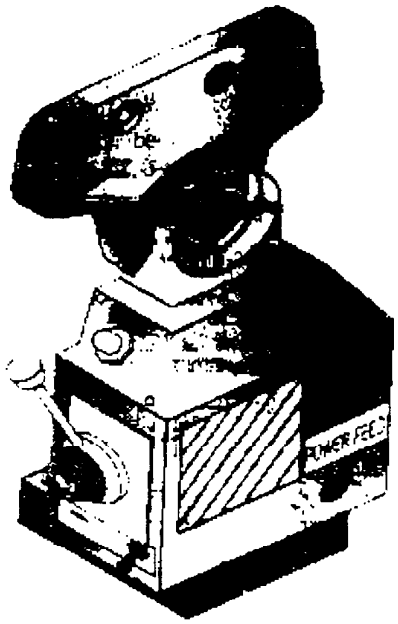
CENTRAL MACHINERY

TABLE POWER FEED

Model 38946

ASSEMBLY & OPERATING INSTRUCTIONS



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HARBOR FREIGHT TOOLS

3491 Mission Oaks Blvd. / Camarillo, CA 93011

For technical questions and replacement parts, please call 1-800-444-3353.

THANK YOU for choosing a **HARBOR FREIGHT TOOLS** product. For future reference, please complete the owner's record below:

Model_____ **Serial No.**_____ **Purchase Date**_____

SAVE THE RECEIPT, WARRANTY AND THESE INSTRUCTIONS. It is important that you read the entire manual to become familiar with the unit BEFORE you begin assembly.

Technical Specifications

Tool Name:	Table Power Feed-150 Lb. Torque
SKU:	38946
Torque:	150 Lb.
Motor:	115V, 60 HZ, Single Phase
Speed Range:	Variable 1 to 120 RPM
Single High Speed:	180 RPM

Must fit Milling Machines with 5/8" Diameter Leadscrew.

IMPORTANT SAFETY INSTRUCTIONS!

READ ALL INSTRUCTIONS BEFORE USING THIS PRODUCT!

Warning: The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that COMMON SENSE AND CAUTION ARE FACTORS WHICH CANNOT BE BUILT INTO THIS PRODUCT, BUT MUST BE SUPPLIED BY THE OPERATOR.

The Operator

PLEASE REMEMBER:

Do not operate the product if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment/reflexes might be impaired.

Do not wear loose clothing or jewelry as they can be caught in moving parts.

Protective gloves and non-skid footwear is recommended.

Wear restrictive hair covering to contain long hair.

Use eye and ear protection. Always wear ANSI approved impact safety goggles.

Maintain proper footing and balance at all times.

Do not abuse the power cord. Do not yank on cord to disconnect it from outlet. Keep the cord away from heat, oil and sharp edges.

Work Area

TO AVOID RISK OF PERSONAL INJURY, EQUIPMENT DAMAGE, FIRE AND SHOCK, MAKE SURE YOUR **WORK AREA** IS:

Free of damp, wet or rainy conditions.

Free of children (never let them handle tools or machinery).

Well-lit.

Clean and uncluttered.

Before Operating

Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function.

Before operating your Power Feed check for damaged parts. You should also make sure all clamps, locks and bolts are tight.

Use grounded receptacle only for 115 Volt hook-up.

Give the Power Feed a test run. If it makes an unfamiliar noise or vibrates irregularly, turn it off, unplug it and have the problem corrected by a qualified technician.

Make certain to turn off and unplug the Power Feed when doing any maintenance. The tool should always be turned off and unplugged when not in use.

Keep Guards in place and in working order.

Groundage/Voltage Warning

Common household current is 110-120 volts. As long as the outlet used with the Table Power Feed is rated from 110-120V there will be no complications using it with household receptacles. Plug the tool into a 110-120V properly grounded outlet protected by a 15-amp, dual element time delay or circuit breaker.

NEVER try to plug a 110-120V tool into a 220-240V circuit or serious complications and possible injury to the operator may occur. The plugs have different shapes to prevent this.

This tool has a three-prong plug. The third (round) prong is the ground. Cutting off the ground will result in a safety hazard and void the warranty.

If the outlet you are planning to use is the two-prong type, do not remove or alter the grounding prong in any manner. Use an adapter and always connect the grounding lug to a known grounding source. It is recommended that you have a qualified electrician replace the two-prong outlet with a properly grounded three- prong outlet.

Extension Cords

Your tool has a three-prong plug, therefore you must use a three-prong extension cord. Only use rounded jacket extension cords listed by the Underwriters Laboratories (UL). Improper use of extension cords may cause inefficient operation of your tool which can result in overheating. Be sure your extension cord is rated to allow sufficient current flow to the motor.

If you are using the tool outdoors, use an extension cord rated for outdoor use (signified by "WA" on the jacket).

The extension cord must have a minimum wire size depending on the amperage of the tool and the length of the extension cord. This size is determined by its AWG (American Wire Gauge) rating. The smaller the gauge, the greater the cable's capacity. The amount of cords used does not matter: Total length determines the minimum AWG rating. Every cord must meet the AWG rating. Use the chart below to determine what AWG rating is required for your situation. Cord length is rated in feet. **Harbor Freight Tools can supply UL listed and outdoor rated cords in multiple AWG ratings if needed.**

AWG RATING CHART

CORD LENGTH	***25'***	***50'***	***75'***	***100'***	***125'***	***150'***	***175'***	***200'***
AMPS	***AWG***	***AWG***	***AWG***	***AWG***	***AWG***	***AWG***	***AWG***	***AWG***
0-10.0	18	18	16	16	14	14	12	12
10.1-13.0	16	16	14	14	14	12	12	12
13.1-15	14	14	12	12	12	12	12	—
15.1-18	14	12	12	12	12	12	—	—

DO NOT MODIFY YOUR PLUG IN ANY WAY. IF YOU HAVE ANY DOUBT, CALL A QUALIFIED ELECTRICIAN.

Assembly

Refer to the Assembly Diagram (page 10) and Parts List (page 8 and 9) while assembling. Lay out all parts onto a clear section of your workbench prior to assembly.

Drive Unit Installation

While assembling this portion, please refer to Diagram 1 of the Manual.

Step 1) If your Table is equipped with a hand-crank, bearing flange and dial, remove these from your Table. Mount the Adapter (part #CL027) in the place of the Bearing Flange. Attach the Adapter to the Table using four Screws (part #CL018). Tighten the Screws.

Step 2) Slide the Inner Ring (part #CL007) over the lead screw and then insert into the Needle Bearing. Once completed, the Inner Ring should be touching the lead screw.

Step 3) Insert Key as it fits with the lead screw. Smear Graphite based grease onto the teeth of the Bevel Gear. Also grease the inner face of the Bevel Gear Flange. Press the Bevel Gear(part #CL004) up against the Drive Gear (part #BL09-04) using the Key.

Note: Install Shims (part #CL005) between the Inner Ring (part #CL007) and the Bevel Gear (part #CL004) as needed in order to shorten any existing gaps occurring during gear assembly.

Step 4) Install the appropriate Dial to the Bevel Gear (part #CL004). Make certain that the Dial and Bevel Gear do not touch! Use Shims as necessary. Screw the Nut (part #CL002) into the Bevel Gear to avoid any loosening of the Dial.

Step 5) Re-attach the Hand Crank removed in Step 1. Tighten the Bevel Gear using the Locking Nut (part # CL006).

Travel Stop Assembly

If appropriate, proceed with the following directions for assembly. Please see Figure 1 on page 6 of this manual.

Step 1) Remove your existing travel assembly and Limit Block.

Note: Make certain that both the rods of the Limit Switch Assembly (part #B05) and the Travel Stop assembly (part #B18) are on the same axis.

Operation

Never force the tool or attachment to do the work of a larger industrial tool. It is designed to do the job better and more safely at the rate for which it was intended.

Please refer to Figure #2, page 6, in this manual for operation.

Step 1) Make certain that the ON-OFF switch (part #CL034) is in the OFF position. Make certain that the Control Handle Assembly (part #B12) is in the MIDDLE position.

Step 2) Plug in the Power Feed as indicated in the sections having to do with Voltage and appropriate use of Extension Cords.

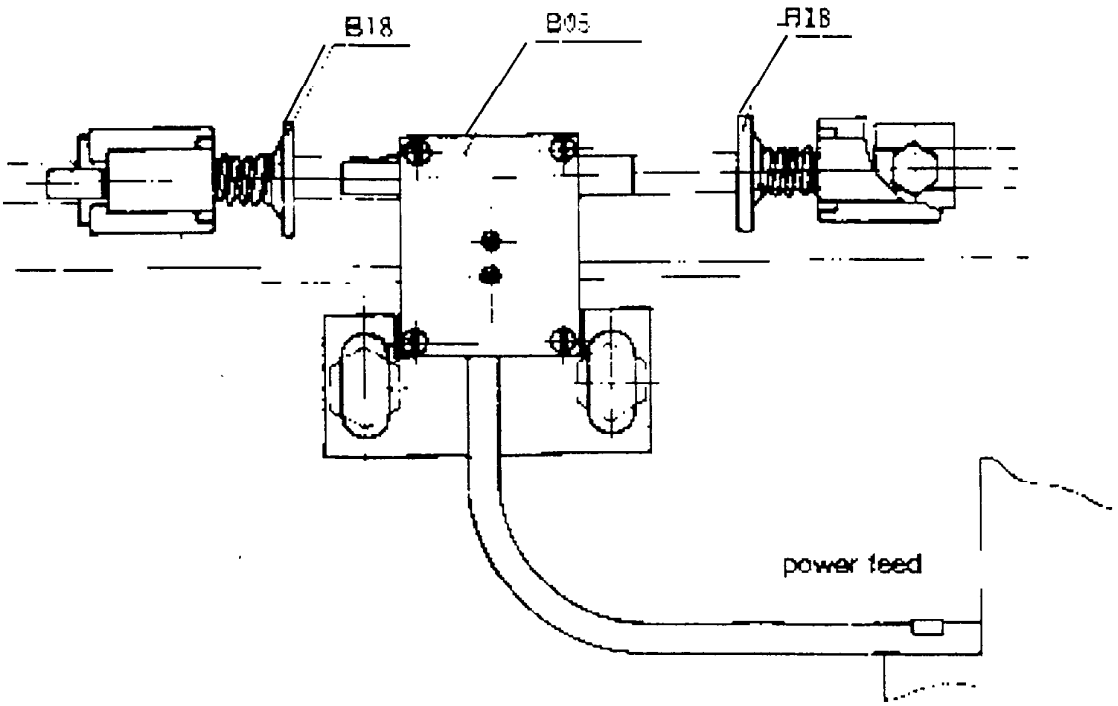
Step 3) Turn the ON-OFF switch to the ON position. The Light Transmitter (part #CL011) should light up.

Step 4) Set the Control Handle (part #B12) to the direction desired, so that the Table moves in the same direction. Set the Speed Control Assembly (part #B19) to it's lowest setting as you begin using the Power Feed. The position marked **0** is the STOP position and **9** is the highest speed. Turn the Control Knob clockwise in order to gradually increase speed.

NOTE: When changing the direction of the Table, turn the Control Handle to the Neutral Middle position until the Power Feed has come to a complete stop. Then adjust Control Handle to the direction desired.

Step 5) The Power Feed also comes with a Rapid Switch Button (part #B15) for fast moving of the Table. When pressed, the table will move at a faster speed.

Figure 1
Travel Stop Assembly (Part #B18)



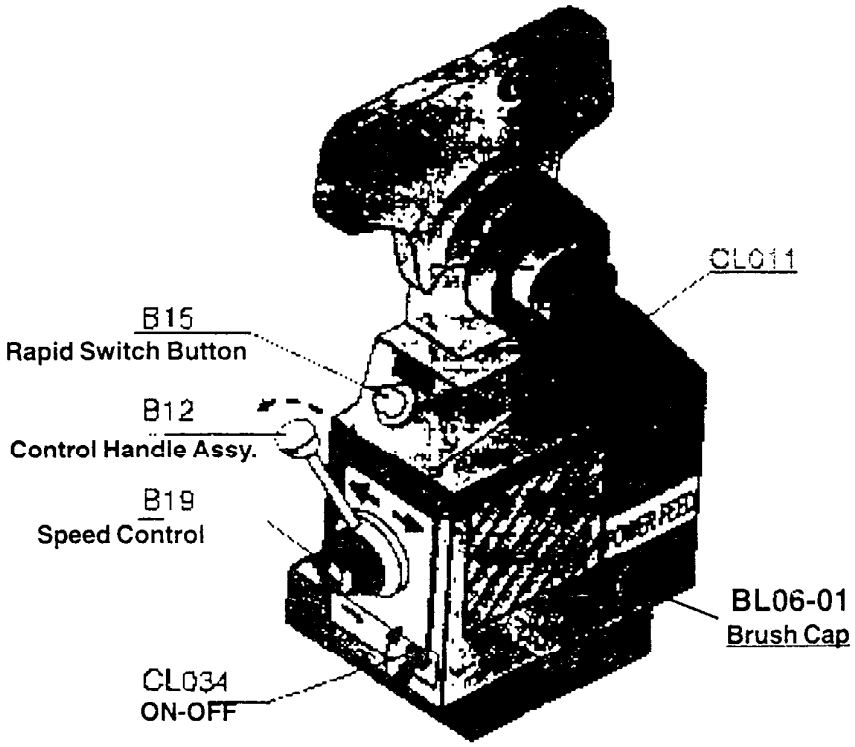


Figure 2

Replacement of Motor Brushes

Please refer to Figure 2 on prior page for location of Brush Cap.

Step 1) Using a screwdriver, remove the Brush Cap (part #BL06-01). When you remove the Brush Cap, the Brush (part #B04) may spring out. Do not lose the Brush. If a brush does not spring out, gently remove it using the tip of your screwdriver. Examine the Brush surface. The surface should be smooth and clean. If scratch marks appear, or if the brush is broken, replace the brush immediately with an approved replacement brush from Harbor Freight Tools.

Step 2) If the brushes appear to be in good shape yet are dirty, you may clean them off with a pencil eraser. Gently rub with the eraser until the dirt has been removed. Remove any eraser dust which may have occurred during cleaning.

Step 3) Re-install the Brush (part # B04) by inserting back into the Brush Holder. There is a spring and plug attached to the brush. Turn the plug until the prongs are vertical and push it a quarter of the way into the Brush Holder. Screw the Brush Cap back into the Brush Holder and tighten.

Maintenance

The gears need periodic greasing. At the outset, and after approximately every 250 hours of use, grease the Drive Gears as in Step 3 of the Drive Unit Installation section of this manual.

IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE, DO NOT OPERATE THE TOOL.

Unpacking

UNPACK AND CHECK CONTENTS

When unpacking your Power Feed, check to make sure the following parts are included. If any parts are missing or broken, please call **HARBOR FREIGHT TOOLS** at **1-800-444-3353.**

Part #	Description	Quantity	Part #	Description	Quantity
CL001	Top Housing	1	BL05-11	Screw M3 x 35	4
CL002	Nut	1	BL05-12	Screw M3 x 16	2
CL003	Shim	4	BL05-13	Shaft	1
CL004	Bevel Gear	1	BL05-14	Micro Switch	2
CL005	Shim	4	BL05-15	Crescent Ring	2
CL006	Locking Nut	1	B06	Brush Holder	2
CL007	Inner Ring 20 x 28	1	BL06-01	Brush Cap	2
CL008	Needle Bearing	1	B07	On-Off Name Plate	1
CL009	Circuit Breaker Support	1	B08	Micro Switch Assembly	1
CL009-01	Circuit Breaker	1	BL08-01	Micro Switch Holder	1
CL009-02	Circuit Breaker Cover	1	BL08-02	Micro Switch	1
CL009-03	Nut		BL08-03	Nut M3	2
CL010	Bushing Bearing	1	BL08-04	Screw M3 x 14	2
CL011	Light Transmitter	1	B09	Drive Gear Assembly	1
CL012	Hex Seal Boot	1	BL09-01	Drive Gear Shaft	1
CL013	Nut	1	BL09-02	Spring Pin	1
CL014	Lift Fork Shaft	1	BL09-03	Bearing	1
CL015	Crescent Ring	1	BL09-04	Drive Gear	1
CL016	Bushing Bearing	1	BL09-05	Spacer	1
CL017	Bottom Housing	1	BL09-06	Crescent Ring	1
CL018	Screw	4	B10	Lift Fork Assembly	1
CL019	Power Cord	1	BL10-01	Driving Shaft	1
CL020	Control Cord	1	BL10-02	Shaft Mount	1
CL021	Cord Clamp	4	BL10-03	Spring	1
CL022	Locking Nut	1	BL10-04	Clutch	1
CL023	Bottom Cover	1	BL10-05	Washer	1
CL024	Screw	1	BL10-06	Bearing	1
CL025	Nut M4	1	BL10-07	Spring Cover	1
CL026	Screw	1	BL10-08	Spring Pin	1
CL027	Adapter	1	BL10-09	Pin	1
CL028	Spring for Top Housing	1	B11	Lift Fork Assembly	1
CL029	Bearing Mount	1	BL11-01	Lift fork	1
CL030	Washer	1	BL11-02	Lift Fork Ring	1
CL031	Spring Pin 4 x 16	1	BL11-03	Lift Fork Ring Pin	1
CL032	Set Screw M4 x 6	2	BL12	Control Handle Assembly	1
CL033	Label	1	BL12-01	Control Handle Disc	1
CL034	On-Off Switch	1	BL12-02	Control Handle	1
CL034-01	Nut	1	BL12-03	Handle Knob	1
CL035	Cap of On-Off Switch	1	BL12-04	Set Screw	1
CL036	Nut	1	B13	Zytel Gear Assembly	1
CL037	Caution Label	1	BL13-01	Zytel Gear without hub	1
CL038	Label	1	BL13-02	Washer	1
CL039	Label	1	BL13-03	Hub of Zytel Gear	1
CL040	Screw M5 x 75	2	BL13-04	Sparing Washer	1
CL041	Label	1	BL13-05	Crescent Ring	1
B01	Micro Switch Assembly	1	B14	Range Speed Assembly	1

Parts List -Continued

BL01-01	Micro Switch Holder	1
BL01-02	Switch Actuator	1
BL01-03	Actuator 2 x 25	1
BL01-04	Micro Switch	2
BL01-05	Screw M3 x 30	2
BL01-06	Nut M3	2
BL01-07	Capacitor	1
B02	Cam Assembly	1
BL02-01	Cam	1
BL02-02	Spring Pin 2.5 x 16	1
B031	Motor Field Assembly	1
B032	Armature Assembly	1
B04	Brush	2
B05	Limit Switch Assembly	1
BL05-01	Hold Plate	1
BL05-02	Limit Switch Holder	1
BL05-03	Limit Plate	2
BL05-04	Actuator	2
BL05-05	Spring	1
BL05-06	Limit Switch Gasket	1
BL05-07	Actuator	1
BL05-08	Connecting Plate	1
BL05-09	Screw M3 x 6	1
BL05-10	Nut M3	1
BL14-01	Potentiometer Assembly	1
BL14-02	Ring of Potentiometer	1
BL14-03	Sarain of Potentiometer	1
BL14-04	Washer	2
BL14-05	Screw M4 x 6	2
B15	Rapid Switch Button	1
BL15-01	Rapid Switch Plunger	1
BL15-02	Rapid Switch Housing	1
BL15-03	Spring For Rapid Switch	1
BL15-04	Crescent Ring	1
B16	Circuit Board Assembly	1
B17	Circuit Board Insulator	1
B18	Travel Stop Assembly	2
BL18-01	Travel Stop	2
BL18-02	Travel Stop Base	2
BL18-03	Travel Stop Shaft	2
BL18-04	Spring	2
BL18-05	Bolt	2
BL18-06	Washer	2
BL18-07	Crescent Ring	2
B19	Speed Control Assembly	1
BL19-01	Speed Control Knob	1
BL19-02	Label of Speed Control	1
BL19-03	Set Screw	1

Assembly Diagram