

Instruction Manual

ENCO

Turret Milling Machine

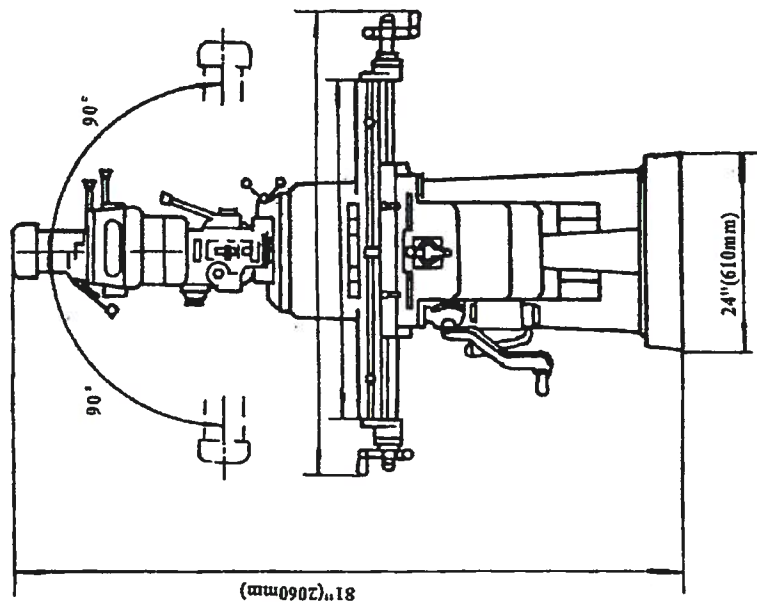
INDEX

MAIN SPECIFICATION.....	1
INSTALLATION	7
Handling	7
Cleaning	8
Floor plan	9
Foundation	10
Adjustment of Head	11
OPERATION	12
Operation of basic machine	12
Operation of Head	14
LUBRICATION	22
MAINTENANCE.....	24
Assembly of table lead screw	24
Assembly of cross lead screw	25
Disassembly and adjustment of gibs.....	26
Head.....	27
Stepless variable Head	32
PARTS DRAWINGS AND PARTS LISTS	35
Basic machine.....	35
Assembly of longitudinal and cross lead screws.....	41
Assembly of transmission.....	41
Assembly of Head component	50
Assembly of upper of stepless Variable transmission case	59
Assembly of lower component of stepless Variable transmission case	63
Centralized lubrication system.....	67
ELECTRIC EQUIPMENTS.....	69
ATTACHMENTS.....	72

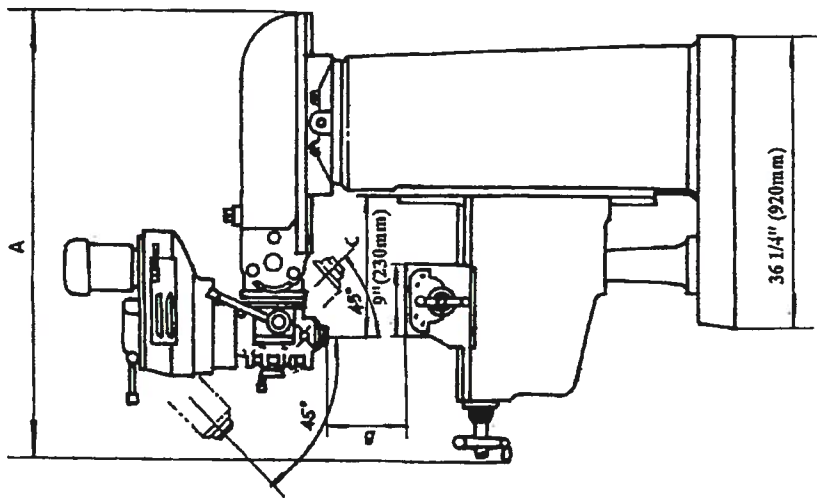
Models and Specifications of 100 Serial

Model	Specification				Remarks
	Motor	Stepped Variable	Stepless Variable	Table	
100-1527	2HP 3 ϕ 1700/3400r/min 220V 60Hz	16 steps		9" \times 42"	
100-1597	2HP 3 ϕ 1700/3400r/min 220V 60Hz	16 steps		9" \times 49"	
100-2522	2HP 1 ϕ 1700r/min 220V 60Hz	8 steps		9" \times 42"	
100-2592	2HP 1 ϕ 1700r/min 220V/440V 60Hz	8 steps		9" \times 49"	
100-1529	2HP 3 ϕ 1700r/min 220V/440V 60Hz		Stepless	9" \times 42"	
100-1599	2HP 3 ϕ 1700r/min 220V 60Hz		Stepless	9" \times 49"	
100-5522	2HP 1 ϕ 1700r/min 220V 60Hz		Stepless	9" \times 42"	
100-5592	2HP 1 ϕ 1700r/min 220V 60Hz		Stepless	9" \times 49"	

Main Specification



	A	B	C
MIN.	1384	70	165
MAX.	1690	476	465



INCHES

	A	B	C
MIN.	54 1/2	2 3/4	6 1/2
MAX.	66 1/2	18 3/4	18 1/2

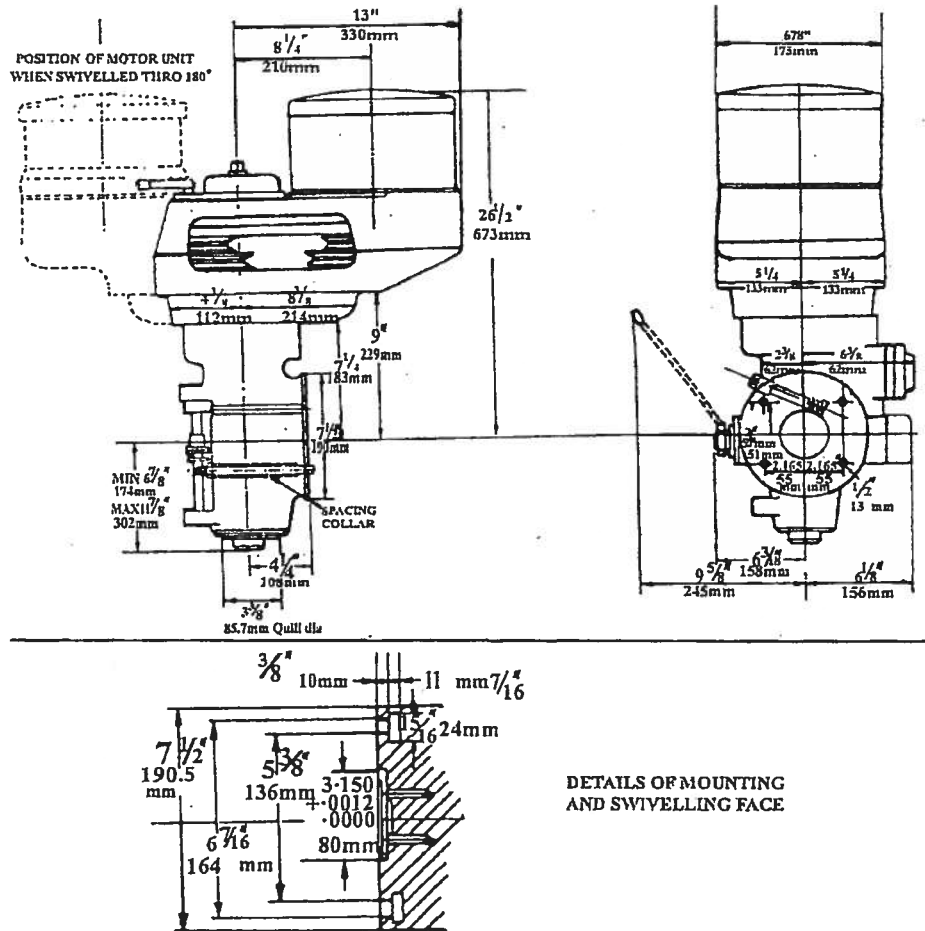
D: 59 1/4" (1520mm) or 66 1/4" (1695mm)
E: 42" (1070mm) or 49" (1245mm)

Specification

Specification		Main Specification		
1. Main Specification				
Table area		9" x42"	9" x49"	230×1070mm 230×1245mm
2. Spindle				
a. Spindle hole taper		R8		R8
b. Diameter of spindle hole		5/8"		15mm
c. Spindle axial movement		5"		130mm
d. Distance from spindle nose to table		2 $\frac{3}{4}$ " - 18 $\frac{3}{4}$ "		70-476mm
e. Distance from vertical guideway to spindle center line		6 $\frac{1}{2}$ " - 18 $\frac{1}{2}$ "		165-465mm
f. Max. Swivel of head in vertical planes:	Longitudinal	±90°		±90°
	Transverse	±45°		±45°
g. Range of spindle speeds:				
	8steps	78-2400r/min		
	16steps	78-4800r/min		
	stepless variable	70-4200r/min		
h. Spindle power feeds		0.0019" , 0.0035"		0.047, 0.09
		0.0058" /r		0.148mm/r
3. Table				

Main Specification	
a. Max.travel	
Longitudinal (manual)	880mm
(Power feed fitted)	810mm
Transverse	300mm
vertical	400mm
b. No. of T-slots and slot width	3×15.875mm
c. Distance between T-slots	63mm
4. Ram	
a. Max. travel	300mm
b. Swivel angle	360°
5. Motor	
a. Power (3 φ)	1.3/1.8RW
r.p.m	1700/3400
b. Power (3 φ)	2HP
r.p.m	1700
c. Power (1 φ)	2HP
r.p.m	1700
6. Overall Dimensions	
(L×W×H)	66 $\frac{1}{2}$ " X 59 $\frac{7}{8}$ " X 81" 66 $\frac{1}{2}$ " X 66 $\frac{7}{8}$ " X 81" 1690×1520×2060mm 1690×1695×2060mm
7. Weight	2200Lb 1000kg
Specification	

Main Specification

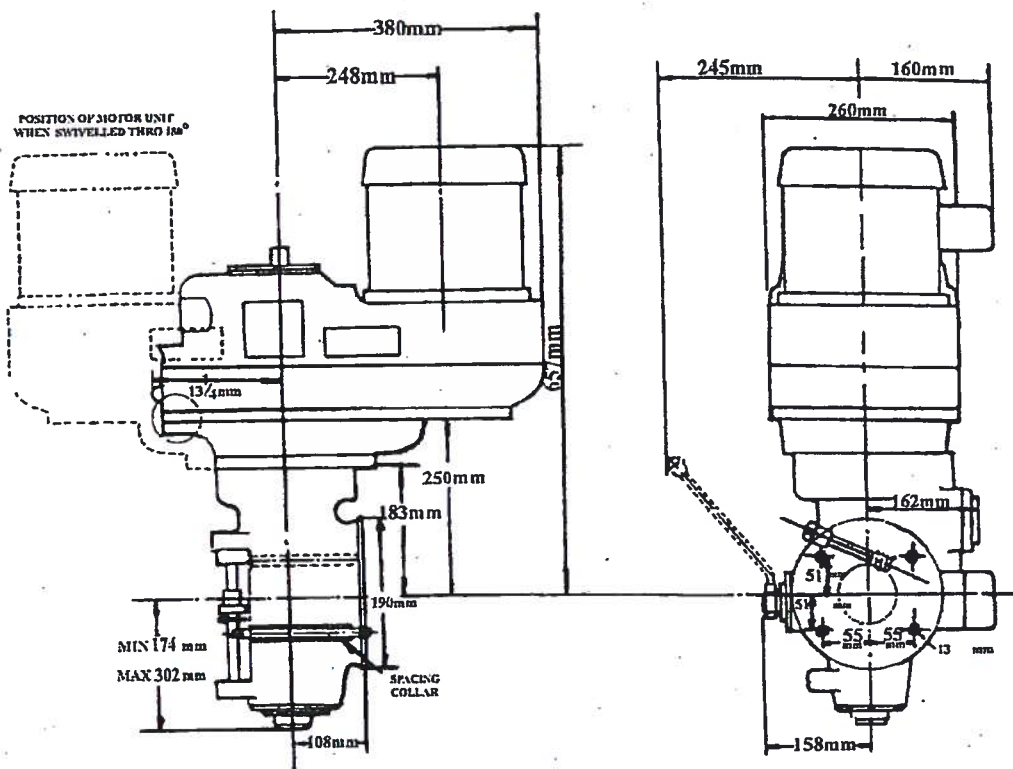


DETAILS OF MOUNTING
AND SWIVELLING FACE

Spindle taper.....	R8
Motor RW.....	1.3/1.8
HP.....	2
Quill Travel.....	5" 127mm
Power Feed of Quill	
Per rev. of spindle(3 rates)	0.0019" 0.047mm
	0.0035" 0.09mm
	0.0058" 0.148mm

Stepped Variable Head

Main Specification



Stepped Variable Head

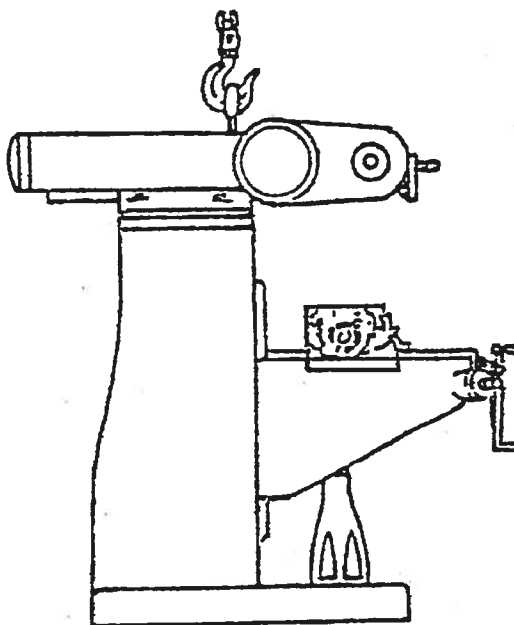
Installation

WEIGHT

Basic machine approximately
approximately
2200lb 1000kg

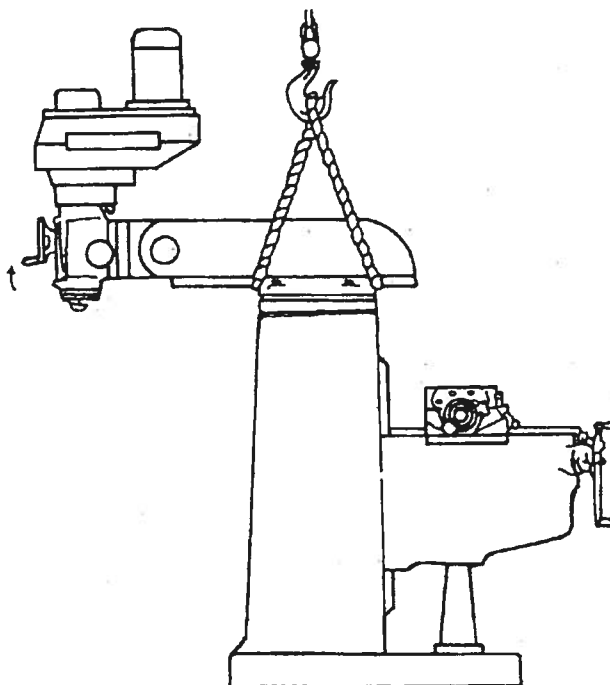
METHOD 1

Insert eye bolt in
tapped hole. Ensure
bolt is fully secured
before lifting
It is advisable to
swivel head before
lifting machine.



METHOD 2

Use rope sling (shown
in the drawing) and
put soft cotton pads
between the sling and
machine edges. It is
not allowed that the
sling is directly in
touch with machine.



NOTE: Before
lifting, tighten
ram slide lock
bolt and 4 studs
on rotary disk.
And move saddle
to column.

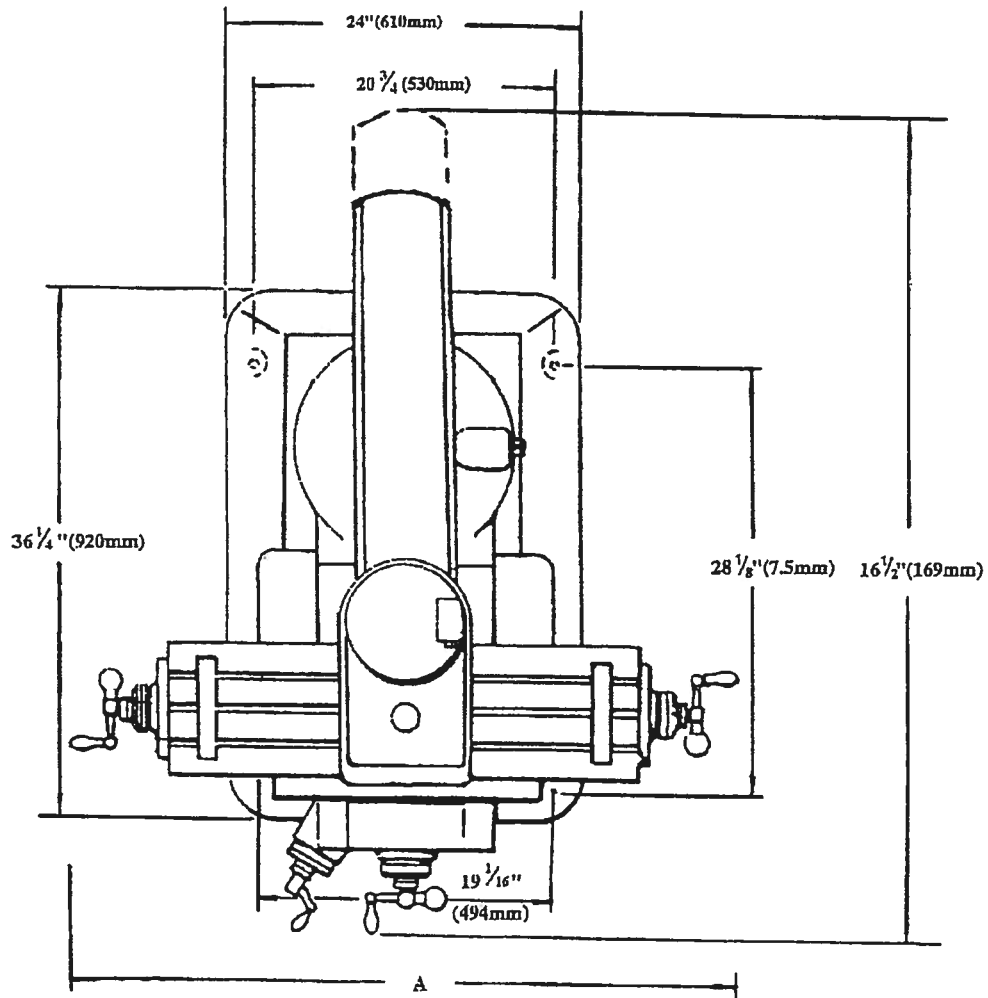
Handling

Installation

1. Remove rust preventative before moving any slideways.
2. The coating is best removed by using paraffin applied with a clean brush. When the coating has softened, remove with clean rags
3. Oil or grease all lubrication points. Refer to the lubrication section of this manual (pages 15 onwards)
4. According to the attachments list in this manual, carefully inspect and check each attachment.

Cleaning

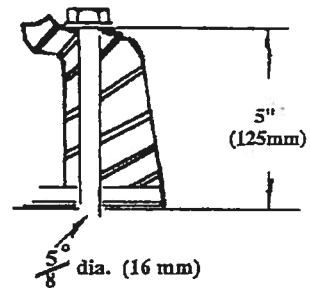
Installation



"A" DIMENSION

TABLE SIZE 42" (1070mm) 49" (1245mm)

A 59 ⁷/₈" (1520) 60 ⁷/₈" (1695mm)



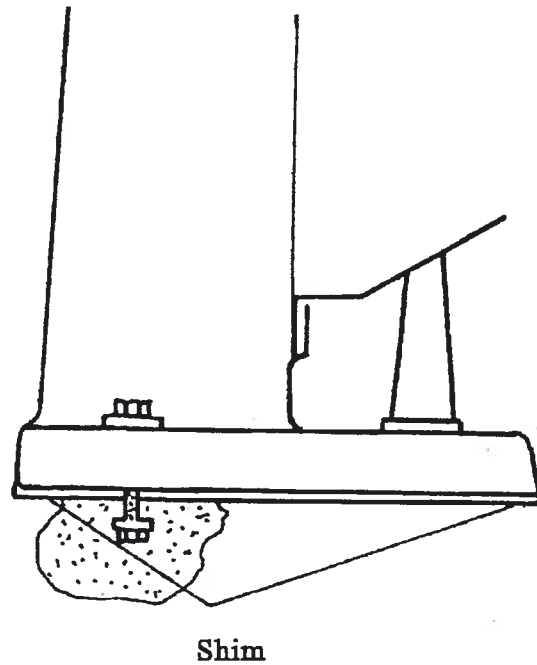
Floor Plan

Installation

FOUNDATION

Ideally all milling machines should be bolted to a concrete foundation.

The Roundtower owever should be placed on a solid level floor or anti-vibration pads to prevent any rocking movement.



Foundation

Installation

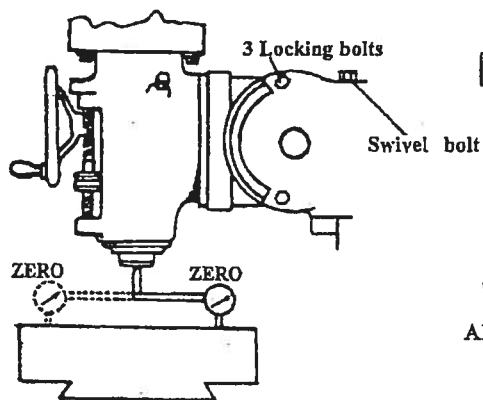
1. If the machine was delivered in a crate, the slideway handles will have been reversed. These should be fitted as illustrated on pages 25-26

NOTE: If the head keeps on running in the horizontal plane swivelling 90° , pay attention to the lubrication system of head and transmission case.

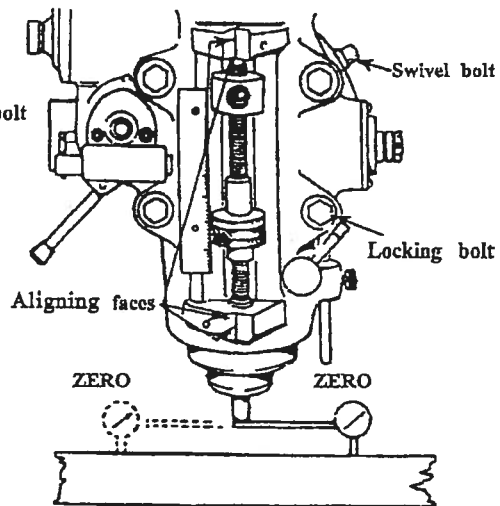
To set a milling head square to the table, two methods are available;

- I. Using a large 90° setsquare mounted on the table, align faces with square.
- II. An indicator mounted in a spindle nose travelling in a $4\frac{1}{2}''$ radius. It is important that each axis is set separately and locked.

(a)



(b)

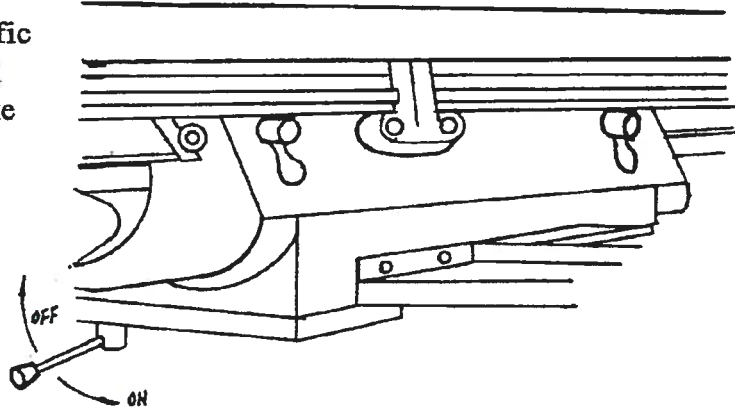


Adjustment of Head

Operation

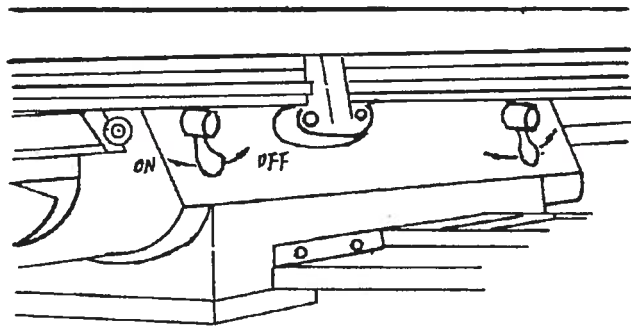
1. CLAMPING THE SADDLE KNEE SLIDE

Moderate pressure is sufficient. Excess pressure will cause distortion and make the table stiff to wind.



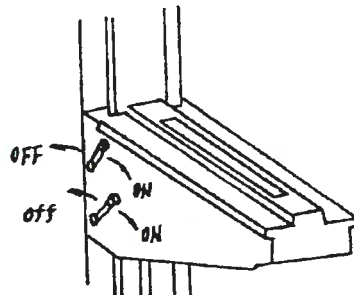
2. CLAMPING THE TABLE SADDLE SLIDE

Moderate pressure is sufficient.



3. CLAMPING THE KNEE COLUMN SLIDE

Moderate pressure is sufficient.

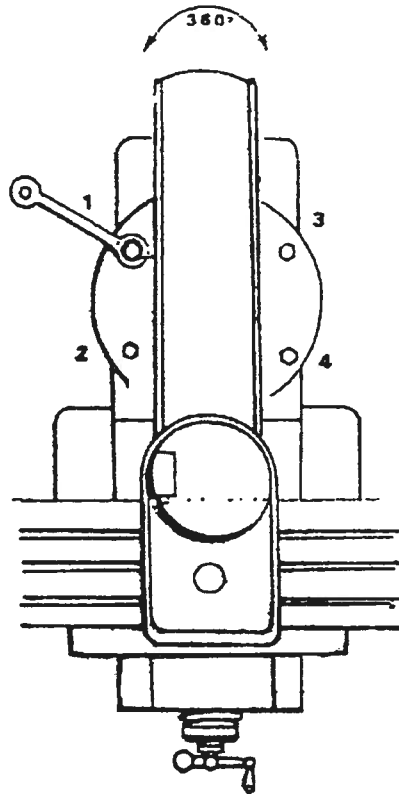


Operation of Basic Machine

Operation

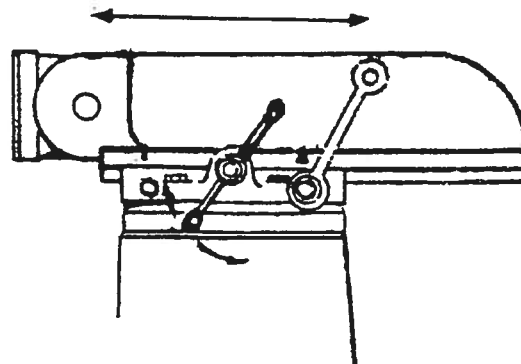
4. SWIVEL TURRET

- Loosen the 4 bolts with Double Offset Ring Spanner.
- Set the turret to the required position.
- Lock the 4 bolts.



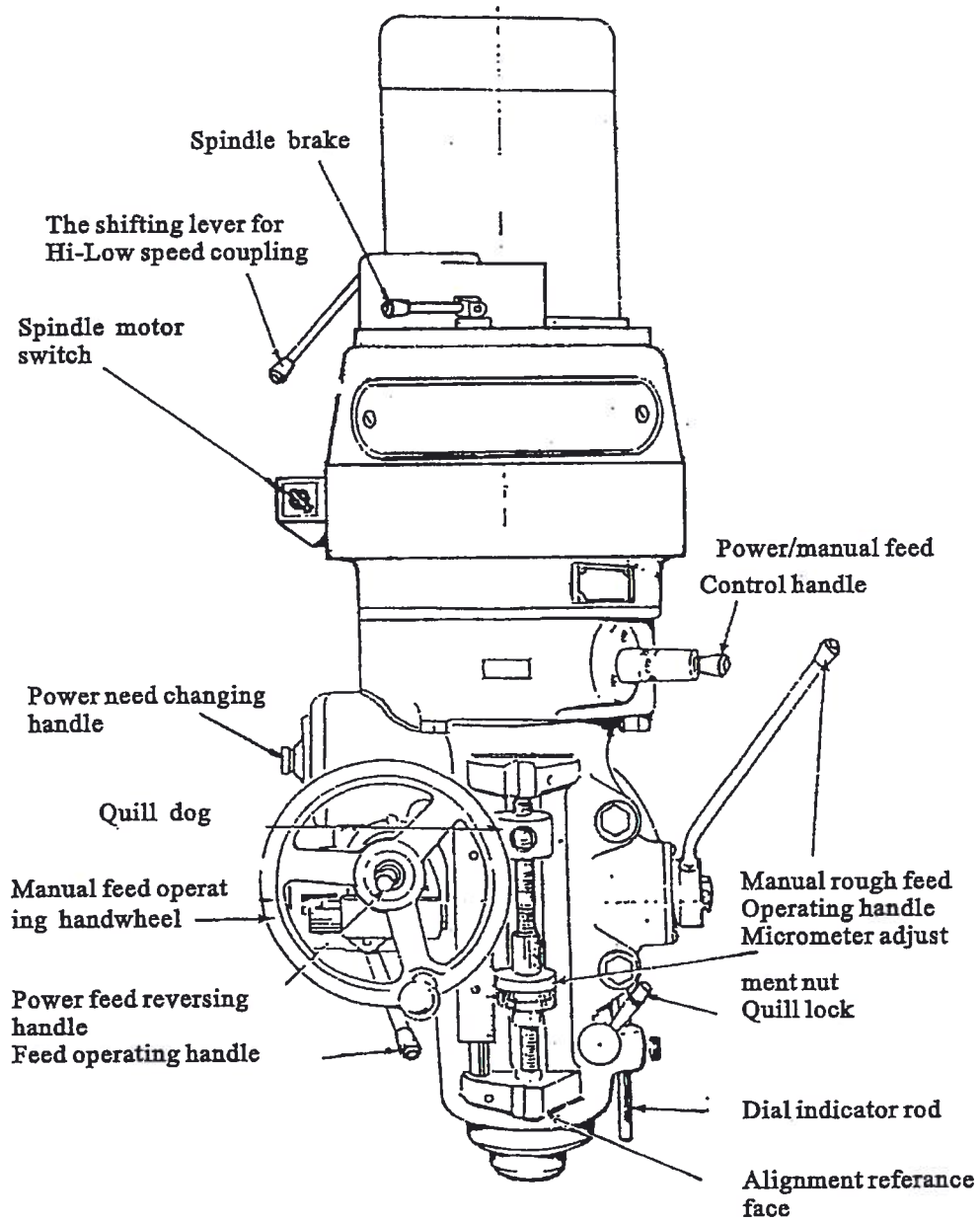
5. MOVE RAM SLIDE

- Loosen the 2 bolts with Double Offset Ring Spanner.
- Turn the handle to move the slide to the desired position.
- Lock the slide (tighten the rear bolt first)



NOTE: On heavy milling, the ram should be kept as close to the face of turret as possible in order to raise the rigidity of machine

Operation



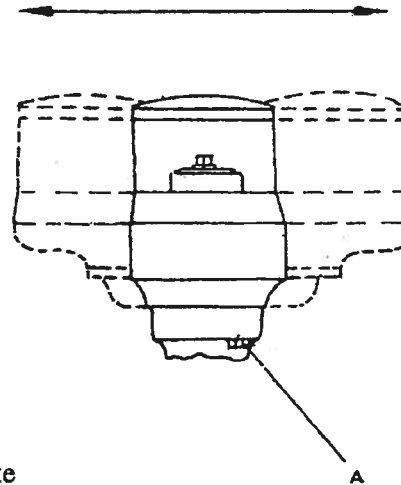
Operation of Stepped Variable Head

Operation

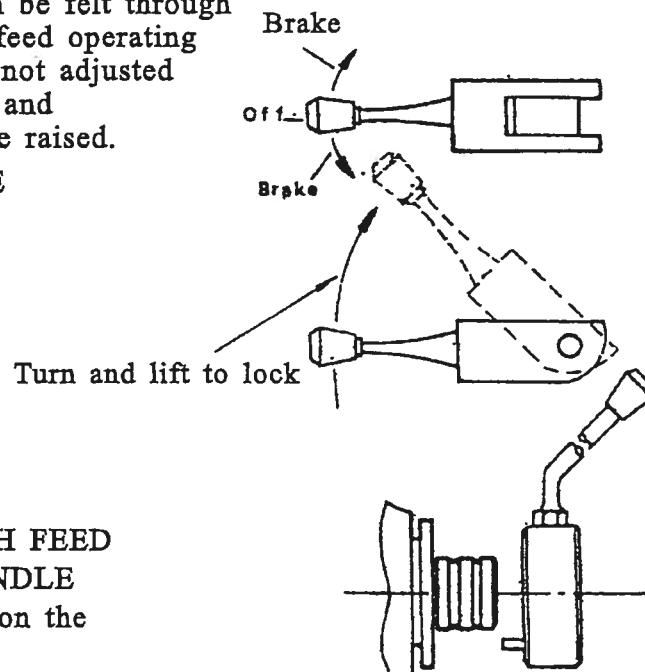
1. SWIVEL BELT HOUSING ASSEMBLY

- I Slacken three Locking Nuts 'A' (Retain sufficiently to stop binding).
- II Swivel to required angular setting.
- III Tighten three Locking Nuts; before finally securing, run spindle to give correct spline alignment.

Note: Incorrect spline alignment can be caused by unequal tightening of the locking nuts 'A' causing varying stiffness of the quill feed which can be felt through manual rough feed operating handle. If it is not adjusted properly, noise and shock would be raised.



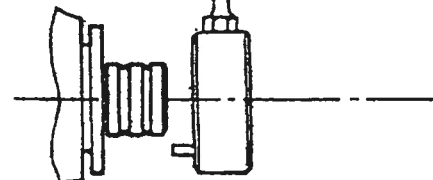
2. SPINDLE BRAKE



3. MANUAL ROUGH FEED OPERATING HANDLE

- I Place the handle on the boss.
- II Select the most suitable position.
- III Push home until the locating pin engages.

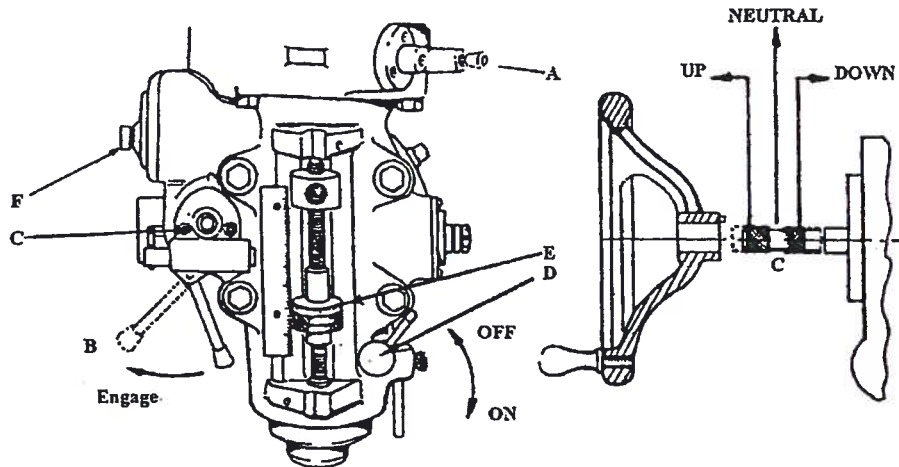
NOTE: It is suggested that the handle should be disengaged as power feed is used or the handle is not in use.



Operation of Head

Operation

4. QUILL FEED



b) AUTOMATIC FEED

Maximum loading 3/8" (9.5mm) dia. drill in steel.

- I. Ensure quill lock is off 'D' .
- II. Set micrometer dial to required depth 'E' .
- III. Engage power/manual position operating handle 'A' (when mot has stopped).
- IV. Select feed rate 'F' .
- V. Select feed direction 'C' .
- VI. Engage feed operating handle 'B'
- VII. The feed will automatically trip out at a depth within $\pm .01"$ ($\pm .25\text{mm}$) .
- VIII. Hand feed to dead stop for repeating accuracy $\pm .001"$ ($\pm .025\text{mm}$.)

a) FINE HAND FEED

- I. Dissengage power/manual position operating handle 'A' .
- II. Locate 'C' in mid(neutral) position.
- III. Engage feed operationg Handle 'B' .
- IV. Now the quill is under handwheel control.

NOTE: Do Not Engage Automatic Feed over 2400r/min.

Operation of Head

Operation

5. SPINDLE SPEEDS (Stop motor before changing speed)

Motor nominal power: 2HP 1 ϕ 1700r/min 220V 60Hz

2HP 3 ϕ 1700r/min 220V/440V 60Hz

2HP 3 ϕ 1700r/3400r/min 220V 60Hz

50Hz	65	82	164	232	← BACK GEAR	} SWITCH POS.1
	558	708	1417	2000	← DIRECT	
60Hz	78	98	197	278	← BACK GEAR	
	570	850	1700	2400	← DIRECT	

50Hz	65	85	164	232	} SWITCH POS.
	129	164	328	462	
	558	708	1417	2000	
	1117	1417	2783	4000	
					← BACK GEAR
					← DIRECT

60Hz	78	98	197	278	} SWITCH POS.
	155	197	394	555	
	670	850	1700	2400	
	1340	1700	3400	4800	
					← BACK GEAR
					← DIRECT

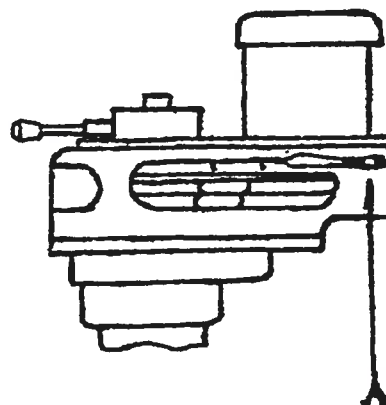
Operation of Head

Operation

6. SPINDLE SPEED RANGES

a). Change Speed Within Range

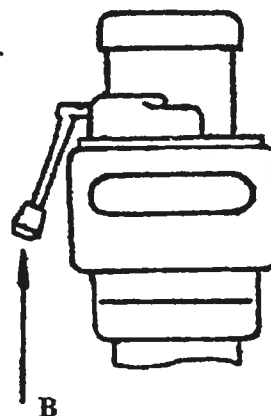
- i. Isolate machine
- ii. Slacken motor lock levers 'A'
- iii. Slide motor forward
- iv. Position belt on appropriate pulleys.
- v. Slide motor to the rear to tension veebelt.
- vi. Tighten 2 motor locking levers.



b). Change Range

1. From direct to back gear drive:
 - i. Push down lever 'B' to engage a pair of gears.

NOTE: This action will REVERSE the spindle rotation. Move motor switch to reverse position to obtain original direction of spindle rotation.

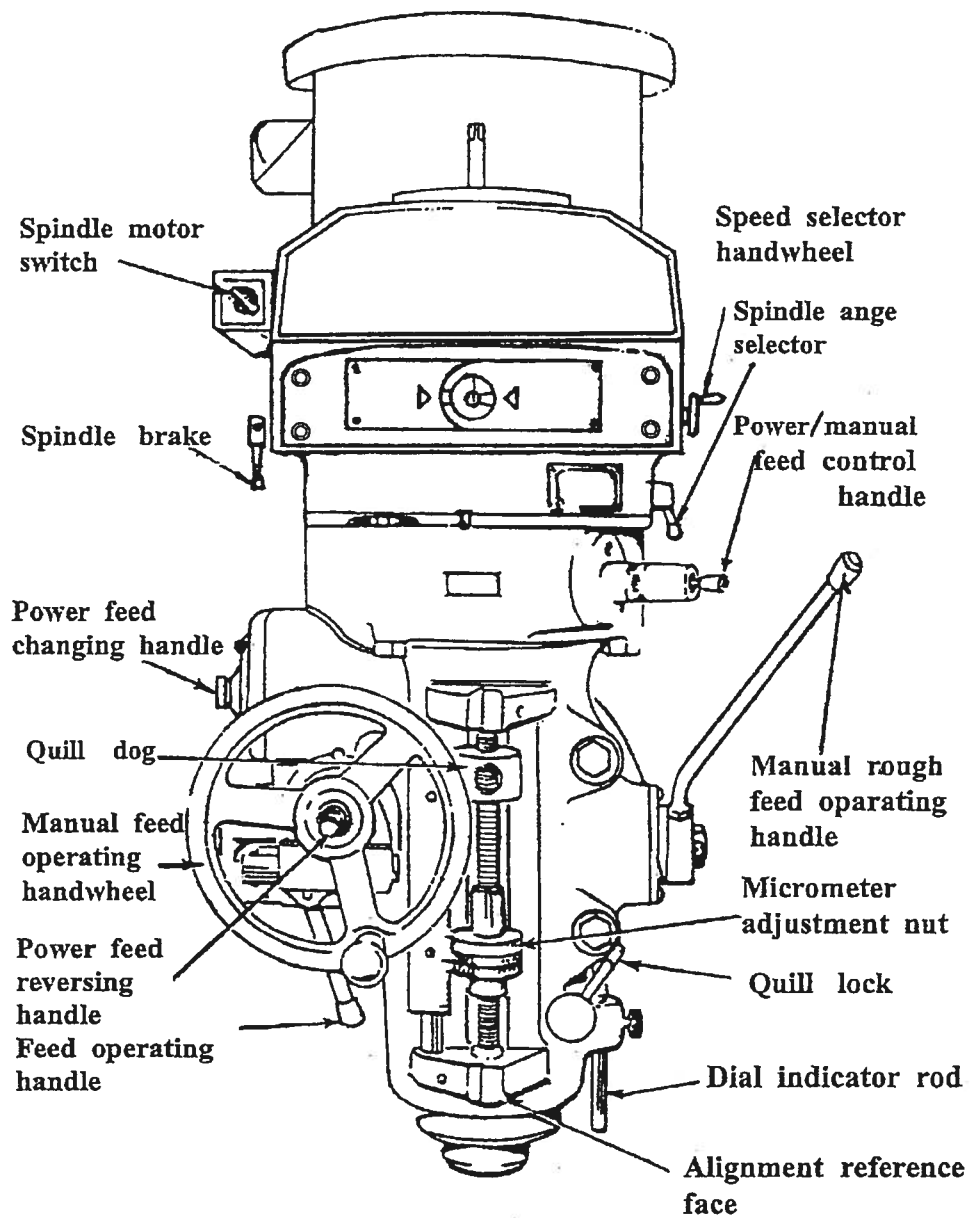


2. From back gear to direct driver:
 - i. Push up lever 'B' to disengage a pair of gears.
 - ii. Rotate spindle by hand until the clutches are felt to engage.

NOTE: This action will REVERSE the spindle rotation. Move motor switch to reverse position to obtain original direction of spindle rotation.

Operation of Head

Operation

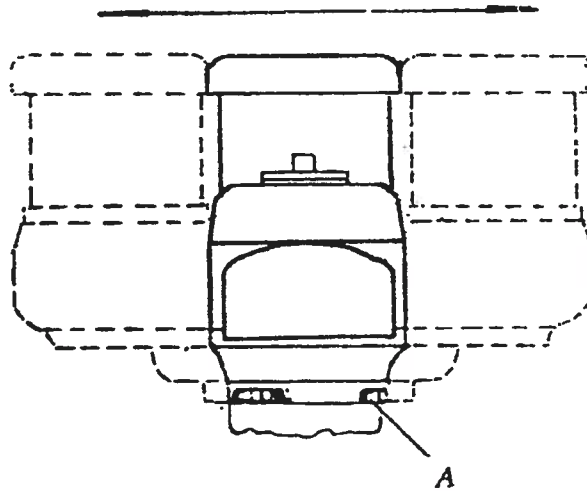


Operation of Stepless Variable Head

Operation

1. SWIVEL STEPLESS TRANSMISSION

See page 15. '1'



2. SPINDLE BRAKE see page 15.

3. MANUAL ROUGH FEED OPERATING HANDLE

See page 15.

4. QUILL FEED

See page 16.

Operation of Stepless Variable Head

Operation

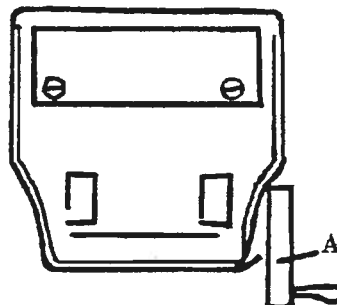
5. SPINDLE SPEED(Change only when spindle is running)

a) Change Speed Within Range

I. Start spindle.

II. Turn handwheel 'A' to select required speed.

Change only when spindle is running.



b) Change Range

1. From direct to back gear drive:-

I. Switch 'B' to 'O' .

II. Move lever 'C' through neutral to LOW.

DO NOT CHANGE SPEED WHEN SPINDLE IS STATIONARY

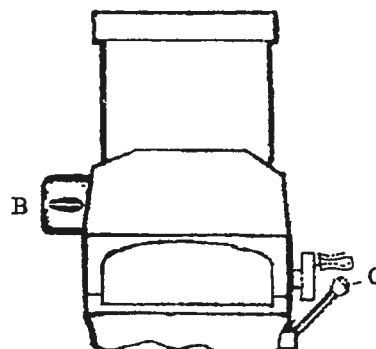
NOTE: This action will REVERSE the spindle rotation. Move motor switch 'B' to reverse position ('1' of '2')to obtain original direction of spindle rotation.

2. From back gear to direct drive:-

I. Switch 'B' to 'O' .

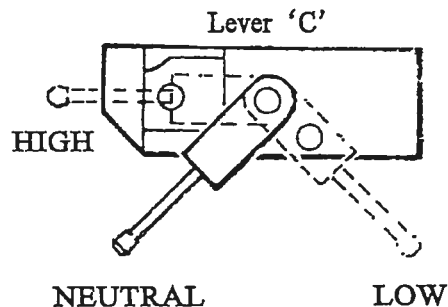
II. Move lever 'C' through neutral to HIGH.

III. Rotate spindle by hand until the clutches are felt to engage.

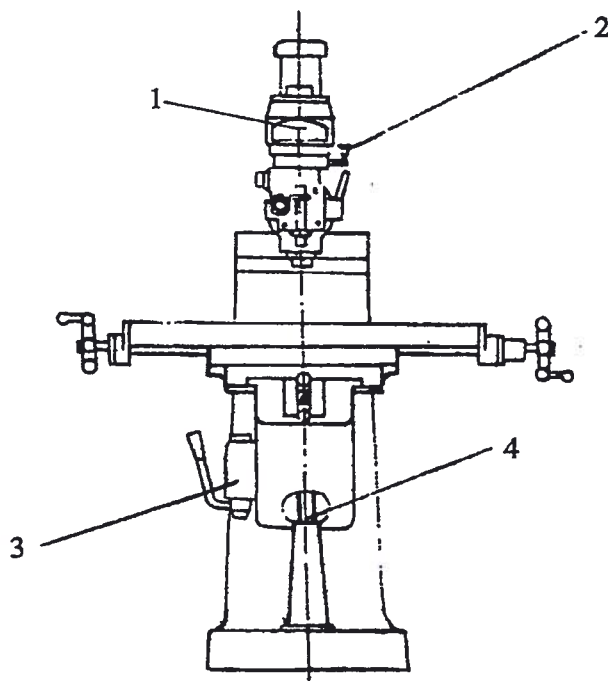


DO NOT CHANGE RANGE WHIST THE SPINDLE IS RUNNING

NOTE: This action will REVERSE the the spindle rotation. Move motor switch 'B' to reverse postition ('1' of '2') to obtain original direction of spindle rotation.



Lubrication

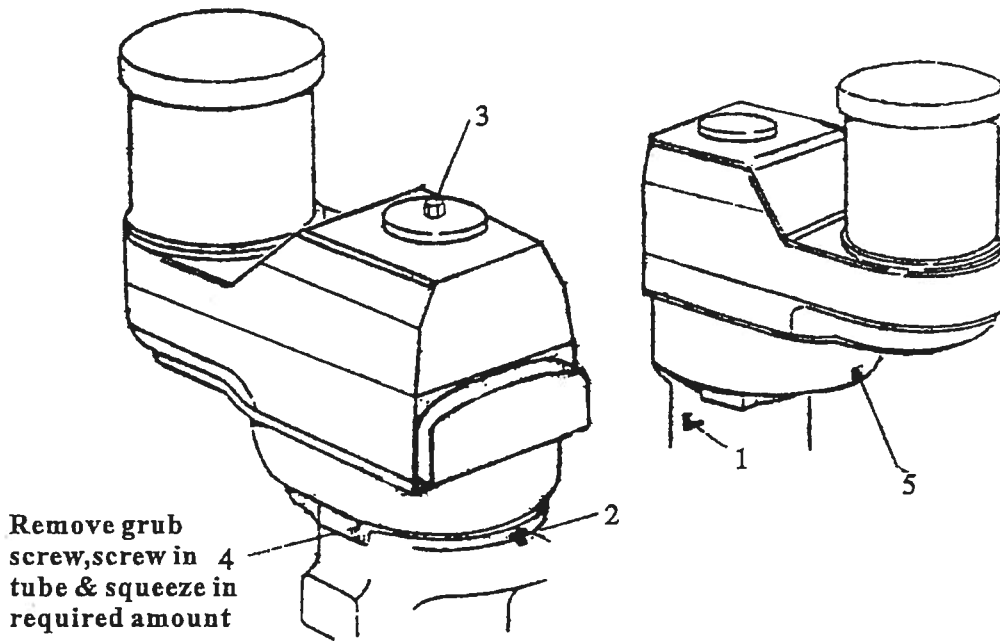


FREQUENCY	LUBRICATE	LUBRICANT	QUANTITY	LUB.AT
Twice Daily	Spindle down feed	Vactra No.2	Top-up	1
Twice Daily	Quill Bearings	Vactra No.2	Top-up	2
Handle lubricating pump daily- 2-4 pulls check level weekly	Two screws & all ways	Vactra No.2	One pump	3
Twice weekly	Elevating Screw	Vactra No.2	5shots (oilgun)	4

NOTE: Failure to lubricate "Quill bearings" at 2 can result in tight quills and partial seizure of quill in housing.

Lubrication

Lubrication

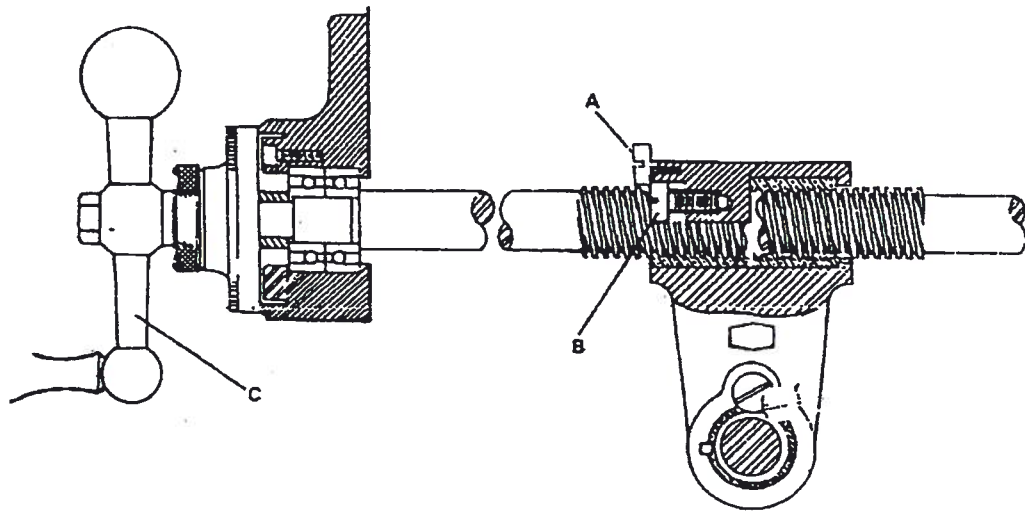


FREQUENCY	LUBRICATE	LUBRICANT	QUANTITY	LUB.AT
Twice Daily	Quill Bearings	Vactra No.2	5-10 drops	1
Twice Daily (when feed is in use)	Spindle Down Feed	Vactra No.2	Top-up	2
weekly	Drawbar splines	Vactra No.2	5 drops	3 (move quill down 2 ⁷)

Failure to lubricate "Quill Bearings" at 1 can result in tight quills and partial seizure of quill in housing

FREQUENCY	LUBRICATE	LUBRICANT	QUANTITY	LUB.AT
Every 6 months	Bull gear shifting mechanism	Lubriplate No. 107	Equivalent of $\frac{1}{2}$ teaspoonful	4 NOTE: when greasing work Hi-Lo lever
Every 6 months	Gears	Lubriplate No. 107	According to requirement	5

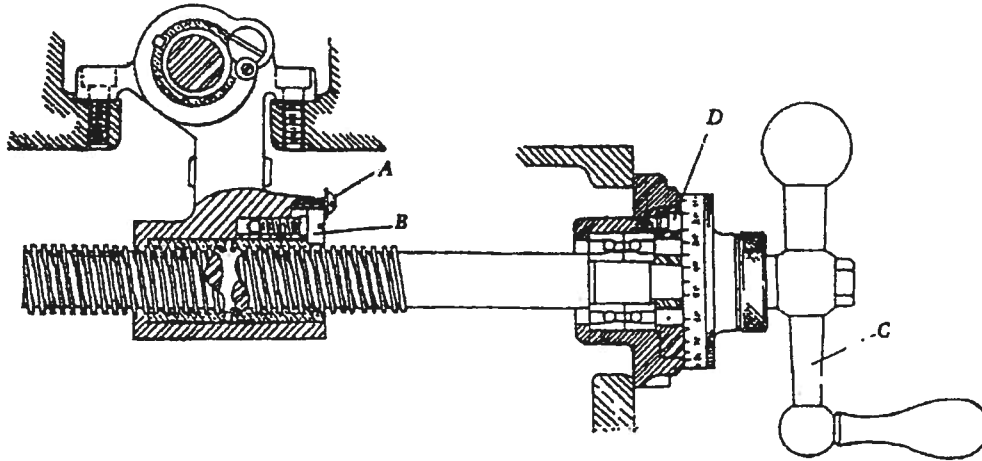
Lubrication



BACKLASH ADJUSTMENT

1. Crank the table to the left
2. Withdraw screw 'A' $\frac{1}{2}$ a turn
3. While turn handle 'C'
slowly, tighten(or loosen) adjusting
screw 'B' gradually
until slight drag is felt.
4. Finally lock screw 'A' on to 'B'

Assembly of table lead Screw



BACKLASH ADJUSTMENT

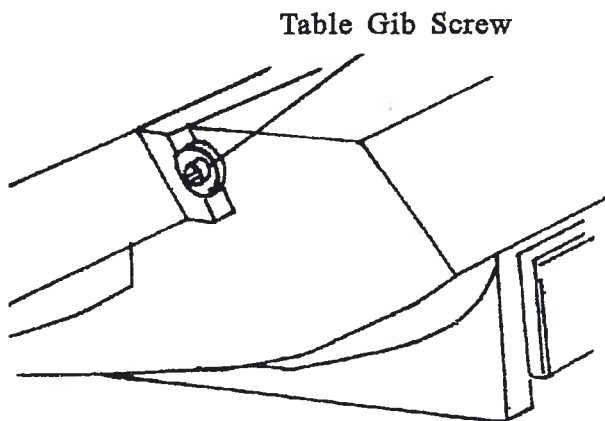
1. Crank the saddle to Mid position
2. Withdraw 4 screws 'D'
3. Pull the saddle forward to expose screws 'A' & 'B'
4. Withdraw screw 'A' $\frac{1}{2}$ a turn
5. While turn handle 'C' slowly, tighten(or loosen) adjusting screw 'B' until slight drag is felt.
6. Lock screw 'A' on to 'B' .
7. Finally crank the saddle to the front of the knee and replace 4 screws 'D' .

Assembly of Cross Lead Screw

Maintenance

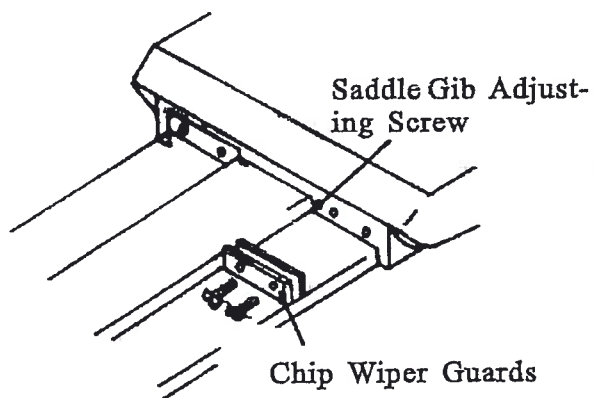
a) Table Saddle Ways

1. Remove all swarf from area
2. Turn the table gib screw clockwise whilst moving the table until slight drag is felt.



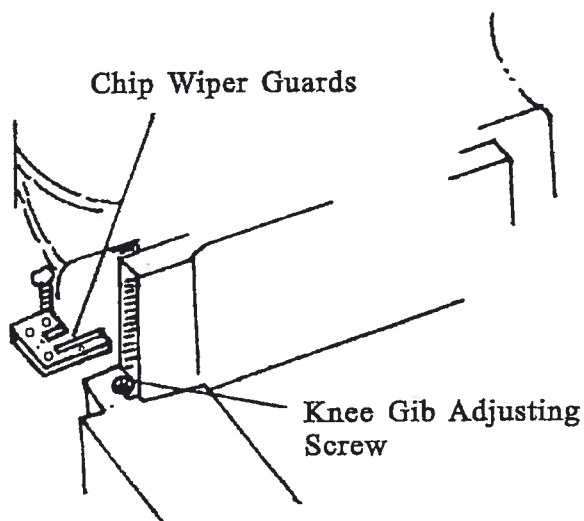
b) Saddle Knee Ways

1. Remove all swarf from area
2. Remove chip wiper guards.
3. Turn gib adjusting screw clockwise whilst moving the saddle until slight drag is felt.
4. Ensure chip wiper guard is assembled properly.



c) Knee Column Ways

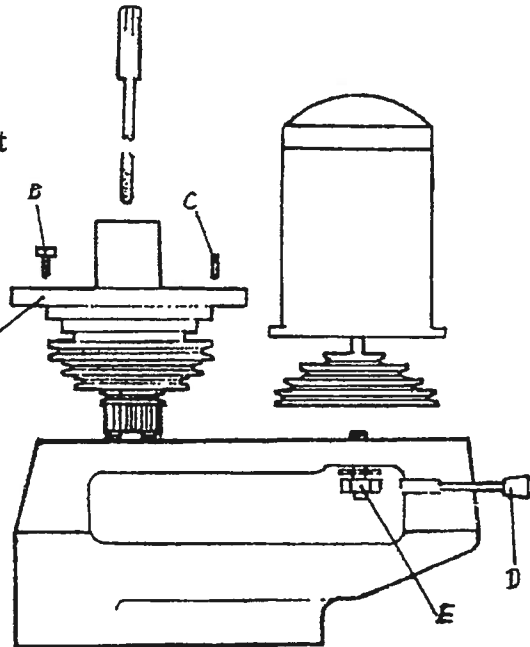
1. Remove all swarf from area.
2. Remove chip wiper guard.
3. Turn gib adjusting screw clock-wise whilst moving knee until slight drag is felt.
4. Ensure chip wiper guard is assembled properly.



Disassembly and Adjustment of Gibs

VEE AND TIMING BELT REPLACEMENT

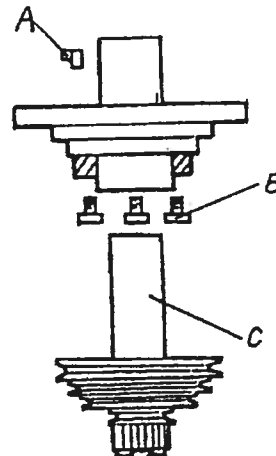
1. Isolate machine.
2. Remove drawbar and shaft bracket etc. From upper cover 'A'
3. Remove 4 locating screws 'B' and a taper pin 'C' from transmission case upper cover
4. Remove motor locking lever 'D' and 3 locating nuts 'E', and loosen V-belt.
5. Swivel upper cover 'A' about 20 C.C.W., then take off 'A'.
6. Lift motor slightly, and replace the belt with a new one now.



BRAKE SHOE REPLACEMENT

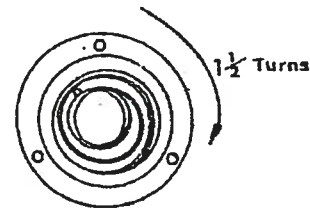
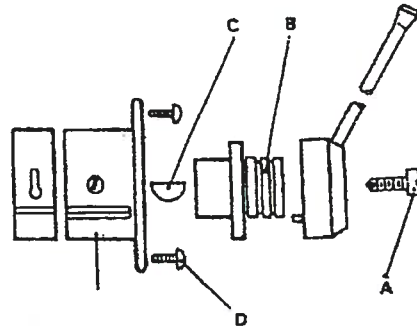
Repeat sequence 1.to.5 above.

1. Remove pin 'A'.
2. Push off shaft bracket 'C'.
3. Remove 3 screws 'B'.
4. Replace shoe with a new one.
5. Tighten 3 screws 'B'.



BALANCE SPRING REPLACEMENT

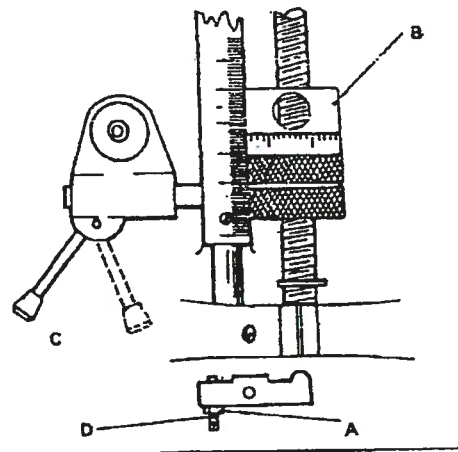
1. With quill at top of movement apply quill lock.
2. Remove screw 'A' ,hub 'B' ,and key 'C' .
3. Remove screws 'D' ,allowing housing to rotate slowly releasing spring tension.
4. Lift end of spring from peg on the pinion shaft.
5. Take off sleeve 'E' from head housing
6. Remove. Spring from housing and replace.
7. Refit spring to main housing casting turning housing clockwise until spring locates on peg in pinion shaft.



FEED OPERATING HANDLE ADJUSTMENT

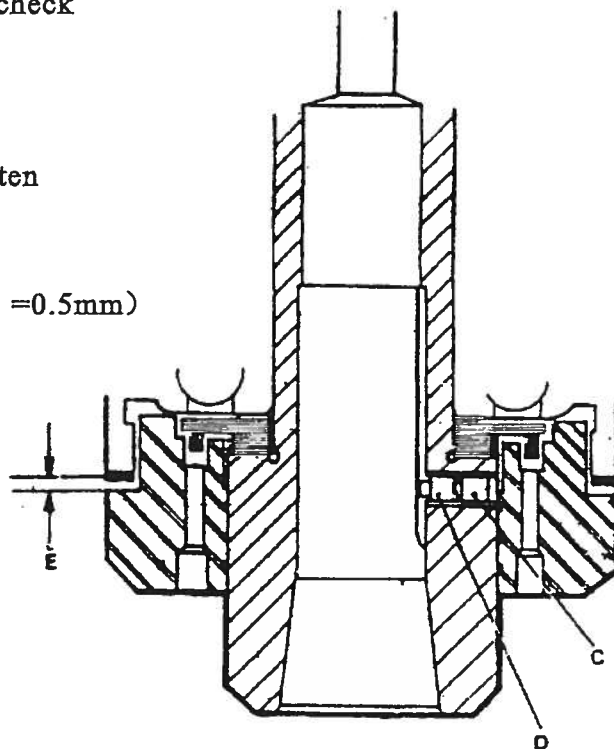
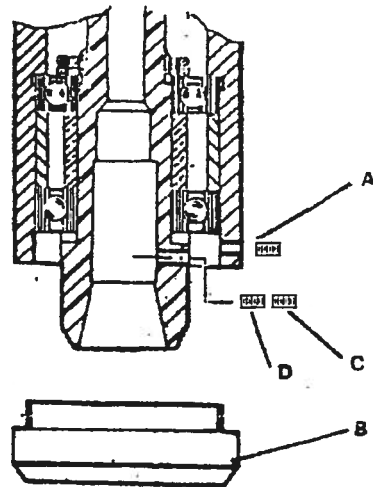
This mechanism has been adjusted in manufacturer. If it is required to be readjusted, please observe the procedure as follows:

1. Loosen locknut 'A' .
2. Engage Feed Operating Handle 'C'
3. Adjust micro nuts against quill stop 'B'
4. Turn adjusting screw 'D' slowly until Handle 'C' is disengaged.
5. Secure locknut 'A' at this point.
6. Check that smart trip action is obtained.



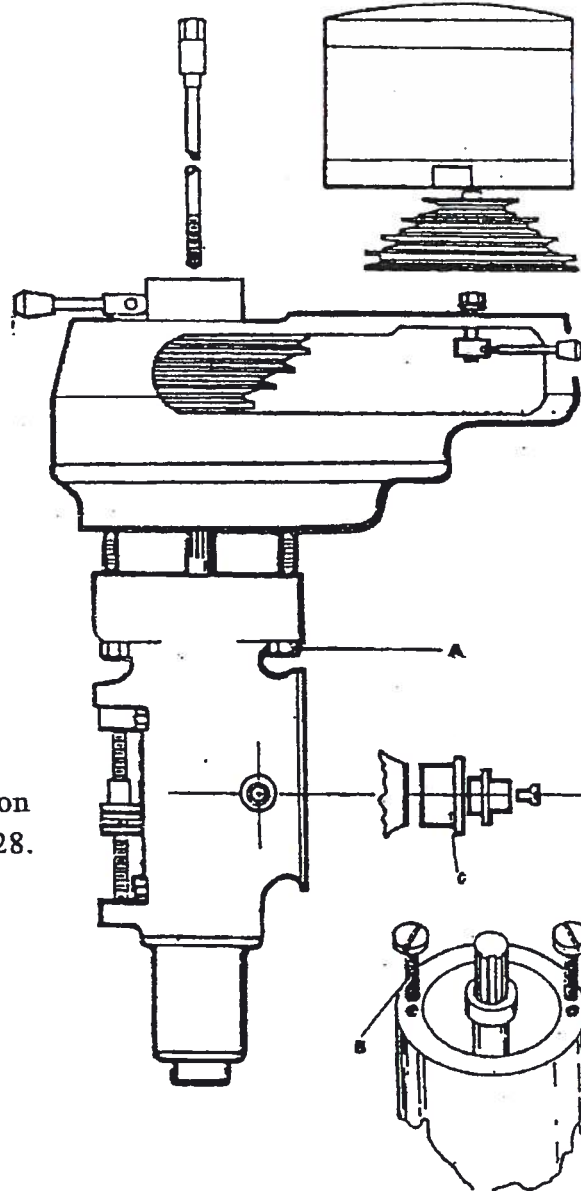
COLLET ALIGNING SCREW REPLACEMENT

1. Use felt pen, mark reference line on quill and nose cap 'B' .
2. Remove set screw 'A'
3. Unscrew nose cap 'B' .
4. Remove lock screw 'C' and collet aligning screw 'D'
5. Replace 'D' ;insert R.8 collet and check that the dog on the end of the screw does not foul on the bottom of the guide slot
6. Replace lock screw 'C'
7. Replace nose cap 'B' ;check felt pen markings for correct alignment
8. Replace set screw 'A'
- Caution do not overtighten as this will cause distortion
9. Check gap 'E' . (0.02" =0.5mm)



QUILL REMOVAL

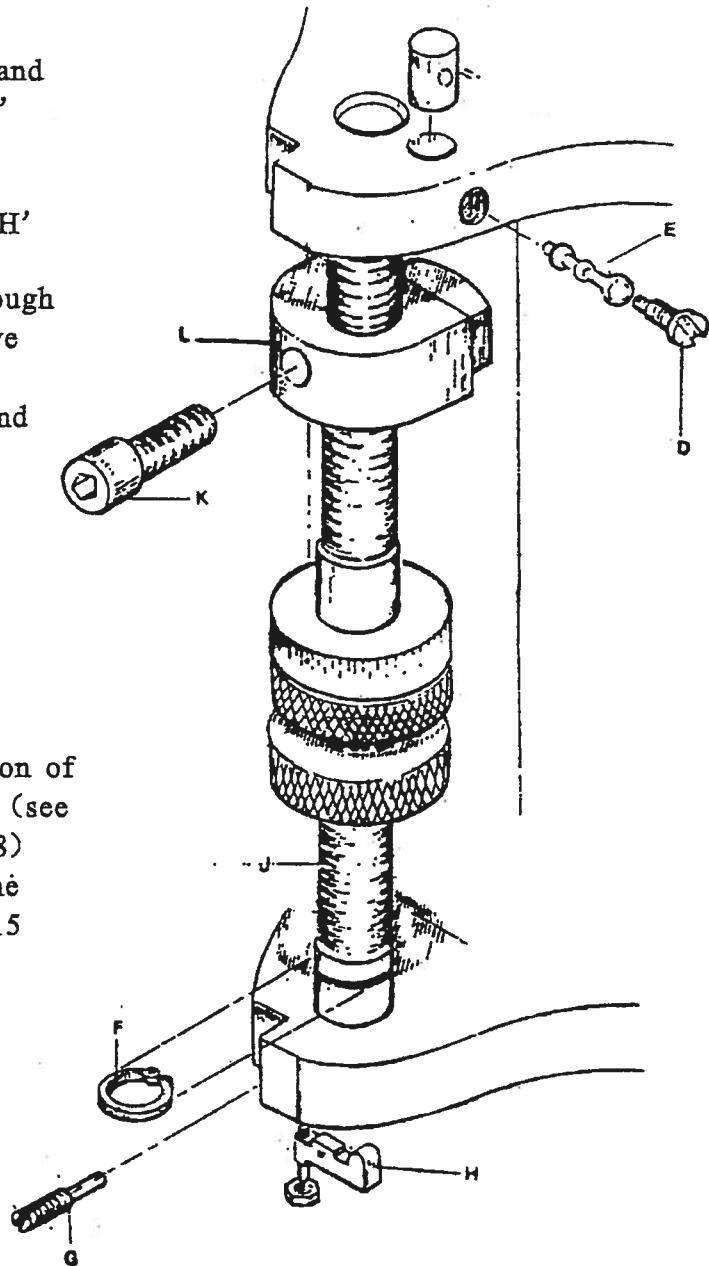
1. Isolate machine
2. Remove motor
3. Remove drawbar
4. Fully extend quill
5. Remove 3 nuts 'A'
6. Remove top section complete
7. Remove 2 screws 'B' from top of quill
8. Remove clock spring housing 'C' -see instruction on replacing spring page 28.



Head

Maintenance

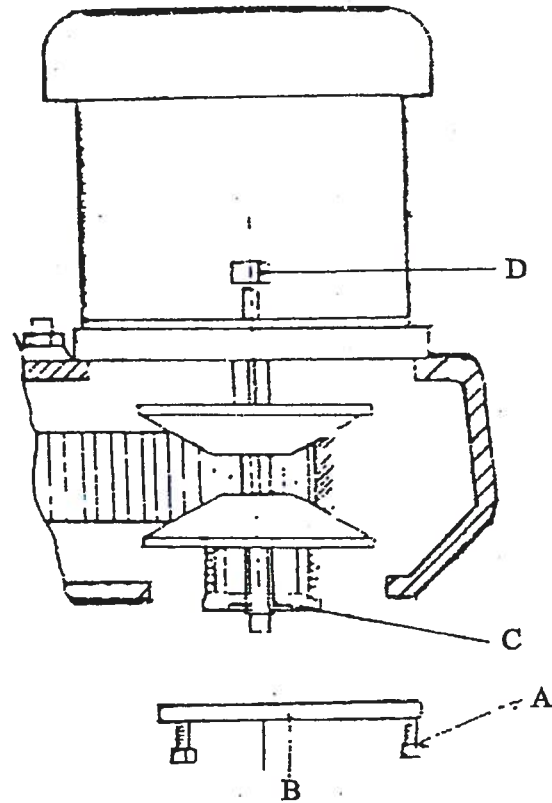
9. Remove screw 'D' and ball reverse lever 'E'
10. Remove circlip 'F' screw 'G' and arm 'H'
11. Thread shaft 'J' through micro nuts and remove
12. Remove screw 'K' and stop 'L'
13. Remove quill
14. Clean all areas, oil liberally and re-assemble
15. Check correct operation of feed operating handle (see the details on page 28)
Re-assembly of spring alignment. See page 15



Head

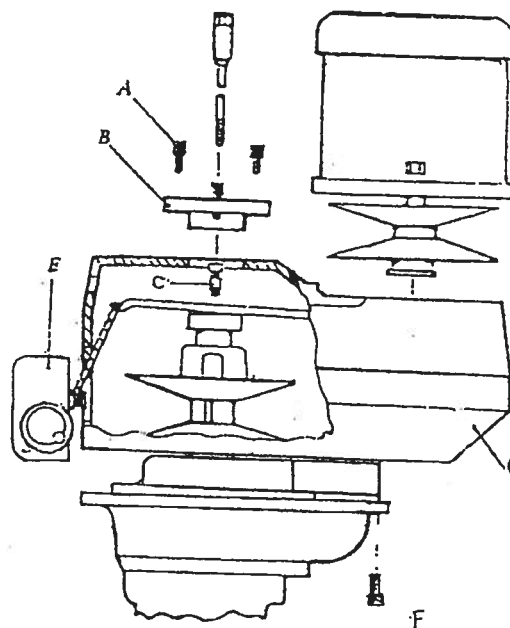
MOTOR REMOVAL

1. Isolate machine
2. Remove 3 screws 'A' & cover 'B' .
3. Rotate the speed changer to the highest speed.
4. Remove the reversing switch from the belt housing.
5. Remove the two locking nuts 'D' .
6. Remove snap ring "C"
7. Ease the lower drive disc and remove the motor.



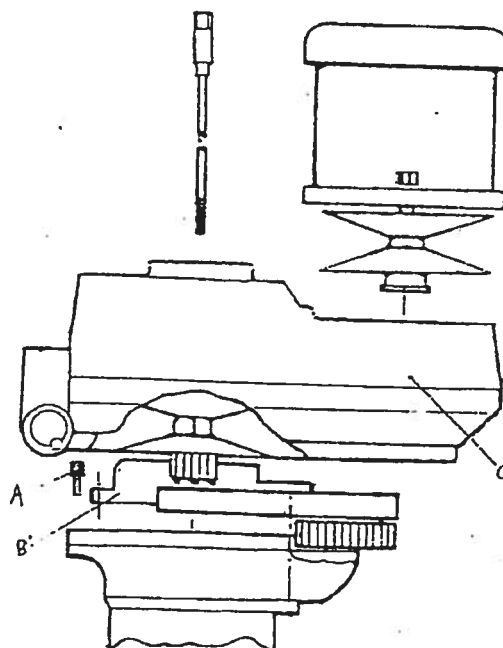
DRIVE BELT REPLACEMENT

1. Remove the motor as described on page 32.
2. Remove the three screws 'A' ; insert into the adjacent tapped holes and withdraw bearing housing 'B' .
3. Remove the screws and the bushes 'C' .
4. Remove four screws 'D' and one screw 'E' .
5. Remove four screws securing the speed changer "F" .
6. Remove top housing 'G' ; tap to clear the dowels.
7. Replace the belt.



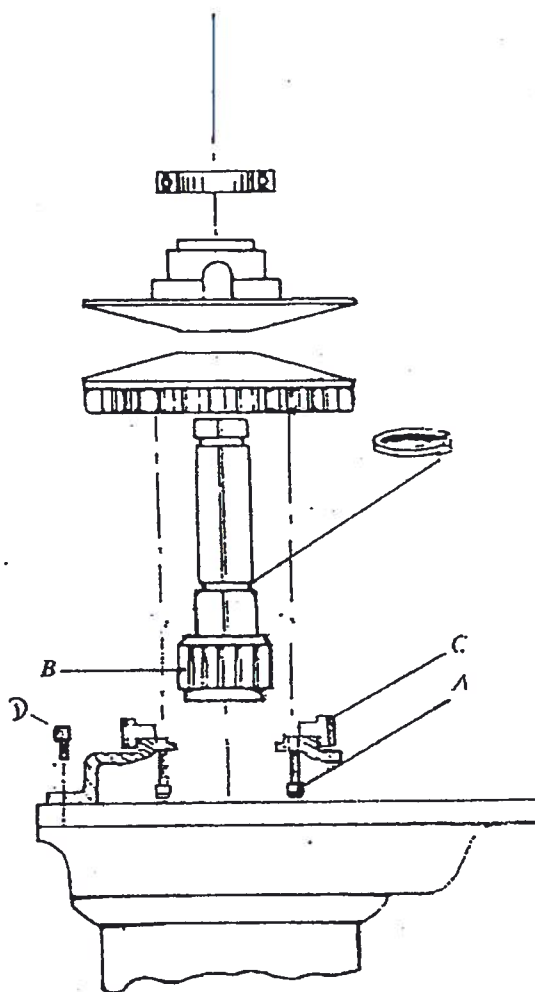
TIMING BELT REPLACEMENT

1. Remove the motor
2. Lower the quill to full extent.
3. Remove the two lower cap screws 'A' from the speed changer housing.
4. Remove the four cap screws 'B' .
5. Remove the top assembly "C" and tap to clear dowels.
6. Replace the belt.



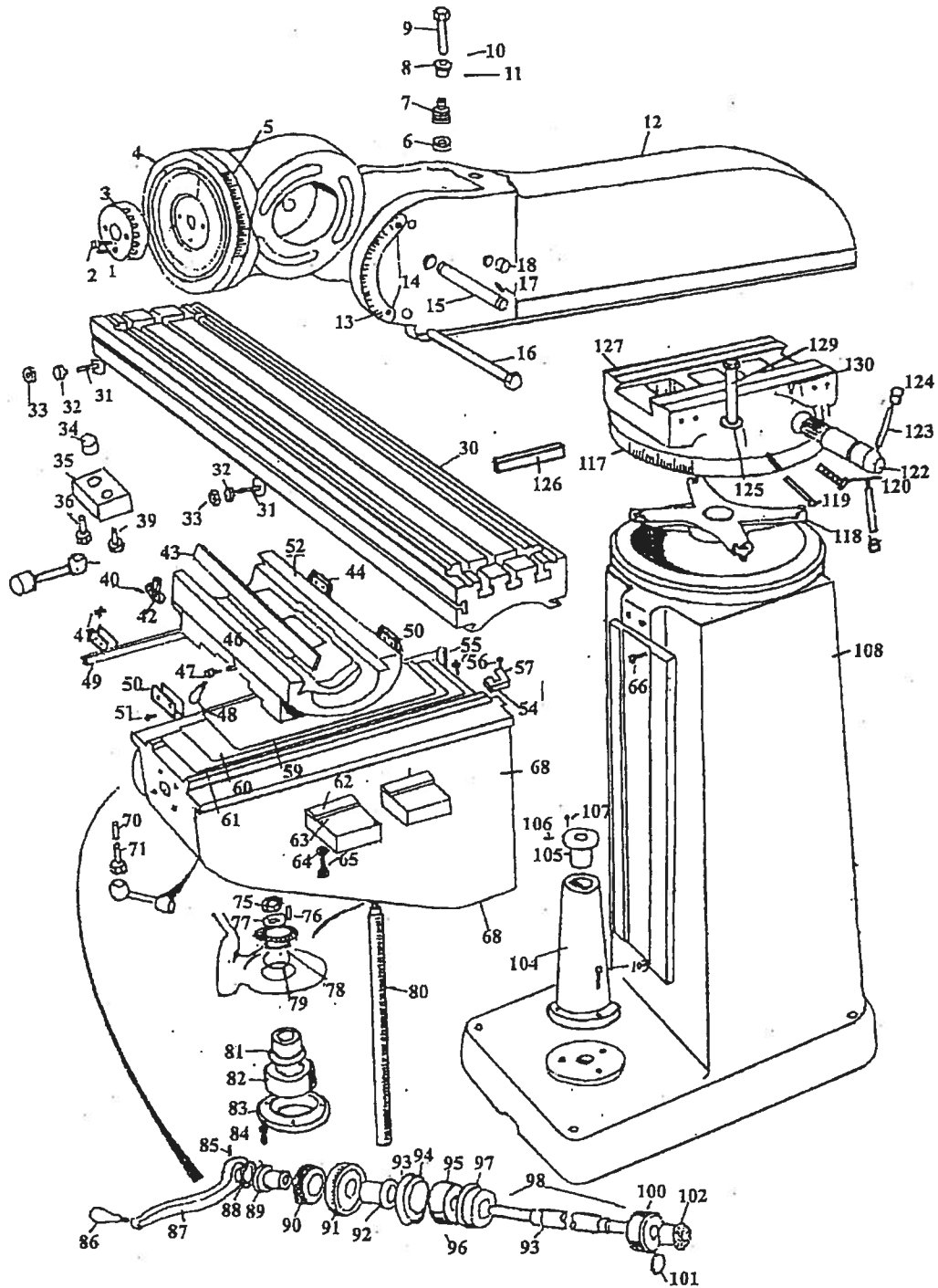
BRAKE SHOE REPLACEMENT

1. Remove the top section
2. Remove the two screws 'A' .
3. Remove the clutch hub assembly 'B' .
4. Remove the bearing drive discs and circlips from the hub assembly 'B' .
5. Replace the brake shoes 'C'
6. Thread the hub 'B' through the bearing and reassemble the discs etc.



NOTE: When brake shoes has been replaced. ensure spindle brake is secured.

Basic Machine



ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
1	GB118-76	Taper Pin	8×50	1
2	GB70-76	socket HD Cap Screw	M10×35	3
3	X6325-1015	Worm Gear		1
4	X6325-1016	Ram Adapter		1
5	X6325-1111	Nameplate		1
	X6325-1122	Nameplate		1
6	S105-1107	Sleeve		1
7	S105-1103	Worm		1
8	S105-1106	Sleere		1
9	S105-1101	Shaft		1
10	GB71-76	Screw	M5×6	1
11	GB1096-79	Key	5×25	1
12	S105-1012	Ram		1
13	X6325-1112	Nameplate		1
14	GB827-76	Rivet	2×5	12
15	S105-1102	Shaft		1
16	S105-1111	Bolt		3
17	GB894-76	Retainer Ring	40	2
18	S105-1109	Clamping Sleeve		1
30	X6323-6011	Table		1
	or			
	X6323-6011-2	Table		1
31	GB37-76	Bolt for T-Slot	M8×35	2
32	X6323-6108	Positive stop		2
33	GB55-76	ThickvHex. Nut	M8	2
34	X6325-6181	Plugger		1

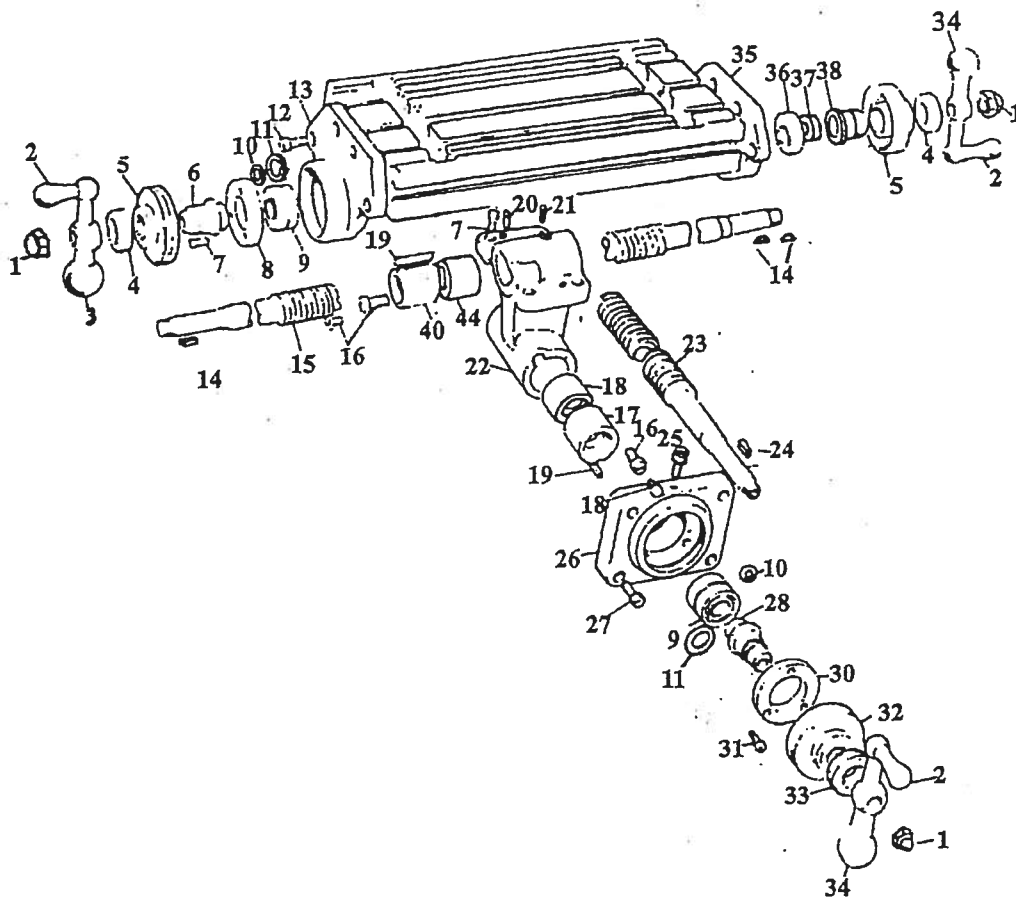
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
35	X6325-6104A	Clamping Plate		1
36	JB/T 7270.12-94	Adjusting set screw	M10×80×20	1
39	X6325-6183	Screw		1
40	GB70-76	Socket HD Cap Screw	M8×16	2
41	X6325-6106	Gib screw		2
42	X6323-6013	Table Stop Bracket		1
43	X6323-6019	Gib		1
44	X6325-6109	Wiper		4
45	X6325-6159	Pin		2
46	S105-1104	Locking Pin		1
	X6325-4302A	Locking Pin		1
47	X6323-6107	Locking Screw		2
48	X6323-6109	Locking Level		2
49	X6323-6016	Gib		1
50	X6325-6105	Wiper Holder		4
51	GB67-76	Screw	M5×8	8
52	X6323-6012	Saddle		1
53	X6325-4113	Wiper Holder		1
54	X6325-4201	Wiper		2
55	X6325-4018A	Bevel Gib		1
	X6325-4112	Gib Screw		1
56	GB67-76	Screw	M6×12	2
57	X6325-4114	Wiper Holder		1
59	X6323-6104	Chip Guard		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
60	X6323-6103	Chip Guard		1
61	X6323-6102	Chip Guard		1
62	X6323-6014	Gib		4
63	X6323-6015	Clamping Plate		4
64	GB52-76	Hex. Nut	M6	8
65	GB79-76	Set Screw	M6×20	8
66	GB70-76	Socket HD Cap Screw	M8×14	2
67	X6325-4011A	Knee		1
70	X6325-4302	Lock Pin		1
71	JB/T 7270.12-94	Adjusting set Screw	M12×95×25	1
75	GB6110-86	Hex. Nut	M12	2
76	GB1096-79	Flat Key	5×20	1
77	GB93-76	Spring Washer	12	2
	GB97-76	Washer	12	2
78	X6325-4102	Spiral Bevel Gear		1
79	X6325-4013	Washer		1
80	X6325-4103-2	Eleating Screw		1
81	X6325-4101	Bearing Bush		1
82	206	Single Row Radial Ball Bearing	30×62×16	1
83	X6325-4012	Bearing Retainer Ring		1
84	GB70-76	Socket HD Cap Screw	M8×14	3
85	GB78-76	Set Screw	M6×8	1
86	GB4141.6-84	Handle	M12×100	1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
87	X6325-4017B	Holder		1
88	X6325-4115	Clutch		1
89	X6325-4109	Clutch		1
90	X6325-4108	Nut		1
91	X6323-4104	Sleeve		1
92	X6323-4102A	Dial		1
93	GB893-76	Snap Ring	47	1
94	X6325-4016	Regulating Ring		1
95	204	Single Row Radial Ball Bearing	20×47×14	1
96	GB70-76	Socket HD Cap Screw	M6×16	3
97	X6325-4015	Bearing Cap		1
98	GB1096-79	Flat Pin	5×16	2
99	X6323-4101	Shaft		1
100	204	Single Row Radial Ball bearing	20×47×14	1
101	X6325-4014	Washer		1
102	X6325-4104	Spiral Bevel Gear		1
103	GB70-76	Socket HD Cap Screw	M10×25	2
104	S105-4012	Bracket		1
105	J325-4301	Nut		1
106	GB1152-76	Oil Cup	M6	1
107	GB70-76	Socket HD Cap Screw	M8×14	3
108	S105-1011	Column		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
117	X6325-1127	Nameplate		1
118	X6325-1019A	Spider		1
119	S105-1108	Locking Screw		2
120	GB70-76	Socket HD Cap Screw	M8×35	1
121	S105-1104	Locking Pin		2
122	X6325-1105	Gear Shaft		1
123	X6325-1106	Lever Rod		2
124	GB4141.12-84	Plastic Lever Holder	M10×32	2
125	GB97.1-85	Washer	12	4
126	S105-1015	Gid		1
127	S105-1013	Rotary Disk		1
129	GB898-76	Stud	AM12×120	4
	GB923-76	Nut	M12	4
130	GB79-76	Set Screw	M8×16	1

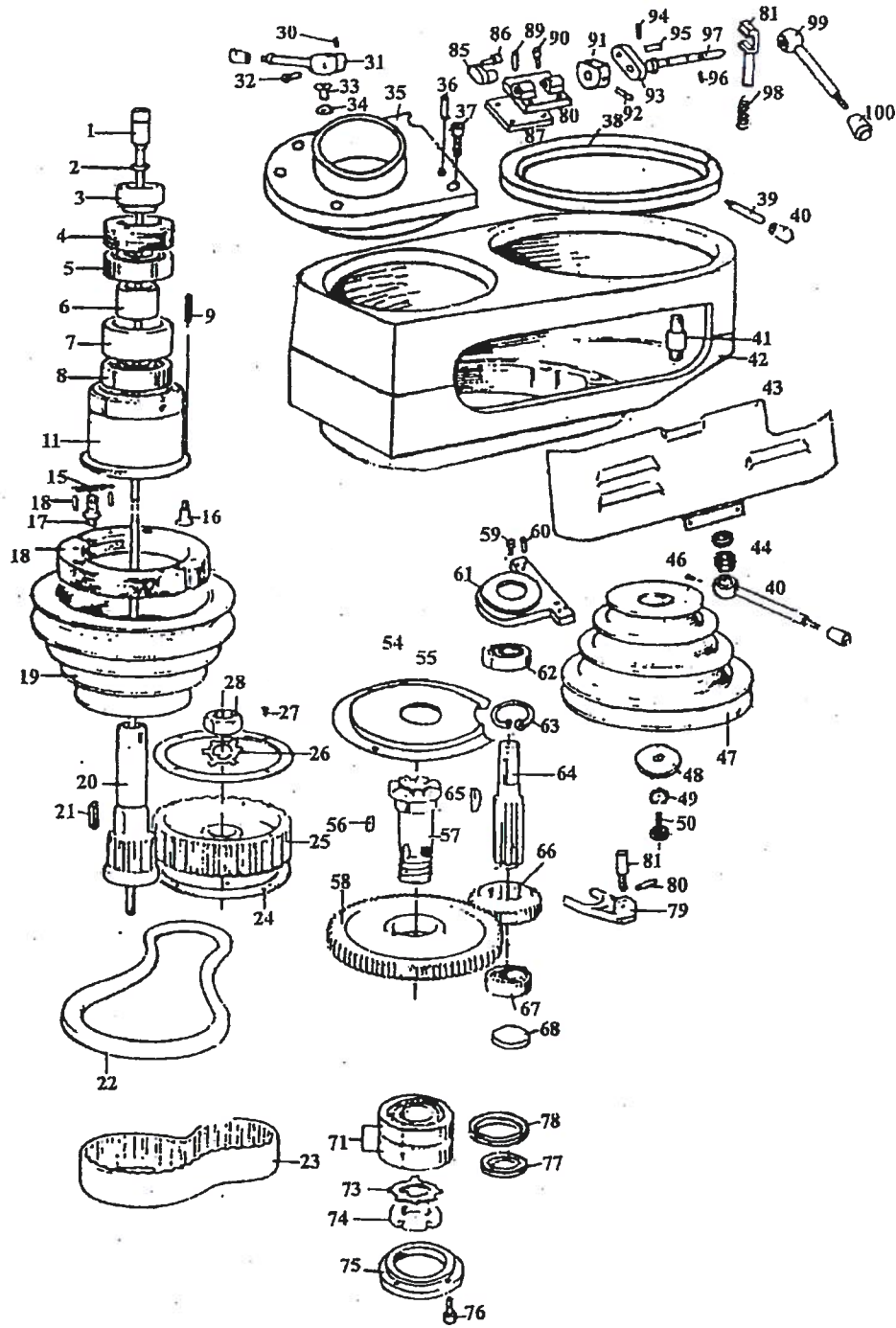
Assembly of Longitudinal and Cross Lead Screw



ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
1	X6323-6112	Ball Type Nut	1/2" -20	2
	GB923-88		M16	1
2	GB4141.6-84	Handle	M12×100	3
3	X6325-6156B	Handle Body		1
4	XF6325-7131	Nut		1
5	X6320-4120-2A	Dial		1
6	X6323-6113	Sleeve		1
7	GB70-76	Socket HD Cap Screw	M8×16	7
8	X6325C-6013	Flange		1
9	36204	Single Row Radial Thrust Ball Bearing	20×47×14	4
10	X6325-6111	Adjusting Spacer		2
11	X6325-6112	Adjusting Spacer		3
12	GB70-76	Socket HD Cap Screw	M10×20	8
13	X6323-6017/1	Left Bracket		1
14	GB1096-79	Flat key	4×32	1
15	X6323-6101/1(9" X42) or X6323-6101-2/1(9" X49)	Lead Screw		1
16	X6325-6155	Regulating Screw		6
17	X6325-7334A-2	Nut		1
18	X6325-7341-2	Nut		1
19	GB1096-79	Flat key	5×30	2
20	GB118-76	Female Thread Taper Pin	8×30	2
21	GB78-76	Set Screw	M8×12	2
22	X6323-6020A	Nut Holder		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
23	X6325C-7010	Lead Screw		1
24	X6320-4124	Flat key(transverse)		1
	X6323-6111	Woodruff key(Longitudinal)		2
	X6323-6114	Flat key (longitudinal)		1
25	GB65-76	Screw	M4×8	1
26	X6325C-7011	Bearing Bracket		1
27	GB70-76	Socket HD Cap Screw	M10×16	4
28	X6323-7103	Sleeve		1
29	X6320-4121	Sleeve		1
30	X6325C-7012	Bearing Retainer Ring		1
31	GB70-76	Socket HD Cap Screw	M8×14	3
32	X6325C-6102	Dial		1
33	XF6325-7131	Nut		2
34	X6325A-6604	Handle Body		2
35	X6323-6018/1A	Right Bracket		1
36	204	Single Row Radial Ball Bearing	20×47×14	1
37	X6323-6105/2	Adjusting Pad		1
38	X6323-6106/A	Sleeve		1
	X6323-6110/A	Sleeve		1
39	X6320-4120-2A	Dial		1
40	X6323-6301-2	Nut		1
41	X6323-6303-2	Nut		1

Assembly of Transmission



ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
1	X6325-90107C	Drawbar		1
2	X6325-90110	Drawbar Washer		1
	GB1235-76	O-Seal Ring	16×2	1
3	X6325-2106	Nut		1
4	X6325-2105	Nut		1
5	D36107	Single Row Radial Thrust Ball Bearing	35×62×14	1
6	X6325-2011	Adjustable Spacer		1
7	X6325-2012	Adjustable Spacer		1
8	D36107	Single Row Radial Thrust Ball Bearing	35×62×14	1
9	X6325-2109	Spring		4
11	X6325-2108	Bearing Bracket		1
14	X6325-2138D	Screw		2
	X6325-2126	Screw		1
15	X6325-2128	External Spring		2
16	GB119-76	Roll Pin	2.5ga×16	4
17	X6325-2103	Brake Lock Stud		1
18	X6325-2203	Brake Block		1
19	X6325-2303B-2	Pulley		1
20	X6325-2107K-1	Coupling Shaft		1
21	GB1096-79	Flat Key	8×25	1
22	GB1171-74	V-Rubber Belt		1
23	2J650	Timing Belt		1
24	X6325-2307D	Pulley Flange		2
25	X6325-2306E	Timing Belt Pulley		1
26	GB858-76	Thrust Washer for Round Nut	16	1

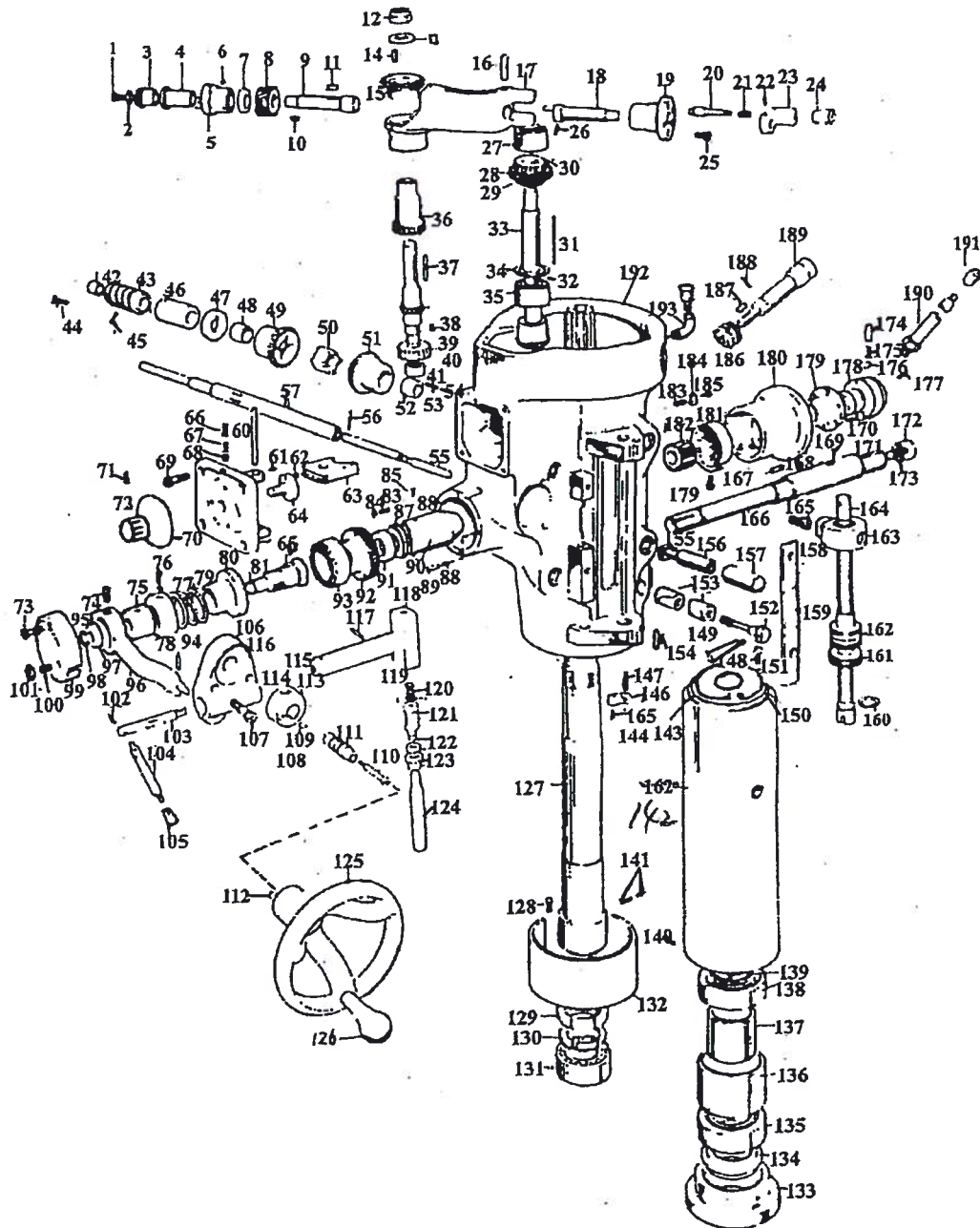
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
27	GB68-76	Sunk Screw	M5×8	16
28	GB812-76	Round Nut	M16×1.5	1
29	GB4141.12-84	Plastic Handle Holder	M6×20	1
30	GB73-76	Set Screw	M3×5	1
31	X6325-2101	Handle Holder		1
	X6325-2135	Handle		1
32	X6325-2131	Pin		1
33	X6325-2102	Sleeve		1
34	X6325-2104	Washer		1
35	X6325-2301D	Cover		1
36	GB118-76	Tapered Pin	10×30	1
37	GB70-76	Socket HD Cap Screw	M10×16	4
39	X6325-5117	Handle Rod		1
40	GB4141.12-84	Handle Holder	M6×20	2
41	GB397-76	Stud	M12×35	2
42	X6325-2305D	Belt Housing		1
43	X6325-2141D	Right Windw Cap		1
	X6325-2142E	Left Window Cap		1
	X6325-2140D	Spring Plate		1
	X6325-2143D	Bracket		2
	GB52-76	Hex. Nut	M5	1
	GB52-76	Hex. Nut	M5	1
	GB70-76	Socket HD Cap Screw	M5×16	1
	GB93-76	Spring Washer	5	1
	GB119-76	Roll Pin	4ga×16	2
	GB4141.12-84	Holder	M6×20	2

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
44	GB96-76	Washer	12	2
	X6325-2137D	Thick Hex. Nut		2
45	X6325-2144D	Handle		2
46	GB79-76	Set Screw	M6×8	2
47	X6325-2304B-2	Pulley		1
48	X6325-2110F	Washer		1
49	GB93-76	Spring Washer	8	1
50	GB30-76	Hex. Head Bolt	M18×25	1
51	GB1157-74	Cotton Core Type Oil Cap		1
52	X6325-22198A	Oil Cup Adapter		1
53	X6325-2208	Cotton Coer Tube		1
54	GB67-76	Screw	M6×10	3
55	X6325-2201D	Cap		1
56	GB1096-79	Flat Key	8×16	1
57	X6325-2119K-1	Worm Coupling Shaft		1
58	X6325-2122D	Bull Gear		1
59	GB70-76	Socket HD Cap Screw	M6×16	4
60	GB118-76	Female Thread Conical Pin	8×25	2
61	X6325-2013	Bearing Bracket		1
62	203	Single Row Radial Ball Bearing	17×40×12	1
63	GB893-76	Elastic Ring For Hole	40	1
64	X6325-2116	Spling Shaft		1
65	GB1099-79	Woodruff Key	5×16	1
66	X6325-2115D	Pinion		1
67	203	Single Row Radial Ball Bearing	17×40×12	1
68	X6325-2117	Plug		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
71	D36108	Single Row Radial Thrust Ball Bearing	40×68×15	2
73	GB858-76	Thrust Washer for Round Nut	39	1
74	GB812-76	Round Nut	M39×1.5	1
75	X6325-2134	Cover		1
76	GB70-76	Socket HD Cap Screw	M6×12	4
77	X6325-2120	Regulating Ring		1
78	X6325-2121	Regulating Ring		1
79	X6325-2308D	Shifter Fork		1
80	GB117-76	Tapered Pin	3×25	1
81	X6325-2111D	Drawbar		1
85	X6325-2130	Pin		1
86	GB70-76	Socket HD Cap Screw	M5×8	1
87	X6325-2118	Shim		1
88	X6325-2014D	Shaft Bracket		1
89	GB118-76	Tapered Pin	8×25	2
90	GB70-76	Socket HD Cap Screw	M8×16	2
91	X6325-2124	Handle		1
92	GB117-76	Conical Pin	4×32	1
93	X6325-2112D	Eccentric Block		1
94	GB117-76	Conical Pin	4×25	1
95	X6325-2113	Pin		1
96	GB117-76	Tapered Pin	4×25	1
97	X6325-2114D	Spanner Shaft		1
98	X6325-2136D	Spring		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
99	X6325-2123D	Handle		1
100	GB4141.12-84	Handle-Holder	M8×25	1

Assembly of Head Component



ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
1	GB30-76	Hex Head Bolt	M4×8	1
2	GB859-76	Spring Washer	4	1
3	X6325-22189	Bevel Gear		1
4	X6325-22181	Sleeve		1
5	X6325-22312	Sleeve		1
6	GB71-76	Set Screw	M5×8	1
7	X6325-22182	Worm Gear Spacer		1
8	X6325-22313K	Worm Gear		1
9	X6325-22188	Shaft		1
10	GB1096-79	Flat Key	3×12	1
11	GB1096-79	Flat Key	3×16	1
12	GB52-76	Hex Nut	M8	1
13	GB97-76	Washer	8	1
14	GB1096-79	Flat Key	3×12	1
15	X6325-22110	Bevel Gear		1
16	X6325-22184	Feed Engage Pin		1
17	X6325-22013K	Worm Gear Support		1
18	X6325-22185	Pin		1
	X6325-22186	Shaft		1
	GB73-76	Set Screw	M5×8	1
19	X6325-22314	Flange		1
20	X6325-22187	Plunger		1
21	X6325-22134	Spring		1
22	GB117-76	Tapered Pin	3×20	1
23	X6325-22315	Shifter Crank		1
24	GB4141.12-84	Handle-Holder	M6×20	1
25	GB70-76	Socket HD Cap Screw	M5×12	3

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
26	GB78-76	Set Screw	M6×8	1
27	X6325-22306	Bush		1
28	X6325-22128	Gear		1
29	X6325-22127	Gear		1
30	X6325-22129	Gear		1
	GB73-76	Set Screw	M3×10	1
31	GB1096-79	Flat Key	3×40	1
32	GB78-76	Set Screw	M6×8	1
33	X6325-22125	Bevel Gear Shaft		1
34	GB894-76	Snap Ring	14	1
35	X6325-22303	Bush		1
36	X6325-22111	Gear		1
37	GB1096-79	Flat Key	3×20	1
38	X6325-22130	Gear Shaft		1
39	GB1096-79	Flat Key	3×8	1
40	X6325-22192	Gear		1
41	X6325-22304	Bush		1
42	X6325-22305	Bush		1
43	X6325-22126	Worm		1
44	X6325-22657	Screw		1
45	GB879-76	Elastic Roll Pin	3×16	1
46	X6325-22320	Bush		1
47	X6325-22123	Washer		2
48	X6325-22323	Sleeve		1
49	X6325-22122	Bevel Gear		1
50	X6325-22121	Reverse Clutch		1
51	X6325-22122	Bevel Gear		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
52	X6325-22323	Sleeve		1
53	GB77-76	Set Screw	M6×10	1
54	GB78-76	Set Screw	M6×8	1
55	X6325-22117	Slide Rod		1
56	GB879-76	Elastic Roll Pin	3×22	1
57	X6325-22114	Hollow Shaft		1
60	X6325-22106	Small Shaft		1
61	GB73-76	Set Screw	M5×6	1
62	X6325-22104	Pin		1
63	X6325-22321	Slide		1
64	X6325-22624	Eccentric Wheel		1
65	X6325-22801	Cluster Gear Cover		1
66	X6325-22183	Screw		1
67	X6325-22113	Spring		1
68	GB308-77	Steel Ball	Φ3/16"	1
69	GB70-76	Socket Head Cap Screw	M5×16	4
70	X6325-22625	Holder/Holden		1
71	GB71-76	Set Screw	M5×6	1
72	GB73-76	Set Screw	M5×6	1
73	GB70-76	Socket Head Cap Screw	M5×40	2
74	X6325-22638	Thread Pin		2
75	X6325-22805	Sleeve		1
76	GB73-76	Set Screw	M6×8	1
77	J51-9	Plug	4×2	1
78	X6325-22637	Nut		1
79	X6325-22636B	Spring		1
80	X6325-22634	Clutch		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
81	X6325-22639	Coupling Shaft		1
82	X6325-22641	Key		1
83	GB67-76	Screw	M4×16	3
84	GB859-76	Spring Washer	4	3
85	GB77-76	Set Screw	M6×12	1
86	GB78-76	Set Screw	M6×12	1
87	X6325-22643	Regulating Washer		1
88	X6325-22633	Spring		1
89	X6325-22635	Top Pin		1
90	X6325-22308	Sleeve		1
91	8102	Single Row Thrust Ball Bearing	15×28×9	1
92	X6325-22310	Feed Worm Gear		1
93	X6325-22642	Clutch		1
94	GB119-76	Roll Pin	5ga×16	1
95	GB119-76	Roll Pin	4ga×20	1
96	X6325-22804	Connecting Rod		1
97	X6325-22640	Washer		1
98	GB894-76	Snap Ring	10	1
99	X6325-22803	Cover		1
100	GB77-76	Set Screw	M6×14	1
101	GB54-76	Hex. Nut	M6	1
102	GB119-76	Roll Pin	5ga×20	1
103	X6325-22622	Drawbar		1
104	X6325-22623	Handle		1
105	GB4141.12-84	Handle Sleeve	M8×25	1
106	X6325-22504	Bracket		1

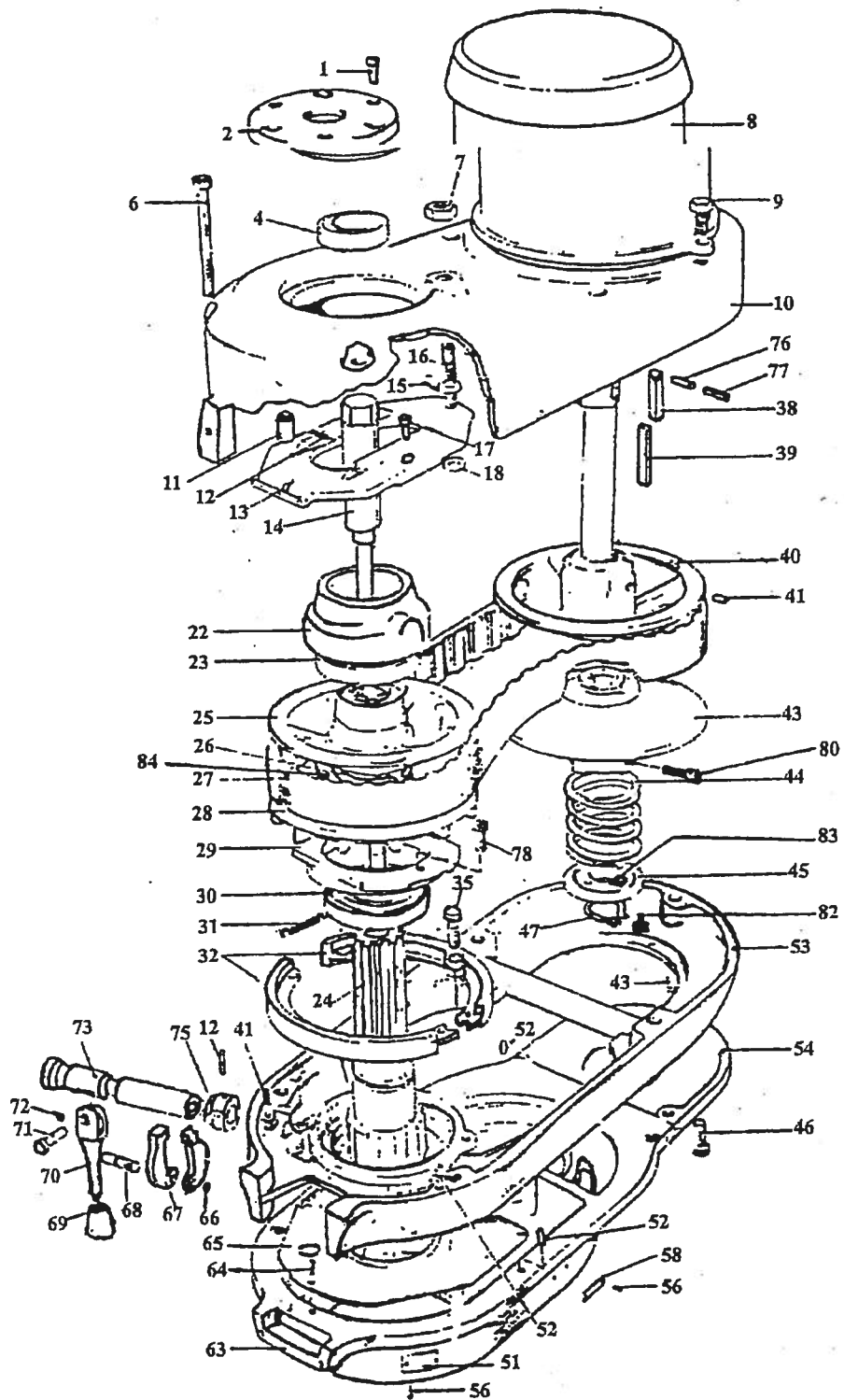
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
107	GB70-76	Socket Head Cap Screw	M6×14	2
108	GB77-76	Set Screw	M6×8	1
109	GB1096-79	Flat Key	4×8	1
110	X6325-22116	Feed Reverse Knob Stud		1
111	X6325-22115	Reverse Knob		1
112	X6325-22194	Pin		1
113	X6325-22627	Retaining Ring		1
114	GB308-77	Steel Ball	Φ 3/16"	1
115	X6325-22113	Spring		1
116	X6325-22626	Set Screw		1
117	GB119-76	Roll Pin	4ga×16	1
118	X6325-22632	T-Rod		1
119	X6325-22631	Pin		1
120	Q81-1	Spring	1.2×10×25	1
121	X6325-22616	Shaft		1
122	X6325-22617	Sleeve		1
123	X6325-22621	Sleeve		1
124	X6325-22620	Plunger		1
125	X6325-22802	Handwheel		1
126	JB1335-73	Handle	M8×65	1
127	X6325-22602F	Spindle		1
129	GB894-76	Snapring	30	1
131	C206	Single Row Radial Ball Bearing	30×62×16	1
132	X6325A-23664	Quill Skirt		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
133	X6325-22144	Nose Piece		1
134	X6325-22142	Spindle Dirt Shield		1
135	C46108	Single Row Radial Thrust Ball Bearing	40×68×15	1
136	X6325-22139	Bearing Sleeve		1
137	X6325-22140	Bearing Sleeve		1
138	C46108	Single Row Radial Thrust Ball Bearing	40×68×15	1
139	X6325-22653A	Locating Nut		1
	X6325-22654	Locating Nut		1
140	GB71-76	Set Screw	M5×6	1
141	X6325-22601	Special Set Screw		1
	GB73-76	Set Screw	M5×6	1
142	X6325A-23676	Quill		1
143	X6325-22201	Oil Sealer		1
144	GB52-76	Hex. Nut	M3	1
145	GB73-76	Set Screw	M3×14	1
146	X6325A-23668	Forked Rod		1
147	X6325-22619	Thread Pin		1
148	GB65-76	Screw	M4×8	2
149	Z18-1	Handle	M8×63	1
150	X6325-22202K	Retaining Plate		1
151	GB893-76	Snap Ring	65	1
152	GB900-88	Quill Lock Bolt	M8×70	1
153	X6325-22317	Lock Sleeve Tapped		1
	X6325-22318	Lock Sleeve Tapped		1
154	X6325-22135	Special Screw		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
	X6325-22136	Indicator Rod		1
155	GB37-76	Screw for T-slot	M12×175	4
156	X6325-22107-1	Sleeve		1
	X6325-22107-2	Sleeve		3
157	X6325-22658	Nut		4
158	GB67-76	Screw	M4×6	2
159	X6325A-23667-2	Scale		1
160	GB894-76	Snap Ring	15	1
161	X6325A-23660-2	Regulating Nut		1
162	X6325A-23662-2	Dial		1
163	X6325A-23663	Stop Knob		1
164	X6325A-23661-2	Lead Screw		1
165	X6325A-23671	Screw		1
166	S105-22113	Shaft		1
167	GB1096-79	Flat Key	5×20	1
168	GB78-76	Set Screw	M8×10	1
169	X6325-22155	Pin		1
170	GB119-76	Roll Pin	5ga×16	1
171	GB1096-79	Flat Key	5×20	1
172	GB30-76	Hex. Bolt	M4×16	1
173	X6325A-23674	Stop Plate		1
174	X6325-22614	Set Screw		1
175	X6325-22648	Spring		1
176	GB308-77	Steel Ball	Φ3/16"	1
177	GB71-76	Set Screw	M4×14	1
178	X6325A-23673	Handle Hub		1
179	S105-22114	Sleeve		1

ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
180	S105-22111	Sleeve		1
181	S105-22112	Spring		1
182	X6325-22153	Gear		1
183	X6325-22610	Lever		1
184	X6325-22609	Shaft		1
185	X6325A-23665	Screw		1
186	X6325-22179	Worm		1
187	GB1096-79	Flat Key	4×16	1
188	GB73-76	Set Screw	M5×6	1
	GB75-76	Set Screw	M5×6	1
189	X6325-22180	Shaft		1
190	X6325A-23666	Handle Rod		1
191	JB1341-73	Handle-Sleeve	M8×25	1
192	X6325A-23505	Housing		1
193		Oil Cup	M10×1	1

Assembly of Upper Component of Stepless Variable Transmission Case

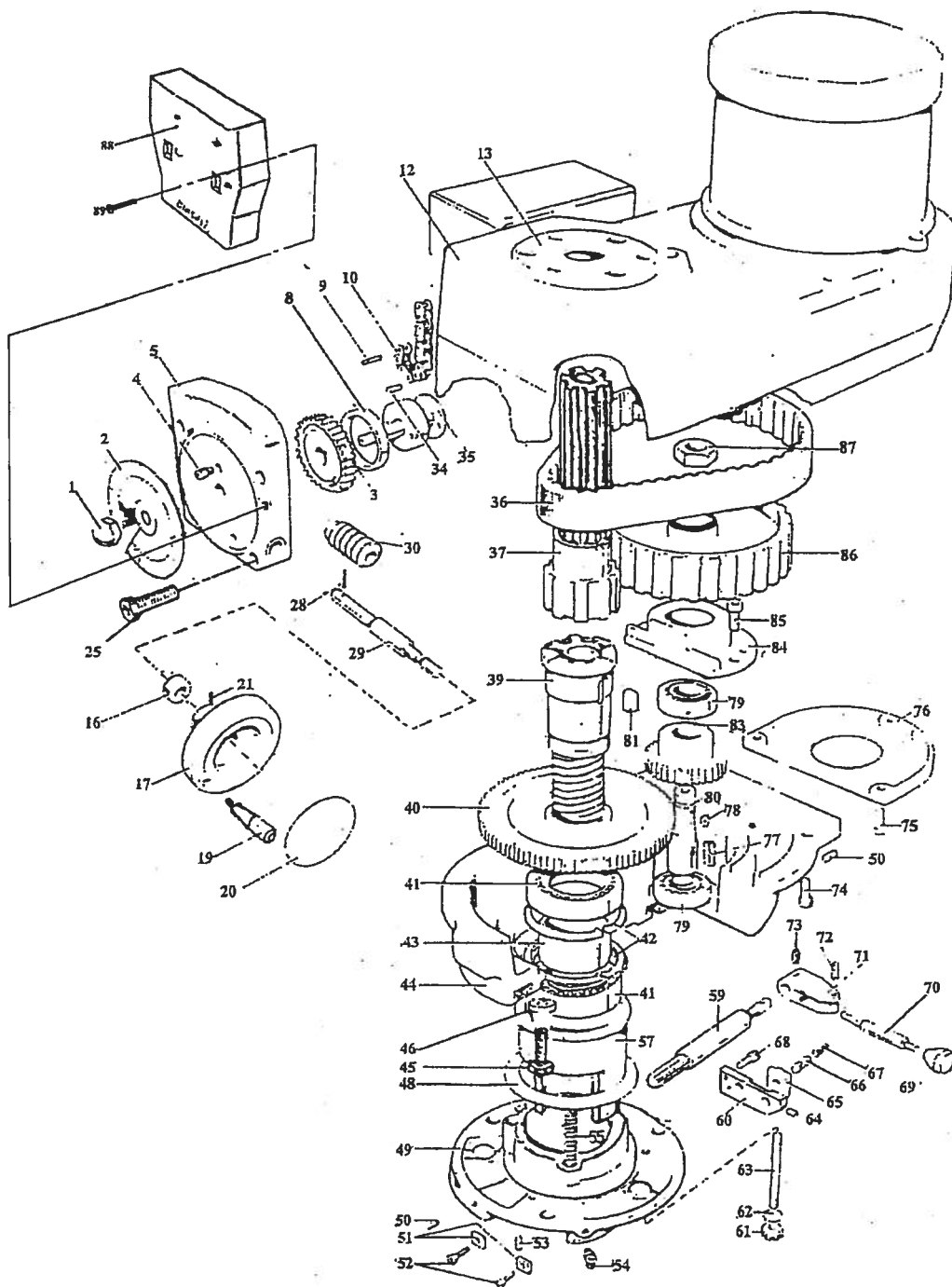


Assembly of Upper Component of Stepless Variable Transmission Case				
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
1	GB70-76	Socket HD Cap Screw	M6×16	3
2	XU6325-2001-1	Bearing Cap		1
4	80107	Single Row Radial Ball Bearing	35×62×14	1
6	XU6325-2126	Socket Head Cap Screw		2
7	GB52-76	Hex. Nut	M10	1
8		Motor		1
9	GB21-76	Hex. Screw	M10×25	2
10	XU6325-2301	Upper Housing		1
11	XU6325-2108	Shaft		1
12	GB119-76	Roll Pin	4ga×25	2
13	XU6325-2107	Clamping Plate		1
14	X6325-90107B	Drawbar		1
15	GB91-76	Split Pin	3×20	1
16	XU6325-2101	Shaft		1
17	GB70-85	Sunk Screw	M4×20	2
18	GB93-87	Washer	4	2
22	XU6325-2002	Bearing Sliding Housing		1
23	80110	Single Row Radial Ball Bearing	50×80×16	1
25	XU6325-2015	Pulley		1
26	GB894-76	Circlip	38	1
27	2J668	Stepless Variable Belt		1
28	XU6325-2004K	Pulley		1
29	XU6325-2010	Bearing Cap		1
30	80110	Single Row Radial Ball Bearing	50×80×16	1

Assembly of Upper Component of Stepless Variable Transmission Case				
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
31	XU6325-2139	Brake Spring		2
32	XU6325-2203	Brake Shoes		1
34	XU6325-2159D	Upper Coupling Shaft		1
35	XU6325-2140	Set Screw		1
38	GB1096-79	Flat Key	8×25	1
40	XU6325-2009D	Pulley		1
41	GB77-76	Socket Set Screw	M6×10	1
43	XU6325-2014	Pulley		1
44	XU6325-2124D/1	Spring		1
45	XU6325-2125D	Spring Collar		1
46	GB70-76	Socket HD Cap Screw	M5×25	3
48	GB70-76	Socket HD Cap Screw		1
52	GB118-76	Taper Pin	M8×20	4
53	XU6325-2307	Middle Housing	A8×30	1
54	XU6325-2310D	Lower Cover		1
56	GB827-76	Rivet		6
58	XU6325-2313-2	Nameplate	Cu2×5	1
61	XU6325-2312-2	Nameplate		1
63	XU6325-2308	Lower Housing		1
64	GB67-76	Screw	M5×6	2
65	XU6325-2114	Cover Plate		1
66	GB894-76	Snap Ring		1
67	XU6325-2132	Brake Operating Finger	6	2
68	XU6325-2138	Shaft		1
69	JB1341-73	Handle		1
70	XU6325-2137	Handle Rod	M8×25	1

Assembly of Upper Component of Stepless Variable Transmission Case				
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
71	XU6325-2136	Pin		1
72	GB71-76	Set Screw	M5×6	1
73	XU6325-2134	Sleeve		1
75	XU6325-2133	Com		1
77	GB77-76	Socket Set Screw	M6×10	1
78	GB70-76	Socket HD Cap Screw	M6×20	1
80	GB68-76	Sunk Screw	M5×12	1
82				
	GB30-76	Hex.Bolt	M10×30	1
		Spring Washer	10	1
83	XU63252127D	Regulating Ring		1
84	XU6325-2153K	Washer		1
85	XU6325-2161	Motor Spline Sleeve		1
86	GB1096-79	Flat Key	6×70	1
93	XU6325-2205	Spline Sleeve		24

Assembly of Upper Component of Stepless Variable Transmission Case

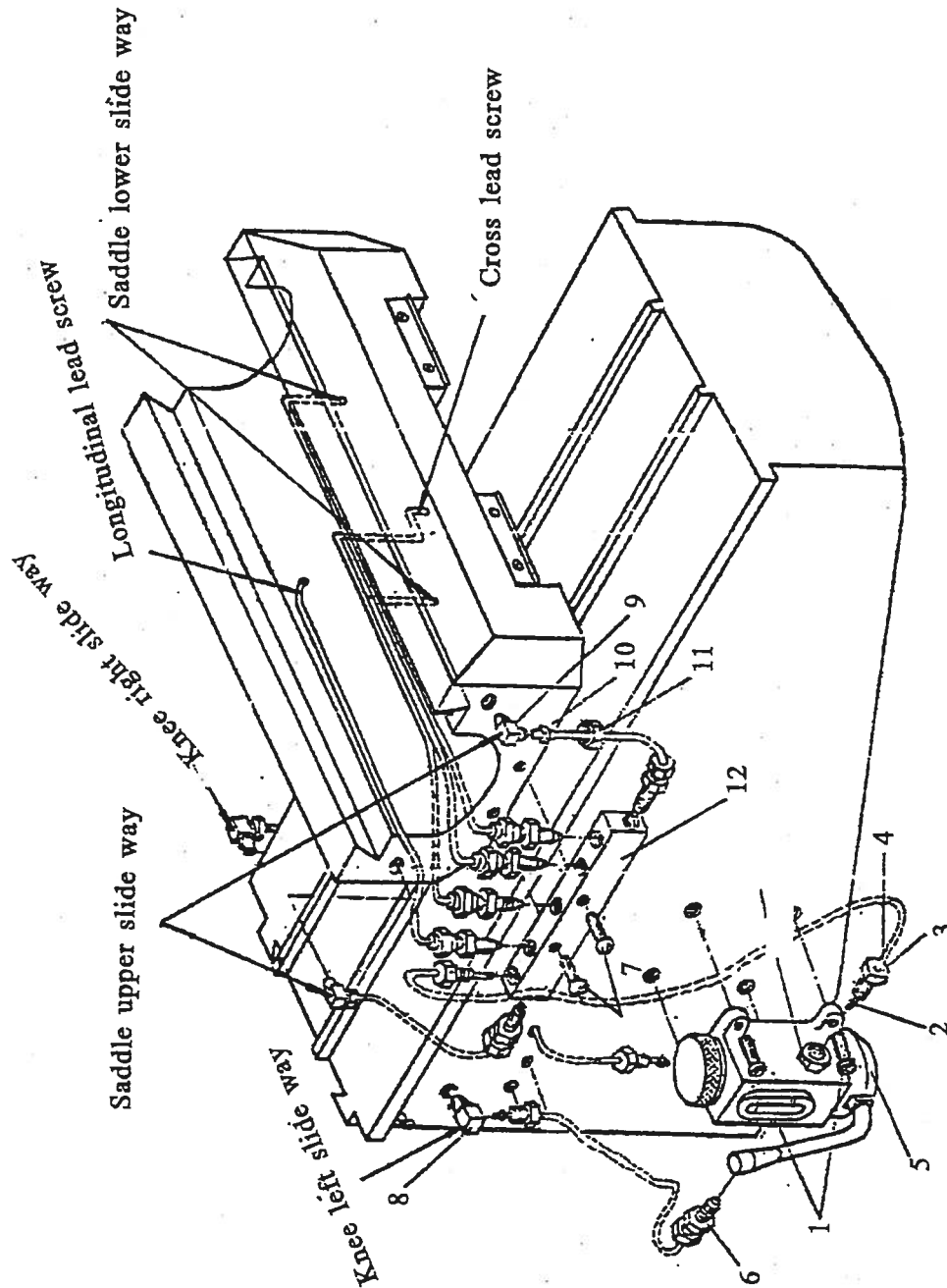


Assembly of lower Component of Stepless Variable Transmission Case				
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
1	GB54-76	Hex. Nut	M8	1
2	XU6325-2306A	60Hz Dial		1
4	GB79-76	Set Screw	M6 × 12	1
5	XU6325-2302B	Housing		1
6	XU6325-2110	Chip Shield		1
7	GB65-76	Screws	M4 × 6	2
8	XU6325-2304	Bush		1
9	GB119-76	Roll Pin	3ga × 25	1
10		Speed Changer Chain	1/8" × 1/2"	9
12	XU6325-2301	Upper Housing		1
13	XU6325-2001-1	Bearing Cap		1
14	XU6325-2131	Socket Head Cap Screw		2
16	XU6325-2149	Bush		1
17	XU6325-2315B	Handwheel		1
19	JB1332-73	Machine Handle	M6 × 50	1
20	XU6325-2314-2	Caution Plate		1
21	GB78-76	Socket Set Screw	M6 × 8	1
25	GB70-76	Socket Head Cap Screw	M6 × 35	1
28	GB117-76	Long Pin	3 × 12	1
29	XU6325-2150B	Shaft		1
30	XU6325-2148	Worw		1
33	XU6325-2111	Bevel Gear		1
34	GB1096-79	Flat Key	3 × 8	1
35	XU6325-2113	Shaft		1
36	2J650	Syncro Timing Belt		1
37	XU6325-2159D	Upper Coupling Shaft		1
39	XU6325-2118K	Lower Coupling Shaft		1

Assembly of lower Component of Stepless Variable Transmission Case				
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
40	XU6325-2115B	Bull Gear	10×68×15	1
41	80108	Single Row Radial Ball Bearing		1
42	GB893-76	Snap Ring	68	2
43	XU6325-2006	Spacer		1
44	X6325-2308	Lower Housing		1
45	XU6325-2156	Bolt for T-slot		3
46	GB97-76	Washer	10	3
47	GB52-76	Hex. Screw	M10	3
48	XU6325-2116	Spring Shim		1
49	XU6325-2005	Flange		1
50	GB77-76	Set Screw	M6×6	1
51	XU6325-2311A	Guide		1
52	GB68-76	Socket Cap Screw	M4×8	2
53	XU6325-2005/2	Drip Pipe		1
54	GB1157-74	Oil Cop	1	1
	XU6325-2318	Oil Pipe Adapter		1
55	XU6325-2154	Spring		3
57	XU6325-2119B	Gear Sleeve		1
59	XU6325-2146	Gear Shaft		1
60	XU6325-2145	Detent Plate		1
61	GB52-76	Hex. Screw	M12	3
62	GB97-76	Washer	12	3
63	GB899-76	Stud	M12×80	3
64	GB77-76	Set Screw	M6×12	1
65	XU6325-2141	Set Block		1
66	XU6325-2143	Set Pin		1

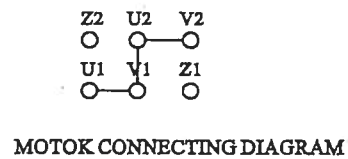
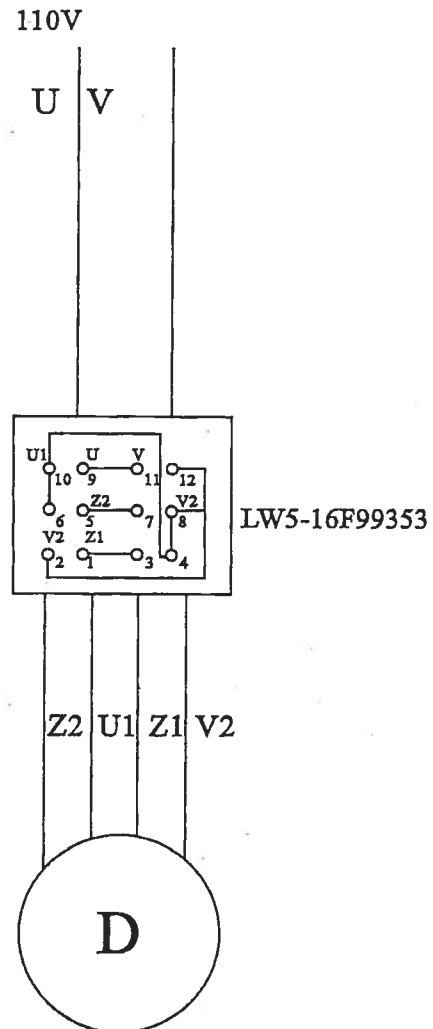
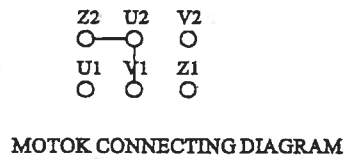
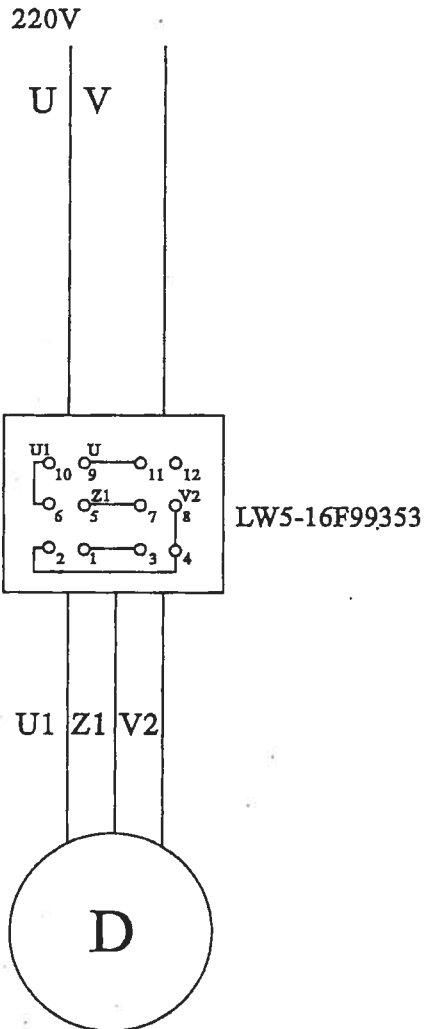
Assembly of lower Component of Stepless Variable Transmission Case				
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
67	XU6325-2155	Spring		1
68	GB70-76	Socket HD Cap Screw	M5×12	2
69	JB1341-76	Handle	M8×25	1
70	XK5032-2135	Handle Shaft		1
71	XU6325-2144	Handle Hub		1
72	GB119-76	Roll Pin	3ga×16	2
73	GB879-76	Elastic Roll Pin	3×16	1
74	GB70-76	Socket HD Cap Screw	M8×20	4
75	GB70-76	Socket HD Cap Screw	M5×25	3
76	XU6325-2310D	Lower Cover		1
77	GB1096-79	Flat Key	6×20	1
78	GB1099-79	Woodruff Key	5×16	1
79	80203	Single Row Radial Ball Bearing	17×40×12	2
80	XU6325-2121	Pinion Shaft		1
81	XU6325-2117	Key		1
83	XU6325-2122	Pinion		1
84	XU6325-2007	Bearing Cap		1
85	GB70-76	Socket HD Cap Screw	M5×16	2
86	XU6325-2309	Syncno Timing Pulley		1
87	GB812-76	Nut	M16×1.5	1
88	XU6325-2202	Front Cover		1
89	GB68-76	Socket Screw	M4×20	2

Centralized Lubrication System



Centralized Lubrication System				
ITEM No.	PART No.	DESCRIPTION	SPECIFICATION	QTY.
1	GB818-85	Socket HD Cap Screw	M6×10	2
2	G91-2	Sleeve	4	9
3	G91-1	Special Bolt	M8×1	9
4		Nylon Tubing	∅4×3	
5	SLB-5P	Handle Lubricating Pump		1
6	HJB-10	Meter Unit		8
7	GB67-76	Screw	M5×20	2
8	G15012	Fitting		2
9	HUQ/8B22-71	Elbow Fitting	∅3	2
10	HUQ/8B85-71	Sleeve	∅3	2
11	HUQ/8B80-71	Nut	∅3	2
12	X6325R-6020A	Multi-way Junction		1
13		Bronzes Tubing	∅4×0.5	

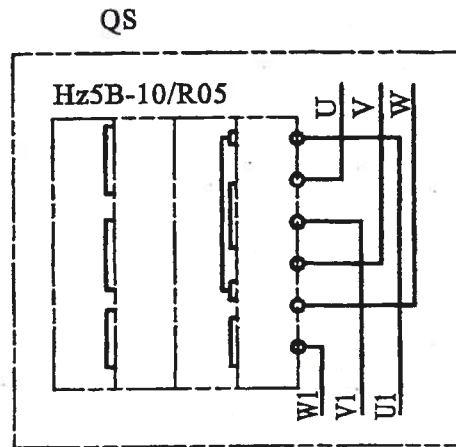
The Electric Wiring Circuit Diagram



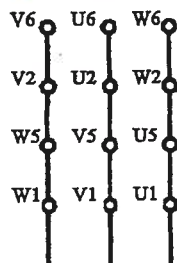
YL90L-4-TH
1700r/min

Electric Equipments

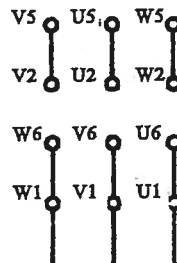
3 ϕ -AC220V/440V 60Hz



3 ϕ -AC 220V 60Hz



3 ϕ -AC 440V 60Hz



NOTE: The main motor is connected under the voltage of 3 ϕ -AC 220V 60Hz

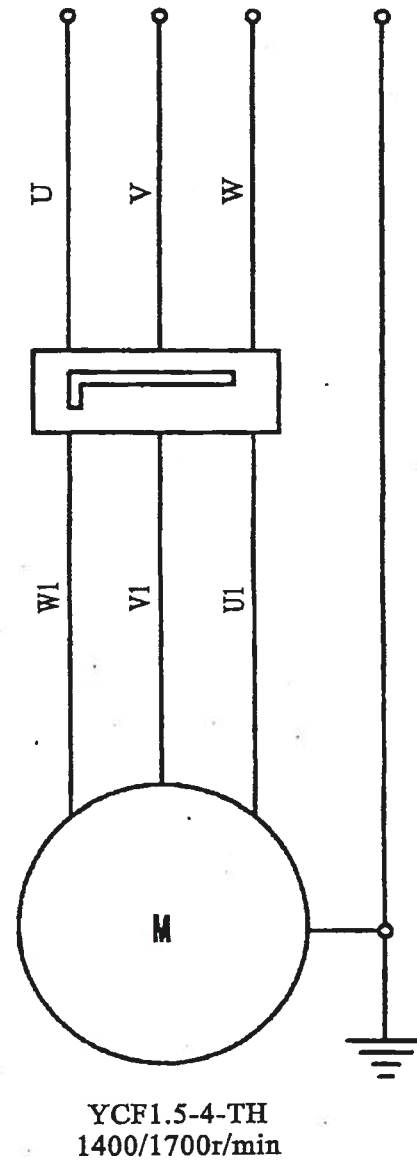


Table.3

THE DETAILED LIST OF ELECTRIC EQUIPMENT			
CODE NAME	DESCRIPTION	TYPE AND TECHNICAL DETA	QTY.
M	Three phase motor of milling head	YCF1.5-4-TH 1400/1700(r/min) 3 φ 220V/440V 60Hz	1
		YD90L-4/2P-TH(B5) 1700/3400(r/min) 3 φ 220V 60Hz 1.3/1.8KW	
QS	Switch	HZ5B-10/T21-TH	1
		HZ5B-10/R05-TH	1

Attachments			
ITEM No.	DESCRIPTION	SPECIFICATION	QTY.
1	Attachments Draw bar		1(Including Draw bar washer and O-Seal ring)
	Screw Deiver	75×5	1
		100×6	1
	Double Offest Ring Spanner	17-19	1
	Inner Hexagon Spanner	3.4.5.6.8.10	1
	Oil Gan		1
2	Appendant File Instruction Manual		1