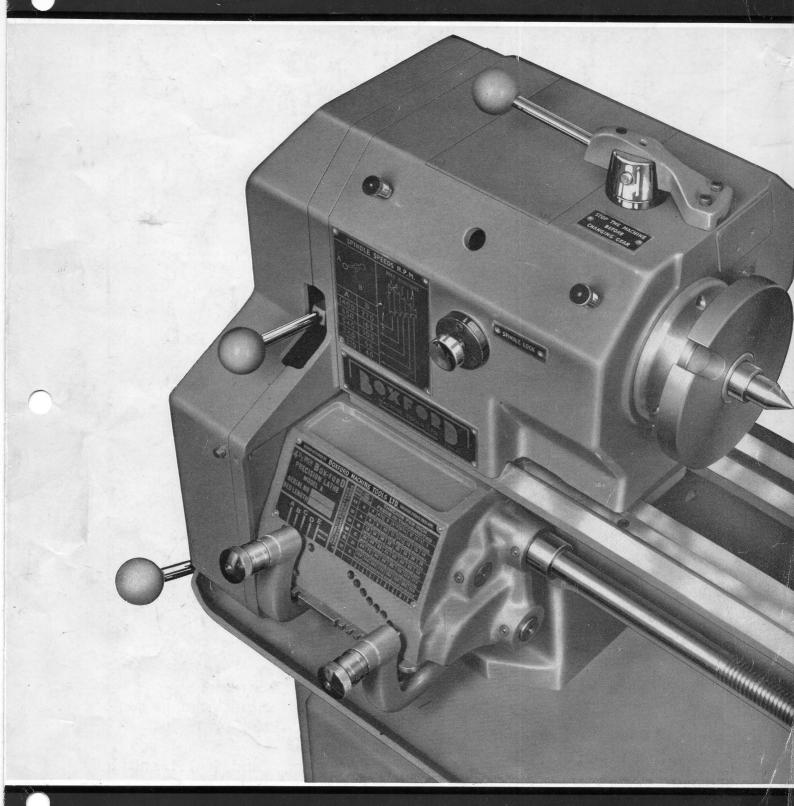
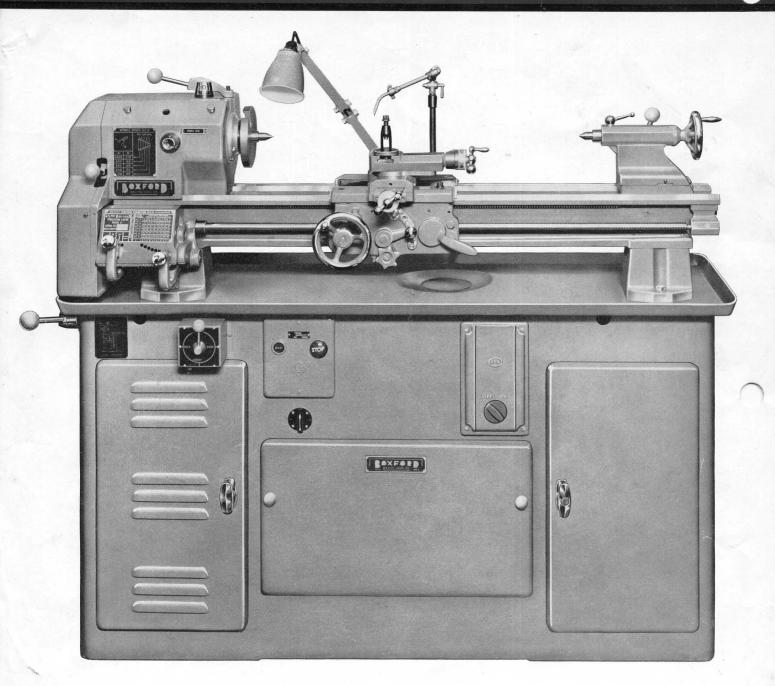
BOXFORD MARK II



9" SWING (4½" CENTRES)
PRECISION UNDERNEATH DRIVE LATHE

BOXFORD MARK II



MODEL AUD

MARK II

as illustrated above with Norton type quick change gearbox and fully automatic apron.

MODEL BUD

MARK II

with change wheels for threads and feeds, and fully automatic apron.

MODEL CUD

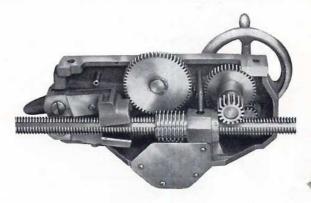
MARK II

with change wheels for threads and feeds. Plain apron with longitudinal power feed only. Cross feeds hand operated.

BOXFOR D





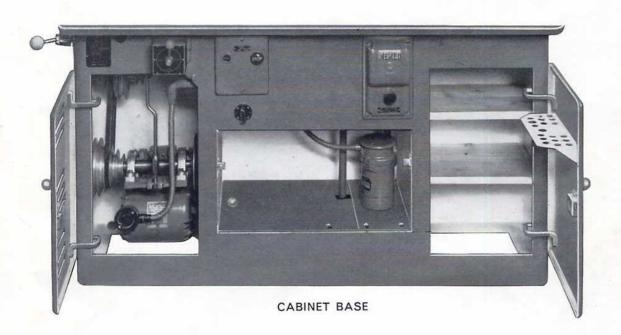


AUTOMATIC APRON

box

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NS AND WEIGHTS

Range of threads							
MODEL 'AUD' (No	orton Gea	rbox)				4 — 22	4 t.p.i.
MODELS 'BUD' &						4 — 16	0 t.p.i.
Range of longitudinal	eeds						
MODEL 'AUD'	(48)					.0015" — .0853"	0,038 — 2,17 mm.
MODEL 'BUD'	(26)					.0021" — .0155"	0,053 — 0,394 mm.
MODEL 'CUD'	(10)					.0063" — .0156"	0,160 — 0,397 mm.
Range of cross feeds							
MODEL 'AUD'	(48)					.0004" — .0252"	0,010 — 0,640 mm.
MODEL 'BUD'	(23)					.001" — .0046"	0,025 — 0,117 mm.
MODEL 'CUD'		•••	***	***		Hand o	perated
Motor horsepower .			·			34	0,75
Weight of 'AUD' (22" h					***	610 lbs.	276 kgs.
Shipping case dimens						59" × 28" × 53"	$150 \times 71 \times 135$ cm.
	10113					830 lbs.	376 kgs.

BOXFOR D MARK II

"BOXFORD" lathes are used extensively in more than sixty countries and have an undisputed reputation for accuracy, ease of operation and trouble free service. All components are finished to close tolerances so that replacement parts, which are readily available, can be easily fitted. Boxford lathes will give many years of continuous service with a minimum of maintenance. A wide range of accessories is also available to increase the versatility of this light precision lathe.

THE MAIN SPINDLE which is bored to pass $\frac{3}{4}$, is mounted on pre-loaded opposed Timken Taper Roller Bearings and provision is made for easy adjustment. A plunger is fitted at the front of the headstock to lock the spindle when removing chucks or backplates.

THE HEADSTOCK provides a range of 10 spindle speeds from 40 – 1400 r.p.m. Direct vee belt drive gives the five higher speeds whilst the five lower range speeds are obtained by engagement of the back gear. A single lever on the top of the headstock operates the change from direct drive to back gear drive and is both mechanically and electrically interlocked. The electrical interlock is incorporated specially for use in training workshops to interrupt the power supply so that the back gear cannot be changed unless the machine is stationary. The electrical interlock can be omitted if not required. No guards or covers have to be removed to lubricate the headstock as all points are easily accessible.

A NORTON GEARBOX is fitted to the 'AUD' model and provides 48 changes of threads and feeds. Models 'BUD' and 'CUD' are supplied with a set of changewheels to cover a range from 4 to 160 threads per inch. Special changewheels are available to provide a wide range of metric pitches or non-standard threads. The changewheel guard on all models is fitted with an electrical cut-out switch which stops the motor immediately the guard is opened.

THE LONGITUDINAL AND CROSS SLIDE power feeds on the 'AUD' and 'BUD' models are through a friction clutch in the apron with the drive from the com-

bined leadscrew and driveshaft. The threads of the leadscrew are used only for screwcutting and engagement of the half nuts is by a conveniently located lever. The apron on the Model 'CUD' is fitted with a half nut lever only for engagement of the leadscrew for screwcutting and for longitudinal power feeds. The cross feed is hand operated. The cross slide and top slide leadscrews are fitted with ball thrust races. The micrometer dials are friction mounted to eliminate the necessity to set and lock the dials with a screw. The compound rest is graduated through 180 degrees and the top slide is suitable for mounting most types of toolholders. All gib locking and adjusting screws are of the wedgelock type so locknuts are not necessary to lock the screws when adjusting the gibs.

THE BED is of substantial width, having three Vee ways and one Flat way. The front and rear Vees ensure accurate and easy travel of the saddle.

THE TAILSTOCK is of orthodox design and is located on the centre vee of the bed and the front flat. Quick action locking is provided by a lever at the rear. The barrel is graduated for control of depth when drilling.

THE CABINET BASE is of rigid construction. The \$\frac{3}{4}\$ h.p. Motor is housed immediately under the headstock and is secured to the countershaft base by captive nuts to provide for ease of belt adjustment. The countershaft is of substantial diameter and is mounted in deep groove ball bearings which are greased and sealed for life. Belt tension is released by the external lever fitted at the left side of the cabinet. A cut-out switch stops the motor immediately when the cabinet door is opened. The motor compartment door is louvred to provide ventilation. The centre compartment of the cabinet base has a built-in tank suitable for an electrical coolant pump. The right-hand compartment has shelves for the storage of equipment and a rack for collets.

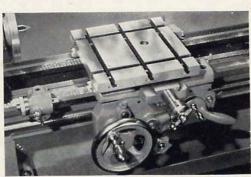
THE PUSH BUTTON STARTER incorporates overload and no volt protection. A separate reversing switch is fitted.

LEADING DIMENSIO

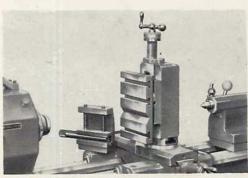
Swing over bed						
Centre height						***
Distance between cer		***	***	• • •		
	ures			***		
Swing over cross slid					***	
Maximum cross slide				***		
Maximum top slide fe	ed ,	•••	•••	•••	•••	
Set over of tailstock				***		
Movement of tailstock	spind	le				
No. of spindle speeds		•••			•••	
Spindle speed range			***	***	***	• • •
Spindle bored to pass			***			
Spindle nose diamete	r					
Spindle nose threads			***	***	***	•••
Morse Taper of centre	es .	••		•••	***	
No. of threads						
MODEL 'AUD' (N	orton	Gear	box)		ores:	•••
MODELS 'BUD' &	CIID, 3	•				
			***	***	***	•••

91/	235 mm	
45"	117 mm	
16", 22" or 28"	406 mm, 560 mm or 710 mm	
36", 42" or 48"	915 mm, 1065 mm or 1220 mm	1
51."	130 mm	
6"	150 mm	
25"	66 mm	
5 "	8 mm	
25" 5" 21"	54 mm	
(74.M)	10	
	40 — 1400 r.p.m.	
3"	20 mm	
3" 1½"	38,10 mm	
1.0.00	8 t.p.i.	
	No. 2	
	48	
	45	

ATTACHMENTS



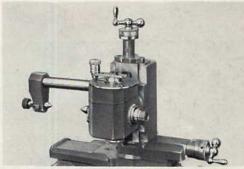
 BORING TABLE. Removal of the cross-slide permits easy mounting of this boring table on to which a variety of work can be clamped.



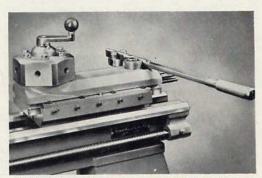
2. COMPOUND MILLING ATTACHMENT. Mounted on the cross-slide has both vertical and horizontal movement and can be fitted with a 'T' slotted table (as illustrated) or with a vice as shown on left.



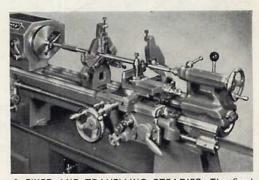
3. TAPER TURNING ATTACHMENT. This is fixed by a bracket to the rear vee of the lathe bed and provides quick adjustment for tapers up to 20° inclusive.



4. DIVIDING HEAD MILLING ATTACHMENT. Spur gearcutting, angular milling, spline milling, keyseating, graduating and all other regular dividing head milling can be performed on this attachment which mounts on the top-slide.



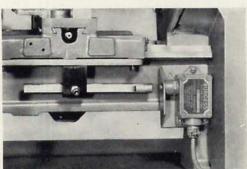
5. TURRET HEAD. Mounted firmly on to the lathe bed the 6-station automatic indexing turret head provides for rapid machining to production requirements.



6. FIXED AND TRAVELLING STEADIES. The fixed steady is mounted on and clamped to the bed, the travelling steady is mounted on the side of the saddle by means of the two screws provided.



7. COLLET ATTACHMENT. Square, round or hexagon collets can be supplied with this draw-in type collet attachment.



8, SADDLE LIMIT SWITCH. Fitted to the rear of the lathe bed this electrical limit switch is actuated by an adjustable bar stop mounted on the saddle. It prevents the saddle being traversed too close to the headstock and avoids damage to chucks and tooling.

TYPICAL INSPECTION CERTIFICATE MODEL AUD MARK II

	TEST DIAGRAM	TEST TO BE APPLIED MODEL "AUD"	GAUGES, METHODS AND TOLERANCES	INSPECTOR'S REPORT
HEADSTOCK and BED		(1) AXIS OF CENTRES PARALLEL WITH BED II. VERTICAL PLANE	15" STATIONARY MANDREL 0 TO + 002" AT TAILSTOCK	·001″
		(2) DITTO HORIZONTAL PLANE	0 TO + 001" AT TAILSTOCK. IN DIRECTION OF TOOL PRESSURE	·0005″
	(3) (5)	(3) EXTERNAL DIA. TRUE	MAXIMUM ECCENTRIC ERROR	.0002″
		(4) AXIAL SLIP OR FLOAT	TEST TWO POINTS AT 180° MAXIMUM FLOAT '0004"	.0002″
	(4)	(5) CENTRE POINT TRUE	MAXIMUM ECCENTRIC ERROR	.0002″
	(6)	(6) BORE TRUE AND SIZE TO GAUGE (INTERNAL TAPER)	MANDREL 12" LONG. ONE END A GAUGE FOR SPINDLE MAXIMUM ECCENTRIC ERROR '0012"	·0006″
		(7) AXIS PARALLEL WITH BED IN VERTICAL PLANE	STATIONARY MANDREL (*SEE NOTE) 0 TO + 001" PER FT. AT FREE END OF MANDREL	·0005″
	(8)	(8) DITTO HORIZONTAL PLANE	FREE END OF MANDREL INCLINED TOWARDS TOOL PRESSURE 0 TO '001" PER FT.	.0003″
	(9)	(9) SPINDLE MOVEMENT PARALLEL WITH BED IN VERTICAL PLANE	TEST OVER CLAMPED SPINDLE CENTRE MUST RISE 0 TO '0015" IN MOVEMENT	·0002″
TAILSTOCK		(10) DITTO HORIZONTAL PLANE	TEST SIDE OF CLAMPED SPINDLE INCLINATION TOWARDS TOOL PRESSURE 0 TO .001" IN MOVEMENT	·0001″
		(11) TAPER BORE OF SPINDLE PARALLEL WITH BED IN VERTICAL PLANE	STATIONARY MANDREL 0 TO + 0015" PER FT. AT FREE END OF MANDREL	
		(12) DITTO HORIZONTAL PLANE	FREE END OF MANDREL INCLINED TOWARDS TOOL PRESSURE 0 TO 001" PER FT.	·0003″
LIDES	(13)	(13) MOVEMENT OF TOOL SLIDE PARALLEL WITH SPINDLE IN VERTICAL PLANE	CLOCK IN TOOLPOST. TEST OVER STATIONARY MANDREL -002" IN ITS MOVEMENT	·001″
SLII	(14)	(14) MOVEMENT OF CROSS SLIDE AT 90°	CLOCK IN TOOLPOST. TEST ACROSS BUTTON ON FACE PLATE 0 TO -0015" PER FT. DIA. CONCAVE ONLY	·0005″

*NOTE—WHEN USING STATIONARY MANDRELS, ANY ECCENTRICITY SHOULD BE SET AT 90° TO THE LINE OF TEST The makers reserve the right to alter design, specification and prices without notice

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