User Manual

EN English

Ver 3.5 2025

msc

machinery scandinavia

MADE IN SWEDEN

SE Svenska
Gratulerar till ditt köp av en äkta svenskbyggd borrmaskin. Vi är stolta över att vi kan märka våra maskiner med ”Made in Sweden”. I Rosenfors har vi byggt borrmaskiner sedan 1937.

Innan du installerar och börjar använda din nya maskin vill vi gärna att du besöker vår hemsida: www.mscab.se/downloads. Lösenord: 57797

Där ska du ladda ned:
1. Elritningar
2. Reservdelslistor
3. Extra manual om du behöver.

Sist men inte minst viktigt, läs igenom vår manual och lär dig känna din nya maskin.
Lycka till med din nya maskin!

EN English
Congratulations on your purchase of a real Swedish built drill. We are proud that we can label our machines with “Made in Sweden”. In Rosenfors, we have been building drilling machines since 1937.

Before you install and start using your new machine, we would like you to visit our website: www.mscab.se/downloads. Password: 57797

There you should download:
1. Electrical drawings
2. Spare parts list
3. If you need an extra manual.

Finally, read the manual and get to know your new machine.
Good luck with your new machine!

DE Deutch
Herzlichen Glückwunsch zum Kauf einer in Schweden gebauten Bohrmaschine. Wir sind stolz darauf, dass wir unsere Maschinen mit “Made in Sweden” kennzeichnen können. In Rosenfors bauen wir seit 1937 Bohrmaschinen.

Bevor Sie Ihren neuen Bohrmaschine installieren und verwenden, möchten wir Sie bitten, unsere Website www.mscab.se/downloads zu besuchen. Passwort: 57797

Dort sollten Sie herunterladen:
1. Elektrische Zeichnungen
2. Ersatzteilliste
3. Zusätzliches Handbuch, wenn Sie brauchen

Lesen Sie abschließend das Handbuch und lernen Sie Ihre neue Maschine kennen.
Viel Glück mit Ihrer neuen Maschine!

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EU DECLARATION OF CONFORMITY (EN)

Manufacturer:

Machinery Scandinavia AB
Tungatan 10,
577 97 Rosenfors, Sweden
Tel +46 (0)495 49700

Hereby declares at our own risk that:

Drilling machines manufactured by Machinery Scandinavia AB with serial numbers 417000 – 418999, are in conformity with:

- DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006 on the approximation of the laws of the Member States relating to machinery;
- DIRECTIVE 2014/30/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 March 2014 on the approximation of the laws of the Member States relating to electromagnetic compability;
- EUROPEAN STANDARD EN 12717 + A1:2009 Safety of machine tools – Drilling machines.

Magnus Gustavsson, CEO
Machinery Scandinavia AB

577 97 Rosenfors, Sweden

Rosenfors 2025-03-26

.....
Magnus Gustavsson

1. GENERAL

In this manual is presented all MSC drilling machines ranging from 25 to 35 mm. It has been prepared for those using the machine or who are responsible for its maintenance and service and should therefore be made readily available for all those concerned.

Read through the manual carefully before installing and starting up the machine. The machine is of simple design and robustly built, but we cannot guarantee perfect function if it is not correctly handled.

It is therefore necessary to make yourself thoroughly acquainted with its functions and to carry out practical tests on the various parts of the control system and the machine settings. Once these are mastered, the properties of the machine can be fully utilized and the component parts will give maximum service life.

Every machine is tested for accuracy and capacity at the factory. Experienced staff checks both the mechanical and electrical functions according to a standardized programme, meaning that we can guarantee workmanship of the highest and most consistent quality.

By following our directions and your own good judgement, we are convinced that your new machine will give you every satisfaction. However, should any problems arise, please do not hesitate to contact our dealer or us.

1.1 Guarantee

See the guarantee terms at our homepage “http://www.mscab.com”.

1.2 CE-labelling and Declaration of Conformity

An “EC Declaration of Conformity” accompanies machines delivered within the European Union (CE-labelled machines).

The declaration of conformity is valid only if the chuck guard (see figure 2) is used.

1.3 Safety

1.3.1 Safety messages

Safety messages in this manual are accompanied by a safety alert symbol and a signal word. The safety alert symbol is used to alert the reader about a potential risk of personal injury or damage on the equipment.

1.3.2 Safety regulations

Used correctly, your machine is one of the best concerning design and safety. However, any machine which is used incorrectly can be a safety risk.

It is very important, that those who use the machine are informed how to handle it correctly. They should read and understand these instructions, as well as all signs on the machine. Neglecting to follow the safety regulations can cause an accident.

Warning: Using the machine incorrectly can cause serious accidents.
The machine has to be installed, used and maintained correctly.

All machines with rotating tools or details can cause accidents. It is therefore important that you as an operator are aware of those risks for any accident and that you avoid all possibilities for accidents.

Figure 1 - Warning symbols on the machine

- Always use appropriate clothes and personal equipment, so that you cannot get caught by rotating tools. Avoid using protective gloves if possible. Use hairnet if necessary.
- Always use eye protection, if there is a risk for chips or splashes from the coolant. Follow local instructions if existing.
- Never use the machine if it lacks necessary protection.
- The chuck guard (figure 2a) must always be used. For safety reasons, the chuck guard is equipped with a micro switch.

Figure 2a - Chuck guard (for machines within the EU). Figure 2b - Depth gauge (3).

- Depth gauge and Depth gauge rod (3) must never be removed from the machine.
- Keep clean around the machine to avoid stumbling against rotating tools.
- Make sure that the work piece is securely fastened at the table, see the examples in figure 3 and 4.

Warning: Never use your hand to hold the work piece.

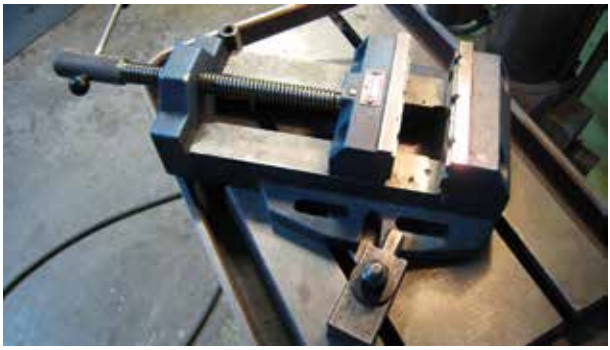


Figure 3 - Fastening the table vice on the table, example

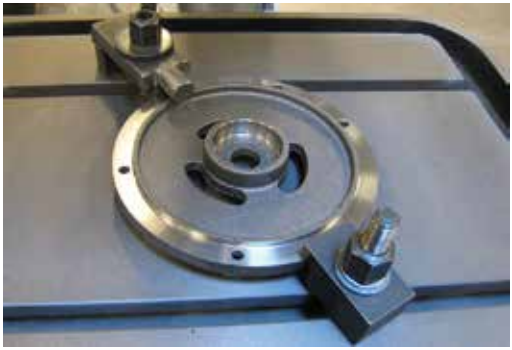


Figure 4 - Fastening the work piece on the table, example

- Make sure that the switch is in position “0” when changing tools or when cleaning the machine. Never brush away chips while the machine is operating.
- Never stretch yourself over the machine when it is running.
- Always stop the machine when not in use.
- Use faultless tools and the correct speed and feed for the tool. Make sure that the tool is the correct one for you operation.
- Make sure that the drill head, table arm and table are thoroughly fastened before starting up the machine.

2. Design and function

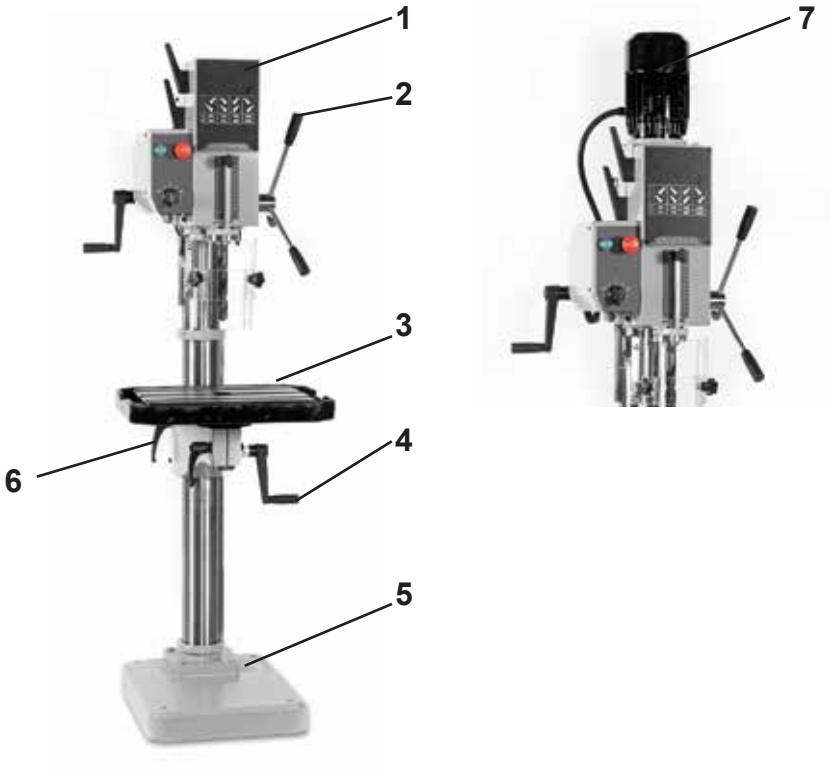


Figure 5 - Drilling machines

1. Drill head
2. Feed shaft with handle
3. Table
4. Crank for worm gear (2 pcs)
5. Base plate
6. Lock handle (3 pcs)
7. Flange motor (particular model)

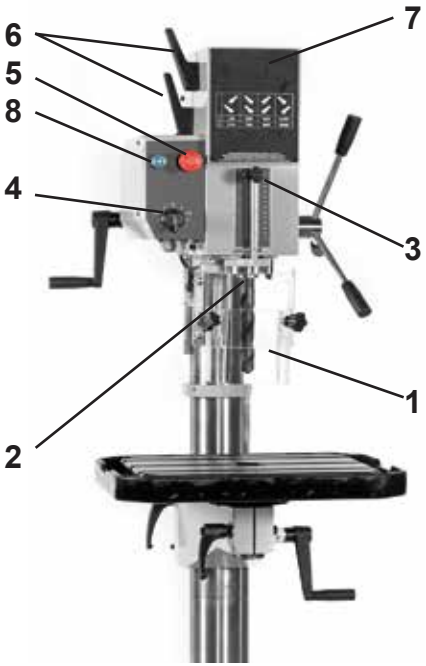
The gearbox is built according to our experienced methods for highest possible torque.

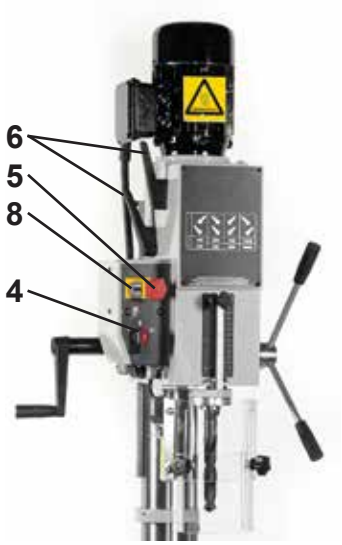
Helical gears combined with steel gears against reinforced fibre gears in the main gear box ensure higher operation efficiency, a more powerful drive mechanism and smooth operation.

Both the drill head and the table arm are adjustable 360° around the column and can be raised and lowered.

2.1 Drill head

2.1.1 Manual feed





25 mm Single phase

Figure 6 - Drill head, example

1. Chuck guard
2. Spindle quill
3. Depth gauge rod
4. Switch/speed selector
5. Emergency stop push button
6. Gear lever (2 pcs)
7. Gearbox
8. Start button

Emergency stop

See the location of the emergency stop push button (5) in figure 6. The emergency stop shall be used in case of emergency to stop the machine as fast as possible.

2.1.2 Automatic feed

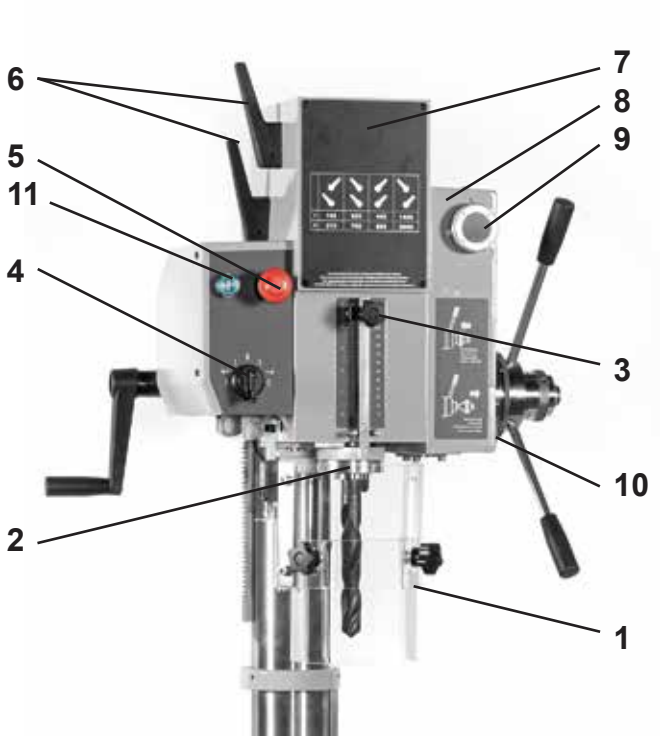


Figure 7 - Drill head

1. Chuck guard
2. Spindle quill
3. Depth gauge rod
4. Switch/speed selector
5. Emergency stop push button
6. Gear lever (2 pcs)
7. Gearbox
8. Power feed box
9. Knob for setting the feed speed
10. Oil level indicator
11. Start button

Emergency stop

See the location of the emergency stop push button (5) in figure 7. The emergency stop shall be used in case of emergency to stop the machine as fast as possible.

2.1.3 Electromagnetic feed

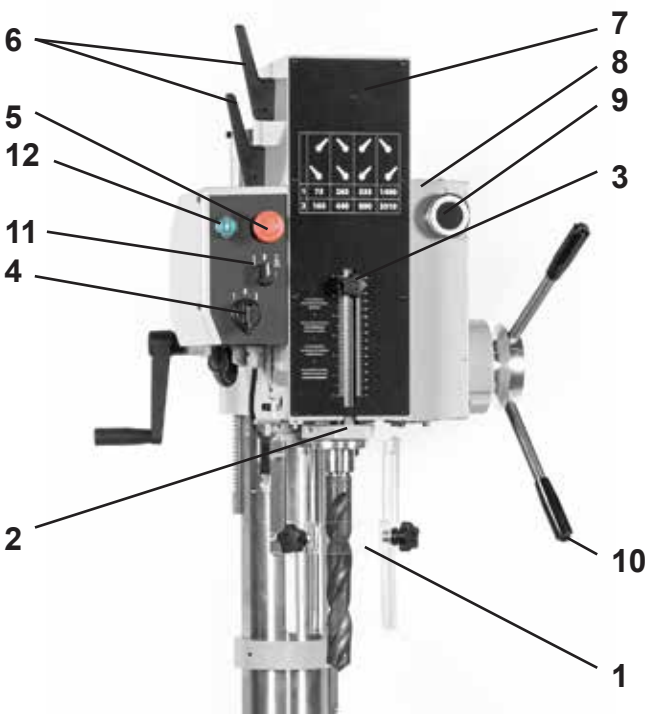


Figure 8 - Drill head

1. Chuck guard
2. Spindle quill
3. Depth gauge rod
4. Switch/speed selector
5. Emergency stop push button
6. Gear lever (2 pcs)
7. Gearbox
8. Power feed box
9. Knob for setting the feed speed
10. Push button for manual switch on/switch off when feeding/threading (3 pcs)
11. Feeding/threading selector
12. Start button

Emergency stop

See the location of the emergency stop push button (5) in figure 8. The emergency stop shall be used in case of emergency to stop the machine as fast as possible.

3. Installation

3.1 Set-up

Consider the following during set-up of the machine:

- The machine must be installed on a firm foundation. The base plate must be levelled with washers on the foundation bolts, to prevent harmful stresses when the nuts are tightened.
- Do not install the machine in a humid, dirty or badly illuminated environment.
- All bright parts of the machine are treated with rust prevention. By removing this, be careful not to use too strong cleaning compound. The paint might then get damaged.
- Make sure that the boring tool cone is well-cleaned.
- Be sure that the machine is equipped with all necessary protections to comply with the CE directives.
- For machines with automatic feed, the gear box must be filled up with oil, see chapter “5.1 Oil filling, feed gear box” on page 23.

3.2 Electric installation

Note! Electric installations have to be performed by a qualified electrician.

1. Make sure that the correct voltage is supplied to the machine.
2. Set up the electrical connections according to the attached circuit diagram.
3. Make sure that the drilling spindle has the correct rotation direction.

4. Handling

4.1 Manual feed

Warning: Use the lock handles to lock the drill head, table arm and the table. Make sure that the work piece is securely fastened at the table. Carefully read through the safety instructions in this manual before using the machine.

4.1.1 Drilling

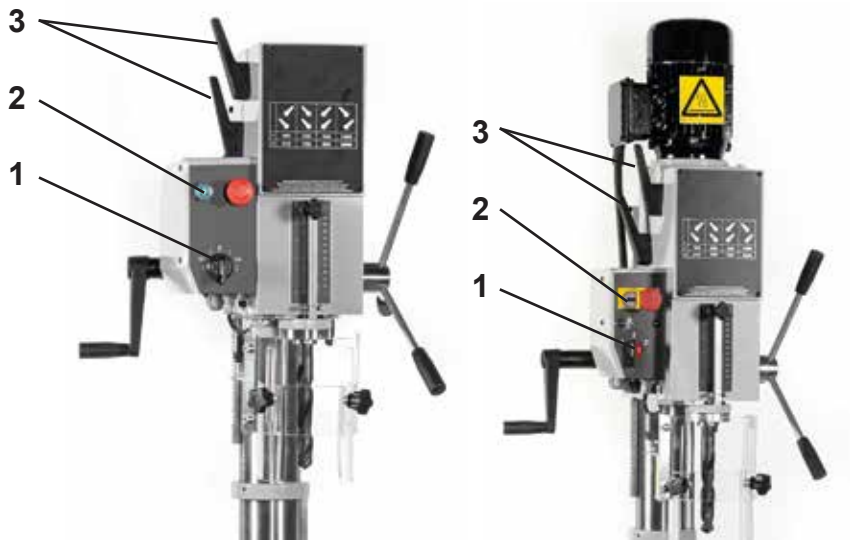


Figure 9 - Set-up

Note! The machine can not be shifted during operations.

Note! Always start single-phase machines in position “1”. When the machine has reached its top speed, the switch can be turned to position”2”.

1. Set the switch (1) to position “0”. Press the Start button (2) to set the machine ready for operation (the light in the button lights up). You can now drive forward / reverse and 2 speeds via the switch/speed selector (1).
2. At triggered Emergency Stop - Reset the emergency stop and proceed according to step 1.
3. At triggered overcurrent relay - Reset automatically, proceed according to step 1.
4. At triggered drill protection - Fold back the cover and proceed according to step 1.

4.1.2 Threading (Not applicable to 1-phase machines)

When using different courses of thread, it is not allowed to exceed the recommendation shown in the table below. Otherwise, the depth stop bottoms or gets displaced, or - in worst case - the quill collar might brake off. See the table:

Threads	Rotation speed - 50 Hz max.	Rotation speed - 60 Hz max.
0 - 0.5 mm	440 rpm	530 rpm
0.5 - 1.0 mm	265 rpm	320 rpm
1.0 - 2.0 mm	160 rpm	190 rpm

The maximum number of reversals is 5 per minute. In order to get better quality threading, we recommend using a floating tap wrench.

See figure 9.

1. Depending on the thread depth, the spindle speed should be set differently. See thectable above.
   Select the spindle speed using the two gear levers (1) on the left side of the gearbox. See the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

Note! The machine can not be shifted during operations.

2. There are 2 different ways to reverse the spindle rotation of the machine
   - Reversing using the switch/speed selector (2), see ” Reversing by using the switch/speed selector”.
   - Automatic reversing using the level switch. The desired drill depth is set with the drill depth stop (3), see ” Automatic reversing by using the drill depth stop (optional)”.

Reversing by using the switch/speed selector

1. Follow the steps in chapter 4.1.1.
2. Set the drill depth stop in the upper position.
3. Turn the switch/speed selector to position “1” or “2”, see the table above or the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. At the desired drill depth, turn the selector anti-clockwise to position “1” or “2”.
6. Feed the spindle manually upwards with the feed lever. Turn the selector clockwise to position “0”.

Automatic reversing by using the drill depth stop (optional)

1. Press the button (1) to select automatic reversing (the light in the button lights up).
2. Follow the steps in chapter 4.1.1.
3. Set the desired thread depth with the drill depth stop.
4. Feed the spindle manually downwards with the feed lever.
5. At the desired thread depth, the machine automatically reverses the spindle rotation.
6. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation.

4.2 Machine with automatic feed

Warning: Use the lock handles to lock the drill head, table arm and the table. Make sure that the work piece is securely fastened at the table. Carefully read through the safety instructions in this manual before using the machine.
For manual drilling and threading, make sure the claw coupling is inserted.

4.2.1 Drilling

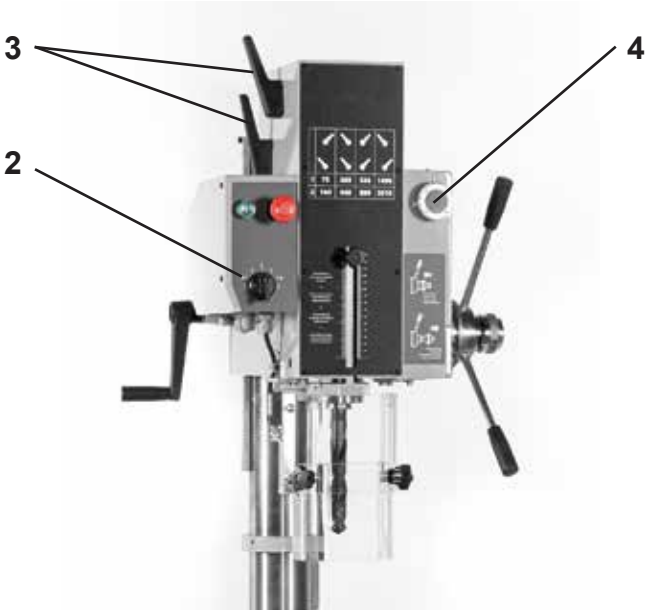


Figure 10 - Set-up

The working cycle of machine feeding is initiated as the drill spindle is fed down with the feed lever to the work piece, see chapter ”Machine feed drilling”.

See figure 10.

1. The machine is equipped with a 2-speed motor. Select the spindle speed using the two gear levers (3) on the left side of the gearbox, see the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

Note! The machine can not be shifted during operations.

2. Turn the switch/speed selector (2) to position “1” or “2”, see the sign on the front side of the machine.
3. The feed speed is set with the knob (4) on the right side of the feed box.

Note! The feed rate can be set while the machine is in operation, but not when loaded. The knob can not be turned directly from the highest to the lowest feed rate, or vice versa. You always have to go through the middle positions.

4. Use machine feed drilling according to chapter" Machine feed drilling" or feed manually according to chapter " Manual drilling".
5. At bottom holes, repeat the drilling to eliminate tensions.
6. Check the measurements and adjust the drilling depth if necessary.

Machine feed drilling

1. Make sure the claw coupling is in its outer position.
2. Set the machine fed drill depth according to chapter "Setting the drill depth" below.
3. Feed down the drill spindle with the feed lever to the work piece. When the drill pressure is on, the machine feed is connected and the machine drills to the prese drill depth. The drill spindle then returns to its original position.
   The machine feed's repeated accuracy is 0.1 – 0.2 mm. If required, the feed can becancelled by holding back the hand feed lever.

Setting the drill depth

First, set the machine fed drill depth, see figure 11:

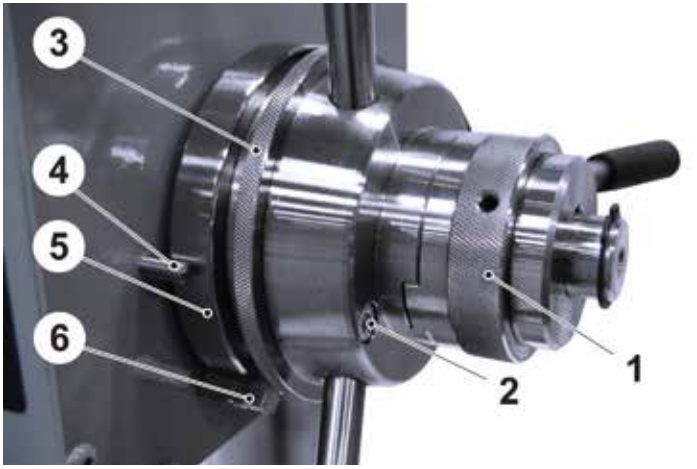


Figure 11 - Coupling

1. Lock the drill depth scale in its upper position.
2. Remove the coupling (1) towards the right.
3. Loosen the two hexagon socket head screws (2) in the hand lever fastener.
4. Feed the spindle down to the desired drill depth. In the event of machine feeding, the spindle goes approximately 3 mm longer than what is set.
   The mechanical design means that it has to be set this way.
5. Push the inner ring's (5) stop heel (6) against the top side of the stop pin (4).
6. Turn the grooved ring's (3) stopper toward the top of the stop heel.
7. Tighten both of the female screws before releasing the spindle.

Manual drilling

Note! Make sure the claw coupling is inserted.

1. Feed the spindle down to the desired drill depth.
2. Set the stop on the depth gauge rod in the desired position or else, set the stop in the upper position.

4.2.2 Threading

When threading with automatic reverse, please consider the following:

When using different courses of thread, it is not allowed to exceed the recommendation shown in the table below. Otherwise, the depth stop bottoms or gets displaced, or - in worst case - the quill collar might brake off. See the table:

Threads	Rotation speed - 50 Hz max.	Rotation speed - 60 Hz max.
0 - 0.5 mm	440 rpm	530 rpm
0.5 - 1.0 mm	265 rpm	320 rpm
1.0 - 2.0 mm	160 rpm	190 rpm

The maximum number of reversals is 5 per minute. In order to get better quality threading, we recommend using a floating tap wrench.

See figure 10.

Note! Make sure that the claw coupling is inserted.

1. Depending on the thread depth, the spindle speed should be set differently. See the table above.
   Select the spindle speed using the two gear levers (3) on the left side of the gearbox. See the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

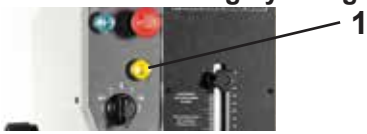
Note! The machine can not be shifted during operations.

2. There are 2 different ways to reverse the spindle rotation of the machine:
   - Reversing by using the switch/speed selector (2), see ” Reversing by using the switch/speed selector”.
   - Automatic reversing by using the level switch. The desired drill depth is set with the drill depth stop (1) , see ” Automatic reversing by using the drill depth stop (optional)”.

Reversing by using the switch/speed selector

1. Follow the steps in chapter 4.1.1.
2. Set the drill depth stop in the upper position.
3. Turn the switch/speed selector to position “1” or “2”, see the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. At the desired drill depth, turn the switch/speed selector anti-clockwise to position “1” or “2”, see the table above and the sign on the front side of the machine. Hold the feed lever to get the proper upward feed pressure.
6. Feed the spindle manually upwards with the feed lever. Turn the switch clockwise to position “0”.

Automatic reversing by using the drill depth stop (optional)



1. Press the button (1) to select automatic reversing (the light in the button lights up).
2. Follow the steps in chapter 4.1.1.
3. Set the desired thread depth with the drill depth stop.
4. Turn the switch/speed selector to position “1” or “2”, see the table above and the sign on the front side of the machine.
5. Feed the spindle manually downwards with the feed lever.
6. When reaching the desired thread depth, the machine automatically reverses the spindle rotation.
7. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation.

4.2.3 Adjusting the feed switch

The feed is set at the factory so that the machine can not be overloaded. However, after using the machine for a while, the coupling may need to be readjusted:

Note! The turning of the ring nut which is about to be performed is only marginal (a few millimeters).

1. Remove the claw coupling.
2. Disengage the locking on the ring nut.
3. The ring nut has 4 positions for locking with the locking washer. Check which position that is closest to a locking position.
4. Rotate the ring nut (pointed out in in figure 12) clockwise to this position and lock the ring nut on the locking washer. This provides a greater feeding power.

When drilling with sensible boring tools, it may be necessary to use a lower power for feeding. Adjustments are made as above, but the ring nut is rotated counter-clockwise. In the event that the drill pressure is too high, the coupling acts as an overload protection.

Figure 12 - Adjusting the feed switch

4.3 Machine with electromagnetic feed

Warning: Use the lock handles to lock the drill head, table arm and the table. Make sure that the work piece is securely fastened at the table. Carefully read through the safety instructions in this manual before using the machine.

4.3.1 Drilling

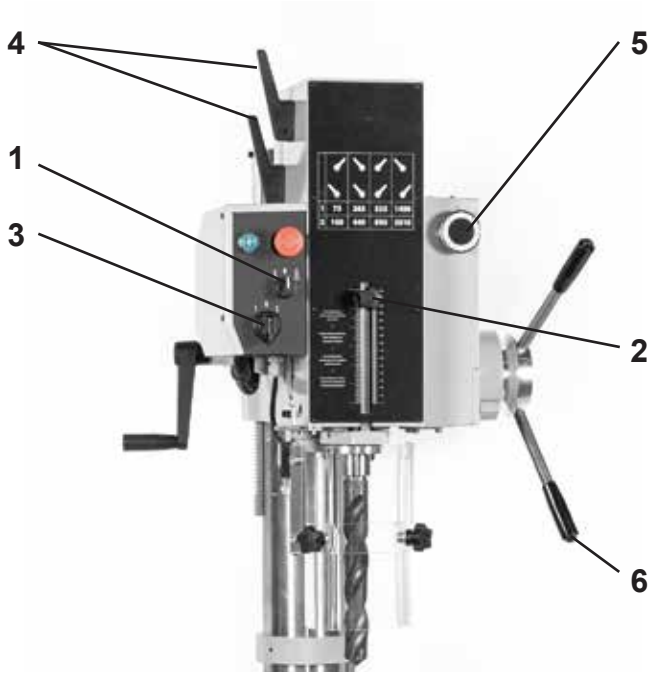


Figure 13 - Set-up, drilling

See figure 13.

Use the drill depth stop according to chapter ” Drilling by using the drill depth stop” or feed the spindle manually according to chapter ” Manual drilling”.

Drilling by using the drill depth stop

Note! The machine can not be shifted during operations.

1. Set the feeding/threading selector (1) in the feeding position.
2. The machine is equipped with a 2-speed motor. Select the spindle speed using the two gear levers (4) on the left side of the gearbox, see the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.
3. Turn the switch/speed selector (3) to position  "1" or "2", see the sign on the front side of the machine.
4. The feed speed is set with the knob (5) on the right side of the feed box.

Note! The feed rate can be set while the machine is in operation, but not when loaded.
The knob can not be turned directly from the highest to the lowest feed rate, or vice versa. You always have to go through the middle positions.

5. Set the drill depth:
   The drill depth is set with the drill depth stop (2) on the drill depth gauge.
   Feed the spindle manually downwards with the feed lever and let the drilling bit touch the material and then set the drill depth stop at the desired drill depth.
6. Begin feeding by pressing the button (6) at the end of the feed lever.
   The feed finishes as the drill depth stop touches the bottom limit. The feed stops when the spindle returns to its upper position.

Manual drilling

1. Set the feeding/threading selector (1) to the middle position.
2. Feed the spindle down to the desired drill depth.
3. Set the drill depth stop (2) in the upper position.

4.3.2 Threading

When threading with automatic reverse, please consider the following:

When using different courses of thread, it is not allowed to exceed the recommendation shown in the table below. Otherwise, the depth stop bottoms or gets displaced, or - in worst case - the quill collar might brake off. See the table:

Threads	Rotation speed - 50 Hz max.	Rotation speed - 60 Hz max.
0 - 0.5 mm	440 rpm	530 rpm
0.5 - 1.0 mm	265 rpm	320 rpm
1.0 - 2.0 mm	160 rpm	190 rpm

The maximum number of reversals is 5 per minute. In order to get better quality threading, we recommend using a floating tap wrench.
See figure 13.

Note! The machine can not be shifted during operations.

1. Depending on the thread depth, the spindle speed should be set differently. See the table above.
   Select the spindle speed using the two gear levers (4) on the left side of the gearbox. See the sign on the front side of the machine.
   If any of the gears is difficult to get into position, rotate the spindle nose manually.

2. There are 3 different ways to reverse the spindle rotation of the machine:
   - Reversing by using the switch/speed selector (3), see ” Reversing by using the switch/speed selector”.
   - Automatic reversing by using the level switch. The desired drill depth is set with the drill depth stop (2), see ” Automatic reversing by using the drill depth stop”.
   - Reversing by pressing the button (6) at the end of the feed lever, see ” Reversing by pressing the button at the feed lever”.

Automatic reversing by using the drill depth stop

1. Set the feeding/threading selector (1) to the threading position.
2. Set the desired thread depth with the drill depth stop.
3. Turn the switch/speed selector (3) to position  “1” or “2”, see the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. When reaching the desired thread depth, the machine automatically reverses the spindle rotation.
6. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation.

Reversing by pressing the button at the feed lever

1. Set the Feeding/threading selector (1) to the threading position.
2. Set the drill depth stop in the upper position.
3. Turn the switch/speed selector (3) to position  “1” or “2”, see the sign on the front side of the machine.
4. Feed the spindle manually downwards with the feed lever.
5. Reverse the spindle rotation by pressing the button at the end of the feed lever. Hold the feed handle to get proper upward pressure.
6. Feed the spindle manually upwards with the feed lever. When the spindle reaches its upper position, it automatically resets the correct spindle rotation. Alternatively, if more reversing operations will follow, press the feed lever button again in order to get the correct spindle rotation.

4.4 Drill ejector

The machine is equipped with an automatic drill ejector. Between the nose of the spindle sleeve and the spindle case, there is a stopper that prevents the spindle from reaching its upper position.

Note! When ejecting the boring tool from a machine with automatic feed, the claw coupling must be inserted.

4.4.1 Automatic ejection

To eject the drill:

1. Bend out the stopper (see the arrow in figure 14).
2. Grip the tool and hit the spindle sleeve to its upper position with the feed lever. The boring tool should be pushed out.

Figure 14 - Automatic drill ejection

3. Bend the stopper back.
4. Mount a new tool to the spindle.

4.4.2 Expeller wedge

The boring tool may become stuck in the spindle, e.g. via hard drilling pressure and heat changes in the spindle. In this case, we recommend using an expeller wedge instead of the automatic drill ejector, see figure 15.

Figure 15 - Expeller wedge

5. Maintenance

5.1 Oil filling, feed gear box

The machine is not supplied with oil in the power feed gearbox.

- The feed gear box's worm gear sits in an oil bath. Add oil via the filling hole (1) up to the middle of the level indicator (2), see figure 16. Approx. 0.3 liters should be kept available to cover the need.

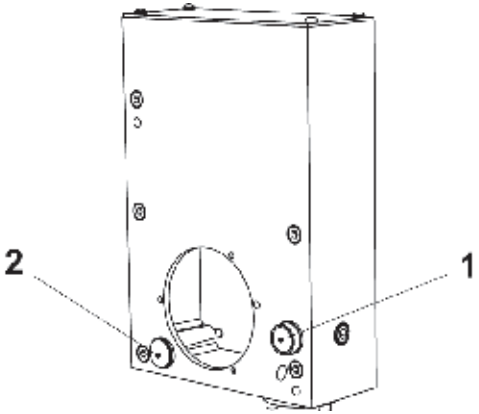


Figure 16 - Oil filling and level indicator, feed gear box

5.1.1 Oil recommendations

Proper oil should have a viscosity of 5 °E at 50 °C.

Note! The guarantee of the machine is based on the use of these oils - at normal temperatures.

Oil company	Oil type
OK Petroleum	Delta Oil 68
BP	BP Maccurant 68, BP Bartran 68
Castrol	Castrol Hyspin AWS 68
Texaco	Texaco HD 68
Statoil	Nuto H68
Mobil	Mobil DTE 26, Mobil Vactra Oil No 2
Shell	Shell Tellus Oil 68, Shell X-100 10W/30

5.2 Cleaning

- Always make sure that the boring tool tongue and cone are well-cleaned and not damaged. This to avoid unnecessary wear and tear of the drilling spindle and/or the boring tool getting caught in the spindle.
- Keep the table and work piece free from chips. Use a brush, not compressed air.

5.3 Lubrication

All ball bearings and gear wheels are lubricated at the factory.
For other lubrication; check levels regularly and apply grease if necessary, see figure 17 and figure 18.

5.3.1 Drill head

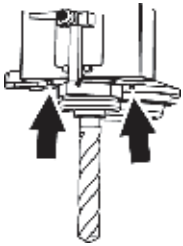


Figure 17 - Grease nipples, drill head

5.3.2 Worm gear box

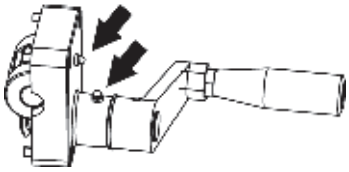


Figure 18 - Grease nipples, worm gear box

5.4 Repair

If your MSC drilling machine needs repair, contact your local retailer first and as a second option contact MSC.

6. Corrective maintenance

6.1 General

Warning: Disconnect the machine from the external mains before any dismantling takes place.

On reassembly, see to it that all surfaces are clean and that any burrs, which may have been made during disassembly, are first removed.

6.2 Adjust the taper bearing play

The spindle is journalled in the quill by a taper roller bearing at the bottom and by a radial ball bearing at the top. At the top end of the spindle, there is a nut, with which the play in the taper bearing can be adjusted. This nut can be reached, when the quill is removed from the machine as follows:

1. Remove the depth stop rod, see figure 19.

Figure 19 - Removing the depth stop rod

2. Feed out the complete quill with the feed handle. Hold the quill, so that it doesn't fall out and gets damaged.
3. Loosen the spring pressure by letting the feed handle slowly return.

4. Adjust the play at the top end of the quill by turning the nut clockwise. Make sure it does not turn heavily, see figure 20.

Figure 20 - Nut for adjusting the play of the quill

5. Turn the feed handle about two turns for counter balancing the quill.
6. Put back the quill and make sure the keys on the spindle coincide with the key ways in the spindle shaft and that the teeth of the feed shaft get the grip of the quill feed rack.
7. Let the quill return to the top position. Check the position of the feed handle and adjust by the feed shaft teeth grip another rack position.
8. If necessary, feed out the quill and turn the feed handle to further counter balance the quill as described in chapter “6.3 Counter balancing the spindle” on page 26.
9. Re-assemble the depth stop rod.

6.3 Counter balancing the spindle

Counter balance the spindle by tightening the spring in the spring housing as follows:

1. Remove the depth stop rod and feed out the complete quill, see chapter “6.2 Adjust the taper bearing play” on page 25.
2. Increase the return speed (the spring is tightened) by turning the feed handle 1/4 turn clockwise. Reduce the return speed by turning the feed handle 1/4 turn anti-clockwise.
3. Put back the quill and re-assemble the depth stop rod, see chapter “6.2 Adjust the taper bearing play” on page 25.

6.4 Motor

In case of motor failure, please contact Machinery Scandinavia for further information.

6.5 Gearbox

In case of gearbox failure, please contact Machinery Scandinavia for further information.

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