

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




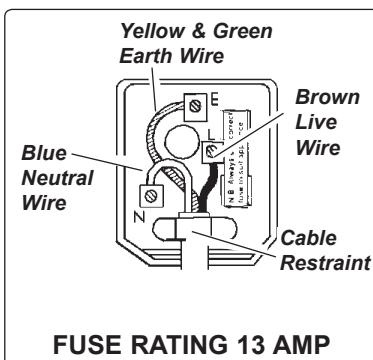
IMPORTANT: READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THIS LATHE CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. RETAIN THESE INSTRUCTIONS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

1. SAFETY PRECAUTIONS

1.1. ELECTRICAL SAFETY

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following: You must check all electrical products, before use, to ensure that they are safe. You must inspect power cables, plugs, sockets and any other connectors for wear or damage. You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices. A Residual Current Circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a Residual Current Device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician. You may obtain a Residual Current Device by contacting your Sealey dealer. You must also read and understand the following instructions concerning electrical safety.

- 1.1.1. The Electricity at Work Act 1989 requires that all portable electrical appliances, if used on business premises, are tested by a qualified electrician, using a Portable Appliance Tester (PAT), at least once a year.
 - 1.1.2. The Health & Safety at Work Act 1974 makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of the appliance operators. If in any doubt about electrical safety, contact a qualified electrician.
 - 1.1.3. Ensure that the insulation on all cables and on the appliance is safe before connecting it to the power supply. See 1.1.1. and 1.1.2. and use a Portable Appliance Tester.
 - 1.1.4. Ensure that cables are always protected against short circuit and overload.
 - 1.1.5. Regularly inspect power supply cables and plugs for wear or damage and check all connections to ensure that none is loose.
 - 1.1.6. Important: Ensure that the voltage marked on the appliance matches the power supply to be used and that the plug is fitted with the correct fuse - see fuse rating at right.
 - 1.1.7. DO NOT pull or carry the appliance by the power cable.
 - 1.1.8. DO NOT pull the plug from the socket by the cable.
 - 1.1.9. DO NOT use worn or damaged cables, plugs or connectors. Immediately have any faulty item repaired or replaced by a qualified electrician. When a BS 1363/A UK 3 pin plug is damaged, cut the cable just above the plug and dispose of the plug safely.
- Fit a new plug according to the following instructions (UK only).
- a) Connect the GREEN/YELLOW earth wire to the earth terminal 'E'.
 - b) Connect the BROWN live wire to the live terminal 'L'.
 - c) Connect the BLUE neutral wire to the neutral terminal 'N'.
 - d) After wiring, check that there are no bare wires, that all wires have been correctly connected, that the cable outer insulation extends beyond the cable restraint and that the restraint is tight. Double insulated products, which are always marked with this symbol,  are fitted with live (brown) and neutral (blue) wires only. To rewire, connect the wires as indicated in diagram. DO NOT connect either wire to the earth terminal.



- 1.1.10. Products which require more than 13 amps are supplied without a plug. In this case you must contact a qualified electrician to ensure that

a suitably rated supply is available. We recommend that you discuss the installation of an industrial round pin plug and socket with your electrician.

1.2 GENERAL SAFETY

- ✓ Ensure the brake disc lathe is in sound condition and good working order. Take action for immediate repair or replacement of damaged parts. Use genuine parts only. The use of unauthorised parts may be dangerous and will invalidate the warranty.
- ✓ Only raise the vehicle by those lifting points recommended by vehicle manufacturer (see vehicle hand book).
- ✓ Ensure that the vehicle is fully supported on axle stands before commencing work on the vehicle.
- ✓ Ensure that the working area is well lit.
- ✓ Keep working area clean and tidy and free from unrelated materials.
- ✓ Use brake disc lathe on level and solid ground, preferably concrete.
- ✓ Ensure the vehicle handbrake is engaged, engine is switched off and transmission is in neutral.
- ✓ Ensure there are no passengers in the vehicle.
- ✓ Ensure all non-essential persons keep a safe distance whilst the brake disc lathe is in use.
- ✗ DO NOT operate the brake disc lathe if damaged.
- ✗ DO NOT allow untrained persons to operate the brake disc lathe.
- ✗ DO NOT use the brake disc lathe for purposes other than that for which it is designed.
- ✓ The machine may only be operated by persons who are authorised to service brake systems and have read and understood this manual.
- ✓ Always follow the car manufacturers regulations when (dis)assembling vehicle parts.
- ✓ Always wear suitable protective eyewear, protective clothing, working gloves and a dust mask. Do not wear loose clothing that can get caught in the machine.
- ✓ Ensure that a fire extinguisher is at hand.
- ✗ DO NOT use the machine where there is danger of explosion or in wet or moist surroundings – electric shock can occur.
- ✓ Concentrate your attention on the work. Bear the potential risk of accidents in mind to ensure that they do not happen. Use your common sense and do not work the machine if you are ill or tired.
- ✗ DO NOT overload the machine.
- ✓ Clean your tools carefully and store in safe place after each use do not use compressed air for cleaning, use only a soft brush.
- ✓ Protect the power cord against oil, heat and sharp edges.
- ✓ Disconnect the power cord when the machine is not in use and store out of children's reach.
- ✓ Never leave the machine unattended.
- ✓ If something fails during operation immediately push the emergency stop switch.
- ✓ Only connect to an AC 230V single phase power supply.

2. INTRODUCTION & SPECIFICATION

Time and money saver that allows the brake disc to be refaced whilst still on the vehicle and mounts directly to the mounting holes of the brake calliper. Eliminates disc run-out and compensates for small inaccuracies in the hubs. Features a flexible mounting system with a selection of adaptors for various vehicles. Automatic setting with cut-out allows the operator to leave the unit unattended. See web-site for full demonstration video. This On-Vehicle Brake Disk Lathe is only suitable for cars and light commercial vehicles.

SPECIFICATION:	Model No: VS0299
Manual or Automatic With Auto Stop:	Yes
Built In LED Lighting:	Yes
Maximum Stroke:	88mm
Maximum Disc Thickness:	40mm
Maximum Cut Depth:	0.1mm
Cutter Adjustment Per Division:	0.05mm
Feed Rate Per Minute:	10-28.5mm
Head Length:	22mm
Total Weight:	45kg
Bi Directional Gear Motor:	220/240V
Speed Rating:	0-120rpm
Output Voltage:	12V
Cutting Tips:	Carbide - 3 sided (typically each tip can cut 20 discs, 60 cuts per complete cutting tip)
Replacement Cutting Tips:	VS0299R (x 10pcs)

3. ACCESSORIES

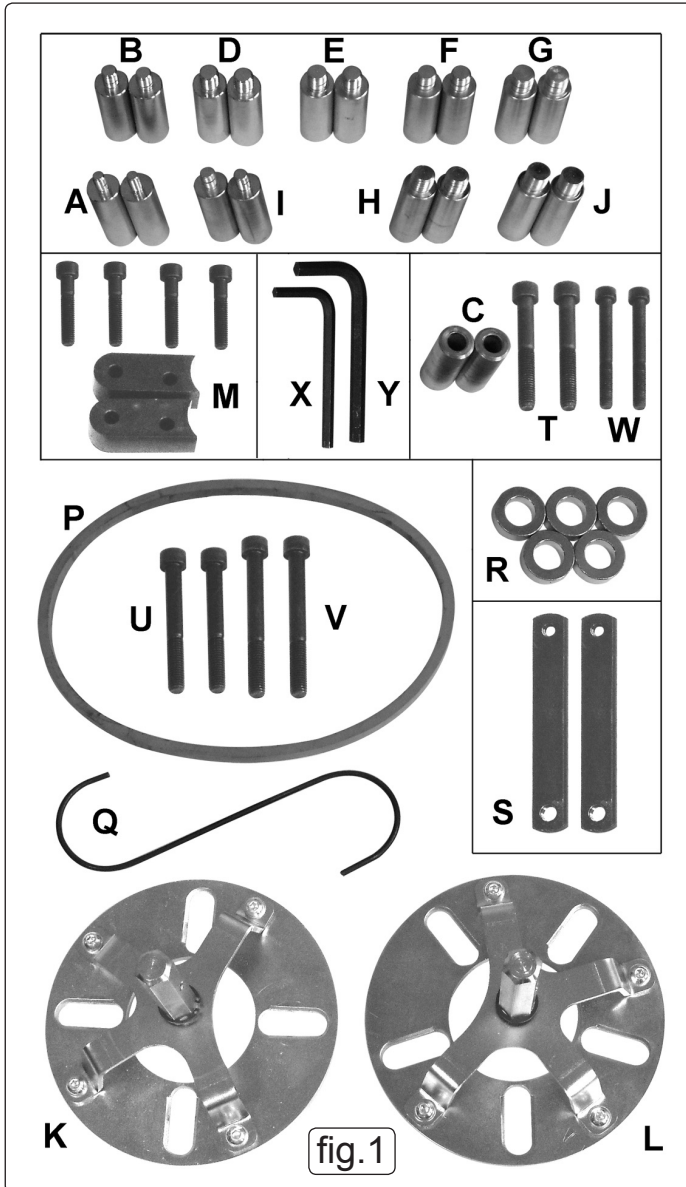


fig.1

4. PREPARATION

4.1 PREPARATION

Check for any end-play in the wheel bearing before mounting the Brake Lathe. A loose wheel bearing may cause a poor surface finish. If bearing play is adjustable, tighten nuts slightly before machining, and then re-adjust to factory specifications afterward.

If there is play in a non-adjustable bearing, it should be replaced before machining the disc. Most non-adjustable bearings are double-row ball bearings that require pre-load. Tapered roller bearings found on the front of most rear wheel drive vehicles are designed to operate with end-play.

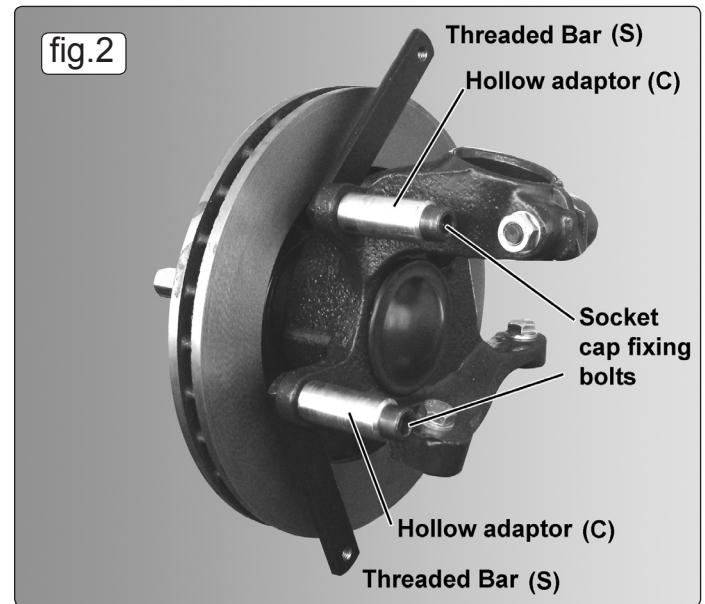


fig.2

ITEM	ACCESSORIES	SIZE/COMMENT
A	Adaptor No.1	M8 x 1.25mm L = 12mm
B	Adaptor No.3	M10 x 1.25mm L = 12mm
C	Adaptor No.7 (hollow and unmarked)	Ø20 x Ø10 L = 48mm incl. 1 bolt M10 x 70 incl. 1 bolt M8 x 70
D	Adaptor No.8	M12 x 1.25mm L = 12mm
E	Adaptor No.9	M12 x 1.50mm L = 12mm
F	Adaptor No.11	M12 x 1.75mm L = 12mm
G	Adaptor No.12	M14 x 1.25mm L = 20mm
H	Adaptor No.13	M14 x 1.50mm L = 12mm
I	Adaptor No.48	M9 x 1.25mm L = 12mm
J	Adaptor No.60	M14 x 2.00mm L = 12mm
K	Carrier	For 4 wheel bolts
L	Carrier	For 5 wheel bolts
M	Spacers	For adaptor arms (with bolts)
N	Spiral power cord	Base unit to lathe head (not shown)
O	230V AC	Power supply cable (not shown)
P	Silencer band	To dampen resonance
Q	'S' Hook	To support detached callipers
R	Spacers	Place over wheel nuts
S	Threaded bars	For non-threaded calliper mounts
T	Socket cap bolts	M10 x 70mm
U	Socket cap bolts	M10 x 80mm
V	Socket cap bolts	M10 x 90mm
W	Socket cap bolts	M8 x 70mm
X	Allen key	6mm
Y	Allen key	8mm

4.2 Make ready

Place vehicle in NEUTRAL with parking brake OFF and raise on lift. Start on passenger side and remove wheel nuts and wheel. Remove the brake calliper and hang it out of the way using the S-Hook (fig.1-Q). Remove all rust and dirt from the brake calliper bolt area. Failure to clean these surfaces will result in unsatisfactory machining.

4.3 Check brake disc (See fig.11)

Check the thickness of the brake disc and compare the measurement with the specifications issued by the car manufacturer in question. If the disc is thinner than the minimum measurements we advise you NOT to turn the disc.

4.4 Mount correct adaptor set. Select the adaptor set with threads matching the brake calliper mounting bolts. 10 different adaptor sets are supplied with the machine: No. 1, 3, 7, 8, 9, 11, 12, 13, 48, 60. The number is stamped into the adaptor except on the hollow adaptors No. 7. These 10 sets are suited for the majority of vehicles. The various types of threads supplied with the machine are listed in the accessory table opposite.

Example:

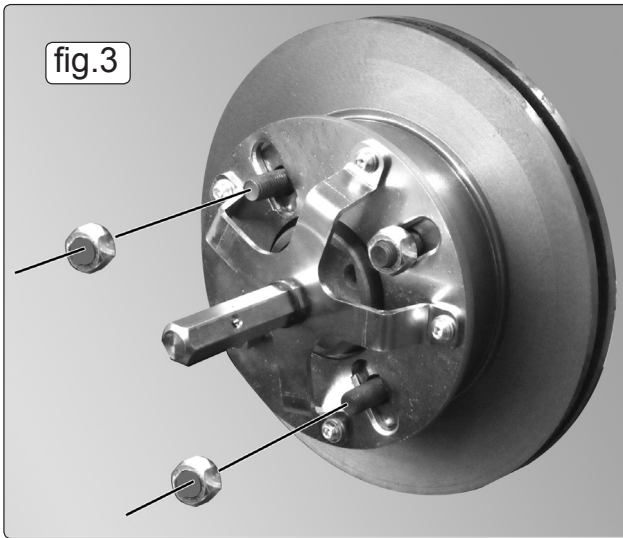
Measure the size of the brake calliper mounting bolts: Outside size of thread is 8 mm, pitch of thread is 1.25 mm. Length with thread is 12 mm, then use adapter No. 1 (M8 x 1.25 mm L = 12 mm) If the calliper mounting holes are not threaded, use the hollow adaptors 'C' (adaptor No.7), the threaded bars 'S', and appropriate allen bolts (T, W, U, V) as shown in fig.2. Ensure that the threaded bars are positioned so as not to interfere with the travel of the lathe head cutters.

4.5 Resonance

The silencer band (fig.1-P) can be mounted around the outer edge of the disc in order to absorb resonance during machining if desired. This must be done before mounting the lathe. The silencer band is recommended primarily when turning thin discs as the disc can resonate during machining which results in a poor end result.

4.6 Mounting the correct carrier

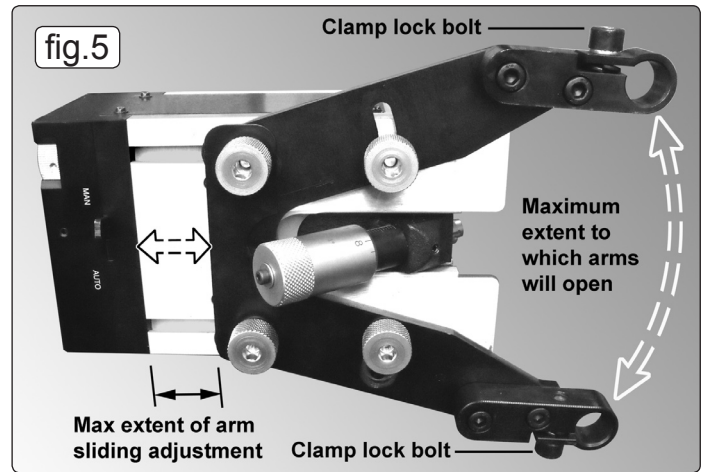
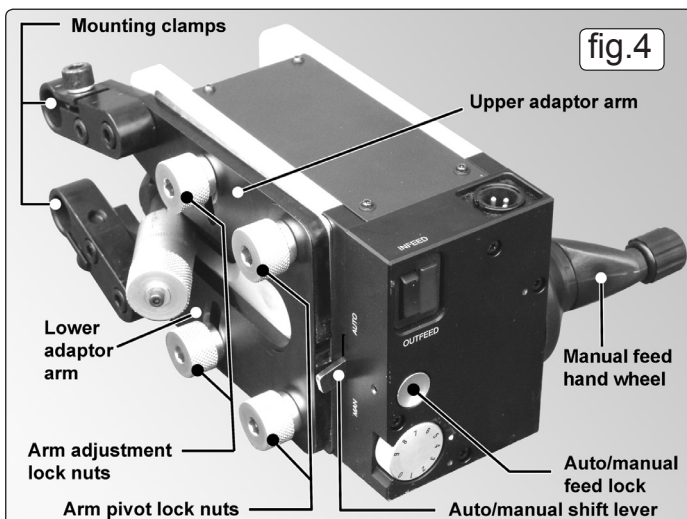
Place spacers 'R' on wheel studs and mount the matching carrier 'K' or 'L'. **Tighten the nuts carefully by hand to centre the carrier and tighten up gently with spanner.**



4.7 Mounting the Lathe Head.

NOTE: The Lathe Head is mounted on the brake calliper mountings and will be orientated towards the front of the vehicle whichever side it is on. When the Lathe Head is moved from one side of the vehicle to the other it will be necessary to rotate it through 180° on its length axis to achieve the correct positioning.

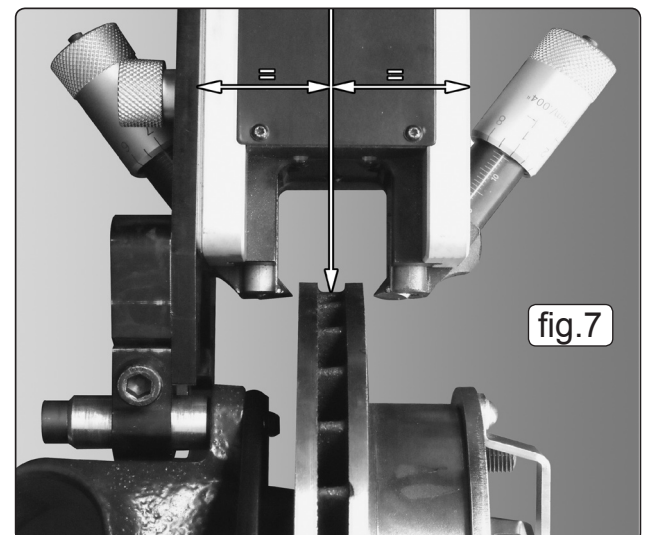
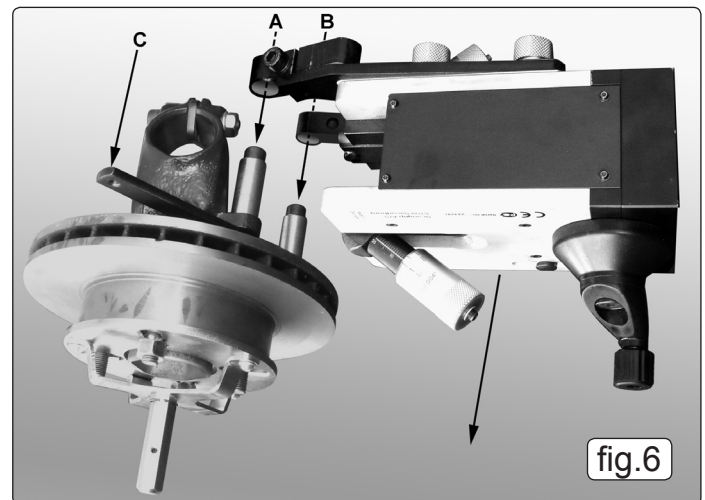
4.7.1 Before mounting the machine, the cutting tools (see fig.16) should be backed into the machine as far as possible. Referring to fig.4 keep the auto/manual feed lock button pressed in and move the auto/manual shift lever from the 'AUTO' position to the 'MANUAL'



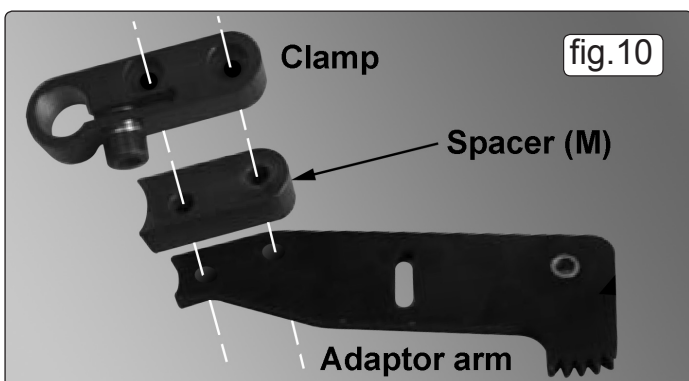
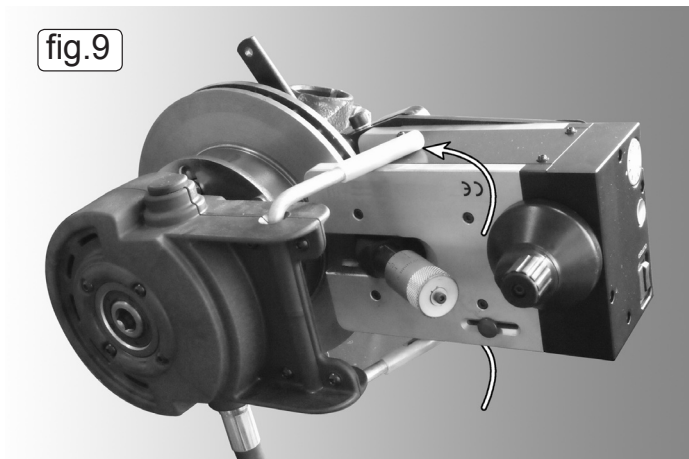
position and release the lock button. Now the cutting tools can be backed into the machine by turning the manual feed hand wheel.

4.7.2 The adaptor arms are mounted on sliding tracks as shown in fig.5 and should be pushed as far forward as possible prior to mounting the head. Referring to fig.4, loosen the arm pivot lock nuts and the arm adjustment lock nuts and slide the arms forward as far as they will go. Half tighten the pivot lock nuts to stop the arms sliding back. Measure the distance between the centres of of the adaptors previously fixed to the calliper mountings (see fig.2). Adjust the opening of the adaptor arms to match the centres just measured and tighten the lock nuts.

4.7.3 Manoeuvre the lathe head onto the adaptors as shown in fig.6 and centre sideways so that the centre line of the lathe head is aligned with the centre line of the brake disc (see fig.7). Tighten the two clamp lock bolts (see fig.5). Loosen the four adaptor arm lock nuts and push the lathe head forwards until the cutting tips are 5-7mm from the disc edge. Retighten the arm lock nuts with the 8 mm Allen key provided. The lathe head is now ready.



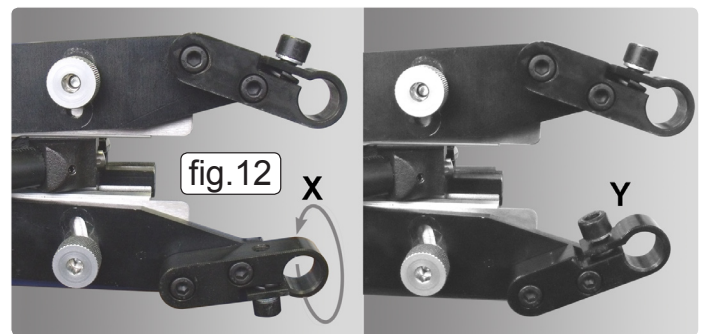
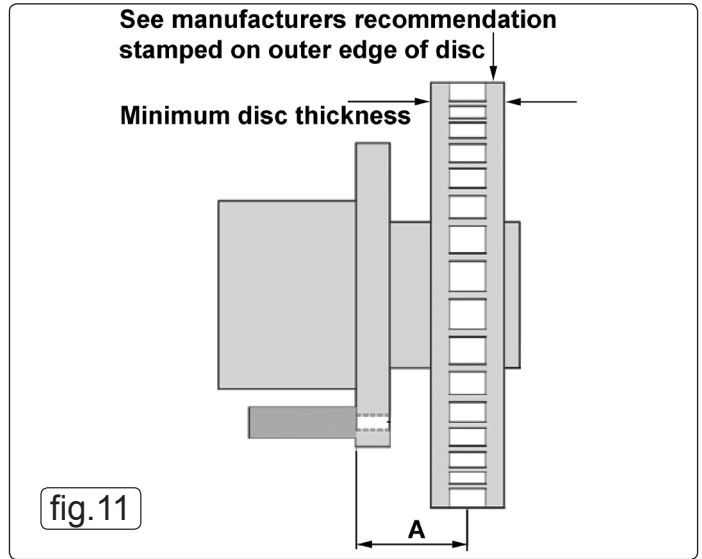
4.7.4 Position the mobile drive unit close to the mounted lathe head. Pull the worm drive from off its storage spigot on the back of the mobile unit (see fig.8 below) and push it onto the hexagonal drive shaft on the carrier. Align the worm drive with the lathe head and swing the bracket on the worm drive over the brake lathe head (see fig.9). Connect the mobile unit to a 230V power outlet and the lathe head to the mobile unit with the spiral cord. The machine is now ready for use.



5. DIFFICULT ACCESS SITUATIONS

5.1 Use of the spacers (M).

When the distance from the bottom of the adaptor to the centre of the disc (measurement A in fig.11) is 58 mm or more the spacer (M) should be used. Unbolt the clamp on each arm. Insert the spacer between the clamp and the adaptor arms as shown in fig.10. Fix the assembly using the longer bolts provided.



5.2 Lack of space to mount lathe head.

On some vehicles it is not possible to mount the lathe head as previously described due to lack of space.

5.2.1 Case No:1

There is not enough room to tighten the socket cap screw on the adaptor arm clamp. This may be due to some part of the cars structure or a hand brake cable being in the way e.g. rear wheel of Ford Mondeo.

5.2.2 Solution.

See fig.12 above. Unbolt the lower adaptor clamp (X). Rotate it through 180° and refix it with the clamp bolt facing upwards as shown at (Y) above thus making it accessible.

5.2.3 Case No:2

There is not enough room to place the lathe head sideways onto the adaptor pillars due to lack of space inside the bumper e.g. rear wheel of Toyota Avensis. Similar situations may also occur where some part of the suspension such as a bolt on the McPherson strut restricts access.

5.2.4 Solution.

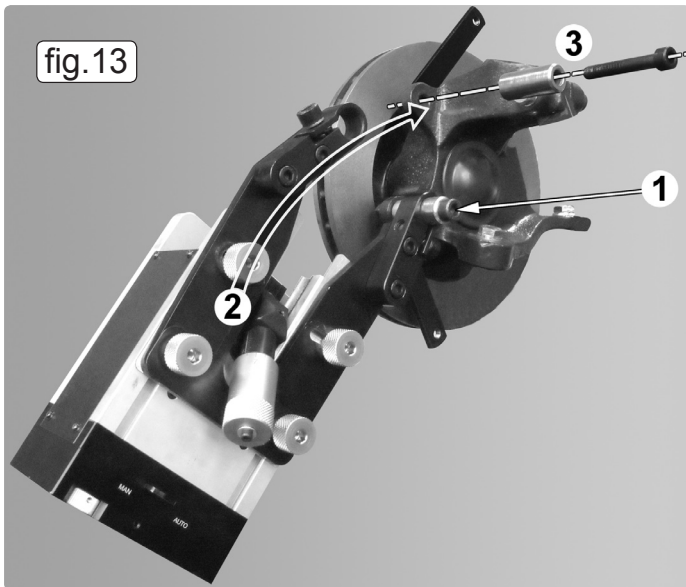
See fig.13. Mount the lower adaptor pillar first (1) and slide the lathe head lower clamp onto it. Rotate the lathe head upwards (2) until the upper pillar is aligned with the upper calliper fixing. Insert the upper adaptor pillar through the upper clamp and bolt (or screw) it into place.

5.2.5 Case No:3

In some cases the large size of the brake disc makes it impossible to mount the lathe head from the side.

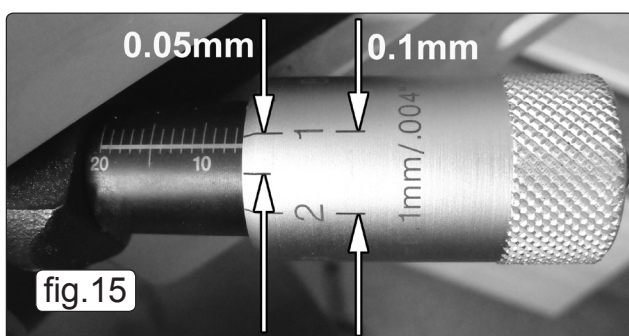
5.2.6 Solution.

The solution is similar to case no:2 but with the assembly performed in the reverse order i.e. mount the upper adaptor pillar first. Then mount the lathe head on it and hinge it downwards so that the lower adaptor pillar can be mounted.



6. OPERATING INSTRUCTIONS

- 6.1** Mount the lathe and attach the drive motor according to instructions in the section 4.
- 6.1.1** Set the drive direction switch on the mobile unit (see above) so that the disc will be turning down onto the carbide tips of the cutting tools. The cutting tips are on the same side of the cutting tools as their retaining screws. See fig.16.
- 6.1.2** Turn the drive speed control on the mobile unit to position 4.
- 6.1.3** On the lathe head, press the Manual & Auto lock button (fig.17) and move the auto/man shift lever to MAN. Using the manual feed handle move the cutting tool tips 5-10 mm inwards from the outer edge of the disc. Use the cut depth micrometers on either side of the unit, move both cutting tool tips towards the disc until they just touch the disc surface.
- 6.1.4** Then turn the handwheel to manually feed the cutting tools outwards toward the edge of the disc to remove any rust build-up on the outer edge.
- 6.1.5** Next, manually feed the cutting tools inward towards the centre of the disc to a point slightly beyond the contact surface of the brake pads. Use care as the depth of cut may vary due to runout in the surface of the disc.
- 6.1.6** Slide the auto infeed stop button (fig.17) outwards to set the auto stop. This sets the point where the cutting tools will stop during automatic feed towards the centre of the rotor/disc. Press the Manual & Auto lock button (fig.17) and move the auto/man shift lever to AUTO.
- 6.1.7** Turn both cut depth micrometers clockwise one large division to move the cutting tool tips into the faces of the disc by 0.1 mm. Figure below illustrates that 0.1 mm is the distance between two numbers on the micrometer.

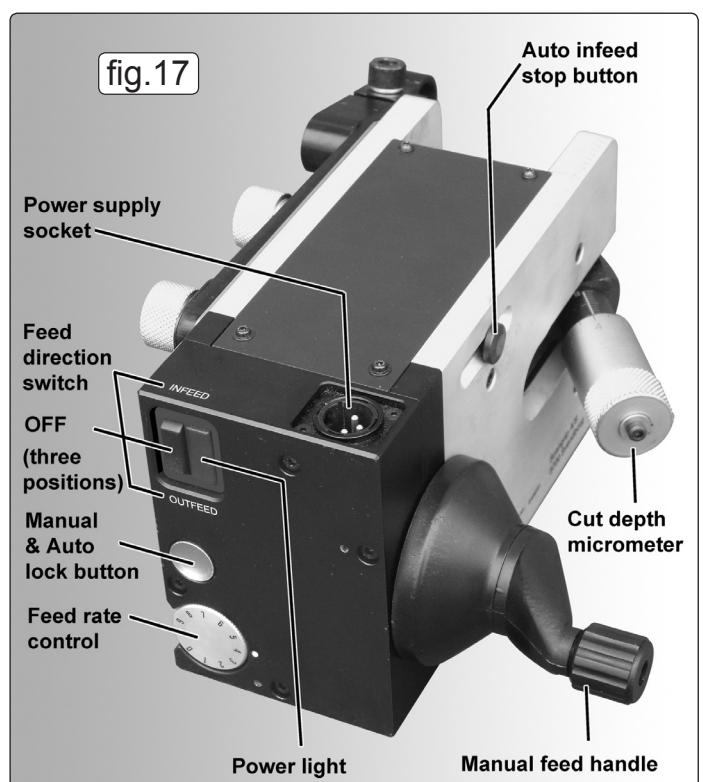
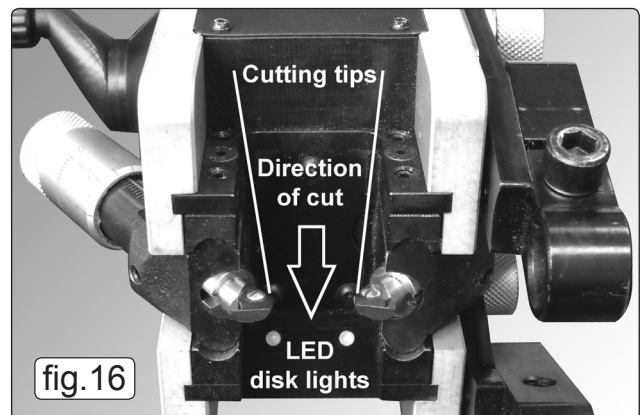


6.2 Rough cut

- 6.2.1** Turn the feed rate control (fig.17) on the lathe head to 9 (fast feed).
- 6.2.2** Set the feed direction switch (fig.17) on the lathe head to OUTFEED. The lathe cutting tools will automatically feed outwards, making a rough cut on the disc.
- 6.2.3** When the cutting tools have moved outwards beyond the edge of the disc, move the feed direction switch on the lathe head to the central OFF position. See fig.17.
- 6.2.4** Move the drive direction switch on the mobile unit to the central 'O' (OFF) position and check the surface of the disc. It should have a rough cut surface across the entire face on both sides. If not, make another rough cut, otherwise proceed to the next step for a finish cut.

6.3 Finish cut

- On the mobile drive unit, start the drive motor turning in the correct direction. Turn both cut depth micrometers clockwise one small division to move the cutting tool tips towards the face of the disc by 0.05 mm. See fig.15. On the mobile drive unit, turn the drive speed control to position 9 and the feed rate control on the lathe head to position 3.
- 6.3.1** Move the feed direction switch on the lathe head to INFEED. The lathe cutting tools will automatically feed inward making a finish cut on the disc. The cutting tools will automatically stop at the position where the auto infeed stop was set.
- 6.3.2** One rough cut and one finish cut are normally sufficient for most applications. If not, repeat rough and/or finish cuts as required. When a satisfactory surface finish has been obtained, press the Manual & Auto lock button (fig.17) and move the auto/man shift lever to MAN. Back the cutting tool tips away from the disc by turning the cut depth micrometers counter-clockwise.
- 6.3.3** Use the handwheel to back the cutting tools to a position beyond the outer edge of the disc. Remove the lathe and repeat the operation on the other side of the vehicle.



7. MAINTENANCE

7.1 Check cutting tool edges.

Turn or replace worn tools (each tip has 3 cutting points). When rotating or replacing the cutting tips clean the tool holder plate thoroughly with a brush.

7.2 Slideway adjustment.

Periodically check the slideways for 'play'. When fully extended from the lathe, there should be no movement of the tool holders when pulled up or pushed down.

7.2.1 Unsatisfactory surface finish on discs is often an indication that the slideways need adjustment.

7.2.2 Do not attempt to adjust the slide ways yourself. This is a skilled job and the lathe head should be returned to your Sealey dealer who will arrange adjustment.

Parts support is available for this product. To obtain a parts listing and/or diagram, please log on to www.sealey.co.uk, email sales@sealey.co.uk or phone 01284 757500.

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

IMPORTANT: No liability is accepted for incorrect use of this product.

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



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