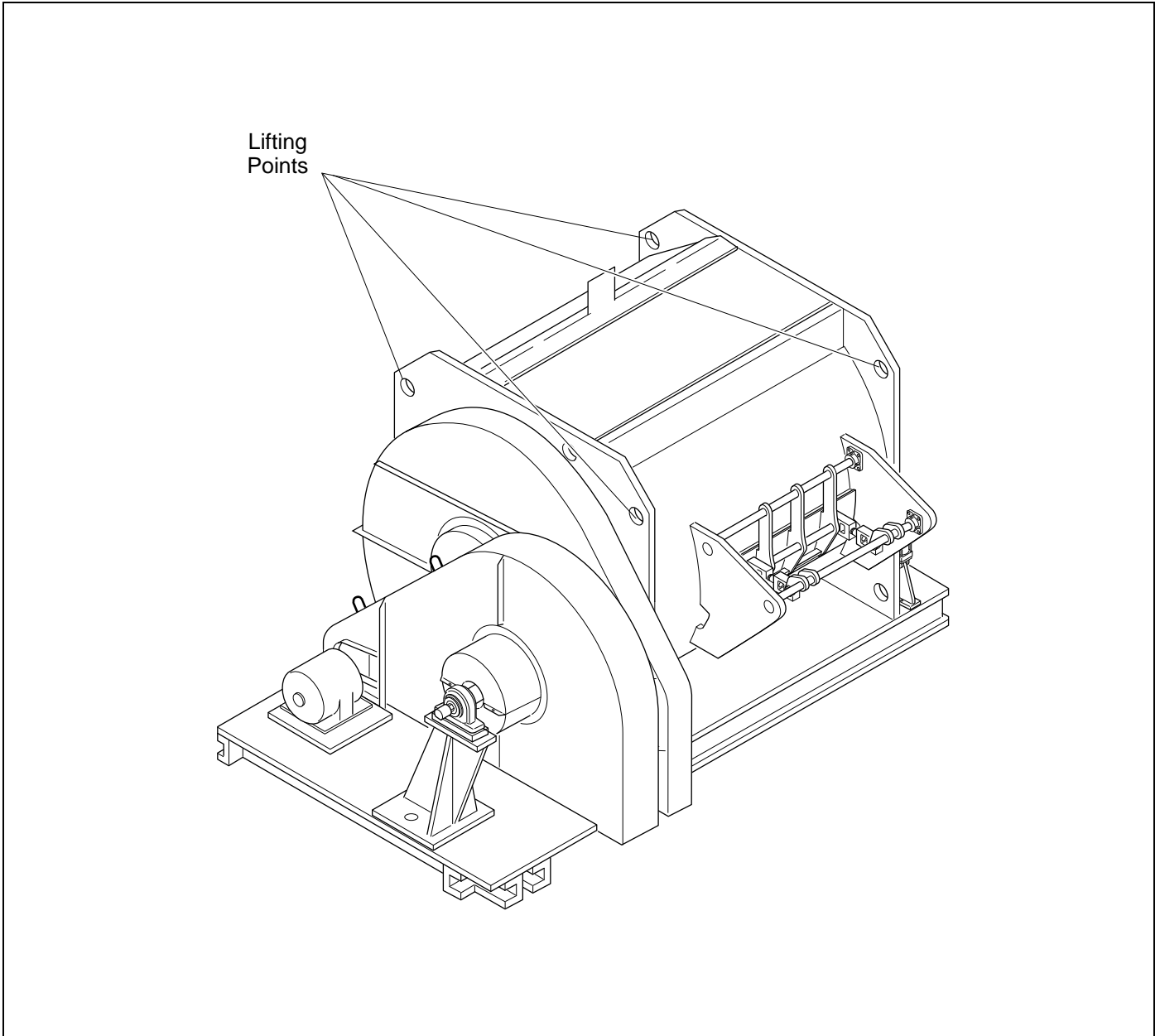


Figure B Mixer Lifting Points

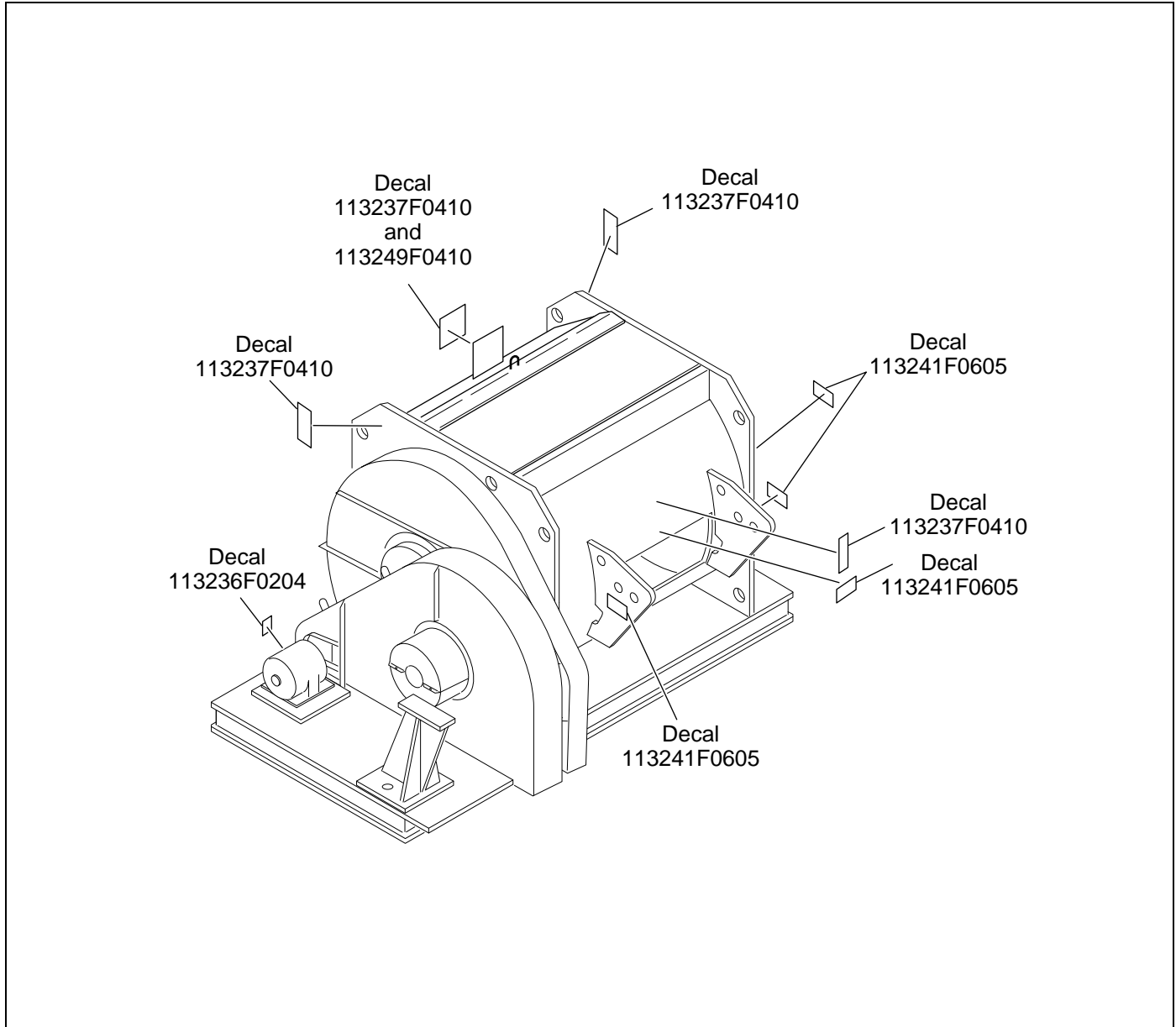


Figure C Decals

SECTION 1

INTRODUCTION


1.1 GENERAL

This parts catalog will help you quickly select replacement parts for your Besser Company equipment. Use the illustrations published in this catalog as aids in identifying parts.


All Besser parts are produced with quality engineering, proper materials and the latest in manufacturing technology. For the sake of safety, install only “**Genuine Besser Parts**” on your Besser equipment.

This section contains the following information:

- 1.2 Using the Parts List
- 1.3 Ordering Information
- 1.4 Ordering Instructions
- 1.5 Ordering Hydraulic Components



WARNING:
Using the wrong replacement part may create a hazard or undesirable condition. Always be certain to identify and order the correct replacement part for your equipment and installation.



WARNING:
Many illustrations in this catalog do not show safety guards and signs to help make it easier to identify parts. Always operate Besser equipment with guards and signs in place.

1.2 USING THE PARTS LIST

Refer to sample parts list, Table 1.1, below. Use this sample as a guide to help you understand the following terms used in the Parts Catalog tables:

- **Key:** Reference number that appears next to the illustration arrow. This is the same as the detail number on the associated engineering drawing.
- **Part Number:** Besser identification number for each part.
- **Description:** Description of each part. Repair parts for each assembly are listed whenever possible.
- **Quantity:** Total number of this part represented on drawing. Example: If part is used in multiple locations on same assembly drawing, the quantity shown is the total of these locations.
- **Recommended Spare Parts:** (Recom. Spares): The suggested amount of the associated part to keep on hand for quick replacement.

NOTE:

The descriptions and specifications in this catalog were current at the time this catalog was approved for printing. Due to ever-changing technology and improvement in design, Besser reserves the right to discontinue models and/or change specifications at any time without notice and without incurring obligation.

Table 1.1 Sample Assembly Parts List (#999999) – 1 of 3

Key	Part Number	Description	Quantity	Recom. Spares
1	012345	DEPALLETTER, SUBASSEMBLY	1	
2	123456	PHOTOCELL, RETROREFLECTIVE, 18 MM	1	1
3	234567	BRACKET, SWITCH, PER 202	1	
4	345678	CAPSCREW, HEX HEAD, 3/8-16 X 4 IN LG	4	

BESSER COMPANY WAREHOUSES

Georgia, U.S.A.

Besser Company Warehouse
5126 Peachtree Industrial Blvd.
Chamblee, GA 30341
800/845-1462
404/451-3717
FAX: 404/458-5631

California, U.S.A.

Besser Company Warehouse
2205 Fleetwood Drive
Riverside, CA 92509
800/637-5489
909/784-5660
FAX: 909/784-3018

Pennsylvania, U.S.A.

Besser Company Warehouse
41 Vanguard Drive
Reading, PA 19606
800/424-8225
610/582-7677
FAX: 610/582-7680

1.3 ORDERING INFORMATION

1.3.1 Ordering by Telephone

You may order parts by telephone or FAX from Besser Company World Headquarters, P.O. Box 336, Alpena, MI 49707 U.S.A. as follows:

- **Domestic customers:** Please contact our Central Order Department at any of the following numbers:

517/354-3166
517/354-3167
517/354-3168
517/354-3169
800/530-9991
FAX: 517/354-3190

} All phone calls will
be answered by the
Central Order Dept.

- **International customers:** Please ask for our International Service Sales Manager at:
517/354-4111
FAX: 517/356-1432

1.3.2 Ordering by Mail

Please include a complete SOLD TO and SHIP TO address on a Besser Company form or on your letterhead. Always be sure to follow the ordering instructions listed in the next section.

1.3.3 Merchandise Availability

Besser Company maintains a large inventory of mold and machine parts in Alpena and/or a warehouse near you. Any of Besser's locations can advise you immediately on parts availability.

1.3.4 Authorized Return Program

You must obtain an Authorized Return (AR) Number before returning any parts purchased from Besser Company. This AR number assists Besser Company in tracking your item when it is returned, and helps ensure accurate customer credit records.

To obtain an AR number, please contact your local Service or Sales Representative, your local Besser Warehouse Manager, or the Sales and

Service Quality Assurance Manager at the Besser Company World Headquarters in Alpena, Michigan.

NOTE: Parts will not be accepted at any Besser facility without the proper Authorization Return (AR) Number. Refer to the Besser Company Policy for additional information about the return program.

1.3.5 Warranty Limitation and Exclusion

In the event of breach of warranty, except in instances when machinery and parts are subjected to abuse, misuse, negligence or accident, Besser Company shall repair or replace non-conforming machinery and parts. This shall be the buyer's sole remedy for breach of warranty and such remedy shall be in lieu of any claim for damages including incidental and consequential damages, such as but not limited to the following; lost goodwill, lost profits, labor costs, work stoppage, production of an inferior product and damage to property. It is understood and agreed that Besser Company liability whether in contract, in tort, under the warranty, in negligence or otherwise shall not exceed the return of the amount of the purchase price paid by the buyer. The price stated for the equipment is a consideration in limiting Besser Company liability. No action, regardless of form, arising out of the transaction under this agreement may be brought by buyer more than one year after the cause of action has accrued.

NOTE: The warranty printed above is only an excerpt of the warranty provided to you upon purchase of any machinery or machinery components from Besser Company. Please refer to the Terms/Conditions Warranty located on the reverse side of your purchase order for complete warranty and return information.

1.4 ORDERING INSTRUCTIONS

When ordering parts, please refer to the information located on the front cover and inside front cover of this catalog. Following is a brief overview of some of the information your Besser Company representative will need to complete your order:

1.4.1 Your Besser Machine's Model and Serial Number

When ordering, state the model and serial number of the Besser machine requiring parts. The serial number can be found on the machine or on the inside front cover of this catalog.

1.4.2 Part Information

State the catalog number (located on the front cover of this catalog), along with the page number the part is listed on, the key number, part number and description. (Refer to section 1.2 for more information on how to use the parts list.)

1.4.3 Quantities

State the quantity of each individual part you are ordering.

1.4.4 Shipping Instructions

State the full shipping address of the location you want the part(s) shipped to. Where applicable, also state your choice of shipping carrier. Overseas customers, please state your shipping agency.

1.5 ORDERING HYDRAULIC COMPONENTS

Due to rapid advances in technology today, our suppliers of hydraulic components are constantly updating and improving their products. With these constant changes, it is increasingly difficult to supply the correct repair kits for existing hydraulic components. In most cases, these repair kits are not stocked at Besser Company and will be shipped directly from the vendor.

When requesting hydraulic repair kits, we ask that you supply the following information:

- **Valves** – Manufacturer, Model #, Serial #.
- **Cylinders** – Manufacturer, Model #, Serial #, Bore, Stroke.
- **Hydraulic Motors** – Manufacturer, Model #, Serial #, Cubic Inch Displacement.
- **Pumps** – Manufacturer, Model #, Serial #, Series #.

We strongly recommend that whenever possible you purchase complete new assemblies to avoid possible errors which could result in unnecessary downtime. Delivery time for the complete assembly could be sooner than for the repair kit since we do attempt to stock most high usage components at Besser Company.

Cross Reference Table

Blade Assembly	See Tables 2.33 and 2.34
Blade Shaft	See Tables 2.10 and 2.12
Control Station	See Tables 2.56 and 2.57
Blade Arm Covers	See Table 2.11
Blade Shaft Covers	See Table 2.11
Drive Shaft with Clutch	See Tables 2.35 through 2.36, 2.41 through 2.44
Drive Shaft without Clutch	See Tables 2.45 and 2.46
Front Panel	See Table 2.9
Bottom Clean Out Gate	See Tables 2.23 through 2.28
Trough Liners	See Tables 2.16 through 2.22
Mixer Assembly	See Table 2.1
Motors	See Tables 2.2 through 2.7
Panel Assembly	See Tables 2.52 through 2.55
Blade Shaft Proximity Sensors	See Table 2.49
Pulley Guard	See Tables 2.47 and 2.48
Ring Assembly	See Table 2.30
Front Panel Safety Switch	See Table 2.51
Reinforcement Shell (120 Mixer Only)	See Table 2.50
Shroud	See Table 2.29
Safety Signs	See Table 2.57
Tension Straps (120 Mixer Only)	See Table 2.32
Water Pipe	See Table 2.8

Table 1.2 Cross Reference Table

SECTION 2 PARTS LIST

2.1 GENERAL

This section contains parts lists of the assemblies and subassemblies that make up the mixer. Included in this section are lists of parts that make up assemblies and subassemblies created by Besser Company. Other purchased parts, including a Wichita Clutch, are also included in this section.

NOTE:

To determine RH or LH orientation of parts, view the mixer from the charging side.

2.1.1 Model Orientation

80 through 120 Cubic Foot Besser mixers may be purchased in four different positions. See Figure 2.1. The positions include 1, 2, 3 and 4. This catalog has been prepared for a Number 1 position mixer, but differences for other positions are noted. In charts where part numbers are changed, **** has been placed in the Part Number column. Below the table, the alternatives for each position are shown. See Tables 2.1 and 2.1a.

PART NUMBERS NOT SHOWN ARE IDENTIFIED BY. SEE CUSTOMER GROUP PARTS LIST (GPL) FOR THE CORRECT MIXER, THEN LOOK UP PROPER PART AND NUMBER.**

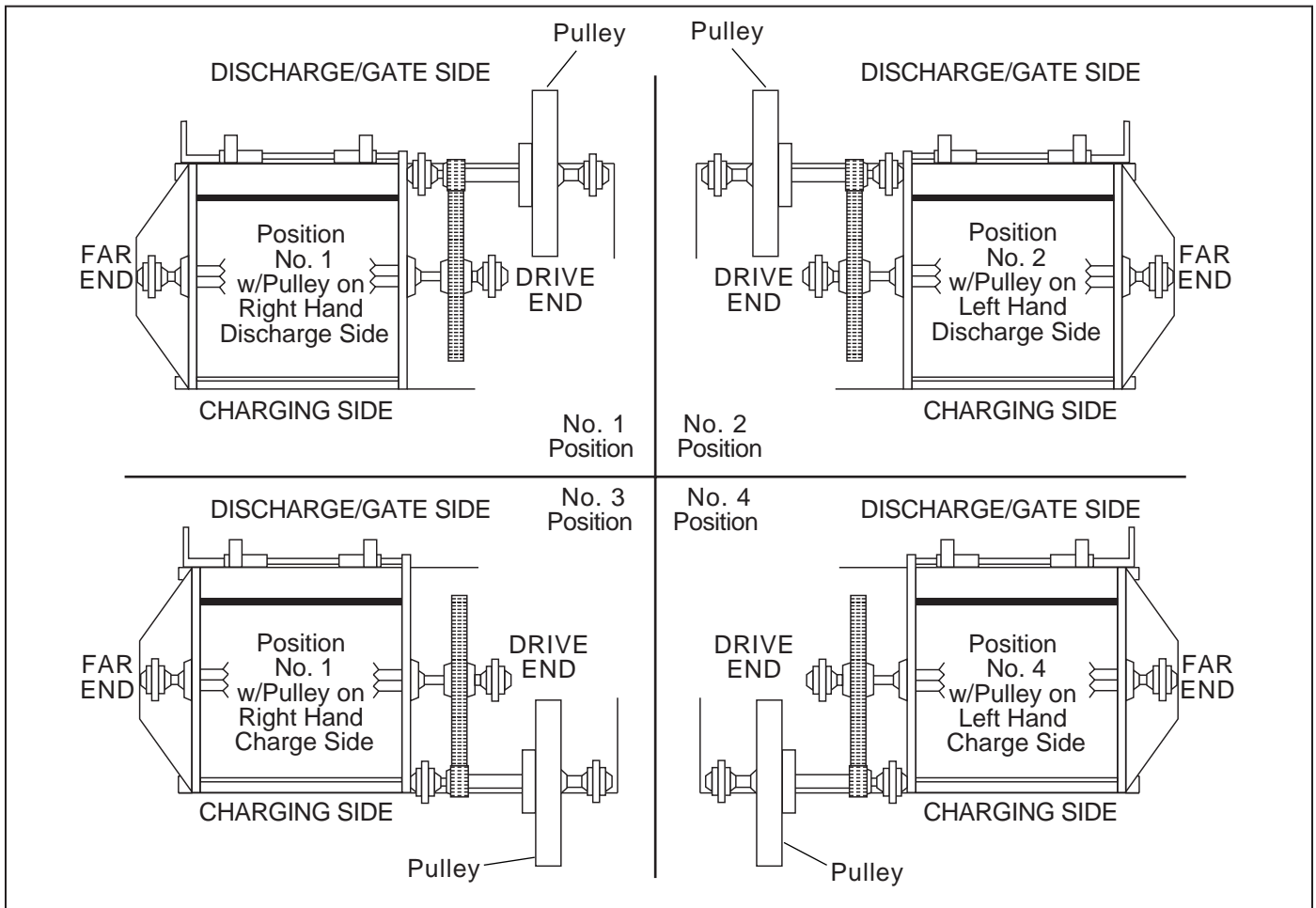


Figure 2.1 Mixer Drive Positions

**Table 2.1, Mixer Assembly – Number 1 Position (#356874)
Number 2 Position (#359503)
Number 3 Position (#383831)
Number 4 Position (#390885)**

Key	Part Number	Description	Quantity	Recom. Spares
1	****	BASE FRAME SUB-ASS'Y (See Table 2.1a)	1	
2	356878	BASE PLATE SUB-ASS'Y	1	
6	646180	S.O.P. – DRIVE SHAFT ASS'Y (See Table 2.35)	1	
7	****	PEDESTAL SUB-ASS'Y – OUTBOARD BEARING (See Table 2.1a)	1	
8	104000	V-BELT – CX240 – USE IN MATCHED SETS OF 8	8	8
11	234099	GEAR GUARD ASS'Y – ALL POS	1	
13	****	MIXER HD – DRIVE END (See Table 2.1a)	1	
17	328805	HD LINER – 0.500 IN THICK	6	6
21	****	MIXER HD – FAR END (See Table 2.1a)	1	
22	237819	FRONT PANEL SUB-ASS'Y (See Table 2.9)	1	
23	312507	BLADE SHAFT SUB-ASS'Y (See Table 2.10 and 2.11)	1	
24	311636	COVER – BLADE SHAFT – CENTER	4	4
26	**	BLADE ASS'Y(See Table 2.33 and 2.34)	1	
27	324514	SHELL ASS'Y	1	
28	332752	TROUGH LINERS ASS'Y (See Table 2.16)	1	
30	021555	WATER PIPE ASS'Y (See Table 2.8)	1	
31	220757	SHELL EXTENSION	1	
32	234088	GATE ASS'Y – DISCHARGE (See Table 2.23)	1	
33	356885	SUPPORT PLATE – GEAR GUARD	2	
34	265776	AIR CYLINDER SUB-ASS'Y (See Table 2.26)	1	
36	330869	SHROUD ASS'Y (See Table 2.29)	1	
40	431251	DECALS (See Table 2.57)	1	
44	466318	S.O.P. – SAFETY STOP DISCHARGE GATE (See Table 2.27)	1	
45	467493	VALVE ASS'Y – SOLENOID WITH LOCKOUT VALVE – GATE (See Table 2.28)	1	
46	292016	RING ASS'Y – BLADE SHAFT CLEANING (See Table 2.30)	1	
47	262742	HD SCRAPER SUB-ASS'Y (See Table 2.31)	2	

NOTE:

Part Number 646699 is the reference calling for 356874 and other major components.

Table 2.1a, Mixer Assembly

Key	Description	No1	No2	No3	No4
1	Base Frame Sub-Ass'y	356875	356877	356877	356875
7	Pedestal Sub-Ass'y	356879	356880	356880	356879
13	Mixer Head – Drive End	328810	328813	328811	328814
21	Mixer Head – Far End	328809	328812	328809	328812

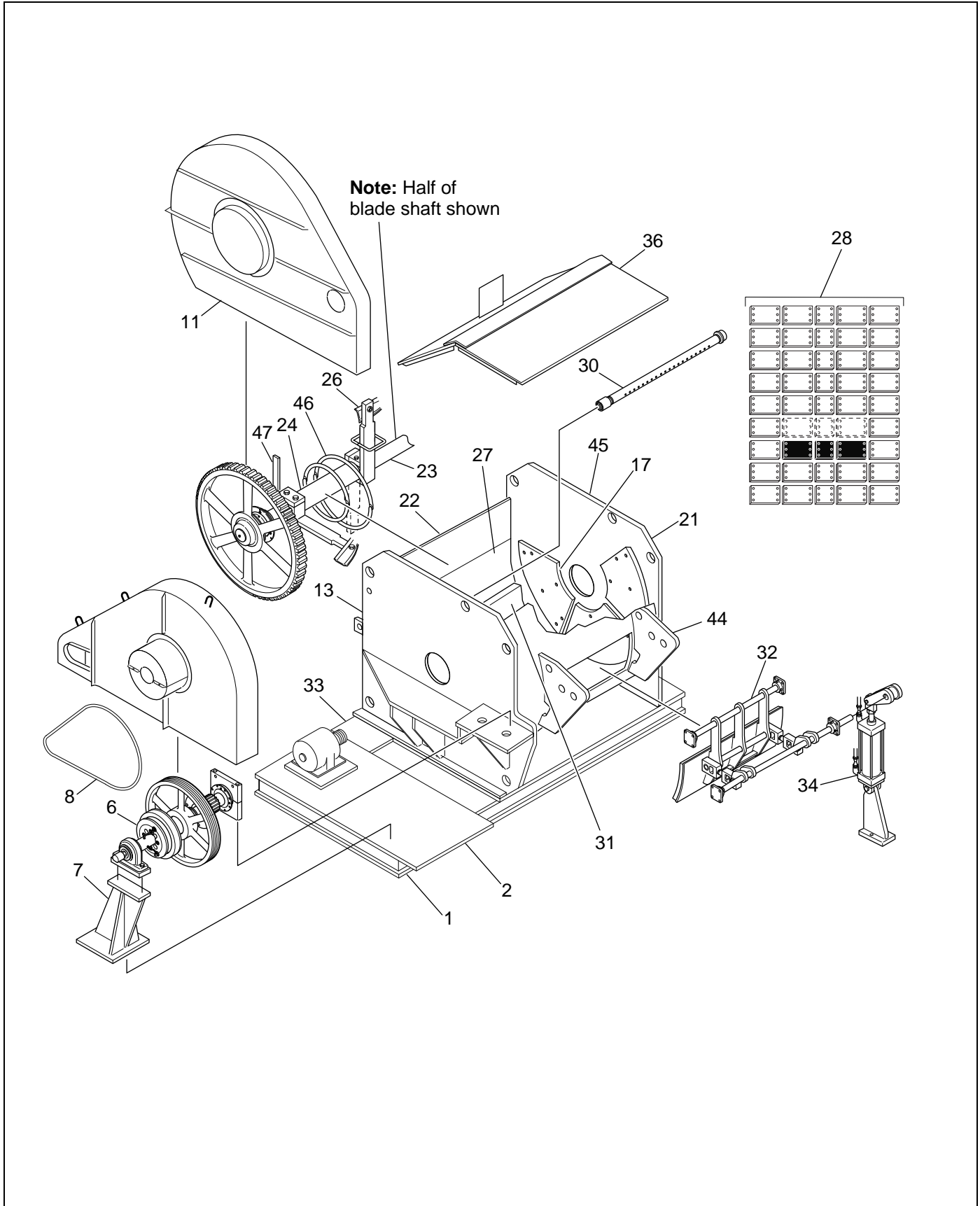


Figure 2.2 Mixer Assembly – Number 1 Position (#356874)

Table 2.2, Motor and Accessories – 125 HP (Part Number – See Table 2.3)

Key	Part Number	Description	Quantity	Recom. Spares
1	**	MOTOR – 125 HP (See Table 2.3)	1	
2	277818	BASE – ADJUSTING – FOR 445 FRAME MOTOR	1	
3	****	SHEAVE – “C” SEC-8 GROOVE	1	1
4	104072	BUSHING – TAPERLOCK – NO 3535 – 3.375 IN BORE (See Table 2.4)	1	

Table 2.2a, Motor and Accessories – 125 HP

Key	Description	50 Hz	60 Hz
3	Sheave – “C” Sec-8 Groove	082805 11 IN PD	082712 9 IN PD

Table 2.3, Electric Motor and Accessories – 125 Horsepower – 120 Cubic Foot Mixer
Please check your corresponding voltage/phase/cycle in table below to order the correct motor.

Voltage/Phase/Cycle	Part Number Electric Motor and Accessories	Besser Part No. (Motor Only)
230/3/60	647174	404108F0007
380/3/50	645791	404108F0010
415/3/50	646081	404108F0012
460/3/60	642181	404108F0001

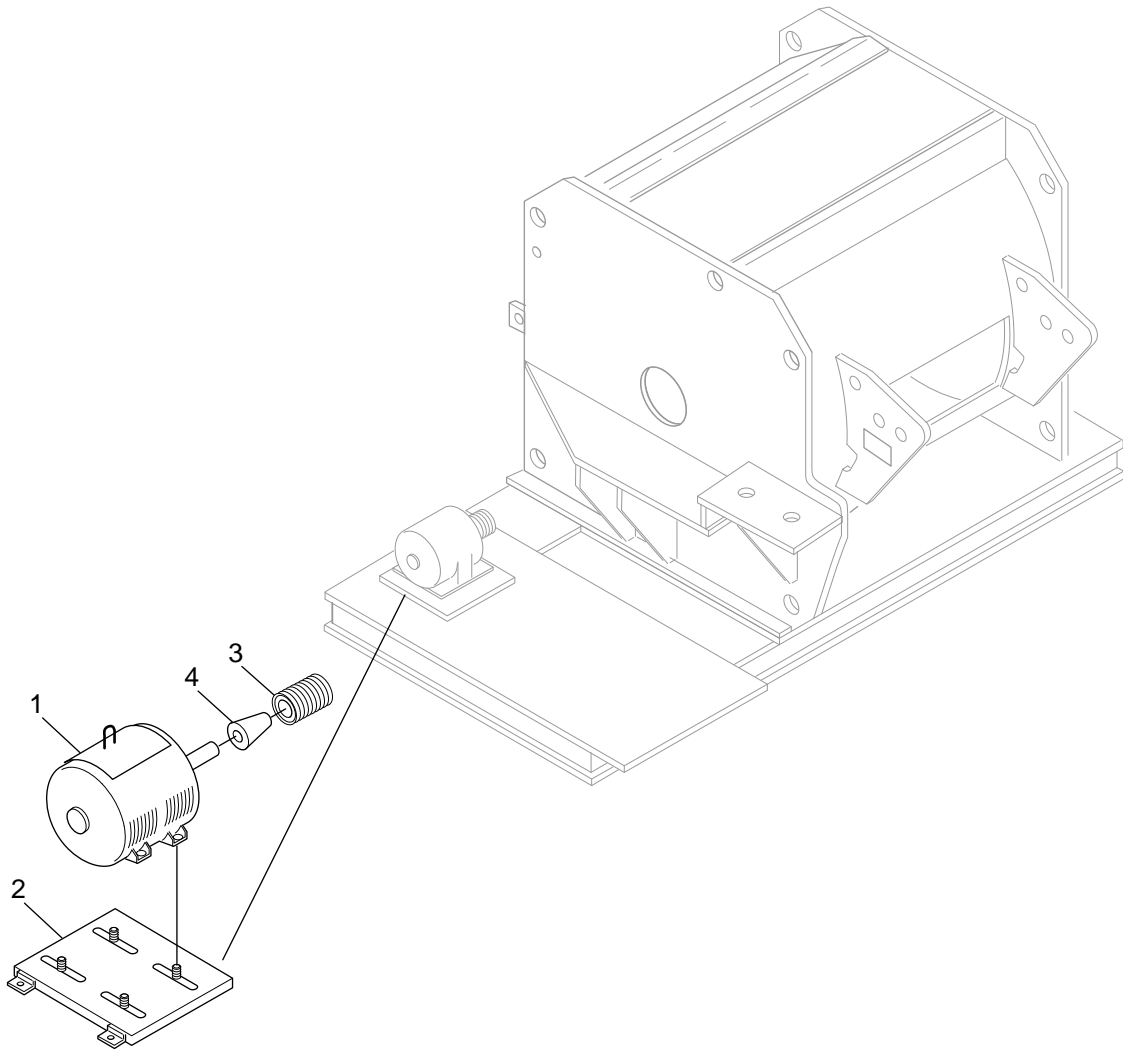


Figure 2.3 Electric Motor

Table 2.4, Motor and Accessories – 100 HP (Part Number – See Table 2.5)

Key	Part Number	Description	Quantity	Recom. Spares
1	**	MOTOR – 100 HP (See Table 2.5)	1	
2	101643	BASE – ADJUSTING – FOR 445 FRAME MOTOR	1	
3	****	SHEAVE – “C” SEC-8 GROOVE	1	1
4	104072	BUSHING – TAPERLOCK – NO 3535 – 3.375 IN BORE	1	

Table 2.4a, Motor and Accessories – 100 Pp

Key	Description	50 Hz	60 Hz
3	Sheave – “C” Sec-8 Groove	082805 11 IN PD	082712 9 IN PD

Table 2.5, Electric Motor and Accessories – 100 Horsepower – 100 Cubic Foot Mixer
Please check your corresponding voltage/phase/cycle in table below to order the correct motor.

Voltage/Phase/Cycle	Part Number Electric Motor and Accessories	Besser Part No. (Motor Only)
220/3/50, 380/3/50	642180	404107F0003
230/3/60, 460/3/60	642162	404107F0001
380/3/50	644337	404107F0007
415/3/50	642621	404107F0004
440/3/50	642148	404107F0005
460/3/60	643958	404107F0006
550/3/60	646242	404107F0010

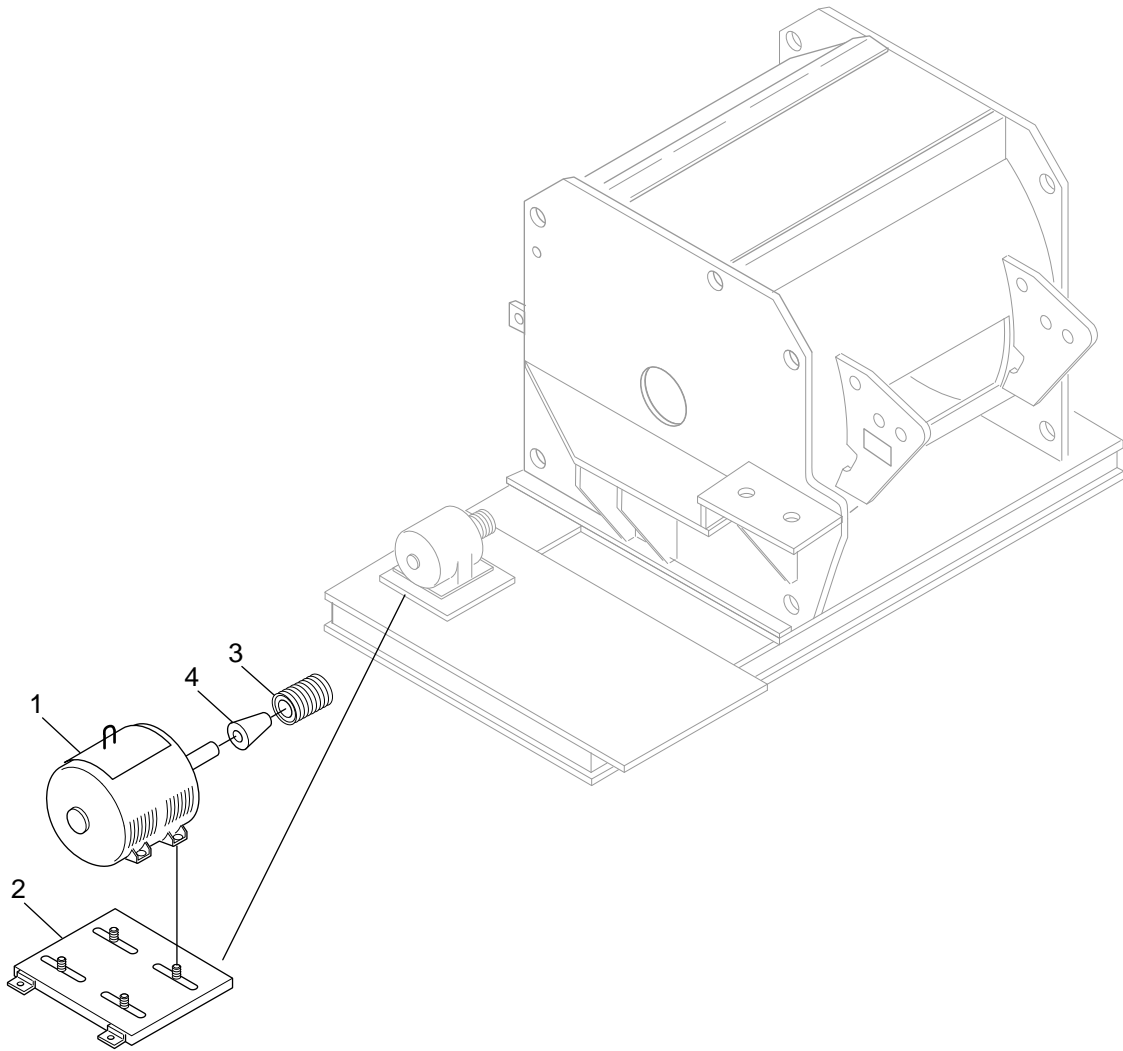


Figure 2.4 Electric Motor

Table 2.6, Motor and Accessories – 75 HP (Part Number – See Table 2.7)

Key	Part Number	Description	Quantity	Recom. Spares
1	**	MOTOR – 75 HP (See Table 2.7)	1	
2	277817	BASE – ADJUSTING – FOR 445 FRAME MOTOR	1	
3	****	SHEAVE – “C” SEC-8 GROOVE	1	1
4	082713	BUSHING – TAPER LOCK	1	

Table 2.6a, Motor and Accessories – 75 HP

Key	Description	50 Hz	60 Hz
3	Sheave – “C” Sec-8 Groove	082805 11 IN PD	082712 9 IN PD

Table 2.7, Electric Motor and Accessories – 75 Horsepower – 75 Cubic Foot Mixer
Please check your corresponding voltage/phase/cycle in table below to order the correct motor.

Voltage/Phase/Cycle	Part Number Electric Motor and Accessories	Besser Part No. (Motor Only)
208/3/60	643294	404106F0007
220/3/50, 380/3/50	642179	404106F0003
220/3/50	643930	404106F0010
230/3/60, 460/3/60	642126	404106F0001
230/3/60	643925	404106F0008
380/3/50	643931	404106F0011
380/3/60	646858	404106F0016
415/3/50	643933	404106F0013
440/3/50	644787	404106F0005
460/3/60	643926	404106F0009
575/3/60	647496	404106F0002

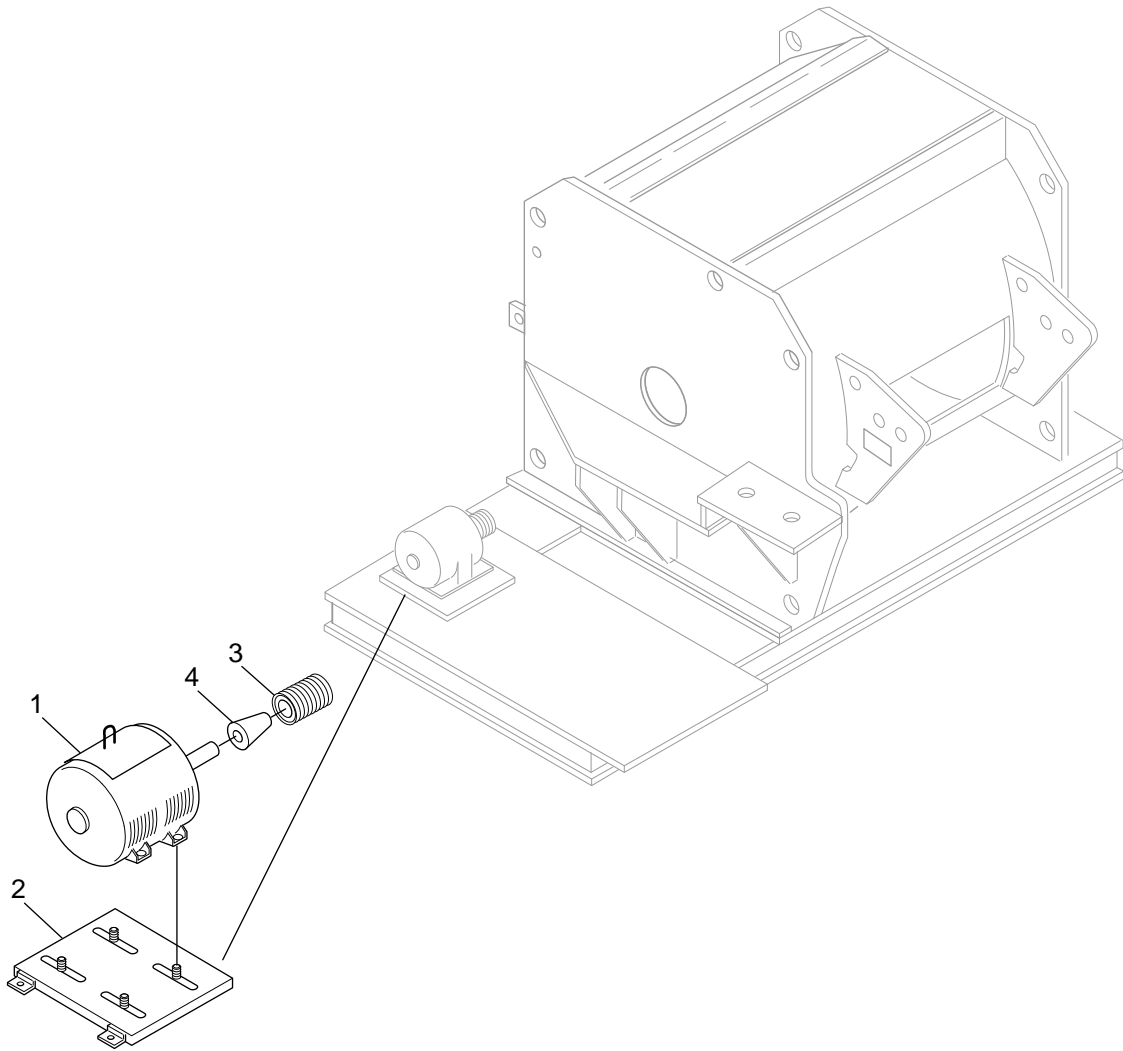


Figure 2.5 *Electric Motor*

Table 2.8, Water Pipe Assembly – 1.500 Inch ID (#021555)

Key	Part Number	Description	Quantity	Recom. Spares
1	099708	PIPE – 1.500 IN ID	87.6 IN	
2	090437	COUPLING	1	
3	103799	PIPE CAP – 1.500 IN	1	

Table 2.9, Front Panel Assembly (#237819)

Key	Part Number	Description	Quantity	Recom. Spares
1a	237818	HINGED FRONT PANEL	1	
2a	220665	PIN – LOCKING – FRONT PANEL	2	
7a	237684	PIN – 1.000 IN DIA X 5.750 IN LG – FRONT PANEL	2	

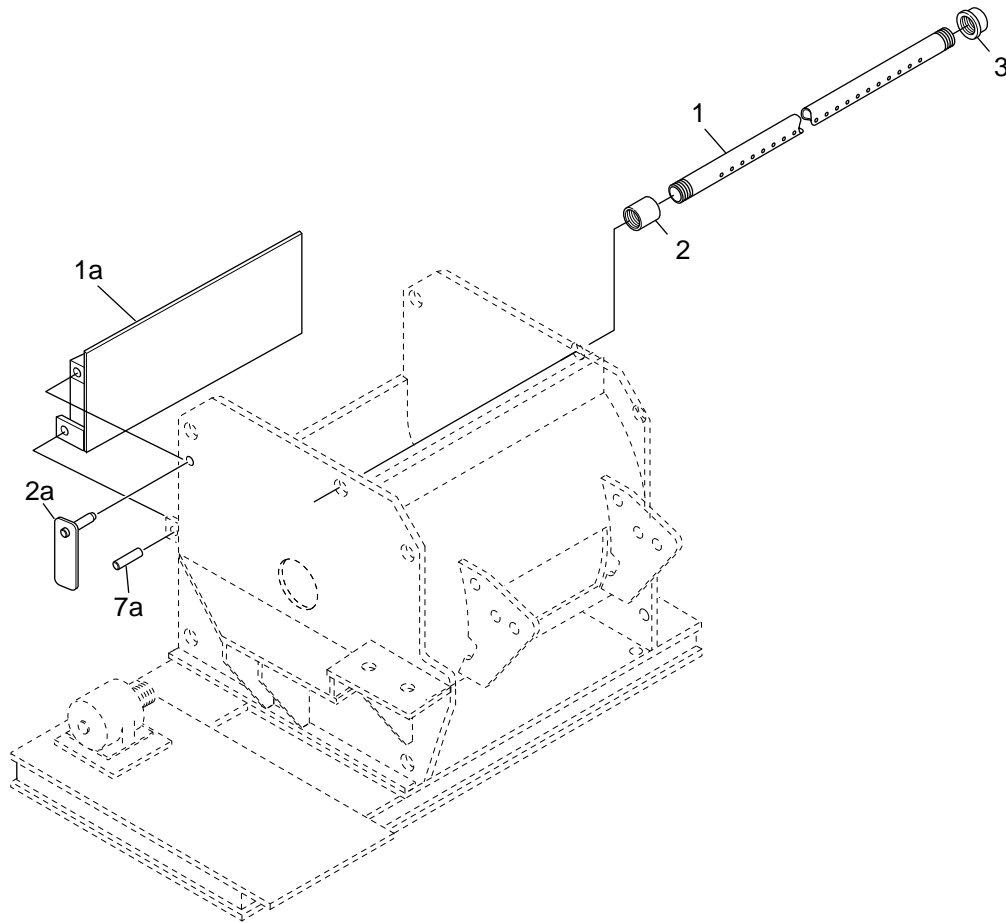


Figure 2.6 Motor Accessories – Water Pipe – Front Panel Assemblies (#021555 and #237819)

Table 2.10, Blade Shaft Subassembly – 8.500 Inch RD (Less Blades) (#312507)

Key	Part Number	Description	Quantity	Recom. Spares
1	045028	BEARING HOLDER – TIMKEN	1	
2	220641	MACHINE BOLT AND NUT, 1.500 IN – 6 NC X 24.00 IN LG	4	
4	225518	SPACER PIPE	2	
6	109853	WASHER – PLAIN – HARDENED – 1.500 IN	6	
7	312506	BLADE SHAFT SUB-ASS'Y (See Table 2.10)	1	
8	225503	BLADE ARM	4	
9	226506	MACHINE BOLT AND NUT, 1.500 IN – 6 NC X 16.000 IN LG	6	
10	225502	STRAP – BLADE SHAFT	2	
11	226508	MACHINE BOLT AND NUT, 2.000 IN X 4.500 NC X 16.000 IN LG	6	
12	109858	WASHER – PLAIN – HARDENED – 2.000 IN	6	
13	045003	DUST HUB	2	2
14	225498	DUST PLATE SEAL	2	2
15	045004	DUST PLATE	2	2
18	045030	BEARING HOLDER – HYATT	1	
19	069806	GEAR	1	
21	225504	BLOCKING – BLADE SHAFT	6	
24	263278	DUST SEAL RETAINING PLATE	2	2

Table 2.11, Replacement Covers – Blade Arm and Blade Shaft – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
1a	259372	BLADE ARM COVERS	4	
2a	311636	BLADE SHAFT COVERS	2	

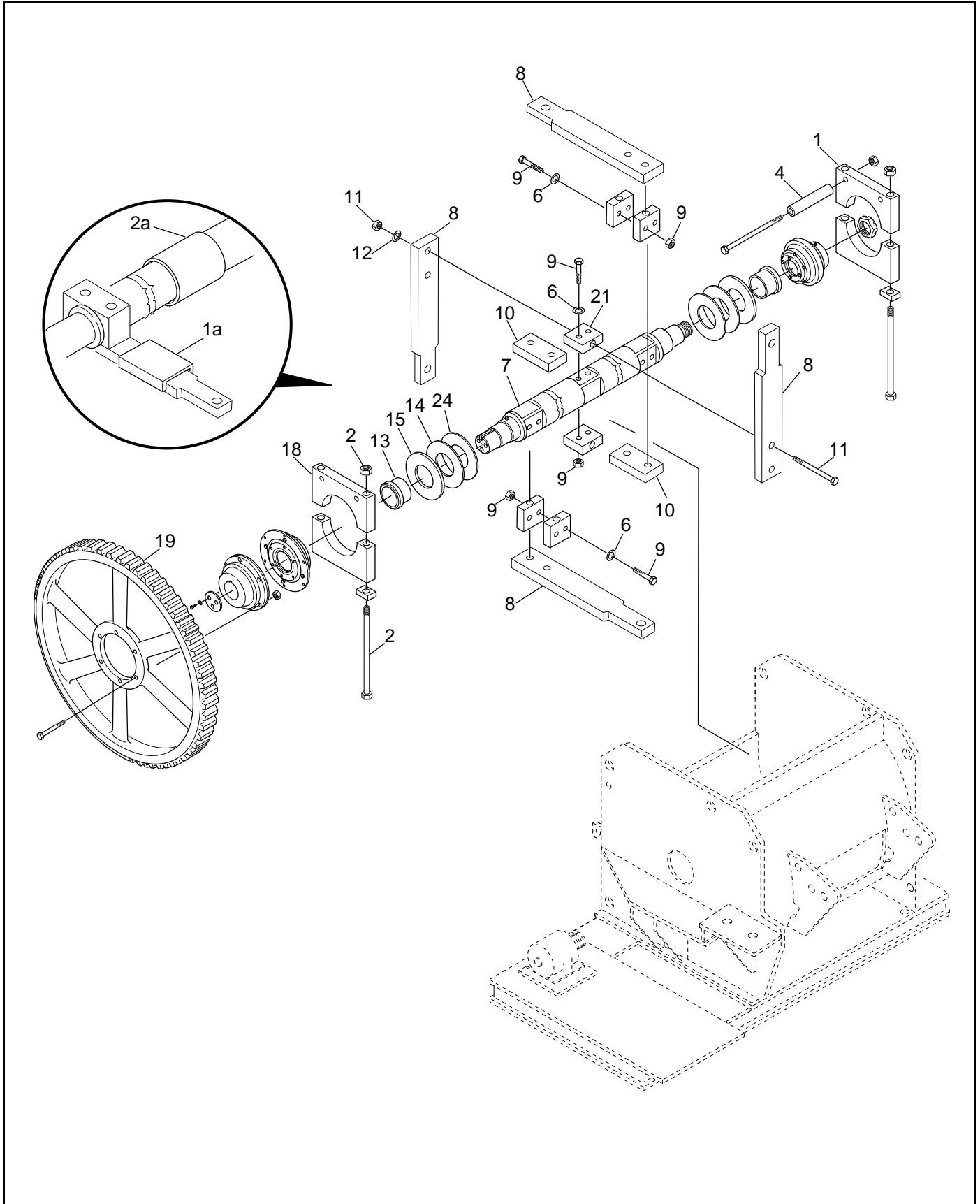


Figure 2.7 Blade Shaft Subassembly – Less Blades (#312507)

Table 2.12, Blade Shaft Subassembly – 8.500 Inch RD (Less Blades) – 6.000 Inch Bore Timken and 7.086 Inch Bore Hyatt Bearings (#312506)

Key	Part Number	Description	Quantity	Recom. Spares
1	311634	BLADE SHAFT WITH NUT	1	
2	220711	BEARING CLOSURE – TIMKEN (See Table 2.15)	1	
3	220706	BEARING HOUSING – TIMKEN	1	
4	220704	BEARING CAP – TIMKEN	1	
7	081749	BEARING ROLLER – TIMKEN	2	2
8	084106	GREASE FITTING – 0.250 IN STR	2	
11	233902	SPACER	2	
12	041202	PIN – 0.500 IN DIA X 1.000 IN LG	2	
13	220699	SPACER	2	
14	220712	HYATT CLOSURE (See Table 2.13)	1	
15	220714	HYATT HOUSING (See Table 2.14)	1	
16	081102	HYATT BEARING	1	1
17	220732	GEAR HUB	1	
18	220730	KEY – TAPERED – 1.750 IN SQ X 7.875 IN	1	1
19	220731	END PLATE	1	

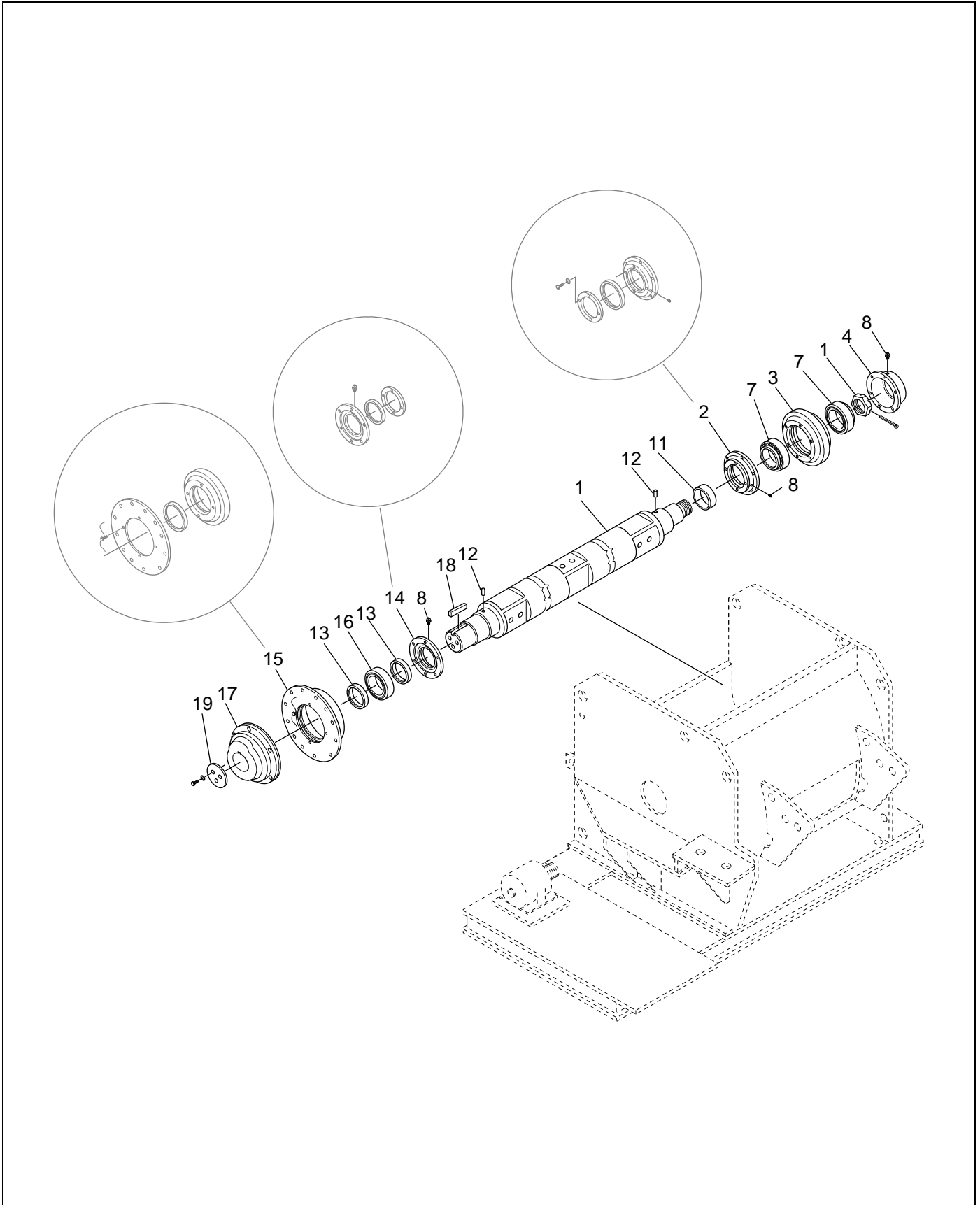


Figure 2.8 Blade Shaft Subassembly – Timken and Hyatt Bearings (#312506)

Table 2.13, Hyatt Closure Subassembly – Blade Shaft (#220712)

Key	Part Number	Description	Quantity	Recom. Spares
1a	220710	PLATE-GARLOCK SEAL RETAIN	1	
2a	086780	SEAL 8.500 IN ID 10.000 IN OD – 0.750 IN W	1	1
3a	220702	HYATT CLOSURE – BLADE SHAFT	1	

Table 2.14, Hyatt Housing Subassembly – Blade Shaft (#220714)

Key	Part Number	Description	Quantity	Recom. Spares
1b	220708	PLATE – OIL RETAINER – HYATT HOUSING	1	
2b	086782	SEAL 8.500 IN SHAFT – 10.008 IN OD – 0.625 IN W	1	1
3b	220703	HOUSING – HYATT – BLADE SHAFT	1	
4b	113344	WIRE – SAFETY LOCK – STAINLESS STEEL – 5 LB COIL	4 FT	4FT

Table 2.15, Timken Closure Subassembly – Blade Shaft (#220711)

Key	Part Number	Description	Quantity	Recom. Spares
1c	220705	CLOSURE	1	
2c	86779	GARLOCK SEAL – 7.500 ID, 8.750 OD, 0.625 W	1	1
3c	220709	PLATE – GARLOCK SEAL RETAIN	1	

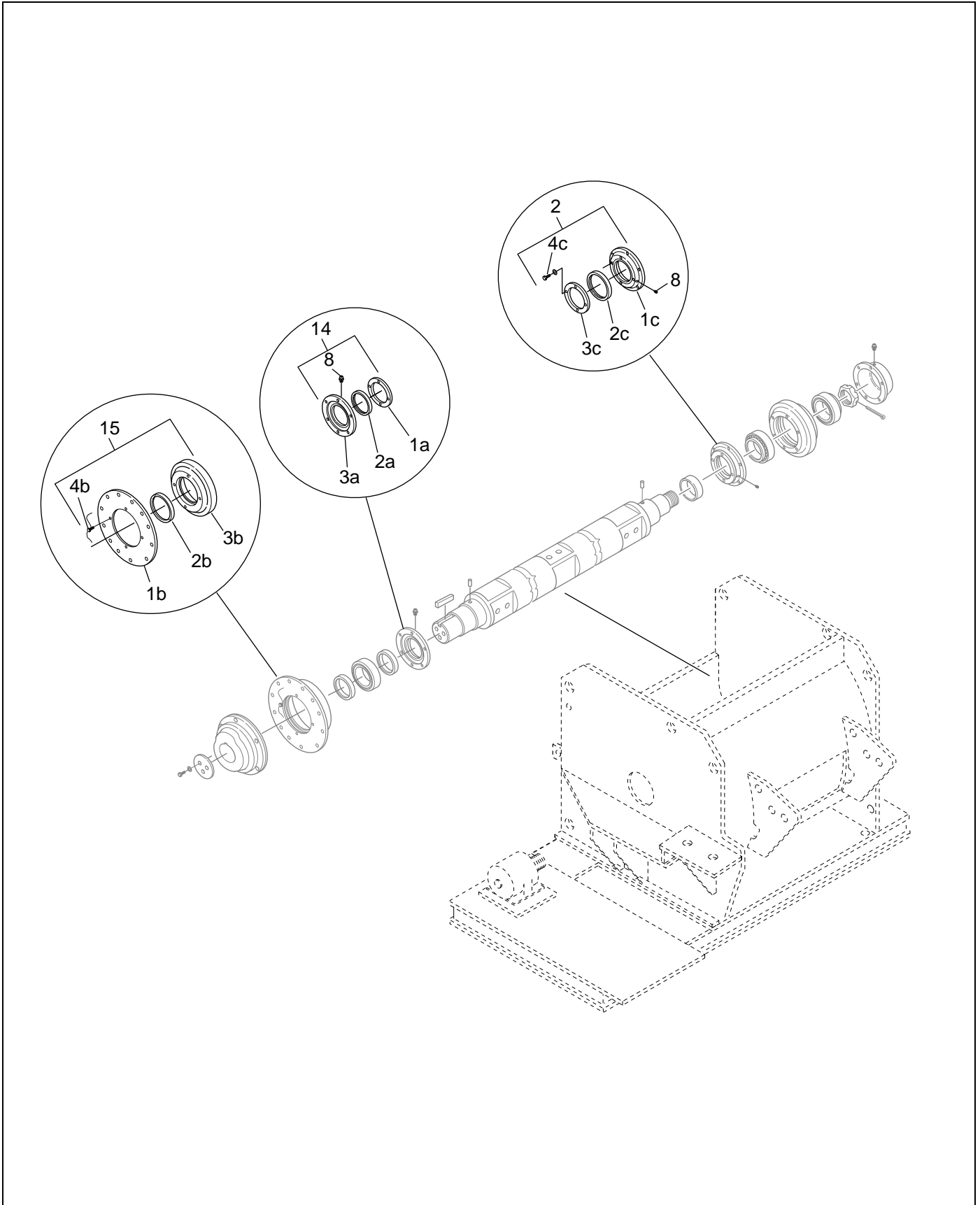


Figure 2.9 Hyatt Closure Subassembly – Hyatt Housing Subassembly – Timken Closure Subassembly (#220712, #220714 and 220711)

Table 2.16, Trough Liners – Mixer with 16.000 Inch x 48.000 Inch Side Gate (Less Probe Liners) (#332752)

Key	Part Number	Description	Quantity	Recom. Spares
1	329719	LINER – 12.000 IN	8	4
2	329720	LINER – 18.0 IN	34	16
3	089462	BOLT – PLOW – 0.500 IN X 1.750 IN	168	64
4	087806	NUT – HEXAGON – 0.500 IN	168	64
5	087881	LOCKWASHER – 0.500 IN	168	64

Table 2.17, S.O.P. – LeSueur Trough Liner – with Two Probes (#642895) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
1	109866	PROBE LINER – 12.000 IN LG WITH TWO PROBES – (LESUEUR) (See Table 2.18)	1	1
2	329720	LINER – 18 IN LG	2	
3	089462	PLOW BOLT – 0.500 IN X 1.750 IN LG	12	4
4	087806	NUT – HEXAGON – 0.500 IN	12	4
5	087881	LOCKWASHER – 0.500 IN	12	4

Table 2.18, S.O.P. Break Down of LeSueur Liner with Two Probes (#109866) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
	421595	LESUEUR PROBE LINER – LINER ONLY	1	
	109965	PROBE ASS'Y – LESUEUR – PROBE ASS'Y ONLY – 2 PER LINER	2	

Table 2.19, S.O.P. – Moisture Probe Trough Liners – Ramsey (#642894) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
	329721	RAMSEY PROBE LINER – LINER ONLY	2	2
	103727	PROBE ASS'Y – RAMSEY – PROBE ASS'Y ONLY – 1 PER LINER	2	2
	329719	LINER – GATE – 12 IN LG 80/100/120	1	
	089462	0.500 IN – 13 IN X 1.75 IN NO 3 HD PLOW BOLT	12	
	087806	0.500 IN – 13 IN HEAVY HEX NUT	12	
	087881	0.500 IN MED LOCKWASHER	12	

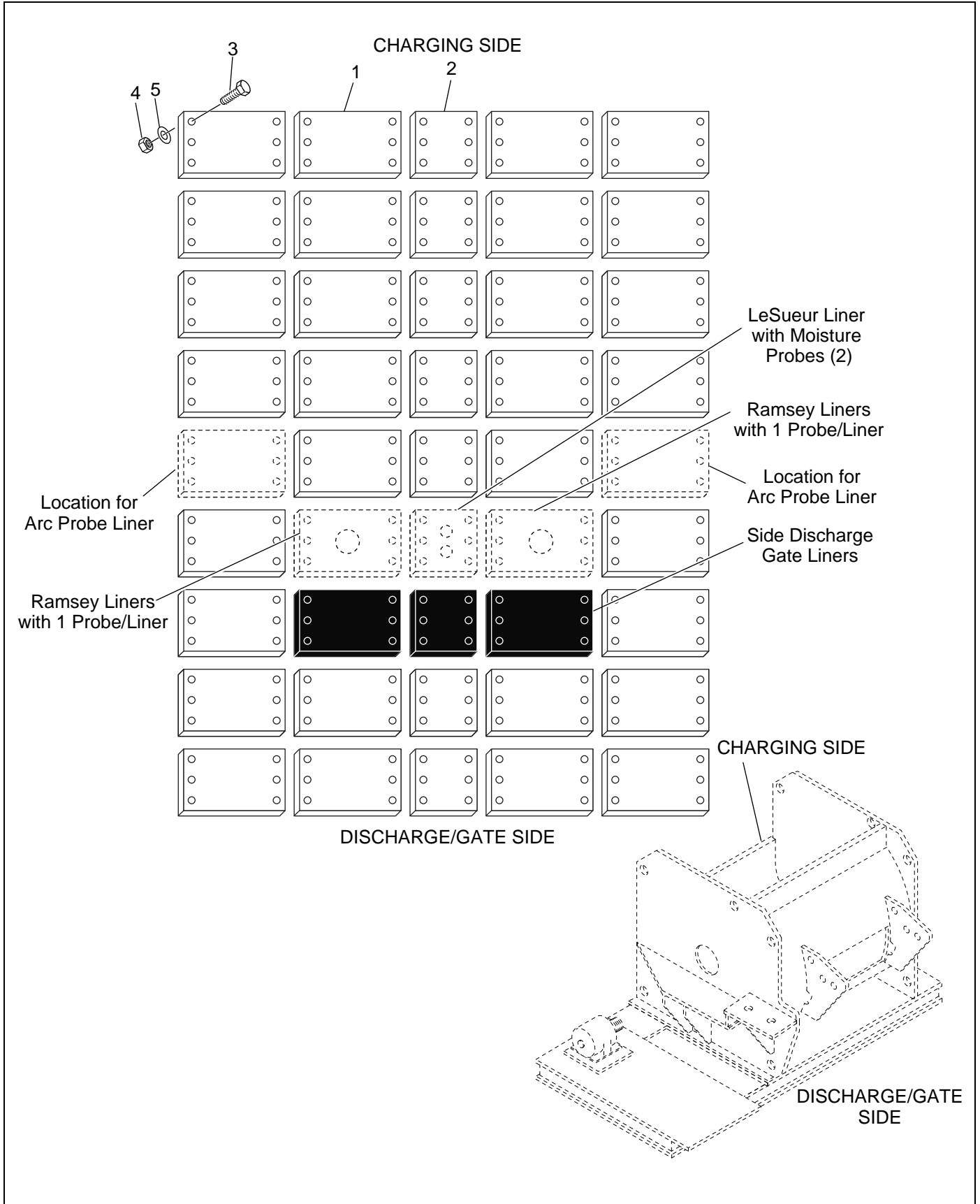


Figure 2.10 Mixer Trough Liners (#332752, #642895, #109866 and #642894)

Table 2.20, S.O.P. – Besser Standard Trough Liners – “In Place of” Moisture Probe Liners (#642901)

Key	Part Number	Description	Quantity	Recom. Spares
	329719	LINER – GATE – 12 IN LG – 80/100/120	1	
	329720	LINER – 18 IN LG – TROUGH	2	
	089462	0.500 IN – 13 IN X 1.75 IN NO 3 HD PLOW BOLT	12	
	087806	0.500 IN – 13 IN HEAVY HEX NUT	12	
	087881	0.500 IN MED LOCKWASHER	12	

Table 2.21, S.O.P. – Moisture Probe Trough Liners – ARC – Ground (#647941) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
	087806	0.500 IN – 13 IN HEAVY HEX NUT	4	
	087881	0.500 IN MEDIUM LOCKWASHER	4	
	089462	0.500 IN – 13 IN X 1.75 IN NO 3 HD PLOW BOLT	4	
	329719	LINER – GATE – 12 IN LG – 80/100/120	1	
	467490	S.O.P. – 2 TR LINERS – ARC – GROUND PROBES – M80	1	

Table 2.22, S.O.P. – Moisture Probe Trough Liners – ARC – Microwave (#647940) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
	087806	0.500 IN – 13 IN HEAVY HEX NUT	8	
	087881	0.500 IN MED LOCKWASHER	8	
	089462	0.500 IN – 13 IN X 1.75 IN NO 3 HD PLOW BOLT	8	
	329719	LINER – GATE – 12 IN LG – 80/100/120	1	
	329720	LINER – 18 IN LG – TROUGH	1	
	481202	S.O.P. – 1 TR LINER – ARC – MICROWAVE PROBE – M80	1	

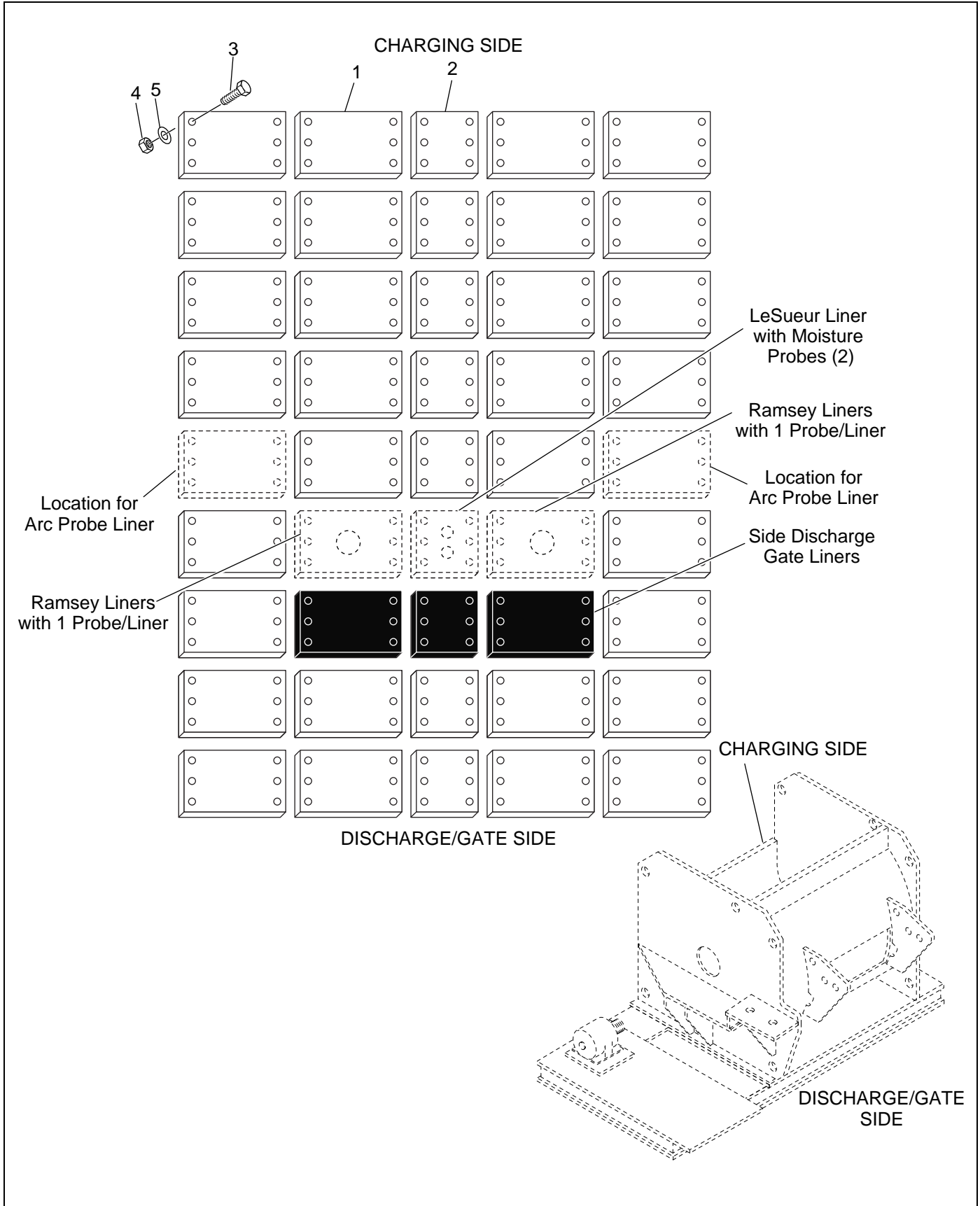


Figure 2.11 Mixer Trough Liners – Less Probe Liners (#642901, #647941 and #647940)

Table 2.23, Gate Assembly – 16.000 Inch x 48.000 Inch Side Gate – Direct Air – All Positions (#234088)

Key	Part Number	Description	Quantity	Recom. Spares
1	226530	GATE PIVOT SHAFT	1	
2	451928	GATE OPERATING SHAFT	1	
3	220693	GATE	1	
4	226528	BAR – MIXER GATE	3	
5	081524	FLANGED BEARING	4	
9	213514	PIN – NOTCHED	2	
11	234092	LINK END ASS'Y – LEFT HAND THREAD – ADJUSTABLE (See Table 2.24)	2	
12	234090	LINK END ASS'Y – RIGHT HAND THREAD – ADJUSTABLE (See Table 2.25)	2	
13	226514	ROD	1	
14	030427	WASHER	2	
15	226529	SPACER	2	
17	226520	BAR	4	
18	226503	CHUTE	1	
19	234093	LINK ROD	2	

Table 2.24, Link End Assembly – Left Hand THD – Gate (#234092)

Key	Part Number	Description	Quantity	Recom. Spares
3a	234091	LINK END	1	
4a	084106	GREASE FITTING	1	
5a	226498	NYLON BUSHING	1	2

Table 2.25, Link End Assembly – Right Hand THD – Gate (#234090)

Key	Part Number	Description	Quantity	Recom. Spares
3b	234089	LINK END	1	
4b	084106	GREASE FITTING	1	
5b	226498	NYLON BUSHING	1	2

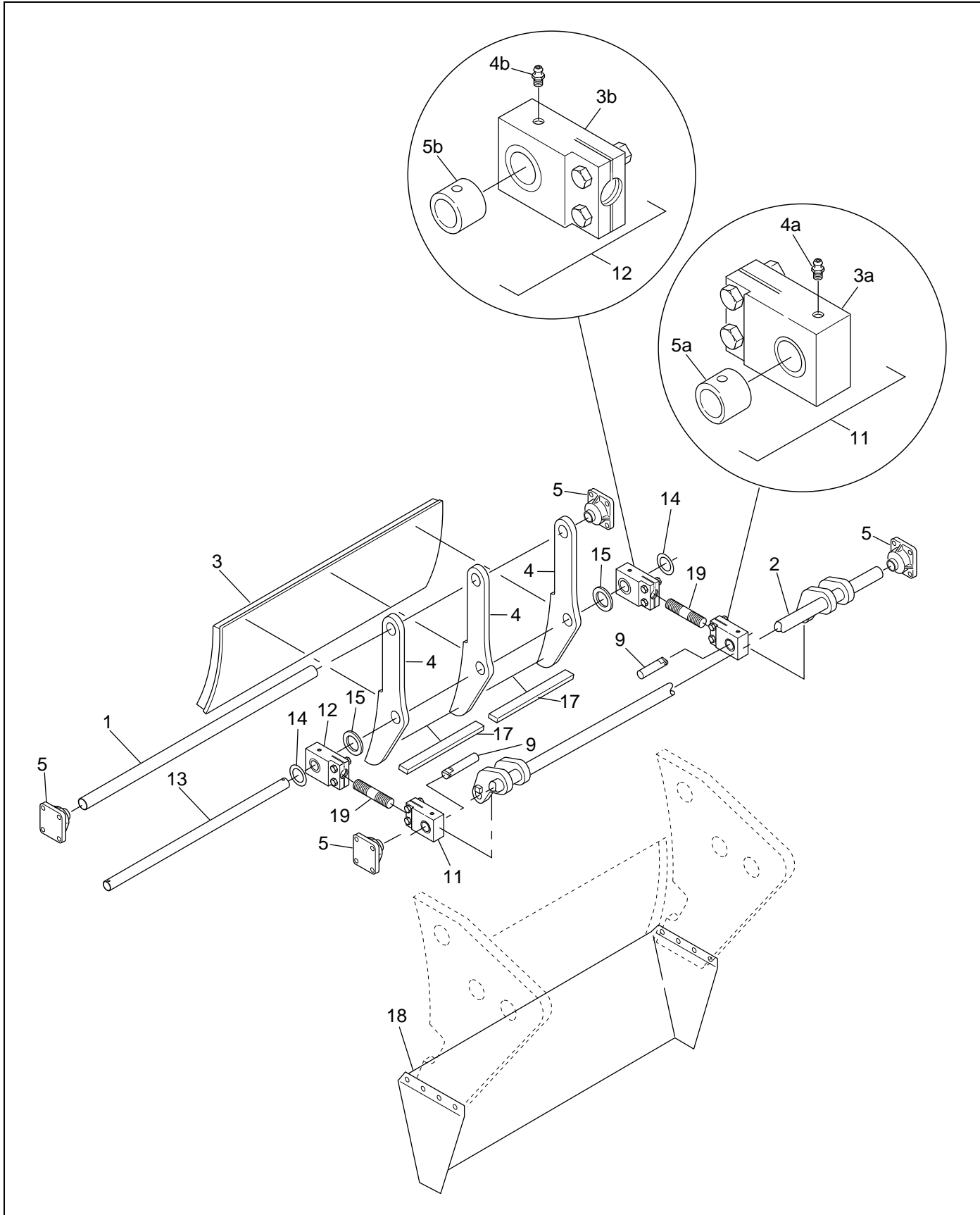


Figure 2.12 Gate Assembly – Discharge (#234088, #234092 and #234090)

Table 2.26, Air Cylinder Subassembly – Gate – All Positions (#265776)

Key	Part Number	Description	Quantity	Recom. Spares
1	226523	ARM SUB-ASS'Y	1	
3	225109	KEY	1	
5	045591	PIN	1	
6	084106	ALEMITE FITTING	1	
7	226548	AIR HOSE – 0.375 IN – 78.000 IN LG	1	
8	067090	AIR HOSE – 0.375 IN – 67.000 IN LG	1	
9	080951	CLAMP – 0.500 IN MED – 40 IN JIFFY (HOSE)	2	
11	114628	SWITCH – REED WITH 10 FT LEADS	2	2
13	370006	AIR CYLINDER – 4.000 IN BORE X 12.000 IN STROKE	1	1
14	226537	BRACKET	1	
19	084650	90 DEG ELBOW	2	
20	408046	SHIM – 0.250 IN	1	
21	408047	SHIM – 0.500 IN	1	
22	454107	SHIM – 0.750 IN	1	

Table 2.27, Safety Stop S.O.P. – Discharge Gate (#466318)

Key	Part Number	Description	Quantity	Recom. Spares
1a	466319	SAFETY STOP	1	
2a	114567	PIN – QUICK RELEASE	1	
3a	088136	HEX HD CAP SCREW	1	
4a	087828	JAM NUT	1	
5a	089165	SLOTTED RD HD MACH SCREW	1	
6a	087926	FLAT WASHER	1	
7a	087876	MED LOCKWASHER	1	
8a	111979	SAFETY CHAIN	0.500 FT	

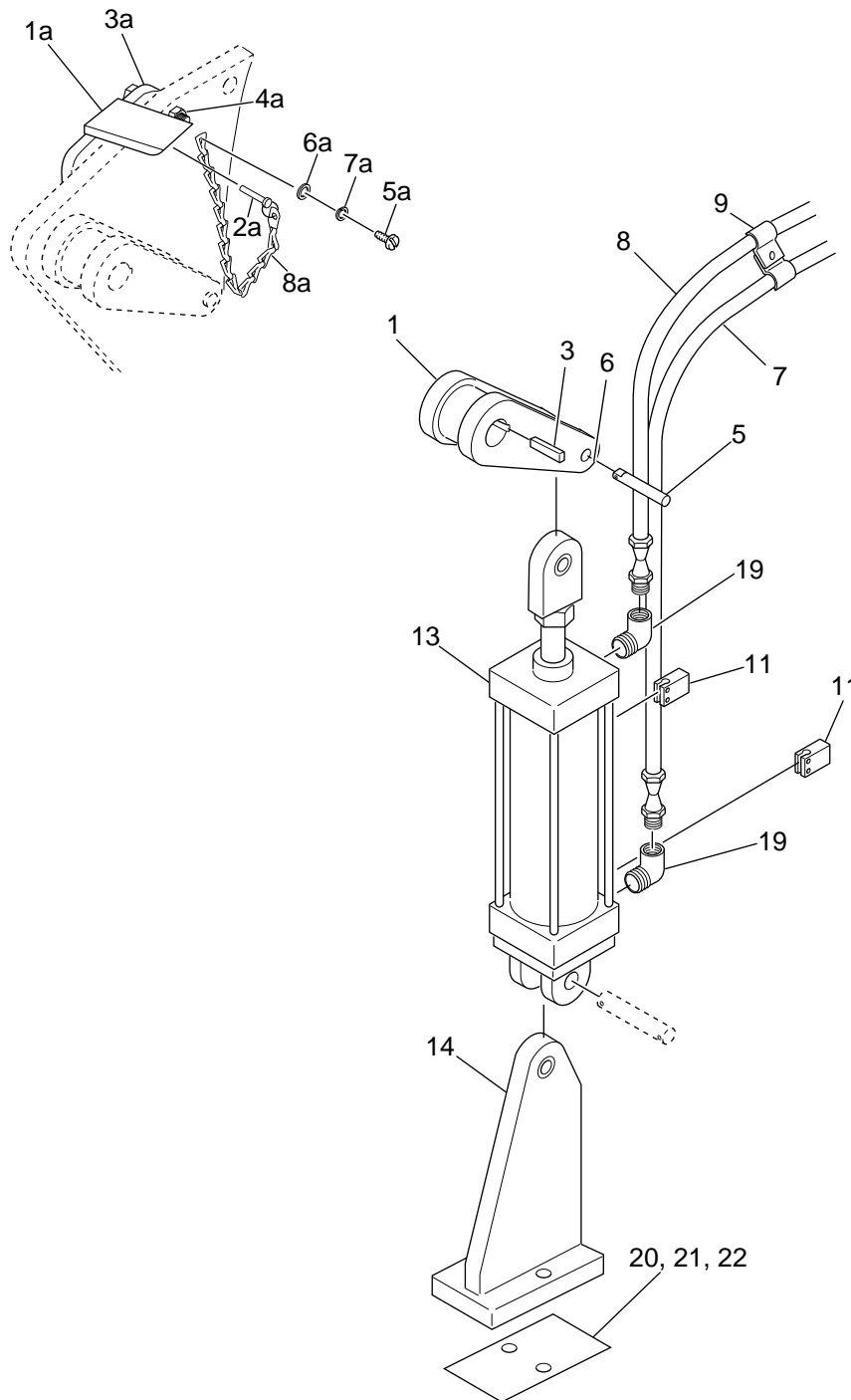


Figure 2.13 Air Cylinder Subassembly and Safety Stop S.O.P. – Discharge Gate (#265776 and #466318)

Table 2.28, Valve Assembly – Solenoid with Lockout Valve – Gate (#467493)

Key	Part Number	Description	Quantity	Recom. Spares
1	107963	REGULATOR – 0.500 IN	1	1
2	106152	GA – AIR PRESSURE	1	1
3	090778	PIPE NIPPLE – 0.500 IN X 3.000 IN LG	1	
4	086386	SPEED CONTROL – PLUG	2	2
5	103764	BUSHING – 0.500 IN TO 0.250 IN	2	
6	101870	4 WAY VERSA VALVE – 0.500 IN	1	1
7	084651	ADAPTER – 0.500 IN TO 0.375 IN	2	
13	254495	SUPPORT	1	
14	084650	90 DEG ELBOW – 0.500 IN TO 0.375 IN	1	
15	106249	SILENCER – AIR – 0.375 IN	1	
16	107967	FILTER	1	1
17	090776	NIPPLE – 0.500 IN CLOSED	3	
18	114592	3 WAY LOCKOUT TO EXHAUST VALVE – 0.500 IN	1	1
19	090788	TEE – 0.500 IN PIPE	1	

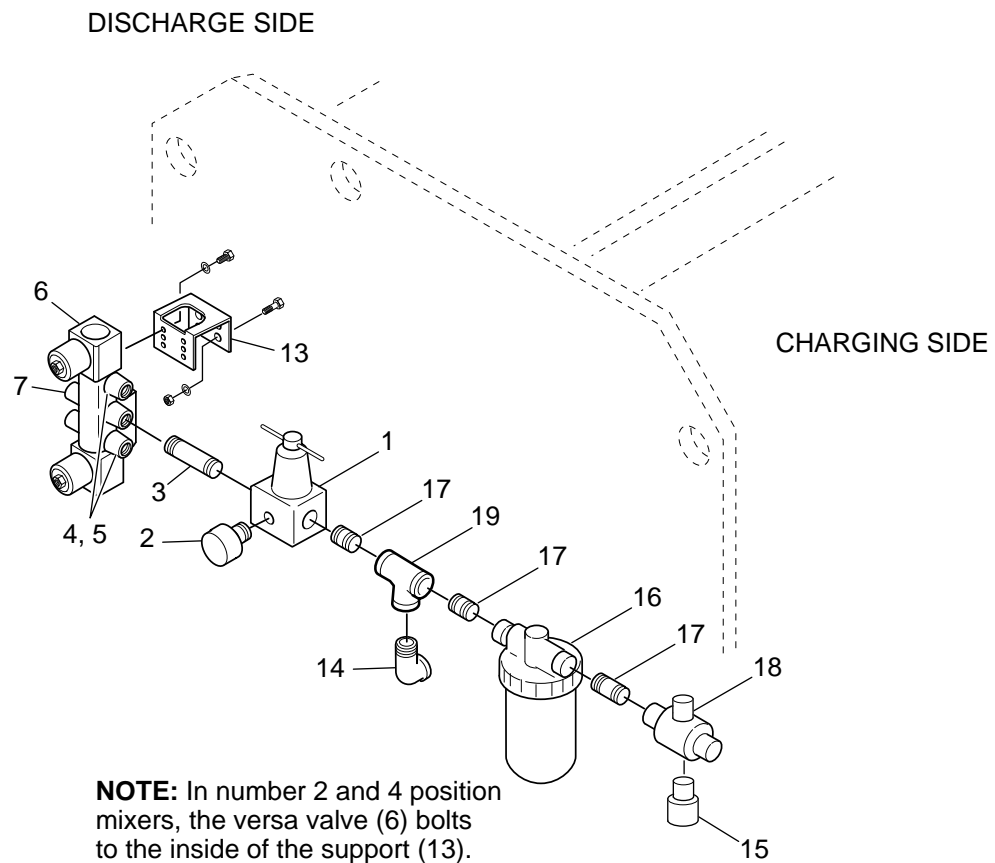


Figure 2.14 Valve Assembly – Solenoid with Lockout Valve – Gate (#467493)

Table 2.29, Shroud Assembly (#330869)

Key	Part Number	Description	Quantity	Recom. Spares
1	330858	SHROUD – FRONT	1	
2	330860	SHROUD – BACK	1	
3	330861	ANGLE – SUPPORT – BACK	2	
4	330862	ANGLE – SUPPORT – FRONT	2	
12	413592	STRIP – SEAM COVER	1	

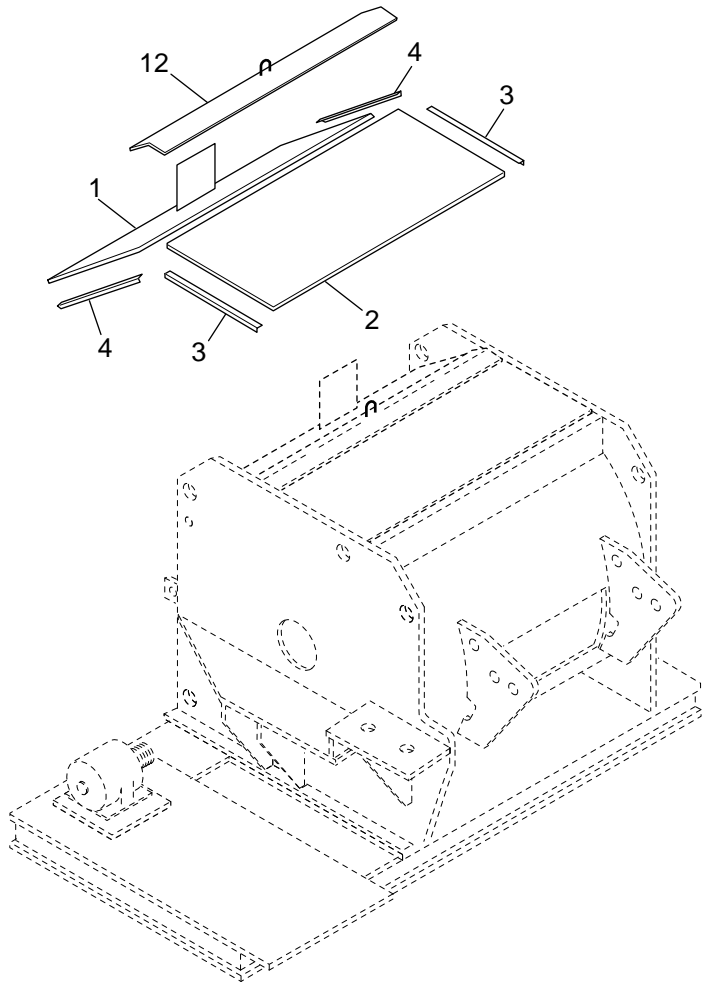


Figure 2.15 Shroud Assembly (#330869)

Table 2.30, Ring Assembly – Blade Shaft Cleaning (#292016)

Key	Part Number	Description	Quantity	Recom. Spares
1	302196	RING HALF – 27.000 IN ID	4	4
2	302197	RING HALF – 23.000 IN ID	4	4
3	444422	RING HALF – 4.500 IN X 7.000 IN	8	8
4	427219	PLATE – 0.750 IN X 3.000 IN X 22.000 IN LG	2	2

Table 2.31, Head Scraper Subassembly (#262742)

Key	Part Number	Description	Quantity	Recom. Spares
1a	262744	HOLDER	1	
2a	262743	ARM – MIXER SCRAPER	1	1
3a	087107	BOLT – MACHINE – 0.750 IN X 10.500 IN	2	
4a	087883	LOCKWASHER – 0.750 IN	2	
5a	087808	NUT – HEX – 0.750 IN	2	
6a	088038	SCREW – HEX HD CAP – 0.500 IN X 2.750 IN	4	
7a	087881	LOCKWASHER – 0.500 IN	4	
8a	087806	NUT – HEX – 0.500 IN	4	

Table 2.32, S.O.P. – Tension Strap and Wear Liner Subassembly – Blade Arm (#282998) – 120 Cubic Foot Mixer

Key	Part Number	Description	Quantity	Recom. Spares
1b	277464	TENSION STRAP	4	
2b	282999	WEAR LINER	4	4
3b	088065	SCREW – HEX HD CAP – 0.750 X 2.25 IN	8	
4b	087808	NUT – HEX – 0.750 IN	8	
5b	087883	LOCKWASHER – 0.750 IN	8	

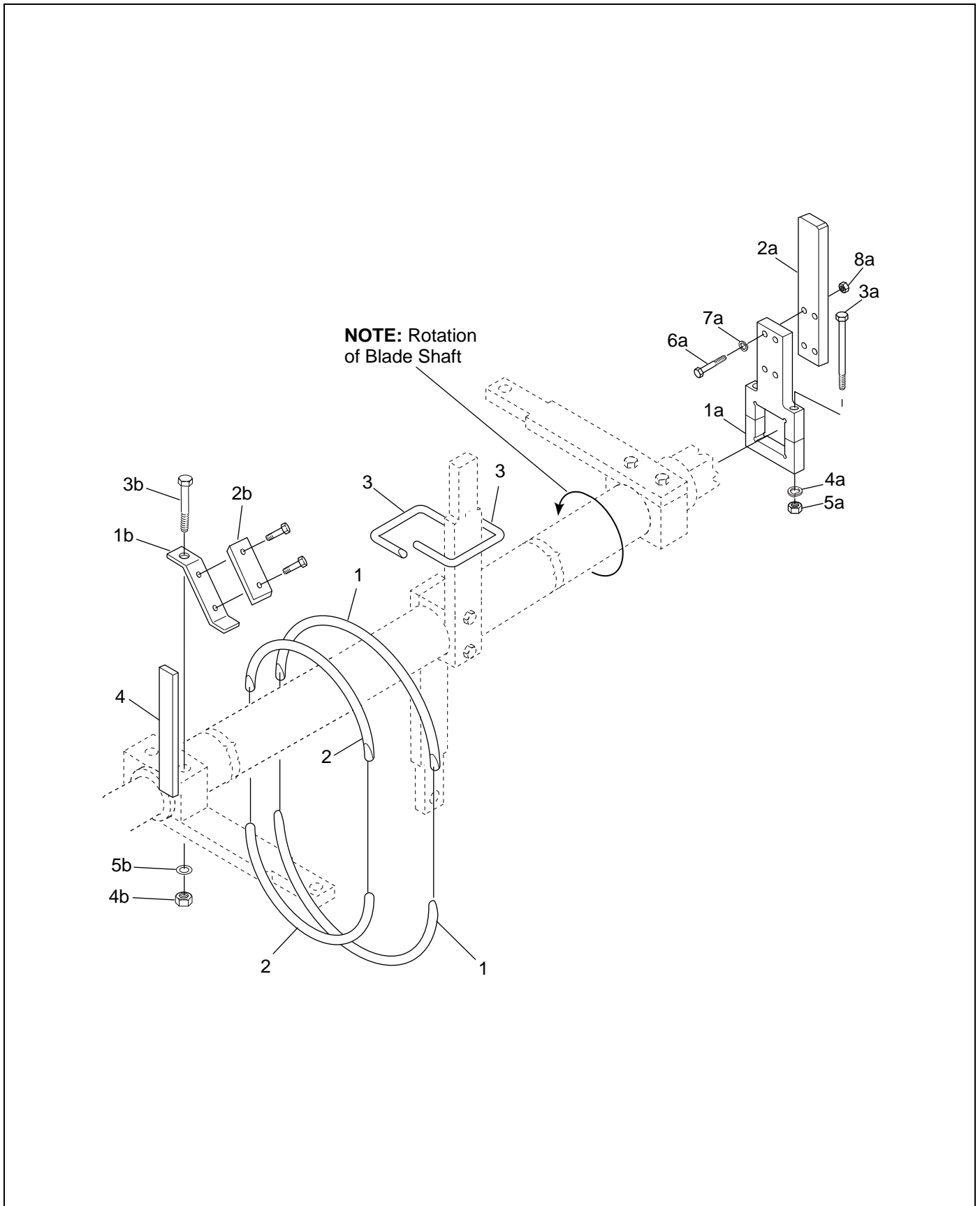


Figure 2.16 Ring Assembly – Blade Shaft Cleaning, Head Scraper Subassembly, and Tension Strap – Blade Arm (#292016, #262742 and #282998)

Table 2.33, Blade Assembly (#245002)

Key	Part Number	Description	Quantity	Recom. Spares
1	644847	S.O.P. – BLADE – LEFT HAND ^{ab}	1	1
2	644846	S.O.P. – BLADE – RIGHT HAND ^{ab}	1	1
3	087211	BOLT – SQ HD MACHINE – 1.500 IN X 14.000 IN LG	4	4
4	114118	THREADLOCKER – #242	1	
5	112981	NUT – HEX – 1.500 – 6 IN – A325	4	4
6	242144	ECCENTRIC ^b	4	4
7	240898	BLOCK – 0.500 IN X 1.000 IN X 2.750 IN LG	4	4
8	109853	WASHER – PLAIN – HARDENED – 1.500 IN	4	4
9	113079	TITANIUM PUTTY	1	
10	113080	CLEANER	1	
11	113081	RELEASE AGENT	1	
12	113319	CLEANING SOLVENT	1	
13	092286	PRIMER – LOCQUIC	1	

NOTE:

To select correct blade for replacement (right hand versus left hand) always view mixer from charging side.

^a Blade and Mounting Accessories Kit (#465749F0200) included which contains blade bolts, nuts, washers, loctite, cleaner/conditioner, release agent, titanium putty, blocks and primer.

^b Eccentrics **NOT** included in Blade and Mounting Accessories Kit.

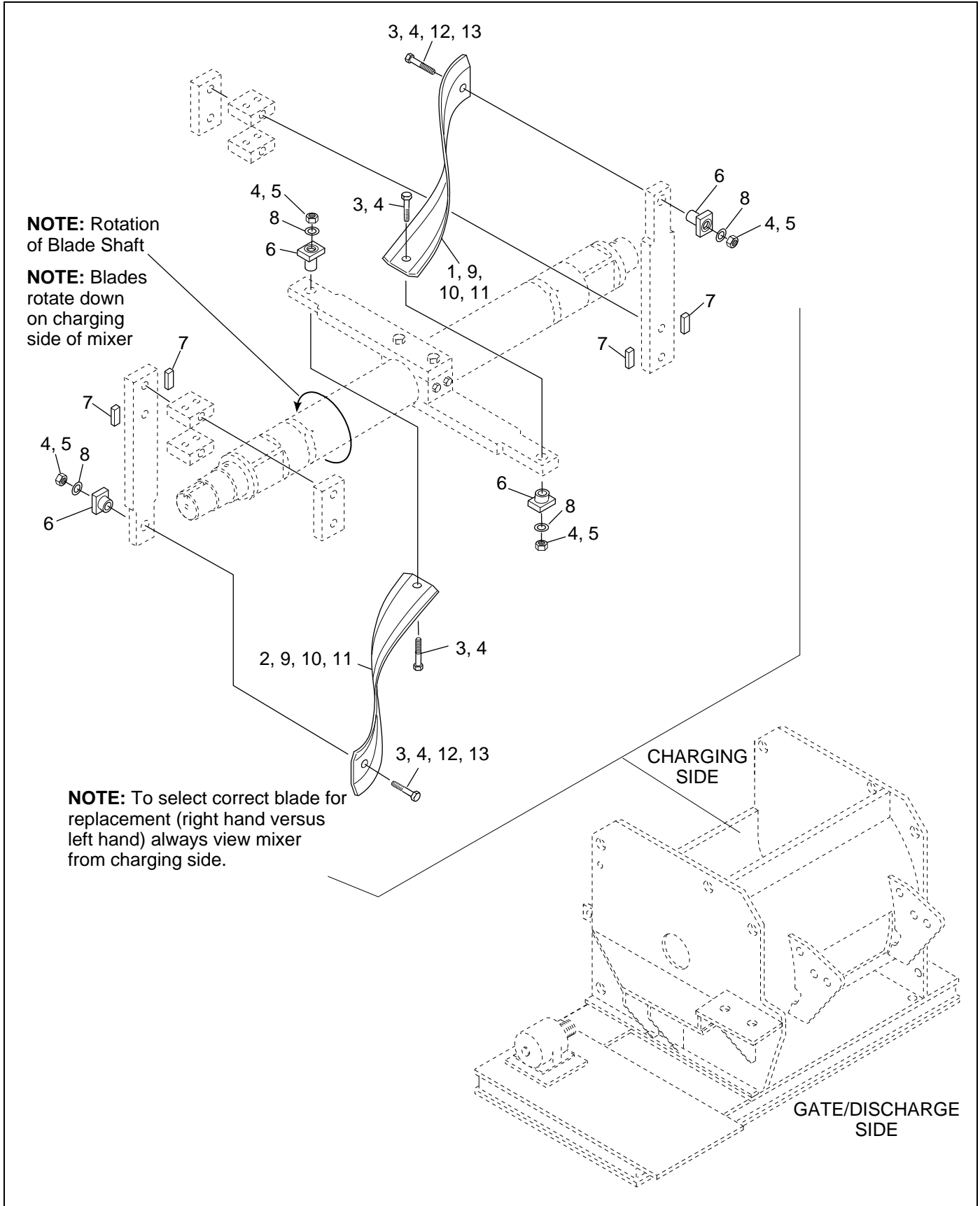


Figure 2.17 Blade Assembly (#245002)

Table 2.34, Blade Assembly with Wear Liners (#347528) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
1	644849	S.O.P. – BLADE – LEFT HAND ^{ab}	1	
2	644848	S.O.P. – BLADE – RIGHT HAND ^{ab}	1	
3	087211	BOLT – SQ HD MACHINE – 1.500 X 14.00 IN LG	4	4
4	114118	THREADLOCKER – #242	1	
5	242144	ECCENTRIC ^b	4	4
6	332762	LINER – LEFT HAND BLADE ^c	1	1
7	332760	LINER – LEFT HAND BLADE ^c	1	1
8	332761	LINER – LEFT HAND BLADE ^c	1	1
9	332759	LINER – LEFT HAND BLADE ^c	1	1
10	332755	LINER – RIGHT HAND BLADE ^c	1	1
11	332757	LINER – RIGHT HAND BLADE ^c	1	1
12	332756	LINER – RIGHT HAND BLADE ^c	1	1
13	332758	LINER – RIGHT HAND BLADE ^c	1	1
14	380308	STUD – 0.500 IN X 3.500 IN LG	24	24
15	087881	0.500 IN LOCKWASHER	24	24
16	087806	0.500 IN HEXAGON NUT	24	24
17	347493	MIXER BLADE WASHER	24	24
18	109853	WASHER – PLAIN – HARDENED – 1.500 IN	4	4
19	106645	SEALANT – DOW – 732 RTV	1	
20	112981	NUT – HEX – 1.500 – 6 IN – A325	4	4
21	240898	BLOCK – 0.500 IN X 1.00 IN X 2.750 IN LG	4	4
22	113079	TITANIUM PUTTY	1	
23	113080	CLEANER	1	
24	113081	RELEASE AGENT	1	
25	113319	CLEANER SOLVENT	1	
26	092286	PRIMER – LOCQUIC	1	

NOTE:

To select correct blade for replacement (right hand versus left hand) always view mixer from charging side.

^a Blade and Mounting Accessories Kit (#465749F0200) included which contains blade bolts, nuts, washers, loctite, cleaner/conditioner, release agent, titanium putty, blocks and primer.

^b Eccentrics **NOT** included in Blade and Mounting Accessories Kit.

^c S.O.P. Wear Liners for back up blades (#639500) contains wear liners, titanium putty and wear liner fasteners.

NOTE:

S.O.P.s are available for the following:

RH Back-up Blade (with Liners)^a – 644873

LH Back-up Blade (with Liners)^a – 644874

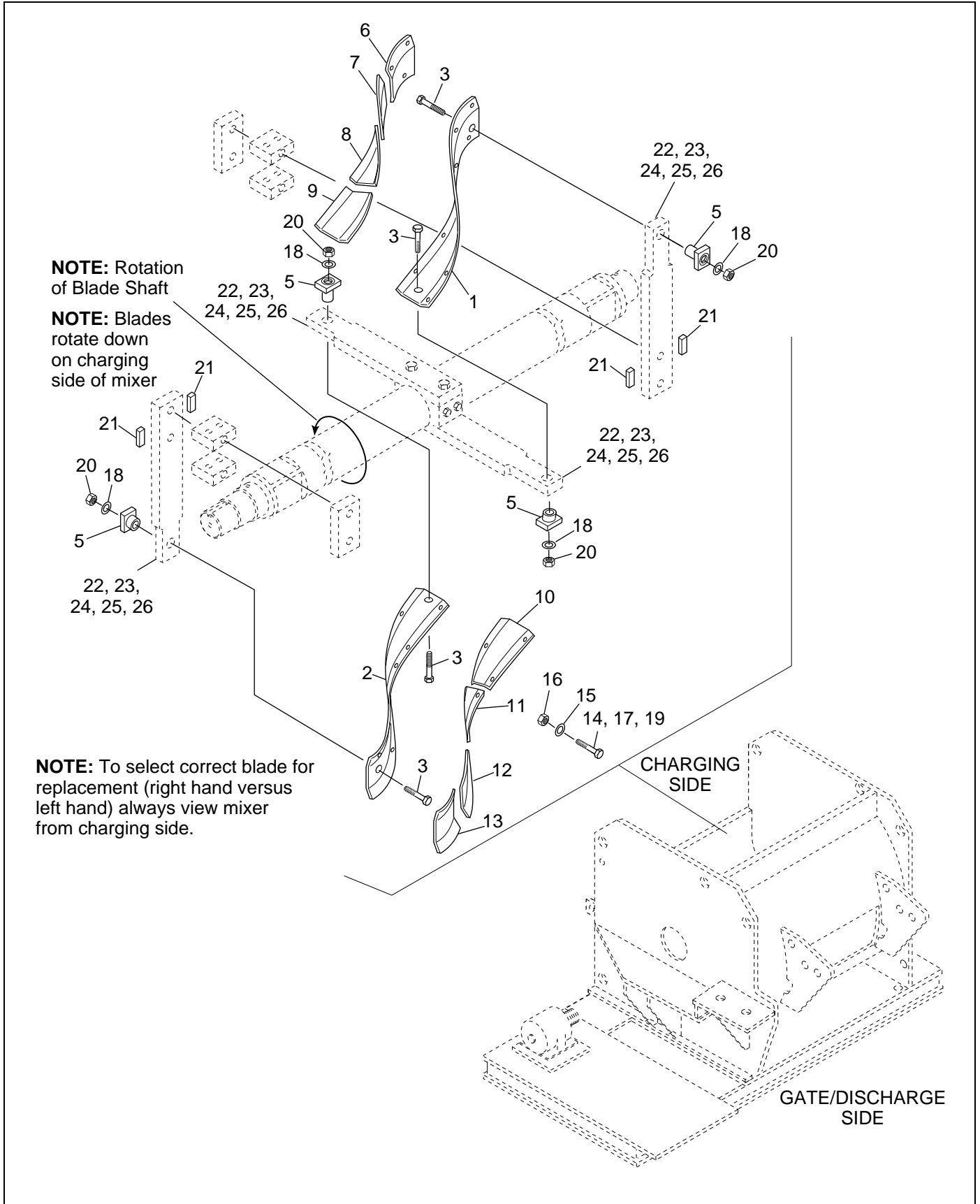


Figure 2.18 Blade Assembly with Wear Liners (#347528)

**Table 2.35, S.O.P. – Drive Shaft with Clutch – P1/P4 (#646180)
S.O.P. – Drive Shaft with Clutch – P2/P3 (#646181)**

Key	Part Number	Description	Quantity	Recom. Spares
1	356462	DRIVE SHAFT ASS'Y (See Table 2.37)	1	
2	466290	PULLEY GUARD ASS'Y – ENCLOSED – ALL POS (See Table 2.47)	1	
3	****	VALVE ASS'Y – SOLENOID – CLUTCH (See Table 2.35a)	1	
4	358241	AIRLINE – CLUTCH – S.O.P. (See Table 2.36)	1	
5	383834	PRESSURE SWITCH – CLUTCH (See Table 2.44)	1	

Table 2.35a, S.O.P. – Drive Shaft with Clutch

Key	Description	Mixer Position No1	Mixer Position No2	Mixer Position No3	Mixer Position No4
3	Valve Ass'y – Solenoid – Clutch (See Table 2.43)	467494	467495	467495	467494

Table 2.36, S.O.P. – Airline – Clutch (#358241)

Key	Part Number	Description	Quantity	Recom. Spares
1a	358242	PIPE	1	
3a	090683	ELBOW PIPE	1	
4a	086211	CONN ADAPTER	2	
5a	226547	HOSE ASS'Y	1	
6a	064773	HOSE ASS'Y	1	
10a	103755	COUPLING	1	

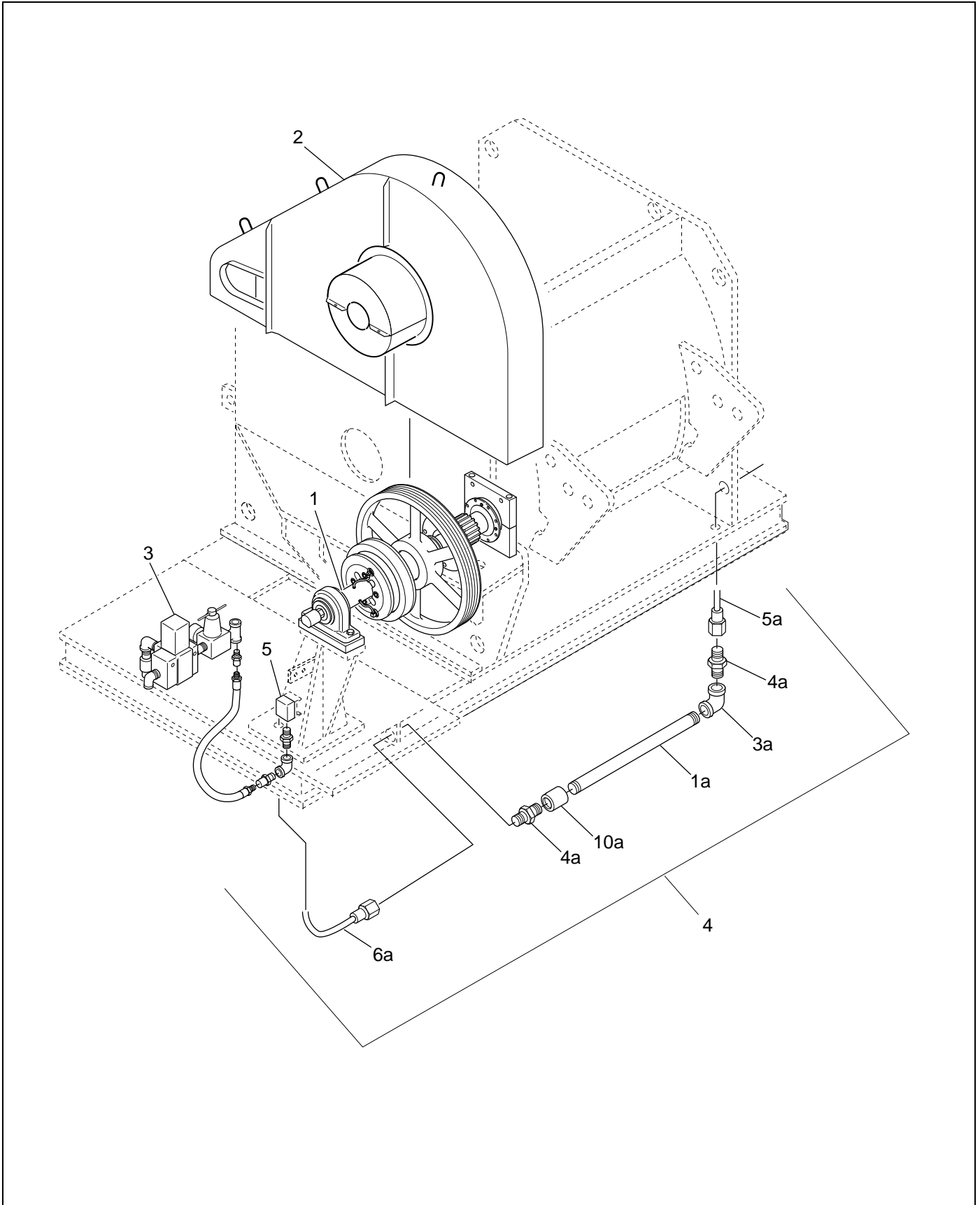


Figure 2.19 S.O.P. – Drive Shaft with Clutch and S.O.P. – Airline – Clutch (#646180, #646181 and #358241)

Table 2.37, Drive Shaft Assembly (#356462)

Key	Part Number	Description	Quantity	Recom. Spares
3	084106	GREASE FITTING – 0.2500 IN STR	1	
4	070365	END PLATE – DRIVE SHAFT	1	
5	070323	HYATT CAP – DRIVE SHAFT	1	
8	081085	BEARING – ROLLER	1	1
9	220713	BEARING HOUSING – ROLLER (See Table 2.38)	1	
10	070322	HOLDER – DRIVE SHAFT ROLLER BEARING	1	
12	225472	MACHINE BOLT – 1.500 IN – 18.000 IN LG (w/NUT)	2	
13	220700	SPACER	1	
14	069803	PINION – 18 TOOTH	1	
15	269618	KEY – 0.875 IN SQ X 5.500 IN LG	1	
16	461410	OIL RETAINER SUB-ASS'Y – 12.750 IN OD (See Table 2.40)	1	
17	245003	PULLEY – 60 PD – 8 GROOVE	1	
18	256482	KEY – 0.500 IN X 1.500 IN X 8.500 IN	1	
21	345641	SLEEVE SUB-ASS'Y – CLUTCH (See Table 2.39)	1	
22	110034	CLUTCH (See Table 2.41)	1	
23	106816	BEARING – PILLOW BLOCK – 3.4375 IN BORE	1	
24	106236	ROTO COUPLING	1	1
25	106878	SCREW HEX HD CAP – 0.875 IN – 3.250 IN LG	2	
28	356461	PLATE – BEARING SUPPORT	1	
29	321731	LUBE LINE SUB-ASS'Y	1	
30	321732	LUBE BLOCK SUB-ASS'Y	1	
31	084104	GREASE FITTING – 0.125 – STR	1	
34	083486	COLLAR SPLIT – 3.9375 IN BORE	1	
35	355319	SHAFT – 3.9375 IN DIA X 45.375 IN LG	1	
36	256483	KEY – 0.875 IN SQ X 7.000 IN LG	1	
38	084650	ADAPTER – 90 DEG – 0.375 IN TUBE – 0.500 IN PIPE	3	
39	466321	HOSE ASS'Y – 0.375 IN X 6.000 IN LG	3	
40	345639	BLOCK – 0.375 IN SQ MS – 1.000 IN LG	6	
41	084107	GREASE FITTING – 0.250 IN – ANGLE	1	
44	271664	SHIM – BEARING HOLDER – 16 GA	1	
45	271665	SHIM – BEARING HOLDER – 10 GA	1	

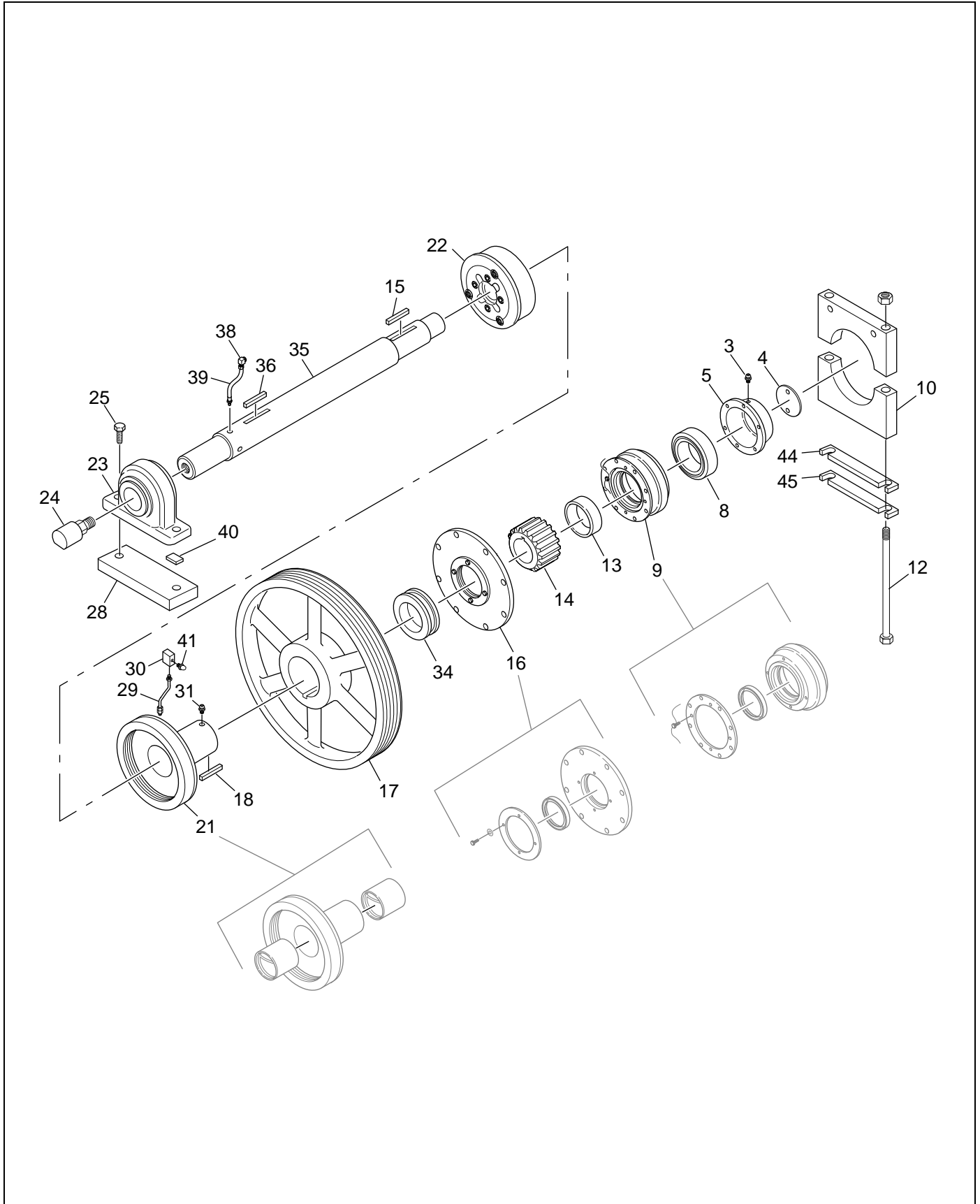


Figure 2.20 Drive Shaft Assembly (#356462)

Table 2.38, Housing Subassembly – Hyatt – Drive Shaft (#220713)

Key	Part Number	Description	Quantity	Recom. Spares
1a	220707	PLATE – OIL RETAINER	1	
2a	086268	SEAL – 4.750 IN SHAFT – 6.275 IN OD – 0.500 IN WIDE	1	1
3a	220701	HOUSING – ROLLER BEARING – DRIVE SHAFT	1	
6a	113344	WIRE SAFETY LOCK – STAINLESS STEEL – 5.000 OB COIL	4 FT	

Table 2.39, Sleeve Subassembly – Clutch (#345641)

Key	Part Number	Description	Quantity	Recom. Spares
1b	345642	SLEEVE – DRIVE	1	
2b	345646	BUSHING	2	2
3b	89562	0.1875 IN X 0.375 IN LG ALLEN SET SCREW	2	

Table 2.40, Oil Retainer Subassembly – 12.750 Inches OD – Drive Shaft (#461410)

Key	Part Number	Description	Quantity	Recom. Spares
1c	461411	HOLDER – OIL RETAINER	1	
2c	220758	PLATE – OIL RETAINER	1	
3c	086781	SEAL – 3.937 IN SHAFT 4.937 IN OD – 0.500 IN WIDE	1	1

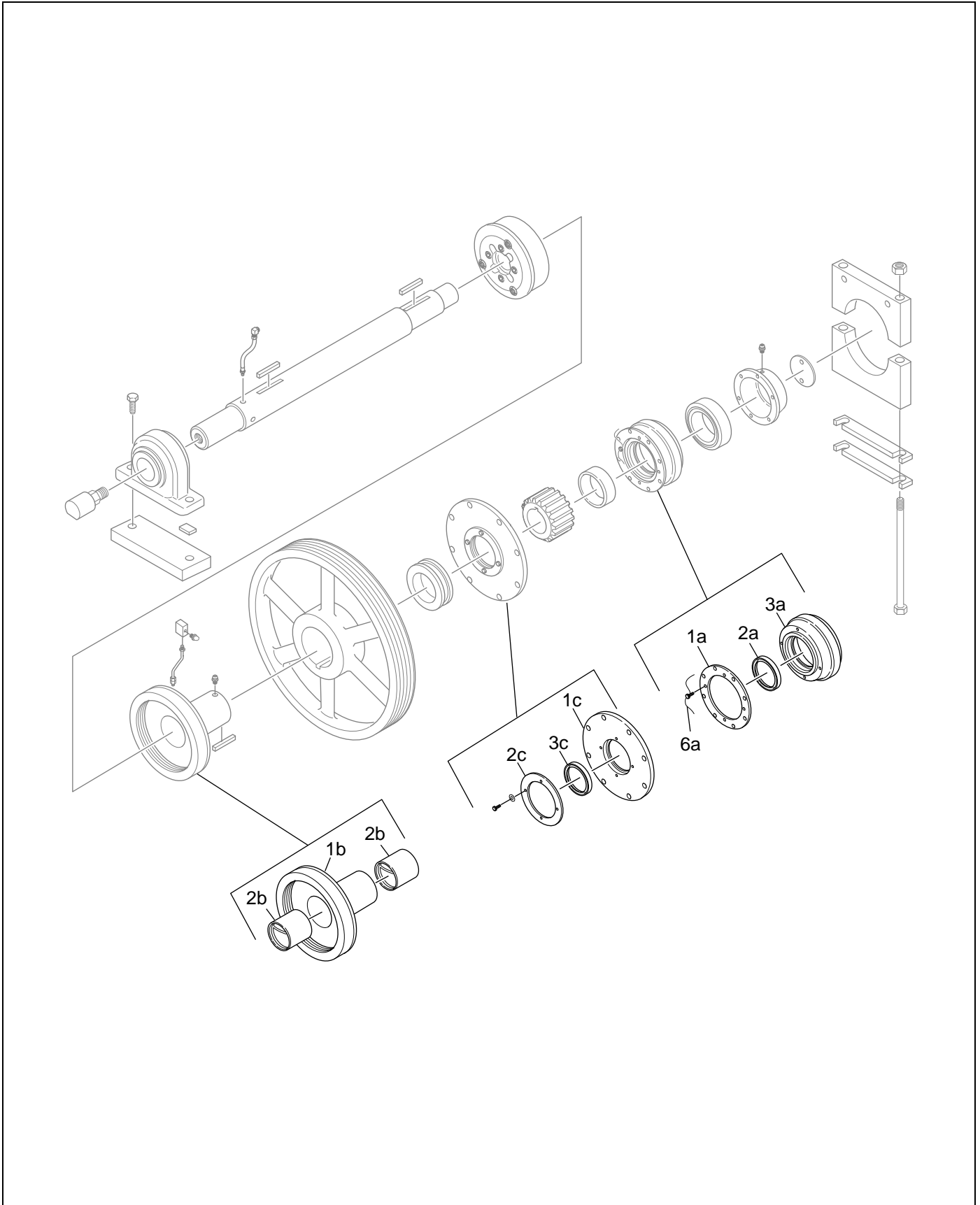


Figure 2.21 Housing Subassembly – Hyatt, Sleeve Subassembly – Clutch, Oil Retainer Subassembly – Drive Shaft (#220713, #461410 and #345641)

Table 2.41, Clutch (#110034)

Key	Part Number	Description	Quantity	Recom. Spares
1	110037	HUB	1	
2	110042	SCREW – HEX HD CAP – 1.000 IN X 2.250 IN LG	4	
3	110038	BOLT RETAINER	1	
4	106995	SPRING	12	12
5	110036	BACK PLATE	1	
6	106233	DRIVING RING	1	
7	106993	FLOAT PLATE	2	
8	106994	FRICTION DISK	2	2
9	106992	PRESSURE PLATE	1	1
10	106991	AIRTUBE	1	1
11	106997	AIRTUBE – HOLDING PLATE	1	
12	106990	SHIM	8	
13	110040	SCREW – SOC HD CAP – 1.000 IN X 2.500 IN LG	4	

Table 2.42, S.O.P. – Repair Parts for Clutch #110034 (#639216)

Key	Part Number	Description	Quantity	Recom. Spares
4	106995	SPRING	12	
8	106994	FRICTION DISK	2	
10	106991	AIRTUBE	1	

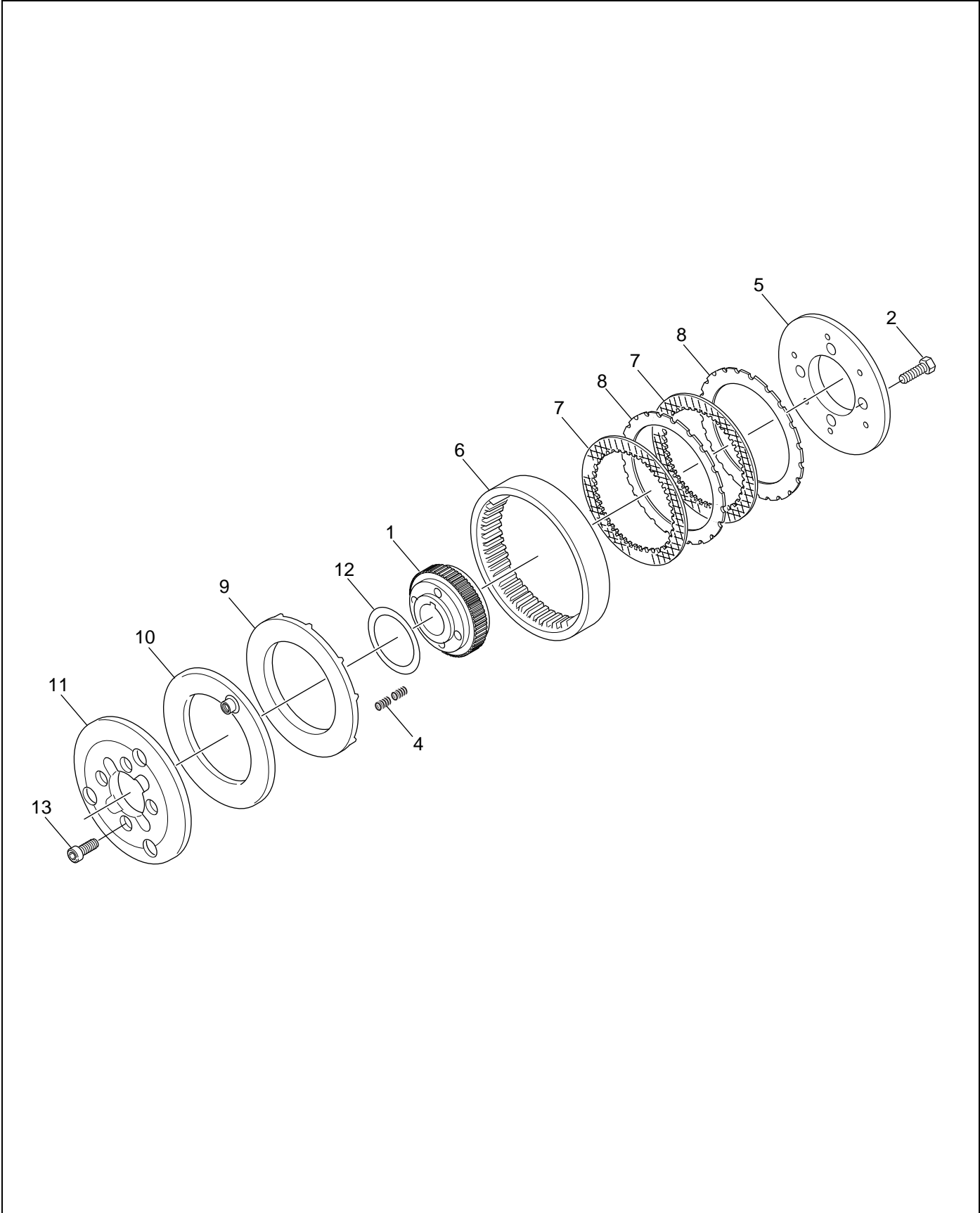


Figure 2.22 Clutch (#110034)

Table 2.43, Valve Assembly – Solenoid – P1/P4 – Clutch (#467494)
Valve Assembly – Solenoid – P2/P3 – Clutch (#467495)

Key	Part Number	Description	Quantity	Recom. Spares
1	106249	SILENCER – AIR	1	
2	090824	NIPPLE – PIPE – 0.500 IN X 2.500 IN LG	1	
3	090788	TEE	1	
4	090776	NIPPLE – PIPE – 0.500 IN CLOSE	1	
5	084650	ADAPTER – 90 DEG	3	
6	068324	HOSE ASS'Y	1	
7	106152	PRESSURE GA	1	1
8	107963	REGULATOR	1	1
9	107016	SOLENOID VALVE	1	1
13	112445F3640	ADAPTER – STREET ELL	1	

Table 2.44, Pressure Switch – Clutch (#383834)

Key	Part Number	Description	Quantity	Recom. Spares
1a	086698	ADAPTER – 0.250 IN PIPE	1	
2a	084651	ADAPTER – 0.500 IN PIPE	1	
3a	068324	HOSE ASS'Y	1	
5a	108067	PRESSURE SWITCH	1	1
8a	108068	ADAPTER	1	
9a	103734	ELBOW – 0.250 IN PIPE	1	

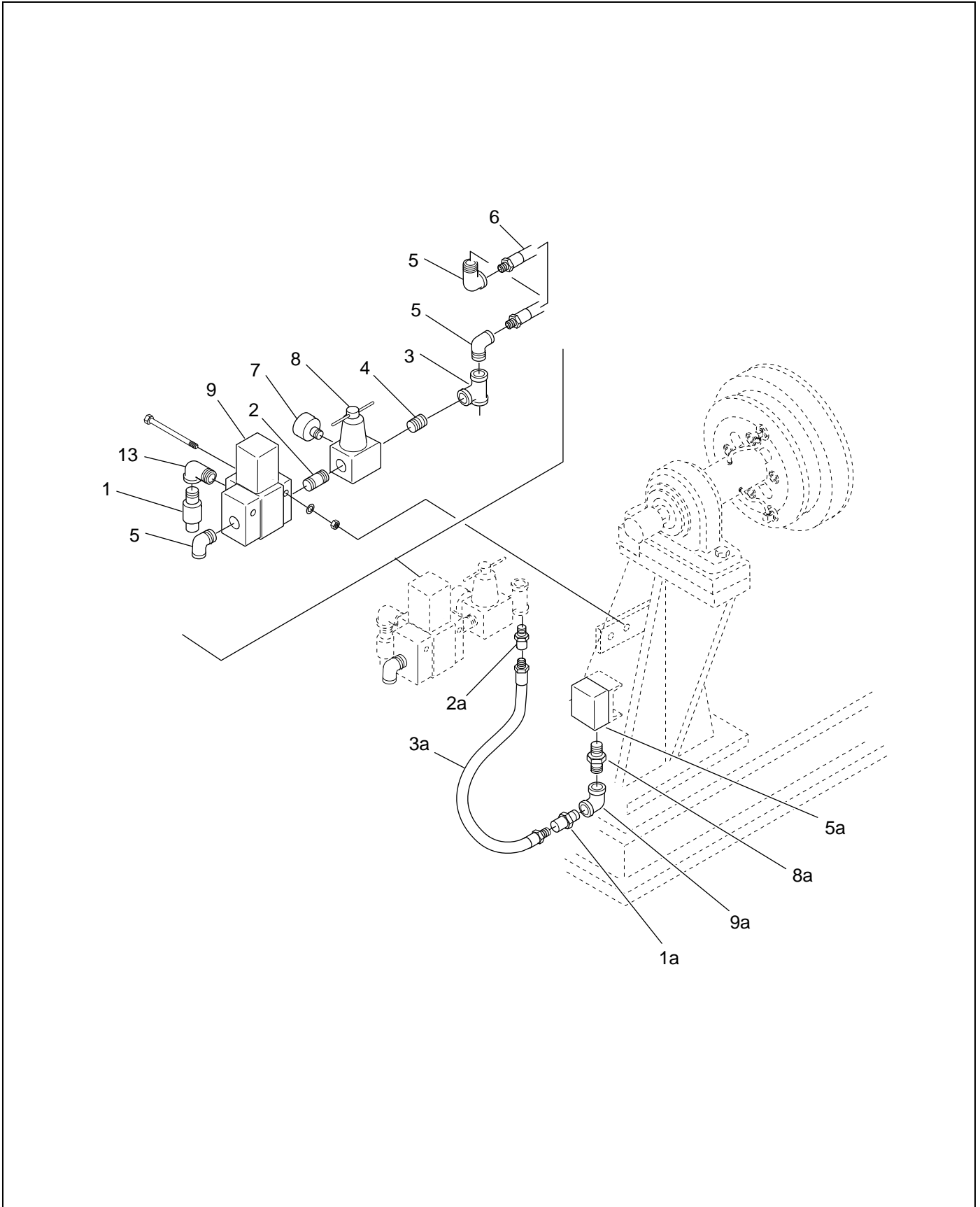


Figure 2.23 Valve Assembly – Solenoid and Pressure Switch – Clutch (#467494, #467495 and #383834)

Table 2.45, Drive Shaft Assembly – Less Clutch (#363501)

Key	Part Number	Description	Quantity	Recom. Spares
3	084106	GREASE FITTING – 0.2500 IN STR	1	
4	070365	END PLATE – DRIVE SHAFT	1	
5	070323	HYATT CAP – DRIVE SHAFT	1	
8	081085	BEARING – ROLLER	1	1
9	220713	BEARING HOUSING – ROLLER (See Table 2.38)	1	
10	070322	HOLDER – DRIVE SHAFT ROLLER BEARING	1	
12	225472	MACHINE BOLT – 1.500 IN – 18.000 IN LG (w/NUT)	2	
13	220700	SPACER	1	
14	069803	PINION – 18 TOOTH	1	
15	269618	KEY – 0.875 IN SQ X 5.500 IN LG	1	
16	461410	OIL RETAINER SUB-ASS'Y – 12.750 IN OD (See Table 2.40)	1	
17	245003	PULLEY – 60 PD – 8 GROOVE	1	
18	256482	KEY – 0.500 IN X 1.500 IN X 8.500 IN	1	
19	338329	KEY – 0.875 IN SQ X 9.000 IN LG	1	
20	327260	SLEEVE SUB-ASS'Y	1	
21	363502	SHAFT – 3.9375 IN DIA X 45.375 IN LG	1	
22	345639	BLOCK – 0.375 IN SQ MS – 1.000 IN LG	6	
23	106816	BEARING – PILLOW BLOCK – 3.4375 IN BORE	1	
24	356461	PLATE – BEARING SUPPORT	1	
25	106878	SCREW HEX HD CAP – 0.875 IN – 3.250 IN LG	2	
28	271664	SHIM – BEARING HOLDER – 16 GA	1	
29	271665	SHIM – BEARING HOLDER – 10 GA	1	

Table 2.46, S.O.P. Drive Shaft – Allied Parts – Without Clutch (#646182) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
	363501	DRIVE SHAFT ASS'Y – 3 .9375 IN DIA – LESS CLUTCH (SEE TABLE 2.45)	1	
	466290	PULLEY GUARD ASS'Y – ENCLOSED – ALL POS (See Table 2.47)	1	

Table 2.47, Pulley Guard Assembly (#466290)

Key	Part Number	Description	Quantity	Recom. Spares
1	466291	PULLEY GUARD SUB-ASS'Y (See Table 2.48)	1	
2	472752	COVER – SUB-ASS'Y (HALF)	2	
5	466294	CLUTCH GUARD SUB-ASS'Y (HALF)	2	
6	358249	SUPPORT	1	
7	322162	ANGLE	1	
10	283525	PLATE	1	

Table 2.48, Pulley Guard Subassembly (#466291)

Key	Part Number	Description	Quantity	Recom. Spares
1a	466297	PULLEY GUARD SUB-ASS'Y – BACK SECT ALL POS	1	
2a	466302	PULLEY GUARD SUB-ASS'Y – CENTER SECT ALL POS	1	
3a	466308	PULLEY GUARD SUB-ASS'Y FRONT SECT ALL POS	1	
4a	265803	ANGLE	4	
5a	265804	BLOCK HOLD DOWN	3	
8a	466315	COVER – MOTOR OPENING – PULLEY GUARD	1	
12a	332167	CROSS BRACE SUB-ASS'Y HOLD DOWN – PULLEY GUARD	1	
13a	472762	COVER – PARTIAL – MOTOR OPENING – 0.750 IN FLANGE – MOTOR OPENING	1	
14a	466317	COVER – PARTIAL – MOTOR OPENING – 1.500 IN FLANGE – PULLEY GUARD	1	
18a	467501	FLANGE MOTOR OPENING	1	

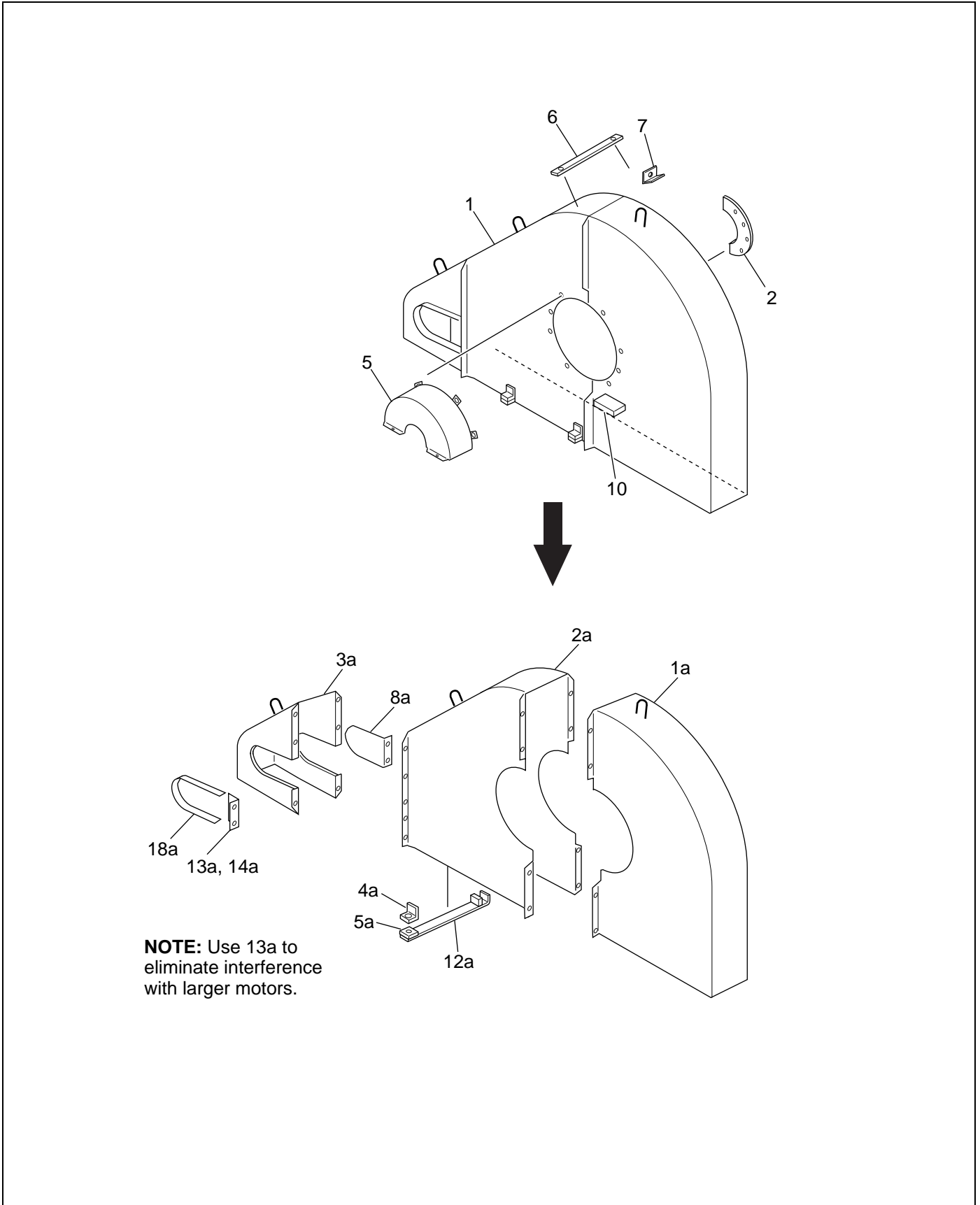


Figure 2.25 Pulley Guard Assembly (#466290 and #466291)

Table 2.49, S.O.P. – Proximity Sensors – Blade Shaft (#463579) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
1	463574	ACTUATOR – SUB-ASS'Y	2	
2	052458	SHIM – .0598 IN TK X 1.500 IN SQ	2	
3	463555	SHIM – .0299 IN TK X 1.500 IN SQ	8	
4	466320	GUARD – PROX SENSORS	1	
8	458036	SUPPORT – PROX SENSOR – BLADE SHAFT	2	
9	113969	SENSOR – PROX – 30.00 MM, UNSHIELDED	2	2

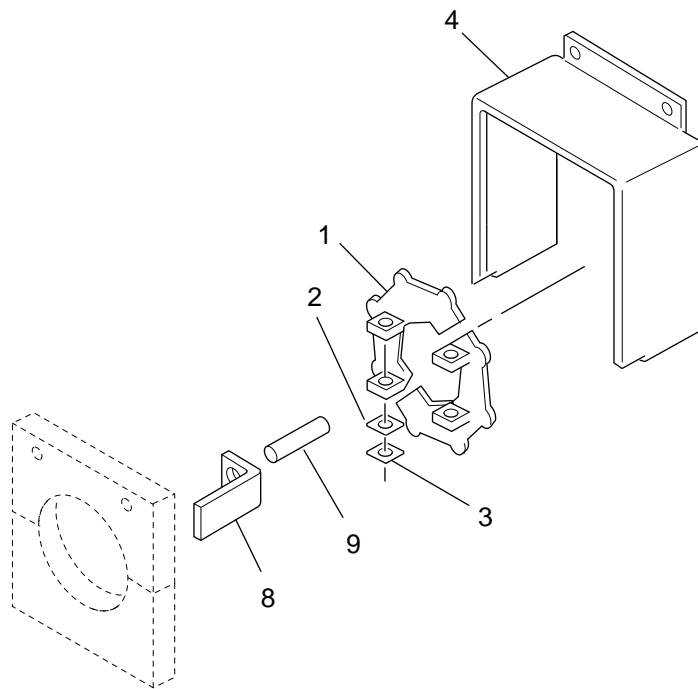


Figure 2.26 S.O.P. Proximity Sensors – Blade Shaft (#463579)

Table 2.50, S.O.P. – Reinforce Front Part of Shell (#305614) – 120 Cubic Foot Mixer

Key	Part Number	Description	Quantity	Recom. Spares
1	302221	BAR – 0.750 IN X 3.000 IN X 83.875 IN	1	
2	329765	RIB	3	
3	282962	BAR – 0.750 IN X 2.500 IN X 72.000 IN LG	1	

Table 2.51, Safety Switch – Front Panel (#463570) – OPTION

Key	Part Number	Description	Quantity	Recom. Spares
1a	114621F1002	SAFETY SW – SOLENOID INTERLOCK	1	1
2a	114621F2003	ACTUATOR – SAFETY SW – HINGED 20 DEG	1	1
3a	463571	SUPPORT ANGLE – ACTUATOR – 0.250 IN X 1.250 IN X 2.000 IN	1	
4a	463572	SUPPORT ANGLE – ACTUATOR – 0.750 IN X 4.000 IN X 6.000 IN	1	
5a	463573	ANGLE – 3.000 IN X 4.000 IN X 6.000 IN	1	

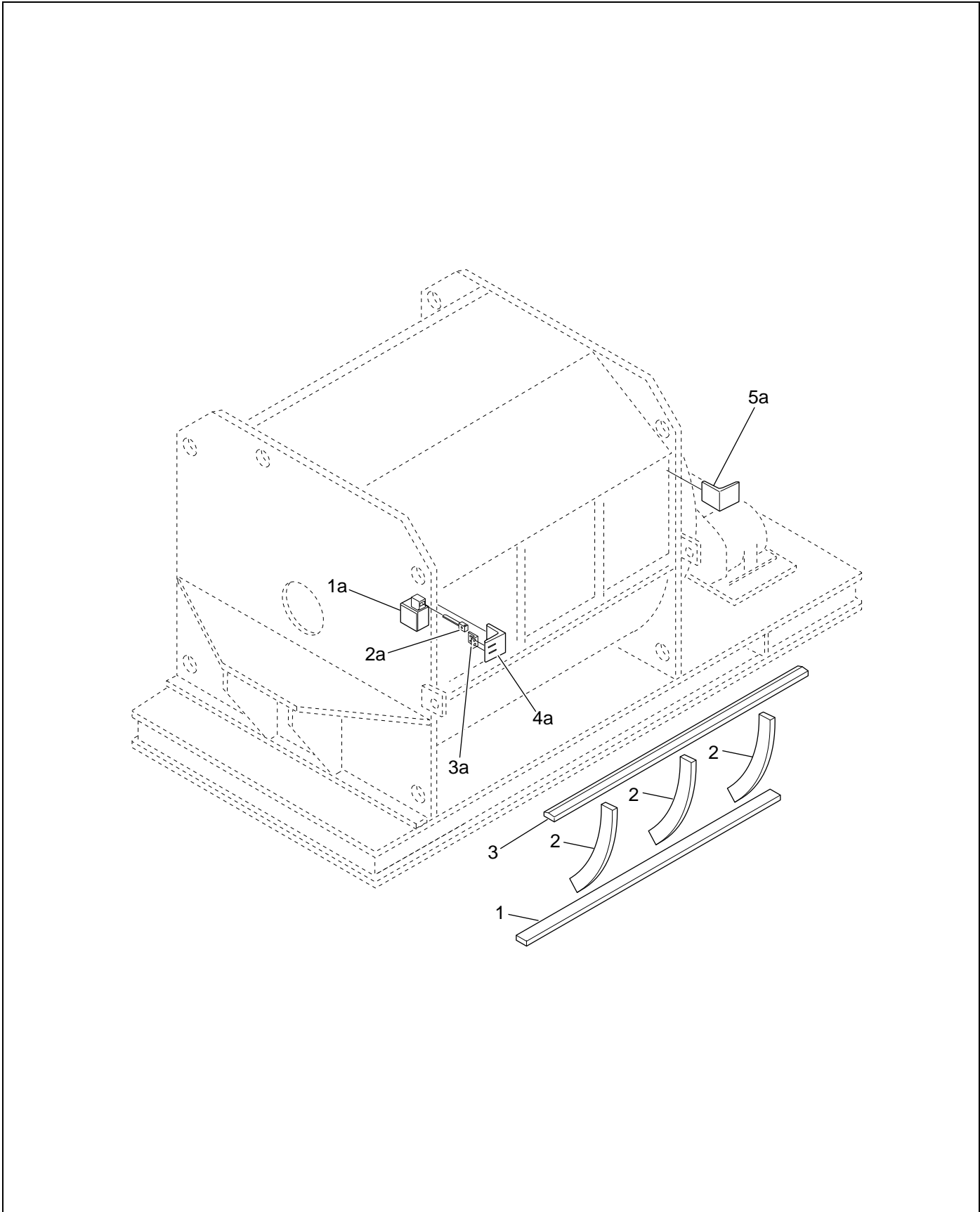


Figure 2.27 S.O.P. – Reinforce Front Part of Shell – Safety Switch – Front Panel (#305614 and #463570)

Table 2.52, Panel Assembly (#472073) – 1 of 2

Key	Part Number	Description	Quantity	Recom. Spares
2	113236F0409	DECAL – DANGER HIGH VOLTAGE	1	
3	113249F0410	DECAL – SAFETY INSTRUCTIONS	1	

Table 2.53, Panel Subassembly (#472071) – 1 of 2

Key	Part Number	Description	Quantity	Recom. Spares
2a		TRANSFORMER		
5a		DISCONNECT		
7a	107621	TIMER – 4 POLE w/ TIME UNIT	1	
9a	113971	SPEED RELAY	2	
18a	113118F0010	CIRCUIT BREAKER 1 AMP	3	
19a	111118F0050	CIRCUIT BREAKER 5 AMP	1	
20a	113115F0001	RELAY IEC 4 NO	1	
21a	113115F0002	RELAY IEC 2 NO/2 NC	5	
30a	114684	TIMER – PNEUMATIC – A.B.	1	
31a	112094	AUXILIARY CONTACT 1 NO – 1 NC	1	

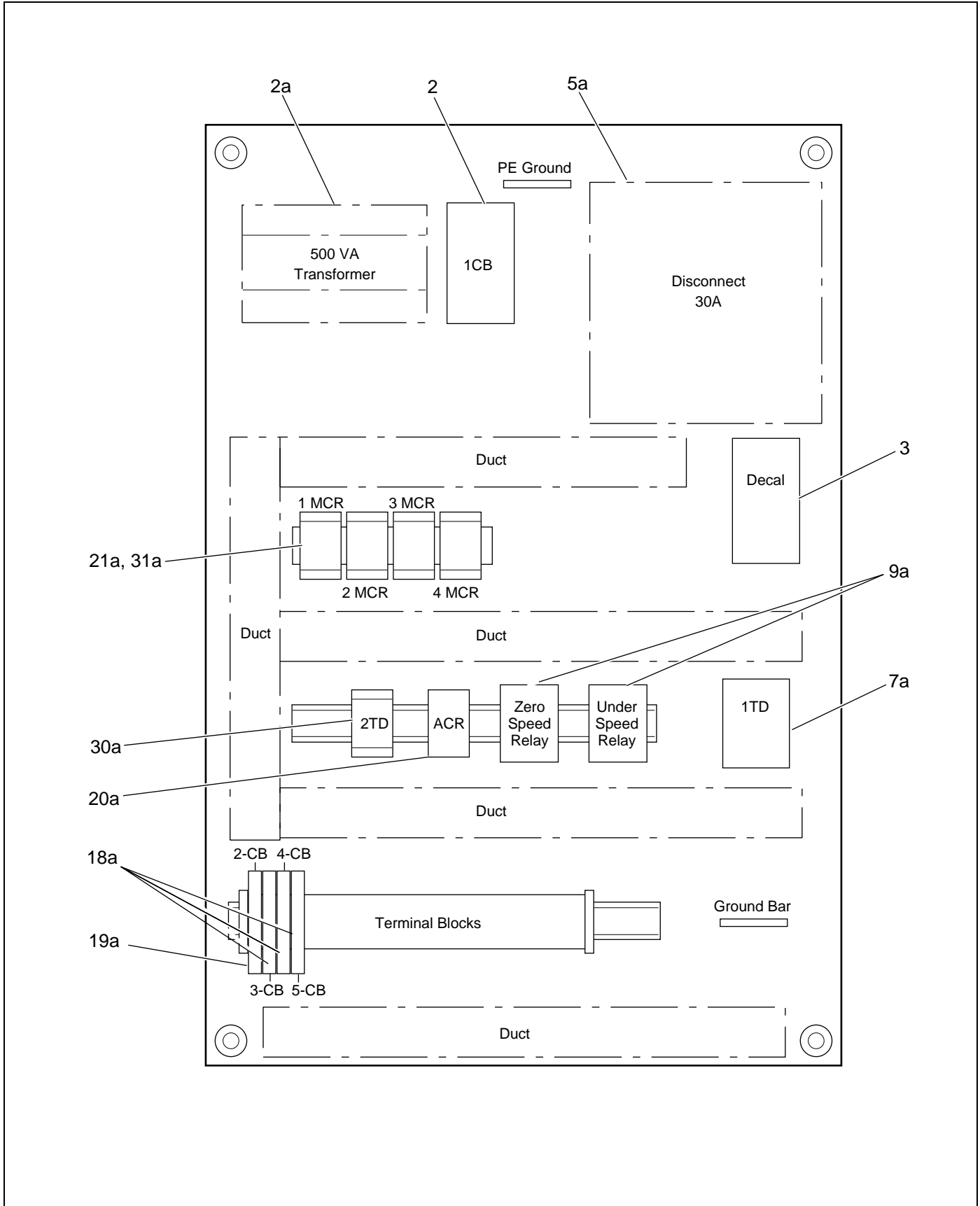


Figure 2.28 Panel – Interior (#472073 and #472071)

Table 2.54, Panel Assembly (#472073) – 2 of 2

Key	Part Number	Description	Quantity	Recom. Spares
4	112880F0314	DECAL – BESSER	1	
5	113236F0204	DECAL – DANGER HIGH VOLTAGE	1	
6	114515F0030	CIRCUIT BREAKER – 3 AMP	1	

Table 2.55, Panel Subassembly (#472071) – 2 of 2

Key	Part Number	Description	Quantity	Recom. Spares
22a	114363	SWITCH ASS'Y – PUSH BUTTON MUSHROOM HD	1	
	114323	CONTACT BLOCK, A.B – 1 N.C. – LATE BREAK	2	
	114377	CAP – MUSHROOM HD – RED – PUSH PULL TYPE	1	
23a	403185	LEGEND PLATE – EMERGENCY STOP	1	
24a	114582	SWITCH ASS'Y – PUSH BUTTON FLUSH HD	1	
25a	402384	LEGEND PLATE – MCR RESET	1	
26a	114487	PILOT LIGHT ASS'Y LED/GRN/120 V	1	
27a	401655	LEGEND PLATE – POWER ON	1	
28a	113721F1002	DISCONNECT HANDLE – AB	1	
29a	113721F2002	DISCONNECT SHAFT – AB	1	

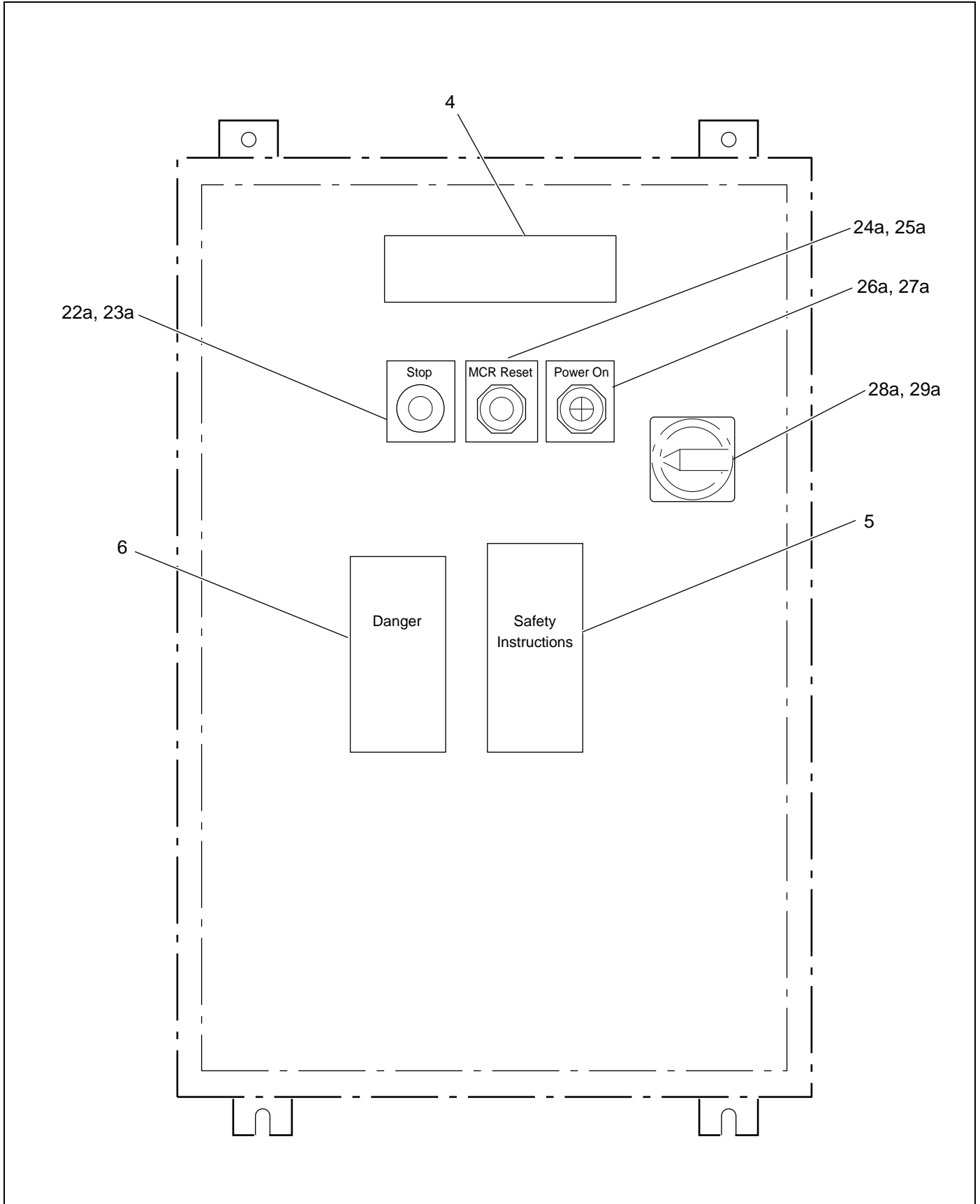


Figure 2.29 Panel – Exterior (#472073 and #472071)

Table 2.56, Control Station for Batch Mixer – Under Speed and Zero Speed Control – Clutch (#471302) – 1 of 2

Key	Part Number	Description	Quantity	Recom. Spares
11	114363	SWITCH ASS'Y – PUSHBUTTON – MUSHROOM HD	1	
12	403185	LEGEND PLATE – EMERGENCY STOP	1	
13	114366	SWITCH ASS'Y – 2 POS SELECTOR	1	
14	403664	LEGEND PLATE – CLUTCH – OFF/ON	1	
15	114450	SWITCH ASS'Y – 3 POS SELECTOR	1	
16	471304	LEGEND PLATE – GATE OPEN/OFF/CLOSE	1	
17	114367	SWITCH ASS'Y – 2 POS SELECTOR MAINTENANCE	1	
18	471303	LEGEND PLATE – MANUAL/BATCHER	1	
19	114487	PILOT LIGHT ASS'Y – w/GREEN LED – 120 V	1	
20	401655	LEGEND PLATE – POWER ON	1	

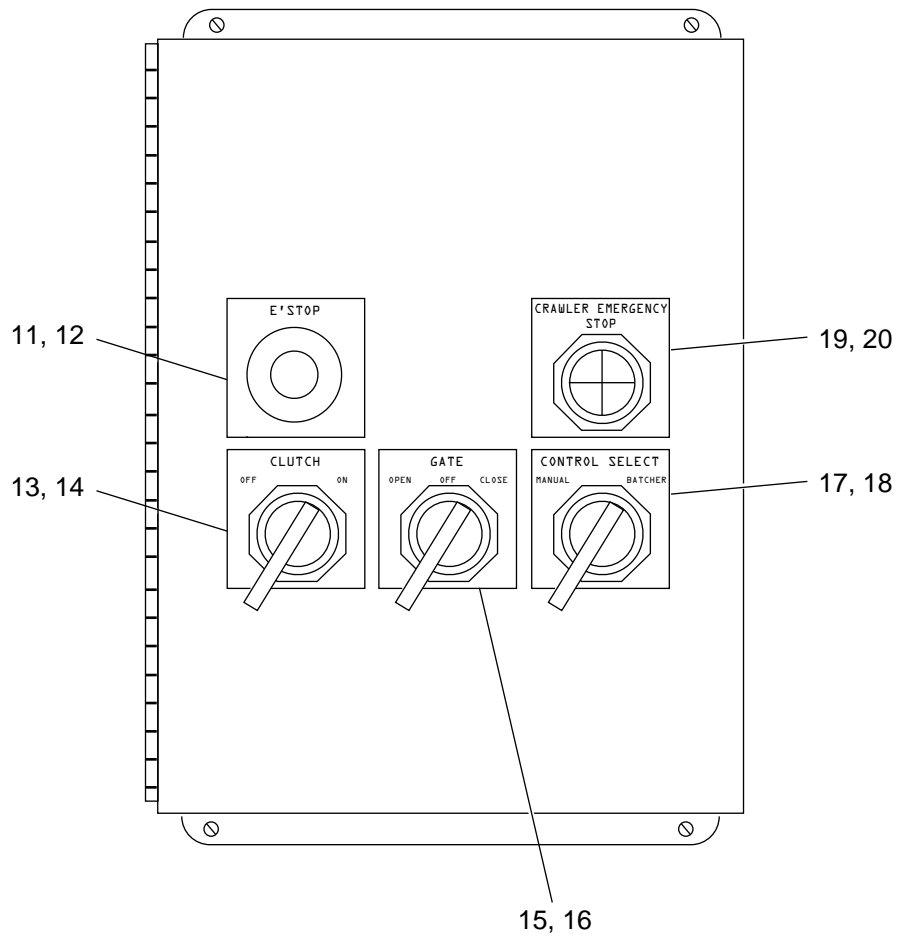


Figure 2.30 Control Station for Batch Mixer (#471302)

Table 2.57, Control Station for Batch Mixer – Under Speed and Zero Speed Control – Clutch (#471302) – 2 of 2

Key	Part Number	Description	Quantity	Recom. Spares
1	106201	ENCLOSURE – HOFFMAN #1210CH	1	
2	105957	PANEL BOARD #A1210CH	1	
3	113121F0005	DIN RAIL – AB	10.500 IN	
5	114555F0001	TERMINAL BLOCK – AB #1492-W10	30	
6	114555F1003	END BARRIER – AB #1492-EB10	1	
7	114555F2001	END CLAMP – AB #1492-EA35	2	
8	114563	MARKING LABEL	60	
9	111314	GROUND BAR	1	

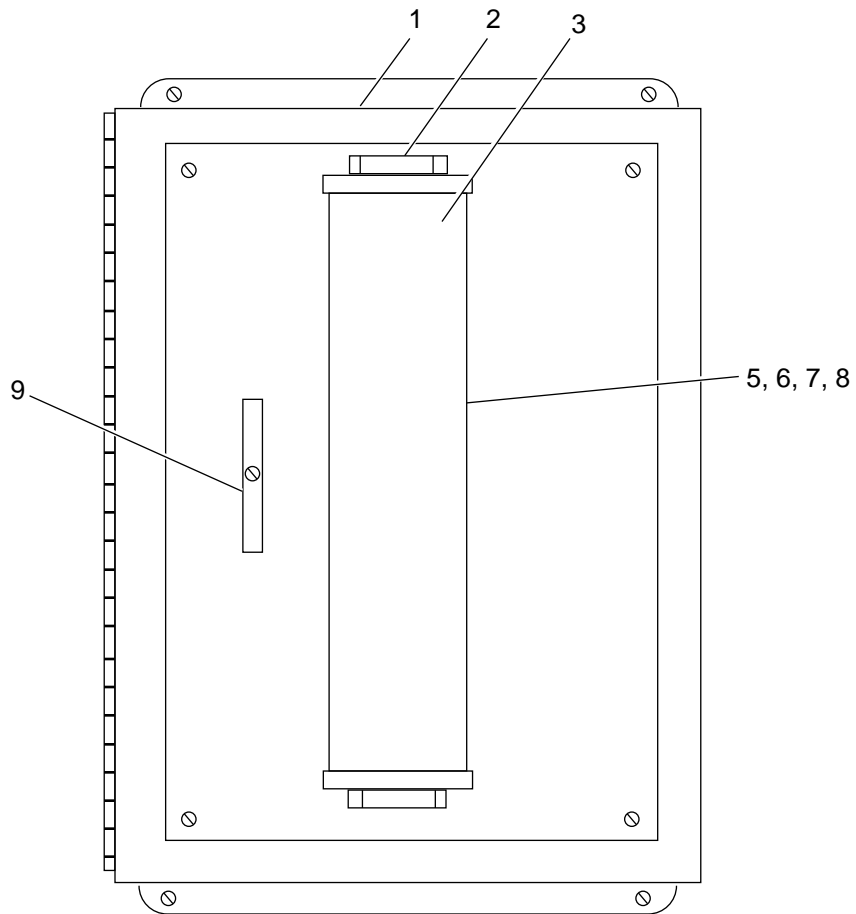


Figure 2.31 Control Station for Batch Mixer (#471302)

Table 2.58, Nameplate Locations (#431251)

Key	Part Number	Description	Quantity	Recom. Spares
1	248619	NAME AND LUBE PLATE	1	
2	112880F0418	NAME, BESSER	1	1
3	113237F0410	DANGER	4	2
4	113236F0204	DANGER, ELECTRICAL	1	1
5	340304	LUBE	1	1
6	313700	LIFT HERE	4	2
7	313761	ARROW	4	2
12	113249F0410	LOCKOUT PROCEDURE, SAFETY	1	1
13	113241F0605	DANGER, CRUSH AND PINCH POINTS	2	1

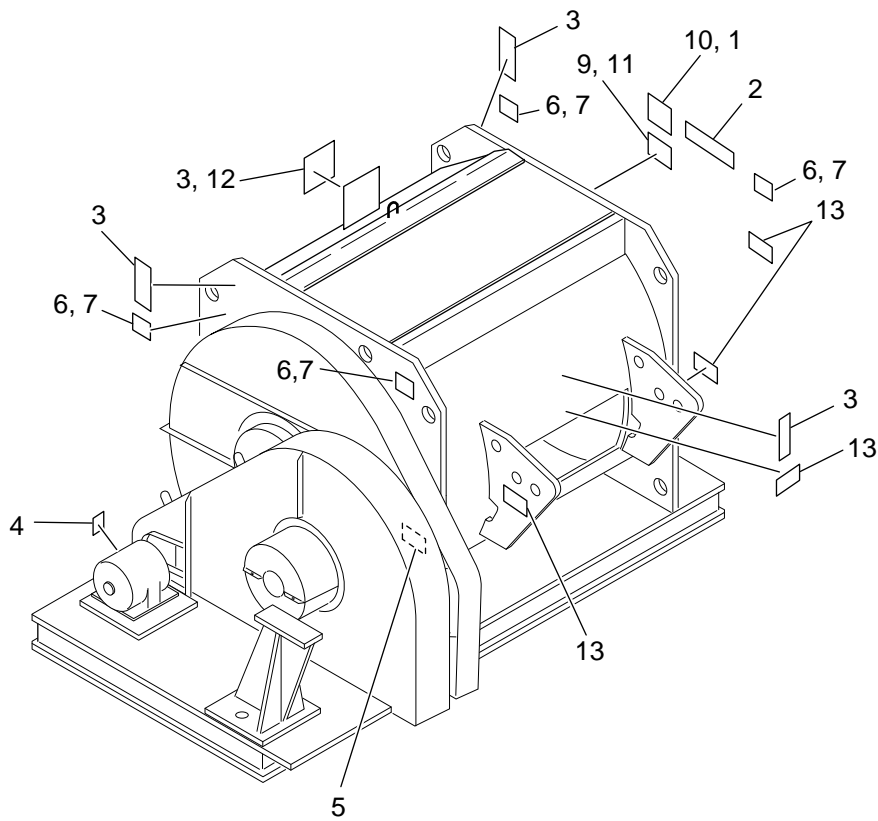


Figure 2.32 Nameplate Locations (#431251)

