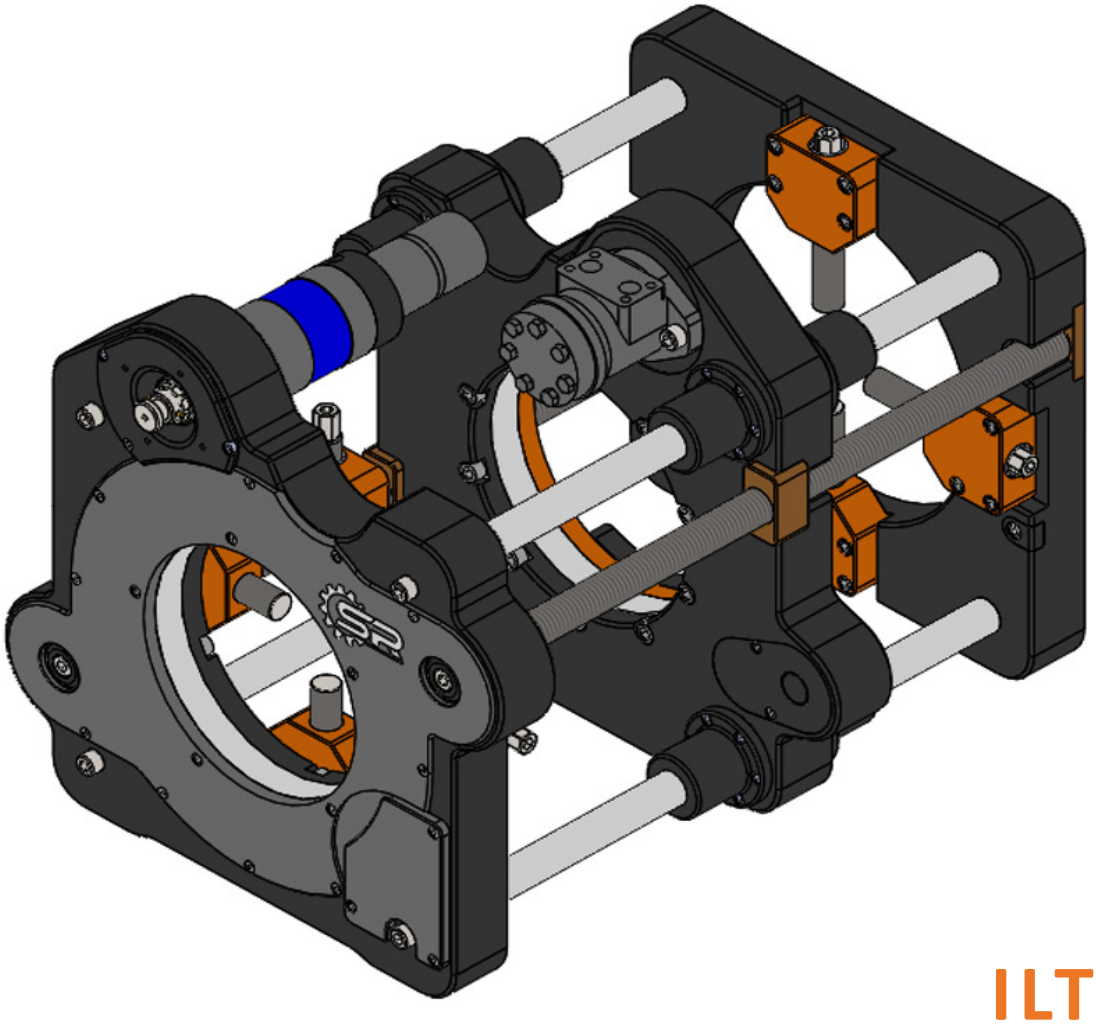
SUPERIOR



ILT-1000
Inline Turning Machine
Operating Manual

CONFIDENTIALITY STATEMENT

DOCUMENT NUMBER SPR-MAN-ILT-1000

REV 01

SUPERIOR

One Company, *Superior* Results.

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ABOUT US

Superior Plant Rentals, LLC. (SPR) specializes in portable machining, bore welding, line isolation, and testing solutions, providing equipment and tools manufactured under the highest standards of quality control and engineering expertise along with 24/7 service and support. Designed with the operator in mind, our tools and equipment deliver dependable and precise performance, providing cost-effective solutions and reduced downtime, making them beneficial resources in the Oil and Gas, Mining, Heavy Construction, Shipbuilding, Aerospace, Defense, and Power Generation industries.

SPR rents and sells equipment and tools; we offer our own line of portable ID/OD flange facers, linear/gantry and rotary mills, end prep bevelers, isolation and test plugs, line boring, and bore welders, as well as custom-designed equipment and tools.

Our team includes machining, test and isolation, and engineering experts, all with a thorough working knowledge of applications to support you with our equipment on any job. We understand the urgency of your projects and are committed to delivering the highest quality equipment and tools to satisfy the requirements of your clients.

SPR delivers outstanding customer service, specialized training by seasoned professionals, and tools as tough as the jobs you need them to do.

YORK
PORTABLE MACHINE TOOLS

SUPERIOR
PLANT RENTALS

CLIFF'S BITS
PRECISION GRINDING & TOOLING

WARNING:

SPR is committed to continued product improvement; therefore, the machine you received may be slightly different than the one described herein. This manual and the information provided is a basic guideline for our customers. SPR will do its best to ensure that the information and procedures contained in this manual are correct and up-to-date. Superior cannot guarantee that the information and procedures contained herein are correct for all applications or situations.

The contents of this manual are subject to change without notice. It is the obligation of the user to read all information in this manual, become familiar with the equipment to be used, and exercise the utmost care in equipment operation. **Do not make any modifications to this equipment. Any modifications will void all warranty claims, as well as increase the risk of injury or harm.** Do not operate this equipment if all parts are not functioning at 100% efficiency. Notify us immediately for any needed repairs.

Note: SPR will supply all repair and replacement parts necessary for maintenance and operation of this machine. For repair, service, or additional information, please locate repair and replacement part description/part numbers within the O&M manual in the exploded view section and contact us for ordering.

USA

Superior Plant Rentals LLC.
350 Dowdy Road, Gonzales, LA 70737 | Phone: 225.647.7771

Superior Plant Rentals LLC.
1530 Live Oak Street, Webster, TX 77598 | Phone: 281.554.9400

Superior Plant Rentals LLC.
5450 Avenue A, Bldg. 1, Beaumont TX 77705 | Phone: 409.853.4382

Superior Plant Rentals LLC.
8233 Leopard Street, Corpus Christi, TX 78409 | Phone: 361.541.5900

Superior Plant Rentals LLC.
2030 Gladwick St., Unit B, Rancho Dominguez, CA 90220 | Phone: 310.356.6105

INTERNATIONAL

SPR York Portable Machine Tools
1641 17th Ave, Campbell River, BC, Canada, V9W 4L5 | Phone: 250.286.6400

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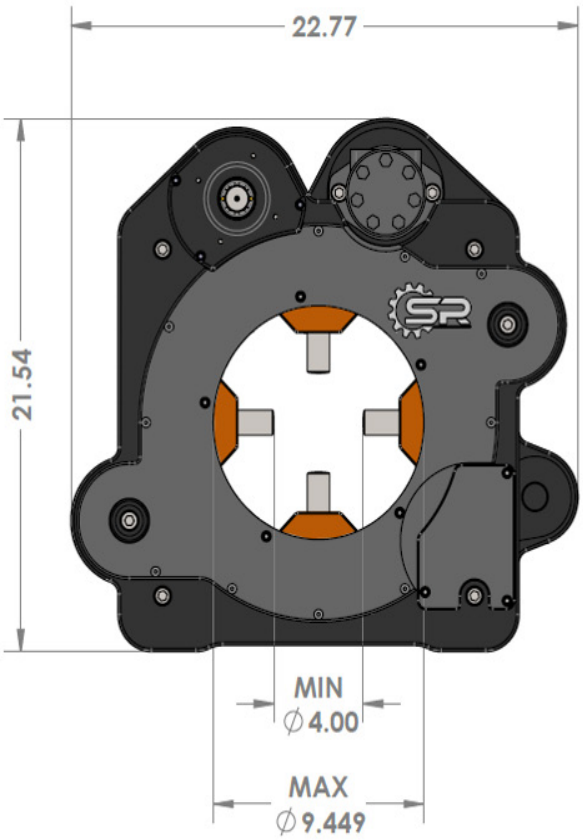
INTRODUCTION

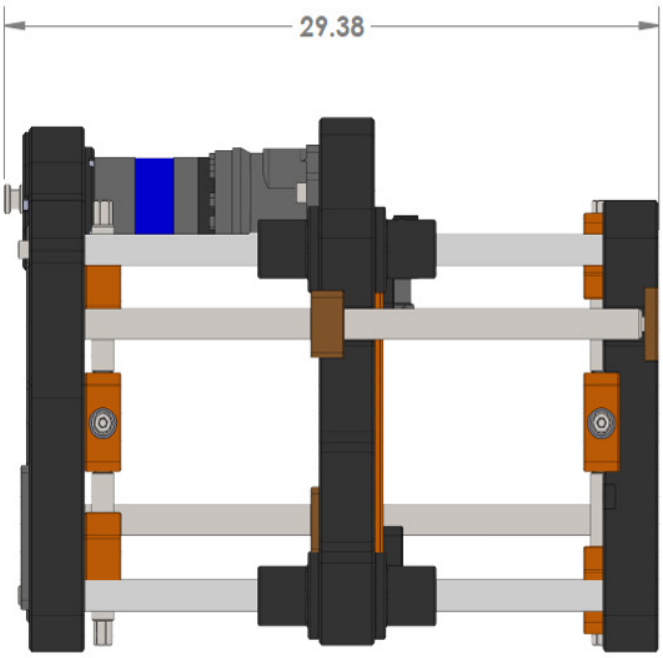
APPLICATIONS

SPR's In-Line Turning Lathes are the perfect tool for on-site resurfacing of large shafts, stub shafts, and bearing journals/seats, requiring little disassembly or costly relocation of equipment. These machines run on precision linear guide bearings and are driven by two lead screws for balanced feeding. Both feed and rotation are hydraulically driven with continuous speed control and are independently adjustable while in use.

When you receive the ILT-1000:

Inspect the machine for shipping damage. Verify that all of the parts listed below, or on the Bill of Materials, are present. If any parts are missing, or if you have questions regarding the ILT-1000, please contact a Superior Plant Rentals or SPR York location nearest you immediately.





SPECIFICATIONS CHART

Machining Performance Range		ILT-1000
ID Mounting Range:	Min Diameter	4.0 in (101.60 mm)
	Max Diameter	9.4 in (238.76 mm)
Drive System		
Max Feed		.75 in (19 mm) / min
Max RPM		270 rpm
Measurements		
Machine Weight		320 lbs (145.15 kg)
Shipping Weight		550 lbs (250 kg)
Dimensions		
Machine (LxWxH)		Refer to drawing on page 1.
Crate/Shipping (LxWxH)		48 in x 24 in x 27 in (1219.20 mm x 609.60 mm x 685.80 mm)

SAFETY PRECAUTIONS

Please follow this list of general safety guidelines when operating the ILT-1000 tool. Safe machining practices should always be followed when operating SPR machines.

Before operating this machine, read the entire operating manual. Inspect machine, hoses, and accessories for any damage.

Wear safety glasses, ear plugs, and safety shoes while operating the ILT-1000 machine. For maximum protection keep your equipment clean and in good condition. Follow company and OSHA safety rules when operating equipment.

The motor should always be turned off when servicing the machine or when changing cutting inserts, collets, or other components.

Moving machine parts can seriously injure operators. Understand and read all instructions before operating this machine.

For maximum safety and performance, read the entire instruction manual before operating this machine.

WARNING!
MOVING PARTS.
Keep hands, loose clothing, and hair away from rotating or moving parts. Disconnect the air supply from the machine and unplug all equipment prior to adjusting or servicing. If electric, remove power from the machine prior to adjusting or servicing.

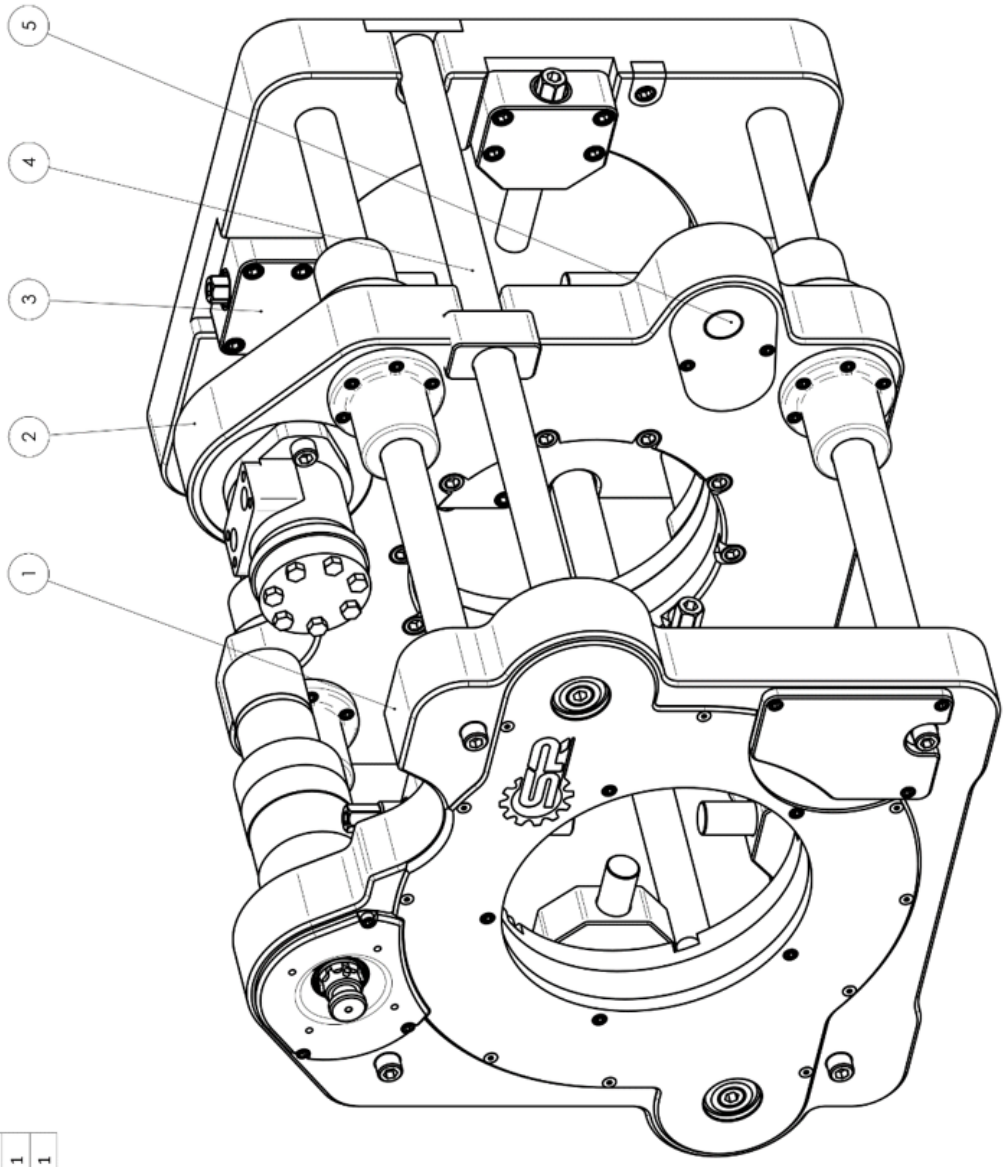
WARNING!
ELECTRICAL SHOCK.
Possible shock if not handled properly.

WARNING!
KEEP DRY.
Keep all equipment and components away from any water source.

WARNING!
EYE PROTECTION.
Eye protection must be worn while operating or working near powered equipment.

WARNING!
EAR PROTECTION.
Ear protection should be worn while operating or working near loud equipment.

STANDARD EQUIPMENT



ASSEMBLY: **10003** | DESCRIPTION: **ILT 10IN**

NO.	PartNum	Rev	SprDesc	QTY.
1	13235	5	ASSY FEED 10IN	1
2	13224	4	ASSY CARRIAGE TOOL 10IN	1
3	13434	2	ASSY END	1
4	13435	1	ASSY LEAD SCREW ILT 10IN	1
5	13436	1	ASSY COVERS NO THREADING	1

PRODUCT DESCRIPTION

SPR's In-Line Turning Lathes are the perfect tool for on-site resurfacing of large shafts, stub shafts, and bearing journals/seats, requiring little disassembly or costly relocation of equipment. These machines run on precision linear guide bearings and are driven by two lead screws for balanced feeding. Both feed and rotation are hydraulically driven with continuous speed control and are independently adjustable while in use.

This machine uses external clamping rods which will accommodate diameters from 4.00 in to 9.44 in. The standard ILT-1000 has 15.5 in of linear travel. Optional travel lengths are available on request.

The standard ILT-1000 package includes:

- 20 feet of hydraulic hose
- Custom aluminum shipping container
- 10 cutting tool inserts
- Operating manual

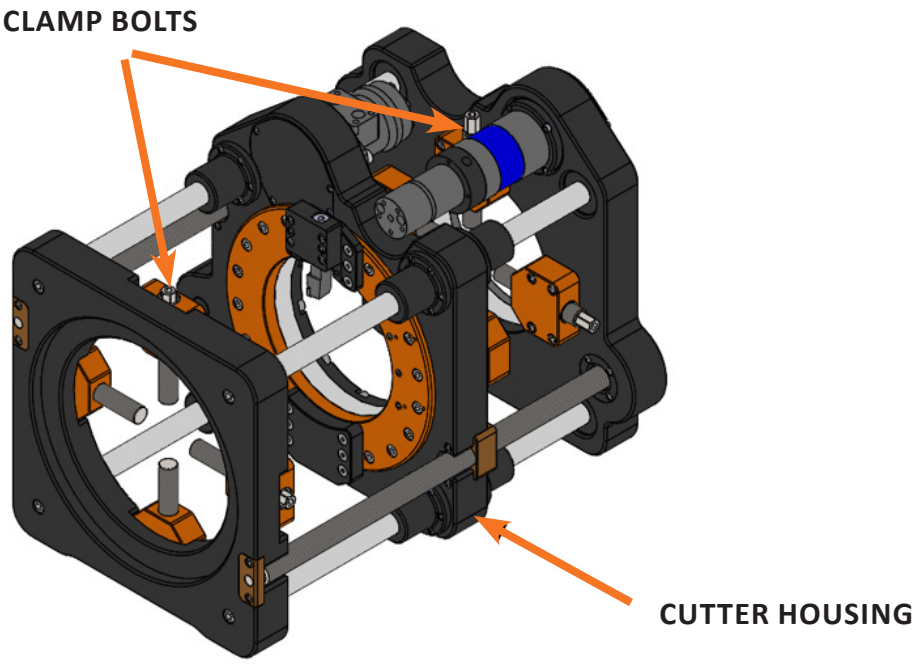
Tools needed for setup and operation:

- Imperial Allen key set
- Metric Allen key set
- 3/8 in hex stub shaft
- Cordless drill
- 3/4 in wrench
- Measuring tape
- Dial indicator

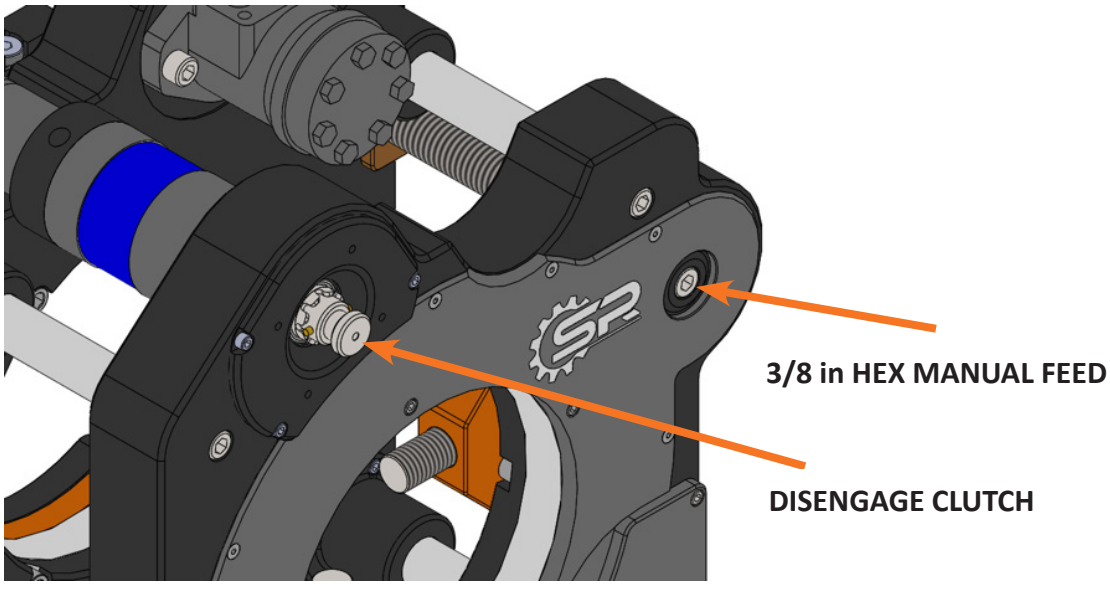
SET-UP

1. Lift your ILT-1000 out of crate. Hook two loop straps under top clamps bolts. You may need to turn clamp bolt housing depending on the diameter on which you are clamping.

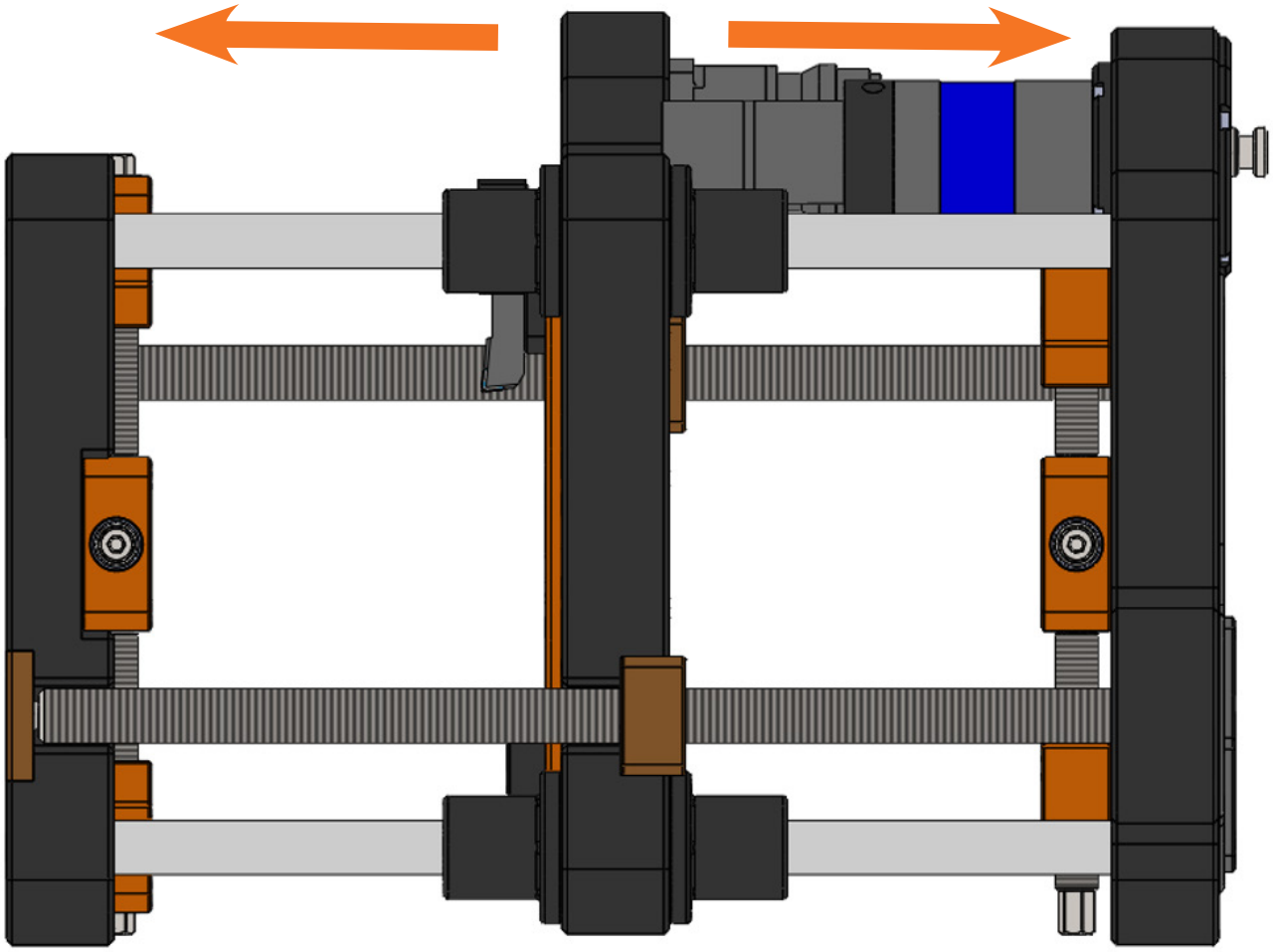
2. Slide machine onto shaft and, using a tape measure, adjust the clamping screws such that the machine is concentric within 1/16 in.



3. Disengage clutch and using a drill and 3/8 in hex and cordless drill, manual feed cutter housing all the way to one end. Use a magnet base dial gauge and turn cutter plate to adjust the machine concentric.



4. Move the cutter housing to the opposite end repeat.

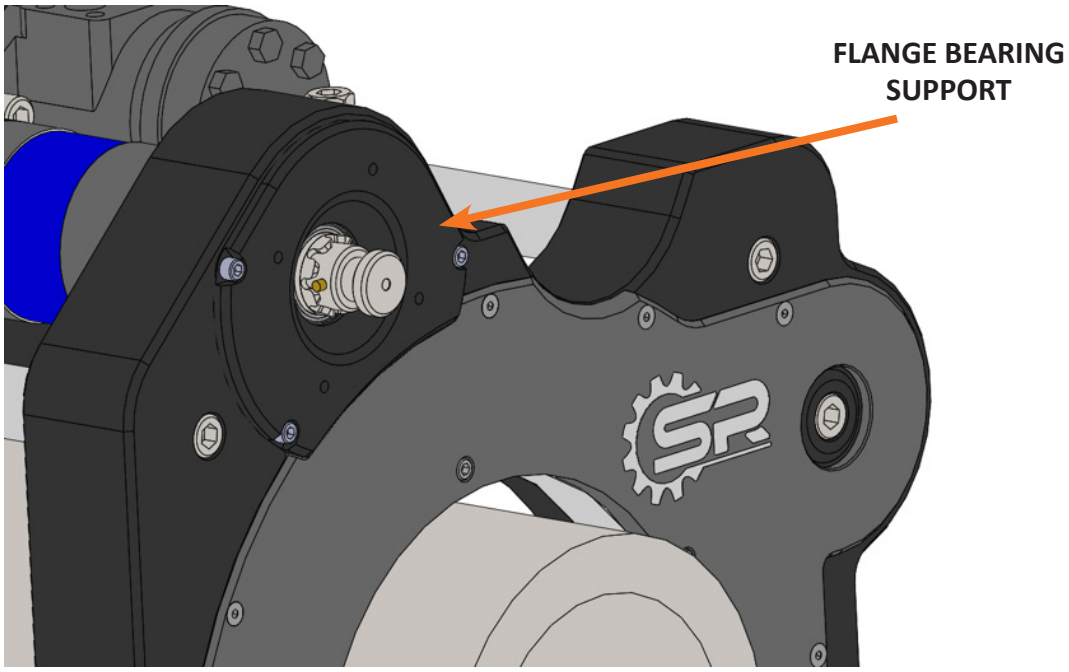


5. Move to the original side and adjust if necessary; repeat until both ends are aligned.

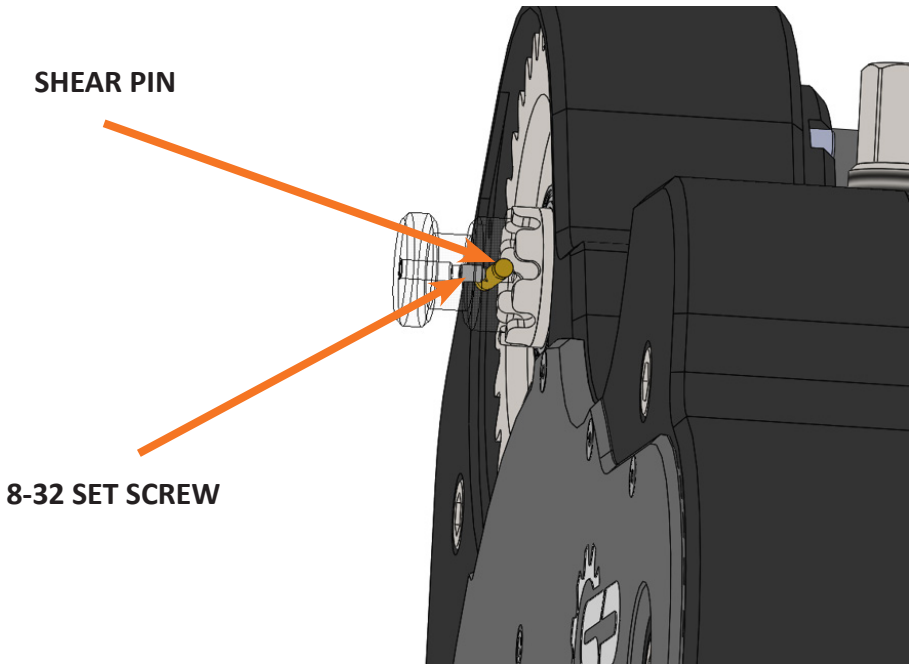
REPLACING SHEAR PIN

If the feed motor is turning and the clutch is in, yet the feed screw isn't turning, the brass shear pin has probably sheared.

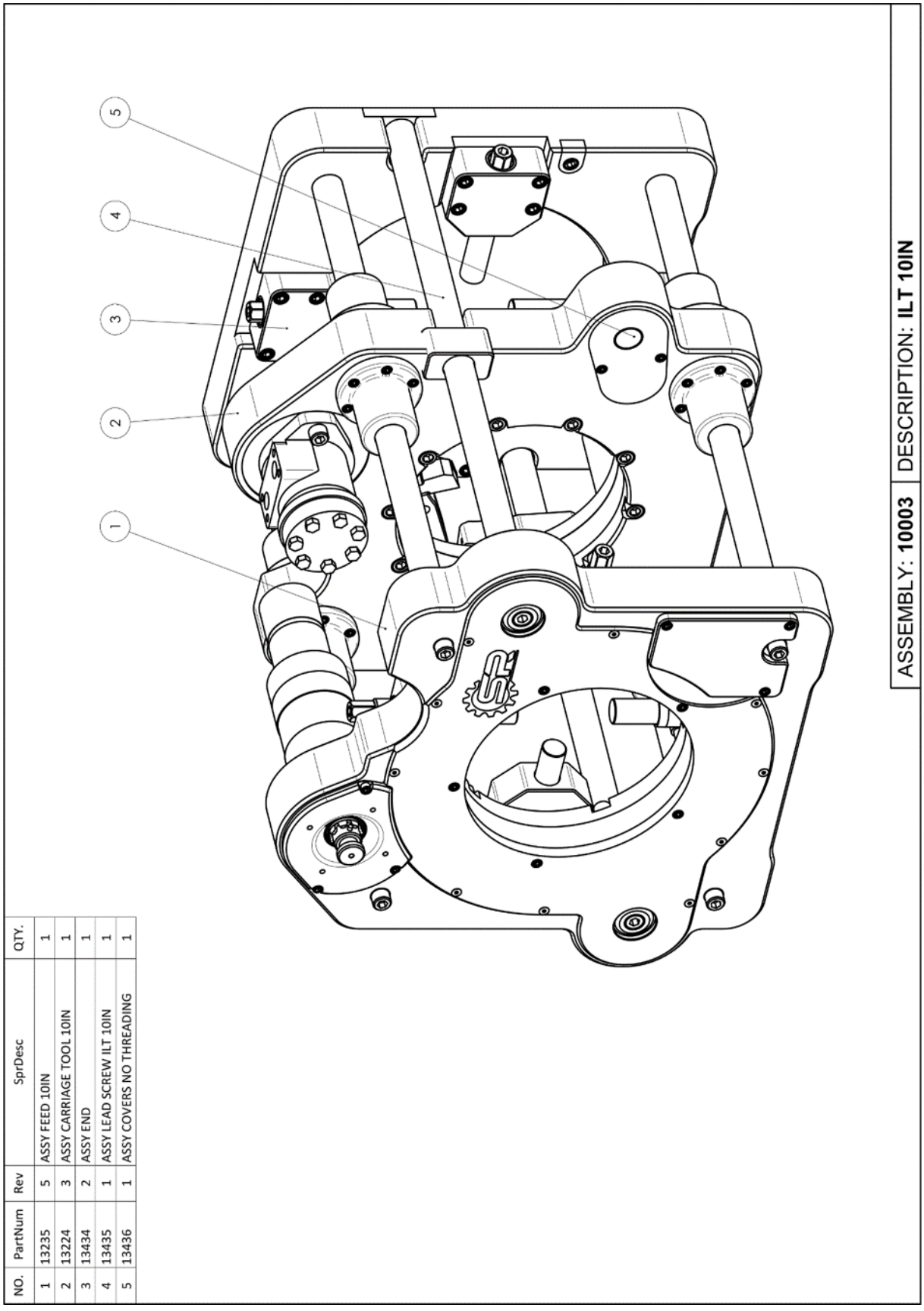
1. With a 3/16 in hex key, remove the three screws holding the flange bearing support.



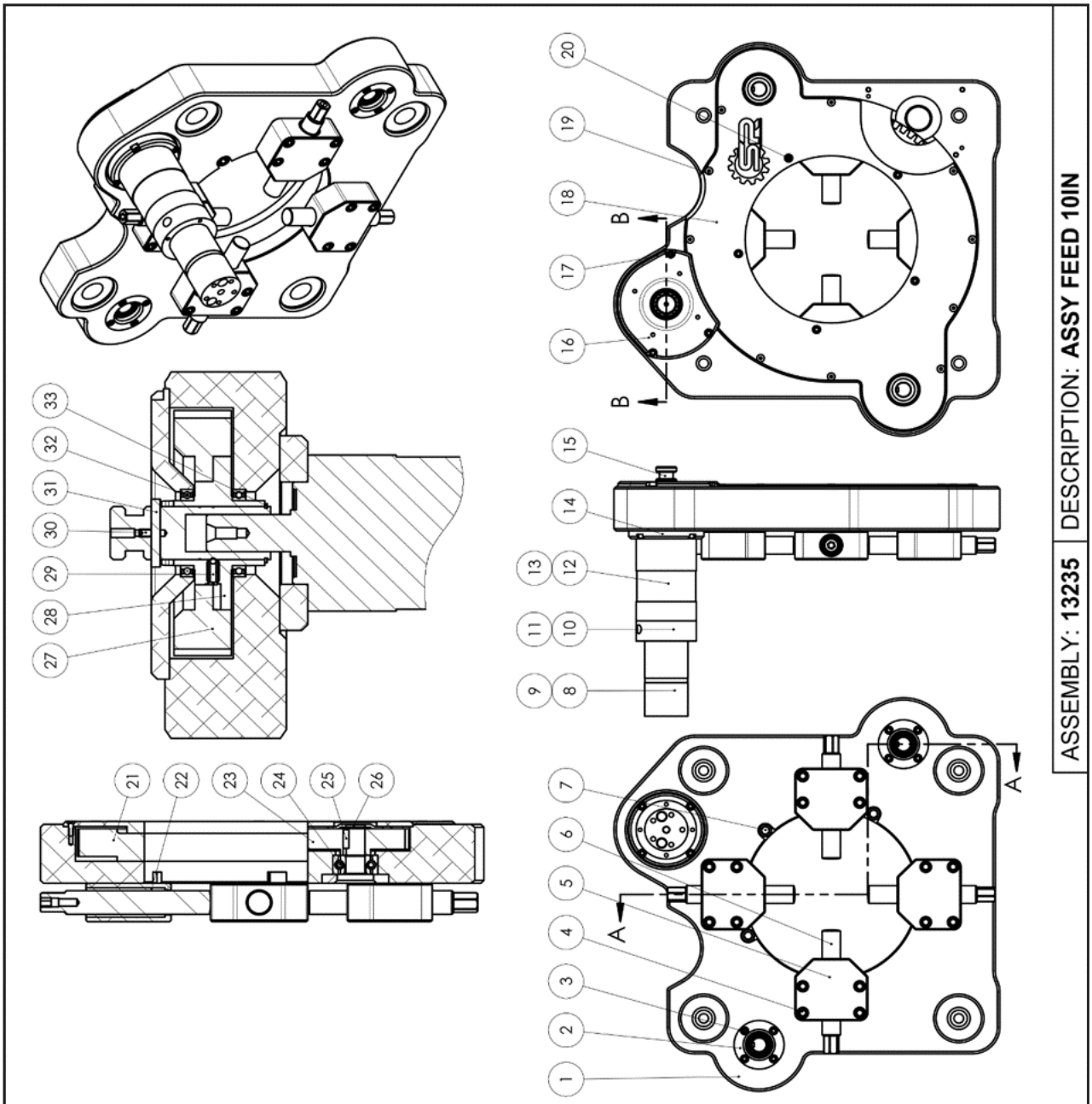
2. With a 5/64 in hex key, loosen the 8-32 set screw on the clutch shaft. Remove the old pin and replace. Center shear pin in the clutch shaft and tighten the 8-32 set screw. Reattach the flange bearing support.



EXPLODED VIEWS

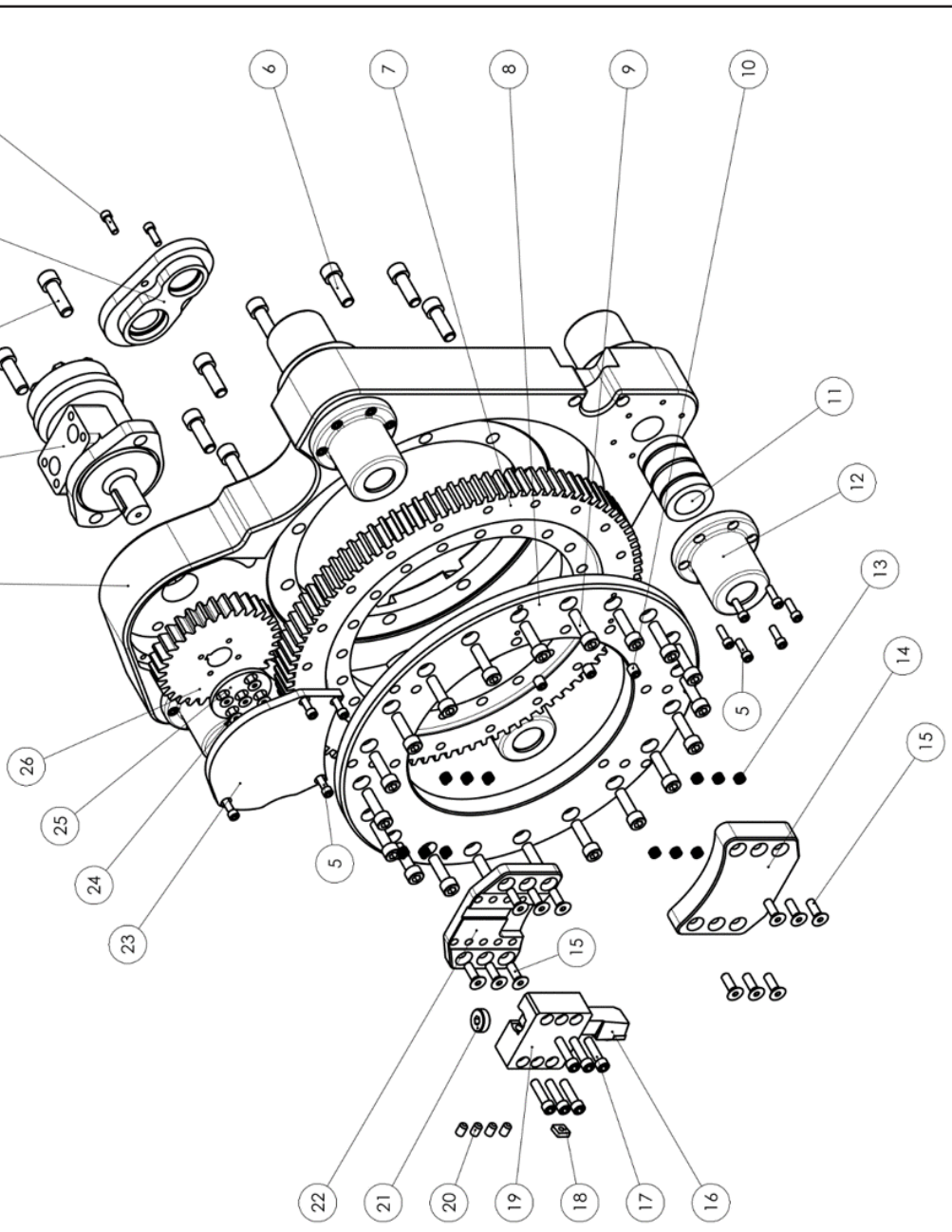


NO.	PartNum	Rev	SprDesc	QTY.
1	13235	5	ASSY FEED 10IN	1
2	13224	3	ASSY CARRIAGE TOOL 10IN	1
3	13434	2	ASSY END	1
4	13435	1	ASSY LEAD SCREW ILT 10IN	1
5	13436	1	ASSY COVERS NO THREADING	1



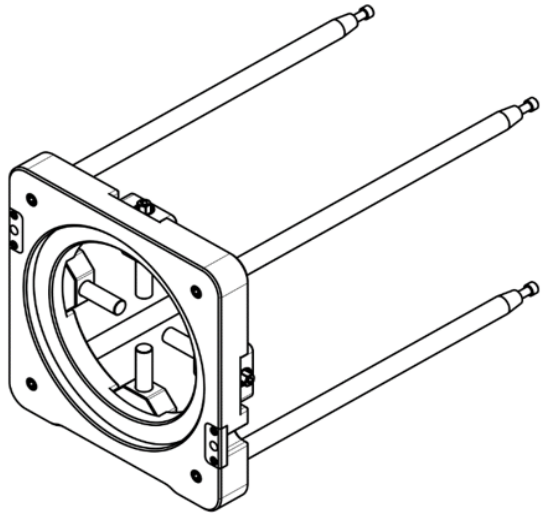
NO.	PartNum	SprDesc	QTY.
1	13223	PLATE FEED 10IN	1
2	13429	BUSHING RETAIN 1.5X3.75X.375IN	2
3	14061	SCREW CAP .25-20X.5	14
4	11731	SCREW CAP .375-16X1.75	16
5	13220	BASE JACKSCREW ACME 1-5	4
6	13225	SCREW JACK ACME 1-5	4
7	11639	SCREW CAP M12X35	5
8	50017	MOTOR HYD 393R-86NM-0.625IN	1
9	30007	KEY ROUND 0.1875-0.75IN	1
10	20014	BRACKET ADAPTOR GEARBOX	1
11	30087	SCREW FLT .25-28X.625	5
12	13425	GEARBOX INLINE 40-1 20MM	1
13	30083	SCREW CAP M6X20	4
14	13248	PLATE GEAR MOUNT 84MM	1
15	13244	BUSHING CLUTCH	1
16	13247	FLANGE BEARING SUPPORT	1
17	10295	SCREW CAP .25-20X.75	7
18	15695	PLATE COVER FEED 10IN	1
19	14094	SCREW FLT 10-24X.625	10
20	14065	SCREW CAP .25-20X2	5
21	20046	SLEWING-RING 4M-93T-240MM	1
22	16048	FEED SCREW NUT	4
23	13428	GEAR SPUR 4M-26T-20MM	2
24	13427	BEARING DUB 20X47X20.6MM	2
25	13485	KEY 6X6X20MM +0-.03 RND	2
26	13252	RING COVER GEAR 2.5IN	2
27	13242	GEAR 4M 31T CLUTCH	1
28	13246	FLANGE GEAR MOUNT CLUTCH	1
29	14716	SPRING PLUNGER .25-20X.513	3
30	50696	SCREW SET FLT 8-32X0.25	1
31	13245	PIN SHEAR .188X1.44	1
32	10580	BEARING DEP 35X47X7MM	2
33	12764	RING RETAIN EXT 1.125X.05IN	1

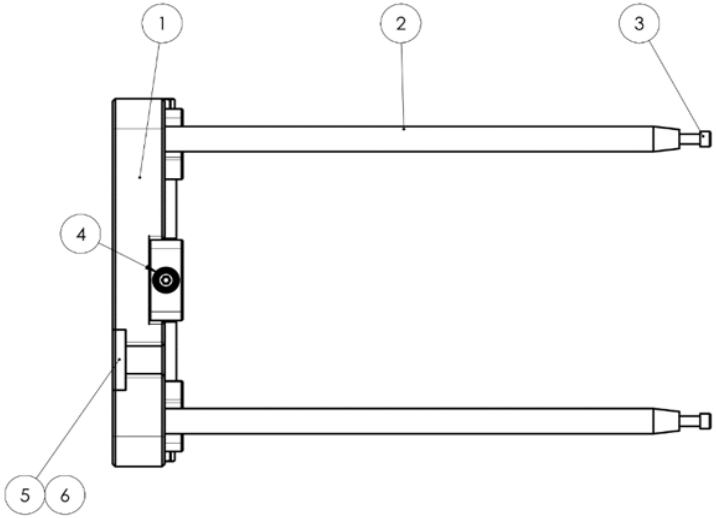
ASSEMBLY: **13224** | DESCRIPTION: **ASSY CARRIAGE TOOL 10IN**

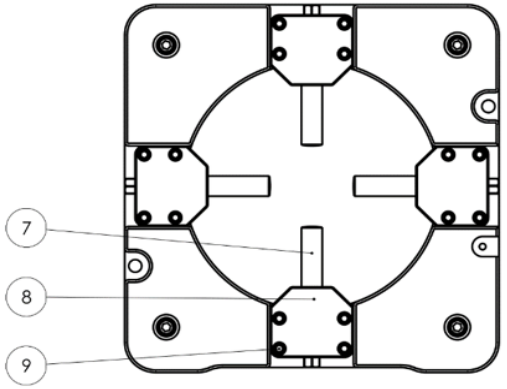


NO.	PartNum	SprDesc	QTY.
1	13222	PLATE TOOL 10IN	1
2	30034	MOTOR HYD 930R-79NM-1IN	1
3	14072	SCREW CAP .5-13X1.5	2
4	13433	COVER THREAD FEED GEARS	1
5	10295	SCREW CAP .25-20X.75	54
6	11639	SCREW CAP M12X35	10
7	20046	SLEWING-RING 4M-93T-240MM	1
8	13232	RING TOOL HOLDER 10IN	1
9	13444	SCREW CAP M10X35	20
10	14018	SCREW SET CUP M10-1.5X12	3
11	30028	BUSHING OIL 1.25-2-2.625IN	8
12	20037	HOUSING BEARING SLIDE	8
13	16218	HELICOIL .313-18	12
14	16205	COUNTERWEIGHT 4.2 LBS	1
15	10662	SCREW FLT .313-18X1	12
16	16217	CUTTER TURNING .75X.75X2.6IN	1
17	30097	SCREW CAP .313-18X1.25	6
18	15861	INSERT CNMG 432 MN KCP25	10
19	16204	TOOL HOLDER 9.4IN OFFSET .75IN	1
20	14103	SCREW SET FLT .313-18X.5	4
21	20042	SCREW ADJUST CUTTER-HEAD	1
22	16203	PLATE TOOL ADJUST 9.4IN	1
23	13432	COVER DRIVE MAIN	1
24	11360	SCREW FLT .25-20X.625	5
25	15677	PLATE RETAIN GEAR	1
26	15676	GEAR SPUR 4M-31T-1IN	1

NO.	PartNum	SprDesc	QTY.
1	13219	PLATE END 10IN	1
2	13221	GUIDE BAR 1.25X24 TAPERED	4
3	14072	SCREW CAP .5-13X1.5	8
4	16048	FEED SCREW NUT	4
5	13250	BEARING SPLINE .625IN	2
6	11326	SCREW CAP .313-18X.75	4
7	13225	SCREW JACK ACME 1-5	4
8	13220	BASE JACKSCREW ACME 1-5	4
9	11731	SCREW CAP .375-16X1.75	16

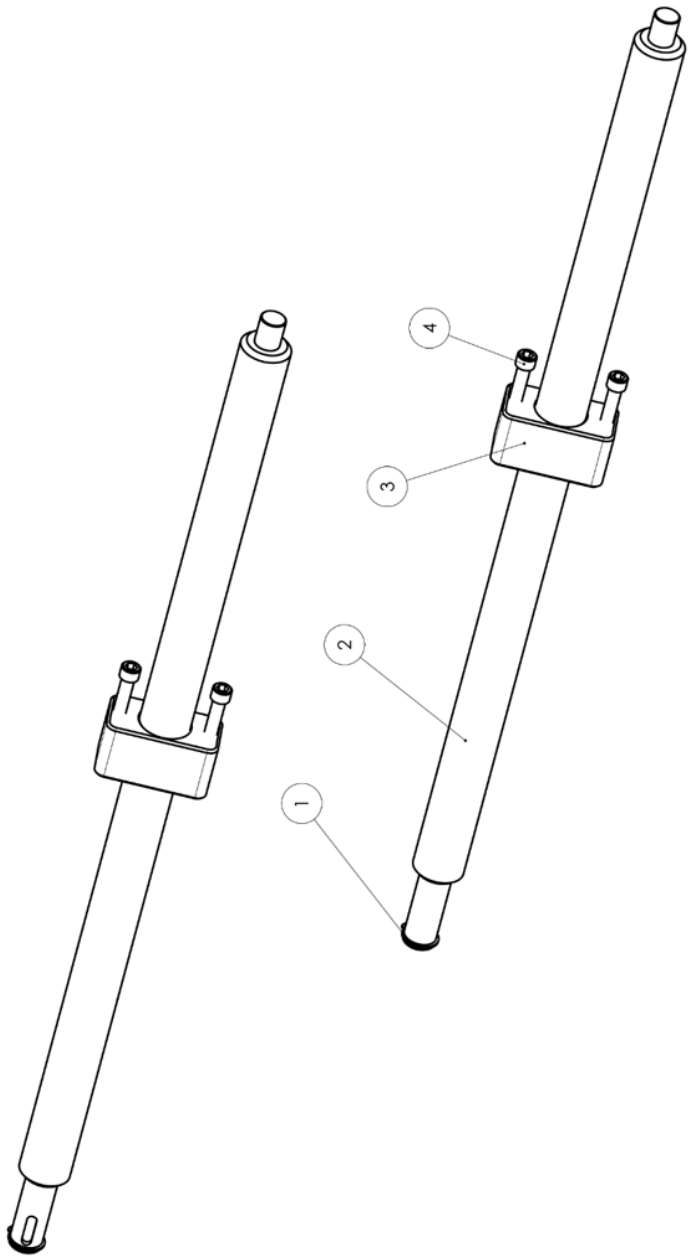






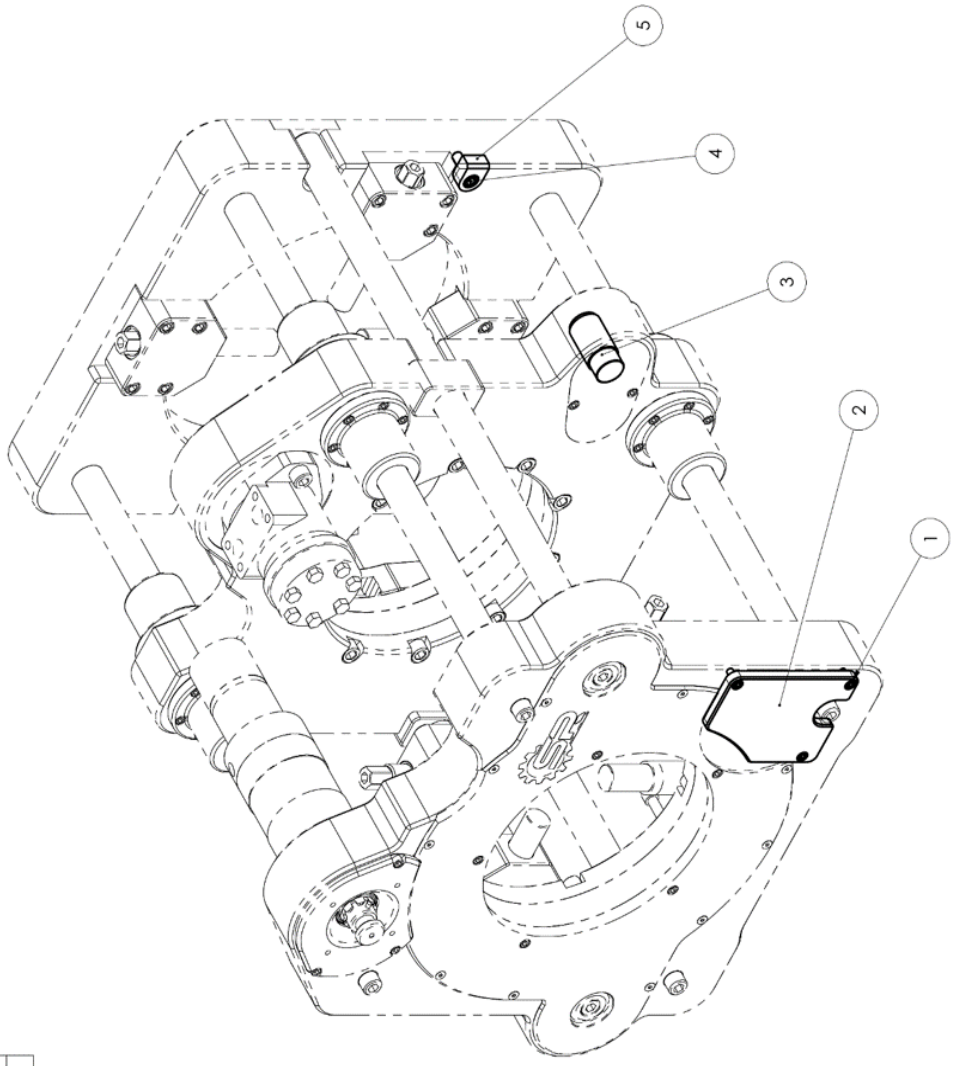
ASSEMBLY: **13434**	DESCRIPTION: **ASSY END**

ASSEMBLY: **13435** | DESCRIPTION: **ASSY LEAD SCREW ILT 10IN**

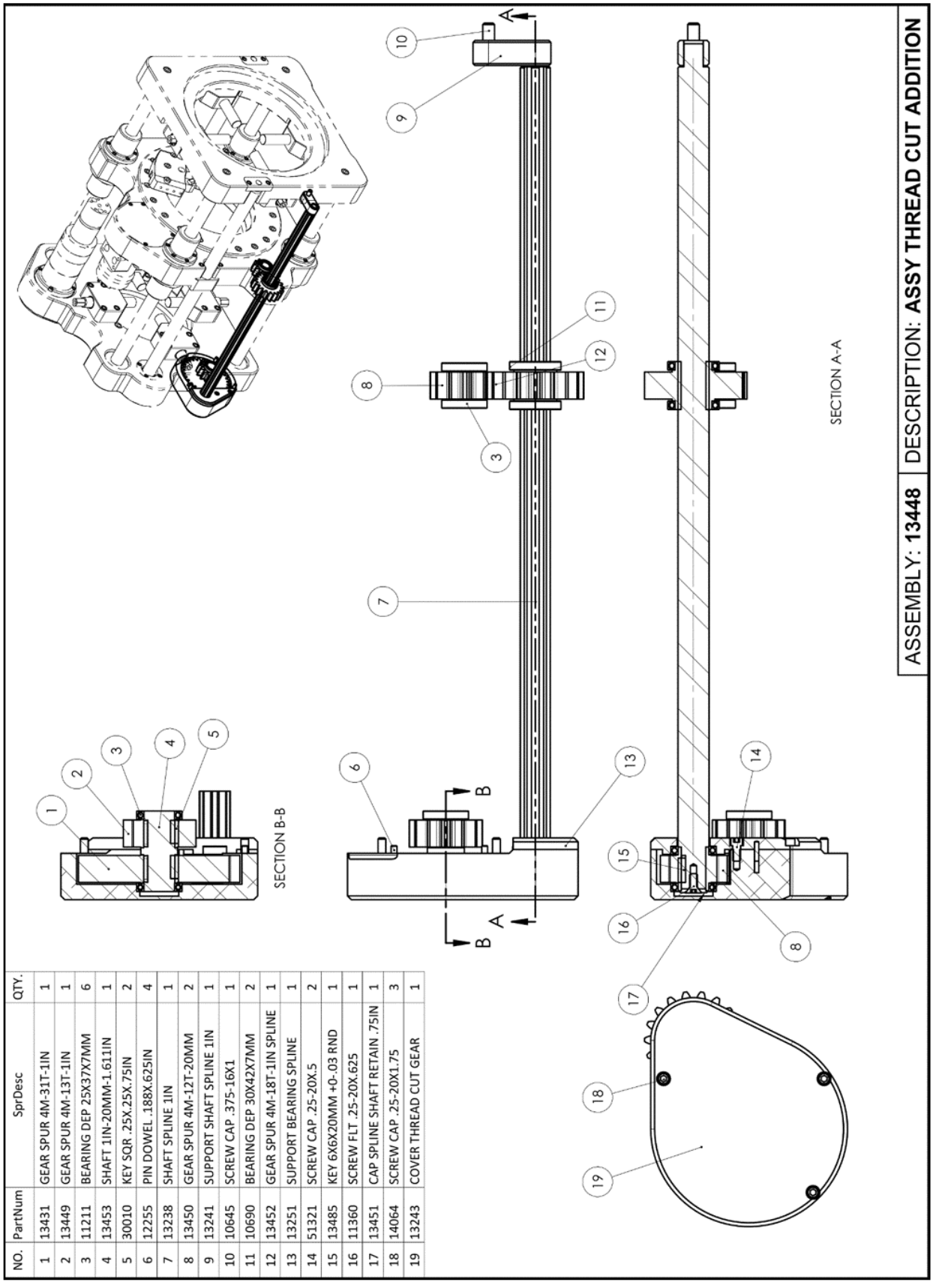


NO.	PartNum	SprDesc	QTY.
1	13253	RING RETAIN EXT 20MM	2
2	13231	LEADSCREW ACME 1.25-5 28IN	2
3	13229	NUT BOLT ON ACME 1.25-5	2
4	14066	SCREW CAP .313-18X1.75	4

ASSEMBLY: **13436** | DESCRIPTION: **ASSY COVERS NO THREADING**



NO.	PartNum	SprDesc	QTY.
1	51321	SCREW CAP .25-20X.5	3
2	13440	PLATE NO THREADING	1
3	13438	PLUG NO THREADING	1
4	10645	SCREW CAP .375-16X1	1
5	13439	FILLER NO THREADING	1



NO.	PartNum	SprDesc	QTY.
1	13431	GEAR SPUR 4M-31T-1IN	1
2	13449	GEAR SPUR 4M-13T-1IN	1
3	11211	BEARING DEP 25X37X7MM	6
4	13453	SHAFT 1IN-20MM-1.611IN	1
5	30010	KEY SQR .25X.25X.75IN	2
6	12255	PIN DOWEL .188X.625IN	4
7	13238	SHAFT SPLINE 1IN	1
8	13450	GEAR SPUR 4M-12T-20MM	2
9	13241	SUPPORT SHAFT SPLINE 1IN	1
10	10645	SCREW CAP .375-16X1	1
11	10690	BEARING DEP 30X42X7MM	2
12	13452	GEAR SPUR 4M-18T-1IN SPLINE	1
13	13251	SUPPORT BEARING SPLINE	1
14	51321	SCREW CAP .25-20X.5	2
15	13485	KEY 6X6X20MM +0-.03 RND	1
16	11360	SCREW FLT .25-20X.625	1
17	13451	CAP SPLINE SHAFT RETAIN .75IN	1
18	14064	SCREW CAP .25-20X1.75	3
19	13243	COVER THREAD CUT GEAR	1

MAINTENANCE

GENERAL MACHINE MAINTENANCE

During heavy operation, use a brush regularly to clean chips away from the machine. Thoroughly clean the machine after use. Dirt and grit can severely shorten the life of the machine. Do not spray anything into the electric motor body

MONITOR THE TEMPERATURE

Monitor the temperature of the Feed and Cutter housing during operation. Heat buildup on the aluminum housing is an indication that the bearings need lubrication or maintenance and should be handled immediately to insure proper life of the tool.

Note: Heat buildup can also be the result of improperly set bearing clearances. If this problem exists, it is recommended that you contact the factory.

THREAD INSPECTION

Inspect all visible thread areas for excessive wear. Parts that have worn threads should be replaced before damage to the mating thread assemblies occurs.

DRIVE ASSEMBLY

It is recommended that each in-line turning machine drive assemblies be cleaned, inspected, and greased. This will help maintain the gear backlash and isolate seal or bearing problems. The inspection should be performed by a qualified individual.

DRIVE SHAFT

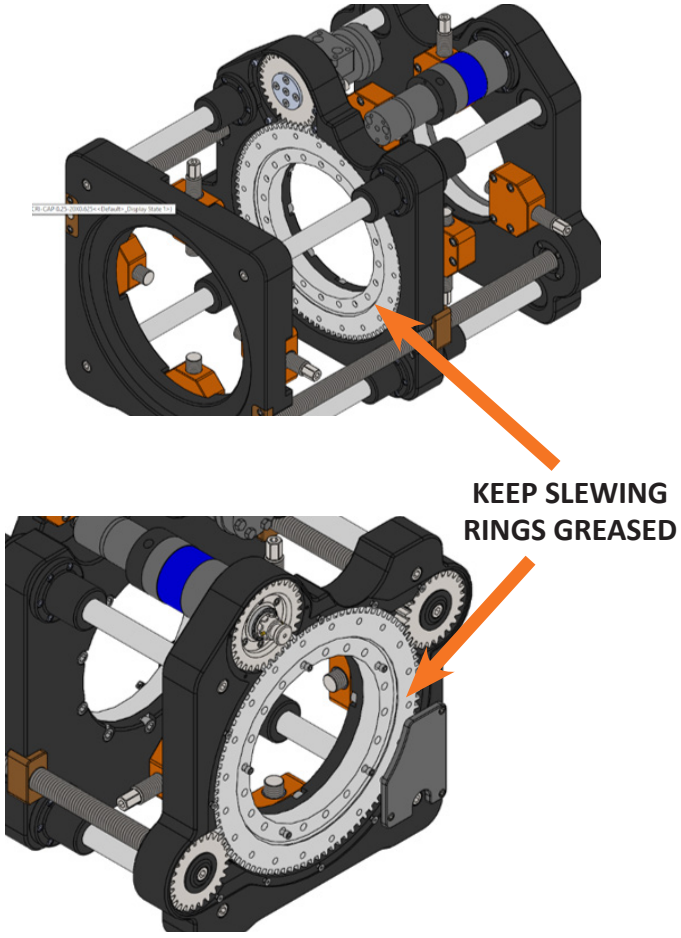
After approximately 50 hours of operation on a new (or newly assembled) machine, the drive shaft end play should be checked for main bearing pre-load and gear backlash. In certain instances, this area may need adjustment as the new parts wear into (seat) their mating surfaces. This adjustment should be performed by a qualified individual or by the factory if a qualified individual is not available.

PROPER HANDLING

Do not drop, hit, or otherwise abuse your Inline Turning machine. This equipment is designed as a portable machining assembly, and as such, is not designed to withstand excessive abuse. Care for your equipment will increase your utilization, the life of the machine, and minimize your repair cost.

TOOL BITS

Remember that tool bits (cutting tools) in good condition perform better. Do not try to use dull tool bits or force the tool bits into the work piece. If excessive back pressure exists, if the tool bits seem to be tearing rather than cutting, or if the chips begin to turn blue or brown, replace your cutting tool bits right away. When possible, leave unused tool bits in their packages to prevent them from being damaged. Please store tool bits that have been taken from their original package in a safe place.



WARRANTY

Superior Plant Rentals, LLC (SPR) warrants that the equipment manufactured by it will: (i) conform to SPR's written specifications and descriptions, and (ii) be free from substantial defects in design, materials, and workmanship for a period of one year from date of shipment to the original buyer, or six months from date of placing in service by buyer, whichever date is earlier.

During this period, if any equipment is proved to SPR's satisfaction to be defective, SPR will, at our sole and absolute discretion, and as SPR's sole warranty liability and buyer's sole remedy, repair, replace, or credit buyer's account for any equipment that fails to conform to the warranties, provided that: (i) SPR is notified in writing within 10 days following discovery of such failure with a detailed explanation of any alleged deficiencies; (ii) SPR is given a reasonable opportunity to investigate all claims; and (iii) SPR's examination of such equipment confirms the alleged deficiencies and that the deficiencies were not caused by accident, misuse, neglect, improper use, unauthorized alteration, repair, or improper testing.

Shipping cost of the alleged defective equipment to SPR is to buyer's account. However, if SPR agrees that the equipment is defective, then pursuant to this warranty, SPR will reimburse buyer its shipping cost to return the equipment to SPR.

The warranty against defects does not apply to: (1) consumable components or ordinary wear items, and (2) use of the equipment with equipment, components, or parts not specified or supplied by SPR or contemplated under the equipment documentation.

The following actions will void the one-year warranty:

1. Repairs or attempted repairs have been made by persons other than SPR personnel, or authorized service repair personnel;

2. Repairs are required because of normal wear;

3. The tool has been abused or involved in an accident;

4. There is evidence is misuse, such as overloading of the tool beyond its rated capacity, use after partial failure, or use with improper accessories.

NO OTHER WARRANTY IS VALID

SUPERIOR

One Company, ***Superior*** Results.

YORK PORTABLE MACHINE TOOLS

SUPERIOR PLANT RENTALS

CLIFF'S BITS PRECISION GRINDING & TOOLING

Beaumont, TX | Blackwood, NJ | Campbell River, BC | Corpus Christi, TX | Edmonton, AB
Gonzales, LA | Houston, TX | Rancho Dominguez, CA | Toronto, ON | Webster, TX