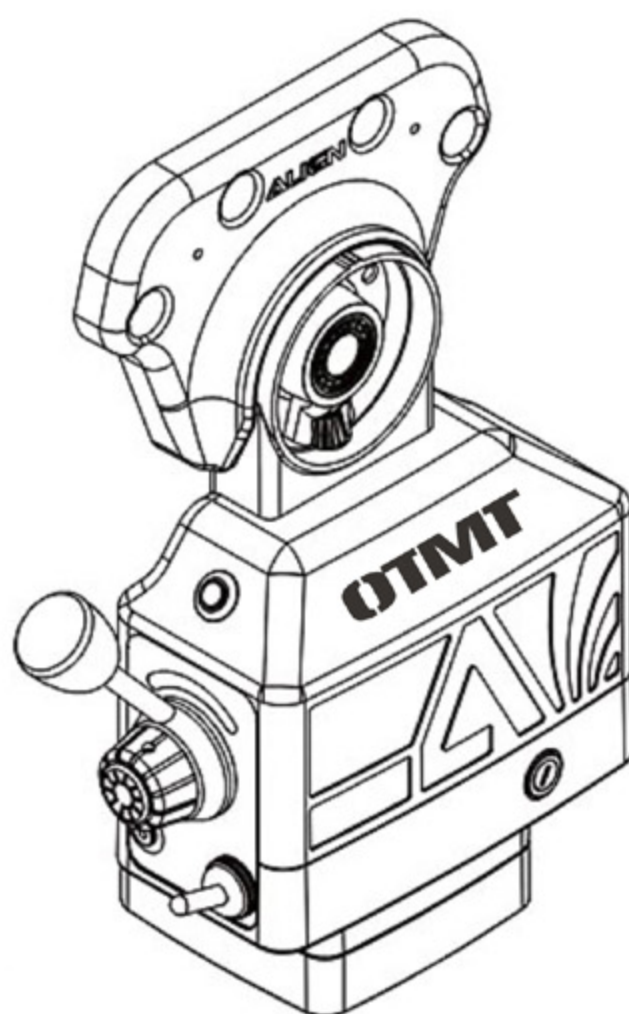


# OTMT

## SUPER POWER FEEDS OPERATION MANUAL

TYPE: AL/CE-500P



<b>ITEM NO.</b>	<b>MODEL NO.</b>
<b>80-200-350</b>	<b>SPF-X</b>
<b>80-200-355</b>	<b>SPF-Y</b>
<b>80-200-360</b>	<b>SPF-Z</b>

Version date: 04/29/2014

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

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## CONGRATULATIONS ON YOUR NEW PURCHASE OF OUR SUPER POWER FEED

Please read this manual carefully before installing and using the AL/CE-500P. It will help you to solve some easy problems by yourself. We hope our product will bring you more effectiveness and satisfaction when using your machine.

## SPECIFICATION

R.P.M	Max R.P.M	Bevel Drive Gear Rate	Max Torque	Rated Voltage	Rated Current
0~160	160	4.8 : 1	780 in-lb	110V 50/60Hz	1Amp

\* IF VOLTAGE IS 220V-440V, HAVE TO USE TRANSFORMER



## WARNING

Please make sure power supply is turned off before assembly.



Do not disassemble unit for any repairs while installed .



Please remove cutting tool item from machine before installing power feed.



Please make sure input voltage for power feed is A.C. 110V.



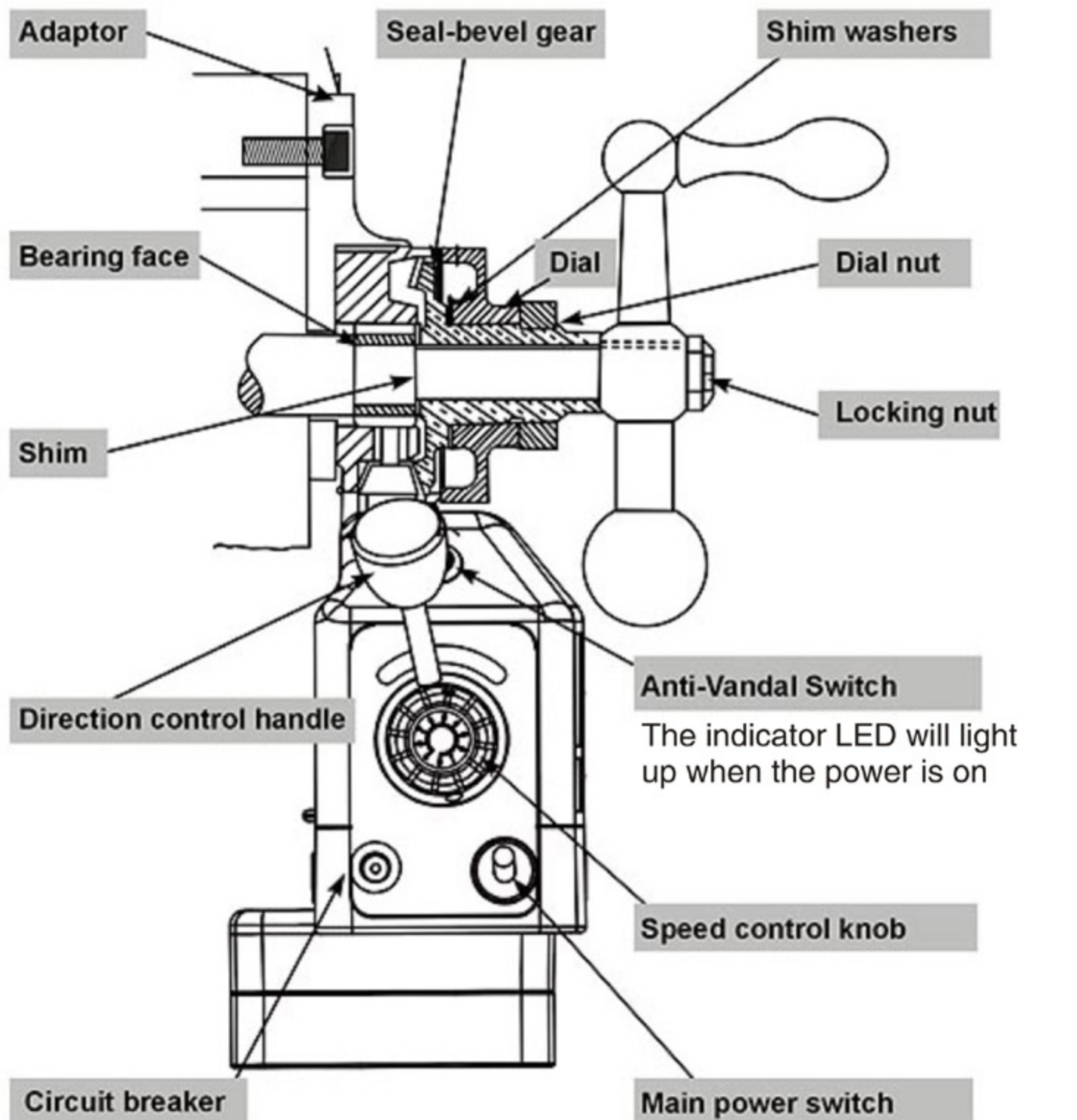
Make sure wire is clear of all obstacles.



Please don't set the power feed in a damp working zone and don't clean with water.



## HOW TO INSTALL THE LONGITUDINAL FEED (X AXIS)



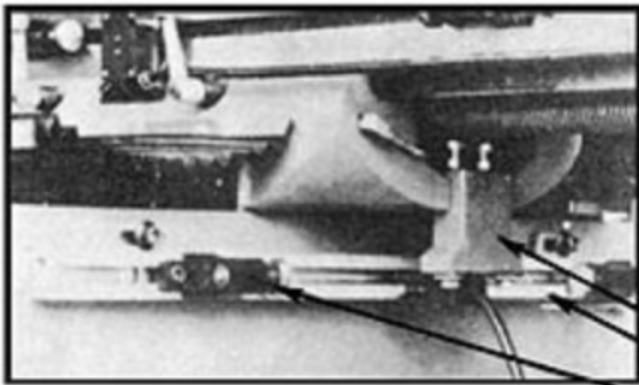
When the current passing through the switch is over 3.15A for 10 seconds, it will automatically break the circuit.

To continue the operation, press down the green button and the power indicator will glow.

"ON" position, power is "ON"  
"OFF" position, power is "OFF"

# HOW TO INSTALL CROSS FEED (Y AXIS)

## HOW TO INSTALL T-WAY TRACK FOR CROSS-FEED

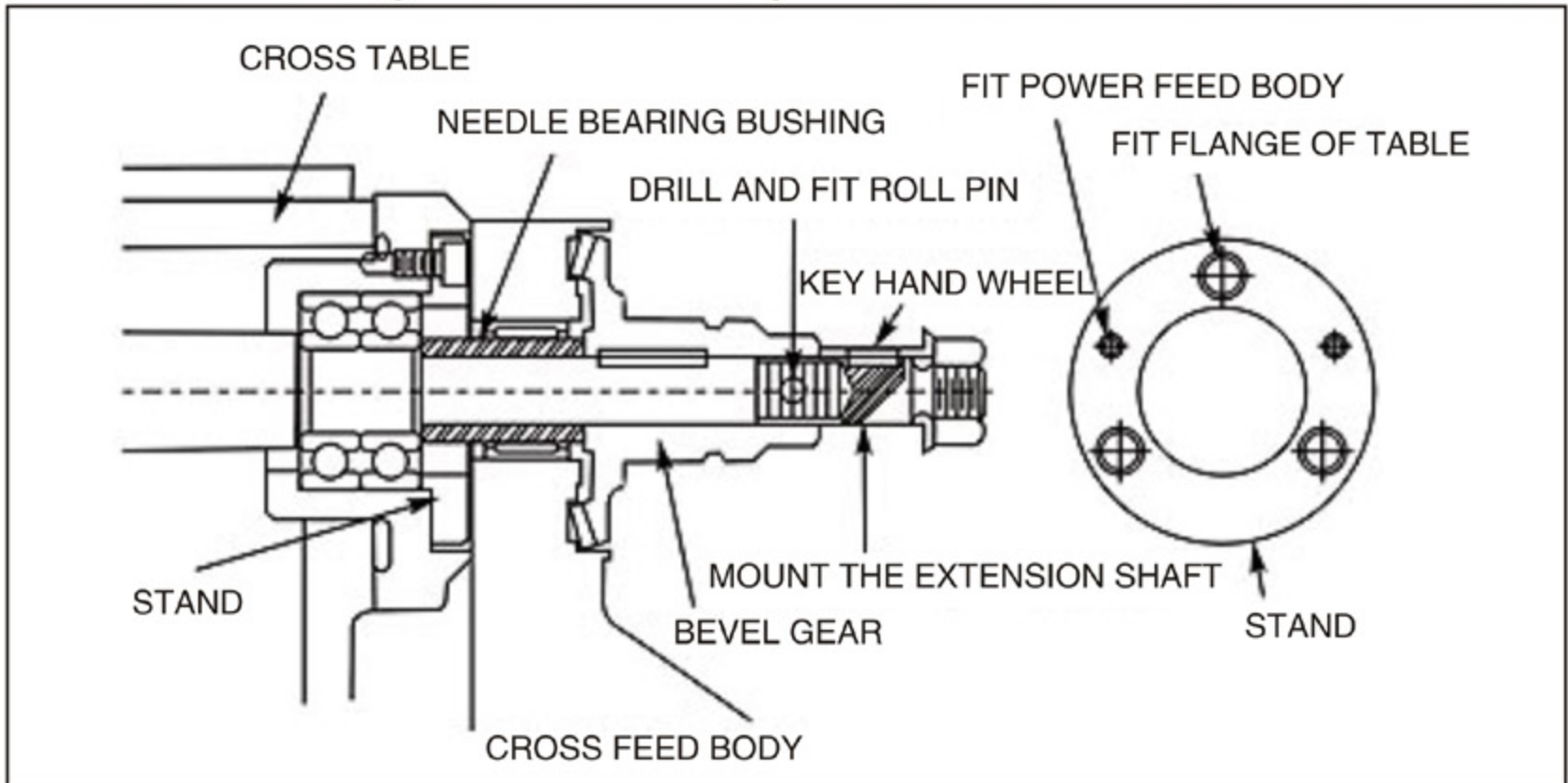


T-way bar and bracket for limit switch are designed for simple installation on cross slide.

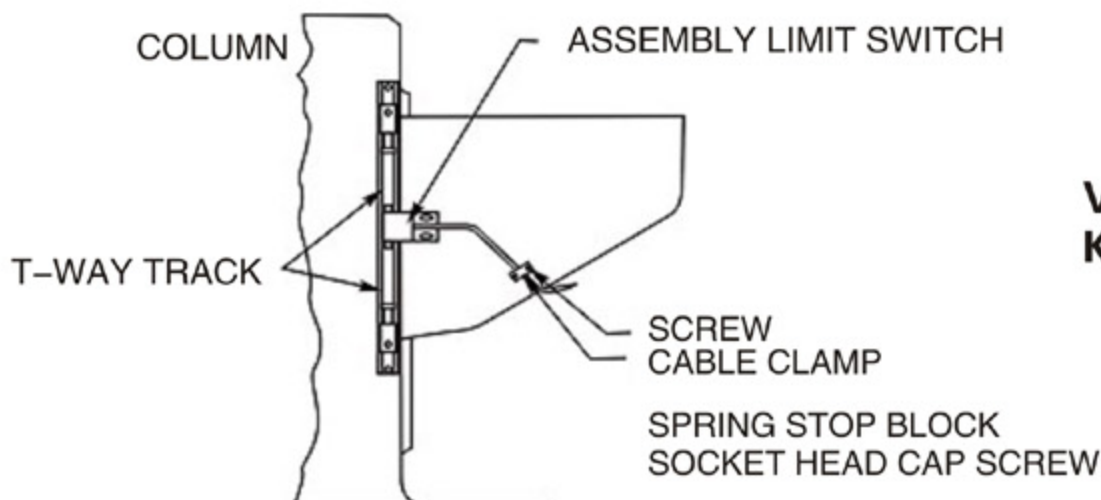
- FIXED SUPPORT
- T-WAY TRACK
- STOP BLOCK

## INSTALLATION INSTRUCTIONS

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

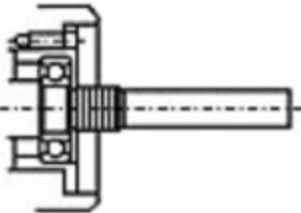
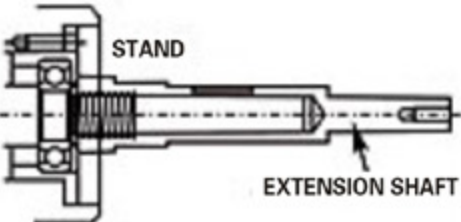
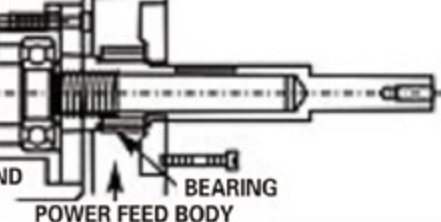
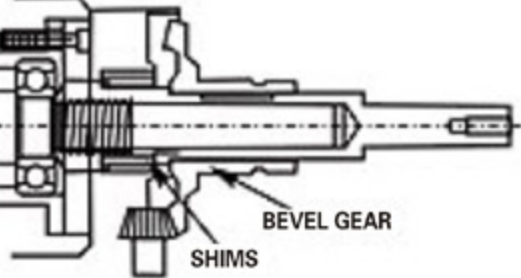
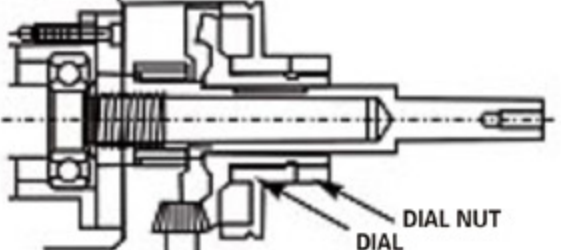
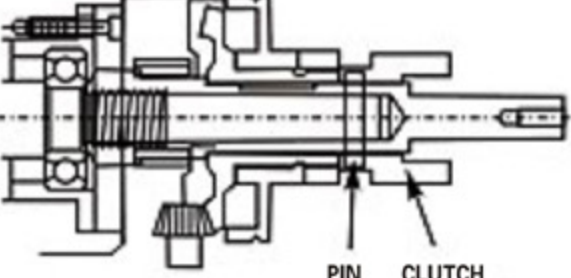

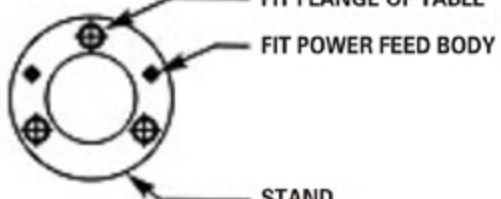


## HOW TO INSTALL T-WAY TRACK FOR KNEE-LIFT FEED



VIEW OF LEFT SIDE OF KNEE AND COLUMN

# HOW TO INSTALL KNEE LIFT FEED (Z AXIS)

<p>1.</p> 	<p><b>Note:</b> Remove hand crank, dial, dial socket, bearing flange, etc...</p>
<p>2.</p> 	<p><b>Note:</b> Install extension shaft. <b>Important:</b> (1) Shaft end must be against inner ring of bearing. (2) Inner shaft is 16 or 18 threaded unc.</p>
<p>3.</p> 	<p><b>Note:</b> Tighten stand to flange then tighten knee feed on the flange. <b>Important:</b> For angular positioning.</p>
<p>4.</p> 	<p><b>Note:</b> Insert the key in the key way on the Lead Screw. <b>Important:</b> Use hand to push &amp; 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.</p>
<p>5.</p> 	<p><b>Note:</b> 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. <b>Important:</b> Pack with grease before installing the gear (Do not use silicon-type grease).</p>
<p>6.</p> 	<p><b>Note:</b> Install check clutch against bevel gear then drive through one hole of 5mm dia. Then drive spring pin. <b>Important:</b> Be sure you have followed each step carefully and correctly before installing the spring pins. <b>Suggestions:</b> Install hand crank and rotate in clockwise direction to check for proper shimming and that there is no binding action.</p>
<p>7.</p> 	<p><b>Note:</b> Install spring, handcrank (already installed), then tighten washer and screw. <b>Important:</b> For operational safety, please lubricate this part and install as per instructions.</p>
	



## LIMIT ASSEMBLY

### CAUTION

1. It will damage the gear of the power feed if you suddenly change the direction of the power feed by pushing the direction control handle while the machine is under high-speed operation.  
If you intend to change the direction, please push the handle to the "off" position.  
Wait until the machine is completely stopped, then push the handle to your intended direction.
2. Please make sure the position of the stop screw for your milling machine is kept on "loose" status.
3. While the power feed is under operation, do not use the manual controls.
4. To check limit switch while the power feed is on, press the button on 1 side, and it should stop. Then check the other side also. If it does not stop, recheck the wiring.

## PARTS LIST

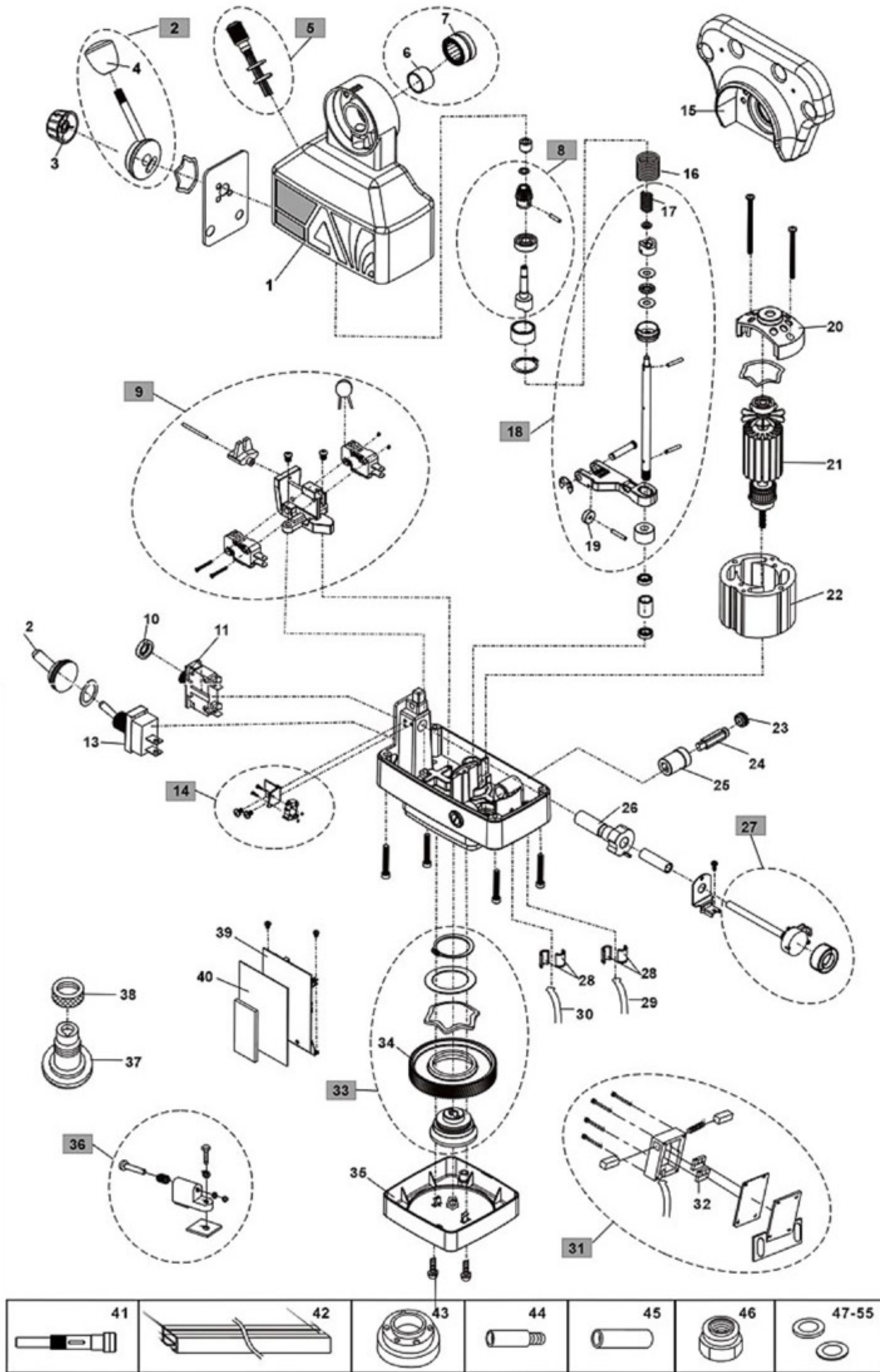
NO.	PART NAME	PART NO.	SPECIFICATION	REMARK
1	AL/CE-500P TOP HOUSING	PT000-12		
2	180° CONTROL HANDLE	P01810-12		
2	90° CONTROL HANDLE	P01816-12		
3	SPEED CONTROL KNOB	P01811-03	Φ 35.5xΦ 29.9x19mm	
4	HANDLE KNOB	E0913-03	Φ 31.8x33mm	
5	ANTI-VANDAL SWITCH	C0509		
6	INNER RING	A0101B	Φ 24x16mm	
7	NEEDLE BEARING	A0101C	Φ 24xΦ 32x16mm	
8	AL/CE-500P UPPER CLUTCH ASSEMBLY	PT 200		
9	DIRECTION SWITCH ASSEMBLY	C0501-6V		
10	CAP OF CIRCUIT BREAKER	A0102-01		
11	CIRCUIT BREAKER	A0102	3.15A 125V AC	
12	CAP OF ON-OFF SWITCH	E0907-01	Φ 21xΦ 11x25mm	
13	ON-OFF SWITCH	E0907	R13-25A	
14	BRAKE SWITCH ASSEMBLY	C0508	6A 125V-250AC	
15	AL-500P ADAPTOR	PZ001-13		
16	SPRING FOR TOP HOUSING	A0112	Φ 11.5xΦ 1.4x20mm	
17	SPRING OF CLUTCH	A0301-05	8.5x11.5x20mm	
18	LIFT FORK ASSEMBLY	Pb300		
19	LIFT FORK RING	P01028		
20	ARMATURE MOUNT	P01082		
21	SP ARMATURE ASSEMBLY	P01907		
22	MOTOR FIELD	E0926V		
23	CARBON BRUSH CAP	E0906	Φ 11.7xΦ 5x5mm	

# PARTS LIST

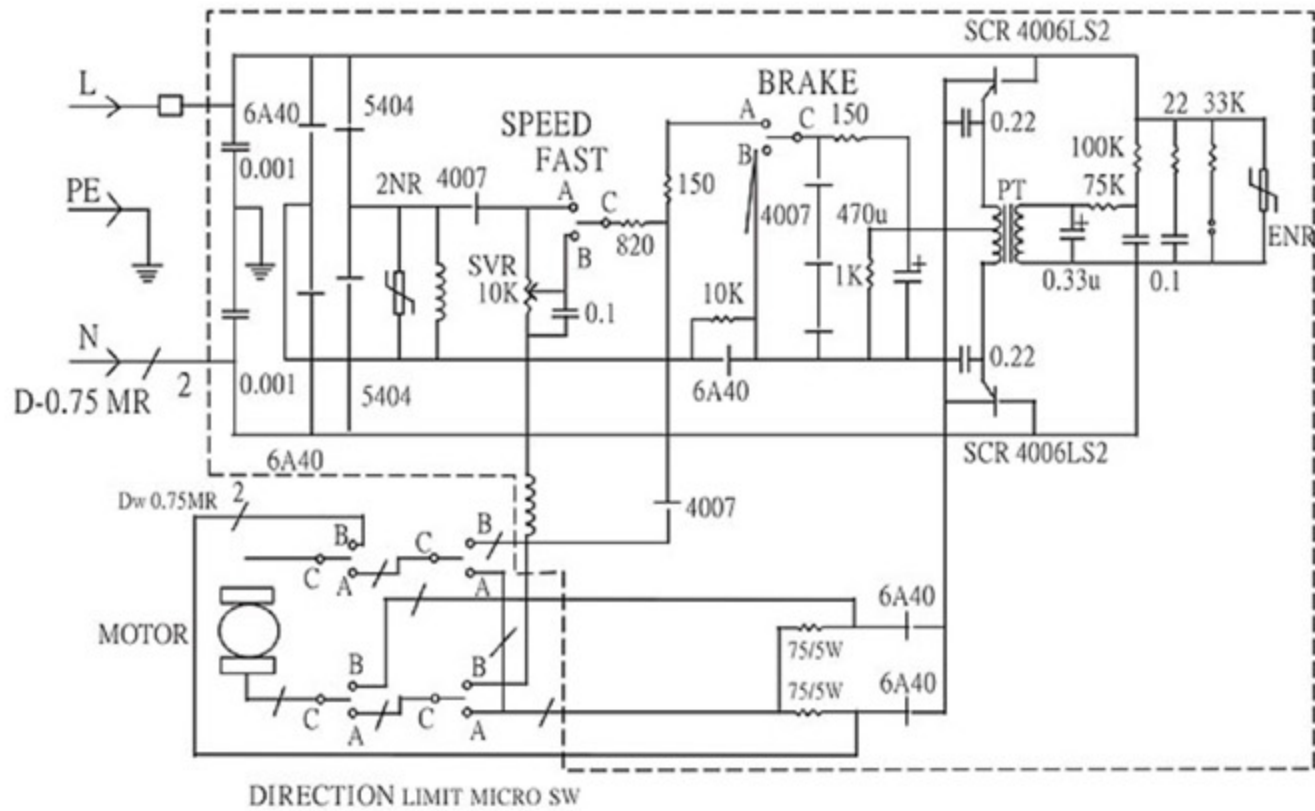
NO.	PART NAME	PART NO.	SPECIFICATION	REMARK
24	BRUSH	E0905	Φ8x6.1x37.5	
25	CARBON BRUSH HOLDER	P01004	Φ16.6xΦ15.4x22.5mm	
26	500P CAM ASSEMBLY	E0902V		
27	POTENTIOMETER ASSEMBLY	P01905	10K	
28	STRAIN RELIEF	E0917		
29	CONTROL CORD	E24002	0.75x4Cx1.7M	
30	POWER CORD	E23017	0.75x3Cx2.7M	
31	AL LIMIT SWITCH ASSEMBLY	P01910-AL		
31	CE LIMIT SWITCH ASSEMBLY	P01910-CE		
32	MICRO SWITCH	F1104	10.1A 250AC	
33	PLASTIC GEAR ASSEMBLY	PB800		
34	PLASTIC GEAR	PB801	Φ91.5x15x107T	
35	AL-500P/AL500D BOTTOM COVER	P01809LS-03		
36	X AXIS TRAVEL STOP ASSY	P01916-1		2 PCS
36	Y.Z AXIS TRAVEL STOP ASSY	P01916		
37	BEVEL GEAR X/Y (STANDARD)	P01017	5/8"x1/8"	
37	BEVEL GEAR Z (STANDARD)	P01032	22x4mm	
37	BEVEL GEAR	P01054	20x6	
38	BEVEL GEAR NUT	A0100-01	1/4"x20W	
39	JC-10A CIRCUIT BOARD	PB400		
40	CIRCUIT BOARD INSULATOR	E0918V	100x70xT1mm	
41	EXTENSION SHAFT (Z)	P01922	16T	STANDARD
41	EXTENSION SHAFT (Z)	P01929	20T	
42	T-WAY TRACK	A0301-15A	59.5cm	
42	T-WAY TRACK	A0301-15B	66.5cm	
42	T-WAY TRACK	A0301-15D	29.5cm	2 PCS
43	ALUM STAND	PFB-01	28T	
43	ALUM STAND	PFB-02	35T	
43	IRON STAND	PFB-18	13T	
44	EXTENSION SHAFT	PFB-07	L69mm	
44	EXTENSION SHAFT	PFB-08	L80mm	
44	EXTENSION SHAFT	PFB-16	L60mm	
45	EXTENSION SHAFT RING	PFB-03	L40mm	
45	EXTENSION SHAFT RING	PFB-04	L54.7mm	
45	EXTENSION SHAFT RING	PFB-09	L27mm	
46	NUT	PFR-76A	1/2-20x14.3mm	
47	WASHER	A0100-02A	Φ45xΦ34x0.2mm	
48	WASHER	A0100-02B	Φ45xΦ34x0.4mm	
49	WASHER	A0100-02C	Φ45xΦ34x0.6mm	
50	WASHER (COPPER)	A0100-02D	Φ45xΦ34x0.1mm	
51	WASHER	A0100-04A	Φ23.5Φ16x0.2mm	
52	WASHER	A0100-04B	Φ23.5Φ16x0.4mm	
53	WASHER	A0100-04C	Φ23.5Φ16x0.6mm	
54	WASHER (COPPER)	A0100-04E	Φ23.5Φ16x0.1mm	
55	WASHER	A0100-07A	Φ25.4Φ16x2mm	
56	PARTS KIT (X)	P01911		
57	PARTS KIT (Y)	P01912		
58	PARTS KIT (Z)	P01913		



# SCHEMATIC DIAGRAM OF PARTS



# CIRCUIT DIAGRAM AL/CE-500P



## TROUBLE SHOOTING

### THE POWER FEED DOES NOT WORK AND THE POWER INDICATOR DOES NOT GLOW:

1. Ensure there is no problem with power supply.
2. Check if the circuit breaker on the power feed unit kicked out.
3. Check for proper contact at the ON-OFF switch.

### THE MOTOR DOES NOT WORK WHEN MOVING DIRECTION LEVER TO EITHER LEFT OR RIGHT:

1. Open power feed unit by loosening bottom 4 hex screws.
2. Check if the carbon brush is making proper contact with the armature or if carbon brush is all used up already.
3. Check that internal wiring to the printed circuit board is all connected.
4. Check that the potentiometer connections are intact and that it is functioning properly.

### SPEED CONTROL ERRATIC OR ALWAYS AT HIGH SPEED ONLY:

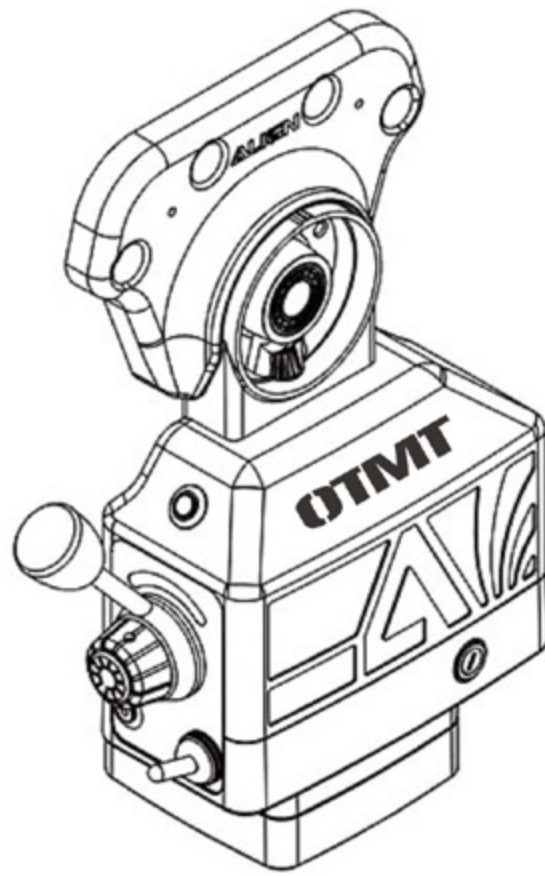
1. Check rapid micro switch. Make sure it is not stuck. If its position is too high up, lightly tap on it to lower.
2. Check V.R. is in good connection and functioning properly.

### BREAKER ALWAYS KICKS OUT ON POWER FEED UNIT UNDER NORMAL USAGE:

Short circuit in the armature; needs to be replaced with new armature.

### CURRENT LEAKAGE:

1. Check limit switch assembly for possible short.
2. Check armature by first removing the brush cap.
3. Measure for short with an ohmmeter across the carbon brush and the outer cover of the power feed unit.



**OTMT**