Operation and Maintenance Instructions

Geared-Head Lathe

Models GH-1440-1 and GH-1440-3

Model GH-1440-3 shown

Part No. M-JT1-2709
Edition 1 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 (Figure 1-3)
Raise the chuck shield to gain access to the chuck and spindle.

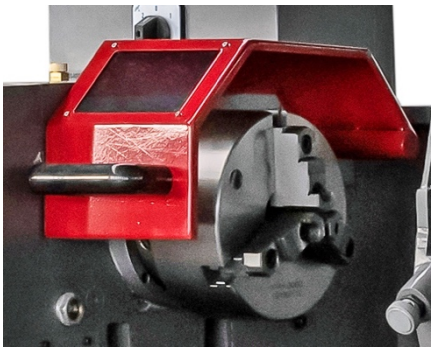


Figure 1-3

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-1440-1 and GH-1440-3 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**

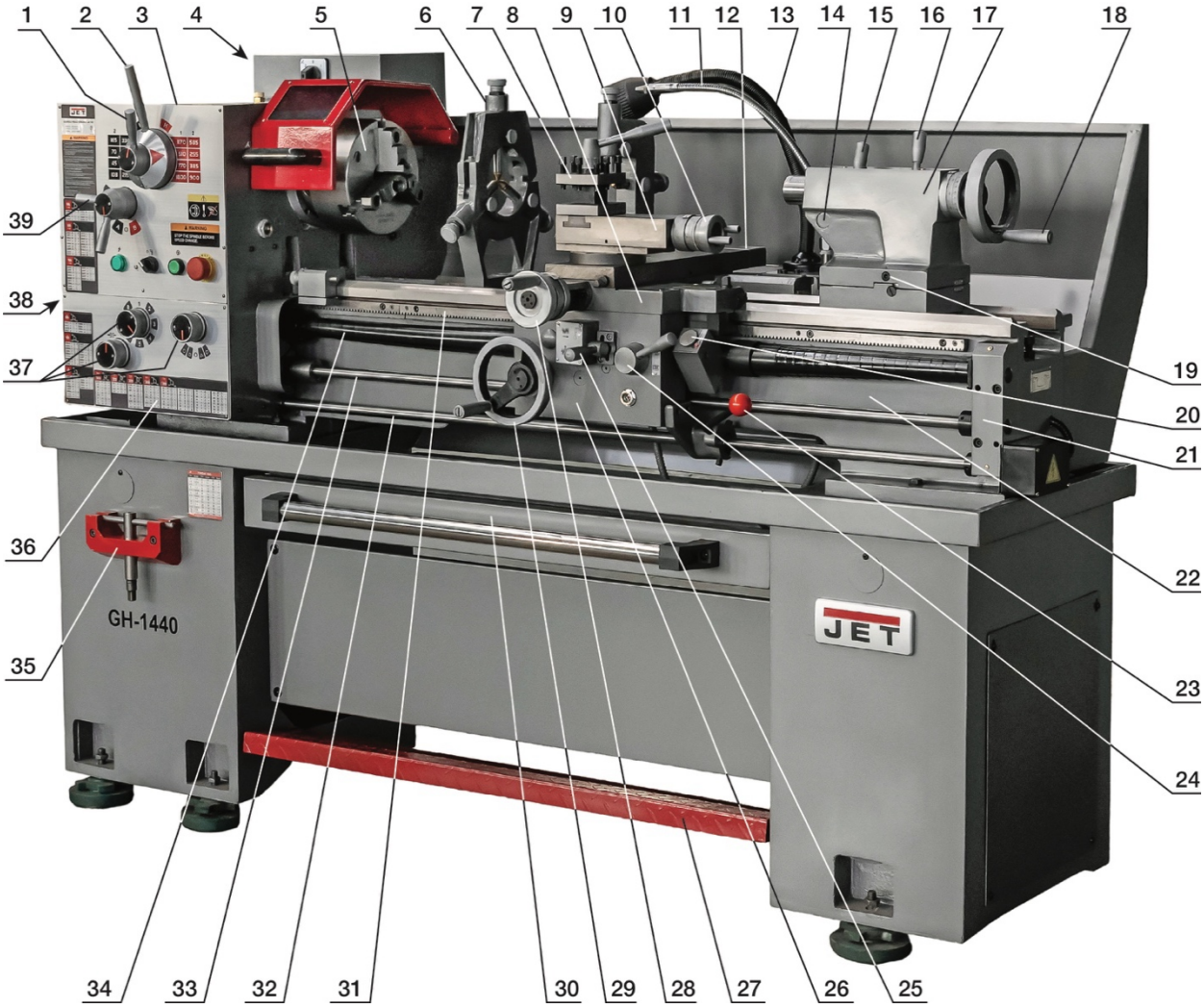


Figure 5-1: Product Identification (model GH-1440-3 shown)

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

6.0 **Specifications**

Stock Number	**JT1-2709 / JT1-2710**
Model Number	GH-1440-1 / GH-1440-3
Main Motor: JT1-2709 / GH-1440-1	2HP, 1PH, 230V, 60Hz, 13.3A
Main Motor: JT1-2710 / GH-1440-3	2HP/3PH, 230/460V, 60Hz, 8.2/8.7A
Motor Output	GH-1440-1 2.2Kw, GH-1440-3 1.5/2.4kw
Transformer	JCY-100 100VA 50/60Hz240V 24VOutput
Coolant Pump: JT1-2709 / GH-1440-1	MC-8150 90W 1PH 120/240V 50/60HZ 0.7/0.4A
Coolant Pump: JT1-2710 / GH-1440-3	MC-8150 90W 3PH 230/480V 60HZ 0.36/0.18A
Work Lamp	LED 24V, 3W
Swing Over Bed	14” (360mm)
Swing Over Cross Slide	8.7” (220mm)
Swing Over Gap	19.7” (500mm)
Length of Gap	8.6” (225mm)
Center Height	7.1” (180mm)
Distance Between Centers	39” (1000mm)
Bed Width	8.1” (206mm)
Bed Height	10.75” (273mm)
Spindle Bore	2” (51mm)
Spindle Nose	D1-5
Taper in Spindle Nose	MT-6
Number of Spindle Speeds	GH-1440-1 8-steps, GH-1440-3 16-steps
Range of Spindle Speeds	GH-1440-1 90-1800 RPM, GH-1440-3 45-1800 RPM
Number of Longitudinal & Cross Feeds	40 / 33
Range of Longitudinal Feeds	0.0012-0.0294’’ (0.043 – 0.653mm)
Range of Cross Feeds	0.00048-0.0118” (0.027 – 0.413mm)
Number of Inch Threads	40
Range of Inch Threads	4 – 112 TPI
Number of Metric Threads	22
Range of Metric Threads	0.4 – 7.5mm
Maximum Tool Size	20 x 20mm
Maximum Compound Slide Travel	3.6” (98mm)
Maximum Cross Slide Travel	6.9” (175mm)
Maximum Carriage Range	35” (890mm)
Range of Tailstock Quill	4.3”, ø1.8” (110mm, ø45)
Tailstock Taper	MT-4
Steady Rest Capacity	0.2” – 3.5” (5 – 90mm)
Follow Rest Capacity	0.39” – 2.8” (10 – 70mm)
Product Dimensions	73.6’ ’x 31.3’’ x 50" (1870 x 795 x 1270mm)
Working Area	76.8’’x29.3’’x62.2" (1950X745X1580mm)
Gross Weight	1808 lbs. (820kg)
Net Weight	1638 lbs. (743kg)

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
1 8" Three-Jaw Chuck
1 8" Four-Jaw Chuck
1 12” Face Plate
1 Splash Guard
1 Lamp
1 Chuck Guard
1 Coolant Pump System
1 Leadscrew Cover
1 Toolbox

Tool Box:

3 Open-End Wrenches (10/12,14/17, 17/19mm)
1 Oil Can
1 Hex Key Set (3, 4, 5, 6, 8, 10mm)
2 Shear Pins (4 x 35mm)
2 50T Gear
1 45T Gear
1 40T Gear
1 T-Handle Chuck Wrenches
1 Tool Post Wrench
2 MT-3 Centers
1 MT-3 Live Center
1 MT-6 – MT-4 Center Sleeve
1 Key for Cam Locks
1 Crosspoint Screwdriver
1 Flathead Screwdriver
6 Leveling Pads
6 Leveling Bolts with Hex Nuts
1 Owner’s Manual, Inspection Sheet, Warranty Card, Pre-Shipment check list, Packing List

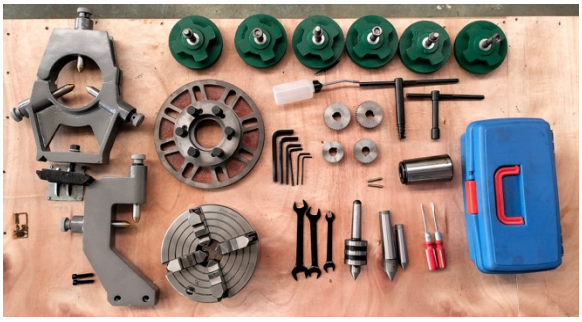


Figure 7-1

7.2 Uncrating and Installation

⚠WARNING The machine is heavy. Use an appropriate lifting device and 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.

1. Finish removing 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.
4. 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.

5. Place two steel rods or pipes (of sufficient strength) into holes (A, Figure 7-2) of lathe stand. Sling the lathe with properly rated straps. **Do not lift by the spindle.** With adequate lifting equipment, slowly raise the lathe off the bottom of the shipping crate. Make sure lathe is balanced before moving.

Figure 7-2

Locating and Positioning Machine

The lathe is shipped with six leveling bolts installed in the base. Six 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.

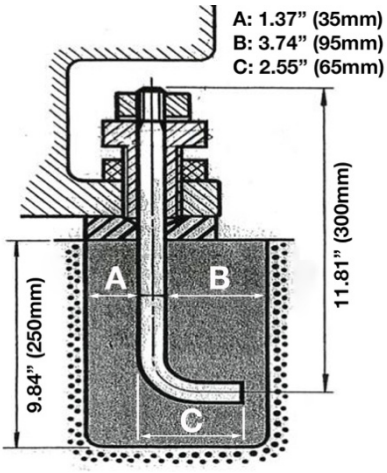


Figure 7-3: J-Bolt Installation

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.

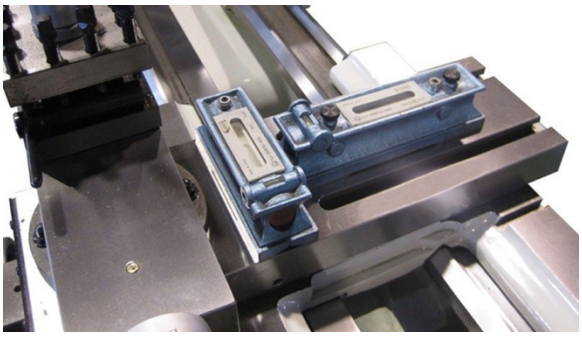


Figure 7-4: Leveling

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 7-4 shows an example.

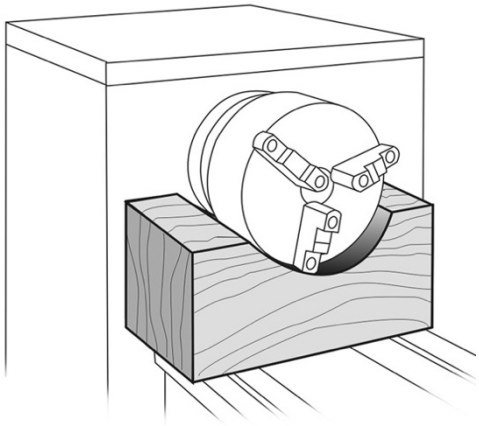


Figure 7-4: Chuck Cradle

Refer to Figures 7-5 & 7-6.

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.

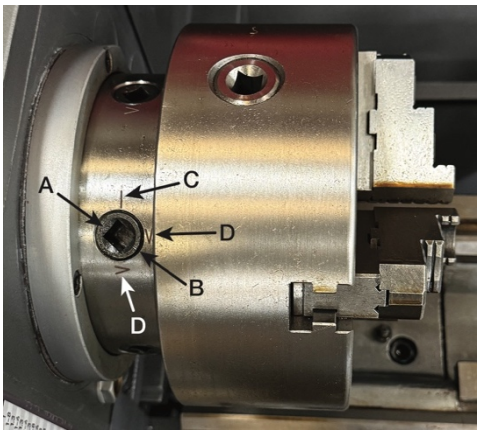


Figure 7-5

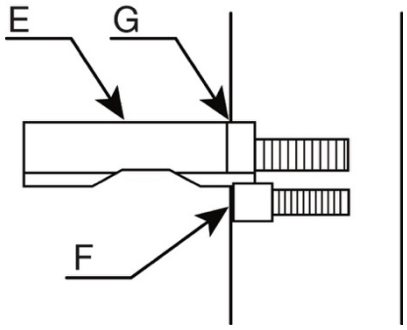


Figure 7-6

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 three-quarters of oil level sight glass (see Figure 8-1). Top off with Mobil DTE® Oil Heavy Medium. Fill by removing headstock cover. Drain oil by removing drain plug (A, Figure 8-2). 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** - Coat all gears with a heavy, non-slinging grease, see Figure 8-2.
3. **Gear Shaft** - Remove the set screw (C, Figure 8-2) and oil with a couple drops of Mobil DTE® Oil Heavy Medium once weekly.
4. **Gearbox** - Oil must be up to indicator mark in oil level sight glass (A, Figure 8-3). Remove the oil filling plug (B, Figure 8-2). Top off with Mobil DTE® Oil Heavy Medium. Drain oil by

removing drain plug (C, Figure 8-2). Make the first oil change after operating three months. Then, change oil in the gearbox every six months.

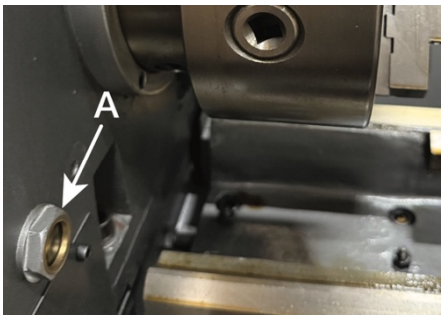


Figure 8-1: Headstock Oil Level Sight Glass

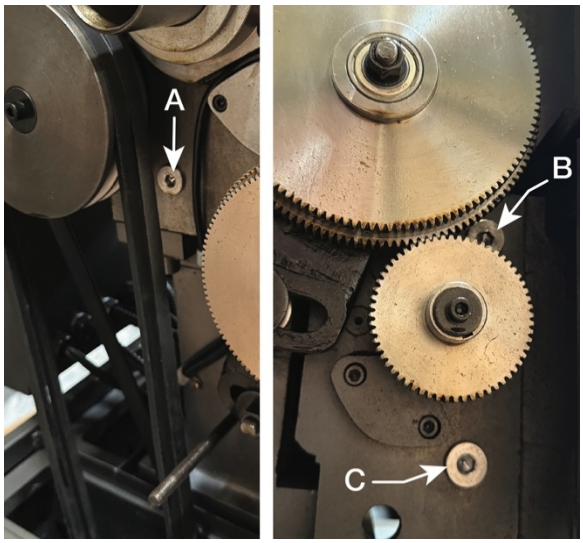


Figure 8-2

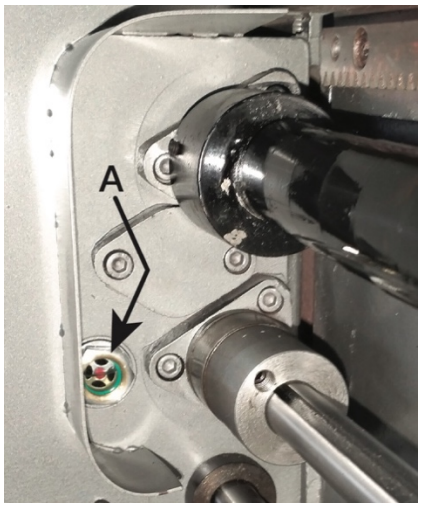


Figure 8-3

5. **Apron** - Oil must be up to indicator mark in oil level sight glass (A, Figure 8-4). Top off with Mobil DTE® Oil Heavy Medium. Fill by removing oil filling plug (B, Figure 8-4). Drain oil by removing drain plug located on the bottom of the apron. Make the first oil change after operating three months. Then, change oil annually.
6. **Carriage** - Lubricate ball oilers on both sides of the carriage (C, Figure 8-4) once daily with Mobil DTE® Oil Heavy Medium.
7. **Threading Dial Indicator** - Lubricate ball oiler (D, Figure 8-4) once daily with Mobil DTE® Oil Heavy Medium.
8. **Compound Slide** - Lubricate ball oiler (E, Figure 8-4) once daily with Mobil DTE® Oil Heavy Medium.
9. **Longitudinal and Cross Slide** - Lubricate ball oilers (F, Figure 8-4) once daily with Mobil DTE® Oil Heavy Medium.
10. **Tailstock** - Lubricate two ball oilers (G, Figure 8-4) once daily with Mobil DTE® Oil Heavy Medium.
11. **Leadscrew/Feed Rod** - Lubricate two ball oilers once daily (H, Figure 8-4) with Mobil DTE® Oil Heavy Medium.

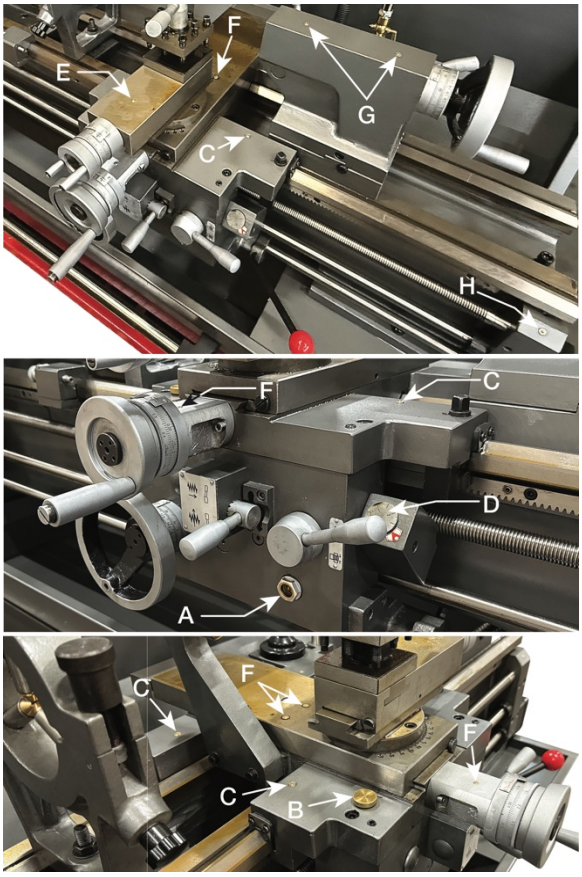


Figure 8-4

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-1440-1 lathe is rated at 2HP, 1PH, 230V only. The GH-1440-3 lathe is rated at 2HP, 3PH, 230V. Confirm power available at the lathe's location is the same rating as the lathe.

Turn feed direction selector (A, Figure 10-1) to the up position. 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 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.

Figure 10-1

11.0 General Description

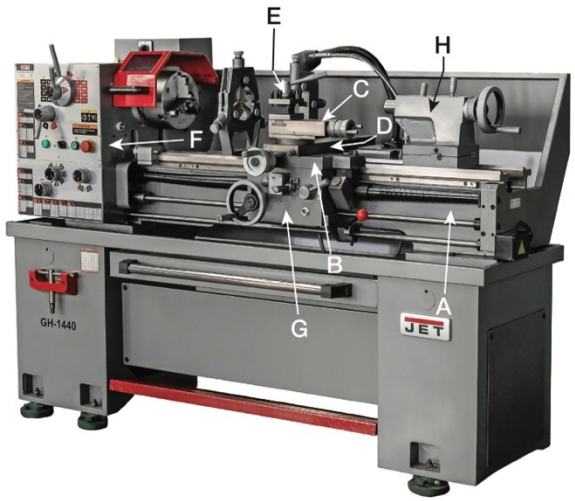


Figure 11-1

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.

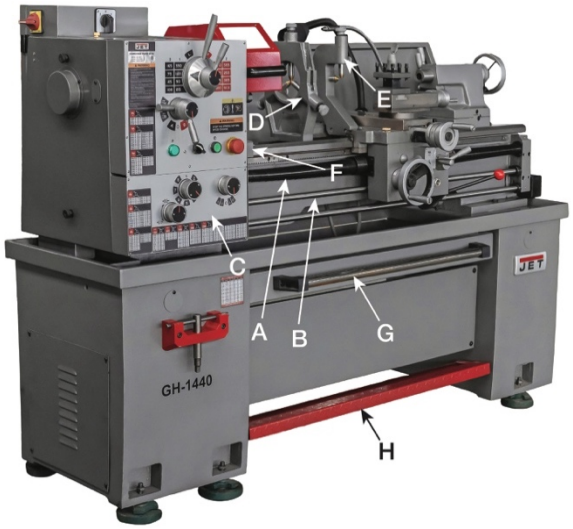


Figure 11-2

11.7 Leadscrew and Feed Rod

The leadscrew (A, Figure 11-2) and feed rod (B, Figure 11-2) 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 (C, 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 (D, 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 (E, 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 Micro Carriage Stop

(F, Figure 11-2) Can be used during manual feed operation. The dial can be turned for fine tuning the position of the stop. The micro carriage stop can be moved along the bed by loosening the two socket-head cap screws beneath the stop.

11.12 Chip Tray

(G, Figure 11-2) Tray can be pulled out to clean the stand.

11.13 Foot Brake

(H, Figure 11.2): The connecting rod mechanism is in the bed stand. The braking device is in the pulley of the headstock. Press the pedal to stop all lathe functions. (**Caution:** Lathe still has power.)

12.0 **Controls**

Figure 12-1 (model GH-1440-3 shown)

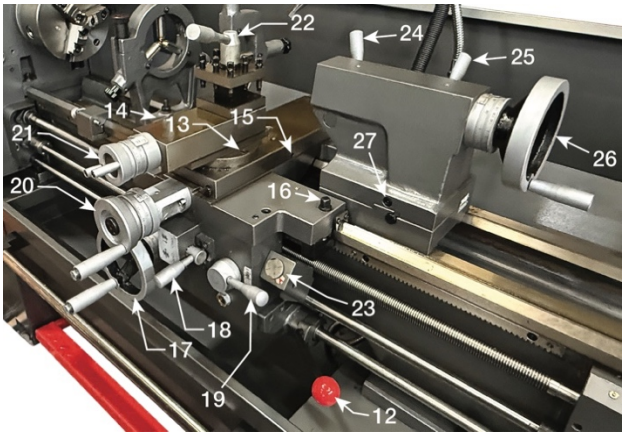


Figure 12-2

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. **Feed/Lead Selector Lever** (5, 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.**

6. **Feed Direction Selector** (6, Figure 12-1) - Selects carriage travel direction when the chuck is rotating.
7. **Step Switch (model GH-1440-3 only)** (7, Figure 12-1) – Choose either column 1 or column 2 speed options in either High or Low range.
8. **High/Low Speed Selector Lever** (8, Figure 12-1) - Move to the left for low-speed range. Move to the right for high-speed range.
9. **RPM Speed Selector Lever (model GH-1440-3 only)** (9, Figure 12-1) - Use to select one of eight spindle speeds in either high or low range (16 speeds total).

   RPM Speed Selector Lever (model GH-1440-1 only) (9, Figure 12-1) - Use to select one of four spindle speeds in either high or low range (8 speeds total).

10. **Feed ON/OFF** (10, Figure 12-1) – Turn the feed on and off.
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 hex nut clockwise to lock and counterclockwise to unlock.
14. **Compound Slide Lock** (14, Figure 12-2, not seen) - Turn set screw clockwise to tighten and counterclockwise to loosen (on other side of compound slide).
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 hex socket cap screw clockwise and tighten to lock. Turn counterclockwise and loosen to unlock.

    ⚠CAUTION **Carriage lock screw 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.
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 215 RPM for 10 minutes to thoroughly lubricate the bearings. This will raise the temperature of the lubricating oil and ensure it adheres to gear surfaces.

For minimum wear, disengage the threading dial indicator when not in use. See *Section 13.7.1 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. **Model GH-1440-3 only:** Move Step Switch (A, Figure 13-1) to either 1 or 2, to align with the High or Low RPM speed you want to run.
2. Move the High/Low Speed Selector Lever (B, Figure 13-1) to either the High or Low setting.
3. Move the RPM Speed Selector Lever (D, Figure 13-1) to the desired RPM.

13.3 Feed and Thread Selection

1. Reference the Feed/Thread Tables (E, Figure 13-1). NOTE: Additional Feed/Thread Tables are located above the chuck key.
2. Move Auto Feed Rate Lever (C, Figure 13-1) to either A or B, according to the Feed/Thread Tables.

   ⚠CAUTION In the "A" position, never run lathe higher than 770 RPM.
3. Move Feed Rate/Thread Selector Dials (F, Figure 13-1) to the appropriate positions, according to the Feed/Thread Tables.
4. Turn the feed on and off using the Feed On/Off dial (G, Figure 13-1).

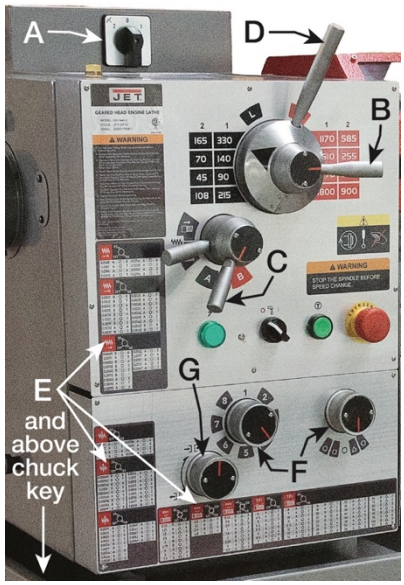


Figure 13-1 (model GH-1440-3 shown)

13.4 Change Gear Replacement

Note: the 30T, 120T, 127T, and 60T 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, follow the steps below.

1. Disconnect the machine from the power source.
2. Remove the end panel.
3. Remove smaller gears socket head cap screws (A, Figure 13-2) and large gear hex nut (B, Figure 13-2). Loosen quadrant hex nut (C, Figure 13-2). Move the quadrant out of the way.
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.

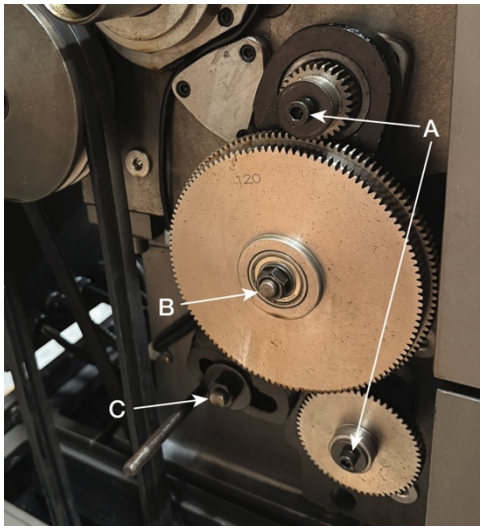


Figure 13-2

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.

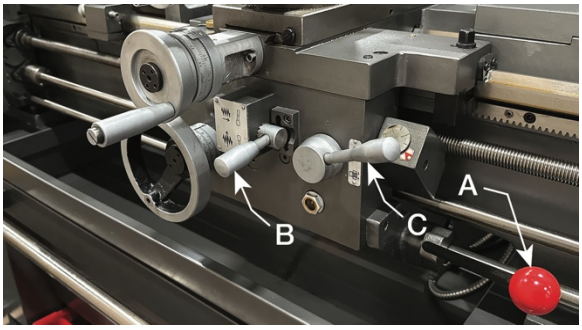


Figure 13-3

2. Move Feed/Lead Selector Lever (D, Figure 13-4) to either A or B, according to the Feed/Thread Tables.

⚠CAUTION In the "A" position, never run lathe higher than 770 RPM.

3. Move Feed Rate/Thread Selector Dials (E, Figure 13-4) to the appropriate positions, according to the Feed/Thread Tables.

4. Move Feed Direction Selection Lever (F, Figure 13-4) either up or down, 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.

6. Turn Feed On/Off Dial (F, Figure 13-4) to the On position.

Figure 13-4

13.6 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.

13.7 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. Set the feed rate/thread selector dials (E, Figure 13-4) to the desired positions. The leadscrew will start rotating. There are 31 thread pitch settings for Imperial and 26 thread pitch settings for Metric. Refer to the feed/thread tables.

2. Choose direction of thread cut by turning the feed direction selector (F, 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 13.7.1 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).

13.7.1 **Threading Dial Indicator**

The threading dial indicator (Figure 13-5) 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 13-5). 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 13-6).

By loosening a socket capscrew (A, Figure 13-6), you can pivot the housing to either engage or disengage the gear from the leadscrew (C, Figure 13-6). 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.

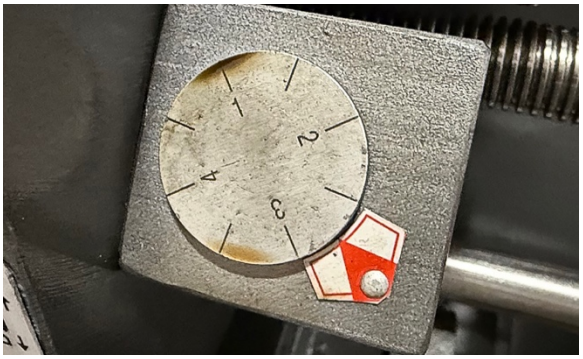


Figure 13-5

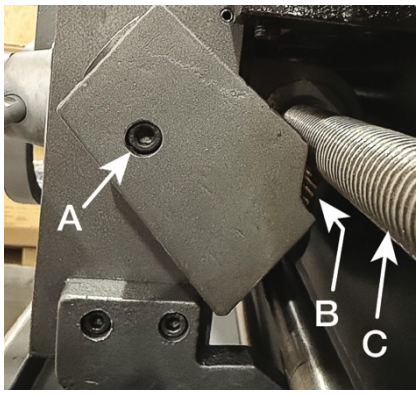


Figure 13-6

Example:

1. Using the Thread Dial Table (see Figure 13-7) to cut 20-threads-per-inch, engage the half nut when 1, 2, 3, or 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:

1 = Engage on 1

1.3 = Engage on 1 or 3

1-4 = Engage any number, 1 thru 4

1-8 = Engage any number, 1 thru 8

THREAD DIAL

TPI	Scale	TPI	Scale	TPI	Scale
4	1-8	12	1-8	38	1-8
4 ½	1.3/2.4	13	1-4	40	1-8
4 ¾	1	14	1-8	44	1-8
5	1-4	16	1-8	48	1-8
5 ½	1.3/2.4	18	1-8	52	1-8
6	1-8	19	1-4	56	1-8
6 ½	1.3/2.4	20	1-8	64	1-8
7	1-4	22	1-8	72	1-8
8	1-8	24	1-8	76	1-8
9	1-4	26	1-8	80	1-8
9 ½	1.3/2.4	28	1-8	88	1-8
10	1-8	32	1-8	96	1-8
11	1-4	36	1-8	100	1-8

LEAD SCREW PITCH 8T.P.I

Figure 13-7 – 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 Saddle Adjustment

1. Loosen four hex nuts (A, Figure 14-1) found on the bottom rear of the cross slide.
2. Turn each of the four set screws (B, Figure 14-1) equally with a hex wrench until a slight resistance is felt. Do not over-tighten.
3. Move the carriage with the hand wheel and adjust the drag to your preference. Readjust the setscrews as necessary to achieve the desired drag.
4. Hold socket set screw firmly with a hex wrench and tighten hex nut to lock in place.
5. Move the carriage again and adjust if necessary. **Note:** Over-adjustment will cause excessive premature wear of the gibs.

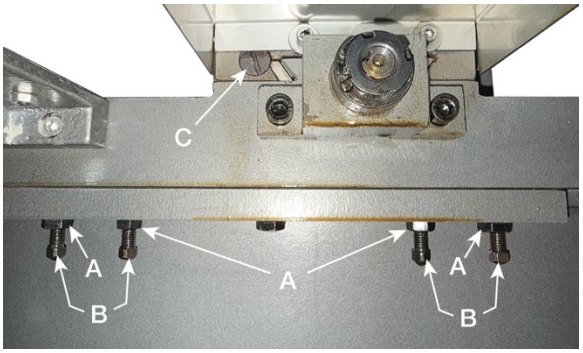


Figure 14-1

14.2 Cross Slide Adjustment

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

1. Loosen the rear gib screw (C, Figure 14-1) approximately one turn.
2. Tighten front gib (A, Figure 14-2) 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.

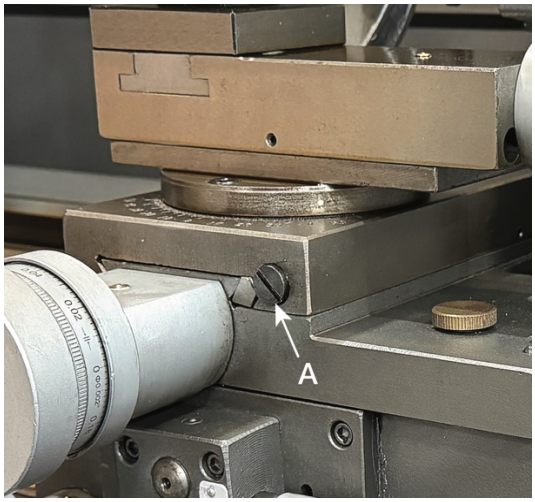


Figure 14-2

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.

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 Alignment

The headstock has been factory-aligned and should not require adjustment. However, if adjustment is deemed necessary, follow the procedure below to align the headstock.

1. Using an engineer's precision level on the bedways, make sure the lathe is level side-to-side and front-to-back. If the lathe is not level, correct to a level condition before proceeding. Re-test alignment if any leveling adjustments were made.
2. From steel bar stock of approximately two inches in diameter, cut a piece approximately eight inches long.
3. Place two inches of bar stock into chuck and tighten chuck (see Figure 14-3). Do not use the tailstock or center to support the other end.
4. Set up and cut along five inches of the bar stock.
5. Using a micrometer, measure the bar stock next to the chuck and at the end. The measurement should be the same.

6. If the measurements are not the same and adjustment is required, loosen the four bolts (A, Figure 14-3) that hold the headstock to the bed. Do not loosen completely; some drag should remain. Note: Two bolts are on the chuck side of the headstock, and the other two bolts are behind the large gear behind the end panel door.
7. Loosen two hex nuts (B, Figure 14-3) found on the two adjusting bolts located on the backside of headstock. Adjust the bolts (C, Figure 14-3) for alignment and tighten hex nuts. Tighten the headstock bolts and make another cut. Keep adjusting screws after each cut until the bar stock measurements are the same. Tighten all headstock bolts and jam nuts on adjusting screws.

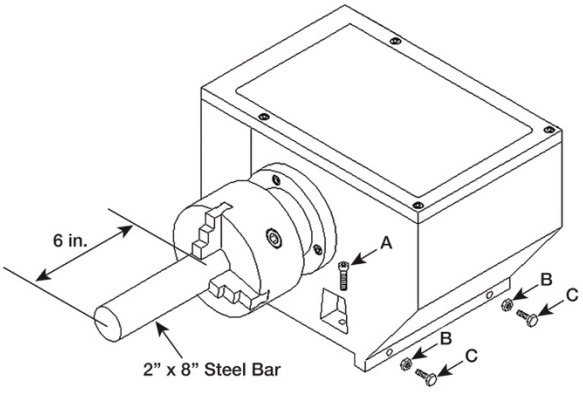


Figure 14-3: Headstock Alignment

14.6 Removing Gap Bridge

1. Using an open-end wrench, tighten the two hex nuts (A, Figure 14-4). This will cause the taper pins (B, Figure 14-4) to release. Remove the taper pins.
2. Remove the four hex socket cap screws (C, Figure 14-4) with a hex key wrench.
3. Gap bridge can now be removed.

14.7 Installing Gap Bridge

1. Clean the bottom and the ends of the gap bridge thoroughly.
2. Set gap bridge in place and align.
3. Remove nuts (A, Figure 14-4) from the taper pins (B, Figure 14-4).
4. Slide taper pins in their respective holes and seat using a mallet. Install nuts on the taper pins finger tight.
5. Install four socket head cap screws (C, Figure 14-4) and tighten securely.

Figure 14-4

14.8 Chuck Jaw Reversal

To hold stock with larger diameters, the three jaws on the scroll chuck are reversible. See Figure 14-5. 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.

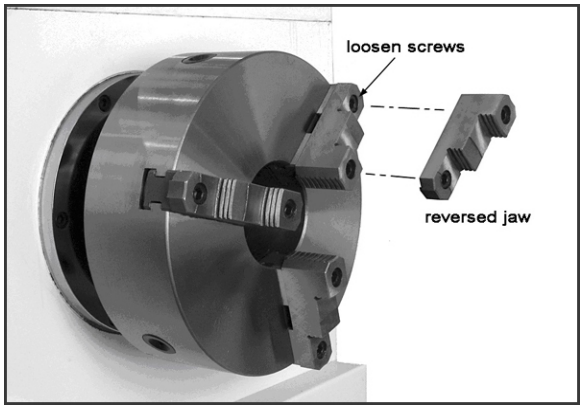


Figure 14-5: Chuck Jaw Reversal

14.9 Belt Replacement/Adjustment

1. Disconnect machine from power source.
2. Open end gear cover, remove lower rear cover and lower side cover. This will expose the motor and v-belts.
3. Loosen upper hex nut (A, Figure 14-6). 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 14-6) and tightening upper nut (A, Figure 14-6) until light finger pressure causes approximately 3/4” deflection on each belt.
7. Install covers and connect lathe to the power source.

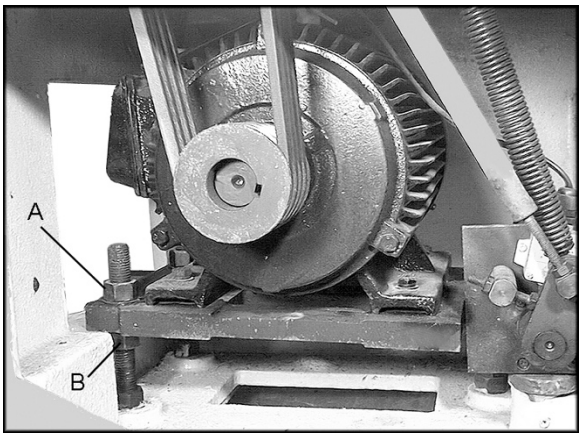


Figure 14-6: Belt Adjustment

14.10 Aligning Tailstock to Headstock

1. Fit a 12” ground steel bar between centers of the headstock and tailstock (Figure 14-7).
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 14-8) until the tailstock is aligned.

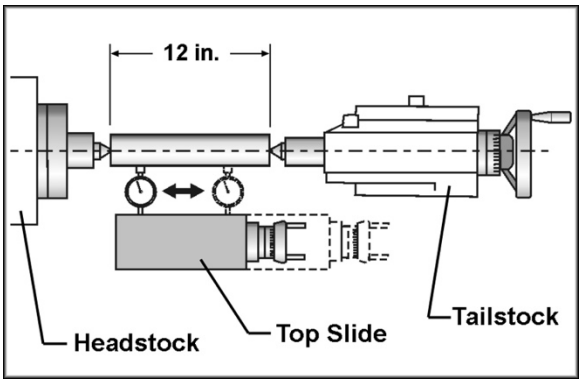


Figure 14-7: Tailstock/Headstock Alignment

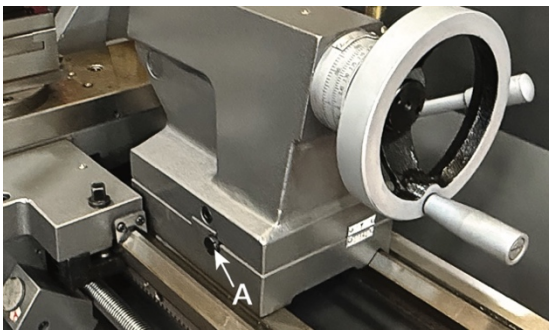


Figure 14-8

14.11 Shear Pin Replacement

The lead screw and feed shaft are equipped with shear pins, which are designed to break in order to protect the drive system against overload. A broken shear pin must be replaced.

Knock out the broken pin; line up the holes and insert new pin.

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 requires continuous lubrication to prevent premature wear.

To set the steady rest (see Figure 14-9):

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.

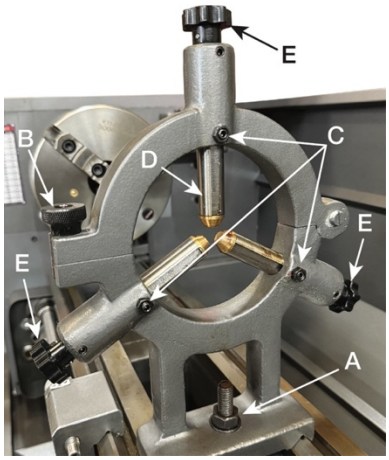


Figure 14-9: Steady Rest Adjustment

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.

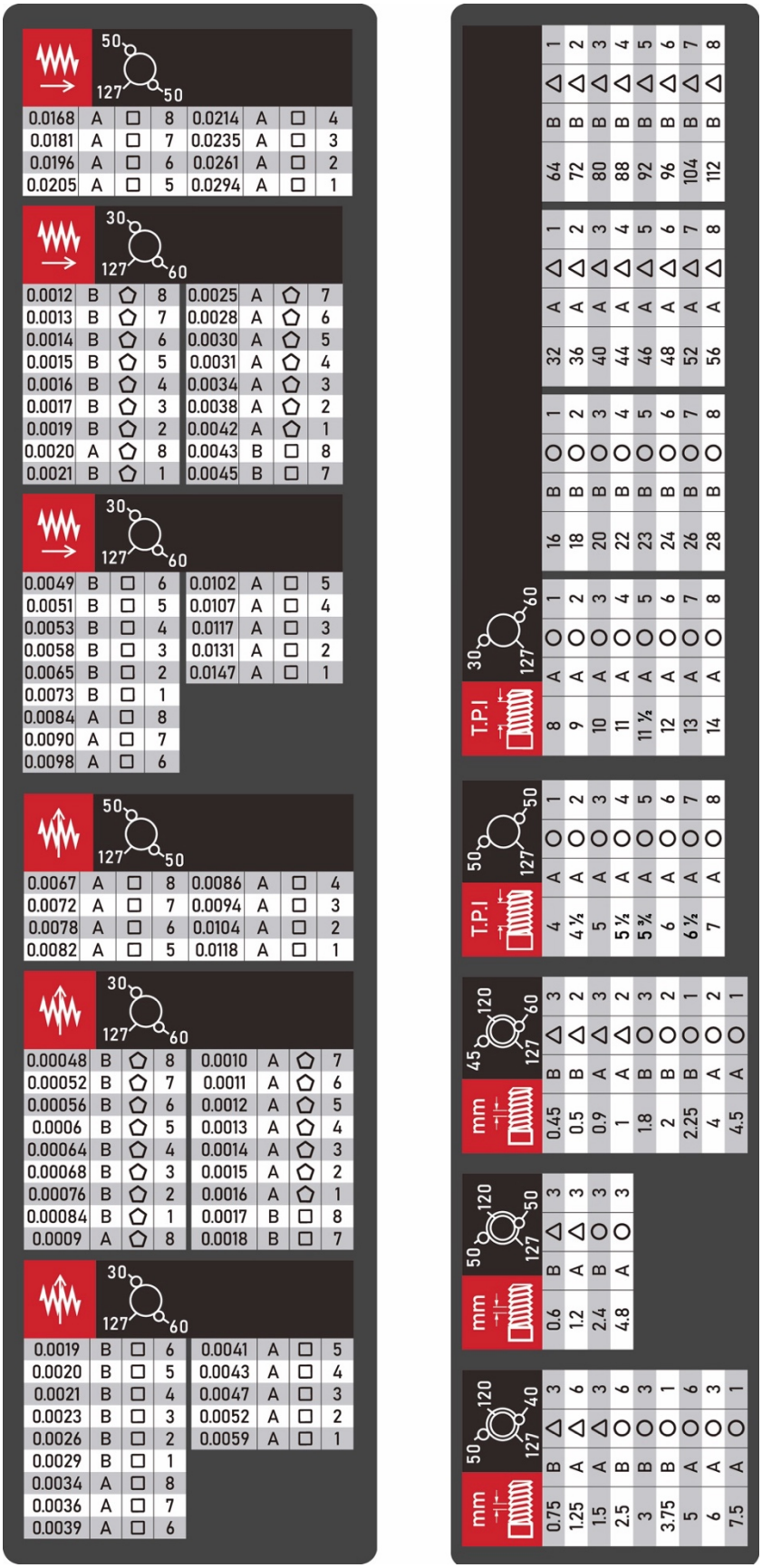
Mobile DTE® Oil Heavy Medium is recommended for the SAE-20W machine oil.

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

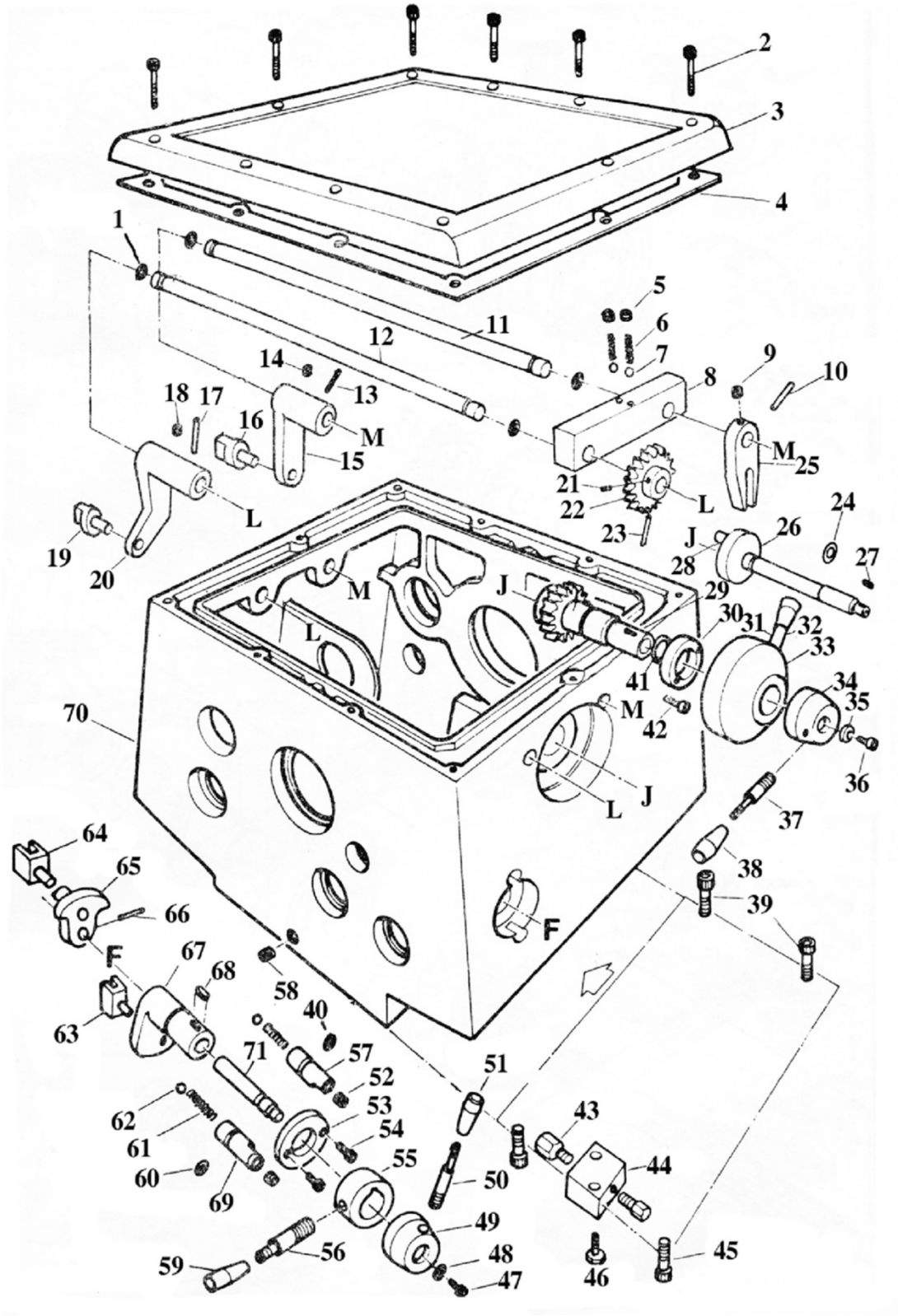
16.0 **Thread and Feed Chart**



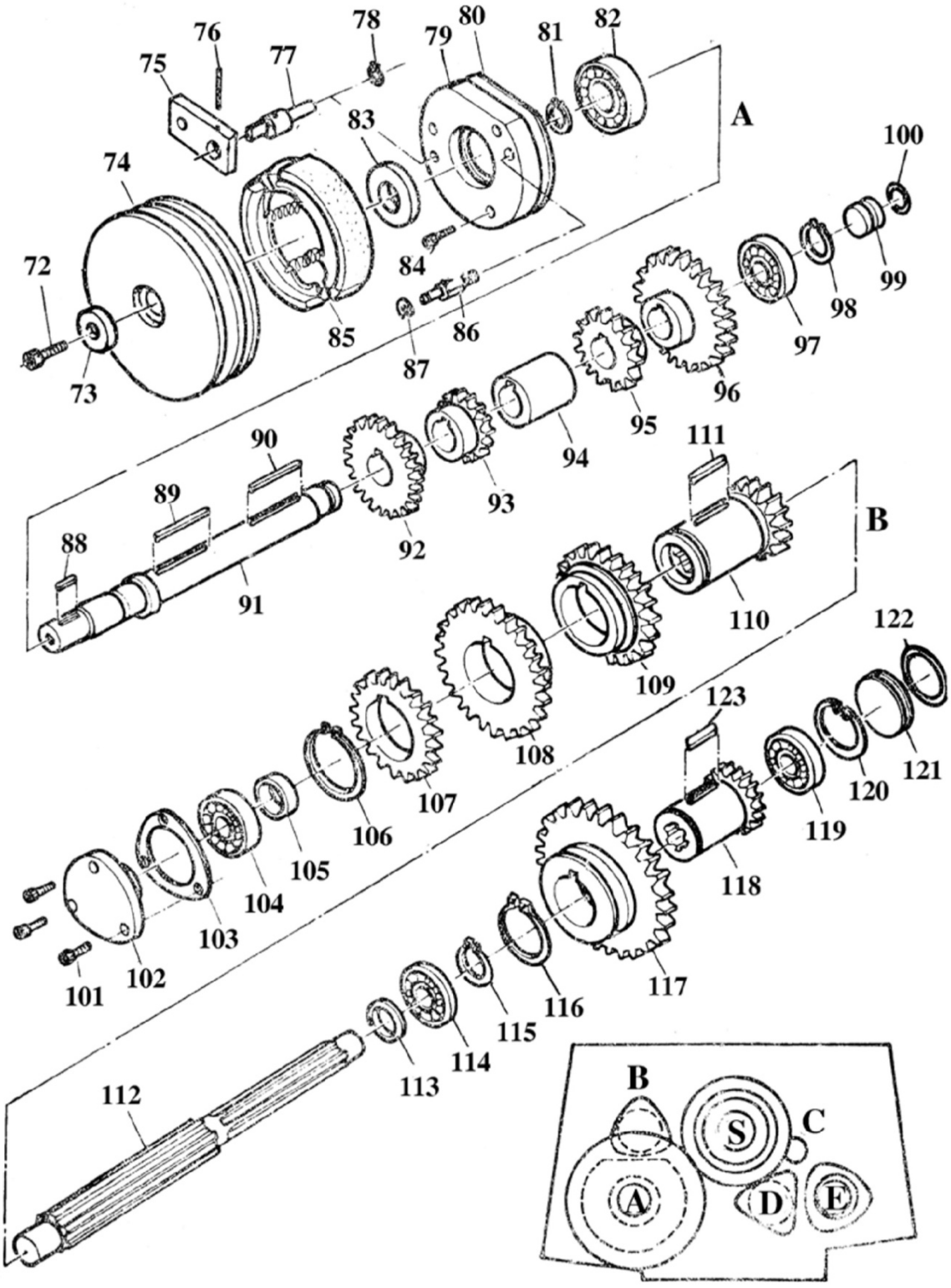
17.0 **Replacement Parts**

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.

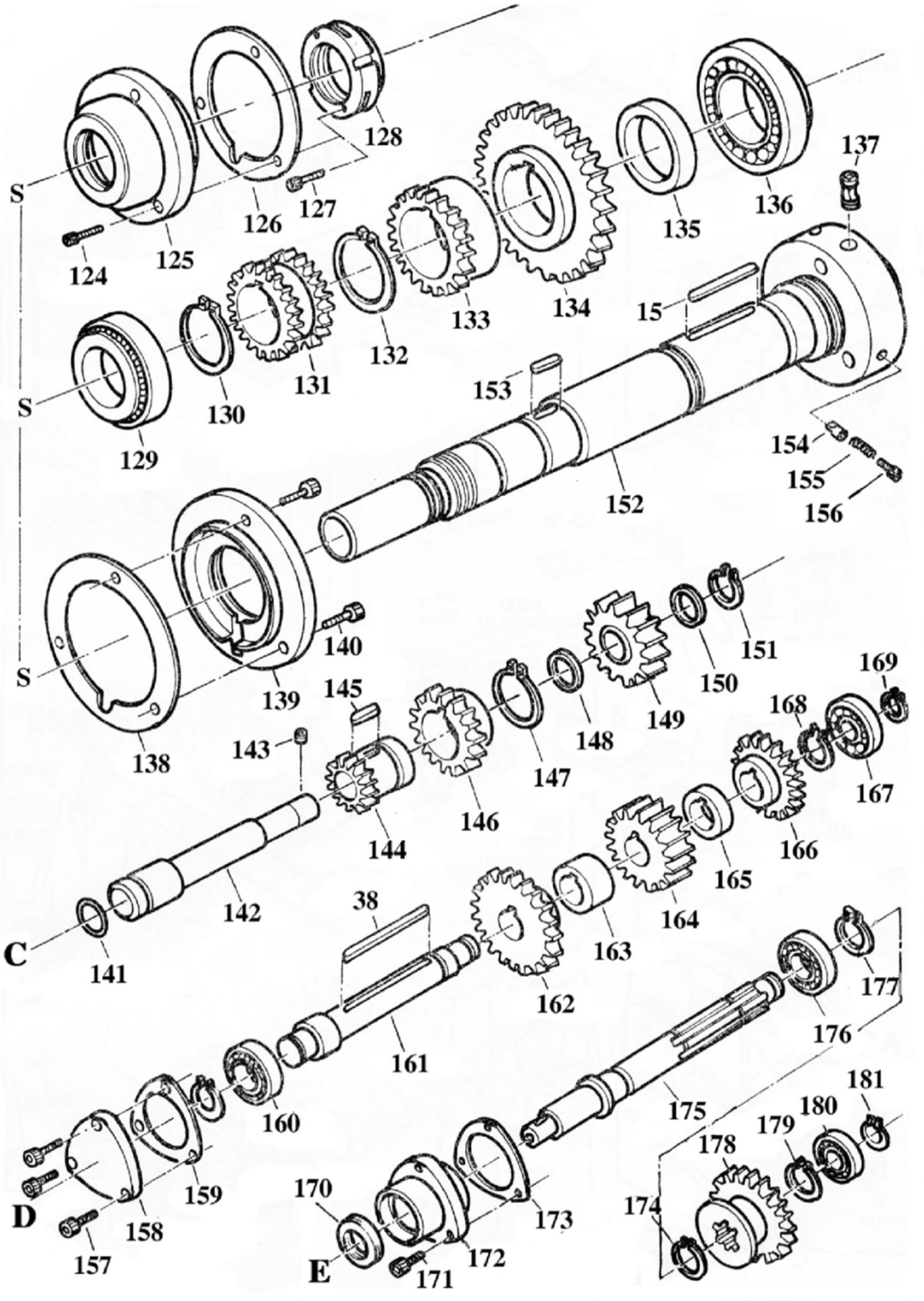
17.1.1 **Headstock Assembly I – Exploded View**



17.1.2 **Headstock Assembly II – Exploded View**



17.1.3 **Headstock Assembly III – Exploded View**



17.1.4 **Headstock Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	O-ring	14 x 2.65	4
2	**	Allen screw	M 6 x 30	10
3	**	Cover spindle head		1
4	**	Seal		1
5	**	Set screw.	M 8 x 12	2
6	**	Spring	1 x 5 x 22	2
7	**	Steel ball	D = 6 mm	2
8	**	Bearing block Selector Shafts		1
9	**	Set screw	5 x 15	1
10	**	Dowel pin	5 x 30	1
11	**	Shaft		1
12	**	Shaft		1
13	**	Dowel pin	5 x 30	1
14	**	Set screw	M 6 x 6	1
15	**	Contact arm		1
16	**	Contact arm lever		1
17	**	Dowel pin	5 x 30	1
18	**	Set screw	M 6 x 6	1
19	**	Contact arm lever		1
20	**	Contact arm		1
21	**	Set screw	M 6 x 6	1
22	**	Gear wheel		1
23	**	Dowel pin	5 x 30	1
24	**	O-ring	11.2x2.65	1
25	**	Gearshift fork		1
26	**	Eccentric washer		1
27	**	Fitting key	4 x 10	1
28	**	Operating pin		1
29	**	Shaft		1
30	**	Distance sleeve		1
31	**	Lever		1
32	**	Handle		1
33	**	Ring speed selection high		1
34	**	Ring speed selection low		1
35	**	Washer		1
36	**	Allen screw	M 6 x 12	1
37	**	Lever		1
38	**	Handle	BM10x50	1
39	**	Allen screw	M 12 x 35	2
40	**	O-ring	15x2.625	1
41	**	O-ring	26.5x2.65	1
42	**	Allen screw	M 6 x 12	2
43	**	Set screw		2
44	**	Limit stop		1
45	**	Allen screw	M 12 x 30	2
46	**	Allen screw	M 10 x 40	2
47	**	Allen screw	M 6 x 12	1
48	**	Locking ring		1
49	**	Jumper ring		1
50	**	Lever		1
51	**	Handle		1
52	**	Allen screw	M12 x 12	2
53	**	Distance washer		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.

Index	Part No.	Description	Size	Qty
54	**	Screw	M 6 x 12	2
55	**	Control lever washer.		1
56	**	Lever		1
57	**	Selector Shaft		1
58	**	Oil drain plug		1
59	**	Handle		1
60	**	O - Ring	15 x 2.65	2
61	**	Spring	0.9x9x40	2
62	**	Washer	D = 9	2
63	**	Gearshift fork		1
64	**	Gearshift fork		1
65	**	Contact arm		1
66	**	Dowel pin	5 x 30	1
67	**	Contact arm		1
68	**	Fitting key		1
69	**	Selector Shaft		1
70	**	Spindle head housing		1
71	**	Shaft		1
72	**	Allen screw	M 8 x 20	1
73	**	Distance washer		1
74	**	V-belt pulley		1
75	**	Brake lever		1
76	**	Dowel pin	5 x 25	1
77	**	Lever Shaft Brake		1
78	**	Locking ring	12	1
79	**	Flange		1
80	**	Seal		1
81	**	Locking ring	25	1
82	**	Bearing		1
83	**	Conical nippel	SD25x45x10	1
84	**	Allen screw	M6 x 20	3
85	JT1-3043	Spindle brake		1
86	**	Shaft brake		1
87	**	Locking ring	12	1
88	**	Fitting key	8 x 20	1
89	**	Fitting key	8 x 50	1
90	**	Fitting key		1
91	**	Shaft		1
92	**	Gear wheel		1
93	**	Gear wheel		1
94	**	Distance sleeve		1
95	**	Gear wheel		1
96	**	Gear wheel		1
97	**	Bearing		2
98	**	Locking ring		1
99	**	Distance washer		1
100	**	O-ring	19 x 2.65	1
101	**	Allen screw	M 6 x 20	3
102	**	Cover		1
103	**	Seal		1
104	**	Gear wheel	E204	1
105	**	Distance sleeve		1
106	**	Locking ring	50	1
	JT1-3042	V-Belt (not shown)	A1854	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.

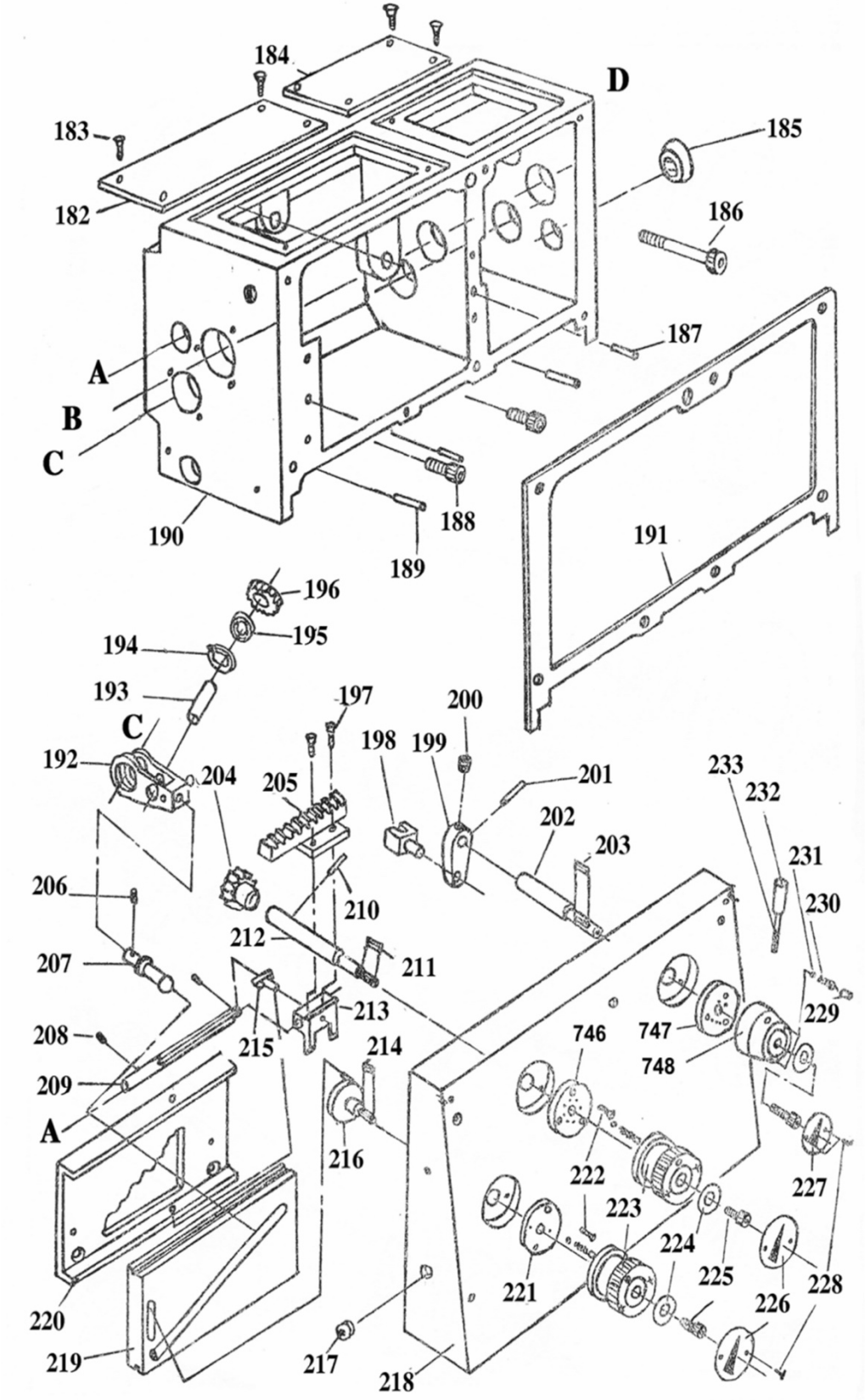
Index	Part No.	Description	Size	Qty
107	**	Gear wheel		1
108	**	Gear wheel		1
109	**	Gear wheel		1
110	**	Gear wheel		1
111	**	Fitting key	8 x 50	1
112	**	Shaft		1
113	**	Distance sleeve		1
114	**	Bearing		1
115	**	Locking ring	20	1
116	**	Locking ring	37	1
117	**	Gear wheel		1
118	**	Gear wheel		1
119	**	Bearing		1
120	**	Locking ring	47	1
121	**	Distance washer		1
122	**	Ring	40 x 3.55	1
123	**	Fitting key	8 x 28	1
124	**	Allen screw	M 6 x 16	3
125	**	Flange with diaphragm glandl		1
126	**	seal		1
127	**	Allen screw	M 5 x 14	2
128	**	nut		1
129	**	Bearing		1
130	**	Locking ring	50	1
131	**	Gear wheel		1
132	**	Locking ring	55	1
133	**	Gear wheel		1
134	**	Gear wheel		1
135	**	Distance sleeve		1
136	**	Bearing		1
137	**	Camlock Locking bolt		3
138	**	seal		1
139	**	Flange with diaphragm gland		1
140	**	Allen screw	M 6 x 25	3
141	**	O-ring	23.6x2.65	1
142	**	Shaft		1
143	**	Set screw	M 5 x 16	1
144	**	Gear wheel		1
145	**	Fitting key	5x16	1
146	**	Gear wheel		1
147	**	Locking ring	38	1
148	**	Distance sleeve		1
149	**	Gear wheel		1
150	**	Distance sleeve		1
151	**	Locking ring	20	1
152	**	Shaft		1
153	**	Fitting key	8 x 32	1
155	**	Spring	0.6 x 4 x 22	3
156	**	Allen screw	M 8 x 16	3
157	**	Allen screw	M 6 x 16	3
158	**	Bearing cover		1
159	**	seal		1
160	**	Bearing		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.

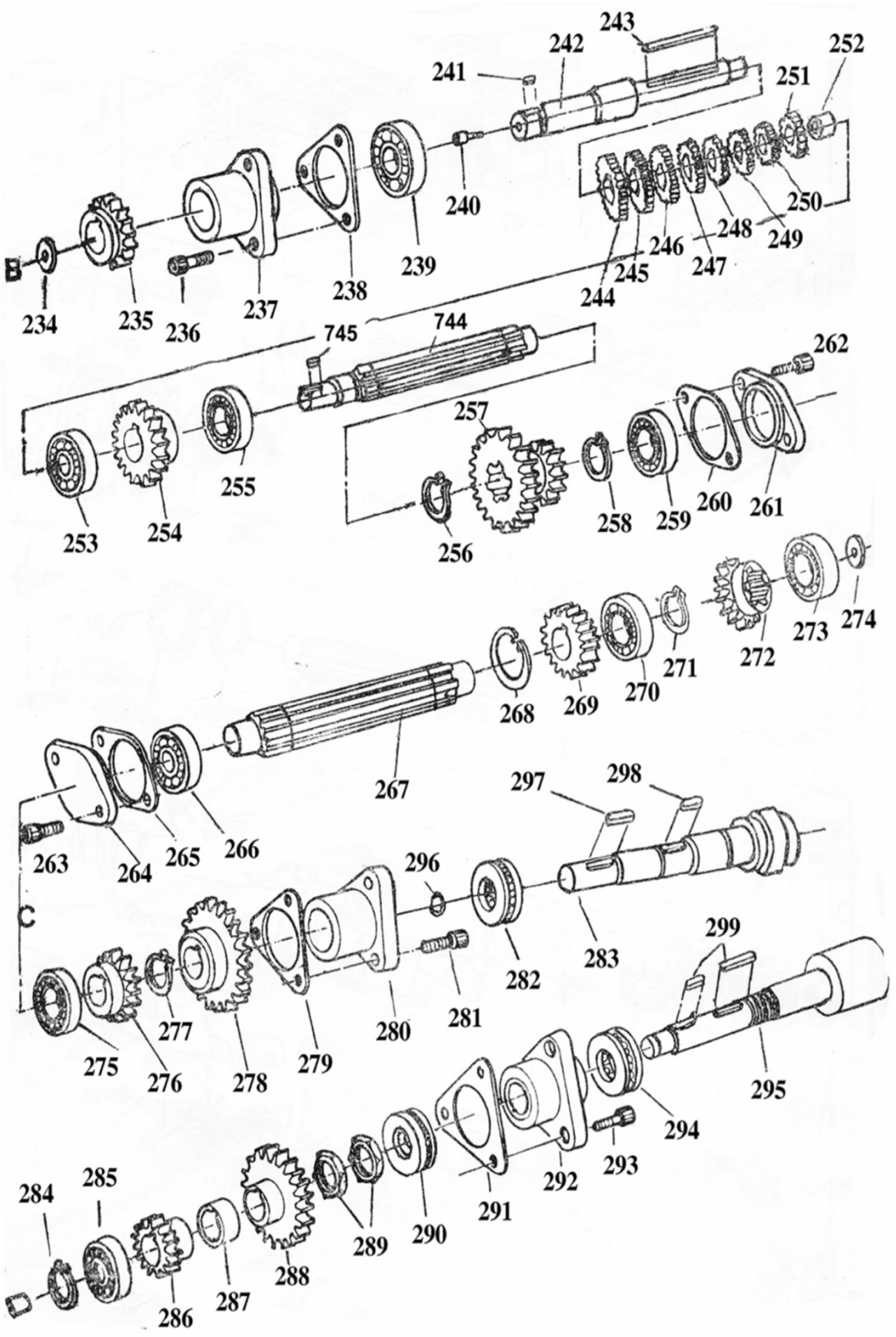
Index	Part No.	Description	Size	Qty
161	**	Shaft		1
162	**	Gear wheel		1
163	**	Distance sleeve		1
164	**	Gear wheel		1
165	**	Distance sleeve		1
166	**	Gear wheel		1
167	**	Bearing		1
168	**	Locking ring	25	1
169	**	Locking ring	20	1
170	**	Conical nipple	SD25 x 40 x 10	1
171	**	Allen screw	M 6 x 12	3
172	**	Flange Selector Shaft		1
173	**	seal		1
174	**	Locking ring	25	1
175	**	Shaft		1
176	**	Bearing		1
177	**	Locking ring	25	1
178	**	Gear wheel		1
179	**	Locking ring	25	1
180	**	Bearing		1
181	**	Locking ring	20	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.

17.2.1 **Feed Gear Assembly I – Exploded View**



17.2.2 **Feed Gear Assembly II – Exploded View**



17.2.3 **Feed Gear Assembly – Parts List**

Index	Part No.	Description	Size	Qty
182	**	Cover large		1
183	**	Pillips screw	M 4 x 10	8
184	**	Cover small		1
185	**	Oil sight glass	12	1
186	**	Allen screw	M 8 x 40	1
187	**	Dowel pin	5 x 20	2
188	**	Allen screw	M 8 x 25	2
189	**	Dowel pin	5 x 28	2
190	**	Housing Feed gear mechanism		1
191	JT1-3063	Gasket		1
192	**	Gearshift fork		1
193	**	Shaft		1
194	**	Locking ring		1
195	**	Bearing		1
196	**	Gear wheel		1
197	**	Screw	M 6 x 10	2
198	**	Gearshift fork		1
199	**	Control lever		1
200	**	.Screw	M 6 x 8	1
201	**	Dowel pin	5 x 25	1
202	**	Shaft		1
203	**	Dowel pin	4 x 10	3
204	**	Gear wheel		1
205	**	Toothed rack		1
206	**	Set screw	M 6 x 8	1
207	**	Shaft		1
208	**	Screw	M 6 x 8	2
209	**	Selector Shaft		1
210	**	Dowel pin	5 x 20	1
211	**	Dowel pin	4 x 10	1
212	**	Selector Shaft		1
213	**	Bearing block Toothed rack		1
214	**	Fitting key	4 x 10	1
215	**	Schaltkreuz		3
216	**	Eccentric Washer		1
217	**	Oil drain plug	ZG 3/8"	1
218	**	Housing cover		1
219	**	Guide profile		1
220	**	Steering plate		1
221	**	Locking disk		1
222	**	Screw	M 5 x 10	2
223	**	Selector switch		2
224	**	Washer		2
225	**	Screw	M 6 x 16	2
226	**	Indicator		2
227	**	Indicator		1
228	**	Screw	M 3 x 6	2
229	**	Set screw	M 8 x 8	4
230	**	Spring	0.8 x 5 x25	4
231	**	Steel ball	D = 6.5	1
232	**	Handle		1
233	**	Threaded rod		1
234	**	Washer		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.

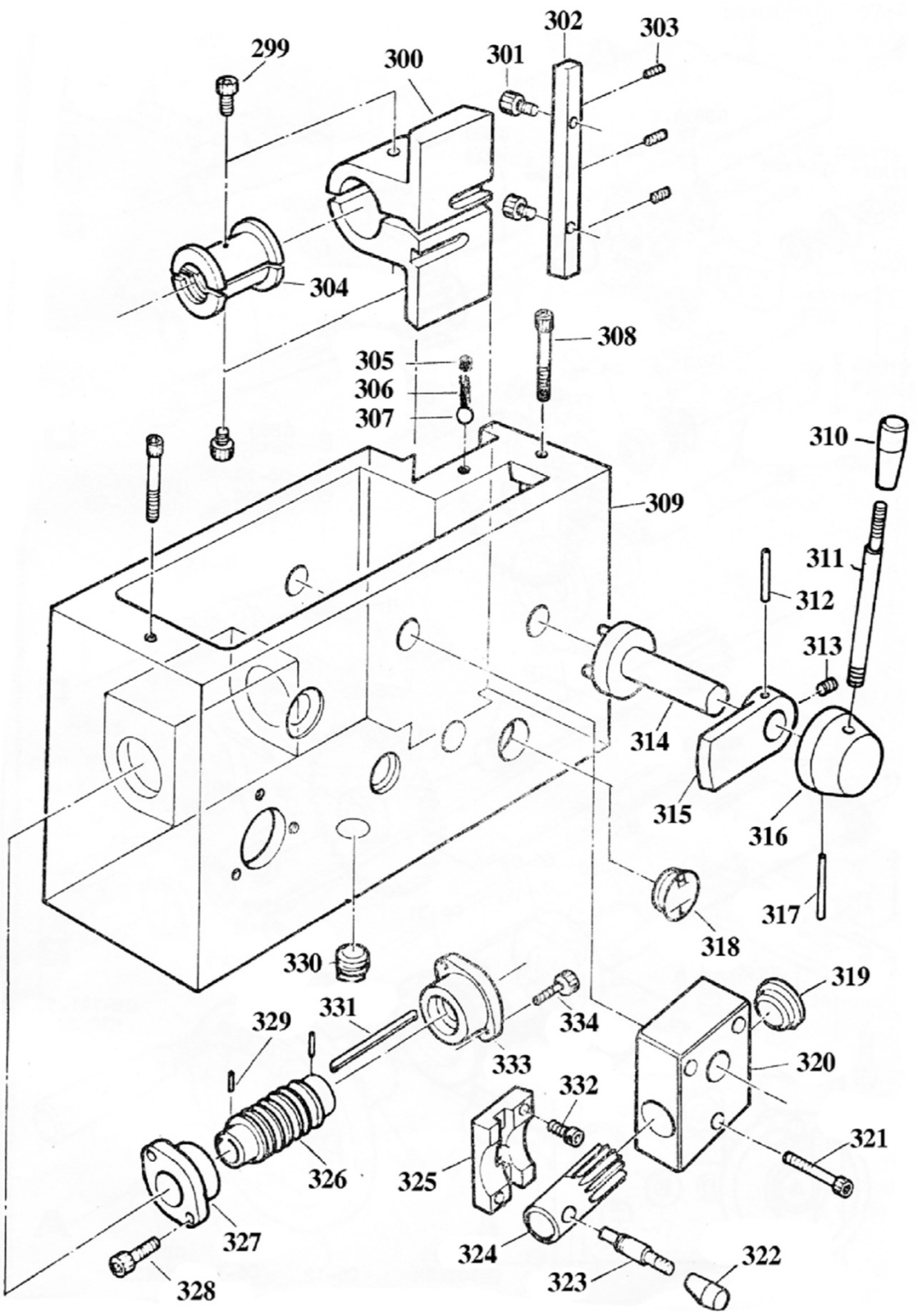
Index	Part No.	Description	Size	Qty
235	**	Gear wheel		1
236	**	Set screw	M 6 x 20	3
237	**	Flange		1
238	**	Seal		1
239	**	Bearing		1
240	**	Set screw	M 6 x 16	1
241	**	Fitting key	5 x 14	1
242	**	Shaft		1
243	**	Fitting key	5 x 75	1
244	**	Gear wheel		1
245	**	Gear wheel		1
246	**	Gear wheel		1
247	**	Gear wheel		1
248	**	Gear wheel		1
249	**	Gear wheel		1
250	**	.Gear wheel		1
251	**	Gear wheel		1
252	**	Bushing		1
253	**	Bushing		1
254	**	Gear wheel		1
255	**	Bushing		1
256	**	Locking ring		1
257	**	Gear wheel		1
258	**	Locking ring		1
259	**	Bearing		1
260	**	Seal		1
261	**	Flange		1
262	**	Set screw	M 6 x 16	2
263	**	Set screw	M 6 x 16	2
264	**	Cover		1
265	**	Seal		1
266	**	Bearing		1
267	**	Shaft		1
268	**	Locking ring		2
269	**	Gear wheel		1
270	**	Bearing		2
271	**	Locking ring		1
272	**	Gear wheel		1
273	**	Bearing		1
274	**	Nut		1
275	**	Bearing		1
276	**	Gear wheel		1
277	**	Locking ring		1
278	**	Gear wheel		1
279	**	Seal		1
280	**	Flange		1
281	**	Set screw	M 6 x 16	3
282	**	Bearing		1
283	**	Shaft		1
284	**	Locking ring		1
285	**	Bearing		1
286	**	Gear wheel		1
287	**	Distance sleeve		1
288	**	Gear wheel		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.

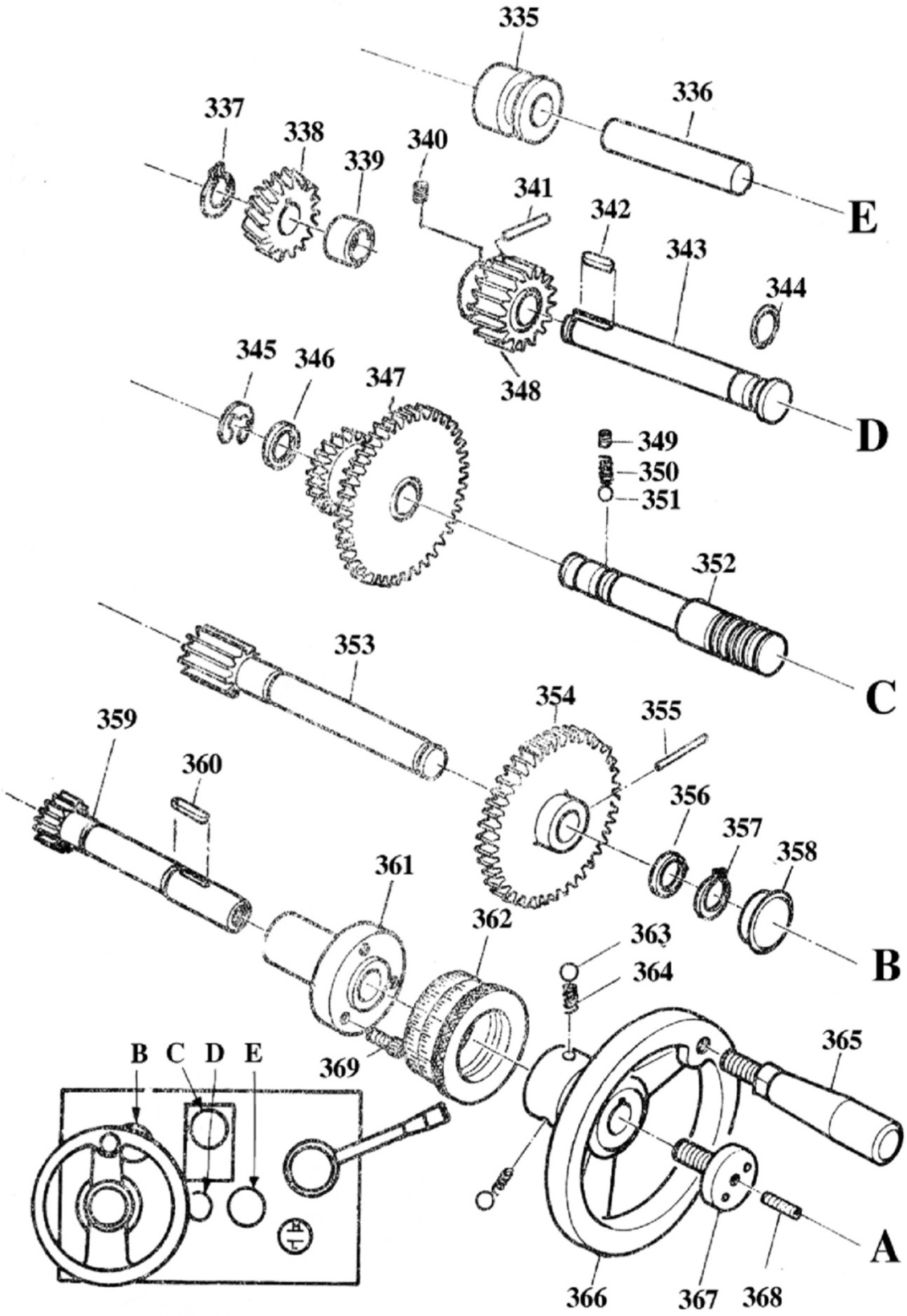
Index	Part No.	Description	Size	Qty
289	**	Nut		2
290	**	Bearing		1
291	**	Seal		1
292	**	Flange		1
293	**	Allen screw	M 6 x 16	3
294	**	Bearing		1
295	**	Shaft		1
296	**	O-ring	15 x 2.65	1
297	**	Fitting key	5 x 14	1
298	**	Fitting key	6 x 14	1
744	**	Shaft		1
745	**	.Fitting key		1
746	**	Locking disk		1
747	**	Locking disk		1
748	**	Jumper ring		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 I – Exploded View**



17.3.2 **Apron Assembly II – Exploded View**



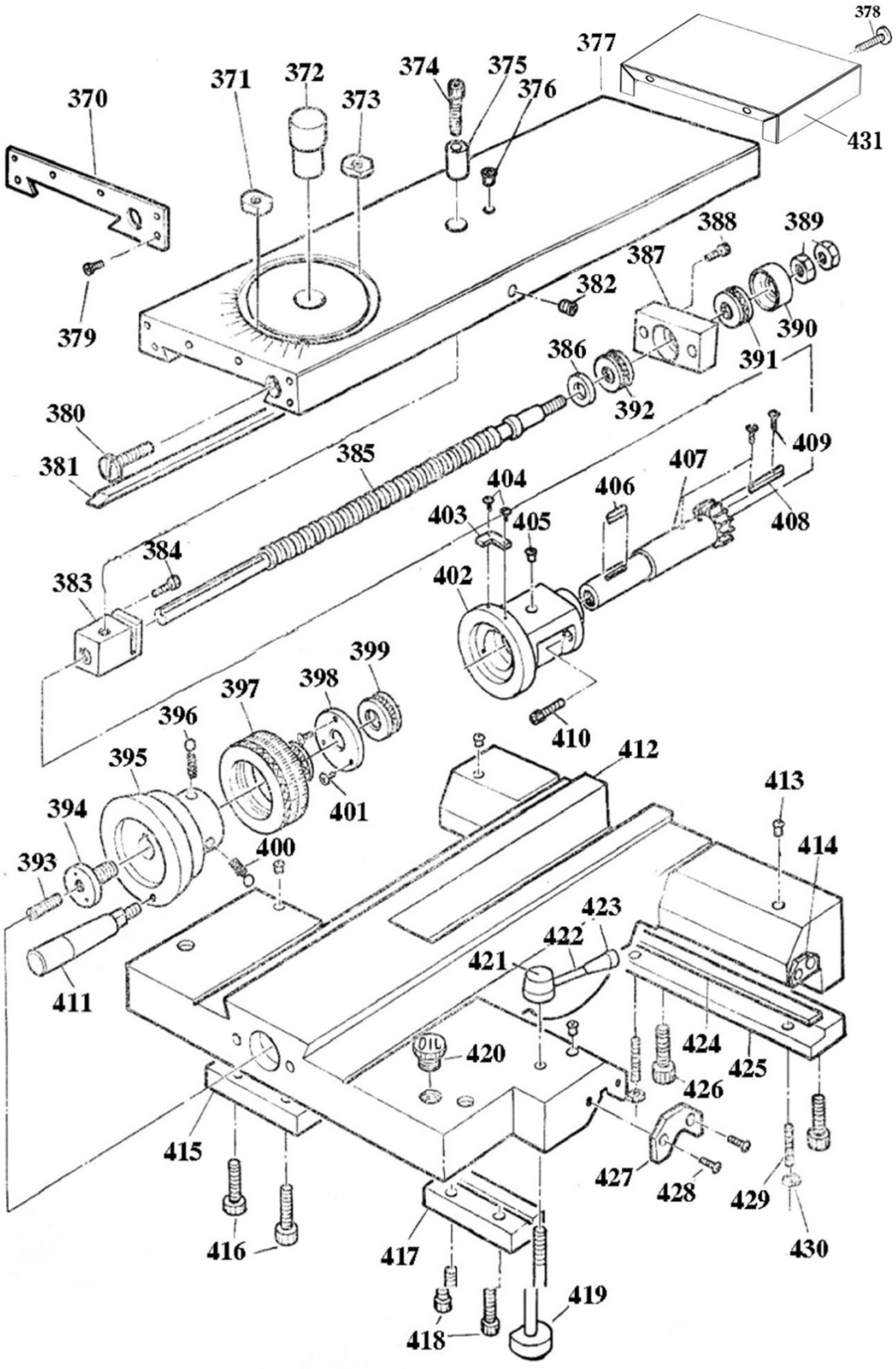
17.3.3 **Apron Assembly – Parts list**

Index	Part No.	Description	Size	Qty
299	**	Set screw	M 6 x 10	2
300	**	Lead screw housing		1
301	**	Allen screw	M 6 x 16	2
302	**	Gib		1
303	**	Set screw	M 6 x 10	3
304	JT1-3044	Half nut（inch）		1
305	**	Set screw	M 8 x 8	1
306	**	Spring		1
307	**	Steel ball	D = 6	1
308	**	Allen screw	M 8 x 40	1
309	**	Cover apron		1
310	**	Handle	BM10 x 50	1
311	**	Lever		1
312	**	Dowel pin	5 x 35	1
313	**	Set screw	M 6 x 6	1
314	**	Selector Shaft		1
315	**	Control lever		1
316	**	Jumper ring		1
317	**	Dowel pin	5 x 50	1
318	**	Oil sight glass	12	1
319	**	Cap		1
320	**	.Bearing block		1
321	**	Allen screw	M 6 x 45	3
322	**	Handle	BM10 x 50	1
323	**	Lever		1
324	**	Selector Shaft Plan-Longitudiual feed		1
325	**	Adjustment plate feed lever		1
326	**	Endless screw		1
327	**	Flange		1
328	**	Set screw	M 6 x 16	2
329	**	Pin	3 x 5	2
330	**	Oil drain plug	ZG 3/8"	1
331	**	Fitting key	5 x 56	1
332	**	Set screw	M 6 x 12	2
333	**	Bearing block		1
334	**	Set screw	M 6 x 16	2
335	**	Bushing		1
336	**	Shaft		1
337	**	Locking ring		1
338	JT1-3045	Worm gear		1
339	**	Bushing		1
340	**	Set screw	M6 x 6	1
341	**	Dowel pin	5 x 35	1
342	**	Fitting key	4 x 15	1
343	**	Shaft		1
344	**	O-ring	17 x 1.8	1
345	**	Locking ring		1
346	**	Washer		1
347	**	Gear wheel		1
348	**	Gear wheel		1
349	**	Set screw	M 8 x 8	1
350	**	Spring		1
351	**	Steel ball	D = 6	1
352	**	Shaft		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.

Index	Part No.	Description	Size	Qty
353	JT1-3046	Gear shaft		1
354	**	Gear wheel		1
355	**	Dowel pin	5 x 30	1
356	**	Washer		1
357	**	Locking ring		1
358	**	Cap		1
359	JT1-3047	Gear shaft		1
360	JT1-3048	Shaft key	5 x 15	1
361	**	Bracket		1
362	**	Graduated collar Table saddle		1
363	**	Steel ball	D = 6	2
364	**	Spring		2
365	**	Handle	M 10 x 80	1
366	**	Hand wheel		1
367	**	Clamping screw		1
368	**	Set screw	M 6 x 25	1
369	**	Allen screw	M 6 x 16	3

17.4.1 **Cross Slide Assembly – Exploded View**



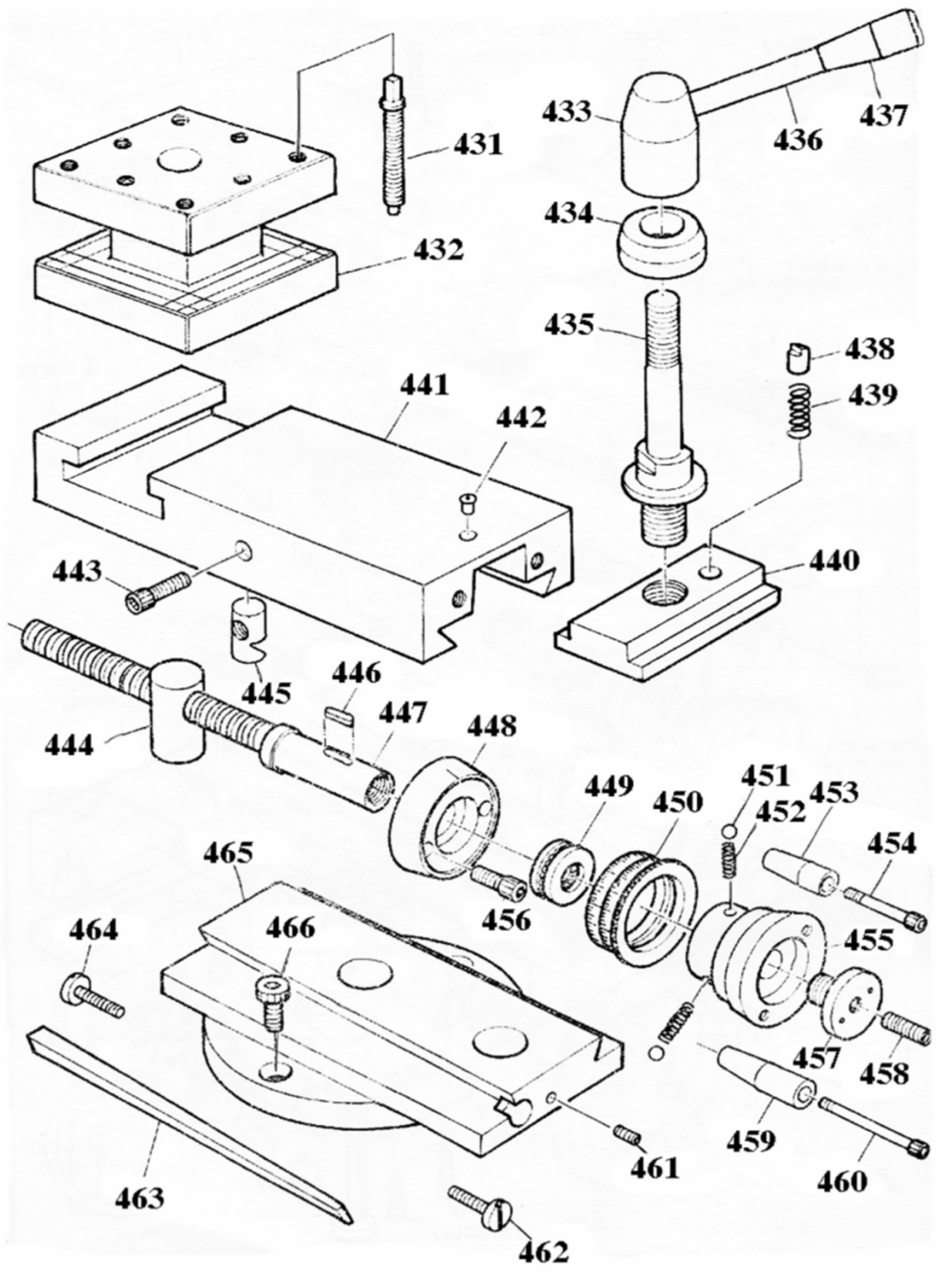
17.4.2 Cross Slide Assembly – Parts List

Index	Part No.	Description	Size	Qty
370	**	Stripper		1
371	**	Tenon block		1
372	**	Pivot bearing		1
373	**	Tenon block		1
374	**	Allen screw		1
375	**	Bushing		1
376	**	Oiler		1
377	**	Compound slide		1
378	**	Set screw V-ledge		1
379	**	Allen screw		4
380	JT1-3050	Set Screw		1
381	JT1-3049	Gib		1
382	**	Set screw		1
383	JT1-3051	Screw nut(inch)		1
384	**	Allen screw		1
385	JT1-3052	Feed screw		1
386	**	Washer		1
388	**	Allen screw		2
389	**	Nut		1
390	**	.Bearing housing		1
391	**	Axial bearing ball		1
392	**	Axial bearing ball		1
393	**	Allen screw		1
394	**	Screw		1
395	**	Hand wheel Compound slide		1
396	**	Steel ball		3
397	**	Graduated collar		1
398	**	Screw		1
399	**	Axial bearing ball		2
400	**	Spring		1
401	**	Allen screw		3
402	**	Bearing block Spindle Compound slide		1
403	**	Plate		1
404	**	Tallow drop screw		2
405	**	Oiler		1
406	**	Fitting key		1
407	**	Toothed shaft		1
408	**	Fitting strip		1
409	**	Screw		2
410	**	Allen screw		1
411	**	Handle Compound slide		1
412	**	Table saddle		1
413	**	Oiler		4
414	JT1-3053	Wiper		1
415	**	Guide bead		1
416	**	Allen screw		2
417	**	Terminal strip		1
418	**	Allen screw		2
419	**	Clamping screw		1
420	**	Screw plug Oil charging hole		1
421	**	Klemmhebelring		1
422	**	Lever		1
423	**	Handle		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.

Index	Part No.	Description	Size	Qty
424	**	Adjusting gib		1
425	**	Static rail Table saddle		1
426	**	Allen screw		4
427	JT1-3054	Wiper		1
428	**	Pillips screw		8
429	**	Set screw		3
430	**	Nut		3
431	**	Splash guard		1

17.5.1 **Top Slide Assembly – Exploded View**

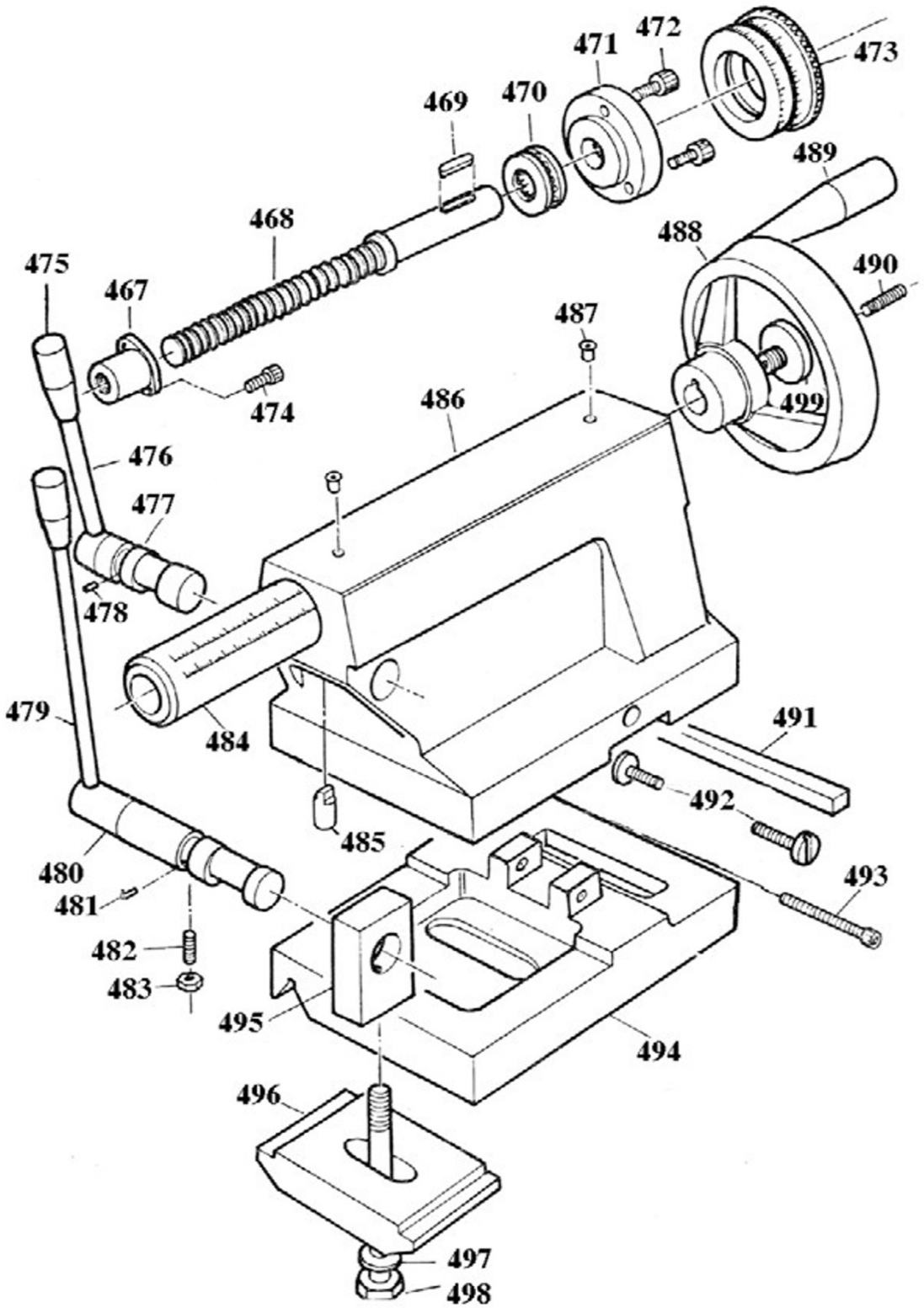


17.5.2 **Top Slide Assembly – Parts List**

Index	Part No.	Description	Size	Qty
431	**	Square-head bolt	M 10 x 50	8
432	**	Four-way tool post		1
433	**	Clamping ring	BM16 x 32	1
434	**	Washer		1
435	**	Binder plug		1
436	**	Lever		1
437	**	Handle	M 10 x 50	1
438	**	Plunger pint		1
439	**	Spring	1 x 8 x 11	1
440	**	Clamping plate		1
441	**	Obersupport upper part		1
442	**	Oiler	8	1
443	**	Allen screw	M 6 x 20	1
444	JT1-3055	Screw nut (inch)		1
445	**	Tightening nut		1
446	**	Fitting key	4 x 14	1
447	JT1-3056	Feed screw		1
448	**	Bearing flange		1
449	**	Axial bearing ball	8103	1
450	**	Graduated collar		1
451	**	Steel ball	D = 6	3
452	**	Spring	0.7 x 5 x 9	3
453	**	Handle		1
454	**	Screw	M 5 x 25	1
455	**	Hand wheel		1
456	**	Allen screw	M 5 x 20	1
457	**	Clamping screw		1
458	**	Set screw	M 6 x 26	1
459	**	Handle		1
460	**	Screw	M 5 x 40	1
461	**	Set screw	M 6 x 16	1
462	**	Setting screw		1
463	JT1-3057	Gib		1
464	**	Setting screw		1
465	**	Bottom part Top slide		1
466	**	Allen screw	M 8 x 16	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.

17.6.1 **Tailstock Assembly – Exploded View**

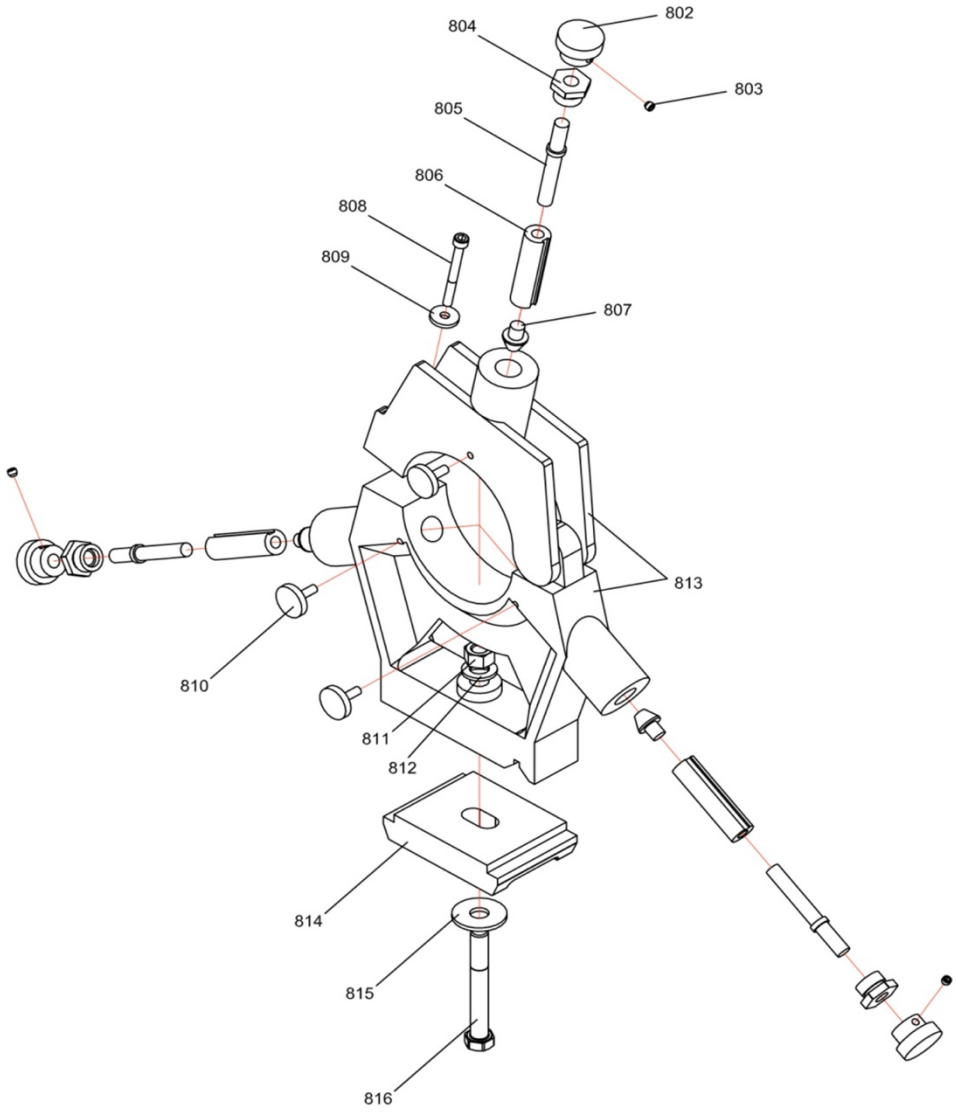


17.6.2 **Tailstock Assembly – Parts List**

Index	Part No.	Description	Size	Qty
467	JT1-3058	Feed Nut		1
468	JT1-3059	Feed screw		1
469	**	Fitting key	4 x 20	1
470	**	Axial bearing	8103	1
471	**	Flange bearing		1
472	**	Allen screw	M 6 x 20	3
473	**	Scale		1
474	**	Allen screw	M 6 x 16	2
475	**	Handle	BM 10 x 50	2
476	**	Lever		1
477	**	Exzenter Selector Shaft		1
478	**	Set screw	5 x 12	1
479	**	Lever		1
480	**	Exzenter Selector Shaft		1
481	**	Set screw	5 x 12	1
482	**	Set screw	M 6 x 16	1
483	**	Nut	M 6	1
484	JT1-3060	Tailstock sleeve		1
485	**	Binder plug		1
486	**	Tailstock housing		1
487	**	Oiler	10	2
488	**	Hand wheel		1
489	**	Handle	M 10 x 80	1
490	**	Set screw	M 6 x 25	1
491	**	V-ledge		1
492	**	Set screw		2
493	**	Allen screw	M 8 x 45	2
494	**	Bottom part tailstock		1
495	**	Bearing block Clamping lever		1
496	**	Clamping block		1
497	**	Washer	12	2
498	**	Hexagon head cap screw	M12 x 75	1
499	**	Cover		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.

17.7.1 **Steady Rest Assembly – Exploded View**

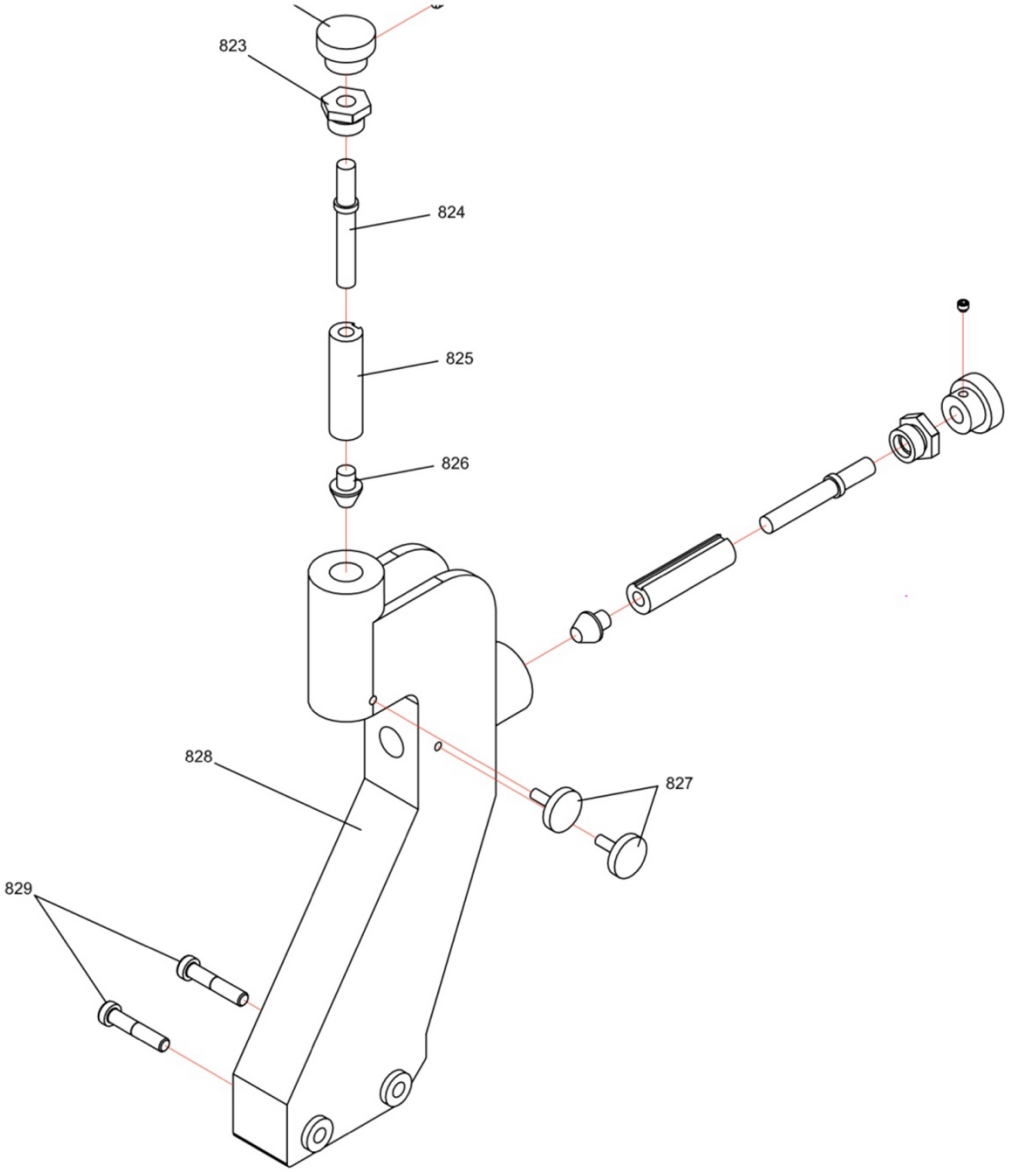


17.7.2 **Steady Rest Assembly – Parts List**

Index	Part No.	Description	Size	Qty
802	**	Knurled handle		3
803	**	Stud bolt		3
804	**	Union nut		3
805	**	Threaded rod		3
806	**	Centering Bush		3
807	**	Tail end messing Centering Bush		3
808	**	Allen screw	M6 x 60	1
809	**	Washer	6	1
810	**	Clamping screw		3
811	**	Nut	M12	1
812	**	Washer	12	1
813	**	Steady rest	100mm	1
814	**	Clamping piece		1
815	**	Washer		1
816	**	Hexagon head cap screw	M12 x 90	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.

17.8.1 **Follow Rest Assembly – Exploded View**

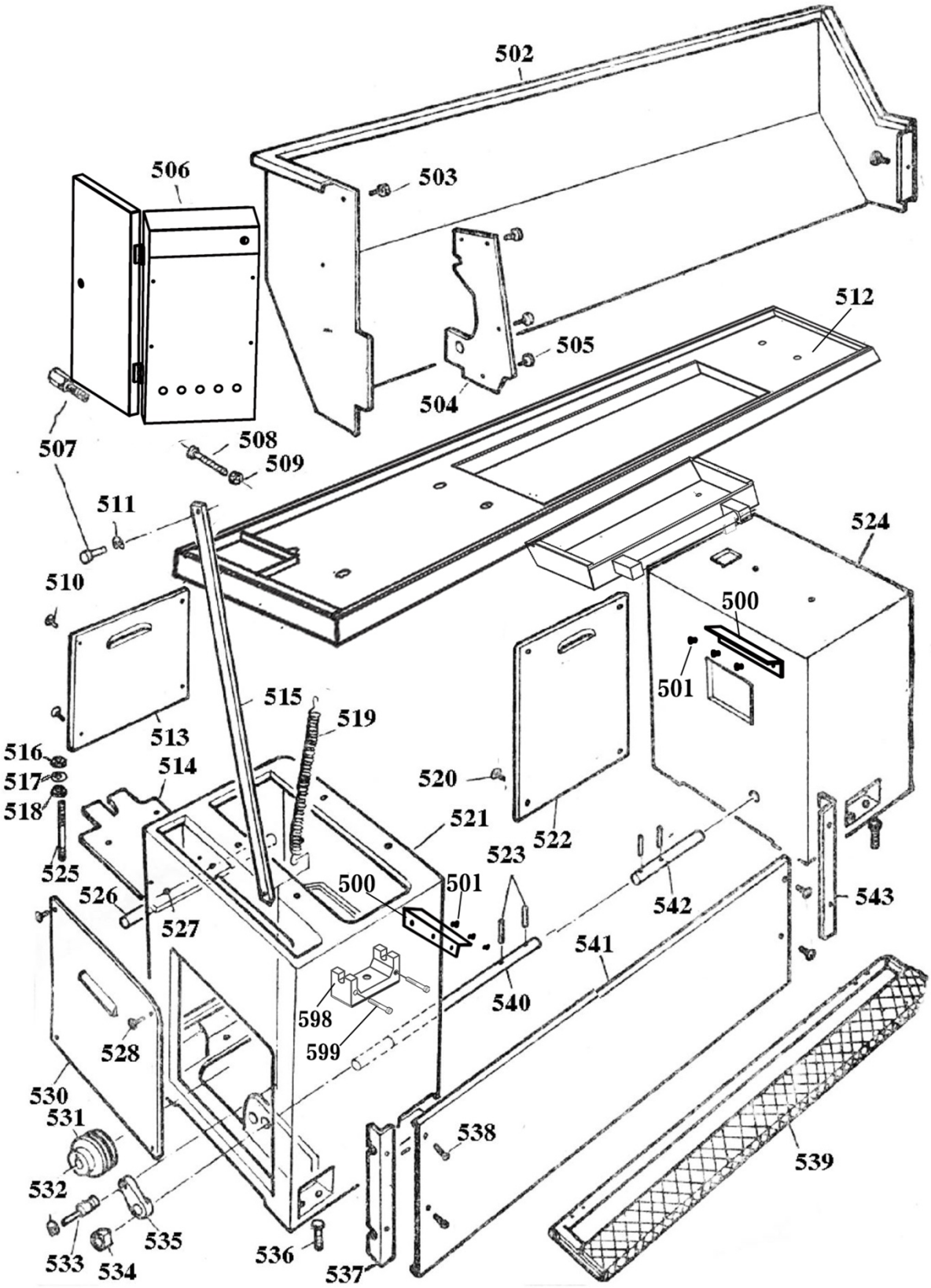


17.8.2 **Follow Rest Assembly – Parts List**

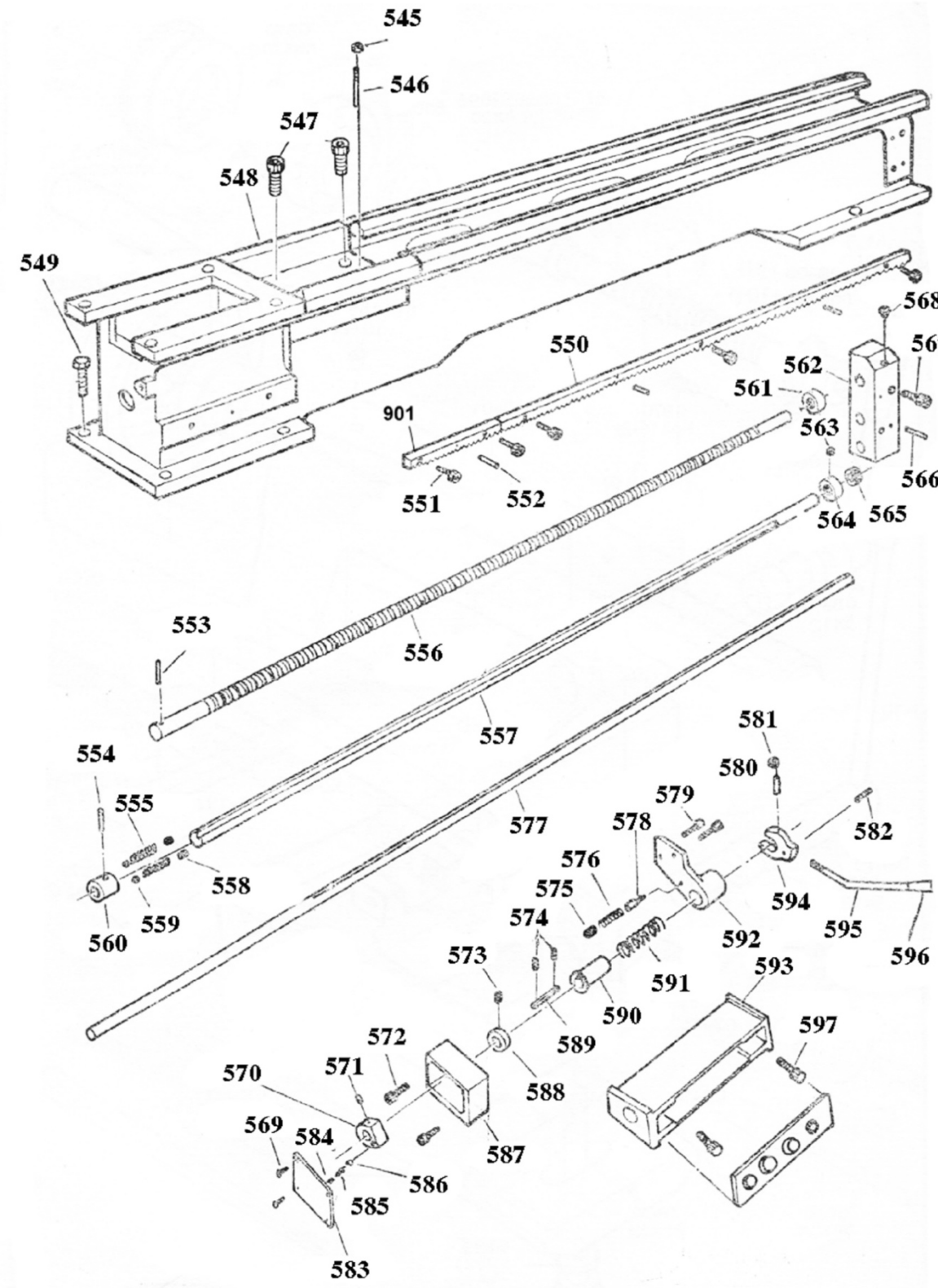
Index	Part No.	Description	Size	Qty
821	**	Stud bolt		2
822	**	.Rändelgriff		2
823	**	Union nut		2
824	**	Threaded rod		2
825	**	Centering Bush		2
826	**	Tail end messing Centering bush		2
827	**	Clamping screw		2
828	**	Follow rest	95 mm	1
829	**	Allen screw	M8 x 45	2

** 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.

17.9.1 **Bed Assembly I – Exploded View**



17.9.2 **Bed Assembly II – Exploded View**



17.9.3 **Bed Assembly – Parts List**

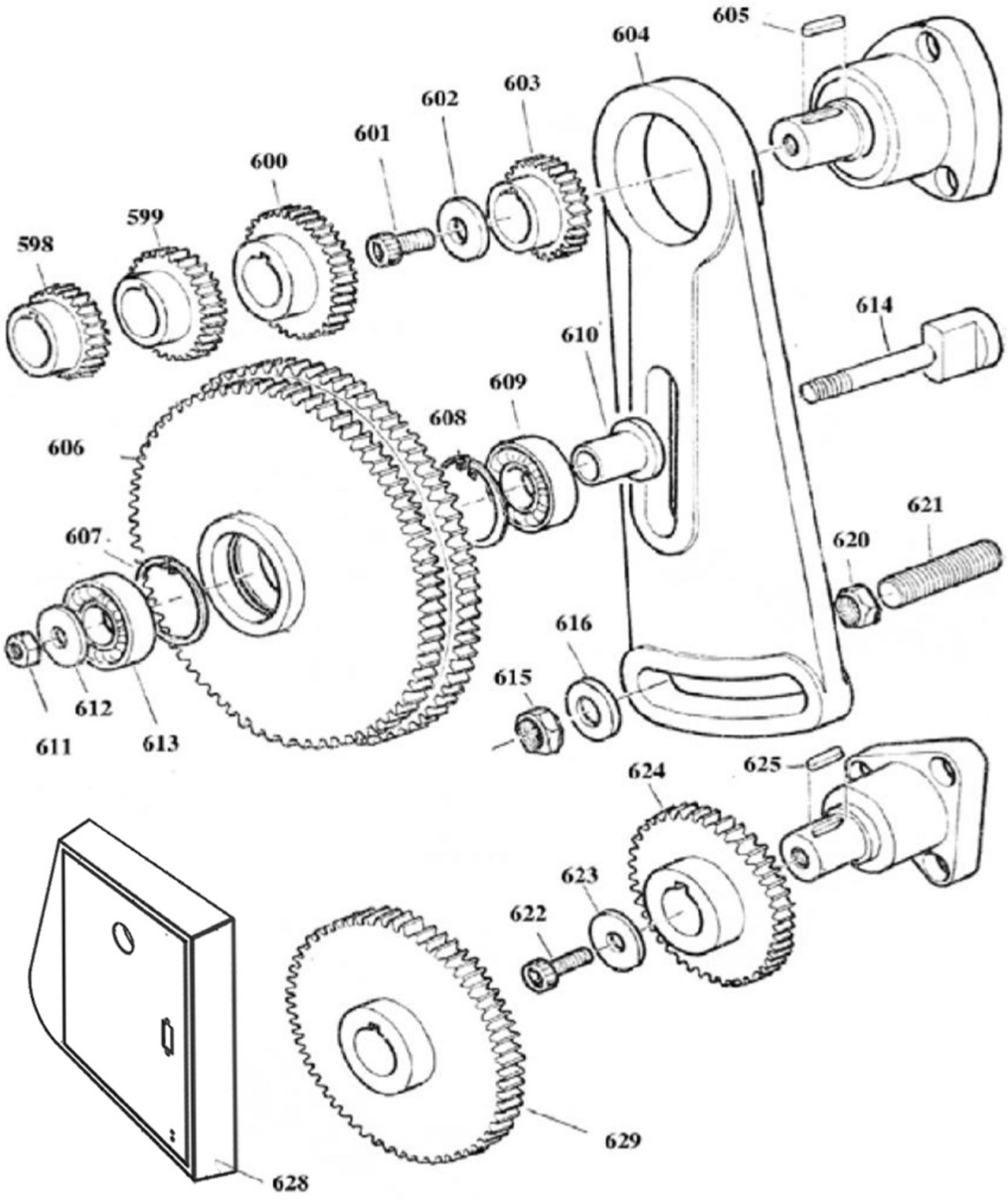
Index	Part No.	Description	Size	Qty
500	**	Support		2
501	**	Allen screw	M 6 x 10	6
503	**	Allen screw	M 6 x 10	3
504	**	Cap cover		1
505	**	Allen screw	M 6 x 10	3
506	**	Switch box		1
507	**	Screw		1
508	**	Screw	M 6 x 20	4
509	**	Nut	M6	4
510	**	Pillips screw	M 6 x 10	3
511	**	Spring washer	6	1
512	**	Chip tub		1
513	**	Cap cover		1
514	**	Fastening plate engine		1
515	**	Stange Spindle brake		1
516	**	Nut	M 12	1
517	**	Washer		1
518	**	Nut	M 12	1
519	**	Spring		1
520	**	Philips screw	M 6 x 10	1
521	**	Machine substructure left side		1
522	**	Cap cover		1
523	**	Pin	5 x 15	5
524	**	Machine substructure right side		1
525	**	Threaded rod		1
526	**	Shaft		1
527	**	Allen screw	M 8 x 20	1
528	**	Allen screw	M 6 x 10	4
530	**	Cap cover		1
531	**	V-belt pulley Drive		1
532	**	Fitting key	6	1
533	**	Eccentric shaft Spindle brake		1
534	**	Eccentric Spindle brake		1
535	**	Lever Spindle brake		1
536	**	Allen screw	M 12 x 50	6
537	**	Swirl wane left		1
538	**	Allen screw	M 6 x 10	8
539	**	Food pedall Spindle brake		1
540	**	Shaft Food pedal left Spindle brake		1
541	**	Connecting plate Machine substructure		1
542	**	Shaft Food pedal right Spindle brake		1
543	**	Swirl vane right		1
545	**	Nut	M 8	1
546	**	Ball pin	8 x 60	1
547	**	Allen screw	M 10 x 40	2
548	**	Lathe bed		1
549	**	Hexagon head cap screw	M 12 x 50	4
550	JT1-3062	Rack		1
901	JT1-3061	Rack		1
551	**	Allen screw	M 6 x 25	6
552	**	Dowel pin	6 x 35	6
553	**	Shearing pin	5 x 35	1
554	**	Shearing pin	5 x 35	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.

Index	Part No.	Description	Size	Qty
555	**	Spring		2
556	**	Leading spindle		1
557	**	Feed rod		1
558	**	Set screw	M 8 x 10	2
559	**	Steel ball	D = 6	2
560	**	Coupling bush Feed rod		1
561	**	Bearing bush Leading spindle		1
562	**	Bearing block		1
563	**	Set screw	M 8 x 10	1
564	**	Bearing bush Axial bearing		1
565	**	Axial bearing		1
566	**	Dowel pin		2
567	**	Allen screw	M 8 x 55	2
568	**	Oiler	M 8 x 55	1
569	**	Pillips screw		4
570	**	Exzenter		1
571	**	Set screw	M 6 x 15	1
572	**	Allen screw	M 6 x 20	2
573	**	Set screw	M 6 x 10	1
575	**	Set screw	M 8 x 8	1
576	**	Spring	8 x 5 x 25	1
577	**	Selector Shaft		1
578	**	Dowel pin		1
579	**	Allen screw	M 6 x 16	2
580	**	Set screw	M 6 x 20	1
581	**	Nut	M 6	2
582	**	Pin	3 x 20	1
583	**	Cover		1
584	**	Set screw	M 8 x 10	1
585	**	Spring	1 x 5 x 22	1
586	**	Steel ball	D = 6	1
587	**	Switch housing		1
588	**	Ring		1
589	**	Fitting key		1
590	**	Bushing		1
591	**	Spring	3 x 35 x 70	1
592	**	Lever		1
593	**	Switch housing Start print button		1
594	**	Gearshift fork		1
595	**	Control lever		1
596	**	Gear shift handle grip		1
597	**	Screw	M10 x 50	1
598	**	Chuck Key Bracket		1
599	**	Socket Head Cap Screw	M8x55	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.

17.10.1 **Change Gear Assembly – Exploded View**

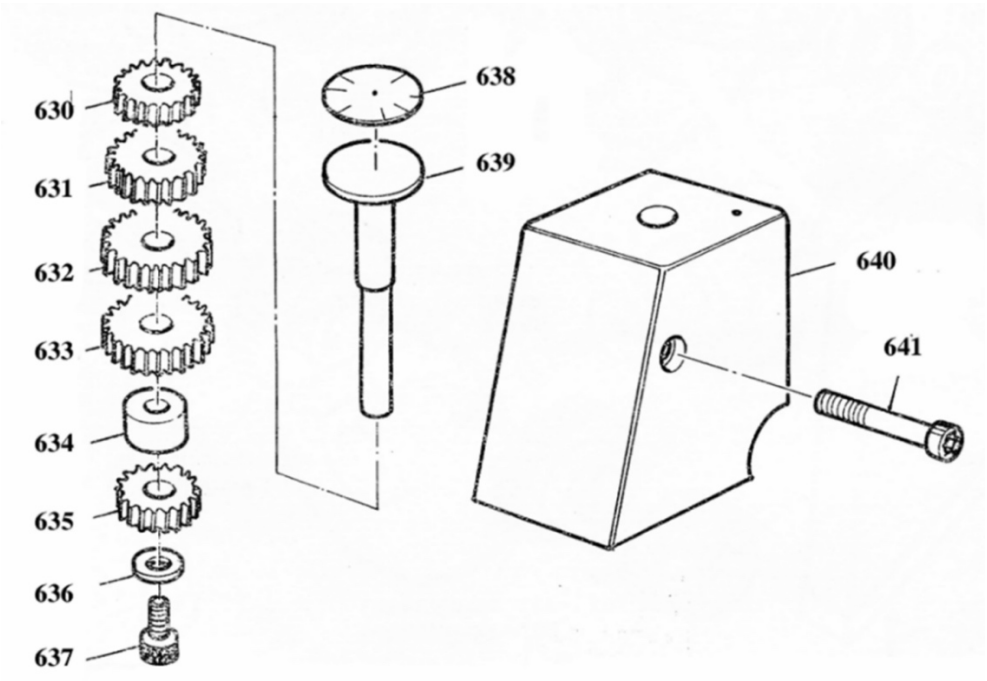


17.10.2 **Change Gear Assembly – Parts List**

Index	Part No.	Description	Size	Qty
598	**	Gear wheel	24 Z	1
599	**	Gear wheel	32 Z	1
600	**	Gear wheel	40 Z	1
601	**	Allen screw	M 5 x 16	1
602	**	Washer		1
603	**	Gear wheel	30 Z	1
604	**	Change gear shearing		1
605	**	Fitting key	5 x 14	1
606	**	Gear wheel	120 Z / 127 Z	1
607	**	Locking ring		1
608	**	Locking ring		1
609	**	Bearing		1
610	**	Bearing		1
611	**	Nut	M 10	1
612	**	Washer		1
613	**	Bearing		1
614	**	Threaded bolt		1
615	**	Nut	M 12	1
616	**	Washer		1
620	**	Nut	M 12	1
621	**	Threaded rod		1
622	**	Allen screw	M 6 x 16	1
623	**	Washer		1
624	**	Gear wheel	60 T	1
625	**	Fitting key	5 x 14	1
628	**	Cap cover spindle head		1
629	**	Gear wheel		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.

17.11.1 Threading Gauge Assembly – Exploded View

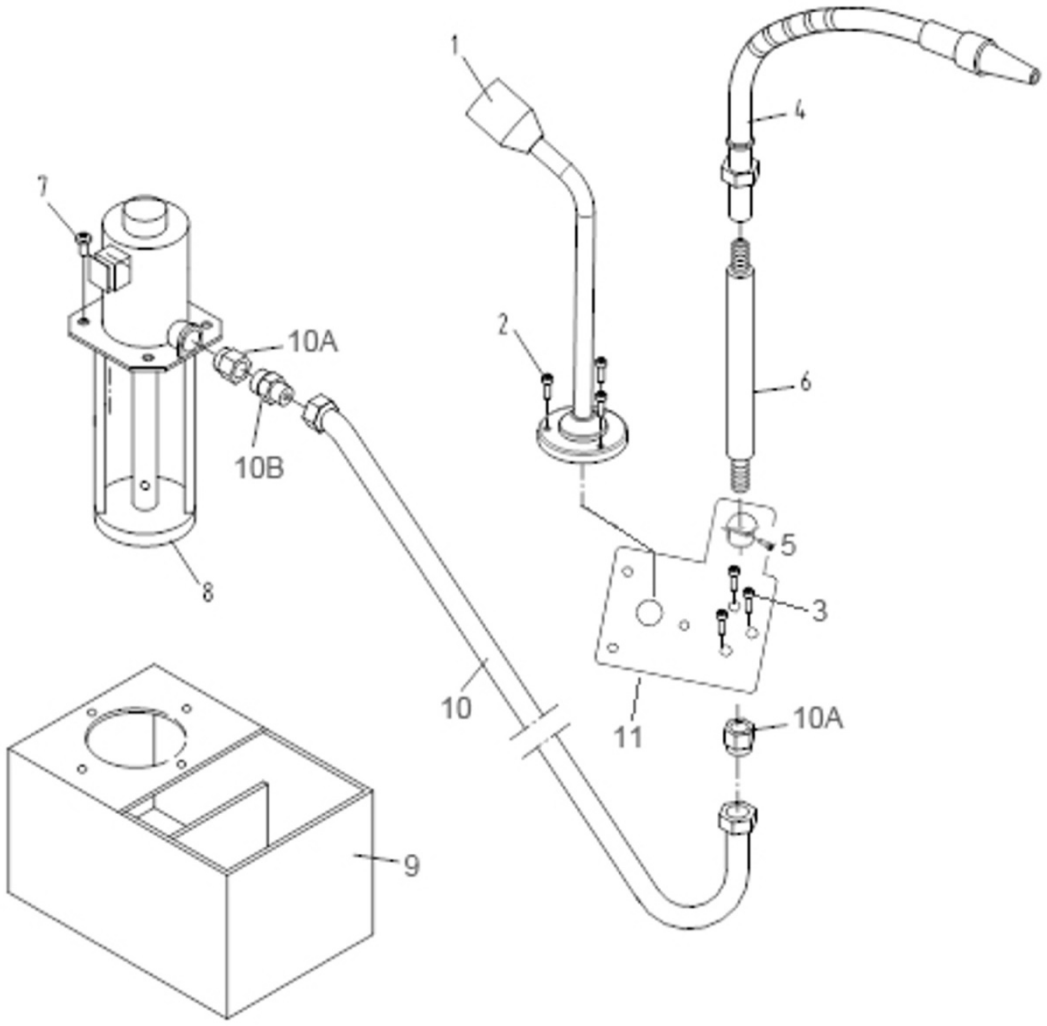


17.11.2 Threading Gauge Assembly – Parts List

Index	Part No.	Description	Size	Qty
630	**	Gear wheel	21 Z	1
631	**	Gear wheel	22 Z	1
632	**	Gear wheel	26 Z	1
633	**	Gear wheel	27 Z	1
634	**	Distance collar		1
635	**	Gear wheel	20 Z	1
636	**	Washer		1
637	**	Allen screw	M 6 x 15	1
638	**	Skala Gauge		1
639	**	Shaft Gauge		1
640	**	Housing gauge		1
641	**	Allen screw	M 6 x 60	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.

17.12.1 **Coolant and Work Light Assembly – Exploded View**

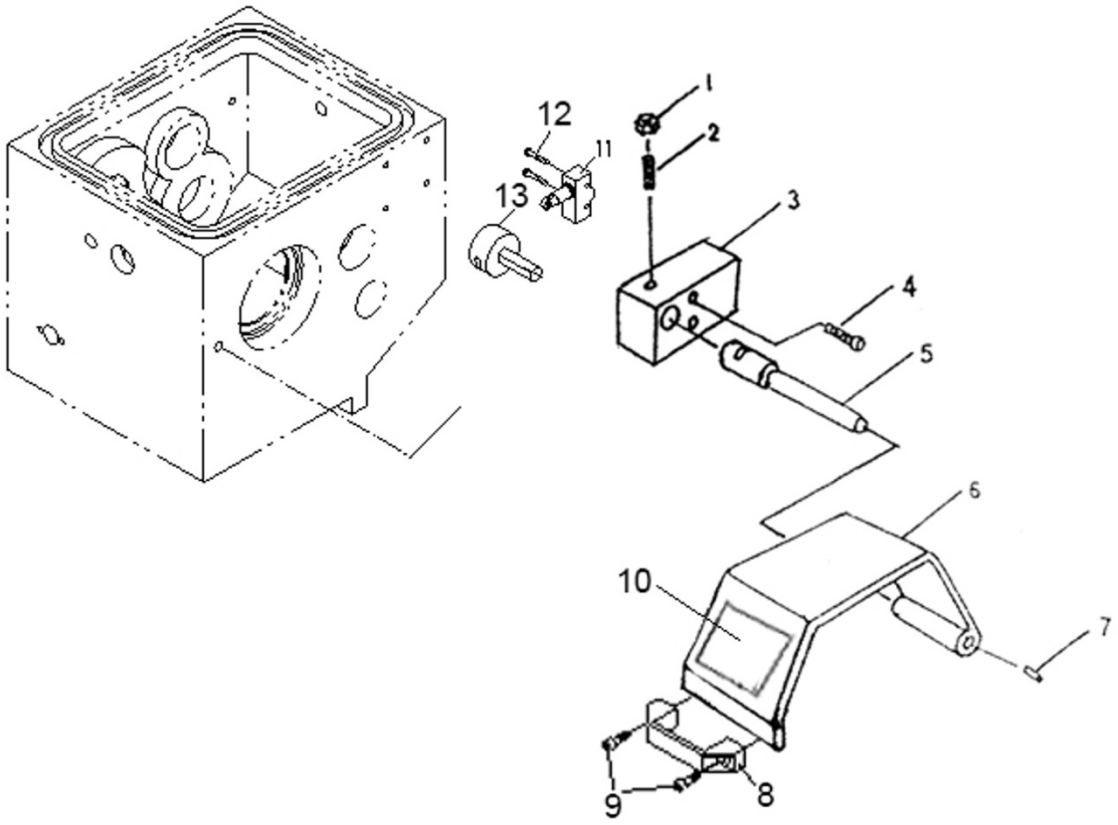


17.12.2 **Coolant and Work Light Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	Work Light		1
2	**	Hex Socket HdCap Screw	M6x20	3
3	**	Hex Socket HdCap Screw	M5x20	3
4	**	Coolant Nozzle	C2-77	3
5	**	Hex Socket HdCap Screw	M6x16	1
6	**	Rubber Tube		1
7	**	Hex Socket HdCap Screw	M6x10	4
8	**	Coolant Pump	3PH	1
9	**	Coolant Tank		1
10	**	Tube	600 mm	1
10A	**	Pipe Joint		1
10B	**	Pipe Joint		1
11	**	Support		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.

17.13.1 **Chuck Guard Assembly – Exploded View**

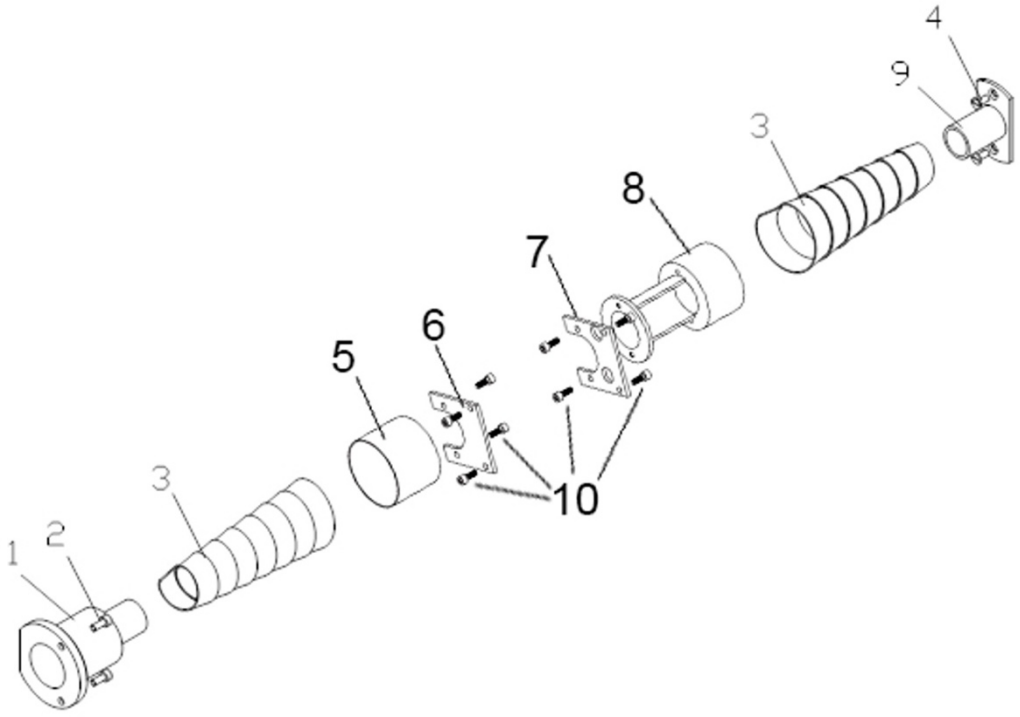


17.13.2 **Chuck Guard Assembly – Parts List**

Index	Part No.	Description	Size	Qty
1	**	Nut	M6	1
2	**	Hex Socket Cap Screw	M6x16	1
3	**	Switch Box		1
4	**	Hex Socket Cap Screw	M6x45	2
5	**	Shaft		1
6	**	Protecting cover		1
7	**	Pin	M4x12	1
8	**	Handle		1
9	**	Hex Socket Cap Screw	M6x12	2
10	**	Protecting Guard Visual Glass	6	5
11	**	Stroke Switch（OPT）	TM-1307	1
12	**	Slotted Pan Head Screw（OPT）	M4x25	2
13	**	Shaft（OPT）		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.

17.14.1 Lead Screw Cover Assembly – Exploded View



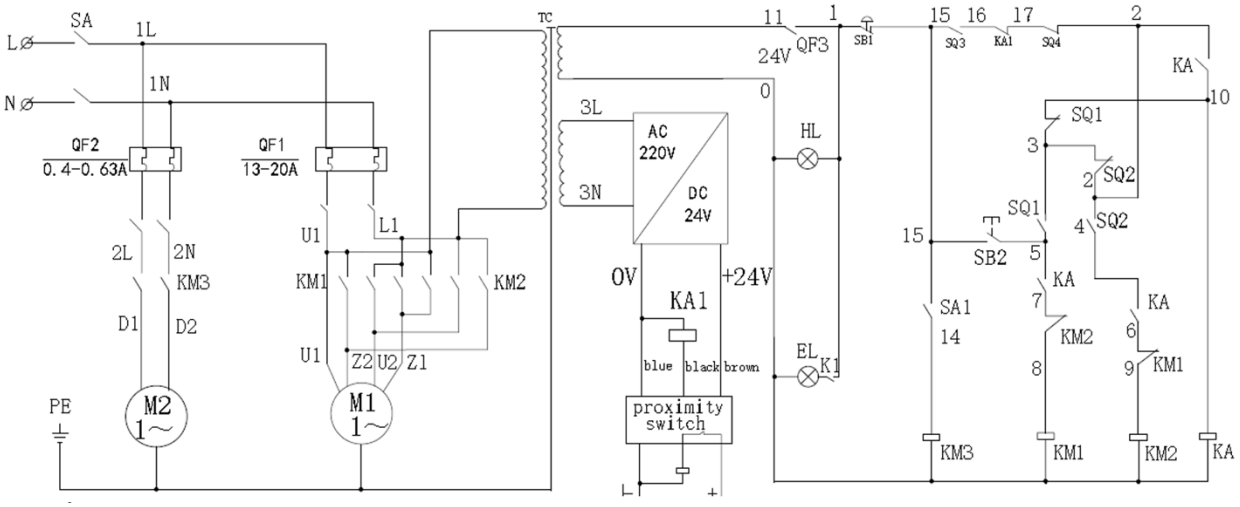
17.14.2 Lead Screw Cover Assembly – Parts List

Index	Part No.	Description	Size	Qty
1	**	Left Flange		1
2	**	Hex Socket HdCap Screw	M5x12	2
3	**	Telescoping Sleeve		2
4	**	Hex Socket HdCap Screw	M5x12	2
5	**	Cover		1
6	**	Left Flange Bracket		1
7	**	Right Flange Bracket		1
8	**	Cover		1
9	**	Right Flange		1
10	**	Hex Socket HdCap Screw	M8x6	8

** 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**

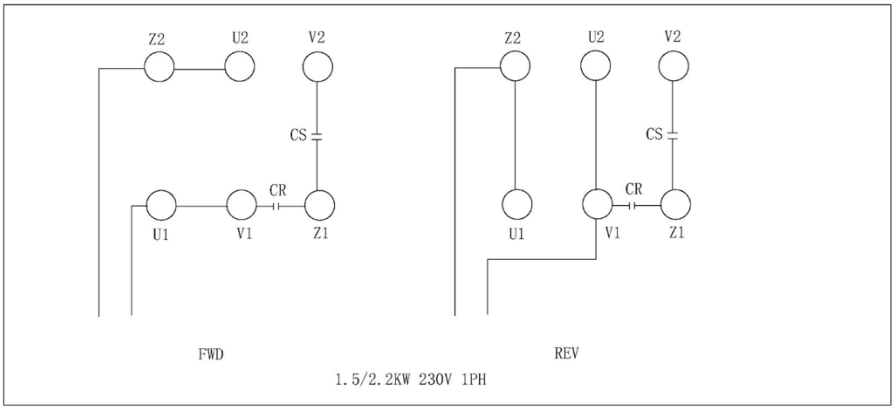
18.1 **GH-1440-1 Wiring Diagram**



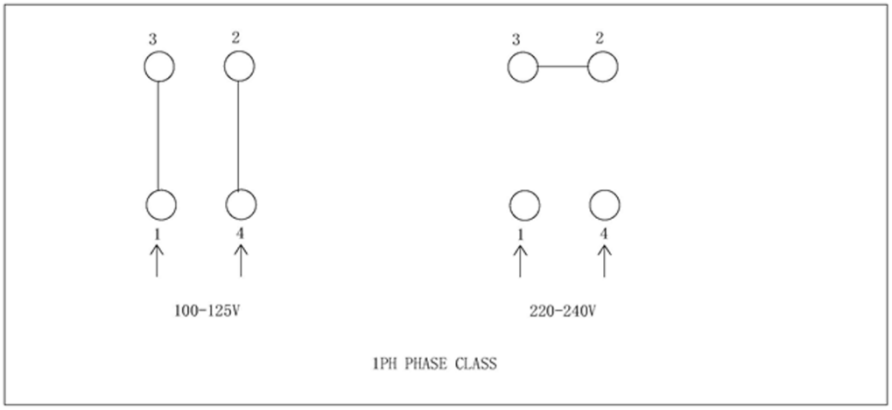
Index	Part No.	Description	Type	Spec.
SA	**	Power Switch Schnerder	V01 AC-3 20A	690V50/60Hz
QF1	**	Thermal protector Siemens	3RV6011-1KA15 9-12.5A	600V 12.5A
QF2	**	Thermal protector Siemens	3RV6011-0EA15 0.4-0.63A	400V 100KA
QF3	**	Circuit Breaker Schnerder	5SY6102-8CCMCB:1PD2	230V/400V
TC	JT1-3038	Transformer jiuchuan	JCY-100 100VA 50/60Hz	240V 24V
SB1	JT1-3039	E-Stop Button IDEC	YW-E01 24V	Ui：600V Ith：10A
KM1	**	AC Contactor Siemens	3RT6024-1AC20 12A	Ui=690V ie=40A 24V/50HZ
KM2	**	AC Contactor Siemens	3RT6024-1AC20 12A	Ui=690V ie=40A 24V/50HZ
KM3	**	AC Contactor Siemens	3RH6131-1AB00 10A	24V 50/60Hz
KA	**	Contactor Relay	3RH6131-1AB00 10A	24V 50/60Hz
KA1	**	Intermediate Relay	RU2S-D24	DC24V
SA1	**	Pump Switch	LA125H-BE101C	AC15 240V 3A
SB2	**	Jog Button	YW-E10	Ui: 600v Ith: 10A
SQ	**	Proximity Switch	IME12 WX2434 P/N 4mm	DC24V
SQ1	JT1-3037	Spindle Foreward Switch	TM-1704	15A 250VAC
SQ2	JT1-3037	Spindle Backward Switch	TM-1704	15A 250VAC
SQ3	JT1-3040	Foot Brake Switch	TM-1701	15A 250VAC
SQ4	JT1-3041	Belt Cover Switch OMRO	XCSPA D4NS-1AF	AC15 3A 240V
M1	**	Motor	YL-100L1-4	230V 60Hz 13.3A 2.2KW
M2	**	Pump CSA	MC-8150 90W 1PH	0.7/0.4A 120/240V
EL	**	Work Lamp	24V 3W	LED
HL	**	Power Light	YW-EQ 24V	24VAC LED
PS	**	Power Source	MW MDR-10-24	100/240V AC

** 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.

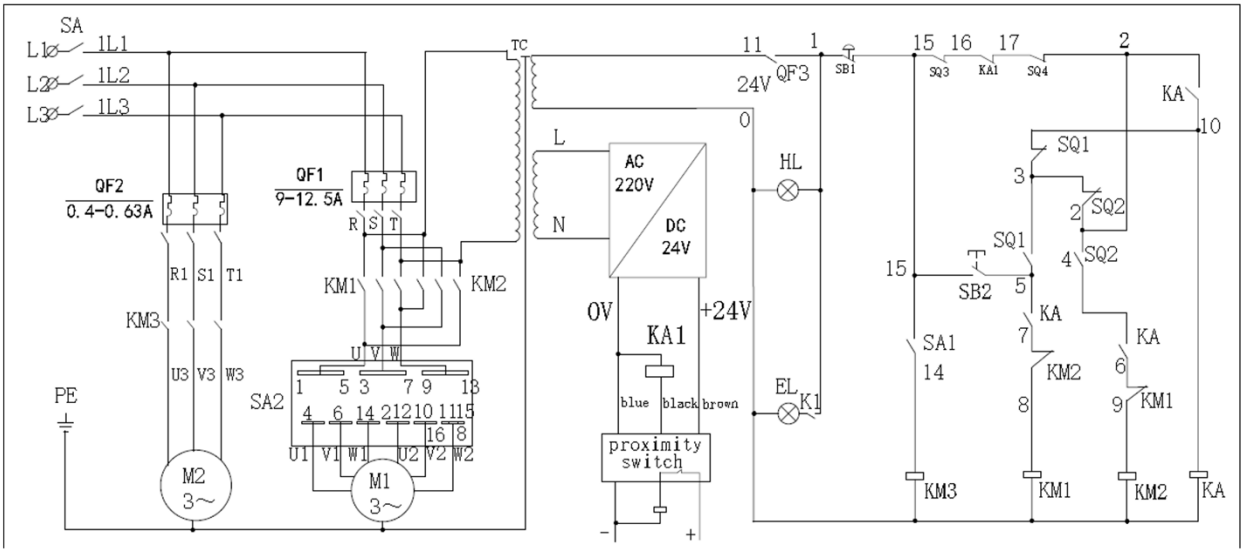
18.2 **GH-1440-1 Motor Wiring Diagram**



18.3 **GH-1440-1 Pump Motor Wiring Diagram**



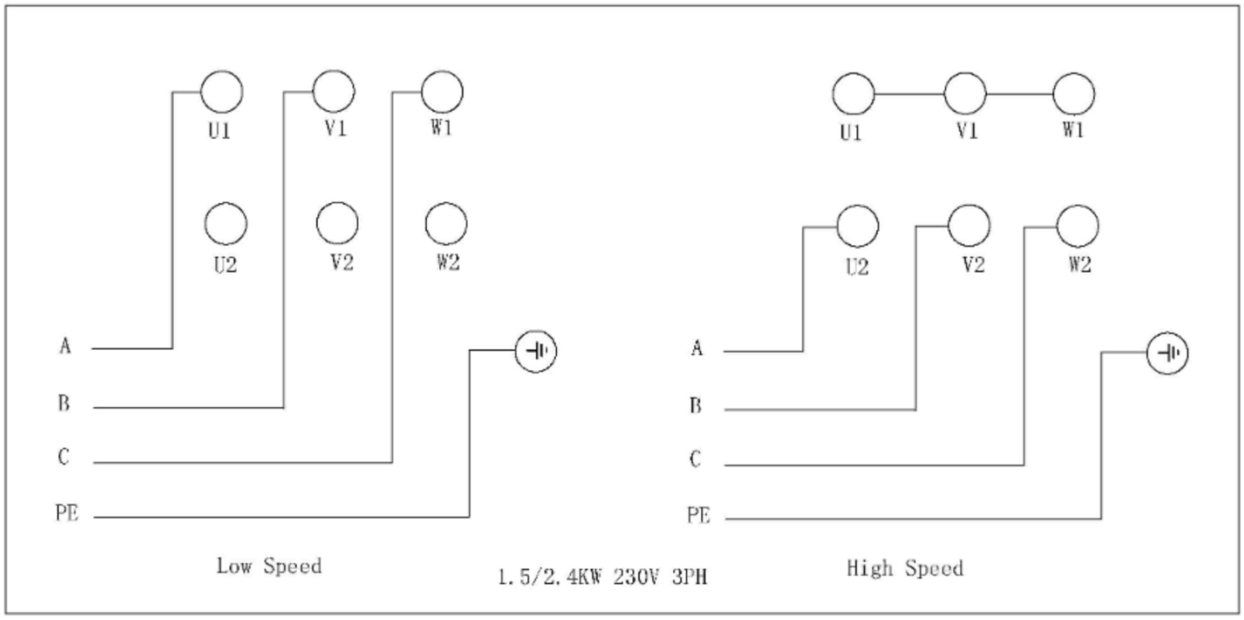
18.4 **GH-1440-3 Wiring Diagram**



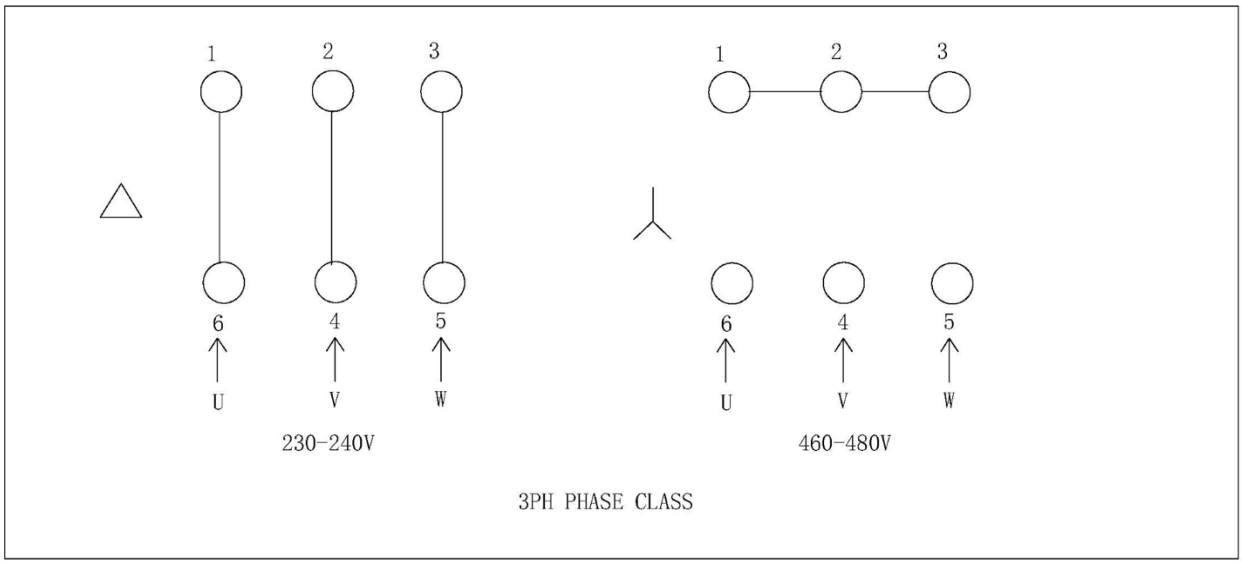
Index	Part No.	Description	Type	Spec.
SA	**	Power Switch Schnerder	V01 AC-3 20A	690V50/60Hz
QF1	**	Thermal protector Siemens	3RV6011-1KA15 9-12.5A	600V 12.5A
QF2	**	Thermal protector Siemens	3RV6011-0EA15 0.4-0.63A	400V 100KA
QF3	**	Circuit Breaker Schnerder	5SY6102-8CCMCB:1PD2	230V/400V
SA2	**	H&L Conversion Switch	LW39B-16 Mo8T/5D	Ui：660V Ith：16A
TC	JT1-3038	Transformer jiuchuan	JCY-100 100VA 50/60Hz	240V 24V
SB1	JT1-3039	E-Stop Button IDEC	YW-E01 24V	Ui：600V Ith：10A
KM1	**	AC Contactor Siemens	3RT6024-1AC20 12A	Ui=690V ie=40A 24V/50HZ
KM2	**	AC Contactor Siemens	3RT6024-1AC20 12A	Ui=690V ie=40A 24V/50HZ
KM3	**	AC Contactor Siemens	3RH6131-1AB00 10A	24V 50/60Hz
KA	**	Contactor Relay	3RH6131-1AB00 10A	24V 50/60Hz
KA1	**	Intermediate Relay	RU2S-D24	DC24V
SA1	**	Pump Switch	LA125H-BE101C	AC15 240V 3A
SB2	**	Jog Button	YW-E10	Ui：600v Ith：10A
SQ	**	Proximity Switch	IME12 WX2434 P/N 4mm	DC24V
SQ1	JT1-3037	Spindle Foreward Switch	TM-1704	15A 250VAC
SQ2	JT1-3037	Spindle Backward Switch	TM-1704	15A 250VAC
SQ3	JT1-3040	Foot Brake Switch	TM-1701	15A 250VAC
SQ4	JT1-3041	Belt Cover Switch OMRO	XCSPA D4NS-1AF	AC15 3A 240V
M1	**	Motor	YD-112M-8/4	230V 60Hz 8.2/8.7A 1.5/2.4KW
M2	**	Pump CSA	MC-8150 90W 3PH	0.36/0.18A 230/480V
EL	**	Work Lamp	24V 3W	LED
HL	**	Power Light	YW-EQ 24V	24VAC LED
PS	**	Power Source	MW MDR-10-24	100/240V AC

** 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.

18.5 **GH-1440-3 Motor Wiring Diagram**



18.6 **GH-1440-3 Pump Motor Wiring Diagram**




SIEMENS SIRIUS
SIEMENS SIRIUS
QF1
QF2
QF3
TC
KM1
KM2
KM3
KA
KA1

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Trick-Tools.com
75 Truman Road
Pella, IA 50219
Phone:1-877-VAN-SANT
E-mail: sales@trick-tools.com