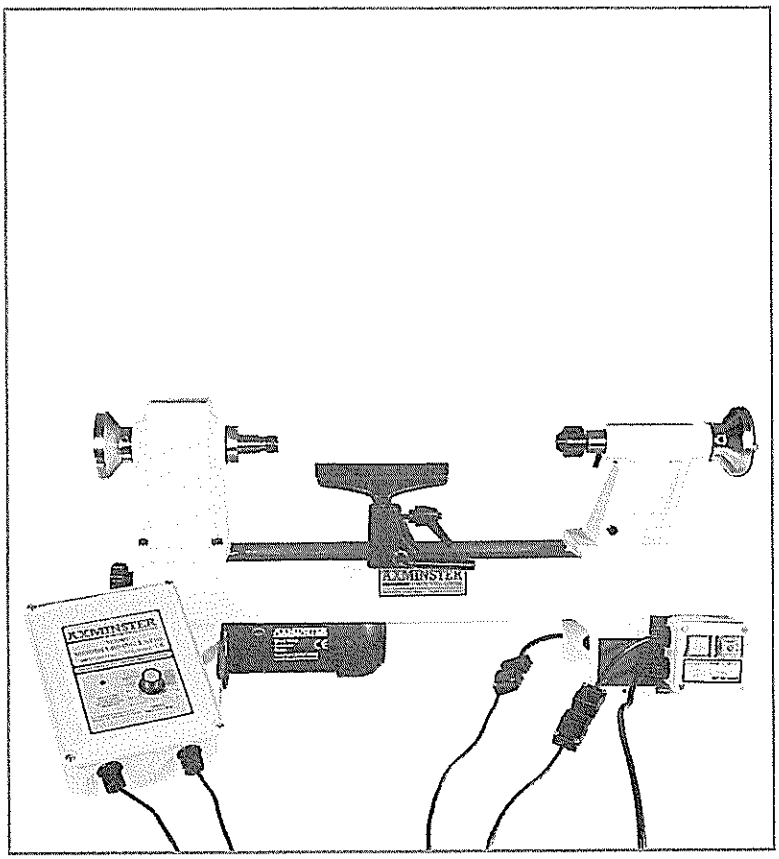
APTC M330/M600 (V)
Woodturning Lathe

INSTRUCTION



MANUAL

AXMINSTER®
POWER TOOL CENTRE

General Safety Instructions For Machine Tools

KNOW YOUR MACHINE TOOL

Read and understand the owner's manual and labels affixed to the tool. Learn it's application and limitations as well as specific potential hazards peculiar to the tool.

EARTH ALL TOOLS

This tool is equipped with an approved 3 core cable. The green and yellow conductor in the core is the earth wire. NEVER connect the green and yellow wire to a live terminal.

KEEP GUARDS IN PLACE

Keep all guards in place. They are there for your protection and do not interfere with the correct operation of your machine.

REMOVE ADJUSTING KEYS AND WRENCHES

Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

KEEP WORK AREA CLEAN

Cluttered areas and benches invite accidents. Floors must not be slippery due to oil or sawdust. Make sure you clean up any waste materials on completion of any jobs.

AVOID DANGEROUS ENVIRONMENTS

Do not use power tools in damp or wet locations or expose them to rain. Keep work area well lit. Provide adequate surrounding work area.

KEEP CHILDREN AWAY

All visitors should be kept a safe distance from work area. Children are naturally curious therefore ensure they are closely supervised when they are near the work area.

MAKE WORKSHOP CHILDPROOF

Many machines have lockable switches that can be secured with a small padlock or have a removable key. Please make use of them to prevent unauthorised operation of your machines.

DO NOT FORCE TOOL

It will do the job better and safer at the rate for which it was designed. Develop a patient approach to the work, you will get a better result in the finished product.

WEAR PROPER CLOTHING

Do not wear loose clothing, gloves, neckties or jewellery that can catch in moving parts of machinery. Non-slip footwear with steel toecaps is recommended. Wear protective hair covering to contain long hair. Roll up long sleeves above the elbow.

SECURE WORK

Use clamps or a vice where applicable to hold work. This frees both hands to operate tool correctly and thus produces better results.

DIRECTION OF FEED

Feed work into a blade or cutter against the direction of rotation of the blade or cutter only. This will reduce the danger of kick back which is a serious hazard.

USE SAFETY GOGGLES AND FACE PROTECTION

Wear safety goggles (complying to relevant standards) at all times. Normal spectacles only have impact resistant lenses and are NOT sufficient. Also use face or dust masks if cutting operation is dusty (connection of machine to a dust extractor is preferred). Always wear ear protectors for cutting, sawing, planing or routing operations. Your hearing can be permanently damaged if exposed to long periods of high noise levels.

DO NOT OVERREACH

Keep proper footing and balance at all times.

MAINTAIN TOOL WITH CARE

Keep tools sharp and clean at all times for the best and safest performance. Follow manufacturer's instructions for lubricating and sharpening and also for changing accessories.

DISCONNECT POWER TO THE TOOLS

Before servicing or when changing accessories always disconnect power supply to avoid accidental start up.

AVOID ACCIDENTAL START UP

Make sure switch is in "OFF" position before plugging in cable to the power supply.

USE RECOMMENDED ACCESSORIES

Consult the owners manual for details of any manufacturer's accessories or contact your supplier for details of recommended accessories. Follow the instructions that accompany the accessory. The improper use of accessories may cause hazards. The fitting of non-recommended accessories may also cause hazards.

NEVER STAND ON TOOL

Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted. Do not store materials above or near the tool such that it is necessary to stand on the tool to reach them.

CHECK DAMAGED PARTS

Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function. Check for alignment 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. A parts list is to be found at the back of your operator's manual.

NEVER LEAVE A MACHINE RUNNING UNATTENDED

ALWAYS turn power off. Do not leave machine until it comes to a complete stop.

DRUGS, ALCOHOL AND MEDICATION

NEVER operate tools whilst under the influence of drugs, alcohol or after taking medication.

USE THE CORRECT TOOL

Do not force a tool or attachment to do a job for which it was not designed. This is dangerous workshop practice.

Basic Safety For Woodturning Lathes

PLEASE READ CAREFULLY ALL THE INSTRUCTIONS IN THIS MANUAL.
The safety information in this manual is highlighted by the following safety alert symbols indicating the level of risk:-

DANGER means if safety information is not followed someone *will be* seriously injured or killed.

WARNING means if safety information is not followed someone *could be* seriously injured or killed.

CAUTION means if safety information is not followed someone *may be* seriously injured or killed.

When using this Woodturning Lathe please follow basic safety precautions including the following:-
DO read and understand this owner's manual and all labels on the woodturning lathe before operating. Use only as described in this manual. To avoid personal injury or damage to lathe use only recommended accessories.
DO place unit on a stable, level surface.
DO unplug power cord before cleaning or servicing in order to avoid injury from accidental start up.
DO turn off controls before unplugging.
DO keep hair, loose clothing, fingers and all parts of the body away from openings and moving parts.
DO connect to properly earthed power outlet only (see EARTHING INSTRUCTIONS).
DO only use this lathe for machining hard and soft woods. The maximum diameters and lengths of the workpiece are defined in the instruction manual.
DO ensure workpieces are completely free of foreign objects such as nails and screws. Also avoid knots and cracks.
DO ensure workpiece is properly secure.
DO ensure chuck key and any other wrenches and tools are removed from machine before starting machine up.
DO observe all safety labels and warnings attached to the machine and keep them clear and legible.
DO use only well sharpened, good quality woodturning tools. Replace or resharpen dull tools immediately.
DO keep all covers in place when using lathe.
DO ensure lathe is stationary and switched off before making any adjustments to tool rest, tailstock, headstock or workpiece mounting. When changing from spindle to bowl turning operations or when carrying out routine maintenance or cleaning the machine must be disconnected from the power source.
DO ensure all maintenance of an electrical nature is carried out by a qualified electrician.
DO keep a clean and tidy workshop. Store tools not being used well away from the work area. Remember, wood shavings are a fire hazard. The dust generated by wood can be injurious to health. Always site your lathe in a well ventilated area. Provide for proper dust extraction and collection as necessary.
DO NOT allow to be used as a toy. Close attention is necessary when used by or near children.
DO NOT leave the appliance plugged in. Unplug from outlet when not in use and before servicing.
DO NOT unplug by pulling on the cable. To unplug, grasp the plug, not the cable.
DO NOT use with damaged cable, plug or other parts. If your woodturning lathe is not working as it should, has missing parts, has been dropped, damaged or is defective in any other way return to Service Dealer.
DO NOT handle plug of lathe with wet hands.
DO NOT divert or distract persons working on this lathe as there is always danger to fingers and hands.
DO NOT remove or render inoperable the safety mechanisms incorporated into the lathe.
DO NOT leave the machine running unattended. Switch off and remain with the machine until it comes to a complete stop.

Introduction

We wish you every success with your APTC M330/M600 (V) woodturning lathe and stress the importance of reading and thoroughly understanding the information contained within this instruction manual. As with all machinery there are certain hazards involved, following these instructions carefully will enable you to use the machine correctly and with safety. If you do have any questions relating to its application we strongly advise you to contact your supplier. In addition to the safety requirements contained within this instruction manual, you should observe the generally recognised rules governing the operation of woodworking machinery and your country's applicable regulations.
Whilst unpacking your machine, please check all components for damage or shortages, and inform your supplier immediately. Please use only genuine parts for any necessary replacements needed during the lifetime of your machine. You will find a parts list contained within this manual. When ordering parts, please use the part number, description of part and give year of purchase of machine.

Important Note

In accordance with liability laws the manufacturer or supplier shall not be responsible for damage or accidents arising from the use of this machine as a result of unauthorised use; improper use; non-compliance with operating instructions; repairs made by unauthorised or incompetent persons; the installation and use of parts and replacements which have not been approved by the manufacturer or supplier; or the failure of the electrical system as a result of misuse and non-compliance with BS EN60 204-1 Part 1 (1993).

Caution

A copy of the instruction manual should always be kept near the machine and should be read and understood by **every operator** before beginning work. Further copies of this instruction manual are available from the manufacturer or your supplier at the cost of postage only.

Precautions For Safe And Proper Use

If you are unfamiliar with the use of a woodturning lathe seek advice from your supervisor, instructor or other qualified person. If you are an amateur or hobbyist woodturner just starting out on this fascinating hobby we would strongly advise joining at least a short course of professional tuition from a recognised woodturning instructor. Advertisements for courses and tutors can be found in all woodworking or woodturning magazines sold in the UK. Many local education authorities run evening classes in this subject.
A national association exists to promote interest in woodturning - The Association of Woodturners of Great Britain, Keepers Cottage, Lee, Ellesmere, Shropshire SY12 9AE.

Specification

MODEL:		M330 (V)
MAXIMUM DISTANCE BETWEEN CENTRES:		330mm (13")
CENTRE HEIGHT OVER BED:		120mm (4¾")
TURNING CAPACITY BETWEEN CENTRES:		330mm(13")
BOWL TURNING CAPACITY:		240mm (9¾")
MOTOR POWER:		.375w (½hp)
HEADSTOCK SPINDLE SPEEDS:	M330	6 speeds (420, 720, 1040, 1500, 2200, 3250 rpm)
	M330(V)	6 variable speed ranges from 210-4875 rpm
HEADSTOCK SPINDLE DIMENSIONS:		Diameter 25mm (1"); Thread 8 tpi; Bore 2MT
TAILSTOCK BARREL DIMENSIONS:		Bore 2MT; Travel 55mm (2⅛")
WEIGHT:		32kg (65 lbs)
MODEL:		M600(V)
AS ABOVE EXCEPT:		
MAXIMUM DISTANCE BETWEEN CENTRES:		600mm (23½")
TURNING CAPACITY BETWEEN CENTRES:		600mm (23½")
WEIGHT:		35kg (70 lbs)

Machine Mounting And Siting

There are four mounting holes on the chassis of the lathe which are used to secure it. Either bolt the lathe directly to a suitable work bench using bolts of 8mm diameter, long enough to pass through the thickness of the work bench plus approximately 25mm. Alternatively mount the lathe onto a platter of hardwood, plywood or medium density fibre board (MDF) of at least 25mm thickness. We would suggest a size of approximately 90 x 30cm to give stability in use. Some means of securing the platter when using the lathe would be appropriate. Below (Fig 1) is a plan of the mounting holes in the lathe chassis.

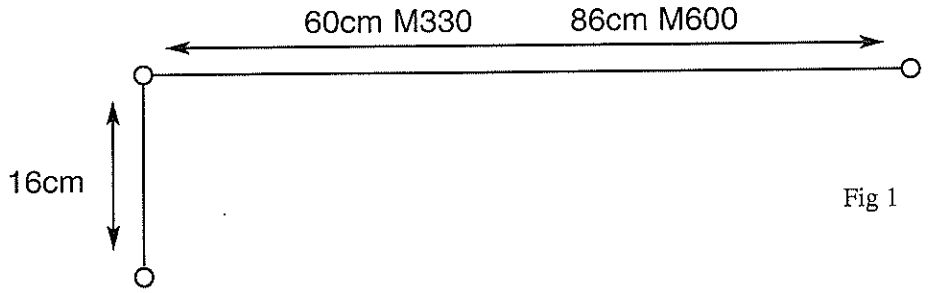


Fig 1

Operation

Power Supply

Your woodturning lathe is pre-wired at the factory. The voltage and amperage are indicated on the label affixed to the motor and switch cover. Please read all the labels carefully before connecting the lathe to the power source. Please use a Time Delay Fuse or Circuit Breaker of the correct voltage and amperage. **Failure to do so can result in injury from shock or fire and damage to the motor.** Machines supplied for UK use are fitted with 13 amp moulded plug and 13 amp fuse.

Warning

If not properly earthed this woodturning lathe can cause an electrical shock particularly when used in damp conditions.
If power cord is worn or damaged in any way have it replaced immediately by a qualified electrician.

Earthing Instructions

Your woodturning lathe must be properly earthed. Not all power sources are properly earthed ie portable generators. If you are not sure that your power source is properly earthed, have it checked by a qualified electrician. This machine must be earthed. If it should malfunction or breakdown, earthing provides a path of least resistance for electrical current thereby reducing the risk of electrical shock. This machine is fitted with a cord which has a machine earthing conductor and an earthing plug (standard UK 13 amp). The plug must be installed into a power outlet that is properly installed and earthed in accordance with UK installation codes and practices.
If the power outlet source is not a standard UK 13 amp socket you must make sure that it is adequately earthed. If a properly earthed power outlet source is not available have one installed by a qualified electrician.
Improper connection of the equipment earthing conductor can result in a risk of electric shock. Check with a qualified electrician if you are in doubt as to whether or not the power source is properly earthed.
Do not modify any of the electrical components provided with the machine. If any are, or become, damaged have them replaced by your supplier or a qualified electrician.
In dry areas or when the relative humidity of the air is low static shocks are common. To reduce frequency of such shocks add moisture to the atmosphere by installing a humidifier.

Identification Of Components (Fig 2)

1. Tailstock.
2. Headstock Tool Rest Holder.
3. Control Box 330/600 (V) only.
4. Motor.
5. Bed.

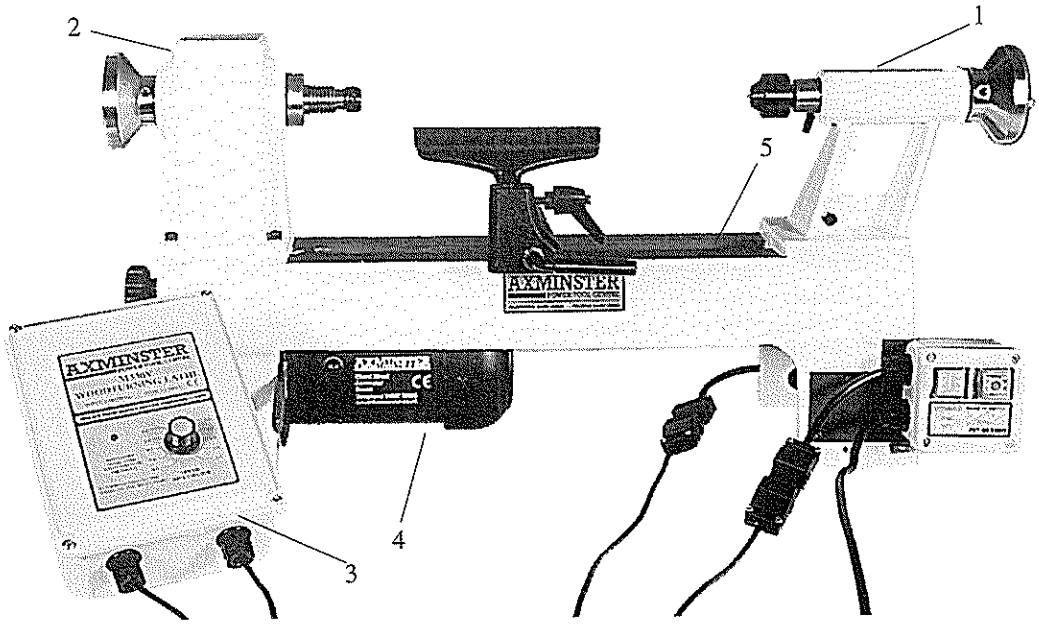


Fig 2

Assembly Instructions

The APTC M330/600 lathe is supplied complete and assembled in it's box and is therefore ready to go once you have read and fully understood this manual.
The only assembly work prior to operating the APTC M330 (M600) model as an electronic variable speed machine (M330V, M600V) is the connection of the control box to the lathe. This is achieved by separating the in-line connector situated in the cable between the switch and the motor. You **MUST** disconnect the power by removing the plug from the power supply before commencing this operation. You will find matching opposite halves on the leads coming from the control box. Fit these to the in-line connector. When the control box is connected correctly, reconnect the lathe to the power supply. The lathe is started in the normal way by operating the On/Off switch, which also supplies power to the control box.

Operation Of Controls

On/Off Switch (A Fig 3)

The APTC M330/M600 (V) is fitted with a No Volt Release switch for your safety. This unit does not require any maintenance. The earth connection is within the control box. The 3 pin 13 amp plug must be fitted with a 13 amp fuse. Press the Green "ON" button and the headstock spindle will rotate in an anti-clockwise direction when viewed from the spindle nose. Press the Red "OFF" button and the spindle should stop revolving very quickly.

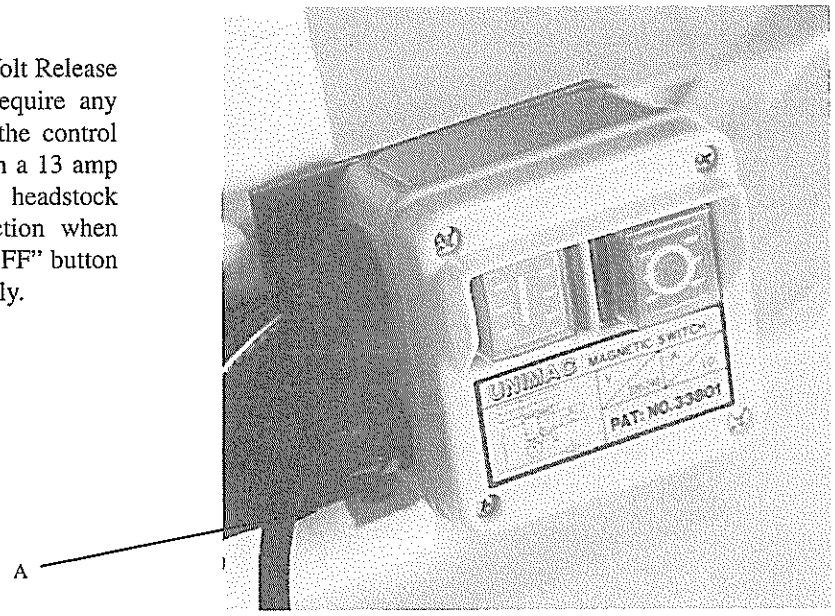


Fig 3

Variable Speed Control System M330/M600V (Fig 4)

Fig 4

This control system is a simple "plug-in" unit that offers the user a choice of 6 speed ranges to enable complete control of spindle speed within a range of 210 - 4875 rpm. The speed control knob on the control box varies the speed of the headstock spindle by a factor of -50% to +50% in relation to the standard belt speed as marked on the speed chart on the machine, ie, belt speed 4, 1500 rpm, becomes variable between 750 - 2250 rpm. You use this electronic control to either gain a speed range in any selected belt speed or to take advantage of the lower or higher revolutions available. You can also gain extra "power" by using a lower belt ratio and increasing the motor speed. The control unit is housed in a fully dust and moisture proof steel box and has a built in overload protection system. As the unit has a "soft start" facility there is a small delay when starting the lathe with this unit fitted.

BELT SPEED CHANGING (Fig 5)

When you wish to change the belt ratio the procedure is as follows. Firstly, loosen the screw (A Fig 5) enough to allow the hatch to be opened. Then remove screw (B Fig 5) and pull knob (C Fig 6) against it's spring to allow the hatch to open. Now slacken the motor clamp lever (D Fig 6) and raise the motor to slacken the drive belt. This will enable you to slip the belt onto the alternative pulley grooves on the motor and headstock pulleys. Now tighten the belt by lowering the motor and re-tighten the motor mounting clamp lever. Close the hatches and tighten the screws to secure the hatches.

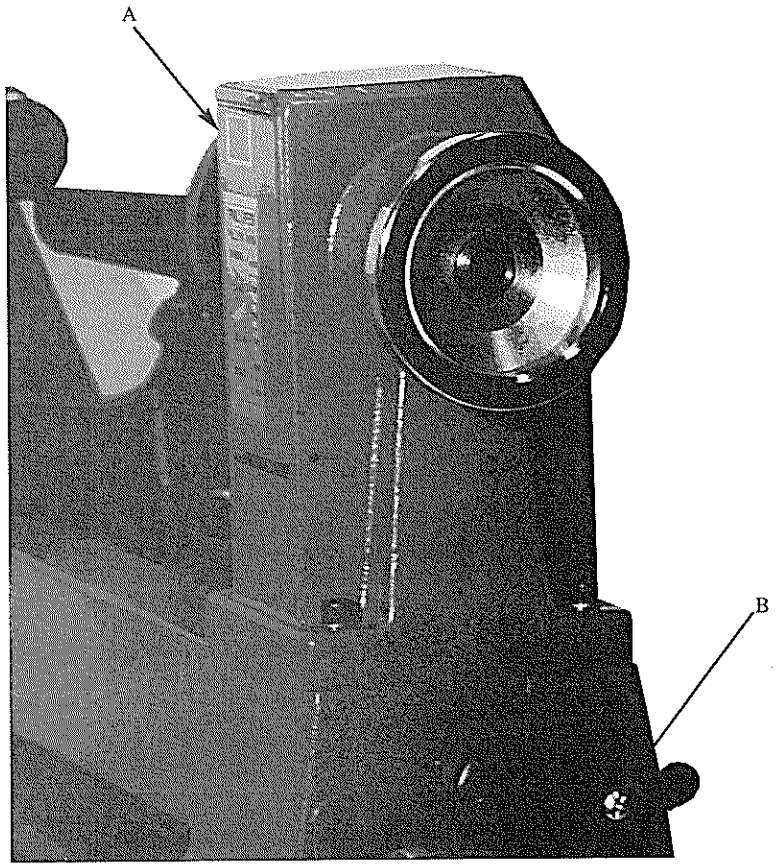


Fig 5

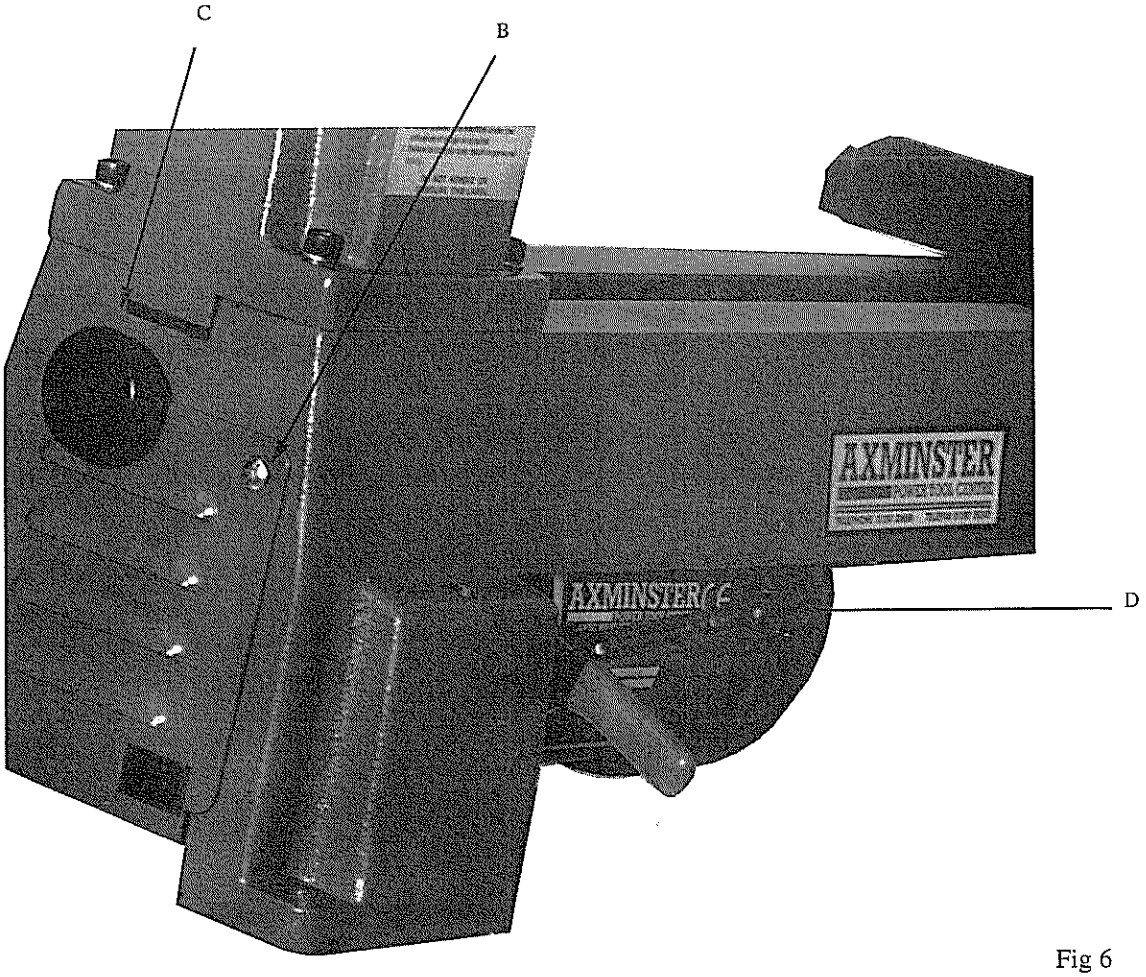


Fig 6

TAILSTOCK HANDWHEEL (A Fig 7)

Turn clockwise to move tailstock spindle forwards. Turn anti-clockwise to retract spindle. This will also eject any accessory held in the tailstock taper.

TAILSTOCK SPINDLE LOCK (B Fig 7)

Locks tailstock spindle. Undo before adjusting tailstock handwheel.

TAILSTOCK LOCKING LEVER (C Fig 7)

Locks tailstock into position on lathe bed. Release lever to allow the tailstock to be moved closer or further from the headstock. To adjust lever tension, refer to Trouble Shooting Section.

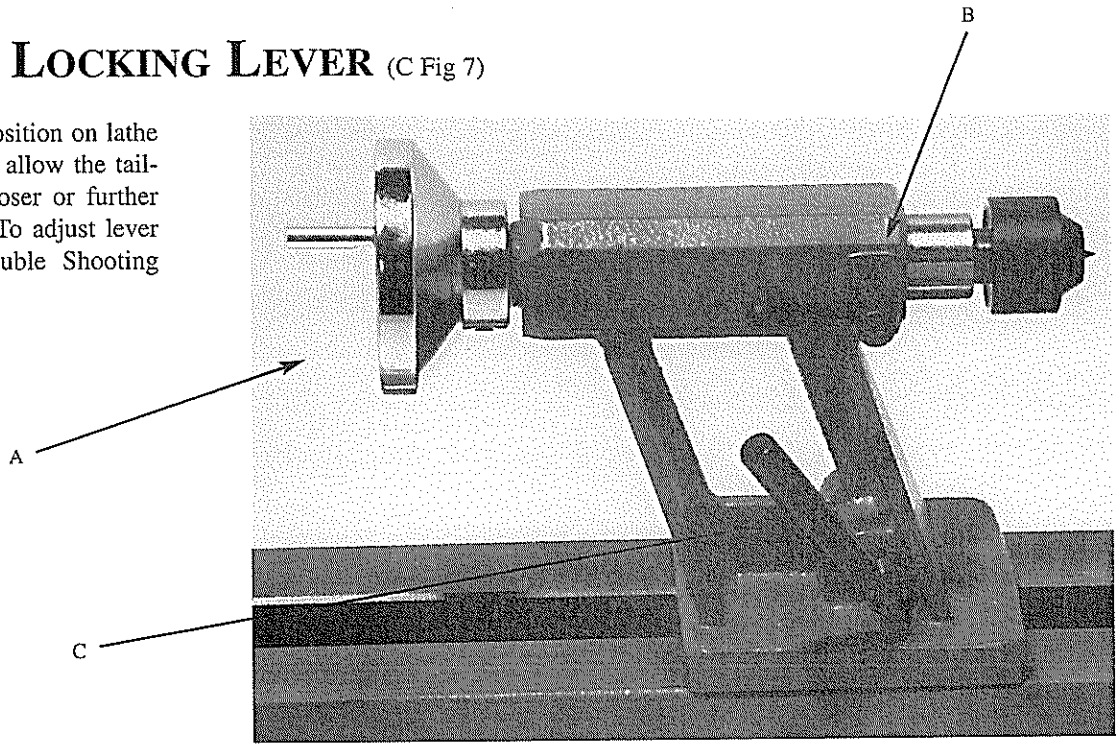


Fig 7

TOOL REST HOLDER LEVER (A Fig 8)

Locks tool rest holder onto lathe bed. Release lever to position tool rest holder into desired location on lathe bed. For adjustment to lever, refer to Trouble Shooting Section.

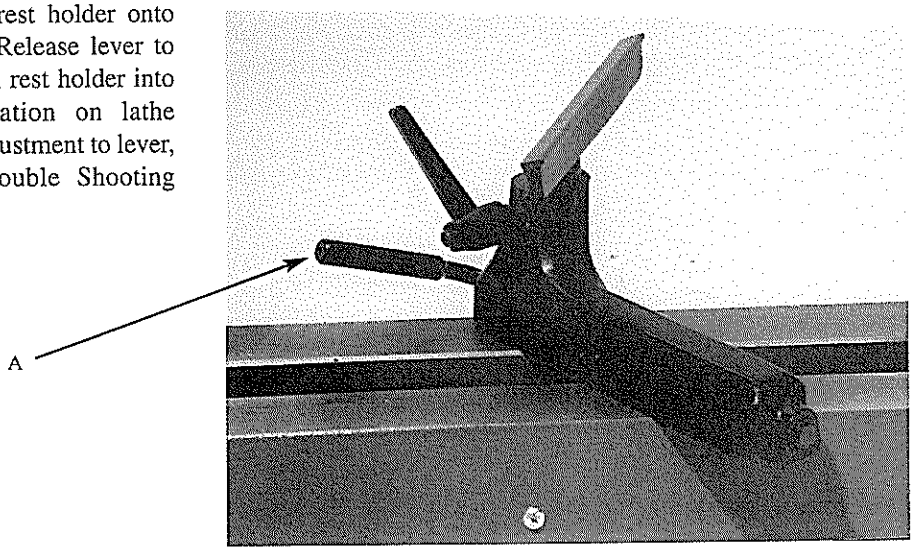


Fig 8

MAINTENANCE

HEADSTOCK MAINTENANCE

The headstock bearings are greased for life and require no maintenance. However, they do wear out and will eventually need changing. This is a reasonably involved job and one which if you are not confident about doing yourself is best left to your supplier to do for you.
For those customers who feel they can competently carry out such a task, proceed as follows:
The tools required are a 3mm Allen key and a copper or hide mallet.
The spare parts required are: 1 off 6004 bearing; 1 off 6006 bearing (plastic seals are preferred); 1 off drive belt (it is best to change the belt whilst you are doing this job as the process is the same).
Firstly, loosen the motor mount clamp lever and raise the motor. Re-tighten the clamp lever. Undo the headstock belt hatch securing screw and wedge the hatch open. Now undo the two securing grub screws on the flywheel and unscrew the flywheel clockwise (lefthand thread) holding the headstock spindle with the tommy bar. Note the 'wavy' washer behind the flywheel. Now undo the grub screws holding the pulley onto the headstock spindle, now gently tap the headstock spindle from the flywheel end with the mallet, it should come out quite easily. Remember to 'catch' the spindle pulley as the spindle is removed. You will need to remove the spindle bearings from inside the headstock casing with a suitable drift (a discarded small wooden spindle perhaps) and fit new bearings by pressing or tapping home with a small wooden block.
Now refit the spindle through the front bearing, fit the spindle pulley onto the locating keyway and pass the spindle through the rear bearing. Refit the flywheel, not forgetting the 'wavy' washer and tighten as far as possible by hand. It might help to just firmly tap the spindle nose with the mallet to seat the spindle into the front bearing. Ensure the spindle can spin freely, if not undo the flywheel slightly. Now re-tighten the securing grub screws on the flywheel. Make sure that the spindle pulley is aligned correctly and tighten the securing grub screws. Re-tension the motor drive belt, close the belt hatch and test run.

MOTOR MAINTENANCE

The motor bearings are sealed for life. The motor itself needs no maintenance on a regular basis.

TAILSTOCK MAINTENANCE

It is advisable that the tailstock barrel be removed periodically to grease the internal thread. This is done by loosening off the spindle locking lever completely and rotating the handwheel clockwise until the barrel no longer moves outwards. You can now withdraw the barrel from the tailstock, clean out any contamination and re-grease. The outside of the barrel can also be lightly smeared with grease. Refit the barrel into the tailstock until the thread locates onto the tailstock screw and rotate the handwheel anti-clockwise. Make sure that the keyway locates in line with the tailstock spindle lock.

BED MAINTENANCE

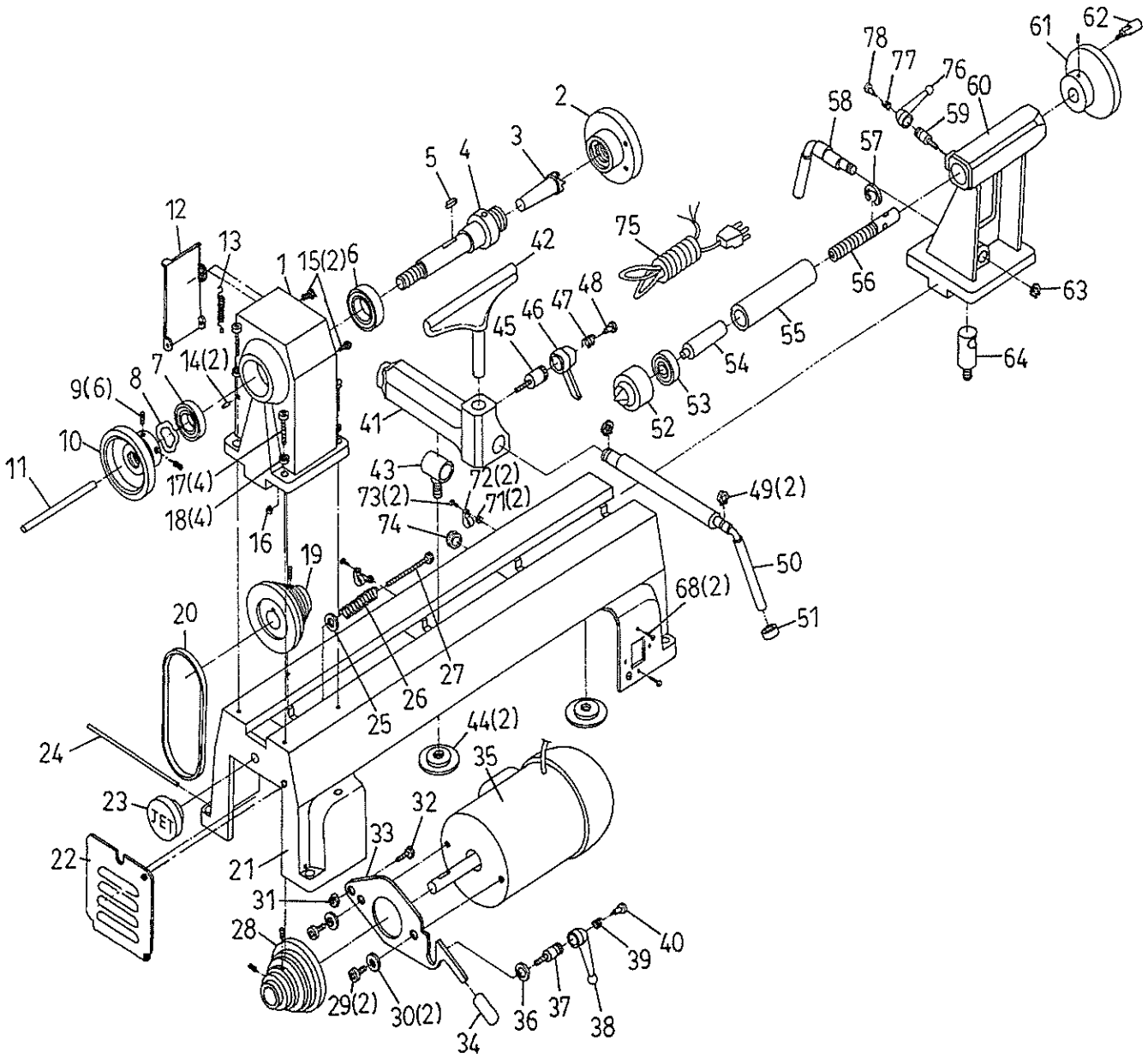
The top surface of the bed is unprotected against corrosion and so will need care to prevent rust forming on the surface. Obviously, a wipe down with an "oily rag" will do the job, but it will probably need cleaning off before you next use the lathe. Our personal preference is to use a multi-use synthetic lubricant. This will put a micronized layer of PTFE on the bed, providing a very low co-efficient of friction as well as preventing corrosion, wear and sticking.

TROUBLE SHOOTING

PROBLEM	SOLUTION
Spindle does not run at high speed.	Check condition of belt, replace if worn. Have high speed setting in control box re-set by your supplier (M330/M600V only).
Tailstock or tool rest holder does not lock into place.	Securing nut underneath bed is too loose. Remove unit and tighten nut until tension is sufficient.
Tailstock handle stiff to turn.	Tailstock locking lever still secured. Tailstock barrel needs greasing. Refer to Maintenance Section.
Motor will not turn.	Fuses blown. Replace the fuse in the 13 amp plug. Switch not operating. Remove unit and return unit to your supplier.
Drive centres do not run true when installed in headstock shaft.	Wood shavings or dust trapped inside headstock shaft taper. Clean out with a clean cloth. Do not leave any oil or grease residue inside the shaft taper.
Vibrating or noisy lathe headstock.	Usually caused by loose headstock motor pulleys. Check tightness of securing grub screws in pulleys. Check condition of headstock bearings. If they are showing signs of slackness or wear, return lathe to your supplier for replacement, alternatively refer to Maintenance Section.
Mechanical seizure of headstock shaft.	Check that headstock can turn freely.

APTC M330/600 PARTS LIST

Index No	Part Description	Qty	Index No	Part Description	Qty
1	Headstock	1	38	Handle	1
2	Faceplate	1	39	Spring	1
3	Spur Centre	1	40	Stud	1
4	Spindle	1	41	Tool Rest Body	1
5	Key	1	42	Tool Rest	1
6	Ball Bearing	1	43	Bolt	1
7	Ball Bearing	1	44	Clamp	2
8	Wave Washer	1	45	Stud	1
9	Set Screw	6	46	Handle	1
10	Handwheel	1	47	Spring	1
11	Drift Rod	1	48	Stud	1
12	Spindle Pulley Door	1	49	C Ring	2
13	Spring	1	50	Eccentric Rod	1
14	Roll Pin	2	51	Bushing	1
15	Round Head Screw	2	52	Live Centre Head	1
16	Hex Nut	1	53	Bearing	1
17	Hex Socket Cap Screw	4	54	Arbor	1
18	Lock Washer	4	55	Tailstock Spindle	1
19	Spindle Pulley	1	56	Leadscrew	1
20	Belt	1	57	E Ring	1
21	Bed	1	58	Eccentric Rod	1
22	Motor Pulley Door	1	59	Stud	1
23	Lock Knob	1	60	Tailstock	1
24	Pin	1	61	Handwheel	1
25	Flat Washer	1	62	Handle	1
26	Spring	1	63	C Ring	1
27	Hex Cap Screw	1	64	Bolt	1
28	Motor Pulley	1	68	Round Head Machine Screw	2
29	Hex Socket Cap Screw	2	71	Hex Nut	2
30	Flat Washer	2	72	Cord Clamp	2
31	Lock Nut	1	73	Round Head Screw	2
32	Hex Cap Bolt	1	74	Cord Protector	1
33	Motor Bracket	1	75	Power Cord	1
34	Handle Protector	1	76	Handle	1
35	Motor	1	77	Spring	1
36	Flat Washer	1	78	Stud	1
37	Stud	1			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JET

DECLARATION OF CONFORMITY

We

Axminster Power Tool Centre
Chard Street
Axminster
Devon
EX13 5DZ

declare under our sole responsibility that the product

Trade Name: APTC

Type No: M330/M600 (V)

Description: Woodturning Lathe

is in conformity with the following directives:

low voltage directive 73/23/EEC as amended by 93/68/EEC

machinery directive 89/392/EEC as amended by 93/60/EEC

EMC directive 923/465/EEC as amended by 93/68/EEC

Year CE Mark Affixed 1998

Name of Authorised Person Mr K Thompson

Signature of Authorised Person.....

Axminster Power Tool Centre
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