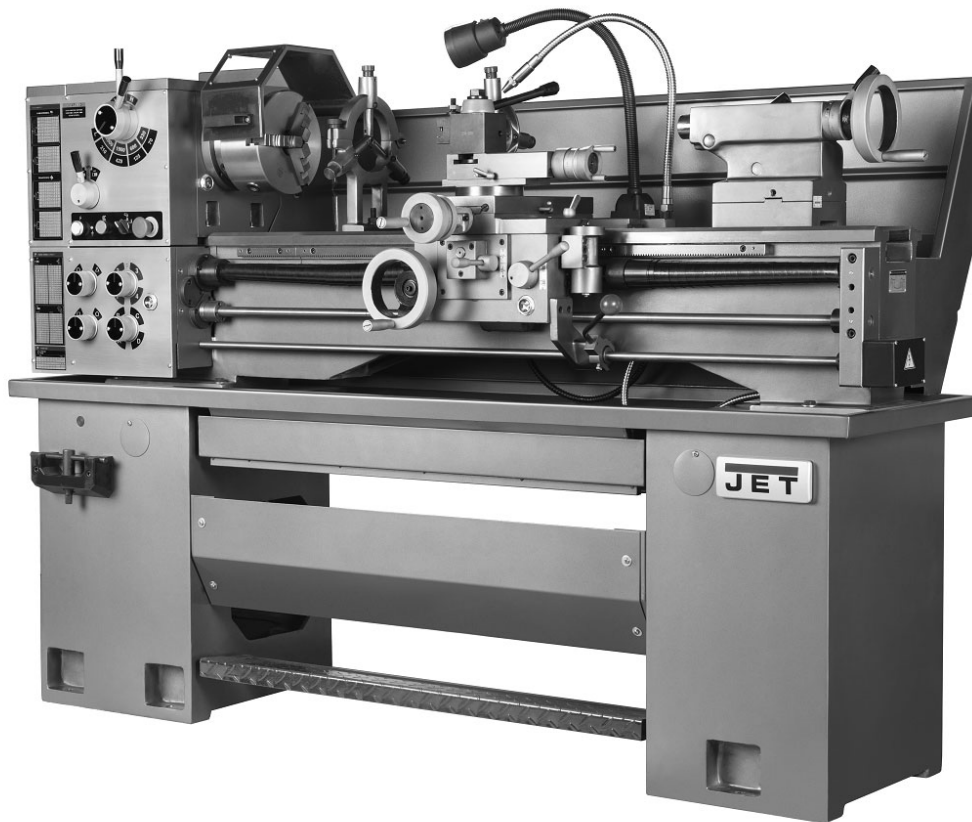




# Operating Instructions and Parts Manual

## Geared Head Bench Lathe 14x40 inch

Model GH-1440B



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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 a lathe, 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. Turn power off. Never leave a tool unattended. Do not leave a tool until it comes to a complete stop.
11. Keep work area clean. Cluttered areas and benches invite accidents.
12. Keep work area well lighted.
13. Keep children and visitors away. All visitors should be kept a safe distance from the work area.
14. Make the workshop child proof. Use padlocks, master switches, and remove starter keys.
15. 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.
16. 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.)
17. Do not overreach. Keep proper footing and balance at all times.
18. Do not place hands near the chuck or workpiece while the machine is operating.
19. Do not perform any set-up work while machine is operating.
20. Read and understand all warnings posted on the machine.
21. 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.
22. Do not attempt to adjust or remove tools during operation.
23. Never stop a rotating chuck or workpiece with your hands.
24. Choose a low spindle speed when working unbalanced workpieces, and for threading and tapping operations.
25. Do not exceed the maximum speed of the workholding device.
26. Do not exceed the clamping capacity of the chuck.
27. Workpieces longer than 3 times the chucking diameter must be supported by the tailstock or a steady rest.
28. Avoid small chuck diameters with large turning diameters.
29. Avoid short chucking lengths and small chucking contact.
30. Turn off the machine and disconnect from power before cleaning. Use a brush to remove shavings or debris — do not use bare hands.
31. Do not stand on the machine. Serious injury could occur if the machine tips over.
32. Never leave the machine running unattended. Turn the power off and do not leave the machine until moving parts come to a complete stop.
33. Remove loose items and unnecessary work pieces from the area before starting the machine.
34. 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>.

**⚠ 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>.

**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 possibly even fatal, injury.

## 2.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model GH-1440B 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](http://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/>

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## 4.0 Specifications

Table 1

Model number	<b>GH-1440B</b>
Stock number	331440
<b>Motor and Electricals</b>	
Motor type	TEFC induction
Horsepower	2.4 HP (1.8 kW)
Phase	single
Voltage	230V only
Cycle	60 Hz
Listed FLA (full load amps)	15.3 A
Start capacitor	300MFD 350VAC
Run capacitor	40 $\mu$ F 350VAC
Motor speed	1720 RPM
Power cord	3 x 2.08 mm <sup>2</sup>
Power plug installed	n/a
Recommended circuit size <sup>1</sup>	20 A
Sound emission without load <sup>2</sup>	88 db
Coolant pump	230V/60Hz/1PH/0.2A/40W (1/18HP)
<b>Capacities</b>	
Swing over bed	14 in. (355 mm)
Swing over cross slide	8 in. (203 mm)
Distance between centers	36-7/8 in. (936 mm)
Swing through gap	18 in. (457 mm)
Length of gap	8 in. (203 mm)
Steady rest capacity	5/16 – 2-15/16 in. (8 – 74.6 mm)
Follow rest capacity	2-3/16 in. (55.6 mm)
<b>Headstock</b>	
Hole through spindle	2 in. (50.8 mm)
Spindle nose	D1-5
Taper in spindle nose	MT6
Spindle taper adaptor	MT4
Spindle bearing type	Tapered roller bearing
Number of spindle speeds	8
Range of spindle speeds	70-1900 RPM
Leadscrew	7/8 in. x 8 TPI
Feed rod diameter	3/4 in. (19 mm)
<b>Gearbox</b>	
Number of longitudinal and cross feed rates	32/32
Range of longitudinal feeds	0.002 – 0.0548 in./rev
Range of cross feeds	0.007 – 0.0187 in./rev
Number of inch threads	34
Range of inch threads	4 – 56 TPI
Number of metric threads	26
Range of metric threads	0.4 – 7 mm
<b>Compound and carriage</b>	
Tool post type	Quick change
Maximum tool size	5/8 x 5/8 in. (15.88 mm)
Maximum compound slide travel	3-1/2 in. (88.9 mm)
Maximum cross slide travel	7 in. (177.8 mm)
Maximum carriage travel	37-2/5 in. (950 mm)

Tailstock	
Tailstock spindle travel	4 in. (101.6 mm)
Diameter of tailstock spindle	1-1/4 in. (31.8 mm)
Taper in tailstock spindle	MT4
Main materials	
Headstock	Cast iron
Bed	Cast iron
Apron/Saddle	Cast iron
Tailstock	Cast iron
Splash guard	Steel
Stand	Cast iron
Dimensions	
Bed width	7-5/16 in. (186 mm)
Overall dimensions, L x W x H	76-2/5 x 29-15/16 x 59-4/5 in. (1940.5 x 759.5 x 1518.9 mm)
Shipping dimensions, L x W x H	66-5/16 x 29-15/16 x 59-7/8 in. (1940 x 760 x 1520 mm)
Weights	
Net weight, approx.	1572 lb. (713 kg)
Shipping weight, approx.	1753 lb. (795.1 kg)

<sup>1</sup> subject to local and national electrical codes.

<sup>2</sup> 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.

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

## 5.0 Setup and assembly

### 5.1 Shipping contents

See Figure 5-1.

- 1 Lathe
- 1 Steady Rest (mounted on lathe)
- 1 Follow Rest (mounted on lathe)
- 1 8" Three Jaw Chuck (mounted on lathe)
- 1 8" Four Jaw Chuck (strapped to container)
- 1 10" Face Plate (strapped to container)
- 1 Tool Box # GH1440B-TBCP (strapped to container)
- 1 Chip Tray
- 1 Splash Guard

#### **Tool Box (# GH1440B-TBCP) contents:**

- 3 Open End Wrenches (10/12, 14/17, 17/19mm)
- 1 Oil Gun
- 1 Hex Key Set (2, 3, 4, 5, 6mm)
- 1 40T Gear
- 1 42T Gear
- 1 44T Gear
- 1 46T Gear
- 1 52T Gear
- 1 54T Gear
- 1 56T Gear
- 1 57T Gear
- 1 60T Gear
- 1 63T Gear
- 2 MT-4 Dead Centers
- 1 MT-4 Live Center
- 1 MT-4 to MT-6 Reducing Sleeve
- 1 Drift Key for Tailstock Sleeve
- 1 Cross Point Screwdriver
- 1 Flat Head Screwdriver
- 1 Quick Change Tool Holders (250-202, 250-204, 250, 207, 250-210)
- 1 Key for 3-Jaw Chuck
- 1 Key for 4-Jaw Chuck & Cam Locks
- 1 Set of Reverse Jaws for 3-Jaw Chuck
- 1 Handle for Cross Slide Handwheel
- 1 Handle for Apron Handwheel
- 2 V-Belts (A-864)
- 6 Leveling Pads (with M14x50 Bolts & Washers)
- 1 Operation Instructions and Parts Manual
- 1 Packing List
- 1 Test Record
- 1 Product Registration Card

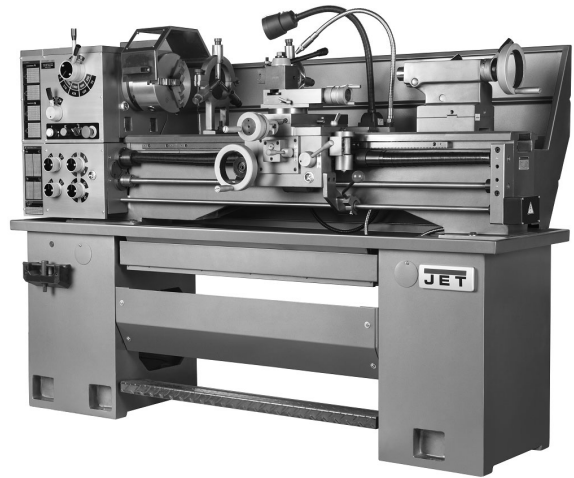


Figure 5-1



## 5.2 Uncrating and cleanup

**⚠WARNING** Machine is heavy. Use an appropriate lifting device and use extreme caution when moving the machine to its final location. Failure to comply may cause serious injury.

1. Finish removing wooden crate from around lathe.
2. Unbolt lathe from shipping pallet.
3. Choose a location for the lathe that is dry, has good lighting, and has enough room to be able to service the lathe on all four sides.
4. Move carriage and tailstock to the tailstock end of the bed.
5. Place two steel rods or pipes of sufficient strength into four holes (A, Figure 5-2) of lathe stand. Sling the lathe with properly rated straps. **Do not lift by spindle.** With adequate lifting equipment, slowly raise lathe off shipping pallet. Make sure lathe is balanced before moving to sturdy bench or optional stand.



Figure 5-2

6. To avoid twisting the bed, the lathe's location must be absolutely flat and level. Bolt lathe to stand (if used). If using a bench, through-bolt for best performance.
7. 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 will damage painted surfaces. Cover all cleaned surfaces with a light film of Mobil DTE® Oil Heavy Medium or equivalent.
8. Remove end gear cover. Clean all components of end gear assembly and coat all gears with a heavy, non-slinging grease.
9. Using a machinist's precision level on the bedways, check to make sure lathe is level side to side and front to back. If necessary, loosen mounting bolts, shim, and retighten

mounting bolts. The lathe must be level to be accurate.

## 5.3 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 chuck from spindle, place a way board across bedways under the chuck.

1. Support the chuck while turning three camlocks 1/4 turn counter-clockwise with the chuck key enclosed in the toolbox. Figure 5-3 shows the cam in the secure position. Line up the two marks (A, Figure 5-3) for removal.

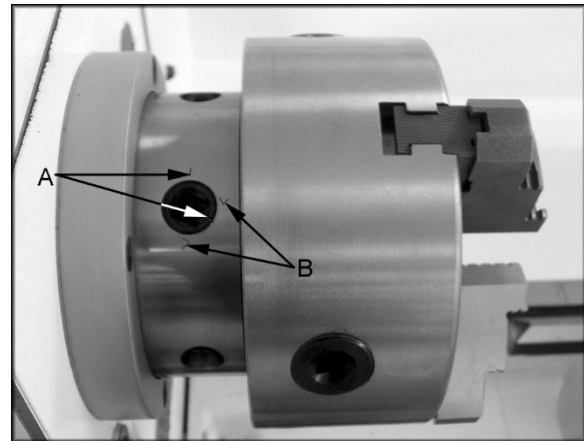


Figure 5-3

2. Carefully remove chuck from 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 spindle and camlocks.
4. Cover all chuck jaws and scroll inside the chuck with Mobilith® AW2. Cover spindle, cam locks, and chuck body with a light film of Mobil DTE® Oil Heavy Medium.
5. Lift chuck up to spindle nose and press onto spindle. Tighten in place by turning cam locks 1/4 turn clockwise. The index mark (A, Figure 5-3) on the camlock should be between the two indicator arrows (B, Figure 5-3). If the index mark is not between the two arrows, remove 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.

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

## 5.4 Chuck guard installation

Install chuck guard to headstock, if it is not already mounted. (See parts breakdown if clarification is needed for assembly.)

## 6.0 Lubrication

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

1. **Headstock** – Oil must be up to indicator mark in oil sight glass (A, Figure 6-1). Top off with Mobil DTE® Oil Heavy Medium. Fill by pulling plug located on top of headstock cover beneath rubber mat. Drain oil by removing drain plug (C, Figure 6-2) and refill after first month of operation. Clean out any metal shavings. Then, change oil in headstock annually.
2. **External Gears** – Coat all gears with a heavy, non-slinging grease, see Figure 6-2. Do **not** get grease on pulleys or belts.
3. **Gear Shaft** – Find the oil nipple (F, Figure 8-2) and oil with a couple drops of Mobil DTE® Oil Heavy Medium once weekly.
4. **Gearbox** – Oil must be up to indicator mark in oil sight glass (B, Figure 6-1). Top off with Mobil DTE® Oil Heavy Medium. Fill by removing plug (D, Figure 6-2). Drain oil by removing drain plug (E, Figure 6-2) and refill after first month of operation. Then, change oil in gearbox annually.
5. **Apron** – Oil must be up to indicator mark in oil sight glass (A, Figure 6-3). Top off with Mobil DTE® Oil Heavy Medium. Fill by removing oil knurled plug (B, Figure 6-3). After the first three months of operation, drain oil completely (drain is on bottom of apron) and refill with Mobil DTE® Oil Heavy Medium or equivalent, to the indicator line. Then, change oil annually.
6. **Carriage** – Lubricate two ball oilers on top of carriage once daily with Mobil DTE® Oil Heavy Medium.

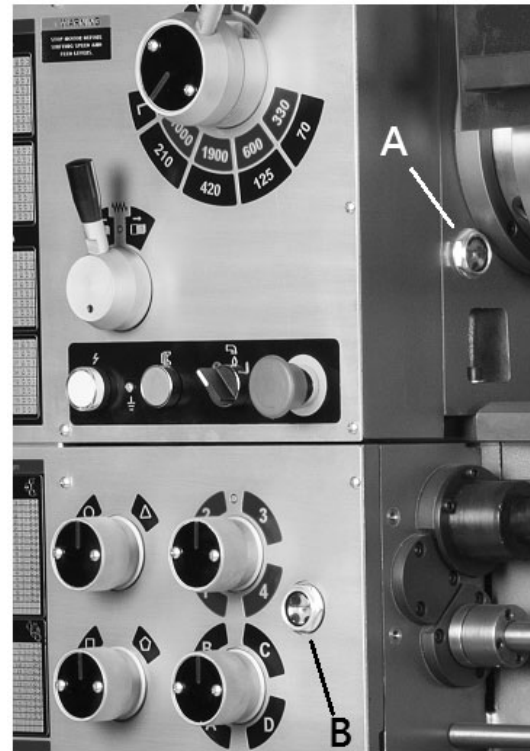


Figure 6-1

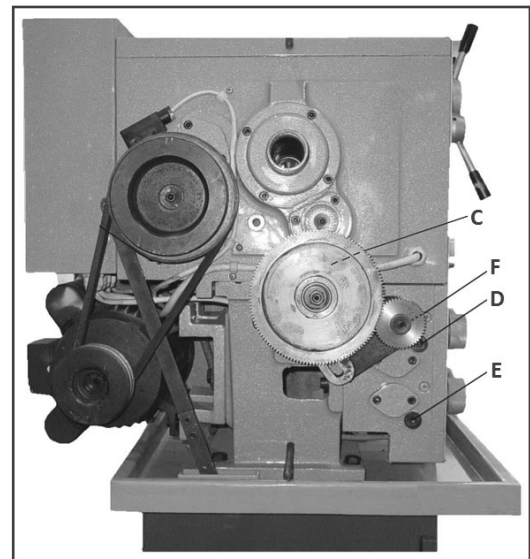


Figure 6-2

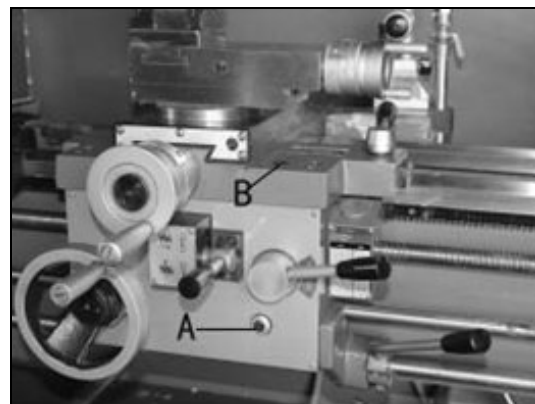


Figure 6-3

7. **Compound Rest** – Lubricate three ball oilers (F, Figure 6-4) once daily with Mobil DTE® Oil Heavy Medium.
8. **Cross Slide** – Lubricate four ball oilers (G, Figure 6-4) once daily with Mobil DTE® Oil Heavy Medium.
9. **Longitudinal Feed Handwheel** – Lubricate ball oiler (H, Figure 6-4) once daily with Mobil DTE® Oil Heavy Medium.

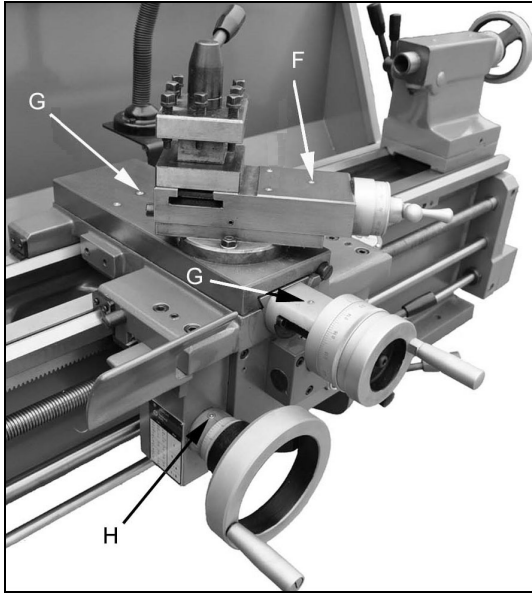


Figure 6-4

10. **Tailstock** – Lubricate ball oilers (I, Figure 6-5) once daily with Mobil DTE® Oil Heavy Medium.
11. **Leadscrew/Feed Rod** – Lubricate ball oilers once daily (J, Figure 6-5) with Mobil DTE® Oil Heavy Medium.

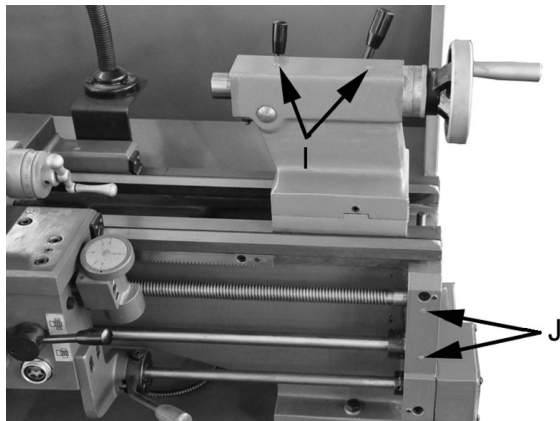


Figure 6-5

## 7.0 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-1440B Lathe is rated at 230-volt power only. It is not provided with a power plug; you may either attach a proper 230V UL-listed plug, or "hardwire" the machine directly to a service panel (make sure a disconnect is available to the operator).

Before connecting to power source, be sure switch is in *off* position.

It is recommended that the lathe be connected to a dedicated 20A amp circuit with circuit breaker or fuse. **Local codes take precedence over recommendations.**

### 7.1 GROUNDING INSTRUCTIONS

This tool must be grounded. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor. If a plug is used, the plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**⚠ WARNING** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

#### If used with a plug:

Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating between 150-250 V inclusive:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Figure 7-1. The tool is intended for use with a grounding plug that looks like the plug illustrated in Figure 7-1. Make sure the tool is connected to an outlet having the same configuration as the plug. No adapter is available or should be used with this tool. If the tool must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel; and after reconnection, the tool should comply with all local codes and ordinances.

**If hardwired:**

Permanently connected tools: This tool should be connected to a grounded metal permanent wiring system; or to a system having an equipment-grounding conductor.

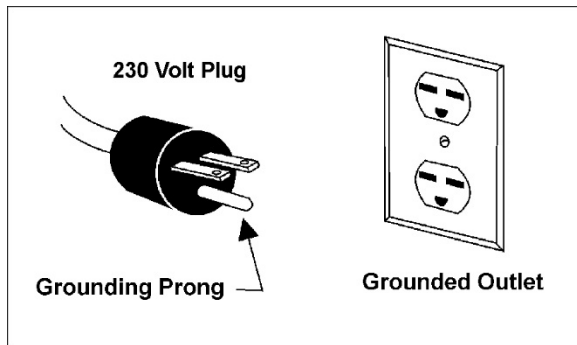


Figure 7-1

**7.2 Extension cords**

The use of extension cords is discouraged; try to position equipment within reach of the power source. If an extension cord becomes necessary, be sure it is heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

Table 1 shows recommended size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

Ampere Rating		Volts	Total length of cord in feet			
More Than	Not More Than		50	100	200	300
		240	AWG			
0	6		18	16	16	14
6	10		18	16	14	12
10	12		16	16	14	12
12	16		14	12	Not Recommended	

Table 2: Extension cord recommendations

**8.0 General description**

**8.1 Lathe bed**

The lathe bed (A, Figure 8-1) 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 to the rear of the bed.

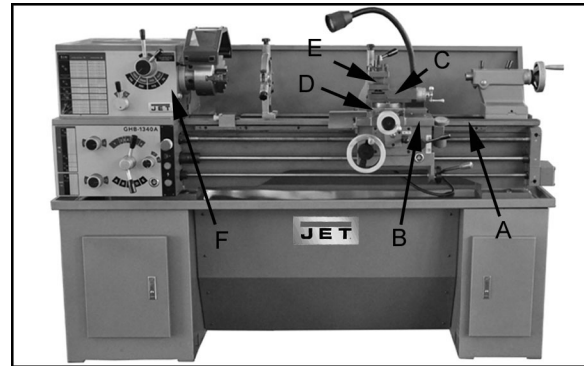


Figure 8-1

**8.2 Carriage**

The carriage (B, Fig. 10) 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 dove-tailed slide which can be adjusted for play by means of gibs.

The compound slide (C, Figure 8-1), which is mounted on the cross slide (D, Figure 8-1), can be rotated through 360°. The compound slide and the cross slide travel in a dovetail slide and have adjustable gibs. A four-way tool post (E, Figure 8-1) is fitted on the compound slide.

**8.3 Headstock**

The headstock (F, Figure 8-1) is cast from high grade, low vibration cast iron. It is mounted to the bed by four bolts with two adjusting bolts for alignment. In the head, the spindle is mounted on two precision taper roller bearings. The hollow spindle has Morse Taper #6 with a 2" bore.

**8.4 Quick change tool post**

The quick change tool post (E, Figure 8-1) is mounted on the compound slide and allows tool holders to be mounted easily. Remember to use a minimum of two clamping screws when installing a cutting tool.

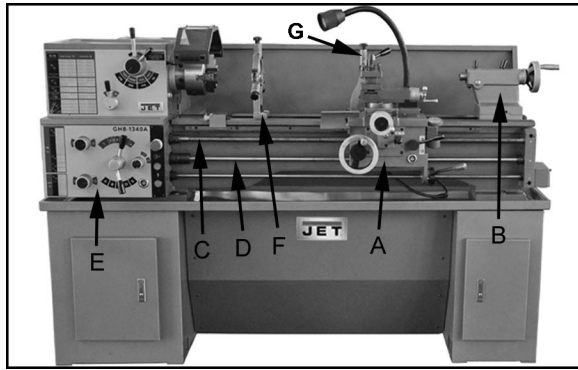


Figure 8-2

### 8.5 Apron

The apron (A, Figure 8-2) 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 front of apron.

### 8.6 Tailstock

The tailstock (B, Figure 8-2) 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 #4.

### 8.7 Leadscrew and feed rod

The leadscrew (C Figure 8-2) and feed rod (D, Figure 8-2) are mounted on the front of machine bed. They are connected to the gearbox at the left for automatic feed and lead. They are supported by bushings on both ends.

### 8.8 Gear box

The gear box (E, Figure 8-2) is made from high quality cast iron and is mounted to left side of machine bed.

### 8.9 Steady rest

The steady rest (F, Figure 8-2) serves as a support for shafts on the free tailstock end. The steady rest is mounted on the bedway and secured from below with bolt, nut and locking plate.

### 8.10 Follow rest

The traveling follow rest (G, Figure 8-2) is mounted on the saddle and follows the movement of the turning tool. Only two fingers are required as the turning tool takes the place of the third. The follow rest is used for turning 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. The sliding fingers require continuous lubrication at the contact points with the workpiece to prevent premature wear.

## 9.0 Controls

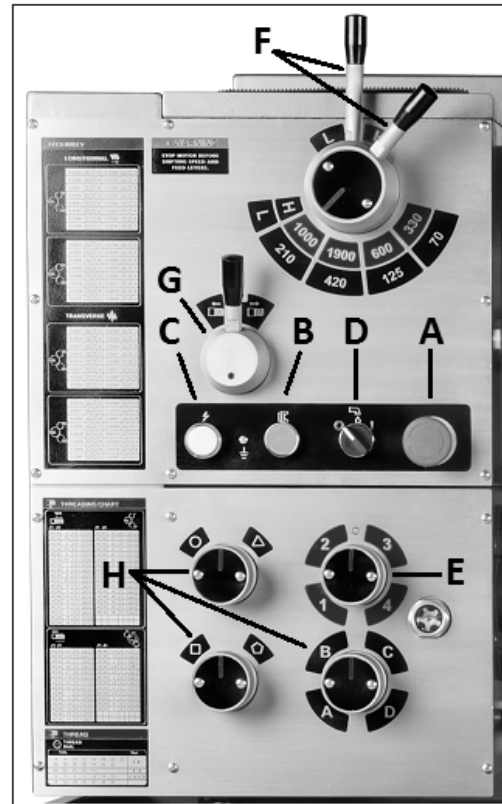


Figure 9-1

1. **Emergency Stop Switch (A, Figure 9-1)** – Press to stop all machine functions. **Caution: lathe will still have power.** To restart machine, rotate button clockwise until it disengages.
2. **Jog Switch (B, Figure 9-1)** – Press and release to advance spindle momentarily.
3. **Power Indicator Light (C, Figure 9-1)** – Illuminated whenever lathe has power.
4. **Coolant On-Off Switch (D, Figure 9-1)** – Turns coolant pump on and off.
5. **Feed Rod/Leadscrew Selector (E, Figure 9-1)** – Use knob to activate leadscrew and feed rod.
6. **Speed Selector Levers (F, Figure 9-1)** – Use to select spindle speeds in ranges.
7. **Feed Direction Selector (G, Figure 9-1)** – Selects carriage travel direction when chuck is rotating in forward direction (or counter-clockwise as viewed from front of chuck).
8. **Feed Rate Selector (H, Figure 9-1)** – Use knobs to set desired feed, or lead rates.

9. **Longitudinal Traverse Handwheel** (A, Figure 9-2) – Rotate handwheel clockwise to move apron assembly toward tailstock (right). Rotate handwheel counterclockwise to move apron assembly toward headstock (left).
10. **Feed Selector** (B, Figure 9-2) – Push lever to the left and down to activate crossfeed function. Pull lever to the right and up to activate longitudinal function.
11. **Half Nut Engagement Lever** (thread cutting) (C, Figure 9-2) – Move lever down to engage. Move lever up to disengage.
12. **Cross Traverse Handwheel** (D, Figure 9-2) – Clockwise rotation moves cross slide toward rear of machine.
13. **Compound Slide Traverse Handwheel** (E, Figure 9-2) – Rotate clockwise or counterclockwise to move or position.
14. **Tool Post Clamping Lever** (F, Figure 9-2) – Rotate counterclockwise to loosen and clockwise to tighten. Rotate tool post when lever is unlocked.
15. **Threading Dial** (G, Figure 9-2) – Engage by pushing into the leadscrew. Pull out to disengage. The dial indicator and chart will specify at which point a thread can be entered.
16. **Forward/Reverse Lever** (H, Figure 9-2) – Pull lever up for clockwise spindle rotation (reverse). Push lever down for counterclockwise spindle rotation (forward). Neutral position is a center detent and spindle remains idle.
17. **Compound Rest Lock** (I, Figure 9-3) – Turn hex nut clockwise to lock and counterclockwise to unlock.
18. **Compound Slide Lock** (J, Figure 9-4) – Turn set screw clockwise to tighten and counterclockwise to loosen.
19. **Cross Slide Lock** (K, Figure 9-4) – Turn set screw clockwise, and tighten to lock. Turn counterclockwise and loosen to unlock.

**CAUTION**

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

20. **Carriage Lock** (L, Figure 9-3) – Turn hex socket cap screw clockwise and tighten to lock. Turn counterclockwise and loosen to unlock.

**CAUTION**

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

21. **Tailstock Quill Clamping Lever** (M, Figure 9-4) – Lift up to lock spindle. Push down to unlock.

22. **Tailstock Clamping Lever** (N, Figure 9-4) – Lift up lever to lock. Push down lever to unlock.
23. **Tailstock Quill Traverse Handwheel** (O, Figure 9-4) – Rotate clockwise to advance quill. Rotate counterclockwise to retract quill.
24. **Tailstock Off-Set Adjustment** – Three set screws located on tailstock base are used to off-set tailstock for cutting tapers. Loosen lock screw on tailstock end. Loosen one side set screw (P, Figure 9-4) while tightening the other until the amount of off-set is indicated on scale. Tighten lock screw.

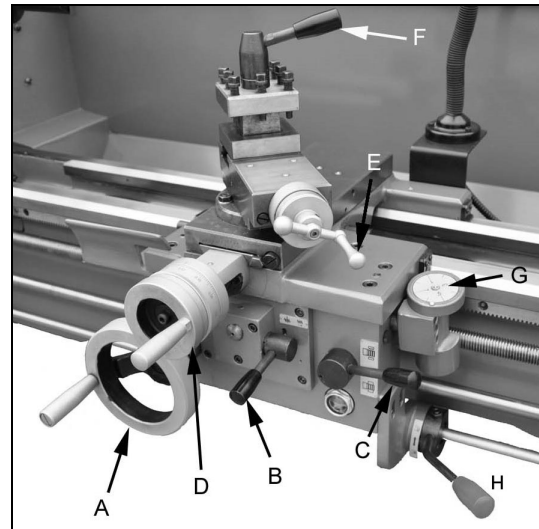


Figure 9-2

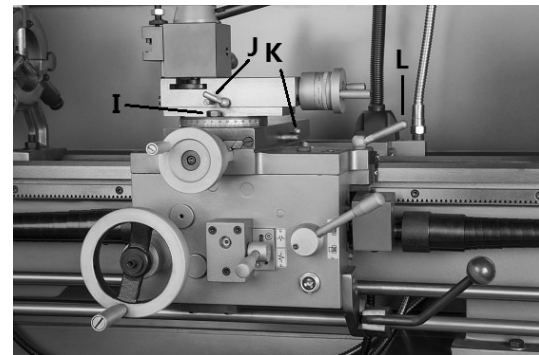


Figure 9-3

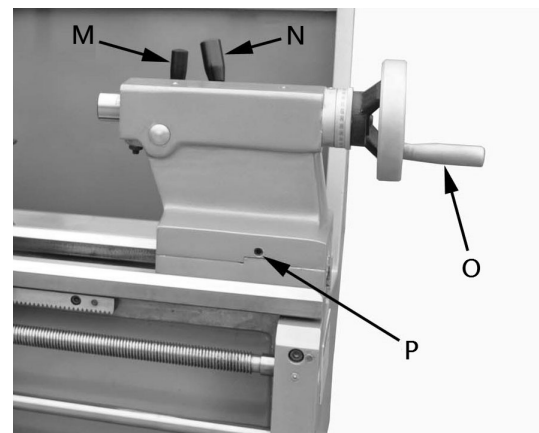


Figure 9-4

## 10.0 Operation

### 10.1 Break-in procedure

During manufacturing and testing, this lathe has been operated in the low RPM range for three hours.

To allow time for the gears and bearings to break-in and run smoothly, do not run the lathe above 755 RPM for the first six hours of operation and use.

### 10.2 Feed and thread selection

1. Refer to the feed and thread table (A, Figure 10-1; also sect. 12.0 of this manual).
2. Move knobs and handle (B, Figure 10-1) to appropriate positions.

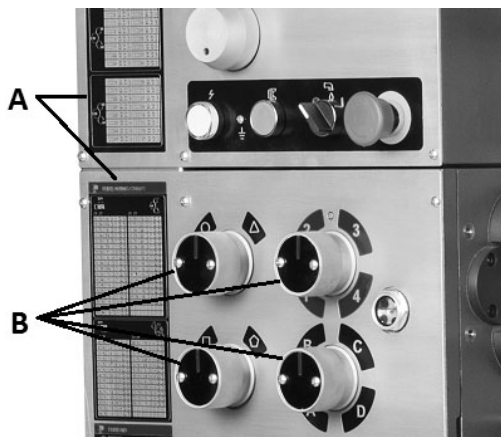


Figure 10-1

### 10.3 Change gear replacement

**Note:** The 30T, 60T, 120T and 127T 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 additional gears found in the toolbox are used for some metric threads and feeds.

1. Disconnect machine from power source.
2. Open the cover on left end of headstock.
3. Loosen hex nuts (E/F, Figure 10-2). Move quadrant out of the way.
4. Change gears (G, Figure 10-2) to match feed and thread chart.
5. Thoroughly clean and install new gears.
6. Move quadrant so the large gear meshes with the smaller gears, and tighten to secure in place. Note: Make sure there is backlash of 0.002" – 0.003" between gears. Setting gears too tight will cause excessive noise and wear.
7. Close cover and connect machine to power source.

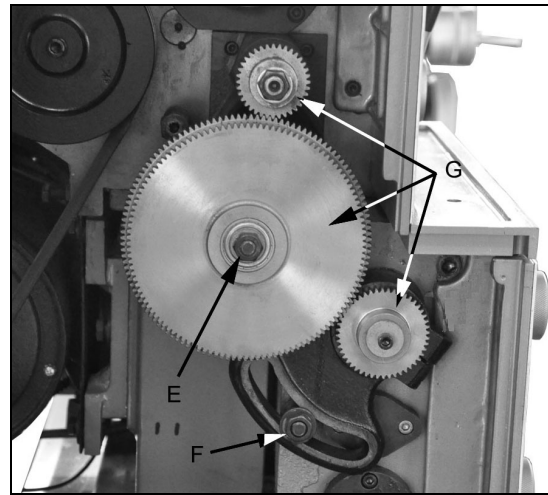


Figure 10-2

### 10.4 Automatic feed operation and feed changes

1. Move the forward/reverse selector (A, Figure 10-3) up or down depending on desired direction.

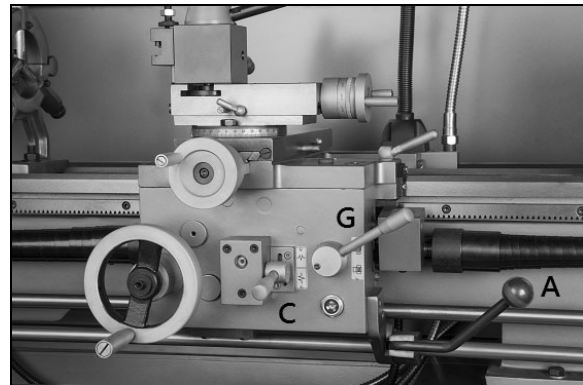


Figure 10-3

2. Turn knob (B, Figure 10-4) so that the arrow points at the round circle to start the feed rod rotating.

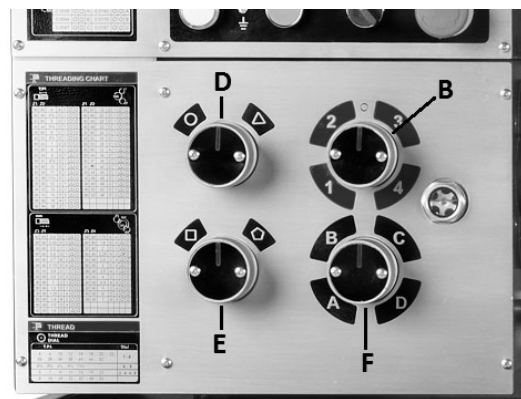


Figure 10-4

### 10.5 Powered carriage travel

Push lever (C, Figure 10-3) down to engage cross feed. Pull lever up to engage longitudinal feed.

## 10.6 Thread cutting

1. Set feed rate selectors (D/E/F, Figure 10-4) in proper position for correct feed rate of the thread pitch to be cut.
2. Turn knob (B, Figure 10-4) so that the arrow points to 1, 2, 3 or 4 to start the thread cutting.
3. Engage half nut lever (G, Figure 10-3).
4. 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.
5. 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).

## 11.0 Adjustments

### 11.1 Saddle adjustment

1. Loosen four hex nuts (A, Figure 11-1) found on the bottom rear of cross slide.
2. Turn each of four set screws (B, Figure 11-1) equally with a hex wrench until a slight resistance is felt. Do not overtighten.
3. Move carriage with handwheel and determine if drag is to your preference. Readjust setscrews as necessary to achieve desired drag.
4. Hold socket set screw firmly with a hex wrench and tighten hex nut to lock in place.
5. Move the carriage again and adjust if necessary. **CAUTION:** Over-adjustment will cause excessive, premature wear of gibs.

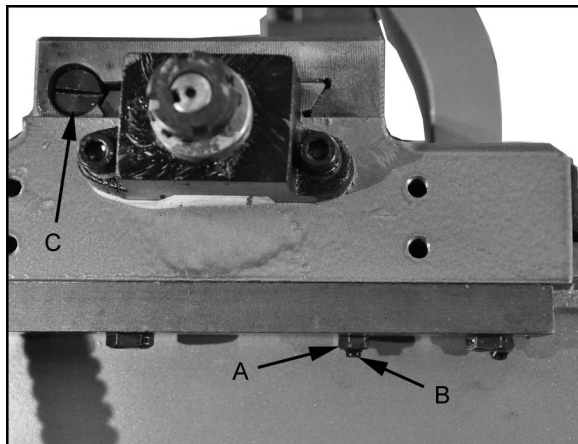


Figure 11-1

### 11.2 Cross slide adjustment

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

1. Loosen the rear gib screw (C, Fig. 20) approximately one turn.

2. Tighten front gib screw a quarter turn. Turn the cross slide handwheel to see if the cross slide is still loose. If it is still loose, tighten the front screw a bit more and try again.
3. When cross slide is properly adjusted, snug rear gib screw. Do not overtighten; this will cause premature wear on the gib and mating parts.

### 11.3 Compound slide adjustment

Follow same procedure as for cross slide adjustment, to adjust the compound rest.

### 11.4 Tailstock adjustment

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

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

### 11.5 Half nut gib adjustment

1. Remove thread dial assembly by unscrewing the screw (D, Figure 11-2).
2. Loosen three hex nuts (E, Figure 11-2) found on side of apron, and turn three set screws (F, Figure 11-2) equally with a hex wrench.
3. Adjust properly for wear and play. Hold socket set screw firmly with a hex wrench and tighten hex nut to lock in place. **CAUTION:** Over-adjustment will cause excessive, premature wear on gib and mating parts.

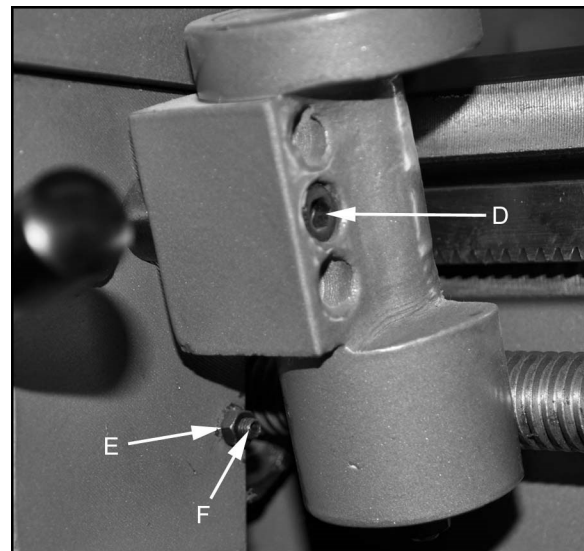


Figure 11-2



## 11.6 Headstock alignment

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

1. Using an engineer's precision level on the bedways, make sure lathe is level side-to-side and front-to-back. If 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 tailstock or center to support the other end.
4. Set up and cut along five inches of bar stock.
5. Using a micrometer, measure bar stock next to the chuck and at the end. The measurement should be the same.
6. If the measurements are not the same and adjustment is required, loosen the four bolts that hold headstock to bed. Do not loosen completely; some drag should remain.
7. Loosen two hex nuts found on the two adjusting bolts located on backside of headstock just above motor mount bracket. Adjust the bolts for alignment and tighten hex nuts. Tighten headstock bolts and make another cut. Keep adjusting screws after each cut until the bar stock measurements are the same. Tighten all headstock bolts and jam nuts on adjusting screws.

## 11.7 Removing gap bridge

1. Using an open end wrench, tighten the two hex nuts (A, Figure 11-3). This will cause the taper pins (B, Figure 11-3) to release. Remove the taper pins.

2. Remove the four hex socket cap screws (C, Figure 11-3) with a hex key wrench.
3. Gap bridge can now be removed.

## 11.8 Installing gap bridge

1. Clean bottom and ends of gap bridge thoroughly.
2. Set gap bridge in place and align.
3. Remove nuts (A, Figure 11-3) from taper pins (B, Figure 11-3).
4. Slide taper pins in their respective holes and seat using a mallet. Install nuts on taper pins finger tight.
5. Install four socket head cap screws (C, Figure 11-3) and tighten securely.

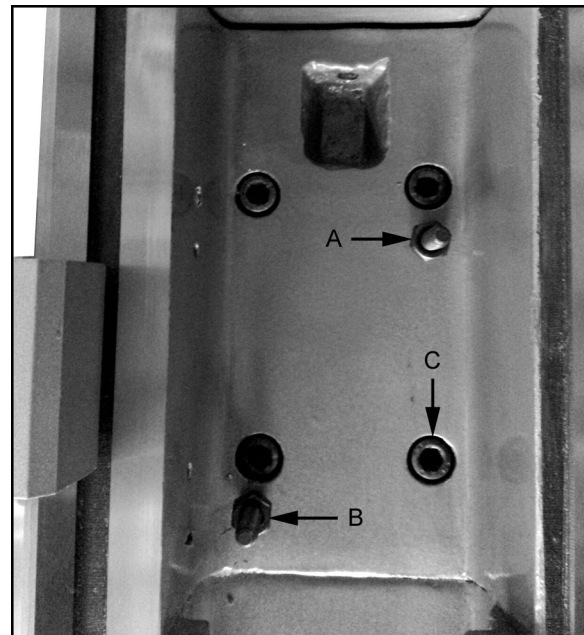


Figure 11-3

## 12.0 Thread and feed chart

THREADING CHART											
T.P.I.						Z1 Z2					
Z1	Z2					Z1	Z2				
60	60	4	A	1	○	60	57	19	D	1	○
60	54	4½	D	1	○	60	60	20	D	1	○
60	60	5	D	1	○	40	44	22	D	1	○
40	44	5½	D	1	○	40	46	23	D	1	○
30	60	6	C	1	○	30	60	24	C	1	○
40	52	6½	D	1	○	40	52	26	D	1	○
60	63	7	D	3	○	60	63	28	D	3	○
60	60	8	A	1	△	60	60	32	A	1	△
60	54	9	D	1	△	60	54	36	D	1	△
60	57	9½	D	1	△	60	57	38	D	1	△
60	60	10	D	1	△	60	60	40	D	1	△
40	44	11	D	1	△	40	44	44	D	1	△
40	46	11½	D	1	△	40	46	46	D	1	△
30	60	12	C	1	△	30	60	48	C	1	△
40	52	13	D	1	△	40	52	52	D	1	△
60	63	14	D	3	△	60	63	56	D	3	△
60	60	16	A	1	○						
60	54	18	D	1	○						

mm											
Z3 Z4						Z3 Z4					
Z3	Z4					Z3	Z4				
42	63	0,4	D	1	△	56	60	1,75	A	4	○
60	60	0,45	D	3	△	60	60	1,8	D	3	△
30	60	0,5	C	1	△	30	60	2	C	1	△
60	60	0,6	D	1	△	60	60	2,25	A	3	△
60	60	0,7	B	3	△	30	60	2,5	C	4	△
60	60	0,75	D	4	△	60	60	3	D	4	△
42	63	0,8	D	1	○	56	60	3,5	A	4	△
60	60	0,9	D	3	○	30	60	4	C	1	○
30	60	1	C	1	○	60	60	4,5	A	3	○
60	60	1,2	D	1	○	30	60	5	C	4	○
30	60	1,25	C	4	○	60	60	6	D	4	○
60	60	1,4	B	3	○	56	60	7	A	4	○
60	60	1,5	D	4	○						
42	63	1,6	D	1	△						

THREAD											
THREAD DIAL											
T.P.I.										Dial	
4	6	10	12	14	18	20	22				1 - 8
26	28	36	38	44	46	52					
4½	5½	6½	9½	11½							4, 8
5	7	9	11	13	19	23					2, 4, 6, 8
8	16	24	32	40	48	56					

FEED IN/REV											
LONGITUDINAL											
0,0020	△	□	D			0,0082	△	○	D		
0,0025	△	□	A			0,0102	△	○	A		
0,0031	△	□	B			0,0128	△	○	B		
0,0034	△	□	C			0,0137	△	○	C		
0,0041	○	□	D			0,0164	○	○	D		
0,0051	○	□	A			0,0205	○	○	A		
0,0064	○	□	B			0,0256	○	○	B		
0,0069	○	□	C			0,0274	○	○	C		

0,0041	△	□	D			0,0164	△	○	D		
0,0051	△	□	A			0,0205	△	○	A		
0,0064	△	□	B			0,0256	△	○	B		
0,0069	△	□	C			0,0274	△	○	C		
0,0082	○	□	D			0,0328	○	○	D		
0,0102	○	□	A			0,0411	○	○	A		
0,0128	○	□	B			0,0512	○	○	B		
0,0137	○	□	C			0,0548	○	○	C		

TRANSVERSE											
0,0007	△	□	D			0,0028	△	○	D		
0,0009	△	□	A			0,0035	△	○	A		
0,0011	△	□	B			0,0044	△	○	B		
0,0012	△	□	C			0,0047	△	○	C		
0,0014	○	□	D			0,0056	○	○	D		
0,0017	○	□	A			0,0070	○	○	A		
0,0022	○	□	B			0,0087	○	○	B		
0,0024	○	□	C			0,0094	○	○	C		

0,0014	△	□	D			0,0056	△	○	D		
0,0017	△	□	A			0,0070	△	○	A		
0,0022	△	□	B			0,0087	△	○	B		
0,0024	△	□	C			0,0094	△	○	C		
0,0028	○	□	D			0,0112	○	○	D		
0,0035	○	□	A			0,0140	○	○	A		
0,0044	○	□	B			0,0175	○	○	B		
0,0047	○	□	C			0,0187	○	○	C		

Table 3

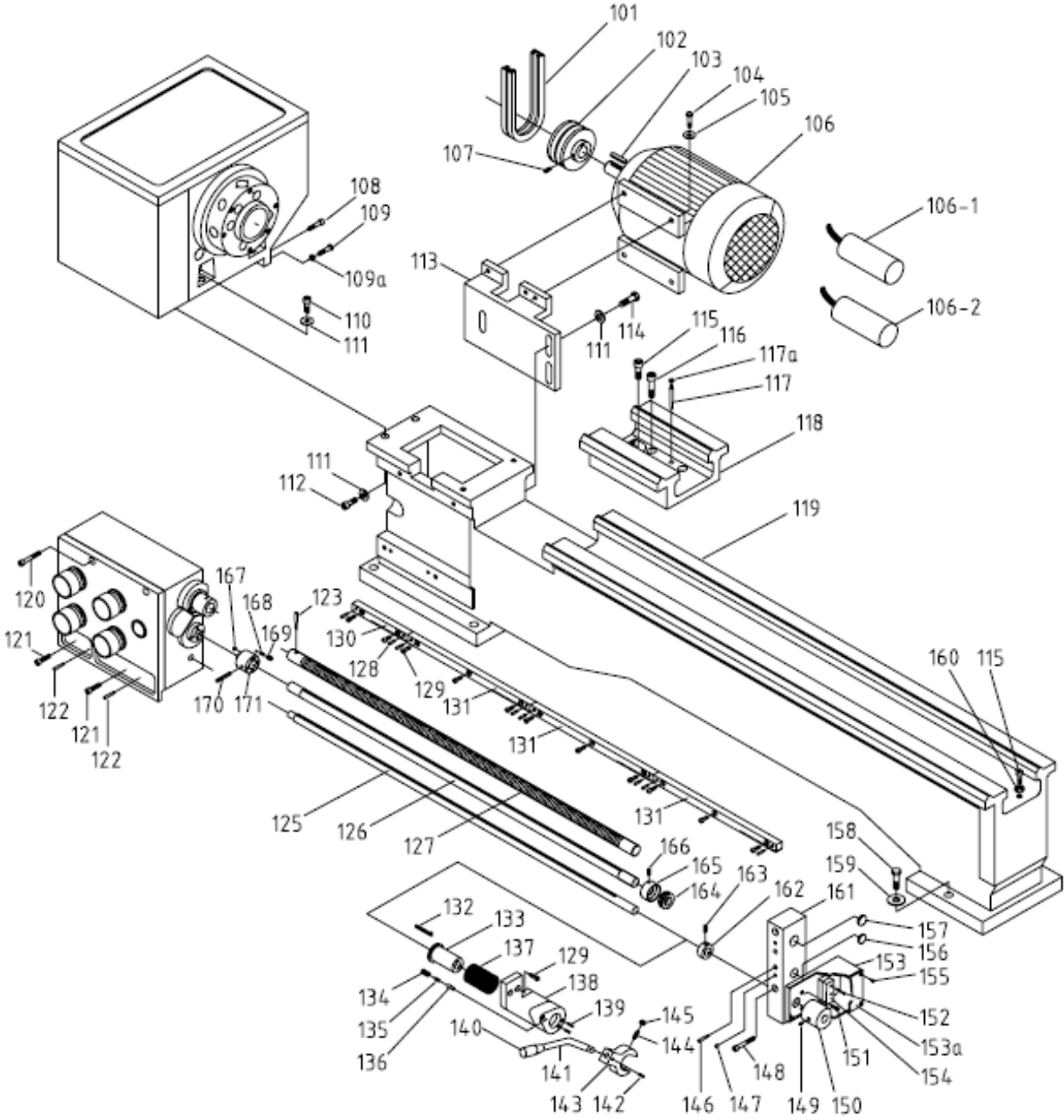
## 13.0 Replacement parts

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.

13.1.1 Bed Assembly – Exploded View

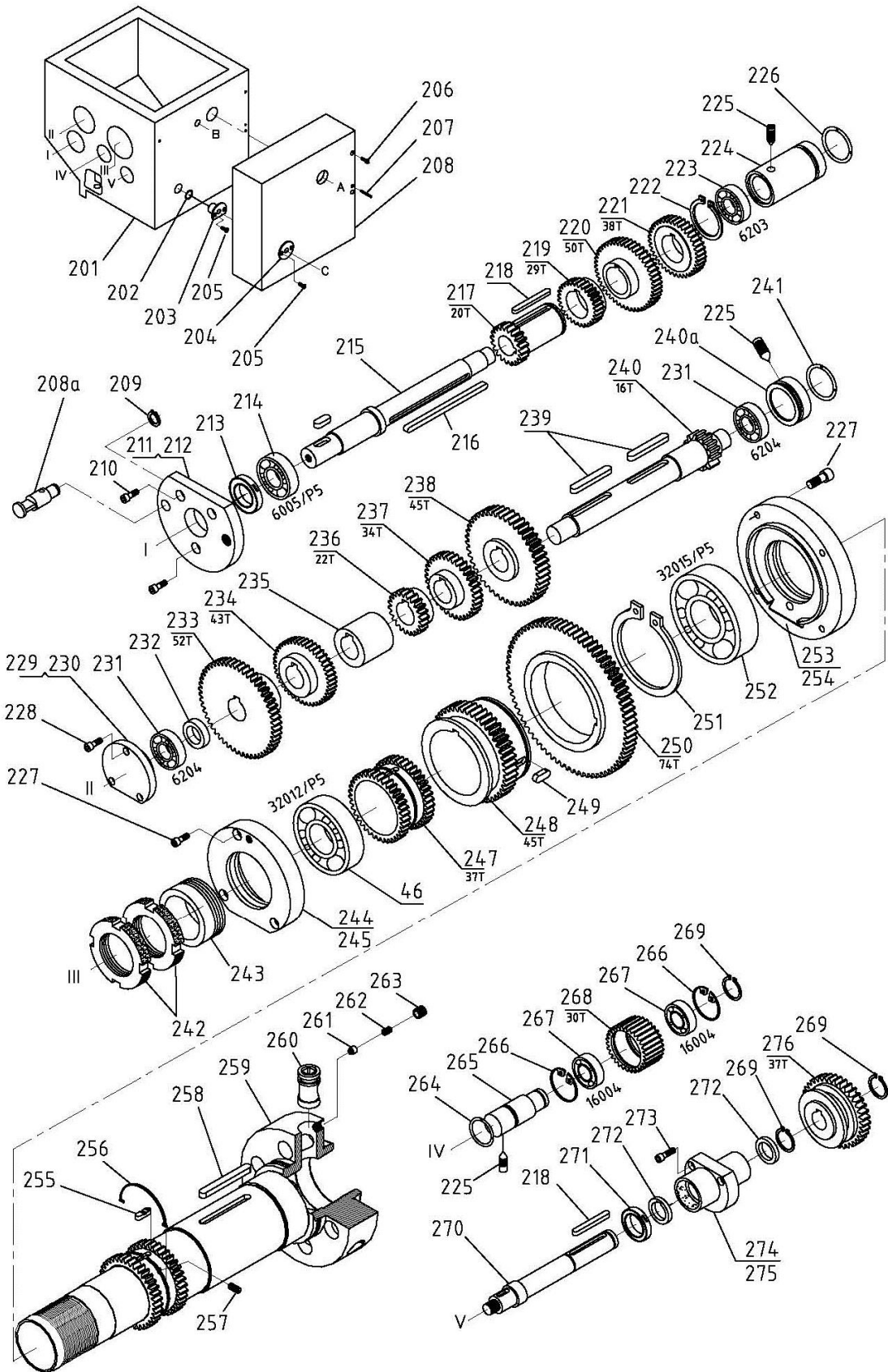


### 13.1.2 Bed Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
101	VB-A86	V-Belt	A86	2
102	D330A-11106-2	Pulley	60Hz	1
103	GB1096	Key	8x35mm	1
104	TS-1490041	Hex Cap Screw	M8x25	4
105	TS-1550061	Flat Washer	M8	4
106	GH1440B-106	Motor	1.8KW/220V/60HZ/1PH	1
106-1	GH1440B-106-SC	Start Capacitor	300MFD 350VAC	1
106-2	GH1440B-106-RC	Run Capacitor	40mF 350VAC	1
107	TS-2276081	Socket Set Screw CP	M6x8	1
108	TS-1504061	Hex Socket Hd Cap Screw	M8x30	2
109	TS-1490081	Hex Cap Screw	M8x45	2
109a	TS-1540061	Hex Nut	M8	2
110	TS-1505051	Hex Socket Hd Cap Screw	M10x35	2
111	TS-1550071	Flat Washer	M10	7
112	TS-1491061	Hex Cap Screw	M10x40	2
113	D330B-11107G	Motor Mount Plate		1
114	TS-1491041	Hex Cap Screw	M10x30	3
115	TS-1505051	Hex Socket Hd Cap Screw	M10x35	2
116	TS-1506051	Hex Socket Hd Cap Screw	M12x40	4
117	GH1440B-117	Taper Pin, Ext Thread	8x70mm	2
117a	GB6170	Hex Nut	M8	2
118	D330B-11103G	Gap Bridge		1
119	D330B-11101G	Bed		1
120	TS-1504101	Hex Socket Hd Cap Screw	M8x50	2
121	TS-1504061	Hex Socket Hd Cap Screw	M8x30	2
122	ZX-C34	Taper pin	6x30mm	2
123	GH1440B-123	Taper pin, Int Thread	4x36mm	1
125	D330B-11203G	Control Rod		1
126	D330B-11202G	Feed Rod		1
127	D330B-11201G	Leadscrew		1
128	ZX-S13	Taper pin	5x20mm	8
129	TS-1503041	Hex Socket Hd Cap Screw	M6x16	13
130	D330B-11205G	Short rack		1
131	D330B-11204G	Long rack		3
132	F014000	Key, Dbl Rd Hd	4x50mm	1
133	D330B-11217G	Collar		1
134	F010439	Socket Set Screw FP	M8x8	1
135	GH1440B-135	Spring	6x1x15mm	1
136	D330B-11105G-1	Pin		1
137	GH1440B-137	Spring	32x3.6x50mm	1
138	D330B-11105G	Bracket		1
139	5510484	Roll Pin	5x20	2
140	GH1440B-140	Knob	M10x50	1
141	D330B-11206G	Lever		1
142	5508804	Roll Pin	4x20mm	1
143	D330B-11104G	Fork		1
144	TS-1523051	Socket Set Screw CP	M6x16	2
145	TS-1540041	Hex Nut	M6	2
146	GH1440B-146	Taper Pin, Int Thread	6x45mm	2
147	BDB919-021	Ball Oiler	6mm	2
148	TS-1504121	Hex Socket Hd Cap Screw	M8x60	2
149	TS-1524031	Socket Set Screw CP	M8x12	1
150	D330C-3012C	Cam		1
151	F001217	Phillips Pan Hd Mach Screw	M8x12	2
152	F001218	Phillips Pan Hd Mach Screw	M4x42	2
153	D330C-11301C	Switch Box		1
153a	D330C-11302C	Switch Box Cover		1
154	GH1440B-154	Switch	LXW5-11D1	2
155	TS-1532032	Phillips Pan Hd Mach Screw	M4x10	4
156	D330B-11210G-1	Cover	19mm	1

<b>Index No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
157	D330B-11210G-2	Cover	22mm	1
158	TS-2211451	Hex Cap Screw	M12x45	6
159	TS-2360121	Flat Washer	M12	6
160	TS-1540071	Hex Nut	M10	1
161	D330B-11102G	Shaft End Bracket		1
162	D330C-11209C	Collar		1
163	TS-1523031	Socket Set Screw CP	M6x10	1
164	BB-51104	Thrust Bearing	51104	1
165	D330B-CS004	Bearing Cover		1
166	TS-1523031	Socket Set Screw CP	M6x10	1
167	SB-6MM	Steel Ball	6mm	4
168	GH1440B-168	Spring	6x1x25mm	4
169	TS-1524011	Socket Set Screw FP	M8x8	4
170	811404	Roll Pin	4x40mm	1
171	D330B-36101A-1	Clutch		1

### 13.2.1 Headstock Assembly – Exploded View



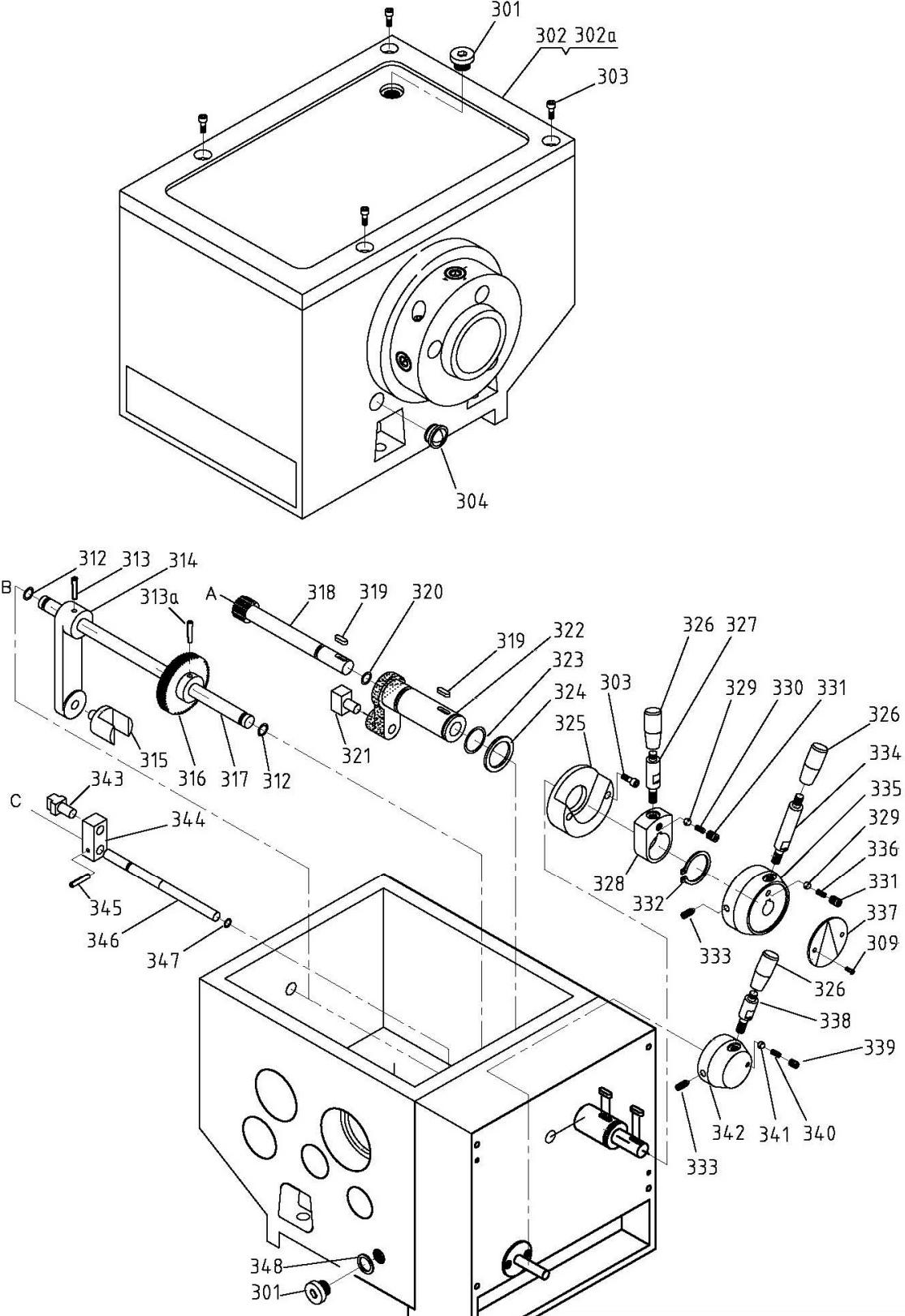
### 13.2.2 Headstock Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
201	D360D-21107	Headstock		1
202	GH1440B-168	Oil seal	20x2.65mm	1
203	D330A-21246	Sleeve		1
204	D330A-21235	Sleeve		1
205	F010946	Flat Hd Soc Cap Screw	M4x8	4
206	TS-1503091	Hex Socket Hd Cap Screw	M6x40	4
207	ZX-S41	Roll Pin	5x40mm	2
208	D330B-21113G-1	Case frame		1
208a	D330A-11230	Rocker Shaft		1
209	F006041	C-Retaining Ring Ext.	12mm	1
210	TS-1503051	Hex Socket Hd Cap Screw	M6x20	3
211	D330A-21124	Pulley Shaft Cover		1
212	D330A-21601	Gasket		1
213	GH1440B-213	Oil seal	25x40x7mm	1
214	BB-6005	Ball Bearing	6005	1
215	D330A-21215	Shaft		1
216	GHB1340-109	Key, Dbl Rd Hd	A6x120mm	1
217	D330D-21217	Gear	20T	1
218	GHB1340-107	Key, Dbl Rd Hd	A6x50mm	2
219	D330A-21218	Gear	29T	1
220	D330D-21219	Gear	50T	1
221	D330A-21220	Gear	38T	1
222	F006054	C-Retaining Ring Ext.	35mm	1
223	BB-6203	Bearing	6203	1
224	D330A-21106	Front Cylinder		1
225	TS-1524041	Socket Set Screw	M8x16	3
226	GH1440B-226	Oil Seal	40x3.1mm	1
227	TS-1503061	Hex Socket Hd Cap Screw	M6x25	7
228	TS-1501041	Hex Socket Hd Cap Screw	M4x12	3
229	D330A-21104	Cover		1
230	D330A-21602	Gasket		1
231	BB-6204	Bearing	6204	2
232	D330A-21211	Washer		1
233	D330A-21222	Gear	52T	1
234	D330A-21209	Gear	43T	1
235	D330D-21221	Spacer		1
236	D330D-21210	Gear	22T	1
237	D330D-21223	Gear	34T	1
238	D330D-21224	Gear	45T	1
239	5300871	Key, Dbl Rd Hd	A8x55mm	2
240	D330A-21212	Shaft	16T	1
240a	D330A-21215	Front Plug		1
241	GH1440B-241	Oil seal	47x3.1mm	1
242	D330D-21208	Nut		2
243	D330D-21102	Collar		1
244	D330D-21103	End cover		1
245	D330D-21603	Gasket		1
246	BB-32012	Bearing	32012	1
247	D330D-21207	Gear	37T/37T	1
248	D330D-21227	Gear	45T	1
249	GHB1340-110	Key, Dbl Rd Hd	8x18mm	1
250	D330D-21226	Gear	74T	1
251	F006063	C-Retaining Ring, Ext	90mm	1
252	BB-32015	Bearing	32015	1
253	D330D-21108	Front Cover		1
254	D330D-21605	Gasket		1
255	D330D-21251	Key, Dbl Rd Hd		1
256	D330D-21252	Circlip		1
257	TS-2276081	Socket Set Screw	M6x8	1
258	GHB1340-155	Key, Dbl Rd Hd	A8x85	1

Index No.	Part No.	Description	Size	Qty
259	D330D-21228	Spindle		1
260	D330D-21231	Cam		6
261	D330D-21253	Cam Pin		6
262	D330D-21254	Spring		6
263	D330D-21250	Screw		6
264	GH1440B-264	Oil Seal	25x2.4mm	1
265	D330A-21238	Shaft		1
266	F006077	C-Retaining Ring, Int	42mm	2
267	BB-16004	Bearing	16004	2
268	D330A-21237	Gear	30T	1
269	F006047	C-Retaining Ring, Ext	20mm	3
270	D330B-21239G	Shaft		1
271	GH1440B-271	Oil Seal	24x32x5mm	1
272	D330A-21202	Washer		2
273	TS-1502041	Hex Socket Hd Cap Screw	M5x16	3
274	D330A-21101	Cover		1
275	D330A-21604	Gasket		1
276	D330A-21201	Gear	37T	1



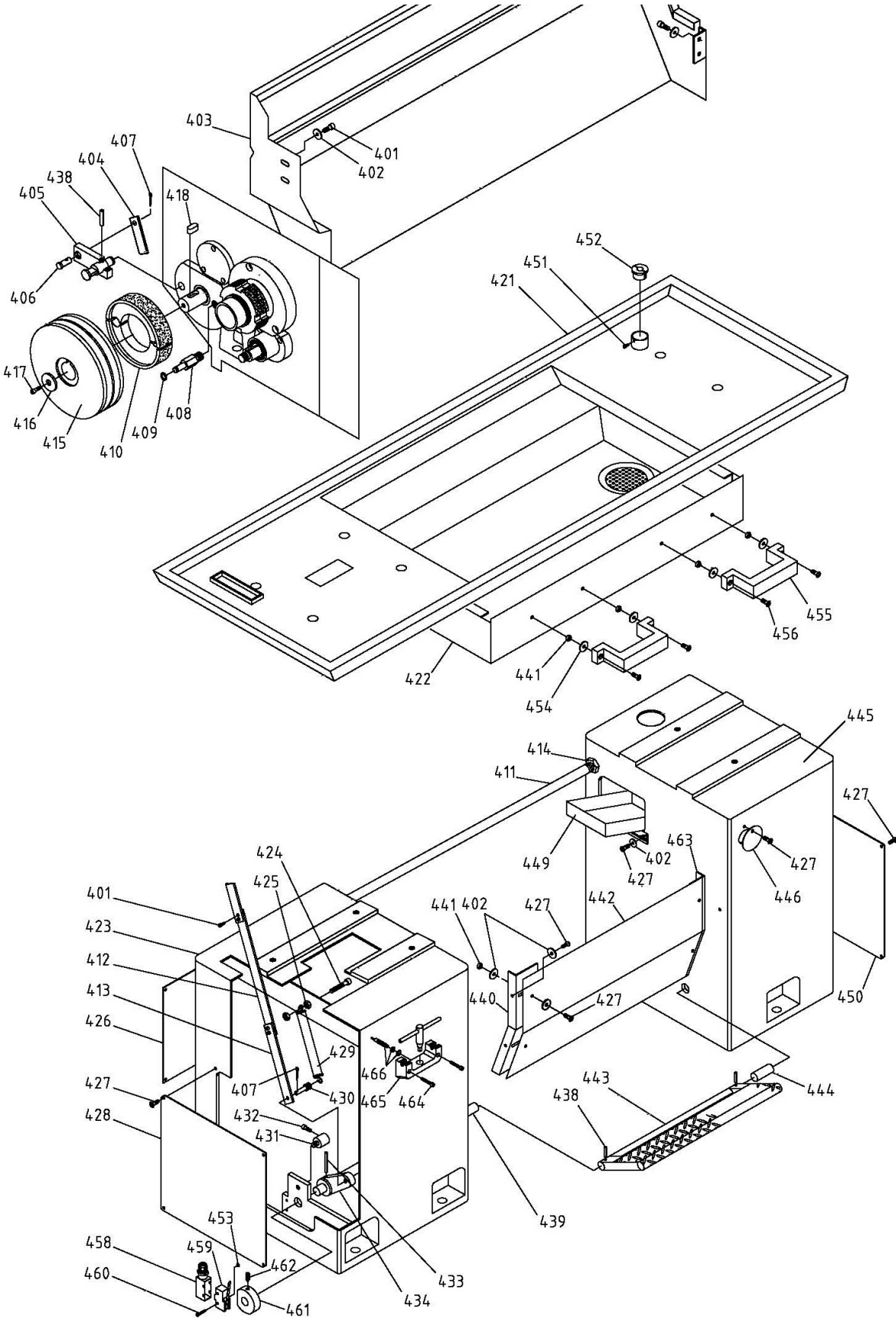
### 13.3.1 Headstock Controls – Exploded View



### 13.3.2 Headstock Controls – Parts List

Index No.	Part No.	Description	Size	Qty
301	GH1440B-301	Hex Socket Hd Plug	M16×1.5	2
302	D330B-21112G	Cover Board		1
302a	D330A-21606	Gasket		1
303	TS-1503061	Hex Socket Cap Screw	M6×25	4
304	GH1440B-304	Oil Sight Glass	M27X1.5	1
309	TS-2171012	Pan Hd Machine Screw	M4X6	2
312	GH1440B-312	Oil seal	14×2.4mm	2
313	ZX-Q66	Taper Pin	5×35mm	1
313a	ZX-B34	Taper Pin	5×30mm	1
314	D330A-21109	Rocker		1
315	D330A-21233	Shift Fork		1
316	D330A-21234	Gear	51T	1
317	D330A-21232	Shaft		1
318	D330B-21241G	Geared Shaft	17T	1
319	5217791	Key, Dbl Rd Hd	5×14mm	2
320	GH1440B-312	Oil Seal	16×2.4mm	1
321	D330A-21403	Shift Fork		1
322	D330D-21121	Shift Collar		1
323	GH1440B-323	Oil Seal	30×3.1mm	1
324	D330A-21240	Washer		1
325	D330A-21118	Base		1
326	GH1440B-326	Handle Grip	M8×40	3
327	D330A-21248-1	Lever		1
328	D330A-21119	Lever Base		1
329	SB-6MM	Steel Ball	6mm	2
330	D330A-21257	Spring	6×1×13mm	1
331	F010439	Socket Set Screw FP	M8×8	2
332	F006052	C-Retaining Ring Ext	30mm	1
333	TS-1523051	Socket Set Screw	M6×16	2
334	D330A-21249	Handle Shaft		1
335	D330A-21117	Handle Hub		1
336	D330A-21256	Spring	6×1×26mm	1
337	GH1440B-337	Indicator Plate		1
338	D330A-21248	Handle Shaft		1
339	F010444	Socket Set Screw FP	M6×8	1
340	D330A-21258	Spring	5X0.8X25	1
341	SB-5MM	Steel ball	5mm	1
342	D330A-21120	Handle Hub		1
343	D330A-21402	Shift fork		1
344	D330A-21111	Rocker		1
345	JWBS15-1124	Roll Pin	4×18mm	1
346	D330A-21236	Shaft		1
347	GH1440B-347	Oil Seal	10×1.9mm	1
348	GH1440B-348	Copper Washer	16mm	1

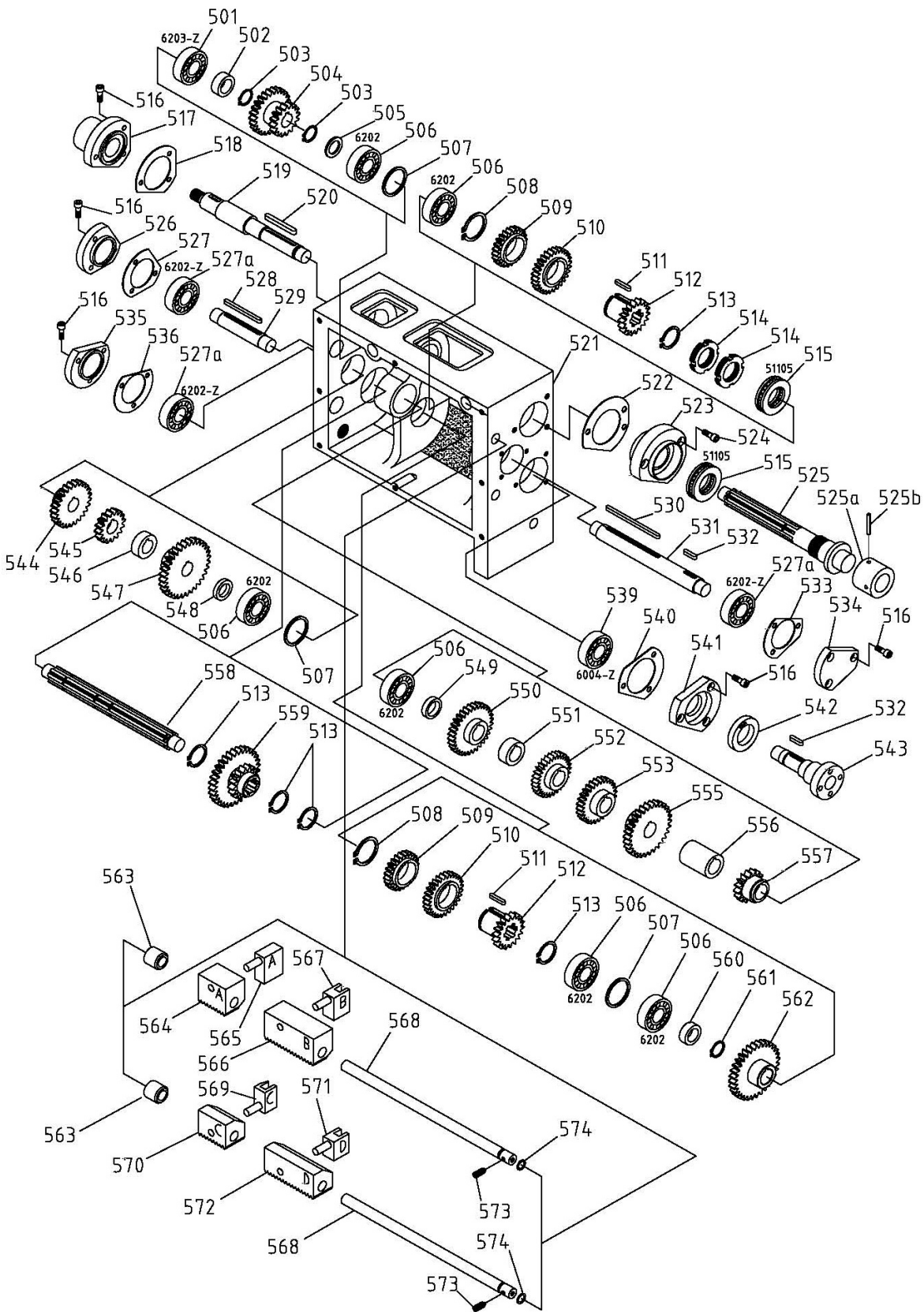
### 13.4.1 Stand and Brake Assembly – Exploded View



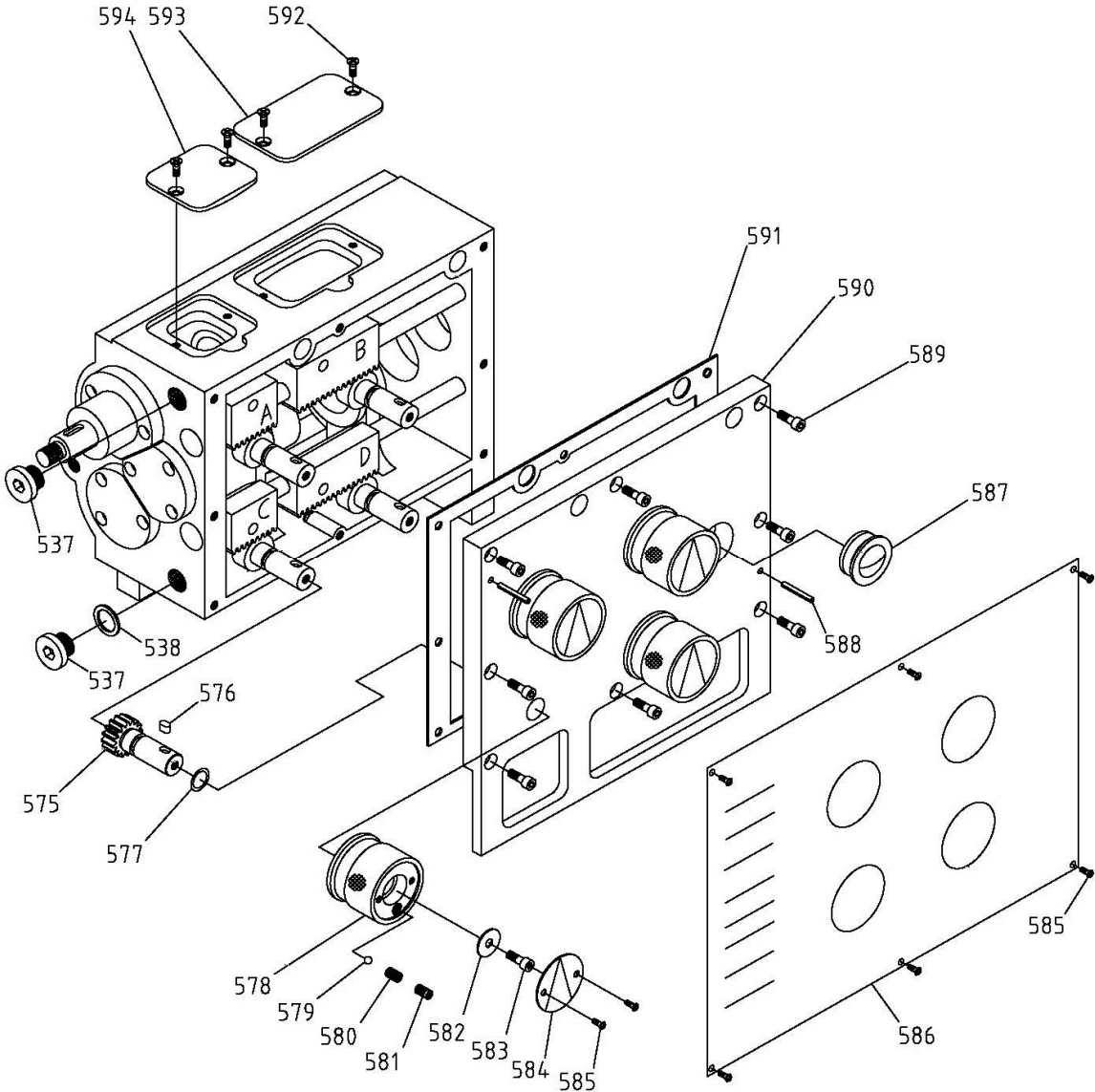
## 13.4.2 Stand and Brake Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
401	TS-1503021	Hex Socket Cap Screw	M6×10	8
402	TS-1550041	Flat Washer	6mm	18
403	D330B-14205	Splash Guard		1
404	D330B-14214-1	Brake Linkage/Upper		1
405	D330B-14218	Rocker		1
406	D330A-11239	Clevis Pin		1
407	P-25	Cotter Pin	3X16mm	2
408	D330A-11232	Rocker Pin		1
409	F006039	C-Retaining Ring, Ext	8mm	1
410	GH1440B-410	Pulley Brake Assembly		1
411	GH1440B-411	Steel Tube		1
412	D330B-14214-2	Brake Linkage/Middle		1
413	D330B-14214-3	Brake Linkage/Lower		1
414	TS-154010	Hex Nut	M16X1.5	1
415	D330A-21105	Pulley		1
416	TS-1540061	Flat Washer	8mm	1
417	TS-1504031	Hex Socket Cap Screw	M8×16	1
418	AK052	Key, Dbl Rd Hd	8×20mm	1
421	D330D-14203B	Chip Pan		1
422	D330D-14204B	Removable Chip Tray		1
423	D330D-14201B	Left Stand		1
424	TS-1505041	Hex Socket Cap Screw	M10×30	1
425	TS-1540071	Hex Nut	M10	2
426	D330D-14210B	Left Stand Rear Cover		1
427	TS-1534032	Pan Head Screw	M6X10	26
428	D330D-14209B	Left Stand Side Cover		1
429	D330A-11237	Extension Spring		1
430	D330A-11236	Pin		1
431	D330A-11242	Shaft		1
432	TS-1503091	Hex Socket Cap Screw	M6×40	1
433	ZX-S41	Roll Pin	5×40mm	1
434	D330A-11235	Rocker		1
438	5F-E208	Roll Pin	5×28mm	3
439	D330B-14215	Shaft		1
440	D330B-14206	Left Bracket		1
441	TS-2311061	Hex Nut	M6	8
442	D330A-14207-1	Stand Plate		1
443	D330A-14212-1	Brake Pedal		1
444	D330B-14216	Shaft		1
445	D330D-14202B	Right Stand		1
446	D330D-14208B	Cover		4
449	D330D-14213B	Coolant Chute		1
450	D330D-14211B	Right Stand Side Cover		1
451	TS-1501011	Hex Socket Cap Screw	M4×6	1
452	D330A-92206	Coolant Hose Collar		1
453	TS-1540021	Hex Nut	M4	1
454	TS-1550041	Flat Washer	6mm	4
455	GH1440B-455	Handle		2
456	TS-1534042	Pan Head Screw	M6X12	4
458	GH1440B-458	Limit Switch Cover		1
459	GH1440B-459	Limit Switch	YBLXW-5/11N1	1
460	PS1652T-105	Pan Head Screw	M4X40	2
461	D330DV-11210	Collar		1
462	TS-1523041	Socket Set Screw	M6X12	1
463	D330B-14206-1	Right Bracket		1
464	TS-1504101	Hex Socket Cap Screw	M8X50	2
465	GH1440B-465	Chuck Wrench Bracket		1
466	GH1440B-466	Proximity Switch	LJ12A3-4-J/ED/AC24V	1

### 13.5.1 Gear Box Assembly – Exploded View I



13.5.2 Gear Box Assembly – Exploded View II



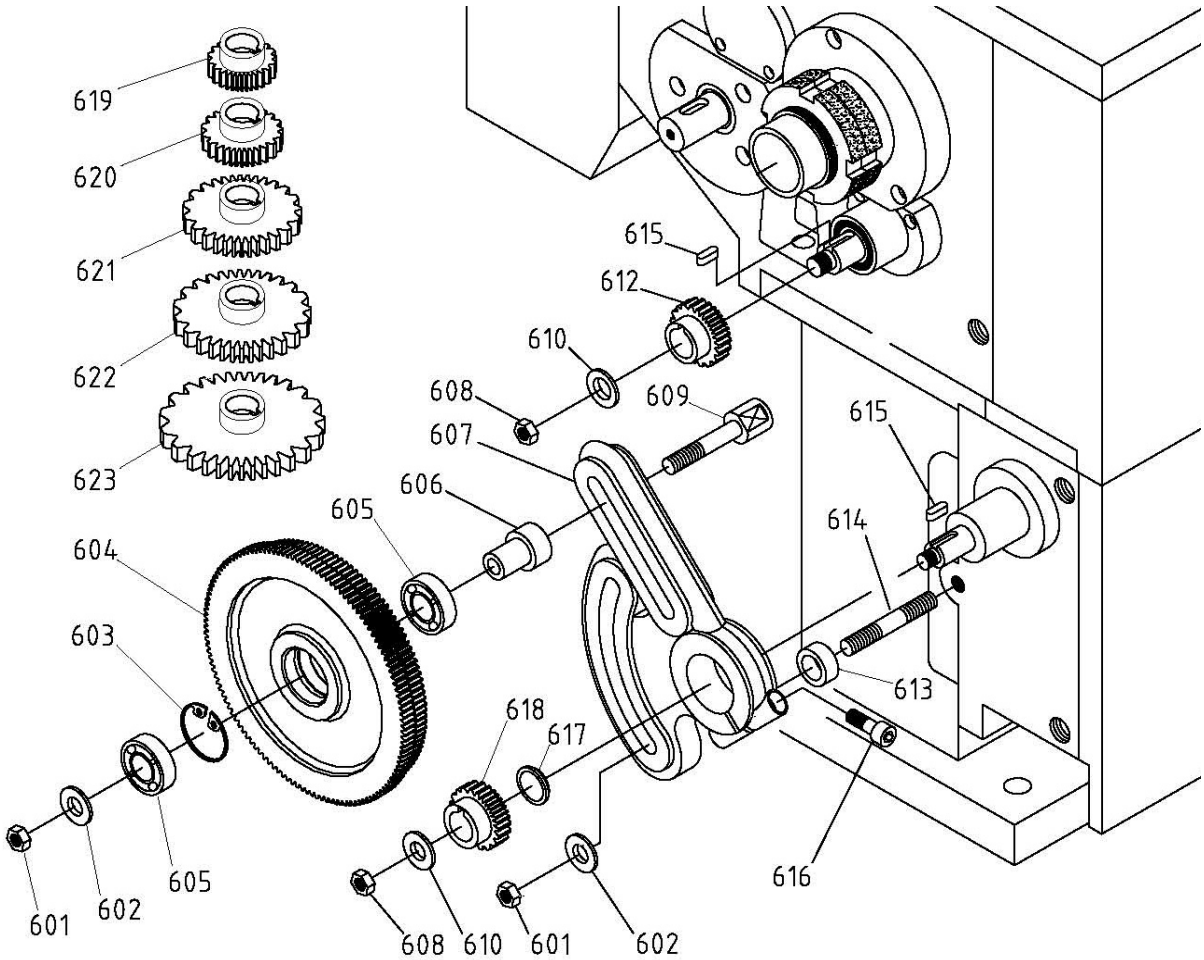
### 13.5.3 Gear Box Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
501	BB-6203	Bearing	6203	1
502	D330B-31105	Collar		1
503	F006044	C-Retaining Ring, Ext	16mm	2
504	D330B-31201	Gear	25T/16T	1
505	D330B-31106	Washer		1
506	BB-6202	Bearing	6202	6
507	D330B-31107	Washer		3
508	F006051	C-Retaining Ring, Ext	28	2
509	D330B-34201-3	Gear	24T	2
510	D330B-34201-2	Gear	28T	2
511	F014003	Key, Dbl Rd Hd	A4×22	2
512	D330B-34201-1	Gear	18T	2
513	F006047	C-Retaining Ring, Ext	20mm	4
514	D330C-0546C	Spanner Nut		2
515	BB-51105	Thrust Bearing	51105	2
516	BD920N-GB40	Hex Socket Cap Screw	M5×14	15
517	D330B-31102	Flange		1
518	D330B-31103	Gasket		1
519	D330B-31101	Shaft		1
520	S0400545	Key, Dbl Rd Hd	5×45mm	1
521	D330B-30101	Gearbox		1
522	D330B-37103	Gasket		1
523	D330B-37102	Bushing		1
524	JHM610-22	Hex Socket Cap Screw	M6×14	3
525	D330B-37101-1	Shaft		1
525a	D330B-37101-2	Coupler Sleeve		1
525b	GH1440B-525B	Taper Pin	4X50mm	1
526	D330B-32102	End cover		1
527	D330B-32103	Gasket		1
27a	BB-6202Z	Bearing	6202-Z	3
528	F014004	Key, Dbl Rd Hd	4×55mm	1
529	D330B-32101	Shaft		1
530	JWDP12-128	Key, Dbl Rd Hd	4×80mm	1
531	D330B-35101	Shaft		1
532	KEY4418	Key, Dbl Rd Hd	4×18mm	2
533	D330B-35103	Gasket		1
534	D330B-35102	End cover		1
535	D330B-33102	End cover		1
536	D330B-33103	Gasket		1
537	GH1440B-537	Oil Plug	M16×1.5	2
538	GH1440B-348	Copper washer	16mm	1
539	BB-6004Z	Bearing	6004-Z	1
540	D330B-36103	Gasket		1
541	D330B-36102	Flange		1
542	GH1440B-542	Oil seal	25X40X7	1
543	D330B-36101	Shaft		1
544	D330B-32201	Gear	25T	1
545	D330B-32202	Gear	16T	1
546	D330B-32104	Spacer		1
547	D330B-32203	Gear	32T	1
548	D330B-32105	Spacer		1
549	D330B-35106	Spacer		1
550	D330B-35205	Gear	32T	1
551	D330B-35105	Spacer		1
552	D330B-35204	Gear	30T	1
553	D330B-35203	Gear	28T	1
555	D330B-35202	Gear	30T	1
556	D330B-35104	Spacer		1
557	D330B-35201	Gear	16T	1
558	D330B-33101	Shaft		1

Index No.	Part No.	Description	Size	Qty
559	D330B-33201	Gear	32T/16T	1
560	D330B-36104	Spacer		1
561	F006044	C-Retaining Ring, Ext	16mm	1
562	D330B-36201	Gear		1
563	D330B-38102	End cover		2
564	D330B-38103	Rack-A		1
565	D330B-38104	Shift fork-A		1
566	D330B-38105	Rack-B		1
567	D330B-38106	Shift fork-B		1
568	D330B-38101	Shaft		2
569	D330B-38108	Shift fork-C		1
570	D330B-38107	Rack-C		1
571	D330B-38110	Shift fork-D		1
572	D330B-38109	Rack-D		1
573	TS-1522021	Set Screw	M5×8	2
574	GH1440B-574	Oil Seal	12×1.9mm	2
575	D330B-38111	Gear		4
576	KF2R5508	Key, Dbl Rd Hd	5×8mm	4
577	GH1440B-312	Oil Seal	16×2.4mm	4
578	D330A-3054	Handle		4
579	SB-6MM	Steel Ball	6mm	4
580	D330A-21256	Spring	6X1X26mm	4
581	F010439	Socket Set Screw FP	M8×8	4
582	TS-1550041	Flat Washer	6mm	4
583	TS-1503031	Hex Socket Cap Screw	M6×12	4
584	GH1440B-584	Indicator Plate		4
585	TS-2171012	Pan Head Screw	M4×6	14
586	GH1440B-586	Control Plate		1
587	GH1440B-304	Oil Sight Glass	M27X1.5	1
588	111001-00-43	Roll Pin	4×25mm	2
589	TS-1503051	Hex Socket Cap Screw	M6×20	8
590	D330B-38112	Gearbox Cover		1
591	D330B-38113	Gasket		1
592	5508152	Socket Flat Hd Screw	M4×6	4
593	D330B-38115	Cover-2		1
594	D330B-38114	Cover-1		1



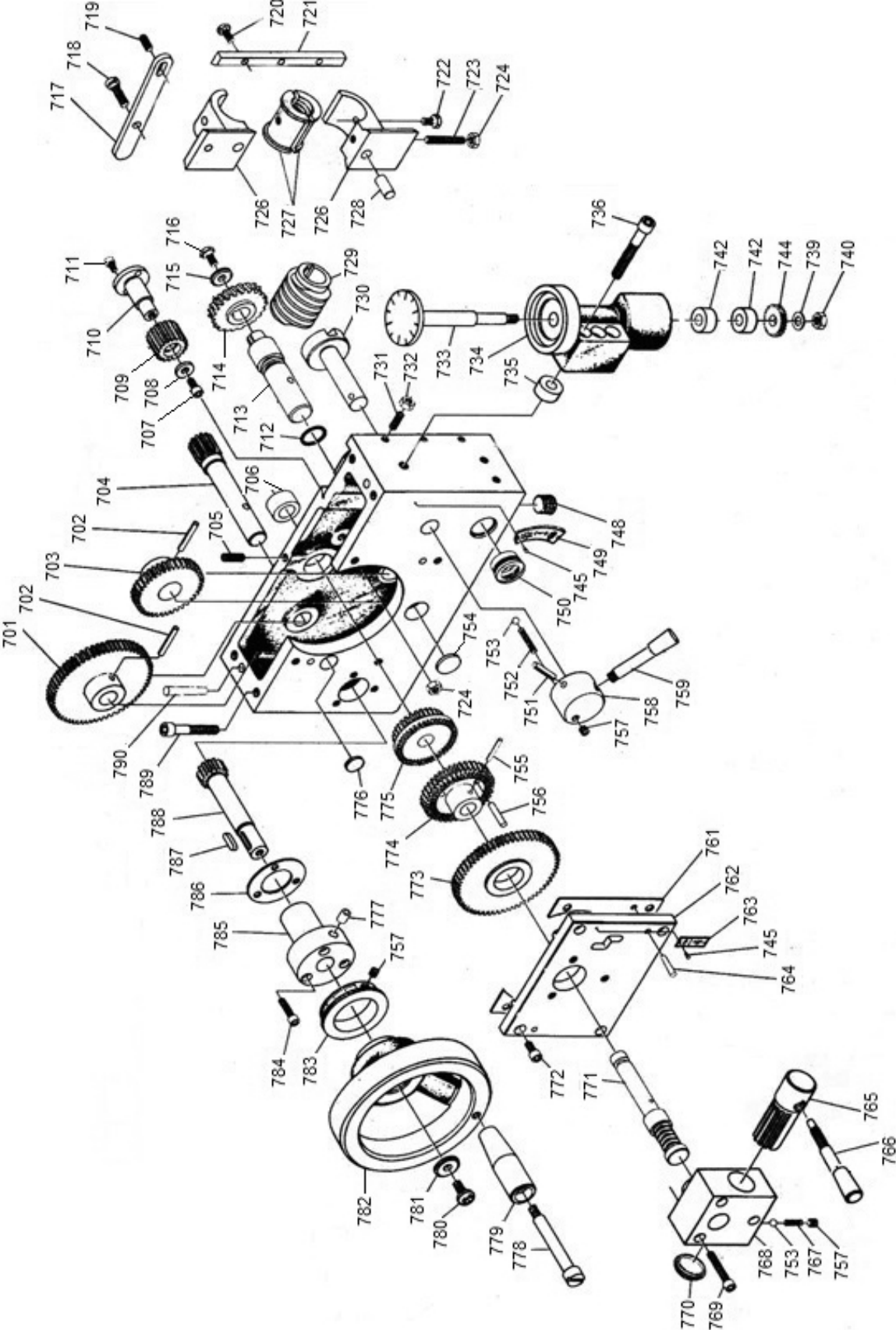
13.6.1 Change Gears and Cover Assembly – Exploded View



### 13.6.2 Change Gears and Cover Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
601	TS-1540071	Hex Nut	M10	2
602	TS-1550071	Flat Washer	10mm	2
603	F006033	C-Retaining Ring, Int	35mm	1
604	D330A-91208	Gear	120T/127T	1
605	BB-6003Z	Bearing	6003-Z	2
606	D330B-91209G	Collar		1
607	D330B-91101G	Gear frame		1
608	TS-1540081	Hex Nut	M12	2
609	D330B-91210G	Bolt		1
610	TS-2360121	Flat Washer	12mm	2
612	D330B-91201G-1	Change Gear	30T	1
613	D330B-91214G	Spacer		1
614	GH1440B-614	Double-End Stud	M10×70	1
615	5217791	Key, Dbl Rd Hd	5×14mm	2
616	TS-1504051	Hex Socket Hd Cap Screw	M8X25	1
617	D330B-91212G	Spacer		1
618	GH1440B-618	Change Gear	60T	2
619	D330B-91202G	Change Gear	40T	1
620	D330B-91203G-3	Change Gear	42T	1
621	D330B-91203G-4	Change Gear	44T	1
622	D330B-91203G-5	Change Gear	46T	1
623	D330B-91203G-6	Change Gear	52T	1
624	D330B-91203G-7	Change Gear (not shown)	54T	1
625	D330B-91203G-8	Change Gear (not shown)	56T	1
626	D330B-91203G-9	Change Gear (not shown)	57T	1
627	D330B-91203G-11	Change Gear (not shown)	63T	1
631	TS-2171012	Pan Head Screw	M4×6	4
632	TS-1550021	Flat Washer	4mm	6
633	D360D-13401A-1	Door		1
634	TS-1540021	Hex Nut	M4	4
635	D330A-71209	Bracket		1
636	GH1440-636	Switch Key		1
637	TS-2171012	Pan Head Screw	M4×6	2
638	GH1440B-638	Flat Washer		2
639	D360D-13401A	Change Gear Cover		1
640	TS-1502011	Hex Socket Hd Cap Screw	M5X8	8
641	TS-1550031	Flat Washer	5mm	9
642	D330B-14220	Motor Cover		1
643	GH1440B-643	Limit Switch	QKS8	1
644	TS-2284302	Pan Head Screw	M4X30	2
645	TS-1540031	Hex Nut	M5	2
646	BG379-34	Hex Socket Hd Cap Screw	M5X50	1
647	TS-1503031	Hex Socket Hd Cap Screw	M6X12	1
648	D330D-14208B-1	Door Cover		1
649	TS-1541021	Nylon Lock Hex Nut	M6	1
650	TS-1550041	Flat Washer	6mm	1
651	GH1440B-651	Door Latch Assy		1

13.7.1 Apron Assembly – Exploded View

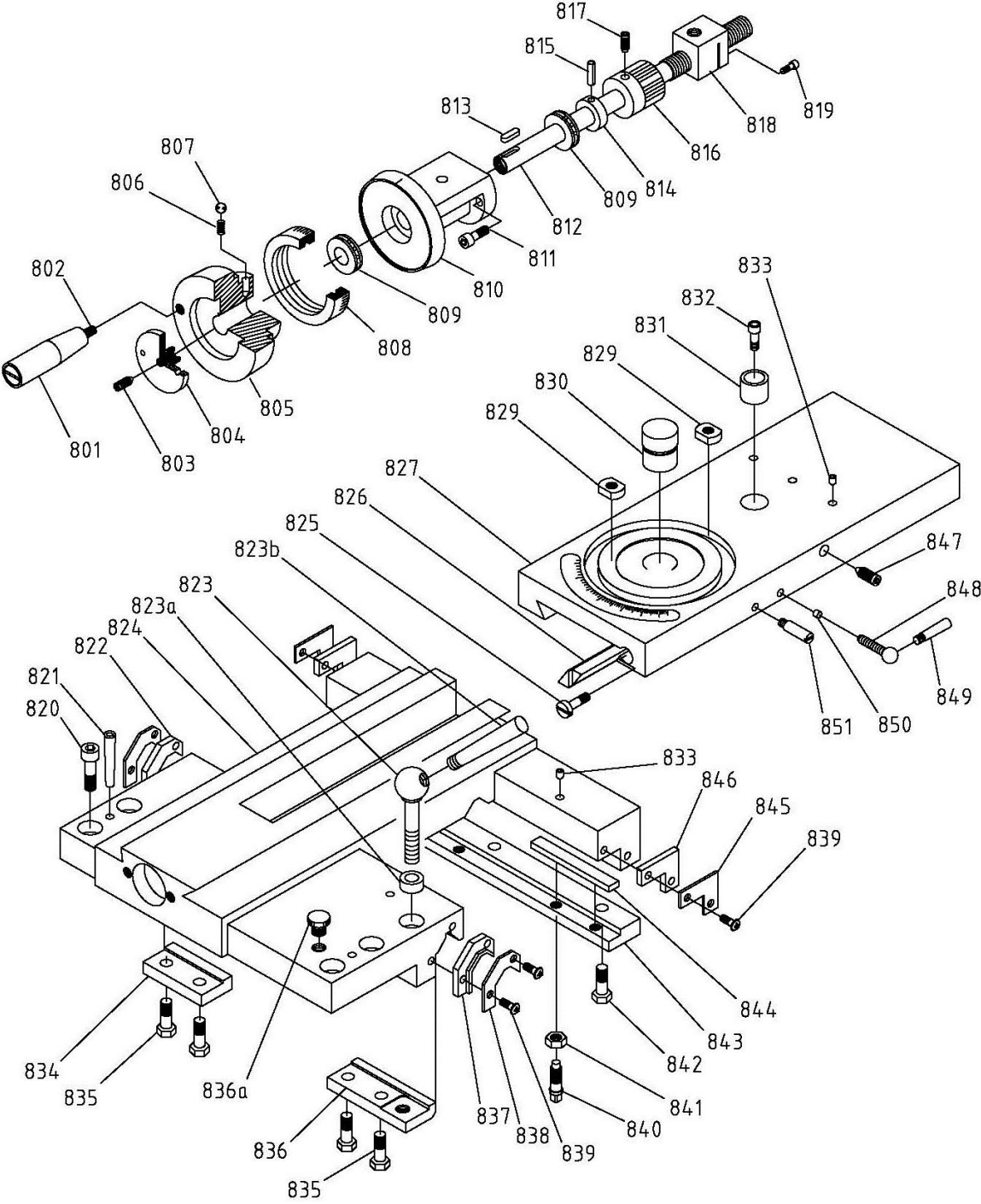


### 13.7.2 Apron Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
701	33-4012	Gear	60T	1
702	ZX-S48	Spring Pin	5×30mm	2
703	33-4024	Gear	40T	1
704	33-4010	Pinion Shaft	13T	1
705	F010438	Socket Set Screw DP	M6×16	1
706	33-4049	Sleeve		1
707	TS-1503031	Socket Head Cap Screw	M6×12	1
708	32-06240	Washer		1
709	32-06231	Gear	18T	1
710	32-06232	Idle Shaft		1
711	TS-1502031	Socket Head Cap Screw	M5×12	1
712	GH1440B-712	O-Ring	76mm	1
713	33-4026	Shaft		1
714	32-06429	Worm Gear	22T	1
715	33-4028	Washer		1
716	TS-1482021	Hex Cap Bolt	M6×12	1
717	33-4038	Interlock Piece		1
718	TS-2286202	Pan Head Screw	M6×20	1
719	TS-1523041	Socket Set Screw	M6×12	1
720	TS-2205201	Hex Cap Bolt	M5×20	3
721	33-4036	Gib		1
722	TS-1482011	Hex Cap Bolt	M6×10	1
723	GHB1340-A74	Socket Set Screw	M6×35	1
724	TS-1540041	Hex Nut	M6	2
726	33-4035	Half Nut Base (2 pcs)		1
727	33-4035-1	Half Nut (2 pcs)		1
728	F004046	Dowel Pin	8×16mm	2
729	32-06228	Worm		1
730	32-06225	Cam Shaft		1
731	TS-1522051	Socket Set Screw	M5×16	3
732	TS-1540031	Hex Nut	M5	3
733	33-4040A	Dial Indicator		1
734	33-4039A	Thread Dial Body		1
735	32-06206	Spacer		1
736	TS-1504101	Socket Head Cap Screw	M8×50	1
739	TS-1550061	Flat Washer	8mm	1
740	TS-1540061	Hex Nut	M8	1
742	32-06237	Spacer		3
744	33-4041	Helical Gear	32T	1
745	VS020500	Button Head Rivet	2×5mm	4
748	GH1440B-748	Drain Plug	1/8"	1
749	33-4050	Half Nut Indicator		1
750	GH1440B-750	Oil Sight Glass	M27X1.5	1
751	GB117-5X40	Taper Pin	5×40mm	1
752	GH1440B-752	Compression Spring		1
753	SB-6MM	Steel Ball	6mm	2
754	33-4027	Plug		1
755	GA7X-865	Spring Pin	3×25mm	1
756	GH1440B-756	Dowel Pin	C5×25	1
757	TS-1523011	Socket Set Screw	M6×6	2
758	33-4033	Lever Hub		1
759	33-4034	Lever		1
761	33-4002-1	Spacer		1
762	33-4002	Front Cover		1
763	33-4047	Feed Direction Indicator		1
764	ZX-S75	Taper Pin	5×20mm	2
765	33-4020	Cam Shaft		1
766	CQ6230-4041	Change Lever		1
767	GB2089-80	Compression Spring		1
768	33-4019	Bracket		1

Index No.	Part No.	Description	Size	Qty
769	TS-1503081	Socket Head Cap Screw	M6×35	3
770	CL6132-06-02	Plug		1
771	33-4013	Shifting Shaft		1
772	TS-1503041	Socket Head Cap Screw	M6×16	4
773	33-4016	Clutch Gear	63T	
774	33-4015	Clutch Gear	40T	1
775	33-4014	Clutch Gear	30T	1
776	33-4011	Plug		1
777	GH1440B-777	Ball Oiler		1
778	33-4008	Bolt		1
779	33-4009	Handle		1
780	5512222	Pan Head Screw	M6×15	1
781	33-4007	Washer		1
782	33-4005	Handwheel		1
783	33-4006	Dial		1
784	TS-1502061	Socket Head Cap Screw	M5×25	3
785	33-4004	Bracket		1
786	33-4004-1	Spacer		1
787	5519710	Key, Dbl Rd Hd	5×5×20mm	1
788	33-4003	Gear Shaft	14T	1
789	TS-1504061	Socket Head Cap Screw	M8×30	4
790	GH1440B-790	Taper Pin, Int Thread	6×45mm	2

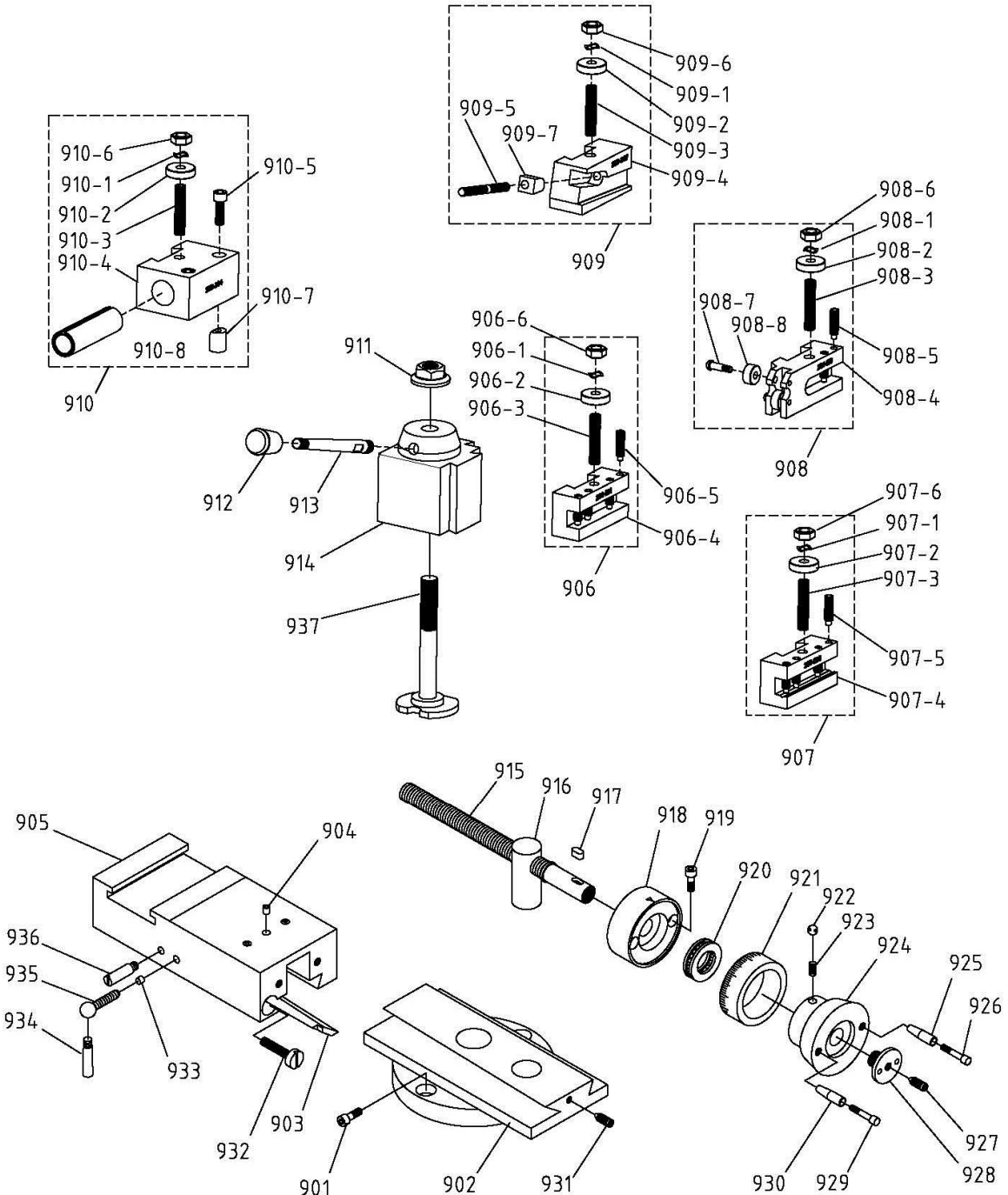
### 13.8.1 Cross Slide Assembly – Exploded View



## 13.8.2 Cross Slide Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
801	D330A-81202A	Handle		1
802	D330A-8120A-1	Screw	M10	1
803	TS-1523071	Socket Set Screw	M6×25	1
804	D330B-51207G-1	Adjusting Screw		1
805	D330B-51207G	Handwheel		1
806	D330A-21257	Spring	5×0.8×13mm	1
807	SB-5MM	Steel Ball	5	1
808	D330B-51208G	Index Ring		1
809	BB-51102	Bearing	51102	2
810	D330B-51106G	Bracket		1
811	TS-1503051	Hex Socket Cap Screw	M6×20	2
812	D330B-51206G	Cross Leadscrew		1
813	KF2R5508	Key, Dbl Rd Hd	5×8mm	1
814	D330A-51210	Washer		1
815	701-118	Roll Pin	4×25mm	1
816	D330C-51202C	Gear	19T	1
817	F010443	Socket Set Screw DP	M6×8	1
818	D330B-51401G	Copper Nut		1
819	TS-1503041	Hex Socket Cap Screw	M6×16	1
820	TS-1505041	Hex Socket Cap Screw	M10×30	4
821	GH1440B-146	Taper pin	6×45mm	2
822	D330A-51301	Left Rubber Wiper		1
823	D330A-S1001	Lock Handle Screw		1
823a	D330A-S1003	Bushing		1
823b	D330A-S1002	Lock Handle		1
824	D330B-51101G	Saddle Casting		1
825	D330A-51214	Gib Adjusting Screw		2
826	D330B-51212G	Gib		1
827	D330B-51102G	Cross Slide		1
829	D330B-51203G	Special Nut		2
830	D330B-51219G	Slide Axis	4×80mm	1
831	D330B-51201G	Washer		1
832	TS-1504031	Hex Socket Cap Screw	M8×16	1
833	BDB919-021	Oil Cup	6	5
834	D330A-51103	Front Pressure Plate		1
835	TS-1490031	Hex Cap Bolt	M8×20	4
836a	D330A-51215	Screw Plug		1
836	D330A-51105	Pressure Plate		1
837	D330A-51302	Right Rubber Wiper		1
838	D330A-51205	Plate		2
839	TS-1533042	Pan Head Screw	M5×12	8
840	GH1440B-840	Square Hd Bolt	M8×25	4
841	TS-1540061	Hex Nut	M8	4
842	TS-1490041	Hex Cap Bolt	M8×25	3
843	D330B-51104G	Rear Pressure Plate		1
844	D330A-51216	Gib		2
845	D330A-51204	Plate		2
846	D330A-51303	Back Rubber Wiper		2
847	TS-1524041	Socket Set Screw	M8×16	1
848	D330B-S2001	Lock Handle Screw		1
849	D330A-S1002	Lock Handle		1
850	D330A-S2004	Locking Washer		1
851	D330A-S2003	Screw		1

### 13.9.1 Compound Rest Assembly – Exploded View



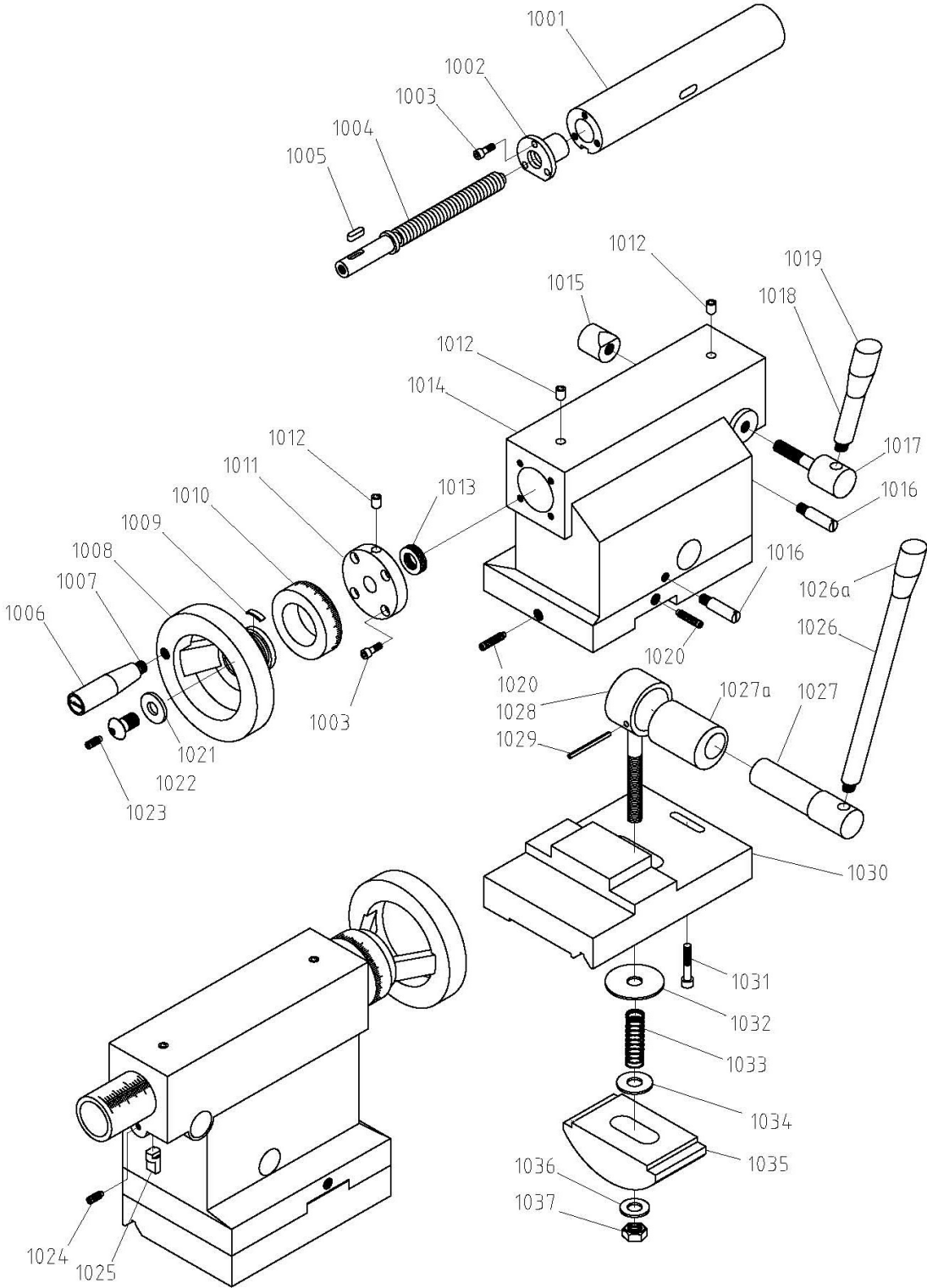


### 13.9.2 Compound Rest Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
901	TS-1504031	Hex Socket Cap Screw	M8×16	2
902	GH1440B-902	Compound Rest		1
903	GH1440B-903	Gib		1
904	BDB919-021	Ball Oiler	6mm	3
905	GH1440B-905	Compound Rest Body		1
906	GH1440B-906	Turning Facing Holder		1
906-1		Wave Washer 10mm	10MM	1
906-2		Round Thumb Nut	10MM	1
906-3		Set Screw	M10X45	1
906-4		Facing Holder		1
906-5		Set Screw DP	M10X20	4
906-6		Hex Nut	M10	1
907	GH1440B-907	Turning Boring Facing Holder		1
907-1		Wave Washer 10mm	10MM	1
907-2		Round Thumb Nut	10MM	1
907-3		Set Screw	M10X45	1
907-4		Boring Facing Holder		1
907-5		Set Screw DP	M10X20	4
907-6		Hex Nut	M10	1
908	GH1440B-908	Knurling & Facing Holder		1
908-1		Wave Washer 10mm	10MM	1
908-2		Round Thumb Nut	10MM	1
908-3		Set Screw	M10X45	1
908-4		Knurling Holder		1
908-5		Set Screw DP	M10X20	2
908-6		Hex Nut	M10	1
908-7		Roller Shaft		2
908-8		Idler Wheel		2
909	GH1440B-909	Universal Parting Blade Holder		1
909-1		Wave Washer 10mm	10MM	1
909-2		Round Thumb Nut	10MM	1
909-3		Set Screw	M10X45	1
909-4		Parting Holder		1
909-5		Screw		1
909-6		Hex Nut	M10	1
909-7		Lock Nut		1
910	GH1440B-910	Heavy Duty Boring Bar Holder		1
910-1		Wave Washer 10mm	10MM	1
910-2		Round Thumb Nut	10MM	1
910-3		Set Screw M10X45	M10X45	1
910-4		Boring Bar Holder		1
910-5		Hex Socket Cap Screw		1
910-6		Hex Nut	M10	1
910-7		Elastic Sleeve		1
910-8		Lock Nut		1
911	GH1440B-911	Flange Nut	M16	1
912	GH1440B-912	Handle Grip		1
913	GH1440B-913	Handle Shaft		1
914	GH1440B-914	Quick Change Tool Post Body		1
915	GH1440B-915	Leadscrew		1
916	GH1440B-916	Cylindrical Nut		1
917	F014001	Key, Dbl Rd Hd	4×14mm	1
918	GH1440B-918	Bracket		1
919	TS-1503041	Hex Socket Cap Screw	M6×16	2
920	BB-51103	Bearing	51103	1
921	GH1440B-921	Index ring		1
922	SB-5MM	Steel Ball	5mm	1
923	GH1440B-923	Spring	5×1×12mm	1
924	GH1440B-924	Handwheel		1
925	GH1440B-925	Handle		1

<b>Index No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Size</b>	<b>Qty</b>
926	GH1440B-926	Bolt		1
927	TS-1523071	Socket Set Screw	M6×25	1
928	GH1440B-928	Disc		1
929	GH1440B-929	Bolt		1
930	GH1440B-930	Handle		1
931	TS-1523051	Socket Set Screw	M6×16	1
932	GH1440B-932	Gib Adjusting Screw		1
933	GH1440B-933	Pin	4X8mm	1
934	D330A-S2002	Lock Handle		1
935	D330B-S3001	Lock Handle Screw		1
936	D330A-S2003	Shaft		1
937	GH1440B-937	Mounting Shaft		1

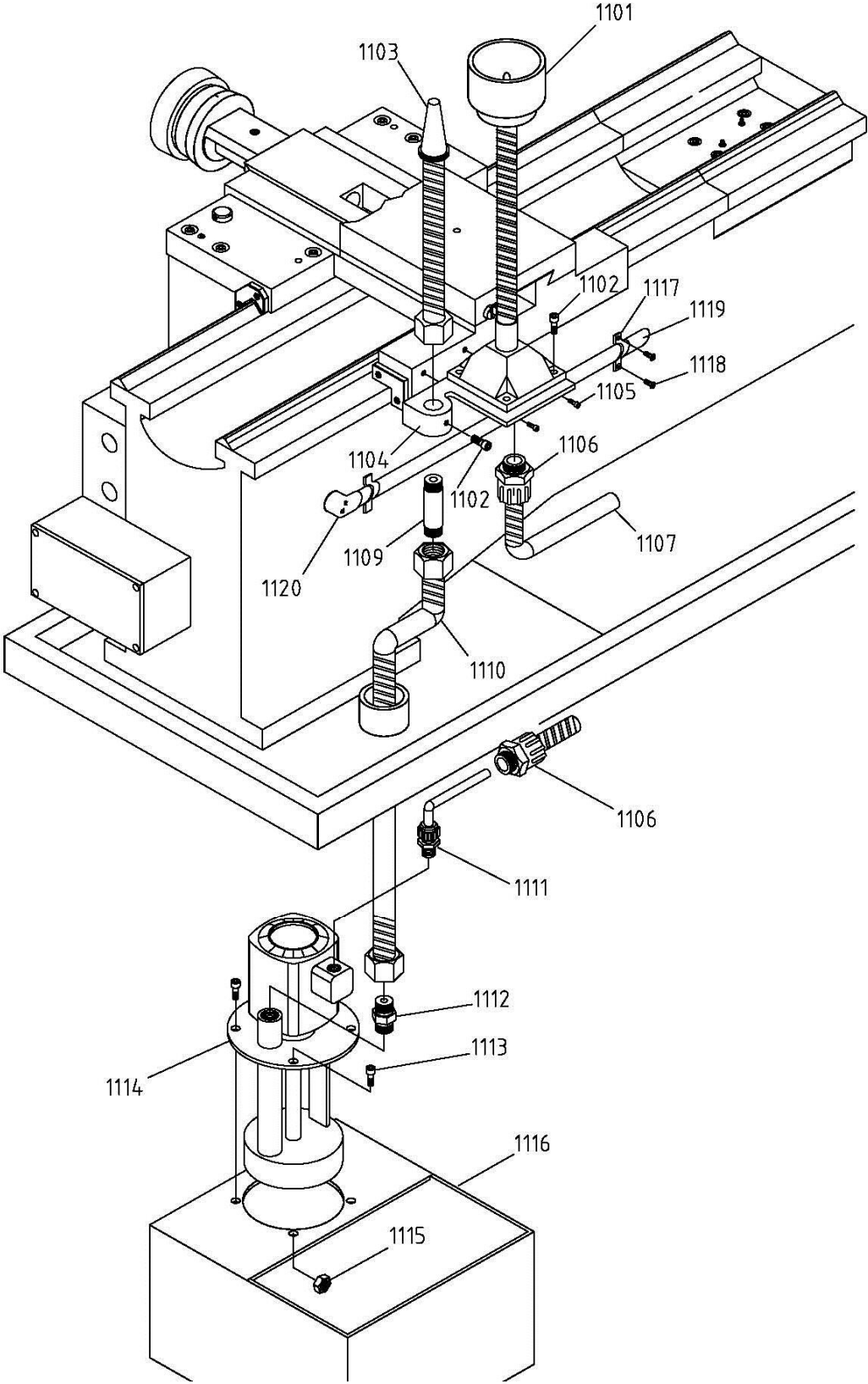
### 13.10.1 Tailstock Assembly – Exploded View



### 13.10.2 Tailstock Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
1001	D330D-0606	Quill		1
1002	D330D-0608	Copper Nut		1
1003	TS-1501041	Hex Socket Cap Screw	M4X12	3
1004	D330D-0607	Leadscrew		1
1005	6286475	Key, Dbl Rd Hd	A4X15	1
1006	D330A-81202	Handle		1
1007	D330A-81203-2	Bolt		1
1008	GH1440B-1008	Handwheel		1
1009	GH1440B-1009	Leaf Spring		1
1010	D330D-0610	Graduated Collar		1
1011	D330D-0609	Leadscrew Bracket		1
1012	GH1440B-1012	Oil Cup		3
1013	BB-51102	Thrust Bearing	51102	1
1014	D330D	Tailstock Casting		1
1015	GH1440B-1015	Lock Nut		1
1016	D330A-6003	Screw		2
1017	GH1440B-1017	Lock Bolt		1
1018	GH1440B-1018	Lock Handle		1
1019	GH1440B-1019	Tapered Knob	M10X50	2
1020	F010442	Socket Set Screw DP	M10x50	3
1021	TS-2360121	Flat Washer	12mm	1
1022	GH1440B-1022	Adjusting Screw		1
1023	TS-1523071	Socket Set Screw	M6x25	1
1024	F010443	Socket Set Screw DP	M6x8	1
1025	GH1440B-1025	Key, spcl		1
1026	GH1440B-1026	Lock Handle		1
1026a	GH1440B-1026A	Taper Knob	M10X50	1
1027	GH1440B-1027	Shaft		1
1027a	GH1440B-1027A	Cam Sleeve		1
1028	GH1440B-1028	Block		1
1029	811616	Roll Pin	4x50mm	1
1030	GH1440B-1030	Tailstock Base		1
1031	TS-1503091	Hex Socket Cap Screw	M6x40	1
1032	GH1440B-1032	Washer, spcl		1
1033	GH1440B-1033	Spring		1
1034	GH1440B-1034	Washer, spcl		1
1035	GH1440B-1035	Clamp Block		1
1036	GH1440B-1036	Washer, spcl	16mm	1
1037	TS-154010	Hex Nut	M16	1

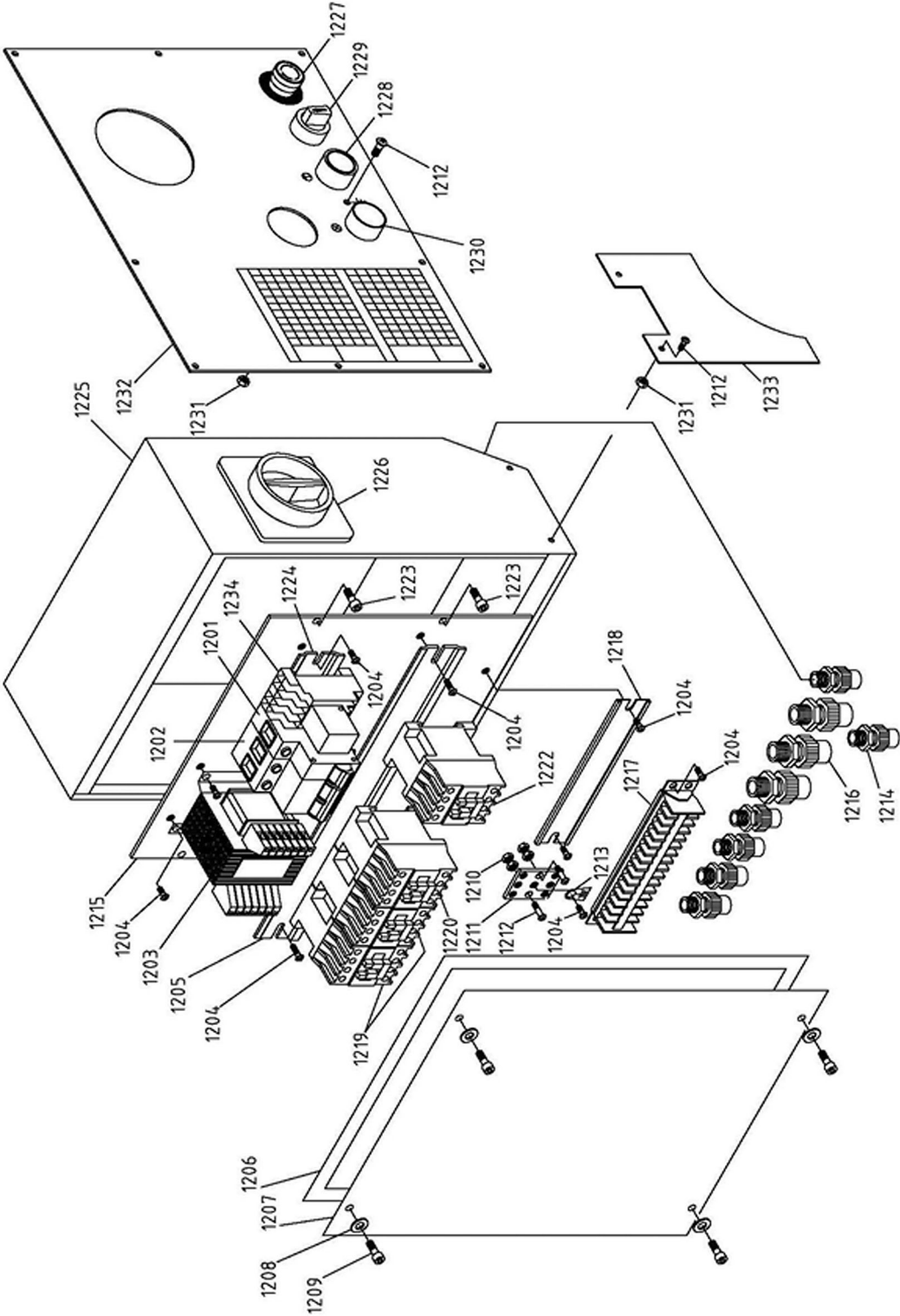
13.11.1 Coolant and Work Light – Exploded View



### 13.11.2 Coolant and Work Light – Parts List

Index No.	Part No.	Description	Size	Qty
1101	GH1440B-1101	Work Lamp		1
1102	TS-1502031	Hex Socket Cap Screw	M5X12	4
1103	GH1440B-1103	Coolant Nozzle		1
1104	D330A-71206-2	Bracket		1
1105	TS-1503051	Hex Socket Cap Screw	M6X20	2
1106	GH1440B-1106	Lock Connector		2
1107	GH1440B-1107	Plastic Tube		1
1108	TS-1502031	Hex Socket Cap Screw	M5X12	1
1109	D330A-92202	Double End Connector		1
1110	GH1440B-1110	Metal Cooling Tube		1
1111	GH1440B-1111	Strain Relief	M12X1.5	1
1112	D330A-92203	Double End Connector		1
1113	TS-1503051	Hex Socket Cap Screw	M6×20	2
1114	GH1440B-1114	Coolant Pump	40W 230V 1PH	1
1115	TS-1540041	Hex Nut	M6	2
1116	D330B-14401	Coolant Tank		1
1117	GH1440B-1117	Pipe Hanger	C-16	2
1118	TS-1533032	Pan Head Screw	M5×10	4
1119	GH1440B-1119	PVC tube	Φ16x200mm	1
1120	GH1440B-1120	Elbow Connector		1

13.12.1 Electrical Box Assembly – Exploded View

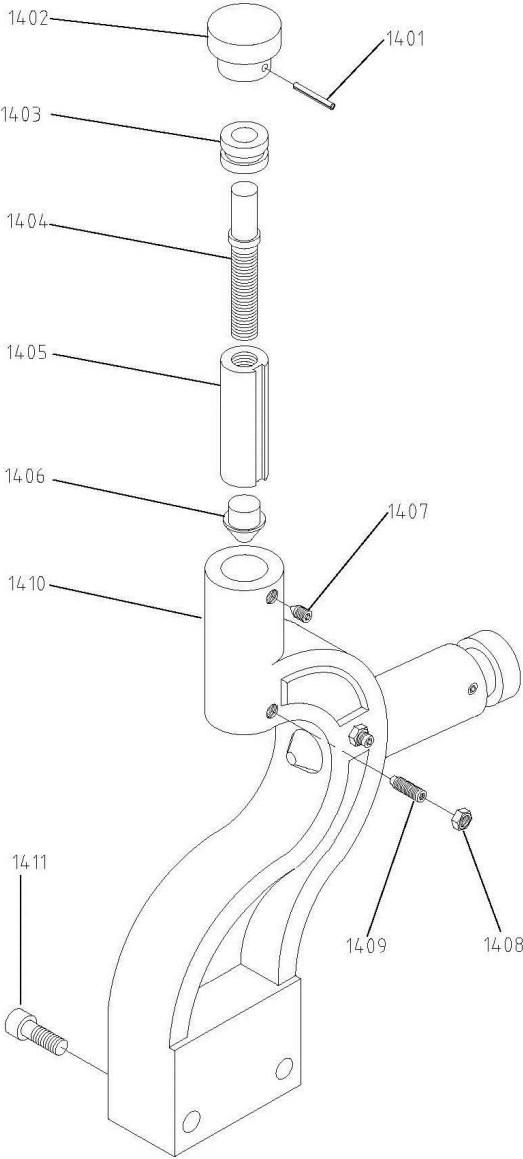
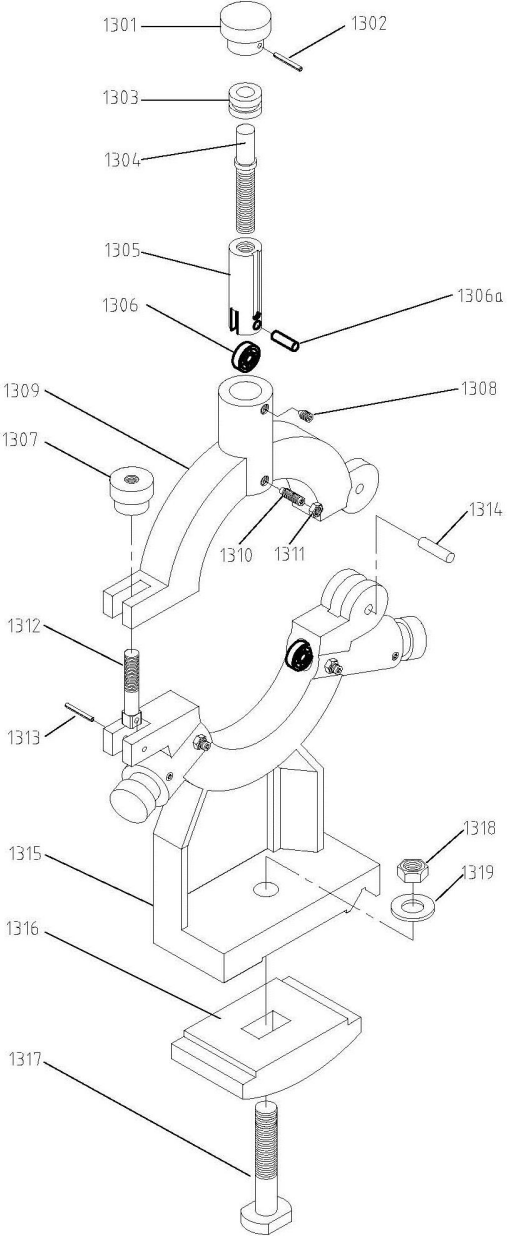


### 13.12.2 Electrical Box Assembly – Parts List

Index No.	Part No.	Description	Size	Qty
1201	GH1440B-1201	Circuit Breaker	DZ47-63 -1PC3	1
1202	GH1440B-1202	Circuit Breaker	DZ47-63-2PD20	1
1203	GH1440B-1203	Transformer	JBK5-100VA-TH	1
1204	TS-2171012	Pan Head Screw	M4X6	15
1205	GH1440B-1205	DIN Rail Lower		1
1206	GH1440B-1206	Rubber Cushion		4
1207	D330B-14102	Cover		1
1208	TS-1550021	Flat Washer	4mm	4
1209	TS-1501031	Hex Socket Cap Screw	M4×10	4
1210	TS-1540031	Hex Nut	M5	4
1211	D330A-71401	Grounding Block		1
1212	TS-1532042	Pan Head Screw	M4X12	5
1213	GH1440B-1213	Earth Grounding Label		1
1214	GH1440B-1214	Strain Relief	M16X1.5	6
1215	D330B-14103	Mounting Plate		1
1216	GH1440B-1216	Strain Relief	M20X1.5	3
1217	GH1440B-1217	Terminal Bar	TD1516	1
1218	GH1440B-1218	DIN Rail Ground		1
1219	GH1440B-1219	AC Contactor	CJX2S-1801-24V	2
1220	GH1440B-1220	AC Contactor	CJX2S-0901-24V	1
1222	GH1440B-1222	Contactor Relay	JZC4-40-24V	1
1223	TS-1502031	Hex Socket Cap Screw	M5X12	4
1224	GH1440B-1224	DIN Rail Upper		1
1225	D330B-14101A	Electrical Box		1
1226	GH1440B-1226	Power Switch	LW26-20	1
1227	GH1440B-1227	E-Stop Button	XB2-BS545	1
1228	GH1440B-1228	Jog Button	LAY5-22D/23	1
1229	GH1440B-1229	Selector Switch	LAY3-11/2	
1230	GH1440B-1230	Power Light	AD62-22D/S 23/24V	1
1231	TS-1540021	Hex Nut	M4	3
1232	GH1440B-1232	Name Plate		1
1233	B330B-14220A	Motor Upper Cover		1
1234	GH1440B-1234	Small Contactor Relay	CDZ9L-54P/AC24V	1



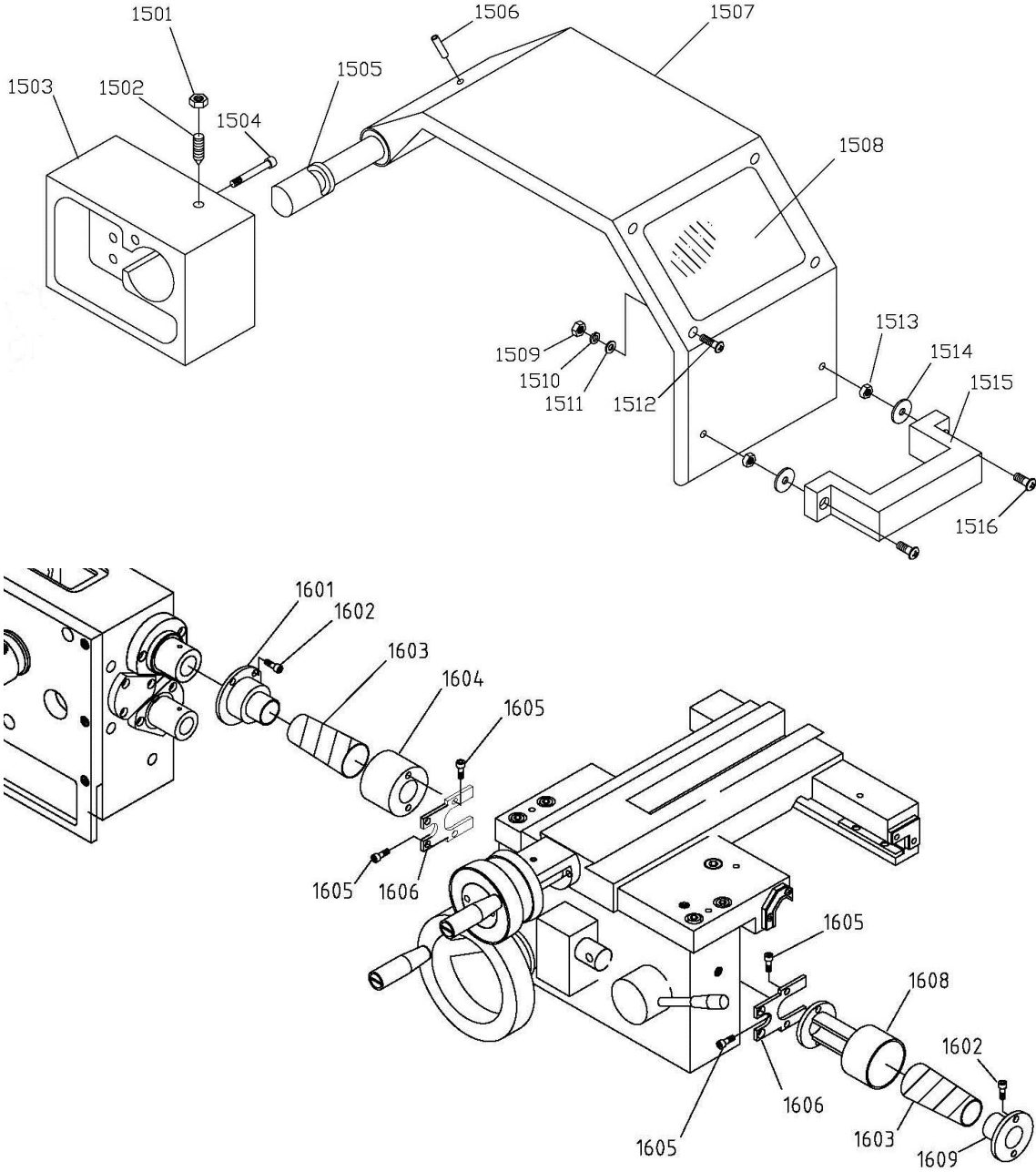
### 13.13.1 Steady Rest and Follow Rest – Parts List



### 13.13.2 Steady Rest and Follow Rest – Parts List

Index No.	Part No.	Description	Size	Qty
1301	D330A-8205	Pinned Knob		3
1302	TS-209203	Roll Pin	3X20mm	3
1303	D330A-8207	Collar		3
1304	D330B-8206	Jack Screw		3
1305	D330B-8208A	Finger Slide		3
1306	BB-625ZZ	Bearing	625ZZ	3
1306a	F004038	Dowel Pin	5X16mm	3
1307	D330A-8204	Knurled Thumb Knob		1
1308	TS-1523031	Socket Set Screw	M6X10	3
1309	D330B-8202	Steady Rest Upper Body		1
1310	TS-1523051	Socket Set Screw	M6×16	3
1311	TS-1540041	Hex Nut	M6	3
1312	D330A-8203	Pivot Stud		1
1313	5217841	Roll Pin	4×20mm	1
1314	F004045	Dowel Pin	6×20mm	1
1315	D330B-8201-1	Steady Rest Base		1
1316	D330A-8210	Clamp Block		1
1317	GH1440B-1317	T-Bolt	M12X60	1
1318	TS-1540081	Hex Nut	M12	1
1319	TS-2360121	Flat Washer	12mm	1
1401	TS-209203	Roll Pin	3X20	2
1402	D330A-8205	Pinned Knob		2
1403	D330A-8207	Collar		2
1404	D330A-8304	Jack Screw		2
1405	D330A-8303	Finger Slide		2
1406	D330A-8209	Brass Finger		2
1407	TS-1523031	Socket Set Screw	M6X10	2
1408	TS-1540041	Hex Nut	M6	2
1409	F010438	Socket Set Screw DP	M6×16	2
1410	D330A-8301-1	Follow Rest Body		1
1411	TS-1504081	Hex Socket Cap Screw	M8×40	2

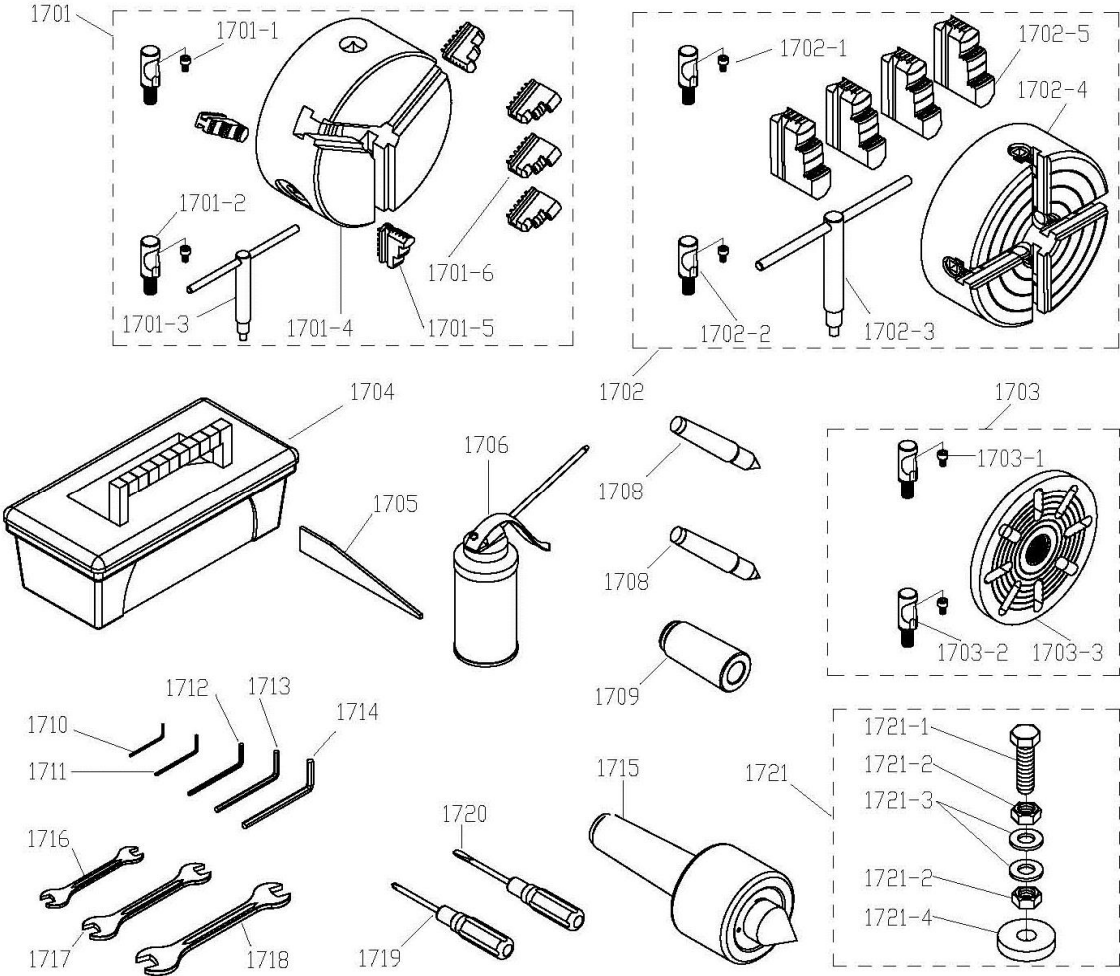
13.14.1 Chuck and Leadscrew Guards – Exploded View



### 13.14.2 Chuck and Leadscrew Guards – Parts List

Index No.	Part No.	Description	Size	Qty
1501	TS-1540041	Hex Nut	M6	1
1502	F010438	Socket Set Screw DP	M6 ×16	1
1503	D330A-71101	Switch Box		1
1504	TS-1503101	Hex Socket Cap Screw	M6×45	2
1505	D330A-71203	Shaft		1
1506	701-118	Roll Pin	4×25	1
1507	D330A-71204A-1	Chuck Guard		
1508	D330A-71402	Acrylic Plate		1
1509	TS-1540011	Hex Nut	M3	4
1510	TS-2361031	Spring Washer	3mm	4
1511	TS-1550011	Flat Washer	3mm	4
1512	WRT2000-38	Pan Head Screw	M3X12	4
1513	TS-1540041	Hex Nut	M6	2
1514	TS-1550041	Flat Washer	6mm	4
1515	GH1440B-1515	Handle		2
1516	TS-1534042	Pan Head Screw	M6X12	4
1601	D330B-1030G	Left Bracket		1
1602	TS-1502021	Hex Socket Cap Screw	M5×10	2
1603	D330A-F7001	Spring Sleeve		2
1604	D330A-1034	Cover LH		1
1605	TS-1503031	Hex Socket Cap Screw	M6×12	8
1606	D330A-1033	Bracket Plate		2
1608	D330B-1029G	Cover RH		1
1609	D330A-1031	Right Bracket		1

### 13.15.1 Accessories – Exploded View



### 13.15.2 Accessories – Parts List

Index No.	Part No.	Description	Size	Qty
1701	GH1440B-1701	3-Jaw Chuck Assembly	200MM-D5	1
1701-1	TS-1503051	Hex Socket Cap Screw	M6X20	6
1701-2	D330D-81201	Camlock Stud		6
1701-3	GH1440B-1701-3	3-Jaw Chuck Key *		1
1701-4	GH1440B-1701-4	3-Jaw Chuck Body		1
1701-5	GH1440B-1701-5	Internal Jaws 3PC Set		1
1701-6	GH1440B-1701-6	Reverse Jaws 3PC Set *		1
1702	GH1440B-1702	4-Jaw Chuck Assembly	200MM-D5	1
1702-1	TS-1503051	Hex Socket Cap Screw	M6X20	6
1702-2	D330D-81201	Camlock Stud		6
1702-3	GH1440B-1702-3	4-Jaw Chuck Key *		1
1702-4	GH1440B-1702-4	4-Jaw Chuck Body		1
1702-5	GH1440B-1702-5	Jaws 4PCS Set		1
1703	GH1440B-1703	Face Plate Assembly	250MM	1
1703-1	TS-1503051	Hex Socket Cap Screw	M6X20	6
1703-2	D330D-81201	Camlock Stud		6
1703-3	330D-81103	Face Plate		1
1704	GH1440B-TBCP	Tool Box		1
1705	D330B-F5001	Drift Key *		1
1706	GH1440B-1707	Oil Gun *		1
1708	GH1440B-1708	Dead Center MT4 *	MT4	2
1709	GH1440B-1709	Tapered Reducing Sleeve *	MT6-MT4	1
1710	JLH610-901	Hex Wrench 2MM *	2MM	1
1711	TS-152704	Hex Wrench 3MM *	3MM	1
1712	TS-152705	Hex Wrench 4MM *	4MM	1
1713	TS-152706	Hex Wrench 5MM *	5MM	1
1714	TS-152707	Hex Wrench 6MM *	6MM	1
1715	GH1440B-1715	Live Center MT4 *	MT4	1
1716	JBOS5-106	Open End Wrench *	10-12MM	1
1717	JBOS5-105	Open End Wrench *	14-17MM	1
1718	6295508	Open End Wrench *	17-19MM	1
1719	ZX-OP-15	Cross Point Screwdriver *	3"	1
1720	ZX-OP-14	Flat Blade Screwdriver *	3"	1
1721	GH1440B-1721	Sizing Block Assembly *		6
1721-1	F008920	Hex Cap Bolt *	M14x50	6
1721-2	TS-154009	Hex Nut *	M14	12
1721-3	TS-155009	Flat Washer *	14MM	12
1721-4	330A-14301	Flat Washer, spcl *		6

\* included in GH1440B-TBCP, Tool Box Complete

## 14.0 Warranty and service

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

### Warranty Period

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

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

### Who is Covered

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

### What is Covered

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

### Warranty Limitations

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

### How to Get Technical Support

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

### More Information

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

### How State Law Applies

This warranty gives you specific legal rights, subject to applicable state law.

### Limitations on This Warranty

JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

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

### Product Listing with Warranty Period

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

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



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