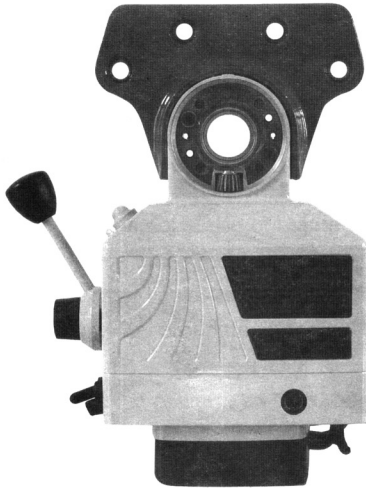




POWER FEED



ITEM NO.	MODEL NO.
80-200-300	199-1051
80-200-310	199-1053
80-200-320	199-1055

Version date: 05/20/2013

Please Read These Instructions Before Operating Your Machine
Contents Subject To Change Without Notice

CONTENTS

Notice	1
Specifications	1
Safety Warning & Cautions	1
Unpacking	1
Assembly	2
Drive Unit Installation.....	2
Limit Assembly Installation.....	3
Operation	3
Maintenance	4
Periodic Maintenance.....	4
Brush Replacement.....	4
Schematic Diagram of Parts	5
Parts List	6
Trouble Shooting	7
Circuit Diagram	8
Appendix	8
Installation Of Cross Feed.....	8
Installation Of T-Way Track For Cross Feed.....	8
How to Install Knee Lift Feed.....	9
Installation Of T-Way Track For Knee Lift Feed.....	10
Limit Switch Assembly Instruction.....	10
Longitudinal Feed-Horizontal Arrangement.....	10

SPECIFICATIONS

Voltage	AC110V
Torque	150LBS
Speed Range	0-140 R.P.M
Rapid Speed	200 R.P.M
Direction of Feed	X-Axis (Model# 199-1051) Y-Axis (Model# 199-1053) Z-Axis (Model# 199-1055)

SAFETY WARNING & CAUTIONS

1. Keep work area clean. Do not use this machine in damp, wet locations. Do not use this machine in the presence of flammable gases or liquids.
2. The power source must coordinate with the power feed.
3. The SWITCH (CL034) should be in the "OFF" position when not in use or before plugging in power feed.
4. Do not place any other thing on the machine. Prevent water or other liquids from splashing on the machine.
5. Do not use inappropriate attachments in an attempt to exceed the tool's capacities.
6. Maintain tools with care.

UNPACKING

Ref.	Item Description	Qty
CL027	Adapter	1
CL007	Inner Ring	1
CL005	Shim	4
CL004	Bevel Gear	1
CL003	Shim	4
CL002	Dial Nut	1
B18	Travel Stop Assembly	2
CL006	Locking Nut	1
CL009-01	Circuit Breaker	2

ASSEMBLY

Drive Unit Installation

Step 1:

Remove the HAND CRANK, DIAL and BEARING FLANGE from the right side of the table.

Step 2:

Install the power feed with the ADAPTER (CL027) to the BEARING FLANGE. Attach the ADAPTER onto the table end using four hex screws. This should be done together with **Step 3** to ensure the correct position of the lead screw.

Step 3:

Slide the INNER RING (CL007) over the lead screw of the table and then into the hole of the needle bearing of the power feed. The INNER RING should touch the lead screw's shoulder. Please refer to **Figure 1** (CL027, CL007).

Step 4:

Insert the key in the keyway on the lead screw.

Step 5:

Smear graphite base grease on the teeth of the BEVEL GEAR (CL004). Place small amount of grease onto the inner face of the BEVEL GEAR FLANGE.

Step 6:

Install the BEVEL GEAR onto the lead screw with key and press it up against the DRIVE GEAR (BL09-04).

Notice: Generally before installing BEVEL GEAR (CL004), you should insert several SHIMS (CL005) between INNER RING (CL007) and BEVEL GEAR (CL004), so that you can get the smallest possible gap between the gear assembly. The quantity of the SHIMS (CL005) you will use is determined by your trial. Please refer to **Figure 1**: CL005, CL004 etc.

Step 7:

Install the appropriate DIAL on the BEVEL GEAR (CL004) referring **Figure 1** and close to the Power feed flange (Do not let touch each other!). Then you may need several SHIMS (CL003) to achieve the amount of backlash needed to make the power Feed run proper.

Step 8:

Screw the NUT (CL002) into the BEVEL GEAR to avoid the DIAL from becoming loose.

Step 9:

Reassemble the HAND CRANK removed in **Step 1** onto the lead screw. And then tighten BEVEL GEAR (CL004) or you can use the LOCKING NUT (CL006) to tighten it.

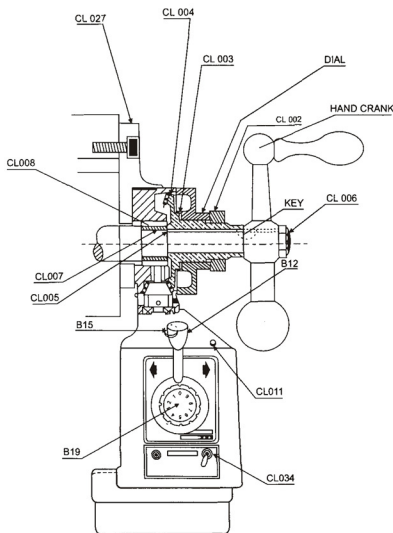


Figure 1

ASSEMBLY

Limit Assembly Installation

The power feed is equipped with LIMIT SWITCH ASSEMBLY (B05) and TRAVEL STOP ASSEMBLY (B18). Its assembly is as follows (Please refer to **Figure 2**).

Step 1:

Remove the original travel stop assembly on the table and assemble the TRAVEL STOP ASSEMBLY (B18) supplied instead.

Step 2:

Remove the original limit block and assemble the LIMIT SWITCH ASSEMBLY (B05) supplied instead.

NOTICE:

1. Be sure the two touching rods of the LIMIT SWITCH ASSEMBLY (B05) and the rod of the TRAVEL STOP ASSEMBLY (B18) should be on the same axis.
2. The TRAVEL STOP ASSEMBLY (B18) are installed several millimeters less than the stroke because of the inertia.
3. Protect the cord of the LIMIT SWITCH. Do not let it be twisted around the moving pieces or the table.

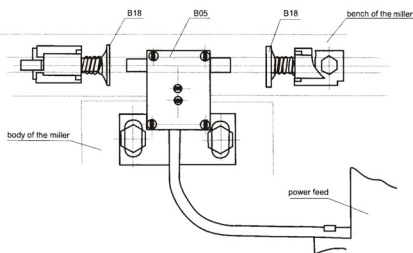


Figure 2

OPERATION

The operation of the power feed is as follows (Please refer to **Figure 3**):

Step 1:

Make sure the ON-OFF switch (CL034) is in the "OFF" position and the CONTROL HANDLE ASSEMBLY (B12) in the neutral (middle) position.

Step 2:

Plug the power table feed cord into the stipulated outlet.

Step 3:

Turn the ON-OFF SWITCH to the "ON" position, then LIGHT TRANSMITTER (CL011) should light up.

Step 4:

Turn the CONTROL HANDLE (B12) away from the middle position to one direction, then the table will move to the same direction. Turn the SPEED CONTROL KNOB ASSY (B19) clockwise, then the moving speed of the table will be higher gradually.

Step 5:

If you want to change the moving direction of the table, please turn the CONTROL HANDLE to the middle position until the power feed stops. And then you can turn the CONTROL HANDLE to the direction you want. (Notice: Make sure the power feed stops before you change the direction)

NOTICE

1. The speed is controlled by the SPEED CONTROL KNOB ASSY (B19). Position "0" represents "stop" and "9" represents the highest speed.
2. RAPID SWITCH BUTTON (B15) is for fast moving of the table. When it is pressed, then the table will move at high speed.

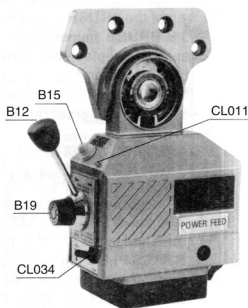


Figure 3

MAINTENANCE

Periodic Maintenance

1. Clean the machine every 250 hours including the rotor direction change, carbon caught inside the machine and other dirt so that the insulation can be ensured.

2. Lubrication. Insert lubrication oil into the gears and smear graphite base grease on the teeth of the gears.

Brush Replacement

Step 1:

Remove the BRUSH CAP (BL06-01)(Please refer to **Figure 4**). Then the BRUSH (B04) may spring out. Do not loosen the BRUSH. If the BRUSH does not spring out, gently remove the BRUSH using the tip of your screwdriver.

Step 2:

Examine the concave surface of the BRUSH. The surface should be smooth and clean. If you find large scratch marks in the BRUSH or that parts of the BRUSH have broken off or the length left of the BRUSH is only 6mm, replace the BRUSH immediately with an approved replacement BRUSH. If the BRUSH is merely dirty, you can clean the BRUSH with a pencil eraser. Clean off any bits of eraser remaining on the BRUSH.

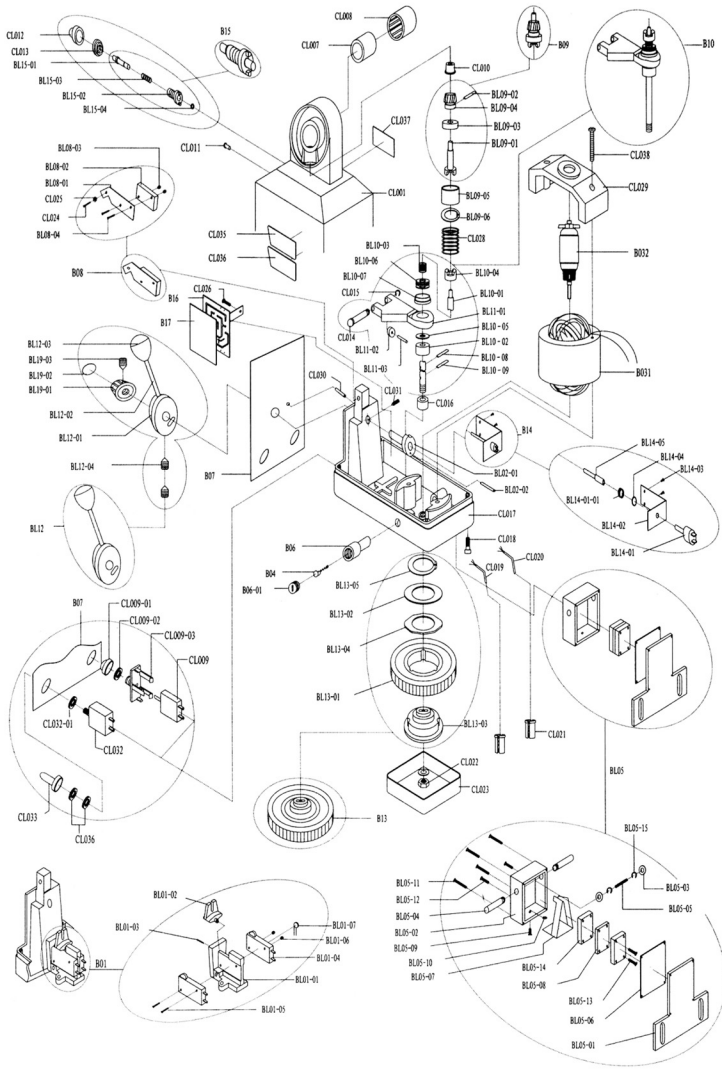
Step 3:

There is a SPRING and BRASS PLUG sttached to the BRUSH. Turn the BRASS PLUG until the prongs are vertical and push the BRUSH into the BRUSH HOLDER (B06). Thread the BRUSH CAP into the BRUSH HOLDER and tighten.



Figure 4
Removal of the Brush cap

SCHEMATIC DIAGRAM OF PARTS



PARTS LIST I

Part No.	Description	Qty.	Part No.	Description	Qty.
CL001	TOP HOUSING	1	B01	MICRO SWITCH ASSY.	1
CL002	NUT	1	BL01-01	MICRO SWITCH HOLDER	1
CL003	SHIM	4	BL01-02	SWITCH ACTUATOR	1
CL004	BEVEL GEAR	1	BL01-03	PIN, ACTUATOR	1
CL005	SHIM	4	BL01-04	MICRO SWITCH	2
CL006	LOCKING NUT	1	BL01-05	SCREW	2
CL007	INNER RING 20/28	1	BL01-06	NUT	2
CL008	NEEDLE BEARING	1	BL01-07	CAPACITOR	1
CL009	CIRCUIT BREAKER SUPPORT	1	B02	CAM ASSEMBLY	1
CL009-01	CIRCUIT BREAKER	1	BL02-01	CAM	1
CL009-02	CIRCUIT BREAKER COVER	1	BL02-02	SPRING PIN	1
CL009-03	NUT	1	B031	MOTOR FIELD ASSY.	1
CL010	BUSHING BEARING	1	B032	ARMATURE ASSY.	1
CL011	LIGHT TRANSMITTER	1	B04	BRUSH	2
CL012	HEX. SEAL BOOT	1	B05	LIMIT SWITCH ASSY.	1
CL013	NUT	1	BL05-01	HOLD PLATE	1
CL014	LIFT FORK SHAFT	1	BL05-02	LIMIT SWITCH HOLDER	1
CL015	CRESCENT RING	1	BL05-03	LIMIT PLATE	2
CL016	BUSHING BEARING	1	BL05-04	ACTUATOR	2
CL017	BOTTOM HOUSING	1	BL05-05	SPRING	1
CL018	SCREW	4	BL05-06	LIMIT SWITCH GASKET	1
CL019	POWER CORD	1	BL05-07	ACTUATOR	1
CL020	CONTROL CORD	1	BL05-08	CONNECTING PLATE	1
CL021	CORD CLAMP	4	BL05-09	SCREW	1
CL022	LOCKING NUT	1	BL05-10	NUT M3	1
CL023	BOTTOM COVER	1	BL05-11	SCREW	1
CL024	SCREW	1	BL05-12	SCREW M3 x 16	4
CL025	NUT M4	1	BL05-13	SCREW M3 x 14	2
CL026	SCREW	1	BL05-14	MICRO SWITCH	2
CL027	ADAPTOR	1	BL05-15	CRESCENT RING	2
CL028	SPRING FOR TOP HOUSING	1	B06	BRUSH HOLDER	2
CL029	BEARING MOUNT	1	BL06-01	BRUSH CAP	2
CL030	WASHER	1	B07	ON-OFF NAME PLATE	2
CL031	SPRING PIN	1	B08	MICRO SWITCH ASSY.	1
CL032	SET SCREW	2	BL08-01	MICRO SWITCH HOLDER	1
CL033	LABEL	1	BL08-02	MICRO SWITCH	1
CL034	ON-OFF SWITCH	1	BL08-03	NUT	1
CL034-01	NUT	1	BL08-04	SCREW	2
CL035	CAP OF ON-OFF SWITCH	1	B09	DRIVE GEAR ASSY.	2
CL036	NUT	1	BL09-01	DRIVE GEAR SHAFT	1
CL037	CAUTION LABEL	1	BL09-02	SPRING PIN	1
CL038	LABEL	1	BL09-03	BEARING	1
CL039	LABEL	1	BL09-04	DRIVE GEAR	1
CL040	SCREW	2	BL09-05	SPACER	1
CL041	LABEL	1	BL09-06	CRESCENT RING	1
			B10	LIFT FORK ASSEMBLY	1
			BL10-01	DRIVING SHAFT	1
			BL10-02	SHAFT MOUNT	1

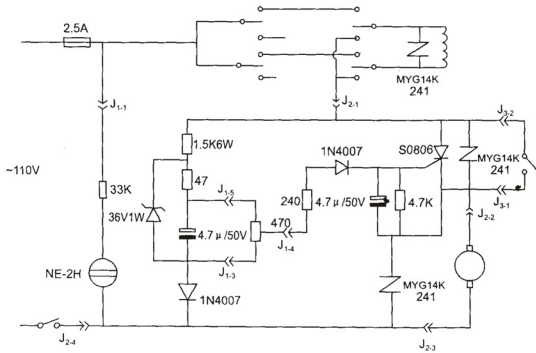
PARTS LIST II

Part No.	Description	Qty.	Part No.	Description	Qty.
BL10-03	SPRING	1	BL14-02	RING OF POTENTIOMETER	1
BL10-04	CLUTCH	1	BL14-03	SARAIN OF POTENTIOMETER	1
BL10-05	WASHER	1	BL14-04	WASHER	2
BL10-06	BEARING	1	BL14-05	SCREW	2
BL10-07	SPRING COVER	1	B15	RAPID SWITCH BUTTON	1
BL10-08	SPRING PIN	1	BL15-01	RAPID SWITCH PLUNGER	1
BL10-09	PIN	1	BL15-02	RAPID SWITCH HOUSING	1
B11	LIFTFORK ASSY.	1	BL15-03	SPRING FOR RAPID SWITCH	1
BL11-01	LIFTFORK	1	BL15-04	CRESCENT RING	1
BL11-02	LIFTFORK RING	1	B16	CIRCUIT BOARD ASSY.	1
BL11-03	PIN, LIFTFORK RING	1	B17	CIRCUIT BOARD INSULATOR	1
B12	CONTROL HANDLE ASSY.	1	B18	TRAVEL STOP ASSEMBLY	2
BL12-01	CONTROL HANDLE DIEC	1	BL18-01	TRAVEL STOP	2
BL12-02	CONTROL HANDLE	1	BL18-02	TRAVEL STOP BASE	2
BL12-03	HANDLE KNOB	1	BL18-03	TRAVEL STOP SHAFT	2
BL12-04	SET SCREW	1	BL18-04	SPRING	2
B13	ZYTEL GEAR ASSY.	1	BL18-05	BOLT	2
BL13-01	ZYTEL GEAR WITHOUT HUB	1	BL18-06	WASHER	2
BL13-02	WASHER	1	BL18-07	CRESCENT RING	2
BL13-03	HUB OF ZYTEL GEAR	1	B19	SPEED CONTROL KNOB ASSY.	1
BL13-04	SPARING WASHER	1	BL19-01	SPEED CONTROL KNOB	1
BL13-05	CRESCENT RING	1	BL19-02	LABEL OF SPEED CONTROL	1
B14	RANGE SPEED ASSY.	1	BL19-03	SET SCREW	1
BL14-01	POTENTIOMETER ASSY.	1			

TROUBLE SHOOTING

TROUBLE	REASONS AND SOLVEMENTS
The LIGHT TRANSMITTER does not glow.	<ol style="list-style-type: none"> 1. There is something wrong with the power supply or the wire connecting it. 2. The CIRCUIT BREAKER is damaged. 3. The ON-OFF SWITCH (CL034) is not in the "ON" position or damaged. 4. If the motor can move, then the LIGHT TRANSMITTER is damaged.
The motor does not work when pushing CONTROL HANDLE(B12) either left or right.	<ol style="list-style-type: none"> 1. When pressing RAPID SPEED BUTTON (B15), the motor rotates: <ol style="list-style-type: none"> (1). SPEED CONTROL KNOB is not in the "0" position. (2). POTENTIOMETER (B14) can not work properly. (3). CIRCUIT BOARD (B18) is damaged. 2. When pressing RAPID SPEED BUTTON (B15), the motor does not rotate: <ol style="list-style-type: none"> (1). The BRUSH and the ROTOR are not touching properly or the BRUSH is used up. (2). The circuit inside is broken.
Current leakage	<ol style="list-style-type: none"> 1. There is short circuit across the BRUSH (B04) and the OUTER COVER (CL017) of the power feed. Or there is short circuit in LIMIT SWITCH (B05). 2. The carbon powder from the BRUSH results in short circuit.
High speed can not be obtained when pressing RAPID SPEED BUTTON(B15).	The MICRO SWITCH (BL08-02) under the RAPID SPEED BUTTON (B15) is not connected.
The machine is in the high speed when not pressing RAPID SPEED BUTTON(B15).	The RAPID SPEED BUTTON (B15) can not work and the MICRO SWITCH (BL08-02) is in the condition of connecting. The RESISTANCE (MYG14K) or the SILICON CONTROLLED RECTIFIER (S0806) on the circuit board is short circuited.
The table speed is uneven.	The lead screw of the table is not good enough.

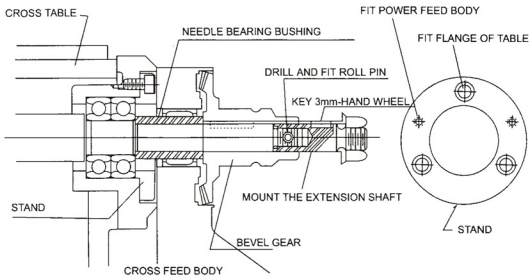
CIRCUIT DIAGRAM



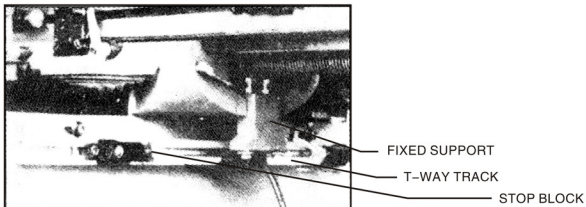
APPENDIX

Installation Of Cross Feed

For ideal installation, should not modify the cross travel lead screw.

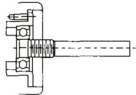
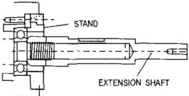
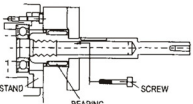
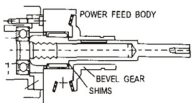
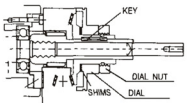
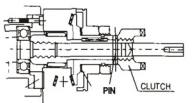
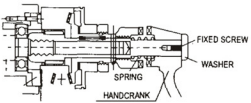
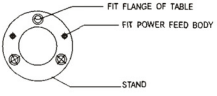


Installation Of T-Way Track For Cross Feed



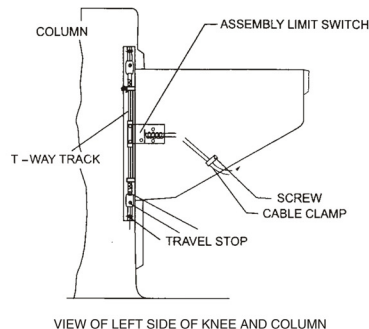
APPENDIX

How To Install Knee Lift Feed

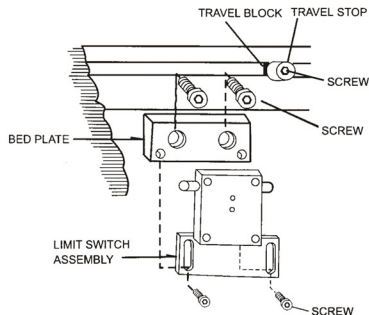
Step 1		Remove hand crank, dial, dial socket, bearing flange and so on.....
Step 2		Install extension shaft. Important: (1) Shaft end must be against inner ring of bearing. (2) Inner shaft is 16 or 18 threaded unc.
Step 3		Tighten stand to flange then tighten knee feed on the flange. Important: For angular positioning.
Step 4		Install gear key. Important: Use hand to push & turn bevel gear to check backlash. (1) If necessary add a few shims to obtain proper backlash. (2) Modify leading edge of gear to obtain proper backlash. Then repack gear with grease. Replace gear then push and turn to check for backlash.
Step 5		Remove the bevel gear after Step 4 is OK then install key, replace gear, install dial, and tighten dial nut (Add a few shims if dial is grinding the gear). Important: Pack with grease before installing the gear (Do not use silicon-type grease).
Step 6		Install check clutch against bevel gear then drive through one hole of 5mm dia. Then drive spring pin. Important: Be sure you have followed each step carefully and correctly before installing the spring pins. Suggestions: Install hand crank and rotate in clockwise direction to check for proper shimming and that there is no binding action.
Step 7		Install spring hand crank (already installed), then tighten washer and screw. Important: For operational safety, please lubricate this part and install as per instructions.
		

APPENDIX

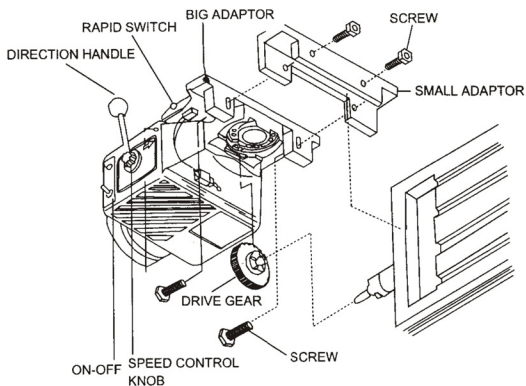
Installation Of T-Way Track For Knee Lift Feed



Limit Switch Assembly Instruction

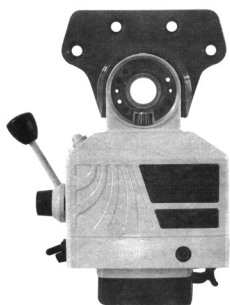


Longitudinal Feed-Horizontal Arrangement



Assembly:

1. Move the T-Table to the extreme left-hand position.
2. Remove the hand crank, dial and bearing flange from the T-Table.
3. If necessary, install an extension shaft appropriate for your T-Table and assemble the drive gear.
4. Remove the two screws (M8 x 25) from the small Adapter.
5. Assemble power feed horizontal to Big Adapter.
6. Adjust the position and clearance of Gears.
7. Tighten the screw on the Drive Gear.
8. Tighten the two screws (2-M8 x 25) of the Small Adapter.
9. Place some graphite grease onto the teeth of the Drive Gears.



TTC