

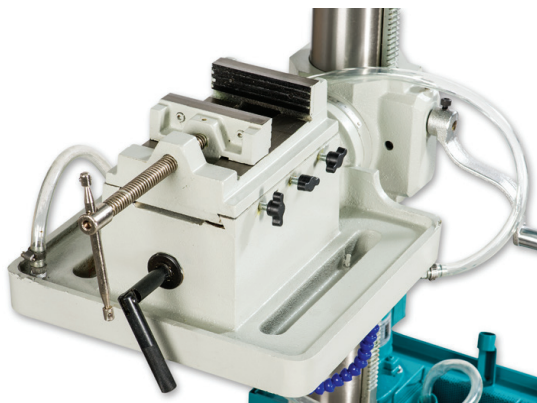
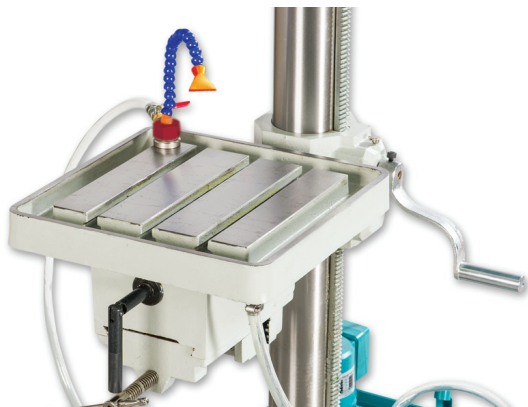
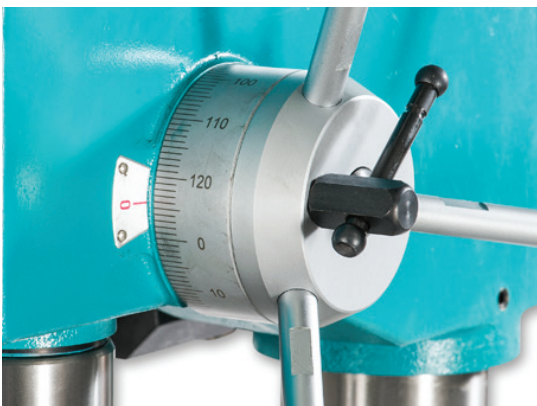
AXMINSTER
Engineer
SERIES

Code 108659

Original Instructions

SB-25AV

Floor Pillar Drill





Axminster Tool Centre Ltd



**UK DECLARATION OF CONFORMITY
'original'**

Product model: SB-25AV

Name and address of the manufacturer: Axminster Tool Centre Ltd, Unit 10 Weycroft Avenue, Axminster, Devon EX13 5PH, United Kingdom

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration: SB-25AV Floor Drill Machine

The object of the declaration described above is in conformity with the relevant GB legislation:

Supply of Machinery (Safety) Regulations 2008 as amended.
Electromagnetic Compatibility Regulations 2016 as amended.

References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:

ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)

60204-1: 2006 +AC2010/ Safety of machinery - Electrical equipment of machines - Part 1: General requirements. Industrial electrical device.

12717:2001+A1:2009 Safety of machine tools - Drilling machines

Additional information:

Name and address of person authorised to compile the technical file: Axminster Tool Centre Ltd, Unit 10 Weycroft Avenue, Axminster, Devon EX13 5PH, United Kingdom

The machinery fulfils all relevant provisions of Supply of Machinery (Safety) Regulations 2008 as amended.

Signed for and behalf of: Axminster Tool Centre Ltd;

(place and date of issue): Axminster, Devon, United Kingdom, 29th June 2022

(name, function): Andrew Parkhouse, Supply Chain Director

Signature: 



Axminster Tool Centre Ltd



**EC DECLARATION OF CONFORMITY
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(name, function): Andrew Parkhouse, Supply Chain Director

Signature:

SAFETY

Carefully read all safety message in these instructions .

Employer is responsible to perform a Hazard/PEE assessment before work activity.

Safety Warning :

- Kept guards in place and in working order.
- Remove adjusting key and wrenches, be in the habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.
- Keep work area clean. Cluttered areas and benches invite accidents.
- Do not use in a dangerous environments. Do not use a damp or wet location or expose them to rain.
- Do not force tool. Machine will do a better and safer job at for which it was designed.
- Use the right tool. Do not force the tool or use the machine to do a job for which it was not designed.
- Do not wear gloves, neckties, necklaces, rings, or loose clothing. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
- Always use safety glasses. Also use face or dust mask if cutting operation is dusty.
- Secure work. Use clamps or vise to hold work. Do not hold parts with hands.
- Do not overreach. Keep proper footing and balance at all times.
- Maintain tools with care. Keep tools sharp and clean for best and safest performance.
- Disconnect drill press from power before servicing or changing accessories such as bits, cutters, etc.
- Never stand on machine for risk of serious injury.
- Never leave tool running unattended. Turn power off. Do not leave machine until it comes to a complete stop.
- Be sure drill bit or cutting tool is securely in the chuck.
- Never place your fingers in a position where they could contact the drill or cutting tool of the work piece should unexpectedly shift.
- Never perform any operation by moving the head or table with respect to one another.
- Do not switch machine on or start any operation before checking that the head and table lock handles are clamped tight to column, and the head and table support collars are correctly positioned.
- Operation of the drill press incorrectly, or on a dangerous fashion can result in serious injury or death, damage to the machine, it's components, or cutting tool.

- The drill press is designed for drilling and boring operations. Cautions is required when operating the drill press because it can be dangerous due to the high spindle rotation speed.
- Guards such as pully cover and chuck guard must be in place and in working condition to prevent hazard.
- Switch the power off before setting, inspecting, lubricating, cleaning, or changing the drill bit.
- To clamp work piece to brace against column to prevent material rotation.
- Using recommended speed for drill bit, and work piece material.
- All visitors should be kept a safe distance from work area.
- Make workshop kid proof with padlocks, master switches, or by removing the starter key.
- Reduce the risk of accidental starting. Make sure switch is in off position before plugging in.
- Use recommended accessories. The use of improper accessories may cause risk of injury.
- Adjust the table or depth stop to avoiding drilling into the table, shut off the power. Remove the drill bit or cutting tool, and clean the table before leaving the machine.
- Do not operate until completely assembled and installed according to the instructions.
- If any part of your drill press is malfunctioning, has been damaged, or broken do not operate until the part is properly repaired or replaced.
- Lockout the motor switch when leaving the drill press. Don't perform layout, assembly, or setup work on the table while the cutting tools rotating.

Voltage Warning:

- Before connecting the machine to a power source know your incoming voltage.
- At power source with voltage greater than that specified for the machine can result in serious injury to the user and can damage the machine.
- Using a power source with voltage less than that of the machines rating can damage the motor and other components.
- If you are unsure of the voltage rating do not use the machine.

SET UP

UNCRATING AND INSTALLATION

1. Location of the drill press should be in a well-lit area with correct power supply and that will not interfere with other machines or operations.
2. Carefully uncrate machine and inspect all packing to make sure no parts are manuals are thrown out.
3. When transporting the machine please use caution. If using a sling have someone steady the machine while moving.
4. Install your drill press on a sturdy level floor surface. It must be anchored to the floor; **the machine is top heavy.**
5. Connect appropriate power to the machine. Make sure circuit breakers are suitable for the machine. Consult local codes for proper installation of machine. Always route power cables in a safe manner away from traffic areas, damp areas, heat, and moving parts.
6. After installing the drill press, use degreasing product to clean off the anti-rust oil which was applied at the factory. Then wipe machined surfaces with a light coating of lubricant oil (way oil).
7. Check for damaged parts before further use of the machine. A guard or other part that is damaged should be replaced or repaired before use. Carefully check to determine that it will operate properly and perform its intended function. Check for alignment of moving parts and binding of moving parts. Breakage of parts or mountings and or any other conditions that could be affect its operation.

GROUNDING INSTRUCTIONS

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electrical shock. This machine is equipped with an electric cord must be used with a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

- Do not modify the plug provided. If it will not fit the outlet have the proper outlet installed by a qualified electrician.
- Improper connection of the equipment grounding can result in a risk of electrical shock. The conductor with insulation having an outer surface that is green with yellow stripes is equipment grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.
- Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as whether the machine is properly grounded.
- It is not recommended to use an extension cord on the machine. If one must be used, use only a grounded cord on the machine and length of run needed.
- Repaired or replace damaged or worn cords immediately.

CONTROLS

Spindle Speed control wheel : The rotary wheel in the upper left-hand controls spindle speed. This will change speed

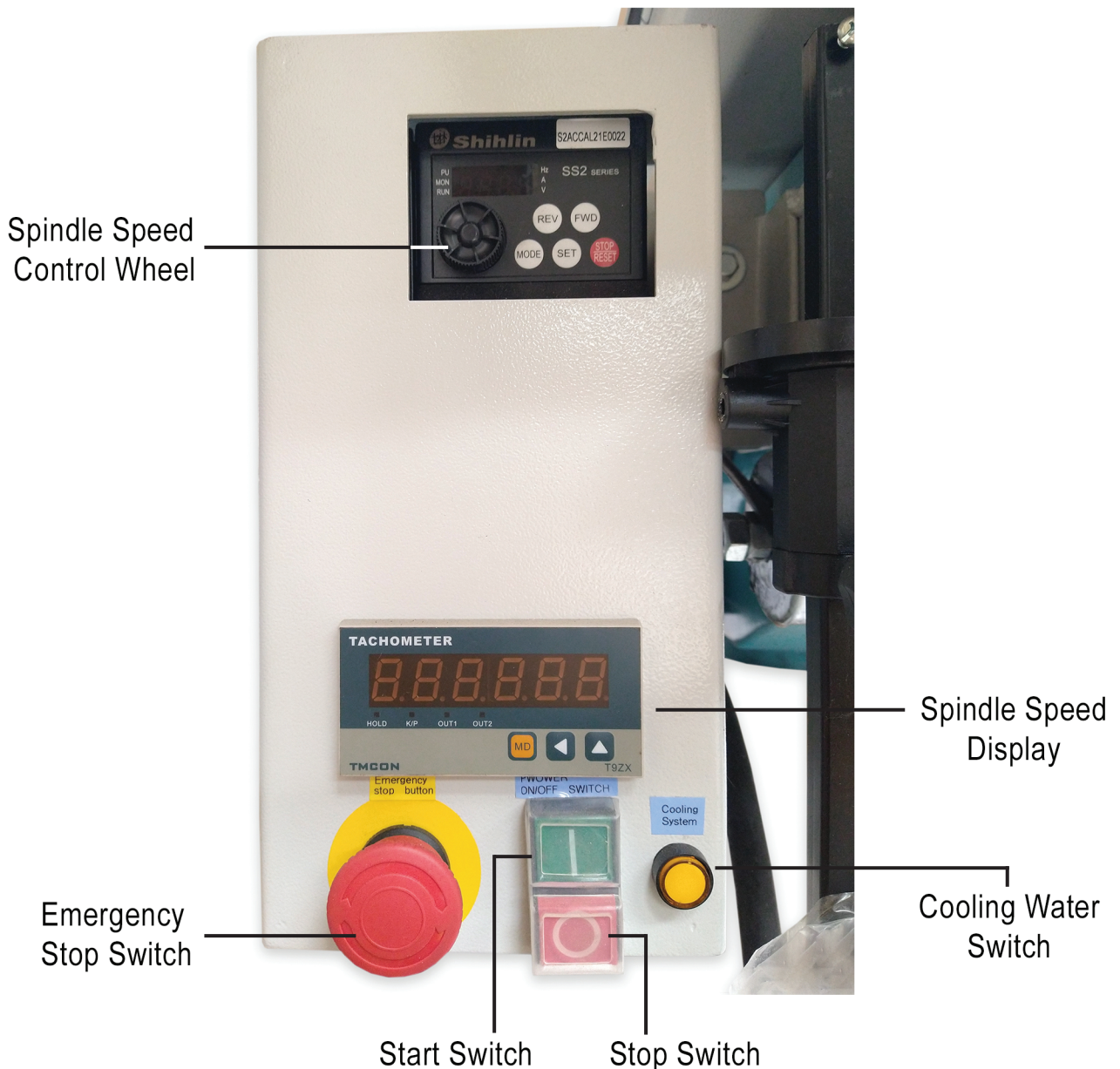
Spindle Speed Display : Display the current spindle speed rpm

Start Switch : This is used to start the machine

Stop Switch : This is used to stop the machine

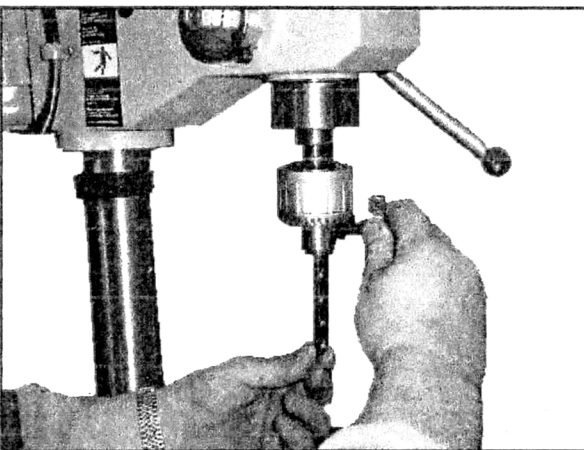
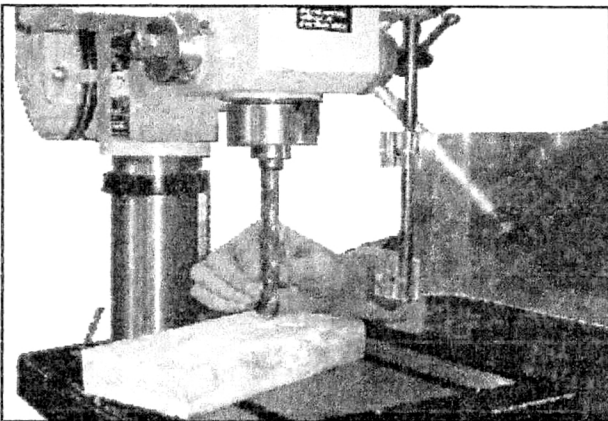
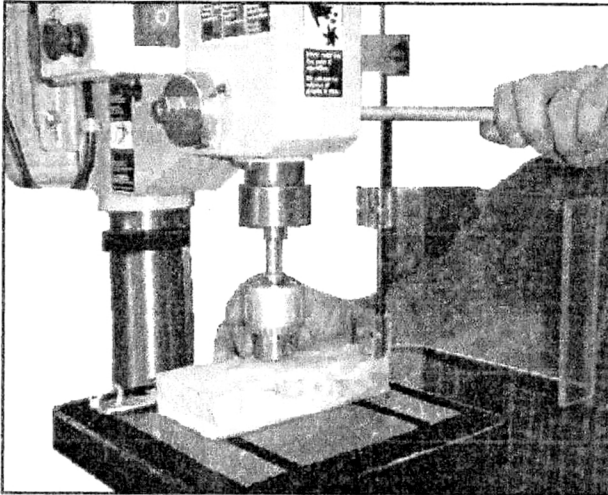
Cooling Water Switch : This is used to control cooling water

Emergency Stop Switch : When this is pressed the power to the motor and Controls is disconnected



OPERATION

! **DANGER:** To show greater detail Chuck guard is in the open position in photos. **CHUCK GUARD MUST IN PLACE DURING OPERATION!**



Drill / Chuck Installation:

! **DANGER:**
**POWER MUST BE OFF BEFORE
MAKING ANY ADJUSTMENTS!**

TURN POWER OFF! Before inserting drill bits, chucks or arbors, always clean out spindle hole and taper hole with a clean cloth.

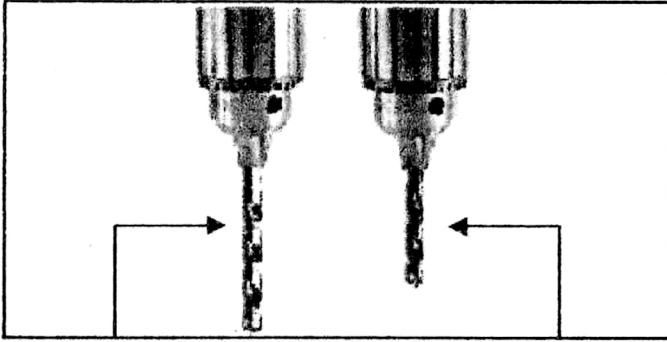
Open chuck jaws completely by turning attached chuck key counter-clockwise until the jaws are fully opened.

To install the chuck to the arbor tightly, slide the chuck into the taper forcing it into the spindle with by hand. Place a block of wood on the table then lower the spindle to make contact with the wood and press the chuck tightly into the spindles taper.

Install a taper shaft drill bit into the taper the same way as you would the chuck. If an adaptor is used it must fit the taper correctly and the bit must fit snug in the adaptor.

Installation of drill bits in the chuck:

A drill bit with a shaft of at least 1" long should be used to allow correct chuck jaw contact. If shaft length is less than 1" do not insert bit as far into the chuck where it allows jaw contact with drill flutes. Center drill bit onto the chuck and tighten the chuck securely with the chuck key.



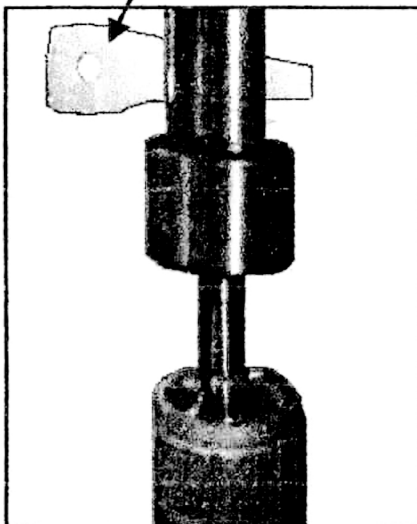
Correct: Jaws
contact drill shaft

Incorrect: Jaws
contact drill flutes

Note:

- Always use sharp, straight bits.
- Never use bits with turned down shafts.
- Never exceed the maximum diameter bit size for the machine.
- Always wear appropriate clothing while operating the drill press.
- All guards and interlocks must be in place when operating the machine.

Wedge removal tool



Tooling removal:

Before removing the chuck or bit from the machine; be sure the spindle has come to a complete stop and power is off. If needed, rotate spindle by hand to align the spindle and quill openings. Insert the wedge removal tool, while supporting the tooling, and tap the wedge to remove the tooling.

Work holding:

When drilling directly on table surface, it is recommended that a piece of wood or plywood be clamped securely to table under the work piece. This will minimize splintering or burring as the drill breaks through. It will help minimize drill bit and table damage.

Clamp the work piece to the table whenever possible. The table has "T" slots that allow for many different clamping configurations. When part cannot be affixed to the table a drill vise that is bolted in place is recommended.

Table lock

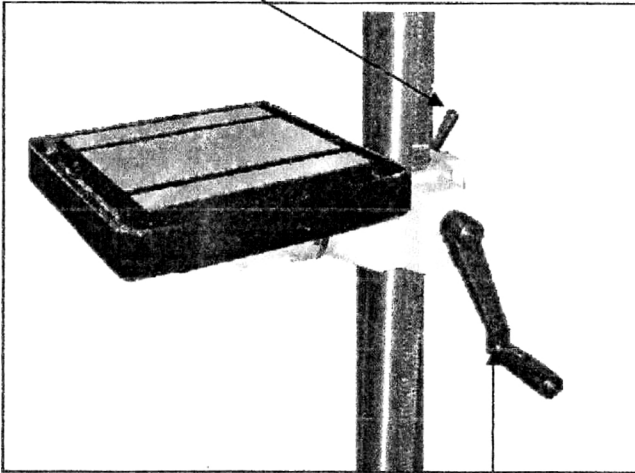


Table handle

Table height adjustment:

Table height adjustment is accomplished by loosening the clamp Bolt, then adjusting the table with the bracket handle to desired height. After table is at working height, retighten the clamp bolt securely.

Note: Keep table adjustment rack clean from debris. Never attempt to move table with clamp bolt tightened.

Table tilting adjustment:

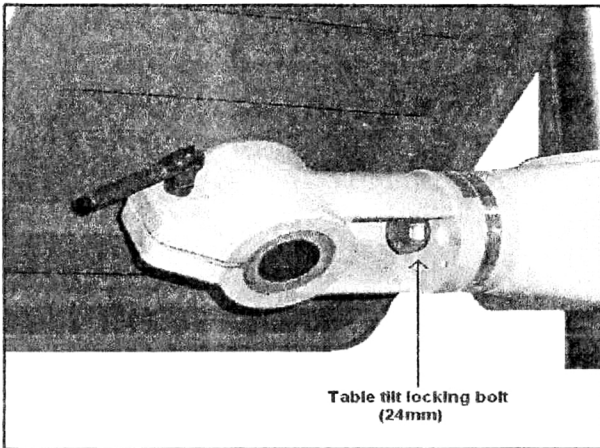
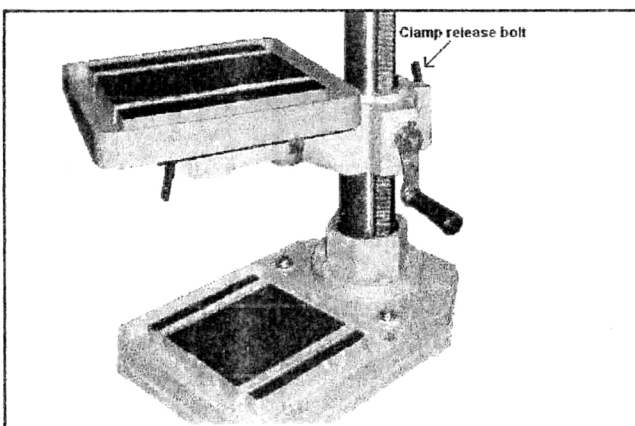


Table tilt locking bolt
(24mm)

Using an adjustable or box wrench, loosen table level lock bolt. Carefully tilt the table to the degree needed, as shown on the angle index scale located on the table rotation point. Retighten nut securely.

Note: Never tilt table if any material or fixturing is on it. Only make adjustments when table is free of loose articles.

Table swing adjustment:



Clamp release bolt

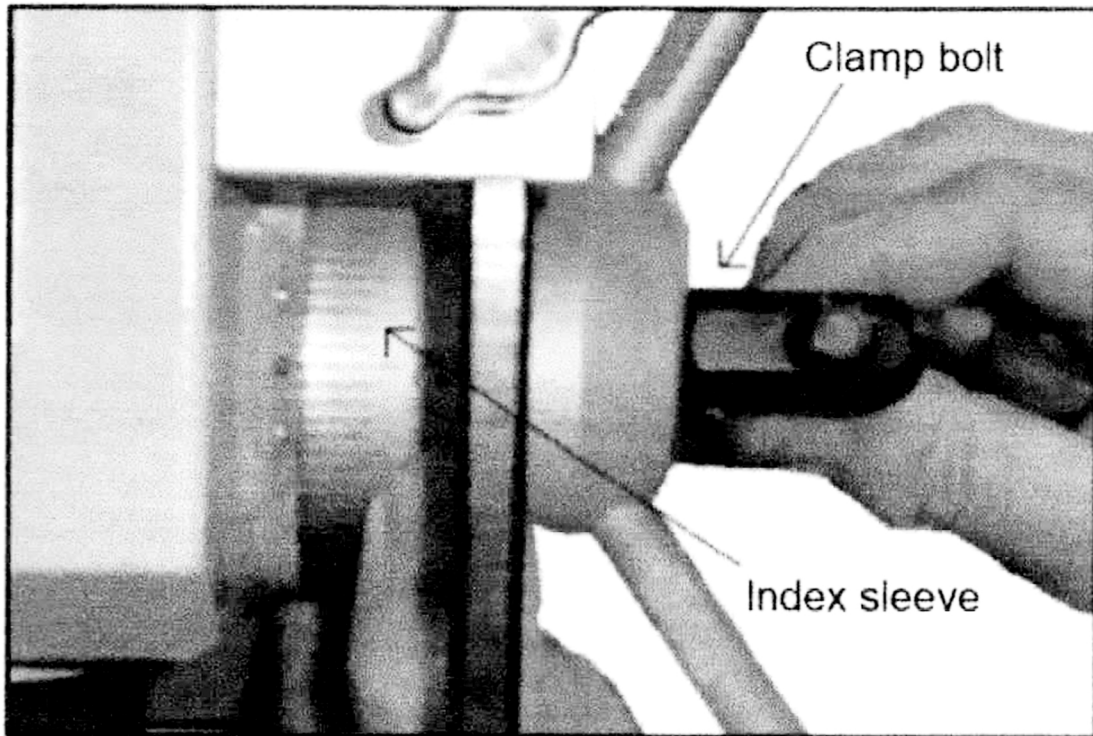
To swing the table up to 360 degrees, loosen the clamp release bolt and swing table to the desired position. After the table is in the correct position tighten clamp release bolt securely.

Note: Never swing table if any material or fixturing is on it. Only make adjustments when table is free of loose articles.

FEED DEPTH ADJUSTMENT

1. Setting the feed depth adjustment is done by loosening the clamp bolt on the spindle depth index sleeve.
2. Rotate to desired length, and securely tighten the clamp bolt.

Note: Never make this adjustment while machine is running.

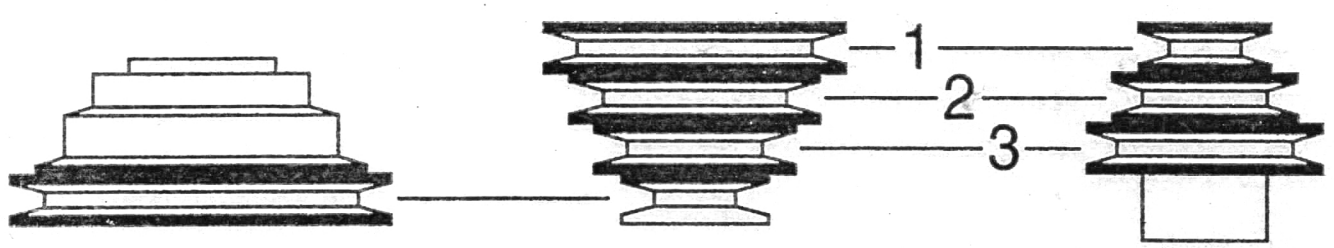


SPEED ADJUSTMENT

1. The speed can be changed using the spindle speed dial to achieve variable speeds without having to change the belt position. Only do this when machine is running.
 - a. However, if the desired speed can not be achieved in the current belt position it will need to be changed. Refer to the "Speed Adjustment Guide" next in this manual for belt position speeds.
2. **⚠ WARNING: Make sure the machine has come to a complete stop and turn power off before adjusting speed via drive belt.**
3. Open the pulley cover to expose the pulleys and drive belts.
4. Loosen the tension lock handles.
5. Choose the proper speed for drilling operation, "Speed Adjustment Guide", next in this manual.
6. Move belt to the correct step pulleys for desired speed.
7. Push the motor backwards until proper blade tension is applied, about 1/2" of deflection, see illustration below.
8. Retighten belt tension lock handle.

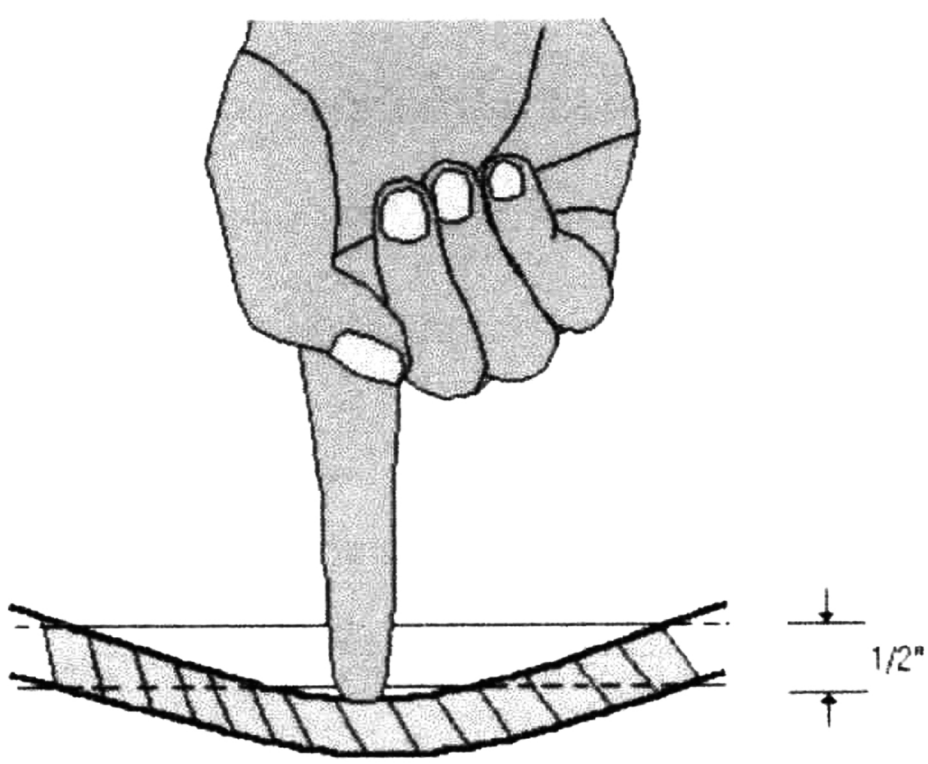
Note: If center pulley bracket does not move freely loosen spring loaded bolts 1/2 to 3/4 of a turn.

Speed Adjustment Guide:



	R P M
1	260 - 560
2	430 - 930
3	690 - 1500

Proper belt tension is approximately 10 lbs, or 1/2" of deflection.



Proper drill speed for a given drill bit size:

Drill Dia.	Material Type				
	Cast Steel	Tool Steel	Cast Iron	Mild Steel	Alum. & Copper
1/16"	2,445	3,665	4,890	6,110	12,225
1/8"	1,220	1,831	2,445	3,055	6,110
3/16"	815	1,220	1,630	2,035	4,075
1/4"	610	915	1,220	1,530	3,055
5/16"	490	735	980	1,220	2,445
3/8"	405	610	815	1,020	2,035
7/16"	350	525	700	870	1,745
1/2"	305	460	610	765	1,530
5/8"	245	365	490	610	1,220
3/4"	205	305	405	510	1,020
7/8"	174	261	348	435	762
1"	153	229	306	382	668
1-1/8"	136	204	272	340	595
1-1/4"	122	167	244	306	535

MAINTENANCE

⚠ Before performing any maintenance ensure that the machine is LOCKED OUT and unplugged.

Special maintenance operations must be carried out by skilled personnel. However, we advise contacting DAKE. The term special maintenance also covers resetting of protection/safety equipment and devices.

- On a regular basis, blow out any dust that may accumulate inside the motor (frequency depends on environment the machine is in).
- A coat of automotive wax needs to be applied to the table and column to help keep the surface clean.
- If the power cord is worn, cut, or damaged in any way have it replaced immediately.
- All ball bearings are packed with grease at the factory and require no further lubrication.
- Periodically lubricate the gear and rack table elevation mechanism, the spindle splines and rack (teeth on quill).
- After each use the machine should be cleaned.
- Weekly lubrication of all sliding or moving parts with light weight or way oil is recommended.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Machine does not turn on	Machine not plugged in	Plug in to proper receptacle
	Frequency drive has an error	Clear error by turning drill off and back on
	Too long or not correct extension cord	Remove extension cord and plug directly in to receptacle
	Emergency stop button is activated	Deactivate emergency button
	Belt cover is open	Close belt cover
Noisy Operation	Incorrect belt tension	Adjust tension, see "Speed Adjustment" section of this manual
	Loose spindle or motor pulley	Check for wear or if pulley can be tightened
	Spindle bearing worn	Replace bearing
Chuck or quills fall out	Rust inhibitor, dirt, debris in or on quill or spindle taper	Clean chuck and quill
Spindle does not move up or down	Belt is broken or slipping	Check belt for damage and replace if needed. Check for proper belt tension, see "Speed Adjustment" section of this manual
	Debris in quill	Clean quill and teeth
	Feed depth adjustment is set	See "Feed Depth Adjustment" in this manual
Spindle does not rotate	Belt tension is too loose	Tighten belt tension, see "Speed Adjustment" section of this manual
	Belt is broken or worn	Replace belt
	Taper is slipping in spindle	Clean chuck and quill
	Motor is not rotating	Troubleshoot motor or contact DAKE

ELECTRICAL WARNING

1. In the event of a malfunction or breakdown grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric code having an equipment grounding conductor. The proper plug must be used that is properly installed and grounded in accordance with all local codes and ordinances.
2. Do not modify the plug provided. If it will not fit the outlet. Have the proper outlet installed by a qualified electrician.
3. Improper connection of the equipment grounding can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with yellow stripes is equipment grounding conductor. If repair or replacement of electric code or plug is necessary, do not connect the equipment grounding conductor to live terminal.
4. Check with a qualified electrician or serviceman if the grounding instructions are not complete understood, or if in doubt as whether the machine is properly grounding
5. It is not recommended to use an extension cord on this machine. If one must be used, use only a grounded cord of proper size for machine and length of run needed.
6. Repair or replace damaged or worn cords immediately.

ELECTRICAL DIAGRAM

Coolant Water Switch

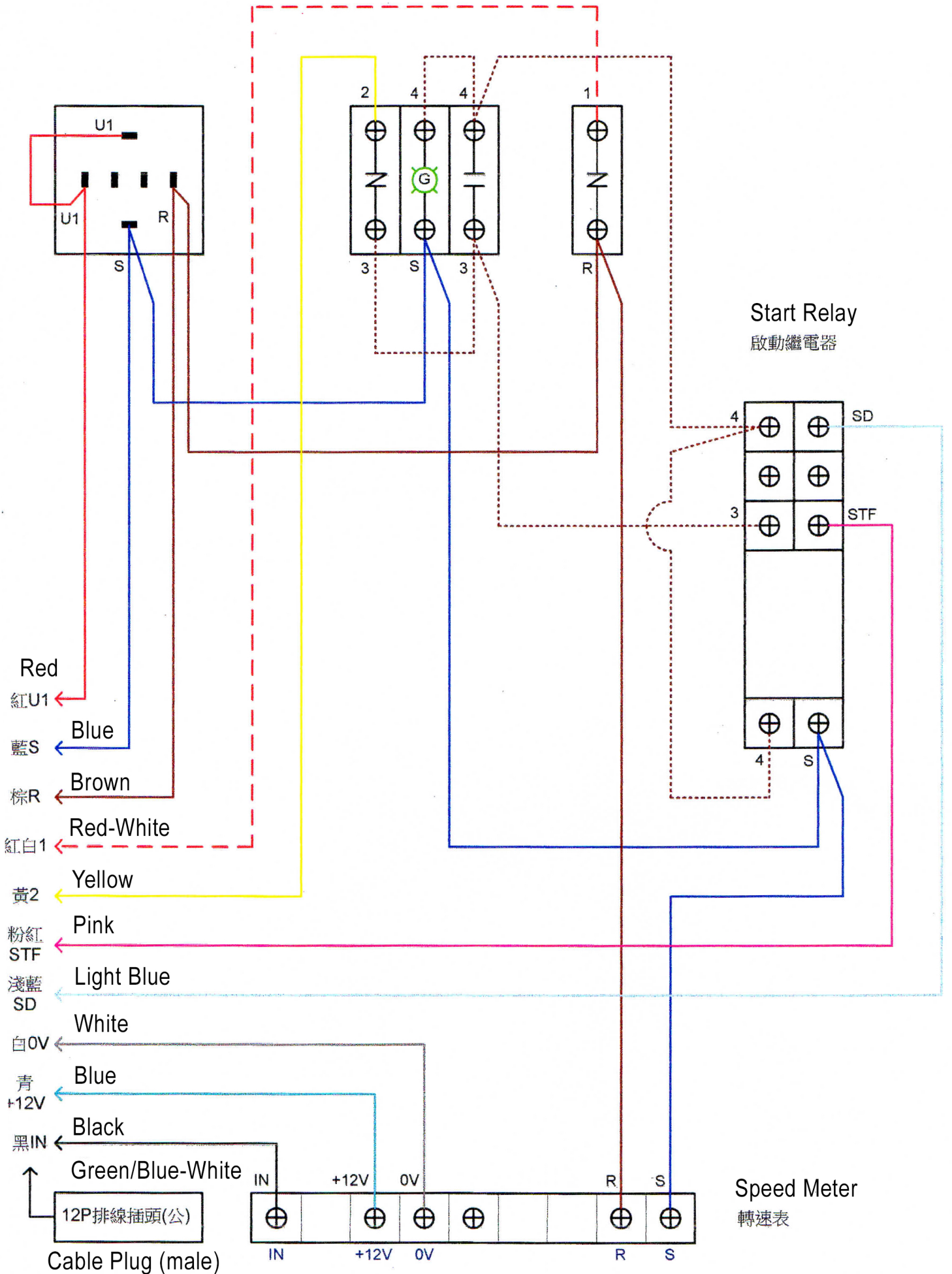
冷卻開關

Light I/O Switch

照光I/O開關

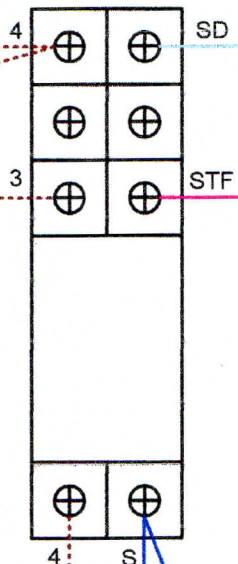
Emergency Stop Switch

急停開關



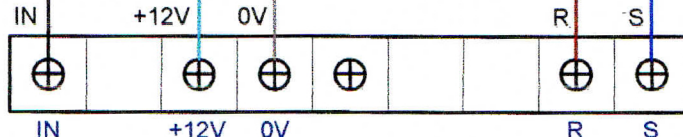
Start Relay

啟動繼電器

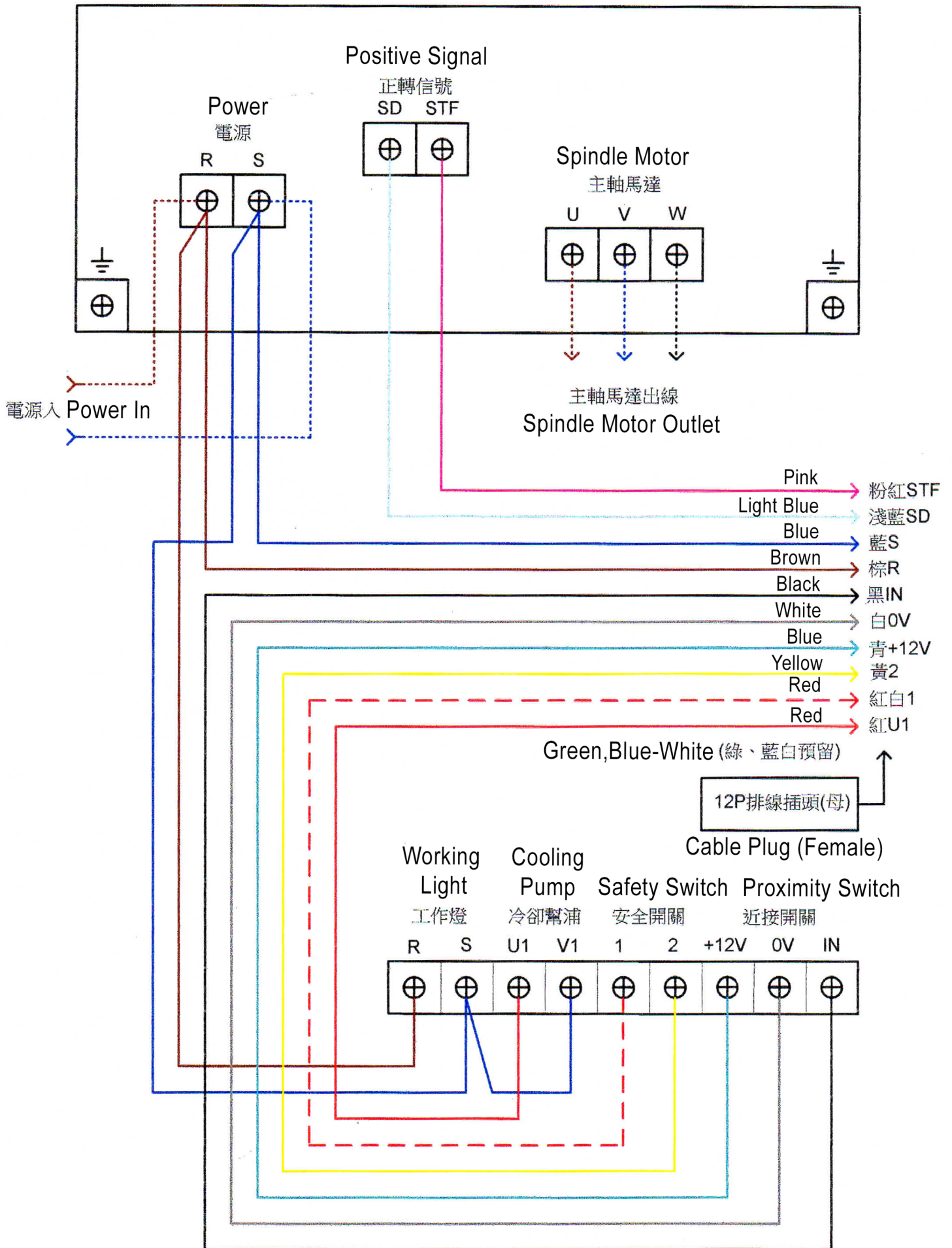


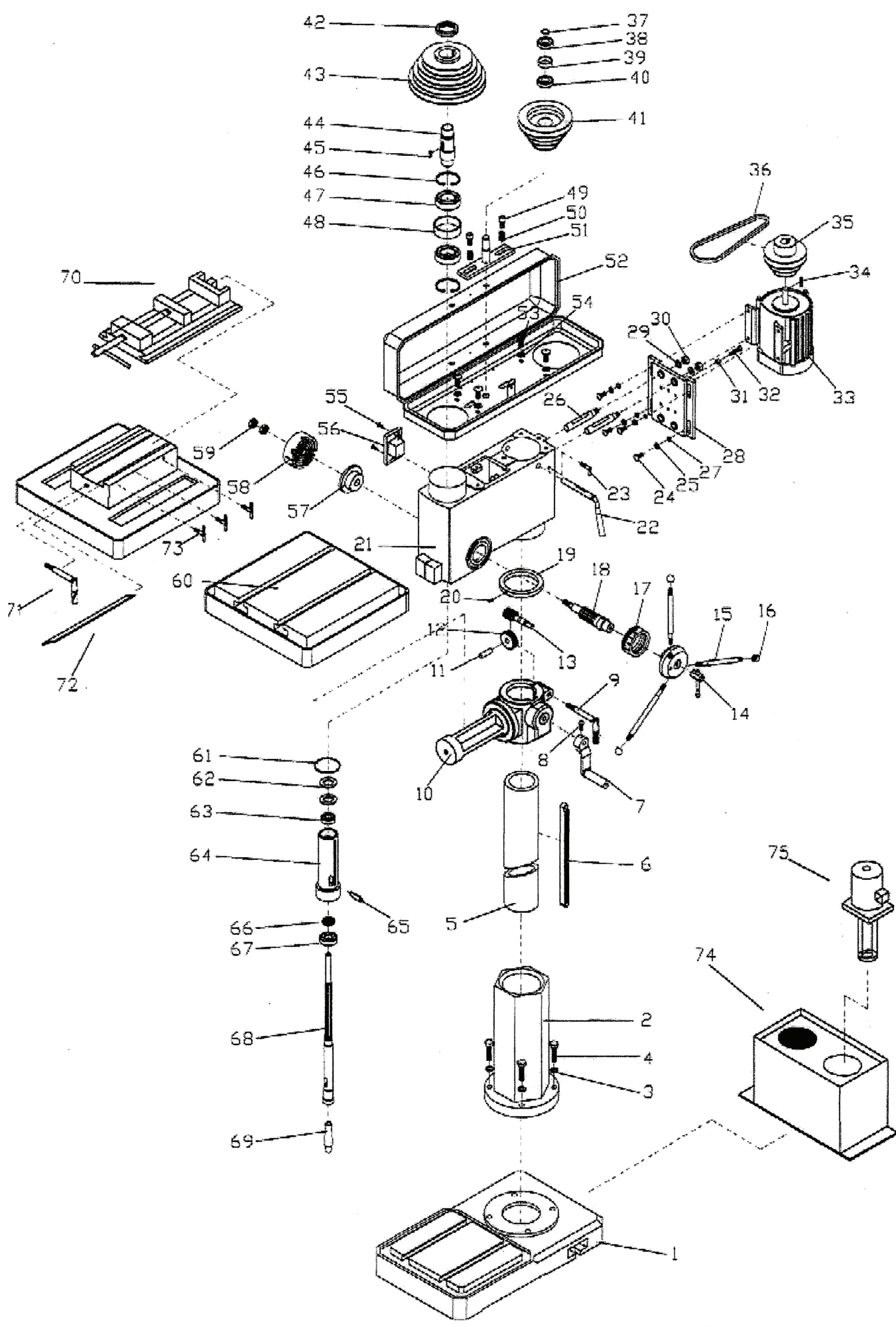
Speed Meter

轉速表



Cable Plug (male)





SB-25-AV Parts List

No	Description
1	Base
2	Flange
3	Spring washer (4x)
4	Screw
5	Column
6	Rack
7	Handle
8	Screw
9	Clamp Bolt
10	Table Bracket
11	Shaft
12	Gear
13	Worm
14	Lock Handle
15	Feed Handle (3x)
16	Knob
17	Spring Scale
18	Feed Head
19	Collar
20	Screw
21	Head
22	Belt Adjust Handle
23	Wing Bolt
24	Screw
25	Spring washer
26	Road
27	Spring washer
28	Motor Plate
29	Spring washer
30	Nut
31	Nut
32	Screw
33	Motor
34	Pin
35	Motor Pulley
36	Belt
37	C-ring

38	Bearing
39	Spacer
40	Bearing
41	Middle Pulley
42	Insert Pulley Nut
43	Spindle Pulley
44	Insert Pulley
45	Pin
46	C-ring
47	Bearing
48	Spacer
49	Screw
50	Spring
51	Middle Pulley Shall
52	Pulley cover
53	Screw
54	Washer
55	Screw
56	Switch
57	Spring Cap Base
58	Spring Cup
59	Nut
60	Table
61	Rubber Pad
62	Spindle Nut
63	Bearing
64	Quill
65	Wedge
66	Bearing Thrust
67	Bearing
68	Spindle
69	Arbor
70	Vise
71	Clamp Bolt
72	Adjust Sheet
73	Wing Bolt
74	Water Cooling Tank
75	Water Cooling Motor

The Axminster guarantee

Buy with confidence from Axminster!

So sure are we of the quality, we cover all parts and labour free of charge for three years!



For more information visit axminstertools.com/3years



The packaging is suitable for recycling.
Please dispose of it in a responsible manner.



EU Countries Only

Do not dispose of electric tools together with household waste material.
By law they must be collected and recycled separately.



Axminster Tools, Axminster Devon EX13 5PH

axminstertools.com