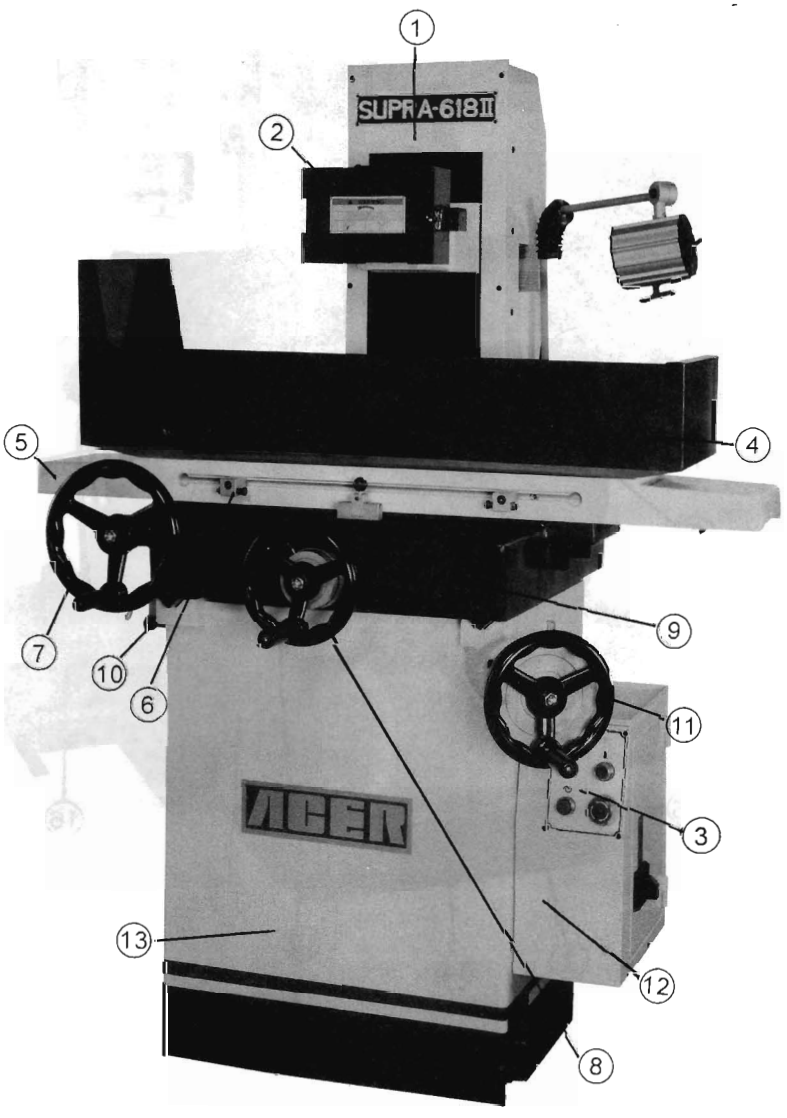
CONTENTS

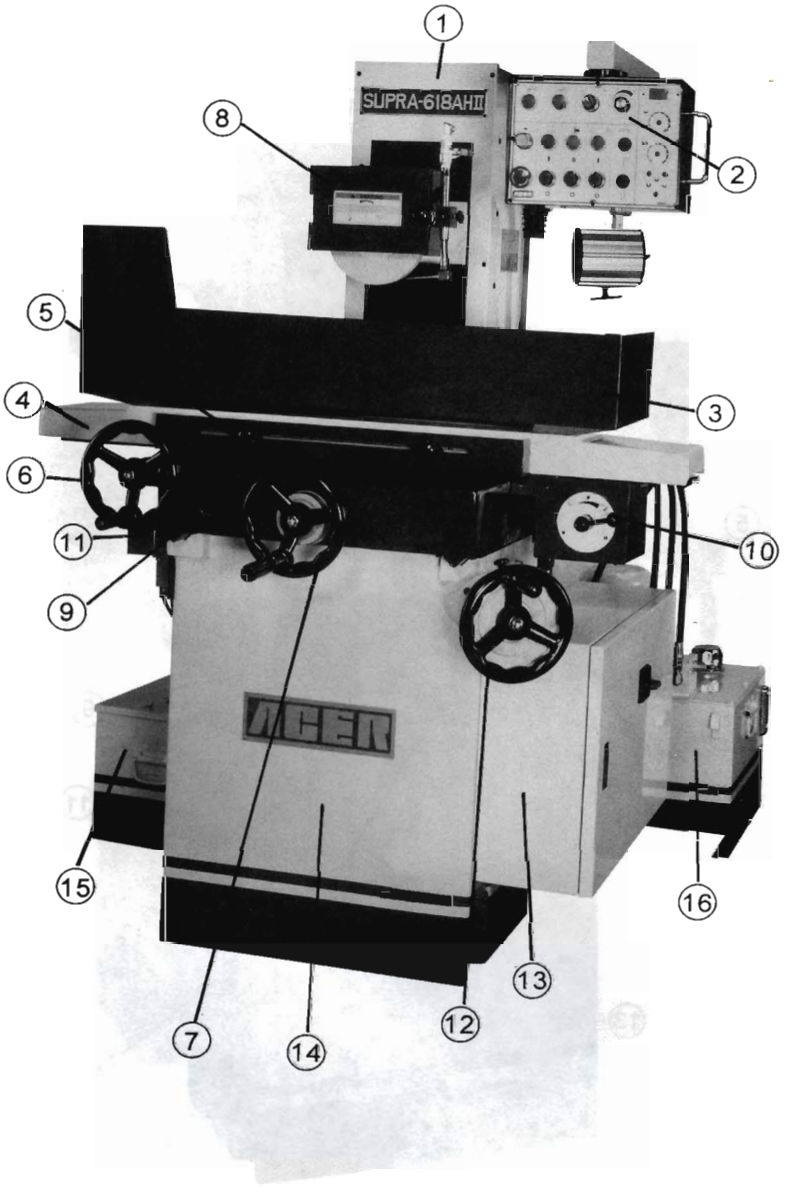
1. MAIN PART OF THE MACHINE

A. For Supra 618II



1. Column
2. Wheel guard
3. Electrical control panel
4. Splash guard
5. Table
6. Long. travel stroke adjusting dog
7. Long. handwheel
8. Crossfeed handwheel
9. Saddle
10. Crossfeed travel lock
11. Vertical handwheel
12. Electric cabinet
13. Machine base

B. For Supra 618AHII

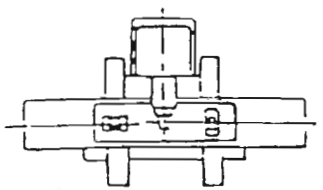
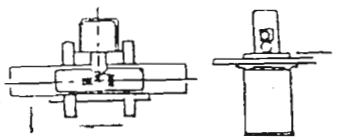
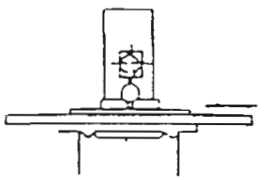
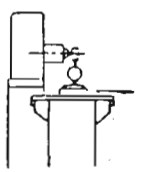
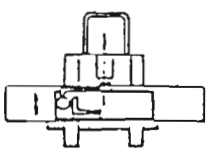


1. Column
2. Electrical control panel
3. Splash guard
4. Table
5. Long. travel stroke adjusting dog
6. Long. handwheel
7. Crossfeed handwheel
8. Wheel guard
9. Saddle
10. Flow control lever
11. Crossfeed travel stroke adjuster
12. Vertical handwheel
13. Electric cabinet
14. Machine base
15. Coolant system (option)
16. Hydraulic system

MODEL:
M/C NO:

ACER GROUP
ACCURACY LIST

UNIT: inch

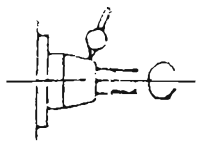
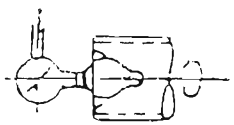
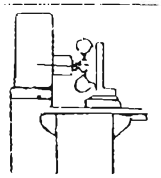
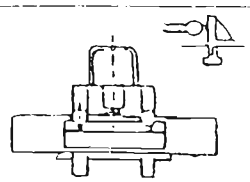
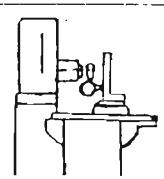
INSPECTING ITEM				I. S. O.	D. I. N.	J. I. S.	C. N. S.	ACER	INSPECTION RECORD
	1	Straightness of table	Longitudinal	0.0008/40	0.0008/40	0.0008/40	0.0008/40	0.0008/40	
			Crosswise	0.0008/40	0.0008/40	0.0008/40	0.0008/40	0.0008/40	
	2	Squareness of table movement	Long. (in square)	0.0008/40	0.0008/40	0.0008/40	0.0008/40	0.0008/40	
			Cross. (in square)	0.0008/40	0.0008/40	0.0008/40	0.0008/40	0.0008/40	
	3	Parallelism of longitudinal movement		0.0006/18	0.0004/18	0.0004/18	0.0004/18	0.0001/18	
	4	Parallelism of cross movement		0.0004/6	0.0004/6	0.0004/6	0.0004/6	0.00012/6	
	5	Squareness of longitudinal movement to cross movement		0.0012/12	0.0004/4	0.0008/12	0.0008/12	0.0004/6	

ACER GROUP

ACCURACY LIST

MODEL:
M/C NO:

UNIT: inch

INSPECTING ITEMS			I. S. O.	D. I. N.	J. I. S.	C. N. S.	ACER	INSPECTION RECORD
	6	Run-out of spindle nose	0.0004	0.0002	0.0004	0.0004	0.00008	
	7	Axial slip of spindle	0.0004	0.0002	0.0004	0.0004	0.00008	
	8	Parallelism between spindle centerline to table surface	0.001 / 12	0.0004 / 4	0.0008 / 12	0.0008 / 12	0.0004 / 12	
	9	Squareness between spindle centerline to table movement	0.0006 / 12	0.0002 / 4	0.0008 / 12	0.0008 / 12	0.0004 / 12	
	10	Squareness between vertical movement & cross movement & longitudinal movement	0.0016 / 12	0.0004 / 4	0.0004 / 4	0.0004 / 4	0.0002 / 4	

PRODUCTION MANAGER

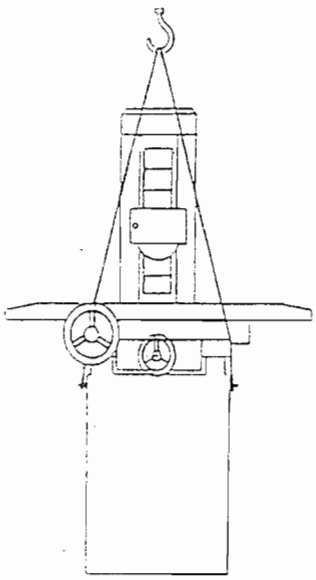
Q. C. MANAGER

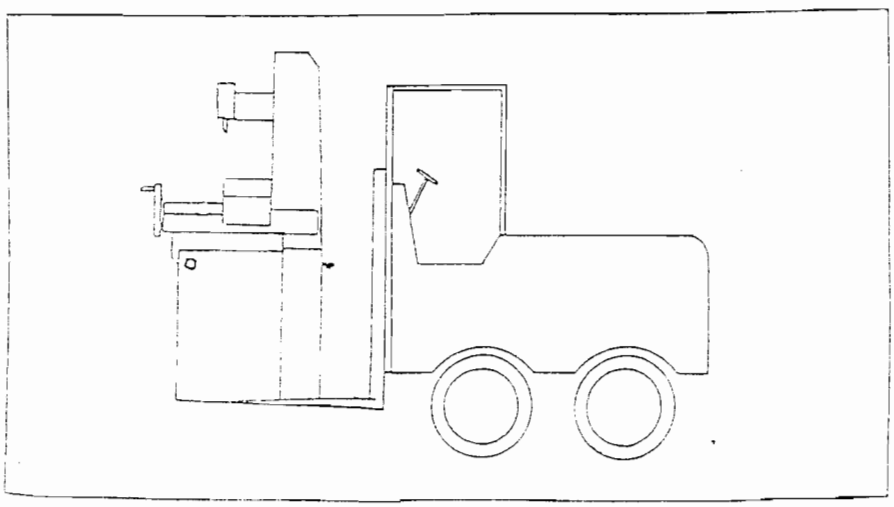
CHIEF OF ASSEHBLY

3. INSTALLATION AND LIFTING NOTICE

The machine has been inspected and adjusted before it is shipped out of the factory. The most important thing is to prevent machine from damaging while the machine is in transportation and installation.

Use overhead crane and hook to transport the machine; steel cables, hooks, and four hanging pegs which are located on the two sides of the machine, are used to lift the machine up from the pallet. But you have to pay attention to the balance of the machine, and please put some soft material between steel cables and machine to protect paint from damaging.





Use fork lift to transport the machine as shown on the above drawing.

A. Clean machine

After opening the crate, you will find machine surfaces are processed to prevent from rust. You may see the machine surfaces are coated with thin rust-proof oil. Please wipe off the oil by soft cloth and solvent. Use iron plate or knife will damage the paint surface.

B. Fastening equipment for transit

When moving or packing the machine, table movement is fixed at front Left and rear right side of the table, and saddle movement is fixed from The right and left side between the saddle and the machine base. The Table and saddle are fixed only when the machine is in transit. As soon as the machine is installed in place, you have to loosen the fixtures, and make sure the machine can move smoothly.

C. Location of the machine:

Location choice of the machine will influence the grinding accuracy and Its efficiency. You need to carefully choose its site as if it is a boring machine. Grinder is a very precision machine tool. It needs to be located at a vibration free area, but in fact, many grinders are located among milling machine, drilling machine, shaping machine, and slotting machine. Obviously, we won't be satisfied with the accuracy from these grinders, because the vibration from other machines will transmit to the grinders, and produce chatters on the grinding surface.
Unsteady land cannot locate grinders, since it will cost the machine to loose its correct shape and machine level.

4. INSTALLATION

On shipment, only the table is not assembled, otherwise all other machine parts are assembled. This is done in order to protect the slideways on the table. Therefore after situated the machine base, you must place the table according the following instructions.

For Supra 618II:

1. Circle the steel wire rope four times around the drum (figure 1).
2. Assemble the steel balls and steel ball retainers, and put them on top of the slideways (figure 2).
3. Lift the table carefully and lay it on top of the slideways against the steel balls.
4. Fix the steel wire on the fixing stand under the table (figure 3).
5. The steel wire will graduately loosen and glide on the drum after long usage. In this case, you must adjust the adjusting screw bolt.

For Supra 618 AHII:

1. Assemble the steel balls and steel ball retainers, and put them on top of the slideways (figure 2).
2. Lift the table carefully and lay it on top of the slideways against the steel balls.
3. Make sure cylinder fixed stand situates on top of the piston firmly.
4. Assemble the nuts, washers and rubber pad as shown on figure 4.

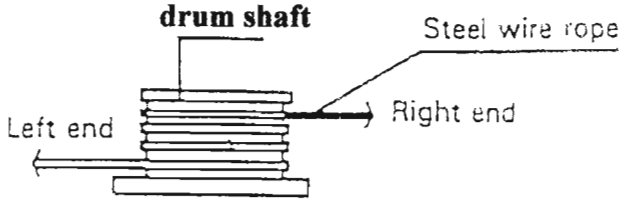


Fig 1

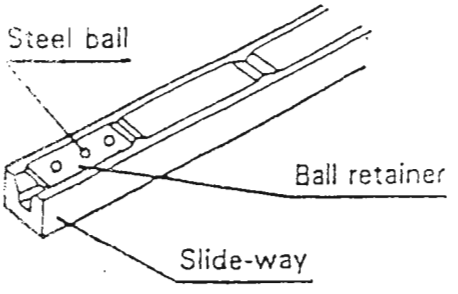


Fig 2

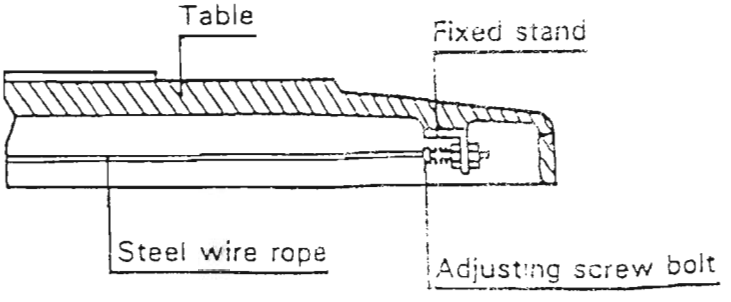


Fig 3

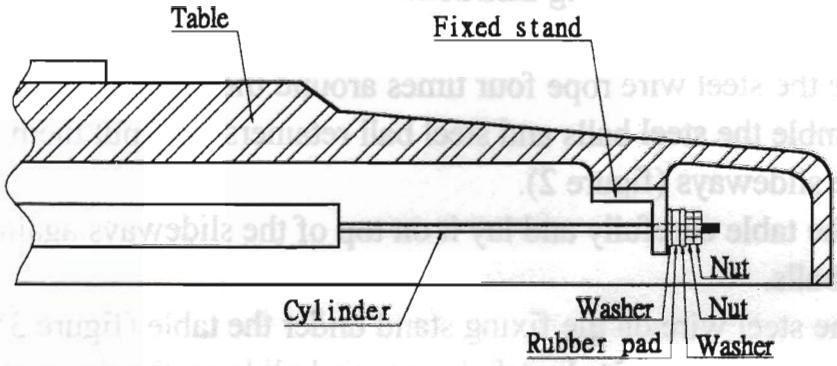
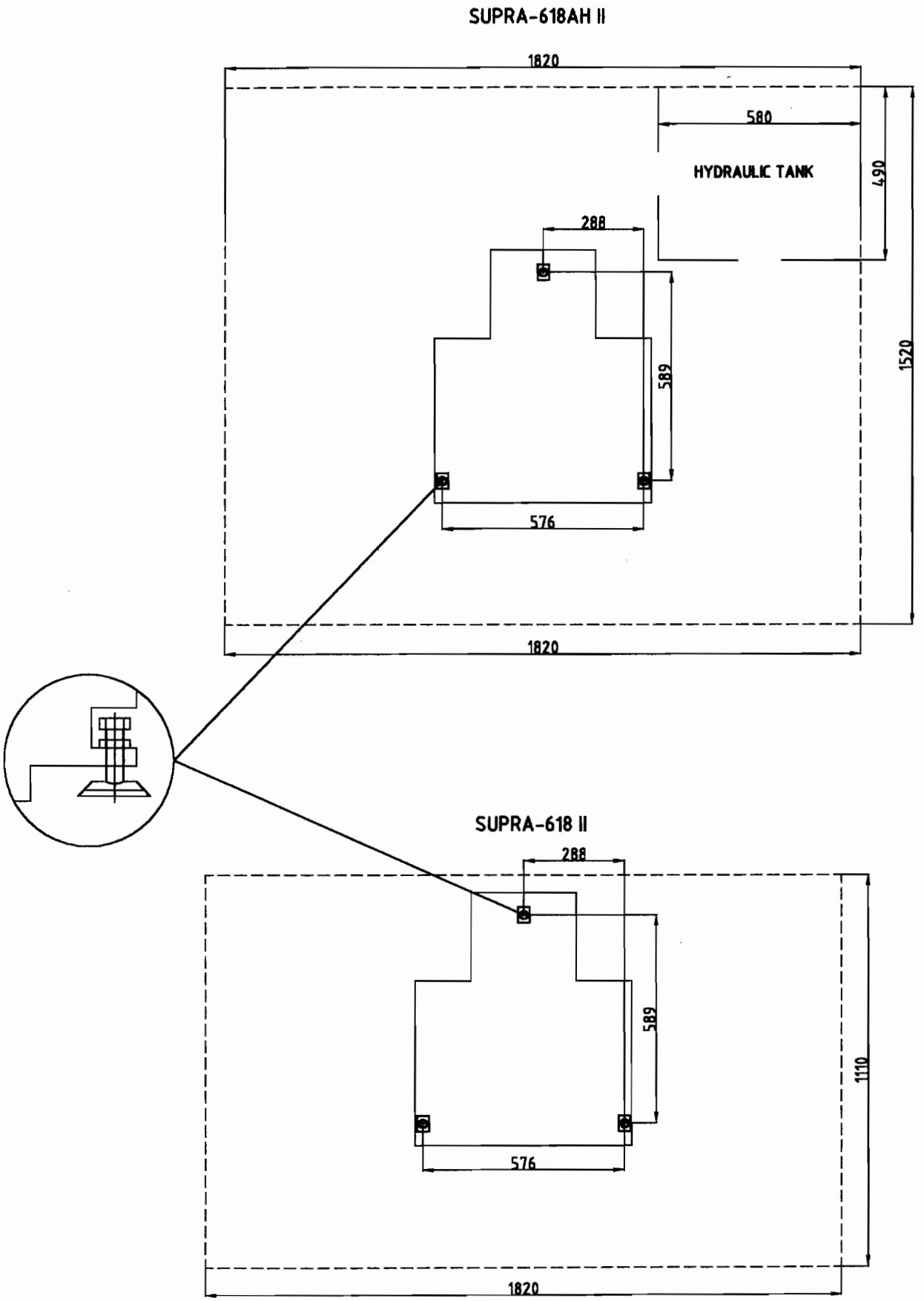


Table
Fixed stand
Nut
Cylinder
Washer
Nut
Rubber pad
Washer

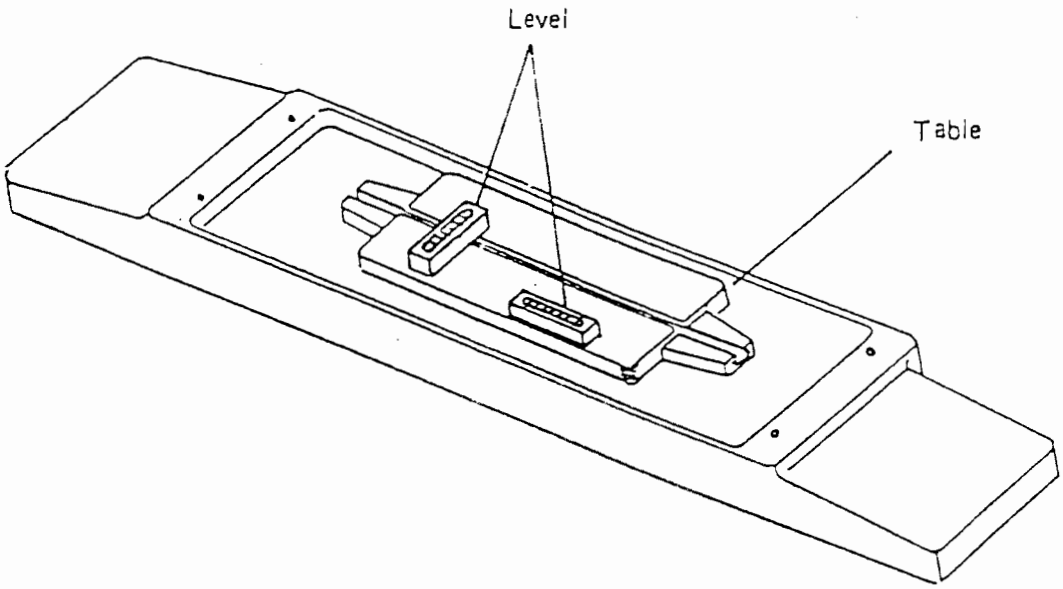
Fig 4

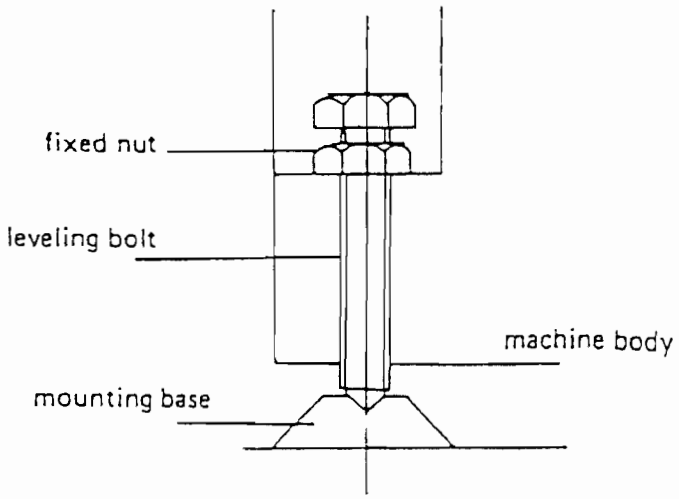
A. DIMENSIONS MAP



5. LEVELING THE MACHINE

Generally speaking, the machine doesn't need any of the special foundation, except for very precision grinding. However the machine has to be located on an even and smooth place, where there is no vibration. The levelness of the machine is adjusted by adjusting the three leveling screws. Adjusting the precision level (0.0004/40"), as shown on the drawing, within one graduation.





After adjust the level for the first time, you have to re-adjust the machine once every three months for one year. Thereafter, do it twice every year.

6. BALANCE OF THE WHEEL

Accurate grinding, brightness of work piece, and movement of spindle are contributing factors to the reason of balancing of the wheel. Wheel balancing will also eliminate the wheel's internal stress and prolong the life of the spindle.

First time after grinding wheel is balanced: Lock the grinding wheel (with wheel flange on it) on the spindle tightly, and dress it by diamond dresser until it is evenly dressed. But in order to obtain the real balance of the grinding wheel, you have to take off the wheel and rebalance it again to achieve the balance that it required.

Because different material has to be ground by different grade of grinding wheel, we strongly suggest customer to prepare special grinding wheel with their flanges. So the customer can save the trouble of rebalancing the wheel after the grinding wheel is taken off.

After assembling the wheel and wheel flange (fig1), put the balancing arbor on, and place the assembly on the balancing stand (fig2), then follow the procedure below:

1. Adjust the level of balancing stand (fig3).
2. Let the wheel swings to find out the lower center of gravity and then mark it (v) (fig4).
3. Lock the balancing block (b) on the opposite side of gravity and do not move it any more (fig5).
4. Put two balancing blocks (p) at 120 degree from (b) (fig6).
5. To check wheel's balance, rotate the wheel at about 90 degree each time. If the wheel moves, move the closest block (p) to the opposite rotation of the wheel moving direction. Rotate the wheel around until it is balanced.
6. After wheel is balanced, you must let the wheel running under normal speed for at least five minutes.
7. Since grinding wheel will loose its balance after grinding a long time, you must check and rebalance the wheel occasionally.
8. If you use coolant during grinding, please start the spindle before turning on the coolant. Otherwise the wheel will start out of balance because of water concentrate on one side of the wheel. If the wheel is idle for a long time, the coolant will concentrate at wheel's lowest

center of the gravity point. Therefore when you restart the spindle again, you must run the spindle for at least 10~15 minutes to rebalance the wheel.

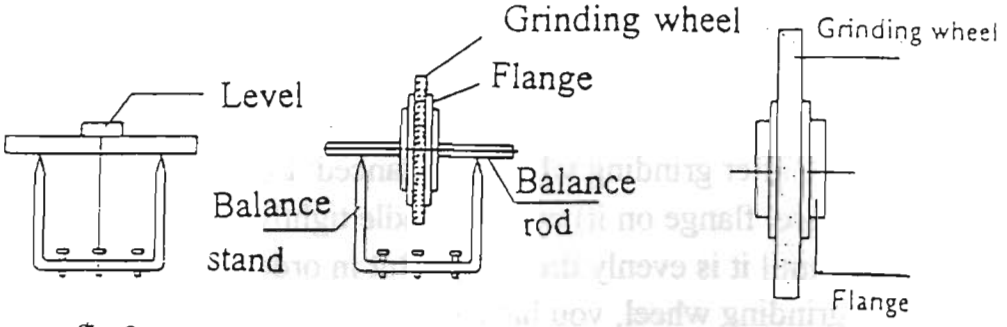


fig 3 fig 2 fig 1

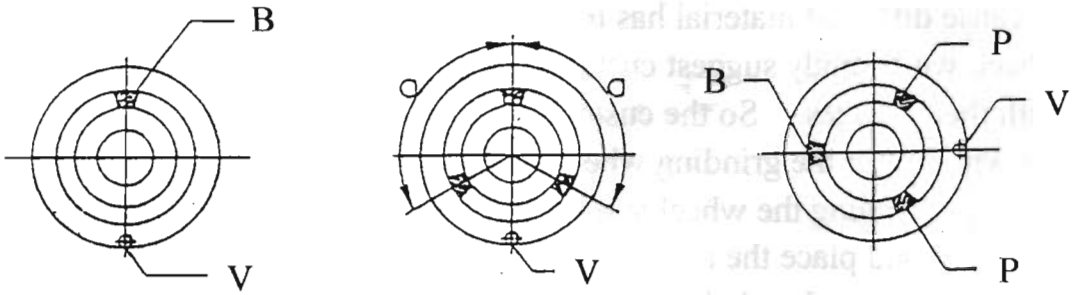


fig 4 fig 5 fig 6

7. HOW TO DRESS GRINDING WHEEL AND USE DIAMOND DRESSER:

A. When you dress grinding wheel, diamond inevitably wear along the rotating direction, so to eliminate this from happening, the diamond dresser has to be put at a slant angle of 6 degree to dress the wheel (fig 1).

B. When you are going to dress the grinding wheel, please put the sharp tip of diamond dresser at approximately 0.2" (5mm) to the left bottom of the grinding wheel, and stop the longitudinal movement of working table, then you may move crossfeed in and out slowly to dress the wheel (fig 2).

C. When you dress the grinding wheel, you must start from the middle, because grinding wheel usually wear more on the end sides than in the middle. If you dress from the two sides to middle, then pressure can build up during grinding (fig 3).

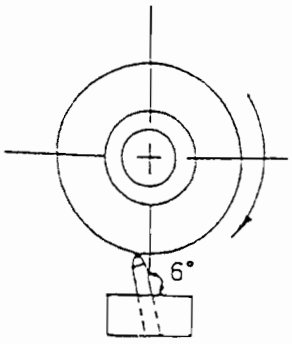


fig 1

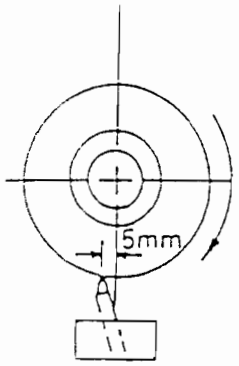


fig 2

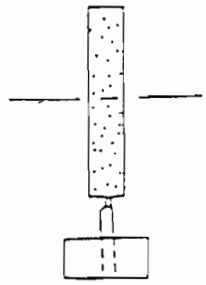


fig 3

Dressing speed and depth will influence the grinding surface. If you don't ask for best surface or you want bigger grinding capacity, fast or rough dressing is enough. (Dressing depth 0.01~0.03mm each time and coordinate with fast speed across the grinding wheel three or four times.) If you want best surface or last finishing grinding, then the grinding wheel has to treat with careful dressing. (Dressing depth from 0.02mm, 0.01mm to 0.005mm graduately and combine with slow and steady speed across grinding wheel.)

Generally speaking, the useful life of grinding wheel and diamond dresser is longer with fine grinding than rough grinding.

8. INSTALLATION AND DISMANTLING OF THE GRINDING WHEEL

Installation:

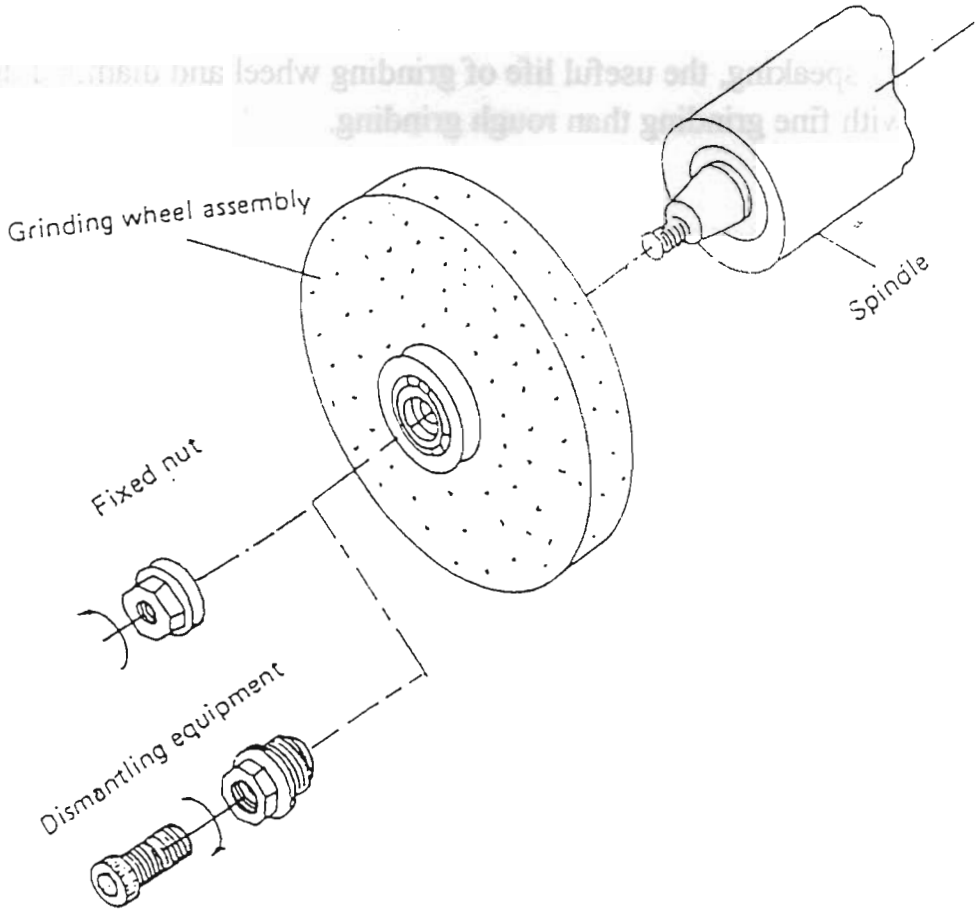
A. Choose the side with bigger conical surface for grinding wheel toward inside, and carefully put it on the spindle.

B. Firmly tighten the spindle nut counterclockwise (by movable wrench or open wrench).

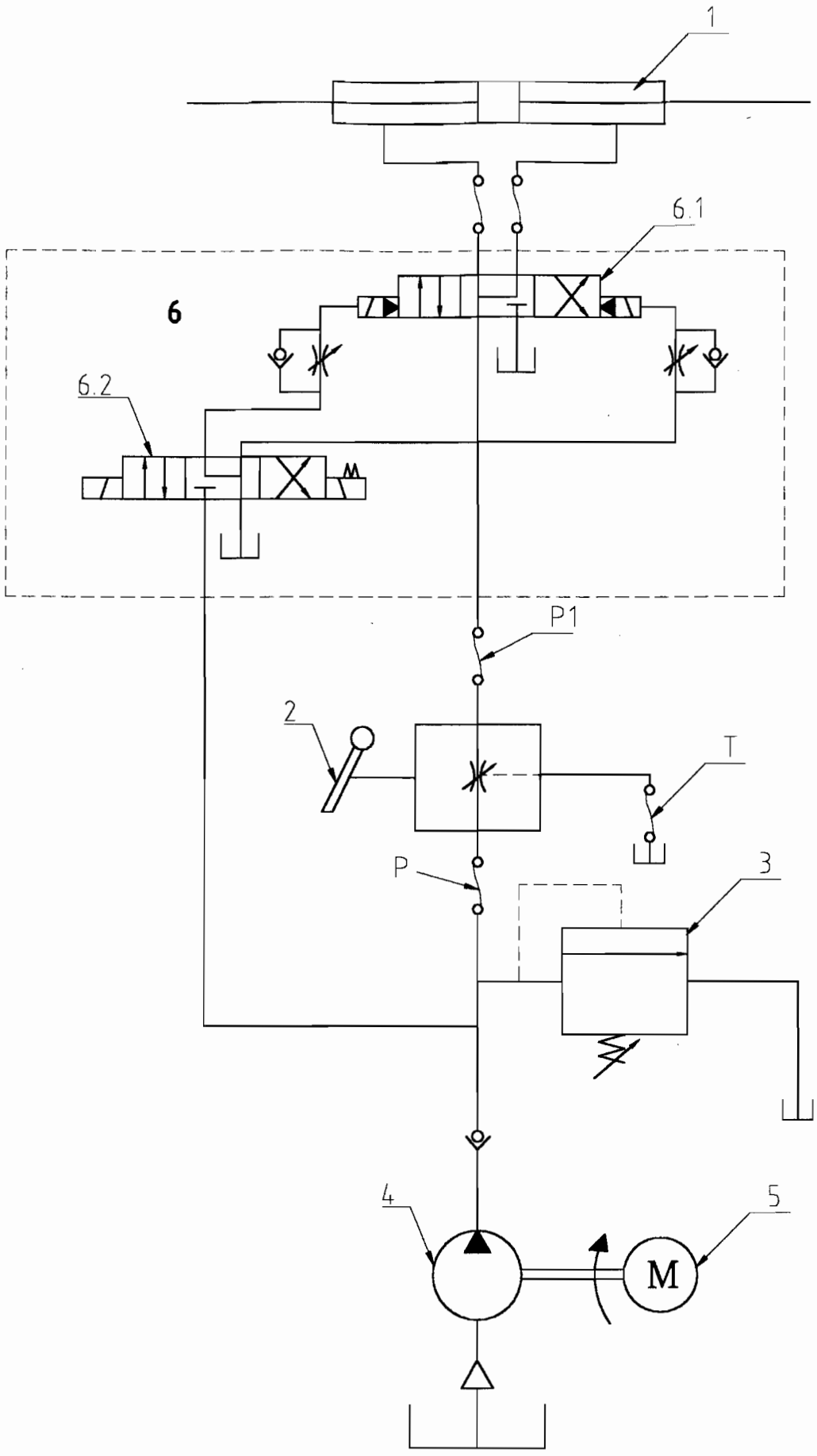
Dismantling:

A. Loosen the spindle nut clockwise with wrench.

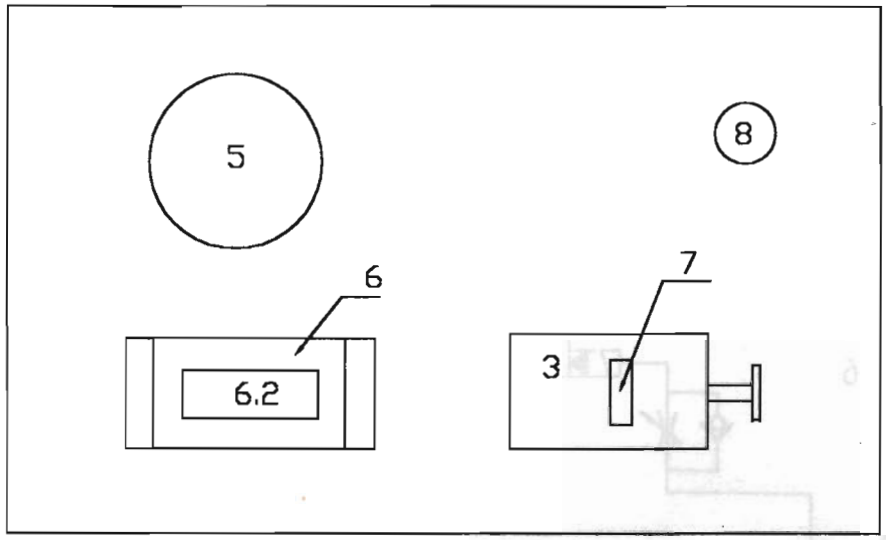
B. Firmly hold the grinding wheel by one hand, and screw in the wheel flange extractor until the grinding wheel assembly breaks away from the spindle. Then you can take down the grinding wheel.



9. HYDRAULIC SYSTEM DIAGRAM FOR 618AH II



HYDRAULIC CIRCUIT DIAGRAM



*****Normal hydraulic pressure on the gauge is between 10~15 kg/cm2.**

1	Cylinder	
2	Volume control valve	
3	Pressure reducing valve	
4	Hydraulic pump	16CC/REV
5	Hydraulic motor	1HP/6P
6	Manifold	
6.1	Directional valve	
6.2	Solenoid control valve	
7	Pressure gauge	
8	Strainer	
A	High pressure hose	3/8"*1100mm(L)
B	High pressure hose	3/8"*1400mm(L)
P	High pressure hose	3/8"*1100mm(L)
P1	High pressure hose	3/8"*1100mm(L)
T	High pressure hose	3/8"*1100mm(L)

10.LUBRICATION SYSTEM AND DIAGRAM

Lubrication system affects the accuracy and life-long of the machine. Our machine is equipped with automatic lubrication system for easier operator's maintenance. In order the keep the machine in the best condition, the user has to pay attention to the following:

A. Keep the lubrication oil more than 1/3 at lubrication tank at any time.

B. Check the slideways' lubrication condition. When they are dry, stop the machine immediately. Do not operate the machine until the lubrication problem is corrected.

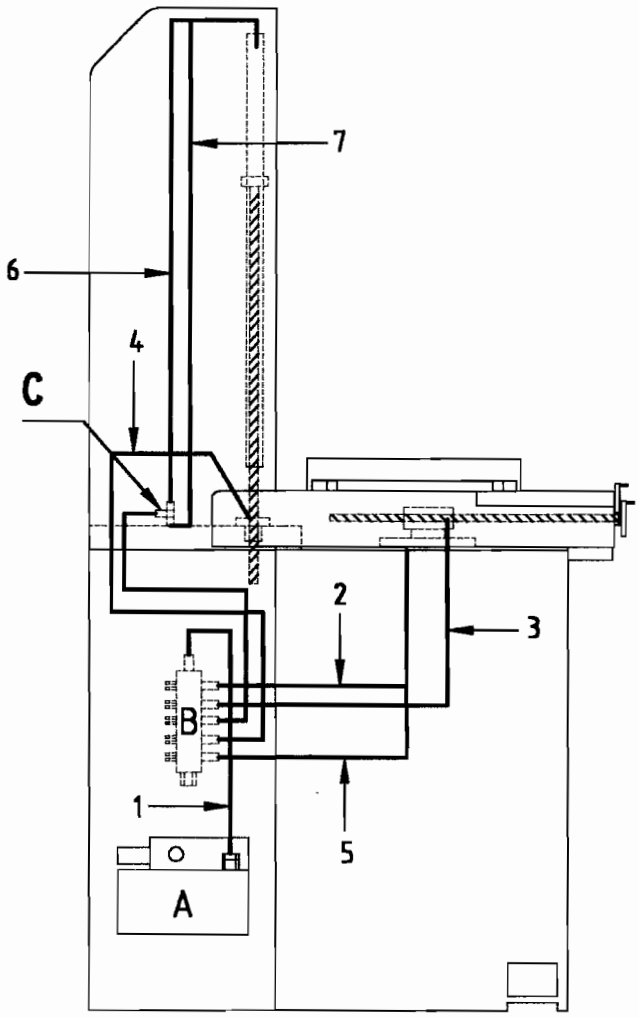
C. Please use the indicated brand and grade of the lubrication oil in order to obtain the best lubrication condition.

   **Mobile Vactra #2 waylube oil, Chevron waylube 68X.

   **Oil pumps every 30 minutes at 6cc each time. To change pumping time, turn the variable resistor to desired time position.

D. When the waylube oil is under low level, the buzzer will sound. Please add more way oil immediately.

AUTO LUBRICANT SYSTEM AND DIAGRAM



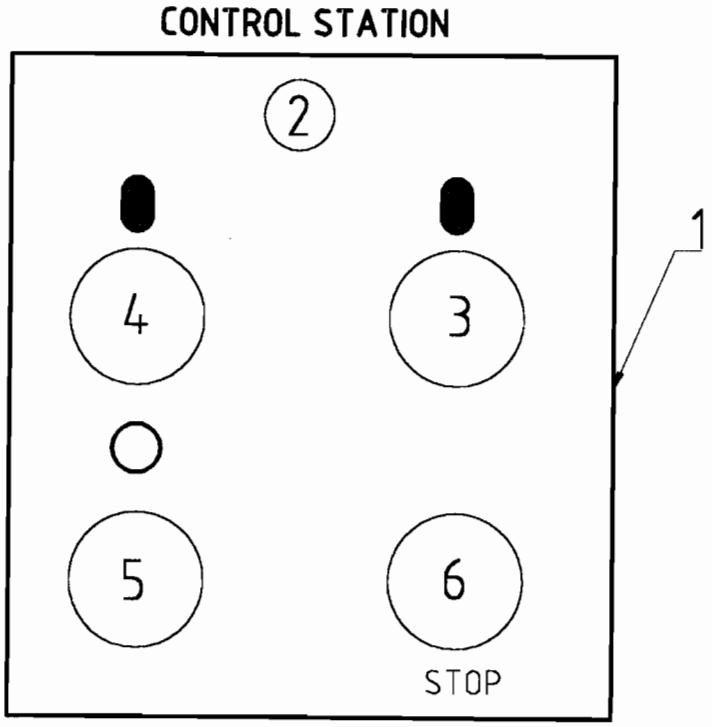
ITEM NO.	PARTS NO.	DESCRIPTION
A.	YESC(110V)	Auto Lubrication Pump
B.	9026	7 Way Distributor
C.	9004	3 Way Distributor
1.	9027	To 7 Way Distributor
2.	9028	To Left Crossfeed Slideway
3.	9029	To Crossfeed Leadscrew Set
4.	9030	To Elevation Leadscrew Set
5.	9031	To Light Crossfeed Slideway
6.	9032	To Elevation Leadscrew Set
7.	9033	To Elevation Leadscrew Set
8.	9002	4mm Aluminum Pipe Tubing NO.1,4,6,7
9.	9025	4mm PE (Pastic) Tubing NO.2,3,5

11. FUNCTIONS OF OPERATION SWITCH

Supra 618II Control Panel and Its Parts List

Description table in motors:

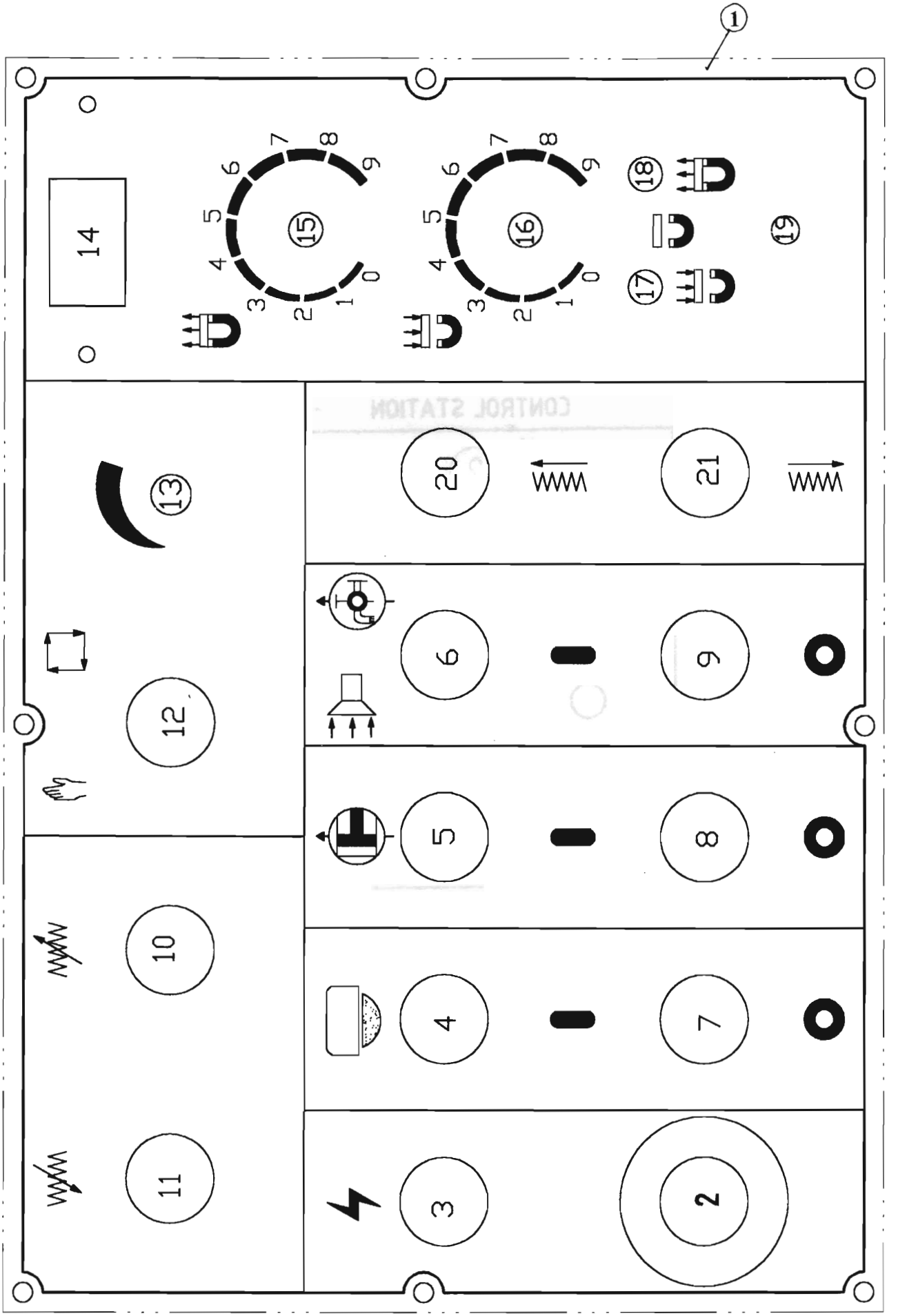
1. 1MTR – Spindle (Wheel head) motor: 2.2KW, 3-phase, AC motor.
2. 3MTR – Coolant pump motor: 0.2KW , 3-phase, AC motor.
3. 3MTR – Vacuum/Dust - exhaust motor: 0.4KW , 3-phase, AC motor.
4. 8MTR – Lubrication motor: 10W , 1-phase, 110VAC motor.



Control station:

No.	Description	Parts NO.	Type reference	Supplier
1.	Control station panel	GPE-618-E-001	Acer-618 panel	ACER
2.	Power On indicator	GPE-618-E-002	TPN-127R	Tend
3.	Spindle On	GPE-618-E-003	MK/ABLFC-22G/24V	Mark
4.	Coolant/Dust. On	GPE-618-E-004	MK/ABLFC-22G/24V	Mark
5.	Stop	GPE-618-E-005	MK/ABFP-22R	Mark
6.	Emergency Stop	GPE-618-E-006	AE-22 (Lock)	Mark

Supra 618AHII Control Panel and Its Parts List



DESCRIPTION OF CONTROL PANEL FOR 618AHII

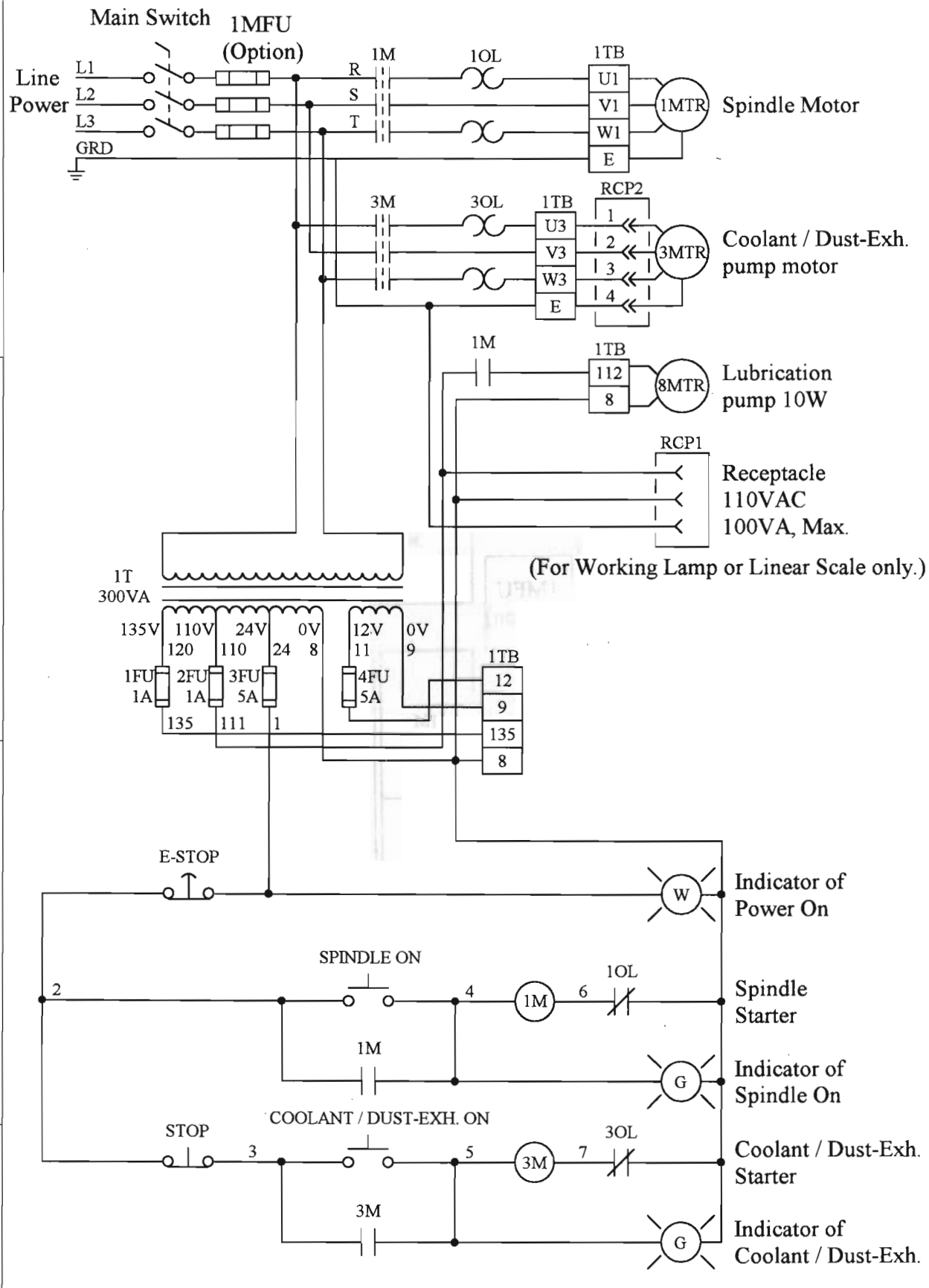
Item #	Description	Parts Number	Name on Circuit
1.	Control Panel Plate	GPE618AH-001	
2.	Emergency Push Button	GPE618AH-002	PB1
3.	Power on Button with Light	GPE618AH-003	PB2
4.	Spindle on Button	GPE618AH-004	PB3
5.	Hydraulic on Button	GPE618AH-004	PB5
6.	Coolant/Dust on Button	GPE618AH-004	PB7
7.	Spindle off Button	GPE618AH-007	PB4
8.	Hydraulic off Button	GPE618AH-007	PB6
9.	Coolant/Dust off Button	GPE618AH-007	PB8
10.	Crossfeed Inward	GPE618AH-004	PB11
11.	Crossfeed Outward	GPE618AH-004	PB12
12.	Rapid/Step Selector	GPE618AH-012	SS1
13.	Step Adjustment VR	GPE618AH-013	POT1
13-1.	Step Adjustment Knob	GPE618AH-013K	
14.	LED Display(Opt)	GPE618AH-014	DVM1
15.	Demagnetizer Timer(Opt)	GPE618AH-015	DEMAG.
16.	Magnetizer VR(Opt)	GPE618AH-015	MAG.
17.	Demag. Indicator Light(Opt)	GPE618AH-017	
18.	Mag. Indicator Light(Opt)	GPE618AH-018	
19.	Mag./Demag. Selector(Opt)	GPE618AH-019	
20.	Power up Button (Opt.)	GPE618AH-020	
21.	Power down Button(Opt.)	GPE618AH-020	
22.	Chuck Controller (Opt.)	GPE-CMR5G	

ELECTRIC PARTS OF CONTROL PANEL FOR 618AHII

Item #	Description	Type Reference	Supplier
1.	Control Panel Plate	ACER 618AH Panel	ACER
2.	Emergency Push Button	MK/AE-22 (Lock)	Mark
3.	Power on Button with Light	MK/ABLFC-22W/24V	Mark
4.	Spindle on Button	MK/ABLFC-22G/24V	Mark
5.	Hydraulic on Button	MK/ABLFC-22G/24V	Mark
6.	Coolant/Dust on Button	MK/ABLFC-22G/24V	Mark
7.	Spindle off Button	MK/ABFP-22R	Mark
8.	Hydraulic off Button	MK/ABFP-22R	Mark
9.	Coolant/Dust off Button	MK/ABFP-22R	Mark
10.	Crossfeed Inward	MK/ABLFC-22G/24V	Mark
11.	Crossfeed Outward	MK/ABLFC-22G/24V	Mark
12.	Rapid/Step Selector	MK/AC-22B	Mark
13.	Step Adjustment VR	RV24YN 20S, B502	COSMOS
13-1	Step Adjustment Knob	#596B	Wafer
14.	LED Display(Opt)	DVM1 Card	Maytronics
15.	Demagnetizer Timer(Opt)	503B, d24	
16.	Magnetizer VR(Opt)	503B, d24	
17.	Demag. Indicator Light(Opt)	Red, d8	
18.	Mag. Indicator Light(Opt)	Green, d8	
19.	Mag./Demag. Selector(Opt)	3B, d7	Alpus
20.	Power up Button (Opt.)	MK/ABLFC-22B/24V	Mark
21.	Power down Button(Opt.)	MK/ABLFC-22B/24V	Mark
22.	Chuck Controller(Opt)	CMR-5G	Maytronics

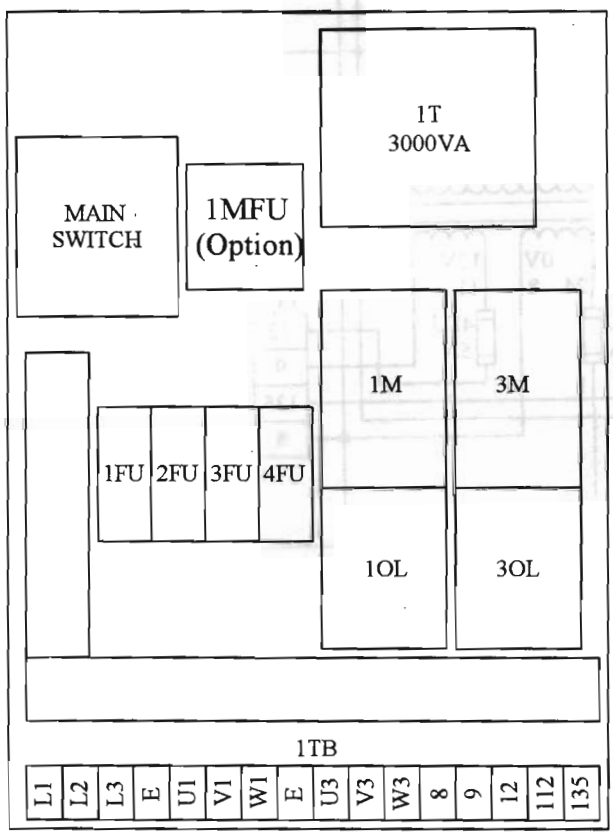
1. To turn on the spindle, push PB3 to turn on the spindle.
2. To turn off the spindle, push PB4 to turn off the spindle.
3. To turn on the hydraulic system, push PB5 to turn off the hydraulic system.
4. To turn off the hydraulic system, push PB6 to turn off the hydraulic system.
5. To turn on the coolant/dust system, push PB7 to turn on the coolant/dust system.
6. To turn off the coolant/dust system, push PB8 to turn off the coolant/dust system.
7. To operate rapid crossfeed, turn SS1 to hand position.
8. To operate step crossfeed, turn SS1 to auto-cycle position. Then push either PB11 or PB12 to activate the automatic crossfeed cycle. During the automatic cycle, when the crossfeed is traveling inward, push PB12 will reverse its direction immediately. Converse will happen when execute.
9. To adjust the step feed amount, turn POT1 to desire position for crossfeed increment.
10. To adjust demagnetizer time, adjust DEMAG. to desired time.
11. To adjust magnetizer power, adjust MAG. VR to desired position.
12. To select demag. or mag., turn item 19 to desired position to activate its function.
13. To rapid up the spindle housing, push item 20. (option not available on 618AHII)
14. To rapid down the spindle housing, push item 21. (option not available on 618AHII)
15. To turn off the power to control panel, push in PB1. It will shut off all functions on the control panel. To turn on the power again, release PB1 by turning it on the knob.

12. ELECTRIC DIAGRAM



ACER - 618

Main control power & motors circuit diagram



ACER - 618

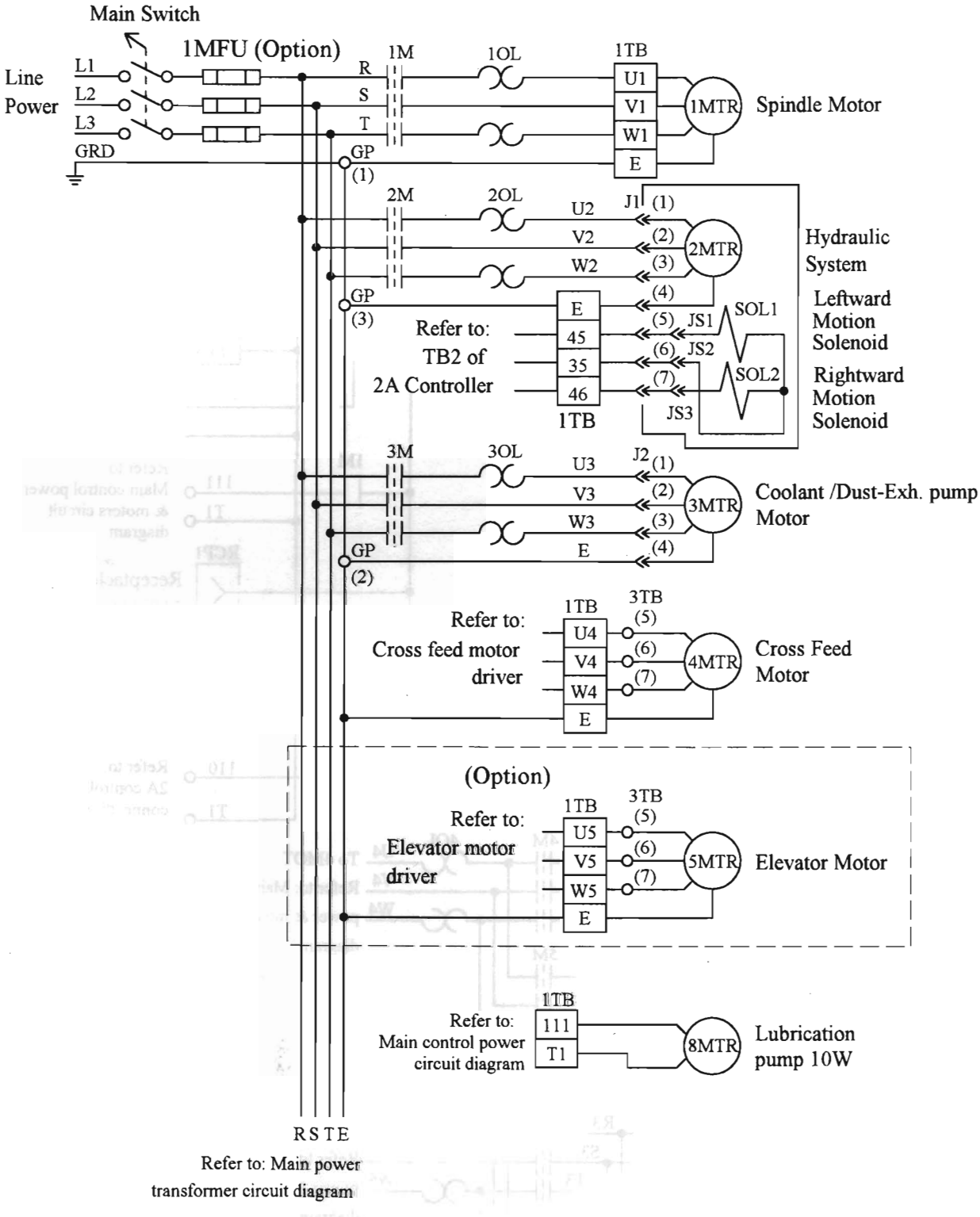
Main control panel layout diagram

ELECTRIC CABINET FOR 618II

No.	Description	Type reference	Supplier
1.	Main switch	OT16E3	ABB
2.	Main control power transformer	1T, 300VA	Taku
3.	DIN Rail mounting track	For components mounting, INTBR-N	Mark
4.	Manual spindle motor starter	1M, RAB-09T10A C1	Riken
5.	Manual coolant/dust. motor starter	3M, RAB-09T10A C1	Riken
6.	Spindle motor overload	1OL, BTH-18T2H8, 5.4~8A	Riken
7.	Coolant/dust. motor overload	3OL, BTH-18T2H2.8, 1. 8~2.8A	Riken
8.	Auxiliary contact	RA1-T11, 1a1b	Riken
9.	Main terminal blocks	1TB, TBC-10	Tend
10.	End stops of terminal blocks	For 1TB, TBC-F	Tend
11.	Fuse holder	1FU, 2FU and 3FU, FB-103R	Mack
12.	Fuse holder	4FU, FB-101R	Mark
13.	Fuse cover	For 1FU, 2FU, 3FU &4FU, FB-10N	Mack
14.	Terminal blocks	1TB, TBC-10	Tend
15.	Terminal blocks stop	TBC-F	Tend
16.	Terminal blocks	2TB, TB25-4	Tend
17.	Coolant/dust. connector	J2, LLPM508-25-4	Lan Ling
18.	Fuse holder (Option)	For 1MFU	df PM F

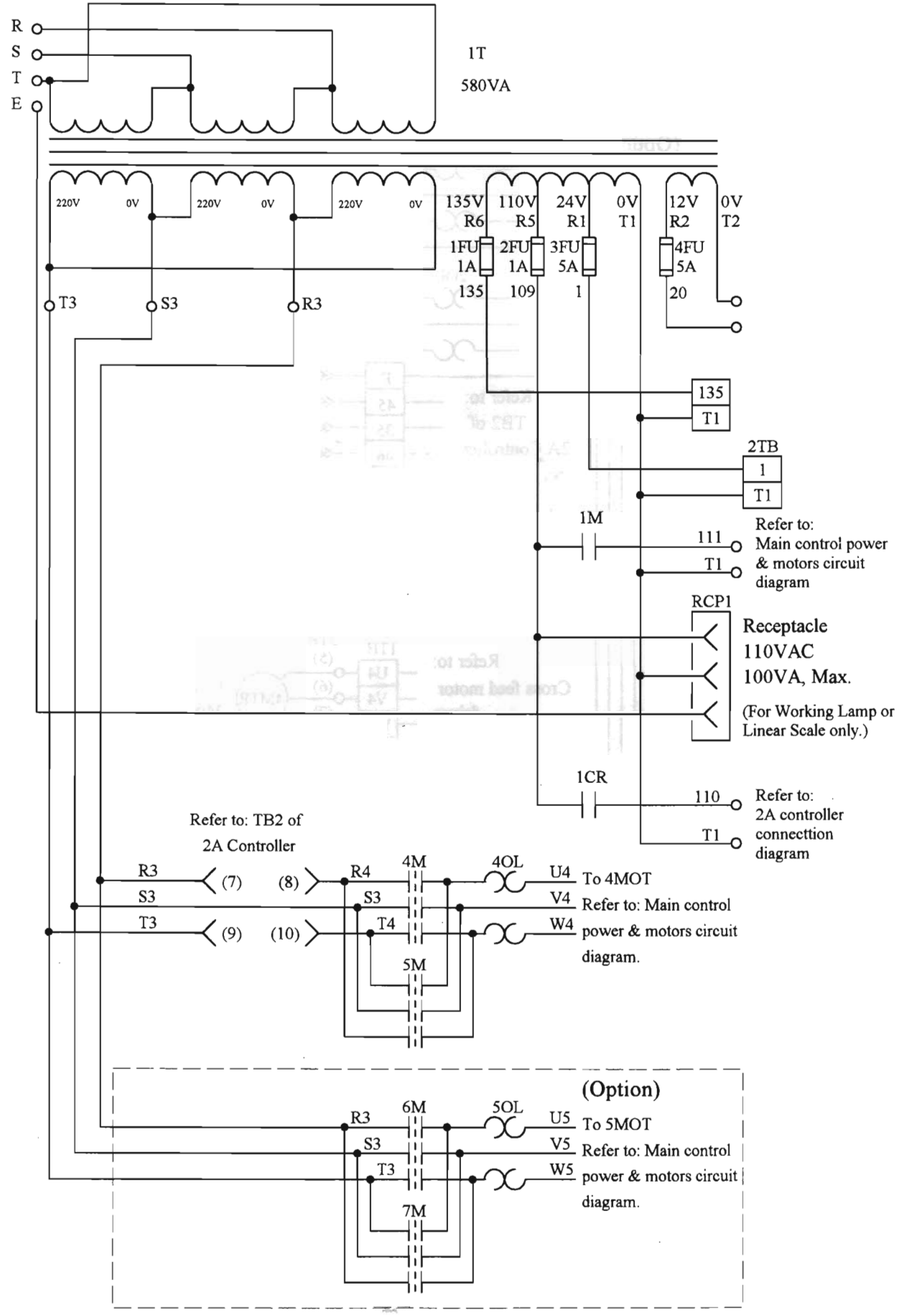
Compatible table of electrical parts

No.	Description	Type reference	Supplier
1.	Riken RAB-09TXXA C1 (24VAC)	100-A09K series	AB
		LC1-D09B series	TE
		CN-11 series	TaiAn
2.	Riken BTH-18T2HXX	193-A1 series	AB
		LR1-D093 series	TE
		RH-10E series	TaiAN
3.	Mark MK/AE-22 series	LE series	AB
		ZB2 series	TE
4.	Mark MK/ABXXX-22 series	LF series	AB
		ZB2 series	TE



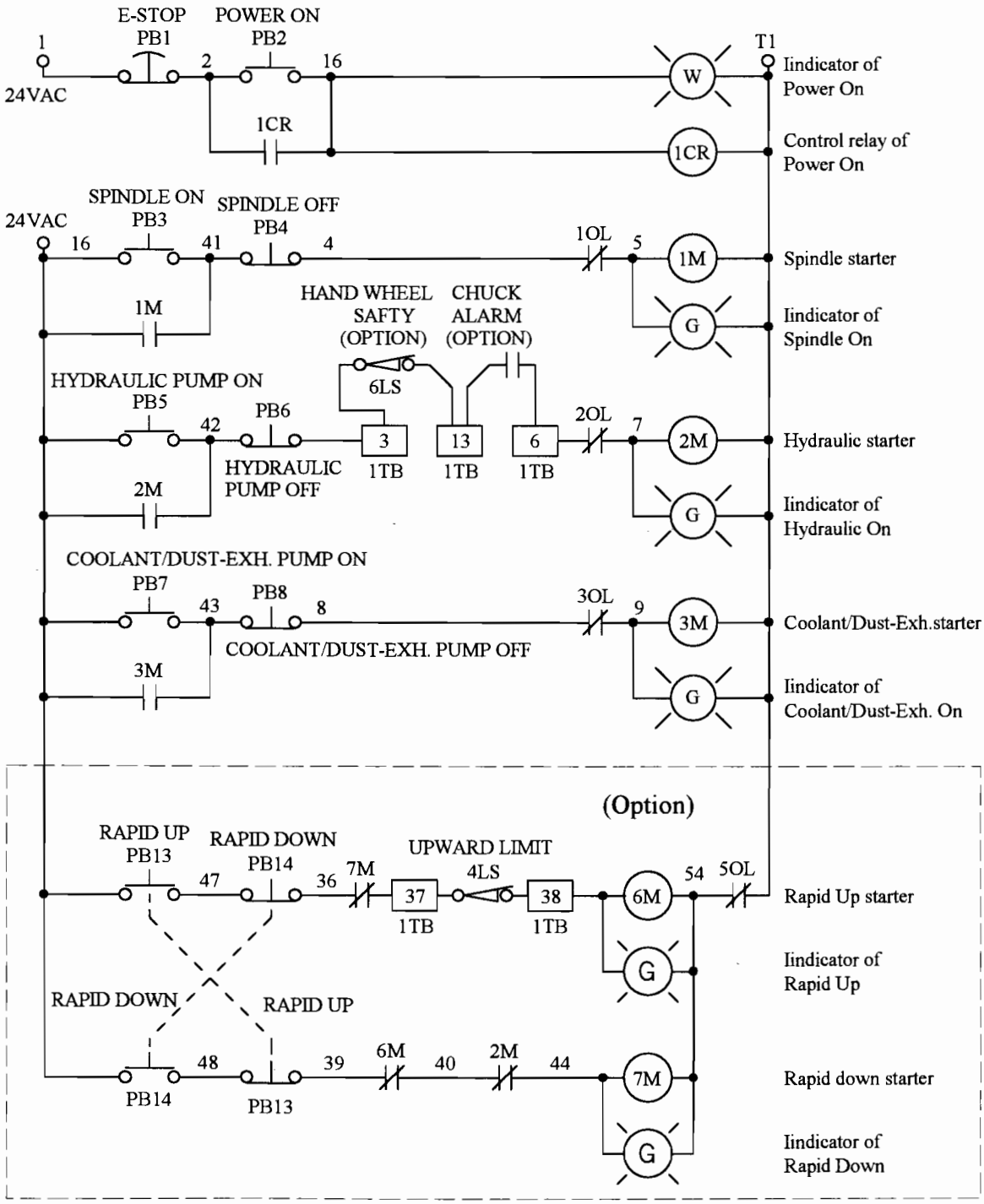
ACER - 618 AH

Main control power & motors circuit diagram



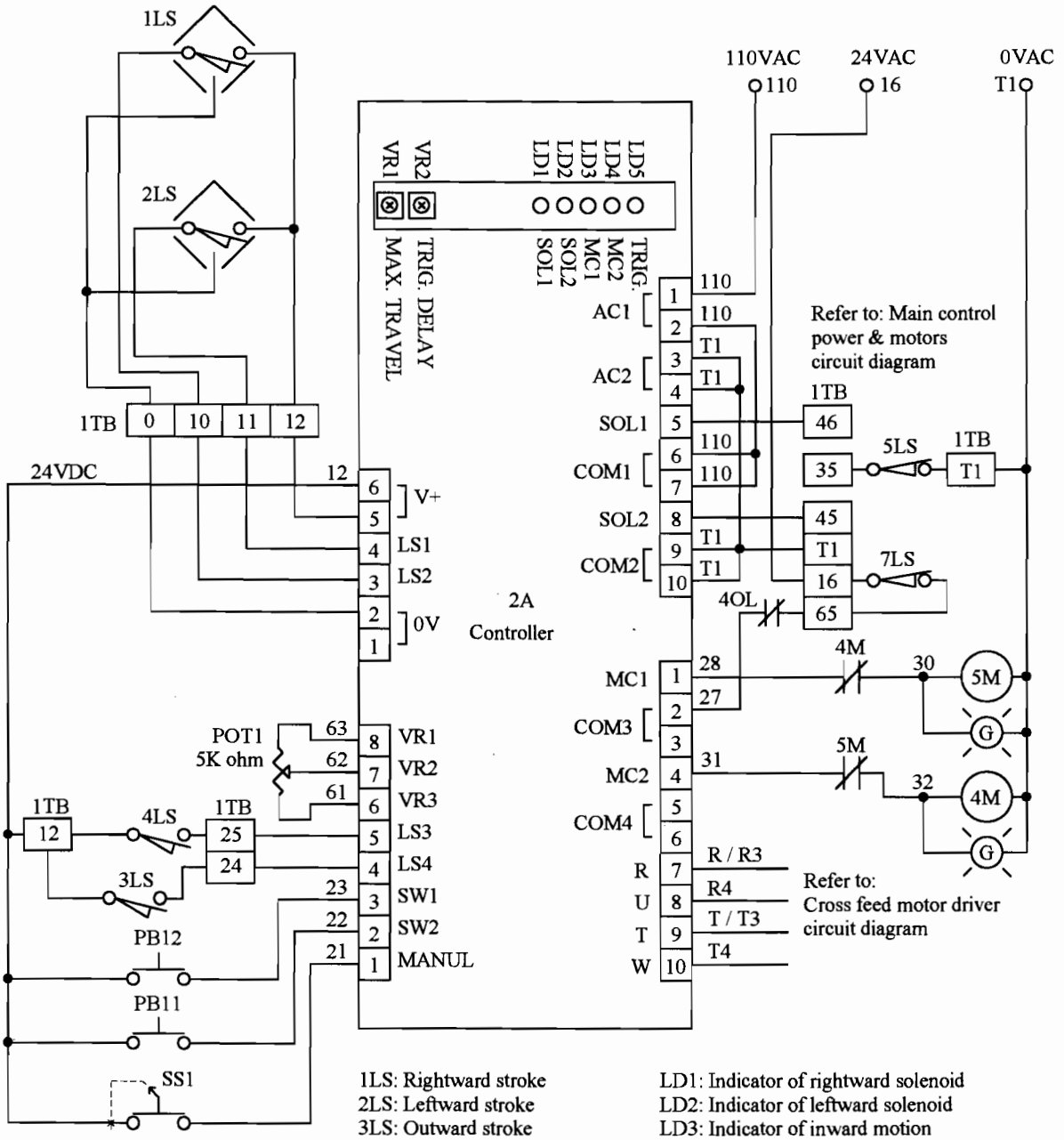
ACER - 618 AH

Main power transfomer circuit diagram



ACER - 618 AH

Main control circuit diagram



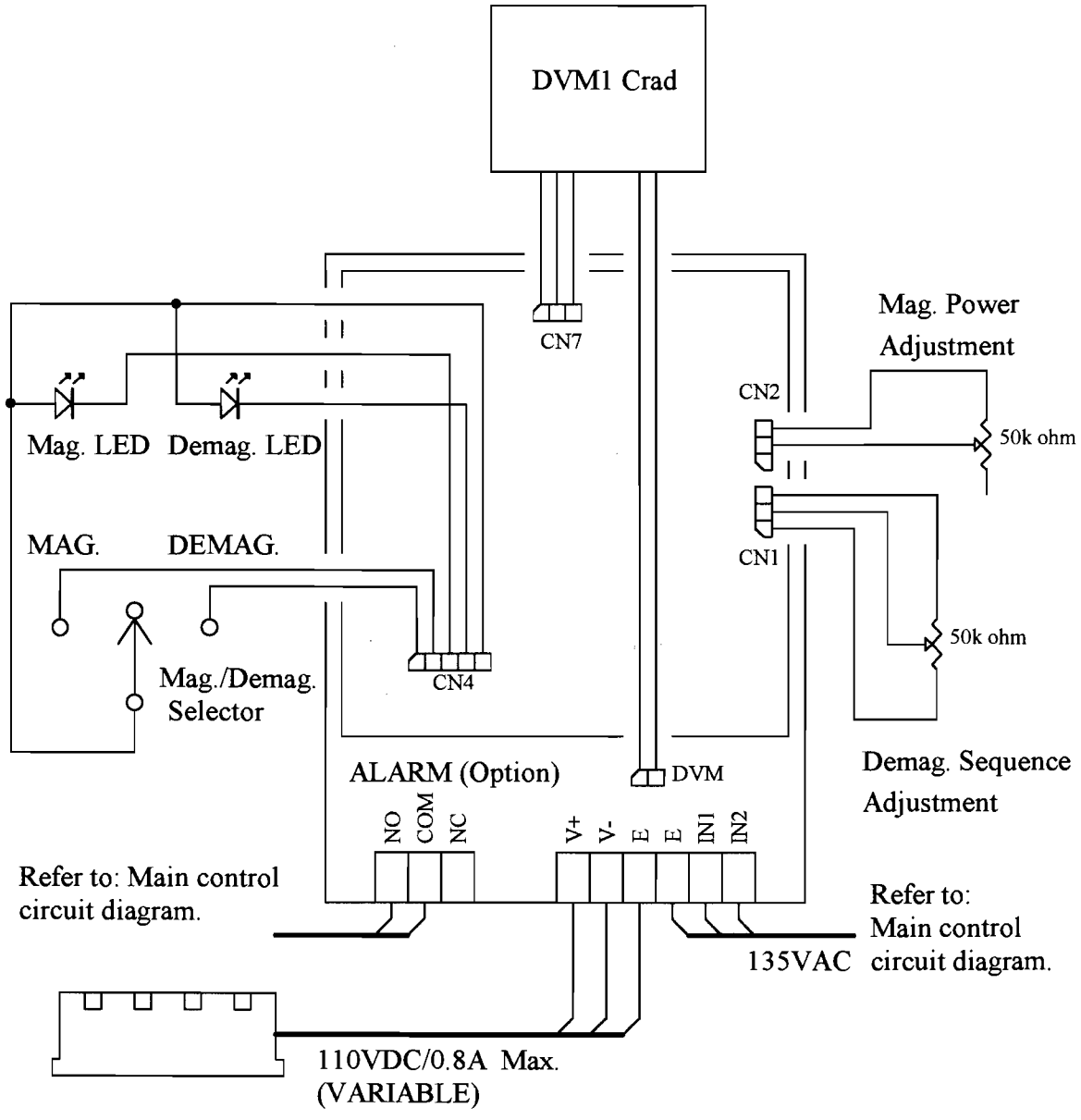
1LS: Rightward stroke
2LS: Leftward stroke
3LS: Outward stroke
4LS: Inward stroke
5LS: Throttle emplacement
7LS: Inward / outward limit
4M: Inward starter
5M: Outward starter
PB11: Inward direction
PB12: Outward direction
POT1: Step increment adjustment
SS1: Rapid / step selector

LD1: Indicator of rightward solenoid
LD2: Indicator of leftward solenoid
LD3: Indicator of inward motion
LD4: Indicator of outward motion
LD5: Indicator of trigger signal
VR1: Adjustment of maximum travel
VR2: Adjustment of delay trigger

ACER - 618 AH

2A controller connection diagram

Electric chuck controller
CMR-5G



ACER-618AH Electric parts listing

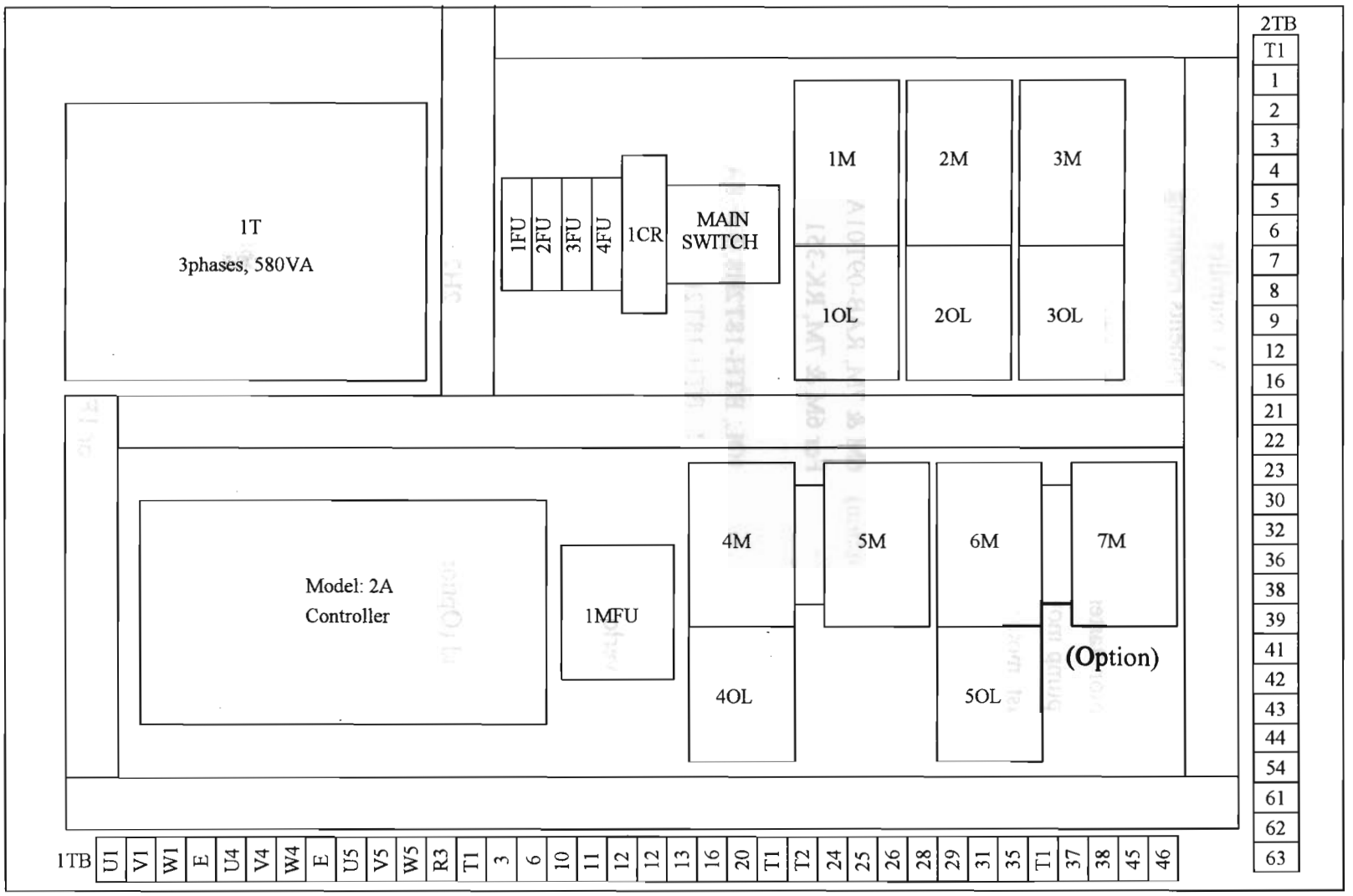
Description table in motors:

1. 1MTR – Spindle (Wheel head) motor: 2.2KW, 3-phase, AC motor.
2. 2MTR – Hydraulic pump motor: 0.75KW, 3-phase, AC motor.
3. 3MTR – Coolant pump motor: 0.2KW, 3-phase, AC motor.
4. 3MTR – Dust - exhaust motor: 0.4KW, 3-phase, AC motor.
5. 4MTR – Cross feed motor: 40W, 3-phase, 220VAC motor.
6. 5MTR (Option) – Elevator motor: 40W, 3-phase, 220VAC motor
7. 8MTR – Lubrication motor: 10W, 1-phase, 110VAC motor.

Peripheral electrical devices:

No.	Description	Type reference	Supplier
1.	Terminal blocks of saddle enclosure	For cross feed motor, 230WP	Teilbar
2.	Hydraulic system connector	J1, LLPM509-30-7	Lan Ling
3.	Coolant/Dust. connector	J2, LLPM508-25-4	Lan Ling
4.	110VAC receptacle	For working lamp or linear scale only. 110VAmax. LK 3021F	LKEW
5.	Right motion detector	Proximity switch, TL-B5NE1	KFPS
6.	Left motion detector	Proximity switch, TL-B5NE1	KFPS
7.	Inward motion stroke	Limit switch, MJ2-1308	Moujen
8.	Outward motion stroke	Limit switch, MJ2-1308	Moujen
9.	Outward/Inward motion limit	Limit switch, ME - 8104	Moujen
10.	Upward motion limit (Option)	Limit switch, ME - 1704	Moujen

Main control panel layout diagram



ACER - 618 AH (Option)

ELECTRIC CABINET FOR 618AHII

No.	Description	Type reference	Supplier
1.	Main switch (Option)	OT16E3	ABB
2.	Main control power transformer	1T, 580VA	Jeau Yi
3.	2-Axes motion controller	Model: 2A Controller	Maytronics
4.	DIN Rail mounting track	For components mounting, INTBR-N	Mark
5.	Manual spindle motor starter	1M, RAB-09T10A C1	Riken
6.	Manual hydraulic pump motor starter	2M, RAB-09T10A C1	Riken
7.	Manual coolant/dust. motor starter	3M, RAB-09T10A C1	Riken
8.	Cross feed direction controller	4M & 5M, RAB-09T01A C1	Riken
9.	Mechanical interlock of cross feed direction controller	For 4M & 5M, RK-351	Riken
10.	Up/down direction controller (Option)	6M & 7M, RAB-09T01A C1	Riken
11.	Mechanical interlock of cross feed direction controller (Option)	For 6M & 7M, RK-351	Riken
12.	Spindle motor overload	1OL, BTH-18T2H8, 5.4~8A	Riken
13.	Hydraulic pump motor overload	1OL, BTH-18T2H4.3, 2.9~4.3A	Riken
14.	Coolant/dust. motor overload	3OL, BTH-18T2H2.8, 1.8~2.8A	Riken
15.	Cross feed motor overload	4OL, BTH-18T2H2.8, 0.3~0.4A	Riken
16.	Elevator motor overload (Option)	5OL, BTH-18T2H2.8, 0.3~0.4A	Riken
17.	Main terminal blocks	1TB & 2TB, TBC-10	Tend
18.	End stops of terminal blocks	For 1TB, TBC-F	Tend
19.	Fuse holder (Option)	For 1MFU PM F (10X38) Tripolar	df PM F
20.	Fuse holder	1FU, 2FU and 3FU, FB-103R	Mack
21.	Fuse holder	4FU, FB-101R	Mark
22.	Fuse cover	For 1FU, 2FU, 3FU and 4FU, FB-10N	Mark
23.	Power on relay	LY2Z 24VAC	OMRON

Compatible table of electrical parts

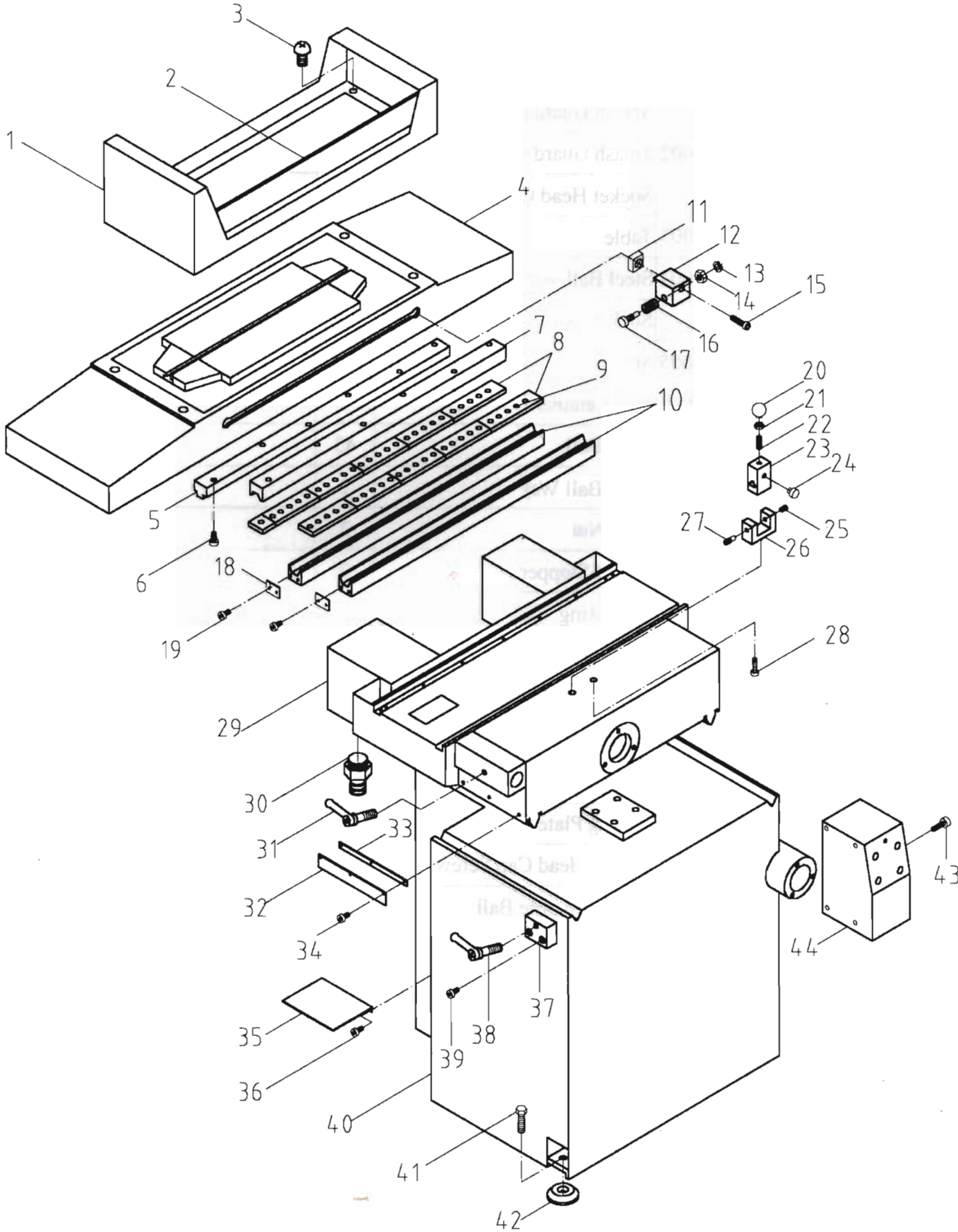
No.	Description	Type reference	Supplier
1.	Riken RAB-09TXXA C1 (24VAC)	100-A09K series	AB
		LC1-D09B series	TE
		CN-11 series	TaiAn
2.	Riken BTH-18T2HXX	193-A1 series	AB
		LR1-D093 series	TE
		RH-10E series	TaiAN
3.	Mark MK/AE-22 series	LE series	AB
		ZB2 series	TE
4.	Mark MK/ABXXX-22 series	LF series	AB
		ZB2 series	TE
5.	Mark MK/AC-22 series	SM22 series	AB
		XB2 series	TE
6.	KFPS TL-B5NE1	TL-N5ME1	OMRON
7.	Moujen MJ2 - 1308	D4MC-2020	OMRON
8.	Moujen ME - 8104	D4D-1120N	OMRON
9.	Moujen ME – 1704	SHL-Q2255	OMRON

Mechanical Parts List

To order parts, please have the following information ready:

1. **Year of production**
2. **Model and serial number**
3. **Item number and description**
4. **Quantity**

TABLE,SADDLE,BASE ASS'Y



TABLE, SADDLE AND BASE ASS'Y

(618-01)

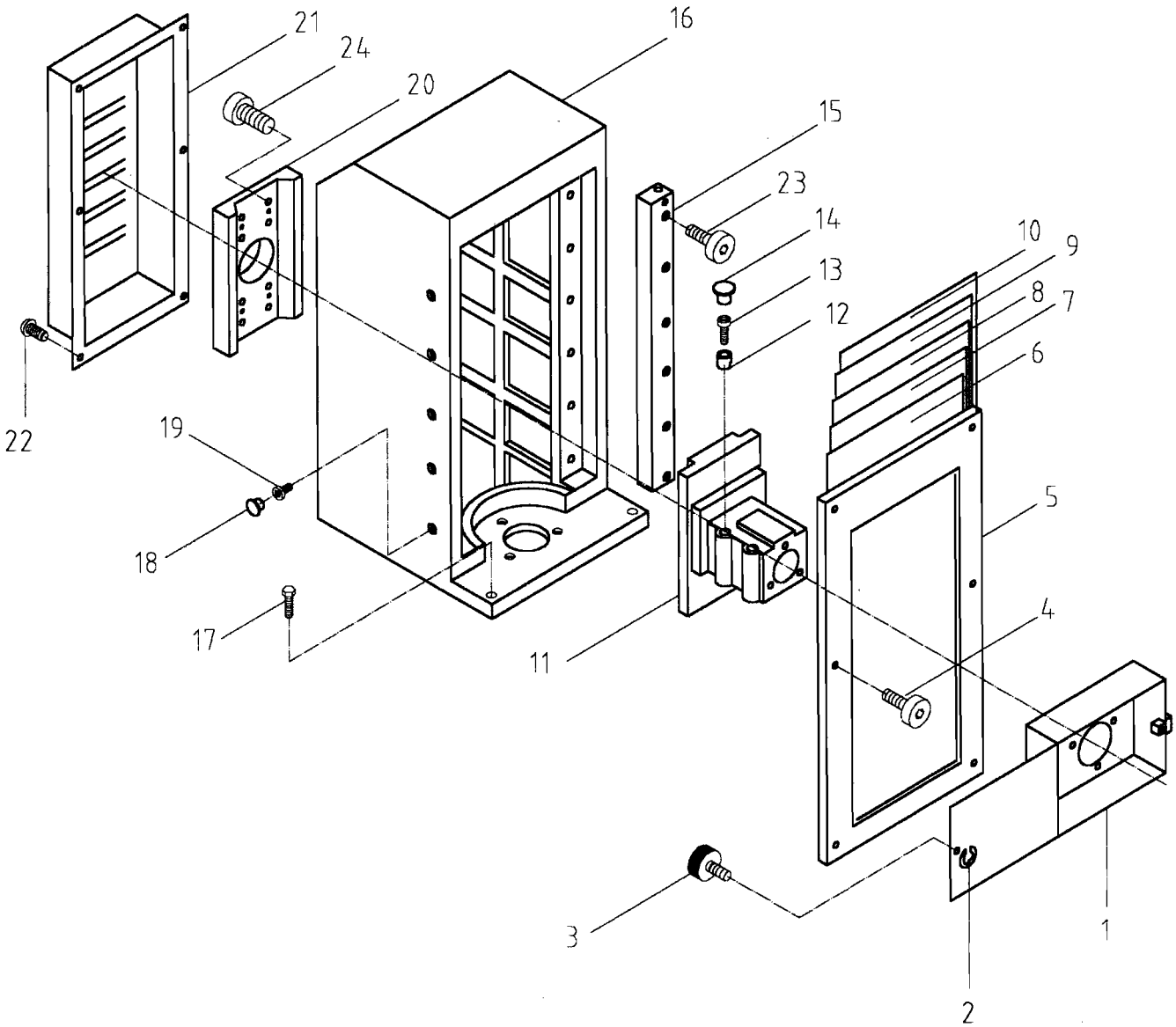
Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-01-001	Splash Guard (Frame)	1	
2	618-01-002	Splash Guard (Plate)	3	
3		Socket Head Cap Screw	4	M6*10L
4	618-01-003	Table	1	
5	618-01-004	Steel Ball Way	1	
6		Socket Head Cap Screw	12	M6*25L
7	618-01-005	Steel Ball Way	1	
8	618-01-006	Ball Retainer	9	
9	618-01-017	Steel Ball	43	
10	618-01-007	Steel Ball Way	2	
11		Hex. Nut	2	
12	618-01-020	Travel Stopper	2	
13		Snap Ring	2	ϕ6
14		Hex. Nut	2	M8
15		Socket Head Cap Screw	2	M8*30L
16	618-01-018	Spring	2	
17	618-01-019	Stopper Screw	2	
18	618-01-009	Setting Plate	4	
19		Socket Head Cap Screw	8	M5*10L
20	618-01-021	Black Bakelite Ball	1	
21		Hex Nut	1	M6
22		Set Screw	1	M6*20L
23	618-01-022	Table Bracket Base	1	
24	618-01-023	Rubber Spacer	1	
25		Set Screw	1	M8*20L
26	618-01-024	Table Bracket Base	1	

TABLE, SADDLE AND BASE ASS'Y

(618-01)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
27	618-01-025	Round End Screw	1	
28		Socket Head Cap Screw	2	M6*20L
29	618-01-010	Saddle	1	
30	618-01-026	Coolant Hose Connector	1	
31	618-01-011	Handle (ADJUSTABLE)	1	
32	618-01-027	Crossfeed Stopping Plate	1	
33	618-01-028	Stopping Plate Spacer	1	
34		Socket Head Cap Screw	3	M5*16L
35	618-01-029	Lube Pump Cover Plate	1	
36		Socket Head Cap Screw	2	M5*8L
37	618-01-030	Crossfeed Locking Base	1	
38	618-01-011	Handle (Adjustable)	1	
39		Socket Head Cap Screw	2	M5*35L
40	618-01-013	Base	1	
41	618-01-014	Leveling Screw	3	
42	618-01-015	Leveling Block	3	M8*16
43		Socket Head Cap Screw	4	
44	618-01-031	Electrical Cabinet	1	M6*20L

COLUMN ASS'Y

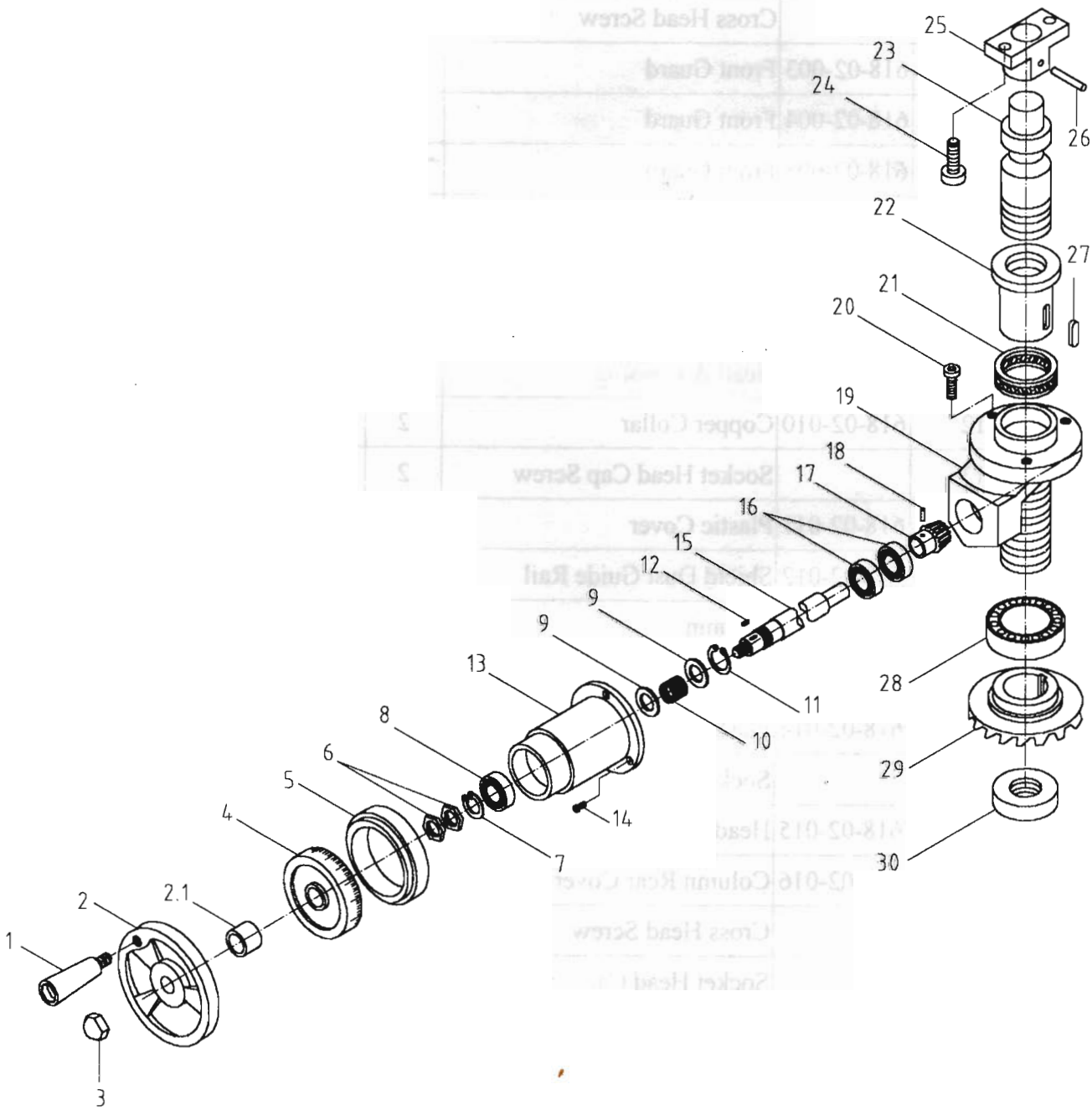


COLUMN ASS'Y

(618-02)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-02-001	Wheel Guard	1	
2		E-Snap Ring	1	ϕ 8
3	618-02-002	Lock Screw	1	
4		Cross Head Screw	6	M5*10L
5	618-02-003	Front Guard	1	
6	618-02-004	Front Guard	1	
7	618-02-005	Front Guard	1	
8	618-02-006	Front Guard	1	
9	618-02-007	Front Guard	1	
10	618-02-008	Front Guard	1	
11	618-02-009	Head A Housing	1	
12	618-02-010	Copper Collar	2	
13		Socket Head Cap Screw	2	M10*40L
14	618-02-011	Plastic Cover	2	
15	618-02-012	Shield Dust Guide Rail	2	
16	618-02-013	Column	1	
17		Hexagonal Head Screw	3	3/4"*65L
18	618-02-014	Plastic Cover	12	
19		Socket Head Cap Screw	12	M10*16L
20	618-02-015	Head B Housing	1	
21	618-02-016	Column Rear Cover	1	
22		Cross Head Screw	6	M5*8L
23		Socket Head Cap Screw		M10*30L
24		Socket Head Cap Screw		M10*40L

UPPER & LOWER TRANSMISSION ASS'Y

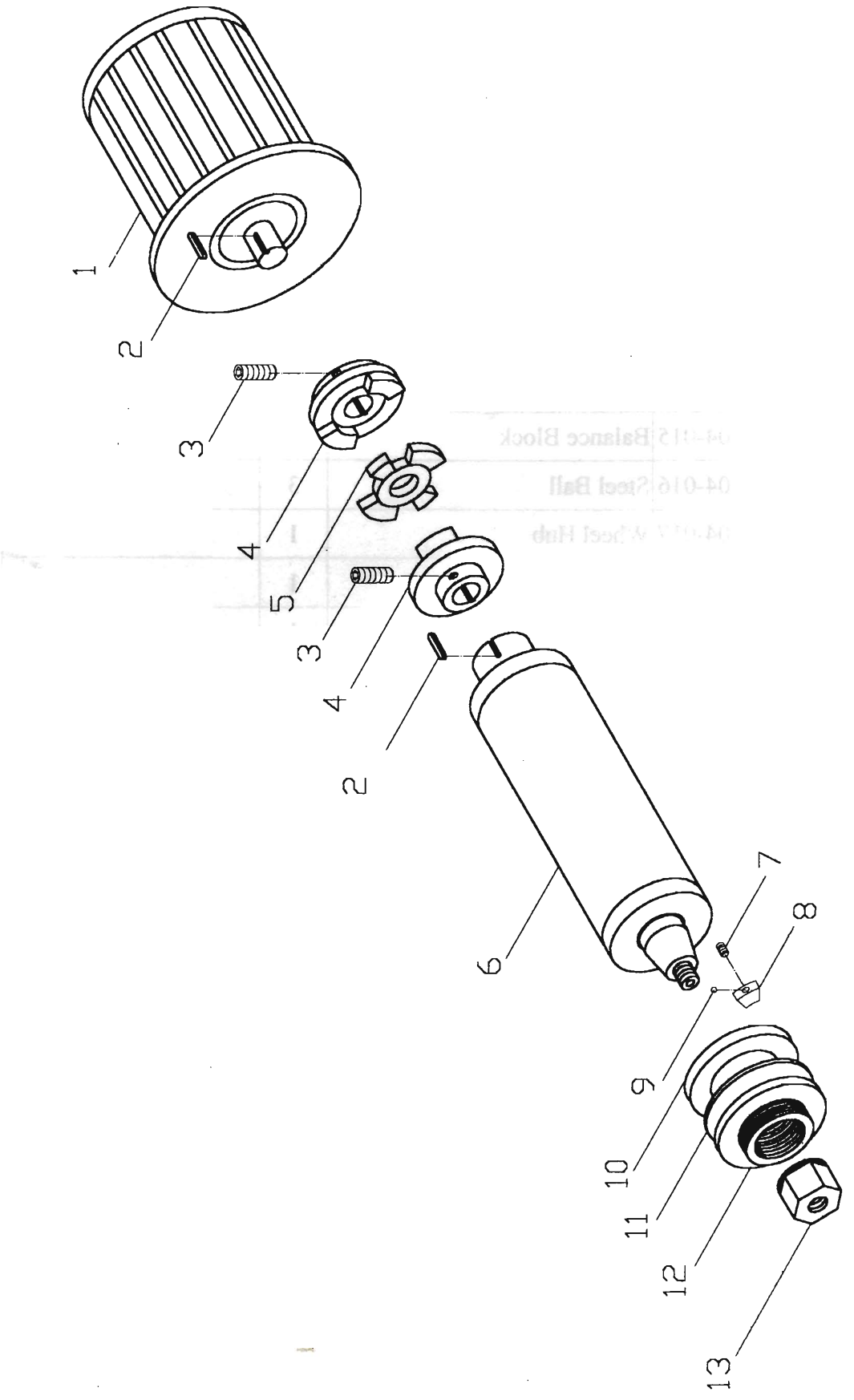


UPPER & LOWER TRANSMISSION ASS'Y

(618-03)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-03-001	Grip	1	
2	618-03-002	Handwheel	1	
2.1	618-03-016	Spacer	1	
3	618-03-003	Cap Nut	1	
4	618-03-004	Graduation Dial	1	
5	618-03-005	Graduation Dial Holder	1	
6	618-03-006	Hexagonal Nut	2	
7		Snap Ring	1	R52
8		Ball Bearing	1	1205
9		Washer	2	
10	618-03-016	Spring	1	
11	618-03-017	Snap Ring	1	
12		Key	1	5*5*20L
13	618-03-007	Bracket	1	
14		Socket Head Cap Screw	3	M8*20L
15	618-03-008	Transmission Shaft	1	
16		Ball Bearing	1	6204
17	618-03-009	Bevel Pinion	1	
18		Spring Pin	1	ϕ6*30L
19	618-03-010	Gear Seat	1	
20		Socket Head Cap Screw	3	M12*60L
21		Ball Bearing	1	51108
22	618-03-011	Upper & Lower Lead Screw Socket	1	
23	618-03-012	Upper & Lower Lead Screw	1	
24		Socket Head Cap Screw	2	M8*16L
25	618-3-013	Connect Bracket	1	

SPINDLE ASS'Y

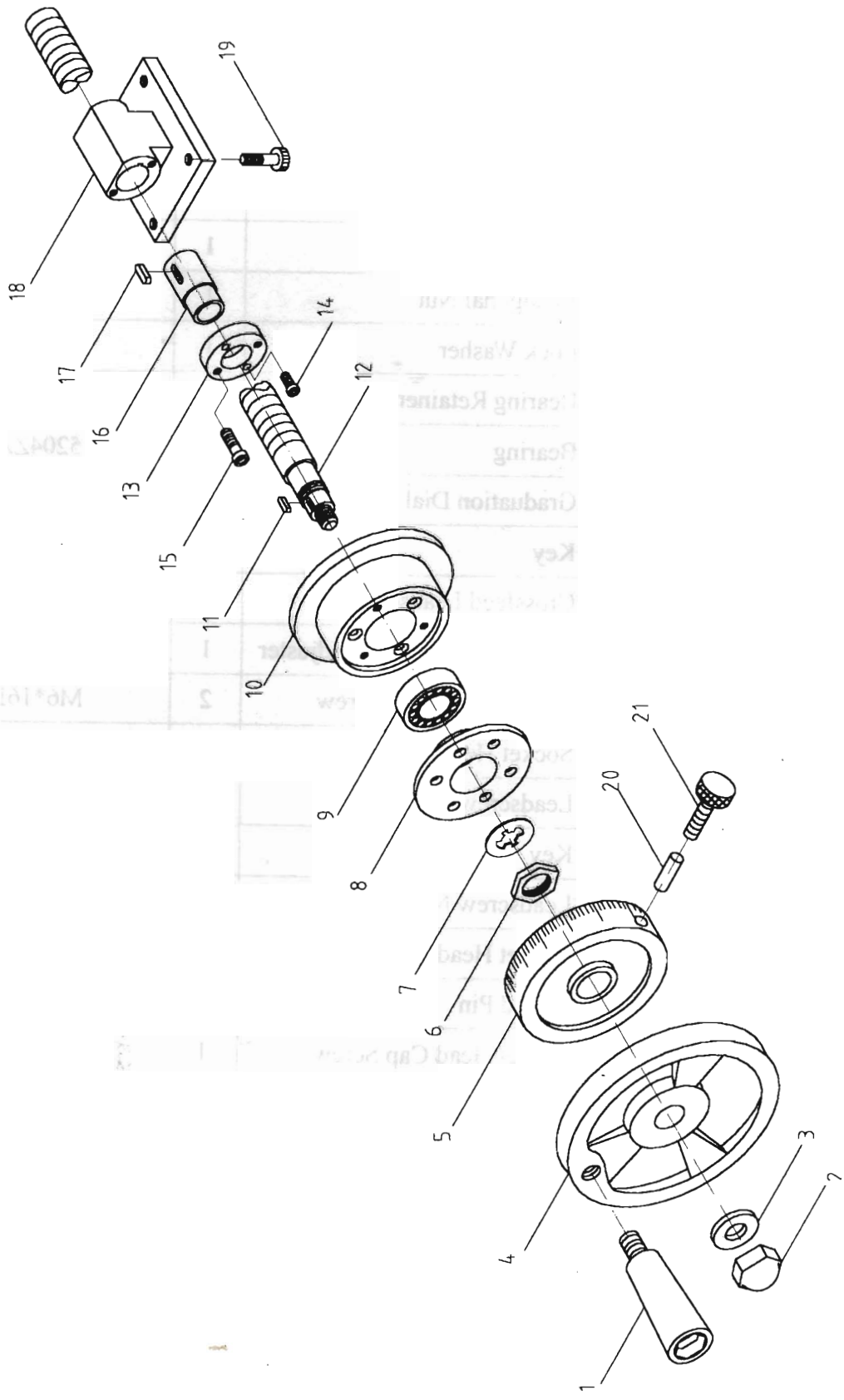


SPINDLE ASS'Y

(618-04)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-04-013	Spindle Motor	1	
2		Key	2	8*30L
3		Set Screw	2	M8*10
4	618-04-011	Coupling	2	
5	618-04-012	Rubber Coupling	1	
6	618-04-014	Spindle Assembly	1	
7		Set Screw	3	M4*5
8	618-04-015	Balance Block	3	
9	618-04-016	Steel Ball	3	ϕ3
10	618-04-017	Wheel Hub	1	
11	618-04-018	Washer	1	
12	618-04-019	Wheel Setting Nut	1	
13	618-04-020	Spindle Nut	1	

CROSS FEED ASS'Y



CROSS FEED ASS'Y

(618-05)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-05-001	Grip	1	
2	618-05-002	Cap Nut		
3		Washer	1	ϕ 10
4	618-05-003	Handwheel	1	
5	618-05-004	Graduation Dial	1	
6	618-05-005	Hexagonal Nut	1	
7		Lock Washer	1	
8	618-05-006	Bearing Retainer	1	
9		Bearing	1	5204ZZ
10	618-05-007	Graduation Dial Holder	1	
11		Key	1	5*5*30L
12	618-05-008	Crossfeed Leadscrew	1	
13	618-05-009	Leadscrew Backlash Adjuster	1	
14		Socket Head Cap Screw	2	M6*16L
15		Socket Head Cap Screw	2	M6*20L
16	618-05-010	Leadscrew Nut	1	
17		Key	1	5*5*20L
18	618-05-011	Leadscrew Nut Base	1	
19		Socket Head Cap Screw	4	M8*40L
20	618-05-012	Round Pin	1	ϕ 5*10L
21	618-05-013	Socket Head Cap Screw	1	
			1	

TABLE HAND FEED ASS'Y

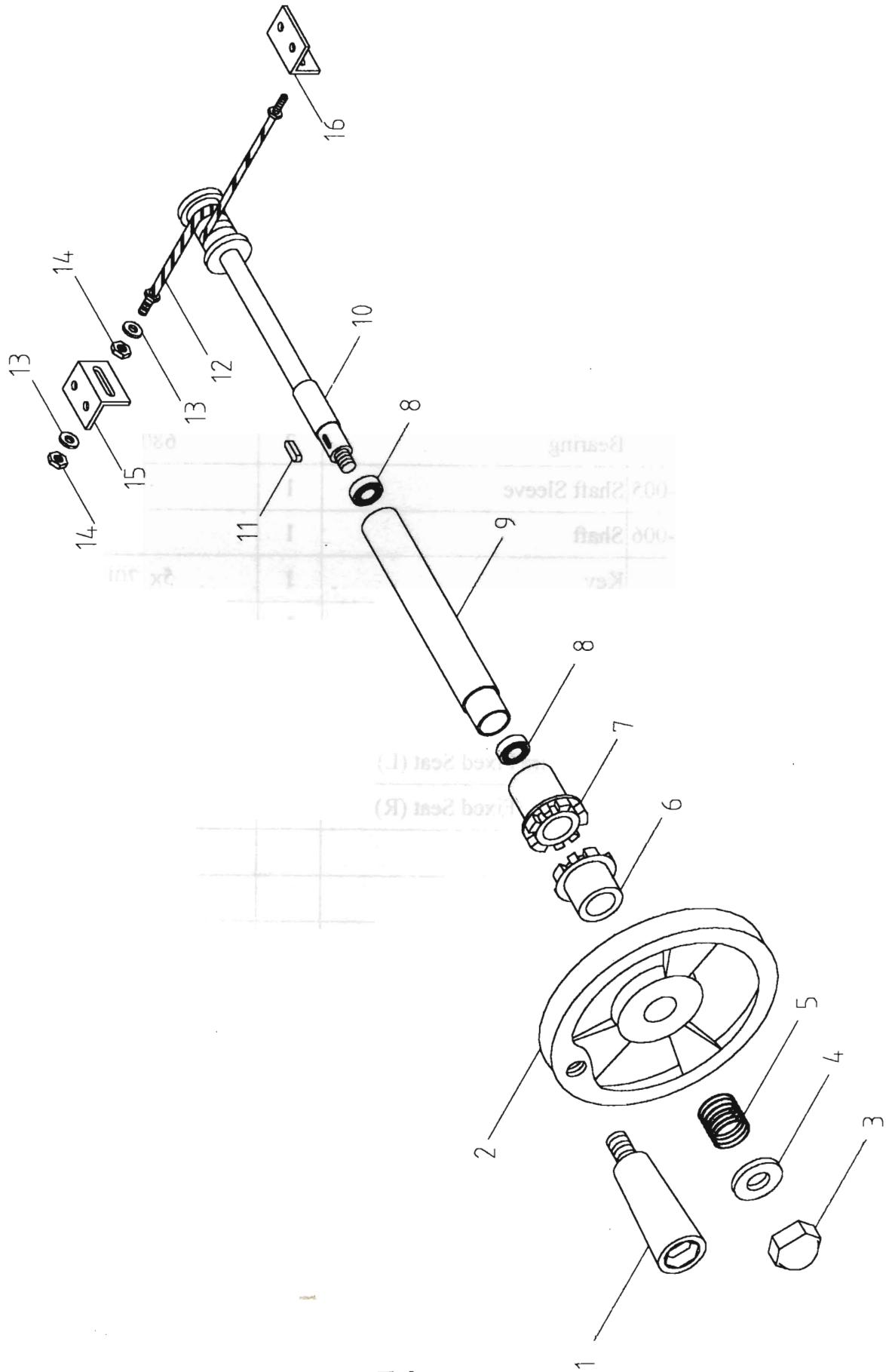
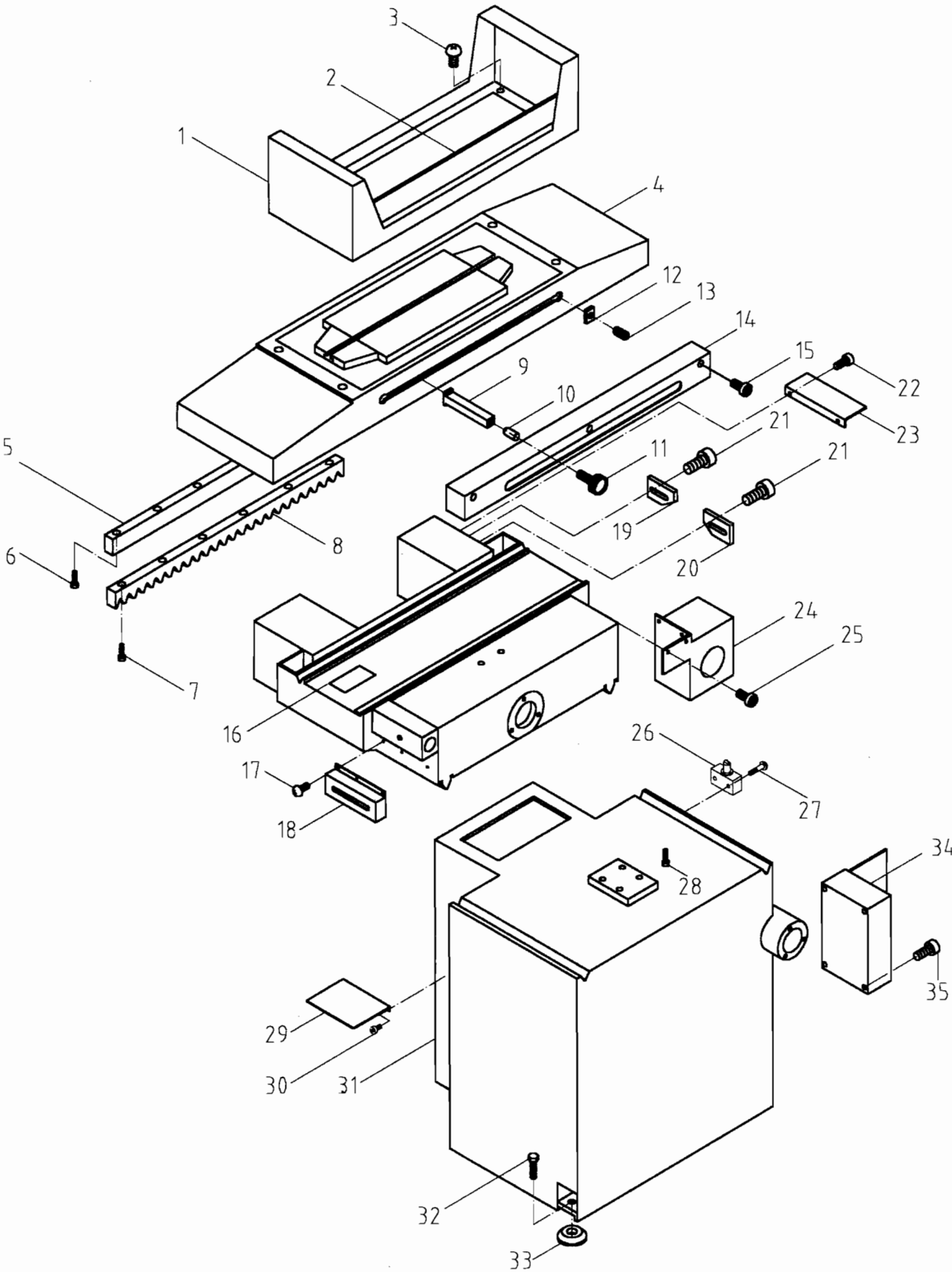


TABLE HAND FEED ASS'Y

(618-06)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-06-001	Grip	1	
2	618-06-002	Handwheel	1	
3		Cap Nut	1	M12
4		Washer	1	ϕ 12
5		Spring	1	
6	618-06-003	Gear Clutch	1	
7	618-06-004	Gear Clutch	1	
8		Bearing	2	6803ZZ
9	618-06-005	Shaft Sleeve	1	
10	618-06-006	Shaft	1	
11		Key	1	5x 20L
12	618-03-007	Steel Wire	1	
13		Washer	4	ϕ 8
14		Nut	4	M8
15	618-03-008	Steel Wire Fixed Seat (L)	1	
16	618-03-008	Steel Wire Fixed Seat (R)	1	

TABLE,SADDLE,BASE ASS'Y (FOR AH SERIES)



TABLE, SADDLE AND BASE ASS'Y (FOR AH SERIES

(618-01)

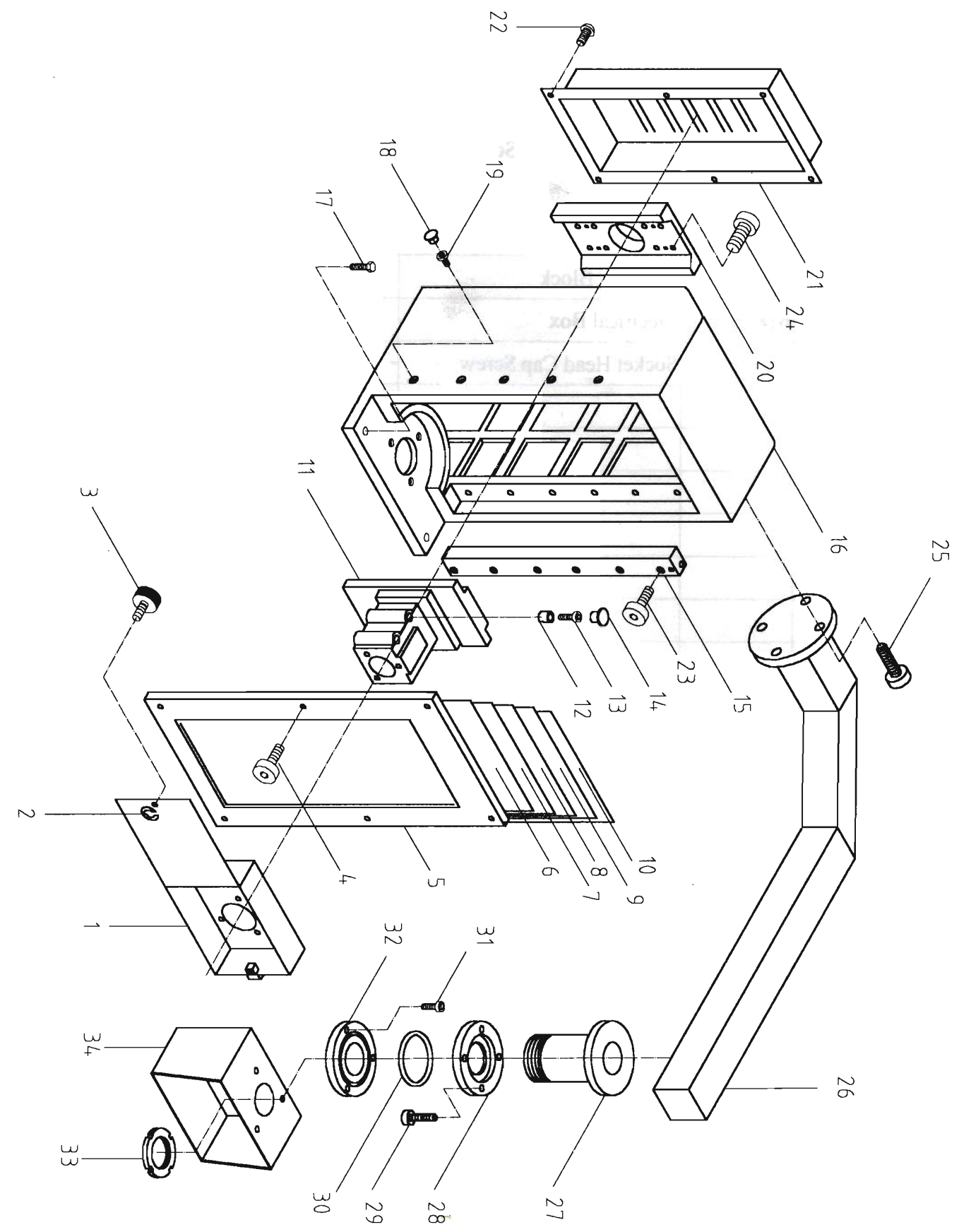
Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-01-001	Splash Guard (Frame)	1	
2	618-01-002	Splash Guard (Plate)	3	
3		Socket Head Cap Screw	4	M6*10L
4	618-01-003	Table	1	
5	618-01-032	Rack Gear Seat	1	
6		Socket Head Cap Screw	6	M6*20L
7		Socket Head Cap Screw	6	M5*10L
8	618-01-033	Rack Gear	1	
9	618-01-034	Adjusting Block	2	
10		Pin	2	ϕ 6*30L
11		Head Screw	2	M8*25L
12		Nut	2	M8
13		Headless Screw	2	M8*8L
14	618-01-035	Switch Cover	1	
15		Socket Head Cap Screw	3	M5*10L
16	618-01-010	Saddle	1	
17		Socket Head Cap Screw	3	M5*8L
18	618-01-036	Adjust Limit Switch Cover	1	
19	618-01-037	Rear Limit Block	1	
20	618-01-038	Front Limit Block	1	
21		Socket Head Cap Screw	2	M6*20L
22		Socket Head Cap Screw	2	M5*8L
23	618-01-039	Limit Switch Cover	1	
24	618-01-040	Throttling Valve Seat	1	
25		Socket Head Cap Screw	2	M8*16L
26	618-01-041	Limit Switch	1	
27		Cross Head Cap Screw	2	M4*30L
28		Socket Head Cap Screw	4	M10*50L

TABLE, SADDLE AND BASE ASS'Y (FOR AH SERIES

(618-01)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
29	618-01-029	Lube Pump Cover Plate	1	
30		Socket Head Cap Screw	4	M6*20L
31		Machine Base	1	
32	618-01-014	Leveling Screw	3	W7/8"*96L
33	618-01-015	Leveling Block	3	
34	618-01-042	Electrical Box	1	
35		Socket Head Cap Screw	2	M6*20L

COLUMN ASS'Y (FOR AH SERIES)



COLUMN ASS'Y (FOR AH SERIES)

(618-02)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-02-001	Wheel Guard	1	
2		E-Snap Ring	1	
3	618-02-002	Lock Screw	1	
4		Cross Head Screw	6	M5*10L
5	618-02-003	Front Guard	1	
6	618-02-004	Front Guard	1	
7	618-02-005	Front Guard	1	
8	618-02-006	Front Guard	1	
9	618-02-007	Front Guard	1	
10	618-02-008	Front Guard	1	
11	618-02-009	Head A HOUSING	1	
12	618-02-010	Copper Collar	2	
13		Socket Head Cap Screw	2	M10*40L
14	618-02-011	Plastic Cover	2	
15	618-02-012	Shield Dust Guide Rail	2	
16	618-02-013	Column	1	
17		Hexagonal Head Screw	4	3/4"*65L
18	618-02-014	Plastic Cover	12	
19		Socket Head Cap Screw	12	M10*16L
20	618-02-015	Head B HOUSING	1	
21	618-02-016	Column Rear Cover	1	
22		Cross Head Screw	6	M5*8L
23		Socket Head Cap Screw	12	M10*30L
24		Socket Head Cap Screw	12	M10*40L
25		Socket Head Cap Screw	4	M6*20L
26	618-02-017	Control Arm	1	

UPPER & LOWER TRANSMISSION ASS'Y

(618-03)

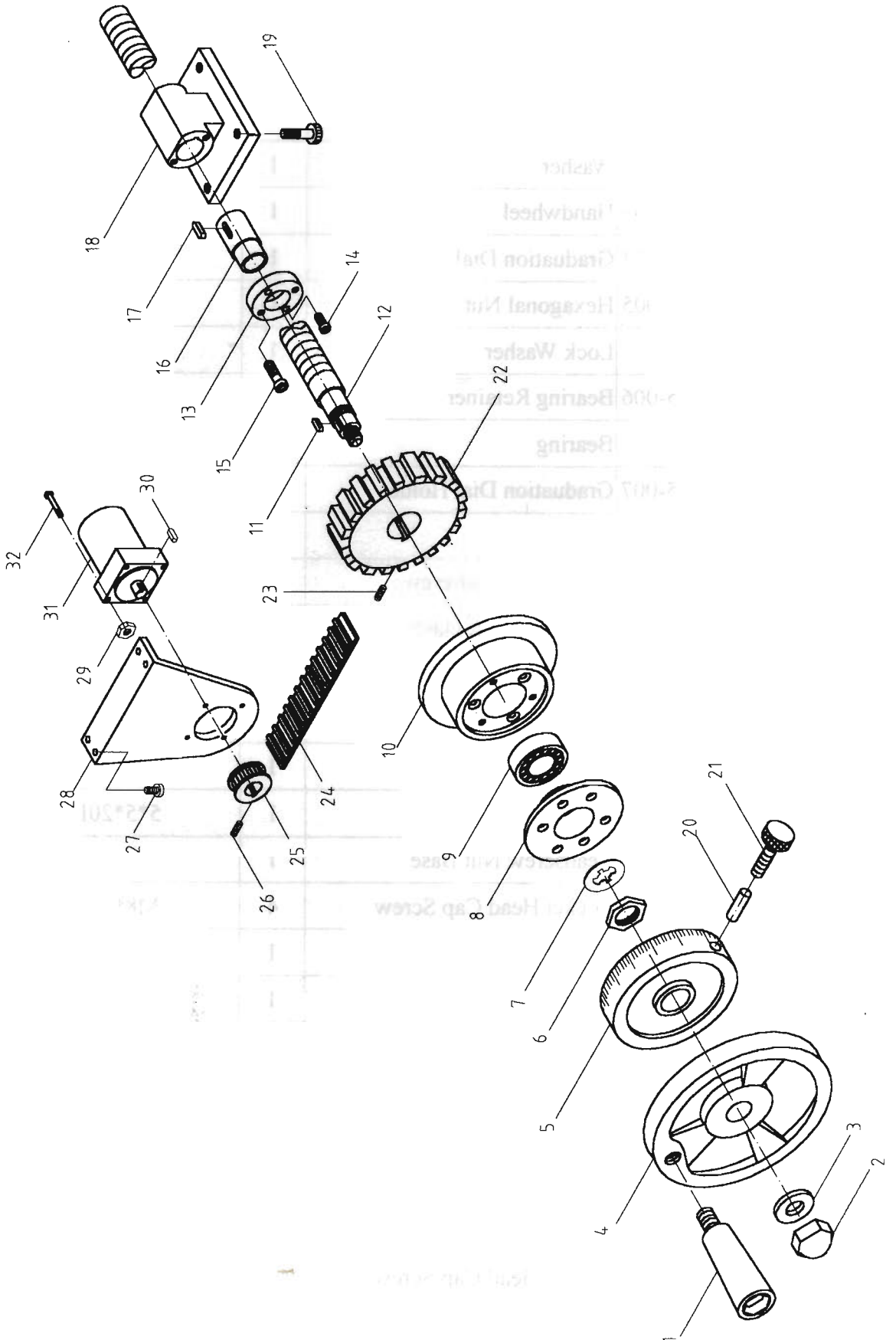
Index No.	Parts No.	Parts Name	Q'ty	Spec.
26		Spring Pin	1	ϕ 6*30L
27		Key	1	7*5*25
28		Ball Bearing	1	6011Z
29	618-03-014	Bevel Gear	1	
30	618-03-015	Lock Nut	1	

COLUMN ASS'Y (FOR AH SERIES)

(618-02)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
27	618-02-018	Control Cylinder Base	1	
28	618-02-019	Cylinder Fixing Plate	1	
29		Socket Head Cap Screw	4	M5*10
30		O-Ring	1	P44
31		Socket Head Cap Screw	3	M5*10L
32	618-02-020	Control Fixing Plate	1	
33	618-02-021	Lock Nut	1	
34	618-02-022	Control Box	1	

CROSS FEED ASS'Y (FOR AH SERIES)



CROSS FEED ASS'Y (FOR AH SERIES)

(618-05)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-05-001	Grip	1	
2	618-05-002	Cap Nut	1	
3		Washer	1	ϕ 10
4	618-05-003	Handwheel	1	
5	618-05-004	Graduation Dial	1	
6	618-05-005	Hexagonal Nut	1	
7		Lock Washer	1	ϕ 20
8	618-05-006	Bearing Retainer	1	
9		Bearing	1	5204ZZ
10	618-05-007	Graduation Dial Holder	1	
11		Key	1	5*5*30L
12	618-05-008	Crossfeed Leadscrew	1	
13	618-05-009	Leadscrew Backlash Adjuster	1	
14		Socket Head Cap Screw	2	M6*16L
15		Socket Head Cap Screw	2	M6*20L
16	618-05-010	Leadscrew Nut	1	
17		Key	1	5*5*20L
18	618-05-011	Leadscrew Nut Base	1	
19		Socket Head Cap Screw	4	M8*40L
20	618-05-012	Round Pin	1	ϕ 5*10L
21	618-05-013	Socket Head Cap Screw	1	
22	618-05-014	LEADSCREW Pulley	1	
23		Set Screw	1	M6*8L
24	618-05-015	Timing Belt	1	160XL
25	618-05-016	Motor Pulley	1	
26		Set Screw	1	M5*5L
27		Socket Head Cap Screw	4	M6*16L
28	618-05-017	Motor Fixing Plate	1	

CROSS FEED ASS'Y (FOR AH SERIES)

(618-05)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
29		Nut	4	M5
30		Key	1	4*4*24L
31	618-05-018	Dc Gear Motor	1	4IK-25GNS 4GN3K
32		Cross Head Screw	4	M5*58L

TABLE HAND FEED ASS'Y (FOR AH SERIES

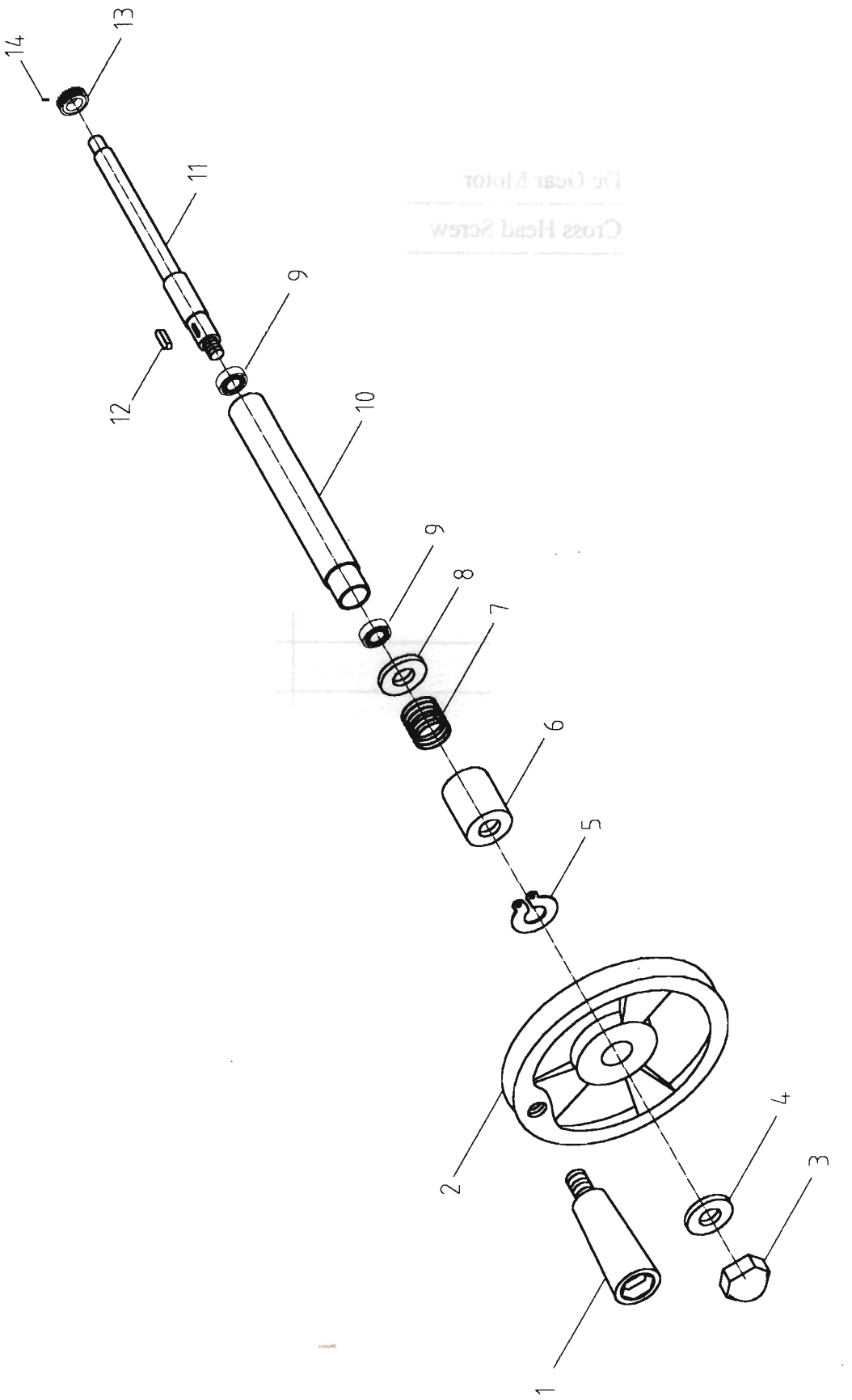
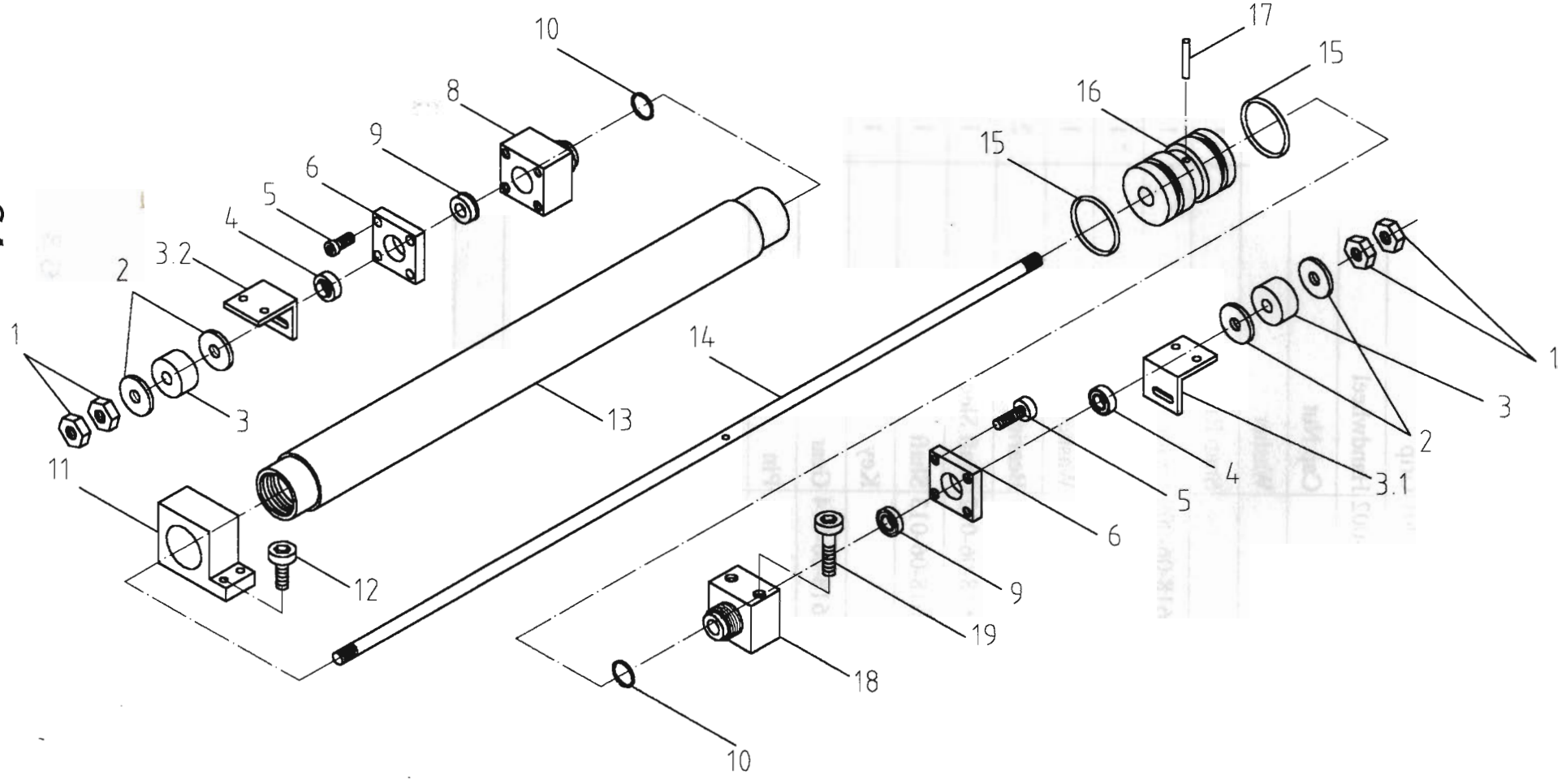


TABLE HAND FEED ASS'Y(FOR AH SERIES)

(618-06)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-06-001	Grip	1	
2	618-06-002	Handwheel	1	
3		Cap Nut	1	M12
4		Washer	1	ϕ 12
5		Snap Ring	1	ϕ 16
6	618-06-009	Spring Seat	1	
7	618-06-010	Spring	1	
8	618-06-011	Washer	1	
9		Bearing	2	6803ZZ
10	618-06-012	Shaft Sleeve	1	
11	618-06-013	Shaft	1	
12		Key	1	5x 20L
13	618-06-014	Gear	1	
14		Pin	1	

LONGITUDINAL HYDRAULIC CYLINDER ASS'Y(FOR AH SERIES)



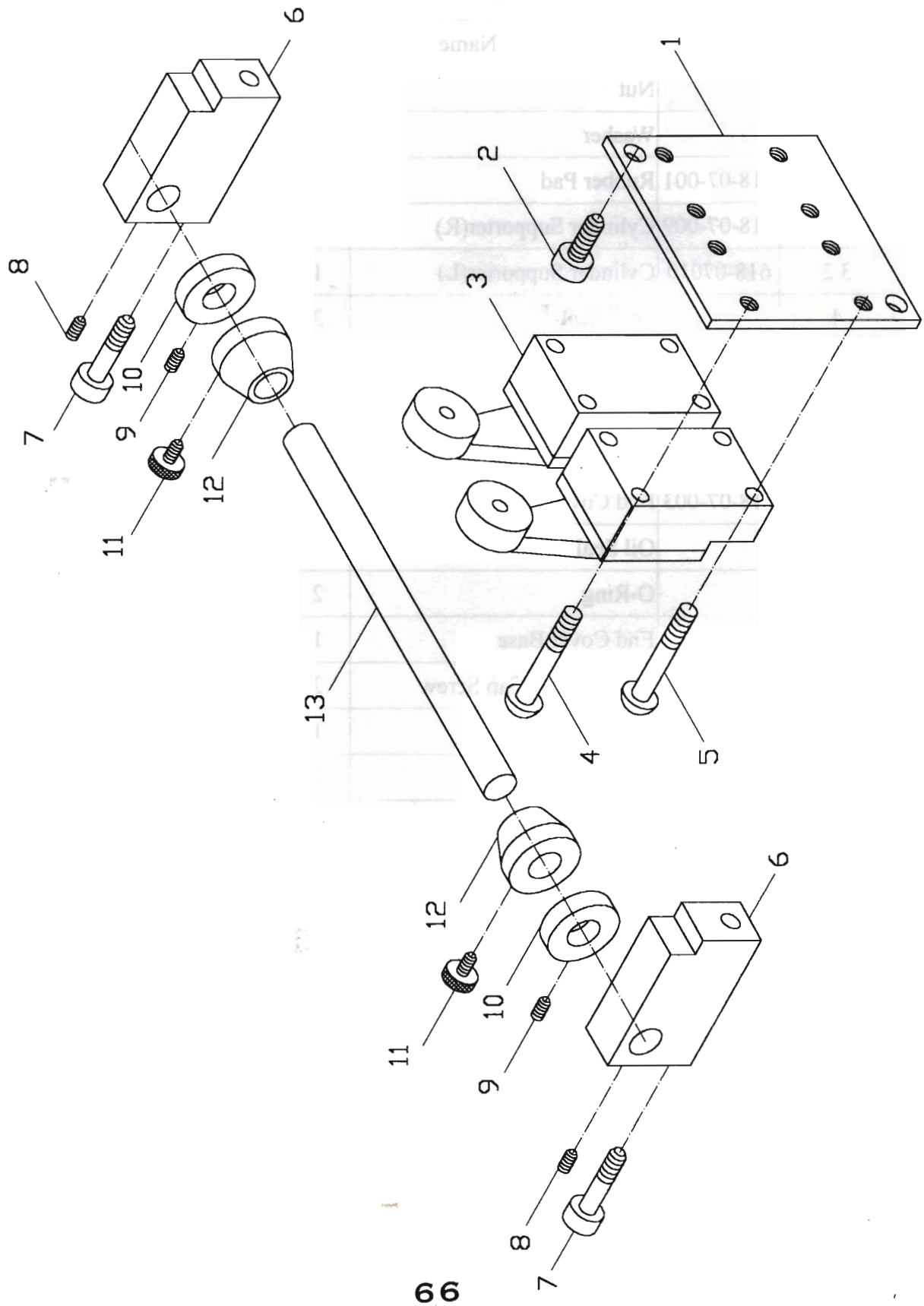
LONGITUDINAL HYDRAULIC CYLINDER ASS'Y

(FOR AH SERIES)

(618-07)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1		Nut	4	M8
2		Washer	4	ϕ 10
3	618-07-001	Rubber Pad	2	
3.1	618-07-009	Cylinder Supporter(R)	1	
3.2	618-07010	Cylinder Supporter(L)	1	
4		Dust Seal	2	DR10
5		Socket Head Cap Screw	8	M5*10L
6	618-07-002	Fixed Plate	2	
8	618-07-003	End Cover	1	
9		Oil Seal	2	UN10
10		O-Ring	2	P21
11	618-07-004	End Cover Base	1	
12		Socket Head Cap Screw	2	M5*16L
13	618-07-005	Cylinder Pipe	1	
14	618-07-006	Piston Rod	1	
15		O-Ring	2	P21
16	618-07-007	Piston	1	
17		Taper Pi N	1	#2*20L
18	618-07-008	End Cover	1	
19		Socket Head Cap Screw	2	M6*40L

CROSSFEED SWITCH ASS'Y (FOR AH SERIES)

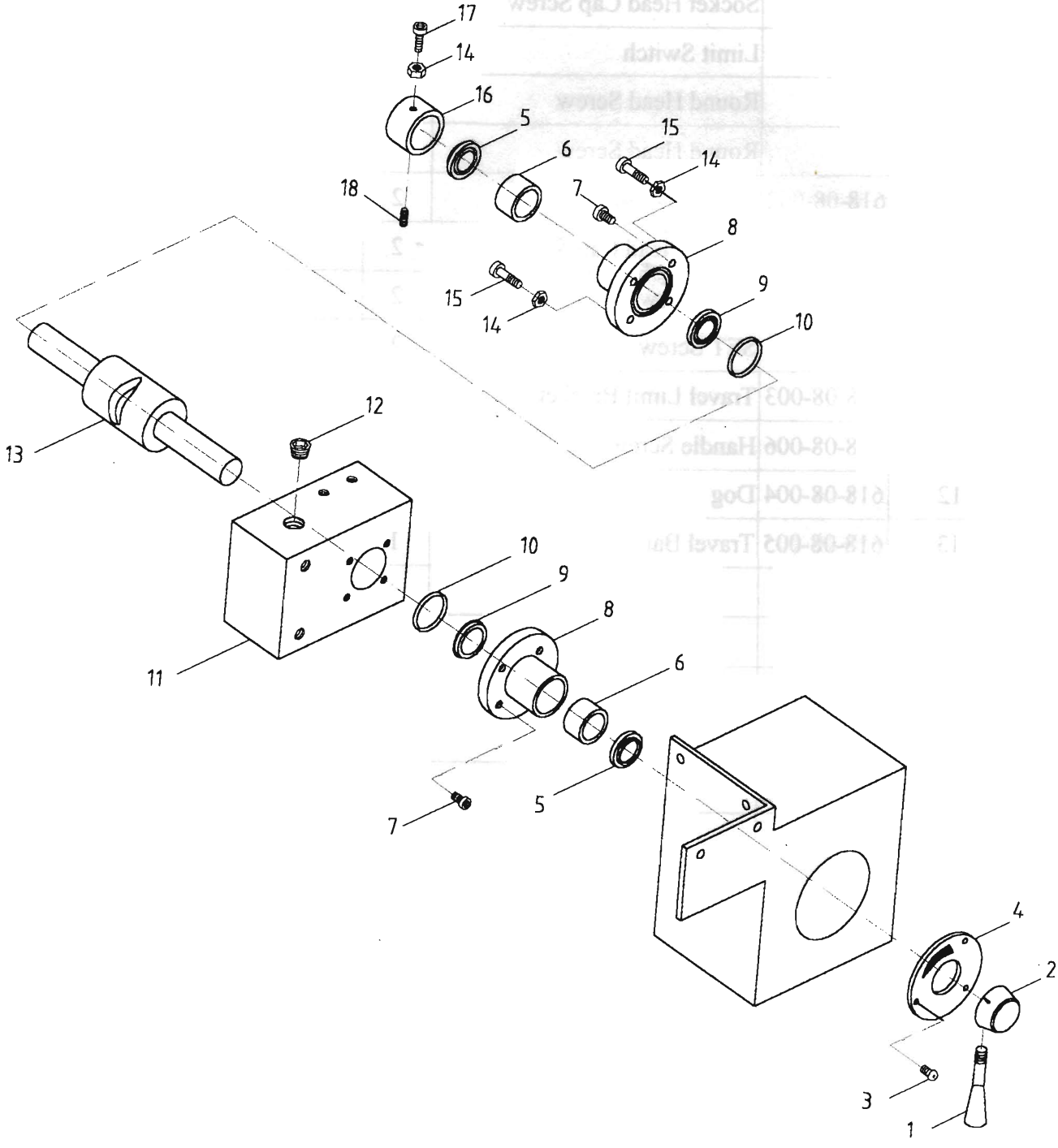


CROSSFEED SWITCH ASS'Y (FOR AH SERIES)

(618-08)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1	618-08-001	Limit Switch Fixed Plate	1	M6*6
2		Socket Head Cap Screw	2	ME-8104
3		Limit Switch	2	M4*25
4		Round Head Screw	4	M4*12
5		Round Head Screw	4	
6	618-08-002	Travel Bar Seat	2	M6*30
7		Socket Head Cap Screw	2	M6*6
8		SET Screw	2	M6*6
9		SET Screw	2	M5*5
10	618-08-003	Travel Limit Bracket	2	
11	618-08-006	Handle Screw	2	M6*20
12	618-08-004	Dog	2	
13	618-08-005	Travel Bar	1	

VALVE ASS'Y



VALVE ASS'Y (FOR AH SERIES)

(618-09)

Index No.	Parts No.	Parts Name	Q'ty	Spec.
1.	618-09-01	Control Lever	1	
2.	618-09-02	Handle Boss	1	
3.		Cross Head Cap Screw	3	M4*5L
4.	618-09-03	Control Valve Plate	1	
5.	618-09-04	Dust Shield	2	DH-14
6.	618-09-05	Brass Bearing	2	1512
7.		Socket Head Cap Screw	8	3/16"*1-1/4"L
8.	618-09-06	Control Shaft Cover	2	
9.	618-09-07	U-Packing	2	UN-15
10.	618-09-08	O-Ring	2	28.5mm*2.62mm
11.	618-09-09	Valve Body	1	
12.		End Plug	1	1/2"PT
13.	618-09-10	Flow Control Shaft	1	
14.		Nut	3	M5
15.		Socket Head Cap Screw	2	M6*40L
16.	618-09-11	Fixed Ring	1	
17.		Socket Head Cap Screw	1	M6*20L
18.		Set Screw	1	M5*5L