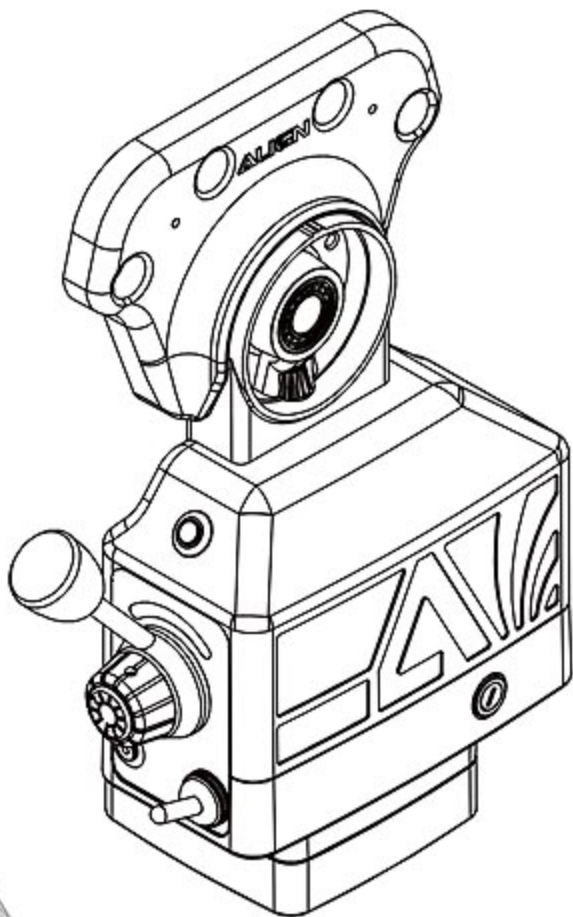


# **ALIGN**

## **POWER TABLE FEED OPERATION MANUAL**

**AL/CE-500P**



# CONTENT

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## CONGRATULATIONS ON YOUR NEW PURCHASE OF OUR POWER FEED

Please read this manual carefully before installation and using it. It will also help you to solve some easy problems by yourselves. Hope our product will bring you more effective and joyful working.

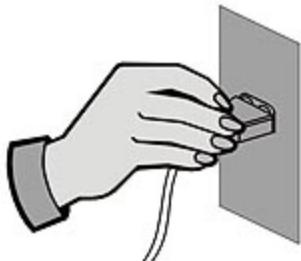
## SPECIFICATION

| Model      | R.P.M | Max R.P.M | Bevel Drive Gear Rate | Max Torque | Rated Voltage | Rated Current |
|------------|-------|-----------|-----------------------|------------|---------------|---------------|
| AL/CE-500P | 0~160 | 160       | 4.8 : 1               | 780 in-lb  | 110V 50/60Hz  | 1Amp          |

**VOLTAGE AS 220V-440V HAVE TO ADOPT TRANSFORMER**

# WARNING

Please make sure if power supply be turned off before assembly, and avoid from accident caused during procedure of assembly.



Please don't disassemble for fixing or refitment and free from accident or break down caused by unhealth assembly.



Please take apart the drill and remove worked item before assembly.



Please make sure input voltage for power feed as A.C.110V and avoid wrong power then burn down circuit board, except A.C. 110V, please adopt the transformer.



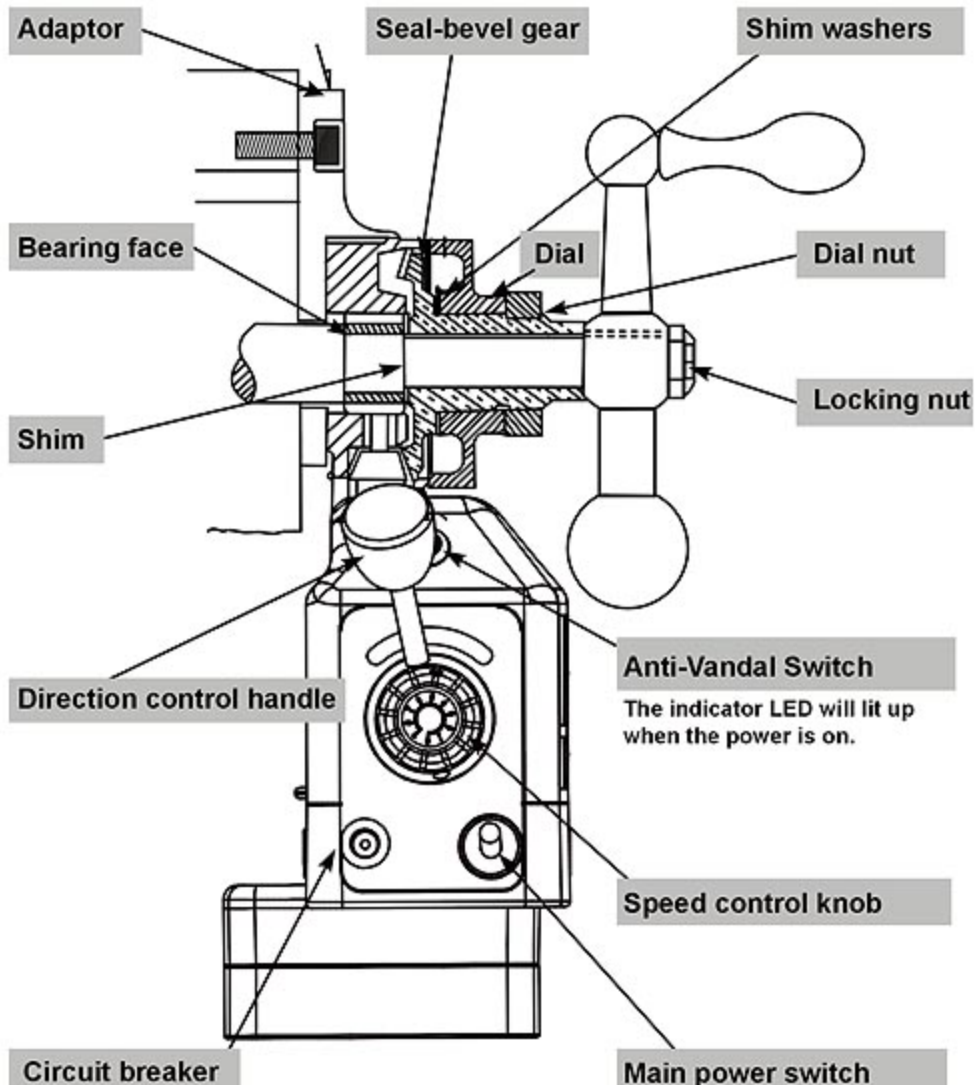
Please adjust suitable length of cord and watch out the wiring, never pressure power cord by clog then ambroin broken case short or spark.



Please don't set the power feed in excessive wettish working zone and don't wash down the power feed by water or water shipped then cause short or spark.



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



### Circuit breaker

When the current passing through the switch is over 3.15A within 10 seconds, it will automatically break the circuit. To continue the operation, press down the green-pusher and the power indicator will glow.

### Anti-Vandal Switch

The indicator LED will lit up when the power is on.

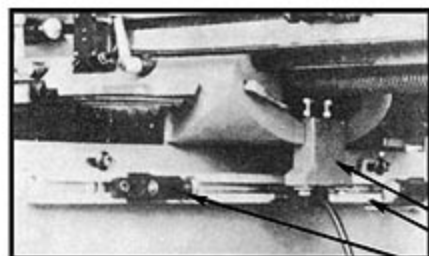
### Speed control knob

### Main power switch

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

# HOW TO INSTALL CROSS FEED(Y TYPE)

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

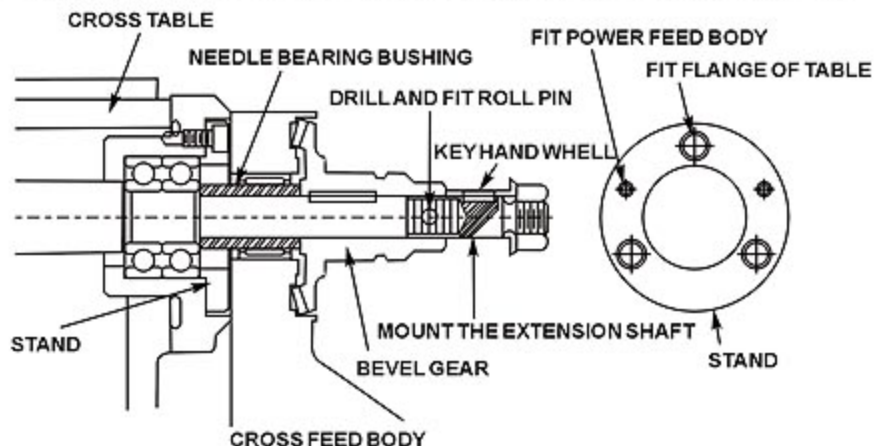


T-way bar and bracket for limit switch are designed for simple installation on cross slide.

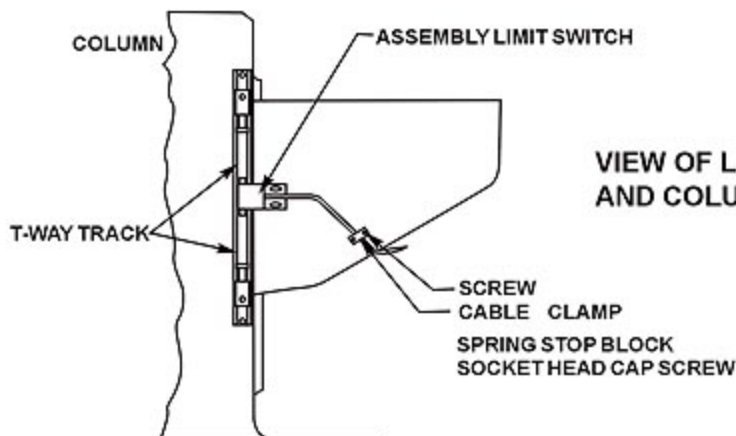
FIXED SUPPORT  
T-WAY TRACK  
STOP BLOCK

## INSTALLATION INSTRUCTIONS

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



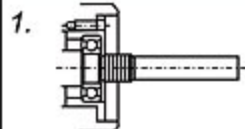
## HOW TO INSTALL T-WAY TRACK FOR KNEE-LIFT FEED



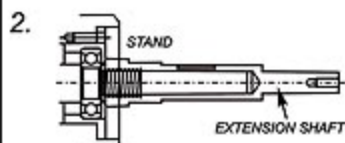
VIEW OF LIFT SIDE OF KNEE  
AND COLUMN



# HOW TO INSTALL KNEE LIFT FEED(Z TYPE)



Note : Remove hand crank, dial, dial socket, bearing flange and...Etc.



Note : Install extension shaft.

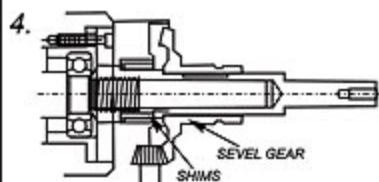
Important :

1. Shaft end must be against inner ring of bearing.
2. Inner shaft is 16 or 18 threaded unc.



Note : Tighten stand to flange then tighten knee feed on the flange.

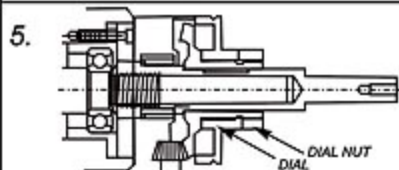
Important : For angular positioning.



Note : Install gear key not in.

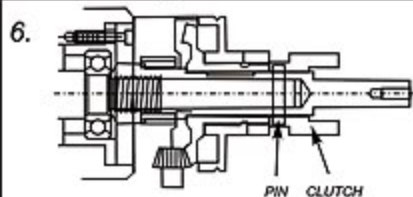
Important : Use hand to push & turn bevel gear to check backlash.

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.



Note : Remove the bevel gear after STEP 4 is O.K. then install key, replace gear, install dial, and tighten dial nut. Add a few shim if dial is grinding the gear.

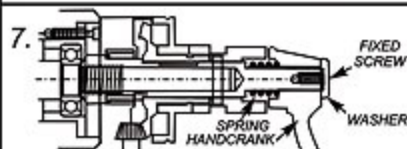
Important : Pack with grease before installing the gear. Do not use silicon-type grease.



Note : Install check clutch against bevel gear then drive through one hole of 5mm Dia. Then drive spring pin.

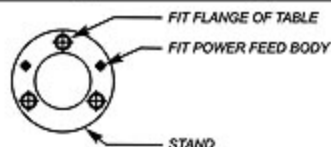
Important : Be sure you have followed each step carefully and correctly before installing the spring pins.

Suggestions : Install hand crank rotate in clockwise direction to check for proper shimming and that there is no binding action.



Note : Install spring handcrank (already installed), then tighten washer and screw.

Important : For operational safety, please lubricate this part and install as per instructions.



# ASSY-LIMIT ASSEMBLY

## CAUTION

- 1.It will damage the gear of power feed if you suddenly change the direction of 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.  
Waiting 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 keeping on "loose" status.
- 3.While the power feed is under operation, please don't change to use manual control the direction suddenly.
- 4.POWER FEED can only move to one direction.  
Check : If ASSY-LIMIT SWITCH is normal.
- 5.Touch ASSY-LIMIT SWITCH POWER FEED in-between the TABLE and unable to stop it.  
CHECK : If ASSY-LIMIT SWITCH is normal.

## PARTS LIST

| NO. | PART NAME                       | PART NO.  | SPECIFICATION       | REMARK |
|-----|---------------------------------|-----------|---------------------|--------|
| 1   | AL/CE-500P TOP HOUSING          | PT000-12  |                     |        |
| 2   | 180 ° CONTROL HANDLE            | P01810-12 |                     |        |
|     | 90 ° CONTROL HANDLE             | P01816-12 |                     |        |
| 3   | SPEED CONTROL KNOB              | P01811-03 | φ 35.5x φ 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 24x φ 32x16mm     |        |
| 8   | AL/CE-500P UPPER CLUTCHASSEMBLY | PT 200    |                     |        |
| 9   | DIRCTION 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 21X φ 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 11.5X φ 1.4X20mm  |        |

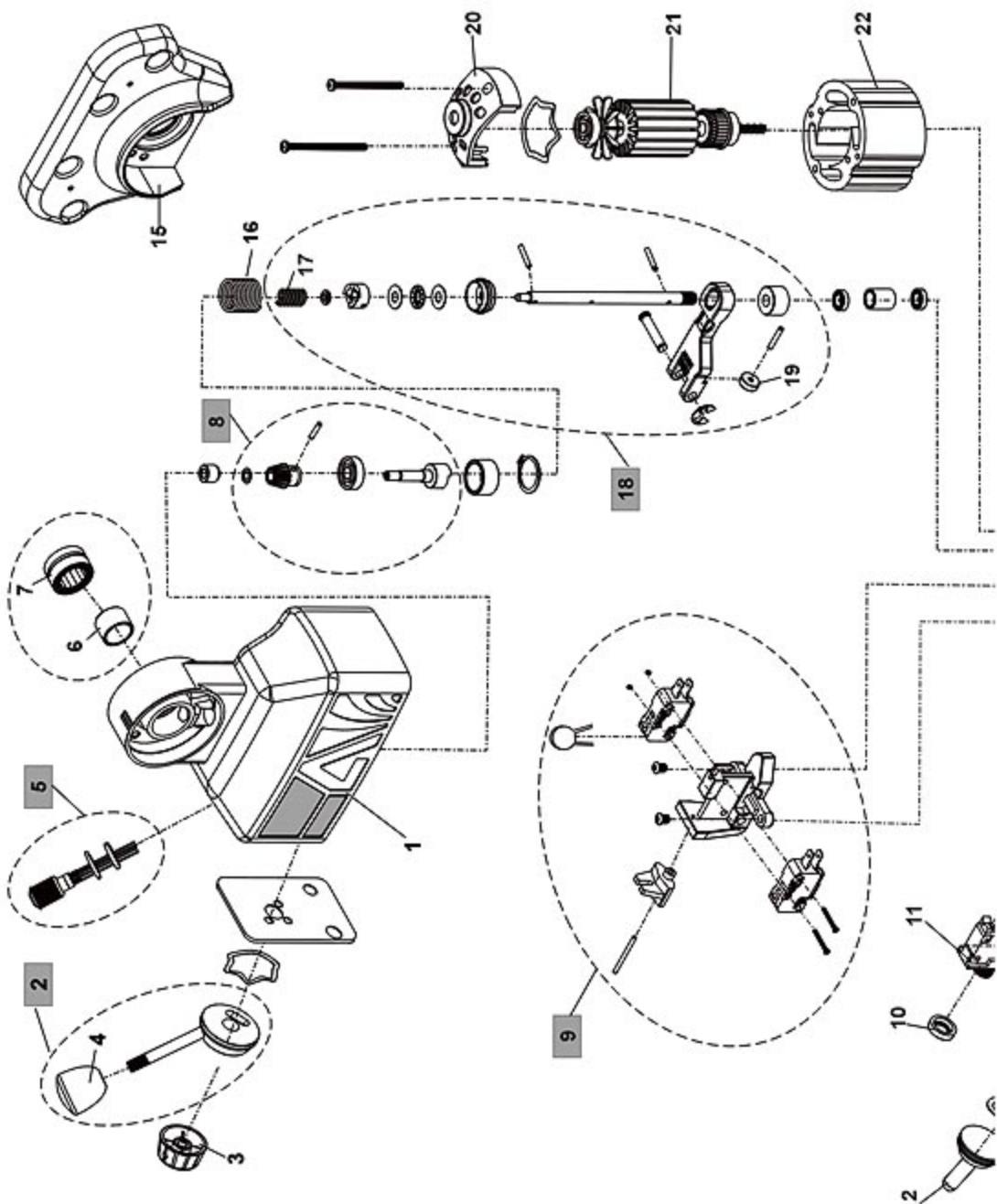
# PARTS LIST

| NO. | PART NAME                   | PART NO.    | SPECIFICATION         | REMARK   |
|-----|-----------------------------|-------------|-----------------------|----------|
| 17  | SPRING OF CLUTCH            | A0301-05    | 8.5X11.5X20mm         |          |
| 18  | LIFT FORK ASSEMBLY          | PB300       |                       |          |
| 19  | LIFTFORK RING               | P01028      |                       |          |
| 20  | ARMATURE MOUNT              | P01082      |                       |          |
| 21  | SP ARMATURE ASSEMBLY        | P01907      |                       |          |
| 22  | MOTOR FIELD                 | E0926V      |                       |          |
| 23  | CARBON BRUSH CAP            | E0906       | φ 11.7X φ 5X5mm       |          |
| 24  | BRUSH                       | E0905       | φ 8X6.1X37.5          |          |
| 25  | CARBON BRUSH HOLDER         | P01004      | φ 16.6X φ 15.4X22.5mm |          |
| 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   |                       |          |
|     | CE LIMIT SWITCH ASSEMBLY    | P01910-CE   |                       |          |
| 32  | MICRO SWITCH                | F1104       | 10.1A 250AC           |          |
| 33  | PLASTIC GEAR ASSEMBLY       | PB800       |                       |          |
| 34  | PLASTIC GEAR                | PB801       | φ 91.5X15X107T        |          |
| 35  | AL-500P/AL500D BOTTOM COVER | P01809LS-03 |                       |          |
| 36  | X AXIS TRAVEL STOP ASSY     | P01916-1    |                       | 2 PCS    |
|     | Y.Z AXIS TRAVEL STOP ASSY   | P01916      |                       |          |
| 37  | BEVEL GEAR X/Y (STANDARD)   | P01017      | 5/8" x1/8"            |          |
|     | BEVEL GEAR Z (STANDARD)     | P01032      | 22x4mm                |          |
|     | 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 |
|     | EXTENSION SHAFT (Z)         | P01929      | 20T                   |          |
| 42  | T-WAY TRACK                 | A0301-15A   | 59.5cm                |          |
|     | T-WAY TRACK                 | A0301-15B   | 66.5cm                |          |
|     | T-WAY TRACK                 | A0301-15D   | 29.5cm                | 2 PCS    |
| 43  | ALUM STAND                  | PFB-01      | 28T                   |          |
|     | ALUM STAND                  | PFB-02      | 35T                   |          |

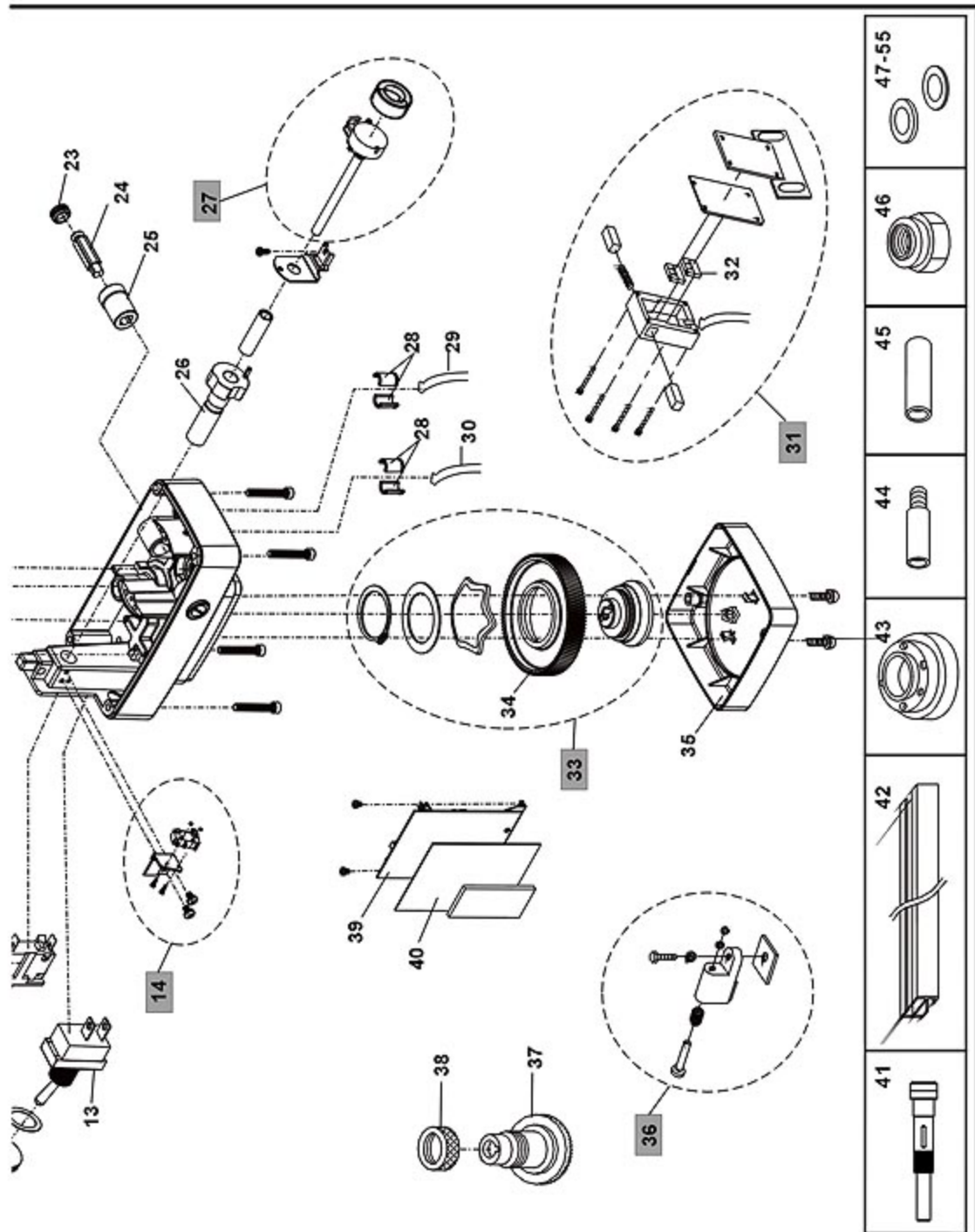




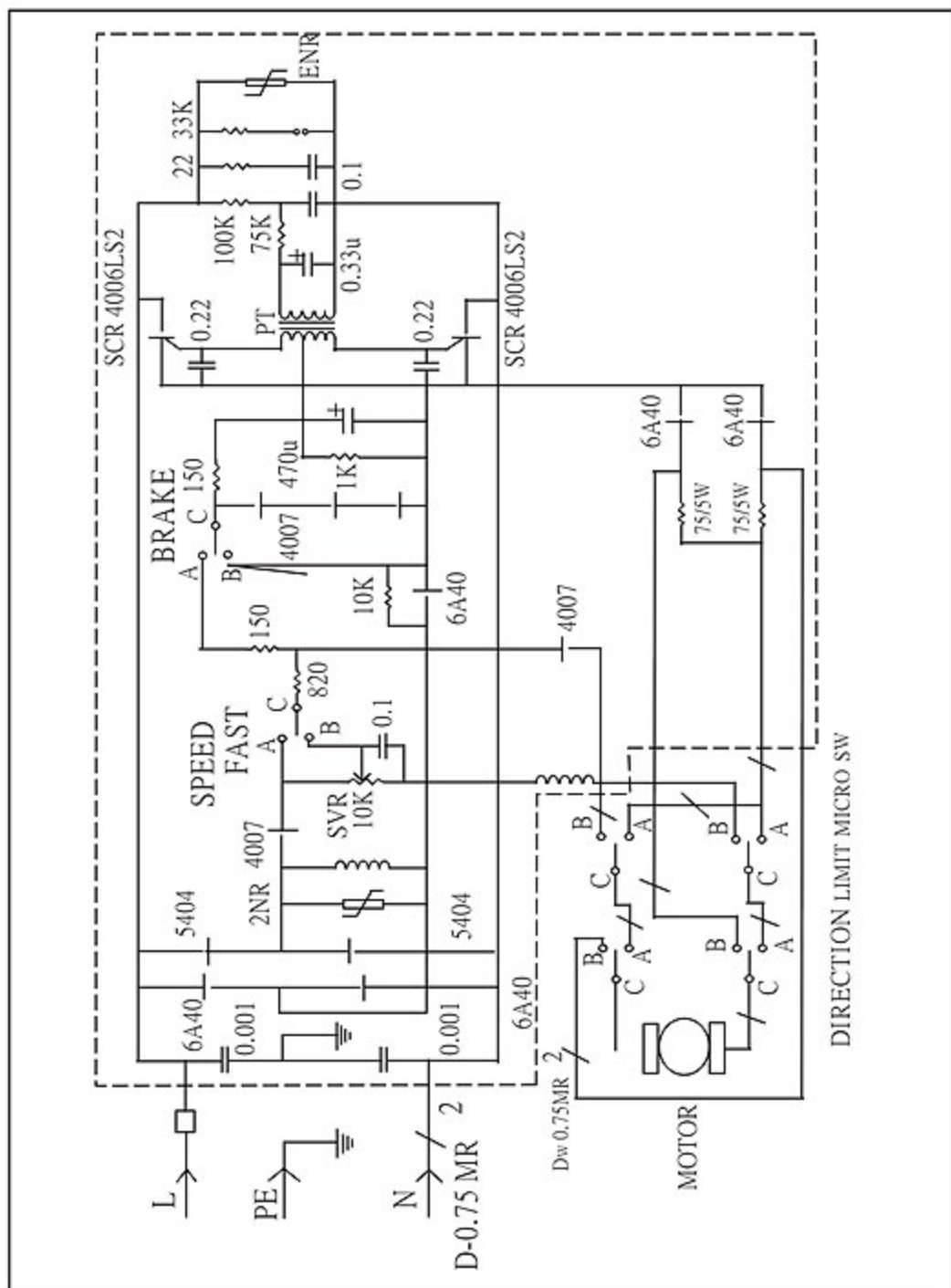
# SCHEMATIC DIAGRAM OF PARTS



# SCHEMATIC DIAGRAM OF PARTS



# CIRCUIT DIAGRAM ALICE-500P

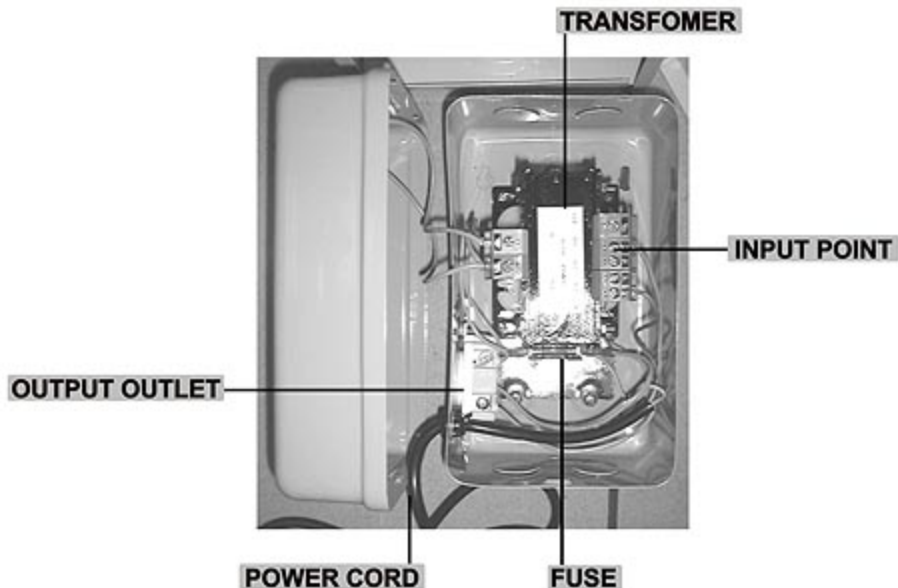


# HOW TO INSTALL TRANSFORMER OF TR-1 (ONE OUTPUT)

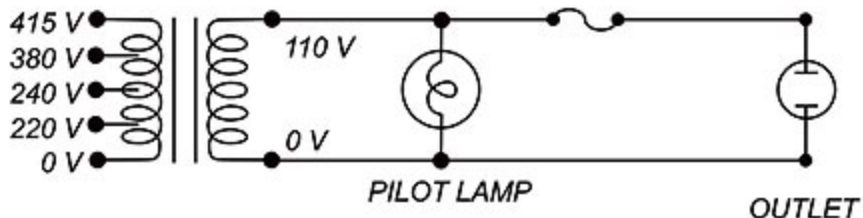
TRANSFORMER OF TR-1 IS USED FOR 220V, 240V, 380V AND 415V THEN TRANSFER TO 110V. ATTACHING POWER PILOT LAMP AND ONE OUTPUT OUTLET.

## ASSEMBLING GUIDE :

1. Make sure the voltage of working environment.
2. Choose the exact input point and well fix up.
3. Make sure whole screws of transformer are well locked.
4. Setting transformer on stable and dry wall.
5. Collecting cable and wire on the wire box of working place.
6. Keep from accident caused, don't disassemble and refit locked parts or wiring of transformer when assembly proceeding.



## CIRCUIT



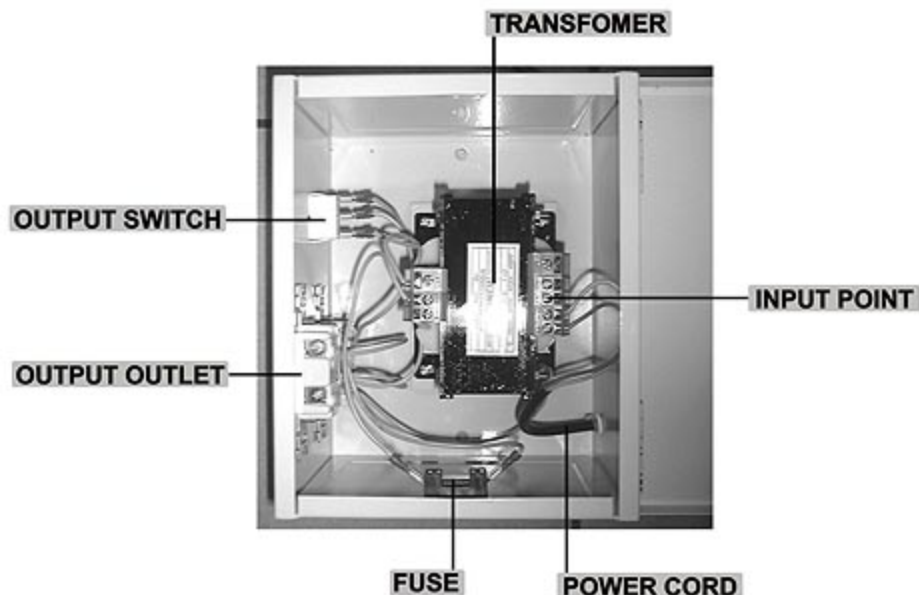


# HOW TO INSTALL TRANSFORMER OF TR-2(TWO OUTPUT)

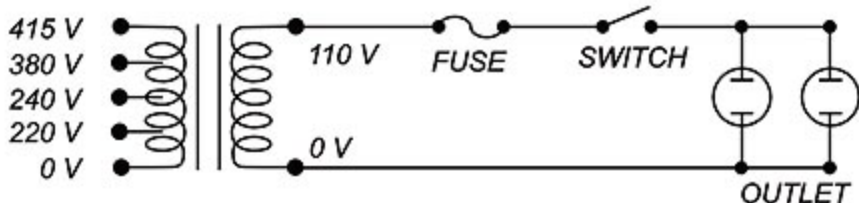
TRANSFORMER OF TR-2 IS USED FOR 220V,240V,380V AND 415V, THEM TRANSFER TO 110V. ATTACHING POWER SWITCH AND TWO OUTPUT OUTLET.

ASSEMBLING GUIDE :

1. Make sure the voltage of working environment.
2. Choose the exact input point and well fix up.
3. Make sure whole screws of transformer are well locked.
4. Setting transformer on stable and dry wall
5. Collecting cable and wire on the wire box of working place.
6. Keep from accident caused, don't disassemble and refit locked parts or wiring of transformer when assembly proceeding.



## CIRCUIT



# **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 PUSH 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 are 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 proper function.

**BREAKER ALWAYS KICKS OUT ON POWER FEED UNIT UNDER NORMAL USAGE :**  
Short circuit in the armature, need to be replaced new armature.

**CURRENT LEAKAGE :**

- 1.Check limits 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.