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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 your 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 DESCRIPTION

The Model 572AC SEVERMASTER™ severs 1/4" to 2" (6.35 mm to 50.80 mm) diameter tubes and thin wall pipe within the size range.

This machine enhances productivity by incorporation of an Auto-Cycle Tool Module and Quick Lock Collet Closure.

The Auto-Cycle Tool Module incorporates a cam cycle tool bit feed mechanism, which automatically returns the tool bit to the home position ready to start the next cut.

The tool module also allows setting the start and finish cut position to minimize the cycle time.

The feed increment per revolution is adjustable to match the cutting relative to the material.

A variable speed motor provides cutting speed control for tool bit life and ID burr condition.

The Quick Lock Collet Closure mechanism actuates the Collet with a single lever stroke and provides for simple Collet changes.

Tool bit options are available to minimize the burr on either of the mounting side or the drop-off side of the sever line and in different edge widths to match the tube wall thicknesses.

The Model 572AC also incorporates mounting features to allow use of an SQM-1AC Tube Squaring Module for optimum burr free ends.

Model 572AC SEVERMASTER™ System, consists of the mainframe with the Quick Lock Collet Closure, Auto-Cycle Tool Module with adjustable depth of feed from .001" to .005" (.02 mm to .13 mm) per revolution, drive motor, wrench kit, operator's manual and carrying case.

SPECIFICATIONS

MACHINE FEATURES

Pneumatic drive system: Available on request.

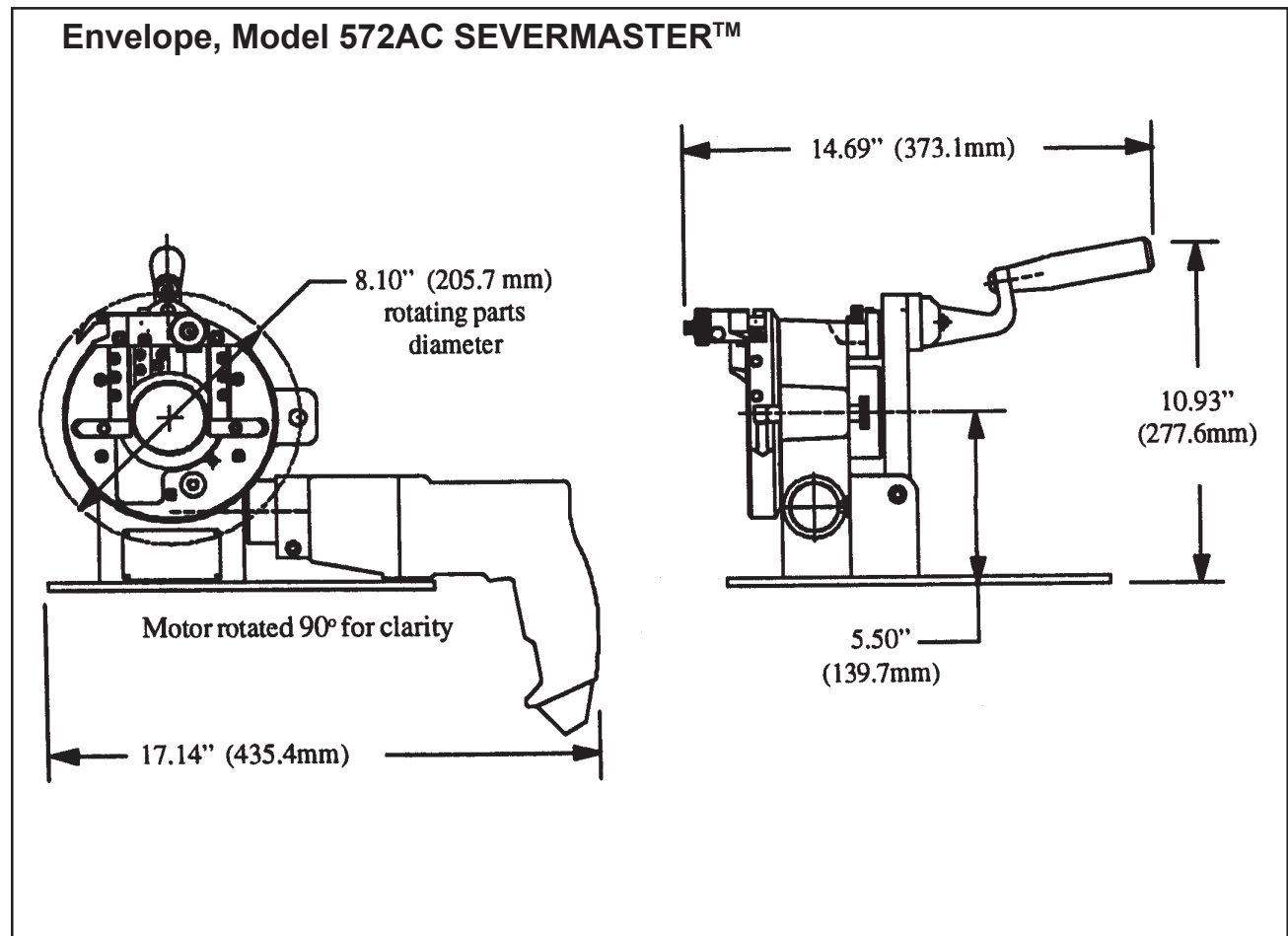
Electric drive: 115 vac, 28 to 60 hz, 5.25 amp
230 vac, 50/60 hz

Maximum cutting head free speed: (Electric) Low: 60 rpm, High: 120 rpm

Mounting: Manually actuated Collet clamping system.

Feed: Autofeed system adjustable from .001" to .005" (.02 mm to .13 mm).

Weight: 29 lbs. (13 kg)



DESIGN AND OPERATING FEATURES

The Model 572AC accepts its own torque through the Collet clamping system.

The Collet provides accurate centering and full diameter support for minimum distortion of thin wall tubing.

Gear driven powerhead rotates on a precision cross roller bearing.

Single lever actuation of Collet.

Gears are enclosed for operator safety.

The wrenches that are required for operation of the machine are supplied.

CUTTING CAPACITIES

1/8" pipe through 1 1/2" pipe schedule 5

1/4" through 2" (6.35 mm through 50.80 mm) diameter tubing up to .065" (1.65 mm) wall.

MATERIAL CUTTING CAPABILITES

Mild steels, chrome steels (Rc 35 max.), stainless steel, copper-nickel and aluminum without limitations other than size and wall thickness as specified.

Inconel and some other high-temperature alloys may require special procedures as a function of wall thickness.

Contact TRI TOOL Inc.'s Engineering Department for details.

MAINTENANCE

IN GENERAL

All components should be cleaned and coated with a light film of oil prior to use.

Use a clean, non-detergent oil, preferably SAE 10 (90 SSU) or lighter.

The air supply for the Model 572AC (pneumatic drive) should include an adequate filter, regulator and lubricator (FRL).

The air supply for the Model 572AC is operated in such a manner that the tool holder collects debris while cutting, the tool holder and the slides should be cleaned after each cutting operation.

Tool life may be severely shortened, unless chips and/or other debris that have been deposited on the cutting head during the machining operation are removed.

RECOMMENDED MAINTENANCE SCHEDULE

Daily maintenance when the unit is in operation includes wiping the unit down and spraying with rust preventative under severe humidity conditions. Visually inspect for loose screws, missing screws, damage, etc.

After every 20 hours of actual operation, lubricate the male and female tool holder slides.

After every 40 hours of actual operation, thoroughly clean and lubricate main gear, drive gear, male and female tool slides, and tripper bracket assembly.

If the Model 572AC is to be stored or if it will remain out of service for a significant period of time (30 days or more), it should be thoroughly cleaned lubricated and sprayed with a rust preventative prior to storage.

TOOL HOLDER MAINTENANCE

Clean the slide rails, the tool holder, and the feed components.

Inspect these parts for damage and replace as required.

Lubricate and reassemble.

Adjust the adjustable slide rail to provide a firm, but not excessive pressure on the tool holder.

The slide rails must be over tightened to squeeze the oil into a thin film against the male and female surfaces of the slide rails.

Reset for proper operation.

TRIPPER BRACKET ASSEMBLY LUBRICATION AND ADJUSTMENT

Back off the half-dog set screw until it disengages from the tripper shaft.

Remove the tripper shaft assembly from the bracket and clean off all of the old lubrication.

Apply fresh lubrication to the tripper shaft assembly and reinstall it in the bracket.

Screw in the half-dog set screw until it locates itself in the slot on the tripper shaft.

Try turning the tripper shaft assembly to ensure that the set screw is in the slot of the tripper shaft assembly and is preventing it from rotating.

LUBRICANT RECOMMENDATIONS

The drive gears require a heavy duty grease such as “Chevron Ultra Duty Grease, ER, NLGI2”.

The slide rails and tool holder require a light oil such as SAE 10 light machine oil.

The tripper bracket assembly also requires a SAE 10 light machine oil for normal conditions and under dusty conditions a silicone, graphite or molybdenum disulfide ‘dry’ lubricant.

A light film of all-purpose grease may be used, but it must be used, but it must be checked for grit contamination frequently.

OPERATION

PRELIMINARY

Read the operating instruction carefully before attempting to operate the Model 572AC SEVERMASTER™.

INSERTING THE COLLET

Select the desired size Collet for the pipe or tube to be worked on.

Raise the handle to release pressure on the check nut.

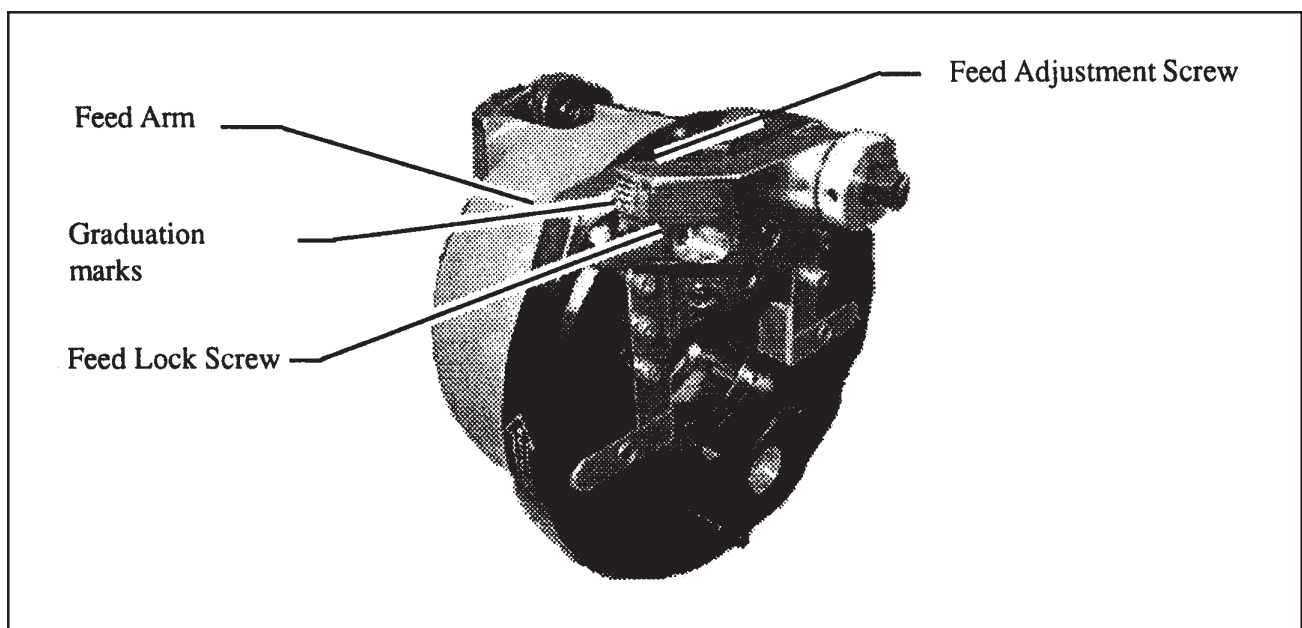
Rotate the check nut until the eyebolt can be raised out of the slot and then the hinge bracket may be rotated back and down.

Remove the pusher sleeve from the main housing.

Remove the Collet, if there is one, from the inside of the main housing.

Wipe the internal contact surface clean before inserting another Collet into the main housing.

Insert the correct Collet into the main housing and then slide the pusher sleeve back into the main housing and into contact with the Collet.



Rotate the hinge bracket back up and let the eyebolt drop back into the slot.

Rotate the check nut on the eyebolt to secure in the slot.

MACHINING INSTRUCTIONS

Turn the motor on to full speed by depressing the lever.

The motor should be at the low speed setting to 1.00" to 2.00" (25.4 mm to 50.8 mm) diameter tube or at the high speed setting for .25" to 1.00" (6.4 mm to 25.4 mm) tube.

Engage the feed by pushing the tripper shaft in.

Monitor the cutting operation and apply cutting fluid as necessary.

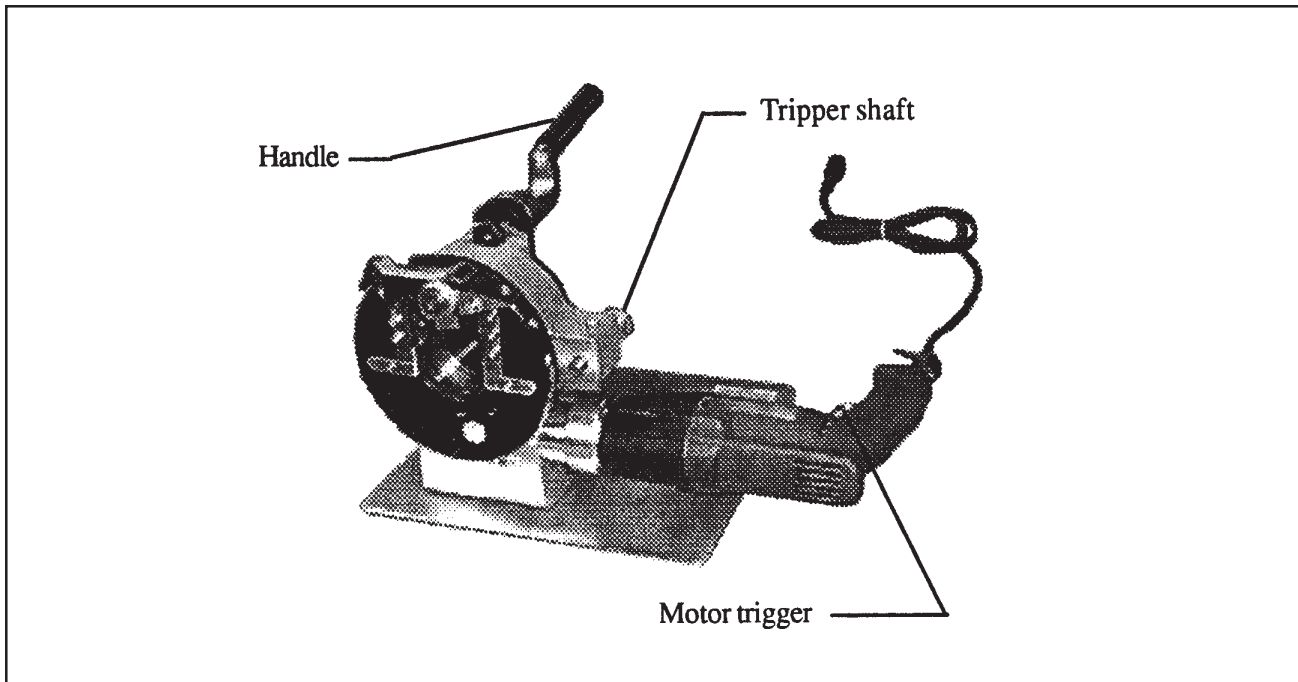
The machine operation is finished when the tool holder returns home, release the lever in order to turn off the motor.

Loosen the Collet by rotating the handle up.

Remove the pipe or tubing from the Model 572AC.

The tool holder will retract automatically in 5 to 10 revolutions.

There is an audible 'snap' when the tool holder returns to the home position.



Observe the relationship between the pipe or tube and the tool bit.

NOTE: The tool holder may be reset quickly by hand by rotating the cam feed knob to pick up the feed slack.

NOTE: It is not necessary to disengage the tripper shaft after each cutting operation.

INSTALLATION

WARNING: Make sure that the Model 572AC is disconnected from its power source before installing a tool bit.

Install a Collet into the Model 572AC.

Insert a tube into the Collet and bring it flush to the front of the Collet and clamp the tube in place.

Rotate the cam feed knob counter-clockwise with a 3/8" wrench, so that the scribe mark points to the bottom (this will place the tool holder to the end of the feed).

NOTE: The cam can only rotate in the direction noted on the knob with an arrow.

Slide a tool bit into the tool slot until the end of the cutting edge of the tool bit passes the ID of the tube by approximately .020".

CAUTION: DO NOT install the tool bit backwards; it will not cut and may destroy the tool bit.

Secure the tool bit in place by tightening the (4) four set screws in the tool holder.

Rotate the cam feed knob until the tool holder returns to top of its travel.

Screw in the feed limit adjustment screw until the end of the cutting edge of the tool bit just clears the OD of the tube.

Rotate the cam feed knob counter-clockwise to pick up the feed slack.

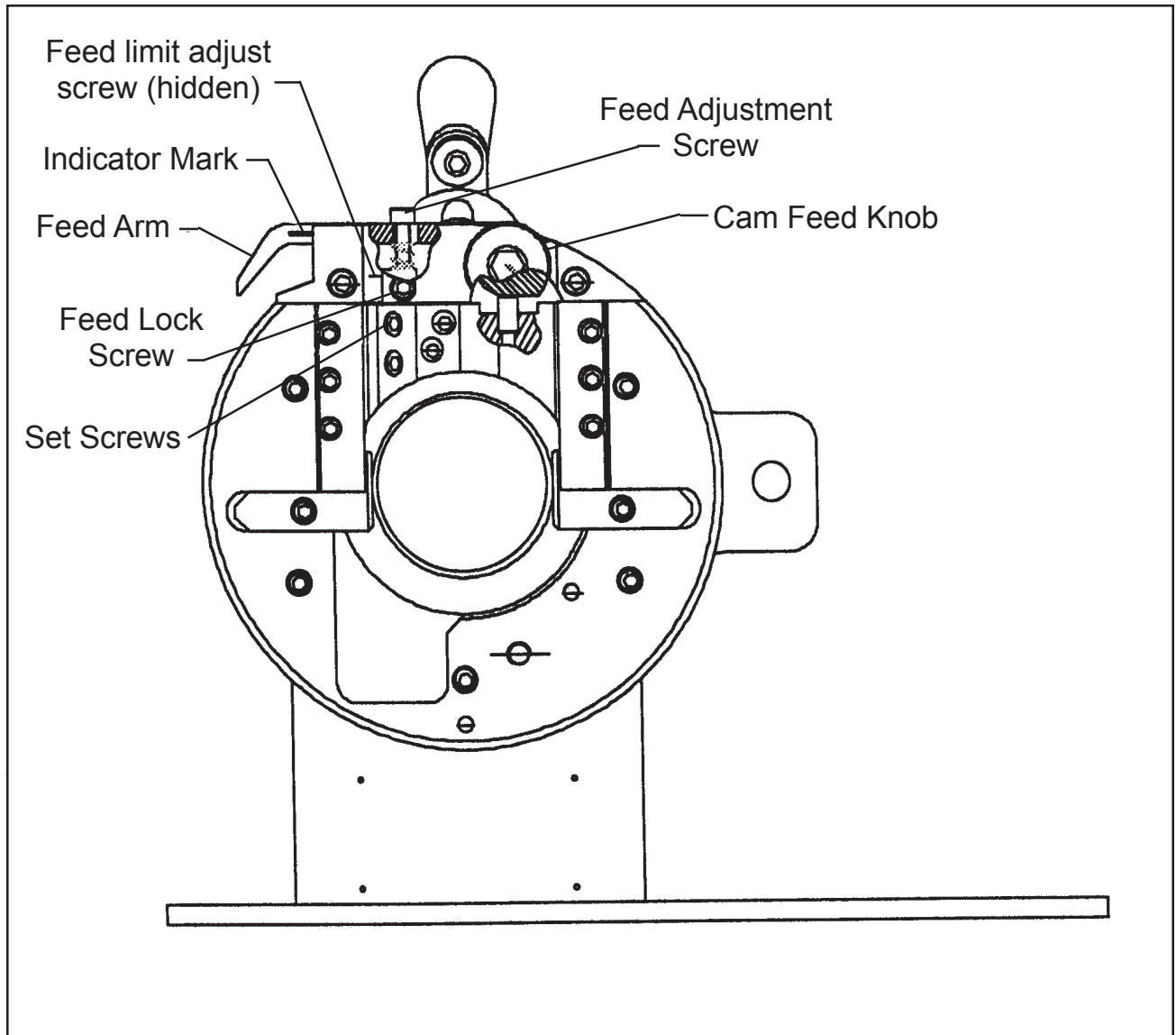
Loosen the Collet and re-position the tube to sever.

To adjust the feed rate, loosen feed lock screw, rotate the feed adjustment screw and read the feed rate graduations to find the desired feed rate.

Some experimentation should be made to maximize the efficiency and tool bit life.

NOTE: A feed rate of .002" to .003" (.05 mm to .08 mm) will accommodate most tube materials.

When the desired feed rate is set, tighten the feed lock screw. (Don't over tighten.)



CUTTING SPEEDS AND FEEDS

CUTTING SPEEDS

The chart below shows RPM required to obtain a specified Tool Bit cutting speed on the surface of a pipe or tube.

Cutting Speeds (Approximately)				
Tube Size		RPM for 200 in/min (5080 mm/min)	RPM for 250 in/min (6350 mm/min)	RPM for 300 in/min (7620 mm/min)
.25"	6.4 mm	255	318	382
.38"	9.5 mm	169	209	251
.50"	12.7 mm	127	159	191
.75"	19.1 mm	85	106	127
1.00"	25.4 mm	64	80	95
1.50"	38.1 mm	42	53	64
2.00"	50.8 mm	32	40	48

Use 200 surface inches per minute (5080 surface millimeters per minute) for: Stainless steels in general when no coolant is allowed, all heavy wall tube and some of the chrome/molybdenum alloys.

Use 250 surface inches per minute (6350 surface millimeters per minute) for: Mild steels and some thin wall stainless steels when coolants are permitted and used.

Use 300 surface inches per minute (7620 surface millimeters per minute) for: Aluminum and thin-wall mild steel tube with coolant.

CUTTING FEEDS

Use very light feed for initial severing or until a continuous cut is established.

Use a feed rate .002" to .003" (.05mm to .08 mm) per revolution once a continuous cut is established.

If the feed is too light, only light stringer chips will be removed.

If the feed is too heavy, the drive will start to overload and the chip will take on a rough or torn appearance.

Stainless steel, which work hardens, must be worked with a heavy enough feed to stay under the work hardened surface.

Feed at rate of at least .003" to .005" (.08 mm to .13 mm) per revolution.

Never allow the tool bit to burnish the surface.

Reduced cutting feed and speed will normally minimize any chatter problems.

COLLETS

SELECTION

NOTE: The size of the Collet is determined by the outside diameter of the tube or pipe to be severed or squared.

Decimal Inches	mm Equiv.	Part No.	Decimal Inches	mm Equiv.	Part No.
.250	6.35	30-2394	.563	14.30	30-2419
.276	7.00	30-2395	.591	15.00	30-2420
.281	7.14	30-2396	.594	15.08	30-2421
.313	7.95	30-2397	.602	15.29	30-2422
.315	8.00	30-2398	.625	15.88	30-2423
.344	8.74	30-2399	.630	16.00	30-2424
.354	9.00	30-2400	.641	16.27	30-2425
.359	9.13	30-2401	.656	16.66	30-2426
.375	9.53	30-2402	.669	17.00	30-2427
.394	10.00	30-2403	.675	17.15	30-2428
.400	10.16	30-2404	.677	17.20	30-2429
.406	10.31	30-2405	.681	17.30	30-2430
.413	10.50	30-2406	.688	17.48	30-2431
.422	10.72	30-2407	.709	18.00	30-2432
.433	11.00	30-2408	.718	18.24	30-2433
.438	11.13	30-2409	.750	19.05	30-2434
.469	11.91	30-2410	.781	19.84	30-2435
.472	12.00	30-2411	.787	20.00	30-2436
.500	12.70	30-2412	.813	20.65	30-2437
.512	13.00	30-2413	.840	21.34	30-2438
.531	13.50	30-2414	.844	21.44	30-2439
.540	13.72	30-2415	.854	21.70	30-2440
.543	13.80	30-2416	.859	21.83	30-2441
.547	13.89	30-2417	.866	22.00	30-2442
.551	14.00	30-2418	.875	22.23	30-2443

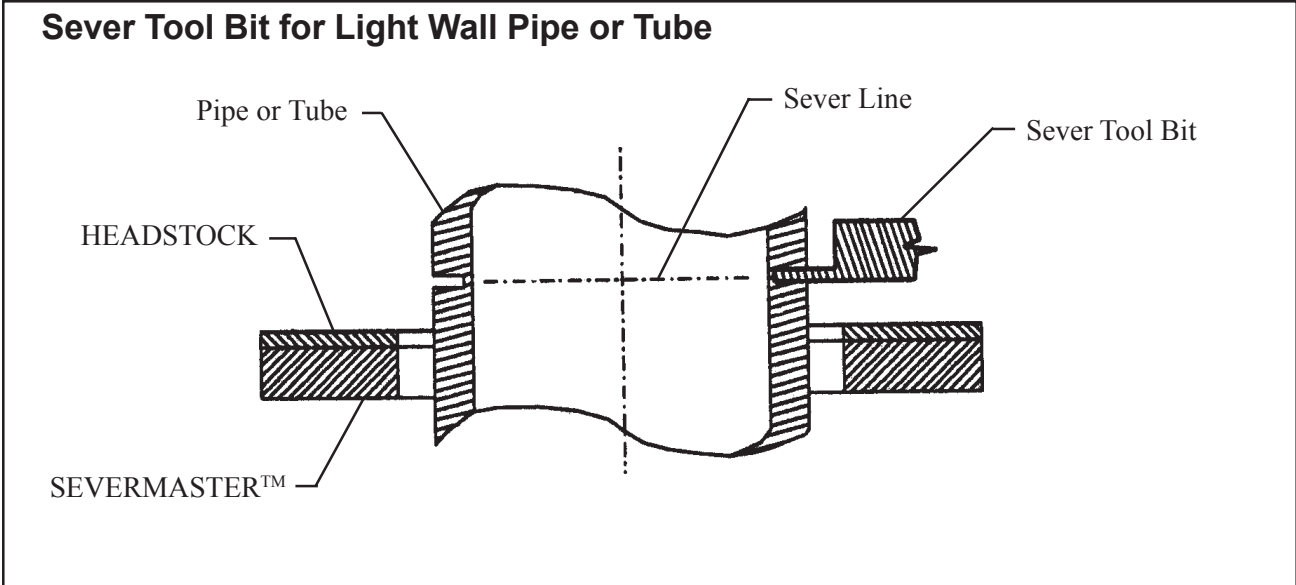
Collets, Continued

Decimal Inches	mm Equiv.	Part No.	Decimal Inches	mm Equiv.	Part No.
.906	23.00	30-2444	1.375	34.93	30-2464
.938	23.83	30-2445	1.378	35.00	30-2465
.969	24.61	30-2446	1.438	36.53	30-2466
.984	25.00	30-2447	1.500	38.10	30-2467
1.000	25.40	30-2448	1.563	39.70	30-2468
1.024	26.00	30-2449	1.575	40.00	30-2469
1.050	26.67	30-2450	1.625	41.28	30-2470
1.063	27.00	30-2451	1.660	42.16	30-2471
1.071	27.20	30-2452	1.681	42.70	30-2472
1.102	28.00	30-2453	1.688	42.88	30-2473
1.125	28.58	30-2454	1.750	44.45	30-2474
1.142	29.00	30-2455	1.752	44.50	30-2475
1.181	30.00	30-2456	1.813	46.05	30-2476
1.188	30.18	30-2457	1.875	47.63	30-2477
1.250	31.75	30-2458	1.900	48.26	30-2478
1.260	32.00	30-2459	1.913	48.60	30-2479
1.313	33.35	30-2460	1.938	49.23	30-2480
1.315	33.40	30-2461	1.969	50.00	30-2481
1.327	33.70	30-2462	2.000	50.80	30-2482
1.339	34.00	30-2463			

Spare parts for the Collets are:

Item No.	Part No.	Description	Qty
1.	28-0260	O-RING, SMALL	1
2.	28-0261	O-RING, LARGE	1
3.	40-0236	SPRING, COMPRESSION, .25" DIA	3

TOOL BITS



Tool Bit Selection				
Range	Max. Wall Thickness	Pipe or Tube Material	Sever Tool Bit P/N	Notes
1/8" thru 3/8" pipe	Sch 10	CS, SS	99-2959	A bur will be left on the side opposite from the headstock
1/2" thru 1 1/2" pipe	Sch 5			
1/4" dia thru 2" dia tube	.065"			
6.4 mm dia thru 50.8 mm dia	1.65 mm			
1/8" thru 3/8" pipe	Sch 10	CS, SS	99-3036	A bur will be left on the same side as the headstock
1/2" thru 1 1/2" pipe	Sch 5			
1/4" dia thru 2" dia tube	.065"			
6.4 mm dia thru 50.8 mm dia	1.65 mm			

TROUBLE SHOOTING

Problem: The Tool Bit Chatters

Probable causes:

- 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

Probable causes:

- 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

Probable causes:

- 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.
- The cutting speed is incorrect.

Problem: The tool holder is not feeding

Probable causes:

- 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

Probable causes:

- 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

Probable causes:

- 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

Probable causes:

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

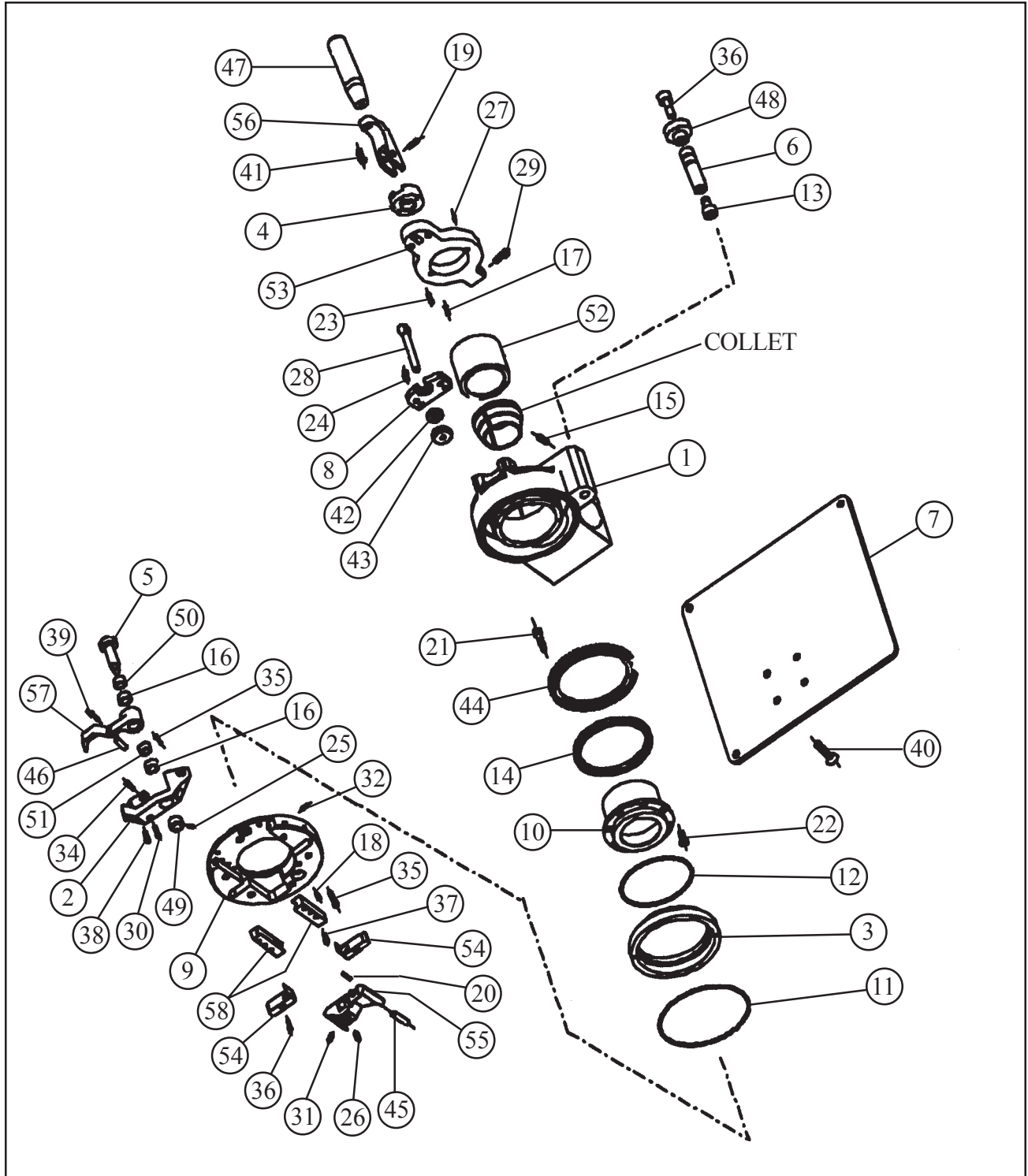
Problem: The hydraulic motor will not start

Probable causes:

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

ILLUSTRATED PARTS BREAKDOWN

MODEL 572AC, SEVERMASTER™ ASSEMBLY



TRI TOOL INC.

Parts List, Model 572AC Sub-Assembly (P/N 02-2221)

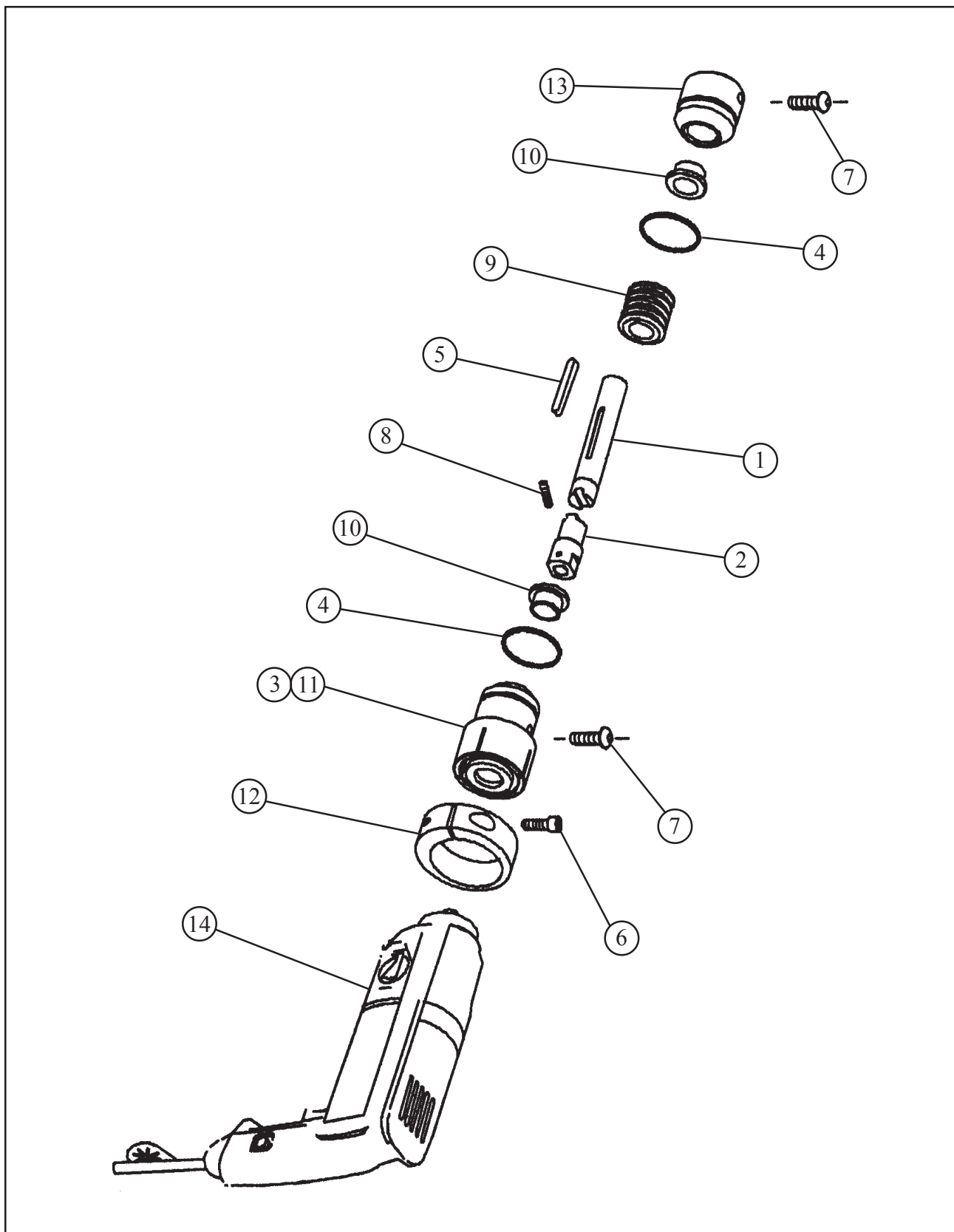
Item No.	Part No.	Description	Qty
1.	19-0759	HOUSING, MAIN	1
2.	19-0761	HOUSING, FEED	1
3.	20-0632	SHAFT, MAIN	1
4.	20-0633	SHAFT, CLAMP	1
5.	20-0635	SHAFT, CAM	1
6.	20-0637	SHAFT, TRIPPER	1
7.	24-1479	PLATE, STAND	1
8.	24-1481	PLATE, CLAMP	1
9.	24-1482	PLATE, MAIN	1
10.	27-0556	ADAPTER, COLLET	1
11.	28-0256	O-RING	1
12.	28-0257	O-RING	1
13.	29-0031	BEARING, CAM FOLLOWER	1
14.	29-0348	BEARING, ROLLER	1
15.	30-0125	PLUNGER, BALL	1
16.	30-2490	CLUTCH, ROLLER	2
17.	32-0116	PIN, DOWEL, 1/4" DIA X 1/2"	2
18.	32-0140	PIN, DOWEL, 1/4" DIA x 3/4"	2
19.	32-0495	PIN, DOWEL, 5/16" DIA X 3/4"	1
20.	32-0497*	PIN, STOP	1
21.	33-0013	SCREW, CAP, #6-32 X 1/2"	8
22.	33-0028	SCREW, CAP, #10-24 X 1/2"	8
23.	33-0031	SCREW, CAP, #10-24 X 7/8"	2
24.	33-0039	SCREW, CAP, 1/4-20 X 5/8"	4
25.	33-0489	SCREW, SET, #10-24 X 5/16", CUP PT	1
26.	33-0514*	SCREW, SET, 5/16-18 X 3/8", CUP PT	2
27.	33-0954	SCREW, SET, #10-24 X 1/4", HDOG	2
28.	33-1391	EYEBOLT	1
29.	33-1979	SCRW, SHOULDER, 5/16" X 2"	1
30.	33-1985	SCREW, CAP, #10-32 X 1/2", BRASS TIP	1
31.	33-1986*	SCREW, SET, 5/16-18 X 1/2", CONE PT	2
32.	33-1987	SCREW, SET, 5/16-18 X 3/4", HDOG	2
34.	33-1998	SCREW, SET, 5/16-18 X 3/4", HD, LOCK	1
35.	33-2000	SCREW, CAP, SS, #10-24 X 1/2"	8
36.	33-2001	SCREW, CAP, SS, #10-24 X 3/4"	3
37.	33-2002	SCREW, CAP, SS, #10-24 X 7/8"	6
38.	33-2003	SCREW, CAP, SS, 1/4-20 X 1 1/4"	2
39.	33-0203	SCREW, CAP, #10-32 X 7/8"	1
40.	33-2005	SCREW, FLAT HEAD, SS, 5/16-18 X 3/4"	4

Parts List, Model 572AC Sub-Assembly (P/N 02-2221), Continued

Item No.	Part No.	Description	Qty
41.	33-2006	SCREW, BUTTON HEAD, SS, 3/8-16 X 1"	1
42.	34-0134	WASHER SET, SELF ALIGN, 3/8"	1
43.	35-0139	NUT, CHECK	1
44.	39-0805	GEAR, WORM, 60T	1
45.	40-0233	SPRING, COMPRESSION	2
46.	40-0246	SPRING, COMPRESSION	1
47.	41-0125	HANDLE	1
48.	42-0023	KNOB	1
49.	42-0171	KNOB, FEED SHAFT	1
50.	45-0260	BUSHING, BRONZE	1
51.	45-0261	BUSHING, BRONZE	1
52.	46-0439	SLEEVE, PUSHER	1
53.	47-1099	BRACKET, HINGE	1
54.	48-1017	BLOCK, SPRING	2
55.	48-1018	BLOCK, TOOL HOLDER	1
56.	62-0106	CAM, CLAMP	1
57.	63-0137	ARM, FEED	1
58.	66-0159	RAIL, SLIDE	2

* These parts are recommended for spare parts.

ELECTRIC MOTOR ASSEMBLY



Parts List, Drive Assembly, Electric, 110 VAC (P/N 58-0076)

Item No.	Part No.	Description	Qty
1.	20-0617	SHAFT, DRIVE	1
2.	20-0619	SHAFT, DRIVE	1
3.	28-0245	SEAL, GREASE	1
4.	28-0233	O-RING	2
5.	31-0115	KEY	1
6.	33-0041	SCREW, CAP, 1/4-20 X 7/8"	1
7.	33-0292	SCREW, BUTTON HEAD, 5/16-18 X 5/8"	2
8.	33-0619	SCREW, SET, #10-32 X 1/4", CUP PT	2
9.	39-0005	WORM	1
10.	45-0258	BUSHING, FLANGE	2
11.	46-0411	SLEEVE, MOTOR	1
12.	47-1111	BRACKET, CLAMP	1
13.	54-0347	PLUG	1
14.	58-0011	MOTOR, ELECTRIC, 110 VAC, (Bosch)	1

Parts List, Drive Assembly, Electric, 220 VAC (P/N 58-0080)

Item No.	Part No.	Description	Qty
1.	20-0617	SHAFT, DRIVE	1
2.	20-0619	SHAFT, DRIVE	1
3.	28-0245	SEAL, GREASE	1
4.	28-0233	O-RING	2
5.	31-0115	KEY	1
6.	33-0041	SCREW, CAP, 1/4-20 X 7/8"	1
7.	33-0292	SCREW, BUTTON HEAD, 5/16-18 X 5/8"	2
8.	33-0619	SCREW, SET, #10-32 X 1/4", CUP PT	2
9.	39-0005	WORM	1
10.	45-0258	BUSHING, FLANGE	2
11.	46-0411	SLEEVE, MOTOR	1
12.	47-1111	BRACKET, CLAMP	1
13.	54-0347	PLUG	1
14.	58-0232	MOTOR, MOD., ELECTRIC, 220 VAC, (Bosch)	1