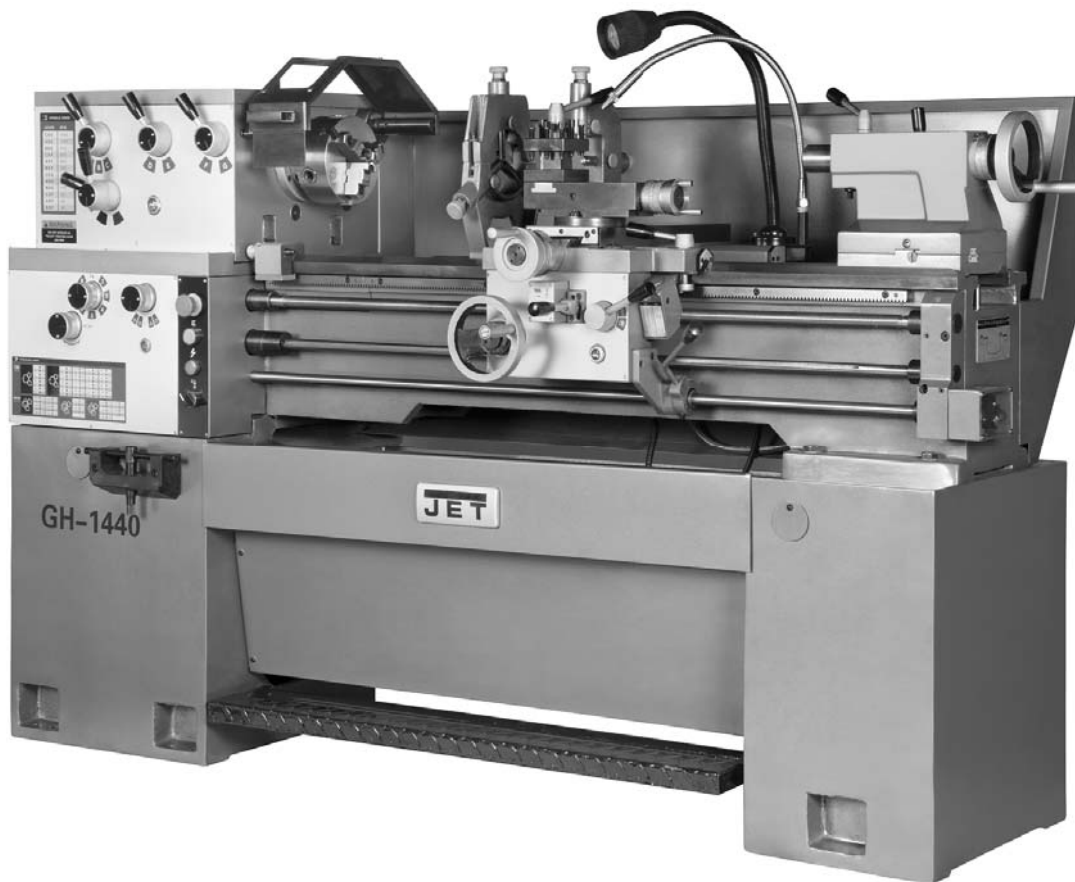




Operating Instructions and Parts Manual

Geared Head Lathe 14x40 inch

Model GH-1440



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1.0 IMPORTANT SAFETY INSTRUCTIONS

Read and understand the entire owner's manual before attempting set-up or operation of this lathe.

WARNING: To reduce risk of injury:

1. This machine is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe use of lathes, do not use this machine until proper training and knowledge have been obtained.
2. Keep guards in place. Safety guards must be kept in place and in working order.
3. Remove adjusting keys and wrenches. Before turning on machine, check to see that any adjusting wrenches are removed from the tool.
4. Reduce the risk of unintentional starting. Make sure switch is in the OFF position before plugging in the tool.
5. Do not force tools. Always use a tool at the rate for which it was designed.
6. Use the right tool. Do not force a tool or attachment to do a job for which it was not designed.
7. Maintain tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubrication and changing accessories.
8. Always disconnect the tool from the power source before adjusting or servicing.
9. Check for damaged parts. Check for alignment of moving parts, breakage of parts, mounting, and any other condition that may affect the tool's operation. A guard or any part that is damaged should be repaired or replaced.
10. Keep work area clean. Cluttered areas and benches invite accidents.
11. Keep work area well lighted.
12. Keep children and visitors away. All visitors should be kept a safe distance from the work area.
13. Make the workshop child proof. Use padlocks, master switches, and remove starter keys.
14. Wear proper apparel. Loose clothing, gloves, neckties, rings, bracelets, or other jewelry may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Do not wear any type of glove.
15. Always wear ANSI Z87.1 approved safety glasses or face shield while using this machine. (Everyday eyeglasses only have impact resistant lenses; they are *not* safety glasses.)
16. Do not overreach. Keep proper footing and balance at all times.
17. Do not place hands near the chuck or workpiece while the machine is operating.
18. Do not perform any set-up work while machine is operating.
19. Read and understand all warnings posted on the machine.
20. This manual is intended to familiarize you with the technical aspects of this lathe. It is not, nor was it intended to be, a training manual.
21. Do not attempt to adjust or remove tools during operation.
22. Never stop a rotating chuck or workpiece with your hands.
23. Choose a low spindle speed when working unbalanced workpieces, and for threading and tapping operations.
24. Do not exceed the maximum speed of the workholding device.
25. Do not exceed the clamping capacity of the chuck.
26. Workpieces longer than 3 times the chucking diameter must be supported by the tailstock or a steady rest.
27. Avoid small chuck diameters with large turning diameters.
28. Avoid short chucking lengths and small chucking contact.
29. Turn off the machine and disconnect from power before cleaning. Use a brush to remove shavings or debris — do not use bare hands.
30. Do not stand on the machine. Serious injury could occur if the machine tips over.
31. Never leave the machine running unattended. Turn the power off and do not leave the machine until moving parts come to a complete stop.
32. Remove loose items and unnecessary work pieces from the area before starting the machine.

33. Do not operate the lathe in flammable or explosive environments. Do not use in a damp environment or expose to rain.

⚠ WARNING: This product can expose you to chemicals including lead and cadmium which are known to the State of California to cause cancer, and phthalates which are known to the State of California to cause birth defects or other reproductive harm. For more information go to <http://www.p65warnings.ca.gov>.

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 or even fatal injury.

⚠ WARNING: Some dust, fumes and gases created by power sanding, sawing, grinding, drilling, welding and other construction activities contain chemicals known to the State of California to cause cancer and 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 dust masks that are specifically designed to filter out microscopic particles. For more information go to <http://www.p65warnings.ca.gov/> and <http://www.p65warnings.ca.gov/wood>.

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3.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model GH-1440 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.

This manual is not intended to be a training guide for lathe operations, or tool and workpiece selection. Consult a machinery handbook or shop supervisor for information on proper speed and feed rates for specific materials, or type of cutter suitable for a particular operation. Whatever accepted methods or materials are used, always make personal safety a priority.

Note: The Figures in this manual may or may not show your exact lathe model, but the procedures will be identical.

If there are 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: <http://www.jettools.com/us/en/service-and-support/warranty/registration/>

4.0 Specifications

Table 1

| Model number | GH-1440-1 | GH-1440-3 |
|---|-----------------------------------|--------------------------|
| Stock number | 322830 | 322840 |
| Motor and Electricals | | |
| Motor type | TEFC induction | |
| Horsepower | 3 HP (2.2 kW) | |
| Phase | single | 3 |
| Voltage | 230V only | 230/460V (prewired 230V) |
| Cycle | 60 Hz | |
| Listed FLA (full load amps) | 18 A | 8.3 / 4.2 A |
| Start capacitor | 350V/400 μ F | n/a |
| Run capacitor | 450v/40 μ F | n/a |
| Motor speed | 1720 RPM | |
| Power cord | 3 x 2.5 mm ² | 4x 2.5 mm ² |
| Power plug installed | n/a | |
| Recommended circuit size ¹ | 25 A | 15 A |
| Sound emission without load ² | 78dB | 78dB |
| Capacities | | |
| Swing over bed | 14 in. (356 mm) | |
| Swing over cross slide | 8-3/16 in. (208 mm) | |
| Distance between centers | 40 in. (1016 mm) | |
| Swing through gap | 20 in. (508 mm) | |
| Length of gap | 9-3/8 in. (238 mm) | |
| Steady rest capacity | 1/4 to 3-1/2 in. (6.4 to 89 mm) | |
| Follow rest capacity | 1/4 to 2-5/8 in. (6.4 to 66.7 mm) | |
| Headstock | | |
| Hole through spindle | 1-1/2 in. (38 mm) | |
| Spindle nose | D1-4 | |
| Taper in spindle nose | MT5 | |
| Spindle taper adaptor | MT3 | |
| Spindle bearing type | Taper roller bearing | |
| Number of spindle speeds | 12 | |
| Range of spindle speeds | 40-1800 RPM | |
| Gearbox | | |
| Number of longitudinal and cross feed rates | 40 | |
| Range of longitudinal feeds | 0.0012 – 0.0294 in./rev | |
| Range of cross feeds | 0.0004 – 0.0103 in./rev | |
| Number of inch threads | 40 | |
| Range of inch threads | 4 – 112 TPI | |
| Number of metric threads | 23 | |
| Range of metric threads | 0.45 – 7.5 mm | |
| Leadscrew | 7/8 x 49-1/2 in. 8TPI | |
| Feed rod diameter | 3/4 in. (19 mm) | |
| Compound and carriage | | |
| Tool post type | 4-way | |
| Maximum tool size | 5/8 x 5/8 in. | |
| Maximum compound slide travel | 3-1/2 in. (89 mm) | |
| Maximum cross slide travel | 6-3/8 in. (162 mm) | |
| Maximum carriage travel | 37-1/2 in. (953 mm) | |

| | GH-1440-1 | GH-1440-3 |
|--------------------------------|---|-----------|
| Tailstock | | |
| Tailstock spindle travel | 4-3/4 in. (121 mm) | |
| Diameter of tailstock spindle | 1-3/4 in. (45 mm) | |
| Taper in tailstock spindle | MT3 | |
| Main materials | | |
| Headstock | Cast iron | |
| Bed | Cast iron | |
| Apron/Saddle | Cast iron | |
| Tailstock | Cast iron | |
| Splash guard | Steel | |
| Stand | Steel | |
| Dimensions | | |
| Bed width | 10-3/16 in. (259 mm) | |
| Bed length | 54-1/2 in. (1384 mm) | |
| Height of bed from floor | 12-3/4 in. (324 mm) | |
| Overall dimensions, L x W x H | 74-4/5 x 28 x 46 in. (1900 x 635 x 1168 mm) | |
| Shipping dimensions, L x W x H | 78-3/8 x 30 x 55 in. (1990 x 760 x 1400 mm) | |
| Weights | | |
| Net weight, approx. | 2,116 lb (960 kg) | |
| Shipping weight, approx. | 2,336 lb (1060 kg) | |

¹ subject to local and national electrical codes.

² The specified values are emission levels and are not necessarily to be seen as safe operating levels. As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.

L = length, W = width, H = height, TPI = threads per inch

n/a = not applicable

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

4.1 Cross Slide T-slot dimensions

These dimensions (in millimeters) can be used to cut an appropriately sized block for a quick change tool post.

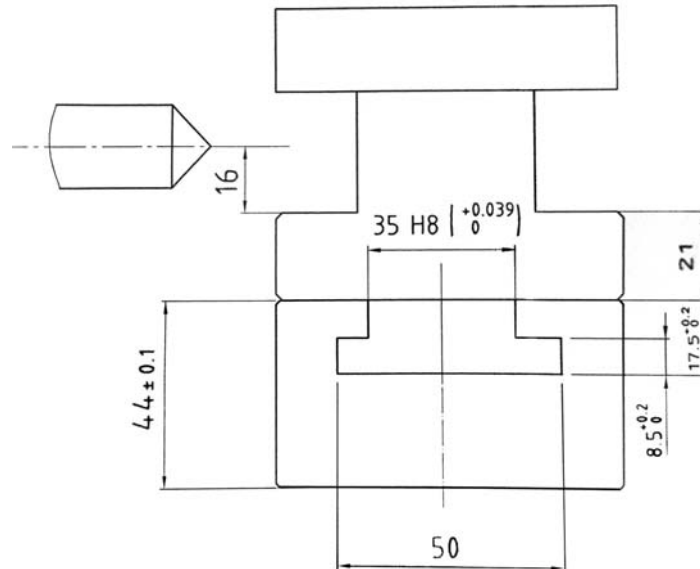


Figure A1

5.0 Uncrating

Open shipping crate and check for shipping damage. Report any damage immediately to your distributor and shipping agent. Do not discard any shipping material until the Lathe is assembled and running properly.

Compare the contents of your crate with the following parts list to make sure all parts are intact. Missing parts, if any, should be reported to your distributor.

⚠WARNING Read and understand the entire contents of this manual before attempting set-up or operation. Failure to comply may cause serious injury!

5.1 Contents of shipping container

- 1 Lathe
- 1 Steady Rest (mounted on lathe)
- 1 Follow Rest (mounted on lathe)
- 1 6" Three Jaw Chuck w/ Top Reversing Jaws (mounted on lathe)
- 1 8" Four Jaw Chuck with Backplate (strapped to container)
- 1 12" Face Plate (strapped to container)
- 1 Backplate
- 1 Tool Box (p/n GH1440-TBCP)

Tool Box Contents (p/n GH1440-TBCP):

(Fig. 1)

- 1 No. 1 Cross Point Screwdriver
- 1 No. 1 Flat Blade Screwdriver
- 4 Open End Wrench (9-11, 10-12, 12-14, 17-19mm)
- 7 Hex Socket Wrench (2,2.5, 3, 4, 5, 6, 8mm)
- 2 Shear Pins
- 1 30T Change Gear
- 1 32T Change Gear
- 2 40T Change Gear
- 2 Handles
- 1 Can, Gray Touchup Paint
- 1 Oil Gun
- 1 Live Center
- 2 No. 3 Morse Taper Dead Center
- 1 No. 5 to No. 3 Spindle Sleeve
- 6 Leveling Pads
- 6 Leveling Bolts with Hex Nuts
- 2 Hex Socket Cap Screw
- 1 Chuck Key
- 1 Key for Cam Locks
- 1 Tool Post Wrench
- 1 Taper Piece
- 1 Operating Instructions and Parts Manual
- 1 Product Registration Card

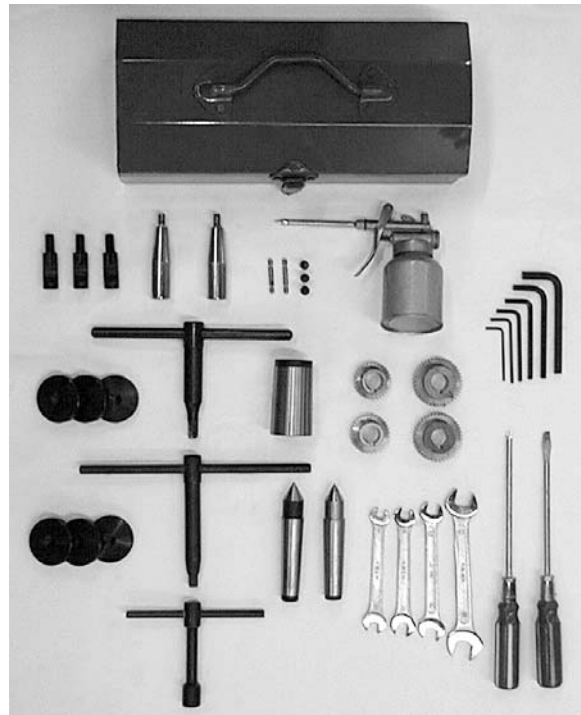


Figure 1

6.0 Installation

1. Finish removing the wooden crate from around the lathe.
2. Unbolt the lathe from the shipping crate bottom.
3. Choose a location for the lathe that is dry, has good lighting, and has enough room to service the lathe on all four sides
4. Place two steel rods or pipes (of sufficient strength) into four holes (A, Fig. 2) of lathe stand. Sling the lathe with properly rated straps. **Do not lift by spindle.** With adequate lifting equipment, slowly raise the lathe off the shipping crate bottom. Make sure lathe is balanced before moving.
5. To avoid twisting the bed, the lathe's location must be absolutely flat and level. Check for a level condition using a machinist's precision level on the bedways both front to back and side to side. The leveling pads included in the tool box and the leveling screws in the lathe base will help you to reach a level condition. **The lathe must be level to be accurate.**
6. Clean all rust protected surfaces using a mild commercial solvent, kerosene or diesel fuel. Do not use paint thinner, gasoline, or lacquer thinner, as these can damage painted surfaces. Cover all cleaned surfaces with a light film of Mobil DTE® Oil Heavy Medium.
7. Open the end gear door. Clean all components of the end gear assembly and coat all gears with Mobilith® AW 1. Close the door.



Figure 2

6.1 Chuck preparation (three jaw)

⚠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

1. Support the chuck while turning three camlocks (Fig. 3) 1/4 turn counter-clockwise with the chuck key enclosed in the tool box.
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.

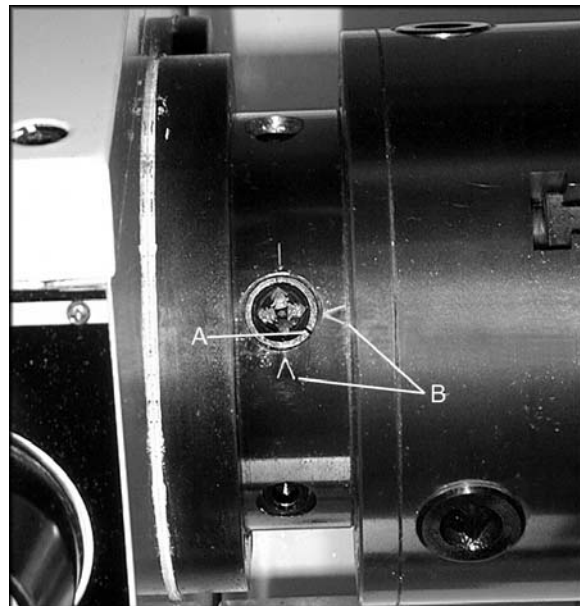


Figure 3

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 up to the spindle nose and press onto the spindle. Tighten in place by turning the cam locks 1/4 turn clockwise. The index mark (A, Fig. 3) on the camlock should be between the two indicator arrows (B, Fig. 3). If the index mark is not between the two arrows, remove the chuck and adjust the camlock studs by either turning out one full turn (if cams will not engage) or turning in one full turn (if cams turn beyond indicator marks).
6. Install chuck and tighten in place.

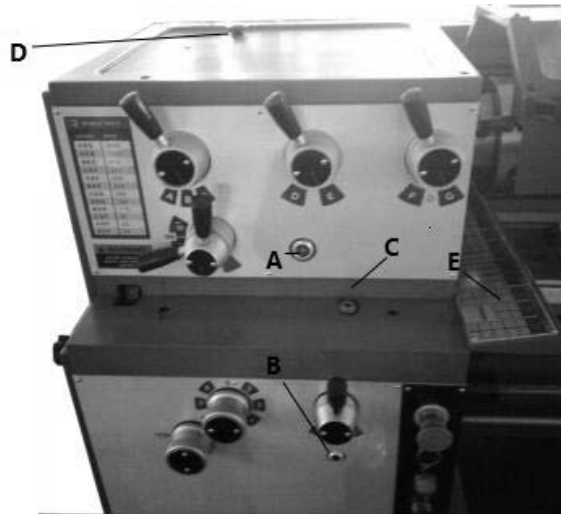


Figure 4

7.0 Lubrication

CAUTION Lathe must be serviced at all lubrication points and all reservoirs filled to operating level before the lathe is put into service. Failure to comply may cause serious damage to the lathe.

1. **Headstock** – Oil must be up to indicator mark in oil sight glass (A, Fig. 4). Top off with Mobil DTE® Oil Heavy Medium. Fill by pulling plug (D, Fig. 4). To drain, remove drain plug (A, Fig. 5) with an 8mm hex wrench. Drain oil completely and refill after the first month of operation. Clean out any metal shavings. Then, change oil in the headstock annually.
2. **Gearbox** – Oil must be up to indicator mark in oil sight glass (B, Fig. 4). Top off with Mobil DTE® Oil Heavy Medium. Fill by lifting off thread chart cover (E, Fig. 4) and remove plug (C, Fig. 4) with an 8mm hex wrench. To drain, remove drain plug (A, Fig. 6) with an 8mm hex wrench. Drain oil completely and refill after the first month of operation. Then, change oil in the Gearbox annually.

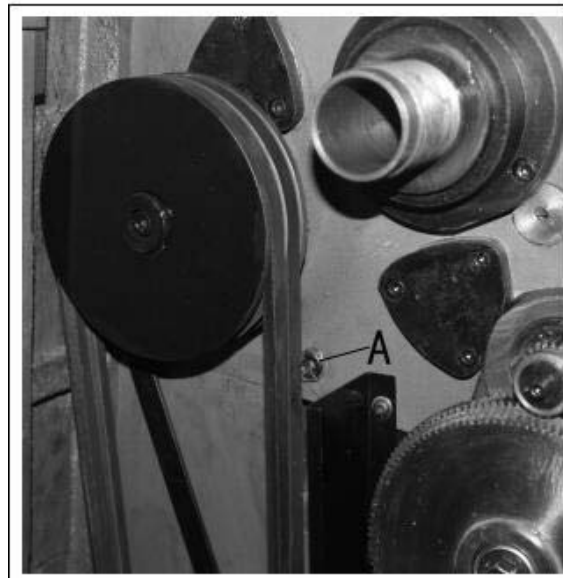


Figure 5

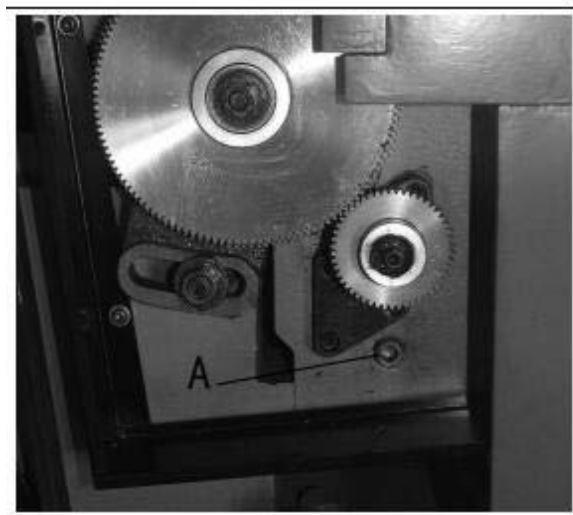


Figure 6

3. **Apron** – Oil must be up to indicator mark in oil sight glass (A, Fig. 7). Top off with Mobil DTE® Oil Heavy Medium. Remove oil cap (B, Fig. 7) on top of apron to fill. To drain, remove drain plug on bottom of apron. Drain oil completely and refill after the first month of operation. Then, change oil in the apron annually.
4. **Leadscrew Feed Rod** – Lubricate ball oiler (A, Fig. 8) on leadscrew/feed rod bracket with Mobil DTE® Oil Heavy Medium once daily.
5. **Tailstock** – Lubricate two ball oilers (B, Fig. 8) on tailstock with Mobil DTE® Oil Heavy Medium once daily.
6. **Cross Slide** – Lubricate four ball oilers (A, Fig. 9) with Mobil DTE® Oil Heavy Medium once daily.
7. **Compound Rest** – Lubricate one ball oiler (B, Fig. 9) with Mobil DTE® Oil Heavy Medium once daily.
8. **Carriage** – Lubricate four ball oilers (D, Fig. 9) with Mobil DTE® Oil Heavy Medium once daily.

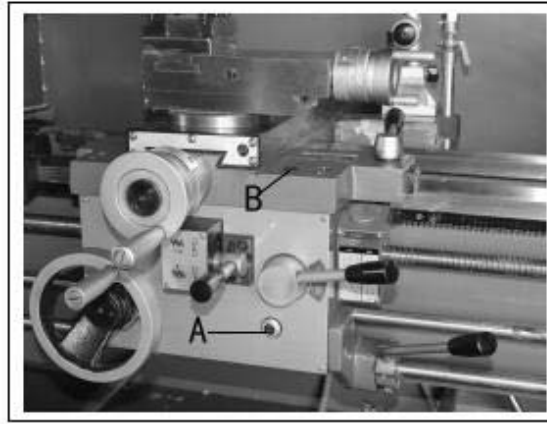


Figure 7

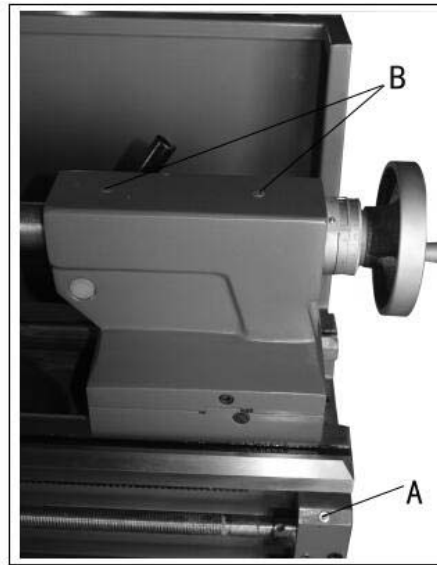


Figure 8

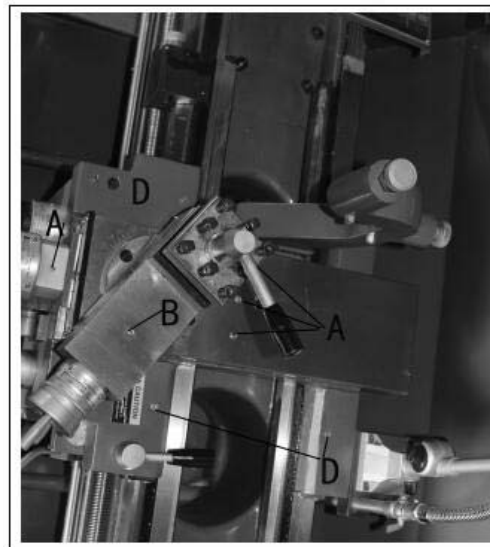


Figure 9

8.0 Coolant preparation

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

1. Remove rear access cover on tailstock end. Make sure coolant tank has not shifted during transport and is located properly under the recovery chute (Fig. 10).
2. Pour three gallons of coolant mix into drip pan.
3. After machine has been connected to power, turn on coolant pump and check to see coolant is cycling properly.
4. Fasten coolant door to stand.



Figure 10

9.0 Electrical connections

WARNING Electrical connections must be made by a qualified electrician in compliance with all relevant codes. This machine must be properly grounded to help prevent electrical shock and possible fatal injury.

The **GH-1440-1** lathe is rated at **3HP, single-phase, 230V only**. The **GH-1440-3** lathe is rated at **3HP, 3-phase, 230V/460V (prewired 230V)**. Confirm power available at the lathe's location is the same rating as the lathe.

Lathe Power Source Junction Box: Remove the cover. Run the main power through the strain relief bushing and attach the ground, followed by power leads. Replace the cover.

Main Power Switch: Located on the backside of the machine. Turns the power to the machine on and off.

Make sure the lathe is properly grounded.

Power is connected properly when pulling up on the forward-reverse lever causes spindle to rotate counterclockwise as viewed from tailstock. If the chuck rotates in clockwise direction, disconnect lathe from power source, switch two of three power leads, and re-connect lathe to power source.

9.1 Voltage conversion (GH-1440-3 only)

WARNING Disconnect machine from power source. Failure to comply may cause serious injury!

To switch from 230- to 460-volt operation:

Main Motor: Change the wires according to the diagram on inside of motor junction box.

Transformer: Remove electrical panel on rear of machine, headstock side, and switch wire from 230V terminal to 460V terminal as outlined on the transformer.

Coolant Pump: Open access panel on base at tailstock end. Change wires in coolant pump junction box according to diagram on inside of junction box cover.

10.0 General description

Lathe bed

The lathe bed (A, Fig. 11) is made of high grade cast iron. By combining high cheeks with strong cross ribs, a bed with low vibration and high rigidity is realized. 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 in the stand below headstock.

Headstock

The headstock (B, Fig. 11) is cast from high grade, low vibration cast iron. It is bolted to the bed by four screws with two adjusting screws 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.

Carriage

The carriage (A, Fig. 12) 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 (B, Fig. 12), which is mounted on the cross slide (C, Fig. 12), can be rotated through 360°. The top slide and the cross slide travel in a dovetail slide and have adjustable gibs. A four way tool post is fitted on the top slide.

Four way tool post

The four way toolpost (D, Fig. 12) is mounted on the top slide and allows a maximum of four tools to be mounted simultaneously. Remember to use a minimum of two clamping screws when installing a cutting tool.

Apron

The apron (E, Fig. 12) 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 handwheel on the front of the apron.

Tailstock

The tailstock (A, Fig. 13) 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.

Leadscrew and feed Rod

The leadscrew (B, Fig. 13) and feed rod (C, Fig. 13) are mounted on the front of the machine bed. They are connected to the gearbox at the left for automatic feed and lead, and are supported by bushings on both ends. Both are equipped with brass shear pins.

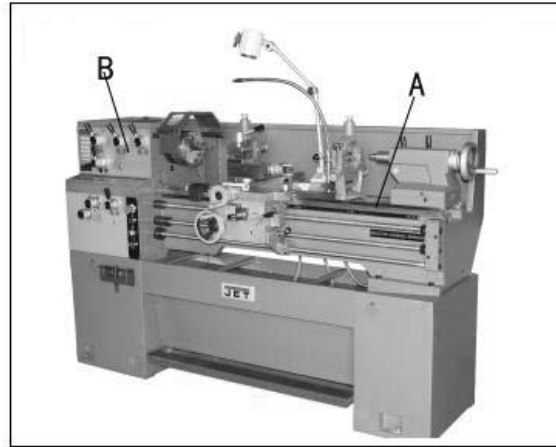


Figure 11

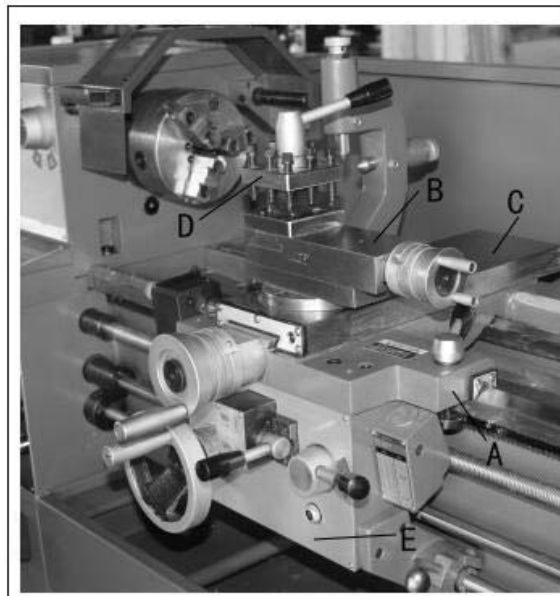


Figure 12

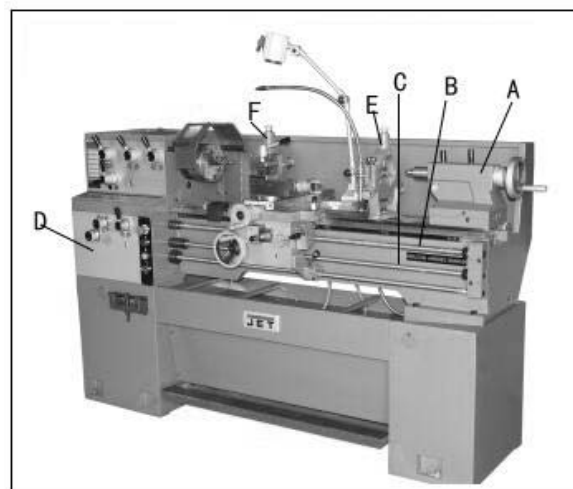


Figure 13

Gear box

The gear box (D, Fig. 13) is made from high quality cast iron and is mounted to the left side of the machine bed.

Steady rest

The steady rest (E, Fig. 13) serves as a support for shafts on the free tailstock end. The steady rest is mounted on the bedway 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.

To set the steady rest:

1. Loosen three hex socket screws.
2. Loosen knurled screw and open sliding fingers until the steady rest can be moved with its fingers around the workpiece. Secure the steady rest in position.
3. Set the fingers snugly to the workpiece and secure by tightening three hex socket cap screws. Fingers should be snug but not overly tight. Lubricate sliding points with Mobil DTE® Oil Heavy Medium.
4. After prolonged use, the fingers will show wear. Re-mill or file the tips of the fingers.

Follow rest

The traveling follow rest (F, Fig. 13) is mounted on the saddle and follows the movement of the turning tool. Only two fingers are required as the place of the third is taken by the turning tool. The follow rest is used for tuning operations on long, slender workpieces. It prevents flexing of the workpiece from the pressure of the cutting tool.

The sliding fingers are set similar to the steady rest, free of play, but not binding. Always lubricate with Mobil DTE® Oil Heavy Medium.

Controls

1. **Control Panel** - located on front of gearbox.
 - A. Coolant On-Off Switch** (A, Fig. 14) – turns coolant pump on and off.
 - B. Power Indicator Light** (B, Fig. 14) – illuminated whenever lathe has power.
Emergency Stop Switch (C, Fig. 14) – press to stop all machine functions.
Caution: Lathe will still have power. To restart machine, rotate button clockwise until it disengages.
 - C. Jog Switch** (D, Fig. 14) – Press and release to advance spindle momentarily.

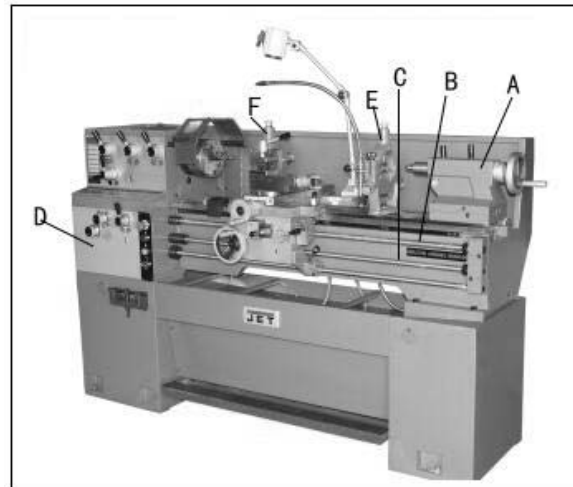


Figure 13 (repeated)

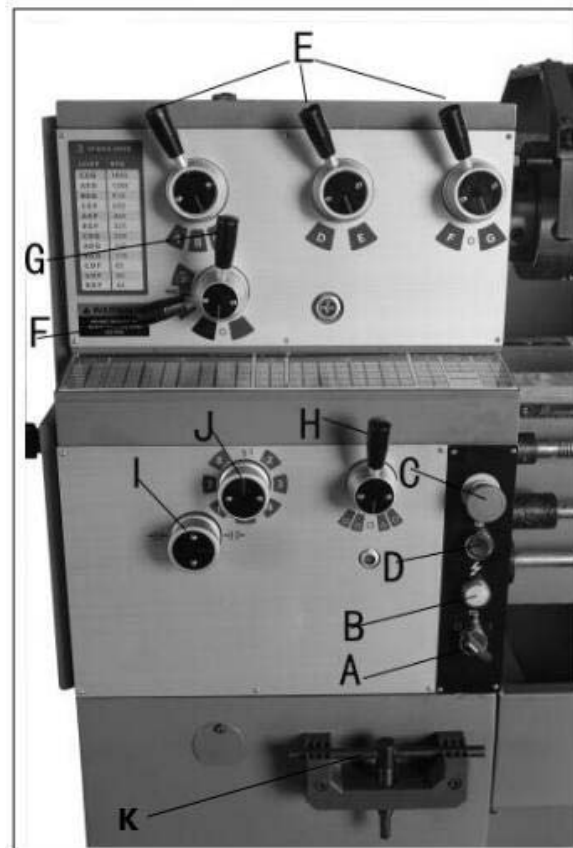


Figure 14

2. **Headstock Gear Change Levers (E, Fig. 14)** – located on front of headstock. Move levers according to speed chart for desired setting.
3. **Leadscrew/Feed Rod Directional Lever (F, Fig. 14)** – located on front of headstock. Moving the lever up causes carriage travel toward the tailstock; moving the lever down causes carriage travel toward the headstock (when chuck is spinning in forward or counterclockwise direction). Do not move lever while machine is running.
4. **Feed/Lead Selector Lever (G, Fig. 14)** – located on the front of the headstock. Used whenever setting up for threading or feeding.

CAUTION In the "A" position, never run the lathe higher than 650 RPM.

5. **Feed/Lead Selector Lever (H, Fig. 14)** – located on the front of the gearbox. Used in setting up for feeding and threading. Positions "F" and "D" are for the feed rod. Positions "E" and "C" are for the feed screw. Position "0" is neutral.
6. **Lock Knob (I, Fig. 14)** – located on the front of the gearbox. With the knob in the six o'clock position, feed/lead selector knob (J, Fig. 14) may be adjusted. With the knob in the twelve o'clock position, the feed/lead selector knob (J, Fig. 14) is locked.
7. **Feed/Lead Selector Knob (J, Fig. 14)** – located on front of the gearbox. Used for setting up for feeding and threading.
8. **Compound Lock (A, Fig. 15)** – hex socket screw located on left side of compound. Turn clockwise to lock and counterclockwise to unlock.
9. **Carriage Lock (B, Fig. 15)** – lock handle located on top of carriage. Turn clockwise to lock. Turn counterclockwise to unlock.

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

10. **Longitudinal Traverse Hand Wheel - (D, Fig. 15)** – located on the apron assembly. Rotate hand wheel clockwise to move the apron assembly toward the tailstock. Rotate the wheel counterclockwise to move the apron assembly toward the headstock.
11. **Feed Selector (E, Fig. 15)** – located in the center front of the apron assembly. Pushing lever to the left and down activates the crossfeed function. Pulling lever to the right and up activates the longitudinal function.

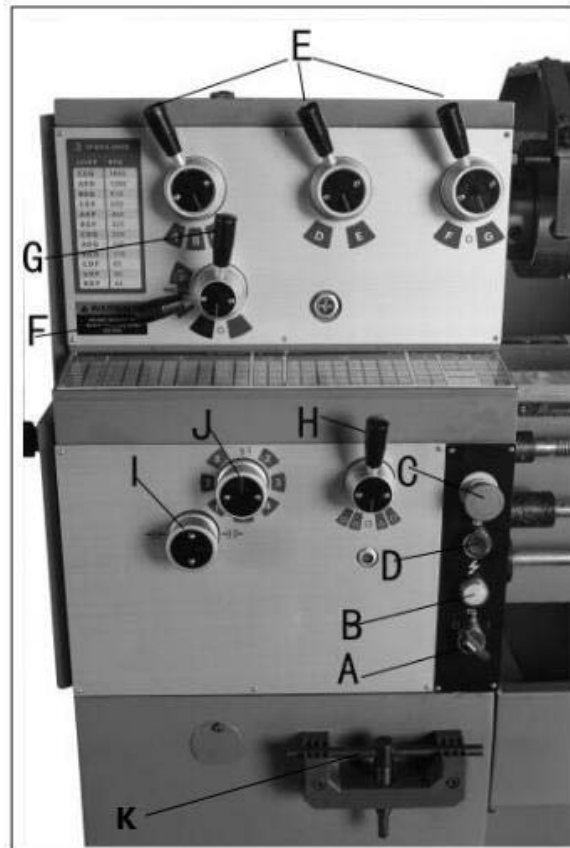


Figure 14 (repeated)

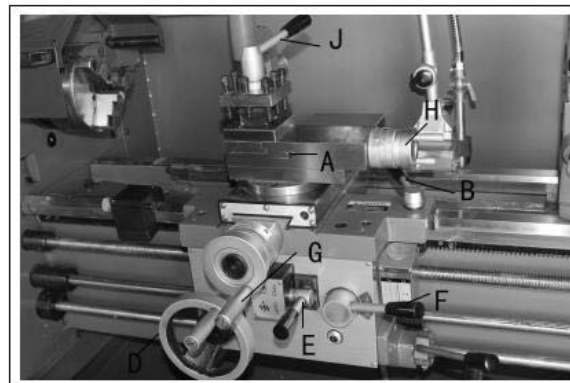


Figure 15

12. **Half Nut Engage Lever (thread cutting)** (F, Fig. 15) – located on front of the apron. Move the lever down to engage. Move the lever up to disengage.
13. **Cross Traverse Handwheel** (G, Fig. 15) – located above the apron assembly. Rotate clockwise or counter-clockwise to move, or position.
14. **Compound Rest Traverse Handwheel** (H, Fig. 15) – located on the end of the compound slide. Rotate clockwise or counter-clockwise to move, or position.
15. **Tool Post Clamping Lever** (J, Fig. 15) – located on top of the tool post. Rotate counter-clockwise to loosen and clockwise to tighten.
16. **Tailstock Quill Clamping Lever** (A, Fig. 16) – located on the tailstock. Lift up to lock the spindle. Push down to unlock.
17. **Tailstock Clamping Lever** (B, Fig. 16) – located on the tailstock. Lift up lever to lock. Push down lever to unlock.
18. **Tailstock Quill Traverse Handwheel** (C, Fig. 16) – located on the tailstock. Rotate clockwise to advance the quill. Rotate counter-clockwise to retract the quill.
19. **Tailstock Off-Set Adjustment** (D, Fig. 16) – Two hex socket cap screws located on the tailstock base are used to off-set the tailstock for cutting tapers. Loosening one screw while tightening the other off sets the tailstock.
20. **Foot Brake** (A, Fig. 17) – located between stand pedestals. Depress to stop all lathe functions.
21. **Micro Carriage Stop** (B, Fig. 17) – located on the lathe bed. Loosen two hex socket cap screws underneath body and slide along bed to desired position. Tighten screws to hold in place.
22. **Main Power Switch** (not shown) – located on the electrical box door on the rear of the lathe. Turns main power to the lathe on and off.

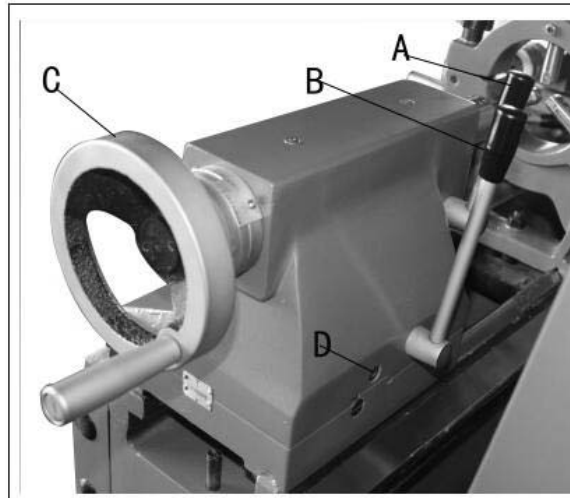


Figure 16

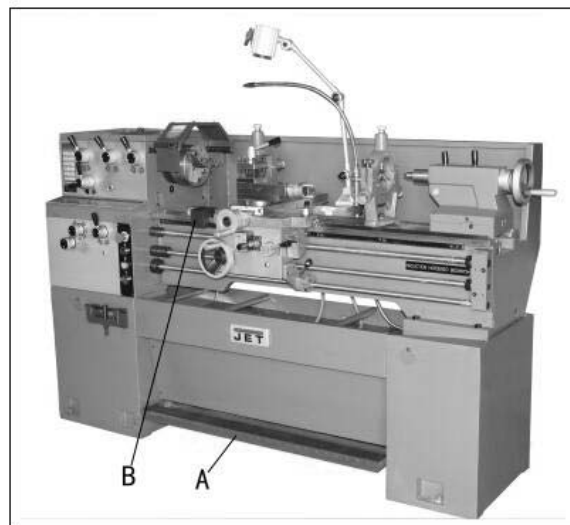


Figure 17

11.0 Operation

11.1 Break-in procedure

During manufacture and testing, this lathe has been operated in the low R.P.M. range for three hours.

To allow time for the gears and bearings to break-in and run smoothly, do not run the lathe above 650 R.P.M. for the first six hours of operation.

11.2 Feed and thread selection

1. Refer to the feed and thread charts found on the gear box faceplate (A, Fig. 18 and sect. 13.0 of this manual).
2. Move levers (B, C, D, E, F, Fig. 18) to the appropriate positions according to the chart.

11.3 Change gears replacement

The 25T, 127T, 50T gears are installed in the end gear compartment when delivered from the factory. This combination will cover most inch feeds and threads under normal circumstances.

The 30T, 32T, and two 40T gears found in the tool box are used with different combinations as indicated on feed and thread tables (A, Fig. 18).

1. **Disconnect machine from power source (unplug).**
2. Open the door on the left end of the headstock.
3. Loosen nuts (A & B, Fig. 19).
4. Move quadrant (C, Fig. 19) out of the way and hold in place temporarily by tightening nut (B, Fig. 19).
5. Remove hex socket cap screws (D and/or E, Fig. 19), depending on which gear is to be changed.
6. Install new gear(s) and tighten in place with a hex socket cap screw.
7. Loosen nut (B, Fig. 19), move quadrant back so teeth mesh on gears, and tighten nuts (A & B, Fig. 19).

CAUTION: Make sure there is a backlash of .002"-.003" between gears. Setting the gears too tight will cause excessive noise and wear.

8. Close the door and connect machine to power source.

11.4 Automatic feed operation and feed changes

1. Move the forward/reverse selector (A, Fig. 20) up or down depending on desired direction.
2. Set selector levers (A, B, C, D, Fig. 21) to desired rate.

Note: For feeding, lever (D) will be set at "F" or "D", depending on desired feed rate.



Figure 18

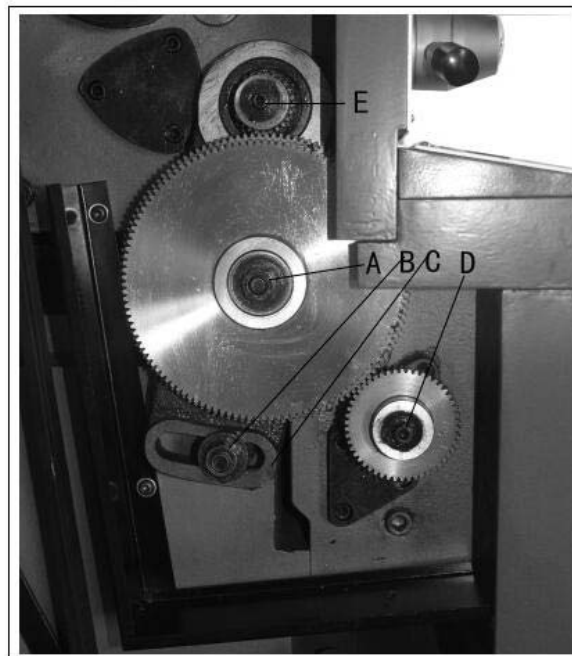


Figure 19

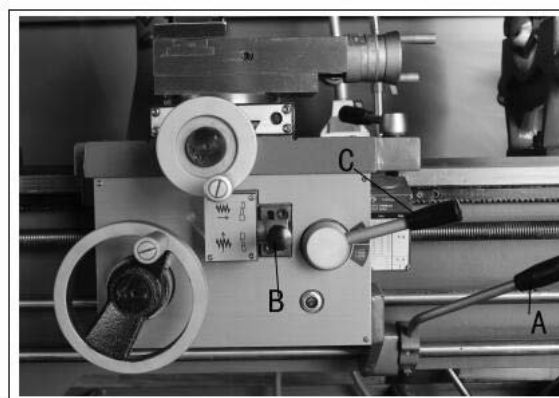


Figure 20

11.5 Powered carriage travel

1. Push lever (B, Fig. 20) to the left and down to engage crossfeed.
2. Pull lever to the right and up to engage longitudinal feed.

11.6 Thread cutting

1. Set forward/reverse lever (A, Fig. 20) up or down depending on the desired direction.
2. Set selector levers (A, B, C, D, Fig. 21) to desired rate.

Note: For threading, lever (D) will be set at "C" or "E", depending on desired thread.

3. Push lever (B, Fig. 19) to the right.
4. Engage the half nut lever (C, Fig. 20).
5. To cut inch threads, refer to the feed and thread tables. The half nut lever and the threading dial are used to thread in the conventional manner. The thread dial chart specifies at which point a thread can be entered using the threading dial.
6. To cut metric threads, the half nuts must be left continually engaged once the start point has been selected and the half nut is initially engaged (thread dial cannot be used).

11.7 Compound rest

The compound rest is located on top of the cross slide and can be rotated 360 degrees. Loosen the two socket head cap screws (A, Fig. 22) on the compound rest base. There is a calibrated dial in degrees (B, Fig. 22) below the rest to assist in placement of the compound to the desired angle.

12.0 Adjustments

After a period of time, wear in some of the moving components may need to be adjusted:

12.1 Saddle

1. Locate four hex nuts found on the bottom rear of the cross slide and back off one full turn each.
2. Turn each of the four set screws with a hex wrench until a slight resistance is felt. Do not over tighten these screws.
3. Move the carriage with the handwheel and determine if the drag is to your preference. Readjust the set screws as necessary to achieve the desired drag.
4. Hold the socket set screw firmly with a hex wrench and tighten the hex nut to lock the set screw in place.

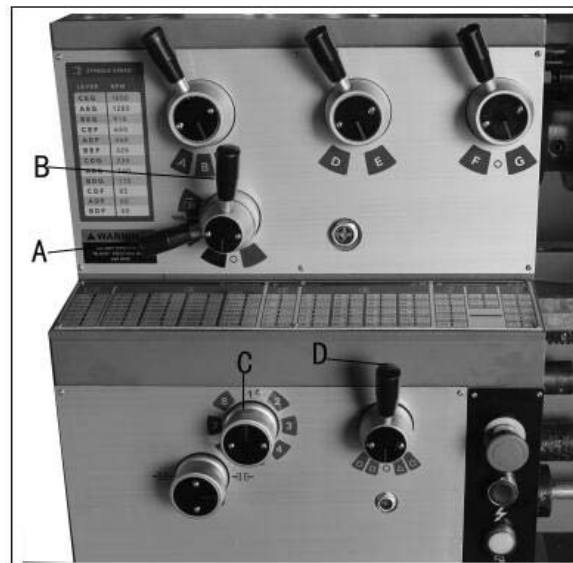


Figure 21

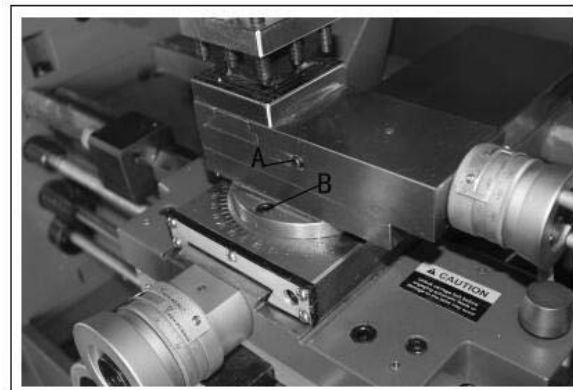


Figure 22

5. Move the carriage again and readjust if necessary.

Note: Over-adjustment will cause excessive and premature wear of the gibs.

12.2 Cross slide

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

1. Loosen the rear gib screw (not shown) approximately one turn.
2. Tighten the front gib screw (B, Fig. 23) 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 the cross slide is properly adjusted, tighten the rear gib screw.

Note: Over-adjustment will cause excessive and premature wear of the gibs.

12.3 Compound rest

Follow the same procedure as the cross slide adjustment to adjust the compound rest. Rear gib screw is shown (A, Fig. 23). Front gib screw (not shown) is by the handwheel.

12.4 Tailstock

If the handle (A, Fig. 24) will not lock the tailstock, follow the procedure below :

1. Lower the handle to the unlocked position.
2. Slide the tailstock to an area that allows access to the underside of the tailstock.
3. Tighten tailstock clamping bolt (underside of tailstock) 1/4 turn. Test for proper locking. Repeat as necessary.

12.5 Tailstock off-set

Follow the procedure below to off-set the tailstock to cut shallow tapers:

1. Lock tailstock in position by raising locking handle (A, Fig. 24).
2. Alternately loosen and tighten two hex socket cap screws (B, Fig. 24).

12.6 Tailstock gibs

Take up play in the tailstock by tightening two gib screws (C, Fig. 24) on either side of the tailstock base.

Note: Do not over-tighten. Excessive tightening will lead to premature wear of the gibs and mating parts

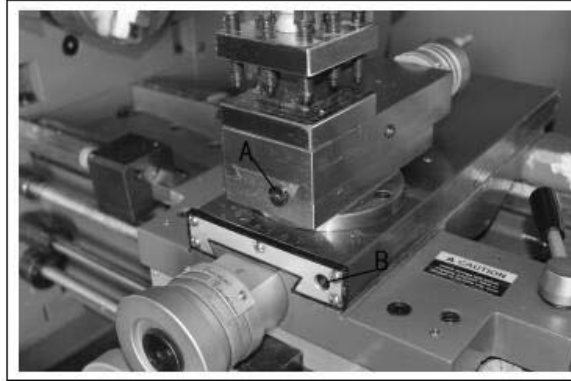


Figure 23

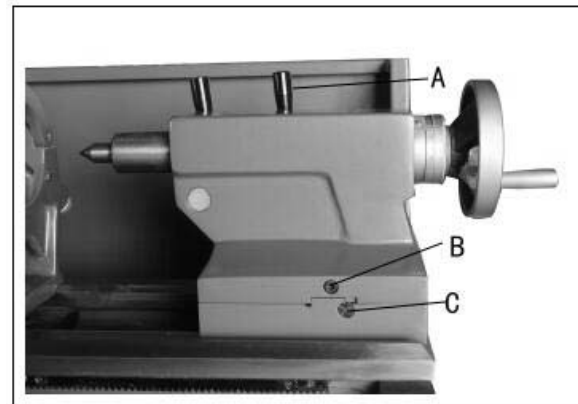


Figure 24

12.7 Headstock alignment

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

1. Using a machinist'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. Do not use the tailstock or center to support the other end.
4. Set up and cut along five inches of 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 hex socket cap screws (A, Fig. 25) which hold the headstock to the bed. **Do not** loosen completely; some drag should remain.
7. Adjust two screw nuts (B, Fig. 25) located on the endgear side of the headstock. Loosen one and tighten the other. Make another cut. Keep adjusting screw nuts after each cut until the bar stock measurements are the same. Tighten all headstock screws.

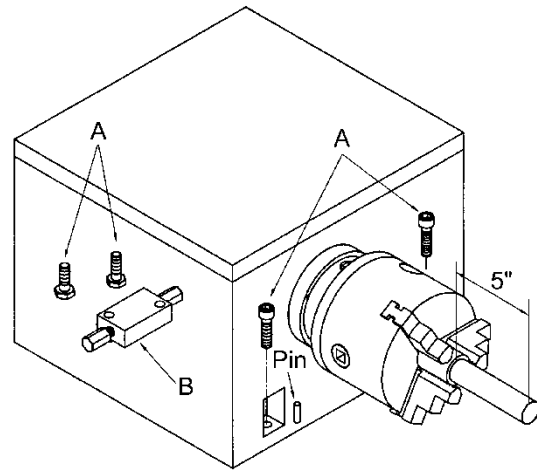


Figure 25

12.8 Removing gap bridge

1. To remove gap bridge, locate two nuts (A, Fig. 26) in the center of the gap bridge.
2. Using an open end wrench, tighten the two nuts. This will cause the taper pins to release. Remove the taper pins.
3. Remove six hex socket cap screws (B, Fig. 26) with a hex wrench.
4. Gap bridge can now be removed.

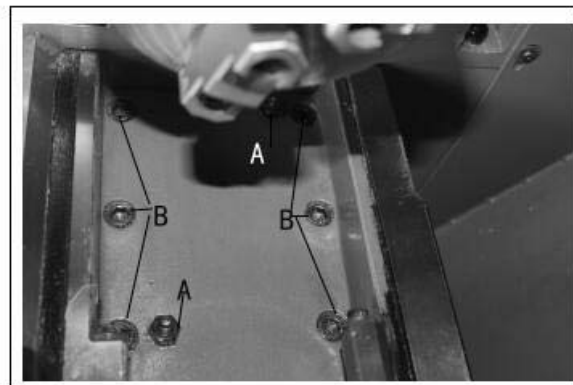


Figure 26

12.9 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 from the taper pins.
4. Slide taper pins in their respective holes and seat using a mallet. Install nuts on the taper pins finger tight.
5. Install six socket head cap screws and tighten securely.

12.10 Belt replacement and adjustment

1. **Disconnect machine from the power source (unplug).**
2. Open the end gear cover and lower cover on the headstock side.
3. Take tension off old belts by loosening motor mount hex nut (A, Fig. 27).
4. Remove belts. Install new belts onto pulleys.
5. Tension by tightening motor mount hex nut until 8 lbs. force causes approximately 3/4" deflection on belts.
6. Close end gear door, install cover and connect lathe to the power source.

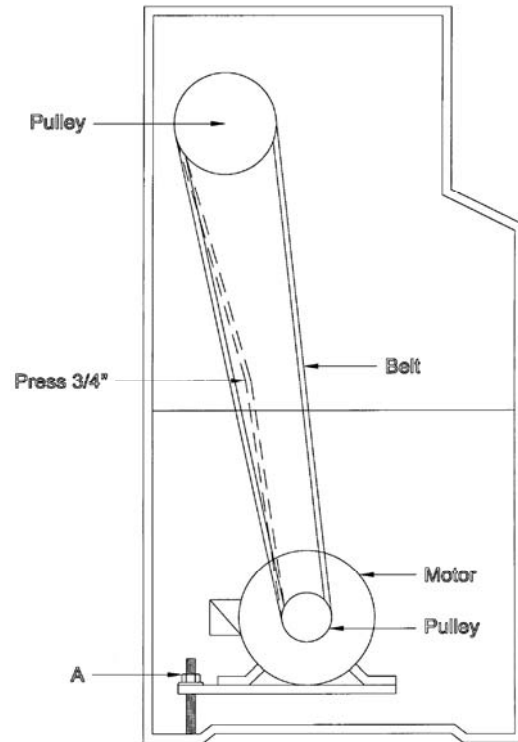


Figure 27

12.11 Aligning tailstock to headstock

Before proceeding, headstock should be aligned. See sect. 12.7, *Headstock Alignment*.

1. Fit a 12" ground steel bar between centers of the headstock and tailstock (Fig. 28).
2. Fit a dial indicator to the compound slide and traverse the center line of the bar, using the carriage movement.
3. If tailstock adjustment is needed, alternately loosen and tighten front and rear hex socket cap screws (A, Fig. 29).

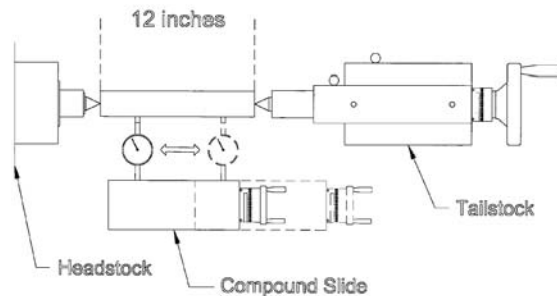


Figure 28

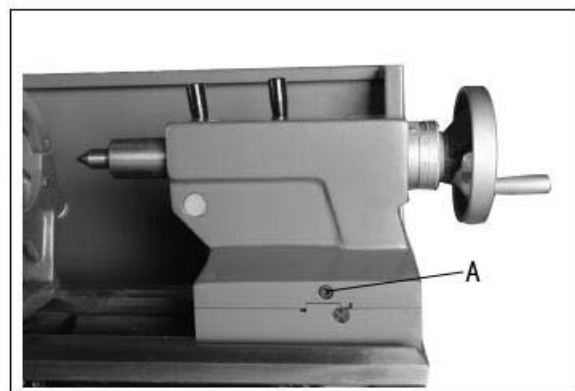


Figure 29

13.0 Operation tables

13.1 Thread table

| | | THREADING CHART | | | | | | | | | | | | | | | | |
|---------------------|--|-----------------|---|---|--|------|---|---|----|------|---|----|------|---|-----|------|---|---|
| IN INCH | | 4 | 1 | ○ | | 8 | 1 | ○ | 16 | 1 | ○ | 32 | 1 | △ | 64 | 1 | △ | |
| | | 4½ | 2 | ○ | | 9 | 2 | ○ | 18 | 2 | ○ | 36 | 2 | △ | 72 | 2 | △ | |
| | | 5 | 3 | ○ | | 10 | 3 | ○ | 20 | 3 | ○ | 40 | 3 | △ | 80 | 3 | △ | |
| | | 5½ | 4 | ○ | | 11 | 4 | ○ | 22 | 4 | ○ | 44 | 4 | △ | 88 | 4 | △ | |
| | | 5¾ | 5 | ○ | | 11½ | 5 | ○ | 23 | 5 | ○ | 46 | 5 | △ | 92 | 5 | △ | |
| | | 6 | 6 | ○ | | 12 | 6 | ○ | 24 | 6 | ○ | 48 | 6 | △ | 96 | 6 | △ | |
| | | 6½ | 7 | ○ | | 13 | 7 | ○ | 26 | 7 | ○ | 52 | 7 | △ | 104 | 7 | △ | |
| | | 7 | 8 | ○ | | 14 | 8 | ○ | 28 | 8 | ○ | 56 | 8 | △ | 112 | 8 | △ | |
| mm METRIC | | 0.45 | 3 | △ | | 0.60 | 3 | △ | | 0.75 | 3 | △ | 3.75 | 1 | ○ | | | |
| | | 0.50 | 2 | △ | | 2.00 | 2 | ○ | | 1.20 | 3 | △ | 1.25 | 6 | △ | 5.00 | 6 | ○ |
| | | 0.90 | 3 | △ | | 2.25 | 1 | ○ | | 2.40 | 3 | ○ | 1.50 | 3 | △ | 6.00 | 3 | ○ |
| | | 1.00 | 2 | △ | | 3.60 | 3 | ○ | | 4.80 | 3 | ○ | 2.50 | 6 | ○ | 7.50 | 1 | ○ |
| | | 1.80 | 3 | ○ | | 4.50 | 1 | ○ | | | | | 3.00 | 3 | ○ | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

13.2 Feed table

| | | FEED IN/REV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------|-------------|---|--------|---|---|--------|---|---|--------|---|---|--|--------|---|---|--|--------|---|---|--------|---|---|--------|---|---|--------|---|---|--|--------|---|---|
| | 0,0012 | 8 | ○ | 0,0024 | 8 | ○ | 0,0042 | 8 | ○ | 0,0084 | 8 | ○ | | 0,0168 | 8 | ○ | | 0,0004 | 8 | ○ | 0,0008 | 8 | ○ | 0,0015 | 8 | ○ | 0,0030 | 8 | ○ | | 0,0059 | 8 | ○ |
| | 0,0013 | 7 | ○ | 0,0026 | 7 | ○ | 0,0048 | 7 | ○ | 0,0092 | 7 | ○ | | 0,0181 | 7 | ○ | | 0,0004 | 7 | ○ | 0,0008 | 7 | ○ | 0,0015 | 7 | ○ | 0,0031 | 7 | ○ | | 0,0063 | 7 | ○ |
| | 0,0014 | 6 | ○ | 0,0028 | 6 | ○ | 0,0049 | 6 | ○ | 0,0098 | 6 | ○ | | 0,0196 | 6 | ○ | | 0,0004 | 6 | ○ | 0,0009 | 6 | ○ | 0,0017 | 6 | ○ | 0,0035 | 6 | ○ | | 0,0069 | 6 | ○ |
| | 0,0015 | 5 | ○ | 0,0030 | 5 | ○ | 0,0051 | 5 | ○ | 0,0102 | 5 | ○ | | 0,0205 | 5 | ○ | | 0,0005 | 5 | ○ | 0,0009 | 5 | ○ | 0,0018 | 5 | ○ | 0,0036 | 5 | ○ | | 0,0072 | 5 | ○ |
| | 0,0016 | 4 | ○ | 0,0031 | 4 | ○ | 0,0053 | 4 | ○ | 0,0107 | 4 | ○ | | 0,0214 | 4 | ○ | | 0,0005 | 4 | ○ | 0,0010 | 4 | ○ | 0,0019 | 4 | ○ | 0,0036 | 4 | ○ | | 0,0075 | 4 | ○ |
| | 0,0017 | 3 | ○ | 0,0034 | 3 | ○ | 0,0058 | 3 | ○ | 0,0119 | 3 | ○ | | 0,0235 | 3 | ○ | | 0,0006 | 3 | ○ | 0,0011 | 3 | ○ | 0,0020 | 3 | ○ | 0,0041 | 3 | ○ | | 0,0082 | 3 | ○ |
| | 0,0019 | 2 | ○ | 0,0038 | 2 | ○ | 0,0065 | 2 | ○ | 0,0131 | 2 | ○ | | 0,0261 | 2 | ○ | | 0,0007 | 2 | ○ | 0,0013 | 2 | ○ | 0,0023 | 2 | ○ | 0,0045 | 2 | ○ | | 0,0091 | 2 | ○ |
| | 0,0021 | 1 | ○ | 0,0042 | 1 | ○ | 0,0073 | 1 | ○ | 0,0147 | 1 | ○ | | 0,0294 | 1 | ○ | | 0,0007 | 1 | ○ | 0,0014 | 1 | ○ | 0,0025 | 1 | ○ | 0,0051 | 1 | ○ | | 0,0103 | 1 | ○ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

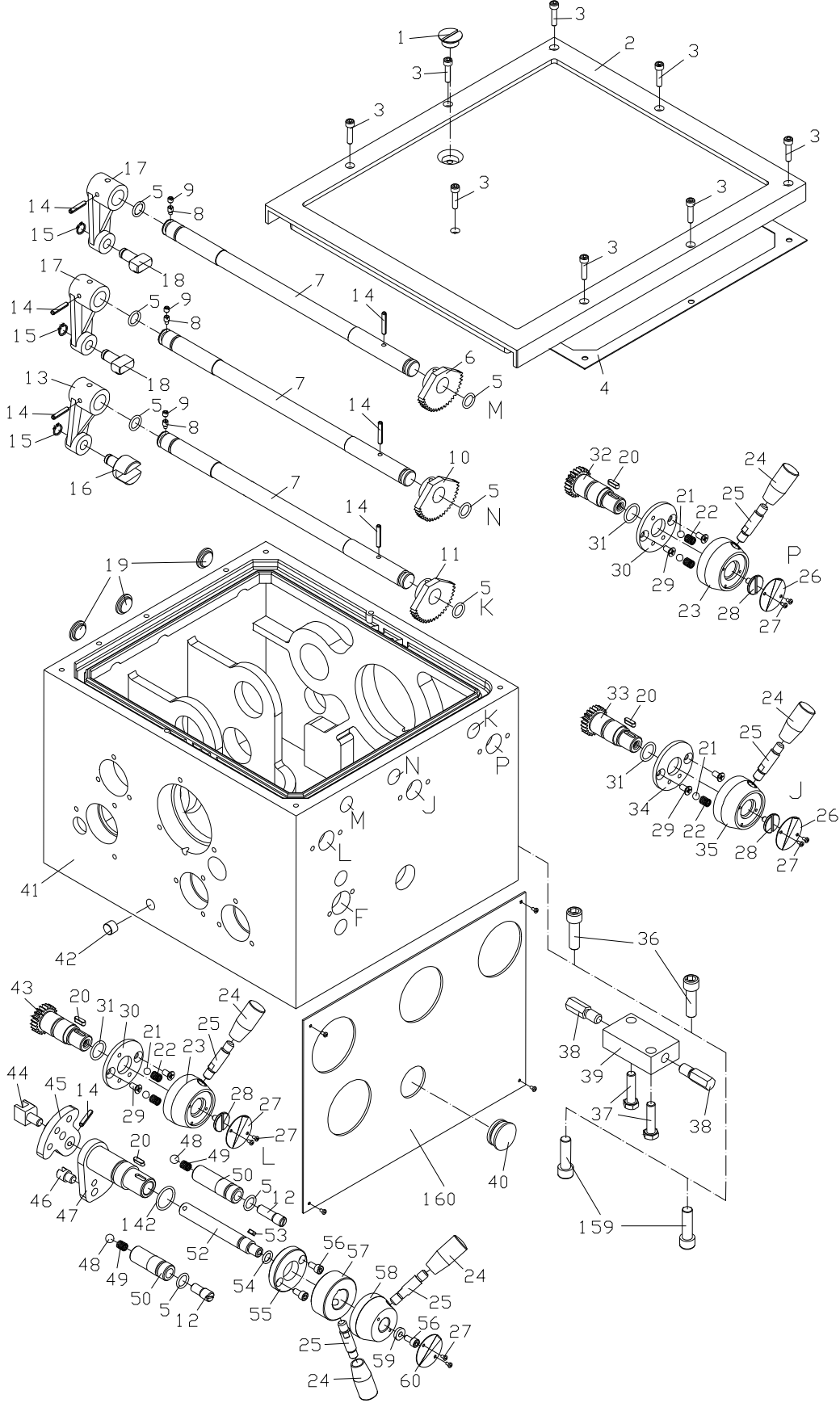
14.0 Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Non-proprietary parts, such as fasteners, can be found at local hardware stores, or may be ordered from JET.

Some parts are shown for reference only, and may not be available individually.

14.1.1 Headstock Assembly I – Exploded View

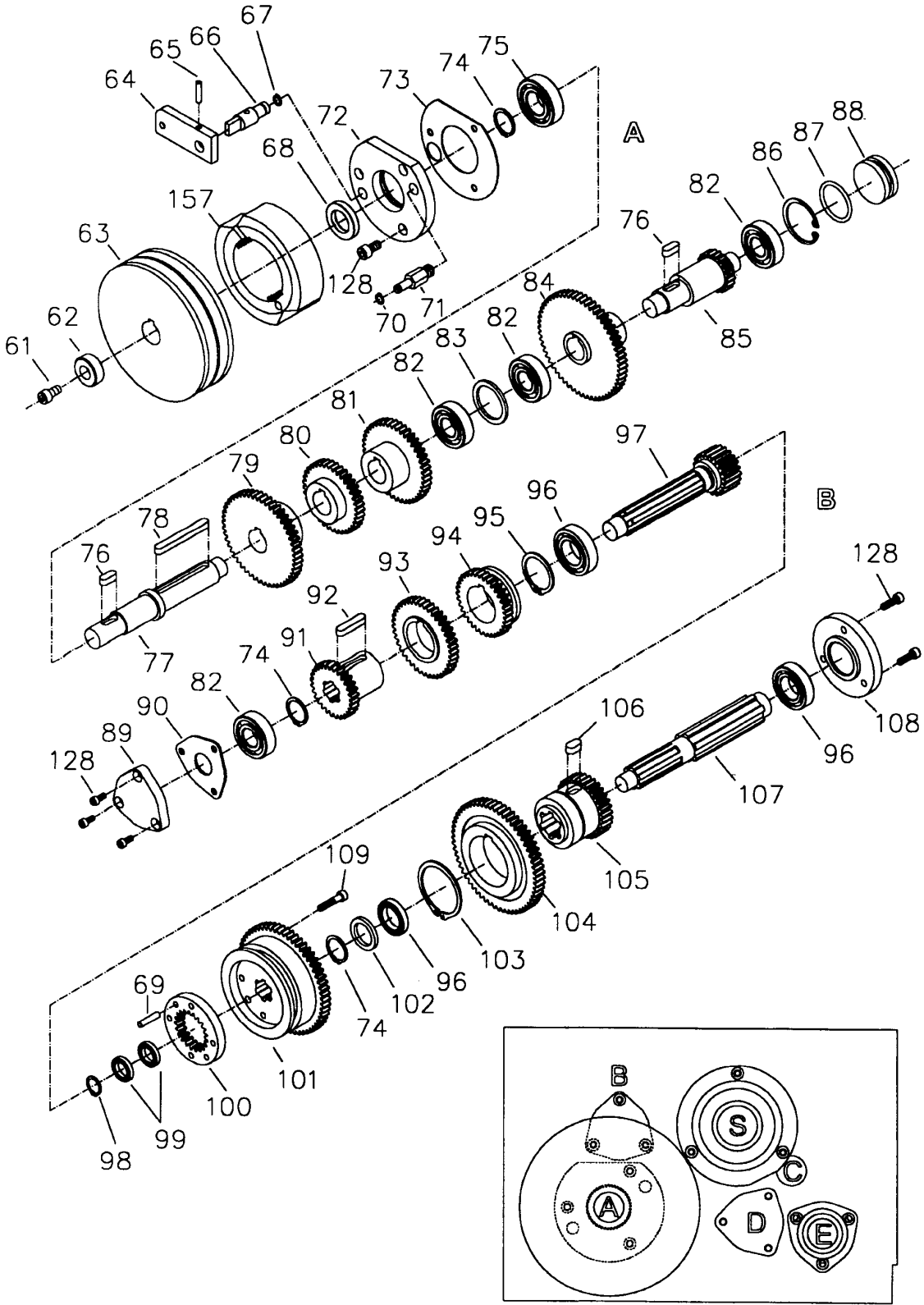


14.1.2 Headstock Assembly I – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------------|-------------------------|--------------|-----|
| 1 | C6136-02755 | Plug | | 1 |
| 2 | GH1440K-02119 | Headstock Cover | | 1 |
| 3 | TS-1503061 | Hex Socket Hd Cap Screw | M6x25 | 6 |
| 4 | GH1440K-02509 | Gasket | | 1 |
| 5 | GH1440K-005 | O-Ring | 14x2.65 mm | 8 |
| 6 | GH1440-04-38 | Gear | 38T | 1 |
| 7 | GH1440K-02749 | Shaft | | 3 |
| 8 | TS-1523031 | Socket Set Screw | M6x10 | 3 |
| 9 | F010445 | Socket Set Screw FP | M6x6 | 3 |
| 10 | GH1440-04-37 | Gear | 48T | 1 |
| 11 | GH1440-04-36 | Gear | 43T | 1 |
| 12 | GH1440K-02754 | Set Screw | | 1 |
| 13 | GH1440-04-43 | Shift Arm | | 1 |
| 14 | ZX-S48 | Spring Pin | 5x30 mm | 7 |
| 15 | F006041 | C-Retaining Ring, Ext | 12 mm | 3 |
| 16 | GH1440-04-45 | Shift Fork | | 1 |
| 17 | GH1440-04-35 | Shift Arm | | 2 |
| 18 | GH1440-04-44 | Gear Shifter | | 2 |
| 19 | GH1440K-02748 | Plug | | 3 |
| 20 | 5510677 | Key, Dbl Rd Hd | 5x16 mm | 4 |
| 21 | SB-8MM | Steel Ball | 8 mm | 5 |
| 22 | C6240-20018 | Spring | | 5 |
| 23 | GH1440-04-49 | Lever Hub | | 2 |
| 24 | GB4141.14-BM10x50 | Knob | | 5 |
| 25 | GH1440-04-34 | Handle Lever | | 5 |
| 26 | GH1440K-02303 | Lever Indicator Plate | | 4 |
| 27 | TS-1531012 | Pan Hd Screw | M3x6 | 14 |
| 28 | GH1440-04-59 | Screw | | 3 |
| 29 | TS-1514011 | Socket Hd Flat Screw | M6x12 | 6 |
| 30 | GH1440-04-50 | Position Plate | | 2 |
| 31 | GH1440K-031 | O-Ring | 19x2.65 mm | 3 |
| 32 | GH1440-04-40 | Gear Shaft | 22T | 1 |
| 33 | GH1440-04-42 | Gear Shaft | 17T | 1 |
| 34 | GH1440-04-51 | Position Plate | | 1 |
| 35 | GH1440-04-58 | Lever Hub | | 1 |
| 36 | TS-1506051 | Hex Socket Hd Cap Screw | M12x40 | 2 |
| 37 | GB5782-86 | Alignment Bolt | M10x40 | 2 |
| 38 | GH1440-04-62 | Alignment Bolt | | 2 |
| 39 | GH1440-04-63 | Alignment Block | | 1 |
| 40 | GB1160.1-89 | Oil Sight Glass | 20 mm | 1 |
| 41 | GH1440K-02101 | Headstock Casting | | 1 |
| 42 | 05-75 | Drain Plug | | 1 |
| 43 | GH1440-04-39 | Gear Shaft | 27T | 1 |
| 44 | GH1440-04-47 | Shaft Fork | | 1 |
| 45 | GH1440-04-36 | Shifting Crank | | 1 |
| 46 | GH1440-04-71 | Shaft Fork | | 1 |
| 47 | GH1440K-02117 | Shifting Crank | | 1 |
| 48 | SB-10MM | Steel Ball | 10 mm | 2 |
| 49 | GB2089 | Spring | 0.9×9×40 mm | 2 |
| 50 | GH1440K-02753 | Shaft | | 1 |
| 51 | GH1440K-02755 | Shaft | | 1 |
| 52 | GH1440K-02747 | Shaft | | 1 |
| 53 | GB1096-4X10 | Key, Dbl Rd Hd | 4x10 mm | 1 |
| 54 | GH1440K-054 | O-Ring | 10.6x2.65 mm | 1 |
| 55 | GH1440-04-55 | Collar | | 1 |
| 56 | TS-150303 | Hex Socket Hd Cap Screw | M6x12 | 3 |
| 57 | GH1440-04-57 | Collar | | 1 |
| 58 | GH1440-04-58 | Lever Hub | | 1 |
| 59 | TS-1550041 | Flat Washer | 6mm | 1 |
| 60 | GH1440K-02756 | Lever Indicator Plate | | 1 |

| Index No. | Part No. | Description | Size | Qty |
|------------------|------------------|-------------------------|-------------|------------|
| 142 | GH1440K-142 | O-Ring | 25x2.65 mm | 3 |
| 159 | TS-1506041 | Hex Socket Hd Cap Screw | M12x35 | 2 |
| 160 | GH1440K-02304-24 | Name Plate | | 1 |

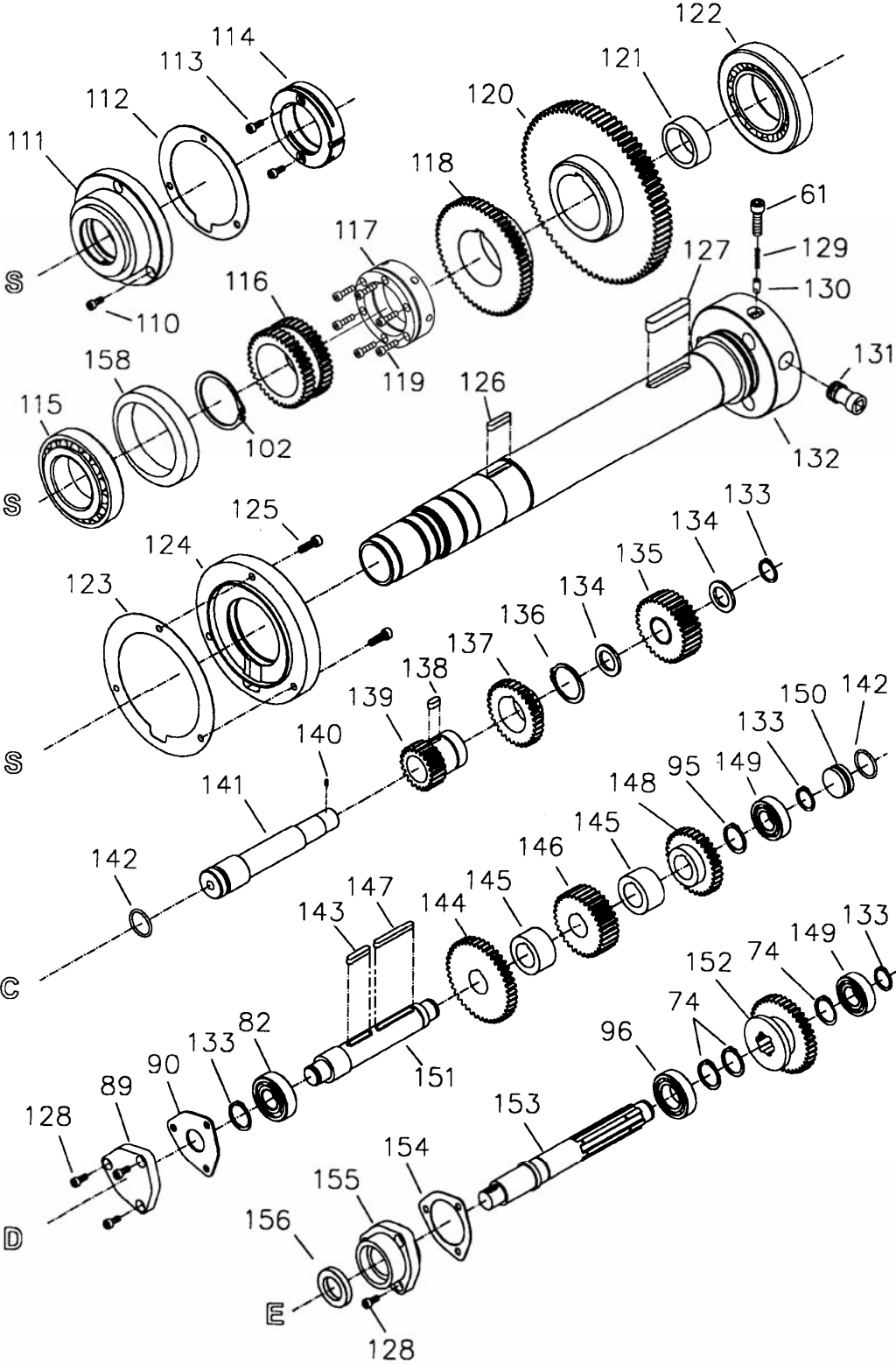
14.2.1 Headstock Assembly II – Exploded View



14.2.2 Headstock Assembly II – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|---------------|-------------------------|-----------|-----|
| 61 | TS-1504031 | Hex Socket Hd Cap Screw | M8x16 | 1 |
| 62 | 04-12 | Washer | | 1 |
| 63 | 04-11 | Pulley | | 1 |
| 64 | GH1440K-02722 | Brake Block | | 1 |
| 65 | 5625391 | Spring Pin | 5x16 mm | 1 |
| 66 | 11-09 | Brake Actuator Shaft | | 1 |
| 67 | F006041 | C-Retaining Ring, Ext | 12 mm | 1 |
| 68 | GB9877.1-88 | Spacer | SD25x45x7 | 1 |
| 69 | GHW-H69 | Taper Pin | A6x26 mm | 2 |
| 70 | F006039 | C-Retaining Ring, Ext | 8 mm | 1 |
| 71 | 11-11 | Brake Retaining Stud | | 1 |
| 72 | 04-13 | Cover | | 1 |
| 73 | 04-14 | Gasket | | 1 |
| 74 | F006050 | C-Retaining Ring, Ext | 25 mm | 6 |
| 75 | BB-6205 | Ball Bearing | 6205/p5 | 1 |
| 76 | AK052 | Key, Dbl Rd Hd | 8x20 mm | 2 |
| 77 | GH1440K-02718 | Shaft | | 1 |
| 78 | GHW-H78 | Key | 8x72 mm | 1 |
| 79 | GH1440-04-04 | Gear | 50T | 1 |
| 80 | GH1440-04-05 | Gear | 37T | 1 |
| 81 | GH1440-04-06 | Gear | 43T | 1 |
| 82 | BB-6204 | Ball Bearing | 6204/p5 | 5 |
| 83 | GH1440-04-17 | Washer | | 1 |
| 84 | GH1440-04-12 | Gear | 57T | 1 |
| 85 | GH1440-04-11 | Gear Shaft | 20T | 1 |
| 86 | F006075 | C-Retaining Ring, Int | 47 mm | 1 |
| 87 | GH1440K-287 | O-Ring | 40x2.65 | 1 |
| 88 | GH1440K-02106 | Plug | | 1 |
| 89 | 04-53 | Bearing Cap | | 2 |
| 90 | 04-52 | Gasket | | 2 |
| 91 | GH1440-04-08 | Gear | 28T | 1 |
| 92 | GHW-H92 | Key, Dbl Rd Hd | 8x38 mm | 1 |
| 93 | GH1440-04-09 | Gear | 41T | 1 |
| 94 | GH1440-04-10 | Gear | 34T | 1 |
| 95 | F006055 | C-Retaining Ring, Ext | 40 mm | 1 |
| 96 | BB-6005 | Ball Bearing | 6005/p5 | 4 |
| 97 | GH1440K-02724 | Gear Shaft | 21T | 1 |
| 98 | F006045 | C-Retaining Ring, Ext | 17 mm | 1 |
| 99 | BB-61803 | Ball Bearing | 61803/p5 | 2 |
| 100 | GH1440-04-15 | Gear | 21T | 1 |
| 101 | GH1440-04-14 | Gear | 58T | 1 |
| 102 | GH1440K-02709 | Washer | | 1 |
| 103 | F006082 | C-Retaining Ring, Ext | 55 mm | 1 |
| 104 | GH1440-04-19 | Gear | 59T | 1 |
| 105 | GH1440-04-18 | Gear | 31T | 1 |
| 106 | GB1096-10X18 | Key, Dbl Rd Hd | 10x18 mm | 1 |
| 107 | GH1440-04-13 | Spline Shaft | | 1 |
| 108 | GH1440-04-24 | Cover | | 1 |
| 109 | TS-1503081 | Hex Socket Hd Cap Screw | M6x35 | 4 |
| 128 | JHM610-22 | Hex Socket Hd Cap Screw | M6x14 | 9 |
| 157 | 11-15 | Brake Shoe Assembly | | 1 |

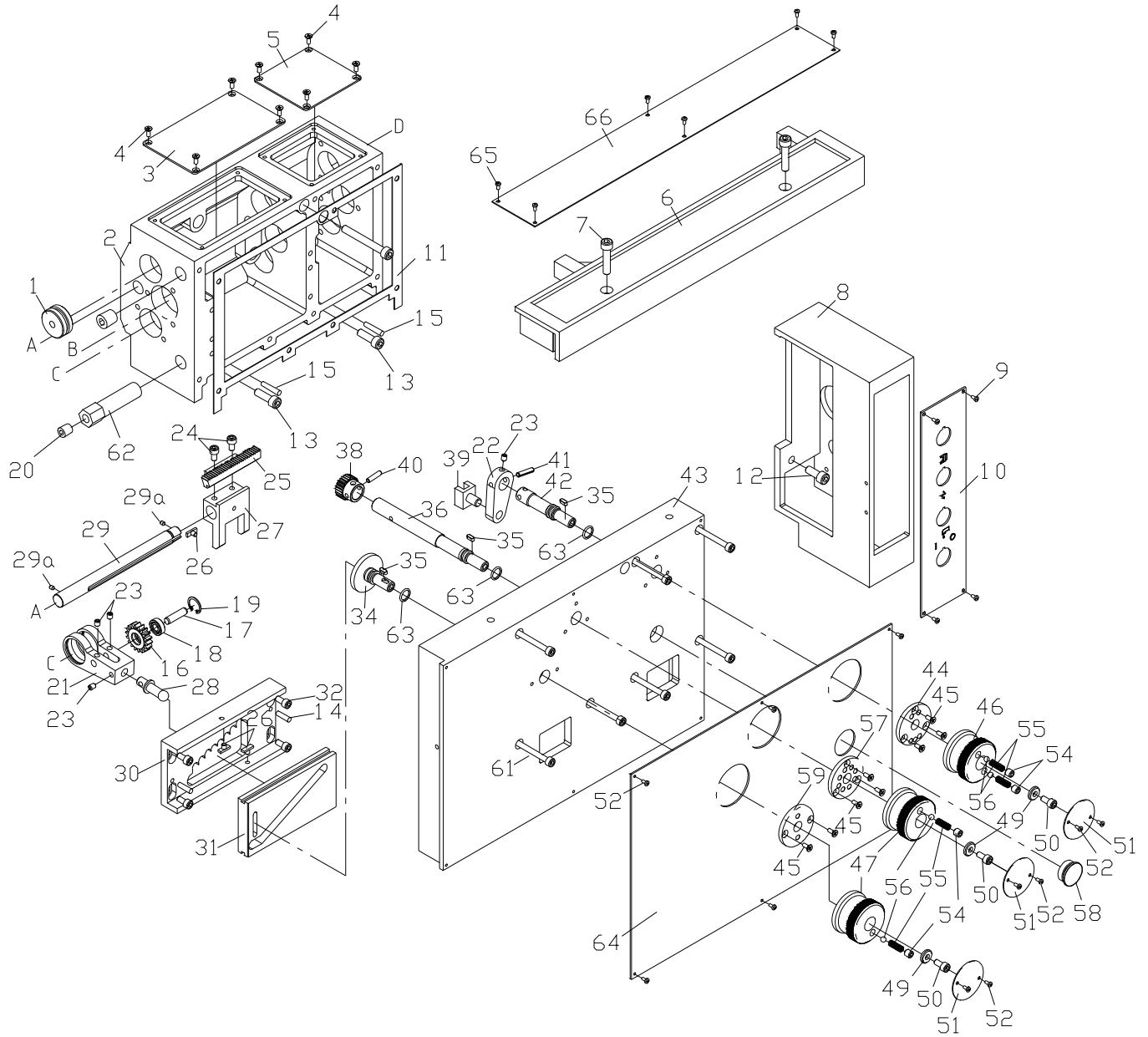
14.3.1 Headstock Assembly III – Exploded View



14.3.2 Headstock Assembly III – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|---------------|-------------------------|-----------|-----|
| 56 | TS-150303 | Hex Socket Hd Cap Screw | M6x12 | 18 |
| 61 | TS-1504031 | Hex Socket Hd Cap Screw | M8x16 | 3 |
| 74 | F006050 | C-Retaining Ring, Ext | 25 mm | 6 |
| 82 | BB-6204 | Ball Bearing | 6204/p5 | 5 |
| 89 | 04-53 | Bearing Cap | | 2 |
| 90 | 04-52 | Bearing Cap Gasket | | 2 |
| 95 | F006055 | C-Retaining Ring, Ext | 40 mm | 1 |
| 96 | BB-6005 | Ball Bearing | 6005/p5 | 4 |
| 102 | F006082 | C-Retaining Ring, Ext | 55 mm | 1 |
| 110 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 3 |
| 111 | GH1440-04-29 | Cover | | 1 |
| 112 | 04-60 | Gasket | | 1 |
| 113 | TS-1502031 | Hex Socket Hd Cap Screw | M5x12 | 2 |
| 114 | GH1440-04-31 | Nut | | 1 |
| 115 | BB-32011 | Tapered Roller Bearing | 32011/p5 | 1 |
| 116 | GH1440-04-30 | Gear | 38T | 1 |
| 117 | CK6125-02713 | Lock Collar | | 1 |
| 118 | GH1440-04-21 | Gear | 59T | 1 |
| 119 | TS-1502051 | Hex Socket Hd Cap Screw | M5x20 | 6 |
| 120 | GH1440-04-23 | Gear | 87T | 1 |
| 121 | GH1440-04-25 | Collar | | 1 |
| 122 | BB-30212 | Tapered Roller Bearing | 30212/p5 | 1 |
| 123 | GH1440-04-32 | Gasket | | 1 |
| 124 | GH1440-04-28 | Cover | | 1 |
| 125 | TS-1503061 | Hex Socket Hd Cap Screw | M6x25 | 3 |
| 126 | 5509094 | Key, Dbl Rd Hd | 6x30 mm | 1 |
| 127 | GHW-H127 | Key, Dbl Rd Hd | 10x55 mm | 1 |
| 128 | JHM610-22 | Hex Socket Hd Cap Screw | M6x14 | 6 |
| 129 | 04-31/1 | Spring | | 3 |
| 130 | 04-86 | Camlock Set Pin | | 3 |
| 131 | 04-85 | Camlock | | 3 |
| 132 | GH1440K-02701 | Spindle | | 1 |
| 133 | F006047 | C-Retaining Ring, Ext | 20 mm | 4 |
| 134 | 04-36 | Washer | | 2 |
| 135 | 04-35 | Gear Assembly | 32T | 1 |
| 136 | F006083 | C-Retaining Ring, Ext | 37 mm | 1 |
| 137 | 04-54 | Gear | 32T | 1 |
| 138 | KF2R5516 | Key, Dbl Rd Hd | 5x16 mm | 1 |
| 139 | 04-55 | Gear Assembly | 32T | 1 |
| 140 | TS-1523041 | Socket Set Screw | M6x12 | 1 |
| 141 | 04-37 | Shaft | | 1 |
| 142 | GH1440K-342 | O-Ring | 25x2.65 | 3 |
| 143 | GHW-H126 | Key | 6x30 mm | 1 |
| 144 | GH1440K-02733 | Gear | 42T | 1 |
| 145 | GH1440K-02111 | Collar | | 2 |
| 146 | 04-44 | Gear | 32T | 1 |
| 147 | GHB1340-108 | Key, Dbl Rd Hd | 6x55 mm | 1 |
| 148 | GH1440K-02736 | Gear | 32T | 1 |
| 149 | BB-6004 | Ball Bearing | 6004/p5 | 2 |
| 150 | GH1440K-02102 | Plug | | 1 |
| 151 | GH1440K-02732 | Shaft | | 1 |
| 152 | 04-43 | Gear | 38T | 1 |
| 153 | 04-42 | Spline Shaft | | 1 |
| 154 | 04-48 | Gasket | | 1 |
| 155 | 04-49 | Cover | | 1 |
| 156 | GB9877.1-88 | Spacer | SD25x40x7 | 1 |
| 158 | GH1440-04-65 | Collar | | 1 |

14.4.1 Gearbox Assembly I – Exploded View

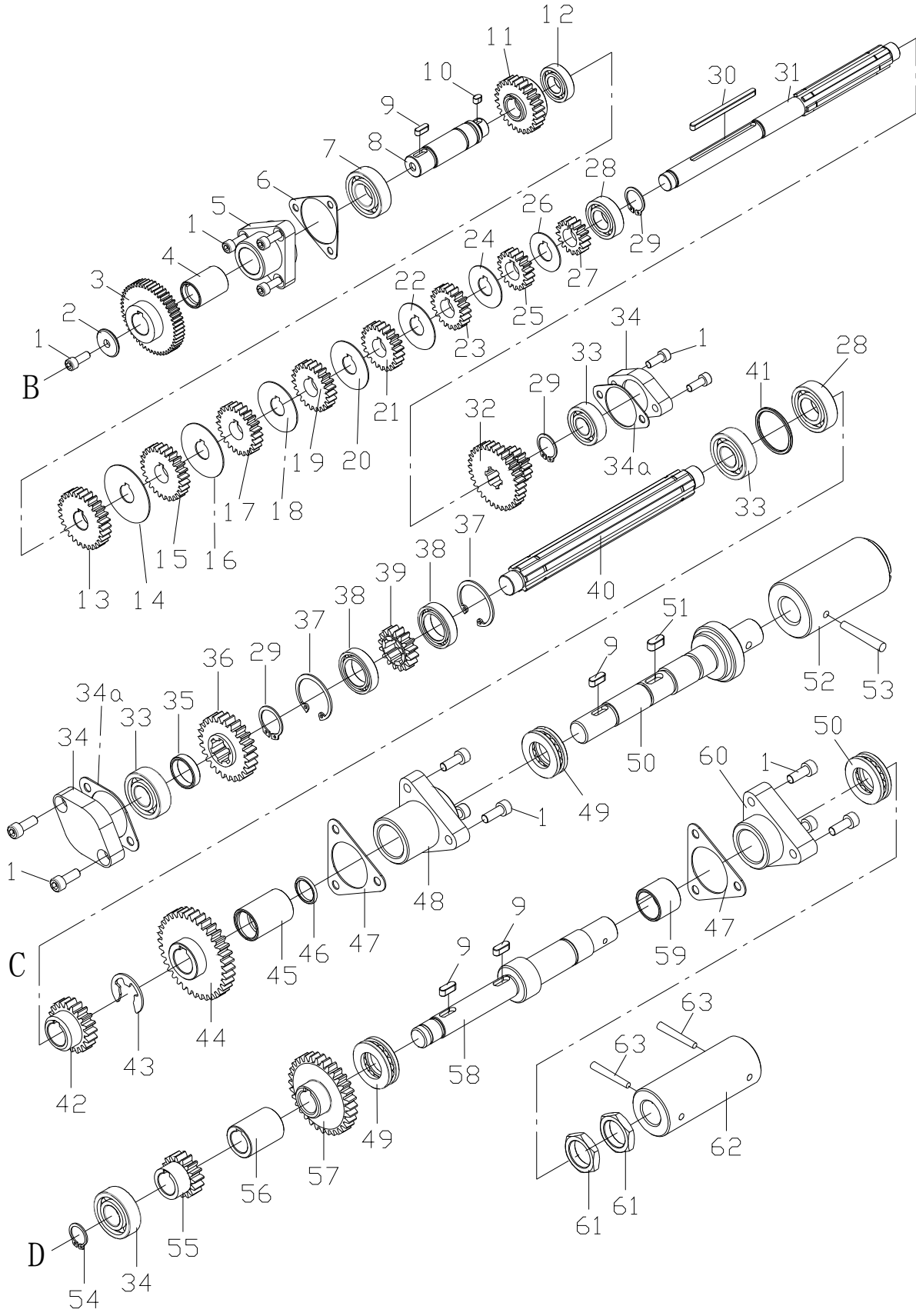


14.4.2 Gearbox Assembly I – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-----------------|---------------------------|-------------|-----|
| 1 | 05-73 | Plug | | 1 |
| 2 | GH1440K-05101 | Gearbox Casting | | 1 |
| 3 | 05-07 | Front Cover | | 1 |
| 4 | TS-1512011 | Socket Flat Head Screw | M4x10 | 8 |
| 5 | GH1440A-05719 | Oil Cover | | 1 |
| 6 | GH1440K-05501 | Cover | | 1 |
| 7 | TS-1504071 | Hex Socket Hd Cap Screw | M8x35 | 2 |
| 8 | GH1440-05-09 | Bracket | | 1 |
| 9 | GB2672 | Screw | M3x6 | 4 |
| 10 | GH1440K-18301-2 | Electrical Plate | | 1 |
| 11 | 05-61 | Gasket | | 1 |
| 12 | TS-1504081 | Hex Socket Hd Cap Screw | M8x40 | 2 |
| 13 | TS-1504051 | Hex Socket Hd Cap Screw | M8x25 | 3 |
| 14 | ZX-S75 | Taper Pin | 5x20 mm | 2 |
| 15 | GH1440K-415 | Taper Pin | 5x28 mm | 2 |
| 16 | 05-50 | Gear | 18T | 1 |
| 17 | 05-51 | Shaft | 8x30 mm | 1 |
| 18 | GB/T276-94 | Bearing | 619/8/p5 | 1 |
| 19 | F006084 | C-Retaining Ring, Int | 19 mm | 1 |
| 20 | 05-75 | Plug | | 2 |
| 21 | 05-03 | Shifter | | 1 |
| 22 | GH1440A-5107 | Shift Arm | | 1 |
| 23 | TS-2276081 | Socket Set Screw | M6x8 | 4 |
| 24 | TS-1503021 | Hex Socket Hd Cap Screw | M6x10 | 2 |
| 25 | 05-13 | Rack | | 1 |
| 26 | 05-01 | Shift Key | | 3 |
| 27 | 05-12 | Shift Fork | | 1 |
| 28 | GH1440-0128 | Shaft | | 1 |
| 29 | 05-15 | Shaft | | 1 |
| 29a | TS-2276081 | Socket Set Screw | M6x8 | 2 |
| 30 | 05-05 | Locating Plate | | 1 |
| 31 | 05-04 | Control Plate | | 1 |
| 32 | TS-150303 | Hex Socket Hd Cap Screw | M6x12 | 4 |
| 34 | GH1440K-05701 | Shift Hub | | 1 |
| 35 | 6293384 | Key, Dbl Rd Hd | 4x10 mm | 3 |
| 36 | GH1440K-05702 | Shaft | | 1 |
| 38 | 05-14 | Gear | 26T | 1 |
| 39 | 05-55 | Shift Fork | | 1 |
| 40 | GA7X-122 | Spring Pin | 5x20 mm | 1 |
| 41 | GHB1340-A82 | Spring Pin | 5x25 mm | 1 |
| 42 | GH1440K-05703 | Shaft | | 1 |
| 43 | GH1440K-05102 | Cover | | 1 |
| 44 | 05-58 | Locating Disc | | 1 |
| 45 | TS-1512011 | Socket Flat Hd Screw | M4x10 | 8 |
| 46 | GH14440K-05724 | Shift Hub | | 1 |
| 47 | GH1440-05-13 | Shift Hub | | 2 |
| 49 | 05-08 | Washer | | 3 |
| 50 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 3 |
| 51 | GH1440K-05302 | Shift Hub Indicator Plate | | 3 |
| 52 | TS-1531012 | Pan Head Screw | M3x6 | 6 |
| 54 | TS-1524011 | Socket Set Screw | M8x8 | 4 |
| 55 | GH1440K-455 | Spring | 0.8x5x25 mm | 4 |
| 56 | SB-6.5MM | Steel Ball | 6.5 mm | 4 |
| 57 | 05-10 | Locating Disc | | 1 |
| 58 | GH1440-05-27 | Oil Sight Glass | | 1 |
| 59 | 05-59 | Locating Disc | | 1 |
| 61 | TS-1503111 | Hex Socket Hd Cap Screw | M6x50 | 7 |
| 62 | GHB1340A-05724 | Oil Drain Pipe | | 1 |
| 63 | G51-2A | O-Ring | | 3 |

| Index No. | Part No. | Description | Size | Qty |
|------------------|------------------|-----------------------------|-------------|------------|
| 64 | GH1440K-05301-19 | Name Plate | | 1 |
| 65 | GB2672 | Screw | M3x6 | 6 |
| 66 | GH1440K-05303 | Graphic Plate - Speed Chart | | 1 |

14.5.1 Gearbox Assembly II – Exploded View

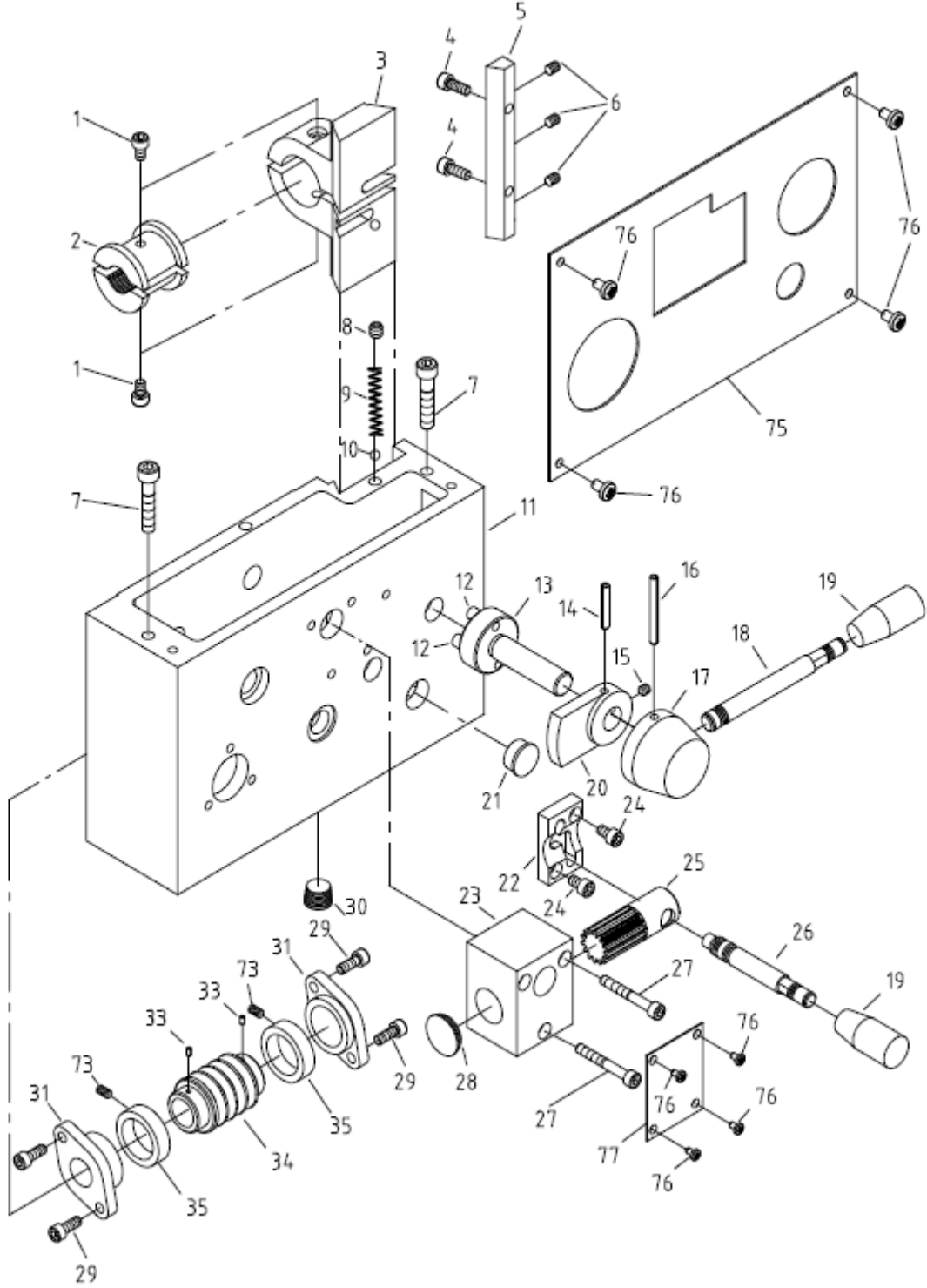


14.5.2 Gearbox Assembly II – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|----------------|-----------------------|-----------|-----|
| 1 | TS-1503041 | Hex Socket Cap Screw | M6x16 | 1 |
| 2 | 05-42 | Washer | | 1 |
| 3 | 05-41 | Gear | 52T | 1 |
| 4 | GH1440A-05305 | Shaft Collar | | 1 |
| 5 | 05-39 | Flange | | 1 |
| 6 | 05-38 | Gasket | | 1 |
| 7 | BB-6004 | Ball Bearing | 6004/P5 | 1 |
| 8 | GH1440A-05725 | Shaft (Inch) | | 1 |
| 9 | GB1096-5x14 | Key, Dbl Rd Hd | 5x14 mm | 4 |
| 10 | KF2R5508 | Key, Dbl Rd Hd | 5x8 mm | 1 |
| 11 | GH1440A-05722 | Gear | | 1 |
| 12 | GB/T276-94 | Ball Bearing | 16002/p5 | 1 |
| 13 | 05-35 | Gear | 28T | 1 |
| 14 | GH1440K-05719 | Key Slot Washer | | 1 |
| 15 | GH1440K-05712 | Gear | 26T | 1 |
| 16 | GH1440K-05718 | Key Slot Washer | | 1 |
| 17 | GH1440K-05711 | Gear | 24T | 1 |
| 18 | GH1440K-05717 | Key Slot Washer | | 1 |
| 19 | GH1440K-05710 | Gear | 23T | 1 |
| 20 | GH1440K-05716 | Key Slot Washer | | 1 |
| 21 | GH1440K-05709 | Gear | 22T | 1 |
| 22 | GH1440K-05715 | Key Slot Washer | | 1 |
| 23 | GH1440K-05708 | Gear | 20T | 1 |
| 24 | GH1440K-05714 | Key Slot Washer | | 1 |
| 25 | GH1440K-05707 | Gear | 18T | 1 |
| 26 | GH1440K-05713 | Key Slot Washer | | 1 |
| 27 | GH1440K-05706 | Gear | 16T | 1 |
| 28 | BB-6003 | Ball Bearing | 6003/P5 | 2 |
| 29 | F006047 | C-Retaining Ring, Ext | 20 mm | 3 |
| 30 | F014005 | Key, Dbl Rd Hd | 5x5x75 mm | 1 |
| 31 | GH1440A-05733A | Shaft (Inch) | | 1 |
| 32 | GH1440A-05721 | Gear | 16T/32T | 1 |
| 33 | BB-6202 | Ball Bearing | 6202/p5 | 3 |
| 34 | 05-47 | Flange | | 2 |
| 34a | 05-48 | Flange | | 2 |
| 35 | GH1440A-05118 | Shaft Collar | | 1 |
| 36 | 05-37 | Gear | 26T | 1 |
| 37 | F006031 | C-Retaining Ring, Int | 32 mm | 2 |
| 38 | BB-61804 | Ball Bearing | 61804/p5 | 2 |
| 39 | 05-49 | Gear | 16T | 1 |
| 40 | 05-52 | Shaft | | 1 |
| 41 | GH1440A-05729 | Shaft Collar | | 1 |
| 42 | 05-25 | Gear | 20T | 1 |
| 43 | PT2748A-032 | E-Ring | 15 mm | 1 |
| 44 | 05-19 | Gear | 32T | 1 |
| 45 | GH1440A-05306 | Shaft Collar | | 1 |
| 46 | G51-2A | O-Ring | 20X2.4 mm | 1 |
| 47 | 05-53 | Gasket | | 2 |
| 48 | 05-17 | Flange | | 1 |
| 49 | BB-51104 | Ball Bearing | 51104 | 2 |
| 50 | GH1440K-05704 | Shaft | | 1 |
| 51 | 5217851 | Key, Dbl Rd Hd | 6x6x14 mm | 1 |
| 52 | GH1440K-05727 | Collar | | 1 |
| 53 | GB117-5x40 | Taper Pin | 5x40 mm | 1 |
| 54 | F006043 | C-Retaining Ring, Ext | 15 mm | 1 |
| 55 | 05-26 | Gear | 16T | 1 |
| 56 | 05-24 | Shaft Collar | | 1 |
| 57 | 05-22 | Gear | 32T | 1 |

| Index No. | Part No. | Description | Size | Qty |
|------------------|-----------------|--------------------|-------------|------------|
| 58 | GH1440K-05705 | Shaft | | 1 |
| 59 | GH1440A-05307 | Shaft Collar | | 1 |
| 60 | 05-18 | Flange | | 1 |
| 61 | 05-20 | Nut | | 2 |
| 62 | GH1440K-05726 | Collar | | 1 |
| 63 | GB117-4x35 | Taper Pin | 4x35 mm | 2 |

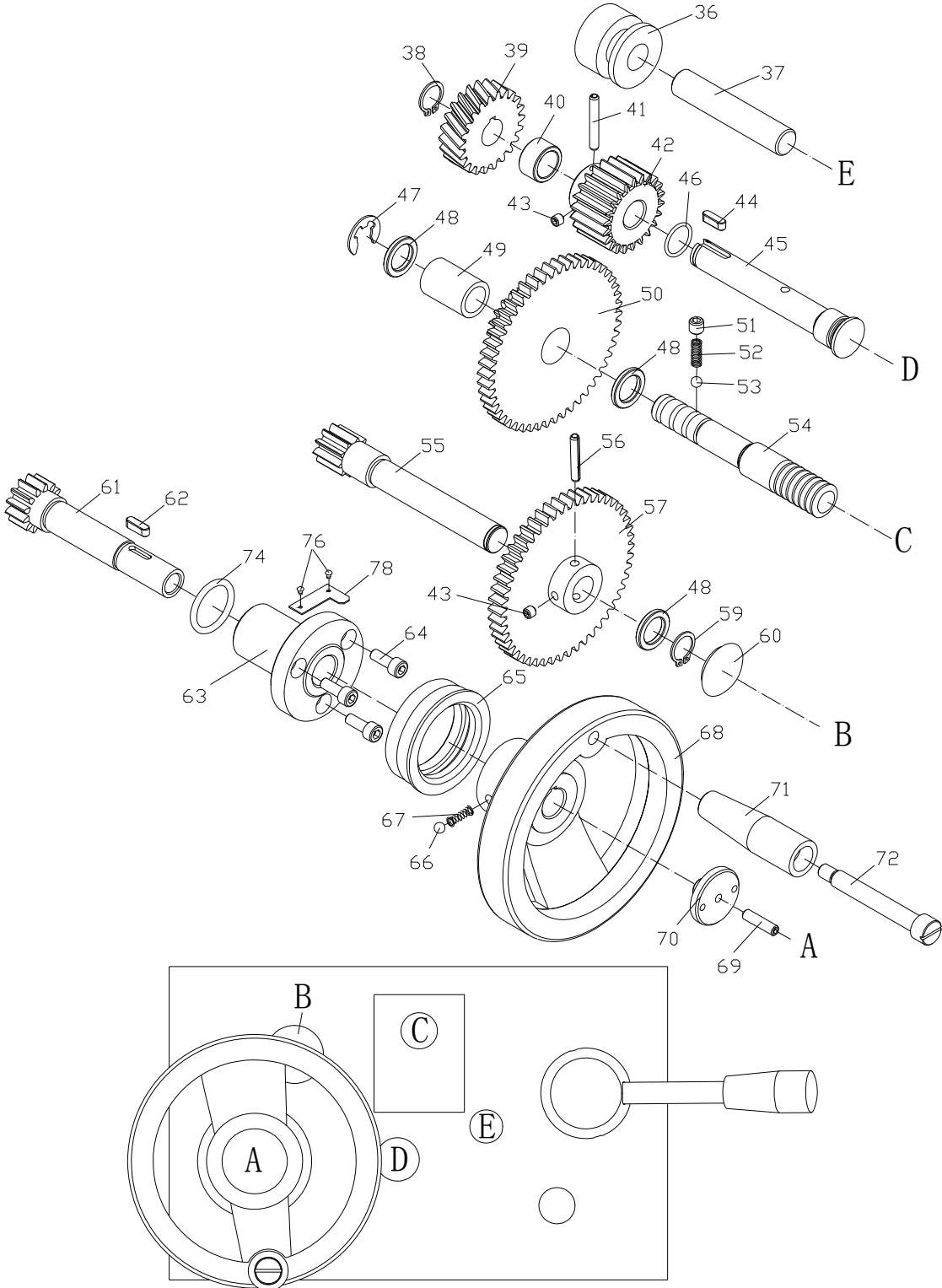
14.6.1 Apron Assembly I – Exploded View



14.6.2 Apron Assembly I – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------------|-----------------------------|---------|-----|
| 1 | TS-1503021 | Hex Socket Hd Cap Screw | M6x10 | 2 |
| 2 | 06-37 | Half Nut | | 1 |
| 3 | 06-36 | Bracket | | 1 |
| 4 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 2 |
| 5 | 06-33 | Gib | | 1 |
| 6 | TS-1523031 | Socket Set Screw | M6x10 | 3 |
| 7 | TS-1504081 | Hex Socket Hd Cap Screw | M8x40 | 2 |
| 8 | TS-1524011 | Socket Set Screw | M8x8 | 1 |
| 9 | 06-39 | Spring | | 1 |
| 10 | SB-6MM | Steel Ball | 6 mm | 1 |
| 11 | 06-01 | Apron Casting | | 1 |
| 12 | 06-42-1 | Pin | | 2 |
| 13 | 06-42 | Half Nut Cam | | 1 |
| 14 | GB879-5X35 | Spring Pin | 5x35 mm | 1 |
| 15 | TS-1523011 | Socket Set Screw | M6x6 | 1 |
| 16 | JRD1000-J39 | Spring Pin | 5x50 mm | 1 |
| 17 | GH1440-06-09 | Hub | | 1 |
| 18 | GH1440-06-04 | Handle Shaft | | 1 |
| 19 | GB4141.14-BM10x50 | Knob | | 2 |
| 20 | 06-40 | Safety Catch | | 1 |
| 21 | GB1160-12 | Sight Glass | 12 mm | 1 |
| 22 | 06-04 | Bracket | | 1 |
| 23 | 06-16 | Block | | 1 |
| 24 | TS-1503031 | Hex Socket Hd Cap Screw | M6x12 | 2 |
| 25 | GH1440-06-07 | Spline Shaft | | 1 |
| 26 | GH1440-06-08 | Handle Shaft | | 1 |
| 27 | TS-1503101 | Hex Socket Hd Cap Screw | M6x45 | 3 |
| 28 | 06-02 | Plug | | 1 |
| 29 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 4 |
| 30 | 06-35 | Drain Plug | | 1 |
| 31 | 06-34 | Flange | | 2 |
| 33 | GB879-3X5 | Spring Pin | 3x5 mm | 2 |
| 34 | 06-27 | Worm | | 1 |
| 35 | 06-50 | Collar | | 2 |
| 73 | TS-1522031 | Set Screw | M5x10 | 2 |
| 75 | GH1440K06301-6 | Apron Label | | 1 |
| 76 | TS-1531012 | Screw | M3x6 | 8 |
| 77 | GH1440K06302-2 | Graphic Plate - Thread Dial | | 1 |

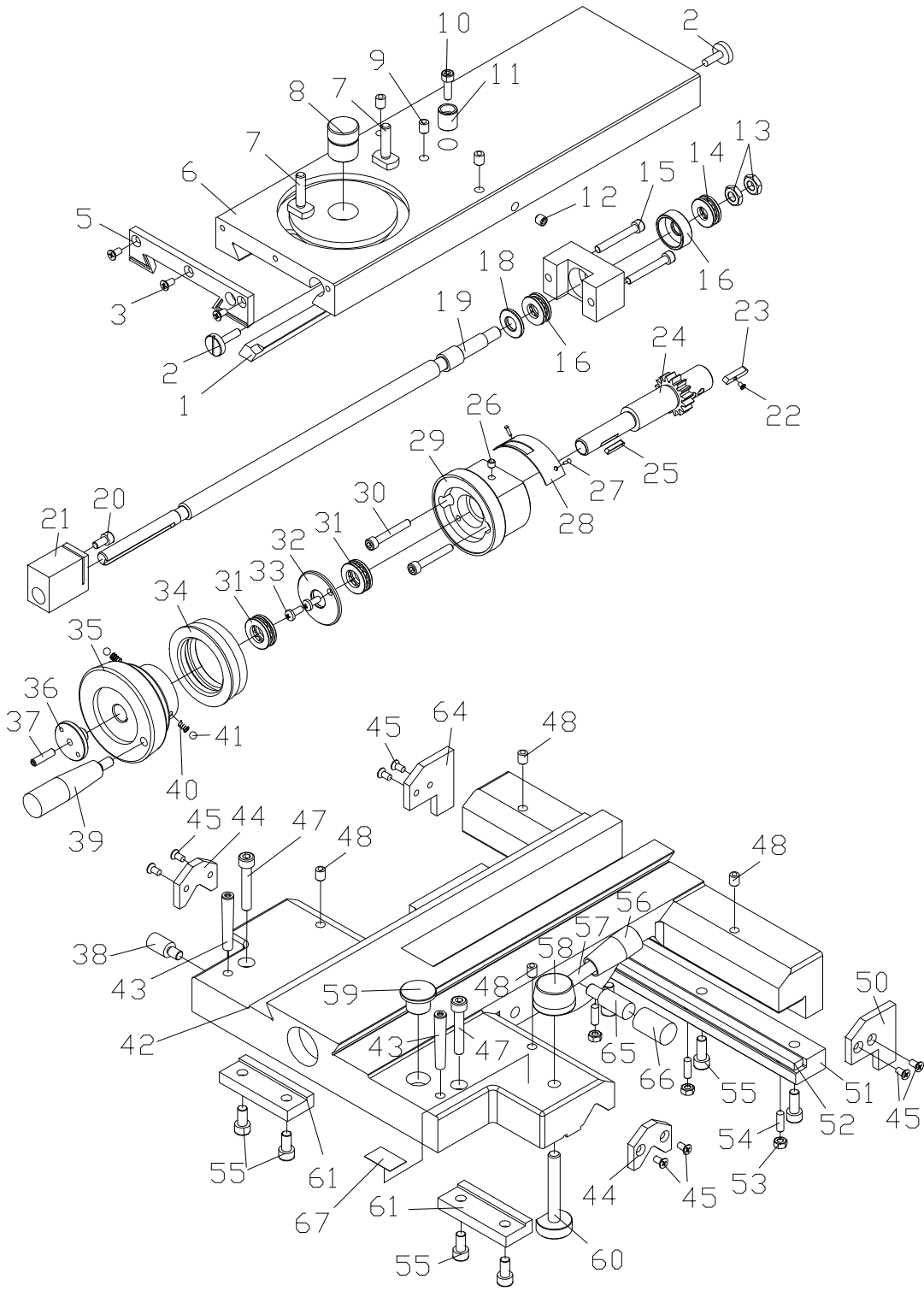
14.7.1 Apron Assembly II – Exploded View



14.7.2 Apron Assembly II – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|---------------|-------------------------|--------------|-----|
| 36 | 06-44 | Bushing | | 1 |
| 37 | 06-43 | Shaft | | 1 |
| 38 | F006044 | C-Retaining Ring, Ext | 16 mm | 1 |
| 39 | 06-28 | Gear | 22T | 1 |
| 40 | 06-26 | Collar | | 1 |
| 41 | GB879-86 | Pin | 5x35 mm | 1 |
| 42 | 06-20 | Gear | 24T | 1 |
| 43 | TS-152301 | Set Screw | M6x6 | 1 |
| 44 | GB1096-79 | Key | 5x15 mm | 1 |
| 45 | 06-19 | Shaft | | 1 |
| 46 | GB3452.1-82 | O-Ring | 17x1.8 mm | 1 |
| 47 | 6012062 | E-Retaining Ring, Ext | 12 mm | 1 |
| 48 | 06-10 | Bushing | | 2 |
| 49 | 06-15-1 | Collar | | 1 |
| 50 | 06-15 | Cluster Gear | 50T/20T | 1 |
| 51 | TS-152401 | Set Screw | M8x8 | 1 |
| 52 | 06-14 | Spring | | 1 |
| 53 | SB-6MM | Steel Ball | 6 mm | 1 |
| 54 | 06-13 | Shaft | | 1 |
| 55 | 06-06 | Shaft | | 1 |
| 56 | ZX-S48 | Spring Pin | 5x30 mm | 1 |
| 57 | 06-08 | Gear | 50T | 1 |
| 58 | 06-10 | Bushing | | 1 |
| 59 | F006044 | C-Retaining Ring, Ext | 16 mm | 1 |
| 60 | 06-11 | Plug | | 1 |
| 61 | 06-07 | Shaft | | 1 |
| 62 | GB1096-79 | Key, Dbl Rd Hd | 5x15 | 1 |
| 63 | GH1440-06-05 | Handwheel Flange | | 1 |
| 64 | TS-150304 | Hex Socket Hd Cap Screw | M6x16 | 3 |
| 65 | 06-31 | Indicator Ring | | 1 |
| 66 | SB-6MM | Steel Ball | 6 mm | 2 |
| 67 | 06-32 | Spring | | 2 |
| 68 | GH1440-06-06 | Handwheel | | 1 |
| 69 | TS-152307 | Set Screw | M6x25 | 1 |
| 70 | 06-30 | Wheel Stud | | 1 |
| 71 | GH1440-06-11 | Handle Sleeve | | 1 |
| 72 | GH1440-06-10 | Handle Screw | | 1 |
| 74 | GH1440K-774 | O-Ring | 25.8x3.55 mm | 1 |
| 76 | TS-1531012 | Screw | M3x6 | 2 |
| 78 | GH1440-06304A | Indicator Label | | 1 |

14.8.1 Saddle and Cross Slide Assembly – Exploded View

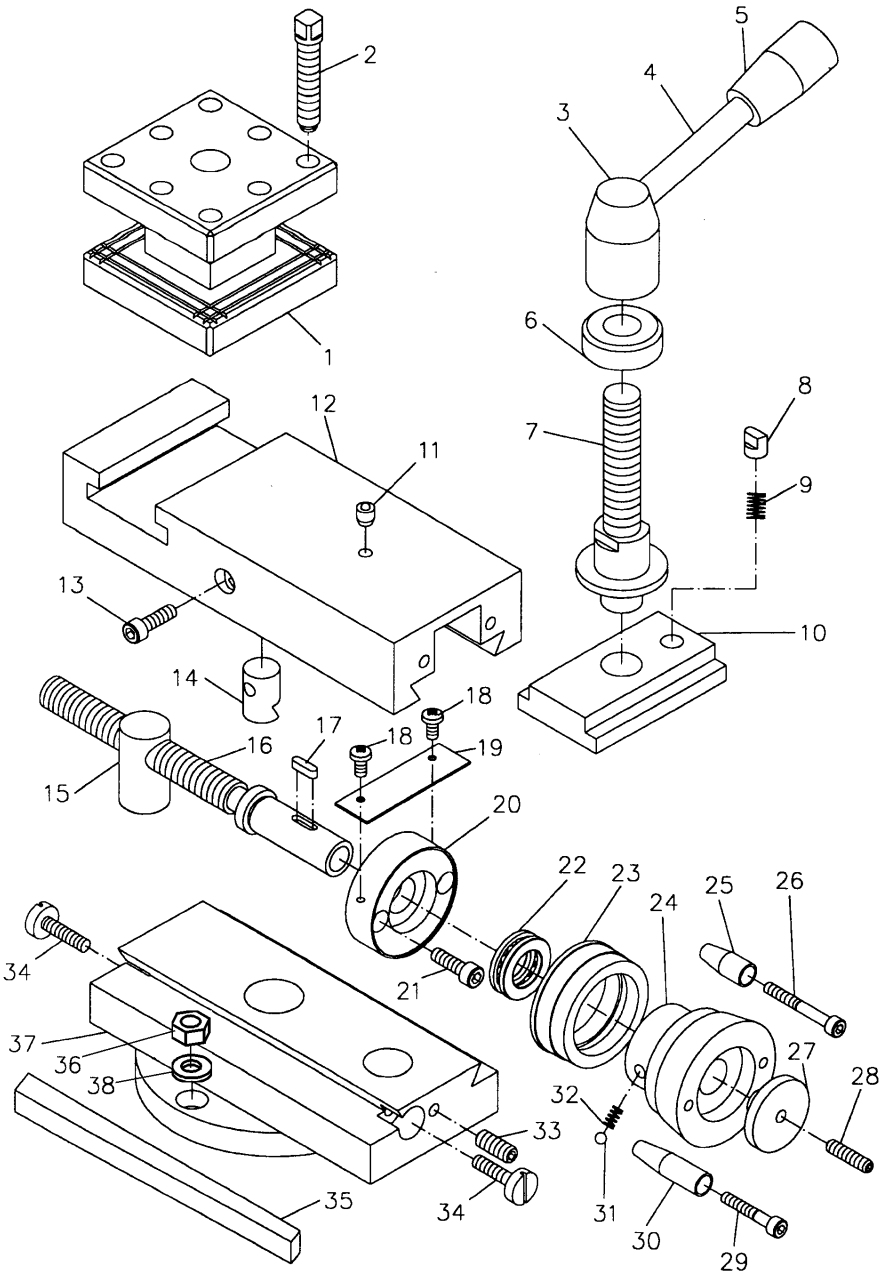


14.8.2 Saddle and Cross Slide Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-----------------|-------------------------|------------|-----|
| 1 | GH1440K-04702 | Gib | | 1 |
| 2 | GH1440A-04728 | Gib Adjusting Screw | | 2 |
| 3 | TS-1533032 | Pan Head Machine Screw | M5x10 | 5 |
| 5 | GH1440K-04504 | Plate Wiper | | 1 |
| 6 | GH1440K-04102 | Cross Slide Body | | 1 |
| 7 | GH1440K-04704 | Clamp Nut | | 2 |
| 8 | GH1440A-04726 | Hub | | 1 |
| 9 | GH1440K-809 | Ball Oiler | 8 mm | 3 |
| 10 | TS-1503051 | Hex Socket Hd Cap Screw | M6x20 | 3 |
| 11 | GH1440K-04705 | Sleeve | | 1 |
| 12 | TS-1524011 | Socket Set Screw | M8x8 | 1 |
| 13 | TS-1540071 | Hex Nut | M10 | 2 |
| 14 | GH1440A-04701 | Bearing Cap | | 1 |
| 15 | TS-1503071 | Hex Socket Hd Cap Screw | M6x30 | 2 |
| 16 | BB-8101 | Thrust Bearing | 8101 | 2 |
| 17 | GH1440A-04103 | Block | | 1 |
| 18 | GH1440A-04702 | Spacer | | 1 |
| 19 | GH1440-07-16 | Leadscrew | | 1 |
| 20 | TS-1503031 | Hex Socket Hd Cap Screw | M6x12 | 1 |
| 21 | GH1440K-04301 | Crossfeed Nut | | 1 |
| 22 | GHB1340A-155 | Pan Head Machine Screw | M3x5 | 1 |
| 23 | KF2R5525 | Key, Dbl Rd Hd | 5X25 mm | 1 |
| 24 | GH1440K-04703 | Gear Shaft | | 1 |
| 25 | GB1096-4X20 | Key, Dbl Rd Hd | 4x20 mm | 2 |
| 26 | GB1155-89 | Oiler | 6 mm | 1 |
| 27 | TS-1531012 | Pan Head Machine Screw | M3x6 | 2 |
| 28 | GH1440K-04713 | Indicator Plate | | 1 |
| 29 | GH1440K-04103 | Housing | | 1 |
| 30 | TS-1503091 | Hex Socket Hd Cap Screw | M6x40 | 2 |
| 31 | BB-8102 | Thrust Bearing | 8102 | 2 |
| 32 | GH1440A-04715 | Washer, spcl | | 1 |
| 33 | TS-1533032 | Pan Head Machine Screw | M5x10 | 2 |
| 34 | GH1440A-04716A | Index Ring | | 1 |
| 35 | GH1440A-04107 | Compound Handle | | 1 |
| 36 | GH1440A-04717 | Cover Screw | | 2 |
| 37 | TS-1523071 | Socket Set Screw | M6x25 | 1 |
| 39 | GH1440A-06719 | Handle Sleeve | | 1 |
| 40 | GB2089-79 | Spring | 0.7x5x9 mm | 2 |
| 41 | SB-6MM | Steel Ball | 6 mm | 2 |
| 42 | GH1440K-04101 | Saddle | | 1 |
| 43 | ZX-A41 | Taper Pin | 6x40 mm | 2 |
| 44 | GH1440K-04503 | Plate Wiper | | 2 |
| 45 | TS-1533032 | Pan Head Machine Screw | M5x10 | 11 |
| 47 | TS-1504091 | Hex Socket Hd Cap Screw | M8x45 | 2 |
| 48 | GH1440K-809 | Oiler | 8 mm | 4 |
| 50 | GH1440K-04501 | Plate Wiper | | 1 |
| 51 | GH1440A-04720 | Rear Pressure Plate | | 1 |
| 52 | GH1440A-04108 | Gib | | 1 |
| 53 | TS-1540041 | Hex Nut | M6 | 4 |
| 54 | TS-1523061 | Socket Set Screw | M6x20 | 4 |
| 55 | TS-1504041 | Hex Socket Hd Cap Screw | M8x20 | 6 |
| 56 | GB4141.14-10X50 | Knob | M10x50 | 1 |
| 57 | GH1440A-04733 | Handle Shaft | | 1 |
| 58 | GH1440A-04730 | Hub | | 1 |
| 59 | GH1440A-04502 | Oil Cap | | 1 |
| 60 | GH1440A-04731 | Lock Stud | | 1 |
| 61 | GH1440A-04719 | Front Pressure Plate | | 2 |
| 64 | GH1440K-04502 | Plate Wiper | | 1 |

| Index No. | Part No. | Description | Size | Qty |
|------------------|--------------------|--------------------|-------------|------------|
| 65 | GHB1340A-04788.... | Pin..... | ..... | 1 |
| 66 | GHB1340A-04507.... | Sleeve..... | ..... | 1 |
| 67 | GH1440K04303 | Plate..... | ..... | 1 |

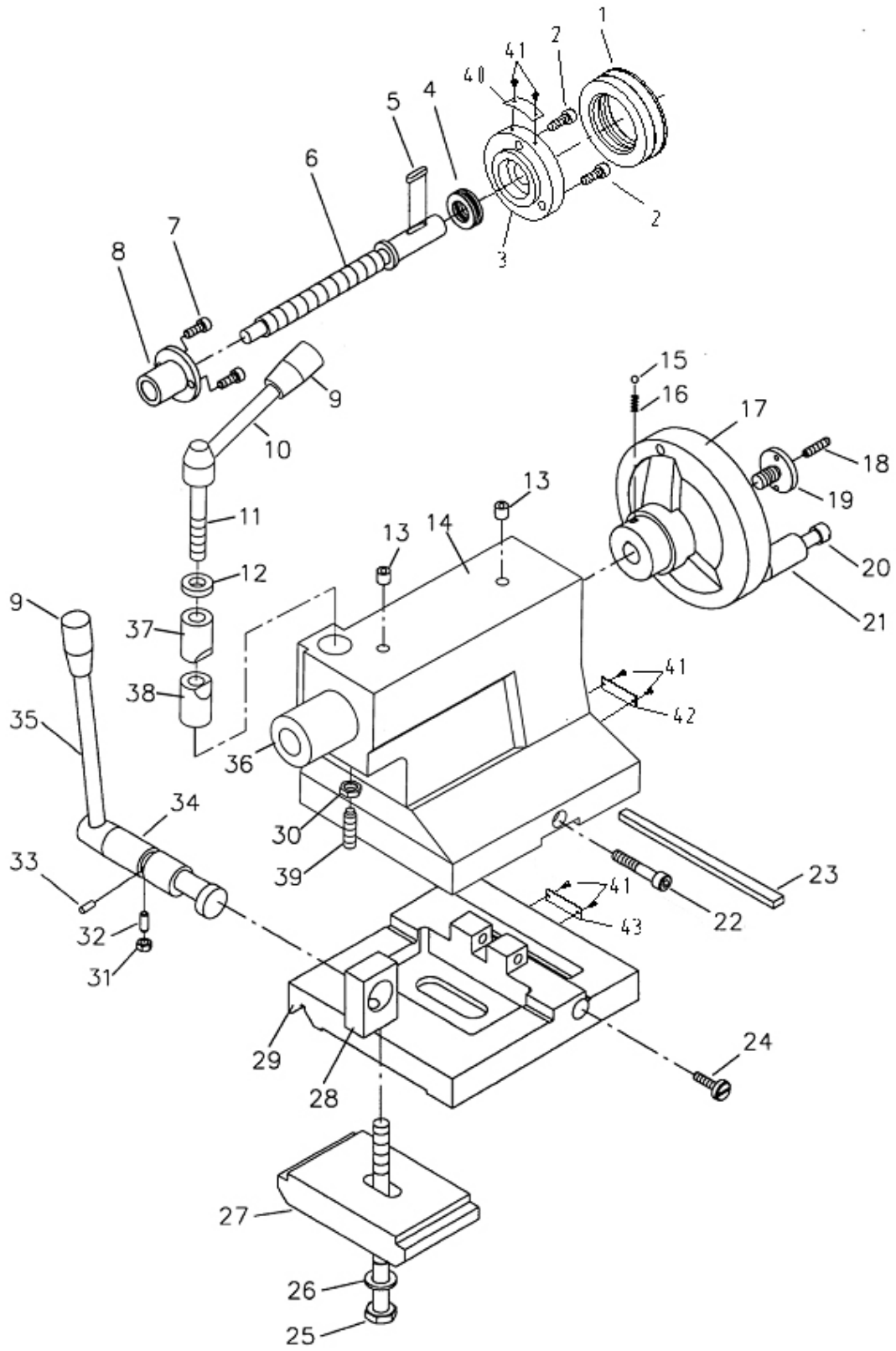
14.9.1 Top Slide and Tool Post – Exploded View



14.9.2 Top Slide and Tool Post – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------------|-------------------------|------------|-----|
| 1 | GH1440A-04707 | Tool Post | | 1 |
| 2 | GB83-88 | Tool Lock Screw | 10x50 mm | 8 |
| 3 | C0632-04704 | Handle Hub | | 1 |
| 4 | GH1440A-04705 | Handle Shaft | | 1 |
| 5 | GB4141.14-BM10x50 | Knob | | 1 |
| 6 | GH1440A-04706 | Spacer | | 1 |
| 7 | GH1440A-04708 | Tool Post Pin | | 1 |
| 8 | GH1440A-04709 | Tool Post Position Pin | | 1 |
| 9 | GB2089-80 | Spring | 1x8x11 mm | 1 |
| 10 | GH1440A-04725 | Clamp Nut | | 1 |
| 11 | GH1440K-809 | Ball Oiler | 8 mm | 1 |
| 12 | GH1440A-04105 | Compound Slide | | 1 |
| 13 | TS-1503051 | Hex Socket Hd Cap Screw | M6x20 | 1 |
| 14 | GH1440A-04729 | Position Pin | | 1 |
| 15 | GH1440A-04302A | Cylindrical Nut | | 1 |
| 16 | GH1440A-04724C | Compound Screw | | 1 |
| 17 | GB1096-79 | Key, Dbl Rd Hd | 4x14 mm | 1 |
| 18 | TS-1531012 | Screw | M3x6 | 2 |
| 19 | GH1440K-04714 | Indicator Label | | 1 |
| 20 | GH1440A-04110 | Screw Bushing | | 1 |
| 21 | TS-1503051 | Hex Socket Hd Cap Screw | M6x20 | 2 |
| 22 | BB-8103 | Thrust Bearing | 8103 | 1 |
| 23 | GH1440A-04723A | Index Ring | | 1 |
| 24 | GH1440A-04109 | Handwheel | | 1 |
| 25 | GH1440A-04722 | Handle | | 1 |
| 26 | TS-1502061 | Hex Socket Hd Cap Screw | M5x25 | 1 |
| 27 | GH1440A-04717 | Cover Screw | | 1 |
| 28 | TS-1523071 | Socket Set Screw | M6x25 | 1 |
| 29 | TS-1502091 | Hex Socket Hd Cap Screw | M5x40 | 1 |
| 30 | GH1440A-04721 | Handle | | 1 |
| 31 | SB-6MM | Steel Ball | 6 mm | 2 |
| 32 | GB2089-80 | Spring | 0.7x5x9 mm | 2 |
| 33 | TS-1523051 | Socket Set Screw | M6x16 | 1 |
| 34 | GH1440A-04728 | Gib Adjusting Screw | | 2 |
| 35 | GH1440K-04702 | Gib | | 1 |
| 36 | TS-1540061 | Hex Nut | M8 | 2 |
| 37 | GH1440K-04104 | Swivel Slide | | 1 |
| 38 | TS-1550061 | Flat Washer | 8 mm | 2 |

14.10.1 Tailstock Assembly – Exploded View



14.10.2 Tailstock Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|----------------|-------------------------|---------|-----|
| 1 | GH1440A-03703A | Index Ring | | 1 |
| 2 | TS-1503051 | Hex Socket Hd Cap Screw | M6x20 | 3 |
| 3 | GH1440K-03102 | Hub | | 1 |
| 4 | BB-8103 | Thrust Bearing | 8103 | 1 |
| 5 | KF2R4420 | Key, Dbl Rd Hd | 4x20 mm | 1 |
| 6 | GH1440K-03702 | Leadscrew | | 1 |
| 7 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 2 |
| 8 | GH1440K-03301 | Flange | | 1 |
| 9 | GB4141. 14 | Knob | BM10x50 | 2 |
| 10 | GH1440K-03705 | Lever Handle | | 1 |
| 11 | GH1440K-03704 | Lever Support | | 1 |
| 12 | GH1440K-03703 | Washer | | 1 |
| 13 | GB1155-89 | Ball Oiler | 10 mm | 2 |
| 14 | GH1440K-03101 | Tailstock Body | | 1 |
| 15 | SB-6MM | Steel Ball | 6 mm | 2 |
| 16 | GB2089-80 | Spring | 0.8x5x8 | 2 |
| 17 | GH1440A-06108 | Handwheel | | 1 |
| 18 | TS-1523081 | Socket Set Screw | M6x30 | 1 |
| 19 | GH1440A-06721 | Cover Screw | | 1 |
| 20 | GH1440A-06720 | Handle Lever | | 1 |
| 21 | GH1440A-06719 | Handle Sleeve | | 1 |
| 22 | TS-1504131 | Hex Socket Hd Cap Screw | M8x70 | 2 |
| 23 | GH1440K-03711 | Gib | | 1 |
| 24 | GH1440K-03712 | Gib Adjusting Screw | | 2 |
| 25 | TS-1492071 | Hex Cap Bolt | M12x70 | 1 |
| 26 | TS-155008 | Washer | 12 mm | 1 |
| 27 | GH1440K-03103 | Tailstock Clamp Plate | | 1 |
| 28 | GH1440A-03710 | Block | | 1 |
| 29 | GH1440K-03104 | Tailstock Base | | 1 |
| 30 | F012319 | Hex Jam Nut | M10 | 1 |
| 31 | F012316 | Hex Jam Nut | M6 | 1 |
| 32 | F010438 | Socket Set Screw DP | M6x16 | 1 |
| 33 | GB879-86 | Pin | 5x10 mm | 1 |
| 34 | GH1440K-03710 | Eccentric Shaft | | 1 |
| 35 | GH1440K-03709 | Lever Handle | | 1 |
| 36 | GH1440K-03701 | Quill | | 1 |
| 37 | GH1440K-03707 | Clamping Block | | 1 |
| 38 | GH1440K-03708 | Clamping Block | | 1 |
| 39 | F010446 | Socket Set Screw DP | M10x40 | 1 |
| 40 | GH1440K-03714 | Indicator Label | | 1 |
| 41 | TS-1531012 | Screw | M3x6 | 6 |
| 42 | GH1440K-03302 | Indicator Label | | 1 |
| 43 | GH1440K-03303 | Indicator Label | | 1 |

14.11.1 Bed and Shaft Assembly – Exploded View

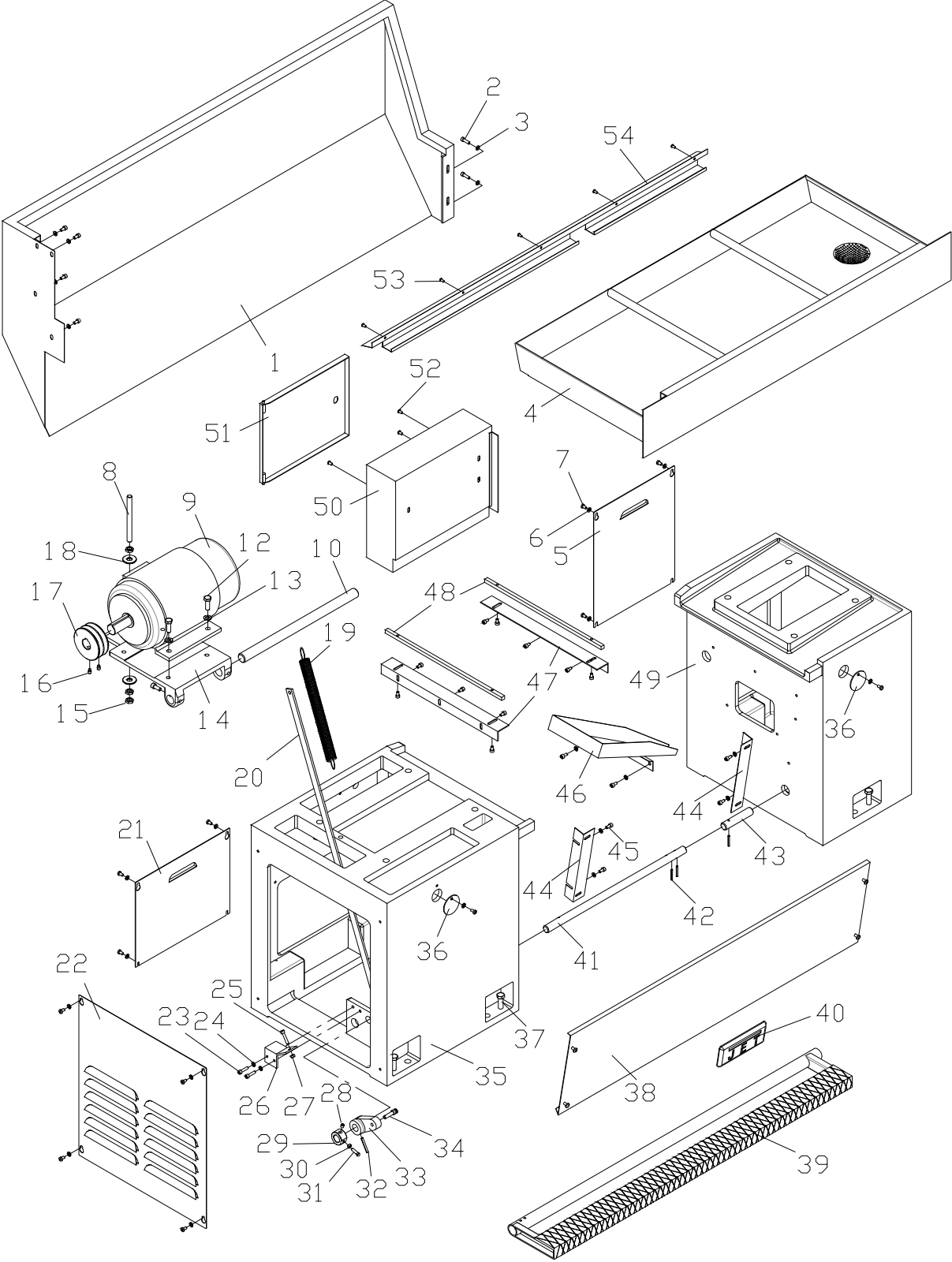


14.11.2 Bed and Shaft Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|--------------------|-------------------------------------|-------------|-----|
| 1 | GH1440K-01101 | Bed | | 1 |
| 2 | GH1440A-01704 | Rack (short) | | 1 |
| 3 | TS-150306 | Hex Socket Cap Screw | M6x25 | 8 |
| 4 | ESR1650-81 | Spring Pin | 6x35 mm | 6 |
| 5 | GH1440K-01102 | Gap Bridge | | 1 |
| 6 | TS-1505061 | Hex Socket Cap Screw | M10x40 | 4 |
| 7 | GH1440K-1109 | Taper Pin, Ext. Thread | 8x60 mm | 2 |
| 8 | TS-1540061 | Hex Nut | M8 | 2 |
| 9 | TS-1550061 | Flat Washer | M8 | 2 |
| 10 | TS-1505021 | Hex Socket Cap Screw | M10x20 | 1 |
| 11 | CL1640ZX-0204 | Hex Cap Bolt | M16x55 | 8 |
| 11a | TS-155010 | Flat Washer | M16 | 8 |
| 12 | GH1440A-01705 | Rack (long) | | 2 |
| 13 | GH1440K-01705 | Micro Adjust Bracket | | 1 |
| | GH1440K-MA | Micro Adjust Assembly (#13 thru 18) | | 1 |
| 14 | GH1440A-01716 | Shaft | | 1 |
| 15 | JAT741-21 | Spring Pin | 3x6 mm | 1 |
| 16 | GH1440A-01717 | Index Ring | | 1 |
| 17 | GH1440A-01108 | Plate | | 1 |
| 18 | TS-1503051 | Hex Socket Cap Screw | M6x20 | 2 |
| 19 | GHB1330-12B | Taper Pin | 5x35 mm | 1 |
| 20 | GH1440A-01712/1000 | Lead Screw | | 1 |
| 21 | GH1440A-01718 | Collar | | 1 |
| 22 | BB-51104 | Bearing | 51104 | 2 |
| 23 | TS-1524021 | Socket Set Screw | M8x10 | 2 |
| 24 | GH1440A-01718 | Collar | | 1 |
| 25 | GH1440K-01701 | Control Rod | | 1 |
| 26 | ZX-S41 | Spring Pin | 5x40 mm | 1 |
| 27 | GH1440A-01706 | Clutch | | 1 |
| 28 | SB-6MM | Steel Ball | 6 mm | 3 |
| 29 | TS-152402 | Socket Set Screw | M8x10 | 2 |
| 30 | 01-38 | Spring | 1.2×6×28 mm | 2 |
| 31 | GH1440A-01711 | Sleeve | | 1 |
| 32 | SP-36 | Spring Pin | 3x6 mm | 2 |
| 33 | F014006 | Key, Dbl Rd Hd | 5x36 mm | 1 |
| 34 | TS-1524011 | Socket Set Screw | M8x8 | 1 |
| 35 | GB2089-80 | Spring | 0.8x5x25 mm | 1 |
| 36 | GH1440A-01711 | Key | | 1 |
| 37 | GB2089-80 | Spring | 3x35x70 mm | 1 |
| 38 | GH1440A-01105 | Control Bracket | | 1 |
| 39 | TS-1503041 | Hex Socket Cap Screw | M6x16 | 2 |
| 40 | TS-1540041 | Hex Nut | M6 | 2 |
| 41 | TS-1523061 | Socket Set Screw | M6x20 | 2 |
| 42 | GH1440A-01106 | Control Fork | | 1 |
| 43 | GH1440A-01715 | Control Handle | | 1 |
| 44 | GB4141.14 | Knob | BM10x50 | 1 |
| 45 | 6295576 | Spring Pin | 3x20 mm | 1 |
| 46 | GH1440K-01701A | Control Rod | | 1 |
| 47 | TS-1523031 | Socket Set Screw | M6x10 | 1 |
| 48 | GH1440A-01709 | Collar | | 1 |
| 49 | GH1440K-01108 | End Bracket | | 1 |
| 50 | TS-1504111 | Hex Socket Cap Screw | M8x55 | 2 |
| 51 | GH1440K-151 | Taper Pin, Int Thread | 8x55 mm | 2 |
| 52 | C0632-01502 | Plug | | 1 |
| 53 | C0632-01503 | Plug | | 1 |
| 54 | C0632A-01505 | Gasket | | 1 |
| 55 | C0632A-01301 | Shaft Box | | 1 |
| 56 | GH1440A-01708 | Shift Collar | | 1 |
| 57 | TS-1523051 | Socket Set Screw | M6x16 | 1 |

| Index No. | Part No. | Description | Size | Qty |
|------------------|-----------------|-----------------------|-------------|------------|
| 58 | F010448 | Socket Set Screw DP | M8x16 | 1 |
| 59 | C0632A-01504 | Shaft Box Cover | | 1 |
| 60 | TS-1502021 | Socket Head Cap Screw | M5x10 | 4 |

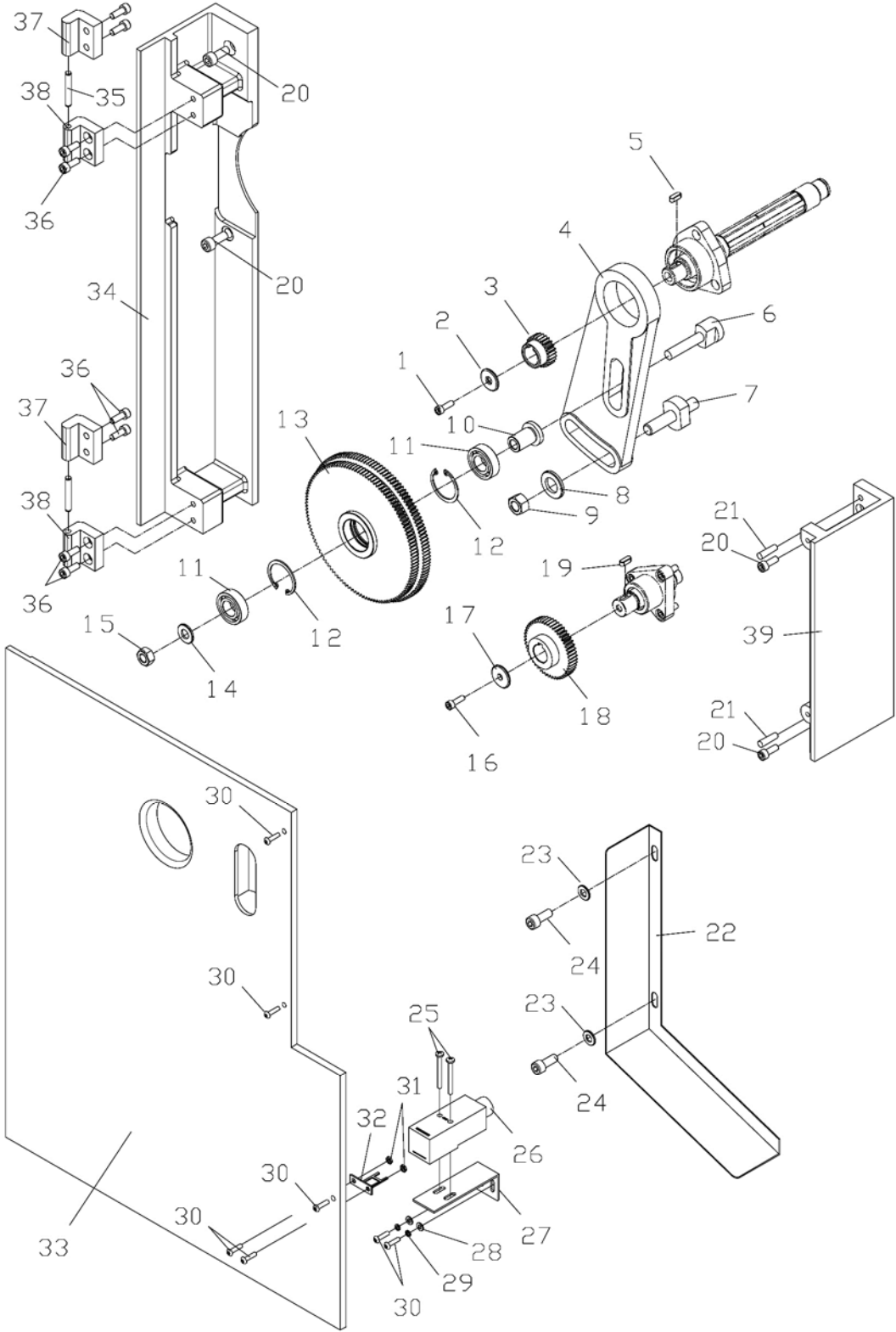
14.12.1 Stand and Brake Assembly – Exploded View



14.12.2 Stand and Brake Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-----------------|-------------------------------|------------|-----|
| 1 | GH1440K-01-707A | Splash Guard | M6x10 | 1 |
| 2 | TS-1503021 | Hex Socket Hd Cap Screw | M6x10 | 2 |
| 3 | TS-1550041 | Flat Washer | 6 mm | 2 |
| 4 | GH1440K-01705 | Chip Tray | | 1 |
| 5 | GH1440K-01710 | Cover | | 1 |
| 6 | TS-1550041 | Flat Washer | 6 mm | 27 |
| 7 | TS-1534032 | Phillips Pan Hd Machine Screw | M6x10 | 19 |
| 8 | GH1440A-1730 | Screw | M6x10 | 1 |
| 9 | GH1440-M1-1 | Main Motor (1 Phase) | | 1 |
| | GH1440-M1-1SC | Start Capacitor | 400µF 350V | 1 |
| | GH1440-M1-1RC | Run Capacitor | 40µF 450V | 1 |
| | GH1440-M1-3 | Main Motor (3 Phase) | | 1 |
| 10 | GH1440K-01704 | Shaft | M6x10 | 1 |
| 12 | TS-1491041 | Hex Cap Bolt | M10x30 | 4 |
| 13 | TS-1550071 | Flat Washer | 10 mm | 4 |
| 14 | GH1440K-01107 | Motor Mounting Bracket | | 1 |
| | TS-1524011 | Set Screw | M8x8 | 3 |
| 15 | TS-1540081 | Hex Nut | M12 | 3 |
| 16 | TS-1524031 | Socket Set Screw | M8x12 | 1 |
| 17 | GH1440K-01106 | Pulley | | 1 |
| 18 | GH1440A-01731 | Washer | 12 mm | 2 |
| 19 | 11-04 | Spring | 3.5x25x270 | 1 |
| 20 | GH1440K-22702 | Connector Bar | | 1 |
| 21 | GH1440K01709 | Cover | | 1 |
| 22 | GH1440K-01708 | Cover | | 1 |
| 23 | TS-1503061 | Hex Socket Hd Cap Screw | M6x25 | 2 |
| 24 | TS-1550041 | Flat Washer | 6 mm | 2 |
| 25 | TS-1503071 | Hex Socket Hd Cap Screw | M6x30 | 1 |
| 26 | GH1440K-22703 | Angle Steel | M12 | 1 |
| 27 | TS-2311061 | Hex Nut | M6 | 1 |
| 28 | TS-1524021 | Socket Set Screw | M8x10 | 1 |
| 29 | GH1440A-22705 | Link Nut | | 1 |
| 30 | TS-2311061 | Hex Nut | M6 | 1 |
| 31 | GH1440A-22713 | Screw | | 1 |
| 32 | ESR1650-18 | Spring Pin | 5x40mm | 1 |
| 33 | GH1440A-22101 | Link | | 1 |
| 34 | GH1440A-22704 | Shaft Pin | | 1 |
| | F003804 | Cotter Pin | 1/16 x 3/4 | 1 |
| 35 | GH1440K-01103 | Pedestal (left) | | 1 |
| 36 | GH1440A-01723 | Round Cover | | 4 |
| 37 | TS-1492051 | Hex Cap Bolt | M12x50 | 1 |
| 38 | GH1440K-01706 | Front Plate | | 1 |
| 39 | GH1440K-01701 | Brake Pedal | | 1 |
| 40 | JET-165 | JET Logo | 165x68mm | 1 |
| 41 | C0632A-22704 | Shaft | | 1 |
| 42 | 2210-108 | Spring Pin | M5x30 | 3 |
| 43 | GH1440A-22707 | Shaft | | 1 |
| 44 | GH1440K-01714 | Bracket | | 2 |
| 45 | TS-1503021 | Hex Socket Hd Cap Screw | M6x10 | 16 |
| 46 | GH1440K-01713 | Tray | | 1 |
| 47 | GH1440K-01712 | Bracket | | 2 |
| 48 | GH1440K-01711 | Guide | | 2 |
| 49 | GH1440K-01104 | Pedestal (right) | | 1 |
| 50 | GH1440K-18701 | Electric Cabinet | | 1 |
| 51 | GH1440K-18702 | Electric Cabinet Door | | 1 |
| 52 | TS-1503021 | Hex Socket Hd Cap Screw | M6x10 | 3 |
| 53 | TS-1502021 | Hex Socket Hd Cap Screw | M5x10 | 5 |
| 54 | GH1440K-18717 | Support | | 1 |

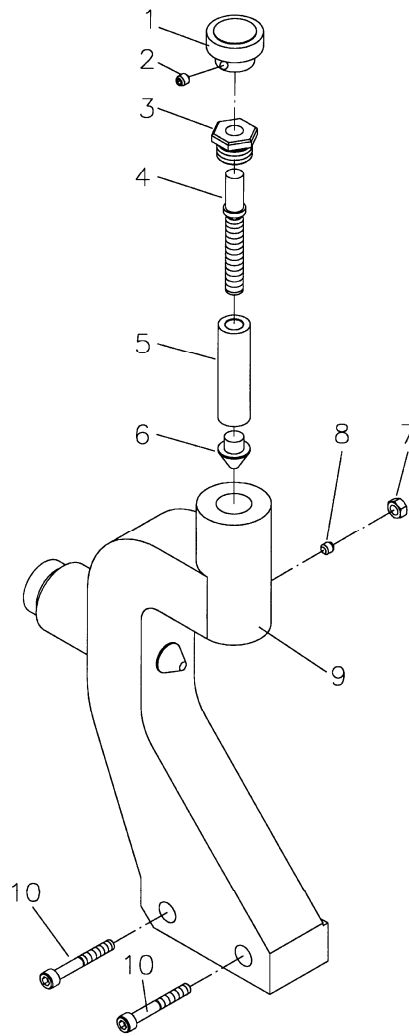
14.13.1 End Gear Assembly – Exploded View



14.13.2 End Gear Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|---------------|---|---------|-----|
| 1 | TS-1502041 | Hex Socket Hd Cap Screw | M5x16 | 1 |
| 2 | GH1440K-1304 | Washer, spcl | 6 mm | 1 |
| 3 | 04-50 | Gear | 25T | 1 |
| 4 | GH1440K-05104 | Quadrant (inch) | | 1 |
| 5 | GB1096-5X14 | Key, Dbl Rd Hd | 5x14 mm | 1 |
| 6 | 05-43 | Threaded Shaft | | 1 |
| 7 | GH1440K-05720 | Stud | | 1 |
| 8 | TS-2360121 | Flat Washer | 12 mm | 1 |
| 9 | TS-1540081 | Hex Nut | M12 | 1 |
| 10 | 05-45 | Collar | | 1 |
| 11 | BB-6103 | Ball Bearing | 6103 | 2 |
| 12 | F006033 | C-Retaining Ring, Int | 35 mm | 2 |
| 13 | 05-65 | Gear | 120/127 | 1 |
| 14 | 05-44 | Flat Washer | | 1 |
| 15 | TS-1540071 | Hex Nut | M10 | 1 |
| 16 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 1 |
| 17 | 05-42 | Washer | 6mm | 1 |
| 18 | 05-41 | Gear | 50T | 1 |
| 19 | GB1096-5X14 | Key, Dbl Rd Hd | 5x14 mm | 1 |
| 20 | TS-1504041 | Hex Socket Hd Cap Screw | M8x20 | 4 |
| 21 | ZX-H218 | Pin | 6x25 mm | 2 |
| 22 | GH1440K-05722 | Bracket | | 1 |
| 23 | TS-1550061 | Flat Washer | 8mm | 2 |
| 24 | TS-1504041 | Hex Socket Hd Cap Screw | M8x20 | 2 |
| 25 | PS1652T-105 | Phillips Pan Hd Machine Screw | M4x40 | 2 |
| 26 | QKS8-1 | Door Switch | | 1 |
| | ZH-SQ1 | Door Switch Assembly (includes #26, 32) | | 1 |
| 27 | C0632A-18704 | Bracket | | 1 |
| 28 | TS-1550021 | Flat Washer | 4 mm | 2 |
| 29 | TS-1551021 | Spring Washer | 4 mm | 2 |
| 30 | TS-1501051 | Hex Socket Hd Cap Screw | M4x16 | 7 |
| 31 | TS-1540021 | Hex Nut | M4 | 2 |
| 32 | QKS8-2 | Door Switch | | 1 |
| 33 | GH1440K-05502 | Back Cover | | 1 |
| 34 | GH1440K-05105 | Rear side plate | | 1 |
| 35 | ZX-H223 | Dowel Pin | 6h8x40 | 2 |
| 36 | TS-1503041 | Hex Socket Cap Screw | M6x16 | 8 |
| 37 | 1440R-08712 | Upper Hinge | | 2 |
| 38 | 1440R-08711 | Lower Hinge | | 2 |
| 39 | GH1440K-05106 | Front Plate | | 1 |

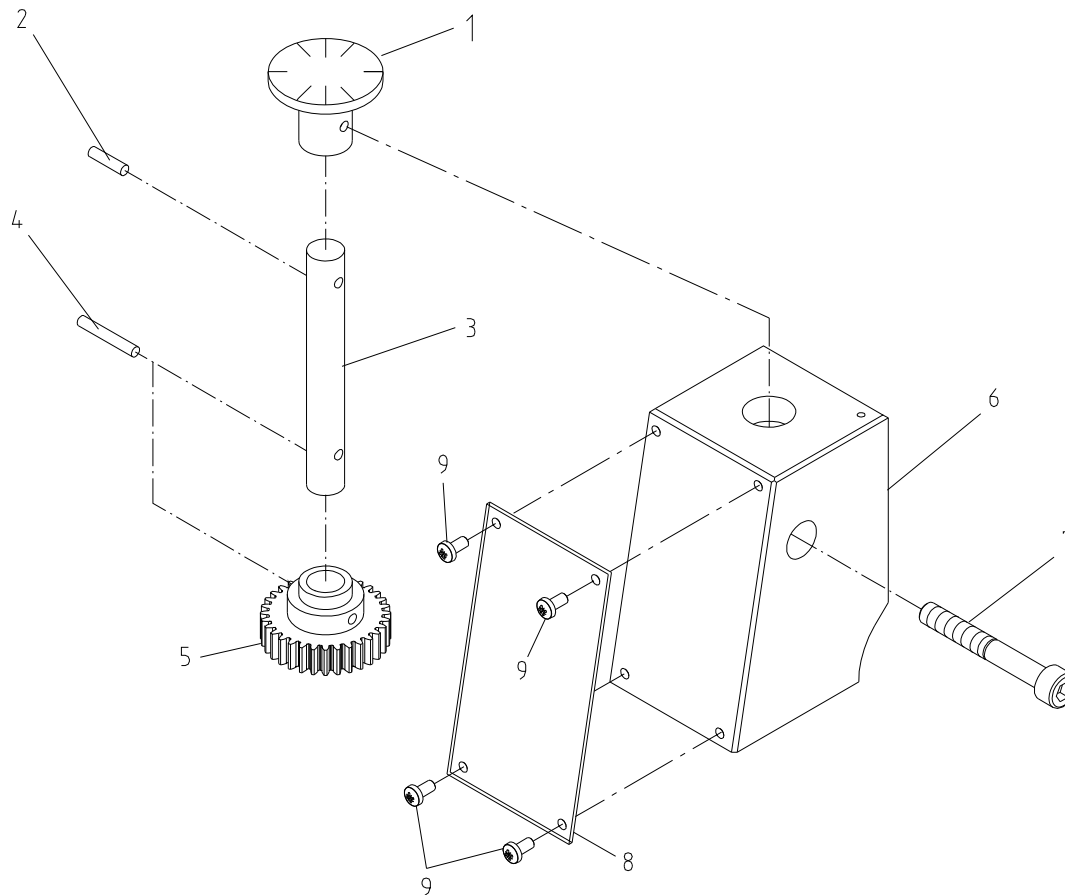
14.14.1 Follow Rest – Exploded View



14.14.2 Follow Rest – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|--------------|-----------------------------------|-------|-----|
| | GH1440K-FRA | Follow Rest Assembly (#1 thru 10) | | |
| 1 | GH1440-09-02 | Knob | | 2 |
| 2 | TS-1523011 | Socket Set Screw | M6x6 | 2 |
| 3 | 10B-04 | Bushing | | 2 |
| 4 | 10B-05 | Screw | | 2 |
| 5 | 10B-02 | Sleeve | | 2 |
| 6 | 10B-06 | Brass Finger | | 1 |
| 7 | TS-2311061 | Hex Nut | M6 | 2 |
| 8 | TS-1523011 | Socket Set Screw | M6x6 | 2 |
| 9 | GH1440-09-01 | Follow Rest Body | | 1 |
| 10 | TS-1503101 | Hex Socket Hd Cap Screw | M6x45 | 2 |

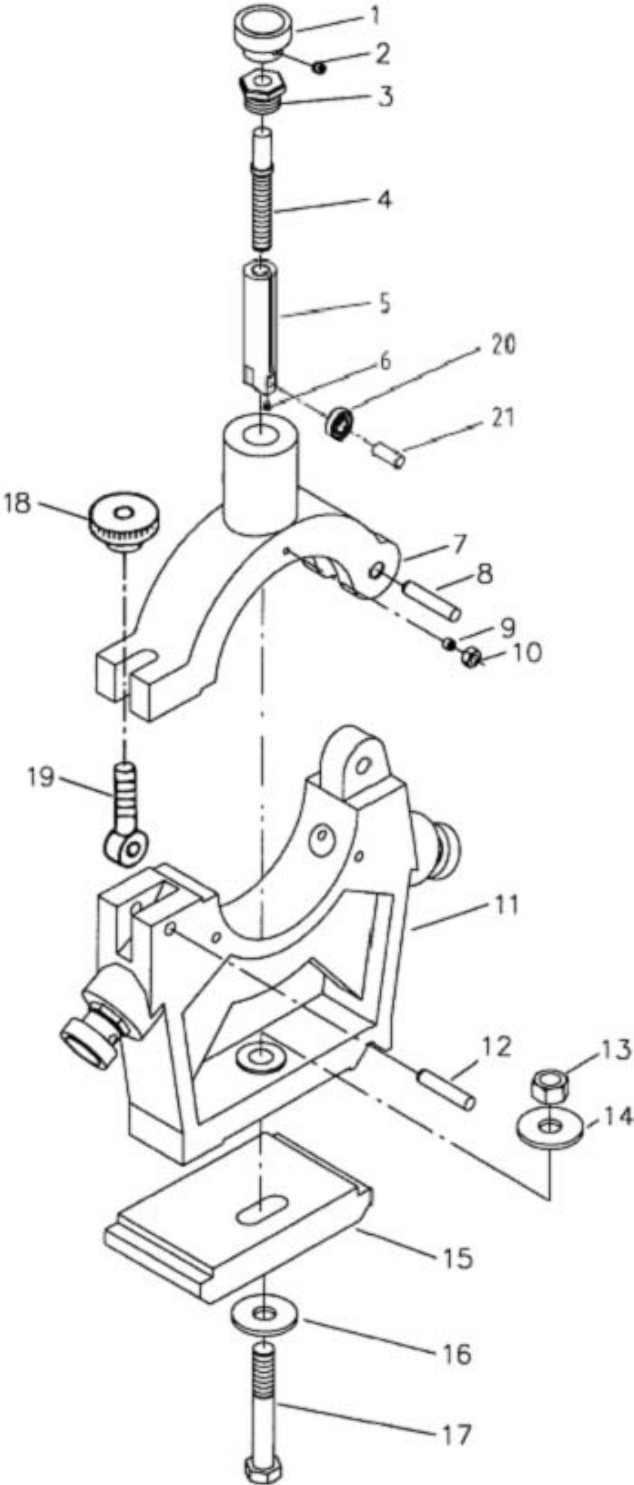
14.15.1 Thread Dial Assembly – Exploded View



14.15.2 Thread Dial Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-----------------|---|-------|-------|
| ..... | GH1440K-TDA | Thread Dial Assembly (includes #1 thru 9) | ..... | ..... |
| 1 | 06-22 | Dial | ..... | 1 |
| 2 | GB879-3x12 | Spring Pin | 3x12 | 1 |
| 3 | 06-23 | Shaft | ..... | 1 |
| 4 | GB879-3x20 | Spring Pin | 3x20 | 1 |
| 5 | 06-25 | Gear | 32T | 1 |
| 6 | 06-24 | Body | ..... | 1 |
| 7 | TS-1503101 | Hex Socket Hd Cap Screw | M6x45 | 1 |
| 8 | GH1440K-11305-1 | Graphic Plate – Thread Dial | ..... | 1 |
| 9 | TS-1531012 | Screw | M3x6 | 4 |

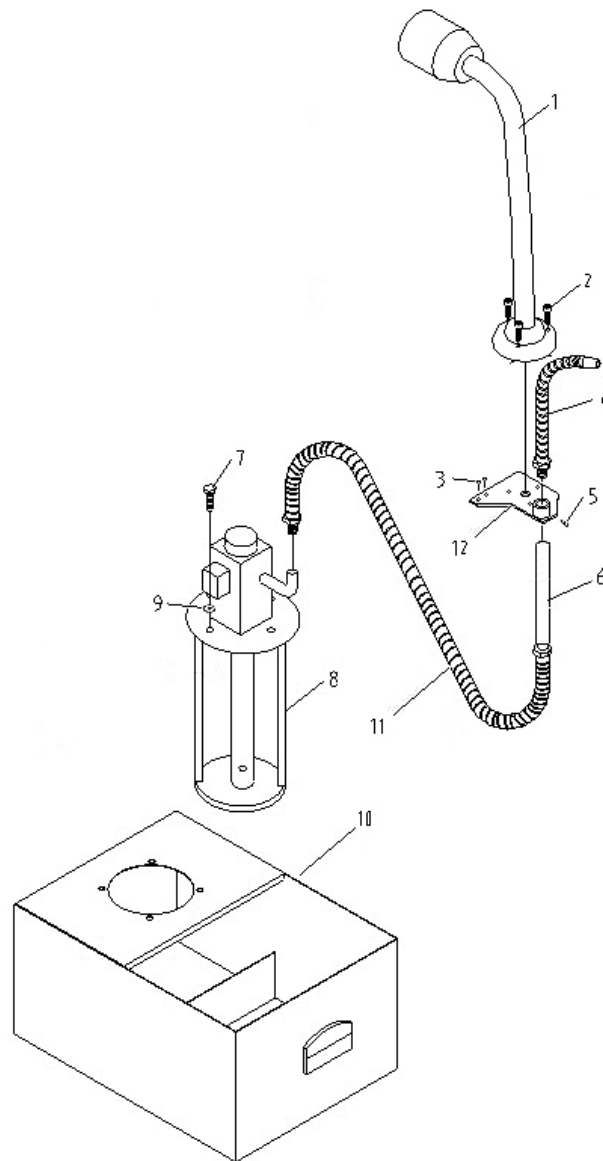
14.16.1 Steady Rest – Parts List



14.16.2 Steady Rest – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|---------------|-----------------------------------|---------|-----|
| | GH1440K-SRA | Steady Rest Assembly (#1 thru 21) | | 1 |
| 1 | GH1440-09-02 | Knob | | 3 |
| 2 | TS-1523011 | Socket Set Screw | M6x6 | 3 |
| 3 | 10A-05 | Bushing | | 3 |
| 4 | 10A-06 | Screw | | 3 |
| 5 | GH1440K-10704 | Sleeve | | 3 |
| 6 | 10A-08 | Brass Finger | | 3 |
| 7 | 10A-03 | Steady Rest Upper Body | | 1 |
| 8 | F004047 | Dowel Pin | 8x40 mm | 1 |
| 9 | TS-1523061 | Socket Set Screw | M6x20 | 3 |
| 10 | TS-1540041 | Hex Nut | M6 | 3 |
| 11 | GH1440-10-01 | Steady Rest Lower Body | | 1 |
| 12 | 10A-02 | Lock Pin | | 1 |
| 13 | TS-1540081 | Hex Nut | M12 | 1 |
| 14 | TS-1550081 | Washer | 12 mm | 1 |
| 15 | GH1440-10-02 | Clamp Plate | | 1 |
| 16 | TS-1550081 | Flat Washer | 12 mm | 1 |
| 17 | TS-1492081 | Hex Cap Bolt | M12x80 | 1 |
| 18 | GH1440K-1618 | Knurled Thumb Knob | | 1 |
| 19 | GH1440K-1619 | Pivot Stud | | 1 |
| 20 | BB-606 | Ball Bearing | 606 | 3 |
| 21 | ZX-Q49 | Dowel Pin | 6x18 mm | 1 |

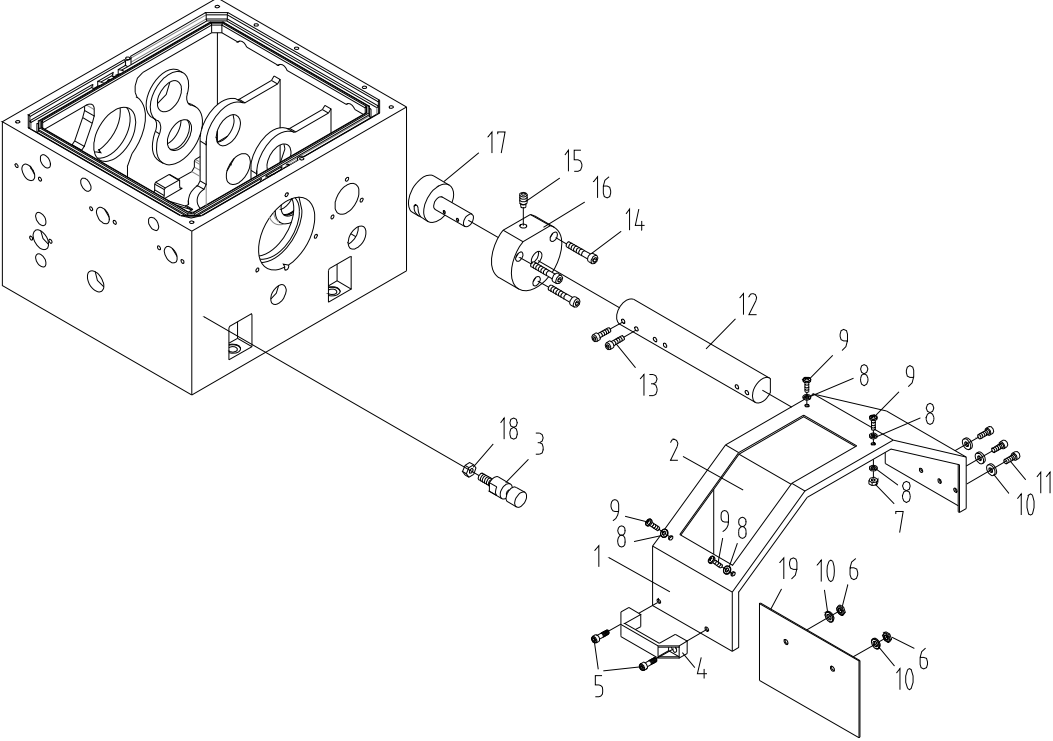
14.17.1 Coolant and Work Light Assembly – Exploded View



14.17.2 Coolant and Work Light Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|---------------|-------------------------|--------|-----|
| 1 | GHB1340-EL | Work Light | | 1 |
| 2 | TS-1503051 | Hex Socket Hd Cap Screw | M6x20 | 3 |
| 3 | TS-1502051 | Hex Socket Hd Cap Screw | M5x20 | 3 |
| 4 | GH1440K-1704 | Coolant Nozzle | C2-77 | 3 |
| 5 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 1 |
| 6 | GHB1440A01739 | Rubber Tube | | 1 |
| 7 | TS-1482011 | Hex Cap Bolt | M6x10 | 4 |
| 8 | YSB-12TH | Coolant Pump | 3PH | 1 |
| | YDB-12TH | Coolant Pump | 1PH | 1 |
| 9 | TS-1550041 | Flat Washer | 6 mm | 4 |
| 10 | GH1440K01715 | Coolant Tank | | 1 |
| 11 | GH1440K1711 | Tube | 600 mm | 1 |
| 12 | GH1440K18711 | Support | | 1 |

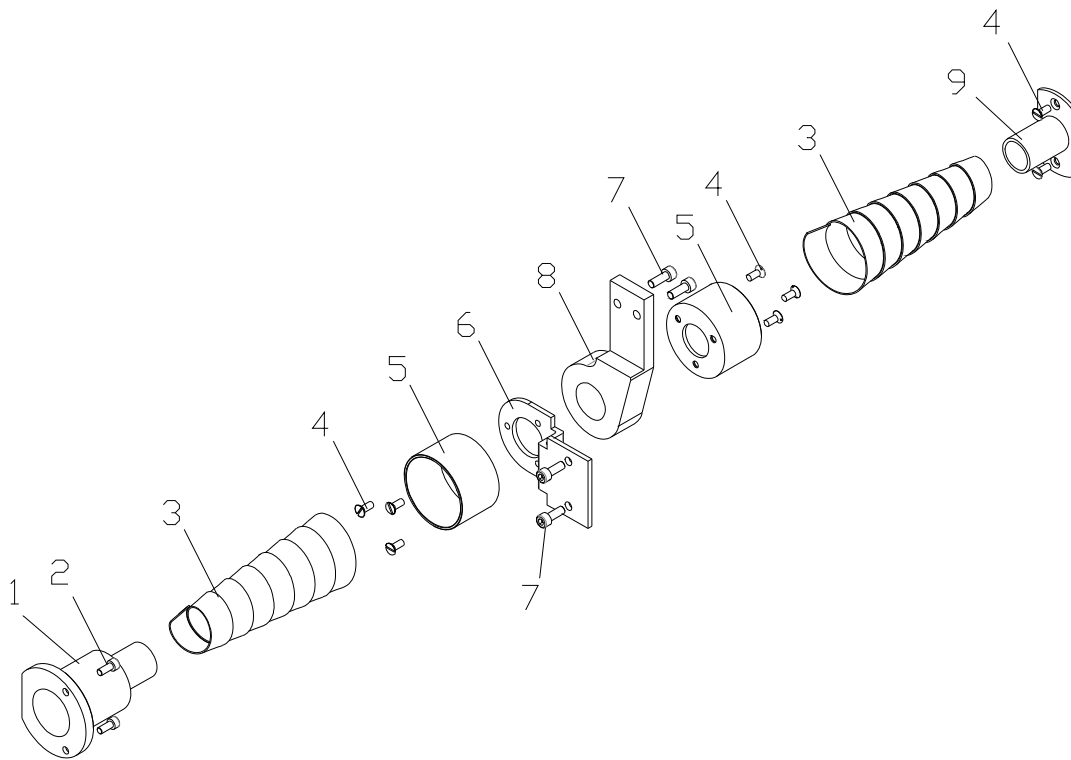
14.18.1 Chuck Guard Assembly – Exploded View



14.18.2 Chuck Guard Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|----------------------|--|------------|-----|
| ..... | GH1440K-CGA..... | Chuck Guard Assembly (#1 thru 19)..... | | 1 |
| 1 | GH1440K-19701J..... | Chuck Guard..... | | 1 |
| 2 | GHB1340A-19501E... | Guard Acrylic Window | | 1 |
| 3 | ZX-19704E..... | Fixing Rod..... | | 1 |
| 4 | A90..... | Handle | | 1 |
| 5 | TS-1503031 | Hex Socket Hd Cap Screw..... | M6x12..... | 2 |
| 6 | TS-1540041 | Hex Nut | M6..... | 2 |
| 7 | TS-1540021 | Hex Nut..... | M4..... | 4 |
| 8 | TS-1550021 | Plain Washer..... | 4 mm..... | 8 |
| 9 | TS-1532042 | Cross Recessed Pan Head Screw | M4x12..... | 4 |
| 10 | TS-1550041 | Plain Washer..... | 6 mm..... | 3 |
| 11 | TS-1534032 | Cross Recessed Pan Head Screw | M6x10..... | 3 |
| 12 | GH1440K-19702J..... | Rest Bar | | 1 |
| 13 | TS-1524021 | Hex Socket Set Screw | M8x10..... | 2 |
| 14 | TS-1503071 | Hex Socket Hd Cap Screw..... | M6x30..... | 3 |
| 15 | TS-1524041 | Hex Socket Set Screw | M8x16..... | 1 |
| 16 | GHB1340A19704 | Switch Box | | 1 |
| 17 | GHB1340A19702E.... | Shaft | | 1 |
| 18 | TS-1540061 | Hex Nut..... | M8..... | 1 |
| 19 | GH1440K-19703J | Panel..... | | 1 |

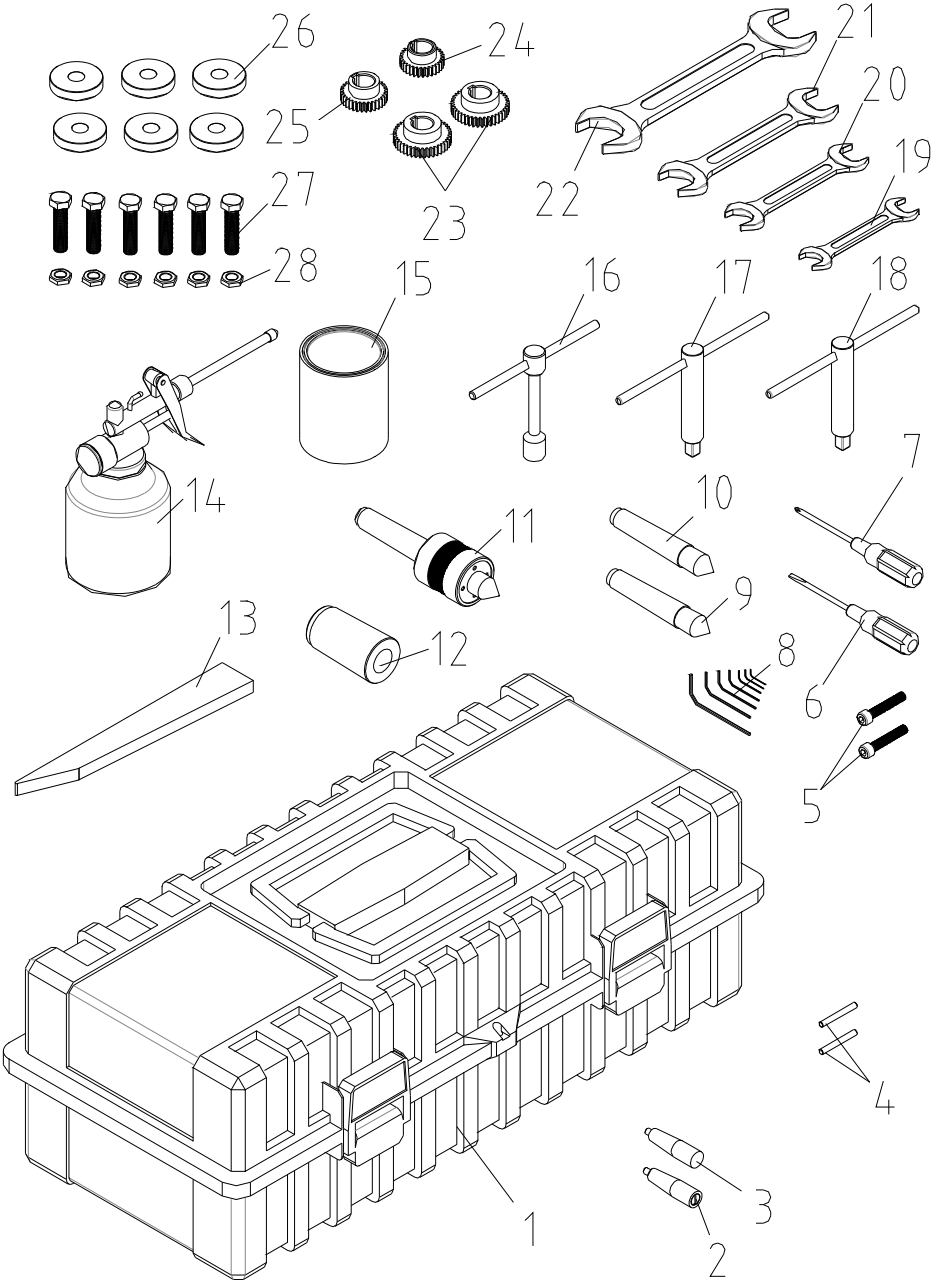
14.19.1 Lead Screw Cover Assembly – Exploded View



14.19.2 Lead Screw Cover Assembly – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|---------------|----------------------------------|-------|-----|
| 1 | GH1440K-14701 | Left Flange | | 1 |
| 2 | TS-1502031 | Hex Socket Hd Cap Screw | M5x12 | 2 |
| 3 | LGB 28-900-70 | Telescoping Sleeve | | 2 |
| 4 | TS-2285121 | Phillips Flat Head Machine Screw | M5x12 | 8 |
| 5 | GH1440A-14702 | Cover | | 2 |
| 6 | GH1440K-14702 | Left Flange Bracket | | 1 |
| 7 | TS-1503041 | Hex Socket Hd Cap Screw | M6x16 | 4 |
| 8 | GH1440K-14101 | Right Flange Bracket | | 1 |
| 9 | GH1440A-14703 | Right Flange | | 1 |

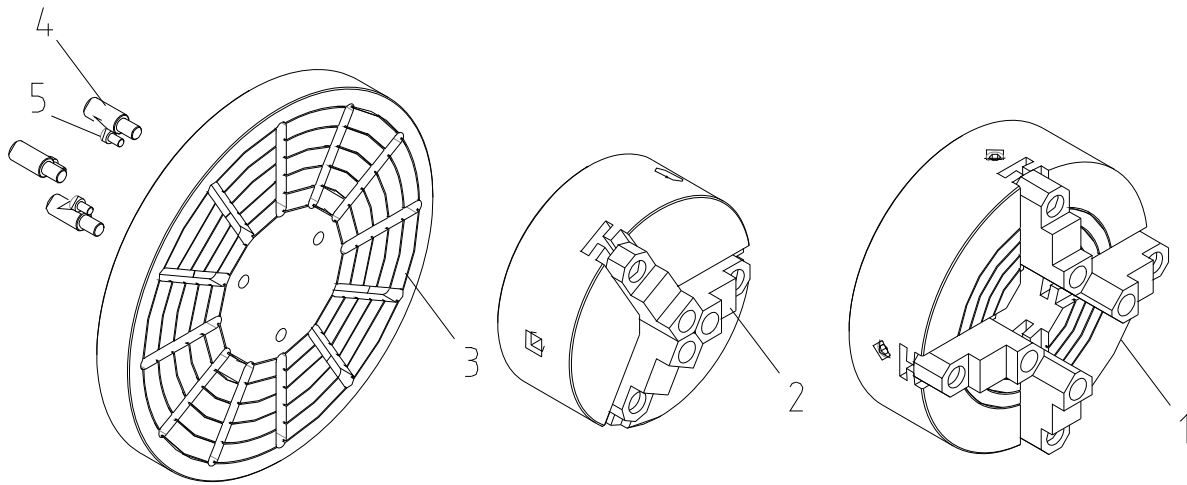
14.20.1 Accessories I – Exploded View



14.20.2 Accessories I – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|--------------------|--------------------------------|--------------------------|-----|
| | GH1440-TBCP | Tool Box Complete (#1 thru 28) | | 1 |
| 1 | | Tool Box | | 1 |
| 2 | GH1440-0611 | Handle Sleeve | | 1 |
| | GH1440-0610 | Handle Lever | | 1 |
| 3 | GH1440A-06719 | Handle Sleeve | | 1 |
| 4 | GH1440-06-04 | Shear Pin | 4X35 mm | 2 |
| 5 | TS-1504081 | Hex Socket Hd Cap Screw | M8X40 | 2 |
| 6 | ZX-OP-14 | Flat Blade Screwdriver | | 1 |
| 7 | ZX-OP-15 | Cross Point Screwdriver | | 1 |
| 8 | GH1440-06-08 | Hex Socket Wrench Set | .2, 2.5, 3, 4, 5, 6, 8mm | 7 |
| 9 | C0632-09703 | Dead Center | MT-3 (Alloy) | 1 |
| 10 | C0632-09702 | Dead Center | MT-3 | 1 |
| 11 | GH1440-06-11 | Live Center | MT-3 | 1 |
| 12 | C0632-09701 | Tapered Reducing Sleeve | No. 5 to No. 3 | 1 |
| 13 | 1440R-F001 | Drift Key | | 1 |
| 14 | GH1440B-1707 | Oil Gun | | 1 |
| 15 | | Touchup Paint Can (Gray) | | 1 |
| 16 | C0632-04726 | Tool Post Wrench Rod | | 1 |
| | C0632-04727 | Tool Post Wrench | | 1 |
| 17 | C0632-09705 | Cam Lock Key Rod | | 1 |
| | C0632-09704 | Cam Lock Key | | 1 |
| 18 | GH1440-0618 | Chuck Key | | 1 |
| 19 | GH1340A-TBCP-16-03 | Open End Wrench | 9-11mm | 1 |
| 20 | 6295506 | Open End Wrench | 10-12mm | 1 |
| 21 | 6295507 | Open End Wrench | 12-14mm | 1 |
| 22 | 6295508 | Open End Wrench | 17-19mm | 1 |
| 23 | GH1440A05735-3 | Change Gear | 40T | 2 |
| 24 | GH1440A05735-1 | Change Gear | 30T | 1 |
| 25 | GH1440A05735-2 | Change Gear | 32T | 1 |
| 26 | GH1440K-01720 | Leveling Pads | | 6 |
| 27 | GH1440K-01721 | Leveling Bolts | | 6 |
| 28 | F012321 | Hex Thin Jam Nut | M12-1.75 | 6 |

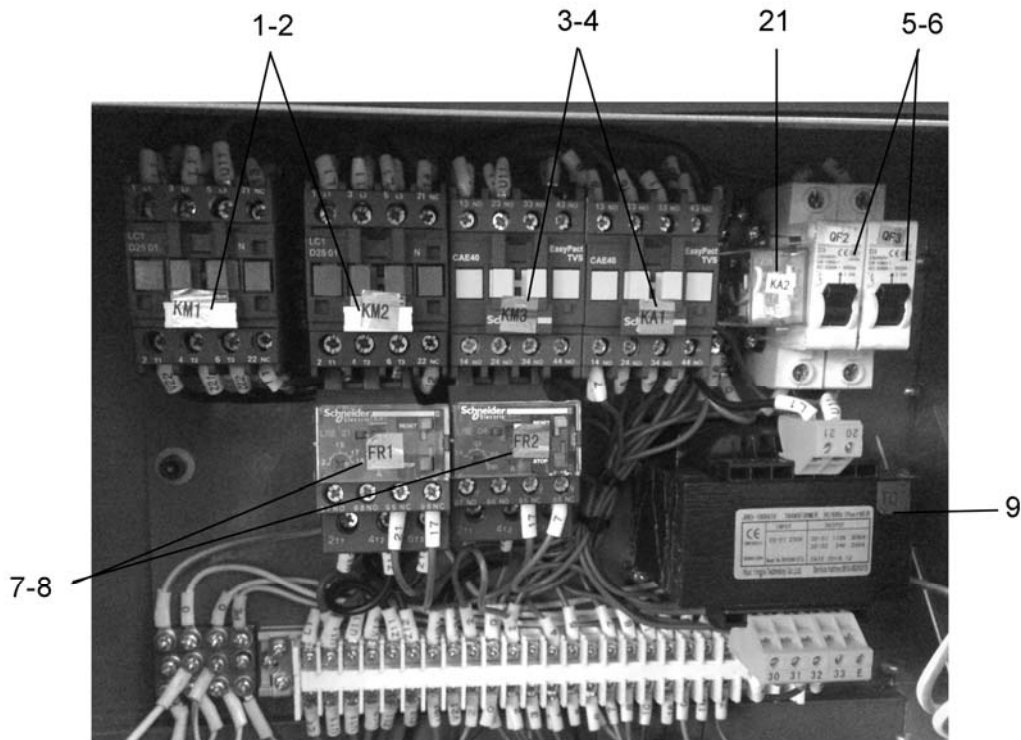
14.21.1 Accessories II – Exploded View



14.21.2 Accessories II – Parts List

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------|--|-------|-----|
| 1 | K72200D4 | Four Jaw Chuck with Camlock Stud | 8" | 1 |
| 2 | K11160AD4 | Three Jaw Chuck with Camlock Stud (Direct Mount) | 6" | 1 |
| 3 | C0632-09101 | Face Plate | 12" | 1 |
| 4 | C0632-02722 | Camlock Stud | | 3 |
| 5 | TS-1503021 | Hex Socket Hd Cap Screw | M6X10 | 3 |

14.22.1 Electrical Components – Exploded View



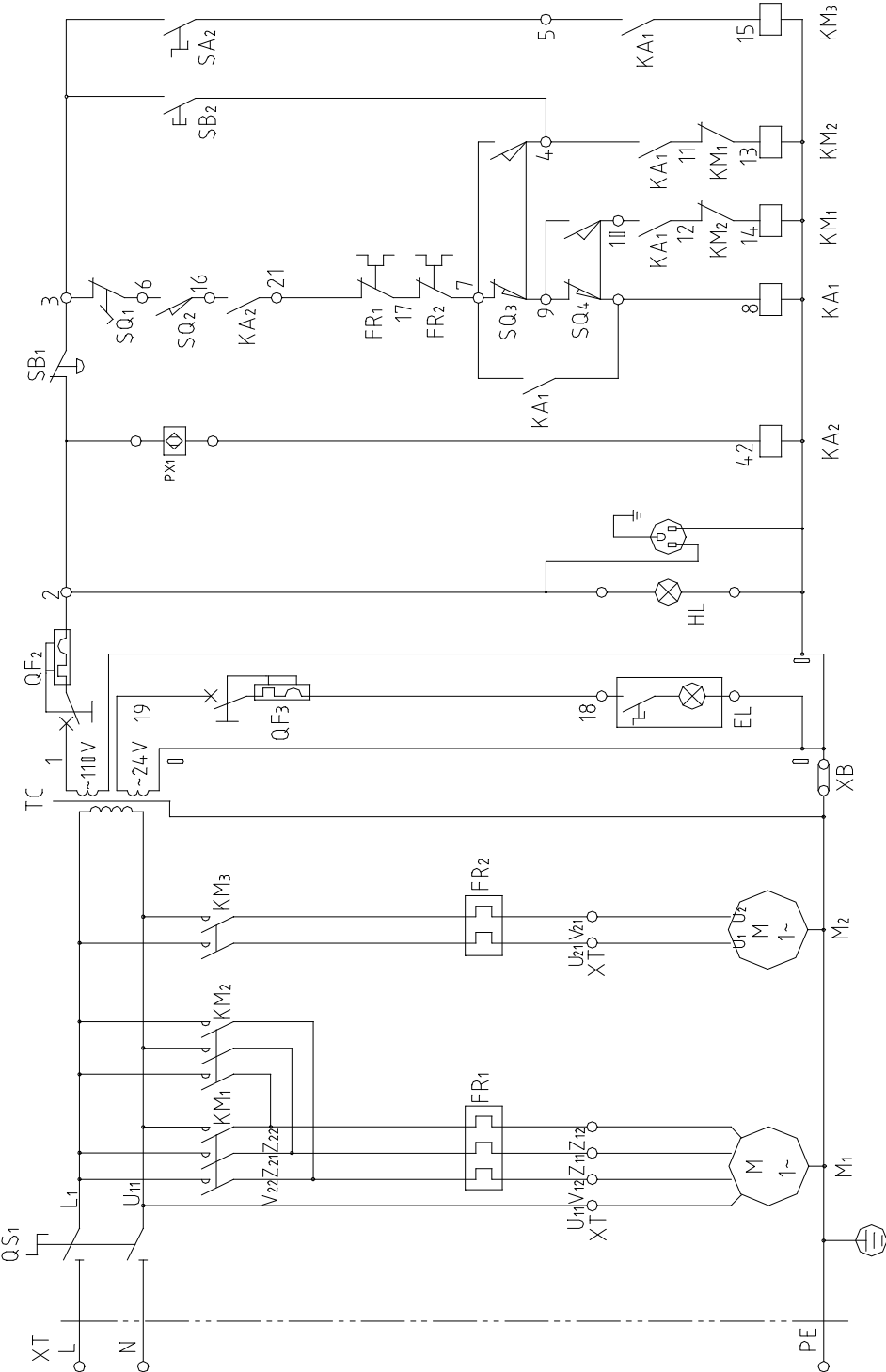
14.22.2 Electrical Components – Parts List

| Index No. | Part No. | Symbol* | Description | Size | Qty |
|-----------|-------------|---------|------------------------|---------------|-----|
| 1 | GH1440K-KM1 | KM1 | Magnetic Starter | LC1-D2501 | 1 |
| 2 | GH1440K-KM1 | KM2 | Magnetic Starter | LC1-D2501 | 1 |
| 3 | GH1440K-KM3 | KM3 | Coolant Pump Contactor | CA2-DN40B7 | 1 |
| 4 | GH1440K-KM3 | KA1 | Control Contactor | CA2-DN40B7 | 1 |
| 5 | GH1440K-QF2 | QF2 | Breaker | DZ47-63 | 1 |
| 6 | GH1440K-QF2 | QF3 | Breaker | DZ47-63 | 1 |
| 7 | GH1440K-FR1 | FR1 | Motor Overload Relay | LR2-D1321N | 1 |
| 8 | GH1440K-FR2 | FR2 | Motor Overload Relay | LR2-D1304N | 1 |
| 9 | GH1440K-TC | TC | Transformer | JBK5-100TH | 1 |
| 10 | GH1440K-SQ2 | SQ2 | Door Switch | QKS8 | 1 |
| 11 | GH1440K-QS1 | QS1 | Power On/Off Switch | VCD0 | 1 |
| 12 | GH1440K-SQ1 | SQ1 | Brake Switch | TM-1701 | 1 |
| 13 | GH1440K-SB1 | SB1 | Off Switch | ZB2-BS54C | 1 |
| 14 | GH1440K-SB2 | SB2 | Jog Switch | ZB2BA3C | 1 |
| 15 | GH1440K-HL | HL | Power Indicator Light | XB7-EVF3LC | 1 |
| 16 | GH1440K-SA2 | SA2 | Coolant Pump Switch | ZB2-BD2C | 1 |
| 17 | GH1440K-SQ3 | SQ3 | Forward Switch | TM1306 | 1 |
| 18 | GH1440K-SQ3 | SQ4 | Reverse Switch | TM1306 | 1 |
| 19 | GH1440K-PX1 | PX1 | Switch | LJ12A3-4-J/EZ | 1 |
| 20 | GH1440K-EL | EL | Lamp | JC34A | 1 |
| 21 | GH1440K-KA2 | KA2 | Relay | HH52P | 1 |

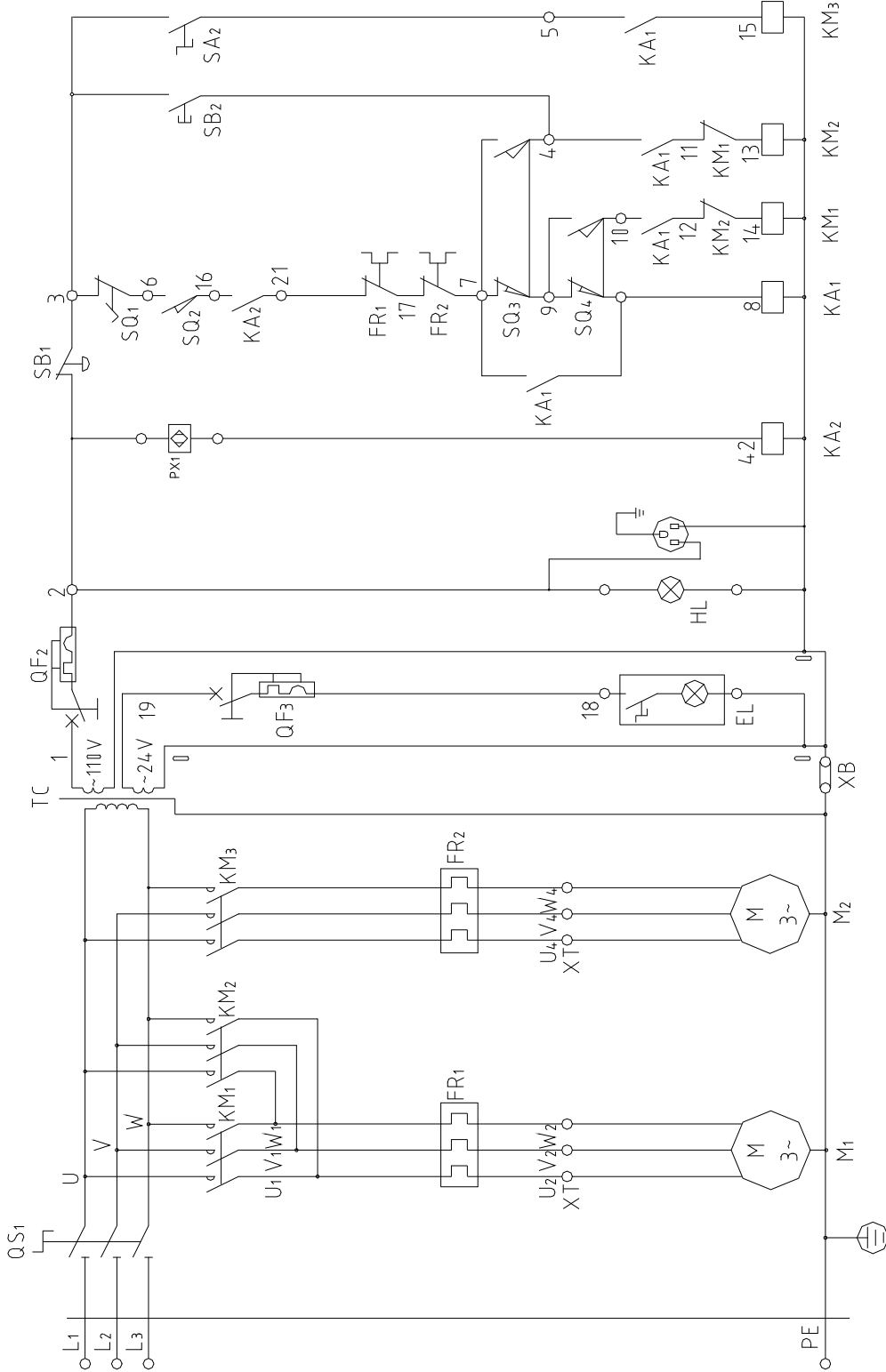
* refer to wiring diagrams

15.0 Electrical Connections

15.1 Wiring Diagram – 1 Phase



15.2 Wiring Diagram – 3 Phase



16.0 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.

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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 |

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