

1024 Y  
SC 55X70X9  
325X250X37 SC  
TC 70X92X12  
55X70X9 TC

1236 Y  
55X70X9 TC  
325X250X37 SC  
231X287X31 SC  
75X100X13 TC

1240 Y  
287X231X31 SC  
68X90X12 SC  
75X100X13 TC  
63X80X9 TC

816 SEALS  
AS OF AUG 16-86

(Y MODELS ONLY)

# OPERATING INSTRUCTIONS OF BENCH LATHE

MODEL: JET 1024-S  
1236-S

1236 S. COLLET COVER TUBE 13" LF OVERALL.  
13 1/4"

Chuck mount 66<sup>mm</sup> x 8 TPI SAE.  
(diam)

was changed to 2 1/4" x 8 TPI

We don't have checks & your not

JET Equipment & Tools



901 JEFFERSON AVENUE / TACOMA, WASHINGTON 98402 / (206) 572-5000

- A- APRON
- B- BED ASM
- G- FEED GEAR BOX
- H- HEAD STOCK
- PT POWER TRANSFER ASM
- SR STEADY REST
- SW SWITCH ASM
- S SAOWLE
- TK TAIL STOCK
- TS TOP SLIDE
- X ACCESSORIES

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**JET-1024 TYPE BENCH LATHE**  
**1236**

**SPECIFICATIONS:**

Distance between centers .....	24" 610mm / 36" 915mm
Height of centres .....	5" 125mm / 6" 153mm
Swing over bed .....	10" 250mm / 12" 305mm
Swing over cross slide .....	5½" 135mm / 7½" 190mm
Taper in spindle nose bush .....	No.4 Morse
Taper of spindle centre .....	No.2 Morse
Hole through spindle .....	1 1/16" 27mm / 1 3/8" 35mm
Width of bedways .....	7 1/8" 180mm
Motor .....	1HP
Total travel of cross slide .....	6" 150mm
Total travel of top slide .....	3" 75mm
Total travel of tailstock barrel .....	3½" 90mm
Taper in tailstock barrel .....	No.2 Morse
Number of spindle speeds .....	12
Range of spindle speed .....	50-1000 rpm
Diameter and pitch of lead screw shaft .....	3/4" ♂ 8T.P.I.
Diameter of feed shaft .....	5/8"
Net weight (approx) .....	550 lbs. <span style="float: right;">660 lbs.</span>

# **INSTALLATION**

## **MOUNTING BENCH LATHE:**

A reinforced concrete floor is the best foundation. Wood floor should be rigid and capable of supporting the weight of the lathe and worker without defection, If the floor is not solid, it should be reinforced, or cut away and a concrete foundation installed.

Anchoring the lathe should follow below procedures:

1. A strong metal cabinet or wood table should be used as a stand of the lathe.
2. Make sure the legs of cabinet or table rest solidly on the floor.
3. Place chip tray on the stand in final location. Be sure to provide enough working space for the lathe; so the rear side of chip tray should be 2 ft from wall.
4. Using the chip tray mark the location of mounting hole on the top of stand.
5. Move chip tray away, drill holes and reposition chip tray and machine, then to install mounting bolts with washers from the underside of cabinet or table, and lock them in place with washers and hex jam nuts.

## **CAUTION:**

1. Carriage and tailstock are located to bed and should not be moved until bed is cleaned.
2. Clean the lathe, machined surfaces are coated with rust preventive which must be removed by using a good grease solvent.
3. Read all instructions, a few minutes now may save hours later.

## LEVELING LATHE BED:

The lathe bed should be kept perfectly level at all times. When carelessly leveled, the bed may become twisted. Even a slight amount of twist will move centers out of alignment and result in inaccurate works and excessive wear. So be sure to make it a habit to check the level of the bed regularly.

Leveling lathe bed as following:

1. Clean bed ways thoroughly.
2. Use one 6" long level to level bed longitudinally, compensate for variations of bubble readings with thin metal shims placed around blots between bed legs and chip tray until bed is level.
3. Next, level the bed at headstock and tailstock crossly. Level readings at headstock and tailstock must be identical. Compensate for variations of bubble readings by placing metal shims between bed legs and chip tray around the bolts.
4. Tighten the six mounting bolts securely and recheck level.

## ELECTRICAL CONNECTING:

Before connecting motor, make sure that line voltage corresponds with the requirements of the motor and to see if it exceed the load. If there is any question, call your power company.

Wire switch and motor so that motor pulley can rotate in clockwise and counterclockwise directions.

## CONTROLS AND OPERATION

### BACK GEARS CONTROLS:

Back gear drive provides the slow spindle speeds, from 50 to 250 r.p.m. required for heavy cuts and large diameter works.

To engage the Back Gear Drive:

1. Turn off motor.
2. Raise headstock cover (1, Fig 1) ~~and pull out~~ lock pin (2, Fig 1), disengaging bull gear (B) from spindle pulley (C).
3. Move back gear lever (3, Fig 1) to engaged position by pulling on knob, then pushing down and in. It may be necessary to rotate spindle pulley by hand so gears will mesh.

Direct drive provides high spindle speeds from 275 to 1050 r.p.m.

To engage the direct drive:

1. Turn off motor.
2. Raise headstock cover. Push on lock pin and turn spindle pulley by hand until pin slides in, locking bull gear and pulley together.
3. Move back gear lever to disengaged position by pulling on knob, then pushing up and in.

**CAUTION:** The position of the back lever should not be changed unless motor is "OFF" and spindle has stopped turning.

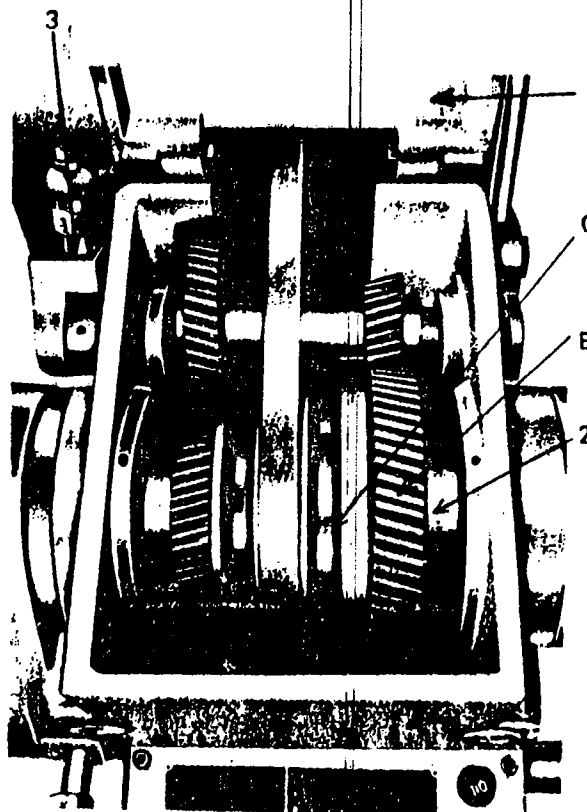


FIG 1

*UN SCREW  
LOCK PIN*

*MAY HAVE TO  
RAP IT WITH  
SOFT HAMMER TO  
GET LOOSE.*

### CHANGING SPINDLE SPEEDS:

1. Turn off motor.
2. Pull belt tension lever (4, Fig. 1) downward to loosen belt tension.
3. Open Headstock cover and pulley quards shift belts to position required for desired speed.
4. Push belt tension lever upward to tighten belt.

### HEADSTOCK:

Lead screw shaft and feed shaft direction (A, Fig. 2) has three positions.

Center position is neutral, gear train is disengaged and lead screw shaft does not turn. Upper position moves carriage toward tailstock. Lower position moves carriage toward headstock.

40

METRIC GEAR CHANGE

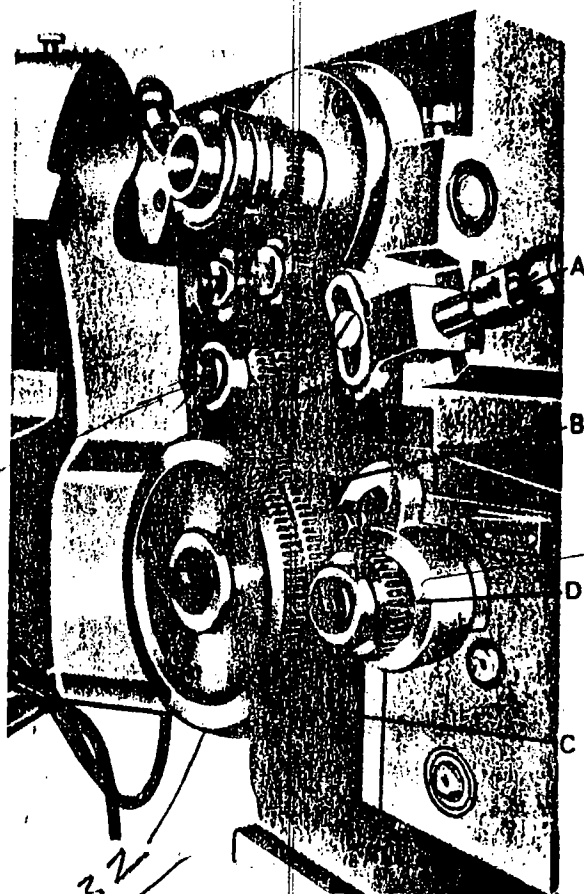


FIG 2

## QUICK-CHANGE GEAR BOX:

Quick-Change mechanism determines the rate of rotation of leadscrew shaft and feed shaft in relation to the r.p.m. of the spindle.

The left side lever (A, Fig.3) on quick-change gear box shifts to five positions A,B,C,D,and E.

The right side lever(B Fig 3) on quick-change gear box shifts to eight positions. 1,2, 3,4,5,6,7 and 8.

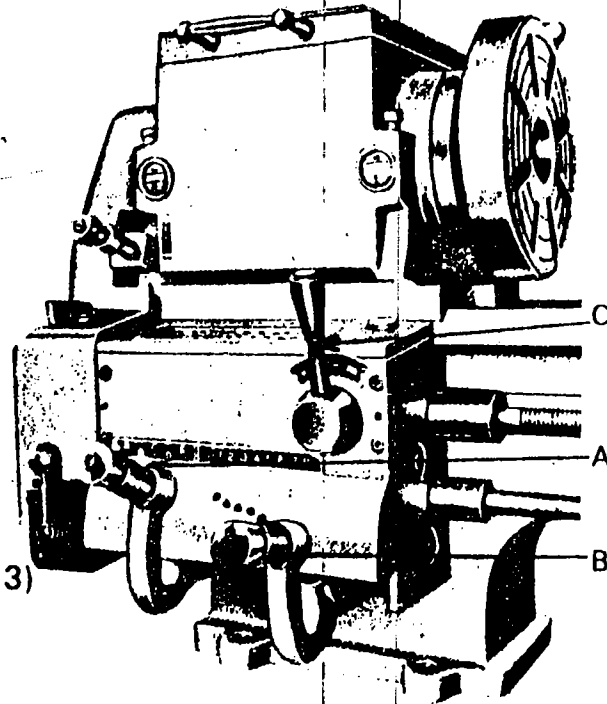


FIG 3

The indexing holes for those two levers are directly below the thread or feed desired, shown on the "Inch Thread Cutting Chart"(C Fig 3)

## CONVERSION OF INCH AND METRIC THREADING:

Tumbler gears (B,C,D, Fig.2) determine the function of threading in inch or metric. The inch tumbler gears and the metric tumbler gears are standard parts in this model.

1. If metric threading is necessary, to loose the lock of inch tumbler gears and disassemble those gears, then put metric tumbler in positions.
2. After the metric tumbler gears are properly meshed, tighten the lock. Be sure to allow sufficient clearance among those three meshing metric tumbler gears.



3. If the above exchanging procedures are completed, metric threads can be cut as shown on the "Metric Thread Cutting Chart"  
CARRIAGE:

Carriage moves along the bed by hand or by power feed and supports the cross slide, compound rest, tool post and cutting tools. The apron, anchored to front of carriage, contains the power cross and longitudinal feed controls.

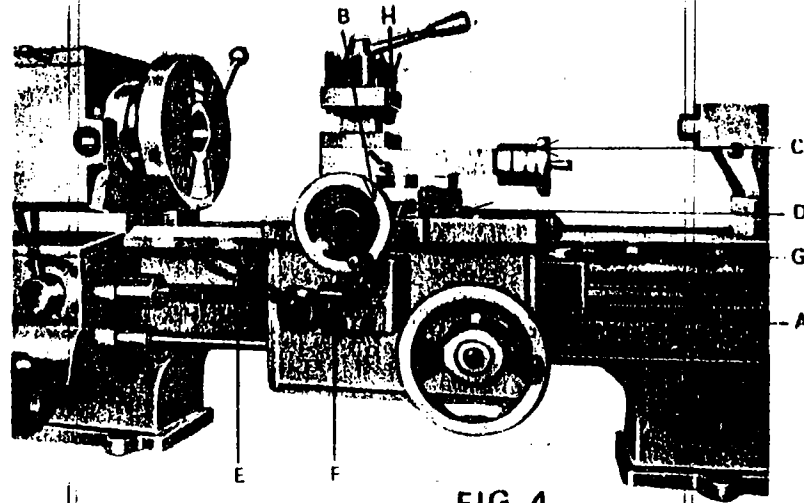


FIG. 4

Handwheel (A, Fig. 4) manually moves carriage along the lathe bed. Handwheel collar is graduated in 0.03

Cross handwheel (B Fig 4) moves the cross slide in and out. Micrometer dials fitted to cross slide in 0.01 graduations.

Tool post slide handwheel (C Fig 4) moves the tool post slide in and out. Handwheel Collar is graduated in 0.01

Carriage lock screw (D, Fig. 4) locks carriage to bed for facing or out off operations.

Half-nut lever (E, Fig. 4) engages half-nuts with lead screw for threading. When lever is moved down, it engages half-nuts with lead screw, carriage travels along bed as lead screw turns.

#### **Longitudinal & Cross Feed Control Lever (F, Fig 4):**

When you need to do a power feed operation, move the control lever of the quick-change gear box leftward to rotate feed shaft, then you may operate the longitudinal and cross feed control lever smoothly. When lever is moved up, it take longitudinal feed. when lever is moved down, it take cross feed. Within the apron, we have mounted the safety installation, so it is absolutely impossible to operate simultaneously with the half-nut lever.

**CAUTION:** Always loosen carriage lock screw before engaging half-nuts and operation longitudinal & cross feed control lever.

The threading dial (G, Fig 4) performs the important function of indicating the proper time to engage the half-nut lever so that tool will enter the same groove of the thread on each successive cut. To avoid excessive wear of threading dial gear, loosen clamp screw and swing gear away from lead screw when not threading.

4-Ways tool post (H, Fig 4) hold the cutting tools rigidly in positions for cutting operations. The cutting edge of the tools should be placed on lathe center line. To push the head of lever (I) in counterclockwise side for unlocking and to locate the tool post. To pull the head of lever in clockwise for locking it at the located position.

In order to avoid undesirable overhang, your tool bits should be clamped in the forged steel body of the turret securely, so the cutting end of the tool bits are close to the holder as the work permit, and the tool holder should be as far back in the tool post as possible.

## TAILSTOCK:

The tailstock supports long work, and holds tools for drilling and reaming operations.

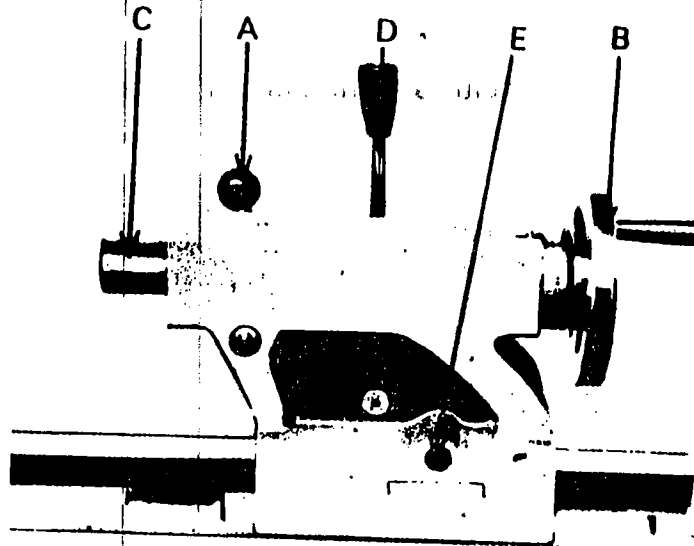


FIG 5

Barrel lock lever(A, Fig.5) locks barrel in proper place. Move this lever upward to lock barrel, and move it downward to loosen the barrel lock.

CAUTION: Before attempting to move barrel, loosen barrel lock first.

Handwheel(B, Fig 5) moves the tailstock barrel(C, Fig 5) .To advance barrel, turn handwheel clock wise, to retract barrel or eject center, turn handwheel counterclockwise. Hand wheel collar is graduated in 0.04

Bed clamp lever (D, Fig 5) locks tailstock to lathe bed. Move this lever upward to lock tailstock to lathe bed. Move this lever downward to loosen the tailstock clamp.

The tailstock may be set over for taper turning by loosening the bed clamp lever and adjustable the two set over screws(E Fig 5)

## CHUCKS, FACE PLATE AND STEADY REST:

### Mounting chucks or face plate:

1. Carefully wipe face of hub and threads clean of dirt and chips.
2. Carefully clean spindle threads.
3. Cover spindle threads with a light film of clean oil.
4. Place lathe in back gear to keep spindle be fixed.
5. Screw chuck or face plate on spindle, it should thread on easily (do not force). Turn it rapidly as it nears spindle spoulder so hub will seat firmly against spindle should face.

### Removing chucks or face plate:

1. Place board under chuck to protect bedways, rotate chuck until wrench hole is on top. Lock spindle by engaging back gears. Place chuck wrench in chuck and pull. If chuck does 'nt release, tap the base of wrench lightly with a mallet. Remove chuck.
2. To remove face plate, lock spindle by engaging back gears and tap slot in face plate with a lead hammer in a counterclockwise direction. Remove face plate carefully to prevent damaging spindle threads.

### Mounting Steady Rest:

1. Place steady rest on the bed ways at proper position carefully.
2. Put steady rest clamber beneath the bedways and against the base of rest.
3. Insert bolt through the holes of clamber and rest base.
4. Place washer and screw nut on bolt and tighten it.

### Removing steady rest:

1. Loosen and take down clamber with bolt.
2. Take off steady rest from lathe bed.

# MAINTENANCE AND LUBRICATION

## PREVENTIVE MAINTENANCE:

This lathe is a precision machine, for maintaining it be sure:

1. Keep lathe clean and properly lubricated.
2. Do not use lathe for a work bench or leave tools on the bed ways.
3. Always shut off power before leaving lathe.
4. Recheck level of the lathe bed frequently.
5. Lock talistock to bed ways before turning between centers.
6. Keep lead screw threads clean, and oil it lightly.
7. Securely lock cutting tools in positions before taking a cut.

## LUBRICATING:

Do not operate the lathe until the lathe has been lubricated perfectly.

All oilers should be oiled with S.A.E. No.20 oil.

All grease nipple should be lubricated with Keystone No. 122 gear lubricant or equivalent. Remove oil and dirt before applying grease.

*30wt non detergent in headstock & apron 1 1/2" ↑ in Apron*

Also check the two oil scopes on the headstock periodically for oiling with S.A.E. No. 20 oil.

## **ADJUSTMENT**

### **SPINDLE BEARINGS ADJUSTMENT:**

Spindle bearings have been preloaded at factory and seldom require adjusting. If spindle spins too freely or play is noticeable when spindle is pushed back and forth, follow below adjusting procedures:

1. Make adjustment only when spindle is at operating temperature so run spindle at medium speed for about one hour, then stop motor.
2. Raise headstock cover and pull out lock pin disengaging bull gear from pulley.
3. Loosen mounting bracket which holding countershaft and slip spindle belts off spindle pulley.
4. Loosen the outside bearing adjusting nut (G, Fig. 4) and tighten the inside bearing nut(H, Fig. 4) until spindle end play has been eliminated.
5. Tighten the outside bearing adjusting nut.
6. Place belts on pulleys, and check belts tension.

### **BELT TENSION ADJUSTMENT:**

Properly tensioned belt should depress approximately  $\frac{1}{2}$ " with light finger pressure, too much tension will cause excessive wear.

To tension countershaft belt:

1. Move belt tension lever to tighten position.
2. Adjust the belt tension adjusting nut until belt is properly tensioned.

### CARRIAGE BEARING PLATES ADJUSTMENT:

Carriage bearing plates, which bear on underside of front and back ways, hold the carriage firmly to the bed. Plates have shims of varying thickness for wear adjustment

### CROSS SLIDE GIB ADJUSTMENT:

Adjust the cross slide gib screw evenly until cross slide moves with a slight drag.

### TOOL POST SLIDE GIB ADJUSTMENT:

Adjust the tool post slide gib screw evenly until tool post slide moves with a slight drag.

### COMPOUND AND CROSS FEED CRANK ADJUSTMENT:

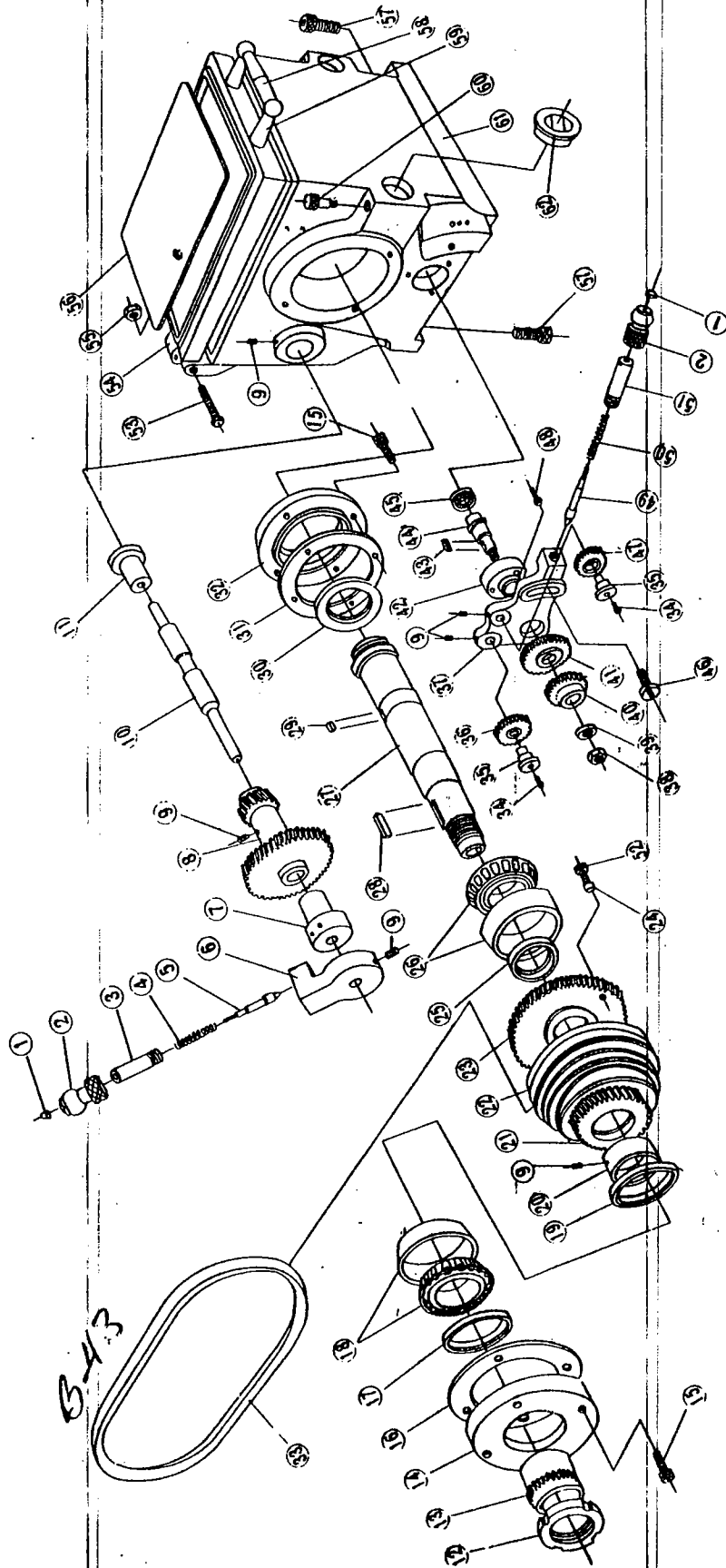
If the compound or cross feed crank is too free, to tighten the compound or cross feed crank set screw.

### TAILSTOCK ADJUSTMENT:

If the tailstock spindle center is out of alignment, to adjust the two set over screws for centerlizing.

H-

# HEADSTOCK



MOTOR PULLEY BELT  
B-36

LINK BELT

36 FORWARD  
 37 REV  
 17 OIL SEAL  
 14 OIL SEAL  
 30 OIL SEAL

14 FIBRE WASHER  
31



# HEADSTOCK

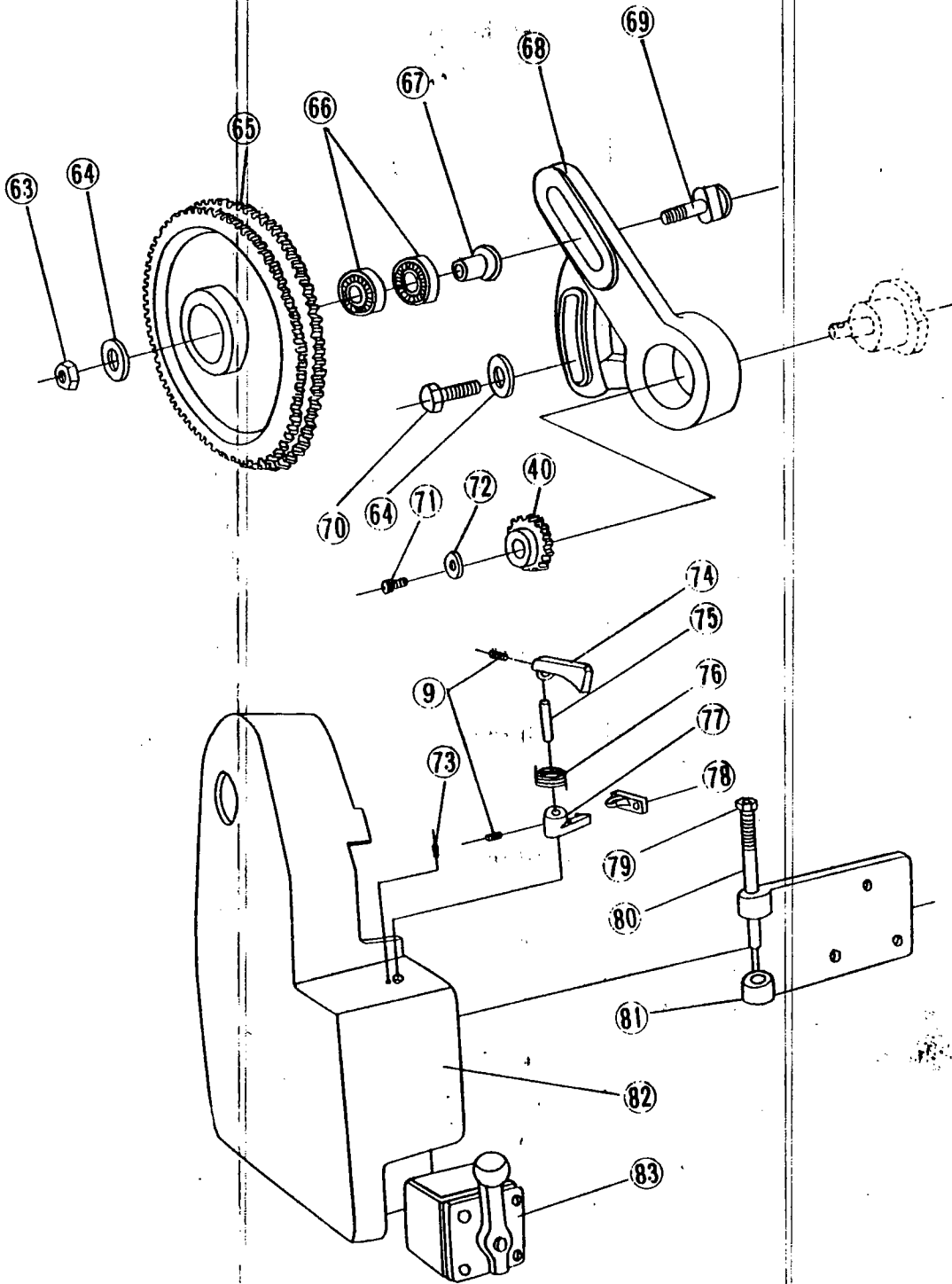
INDEX No.	PARTS No.	PARTS NAME	QTY.	REMAKK
1	----	Nut	2	
2	0022	"	2	
3	0024	"	1	
4	----	Spring	1	
5	0023		1	
6	0021		1	
7	0020		1	
8	0018		1	
9	----	Serew	8	
10	0017		1	
11	0019		1	
12	0012		2	
13	0011		1	
14	0016		1	
15	----	Screw	8	
16	----	Plunger	1	
17	----	Oil seal	1	55X70X9 (024)
18	<del>BB</del> 30214 J BAR	Bearing	1	65X85X10
19	----	Oil seal	1	55X70X9
20	0010		1	65X85X12
21	0008		1	
22	0007		1	
23	0006		1	
24	0014		1	
25	<del>BB</del> ----	Oil seal	1	60X75X9
26	32212 FRONT	Bearing	1	65X85X12
27	0005		1	
28	----	Key	1	
29	----	Key	1	
30	----	Oil seal	1	70X92X12
31	----	Plunger	1	100X80X12

12245 HAS 2-E30211 BEARINGS

# HEADSTOCK

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
32	0015		1	
33	----	Vee belt <span style="border: 1px solid black; padding: 2px;">B-33</span>	1	
34	----	Oil plug	2	
35	0031		2	
36	0029		1	
37	0028		1	
38	----	Nut	1	
39	0035		1	
40	0033		2	
41	0032		1	
42	0027		1	
43	----	Key	1	
44	0025		1	
45	----	Bearing	1	
46	0034		1	
47	0030		1	
48	----	Screw	3	
49	0051		1	
50	----	Spring	1	
51	0052		1	
52	0013		1	
53	----	Screw	2	
54	0002		1	
55	----	Nut	2	
56	0056		1	
57	----	Screw	4	
58	0004		1	
59	0003		2	
60	0053		2	
61	0001		1	
62	0040		2	

# HEADSTOCK

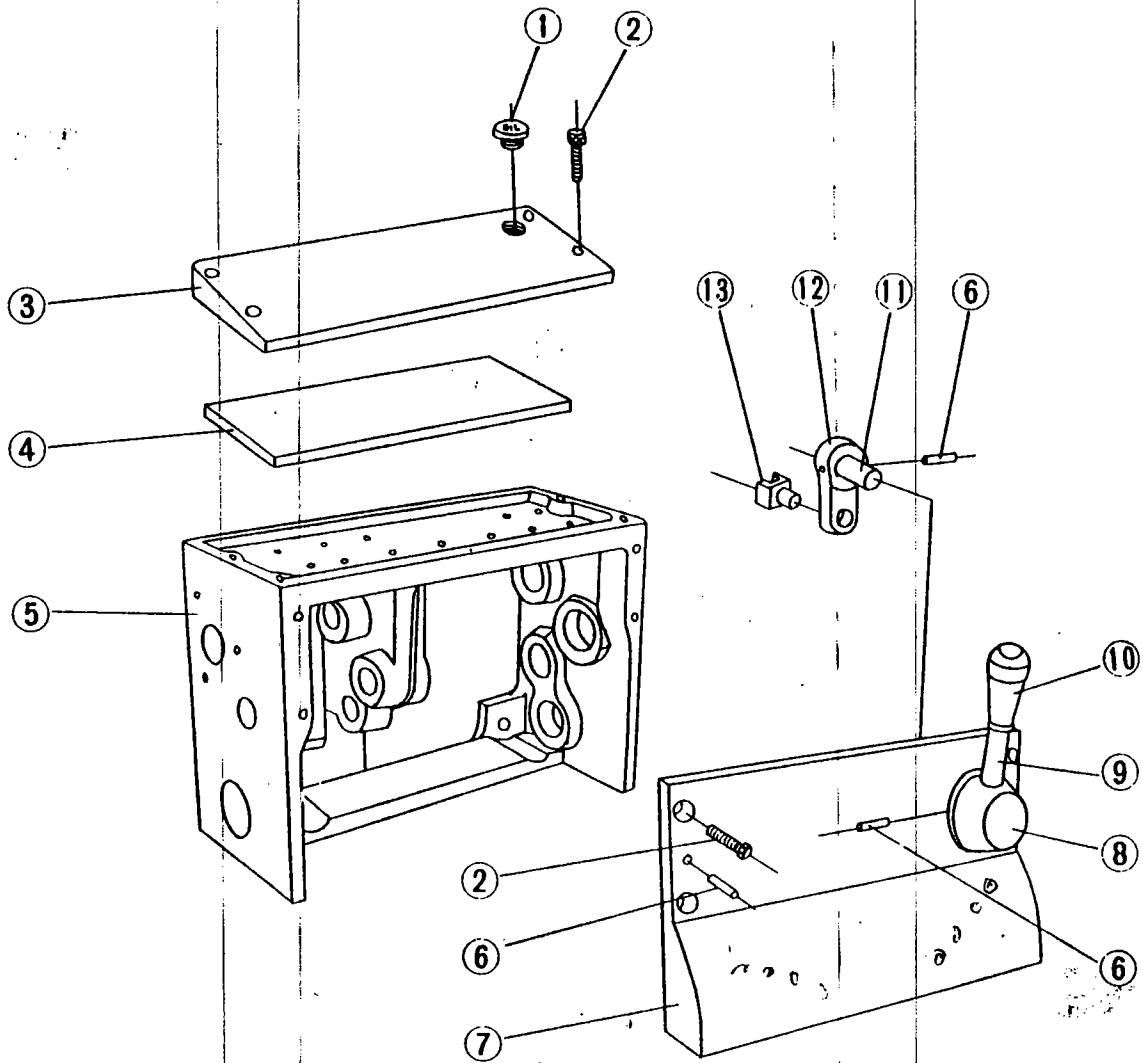


# HEADSTOCK

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
63	----	Nut	1	
64	----	Washer	1	
65	0039		1	
66	----	Bearing	2	
67	0038		1	
68	0036		1	
69	0037		1	
70	.....	Screw	1	
71	.....	Screw	1	
72	----	Washer	1	
73	----	Screw	1	
74	0043		1	
75	0042		1	
76	0041		1	
77	0044		1	
78	0045		1	
79	----	Nut	1	
80	0048		1	
81	0047		1	
82	0046		1	
83	----	Switch	1	

G

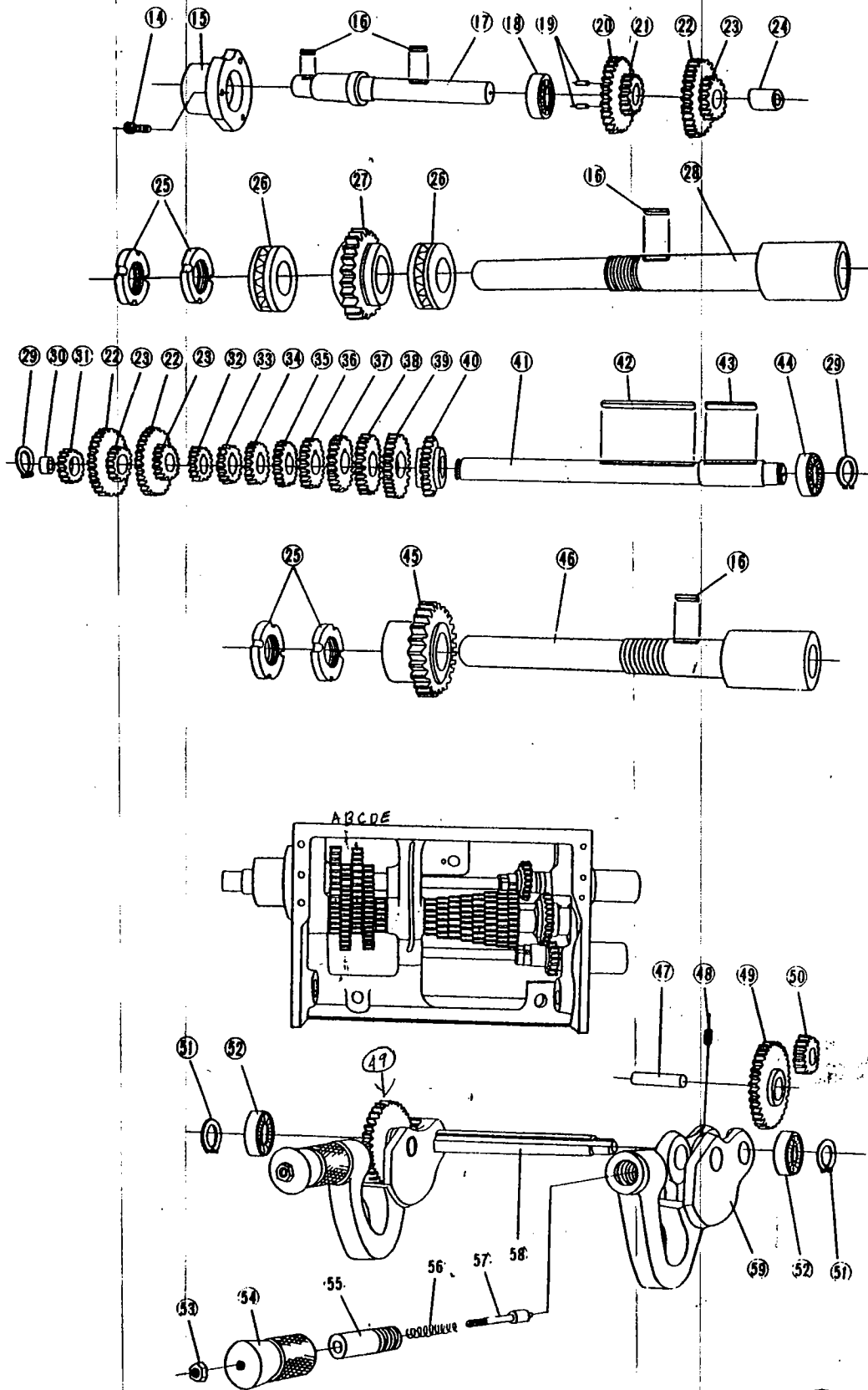
# FEED GEAR BOX



# FEED GEAR BOX

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMAKK
1	7039		1	
2	----	Screw	8	
3	7036		1	
4	7041		1	
5	7038		1	
6	----	Pin	4	
7	7037		1	
8	7029		1	
9	7016		1	
10	----	Knob	1	
11	7034		1	
12	7033		1	
13	7035		1	

# FEED GEAR BOX



# FEED GEAR BOX

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
14	----	Screw	3	
15	7018		1	
16	----	Key	4	
17	7017		1	
18	----	Bearing	1	
19	----	Pin	8	
20	7019		1	
21	7019-1		1	
22	7014		3	
23	7014-1		3	
24	7014-2		3	
25	7032		4	
26	----	Bearing	2	
27	7003		1	
28	7001		1	
29	----	Snap ring	2	
30	7015-1		1	
31	7015		1	
32	7013		1	
33	7012		1	
34	7011		1	
35	7010		1	
36	7009		1	
37	7008		1	
38	7007		1	
39	7006		1	
40	7005		1	
41	7004		1	
42	----	Key	1	
43	----	Key	1	
44	----	Bearing	1	

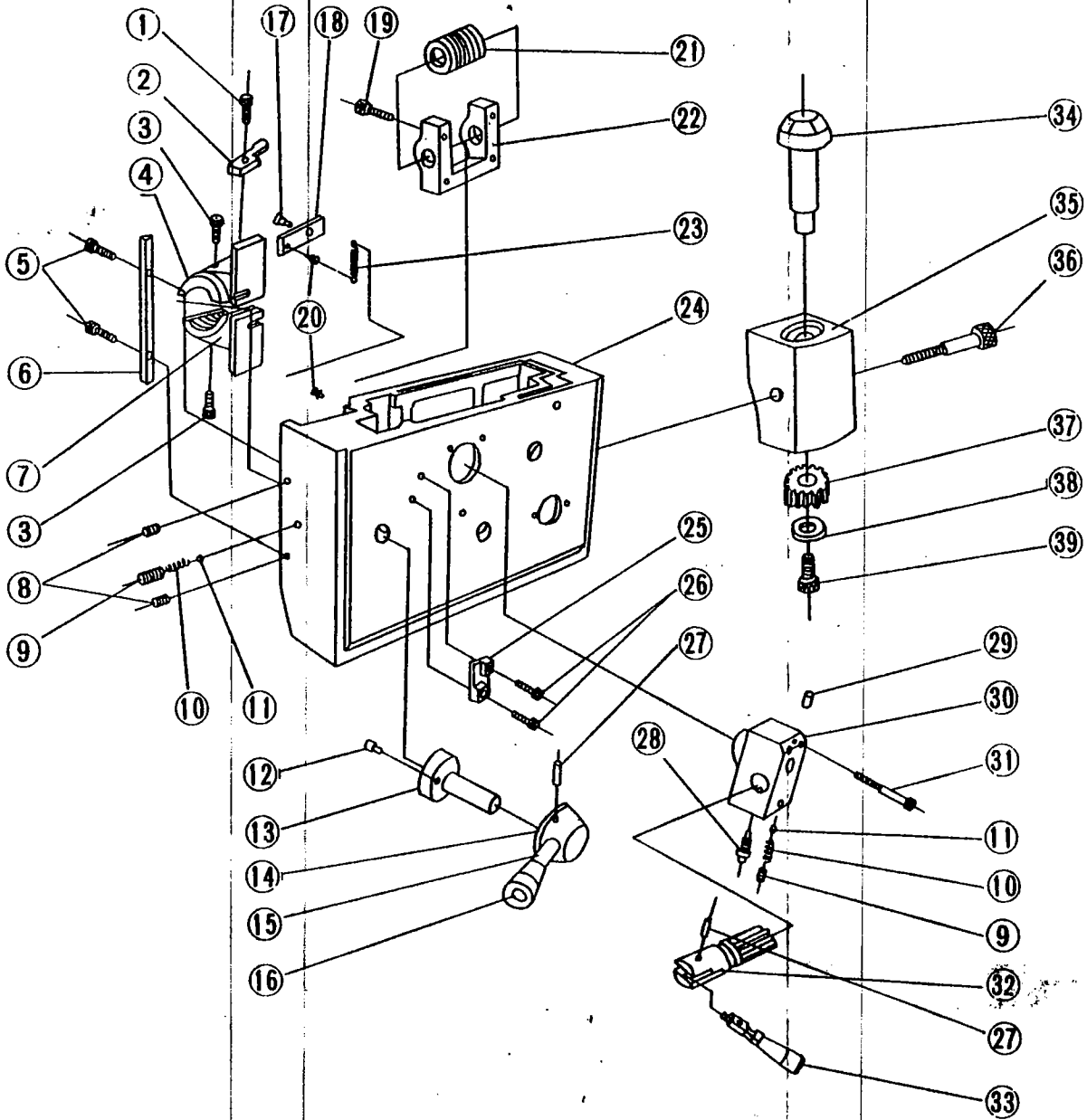


# FEED GEAR BOX

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
45	7031		1	
46	7030		1	
47	7028		2	
48	----	Screw	2	
49	7026		2	
50	7027		2	
51	----	Snap ring	2	
52	----	Bearing	2	
53	----	Nut	2	
54	7025		2	
55	7024		2	
56	----	Spring	2	
57	7023		2	
58	7020		1	
59	7021		2	

A

# APRON



# APRON

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
1	----	Screw	1	
2	3027		1	
3	----	Screw	2	
4	3025		2	
5	----	Screw	4	
6	3026		1	
7	3024		2	
8	----	Screw	2	
9	----	Screw	2	
10	----	Spring	3	
11	----	Ball	3	
12	3036		2	
13	3023		1	
14	3021		1	
15	3022		1	
16	----	Knob	1	
17	3035		1	
18	3028		1	
19	----	Screw	4	
20	3046		2	
21	3003		1	
22	3002		1	
23	----	Spring	1	
24	3001		1	
25	3029		1	
26	----	Screw	2	
27	----	Pin	3	
28	3044		1	
29	----	Oil plug	2	
30	3013		1	
31	----	Screw	3	

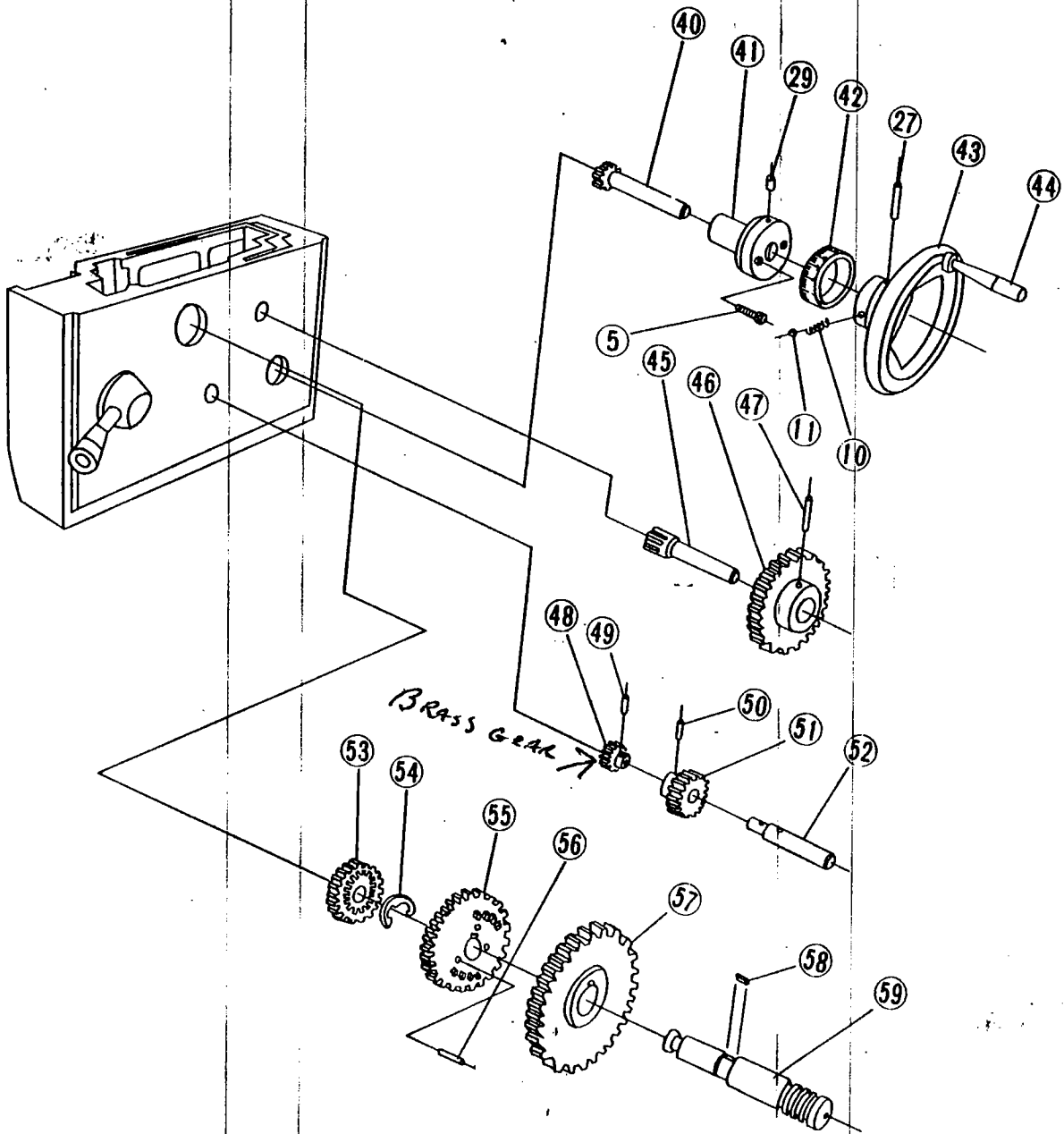
# APRON

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
32	3019		1	
33	3020		1	
34	3031		1	
35	3030		1	
36	---	Screw	1	
37	3032		1	
38	3033		1	
39	---	Screw	1	

# APRON

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
32	3019		1	
33	3020		1	
34	3031		1	
35	3030		1	
36	----	Screw	1	
37	3032		1	
38	3033		1	
39	----	Screw	1	

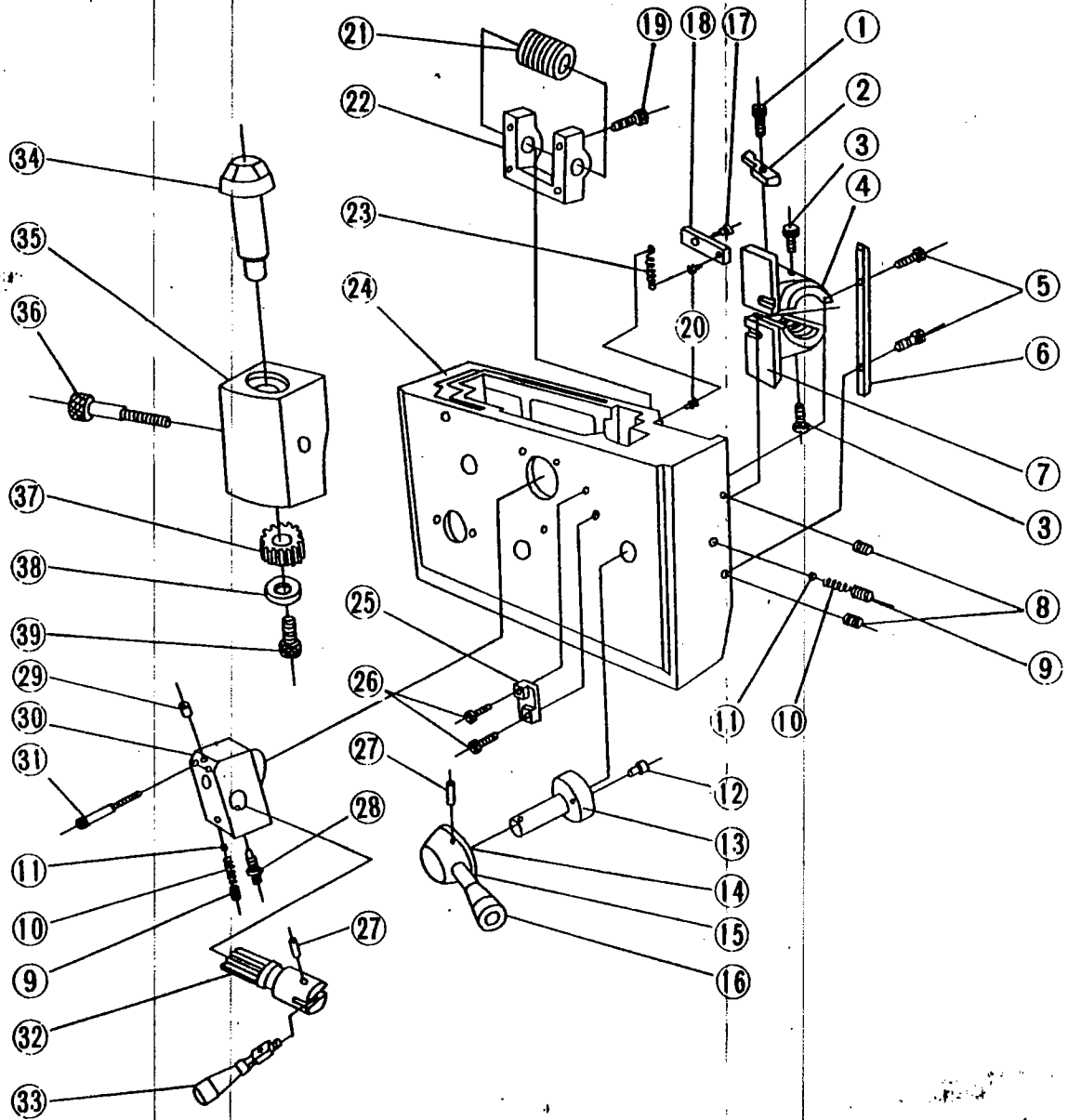
# APRON



# APRON

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
40	3012		1	
41	3011		1	
42	3034 (inch) 3038 (m/m)		1	
43	3009		1	
44	3010		1	
45	3007		1	
46	3008		1	
47	----	Pin	1	
48	3005	BRASS GLAR. 19T	1	COUNT TEGTH. P MENSURE DIRM
49	----	Pin	1	
50	----	Pin	1	
51	3006		1	
52	3004		1	
53	3017		1	
54	----	Snap ring	1	
55	3015		1	
56	3018		3	
57	3016		1	
58	----	Key	1	
59	3014		1	

# APRON





# APRON

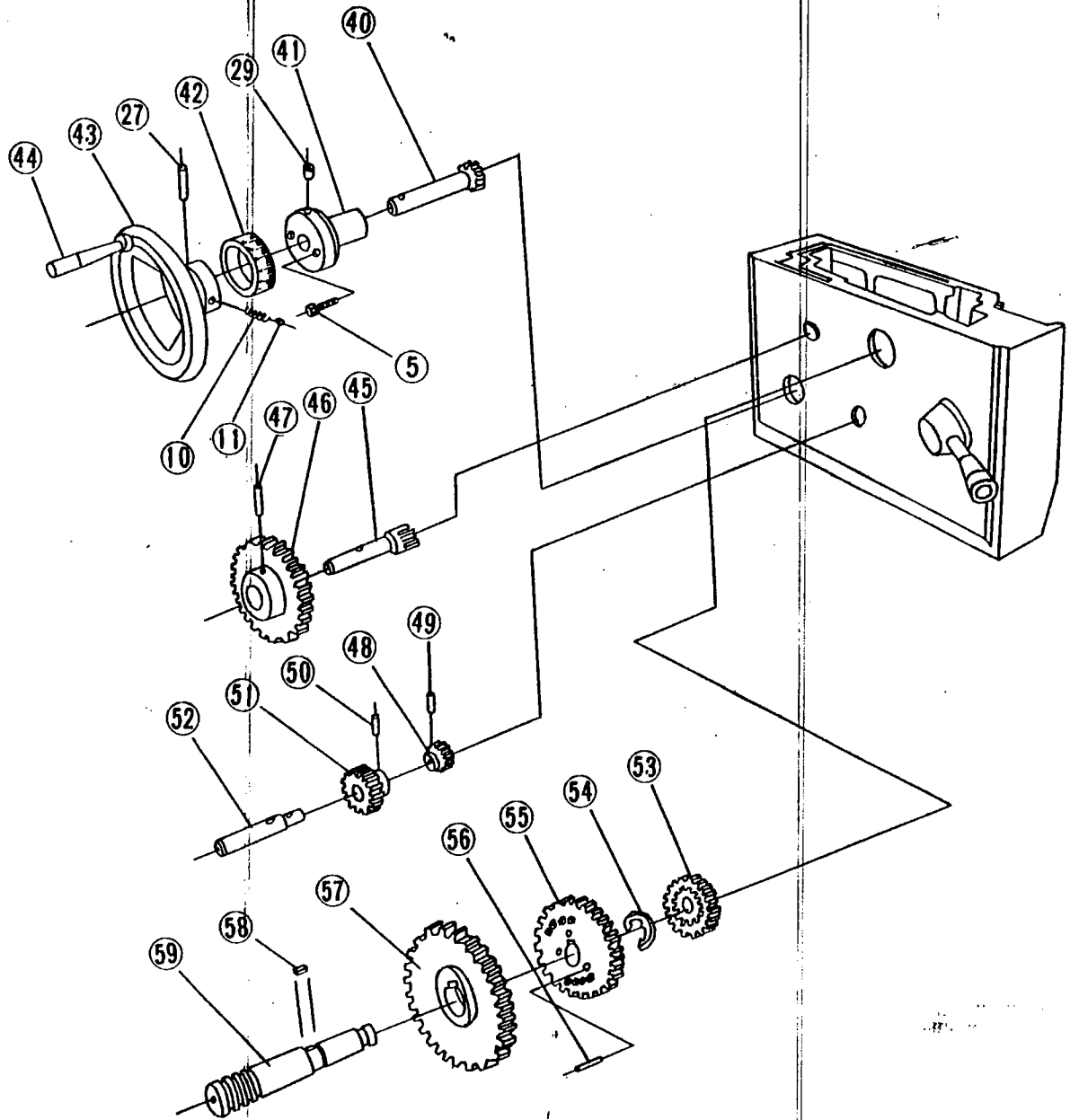
INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
1	----	Screw	1	
2	3040		1	
3	----	Screw	2	
4	3025		2	
5	----	Screw	4	
6	3026		1	
7	3039		2	
8	----	Screw "	2	
9	----	Screw	2	
10	----	Spring	3	
11	----	Ball	3	
12	3036		2	
13	3023		1	
14	3021		1	
15	3022		1	
16	----	Knob	1	
17	3035		1	
18	3028		1	
19	----	Screw	4	
20	3046		2	
21	3003		1	
22	3002		1	
23	----	Spring	1	
24	3041		1	
25	3029		1	
26	----	Screw	2	
27	----	Pin	3	
28	3044		1	
29	----	Oil plug	2	
30	3043		1	
31	----	Screw	3	

3005 BRASS GEAR THAT RIDES ON # 21  
 COUNT TEETH & MEASURE DIAM

# APRON

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
32	3019		1	
33	3020		1	
34	3031		1	
35	3030		1	
36	----	Screw	1	
37	3032		1	
38	3033		1	
39	----	Screw	1	

# APRON



# APRON

INDEX No.	PARTS No.	PARTS NAME	QTY.	REMARK
40	3012		1	
41	3042		1	
42	3034 (inch) 3038 (m/m)		1	
43	3009		1	
44	3010		1	
45	3007		1	
46	3008		1	
47	----	Pin	1	
48	3005		1	
49	----	Pin	1	
50	----	Pin	1	
51	3006		1	
52	3004		1	
53	3017		1	
54	----	Snap ring	1	
55	3015		1	
56	3018		3	
57	3016		1	
58	----	Key	1	
59	3014		1	

S

# SADDLE

