

# INSTRUCTION MANUAL

## Schools / TAFE - PD-35S Bench Drill (240V) 31.5mm



K8202

# PLANT SAFETY PROGRAMME

## NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL

Stock Code: D162      Pedestal Drill      Model: PD-35      Brand: HAFCO

Developed in Co-operation Between A.W.I.S.A and Australia Chamber of Manufactures  
This program is based upon the Australian Worksafe Standard for Plant(NOHSC:1010-1994)

| Item No. | Hazard Identification          | Hazard Assessment | Risk Control Strategies<br>(Recommended for Purchase / Buyer / User)   |
|----------|--------------------------------|-------------------|--|
| A        | ENTANGLEMENT                   | HIGH              | Eliminate, avoid loose clothing / Long hair etc.   |
| B        | CRUSHING                       | LOW               | Secure & support work material on drill table.   |
| C        | CUTTING, STABBING, PUNCTURING. | MEDIUM            | Isolate power to machine prior to any checks or maintenance being carried out.<br>Do not adjust or clean until the machine has fully stopped.  |
| D        | SHEARING                       | MEDIUM            | Isolate power to machine when changing speeds or maintenance is being carried out.<br>Make sure all guards are secured shut when machine is on.  |
| F        | STRIKING                       | MEDIUM            | Ensure workpieces are tightly secured on machine.<br>Wear safety glasses.  |
| H        | ELECTRICAL                     | MEDIUM            | Ensure correct spindle direction when drilling..<br>All electrical enclosures should only be opened with a tool that is not to be kept with the machine.<br>Never clean or dust machine when power is on . |
| M        | HIGH TEMPERATURE               | LOW               | Wear appropriate protective clothing to prevent hot swarf.   |
| O        | OTHER HAZARDS, NOISE.          | LOW               | Wear hearing protection as required.   |

Plant Safety Program to be read in conjunction with manufactures instructions



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Authorised and signed by: Safety officer: .....

Manager: .....

Date: Mar-02

## Table Content

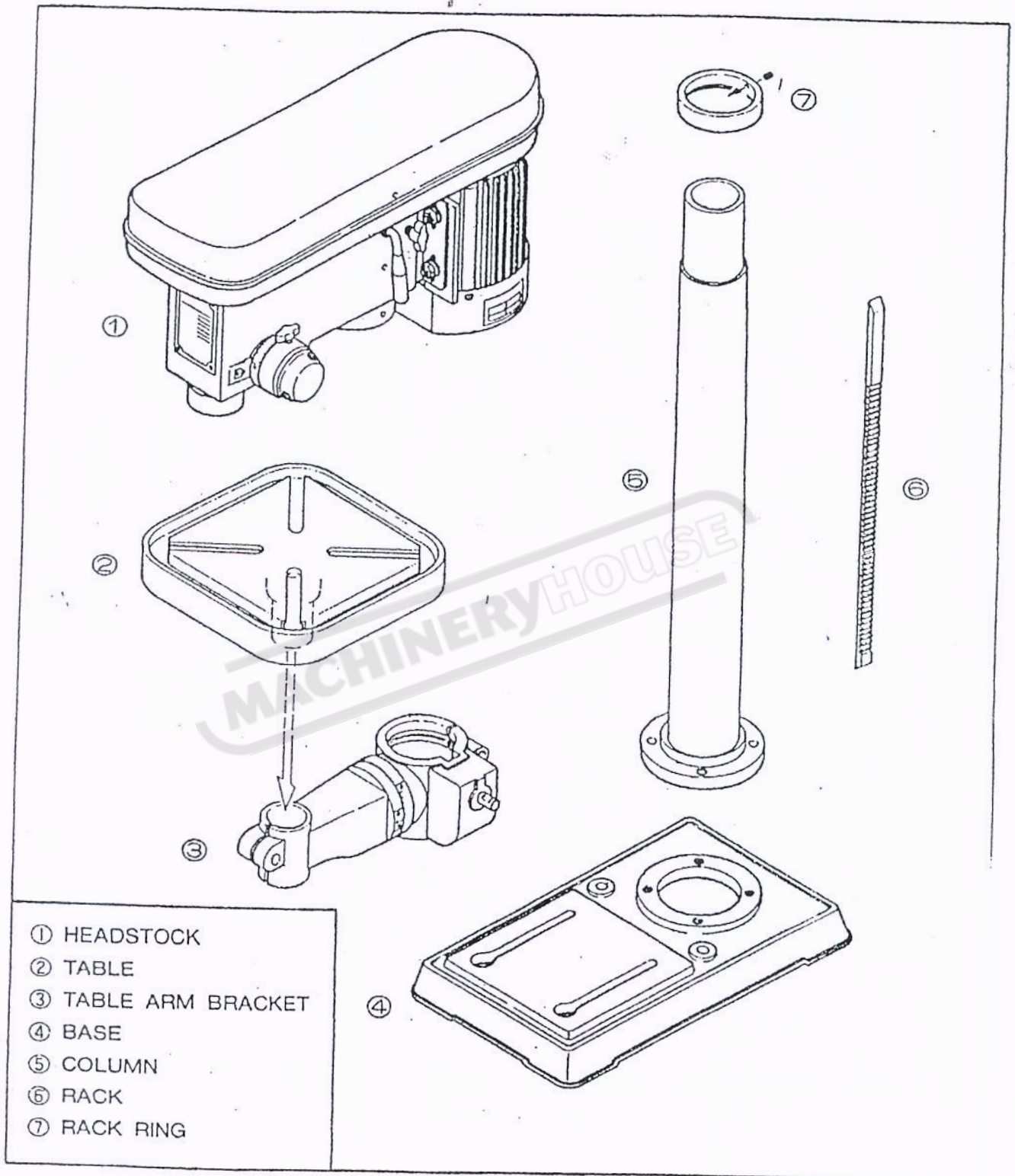
- §1. Specification
- §2. Safety Instruction
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## §2. Safety Instruction

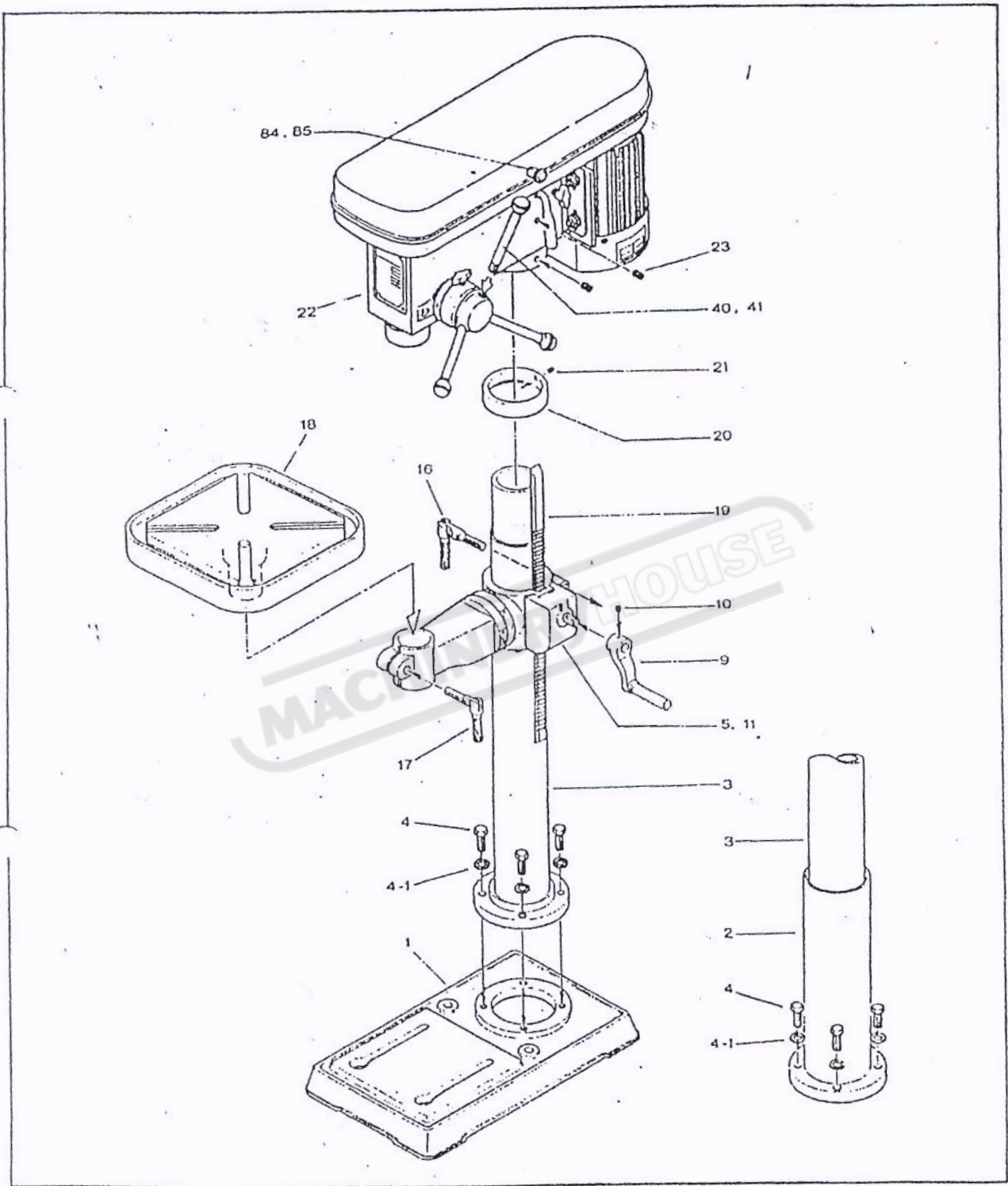
1. Read Instruction Manual before operating the machine for your own safety.
2. Make sure the power voltage is for the machine. Before connecting the plug to socket, it is necessary to check the power spec. to avoid damaged occurred.
3. Check cluck, work table, work piece are completely secured or fixed before normal operation.
4. During the machine is not used for a long time, the plug should be disconnected.
5. All children and visitors should be kept at a safe distance from work area, when the machine is operating.
6. Never stand the power cable near the fire or water environment, any broken or pressed of power cable is not allowed.
7. It shall be stable and securely fixed in machine installation procedure for the machine to be used safety.
8. Wear proper apparel, no loose clothing, gloves, neckties, ring, bracelet to get caught in operation. Always wear safety glasses, cap and specific clothes.
9. It is prohibited to remove the guard cover away in operation situation.
10. Do not operate this machine beyond the limit of its capacity, refer to specification of this manual.
11. Do not move the table when machine in operation status.
12. Secure work. Use a vise or clamps to hold work when practical.
13. Use recommended cutting liquid, consult the owner's manual for recommended.
14. Feed speed should be executed under safety scope.
15. Do not open the safety guard in operation.
16. Shut off the power, before started the normal maintenance, service, adjustment or repairing.
17. Have your machine repaired by a qualified person.
18. Routing maintenance and repaired should be executed follow the rules of manual.
19. Check all pants are in place and securely locked before transportation. Bump and crash are prohibited.
20. Drill need to be fixed in the chuck.
21. Make sure the chuck wrench had been removed from the chuck before practical.
22. To prevent damaged the work table, a corrected work table adjustment and depth position settle down are necessary.
23. Do not use any damaged or cracked parts.

## 2. Checking List

### A. MAIN PARTS



### §4. Assembly Procedure



## §6. Preparation before operation

### <1> Remove anti-rust oil and assembling the accessories

After unpacking and finishing assembly of machine, assemble the required accessories to the machine. After assembly the accessories, be sure to remove the anti-rust oil on the disc, column, spindle end and taper hole.

### <2> Installation of chuck and tool

To secure the chuck rigidly to the spindle, you may hit with the wood hammer on the end of chuck to make the chuck fit closely with the taper of arbor. After mounting the tool to the chuck, the screw of chuck shall be tightened by using chuck key.

You may rotate the tool slightly after tightening the chuck so as to get a better tightening effect.

### <3> Adjust the appropriate position of working table

In order to have a higher working efficiency, the working table shall be adjusted to such a position that the end of tool is as close as possible to the top surface of work piece.

To have a well stability, the work piece shall be supported completely by the working table. The followings are the instruction for the adjustment of stability:

① Vertical movement of working table : Loosen the middle ring handle so as to move the working table up and down to an appropriate position. After adjustment for the height of working table, tighten this middle ring handle.

② Horizontal movement of working table: Loosen the middle ring lock nut, then the working table could be moved forward and backward to the appropriate position required for work. After movement, the middle ring lock nut must be tightened again.

③ Rotational movement of working table : Loosen the disc lock bar, then the working table is liable to be rotated freely. After rotating the working table to the appropriate position, the disc lock bar shall be locked again.

#### **Warning !**

1. Secure the work piece to the working table by using appropriate clamping as far as possible.
2. In case the tool has to pass through the work piece, this work piece shall be mounted in such a position that the tool is aligned to the center line of disc.

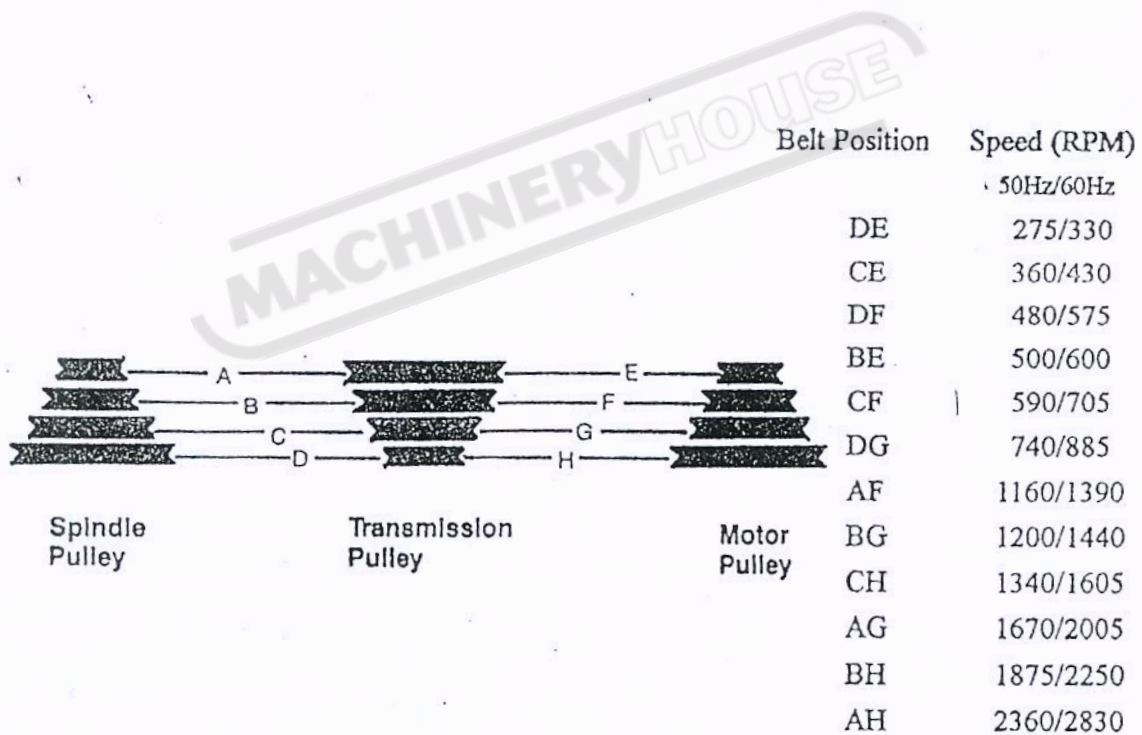
<6> Adjustment of feeding limit

To prevent unwanted penetration to work piece, the feeding limit shall be set by adjusting the appropriate position of feeding depth fixing button as long as the distance between the end of tool and top surface if work piece is measured.

To adjust the appropriate position of this fixing button, the fixing nut shall be loosened for adjustment, and be tightened for fixing.

**§7. Speed change & Belt tension**

1. When speed change is required. Loosen lead bolt (parts no. 30) on both side of headstock. Pull belt handle (parts no. 26) to allow belts repositioning and then move belts to correct groove to acquire desired speed. See following speed chart for reference.





<2> Lubrication :

- ① Add grease to the spindle once a month.
- ② Add appropriate lubricant to the gear transmission once a week.
- ③ Recommended cutting oil : ISO-32; SAE 10#.
- ④ Recommended cooling fluid : Ti- co.

<3> Cleaning :

Be sure to keep working table clean before and after working so as to have better operation environment. Any other parts shall always be kept in clean situation.

<4> Pulley belt change

- ① If the pulley belts are checked to be worn and/or broken, just replace it. The appropriate specification for the front belt is A24, and for motor is A26.
- ② If the pulley belts wear and/or break very often, please check if the belt tension is adjusted too much or there is any other reason to cause this situation.

§9. Trouble shooting

| Trouble description       | Possible reason                            | Solutions                        |
|---------------------------|--|----------------------------------|
| Motor can not rotate      | 1. Main switch break down                  | 1. Replace main switch           |
|                           | 2. Push button break down                  | 2. Replace push button           |
|                           | 3. Motor wiring error                      | 3. Rewiring for motor connection |
| Spindle can not reverse   | 1. Wiring error of motor connection        | 1. Rewiring for motor connection |
|                           | 2. Limit switch break down                 | 2. Replace limit switch          |
|                           | 3. Magnetic switch break down              | 3. Replace magnetic switch       |
| Abnormal noise on spindle | 1. Bearing wear                            | 1. Replace bearing               |
|                           | 2. Too much tension on pulley belt         | 2. Loosen the pulley belt        |
| Spindle moving unstably   | 1. The deformation on the gears of spindle | 1. Repair the gear               |
| Tool shaking              | 1. Chuck break down                        | 1. Replace chuck                 |
|                           | 2. Clamping mechanism break down           | 1. Re-clamping                   |

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