Specifications

Model: CMD300
Part No: 7610860
Voltage: 230VAC
Motor: 470W
Fuse Link Rating: 5amp
Weight unpacked: 51Kg
Operating Temperature: 0°-40°
Sound Pressure Level: 82 dB (A)
Max Drill Capacity: 13mm
End Mill Capacity: 16mm
Face Mill Capacity: 30mm
Mill/Drill Head Angle: -45° to 45°
Spindle Taper: MT3
Table Effective Size: 92mm x 400mm
Table Cross Travel: 100mm
Table Longitudinal Travel: 235mm
Spindle to Column: 170mm
Dimensions DxWxH: 514 x 506 x 756mm
Spindle Speeds: 0-2500

Please note that the details and specifications contained herein are correct at the time of going to print. However CLARKE International reserve the right to change specifications at any time without prior notice. Always consult the machines data plate.
Please read these instructions carefully before using this machine

Thank you for purchasing this CLARKE Milling/Drilling Machine, designed for drilling, deep milling and face milling of small workpieces, with maximum dimensions of 300mmx200mmx200mm.

Before using the machine, you must read this manual thoroughly and carefully follow all instructions given. This is for your own safety and that of others around you, and is also to help you achieve a long and trouble free service from your new machine.

CLARKE GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase. This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission. This guarantee does not affect your statutory rights.

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</tbody>
</table>
General Safety Precautions

**WARNING:**
As with all machinery, there are certain hazards involved with their operation and use. Exercising respect and caution will considerably lessen the risk of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator or damage to property, may result.

1. **ALWAYS** learn the machines’ applications, limitations and the specific potential hazards peculiar to it. Read and become familiar with the entire operating manual.

2. **ALWAYS** use a face or dust mask if operation is particularly dusty.

3. **ALWAYS** check for damage. Before using the machine, any damaged part, should be checked to ensure that it will operate properly, and perform its intended function. Check for alignment of moving parts, breakage of parts, mountings, and any other condition that may affect the machines’ operation. Any damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use the machine. Consult your local dealer.

4. **ALWAYS** disconnect the tool/machine from the power supply before servicing and when changing accessories.

5. **ALWAYS** wear safety goggles, manufactured to the latest European Safety Standards. Everyday eyeglasses do not have impact resistant lenses, they are not safety glasses.

6. **ALWAYS** keep work area clean. Cluttered areas and benches invite accidents.

7. **ALWAYS** ensure that adequate lighting is available. A minimum intensity of 300 lux should be provided. Ensure that lighting is placed so that you will not be working in your own shadow.

8. **ALWAYS** keep children away. All visitors should be kept a safe distance from the work area, especially whilst operating the machine.


10. **ALWAYS** handle with extreme care do not carry the tool/machine by its’ electric cable, or yank the cable to disconnect it from the power supply.

11. **ALWAYS** ensure the switch is off before plugging in to mains. Avoid accidental starting.

12. **ALWAYS** concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.

13. **ALWAYS** keep your proper footing and balance at all times, don’t overreach. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
14. **ALWAYS** wear proper apparel. Loose clothing or jewellery may get caught in moving parts. Wear protective hair covering to contain long hair.

15. **ALWAYS** use recommended accessories, the use of improper accessories could be hazardous.

16. **ALWAYS** remove plug from electrical outlet when adjusting, changing parts, or working on the machine.

17. **NEVER** operate machine while under the influence of drugs, alcohol or any medication.

18. **NEVER** leave machine running unattended. Turn power off. Do not leave the machine until it comes to a complete stop.

19. **NEVER** force the machine, it will do a better and safer job at the rate for which it was designed.

20. **NEVER** use power tools in damp or wet locations or expose them to rain. Keep your work area well illuminated.

21. **DO NOT** use in explosive atmosphere (around paint, flammable liquids etc.). Avoid dangerous environment.

### Additional Precautions For Mill/Drills

1. **ALWAYS** use the appropriate cutter for the material being cut.

2. **ALWAYS** ensure the cutter is fully secured before use.

3. **ALWAYS** switch the machine OFF immediately the task is completed.

4. **ALWAYS** ensure safety guards etc., are in place and working correctly, if not **DO NOT** use the machine until rectified.

5. **DO NOT** use the machine if the electric cable, plug or motor is in poor condition.

6. **DO NOT** allow the ventilation slots in the machine to become blocked.

7. **DO NOT** touch the cutter immediately after use, allow time for it to cool.

8. **NEVER** leave chuck keys in situ, **Always** remove and store safely when finished tightening or loosening the chuck.

9. **NEVER** change from high to low speed and vice versa whilst the machine is still running, always ensure the machine has come to a complete stop before doing so.

10. **NEVER** change from forward to reverse and vice versa whilst the machine is still running, always ensure the machine has come to a full stop before doing so.

11. **NEVER** leave machine running unattended, **ALWAYS** ensure it is switched off and has come to a complete stop before leaving it.

12. **AVOID** accidental starting, by switching off and isolating from the main electrical supply by removing the plug from the socket.

Additionally, please keep these instructions in a safe place for future reference.
Electrical Connections

This product is provided with a standard 13 amp, 230 volt (50Hz), BS 1363 plug, for connection to a standard, domestic electrical supply. Should the plug need changing at any time, ensure that a plug of identical specification is used.

**WARNING! THIS APPLIANCE MUST BE EARTHED**

This machine must be wired up in accordance with the following colour code:

- BLUE - NEUTRAL
- BROWN - LIVE
- GREEN/YELLOW - EARTH

- Connect the BLUE coloured cord to the plug terminal marked “N”
- Connect the BROWN coloured cord to the plug terminal marked “L”
- Connect the GREEN/YELLOW coloured cord to the plug terminal marked “E”

If this appliance is fitted with a plug which is moulded on to the electric cable (i.e. non-rewireable) please note:

1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from your local dealer or most electrical stockists.

**Fuse Rating**

The fuse in the plug must be replaced with one of the same rating (5 amps) and this replacement must be approved to BS1362.

If in doubt, consult a qualified electrician. Do not attempt any electrical repairs yourself.

**Cable Extension**

Always use an approved cable extension suitable for the power rating of this tool (see specifications), the conductor size should also be at least the same size as that on the machine, or larger. When using a cable reel, always unwind the cable completely.

**IMPORTANT:**

If a cable extension is needed, it is essential to comply with the following data:

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Extension length</th>
<th>Cable section</th>
</tr>
</thead>
<tbody>
<tr>
<td>230v</td>
<td>Up to 20M</td>
<td>2.5 mm²</td>
</tr>
<tr>
<td>230v</td>
<td>From 20 to 50M</td>
<td>4 mm²</td>
</tr>
</tbody>
</table>

**METALWORKER**
**Installation**

**IMPORTANT:** Careful consideration is required when choosing the location for the machine, with regard to table movement, Mill/Drill Head movement and location of power supply. Additionally, the workbench should be firm, flat and level. Avoid installing in damp or very dusty locations and ensure that adequate light is provided.

Your new machine is delivered fully assembled (except for handles which are contained in a bag of loose parts), and bolted to a board with four bolts. Various tools and accessories are also contained in the bag of loose parts - see Fig.1.

To remove the machine from the case, carefully lay the carton on its side and break the seal at the bottom. Fold the three flaps back and gently turn the carton so that it is upright. Tilt the carton in order to fold back the remaining flap then lift the carton from the machine and packing material.

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**List of Loose Items**

1. Double open ended spanner 8 - 10mm AF
2. Double open ended spanner 14 - 17mm AF
3. Double open ended spanner 17 - 19mm AF
4. 2 x ‘T’ nuts
5. Set Hex. Wrenches, 3,4,5 & 6mm
6. Drill Chuck w/taper shank
7. Chuck Key
8. 3 x Levers/Handles
9. Tommy Bar
10. Draw bolt for taper shank
11. Peg Spanner
12. Open ended spanner - 36mm AF
13. 2 x handles for Wheel adjusters
14. Oil Bottle
15. Chuck Guard

Not shown: 1x Spare Fuse, 3Amp.
Parts Identification

FIG-A
- Motor
- Head Micro Adjuster
- Head Micro Adjuster
- Drill Chuck
- Head Limit Device
- Scale
- Post
- Head Locking Lever
- ON/OFF Variable Speed Switch
- Indicator Lamp
- Fuse
- Head Raise/Lower Lever

FIG-B
- Hole for Spindle Lock
- Mill/Drill Head
- Head Locking Lever
- Head Limit Device
- Table Cross Slide Locking Lever
- Table Longitudinal Locking Lever
- Head Raise/Lower Lever

FIG-C
- Spindle Draw Bolt Cover
- Head Micro Adjuster
- Chuck Guard Mount
- Warning Lamp
- Hi/Low Speed Lever
- Emergency OFF Button
- Post Securing Nut (For Angle Setting)
- Table
- Base
- Saddle
1. Remove all polystyrene packaging material, then, with assistance lift the machine on to a workbench. DO NOT attempt to do this single handedly.

2. Unbolt the machine from the board - 4 nuts with countersunk screws and washers, and, with assistance, carefully slide or lift into position on your workbench.

3. Before drilling the bench in order to secure the machine, ensure:
   - the head can be raised to its full height - 755mm from the table surface,
   - the head can be pivoted in either direction through 45° without fouling,
   - adequate clearance is available for the longitudinal travel of the cross slide.

4. Once satisfied, drill four holes corresponding with those in the machine base, and bolt the machine securely to the workbench using M10 nuts bolts and washers, (not supplied).

4a. Alternatively, the Mill/Drill may be mounted centrally on a board of at least 20mm (3/4") thickness, and of minimum size, 455x455mm (18”x18”).

   This allows the Mill/Drill to be moved to somewhere more convenient when not in use, in a small workshop. The board may then be clamped securely (with ‘G’ clamps) to a workbench when required for use.

5. Screw the three handles into the head raise/lower hub.

6. Screw a handle to each of the table cross feed and longitudinal feed handles, and secure with the locknuts provided.

7. If using the Drill chuck, attach the clear plastic chuck guard to its mount, using the single screw provided.

8. Any preservative must be cleaned off thoroughly using a solvent, then dried and a thin film of machine oil applied to all untreated surfaces. Take great care when using the solvent, do not allow it to get into the motor or electrical components - switches etc.

9. Lightly lubricate all moving parts, handwheel threads etc., with machine oil.

10. Check to ensure the post is secure by attempting to tighten the post securing nut at the rear of the machine using the 36mm spanner provided.

   Your Mill/Drill is now ready for use.
OPERATION

Ensure the work area is clean and tidy and all tools and accessories etc., are removed and stored safely, before plugging the machine into the electric supply.

Switch the power ON. At this point, the green indicator lamp on the switch panel on the front of the machine, will illuminate, indicating that power is being supplied to the machine.

When first using the machine, please use the following procedure.

1. Select LOW range, by moving the Lever, adjacent to the Emergency Stop, fully to the ‘L’ position.

2. Push the emergency OFF switch cover button (fig.2) upwards in direction of arrow. This will allow the cover to spring outwards, releasing the OFF button.

3. Start the machine by turning the rotary ON/OFF, variable speed switch, slowly clockwise to mid position, and allow to run for a minute or two before winding up to full speed, then allow to run for a further two minutes.

4. Switch OFF by turning the rotary switch fully ant clockwise, then move the Hi-Lo range lever to the “H” - high position, and repeat the process.

NOTE: In case of emergency, hit the switch cover quickly. The cover will latch down and the motor will be switched OFF.

The machine will not start when the emergency switch cover is closed.

If the emergency switch is used to switch OFF, when the rotary ON/OFF switch in the ON position, the machine will not start again when the emergency switch is released. The amber warning lamp will also illuminate.

The rotary switch must first be turned OFF then turned ON again to start the machine.

Once the machine has been ‘run up’ check to ensure that the machine is secure on the bench or board, and check again to ensure the post is secure by attempting to tighten the post securing nut at the rear of the machine using the 36mm spanner provided.

A. Drilling

The machine is provided with a drill chuck and morse taper shank - Fig.4.

Insert the taper shank up into the spindle, sharply.

CAUTION. Take extreme care not to damage the taper in any way. Any burr or irregularity will render it unserviceable until it is properly repaired using a grind stone. Professional advice should be sought.

Pull off the spindle draw bolt cover from the head (see Parts ID, Fig-C on page 8s) and insert the draw bolt. Screw it into the end of the taper shank and tighten using the spanner provided - see Fig.5.
In order to hold the spindle, insert the Tommy Bar into the hole in the side of the head so that it locates in the hole in the spindle, see Fig. 5. Hold the spindle still whilst nipping up the draw bolt.

Place the drill chuck on to the end of the taper shank with a sharp upward movement.

The drill is lowered using the levers on the right side of the machine, however, in order to do so, it is first of all necessary to disconnect the Dog Clutch, shown in Fig. 6. Simply pull back on the hub to disconnect.

Now by turning the handles, the drill head may be lowered.

In order to ensure the drill chuck is firmly secured on the spindle, place a piece of wood on the table then lower the drill head so that the nose of the drill chuck comes into contact with it. Pull down sharply one time.

When drilling using a mill/drill machine, it must be remembered that without care, the drill bit could easily come into contact with the surface of the table.

Drill head travel must always be restricted therefore before proceeding to drill, otherwise damage to the table and/or drill bit could occur.

A limiting device is provided, mounted on the post slide, shown in Fig. 7.

When through drilling, wind the drill head, with drill bit installed, down to the maximum depth required, and hold in place whilst sliding the limit device up to meet it. Lock the limit device in place using its’ locking lever.

The limit device is also used if you wish to drill to a predetermined depth.

Bring the drill bit down to touch the workpiece surface and note the reading on the scale on the post.

Move the workpiece away from the drill bit, using the longitudinal or cross slide handles, then lower the head once again to the depth previously noted, plus the depth of hole required. At this point, bring the limit device up to the head and lock firmly in place. Your drill depth is now set.

The workpiece must ALWAYS be firmly secured. This will normally be with the use of a vice which is securely clamped to the table. Alternatively, clamps may be used. A suitable vice, and a ‘T’ nut and clamp set designed specifically for this machine, are available from your Clarke dealer. Please refer to Accessories on page 22.

The table, carrying the workpiece, is manoeuvred using the longitudinal and cross slide adjusting handles. Once the workpiece is positioned, any further movement is avoided by locking both longitudinal and cross slides in place using the locking levers provided - see parts identification Fig-B, on page 8.

Drill speeds are effected by using either the High or Low ranges together with the variable speed rotary switch. See notes on cutting speeds on page 13.

**WARNING**

Never attempt to change ranges until the machine has come to a complete stop.
B. Milling

Vertical Milling is similar to drilling, except that instead of the workpiece being held stationary, it may be moved in 3 directions - a. vertically, and b. horizontally in both axis. Milling cutters are capable of cutting with their ends and their faces.

Several broad categories of end and face milling tools exist, such as centre cutting versus non-centre cutting (whether the mill can take plunge cuts), and categorisation by number of flutes, by helix angle, by material, and by coating material. Each category may be further divided by specific application and special geometry.

Please note that It is not within the scope of this manual to advise on types of cutter, it is assumed that the user is familiar with milling applications, cutters and techniques.

This machine is also capable of milling at any angle from vertical - 90°, to 45° left or right of vertical.

Installing the Cutter

If the chuck is installed, proceed as follows:

1. Insert the tommy bar into the hole in the side of the head so that it locates in the hole in the spindle.
2. Remove the draw bolt cover and with the spindle being held, undo the draw bolt by two complete turns only, using the spanner provided.
3. Strike the head of the draw bolt sharply with a soft faced mallet, or by placing a piece of wood on the head and striking the wood with a hammer. The taper shank will disengage, thereby allowing the draw bolt to be fully unscrewed and the drill chuck and taper shank to be withdrawn.

**NOTE:** It is possible that when the head of the draw bolt is struck, the chuck could become disengaged with the taper shank and drop on to the bed, with possible resultant damage. It is strongly advised therefore, that the operator holds the chuck with one hand whilst striking the head of the draw bolt, or a substantial piece of cloth is placed beneath the chuck, in order to avoid damage when it drops.

With the taper shank removed, the cutter may be installed in a similar manner to the drill chuck, please see the notes on pages 10/11.

Please note that a range of accessories, including collet sets and collet chuck sets which are used to secure the cutter, are available from your Clarke dealer - see Accessories on pages 20/21.

Using the Micro Feed

For Milling, the micro feed should always be used.

In order to use this device, it is first of all necessary to engage the dog clutch on the raise/lower hub assembly. Simply turn the raise/lower handles until the cutter is as near the workpiece as possible and the dogs become aligned, then push the hub IN fully.

In this mode, the handles cannot be used to raise or lower the head, only by turning the micro adjuster knob, will this be effected.

A scale on the adjuster sleeve may be used to determine the depth of cut.

Turn the adjuster so that the cutter just touches the workpiece, then zero the scale by holding the adjuster...
knob whilst grasping the knurled rim of the scale and turning until the zero on the scale lines up with the pointer. Back off slightly and start the machine.

Turn the adjuster once again until the zero mark lines up with the pointer and double check that the cutter is just touching the work - if not, make the necessary adjustment. Any further movement of the adjuster will commence cutting.

**General Notes on Milling**

Set up the workpiece in a similar manner to that for drilling.
- Slowly bring the cutter into contact with the work piece and start machining.
- DO NOT attempt to make too bigger cuts than the cutter and machine are capable of, it is much better and safer to make several small passes.
- Always use an appropriate cutting/cooling fluid whilst machining, which can be applied with a small brush etc., NOT FINGERS.
- DO NOT allow swarf to build up in the cutting area. Stop the machine and remove using a suitable implement, (brush etc.).
- When finished turn the machine OFF, return the cutter to its highest position and allow it to come to a complete stop before attempting to remove the work piece or tool.
- Always finish by cleaning and drying the machine, and storing all tools and accessories etc., safely.

**Cutting Speeds**

In order to drill, and particularly mill satisfactorily, it is most important that the correct cutting speed is used.

Cutting speed is the speed at which the cutting edge of the tool passes over the work. This is usually expressed in feet per minute or metres per minute.

For a given material there will be an optimum cutting speed for a certain set of machining conditions, and from this speed the spindle speed (RPM) can be calculated. Factors affecting the calculation of cutting speed are:
- The material being machined (steel, brass, aluminium etc. - see table below)
- The material the cutter is made from i.e. Carbon steel High speed steel (HSS), carbide, or ceramics.

<table>
<thead>
<tr>
<th>Material type</th>
<th>meters per min</th>
<th>feet per min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel (tool)</td>
<td>15 - 18</td>
<td>50 - 60</td>
</tr>
<tr>
<td>Mild steel</td>
<td>30 - 38</td>
<td>100 - 125</td>
</tr>
<tr>
<td>Cast iron (medium)</td>
<td>18 - 24</td>
<td>60 - 80</td>
</tr>
<tr>
<td>Bronzes</td>
<td>24 - 45</td>
<td>80 - 150</td>
</tr>
<tr>
<td>Brass (soft)</td>
<td>45 - 60</td>
<td>150 - 200</td>
</tr>
<tr>
<td>Aluminum</td>
<td>75 - 105</td>
<td>250 - 350</td>
</tr>
</tbody>
</table>

A good rule of thumb is, the smaller the hole or depth of cut, and the softer the material to be machined etc, the faster the speed.

Please note that it is not within the scope of this manual to provide a tutorial on cutting speeds or the methods used to determine spindle speeds (RPM), for your particular application. It is assumed that the operator is familiar with these practices.
The amount of maintenance depends on the amount of use the machine gets. However, it is important to carry out routine maintenance to prevent premature wear and shortening the life of the machine.

1. Inspect and clean all non painted surfaces. Lubricate using a light machine oil. **Do Not** over lubricate. Oil can be applied to the work table and column etc., using a soft oil soaked cloth.

2. Inspect and clean all moving parts. Lubricate using machine oil. Check for smooth operation.

3. Inspect the machine for signs of wear or damage. Any faults should be rectified before continuing.

4. Check all nuts and bolts etc. are tight.

**Slide Adjustments**

With use, play may develop in the cross, longitudinal and the post slides. It is possible to adjust these components in order to eradicate any unnecessary movement.

Before making any adjustments, clean all friction surfaces. It is necessary to move the table and cross slide to both extremes to carry out the cleaning process correctly.

When finished cleaning, re-lubricate using a light machine oil.

Return both the table and cross slide to their central positions.

Adjustment is effected by means of Jib Strips. These are precision machined steel strips, positioned between the mating surfaces as shown in Fig.9. The strips are adjustable so as to apply pressure on these surfaces, sufficient for the parts to slide easily about each other without unnecessary slackness. The longitudinal slide for example carries four adjusters, shown in Fig.10.

To adjust, first ensure that the slides are lubricated with a thin film of machine oil as described previously.

Slacken off all adjuster locknuts, using the hex. wrench provided, and back off each adjuster by half a turn.

Screw IN each adjuster in turn until a slight resistance is felt.

Wind the slide through its full travel to check that there are no high spots, and travel is smooth throughout.

If the slide moves smoothly and all slack has been eliminated, hold the adjuster still and tighten all lock nuts.

Finally, wind the slide through its full length once again to double check. If there is any slack or tightness, readjust as described above.
Parts Diagram

PARTS & SERVICE TEL: 020 8988 7400
or e-mail as follows:
PARTS: Parts@clarkeinternational.com
SERVICE: Service@clarkeinternational.com
## Parts List

<table>
<thead>
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<th>Item</th>
<th>Description</th>
<th>Qty</th>
<th>Part No</th>
<th>Item</th>
<th>Description</th>
<th>Qty</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Base</td>
<td>1</td>
<td>SGCMD300001</td>
<td>40</td>
<td>Spring washer 10</td>
<td>3</td>
<td>SGCMD300040</td>
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<tr>
<td>2</td>
<td>X-axis feed screw</td>
<td>1</td>
<td>SGCMD300002</td>
<td>40-1</td>
<td>Washer 10</td>
<td>3</td>
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<td>2-1</td>
<td>Key 4x6</td>
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<td>Pointer</td>
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<tr>
<td>5</td>
<td>Hand wheel</td>
<td>2</td>
<td>SGCMD300005</td>
<td>43</td>
<td>Set screw M6 x 22</td>
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<td>6</td>
<td>Nut M8</td>
<td>2</td>
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<td>44</td>
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<td>7</td>
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<td>45</td>
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<tr>
<td>8</td>
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<td>SGCMD300008</td>
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<td>Gear rack</td>
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<td>9</td>
<td>Cap Screw M6x8</td>
<td>8</td>
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<td>11</td>
<td>Dust guard cover</td>
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<td>Spindle box</td>
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<td>SGCMD300050</td>
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<tr>
<td>12</td>
<td>Plate (2)</td>
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<td>50</td>
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**Clarke Metalworker**
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1. Mill Chuck Set

**Part Number: 7610866**

A set comprising 7 collets, a chuck and ‘C’ spanner.

Collet sizes:

- 4 mm
- 6 mm
- 8 mm
- 10 mm
- 12 mm
- 14 mm
- 16 mm

1. Insert the shank of the chuck into the Mill Head Spindle and screw on to the end of the draw bolt. Tighten the draw bolt, holding the spindle steady by hand or by inserting the tommy bar provided in the hole in the side of the head and into the spindle.

2. Unscrew and remove the end collar ‘A’, insert the appropriate collet and reattach the end collar.

3. Insert the respective end mill into the collet and tighten the end collar using the ‘C’ spanner.

To remove the chuck, undo the draw bolt a turn or two, then tap its’ head using a mallet to break the seal.

2. HSS End Mill (2-Fluted)

**Part Number: 7610874**

A set of 7 End Mills, of the following sizes, for use with the Mill Chuck or Collet Set

- 4 mm
- 6 mm
- 8 mm
- 10 mm
- 12 mm
- 14 mm
- 16 mm
3. Collet Set (MT3)

Part Number: 7610864

A set of 7 Collets for use with the HSS End Mills:

Insert the appropriate Collet into the spindle.

Insert the draw bolt, provided, into the spindle, from the top and screw on to the Collet a few turns.

Insert the appropriate Mill into the jaws of the Collet, and tighten the draw bolt.

Hold the spindle by means of the tommy bar, inserted in the hole in the side of the head, and into the hole in the spindle.

To remove the Collet, unscrew the draw bolt a few turns and tap its head with a mallet to break the seal between the Collet and spindle.

4. Quick Release Vice

Part Number: 7610868

‘T’ nuts are provided with the base machine

Maximum opening: 88mm

Effective Jaw size: 100x33mm
5. Indexable Carbide End Mill

Part Number: 7910870

Simply insert the shank of the mill into the spindle and screw on to the Draw Bolt.
Tighten using the Tommy Bar in the hole in the side of the head, into the spindle, and spanner on the Draw Bolt head.
Disassemble in the same manner as for the drill chuck.

6. Clamp Set

Part Number: 7610872

An example of how the clamp set may be used:

Select the appropriate studs and slotted clamp. Screw the ‘T’ nut on to the stud and assemble as shown, using the appropriate stepped blocks - adjust the blocks so that the clamp is horizontal.
DECLARATION OF CONFORMITY

We declare that this product complies with the following standards/directives:

- 98/37 EC

Description: Milling/Drilling Machine
Model No: CMD 300
Serial (Batch) No: See Machines Data Plate

Signed: Engineering Manager Sept, 2007

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020 8988 7400

e-mail: Parts@clarkeinternational.com   e-mail: Service@clarkeinternational.com

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