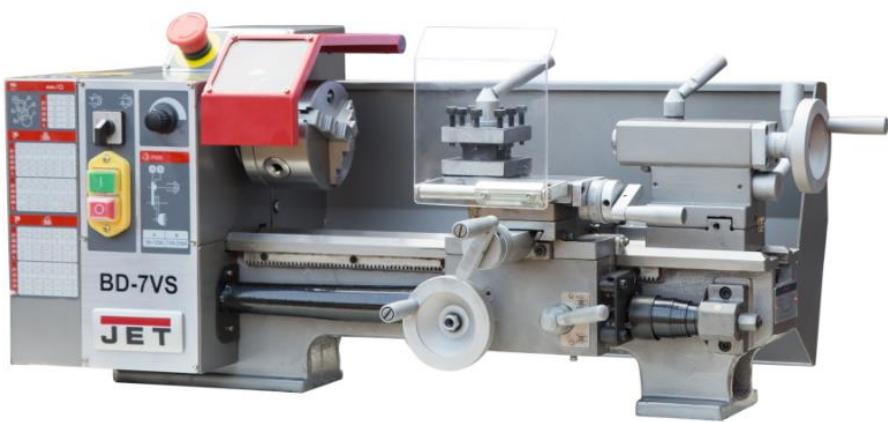


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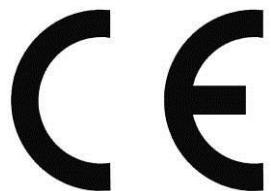
BD-7VS

OPERATING MANUAL LATHE

Original:

GB**Operating Instructions****Parts List**

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CE-Conformity Declaration

CE-Konformitätserklärung

Déclaration de Conformité CE

Product / Produkt / Produit:

Metal Lathe
Die Metall - Dreher
Tour de métal

BD-7VS

Brand / Marke / Marque:

JET

Manufacturer / Hersteller / Fabricant:

JPW (Tool) AG, Täperlistrasse 5, CH-8117 Fällanden
Schweiz / Suisse / Switzerland

We hereby declare that this product complies with the regulations
Wir erklären hiermit, dass dieses Produkt der folgenden Richtlinie entspricht
Par la présente, nous déclarons que ce produit correspond aux directives suivantes

2006/42/EC
Machinery Directive
Maschinenrichtlinie
Directive Machines

2006/95/EC
electromagnetic compatibility
elektromagnetische Verträglichkeit
compatibilité électromagnétique

Directive Basse Tension
designed in consideration of the standards
und entsprechend folgender zusätzlicher Normen entwickelt wurde
et établie dans le respect des normes complémentaires suivantes

EN ISO 12100:2010; EN 60204-1 :2006+A 1 :2009+AC:2010
EN 61000-6-2:2005; EN 61000-6-4:2007+A1:2011

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EN Operating Instructions (Original)

1.0 About this Manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a **JET Model BD-7VS Metal Lathe**. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. The machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

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3.0 IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THIS LATHE.



- To reduce risk of injury:

1. Read and understand entire owner's manual before attempting assembly or operation of this **machine**.
2. Read and understand the warnings posted on the machine and in this manual.
3. Replace warning labels if they become obscured or removed.
4. This machine is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a **metal lathe**, do not use until proper training and knowledge have been obtained.
5. Do not use this machine for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear approved safety glasses or face shield while using this machine. (Everyday eyeglasses only have impact resistant lenses; they are *not* safety glasses.)
7. Before operating this machine, remove tie, rings, watches and other jewellery, and roll sleeves up past the elbows. Remove loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do **not** wear gloves.
8. Wear hearing protection (plugs or muffs) during extended periods of operation.
9. Some dust created by sawing may contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint.
 - Crystalline silica from bricks, cement and other masonry products.
 - Arsenic and chromium from chemically treated lumber.Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the **OFF** position before connecting the machine to the power supply. Turn off all controls before unplugging.
12. Make certain the machine is properly grounded. Connect to a properly grounded outlet only. See Grounding instructions.
13. Make all machine adjustments or maintenance with the machine unplugged from the power source.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after maintenance is complete.
16. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
17. Provide for adequate space surrounding work area and non-glare, overhead lighting.
18. Keep the floor around the machine clean and free of scrap material, oil and grease.
19. Keep visitors a safe distance from the work area. **Keep children away.**
20. Make your workshop child proof with padlocks, master switches or by removing starter keys.
21. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
22. Keep an ergonomic body position. Maintain a balanced stance at all times so that you do not fall or lean against the chuck or other moving parts. Do not overreach or use excessive force to perform any machine operation.
23. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and safer.
24. The machine is intended for indoor use. To reduce the risk of electric shock, do not use outdoors or on wet surfaces.
25. Do not handle plug or machine with wet hands.
26. Use recommended accessories; improper accessories may be hazardous.
27. Maintain tools with care. Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
28. Turn off machine and disconnect from power before cleaning. Use a brush or compressed air to remove chips or debris; do not use bare hands.
29. Do not stand on the machine. Serious injury could occur if the machine tips over.
30. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
31. Remove loose items and unnecessary work pieces from the area before starting the machine.
32. Pull the mains plug if the machine is not in use.
33. Make sure the workpiece is securely clamped.

Familiarize yourself with the following safety notices used in this manual:



WARNING: This means that if precautions are not heeded, it may result in serious, or possibly even fatal, injury.



CAUTION: This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

SAVE THESE INSTRUCTIONS



WARNING:

These symbols below advise that you follow the correct safety procedures when using this machine.



Read and understand the entire user manual before attempting assembly or machine operation.



Any work piece stock extending the rear end of the headstock must be covered on its entire length. High danger of injury



Always wear approved working outfit
Wear safety goggles.
Wear ear protection.



Do not operate this machine under the influence of drugs, alcohol or medication



Always wear the approved working outfit
Wear safety shoes.
Remove tie, rings, watches, jewellery.
Roll up sleeves above elbows.
Remove all loose clothing and confine long hair



Do not wear gloves while operating this machine



Make all machine adjustments or maintenance with the machine unplugged from the power source.



Connection and repair work on the electrical installation may be carried out by a qualified electrician only.



Never reach into the machine while it is operating or running down.

3.1 Designated use and limitations to use

The machine is designed for turning and drilling machinable metal and plastic materials only.

The workpiece must allow to safely be loaded, supported and clamped.

The machine is intended for indoor use. The protection rating of the electrical installation is IP 54.

To avoid tipping, the machine must be bolted down with **two** anchor bolts.

If used for other purposes, **JET** disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.



WARNING:

The machine is not suitable for machining magnesium...high danger to fire!

Never place your fingers in a position where they could contact any rotating parts or chips.

Check the save clamping of the work piece before starting the machine.

Don't exceed the clamping range of the chuck.

Work pieces longer than 3 times the chucking diameter need to be supported by the tailstock or a steady rest.

Avoid small chucking diameters at big turning diameters. Avoid short chucking lengths and small chucking contact.

Do not exceed the max speed of the work holding device.

Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.

Use recommended accessories; improper accessories may be hazardous.

Maintain tools with care. Keep cutting tools sharp and clean for the best and safest performance.

Follow instructions for lubricating and changing accessories.

Do not attempt to adjust or remove tools during operation.

Never stop a rotating chuck or workpiece with your hands.

Choose a small spindle speed when working unbalanced work pieces and for threading and tapping operations.

Any work piece stock extending the rear end of the headstock must be covered on its entire length. High danger of injury!

Long work pieces may need a steady rest support. A long and thin work piece can suddenly bend at high speed rotation.

Never move the tailstock or tailstock quill while the machine is running.

Remove cutting chips with the aid of an appropriate chip hook when the machine is at a standstill only.

Measurements and adjustments may be carried out when the machine is at a standstill only.

Maintenance and repair work may only be carried out after the machine is protected against accidental starting, pull the mains plug.

Remove loose items and unnecessary work pieces from the area before starting the machine.

Rotate workpiece by hand before applying power. Use lowest speed when starting new workpiece.

Tighten all locks before operating.

3.2 Remaining hazards

When using the machine according to regulations some remaining hazards may still exist.

The rotating work piece and chuck can cause injury.

Thrown and hot work pieces and cutting chips can lead to injury.

Chips and noise can be health hazards. Be sure to wear personal protection gear such as safety goggles and ear protection.

The use of incorrect mains supply or a damaged power cord can lead to injuries caused by electricity.

When opening the electrical cabinet, the grid-feeding voltage persists. Therefore pay attention every time you enter it.

4.0 Specifications

Model number..... BD-7VS
Stock number..... 50000910M

Motor and electrics:

Motor type..... DC-motor, variable speed
Motor power 0.6 kW
Power supply 1~230V, PE, 50Hz
Protection class IP54
Listed load amps..... 2.2 A

Capacities:

Centre height..... 90 mm
Swing over bed 180 mm
Swing over cross slide..... 110 mm
Distance between Centres..... 300 mm

Spindle:

Spindle nose mounting cylindrical mount ($\varnothing 100\text{mm}$, $\varnothing 72\text{mm}$, $\varnothing 84 \times 3 \times \varnothing 9$)
Spindle bore..... 21 mm
Spindle taper MT3
Number of spindle speeds variable
Range of spindle speeds 50~1250 & 100~2500 min

Tailstock:

Tailstock ram travel 50 mm
Tailstock taper MT2

Tool Slide:

Cross slide travel..... 85 mm
Top slide travel 75 mm
Tool size max 10x10 mm
Lead screw pitch2 mm
Longitudinal feed (2x) 0.1 & 0.2 mm/rev
Metric threads (14x) 0.25 ~ 3.0mm/rev
Inch threads..... (12x) 8 ~ 44 TPI

Materials:

Headstock, tailstock, slides Cast iron
Spindle bearings Taper roller bearings, quality level P5

Sound emission in idle 1 73.4 dB (LpA)
Sound emission during cutting 1 78.3 dB (LpA)

¹ Sound emission measured in 1m distance, 1.6m above ground. The specified values are emission levels and are not necessarily to be seen as safe operating levels. As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.

Dimensions and Weights:

Overall dimensions, assembled (W x D x H) 800 x 460 x 40 mm
Shipping dimensions (W x D x H) 820 x 480 x 510 mm
Net weight (approximate) 65 kg
Shipping weight (approximate) 75 kg

L = length; W = width; H= height; D= depth

The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.

4.1 Spindle nose mounting:

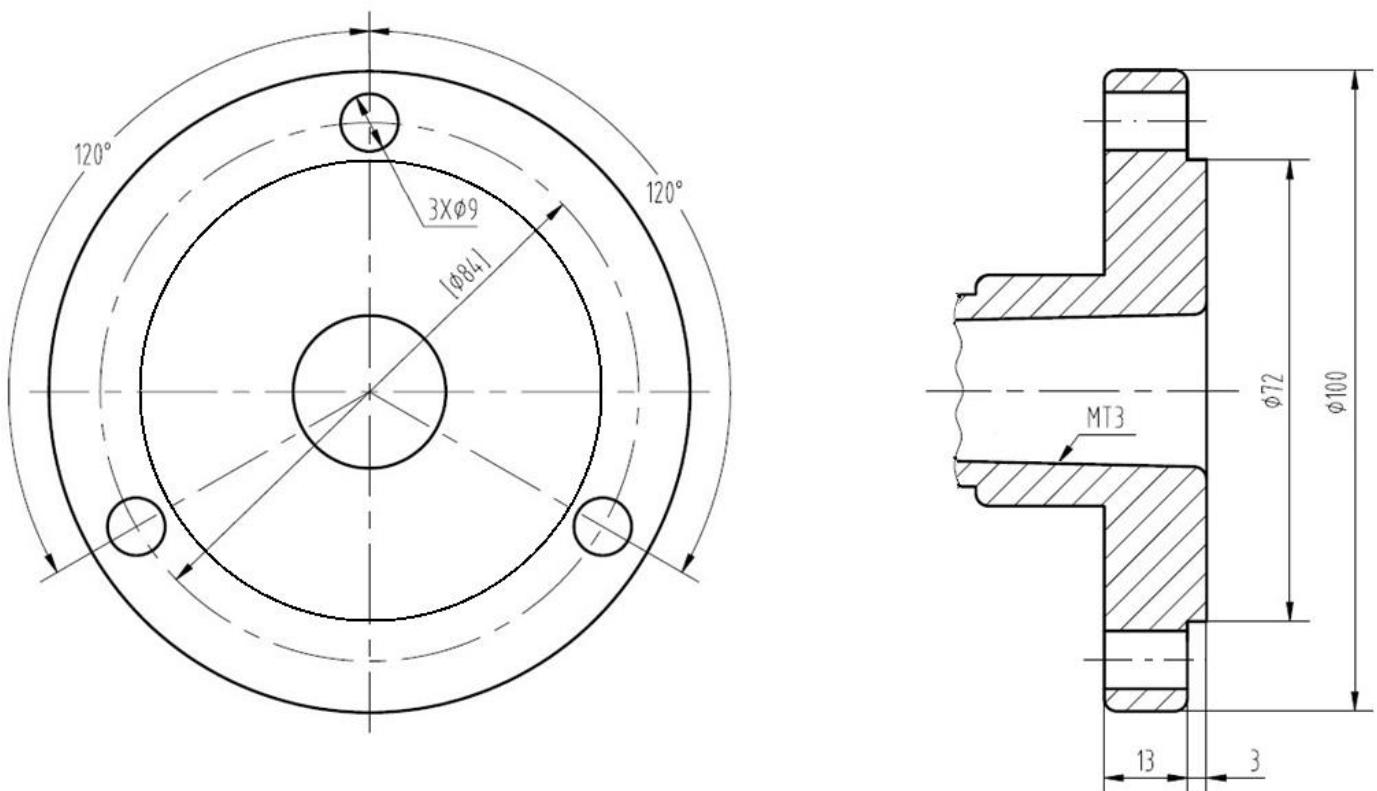


Figure 4-1: Spindle nose mounting

4.2 Anchor bolt hole pattern:

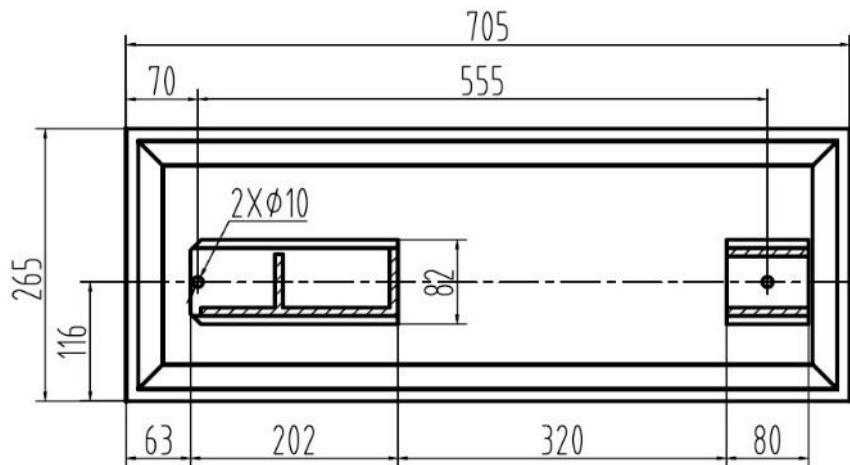


Figure 4-2: Lathe Bed anchor bolt pattern



WARNING:

To avoid tipping, the machine must be bolted down **with two** anchor bolts (not provided).

5.0 Machine Description

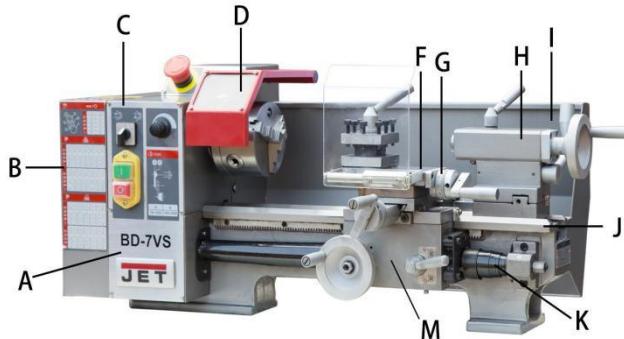


Figure 5-1: Machine description

- A Change gear quadrant
- B Pulley cover
- C Headstock
- D Chuck and chuck guard
- E Tool post and tool post guard
- F Top slide
- G Carriage Lock
- H Tailstock
- I Splash guard
- J Lathe bed
- K Lead screw
- L Chip tray
- M Apron

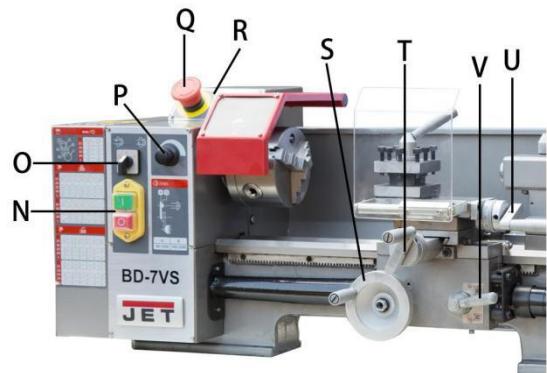


Figure 5-2: Machine description

- N Spindle power ON/OFF
- O Spindle forward/reverse
- P Variable speed select knob
- Q Emergency Stop
- R Spindle speed display
- S Apron hand wheel
- T Cross slide hand wheel
- U Top slide hand wheel
- V Half-nut lever
- W Top slide taper adjustment

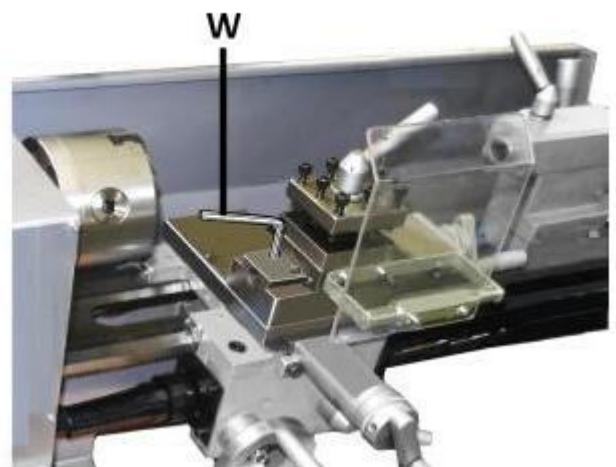


Figure 5-3 Machine description

6.0 Setup and Assembly



WARNING:

Read and understand the entire contents of this manual before attempting assembly or operation. Failure to comply may cause serious injury.

6.1 Unpacking and clean up

Remove all contents from shipping crate and compare parts to the contents list in this manual. If shipping damage or any part shortages are identified, contact your distributor. Do not discard crate or packing material until drill press is assembled and running satisfactorily.

Clean all rust protected surfaces with kerosene or a light solvent. Do not use lacquer thinner, paint thinner or gasoline, as these can damage plastic components and painted surfaces.

6.2 Shipping contents

- 1 Machine
- 1 Cabinet stand (Optional)
- 1 Coolant facility (Optional)
- 1 Machine lamp (Optional)
- 1 100mm 3-jaw universal chuck
- 1 100mm 4-jaw chuck (Optional)
- 1 170mm Face plate (Optional)
- 1 Chuck guard
- 1 4-way tool post
- 1 Tool post guard (Optional)
- 1 Set of change gears
- 1 MT3 fixed centre
- 1 MT2 fixed centre
- 1 MT2 live centre (Optional)
- 1 Follow rest (Optional)
- 1 Steady rest (Optional)
- 1 Operating tools in tool box
- 1 Oil can
- 1 Operating instructions and parts manual

6.3 Assembly

The machine comes completely assembled.

Install the drive belt (V-belt).

Inspect that all fasteners are tight.

6.4 Initial lubrication

The machine must be serviced at all lubrication points before it is placed into service (see chapter 11.1 for lubrication).

6.5 Installation

Unbolt the lathe from the shipping crate bottom.

Use heavy duty fibre belt for lifting the machine off the pallet.



Warning:

The machine is heavy (75 kg)!

Assure the sufficient load capacity and proper condition of your lifting devices.

Never step underneath suspended loads.

To avoid tipping, the machine must be bolted down with two anchor bolts (not provided).

To avoid twisting the bed, make sure the setup surface is absolutely flat and level.

Loosen anchor bolts, shim and tighten bolts if needed.

The machine must be level to be accurate!

7.0 Electrical Connections



WARNING:

All electrical connections must be done by a qualified electrician in compliance with all local codes and ordinances. Failure to comply may result in serious injury.

The BD-7VS Metal Lathes are rated at 1~230V, PE, 50Hz power supply. The machines come with a plug designed for use on a circuit with a *grounded outlet*.

Mains connection and any extension cords and plugs used must comply with the information on the machine license plate.

The mains connection must have a 16A surge-proof fuse.

Only use extension cords marked H07RN-F, with wires 1,5mm² or more. Steady rest (Optional)

The total length of cord may not exceed 18 Meter

Power cords and plugs must be free from defects.

Connections and repairs to the electrical equipment may only be carried out by qualified electricians.

The machine is equipped with 1.8m power cord and plug.

Before connecting to power source, be sure main switch is in off position.

7.1 Grounding instructions

This tool must be grounded. 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 tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be inserted into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.



WARNING:

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether

the outlet is properly grounded. Do not modify the plug provided with the tool.

The green/yellow conductor is the 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.

Use only 3-wire extension cords with grounding plugs.

Repair or replace damaged or worn cord immediately.

7.2 Extension cords

The use of extension cords is discouraged; try to position machines near the power source. If an extension cord is necessary, make sure it is in good condition.

An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

Only use extension cords marked H07RN-F, with wires 1,5mm² or more.

The total length of cord may not exceed 18 Meter

Extension cords and plugs must be free from defects.

Remove the pulley cover (C, Fig 5-1) to change the belt position.

8.2 Change gear setup

Remove the pulley cover.

The rotational speed of the lead screw, and hence the rate of feed of the cutting tool, is determined by the gear configuration and by the feed speed select lever (R, Fig 5-2).

Assemble the gears with desired setup (Fig 8-2)

		mm / °								
		Z1	Z2	Z3	Z4	L	0.10	0.20	75	75
		Z1	Z2	Z3	Z4	L	30	40	80	80
		Z1	Z2	Z3	Z4	L	20	30	42	30
		Z1	Z2	Z3	Z4	L	80	75	80	80
		0.25	0.40	0.50	0.60	0.70	0.75	0.80		
Z1	-	-	-	-	-	-	-	-		
Z2	52	52	52	60	50	75	75	80		
Z3	80	80	60	50	60	40	40			
Z4	20	30	30	30	42	30	30			
L	80	75	80	80	80	80	80	75		
		1.00	1.25	1.50	1.75	2.00	2.50	3.00		
Z1	60	-	-	-	75	-	-			
Z2	-	52	80	80	-	52	75			
Z3	-	40	20	20	-	80	20			
Z4	42	50	30	35	60	75	60			
L	80	80	80	80	40	30	80			
		8.0	10	11	14	16	19			
Z1	-	-	-	-	-	-	80			
Z2	80	52	75	52	75	-				
Z3	30	60	40	33	42	-				
Z4	50	80	60	60	50	30				
L	42	42	52	80	60	60				
		20	22	28	38	40	44			
Z1	-	-	-	-	-	-				
Z2	80	80	80	50	60	60				
Z3	40	40	33	60	52	52				
Z4	33	30	30	40	33	30				
L	52	52	80	80	80	80				

Figure 8-2: Change gear setup

Adjust gears to mesh with upper and lower gear.

Placing ordinary paper in between gears helps to adjust for correct gear spacing (... remove the paper afterwards!).

Reinstall the pulley cover.

Figure 8-1: Spindle speed range setup

A 50~1250 RPM for maximum torque.

B 100~2500 RPM for maximum speed.

8.3 Taper turning with tailstock

Mount the work piece fitted with the drive dog between centres. The drive dog is driven by the face plate.

Lubricate the tailstock centre with grease to prevent tip from overheating.

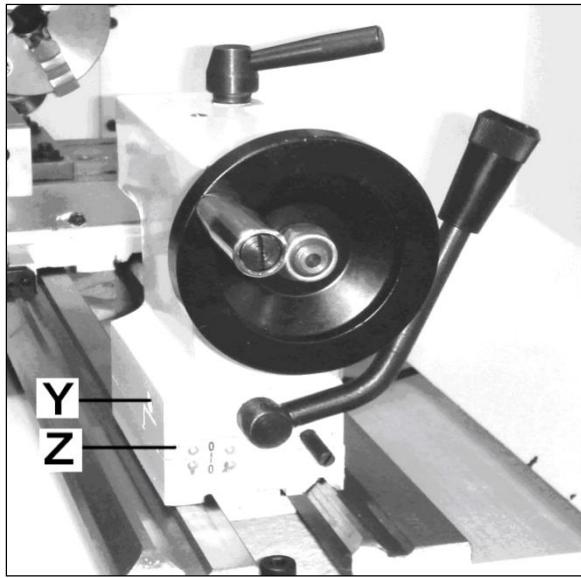


Figure 8-3: Taper turning between centres

To turn a taper, offset the tailstock, loosen the locking screws (Z, Fig 8-3) and use screws (Y) to adjust.

After taper turning, the tailstock must be returned to its original position. Turn a test piece and adjust until the machine turns a perfect cylinder.

8.4 Taper turning with top slide

By angling the top slide, tapers may be turned.

Loosen hex socket bolts with 4mm allen wrench (W, Fig 8-4) and rotate the top slide according to the graduated scale.

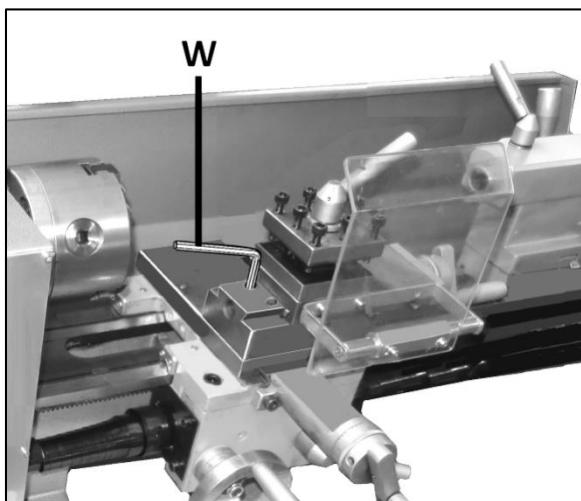


Figure 8-4: Taper turning with top slide

8.5 Three jaw universal chuck

With this universal chuck, cylindrical, triangular and hexagonal stock may be clamped (Fig 8-5).

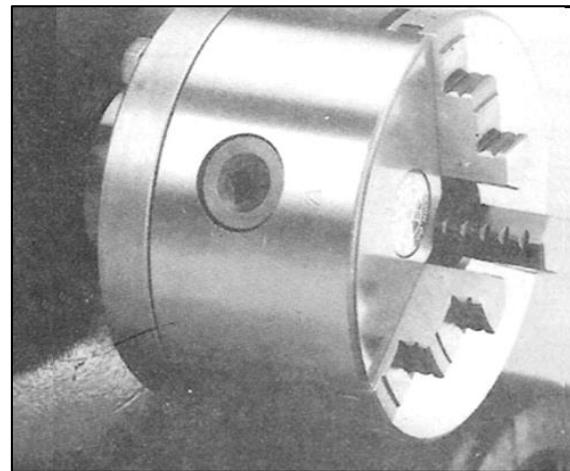


Figure 8-5: Three jaw universal chuck

To hold big diameter stock, a set of OD chuck jaws is supplied.

The jaws need to be inserted to the chuck in the correct order.

Use Molykote Paste G (or adequate grease) to lubricate the jaws.

8.6 Four jaw independent chuck (Optional)

This chuck has four independently adjustable chuck jaws (Fig 8-6).

These permit the holding of square and asymmetrical pieces and enables accurate concentric set-up of cylindrical pieces.



Figure 8-6: Four jaw independent chuck

8.7 Live centre (Optional)

The live centre (Fig 8-7) is mounted in ball bearings.

Its use is highly recommended for speeds above 500 RPM.

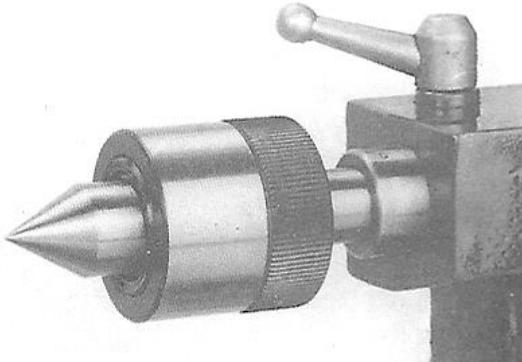


Figure 8-7: Live centre

To eject the live centre, fully retract the tailstock quill.

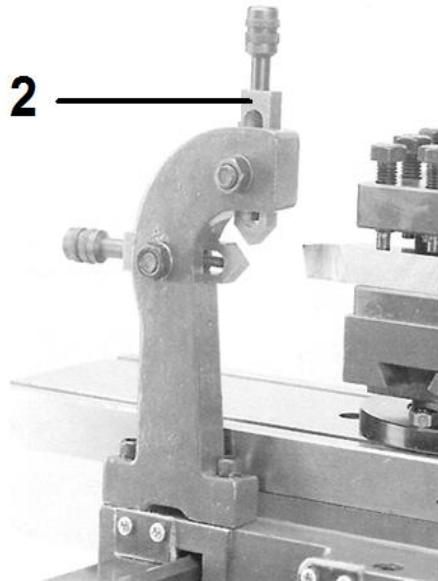


Figure 8-9: Follow rest

Set the fingers (2) snug but not overly tight.
Lubricate the fingers to prevent premature wear.

8.8 Steady rest and follow rest

The rests prevent flexing of long and thin work pieces under pressure from the tool.

The steady rest (Fig 8-8) serves as a support for longer shafts and ensures a safe and chatter free operation.

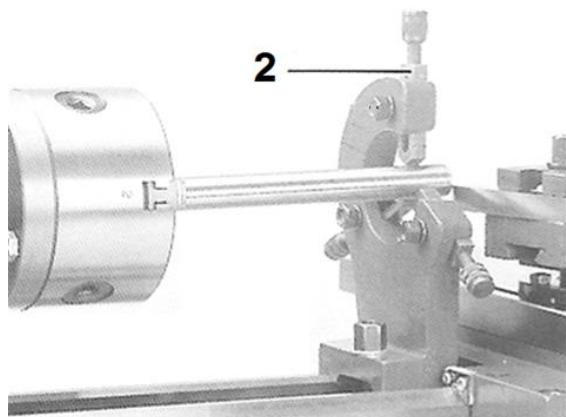


Figure 8-8: Steady rest

The follow rest (Fig 8-9) is mounted on the carriage and follows the movement of the tool.

9.0 Operating Controls

Refer to Figure 9-1:

- N Spindle power ON/OFF
- O Spindle forward/reverse
- P Variable speed select knob
- Q Emergency Stop
- R Spindle speed display

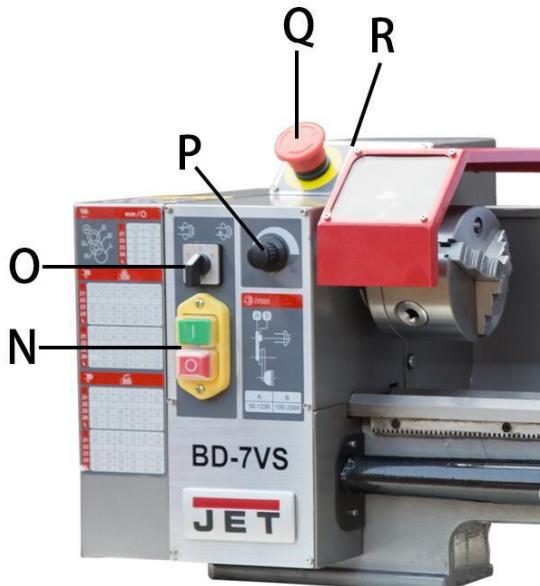


Figure 9-1: Operating Controls

10.0 Machine Operation

10.1 Cutting execution

Before starting the machine check the proper chucking.

Close the chuck guard and pulley cover before you start the machine.

Select running direction, forward or reverse (O, Fig 9-1).

You can start the machine with the green ON-button (N).

The red OFF-button stops the machine.

The speed can be adjusted with the variable speed select knob (P).

The spindle speed will be shown on the display (R).

The emergency stop button (Q) stops all machine functions.

Turn emergency stop button clockwise to reset.

Unplug the machine if not in use!

10.2 Chucking

Do not exceed the max speed of the work holding device.

Jaw teeth and scroll must always be fully engaged. Otherwise chuck jaws may break and fly off in rotation (Fig 10-1).

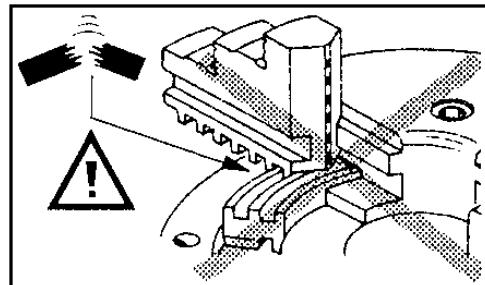


Figure 10-1: Poor jaw engagements

Avoid long workpiece extensions. Parts may bend (Fig 10-2) or fly off (Fig 10-3). Use tailstock or rest to support.

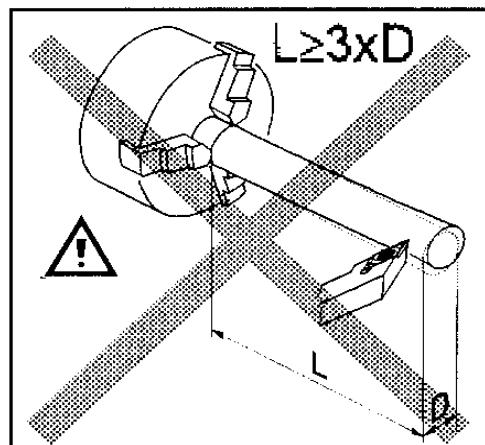


Figure 10-2: Workpiece too long

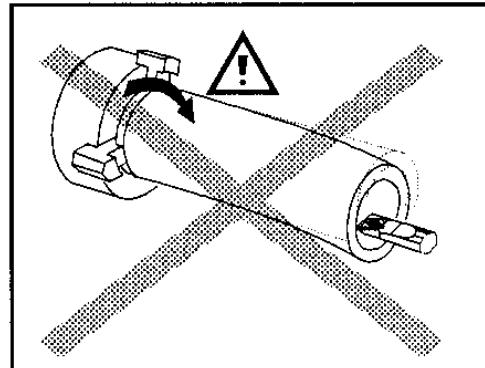


Figure 10-3: Workpiece too long

Avoid short clamping contact (A, Fig 10-4) or clamping on a minor diameter (B). Face locate workpiece for added support

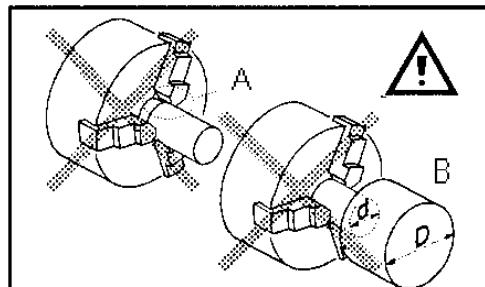


Figure 10-4: Poor clamping

10.3 Cutting Tool Setup

The cutting angle is correct when the cutting edge is in line with the centre axis of the work piece. Use the point of the tailstock centre as a gauge and shims under the tool to obtain the correct centre height (Fig 10-5).

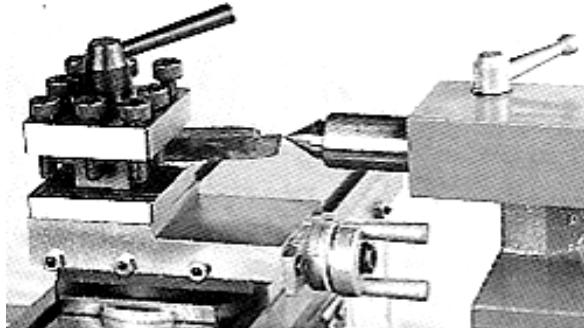


Figure 10-5: Cutting tool setup

Use a minimum of two screws to clamp the cutting tool.

Avoid large tool extensions.

10.4 Recommended spindle speeds

ATTENTION:

Generally speaking, the smaller the **cut diameter**, the greater the RPM required. Soft materials require higher speeds; hard metals slower speeds.

Metal is usually **machined** at slower speeds and cutting oil is applied.

Recommended speeds for cutting 10mm diameter, with HSS tools (High speed steel tools):

Plastic: 2500 RPM

Aluminium:..... 2500 RPM

Brass: 1000 RPM

Cast iron: 1000 RPM

Mild steel:..... 800 RPM

High carbon steel: 600 RPM

Stainless steel:..... 300 RPM

For carbide tools (HM), 5 times higher speeds can be chosen.

For example:

Turning mild steel at a diameter of 20mm allows

With HSS tool400 RPM

With carbide tool.2000 RPM

10.5 Manual turning

Apron travel (S, Fig 10-6), cross travel (T) and top slide travel (U) can be operated for longitudinal and cross feeding.

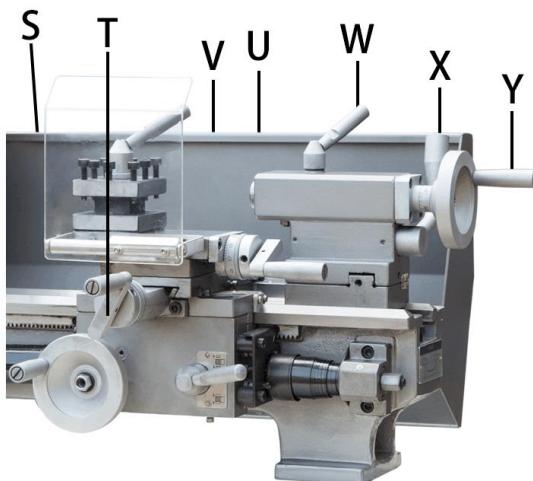


Figure 10-6: Machine controls

The correct feed depends on the material to be cut, the cutting operation, the type of tool, the rigidity of the work piece chucking, the depth of cut and the desired surface quality.

When roughing big diameters reduce the depth of cut!

10.6 Turning with auto feed

Move the half-nut lever (V, Fig 10-6) down, to engage the automatic longitudinal feed. Move it up to disengage

For example:

Operation	feed rate
Stock removal	0,2mm /rev
Finishing cut.....	0,1mm /rev

Operation	feed rate
Stock removal	0,2mm /rev
Finishing cut.....	0,1mm /rev

NOTE: Two feed rates are available with different change gear setup (Fig 10-7).

	mm / rev	
Z1	0.10	0.20
Z2	75	75
Z3	30	40
Z4	80	80
L	20	30
	80	80

Figure 10-7: Available feed rates

10.7 Thread cutting

Threading is performed in multiple passes with a threading tool.

Each depth of cut should be about 0,2mm and become less for the finishing passes.

A) To cut inch and metric threads

Set the machine up for the desired threading pitch (see chapter 8.2).

Select the lowest possible spindle speed.

Engage the halve nut (V, Fig 10-6).

NOTE: The halve nut must stay engaged during the entire threading process.

- Set the tool up for the threading pass.

- Start the motor.

- When the tool approaches the end of cut, stop the motor and at the same time back the tool out, so that it clears the thread diameter.

- Start the motor in reverse direction, let the cutting tool travel back to the starting point.

Repeat these steps until you have obtained the desired results.

B) To cut metric threads with pitch

0,25/ 0,4/ 0,5/ 1,0/ 2,0 mm:

The halve nut can be opened at the end of cut, rather than the motor being stopped and reversed.

10.8 Drilling operation

Use a drill chuck with MT2 arbor (option) to clamp centre drills and twisted drills in the tailstock (Fig 10-8).

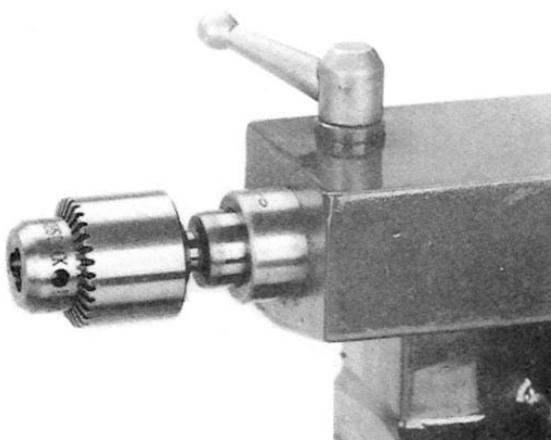


Figure 10-8: Drilling operation

For recommended speeds refer to section 10.4

To eject the drill chuck, fully retract the tailstock quill.

11.0 User-Maintenance



WARNING:

Before any intervention on the machine, disconnect it from electrical supply, pull the mains plug. Failure to comply may cause serious injury.

An important security factor is the cleaning of the machine, of bed, carriage and slides, of the floor and the surrounding places.

Loose objects could come into contact with the moving chuck or workpiece, creating hazards.

Empty the chip tray regularly.

Replace the coolant regularly, follow manufacturer's advice.

Check that bolts are tight and electrical cords are in good condition. If an electrical cord is worn, cut, or damaged in any way, have it replaced immediately.

Motor brushes:

The motor brushes are due to wear and need to be replaced when shorter than 12mm.

Set of brushes: Article No. BD7VS-103B

11.1 Lubrication

Spindle bearings are pre-lubricated and sealed, and require no further lubrication.

Weekly apply oil:

DIN 51502 CG ISO VG 68

(e.g. BP Maccurat 68, Castrol Magna BD 68, Mobil Vectra 2)

1...oil balls on change gear hubs

2...oil bed ways lightly

3...oil tailstock quill over entire length

4...oil lead screw on entire length

5...oil ball on lead screw bracket

6...oil balls on top slide

7...oil balls on tailstock

8...oil balls on carriage

9...oil balls on apron

Monthly apply grease:

DIN 51807-1 non slinging grease

(e.g. BP L2, Mobilgrease Special).

10...grease teeth of change gears

11...grease rack over entire length

12.0 Troubleshooting

Symptom	Possible Cause	Correction *
Lathe will not start.	Lathe unplugged from wall, or motor.	Check all plug connections.
	Fuse blown, or circuit breaker tripped.	Replace fuse, or reset circuit breaker.
	Cord damaged.	Replace cord.
	Chuck guard not closed.	Close chuck guard.
	Pulley cover removed	Install pulley cover
Lathe does not come up to speed.	Extension cord too light or too long.	Replace with adequate size and length cord.
	Low current.	Contact a qualified electrician.
Lathe vibrates excessively.	Base on uneven surface.	Locate lathe on even floor.
	Lathe not bolted to the floor	Bolt machine to the floor
	Unbalanced workpiece	Reduce speed
	Workpiece deflection	Improve chucking length or diameter, support on tailstock end
	Tool deflection	Reduce tool length
	Slide backlash	Adjust slides
	Slides running dry	Lubricate with oil
	Dull tool tip	Re-sharpen or change tool
	Chip load too high	Reduce depth of cut or feed
Noisy operation	Dry change gear hubs.	Lubricate with oil.
	Dry change gears	Lubricate with grease.
Tool tip burns	Cutting speed too high	Reduce spindle speed
	Dull tool tip.	Re-sharpen or change tool
	Dry cutting.	Use coolant.
	Feeding too slowly.	Increase feed rate.
Machine turns a taper.	Tailstock alignment is offset.	Align tailstock position.
	Machine bed is twisted.	Stand supporting surface must be flat. Shim if needed
	Workpiece deflection.	Reduce depth of cut or feed
Drill chuck or arbor does not stay in place.	Dirt, grease, etc. on arbor, chuck, or tailstock quill	Clean all mating surfaces thoroughly with a cleaner-degreaser.

* **WARNING:** Some corrections may require a qualified electrician.

Table 1

13.0 Environmental Protection

Protect the environment.

Dispose all packaging material in an environmental friendly manner.

Dispose coolant in an environmentally friendly manner.

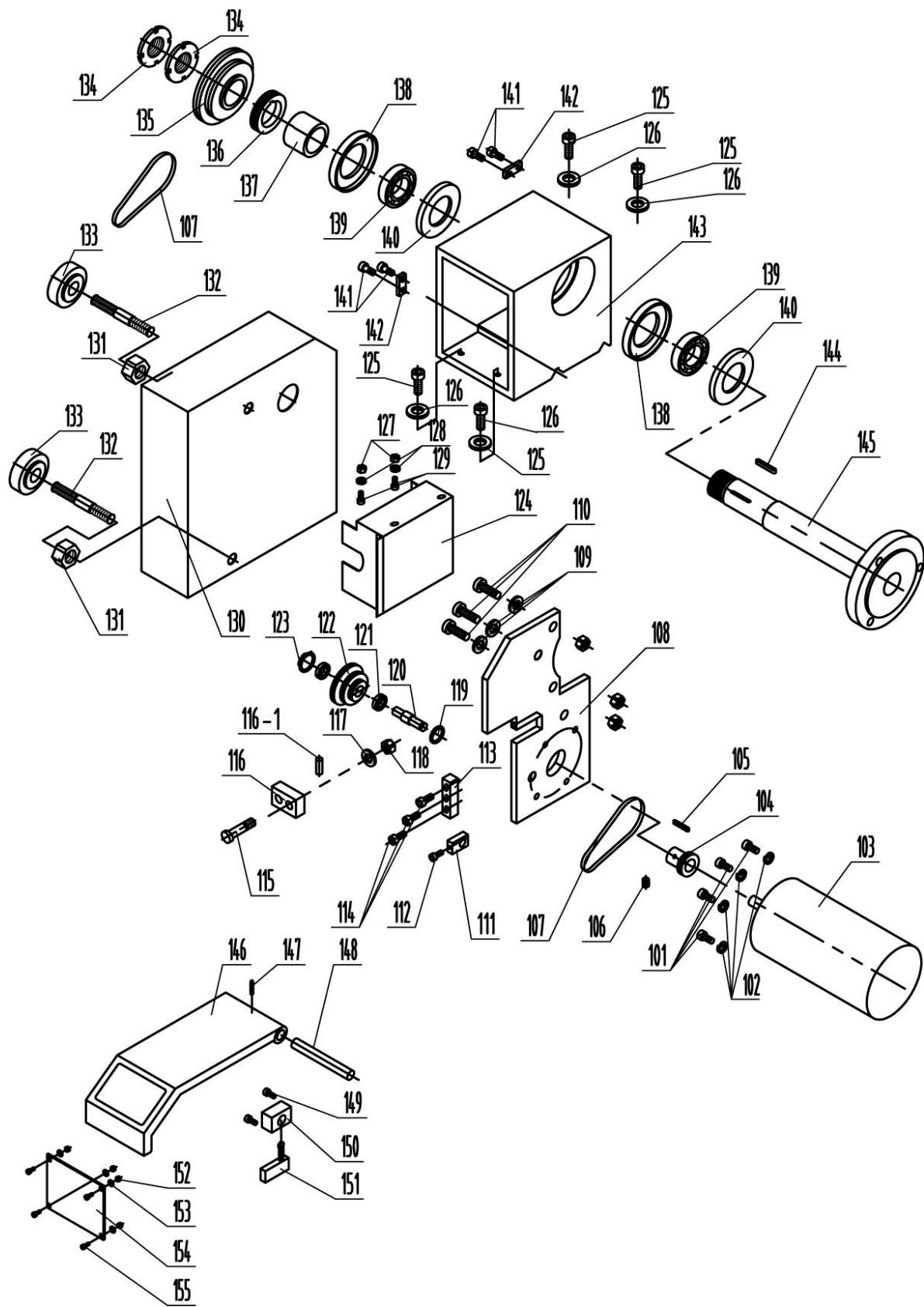
Your appliance contains valuable materials which can be recovered or recycled. Please leave it at a specialized institution.

14.0 Available Accessories

Refer to the JET price list.

15.0 Replacement Parts

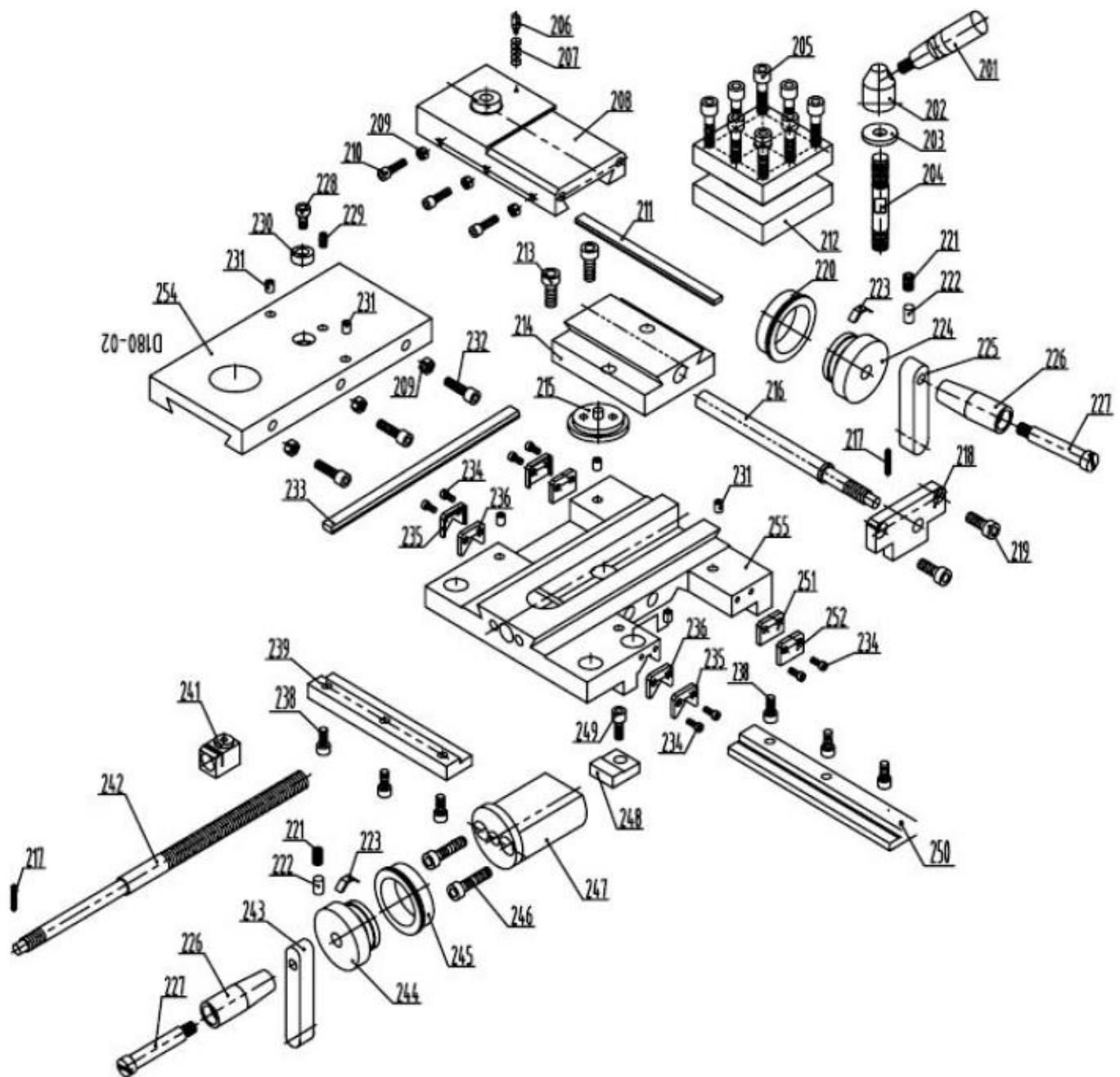
BD-7VS Assembly Breakdown -1



BD-7VS Parts List for Breakdown -1

Index	Part	Description	Size	Qty.
No.	No.			
101.....	BD7VS-1	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M5x25 .....	.....4.	
102.....	BD7VS-2	SPLIT WASHER DIN 127	5	4.
103.....	BD7VS-103	D.C.MOTOR .....	.....1.	
.....	BD7VS-103B	Brush for D.C MOTOR (not shown) .....	.....2.	
104.....	BD7VS-104	V-BELT PULLEY ENGINE .....	.....1.	
105.....	BD7VS-3	FEATHER KEY	DIN 6885-A4x4x20	1.
106.....	BD7VS-4	SET SCREW DIN 915.....	M6x8.....	1.
107.....	BD7VS-107	SYNCHRONOUS BELT.....	Gates 5M-365	2.
108.....	BD7VS-108	SUPPORTING PLATE.....	.....1.	
109.....	BD7VS-5	DISK	8	3
110.....	BD7VS-6	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M8x20 .....	.....3.	
111.....	BD7VS-111	SLIDING PAD .....	.....1.	
112.....	BD7VS-7	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M6x30 .....	.....1.	
113.....	BD7VS-113	THRUST BEARING .....	.....1.	
114.....	BD7VS-8	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M6x20 .....	.....2.	
115.....	BD7VS-115	AXIS .....	.....1	
116.....	BD7VS-116	BEARING BLOCK-INTER-MEDIATE WHEEL .....	.....1.	
116- 1...	BD7VS-9	ALIGNMENT PIN	4x22	1.
117.....	BD7VS-10	DISK	8	1
118.....	BD7VS-11	HEXAGON NUT	M8	3.
119.....	BD7VS-12	LOCKING RING	DIN 471-8 x0.8	1.
120.....	BD7VS-120	COUNTERSHAFT .....	.....1.	
121.....	BD7VS-121	DEEP GROOVE BALL BEARING	608-RZ	2.
122.....	BD7VS-122	PULLEY COUNTERSHAFT .....	.....1.	
123.....	BD7VS-13	LOCKING RING	DIN 471-22x1	1.
124.....	BD7VS-124	BOTTOM COVER .....	.....1.	
125.....	BD7VS-14	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M8x25 .....	.....4.	
126.....	BD7VS-15	DISK	8	4
127.....	BD7VS-16	NUT. M5	2	
128.....	BD7VS-17	DISK	5	2
129.....	BD7VS-18	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M8x25 .....	.....2.	
130.....	BD7VS-130	PROTECTIVE COVER CHANGE GEAR WHEELS .....	.....1.	
131.....	BD7VS-19	NUT. M10	2	
132.....	BD7VS-132	THREADED BOLT	M10x80	2.
133.....	BD7VS-20	KNURLED NUT	M10	2.
134.....	BD7VS-134	GROOVE NUT	DIN 1804- M27x1-w	2.
135.....	BD7VS-135	DRIVE PULLEY .....	.....1.	
136.....	BD7VS-136	TOOTHED WHEEL	(Z=40)	1.
137.....	BD7VS-137	CONTACT PRESSURE SLEEVE/COLLET .....	.....1.	
138.....	BD7VS-138	BEARING COVER .....	.....2.	
139.....	BD7VS-139	TAPERED ROLLER BEAR-ING	30206/P5	2.
140.....	BD7VS-140	BEARING COVER .....	.....2.	
141.....	BD7VS-21	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x10 .....	.....4.	
142.....	BD7VS-142	FIXING PLATE PROTEC-TIVE COVER CHANGE WHEELS .....	.....2.	
143.....	BD7VS-143	HOUSING HEADSTOCK .....	.....1.	
144.....	BD7VS-22	FEATHER KEY	DIN 6885-A3x3x15	1.
145.....	BD7VS-145	SPINDLE .....	.....1.	
146.....	BD7VS-146	CHUCK GUARD .....	.....1.	
147.....	GB87986-3-20	ROLL PIN	3 x 20 mm	1.
148.....	BD7VS-148	SHAFT .....	.....1.	
149.....	GB7085-5-12	SOCKET HD SCREW	M5 x 12 mm	2.
150.....	BD7VS-150	BRACKET .....	.....1.	
151.....	BD7VS-151	MICRO SWITCH .....	.....1.	
152.....	GB617286-4	HEX NUT (THIN)	M4	4.
153.....	GB97185-4	WASHER	4	4.
154.....	BD7VS-154	ARCRYLIC GLASS .....	.....1.	
155.....	GB7085-4-10	SOCKET HD SCREW	M4 x 10 mm	4.

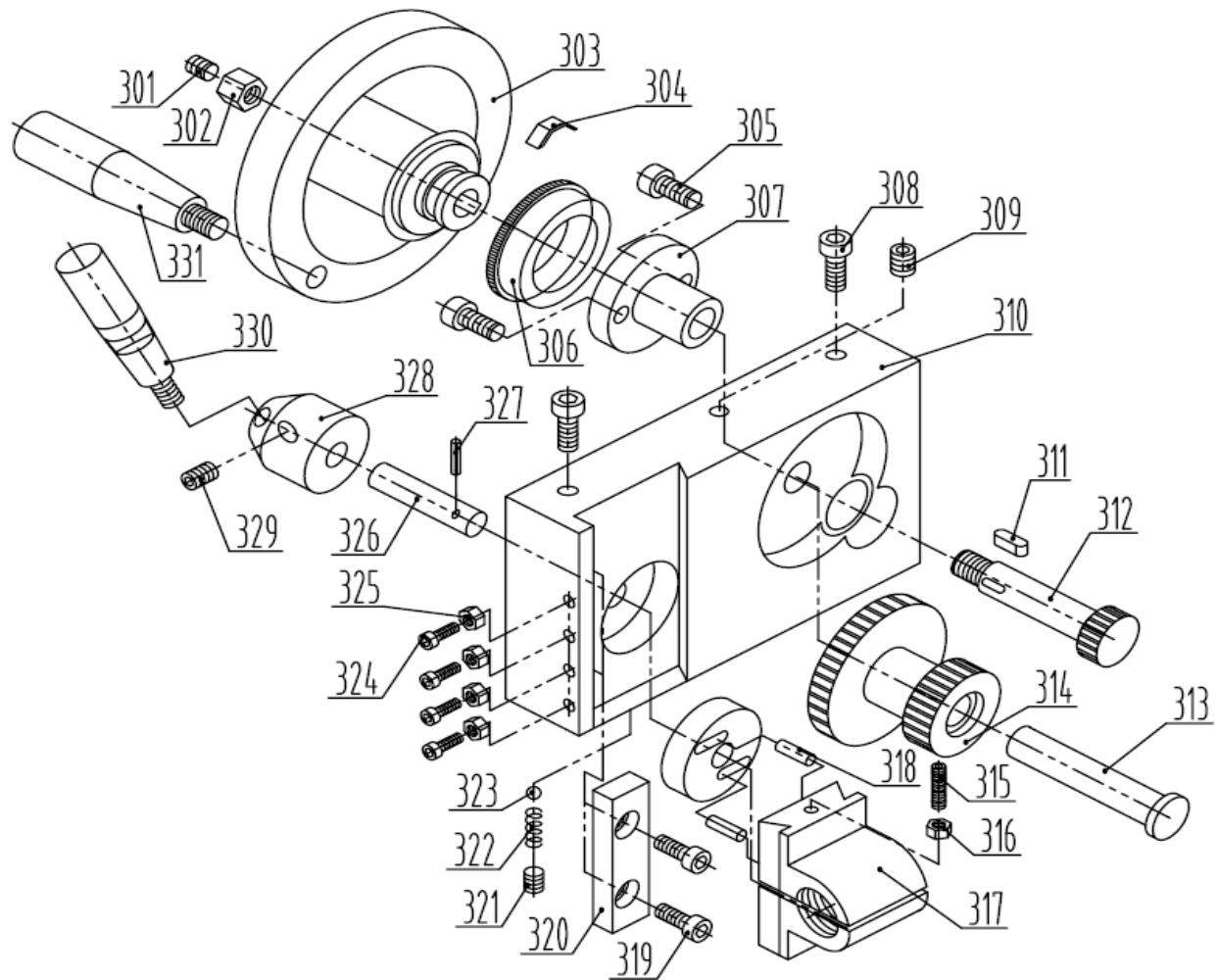
BD-7VS Assembly Breakdown -2



BD-7VS Parts List for Breakdown -2

Index	Part	Description	Size	Qty.
No.	No.			
201	BD7VS-201	HANDLE		1.
202	BD7VS-202	TIGHTENING NUT QUADRUPPLICATE TOOL HOLDER.....		1
203	BD7VS-203	WASHER QUADRUPPLICATE TOOL HOLDER.....		1.
204	BD7VS-204	THREADED BOLT QUADRUPPLICATE TOOL HOLDER		1
205	BD7VS-23	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M6x25		8.
206	BD7VS-206	STOP BOLT TOOL HOLDER		1.
207	BD7VS-207	SPRING.....	Ø5xØ10xØ1	1.
208	BD7VS-208	TOP SLIDE		1.
209	BD7VS-24	HEXAGON NUT	M4	1.
210	BD7VS-25	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x14		3.
211	BD7VS-211	ADJUSTING GIB.....		1.
212	BD7VS-212	QUADRUPPLICATE TOOL HOLDER		1.
213	BD7VS-26	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M5x30		2.
214	BD7VS-214	DOVETAIL GUIDE TOP SLIDE		1.
215	BD7VS-215	SWIVEL TOP SLIDE		1.
216	BD7VS-216	SPINDLE TOP SLIDE		1.
217	BD7VS-27	DOWEL PIN	3x12	2.
218	BD7VS-218	BEARING BLOCK SPIN-DLE TOP SLIDE.....		1.
219	BD7VS-28	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M5x12		2.
220	BD7VS-220	GRADUATED COLLAR HANDWHEEL TOP SLIDE		1.
221	BD7VS-29	SET SCREW DIN 915.....	M6x6	2.
222	BD7VS-222	PIN	2	
223	BD7VS-30	SPRING STEEL SHEET		2.
224	BD7VS-224	GUIDING DISK GRADUATED COLLAR TOP SLIDE.....		2.
225	BD7VS-225	LEVER TOP SLIDE.....		1.
226	BD7VS-226	GRIP COLLAR.....		2.
227	BD7VS-227	FIXING SCREW GRIP COL-LAR		2.
228	BD7VS-31	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x8		1.
229	BD7VS-32	SET SCREW DIN 914.....	M5x10	1.
230	BD7VS-230	COLLAR		1.
231	BD7VS-33	OILER	D	6mm6
232	BD7VS-34	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x20		3.
233	BD7VS-233	ADJUSTING GIB COM-POUND SLIDE		1.
234	BD7VS-35	TALLOW-DROP SCREW	M3x8	8.
235	BD7VS-235	HANDLE FRONT STRIPPER		2.
236	BD7VS-236	FRONT STRIPPER.....		2.
238	BD7VS-36	HEXAGON SOCKET SCREW DIN 912	M5x10	3.
239	BD7VS-239	FASTENING GIB FRONT LATHE SADDLE		1.
241	BD7VS-241	SPINDLE NUT COMPOUND SLIDE		1.
242	BD7VS-242	SPINDLE COMPOUND SLIDE		1.
243	BD7VS-243	LEVER COMPOUND SLIDE.....		1.
244	BD7VS-244	GUIDE DISK GRADUATED COLLAR		1.
245	BD7VS-245	GRADUATED COLLAR COMPOUND SLIDE.....		1.
246	BD7VS-37	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M6x50		2.
247	BD7VS-247	BEARING BLOCK SPIN-DLE COMPOUND SLIDE		1.
248	BD7VS-248	CLAMPING PLATE LATHE SLIDE		1.
249	BD7VS-38	HEXAGON SOCKET SCREW DIN 912.....	M8x25	1.
250	BD7VS-250	FIXING GIB REAR LATHE SLIDE.....		1.
251	BD7VS-251	REAR STRIPPER		2.
252	BD7VS-252	HANDLE REARD STRIPPER		2.
254	BD7VS-254	COMPOUND SLIDE.....		1.
255	BD7VS-255	DOVETAIL GUIDE COM-POUND SLIDE		1.

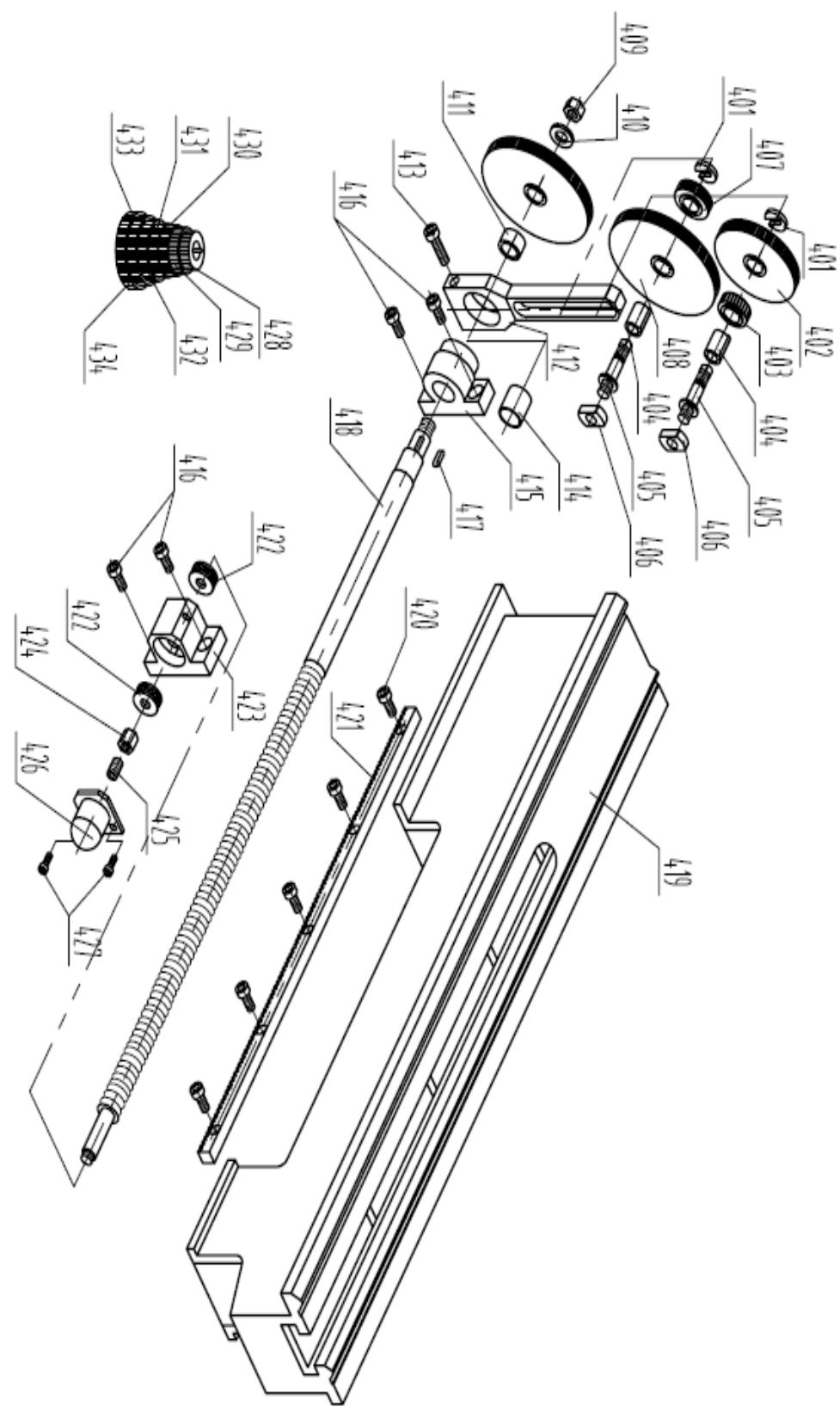
BD-7VS Assembly Breakdown -3



BD-7VS Parts List for Breakdown -3

Index No.	Part No.	Description	Size	Qty.
301.....	BD7VS-39	SET SCREW DIN 914.....	M8x8	1
302.....	BD7VS-302	FIXING NUT HANDWHEEL.....	M8, H=16mm	1
303.....	BD7VS-303	HANDWHEEL LATHE SLIDE .....	.....	1
304.....	BD7VS-40	SPRING PIECE.....	.....	1
305.....	BD7VS-41	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M5x10	2	
306.....	BD7VS-306	GRADUATED COLLAR HANDWHEEL LATHE SLIDE .....	.....	1
307.....	BD7VS-307	TRACK BED SHAFT HANDWHEEL LATHE SLIDE .....	.....	1
308.....	BD7VS-42	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M8x25	2	
309.....	BD7VS-43	SET SCREW DIN 914.....	M5x8	1
310.....	BD7VS-310	APRON .....	.....	1
311.....	BD7VS-44	FEATHER KEY	DIN 6885-A3x3x8	1
312.....	BD7VS-312	SPLINE	Z=14, Module 1	1
313.....	BD7VS-313	SHAFT .....	.....	1
314.....	BD7VS-314	GEAR SET 44/21 THEETH	Module 1	1
315.....	BD7VS-45	SET SCREW DIN 914.....	M4x35	1
316.....	BD7VS-46	NUT. M4	1	
317.....	BD7VS-317	LEADSCREW NUT .....	.....	1
318.....	BD7VS-47	ALIGNMENT PIN	?4x10	2
319.....	BD7VS-48	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x10	2	
320.....	BD7VS-320	READJUSTING GIB LEAD-SCREW NUT .....	.....	1
321.....	BD7VS-49	SET SCREW DIN 913.....	M6x8	1
322.....	BD7VS-50	SPRING	0.6x3.5x12	1
323.....	BD7VS-51	STEEL BALL	4.5	1
324.....	BD7VS-52	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x12	4	
325.....	BD7VS-53	NUT. M4	4	
326.....	BD7VS-326	SHAFT .....	.....	1
327.....	BD7VS-54	DOWEL PIN DIN 1481	3x30	1
328.....	BD7VS-328	TURNING KNOB ENGAGING LEVER .....	.....	1
329.....	BD7VS-55	SET SCREW DIN 914.....	M5x6	1
330.....	BD7VS-330	ENGAGING LEVER .....	.....	1
331.....	BD7VS-331	GRIP HANDWHEEL LATHE SLIDE .....	.....	1

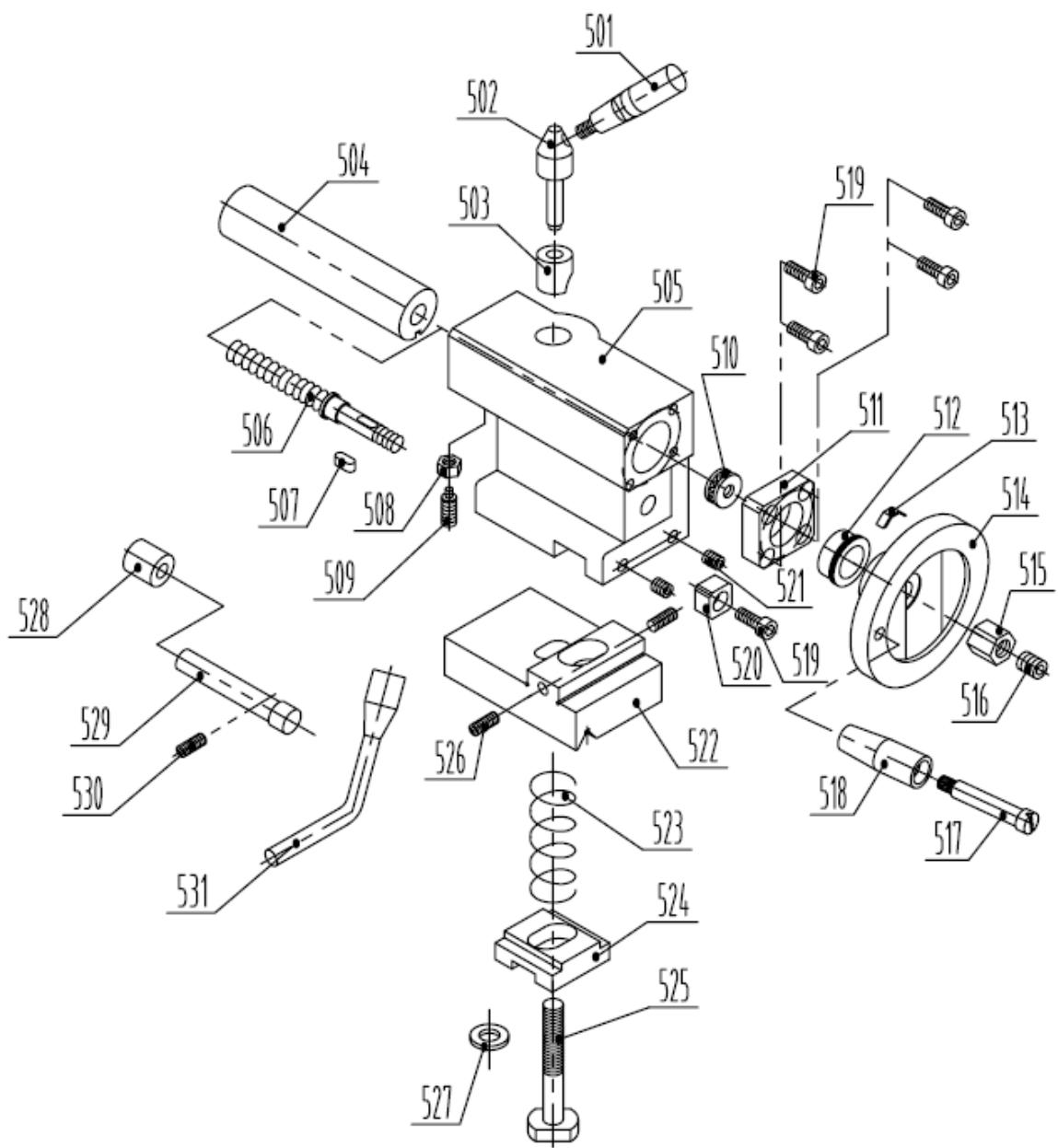
BD-7VS Assembly Breakdown -4



BD-7VS Parts List for Breakdown -4

Index No.	Part No.	Description	Size	Qty.
401	BD7VS-401	LOCKING WAHSER		2
402	BD7VS-402	TOOTHED WHEEL	Z=75	1
403	BD7VS-403	TOOTHED WHEEL	Z=30	1
404	BD7VS-404	COLLAR AXLE SHAFT		2
405	BD7VS-405	AXIE SHAFT		2
406	BD7VS-406	SLIDING BLOCK	M8	2
407	BD7VS-407	TOOLTHED WHEEL	Z=20	1
408	BD7VS-408	TOOLTHED WHEEL	Z=80	2
409	BD7VS-56	NUT. M10		1
410	BD7VS-57	DISK 10		1
411	BD7VS-411	COLLAR, SPREADER		1
412	BD7VS-412	CHNGE GEAR GIB		1
413	BD7VS-58	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M6x35		1
414	BD7VS-414	SLIDE BEARING		1
415	BD7VS-415	LEFT BEARING BLOCK, LEADING SPINDLE		1
416	BD7VS-59	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M6x14		4
417	BD7VS-60	FEATHER KEY	DIN 6885-A3x3x16	1
418	BD7VS-418	LEADING SPINDLE		1
419	BD7VS-419	ENGINE BED		1
420	BD7VS-61	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x12		5
421	BD7VS-421	TOOTHED RACK		1
422	BD7VS-422	AXIAL DEEP GROOVE BALL BEARING	51100	2
423	BD7VS-423	RIGHT BEARING BLOCK, LEADING SPINDLE		1
424	BD7VS-424	FIXING NUT LEADING SPINDLE		1
425	BD7VS-62	ADJUSTING SCREW SET SCREW DIN 915	M8x6	1
426	BD7VS-426	PROTECTIVE COVER		1
427	BD7VS-63	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ...M4x10		2
428	BD7VS-428	TOOTHED WHEEL	Z=33	1
429	BD7VS-429	TOOTHED WHEEL	Z=35	1
430	BD7VS-430	TOOTHED WHEEL	Z=40	1
431	BD7VS-431	TOOTHED WHEEL	Z=42	1
432	BD7VS-432	TOOTHED WHEEL	Z=50	1
433	BD7VS-433	TOOTHED WHEEL	Z=52	1
434	BD7VS-434	TOOTHED WHEEL	Z=60	1

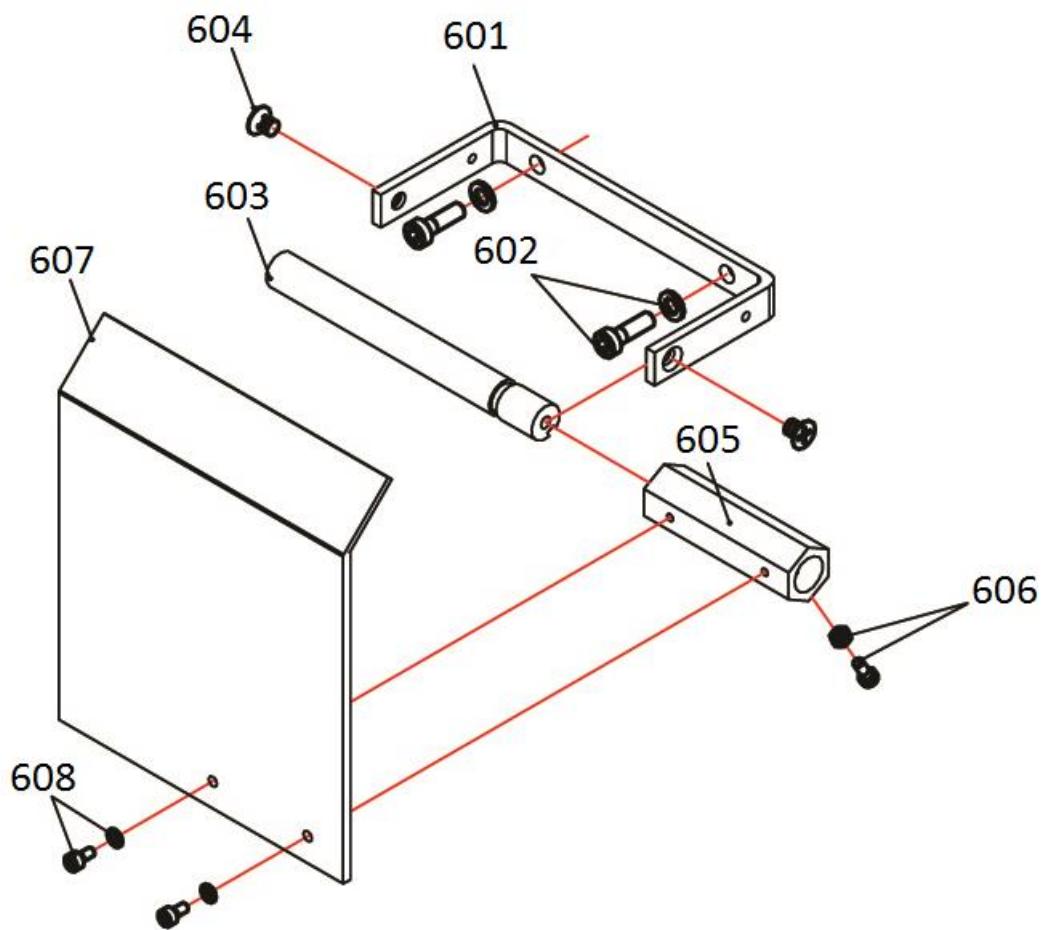
BD-7VS Assembly Breakdown -5



BD-7VS Parts List for Breakdown -5

Index	Part		Size	Qty.
No.	No.	Description		
501	BD7VS-501.....	CLAMPING LEVER TAIL-STOCK		1
502	BD7VS-502.....	CLAMPING LEVER TAILSTOCK SLEEVE		1
503	BD7VS-503.....	SPLIT TAPER SOCKET TAILSTOCK SLEEVE		1
504	BD7VS-504.....	TAILSTOCK SLEEVE		1
505	BD7VS-505.....	TAILSTOCK HOUSING		1
506	BD7VS-506.....	TAILSTOCK SPINDLE		1
507	BD7VS-64.....	FEATHER KEY.....	DIN 6885-A3x3x8	1
508	BD7VS-65	NUT	M6	1
509	BD7VS-66.....	SET SCREW DIN 915	M6x14	1
510	BD7VS-510.....	AXIAL DEEP GROOVE BALL BEARING	51100	1
511	BD7VS-511.....	BEARING BLOCK TAILSTOCK SPINDLE		1
512	BD7VS-512.....	GRADUATED COLLAR TAIL-STOCK		1
513	BD7VS-67.....	SPRING STEEL SHEET		1
514	BD7VS-514.....	HANDWHEEL TAILSTOCK		1
515	BD7VS-515.....	FIXING NUT HANDWHEEL	M8 H=16mm	1
516	BD7VS-68.....	SET SCREW DIN 914	M8x6	1
517	BD7VS-517.....	FIXING SCREW GRIP COL-LAR		1
518	BD7VS-518.....	GRIP COLLAR		1
519	BD7VS-69.....	HEXAGON SOCKET HEAD CAP SCREW DIN 912 ..	M5x12	5
520.....	BD7VS-520.....	STOP		1
521	BD7VS-70.....	SET SCREW DIN 915	M6x12	2
522	BD7VS-522.....	TAILSTOCK BOTTOM PART		1
523	BD7VS-523.....	SPRING	1x12xL	1
524	BD7VS-524.....	CLAMPING PLATE		1
525	BD7VS-71.....	HEXAGON SCREW DIN 931	M10x70	1
526	BD7VS-72.....	SET SCREW DIN 915	M6x16	2
527	BD7VS-73.....	DISK		101
528	BD7VS-528.....	COVER		1
529	BD7VS-529.....	ECCENTRIC SHAFT		1
530	BD7VS-74.....	SET SCREW DIN 915	M5x8	1
531	BD7VS-531.....	LOCKING HANDLE		1

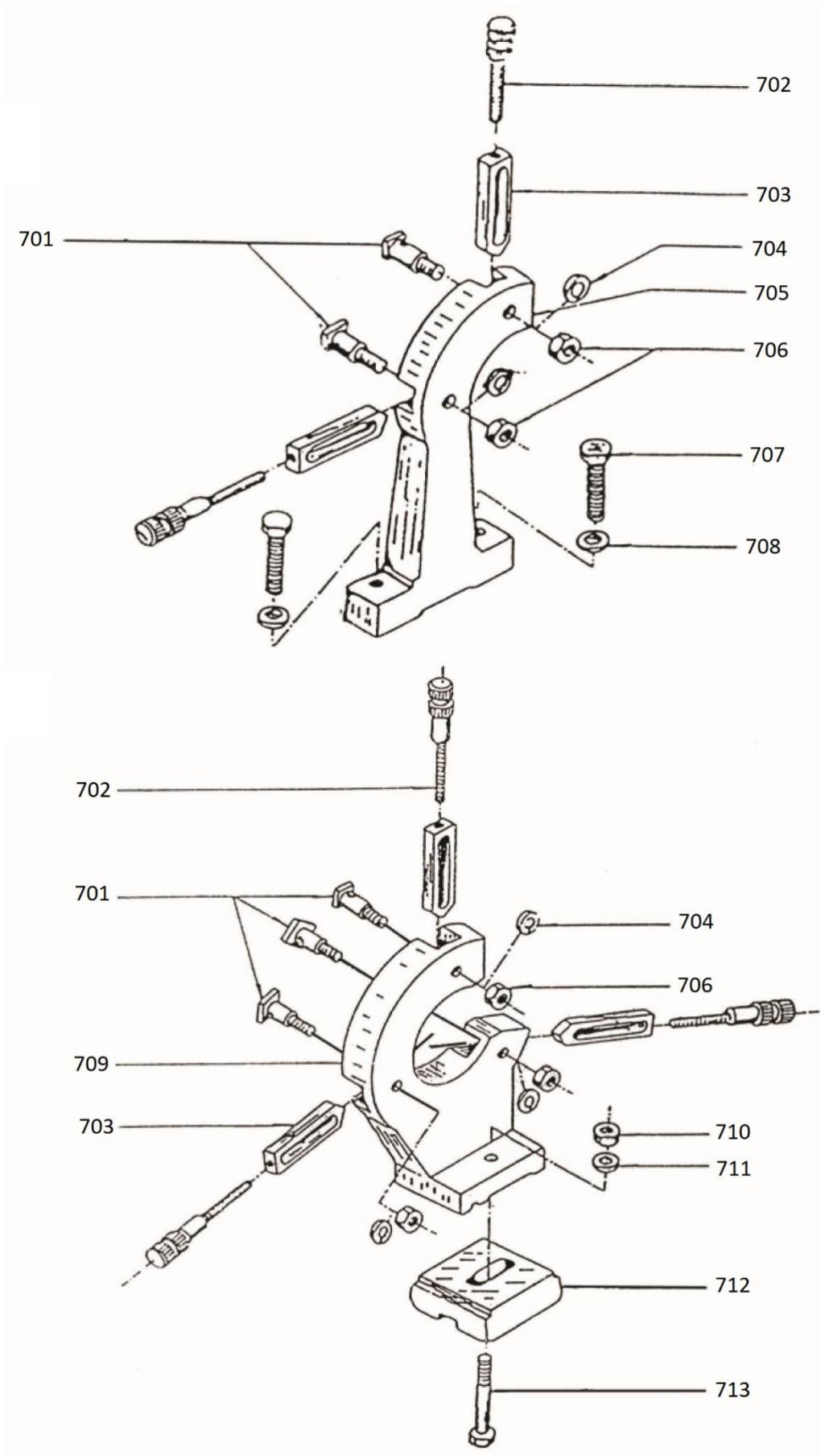
BD-7VS Assembly Breakdown -6



BD-7VS Parts List for Breakdown -6

Index	Part	Description	Size	Qty.
No.	No.			
601	BD7VS-601	SUPPORT		1
602	GB7085-5-12	SOCKET HD SCREW	M5 x 12 mm	2
603	BD7VS-603	SHAFT		1
604	GB81985-5-6	CROSS RECESSED FLAT HD SCREW	M5 x 6 mm	2
605	BD7VS-605	HEX SLEEVE		1
606	GB7085-3-8	SOCKET HD SCREW	M3 x 8 mm	1
607	BD7VS-607	CHIP SHIELD		1
608	GB7085-3-6	SOCKET HD SCREW	M3 x 6 mm	2

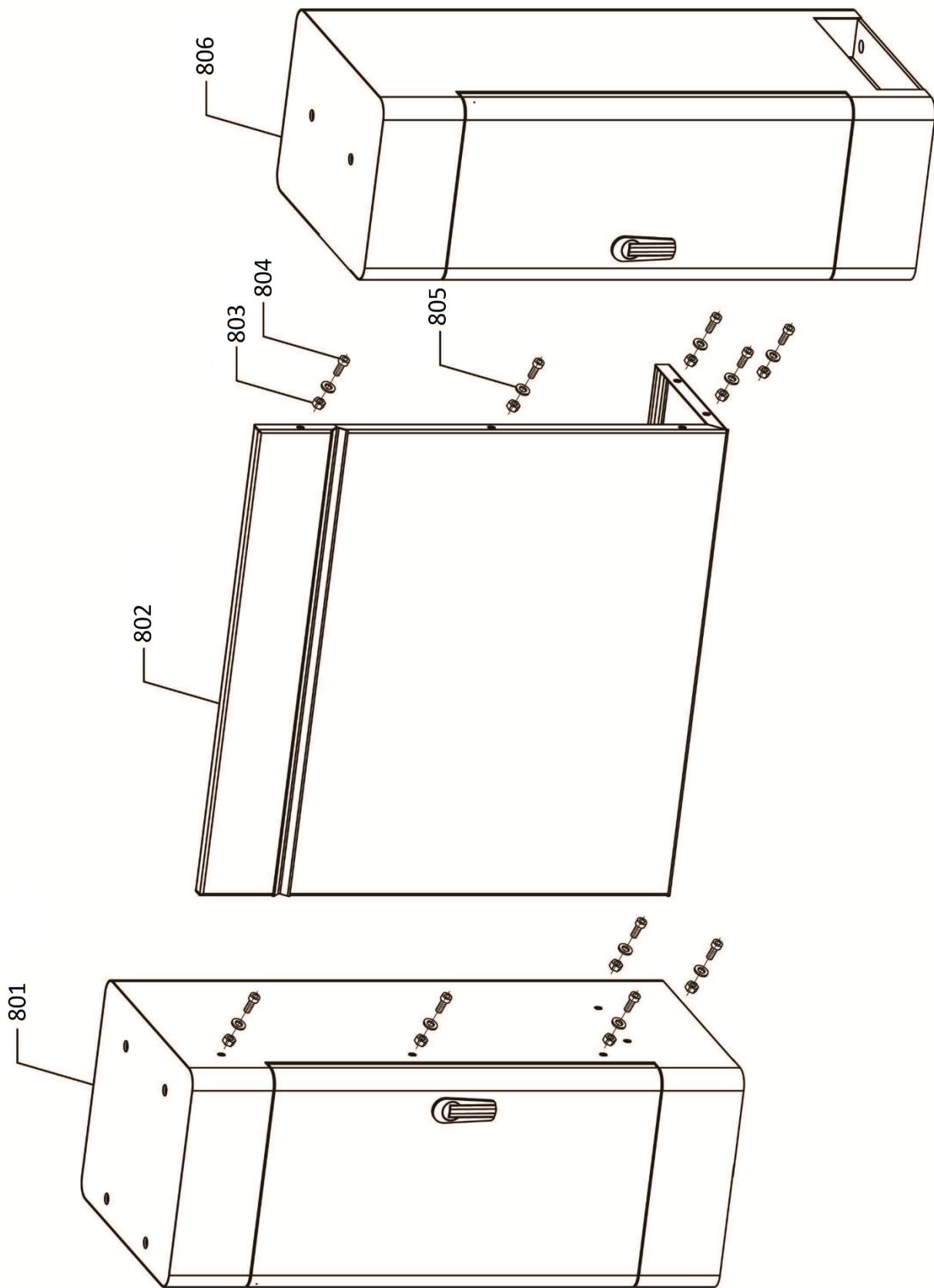
BD-7VS Assembly Breakdown -7



BD-7VS Parts List for Breakdown -7

Index No.	Part No.	Description	Size	Qty.
701	BD7VS-701.....	SCREW.....		5
702	BD7VS-702.....	TIGHTENING SCREW		5
703	BD7VS-703.....	SLIDE JAW		5
704	GB9387-5.....	SPRING WASHER (STD)	8	5
705	BD7VS-705.....	FOLLOW REST		1
706	GB617086-8.....	HEX NUT.....	M8	5
707	GB578186-8-20	HEX HD SCREW	M8 x 20 mm	2
708	GB97185-8.....	WASHER	8	2
709	BD7VS-709.....	STEADY REST		1
710	GB617086-10.....	HEX NUT.....	M10	1
711	GB97185-10.....	WASHER	10	1
712	BD7VS-712.....	CLAMPING PLATE.....		1
713	GB578186-10-45	HEX HD SCREW	M10 x 45 mm	1
	BD7VS-714.....	FOLLOW REST KIT.....		1
	BD7VS-715.....	STEADY REST KIT		1

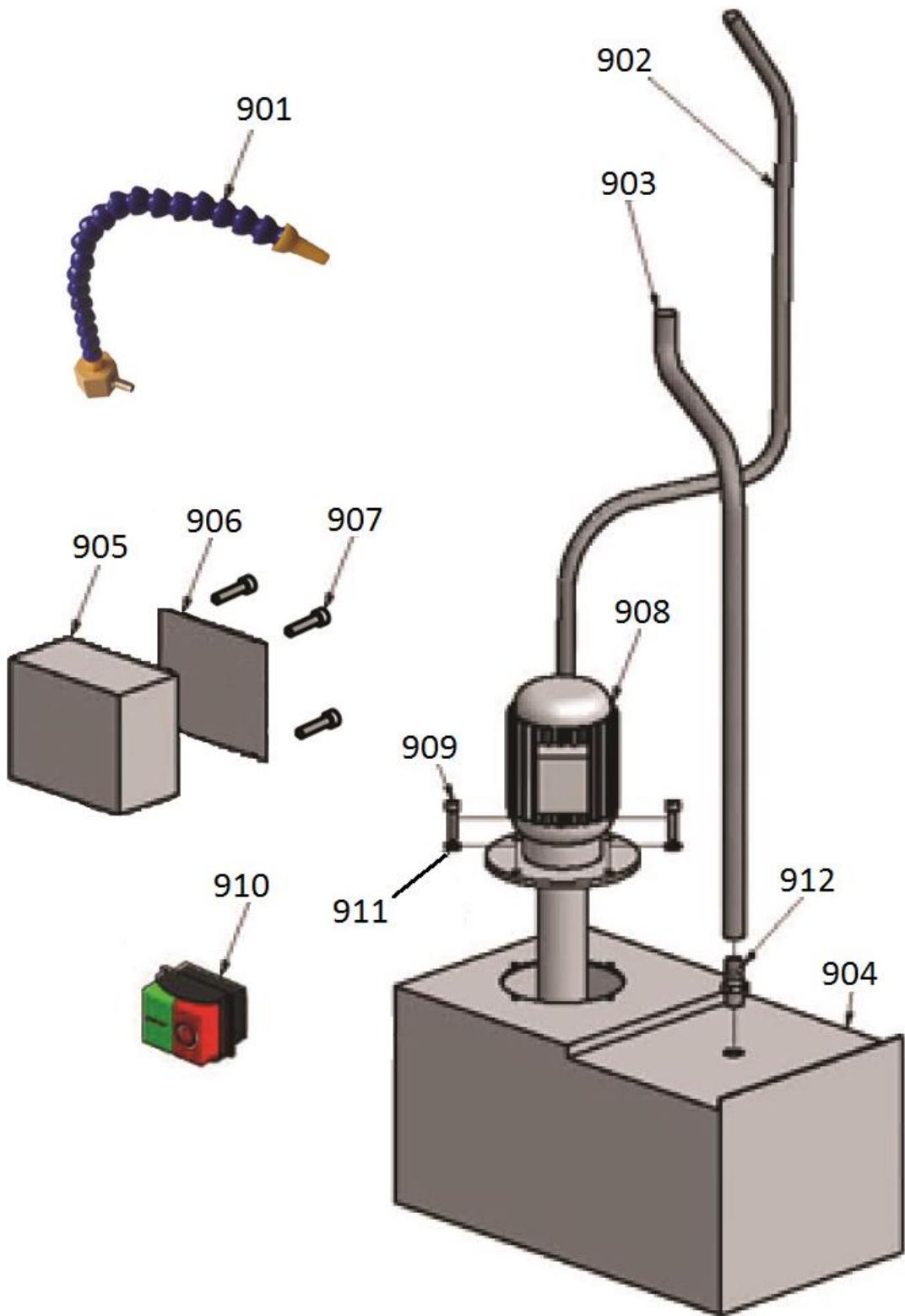
BD-7VS Assembly Breakdown -8



BD-7VS Parts List for Breakdown -8

Index	Part		Description	Size	Qty.
No.	No.				
801	BD7VS-801.....		LEFT STAND		1
802	BD7VS-802.....		CONNECTING PLATE		1
803	GB617086-8.....		HEX NUT	M8	10
804	GB7085-8-16		SOCKET HD SCREW	M8 x 16 mm.....	10
805	GB97185-8.....		WASHER	8	10
806	BD7VS-806.....		RIGHT STAND		1
	..... BD7VS-807.....		STAND KIT		1

BD-7VS Assembly Breakdown -9

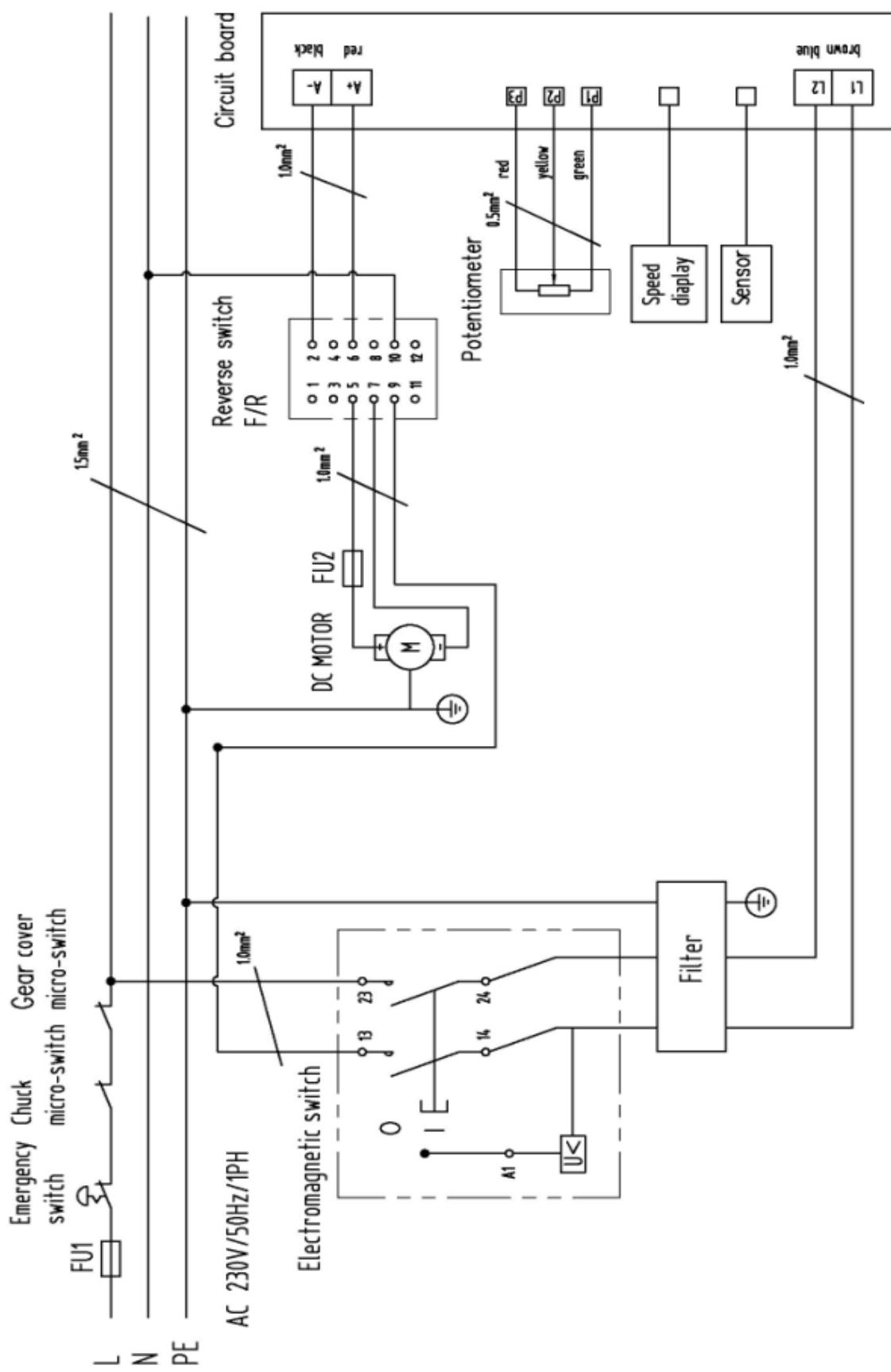


BD-7VS Parts List for Breakdown -9

Index No.	Part No.	Description	Size	Qty.
901	BD7VS-901.....	NOZZLE.....		1
902	BD7VS-902.....	OUTLET PIPE.....		1
903	BD7VS-903.....	RETURNING PIPE.....		1
904	BD7VS-904.....	WATER TANK.....		1
905	BD7VS-905.....	ELECTRICAL BOX.....		1
906	BD7VS-906.....	ELECTRICAL BOX COVER.....		1
907	GB7085-5-30	SOCKET HD SCREW	M5 x 30 mm.....	4
908	BD7VS-908.....	COOLANT PUMP		1
909	GB7085-5-12	SOCKET HD SCREW	M5 x 12 mm.....	4
910	BD7VS-910.....	SWITCH	KJD17B.....	1
911	GB97185-5.....	WASHER	5	4
912	BD7VS-912.....	HOSE CLIP.....		1
	..... 59500112	COOLANT PUMP KIT		1

16.0 Wiring Diagrams

BD-7VS1~230V, PE, 50Hz



BD-7VS Electrical Parts List

Designation	Model	Quantity	Note
Electromagnetic switch	KJD17GF	1	
Reverse Switch F/R	ZH-A	1	
EMC Filter	NF213A6/02 250VAC 6A	1	
Emergency stop	ZB2-BE102C	1	
Circuit board	JYMC-220A-I 230VAC 6.0ADC	1	
Potentiometer	WX14-12 4K7	1	
Speed display and sensor	JD011 5V	1	
DC Motor	83ZYT005A	1	
FU1 , FU2	6A	2	
Gear Guard Switch	QKS8	1	
Chuck Guard Switch	LXW5-11Q1	1	

Standard accessories of BD-7VS

Part No.	Name	Specification	Quanatity
1	oil gun		1
2	hexagon wrench	2.5/3/4/5/6	5
3	double end spanner	8-10/12-14/17-19	3
4	chuck spanner		1
5	steady center	MT2	1
6	follow center	MT3	1
7	reverse chuck 3 jaws	Φ100mm	3
8	painting can		2
9	handle		3
10	change gears	33/35/40/42/50/52/60T	7
15	gross screwdriver	3"	1
16	straight screwdriver	3"	1
18	fuse	6A	2
21	gates belt	5M-365	2
22	Bushing		1



BD-7VS