



Model 11800 ILT-1600 InLine Turning Machine Operating Manual

CONFIDENTIALITY STATEMENT

This document contains proprietary and confidential information which is the property of Superior Plant Rentals LLC (SPR). It is loaned for limited purposes only and remains the property of SPR. Reproduction in whole or part, use of the design, or distribution of this information to others is not permitted without the express written consent of SPR. This document is to be returned to SPR upon request or upon completion of the use for which it was loaned. This document and the information contained and represented herein are copyrighted property of SPR.

DOCUMENT NUMBER

SPR-MAN-ILT-1600

REV

01



SUPERIOR

THIS PAGE INTENTIONALLY LEFT BLANK

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.



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

TABLE OF CONTENTS

	PAGE
1. INTRODUCTION.....	1
2. SPECIFICATIONS	2
3. SAFETY PRECAUTIONS	3
4. STANDARD EQUIPMENT.....	4
5. PRODUCT DESCRIPTION.....	5
6. SET-UP AND OPERATION	6
7. EXPLODED VIEWS	11
8. MAINTENANCE	19
9. WARRANTY	20



SUPERIOR

THIS PAGE INTENTIONALLY LEFT BLANK

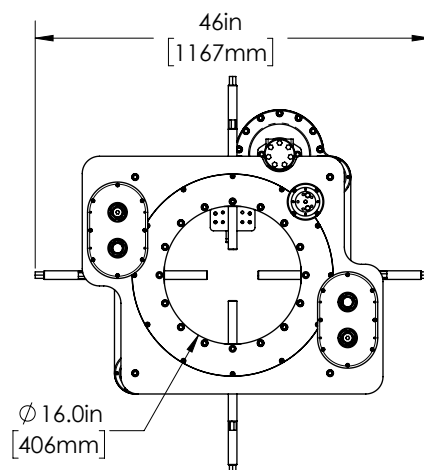
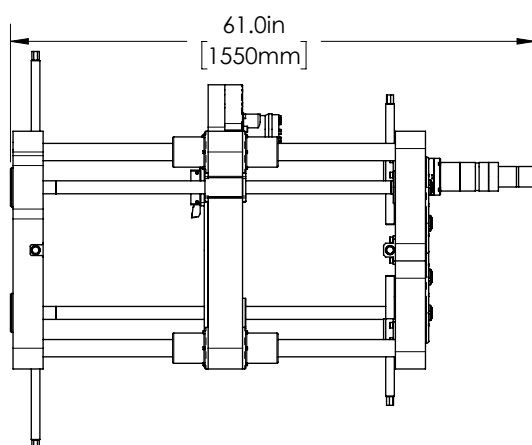
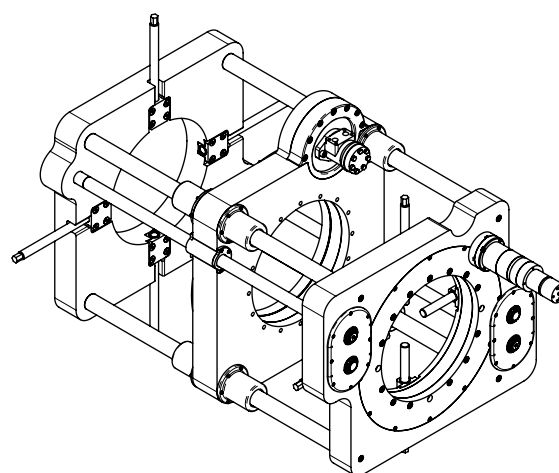
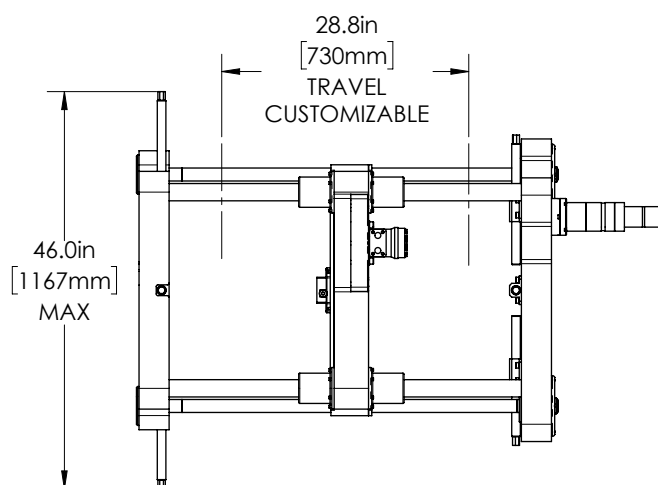
INTRODUCTION

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-1600:

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-1600, please contact a Superior Plant Rentals or SPR York location nearest you immediately.



SPECIFICATIONS

Machining Performance Range		ILT-1600
ID Mounting Range:	Min Diameter	8.0 in (203.20 mm)
	Max Diameter	16.0 in (406.40 mm)
Drive System		
	Max Feed	1.80 in (45.75 mm) / min
	Max RPM	280 RPM
Measurements		
	Machine Weight	1010 lbs
	Shipping Weight	1450 lbs
Dimensions		
	Machine (LxWxH)	60 in (1524 mm) x 37.8 in (960 mm) x 37.8 in (960 mm)
	Crate/Shipping (LxWxH)	71 in (1803.4 mm) x 44 in (1117.6 mm) x 41 in (1041.1 mm)

SAFETY PRECAUTIONS

Please follow this list of general safety guidelines when operating the ILT-1600 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-1600 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.

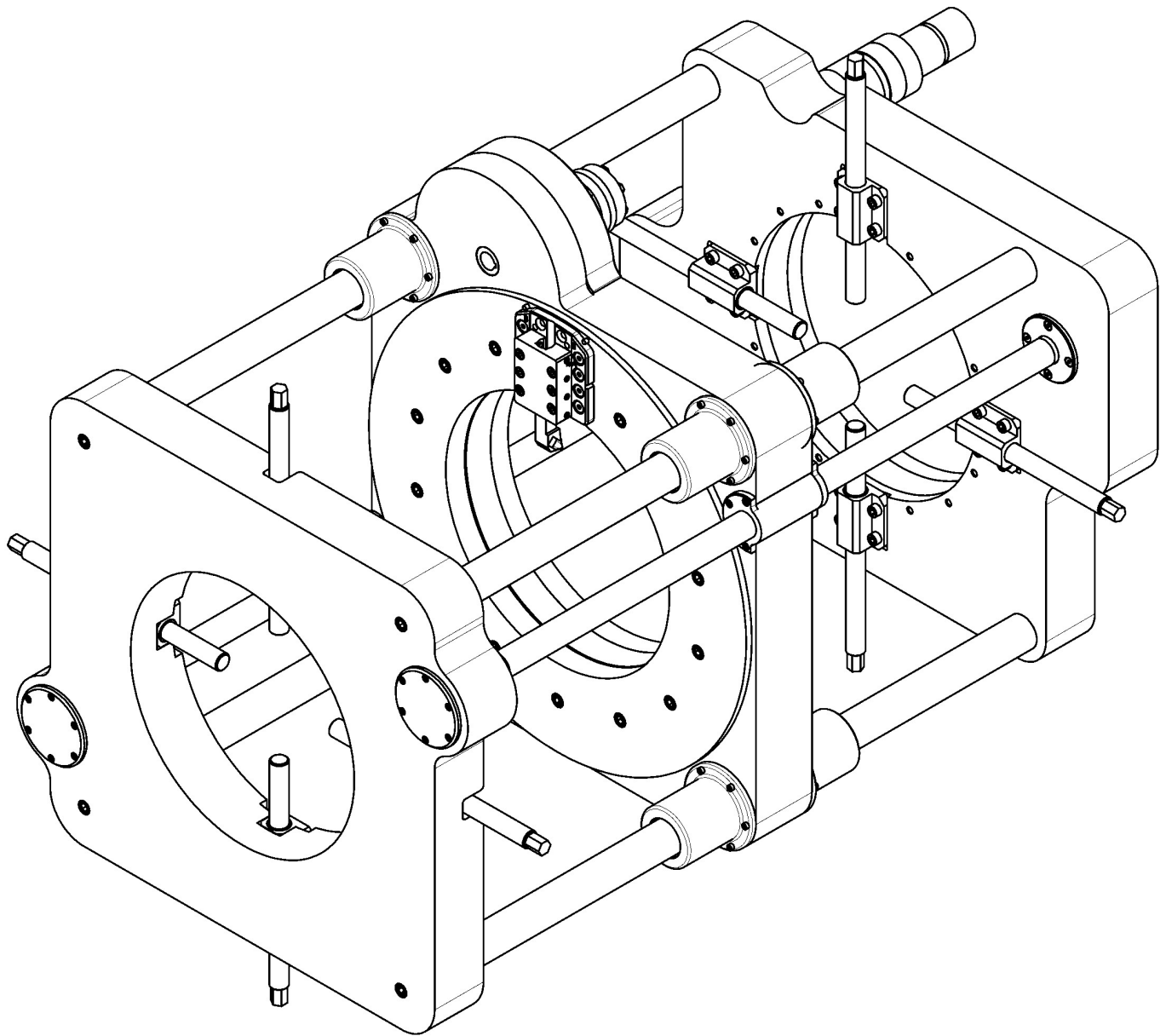
Eye protection must be worn while operating or working near powered equipment.



WARNING!
EAR PROTECTION.

Ear protection should be worn while operating or working near loud equipment.

STANDARD EQUIPMENT



PRODUCT DESCRIPTION

SPR'S In-Line Turning machine provides precise and efficient on-site turning. This machine is offered in both standard and custom sizes for unique applications. Both feed and rotation are hydraulically driven and independently adjustable while in use. The ILT-1600 is designed for shaft servicing covering diameters from 8 in (203.20 mm) to 16 in (203 to 406.40 mm). Custom split frames are available upon request. SPR's ILT performs accurate and consistent machining of bearing journals and other shaft surfaces.

Features include:

- Induction hardened chrome guide bars
- Precision linear guide bearings
- Twin lead-screws for balanced feeding
- Stub shaft or in-line turning capabilities
- Variable speed feed control through planetary gear reduction
- Variable and reversible rotation rates using hydrostatic or open circuit hydraulic power units
- Two-position feed motor, rapid traverse clutch, ability to cut threads
- High quality alloys and fittings, 20 ft hoses
- Both feed and rotation are hydraulically driven and independently adjustable while in use

Options:

- Split frame
- Custom sizes

SET UP AND OPERATION

1. Check hydraulic fluid level (we recommend an AW46 light hydraulic fluid); the power unit ships empty.
2. Fill reservoir with clean hydraulic oil (approximately 17.7 gal (67 ltr)).
3. Ensure that the electric motor is properly connected to your power supply.



Correct motor rotation is very important. Incorrect motor direction will cause pump failure and void warranty. The correct direction for motor rotation is counter clockwise when looking at the fan end of the motor.

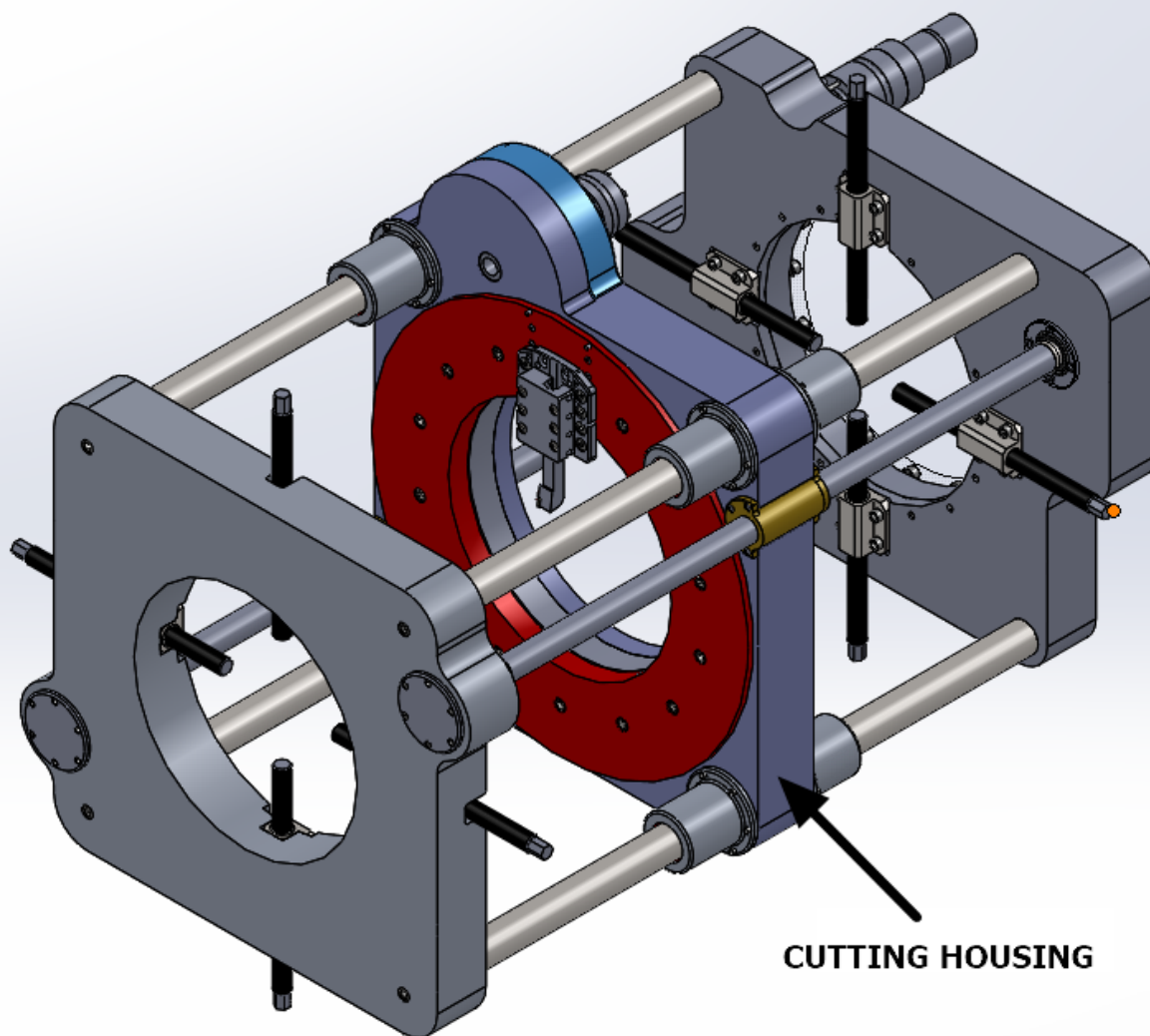
4. Always shut down and start up the electric motor with the hydraulic flow in the neutral position.



Do not start the electric motor under load.

5. Remove the orange inspection cover to check motor rotation.
6. The motor coupler ships disengaged. Start the power unit, check rotation, turn off, loosen the set screw, pull coupler back to engage and tighten set screw.
7. Always shut down and start up the electric motor with the hydraulic flow in the neutral position.

8. Place machine in position and dial Cutting Housing concentric to workpiece



9. Use a tape measure to get the machine within 1/8 in (3 mm) of concentric.
10. Move the Cutting Housing all the way to an end and use a dial gauge to align the machine concentric.
11. Move the Cutting Housing to the opposite end and make the machine concentric.
12. Move to the original side and adjust if necessary, repeat until both ends are aligned.

PENDANT CONTROLS

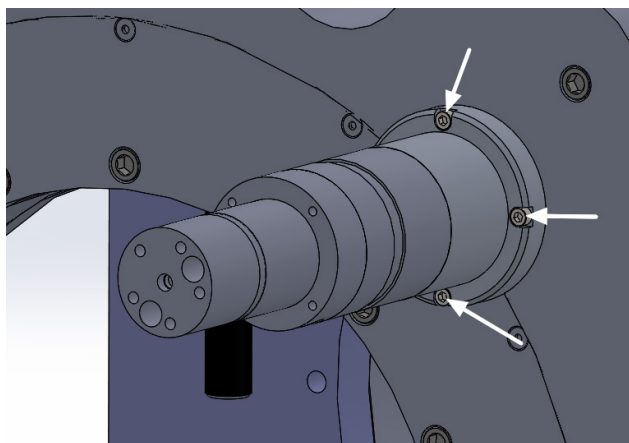


Speeds and Feeds	
Max Cutter Rotation	280 rpm
Max Feed	1.8 in/min (45.7 mm/min)

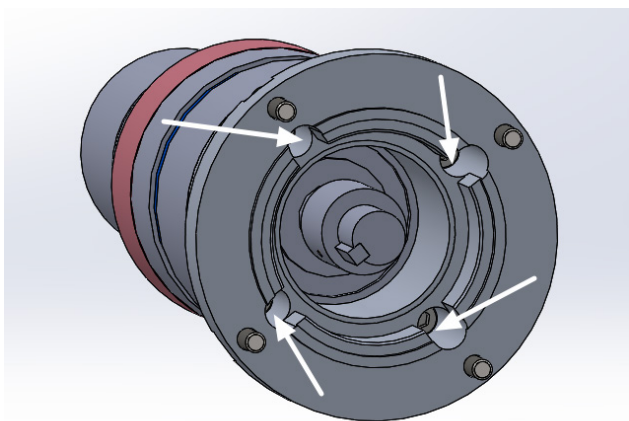
SHEARPIN REPLACEMENT

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

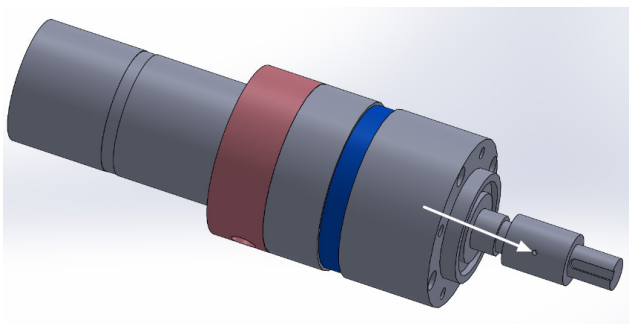
1. With a 5mm hex key, remove the 4 screws holding on the Feed Motor Assembly.



2. With a 5mm hex key, remove 4 screws from the Feed Motor Assembly bracket.



3. Pull the bracket off the Feed Motor Assembly and using a punch smaller than 3/32 in (2.4 mm), knock out any remaining shear pin material in both parts.



4. Carefully tap in a new brass shear pin supplied with the machine. If this is difficult, run a .09375 in drill through the hole to clean it out, but take care not to make the hole oversized.



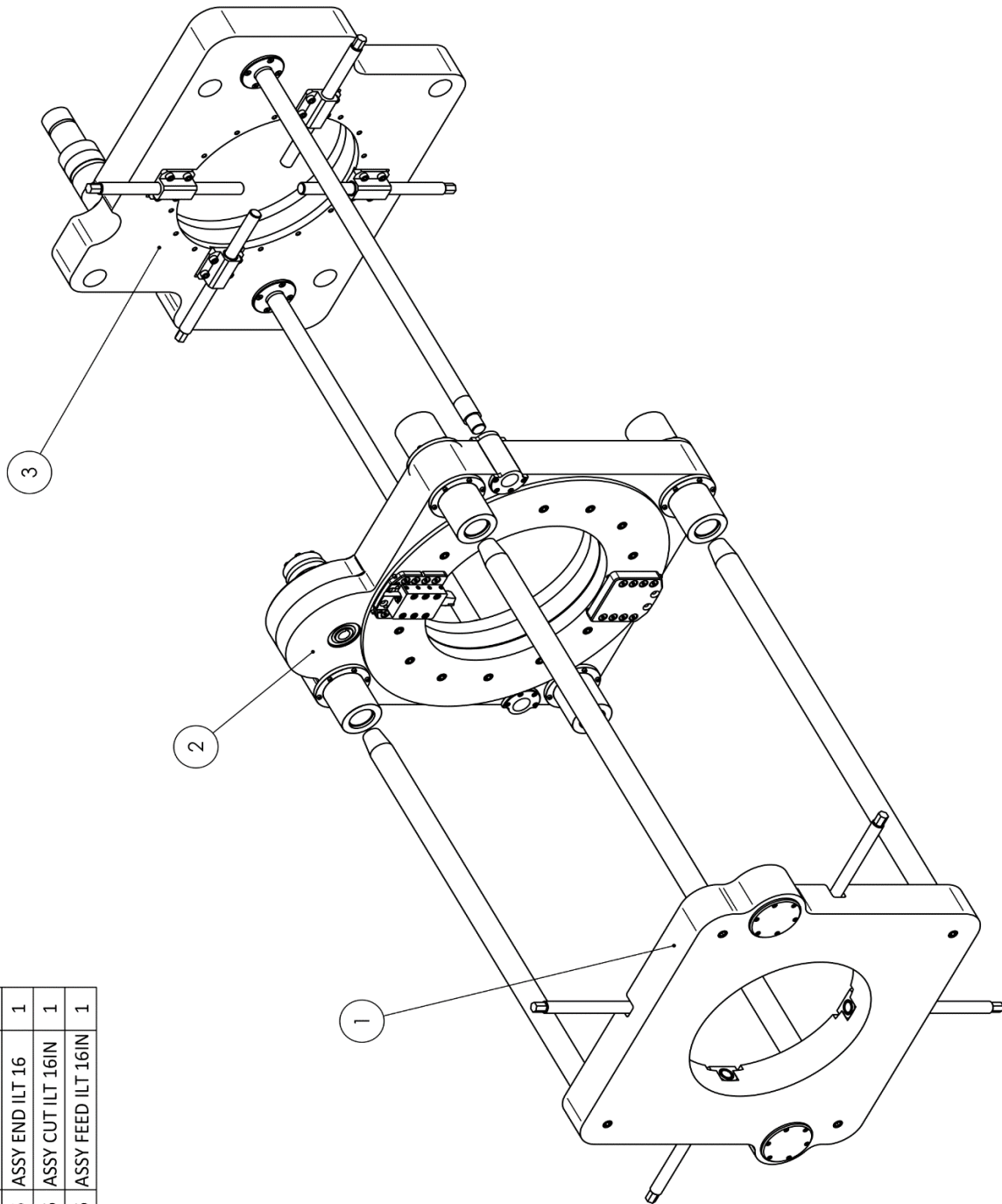
Do not replace the brass shear pin with steel.

TROUBLE SHOOTING

1. Oil leaking from fitting
 - Tighten fitting
2. Machine not feeding
 - Clutch not engaged
 - Shear pin needs to be replaced

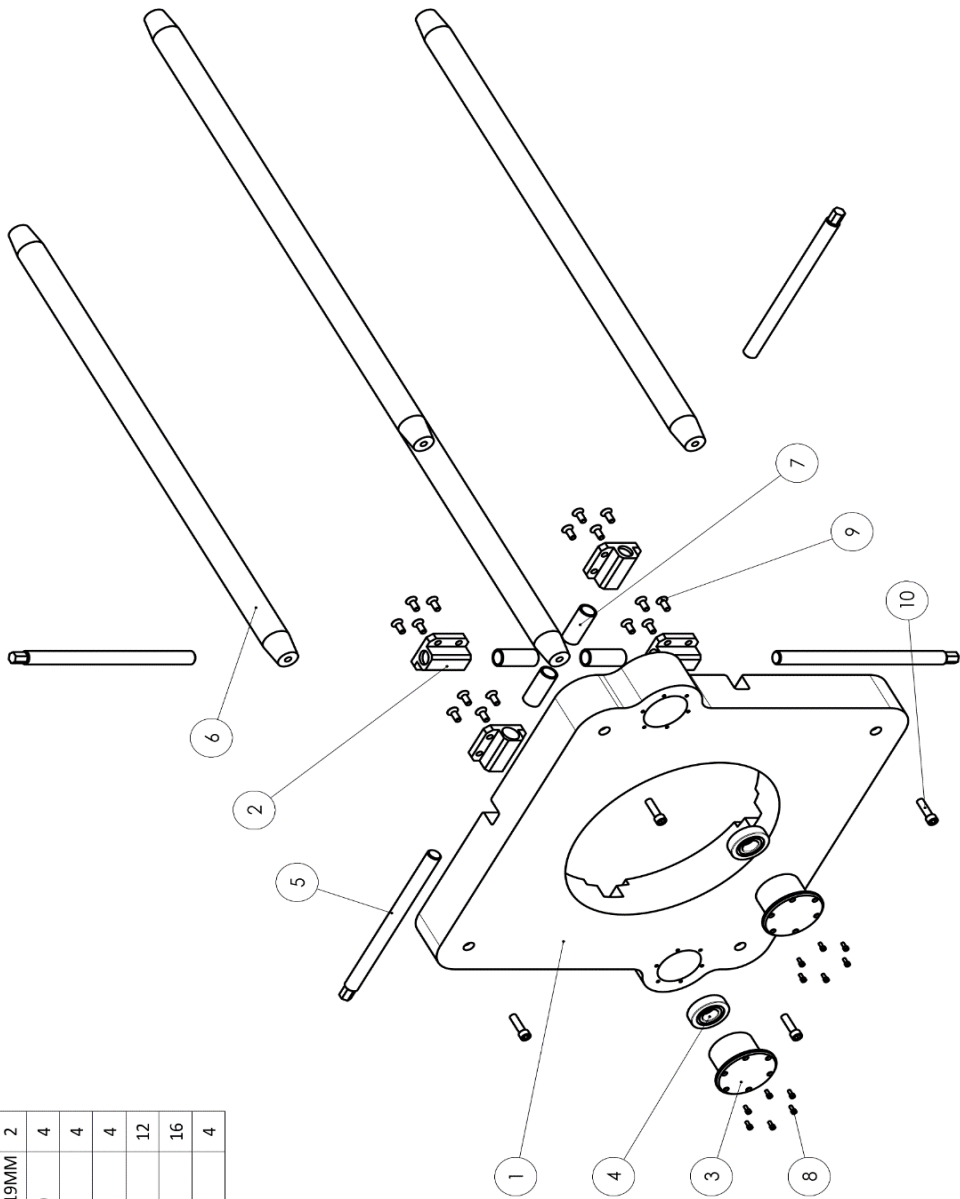
EXPLODED VIEWS

NO.	PartNum	Rev	SprDesc	QTY.
1	11801	5	ASSY END ILT 16	1
2	11802	6	ASSY CUT ILT 16IN	1
3	11803	6	ASSY FEED ILT 16IN	1



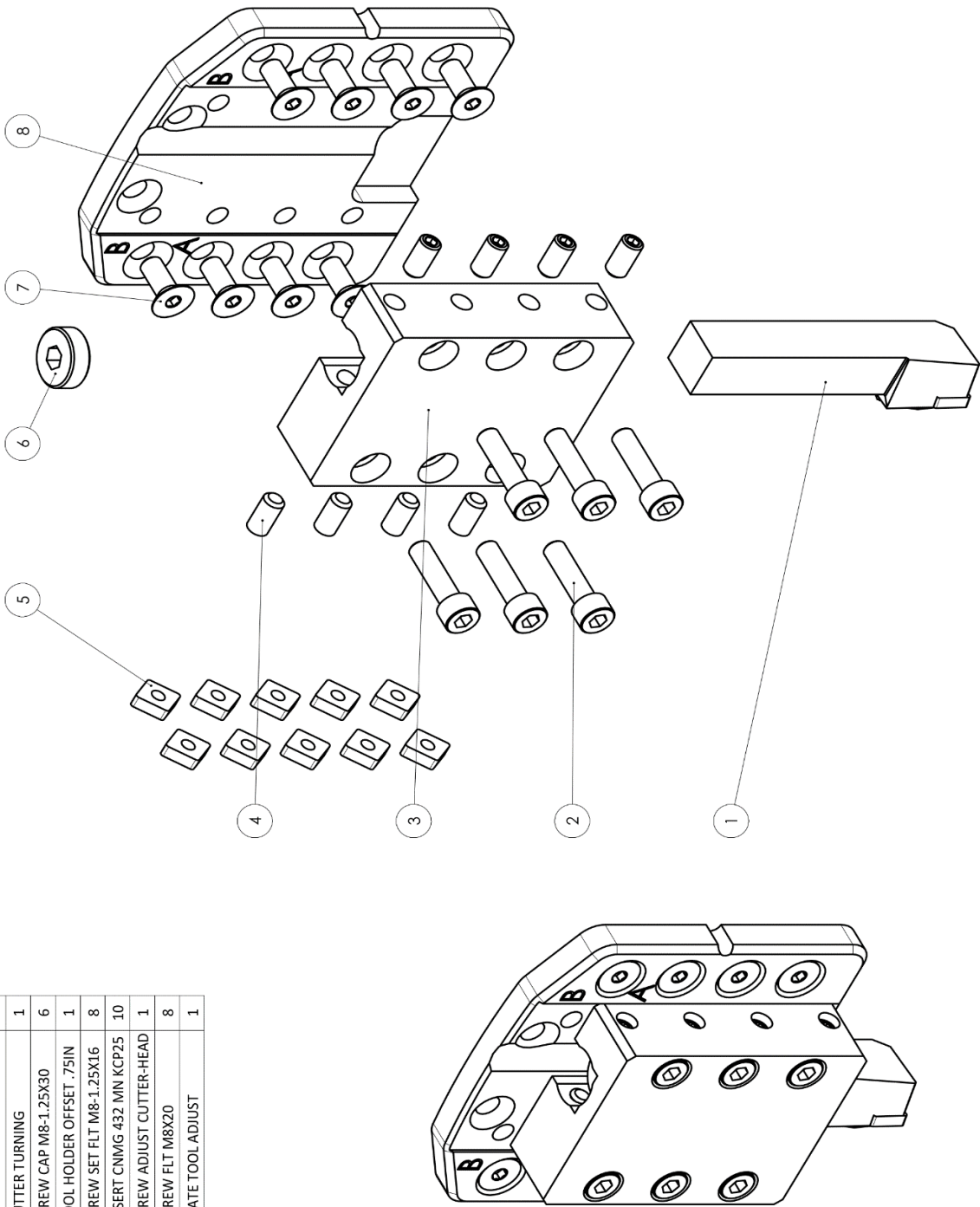
ASSEMBLY: 11800	DESCRIPTION: ILT 16IN
-----------------	-----------------------

NO.	PartNum	SprDesc	QTY.
1	11711	HOUSING MAIN END	1
2	11750	BRACKET JACKING SCREW	4
3	11776	CAP BEARING END	2
4	30012	BEARING DEP 30X72X19MM	2
5	NILT12	ACME THREADED ROD	4
6	11877	BAR GUIDE 2IN	4
7	414-015	FEED SCREW NUT	4
8	11371	SCREW CAP M5X12	12
9	30090	SCREW FLT M10X25	16
10	11640	SCREW CAP M12X45	4



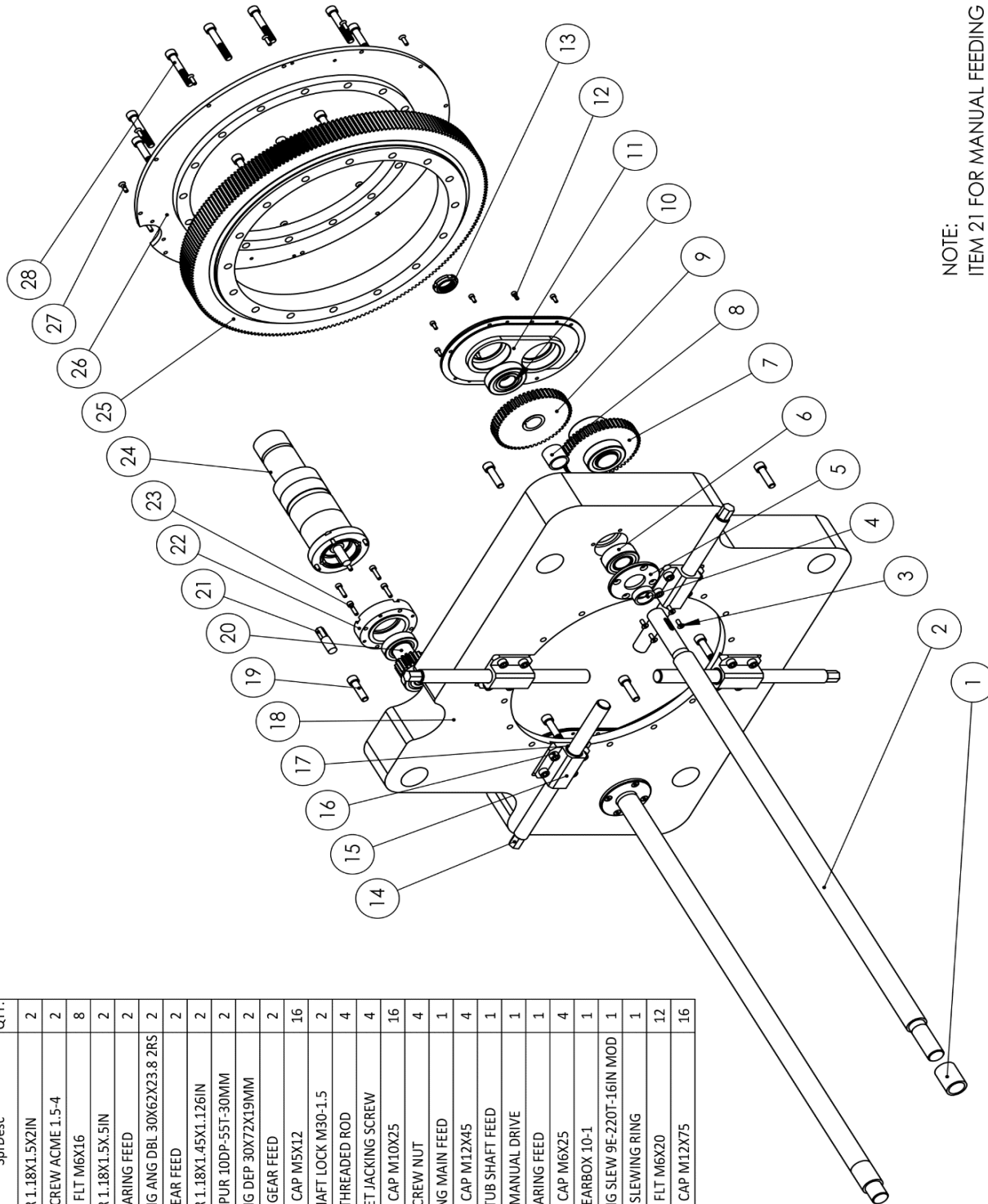
ASSEMBLY: 11801 DESCRIPTION: ASSY END ILT 16

NO.	PartNum	SprDesc	QTY.
1	10663	CUTTER TURNING	1
2	14030	SCREW CAP M8-1.25X30	6
3	12705	TOOL HOLDER OFFSET .75IN	1
4	10776	SCREW SET FLT M8-1.25X16	8
5	15861	INSERT CNMG 432 MN KCP25	10
6	20042	SCREW ADJUST CUTTER-HEAD	1
7	12510	SCREW FLT M8X20	8
8	11816	PLATE TOOL ADJUST	1



ASSEMBLY: 11817 DESCRIPTION: ASSY TOOL ADJUST

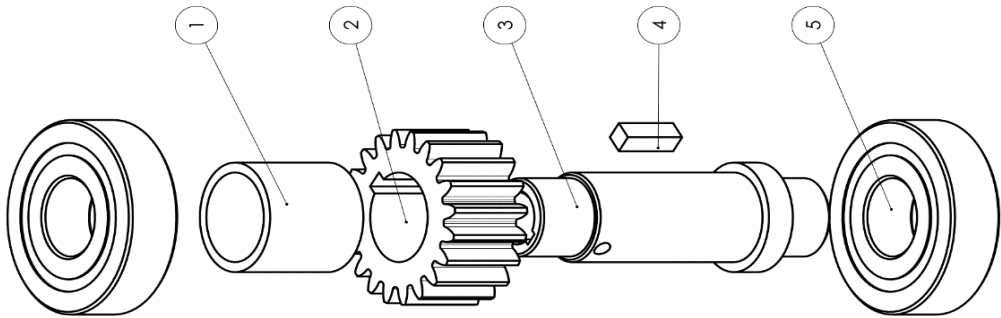
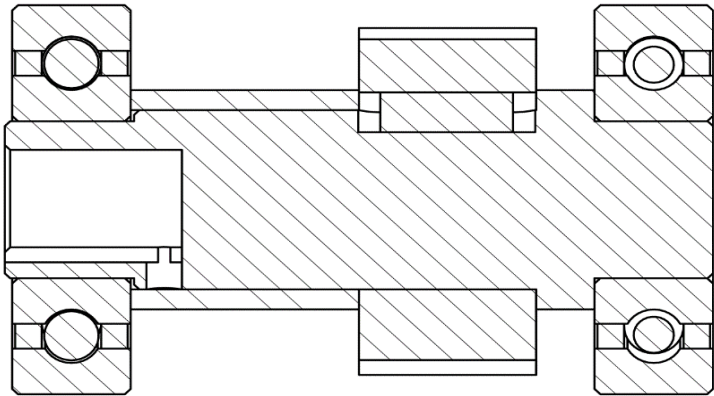
NO.	PartNum	Rev	SprDesc	QTY.
1	12490		SPACER 1.18X1.5X2IN	2
2	11779		LEAD SCREW ACME 1.5-4	2
3	30093		SCREW FLT M6X16	8
4	11813		SPACER 1.18X1.5X.5IN	2
5	11777		CAP BEARING FEED	2
6	11740		BEARING ANG DBL 30X62X23.8 2RS	2
7	11805	2	ASSY GEAR FEED	2
8	11807		SPACER 1.18X1.45X1.126IN	2
9	11753		GEAR SPUR 10DP-55T-30MM	2
10	30012		BEARING DEP 30X72X19MM	2
11	11783		COVER GEAR FEED	2
12	11371		SCREW CAP M5X12	16
13	11775		NUT SHAFT LOCK M30-1.5	2
14	11712		ACME THREADED ROD	4
15	11750		BRACKET JACKING SCREW	4
16	12511		SCREW CAP M10X25	16
17	414-015		FEED SCREW NUT	4
18	11713		HOUSING MAIN FEED	1
19	11640		SCREW CAP M12X45	4
20	11804	2	ASSY STUB SHAFT FEED	1
21	15756		SHAFT MANUAL DRIVE	1
22	15754		CAP BEARING FEED	1
23	30084		SCREW CAP M6X25	4
24	12464	2	ASSY GEARBOX 10-1	1
25	11808		BEARING SLEW 9E-220T-16IN MOD	1
26	11784		COVER SLEWING RING	1
27	10392		SCREW FLT M6X20	12
28	11791		SCREW CAP M12X75	16



NOTE:
ITEM 21 FOR MANUAL FEEDING

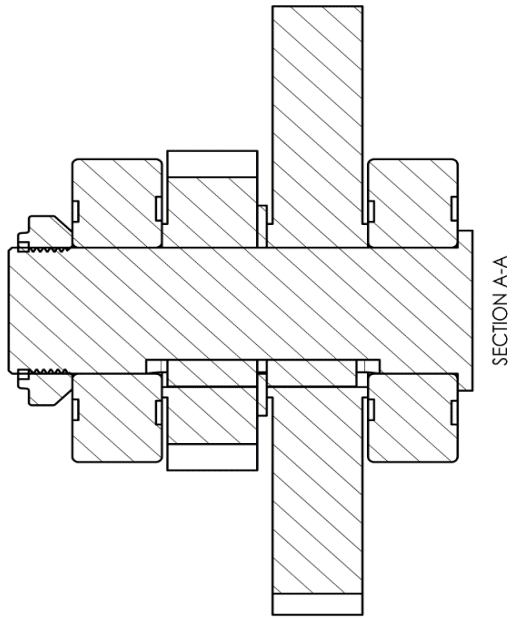
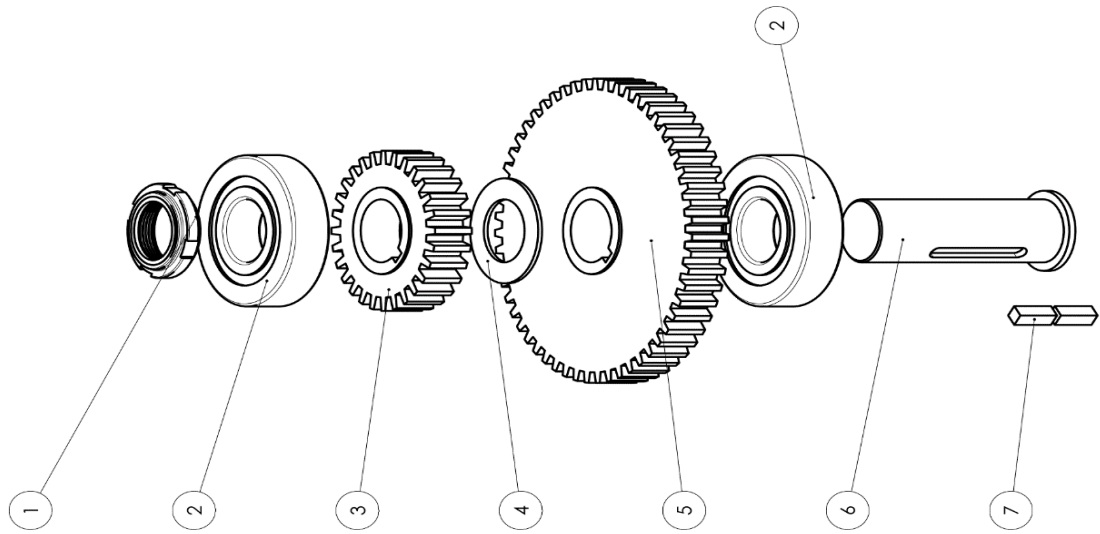
ASSEMBLY: 11803 DESCRIPTION: ASSY FEED ILT 16IN

NO.	PartNum	SprDesc	QTY.
1	11782	SPACER 1.125X1.375X1.290IN	1
2	11762	GEAR SPUR 10DP-20T-1.125IN	1
3	11767	SHAFT DRIVE FEED	1
4	30010	KEY SQR. 25X.25X.75IN	1
5	11765	BEARING DEP 25X62X17	2



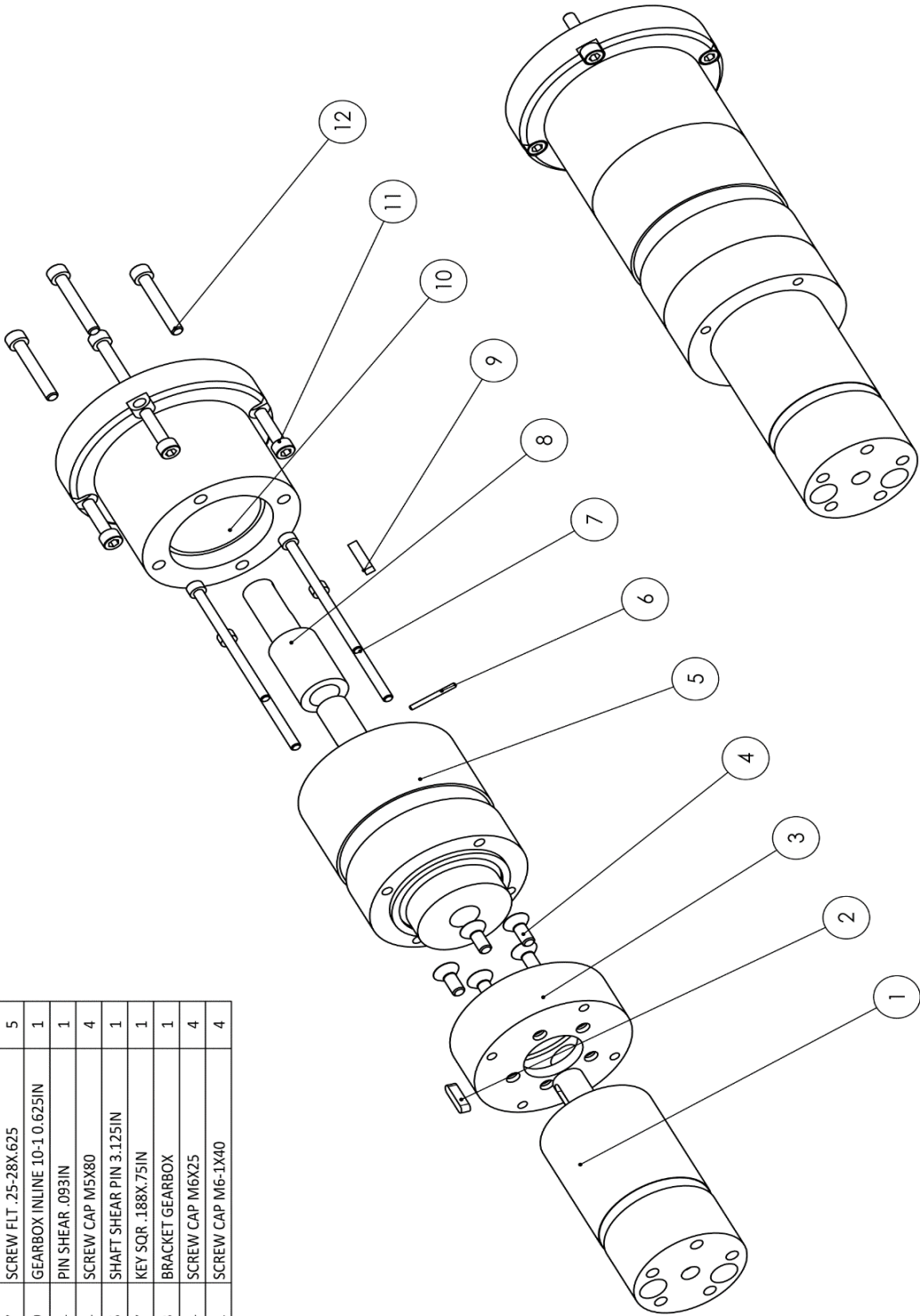
ASSEMBLY: 11804 DESCRIPTION: ASSY STUB SHAFT FEED

NO.	PartNum	SprDesc	QTY.
1	11775	NUT SHAFT LOCK M30-1.5	1
2	30012	BEARING DEP 30X72X19MM	2
3	11754	GEAR SPUR 10DP-28T-30MM	1
4	11806	SPACER 30X50X2MM	1
5	11753	GEAR SPUR 10DP-55T-30MM	1
6	11780	SHAFT STUB FEED	1
7	30010	KEY SQR .25X.25X.75IN	2



ASSEMBLY: 11805 DESCRIPTION: ASSY GEAR FEED

NO.	PartNum	SprDesc	QTY.
1	HF 1001	HYDRAULIC FEED MOTOR	1
2	30007	KEY ROUND 0.1875-0.75IN	1
3	20014	BRACKET ADAPTOR GEARBOX	1
4	30087	SCREW FLT. 25-28X.625	5
5	30009	GEARBOX INLINE 10-10.625IN	1
6	15374	PIN SHEAR .093IN	1
7	30014	SCREW CAP MSX80	4
8	15755	SHAFT SHEAR PIN 3.125IN	1
9	30007	KEY SQR .188X.75IN	1
10	12463	BRACKET GEARBOX	1
11	30084	SCREW CAP M6X25	4
12	10721	SCREW CAP M6-1X40	4



ASSEMBLY: 12464 DESCRIPTION: ASSY GEARBOX 10-1

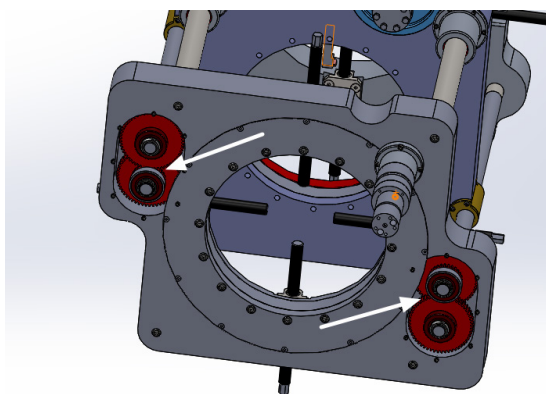
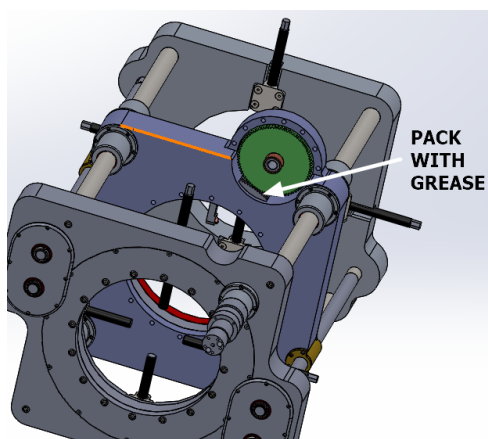
MAINTENANCE

PER-USE MAINTENANCE

1. General - ensure all moving parts are free of debris.
2. Fasteners - ensure all fasteners are in place and tightened.
3. Feedscrews - check to ensure the feedscrews are not damaged, free of debris and lightly lubricated. Keep the screw shaft barely damp with 10W30 lubricant. The lubricant is best applied with a lubricant-dampened cloth, taking care not to leave excessive film thickness on the screw.
4. Motor - no regular maintenance of the motors is required.

ANNUAL MAINTENANCE

1. General - check for worn parts, which could affect the smooth operation of the machine. Part numbers for replacement can be found in the spare parts reference guide.
2. Ensure all moving parts are free of debris.
3. Fasteners - ensure all fasteners are in place and tightened.
4. Feedscrews - Visually inspect the feedscrews for accumulation of foreign matter. Using cleaning fluid or solvent, remove dirt from the feedscrew. Keep the feedscrews barely damp with 10W30 lubricant. Inspect at regular intervals to be certain lubricating film is present. The lubricant is best applied with a lubricant-dampened cloth, taking care not to leave an excessive film thickness on the screw.
5. Repack the Cutting Bearing with grease by removing the Hydraulic motor bracket and filling the void with grease which will work around the bearing.
6. Repack the Feeding Bearing with grease by removing the two brackets covering the feed gears and packing with grease.



SPARE PARTS

1. Shear Pin - The most likely mechanical part to replace is the brass shear pin, of which spares are located in the Ebox. See section on replacing pin for instructions.



The brass shear pin must not be replaced with a steel pin as this may cause more expensive machine elements to fail instead.

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 of misuse, such as overloading of the tool beyond its rated capacity, use after partial failure, or use with improper accessories.
5. Damage to the motor due to lack of oiler/mister while tool was in use (pending motor type).

NO OTHER WARRANTY IS VALID



THIS PAGE INTENTIONALLY LEFT BLANK



SUPERIOR



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