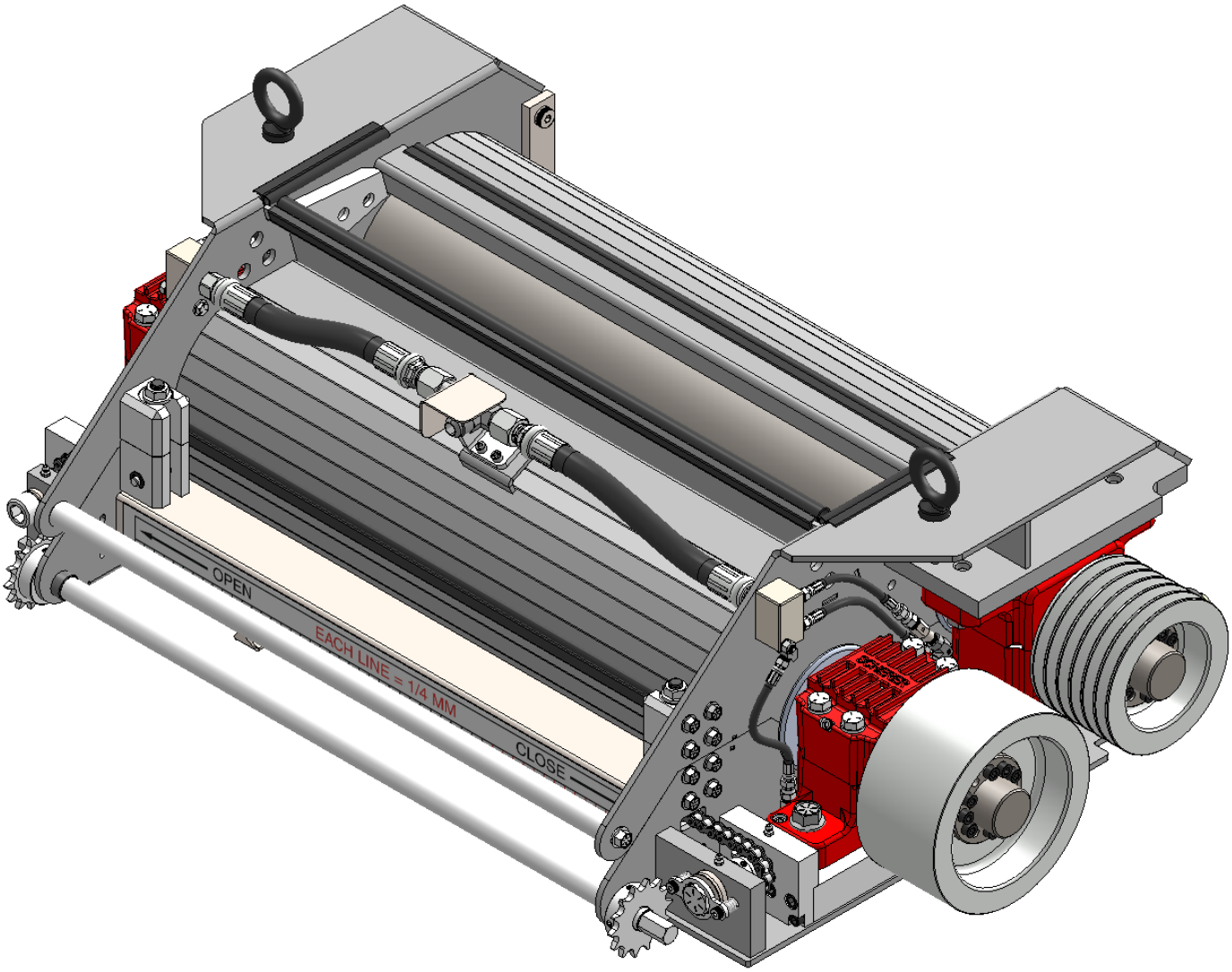
SCHERER H.D. PROCESSOR

U.S. Patent No. 7,681,384

Pictured With Optional Oil Delivery System



Manual Part Number: MANHD2019

REV-A

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SCHERER
H.D. PROCESSOR

U.S. Patent No. 7,681,384

OPERATOR'S
AND PARTS MANUAL

SCHERER DESIGN
ENGINEERING, INC.

1-800-883-9790

FOREIGN PATENTS APPLIED FOR

MANHO2019 (REV-A)

Index

Introduction

We would like to take this opportunity to thank you and welcome you to the fine group of Scherer Processor owners. You have selected one of the many high quality and precision built processors that Scherer Design Engineering has to offer.

This instruction manual contains specific operating, maintenance, and parts information to help you obtain the most satisfactory performance from your processor. This manual describes how to operate, maintain, and repair your processor.

Proper long-term performance of this equipment is possible only with the cooperation and attention of adequately trained operators and well informed maintenance personnel.

The factory carefully assembled and inspected your processor. Before putting the processor into operation, please read the instruction manual carefully and study the correct operating procedures and become familiar with the total operating process and related machinery.

We are always trying to improve our product as much as possible. If you have any suggestions or concerns about how to make this processor better, feel free to give us a call at any time, your feedback is always welcomed.

The Scherer Design Engineering Team

Safety

Warning: Read and understand all of the following safety messages. Be familiar with general operating and maintenance instructions. Be sure to lock out the power supply before performing any maintenance and adjustments. The person performing the maintenance should be the only one with the ignition key for the cutter.

General Safety Practices,

Always observe safe operating practices around machinery. Most accidents are the result of carelessness or negligence. All rotating machinery is potentially dangerous. Guard and operate rotating machinery as required by applicable laws, regulations and good standard safety practices.

Before doing any maintenance on engine driven machinery, turn off ignition. Remember, the person doing the maintenance or adjustment should be the only one with the ignition key.

Use the proper tools for each maintenance task. Keep hoisting equipment in good condition and **DO NOT** stand under objects being hoisted. Keep a clean work area to ensure workers have good footing.

Inlet/Discharge Opening Hazard

The processor has an inlet and discharge opening. Injury will result if persons or objects fall into the inlet or discharge. A serious hazard exists if a person places their arm or any object into the inlet or discharge area of the processor. **DO NOT** remove protective guards.

Belt Drive Hazard

Be sure that the belt guards are in place before ever operating the processor.

Rotating Rolls Hazard

The rotating rolls are a severe hazard. The rolls turn at high speeds and operate with a grinding action that will pull objects between the rolls. Keep all body parts and all objects out of this area. **DO NOT** insert any part of your body or any tool into the roller area.

Eye Protection
Wear approved safety glasses when working around all equipment. Moving machinery can throw objects unexpectedly.

Head Protection
Wear an approved hard hat while installing the processor into and out of the machine. Falling objects or low overhead can cause serious injury.

Hearing Protection
Under normal operating conditions, this machine does not produce hazardous noise. However, the cutter itself is very noisy when operated at full throttle. Wear approved hearing protection as needed when working around equipment.

Installation

There is one thing to check before installing the processor into the cutter. There is a need to determine what belt configuration your processor and cutter is set up for. The processor is set up for a 4-V wide belt if the roll shafts are near flush with the outside of the pulleys. If the processor is set up for the 6-V wide belt, the roll shafts will be near flush with the keyless locking hub in the center of the pulleys. If you determine this ahead of installing the processor in the cutter, this will save you some time working inside of the cutter. All of our processors come with 6-groove wide pulleys. In a 4-groove application, 2 grooves go unused. If you need to move the pulleys inward or outward, please refer to the keyless locking hub torque specifications in the back of this manual. This enables you to switch or move your processor into several different models without having to buy additional parts.

Before lifting the processor into place in the cutter, ensure that the lifting eye-bolts are tightened into the processor and that the latch blocks are snug. Always use the certified lifting chains provided with the processor to lift the processor in and out of the cutter. Never stand under the processor when it is lifted overhead.

You can install the processor from the side or from the top. For ease of installation, remove the cross bar support that is bolted to the floor and to the discharge chute. Place processor in the cutter. If you have removed the cross bar support, please install it back into place at this time.

Slide the processor in the operating position, using the same clamping system that is in place for the original processor. Ensure the latch blocks on the processor are tight.

With the processor ahead and secured into the operating position, you now need to check proper pulley alignment. Do this by laying a straight edge along the main drive pulley and along the processor pulleys. If any adjustment needs to be done, please refer to keyless locking hub torque specifications in the back of this manual.

The roll gap was set at 4mm (.157) when the processor left the factory. Unless the gap has been changed, the roll adjustment should not have to be changed until some product has been run through it.

Install the provided chute door and the Lincoln Autolube, if equipped. Connect wiring harness using the included instructions. Finally, connect the Autolube to the processor, ensuring that the coupler is tight.

If equipped with the optional LubriMist system, refer to page 31 and 32 of this manual for installation instructions.

Roll Gap Adjustment

Once the processor is installed in the cutter and some product has been run through it, you may need to adjust the roll gap. To do this, you will need a 1 1/8" or 30mm socket and ratchet or breaker bar. With the socket over the roll gap adjustment bolt, push in on the adjustment bolt lock and rotate the bolt clockwise to open the gap, and counter-clockwise to close the gap. You will not be able to adjust the rolls closer than .25mm (.010) because of the factory setting of the roll stops (prevents the rolls from hitting). **The processor is not intended to be run with the slide blocks against the roll stops.** When adjusting, watch pointer move across scale, each mark equals .25mm. When the adjustment is complete, make sure that the adjustment bolt lock is back in place, being pushed outward by the springs. After you have a number of hours on your processor you may need to adjust your rolls together to compensate for wear. After a number of adjustments, and the pointer (Page 10, #53) moves onto or near the red marks on scale, the adjustment bolts may become free from tension. If you still need to close your roll gap further you may have to clean behind the bearing slide plates (Page 10, #7) and adjust factory stops (Page 10, #5) back to allow for more movement.

Drive Pulley Location

To switch your drive system to a 6-belt system from a 4-belt system or vise versa, use the following procedure. With the processor in the closed position, run a straight edge along the outside face of the grooved pulley, angled to the bottom of the processor, to the right side guide bolt on bottom flange of the processor (For a picture, see Page 9. Bolt nut is just outside of spring on right hand side and is #6 on Page 10). Measure from the straight edge to outside of the allen head cap screw, on the underside of the processor. For a 6-belt system, the measurement should be 7 5/8". For a 4-belt system, the measurement should be 6 3/8". Follow the *B-Loc*™ instructions for hub removal and torque specifications.

Oil Lubrication

The Scherer H.D. Processor comes standard with oil-lubricated bearings.

Bearing lubrication is achieved with the Lincoln® automated Quicklub oil lubrication system. This system ties into the 12V system on the harvester and is completely automatic, with oil added by the operator as needed (about 1 qt. every 65 hours of run time). A manual pump can also be used, which requires just 10 pumps of oil, 3 times per day.

If equipped with the optional LubriMist system, remove plug from the front of LubriMist reservoir and fill with oil, being careful not to overfill. Overfilling will restrict the mist head and the system will not work properly. Start forage harvester engine to allow system to charge and ensure that the regulator is set to 35 psi. An oil fog or mist will appear from bearing housings and slides if the system is working properly.

We recommend using Chevron ISO 32 100% synthetic oil. This is called turbine oil by some manufacturers. It is available from Scherer Design Engineering in 1 gallon and 5 gallon quantities.

In very wet corn conditions we recommend changing the oil in the bearings every 2 weeks and at the end of the season if the rolls are going to be reused during the next season. To change the oil, remove the most convenient plug and drain. Refill with 3 oz. of oil and reconnect bearings to the appropriate lubrication system (Manual pump, Lincoln® Quicklub, or LubriMist).

Also, there are two grease zerks on each Roll Gap Adjustment Bolt (Page 10, #21 and #68). These zerks (4 total) should be cleaned and given one to two shots of grease per week.

LIMITED WARRANTY FOR SCHERER H.D. KERNEL PROCESSOR

IT IS EXPRESSLY AGREED THAT THE FOLLOWING WARRANTY IS GIVEN BY SCHERER DESIGN ENGINEERING, INC. IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, **INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE**, AND OF ANY OTHER OBLIGATION OR LIABILITY ON OUR PART OF ANY KIND OR NATURE WHATSOEVER.

No representative of ours has any authority to waive, alter, vary or add to the terms hereof without prior approval in writing, to our customer, signed by an officer of our company. It is expressly agreed that the entire warranty given to the customer is embodied in this writing; that this writing constitutes the final expression of the parties' agreement with respect to warranties; and that it is a complete and exclusive statement of the terms of the warranty.

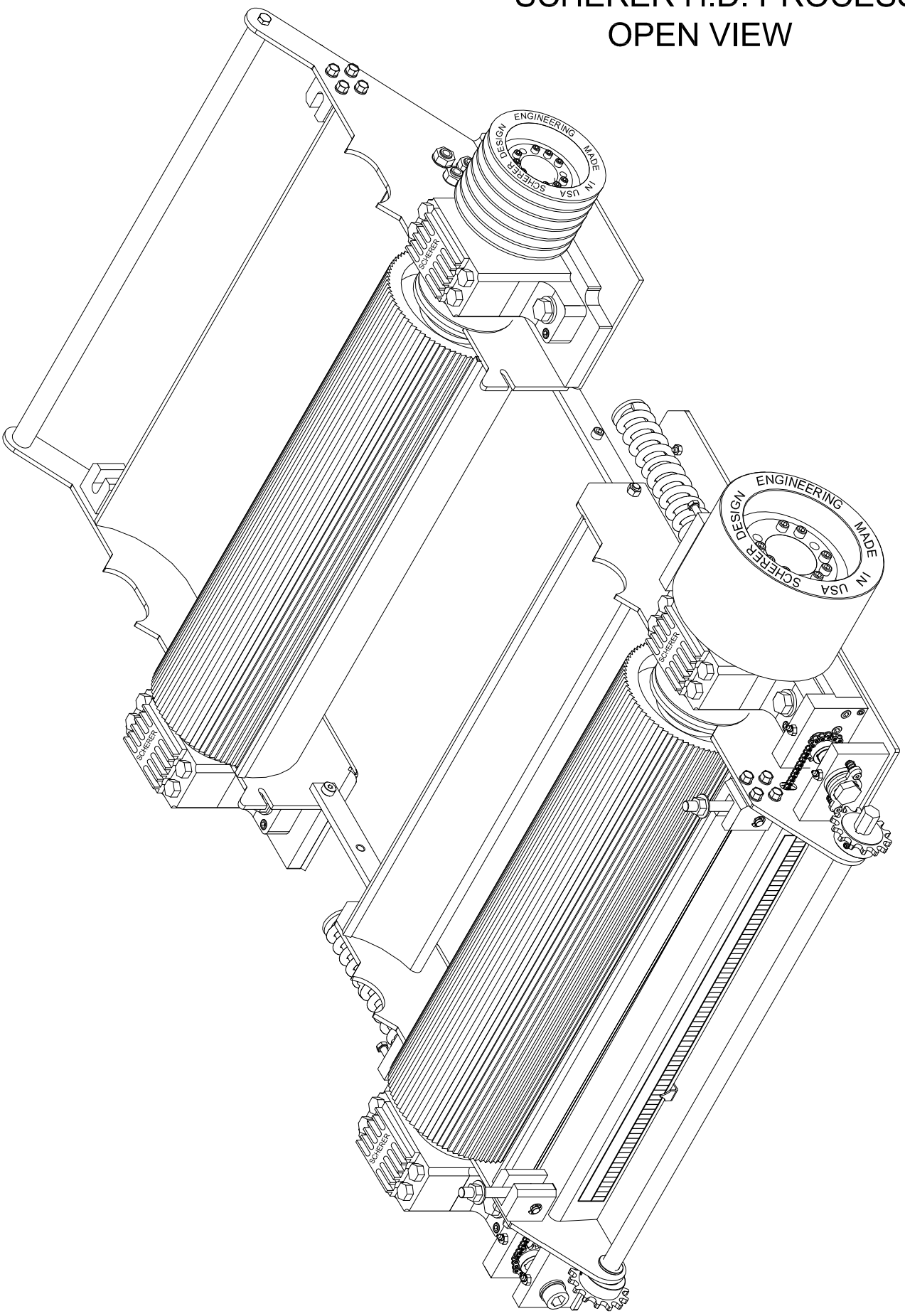
We warrant to our customers that all products manufactured by us will be free from any manufacturing defects at the time of shipment to our customer for a period of one (1) year from the date of shipment. All warranty claims must be submitted to us within ten days of discovery of defects within the warranty period, or shall be deemed waived. As to our products that are proven to have been defective at the time of shipment, and that were not damaged in shipment, the sole and exclusive remedy shall be repair or replacement of the defective parts or repayment of the proportionate purchase price for such products or parts, at our option. Replacement parts shall be shipped free of charge f.o.b. from our factory. This constitutes a full and complete statement of the warranty provided and the product is otherwise deemed to have been accepted AS IS and with all faults.

This warranty shall not apply to any product which has been subject to operator misuse; misapplication, neglect (including but not limited to improper maintenance and storage); accident; improper installation, modification (including but not limited to use of unauthorized parts or attachments), adjustment, repair or lubrication. Misuse also includes, without implied limitation, deterioration in the product or part caused by chemical action, wear caused by the presence of abrasive materials, improper lubrication, and failure to clean the processor area daily and to follow the lubrication instructions which are provided. Identifiable items manufactured by others but installed in or affixed to our product are not warranted by us but, bear only those warranties, express or implied, given by the manufacturer of that item, if any.

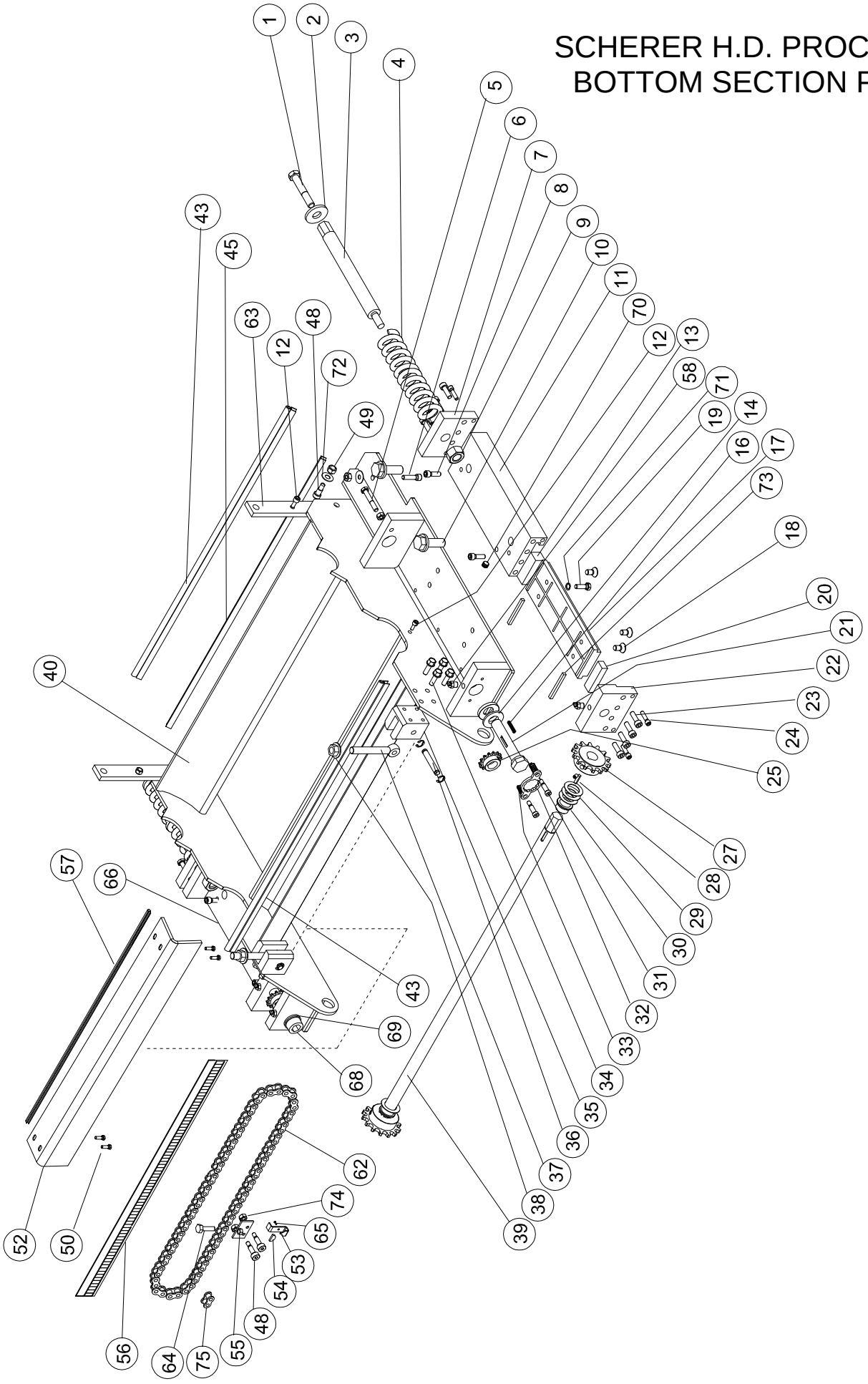
Responsibility for proper use, installation, and application of the Scherer H.D. Kernel Processor rests solely with customer and it is expressly agreed between the parties that our liability for any damages arising out of or related to this transaction, or the use of our product, whether in contract, tort, or based upon any state or federal claim whatsoever, is exclusively limited to the repair or replacement of the product, or the parts thereof by us, or to a refund of the proportionate purchase price. We will not be liable for any other injury, loss, damage or expense, whether direct or consequential, including but not limited to loss of use, income, profit, production, or increased costs of operation, or spoilage of or damage to material, arising in connection with the sale, installation, use of, inability to use, or the replacement of, or late delivery of, our product.

It is also expressly agreed that any cause of action for breach of any warranty must be brought within one year from the date of the breach. Nothing contained herein shall be deemed to abrogate any legal rights or defenses the Producer may have relative to this product.

SCHERER H.D. PROCESSOR
OPEN VIEW



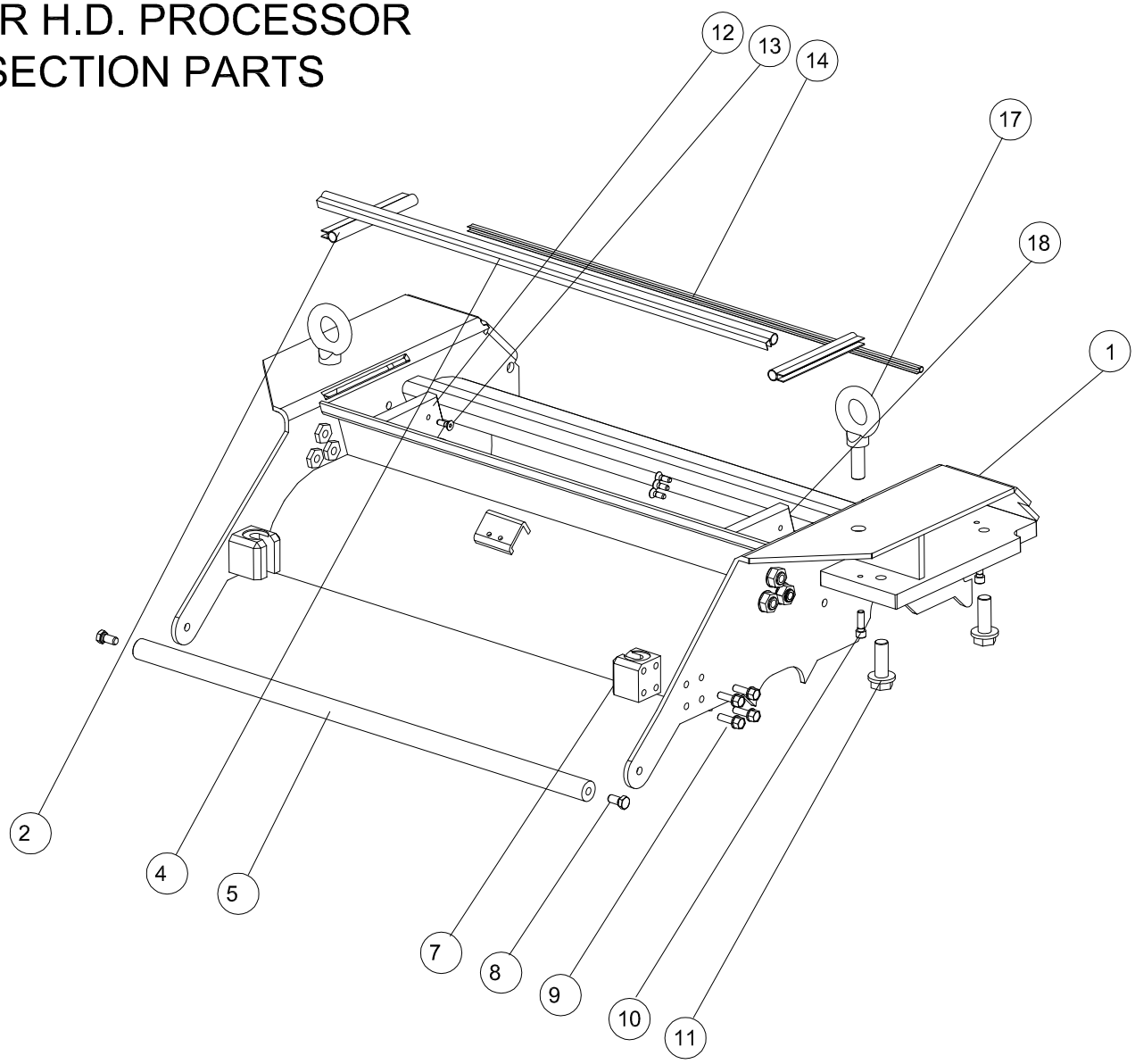
SCHERER H.D. PROCESSOR
BOTTOM SECTION PARTS



SCHERER H.D. PROCESSOR BOTTOM SECTION PARTS LIST

PRINT #	PART #	QTY. REQUIRED (PER PROCESSOR)	DESCRIPTION
1	B1001	2	SPRING BOLT
2	B1002	2	SPRING BOLT WASHER
3	B1003	2	SPRING ROD
4	B1004	2	SPRING
5	B1005.2	2	H.D. ROLL STOP BOLT AND NUT
6	B1006R	1	PROCESSOR GUIDE BOLT, NUT AND WASHER (RIGHT SIDE)
	B1006L	1	PROCESSOR GUIDE BOLT, NUT AND WASHER (LEFT SIDE)
7	B1007	2	OUTER SLIDE FRONT CAP PLATE
8	TB1008	8	.312 X 1 BEARING HOUSING BOLT
9	B1009	2	SPRING ROD LOCK NUT
10	TB1010	8	.625 X 1.75 BEARING HOUSING BOLT
11	B1011R	1	OUTER SLIDE BEARING PLATE (RIGHT SIDE)
	B1075R	1	COMPLETE RIGHT SLIDE PLATE ASSEMBLY
12	TB1012	6	5/16 X 3/8" SS SHCS
13	B1013	2	WIDE HIGH DENSITY FOAM SEALS
14	B1014	1	RIGHT SIDE SPHERICAL WASHER
16	B1016	4	ADJUSTMENT BOLT KEY & POSITION ROD KEY
17	B1017	2	INNER PLATE BEARING SLIDE
18	B1018	6	INNER PLATE BEARING SLIDE BOLTS(FLAT HEAD)
19	B1019	2	INNER PLATE BEARING SLIDE BOLTS
20	B1066	2	NARROW HIGH DENSITY FOAM SEAL
21	B1021	1	HEX-HEAD ADJUSTMENT BOLT (RIGHT SIDE)
22	B1022	2	OUTER SLIDE BACK CAP PLATE
23	B1023	16	.375 X 1.25 OUTER SLIDE CAP BOLTS
24	B1024	8	.312 X 1 OUTER SLIDE CAP BOLTS
25	B1067	2	PLATED SPROCKET
27	B1027	2	POSITION DRIVE SPROCKET
28	B1016	4	ADJUSTMENT BOLT KEY & POSITION ROD KEY
29	B1029	6	SPROCKET ROD WASHERS
30	B1030	2	SPROCKET ROD BUSHING
31	B1031	2	ADJUSTING BOLT LOCK BOLT
32	B1032	1	ADJUSTING BOLT LOCK
33	B1033	2	ADJUSTING BOLT LOCK SPRING
34	TB1034	16	LATCH BLOCK BOLTS
35	B1035	2	LOWER LATCH BLOCK
36	B1036	2	LATCH BLOCK PIN WITH CLIPS
37	B1037	2	LATCH BLOCK EYE BOLT
38	B1038	2	LATCH BLOCK EYE BOLT NUT
39	B1039	1	POSITION DRIVE SPROCKET ROD
40	B1040	1	BOTTOM FRAME ASSEMBLY
43	TB1043	3	FRONT AND REAR SHROUD BULB SEAL
45	B1045	1	FRONT EDGE TRIM
48	B1048	6	3/8 X 1/2" SS SHOULDER BOLT
49	B1049	2	3/8" NYLOK NUT
50	B1050	4	1/4 X 1/2" GUARD BOLTS
52	B1052	1	CHAIN GUARD
53	B1053	1	ROLL ADJUSTMENT POINTER
54	B1060	1	CHAIN TENSIONER KEY
55	B1061	1	CHAIN TENSIONER BRACKET
56	B1056	1	ROLL ADJUSTMENT REFERENCE STICKER
57	B1057	1	CHAIN GUARD EDGE TRIM
58	B1058	4	GREASE ZERK
62	B1062	1	STAINLESS STEEL ROLL ADJUSTMENT CHAIN
63	B1063	2	HINGE BAR
64	B1064	1	7/16 X 1 1/4" BOLT
65	B1065	1	1/4 X 3/8" POINTER BOLT
66	B1011L	1	OUTER SLIDE BEARING PLATE (LEFT SIDE)
	B1075L	1	COMPLETE LEFT SLIDE PLATE ASSEMBLY
68	B1068	1	SHCS ADJUSTMENT BOLT (LEFT SIDE)
69	B1069	1	LEFT SIDE SPHERICAL WASHERS
70	G1150	3	SS PLUG
71	B1071	2	3/8" LOCK WASHER
72	B1072	2	5/16" WASHER
73	B1073	4	FIBER BEARING SLIDE SEAL
74	B1074	2	3/8" NUT
75	B1076	1	CHAIN CONNECTOR LINK
*	B1077	2	LATCH BLOCK ASSEMBLY (INCLUDES PART #'S: B1038, B1037, B1036, B1035, T1057)

SCHERER H.D. PROCESSOR
TOP SECTION PARTS



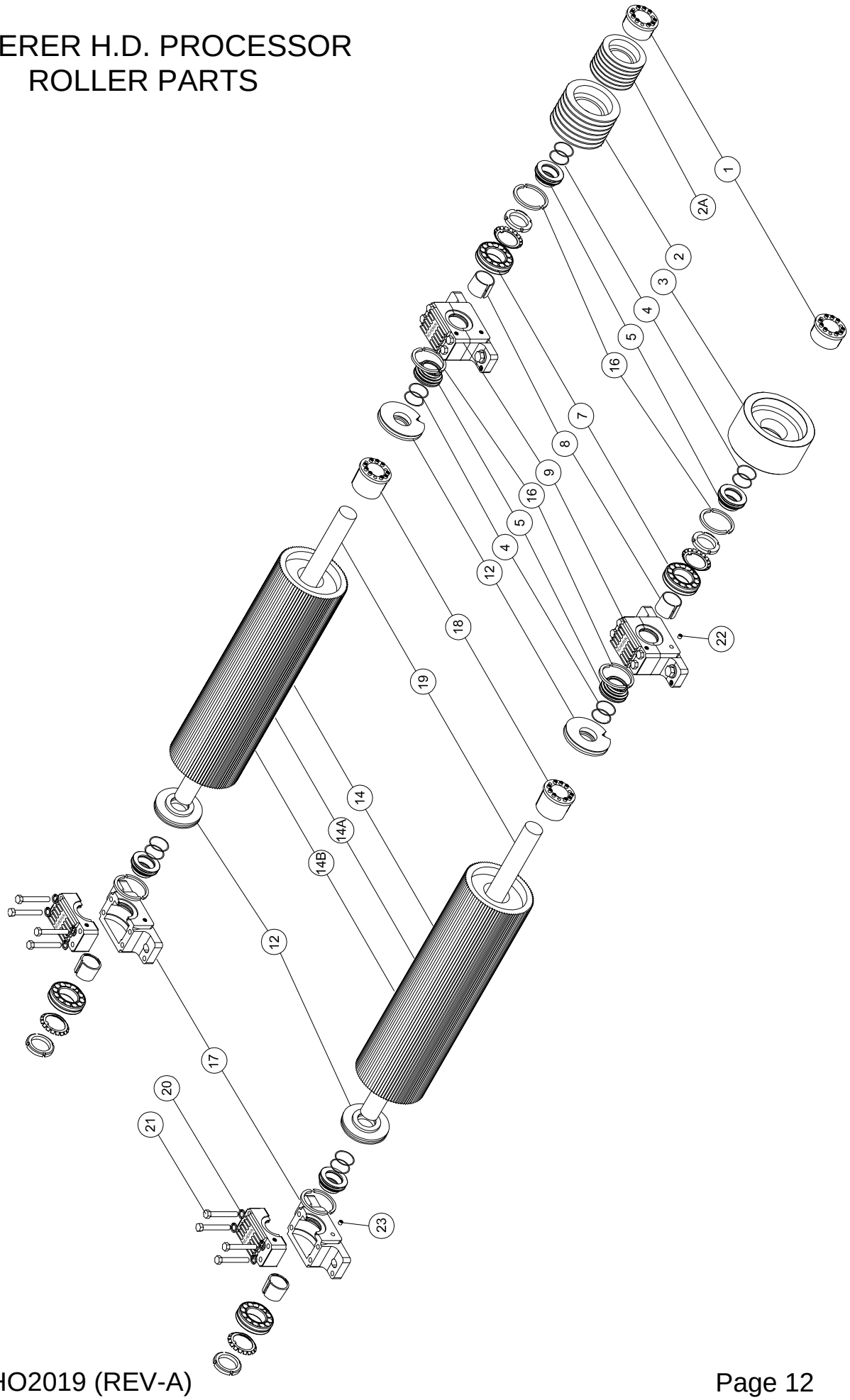
SCHERER H.D. PROCESSOR TOP SECTION PARTS LIST

PRINT #	PART #	QTY. REQUIRED (PER PROCESSOR)	DESCRIPTION
1	T1051	1	TOP FRAME MEMBER
2	T1052	2	.625 SIDE BULB SEAL
4	T1054	1	.625 90° REAR BULB SEAL
5	T1055	1	LIFTING ROD
7	T1057	2	TOP LATCH BLOCK
8	T1058	2	LIFTING ROD BOLT
9	TB1034	16	LATCH BLOCK BOLTS
10	TB1008	8	.312 X 1 BEARING HOUSING BOLTS
11	TB1010	8	.625 X 1.75 BEARING HOUSING BOLTS
12	T1059L	1	LEFT CHEEK PLATE
13	T1060	6	CHEEK PLATE BOLT, WASHER & NUT
14	TB1043	3	FRONT & REAR SHROUD SEAL
17	T1064	2	LIFTING EYE BOLT
18	T1059R	1	RIGHT CHEEK PLATE

COMMON REPLACEMENT PART KITS

T1059RL	1	CHEEK PLATE KIT (INCLUDES: T1059R (1), T1059L (1), T1060 (6))
TB1001	1	SEAL KIT (INCLUDES: TB1043 (3), T1052 (2), T1054 (1), B1045 (1))

SCHERER H.D. PROCESSOR
ROLLER PARTS

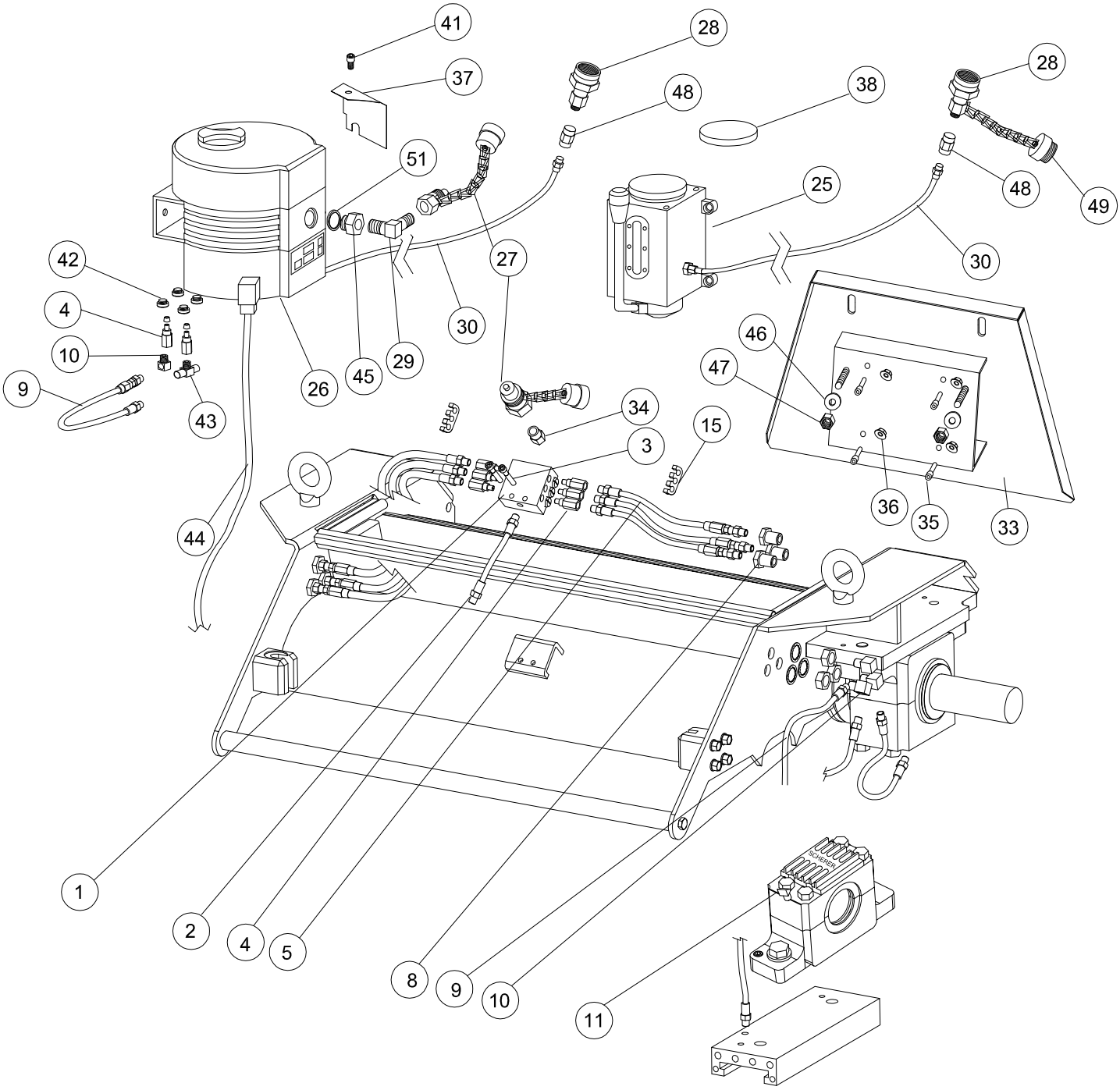


SCHERER H.D. PROCESSOR ROLL PARTS LIST

PRINT #	PART #	QTY. REQUIRED	DESCRIPTION
1	R1201	2	LOCKING HUB WITH BOLTS
2	R1202	1	" V " GROOVE PULLEY(157 MM)
3	R1203	1	SMOOTH PULLEY
4	R1204	12	HOUSING SEAL " O " RINGS
5	R1205	6	HOUSING SEALS
7	R1207	4	ROLLER BEARING INSERT
8	R1208	4	ROLLER BEARING TAPERED ADAPTER
9	R1209	2	SCHERER H.D. BEARING HOUSING (DRIVE-SIDE HOUSING)
12	R1210	4	SPOOL SEAL
14	R1212-85C	2	85 GROOVE CHROME PROCESSOR ROLL WITH SHAFT
16	R1216	12	FIBER OIL SEAL
17	R1217	2	SCHERER H.D. BEARING HOUSING (IDLER-SIDE HOUSING)
18	R1222	4	ROLL TO SHAFT LOCKING HUB
19	R1221	2	SHAFT
20	R1231	16	BEARING HOUSING LOCK WASHER
21	R1230	16	BEARING HOUSING BOLT
22	R1236	8	MAGNETIC DRAIN PLUG
23	R1235	16	DRAIN PLUG
2A	R1220	1	' V " GROOVE PULLEY (140 MM)
14A	R1212-75C	2	75 GROOVE CHROME PROCESSOR ROLL WITH SHAFT
14B	R1212-125C	2	125 GROOVE CHROME PROCESSOR ROLL WITH SHAFT
14C	R1212-85C	2	85 GROOVE CHROME PROCESSOR ROLL WITH SHAFT
14D	R1212-110C	1	110 GROOVE CHROME PROCESSOR ROLL WITH SHAFT
	R1200-75C-NH	2	75 GROOVE COMPLETE CHROME ROLL (NO BEARING HOUSINGS)
	R1200-85C-NH	2	85 GROOVE COMPLETE CHROME ROLL (NO BEARING HOUSINGS)
	R1200-110C-NH	1	110 GROOVE COMPLETE CHROME ROLL (NO BEARING HOUSINGS)
	R1200-125C-NH	2	125 GROOVE COMPLETE CHROME ROLL (NO BEARING HOUSINGS)
	**R1200-75C	2	75 GROOVE CHROME PROCESSOR ROLL W/ BEARING ASSEMBLY
	**R1200-85C	2	85 GROOVE CHROME PROCESSOR ROLL W/ BEARING ASSEMBLY
	**R1200-110C	1	110 GROOVE CHROME PROCESSOR ROLL W/ BEARING ASSEMBLY
	**R1200-125C	2	125 GROOVE CHROME PROCESSOR ROLL W/ BEARING ASSEMBLY

*****- R1200-75C, 85C, 110C & 125C INCLUDE PARTS 4-12 & 16-19 ON PARTS DIAGRAM***

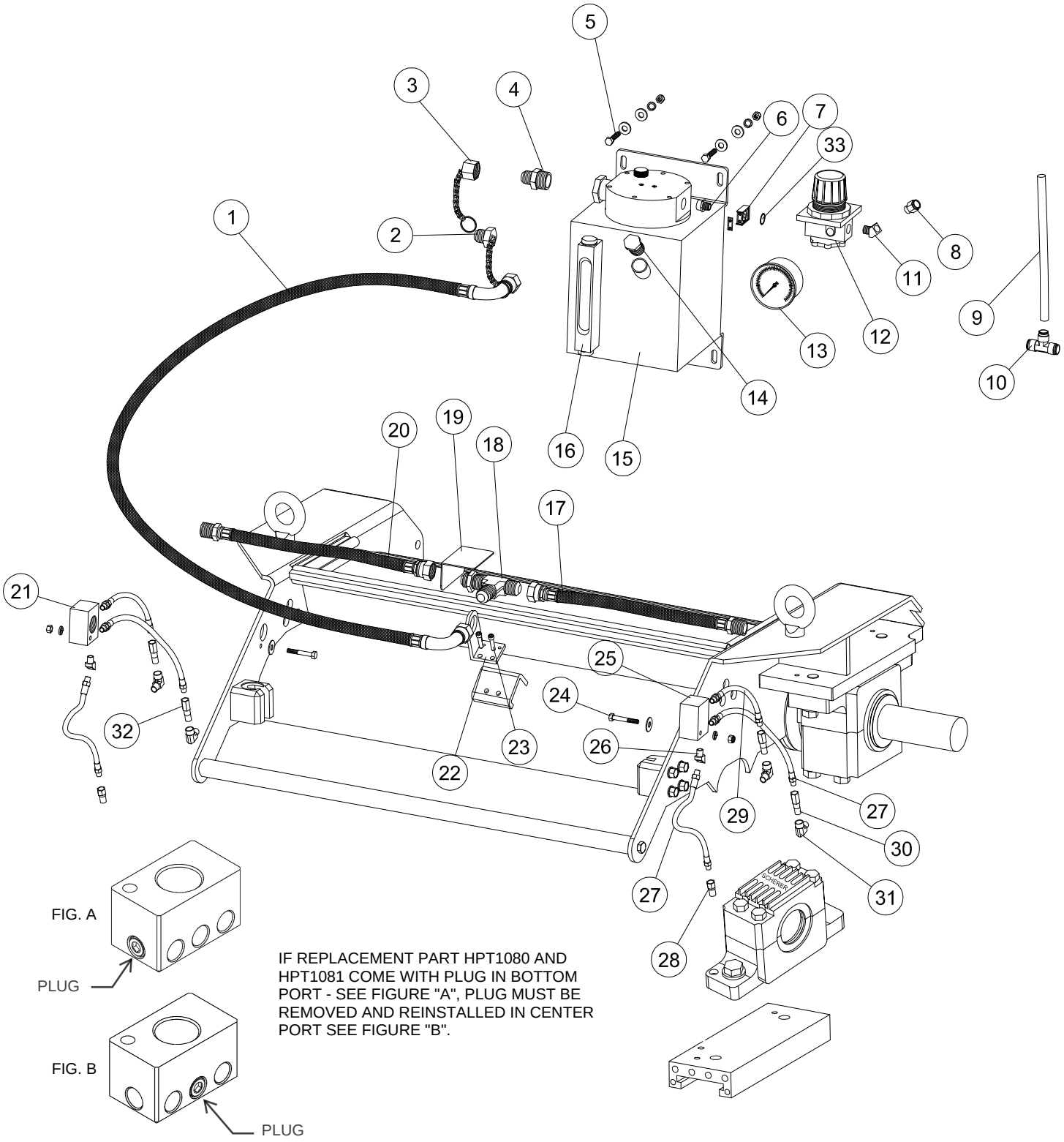
SCHERER H.D. PROCESSOR
LUBRICATION SYSTEM PARTS



SCHERER H.D. PROCESSOR LUBRICATION SYSTEM PARTS LIST

PRINT#	PART#	QTY. REQUIRED	DESCRIPTION
1	G1101	1	LUBRICATION METER BLOCK
2	G1139	1	STRESS RELIEF LUBRICATION LINE
3	G1140	2	LUBRICATION METER BLOCK BOLTS
4	G1104	8	METER BLOCK ADAPTER WITH SLEEVE
5	G1105	6	LONG LUBRICATION LINE (FROM LUBRICATION BLOCK)
8	G1106	6	BULKHEAD FITTING WITH NUT AND WASHER
9	G1107	6	SHORT LUBRICATION LINE (BEARING & SLIDE SUPPLY)
10	G1108	7	90° ELBOW
11	G1109	4	135° ELBOW
15	G1111	2	LUBRICATION LINE CLIP
25	G1125	1	MANUAL OIL PUMP
26	G1126	1	AUTOMATIC OIL LUBRICATION SYSTEM
27	G1127	2	MALE COUPLER WITH CAP
28	G1128	2	FEMALE COUPLER
29	G1129	1	90° MALE FITTING
30	G1130	2	MAIN LUBRICATION LINE
33	G1133	1	LUBRICATION SYSTEM MOUNTING BRACKET
34	G1131	1	1/4" MALE - 1/8" FEMALE REDUCER
35	G1135	4	1/4" X 1" SS SOCKET HEAD CAP SCREW (FOR MANUAL OILER)
36	G1136	4	1/4" SERRATED FLANGE NUT (FOR MANUAL OILER)
37	G1137	1	PROXIMITY SWITCH GUARD
38	G1125A	1	MANUAL OIL PUMP CAP
41	G1141	1	1/4" X 3/8" SS SHCS
42	G1142	4	LUBRICATION METER BLOCK PLUG
43	G1143	1	"T" FITTING
44	G1144	1	WIRE HARNESS
45	G1145	1	BRASS INLET ADAPTER
46	G1146	2	5/16" WASHER (FOR AUTOMATIC OILER)
47	G1147	2	5/16" NUT (FOR AUTOMATIC OILER)
48	G1148	2	1/4" FEMALE - 1/8" FEMALE REDUCER
49	G1149	1	FEMALE COUPLER PLUG
51	G1151	1	O-RING

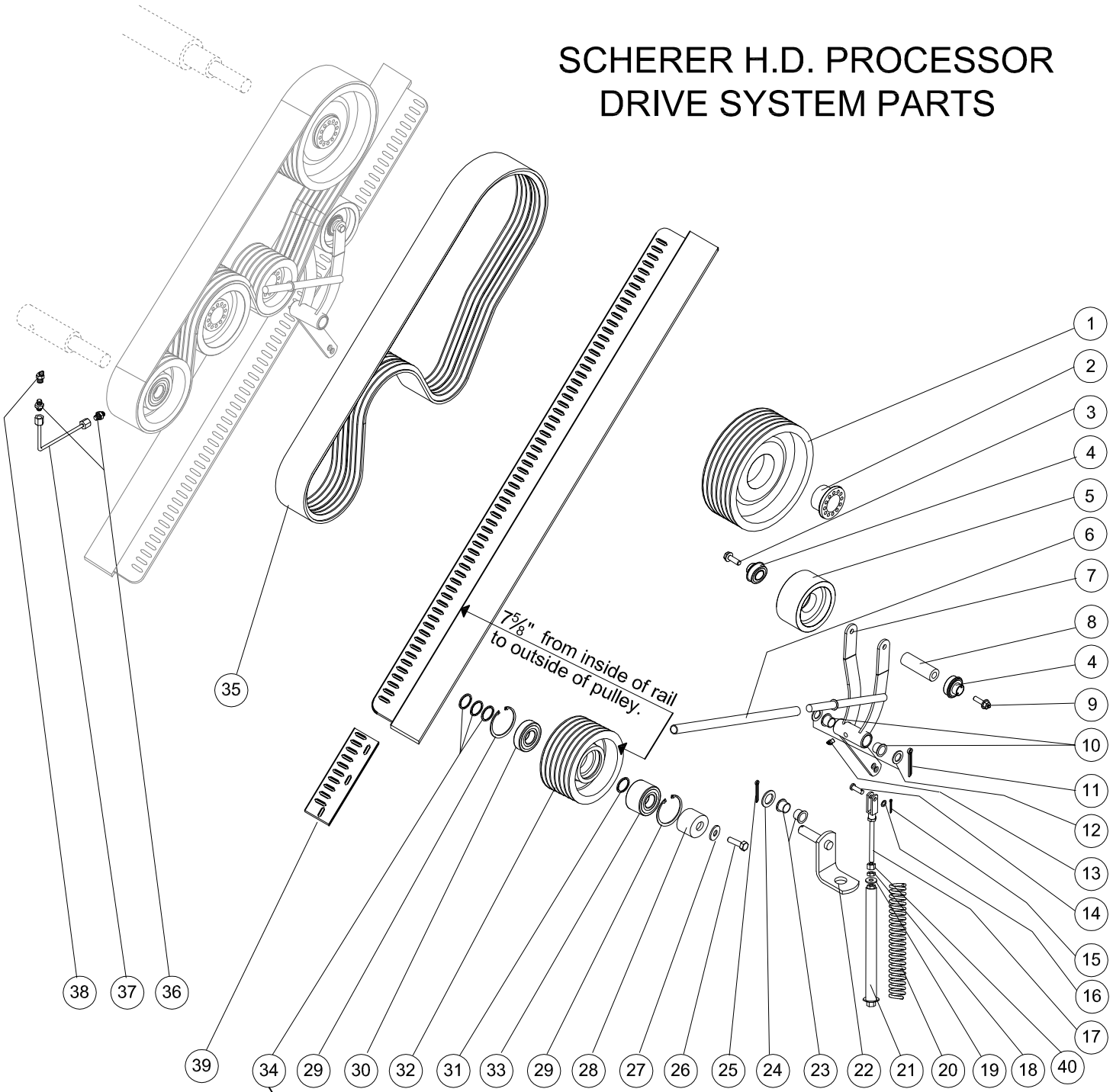
SCHERER H.D. PROCESSOR
LUBRICATION SYSTEM PARTS (OPTIONAL)



SCHERER H.D. PROCESSOR OIL-MISTING SYSTEM PARTS LIST

PRINT#	PART#	QTY. REQUIRED	DESCRIPTION
1	HPG1122	1	Main Oil Mist Hose
2	OM-1005	1	Flared Plug
3	OM-1006	1	Flared Cap
4	OM-1008	1	Reducing Bushing
5	HPT1092	1	Oil Mister Mounting Hardware
6	OM-1022	1	1/2 to 3/8" Reducing Fitting
7	OM-1020	1	Regulator Attachment
8	OM-1025	1	12mm Push-Loc x 3/8" male
9	OM-1014	1	Air Supply Line
10	HPD1349	1	12mm Push-Loc Tee
11	OM-1024	1	45° Fitting
12	OM-1023	1	Air Regulator
13	OM-1015	1	Regulator Gauge
14	OM-1016	1	Oil Fill Plug
15	OM-1000	1	Oil Mist Generator
16	OM-1012	1	Sight Glass
17	HPG1120	1	Right Oil Mist Hose
18	HPT1082	1	Bulkhead Tee
19	HPT1087	1	Stainless Bulkhead Guard
20	HPG1121	1	Left Oil Mist Hose
21	HPT1080	1	Left Oil Mist Manifold
22	HPT1090	1	Tee Bulkhead Mounting Bracket
23	HPT1093	2	Tee Bracket Mounting Bolt
24	HPT1091	1	Manifold Mounting Hardware
25	HPT1081	1	Right Oil Mist Manifold
26	G1109	2	135° Elbow
27	G1107	4	9 1/8" Lubrication Line
28	OM-1002	2	Condensing Reclassifier
29	G1152	2	6 7/8" Lubrication Line
30	OM-1001R	2	Right Misting Reclassifier
31	HPT1085	4	1/4" Street Elbow
32	OM-1001L	2	Left Misting Reclassifier
33	OM-1020.1	1	Regulator Attachment O-Ring

SCHERER H.D. PROCESSOR
DRIVE SYSTEM PARTS



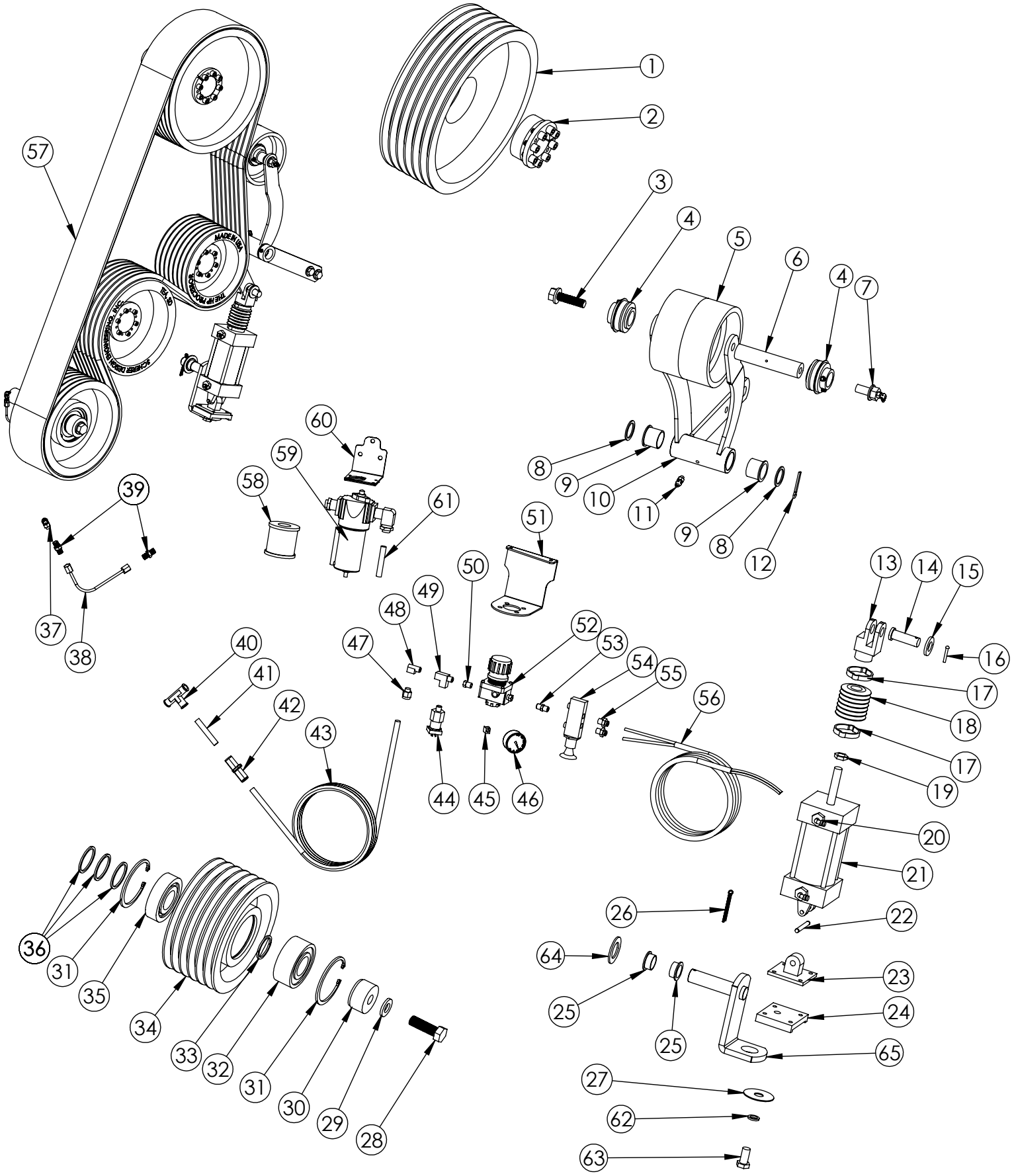
*Use spacer rings as needed.

SCHERER H.D. PROCESSOR DRIVE SYSTEM PARTS LIST

PRINT #		PART #	QTY. REQUIRED	DESCRIPTION
		D1300	1	COMPLETE H.D. DRIVE KIT
1	*	D1301	1	6 GROOVE MAIN DRIVE PULLEY
2	*	D1302	1	45MM LOCKING HUB WITH BOLTS
3		D1303	1	1/2 X 1" BOLT
4		D1304	2	ER16 BEARING
5		D1305	1	TENSIONER PULLEY
6	*	D1306	1	TENSIONER ARM HANDLE
7	*	D1307	1	TENSIONER ARM
8		D1308	1	TENSIONER PULLEY SHAFT
9		D1309	1	1/2 X 1" BOLT WITH GREASE FITTING
10	*	D1310	2	TENSIONER ARM BUSHINGS
11	*	D1311	1	TENSIONER ARM COTTER KEY
12	*	D1312	2	TENSIONER ARM WASHERS
13	*	D1313	1	TENSIONER ARM GREASE ZERK
14		D1314	1	7/16 X 1 1/4" CLEVIS PIN
15	*	D1315	1	CLEVIS PIN COTTER KEY
16	*	D1316	1	CLEVIS PIN WASHER
17	*	D1317	1	TENSIONER ARM CLEVIS WITH BOLT
18		D1318	1	12MM NUT (.230 THICK)
19		D1319	1	12MM WASHER
20	*	D1320	1	TENSIONER ARM SPRING
21	*	D1321	1	TENSIONER ARM SPRING TUBE
22	*	D1322	1	TENSIONER ARM BRACKET
23	*	D1323	2	BRACKET BUSHINGS
24	*	D1324	1	BRACKET SHAFT WASHER
25	*	D1325	1	BRACKET SHAFT COTTER PIN
26	*	D1326	1	16 X 45MM BOLT
27	*	D1327	1	16MM WASHER
28	*	D1328	1	IDLER SHAFT CAP
29	*	D1329	2	IDLER PULLEY SNAP RING
30		D1330	1	6307 SEALED BEARING
31		D1331	1	NOTCHED SPACING WASHER
32	*	D1332	1	SIX GROOVE IDLER PULLEY
33		D1333	1	5307 DOUBLE ROLL SEALED BALL BEARING
34	*	D1334	3	SPACER RINGS
35	*	D1335	1	SIX GROOVE BANDED DRIVE BELT
36	*	D1336	2	GREASE TUBE MALE ADAPTER
37	*	D1337	1	GREASE TUBE
38	*	D1338	1	GREASE FITTING
39		A0007	1	TRACK EXTENSION (OPTIONAL)
40		D1340	1	12MM NUT (.385 THICK)

*** DIMENSIONS ARE THE SAME AS OEM EQUIVALENT PART NUMBER.**

SCHERER H.D. PROCESSOR PNEUMATIC TENSION 6-GROOVE DRIVE SYSTEM PARTS



SCHERER H.D. PROCESSOR PNEUMATIC TENSION 6-GROOVE DRIVE SYSTEM PARTS LIST

	PART #	QTY.	DESCRIPTION
*	D1300A	1	Complete H.D. Pneumatic Tension Drive Kit
*	D1300RA	1	H.D. Pneumatic Tension Retro Kit For Existing Drive
1	D1301	1	Grooved Main Drive Pulley (For 6 Groove Belt)
2	D1302	1	45mm Locking Hub with Bolts
3	D1303	1	1/2 x 1" Bolt
4	D1304	2	ER16 Bearing
5	D1305	1	Tension Pulley (For 6 Groove Belt)
6	D1308	1	Tension Pulley Shaft (For 6 Groove)
7	D1309	1	1/2 x 1" Bolt with Grease Fitting
8	D1312	4	Tension Arm Washers
9	D1310	2	Tension Arm Bushings
10	HD1307	1	Tension Arm
11	D1313	1	Tension Arm Grease Zerk
12	D1311	1	Tension Arm Cotter Key
13	HPD1353	1	Pneumatic Cylinder Fork for 6 Groove
14	HPD1314	1	7/16 x 1 1/4" Clevis Pin
15	D1316	1	Clevis Pin Washer
16	D1315	1	Clevis Pin Cotter Key
17	HPD1399	2	Bellow Clips
18	HPD1396	1	Bellow
19	HPD1391	1	1/2-20 Jam Nut
20	HPD1354	2	3/8" Swive Fitting
21	D1345	1	3" Pneumatic Tension Cylinder
22	HPD1343	1	Pneumatic Cylinder Pin with Snap Rings
23	HPD1344	1	Pneumatic Cylinder Male Clevis
24	HPD1345	1	Adapter Plate
25	D1323	2	Bracket Bushings
26	D1325	1	Bracket Shaft Cotter Pin
27	D1375	1	Fender Washer
28	D1326	1	16 x 45mm Bolt
29	D1327	1	16mm Washer
30	D1328	1	Idler Shaft Cap for 6 Groove
31	D1329	2	Idler Pulley Snap Ring
32	D1333	1	5307 Double Sealed Bearing
33	D1331	1	Notched Spacing Washer for 6 Groove
34	D1332	1	Idler Pulley (For 6 GrooveBelt)
35	D1330	1	6307 Sealed Bearing
36	D1334	3	Hardened Spacer Rings
37	D1338	1	Grease Fitting
38	D1337	1	Grease Tube
39	D1336	2	Grease Tube Male Adapter
40	HPD1349	1	12mm "T" Fitting
41	HPD1361	1	Short 12mm Hose
42	HPD1359	1	12mm Valve Assembly
43	D1348	1	H.D. Long 12mm Air Hose
44	HPD1370	1	Air Pressure Sensor
45	OM1024	1	135 Degree Elbow
46	OM1015	1	Air Pressure Gauge
47	HPD1358	1	1/4" - 12mm Fitting
48	HPD1402	1	90 Degree Fitting
49	HPD1371	1	Air Pressure Sensor Tee
50	OM1021	2	1/2 to 3/8" Reducing Fitting
51	HPD1403	1	Air Regulator Bracket
52	OM1023	1	Air Pressure Regulator
53	HPD1408	1	3/8" Fitting
54	HPD1407	1	Air Valve
55	HPD1406	2	3/8 to 1/4" Push-Loc Fitting
56	D1352	1	H.D. 1/4" Air Hose Assembly
57	D1335	1	H.D. 6 Groove Banded Drive Belt
58	HPD1411.1	1	Replacement Filter
59	HPD1411	1	Air Cleaner Filter Assembly
60	HPD1414	1	Air Filter Bracket
61	HPD1419	1	12mm Air Cleaner Hose
62	HPT1013	1	1/2" Lock Washer
63	D1377	1	1/2"-13 x 1" Bolt
64	D1324	1	Bracket Shaft Washer
65	D1322	1	Tension System Bracket
*	D1350	1	H.D. Air Regulator and Switch Assembly Includes #'s 44,45,46,47,48,49,50,52,53,54,55
*	HPD1394	1	Complete 3" Cyninder Includes #'s 13,17,18,19,20,21,22

Processor Accessory Parts

A0001	H.D. Bearing Installation and Removal Tool
A0002	H.D. Bearing Removal Driver
A0003	Lift Chain
A0006	1 Gal. Chevron Cetus HyperSyn Oil
A0006.5	5 Gal. Chevron Cetus HyperSyn Oil
A0007	H.D. Track Extension
A0008	Laser Temp. Gun
A0010	H.P. Bearing Removal Tool
A0011	Laser Alignment Tool
A0015-1	Scherer Processor Brochure
A0015-2	HDS Owner's Manual
A0015-3	HP Owner's Manual
A0015-4	HPS Owner's Manual
A0015-5	HPM Owner's Manual
A0015-6	HPMS Owner's Manual
A0017	Dealer Pricing SD Card
A0019	Flash Drive
A0021	SKF Bearing Heater

H.D. Pneumatic Drive Kit Install

1. Remove right front tire from the forage harvester.

2. Remove shield from wheel well.

3. Install grease tube (D1337) with the grease tube male adapters (D1336) to the base of the idler shaft on the forage harvester. Then install the grease fitting (D1338). The grease tube will need to be bent and formed by hand in order to fit correctly. Fill the grease tube using a grease gun till the grease comes out of the hole on the shaft.

4. Install main drive idle pulley (D1332). The idle shaft will have to be cleaned and you may need to use emery cloth and a degreaser to ensure a smooth surface for the bearing to slide on. 3 spacers (D1334) are provided to be placed on the shaft prior to installing the idler pulley. The use of these spacers may depend on the alignment of the belt and pulley system. Spacers can be added or taken away as needed.

5. Install idler shaft cap (D1328) with a 16mm washer (D1327) and a 16 x 45mm bolt (D1326) and torque to 80 ft/lbs. After the pulley is installed, give the grease zerk 2 pumps. The idler pulley comes pre-greased from the factory.

6. Install grooved main drive pulley (D1301) with a 45mm locking hub (D1302) on the accelerator shaft of the forage harvester. Again the shaft will need to be cleaned with a degreaser and emery cloth may need to be used to get a clean and smooth surface to ensure a secure lock to the pulley. While installing the main drive pulley, insert the locking hub completely into the center of the main drive pulley making sure that the shoulder of the locking hub is in contact with the center disc of the pulley. Place the main drive pulley onto the accelerator shaft with the locking hub still in place and align the main drive pulley to the lower idler pulley since the idler pulley is fixed. If proper alignment is not obtained, spacers (D1334) will need to be added or taken away to facilitate the proper alignment of the system. It is critical to obtain alignment ±1/16 in. After the pulleys have been properly aligned, the 45mm locking hub (D1302) will need to be tightened. Tighten bolts with the shoulder of the locking hub firmly pressed into the center disc of the pulley. Torque bolts to 35 ft/lbs. Torque bolts in a clockwise rotation and go around the locking hub 3 times to ensure proper torque. Alignment can also be made easier by using a laser alignment tool (A1010) available through our shop.

7. Install the tension arm (D 1307). The shaft may need to be cleaned with a degreaser and you may need to use emery cloth to ensure that the shaft is clean and smooth. The tension arm can be slid on to the shaft and washers (D1312) are provided for alignment as needed.

8. Mount the tension arm bracket (D 1322) in place of the spring tension bracket on the forage harvester. Bushings (D1323), a washer (D1324), and a cotter pin (D1325) are provided if needed.

9. Install the pneumatic tension cylinder (D 1345). The base of the cylinder should be connected to the tension arm bracket (D1322) and the other end should be connected to the tension arm (D 1307). Make sure that the swivel fittings (HPD 1354) are facing the rear of the forage harvester when the pneumatic cylinder is installed. This allows for access to the cylinder and fittings from inside the forage harvester.

10. Set the processor pulleys to align with the drive system. Once the Scherer Processor is in place and properly aligned; the grooved processor pulley (R1202) should be loosened and aligned with the main drive grooved pulley (D1301) and the idler pulley (D1332). This alignment is very critical and should be within ±1/16 in. After the grooved processor pulley (R1202) is in place, the smooth processor pulley (R 1203) can be aligned to the rest of the drive system. The locking hubs on the processor should be tightened the same way as the main drive pulley locking hub making sure that the shoulder of the locking hub is pressed firmly against the center disc of the pulley. Torque the locking hubs to 35 ft/lbs. Torque in a clockwise motion and go around tightening every bolt 3 times. This will ensure all bolts are at the appropriate torque.

H.D. Spring Drive Kit Install

1. Remove right front tire from the forage harvester.

2. Remove shield from wheel well.

3. Install grease tube (D1337) with the grease tube male adapters (D1336) to the base of the idler shaft on the forage harvester. Then install the grease fitting (D1338). The grease tube will need to be bent and formed by hand in order to fit correctly. Fill the grease tube using a grease gun till the grease comes out of the hole on the shaft.

4. Install main drive idle pulley (D1332). The idle shaft will have to be cleaned and you may need to use emery cloth and a degreaser to ensure a smooth surface for the bearing to slide on. 3 spacers (D1334) are provided to be placed on the shaft prior to installing the idler pulley. The use of these spacers may depend on the alignment of the belt and pulley system. Spacers can be added or taken away as needed.

5. Install idler shaft cap (D1328) with a 16mm washer (D1327) and a 16 x 45mm bolt (D1326) and torque to 80 ft/lbs. After the pulley is installed, give the grease zerk 2 pumps. The idler pulley comes pre-greased from the factory.

6. Install grooved main drive pulley (D1301) with a 45mm locking hub (D1302) on the accelerator shaft of the forage harvester. Again the shaft will need to be cleaned with a degreaser and emery cloth may need to be used to get a clean and smooth surface to ensure a secure lock to the pulley. While installing the main drive pulley, insert the locking hub completely into the center of the main drive pulley making sure that the shoulder of the locking hub is in contact with the center disc of the pulley. Place the main drive pulley onto the accelerator shaft with the locking hub still in place and align the main drive pulley to the lower idler pulley since the idler pulley is fixed. If proper alignment is not obtained, spacers (D1334) will need to be added or taken away to facilitate the proper alignment of the system. It is critical to obtain alignment ±1/16 in. After the pulleys have been properly aligned, the 45mm locking hub (D1302) will need to be tightened. Tighten bolts with the shoulder of the locking hub firmly pressed into the center

disc of the pulley. Torque bolts to 35 ft/lbs. Torque bolts in a clockwise rotation and go around the locking hub 3 times to ensure proper torque. Alignment can also be made easier by using a laser alignment tool (A1010) available through our shop.

7. Install the tension arm (D 1307). The shaft may need to be cleaned with a degreaser and you may need to use emery cloth to ensure that the shaft is clean and smooth. The tension arm can be slid on to the shaft and washers (D1312) are provided for alignment as needed.

8. Mount the tension arm bracket (D 1322). Bushings (D1323), a washer (D1324), and a cotter pin (D1325) are provided if needed.

9. Install the tension arm spring tube (D 1321) and the tension arm spring (D 1320). Connect the spring tube and tension arm spring to the tension arm clevis (D1317) with a 12mm washer (D1319) and the two 12mm nuts; (D1318) and (D1340).

10. Connect the spring tension system to the tension arm (D1307) with the 7/16 x 1 ¼" clevis pin (D1314), the clevis pin washer (D1316), and the clevis pin cotter key (D1315).

11. Set the processor pulleys to align with the drive system. Once the Scherer Processor is in place and properly aligned; the grooved processor pulley (R1202) should be loosened and aligned with the main drive grooved pulley (D1301) and the idler pulley (D1332). This alignment is very critical and should be within ±1/16in. After the grooved processor pulley (R1202) is in place, the smooth processor pulley (R 1203) can be aligned to the rest of the drive system. The locking hubs on the processor should be tightened the same way as the main drive pulley locking hub making sure that the shoulder of the locking hub is pressed firmly against the center disc of the pulley. Torque the locking hubs to 35 ft/lbs. Torque in a clockwise motion and go around tightening every bolt 3 times. This will ensure all bolts are at the appropriate torque.

Common Torque Specs

Bearing Housing Bolt (HPTB1010)	170 ft-lbs	230 N-m
Bearing Housing Bolt (TB1008)	12 ft-lbs	16 N-m
Bearing Housing Bolt (R1230)	75 ft-lbs	100 N-m
Spring Rod (B1003)	220 ft-lbs	300 N-m
Spring Bolt (B1001)	210 ft-lbs	285 N-m
Latch Block Eye Bolt Nut (B1038)	65 ft-lbs	88 N-m
Hinge Bolt (HPT1011)	70 ft-lbs	95 N-m
Idler Pulley Bolt (D1326)	80 ft-lbs	108 N-m
Taper Locking Hub (HPR1001,HPR1016)Appendix	30 ft-lbs	41 N-m

Common H.D. Torque Specs

Bearing Housing Bolt (TB1010)	170 ft-lbs	230 N-m
Bearing Housing Bolt (TB1008)	12 ft-lbs	16 N-m
Bearing Housing Bolt (R1230)	75 ft-lbs	100 N-m
Spring Rod (B1003)	220 ft-lbs	300 N-m
Spring Bolt (B1001)	210 ft-lbs	285 N-m
Latch Block Eye Bolt Nut (B1038)	65 ft-lbs	88 N-m
Hinge Bolt (B1048)	50 ft-lbs	68 N-m
Idler Pulley Bolt (D1326)	80 ft-lbs	108 N-m

Instructions for Bearing Removal and Installation

Bearing Removal

1. To disassemble housing, in order to remove bearing, remove the 4 bolts on housing as seen in Fig. 1A. Tap on feet of housing with a soft mallet to separate the two halves. *****Note: Keep the 2 halves of housing together as they are machined in pairs and are numbered accordingly.**

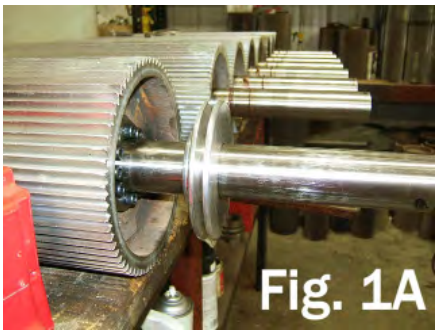
2. To remove bearing insert, bend tab up on bearing lock washer. Loosen nut 2 to 3 turns, now set **REMOVAL** side of tool behind bearing up against roll, with tab into bearing adapter notch. With driver tube slid onto roll shaft, hit tube just hard enough to drive adapter into tool, causing taper to free itself (See Fig. 2A). Slide off bearing and sleeve.

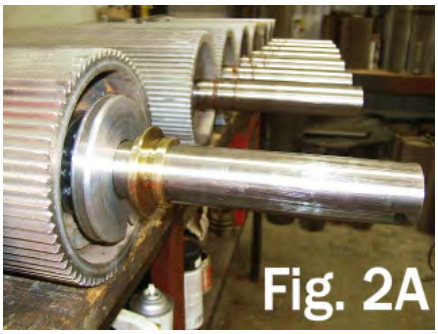
Bearing Installation

Please follow these instructions and bearing manufacturer instructions to get the optimum performance from your bearings.

1. Slide on spool seal, hub side in. You can use a small amount of grease on shaft and be sure your spool seal packing is in good condition (See Fig. 1A).

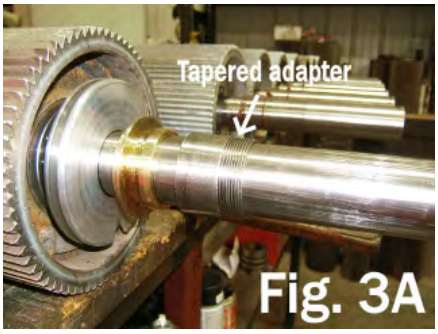
2. Slide on bearing housing seal, using grease and making sure 2 “O” rings are in place(See Fig. 2A).

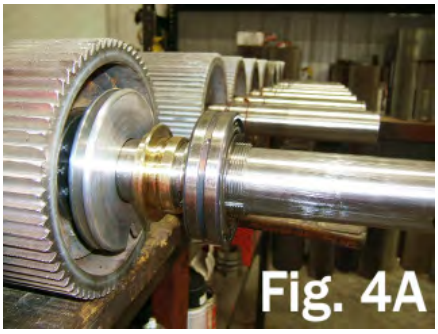


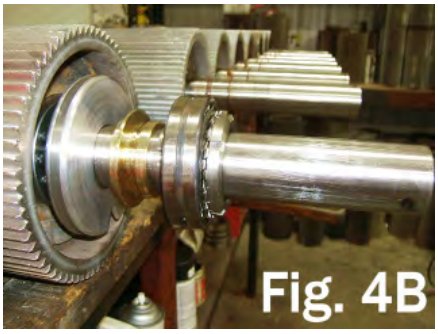


3. Slide on tapered bearing adapter with threads outward (See Fig. 3A).

4. Slide bearing over adapter (See Fig. 4A), followed by lock-ring and start locking nut(See Fig. 4B).

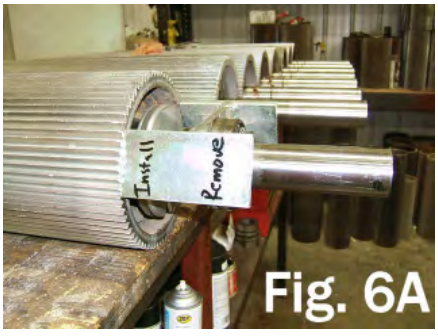


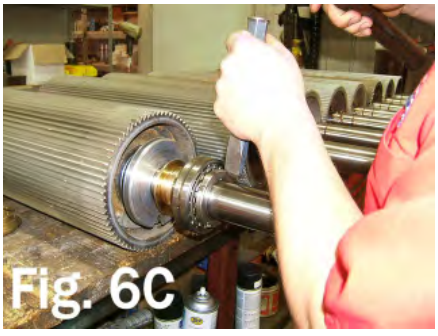




5. We recommend installing your bearings lightly oiled to get a good feel with a feeler gauge. To install your 22211 bearings properly, you need to reduce the roller to race clearance, .0012 to .0016, or slightly more than .001 inches. Insert feeler gauge into bearing and turn outer race to line up bearing roller under gauge. Follow Timken installation instructions for this operation.

6. Using the tool provided, line up tab on tool with notch in bearing taper, with **INSTALL** side up against roll (See Fig. 6A). This tool is for correct bearing distance to roll. Slide bearing against tool and tighten adapter as tight as you can with a spanner wrench(See Fig. 6B). Remove tool. Bearing should stay in place so you can finish tightening with a dull chisel (See Fig. 6C). Be extremely cautious not to damage bearing, and that bearing is free of foreign matter.





Bearing Installation

7. After you re-measure bearing and are satisfied with the clearance, bend a tab on washer into locking nut to lock in place.

8. On drive end, slide on outside housing seal (See Fig. 8A). On short end you will not use an outside seal, as the housing end is closed (If you will not be using a closed end housing as shown in Fig. 9B, be sure to install a new end enclosure).

9. The housings are next. In Drive End Housing, place spacer ring in groove opposite of small alignment hole (See Fig. 9A). In Short End Housing, no spacer ring is required (See Fig. 9B). Install fiber oil seals as shown in Fig. 9A and Fig. 9B. Install with green marked side facing toward roll shaft. Trim off any excess fiber material with utility knife.

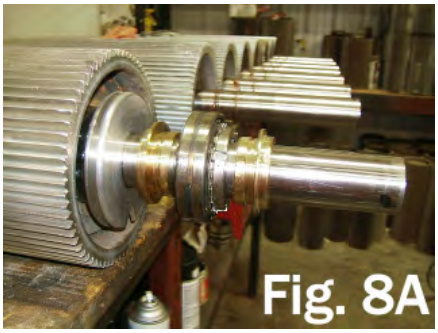


Fig. 8A

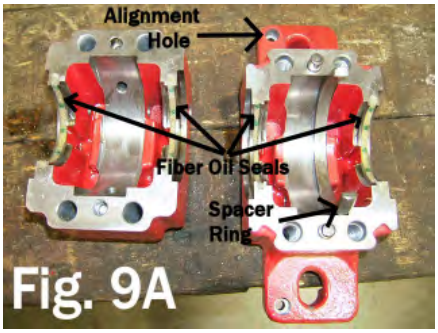


Fig. 9A

Fig. 9B

10. Bearing housings are machined as matched and numbered pairs. **THE TOP AND BOTTOM OF HOUSING MUST HAVE THE SAME NUMBER.**

11. Install lower housing. Install cap on lower housing by tapping in place with a soft mallet. (See Fig. 11A, 11B & 11E for drive end installation. See Fig. 11C, 11D & 11E for short end install.)

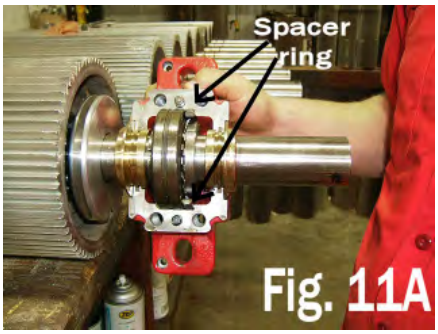


Fig. 11A

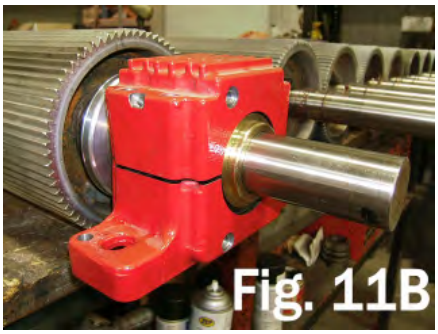


Fig. 11B

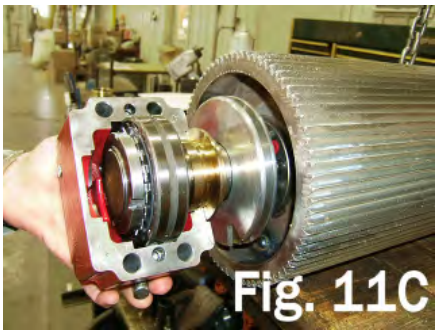


Fig. 11C

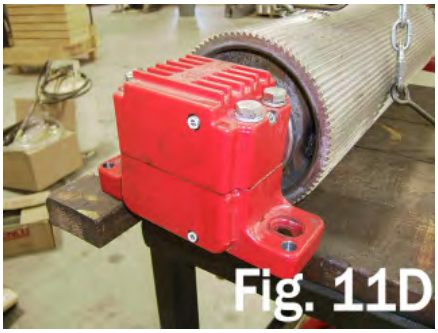


Fig. 11D

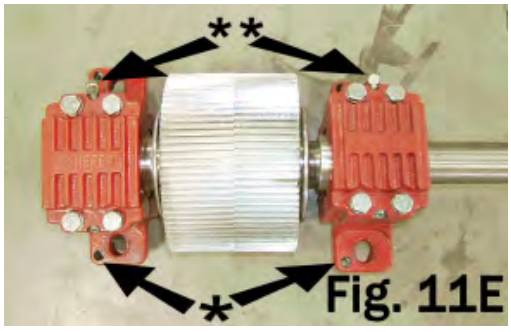


Fig. 11E

*** With Drive End of shaft on right side, be sure alignment hole location corresponds with the location shown in Fig. 11E. Holes are in this position for both rolls.**

**** Shown is the oil-fitting placement for the front roll. The back roll's fittings will be on the opposite side of bearing housing.**

Bearing Installation

12. Tighten bolts and check for free movement of bearing housing on bearing insert on short shaft end only. After bolts are tight, on short shaft end, you should be able to rotate housing 3/16 of an inch at bearing bolts, and slide the entire bearing housing in and out 3/8 of an inch by hand (See Fig. 12A). **THIS MOVEMENT IS IMPORTANT.**

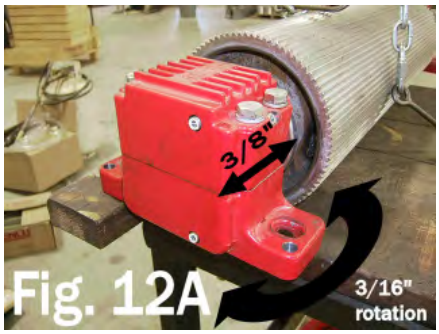


Fig. 12A

13. Fill bearing housing with 3 oz. of oil by using a squirt bottle, small funnel, 15 pumps with manual oiler, or whatever method you find suitable. Repeat this with all housings

H. D. Roll Change Instructions

1. Remove processor from the forage harvester. A quick power wash will also help keep things clean and free from debris.

2. Take a measurement from the frame to the pulley on the roll to be replaced so you know where to place the pulley on the new roll since pulley alignment is critical.

3. Clean the bolt heads of the locking hub and remove the pulley from the roll that needs to be replaced.

4. Loosen the two latch block eye bolts (B1037).

5. Loosen the hinge bars (B1063) by loosening the four SS shoulder bolts (B1048).

6. Disconnect oil lines (G1107) from the rear roll and the outer slide bearing plate (B1011R and B1011L).

7. Open processor so the rolls are exposed.

8. Disconnect and remove the oil line fittings from the bearing castings of the roll to be replaced.

9. Remove bearing housing bolts (TB1008) and (TB1010).

10. Remove old roll and clean the bearing casting surface on the frame of the processor from debris.

11. Install new roll and use bearing housing bolts (TB1008) to align the bearing castings and torque to 18 ft/lbs. The drive side bearing casting will be locked in place so align the drive side bearing casting first. The idle side bearing casting will slide in the casting so the idle side bearing casting will be able to be slid into place and align with the bolt holes after the drive side is in place.

12. Install bearing housing bolts (TB1010) and torque to 170 ft/lbs.

13. Install oil fittings.

14. Close the processor and watch oil lines so they don’t get pinched between the two halves of the frame.

15. Connect all oil lines (G1107).

16. Tighten latch block eye bolts (B1037) and torque to 65 ft/lbs.

Maintenance Intervals

1. After your Scherer Processor is installed

-Set your roll gap (See roll gap adjustment on page 5)

-Pass product through the machine, at least 5 loads under full power.

- Adjust rolls to your processing needs; however, The Scherer Processor is not intended to be run against the roll stops so adjust accordingly.

-Check adjustments 5 to 10 hours later to ensure adjustments are holding at desired position. Check pulley alignment and make sure b-locks are firmly in place.

-Check air tension(if equipped) on drive belt and set air pressure according to specific model.

6-groove drive: 80 to 85psi

-Manually cycle auto-lube 10 times

-In order to manually cycle the auto-lube, simply press and hold the green button while the machine is running. There is a green light that goes around the perimeter of the display window while the oiler is in operation. Verify that the oiler is functioning correctly. Each cycle will take 2 minutes. This ensures that the oil lines and bearings are properly primed and ready for operation.

2. 50 Hours

-Grease adjustment bolt zerks on processor (2 pumps)

-Grease lower idler bearings on drive system (D1338) and tensioner pulley (D1309) 2 pumps each.

-Visually inspect for damage to springs, bolts, shafts, pulleys, wiring, oil lines, etc.

3. 250 Hours

-Visually inspect for damage to springs, bolts, shafts, pulleys, wiring, oil lines, etc.

-Roll back processor and visually inspect rolls, roll gap, and the overall condition of the processor.

-If roll gap is wider at one end, this could be an indication of a bearing failure or the rolls just need to be brought back to parallel.

4. End of Season **(VERY IMPORTANT)**

-End of season maintenance will help reduce bearing failures and greatly reduce down time while harvesting.

-Power wash the processor and get it as clean as possible.

-Immediately after drying processor, open processor to expose bearing castings and rolls.

-Remove the tops of the bearing castings with a soft mallet and inspect the condition of the oil and bearing. Be very careful with the mating surfaces of the castings since they are machined surfaces and keep the top half with the bottom half since they are machined as a mating pair and are numbered accordingly.

-If there is no contamination, simply remove the old oil and replace the felt seals with new felt.

-If contamination is present, the bearing casting needs to be removed and cleaned thoroughly. The oil line and the temp sender should be removed in order to clean the casting. New felt can then be installed. The bearing may also need to be replaced if there is a substantial amount of contamination in the bearing casting. An inspection of the bearing rollers may also help determine if the bearing needs to be replaced.

-Make sure all bearings get 3 oz. of fresh ISO 32 oil after they have been inspected or changed.

-Inspect spool seal (R1210) for wear.

LUBRIMIST INSTALL (Optional)

- Place LubriMist oiler on the left side of the kernel processor compartment towards the front of the machine as shown.
    - Be sure to place the oiler far enough forward so it is out of the way so the large guard over the feed roll drive can still be removed.
    - This position of the oiler also allows for quick removal of the kernel processor through the top of the chopper.
- Drill four holes to mount the LubriMist to the wall. **BE CAREFUL AND CONSCIOUS OF STEEL HYDRAULIC LINES BEHIND THIS WALL.**

- Splice into the air line that feeds the air cylinder for the kernel processor drive belt. Use the “T” and air line provided.
- Connect oil hose on the kernel processor to the LubriMist.
- Remove plug from the front of the LubriMist reservoir and fill with oil.
- **DO NOT OVERFILL!!!!!**
- Overfilling will restrict the mist head and the system will not work properly.
- Start the forage harvester engine and allow the air system to charge.
- **If the system is working properly, you will see what appears to be smoke or fog coming from the bearing housings and the bearing slides.**
- Set the LubriMist regulator to 35 psi.

INSTALLATION AND REMOVAL INSTRUCTIONS FOR *B-LOC*™ LOCKING ASSEMBLY SERIES B106 & B103

Thank you for purchasing a ***B-LOC***™ Keyless Frictional Locking Device. ***B-LOC***™ keyless connectors provide a high capacity, zero-backlash shaft/hub or coupling connection by means of a mechanical interference fit. Please follow these INSTALLATION AND REMOVAL INSTRUCTIONS carefully to ensure proper performance of this ***B-LOC***™ unit.

ⓘ WARNING ⓘ

When installing or removing ***B-LOC***™ products, always adhere to the following safety standards:

1. Be sure that all power switches are locked out before installing or removing ***B-LOC***™ products.
2. Eye protection is required when installing or removing ***B-LOC***™ products - please wear safety glasses and protective clothing.

INSTALLATION

(Refer to Figure 1)

B-LOC™ Series B103 and B106 Locking Assemblies are supplied lightly oiled and ready for installation. They are self-centering and fit straight-thru hub bores. Note that Series B103 units permit axial hub movement during installation. In contrast, the extended flange on Series B106 units results in an axially fixed hub position during assembly. When reinstalling a used unit, make sure that all slits are aligned. The frictional torque capacity of these devices is based on a coefficient of friction of 0.12 for lightly oiled screw, taper, shaft and bore contact areas.

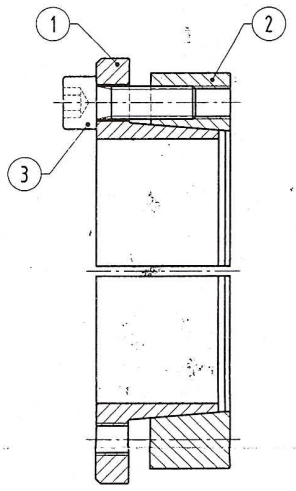


Figure 1

Therefore, it is important *not* to use Molybdenum Disulfide (e.g., Molykote, Never-Seeze or similar lubricants) in any Locking Assembly installation.

1. Make sure that locking screw, taper, shaft and bore contact areas are clean and lightly oiled and that all collar slits are aligned.
2. Loosen all locking screws by a minimum of four (4) turns and transfer at least three (3) screws into push-off threads in order to keep Parts 1 and 2 separated during assembly (see Figure 2).
3. After inserting Locking Assembly into hub bore, relocate locking screws used for separating Parts 1 and 2.
4. Hand tighten locking screws and confirm that collar Item 1 is parallel and in full contact with face of part to be attached to shaft.
5. Use torque wrench and set it approximately 5% higher than specified tightening torque M_A. Tighten locking screws in either a clockwise or counter clockwise sequence (it is not necessary to tighten in a diametrically opposite pattern), using only 1/4 (i.e., 90°) turns for several passes until 1/4 turns can no longer be achieved.
6. Continue to apply overtorque for 1 to 2 more passes. This is required to compensate for a system-related relaxation of locking screws since tightening of a given screw will always relax adjacent screws. Without overtorquing, an infinite number of passes would be needed to reach specified tightening torque.
7. Reset torque wrench to specified torque (M_A) and check all locking screws. No screw should turn at this point, otherwise repeat Step 6 for 1 or 2 more passes. It is not necessary to re-check tightening torque after equipment has been in operation.

NOTE: The torque capacity of these units can be increased by approximately 25% by thoroughly cleaning the shaft and Locking Assembly bore of any lubricant. In applications subject to extreme corrosion, the slits in all collars should be sealed with a suitable caulking compound or equivalent. Likewise, push-off threads should be protected from corrosion.

INSTALLATION OF *B-LOC*™ LOCKING ASSEMBLIES OVER SHAFT KEYWAYS

The Locking Assembly should be positioned so that slits in Locking Assembly collars that contact the shaft are located approximately opposite the keyway. In addition, a locking screw should be centered directly over the keyway.

When tightening locking screws, it is important to follow the installation procedure outlined above, which specifies equal 1/4 turns of each locking screw. Failure to follow these instructions could result in excessive tightening of the screw over the keyway, possibly causing permanent deformation of the Locking Assembly collars. Even after 1/4 turns can no longer be achieved, it is important to continue to use equal turning angles for every screw until the specified tightening torque is reached.

REMOVAL

(Refer to Figure 2)

Prior to initiating the following removal procedure, check to ensure that no torque or thrust loads are acting on the Locking Assembly, shaft or any mounted components.

IMPORTANT! Make sure ends of locking screws used for removal are ground flat and are slightly chamfered to prevent damage to screw and collar threads during push-off.

1. Check to ensure that axial movement of collars - necessary for release of connection - is not restricted. Likewise, ensure that push-off threads are in good condition.
2. Relax all locking screws by approx. four (4) complete turns and transfer screws to all push-off threads located in flange of collar Item 1.
3. Release connection by evenly tightening all push-off screws (not exceeding 1/4 turns) in a diametrically opposite sequence.

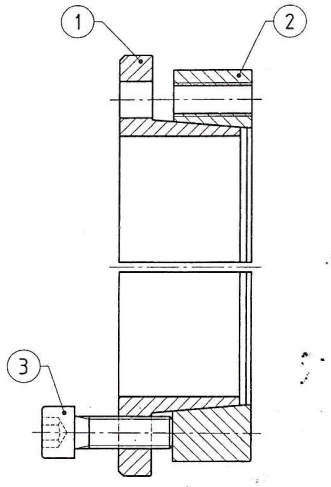


Figure 2

LOCKING SCREW SIZES AND SPECIFIED TIGHTENING TORQUE M_A

Metric Series	Inch Series	Tightening Torque M_A (ft-lbs)		Screw Size	Hex Key Size (mm)
		B106	B103		
20 x 47 to 40 x 65	3/4 to 1-1/2	12	10	M 6	5
45 x 75 to 65 x 95	1-5/8 to 2-9/16	30	25	M 8	6
70 x 110 to 95 x 135	2-11/16 to 3-3/4	60	50	M 10	8
100 x 145 to 120 x 165	3-15/16 to 4-3/4	105	90	M 12	10
130 x 180 to 200 x 260	4-15/16 to 8	166	135	M 14	12
220 x 285 to 260 x 325		257	219	M 16	14
280 x 355 to 300 x 375		350	290	M 18	14
320 x 405 to 340 x 425		500	420	M 20	17
360 x 455 to 400 x 495		675	560	M 22	17

Drive-up is achieved with a force of sufficient magnitude applied directly to the face of the inner ring. This force is generated with one of the following devices:

1. Threaded lock nut
2. Bolted end plate
3. Hydraulic nut
4. Mounting sleeve

Cold Mounting

The mounting of any tapered bore bearing is affected by driving the bearing on its seat a suitable amount. Since the amount of drive-up is critical to determining the amount of interference, cold mounting is typically the most common method used for mounting tapered bore bearings. Accurately controlling the axial position of the inner ring is very difficult with hot mounting.

Oil-injection (hydraulic) mounting

This is a refined method for cold mounting a tapered bore bearing. It is based on the injection of oil between the interfering surfaces, thus greatly reducing the required axial mounting force. The pressure is generally supplied with a manually-operated reciprocating pump. The required pressure seldom exceeds 10,000 psi, and is usually much less. The oil used for oil-injection mounting should be neither too thin nor too viscous. It is difficult to build up pressures with excessively thin oils, while thick oils do not readily drain from between the fitting surfaces and require a little more axial force for positioning the bearing. This method cannot be used unless provided for in the design of the mounting. (Contact SKF for retrofitting details.)

Mounting tapered bore double row self-aligning ball bearings

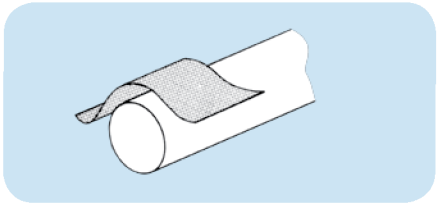
Most tapered bore self-aligning ball bearings are mounted with the use of adapter sleeves. Therefore, this instruction will be limited to adapter sleeves only.

Precautions

For hollow shafts, please consult SKF Applications Engineering. The bearings should be left in their original packages until immediately before mounting so they do not become dirty. The dimensional and form accuracy of all components, which will be in contact with the bearing, should be checked.

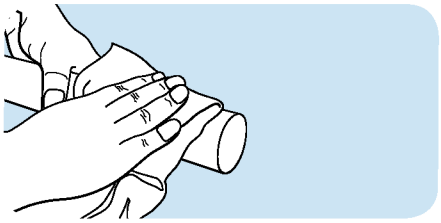
Step 1

Remove any burrs or rust on the shaft with an emery cloth or a fine file.



Step 2

Wipe the shaft with a clean cloth.



Step 3

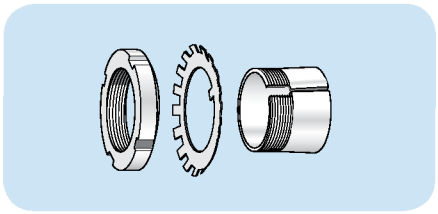
Measure the shaft diameter.

Shaft tolerance limits for adapter mounting seatings

Nominal diameter inch over	including	Tolerance limits inch
1/2	1	0.000 / -0.002
1	2	0.000 / -0.003
2	4	0.000 / -0.004
4	6	0.000 / -0.005
6	–	0.000 / -0.006

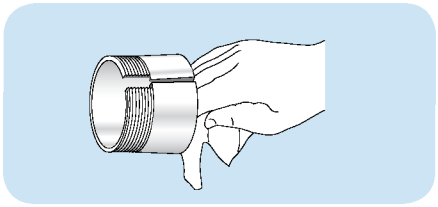
Step 4

Screw off the nut from the adapter sleeve assembly and remove the locking washer.



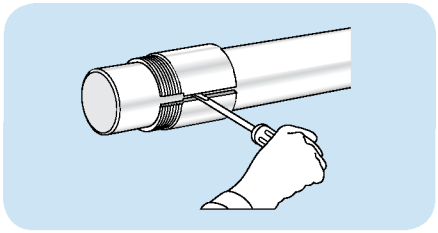
Step 5

Wipe preservative from the adapter O. D. and bore. Remove oil from the shaft to prevent transfer of oil to the bore of the adapter sleeve.



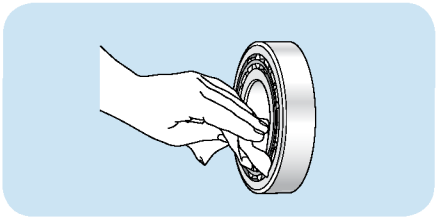
Step 6

Position the adapter sleeve on the shaft, threads outboard as indicated, to the approximate location with respect to required bearing centerline. For easier positioning of the sleeve, a screwdriver can be placed in the slit to open the sleeve. Applying a light oil to the sleeve outside diameter surface results in easier bearing mounting and removal.

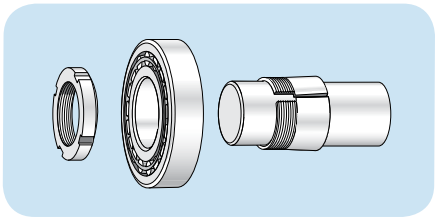


Step 7

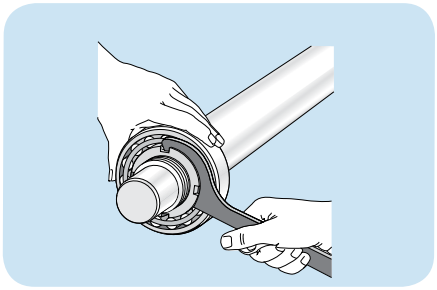
Wipe the preservative from the bore of the bearing. It may not be necessary to remove the preservative from the internal components of the bearing unless the bearing will be lubricated by a circulating oil or oil mist system.



Step 8
Place the bearing on the adapter sleeve, leading with the large bore of the inner ring to match the taper of the adapter. Apply the locknut with its chamfer facing the bearing (DO NOT apply locking washer at this time because the drive-up procedure may damage the locking washer). Applying a light coating of oil to the chamfered face of the lock nut will make mounting easier.

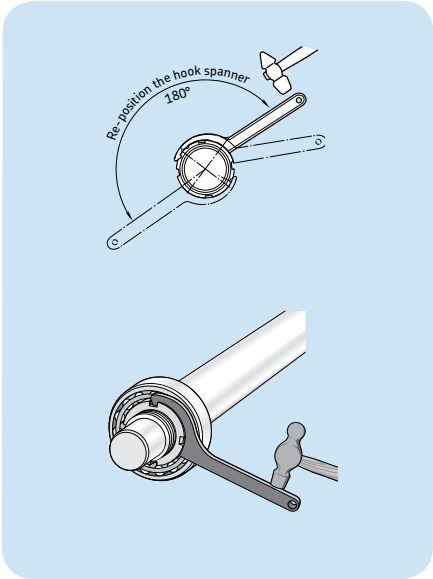


Step 9
Using a spanner wrench, hand-tighten the locknut so that the sleeve grips the shaft and the adapter sleeve can neither be moved axially, nor rotated on the shaft. With the bearing hand tight on the adapter, locate the bearing to the proper axial position on the shaft. A method for checking if the bearing and sleeve are properly clamped is to place a screwdriver in the adapter sleeve split on the large end of the sleeve. Applying pressure to the screwdriver to attempt to turn the sleeve around the shaft is a good check to determine if the sleeve is clamped down properly. If the sleeve no longer turns on the shaft, then the zero point has been reached. Do not drive the bearing up any further.

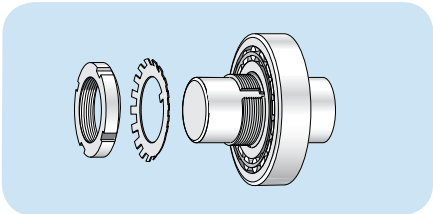


Step 10
Place a reference mark on the locknut face and shaft, preferably in the 12 o'clock position, to use when measuring the tightening angle.

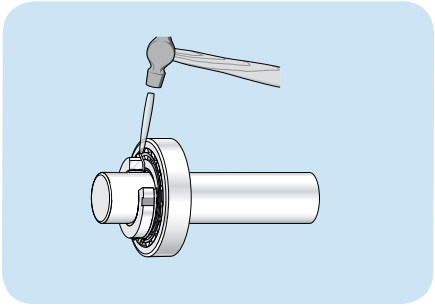
Step 11
Identify the specific locknut part number on the adapter sleeve to determine if it is an inch or metric assembly and reference either **Table 1** or **Table 2** on page 17. Locate the specific bearing series column and bearing bore diameter row in the applicable table. Select the corresponding tightening angle.



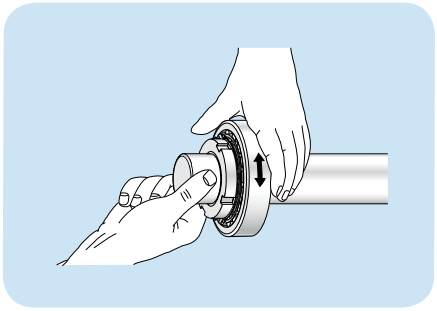
Step 12
Remove the locknut and install the locking washer on the adapter sleeve. The inner prong of the locking washer should face the bearing and be located in the slot of the adapter sleeve. Reapply the locknut until tight. (DO NOT drive the bearing further up the taper, as this will reduce the radial internal clearance further).

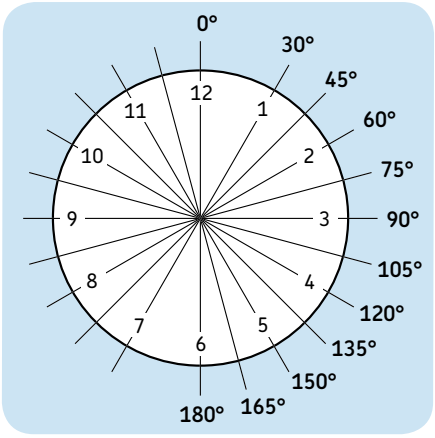


Step 13
Find the locking washer tang that is nearest a locknut slot. If the slot is slightly past the tang don't loosen the nut, but instead tighten it to meet the closest locking washer tang. Do not bend the locking tab to the bottom of the locknut slot.



Step 14
Check that the shaft and outer ring can be rotated easily by hand.





The angles of degree correlate to the hours on a clock. Use this guide to help visualize the turning angles shown on Tables 1 and 2.

Table 1

Angular drive-up for self-aligning ball bearings (metric nut)

Bearing bore diameter d	Metric nut designation	Axial drive-up bearing series 12 K s	13 K s	22 K s	23 K s	Turning angle bearing series 12 K	13 K	22 K	23 K
(mm)		(mm)	(mm)	(mm)	(mm)	(deg)	(deg)	(deg)	(deg)
25	KM(FE) 5	0.22	0.23	0.22	0.23	55	55	55	55
30	KM(FE) 6	0.22	0.23	0.22	0.23	55	55	55	55
35	KM(FE) 7	0.30	0.30	0.30	0.30	70	70	70	70
40	KM(FE) 8	0.30	0.30	0.30	0.30	70	70	70	70
45	KM(FE) 9	0.31	0.34	0.31	0.33	70	80	70	80
50	KM(FE) 10	0.31	0.34	0.31	0.33	70	80	70	80
55	KM(FE) 11	0.40	0.41	0.39	0.40	70	70	70	70
60	KM(FE) 12	0.40	0.41	0.39	0.40	70	70	70	70
65	KM(FE) 13	0.40	0.41	0.39	0.40	70	70	70	70
70	KM(FE) 14	0.40		0.43		70		75	
75	KM(FE) 15	0.45	0.47	0.43	0.46	80	85	80	80
80	KM(FE) 16	0.45	0.47	0.43	0.46	80	85	80	80
85	KM(FE) 17	0.58	0.60	0.54	0.59	105	105	100	105
90	KM(FE) 18	0.58	0.60	0.54	0.59	105	105	100	105
95	KM(FE) 19	0.58	0.60	0.54	0.59	105	105	100	105
100	KM(FE) 20	0.58	0.60	0.54	0.59	105	105	100	105
105	KM(FE) 21	0.67		0.66		120		120	
110	KM(FE) 22	0.67	0.70	0.66	0.69	120	125	120	125
120	KM 24	0.67				120			

Table 2

Angular drive-up for self-aligning ball bearings (inch nut)

Bearing bore diameter d	Inch nut designation	Threads per inch	Axial drive-up bearing series 12 K s	13 K s	22 K s	23 K s	Turning angle bearing series 12 K	13 K	22 K	23 K
(mm)			(inch)	(inch)	(inch)	(inch)	(deg)	(deg)	(deg)	(deg)
25	N 05	32	0.009	0.009	0.009	0.009	100	105	100	105
30	N 06	18	0.009	0.009	0.009	0.009	55	60	55	60
35	N 07	18	0.012	0.012	0.012	0.012	75	75	75	75
40	N 08	18	0.012	0.012	0.012	0.012	75	75	75	75
45	N 09	18	0.012	0.013	0.012	0.013	80	85	80	85
50	N 10	18	0.012	0.013	0.012	0.013	80	85	80	85
55	N 11	18	0.016	0.016	0.012	0.016	100	105	80	100
60	N 12	18	0.016	0.016	0.015	0.016	100	105	100	100
65	N 13	18	0.016	0.016	0.015	0.016	100	105	100	100
70	N 14	18	0.016		0.017		100		110	
75	AN 15	12	0.018	0.019	0.017	0.018	75	80	75	80
80	AN 16	12	0.018	0.019	0.017	0.018	75	80	75	80
85	AN 17	12	0.023	0.024	0.021	0.023	100	100	90	100
90	AN 18	12	0.023	0.024	0.021	0.023	100	100	90	100
95	AN 19	12	0.023	0.024	0.021	0.023	100	100	90	100
100	AN 20	12	0.023	0.024	0.021	0.023	100	100	90	100
105	AN 21	12	0.026		0.026		115		110	
110	AN 22	12	0.026	0.028	0.026	0.027	115	120	110	115
120	AN 24	12	0.026					115		

Mounting tapered bore spherical roller bearings

Tapered bore spherical roller bearings can be mounted using one of three methods: radial clearance reduction, angular drive-up, or axial / SKF hydraulic drive-up. All three methods require the inner ring to be driven up a tapered seat in order to achieve the proper interference fit. The specific method selected by the end user will be dependent upon the size of the bearing, the number of bearings to be mounted, and the space constraints in the area surrounding the bearing.

Radial clearance reduction method for mounting tapered bore (1:12) spherical roller bearings on adapter sleeves

Precautions

For hollow shafts, please consult SKF Applications Engineering. The bearings should be left in their original packages until immediately before mounting so they do not become dirty. The dimensional and form accuracy of all components, which will be in contact with the bearing, should be checked.

Step 1

Remove any burrs or rust on the shaft with an emery cloth or a fine file.

Step 2

Wipe the shaft with a clean cloth.

Step 3

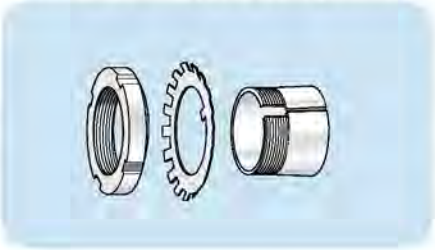
Measure the shaft diameter.

Shaft tolerance limits for adapter mounting seatings

Nominal diameter inch over	including	Tolerance limits inch
1/2	1	0.000 / -0.002
1	2	0.000 / -0.003
2	4	0.000 / -0.004
4	6	0.000 / -0.005
6	–	0.000 / -0.006

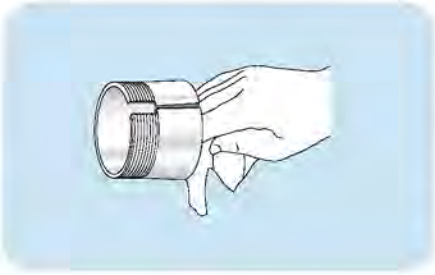
Step 4

Screw off the nut from the adapter sleeve assembly and remove the locking washer.



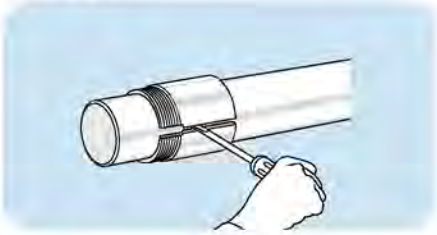
Step 5

Wipe preservative from the adapter O. D. and bore. Remove oil from the shaft to prevent transfer of oil to the bore of the adapter sleeve.



Step 6

Position the adapter sleeve on the shaft, threads outboard as indicated, to the approximate location with respect to required bearing centerline. For easier positioning of the sleeve, a screwdriver can be placed in the slit to open the sleeve. Applying a light oil to the sleeve outside diameter surface results in easier bearing mounting and removal.



Step 7

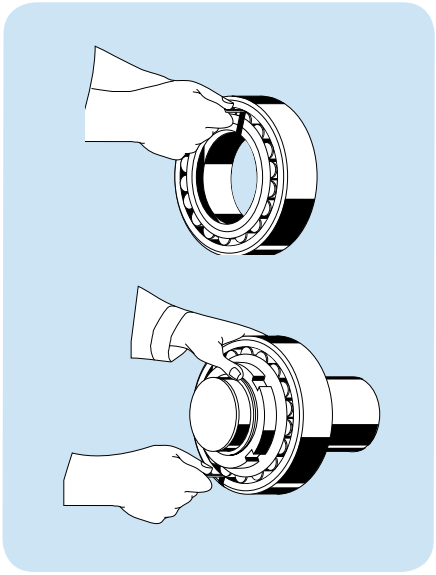
Wipe the preservative from the bore of the bearing. It may not be necessary to remove the preservative from the internal components of the bearing unless the bearing will be lubricated by a circulating oil or oil mist system.

Step 8

Measure the unmounted radial internal clearance in the bearing. The values for unmounted internal clearance for tapered bore spherical roller bearings are provided in **Table 3** on page 20.

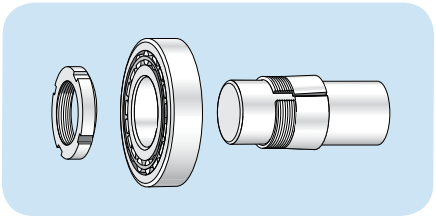
Oscillate the inner ring in a circumferential direction to properly seat the rollers. Measure the radial internal clearance in the bearing by inserting progressively larger feeler blades the full length of the roller between the most unloaded roller and the outer ring sphere. **NOTE:** Do not roll completely over a pinched feeler blade, slide through the clearance. It is permissible to rotate a roller up onto the feeler blade but be sure it slides out of the contact area with a slight resistance. Record the measurement on the largest size blade that will slide through. This is the unmounted radial internal clearance.

Repeat this procedure in two or three other locations by resting the bearing on a different spot on its O.D. and measuring over different rollers in one row. Repeat the above procedure for the other row of rollers or measure each row alternately in the procedure described above.



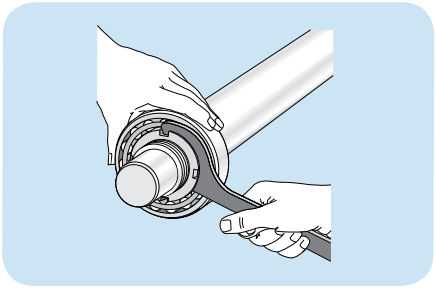
Step 9

Place the bearing on the adapter sleeve, leading with the large bore of the inner ring to match the taper of the adapter. Apply the locknut with its chamfer facing the bearing (DO NOT apply the locking washer at this time because the drive-up procedure may damage the locking washer). Applying a light coating of oil to the chamfered face of the lock nut will make mounting easier.



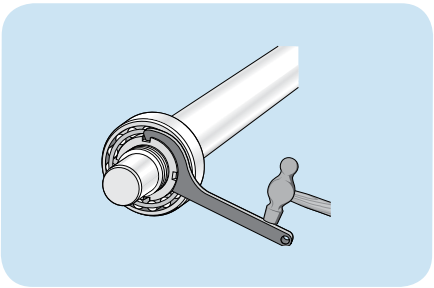
Step 10

Using a spanner wrench, hand-tighten the locknut so that the sleeve grips the shaft and the adapter sleeve can neither be moved axially nor rotated on the shaft. With the bearing hand tight on the adapter, locate the bearing to the proper axial position on the shaft.



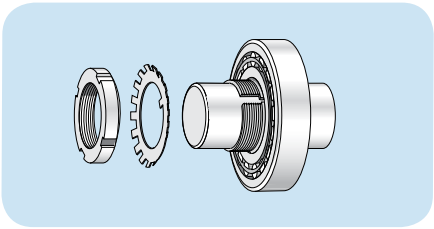
Step 11

Select the proper radial internal clearance reduction range from **Table 3** on page 20. Using a hammer and a spanner wrench or just a hydraulic nut, begin tightening the nut in order to drive the inner ring up the tapered seat until the appropriate clearance reduction is achieved. **NOTE:** LARGE SIZE BEARINGS WILL REQUIRE A HEAVY DUTY IMPACT SPANNER WRENCH AND SLEDGE HAMMER TO OBTAIN THE REQUIRED REDUCTION IN RADIAL INTERNAL CLEARANCE. AN SKF HYDRAULIC NUT MAKES MOUNTING OF LARGE SIZE BEARINGS EASIER. Do not attempt to tighten the locknut with hammer and drift. The locknut will be damaged and chips can enter the bearing.



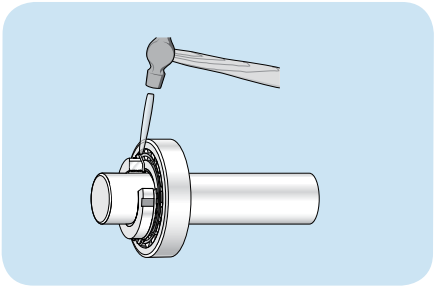
Step 12

Remove the locknut and install the locking washer on the adapter sleeve. The inner prong of the locking washer should face the bearing and be located in the slot of the adapter sleeve. Reapply the locknut until tight. (DO NOT drive the bearing further up the taper, as this will reduce the radial internal clearance further).



Step 13

Find the locking washer tang that is nearest a locknut slot. If the slot is slightly past the tang don't loosen the nut, but instead tighten it to meet the closest locking washer tang. Do not bend the locking tab to the bottom of the locknut slot.



Step 14

Check that the shaft and outer ring can be rotated easily by hand.

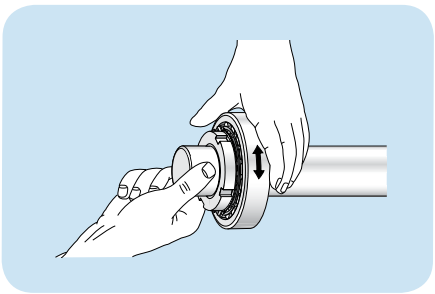


Table 3

Unmounted radial internal clearance of SKF tapered bore spherical roller bearings (in inches)								Recommended clearance reduction values of SKF tapered bore bearings (in inches)	
Bore diameter range (mm)		Normal (in.)		C3 (in.)		C4 (in.)		Reduction in radial internal clearance (in.)	
		min	max	min	max	min	max	min	max[1]
24	**30**	0.0012	0.0016	0.0016	0.0022	0.0022	0.0030	0.0006	0.0008
31	**40**	0.0014	0.0020	0.002	0.0026	0.0026	0.0033	0.0008	0.0010
41	**50**	0.0018	0.0024	0.0024	0.0031	0.0031	0.0039	0.0010	0.0012
51	**65**	0.0022	0.0030	0.003	0.0037	0.0037	0.0047	0.0012	0.0015
66	**80**	0.0028	0.0037	0,0037	0.0047	0.0047	0.0059	0.0015	0.0020
81	**100**	0.0031	0.0043	0.0043	0.0055	0.0055	0.0071	0.0018	0.0025
101	**120**	0.0039	0.0053	0.0053	0.0067	0.0067	0.0087	0.0020	0.0028
121	**140**	0.0047	0.0063	0.0063	0.0079	0.0079	0.0102	0.0025	0.0035
141	**160**	0.0051	0.0071	0.0071	0.0091	0.0091	0.0118	0.0030	0.0040
161	**180**	0.0055	0.0079	0.0079	0.0102	0.0102	0.0134	0.0030	0.0045
181	**200**	0.0063	0.0087	0.0087	0.0114	0.0114	0.0146	0.0035	0.0050
201	**225**	0.0071	0.0098	0.0098	0.0126	0.0126	0.0161	0.0040	0.0055
226	**250**	0.0079	0.0106	0.0106	0.0138	0.0138	0.0177	0.0045	0.0060
251	**280**	0.0087	0.0118	0.0118	0.0154	0.0154	0.0193	0.0045	0.0065
281	**315**	0.0094	0.0130	0.013	0.0169	0.0169	0.0213	0.0050	0.0075
316	**355**	0.0106	0.0142	0.0142	0.0185	0.0185	0.0232	0.0060	0.0085
356	**400**	0.0118	0.0157	0.0157	0.0205	0.0205	0.0256	0.0065	0.0090
401	**450**	0.0130	0.0173	0.0173	0.0224	0.0224	0.0283	0.0080	0.0105
451	**500**	0.0146	0.0193	0.0193	0.0248	0.0248	0.0311	0.0085	0.0110
501	**560**	0.0161	0.0213	0.0213	0.0268	0.0268	0.0343	0.0095	0.0125
561	**630**	0.0181	0.0236	0.0236	0.0299	0.0299	0.0386	0.0100	0.0135
631	**710**	0.0201	0.0264	0.0264	0.0335	0.0335	0.0429	0.0120	0.0155
711	**800**	0.0224	0.0295	0.0295	0.0378	0.0378	0.0480	0.0135	0.0175
801	**900**	0.0252	0.0331	0.0331	0.0421	0.0421	0.0539	0.0145	0.0195
901	**1000**	0.0280	0.0366	0.0366	0.0469	0.0469	0.0598	0.0160	0.0215
1001	**1120**	0.0303	0.0406	0.0406	0.0512	0.0512	0.0657	0.0175	0.0235
1121	**1250**	0.0327	0.0441	0.0441	0.0559	0.0559	0.0720	0.0190	0.0255
1251	**1400**	0.0358	0.0484	0.0484	0.0614	0.0614	0.0787	0.0215	0.0285
1401	**1600**	0.0394	0.0532	0.0532	0.0677	0.0677	0.0866	0.0235	0.0315
1601	**1800**	0.0437	0.0591	0.0591	0.0756	0.0756	0.0945	0.0265	0.0350

1. CAUTION: Do not use the maximum reduction of radial internal clearance when the initial unmounted radial internal clearance is in the lower half of the tolerance range or where large temperature differentials between the bearing rings can occur in operation.

NOTE: If a different taper angle or shaft system is encountered, the following guidelines can be used.
The axial drive-up "S" is approximately:
- 16 times the reduction on 1:12 solid tapered steel shafts
- 18 times the reduction on 1:12 taper for sleeve mounting
- 39 times the reduction on 1:30 solid tapered steel shafts
- 42 times the reduction on 1:30 taper for sleeve mounting

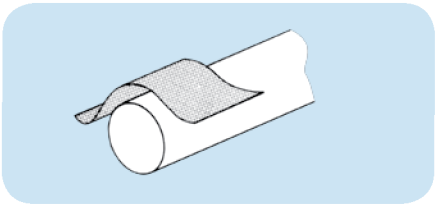
Radial clearance reduction method for mounting tapered bore (1:12) spherical roller bearings onto a solid tapered shaft

Precautions

For hollow shafts, please consult SKF Applications Engineering. The bearings should be left in their original packages until immediately before mounting so they do not become dirty. The dimensional and form accuracy of all components, which will be in contact with the bearing, should be checked.

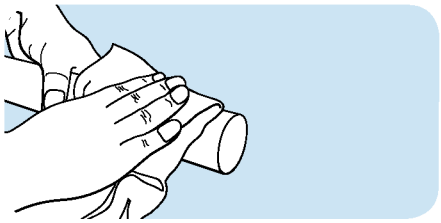
Step 1

Remove any burrs or rust on the shaft with an emery cloth or a fine file.



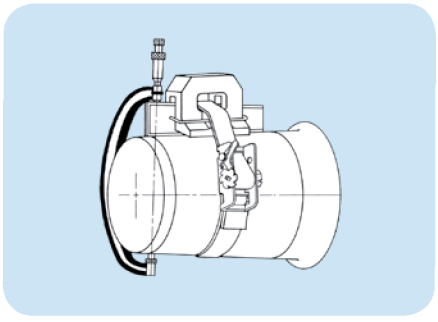
Step 2

Wipe the shaft with a clean cloth.



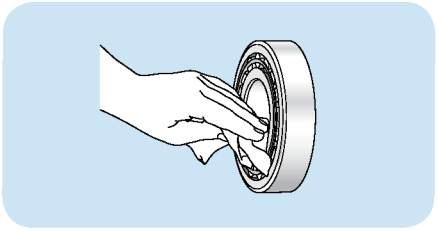
Step 3

Measure the shaft taper for geometry and contact using taper gauges.



Step 4

Wipe the preservative from the bore of the bearing. It may not be necessary to remove the preservative from the internal components of the bearing unless the bearing will be lubricated by a circulating oil or oil mist system.

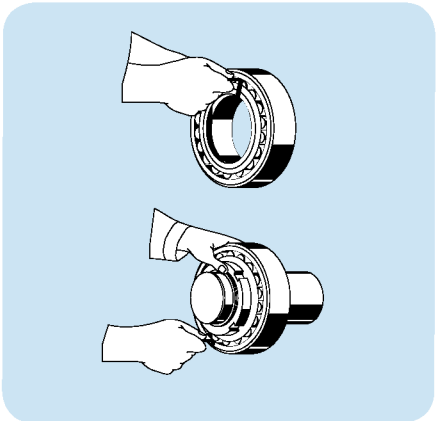


Step 5

Measure the unmounted radial internal clearance in the bearing. The values for unmounted internal clearance for tapered bore spherical roller bearings are provided in **Table 3** on page 20.

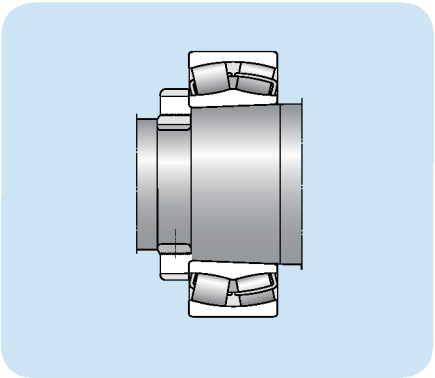
Oscillate the inner ring in a circumferential direction to properly seat the rollers. Measure the radial internal clearance in the bearing by inserting progressively larger feeler blades the full length of the roller between the most unloaded roller and the outer ring sphere. NOTE: Do not roll completely over a pinched feeler blade, slide through the clearance. It is permissible to rotate a roller up onto the feeler blade but be sure it slides out of the contact area with a slight resistance. Record the measurement on the largest size blade that will slide through. This is the unmounted radial internal clearance.

Repeat this procedure in two or three other locations by resting the bearing on a different spot on its O.D. and measuring over different rollers in one row. Repeat the above procedure for the other row of rollers or measure each row alternately in the procedure described above.



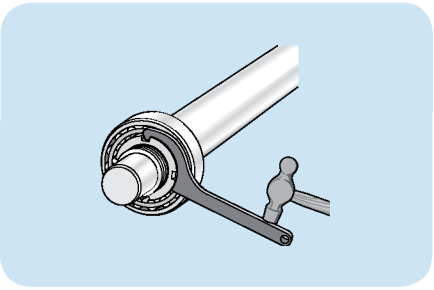
Step 6

Place the bearing on the tapered shaft, leading with the large bore of the inner ring to match the taper of the shaft. Apply the locknut with its chamfer facing the bearing (DO NOT apply the locking washer at this time because the drive-up procedure may damage the locking washer). Applying a light coating of oil to the chamfered face of the lock nut will make mounting easier.



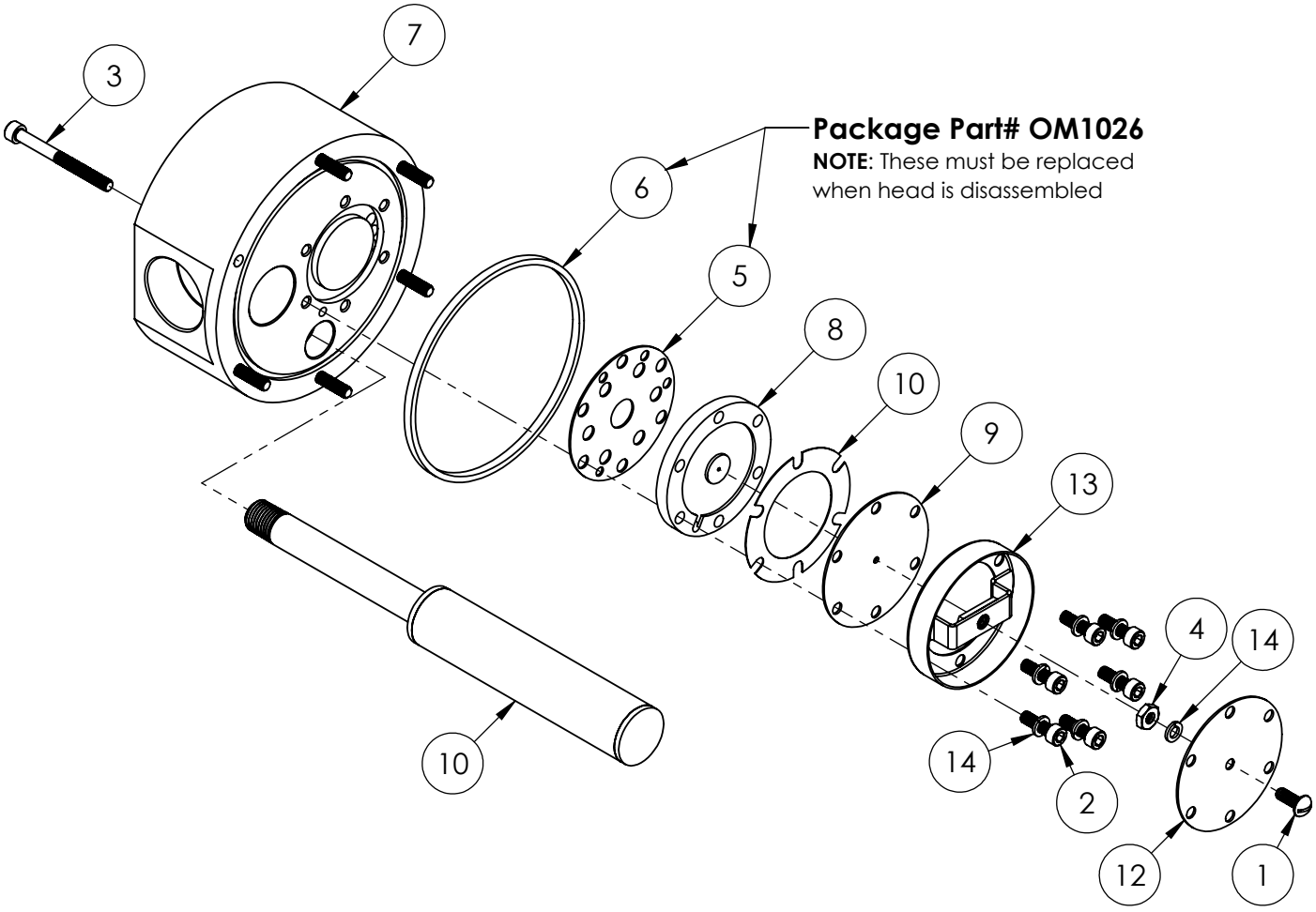
Step 7

Select the proper radial internal clearance reduction range from **Table 3** on page 20. Using a hammer and a spanner wrench or just a hydraulic nut, begin tightening the nut in order to drive the inner ring up the tapered shaft until the appropriate clearance reduction is achieved. **NOTE:** LARGE SIZE BEARINGS WILL REQUIRE A HEAVY DUTY IMPACT SPANNER WRENCH AND SLEDGE HAMMER TO OBTAIN THE REQUIRED REDUCTION IN RADIAL INTERNAL CLEARANCE. AN SKF HYDRAULIC NUT MAKES MOUNTING OF LARGE SIZE BEARINGS EASIER. Do not attempt to tighten the locknut with a hammer and drift. The locknut will be damaged and chips can enter the bearing.



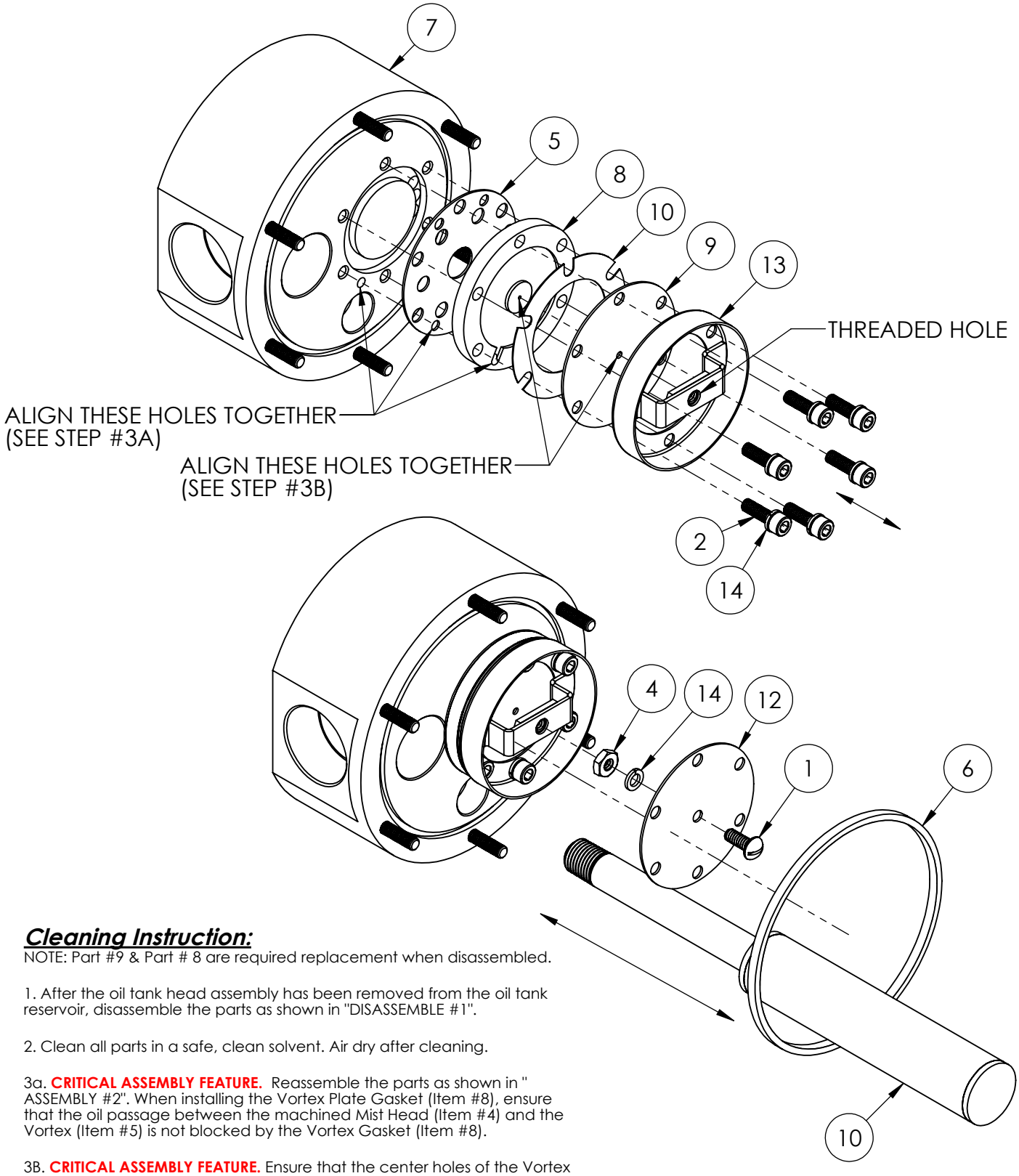
SCHERER OIL TANK HEAD ASSEMBLY

COMPLETE ASSEMBLY: **PART# OM2000**



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	BLT10044	MACHINE SCREW	1
2	BLT10045	SOCKET HEAD CAP SCREW	6
3	BLT10048	SOCKET HEAD CAP SCREW	6
4	NUT10011	MACHINE HEX NUT	1
5	OM1026.1	VORTEX PLATE GASKET	1
6	OM1026.2	HEAD GASKET	1
7	OM2001	MIST HEAD	1
8	OM2002	VORTEX PLATE	1
9	OM2003	MISTER OIL PLATE	1
10	OM2004	OIL PLATE SPACER	1
10	OM2007	SIPHON TUBE	1
12	OM2008	IMPINGEMENT PLATE	1
13	OM2009	BAFFLE ASSEMBLY	1
14	WSH10006	LOCK WASHER	7

SCHERER OIL TANK HEAD CLEANING



Cleaning Instruction:

NOTE: Part #9 & Part # 8 are required replacement when disassembled.

1. After the oil tank head assembly has been removed from the oil tank reservoir, disassemble the parts as shown in "DISASSEMBLE #1".

2. Clean all parts in a safe, clean solvent. Air dry after cleaning.

3a. **CRITICAL ASSEMBLY FEATURE.** Reassemble the parts as shown in " ASSEMBLY #2". When installing the Vortex Plate Gasket (Item #8), ensure that the oil passage between the machined Mist Head (Item #4) and the Vortex (Item #5) is not blocked by the Vortex Gasket (Item #8).

3B. **CRITICAL ASSEMBLY FEATURE.** Ensure that the center holes of the Vortex (Item #5) and Oil Plate(Item #6) are axially aligned by viewing them through the threaded hole of Baffle Assembly (Item #12).

4. Once the assembly is aligned, torque the 6 screws (Item #2) to 22 in-lbs.

5. Install the Impingement Plate (Item #11) as shown in "ASSEMBLY #3".

6. Install Head Gasket (Item #2) when installing the Mist Head onto the oil reservoir.