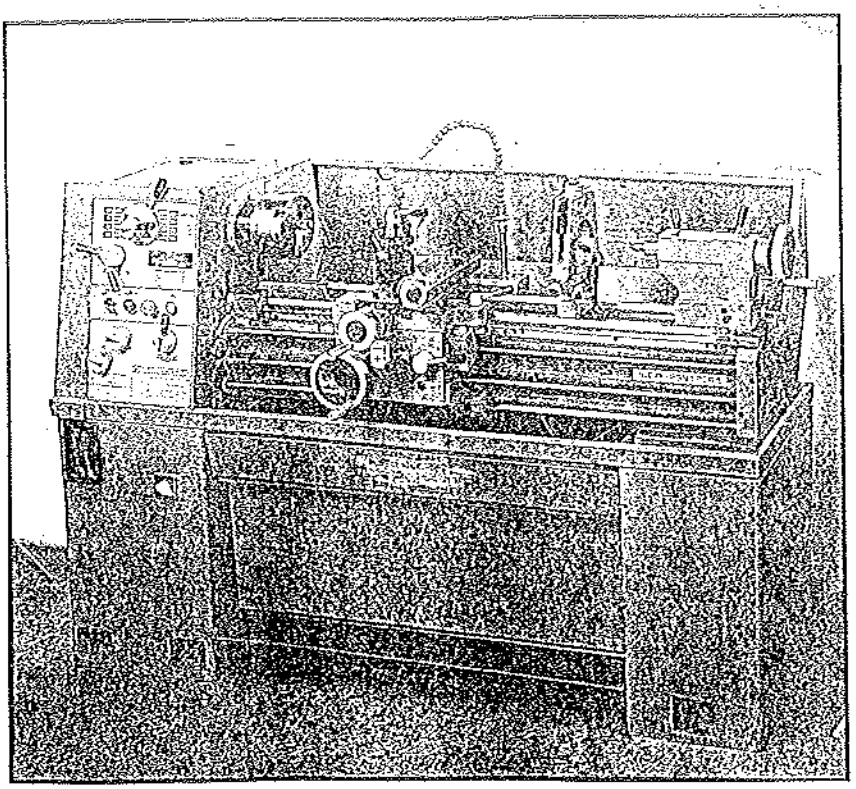
10/3/04

L189 AL540D 415V
L188 AL540C 240V

OPERATOR'S MANUAL

GH-1340A / 1440A Gear Head Lathe



⚠ WARNING

1. Read and understand the entire instruction manual before operating machine.
2. Always wear approved safety glasses/face shields while using this machine.
3. Make certain the machine is properly grounded.
4. Before operating the machine, remove tie, rings, watches, other jewelry, and roll up sleeves above the elbows. Remove all loose clothing and confine long hair. Do not wear gloves.
5. Keep the floor around the machine clean and free of scrap material, oil and grease.
6. Keep machine guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately.
7. Do not over reach. Maintain a balanced stance at all times so that you do not fall or lean against blades or other moving parts.
8. Make all machine adjustments or maintenance with the machine unplugged from the power source.
9. Use the right tool. Don't force a tool or attachment to do a job which it was not designed for.
10. Replace warning labels if they become obscured or removed.
11. Make certain the motor switch is in the OFF position before connecting the machine to the power supply.
12. Give your work undivided attention. Looking around, carrying on a conversation, and "horse-play" are careless acts that can result in serious injury.
13. Keep visitors a safe distance from the work area.
14. Use recommended accessories; improper accessories may be hazardous.
15. Make a habit of checking to see that keys and adjusting wrenches are removed before turning on the machine.
16. Never attempt any operation or adjustment if the procedure is not understood.
17. Keep fingers away from revolving parts and cutting tools while in operation.
18. Keep belt guard in place and in working order.
19. Never force the cutting action.
20. Do not attempt to adjust or remove tools during operation.
21. Always keep cutters sharp.
22. Always use identical replacement parts when servicing.
23. Failure to comply with all of these warnings may cause serious injury.

Specifications: GH-1340A/1440A(Metric System)

Stock Number	321350(1340A),321340(1440A)
Capacities:	
Swing Over Bed	330mm(1340A),356mm(1440A)
Swing Over Cross Slide	195mm(1340A),220mm(1440A)
Swing Over Gap	480mm(1340A),506mm(1440A)
Length of Gap	238mm
Distance Between Center	1000mm
Headstock:	
Hole Through Spindle	38mm
Spindle Nose	D1-4
Taper in Spindle Nose	MT-5
Spindle Taper Adaper	MT-3
Spindle Bearing Type	Taper Roll Bearing
Nember of Spindle Speeds	16
Range of Spindle Speeds	35—1500R.P.M
Gearbox:	
Number of Longitudinal and Cross Feeds	40
Range of Longitudinal Feeds(mm/rev.)	0.043- 0.653
Range of Cross Feeds(mm/rev.)	0.015-0.220
Number of Metric Threads	37
Range of Metric Threads	0.4- 7.0mm
Number of Inch Threads	28
Range of Inch Threads	4- 56TPI
Leadscrew	22mmx1258mm
Feed Rod Ddiameter	19mm
Compound and Carriage:	
Toolpost Type	4-Way
Maximum Tool Size	16mm x16mm
Maximum Compound Slide Travel	90mm
Maximum Cross Slide Travel	152mm
Maximum Carriage Travel	946mm
Tailstock:	
Tailstock Spindle Travel	120mm
Diamter of Tailstock Spindle	45mm
Taper in Tailstock Spindle	MT-3
Miscellaneous:	
Steady Rest Capacity	ϕ 6- ϕ 66mm
Follow Rest Capacity	ϕ 6- ϕ 69mm
Length of Bed	1378mm
Width of Bed	203mm
Height of Bed	279mm
Overall Dimensions(mm)	1822Lx787Wx1235H (1340A) 1822Lx787Wx1260H(1440A)
Main Motor	1.5/2.4KW, 3ph 380V,50HZ
Net Weight	700kg(1340A),750kg(1440A)
Shipping Weight	820kg(1340A),880kg(1440A)

Table of Contents

⚠ WARNING

Read and understand the entire contents of this manual before attempting set-up or operation!

Failure to comply may cause serious injury!

Contents of the Shipping Container

1 Lathe
1 Steady Rest
1 150mm Three Jaw Chuck w/ Top Reversing Jaws (Direct Mount)
1 200mm Four Jaw Chuck with Backplate
1 300mm Face Plate (strapped to container floor)
1 Backplate
1 Tool Box

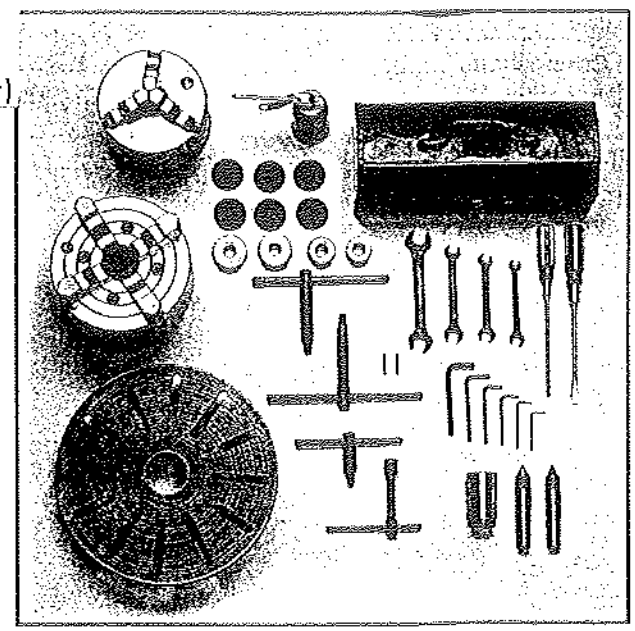


Fig. 1

Tool Box Contents (refer to Fig. 1):

1 No. 1 Cross Point Screwdriver
1 No. 1 Flat Blade Screwdriver
4 Open End Wrench (9-11, 10-12, 12-14, 17-19mm)
6 Hex Socket Wrench (2.5, 3, 4, 5, 6, 8mm)
2 Shear Pin
3 30T, 32T, 40T Change gear
3 65T, 66T, 70T Change gear
1 Oil Can
2 No. 3 Morse Taper Dead Center
1 No. 5 to No. 3 Spindle Sleeve
6 Leveling Pad
1 Chuck Key
1 Key for Cam Locks
1 Tool Post Wrench
1 Operator's Manual
1 Warranty Card

Uncrating and Clean-Up

1. Finish removing the wooden crate from around the lathe.

2. Unbolt the lathe from the shipping crate bottom.

3. Choose a location for the lathe that is dry, has good lighting, and has enough room to be able to service the lathe on all four sides.

4. Sling lathe after placing steel rods or pipes (of sufficient strength) into holes of lathe stand as diagrammed in Fig. 2. **Do not lift by spindle.** With adequate lifting equipment, slowly raise the lathe off the shipping crate bottom. Make sure lathe is balanced before moving.

5. To avoid twisting the bed, the lathe's location must be absolutely flat and level. Check for a level condition using a machinist's precision level on the bedways both front to back and side to side. The leveling pads included in the tool box and the leveling screws in the lathe base will help you to reach a level condition. **The lathe must be level to be accurate.**

6. Clean all rust protected surfaces using a mild commercial solvent, kerosene or diesel fuel. Do not use paint thinner, gasoline, or lacquer thinner. These will damage painted surfaces. Cover all cleaned surfaces with a light film of 20W machine oil.

7. Remove the end gear cover. Clean all components of the end gear assembly and coat all gears with a heavy, non-slinging grease. Replace cover.

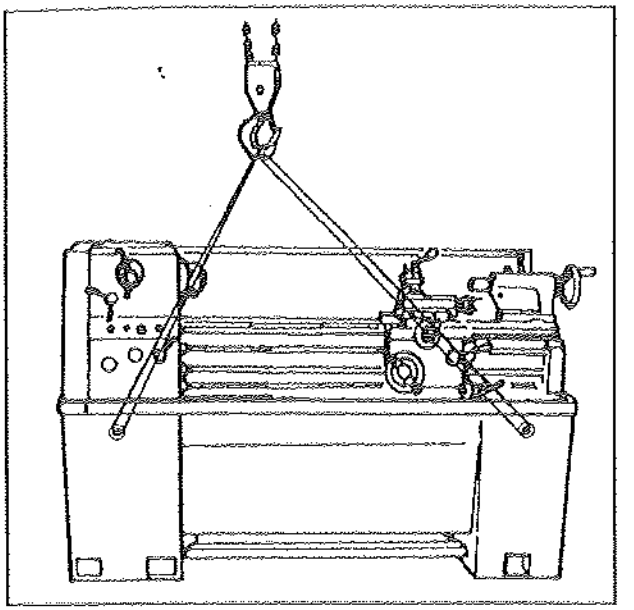


Fig. 2

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!

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

2. Carefully remove the chuck from the spindle and place on an adequate work surface.

4. Inspect the camlock studs. Make sure they have not become cracked or broken during transit. Clean all parts thoroughly with solvent. Also clean the spindle and camlocks.

5. Cover all chuck jaws and scroll inside the chuck with #2 lithium tube grease. Cover the spindle, cam locks, and chuck body with a light film of 20W oil.

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

7. Install chuck and tighten in place.

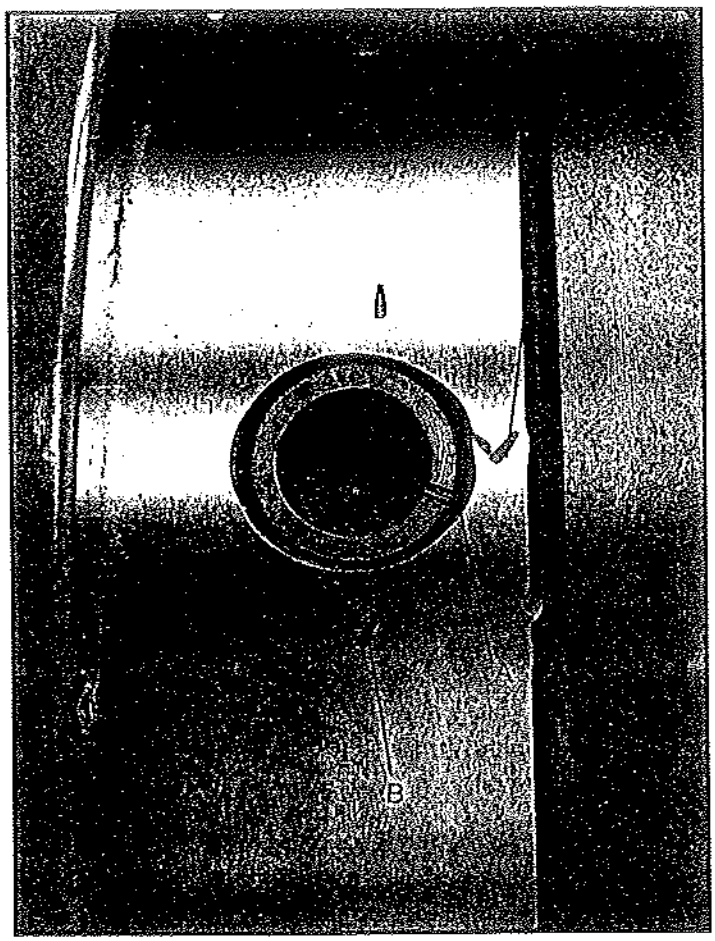


Fig. 3

Lubrication

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

1. **Headstock** - Oil must be up to indicator mark in oil sight glass (A, Fig. 3). Top off with Shell Turbo T-68 or equivalent. Fill by pulling plug (B, Fig. 3). To drain, remove drain plug (A, Fig. 4) with an 8mm hex wrench. Drain oil completely and refill after the first three months of operation. Then, change oil in the headstock annually.

2. **Gearbox Input Shaft** - Remove end gear cover and oil the gearbox input shaft where it exits the headstock bracket (B, Fig. 4) with the oil can using 20W machine oil. Oil once daily.

3. **Gearbox** - Oil must be up to indicator mark in oil sight glass (C, Fig. 3) Top off with Shell Turbo T-68 or equivalent. Fill by removing plug (C, Fig. 4) with an 8mm hex wrench. To drain, remove drain plug (D, Fig. 4) with an 8mm hex wrench. Drain oil completely and refill after the first three months of operation. Then, change oil in the gearbox annually.

4. **Apron** - Oil must be up to indicator mark in oil sight glass (front of apron - A, Fig. 5). Top off with Shell Turbo T-68 or equivalent. Remove oil cap (B, Fig. 5) on top of apron to fill. To drain, remove drain plug on bottom of apron. Drain oil completely and refill after the first three months of operation. Then, change oil in the apron annually.

5. **Leadscrew Feed Rod** - lubricate ball oiler (D, Fig. 3) on leadscrew/feed rod bracket with 20W machine oil once daily.

6. **Cross Slide** - Lubricate three oil ports (C, Fig. 5) with 20W machine oil once daily.

7. **Compound Rest** - lubricate one oil port (D, Fig. 5) with 20W machine oil once daily.

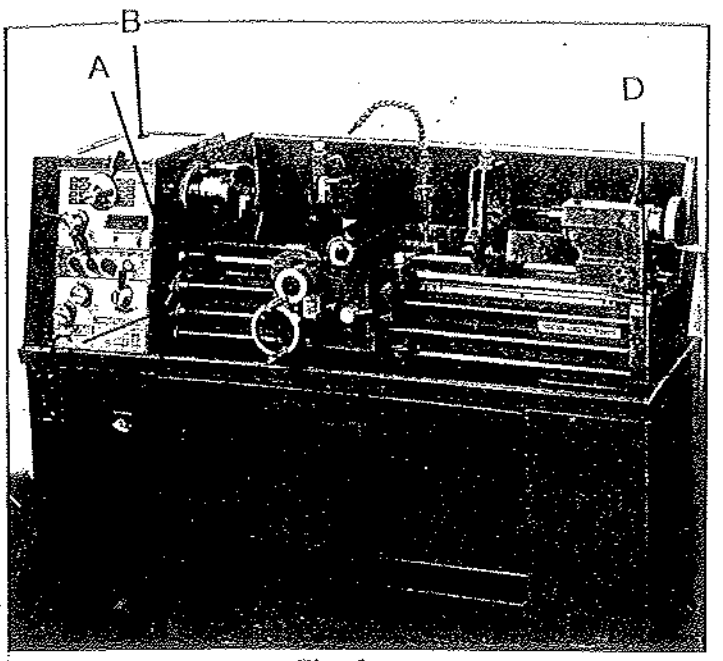


Fig. 3

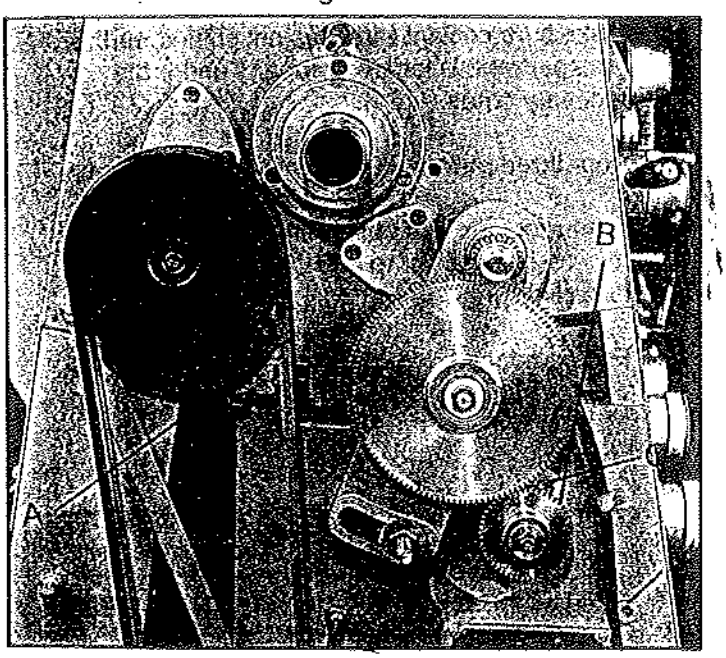


Fig. 4

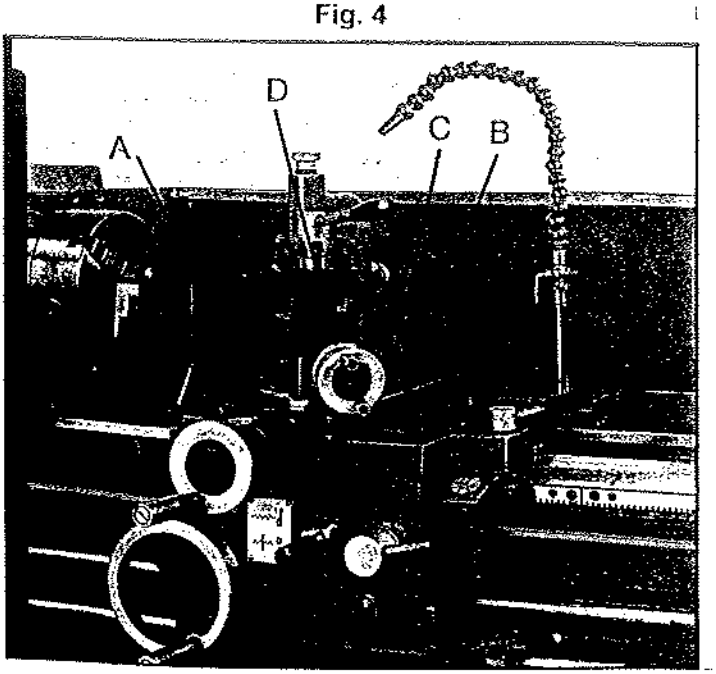


Fig. 5

8. **Carriage** - lubricate four oil ports (A, Fig. 6) with 20W machine oil once daily.

9. **Tailstock** - lubricate two oil ports (B, Fig. 6) with 20W machine oil once daily.

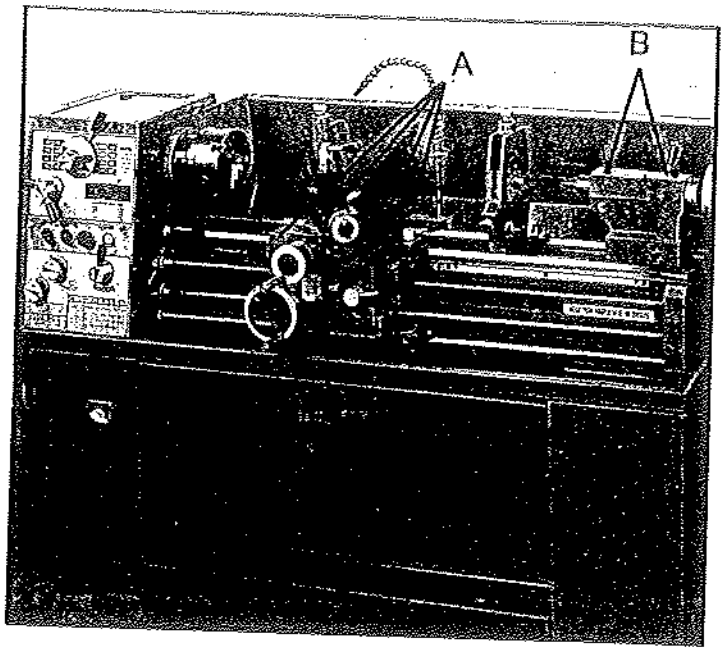


Fig. 6

Coolant Preparation

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

1. Remove rear access cover on tailstock end. Make sure coolant tank has not shifted during transport and is located properly under the recovery chute.

2. Pour three gallons of coolant mix into drip pan.

3. After machine has been connected to power, turn on coolant pump and check to see coolant is cycling properly.

4. Fasten coolant door to stand.

Electrical Connections

> ⚠ WARNING
>
> **All electrical connections must be completed by a qualified electrician!**
>
> **Failure to comply may cause serious injury and / or damage to the machinery and property!**

The GH-1340A / GH1440A gear head lathe is rated at 1.5/2.4KW 3Ph, 380V. Confirm power available at the lathe's location is the same rating as the lathe.

Make sure the lathe is properly grounded.

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

General Description

Lathe Bed

The lathe bed (A, Fig. 7) 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 vee slideways, reinforced by heat hardening and grinding, are an accurate guide for the carriage and headstock. The main drive motor is mounted in the stand below headstock.

Headstock

The headstock (B, Fig. 7) is cast from high grade, low vibration cast iron. It is bolted to the bed by four screws with two adjusting screws for alignment. In the head, the spindle is mounted on two precision taper roller bearings. The hollow spindle has Morse Taper #5 with a 1-7/16" bore.

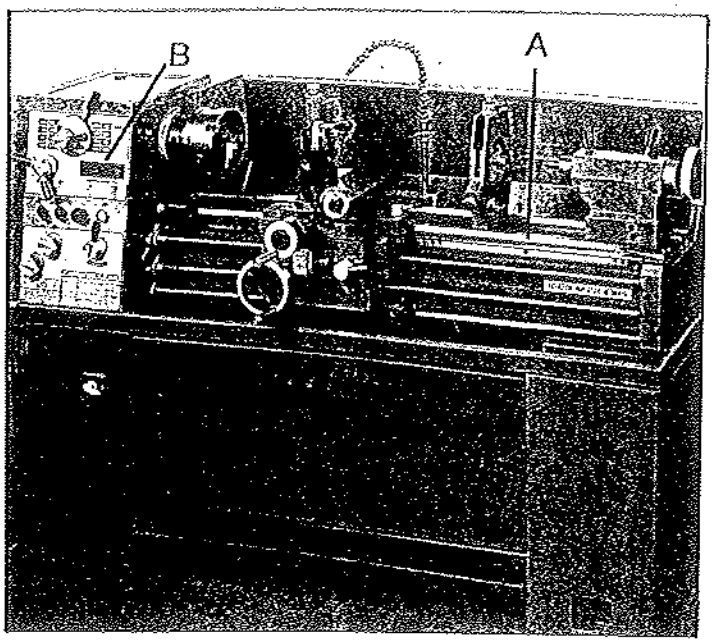


Fig. 7

Carriage

The carriage (A, Fig. 8) 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 the gibs.

The top slide (B, Fig. 8), which is mounted on the cross slide (C, Fig. 8), can be rotated through 360° The top slide and the cross slide travel in a dovetail slide and have adjustable gibs. A four way tool post is fitted on the top slide.

Four Way Tool Post

The four way toolpost (D, Fig. 8) is mounted on the top slide and allows a maximum of four tools to be mounted simultaneously. Remember to use a minimum of two clamping screws when installing a cutting tool.

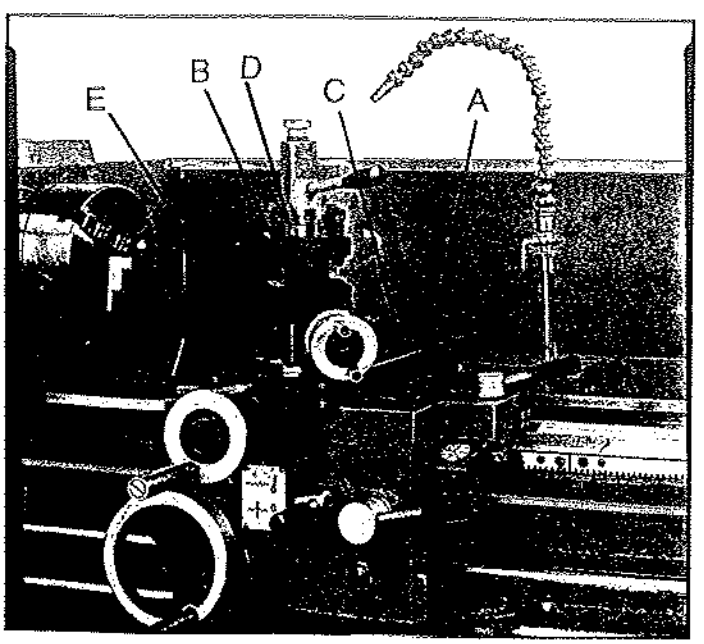


Fig. 8

Apron

The apron (E, Fig. 8) is mounted to the carriage. In the apron a half nut is fitted. The half nut gibs can be adjusted from the outside. The half nut is engaged by use of a lever. Quick travel of the apron is accomplished by means of a bed mounted rack and pinion, operated by a hand wheel on the front of the apron.

Tailstock

The tailstock (A, Fig. 9) slides on a v-way and can be locked at any location by a clamping lever. The tailstock has a heavy duty spindle with a Morse Taper #3.

Leadscrew and Feed Rod

The leadscrew (B Fig. 9) and feed rod (C, Fig. 9) are mounted on the front of the machine bed. They are connected to the gearbox at the left for automatic feed and lead and are supported by bushings on both ends. Both are equipped with brass shear pins.

Gear Box

The gear box (D, Fig. 9) is made from high quality cast iron and is mounted to the left side of the machine bed.

Steady Rest

The steady rest (E, Fig. 9) serves as a support for shafts on the free tailstock end. The steady rest is mounted on the bedway and secured from below with a bolt, nut and locking plate. The sliding fingers require continuous lubrication at the contact points with the workpiece to prevent premature wear.
To set the steady rest:

1. Loosen three hex socket cap screws.

2. Loosen knurled screw and open sliding fingers until the steady rest can be moved with its fingers around the workpiece. Secure the steady rest in position.

3. Set the fingers snugly to the workpiece and secure by tightening three hex socket cap screws. Fingers should be snug but not overly tight. Lubricate sliding points with lead based grease.

4. After prolonged use, the fingers will show wear. Remill or file the tips of the fingers.

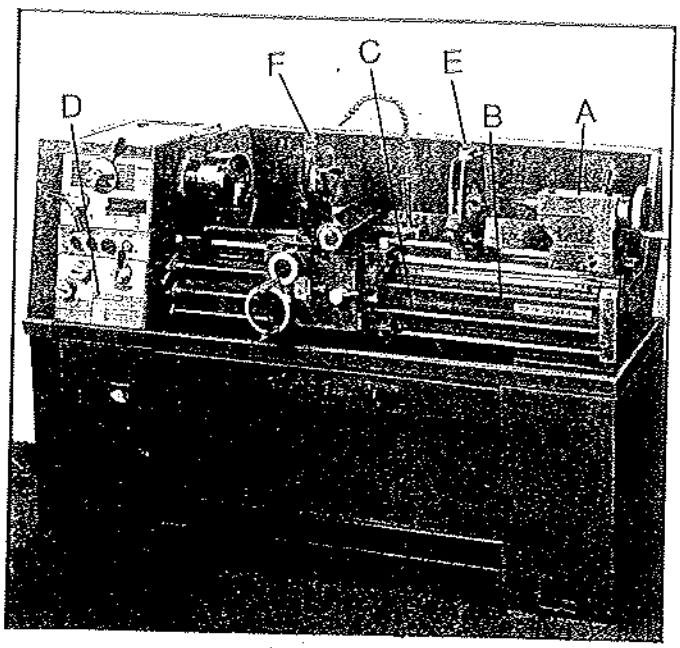


Fig. 9

Follow Rest

The traveling follow rest (F, Fig. 9) is mounted on the saddle and follows the movement of the turning tool. Only two fingers are required as the place of the third is taken by the turning tool. The follow rest is used for tuning operations on long, slender

workpieces. It prevents flexing of the workpiece from the pressure of the cutting tool.

The sliding fingers are set similar to the steady rest, free of play, but not binding. Always lubricate adequately with lead based grease during operation.

Controls

1. **Control Panel** -located on front of headstock.

   A. **Coolant On-Off Switch** (A, Fig. 10) - turns coolant pump on and off.

   B. **Power Indicator Light** (B, Fig. 10) - lit whenever lathe has power.

   C. **Emergency Stop Switch** (C, Fig. 10) - depress to stop all machine functions. (Caution: lathe will still have power). Twist to re-set.

   D. **Jog Switch** (D, Fig. 10) - depress and release to advance spindle momentarily.

2. **Headstock Gear Change Levers** (E, Fig. 10) - located on front of headstock at the top. Move levers left or right to desired spindle speed.

3. **Leadscrew/Feedrod Directional Lever** - (F, Fig. 10) - located on front of headstock. Moving the lever up causes carriage travel toward the tailstock. Moving the lever down causes carriage travel toward the headstock. Do not move lever while machine is running.

4. **Feed/Lead Selector Lever** (G, Fig. 10) -located on the front of the headstock at the top. Used whenever setting up for threading or feeding. **Caution**: in the "A" position, never run the lathe higher than 770 RPM.

5. **Feed/Lead Selector Lever** (H, Fig. 10) - located on the front lower right corner of the headstock. Used in setting up for feeding and threading. Positions "F" and "D" are for the feed rod. Positions "E" and "C" are for the feed screw. Position "0" is neutral.

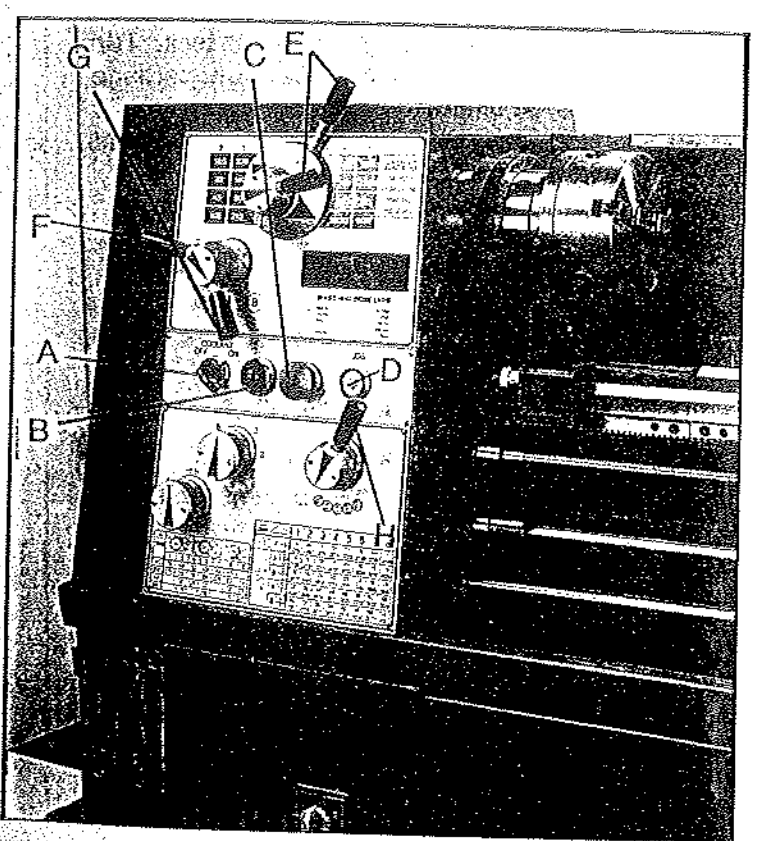


Fig. 10

6. **Lock Knob** (A, Fig. 11) - located on the front of the gearbox. With the lever in the six o'clock position, lead/feed selector knob (B, Fig. 11) may be adjusted. With the lever in the twelve o'clock position, the lead/feed selector knob (B, Fig. 11) is locked.

7. **Feed/Lead Selector Knob** (B, Fig. 11) - located on front of the gearbox. Used for setting up for feeding and threading.

8. **Compound Lock** (A, Fig. 12) - hex socket cap screw located on left side of compound rest. Turn clockwise to lock and counter-clockwise to unlock.

9. **Carriage Lock** (B, Fig. 12) - lock handle located on top of carriage. Turn clockwise to lock. Turn counter-clockwise to unlock. **Caution**: carriage lock must be unlocked before engaging automatic feeds or damaged to lathe may occur.

10. **Cross Slide Lock** (C, Fig. 12) - set screw located on right side of cross slide body. Turn clockwise and tighten to lock. Turn counter-clockwise and loosen to unlock. **Caution**: cross slide lock screw must be unlock before engaging automatic feeds or damage to the lathe may occur.

11. **Longitudinal Traverse Hand Wheel** (D, Fig. 12) - located on the apron assembly. Rotate hand wheel clockwise to move the apron assembly toward the tailstock (right). Rotate the wheel counter-clockwise to move the apron assembly toward the headstock (left).

12. **Feed Selector** (E, Fig. 12) - located in the center front of the apron assembly. Push lever to the left and down activates the crossfeed function. Pull lever to the right and up activates the longitudinal function.

13. **Half Nut Engage Lever (Thread Cutting)** (F, Fig. 12) - located on front of the apron. Move the lever down to engage. Move the lever up to disengage.

14. **Cross Traverse Handwheel** (G, Fig. 12) - located above the apron assembly. Clockwise rotation moves the cross slide toward the rear of the machine.

Fig. 11

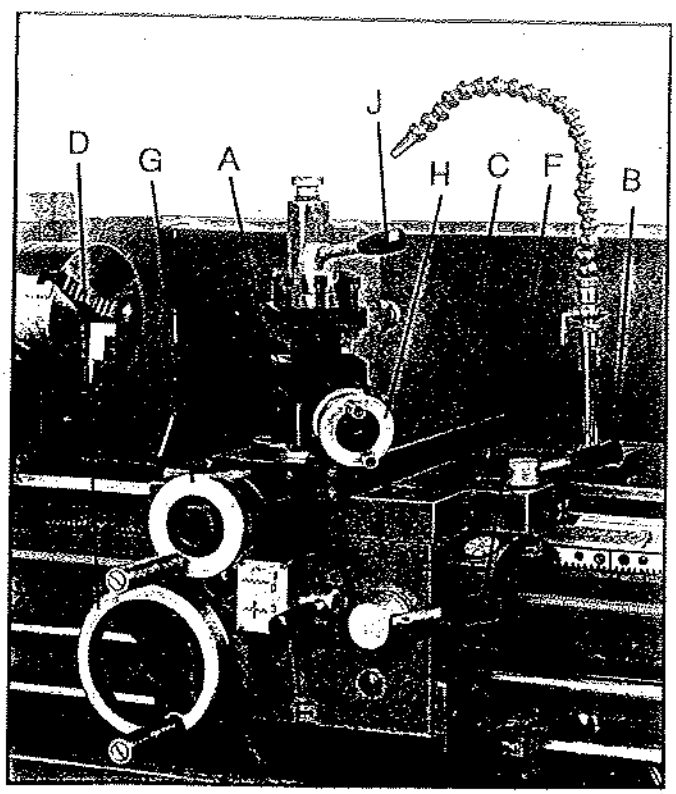


Fig. 12

15. **Compound Rest Traverse Handwheel** (H, Fig. 12) - located on the end of the compound slide. Rotate clockwise or counter-clockwise to move or position.

16. **Tool Post Clamping Lever** (J, Fig. 12) - located on top of the tool post. Rotate counter-clockwise to loosen and clockwise to tighten.

17. **Tailstock Quill Clamping Lever** (A, Fig. 13) - located on the tailstock. Lift up to lock the spindle. Push down to unlock.

18. **Tailstock Clamping Lever** (B, Fig. 13) - located on the tailstock. Lift up lever to lock Push down lever to unlock.

19. **Tailstock Quill Traverse Handwheel** (C, Fig. 13) - located on the tailstock. Rotate clockwise to advance the quill. Rotate counter-clockwise to retract the quill.

20. **Tailstock Off-Set Adjustment** (D, Fig. 13) - two hex socket cap screws located on the tailstock base are used to off-set the tailstock for cutting tapers. Loosening one screw while tightening the other off sets the tailstock.

21. **Foot Brake** (A, Fig. 14) - located between stand pedestals. Depress to stop all lathe functions.

22. **Power Switch** (not shown) - located on the electrical box on the rear of the lathe. Turns main power to the lathe on and off.

23. **Two Speed Motor Switch** (B, Fig. 14) located on front of the left base pedestal. Position one is for high speed. Position two is for low speed. Position zero is neutral and the spindle will not turn. **Note:** Check this switch and make sure position one or two is selected if the lathe will not run.

24. **Micro Carriage Stop** (A, Fig. 15) - located on the lathe bed. Loosen two hex socket cap screws underneath body and slide along bed to desired position. Tighten screw to hold in place.

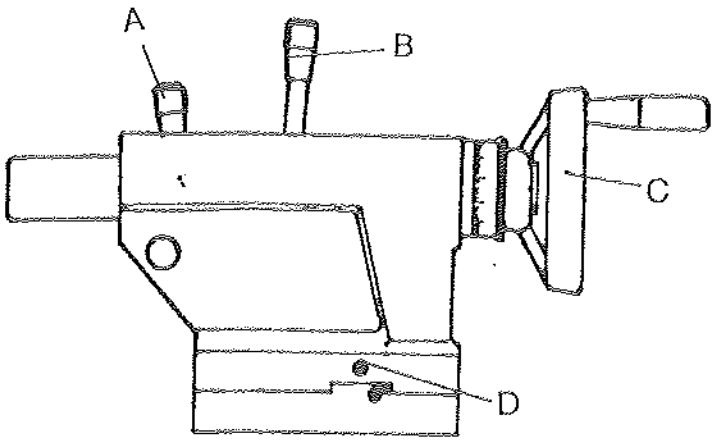


Fig. 13

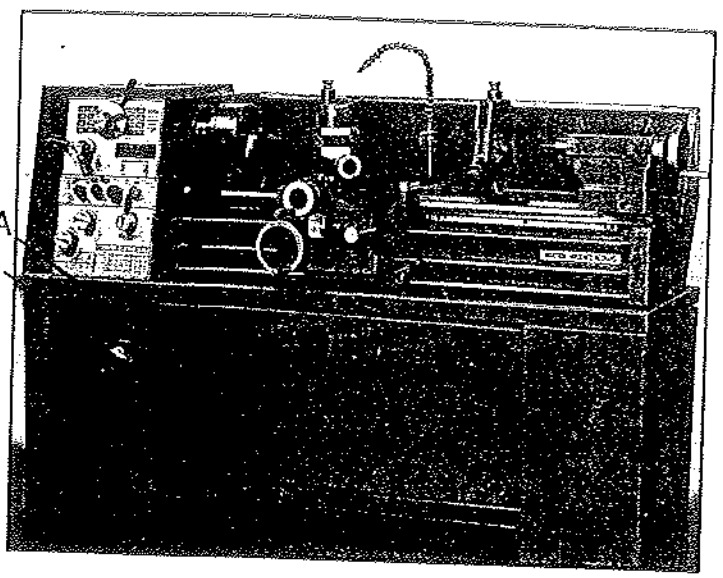


Fig. 14

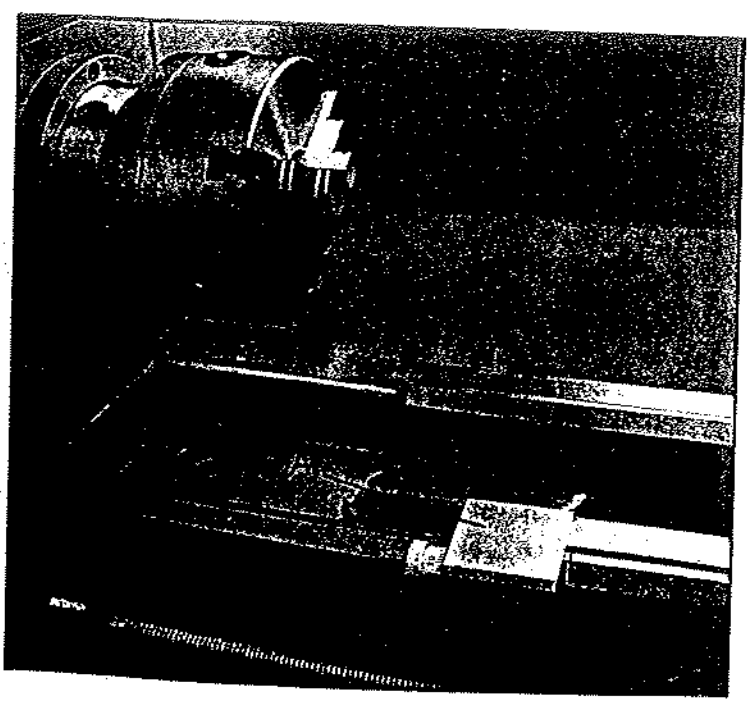


Fig. 15

Break-In Procedure

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

To allow time for the gears and bearings to break-in and run smoothly, do not run the lathe above 770 R.P.M. for the first six hours of operation and use.

Operation

Feed and Thread Selection

1. Reference the feed and thread tables (A, Fig. 16) found on the gear box faceplate.

2. Move levers (B, C, D, & E, Fig. 16) to the appropriate positions according to the chart.

Change Gears Replacement

Note:the 24Tx127Tx60T GH1440A)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. The30T, 32T, 40T, 65T, 66T, 70T tooth gears found in the tool box are used as indicated on feed and thread tables (A, Fig.16).

1. **Disconnect the machine from the power source.**

2. Remove the end cover on the left end of the headstock.

3. Loosen nuts (A & B, Fig. 17).

4. Move quadrant (C, Fig. 17) out of the way and hold in place temporarily by tightening nut (B, Fig. 17).

5. Remove hex socket cap screws (D and/or E, Fig. 17), depending on which gear is to be changed).

6. Install new gear(s) and tighten in place with a hex socket cap screw.

7. Loosen nut (B, Fig. 17), move quadrant back so teeth mesh on gears, and tighten nuts (A & B, Fig. 17). **Caution: Make sure there is a backlash of .002-.003 between gears. Setting the gears too tight will cause excessive noise and wear.**

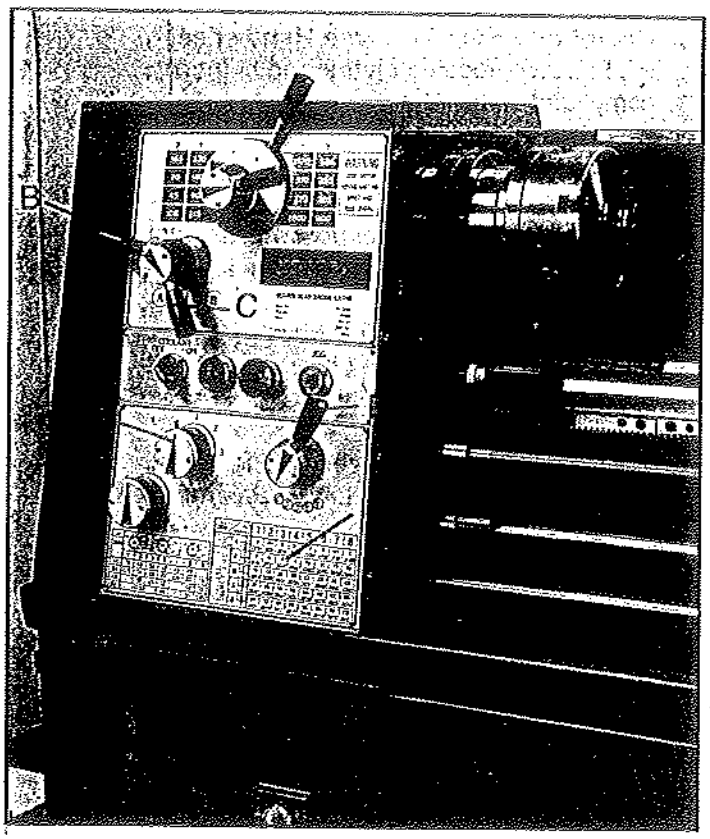


Fig. 16

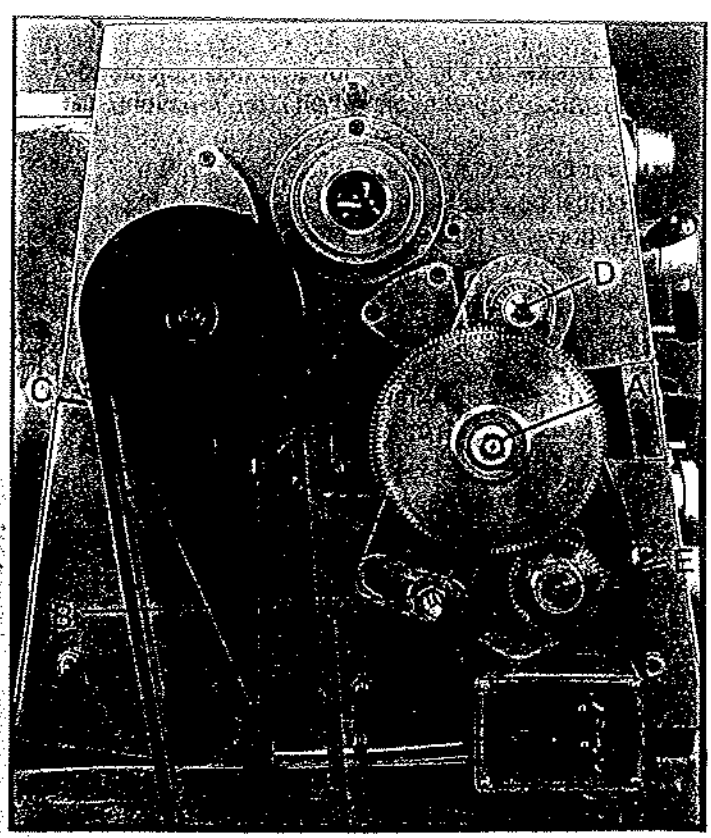


Fig. 17

7. Install the cover and connect the machine to the power source.

Note: other gear combinations are possible. See the lead and feed chart on the front of the gear box (A, Fig. 16).

Automatic Feed Operation and Feed Changes

1. Move the forward/reverse selector (A, Fig. 18) up or down depending on desired direction.

2. Set selector levers (A, B, C, & D, Fig. 19) to desired rate. **Note:** for feeding, lever (C) will be set at "F" or "D", depending on desired feed rate.

Powered Carriage Travel

1. Push lever (B, Fig. 18) to the left and down to engage crossfeed. Pull lever to the right and up to engage longitudinal feed.

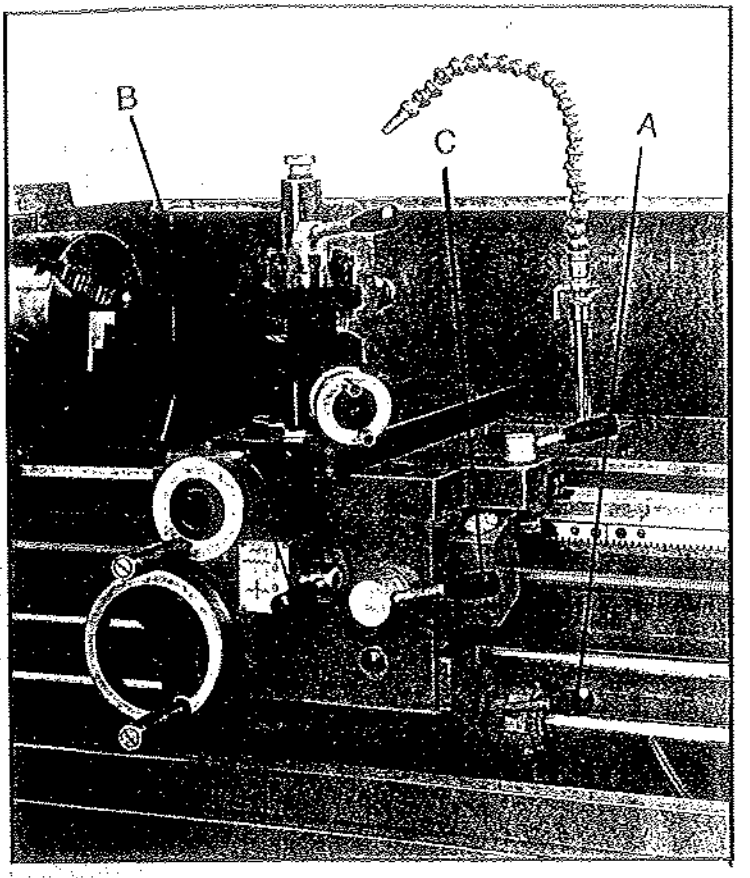


Fig. 18

Thread Cutting

1. Set forward/reverse lever (A, Fig. 19) up or down depending on the desired direction.

2. Set selector levers (A, B, C, and D, Fig. 19) to desired rate. **Note:** for threading, lever (C) will be set at "C" or "E", depending on desired thread.

3. Engage the half nut lever (C, Fig. 18).

4. To cut inch threads, refer to the chart on page 16. 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).

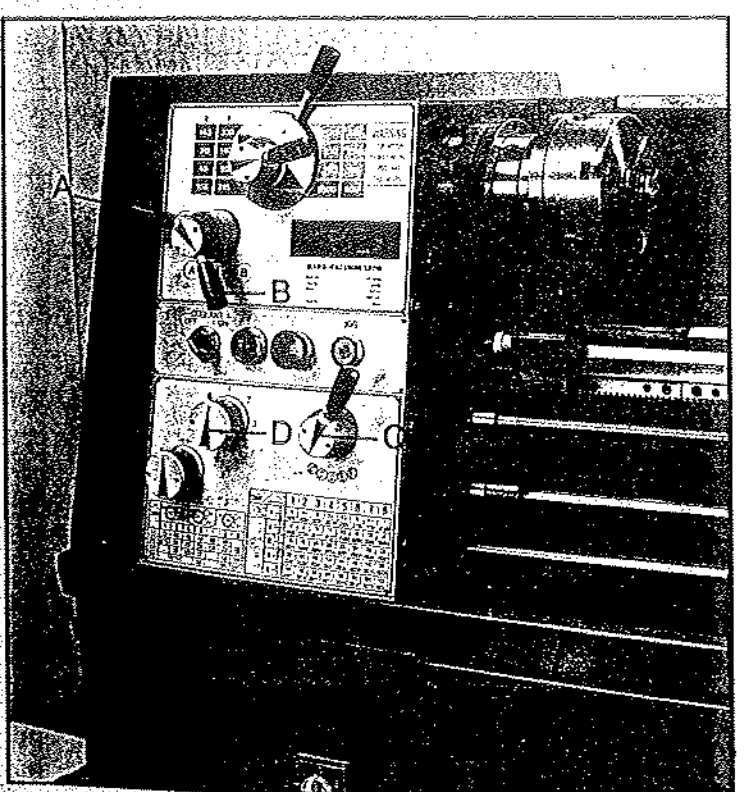


Fig. 19

Metric Lead and Feed Table

MM			1	2	3	4	6	7	8	MM		1	2	3	4	6	7	8
30T / 127T / 60T	C	A	4.0	4.5	5.0	5.5	6.0	6.5	7.0	D	A	0.373	0.428	0.466	0.518	0.551	0.606	0.653
		B	2.0	2.25	2.5	2.75	3.0	3.25	3.5		B	0.186	0.214	0.233	0.256	0.280	0.303	0.327
	E	A	1.0	1.125	1.25	1.375	1.5	1.625	1.75	F	A	0.109	0.122	0.135	0.149	0.163	0.177	0.190
		B	0.5		0.625		0.75		0.875		B	0.054	0.060	0.067	0.074	0.081	0.088	0.095
24T / 127T / 60T	E	A	0.8	0.9	1.0	1.1	1.2	1.3	1.4	F	A	0.087	0.098	0.109	0.119	0.131	0.141	0.152
		B	0.4	0.45	0.5	0.55	0.6	0.65	0.7		B	0.043	0.049	0.054	0.059	0.065	0.071	0.076

Inch Thread Table

T.P.I		2	1	2	2	1	1	1
20T / 127T		40	40	32	32	30	30	30
		60	60	60	66	60	65	70
C	A	4	4½	5	5½	6	6½	7
	B	8	9	10	11	12	13	14
E	A	16	18	20	22	24	26	28
	B	32	36	40	44	48	52	56

Compound Rest

The compound rest (A, Fig. 20) is located on top of the carriage and can be rotated 360 degrees. There is a calibrated dial (in degrees) (B, Fig. 20) below the rest to assist in placement of the compound to the desired angle.

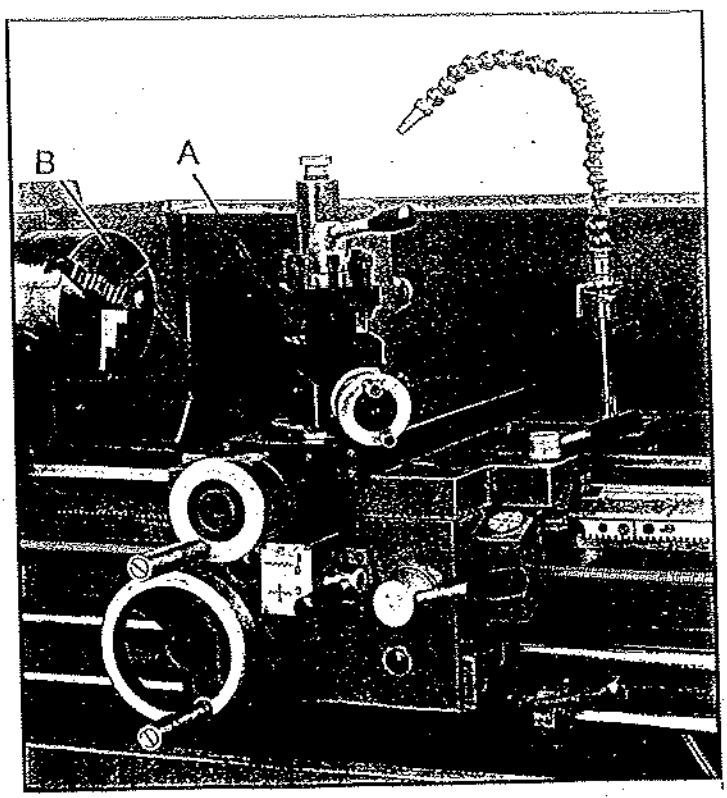


Fig. 20

Adjustments

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

Saddle

1. Loosen four hex nuts found on the bottom rear of the cross slide and back off one full turn each.

2. Turn each of the four set screws with a hex wrench until a slight resistance is felt. Do not over tighten these screws.

3. Move the carriage with the hand wheel and determine if the drag is to your preference. Readjust the set screws as necessary to achieve the desired drag.

4. Hold the socket set screw firmly with a hex wrench and tighten the hex nut to lock the set screw in place.

5. Move the carriage again and adjust again if necessary. **Note**: over adjustment will cause excessive premature wear of the gibs.

Cross Slide

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

1. Loosen the rear gib screw approximately one turn.

2. Tighten the front gib screw (B, Fig. 21) a quarter turn. Turn the cross slide handwheel to see if the cross slide is still loose. If it is still loose, tighten the front screw a bit more and try again.

3. When the cross slide is properly adjusted, tighten the rear gib screw. Do not over tighten. This will cause premature wear on the gib and mating parts.

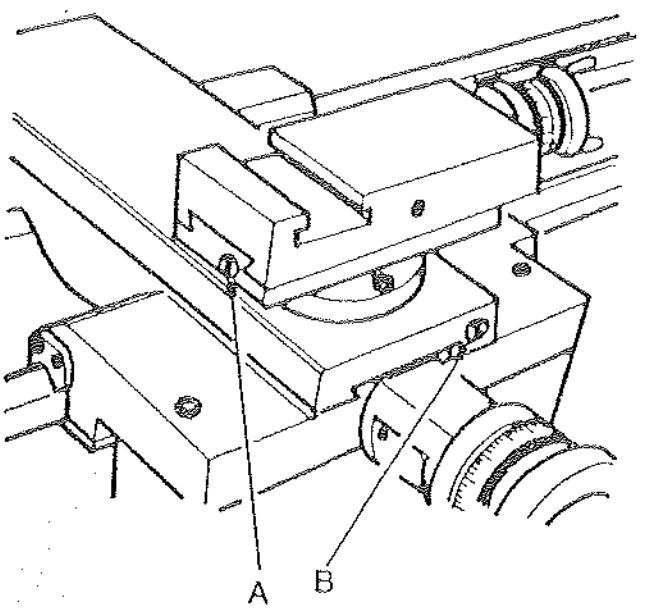


Fig. 21

Compound Rest

Follow the same procedure as the cross slide adjustment to adjust the compound rest. Rear gib screw (B) is shown in Fig. 21 **Note:** the front handwheel on the compound will have to be removed to access the front gib screw.

Tailstock

If the handle will not lock the tailstock, follow the procedure below :

1. Lower the handle to the unlocked position.

2. Slide the tailstock to an area that allows access to the underside of the tailstock.

3. Tighten tailstock clamping bolt 1/4 turn. Test for proper locking. Repeat as necessary.

Tailstock Off-Set

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

1. Lock tailstock in position by raising locking handle (A, Fig. 22).

3. Alternately loosen and tighten front and rear hex socket cap screws (B, Fig. 22).

Tailstock Gibs

Take up play in the tailstock by tightening two gib screws (C, Fig. 22) on either side of the tailstock base. **Note:** Do not over tighten. Excessive tightening will lead t premature wear of the gibs and mating parts.

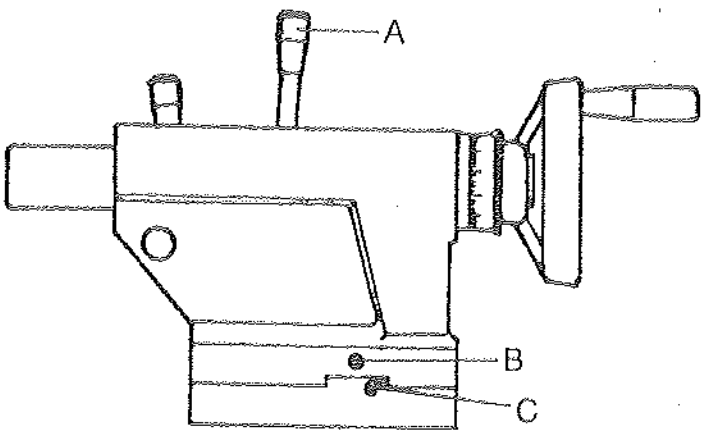


Fig. 22

Headstock Alignment

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

1. Using a machinist's precision level on the bedways, make sure the lathe is level side to side and front to back. If the lathe is not level, correct to a level condition before proceeding. Re-test alignment if any leveling adjustments were made.

2. From steel bar stock of approximately two inches in diameter, cut a piece approximately eight inches long.

3. Place two inches of bar stock into chuck and tighten chuck. Do not use the tailstock or center to support the other end.

4. Set up and cut along five inches of the bar stock.

5. Using a micrometer, measure the bar stock next to the chuck and at the end. The measurement should be the same.

6. If the measurements are not the same and adjustment is required, loosen hex socket cap screws (A , Fig. 23) which holds the headstock to the bed. Do not loosen completely; some drag should remain.

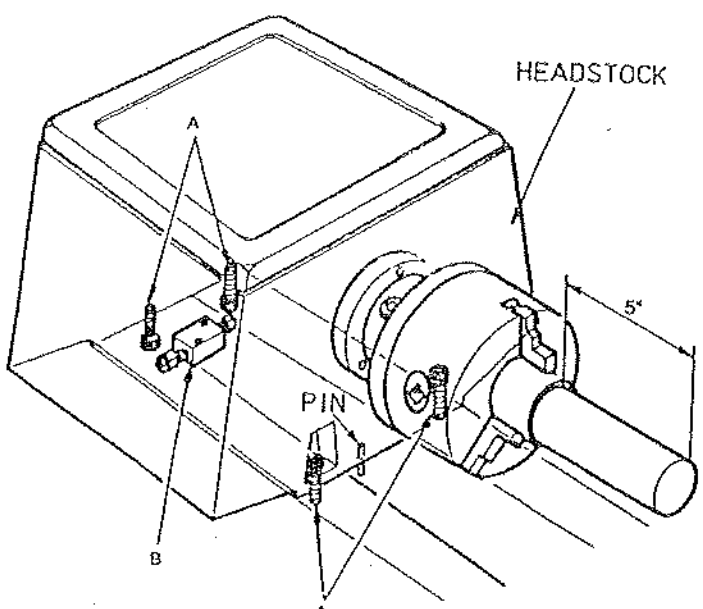


Fig. 23

7. Adjust two screw nuts (B, Fig.24) located on the endgear side of the headstock. Loosen one and tighten the other. Make another cut. Keep adjusting screw nuts after each cut until the bar stock measurements are the same. Tighten all headstock screws.

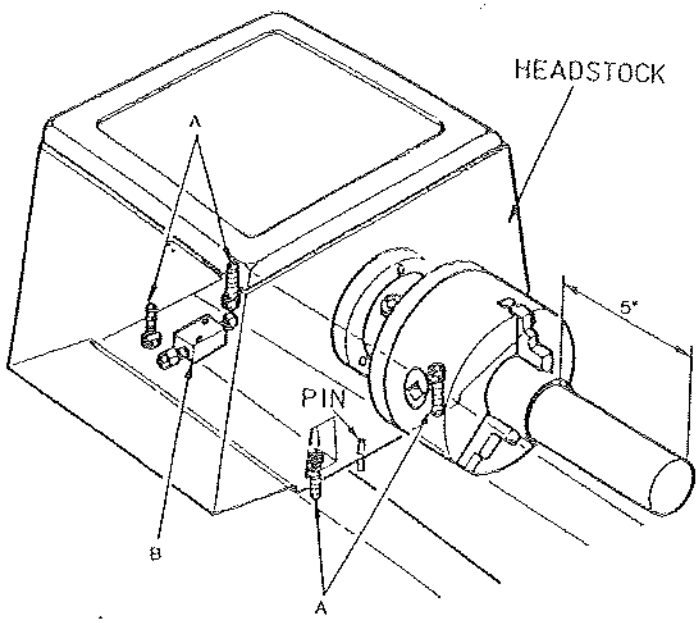


Fig. 24

Removing Gap Section

1. To remove gap section, locate two nuts (A, Fig. 25) in the center of the gap section.
2. Using an open end wrench, tighten the two nuts. This will cause the taper pins to release. Remove the taper pins.
3. Remove six hex socket cap screws (B, Fig. 25) with a hex key wrench.
4. Gap section can now be removed.

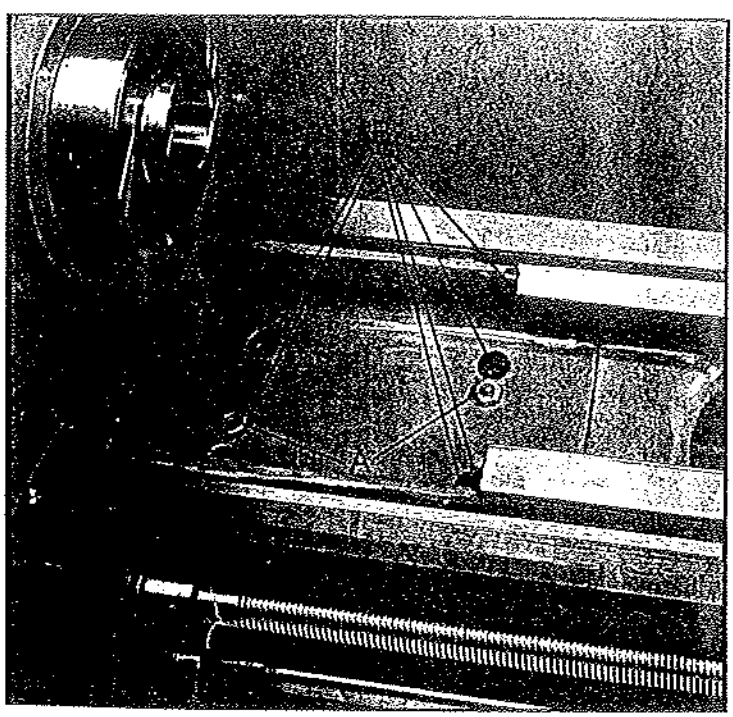


Fig. 25

Installing Removable Gap Section

1. Clean the bottom and the ends of the gap section thoroughly.
2. Set gap section in place and align.
3. Remove nuts from the taper pins.
4. Slide taper pins in their respective holes and seat using a mallet. Install nuts on the taper pins finger tight.
5. Install four socket head cap screws and tighten securely.

Belt Replacement and Adjustment

1. Disconnect machine from the power source.
2. Remove end gear cover and lower rear cover on the headstock side.
3. Take tension off old belts by loosening two motor mount plate screws (A, Fig. 26).
4. Remove belts. Install new belts onto pulleys.
5. Tension by tightening motor mount plate screws until light finger pressure causes approximately 3/4" deflection on each belt.
6. Install covers and connect lathe to the power source.

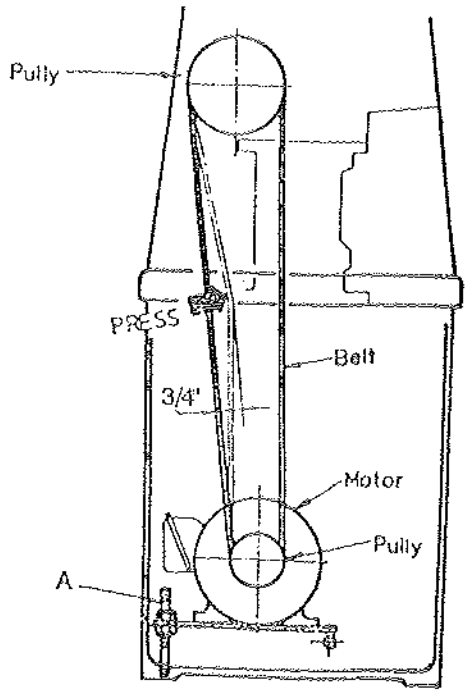


Fig. 26

Aligning Tailstock to Headstock

Before proceeding, headstock should be aligned. See section labeled "Headstock Alignment".

1. Fit a 12" ground steel bar between centers of the headstock and tailstock. (See Fig. 27)
2. Fit a dial indicator to the top slide and traverse the center line of the bar.
3. If adjustment is needed, align the tailstock using the off set screws (A, Fig. 28) until the tailstock is aligned.

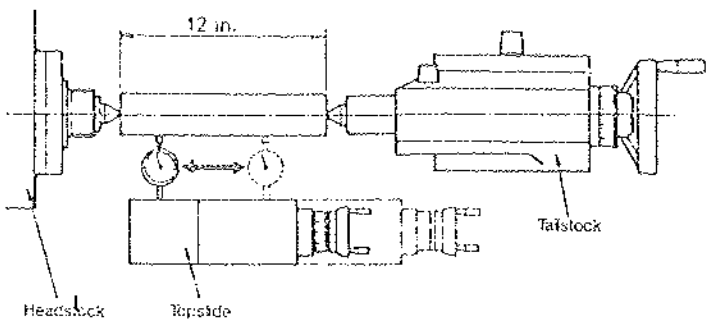


Fig. 27

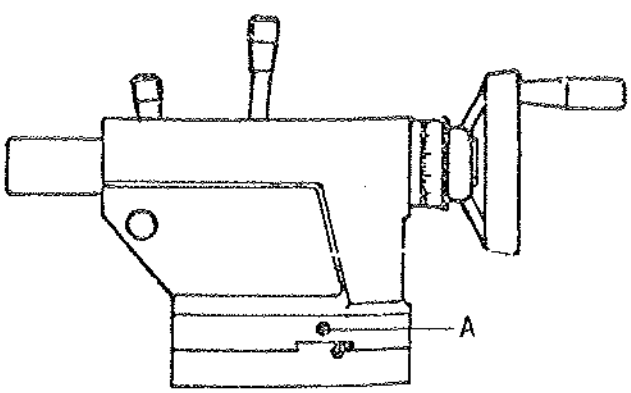
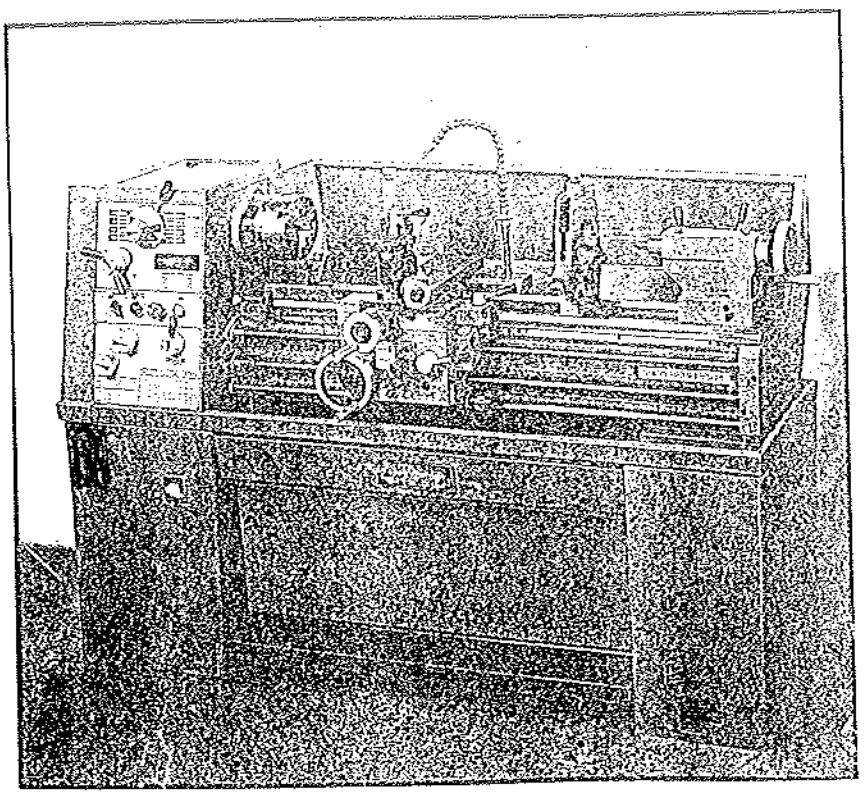


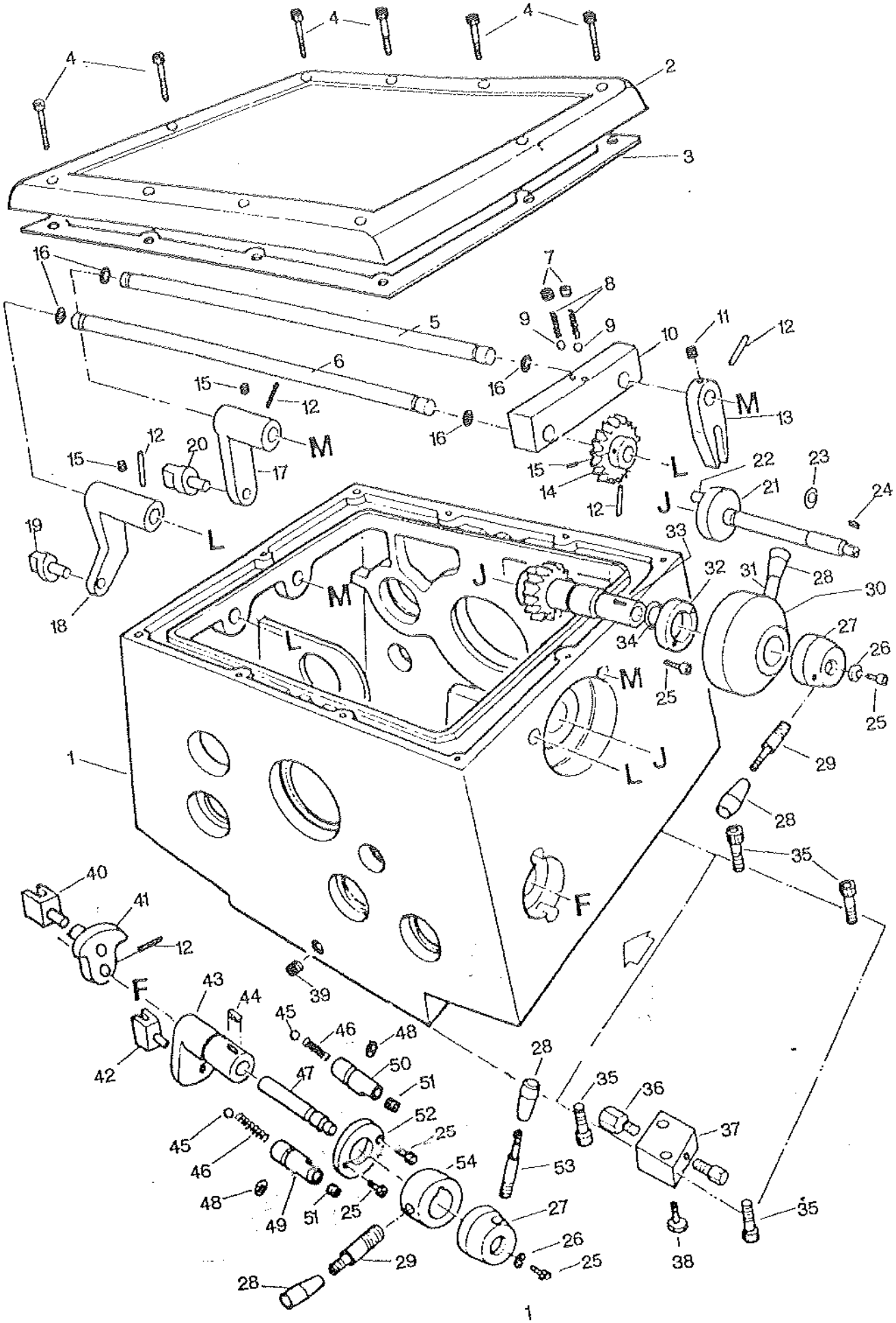
Fig. 28

L180 L180 10/2/04
AL540C- AL540D
240V 415V

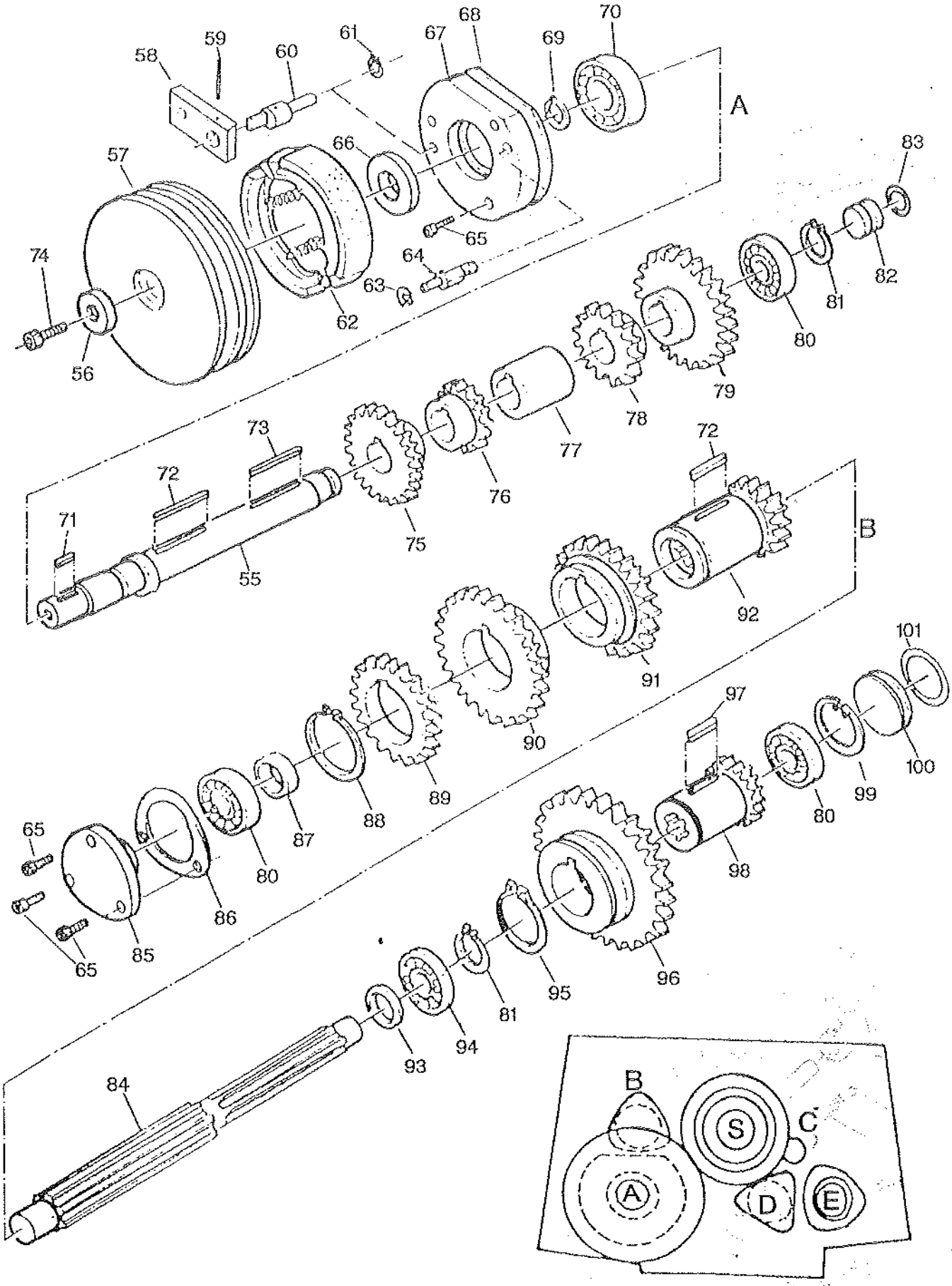
Parts List for the GH-1340A / 1440A Gear Head Lathe



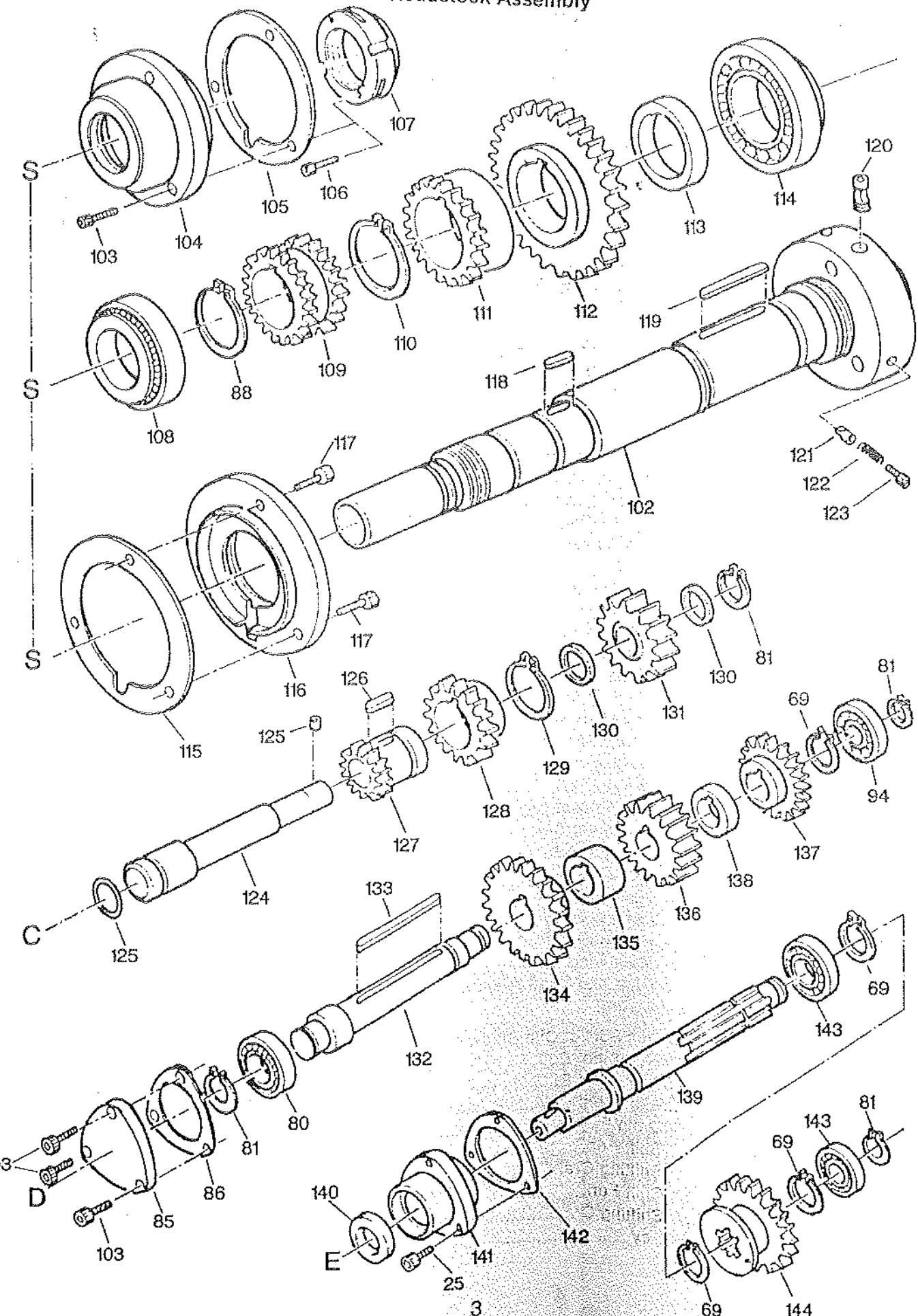
Headstock Assembly



Headstock Assembly



Headstock Assembly



Please Order By Part Number Only

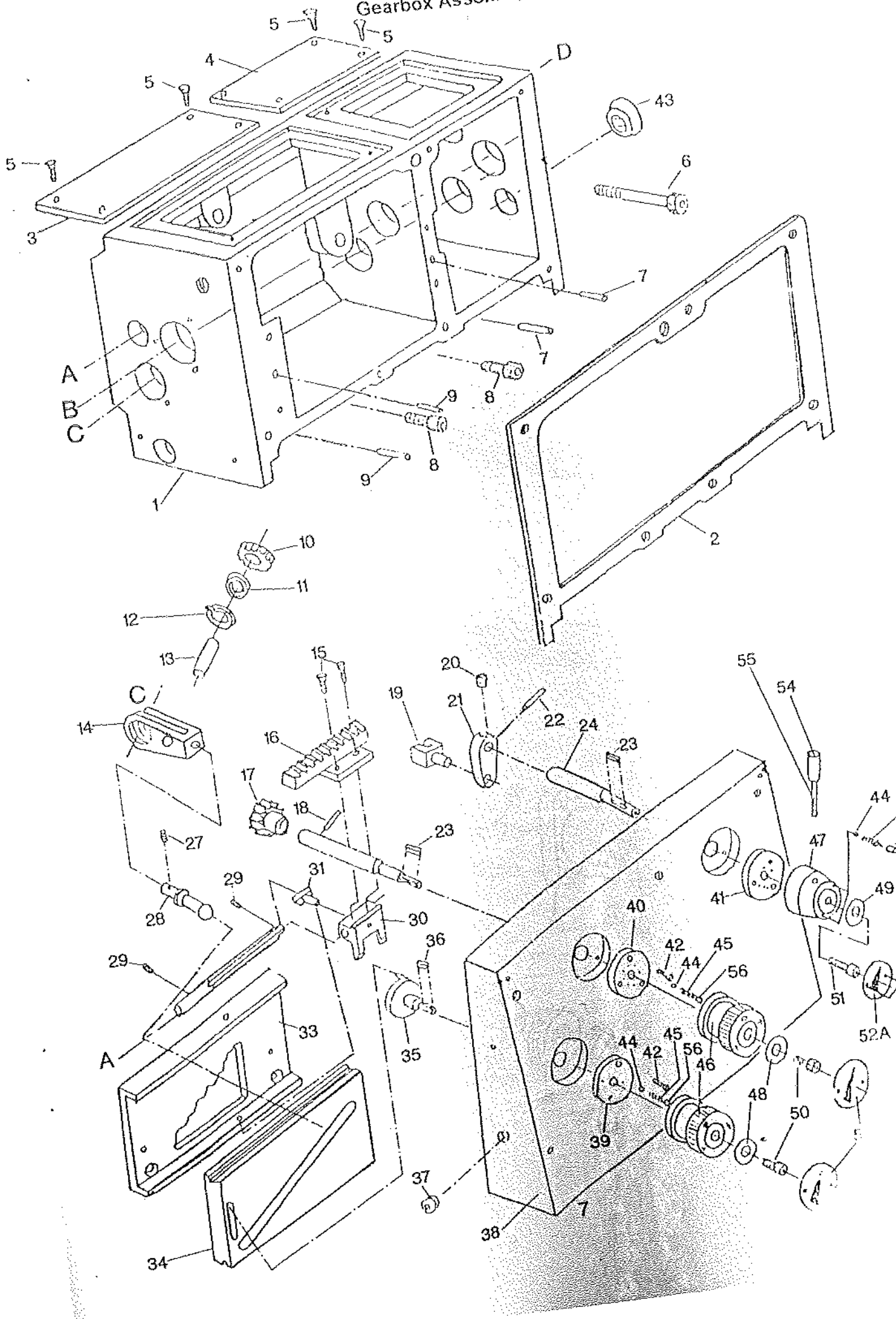
Headstock Assembly

Index No.	Part No.	Description	Size	Qty.
1	04-01	Head Casting		1
	GH1440A-04-01	Head Casting		1
2	04-04	Headstock Cover		1
3	04-09	Gasket		1
4	TS-150308	Hex Socket Cap Screw	M6x35	10
5	04-72	Gear Shift Shaft		1
6	04-02	Gear Shift Shaft		1
7	TS-152403	Set Screw	M8x12	2
8	GB2089-1x5x22	Spring		2
9	GB3080-6	Steel Ball	6	2
10	04-89	Block		1
11	TS-152204	Set Screw	M5x12	1
12	GB879-5x30	Taper Pin		5
13	04-96	Shift Fork		1
14	04-87	Gear	45T	1
15	TS-152301	Set Screw	M6x6	3
16	GB3452.1	O-Ring	14x2.65	4
17	04-75	Shift Lever		1
18	04-08	Shift Lever		1
19	04-07	Gear Shifter		1
20	04-76	Gear Shifter		1
21	04-93	Shift Crank		1
22	04-94	Crank Pin		1
23	GB3452.2	O-Ring	11.2x2.65	1
24	TS-152104	Set Screw	M4x10	1
25	TS-1503031	Hex Socket Cap Screw	M6x12	8
26	04-62	Retaining Clip		2
27	04-97	Shifting Hub		2
28	GB4141.14	Handle Knob	10x50	4
29	04-81	Handle Shaft		2
30	04-98	Shifting Body		1
31	04-80	Handle Shaft		1
32	04-68	Inner Ring		1
33	04-88	Gear and Shaft Assembly	35T	1
34	GB3452.3	O-Ring	26.5x2.65	1
35	TS-150604	Hex Socket Cap Screw	M12x35	4
36	04-82	Alignment Bolt		2
37	04-83	Alignment Block		1
38	GB5781-M10x40	Alignment Bolt	M10x40	2
39	04-84	Drain Plug		1
40	04-73	Shift Fork		1
41	04-72	Shifting Crank		1
42	04-71	Shift Fork		1
43	04-70	Shifting Crank		1
44	GB1096-5x18	Key	5x18	1

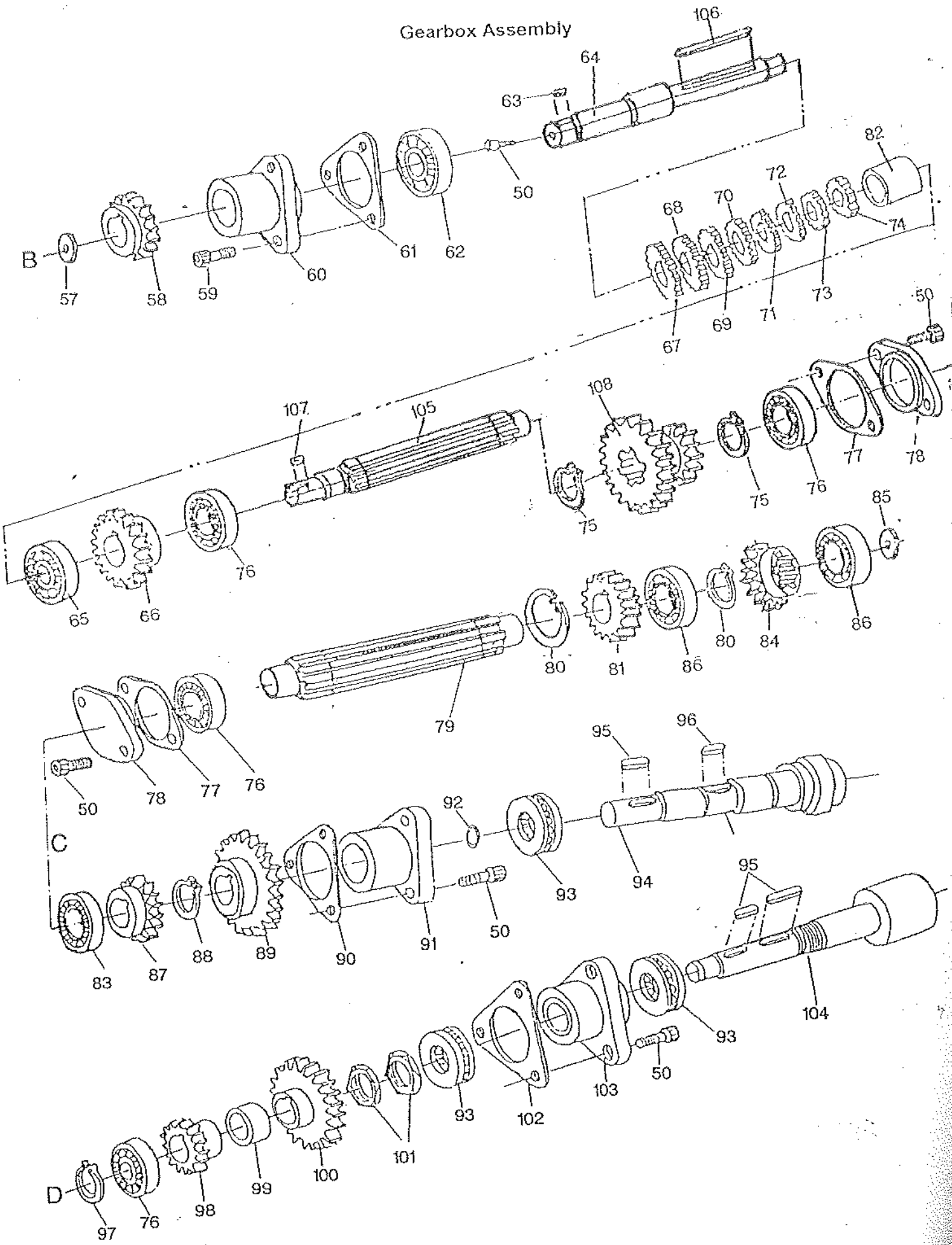
45	GB30809	Steel Ball	9	2
46	GB2089-0.9x9x40	Spring		2
47	04-67	Shaft		1
48	GB3452.4	O-Ring	15x2.65	2
49	04-69	Shaft		1
50	04-63	Shaft		1
51	GB77-M12x12	Set Screw	M12x12	2
52	04-68	Cover		1
53	04-95	Lever		1
54	04-61	Collar		1
55	04-21	Shaft (A)		1
56	04-12	Washer		1
57	04-11	Pulley		1
58	GH1340A-11-10	Break Block		1
59	GB879-5x25	Pin		1
60	11-09	Brake Actuator Shaft		1
61	GB896.6-12	Retainer Ring	12	1
62	11-15	Brake Shoe Assembly		1
63	GB894.1-12	Retainer Ring	12	1
64	11-11	Brake Retainer Stud		1
65	TS-150305	Hex Socket Cap Screw	M6x20	6
66	HG4-692-67	Spacer	SD25x45x10	1
67	04-13	Cover		1
68	04-14	Gasket		1
69	GB894.2-25	Retainer Ring	25	5
70	BB-6205	Ball Bearing		1
71	GB1096-8x20	Key		1
72	GB1096-8x50	Key		2
73	GH1340-04-18	Key	7x50	1
74	TS-150404	Hex Socket Cap Screw	M8x20	1
75	GH1340A-04-15	Gear	38T	1
76	GH1340A-04-16	Gear	23T	1
77	GH1340A-04-17	Collar		1
78	GH1340A 04-19	Gear	30T	1
79	GH1340A-04-20	Gear	46T	1
80	BB-6204	Ball Bearing		4
81	GB894.2-20	Retainer Ring	20	1
82	04-40	Plug		1
83	GB3452.5	O-Ring	19x2.65	1
84	04-65	Shaft (B)		1
85	04-53	Bearing Cap		2
86	04-52	Bearing Cap Gasket		2
87	04-64	Collar		1
88	GB894.2-50	Retainer Ring		2
89	04-66	Gear	39T	1
90	04-22	Gear	54T	1
91	04-23	Gear	47T	1
92	04-24	Gear	31T	1
93	04-25	Spacer		1
94	BB-6105	Ball Bearing		2
95	GB894.2-37	Retainer Ring		1
96	04-26	Gear	60T	1
97	GB1096-8x28	Key		1
98	04-27	Gear	21T	1
99	GB893.1-41	Retainer Ring		1
100	04-28	Plug		1
101	GB3452.6	O-Ring	40x3.55	1

102	04-31	Spindle		1
103	TS-150304	Hex Socket Cap Screw	M6x16	6
104	04-59	Spindle Bearing Cover		1
105	04-60	Gasket		1
106	GB70-5x14	Hex Socket Cap Screw	5x14	2
107	04-58	Lock Collar		1
108	GB297-D7210	Tapered Roller Bearing	D7210	1
109	04-57	Gear	38T	1
110	GB894.2-55	Retainer Ring		1
111	04-32	Gear	43T	1
112	04-34	Gear	82T	1
113	04-33	Collar		1
114	GB297-D7511	Tapered Roller Bearing	D7511	1
115	04-30	Gasket		1
116	04-29	Front Bearing Cover		1
117	TS-150306	Hex Socket Cap Screw	M6x25	3
118	GB1096-8x32	Key		1
119	GB1096-8x56	Key		1
120	04-85	Camlock		3
121	04-86	Camlock Set Pin		3
122	GB1096-0.6x4x22	Spring		3
123	TS-150403	Hex Socket Cap Screw		3
124	04-37	Shaft (C)		1
125	GB3452.7	O-Ring	23.6x2.65	1
126	GB1096-5x16	Key		1
127	04-55	Gear	21T	1
128	04-54	Gear	32T	1
129	GB894.2-38	Retainer Ring		1
130	04-36	Spacer		2
131	04-35	Gear	32T	1
132	04-47	Shaft (D)		1
133	GB1096-6x90	Key		1
134	04-46	Gear	42T	1
135	04-45	Collar		1
136	04-44	Gear	32T	1
137	04-41	Gear	32T	1
138	04-39	Collar		1
139	04-42	Shaft (E)		1
140	HG4-692-67A	Spacer	25X40x10	1
141	04-49	Housing		1
142	04-48	Housing Gasket		1
143	BB-6104	Ball Bearing		2
144	04-43	Gear	38T	1

Gearbox Assembly



Gearbox Assembly

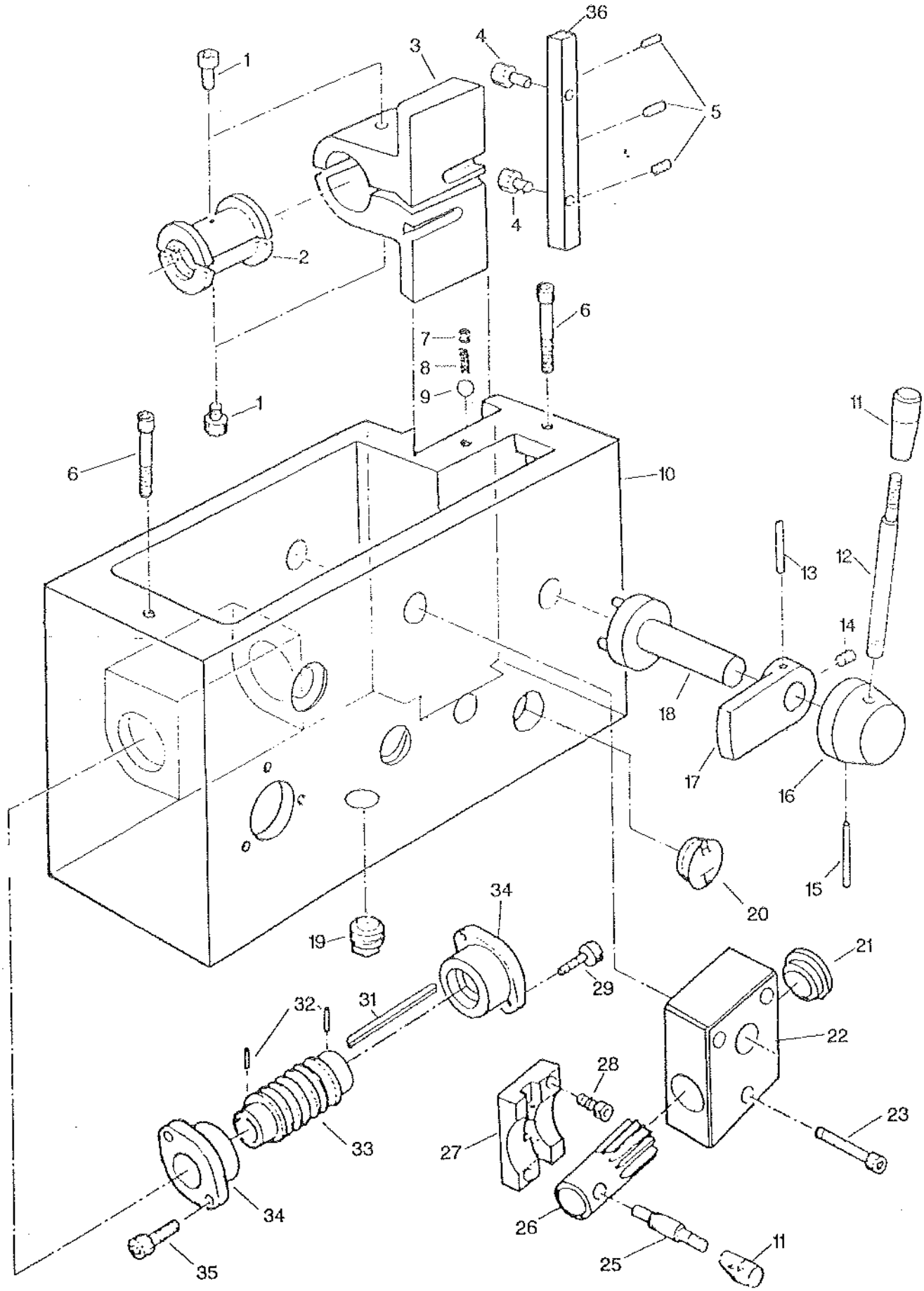


Gearbox Assembly

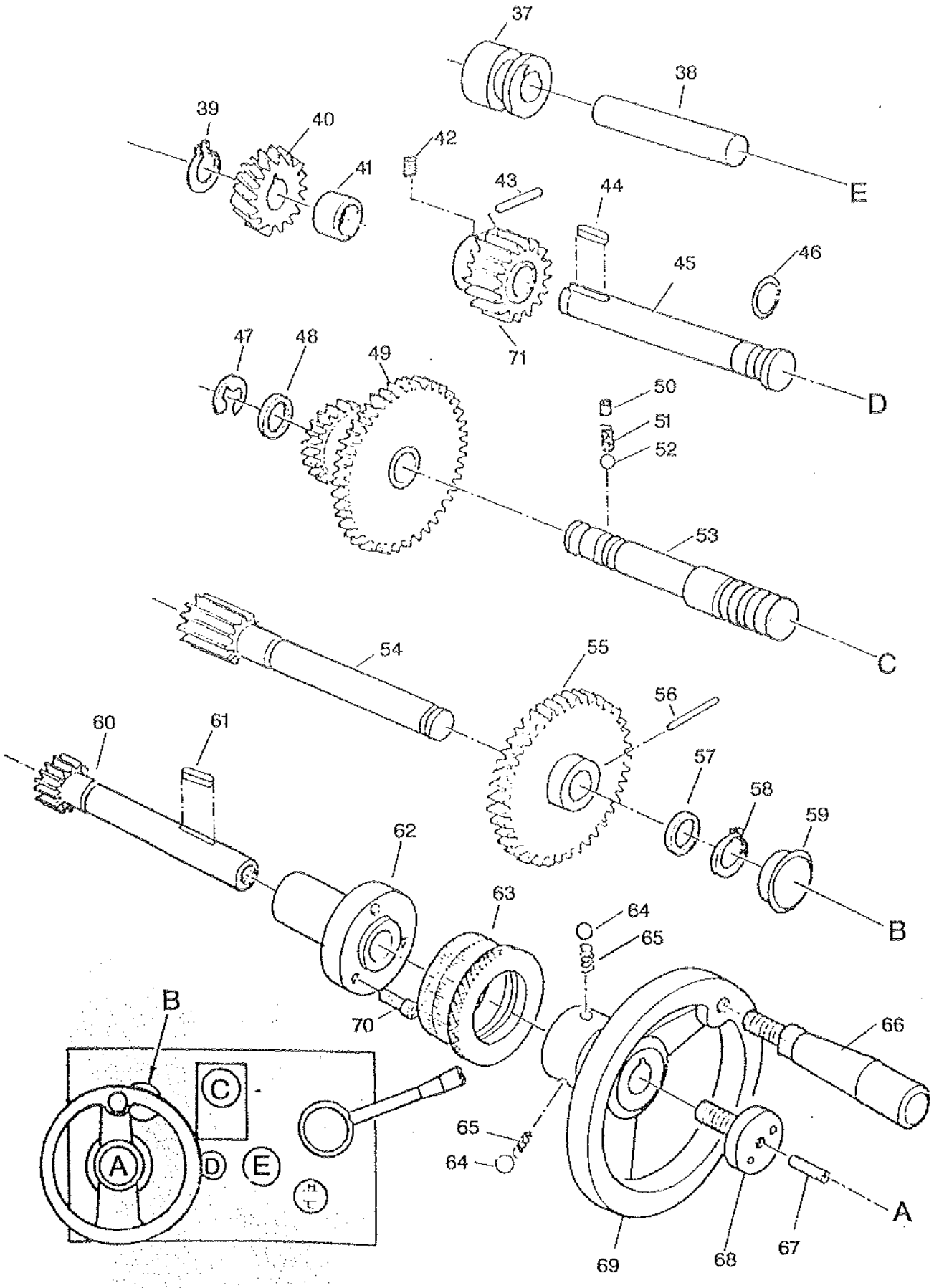
1	05-63	Gearbox Casting		1
2	05-61	Gasket		1
3	05-07	Front Cover		1
4	05-54	Cover		1
5	TS-1532031	Flat Head Machine Screw	M4x10	8
6	TS-150408	Hex Socket Cap Screw	M8x40	1
7	GB117-5x20	Pin	5x20	2
8	TS-150405	Hex Socket Cap Screw	M8x25	2
9	GB117-5x28	Pin	5x28	2
10	05-50	Locating Fork		1
11	1000098	Spacer		1
12	GB893.1-19	Retainer Ring		1
13	05-51	Shaft		1
14	05-03	Shifter		1
15	TS-150302	Hex Socket Cap Screw	M6x10	2
16	05-13	Rack		1
17	05-14	Gear	26T	1
18	GB879-5x20	Pin		1
19	05-55	Shift Fork		1
20	TS-152302	Set Screw	M6x8	1
21	05-56	Shift Lever		1
22	GB879-5x20	Pin		1
23	GB1096-4x10	Key		2
24	05-57	Shaft		1
27	TS-152302	Set Screw	M6x8	1
28	05-02	Shaft		1
29	TS-152302	Set Screw	M6x8	2
30	05-12	Shift Fork		1
31	05-01	Shift Key		3
33	05-05	Locating Plate		1
34	05-04	Control Plate		1
35	05-60	Shift Hub		1
36	GB1096-4x10	Key	4x10	1
37	Q/2B285.3	Plug		1
38	05-66	Cover		1
	GH1440A-05-66	Cover		1
39	05-59	Locating Disk		1
40	05-10	Locating Disk		1
1	05-58	Locating Disk		1
42	TS-1533031	Flat Head Machine Screw	M5x10	6
43	GB1160-12	Hub		1
44	GB308-6.5	Steel Ball		9
45	GB2089-0.8x5x25	Spring		4
46	05-09	Shift Hub		2
47	05-68	Shift Hub		1
48	05-08	Washer		2
49	05-08	Washer		1
50	TS-150304	Hex Socket Cap Screw	M6x16	13
51	TS-150304	Hex Socket Cap Screw	M6x16	1
52	05-70	Indicator Disk		2
52A	04-90	Indicator Disk		1
53	TS-153101	Pan Head Machine Screw	M3x6	6
54	GB4141.14-BM10x50	Handle Cap		1
55	05-69	Handle Shaft		1
56	TS-152401	Set Screw	M8x8	4
57	05-42	Retaining Clip		1

58	05-41/1	Gear	70T	1
59	TS-15.305	Hex Socket Cap Screw	6x20	3
60	05-39	Flange		1
61	05-38	Gasket		1
62	BB-6104	Ball Bearing		1
63	GB1096-5x14	Key		1
64	05-40/1	Shaft		1
65	7000102	Ball Bearing		1
66	05-36/1	Gear	26T	1
67	05-35	Gear	28T	1
68	05-34	Gear	26T	1
69	05-33	Gear	24T	1
70	05-32	Gear	23T	1
71	05-31	Gear	22T	1
72	05-30	Gear	20T	1
73	05-29	Gear	18T	1
74	05-28	Gear	16T	1
75	GB894.1-20	Retainer Ring		2
76	BB-6202	Ball Bearing		4
77	05-48	Gasket		2
78	05-47	Flange		2
79	05-52/1	Shaft		1
80	GB893.1-32	Retainer Ring		2
81	05-49	Gear	16T	1
82	05-67/1	Shaft Collar		1
83	BB-6103	Ball Bearing		2
84	05-37/1	Gear	26T	1
85	GH1340A-05-66	Washer		1
86	1000304	Bearing		2
87	05-25	Gear	21T	1
88	GB876-15	Retainer Ring		1
89	05-19	Gear	36T	1
90	05-53	Gasket		1
91	05-17	Flange		1
92	GB3452.1-15x2.65	O-Ring		1
93	BB-8104	Ball Bearing		2
94	05-16	Shaft		1
95	GB1096-5x14	Key		1
96	GB1096-6x14	Key		1
97	GB894.1-15	Retainer Ring		1
98	05-26	Gear	16T	1
99	05-24	Collar		1
100	05-22	Gear	32T	1
101	05-20	Nut		2
102	05-53	Gasket		1
103	05-18	Flange		1
104	05-23	Shaft		1
105	05-27/1	Shaft		1
106	GB1096-5x75	Key		1
107	GB1096-5x8	Key		1
108	05-21	Gear		1

Apron Assembly



Apron Assembly

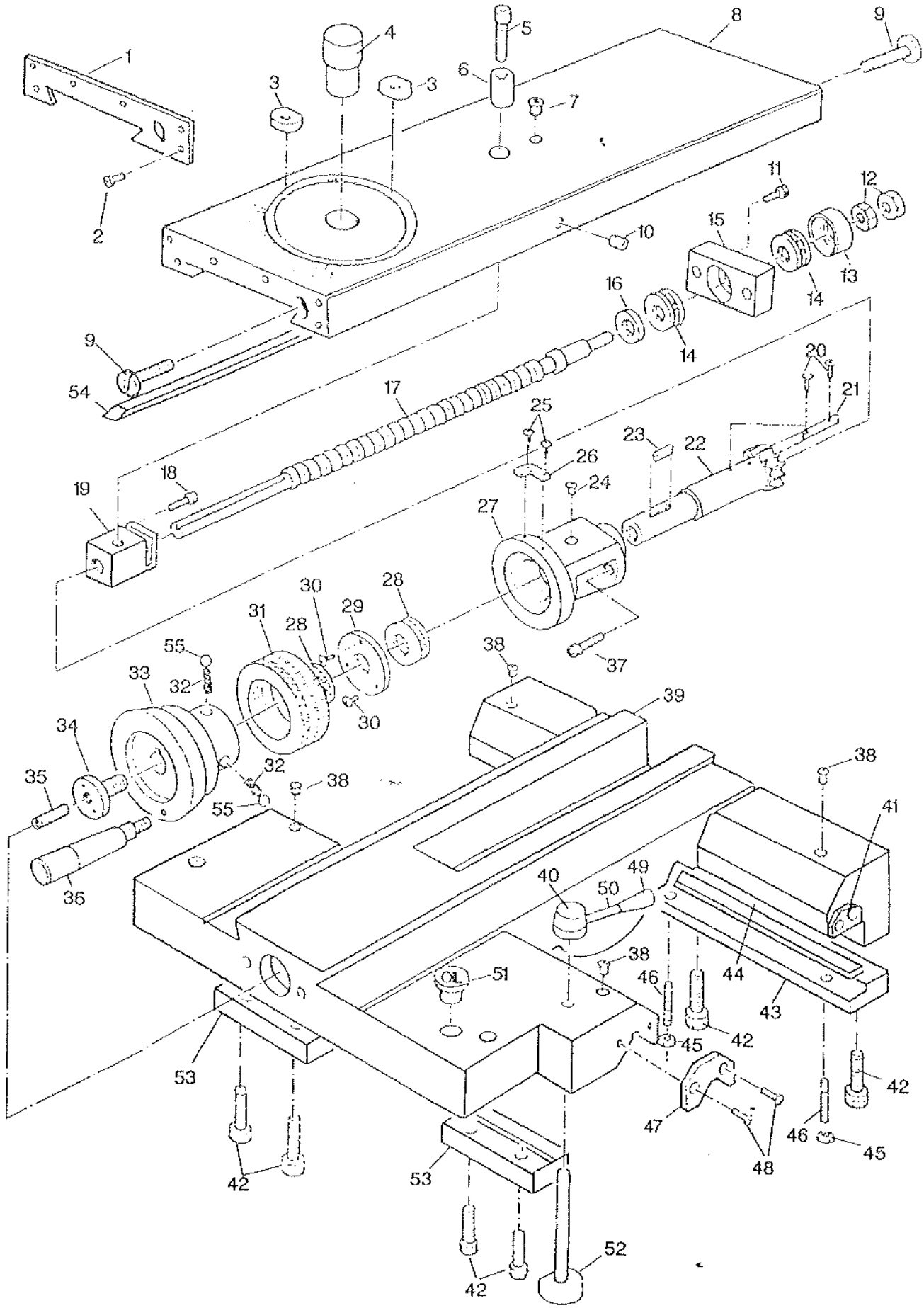


Apron Assembly

1	TS-150302	Hex Socket Cap Screw	M6x10	2
2	06-37A	Half Nut		1
3	06-36	Bracket		1
4	TS-150304	Hex Socket Cap Screw	M6x16	2
5	TS-152303	Set Screw	M6x10	3
6	TS-150408	Hex Socket Cap Screw	M8x40	2
7	TS-152401	Set Screw	M8x8	1
8	06-39	Spring		1
9	GB308-6	Steel Ball	6	1
10	06-01	Casting		1
11	GB4141.14-BM10x50	Knob		2
12	GH1340A-06-05	Handle Shaft		1
13	GB879-5x35	Pin	5x35	1
14	TS-152301	Set Screw	M6x6	1
15	GB879-5x50	Pin		1
16	06-29	Hub		1
17	06-40	Safety Catch		1
18	06-42	Half Nut Cam		1
19	Q/ZB285.3	Drain Plug		1
0	GB1160-12	Sight Glass		1
21	06-02	Plug		1
22	GH1340-06-16	Block		1
23	TS-150310	Hex Socket Cap Screw	M6x45	3
25	06-18	Handle Shaft		1
26	GH1340A-06-17	Spline Shaft		1
27	GH1340A-06-04	Bracket		1
28	TS-150303	Hex Socket Cap Screw	M6x12	2
29	TS-150304	Hex Socket Cap Screw	M6x16	2
31	GB1096-5x56	Key		1
32	GB879-3x5	Pin		2
33	06-27	Worm		1
34	06-34	Flange		2
35	TS-150304	Hex Socket Cap Screw	M6x12	2
36	06-33	Gib		1
37	06-44	Bushing		1
38	06-43	Shaft		1
39	GB894.1-16	Retainer Ring		1
40	06-28	Gear	22T	1
1	06-26	Collar		1
42	TS-152301	Set Screw	M6x6	1
43	GB879-5x35	Pin		1
44	GB1096-4x15	Key		1
45	06-19	Shaft		1
46	GB3452.1-17x1.8	O-Ring	17x1.8	1
47	GB896-12	Retainer Ring		1
48	06-10	Bushing		1
49	GH1340A-06-15	Cluster Gear	50T/20T	1
50	TS-152401	Set Screw	M8x8	1
51	06-14	Spring		1
52	GB608-6	Steel Ball	6	1
53	GH1340A-06-13	Shaft		1
54	06-06	Shaft		1
55	06-08	Gear	50T	1
56	GB879-5x30	Pin		1
57	06-10	Bushing		1

58	GB894.1-16	Retainer Ring		1
59	06-11	Plug		1
60	06-07	Shaft		1
61	GB1096-5x15	Key		1
62	06-09	Wheel Flange		1
63	06-31	Indicator Ring		1
64	GB308-6	Steel Ball	6	2
65	06-32	Spring		2
66	GB4141.5-M10x80	Handle		1
67	TS-152307	Set Screw	M6x25	1
68	06-30	Wheel Stud		1
69	06-12	Wheel		1
70	TS-150304	Hex Socket Cap Screw	M6x16	3
71	06-20	Gear	24T	1

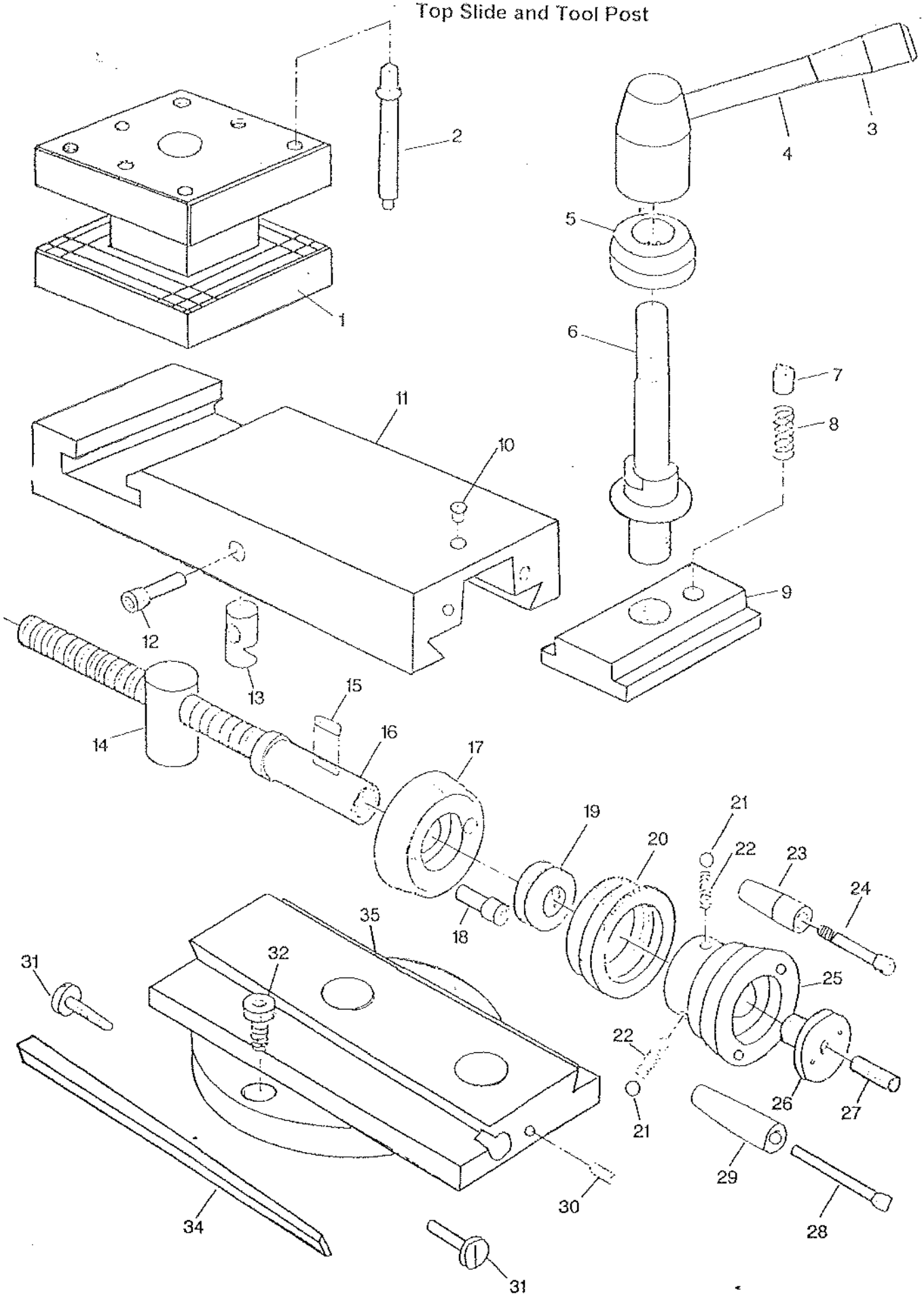
Saddle and Cross Slide Assembly



Saddle and Cross Slide Assembly

1	07-12	Plate w/ Wiper		1
2	GB827-2x8	Pan Head Screw		6
3	07-07	Clamp Nut		2
4	07-08	Hub		1
5	TS-150305	Hex Socket Cap Screw	M6x20	1
6	07-05	Sleeve		1
7	GB1155-8	Oiler	8	1
8	07-01	Cross Slide Body		1
9	07-28	Gib Adjusting Screw		2
10	TS-152401	Set Screw		1
11	TS-150307	Hex Socket Cap Screw	M6x30	2
12	GB6172-M10	Hex Nut		2
13	07-02	Bearing Cap		1
14	BB-8101	Thrust Bearing		2
15	07-03	Block		1
16	07-25	Spacer		1
17	07-06	Leadscrew		1
18	TS-150303	Hex Socket Cap Screw	M6x12	1
19	07-22	Crossfeed Nut		1
20	GB819-M3x5	Pan Head Machine Screw	M3x5	2
21	07-21	Key		1
22	07-20	Gear Shaft		1
23	GB1096-4x20	Key		1
24	GB1155-6	Oiler		1
25	GB827-2x8	Pan Head Screw		2
26	07-14	Plate		1
27	07-19	Housing		1
28	BB-8102	Thrust Bearing		2
29	07-18	Washer		1
30	TS-153203	Pan Head Machine Screw	M5x10	2
31	07-17	Index Ring		1
32	GB2089-0.7x5x9	Spring		2
33	07-16	Compound Handle		1
34	07-15	Cover Screw		1
35	TS-152307	Set Screw	M6x25	1
36	GB4141.5-M10x80	Handle Knob		1
37	TS-152306	Hex Socket Cap Screw	M6x20	1
38	GB1155-8	Oiler		4
39	GH1340A-01	Cross Slide Body		1
40	07-45	Hub		1
41	07-31	Wiper		2
42	TS-150404	Hex Socket Cap Screw	M8x20	6
43	07-24	Rear Pressure Plate		1
44	07-23	Gib		1
45	TS-1540041	Lock Nut	M6	3
46	TS-150306	Set Screw	M6x20	3
47	07-51	Wiper w/ Plate		1
48	TS-153303	Pan Head Machine Screw	M5x10	8
49	GB4141.14-M10x50	Knob		1
50	07-46	Handle Shaft		1
51	04-06	Oil Cap		1
52	07-47	Lock Stud		1
53	07-27	Front Pressure Plate		2
54	07-38	Gib		1

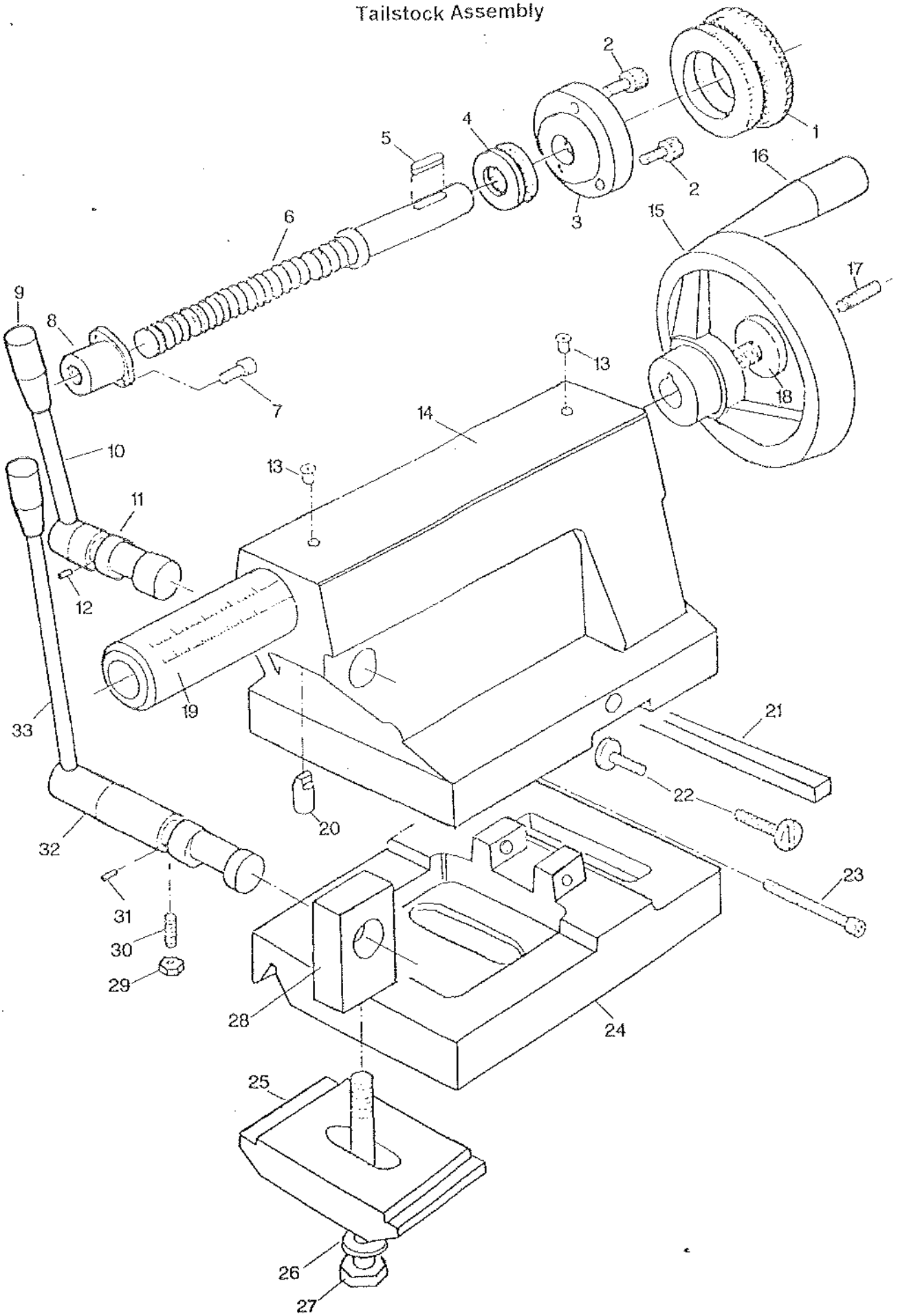
Top Slide and Tool Post



Top Slide and Tool Post

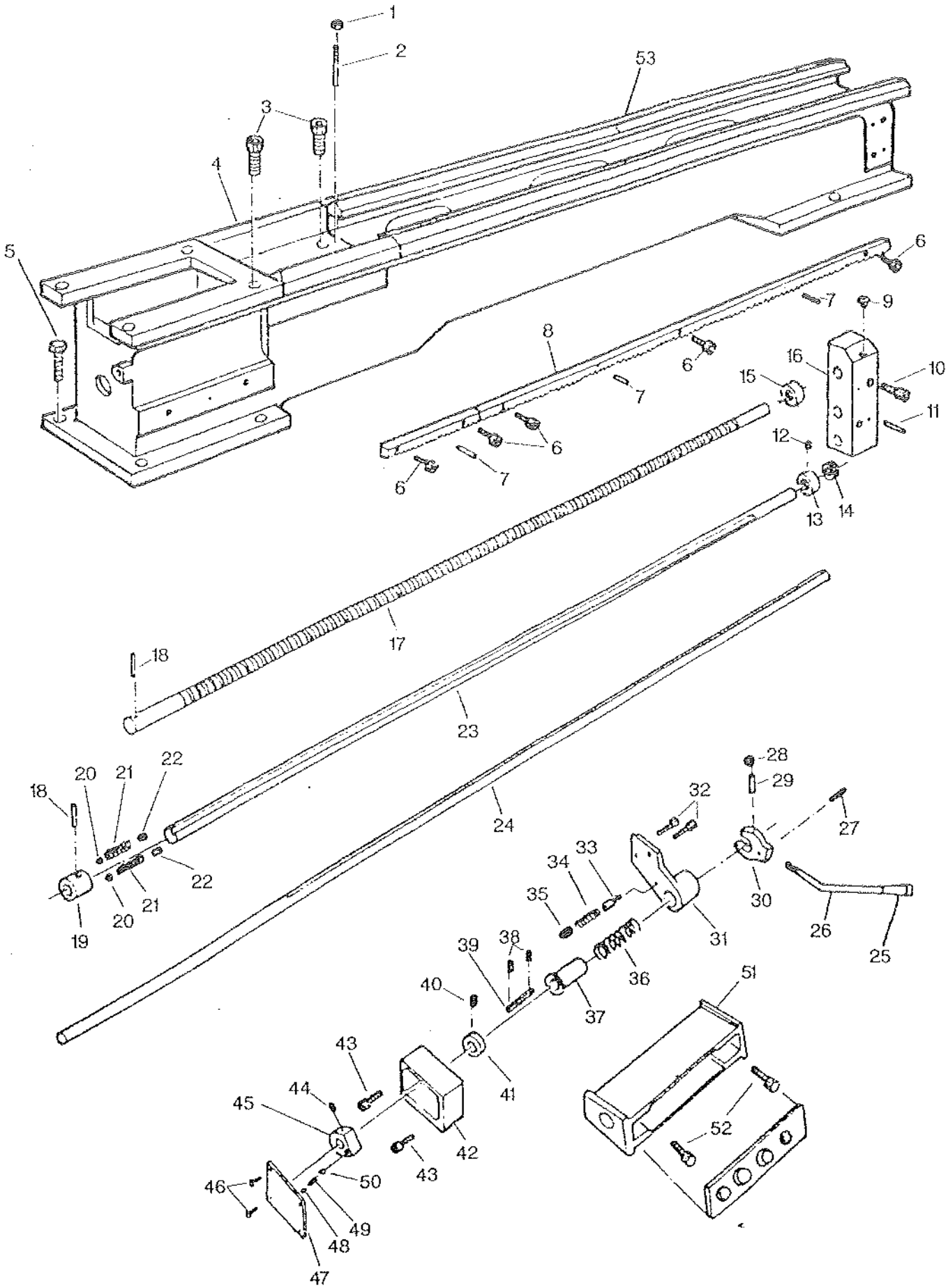
1	07-32	Tool Post		1
2	GB83-10x50	Tool Lock Screw		8
3	GB4141.14-M10x50	Knob		1
4	07-36	Handle Shaft		1
5	07-33	Spacer		1
6	07-34	Tool Post Pin		1
7	07-29	Tool Post Position Pin		1
8	GB2089-1x8x11	Spring		1
9	07-37	Clamp Nut		1
10	GB1155-8	Oiler		1
11	07-49	Compound Slide		1
12	TS-150305	Hex Socket Cap Screw	M6x20	1
13	07-09	Position Pin		1
14	07-39	Nut		1
15	GB1096-4x14	Key		1
16	07-40	Compound Screw		1
17	07-41	Screw Bushing		1
18	TS-150305	Hex Socket Cap Screw	M6x20	2
19	BB-8103	Thrust Bearing		1
20	07-42	Index Ring		1
21	GB308-6	Steel Ball	6	2
22	GB2089-0.7x5x9	Spring		2
23	07-43	Handle		1
24	TS-1502061	Hex Socket Cap Screw		1
25	07-48	Handwheel		1
26	07-15	Handle Screw		1
27	TS-152307	Set Screw	M6x25	1
28	GB70-M5x40	Set Screw	M4x40	1
29	07-44	Handle		1
30	TS-152305	Set Screw	M6x16	1
31	07-28	Gib Adjusting Screw		2
32	TS-152404	Hex Socket Cap Screw	M8x16	2
34	07-10	Gib		1
35	07-11	Swivel slide		1
	GH1440A-07-11	Swivel slide		1

Tailstock Assembly



1	08-09	Index Ring		1
2	TS-150305	Hex Socket Cap Screw	M6x20	3
3	08-08	Hub		1
4	BB-8103	Thrust Bearing		1
5	GB1096-4x20	Key		1
6	08-05	Screw		1
7	TS-150304	Hex Socket Cap Screw	M6x16	2
8	08-06	Flange		1
9	GB4141.5-B10x50	Knob		2
10	08-17	Lever Handle		1
11	08-03	Eccentric Shaft		1
12	GB879-5x12	Pin		1
13	GB1155-10	Oiler	10	2
14	08-01	Tailstock Body		1
15	08-20	Wheel		1
16	GB4141.5-M10x80	Handle		1
17	TS-152307	Set Screw	M6x25	1
18	08-12	Wheel Screw		1
19	08-04	Spindle		1
20	08-02	Stop Pin		1
21	08-19	Gib		1
22	08-18	Gib Adjusting Screw		2
23	TS-150409	Hex Socket Cap Screw	M8x45	2
24	08-13	Tailstock Base		1
	GH1440A-08-13	Tailstock Base		1
25	08-14	Tailstock Clamp Plate		1
26	TS-155008	Washer	M12	1
27	GB5782-12x75	Hex Cap Bolt	M12x75	1
28	08-16	Block		1
29	TS-1540041	Nut	M6	1
30	TS-152305	Set Screw	M6x16	1
31	GB879-5x12	Pin	5x12	1
32	08-15	Eccentric Shaft		1
33	08-10	Lever Handle		1

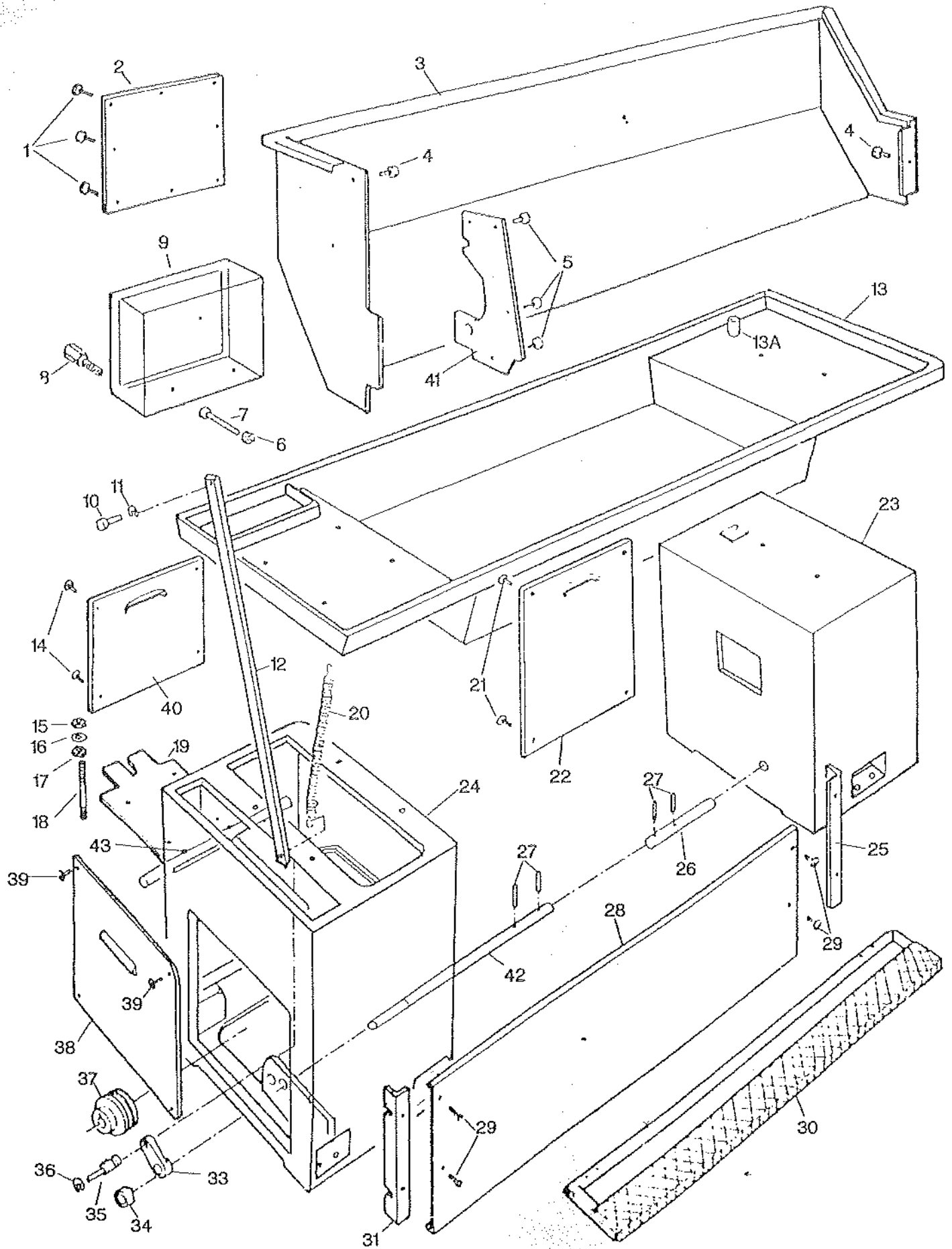
Bed and Shaft Assembly



Bed and Shaft Assembly

1	TS-1540061	Nut	M8	2
2	GB881-8x60	Pin	M8x60	2
3	TS-1505061	Hex Socket Cap Screw	M10x40	4
4	01-39	Gap		1
5	TS-1492051	Hex Cap Bolt	M12x50	6
6	TS-150306	Hex Socket Cap Screw	M6x25	6
7	GB879-5x35	Pin	5x35	6
8	01-07	Rack		1
9	GB-1155-10	Oiler	10	1
10	TS-150411	Hex Socket Cap Screw	M8x55	2
11	GB117-5x60	Pin	5x60	2
12	TS-152402	Set Screw	M8x10	1
13	01-16	Collar		1
14	01-18	Plug		2
15	01-10	Collar		1
16	01-13	End Bracket		1
17	01-11	Lead Screw		1
18	GB879-5x35	Pin	5x35	2
19	01-05	Clutch		1
20	GB308-6	Steel Ball	6	2
21	01-38	Spring		2
22	TS-152402	Set Screw	M8x10	2
23	01-15	Feed Shaft		1
24	01-17	Spindle Control Shaft		1
25	GB4141.14-BM10x50	Knob		1
26	01-081/6	Control Handle		1
27	GB879-3x20	Set Screw	3x20	1
28	TS-1540041	Nut	M6	2
29	TS-152306	Set Screw	M6x20	2
30	01-086/6	Control Fork		1
31	01-084/6	Control Bracket		1
32	TS-150304	Hex Socket Cap Screw	M6x16	2
33	01-082/6	Pin		1
34	GB2089-0.8x5x25	Spring		1
35	TS-152401	Set Screw	M8x8	1
36	GB2089-3x35x70	Spring		1
37	01-085/6	Sleeve		1
38	TS-152002	Set Screw	M3x6	2
39	01-083/6	Key		1
40	TS-152303	Set Screw	M6x10	1
41	01-03	Collar		1
42	12-02	Switch Box		1
43	TS-150305	Hex Socket Cap Screw	M6x20	2
44	TS-152305	Set Screw	M6x16	1
45	01-28	Shift Collar		1
46	TS-1532032	Pan Head Machine Screw	M4x10	4
47	12-03	Cover Plate		1
48	TS-152404	Set Screw	M8x16	1
49	GB2089-1x5x22	Spring		1
50	GB308-6	Steel Ball	6	1
51	12-01	Control Panel Assembly		1
	GH1440A-12-01	Control Panel Assembly		2
52	TS-150405	Hex Socket Cap Screw	M8x25	2
53	01-04	Bed		1

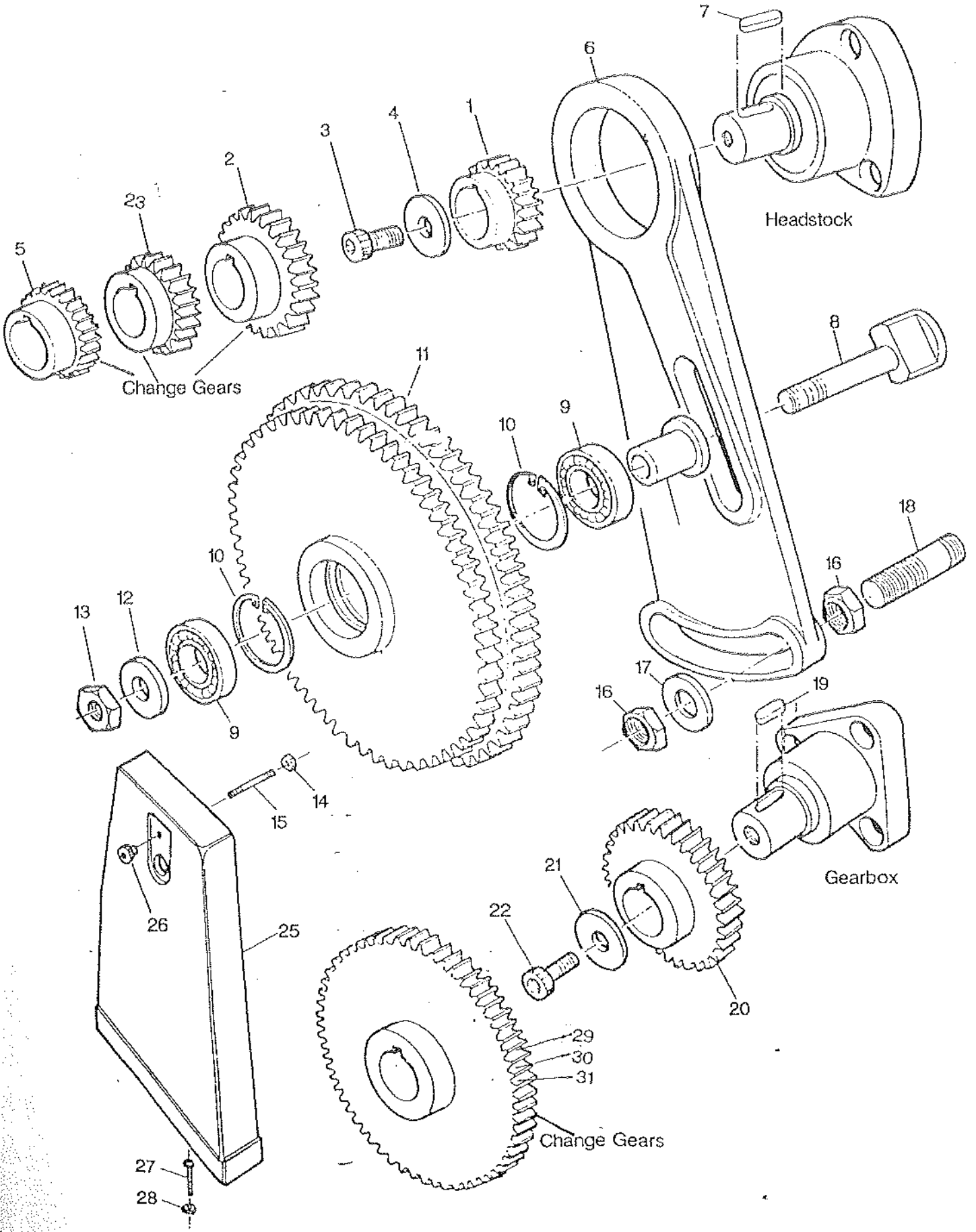
Stand and Brake Assembly



Stand and Brake Assembly

1	TS-150204	Hex Socket Cap Screw	M5x16	8
2	12-06	Electrical Box Cover		1
3	01-09	Splash Guard		1
4	TS-150302	Hex Socket Cap Screw	M6x10	3
5	TS-150302	Hex Socket Cap Screw	M6x10	4
6	TS-1540041	Hex Nut	M6	4
7	TS-150305	Hex Socket Cap Screw	M6x20	3
8	01-26	Bolt		3
9	12-07	Electrical Box		1
	GH1440A-12-07	Electrical Box		1
10	11-12	Pin		1
11	GB896-6	Clip	6	1
12	11-08	Connector Bar		1
	GH1440A-11-08	Connector Bar		1
13	01-33	Chip Tray		1
13A	GH1340-SP	Spacer		6
14	TS-150302	Hex Socket Cap Screw	M6x10	4
15	TS-1540081	Hex Nut	M12	1
16	TS-155008	Washer	M12	1
17	TS-1540081	Hex Nut	M12	1
18	01-23	Screw		1
19	01-22	Plate		1
20	11-04	Spring		1
21	TS-150302	Hex Socket Cap Screw	M6X10	4
22	01-34	Cover		1
23	01-20	Pedestal (right)		1
24	01-01	Pedestal (left)		1
25	01-32	Bracket		1
26	11-01	Shaft		1
27	GB879-5x15	Pin	5x15	4
28	01-21	Front Plate		1
29	TS-150302	Hex Socket Cap Screw	M6x10	8
30	11-023/3	Brake Pedal		1
31	01-32	Bracket		1
33	11-06	Link		1
34	11-07	Link Nut		1
35	11-05	Shaft Pin		1
36	GB896-6	Retaining Clip		1
37	01-24	Pulley		1
38	01-02	Cover		1
39	TS-150302	Hex Socket Cap Screw		4
40	01-25	Cover		1
41	01-04	Cover Plate		1
	GH1440A-01-04	Cover Plate		1
42	11-03	Shaft		1
43	01-29	Shaft		1

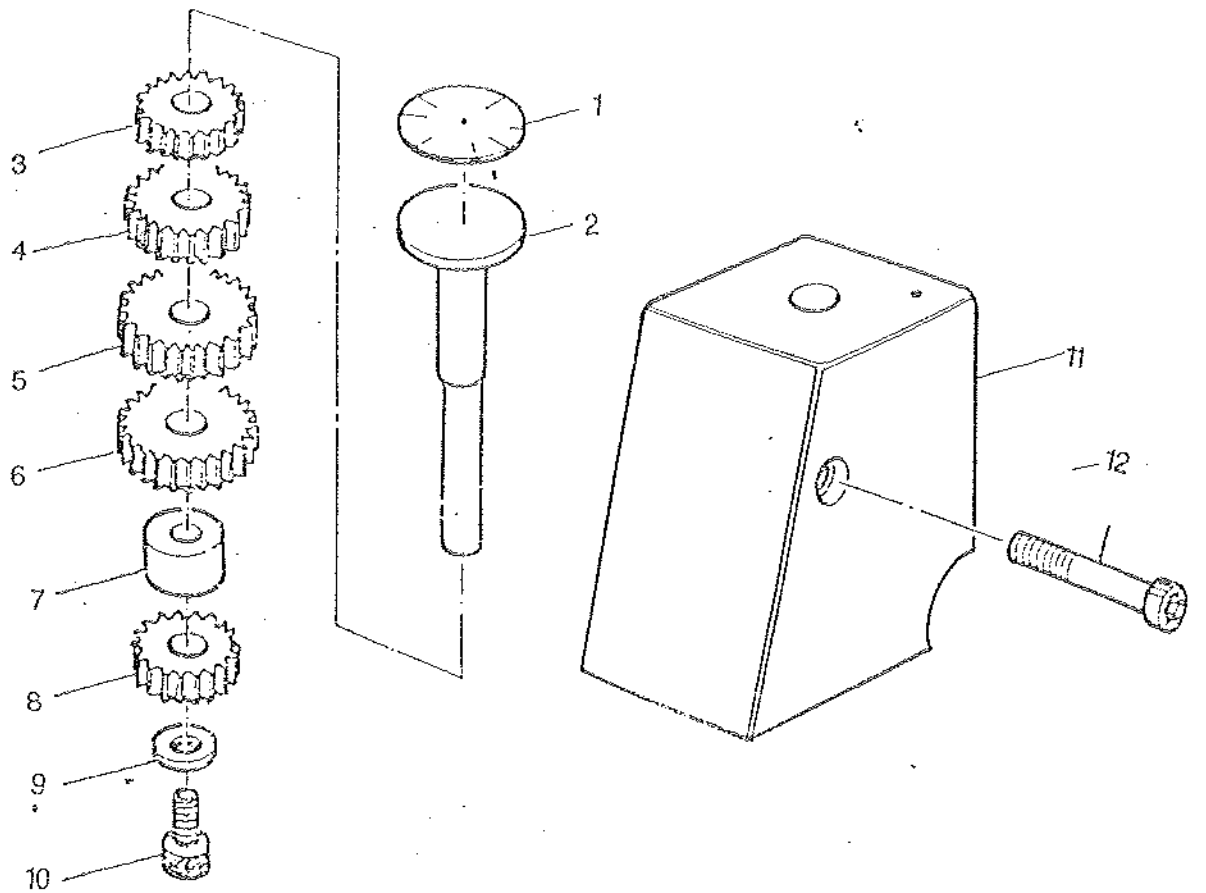
End Gear Assembly



End Gear Assembly

1	15-02	Gear	30T	1
2	15-04	Gear	40T	1
3	TS-150204	Hex Socket Cap Screw	M5x16	1
4	04-51	Washer		1
5	04-50	Gear	24T	1
6	05-46	Quadrant		1
7	GB1096-5x14	Key		1
8	05-43	Threaded Shaft		1
9	BB-6103	Ball Bearing		2
10	GB8931-35	Retaining Ring		2
11	05-65	Gear	120/127T	1
12	05-44	Washer		1
13	TS-154007	Nut	M10	1
14	TS-154007	Nut	M10	1
15	GB1097-M10x80	Stud		1
16	TS-154008	Nut	M12	2
17	GB97.212-140HV	Washer		1
18	01-36	Stud		1
19	GB1096-5x14	Key		1
20	15-03/1	Gear	60T	1
21	05-42	Washer		1
22	TS-150304	Hex Socket Cap Screw	M6x16	1
23	15-03	Gear	32T	1
25	04-78	Gear Cover		1
26	04-77	Lock Knob		1
27	TS-150306	Hex Socket Cap Screw	M6x25	1
28	TS-1540041	Nut	M6	1
29	15-04/1	Gear	65T	1
30	15-05/1	Gear	66T	1
31	15-41/1	Gear	70T	1

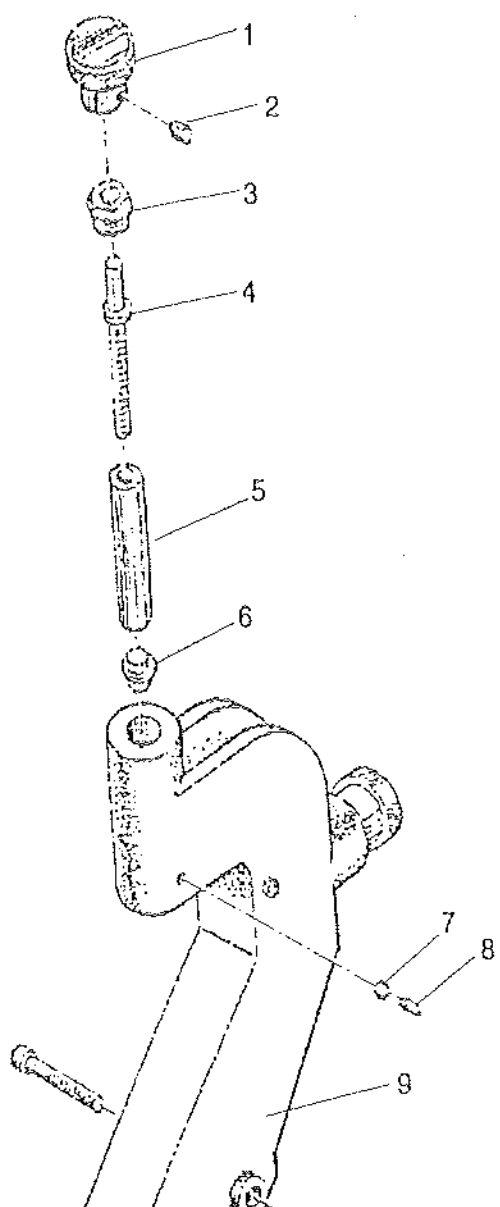
MM



Threading Dial Assembly

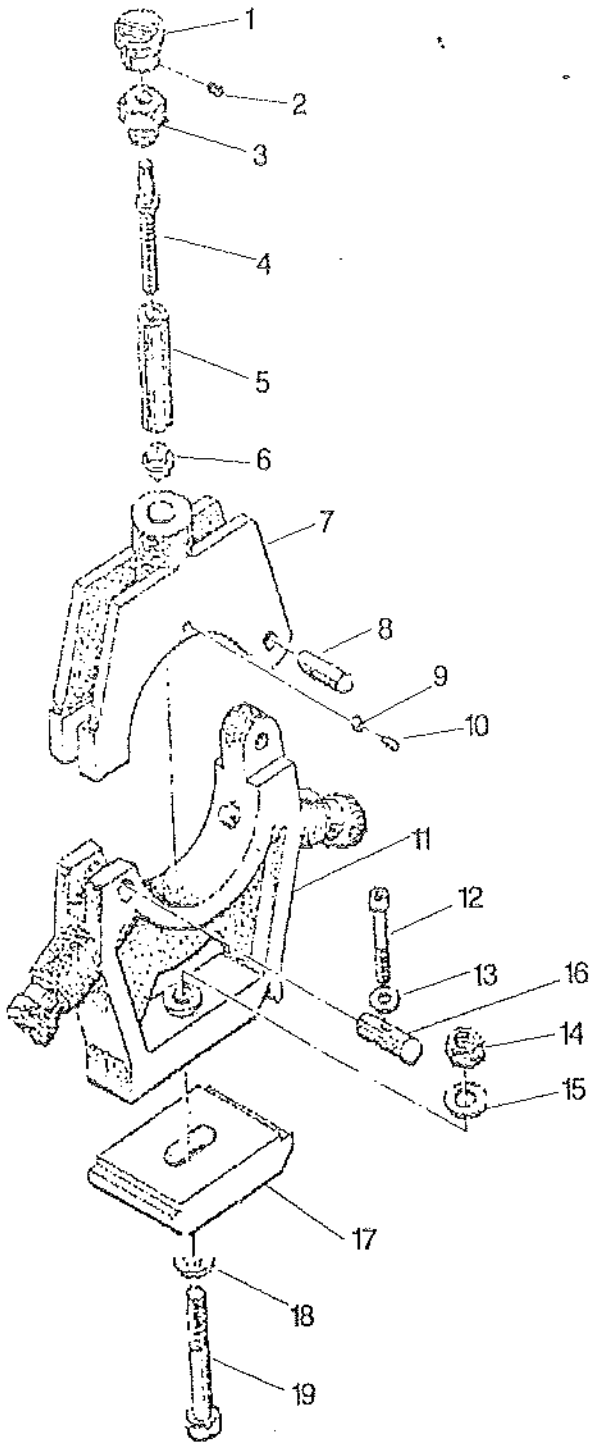
1	06-21	Indicator Dial	1
2	06-21/3	Shaft	1
3	06-21/4	Gear	1
4	06-21/5	Gear	1
5	06-21/6	Gear	1
6	06-21/7	Gear	1
7	06-21/8	Washer	1
8	06-21/9	Gear	1
9	06-21/11	Washer	1
10	GB70-85	Hex Socket Cap Screw M6x15	1
11	06-21/1	Body	1
12	GB70-85	Hex Socket Cap Screw M6x45	1

Follow Rest



Follow Rest

1	10B-03	Knob		2
2	TS-152301	Set Screw	M6x6	2
3	10B-04	Bushing		2
4	10B-05	Screw		2
5	10B-02	Sleeve		2
6	10B-06	Brass Finger		2
7	TS-1540041	Hex Nut	M6	2
8	TS-152301	Set Screw	M6x6	2
9	10B-01	Body Casting		1
	GH1440A-10B-01	Body Casting		1
10	TS-150310	Hex Socket Cap Screw	M6x45	2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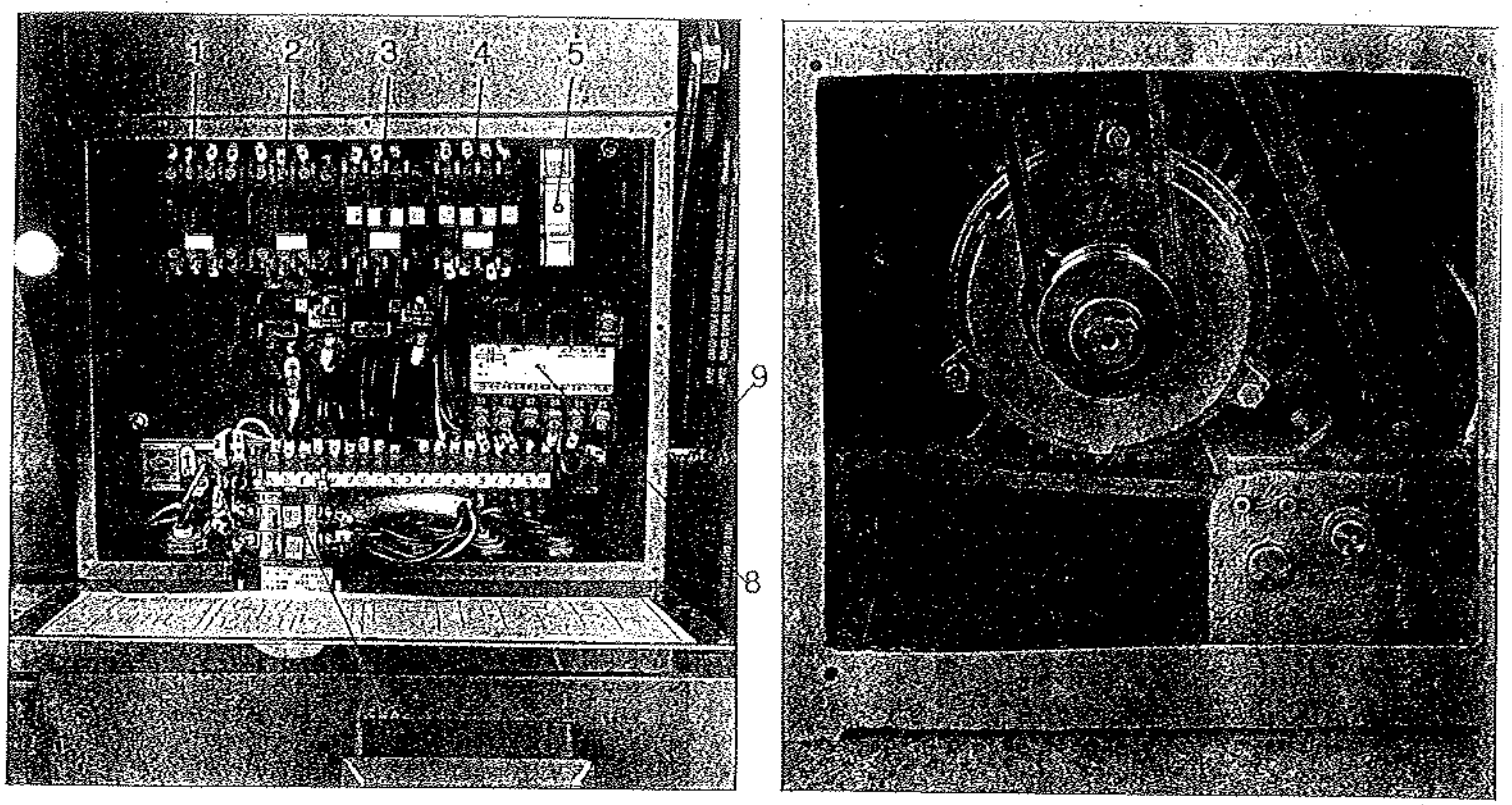
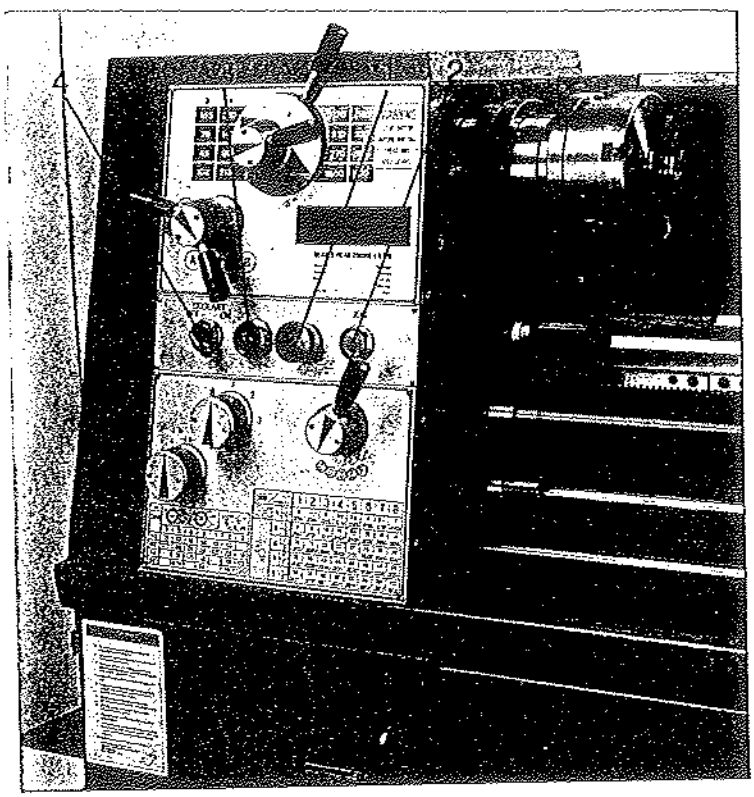
Steady Rest

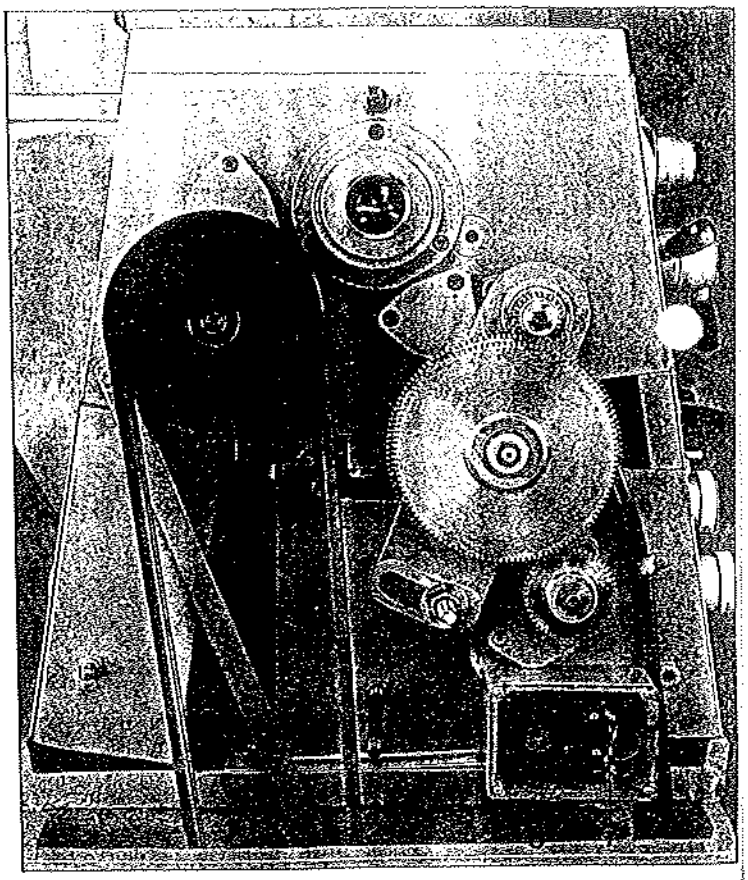
1	10A-04	Knob		3
2	TS-152301	Set Screw	M6x6	3
3	10A-05	Bushing		3
4	10A-06	Screw		3
5	10A-07	Sleeve		3
6	10A-08	Brass Finger		3
7	10A-03	Upper Body Casting		1
8	GH1340A-08SR	Pin		1
9	TS-1540041	Hex Nut	M6	3
10	TS-150304	Set Screw	M6x16	3
11	10A-01	Lower Body Casting		1
	GH1440A-10A-01	Lower Body Casting		1
12	TS-150310	Hex Socket Cap Screw	M6x50	1
13	TS-155004	Flat Washer	M6	1
14	TS-1540081	Hex Nut		1
15	TS-1550081	Flat Washer	M12	1
16	10A-02	Lock Pin		1
17	10A-09	Clamp Plate		1
18	TS-1550081	Flat Washer	M12	1
19	TS-1492081	Hex Cap Bolt	M12x80	1

Electrical Components



1	GH1340A-KM1	Magnetic Starter (forward)	1
2	GH1340A-KM2	Magnetic Starter (reverse)	1
3	GH1340A-KA1	Coolant Pump Contactor	1
4	GH1340A-KA2	Control Contactor	1
5	GH1340A-FUSE	2 Amp Fuse ..... local puchase	1
6	GH1340A-FR1	Motor Overload Relay	1
7	GH1340A-FR2	Coolant Pump Overload Relay	1
8	GH1340A-TR	Control Transformer	1
9	GH1340A-SQ2	Door Switch	1
10	GH1340A-SA	Power On/Off Switch	1
11	GH1340A-SQ1	Brake Switch	1

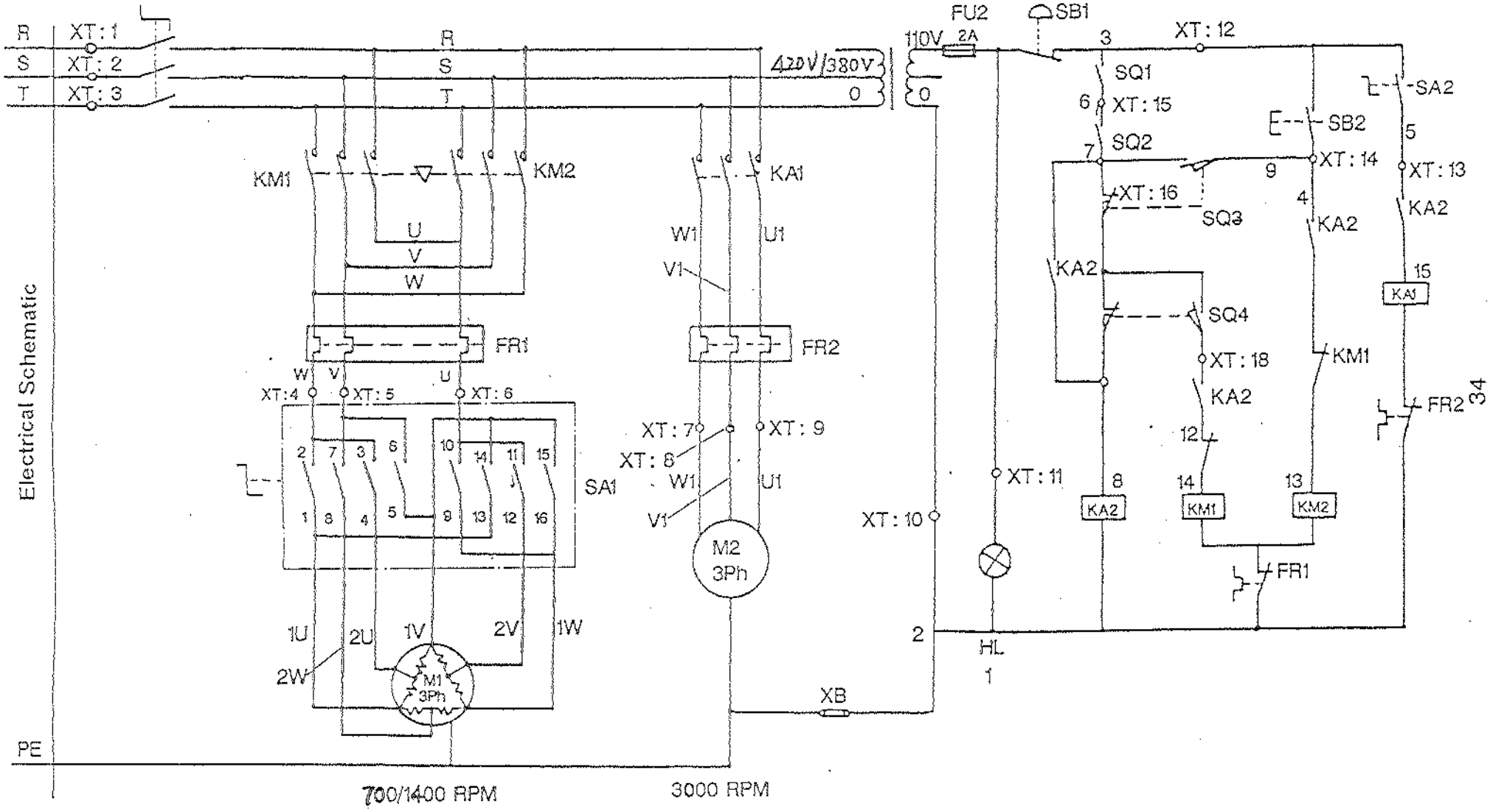




1	GH1340A-SB1	Off Switch	1
2	GH1340A-SB2	Jog Switch	1
3	GH1340A-HL1	Power Indicator Light	1
4	GH1340A-SA2	Coolant Pump Switch	1
5	GH1340A-SA1	2-Speed High/Low Switch	1
6	GH1340A-SQ3	Forward Switch	1
7	GH1340A-SQ4	Reverse Switch	1
	GH1340A-M1	Main Motor (not shown)	1
	GH1340A-M2	Coolant Pump Motor (not shown)	1

GH-1340A Electrical Schematic Symbol Glossary

Symbol	Component	Location
SB1	Off Switch	Front Panel
SB2	Jog Switch	Front Panel
HL1	Power Indicator Light	Front Panel
SQ1	Brake Switch	Inside Bottom Cover - Headstock End
SQ2	Door Switch	Inside Change Gear Cover
SQ3	Forward Switch	Inside Change Gear Cover
SQ4	Reverse Switch	Inside Change Gear Cover
SA	Power On/Off Switch	On Electrical Panel Cover - Rear Of Machine
SA1	2-Speed High/Low Switch	Under Headstock on Stand
SA2	Coolant Pump Switch	Front Panel
KA1	Coolant Pump Contactor	Electrical Control Box - Rear of Machine
KA2	Control Contactor	Electrical Control Box - Rear of Machine
FR1	Motor Overload Relay	Electrical Control Box - Rear of Machine
FR2	Coolant Pump O/L Relay	Electrical Control Box - Rear of Machine
KM1	Magnetic Starter - Forward	Electrical Control Box - Rear of Machine
KM2	Magnetic Starter - Reverse	Electrical Control Box - Rear of Machine
TR	Control Transformer	Electrical Control Box - Rear of Machine
M1	Main Motor	Inside Stand - Headstock End
M2	Coolant Pump Motor	Inside Stand - Tailstock End


Electrical Schematic
R
S
T
PE
XT : 1
XT : 2
XT : 3
KM1
KM2
KA1
FR1
FR2
SA1
U
V
W
W1
U1
V1
XT : 4
XT : 5
XT : 6
XT : 7
XT : 8
XT : 9
1U
2U
1V
2V
1W
2W
M1
3Ph
M2
3Ph
700/1400 RPM
3000 RPM
420V/380V
0
FU2
110V 2A
SB1
XT : 10
XT : 11
XT : 12
XT : 13
XT : 14
XT : 15
XT : 16
XT : 18
SQ1
SQ2
SQ3
SQ4
SB2
SA2
KA2
KM1
KM2
HL
1
2
XB
FR1
FR2
34