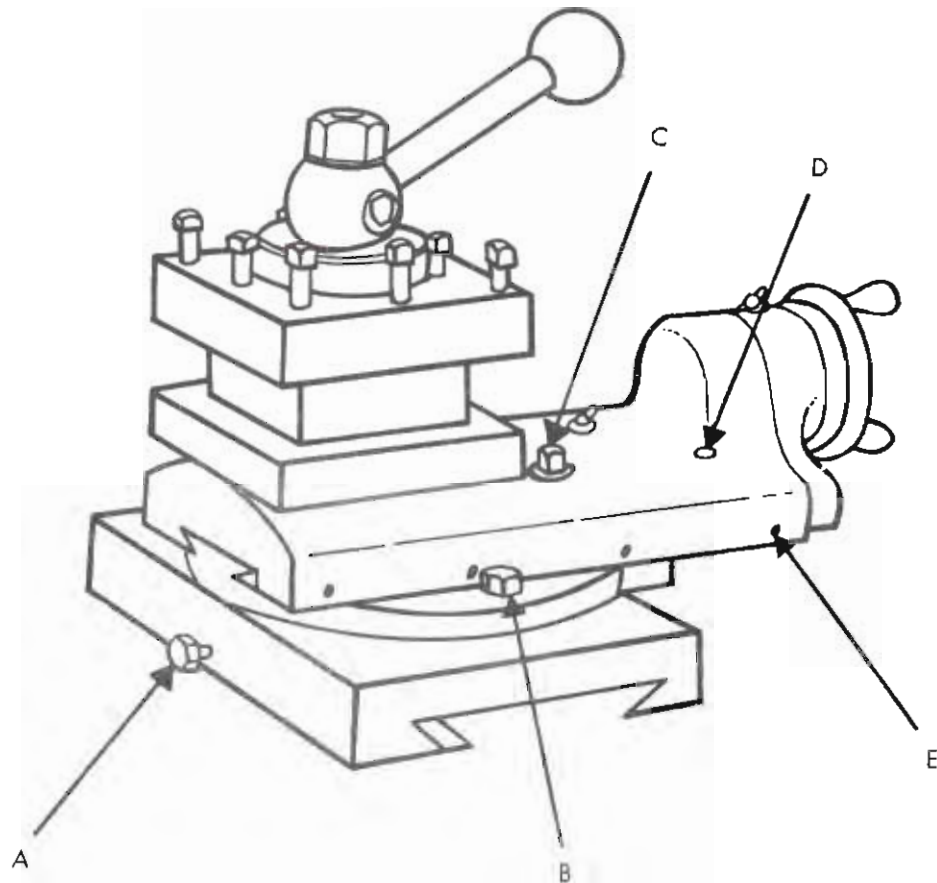


8.1 COMPOUND SLIDES



The tool slide can be swivelled to any angle by releasing the two hexagon nuts 'B'. The angle being indicated on the top of the cross slide.

The tool slide dial may be set to zero by releasing the screw in the handwheel, the dial is graduated 125 divisions each division representing .001" movement of the tool.

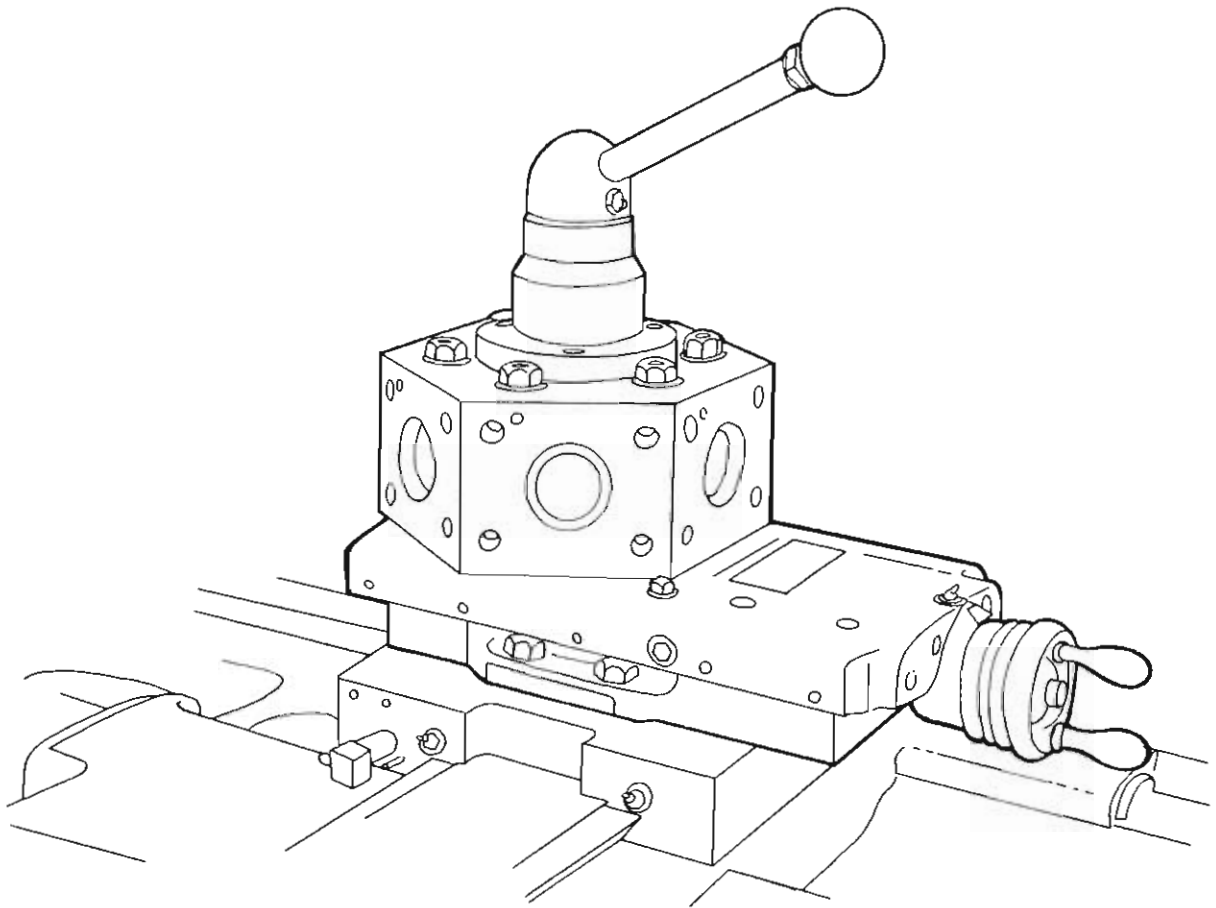
When taking heavy or intermittent cuts, the cross slide can be locked to the saddle by the screw 'A'. For facing cuts or drilling, the tool slide can be locked by screw 'C'.

A slip is provided for the adjustment of the tool slide guides.

To effect this adjustment it is necessary to remove the square turret. To do this, rotate the turret lever in an anti-clockwise direction until the screw is clear of the nut, the turret will then lift off.

Release the screws 'D' on the top of the slide, adjust the slip by means of the screws 'E' then re-lock the screws 'D'.

Replace the square turret.



HEXAGON TURRET

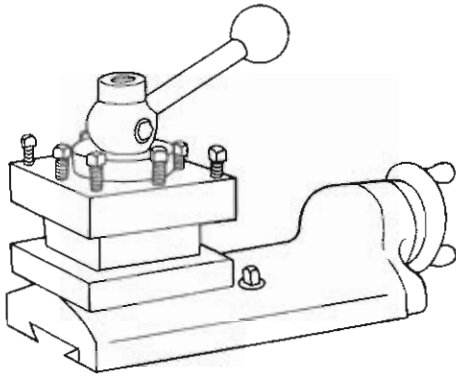
The hexagon turret is designed to operate on six stations.

To rotate the turret move the lever in an anti-clockwise direction, this will unlock and lift the turret from its locating plungers. It can then be pulled round by hand in either direction to the required tool position.

Clockwise movement of the lever presses the turret down over the plungers and locks the turret. The dimensions and tool size for the turret are given on the capacity chart, section 1.4.

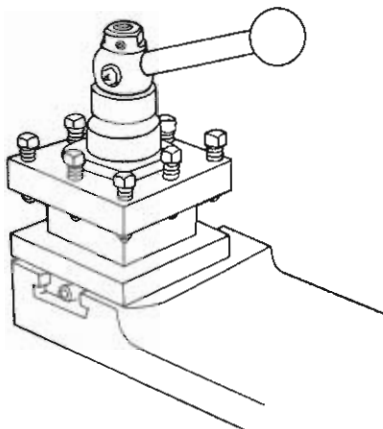
8.2 TOOL SLIDES

SQUARE TURRET



The square turret is designed to operate on four stations, but it can also be locked in intermediate positions if required.

To rotate the turret move the lever in an anti-clockwise direction, this will unlock and lift the turret from its locating plunger. It can then be rotated by hand in either direction to the required tool position. The lever can be made to lock in any convenient position by adjusting the nut on top of the locking bolt.



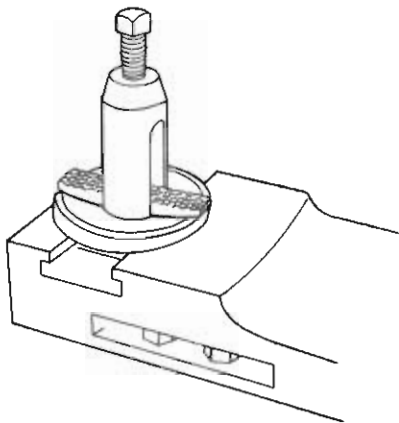
The tool size and dimensions of the turret are given on the capacity chart section 1.4.

DETACHABLE SQUARE TURRET

This type of square turret is mounted on a tee slotted tool slide and is designed to operate on twelve stations.

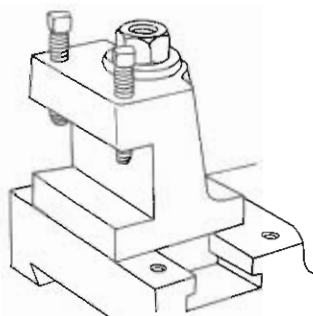
To rotate the turret move the lever in an anti-clockwise direction, this will unlock the turret and release the locating plunger. It can then be rotated by hand to the required tool position.

To lock the turret move the lever in a clockwise direction.



SINGLE TOOL POST

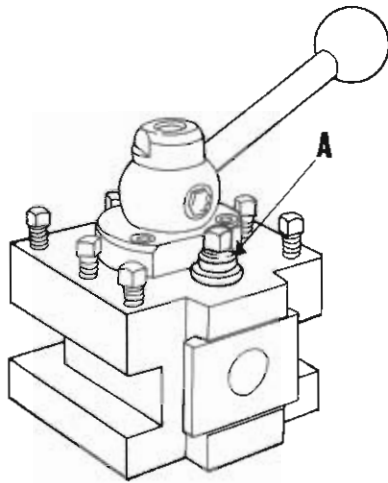
This type of toolholder is mounted on a tee slotted tool slide. The tool post can be clamped in any position across the width of the slide. The tool and the tool post being locked simultaneously by the square head screw.



SWIVELLING TOOLHOLDER

This type of toolholder is mounted on a tee slotted tool slide. The toolholder can be clamped in any position across the width of the slide by means of the hexagon nut, it can also be swivelled to any angle.

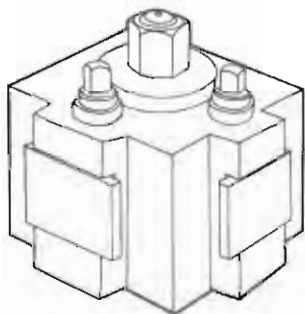
8.21 TOOL SLIDES continued



SQUARE TURRET WITH ONE FACE FOR INTERCHANGEABLE TOOLHOLDERS.

This type of square turret gives four stations and provides three normal tool positions with one face to suit interchangeable toolholders. The toolholders being locked in position by means of the square head screw 'A'.

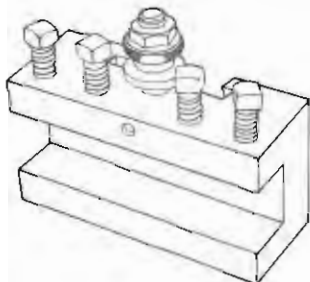
The turret operates in the same way as the square turret. See Section 8.2.



TOOLBLOCK FOR INTERCHANGEABLE TOOLHOLDERS.

This type of toolblock gives two stations and has two faces to suit interchangeable toolholders.

To rotate the toolblock, release the hexagon nut, lift the knurled locating plunger and turn the block by hand through 90°. Replace the plunger and lock the hexagon nut.

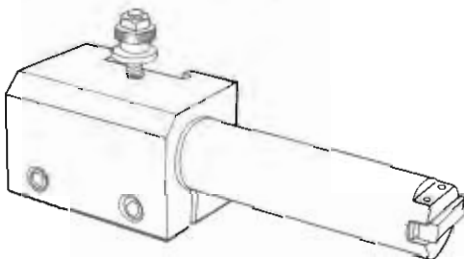


INTERCHANGEABLE TOOLHOLDERS.

The tools are set in the normal way and it is only necessary to change the toolholders. The correct level of the tool is set by means of a screwed collar and locknut.

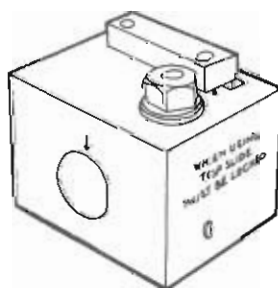
The toolholder for drilling is positioned by a fixed stop.

Three types of toolholder are available.



TOOLHOLDER FOR TURNING AND FACING TOOLS.

Tool size $\frac{3}{4}$ " deep x $\frac{5}{8}$ " wide x $4\frac{1}{2}$ " long.



TOOLHOLDER FOR BORING BARS.

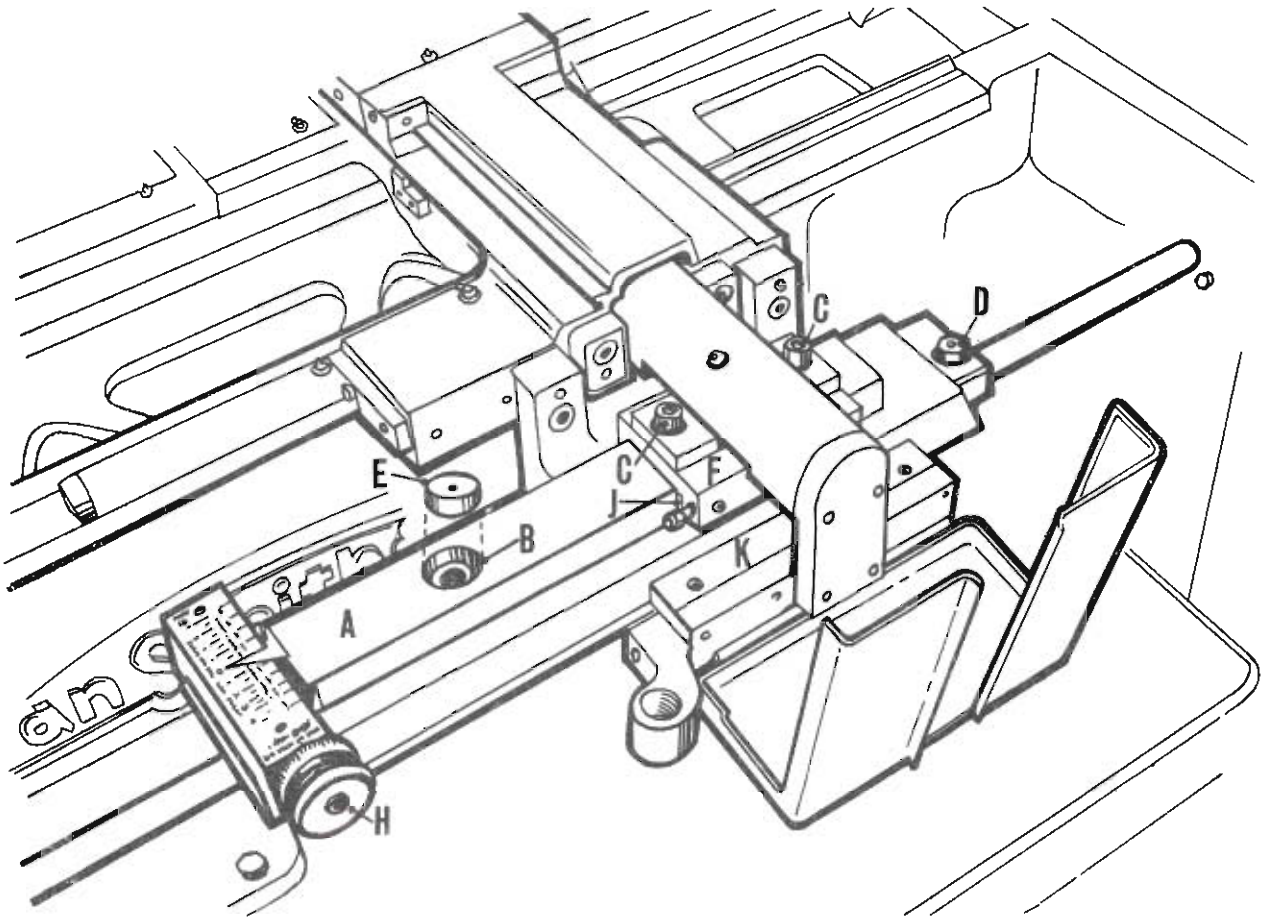
Bore size 1.250" dia.

TOOLHOLDER FOR DRILLING.

When using this type the tool slide must be locked. See section 8.1.

Bore size . 1.250" dia.

9.1 TAPER TURNING ATTACHMENT



The attachment will turn tapers up to 20° included angle (4 inches per foot on dia.) and up to 12 inches in length.

When not in use guide bar 'A' should be set approximately to zero, screws 'B' and 'C' should be locked and nut 'D' released. The attachment and slides will then travel with the saddle.

If the attachment has not been used for some time, thoroughly clean and lubricate all sliding parts.

To set for a required taper tighten nut 'D' and position saddle so that guide block 'F' is approximately central on guide bar 'A'. Remove two caps 'E' and release nuts 'B' at each end of the guide bar. Also release cap screws 'C'. Adjust guide bar to correct taper by thimble 'H'. It is important to note that the divisions on this thimble are to assist fine setting but are not related to the divisions on the setting plate. After setting, tighten nuts 'B' and screws 'C' and replace caps 'E'. Tapering will commence with the longitudinal travel of the saddle. Depth of cut adjustment is made by the cross slide handwheel which is connected by a telescopic joint to the screw. Tapering is temporarily disconnected by releasing nut 'D'. Every effort is made in construction to reduce backlash to a minimum. It is impossible to remove completely the effect of backlash and it is advisable to allow for this when establishing the point of the taper.

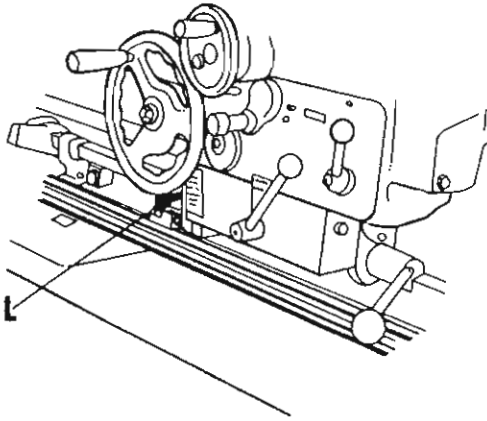
Any wear on the slide bars can be taken up by the adjustment of the slips 'J' and 'K'. When taper turning it is advisable to keep the backlash in the saddle screw nuts to a minimum. For adjustment instructions see Section 7.2.

9.2 ADDITIONAL EQUIPMENT AVAILABLE

16" Dia. Faceplate
10" Dia. 3 - Jaw steel chuck (1400 R.P.M.)
8½" Dia. 3 - Jaw steel chuck (2240 R.P.M.)
Air or hydraulic chucking.
Blank backplates for D1 - 6" spindle nose.
Travelling chip guard.
Toolholders as required. Section 9.3 & 9.31.
Taper turning attachment, 12" long.
Micrometer dead stop.
Compound dials. (Direct reading for cross and longitudinal movements).
Cross stops. (Non tripping).
Threading trip.
Lo-Vo-Lite lighting unit.
Electrical reverse.
Coolant pump and piping.
Foundation bolts.
Levelling plates.
Tool cabinet.

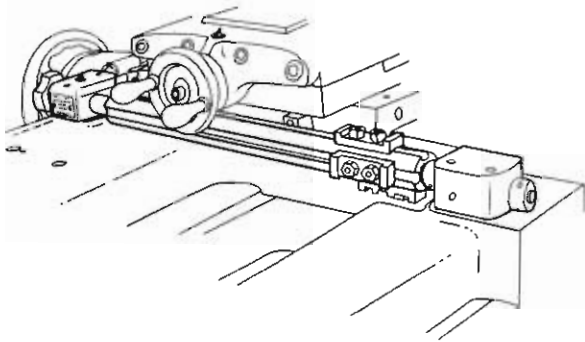
9.32 AUXILIARY EQUIPMENT continued

LONGITUDINAL STOPS



Six adjustable stops are fitted on the stop bar which rotates through six positions. The apron is fitted with a trip stop and a dead stop, the trip stop being used on longitudinal feeds for successive cuts etc.

When using the longitudinal stops to locate for a cross feed operation the procedure is as follows; as soon as the feed has been tripped lift the lever "L" and traverse the apron, by hand, up to the dead stop. Place the feed selection lever 'D' in the cross feed position and engage the feed. (Section 7.1)

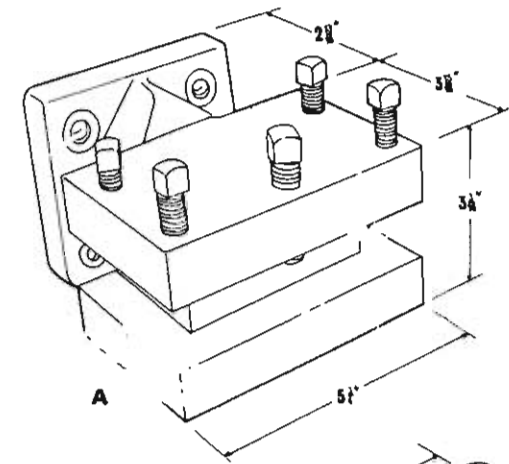


CROSS STOPS

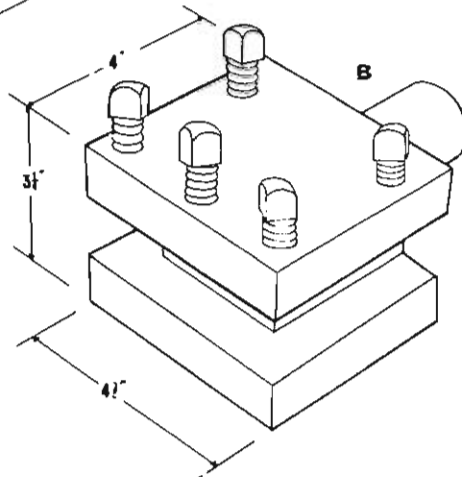
Four adjustable stops are fitted on the stop bar which rotates through four positions. The non tripping stop bar is mounted on the R.H side of the saddle, the adjustable stops being used in conjunction with the fixed stop on the cross slide.

9.3 AUXILIARY EQUIPMENT

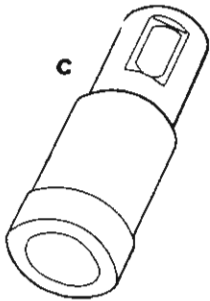
TOOLHOLDERS



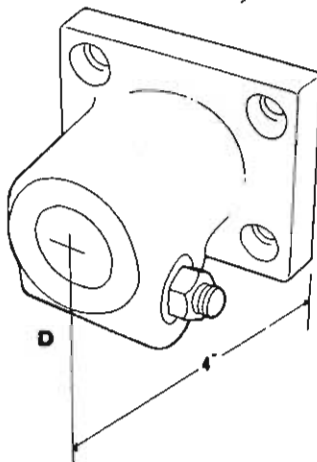
A. Bolted type holder.
Tool 1" x $\frac{3}{4}$ ".



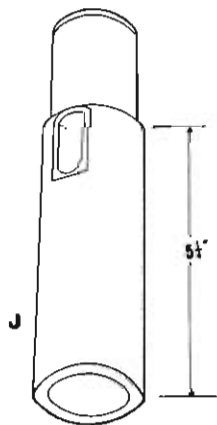
B. Shank type holder.
Tool 1" x $\frac{3}{4}$ ".



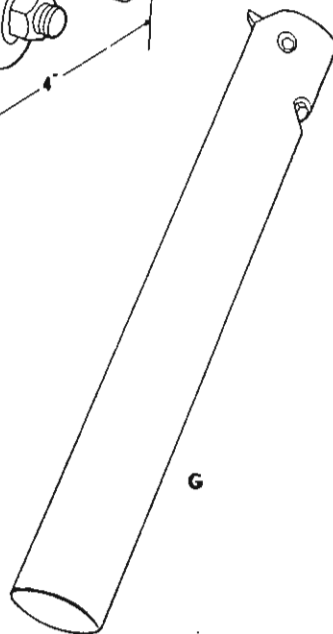
C. Drill holder with taper hole.
No.4 Morse.



D. Drill or reamer holder.
 $1\frac{1}{2}$ " Dia. hole.



G. Boring bar (Parallel shank)
 $1\frac{1}{2}$ " Dia. 11" long. $\frac{3}{8}$ " Dia tool.



J. Boring bar or drill holder
with taper hole.
No.4 Morse.

9.2 ADDITIONAL EQUIPMENT AVAILABLE

12 ins. dia. Faceplate.
10 ins. dia. 4-Jaw Steel Chuck.
10 ins. dia. 3-Jaw Steel Chuck. 1400 R.P.M.
8½ ins. dia. 3-Jaw Steel Chuck. 2240 R.P.M.
Blank Backplates for D1,6 Spindle Nose.
Spindle Nose Type Collet Chuck.
Collets for above as required.
Pratt Auto-Grip Workdriver,
Travelling Chip Guard.
Square Turret on Compound Slides. Section 8.2.
Above Turret with one Face for interchangeable Toolholders. Section 8.21.
Toolblock for interchangeable Toolholders. Section 8.21.
Interchangeable Toolholders for above. Section 8.21.
Square Turret on Tee-slotted Compound Slides. Section 8.2.
Single Tool Post for above.
Swivelling Toolholder for above.
Taper Turning attachment. 12 ins. long.
Stationary Steady. To take 5 ins. dia. Section 9.3.
Stationary Steady. To take 7 ins. dia. Section 9.3.
Travelling Steady. To take 3 ins. dia. Section 9.3.
Interchangeable Travelling Steady. To take 3 ins. dia.
Spherical Turning Attachment. Section 9.31.
Hydraulic Copying Unit.
Reducing Sockets for Drilling Attachment.
Micrometer Dead Stop.
Compound Dials. (Direct reading for cross and longitudinal movements).
Cross Stops. Non-Tripping.
Longitudinal Stops. Section 9.3.
Threading Trip.
Revolving Centre with Morse Taper Shank.
Lo-Vo-Lite Lighting Unit,
Electrical Reverse.
Coolant Pump and Piping.
Foundation Bolts.
Levelling Plates.
Tool Cabinet.
Spring loaded centre. Section 9.31.
Tailstock Spindle with Built-in Revolving Centre. Section 4.71.