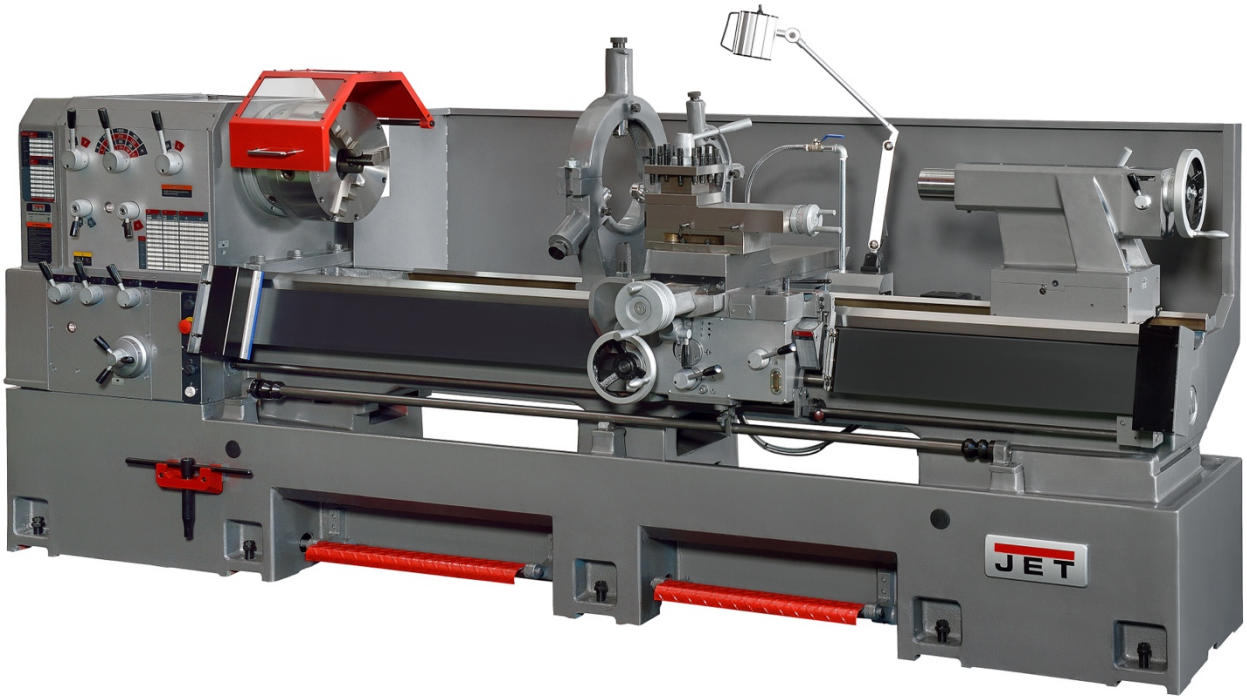
Operation and Maintenance Instructions

Large Spindle Bore Gear Head Lathe

Models GH-2680ZH and GH-26130ZH



Model GH-2680ZH Shown

JET
427 New Sanford Road
LaVergne, Tennessee 37086
Ph.: 800-274-6848
www.jettools.com

Part No. M-JT1-2717
Edition 2 02/2026

1.0 IMPORTANT SAFETY INSTRUCTIONS

Read and understand the entire owner's manual before attempting to set up or operate this lathe.

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. This lathe is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a lathe, do not use until proper training and knowledge have been obtained.
5. Do not use this lathe for other than its intended use. If used for other purposes, JET®, disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear approved safety glasses/face shields while using this lathe. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating this lathe, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Remove all loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do not wear gloves.
8. Wear ear protectors (plugs or muffs) during extended periods of operation.
9. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
   - Lead from lead based paint.
   - Crystalline silica from bricks, cement and other masonry products.
   - Arsenic and chromium from chemically treated lumber.

   Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the OFF position before connecting the machine to the power supply.
12. Make certain the machine is properly grounded.
13. Make all machine adjustments or maintenance with the machine unplugged from the power source.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after maintenance is complete.
16. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
17. Do not use power tools in damp/wet locations or other dangerous environments. Do not expose them to rain. Keep work area well lighted. Provide for adequate space surrounding work area and non-glare, overhead lighting.
18. Keep the floor around the machine clean and free of scrap material, oil and grease.
19. Keep visitors a safe distance from the work area. Keep children away.
20. Make your workshop child proof with padlocks, master switches or by removing starter keys.

21. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
22. Maintain a balanced stance at all times so that you do not fall or lean against moving parts. Do not overreach or use excessive force to perform any machine operation. Never force the cutting action.
23. Do not operate the lathe in flammable or explosive environments. Do not use in a damp environment or expose to rain.
24. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.
25. Use recommended accessories; improper accessories may be hazardous.
26. Maintain tools with care. Keep cutting tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
27. Do not attempt to adjust or remove tools during operation. Disconnect tools before servicing; when changing accessories, such as blades, bits, cutters, and the like.
28. Never stop a rotating chuck or workpiece with your hands.
29. Choose a low spindle speed when working unbalanced workpieces, and for threading and tapping operations.
30. Do not exceed the maximum speed of the workholding device.
31. Do not exceed the clamping capacity of the chuck.
32. Secure Work. For safety and use of both hands, use clamps or a vise to hold work when practical.
33. Workpieces longer than 3 times the chucking diameter must be supported by the tailstock or a steady rest.
34. Avoid small chuck diameters with large turning diameters.
35. Avoid short chucking lengths and small chucking contact.
36. Turn off the machine and disconnect from power before cleaning. Use a brush to remove shavings or debris — do not use your hands.
37. Do not stand on the machine. Serious injury could occur if the machine tips over.
38. Never leave the machine running unattended. Turn the power off and do not leave the machine until moving parts come to a complete stop.
39. Remove loose items and unnecessary work pieces from the area before starting the machine.
40. Direction of feed — feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
41. Installation work and electrical wiring must be done by qualified electrician in accordance with all applicable codes and standards.
42. Tighten all locks before operating.
43. Rotate workpiece by hand before applying power.
44. Rough out workpiece before installing on faceplate.
45. Do not mount split workpiece or one containing knot.
46. Use lowest speed when starting new workpiece.

Safety Devices

⚠WARNING Do not bypass, remove, or override safety devices built into this machine. Injury or death to yourself or those nearby may result. Possible consequences include parts flying off at high speed, contact with moving parts, electrocution, and clothing being pulled into the machine.

The lathe includes the following safety devices:

Lockable Main Switch (Figure 1-1)
When the main switch is switched off ("0" position), the current supply to the lathe is interrupted. In the "0" position, the main switch can be secured against accidental or unauthorized activation using a padlock.

Figure 1-1

Emergency-Stop Button (Figure 1-2)
Pressing the emergency-stop button switches the lathe off. Turn the button clockwise to restart the machine.

Figure 1-2

Chuck Shield with Position Switch (Figure 1-3)
Raise the chuck shield to gain access to the chuck and spindle. When the chuck shield is lowered into place, the position switch is activated, allowing the machine to be turned on.

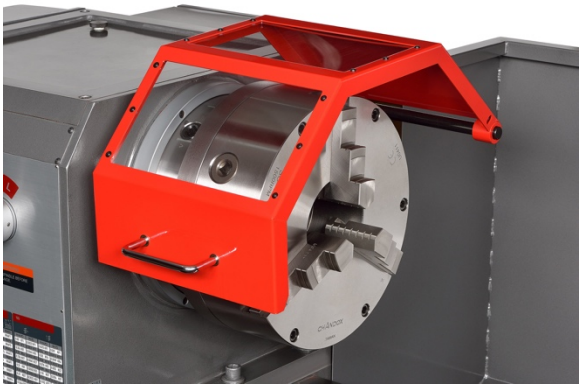


Figure 1-3

Headstock End Panel with Position Switch (Figure 1-4)
When the headstock end panel cover is in place, the position switch is activated, allowing the machine to be turned on.

Figure 1-4

The Overload Clutch on the feed shaft prevents overloading of the machine.

Safety Screws for the camlock bolts on the workpiece holder.

Familiarize yourself with the following safety notices used in this manual:

⚠CAUTION This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

⚠WARNING This means that if precautions are not heeded, it may result in serious injury or possibly even death.

2.0 **Table of Contents**

Section **Page**

3.0 **Warranty and Service**

JET warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

Warranty Period
The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.

- JET products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

Who is Covered
This warranty covers only the initial purchaser of the product from the date of delivery.

What is Covered
This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance. JET woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

Warranty Limitations
Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

How to Get Technical Support
Please contact Technical Service by calling 1-800-274-6846.**Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET website.

More Information
JET is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET website.

How State Law Applies
This warranty gives you specific legal rights, subject to applicable state law.

Limitations on This Warranty
JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.
JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

JET sells through distributors only. The specifications listed in JET printed materials and on official JET website are given as general information and are not binding. JET reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET® branded products are not sold in Canada by JPW Industries, Inc.

Product Listing with Warranty Period

90 Days – Parts; Consumable items
1 Year – Motors; Machine Accessories
2 Year – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories; Woodworking Machinery used for industrial or commercial purposes
5 Year – Woodworking Machinery
Limited Lifetime – JET Parallel clamps; VOLT Series Electric Hoists; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools; Air Tools

NOTE: JET is a division of JPW Industries, Inc. References in this document to JET also apply to JPW Industries, Inc., or any of its successors in interest to the JET brand.

4.0 About this Manual

This manual is provided by JET and covers the safe operation and maintenance procedures for the JET Model GH-2680ZH and GH-26130ZH Lathe. This manual contains instructions on installation, safety precautions, general operating procedures, and maintenance instructions. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

If you have any questions or comments, please contact your local supplier or JET. JET can also be reached at our web site: www.jettools.com.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

⚠WARNING **Read and understand the entire contents of this manual before attempting assembly or operation. Failure to comply may cause serious injury.**

Register your product using the mail-in card provided or register online: www.jettools.com/product-registration

To quickly reach the product registration webpage, scan the QR code below.

5.0 **Product Identification**

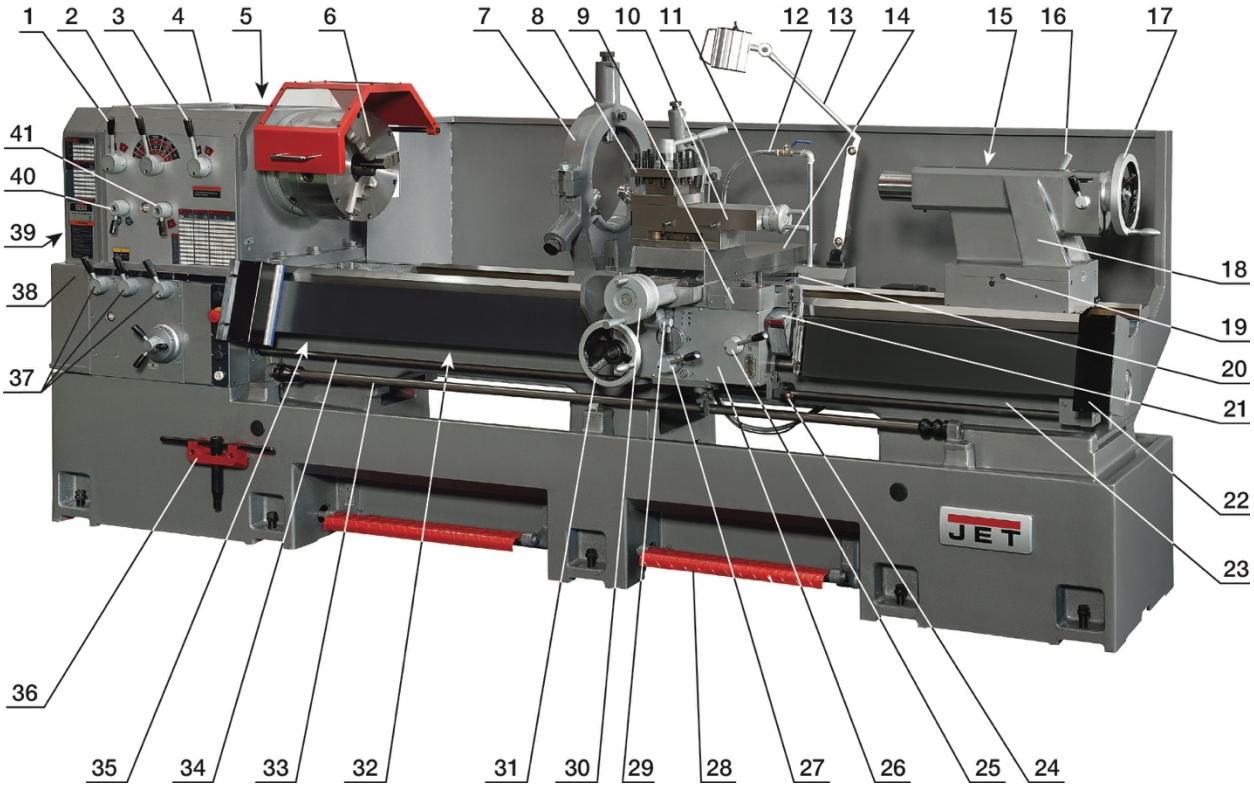


Figure 5-1: Product Identification

1. Spindle Speed Shifting Lever
2. RPM Selector Lever
3. Low or High Speed Selector Lever
4. Headstock
5. Electric Control Panel (in rear, not shown)
6. Spindle with Three-Jaw Chuck
7. Steady Rest
8. Tool Post
9. Carriage
10. Compound Slide
11. Compound Slide Traverse Handwheel
12. Coolant System
13. Work Light
14. Cross Slide
15. Tailstock Quill Clamp Lever (behind tailstock, not shown)
16. Tailstock Clamp Lever
17. Quill Traverse Handwheel
18. Tailstock
19. Tailstock Set-Over Screw
20. Carriage Lock
21. Threading Dial Indicator
22. Support Body
23. Bed
24. Forward/Reverse Selector
25. Half Nut Engagement Lever
26. Apron
27. Auto Feed Engage Lever
28. Foot Brake
29. Feed Axis Selector
30. Cross Slide Traverse Handwheel
31. Longitudinal Traverse Handwheel
32. Rack (behind cover, not shown)
33. Control Rod
34. Feed Rod
35. Leadscrew (behind cover, not shown)
36. Chuck Key
37. Thread/Feed Shifting Levers
38. Gearbox
39. Gearbox Cover (on side, not shown)
40. Feed Direction Selector
41. Thread/Feed Selector

6.0 **Specifications**

Stock Number	**JT1-2717 / JT1-2718**
Model Number	GH-2680ZH / GH-26130ZH
Main Motor	15HP, 230/460V, 60Hz, 40/20A, 3PH, 6P
Transformer	160VA, 0V-460V
Coolant Pump	1/8HP, 230/460V, 0.43/0.26A, 3PH, 2P
Quick Feed Motor (Z-Axis, Model GH-26130ZH)	1/4HP, 230/460V, 3PH, 8P
Work Lamp	LED 24V, 9W, LED-70
Swing Over Bed	26” (660mm)
Swing Over Cross Slide	14.75” (375mm)
Swing Over Gap	35” (890mm)
Length of Gap	11.8” (300mm)
Center Height	13” (330mm)
Distance Between Centers: JT1-2717/GH-2680ZH	80” (2000mm)
Distance Between Centers: JT1-2718/GH-26130ZH	132” (3300mm)
Bed Width	15.75” (400mm)
Spindle Bore	4.5” (120mm)
Spindle Nose	D1-11
Taper in Spindle Nose	MT-7
Number of Spindle Speeds	12
Range of Spindle Speeds	10-1000 RPM
Number of Longitudinal & Cross Feeds	65 / 63
Range of Longitudinal Feeds	0.001~0.0147” (0.025~0.37mm)
Range of Cross Feeds	0.0022~0.003” (0.05~0.76mm)
Inch Threads: Kinds/Range	48/2-30
Whitworth Threads: Kinds/Range	44 Kinds/2~56 TPI (Geared: 24T/85T/57T)
Metric Threads: Kinds/Range	24 Kinds/P0.5~14mm (Geared 24T/85T/57T)
D.P. Threads: Kinds/Range	44 Kinds/2~56 D.P. (Geared: 41T/108T/31T)
M.P. Threads: Kinds/Range	24 Kinds/0.5~14 D.P. (Geared: 41T/108T/31T)
Maximum Tool Size	1.25 x 1.25” (31.75 x 31.75mm
Maximum Compound Slide Travel	5.5” (139.7mm)
Lead Screw Diameter	1.5” (38mm)
Lead Screw Pitch	4 TPI (6mm)
Maximum Cross Slide Travel	14.75” (375mm)
Maximum Carriage Range: JT1-2717/GH-2680ZH	73.62” (1870mm)
Maximum Carriage Range: JT1-2718/GH-26130ZH	117.5” (2985mm)
Tail Spindle Diameter	3.34” (85mm)
Tail Spindle Travel	7.5” (190mm)
Tailstock Taper	MT-5
Steady Rest Capacity - Small	0.78” – 4.9” (19.8 – 124.46mm)
Steady Rest Capacity - Large	3.93” – 9.43” (99.8 – 239.5mm)
Follow Rest Capacity	0.78” – 3.94” (19.8 – 100mm)
Product Dimensions: JT1-2717/GH-2680ZH	138" x 43" x 57" (3505 x 1092 x 1448mm)
Product Dimensions: JT1-2718/GH-26130ZH	178" x 43" x 57" (4521 x 1092 x 1448mm)
Weight, Net/Gross: JT1-2717/GH-2680ZH	6283 lbs (2850kg) / 6724 lbs (3050kg)
Weight, Net/Gross: JT1-2718/GH-26130ZH	7937 lbs (3600kg) / 8598 lbs (3900kg)

The specifications in this manual were current at the time of publication. JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.

7.0 **Setup and Assembly**

7.1 **Shipping Contents**

1 Lathe
1 Steady Rest
1 Follow Rest (installed)
1 20” Face Plate
1 14" Three-Jaw Chuck (installed)
1 Splash Guard
1 LED Lamp
1 Chuck Guard (installed)
1 Coolant Pump System (installed)
1 Leadscrew Cover (installed)
10 Leveling Bolts with Hex Nuts (installed)
1 Accessories Package Carton
1 Toolbox

Accessories Package:
1 41T Gear
1 108T Gear
1 31T Gear
3 14” Reverse Jaw Chuck
10 Leveling Pads
1 T Handle Wrench for Chuck
1 T Handle Wrench for Spindle (cam lock)
1 Center Sleeve
1 4-Position Carriage Step

Tool Box:
2 Dead Centers Sleeve
3 Safety Pins
1 T Handle Wrench for Tool Post
1 Open-End Wrench
1 Crosspoint Screwdriver
1 Flathead Screwdriver
1 Oil Can
1 Allen Wrench Set (1.5/2.5/3/4/5/6/8/10mm)
1 Owner’s Manual, Inspection Sheet, Warranty Card, Pre-Shipment Check List

Figure 7-1

7.2 Uncrating and Installation

⚠WARNING The machine is heavy. Use a crane with appropriate capacity for handling the weight of this machine. Use extreme caution when moving the machine to its final location. Failure to comply may cause serious injury.

⚠WARNING Confirm that all suspension equipment is properly rated and in good condition for lifting lathe. Do not allow anyone beneath or near load while lifting.

Installation Location

1. Remove the wooden crate from around the lathe.
2. Unbolt the lathe from the bottom of the shipping crate.
3. Choose a location for the lathe that is level, dry, well-lit, and has enough room to service it on all four sides. The lathe must sit on a solid foundation. A concrete floor is the best base for the machine.

Lifting Machine

1. Move the carriage and tailstock to the far right of the bed and lock in place to help balance the machine. To further balance the load, loosen the carriage lock bolt, disengage the half nut lever, put the feed control lever in neutral, and use the carriage handwheel to move the carriage next to the tailstock.
2. Clamp the bedways with a custom hanger consisting of a clamp and iron chain. The hanger must be heavy-duty and capable of supporting the weight of this machine.
3. Attach crane hook to hanger. Raise the lathe a few inches and make sure the lathe is balanced. If not, move carriage and tailstock right or left to balance the load.

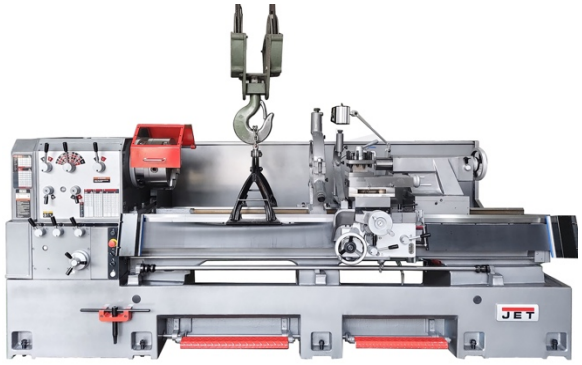


Figure 7-2

Locating and Positioning Machine

The lathe is shipped with ten leveling bolts installed in the base. Ten leveling pads are shipped with the lathe. The lathe can be installed using the installed leveling bolts and leveling pads, or can be attached to the floor using J-bolts set in the concrete floor. Using J-bolts require carefull placement of the J-bolts so they align with the base mounting holes. The J-bolts must be set in concrete and the concrete must fully cure before installing the machine. J-bolts and bolts and nuts are not provided. J-bolt size is M10 x 330 (L:mm). See Figure 7-3 for J-bolt installation.

1. Carefully and slowly lower the lathe to leveling pads or installed J-bolts. Hard bumps or crashes can damage the machine, the leveling bolts/pads, or the J-bolts, causing the machine to be inaccurate.

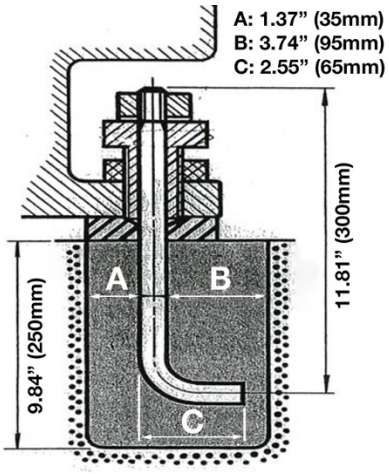


Figure 7-3: J-Bolt Installation

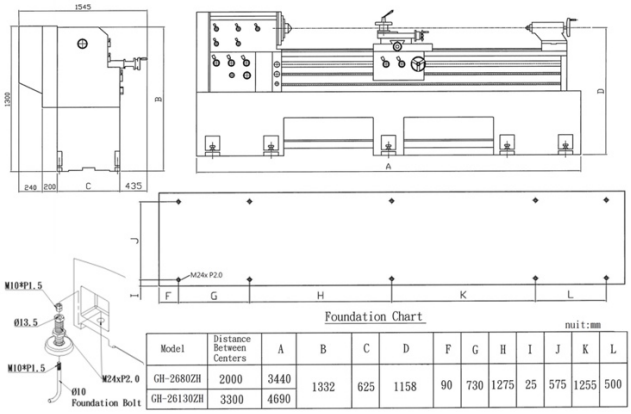


Figure 7-4: Installation Dimensions

Leveling the Lathe

The lathe must be on a level plane; that is, the headstock and tailstock center points must remain aligned throughout the tailstock travel, with the bed ways free of twist and parallel to the operational center line.

A lathe which is not properly leveled will be inaccurate, producing tapered cuts. Also, the center point of the tailstock will vary as it is positioned along the bed, thus requiring constant readjustment of the set of the tailstock.

1. Check for level condition using a machinist's precision level on the bedways, both front-to-back and side-to-side (see Figure 7-4). Take the reading in one direction every ten inches.

Make sure the ways are clean and free of any debris before placing a level upon them.

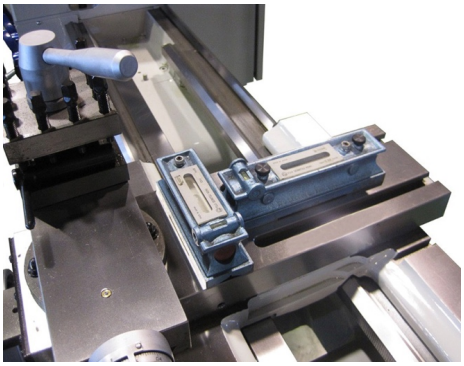


Figure 7-4: Leveling

2. Adjust the foot leveling bolts to achieve proper machine level. Tighten leveling bolt nuts evenly when the machine is leveled.
3. Inspect leveling occasionally, especially if the lathe accuracy begins to diminish.

Cleaning Components

1. Clean all rust-protected surfaces using a mild commercial solvent, kerosene, or diesel fuel. Do not use paint thinner, gasoline, or lacquer thinner. These will damage painted surfaces. Cover all cleaned surfaces with a light film of Mobil DTE® Oil Heavy Medium.
2. Open the end panel. Clean all components of the end gear assembly and coat all gears with a heavy, non-slinging grease, like Mobilith® AW 1.

7.3 Chuck Preparation

⚠WARNING Read and understand all directions for chuck preparation. Failure to comply may cause serious injury and/or damage to the lathe.

Note: Before removing the chuck from the spindle, place a way board across the bedways under the chuck to prevent damage to the bedways should the chuck fall from your hands. Alternatively, many users make a wood chuck cradle that sits atop the ways and accepts the chuck's specific diameter, making installation and removal easier. Figure 7-5 shows an example.

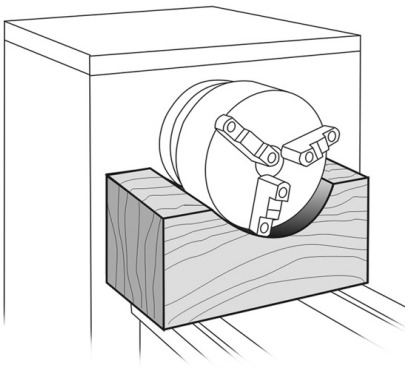


Figure 7-5: Chuck Cradle

Refer to Figures 7-6 & 7-7.

1. Support the chuck. Using the supplied chuck key, turn six camlocks (A) counterclockwise. Line up the camlock index mark (B) with the cam release mark (C) for removal.
2. Carefully remove the chuck from the spindle and place on an adequate work surface.
3. Inspect the camlock studs. Make sure they have not become cracked or broken during transit. Clean all parts thoroughly with solvent. Also, clean the spindle and camlocks.
4. Cover all chuck jaws and scroll inside the chuck with Mobilith® AW2. Cover the spindle, cam locks, and chuck body with a light film of Mobil DTE® Oil Heavy Medium.
5. Lift the chuck to the spindle nose and press onto the spindle. Tighten in place by turning the six camlocks (A) clockwise. The camlock index mark (B) should be between the two "V" indicator arrows (D). If the index mark is not between the two arrows, remove the chuck and adjust the camlock studs (E). To do this, remove the cap-head locking screws (F) and set each stud so the scribed ring (G) is flush with the rear face of the chuck, with the slot lining up with the locking screw hole.
6. Install chuck and tighten in place.

ATTENTION: Only when the incised line on the chuck lines up with that on the spindle, can the chuck be mounted.

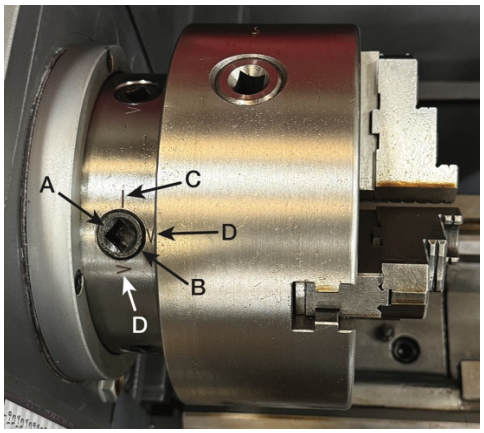


Figure 7-6

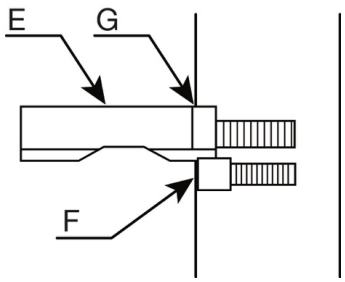


Figure 7-7

8.0 Lubrication

⚠CAUTION The lathe must be serviced at all lubrication points, and all reservoirs must be filled to operating level before the lathe is placed into service. Failure to comply may cause severe damage to the lathe.

1. **Headstock** – The bearings of the headstock turn in an oil bath. Oil must reach the center line of oil level sight glass. Top off with Mobil DTE® Oil Heavy Medium. Fill at oil input hole on the left top side of headstock cover (1A, Figure 8-1). Drain oil by removing drain plug (1B, Figure 8-1). Check oil level regularly. Make the first oil change after one month of operation. Clean out any metal shavings. Then, change oil in the headstock every two months.
2. **External Gears (inside side cover)** - Coat all gears with a heavy, non-slinging grease, see Figure 8-2.
3. **Gearbox** - Oil must be up to center line of oil level sight glass. Remove the oil filling plug (3A, Figure 8-1). Top off with Mobil DTE® Oil Heavy Medium. Drain oil by removing drain plug (3B, Figure 8-1). Make the first oil change after operating three months. Then, change oil in the gearbox every six months.
4. **Apron** - Oil must be up to center line of oil level sight glass. Top off with Mobil DTE® Oil Heavy Medium. Fill by removing oil filling plug (4A, Figure 8-1). Drain oil by removing drain plug located on the bottom of the apron (4B, Figure 8-1). Make the first oil change after operating three months. Then, change oil annually.
5. **Carriage** - Lubricate ball oilers (5, Figure 8-1) once daily with Mobil DTE® Oil Heavy Medium.
6. **Compound Slide** - Lubricate ball oiler (6, Figure 8-1) once daily with Mobil DTE® Oil Heavy Medium.
7. **Longitudinal and Cross Slide** - Lubricate ball oilers (7, Figure 8-1) once daily with Mobil DTE® Oil Heavy Medium.
8. **Tailstock** - Lubricate two ball oilers (8, Figure 8-1) once daily with Mobil DTE® Oil Heavy Medium.
9. **Leadscrew/Feed Rod** - Lubricate ball oilers once daily (9, Figure 8-1) with Mobil DTE® Oil Heavy Medium.

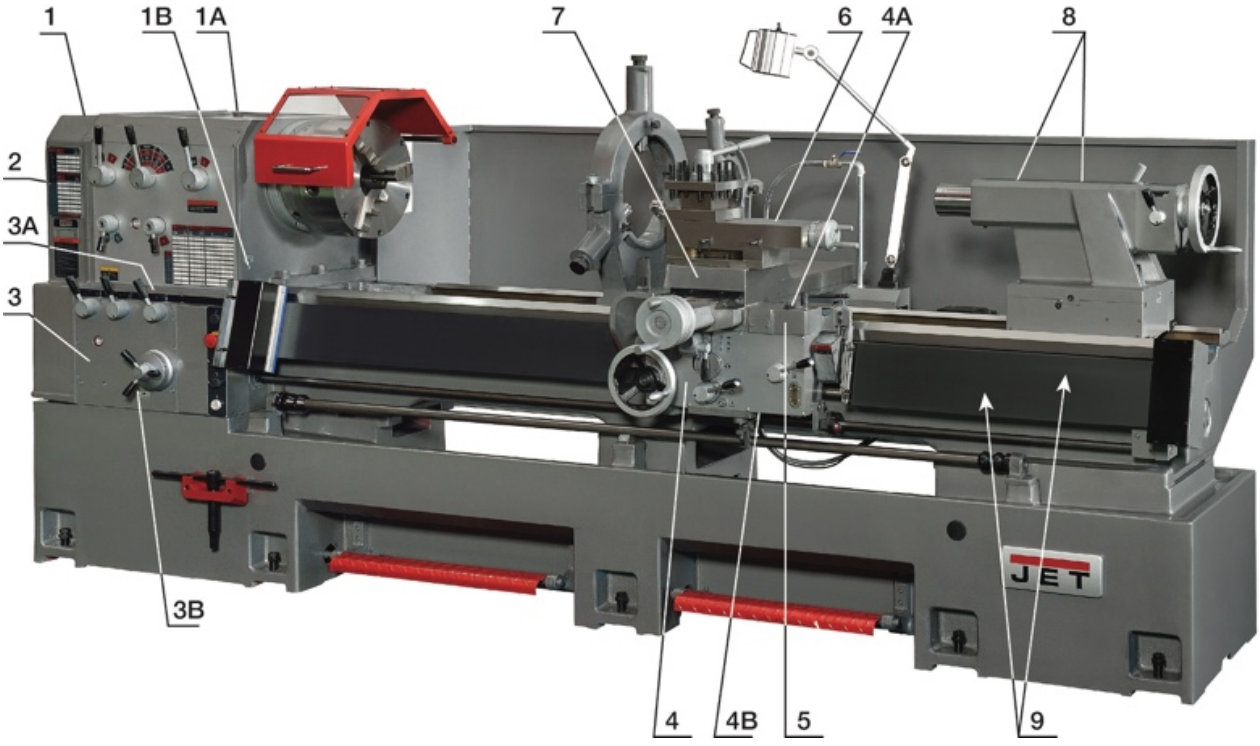


Figure 8-1

9.0 Coolant Preparation

⚠CAUTION **Follow coolant manufacturer's recommendations for use, care and disposal.**

1. Remove access cover on tailstock end at the rear base of the lathe. Make sure coolant pump has not shifted during transport.
2. Pour four gallons (approximate) of coolant mix into the chip pan.
3. After connecting machine to power, turn coolant on/off switch to ON position. Make sure coolant is cycling properly.
4. Replace access cover.

10.0 Electrical Connections

⚠WARNING **Electrical connections must be made by a qualified electrician in compliance with all relevant codes. This machine must be properly grounded while in use to help protect the operator from electrical shock and possible fatal injury.**

The GH-2680ZH and GH-26130ZH lathes are rated at 15HP, 3PH, 230V/460V. Confirm power available at the lathe's location is the same rating as the lathe.

The electrical control box can be found by opening its cover at the back of bed. Connect the power source wire with the connecting points (R.S.T.).

The wire between the power source and the connecting points must be over sectional area 8mm^2 (5.5 mm^2 for 480 or 19" series).

The main switch between machine and power source also should be equipped with safety fuse. Besides, the machine must be grounded.

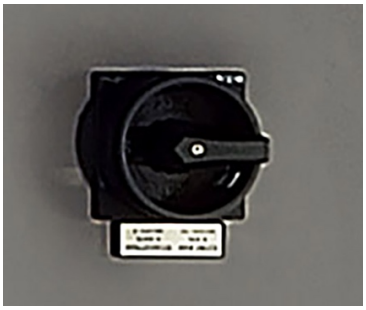


Figure 10-1: Main Switch

10.1 Electrical Equipment

1. The electrical control box is also equipped with overload circuit breaker and electric magnetic contactor to protect motor from burning out by overload.
2. The main switch is connected with micro switch.
3. The foot brake is connected with micro switch. Stepping the footbrake is quicker to stop the lathe than turning off the switch. The spindle can only revolute again by re-operating the spindle operation control lever after using the foot brake.
4. The spindle will rotate continuously as long as the intermittent switch on the top of the electrical panel is pressed.

10.2 Checking Connections

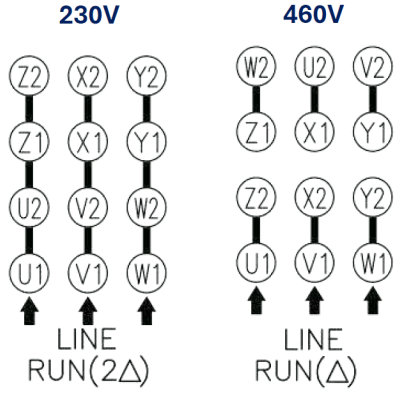
After wiring, check the spindle rotation. Turn the main switch "ON" and ensure the spindle is safe. Push Jog switch (marked T) momentarily. If the electrical connections are correct, the spindle/chuck will rotate counterclockwise as viewed from the tailstock. If the spindle/chuck rotates clockwise, move the feed direction selector to the neutral position, power off the machine, and disconnect the lathe from the power source. Switch any two of the three power leads (not the green ground wire) and reconnect the lathe to the power source. Recheck spindle rotation.

10.3 Voltage Conversion

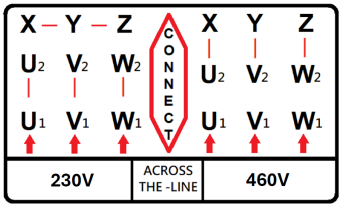
This machine has been pre-wired for 230-volt operation. To change from 230 to 460-volt operation:

Remove junction box cover on motor and change wires according to diagrams found on inside cover.

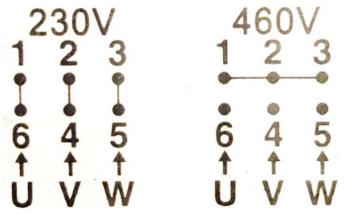
Spindle motor



Quickly Feed motor (For GH-26130ZH only)



Coolant Pump motor



Change incoming lead on transformer from 230V to 460V terminal (Figure 10-2).

Adjust overload relay setting to appropriate amperage (Figure 10-2).

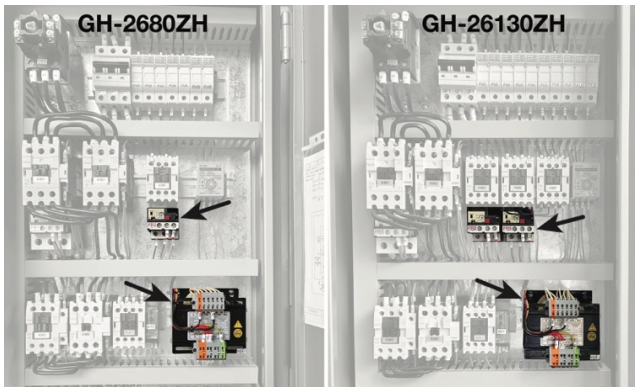


Figure 10-2: Transformer and Overload Relay

11.0 General Description

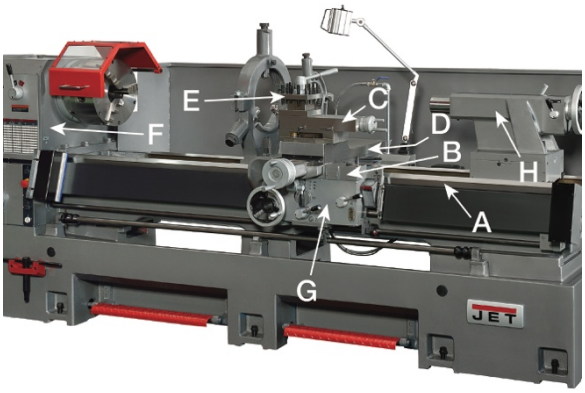


Figure 11-1

11.1 Lathe Bed

The lathe bed (A, Figure 11-1) is made of high-grade cast iron. By combining high cheeks with strong cross ribs, a bed provides low vibration and high rigidity. Two precision-ground V-slideways, reinforced by heat hardening and grinding, are an accurate guide for the carriage and headstock. The main drive motor is mounted to the rear of the bed.

11.2 Carriage

The carriage (B, Figure 11-1) is made from high-quality cast iron. The sliding parts are smooth-ground. The cross-slide is mounted on the carriage and moves on a dovetailed slide, which can be adjusted for play by means of the gibs.

The compound slide (C, Figure 11-1), which is mounted on the cross slide (D, Figure 11-1), can be rotated through 360°. The compound slide and the cross slide travel in a dovetail slide and have adjustable gibs.

11.3 Four Way Tool Post

The four-way tool post (E, Figure 11-1) is mounted on the compound slide and allows up to four tools to be mounted simultaneously. Remember to use at least two clamping screws when installing a cutting tool.

11.4 Headstock

The headstock (F, Figure 11-1) is cast from high-grade, low-vibration cast iron. It is mounted tov the bed by four bolts with two adjusting bolts for alignment. In the head, the spindle is mounted on two precision taper roller bearings. The hollow spindle has Morse Taper #5 with a 1-1/2" bore.

11.5 Apron

The apron (G, Figure 11-1) is mounted to the carriage. In the apron a half nut is fitted. The half nut gibs can be adjusted from the outside. The half nut is engaged by use of a lever. Quick travel of the apron is accomplished by means of a bed-mounted rack and pinion, operated by a hand wheel on the front of the apron.

11.6 Tailstock

The tailstock (H, Figure 11-1) slides on a v-way and can be locked at any location by a clamping lever. The tailstock has a heavy-duty spindle with a Morse Taper #3.

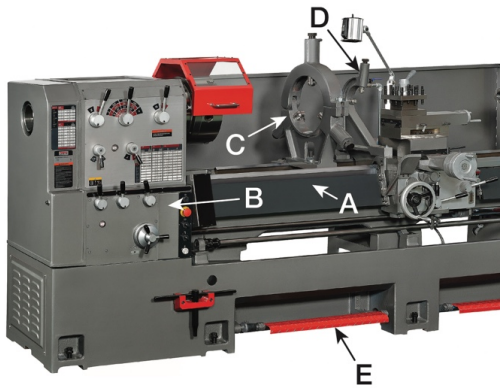


Figure 11-2

11.7 Leadscrew and Feed Rod

The leadscrew and feed rod (A, Figure 11-2, behind cover) are mounted on the front of the machine bed. They are connected to the gearbox at the left for automatic feed and lead. They are supported by bushings on both ends. Both are equipped with brass shear pins.

11.8 Gear Box

The gear box (B, Figure 11-2) is made from high quality cast iron and is mounted to the left side of the machine bed.

11.9 Steady Rest

The steady rest (C, Figure 11-2) serves as a support for shafts on the free tailstock end. The steady rest is mounted on the bedways and secured from below with a bolt, nut and locking plate. The sliding fingers require continuous lubrication at the contact points with the workpiece to prevent premature wear.

11.10 Follow Rest

The traveling follow rest (D, Figure 11-2) is mounted on the saddle and follows the movement of the turning tool. Only two fingers are required as the turning tool takes the place of the third. The follow rest is used for tuning operations on long, slender workpieces. It prevents the workpiece from flexing under the pressure of the cutting tool.

The sliding fingers are set similar to the steady rest, free of play, but not binding. The sliding fingers require continuous lubrication at the contact points with the workpiece to prevent premature wear.

11.11 Foot Brake

(E, Figure 11.2): Press the pedal to stop all lathe functions. (**Caution:** Lathe still has power.)

12.0 Controls

Figure 12-1

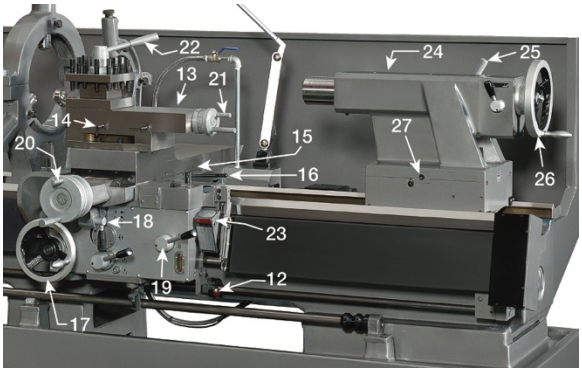


Figure 12-2

1. **Emergency Stop Switch** (1, Figure 12-1) - depress to stop all machine functions.

   ⚠CAUTION Lathe will still have power. Turn clockwise to re-set.
2. **Jog Switch** (2, Figure 12-1) - Depress and release to advance spindle momentarily.
3. **Coolant ON/OFF Switch** (3, Figure 12-1) – Turns coolant pump on and off.
4. **Power Indicator Light** (4, Figure 12-1) - Lit whenever lathe has power.
5. **Power Source Switch** (5, Figure 12-1)
6. **Feed/Lead Selector Lever** (6, Figure 12-1) – Use when setting up for threading or feeding. Set lever according to designation on Feed/Thread Tables.

   ⚠CAUTION In the "A" position, never run lathe higher than 770 RPM.
7. **Feed Direction Selector** (7, Figure 12-1) - Selects carriage travel direction when the chuck is rotating.
8. **Spindle Speed Shifting Lever** (8, Figure 12-1) – Choose either X or Y to corollate with desired speed selection.
9. **High/Low Speed Selector Lever** (9, Figure 12-1) - Move to the left for low-speed range. Move to the right for high-speed range.
10. **12-Speed Selector Lever** (10, Figure 12-1) - Use to select one of six spindle speeds in either high or low range (16 speeds total).
11. **Feed Rate/Thread Selector** (11, Figure 12-1) - Use knobs to set desired feed or lead rates.
12. **Forward/Reverse Selector** (12, Figure 12-2) - Pull lever up for clockwise spindle rotation (reverse). Push lever down for counterclockwise spindle rotation (forward). Neutral position is a center detent and the spindle remains idle.
13. **Compound Rest Lock** (13, Figure 12-2) - Turn clockwise to lock and counterclockwise to unlock (on other side of compound slide).
14. **Compound Slide Lock** (14, Figure 12-2, not seen) - Turn clockwise to tighten and counterclockwise to loosen.

15. **Cross Slide Lock** (15, Figure 12-2) - Turn set screw clockwise and tighten to lock. Turn counterclockwise and loosen to unlock.

    ⚠CAUTION **Cross slide lock screw must be unlocked before engaging automatic feeds or damage to the lathe may occur.**

16. **Carriage Lock** (16, Figure 12-2) - Turn lever clockwise and tighten to lock. Turn counterclockwise and loosen to unlock.

    ⚠CAUTION **Carriage lock must be unlocked before engaging automatic feeds or damage to lathe may occur.**

17. **Longitudinal Traverse Handwheel** (17, Figure 12-2) – Rotate hand wheel clockwise to move the apron assembly toward the tailstock (right). Rotate the wheel counterclockwise to move the apron assembly toward the headstock (left).
18. **Feed Axis Selector** (18, Figure 12-2) – Push lever to the left and down to activate the crossfeed function. Pull lever to the right and up to activate the longitudinal function.
19. **Half Nut Engagement Lever** (thread cutting) (19, Figure 12-2) – Move the lever down to engage. Move the lever up to disengage.
20. **Cross Traverse Handwheel** (20, Figure 12-2) – Rotate clockwise or counterclockwise to move or position.
21. **Compound Slide Traverse Handwheel** (21, Figure 12-2) – Rotate clockwise or counterclockwise to move or position.
22. **Tool Post Clamping Lever** (22, Figure 12-2) – Rotate counterclockwise to loosen and clockwise to tighten. Rotate the tool post when the lever is unlocked.
23. **Threading Dial Indicator** (23, Figure 12-2) – Engage by pushing into the leadscrew. Pull out to disengage. The dial indicator and chart will specify at which point a thread can be entered.
24. **Tailstock Quill Clamp Lever** (24, Figure 12-2) – Lift up to lock the spindle. Push down to unlock (behind tailstock).
25. **Tailstock Clamp Lever** (25, Figure 12-2) – Lift up lever to lock. Push down lever to unlock.
26. **Tailstock Quill Traverse Handwheel** (26, Figure 12-2) – Rotate clockwise to advance the quill. Rotate counterclockwise to retract the quill.
27. **Tailstock Off-Set Adjustment** (27, Figure 12-2) – Three set screws located on the tailstock base are used to off-set the tailstock for cutting tapers. Loosen lock screw on tailstock end. Loosen one side set screw while tightening the other until the amount of off-set is indicated on scale. Tighten lock screw.

13.0 Operation

⚠CAUTION **Only change speed, gear, and feed settings when the lathe is completely stopped. Failure to comply may cause machine damage.**

13.1 Before Each Use

Before each use, run the machine at 200 RPM for 10 minutes to thoroughly lubricate the bearings. This will raise the lubricating oil's temperature and ensure it adheres to gear surfaces.

For minimum wear, disengage the threading dial indicator when not in use. See *Section 13.8.1 Threading Dial Indicator* for further instructions.

13.2 Speed Adjustment

⚠CAUTION **Only change speed when the lathe is completely stopped. Failure to comply may cause machine damage.**

1. Move the High/Low Speed Selector Lever (A, Figure 13-1) to either the High or Low setting.
2. Move the Spindle Speed Shifting Lever (B, Figure 13-1) to the desired setting.
3. Move the 12-Speed Selector Lever (C, Figure 13-1) to the desired RPM.

13.3 Feed and Thread Selection

1. Reference the Feed/Thread Tables (D, Figure 13-1).
2. Move Feed/Lead Selector Lever (E, Figure 13-1) to either J or K, according to the Feed/Thread Tables.
3. Set the Feed Direction Selector (F, Figure 13-1) to the center or neutral position.
4. Move Feed Rate/Thread Selector Levers (G, Figure 13-1) to the appropriate positions, according to the Feed/Thread Tables.

Figure 13-1

13.4 Change Gear Replacement

Note: The 24T, 85T, and 57T gears are factory-installed in the end-gear compartment. This combination will cover most inch feeds and threads under normal circumstances.

To change the gears, for Module & D.P. thread feed (41T, 108T, and 31T), follow the steps below.

1. Disconnect the machine from the power source.
2. Open the end panel.
3. Remove smaller gears socket head cap screws and large gear hex nut (Figure 13-2).
4. Change gears to match the Feed/Thread Tables. Thoroughly clean the new gears before installation. Firmly tighten the socket head cap screws and large gear hex nut.
5. Move the quadrant so the large gear meshes with the smaller gears, then tighten to secure it in place. Note: Make sure there is backlash of 0.002" – 0.003" between gears. Setting the gears too tightly will cause excessive noise and wear.
6. Close the cover and connect the machine to the power source.

Figure 13-2

13.5 Automatic Feed Operation and Feed Changes

1. Move the forward/reverse selector (A, Figure 13-3) up or down depending on desired direction.

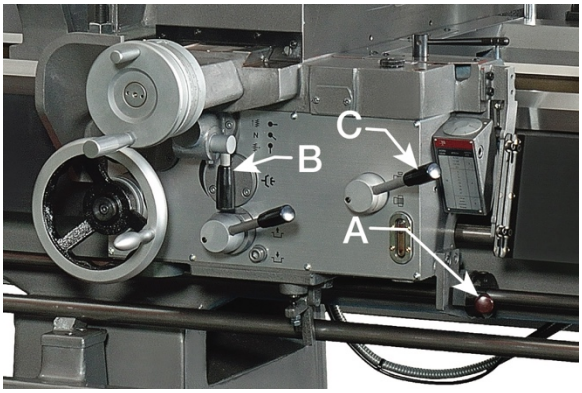


Figure 13-3

2. Move Feed/Lead Selector Lever (C, Figure 13-4) to either J or K, according to the Feed/Thread Tables.
3. Move Feed Rate/Thread Selector Dials (A, Figure 13-4) to the appropriate positions, according to the Feed/Thread Tables.
4. Move Feed Direction Selection Lever (B, Figure 13-4) either right or left, depending on the desired direction. This starts the feed rod rotating.
5. Push Feed Axis Selector Lever (B, Figure 13-3) to the left and down to engage crossfeed. Push lever to the right and up to engage longitudinal feed.

Figure 13-4

13.6 **Automatic Feed Stop Operation**

The apron is equipped with an automatic stop device. Loosen the screw on the top of the adjustable trip dog (see Figure 13-5). Move the trip dog to the desired location and tighten the screw. Set trip dogs to desired positions for forward and backward feeding. Always test before using on a workpiece.

1. Move the adjustable trip dog to the desired location. Rotate the top of the trip dog to face outward. Test the auto feeding and adjust the front and back position of the trip dogs if needed.
2. Operate the four-position automatic feed stop selection lever by hand to the second adjustable trip dog and fix the adjustable trip dog as done in step 1.
3. Follow the same process for the third and fourth trip dogs.
4. While the apron is auto-feeding, only the outward-facing tip of the trip dog can contact the trip plunger (see Figure 13.6).

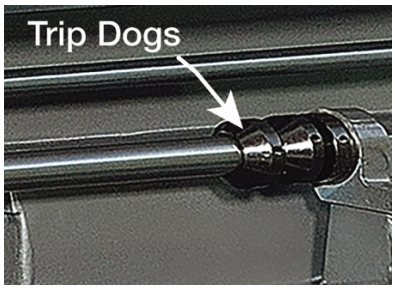


Figure 13-5

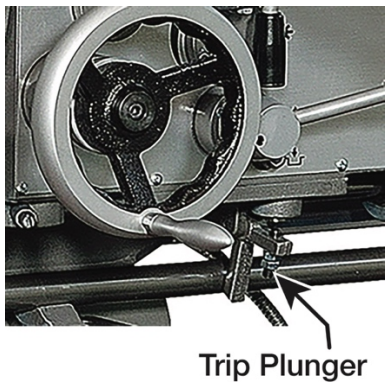


Figure 13-6

13.7 **Powered Carriage Travel**

Push Feed Axis Selector Lever (B, Figure 13-3) to the left and down to engage crossfeed. Pull lever to the right and up to engage longitudinal feed.

13.8 **Thread Cutting**

All feed, threads, and gear requirements are provided on the feed/thread tables attached to the front of the gearbox and above the chuck key. To obtain the desired thread, install all the correct gears as specified in the tables. Failure to do so will give incorrect threads.

1. Move Feed Rate/Thread Selector Levers (A, Figure 13-4) to the desired positions. The leadscrew will start rotating. Refer to the feed/thread tables.
2. Choose direction of thread cut by turning the feed direction selector (B, Figure 13-4) at the headstock.
3. Make sure the feed axis selector (B, Figure 13-3) is disengaged (neutral position) before engaging the half nut engagement lever. There is an interlock mechanism between the auto-feeding and the thread-cutting half-nut engagement.
4. If cutting Imperial threads, read the threading dial indicator and engage the half nut engagement lever (C, Figure 13-3) by moving it downward. It will engage with the leadscrew to obtain the longitudinal travel of carriage (the thread cutting feed). See *Section 13.8.1 Threading Dial Indicator* for proper use of dial.
5. If cutting metric threads, engage the half nut engagement lever by moving it downward. The half nut must remain engaged once the start point has been selected and the half nut is initially engaged (the threading dial cannot be used).

13.8.1 **Threading Dial Indicator**

The threading dial indicator (Figure 13-7) is installed on the right side of the apron. The

indicator is used when cutting imperial threads and indicates when to engage the half nut to begin threading.

The indicator face has eight lines and four numbers (see Figure 13-7). An indicator arrow is located on the dial. The dial is mounted on a shaft with a small gear at the opposite end (B, Figure 13-8).

By loosening a socket capscrew (A, Figure 13-8), you can pivot the housing to either engage or disengage the gear from the leadscrew (C, Figure 13-8). When engaged, the dial will turn as the spindle rotates. If the dial does not turn, readjust the housing position. For minimum wear, disengage the threading dial indicator when not in use.

When the half nut is engaged, the dial stops turning. By carefully engaging the half nut as the correct number or line reaches the indicator pin, a thread can be started, and the lead maintained through multiple passes until the required depth is reached.

Figure 13-7

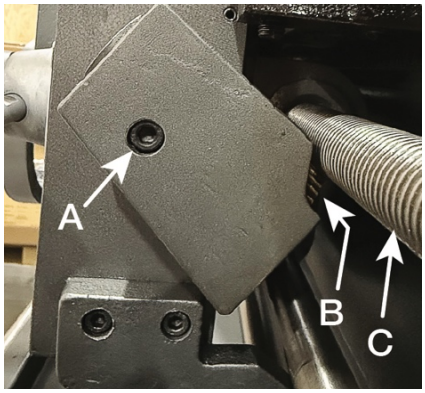


Figure 13-8

Example:

1. Using the Thread Dial Table (see Figure 13-9) to cut 19-threads-per-inch, engage the half nut when (1, 2) or (3, 4) is at the indicator pin.

   To cut 23-threads-per-inch, engage the haf nut when (1, 3) or (2, 4) is at the indicator pin.
2. Determine how long you want the thread to be. When you reach that length, disengage the half nut.
3. Return the carriage to the beginning of the cut.
4. Set the next depth for the next cutting pass.
5. Watch the dial and engage the half nut at the same mark as started in step 1.
6. Repeat the procedure until you have reached the desired thread depth.

Note: Scale values are as follows:

Graduate

2 = Dial 1 thru 3, or 2 thru 4

4 = Dial 1 thru 2, or 2 thru 3, or 3 thru 4, or 4 thru 1

8 = Any Dial, 1 thru 8

WORM GEAR	PITCH	GRADU -ATE
16	4-1/2 11-1/2 13-1/2 23	2
	5 7 9 11 13 19 26 27	4
	Other even number thread	8

Figure 13-9 – Thread Dial Table

14.0 Adjustments

⚠CAUTION Adjustments to the lathe, especially those involving alignments of bearings, spindle, leadscrew, clutch, etc., should only be performed by qualified personnel, as improper alignments can damage the machine and/or create a safety hazard.

⚠WARNING Turn off main switch and press emergency stop button before making adjustments to lathe.

14.1 Apron and Saddle

Half Nut Engaged Lever: After long use, this lever may become loose and need to be adjusted.

NOTE: Before making adjustments, the saddle must be removed from the apron. Removing the saddle from the apron should be performed by an experienced mechanic or maintenance person. General users should not attempt this.

First, after removing the saddle from the apron, remove the thread dial indicator and locate the 4 gib strip adjusting screws. Second, while pressing the lever, adjust the 4 gib strip adjusting screws until they are properly tightened. Replace the thread dial indicator.

Automatic Pump Blocked or Reduced Oil Flow: For reduced oil flow, locate the oil flow valve screw (A, Figure 14-1). Turn the valve screw counterclockwise to increase oil flow.

If adjusting the oil flow valve screw does not increase or start the oil flow, the valve is blocked. Remove the oil flow valve screw and blow compressed air into the the hole to remove the blockage.

Adjusting Longitudinal and Cross Auto Feeding Overload: The cone clutch on the center of the apron is an overload device. The safety overload weight limitation is 26.45 lbs. (12kg). Overload weight can be adjusted by means of the Hexagon screw on the center of the apron (A, Figure 14-2). Turn screw clockwise to increase the overload. Turn screw counterclockwise to decrease the overload. When auto-feeding, press the handwheel by hand. It should automatically slip out if the overload is over 26.45 lbs. (12kg). If not, adjust again.

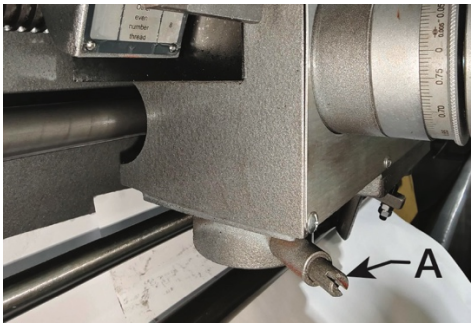


Figure 14-1

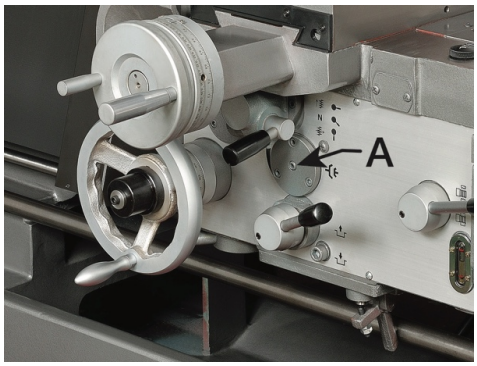


Figure 14-2

14.2 Cross Slide Adjustment

If the cross slide is too loose, follow the procedure below to tighten:

1. Loosen the rear gib screw (on rear of cross slide) approximately one turn.
2. Tighten front gib (A, Figure 14-3) screw a quarter turn. Turn the cross slide handwheel to see if the cross slide is still loose. If it is still loose, tighten the front screw a bit more and try again.
3. When cross slide is adjusted correctly, snug rear gib screw. Do not overtighten; this will cause premature wear on the gib and mating parts.

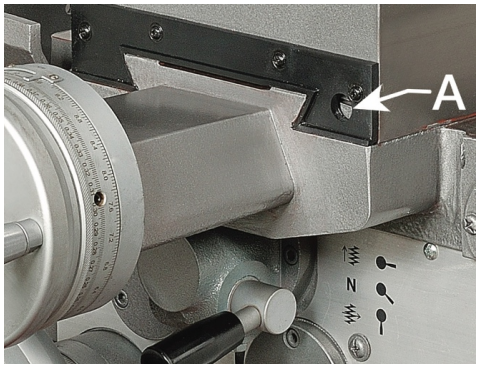


Figure 14-3

14.3 Compound Slide Adjustment

To adjust the compound slide, follow the same procedures as for the cross slide, except adjust the compound slide front and rear gib screws.

NOTE: You must remove the rubber wiper (A, Figure 14-4) to access the gib screw (B, Figure 14-4).

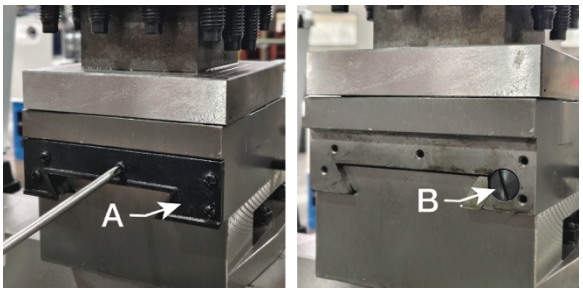


Figure 14-4

14.4 Tailstock Adjustment

If the handle will not lock the tailstock securely, use the following procedure:

1. Lower handle to the unlocked position.
2. Slide tailstock to an area that will allow you to reach under the tailstock.
3. Tighten tailstock clamping nut 1/4 turn, and re-test for proper locking. Repeat as necessary.

14.5 Headstock

Headstock Oil Leak: Once the headstock cover is opened, use cloth to clean the connecting surface and apply some grease.

Blocked Returning Oil Route: There are two reasons the oil leaks from the headstock front cover: over-oiling or a blocked returning oil route. To clear the blocked returning oil route, remove the headstock cover. Using compressed air, blow air to the small hole on the top of the front bearing while rotating the spindle.

Spindle Bearing Adjustment: The front and middle bearings of the spindle are precision taper roller bearings. Maintaining high accuracy and optimal rotation requires adjusting the bearings to achieve a suitable preload. After long use, the locking nut (A, Figure 14-5) may loosen slightly, resulting in an uneven cutting surface. To adjust, loosen the setscrew with a hexagon wrench. Then tighten the locking nut to obtain the suitable preload. Do not over-tighten as over-preload will make the bearings hot, damage the rotating surface of the bearings, and reduce the bearing motion functions. After adjustment, be sure to tighten the locking screw.

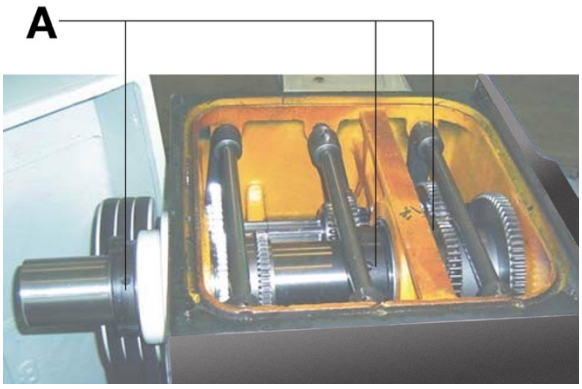


Figure 14-5

14.6 Chuck Jaw Reversal

To hold stock with larger diameters, the three jaws on the scroll chuck are reversible. See Figure 14-6. Loosen two screws with the provided hex key, remove the jaw, and rotate it 180 degrees. Reinstall the jaw and tighten each screw in increments until fully tightened.

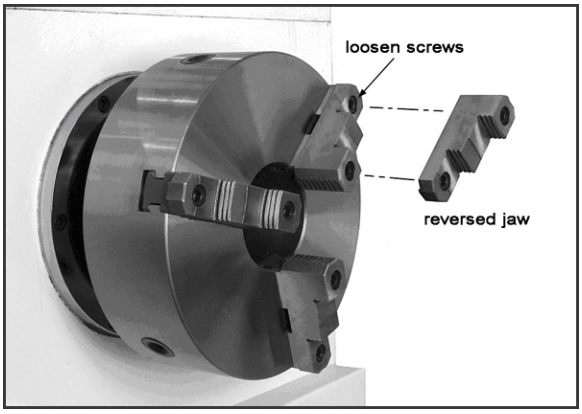


Figure 14-6: Chuck Jaw Reversal

14.7 Belt Replacement/Adjustment

NOTE: Your machine may look slightly different than what is shown in Figure 14-7.

1. Disconnect machine from power source.
2. Open end gear cover and remove lower covers. This will expose the motor and v-belts.
3. Loosen upper hex nut (A, Figure 14-7). Place scrap piece of wood under motor to act as lever. Lift motor up and block temporarily.
4. Remove belts. Install new belts onto pulleys.
5. Lift up on motor and remove temporary blocking.
6. Tension belts by loosening lower nut (B, Figure 14-7) and tightening upper nut (A, Figure 14-7) until light finger pressure causes approximately 3/4" deflection on each belt.
7. Install covers and connect lathe to the power source.

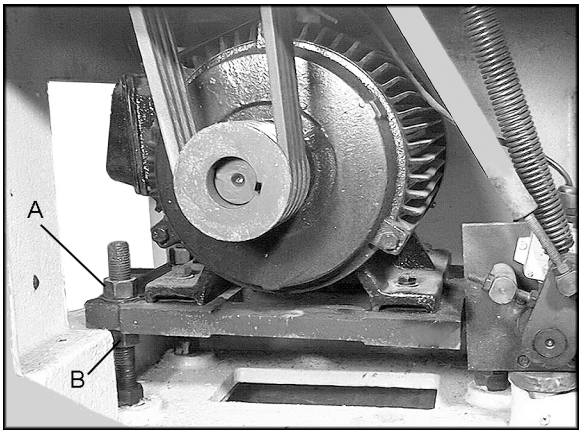


Figure 14-7: Belt Adjustment

14.8 Aligning Tailstock to Headstock

1. Fit a 12" ground steel bar between centers of the headstock and tailstock (Figure 14-8).
2. Fit a dial indicator to the top slide and traverse the bar's centerline.

If adjustment is needed, align the tailstock using the off-set screws (A, Figure 14-9) until the tailstock is aligned.

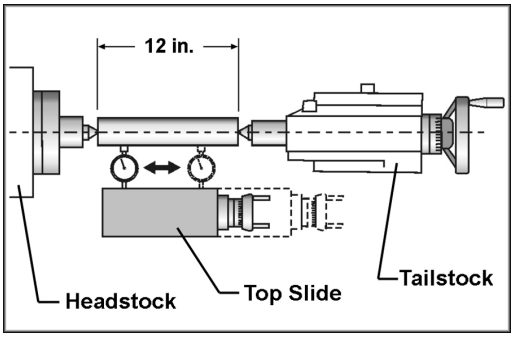


Figure 14-8: Tailstock/Headstock Alignment

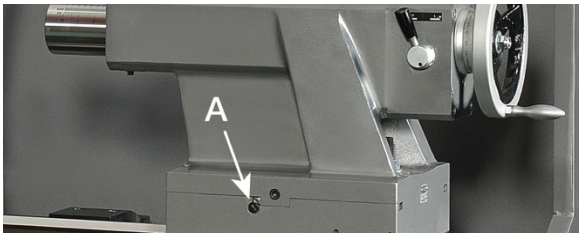


Figure 14-9

14.9 Brake and Micro Switch Adjustment

The foot brake is connected to the micro switch. It should have 0-1mm end play between the brake arm and the head of the micro switch. The correct brake action should cut off the electricity first, then brake to avoid the brake belt being worn out. After stepping on the foot brake, activate the spindle operation control lever to make the spindle revolve again.

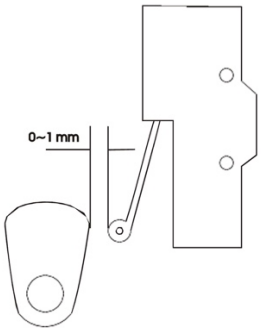


Figure 14-10

14.10 Leadscrew Backlash Adjustment

Multiple cutting while threading is caused by leadscrew backlash. To properly adjust the leadscrew half nut, open the plastic cover of the leadscrew bracket and loosen nut (A, Figure 14-11). Then tighten the left side nut (B, Figure 14-11) until there is no backlash. To test, press down the half nut engagement lever and turn the apron handwheel forward and reverse and grasp the connecting section of the gear ox and leadscrew until there is no backlash. Replace the nut (A, Figure 14-11) on the leadscrew bracket.

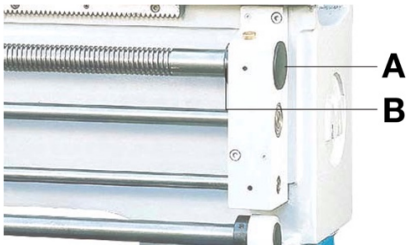


Figure 14-11

14.11 **Coolant**

If there is no coolant coming out after the pump switch is turned on, check the pump motor is working or not. If yes, check and see if the coolant in the tank is over the pump or not, If not, add the coolant, then turn on the switch, If there is still no coolant, the pump must be blocked. Take off the pump to clean up or repair.

14.12 **Steady Rest Adjustment**

Always lubricate the fingers with grease before using the steady rest. The point at which the fingers contact the workpiece require continuous lubrication to prevent premature wear.

NOTE: Your machine may look slightly different than what is shown in Figure 14-12.

To set the steady rest (see Figure 14-12):

1. Loosen hex nut (A) to slide steady rest along the ways.
2. Loosen knurled collar handle (B) until it can be pivoted out of the slot.
3. Loosen three locking screws (C), and back off the fingers (D) using handles (E).
4. Pivot open the collar on its hinge and position the workpiece.
5. Slide the follow rest to desired position. Firmly tighten hex nut (A).
6. Close the collar and tighten the knurled collar handle (B).
7. Set the fingers (D) snugly to workpiece and secure by tightening locking screws (C). Note: Fingers should be snug but not overly tight.

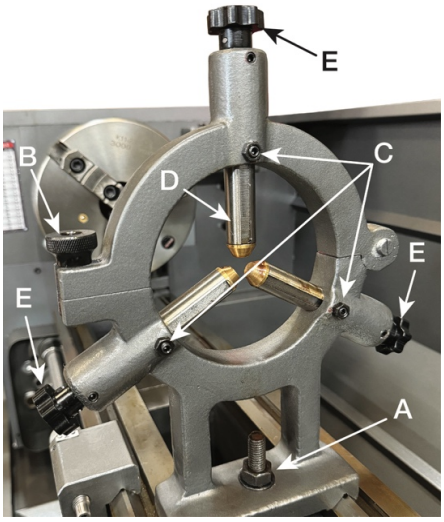


Figure 14-12: Steady Rest Adjustment

14.13 **Follow Rest Adjustment**

The follow rest mounts to the saddle with two socket head cap bolts. The follow rest should be mounted so that locking knobs point away from chuck.

The sliding fingers are set similar to those on the steady rest – free of play but not binding.

Always lubricate the fingers sufficiently with grease before operating.

15.0 **Lubrication Schedule and General Maintenance**

Regularly scheduled maintenance is crucial to ensure a long service life for your machine. The schedule below shows general cleaning, lubrication points and coolant replacement information for this machine. **Turn off main switch and press emergency stop button before lubricating.** Follow local regulations for disposal of used coolant/lubricants. Minimize direct skin contact with lubricants and coolants and wear eye protection when pouring coolant in case of splash.

Mobile DTE® Oil Heavy Medium is recommended for the SAE-20W machine oil.

If the brand of oil is ever changed, it is recommended that you flush and clean the reservoir first to prevent any compatibility issues.

Table 1

Section	Element	Action	Lubricant	Frequency
7.3	Chuck	Grease jaws and scroll	#2 lithium tube grease	periodically
7.3	Spindle/cam locks/ chuck body	light coat of oil	SAE-20W machine oil	periodically
	All exposed metal surfaces	light coat of oil	SAE-20W machine oil	frequently
8.0	Headstock	Drain and fill	SAE-20W machine oil	- after 30 days, - every 2 months
8.0	Gearbox	Drain and fill	SAE-20W machine oil	- after first 3 months, - every 6 months
8.0	Apron and Saddle	Drain and fill	SAE-20W machine oil	- after first 3 months, - then annually
8.0	Leadscrew; Feed Rod; Spindle Direction Control Axle	Fill at ball oilers	SAE-20W machine oil	daily (1 or 2 times per shift)
	Travel Setting Rod	Fill at (1) ball oiler	SAE-20W machine oil	as needed
8.0	Cross slide	Fill at (2) ball oilers	SAE-20W machine oil	daily
8.0	Compound rest	Fill at (2) ball oilers	SAE-20W machine oil	daily
8.0	Tailstock	Fill at (1) ball oiler	SAE-20W machine oil	daily
9.0	Coolant reservoir	(follow coolant manufacturer's directions)	Coolant of choice, approx. 4 gallons	(follow coolant manufacturer's directions)
11.9	Steady Rest	Lubricate finger shafts and contact points	Lead-based grease	before each use
11.10	Follow Rest	Lubricate finger shafts and contact points	Lead-based grease	before each use
14.9	V-belts	Inspect and tighten if needed		periodically

16.0 **Thread and Feed Chart**

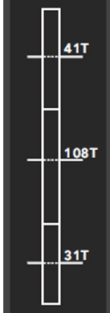
General Thread

mm METRIC			
0.5	CKSF1	4.5	CKUD2
0.75	CKSF7	5	CKUD4
1	CKSE1	5.5	CKUD5
1.25	CKSE4	6	CKUD7
1.5	CKSE7	7	CKUD10
1.75	CKSE10	8	CJUD1
2	CKSD1	9	CJUD2
2.25	CKSD2	10	CJUD4
2.5	CKSD4	11	CJUD5
3	CKSD7	12	CJUD7
3.5	CKSD10	13	CJUD8
4	CKUD1	14	CJUD10

IN INCH			
56	RKAD10	13	RKAF8
54	RKAD9	12	RKAF7
52	RKAD8	11½	RKAF6
48	RKAD7	11	RKAF5
46	RKAD6	10	RKAF4
44	RKAD5	9½	RKAF3
40	RKAD4	9	RKAF2
38	RKAD3	8	RKAF1
36	RKAD2	7	RKBF10
32	RKAD1	6	RKBF7
28	RKAE10	5½	RKBF5
27	RKAE9	5	RKBF4
26	RKAE8	4½	RKBF2
24	RKAE7	4	RKBF1
23	RKAE6	3½	RJBF10
22	RKAE5	3¼	RJBF8
20	RKAE4	3	RJBF7
19	RKAE3	2⅞	RJBF6
18	RKAE2	2¾	RJBF5
16	RKAE1	2½	RJBF4
14	RKAF10	2¼	RJBF2
13½	RKAF9	2	RJBF1

mm/○		IN/○		mm/○		IN/○	
0.05	KF1	0.0022	KF1	0.025	KF1	0.001	KF1
0.08	KF7	0.0031	KF7	0.04	KF2	0.0015	KF2
0.104	KE1	0.0041	KE1	0.05	KF6	0.0019	KF6
0.13	KE4	0.0051	KE4	0.06	KF10	0.0023	KF10
0.156	KE7	0.0061	KE7	0.076	KE2	0.003	KE2
0.18	KE10	0.0072	KE10	0.09	KE4	0.0033	KE4
0.21	KD1	0.0082	KD1	0.10	KE7	0.004	KE7
0.26	KD4	0.0103	KD4	0.12	KE10	0.0047	KE10
0.31	KD7	0.0123	KD7	0.153	KD2	0.006	KD2
0.34	KD8	0.0133	KD8	0.16	KD3	0.0063	KD3
0.364	KD10	0.0143	KD10	0.17	KD4	0.0067	KD4
0.42	JD1	0.0164	JD1	0.204	KD7	0.008	KD7
0.47	JD2	0.0185	JD2	0.23	KD9	0.009	KD9
0.57	JD5	0.0226	JD5	0.27	JD1	0.0107	JD1
0.60	JD6	0.0236	JD6	0.31	JD2	0.012	JD2
0.63	JD7	0.0246	JD7	0.32	JD3	0.0127	JD3
0.70	JD9	0.0277	JD9	0.34	JD4	0.0134	JD4
0.76	JD10	0.03	JD10	0.37	JD5	0.0147	JD5

Module & D.P Thread



MP MODULE PITCH mm/π					
0.5	CKSF1	2.5	CKSD4	7	CKUD10
0.75	CKSF7	3	CKSD7	8	CJUD1
1	CKSE1	3.5	CKSD10	9	CJUD2
1.25	CKSE4	4	CKUD1	10	CJUD4
1.5	CKSE7	4.5	CKUD2	11	CJUD5
1.75	CKSE10	5	CKUD4	12	CJUD7
2	CKSD1	5.5	CKUD5	13	CJUD8
2.25	CKSD2	6	CKUD7	14	CJUD10

LEAD SCREW P=4TPI

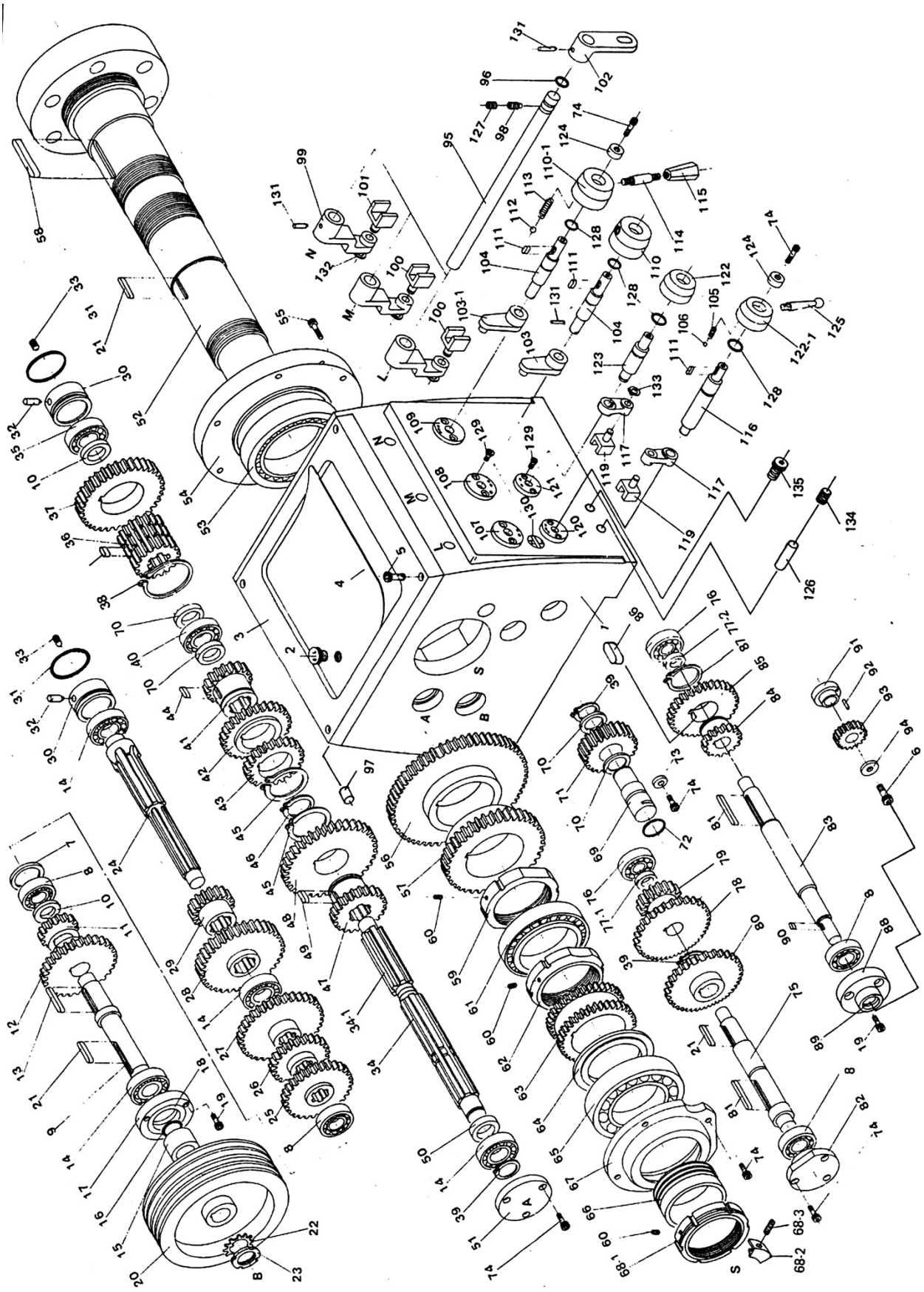
DP DIAMETRAL π/in					
56	RKAD10	22	RKAE5	7	RKBF10
54	RKAD9	20	RKAE4	6	RKBF7
52	RKAD8	19	RKAE3	5½	RKBF5
48	RKAD7	18	RKAE2	5	RKBF4
46	RKAD6	16	RKAE1	4½	RKBF2
44	RKAD5	14	RKAF10	4	RKBF1
40	RKAD4	13½	RKAF9	3½	RJBF10
38	RKAD3	13	RKAF8	3¼	RJBF8
36	RKAD2	12	RKAF7	3	RJBF7
32	RKAD1	11½	RKAF6	2⅞	RJBF6
28	RKAE10	11	RKAF5	2¾	RJBF5
27	RKAE9	10	RKAF4	2½	RJBF4
26	RKAE8	9½	RKAF3	2¼	RJBF2
24	RKAE7	9	RKAF2	2	RJBF1
23	RKAE6	8	RKAF1		

LEAD SCREW P=4TPI

17.0 **Replacement Parts**

To order parts or reach our service department, call1-800-274-6848 Monday through Friday (see our website for business hours, www. jettools. com). Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

17.1.1 **Headstock Assembly – Exploded View**



17.1.2 **Headstock Assembly – Parts List**

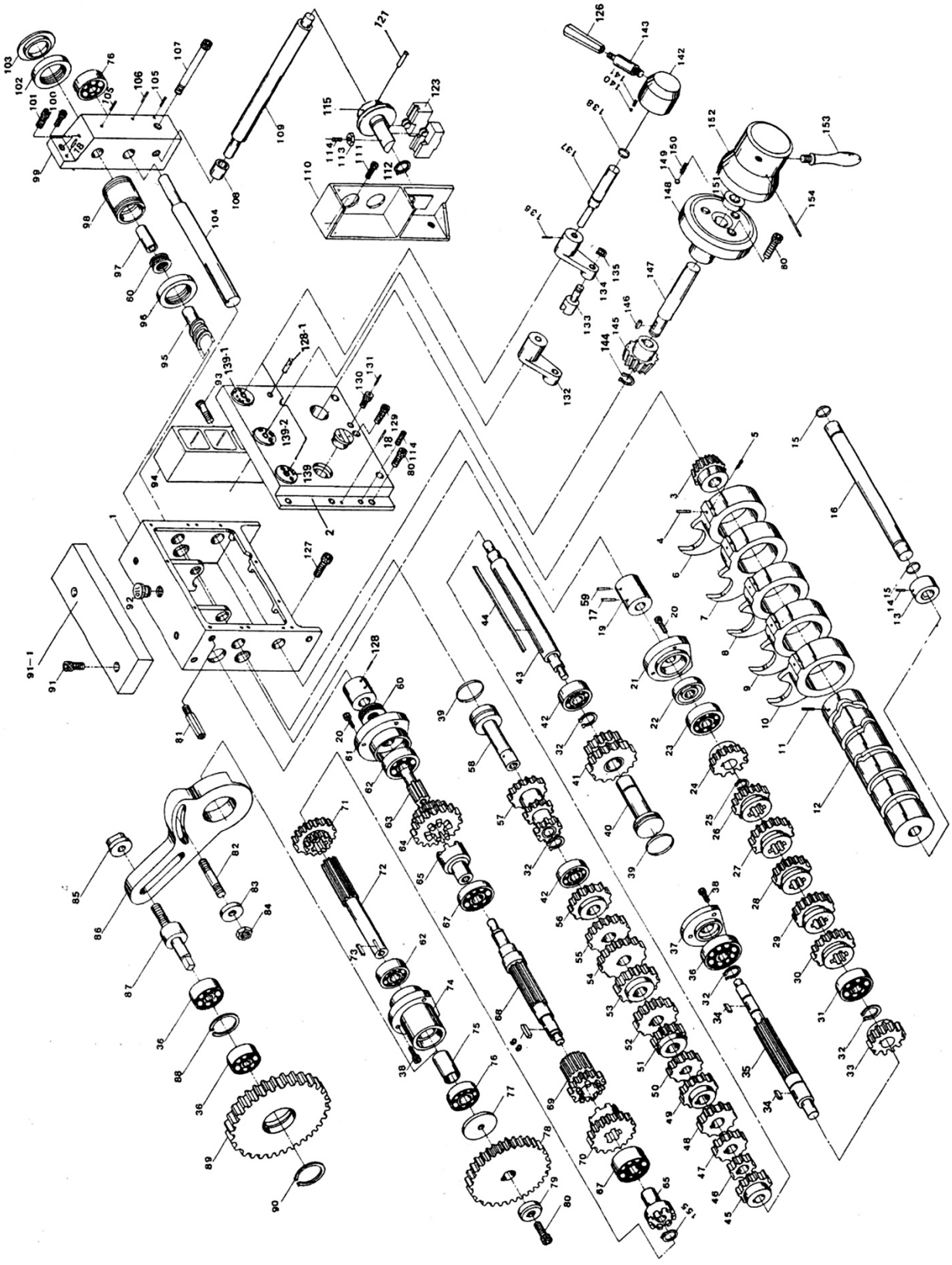
Index	Part No.	Description	Size	Qty
1	**	Headstock		1
2	**	Oil Plug		1
3	**	Headstock Cover		1
4	**	Blanket		1
5	**	Hex Socket Screw	M8 x P1.25 x 35L	4
7	**	Spacer		1
8	**	Ball Bearing	6205	1
9	**	Input Shaft		1
10	**	Spacer		2
11	**	Gear - i	20T	1
12	**	Gear - g	41T	1
13	**	Square Key	8x7x55L	1
14	**	Ball Bearing	6206	5
17	**	Housing		1
18	**	Oil Seal	TC30x50x8L	1
19	**	Hex Socket Screw	M6xP1.0x20L	6
20	**	Pulley wheel		1
21	**	Square key	8x7x45L	3
22	**	Spring-washer	M12	1
23	**	Screw	M12x30	1
24	**	Shaft-B		1
25	JT1-3086	Headstock gear #25	39T	1
26	JT1-3087	Headstock gear #26	32T	1
27	JT1-3088	Headstock gear #27	48T	1
28	**	Gear- k	46T	1
29	**	Gear- o	22T	1
30	**	Plug-cover		2
31	**	O-ring	P55x3.5	2
32	**	Fixed pin		2
33	**	Set screw		2
34	**	Shaft-A		1
34-1	**	Shaft-L		1
35	**	Ball-bearing	6305	1
36	**	Gear- l	25T	1
36-1	**	Square key	7x10x18L	2
37	**	Gear- m		1
38	**	Snap ring	S75	2
39	**	Snap ring	S30	3
40	**	Ball-bearing	6006	2
41	JT1-3089	Headstock gear #41		1
42	JT1-3090	Headstock gear #42		1
43	JT1-3091	Headstock gear #43		1
44	**	Square key	8x7x30L	1
45	**	Snap ring	S55	2
46	**	Snap ring	S38	2
47	**	Gear- h	30T	1
48	**	Gear- j	51T	1
49	**	Square key	8x7x25L	1
50	**	Spacer		1
51	**	Cover		1
52	**	Spindle	A1-11	1
	**	Spindle	D1-11	1
53	**	Taper roller bearing	32032	1
54	**	Cover		1
55	**	Hex Socket Screw	M6xP1.0x20L	6
56	**	Gear- p	95T	1
57	**	Gear- n	72T	1

Index	Part No.	Description	Size	Qty
58	**	Square key	10x8x85L	1
59	**	Lock-nut		1
60	**	M8xP1.25x8L		5
61	**	Taper roller bearing	32030	1
62	**	Lock-nut		1
63	**	Gear	65T	1
64	**	Collar		1
65	**	Ball-bearing	6028	1
66	**	Oil return collar		1
67	**	Cover		1
68-1	**	Lock-nut		1
68-2	**	Balance piece		3
68-3	**	Set screw		6
69	**	Idle gear shaft		1
70	**	Spacer		4
71	**	Idle gear	34T	1
72	**	O-ring	P29	1
73	**	Washer		1
74	**	Hexagon socket screw	M6xP1.0x16L	16
75	**	Shaft-c		1
76	**	Ball-bearing	6304	2
77-1	**	Spacer		1
77-2	**	Spacer		1
78	**	Gear	42T	1
79	**	Gear	28T	1
80	**	Gear	65T	1
81	**	Square key	8x7x65L	2
82	**	Cover		1
83	**	Shaft-D		1
84	**	Gear	42T	1
85	**	Gear	56T	1
86	**	Square key	8x7x20L	1
87	**	Snap ring	S45	1
88	**	Housing		1
89	**	Seal-oil	TC25x47x8L	1
90	**	Square key	6x6x12L	1
91	**	Collar		1
92	**	Taper pin	O#x25L	1
93	**	Gear		1
94	**	Washer		1
95	**	Shifting shaft		3
96	**	O-ring	P16	6
97	**	Plug		3
98	**	Set screw		3
99	**	Shifting lever		3
100	**	Shifting fork		1
101	**	Shifting fork		1
102	**	Shifting lever		3
103	**	Shifting lever		3
104	**	Shaft		3
105	**	Spring	D6xd0.8x25L	2
106	**	Ball steel	φ1/4"	2
107	**	Detent plate		1
108	**	Detent plate		1
109	**	Detent plate		1
110	**	Hub		2
110-1	**	Hub		1
111	**	Square key	5x5x15L	3
112	**	Ball steel	φ5/16"	3

Index	Part No.	Description	Size	Qty
113	**	Spring	D8xd0.8x25L	1
	**	Spring	D8xd1.1x29L	2
114	**	Lever		3
115	**	Knob		3
116	**	Shaft		1
117	**	Shifting lever		2
119	**	Shifting fork		2
120	**	Detent plate		1
121	**	Detent plate		1
122	**	Knob		1
122-1	**	Knob		1
123	**	Shaft		1
124	**	Washer		5
125	**	Lever		2
126	**	Pin		2
127	**	Set screw	M8xP1.25x8L	3
128	**	O-ring	P18	5
129	**	Screw	M6xP1.0x14L	10
130	**	Lenz-oil	φ 29	1
131	**	Spring pin	φ5x30L	9
132	**	Snap ring	S12	3
133	**	Snap ring	S10	2
134	**	Set screw	M12xP1.75x20L	2
135	**	Hexagon socket screw	M8xP1.25x35L	2

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.2.1 **Gearbox Assembly – Exploded View**



17.2.2 Gearbox Assembly – Parts List

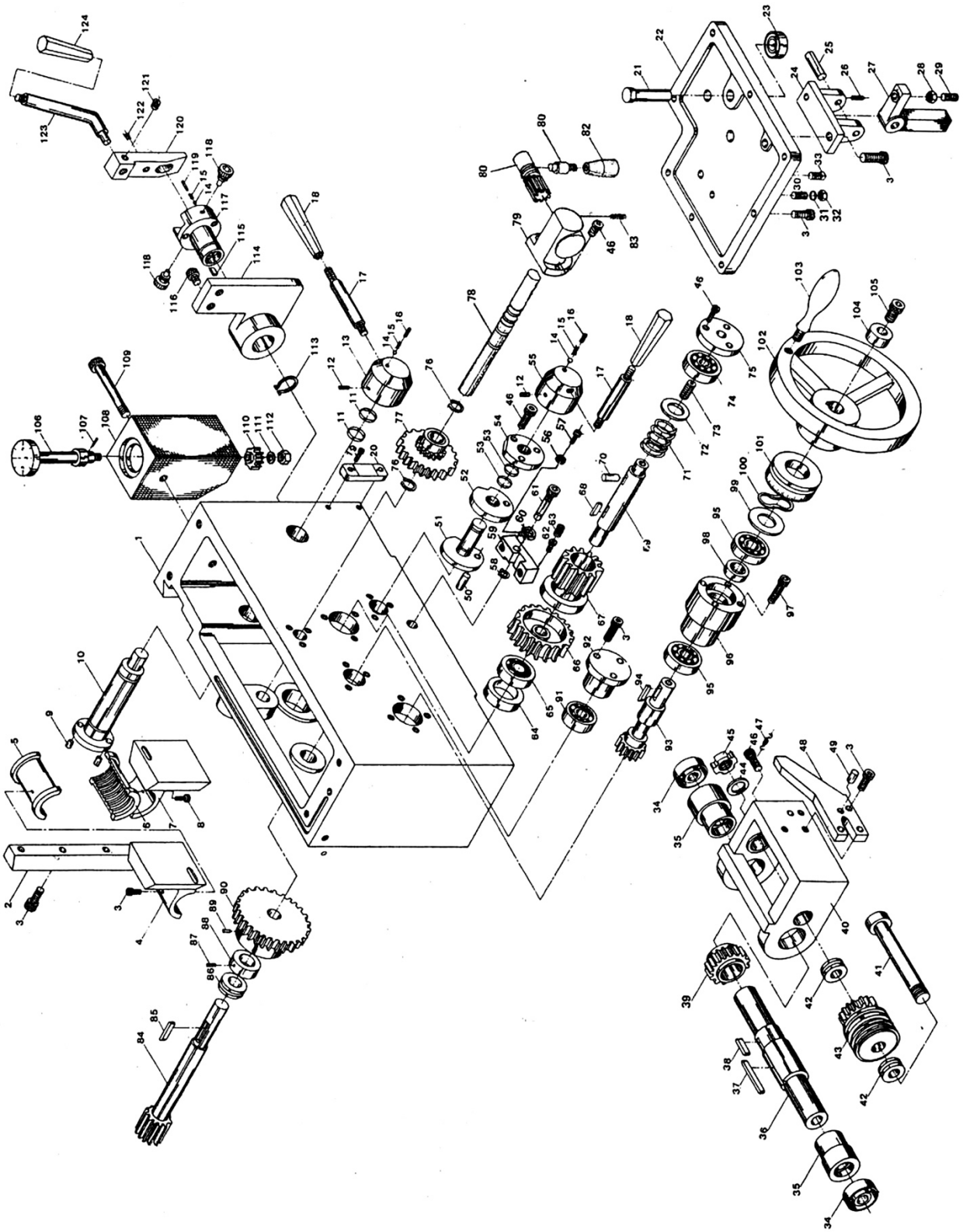
Index	Part No.	Description	Size	Qty
1	**	Gear Box		1
2	**	Cover-gear box		1
3	**	Gear-driven bevel		1
4	**	Pin-fixed		5
5	**	Pin-split		5
6	**	Claw-shifter		1
7	**	Claw-shifter		1
8	**	Claw-shifter		1
9	**	Claw-shifter		1
10	**	Claw-shifter		1
11	**	Set screw	M8xP1.25x8L	1
12	**	Cam-shifter		1
13	**	Collar		1
14	**	Set-screw	M8x12	1
15	**	Ring-"O"	P18	2
16	**	Shaft-"A"		1
17	**	Pintaper	# 4x38	2
18	**	Pintaper	# 6x38	2
19	**	Collar-linkage		2
20	**	Hexagon socket screw	M6xP1.0x20L	6
21	**	Cap-right		1
22	**	Seal-oil	20x40x10L	1
23	**	Bearing-ball	6204	1
24	**	Gear-"B" shaft	36T	1
25	**	Snap ring	S25	2
26	**	Gear-"B" shaft	22T	1
27	**	Gear-"B" shaft	22T	1
28	**	Gear-"B" shaft	33T	1
29	**	Gear-"B" shaft	22T	1
30	**	Gear-"B" shaft	22T	1
31	**	Bearing ball	6004	1
32	**	Snap ring	S20	2
	**	Snap ring	S18	2
33	**	Gear-"B" shaft	22T	1
34	**	Key-square	6x6x20L	2
35	**	Shaft-"B"		1
36	**	Bearing ball	6003	3
37	**	Cap-left		1
38	**	Hexagon socket screw	M6xP1.0x20L	6
39	**	Ring-"O"	P36	2
40	**	Shaft-"C"		1
41	**	Gear-“C” Shaft	20T.20T	1
42	**	Bearing	6203	2
43	**	Shaft-"D"		1
44	**	Key-square	6x6x146L	1
45	**	Gear-"D" shaft	19T	1
46	**	Gear-"D" shaft	18T	1
47	**	Gear-"D" shaft	20T	1
48	**	Gear-"D" shaft	22T	1
49	**	Gear-"D" shaft	23T	1
50	**	Gear-"D" shaft	24T	1
51	**	Gear-"D" shaft	27T	1
52	**	Gear-"D" shaft	24T	1
53	**	Gear-"D" shaft	26T	1
54	**	Gear-"D" shaft	36T	1
55	**	Gear-"D" shaft	27T	1
56	**	Gear-"D" shaft	28T	1
57	**	Gear-"E" shaft	18T.36T	1

Index	Part No.	Description	Size	Qty
58	**	Shaft-"E"		1
59	**	Pin-taper	3x35	1
60	**	Bearing-thrust	51104	1
61	**	Cap		1
62	**	Bearing ball	6004V	2
63	**	Shaft-"F"		1
64	**	Gear-“F” shaft	35T.35T	1
65	**	Shaft-"F"		1
66	**	Square key	4x4x20L	2
67	**	Bearing ball	6005	2
68	**	Shaft-"G"		1
69	**	Gear-"G" shaft		1
70	**	Gear-"G" shaft	36T	1
71	**	Gear-"H" shaft	38T.19T	1
72	**	Shaft-"H"		1
73	**	Key-square	6x6x13L	1
74	**	Cap-bearing		1
75	**	Bushing-"H" shaft		1
76	**	Bearing ball	6004Z	2
77	**	Spacer		1
78	**	Gear-drive shaft	57T	1
79	**	Washer	M8	1
80	**	Hexagon socket screw	P1.25x16L	1
81	**	Bolt-lock end cover		1
82	**	Stud		1
83	**	Washer	5/8"	1
84	**	Nut	M16	1
85	**	Nut-lock stud		1
86	**	Quadrat		1
87	**	Stud-gear		1
88	**	Snap-ring	R40	1
89	**	Gear-quadrat		1
90	**	Snap ring	S18	1
91	**	Hexagon socket screw	M6xP1.0x25L	2
91-1	**	Cover		1
92	**	Plug-oil inlet		1
93	**	Hexagon socket screw	M6xP1.0x65L	2
94	**	Seat-pilot light		1
95	JT1-3092	Z axis leadscrew (in)		1
96	**	Nut-lock		1
97	**	Bushing-leadscrew		1
98	**	Plug-lead screw		1
99	**	Supporter for Lead Screw feed Rod		1
100	**	Plug-oil inlet		1
101	**	Hexagon socket screw	M8xP1.25x30L	1
102	**	Nut-lock		1
103	**	Plug-plastic		1
104	JT1-3093	Auto feeding rod		1
105	**	Hexagon socket screw	M6xP1.0x20L	2
106	**	Pin-taper	6x100L	1
107	**	Hexagon socket screw		1
108	**	Bushing spindle start rod		1
109	JT1-3094	Spindle starting rod		1
110	**	Seat-switch		1
111	**	Hexagon socket screw	M8xP1.25x25L	2
112	**	Snap ring	S30	1
113	**	Nut	M6xP1.0	1
114	**	Set screw	M6xP1.0x20L	1
115	**	Bracket		1

Index	Part No.	Description	Size	Qty
121	**	Pin	5x25L	1
122	**	Hexagon socket screw	M6xP1.0x8L	1
123	**	Switch		2
126	**	Knob		3
127	**	Screw Socket head cap	M10xP1.5x35L	4
128	**	Pin-taper	0x35	1
128-1	**	Pin-taper	6x45	1
129	**	Hexagon socket screw	M8xP1.25x40L	7
130	**	Screw-taper, oil outlet	PT 3/8	1
132	**	Shifter	Shoe-shifter	1
133	**	Shoe-shifter		2
134	**	Shifter		1
135	**	Snap ring	S10	3
136	**	Pin-spring	5x25	3
137	**	Shaft-shifter		3
138	**	Ring-"O"	P12	3
139	**	Detent plate		1
139-1	**	Detent plate		1
139-2	**	Detent plate		1
140	**	Ball steel	1/4	3
141	**	Spring	1x6x30L	3
142	**	Hub		3
143	**	Lever		3
144	**	Snap ring	S15	1
145	**	Gear-drive bevel		1
146	**	Key-square	5x5x25L	1
147	**	Shaft-bevel gear		1
148	**	Seat-gear shifting		1
149	**	Ball steel	5/16	2
150	**	Spring	1x6x22L	2
151	**	Seal-oil	25x35x10L	1
152	**	Hub		1
153	**	Handle		3
154	**	Pin	5x50	1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.3.1 **Apron Assembly – Exploded View**



17.3.2 **Apron Assembly – Parts list**

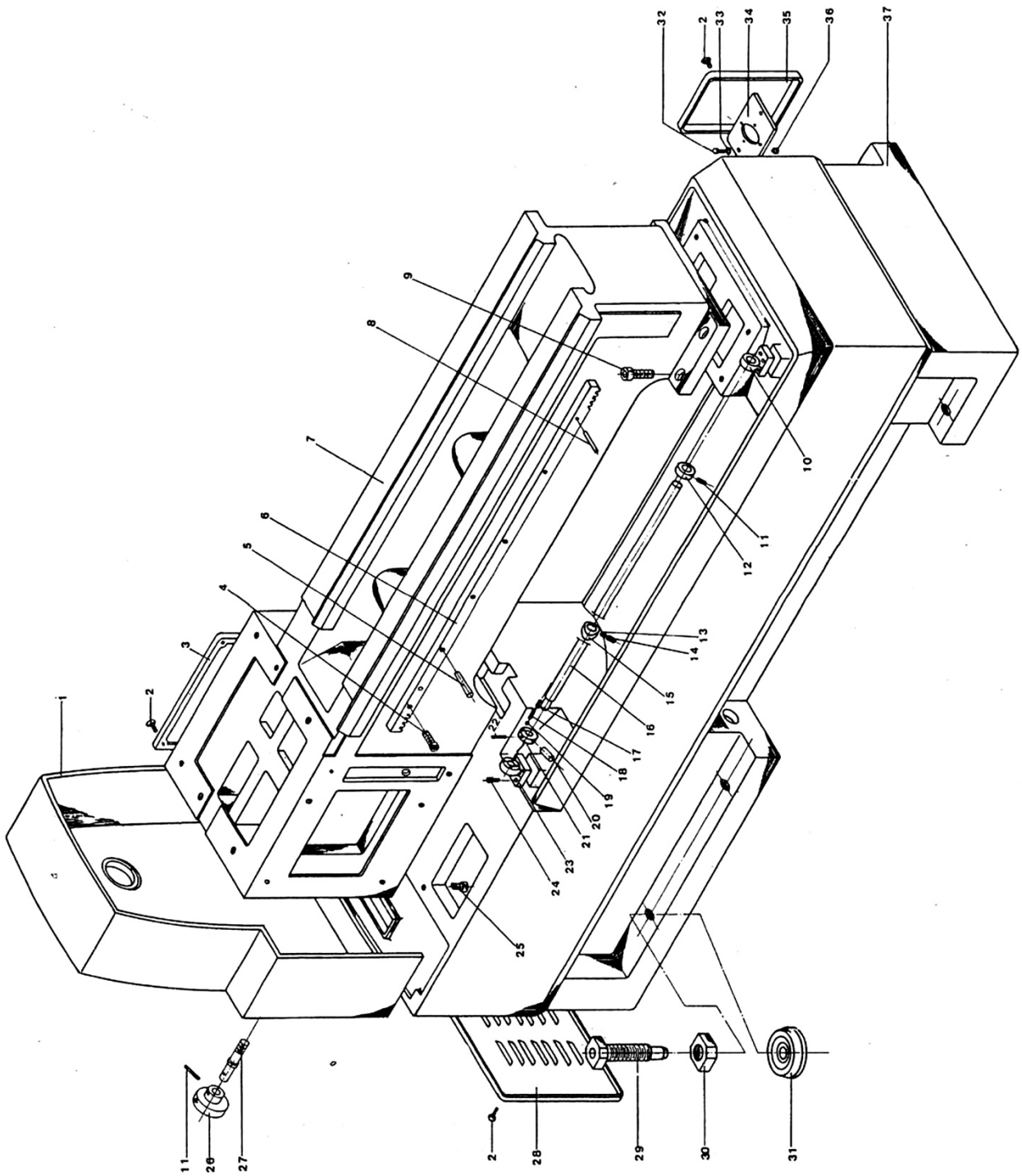
Index	Part No.	Description	Size	Qty
1	**	Body-Apron (right hand)		1
	**	Body-Apron (left hand)		1
2	**	Gib		1
3	**	Hexagon socket screw	M6xP1.0x20L	17
4	**	Holder-half nut (right)		1
	**	Holder-half nut (left)		1
5	JT1-3096	Nut-half		1
6	JT1-3096	Nut-half		1
7	**	Holder-half nut		1
8	**	Hexagon socket screw	M6xP1.0x16L	1
9	**	Pin-sliding		2
10	**	Shaft-half nut (right)		1
	**	Shaft-half nut (left)		1
11	**	Ring-O	P26	2
12	**	Set screw	M12xP1.75x20L	2
13	**	Hub (right)		1
	**	Hub (left)		1
14	**	Ball-steel	1/4"	4
15	**	Spring	φ 1x6x30L	3
16	**	Set screw	M8xP1.25x10L	2
17	**	Lever		2
18	**	Knob		2
19	**	Hexagon socket screw	M10xP1.5x25L	2
20	**	Lenx-oil	CTA-8	1
21	**	Shaft-auto stop		1
22	**	Cover-bottom apron		1
23	**	Seal-oil	15x25x7	1
24	**	Seat-tappet		1
25	**	Shaft-tappet		1
26	**	Set screw	M6xP1.0x16L	2
27	**	Tappet		1
28	**	Nut	M8xP1.25	1
29	**	Set screw	M8xP1.25x30L	1
30	**	Set screw	M6xP1.0x40L	1
31	**	Ring-O	P6	1
32	**	Nut	M6xP1.0	1
33	**	Screw-oil leakage	PT1/4	1
34	JT1-3097	Apron- oil seal	34x45x11L	1
35	JT1-3098	Apron- bushing		2
36	JT1-3099	Apron- sleeve feed rod+pin		1
37	JT1-3099	Apron- sleeve feed rod+pin	6x6x42L	1
38	**	Key-square	6x6x12L	1
39	**	Gear		1
40	**	Seat-worm		1
41	**	Shaft-worm		1
42	**	Bearing-thrust	2904	2
43	**	Worm gear		1
44	**	Washer-lock	20	1
45	**	Nut		1
46	**	Hexagon socket screw	M6xP1.0x12L	8
47	**	Spring,φ 1x10x60L (right)		1
	**	Spring,φ 1x10x60L (left)		1
48	**	Block-safe device (right)		1
	**	Block-safe device (left)		1
49	**	Pin	5x18L	2
50	**	Pin		1
51	**	Shaft-auto feed (right)		1
	**	Shaft-auto feed (left)		1

Index	Part No.	Description	Size	Qty
52	**	Collar		1
53	**	Ring-O	P16	2
54	**	Cover		1
55	**	Hub (right)		1
	**	Hub (left)		1
56	**	Spring washer	M12	1
57	**	Hexagon socket screw	M8xP1.25x12L	1
58	**	Snap ring	S10	1
59	**	Lever		1
60	**	Spring washer	M12	1
61	**	Screw		1
62	**	Hexagon socket screw	M5xP0.8x20L	1
63	**	Spring		1
64	**	Spacer		1
65	**	Bearing ball	6005V	1
66	JT1-3100	Apron- worm gear		1
67	**	Wheel-friction		1
68	**	Key-square	7x7x12L	1
69	**	Shaft-worm wheel		1
70	**	Pin		1
71	**	Spring, compressing		1
72	**	Washer		1
73	**	Screw-hexa. Socket Headless set		1
74	**	Bearing ball	6204	1
75	**	Cover		1
76	**	Snap ring	S20	2
77	**	Gear		1
78	**	Shaft-cross feed		1
79	**	Set (right)		1
80	**	Set (left)		1
81	**	Shaft-lever		1
82	**	Lever		1
83	**	Screw-hexa. Socket Headless set		1
84	JT1-3101	Apron- Pinion		1
85	**	Key-square	6x6x20L	1
86	**	Bering-middle	NK20/22	1
87	**	Set screw	M6xP1.0x10L	1
88	**	Collar		1
89	**	Pin-spring	6x36L	1
90	**	Gear		1
91	**	Bearing ball	6003	1
92	**	Cover		1
93	**	Pinion-handwheel		1
94	**	Key-square	6x6x25L	1
95	**	Bearing ball	6004V	2
96	**	Seat		1
97	**	Hexagon socket screw	M5xP0.8x20L	4
99	**	Washer		1
100	**	Washer-wave type		1
101	**	Dial-rack		1
102	**	Handwheel		1
103	**	Handle		1
104	**	Washer-lock		1
105	**	Hexagon socket screw	M8xP1.25x20L	1
106	**	Dial-thread chasing		1
107	**	Pin		1
108	**	Seat-dial shaft		1
109	**	Hexagon socket screw	M10xP1.25x65L	1
110	JT1-3102	Apron- gear	16T	1

Index	Part No.	Description	Size	Qty
111	**	Washer-spring	10	1
112	**	Nut	M10xP1.5	1
113	**	Snap ring	S30	1
114	**	Seat-switch		1
115	**	Key-square	6x8x25L	1
116	**	Hexagon socket screw	M8xP1.25x16L	2
117	**	Bracket		1
118	**	Screw-lock		2
119	**	Screw-hexa. Socket Headless cap		1
120	**	Seat-lever		1
121	**	Set screw	M8xP1.25x8L	2
122	**	Spring		1
123	**	Lever		1
124	**	Sleeve-lever		1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.4.1 **Bed & Base Assembly – Exploded View**

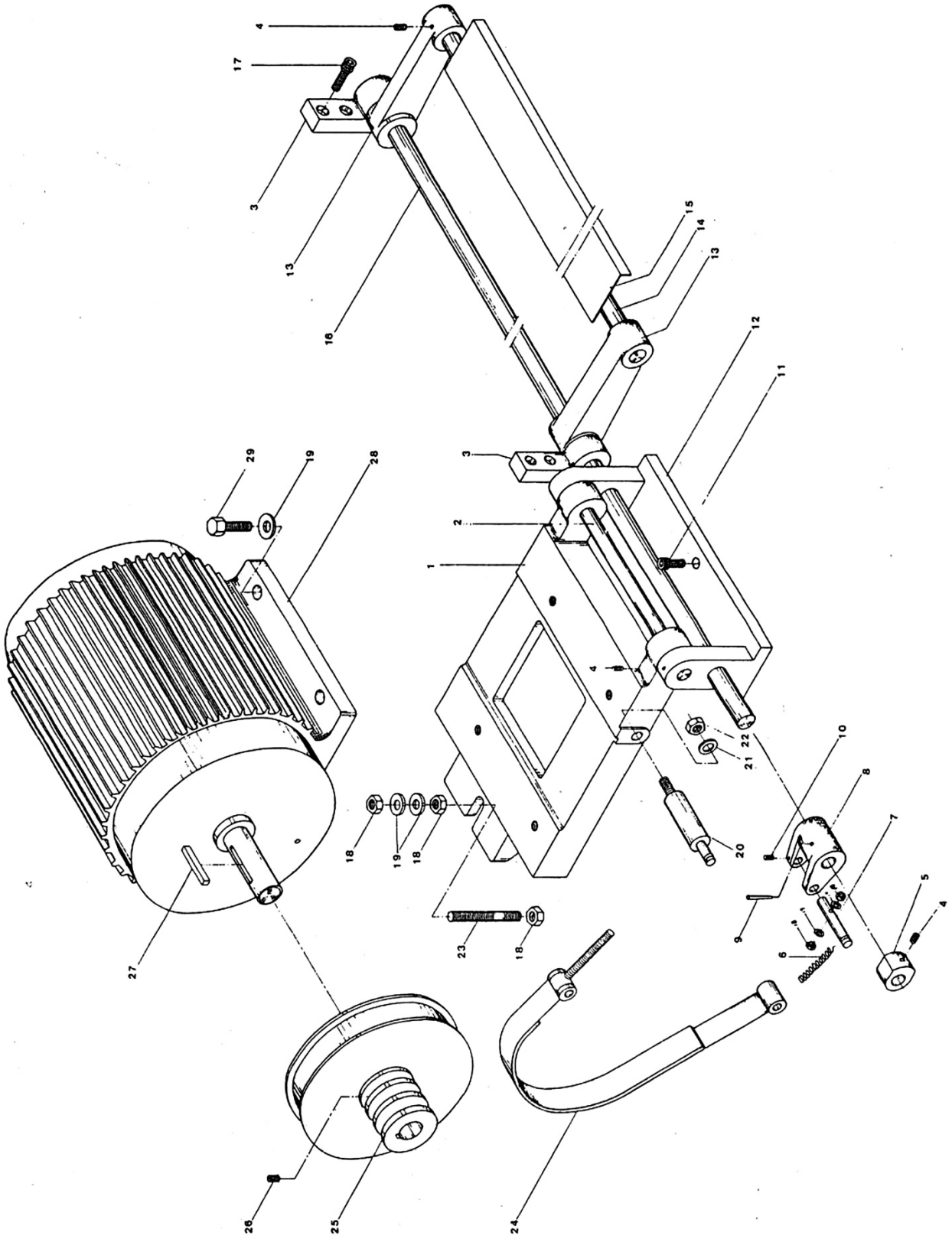


17.4.2 **Bed & Base Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	Cover-end		1
2	**	Head	M6xP1.0x20L	12
3	**	Cover-electric box		1
4	**	Hexagon socket screw	M6xP1.0x25L	10
5	**	Pin-taper	6x35	2
6	JT1-3103	Z axis rack set		1
7	**	Bed		1
9	**	Hexagon socket screw	M16xP2.0x45L	4
10	**	Supporter-shaft		1
11	**	Set screw	M6xP1.0x10L	2
12	**	Collar		1
13	**	Shoe-brass		4
14	**	Set screw	M6xP1.0x6L	1
15	**	Cam-auto feed stopping		4
16	**	Shart-auto stopping		1
17	**	Set screw	M8xP1.25x8L	1
18	**	Spring	1x6x10L	1
19	**	Ball steel	1/4"	1
20	**	Lever-turning shaft		4
21	**	Collar		1
22	**	Set screw	M8xP1.25x10L	1
23	**	Supporter-shaft		1
24	**	Hexagon socket screw	M8xP1.25x16L	4
25	**	Hexagon socket screw	M16xP2.0x55L	8
26	**	Plug		1
27	**	Bolt-lock		1
28	**	Cover-motor seat		2
29	**	Bolt-set machine		6
30	**	Nut-lock		6
31	**	Block-leveling		6
32	**	Bolt-hexa. head	M8x38	2
33	**	Washer	W5/8"	2
34	**	Seat-coolant pump		1
35	**	Cover-coolant motor seat		1
36	**	Nut-lock	M8	2
37	**	Base		1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.5.1 **Brake System Assembly – Exploded View**

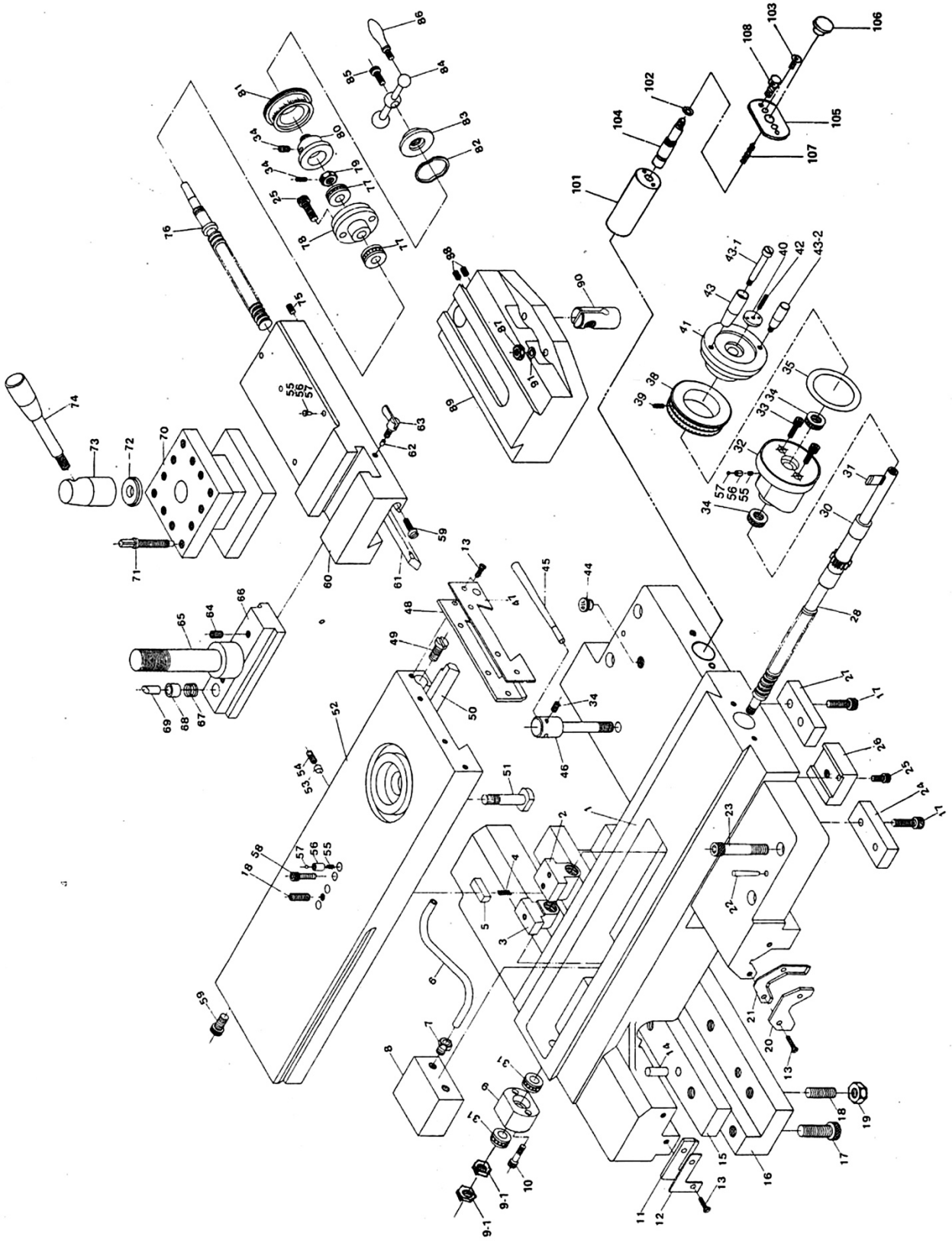


17.5.2 Brake System Assembly – Parts List

Index	Part No.	Description	Size	Qty
1	**	Seat-motor		1
2	**	Shaft-motor seat		1
3	**	Block		2
4	**	Set screw	M6xP1.0x12L	1
5	**	Cam		1
6	**	Spring		1
7	**	Shaft-brake belt		1
8	**	Arm-brake		1
9	**	Pin-taper	4x38L	1
10	**	Set screw	M6xP1.0x10L	1
11	**	Hexagon socket screw	M10xP1.5x30L	3
12	**	Bracket-motor seat		1
13	**	Bracket-pedal		2
15	**	Pedal-brake		1
16	**	Shaft-pedal bracket		1
17	**	Hexagon socket screw	M8xP1.25x25L	4
18	**	Nut	M16	6
19	**	Washer	M16	4
20	**	Bolt-adjusting		1
21	**	Washer	M12	1
22	**	Nut	M12	1
23	**	Bolt-adjusting		1
24	JT1-3105	Belt-brake	15HP	1
25	**	Belt pulley		1
27	**	Key	7x7x55L	1
28	**	Motor		1
29	**	Bolt-hexa. Head	M10x30L	4

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.6.1 **Carriage & Crossfeed Assembly – Exploded View**



17.6.2 Carriage & Crossfeed Assembly – Parts List

Index	Part No.	Description	Size	Qty
1	**	Carriage		1
2	JT1-3104	Cross slide screw and nut set (in)		1
3	JT1-3104	Cross slide screw and nut set (in)		1
4	**	Spring	1x5x25L	1
5	**	Shim-crossfeed nut		1
6	**	Pipe-lubrication oil		1
7	**	Nut-copper		1
8	**	Conveyor-oil		1
9	**	Cap-crossfeed screw		1
9-1	**	Nut-hexa. head	M12xP1.25	2
10	**	Hexagon socket screw	M6xP1.0x25L	2
11	JT1-3095	Wiper (Z axis)		1
12	JT1-3095	Wiper (Z axis)		1
13	**	Screw-cross-recessed	M4xP0.7x10L	8
14	**	Pin		2
15	**	Gib		1
16	**	Holder-gib		1
17	**	Hexagon socket screw	M8xP1.25x25L	4
18	**	Set screw	M8xP1.25x25L	4
19	**	Nut	M8xP1.25	4
20	JT1-3095	Wiper (Z axis)		1
21	JT1-3095	Wiper (Z axis)		1
22	**	Pin-taper	6 # 75L	2
23	**	Hexagon socket screw	M10xP1.5x70L	4
24	**	Gib-left-front		1
25	**	Set screw	M6xP1.0x16L	3
26	**	Clamp-carriage		1
27	**	Gib-right-front		1
28	JT1-3104	Cross slide screw and nut set (in)		1
30	JT1-3106	Cross slide -pinion		1
31	JT1-3107	Bearing	51101	11
32	**	Bracket		1
33	**	Bolt-hexa. Socket	M8xP1.25x40L	2
34	JT1-3108	Bearing	51104	1
35	**	Washer-wave type	6210	1
36	**	Set screw	M6xP1.0x10L	1
37	**	Clutch-dial		1
38	**	Dial-crossfeed		1
39	**	Hexagon socket screw	M6xP1.0x15L	2
40	**	Nut-lock clutch		1
41	**	Handle		1
42	**	Screw-adjusting	M6xP1.0x30L	1
43	**	Knob-handle		1
43-1	**	Screw-handle		1
43-2	**	Knob-handle		1
44	**	Plug-oil inlet		1
45	**	Lever		1
46	**	Screw-carriage clamp		1
47	**	Case-wiper		1
48	**	Wiper		1
49	**	Screw-adjusting		1
50	JT1-3110	X axis Gib		1
51	JT1-3109	Special bolt		4
52	**	Cover-cross sliding		1
53	**	Shoe-clamp		1
54	**	Set screw	M6xP1.0x20L	1
55	**	Spring		5
56	**	Sleeve		5

Index	Part No.	Description	Size	Qty
57	**	Ball-steel	1/4"	5
58	**	Hexagon socket screw	M6xP1.0x20L	3
59	**	Screw-gib		2
60	**	Compound rest		1
61	JT1-3111	Gib-compound rest		1
62	**	Shoe-clamp		1
63	**	Screw-clamp		1
64	**	Hexagon socket screw	M8xP1.25x10L	4
65	**	Shaft-tool post		1
65-1	**	Shaft-tool post		1
66	**	Block-tee		1
67	**	Spring	1x8x20L	1
68	**	Sleeve		1
69	**	Button		1
70	**	Tool post-square		1
71	**	Screw-square head		1
72	**	Bearing-thrust		1
73	**	Knob-lever		1
74	**	Lever		1
75	**	Screw-gib	M8xP1.25x30L	1
76	JT1-3112	Compound rest screw and nut set		1
77	**	Bearing thrust	51102	2
78	**	Seat-compound rest screw		1
79	**	Nut		1
80	**	Collar		1
81	**	Dial-compound rest		1
82	**	Washer-wave type		1
83	**	Nut		1
84	**	Handle		1
85	**	Hexagon socket screw	M6xP1.0x16L	1
86	**	Knob-handle		1
87	**	Nut	M10xP1.5	4
88	**	Set screw	M8xP1.25x8L	2
89	**	Swivel		1
90	JT1-3112	Compound rest screw and nut set		1
91	**	Spring washer	M10	4
101	**	Body-pump		1
102	**	Ring-O	PA10	1
103	**	Screw	M5xP0.8x12L	2
104	**	Rod-pump		1
105	**	Stopper		1
106	**	Plug		1
107	**	Spring-compressing	φ1.2x10x63L	1
108	**	Hex Socket Head Screw	M6x10L	2

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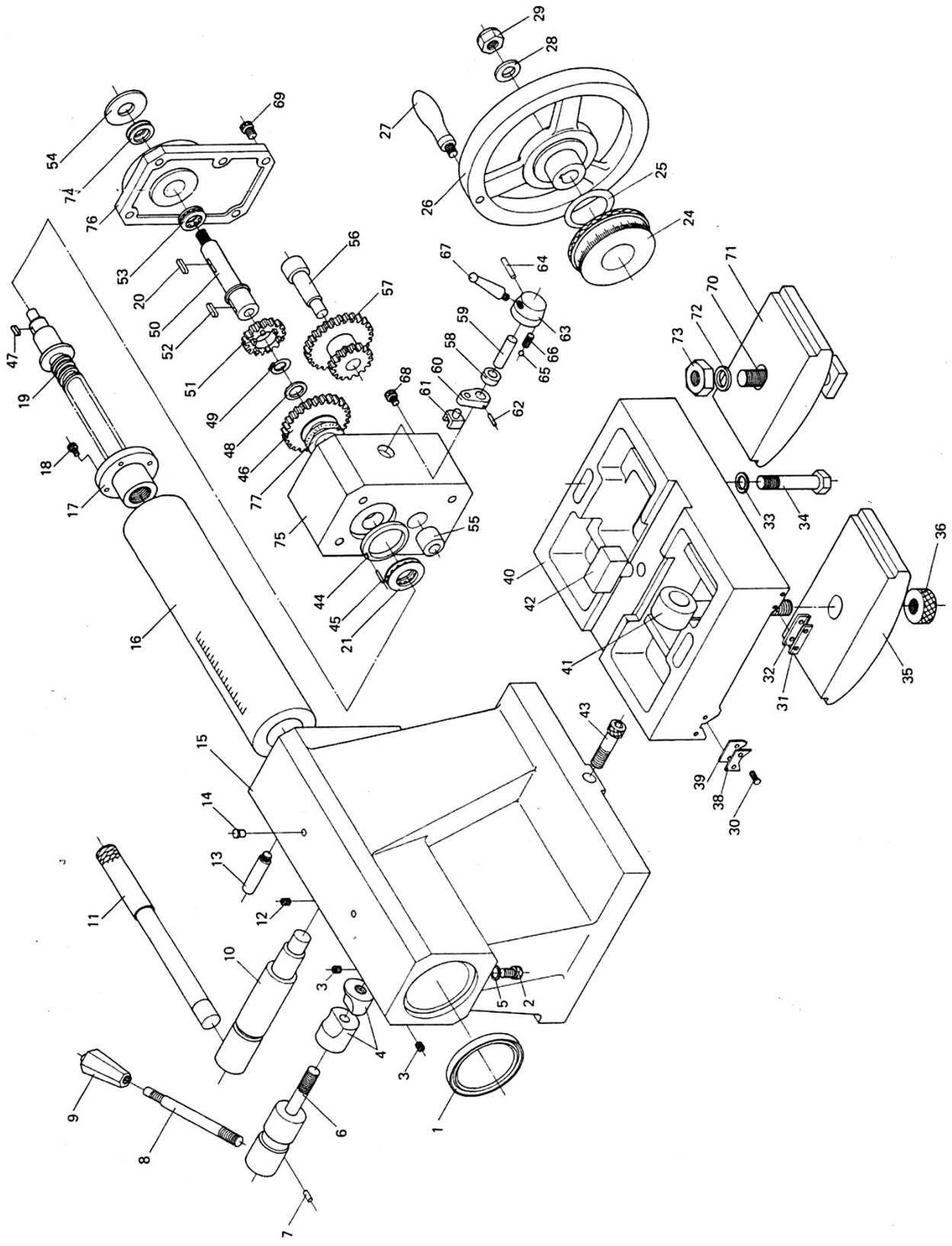
17.7.1 **Tailstock Assembly – Exploded View**



17.7.2 **Tailstock Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	Seal-oil	TC75x90x8	1
2	**	Hexagon socket screw	M8xP1.25x10L	1
3	**	Set screw	M6xP1.0x12L	1
4	**	Block-clamp		1
5	**	Spring washer	M12	1
6	**	Shaft-clamp spindle		1
7	**	Pin	5x12	2
8	**	Lever		1
9	**	Sleeve-lever		1
10	**	Shaft-clamp bottom		1
11	**	Lever		1
12	**	Set Screw	M6xP1.0x20L	1
13	**	Screw-brake		1
14	**	Plug-oil	1/4"	3
15	**	Body-tailstock		1
16	JT1-3113	Tailstock-tang slot		1
17	JT1-3114	Tailstock- screw and nut set		1
18	**	Hexagon socket screw	M6xP1.0x16L	4
19	JT1-3114	Tailstock- screw and nut set		1
20	**	Key-square	6x6x25	1
21	**	Bearing-thrust	51205	1
24	**	Dial-feed		1
25	**	Washer-wave type	WW-46	2
26	**	Handwheel		1
27	**	Knob		1
28	**	Washer	W1/2"	1
29	**	Nut	1/2"-20UNF	1
30	**	Screw-cross-recessed	M4xP0.7x10L	8
31	JT1-3095	Wiper (Z axis)		1
32	JT1-3095	Wiper (Z axis)		1
33	**	Washer-flat	M12	2
34	**	Bolt-clamp	M12xP1.75.75L	2
35	**	Clamp		1
36	**	Nut		1
38	JT1-3095	Wiper (Z axis)		1
39	JT1-3095	Wiper (Z axis)		1
40	**	Bottom-tailstock		1
41	JT1-3115	Tailstock- bolt		1
42	**	Block-adjusting		1
43	**	Hexagon socket screw	M10xP1.5x80L	2
44	**	Socket washer		1
45	**	Pin ,	φ4x22.5L	1
46	**	Clutch shaft		1
47	**	Square key	5x5x10L	1
48	**	Washer		1
49	**	Snap ring	S18	1
50	**	Clutch shaft		1
51	**	Gear		1
52	**	Square key	5x5x25	1
53	**	Thrust bearing	51104	1
54	**	Washer		1
55	**	Spacer		1
56	**	Idle shaft		1
57	**	Gear		1
58	**	Spacer		1
59	**	Shaft		1
60	**	Shifting lever		1

Index	Part No.	Description	Size	Qty
61	**	Shifting fork		1
62	**	Spring pin	φ4x25L	1
63	**	Knob		1
64	**	Spring pin	φ5x38L	1
65	**	Ball steel	φ1/4"	1
66	**	Spring	D6xd1x20L	1
67	**	Lever		1
68	**	Hexagon socket screw	M8xP1.25x25L	4
69	**	Hexagon socket screw	M6xP1.0x16L	6
70	**	Bolt clamp		1
71	**	Clamp		1
72	**	Washer	W3/4	1
73	**	Nut	W3/4-10NC	1
74	**	Ball bearing	6004	1
75	**	Shifting box		1
76	**	Shifting cover		1
77	**	Bearing thrust		1

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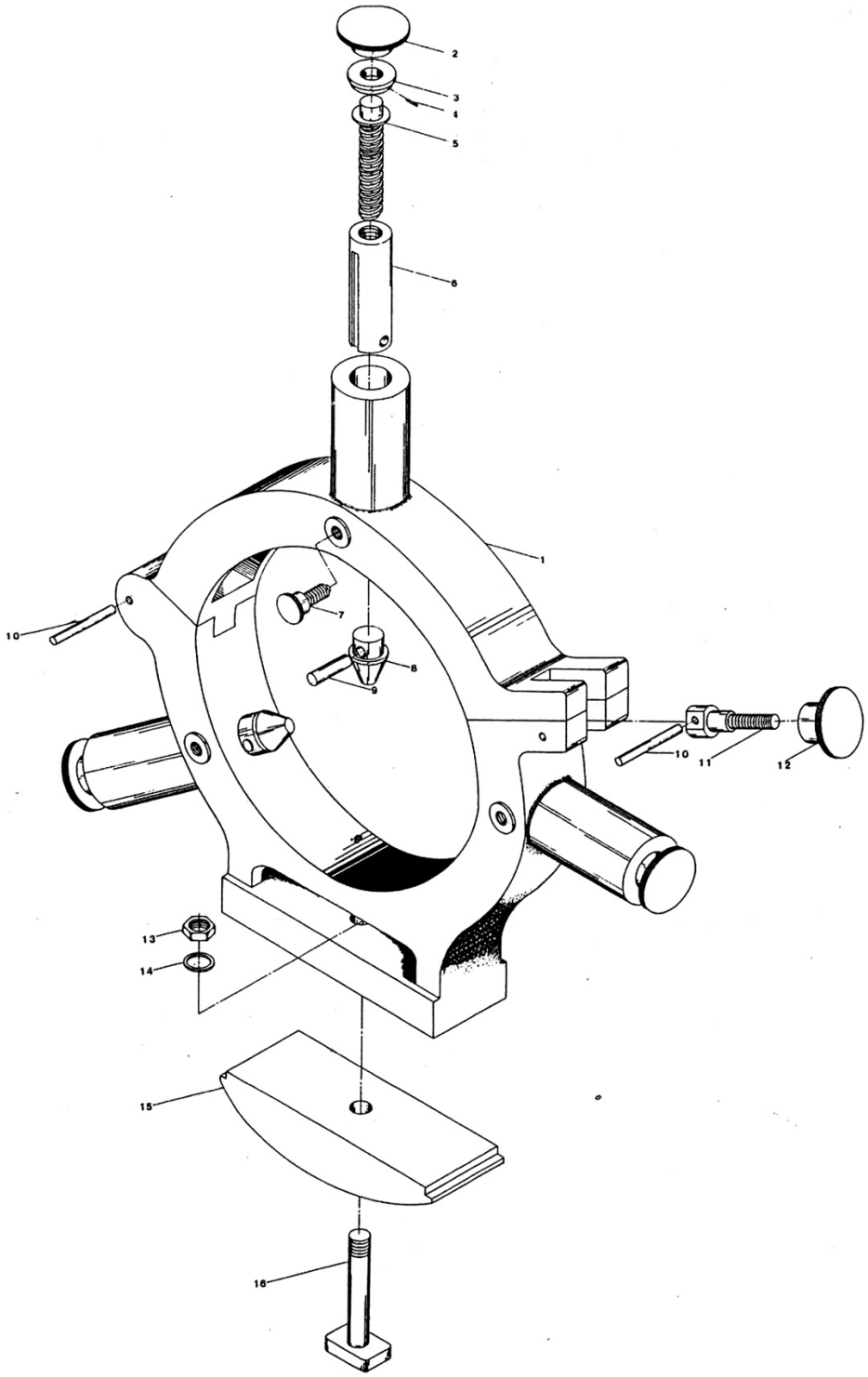
17.8.1 **Steady Rest Assembly – Exploded View**

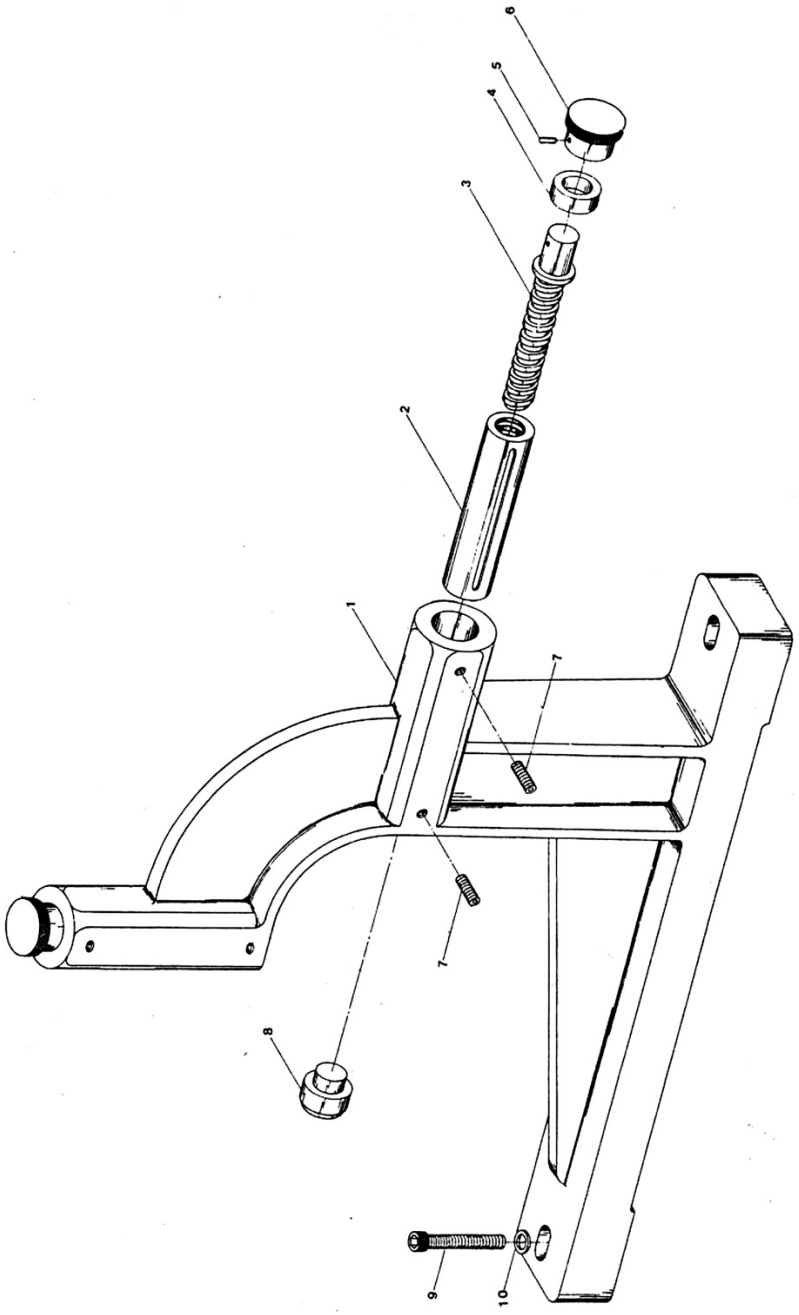


17.8.2 **Steady Rest Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	Steady-rest		1
2	**	Plug-lead screw		3
3	**	Cap	6x52L	3
4	**	Pin		3
5	**	Lead-screw		3
6	**	Nut-lead screw		3
7	**	Screw-fixed		3
8	**	Jaw		3
9	**	Pin-fixed		3
10	**	Pin	9x25L	2
11	**	Screw		1
12	**	Plug		1
13	**	Nut	W5/8"	1
14	**	Washer		1
15	**	Block-clamp		1
16	**	Bolt		1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.9.1 **Follow Rest Assembly – Exploded View**

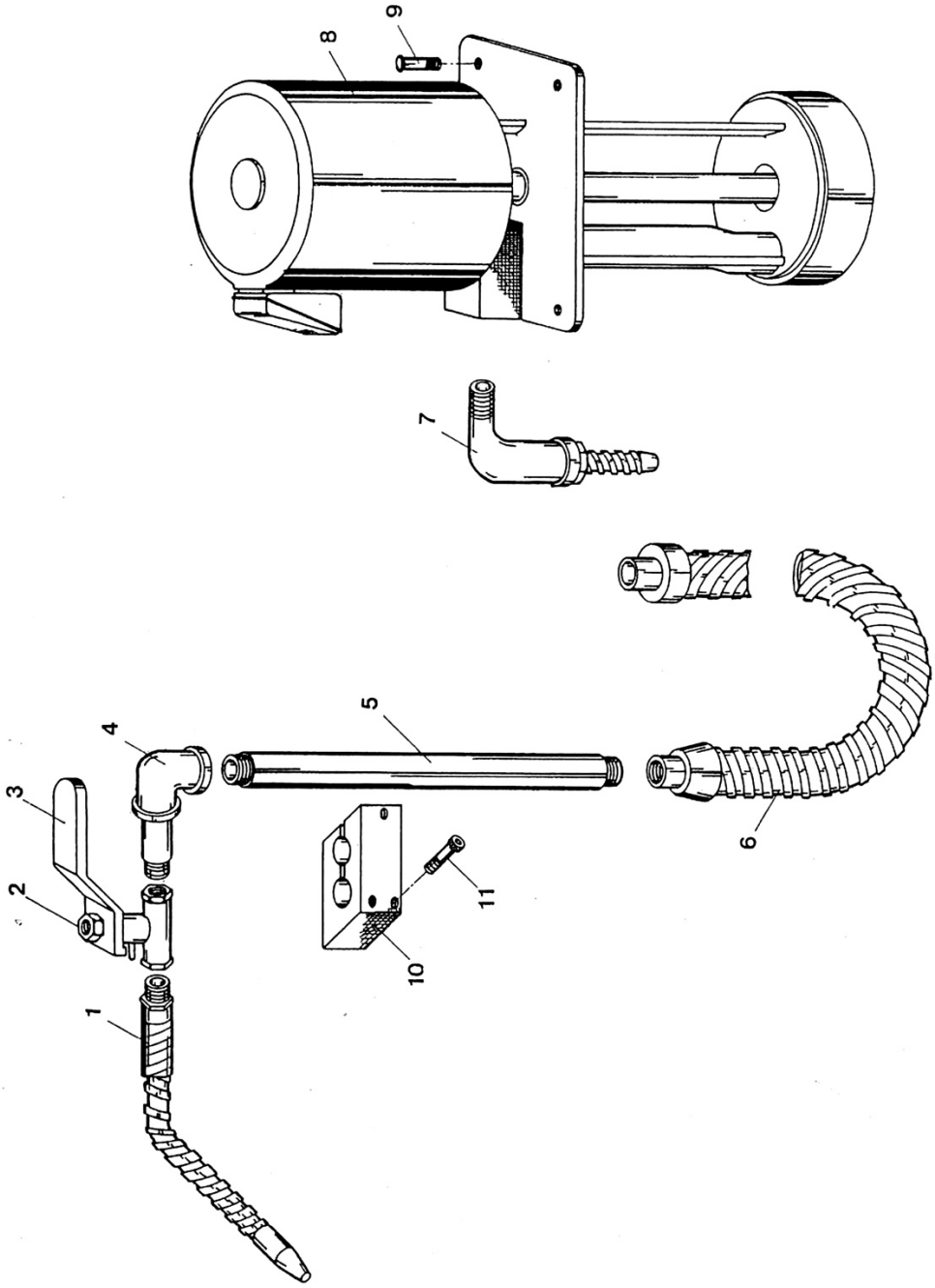


17.9.2 **Follow Rest Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	Body-follow rest		1
2	**	Nut-lead screw		2
3	**	Lead-screw		2
4	**	Collar		2
5	**	Pin	4x25L	2
6	**	Plug-lead screw		2
7	**	Screw-hexa. Socket headless screw	M8xP1.25x10L	4
8	**	Shoe		2
9	**	Hexagon socket screw	M10xP1.5x30L	2
10	**	Washer		2

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

17.10.1 **Coolant System Assembly – Exploded View**



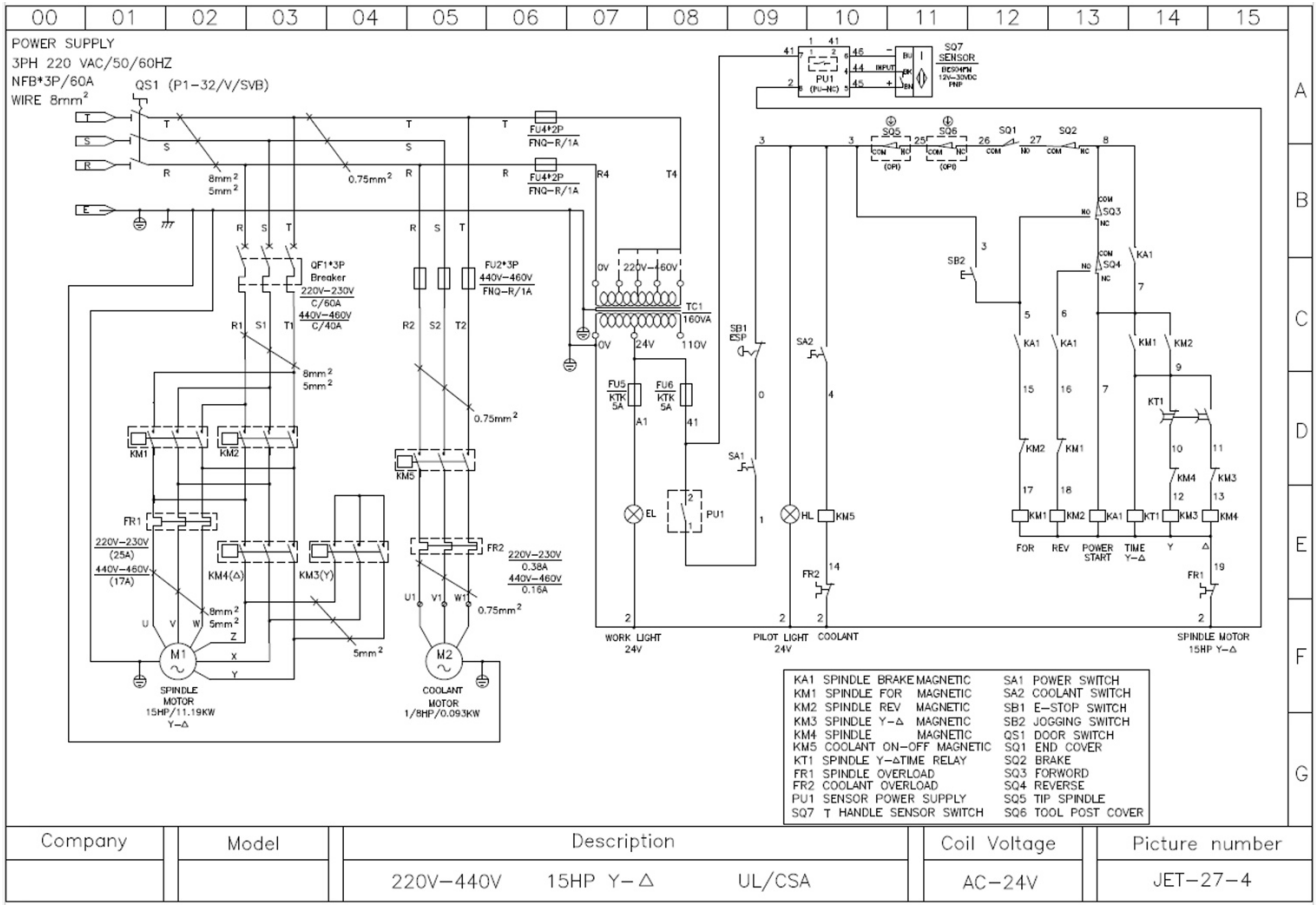
17.10.2 **Coolant System Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	Nozzle		1
2	**	Nut-lock		1
3	**	Cock-lever		1
4	**	Elbow		1
5	**	Rod-support		1
6	JT1-3116	Pipe (model GH-2680ZH)	104”	1
	JT1-3149	Pipe (model GH-26130ZH)	163”	1
7	**	Elbow		1
8	**	Pump body		1
9	**	Bolt-hex. Head	M6xP1.0x12L	2
10	**	Supporter-lock pipe		1
11	**	Screw-hexa. socket head cap	M6xP1.10x20L	3

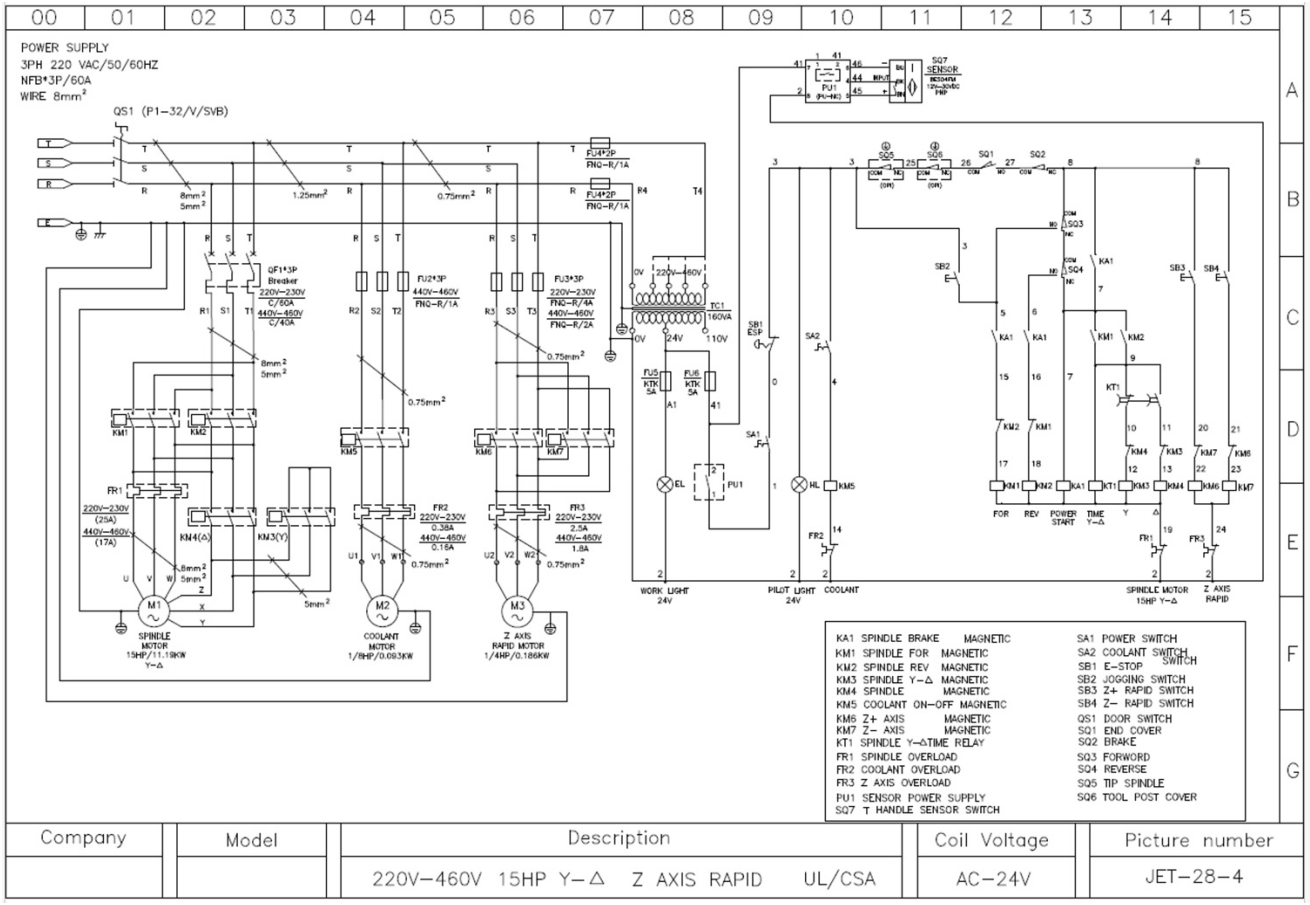
** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.

18.0 **Wiring Diagrams**

GH-2680ZH



GH-26130ZH



Company	Model	Description	Coil Voltage	Picture number
		220V-460V 15HP Y-Δ Z AXIS RAPID UL/CSA	AC-24V	JET-28-4

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427 New Sanford Road
LaVergne, Tennessee 37086
Phone: 800-274-6848
www.jettools.com