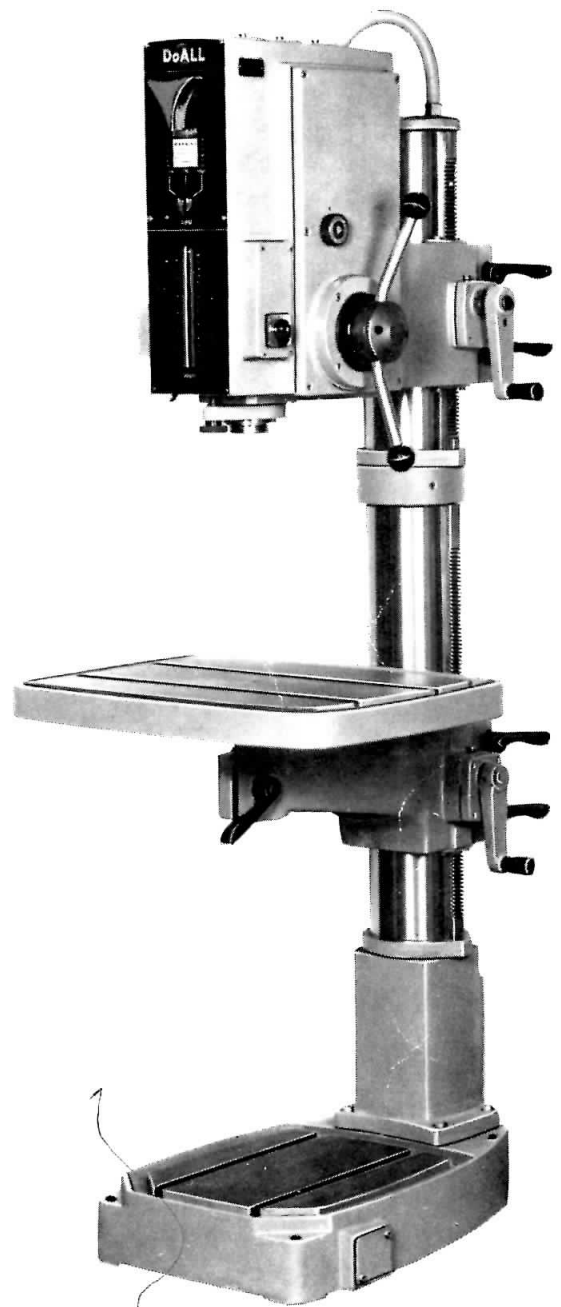
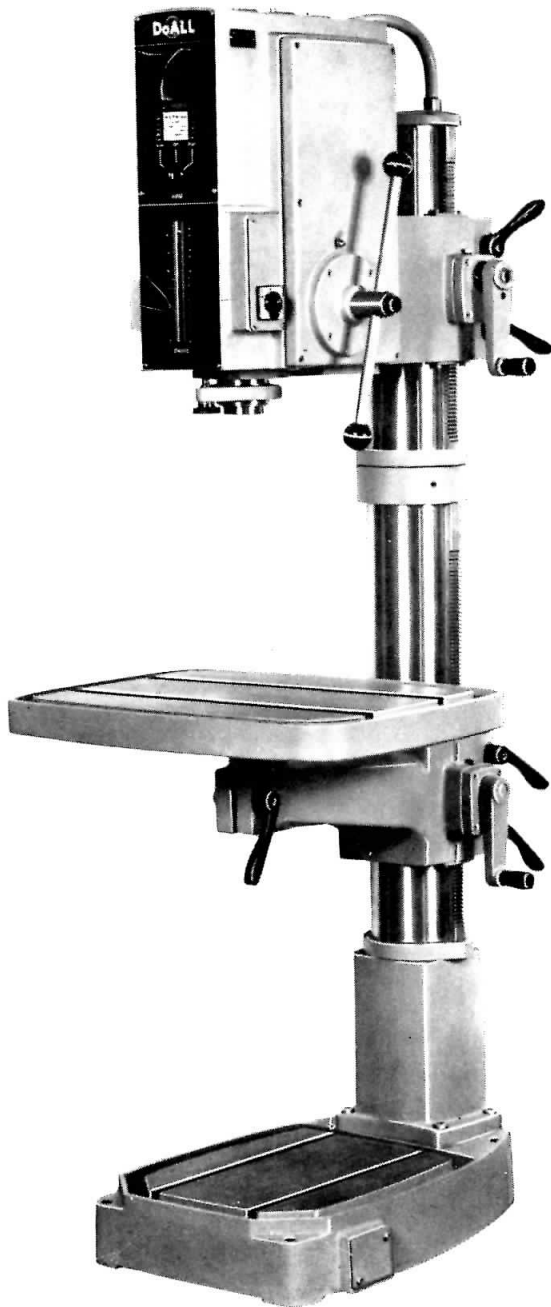


DoALL D-136

**GEARED HEAD DRILLING MACHINE
MODEL DG — 24 / DGP — 24**



Your new geared head drilling machine is ideal for large capacity applications in machine shops, tool rooms, production lines, or wherever big hole drilling and close tolerances are required. Drilling diameters range up to 1-1/4" in mild steel with a 6-3/4" quill travel. The positive, geared head drive provides fast and accurate spindle speed selection.

GENERAL SPECIFICATIONS

Drilling capacities

| | |
|---------------------------------------|---|
| Steel | 1 - 1/4 in. (30 mm) |
| Cast iron | 1 - 1/2 in. (40 mm) |
| Center of spindle to column | 12 - 3/16 in. (310 mm) |
| Spindle taper | 3 MT |
| Quill travel | 6 - 3/4 in. (170 mm) |
| Quill feeds (DGP-24 only) | .004, .006 .010 ipr |
| Spindle speeds (12) | 90, 125, 180, 250, 355, 400, 560, 710, 800, 1120, 1680, and 3360 rpm |
| Motor | 2 speed, 1.9 / 1.3 hp |
| Voltage | 230 or 460/60/3 |
| Column dia. | 5 - 1/2 in. (140 mm) |
| Table | 20 x 24 in. (510 x 610 mm) |
| Base | 16 - 1/8 x 25 - 3/4 (410 mm x 655 mm) |

INDEX

I. PREPARATION

Page

| | |
|---------------------------------|---|
| A. Safety suggestions _____ | 2 |
| B. Cleaning _____ | 2 |
| C. Installation _____ | 5 |
| D. Lubrification _____ | 5 |
| E. Electrical connections _____ | 5 |

II. OPERATIONS

| | |
|----------------------------------|---|
| A. Head controls _____ | 6 |
| B. Spindle speed selection _____ | 6 |
| C. Quill feed selection _____ | 7 |
| D. Depth setting control _____ | 7 |
| E. Table controls _____ | 7 |
| F. Head raising/lowering _____ | 7 |

III. ADJUSTMENTS

| | |
|--|---|
| A. Replacing quill return spring _____ | 8 |
|--|---|

IV. REPLACEMENT PARTS

| | |
|----------------------------------|----------|
| A. General assembly _____ | 9 |
| B. Head assembly _____ | 10 |
| C. Spindle mechanical feed _____ | 11 |
| D. Spindle hand feed _____ | 12 |
| E. Head raising feed _____ | 13 |
| F. Table raising mechanism _____ | 13 |
| G. Lateral head plate _____ | 14 |
| H. Electrics _____ | 15 - 16 |
| I. Parts list _____ | 17 to 24 |

| LUBRICATION FREQUENCY | | DROPS |
|----------------------------|----------|-------|
| A — SPEED BOX | DAILY | 5 |
| B — HEAD RAISING/LOWERING | WEEKLY | 5 |
| C — TABLE RAISING/LOWERING | WEEKLY | 5 |
| HAND FEED - DG 24 | WEEKLY | 5 |
| D — POWER FEED - DGP 24 | SEE TEXT | |

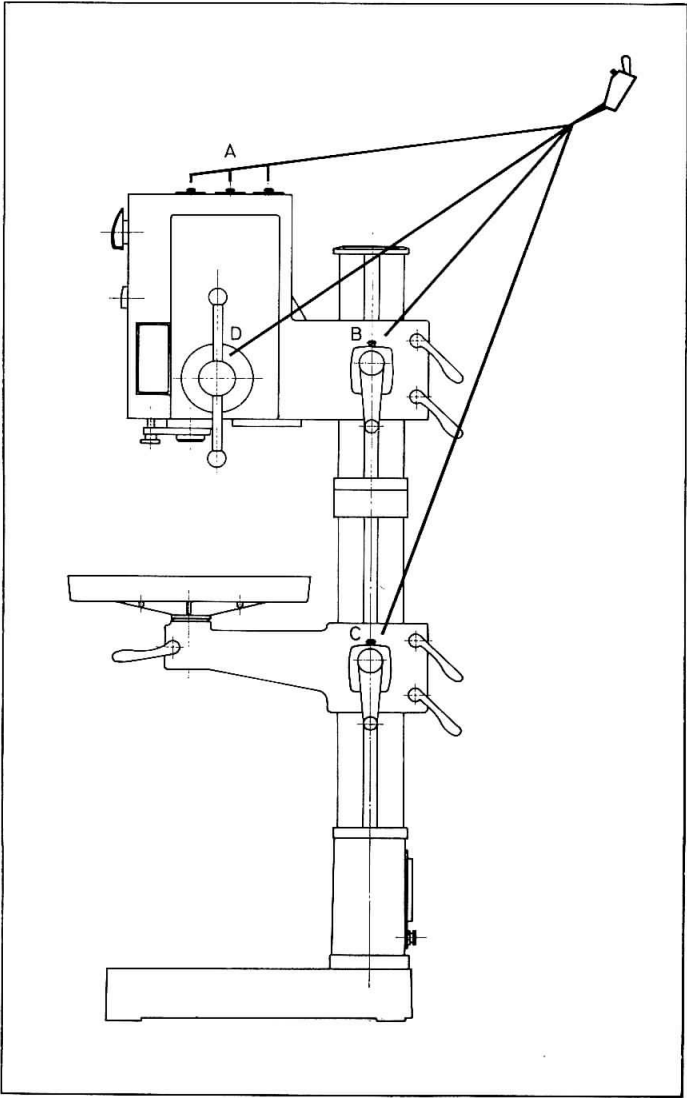


FIG. 2

C. INSTALLATION

Place the machine on a level and firm foundation. Machine accuracies can only be achieved after the machine is leveled and fastened to the foundation. See Fig. 1 to select worksite and to locate floor mounting holes.

D. LUBRICATION

Before operating, the machine must be lubricated on the oil points only. The Fig. 2 shows the machine which has more points of lubrication. Consider the lubricating points existing on your machine and proceed as follows:

Machines with power feed

Point A — 5 drops of oil with viscosity SAE10 or 20 EVERY DAY.

Point B and C — 5 drops of oil with viscosity SAE10 or 20 EVERY WEEK.

Point D — about 400 gr of BP energrease LS2 or equivalent every 2,000 hours of operation, as follows:

1. Fasten the spindle at the top of the stroke by tightening spindle lock lever installed on the left side of the head.
2. Loosen the 4 screws which hold the

flange (C) Fig. 6 of the power feed.

CAUTION: Be carefull with the flange which will turn out sharply due to the tension of the quill return spring.

3. Remove the power feed from the head.
4. Remove the existing energrease and replace.
5. Reassemble the power feed on the head. Before tightening the flange must be turned until the quill return spring is fully coiled. Then turn the flange twice in reverse direction to release some of the tension of the spring.

Machines with hand feed only

Point A — 5 drops of oil with viscosity SAE10 or 20 EVERY DAY.

Point B, C and D — 5 drops of oil with viscosity SAE10 or 20 EVERY WEEK.

E. ELECTRICAL CONNECTIONS

Your machine has been prewired according to voltage requirements specified at the time of ordering. However, it is important to chek that the electrical characteristics of the machine (shcwn on the data plate) conform to your power source **before** connecting the power. If voltage specifications conform, then proceed as follows:

1. Remove power disconnect switch (Fig. 3) at rear base of machine by removing four screws holding it closed.
2. Number 14 wire must be used to bring power to the machine. Bring power cord into the electrical panel through hole and fitting provided at the rear of the machine.
3. Connect the 4 wires in the power cord to the four terminals provided at the bottom of the terminal strip, taking care to connect the ground wire to the proper ground terminal.
4. **IMPORTANT:** immediatly after connecting the machine to the power source, turn the machine on and check to see if the rotation of the spindle is correct. If the spindle is running in the wrong direction, interchange any two of the power leads.

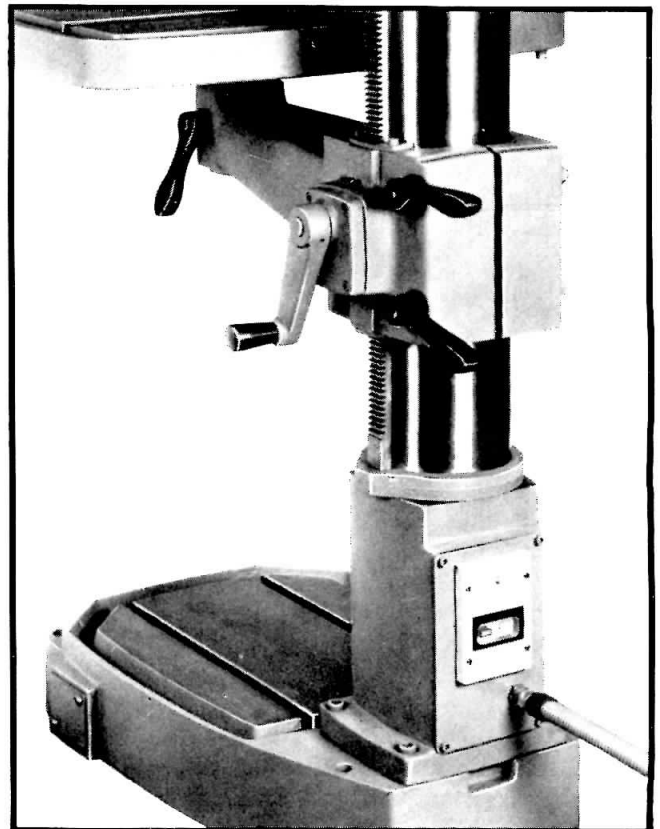


FIG. 3

II. OPERATIONS

A. HEAD CONTROLS

All controls for the head are located up front where they are easy to read and convenient to operate, as shown in Fig. 4. An experienced operator knows that there is always some difference between the location and type of control between different models, even though the purpose of the controls is similar between one machine and the other. The following is an explanation of the operation of these controls. Study these explanations carefully before turning on the power to avoid damage to the drill or personal injury.

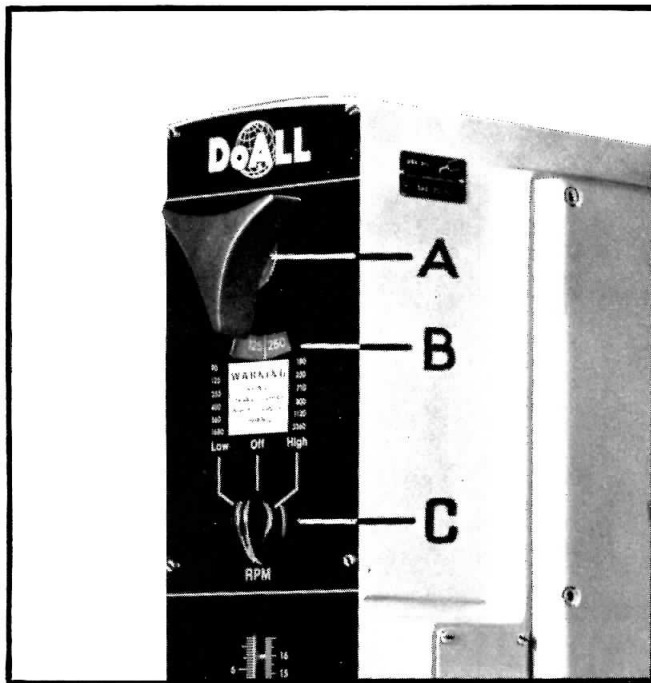


FIG. 5

B. SPINDLE SPEED SELECTION

The spindle speed may be selected by turning the speed selector dial (A) Fig. 5, to the right or left until the desired speed appears on the speed dial (B). When the motor control knob (C) is turned to the LOW position, spindle speeds of 90, 125, 355, 400, 560 and 1680 rpm are available. When the motor control knob is turned to the HIGH position, spindle speeds of 180, 250, 710, 800, 1120, and 3360 rpm are available. CAUTION: NEVER CHANGE SPEED WHILE THE MACHINE IS RUNNING.

A safety device prevents speed changing with the machine running. Do not force it. Do not try to change speeds without having switched-off the motor by turning knob (C) to "O" position.

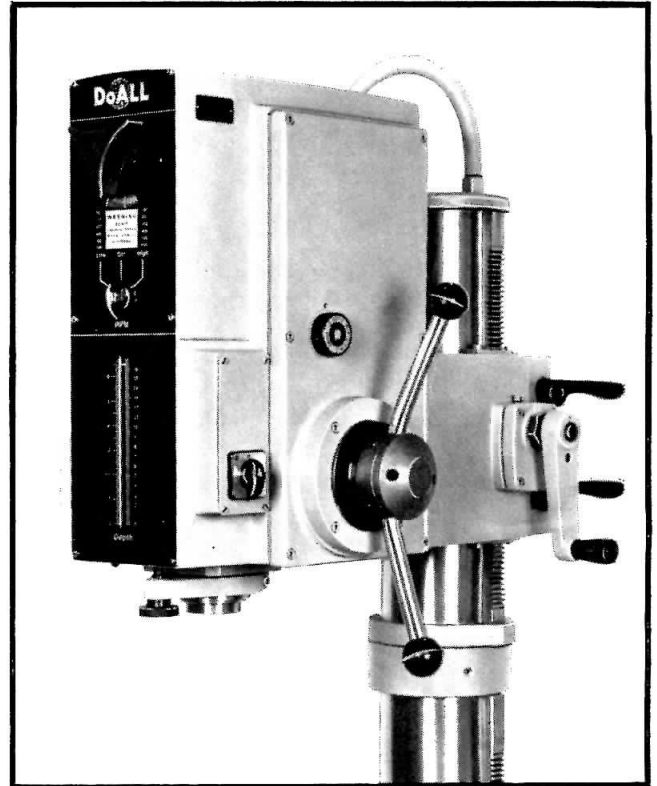


FIG. 4

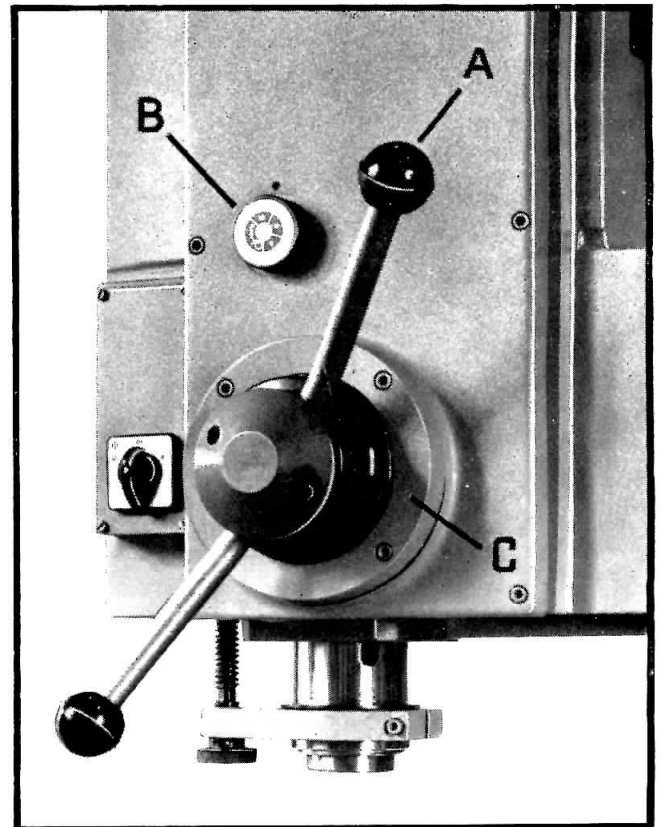


FIG. -6

C. QUILL FEED SELECTION (MODEL DGP-24 ONLY)

The spindle can be operated by hand feed or power feed simply by positioning feed control lever (A) Fig. 6. When the feed control lever is in the «out» position the spindle can be lowered manually by hand. When the feed control lever is in the «in» position the power feed is engaged and the spindle lowers automatically. The power feed device provides feed rates of .004, .006 and .010 ipr (inches per revolution). The feed rate selection is made by turning the knob (B) Fig. 6 until the number of the feed rate desired is in the up position. This selection may be made while the machine is running but **not** under load.

The power feed may be disengaged at any time by pulling out the handle (A) Fig. 6. The power feed will also disengage automatically at the end of the pre-set stroke, however, the handle must be pulled out to return the quill to the up position.

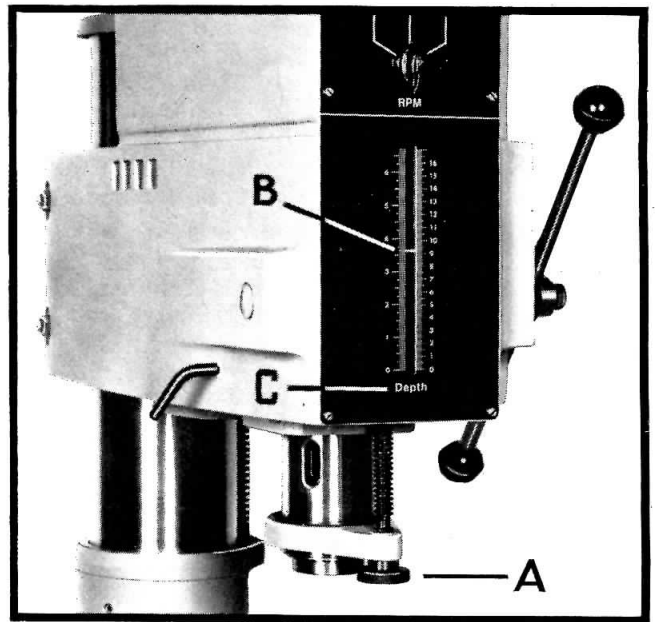


FIG. 7

D. DEPTH SETTING CONTROL

To adjust the depth setting control, simply turn knob (A) Fig. 7, until line (B) on stop block is in line with the calibration on the depth scale (C) you wish to drill or tap.

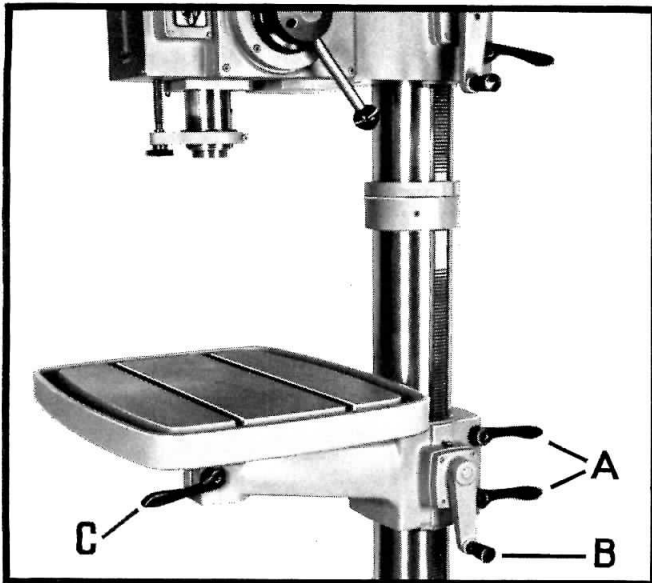


FIG. 8

E. TABLE CONTROLS

The table on your machine is easily raised or lowered by loosening the two locking levers (A) Fig. 8, and turning hand lever (B) until the table is at the desired height. After table is at desired height tighten locking levers (A). Also, the table can be rotated 60° right or left by loosening locking lever (C) Fig. 8.

F. HEAD RAISING/LOWERING

The head on your machine is easily raised or lowered by loosening the two locking levers (A) Fig. 9 and turning and pushing simultaneously towards the head hand lever (B) until the head is at the desired height. After the head is at the desired height, tighten locking levers (A).

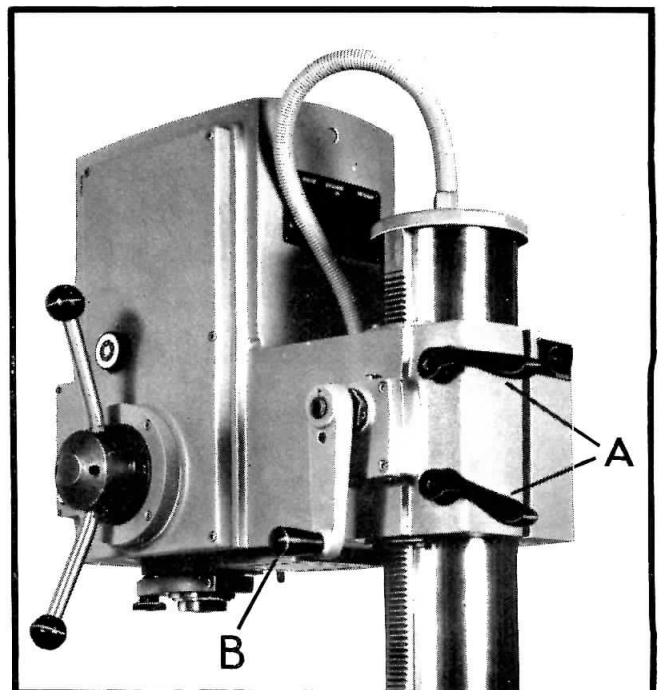


FIG. 9

III. ADJUSTMENTS

A. REPLACING QUILL RETURN SPRING

DGP-24

To replace the quill return spring proceed as follows:

1. Fasten the spindle at the top of the stroke by tightening spindle lock lever installed on the left side of the head.
2. Loosen the 4 screws which hold the flange (A) Fig. 10 of the power feed, CAUTION: If the spring is not damaged the flange will turn out sharply due to the tension of the spring.
3. Remove the power feed assembly from the the head.
4. Remove the helical wheel (B) towards the pinion and remove the 2 engaging pins (C), the ring (D) and the 2 half-moons (E).
5. Remove the flange (A) carefully (the broken spring may jump out at any time).
6. Remove the quill return spring (F). Note that the inside limit of the quill return spring is fixed to the collar with a screw which has to be removed.
7. Insert new spring by fixing the inside limit. Coil the quill return spring inside the flange and then fix the other limit to the pin.
8. Reset and install the power feed assembly into the head. Before mounting the flange with the 4 screws you should adjust the spring, as follows:
 - a) After the assembly is installed on the head turn the flange until the spring is fully coiled.
 - b) Release some tension by turning the flange twice in reverse direction.
 - c) Mount the flange.
9. Loosen the spindle lock lever and check the functioning.

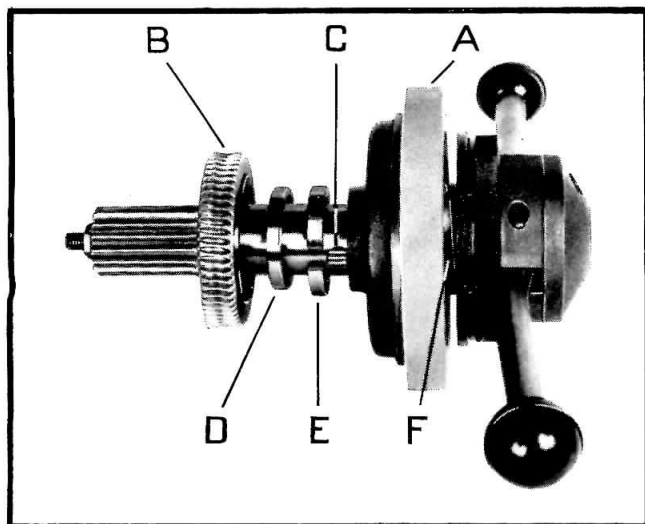


FIG. 10

DG-24

1. Fasten the spindle at the top of the stroke by tightening the spindle lock lever installed on the left side of the head.
2. Loosen the screws which hold the side cover (A) Fig. 11 of the head where the hand feed is installed and remove the cover. CAUTION: If the spring is not broken when the shaft pinion disengages from the spindle rack the hand feed lever will drop sharply.
3. Loosen the screws which hold the flange (B).
4. Remove the flange from the cover carefully (the broken spring may jump out at any time) and remove the quill return spring (C). Note that the inside limit is fixed to the collar with a screw.
5. Insert new spring and reinstall the set cover/hand feed.
6. Before reassembling the set cover/hand feed into the head adjust the spring as follows:
 - a) Turn the feed lever until spring is fully coiled.
 - b) Release some tension by turning the flange twice in reverse direction.

After the assembly is installed release the spindle lock lever and check the functioning.

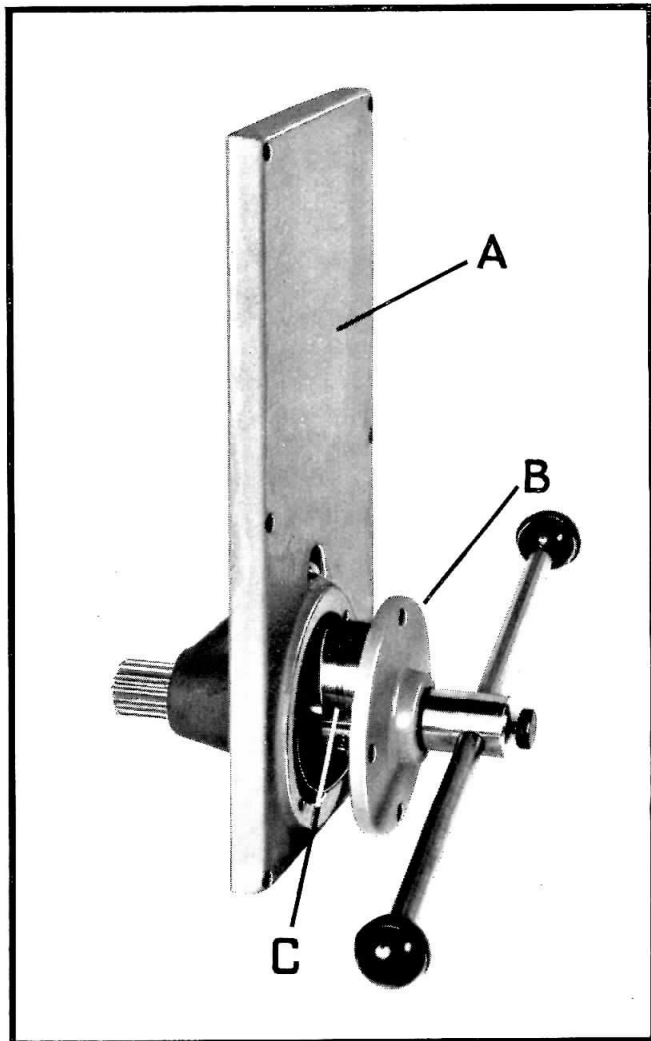
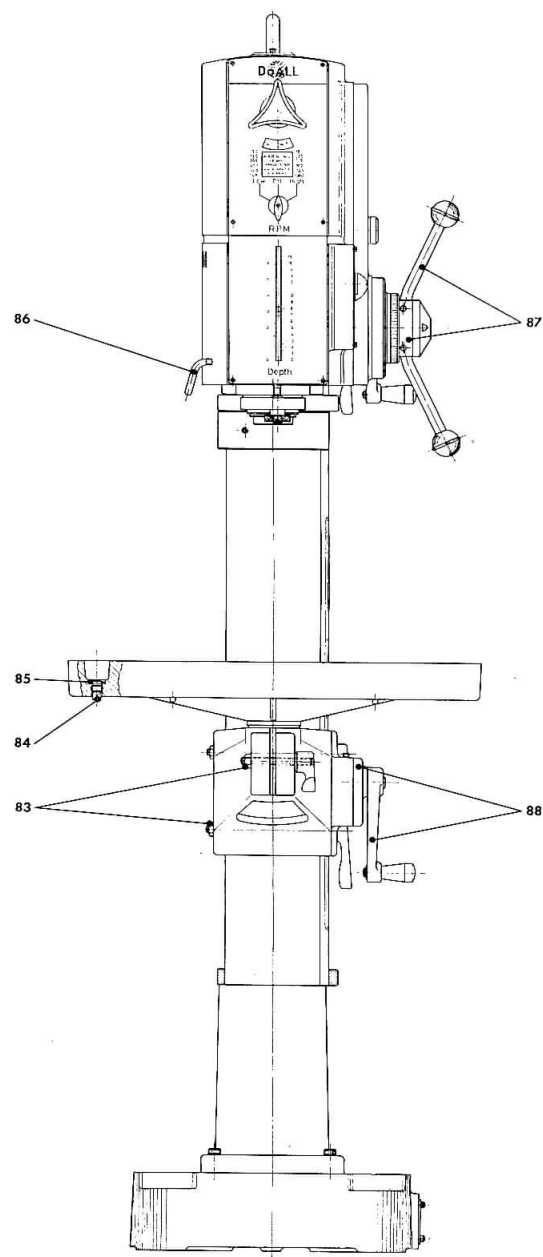
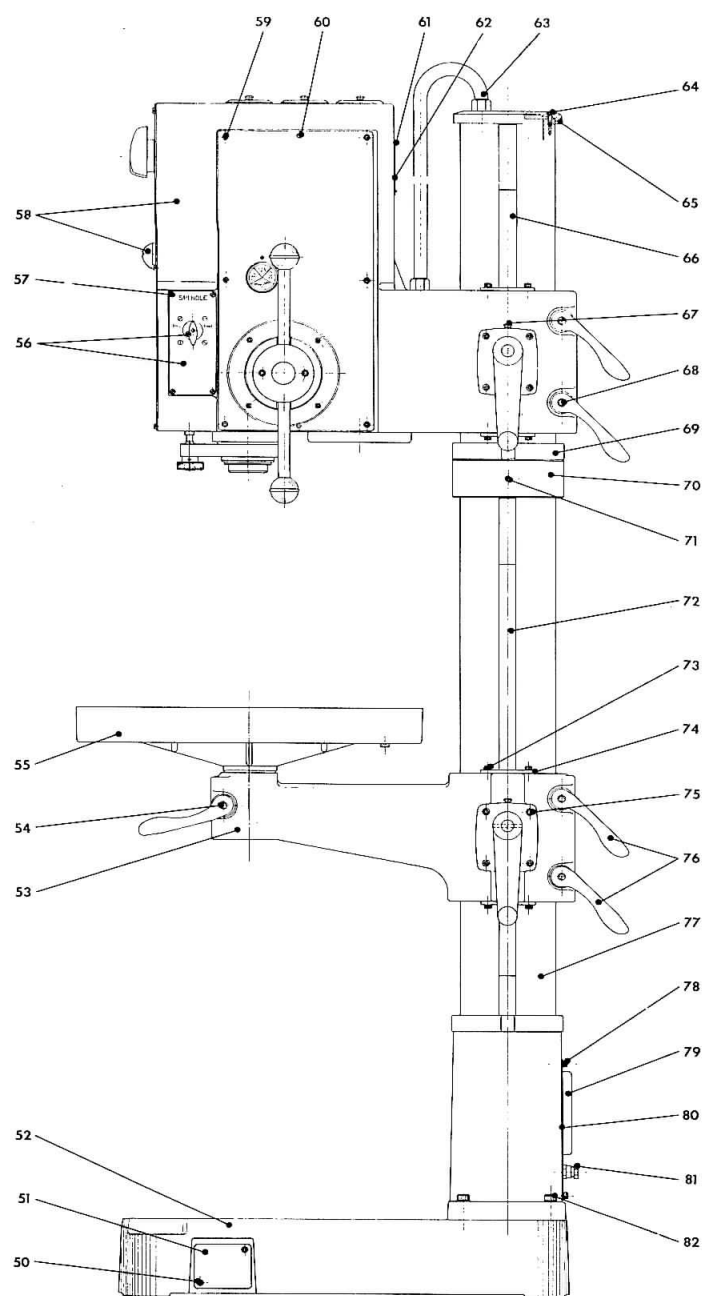
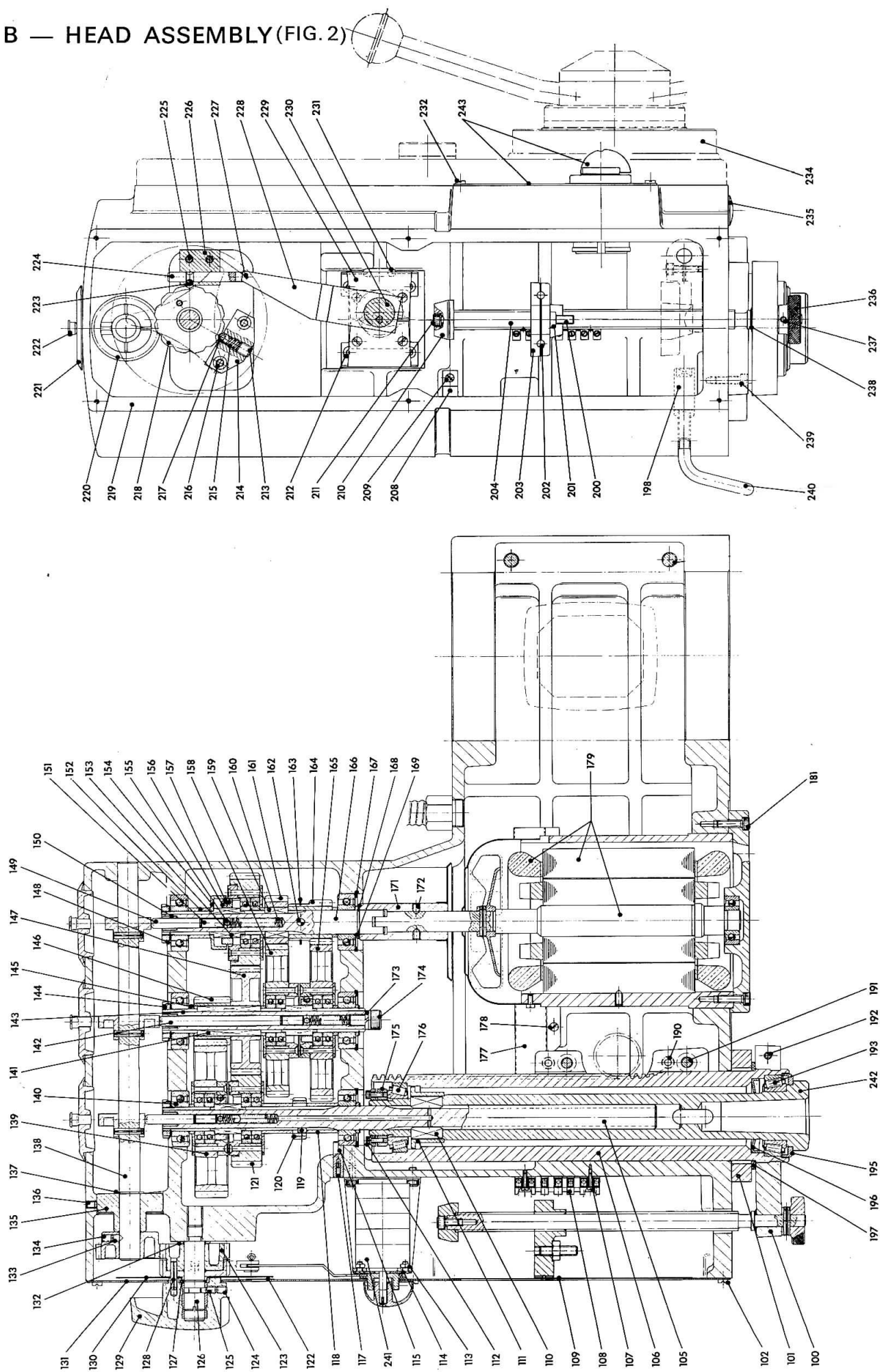


FIG. 11

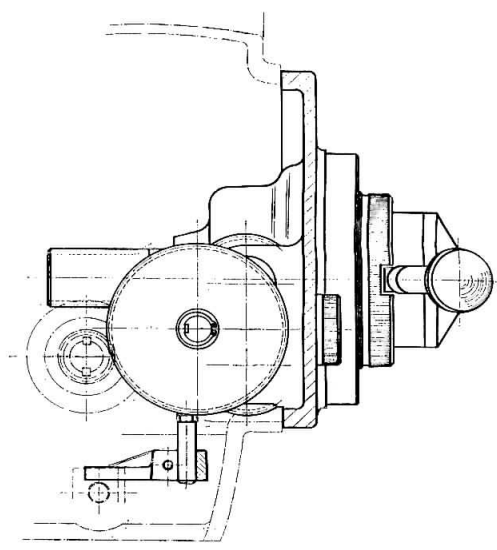
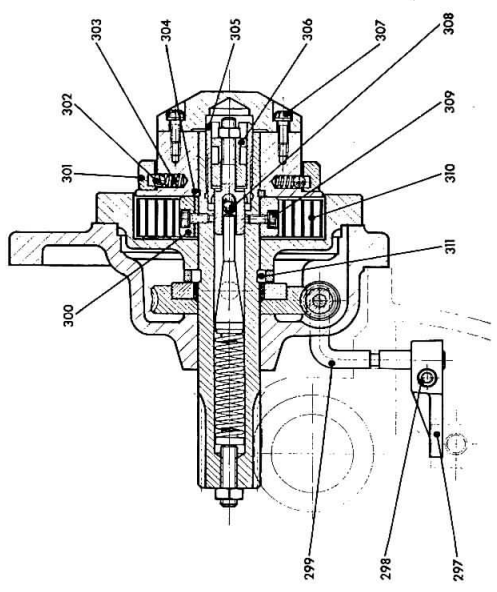
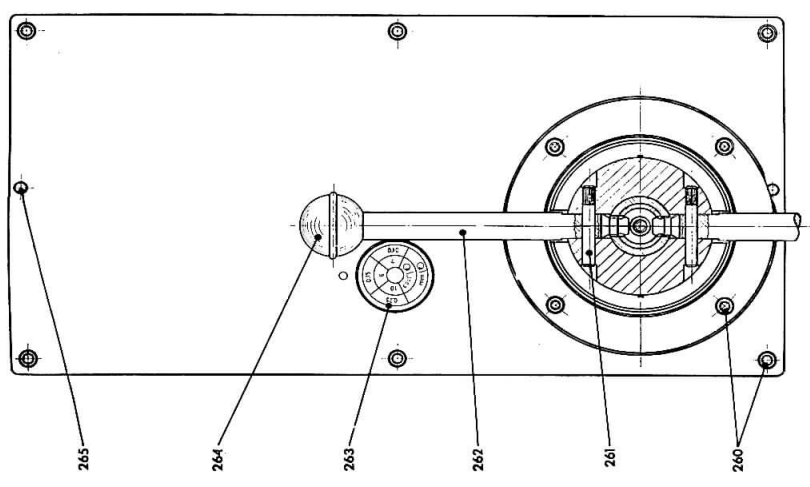
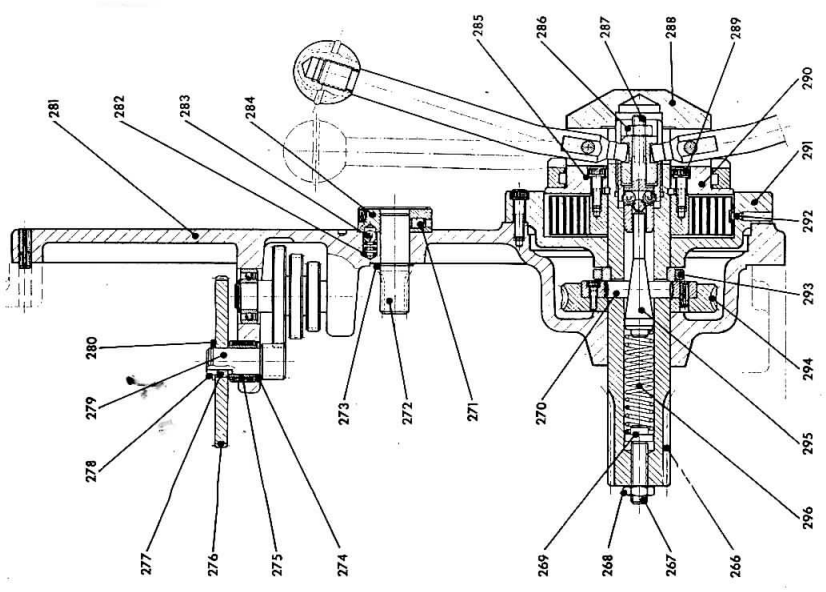
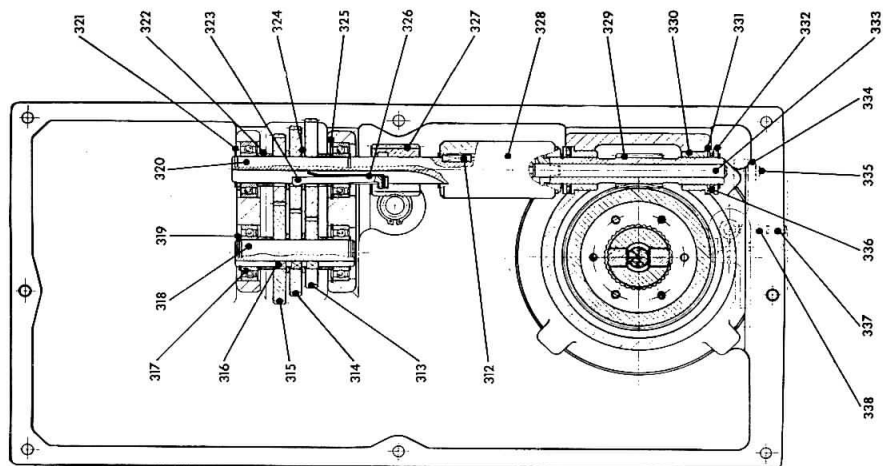
A — GENERAL ASSEMBLY (FIG. 1)



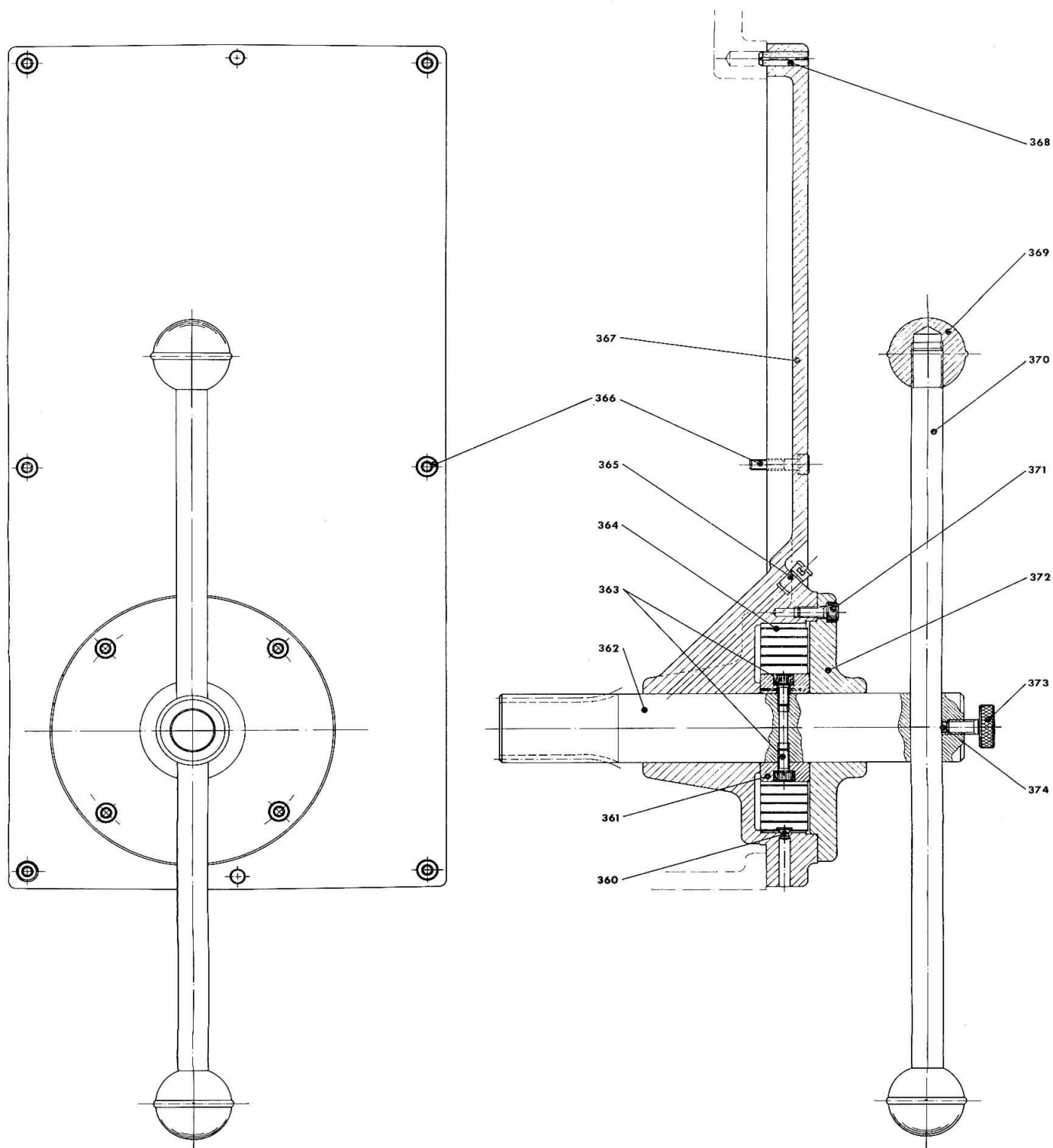
B — HEAD ASSEMBLY (FIG. 2)



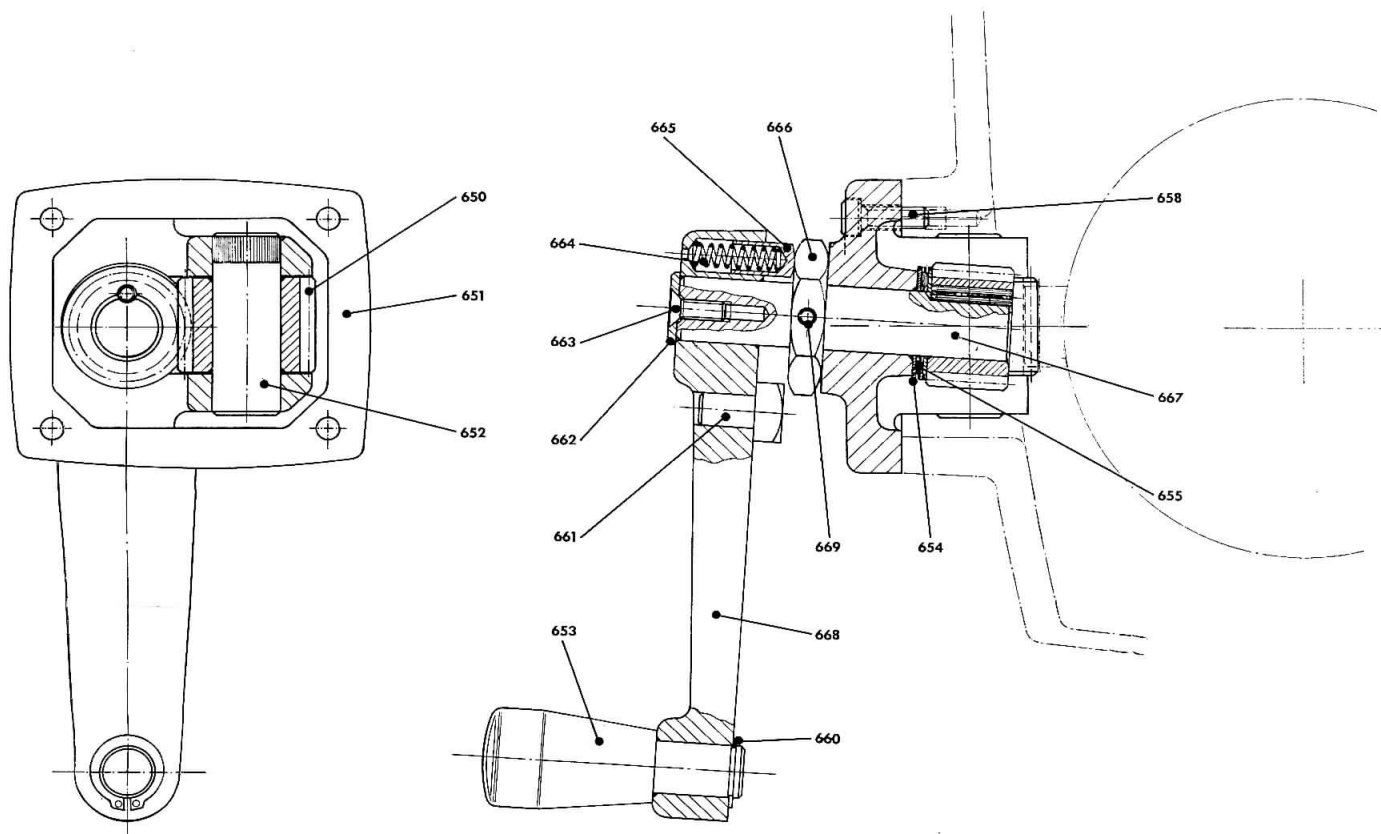
C — SPINDLE MECHANICAL FEED (FIG. 3)



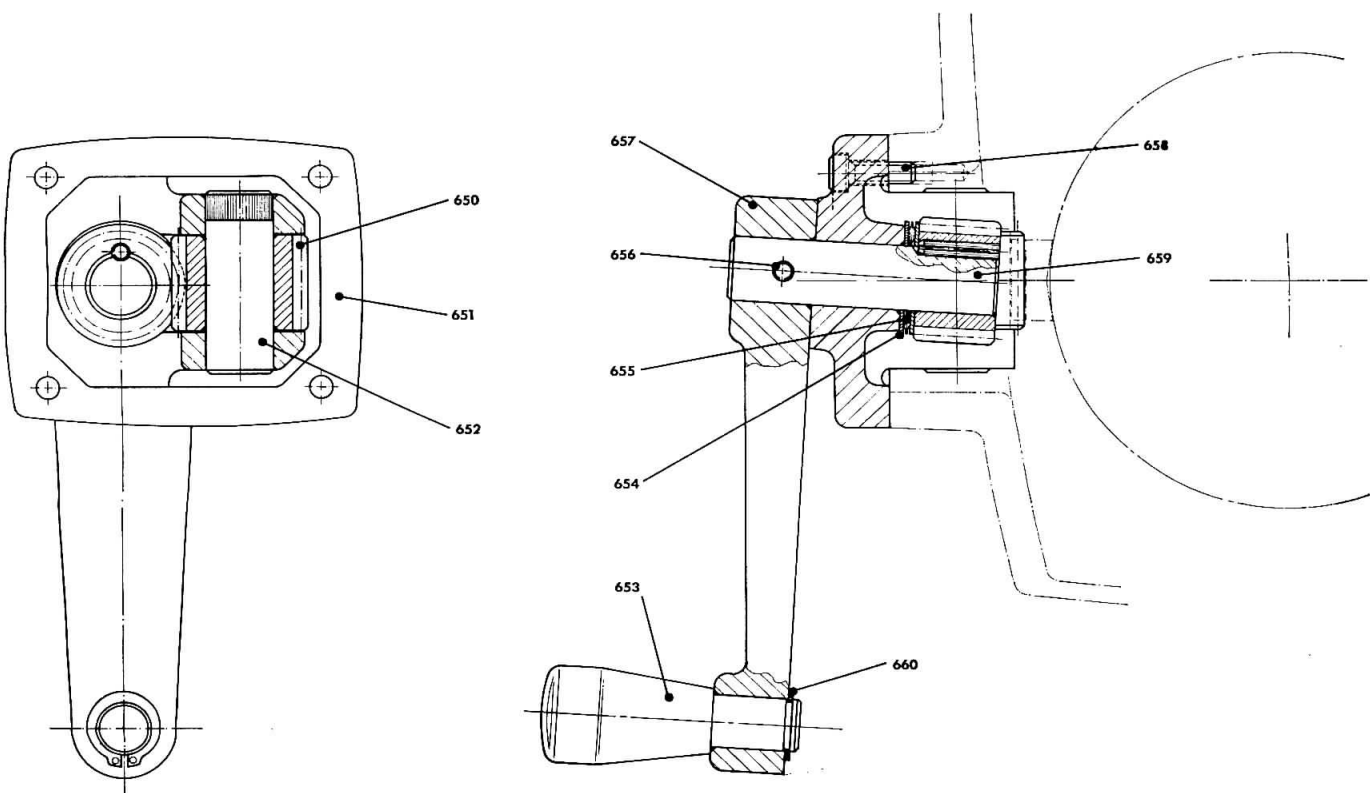
D — SPINDLE HAND FEED (FIG. 4)



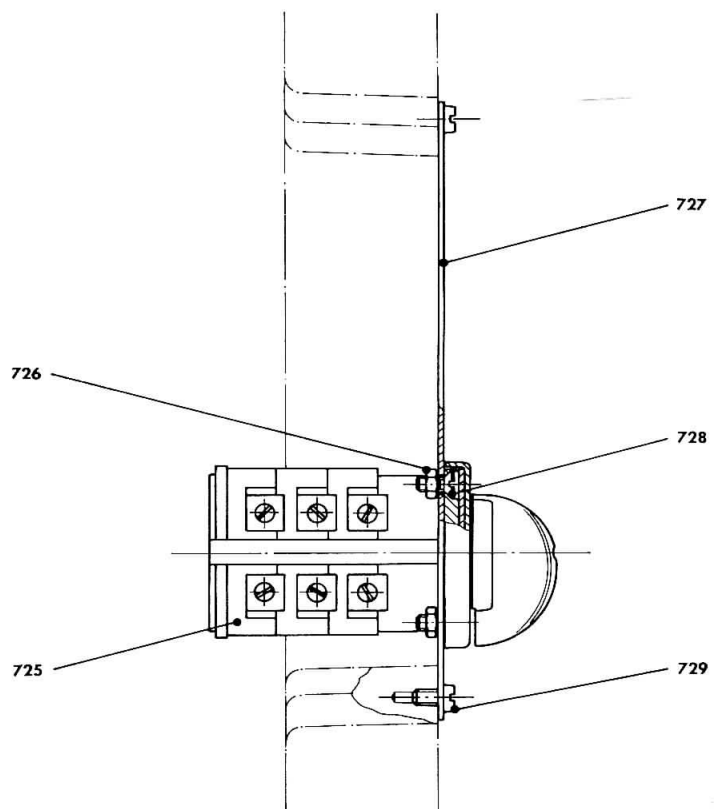
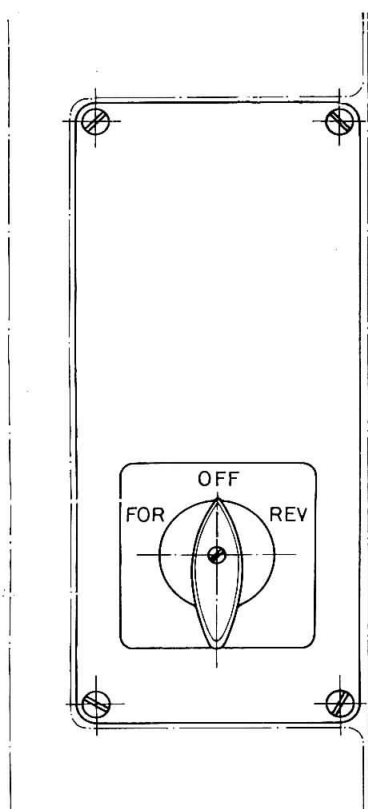
E — HEAD RAISING FEED (FIG. 5)



F — TABLE RAISING MECHANISM (FIG. 6)

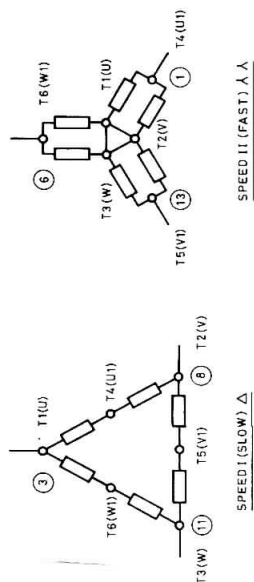


G — LATERAL HEAD PLATE (FIG. 7)

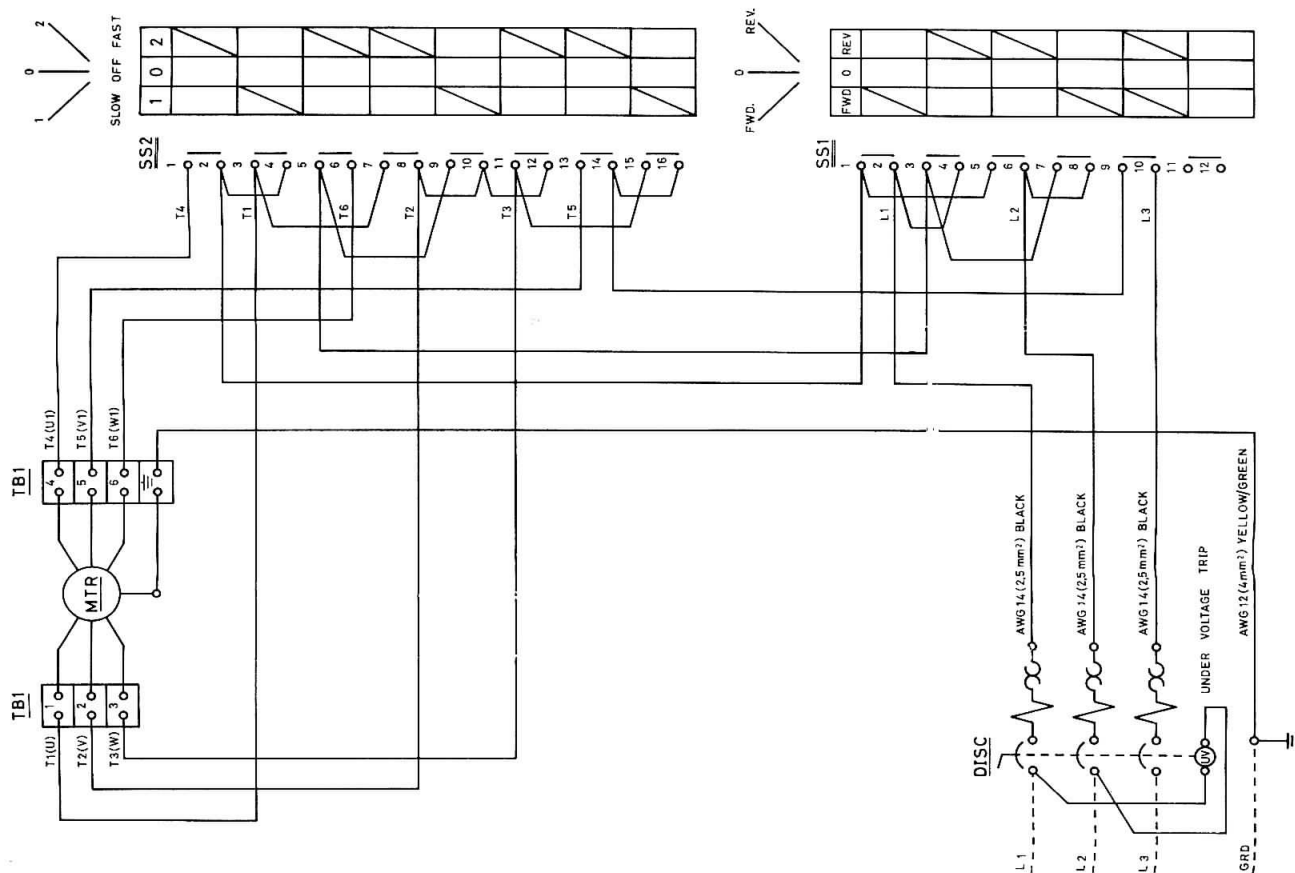


H — ELECTRICS (FIG. 8)

| 3 PHASE | 2 SPEED | SINGLE WINDING | CONSTANT TORQUE |
|---------|---------|----------------|-----------------|
|---------|---------|----------------|-----------------|



| SPEED | L 1 | L 2 | L 3 | OPEN | TOGETHER |
|--------|-----|-----|-----|------------|---------------|
| 1 SLOW | T 1 | T 2 | T 3 | ALL OTHERS | |
| 2 FAST | T 4 | T 5 | T 6 | | T 1, T 2, T 3 |



COMPONENT LIST

| COMPONENT LIST | | | | | | | | | | | | |
|----------------|--|--------|-----------|---|-----------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|------------------------|
| | | | | Nominal Line Voltage | 220 | 380 | 415 | 500 | 208 | 240 | 480 | 600 |
| | | | | Motor Name Plate | 220 | 380 | 420 | 500 | 200 | 230 | 460 | 575 |
| ITEM | NAME AND FUNCTION | MFG | APPROVALS | CATALOG NUMBER | CAT. NUMBER INSERT | | | | CAT. NUMBER INSERT | | | |
| DISC | DISCONNECT WITH PROTECTION CIRCUIT BREAKER | K - M | UL/ CSA | PKZMO — / e + G + U V Hz (*9037250.....) | 10/220 50 (..... 283) | 6/380 50 (..... 331) | 4/420 50 (..... 285) | 4/500 50 (..... 327) | 10/200 60 (..... 328) | 6/230 60 (..... 327) | 4/460 60 (..... 326) | 2,4/575 60 (..... 323) |
| SS1 | SELECTOR SWITCH FOR FWD AND REV | K - N | UL/ CSA | C11 - A441 - E WITH ESCUTCHEON PLATE F093 (*9037251013) | — | — | — | — | — | — | — | — |
| SS2 | SELECTOR SWITCH FOR SLOW AND FAST SPEED | K - N | UL/ CSA | C11 - A441 - E WITH 3 POSITIONS (1,0,2) (*9037250910) | — | — | — | — | — | — | — | — |
| TB1 | TERMINAL BLOCK | APRILE | — | REF 503 (*9037200324) | — | — | — | — | — | — | — | — |
| MTR | 3 PHASE MOTOR WITH 2 SPEED 50HZ-1500/3000 RPM 60HZ-1800/3600 RPM | RABOR | — | 3 PHASE MOTOR V Hz 0,96 / 1,4 KW (*PZ 80 PM 200.....) | 220/50 (..... 283) | 380/50 (..... 284) | 420/50 (..... 285) | 500/50 (..... 327) | 200/60 (..... 286) | 230/60 (..... 287) | 460/60 (..... 284) | 575/60 (..... 289) |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

GENERAL ASSEMBLY

| Pos. | Catalog Number | | Item Description |
|------|------------------|--------------|------------------------------|
| 050 | 743-603755 | 9019000401 | FY screw 6x10 DIN912 |
| 051 | 743-706954 | PF05842-4 | Cover |
| 052 | 743-701005 | PF05400-0 | Base |
| 053 | 743-701153 | PF05418-0 | Table support arm |
| 054 | 743-747156 | PFPM401023 | Bolt |
| 055 | 743-706459 | PF05810-0 | Table 20x24 |
| 056 | PLS SEE FIG. 6/7 | | |
| 057 | 743-605701 | 9019030204 | Screw slot 4x8 DIN7513 |
| 058 | PLS SEE FIG. 2 | | |
| 059 | 743-603953 | 9019000407 | FY screw 6x25 DIN912 |
| 060 | 743-603003 | 9013040513 | HTP tense pin 8x26 DIN1481 |
| 061 | 743-608002 | 9028010002 | Rivet 2x5 DIN1476 |
| 062 | 743-660433 | PE01PM401308 | Référence plate |
| 063 | 743-706509 | PF05814-4 | Complete pipe PG-16 |
| 064 | 743-603854 | 9019000403 | FY screw 6x16 DIN912 |
| 065 | 743-692808 | PF04005-3 | Cover — upper column |
| 066 | 743-730202 | PFPM300443 | Upper rack |
| 067 | 743-627606 | 9046020004 | Lubricator M8 DIN3410E |
| 068 | 743-746703 | PFPM400963 | Bolt |
| 069 | 743-692758 | PF04003-3 | Rack guide |
| 070 | 743-730301 | PFPM300445 | Column ring |
| 071 | 743-606956 | 9022020803 | FXD screw 10x16 DIN915 |
| 072 | 743-705451 | PF05759-3 | Rack |
| 073 | 743-603805 | 9019000402 | FY screw 6x12 DIN912 |
| 074 | 743-683401 | PE52PM401027 | Rack guide |
| 075 | 743-603904 | 9019000405 | FY screw 6x20 DIN912 |
| 076 | 743-731259 | PFPM300501 | Handle |
| 077 | 743-700759 | PF05398-1 | Column |
| 078 | 743-603755 | 9019000401 | FY screw 6x10 DIN912 |
| 079 | 743-623803 | 9037250328 | PKZMO-10/E + G + U 200V60NA |
| 079 | 743-623753 | 9037250327 | PKZMO-6/E + G + U 230V60NA |
| 079 | 743-623704 | 9037250326 | PKZMO-4/E + G + U 460V60NA |
| 079 | 743-623555 | 9037250323 | PKZMO-2.4/E + G + U 575V60NA |
| 079 | 743-623829 | 9037250331 | PKZMO-10/E + G + U 380V50NA |
| 080 | 743-733156 | PFPM300627 | Table plate |
| 081 | 743-622458 | 9037200505 | Complete gland PG-11 |
| 082 | 743-604605 | 9019001112 | FY screw 12x50 DIN912 |
| 083 | 743-607657 | 9025000007 | FN Hexnut M12 DIN934 |
| 084 | 743-618209 | 9031020207 | Plug 3/8 G |
| 085 | 743-666851 | PE0305424 | Strainer |
| 086 | 743-704058 | PF05631-4 | Handle |

| Pos. | Catalog Number | Item Description |
|------|---------------------------|------------------|
| 087 | PLS SEE FIG. 3 FOR DGP-24 | |
| 087 | PLS SEE FIG. 4 FOR DG-24 | |
| 088 | PLS SEE FIG. 5/6 | |

HEAD ASSEMBLY

| Pos. | Catalog Number | Item Description | |
|------|----------------|------------------|----------------------------|
| 100 | 743-698854 | PF05309-3 | Stop ring |
| 101 | 743-729501 | PFPM300399 | Spacer |
| 102 | 743-605701 | 9019030204 | Screw slot 4x8 DIN7513 |
| 105 | 743-750998 | PFPM401359 | Spindle shaft |
| 106 | 743-725053 | PFPM200273 | Spindle sleeve |
| 107 | 743-604951 | 9019010208 | FE screw 3x16 DIN84 |
| 108 | 743-622201 | 9037200324 | Connector unipolar 125/12 |
| 109 | 743-693152 | PF04088-4 | Window cover |
| 110 | 743-743106 | PFPM400607 | Key |
| 111 | 743-745200 | PFPM400809 | Sleeve |
| 112 | 743-603607 | 9019000001 | FY screw 4x10 DIN912 |
| 113 | 743-607509 | 9025000002 | FN hexnut M4 DIN934 |
| 114 | 743-605602 | 9019020406 | Screw slot 4x10 DIN63 |
| 115 | 743-707309 | PF05866-4 | Limit pin |
| 117 | 743-606022 | 9022000201 | FX screw 5x10 DIN913 |
| 118 | 743-699555 | PF05329-4 | Spacer |
| 119 | 743-699951 | PF05349-4 | Key |
| 120 | 743-699100 | PF05318-4 | Gear T-24 |
| 121 | 743-700684 | PF05392-4 | Gear T-31 |
| 122 | 743-744559 | PFPM400749 | Cover |
| 123 | 743-699654 | PF05340-4 | Gear T-25 |
| 124 | 743-606055 | 9022000400 | FX screw 6x8 DIN913 |
| 125 | 743-606709 | 9022020402 | FXD screw 6x12 DIN915 |
| 126 | 743-743205 | PFPM400612 | Handle shaft |
| 127 | 743-600157 | 9001000012 | CE retainer 16-E DIN471 |
| 128 | 743-602856 | 9013040312 | HTP tense pin 5x24 DIN1481 |
| 129 | 743-729006 | PFPM300364 | Button |
| 130 | 743-659559 | PE01PM400962 | Indication plate (60Hz) |
| 130 | 743-659450 | PE01PM400614 | Indication plate (50Hz) |
| 131 | 743-659302 | PE01PM200447 | Name plate (60Hz) |
| 131 | 743-660417 | PE01PM401306 | Speed adhesive plate 50Hz |
| 132 | 743-741506 | PFPM400368 | Spacer |
| 133 | 743-606600 | 9022010400 | FXC screw 6x8 DIN914 |
| 134 | 743-606055 | 9022000400 | FX screw 6x8 DIN913 |

| Pos. | Catalog Number | Item Description |
|------|----------------|----------------------------|
| 135 | 743-749301 | PFFPM401246 |
| 136 | 743-607251 | 9022030400 |
| 137 | 743-600157 | 9001000012 |
| 138 | 743-733107 | PFFPM300626 |
| 139 | 743-700668 | PF05391-4 |
| 140 | 743-619306 | 9034050304 |
| 141 | 743-603458 | 9016000615 |
| 142 | 743-699803 | PF05346-4 |
| 143 | 743-750978 | PFFPM401357 |
| 144 | 743-607855 | 9025080005 |
| 145 | 743-690802 | PF00833-4 |
| 146 | 743-699050 | PF05317-4 |
| 147 | 743-699258 | PF05321-3 |
| 148 | 743-602203 | 9010250005 |
| 149 | 743-699852 | PF05347-4 |
| 150 | 743-637803 | 9050000003 |
| 151 | 743-678005 | PE5205200 |
| 152 | 743-702508 | PF05498-4 |
| 153 | 743-699902 | PF05348-4 |
| 154 | 743-699209 | PF05320-4 |
| 155 | 743-602757 | 9013040215 |
| 156 | 743-699506 | PF05326-3 |
| 157 | 743-620007 | 9034850105 |
| 158 | 743-700627 | PF05389-4 |
| 159 | 743-603425 | 9016000516 |
| 160 | 743-668402 | PE03PM400786 |
| 161 | 743-699001 | PF05316-4 |
| 162 | 743-602500 | 9013000111 |
| 163 | 743-600355 | 9001000023 |
| 164 | 743-699159 | PF05319-4 |
| 165 | 743-700643 | PF05390-4 |
| 166 | 743-750986 | PFFPM401358 |
| 167 | 743-600801 | 9001010027 |
| 168 | 743-600306 | 9001000016 |
| 169 | 743-740508 | PFFPM400218 |
| 171 | 743-707259 | PF05865-4 |
| 172 | 743-606600 | 9022010400 |
| 173 | 743-601809 | 9010040006 |
| 174 | 743-604357 | 9019000803 |
| 175 | 743-745259 | PFFPM400810 |
| 176 | 743-620304 | 9034990216 |
| 177 | 743-725806 | PFFPM200322 |
| | | Sleeve |
| | | FXW screw 6x8 DIN916 |
| | | CE retainer 16-E DIN471 |
| | | Cam shaft |
| | | Gear T-52 |
| | | Bearing 6204-RS |
| | | KR key 5x5x50 DIN6885 |
| | | Rod |
| | | Intermediate shaft |
| | | Bearing nut KM4 |
| | | Spacer |
| | | Gear T-13 |
| | | Gear T-34 |
| | | Bearing washer MB-4 |
| | | Rod |
| | | Self lubricator 8x12x12 |
| | | Plug |
| | | Spacer |
| | | Key |
| | | Spacer with box |
| | | HTP tense pin 4x30 DIN1481 |
| | | Sliding coupling |
| | | SB steel ball M5 DIN5401 |
| | | Gear T-49 |
| | | Key 5x5x56 DIN6885 |
| | | Spring |
| | | Gear T-16 |
| | | PD dowell pin 6x24 DIN7 |
| | | CE retainer 30-E DIN471 |
| | | Gear T-12 |
| | | Gear T-53 |
| | | Main shaft |
| | | CB retainer 47-I DIN472 |
| | | CE retainer 20-E DIN471 |
| | | Spacer |
| | | Union |
| | | FXC screw 6x8 DIN914 |
| | | Lock washer M10 DIN127B |
| | | FY screw 10x16 DIN912 |
| | | Special nut |
| | | Bearing LM67048/LM67010 |
| | | Drain |

| Pos. | Catalog Number | | Item Description |
|------|----------------|--------------|------------------------------|
| 178 | 743-605701 | 9019030204 | Screw slot 4x8 DIN7513 |
| 179 | 743-787053 | PZ80PM200286 | Motor 200V/60Hz |
| 179 | 743-787103 | PZ80PM200287 | Motor 230V/60Hz |
| 179 | 743-787004 | PZ80PM200284 | Motor 460V/60Hz |
| 179 | 743-787152 | PZ80PM200289 | Motor 575V/60Hz |
| 179 | 743-787004 | PZ80PM200284 | Motor 380V/60Hz |
| 181 | 743-603904 | 9019000405 | FY screw 6x20 DIN912 |
| 190 | 743-607004 | 9022020806 | FXD screw 10x30 DIN915 |
| 191 | 743-604506 | 9019000912 | FY screw 10x50 DIN912 |
| 192 | 743-604050 | 9019000510 | FY screw 6x40 DIN912 |
| 193 | 743-620254 | 9034990215 | Bearing IM300849/IM300811 C2 |
| 195 | 743-745309 | PFPMP400811 | Cover |
| 196 | 743-602252 | 9010260001 | Bearing washer M-007 |
| 197 | 743-706483 | PF05812-4 | Ring |
| 198 | 743-693202 | PF04092-4 | Pin |
| 200 | 743-606204 | 9022000606 | FX screw 8x30 DIN913 |
| 201 | 743-607608 | 9025000005 | FN hexnut M8 DIN934 |
| 202 | 743-648008 | 9099000206 | Rubber cord M6 |
| 203 | 743-732802 | PFPMP300618 | Index stop |
| 204 | 743-732950 | PFPMP300621 | Limit stop — lead screw |
| 208 | 743-668352 | PE03PM400499 | Clamp |
| 209 | 743-605701 | 9019030204 | Screw slot 4x8 DIN7513 |
| 210 | 743-696007 | PF04928-4 | Stop |
| 211 | 743-603755 | 9019000401 | FY screw 6x10 DIN912 |
| 212 | 743-603755 | 9019000401 | FY screw 6x10 DIN912 |
| 213 | 743-606253 | 9022000801 | FX screw 10x10 DIN913 |
| 214 | 743-747057 | PFPMP401019 | Locator body |
| 215 | 743-668253 | PE03PM400249 | Spring |
| 216 | 743-604001 | 9019000508 | FY screw 6x30 DIN912 |
| 217 | 743-620056 | 9034850112 | SB steel ball M8 DIN5401 |
| 218 | 743-699647 | PF05339-4 | Safety ring |
| 219 | 743-721151 | PFPMP010190 | Head casting |
| 220 | 743-693251 | PF04094-4 | Gear T-25 |
| 221 | 743-687006 | PE5705511 | Cover |
| 222 | 743-627606 | 9046020004 | Lubricator M8 DIN3410E |
| 223 | 743-620007 | 9034850105 | SB steel ball M5 DIN5401 |
| 224 | 743-699753 | PF05342-4 | Safety piston |
| 225 | 743-604001 | 9019000508 | FY screw 6x30 DIN912 |
| 226 | 743-699704 | PF05341-4 | Safety nucleus |
| 227 | 743-603102 | 9013050507 | Cotter pin 3x15 DIN94 |
| 228 | 743-744500 | PFPMP400748 | Brakeshaft plate |
| 229 | 743-733008 | PFPMP300622 | Support plate |

| Pos. | Catalog Number | | Item Description |
|------|------------------|--------------|----------------------------|
| 230 | 743-682304 | PE52PM300623 | Cam |
| 231 | 743-625451 | 9037500208 | Rubber wireway N4-12x20 |
| 232 | 743-605701 | 9019030204 | Screw slot 4x8 DIN7513 |
| 234 | PLS SEE FIG. 3 | | |
| 235 | 743-648172 | 9099000821 | Plug |
| 236 | 743-693103 | PF04086-4 | Knob |
| 237 | 743-602856 | 9013040312 | HTP tense pin 5x24 DIN1481 |
| 238 | 743-601908 | 9010050012 | Disc spring 8-20 DIN2093 |
| 239 | 743-603904 | 9019000405 | FY screw 6x20 DIN912 |
| 240 | 743-704058 | PF05631-4 | Handle |
| 241 | 743-624702 | 9037250910 | Pole change |
| 242 | 743-725152 | PFPM200275 | Spindle nose MT-3 |
| 243 | PLS SEE FIG. 6/7 | | |

SPINDLE MECHANICAL FEED

| Pos. | Catalog Number | | Item Description |
|------|----------------|--------------|----------------------------|
| 260 | 743-603953 | 9019000407 | FY screw 6x25 DIN912 |
| 261 | 743-690257 | PF00459-4 | Pin |
| 262 | 743-693558 | PF04367-3 | Lever |
| 263 | 743-659658 | PE01PM401143 | Feed plate |
| 264 | 743-688251 | PE5900148 | Bakelite ball M16 |
| 265 | 743-603003 | 9013040513 | HTP tense pin 8x26 DIN1481 |
| 266 | 743-729303 | PFPM300388 | Spindle control shaft |
| 267 | 743-606352 | 9022000810 | FX screw 10x50 DIN913 |
| 268 | 743-607756 | 9025010112 | Low hexnut M10 DIN439 |
| 269 | 743-709008 | PF06043-4 | Wedge |
| 270 | 743-708851 | PF06040-3 | Pin |
| 271 | 743-607301 | 9022030401 | FXW screw 6x10 DIN916 |
| 272 | 743-700007 | PF05354-4 | Selector shaft |
| 273 | 743-600256 | 9001000014 | CE retainer 18-E DIN471 |
| 274 | 743-741506 | PFPM400368 | Spacer |
| 275 | 743-619702 | 9034770010 | Needle sleeve HKI 1716 |
| 276 | 743-699308 | PF05322-3 | Gear T-86 |
| 277 | 743-699951 | PF05349-4 | Key |
| 278 | 743-600207 | 9001000013 | CE retainer 17-E DIN471 |
| 279 | 743-700304 | PF05365-4 | Gear T-17 |
| 280 | 743-741506 | PFPM400368 | Spacer |
| 281 | 743-698557 | PF05293-0 | Main cover |
| 282 | 743-668253 | PE03PM400249 | Spring |
| 283 | 743-620056 | 9034850112 | SB steel ball M8 DIN5401 |

| Pos. | Catalog Number | | Item Description |
|------|----------------|--------------|----------------------------|
| 284 | 743-702557 | PF05502-4 | Knob |
| 285 | 743-601643 | 9010000004 | WN washer M6 DIN125 |
| 286 | 743-607608 | 9025000005 | FN Hexnut M8 DIN934 |
| 287 | 743-708950 | PF06042-4 | Brake block |
| 288 | 743-747107 | PFFPM401020 | Cover |
| 289 | 743-603904 | 9019000405 | FY screw 6x20 DIN912 |
| 290 | 743-731556 | PFFPM300521 | Ring |
| 291 | 743-729352 | PFFPM300389 | Spring box |
| 292 | 743-693004 | PF04033-4 | Engaging pin |
| 293 | 743-744906 | PFFPM400774 | Lock ring |
| 294 | 743-729402 | PFFPM300391 | Worm wheel |
| 295 | 743-708901 | PF06041-4 | Piston |
| 296 | 743-668451 | PE03PM400846 | Spring |
| 297 | 743-744856 | PFFPM400773 | Arm |
| 298 | 743-603904 | 9019000405 | FY screw 6x20 DIN912 |
| 299 | 743-744807 | PFFPM400772 | Lever |
| 300 | 743-706400 | PF05808-4 | Spring fixing ring |
| 301 | 743-731507 | PFFPM300520 | Locating ring |
| 302 | 743-620056 | 9034850112 | SB steel ball M8 DIN5401 |
| 303 | 743-668253 | PE03PM400249 | Spring |
| 304 | 743-747552 | PFFPM401155 | Half-ring |
| 305 | 743-709057 | PF06045-4 | Adjusting sleeve |
| 306 | 743-694705 | PF04409-4 | Cone control connector rod |
| 307 | 743-603854 | 9019000403 | FY screw 6x16 DIN912 |
| 308 | 743-620056 | 9034850112 | SB steel ball M8 DIN5401 |
| 309 | 743-603805 | 9019000402 | FY screw 6x12 DIN912 |
| 310 | 743-745457 | PFFPM400824 | Spring |
| 311 | 743-744955 | PFFPM400776 | Half-ring |
| 312 | 743-603409 | 9016000506 | KR key 5x5x18 DIN6885 |
| 313 | 743-699456 | PF05325-4 | Gear T-34 |
| 314 | 743-699407 | PF05324-4 | Gear T-42 |
| 315 | 743-699357 | PF05323-4 | Gear T-50 |
| 316 | 743-699951 | PF05349-4 | Key |
| 317 | 743-619157 | 9034030104 | Bearing 6003-Z |
| 318 | 743-700056 | PF05355-4 | Intermediate shaft |
| 319 | 743-600207 | 9001000013 | CE retainer 17-E DIN471 |
| 320 | 743-732406 | PFFPM300589 | Outlet shaft |
| 321 | 743-741506 | PFFPM400368 | Spacer |
| 322 | 743-700106 | PF05356-4 | Spacer |
| 323 | 743-700353 | PF05366-4 | Drive key |
| 324 | 743-741506 | PFFPM400368 | Spacer |
| 325 | 743-600702 | 9001010020 | CB retainer 35-I DIN472 |

| Pos. | Catalog Number | | Item Description |
|------|----------------|------------|-----------------------|
| 326 | 743-698201 | PF05236-4 | Spring key |
| 327 | 743-700254 | PF05364-4 | Rack |
| 328 | 743-732505 | PFPM300591 | Power feed clutch |
| 329 | 743-729808 | PFPM300415 | Worm Wheel shaft |
| 330 | 743-700205 | PF05359-4 | Sleeve |
| 331 | 743-619801 | 9034820002 | Axial disc As 1730 |
| 332 | 743-619900 | 9034820102 | Axial disc WS 81103 |
| 333 | 743-700155 | PF05357-4 | Push rod |
| 334 | 743-607558 | 9025000004 | FN hexnut M6 DIN934 |
| 335 | 743-606758 | 9022020404 | FXD screw 6x20 DIN915 |
| 336 | 743-619504 | 9034650002 | Bearing AXK 1730 |
| 337 | 743-606105 | 9022000401 | FX screw 6x10 DIN913 |
| 338 | 743-606758 | 9022020404 | FXD screw 6x20 DIN915 |

SPINDLE HAND FEED

| Pos. | Catalog Number | | Item Description |
|------|----------------|------------|----------------------------|
| 360 | 743-693004 | PF04033-4 | Engaging pin |
| 361 | 743-706400 | PF05808-4 | Spring fixing ring |
| 362 | 743-700551 | PF05380-2 | Spindle control shaft |
| 363 | 743-603805 | 9019000402 | FY screw 6x12 DIN912 |
| 364 | 743-745457 | PFPM400824 | Spring |
| 365 | 743-627606 | 9046020004 | Lubricator M8 DIN3410E |
| 366 | 743-603953 | 9019000407 | FY screw 6x25 DIN912 |
| 367 | 743-698607 | PF05298-0 | Main cover |
| 368 | 743-603003 | 9013040513 | HTP tense pin 8x26 DIN1481 |
| 369 | 743-688251 | PE5900148 | Bakelite ball M16 |
| 370 | 743-690109 | PF00296-4 | Feed lever |
| 371 | 743-603854 | 9019000403 | FY screw 6x16 DIN912 |
| 372 | 743-698904 | PF05315-3 | Support cover |
| 373 | 743-697856 | PF05207-4 | Knob |
| 374 | 743-678104 | PE5205809 | Spacer |

HEAD RAISING MECANISM

| Pos. | Catalog Number | | Item Description |
|------|----------------|-----------|------------------|
| 650 | 743-692907 | PF04024-4 | Gear T-18 |
| 651 | 743-700601 | PF05385-2 | Cover |
| 652 | 743-692956 | PF04025-4 | Gear shaft |

| Pos. | Catalog Number | | Item Description |
|------|----------------|-------------|----------------------------|
| 653 | 743-740003 | PFFPM400169 | Handle |
| 654 | 743-619850 | 9034820005 | Axial Disc. AS2035 |
| 655 | 743-619553 | 9034650005 | Bearing AXK2035 |
| 658 | 743-603904 | 9019000405 | FY Screw 6x20 DIN912 |
| 660 | 743-600157 | 9001000012 | CE Retainer 16-E DIN471 |
| 661 | 743-751026 | PFFPM401352 | Stop |
| 662 | 743-751034 | PFFPM401353 | Special washer |
| 663 | 743-605909 | 9019100303 | FY Screw 6x6 DIN7991 |
| 664 | 743-660482 | PE0300083 | Spring |
| 665 | 743-751042 | PFFPM401354 | Piston |
| 666 | 743-751018 | PFFPM401351 | Stop ring |
| 667 | 743-751133 | PFFPM401363 | Worm screw |
| 668 | 743-733750 | PFFPM300674 | Arm crank |
| 669 | 743-602948 | 9013040418 | HTP Tense Pin 6x40 DIN1481 |

TABLE RAISING MECHANISM

| Pos. | Catalog Number | | Item Description |
|------|----------------|-------------|----------------------------|
| 650 | 743-692907 | PF04024-5 | Gear T-18 |
| 651 | 743-700601 | PF05385-2 | Cover |
| 652 | 743-692956 | PF04025-4 | Gear shaft |
| 653 | 743-740003 | PFFPM400169 | Handle |
| 654 | 743-619850 | 9034820005 | Axial disc As 2035 |
| 655 | 743-619553 | 9034650005 | Bearing AXK 2035 |
| 656 | 743-602955 | 9013040419 | HTP tense pin 6x45 DIN1481 |
| 657 | 743-701054 | PF05404-3 | Arm-crank |
| 658 | 743-603904 | 9019000405 | FY screw 6x20 DIN912 |
| 659 | 743-704801 | PF05705-4 | Worm screw |
| 660 | 743-600157 | 9001000012 | CE retainer 16-E DIN471 |

LATERAL HEAD PLATE

| Pos. | Catalog Number | | Item Description |
|------|----------------|-------------|-----------------------------------|
| 725 | 743-624884 | 9037251013 | Reverser C11-A 401E.20w/esp. F093 |
| 726 | 743-607509 | 9025000002 | FN hexnut M4 DIN934 |
| 727 | 743-750507 | PFFPM401310 | Lateral head plate reversing |
| 728 | 743-605602 | 9019020406 | Screw slot 4x10 DIN63 |
| 729 | 743-605701 | 9019030204 | Screw slot 4x8 DIN7513 |