
OWNER'S MANUAL

THREE AXES SIMULTANEOUS MOVEMENT

NC DRILL/MILL MACHINE

PM-940M CNC

READ ALL INSTRUCTIONS CAREFULLY

Keep for future reference!

WARNING:FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

As with all machinery there are certain hazards involved with operation and use of the machine. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

This machine was designed for certain applications only. We strongly recommends that this machine. NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the machine until you have had detail instruction from your dealer.

SAFETY RULES FOR ALL TOOLS

1.FOR YOUR OWN SAFETY ,READ THIS INSTRUCTION MANUAL BEFORE OPERATING THE TOOL. Learn the tool's application and limitations as well as the specific hazards peculiar to it.

2.KEEP GUARDS IN PLACE and in working order .

3.GROUND ALL TOOLS .If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong plug receptacle, the adapter lug must be attached to a know ground. Never remove the third prong.

4.REMOVE ADJUSTING AND WRENCHES.

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it"on."

5.KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

6.DON'T USE IN DANGEROUS ENVIRONMENT .Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well- lighted.

7.KEEP CHILDRE AND VISITORS AWAY. All children and visitors should be keep a safe distance from work area.

8.MAKE WORKSHOP CHILDROOF -with padlocks, master switches, or by removing starter keys.

9.Don't force tool. It will do the job better and be safer at the rate for which it was designed.

10.USE RIGHT TOOL .Don't force tool or attachment to do a job for which it was not designed.

11.WEAR PROPER APPAREL. No loose clothing,gloves,neckties,rings, bracelets,or other jewelry to get caught in moving parts. Nonslip foot wear is recommended. Wear protective hair covering to contain long hair.

12.ALWAYS WEAR EYE PROTECTION. Refer to ANSI Z87.1 Standard for appropriate recommendations. Also use face or dust mask if cutting operation is dusty.

13.SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and frees both hands to operate tool.

14.DON'T OVERREACH. Keep proper footing and balance at all times.

15.MAINTAIN TOOLS IN TOP CONDITION.

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16.DISCONNECT TOOLS before servicing and when changing accessories such as blades,bits,cutters,ect.

17.USE RECOMMENDED ACCESSORIES.

Consult the owner's manual for recommended accessories .The use of improper accessories may cause hazards.

18.AVOID ACCIDENTAL STARTING. Make sure switch is in "OFF" position before plugging in power cord.

19.NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted

20.CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function check for alignment of moving parts binding of moving parts, breakage of parts mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

21.DIRECTION OF FEED. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

22.NEVER LEAVE TOOL RUNNING UNATTENDED.TURN POWER OFF.

Don't leave tool until it comes to a complete stop.

23.DRUGS,ALCOHOL ,MEDICATION. Do not operate tool while under the influence of drug, alcohol or any medication.

24.MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY while motor is being mounted, connected or reconnected.

2.Usage and function of machine



PM940M Three axes simultaneous Movement NC Drill/Mill Machine is a small type complex machine with new structure. Applied high stable NC system, it may realize three axes simultaneous movement, ie it can control program by circle and used as NC machine. It also can manually feed used as common machine.

Longitudinal and cross movement of spindle box and table can be controlled by NC or manually. When processing parts, make parts processing program according to the size and technical requirements of parts, input to the computer by the key board on the panel. The computer send out pulse signal which the servo required, the signal amplified through drive unit to drive the step motor ,so that the machine three axes simultaneous movement functions realized ,it may complete the processing of various kinds of parts with complicated shape.

This machine is apply the AC frequency modulation motor to realize variable speed. And the mechanical graded speed transmission mechanism was contacted after the motor to enlarge its' permanent speed range. The mechanical graded speed transmission is manual sliding two grades speed system. When the speed lever in the position "1",variable speed of spindle will be realized in the area of 80~980rpm/min.If you need to realize the variable speed in the area of 1000~3000rpm/min,you should stop the frequency modulation motor, turn the speed lever from "1" to "2".It is same on the contrary.

CAUTION:

The speed lever should correspond with the gear level in the NC system.

When the speed lever is in the "1" lower level position, the mark "  1" is shown on the screen, at the same time the light 10 bright. When the speed lever is in the "2" high level position , the mark "  2" is shown on the screen , at the same time the light 12 bright.

The machine is suitable for multi-kinds and small batch processing, especially for the upper CAM, former, ARC slot processing. Because the machine driven by the high performance, stable mixed type step motor, the output torque is big, high and low speed function is good and the system is provided with the function of manually returning to the mechanical zero. With the high positioning accuracy and re-positioning accuracy the machine can insure the processing accuracy of parts without moulds, meanwhile the equipped system is provided with the function of tools radius compensation, it reduce the complexity of programming and raise the processing efficiency .

This system is also provided with zero programming function, it may establish multi-workpiece coordinate system, realize multi-workpiece processing simultaneously. Empty travel can apply fast speed to reduce donkey time for raising productivity.

MAIN TECHNICAL PARAMETER

(1)Max.drilling dia.casting iron	45mm
steel	32mm
(2)Max.face milling tool dia.	80mm
(3)Max.vertical milling tool dia.	32mm
(4)Max.distance from spindle nose to surface of table	450mm
(5)Spindle taper	Morse 3# Morse4# or R8
(6)Spindle stroke	125mm
(7)Spindle sleeve dia.	75mm
(8)Spindle speed	1 90~980 rpm 2 1000~3200 rpm
(9)Spindle left & right swivel angle	$\pm 90^\circ$
(10)Size of T-slots	14mm
(11)Table size	1000×240mm
(12)Table longitudinal travel NC	600mm
Manual	650mm
(13)Table cross travel NC	300mm
Manual	360mm
(14)Spindle box vertical travel NC	400mm
Manual	450mm
(15)Spindle motor	1.5KW
Voltage	220V
Speed	1390rpm
(16)Accuracy	
Resolution	0.001mm
Positioning accuracy	$\pm 0.015\text{mm}/300\text{mm}$
Re-positioning accuracy	$\pm 0.005\text{mm}$

Tilt the head stock over as shown in Fig 1. Open the drain plug to allow the oil to drain from the opening completely. Then lock the oil drain plug and turn the head to be upright position. Remove the oil filler plug fill the oil to the gear box until the oil lever reach the middle of oil fluid lever indicator. Then lock the plug.

CLEANING

- (1) Your machine has been coated with a heavy grease to protect it in shipping. This coating should be completely removed before operating the machine. Commercial degreaser, kerosene or similar solvent may be used to remove the grease from the machine, but avoid getting solvent on belts or other rubber parts.
- (2) After cleaning, coat all bright work with a light lubrication . Lubricate all points with a medium consistency machine oil.

LUBRICATION:

All ball bearings in your mill/drill are sealed for life ,requiring no lubrication. Points requiring lubrication are:

- (1) Internal spline drive assembly. Keep this area well lubricated with a good grade grease , insert grease in the hole at the top of spindle pulley spline driver,lube twice yearly.
- (2) A light film of oil applied to the quill and column will reduce wear, prevent rust, and assure ease of operation.
- (3) Quill return spring should receive oil(sae 20) once yearly. Remove cover plate and apply oil with squirt can or small brush.
- (4) **IMPORTANT:** The gear box should be oiled with a lubricant such as sae 68 oil in level.**CHANGE OIL EVERY ONE YEAR.**
- (5) Apply lubriplate to quill pinion every 90 days.

NOTE: use extreme care when performing this operation and keep hands clear of pinch points. When using paraffin bar, do this only by turning the sheaves by hand. Do not apply with motor running.

USE OF MAIN MACHINE PARTS

- (1) To raise and lower the head by head handle.
- (2) Equipped with an electric switch for tapping operation clockwise or counterclock wise.
- (3) To adjust the quick or slow feeding by feed handle.
- (4) To adjust the table left and right travel by table handle wheel.
- (5) To adjust the table fore and after travel by table handle wheel.
- (6) To operate the spindle handle wheel for micro feed.
- (7) To adjust the scale size according to working need.

PRECAUTION FOR OPERATION

Check all parts for proper condition before operation; if normal safety precautions are noticed carefully, this machine can provide you withstanding of accurate service.

(1) Before Operation

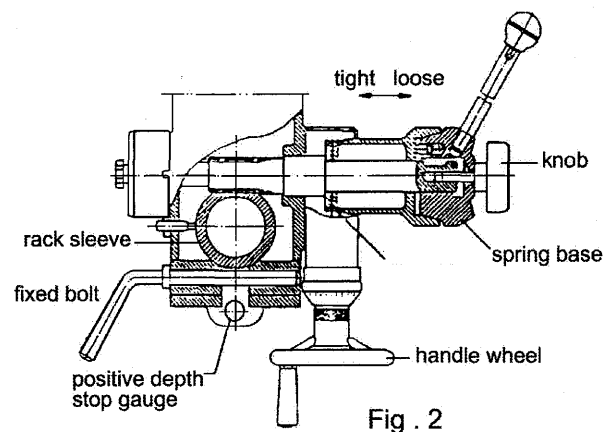
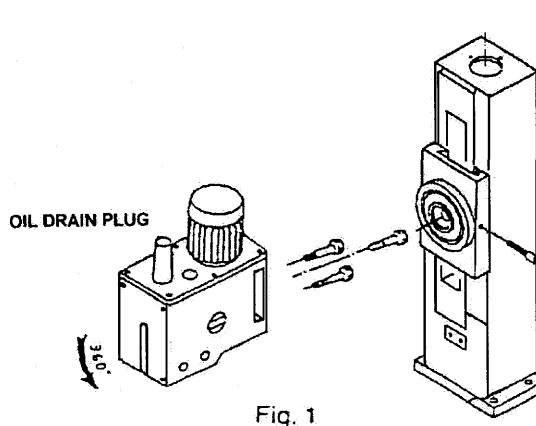
- (a) Fill the lubricant
- (b) In order to keep the accurate precision, the table must be free from dust and oil deposits.
- (c) Check to see that the tools are correctly set and the workpiece is set firmly.
- (d) Be sure the speed is not set too fast.
- (e) Be sure everything is ready before use

(2) After Operation

- (a) Turn off the electric switch.
- (b) Turn down the tools.
- (c) Clean the machine and coat it with lubricant.
- (d) Cover the machine with cloth to keep out the dust.

(3) Adjustment of head

- (a) To raise and lower the head, loosen the leaf screw located on the right side of the raise and lower base. When the desired height is reached tighten leaf screw to avoid vibration.
- (b) Unscrew 3 nuts while the workpiece needs to be bevel turn to the degrees you wish on the scale, then screw the 3.



QUILL RETURN SPRING ADJUSTMENT:

Spring tension for return of spindle, after hole drilling, has been pre-set at the factory. No further adjustment should be attempted unless absolutely necessary. Adjustment will probably be required if a multiple spindle drilling

or tapping head is used .If adjustment is necessary ,loosen lock screw while holding quill spring housing .Do not allow the housing to turn in your hand, or spring will unwind. Turn entire housing assembly clockwise the number of turns necessary to cause the quill to return to its up position.(NOTE: The flat of the spring housing pilot is lined up with the spring loading hole on the body of the spring housing.)Reset lockscrew make sure point of screw mates the flat on the housing journal.

(1)Preparing for Drilling(see fig.2)(Except addition power feed system).

Turn of the knob make loose the taper body of worm gear and spring base. Then we decide spindle stroke setting the positive depth stop gauge for drilling blind hole or free state for pass hole.

(2)Preparing for Milling (see fig.2)(Except addition power feed system).

(a)Adjust the positive depth stop gauge to highest point position.

(b)Turn tight of the knob be use to taper friction force coupling the worm gear and spring base. Then turning the handle wheel by micro set the spindle of work piece machining height.

(c)Lock the rack sleeve at the desired height with fixed bolt.

ADJUSTING TABLE SLACK AND COMPENSATE FOR WEAR(see fig.3)

(1)Your machine is equipped with jib strip adjustment to compensate for wear and excess slack on cross and longitudinal travel.

(2)Clockwise rotation the job strip bolt with a big screw for excess slack otherwise a little counter clockwise if too tight.

(3)Adjust the jib strip bolt until feel a slight drag when shifting the table.

CLAMPING TABLE BASE AND MACHINE BASE(See Fig.3)

(1)When milling longitudinal feed. It is advisable to lock the cross feed table travel to insure the accuracy of your work. To do this, tighten the

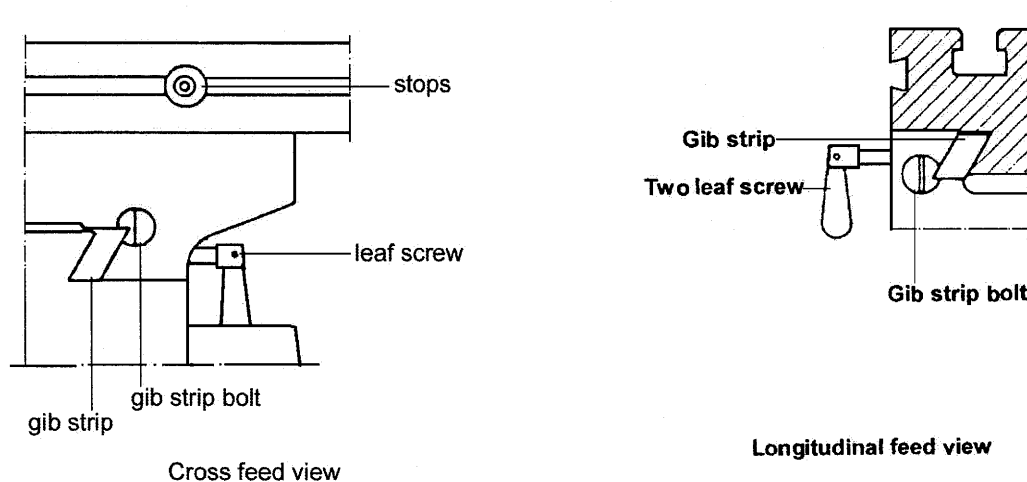


Fig.3

small leaf screw located on the right side of the table base.

- (2) To tighten the longitudinal feed travel of the table for cross feed milling, tighten the two small leaf screw on the front of the table base.
- (3) Adjustable travel stops are provided on the front of the table for control of cross travel and the desired milling length.

TO CHANGE TOOLS

- (1) Removing Face Mill or Drill Chuck Arbor

Loosen the arbor bolt at the top of the spindle shaft approximately 2 turns with a wrench. Rpa the top of the arbor bolt with a mallet.

After taper has been broken loose, holding chuck arbor on hand and turn detach the arbor bolt with the other hand.

- (2) To install Face Mill or Cutter Arbor

Insert cutter and cutter arbor bolt detach securely, but do not over-tighten.

- (3) Removing Taper Drills

- (a) Turn down the arbor bolt and insert the taper drill into the spindle shaft.

- (b) Turn the rapid down handle rod down until the oblong hole in the rack sleeve appears. Line up this hole with the hole in the spindle. Insert key punch key through holes and strike lightly lightly with a mallet. This will force the taper drill out.

Maintenance instructions

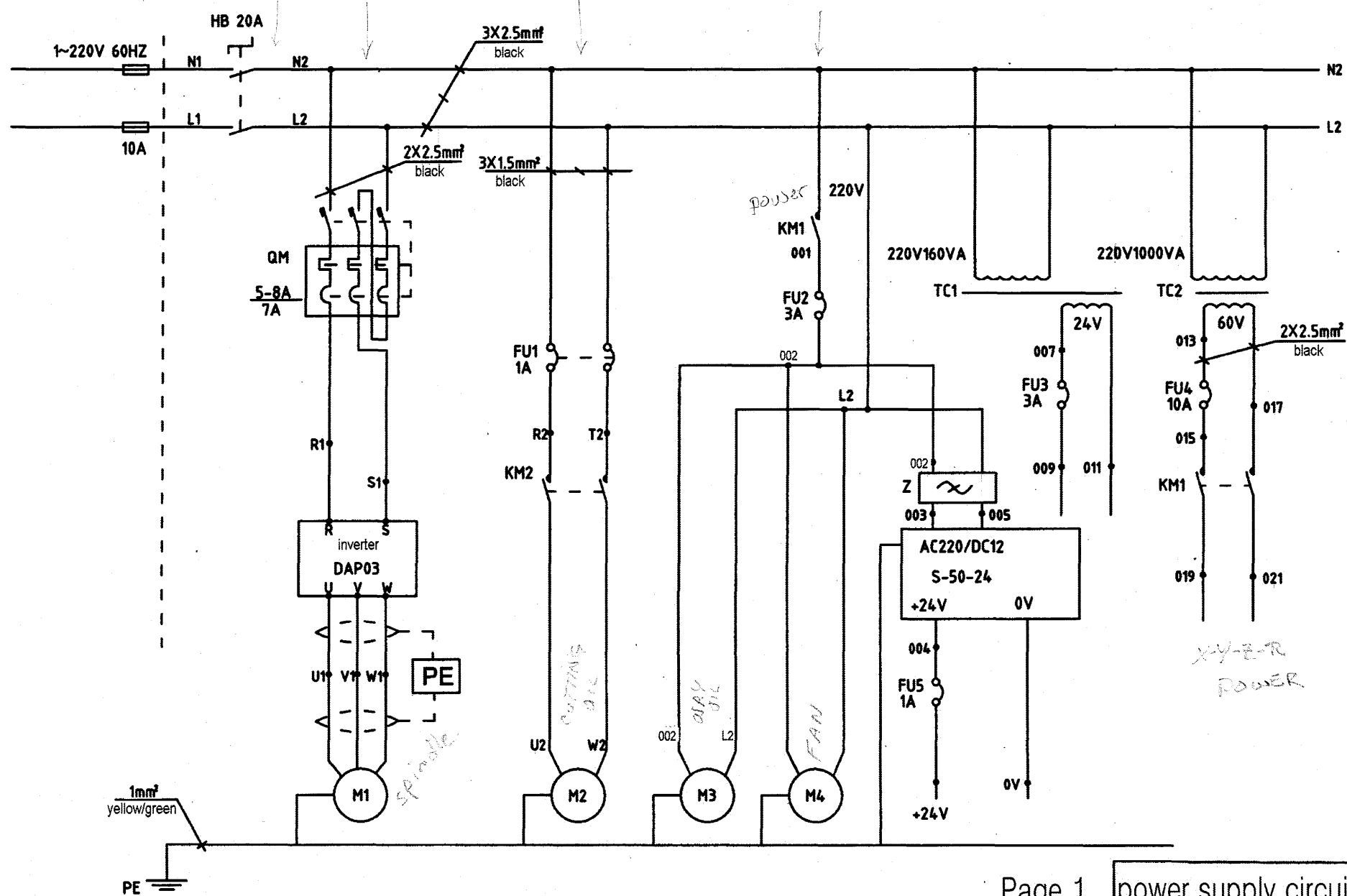
TROUBLE SHOOTING HINTS

TROUBLE	PROBABLE CAUSE	REMEDY
Excessive Vibration	1.Motor out of balance 2.Bad motor	1.Balance or replace problem motor. 2.Replace motor
Motor stalls	1.Over feeding. 2.Dull drill. 3.Motor not building up to running speed 4.Bad motor	1.Reduce feed rate. 2.Sharpen drill and keep sharp. 3.Replace or repair motor. Check fuses in all three legs on three phase motors and replace if necessary. 4.Replace motor.
Noisy Operation	1.Excessive vibration. 2.Improper quill adjustment. 3.Noisy spline 4.Noisy motor	1.Check remedy under excessive vibration. 2.Adjust quill. 3.Lubricate spline. 4.Check motor bearings or for loose motor fan.
Drill or Tool heats up or burns work.	1.Excessive speed. 2.Chips not clearing. 3.Dull tool. 4.Feed reate too slow. 5.Rotation of drill incorrect. 6.Failure to use cutting oil or coolant(on steel)	1.Reduce speed. 2.Use pecking operation to clear chips. 3.Sharpen tool or replace. 4.Incresase feed enough to clear chips. 5.Reverse motor rotation. 6.Use cutting oil or coolant on steel
Drill leads off	1.No drill spot. 2.Cutting lips on drill off center. 3.Quill loose in head. 4.Bearing play.	1.Center punch or center drill workpiece. 2.Regrind drill. 3.Tighten quill. 4.Check bearings and reseal or replace if necessary.
Excessive drill runout or wobble	1.Bent drill. 2.Bearing play. 3.Drill not seated properly in chucks.	1.Replace drill. Do not attempt to straighten 2.Replace or reseal bearings. 3.Loosen, reseal and tighten chuck.
Work or fixture comes loose or spins	1.Failure to clamp workpiece or work holding device to table.	1.Clamp workpiece or work holding device to table surface.

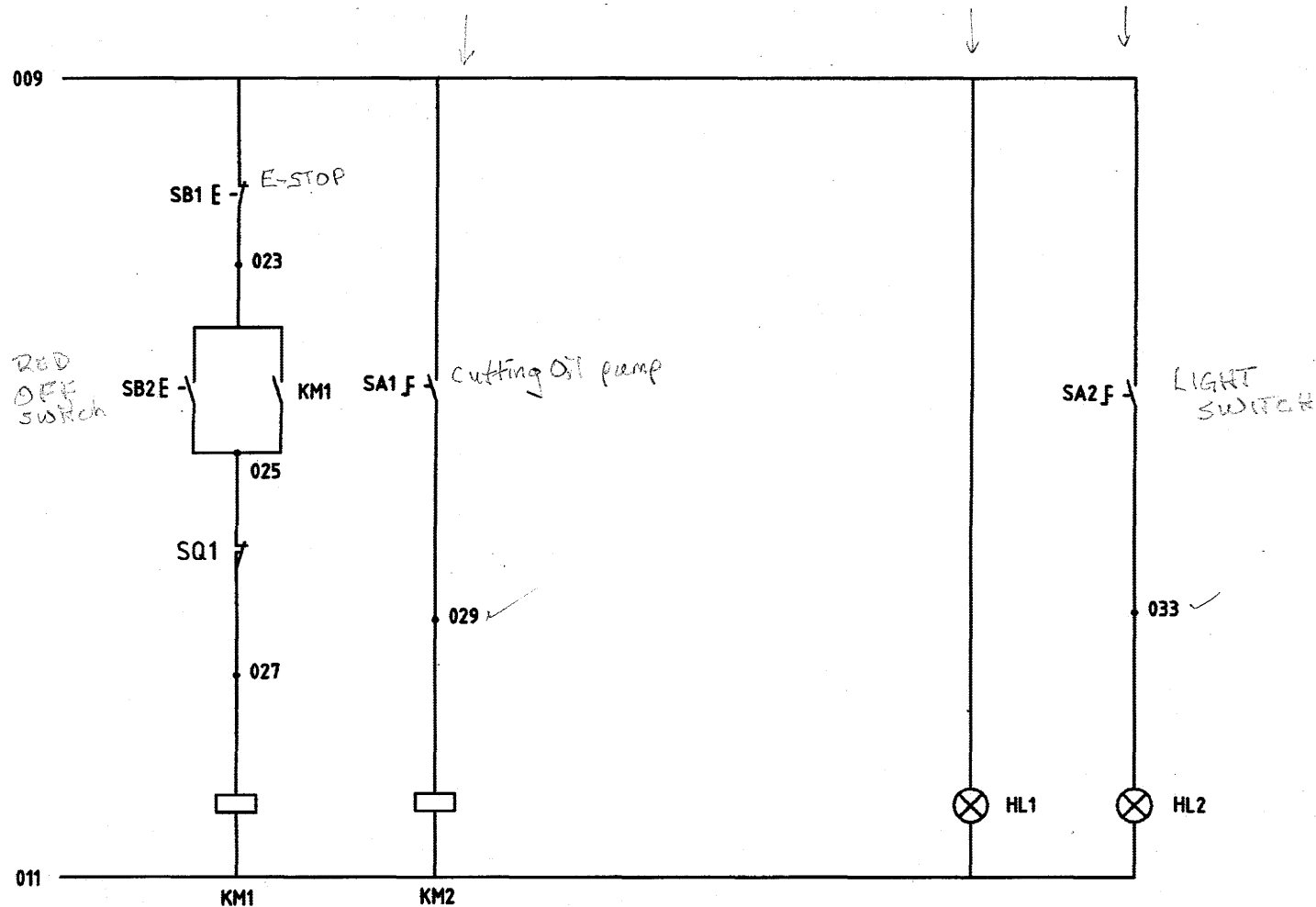
ELECTRIC COMPONENTS LIST

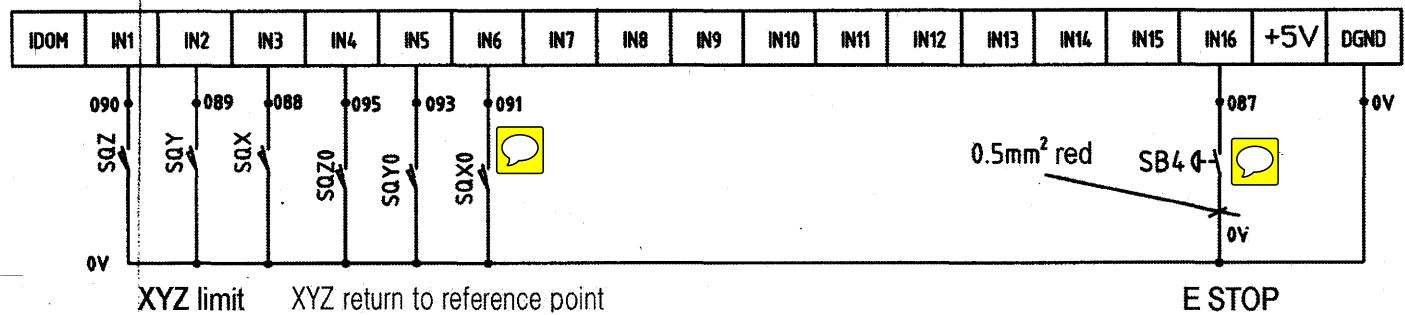
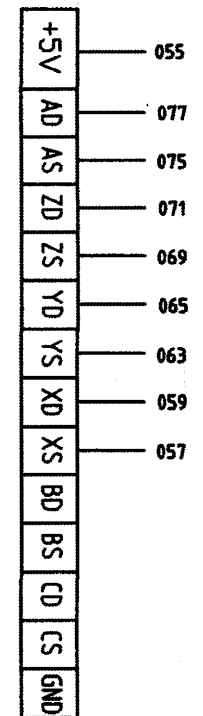
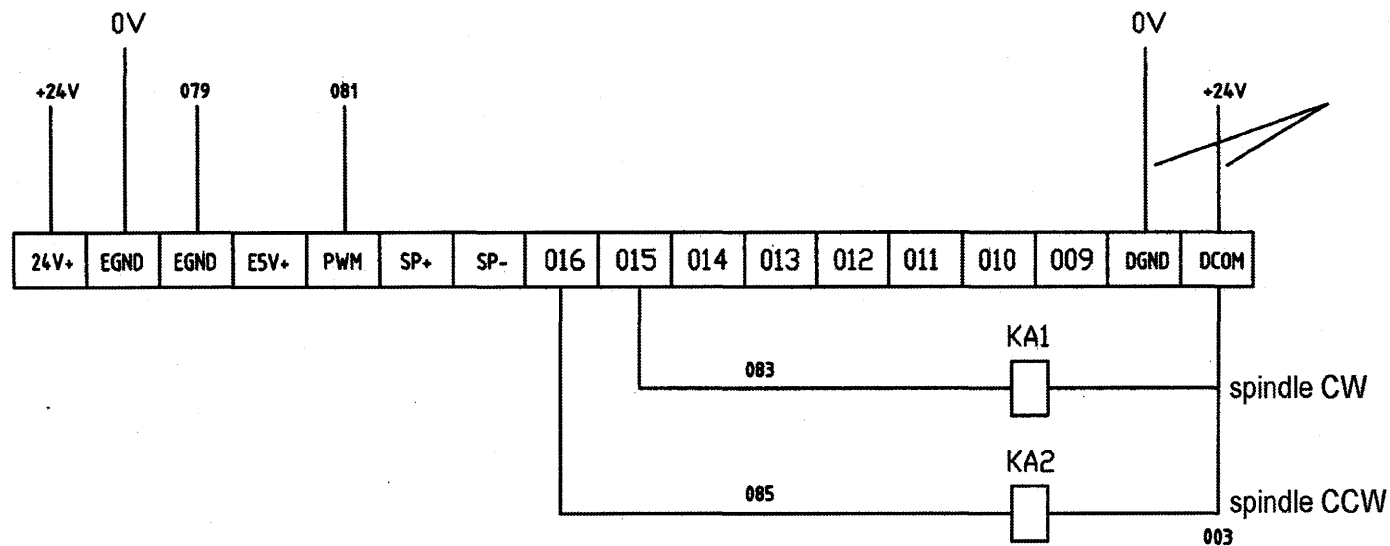
CODE	NAME	MODEL	SPEC.	QTY	REMARK
HB	Power switch	JCH13-20	20A	1	
QM	Circuit breaker	DZ108	5-8A	1	
Z	Power filter	S8JC-Z05024C	Input220V Output24V	1	
KM12	Contactor	3TB40-22	24V 50Hz	2	
KA1-2	Relay	HH54P-FL	DC24V 50Hz	2	
TC1	Transformer	JBK3-160	Input220V Output24V	1	
TC2	Transformer	JBK5-1000	Input220V Output60V	1	
FU1,FU5	Circuit breaker	DZ47-63	2P 1A	2	
FU2,3	Circuit breaker	DZ47-63	1P 3A	2	
FU4	Circuit breaker	DZ47-63	1P 10A	1	
SQXYZ	Limit switch	JW2D-11Z/2		3	
SB1	Stop button	YO90-01		1	Red
SB2	Start button	YO90-10		1	Green
SB4	Mushroom button	LA42J-10M		1	Red
SA1-2	Knob switch	LA42X2-20		2	
HL1	Pilot lamp	AD17KA-22/DC24V		1	Green
M1	Inverter Motor	YUBP9FL-4	220V1.5KW	1	5.9A1390rpm
	1PH Inverter	VFD015E21A	Input 1PH 220-240v Output 3PH 0-240V	1	
M2	Coolant Pump	YDB12	220V3m12l/min	1	M 12l/min
M3	lubricant pump		220V/1.5W	1	
M4	Spindle fan	113FZY	AC220V	1	
	Switch power	S8JC-Z05024C			
	XYZ driver	Ma806		3	
XYZA	XYZ axis step motor	34H2120-60-6A	8.4NM 4.4 NM	1 2	
	Motion Control Card	JNC-40M		1	

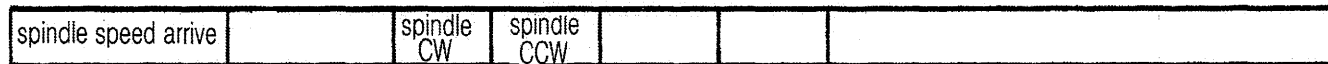
power supply	general power switch	spindle motor	coolant pump	lubricant pump	fan	DC power	control transformer	driver power
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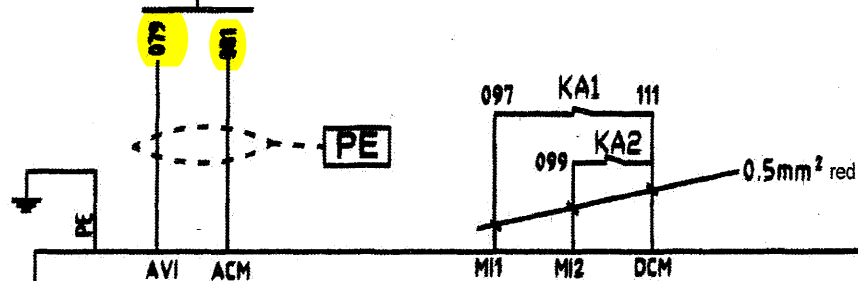
driver start	power off	coolant		driver power on	indicator light	work lamp
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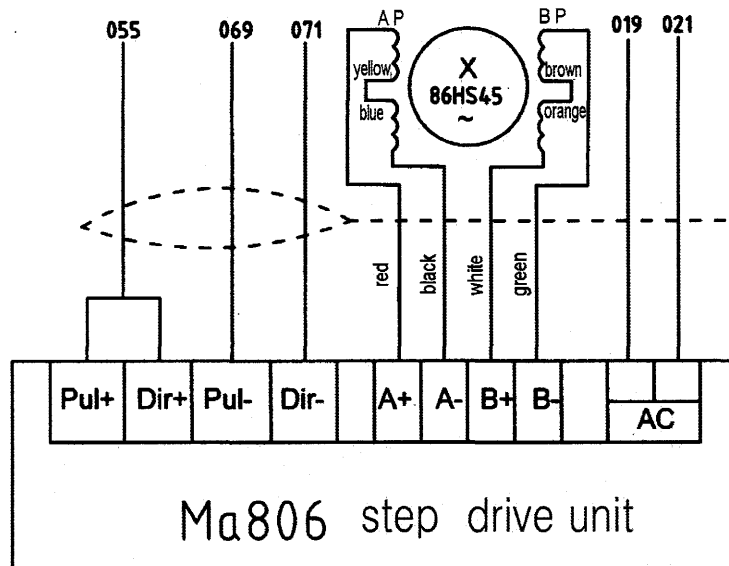
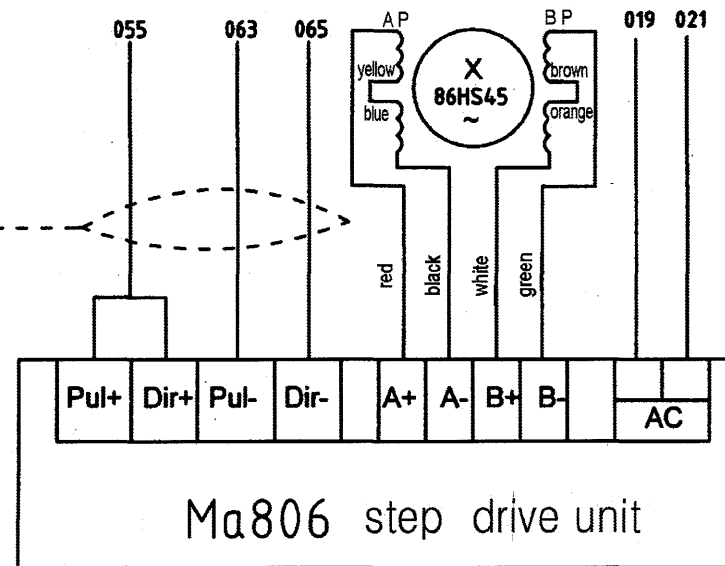
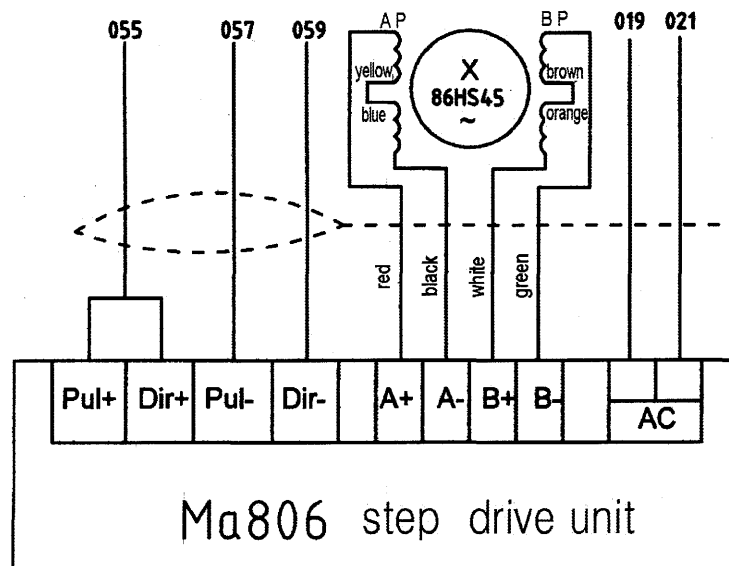




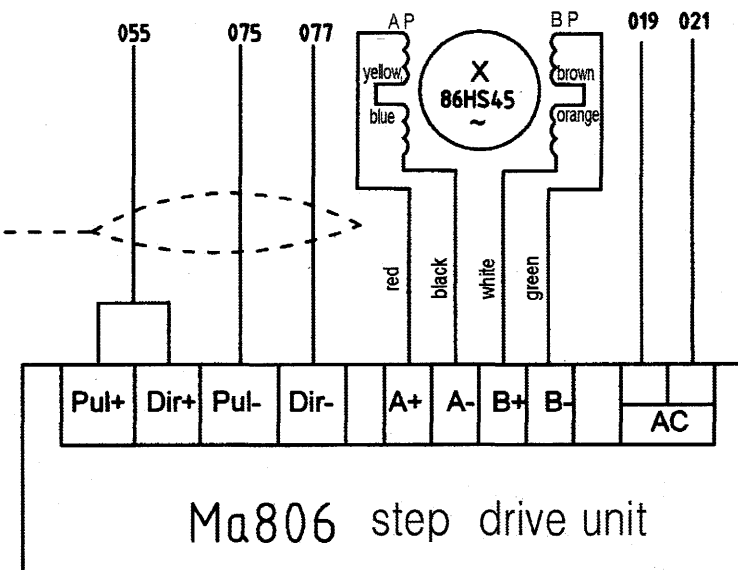
To mach interface
No. 061 AGND
and No. 081 SP

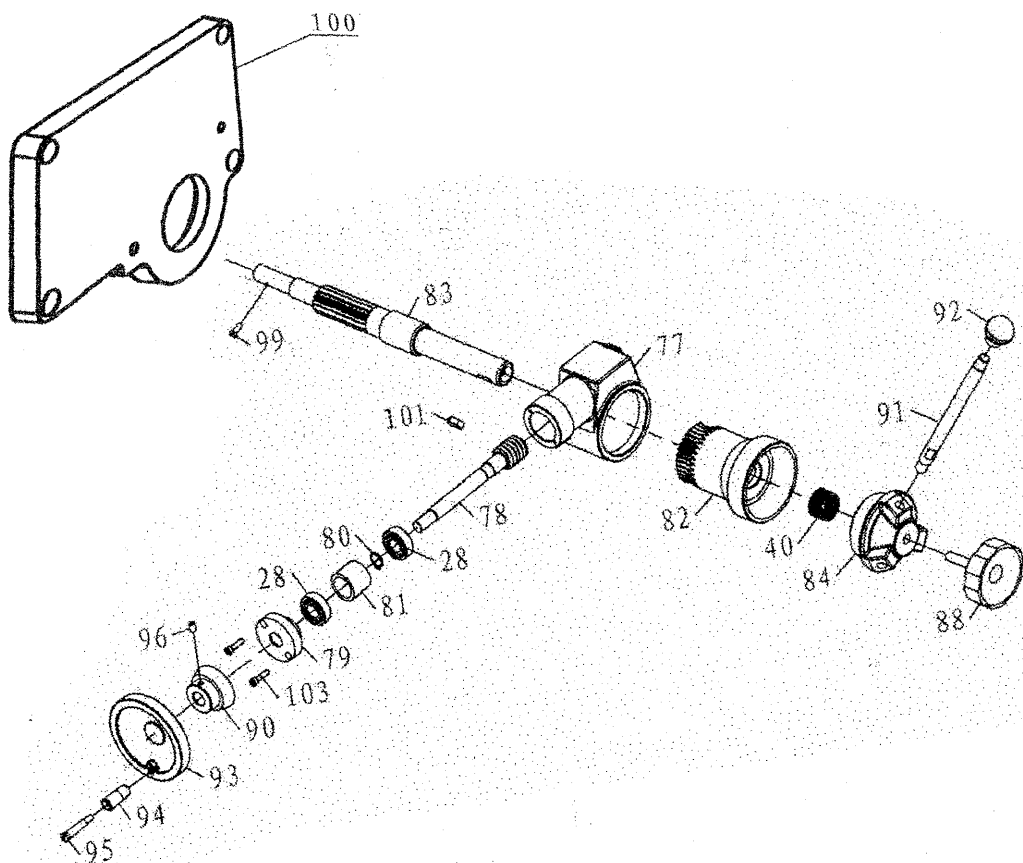


TADA inverter A5



PE

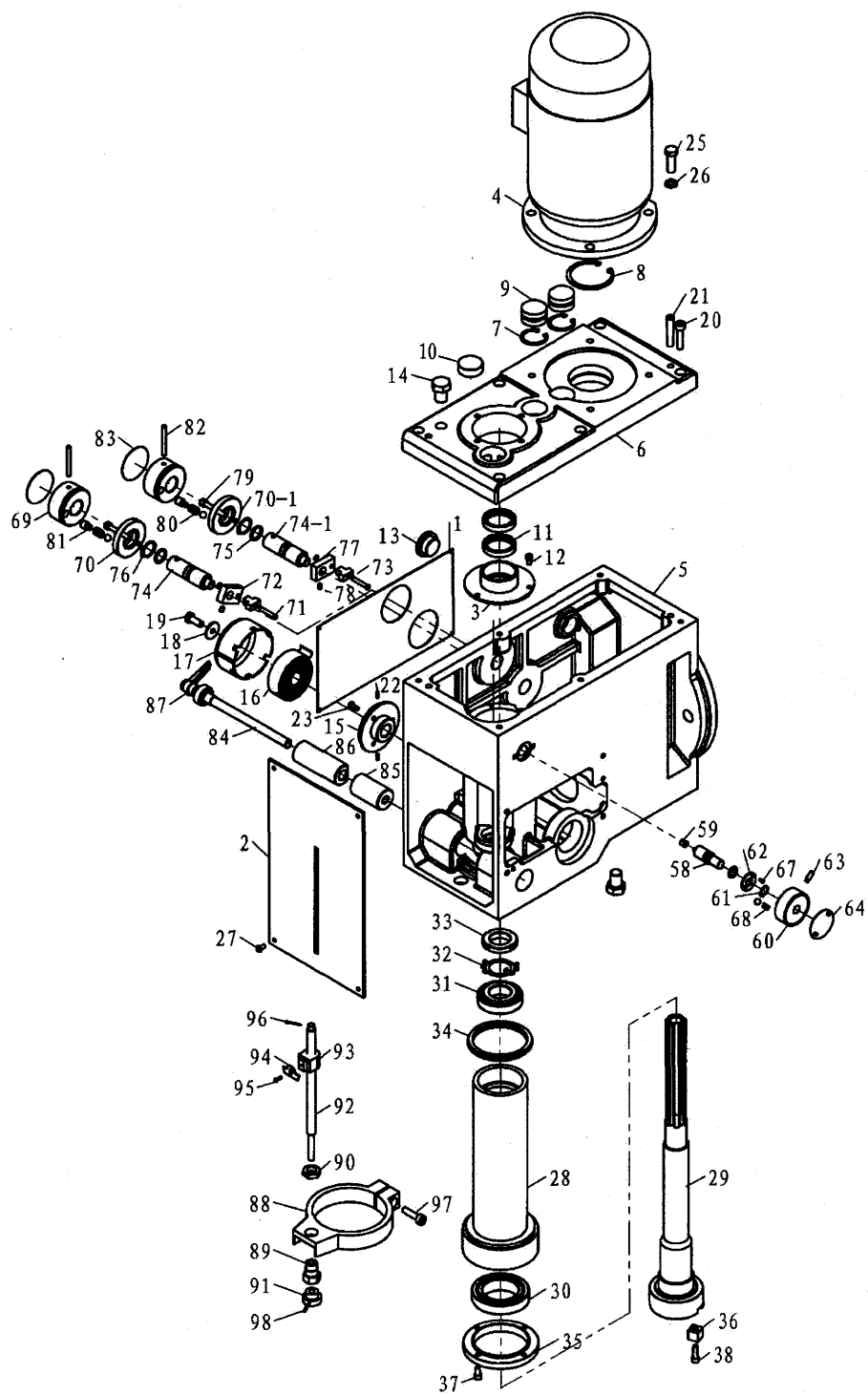




Manual feed

Manual feed parts

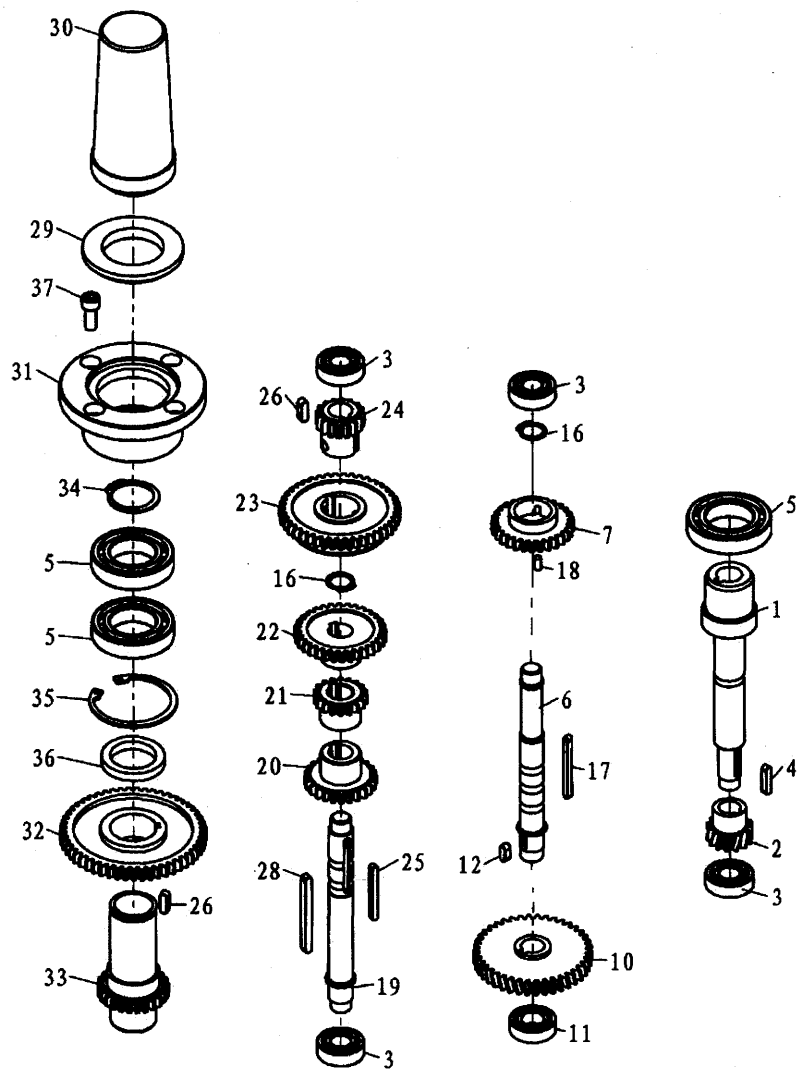
No.	Qty.	Code	Name
28	2		bearing
40	1		spring
77	1	20015	worm wheel box
78	1	20119	worm shaft
79	1	20302	worm cover
80	1		retaining ring
81	1	20120	separating ring
82	1	20016	worm wheel
83	1	PM940M-2201	pinion shaft
84	1	20013	handle body
88	1	20303	big ripple handle
90	1	20017	graduated plate
91	1	20121B	handle rod
92	1	20301B	handle ball
93	1	20306B	handle wheel
94	1	20305-1B	turn handle
95	1	20305-2B	screw
96	1		screw
99	1		screw
100	1	PM940M-2103	Side plate
101	1		pin



HEAD PARTS 1

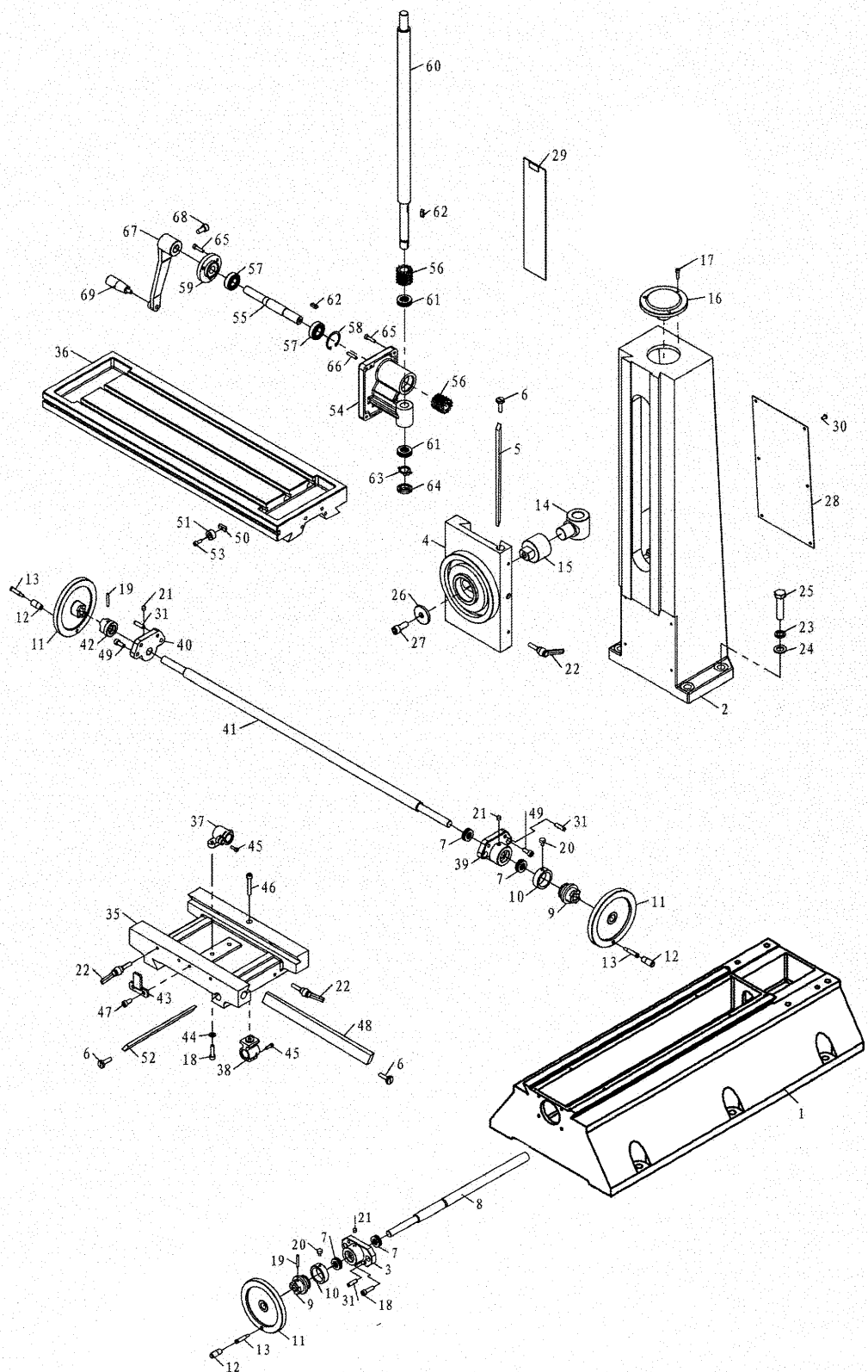
No	Code	Qty	Name	No	Code	Qty	Name
1	Z5025-2304	1	speed plate	35	ZX40-20133	1	oiltight cover(optional)
2		1	plate	36		2	key(optional)
3	ZX40-20018B	1	airtight base	37	M6*12	4	screw
4		1	motor	38	M6*20	2	screw
5	PM940M-2101	1	head body	39	Z5032-2206	1	worm shaft
6	PM940M-2102	1	head body cover	58	Z5030A-20214A	1	lever shaft
7	35	2	retaining ring	59	Z5030A-20214A-1	1	sleeve
8	62	1	retaining ring	60	Z5035-20201	1	speed lever
9	ZX40-20020B	2	cap	61	12	1	retaining ring
10		1	oil plug	62	Z5035-20250	1	flange cover
11	35*45*8	2	oiltight	63	M6*16	1	screw
12	M5*10	3	screw	64	Z5035-20303	1	plate
13	A20	1	oil pointer	65	11.2*2.65	1	"o"ring
14	M16*1.5	2	oil plug	66		3	steel ball
15	ZX40-20118	1	spring base	67	M3*8	2	screw
16	ZX40-20122	1	spring plate	68	ZX40-10103	1	spring
17	ZX40-20123	1	spring cap	69	Z5025-2121	2	handle
18	ZX40-20102	1	washer	70	Z5025-2128	1	cover
19	M8*20	1	bolt	70-1	Z5025-2129	1	cover
20	M8*35	6	screw	71	Z5025-2203	2	lever bar
21	8*50	2	pin	72	Z5025-2239	2	lever bar
22	3*10	2	pin	73	Z5025-2302A	2	shift fork
23	M5*12	3	screw	74	Z5025-2213	1	lever shaft
24	M10X20	1	screw	74-1	ZX45L-2204	1	lever shaft
25	M10*30	4	bolt	75	17*2.65	2	"o" ring
26	10	4	washer	76	22	2	retaining ring
27	M5*10	4	screw	77	5	2	retaining ring
28	ZX40-20019	1	spindle sleeve(optional)	78	M5*8	2	screw
29	ZX40-20104	1	Spindle(optional)	79	M5*16	4	screw
30	32010	1	bearing(optional)	80	ZX40-10103	2	spring
31	30206	1	bearing(optional)	81	M10*16	2	screw
32	30	1	stop washer	82	5*50	2	pin
33	M30*1.5	1	round nut	83	Z5025-2305	2	speed plate
34	ZX40-20308	1	rubber washer	84	ZX40-20124B	1	fixed bolt

No	Code	Qty	Name
85	ZX40-20203B	1	fixed block
86	ZX40-20202B	1	fixed block
87		1	handle
88	ZX40-20012	1	feed base(optional)
89	ZX40-20128	1	support base
90	ZX40-20129	1	nut
91	ZX40-20130	1	adjust handle
92	ZX40-20131	1	graduated rod
93	ZX40-20021	1	fixed block
94	ZX40-20132	1	scale board
95	M3*8	1	screw
96	2*16	1	pin
97	M8*30	1	screw
98	3*24	1	pin



HEAD PARTS 2

No	Code	Qty	Name	No	Code	Qty	Name
1	ZX40-20105B	1	I shaft	35	62	1	retaining ring
2	ZX40-20105-1B	1	gear	36	ZX45L-2205	1	mat
3	6202	4	bearing	37	8*20	4	screw
4	5*25	1	key				
5	6007	3	bearing				
6	ZX40-20106B	1	II shaft				
7	SK-001	1	gear				
10	ZX40-20106-1B	1	gear				
11	6003	1	bearing				
12	6*14	1	key				
16	18	2	retaining ring				
17	5*56	1	key				
18	M5*10	4	screw				
19	ZX40-20107B	1	III shaft				
20	ZX40-20109B	1	gear				
21	ZX40-20110-2B	1	gear				
22	ZX40-20112B	1	gear				
23	ZX40-20113B	1	gear				
24	ZX40-20115B	1	gear				
25	5*50	1	key				
26	6*18	2	key				
28	6*70	1	key				
29	ZX40-20304-2B	1	cover base				
30	ZX40-20304-1B	1	arbor bolt cover				
31	ZX45L-2103	1	cover				
32	ZX40-20116B	1	gear				
33	ZX40-20114B	1	gear				
34	35	1	retaining ring				



BASE

No.	Qty.	Code	Name
1	1	PM940M1101	base
2	1	PM940M-1103	column
3	1	ZX40-10021	square flange
4	1	ZX45L-1108	raise and lower base
5	1	ZX40-10025	gib strip
6	3	ZX40-10106	screw
7	4		bearing
8	1	PM940M-1202	table screw
9	2	ZX40-10102	dial clutch
10	2	ZX40-10111	graduated plate
11	3	ZX40-10301	wheel
12	3	ZX40-20305-1B	turn handle
13	3	ZX40-20305-2B	screw
14	1	ZX45L-1107	nut
15	1	ZX40-10117	nut bracket
16	1	10014	cover
17	3		screw
18	4		screw
19	3		pin
20	2	ZX40-10107	screw
21	3	8	oil cup
22	6		fixed handle
23	4		washer
24	4		washer
25	4		bolt
26	1	ZX40-10120	washer
27	1		screw
28	1	ZX40-10119	plate
29	1	ZX40-10124	protecting cover
30	6		screw
31	6		pin
35	1	PM940M-1102	center base
36	1	ZX40-10012	table
37	1	ZX40-10202	table nut
38	1	ZX40-10203	table base nut
39	1	ZX40-10020	right flange
40	1	ZX40-10019	left flange

No.	Qty.	Code	Name
41	1	PM940M-1201	table screw
42	1	ZX40-10105	dial clutch
43	1		fixed block
44	2		washer
45	2		screw
46	1		screw
47	2		screw
48	1	ZX60-1108	gib strip
49	4		screw
50	2	ZX40-10108	movable fixed block
51	2	ZX40-10109	fixed block support
52	1	ZX40-10023	gib strip
53	2		screw M6X16
54	1	ZX40-10017	raise and lower base
55	1	ZX40-10113	shaft
56	2	ZX40-20109	gear
57	2		bearing
58	1		retaining ring
59	1	ZX40-10015	flange
60	1	ZX45L-1203	raise and lower screw
61	2		bearing
62	2		key6X20
63	1		lock washer
64	1		lock nut
65	7		screw M6X25
66	2		pin 6X30
67	1	ZX40-10018	head handle
68	1		screw M10X20
69	1		turn handle

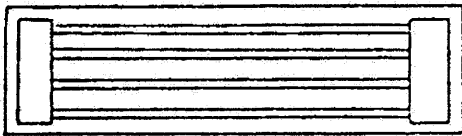
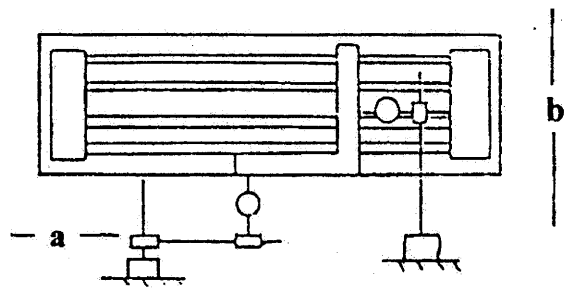
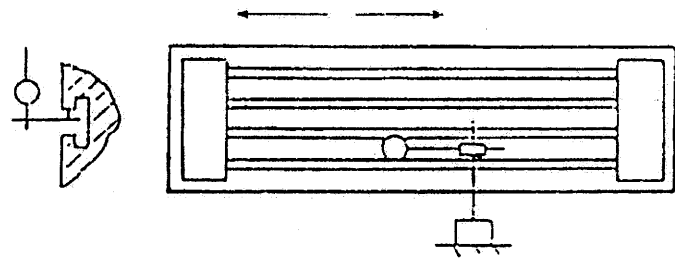
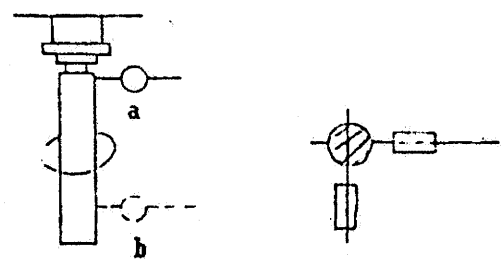
Certificate of inspection
For
THREE AXISES SIMULTANEOUS
MOVEMENT NC DRILL/MILL MACHINE
PM-940M CNC

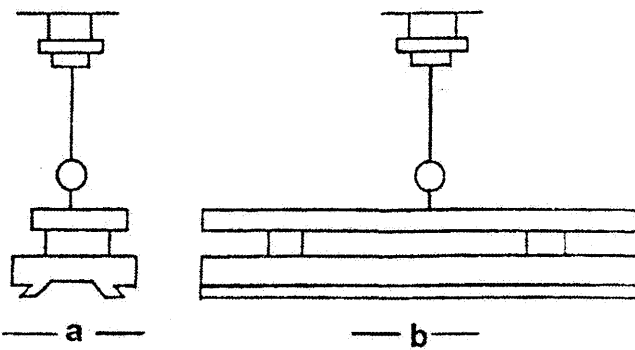
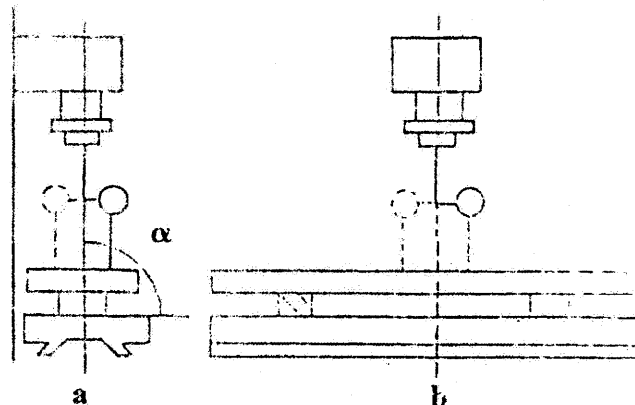
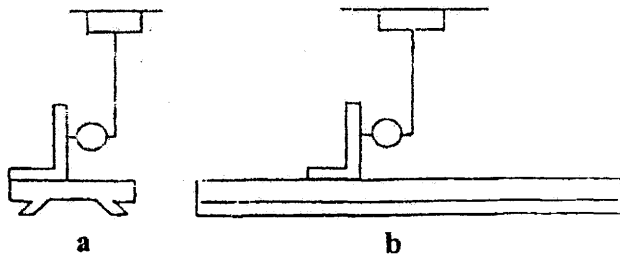
Dispatch No.:

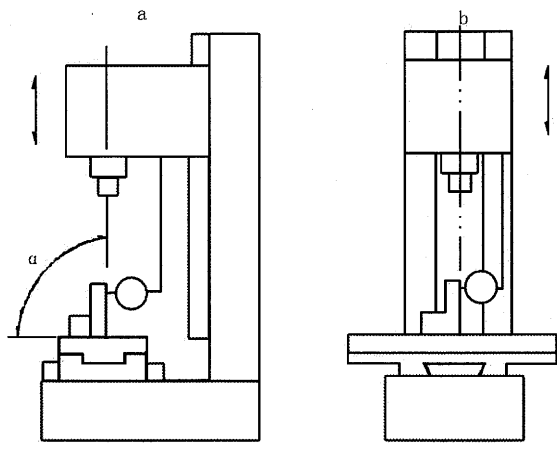
The machine has been qualified and may be permitted to
dispatch

Head of inspection depart_____ Date_____

Director_____ Date_____

ACCURACY TEST FOR MILLING & DRILLING MACHINE			Total 2
			P1
No.	Checking items	Tolerance	Error tested
G1	<p>The flatness of worktable surface</p> 	<p>0.025 for any tested length 200 Max 0.08</p>	0.02
G2	<p>Squareness of worktable longitudinal movement to cross movement</p> 	0.04/300	0.03/300
G3	<p>Parallelism of worktable longitudinal movement to the base T-slot</p> 	0.05	0.03
G4	<p>Ran-out of spindle hole center line</p> 	<p>a) Near spindle nose 0.015 b) At a distance of 100 from spindle nose 0.02</p>	<p>0.05</p> <p>0.02</p>

ACCURACY TEST FOR MILLING & DRILLING MACHINE			Total 2
			P2
No.	Checking items	Tolerance	Error tested
G5	Parallelism of worktable movement to worktable surface 	a 0.02 for any 100 testing length b 0.03 for any 300 testing Max 0.06	0.01 0.02
G6	Squareness of spindle rotating line to worktable surface 	a 0.05/300 $\alpha \leq 90^\circ$ b 0.05/300	0.04/300 0.03/300
G7	Squareness of spindle sleeve vertical movement to worktable surface 	a 0.05/100 b 0.05/100	0.04/100 0.03/100

Accuracy test for three axes simultaneous movement NC DRILL/MILL MACHINE			Total 3
			P3
No.	Checking items	Tolerance	Error tested
G8	Squareness of spindle box vertical movement to worktable surface 	a.0.03/300	0.02/300
		b.0.03/300	0.01/300
	Linear motion positioning accuracy	0.04	0.03
	Linear motion re-positioning accuracy	0.025	0.02

PACKING LIST FOR

GEARED HEAD MILLING AND DRILLING MACHINE PM940M CNC

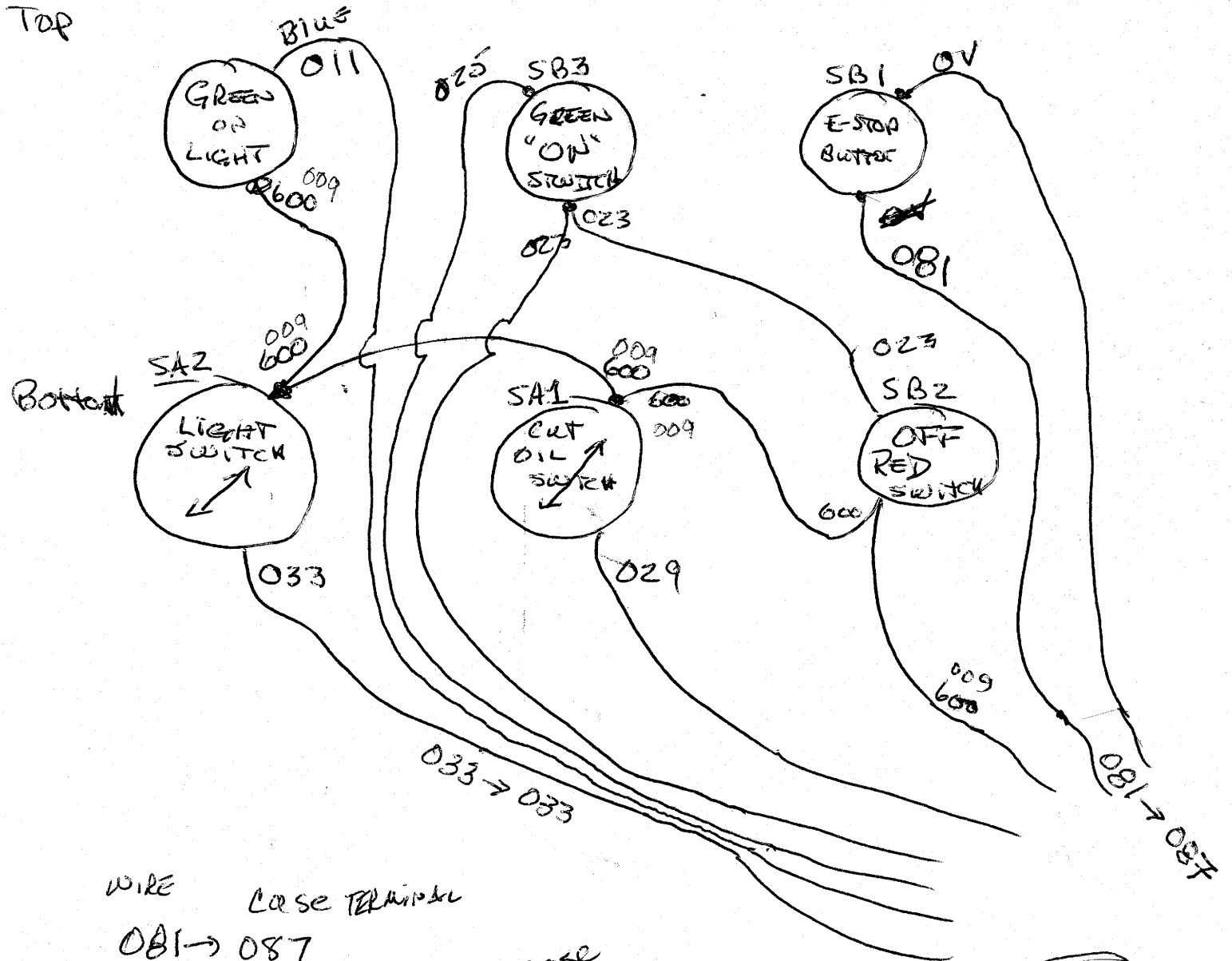
No.	Name	Spec.	Model	Qty
1	Geared head milling & Drilling machine	45	PM940M CNC	1
2	Draw bar	7/16-20		1
3	Taper shank for drilling chuck	R8		1
4	Drilling chuck	$\phi 1 \sim \phi 13$		1
5	Arbor			1
6	T slot bolt	M14×55		2
7	Washer	14		2
8	Nut	M14		2
9	Spanner	22-24		1
10	Oil gun			1
11	Instruction manual			1
12	Certificate of inspection			1
13	Packing list			1

Packing inspector_____

Date_____

Control Box Front Views

Top



WIRE CASE TERMINAL

- 081 → 087
- PE → PE
- 011 → 011
- 033 → 033
- OV → OV
- 029 → 029
- 009 → 009 → ? 006 → 006
- 023 → 023
- 025 → 025

