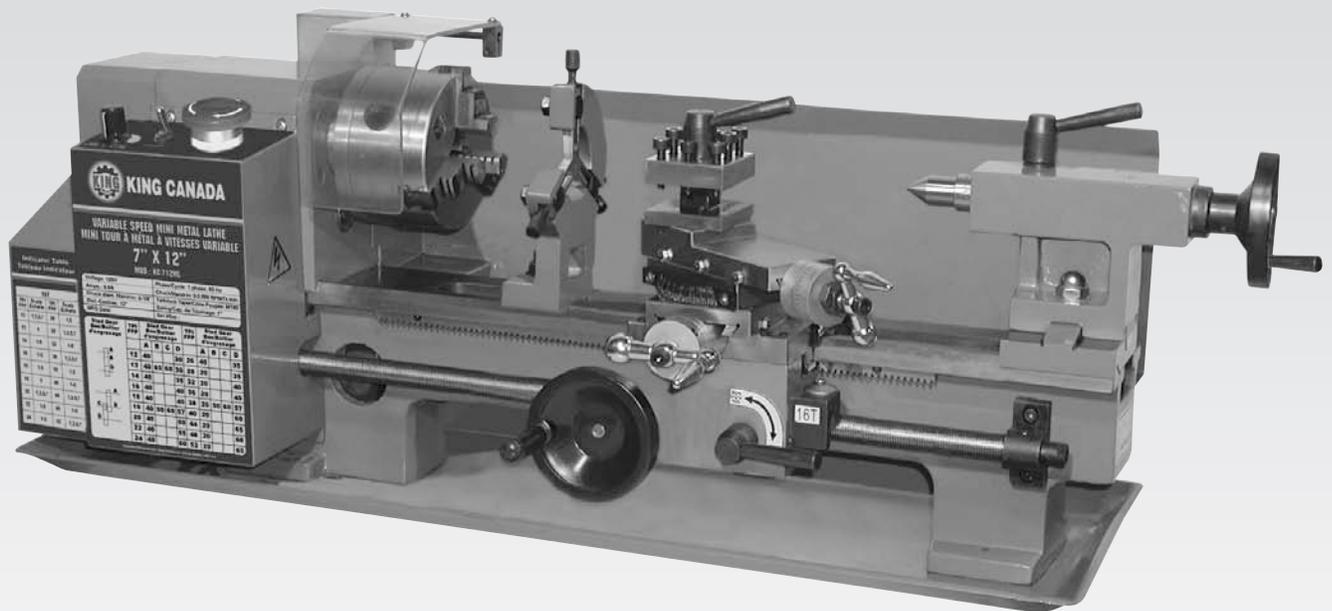




# KING CANADA

## 7" X 12" VARIABLE SPEED MINI METAL LATHE



MODEL: KC-0712ML

# INSTRUCTION MANUAL

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## IMPORTANT INFORMATION

**2-YEAR  
LIMITED WARRANTY  
FOR THIS MINI METAL LATHE**

**KING CANADA TOOLS  
OFFERS A 2-YEAR LIMITED WARRANTY  
FOR NON-COMMERCIAL USE.**

### **PROOF OF PURCHASE**

Please keep your dated proof of purchase for warranty and servicing purposes.

### **REPLACEMENT PARTS**

Replacement parts for this tool are available at our authorized KING CANADA service centers across Canada. For servicing, contact or return to the retailer where you purchased your product along with your proof of purchase.

### **LIMITED TOOL WARRANTY**

KING CANADA makes every effort to ensure that this product meets high quality and durability standards. KING CANADA warrants to the original retail consumer a 2-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations and lack of maintenance. KING CANADA shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products. To take advantage of this warranty, the product or part must be returned for examination by the retailer. Shipping and handling charges may apply. If a defect is found, KING CANADA will either repair or replace the product.

### **PARTS DIAGRAM & PARTS LISTS**

Refer to the Parts section of the King Canada web site for the most updated parts diagram and parts list.

# GENERAL & SPECIFIC SAFETY INSTRUCTIONS FOR METAL LATHE



**VOLTAGE WARNING:** Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that for the specified tool can result in **SERIOUS INJURY** to the user - as well as damage to the tool. If in doubt **DO NOT PLUG IN THE TOOL**. Using a power source with voltage less than the nameplate is harmful to the motor.

## 1. KNOW YOUR TOOL

Read and understand the owners manual and labels affixed to the tool. Learn its application and limitations as well as its specific potential hazards.

## 2. GROUND THE TOOL.

This tool is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire. **NEVER** connect the green wire to a live terminal.

## 3. KEEP GUARD IN PLACE.

Keep in good working order, properly adjusted and aligned.

## 4. REMOVE ADJUSTING KEYS AND WRENCHES.

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

## 5. KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents. Make sure the floor is clean and not slippery due to wax and sawdust build-up.

## 6. AVOID DANGEROUS ENVIRONMENT.

Don't use power tools in damp or wet locations or expose them to rain. Keep work area well lit and provide adequate surrounding work space.

## 7. KEEP CHILDREN AWAY.

All visitors should be kept a safe distance from work area.

## 8. MAKE WORKSHOP CHILD-PROOF.

Use padlocks, master switches or remove starter keys.

## 9. USE PROPER SPEED.

A tool will do a better and safer job when operated at the proper speed.

## 10. USE RIGHT TOOL.

Don't force the tool or the attachment to do a job for which it was not designed.

## 11. WEAR PROPER APPAREL.

Do not wear loose clothing, gloves, neckties or jewelry (rings, watch) because they could get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Roll up long sleeves above the elbows.

## 12. ALWAYS WEAR SAFETY GLASSES.

Always wear safety glasses (ANSI Z87.1). Everyday eyeglasses only have impact resistant lenses, they are **NOT** safety glasses. Also use a face or dust mask if cutting operation is dusty.

## 13. DON'T OVERREACH.

Keep proper footing and balance at all times.

## 14. MAINTAIN TOOL WITH CARE.

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

## 15. DISCONNECT TOOLS.

Before servicing, when changing accessories or attachments.

## 16. AVOID ACCIDENTAL STARTING.

Make sure the switch is in the "OFF" position before plugging in.

## 17. USE RECOMMENDED ACCESSORIES.

Consult the manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

## 18. NEVER STAND ON TOOL.

Serious injury could occur if the tool tips over. Do not store materials such that it is necessary to stand on the tool to reach them.

## 19. CHECK DAMAGED PARTS.

Before further use of the tool, a guard or other parts that are damaged should be carefully checked to ensure that they will operate properly and perform their 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 parts that are damaged should be properly repaired or replaced.

## 20. NEVER LEAVE MACHINE RUNNING UNATTENDED.

Turn power "OFF". Don't leave any tool running until it comes to a complete stop.

## SPECIFIC SAFETY INSTRUCTIONS

### DO NOT CHANGE GEARS WHILE THE MACHINE IS RUNNING!

1. Before you turn on the motor, make sure that you have put in suitable lubrication. Also make sure that all tools are in their proper positions.
2. Always use your hand to dismount the chuck or the lathe's face plate. Do not use power tools.
3. After having installed the chuck, remove the wrenches and adjustment tools to avoid accidental injuries when the lathe is turned on.
4. When the machine is in motion, do not use any instruments to measure the machine, or test the sharpness of the cutter with your hand.
5. Do not use an oversized cutter and workpiece on this lathe, this could cause workpiece breakage and serious injury.
6. Always use the right tools and stand at the proper position when performing an operation.

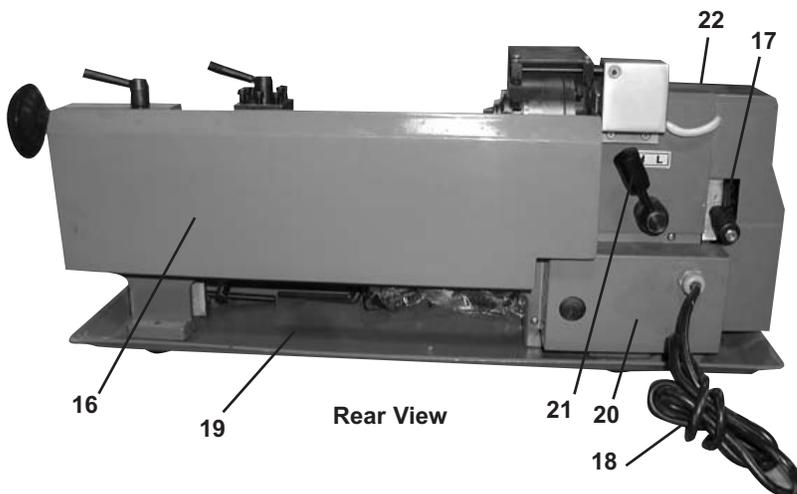
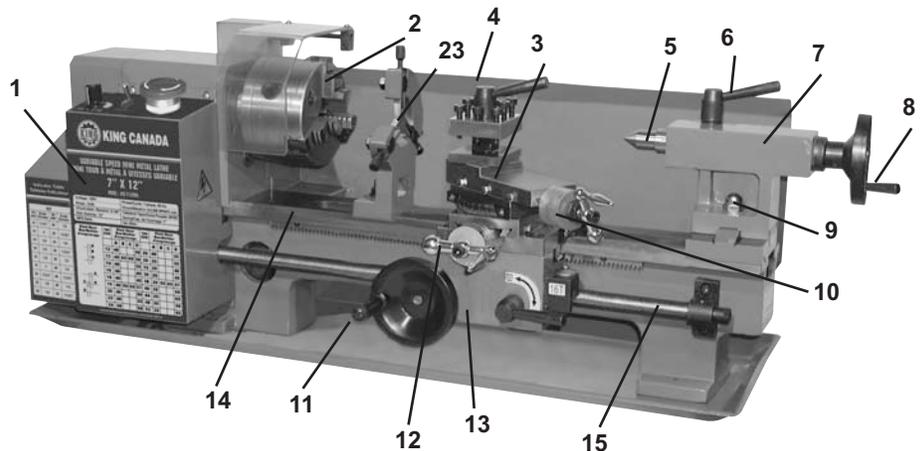


# SPECIFICATIONS AND GETTING TO KNOW YOUR LATHE

Distance between centers	12"
Swing over bed	7"
Spindle bore	3/4"
Swing over cross slide	4-1/2"
Taper in headstock	MT#3
Taper in tailstock	MT#2
Width of bedways	3-1/4"
Total travel of cross slide	2-3/4"
Total travel of top slide	3"
Spindle variable speeds (RPM)	2 (0-1100, 0-2400)
Thread cutting range	12-52 T.P.I.
Motor	5.5 Amp.
Voltage	110V, 1 phase, 60Hz
Dimensions (LxWxH)	32" x 11-1/2" x 13"
Weight	85 lbs.

## GETTING TO KNOW YOUR LATHE

1. Control box
2. Chuck
3. Top slide
4. 4-way tool post
5. Fixed center
6. Tailstock quill lock handle
7. Tailstock
8. Tailstock quill adjust handwheel
9. Tailstock locking nut



10. Top slide crank handle
11. Apron control wheel
12. Cross slide crank handle
13. Automatic feeding handle
14. Bedway
15. Lead screw
16. Splash guard
17. Feeding direction selector
18. Power cord
19. Chip tray
20. Motor cover
21. H/L Gear shift lever
22. End cover
23. Steady rest

# ELECTRICAL CONNECTIONS



## WARNING!

ALL ELECTRICAL CONNECTIONS MUST BE DONE BY A QUALIFIED ELECTRICIAN. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY! ALL ADJUSTMENTS OR REPAIRS MUST BE DONE WITH MACHINE DISCONNECTED FROM THE POWER SOURCE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY!

### POWER SUPPLY

**WARNING:** YOUR METAL LATHE MUST BE CONNECTED TO A 110V, 15-AMP, BRANCH CIRCUIT AND USE A 15-AMP TIME DELAY FUSE OR CIRCUIT BREAKER. FAILURE TO CONNECT IN THIS WAY CAN RESULT IN INJURY FROM SHOCK OR FIRE.

### 110V OPERATION

As received from the factory, your metal lathe is ready to run for 110V operation. This metal lathe is intended for use on a circuit which has an outlet and a plug which looks like the one illustrated in Fig.1.

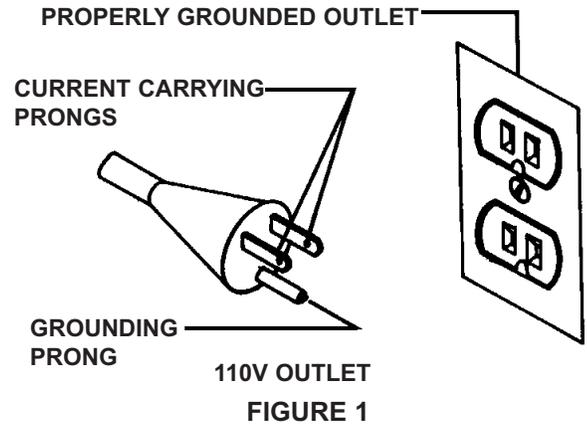
### GROUNDING

This machine must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current, to reduce the risk of electric shock. This machine is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**WARNING:** TO MAINTAIN PROPER GROUNDING OF YOUR MACHINE, DO NOT REMOVE OR ALTER THE GROUNDING PRONG IN ANY MANNER.

### EXTENSION CORDS

The use of any extension cord will cause some loss of power. Use the following table to determine the minimum wire size (A.W.G.-American Wire Gauge) extension cord. Only use extension cords which accept the tool's plug. For circuits that are further away from the electrical circuit box, the wire size must be increased proportionately in order to deliver ample voltage to the motor. Refer to Fig.2 for wire length and size.

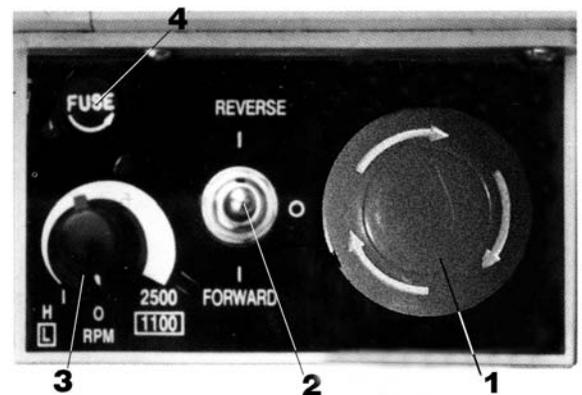


<u>LENGTH OF CONDUCTOR</u>	<u>WIRE SIZES REQUIRED (AMERICAN WIRE GAUGE)</u>
0-25 FEET	<u>110V LINES</u> NO.16
26-50 FEET	NO.14
51-100 FEET	Not recommended

FIGURE 2

## ADJUSTMENTS AND PREPARATION

- Clean off grease on the machine.
- Make sure that the 3 set screws and nuts of the chuck are tight.
- Turn the chuck by hand and check if it rotates freely.
- Move the feeding direction selector from the back of the body to the middle.
- First shut off the switch (1) Fig.3. Adjust the switch (3) by turning to the "0" position and turn the switch (2) to STOP position. If the lathe needs to be started, turn the switch (1) according to direction marked on switch to the normal position and turn the switch (2) to FORWARD or REVERSE position. The spindle will turn immediately by turning the switch (3). The speed can be adjusted by turning the switch (3). If the lathe needs to be stopped, turn the switch (3) to "0" position. **If the direction of the lathe spindle needs to be changed, the switch (3) must be turned to "0" position first.** If the lathe must be stopped in an emergency situation, hit the switch (1) immediately. If the lathe needs to be started again, please do it again according to the process mentioned above. (See Fig. 3).
- Check the top slide and cross slide crank handles and see if they work properly. If they are too tight or too loose, turn the adjusting screws located on both sides of each slide.



- On/Emergency stop switch
- Forward - reverse
- Variable speed control knob
- Fuse

FIGURE 3



# OPERATION & REPLACEMENT

## REPLACEMENT OF CHUCK

When replacing the chuck, place a cloth or a piece of wood on the bedway underneath the chuck. This is to avoid damage to the bed way caused by carelessly dropping the chuck. Loosen the three set screws and nuts (A) (only two are shown) as shown in Fig. 4, to remove the chuck. Position the new chuck and fix it using the same set screws and nuts (A).

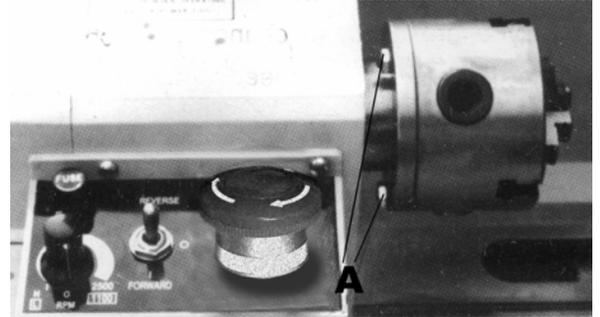


FIGURE 4

## REPLACEMENT OF JAWS

There are two types of jaws: Internal and external jaws. Please note that the number of jaws fit with the number inside the chuck's groove. Do not mix them together. When you are going to mount them, please mount them in ascending order 1-2-3, when you are going to take them out, be sure to take them out in descending order 3-2-1, one by one. After you finish this procedure, rotate the jaws to the smallest diameter and check that the three jaws are well fitted. If not you need to reassemble them again as they are not properly assembled.

When you are going to mount the work piece, you only need to loosen one jaw. However, we recommend you loosen all three jaws at the same time. This way you can protect them and you will not risk damaging the thread inside.

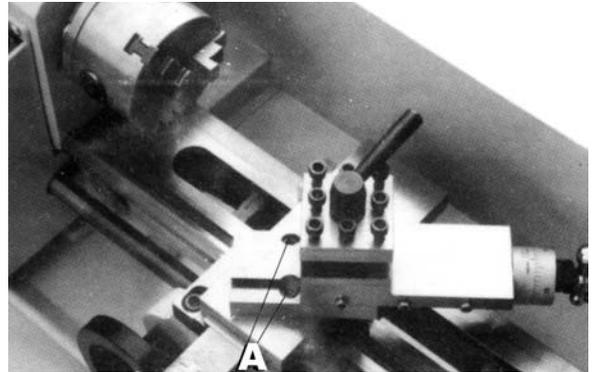


FIGURE 5

## TOP SLIDE ADJUSTMENT

Loosen the two screws as shown in (A) Fig. 5. After you have obtained the angle you desire, do not forget to retighten the two screws.

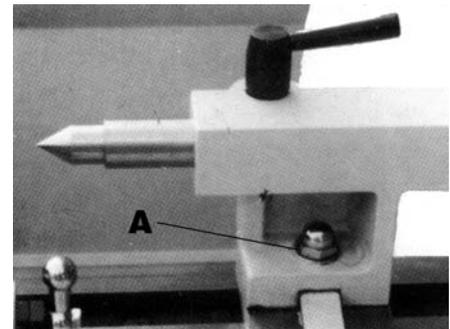


FIGURE 6

## TAILSTOCK ADJUSTMENT

To change position or replace the tailstock, you will need to loosen the round head nut (A) as shown in Fig. 6. After having changed the position of the tailstock, make sure to retighten the round head nut.

## REPLACEMENT OF CARBON BRUSHES

After a while the motor carbon brushes must be replaced, replace them once the carbon line is reach on the carbon brush. To access and replace the carbon brushes, remove both brush covers (A & B) on both sides of the motor and replace them with identically new ones. See Fig.7.

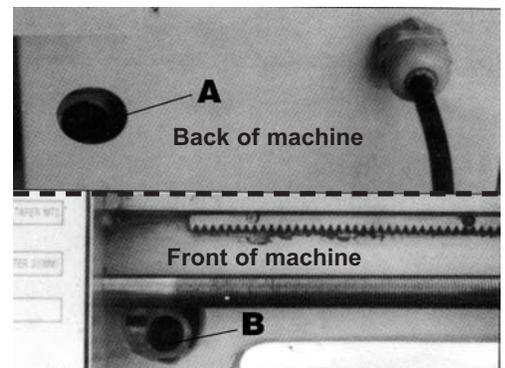


FIGURE 7

# OPERATION & REPLACEMENT



## TOOL POST ADJUSTMENT

To adjust the tool post position, you need to loosen the lever (B) shown in Fig.8. After you have finished, be sure to tighten. If you are going to replace the work cutter then you need to loosen the cap screws (A) with one of the hex. keys provided.

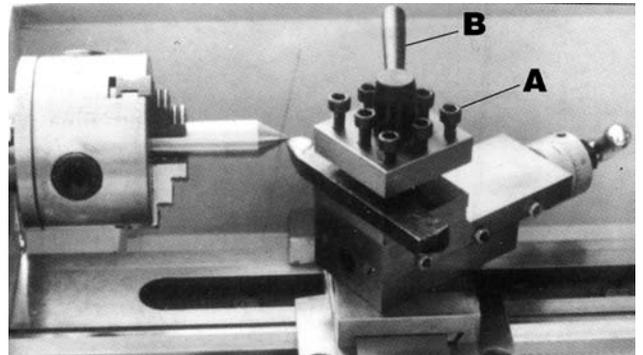


FIGURE 8

## HOLDING AND DRILLING WORKPIECE

Use the chuck to hold the workpiece firmly. Then use the center to fix the other end, the tailstock position will most likely need to be adjusted towards the end of the workpiece. See Fig.9. If you want, you can change the center to drilling chuck. You will need a MT#3 chuck arbor and a drill chuck, this will allow you to drill into your workpiece.

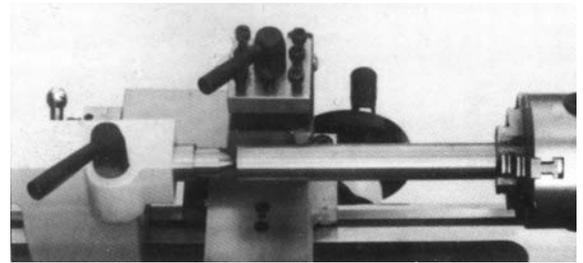


FIGURE 9

## FACE CUTTING

Face cutting technic is used to evenly surface the end of workpieces. Use the chuck to hold the workpiece firmly. Use a flat cutter at one side of the workpiece as shown in Fig.10. (Edge of the cutter must be at the same height as the center).

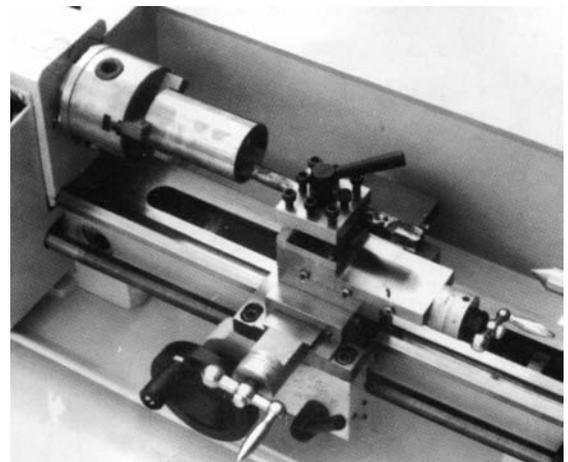


FIGURE 10

## INTERNAL CUTTING

By changing the tool post angle and adjusting the top slide, you can do internal cutting as shown in Fig. 11.

## BEVEL CUTTING

After adjusting the angle of the top slide, you can do bevel cutting as shown in Fig. 12.

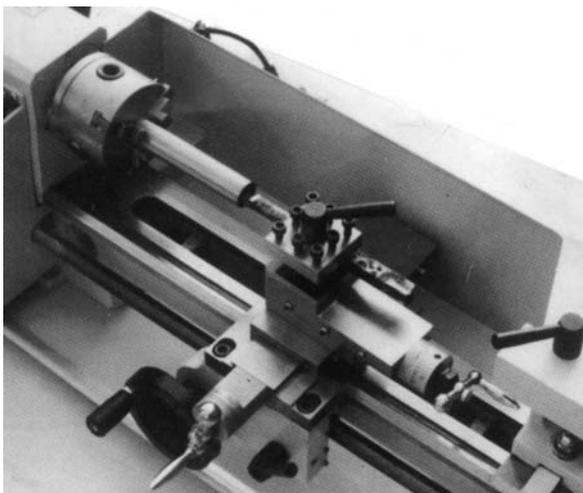


FIGURE 11

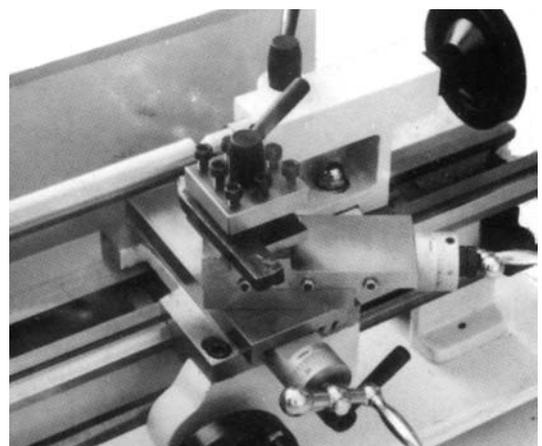


FIGURE 12