HIGH SPEED RANGE "MAJOR" PRECISION LATHE

Maximum length between centres	24"
Maximum swing over bed	12¼"
Maximum swing over carriage	6⅝"

Catalogue H5

HOLBROOK

A modern precision production lathe

HOLBROOK 'MAJOR' HIGH-SPEED LATHE

The traditional association of the name Holbrook with the ideals of craftmanship in the sphere of precision lathe manufacture has been continued by the introduction of the 'M' range of high-speed machines. A policy of continuous research and progressive development upheld by a Company alive to the changing needs of industry and backed by Herbert resources, has resulted in the successful combination of well-proved, basic principles with the use of modern devices. The alliance has been achieved with the added advantages of contemporary design.

The 'MAJOR' is a precision production lathe in the design of which a high-speed range has been combined with the rigidity and rugged operational characteristics common to other Holbrook products.

The spindle drive is taken from a single-speed, constant-torque motor through a gearbox controlled by electro-magnetic clutches. Final drive through multiple vee belting to a separately-mounted spindle pulley ensures smooth, vibrationless operation without imposing tension on the forged steel, hardened and ground spindle. Mounted in precision tapered-roller bearings which are force-lubricated with filtered oil, the spindle is provided with a DI-5" Cam-lock nose for the rapid removal and accurate replacement of chucks, faceplates or other fixtures.

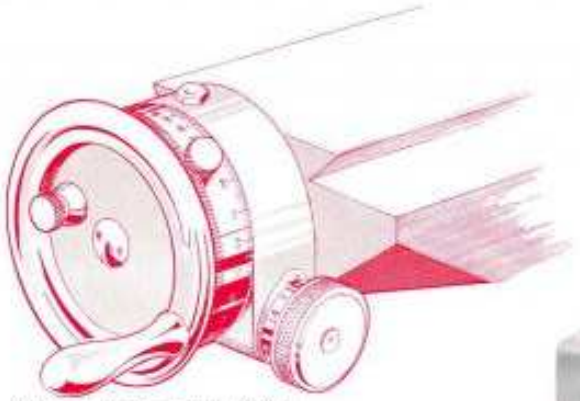
The machine is arranged with a choice of 12 spindle speeds, forward and reverse, in two ranges of six. The low range is obtained through hardened and ground nickel-chrome gearing; the high-range by open belt drive. Either range can be selected by lever operation. The main new feature on this lathe is the instantaneous speed change device which, requiring only light finger pressure on the appropriate button in the selection panel, effects immediate response within either of the two ranges. The chosen speed is also indicated by illumination of the button.

The totally-enclosed gearbox of the 'MAJOR' allows the selection of 60 different pitches or feeds from one combination lever control. As on other lathes of Holbrook manufacture, the leadscrew is intended for threadcutting operations only and can be disengaged during normal turning operations involving the use of the feedshaft. Leadscrew thrust is absorbed by a Holbrook patented bearing.

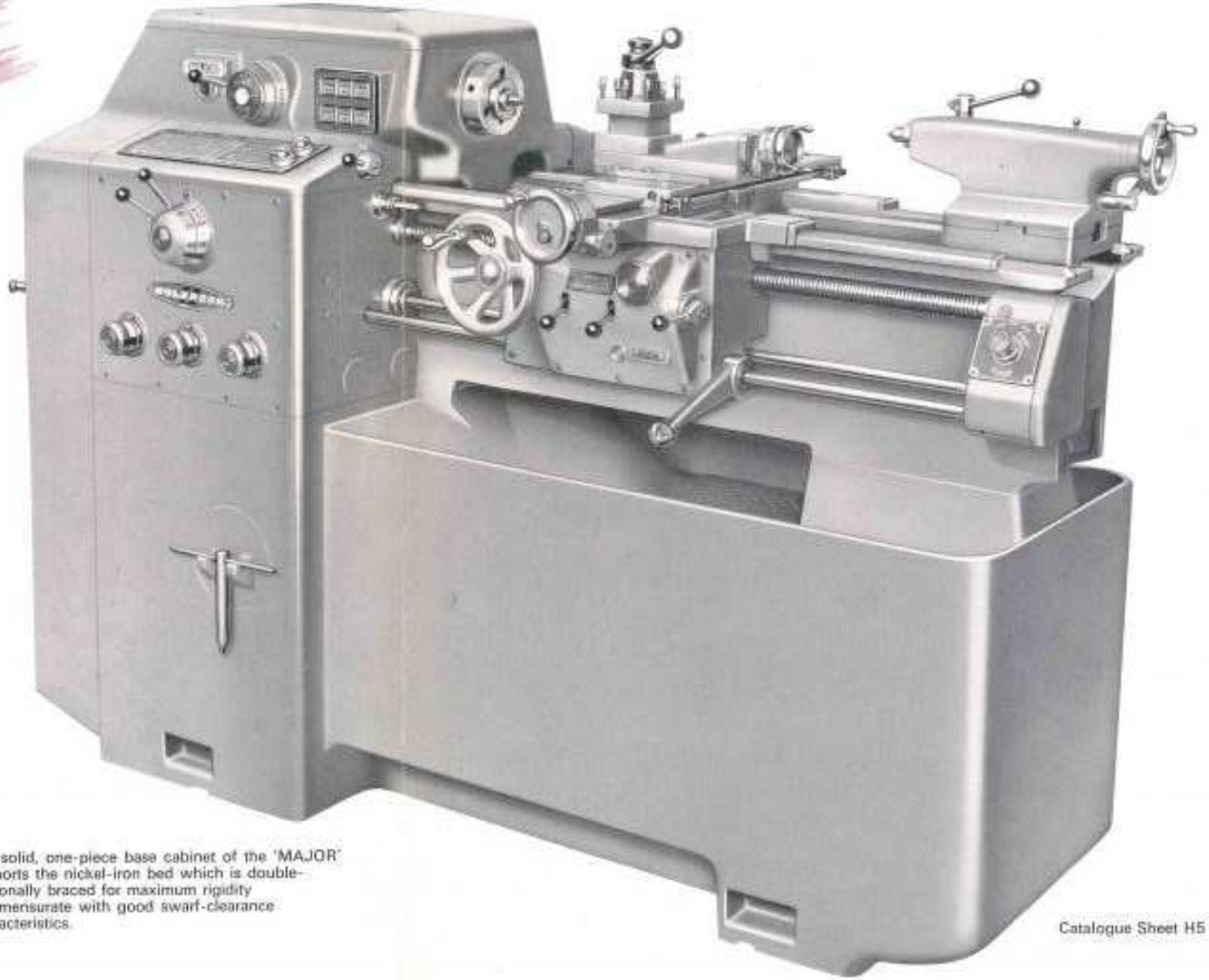
The carriage with wide mating surfaces traverses on hardened raised-vee and flat ways. All slides are fitted with adjustable taper gibs for the maintenance of accuracy and rigidity with the retention of easy movement so essential on this type of machine.

The standard machine is fitted with a square turret which, on release of the steel locking lever, is automatically raised to allow rotation in either direction before relocking in any of sixteen positive positions. The top slide carrying this turret can be swivelled through 360°. Sliding and surfacing motions are each controlled by a precision screw and handwheel with large micrometer-graduated dials.

The double-walled apron incorporates sliding and surfacing feed controls designed for instantaneous and smooth engagement. The feed drive incorporates a clutch to prevent damage through overloading and also an interlock between the sliding and threading motions. The apron also incorporates a threading dial for use as an accurate guide in re-engagement of the threading tool.



A threading stop incorporated in the surfacing motion allows the retraction of the tool and its subsequent return to a pre-set stop, the position of which can be varied by rotation of a dial graduated in thousandths of an inch. This feature is brought into operation by the application of the knurled knob set in the face of the surfacing motion handwheel and can be instantly disengaged when not required.

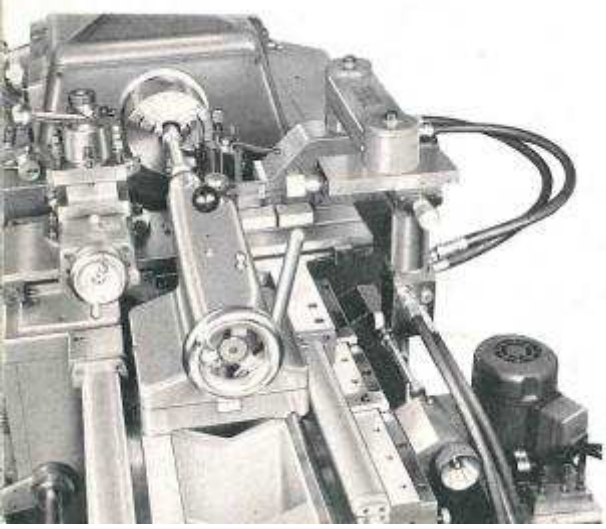


The solid, one-piece base cabinet of the 'MAJOR' supports the nickel-iron bed which is double-diagonally braced for maximum rigidity commensurate with good swarf-clearance characteristics.

HOLBROOK 'MAJOR'

PRINCIPAL DATA

Range	Length between centres	24" (610 mm.)
	Height of centres above flat way	6" (152 mm.)
	Swing over bed	12¼" (311 mm.)
	Swing over carriage	6⅝" (168 mm.)
	Top slide travel	2½" (64 mm.)
	Max. tool section	¾" x ⅜" (19 mm. x 9 mm.)
Headstock	Number of spindle speeds	12
	Range of spindle speeds r.p.m.	30-3000
	Alternative speed range r.p.m.	20-2000
	Motor H.P.	5-2800 r.p.m.
	Spindle bore diameter	1½" (32 mm.)
	Centre sleeve bore taper (Morse)	No. 3
	Cam-lock spindle nose	DI-5"
Gearbox	Number of pitches	60
	Range of pitches t.p.i.	2-120
	Number of feeds	60
	Range of feeds	0.0005" to 0.033" per rev.
	Leadscrew diameter	1¼" (32 mm.)
	Leadscrew t.p.i.	4
	Leadscrew nut length	2½" (64 mm.)
Tailstock	Quill diameter	1½" (38 mm.)
	Quill travel	5" (127 mm.)
	Morse taper of bore	No. 3
Overall Dimensions	Approx. length	6' 3" (1905 mm.)
	,, width	2' 11" (889 mm.)
	,, height	4' 2" (1270 mm.)
Weights	Standard lathe and equipment	3360 lb. (1550 kg.)
	Standard lathe and equipment (boxed)	3920 lb. (1740 kg.)
	Codeword	
Standard Equipment	Face-plate, Knock-out Bar, Operator's Instructions, Oil Gun, Necessary Wrenches	



The wide range of attachments available for use on this lathe includes thread chasing, taper turning, spherical turning, grinding and hydraulic profiling equipment (illustrated). Spindle speed reduction units and various types of toolbox are also available.

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