



**DRAPER**<sup>®</sup>

230V 12 SPEED

# BENCH DRILL

02016



These instructions accompanying the product are the original instructions. This document is part of the product, keep it for the life of the product passing it on to any subsequent holder of the product. Read all these instructions before assembling, operating or maintaining this product.

This manual has been compiled by Draper Tools describing the purpose for which the product has been designed, and contains all the necessary information to ensure its correct and safe use. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product.

Whilst every effort has been made to ensure the accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

# 1. TITLE PAGE

---

## 1.1 INTRODUCTION:

USER MANUAL FOR: 230V 12 SPEED BENCH DRILL

**Stock No:** 02016

**Part No:** GD20/12E

## 1.2 REVISIONS:

**Date first published March 2018.**

---

---

---

---

As our user manuals are continually updated, users should make sure that they use the very latest version.

**Downloads are available from:** <http://drapertools.com/manuals>

Draper Tools Limited  
Hursley Road  
Chandler's Ford  
Eastleigh  
Hampshire  
SO53 1YF  
UK

**Website:** [drapertools.com](http://drapertools.com)

**Product Helpline:** +44 (0) 23 8049 4344

**General Fax:** +44 (0) 23 8026 0784

## 1.3 UNDERSTANDING THIS MANUALS SAFETY CONTENT:

**WARNING!** – Information that draws attention to the risk of injury or death.

**CAUTION!** – Information that draws attention to the risk of damage to the product or surroundings.

## 1.4 COPYRIGHT © NOTICE:

Copyright © Draper Tools Limited.

Permission is granted to reproduce this publication for personal and educational use only. Commercial copying, redistribution, hiring or lending is prohibited.

No part of this publication may be stored in a retrieval system or transmitted in any other form or means without written permission from Draper Tools Limited.

In all cases this copyright notice must remain intact.

---

# 2. CONTENTS

---

## 2.1 CONTENTS

### 1. TITLE PAGE

1.1 INTRODUCTION .....	1
1.2 REVISION HISTORY .....	2
1.3 UNDERSTANDING THIS MANUAL .....	2
1.4 COPYRIGHT NOTICE .....	2

### 2. CONTENTS

2.1 CONTENTS .....	3
--------------------	---

### 3. GUARANTEE

3.1 GUARANTEE .....	4
---------------------	---

### 4. INTRODUCTION

4.1 SCOPE .....	5
4.2 SPECIFICATION .....	5
4.3 HANDLING AND STORAGE .....	5

### 5. HEALTH AND SAFETY INFORMATION

5.1 GENERAL SAFETY INSTRUCTIONS FOR POWER TOOL USE .....	6
5.2 ADDITIONAL SAFETY INFORMATION .....	8
5.3 CONNECTION TO THE POWER SUPPLY .....	9

### 6. TECHNICAL DESCRIPTION

6.1 IDENTIFICATION .....	10
--------------------------	----

### 7. UNPACKING AND CHECKING

7.1 PACKAGING .....	11
7.2 WHAT'S IN THE BOX .....	11

### 8. ASSEMBLY

8.1 BASE TO COLUMN .....	12
8.2 TABLE .....	12
8.3 HEADSTOCK .....	13
8.4 PLUNGE HANDLES .....	13
8.5 CHUCK AND ARBOR .....	13
8.6 CHUCK GUARD .....	14
8.7 BENCH/FLOOR MOUNTING .....	14

### 9. SETTING THE BENCH DRILL

9.1 SPINDLE SPEED ADJUSTMENT .....	15
9.2 DRILL BIT INSTALLATION/REPLACEMENT .....	16
9.3 NO-VOLT SWITCH .....	16
9.4 WORK TABLE ADJUSTMENT .....	17
9.5 GENERAL DRILLING .....	18
9.6 DUST AND SWarf .....	18

### 10. TROUBLESHOOTING

10.1 TROUBLESHOOTING .....	19
----------------------------	----

### 11. MAINTENANCE

11.1 ARBOR REMOVAL .....	20
--------------------------	----

### 12. ACCESSORIES

12.1 ACCESSORIES .....	21
------------------------	----

### 13. EXPLANATION OF SYMBOLS

13.1 ACCESSORIES .....	21
------------------------	----

### 14. DISPOSAL

14.1 DISPOSAL .....	23
---------------------	----

DECLARATION OF CONFORMITY .....	ENCLOSED
---------------------------------	----------

## 3. GUARANTEE

---

### 3.1 GUARANTEE

Draper tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, please return the complete tool to your nearest distributor or contact:

**Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England.**

**Telephone Sales Desk: (023) 8049 4333 or:**

**Product Helpline (023) 8049 4344.**

A proof of purchase must be provided.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee period covering parts/labour is 12 months from the date of purchase except where tools are hired out when the guarantee period is 90 days from the date of purchase. The guarantee is extended to 24 months for parts only. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

Note: If the tool is found not to be within the terms of warranty, repairs and carriage charges will be quoted and made accordingly.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the guarantee period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

**Draper Tools Limited.**

# 4. INTRODUCTION

---

## 4.1 SCOPE

This general duty bench standing drill is ideal for most drilling applications at home or in a workshop environment.

Suitable for drilling hard and soft wood, ceramics, plastics, metals and various composite materials.

## 4.2 SPECIFICATION

Stock no. ....	02016
Part no. ....	GD20/12E
Rated voltage .....	230V~50Hz
Rated input .....	600W
Speed settings .....	12
Revolutions per minute (no load) .....	180-2740 r/min
Drilling capacity .....	20mm
Chuck capacity .....	3-16mm
Spindle travel .....	80mm
Throat .....	185mm
Column Ø .....	73mm
Chuck to table .....	430mm
Chuck to base .....	630mm
Table tilt .....	±45°
Head rotation .....	360°
Table rotation .....	360°
Table dimensions .....	305 x 305mm
Base dimensions .....	485 x 280mm
Height .....	1050mm
Sound pressure level .....	78.2dB(A)
Sound power level .....	89.8dB(A)
Weight (nett) .....	58kg

## 4.3 HANDLING AND STORAGE

The environment will have a negative result on its operation if you are not careful. If the air is damp, components will rust. If the machine is unprotected from dust and debris; components will become clogged and if not cleaned and maintained correctly or regularly the machine will not perform at its best.

# 5. HEALTH AND SAFETY INFORMATION

---

## 5.1 GENERAL SAFETY INSTRUCTIONS FOR POWER TOOL USE

When using any type of power tool there are steps that should be taken to make sure that you, as the user, remain safe.

Common sense and a respect for the tool will help reduce the risk of injury.

**Read the instruction manual fully.** Do not attempt any operation until you have read and understood this manual.

Most important you must know how to safely start and stop this machine, especially in an emergency.

**Keep the work area tidy and clean.** Attempting to clear clutter from around the machine during use will reduce your concentration. Mess on the floor creates a trip hazard. Any liquid spilt on the floor could result in you slipping.

**Find a suitable location.** If the machine is floor mounted; the location should provide good natural light or artificial lighting as a replacement. Avoid damp and dust locations as it will have a negative effect on the machine's performance.

If the machine is portable; do not expose the tool to rain. In all cases do not operate power tools near any flammable materials.

**Beware of electric shock.** Avoid contact with earthed surfaces; because they can conduct electricity if there is an electrical fault with the power tool. Always protect the power cable and route it away from danger.

**Keep bystanders away.** Children, onlookers and passers by must be restricted from entering the work area for their own protection. The barrier must extend a suitable distance from the tool user.

**Unplug and house all power tools that are not in use.** A power tool should never be left unattended while connected to the power supply. They must be housed in a suitable location, away locked up and from children.

**Do not overload or misuse the tool.** All tools are designed for a purpose and are limited to what they are capable of doing. Do not attempt to use a power tool (or adapt it in any way) for an application it is not designed for. Select a tool appropriate for the size of the job. Overloading a tool will result in tool failure and user injury: This covers the use of accessories.

**Dress properly.** Loose clothing, long hair and jewellery are all dangerous because they can become entangled in moving machinery: This can also result in parts of body being pulled into the machine.

Clothing should be close fitted, with any long hair tied back, jewellery and neck ties removed. Footwear must be fully enclosed and have a nonslip sole.

## 5. HEALTH AND SAFETY INFORMATION

---

**Wear personal protective equipment (PPE).** Dust, noise, vibration and swarf can all be dangerous if not suitably protected against. If the work involving the power tool creates dust or fumes; wear a dust mask. Vibration to the hand, caused by operating some tools for longer periods must be protected against. Wear vibration reducing gloves and allow long breaks between uses. Protect against dust and swarf by wearing approved safety goggles or a face shield. These are some of the more common hazards and preventions; however, always find out what hazards are associated with the machine/work process and wear the most suitable protective equipment available.

**Do not breathe contaminated air.** If the work creates dust or fumes; connect the machine (if possible) to an extraction system either locally or remotely. Working outdoors can also help if possible.

**Move the machine as instructed.** If the machine is hand held, do not carry it by the power supply cable. If the product is heavy; employ a second or third person to help move it safely or use a mechanical device. Always refer to the instructions for the correct method.

**Do not overreach.** Extending your body too far can result in a loss of balance and you falling. This could be from a height or onto a machine and will result in injury.

**Maintain your tools correctly.** A well maintained tool will do the job safely. Replace any damaged or missing parts immediately with original parts from the manufacturer. As applicable; keep blades sharp; moving parts clean, oiled or greased; handles clean; and emergency devices working.

**Wait for the machine to stop.** Unless the machine is fitted with a safety brake; some parts may continue to move due to momentum. Wait for all parts to stop; then unplug it from the power supply before making any adjustments, carrying out maintenance operations or just finishing using the tool.

**Remove and check setting tools.** Some machinery requires the use of additional tools or keys to set, load or adjust the power tool. Before starting the power tool always check to make certain they have been removed and are safely away from the machine.

**Prevent unintentional starting.** Before plugging any machine in to the power supply, make sure the switch is in the OFF position. If the machine is portable; do not hold the machine near the switch and take care when putting the machine down; that nothing can operate the switch.

**Carefully select an extension lead.** Some machines are not suitable for use with extension leads. If the tool is designed for use outdoors; use an extension lead also suitable for that environment. When using an extended lead, select one capable of handling the current (amps) drawn by the machine in use. Fully extend the lead regardless of the distance between the power supply and the tool. Excess current (amps) and a coiled extension lead will both cause the cable to heat up and can result in fire.

**Concentrate and stay alert.** Distractions are likely to cause an accident. Never operate a power tool if you are under the influence of drugs (prescription or otherwise), including alcohol or if you are feeling tired. Being disorientated will result in an accident.

# 5. HEALTH AND SAFETY INFORMATION

---

**Have this tool repaired by a qualified person.** This tool is designed to conform to the relevant international and local standards and as such should be maintained and repaired by someone qualified; using only original parts supplied by the manufacturer: This will ensure the tool remains safe to use.

## 5.2 SPECIFIC SAFETY INSTRUCTION FOR DRILL PRESSES USE

### ADDITIONAL SAFETY INSTRUCTIONS FOR FLOOR DRILLS

#### MECHANICAL HAZARDS:

##### 1. **Crushing**

When setting/changing a tool or maintaining the machine avoid crushing injuries sustained between fixed and moving elements of the machine.

##### 2. **Cutting or Severing**

At all times the workpiece shall be clamped as manual support will lead to injury.

##### 3. **Entanglement**

Switch off the machine for maintenance, workpiece loading/unloading, swarf/chip removal, cutting/lubrication fluid application as contact with rotating spindle or tool will cause entanglement and possibly lead to injury and entrapment.

##### 4. **Impact**

Ensure the workpiece is securely clamped at all times to avoid sudden movement (rotation) or ejection causing injury. Ensure any special tools associated with tool exchange, i.e. chuck key are removed prior to attempting to start the machine.

##### 5. **Stabbing, Cutting or Puncture Wounds**

Take care when handling the tools and avoid contact with swarf and burrs created during drilling as they are extremely sharp.

#### ELECTRICAL HAZARDS:

##### 1. **Contact with Live parts**

During commissioning, maintenance and trouble shooting operations do not remove, open or expose any electrical, terminal and control boxes due to the danger of electrocution. If the main cable is damaged, unplug the machine immediately and have the cable replaced before continuing.

#### AUDIBLE HAZARDS:

##### 1. **Hearing Loss**

Wear ear defenders during operation to avoid damage to hearing, however ensure this does not interfere with speech communications or audible warnings.

#### MATERIAL HAZARDS:

##### 1. **Contact and Inhalation**

Wear personal protective equipment to avoid contact from harmful fluids, gases or dust thrown or created during the drilling process.

##### 2. **Fire or Explosion**

Do not drill or drill in the vicinity of flammable or combustible materials.



## 5. HEALTH AND SAFETY INFORMATION

---

### LOCATION:

#### 1. Posture

Ensure when mounting the machine that the chosen location does not lead to unhealthy posture or repetitive strain during normal operation.

#### 2. Lighting

Adequate lighting must be provided to ensure no operations are light impaired possibly leading to injury. Light should be from multiple sources to avoid any strobing effects from fluorescent or LED sources.

#### 3. Reach

Do not reach over or around the machine at any time.

### UNEXPECTED START-UP:

#### 1. Remove the plug

Remove the plug from the socket before carrying out adjustment, servicing or maintenance.

### ERRORS OF FITTING:

#### 1. Tools

Ensure a suitable tool for the job in hand is securely and correctly fitted prior to starting the machine.

Guards shall be fitted and in place at all times.

### STABILITY:

#### 1. Toppling

The drill shall be securely bolted down to a suitable and level surface to prevent the machine from overturning leading to injury.

#### 2. Slipping

Ensure the area is clean of any residue cutting/lubrication fluid and other materials which may lead to a slip, trip or other such hazard.

### 5.3 CONNECTION TO THE POWER SUPPLY

Make sure the power supply information on the machine's rating plate are compatible with the power supply you intend to connect it to.

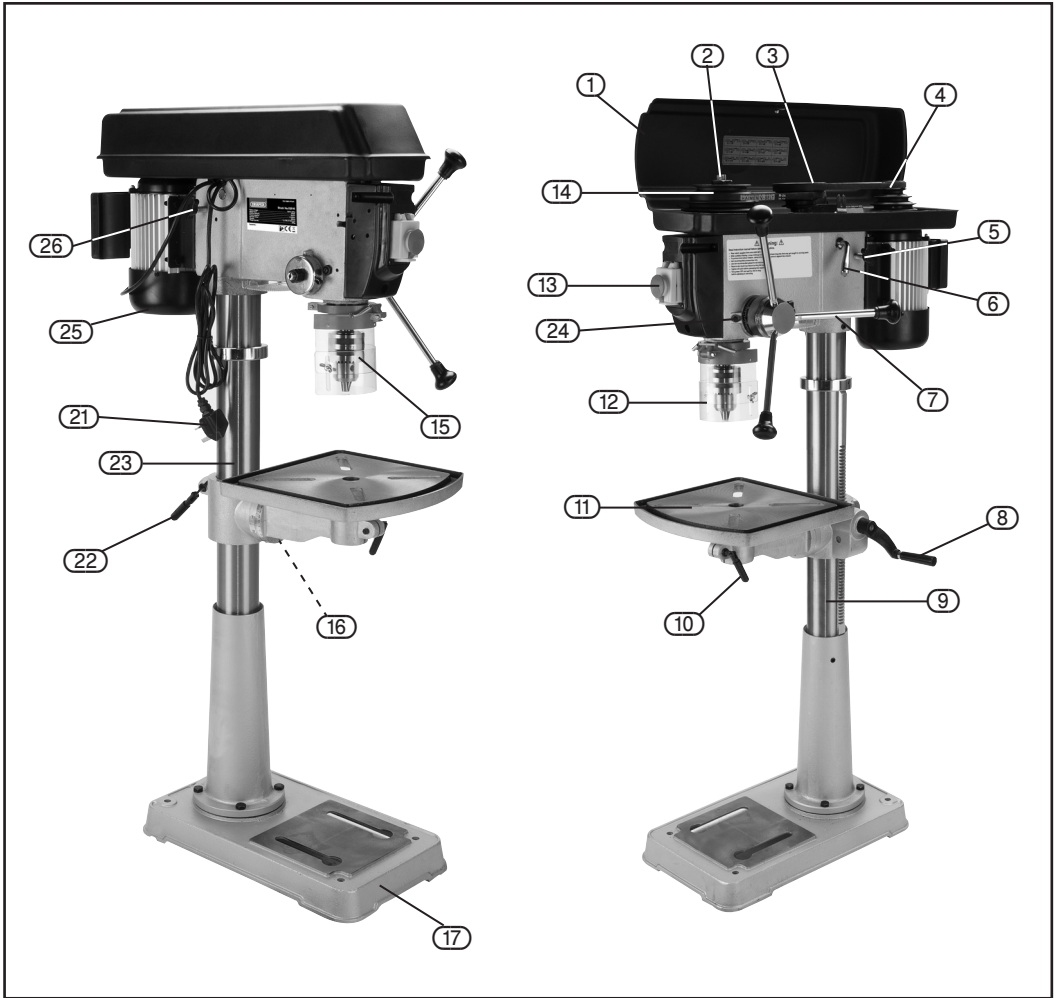
The Drill comes supplied with a UK standard 3 pin plug fitted. It is designed for connection to a domestic power supply rated at 230V AC.

Because it is constructed mostly of metal parts, it is a Class 1 machine; meaning, it must have an earth connection in the power supply. This is to prevent electrocution in the event of a failure.

Apart from replacing the fuse in the plug, no other electrical work is recommended on this drill.

# 6. TECHNICAL DESCRIPTION

## 6.1 IDENTIFICATION



- |                               |                                 |                                              |
|-------------------------------|---------------------------------|----------------------------------------------|
| ① Pulley cover.               | ⑨ Rack.                         | ⑰ Base.                                      |
| ② Spindle.                    | ⑩ Table locking handle.         | ⑳ Moulded plug & cable.                      |
| ③ Intermediate pulley.        | ⑪ Work table.                   | ㉑ Work table height/rotation locking handle. |
| ④ Motor pulley.               | ⑫ Guard assembly.               | ㉒ Column.                                    |
| ⑤ Motor tension locking knob. | ⑬ No-volt on/off switch.        | ㉓ Depth stop.                                |
| ⑥ Motor tension lever.        | ⑭ Spindle pulley.               | ㉔ Motor.                                     |
| ⑦ Plunge handle.              | ⑮ Geared chuck.                 | ㉕ Motor tension locking knob.                |
| ⑧ Table height crank handle.  | ⑯ Work table tilt locking bolt. |                                              |

# 7. UNPACKING AND CHECKING

## 7.1 PACKAGING

Carefully remove the drill from the packaging and examine it for any sign of damage that may have happened during shipping. Lay the contents out and check them against the parts shown below. If any part is damaged or missing; please contact the Draper Helpline (the telephone number appears on the Title page) and do not attempt to use the drill.

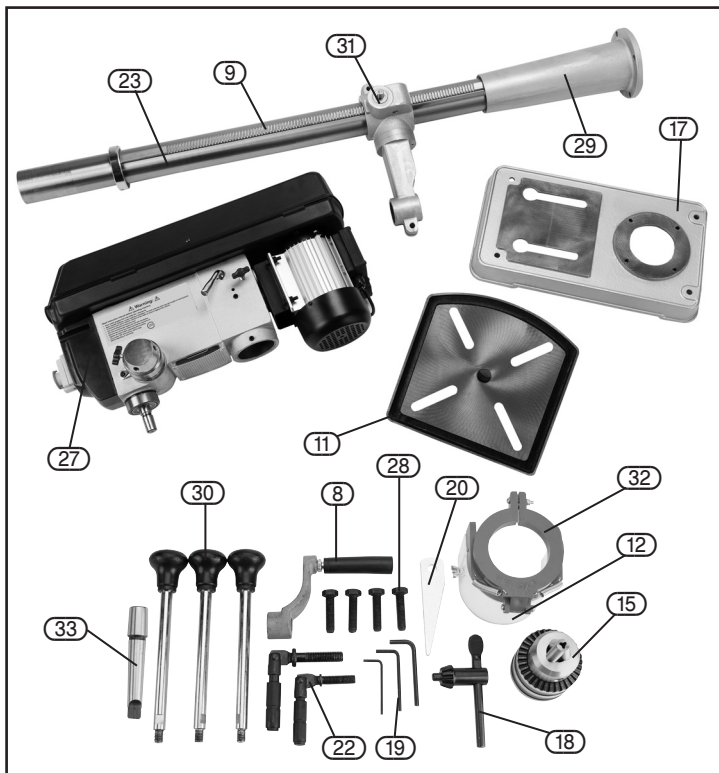
The packaging material should be retained at least during the guarantee period: in case the machine needs to be returned for repair.

Warning! Some of the packaging materials used may be harmful to children. Do not leave any of these materials in the reach of children.

If any of the packaging is to be thrown away, make sure they are disposed of correctly; according to local regulations.

## 7.2 WHAT'S IN THE BOX?

As well as the drill; there are several parts not fitted or attached to it.



- (27) Head stock.
- (11) Work table.
- (18) Chuck key.
- (20) Drift key.
- (19) Hex. keys (3mm, 4mm, 5mm).
- (17) Base.
- (12) Guard assembly.
- (15) Geared chuck.
- (33) Arbor.
- (32) Collar.
- (8) Table height crank handle.
- (31) Table bracket.
- (30) Plunger handles.
- (29) Column base.
- (9) Rack.
- (22) Work table height/rotation locking handle.
- (23) Column.
- (28) Bolt and washers.

## 8. ASSEMBLY

**WARNING:** The headstock, and consequently when fully assembled the drilling machine, are extremely heavy. Care shall be taken when manoeuvring. The use of a hoist should be employed to ensure safety.

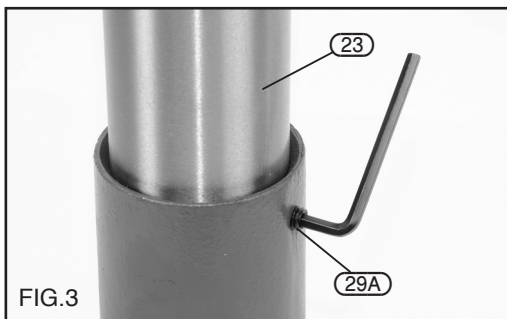
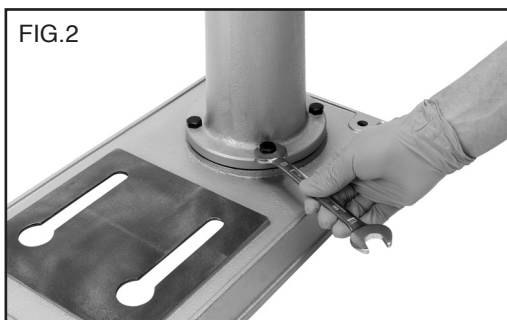
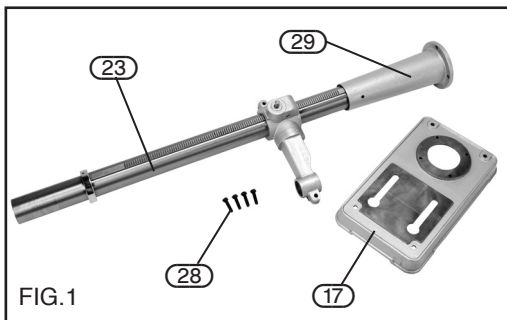
**NOTE:** Remove the plug from the socket before carrying out adjustment, servicing or maintenance.

### 8.1 BASE TO COLUMN - FIGS. 1 - 3

Align the column base (29) onto the base (17) and secure with the four 16mm bolts (28).

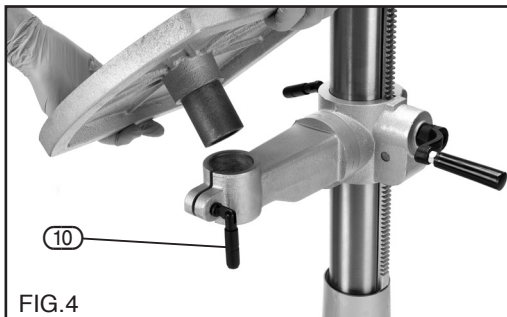
**NOTE:** Do not overtighten the bolts as this may crack the casting.

Lock column to column base with grub screw (29A).



### 8.2 TABLE - FIG. 4

Slot the table into the table bracket and tighten locking handle (10).



## 8. ASSEMBLY

### 8.3 HEADSTOCK - FIG. 5

**WARNING:** The headstock assembly poses a significant health and safety hazard while being lifted and positioned into place. Seek assistance.

Lift the headstock (27) onto the top of the column. When aligned and located down onto the column fully, tighten grub screws (27A) with the hex. key supplied.

**NOTE:** Adjust the drill head over the table and base before securing. The use of a level may be beneficial to improve accuracy.



### 8.4 PLUNGE HANDLES - FIG. 6

Screw plunge handles onto hub, hand tighten.



### 8.5 CHUCK AND ARBOR - FIGS. 7-8

The drill chuck, arbor and headstock spindle join together with an interference fit formed by the matched tapers of the mating surfaces.

Ensure all mating surfaces are clean as any debris will cause the taper to mis-align possibly resulting in the chuck or arbor coming loose creating a potential hazard.

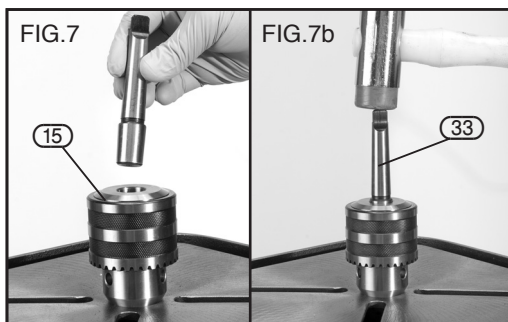
Using the chuck key provided open the chuck until the jaws are completely recessed and protected from damage.

Insert the short taper end of the arbor (33) into the back of chuck (15). A sharp tap with a soft blow mallet will securely join them together.

**NOTE:** Ensure the chuck is on a surface that will not absorb the force of the mallet. If the chuck does not mate securely, repeat the process.

Insert the long taper end of arbor (P) into the spindle. Rotate the chuck assembly until the arbor locates allowing complete insertion.

Tap the chuck to securely locate it in place.



## 8. ASSEMBLY

### 8.6 CHUCK GUARD - FIG.9

Loosen the cross slot machine screw and nut. Pass the chuck guard (12) over the chuck onto collar (12A). When located fully and aligned on the collar, tighten the machine screw and nuts to secure the chuck guard in place.

**NOTE:** Do not over tighten as it may damage the guard.

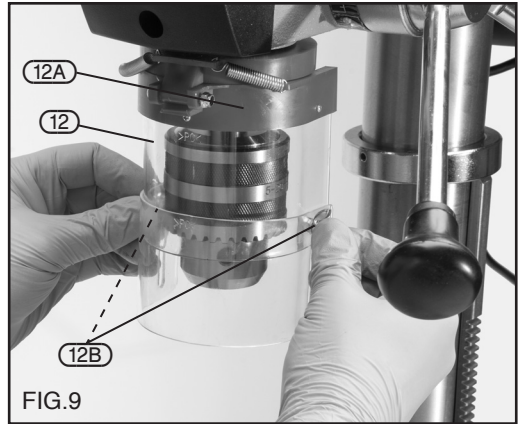
To adjust the lower acrylic guard section down and fully cover the chuck and drill bits, loosen wing nuts (12B).

When adjustment is complete, tighten the locking nuts.

**NOTE:** The chuck guard shall be inspected before each use to determine effectiveness and correct functionality.

The chuck guard shall be adjusted and positioned between the chuck and operator for all processes.

Replace a damaged or missing chuck guard before continuing to use the drilling machine.



### 8.7 BENCH/FLOOR MOUNTING

Securely bolt the drilling machine to a work bench or other secure surface as appropriate through the various points in the base (fixings are not supplied). Suitable fixings should be sourced applicable to the load and mounting surface. Ensure there is enough clear space around the drilling machine to accommodate larger items which may be drilled.

Ensure the load created by the drilling machine, operator and workpiece combined will not compromise the integrity of the intended mounting surface/floor space.

# 9. SETTING THE BENCH DRILL

**NOTE:** Remove the plug from the socket before carrying out adjustment, servicing or maintenance.

## 9.1 SPINDLE SPEED ADJUSTMENT - FIGS. 14 - 17

This drilling machine is equipped with 12 drilling speeds. Remove the pulley cover securing screw. Select the speed most suitable for the intended application†.

Loosen both the locking knobs (5) and adjust the motor tension lever (6) releasing the tautness across the drive belts. Move the belt to the corresponding sections of the motor, intermediate and spindle pulleys ensuring the belts remain horizontal.

Apply pressure to the motor tension lever (6) to tension the drive belt. With the correct tension achieved. Tighten both locking knobs (5).

Gently lower the pulley cover before tightening pulley cover securing screw. Never attempt to operate the drilling machine with the pulley cover open or not fully secured.


**CAUTION:** Over tensioning the drive belt will accelerate belt wear, increase the loading on drive bearings and the motor possibly leading to premature failure. Under tensioning the drive belt will lead to the drive belt slipping and increased noise.

†As a general rule material with a softer composition can be drilled faster as they cut more easily. Harder materials require a slower speed as attempting to make the hole at a high speed will result in the drill bit over heating which may result in a poorly finished hole, the bit annealing or the bit breaking. Drilling wood too slowly can cause splintering.

FIG.10

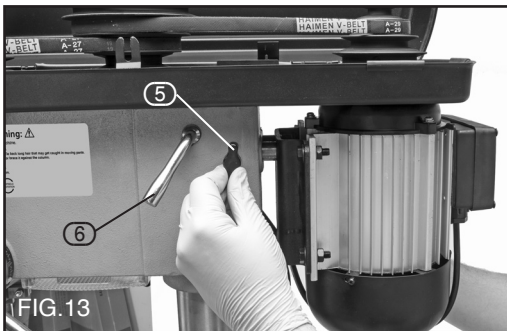
SPINDLE PULLEY	INTERMEDIATE PULLEY	MOTOR PULLEY
E	5	
D	4	4
C	3	3
B	2	2
A	1	1

FIG.11



Setting	Speed	Drive Belt Position	
		Spindle	Motor
1	180 min <sup>-1</sup>	A - 1	4 - 4
2	250 min <sup>-1</sup>	A - 1	3 - 3
3	300 min <sup>-1</sup>	B - 2	4 - 4
4	400 min <sup>-1</sup>	B - 2	3 - 3
5	480 min <sup>-1</sup>	C - 3	4 - 4
6	580 min <sup>-1</sup>	A - 1	2 - 2
7	970 min <sup>-1</sup>	E - 5	4 - 4
8	1,280 min <sup>-1</sup>	D - 4	3 - 3
9	1,410 min <sup>-1</sup>	E - 5	3 - 3
10	1,540 min <sup>-1</sup>	C - 3	2 - 2
11	2,270 min <sup>-1</sup>	B - 2	1 - 1
12	2,740 min <sup>-1</sup>	D - 4	2 - 2

FIG.12



# 9. SETTING THE BENCH DRILL

## 9.2 DRILL BIT INSTALLATION/ REPLACEMENT - FIG. 14

The drilling machine is equipped with a geared chuck and a separate key to secure the bit in the chuck jaws.

Selection of the correct accessory is dependent on material type and the intended application.

Ensure the selected accessory is suitable and speed compatible with the drilling machine.

Place the bit into the chuck. Insert the chuck key (18) into apertures (15B) engaging the teeth.

Rotate the key clockwise to grip. All three apertures should be tightened to make certain of a firm grip.

Always use a good quality sharp drill bit/cutter.

**WARNING:** The drill bit will be hot after use.

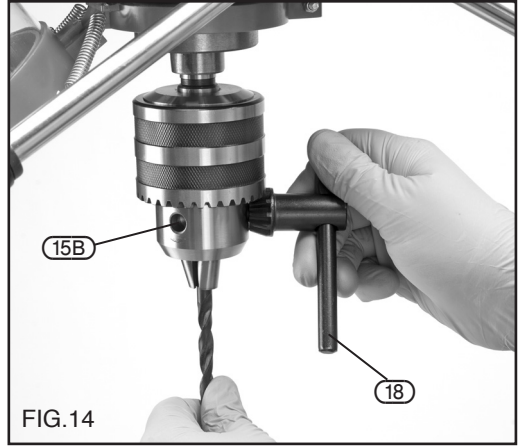


FIG. 14

## 9.3 NO-VOLT SWITCH - FIG. 15

In the event of a power supply disruption the machine will require manually restarting once power has been returned.

To switch the machine on, press the green button marked 'I'

To switch the machine off, press the red button marked 'O'. However, the yellow cover with integral red stop button must be left covering the switches so, in the event of an accident or emergency, striking the stop button will activate the off switch.

Prior to starting the drilling machine make a visual check, to ensure the guards are in place and correctly functioning, the bit is correctly installed with the chuck key removed and no other parts are damaged proving a potential hazard.

Ensure all locking handles are tight prior to starting the drilling machine.



FIG. 15



# 9. SETTING THE BENCH DRILL

## 9.4 WORK TABLE ADJUSTMENT - Figs. 16-19

For versatility, the work table (11) can be raised or lowered, tilted  $\pm 45^\circ$  or rotated  $360^\circ$  around the column.

To tilt the table, slacken off bolt (31B) a complete turn and unscrew grub screw (31C) with a hex. wrench until table can be rotated.

Adjust the table's degree of tilt and re-secure with locking bolt (31B). Use the scale as a guide. Alternatively use a protractor off the table to the drill bit for more accuracy.

When the table is back in a level position, screw grub screw back in to hold table in level position and re-tighten bolt (31B).

To raise/lower the table working height, loosen locking handle (22) and turn the height adjustment crank handle (8) to raise or lower the table. Alternatively while locking handle (22) is loose the table can be rotated  $180^\circ$  to further increase the distance between the chuck and workpiece. When the adjustments are complete re-secure locking handle (22).

The slots in the work table and base can accommodate locking bolts to secure a small vice enabling safe clamping of the workpiece.

**CAUTION:** A drill bit snagging on a piece of work will violently grab the piece of material, whipping it round and is likely to result in personal injury. Always ensure the workpiece is securely clamped.

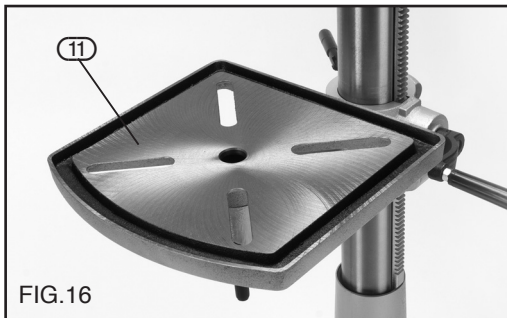


FIG. 16

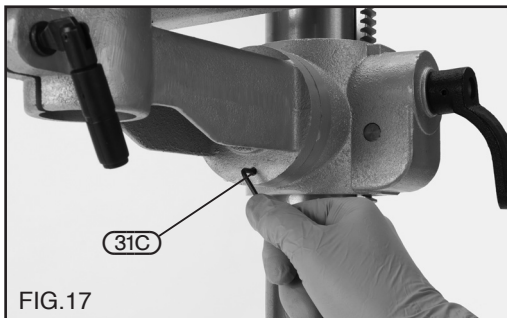


FIG. 17

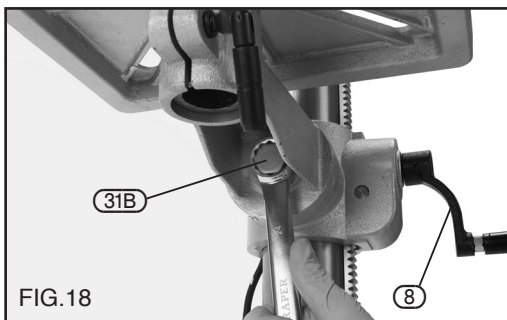


FIG. 18

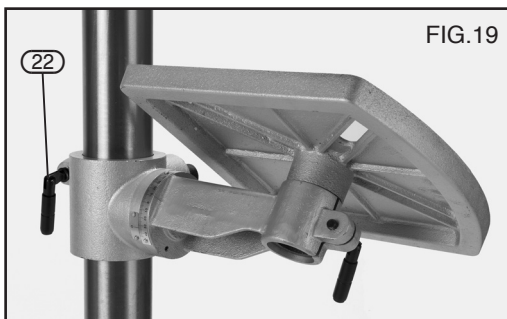


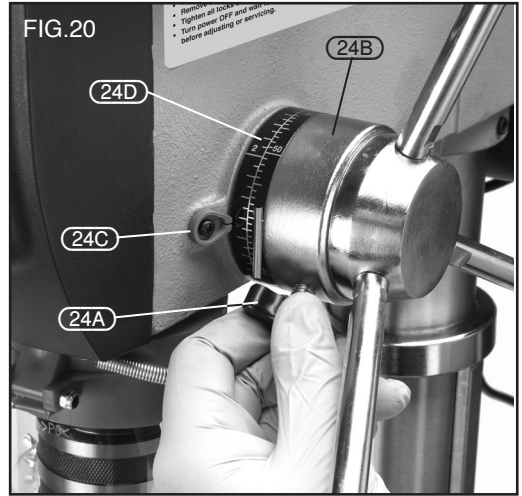
FIG. 19

## 9. SETTING THE BENCH DRILL

### 9.5 GENERAL DRILLING - FIG. 20

Where holes are to be drilled to exactly the same depth, a depth stop is provided in the pinion shaft housing and is used as follows:

1. Loosen lock handle (24A) and rotate housing (24B) until the pointer (24C) lines up with the depth you wish to drill on the scale (24D).  
Then tighten lock handle (24A).
2. All holes will then be drilled to the exact depth, as indicated on the scale.



### 9.6 DUST AND SWARF

All wood dust (including dust from composites like chipboards and fibre boards etc) is hazardous to health: it can affect the nose, the respiratory system and the skin. For example MDF (medium density fibreboard) which contains formaldehyde is a known carcinogen.

A correctly fitted dust mask, suitable for the activity and in accordance to the relevant standard, must be worn.

For work activities involving exposure to fine wood dust a mask rated to at least FFP2 should be used.

Swarf produced by metal cutting is extremely sharp.

Take care when breaking the chips/clearing the bit.

# 10. TROUBLESHOOTING

---

## 10.1 TROUBLESHOOTING

**WARNING:** For your safety always turn the main switch on the machine "off" and remove the plug from the power supply before carrying out any maintenance or trouble shooting.

Problem	Cause	Remedy
Machine will not start.	<ol style="list-style-type: none"><li>1. Fuse.</li><li>2. Other.</li></ol>	<ol style="list-style-type: none"><li>1. Replace/reset time delay fuse or circuit breaker.</li><li>2. Return to an authorised service agent for diagnosis.</li></ol>
Noisy operation.	<ol style="list-style-type: none"><li>1. Incorrect belt tension.</li><li>2. Dry spindle.</li><li>3. Loose spindle pulley or motor pulley.</li></ol>	<ol style="list-style-type: none"><li>1. Adjust tension.</li><li>2. Lubricate spindle with grease.</li><li>3. Tighten set screws in pulleys.</li></ol>
Bit burns or smokes.	<ol style="list-style-type: none"><li>1. Incorrect speed.</li><li>2. Swarf not coming out of hole.</li><li>3. Blunt bit.</li><li>4. Feeding too slow.</li><li>5. Not lubricated.</li></ol>	<ol style="list-style-type: none"><li>1. Change speed.</li><li>2. Retract bit frequently to clear swarf.</li><li>3. Sharpen or replace bit.</li><li>4. Feed fast enough to allow drill to cut.</li><li>5. Lubricate bit.</li></ol>
Excessive drill run-out or wobble.	<ol style="list-style-type: none"><li>1. Bent bit.</li><li>2. Worn spindle bearings.</li><li>3. Bit not properly installed in chuck.</li><li>4. Chuck not properly installed.</li></ol>	<ol style="list-style-type: none"><li>1. Use a straight bit.</li><li>2. Return to an authorised service agent.</li><li>3. Install bit centrally.</li><li>4. Refit chuck properly.</li></ol>
Drill binds in workpiece.	<ol style="list-style-type: none"><li>1. Workpiece pinching bit or excessive feed pressure.</li><li>2. Improper belt tension.</li></ol>	<ol style="list-style-type: none"><li>1. Support or re-clamp workpiece.</li><li>2. Adjust tension.</li></ol>

# 11. MAINTENANCE

## 11.1 ARBOR REMOVAL - FIGS .21 - 22

To aid removal of the arbor from the spindle a drift key is supplied.

Lower the spindle with the plunge handles to expose slot (15A). Rotate the spindle to align the inner and outer slots.

Insert the drift key and allow the spindle to raise. Tap the drift key while supporting the chuck.



Regular inspection and cleaning reduces the necessity for maintenance operations and will keep your tool in good working condition.

The motor must be correctly ventilated during tool operation. For this reason avoid blocking the air inlets. After use disconnect the tool from the power supply and vacuum the ventilation slots.

If the replacement of the supply cord is necessary, this has to be done by the manufacturer or his agent in order to avoid a safety hazard.

At regular interval, lubricate the spindle with a medium purpose grease. With the pulley cover open, pack the grease down the centre of the front pulley. Operate the plunger mechanism and brush a thin film of grease on the quill. Clean any debris built up in the pulley housing. Spray a general purpose lubricating agent/rust inhibitor on the other moving parts and machined surfaces.



# 12. ACCESSORIES

---

A range of drill bits and accessories are available from your local Draper Stockist.

**DRILL PRESS VICES:**

Stock No.	Jaw Width	Jaw Opening
40390	70mm	67mm
64585	85mm	100mm

# 13. EXPLANATION OF SYMBOLS

---

## 13.1 EXPLANATION OF SYMBOLS



**WEEE**  
Do not dispose of Waste Electrical & Electronic  
Equipment in with domestic rubbish.



**Warning!** Read the instruction manual.



**Warning!** Wear dust mask.



**Warning!** Wear goggles and ear defenders



**Warning!** Do not wear gloves.



**Warning!** Keep hands away from blade.



**Warning!** Disable the machine before  
attempting to maintain it.

# 14. DISPOSAL

---

## 14.1 DISPOSAL

At the end of the machine's working life, or when it can no longer be repaired, ensure that it is disposed of according to national regulations.

Contact your local authority for details of collection schemes in your area.

In all circumstances:

- Do not dispose of power tools with domestic waste.
- Do not incinerate.
- Do not abandon in the environment.
- Do not dispose of WEEE\* as unsorted municipal waste.

\* Waste Electrical & Electronic Equipment.



## CONTACTS

Draper Tools Limited, Hursley Road,  
Chandler's Ford, Eastleigh, Hampshire. SO53 1YF. U.K.

Helpline: (023) 8049 4344

Sales Desk: (023) 8049 4333

Internet: [drapertools.com](http://drapertools.com)

E-mail: [sales@drapertools.com](mailto:sales@drapertools.com)

General Enquiries: (023) 8026 6355

Service/Warranty Repair Agent:

For aftersales servicing or warranty repairs, please contact the  
Draper Tools Helpline for details of an agent in your local area.

YOUR DRAPER STOCKIST

JLDH0318

©Published by Draper Tools Limited.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise without prior permission in writing from Draper Tools Ltd.