CT042
14” X 40” 3-HP LATHE
User Manual

⚠ 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 elbow, 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 adjustment 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 vistors 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 revovlving 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-1440A(C6236A2)**
Capacities:	
Swing Over Bed	14"(356mm)
Swing Over Cross Slide	8-5/8"(220mm)
Swing Over Gap	20"(506mm)
Length of Gap	9-3/8"(238mm)
Distance Between Centers	40"(1000mm)
Headstock:	
Hole Through Spindle	1-1/2"(38mm)
Spindle Nose	D1-4Camlock
Taper in Spindle Nose	MT-5
Spindle Bearing Type	Taper Roller Bearing
Number of Spindle Speeds	8 or 16
Range of Spindle Speeds	90 or 45~1800RPM
Gearbox:	
Number of Longitudinal and Cross Feeds	40
Range of Longitudinal Feeds	0.0012"~0.0294"(0.043~0.653mm)
Range of Cross Feeds	0.0004"~0.0108"(0.015~0.22mm)
Number of Inch Threads	40(28)
Range of Inch Threads	4-112T.P.I
Number of Metric Threads	22(37)
Range of Metric Threads	0.45~7.5mm(0.4~7mm)
Leadscrew	7/8"×49-1/2"(22mm×1258mm)
Feed Rod Diameter	3/4"(19mm)
Compound and Carriage	
Toolpost Type	4-Way
Maximum Tool Size	5/8"×5/8"(16×16mm)
Maximum Compound Slide Travel	3-1/2"(90mm)
Maximum Cross Slide Trave	7"(180mm)
Maximum Carriage Trave	37-1/2"(950mm)
Tailstock:	
Tailstock Spindle Travel	4-3/4"(120mm)
Diameter of Tailstock Spindle	1-25/32"(45mm)
Taper in Tailstock Spindle	MT-3
Miscellaneous:	
Steady Rest Capacity	1/4"~2-5/8"(6.5~65mm)
Follow Rest Capacity	1/4"~2-3/4"(6.5~70mm)
Length of Bed	54-1/4"(1380mm)
Width of Bed	8"(203mm)
Height of Bed	11"(280mm)
Overall Dimensions	71-3/4L×30"W×48"H 1825mm×760mm×1213mm
Main Motor power	3HP(2.2KW)
Net Weight(approx.)	1650lbs.(750kg)
Shipping Weight(approx.)	1936lbs.(880kg)

Note:Data in the parentheses are for metric system.

Table of Contents

⚠ WARNING

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

Failure to comply may cause serious injury!

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. 1 .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.

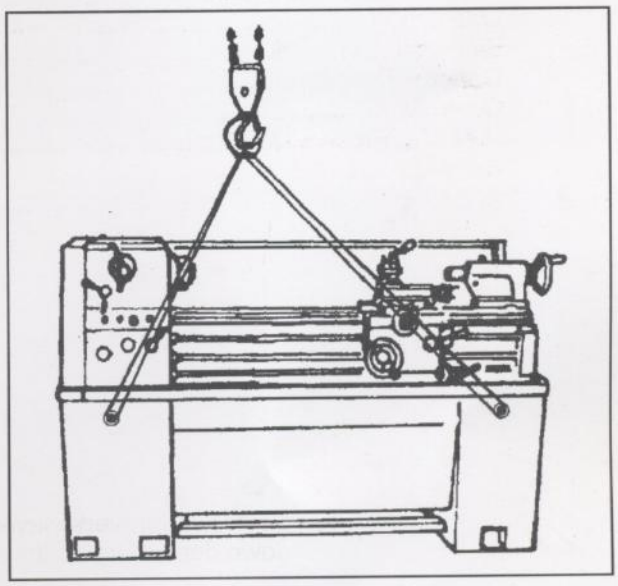


Fig.1

Chuck Prepartion(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 turing the cam locks1/4 turn clockwise. The index mark (A,Fig.2) on the camlock should be between the two indictor arrows(B,Fig.2). 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.

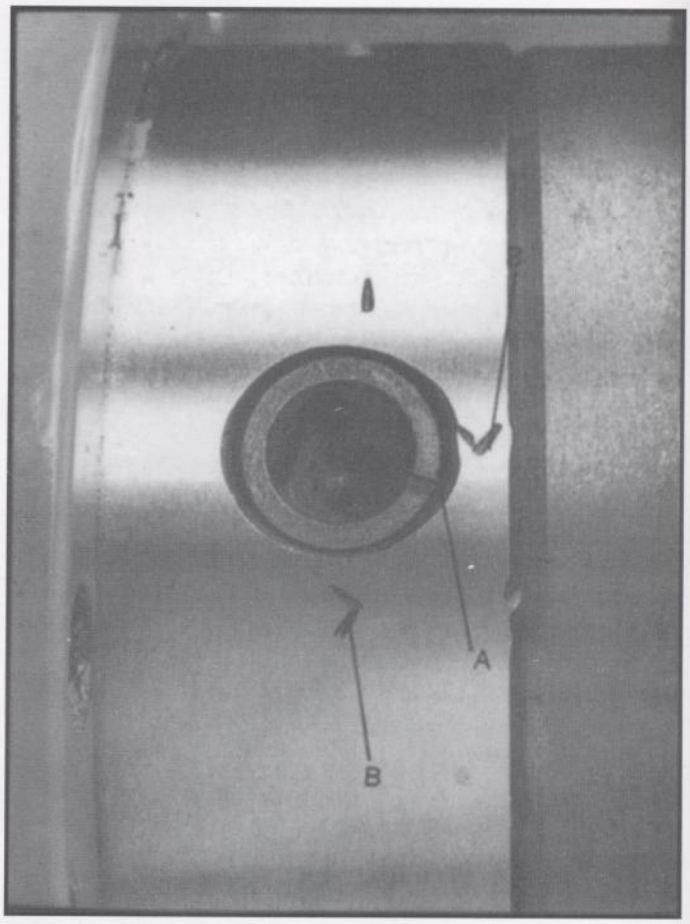


Fig.2

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 pulg(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.

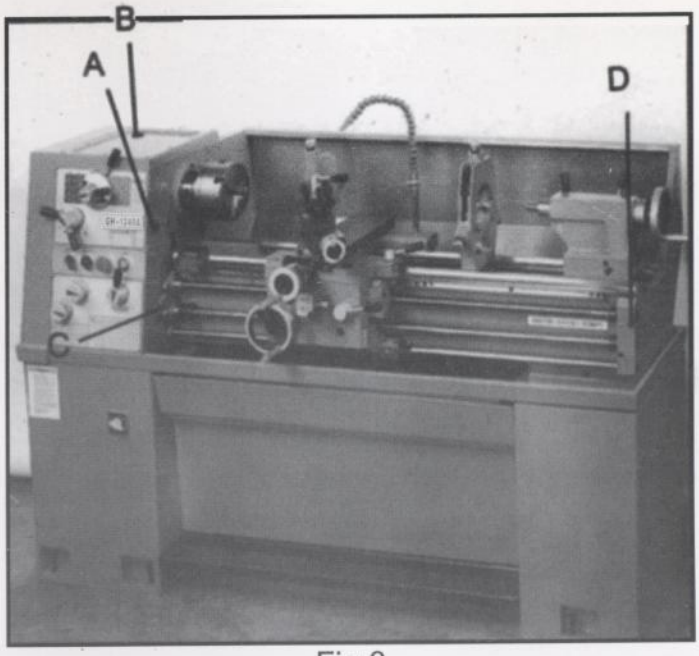


Fig.3

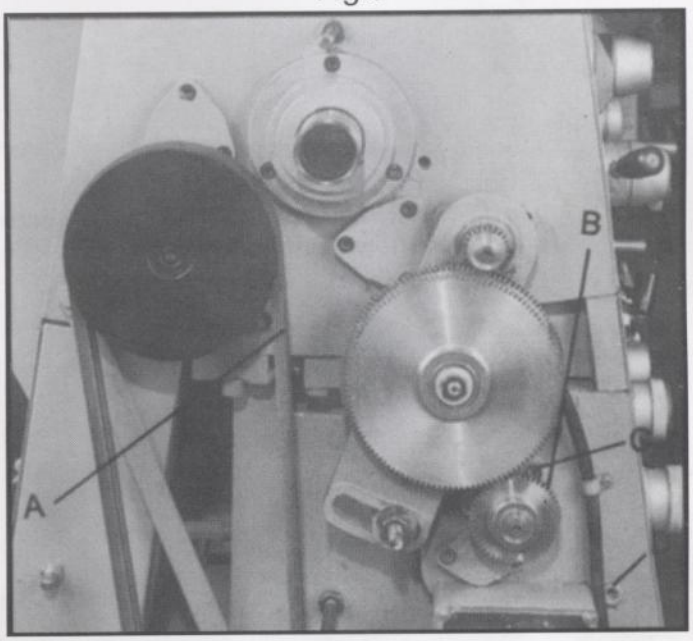


Fig.4

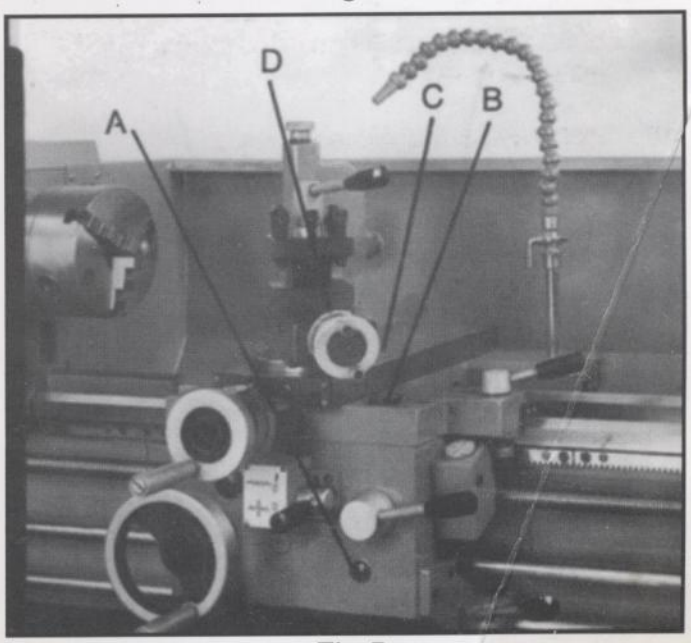


Fig.5

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

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

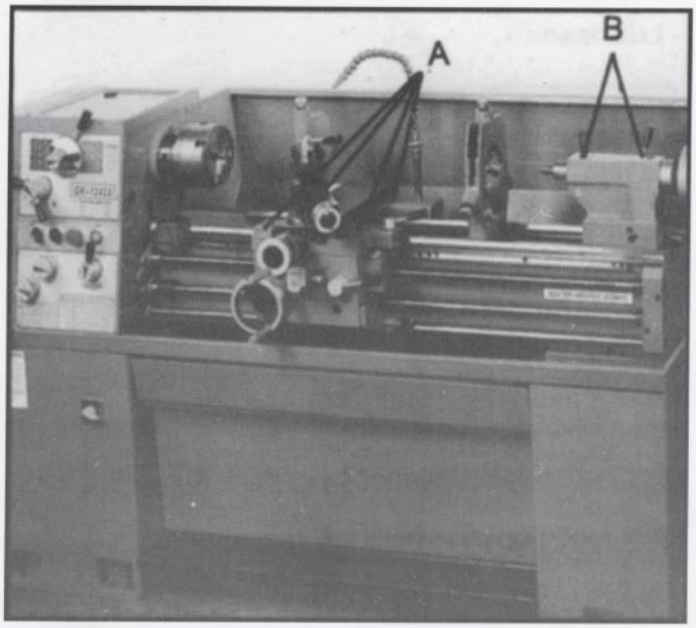


Fig.6

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 recovery chute.

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

3. After machine has been connected 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 eletrcian!**
>
> **Failure to comply may cause serious injury and/ or damage to the machinery and property!**

The GH-1340A gear head lathe is rated at 3HP. 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 apindle 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 mountes in the stand below headstock.

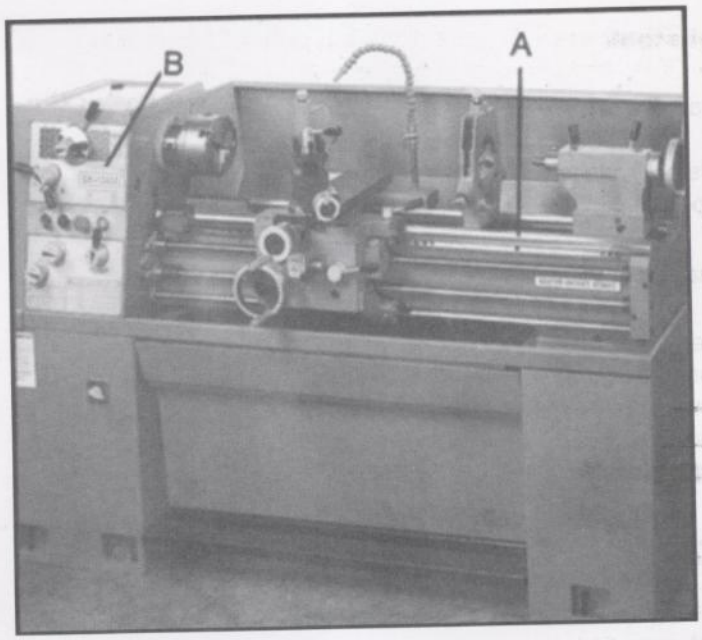


Fig.7

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 soindle is mounted on two precision taper roller bearings. The hollow spindle has Morse Taper # 5 with a 1-7/16" bore.

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 dovetailed 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.

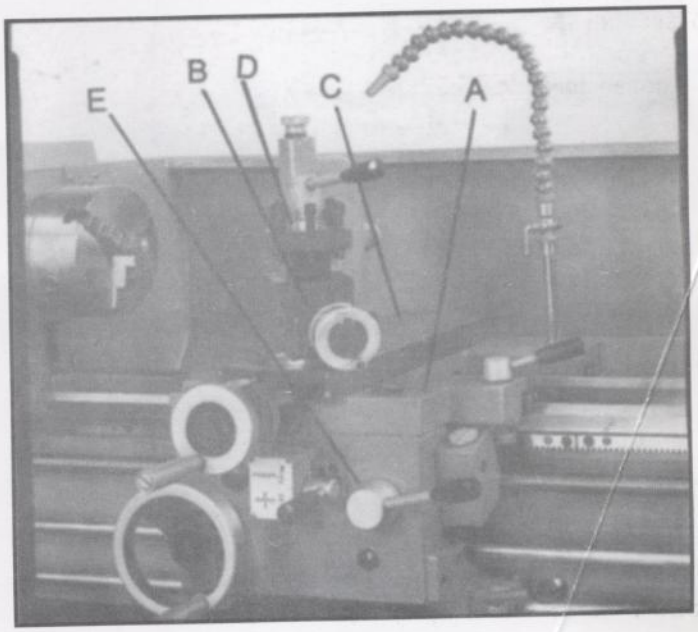


Fig.8

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.

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 tailatock(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 untli 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.

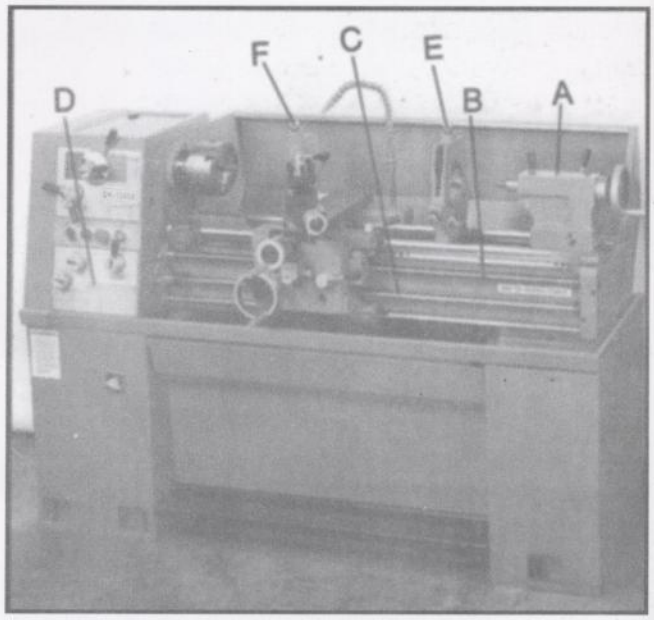


Fig.9

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 turning operations on long,slender

workpieces. It prevents flexing of the wordpiece form 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 later 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.

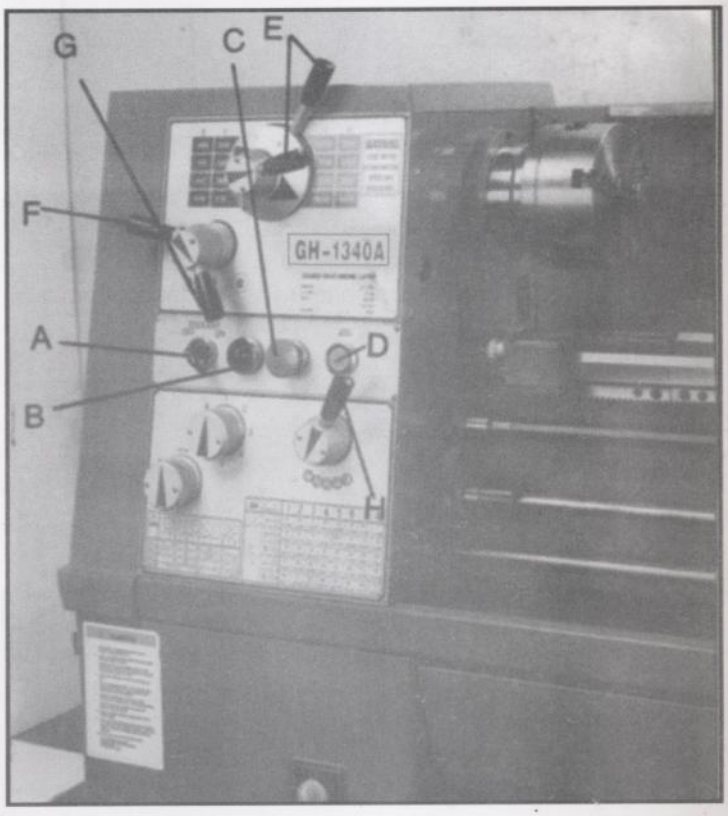


Fig.10

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. Use for setting up for feeding and threading.

8. **Compound Lock**(A,Fig.12)-hex socket cap screw located on left side of conpound 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. Clokwise rotation moves the cross slide toward the rear of the machine.

Fig.11

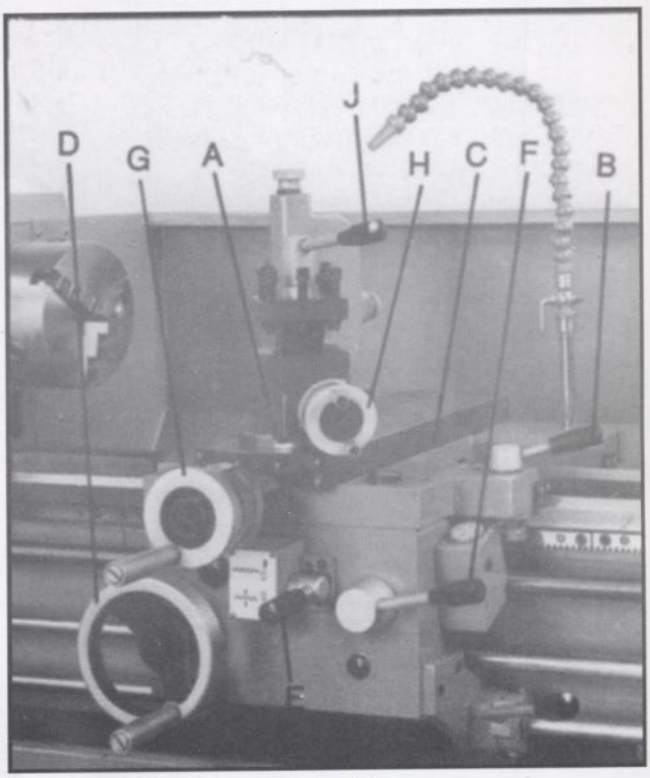


Fig.12

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 toolpost. 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. **Tistock 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. Dwpress 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 Swith** (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.

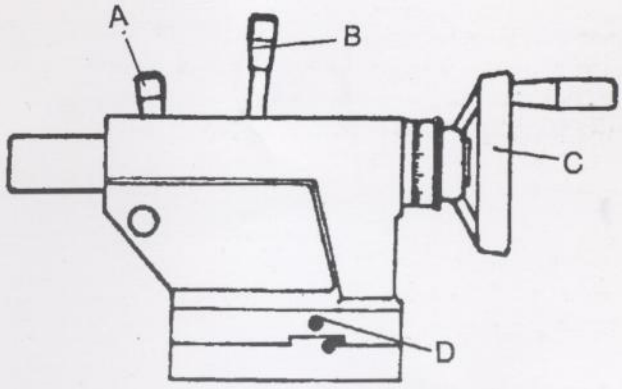


Fig.13

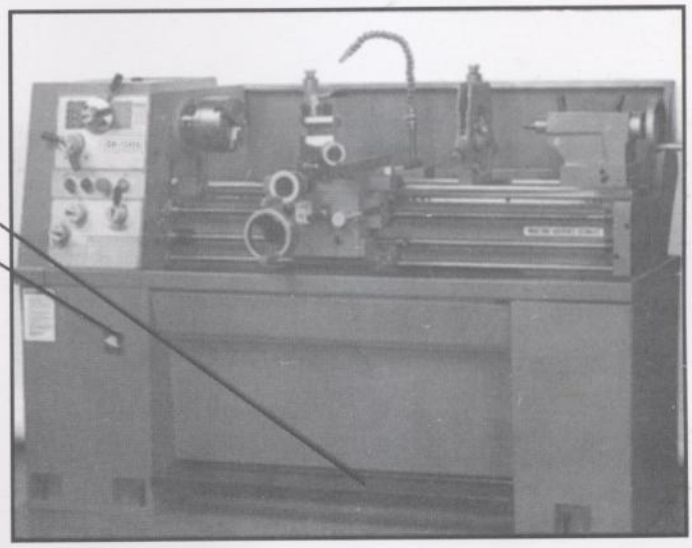


Fig.14

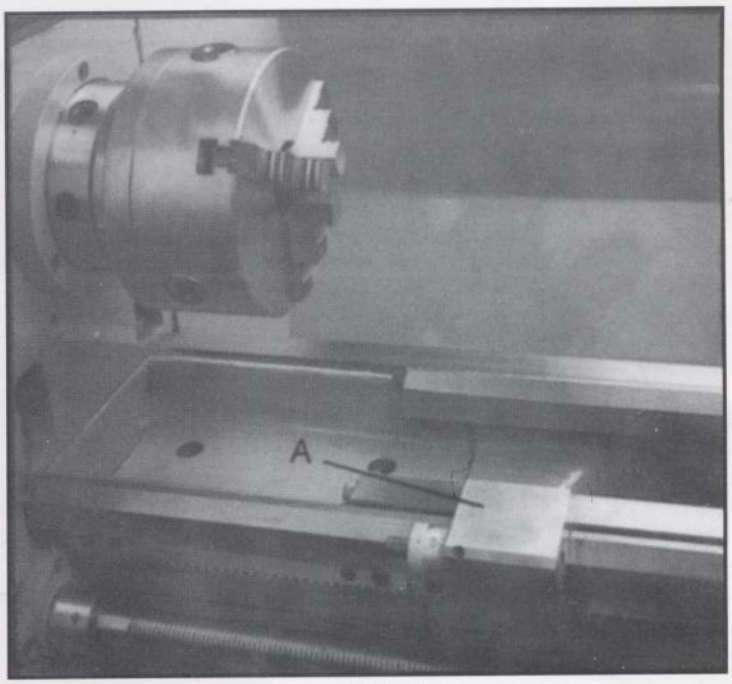


Fig.15

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 adove 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 25T×127T×50T gears are installed in the end gear compartment when delivered from the factory. This combination will cover most inch feeds and threads under normal circumstances. The 30, 32, two 40 tooh gears and other 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 acrew.

7. Loosen nut (B,Fig.17), move quadrant back so teeh 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

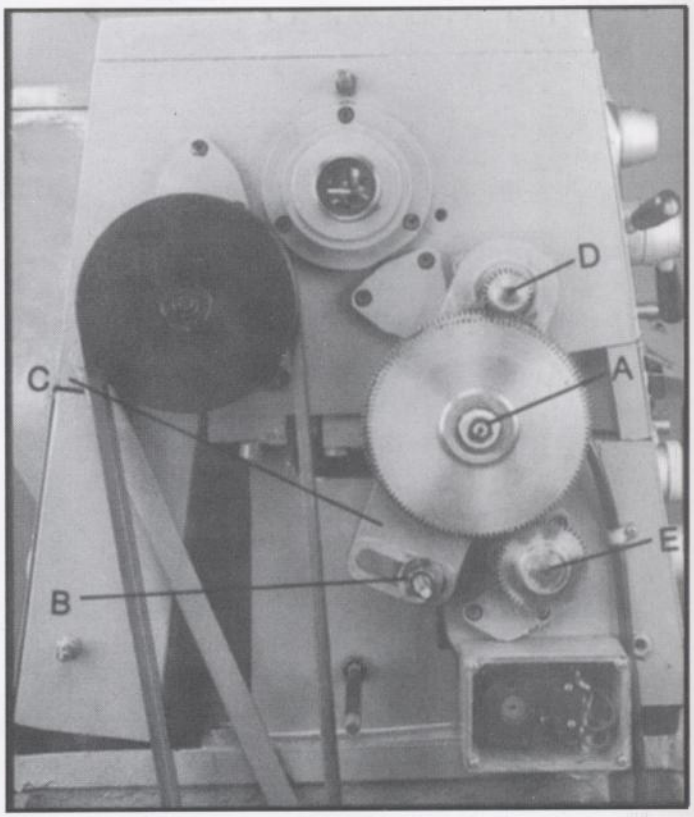


Fig.17

7. Install the cover and connect the mashine to the power soure.

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 seector (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 Trvel

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

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).

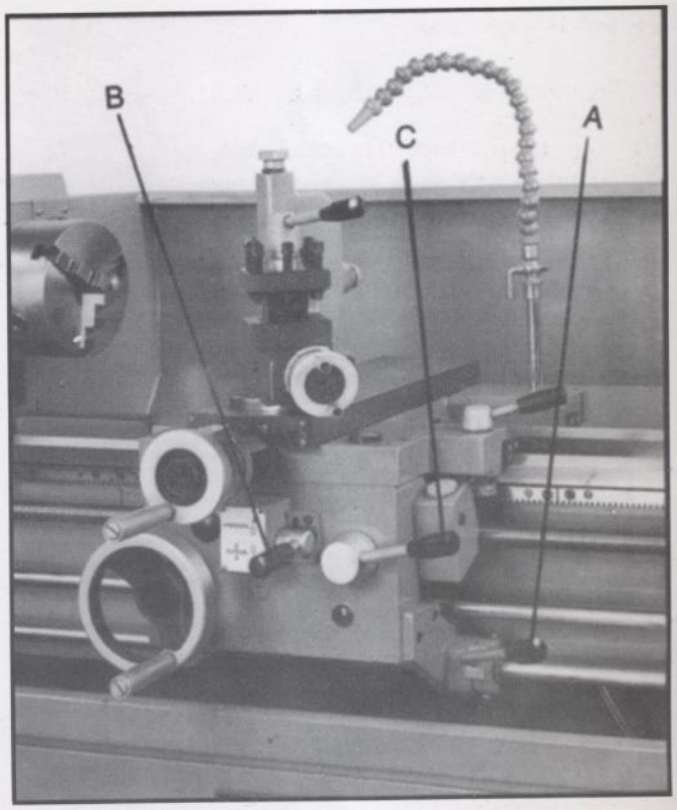


Fig.18

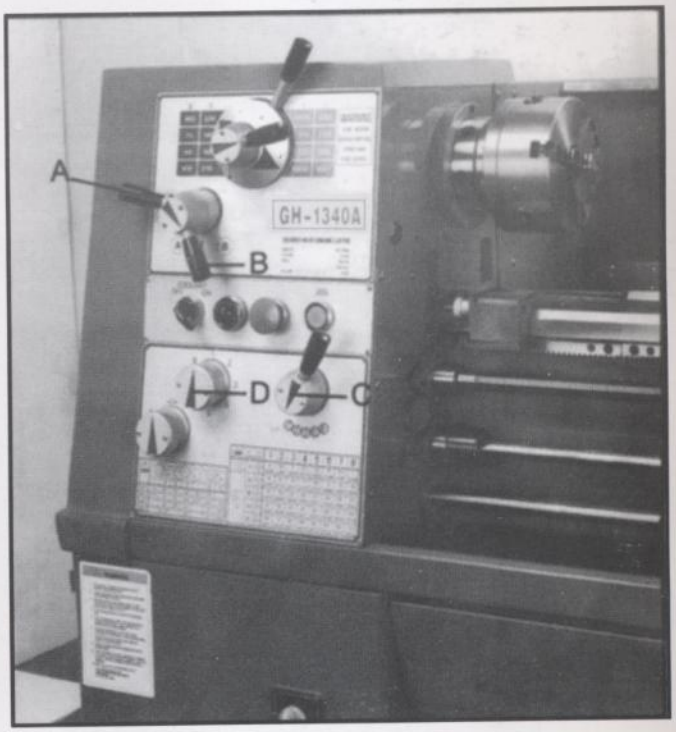


Fig.19

Inch Gear Box:

Metric Thread Table

MM	1	3	6	3	1	2	3
AC	7.5	6.0	5.0	4.8	4.5	4.0	
BC	3.75	3.0	2.5	2.4	2.25	2.0	1.8
AE		1.5	1.25	1.2		1.0	0.9
BE		0.75		0.6		0.5	0.45

Inch Lead and Feed Table

T.P.I / IN			1	2	3	4	5	6	7	8
50 (40) / 50 (40)	A	C	4 .0294	4 1/2 .0261	5 .0235	5 1/2 .0214	5 3/4 .0205	6 .0196	6 1/2 .0181	7 .0168
		D								
	A	C	8 .0147	9 .0131	10 .0117	11 .0107	11 1/2 .0102	12 .0098	13 .0090	14 .0084
		D								
30 (25) / 127 / 60(50)	B	C	16 .0073	18 .0065	20 .0058	22 .0053	23 .0051	24 .0049	26 .0045	28 .0042
		D								
	A	E	32 .0042	36 .0038	40 .0034	44 .0031	46 .0030	48 .0028	52 .0026	56 .0024
		F								
	B	E	64 .0021	72 .0019	80 .0017	88 .0015	92 .0015	96 .0014	104 .0013	112 .0012
		F								

Note:The tooth numbers in the parentheses are for GH-1340A lathes

Metric Gear Box :

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
		B	2.5	2.25	2.5	2.75	3.0	3.25	3.5
	E	A	1.0	1.125	1.25	1.375	1.5	1.625	1.75
		B	0.5		0.625		0.75		0.875
24T / 127T / 60T	E	A	0.8	0.9	1.0	1.1	1.2	1.3	1.4
		B	0.4	0.45	0.5	0.55	0.6	0.65	0.7

MM			1	2	3	4	6	7	8
	D	A	0.375	0.428	0.466	0.513	0.561	0.606	0.653
		B	0.188	0.214	0.233	0.256	0.280	0.303	0.327
	F	A	0.109	0.122	0.135	0.149	0.163	0.177	0.190
		B	0.054	0.060	0.067	0.074	0.061	0.088	0.095
	F	A	0.087	0.098	0.109	0.119	0.131	0.141	0.152
		B	0.043	0.049	0.054	0.059	0.065	0.071	0.076

TPI			2	1	2	2	1	1	1
			40	40	32	32	30	30	30
			60	60	60	66	60	65	70
	C	A	4	4 1/2	5	5 1/2	6	6 1/2	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.

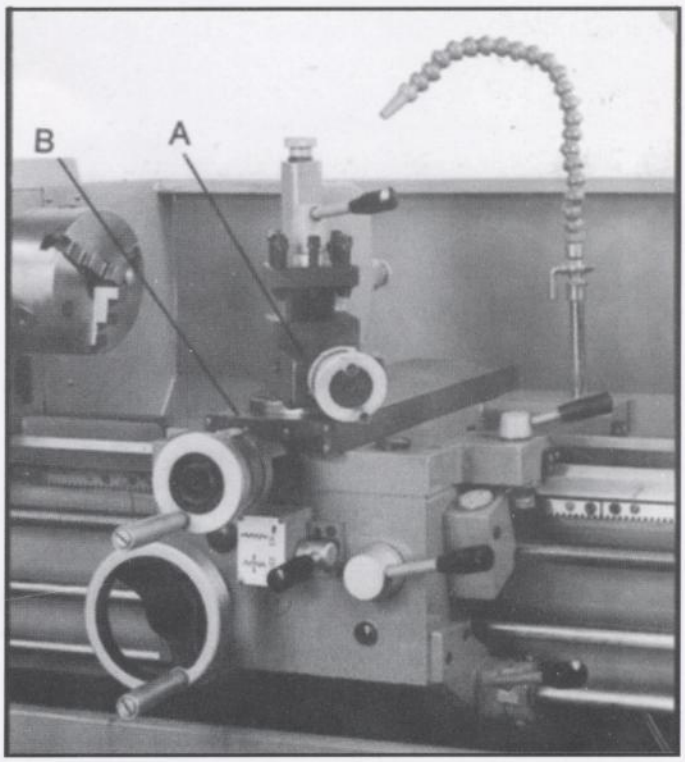


Fig.20

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 socked 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.

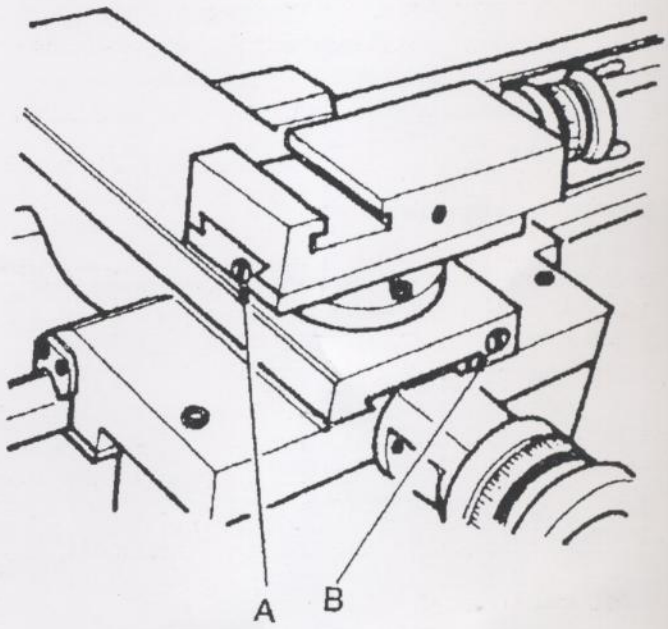


Fig.21

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. Tigten 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 tailatock in position by raising locking handle(A,Fig.22)

2. 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 premature wear of the gibs and mating parts.

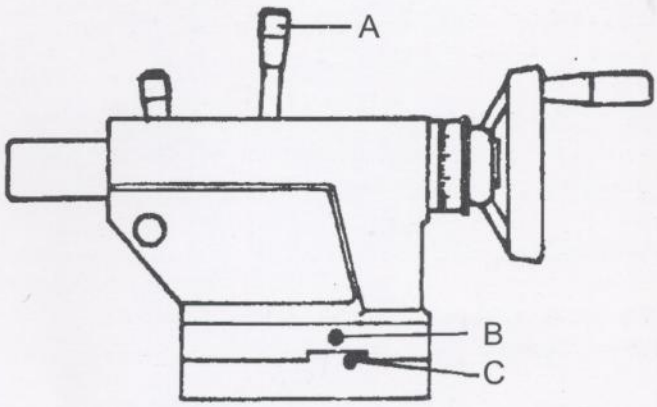


Fig.22

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 neck to the chuck and at the end . The measurement should be the same.

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

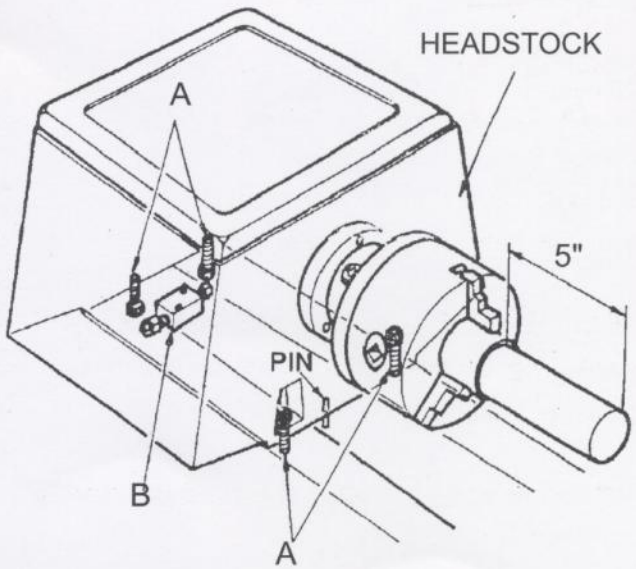


Fig.23

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

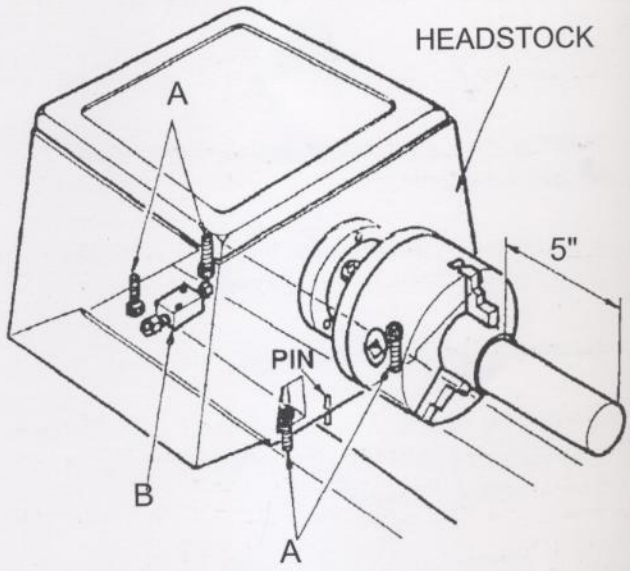


Fig.24

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.

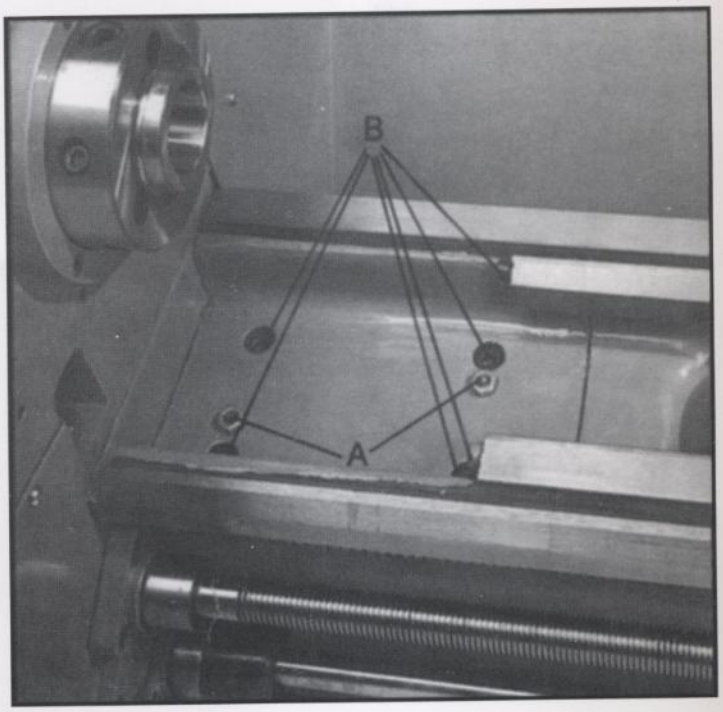


Fig.25

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.

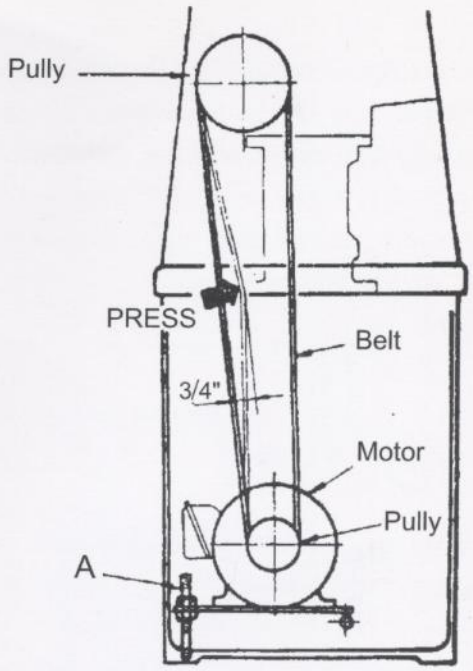


Fig.26

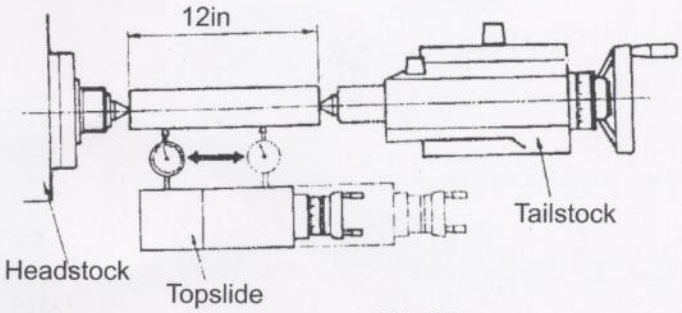


Fig.27

Aligning Talistock 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.

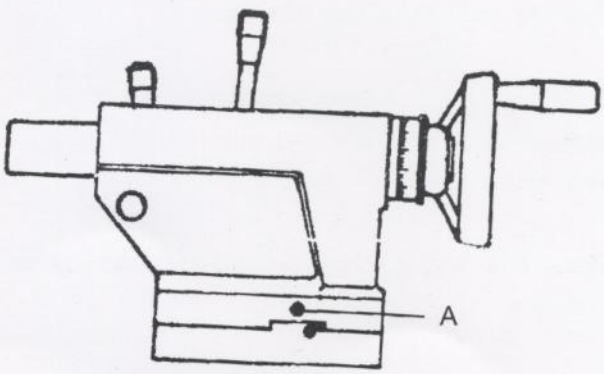
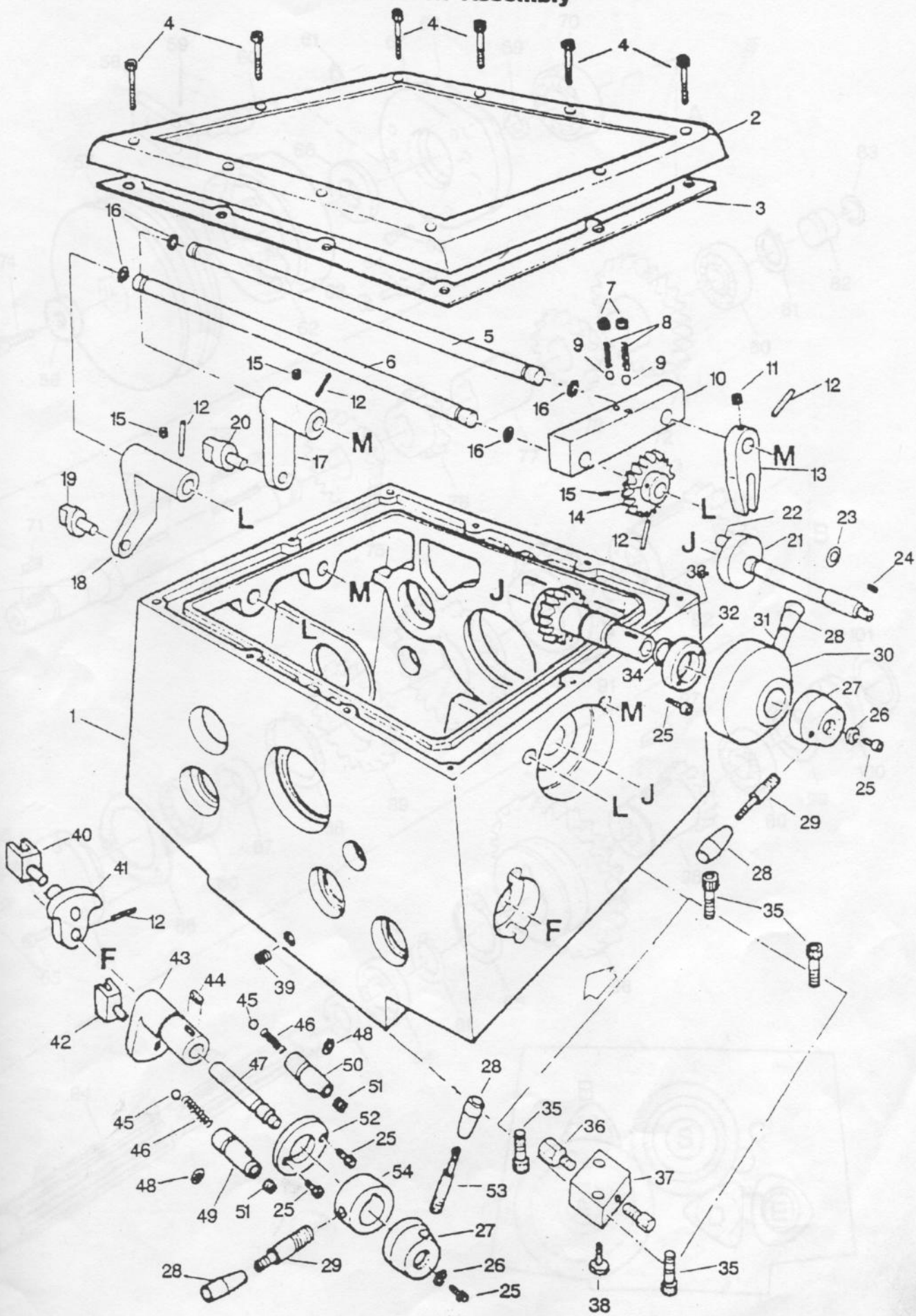
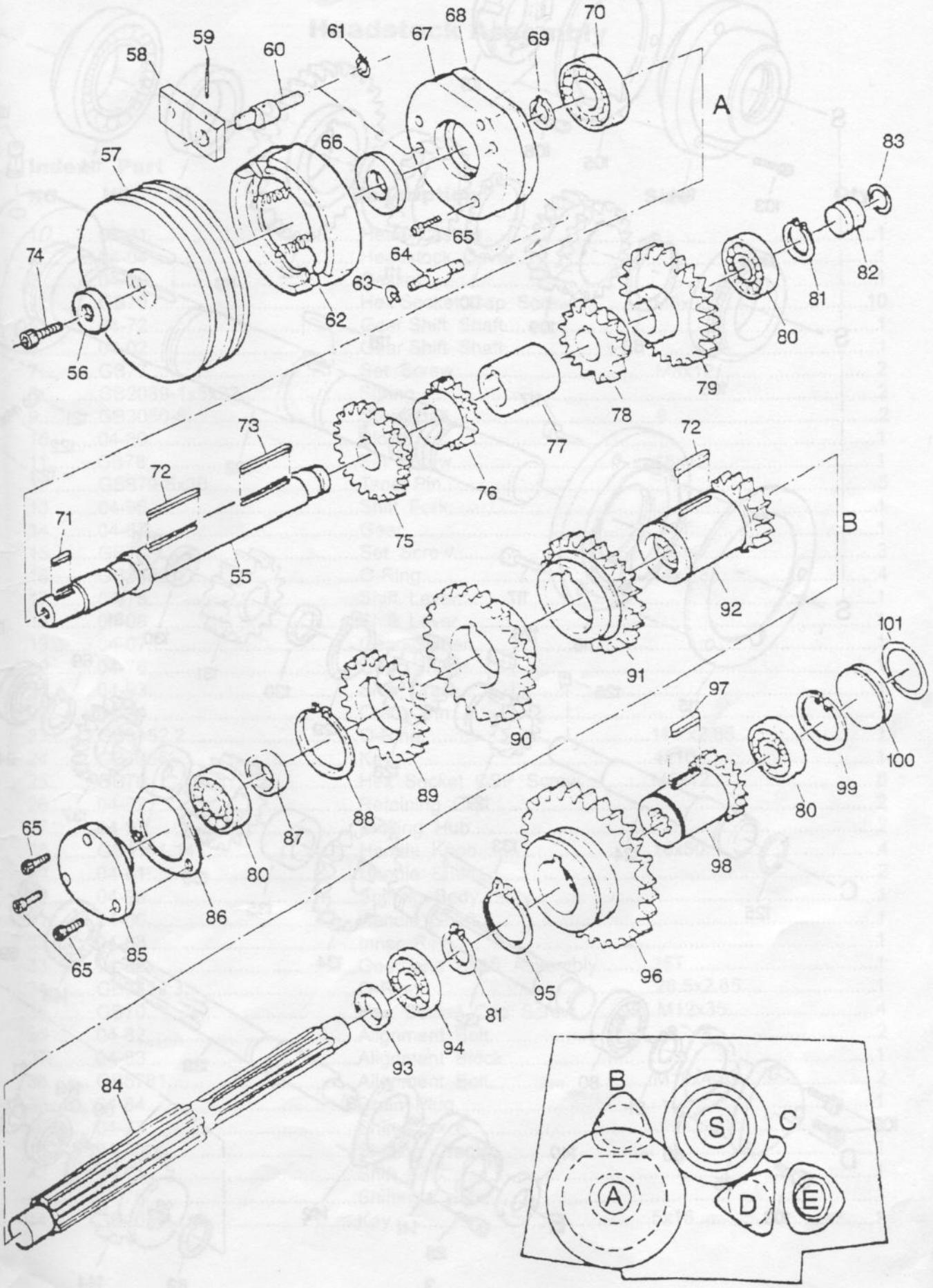


Fig.28

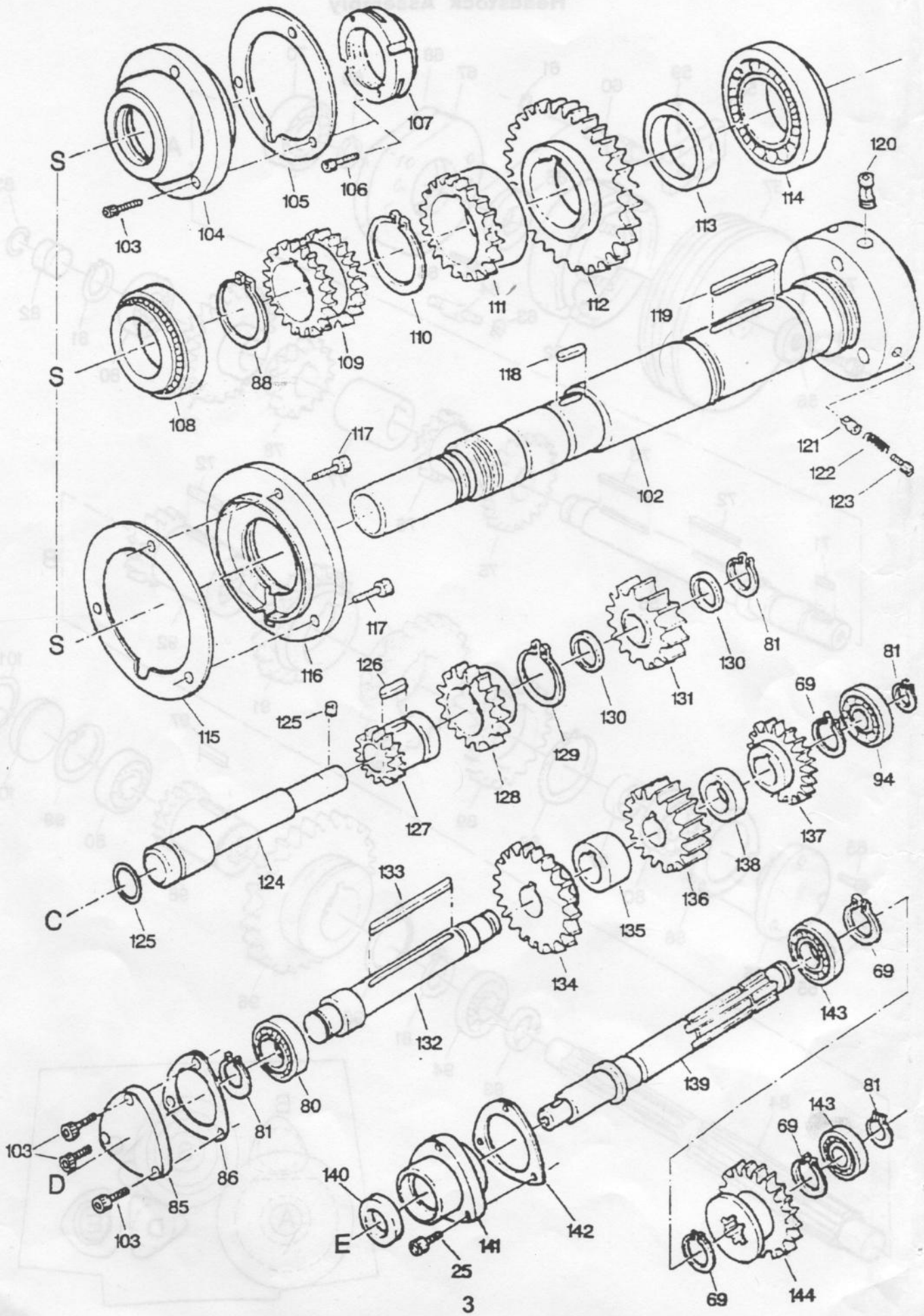
Headstock Assembly



Headstock Assembly



Headstock Assembly



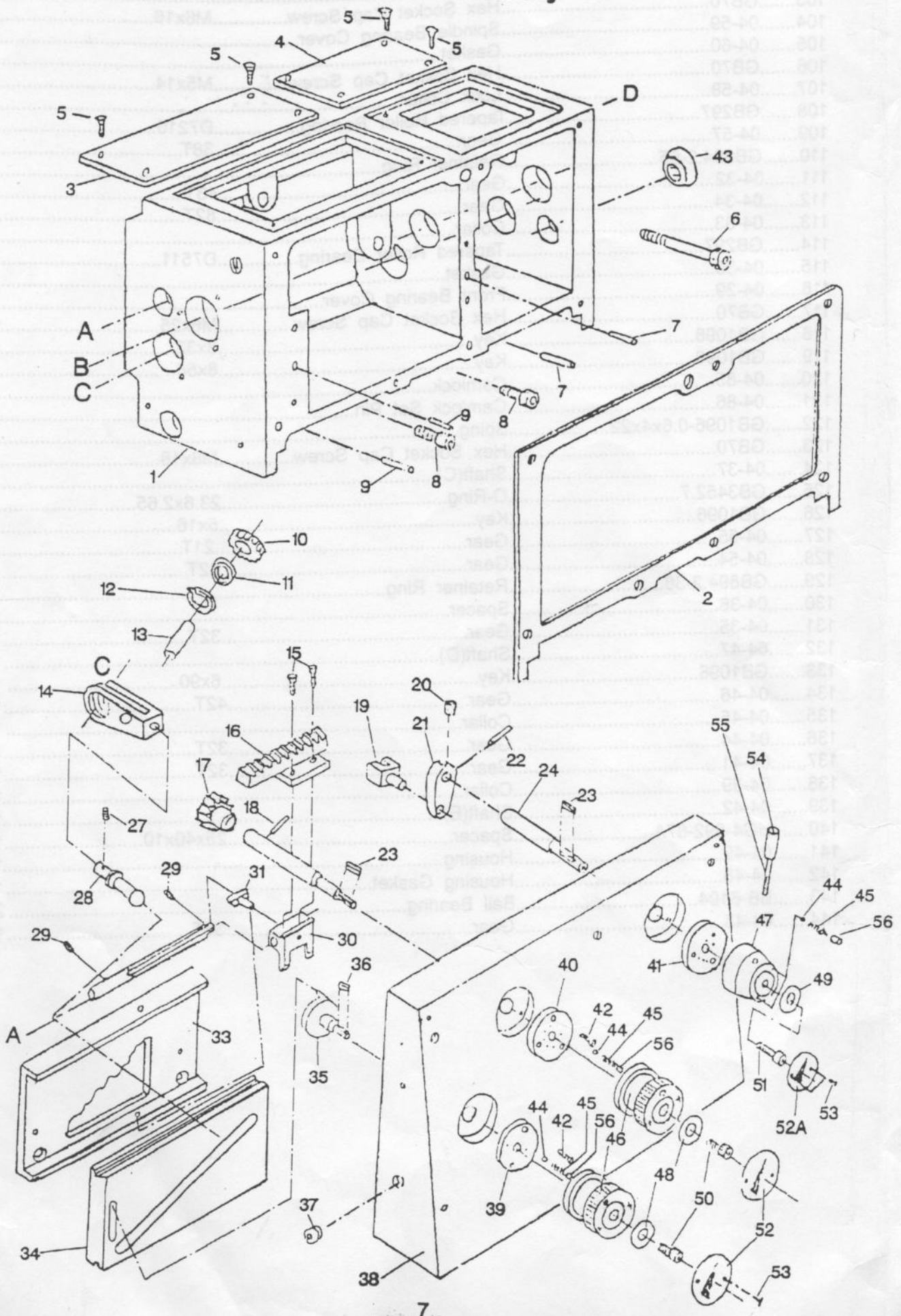
Headstock Assembly

Index NO.	Part NO.	Description	Size	Qty
1	04-01	Head Casting		1
2	04-04	Headstock Cover		1
3	04-09	Gasket		1
4	GB70	Hex Socket Cap Screw	M6x35	10
5	04-72	Gear Shift Shaft		1
6	04-02	Gear Shift Shaft		1
7	GB77	Set Screw	M8x12	2
8	GB2089-1x5x22	Spring		2
9	GB3080-6	Steel Ball	6	2
10	04-89	Block		1
11	GB78	Set Screw	45x12	1
12	GB879-5x30	Taper Pin		5
13	04-96	Shift Fork		1
14	04-87	Gear	45T	1
15	GB78	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	GB1096	Key	4x10	1
25	GB70	Hex Socket CSP 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	GB70	Hex Socket Cap Screw	M12x35	4
36	04-82	Alignment Bolt		2
37	04-83	Alignment Block		1
38	GB5781	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	Key	5x18	1

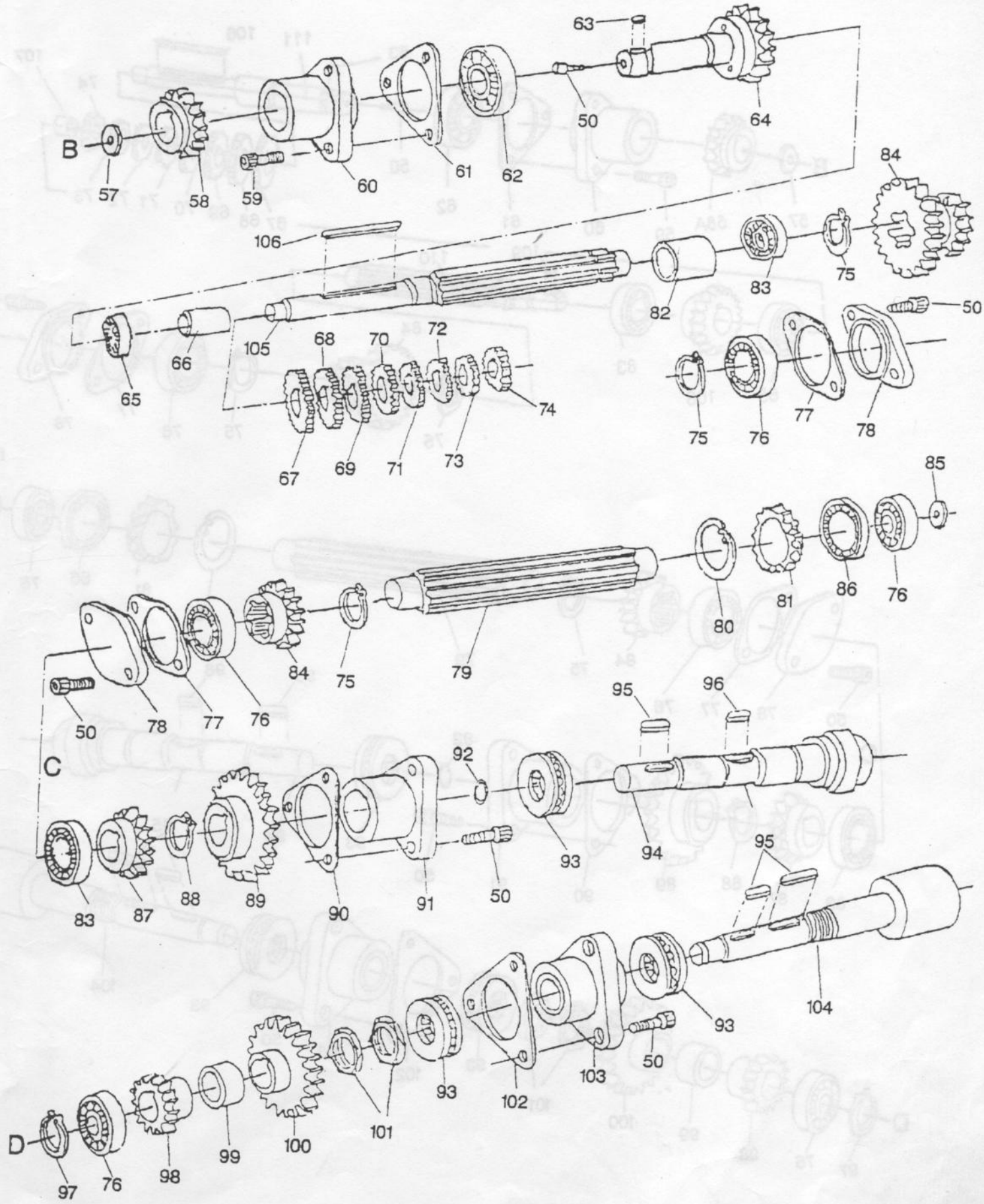
45	GB30809	Steel Ball	9	2
46	GB2089-0.9x9x40	Sping		2
47	04-67	Shaft		1
48	GB3452.4	O-Ring	15x2.65	2
49	04-69	Shaft		1
50	04-63	Shaft		1
51	GB77	Set Screw	M12x1	2
52	04-68	Cover		1
53	04-95	Lever		1
54	04-61	Collar		1
55	04-21	Shaft(A)		1
56	04-12	Washer		1
57	04-11	Pulley		1
58	GH1340A-11-10	Brake Block		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	Rerainer 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	BB6205	Ball Bearing		1
71	GB1096	key	8x20	1
72	GB1096	Key	8x50	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	Key	8x28	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	GB70	Hex Socket Cap Screw	M6x16	6
104	04-59	Spindle Bearing Cover		1
105	04-60	Gasket		1
106	GB70	Hex Soxket Cap Screw	M5x14	2
107	04-58	Lock Collar		1
108	GB297	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	Tapered Roller Bearing	D7511	1
115	04-30	Gasket		1
116	04-29	Front Bearing Cover		1
117	GB70	Hex Socket Cap Screw	M6x25	3
118	GB1096	Key	8x32	1
119	GB1096	Key	8x56	1
120	04-85	Camlock		3
121	04-86	Camlock Set Pin		3
122	GB1096-0.6x4x22	Sping		3
123	GB70	Hex Socket Cap Screw	M8x18	3
124	04-37	Shaft(C)		1
125	GB3452.7	O-Ring	23.6x2.65	1
126	GB1096	Key	5x16	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	Key	6x90	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

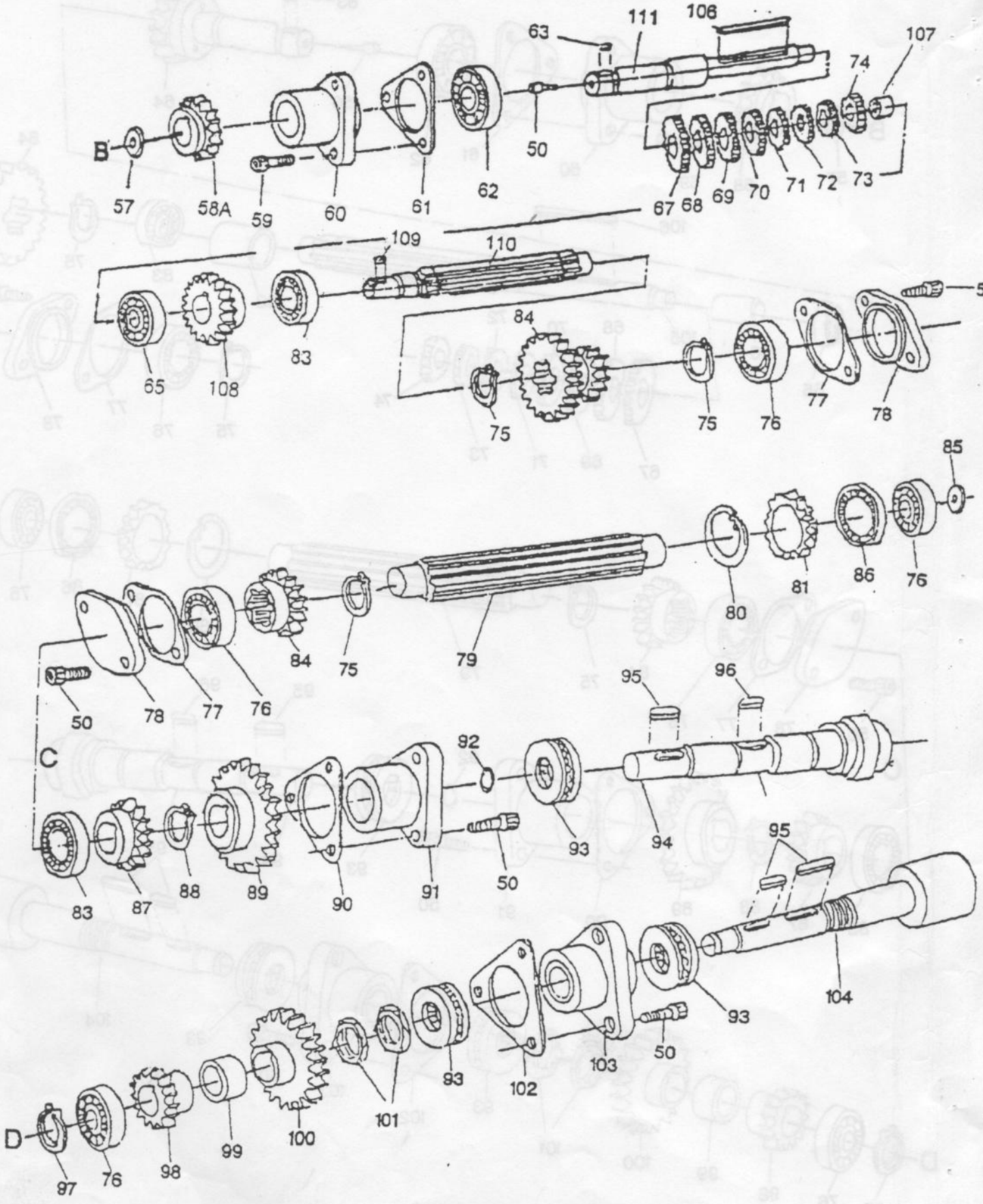
Gearbox Assembly



Gearbox Assembly(Inch system)



Gearbox(Metric system)

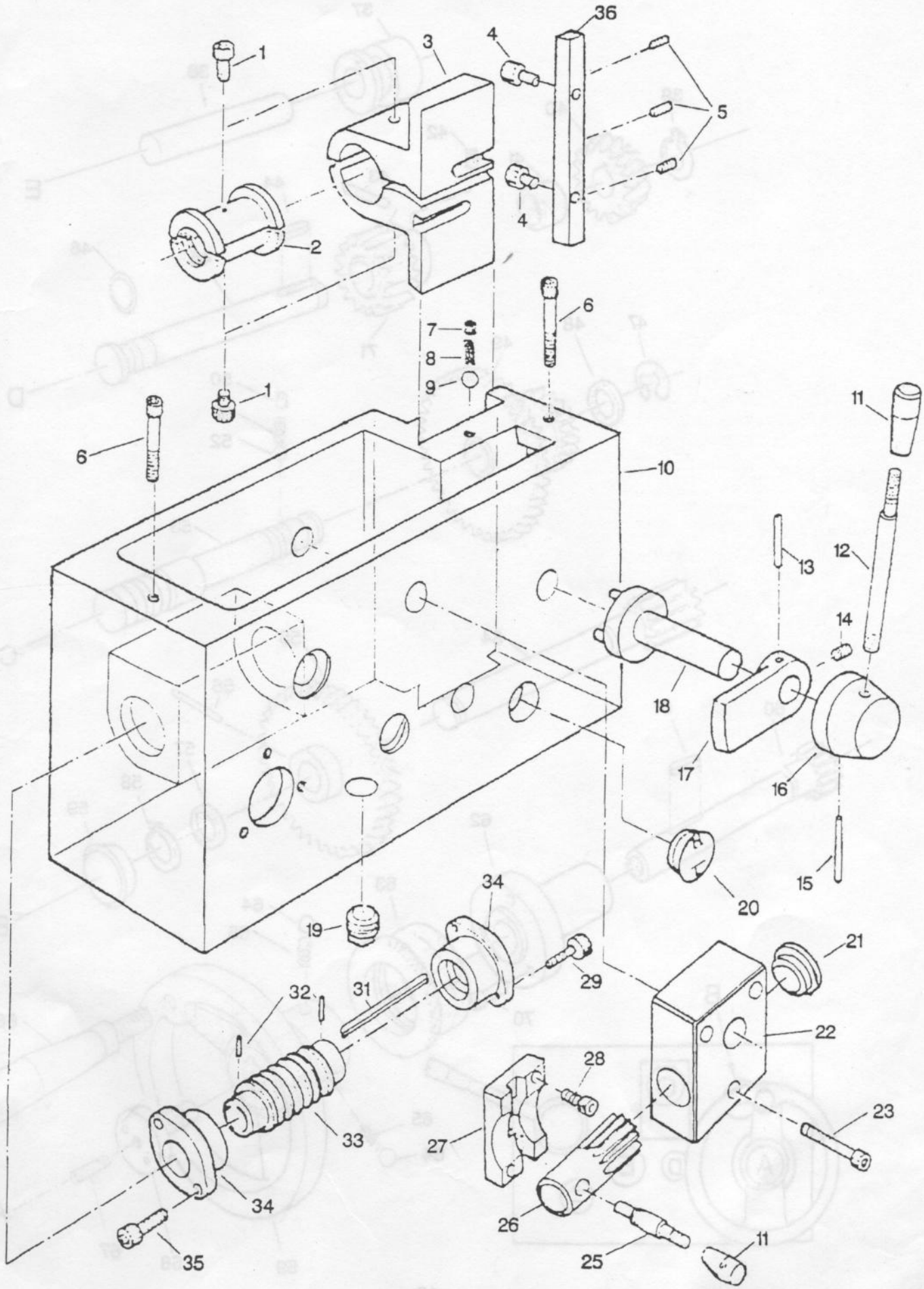


Gearbox Assembly

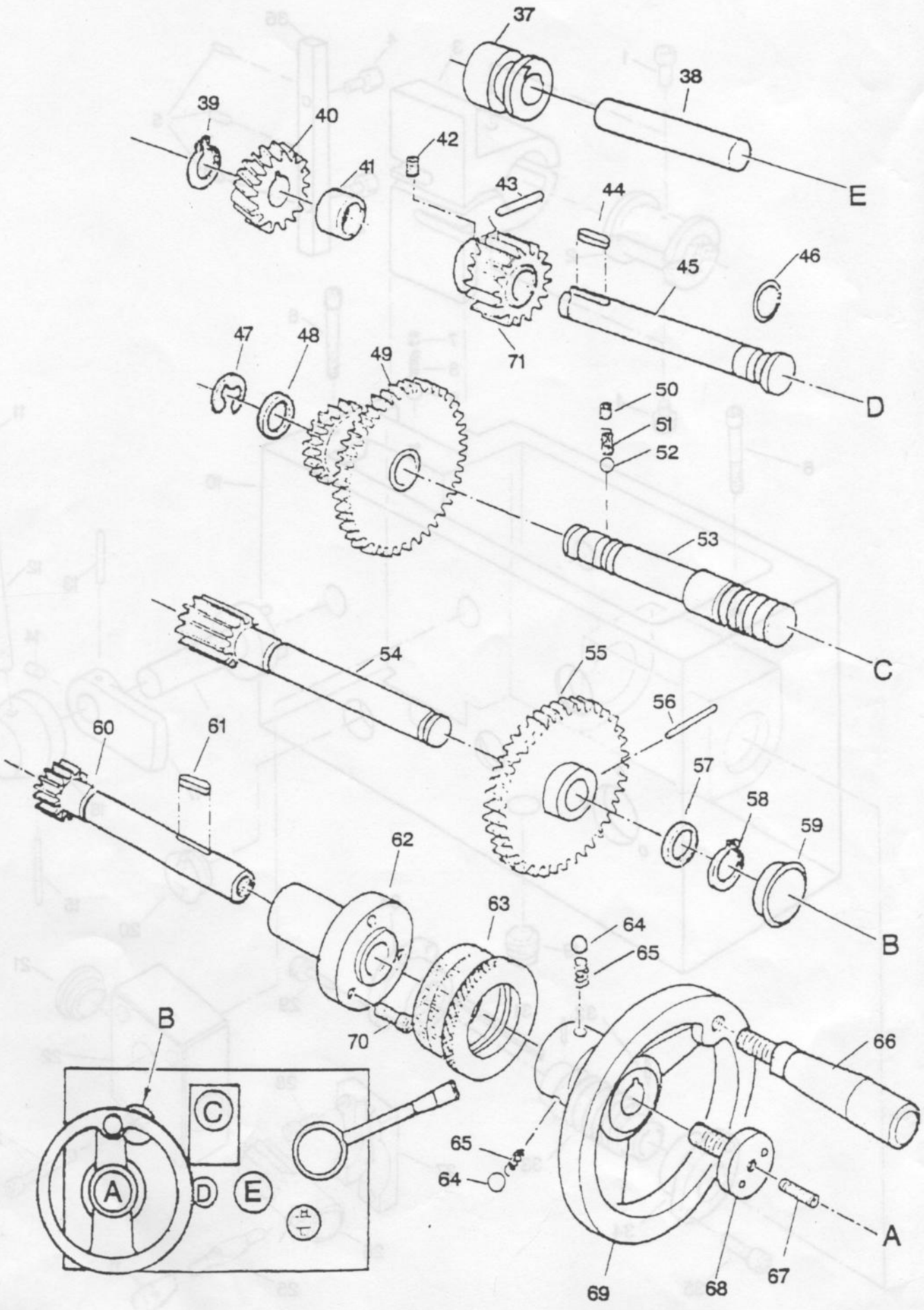
1	05-63	Gearbox Casting		1
2	05-61	Gasket		1
3	05-07	Front Cover		1
4	05-54	Cover		1
5	GB819	Flat Head Machine Screw	M4x10	8
6	GB70	Hex Socket Cap Screw	M8x40	1
7	GB117	Pin	5x20	2
8	GB70	Hex Socket Cap Screw	M8x25	2
9	GB117	Pin	5x28	2
10	05-05	Locating Fork		1
11	1000098	Spacer		1
12	GB893.1-19	Retainer Ring		1
13	05-51	Shaft		1
14	05-03	Shifter		1
15	GB70	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	GB79	Set Screw	M6x8	1
21	05-56	Shift Lever		1
22	GB879-5x20	Pin		1
23	GB1096	Key	4x10	2
24	05-57	Shaft		1
27	GB78	Set Screw	M6x8	1
28	05-02	Shaft		1
29	GB78	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	Key	4x10	1
37	Q/2B285.3	Plug		1
38	05-66	Cover		1
39	05-59	Locating Disk		1
40	05-10	Locating Disk		1
41	05-58	Locating Disk		1
42	GB819	Flat Head Machine Screw	M5x10	6
43	GB1160-12	Hub		1
44	GB308-6.5	Steel Ball		9
45	GB2089-0.8x5x25	Sping		4
46	05-09	Shift Hub		2
47	05-68	Shift Hub		1
48	05-08	Washer		2
49	05-08	Washer		1
50	GB70	Hex Socket Cap Screw	M6x16	7
51	GB70	Hex Socket Cap Screw	M6x16	1
52	05-70	Indicator Disk		2
52A	04-90	Indicator Disk		1
53	GB818	Pan Head Machine Screw	M3x6	6
54	GB4141.14-BM10x50	Handle Cap		1
55	05-69	Handle Shaft		1
56	GB77	Set Screw	M8x8	4
57	05-42	Retaining Clip		1

58	05-41	Gear	52T	1
58A	05-41/1	Gear	60T	1
59	GB70	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	Gear Shaft Assembly		1
65	7000102	Ball Bearing		1
66	05-36	Shaft Collar		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	Shaft		1
80	GB893.1-32	Retainer Ring		2
81	05-49	Gear	16T	1
82	05-67	Shaft Collar		1
83	BB-61.3	Ball Bearing		2
84	05-37	Gear	26T	1
85	GH1340A-05-66	Washer		1
86	1000804	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	GB-3452.1-15x2.65	O-Ring		1
93	BB-8104	Ball Bearing		2
94	05-16	Shaft		1
95	GB1096	Key	5x14	1
96	GB1096	Key	6x14	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	Shaft		1
106	GB1096	Key	5x76	1
107	05-67/1	Shaft Collar		1
108	05-36/1	Gear	26T	1
109	GB1096	Key	5x8	1
110	05-27/1	Shaft		1
111	05-40/1	Shaft		1

Apron Assembly



Apron Assembly

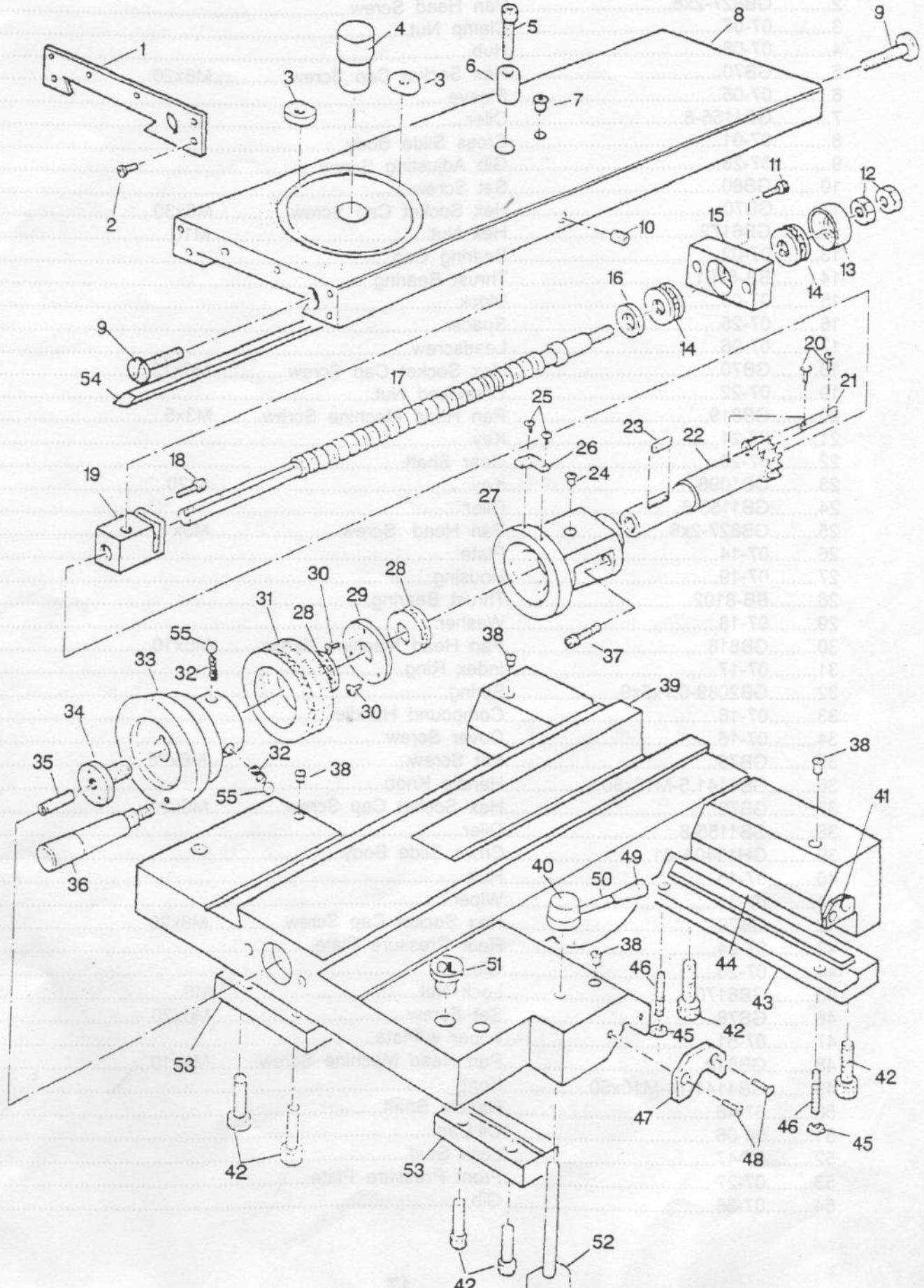


Apron Assembly

1	GB70	Hex Socket Cap Screw	M6x10	2
2	06-37	Half Nut		1
3	06-36	Bracket		1
4	GB70	Hex Socket Cap Screw	M6x16	2
5	GB78	Set Screw	M6x10	3
6	GB70	Hex Socket Cap Screw	M8x40	2
7	GB78	Set Srew	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	Pin	5x35	1
14	GB78	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
20	GB1160-12	Sight Glass		1
21	06-02	Plug		1
22	GH1340-06-16	Block		1
23	GB70	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	GB70	Hex Socket Cap Screw	M6x12	2
29	GB70	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	GB70	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	Reainer Ring		1
40	06-28	Gear	22T	1
41	06-26	Collar		1
42	GB78	Set Screw	M6x6	1
43	GB879-5x35	Pin		1
44	GB1096-4x15	Key		1
45	06-19	Shaft		1
46	GB3452.1	Ring	17x1.8	1
47	GB896-12	Retainer Ring		1
48	06-10	Bushing		1
49	GB1340A-06-15	Cluster Gear	50T/20T	1
50	GB80	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	Key	5x15	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		2
67	GB78	Set Screw	M6x25	1
68	06-30	Wheel Stud		1
69	06-12	Wheel		1
70	GB70	Hex Socket Cap Screw	M6x16	3
71	06-20	Gear	24T	1

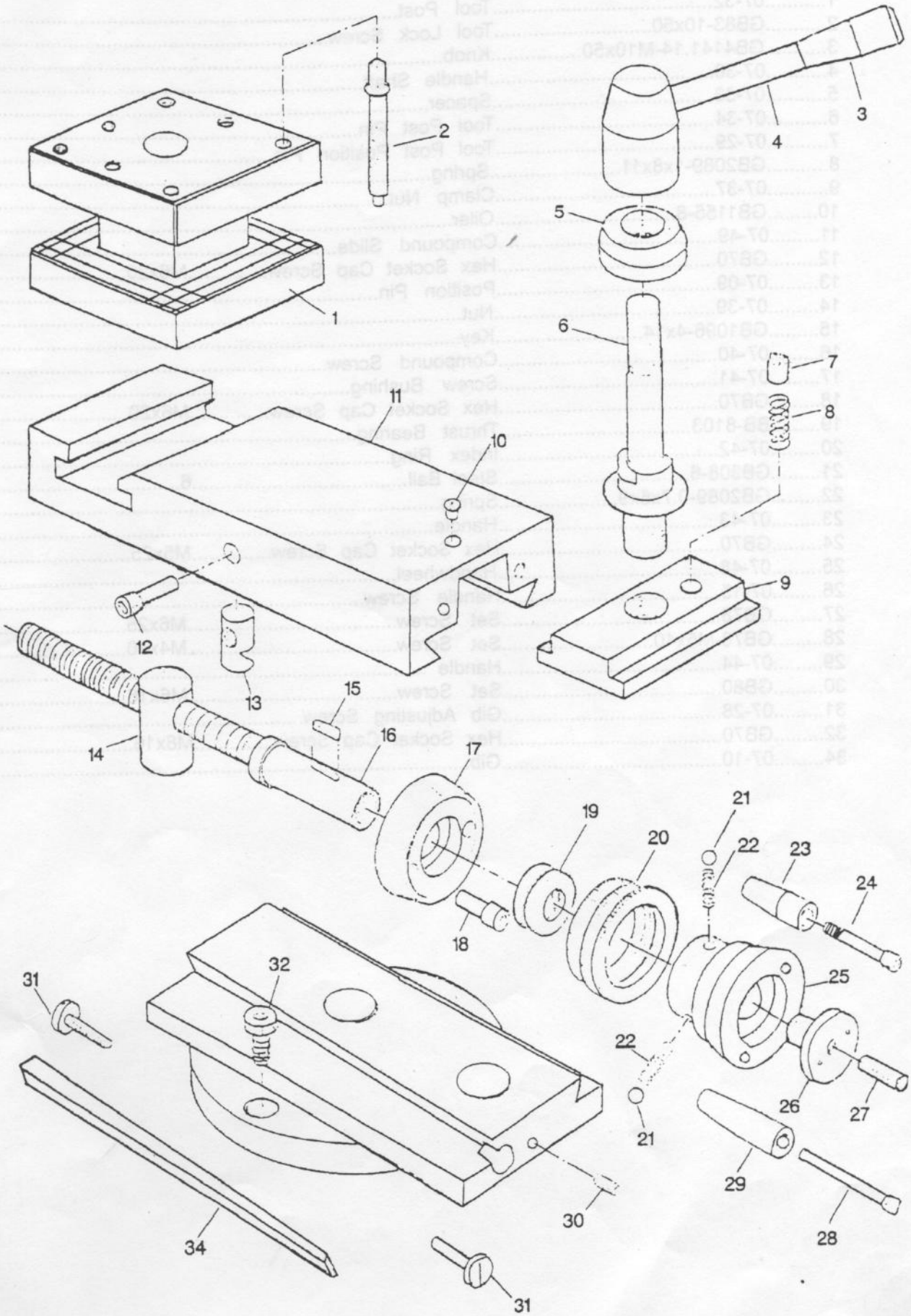
Saddle and Cross Slide Assembly



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	GB70	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	GB80	Set Screw	1
11	GB70	Hex Socket Cap Screw M6x30	2
12	GB6172	Hex Nut M10	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	GB70	Hex Socket Cap Screw M6x12	1
19	07-22	Crossfeed Nut	1
20	GB819	Pan Head Machine Screw M3x5	2
21	07-21	Key	1
22	07-20	Gear Shaft	1
23	GB1096	Key 4x20	1
24	GB1155-6	Oiler	1
25	GB827-2x8	Pan Head Screw M5x10	2
26	07-14	Plate	1
27	07-19	Housing	1
28	BB-8102	Thrust Bearing	2
29	07-18	Washer	1
30	GB818	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	GB78	Set Screw M6x25	1
36	GB4141.5-M10x80	Handle Knob	1
37	GB70	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	GB70	Hex Socket Cap Screw M8x20	6
43	07-24	Rear Pressure Plate	1
44	07-23	Gib	1
45	GB6170	Lock Nut M6	3
46	GB78	Set Screw M6x20	3
47	07-51	Wiper w/Plate	1
48	GB818	Pan Head Machine Screw M5x10	8
49	GB4141.14-M10x50	Konb	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

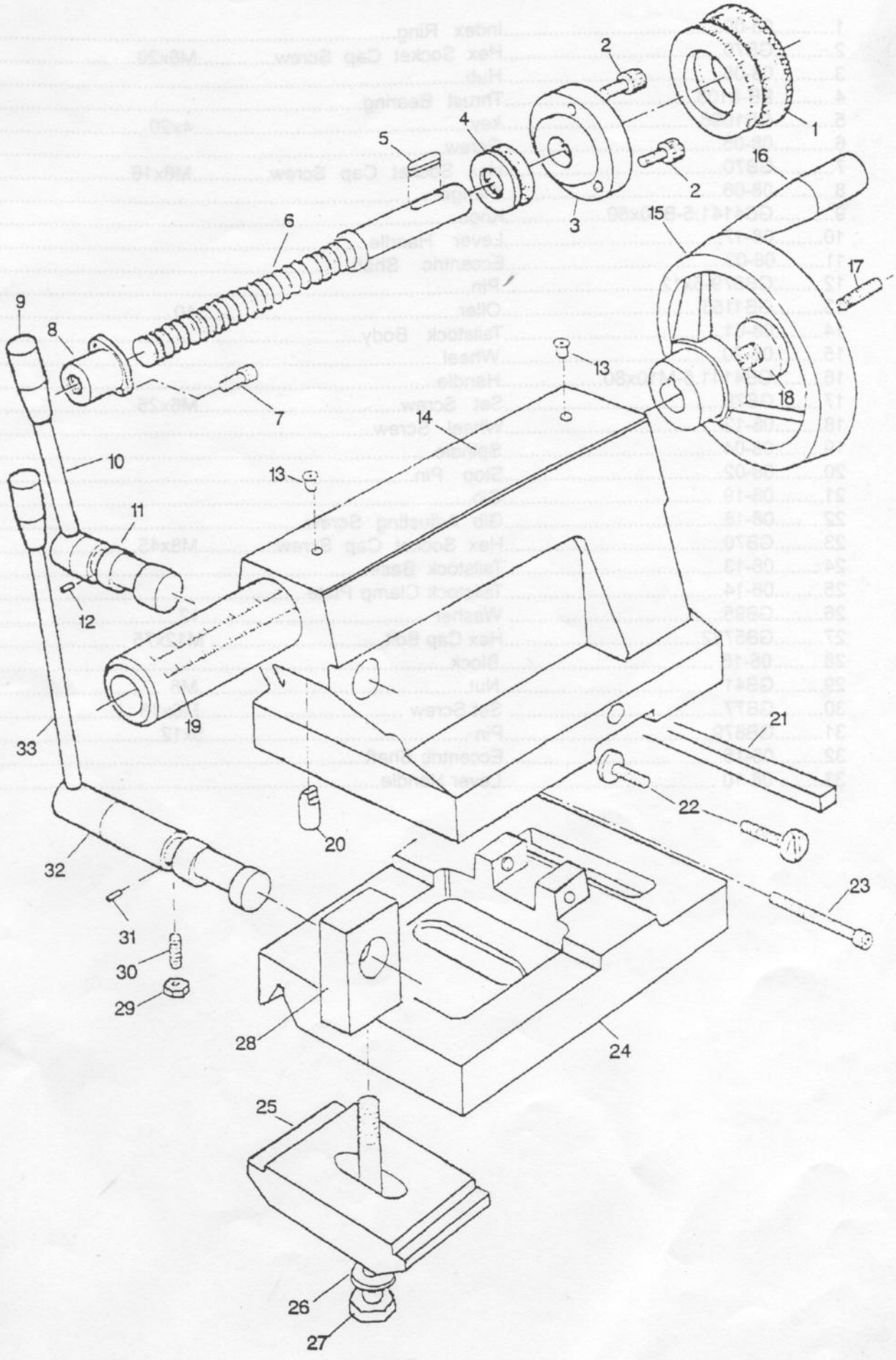


TOP SLIDE AND TOOL POST

~~Saddle and Cross Slide Assembly~~

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	GB70	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	GB70	Hex Socket Cap Screw M6x20	2
19	BB-8103	Thrust Bearing	1
20	07-42	Index Ring	1
21	GB308-6	Steel Ball 6	3
22	GB2089-0.7x5x9	Spring	1
23	07-43	Handle	1
24	GB70	Hex Socket Cap Screw M5x25	1
25	07-48	Handwheel	1
26	07-15	Handle Screw	1
27	GB78	Set Screw M6x25	1
28	GB70-M5x40	Set Screw M4x40	1
29	07-44	Handle	1
30	GB80	Set Screw M6x16	1
31	07-28	Gib Adjusting Screw	2
32	GB70	Hex Socket Cap Screw M8x16	2
34	07-10	Gib	1

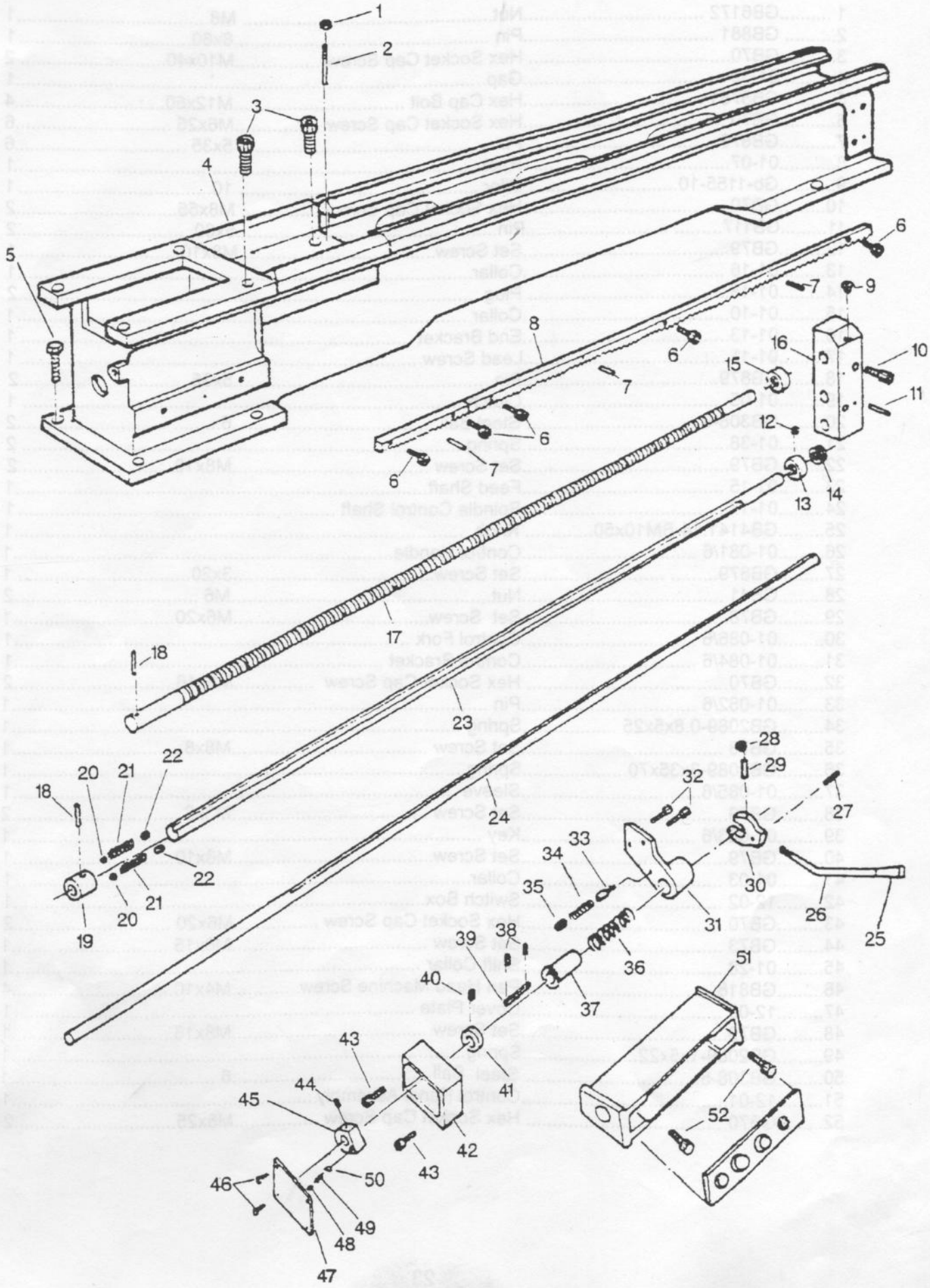
Tailstock Assembly



Tailstock Assembly

1	08-09	Index Ring		1
2	GB70	Hex Socket Cap Screw	M6x20	3
3	08-08	Hub		1
4	BB-8103	Thrust Bearing		1
5	GB1096	key	4x20	1
6	08-05	Screw		1
7	GB70	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	Oiler	10	2
14	08-01	Tailstock Body		1
15	08-20	Wheel		1
16	GB4141.5-M10x80	Handle		1
17	GB78	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	GB70	Hex Socket Cap Screw	M8x45	2
24	08-13	Tailstock Base		1
25	08-14	Tailstock Clamp Plate		1
26	GB95	Washer	12	2
27	GB5782	Hex Cap Bolt	M12x75	1
28	08-16	Block		1
29	GB41	Nut	M6	1
30	GB77	Set Screw	M6x16	1
31	GB879	Pin	5x12	1
32	08-15	Eccentric Shaft		1
33	08-10	Lever Handle		1

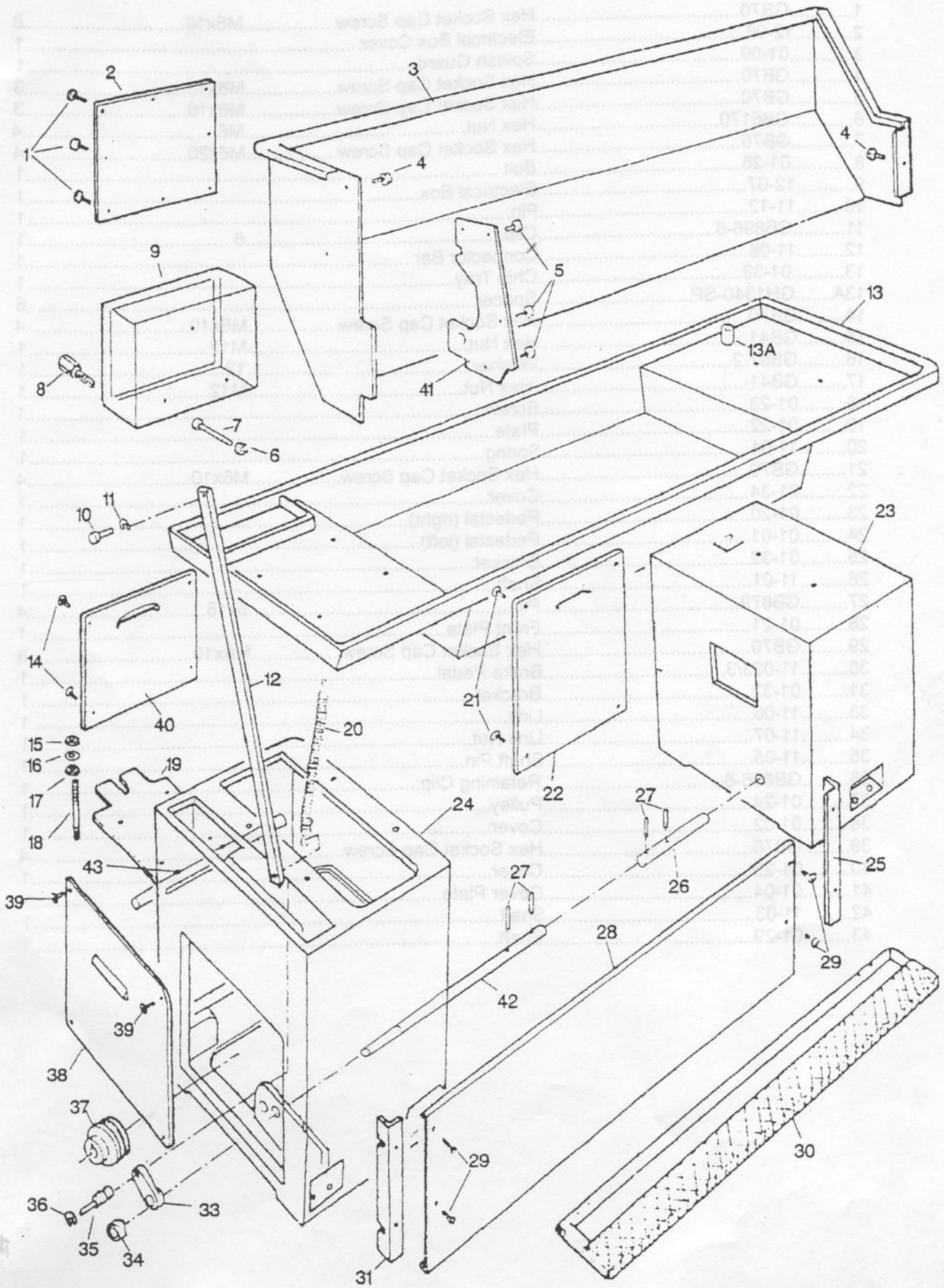
Bed and Shaft Assembly



Bed and Shaft Assemly

1	GB6172	Nut	M8 1
2	GB881	Pin	8x60 1
3	GB70	Hex Socket Cap Screw	M10x40 2
4	01-39	Gap	1
5	GB5781	Hex Cap Bolt	M12x50 4
6	GB70	Hex Socket Cap Screw	M6x25 6
7	GB879	Pin	5x35 6
8	01-07	Rack	1
9	Gb-1155-10	Oiler	10 1
10	GB70	Hex Socket Cap Screw	M8x55 2
11	GB117	Pin	5x60 2
12	GB79	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	Pin	5x35 2
19	01-05	Clutch	1
20	GB308-6	Steel Ball	6 2
21	01-38	Spring	2
22	GB79	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	Set Screw	3x20 1
28	GB41	Nut	M6 2
29	GB78	Set Screw	M6x20 1
30	01-086/6	Control Fork	1
31	01-084/6	Control Bracket	1
32	GB70	Hex Socket Cap Screw	M6x16 2
33	01-082/6	Pin	1
34	GB2089-0.8x5x25	Spring	1
35	GB78	Set Screw	M8x8 1
36	GB2089-3x35x70	Spring	1
37	01-085/6	Sleeve	1
38	GB79	Set Screw	M3x6 2
39	01-083/6	Key	1
40	GB79	Set Screw	M6x10 1
41	01-03	Collar	1
42	12-02	Switch Box	1
43	GB70	Hex Socket Cap Screw	M6x20 2
44	GB73	Set Screw	M6x16 1
45	01-28	Shift Collar	1
46	GB818	Pan Head Machine Screw	M4x10 4
47	12-03	Cover Plate	1
48	GB79	Set Screw	M8x16 1
49	GB2089-1x5x22	Spring	1
50	GB308-6	Steel Ball	6 1
51	12-01	Control Panel Assembly	1
52	GB70	Hex Socket Cap Screw	M8x25 2

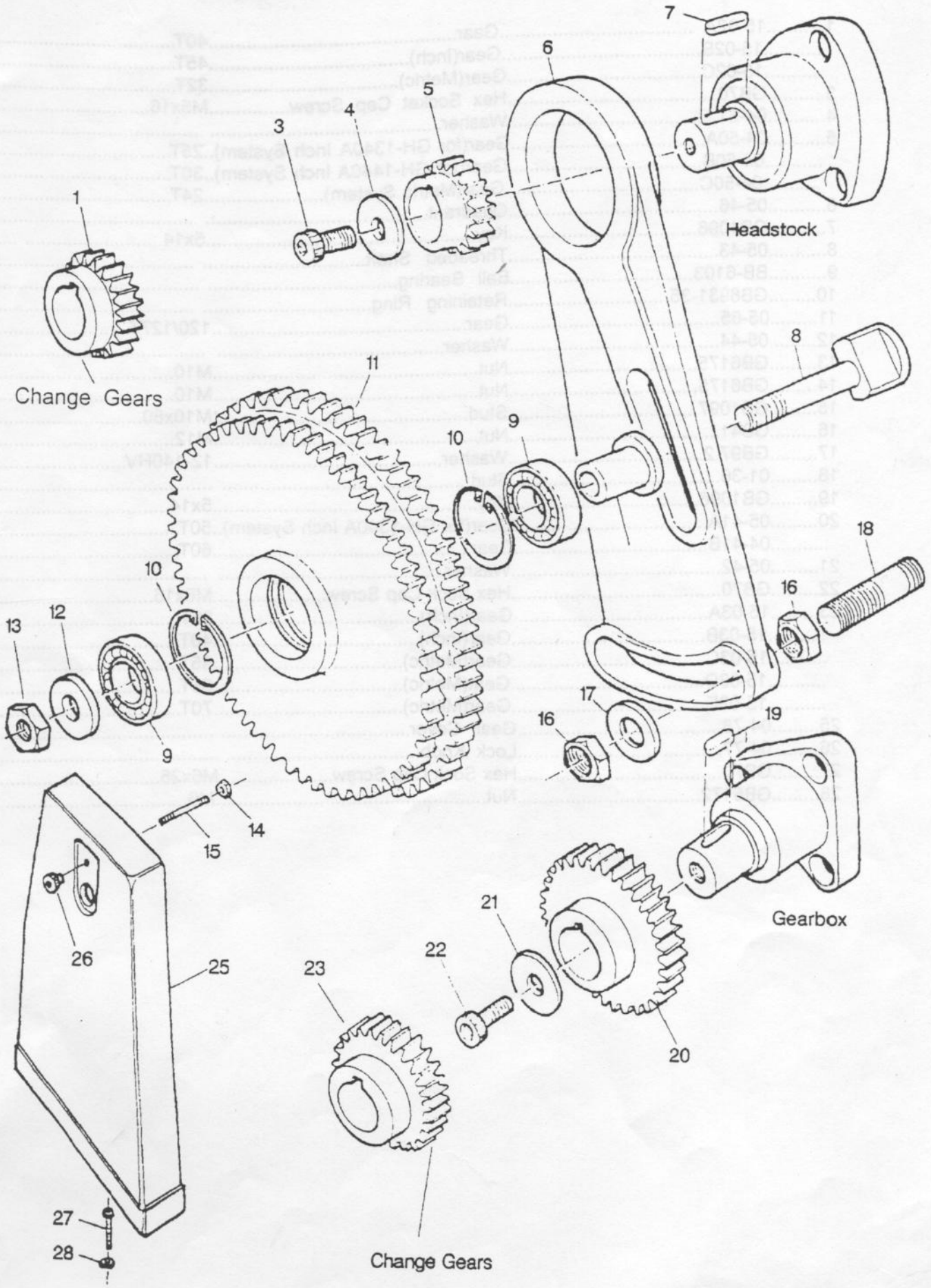
Stand and Brake Assmbly



Stand and Brake Assembly

1	GB70	Hex Socket Cap Screw	M5x16	8
2	12-06	Electrical Box Cover		1
3	01-09	Splash Guard		1
4	GB70	Hex Socket Cap Screw	M6x10	3
5	GB70	Hex Socket Cep Screw	M6x10	3
6	GB6170	Hex Nut	M6	4
7	GB70	Hex Socket Cap Screw	M6x20	4
8	01-26	Bolt		1
9	12-07	Electrical Box		1
10	11-12	Pin		1
11	GB896-6	Clip	6	1
12	11-08	Connector Bar		1
13	01-33	Chip Tray		1
13A	GH1340-SP	Spacer		6
14	GB70	Hex Socket Cap Screw	M6x10	4
15	GB41	Hex Nut	M12	1
16	GB97.2	Washer	12	1
17	GB41	Hex Nut	M12	1
18	01-23	Screw		1
19	01-22	Plate		1
20	11-04	Spring		1
21	GB70	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	Pin	5x15	4
28	01-21	Front Plate		1
29	GB70	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	GB70	Hex Socket Cap Screw		4
40	01-25	Cover		1
41	01-04	Cover Plate		1
42	11-03	Shaft		1
43	01-29	Shaft		1

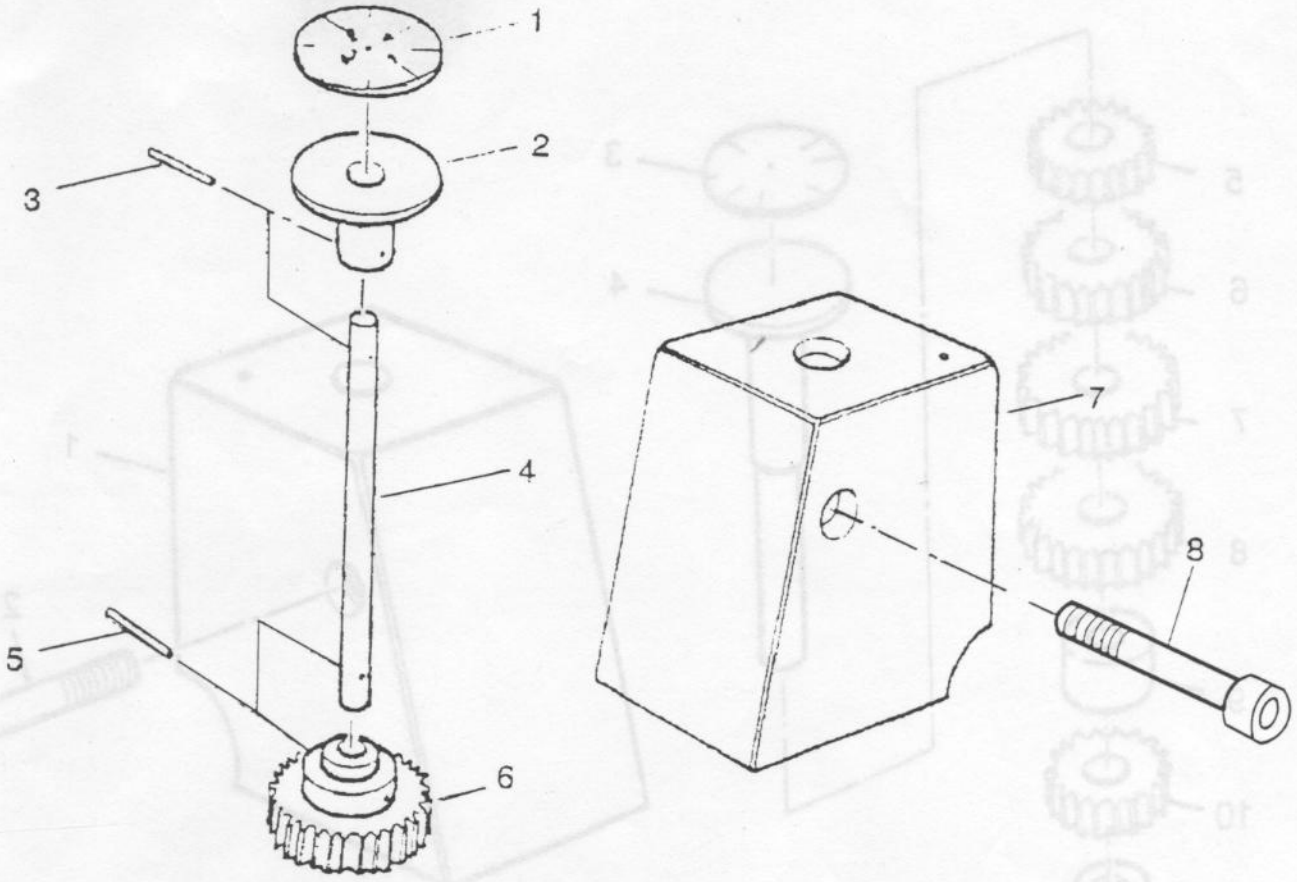
End Gear Assembly



End Gear Assembly

1	15-02A	Gear	40T	1
	15-02B	Gear(Inch)	45T	1
	15-02C	Gear(Metric)	32T	1
3	GB70	Hex Socket Cap Screw	M5x16	1
4	04-51	Washer		1
5	04-50A	Gear(for GH-1340A Inch System)	25T	1
	04-50B	Gear(for GH-1440A Inch System)	30T	1
	04-50C	Gear(Metric System)	24T	1
6	05-46	Quadrant		1
7	GB1096	Key	5x14	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	GB6175	Nut	M10	1
14	GB6175	Nut	M10	1
15	GB1097	Stud	M10x80	2
16	GB41	Nut	M12	2
17	GB97.2	Washer	12-140HV	1
18	01-36	Stud		1
19	GB1096	Key	5x14	1
20	05-41A	Gear(for GH-1340A Inch System)	50T	1
	04-41B	Gear	60T	1
21	05-42	Washer		1
22	GB70	Hex Sock Cap Screw	M6x16	1
23	15-03A	Gear(Inch)	32T	1
	15-03B	Gear(Inch)	40T	1
	15-03C	Gear(Metric)	65T	1
	15-03D	Geat(Metric)	66T	1
	15-03E	Gear(Metric)	70T	1
25	04-78	Gear Cover		1
26	04-77	Lock Knob		1
27	GB70	Hex Sock Cap Screw	M6x25	1
28	GB6172	Nut	M6	1

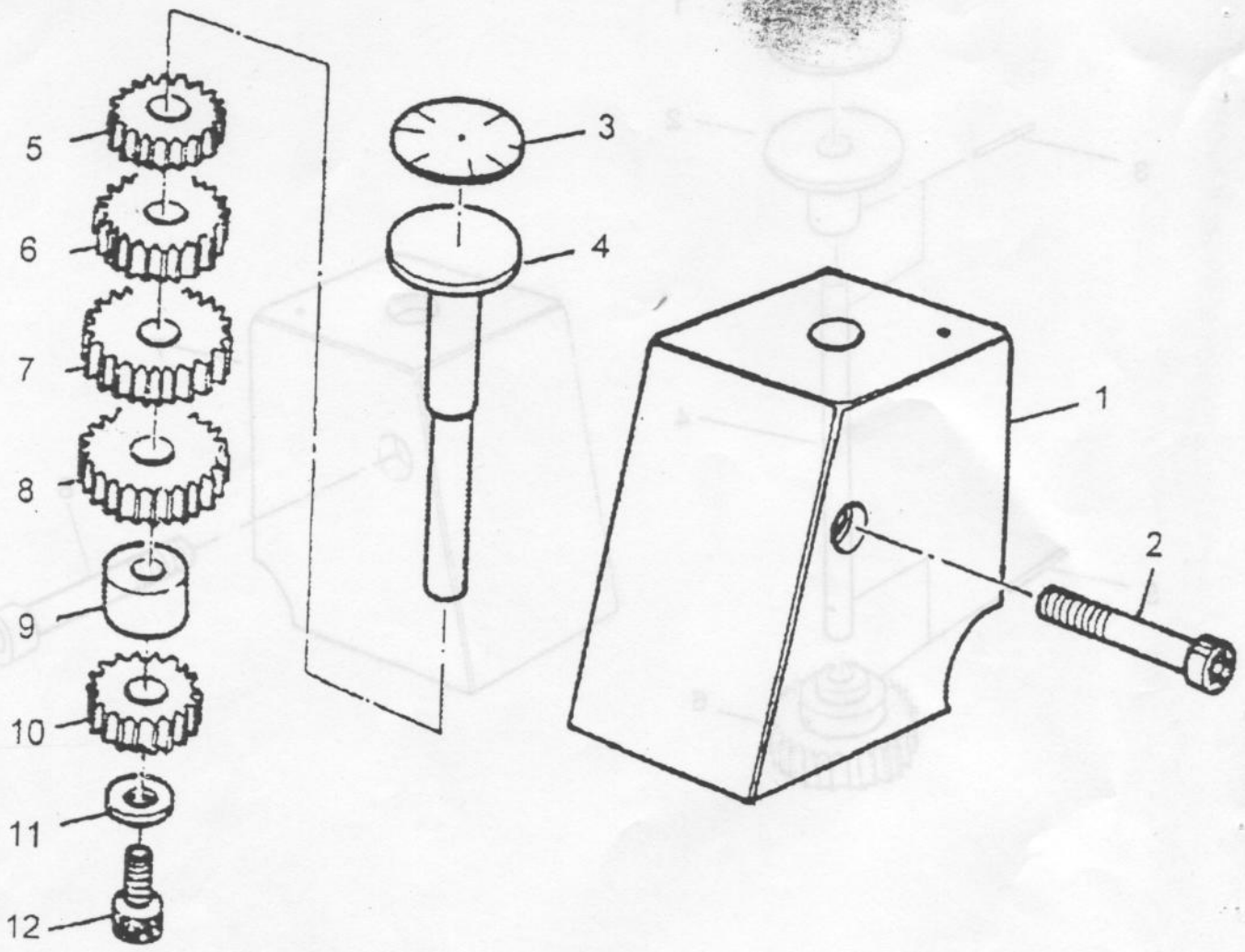
Threading Dial Assembly(Inch system)



Threading Dial Assembly(Inch system)

1	09-01	Indicator Dial	1
2	09-02	Dial	1
3	GB879-3x12	Pin	1
4	09-03	Shaft 3x12	1
5	GB879-5x20	Pin	1
6	09-04	Gear	1
7	09-05	Body 32T	1
8	GB70	Hex Socket Cap Screw M6x45	1

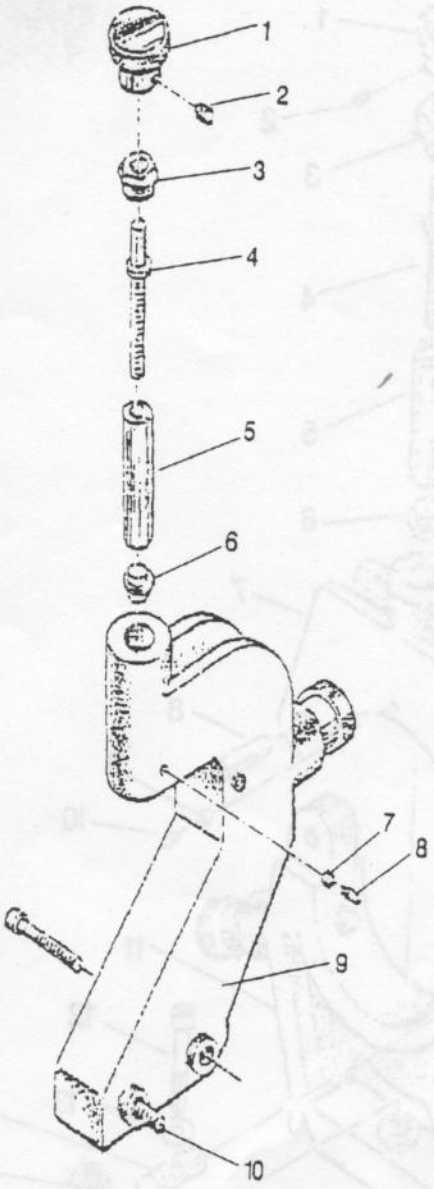
Threading Dial Assembly(Metric system)



Threading Dial Assembly(Metric system)

1	09-11	Body	1
2	GB70	Hex Socket Cap Screw M6x60	1
3	09-12	Indicator Dial	1
4	09-13	Shaft	1
5	09-14	Gear 21T	1
6	09-15	Gear 22T	1
7	09-16	Gear 26T	1
8	09-17	Gear 27T	1
9	09-18	Collar	1
10	09-19	Gear 20T	1
11	09-20	Washer	1
12	GB70	Hex Socket Cap Screw M6x16	1

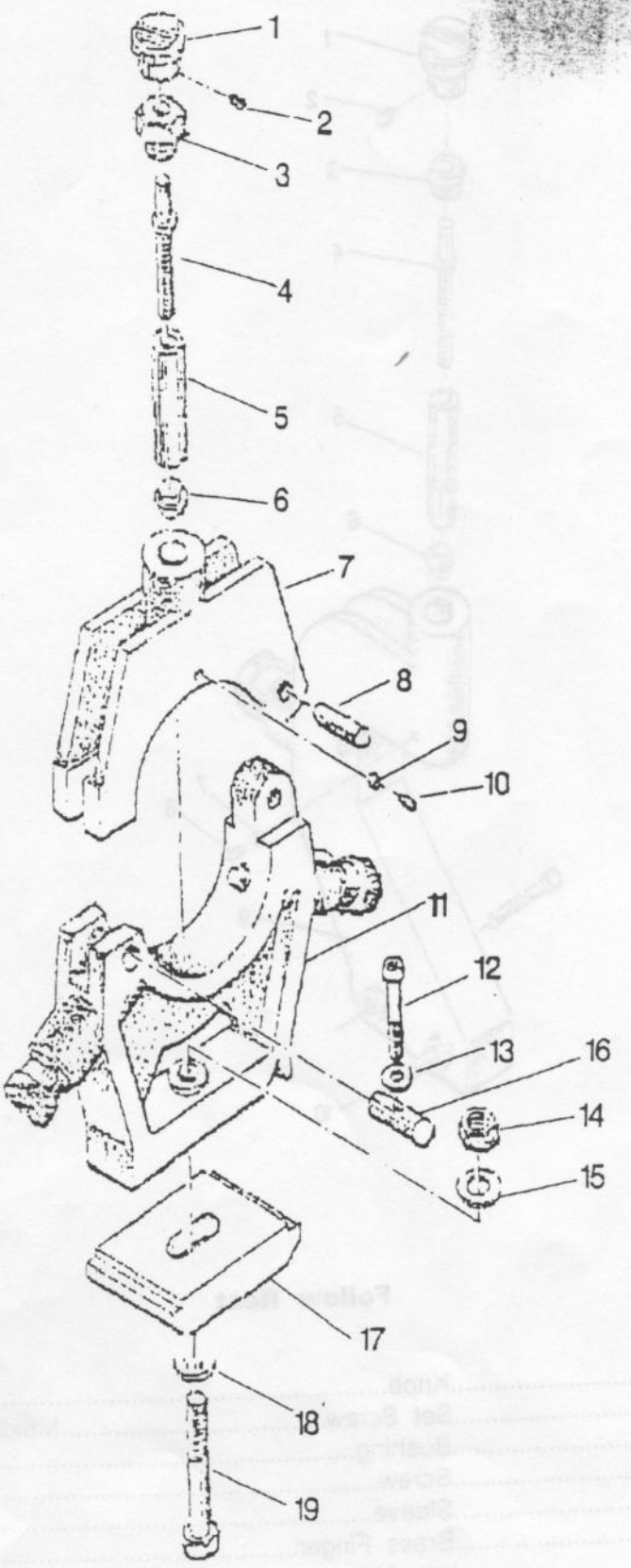
Follow Rest



Follow Rest

1	10B-03	Knob	
2	GB78	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	GB6170	Hex Nut M6	2
8	GB79	Set Screw M6x6	2
9	10B-01	Body Casting	2
10	GB70	Hex Socket Cap Screw M6x45	1
			2

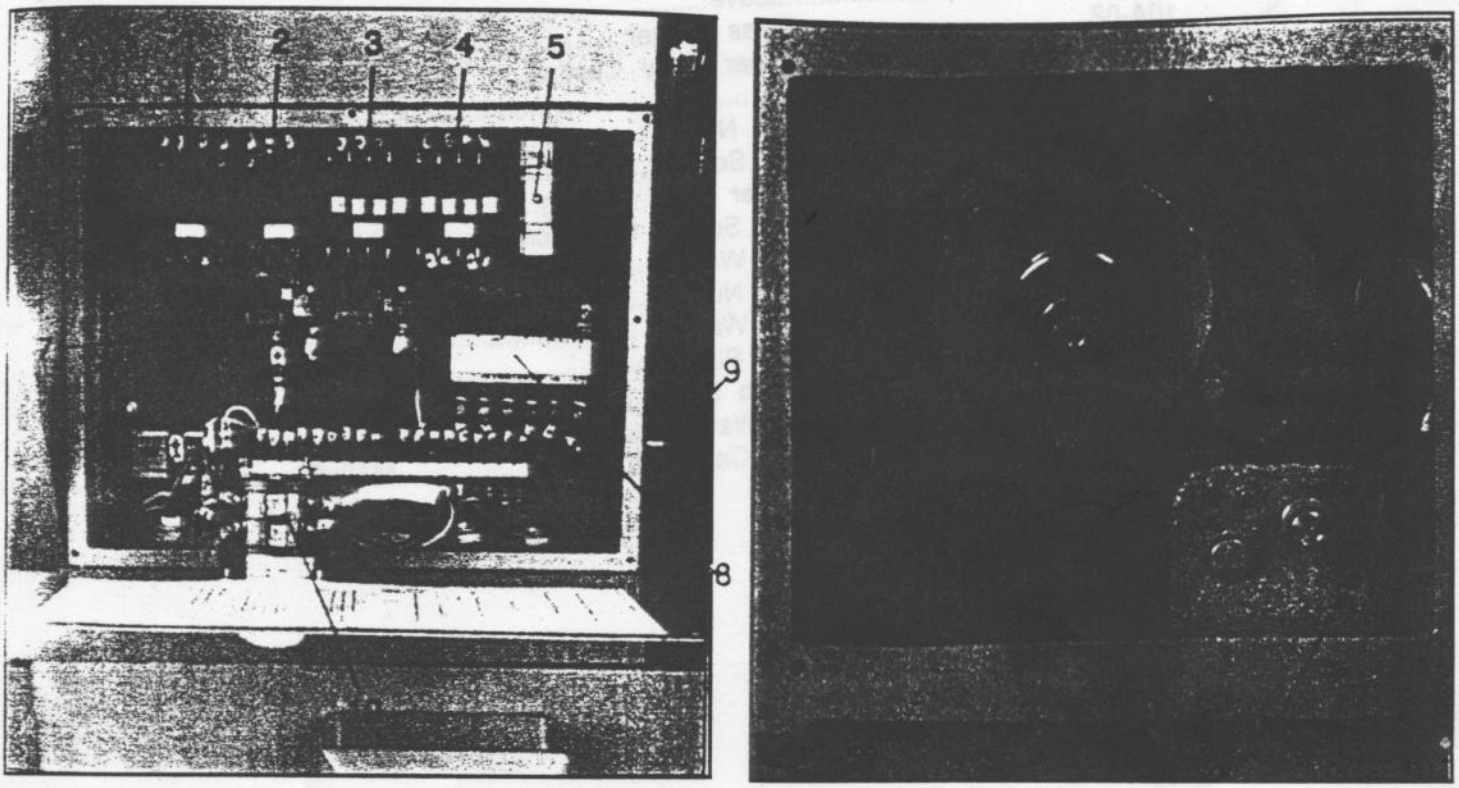
Steady Rest



Steady Rest

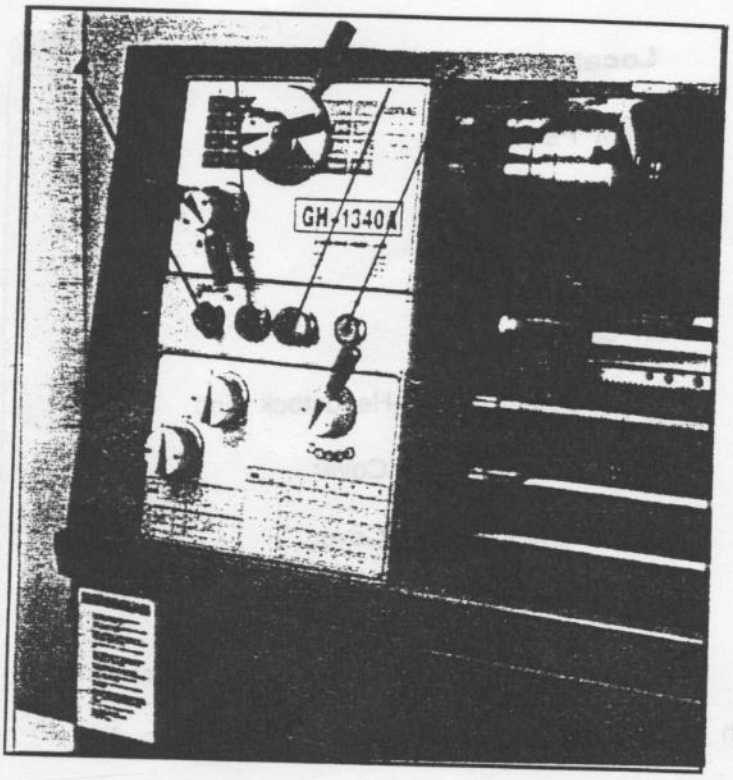
1	10A-04	Knob	
2	GB78	Set Screw	M6x6 3
3	10A-05	Bushing	3
4	10A-06	Screw	3
5	10A-07	Sleeve	3
6	10A-08	Brass Finger	3
7	10A-03	Upper Body Casting	3
8	GH1340A-08SR	Pin	1
9	GB6170	Hex Nut	1
10	GB79	Set Screw	M6 3
11	10A-01	Lower Body Casting	M6x16 3
12	GB70	Hex Socket Cap Screw	1
13	GB97.1	Flat Washer	M6x50 1
14	GB6170	Hex Nut	6 1
15	GB97.1	Flat Washer	M12 1
16	10A-02	Lock Pin	1
17	10A-09	Clamp Plate	1
18	GB97.1	Flat Washer	1
19	GB5872	Hex Cap Bolt	1
			M12x80 1

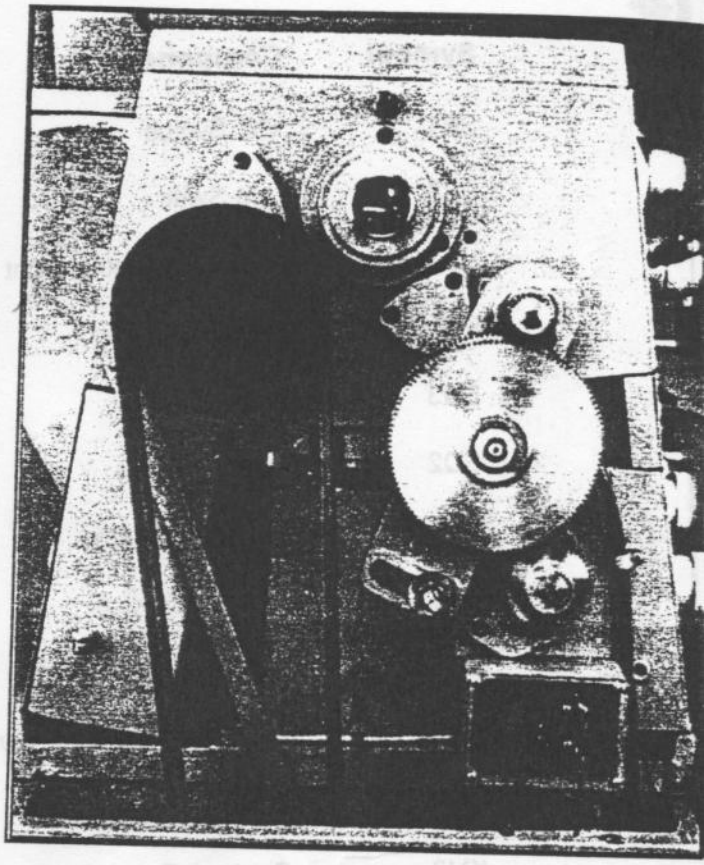
Electrical Components



1	GH1340A-KM1	Magnetic Starter(forward)	1
2	GH1340A-KM2	Magnetic Starter(reverse)	1
3	GH1340A-KM3	Coolant Pump Contactor	1
4	GH1340A-KA1	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-TC	Control Transformer	1
9	GH1340A-SQ2	Door Switch	1
10	GH1340A-QS1	Power On/Off Switch	1
11	GH1340A-SQ3	Brake Switch	1

Electrical Components

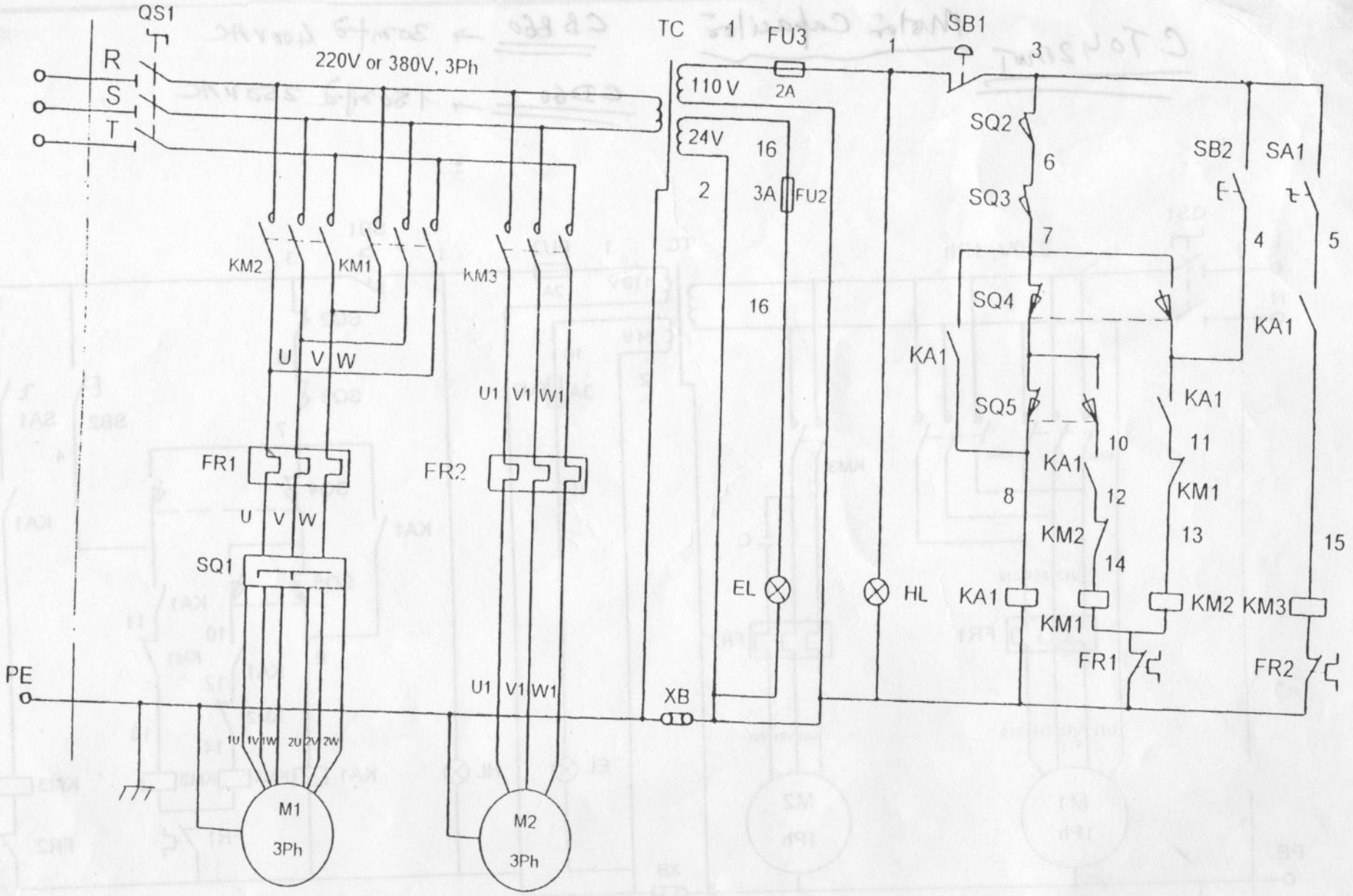




1	GH1340A-SB1	Off Switch	1
2	GH1340A-SB2	Jog Switch	1
3	GH1340A-HL	Power Indicator Light	1
4	GH1340A-SA1	Coolant Pump Switch	1
5	GH1340A-SQ1	2-Speed Hight/Low Switch	1
6	GH1340A-SQ4	Forward Switch	1
7	GH1340A-SQ5	Reverse Switch	1
	GH1340A-M1	Main Motor(not shown)	1
	GH1340A-M2	Coolant Pump Motor(not shown)	1

Electrical Schematic Symbol Glossary

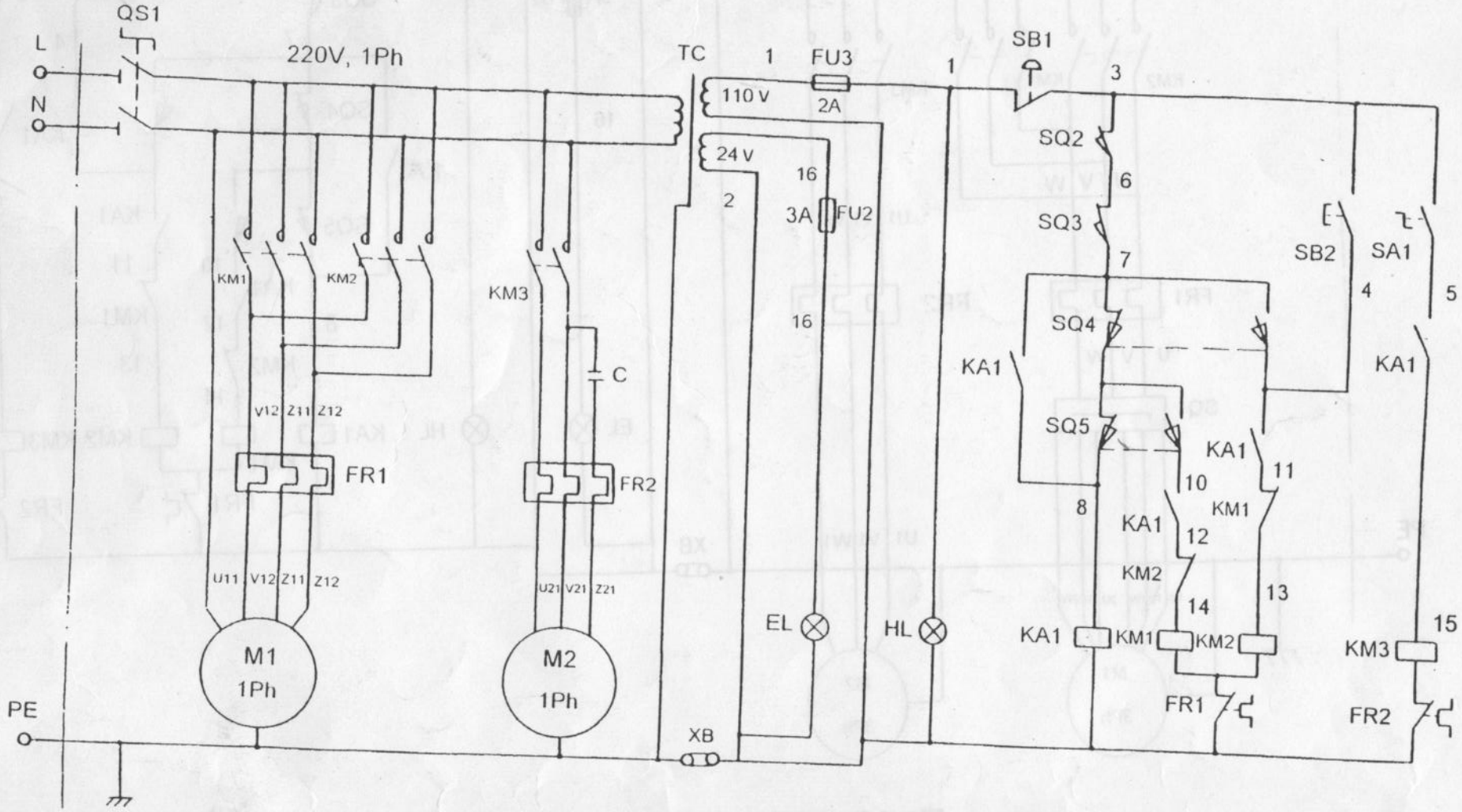
Symbol	Component	Location
SB1	Off Switch	Front Panel
SB2	Jog Swith	Front Panel
HL	Power Indicator Light	Front Panel
EL	Machine Lamp	On carriage
SQ3	Brake Switch	Inside Bottom Cover-Headstock End
SQ2	Door Switch	Inside Change Gear Cover
SQ4	Forward Switch	Inside Change Gear Cover
SQ5	Reverse Switch	Inside Change Gear Cover
QS1	Power On/Off Switch	On Electrical Panel Cover-Rear Of Machine
SQ1	2-Speed High/Low Switch	Under Headstock on Stand
SA1	Coolant Pump Switch	Front Panel
KM3	Coolant Pump Contactor	Electrical Control Box-Rear of Machine
KA1	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
TC	Control Transformer	Electrical Control Box-Rear of Machine
M1	Main Motor	Inside Stand - Headstock End
M2	Coolant Pump Motor	Inside Stand - Tailstock End



Electrical Schemtic(For 3Ph only)

CTO42MOT Motor Capacitor CBB60 → 30mfd 400VAC

CD60 → 150mfd 250VAC



Electrical Schemtic(For 1Ph only)

WARRANTY

CRAFTEX 2 YEAR LIMITED WARRANTY

Craftex warrants every product to be free from defects in materials and agrees to correct such defects where applicable. This warranty covers **two years** for parts and 90 days for labour (unless specified otherwise), to the original purchaser from the date of purchase but does not apply to malfunctions arising directly or indirectly from misuse, abuse, improper installation or assembly, negligence, accidents, repairs or alterations or lack of maintenance.
Proof of purchase is necessary.
All warranty claims are subject to inspection of such products or part thereof and Craftex reserves the right to inspect any returned item before a refund or replacement may be issued.
This warranty shall not apply to consumable products such as blades, bits, belts, cutters, chisels, punches etceteras.
Craftex shall in no event be liable for injuries, accidental or otherwise, death to persons or damage to property or for incidental contingent, special or consequential damages arising from the use of our products.

RETURNS, REPAIRS AND REPLACEMENTS

To return, repair, or replace a Craftex product, you must visit the appropriate Busy Bee Tools showroom or call 1-800-461-BUSY. Craftex is a brand of equipment that is exclusive to Busy Bee Tools.
For replacement parts directly from Busy Bee Tools, for this machine, please call 1-800-461-BUSY (2879), and have your credit card and part number handy.

- All returned merchandise will be subject to a minimum charge of 15% for re-stocking and handling with the following qualifications.
- Returns must be pre-authorized by us in writing.
- We do not accept *collect* shipments.
- Items returned for warranty purposes must be insured and shipped pre-paid to the nearest warehouse
- Returns must be accompanied with a copy of your original invoice as proof of purchase. Returns must be in an un-used condition and shipped in their original packaging a letter explaining your reason for the return. Incurred shipping and handling charges are not refundable.
- Busy Bee will repair or replace the item at our discretion and subject to our inspection.
- Repaired or replaced items will be returned to you pre-paid by our choice of carriers.
- Busy Bee reserves the right to refuse reimbursement or repairs or replacement if a third party without our prior authorization has carried out repairs to the item.
- Repairs made by Busy Bee are warranted for 30 days on parts and labour.
- Any unforeseen repair charges will be reported to you for acceptance prior to making the repairs.
- The Busy Bee Parts & Service Departments are fully equipped to do repairs on all products purchased from us with the exception of some products that require the return to their authorized repair depots. A Busy Bee representative will provide you with the necessary information to have this done.
- For faster service it is advisable to contact the nearest Busy Bee location for parts availability prior to bringing your product in for repairs.