SEALEY Quality MACHINERY

Instructions for:

# BENCH MOUNTED PILLAR DRILLS

Models: **GDM90B & GDM95B**

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.

⚠ ***IMPORTANT:*** **PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THIS PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP INSTRUCTIONS SAFE FOR FUTURE USE.**

## 1. SAFETY INSTRUCTIONS

**1.1. ELECTRICAL SAFETY.** p **WARNING! It is the user's responsibility to read, understand and comply with the following:** You must check all electrical equipment and appliances to ensure they are safe before using. You must inspect power supply leads, plugs and all electrical connections for wear or damage. You must ensure the risk of electric shock is minimised by the installation of appropriate safety devices. An RCCB (Residual Current Circuit Breaker) should be incorporated in the main distribution board. We also recommend that an RCD (Residual Current Device) is used with all electrical products. It is particularly important to use an RCD with portable products that are plugged into an electrical supply not protected by an RCCB. If in doubt consult a qualified electrician. You may obtain a Residual Current Device by contacting your Sealey dealer. ***You must*** also read and understand the following instructions concerning electrical safety.

1.1.1. The ***Electricity At Work Act 1989*** requires all portable electrical appliances, if used on business premises, to be tested by a qualified electrician, using a Portable Appliance Tester (PAT), at least once a year.

1.1.2. The ***Health & Safety at Work Act 1974*** makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of appliance operators. ***If in any doubt about electrical safety, contact a qualified electrician.***

1.1.3. Ensure the insulation on all cables and the product itself is safe before connecting to the mains power supply. See 1.1.1. & 1.1.2. above and use a Portable Appliance Tester (PAT).

1.1.4. Ensure that cables are always protected against short circuit and overload.

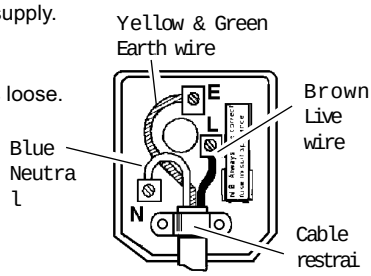
1.1.5. Regularly inspect power supply leads and plugs for wear or damage and connections to ensure that none is loose.

1.1.6. ***Important:*** Ensure the voltage marked on the product is the same as the electrical power supply to be used, and check that plugs are fitted with the correct capacity fuse. A 13 amp plug may require a fuse smaller than 13 amps for certain products.

1.1.7. DO NOT pull or carry the powered appliance by its power supply lead.

1.1.8. DO NOT pull power plugs from sockets by the power cable.

1.1.9. DO NOT use worn or damage leads, plugs or connections. Immediately replace or have repaired by a qualified electrician. Where a U.K. 3 pin plug with ASTA/BS approval is fitted, in case of damage, cut off and fit a new plug according to the following instructions (discard old plug safely).
(UK only - see diagram at right). ***Ensure the unit is correctly earthed via a three-pin plug.***
***a) Connect the GREEN/YELLOW earth wire to the earth terminal 'E'.***
***b) Connect the BROWN live wire to the live terminal 'L'.***
***c) Connect the BLUE neutral wire to the neutral terminal 'N'.***
***After wiring, check there are no bare wires, that all wires have been correctly connected, that the cable outer insulation extends past the cable restraint and that the cable restraint is tight.***
Double insulated products are often fitted with live (BROWN) and neutral (BLUE) wires only. Double insulated products are always marked with this symbol ⧈. ***To re-wire, connect the brown & blue wires as indicated above. DO NOT*** *connect the brown or blue wires to the earth terminal.*




**REPLACEMENT FUSES MUST BE OF THE SAME TYPE AND RATING AS THE ORIGINAL**

1.1.10. **NOTE:** If this product requires more than a 13 amp electrical supply, then ***NO*** plug is fitted. ***You must*** therefore contact a qualified electrician to ensure a 30 amp fused supply is available. We recommend you discuss the installation of a industrial round pin plug and socket with your electrician.

1.1.11. **Cable extension reels**. When a cable extension reel is used it should be fully unwound before connection. A cable reel with an RCD fitted is recommended since any product which is plugged into the cable reel will be protected. The section of the cores in the cable is important and should be at least 1.5mm², but to be absolutely sure that the capacity of the cable reel is suitable for this product and for others that may be used in the other output sockets, the use of 2.5mm² section is recommended .

**1.2 GENERAL SAFETY**

p **WARNING! Disconnect drill from mains power before changing accessories, servicing or performing any maintenance.**

3 Maintain the drill in good condition (use an authorised service agent).

p **WARNING! Keep all guards and holding screws in place, tight and in good working order. Check regularly for damaged parts. A guard or any other part that is damaged should be checked, before the tool is used, to ensure that it will operate properly and perform its intended function. The safety guard is a mandatory fitting where drill is used in premises covered by the Health & Safety at Work Act.**

3 Check alignment of moving parts and check for possible broken parts.

3 Replace or repair damaged parts. *Use recommended parts only. Non-authorised parts may be dangerous and will invalidate the warranty.*

3 Ensure the set screws of the head frame are screwed tight before using the drill.

3 Secure the drill to a supporting structure to avoid the machine tipping, sliding or walking. Drill is designed for use with drill bits only. No other accessory may be used.

3 Ensure the chuck is securely fastened to the spindle.

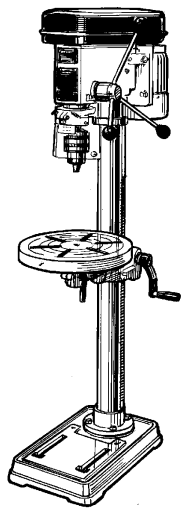
3 Remove adjusting keys and wrenches from the machine and working area before switching on.

3 Use clamps or a vice (not included) to secure the workpiece. Available from your Sealey dealer. DO NOT secure the workpiece by hand.

3 Refer to speed chart for recommended drilling speeds.

p **WARNING! Always wear approved eye or face protection when operating this drill. Use a face or dust mask if dust is generated.**

7 **DO NOT wear gloves when drilling.**



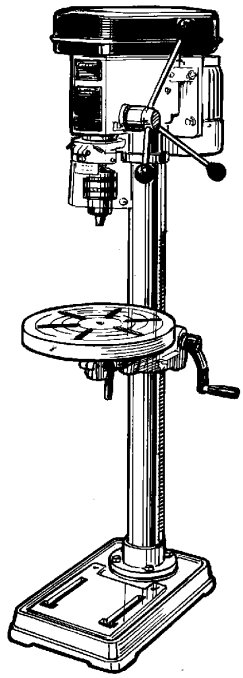
3 Others in the workplace should keep a safe distance from the drill, especially when it is in operation.
3 Keep the work area as childproof as possible by using padlocks and master switches.
3 Keep drill bits clean and sharp for best and safest performance. Follow the instructions for lubrication and changing accessories.
3 Remove ill fitting clothing. Remove ties, watches, rings and other loose jewellery and contain long hair.
3 Locate the drill in a suitable working area, keep area clean and tidy and free from unrelated materials. Ensure there is adequate lighting.
3 Maintain correct balance and footing. Ensure the floor is not slippery and wear non-slip shoes.
3 Secure non-stable workpiece with a clamp, vice or other adequate holding device.
3 Avoid unintentional starting.
7 **DO NOT** force the drill to achieve a task it was not designed to perform.
7 **DO NOT** allow untrained persons to operate the drill.
7 **DO NOT** get the drill wet or use in damp or wet locations or areas where there is condensation.
7 **DO NOT** operate the drill if damaged.
7 **DO NOT** use drill in an area where paint fumes, solvents or flammable liquids pose a potential hazard. Keep flammable material away from the drill when operating. Flammable waste, such as wiping or cleaning rags, must be placed in a closed metal container and disposed of correctly.
7 **DO NOT** exceed the rated capacity of the drill.
7 **DO NOT** operate the drill if any parts are missing as this may cause failure or possible personal injury.
7 **DO NOT** leave the drill operating unattended.
7 **DO NOT** operate the drill when you are tired, under the influence of alcohol, drugs or intoxicating medication.
7 **DO NOT** pull the cable from the power supply.
3 When not in use switch off the drill, remove plug from the power supply and do not leave until the tool has come to a complete stop.

## 2. DESCRIPTION

The GDM90B and GDM95B variable speed bench drills are suitable for light industrial, agricultural and woodworking applications. The drills are fitted with flip-up safety guards and “No Volt Release” switches which prevent accidental restart after a mains power interruption. A rack and pinion feed shaft with preset depth control for repetitive work is also included. Both models have Morse Taper Spindles to accept taper shank bits. Mortice attachments and work clamps are also available, contact your local Sealey dealer for information.

## 3. TECHNICAL SPECIFICATIONS

| Model | GDM90B | GDM95B |
|---|---|---|
| **Chuck size (mm)** | 16 | 16 |
| **Spindle Nose Taper** | MT2 | MT2 |
| **Swing (mm)** | 316 | 316 |
| **Chuck to Upright Face (mm)** | 128 | 128 |
| **Spindle Travel (mm)** | 60 | 60 |
| **Number of Speeds** | 12 | 12 |
| **Speed Range (rpm)** | 240 - 3000 | 240 - 3000 |
| **Spindle to Table - max. (mm)** | 310 | 560 |
| **Spindle to Base - max. (mm)** | 410 | 670 |
| **Working Table Diameter (mm)** | 260 | 260 |
| **Working Base (mm)** | 160 x 140 | 155 x 155 |
| **Overall Base (mm)** | 205 x 333 | 210 x 350 |
| **Column Diameter (mm)** | 60 | 60 |
| **Overall Height (mm)** | 745 | 1000 |
| **Voltage (AC)** | 230 | 230 |
| **Motor Range - no load (W)**<br>**- under load (W)** | 370<br>550 | 370<br>550 |
| **Weight (kg)** | 30 | 32 |



## 4. CONTENT

**4.1. Package content**

Unpack the parts listed below and check to ensure they are in good condition. Any queries must be reported to your dealer immediately.

3 Head Assembly
3 Column with Flange
3 Adjusting Handle with Set Screw (table)
3 Pivoted Clamp Bolts (2 - table arm & bracket)
3 Safety Guard
3 Wedge
3 Base
3 Feed Handles and Knobs (3)
3 Table
3 Bolts and Washers (4)
3 Arbor
3 Hex. Keys (2)
3 Chuck and Key
3 Table Arm, Bracket and Worm
3 Rack and Rack Ring
3 Screw (upper pulley cover)
3 Set Screws (2)

## 5. ASSEMBLY

**Note: Figures are illustrative and may differ in detail from your drill.**

**5.1. Assembly**

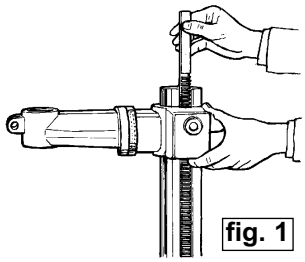


fig. 1

5.1.1. Place the column assembly on the base, align holes and secure with the bolts and washers provided.

5.1.2. Install the table bracket onto the column together with the rack (fig.1), engaging gear in bracket with rack.

5.1.3. Install the rack collar and tighten firmly (fig.2).

5.1.4. Install the table adjusting handle (fig.2.A) and pivoted clamp bolt (the longer of the two - fig.2.B).

5.1.5. Tighten the handle set screw (with the hex. key provided) and the bracket clamp bolt.

5.1.6. Install the table and table pivoted clamp bolt (fig.3).

5.1.7. Carefully place the head assembly over the column and slide it into position. Align head with base.

5.1.8. Fit the two set screws in the right side of the head to lock it into position and tighten with hex. key (fig.4).

5.1.9. Screw the three feed handles and knobs to the hub of the pinion shaft (fig.5.A).

5.1.10. To install chuck open the chuck jaws completely by turning the chuck key counter-clockwise. Place a piece of wood on the drill table (to prevent the chuck from getting damaged).

5.1.11. Insert thinner tapered end of arbor (fig.5.B) into drill spindle, fit chuck to protruding end of arbor and hold in place.

5.1.12. Turn feed handles to bring nose of chuck down onto wood (fig.5). Firmly pull on feed handle to seat arbor taper in spindle and chuck.

5.1.13. Loosen clamp screw on safety guard mounting collar, pass guard up over chuck and fit collar round flange of quill shaft. Ensure guard pivot is central and tighten clamp screw (see fig.7).

**5.2. Drill mounting**

5.2.1. **For stability and safety it is important** that the drill base is securely screwed or bolted to the workbench.

5.2.2. Ensure that the mounting surface is capable of supporting the drill together with the weight of the heaviest likely workpiece.

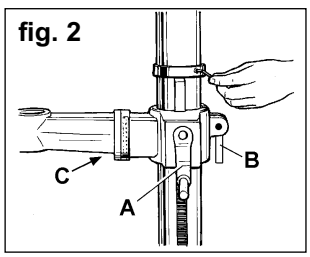


fig. 2

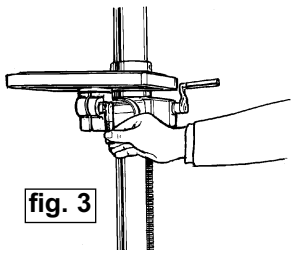


fig. 3

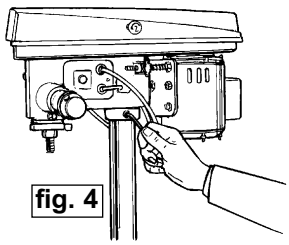


fig. 4

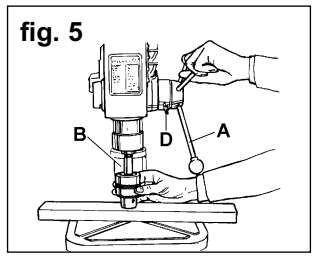


fig. 5

## 6. OPERATING INSTRUCTIONS

p ***WARNING! Ensure the drill is unplugged from the mains power supply before commencing.***

**6.1. Install drill bit**

6.1.1. Insert drill bit into chuck jaws to 1" (25mm) deep (avoid inserting small bits too far) and centre bit in chuck before tightening.

**6.2. Adjusting the table**

6.2.1. To adjust table up or down, loosen clamp bolt (fig.2.B) then turn bracket handle (fig.2.A). Once at correct height tighten clamp bolt (fig.2.B).

6.2.2. To adjust table tilt, loosen the work table bolt (fig.2.C), adjust to the desired angle using the angle scale, then retighten.

6.2.3. To turn the table around the column, loosen the rack collar slightly, then loosen the work table bolt. Turn the table to the desired position then secure the bolt and rack collar.

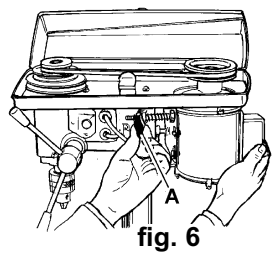


fig. 6

**6.3. Adjusting the speed**

6.3.1. Open the pulley case and loosen the belt tension lock screw (fig.6.A).

6.3.2. Choose the speed for drilling operation (see drill speed chart) and move the belts to the correct position for the desired speed, as shown on the chart inside the pulley cover.

**6.4. Belt tension**

6.4.1. With the belt tension lock screw (fig.6.A) loose and using hand pressure on the motor, set tension so that belts give is no more than 1/2" (13mm). Tighten lock screw.

**6.5. Positioning the workpiece**

6.5.1. Use a piece of wood to rest the workpiece on. The drill bit may break through the workpiece and damage the table otherwise. The wood should rest on the table so that one end of it is against the left side of the column. When the drill bit breaks through the workpiece, it will contact the wood and cause it to spin. Resting the wood against the column will help prevent this.

6.5.2. For small workpieces that cannot be clamped to the table, use a drill vice (not included). Vice must be clamped or bolted to table.

**6.6. Setting the drill depth**

6.6.1. Use the scale on the side of the drill head near the drill handle.

6.6.2. Loosen locking screw (fig.5.D) and set the scale to the depth required. Tighten locking screw.

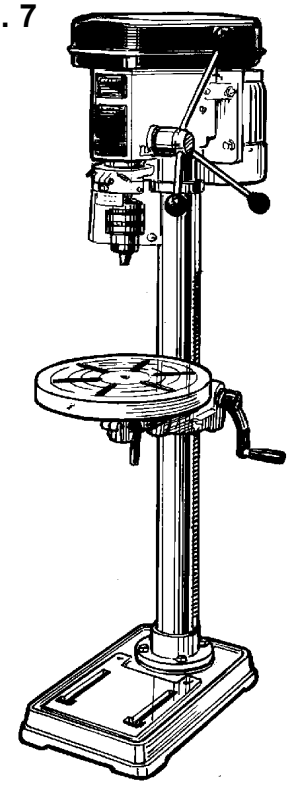
6.6.3. When ready to drill, simply pull the feed handle. The drill will stop at the set depth.

## 7. DRILL SPEEDS

The chart below shows recommended drill speeds for various bit diameters and materials. Select the available drill speed that is the same as, or nearest to, the one recommended for the task in hand.

| Drill Dia. (mm) | Drill Speed (rpm) | | | |
|---|---|---|---|---|
| | Steel | Cast Iron | Iron | Alum. & Copper |
| 3 | 1820 | 2580 | 2580 | 2580 |
| 4 | 1350 | 1820 | 1820 | 2580 |
| 5 | 1290 | 1350 | 1350 | 2580 |
| 6 | 970 | 1290 | 1290 | 2580 |
| 7 | 830 | 970 | 970 | 2580 |
| 8 | 830 | 970 | 970 | 2580 |
| 9 | 500 | 970 | 830 | 1820 |
| 10 | 500 | 830 | 830 | 1820 |
| 11 | 500 | 830 | 830 | 1820 |
| 12 | 420 | 830 | 500 | 1820 |
| 13 | 420 | 500 | 500 | 1350 |
| 14 | 420 | 500 | 500 | 1350 |
| 16 | 320 | 500 | 500 | 1290 |
| 18 | 320 | 420 | 420 | 1290 |
| 20 | 280 | 320 | 320 | 970 |
| 22 | 210 | 320 | 280 | 970 |
| 25 | 120 | 280 | 210 | 830 |

**fig. 7**



## 8. MAINTENANCE

8.1. Clean the tool after each use. A coat of automobile-type wax applied to the table and column will help to keep the surfaces clean.

8.2. Blow out any dust that may have accumulated in the motor.

8.3. Periodically lubricate the table elevation rack/gear/worm mechanism.

## 9. TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| Excessive noise | 1. Incorrect belt tension<br>2. Spindle is dry<br>3. Pulley is loose<br>4. Bearing damaged | 1. Adjust tension<br>2. Disassemble spindle/quill and lubricate<br>3. Tighten pulley<br>4. Replace the bearing |
| Excessive drill wobble | 1. Chuck is loose<br>2. Bearing or spindle shaft is worn<br>3. Chuck is worn | 1. Tighten the chuck by pressing it against the table (see 4.2.12)<br>2. Replace worn part<br>3. Replace the chuck |
| Drill binds in the workpiece | 1. Feed pressure is wrong<br>2. Belt is loose<br>3. Drill is loose<br>4. Speed is too fast | 1. Apply less pressure<br>2. Adjust tension<br>3. Tighten the drill with the key<br>4. Change the speed |
| Drill burns or smokes | 1. Speed is too fast<br>2. Chips are not discharging<br>3. Drill bit is dull<br>4. Lubrication needed for work<br>5. Feed pressure is wrong | 1. Change the speed<br>2. Clean the drill<br>3. Use a new bit<br>4. Lubricate while drilling<br>5. Apply less pressure |
| Table is difficult to raise | 1. Lubrication is needed<br>2. Rack is bent | 1. Lubricate with light oil<br>2. Straighten the rack |

**Pillar Drill**
**Models GDM90B & GDM95B.**

73/23/EEC Low Voltage Directive (S.I. 1994/3260)
89/336/EEC EMC Directive (S.I. 1992/2372 & Amendments).
98/37/EC Machinery Directive (S.I. 1992/3073)
93/68/EEC CE Marking Directive

**Declaration of Conformity** We, the sole importer into the UK, declare that the products listed here are in conformity with the following standards and directives.

CE Signed by Mark Sweetman Date 1st November 1999

The construction files for these products are held by the Manufacturer and may be inspected by a national authority upon request to Jack Sealey Ltd.

*For Jack Sealey Ltd. Sole importer into the UK of Sealey Quality Machinery.*

***NOTE:*** *It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.*

**IMPORTANT:** No liability is accepted for incorrect use of this equipment.
**WARRANTY:** Guarantee is 12 months from purchase date, proof of which will be required for any claim.
**INFORMATION:** For a copy of our latest catalogue call us on 01284 757525 and leave your full name and address, including postcode.

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