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## SAFETY PRECAUTIONS

### IN GENERAL

When using rotating head cutting equipment, basic safety precautions should always be followed to reduce the risk of personal injury.

Operate this tool only in accordance with specific operating instructions.

#### **WARNING:**

Do not override the deadman switch on the power unit. Locking down, obstructing, or in any way defeating the deadman switch on the power drive unit may result in serious injury.

### DRESS CONSIDERATIONS

Use standard safety equipment. Hard hats, safety shoes, safety harnesses, protective clothes, and other safety devices should always be used when appropriate.

Use safety glasses. Do not operate cutting tools without eye protection.

Dress properly. Do not wear loose clothing or jewelry. They can be caught in rotating and moving parts. Avoid slippery floors or wear nonskid footwear. If you have long hair, wear protective hair covering to contain it.

### WORK AREA

Keep the work area clean. Cluttered work areas and benches invite injuries.

Consider the work area environment. Keep the area well lit. Keep electrical cords, cables, rags, rigging straps, and etc. clear of rotating equipment. Do not use power-cutting tools in the presence of flammable liquids and gasses.

Keep visitors away. Do not let visitors or untrained personnel at or near operating tools. Enforce eye protection requirements for all observers.

Do not over reach. Keep proper footing at all times.

Stay alert. Watch what you are doing. Use common sense. Do not operate tools when you are tired.

### **TOOL CARE**

Maintain tools with care. Keep tools in good operating condition. Sharp tool bits perform better and safer than dull tool bits. Well maintained tools function properly when needed.

Check for damaged parts. If a tool has malfunctioned, been dropped or hit, it must be checked for damage. Run no-load tests and feed function checks. Do a complete visual inspection.

Electric motors. Use only with proper AC voltage power sources and observe all normal electric shock hazard procedures.

Do not abuse power and control cords. Pulling or running over cords and cables can result in electrical shock hazards and malfunctions. Keep control and power cords out of all cutting fluids and water.

Hydraulic drives. Observe proper procedures for electrically driven power sources. Avoid damage to hydraulic lines. Keep quick-disconnects clean. Grit contamination causes malfunctions.

Air tools. Check the exhaust muffler. Broken or damaged mufflers can restrict air flow or cause excessive noise. Use air motors only with a filtered, lubricated and regulated air supply. Dirty air, low-pressure air or over pressure air will cause malfunctions, including delayed starting.

### **AREA EQUIPMENT**

Secure work. Whenever possible use clamps, vises, chains and straps to secure pipe.

Make sure the tool is secured; it is safer to have both hands free to operate the tool.

### **TOOL USE**

Use the right tool and tool bit for the job. Do not use a tool, which is incorrect for the job you are doing.

Keep the tool bits fully engaged in the tool bit holders. Loose bits are a safety hazard.

Disconnect power supply during setup and maintenance. Use all 'Stop' or Shut off' features available when changing or adjusting tool bits, maintaining the tool, or when the tool is not in use.

Remove adjusting keys and wrenches before applying power to the equipment. Develop a habit of checking the tool before turning it on to make sure that all keys and wrenches have been removed.

Do not force tools. Tools and tool bits function better and safer when used at the feed and speed rate for which they were designed.

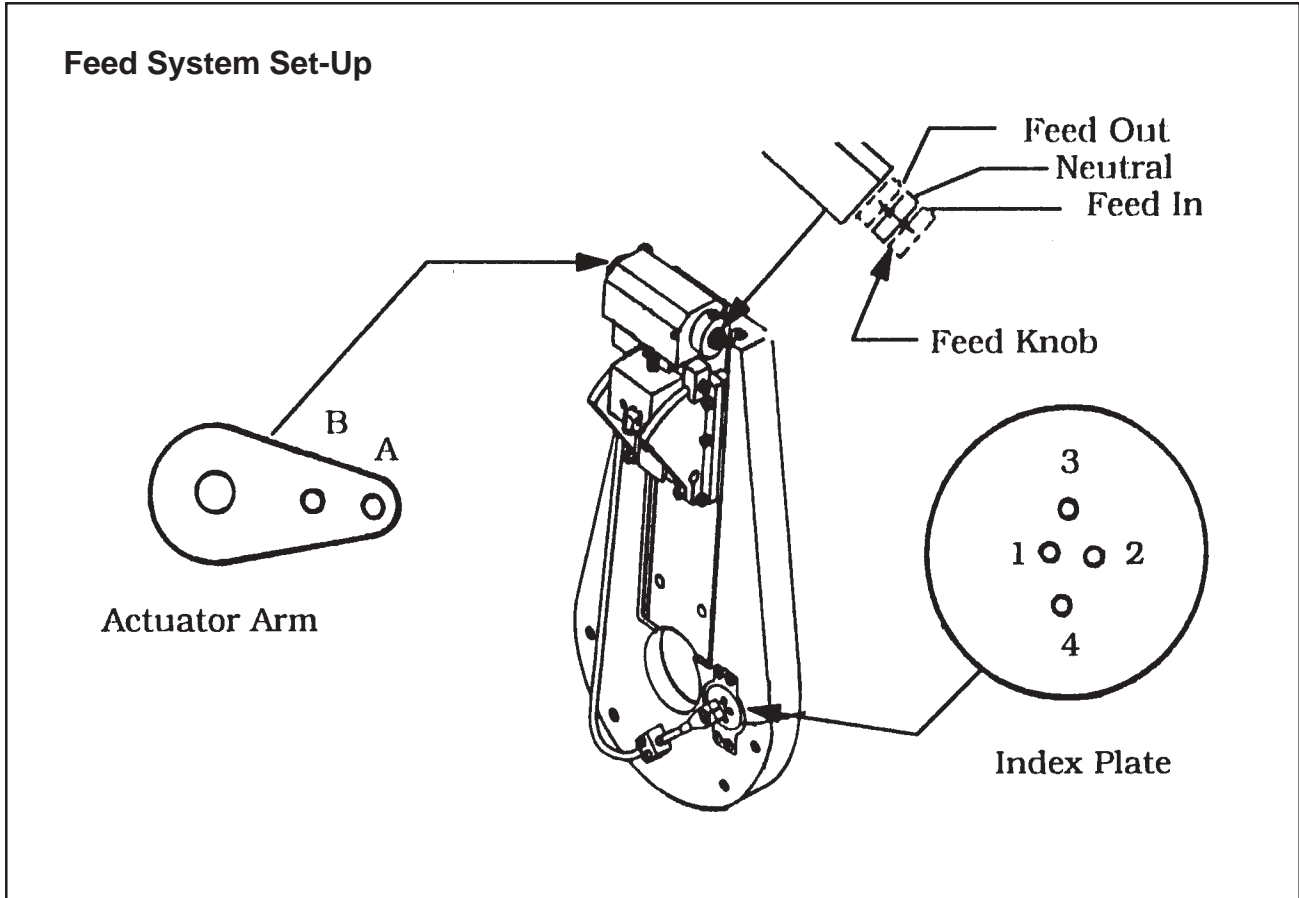
Do not reach into rotating equipment. Do not reach into the rotating head stock to clear chips, to make adjustments, or to check surface finish. A machine designed to cut steel will not stop for a hand or an arm.

Handle chips with care. Chips have very sharp edges and are hot. Do not try to pull chips apart with are hands; they are very tough.

Avoid unintentional starts. Do not carry or handle tools with your hand on the operating switches or levers. Do not lay the tool down in a manner that will start the drive. Do not allow the tool to flip around or move when adjusting or changing tool bits.

Store idle tools properly. Disconnect tools from the power source and store in a safe place. Remove tool bits for safe handling of the tool.

**GENERAL**



**COUNTERBORING FUNCTION**

Lock the Tool Slide in the flat position.

Replace the Tool Holder and the Insert with the Counterbore Tool Bit.

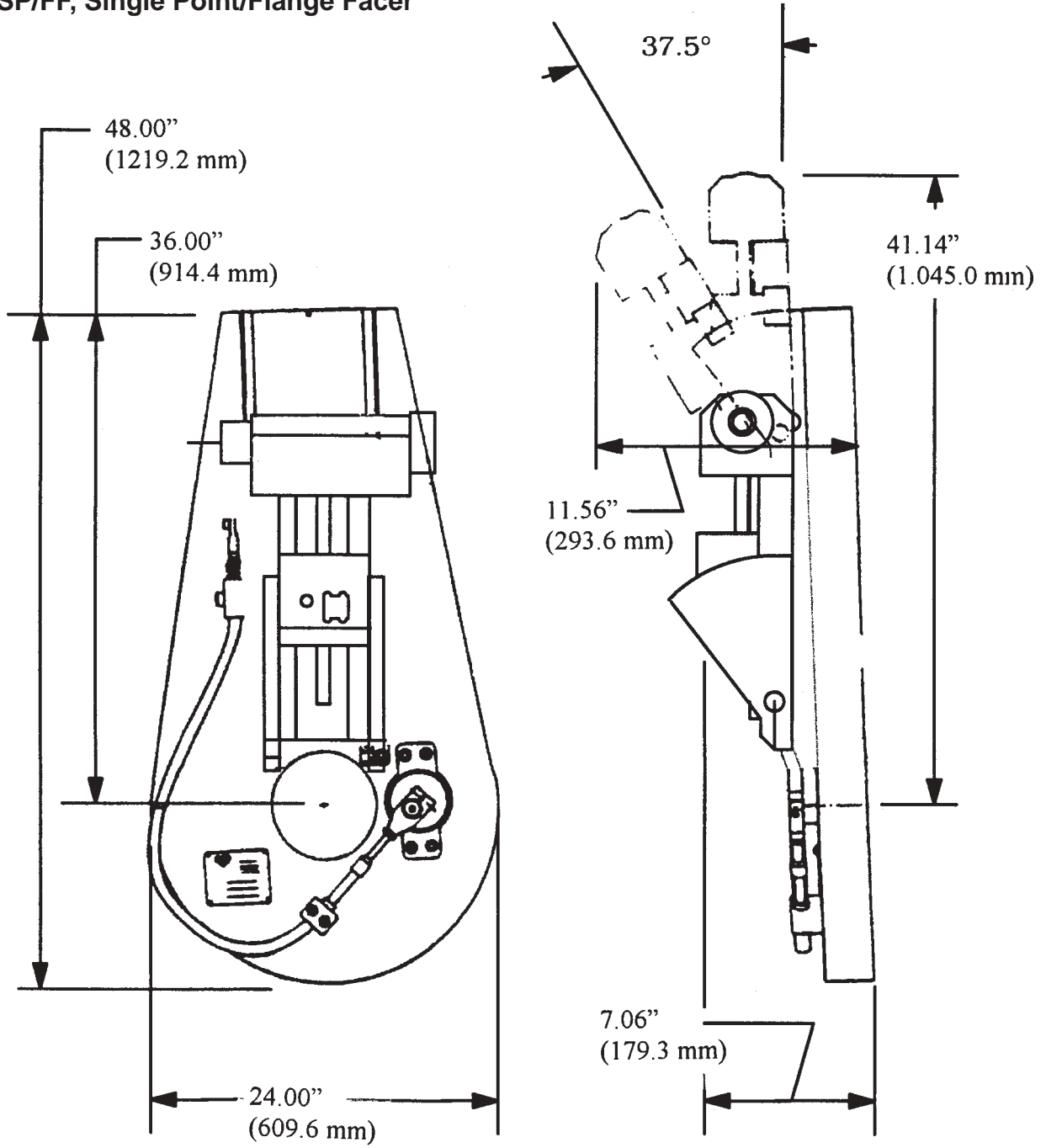
Insure that the cutting edge is facing out from the center.

Set the feed direction to neutral by moving the Feed Knob to the center position.

		INDEX PLATE POSITIONS			
		1	2	3	4
Actuator Arm Position	A	.006"/rev (.15 mm/rev)	.013"/rev (.33 mm/rev)	.018"/rev (.46 mm/rev)	.024"/rev (.61 mm/rev)
	B*	.012"/rev (.30 mm/rev)	.021"/rev (.53 mm/rev)	.031"/rev (.79 mm/rev)	.042"/rev (1.07 mm/rev)
*Position B should be used for flange facing only.					
Feed Rates for 230B SP					

# SPECIFICATIONS

Envelope Drawing  
SP/FF, Single Point/Flange Facer



## TROUBLE SHOOTING

**Problem: The Tool Bit Chatters**

The tool bit is loose or overextended.  
The tool bit is damaged.  
The tool holder is too loose in the slides.  
The cutting speed is too fast.  
The clamping pads are loose on the pipe or tube.  
Cutting fluid is required.  
The main bearing pre-load is loose.

**Problem: There is excessive Tool Bit wear**

The pipe or tube material is too hard or abrasive.  
The cutting speed is too fast.  
Cutting fluid is required.  
A dull Tool Bit is causing surface hardening conditions (Stainless pipe or tubing).  
There is scale or other foreign matter on the pipe or tube, which is dulling the tool bit at the start of the cut.  
The tool bit is incorrect for the material being cut.

**Problem: The surface finish is rough**

The tool bit is dull, chipped, etc.  
Metal build-up on the cutting edge of the tool bit is creating a false cutting edge.  
Cutting fluid is required.

**Problem: The tool holder is not feeding**

The feed pin is broken or out of position.  
The feed sprocket shear pin is broken.  
The feed screw is stripped.  
The feed nut is stripped.  
The slide rails are too tight.

**Problem: There is a loss of air power**

The air supply pressure is too low.  
The air filter is plugged.  
The air line size is insufficient.  
The air line is too long.

**Problem: There is a loss of hydraulic power**

The hydraulic supply pressure is too low.  
The hydraulic filter is plugged.  
The hydraulic line size is insufficient.  
The hydraulic line is too long.

**Problem: The tool bit will not reach the work**

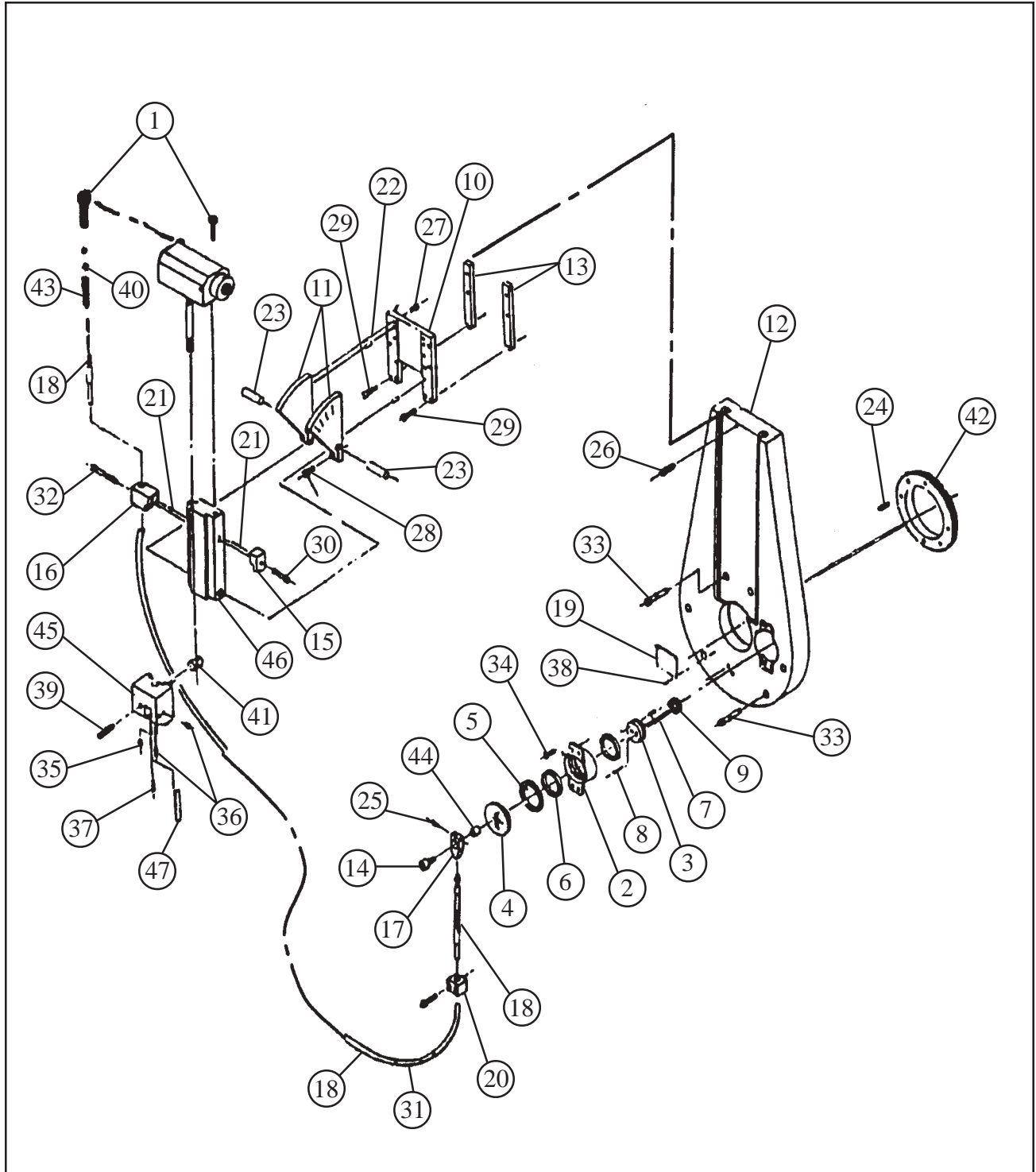
Incorrect tool blocks are installed for the size of the pipe or tube being worked on.  
Incorrect tool bit is installed.

**Problem: The hydraulic motor will not start**

The hydraulic power supply is shut off.  
The hydraulic motor is damaged and will not run free.

# ILLUSTRATED PARTS BREAKDOWN

## SINGLE POINT/FLANGE FACER (SP/FF)



**TRI TOOL INC.**

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## Parts List, Single Point/Flange Facer (SP/FF)

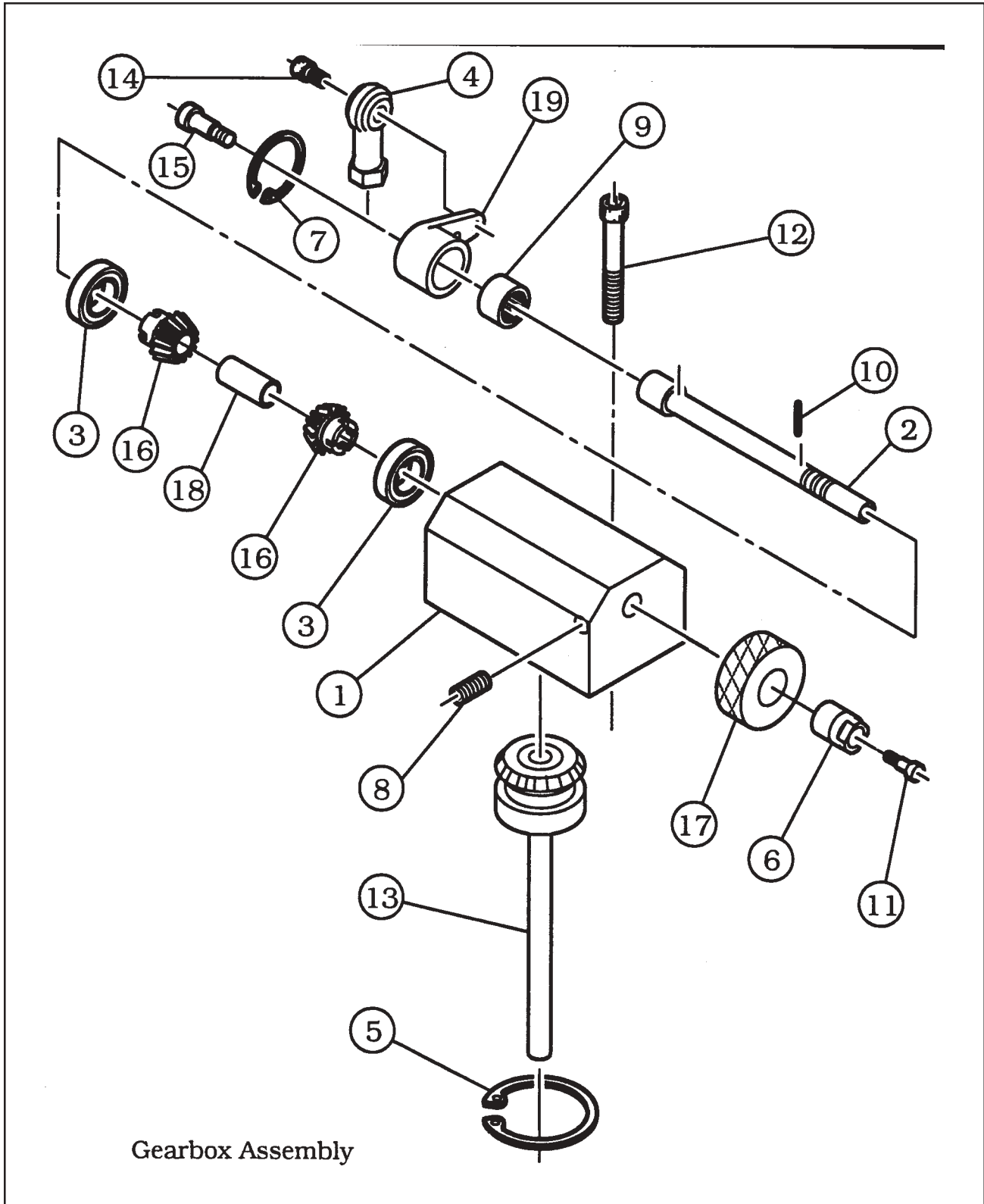
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
1.	19-0424	HOUSING ASSEMBLY, GEARBOX	1
	19-0822	HOUSING ASSEMBLY, INDEX PLATE	1
2.	19-0428	HOUSING, INDEX PLATE	1
3.	24-1576	HUB, GEAR	1
4.	24-1577	PLATE, INDEX	1
5.	28-0057	SEAL, FELT	7"
			(18CM)
6.	29-0104	BEARING, BALL	2
7.	33-0015	SCREW, CAP	3
8.	33-0030	SCREW, CAP	2
9.	39-0852	GEAR, SPUR	1
10.	24-0733	PLATE, SLIDE, BASE	1
11.	24-0734	PLATE, SIDE, RIGHT	2
12.	24-1578	PLATE, BASE	1
13.	26-0828	BAR, RETAINING	2
14.	29-0219	CAM FOLLOWER	1
15.	30-0904	CLAMP, SIDE, RIGHT	1
16.	30-1080	CLAMP, SIDE, LEFT	1
17.	30-0907	CLAMP, CAM FOLLOWER	1
18.	30-2728	CABLE	1
19.	30-0924	PLATE, DATA	1
20.	30-0930	CLAMP, CABLE	1
21.	32-0081	PIN, DOWEL, 3/16" DIA X .75"	2
22.	32-0140	PIN, DOWEL, 1/4" DIA X .75"	4
23.	32-0161	PIN, DOWEL, 5/8" DIA X .2.00"	2
24.	33-0366	SCREW, 1/4-20 X 2.00"	4
25.	33-0030	SCREW, CAP, #10-24 X .75"	1
26.	33-0037	SCREW, CAP, 1/4-20 X .38"	1
27.	33-0040	SCREW, CAP, 1/4-20 X .75	8
28.	33-0055	SCREW, CAP, 5/16-18 X .88"	2
29.	33-0057	SCREW, CAP, 5/16-18 X 1.25"	6
30.	33-0058	SCRE, CAP, 5/16-18 X 1.50"	1
31.	33-0059	SCREW, CAP, 5/16-18 X 1.75"	2

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**Parts List, Single Point/Flange Facer (SP/FF) Continued**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
32.	33-0063	SCREW, CAP, 5/16-18 X 2.75"	1
33.	33-0079	SCREW, CAP, 3/8-16 X 3.00"	12
34.	33-0293	SCREW, BUTTON HEAD, 5/16-18 X .75"	4
35.	33-0514	SCREW, SET, 5/16-18 X .38", CUP PT	1
36.	33-0517	SCREW, SET, 5/16-18 X .63, CUP PT	3
37.	33-0955	SCREW, GIB	1
38.	33-0995	SCREW, DRIVE	4
39.	33-1314	SCREW, SET, 3/8-16 X 1.50", HALF DOG	1
40.	34-0026	WASHER, FLAT	1
41.	35-0270	NUT, FEED	1
42.	39-0854	GEAR ASSEMBLY, FEED	1
43.	40-0045	SPRING, COMPRESSION	1
44.	44-0276	SPACER	1
45.	49-0091	HOLDER, TOOL	1
46.	66-0078	BASE, SLIDE	1
47.	66-0079	GIB, TAPER	1

GEARBOX, ASSEMBLY (P/N 19-0424)

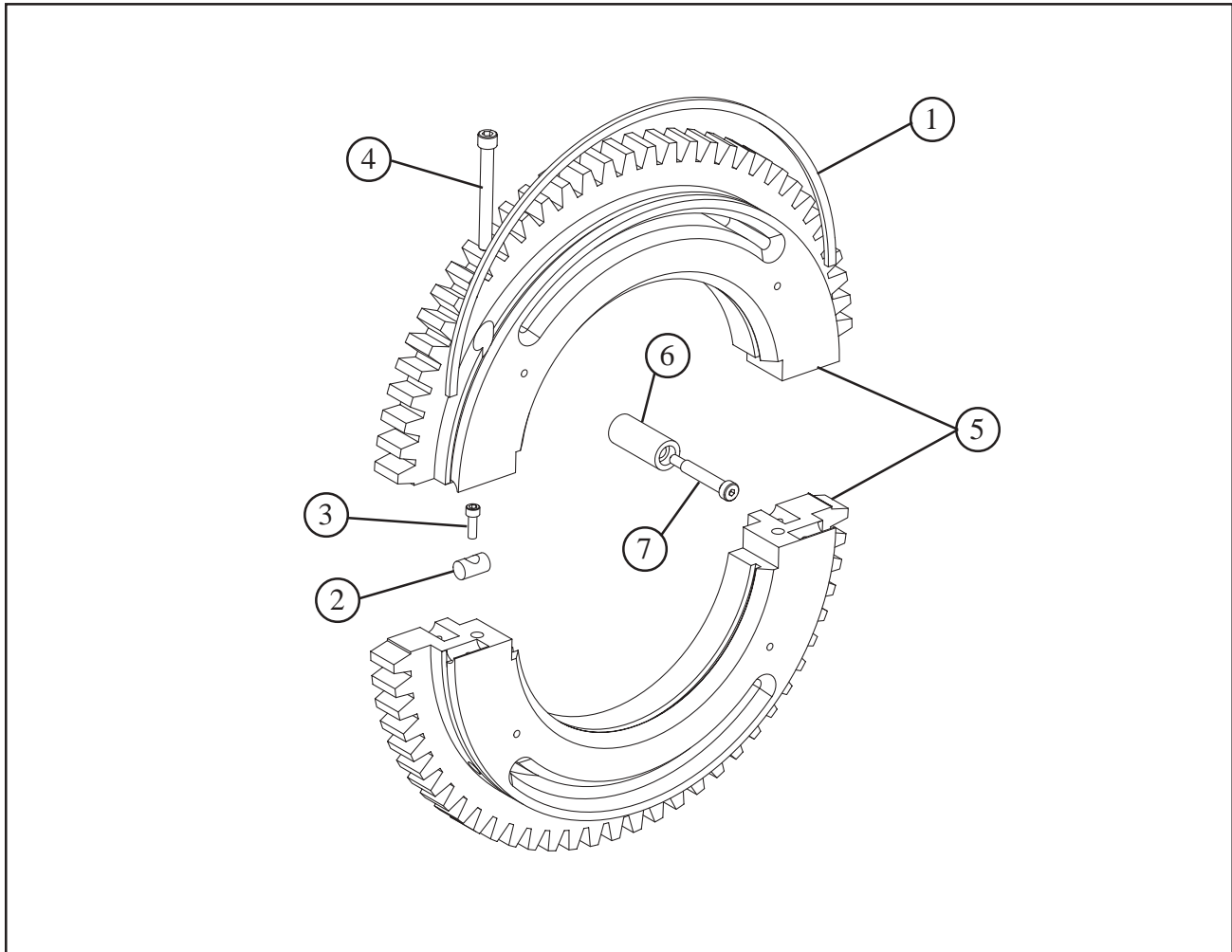


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**Parts List, Gearbox Assembly (P/N 19-0424)**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty</b>
1.	19-0418	HOUSING, GEAR	1
2.	20-0364	SHAFT, MAIN	1
3.	29-0029	BEARING, BALL	2
4.	29-0133	ROD END	1
5.	30-0489	RING, RETAINING, INTERNAL	1
6.	30-0507	MOUNT, KEYLESS SHAFT	1
7.	30-0910	RING, RETAINING, INTERNAL	1
8.	30-0911	PLUNGER, BALL	2
9.	30-0912	CLUTCH, ROLLER	1
10.	32-0305	PIN, MOD., DOWEL	2
11.	33-0052	SCREW, CAP	1
12.	33-0078	SCREW, CAP	2
13.	33-1533	SCREW, ASSEMBLY, FEED	1
14.	33-1535	SCREW, SHOULDER	1
15.	33-1536	SCREW, SHOULDER	1
16.	39-0482	GEAR, BEVEL	2
17.	42-0104	KNOB, FEED	1
18.	44-0275	SPACER, GEAR	1
19.	63-0096	ARM, ACTUATOR	1

**SINGLE POINT SPLIT GEAR ASSEMBLY (P/N 39-0854)**



Parts List, Split Gear Assembly, Single Point (P/N 39-0854)

Item No.	Part No.	Description	Qty
1.	28-0057	SEAL, FELT, .125" X .188"	32"
2.	32-0236	DOWEL PIN, ALIGNMENT	4
3.	33-0020	SCREW, CAP, #8-32 UNC X 1/2"	4
4.	33-0047	SCREW, CAP, 1/4-20 UNC X 2 1/4"	2
5.	39-0851	GEAR, SPLIT	1
6.	44-0643	SPACER	4
7.	33-1059	SCREW, SHOULDER, 1/4 X 1 1/4	4