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Record purchase information:

Model No.:	Stock No.:
Serial No.:	
Purchased from:	
Date purchased:	

Operating Instructions and Parts Manual
14″x40″ Electronic Variable Speed Lathe
Model EVS-1440B

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

Part No. M-311440
Edition 2 06/2019

1.0 IMPORTANT SAFETY INSTRUCTIONS

WARNING – To reduce risk of injury:

1. Read and understand the entire owner's manual before attempting set-up or operation of this lathe.
2. 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.
3. Keep guards in place. Safety guards must be kept in place and in working order.
4. Remove adjusting keys and wrenches. Before turning on machine, check to see that any adjusting wrenches are removed from the tool.
5. Reduce the risk of unintentional starting. Make sure switch is in the OFF position before plugging in the tool.
6. Do not force tools. Always use a tool at the rate for which it was designed.
7. Use the right tool. Do not force a tool or attachment to do a job for which it was not designed.
8. Maintain tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubrication and changing accessories.
9. Always disconnect the tool from the power source before adjusting or servicing.
10. 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.
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. Disconnect tools before servicing; when changing accessories, such as blades, bits, cutters, and the like.
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.

35. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
36. Installation work and electrical wiring must be done by a qualified electrician in accordance with all applicable codes and standards.
37. Tighten all locks before operating.
38. Rotate workpiece by hand before applying power.
39. Rough out workpiece before installing on faceplate.
40. Use lowest speed when starting new workpiece.

⚠ **WARNING:** This product can expose you to chemicals including lead and cadmium which are known to the State of California to cause cancer and 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.

SAVE THESE INSTRUCTIONS

2.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model EVS-1440B Electronic Variable Speed Lathe. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions set forth in this document.

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.

Mail in the provided registration card, or register your product online -

http://www.jettools.com/us/en/service-and-support/warranty/registration/

3.0 **Table of contents**

Section **Page**

4.0 **Main features and nomenclature, EVS-1440B Lathe**

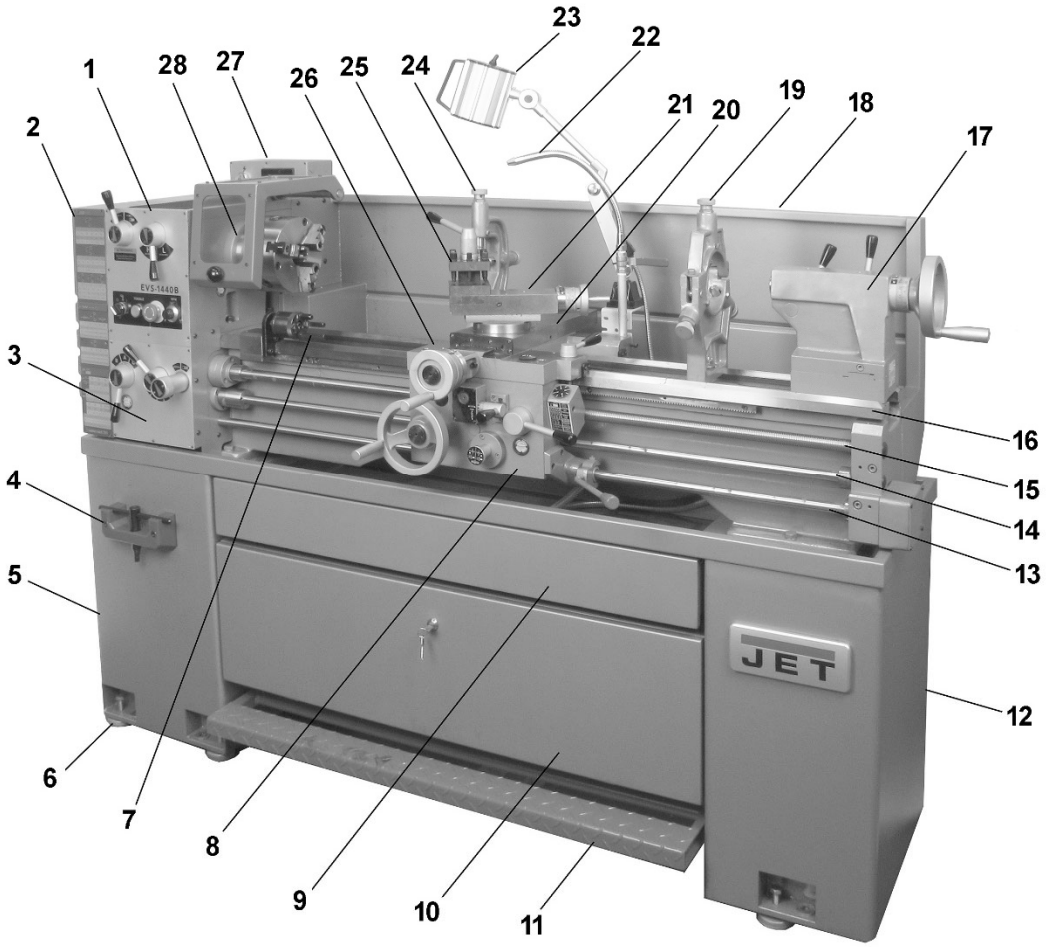


Figure 4-1

1. Headstock
2. End cover
3. Gearbox
4. Chuck key bracket with sensor
5. Left stand
6. Leveling pad with screw (x6)
7. 4-way carriage stop
8. Apron
9. Chip tray
10. Storage cabinet
11. Foot brake
12. Right stand
13. Spindle direction control rod
14. Feed shaft
15. Lead screw
16. Bed ways
17. Tailstock
18. Splash guard
19. Steady rest
20. Cross slide
21. Top slide
22. Coolant nozzle
23. LED lamp
24. Follow rest
25. Tool post
26. Saddle
27. Electrical box with LED display
28. Spindle

5.0 **Specifications**

Table 1

Model number		EVS-1440B
Stock number		**311440**
Motor and Electricals		
Main Motor	Type	Totally enclosed, fan-cooled, induction
	Horsepower	3HP (2.2 kW)
	Phase	3
	Voltage	230/460V
	Cycle	60 Hz
	Listed FLA (full load amps)	8.4/4.2 A
	Motor speed	1800 RPM
Coolant pump	Horsepower	1/8
	Phase	single
	Voltage	230V
	Cycle	60 Hz
	Listed FLA (full load amps)	0.4 A
	Motor speed	3400 RPM
Power switch		Magnetic, 25A, 690VAC
Drive system		VFD-B inverter, dual v-belts and gear train
Input power requirement		**230V, 3-phase or single phase**
Power cord/plug		Not supplied
Work lamp		LED, AC24V 9W
Recommended minimum circuit size [1]		15A
Sound emission without load [2]		60 dB
General capacities		
Distance between centers		40 in. (1000 mm)
Swing over bed		14 in. (350 mm)
Swing over gap		19-1/2 in. (495 mm)
Swing over cross slide		9-1/16 in. (230 mm)
Maximum cross slide travel		6-1/8 in. (155 mm)
Maximum carriage travel		35-1/2 in. (900 mm)
Maximum top slide travel		3-1/2 in. (90 mm)
Maximum size cutting tool		3/4 x 3/4 in. (20 x 20 mm)
Steady rest capacity		Ø 6~85mm (0.23~3.34”) copper shaft (standard) Ø 5~60mm (0.20~2.36”) bearing roller (optional)
Follow rest capacity		Ø9~56mm (0.35”~2.2”) copper shaft (standard) Ø10~50mm (0.393”~2”) bearing roller (optional)
Headstock and spindle		
Spindle bore		1-9/16 in. (40 mm)
Spindle nose mounting		D1-4 camlock
Spindle taper with sleeve		MT-5
Range of spindle speeds		40~365 and 220~2000 RPM
Feeds		
Feed rod diameter		3/4 in. (19 mm)
Longitudinal feeds	Number	25
	Range	0.0016 ~ 0.0460 in. per revolution
Cross feeds	Number	25
	Range	0.0005 ~ 0.015 in. per revolution

Threads		
Lead screw diameter and pitch		7/8 in., 8 TPI
Inch threads	Number	34
	Range	2-56 TPI
Metric threads	Number	34
	Range	0.5-12 mm
Tailstock		
Tailstock quill taper		MT-3
Maximum quill travel		4 in. (100 mm)
Quill diameter		1-9/16 in. (40 mm)
Dimensions		
Overall dimensions LxWxH		1740 x 717 x 1263 mm (68.5 x 28.3 x 50 in.)
Length of gap		9-1/2 in. (241 mm)
Bed width		7.48 in. (190 mm)
Shipping dimensions LxWxH		76 x 30 x 61 in. (1960 x 762 x 1549 mm)
Weights		
Net weight		1320 lbs. (600 kg)
Shipping weight		1584 lbs. (720 kg)
Lubrication capacities		
Headstock		4~5L (1~1.3 gal)
Gearbox		0.9~1L (0.24~0.27 gal.)
Apron		0.7~0.8L (0.18~0.21 gal.)
Coolant tank capacity		9L (2.38 gal.)

[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

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.

5.1 **Machine dimensions and hole spacing**

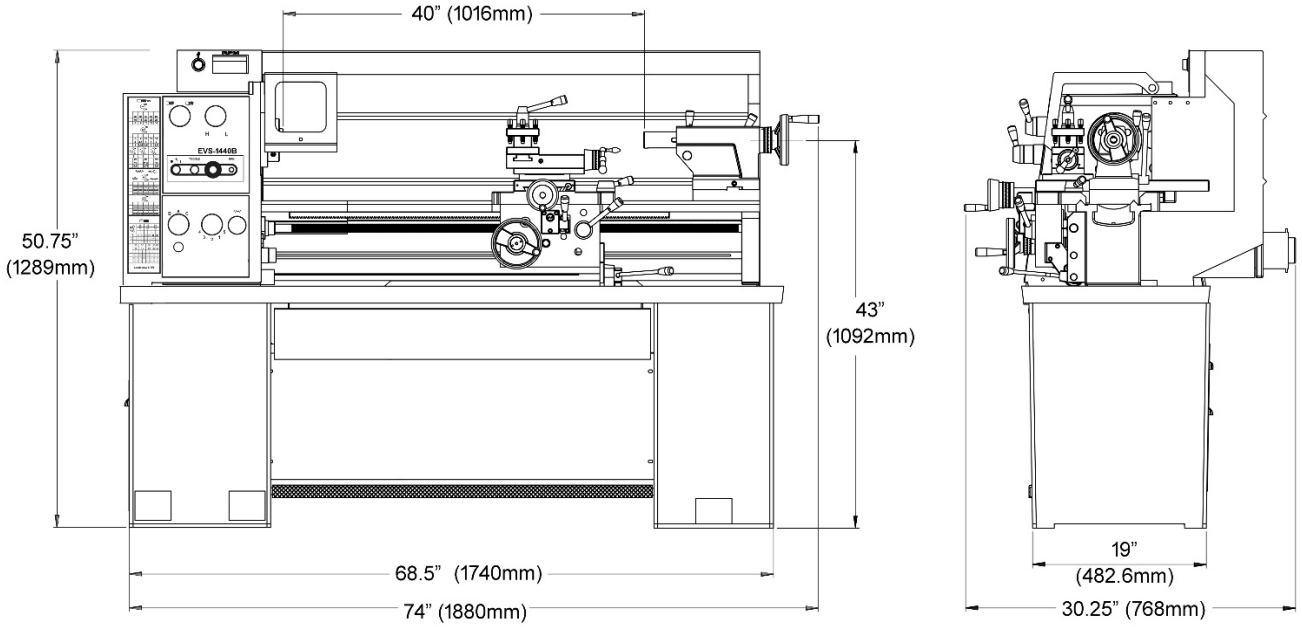


Figure 5-1

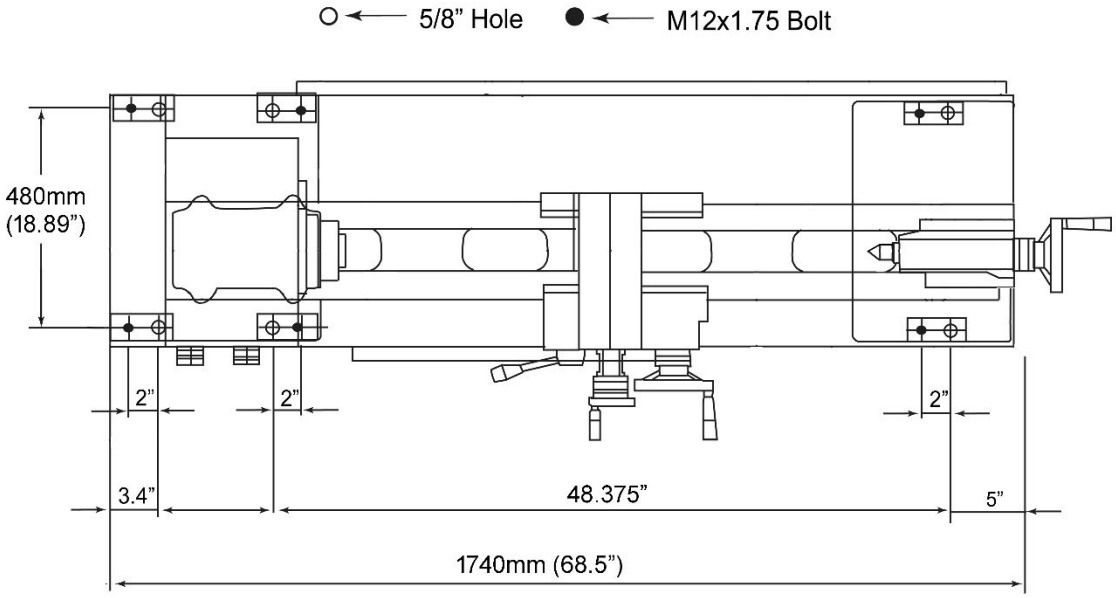


Figure 5-2

⚠WARNING Read and understand all assembly instructions before attempting assembly. Failure to comply may cause serious injury.

6.0 Setup and assembly

6.1 Shipping contents

See Figure 6-1.

1 Lathe
1 Steady rest (pre-installed)
1 Follow rest (pre-installed)
1 Three jaw scroll chuck 6″ (pre-installed)
1 Backplate 6″ (150mm) (pre-installed)
1 Splash guard (pre-installed)
1 4-Position carriage stop (preinstalled)
6 Leveling pads (not shown)
1 Tool box (see contents below)

Tool box (p/n EVS1440B-TB) contents:
2 Open end wrenches (17/19, 12/14 mm)
1 Oil can
1 Hex key set (2, 2.5, 3, 4, 5, 6, 8 mm)
2 Shear pins
1 Set of change gears (50/46/44/40/35/30 T)
2 Chuck wrenches
1 Tool post wrench
2 Dead centers MT-3
1 Center sleeve MT-3/MT-5
1 Cross point screwdriver
1 Flat head screwdriver
2 Sets of keys for stand doors
1 Operating Instructions and Parts Manual
1 Product registration card

6.1.1 Optional accessories

The following accessories are available for the EVS-1440B Lathe. See your dealer to order.

- Taper attachment #892035
- 5C Collet closer #892006
- 12” Face Plate #E1440VS-FP02

Figure 6-1

6.2 Installation

1. Finish removing all crate material from around lathe.
2. Unbolt lathe from shipping pallet.
3. Choose a location for the lathe that is dry and has sufficient illumination (consult OSHA or ANSI standards for recommended lighting levels in workshop environments).
4. Allow sufficient room on all four sides for servicing lathe, and to load and off-load work pieces. In addition, if bar work is to be performed, allow enough space for stock to extend out the headstock end. If used in production operations, leave enough space for stacking unfinished and finished parts.
5. The foundation must be solid to support the weight of the machine and prevent vibration, preferably a solid concrete floor.
6. The lathe’s center of weight is near the headstock. Before lifting, release tailstock and carriage (see *sect. 9.0* to locate locking levers) to right end of bed and lock them.

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

7. With proper lifting equipment, slowly raise lathe off shipping pallet. (See Figure 6-2). **Do not lift lathe by the spindle. Do not place slings around bed – this can bend leadscrew and feed shaft.**

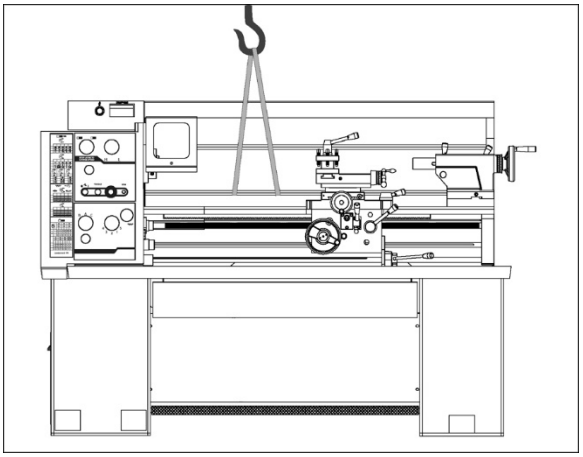


Figure 6-2

8. The lathe may be installed free-standing or bolted to the foundation:

   Free-standing – Use the provided cast iron pads under each foot hole, and adjust using the adjusting bolts with hex nuts (see *sect. 6.3*).

   Fixed installation – Position lathe over six bolts (1/2in. or 12mm diameter) placed head-down in the concrete. Refer to Figure 5-1 for hole dimensions and spacing. Secure with hex nuts, after leveling (*sect. 6.3*).

6.3 Leveling the lathe

It is imperative that the lathe be on a level plane; that is, where headstock and tailstock center points remain aligned throughout the tailstock travel, with the bed ways absent of twist and thus parallel to operational center line.

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

1. Use a machinist's precision level on the bed ways both front to back and side to side, as shown in Figure 6-3. Take the reading in one direction every ten inches. Make sure the ways are clean and free of any debris before placing a level upon them.

   Deviation over bed length (see Figure 6-3):

   (a) Maximum 0.02/1000mm

   (b) Maximum 0.04/1000mm

2. Tighten foot screw nuts evenly to avoid distortion.

3. Leveling should be inspected occasionally, and especially if the accuracy of the lathe begins to diminish.

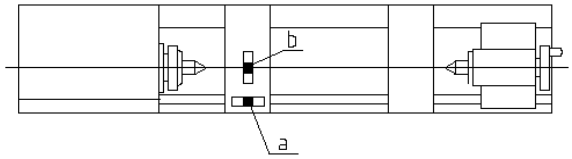


Figure 6-3

6.4 Completing installation

1. Exposed metal surfaces have been treated with an anti-corrosion coating. Remove this using a soft rag and mild commercial solvent or kerosene. Do not use paint thinner, gasoline, or lacquer thinner, as these will damage painted surfaces. Cover all cleaned surfaces with a light film of SAE-20W machine oil, such as Mobil DTE® Oil Heavy Medium.

2. Remove end gear cover. Clean all components of end gear assembly with kerosene or mild commercial solvent. Coat all gears with a heavy, non-slinging grease. Replace end gear cover.

   NOTE: A limit switch prevents lathe from operating while end gear cover is removed.

6.5 Chuck preparation and mounting

⚠WARNING Grey iron chucks must not be fitted on this high speed lathe. Use only ductile iron chucks.

The three-jaw scroll chuck is shipped pre-installed on the lathe. It can be used for clamping cylindrical, triangular and hexagonal stock, and has reversible jaws.

⚠WARNING Chuck is heavy; request assistance to remove or install.

Before removing a chuck, place a flat piece of thick plywood across the bedways under the chuck to prevent damage to the bedways should the chuck fall from your hands. Alternatively, many users make a wood chuck cradle that sits atop the ways and accepts the specific diameter of chuck, for easier installing and removal. Figure 6-4 shows an example.

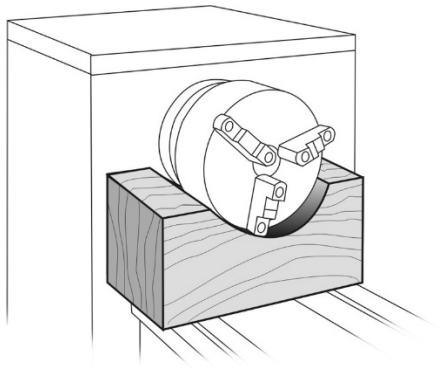


Figure 6-4

To remove chuck or faceplate:

1. Support the chuck while turning three camlocks 1/4-turn counterclockwise using the chuck wrench from toolbox. See Figure 6-5. Line up the two marks for removal.

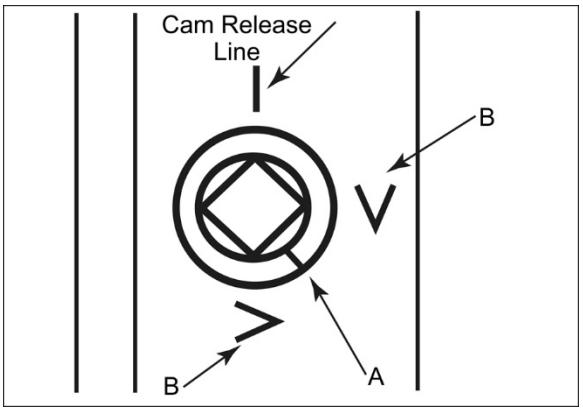


Figure 6-5

2. Carefully remove chuck from spindle and place on an adequate work surface. If needed, use a mallet at various points on back side of chuck to help free it from spindle.
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.

To install chuck or faceplate:

4. Cover all chuck jaws and scroll inside the chuck with a lithium grease, such as Mobilith® AW2 or equivalent. Cover the spindle, cam locks, and chuck body with a light film of SAE 20W oil.
5. Lift chuck up to spindle nose and press onto spindle. Tighten in place by turning each cam lock 1/4-turn clockwise. The index mark (A, Figure 6-5) on camlock should be between the two indicator arrows (B) when tight, as shown in Figure 6-5.
    - If index mark (A) is not between the two arrows, i.e. the cam turns *beyond* the indicator arrows, then remove chuck and turn camlock stud IN one full turn.
    - If a camlock will not engage, remove chuck and turn camlock stud OUT one full turn.
6. Make sure chuck is secure on spindle with camlocks correctly engaged.

NOTE: Be aware of speed limitations when using faceplates; 1000 RPM maximum for 10” faceplates, 770 RPM maximum for 12” faceplates.

Do not interchange chucks or faceplates between lathes without checking for correct cam locking beforehand.

6.6 Break-in period

Do not run lathe above 560 RPM for first six hours of operation, to allow gears and bearings to adapt and run smoothly.

7.0 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 mechanisms.

The JET lathe is shipped with appropriate oil in the reservoirs of headstock, gearbox and apron. Coolant is not included.

Use clean lubricants and check levels often, including before each working shift. To ensure proper lubrication, oil levels should not be less than the center of the oil sight glass. Try not to overfill, as this may cause leakage.

Unless specified otherwise, the lubrication points require a non-detergent, ISO 68, SAE 20W oil. The recommended brand for this lathe is Mobil DTE® Oil Heavy Medium or equivalent.

A quick-reference lubrication chart is provided in sect. 12.0.

1. **Chuck** - Lubricate chuck daily with SAE 20W oil through ball oiler (A, Figure 7-1).

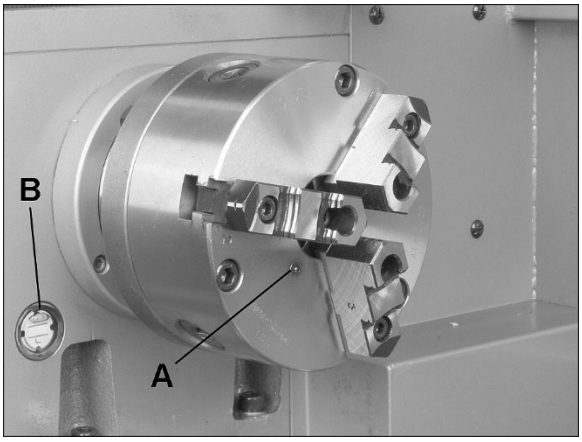


Figure 7-1

2. **Headstock** - Oil must be up to indicator mark in oil sight glass (B, Figure 7-1). Top off with SAE 20W oil. Fill by unscrewing plug (C, Figure 7-2) atop headstock. To drain headstock, remove drain plug (D, Figure 7-3). Drain oil completely and clean out all metal shavings, then rinse the casting case with kerosene. Refill after first month of operation, then change headstock oil every two months.

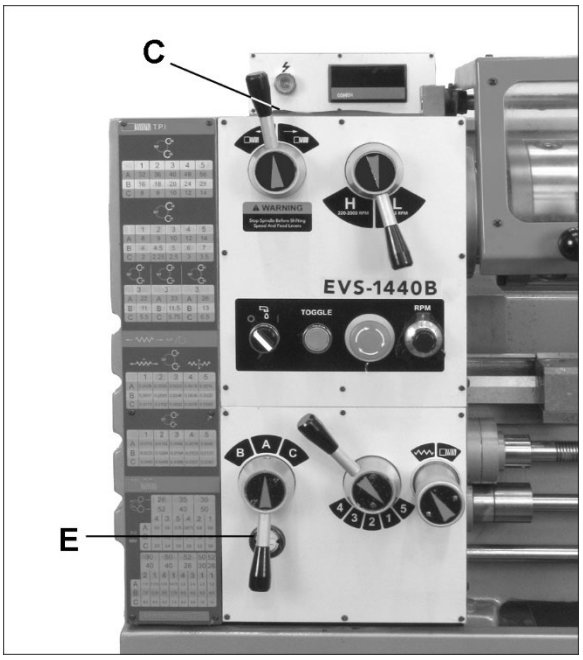


Figure 7-2

3. **External Gears** – Coat all gears (Figure 7-3) with a heavy, non-slinging grease.

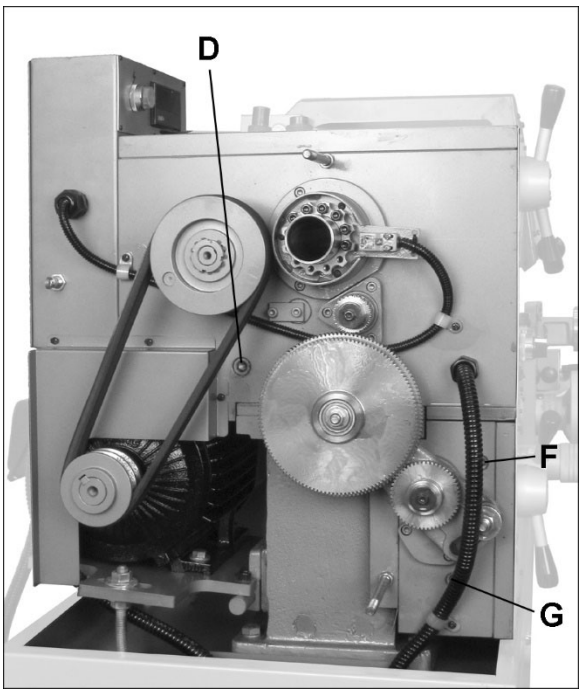


Figure 7-3

4. **Gearbox** – Oil must be up to indicator mark in oil sight glass (E, Figure 7-2). Top off with SAE 20W oil. To add oil to the gearbox, remove end cover and unscrew oil plug (F, Figure 7-3). To drain, remove drain plug (G, Figure 7-3). Drain oil completely and refill after first three months of operation. Then change gearbox oil every six months.

5. **Apron** – Oil must be between indicator marks in oil sight glass (H, Figure 7-4). Top off with SAE 20W oil. Unscrew oil cap (J, Figure 7-4) to fill. To drain, remove drain plug on underside of apron. Drain oil completely and refill after first three months of operation. Then, change oil in the apron annually.

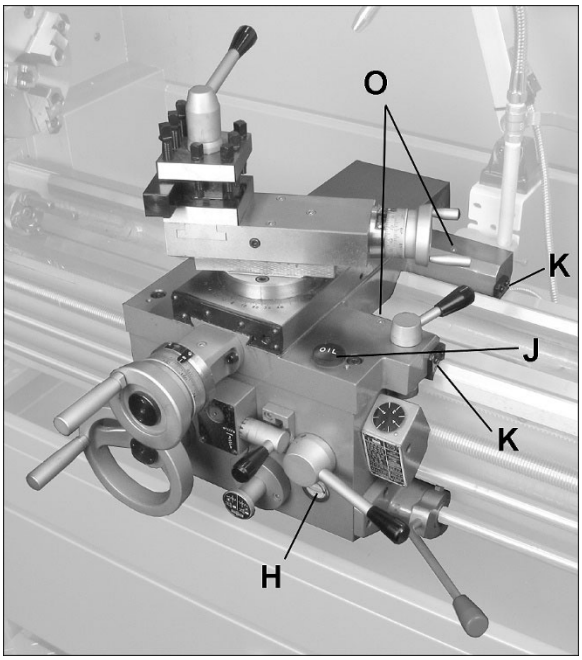


Figure 7-4 (cutting tool not provided)

6. **Saddle** – Daily lubricate four ball oilers (O, Figure 7-4 and 7-5).

   The anti-dust wipers on both ends of saddle (K, Figure 7-4) should be cleaned weekly with kerosene. If a wiper becomes damaged, replace it.

7. **Cross Slide** – Daily lubricate one ball oiler on handwheel housing (L, Figure 7-5) and three ball oilers on platform (M, Figure 7-5).

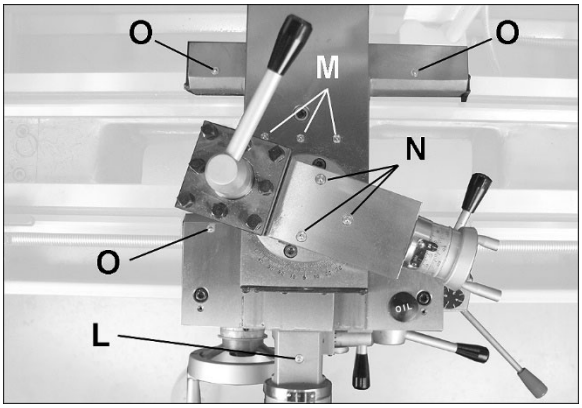


Figure 7-5

8. **Top Slide** – Daily lubricate three ball oilers (N, Figure 7-5) on platform.

9. **Tool Post** – Regularly clean dirt and coolant around the tool post to maintain its re-positioning accuracy. Apply a light coat of oil to surfaces.

10. **Tailstock** – Daily lubricate two ball oilers (P, Figure 7-6) on top of tailstock.

11. **Leadscrew** – Lubricate ball oiler (R, Figure 7-6) once daily.

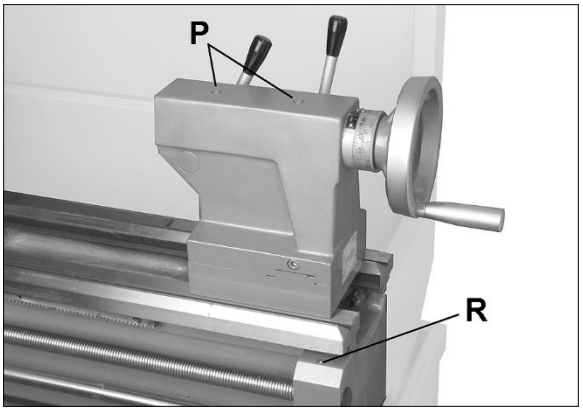


Figure 7-6

7.1 Coolant preparation

⚠CAUTION Follow local regulations and/or coolant manufacturer's recommendations for use, care and disposal.

1. Remove access cover at rear of stand near tailstock end, and pull out coolant tank. See Figure 7-7.
2. Pour approximately 9 liters (2.38 gal.) of coolant mix into reservoir.
3. After machine has been connected to power, turn on coolant pump and check to see that coolant is cycling properly. Flow is controlled by the tap at the base of the nozzle.
4. Replace coolant assembly into its chamber, and reinstall access cover.

To change coolant, pull out coolant tank and dump dirty coolant. Clean the tank of any chips or residue. Refill with proper amount of new coolant.

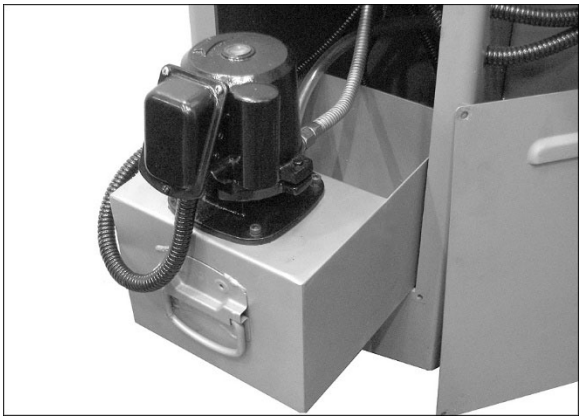


Figure7-7

8.0 Electrical connections

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

The lathe is rated for **230 volt, 3-phase incoming power.** Confirm that power available at the lathe's location is the same rating as the lathe.

IMPORTANT: The lathe must be wired properly and phased correctly. The spindle should rotate counterclockwise (as viewed from tailstock end) while the feed rod rotates clockwise (as viewed from tailstock end). If the phasing needs correction, disconnect lathe from power source and switch any two of the three power leads (not the green ground wire).

The inverter will accept 3-phase or single-phase input. If wiring for single phase input, connect at R and T, as shown in the wiring diagram in *sect. 16.0.*

Make sure lathe is properly grounded.

Chuck should rotate counterclockwise, as viewed from tailstock, when spindle direction control lever (see O, Figure 9-2) is in down position. If rotation is opposite, disconnect power and switch any 2 of the power supply wires to the junction box.

9.0 Controls

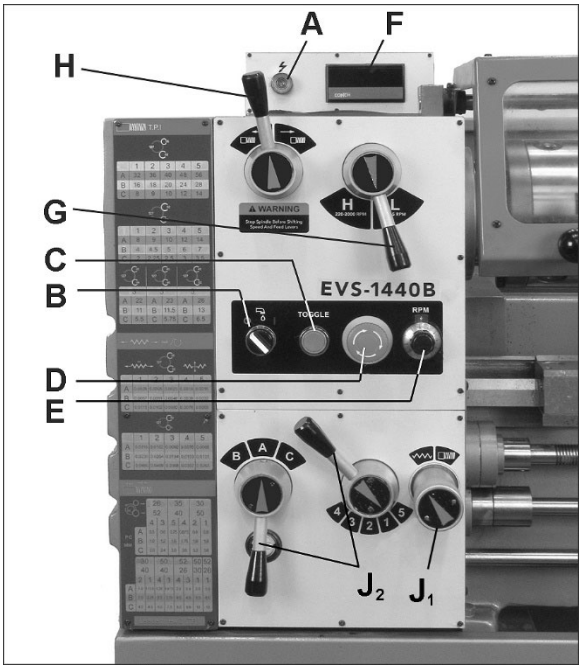


Figure 9-1

1. **Control Panel:** Located on front of headstock.

Power Indicator Light (A, Figure 9-1). Illuminates whenever lathe is receiving electrical current.

Coolant On-Off Switch (B, Figure 9-1). Activates coolant pump.

Jog/Toggle Button (C, Figure 9-1). Quickly press and release to briefly rotate spindle.

Emergency Stop Button (D, Figure 9-1). Shuts down all machine functions. NOTE: Lathe will still have power. Twist button clockwise to reset.

Variable Speed Dial (E, Figure 9-1). Adjust speed based upon range selected. Dial may be turned while spindle is rotating. Speed is displayed on LED screen (F).

2. **Power Switch:** Located at rear of left stand. "O" is off, "I" is on. The switch has a lock-out hole which will accept a padlock (not provided) to prevent unauthorized use.

3. **Inverter:** Located at rear of cabinet toward headstock side. Inverter enclosure can be locked with the provided keys.

   IMPORTANT: Do not attempt to adjust settings on inverter. If you suspect a problem with the inverter, contact JPW Technical Support for instructions.

4. **Speed Range Selector** (G, Figure 9-1): Select high or low range.

   ⚠CAUTION Do not move speed range selector (G) while spindle is turning. Failure to comply may damage lathe.

5. **Feed Direction Lever** (H, Figure 9-1): Select direction of feed. Center position is neutral.

   ⚠CAUTION Do not move feed direction lever (H) while spindle is turning. Failure to comply may damage lathe.

6. **Lead and Feed Selector Levers** (J_1/J_2, Figure 9-1): Used conjunctively to set up for threading or feeding, according to adjoining chart on front of end cover. This chart is also reproduced in sect. 13.0.

7. **Carriage Lock** (K, Figure 9-2): Turn clockwise to lock, counterclockwise to unlock.

   ⚠CAUTION Carriage lock must be released before engaging powerfeed. Failure to comply may cause machine damage.

8. **Carriage Handwheel** (L, Figure 9-2): Rotate to manually move carriage assembly along bedways. A scale is mounted to the ring, graduated in 0.005 inch increments, and can be calibrated by rotating the ring as needed.

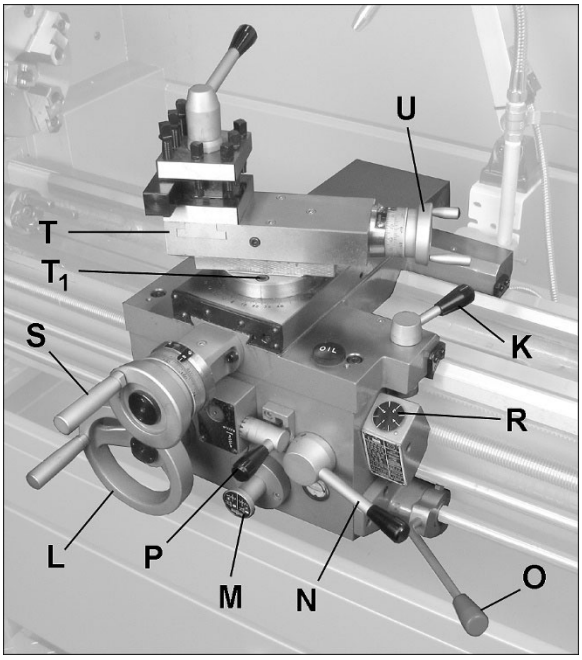


Figure 9-2 (cutting tool not provided)

9. **Feed Direction Knob** (M, Figure 9-2): Push in for left-to-right motion; pull out for right-to-left motion.

10. **Half Nut Lever** (N, Figure 9-2): Engages leadscrew for threading operations – down to engage, up to disengage.

11. **Spindle Direction Control Lever** (O, Figure 9-2). Move lever to the right so that its tab clears the notch, then *down* for forward spindle rotation, or *up* for reverse spindle rotation. Allow spindle to come to a stop before changing directions. Position lever in neutral position (tab in notch) before shutting off lathe.

12. **Power Feed Engagement Lever** (P, Figure 9-2): Engages powered operation. Push to one of three positions: LEFT and UP for cross feed operation (cross slide powered movement); RIGHT and DOWN for longitudinal operation (carriage powered movement); MIDDLE position allows engagement of half nut for threading.

13. **Threading Dial** (R, Figure 9-2): Indicates point on leadscrew where half nut can be re-engaged to continue inch threading.

14. **Cross Slide Handwheel** (S, Figure 9-2): Clockwise rotation moves cross slide toward rear of machine. The accompanying scale is graduated in increments of 0.001 inch (0.0254 mm), and can be calibrated by rotating the ring as needed.

15. **Top Slide**: Located atop cross slide (T, Figure 9-2); can be rotated 360° after loosening two socket head screws (T_1) in the circular base. Calibrations in degrees at the base will assist angle placement. Tighten screws (T_1) before operating.

16. **Top Slide Handwheel** (U, Figure 9-2): Rotate to position rest. The accompanying scale on collar is graduated in 0.001 inch increments.

17. **Tailstock Quill Lock** (V, Figure 9-3): Push clockwise to lock sleeve; counterclockwise to unlock.

18. **Tailstock Quill Traverse Handwheel** (W, Figure 9-3): Rotate clockwise to advance quill; counterclockwise to retract. Fully retract quill to eject a center or drill chuck.

19. **Tailstock Clamping Lever** (X, Figure 9-3): Push up to lock; down to unlock.

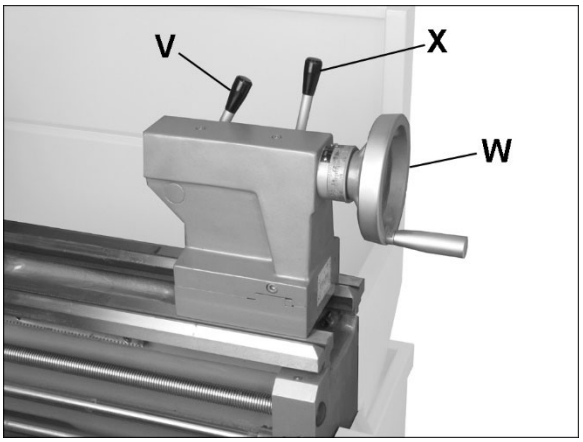


Figure 9-3

20. **Foot Brake** (see Figure 4-1): For emergency shutdown of all lathe functions. The connecting rod mechanism is in the bed stand, and activates a brake strap at the main motor. **(Caution: Lathe still has power.)**

    NOTE: The foot brake is not intended for normal stopping of the lathe. Overuse can result in premature wear of brake parts.

21. **Chuck Key Bracket**: The chuck key must be placed within the bracket (Figure 9-4) for the lathe to operate. A sensor in the bracket will deactivate spindle if key is not present – this prevents key from accidentally being left in the chuck.

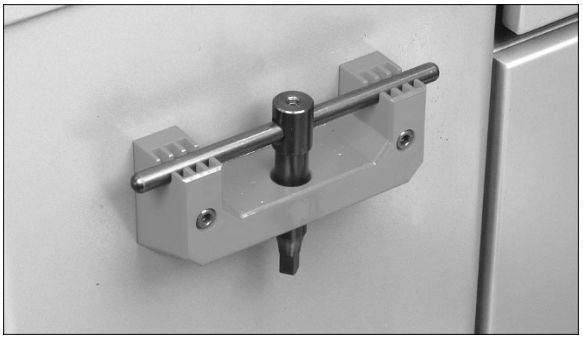


Figure 9-4

10.0 Operation

The operator should consult shop manuals such as "Machinery's Handbook" for cutting speeds and feeds appropriate to specific workpieces. Correct feed depends upon material to be cut, cutting operation, tool type, chucking rigidity, depth of cut, and desired surface quality.

IMPORTANT: Allow a break-in period for the new lathe so that gears and bearings can adapt; do not run the lathe above 560 RPM for the first six hours of operation.

⚠CAUTION The following points must be observed when operating the lathe:

- Never turn any handles or levers when spindle is at high speed.
- Change spindle speed range only after spindle stops.
- Change feed rate only when spindle is at low speed or is stopped.
- Never exceed maximum speed limitation of the work holding device.
- Before starting spindle, check that each handle or lever is at correct position to ensure normal engagement of gears. The spindle direction control lever (O, Figure 9-2) should be at neutral position.
- If foot brake becomes ineffective, turn off machine and adjust brake immediately.
- When operating spindle direction control lever, always turn it to correct position; never use "pre-position" for cutting at a reduced speed.
- Jaw teeth and scroll must be fully engaged, to prevent the jaws from breaking and being thrown from chuck. See Figure 10-1.

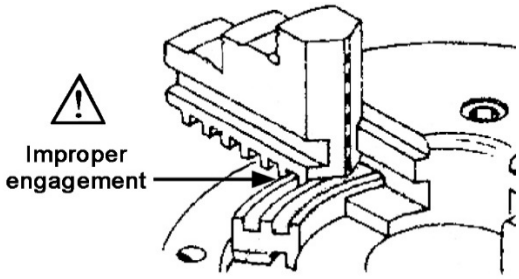


Figure 10-1

- Avoid long workpiece extensions, as parts may bend or fly off. See Figure 10-2. Use rests or the tailstock for support.

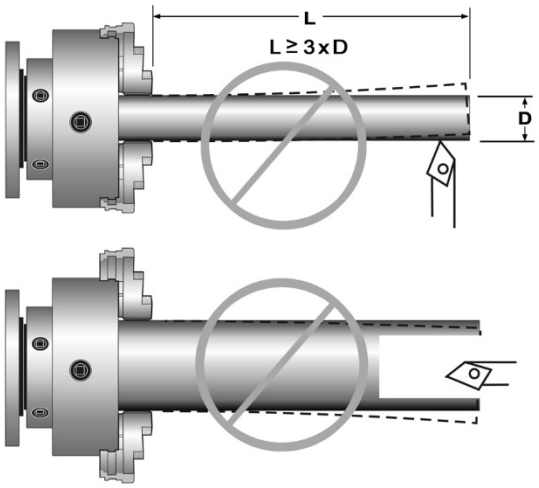


Figure 10-2

- Avoid short clamping contact (A, Figure 10-3) or clamping on a minor part diameter (B, Figure 10-3). Face-locate the workpiece for added support.

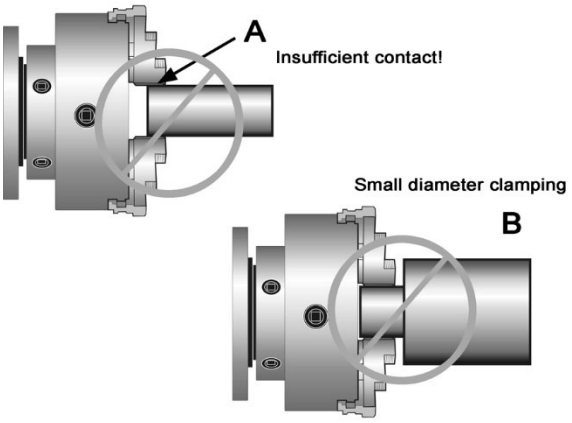


Figure 10-3

10.1 **Feed and Thread Selection**

To obtain various feed settings and thread pitches, the knob and two levers (J, Figure 10-4) are used conjunctively. Position the levers according to the Feed and Thread Chart on front of end cover. An identical chart is shown in *sect. 13.0.*

TIP: When selecting feed/speed correlations, remember the general principal that high speeds complement fine feeding, and low speeds are better for coarse feeding.

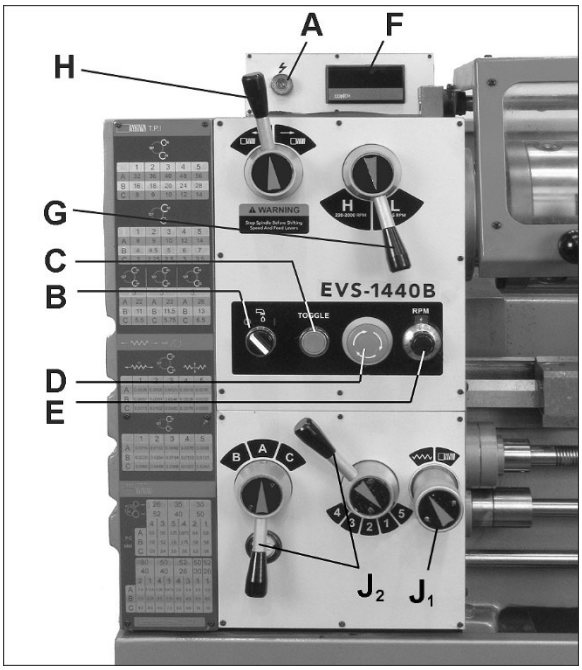


Figure 10-4

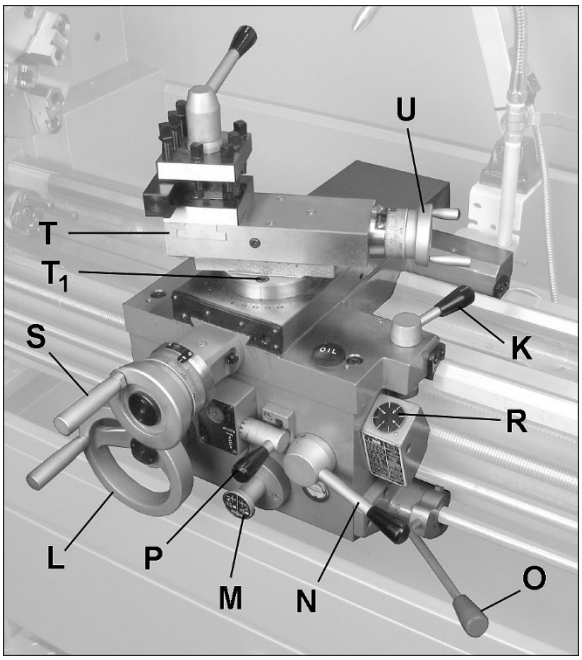


Figure 10-5 (cutting tool not provided)

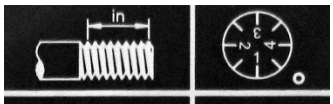
10.2 **Thread cutting**

Threading is performed in multiple passes, with increasing depths in succeeding cuts. It is recommended that test cuts be made on scrap material and the results checked before proceeding with regular material.

1. Move feed direction lever (H, Figure 10-4) for right-hand or left-hand threads.
2. Set spindle to low speed range (G/E, Figure 10-4). Use lowest speed possible when threading.
3. Turn knob (J_1, Figure 10-4) clockwise to disengage feed rod.

4. Select desired thread using thread pitch levers (J_2, Figure 10-4), referring to charts on end cover.
5. Set feed direction lever (P, Figure 10-5) to correct position (neutral).
6. Engage half nut (N, Figure 10-5). The half nut lever (N) and threading dial (R) are used to thread in the conventional manner, based upon the leadscrew, which is in Imperial units (8 TPI). The thread dial chart (Figure 10-6) specifies at which points a thread can be entered using the threading dial.

   NOTE: The half nut must be engaged during the entire threading process when doing metric, diametral, and modular threading.
7. When tool reaches end of cut, disengage and back out tool to clear workpiece.
8. Reverse direction to allow cutting tool to return to starting point.
9. Repeat process until desired result is obtained.



4, 8, 12, 16, 20, 24 28, 32, 36, 40, 44 48, 56, 64, 72, 96	ANY POSITION
2, 6, 10, 14, 18 22, 24, 26, 46 52, 60, 88, 92	EVERY LINE POSITION
3, 5, 7, 9 11, 13, 15 19, 23, 27	NUMBERED POSITION 1, 2, 3, 4
$2\frac{1}{2}$, $3\frac{1}{2}$, $4\frac{1}{2}$, $5\frac{1}{2}$ $6\frac{1}{2}$, $11\frac{1}{2}$	POSITION 1, 3 OR 2, 4
$2\frac{1}{4}$, $4\frac{3}{4}$, $5\frac{3}{4}$,	POSITION 1 ONLY
Leadscrew 8 TPI	

Figure 10-6

11.0 Adjustments

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

⚠WARNING Press emergency stop button and turn off main switch before making adjustments.

11.1 Chuck jaw reversal

The three jaws on the scroll chuck are reversible, to hold stock with larger diameters. See Figure 11-1. Loosen two screws with the provided hex key, remove jaw, and rotate it 180-degrees. Reinstall jaw, and tighten each screw incrementally until fully tightened.

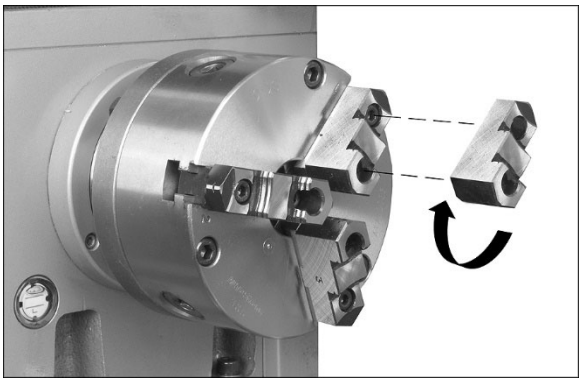


Figure 11-1

11.2 Gib/drag adjustments

After a period of time, some moving components may need adjustment for play (or “backlash”) due to wear. Do not overtighten gib screws as this can hasten wear to components.

11.2.1 Saddle gib adjustment

1. Remove splash guard.
2. Loosen three hex nuts (A, Figure 11-2) at rear of saddle.
3. Turn each of the three set screws (B, Figure 11-2) equally with a hex wrench until a slight resistance is felt. Do not overtighten, which can cause premature wear of parts.
4. Move carriage with the hand wheel and determine if drag is to your preference. Readjust the set screws as necessary to achieve desired drag.
5. Hold each set screw firmly with hex wrench to prevent it from turning, and tighten hex nut to secure setting.

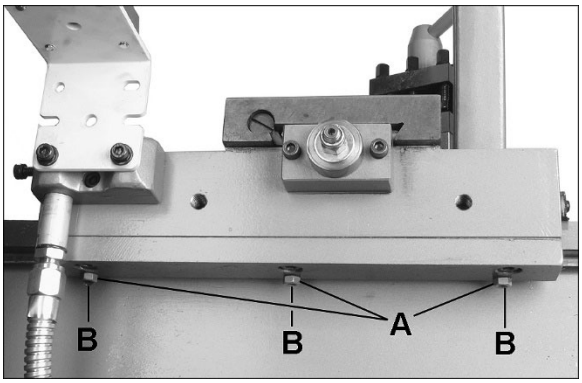


Figure 11-2

11.2.2 Cross slide gib adjustment

Gib screws are located at front and rear of cross slide opposite to one another (C, Figure 11-3).

1. To adjust drag, loosen rear gib screw one turn, and tighten front gib screw a quarter turn. Rotate handwheel to check play. If still loose, tighten front gib screw a bit more.
2. Repeat as needed until slide moves freely without play.
3. When cross slide is properly adjusted, snug rear gib screw. Do not overtighten; this will cause premature wear on gib and mating parts.

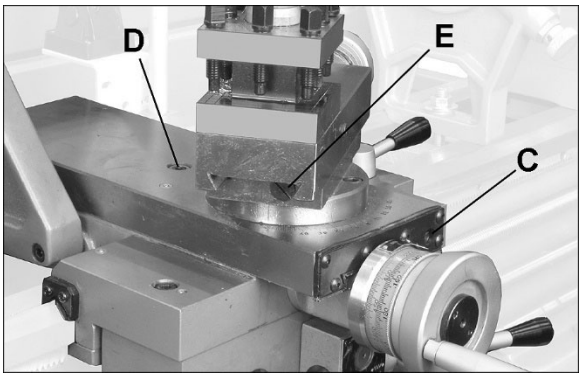


Figure 11-3

11.2.3 **Cross slide nut adjustment**

The cross slide moves via a lead screw which drives a nut. This can also be adjusted if backlash develops. Turn cross slide handwheel left and right; if there is a delay before any cross slide movement, the nut needs adjusting. Tighten or loosen screw (D, Figure 11-3) and move cross slide to verify setting.

11.2.4 **Top slide gib adjustment**

Gib screws are located at front and rear of top slide (E, Figure 11-3). To adjust, use same method as for cross slide gib above.

11.3 **Tailstock adjustments**

The tailstock can be offset to cut shallow tapers up to 5° angle. See Figure 1-4.

1. Release clamping lever (F).
2. Alternately loosen and tighten front and rear screws (G) to move tailstock laterally across base. The scale (H) on end of tailstock indicates amount of offset, and helps when re-centering.
3. Tighten clamp lever (F).

If the clamping force needs to be adjusted, remove tailstock from bed and turn it over. Adjust the hex nut as needed.

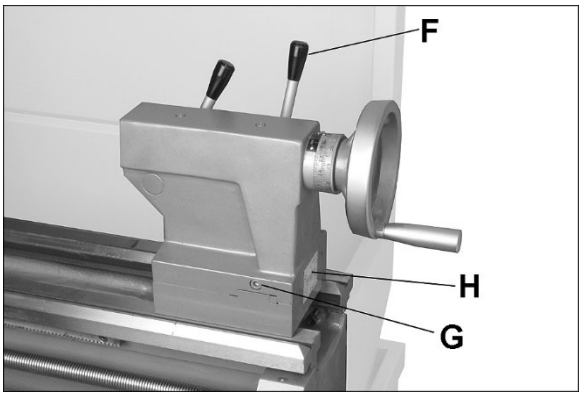


Figure 11-4

11.4 **Gap section**

To remove gap section (Figure 11-5):

1. Remove four socket head bolts (J) with hex wrench.
2. Remove two tapered alignment pins (K) by threading an M6 screw down into it, until the pin is loosened enough to be pulled out.
3. Remove gap section.

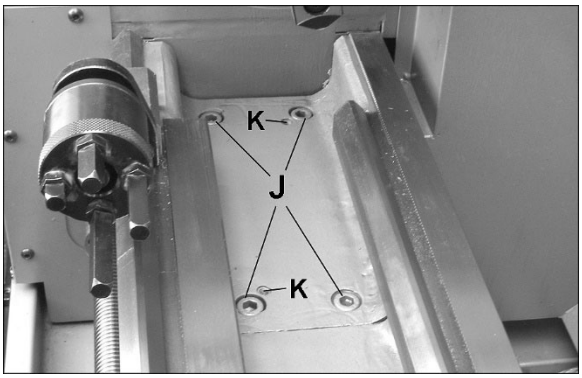


Figure 11-5

To reinstall gap section:

1. Thoroughly clean bottom and ends of gap section.
2. Set gap section in place and align the ends.
3. Insert tapered pins (L) into their holes through gap and into lathe bed.
4. Re-insert the six bolts (A,B) and tighten alternately until all are snug. Make sure gap remains aligned with ways while tightening screws.

11.5 **Aligning tailstock to headstock**

1. Headstock and tailstock have been aligned by the manufacturer and should not require attention. If future adjustment should ever be needed, proceed as follows. (Make sure that twist in the lathe bed is not contributing to the problem, refer to *sect. 6.3.*)
2. Fit a 12" ground, center-drilled, steel bar between centers of headstock and tailstock (Figure 11-6).
3. Fit a dial indicator to the top slide and traverse the center line of the bar. If it indicates a taper, adjustment is needed.
4. Align tailstock using the off-set screws at front and back until tailstock is aligned.

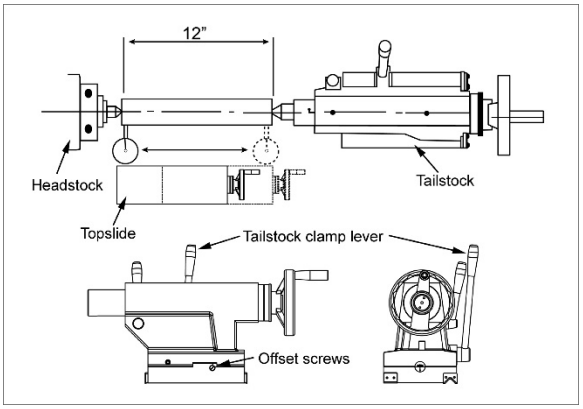


Figure 11-6

11.6 **Shear pin replacement**

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

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

11.7 **Steady rest adjustment**

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

To set the steady rest (see Figure 11-7):

1. Loosen hex nut (L) to slide steady rest along the ways to desired position.
2. Loosen socket head screw (M) until it can be pivoted out of its slot.
3. Loosen three hex nuts (N) and back off set screws to allow finger movement.
4. Back off fingers (O) using knurled handles (P).
5. Pivot the collar on its hinge and position steady rest around workpiece.
6. Firmly tighten hex nut (L).
7. Set fingers snug to workpiece. Fingers should be snug but not overly tight.
8. Loosen three hex nuts (P_1), and tighten set screws (P_2) to secure finger setting.

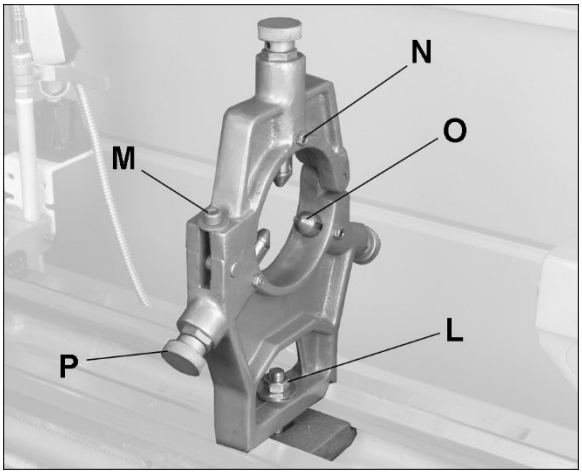


Figure 11-7

11.8 **Follow rest adjustment**

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

The sliding fingers are set similar to those on the steady rest – free of play, but not binding. The place of the third finger is taken by the cutting tool.

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

11.9 **Belt tension**

Remove end cover. Loosen bottom nut and turn top nut (R, Figure 11-8) to push motor downward to increase tension on belt. Retighten bottom nut.

Light finger pressure midway between motor and headstock pulleys should cause approximately 3/4-inch movement, when belt is properly tensioned.

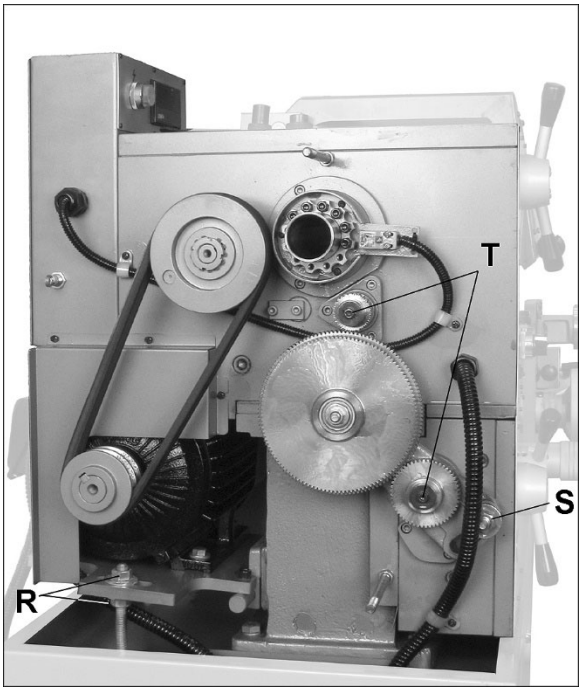


Figure 11-8

11.10 **Gear change**

Note: The 120/127, 26, and 52 tooth gears are installed by the manufacturer in the end gear compartment. 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.

To replace gears:

1. **Turn off power at main switch.**
2. Remove end cover.
3. Loosen hex nut (S, Figure 11-8) and move quadrant out of the way.
4. Loosen socket head cap screw (T) and remove gear(s). Select replacement gears to match data on feed and thread chart. Thoroughly clean new gears before installing.
5. Move quadrant so that large gear meshes with the smaller gears, and tighten nut (S) to secure in place. Note: Make sure there is backlash of 0.002” – 0.003” between gears. Setting the gears too tight will cause excessive noise and wear.
6. Install end cover.

12.0 **Lubrication schedule**

Regularly scheduled maintenance is crucial to ensure a long service life for your machine. The schedule below shows lubrication points and coolant replacement information for the EVS-1440B Lathe. **Push stop button and power off before lubricating.** Follow local regulations for disposal of used coolant/lubricants. Minimize direct skin contact with lubricants and coolants, and wear eye protection when pouring coolant in case of splash.

Mobile DTE® Oil Heavy Medium is recommended for the SAE-20W machine oil. Mobilith® AW2 is recommended for the lithium tube grease.

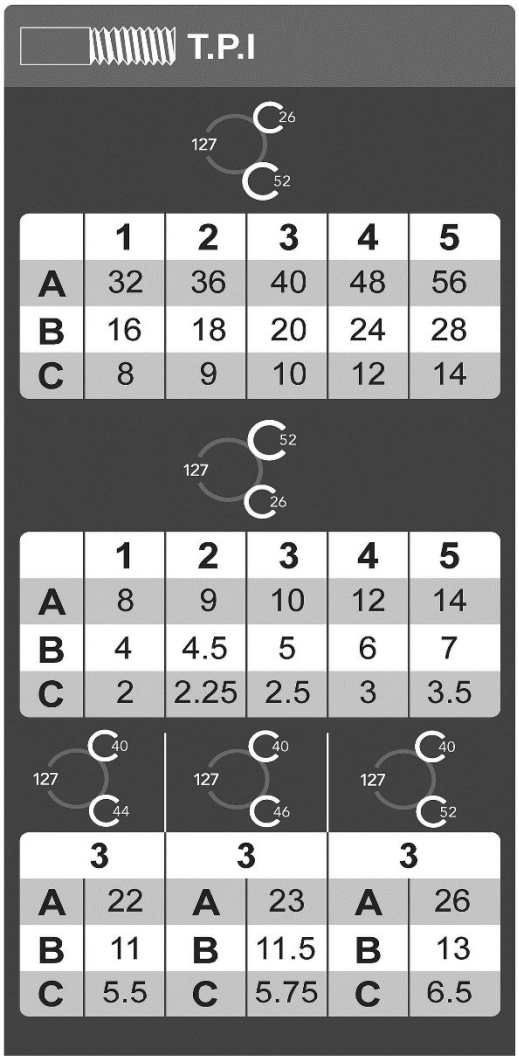
If the brand of oil is ever changed, it is recommended that you flush and clean the reservoir first to prevent any compatibility issues.

Element	Action	Lubricant	Frequency
Chuck	Grease jaws and scroll	#2 lithium tube grease	As needed
	Ball oiler	SAE-20W machine oil	daily
Spindle, cam locks, chuck body	light coat of oil	SAE-20W machine oil	As needed
All exposed metal surfaces	light coat of oil	SAE-20W machine oil	Frequently
Oil sight glasses	Inspect, top off as needed	SAE-20W machine oil	Frequently; also before each working shift
Headstock	Drain, rinse, clean out metal shavings, and fill	SAE-20W machine oil	- after first month - then every 2 months
End gears	Clean and re-grease	Heavy gear grease	As needed
Gearbox	Drain and fill	SAE-20W machine oil	- after first 3 months, - then every 6 months
Apron	Drain and fill	SAE-20W machine oil	- after first 3 months, - then once a year
Saddle	Fill at (4) ball oilers	SAE-20W machine oil	daily
Saddle wipers	Clean with kerosene		Weekly
Leadscrew	Fill at (1) ball oiler	SAE-20W machine oil	daily
Cross slide	Fill at (4) ball oilers	SAE-20W machine oil	daily
Top slide	Fill at (3) ball oilers	SAE-20W machine oil	daily
Tailstock	Fill at (2) ball oilers	SAE-20W machine oil	daily
Coolant reservoir *	Inspect and top off	Coolant of choice, approx. 9L (2.38 gal.)	as needed
	Drain and refill		(follow coolant manufacturer's directions)
Chip tray	Clean; clear drain filters		periodically
Steady Rest	Lubricate finger shafts and contact points	Lead-based grease	before each use
Follow Rest	Lubricate finger shafts and contact points	Lead-based grease	before each use

Table 5

13.0 **Thread and feed chart**

Table 9



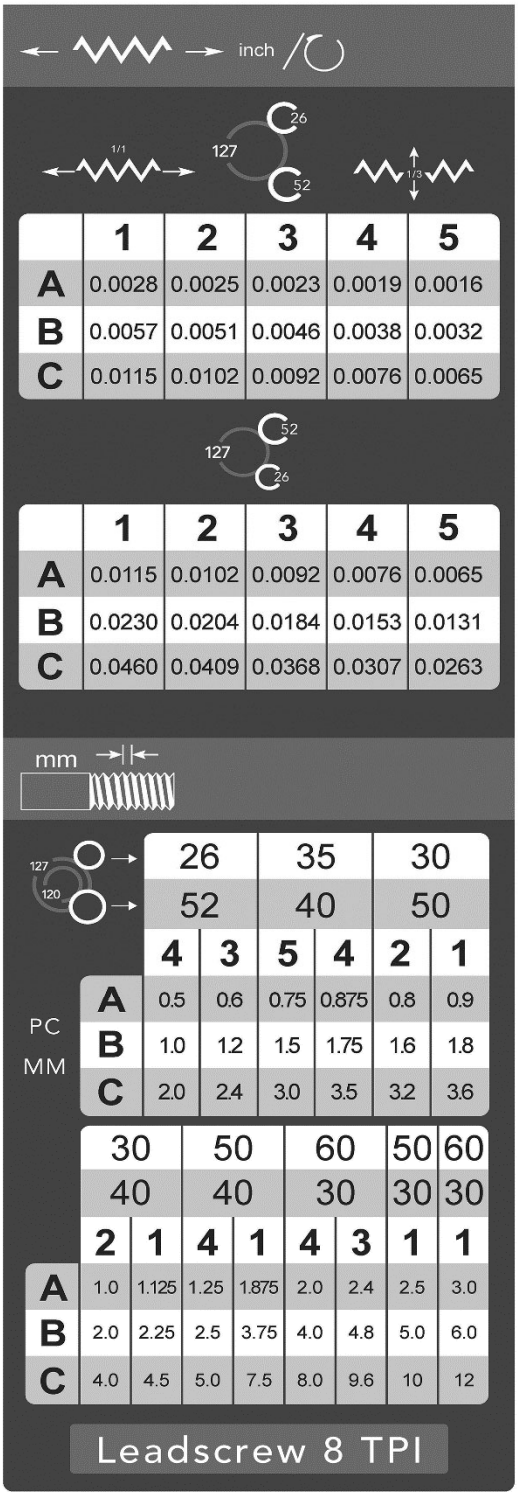
	1	2	3	4	5
A	32	36	40	48	56
B	16	18	20	24	28
C	8	9	10	12	14

127 52 26

	1	2	3	4	5
A	8	9	10	12	14
B	4	4.5	5	6	7
C	2	2.25	2.5	3	3.5

127 40 44 | 127 40 46 | 127 40 52

3		3		3	
A	22	A	23	A	26
B	11	B	11.5	B	13
C	5.5	C	5.75	C	6.5



	1	2	3	4	5
A	0.0028	0.0025	0.0023	0.0019	0.0016
B	0.0057	0.0051	0.0046	0.0038	0.0032
C	0.0115	0.0102	0.0092	0.0076	0.0065

127 52 26

	1	2	3	4	5
A	0.0115	0.0102	0.0092	0.0076	0.0065
B	0.0230	0.0204	0.0184	0.0153	0.0131
C	0.0460	0.0409	0.0368	0.0307	0.0263

mm

127 120

	26		35		30	
	52		40		50	
	4	3	5	4	2	1
A	0.5	0.6	0.75	0.875	0.8	0.9
B	1.0	1.2	1.5	1.75	1.6	1.8
C	2.0	2.4	3.0	3.5	3.2	3.6

PC
MM

	30		50		60		50	60
	40		40		30		30	30
	2	1	4	1	4	3	1	1
A	1.0	1.125	1.25	1.875	2.0	2.4	2.5	3.0
B	2.0	2.25	2.5	3.75	4.0	4.8	5.0	6.0
C	4.0	4.5	5.0	7.5	8.0	9.6	10	12

Leadscrew 8 TPI

14.0 **Recommended cutting speeds**

Table 4

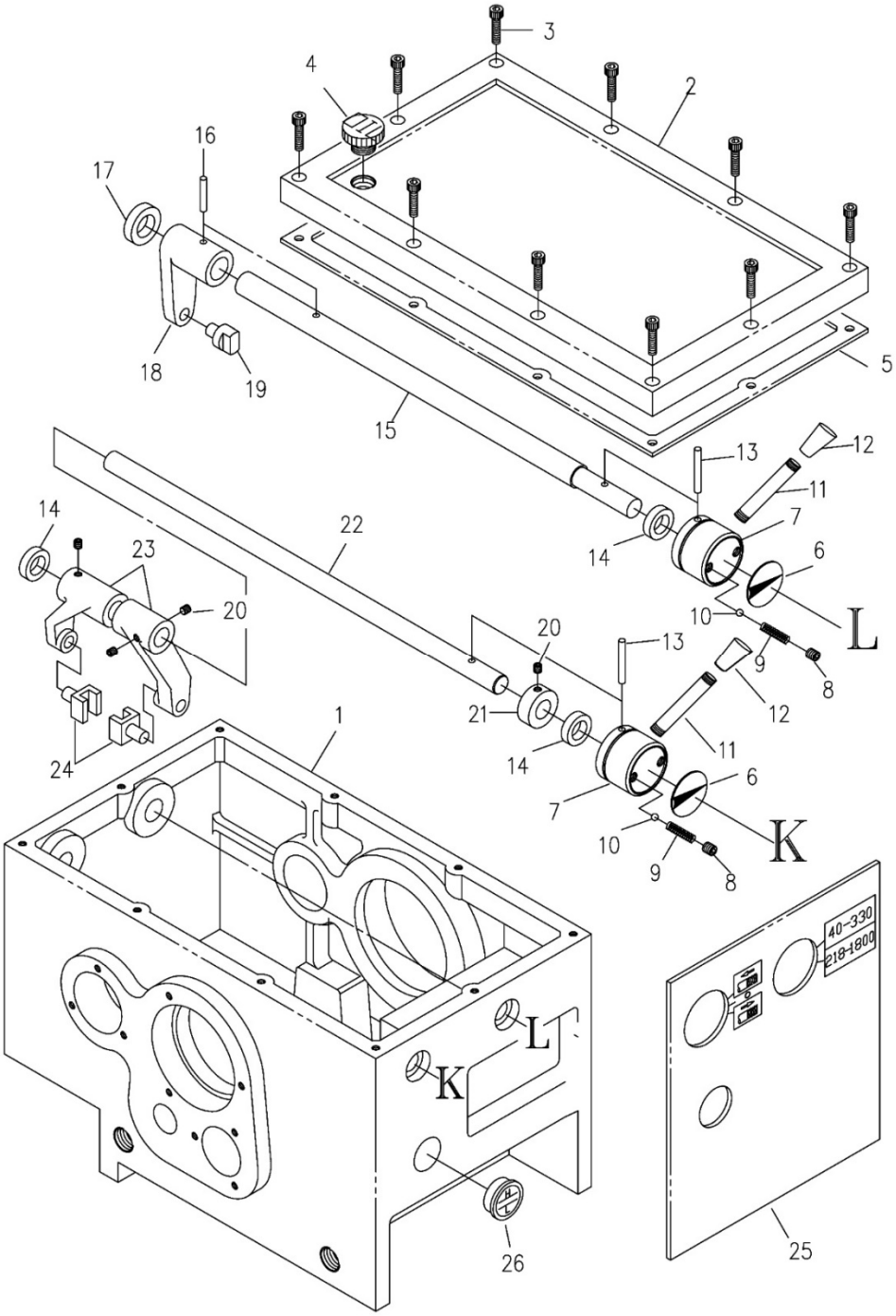
Workpiece material		Speed (SFM)	Feed (LPR)
Aluminum	2021 to 6061	500	0.002
Brass		75	0.001
Bronze		70	0.001
Cast Iron	Gray	35 to 125	00015 to 0.004
	Ductile	15 to 125	0.001 to 0.004
	Malleable	35 to 170	0.0015 to 0.003
Copper	101 to 757	85 to 90	0.002
	834 to 978	340	0.003
Magnesium	AZ,AM,EZ,ZE,HK types	500	0.002
Nickel	Nickel 200 to 230	85	0.002
	Monel	15 to 60	0.001 to 0.0015
	Inconel, Waspaloy	15	0.002
	Hastelloy	10 to 15	0.002
Plastic	TFE, CTFE	250	0.002
	Nylon	350	0.002 to 0.003
	Phenolic	350	0.003
Stainless Steel	201 to 385	65 to 85	0.001 to 0.002
	405 to 446	90	0.0011
	15-5 PH, 16-6 PH	30 to 60	0.0006 to 0.0012
Steel	1005 to 1029	80 to 140	0.001 to 0.002
	1030 to 1055	35 to 115	0.0009 to 0.0015
	1060 to 1095	30 to 80	0.0007 to 0.001
	10L45 to 10L50	40 to 140	0.0009 to 0.0015
	12L13 to 12L15	225 to 280	0.003 to 0.0035
	41L30 to 41L50	20 to 110	0.0007 to 0.0015
	4140 to 4150	20 to 115	0.0007 to 0.0015
	4140 (35 HRC)	70	0.001
	8617 to 8622	40 to 120	0.001 to 0.0016
	M-1 to M-6	60	0.0013
	H-10 to H-19	20 to 80	0.007 to 0.0011
	D-2 to D-7	45 to 60	0.001
	A-2 to A-9, 01 to 07	45 to 60	0.001
	W-1, W-2	110	0.0015
	M-50, 52100	20 to 85	0.0007 to 0.0015
Titanium	TI-6AI-6V	45	0.001

15.0 **Replacement Parts**

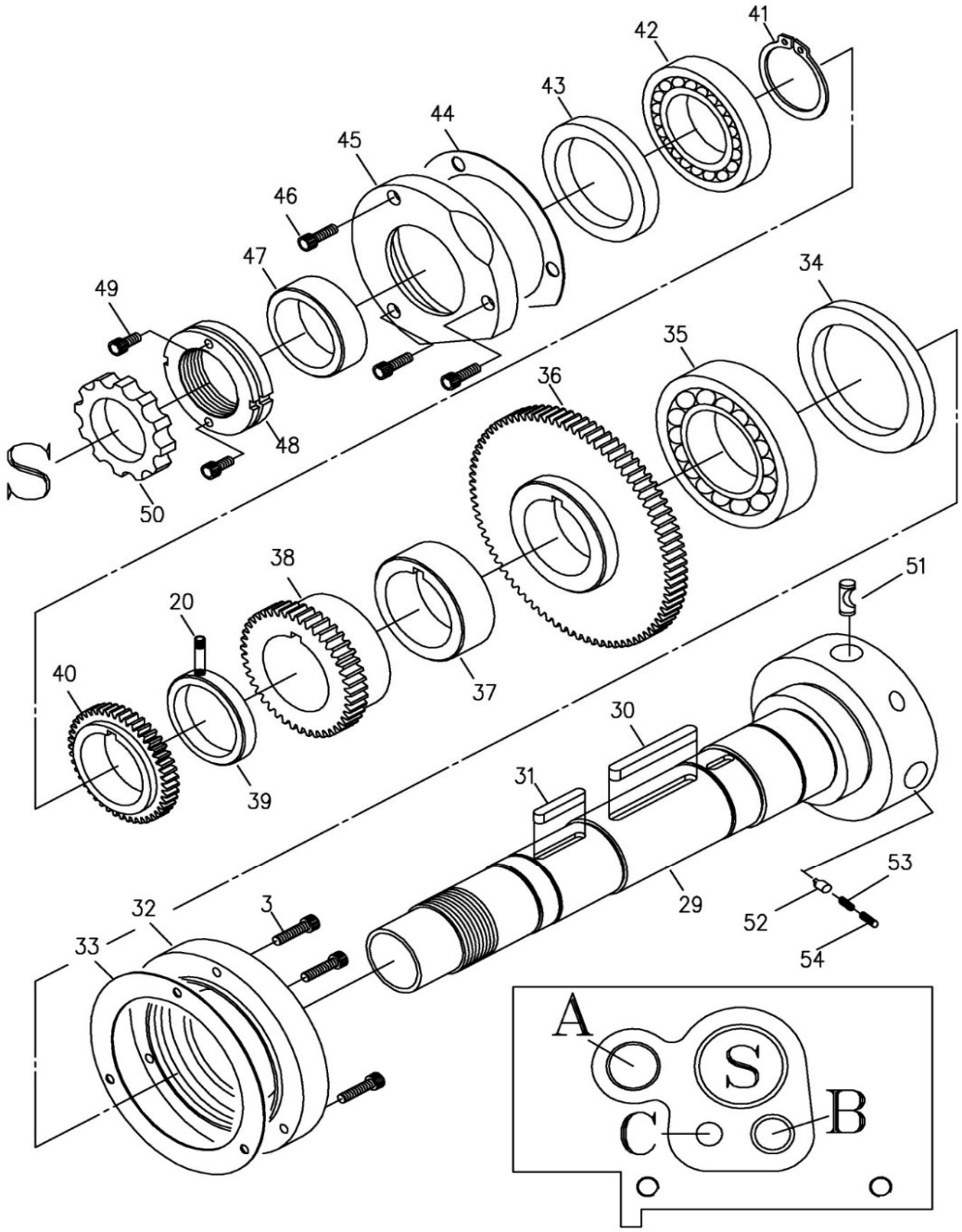
Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

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.

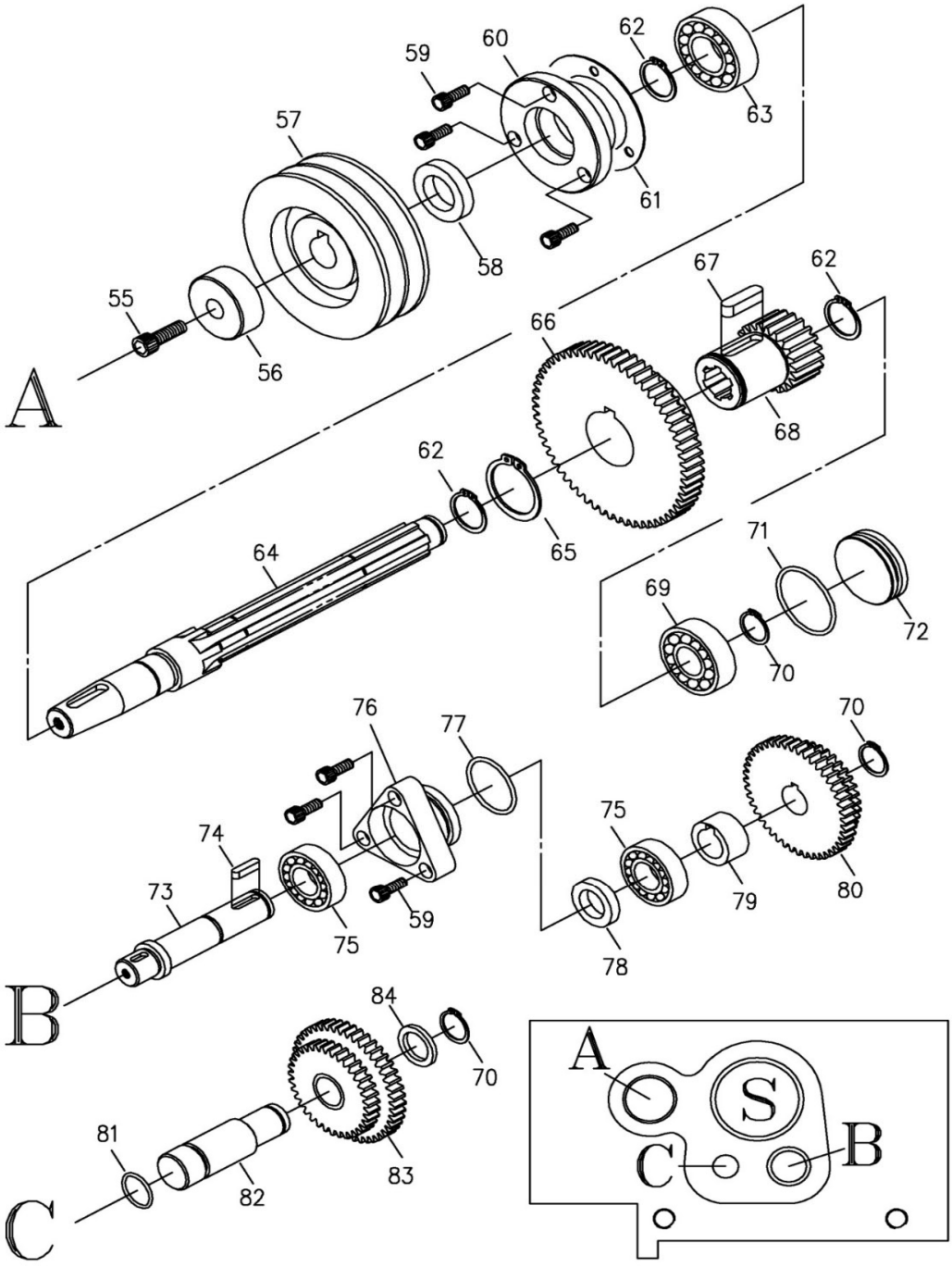
15.1.1 **EVS-1440B Headstock Assembly – Exploded View I**



15.1.2 **EVS-1440B Headstock Assembly – Exploded View II**



15.1.3 **EVS-1440B Headstock Assembly – Exploded View III**

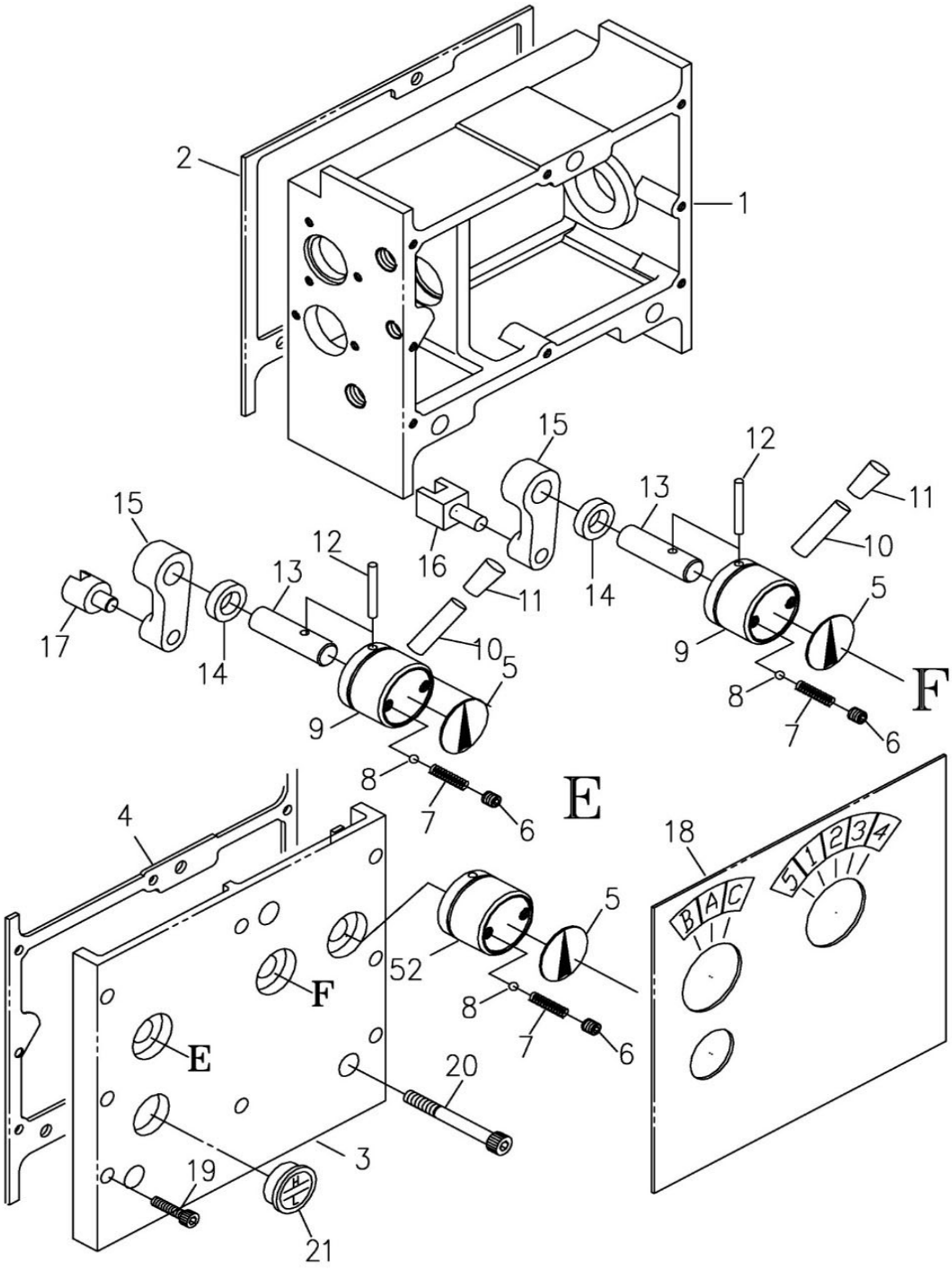


15.1.4 **EVS-1440B Headstock Assembly – Parts List**

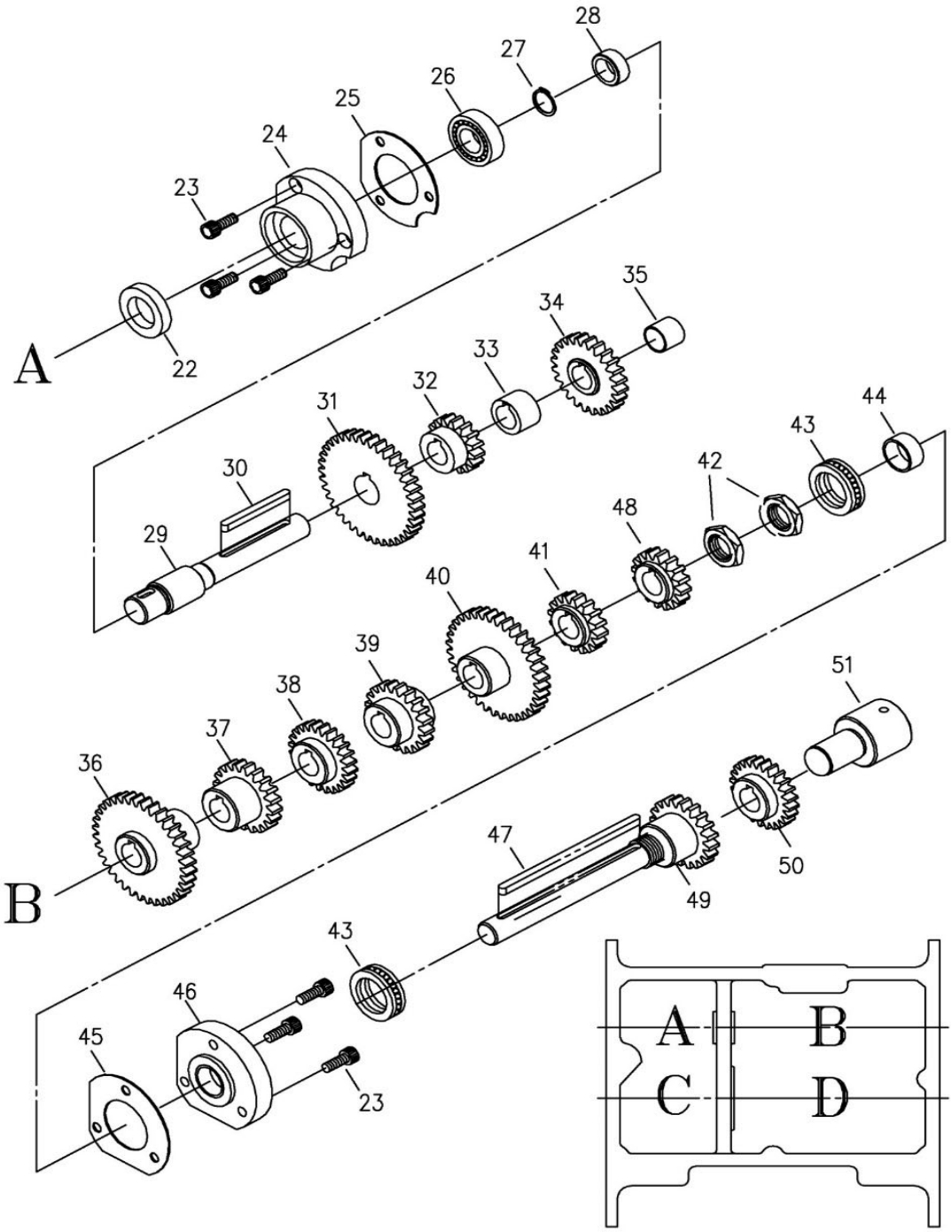
Index No	Part No	Description	Size	Qty
1	EVS1440B-A01	Headstock Casting	405Lx235Wx264H	1
2	EBL1236VS-A02	Headstock Cover	405Lx235Wx23H	1
3	TS-1503061	Socket Head Cap Screw	M6x25mm	13
4	EBL1236VS-A04	Plug	3/4 in.(PVC)	1
5	EBL1236VS-A05	Gasket For Headstock Cover		1
6	EBL1236VS-A06	Index Plate		2
7	EBL1236VS-A07	Handle	Ø45x35L	2
8	TS-1524011	Set Screw	M8x8L	2
9	EBL1236VS-A09	Spring	1/4inx27mm	2
10	SB-1/4	Steel Ball	1/4 in. dia	2
11	EBL1236VS-A11	Lever		2
12	EVS1440B-A12	Handle	Ø22xØ15x43L	2
	EVS1440B-A12A	Handle Assembly (includes #11,12)		2
13	EBL1236VS-A13	Pin	5x40mm	2
14	EBL1236VS-A14	Oil Seal	TC 16x26x7mm	2
15	EBL1236VS-A15	Shaft	Ø19.5x425L (Ø16)	1
16	EBL1236VS-A16	Pin	Ø5x30mm	1
17	EBL1236VS-A17	Oil Seal	TC 19x32x8mm	1
18	EBL1236VS-A18	Shaft Fork	PCD 62x50L	1
19	EBL1236VS-A19	Shift Fork	Ø19x26.5	2
20	TS-1523011	Set Screw	M6x6L	4
21	EBL1236VS-A21	Collar		1
22	EBL1236VS-A22	Shaft	Ø19.5x425L (Ø16)	1
23	EBL1236VS-A23	Shift Fork	122L 55h	2
24	EBL1236VS-A24	Shift Fork		2
25	EVS1440B-A25	Headstock Plate		1
26	EBL1236VS-A26	Oil Sight	1-1/8 in.(28mm.)	1
29	EBL1236VS-A29	Main Spindle	Ø117.5x408.1L	1
30	EBL1236VS-A30	Key	8x70mm	1
31	EBL1236VS-A31	Key	7x40mm	1
32	EBL1236VS-A32	Cover	Ø145xØ80.5x25W	1
33	EBL1236VS-A33	Gasket		1
34	EBL1236VS-A34	Oil Seal	TC Ø80xØ105xØ10mm	1
35	BB-32212	Bearing	No.32212	1
36	EBL1236VS-A36	Gear	2M 82T	1
37	EBL1236VS-A37	Collar	Ø75xØ55x26 key 8x4.5	1
38	EBL1236VS-A38	Gear	2M 43T	1
39	EBL1236VS-A39	Collar	Ø52.25xØ52x20W key 7x3.5	1
40	EBL1236VS-A40	Gear	1.75M 45T	1
41	EBL1236VS-A41	Circlip	S-50mm	1
42	BB-30210	Bearing	No.30210	1
43	EBL1236VS-A43	Oil Seal	TC 65x85x12mm	1
44	EBL1236VS-A44	Gasket		1
45	EBL1236VS-A45	Cover	Ø123x21W	1
46	TS-1503051	Socket Head Cap Screw	M6x20mm	3
47	EBL1236VS-A47	Collar	Ø64.5xØ50x20W	1
48	EBL1236VS-A48	Nut	Ø75x19W	1
49	TS-1503031	Socket Head Cap Screw	M6x12mm	2
50	EBL1236VS-A50	Index Ring	Ø72xØ45x12	1
51	EBL1236VS-A51	Cam Lock		3
52	EBL1236VS-A52	Pin		3
53	EBL1236VS-A53	Spring		3
54	EBL1236VS-A54	Screw		3
55	TS-1504051	Socket Head Cap Screw	M8x25L	1
56	EBL1236VS-A56	Washer	Ø44xØ7.9x17	1
57	EBL1236VS-A57	Pulley	Ø114.3xØ21.35x50W	1
58	EBL1236VS-A58	Oil Seal	TC 25x40x8mm	1
59	TS-1503041	Socket Head Cap Screw	M6x16mm	6
60	EBL1236VS-A60	Cover	Ø80x21L (Ø35)	1
61	EBL1236VS-A61	Gasket		1

Index No	Part No	Description	Size	Qty
62	EBL1236VS-A62	Circlip	S-25mm	3
63	BB-6205	Bearing	No.6205	1
64	EBL1236VS-A64	Shaft	Ø30x302L 21x25x5	1
65	EBL1236VS-A65	Circlip	S-38mm	1
66	EBL1236VS-A66	Gear	2M 60T	1
67	EBL1236VS-A67	Key	8x30mm	1
68	EBL1236VS-A68	Gear	2M 21T	1
69	BB-6204	Bearing	No.6204	1
70	EBL1236VS-A70	Circlip	S-20mm	3
71	EBL1236VS-A71	O-Ring	42x48x3.0mm	1
72	EBL1236VS-A72	Plug	Ø47x12W	1
73	EBL1236VS-A73	Shaft	Ø25x109L key 5x2.5	1
74	EBL1236VS-A74	Key	5x20mm	1
75	BB-6004	Bearing	No.6004	2
76	EBL1236VS-A76	Cover	P.C.D. Ø42xØ32x32L	1
77	EBL1236VS-A77	O-Ring	34x40x3.0mm	1
78	EBL1236VS-A78	Oil Seal	TC 20x32x2.5mm	1
79	EBL1236VS-A79	Collar	Ø30xØ20x16W key 7x3.5	1
80	EBL1236VS-A80	Gear	1.75M 35/45T	1
81	EBL1236VS-A81	O-Ring	20x25x2.5mm	1
82	EBL1236VS-A82	Shaft	Ø25x85L	1
83	EBL1236VS-A83	Gear	1.75M 35/45T	1
84	EBL1236VS-A84	Collar	Ø28xØ20x3W	1

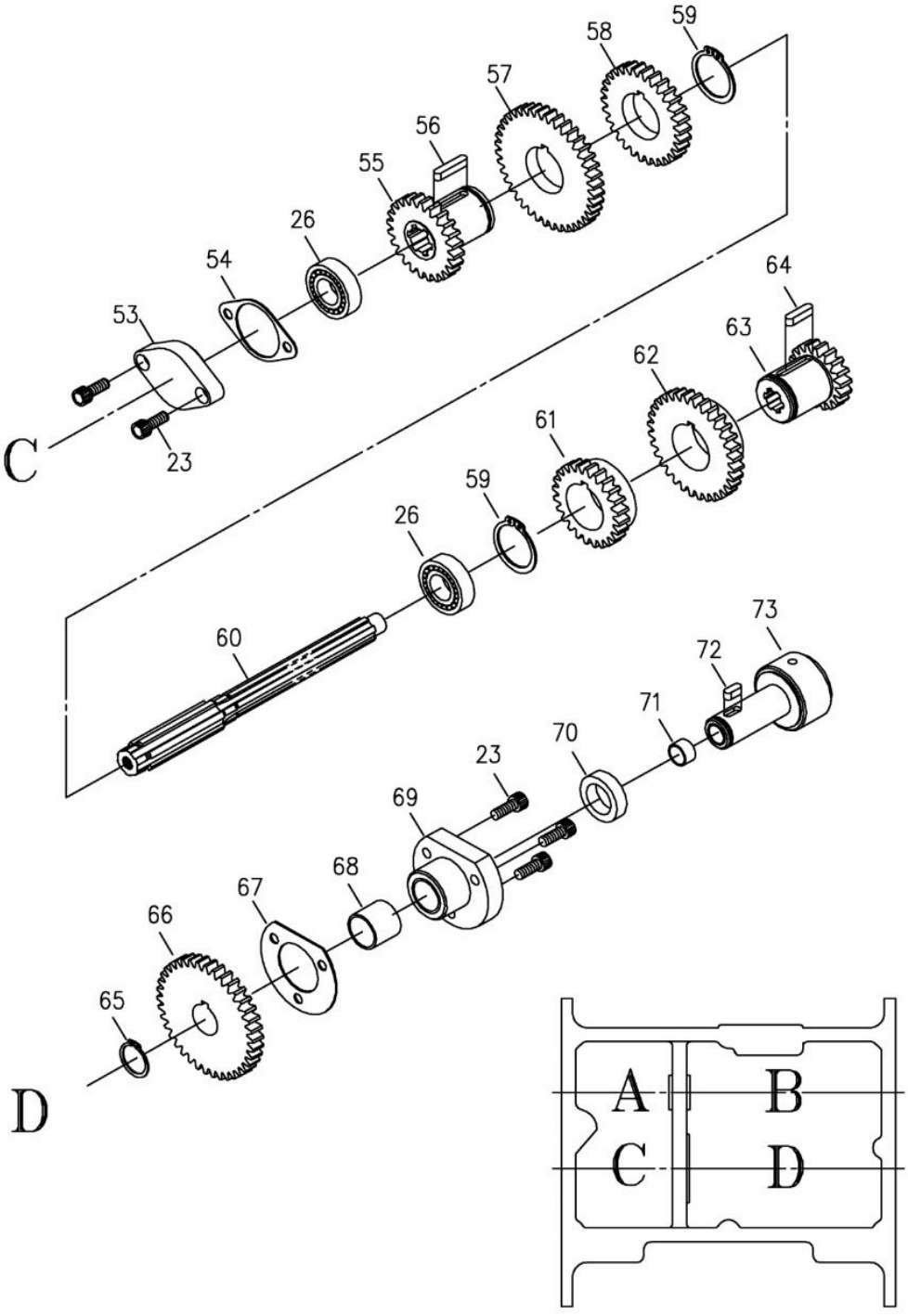
15.2.1 **EVS-1440B Gearbox Assembly – Exploded View I**



15.2.2 **EVS-1440B Gearbox Assembly – Exploded View II**



15.2.3 **EVS-1440B Gearbox Assembly – Exploded View III**

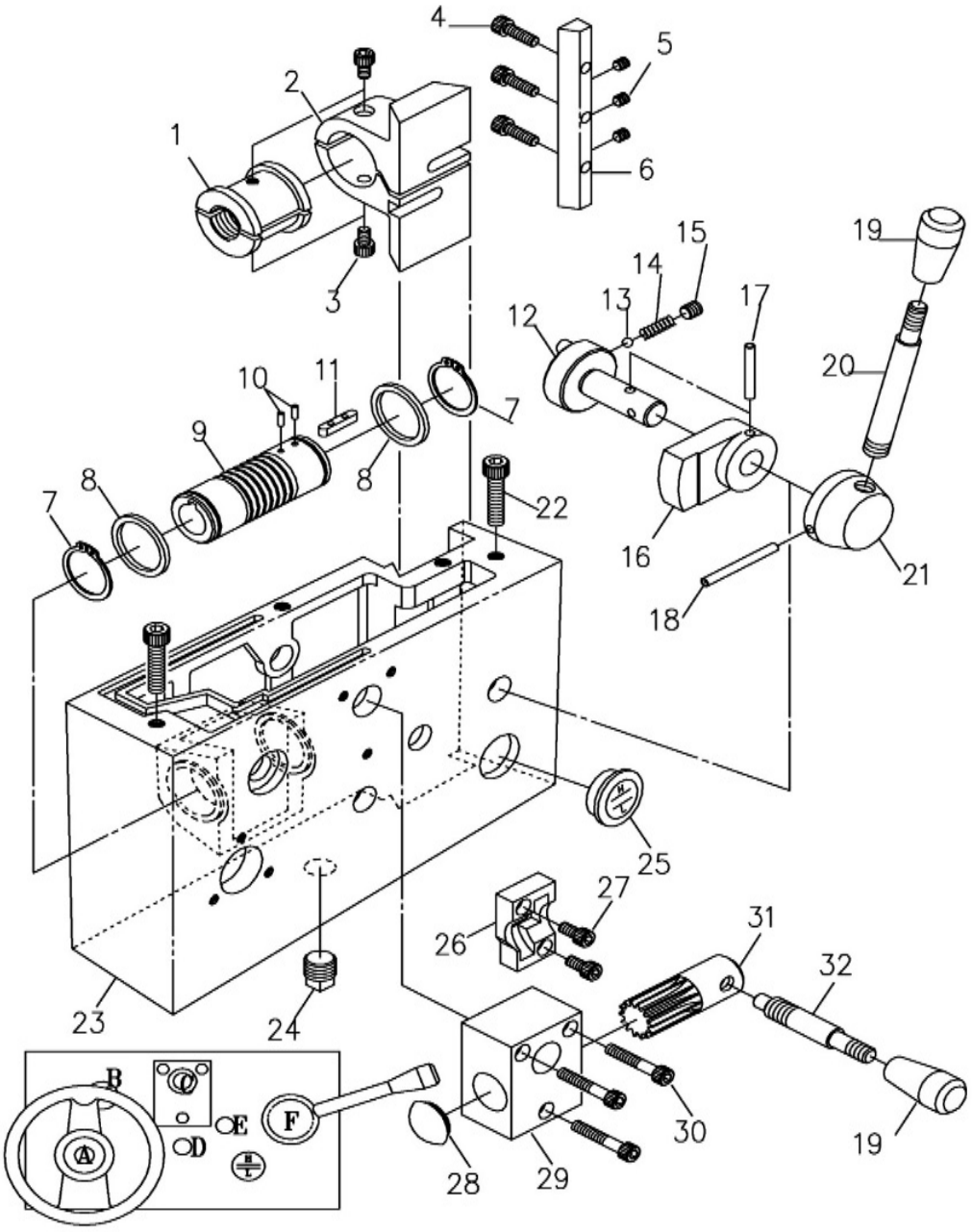


15.2.4 **EVS-1440B Gearbox Assembly – Parts List**

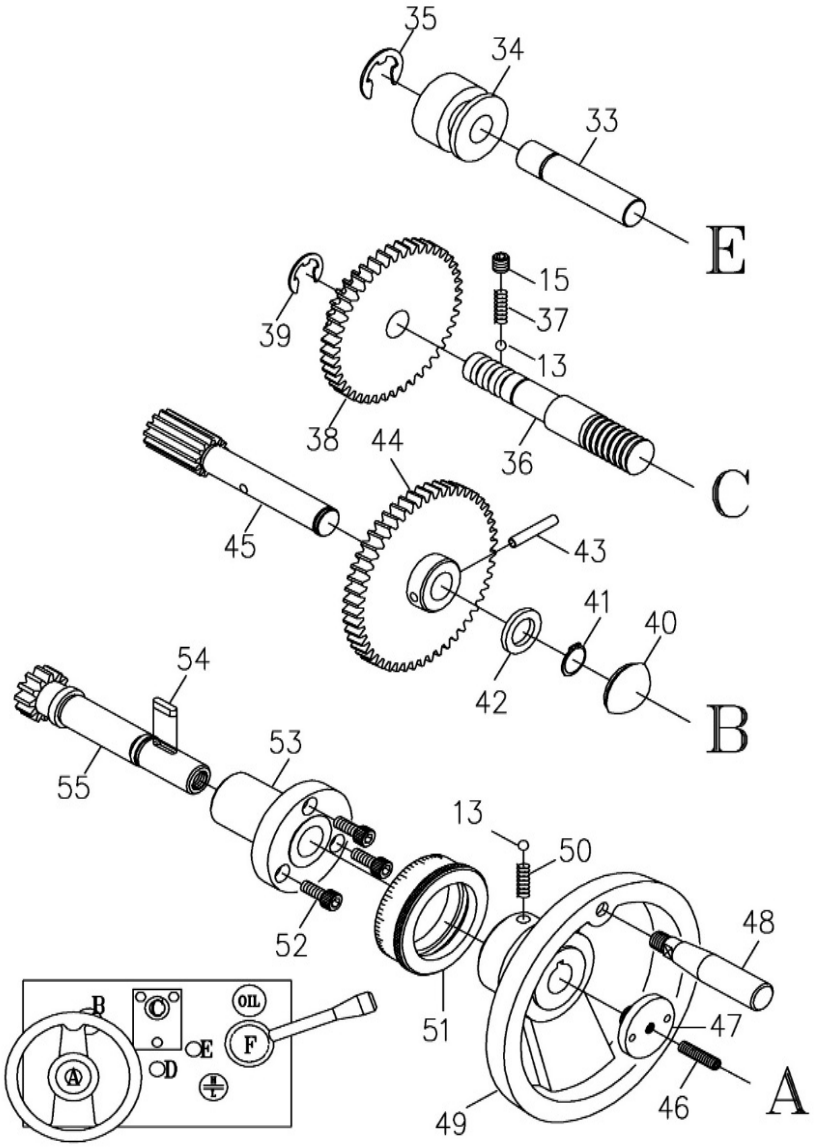
Index No	Part No	Description	Size	Qty
1	EBL1236VS-B01	Gear Box		1
2	EBL1236VS-B02	Gasket For Gearbox		1
3	EBL1236VS-B03	Gear Box Cover		1
4	EBL1236VS-B04	Gasket For Gearbox Cover		1
5	EBL1236VS-B05	Index Plate		3
6	TS-1524011	Set Screw	M8x8L	3
7	EBL1236VS-B07	Spring	1/4 in x 27mm	3
8	SB-1/4	Ball Steel	1/4 in. dia	3
9	EBL1236VS-B09	Handle	Ø45x35L	2
10	EBL1236VS-B10	Lever		2
11	EVS1440B-A12	Handle	dia.22xdia.15 x43L	2
	EVS1440B-B11A	Handle Assembly (includes #10,11)		2
12	EBL1236VS-B12	Pin	Ø5x40mm	2
13	EBL1236VS-B13	Lever		2
14	EBL1236VS-B14	Oil Seal	TC 16x26x7mm	2
15	EBL1236VS-B15	Shift Lever		2
16	EBL1236VS-B16	Shift Fork		1
17	EBL1236VS-B17	Shift Fork		1
18	EVS1440B-B18	Gear Box Plate		1
19	TS-1503061	Socket Head Cap Screw	M6x25mm	8
20	TS-1504131	Socket Head Cap Screw	M8x70mm	3
21	EBL1236VS-B21	Oil Sight	1-1/8 in.(28mm.)	1
22	EBL1236VS-B22	Oil Seal	TC 22x35x7mm	1
23	TS-1503041	Socket Head Cap Screw	M6x16mm	11
24	EBL1236VS-B24	Cover		1
25	EBL1236VS-B25	Gasket		1
26	BB-6003	Bearing	No.6003	3
27	EBL1236VS-B27	Circlip	S-16mm	1
28	EBL1236VS-B28	Collar		1
29	EBL1236VS-B29	Shift		1
30	EBL1236VS-B30	Key	5x55mm	1
31	EBL1236VS-B31	Gear	2M 32T	1
32	EBL1236VS-B32	Gear	2M 16T	1
33	EBL1236VS-B33	Collar		1
34	EBL1236VS-B34	Gear	2M 24T	1
35	EBL1236VS-B35	Collar	LFB-1615	1
36	EBL1236VS-B36	Gear	2M 30T	1
37	EBL1236VS-B37	Gear	2.75M 20T	1
38	EBL1236VS-B38	Gear	2.75M 18T	1
39	EBL1236VS-B39	Gear	2.75M 16T	1
40	EBL1236VS-B40	Gear	2.25M 28T	1
41	EBL1236VS-B41	Gear	2M 16T	1
42	EBL1236VS-B42	Nut		2
43	BB-51104	Thrust Bearing	No.51104	2
44	EBL1236VS-B44	Collar	LFB-2010	1
45	EBL1236VS-B45	Gasket		1
46	EBL1236VS-B46	Cover		1
47	EBL1236VS-B47	Key	5x70mm	1
48	EBL1236VS-B48	Gear		1
49	EBL1236VS-B49	Shaft		1
50	EBL1236VS-B50	Shaft		1
51	EBL1236VS-B51	Clutch		1
52	EBL1236VS-B52	Handle		1
53	EBL1236VS-B53	Cover		1
54	EBL1236VS-B54	Gasket		1
55	EBL1236VS-B55	Gear	2M 2T	1
56	EBL1236VS-B56	Key	5x15mm	1
57	EBL1236VS-B57	Gear	2M 40T	1
58	EBL1236VS-B58	Gear	2M 30T	1
59	EBL1236VS-B59	Circlip	S-30	2

Index No	Part No	Description	Size	Qty
60	EBL1236VS-B60	Shaft		1
61	EBL1236VS-B61	Gear	2M 25T	1
62	EBL1236VS-B62	Gear	2.75M 20T	1
63	EBL1236VS-B63	Gear	2.25M 20T	1
64	EBL1236VS-B64	Key	5x20mm	1
65	EBL1236VS-B65	Circlip	S-20mm	1
66	EBL1236VS-B66	Gear	2M 38T	1
67	EBL1236VS-B67	Gasket		1
68	EBL1236VS-B68	Collar	LFB-2020	1
69	EBL1236VS-B69	Cover		1
70	EBL1236VS-B70	Oil Seal	TC 20x30x8mm	1
71	EBL1236VS-B71	Collar	LFB-1208	1
72	EBL1236VS-B72	Key	5x12mm	1
73	EBL1236VS-B73	Shaft		1

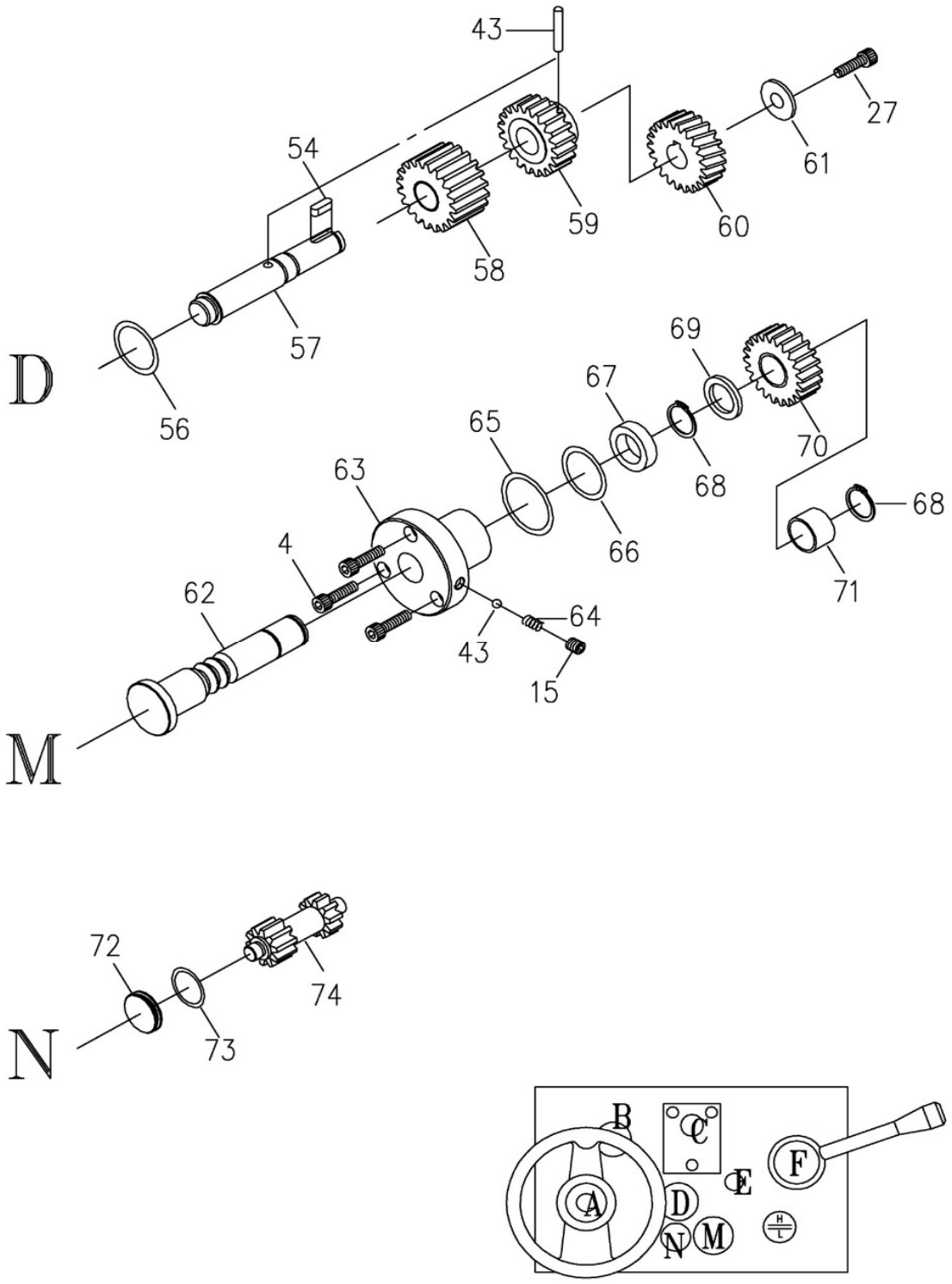
15.3.1 **EVS-1440B Apron Assembly – Exploded View I**



15.3.2 **EVS-1440B Apron Assembly – Exploded View II**



15.3.3 **EVS-1440B Apron Assembly – Exploded View III**

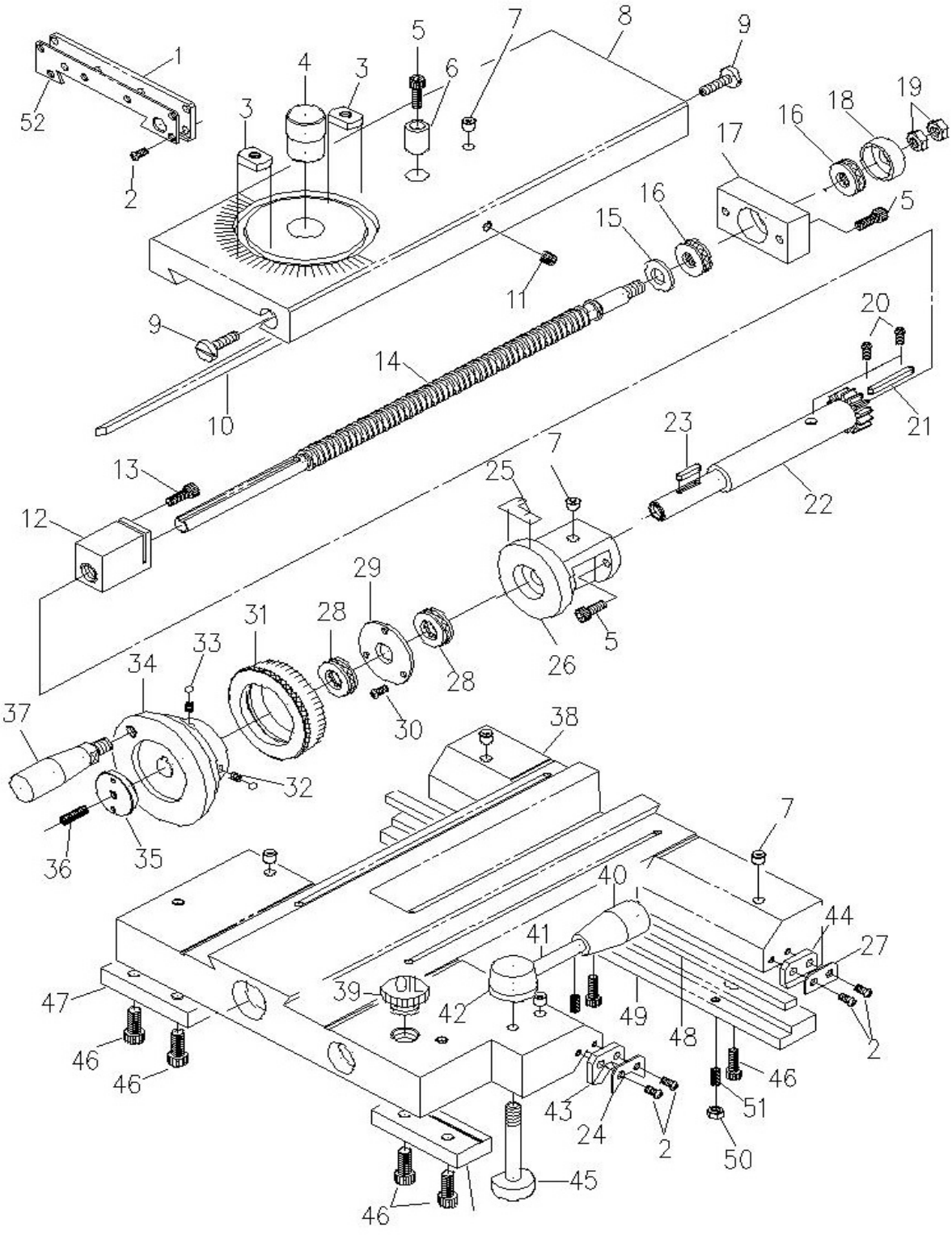


15.3.4 **EVS-1440B Apron Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	EBL1236VS-C01	Half Nut	8TPI	1
2	EBL1236VS-C02	Half Nut Bracket	105Lx50Wx71h	1
3	TS-1503021	Socket Head Cap Screw	M6x10mm	2
	EBL1236VS-C01A	Half Nut Assembly (includes #1~3)		1
4	TS-1503051	Socket Head Cap Screw	M6x20mm	6
5	TS-1523031	Set Screw	M6x10mm	3
6	EBL1236VS-C06	Gib	13.8Wx10Hx125L	1
7	EBL1236VS-C07	Circlip	S-30mm	2
8	EBL1236VS-C08	Collar	Ø38.1xØ31x3t	2
9	EBL1236VS-C09	Worm	Ø19.05xØ31x841L	1
10	EBL1236VS-C10	Pin	3x8 mm	2
	EBL1236VS-C08A	Collar Assembly (includes #8~10)		1
11	EBL1236VS-C11	Key	5x25mm	1
12	EBL1236VS-C12	Shaft	Ø39.9x61L	1
13	SB-1/4	Ball Steel	1/4 in. dia	4
14	EBL1236VS-C14	Spring	1/4 in x 25mm	1
15	TS-1524011	Set Screw	M8x8mm	3
16	EBL1236VS-C16	Lever	62Lx36Wx17H	1
17	EBL1236VS-C17	Pin	Ø5x36mm	1
18	EBL1236VS-C18	Pin	Ø5x60mm	1
19	EVS1440B-A12	Handle	dia.22xdia.15 x43L	2
	EVS1440B-C19A	Handle Assembly (includes #19,20)		1
20	EBL1236VS-C20	Lever	Ø1/2"x107mmL	1
21	EBL1236VS-C21	Handle	Ø50x30L Ø16	1
22	TS-1504071	Socket Head Cap Screw	M8x35mm	2
23	EBL1236VS-C23	Apron	276Lx78Wx172H	1
24	EBL1236VS-C24	Plug	3/8 G.P	1
25	EBL1236VS-C25	Oil Sight	3/4 in. (19mm)	1
26	EBL1236VS-C26	Cam	50x30x12H	1
27	TS-1503031	Socket Head Cap Screw	M6x12mm	2
28	EBL1236VS-C28	Plug	Ø28x8W	1
29	EBL1236VS-C29	Keep Assembly	65Lx50Wx35H	1
30	TS-1503081	Socket Head Cap Screw	M6x35mm	3
31	EBL1236VS-C31	Gear Shaft	Ø24x67L	1
32	EBL1236VS-C32	Lever	Ø1/2"x80mmL	1
	EVS1440B-C32A	Handle Assembly (includes #19,32)		1
33	EBL1236VS-C33	Shaft	Ø16x77L	1
34	EBL1236VS-C34	Collar	Ø38xØ16x30L	1
35	EBL1236VS-C35	Circlip	E-15mm	1
36	EBL1236VS-C36	Shaft	Ø20x122L	1
37	EBL1236VS-C37	Spring	1/4in x 20mm	1
38	EBL1236VS-C38	Gear	2M 22/44T	1
39	EBL1236VS-C39	Circlip	E-12mm	1
40	EBL1236VS-C40	Plug	Ø28x8W	1
41	EBL1236VS-C41	Circlip	S-16mm	1
42	EBL1236VS-C42	Collar	Ø25.4xØ16x3W	1
43	EBL1236VS-C43	Pin	Ø5x30mm	3
44	EBL1236VS-C44	Gear	2M 50T	1
45	EBL1236VS-C45	Rack Pinion	Ø22.5x120L	1
46	TS-1523071	Set Screw	M6x25mm	1
47	EBL1236VS-C47	Plug	35x15L ØM6 TAP	1
48	EBL1236VS-C48	Handle	Ø5/8"x77mmL	1
49	EBL1236VS-C49	Handwheel	Ø140x68H Ø17	1
50	EBL1236VS-C50	Spring	1/4 in.x 8mm	2
51	EBL1236VS-C51	Index Ring	Ø63xØ45x20W	1
52	TS-1503041	Socket Head Cap Screw	M6x16mm	3
53	EBL1236VS-C53	Keep Assembly	Ø60xØ18x57L	1
54	EBL1236VS-C54	Key	4x15mm	2
55	EBL1236VS-C55	Shaft	Ø28x108L key4x2	1
56	EBL1236VS-C56	O-Ring	P14	1

Index No	Part No	Description	Size	Qty
57	EBL1236VS-C57	Shaft		1
58	EBL1236VS-C58	Gear		1
59	EBL1236VS-C59	Gear		1
60	EBL1236VS-C60	Worm Gear	Ø30xØ14x23L	1
61	EBL1236VS-C61	Washer	Ø25xØ1/4"x3t	1
62	EBL1236VS-C62	Shaft		1
63	EBL1236VS-C63	Keep Assembly		1
64	EBL1236VS-C64	Spring	1/4 in.x 10mm	1
65	EBL1236VS-C65	O-Ring	3.5x34.7x41.7	1
66	EBL1236VS-C66	O-Ring	3.5x28.7x35.7	1
67	EBL1236VS-C67	Oil Seal	TC 20x30x8mm	1
68	EBL1236VS-C68	Circlip	S-20mm	2
69	EBL1236VS-C69	Collar		1
70	EBL1236VS-C70	Gear		1
71	EBL1236VS-C71	Collar	LFB-2012	1
72	EBL1236VS-C72	Plug		1
73	EBL1236VS-C73	O-Ring	2.4xØ21.8xØ26.6	1
74	EBL1236VS-C74	Gear Shaft		1

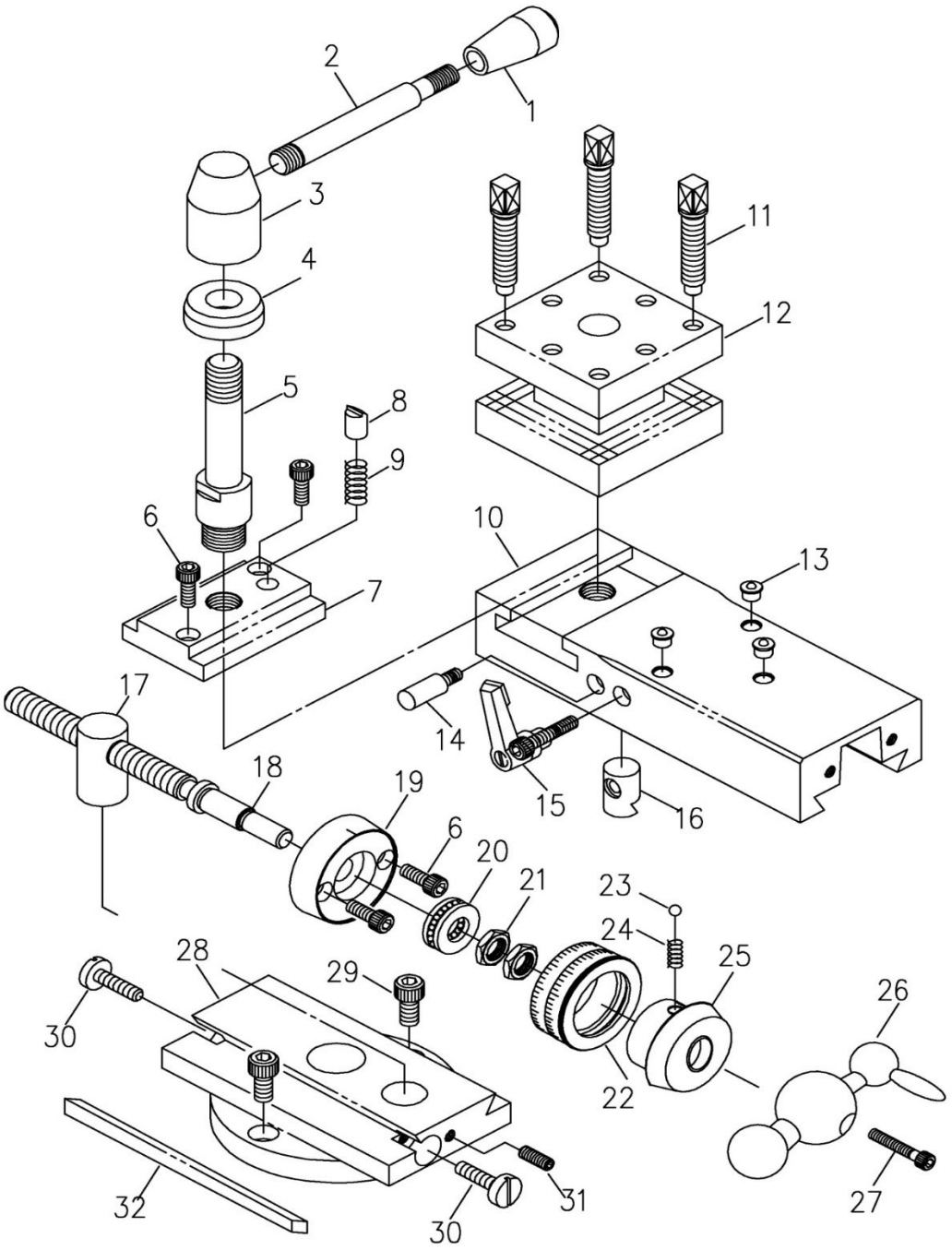
15.4.1 **EVS-1440B Carriage Assembly – Exploded View**



15.4.2 **EVS-1440B Carriage Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	E1340VS-D01	Wiper	PVC	1
2	E1340VS-D02	Screw	3/16x3/8 in.	14
3	E1340VS-D03	Nut	6.5txØ7/8"x14W	2
4	E1340VS-D04	Pivot	Ø25.4x35L	1
5	TS-1503051	Socket Head Cap Screw	M6x20mm	4
6	E1340VS-D06	Collar	Ø16x20L Ø1/4	1
7	E1340VS-D07	Ball Oiler	5/16 in.	6
8	EVS1440B-D08	Cross-Slide	370Lx130Wx30H	1
9	E1340VS-D09	Gib Screw	Ø5/8"x30L	2
10	E1340VS-D10	Gib	15x23x460	1
11	TS-1524011	Set Screw	M8x8mm	1
12	E1340VS-D12	Nut	45Lx25Wx32h	1
13	TS-1503031	Socket Head Cap Screw	M6x12mm	1
14	E1340VS-D14	Screw	Ø5/8"x430L 10TPI	1
	E1340VS-D12A	Nut Assembly (includes #12~14)		1
15	E1340VS-D15	Washer	Ø25x1/2"x3t	1
16	BB-51101	Thrust	NO. 51101	2
17	EVS1440B-D17	Keep Assembly	64x35x20H	1
18	E1340VS-D18	Bearing Cover	Ø31xØ12x11.5L	1
19	TS-0561031	Nut	3/8 in.	1
20	E1340VS-D20	Nail	2 mm.	2
21	E1340VS-D21	Key	4x40 mm.	1
22	E1440VS-D22	Gear		1
22	E1340VS-D22	Gear	Ø32x139L	1
23	E1340VS-D23	Key	4x20 mm.	1
24	E1340VS-D24	Wiper		2
25	E1340VS-D25	Index Plate		1
26	EVS1440B-D26	Keep Assembly	Ø70x73LxØ22	1
27	E1340VS-D27	Wiper		2
28	BB-51102	Thrust	NO. 51102	2
29	E1340VS-D29	Washer	Ø49.5xØ16x36	1
30	TS-081F021	Screw	1/4x3/8 in.	3
31	E1340VS-D31	Index Ring	Ø73xØ50x19.9L	1
32	E1340VS-D32	Spring	1/4 in.x20mm.	2
33	E1340VS-D33	Steel Ball	1/4 in.	2
34	E1340VS-D34	Handwheel	Ø90xØ15x49L	1
35	E1340VS-D35	Plug	Ø35x15L M6TAP	1
36	TS-1523071	Set Screw	M6x25mm	1
37	E1340VS-D37	Handle	Ø19x80L	1
38	E1340VS-D38	Saddle Casting	312Lx310Wx67H	1
39	E1340VS-D39	Plug	3/4 in. (P.V.C)	1
40	EVS1440B-A12	Handle	dia.22xdia.15 x43L	1
	EVS1440B-D40A	Handle Assembly (includes #40,41)		1
41	E1340VS-D41	Handle	Ø3/8"x65L	1
42	E1340VS-D42	Handle	Ø5/4'x22W	1
43	E1340VS-D43	Wiper	PVC	2
44	E1340VS-D44	Wiper	PVC	1
45	E1340VS-D45	Screw	Ø9/8"x75L	1
46	TS-1504041	Socket Head Cap Screw	M8x20mm	7
47	E1340VS-D47	Strip	80Lx31Wx13H	2
48	E1340VS-D48	Gib	10Wx5Tx310L	1
49	E1340VS-D49	Strip	310L33.5Wx15H	1
50	TS-1540041	Nut	M6mm.	3
51	TS-1523051	Set Screw	M6x16mm	3
52	E1340VS-D52	Wiper		1

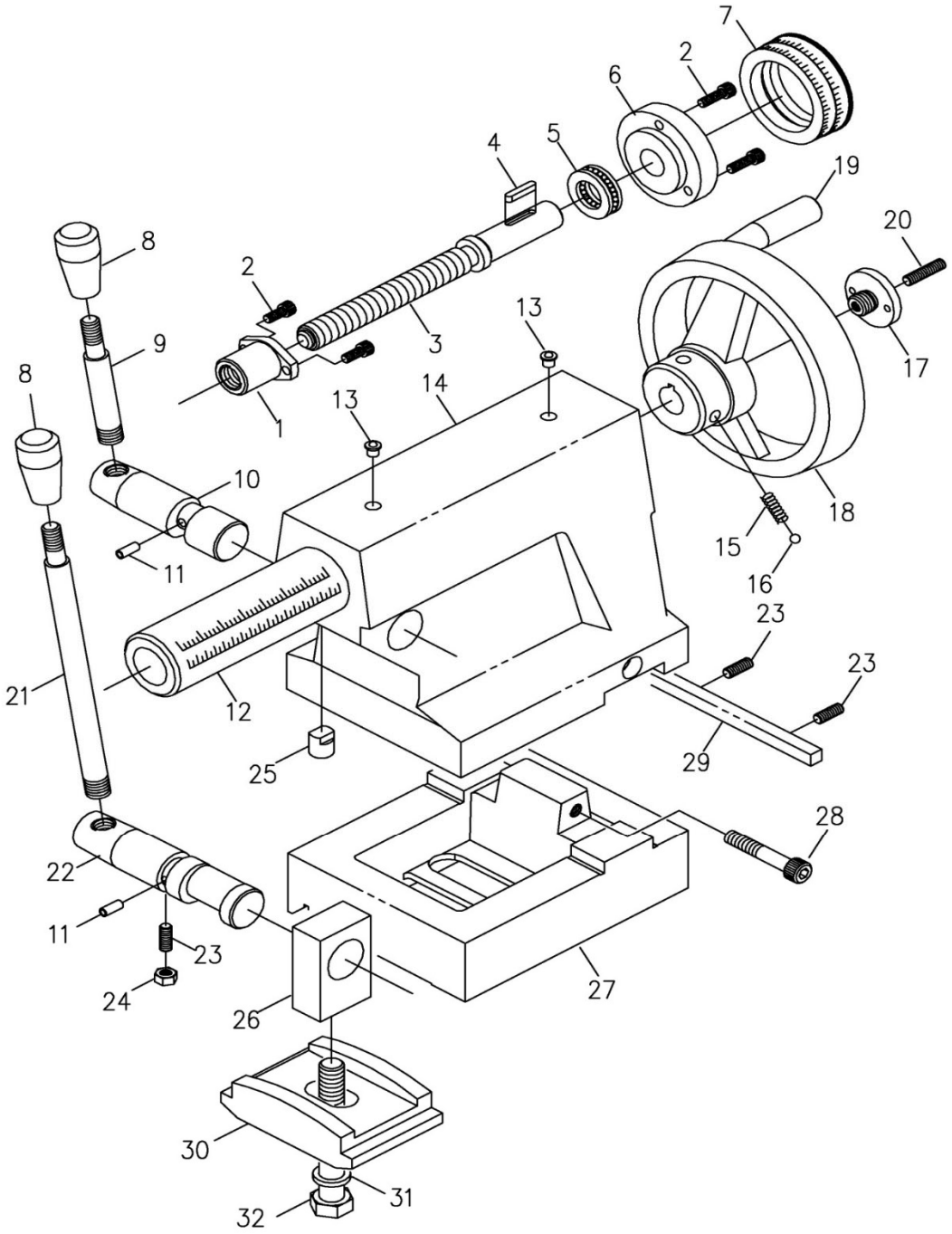
15.5.1 **EVS-1440B Tool Post Assembly – Exploded View**



15.5.2 **EVS-1440B Tool Post Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	EVS1440B-A12	Handle	dia.22xdia.15 x43L	1
	EVS1440B-E01A	Handle Assembly (includes #1,2)		1
2	EBL1236VS-E02	Lever	Ø1/2"x107L	1
3	EBL1236VS-E03	Handle Hub	Ø12" 62H"	1
4	EBL1236VS-E04	Washer	Ø35xØ16x12h	1
5	EBL1236VS-E05	Bolt	Ø24x106.5L	1
6	TS-1503041	Socket Head Cap Screw	M6x16mm	4
7	EBL1236VS-E07	T Nut		1
8	EBL1236VS-E08	Pad	Ø3/8"x15L	1
9	EBL1236VS-E09	Spring	3/8 in x 20mm	1
10	EBL1236VS-E10	Top Slide	200Lx75Wx37W	1
11	EBL1236VS-E11	Screw	Ø12.7x65	8
12	EVS1440B-E12	Tool Post	75x75x64H	1
13	EBL1236VS-E13	Ball Oiler	5/16 in	3
14	EBL1236VS-E14	Pin		1
15	EBL1236VS-E15	Handle		1
16	EBL1236VS-E16	Pad	Ø16x24L	1
17	EBL1236VS-E17	Nut	Ø20x40L	1
18	EBL1236VS-E18	Screw	Ø15.8x170L	1
	EBL1236VS-E17A	Nut Assembly (Includes #17~18)		1
19	EBL1236VS-E19	Keep Assembly	Ø52.5xØ12x15L	1
20	BB-51101	Thrust	No.51101	2
21	TS-1540083	Nut	M12xPC1.25 4T	2
22	EBL1236VS-E22	Index Ring	Ø49.5~Ø48xØ20L	1
23	SB-1/4	Steel Ball	1/4 in. dia	1
24	EBL1236VS-E24	Spring	1/4 in.x 8mm	1
25	EBL1236VS-E25	Keep Assembly		1
26	EBL1236VS-E26	Three Ball Handle		1
27	TS-1503071	Socket Head Cap Screw	M6x30mm	1
28	EVS1440B-E28	Swivel Slide	140x75x43H Dia.110	1
29	TS-1504031	Socket Head Cap Screw	M8x16mm	2
30	EBL1236VS-E30	Gib Screw	5/8"x30L	2
31	TS-1523051	Set Screw	M6x16mm	1
32	EBL1236VS-E32	Gib	12x20x190mm	1

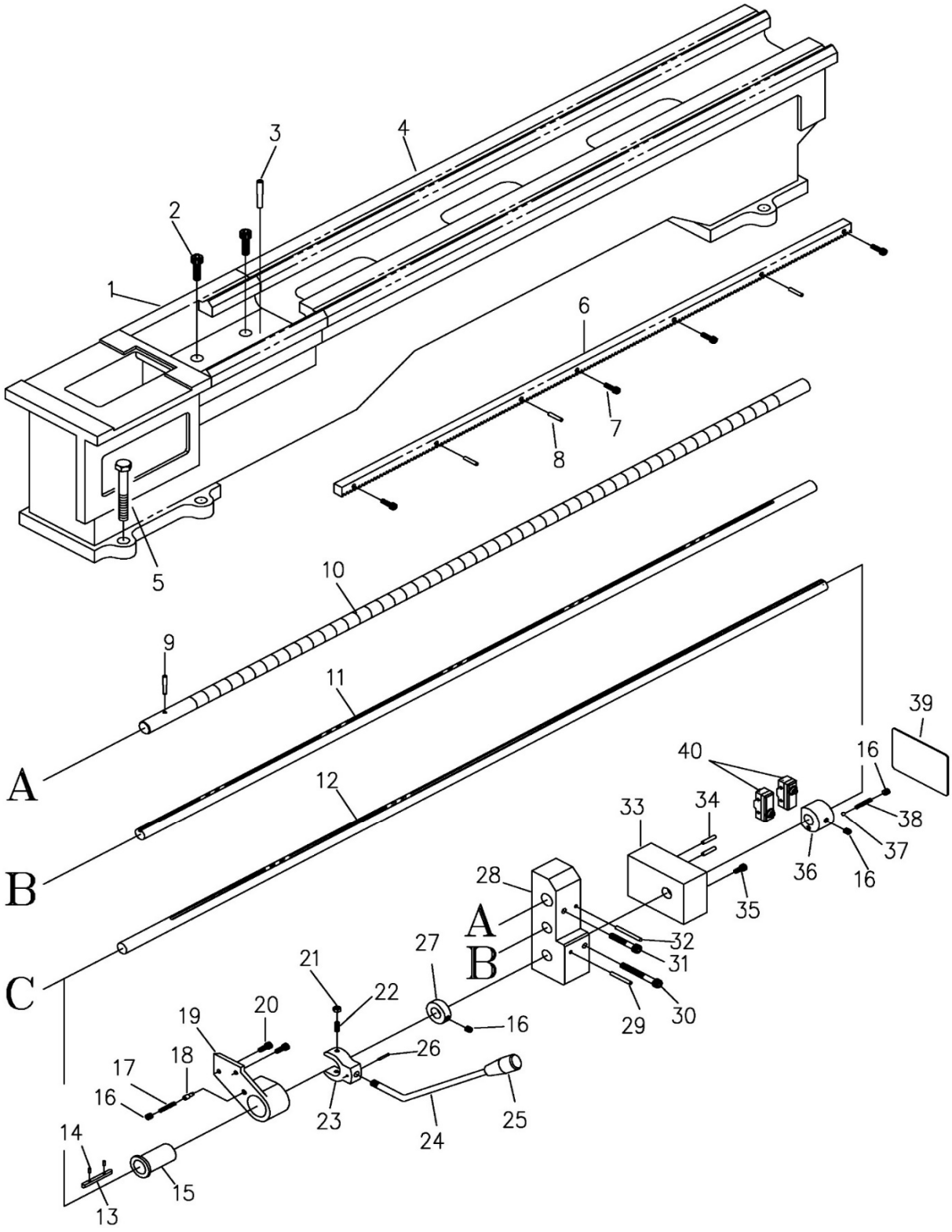
15.6.1 **EVS-1440B Tailstock Assembly – Exploded View**



15.6.2 **EVS-1440B Tailstock Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	EBL1236VS-F01	Nut	30L	1
2	TS-1502041	Socket Head Cap Screw	M5x16mm	4
3	EBL1236VS-F03	Screw	Ø20.5x179L	1
	EBL1236VS-F01A	Nut Assembly (includes #1~3)		1
4	EBL1236VS-F04	Key	4x20mm	1
5	BB-51102	Thrust	No.51102	1
6	EBL1236VS-F06	Keep Assembly	Ø17xØ60x17L	1
7	EBL1236VS-F07	Index Ring	Ø61.5~Ø60xØ45x20W	1
8	EVS1440B-A12	Handle	dia.22xdia.15 x43L	2
	EVS1440B-F08A	Handle Assembly (includes #8,9)		1
9	EBL1236VS-F09	Lever		1
10	EBL1236VS-F10	Shaft	Ø25xØ16x91L	1
11	EBL1236VS-F11	Pin	Ø5x12mm	1
12	EBL1236VS-F12	Barrel	2 Ø40x190L	1
13	EBL1236VS-F13	Ball Oiler	5/16 in	2
14	EVS1440B-F14	Tailstock Casting	200x127x171H Ø40	1
15	EBL1236VS-F15	Spring	1/4 in x 20mm	2
16	SB-1/4	Steel Ball	1/4 in. dia	2
17	EBL1236VS-F17	Screw	Ø35x16L	1
18	EBL1236VS-F18	Handwheel	Ø140x68h	1
19	EBL1236VS-F19	Handle	Ø5/8"x77L	1
20	TS-1523071	Set Screw	M6x25mm	1
21	EBL1236VS-F21	Lever	Ø1/2"x190	1
	EVS1440B-F21A	Handle Assembly (includes #8,21)		1
22	EBL1236VS-F22	Shaft	Ø25xØ18x114L	1
23	TS-1523051	Set Screw	M6x16mm	1
24	TS-1540041	Nut	M6	1
25	EBL1236VS-F25	Pad	2 Ø1/2"x14L	1
26	EBL1236VS-F26	Pivot Block	36Lx20Wx57H	1
27	EVS1440B-F27	Base	160x127x41H	1
28	TS-1504091	Socket Head Cap Screw	M8x45mm	2
29	EBL1236VS-F29	Gib	8x8x125	1
30	EBL1236VS-F30	Clamp Plate	65Wx94Lx28H	1
31	TS-0680061	Washer	1/2 in	1
32	TS-0070051	Cap Screw	1/2x2 in	1

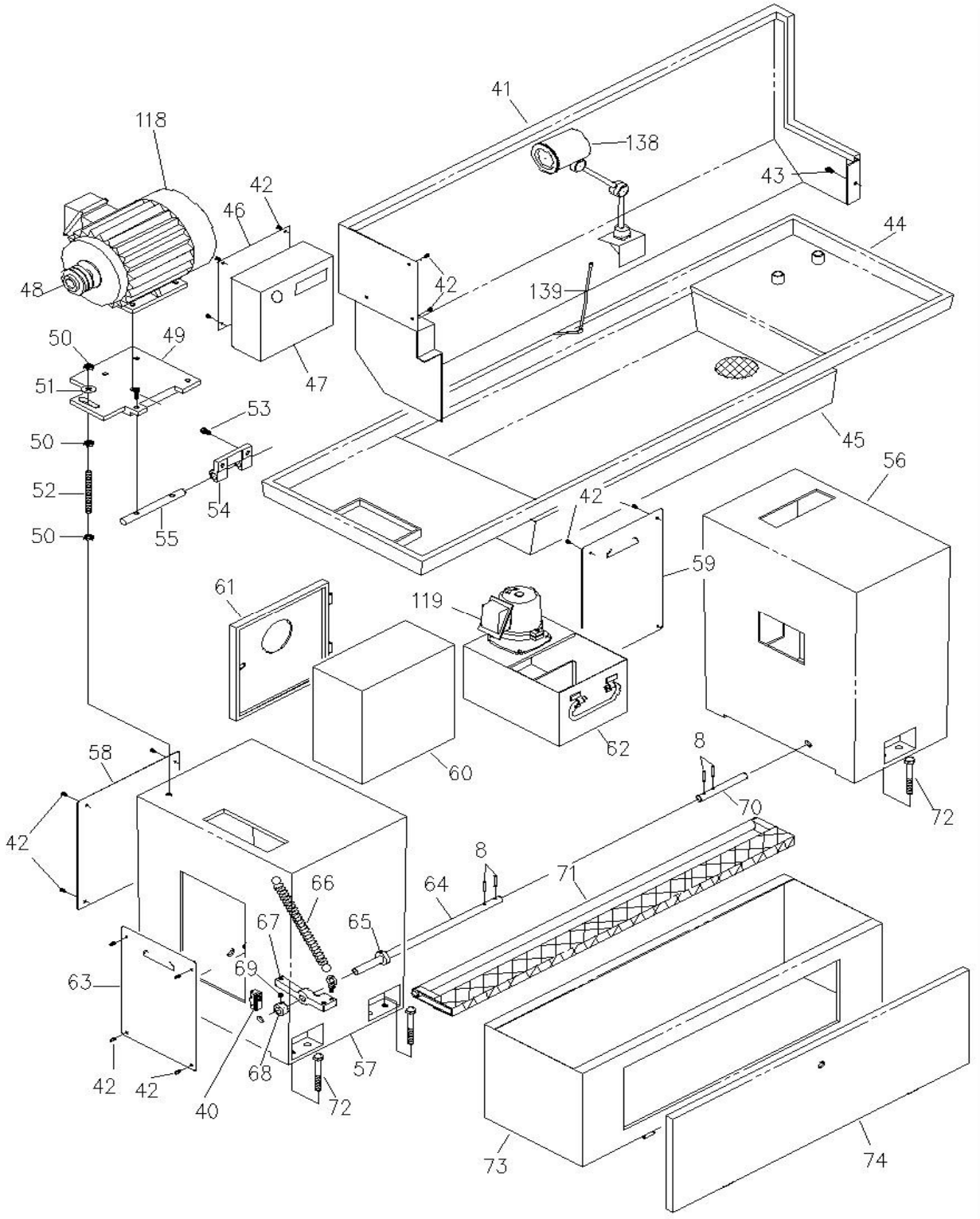
15.7.1 **EVS-1440B Bed Assembly – Exploded View**



15.7.2 **EVS-1440B Bed Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	EBL1236VS-G01	Gap Section	240x190x70	1
2	TS-1505051	Socket Head Cap Screw	M10x35mm	4
3	EBL1236VS-G03	Taper Pin	Ø4x38mm	2
4	EVS1440B-G04	Bed Casting	40"-1625	1
5	TS-0050031	Hex Cap Screw	1/2x1-3/4 in	6
6	EBL1236VS-G06	Rack	36" 990L	1
7	TS-1503051	Socket Head Cap Screw	M6x20mm	4
8	EBL1236VS-G08	Pin	Ø5x30mm	8
9	EVS1440B-G09	Taper Pin (Aluminum)	Ø 5.6x36L	3
10	EVS1440B-G10	Lead Screw	40" 1362L	1
11	EVS1440B-G11	Feed Shaft	40" 1385L	1
12	EVS1440B-G12	Spindle Direction Control Axle	40” 1445L	1
13	EBL1236VS-G13	Key	5x60mm	1
14	EBL1236VS-G14	Pin	Ø3x8 mm	2
15	EBL1236VS-G15	Sleeve	Ø38xØ19.05x60L	1
16	TS-1524011	Set Screw	M8x8mm	3
17	EBL1236VS-G17	Spring	1/4 in x 35mm	1
18	EBL1236VS-G18	Pin	Ø6.3x19L	1
19	EBL1236VS-G19	Bracket	Ø54	1
20	TS-1503041	Socket Head Cap Screw	M6x16mm	2
21	TS-1540041	Nut	M6	2
22	TS-1523051	Set Screw	M6x16mm	2
23	EBL1236VS-G23	Fork	Ø51x20	1
24	EBL1236VS-G24	Lever	Ø3/8" x220L	1
25	EBL1236VS-G25	Handle		1
	EVS1440B-G25A	Handle Assembly (includes #24,25)		1
26	EBL1236VS-G26	Pin	Ø3x20mm	1
27	EBL1236VS-G27	Collar	Ø38xØ19.05x12L	1
28	EBL1236VS-G28	Base		1
29	EBL1236VS-G29	Pin	Ø5x40mm	1
30	TS-1504131	Socket Head Cap Screw	M8x70mm	1
31	TS-1504101	Socket Head Cap Screw	M8x50mm	1
32	EBL1236VS-G32	Pin	Ø5x50mm	1
33	EBL1236VS-G33	Box	115Lx80Wx48h	1
34	EBL1236VS-G34	Pin	Ø5x35mm	2
35	TS-1503031	Socket Head Cap Screw	M6x12mm	1
36	EBL1236VS-G36	Collar	Ø44xØ19.5x30W	1
37	SB-1/4	Steel Ball	1/4 in. dia	1
38	EBL1236VS-G38	Spring	1/4 in x 30mm	1
39	EBL1236VS-G39	Cove		1
40	EBL1236VS-G40	Limit Switch		2

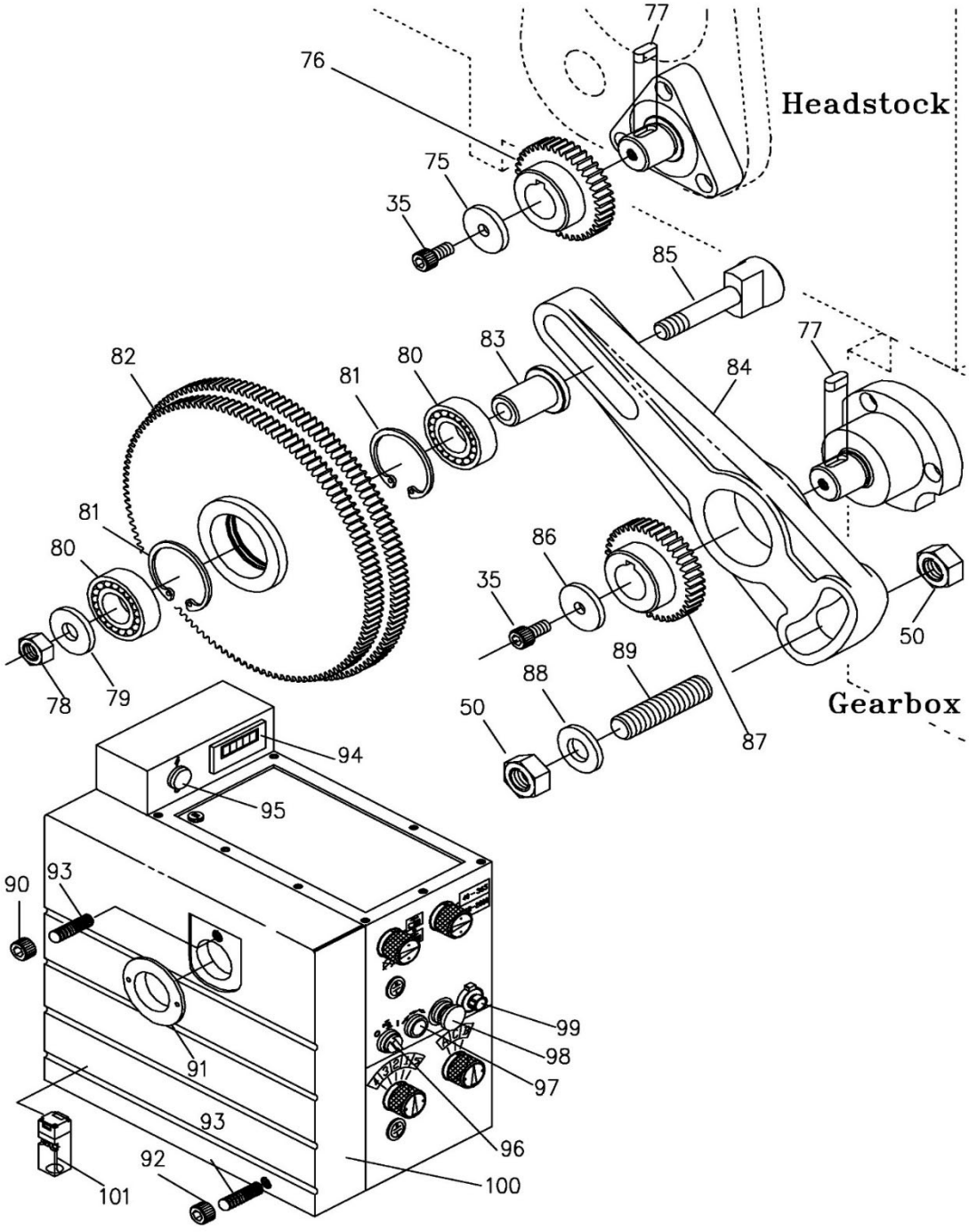
15.8.1 **EVS-1440B Cabinet and Panel Assembly – Exploded View**



15.8.2 **EVS-1440B Cabinet and Panel Assembly – Parts List**

Index No	Part No	Description	Size	Qty
41	EVS1440B-G41	Splash Guard	1385x266x509H	1
42	TS-0254011	Screw	1/4x3/8 in	19
43	EBL1236VS-G43	Cap Screw	1/4x1-1/4 in	1
44	EVS1440B-G44	Chip Pan	1750x510x67H	1
45	EVS1440B-G45	Chip Tray	1050x480x122H	1
46	EBL1236VS-G46	Guard	Gray color	1
47	EBL1236VS-G47	Cover	Gray color	1
48	EBL1236VS-G48	Pulley		1
49	EBL1236VS-G49	Motor Platform	275x220Wx1/2"T(12.7mm)	1
50	TS-0561051	Nut	1/2 in	3
51	TS-0680061	Washer	1/2 in	1
52	TS-0273121	Socket Hex Set Screw	1/2x3 in	1
53	TS-1504041	Socket Head Cap Screw	M8x20mm	2
54	EBL1236VS-G54	Bracket	109Lx65W	1
55	EBL1236VS-G55	Shaft	Ø3/4"x170L	1
56	EBL1236VS-G56	Floor Stand	500Wx300Lx620H	1
57	EBL1236VS-G57	Floor Stand	437Lx368Wx15H	1
58	EBL1236VS-G58	Cover	350Lx330Wx1.6T	1
59	EBL1236VS-G59	Cover	390Lx260Wx1.6T	1
60	EBL1236VS-G60	Electric Box	300x300x178x1.2T	1
61	EBL1236VS-G61	Cover	300x300x20x1.2T	1
	EBL1236VS-G60A	Electric Box Assembly (includes #60,61)		1
62	EBL1236VS-G62	Coolant Tank	310Lx220Wx170H	1
63	EBL1236VS-G63	Cover	350Lx240Wx1.6T	1
64	EBL1236VS-G64	Shaft		1
65	EBL1236VS-G65	Collar		1
66	EBL1236VS-G66	Spring		1
67	EBL1236VS-G67	Bolt		1
68	EBL1236VS-G68	Collar		1
69	TS-1524011	Set Screw	M8x8mm	1
70	EBL1236VS-G70	Shaft		1
71	EVS1440B-G71	Brake Pad	1550x150	1
72	TS-0100041	Cap Screw	1/2x1/4 in	6
73	EVS1440B-G73	Cabinet	1068x305x300	1
74	EVS1440B-G74	Front Cover	1060x300x20	1
	EVS1440B-G73A	Cabinet Assembly (includes #73,74)	1068x325x300	1
118	EVS1440B-G118	Main Motor	3HP,230/460V,3PH	1
119	EVS1440B-G119	Pump	1/8HP,115/230V,1PH,prewired 230V	1
138	EVS1440B-G138	Work Lamp	AC24V 9W 0.5m/500Lux	1
139	EVS1440B-G139	Pipe	1800mm	1
	EBL1236VS-GA32	Belt	A32	2
	EVS1440B-TB	Tool Box *(see Figure 6-1 for contents)*		

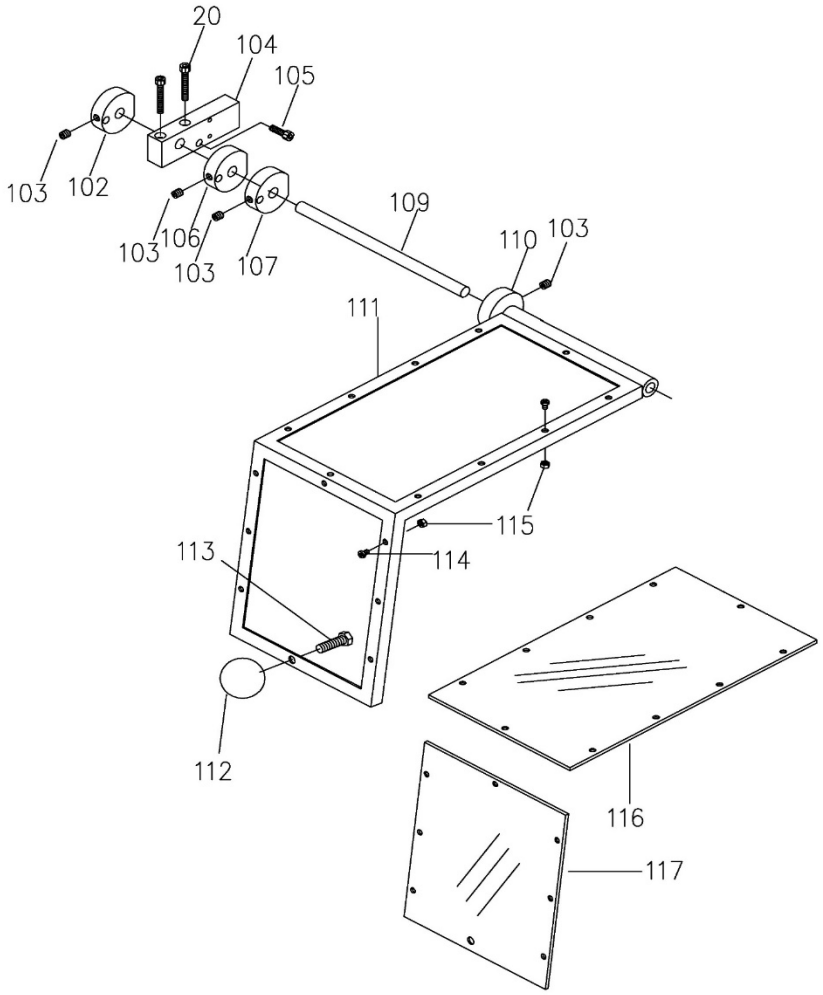
15.9.1 **EVS-1440B End Gear Assembly – Exploded View**



15.9.2 **EVS-1440B End Gear Assembly – Parts List**

Index No	Part No	Description	Size	Qty
35	TS-1503031	Socket Head Cap Screw	M6x12mm	2
50	TS-0561051	Nut	1/2 in	2
75	EBL1236VS-G75	Washer	Ø25xØ1/4"x3T	2
76	EBL1236VS-G76	Change Gear	26T	1
77	EBL1236VS-G77	Key	5x12mm	2
78	TS-0561031	Nut	3/8 in	1
79	EBL1236VS-G79	Washer	Ø25xØ3/8"x2T	1
80	BB-6003Z	Bearing	No.6003Z	2
81	EBL1236VS-G81	Circlip	R-35mm	2
82	EBL1236VS-G82	Double Gear	120/127T	1
83	EBL1236VS-G83	Shaft Collar	Ø25xØ3/8"x29L	1
84	EBL1236VS-G84	Swing Frame		1
85	EBL1236VS-G85	Shaft	Ø25x65L	1
86	EBL1236VS-G86	Washer		1
87	EBL1236VS-G87	Change Gear	52T	1
88	EBL1236VS-G88	Washer	Ø25x1/2"x3T	1
89	TS-0273101	Socket Hex Set Screw	1/2x2 in	1
90	EBL1236VS-G90	Nut		1
91	EBL1236VS-G91	Collar		1
92	EBL1236VS-G92	Nut		1
93	EBL1236VS-G93	Shaft		2
94	EBL1236VS-G94	RPM Speed Meter		1
95	EBL1236VS-G95	Pilot Light	ANPL-22	1
96	EBL1236VS-G96	Coolant Selecting Switch	ASS-22	1
97	EBL1236VS-G97	Jogging Push Button Switch	APB-22	1
98	EVS1440B-G98	Emergency Stop Switch	ALEPE-22	1
99	EBL1236VS-G99	Variable Speed Selector	RV24NY20S	1
100	EVS1440B-G100	End Cover		1
101	EBL1236VS-G101	End Cover Limit Switch		1
	EVS1440B-CGS	Change Gear Set (50/46/44/40/35/30 T)		1

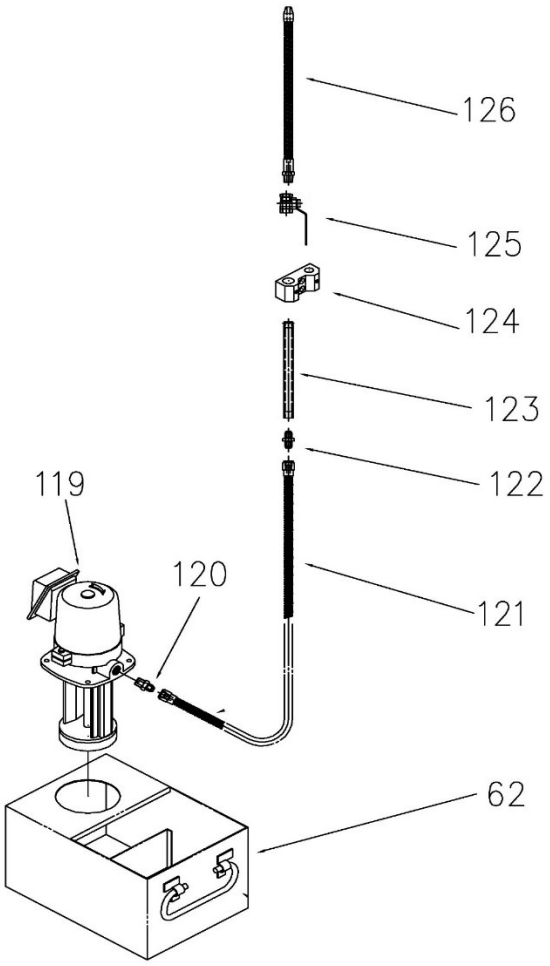
15.10.1 **EVS-1440B Chuck Guard Assembly – Exploded View**



15.10.2 **EVS-1440B Chuck Guard Assembly – Parts List**

Index No	Part No	Description	Size	Qty
20	TS-1503041	Socket Head Cap Screw	M6x16mm	2
102	EBL1236VS-G102	Cam		1
103	TS-1523021	Set Screw	M6x8mm	4
104	EBL1236VS-G104	Keep Assembly		1
105	TS-1503021	Socket Head Cap Screw	M6x10mm	1
106	EBL1236VS-G106	Collar		1
107	EBL1236VS-G107	Cam		1
109	EBL1236VS-G109	Shaft		1
110	EBL1236VS-G110	Collar		1
111	EBL1236VS-G111	Chuck Guard		1
112	EBL1236VS-G112	Handle	PVC	1
113	TS-1505031	Socket Head Cap Screw	M10x25mm	1
114	EBL1236VS-G114	Screw	3/16x1/4 in	18
115	EBL1236VS-G115	Nut	3/16 in	18
116	EBL1236VS-G116	Window	3Tx193x343mm	1
117	EBL1236VS-G117	Window	3Tx193x230mm	1

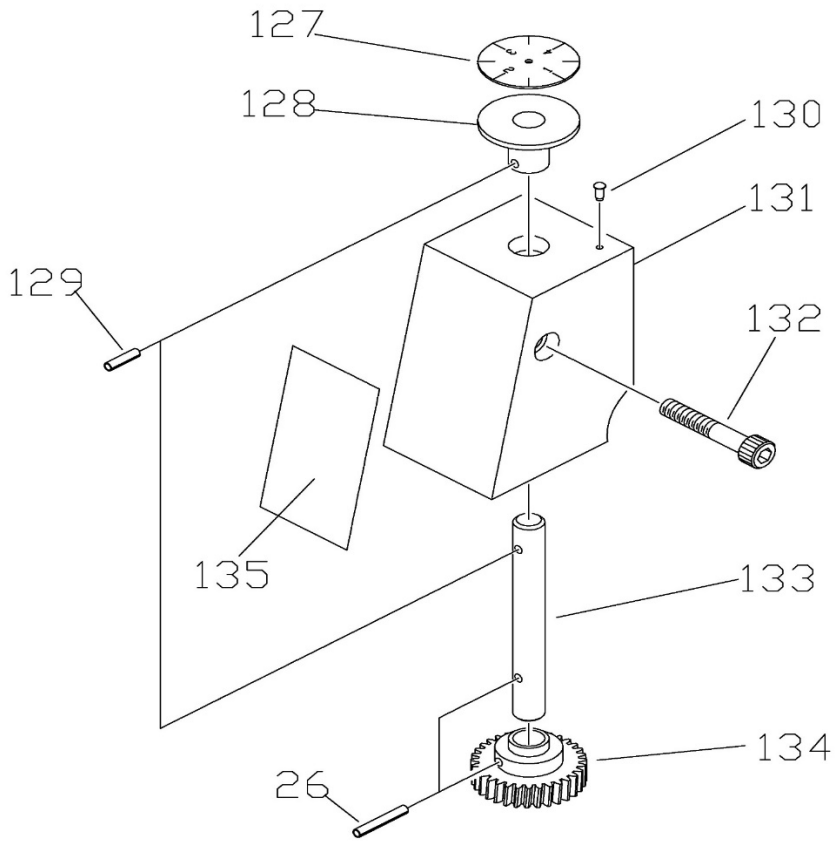
15.11.1 **EVS-1440B Coolant Pump Assembly – Exploded View**



15.11.2 **EVS-1440B Coolant Pump Assembly – Parts List**

Index No	Part No	Description	Size	Qty
62	EBL1236VS-G62	Coolant Tank	310Lx220Wx170H	1
119	EVS1440B-G119	Pump	1/8HP,115/230V,1PH,prewired 230V	1
120	EBL1236VS-G120	Nipple		1
121	EBL1236VS-G121	Flexible Hose		1
122	EBL1236VS-G122	Nipple		1
123	EBL1236VS-G123	Tube		1
124	EBL1236VS-G124	Bracket		1
125	EBL1236VS-G125	Value Gate		1
126	EBL1236VS-G126	Spraying Pipe		1

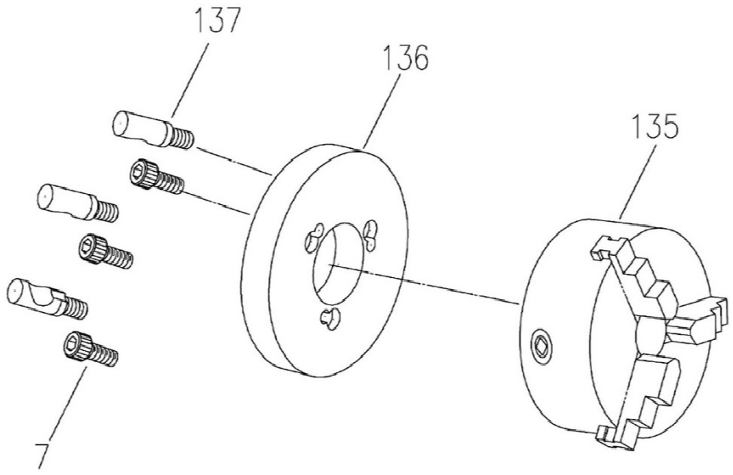
15.12.1 **EVS-1440B Dial Indicator Assembly – Exploded View**



15.12.2 **EVS-1440B Dial Indicator Assembly – Parts List**

Index No	Part No	Description	Size	Qty
26	EBL1236VS-G26	Roll Pin	Ø3x20mm	1
127	EBL1236VS-G127	Plate		1
128	EBL1236VS-G128	Dog	Ø60xØ19.05x15W	1
129	EBL1236VS-G129	Roll Pin	3x12 mm.	1
130	EBL1236VS-G130	Nail	2 mm.	1
131	EBL1236VS-G131	Guard	75x59x45	1
132	EBL1236VS-G132	Socket Head Cap Screw	M6x50mm	1
133	EBL1236VS-G133	Shaft	Ø9.5x81L	1
134	EBL1236VS-G134	Gear	Ø34Ø9.5x17L	1
135	EBL1236VS-G135	Threading Plate		1

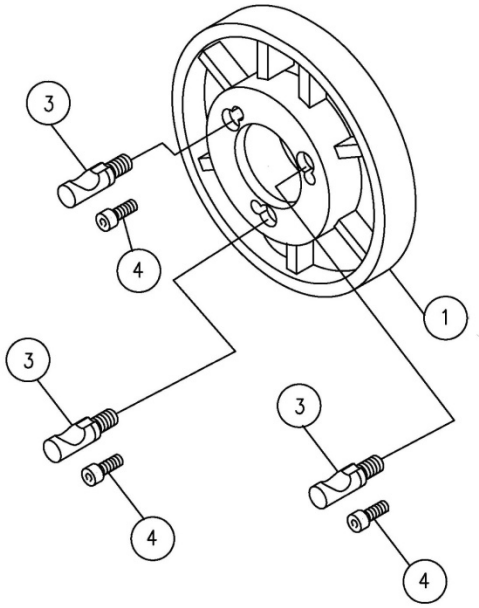
15.13.1 **EVS-1440B Chuck Assembly – Exploded View**



15.13.2 **EVS-1440B Chuck Assembly – Parts List**

Index No	Part No	Description	Size	Qty
7	TS-1503051	Socket Head Cap Screw	M6x20mm	3
135	EBL1236VS-SK6	3-Jaw Scroll Chuck	6"	1
136	EBL1236VS-G136	Backplate	6"	1
137	EBL1236VS-G137	Stud	D1-4	3

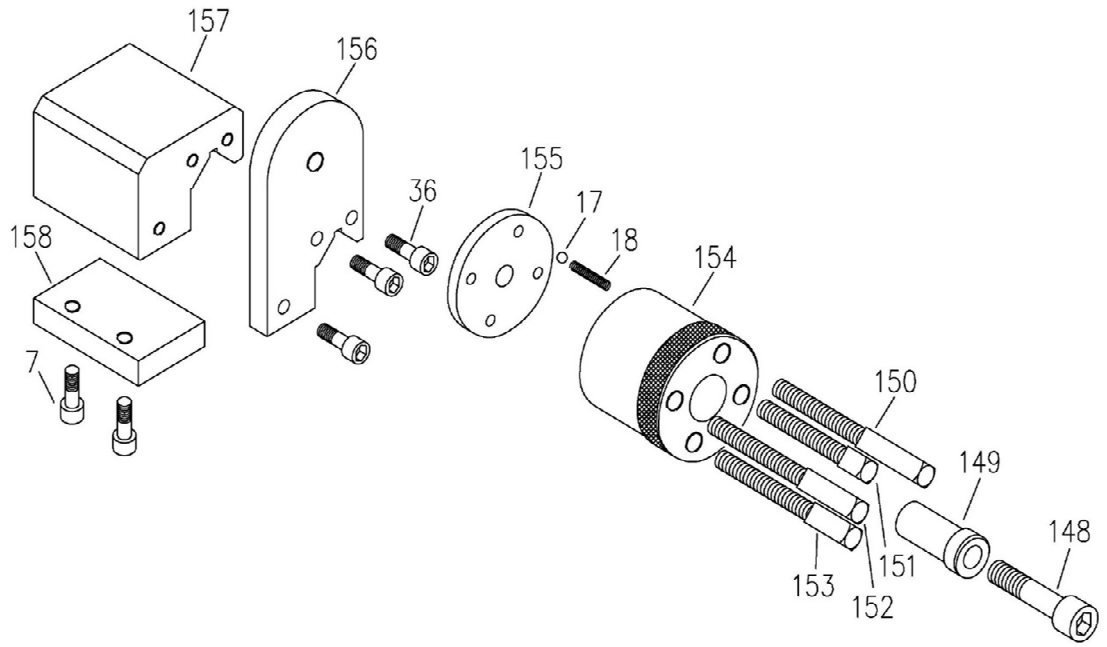
15.14.1 **EVS-1440B Face Plate (OPTIONAL) – Exploded View**



15.14.2 **EVS-1440B Face Plate (OPTIONAL) – Parts List**

Index No	Part No	Description	Size	Qty
1	E1440VS-FP02	Face Plate 12”	Ø300x40Hmm	2
3	EBL1236VS-G137	Stud	D1-4	3
4	TS-1503051	Socket Head Cap Screw	M6x20	3

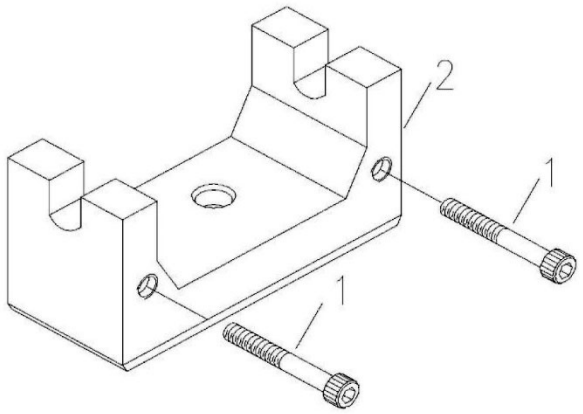
15.15.1 **EVS-1440B Four-Position Stop Assembly – Exploded View**



15.15.2 **EVS-1440B Four-Position Stop Assembly – Parts List**

Index No	Part No	Description	Size	Qty
7	TS-1503051	Socket Head Cap Screw	M6x20mm	2
17	SB-1/4	Steel Ball	1/4 in. dia.	1
18	E1340VS-G18	Spring	1/4 in.x35mm.	1
36	TS-1503041	Socket Head Cap Screw	M6x16mm	3
148	E1440VS-I148	Socket Head Cap Screw	3/8x70mm	1
149	E1440VS-I149	Sleeve		1
150	E1440VS-I150	Screw		1
151	E1440VS-I151	Screw		1
152	E1440VS-I152	Screw		1
153	E1440VS-I153	Screw		1
154	E1440VS-I154	Collar		1
155	E1440VS-I155	Cover		1
156	E1440VS-I156	Plate		1
157	E1440VS-I157	Base		1
158	E1440VS-I158	Strip		1
	E1440VS-I4PSA	4 Position Stop Assembly		1

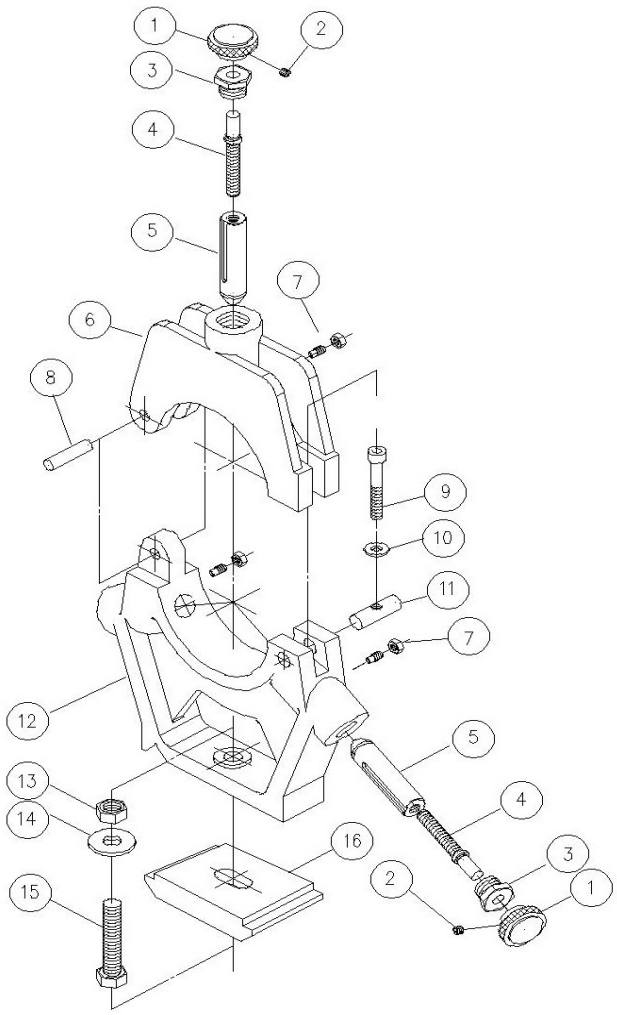
15.16.1 **EVS-1440B Chuck Key Bracket Assembly – Exploded View**



15.16.2 **EVS-1440B Chuck Key Bracket Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	TS-1504111	Socket Head Cap Screw	M8x55mm	2
2	EVS1440B-CKB	Chuck Key Bracket		1

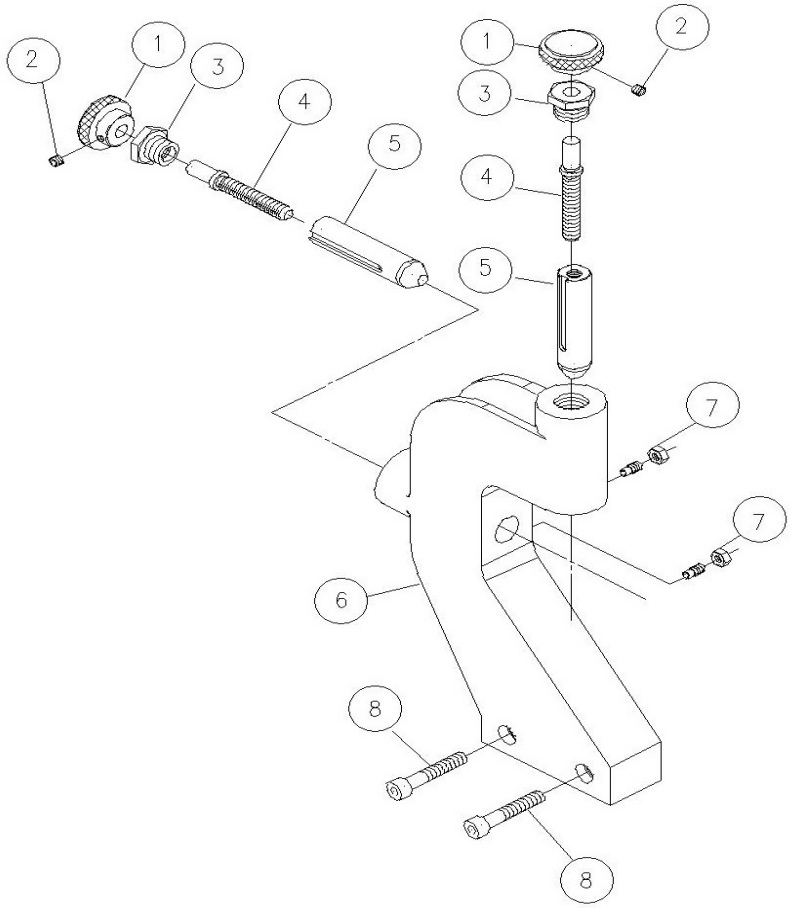
15.17.1 **EVS-1440B Steady Rest Assembly – Exploded View**



15.17.2 **EVS-1440B Steady Rest Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	E1440VS-FR01	Nut	Ø20xØ24x25L	3
2	TS-1523011	Set Screw	M6x6mm	3
3	E1440VS-FR03	Screw	Ø23x17L	3
4	E1440VS-FR04	Set Screw	Ø9.5x77L	3
	E1440VS-FR01A	Nut Assembly (includes #1~4)		3
5	EVS1440B-SR05	Bronze Shaft	Ø18.8x78L	3
6	E1236VS-SR06	Arm	168x32x125	1
7	TS-1523041/TS-2311061	Set Screw w/Nut	M6x12L + M6 nut	3
8	E1440VS-SR08	Shaft	Ø8x40L	1
9	TS-1504111	Socket Head Cap Screw	M8x55mm	1
10	TS-0732061	Washer	3/8 in	1
11	E1440VS-SR11	Pin	Ø12.7x40L	1
12	E1236VS-SR12	Base	171x32x153	1
13	TS-0561051	Nut	1/2 in.	1
14	TS-0680061	Washer	1/2 in.	1
15	TS-0070071	Cap Screw	1/2x2-1/2 in.	1
16	EBL1236-F30	Clamp Plate	85Lx94Wx28h	1

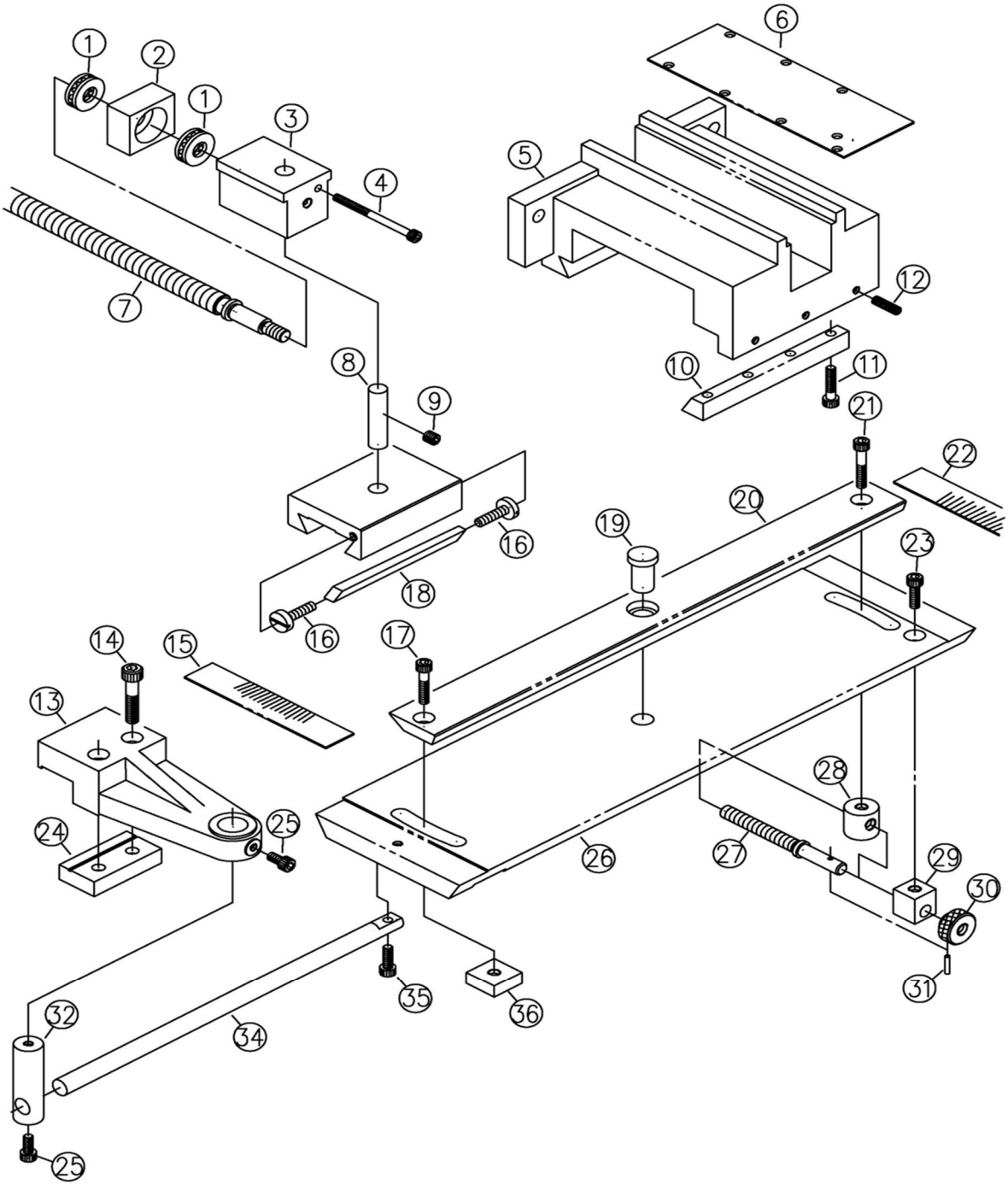
15.18.1 **EVS-1440B Follow Rest Assembly – Exploded View**



15.18.2 **EVS-1440B Follow Rest Assembly – Parts List**

Index No	Part No	Description	Size	Qty
1	E1440VS-FR01	Nut	Ø20xØ24x25L	2
2	TS-1523011	Set Screw	M6x6mm	2
3	E1440VS-FR03	Screw	Ø23x17L	2
4	E1440VS-FR04	Set Screw	Ø9.5x77L	2
	E1440VS-FR01A	Nut Assembly (includes #1~4)		2
5	EVS1440B-SR05	Bronze Shaft	Ø18.8x78L	2
6	E1236VS-FR06	Follow Rest	271x32x159	1
7	TS-1523041/TS-2311061	Set Screw w/Nut	M6x12L + M6 nut	2
8	TS-1490081	Socket Head Cap Screw	M8x45mm	2

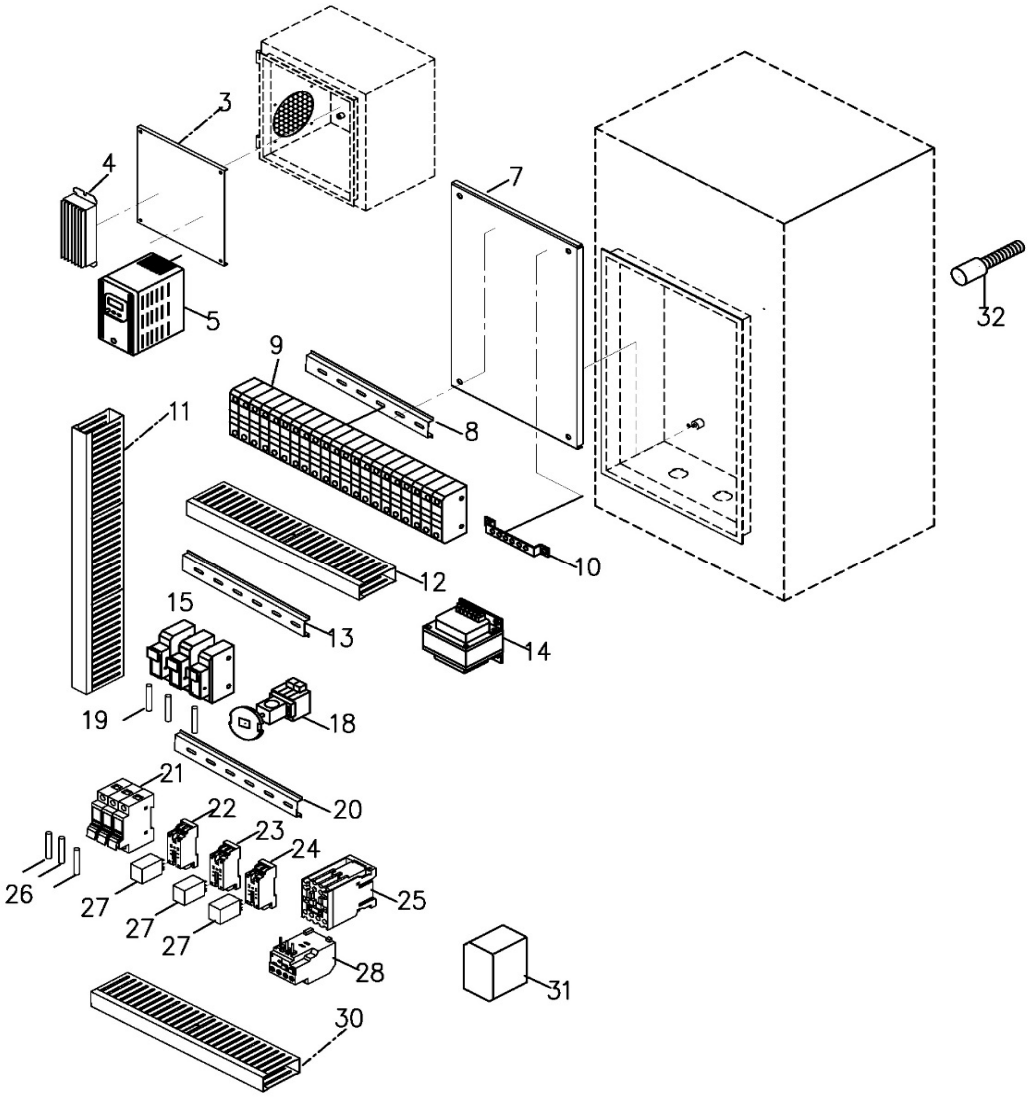
15.19.1 **#892035 Taper Attachment Assembly (OPTIONAL) – Exploded View**



15.19.2 #892035 Taper Attachment Assembly (OPTIONAL) – Parts List

Index No	Part No	Description	Size	Qty
1	E1440VS-J01	Thrust No. 51101		2
2	E1440VS-J02	Block	52x20x35	1
3	E1440VS-J03	Yoke	60x42x41.5	1
4	E1440VS-J04	Socket Head Cap Screw	M5x65MM	1
5	E1440VS-J05	Base	175x180x85	1
6	E1440VS-J06	Cover	170x63x1.2	1
7	E1440VS-J07	Lead Screw	Ø5/8"x405L	1
8	E1440VS-J08	Shaft	Ø12x50L	1
9	TS-1524011	Set Screw	M8x8mm	1
10	E1440VS-J10	Strip	130x18.86(10.2)x15	1
11	TS-1523061	Set Screw	M6x20mm	1
12	TS-1503061	Socket Head Cap Screw	M6x25mm	1
13	E1440VS-J13	Bracket	159x60x40	1
14	TS-1504081	Socket Head Cap Screw	M8x40mm	1
15	E1440VS-J15	Angle Plate	128x25x1.2	1
16	E1440VS-J16	Gib Screw		1
17	TS-1503071	Socket Head Cap Screw	M6x30mm	1
18	E1440VS-J18	Gib	110x7.27x5.57	1
19	E1440VS-J19	Shaft		1
20	E1440VS-J20	Lever	420x40x15	1
21	TS-1503081	Socket Head Cap Screw	M6x35mm	1
22	E1440VS-J22	Angle Plate	126x25x1.2	1
23	TS-2236181	Socket Head Cap Screw	M6x18mm	1
24	E1440VS-J24	Strip	80x31x13	1
25	TS-1503031	Socket Head Cap Screw	M6x12mm	2
26	E1440VS-J26	Base	460x130x18	1
27	E1440VS-J27	Screw	Ø3/8"(Ø9.525)x105L	1
28	E1440VS-J28	Nut	Ø22x22L	1
29	E1440VS-J29	Strip	19x19x22	1
30	E1440VS-J30	Nut	Ø28(Ø20)x19L	1
31	E1440VS-J31	Pin	3x15mm	1
32	E1440VS-J32	Pivot	Ø3/4"x65L	1
34	E1440VS-J33	Rod	Ø1/2"x300L	1
35	TS-1503041	Socket Head Cap Screw	M6x16mm	1
36	E1440VS-J35	Strip	25x25x10	1
	892035	Taper Component		1

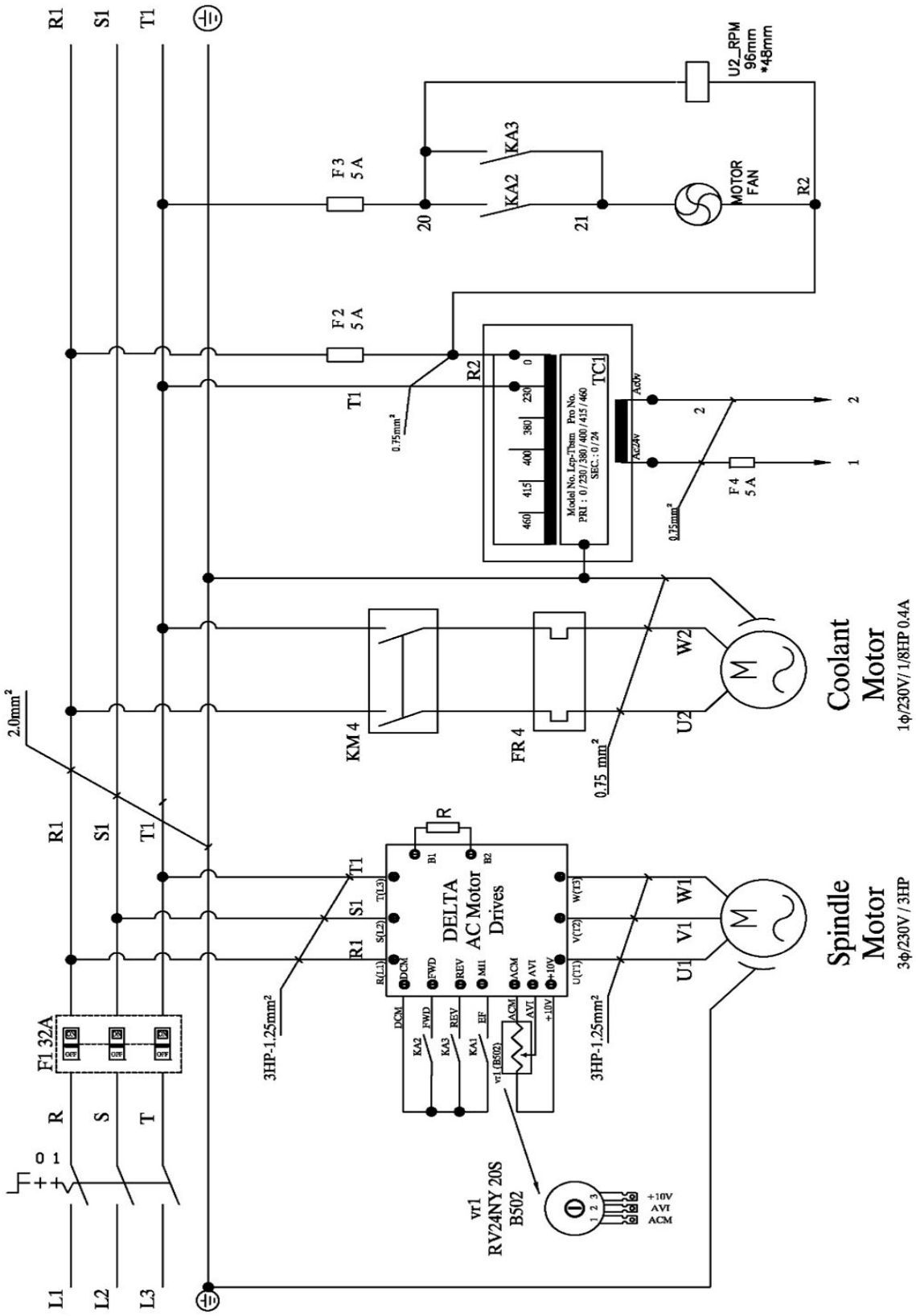
15.20.1 **EVS-1440B Control Plate Assembly – Exploded View**

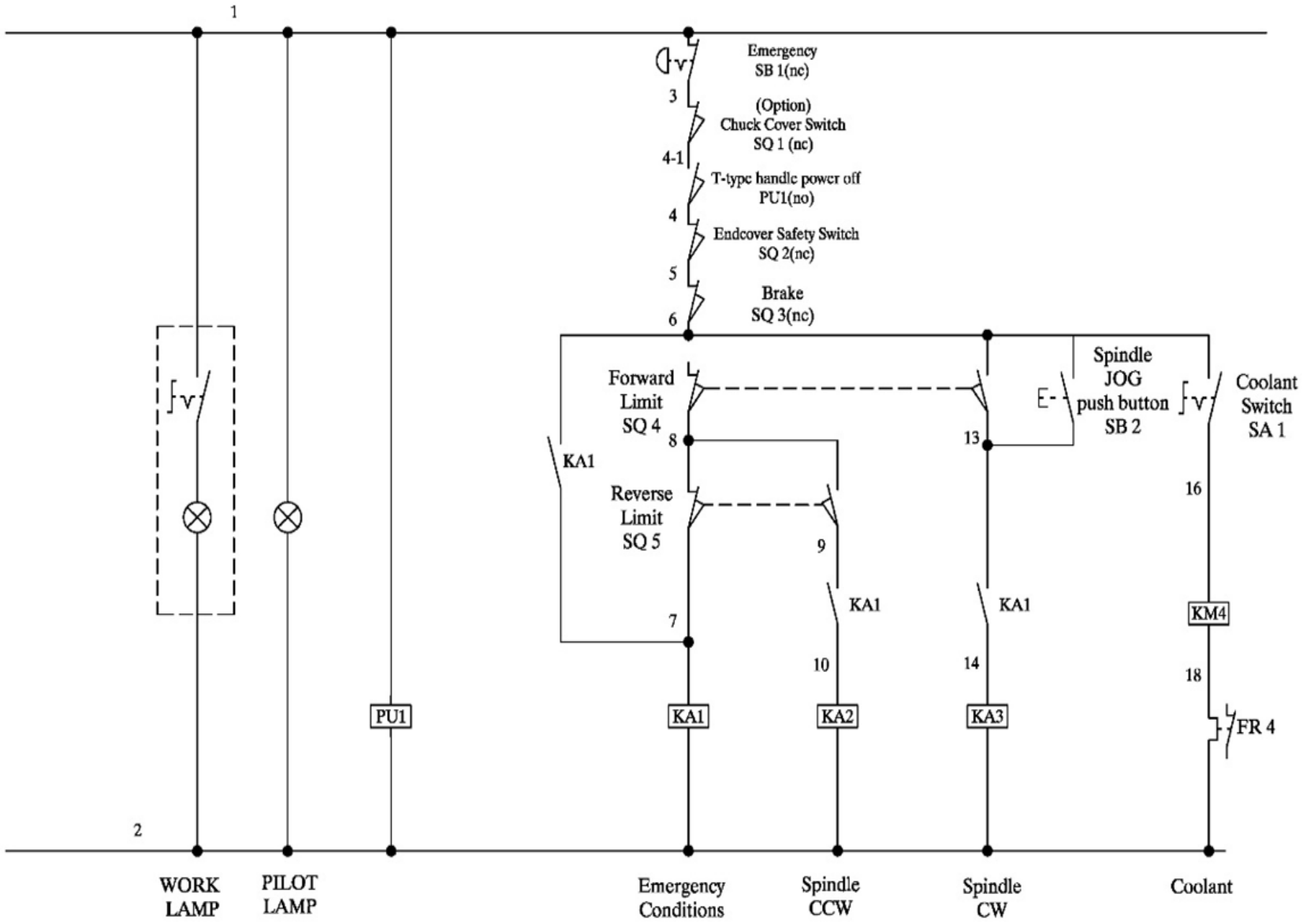


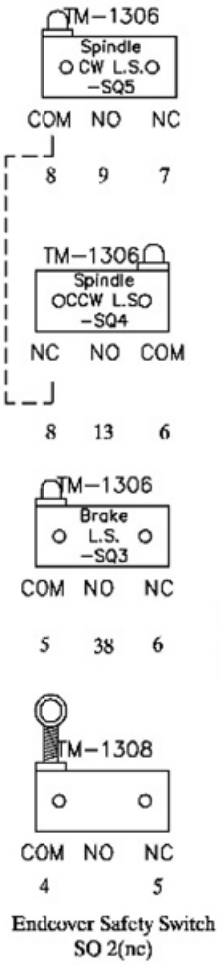
15.20.2 **EVS-1440B Control Plate Assembly – Parts List**

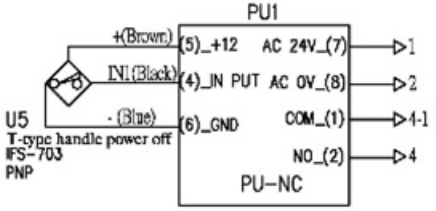
Index No	Part No	Description	Size	Qty
3	EBL1236VS-H03	Plate		1
4	EBL1236VS-H04	Brake Resistance	300W 70Ω 220V	1
5	EBL1236VS-H05	Inverter	VFD022B23A/AC240V/3HP	1
7	EBL1236VS-H07	Plate		1
8	EBL1236VS-H08	Track		1
9	EVS1440B-H09	Terminal Blocks (Non-CSA)	10A /30	1
10	EBL1236VS-H10	Earthing Terminal Blocks		1
11	EBL1236VS-H11	Trunking		1
12	EBL1236VS-H12	Trunking		1
13	EBL1236VS-H13	Track		1
14	EBL1236VS-H14	Control Circuit Transformer	120VC /AC24V(5A)	1
15	EVS1440B-H15	Fuse Box (Non-CSA)	TFBR-101	3
18	EBL1236VS-H18	Main Power Switch (QS1)	690VAC/25A	1
19	EVS1440B-F5A	Fuse (Non-CSA)	5A TFB-101N	3
20	EBL1236VS-H20	Track		1
21	EBL1236VS-H21	Fuse Boxes (F1)	CT-F101 10x38	1
22	EBL1236VS-H22	Relay Socket		1
23	EBL1236VS-H23	Relay Socket		1
24	EBL1236VS-H24	Relay Socket		1
25	EBL1236VS-H25	Magnetic Contactor	CU-11/AC24V/(3A1b)	1
26	EVS1440B-F32A	Fuse (Non-CSA)	32A CT- FB101	3
27	EBL1236VS-H27	Relay (KA1,KA2, KA3)	MY4N-J/ A24V	3
28	EBL1236VS-H28	Thermal Overload Relay	RHU-10K1/ 0.45~0.63A	1
30	EBL1236VS-H30	Trunking		1
31	EVS1440B-H31	Power Supply	PU N AC 24V	1
32	EVS1440B-H32	Sensor	PNP M12x40	1

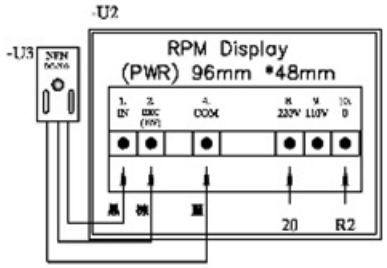
16.0 **Electrical Connections for EVS-1440B**

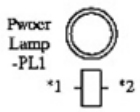


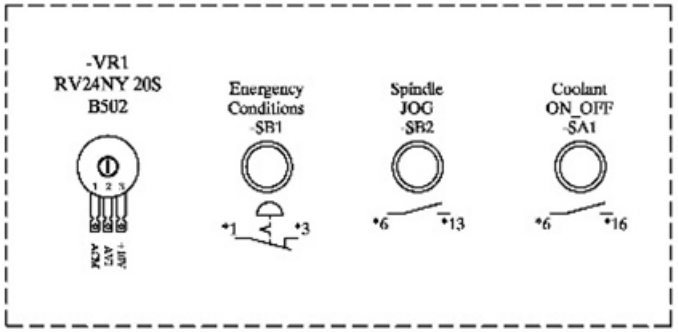

1
Emergency
SB 1(nc)
3
(Option)
Chuck Cover Switch
SQ 1 (nc)
4-1
T-type handle power off
PU1(no)
4
Endcover Safety Switch
SQ 2(nc)
5
Brake
SQ 3(nc)
6
Forward
Limit
SQ 4
8
KA1
Reverse
Limit
SQ 5
9
7
KA1
10
KA1
13
KA1
14
Spindle
JOG
push button
SB 2
Coolant
Switch
SA 1
16
KM4
18
FR 4
PU1
KA1
KA2
KA3
2
WORK
LAMP
PILOT
LAMP
Emergency
Conditions
Spindle
CCW
Spindle
CW
Coolant


TM-1306
Spindle
CW L.S.
-SQ5
COM NO NC
8 9 7
TM-1306
Spindle
CCW L.S
-SQ4
NC NO COM
8 13 6
TM-1306
Brake
L.S.
-SQ3
COM NO NC
5 38 6
TM-1308
COM NO NC
4 5
Endcover Safety Switch
SO 2(nc)


PU1
+(Brown)
IN(Black)
-(Blue)
(5)_+12
(4)_IN PUT
(6)_GND
AC 24V_(7)
AC 0V_(8)
COM_(1)
NO_(2)
PU-NC
1
2
1-1
4
U5
T-type handle power off
IFS-703
PNP


-U2
-U3
RPM Display
(PWR) 96mm *48mm
20
R2


Power
Lamp
-PL1
*1
*2


-VR1
RV24NY 20S
B502
Energency
Conditions
-SB1
Spindle
JOG
-SB2
Coolant
ON_OFF
-SA1
*1
*3
*6
*13
*6
*16

17.0 **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 outside recommended guidelines 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.
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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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