1307

DEAN SMITH & GRACE LIMITED
14 INCH SWING CENTRE LATHE

Among the first machines with which industrial man equips himself is the lathe.
Mr Dean, Mr Smith and Mr Grace of Keighley, Yorkshire built their first lathes more than 100 years ago. At that time, the industrial revolution had already changed the face, nature and purpose of Britain – and the world was following in Britain's footsteps. Dean, Smith and Grace were prototype figures of the periods ; men of iron, steel, integrity, imagination and industry. Victorian engineers.
The decades pass ; times change ; new targets appear on new horizons. Yet the 1870 dictionary definition of 'lathe' will do very well today and probably for all time. A lathe remains a lathe.
However, Dean Smith & Grace, then and now, have always been interested in *better* lathes. And this definition is more complicated.
One of our very early catalogues gets us somewhere near the truth. 'We beg to point out that we are manufacturers of so many different kinds of machines that it is impossible to describe them all . . .' This holds good. While we can today point to families of Dean Smith & Grace lathes – to common headstocks within this group, to certain limits of dimensions within that – nonetheless our international pre-eminence in our field stems from a refusal to bow to the mass-production line. A substantial proportion of our lathes is indeed 'tailor-made' – and this bespoke market of ours is sure to expand ; for modern engineering concepts and requirements are always widening.
So this versatility of approach and production (which was to our founders a necessity) remains today the strength and pride of our company. Even the smallest and most 'stock' of our models shows a refinement of workmanship and production resources that the engineer may recognize immediately – and profit from indefinitely. Our most advanced lathes have a sophistication and versatility that we believe to be unsurpassed.

features

Universal Totally Enclosed Gearbox with facilities for metric, t.p.i., inches, diametral and module pitches. Precision shaved gears.

Bed Hardened and Ground. Straight or gap (constructed for lasting alignment).

Built in coarse pitch screwcutting and fine feed facilities.

Dual Inch/Metric Screwcutting Dial.

Precision Roller bearing spindle.

Gears. Precision profile ground, for smooth transmission.

Headstocks. Choice of Standard or High speed.

Automatic Tripping Leadscrew nuts.

Full Length Cross Slide for front and rear tooling and guideway protection.

Dividing Dial on the Spindle Nose for multi-start threading.

Full Range of Reverse Speeds.

American Standard D1–6 in. Camlock Spindle Nose for rapid and accurate location of chucks and fixtures.

Sliding Chip Tray (for quick and easy removal of cuttings).

Automatic Lubrication to the Cross Slide and bed ways.

A wide range of equipment and attachments, including Hydraulic Copying Units. Feed halving at apron. Metric, English or dual reading micrometer dials.

Dean Smith and Grace Limited

Keighley, Yorkshire, England
Telephone Keighley 5261 (10 lines)
Telegrams Lathes Keighley Telex No.51–123
Lathe manufacturers since 1865

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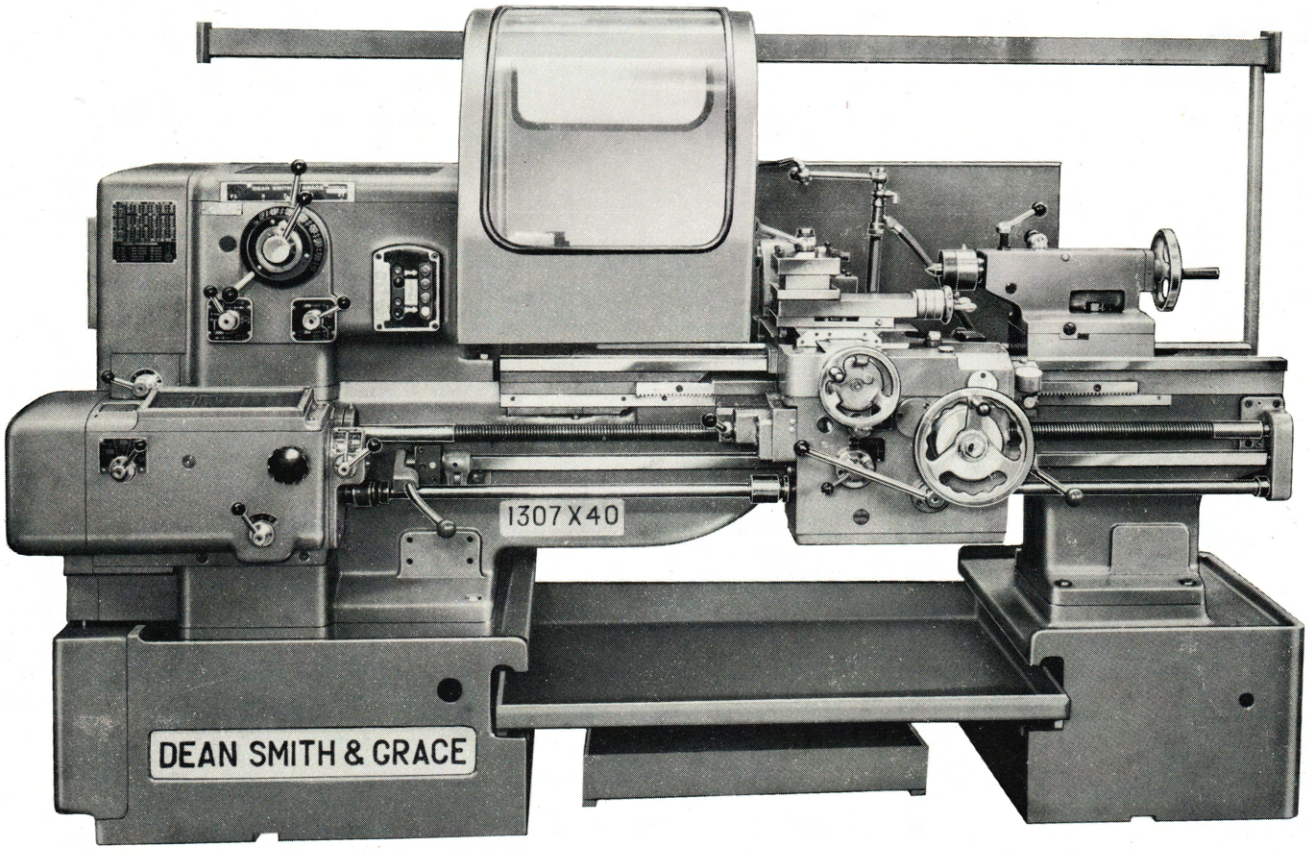
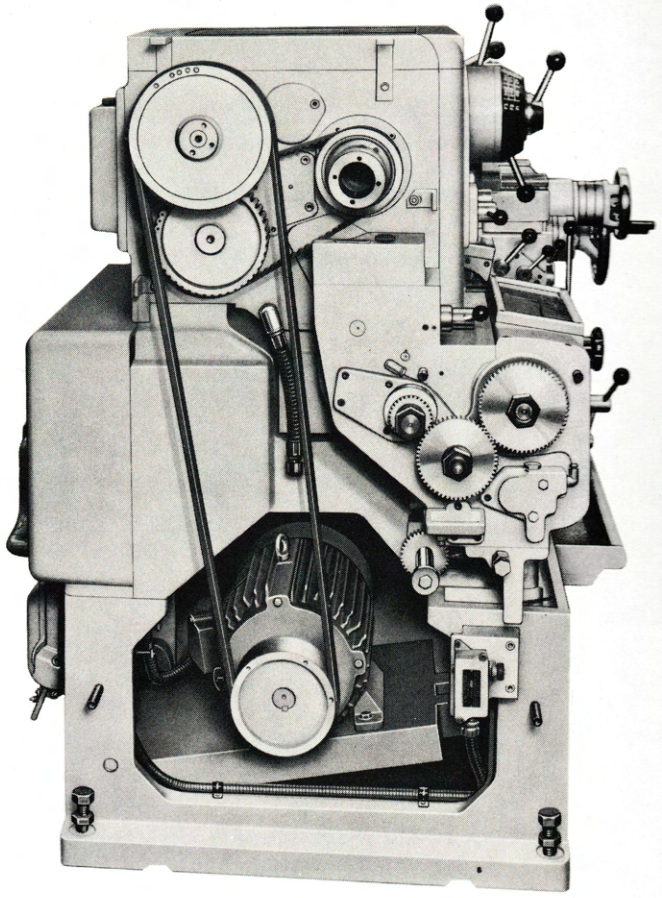
14 INCH SWING CENTRE LATHE



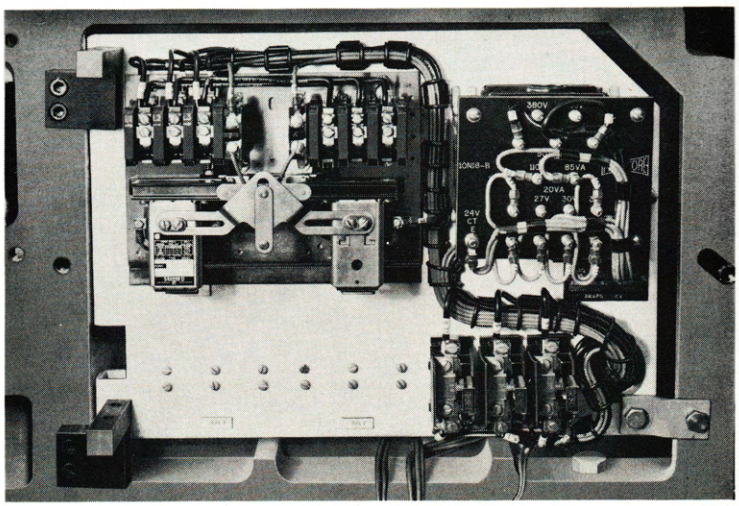
the drive



The totally enclosed main motor – 7·5 or 10 hp depending on speed range selected – is mounted on a hinged plate inside the base of the lathe, a position giving the best condition for isolating motor vibrations.

The drive from the motor is by multi-ribbed polyvee belt giving smooth power transmission. Drive to the spindle on the high range of speeds is obtained by toothed belt and pulleys, which are on fixed centres and need no adjustment.

The clean flat guards at the end of the lathe protect the operator from all belt and gear hazards and the change-gear cover is fitted with electrical interlock. Removed, the guards allow full access for belt tensioning and other adjustments.



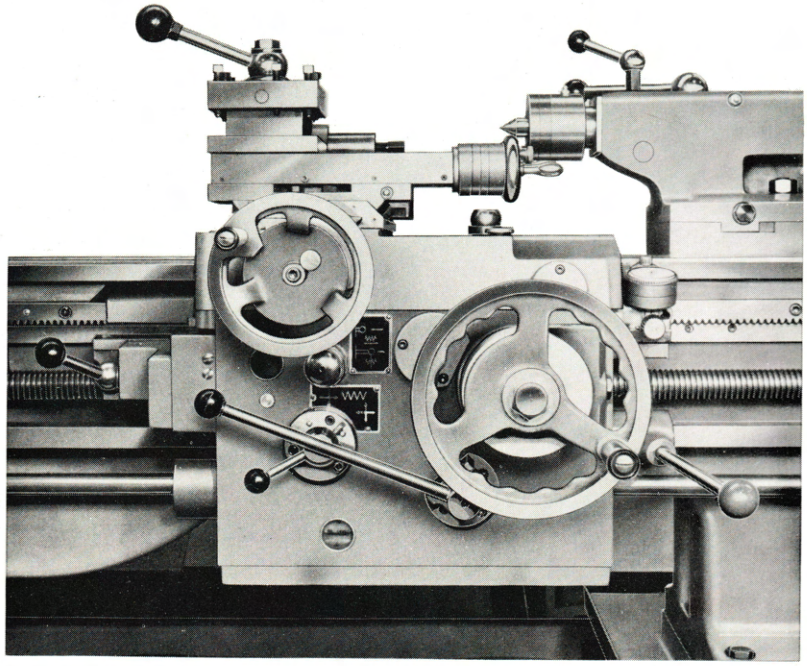
An automatic contactor starter, operated by push-buttons located on the headstock, is built into the lathe at the rear of the headstock. 110 volt control circuits include thermal-type overloads and inherent no-volt protection.

An isolator is fitted, interlocked with the starter cover.

The electrics are an integral part of the machine and conform to BSS 2771 : 1956.

apron

Functions, controls and actions are clearly and neatly displayed on the ergonomically designed apron



The apron is totally enclosed and pump lubricated.

The leadscrew nuts are automatic tripping from a stop on the bed and are automatically lubricated in the engaged position.

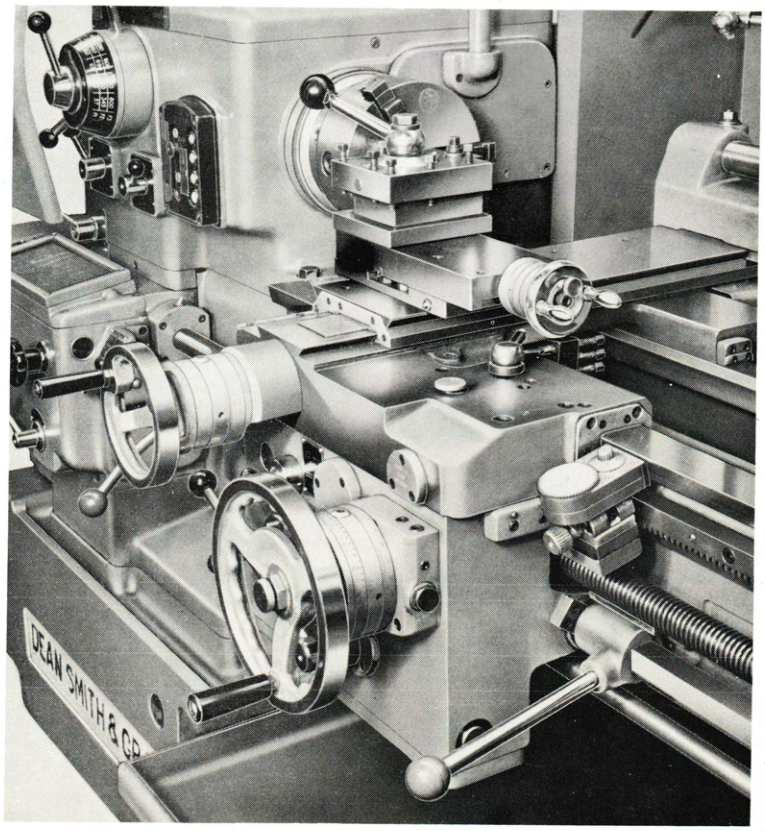
Single-lever control of feed engagement and trip are interlocked with the leadscrew nuts. Feed direction, longitudinal or cross, is selected by a lever and feed reverse by an additional lever. This latter feature can be replaced by a feed-reducing change giving 0·6 normal feeds, operated while cutting.

Spindle start, stop and reverse are obtained by a lever at the right-hand end of the apron. Six-position indexing longitudinal stops and four-position cross stops can be supplied for automatic feed tripping.

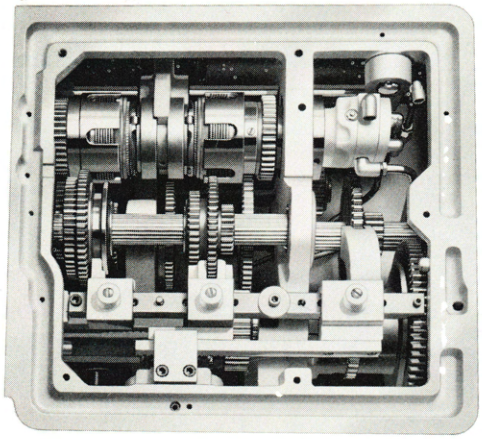
saddle

Designed with exceptionally large bearing area on the bed and extra wide cross slide dovetail for heavy duty work and lasting accuracy

The saddle carries a full-length cross slide fully covering the dovetail guide. Cross slide and bedways are automatically lubricated from the apron pump. The cross slide is arranged with dovetail for mounting auxiliary equipment and a comprehensive range of tool-holding equipment is available (see separate tool-holder catalogue). The cross slide screw is induction hardened and ground: adjustable double nuts eliminate back lash. Micrometer dials are fitted to the cross slide, compound rest and apron handwheels.



the headstock



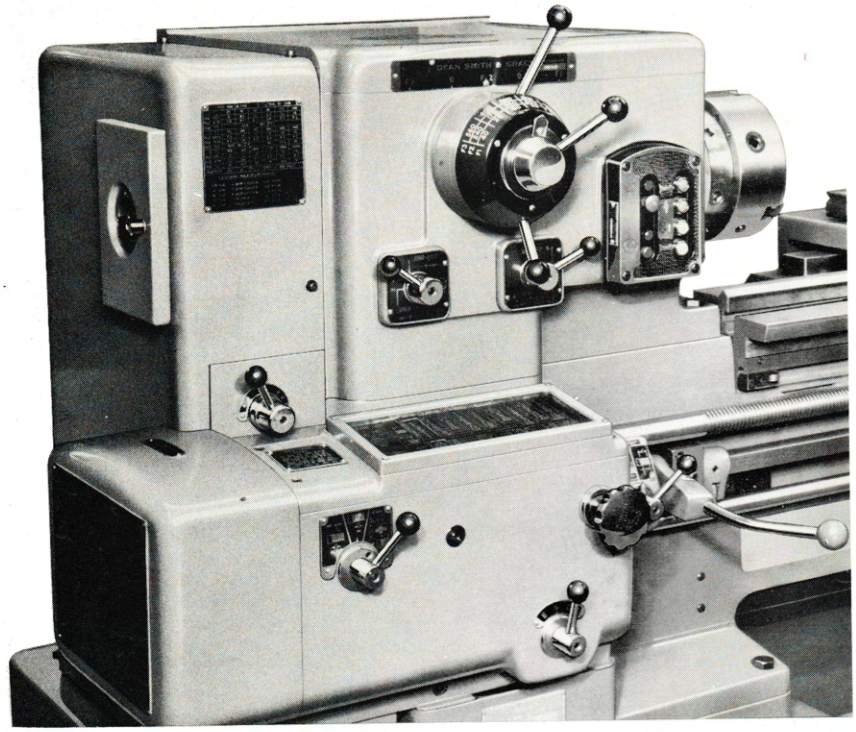
The headstock is offered as standard with gear drive or alternatively with belt overdrive for higher speed ranges. The standard headstock has 12 speeds forward and reverse and the high-speed headstock has 18 speeds forward and reverse. Forward and reverse speeds are obtained through matrix duplex clutches operated from either headstock or saddle positions. Both ranges are listed on the opposite page.

Speeds are selected through three levers operating sliding gears on involute splined shafts. The speed selected is clearly shown on an engraved dial.

A multi-plate brake is engaged when the manually operated duplex multi-plate clutch is in the neutral position. All the transmission gears are of high-tensile steel, hardened and profile ground. Shafts are high tensile steel, ball-bearing mounted. The main spindle, carried on precision taper-roller bearings, has a D1–6in camlock spindle noose and rear work steady.

Lubrication to the spindle bearings is from a pressurized supply which is magnetically filtered and incorporates a warning light. A similar system lubricates the gears and shafts.

Feed and screw reverse is obtained by a headstock lever. Coarse pitch screwcutting, selected by a lever, increases the gearbox ratio by 4 :1, max. lead 2 in (56 mm) using the low gear range only. With coarse pitch engaged on the high gear range, feeds are reduced to 2/3 normal. On belt drive feeds are 2/7 normal. A dividing dial for multi-start threading is carried on the front spindle bearing cover.



Standard Headstock 12 speeds

20–690 rpm 7·5 hp motor. Range A

High gear	690	480	345	240	175	120
Low gear	115	80	57	40	29	20

29–960 rpm 7·5 or 10 hp motor. Range B

High gear	960	690	480	345	240	175
Low gear	160	115	80	57	40	29

High-speed Headstock with belt overdrive 18 speeds

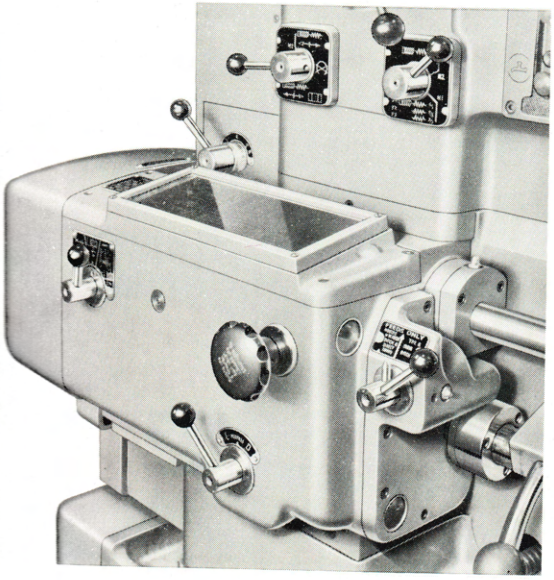
20–1600 rpm 7·5 hp motor. Range A

Belt drive	1600	1120	800	560	400	280
High gear	690	480	345	240	175	120
Low gear	115	80	57	40	29	20

29–2240 rpm 10 hp motor. Range B

Belt drive	2240	1600	1120	800	560	400
High gear	960	690	480	345	240	175
Low gear	160	115	80	57	40	29

totally enclosed universal gearbox



From Metric to Inch – from Inch to Metric – this gearbox makes the change instantly without altering change wheels. All feeds and threads clearly indicated. The gearbox is fitted with precision-ground or shaved gears and pump lubrication to ensure accurate screw cutting and smoothness of transmission. 45 threads and feeds can be selected without alteration to the change gears. 30 feeds are shown on the feed plate arranged in preferred numbers to comply with the I.S.O. requirements. Longitudinal feeds are 0·0016 to 0·045 in per rev. Cross feeds are 0·0008 to 0·0225 in per rev. With high speed headstock feeds can be reduced to 0·00045 in longitudinal and 0·00022 in cross feed. (See also headstock description.) Threads per inch and millimetre pitches can be cut without alteration to the change gears. An extra change gear is provided which enables a full range of diametral and module pitches to be selected.

Provision is made for a more direct drive to the leadscrew through by-passing the main gearbox and giving increased pitch accuracy. The leadscrew is disengaged when not in use and to prevent overloading a slip coupling in the feed shaft drive is fitted. Max. thread lead is 2 in (56 mm).

Longitudinal Feeds in ·001 in. per rev.					
45	40	35·5	31·5	28	25
22·4	20	18	16	14	12·5
11·2	10	9	8	7·1	6·3
5·6	5	4·5	4	3·55	3·15
2·8	2·5	2·24	2	1·8	1·6

Longitudinal Feeds in mm. per rev.					
1·12	1·00	0·90	0·80	0·71	0·63
0·56	0·50	0·45	0·40	0·35	0·31
0·28	0·25	0·22	0·20	0·18	0·16
0·14	0·12	0·11	0·10	0·09	0·08
0·071	0·063	0·056	0·050	0·045	0·040

Threads per inch								
4	4·5	4·75	5	5·5	5·75	6	6·5	7
8	9	9·5	10	11	11·5	12	13	14
16	18	19	20	22	23	24	26	28
32	36	38	40	44	46	48	52	56
64	72	76	80	88	92	96	104	112

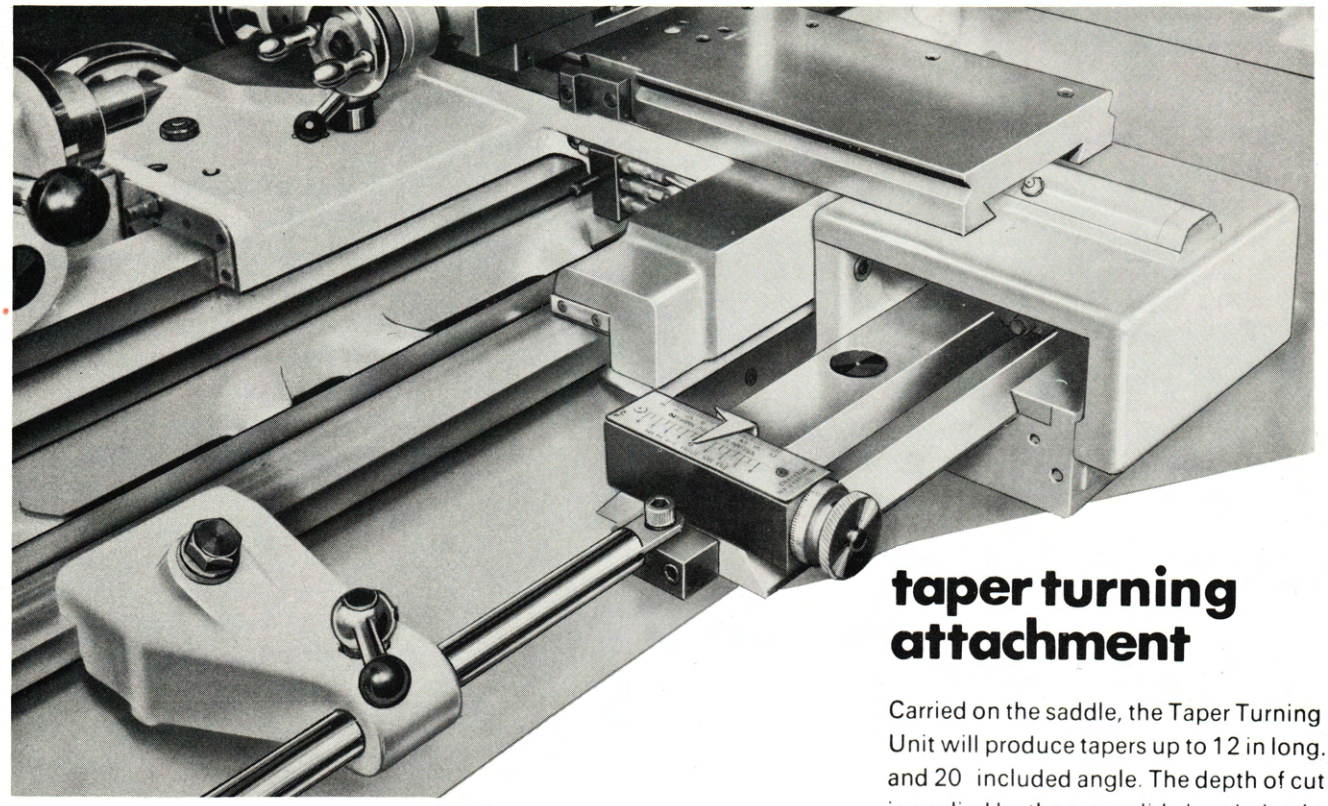
Screw Pitches in Millimetres								
32	36	38	40	44	46	48	52	56
16	18	19	20	22	23	24	26	28
8	9	9·5	10	11	11·5	12	13	14
4	4·5	4·75	5	5·5	5·75	6	6·5	7
2	2·25		2·5	2·75		3	3·25	3·5
1	1·125		1·25	1·375		1·5	1·625	1·75
0·5						0·75		0·875

Screw Pitches in inches								
1	$1\frac{1}{8}$	$1\frac{3}{16}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{7}{16}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$
$\frac{1}{2}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{27}{32}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$
$\frac{1}{4}$	$\frac{9}{32}$		$\frac{5}{16}$	$\frac{11}{32}$		$\frac{3}{8}$	$\frac{13}{32}$	$\frac{7}{16}$
$\frac{1}{8}$			$\frac{5}{32}$			$\frac{3}{16}$		$\frac{7}{32}$

Module Pitches								
8	9	9·5	10	11	11·5	12	13	14
4	4·5	4·75	5	5·5	5·75	6	6·5	7
2	2·25		2·5	2·75		3	3·25	3·5
1			1·25			1·5		1·75
0·5						0·75		

Diametral Pitches								
2	2·25	2·375	2·5	2·75	2·875	3	3·25	3·5
4	4·5	4·75	5	5·5	5·75	6	6·5	7
8	9	9·5	10	11	11·5	12	13	14
16	18	19	20	22	23	24	26	28
32	36	38	40	44	46	48	52	56
64	72	76	80	88	92	96	104	112
128	144	152	160	176	184	192	208	224

Figures in red obtainable with change gears modified



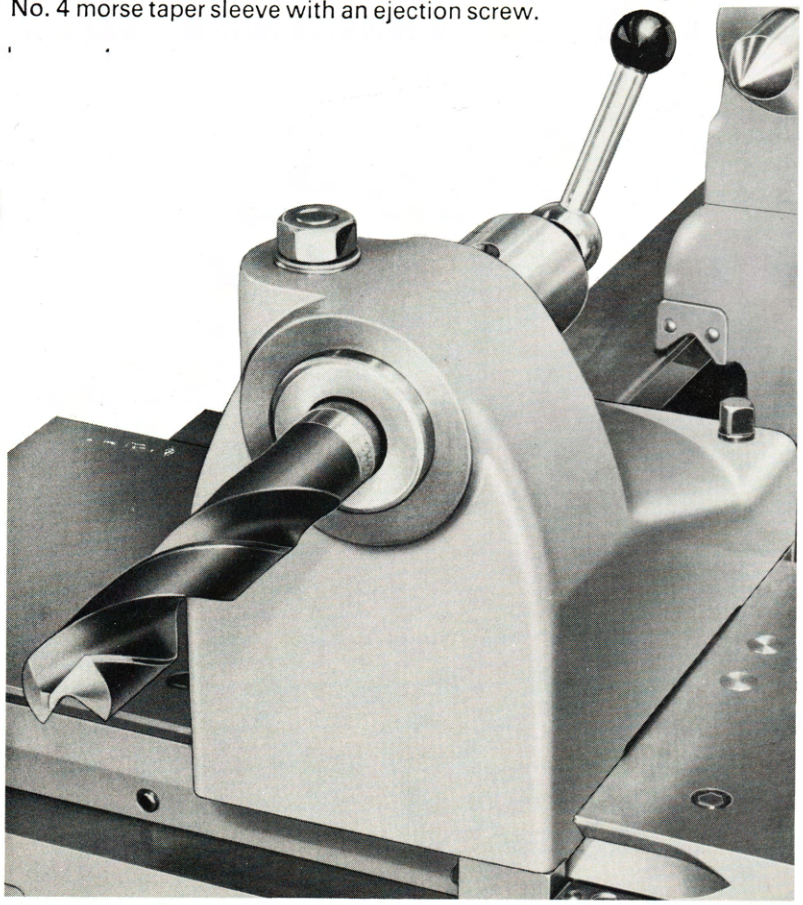
taper turning attachment

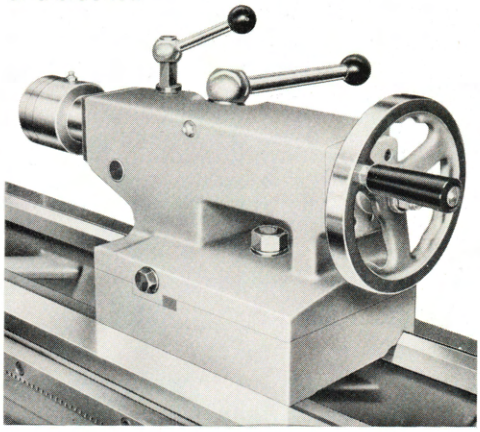
Carried on the saddle, the Taper Turning Unit will produce tapers up to 12 in long. and 20 included angle. The depth of cut is applied by the cross slide handwheel through a telescoping screw connected with the taper slide. Backlash can be eliminated by adjustable nuts on the cross slide screw. The only adjustment necessary to bring the taper unit into operation is to clamp the connecting bar and bracket.

power drilling unit

Labour is expensive. Make the most of it by drilling with power feed, reducing operator fatigue

The Power Drilling Unit is used for drilling operations by hand traverse or power feed from the saddle, avoiding wear on the tailstock. Located on the spindle centre by means of a stop on the saddle, positioning is rapid and a clamp allows for quick removal to the rear of the cross slide when not in use. The unit can be used also for boring, reaming and threading by diehead and is fitted with a hardened and ground No. 4 morse taper sleeve with an ejection screw.

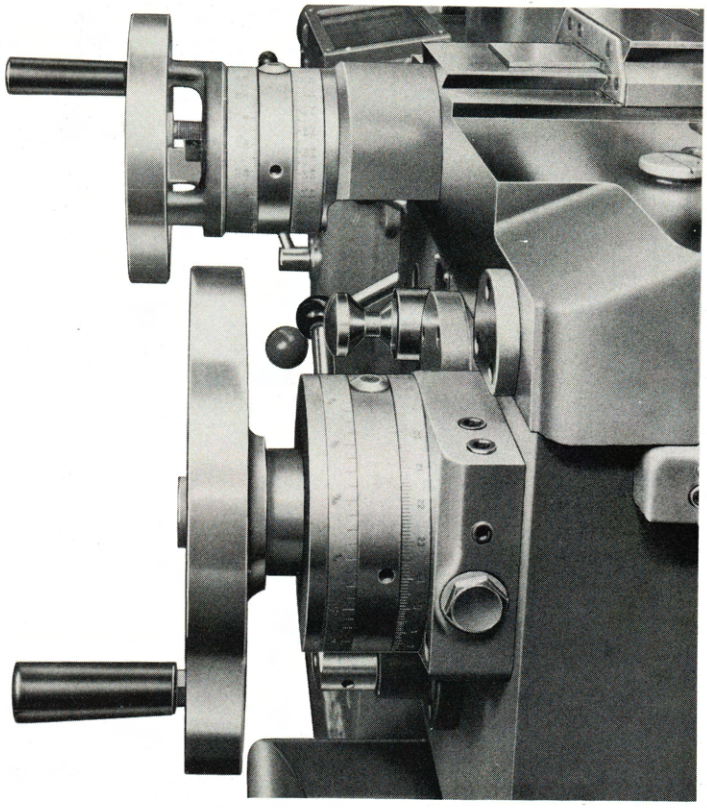




tailstock

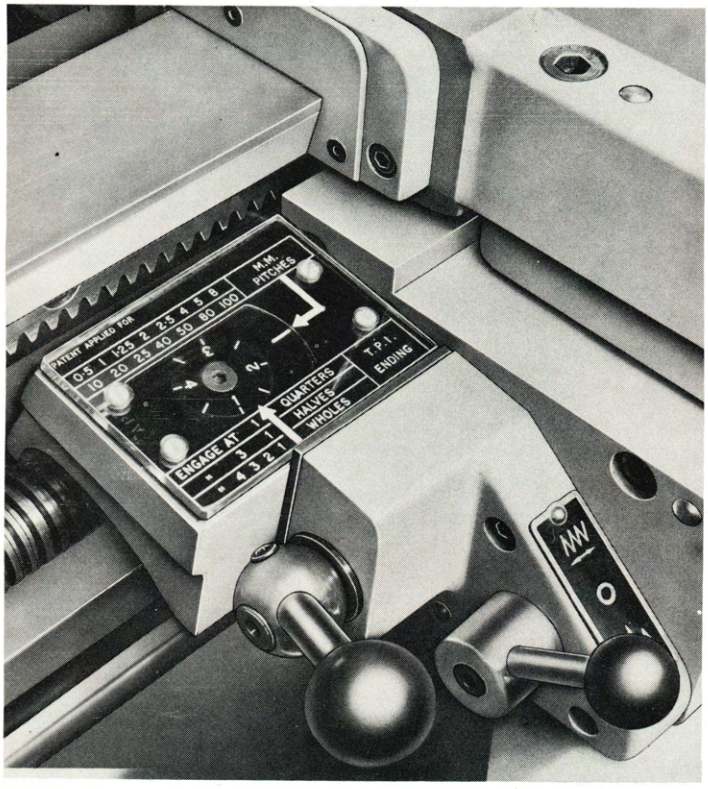
Rugged construction, with heavy duty spindle to withstand maximum cutting forces.

Aligned to the bed by vee and flat guideways the tailstock has medium-duty clamping to the bed by single lever. An additional clamping bolt is fitted for heavy-duty work. A large diameter hardened tailstock spindle with No. 4 MT bore is provided ; for heavy-duty shaft turning, a built in revolving centre with micrometer dial and overload protection is available.
The tailstock spindle MT bore is not provided with a tang slot as drilling and reaming operations etc. should be carried out using the saddle power-drilling unit



inch/metric saddle handwheel dials

These dual reading dials provide facilities for reading either in English or Metric Systems. The patented index pointer can be positioned to avoid incorrect reading.



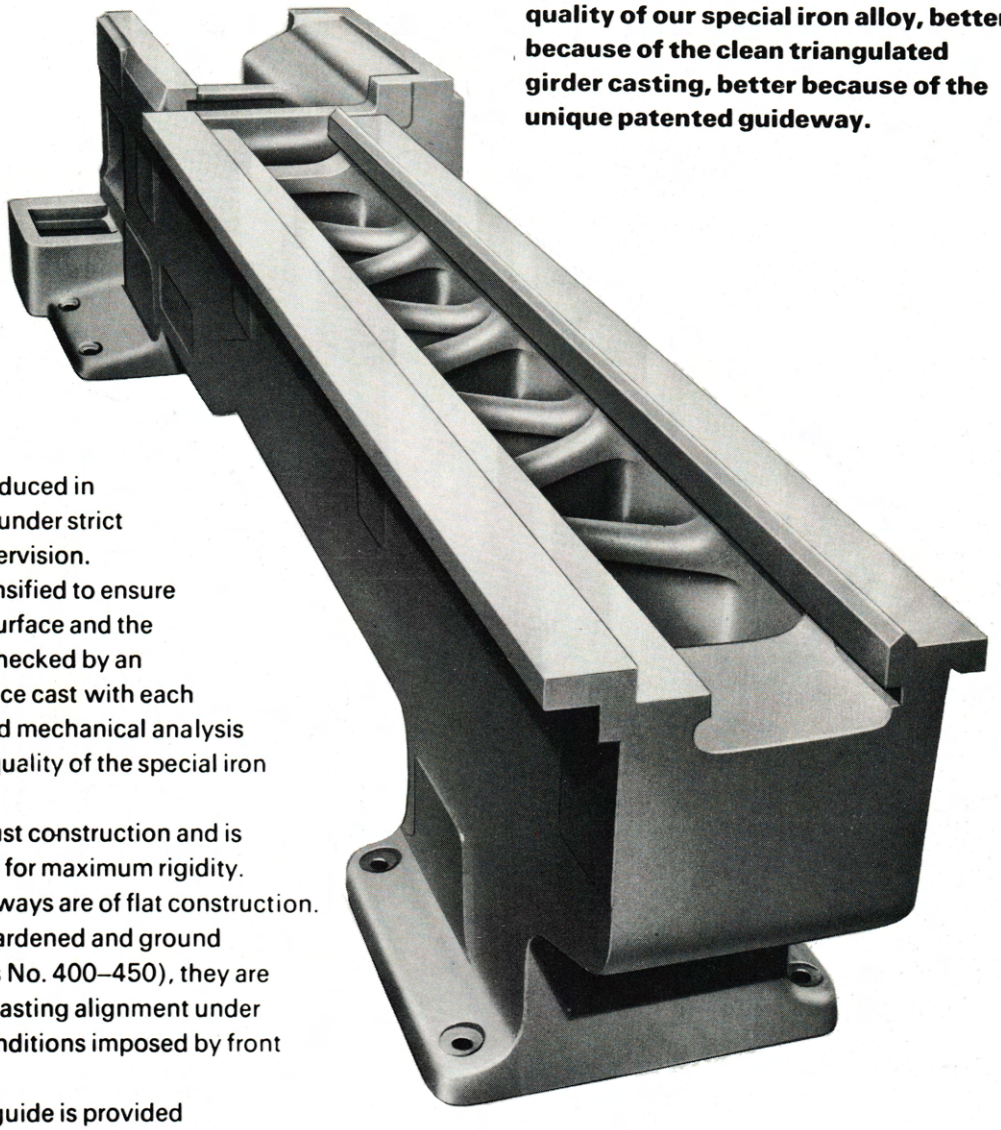
inch/metric screwcutting dials

This ingenious device (patents pending) is a most useful aid to screwcutting. With most lathes fitted with an English leadscrew, it is only possible to cut threads per inch with the nuts engaged and disengaged at each pass, and when cutting other threads it is necessary for the nuts to be retained in engagement during the complete cutting cycle.

With this device, inch, metric and a wide range of other threads can be cut with the nuts engaged and disengaged at each pass, thus enabling higher cutting speeds to be utilised and a consequent reduction in cutting time. The inner dial is used when cutting threads per inch and the outer dial when cutting other threads.

the bed

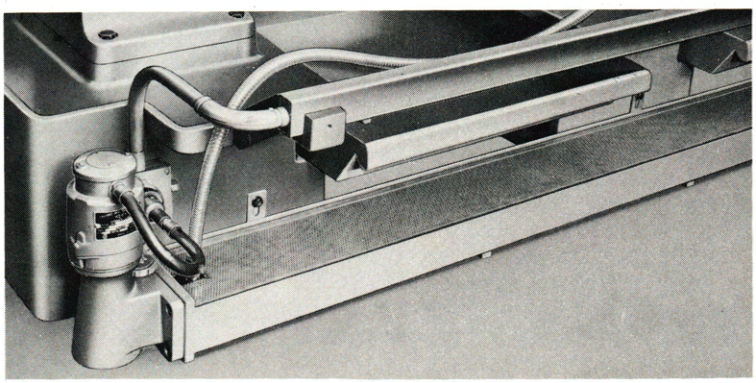
The foundation of the lathe. D.S.G. design and build you a better bed, better because of the close control over the quality of our special iron alloy, better because of the clean triangulated girder casting, better because of the unique patented guideway.

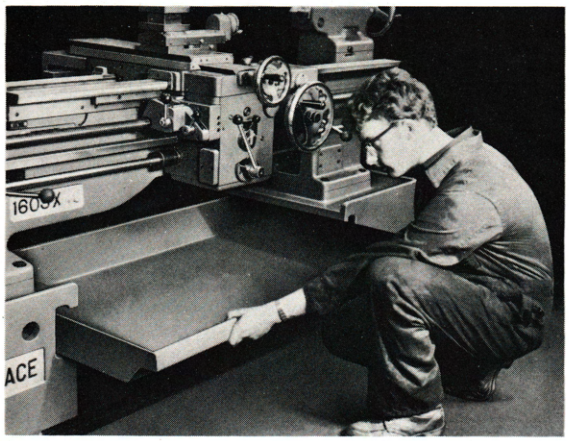


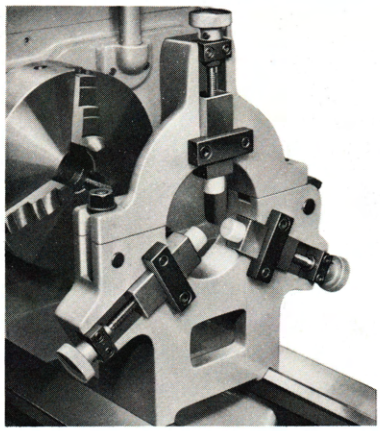
The casting is produced in our own foundry under strict metallurgical supervision.
Slideways are densified to ensure a close-grained surface and the quality of this is checked by an individual test piece cast with each bed. Chemical and mechanical analysis tests control the quality of the special iron alloy.
The bed is of robust construction and is diagonally ribbed for maximum rigidity.
The saddle guideways are of flat construction. Fully induction hardened and ground (Brinell Hardness No. 400–450), they are designed to give lasting alignment under severe cutting conditions imposed by front and rear tooling.
A hardened vee-guide is provided for the tailstock and nylon wipers protect all guideways.
If required the bed may be supplied with a removable gap piece.
The base of the lathe is arranged with levelling screws at appropriate points for accurate adjustment to the bed level.
A sliding swarf tray is provided for quick and easy swarf removal.

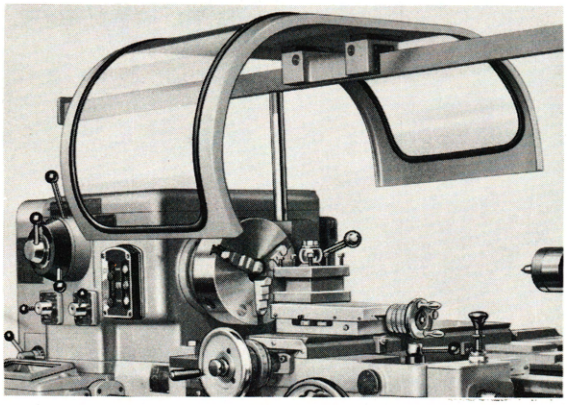
coolant pump

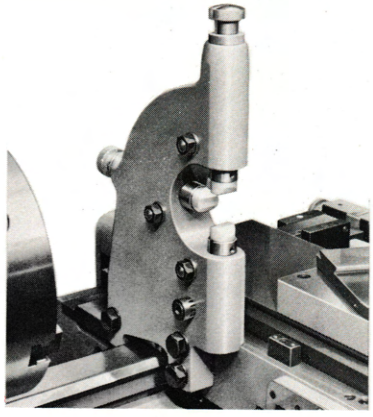
The large capacity coolant tank is provided with a high quality impellor type pump and fractional-hp motor with push button control from the headstock along with a flexible pipe to the universal coolant fitting on the saddle. To maintain alignment with the coolant return, the tank is strapped to the lathe feet and can easily be withdrawn for cleaning. The top of the tank is protected by a perforated metal cover.

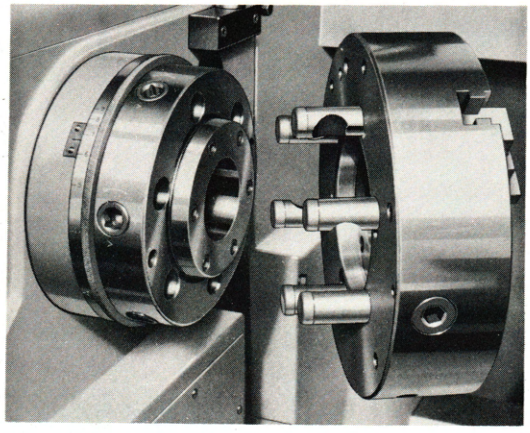


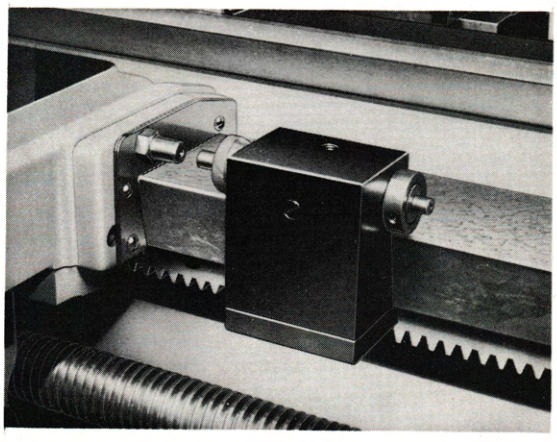


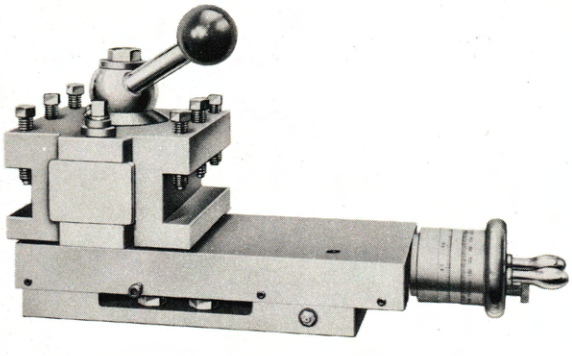












additional equipment & standard equipment

Sliding chip tray
Travelling chip guard
Camlock spindle nose
Square turret on compound rest
Stationary steady
Travelling steady
Micrometer dead stop

standard equipment

7·5 h.p. (5·5 kW) motor, vee belt drive, built-in control panel with isolating switch and push buttons on headstock.
Standard headstock with spindle mounted on roller bearings and with choice of alternative speed ranges as listed in specification.
Straight bed induction hardened and ground.
Universal totally enclosed screwcutting gearbox with standard set of three change wheels to cut T.P.I., inch and mm pitches and with one additional wheel for cutting Diametral and module pitches.
Feed and thread ranges as listed in specification.
Automatic tripping leadscrew nuts.
Dual inch/metric screwcutting dial.
Multi-start thread indexing dial on headstock.
Coarse pitch threading (which also provides fine feeds).
Reversible Leadscrew.
Tailstock.
Power Drilling Attachment with No.4 M.T. Socket.
Removable chip tray and Splash Guards.
Feed reverse on Apron.
Bed wipers.
Pair of No.4 M.T. Centres.
Set of spanners, Keys & Oil Gun.
Instruction Manual.
Note: Toolholding equipment not included as standard.

additional equipment

Gap Bed, capacity as listed in specification.
10 h.p. (7·5 kW) motor and starter dependent on speed range.
Square Turret on Compound Rest or other toolholding equipment as separate catalogue.
Travelling steady $\frac{1}{2}$″ to 3″ (13 mm to 76 mm) dia. capacity with plain or roller pads.
Stationary steady $\frac{1}{2}$″ to 5″ (13 mm to 127 mm) dia. capacity with plain or roller pads.
Stationary steady 3 ″ to 7″ (76 mm to 178 mm) dia. capacity with plain or roller pads.
Micrometer dead stop.
Longitudinal stops (six position tripping).
Cross stops (four position tripping).
Coolant pump, tank and fittings.
Lo-vo-lite lighting unit, 25 or 50 volts.
Taper Turning Unit.
Travelling chip guard and runner.
Chuck guard.
Tailstock spindle with lunzer built-in revolving centre.
Ammeter.
Tool Cabinet.
Foundation bolts and levelling plates.
Include feed reduction on apron in lieu of feed reverse.
Spherical turning attachment capacity 4″ (102 mm) outside diameter.
Dual inch/metric dials.
Trav-a-dial for longitudinal traverse.
Swivelling Hydraulic Copying Unit.
See separate catologue.
Digital Readout Equipment.
Steel Chuck (up to 1120 r.p.m.).
10″ (250 mm) dia. Pratt 4-jaw Independent
Steel Chuck (up to 1600 r.p.m.).
12″ (305 mm) dia. Pratt 3-jaw Self Centring
Steel Chuck (up to 1600 r.p.m.).
10″ (250 mm) dia. Pratt 3-jaw Self Centring
Steel Chuck (up to 1600 r.p.m.).
$8\frac{1}{4}$″ (210 mm) dia. Pratt 3-jaw Self Centring
Steel Chuck (up to 1600 r.p.m.).
10″ (250 mm) dia. Pratt Tudor Chuck (up to 1400 r.p.m.).
Crawford Trugrip and Hydraulic Collet Chuck.
Burnerd Multi-size collet Chucks.
12″ (305 mm) dia. Faceplate.
16″ (405 mm) dia. Faceplate. for gap bed.
22″ (560 mm) dia. Faceplate for gap bed.
CATCHPLATE.

specification

CAPACITY

Swing over bed	14 in	355 mm
Swing over full length cross slide	7 in	178 mm
Swing over Gap	22 in	560 mm
Width of Gap in front of Spindle nose	$9\frac{1}{2}$ in	241 mm
Width across bed shears	$11\frac{7}{8}$ in	302 mm
Depth of bed	$11\frac{5}{16}$ in	287 mm
Height from Floor to Spindle Centre	$42\frac{9}{16}$ in	1081 mm
Admits between centres	30 in	750 mm

Can be increased in 10 in (250 mm) increments up to 60 in (1500 mm)

STANDARD HEADSTOCK 12 speeds

Range 'A' $7\frac{1}{2}$ hp ($5\frac{1}{2}$ kW) Motor	20 to 690 rpm
Range 'B' $7\frac{1}{2}$ hp ($5\frac{1}{2}$ KW) or 10 hp ($7\frac{1}{2}$ KW) Motor	29 to 960 rpm

HIGH SPEED HEADSTOCK 18 speeds

Range 'A' $7\frac{1}{2}$ hp ($5\frac{1}{2}$ kW) Motor	20 to 1600 rpm
Range 'B' 10 hp ($7\frac{1}{2}$ kW) Motor	29 to 2240 rpm

SPINDLE

Camlock Spindle Nose	D1–6 in	D1–6 in
Bore through spindle	$2\frac{1}{16}$ in	52 mm
Spindle Bearings outside diameters		
Front : Double Gamet	6 in	152·4 mm
Rear : Single Gamet	4·724 in	120 mm
Spindle diameters at bearings		
Front	$3\frac{5}{8}$ in	92 mm
Rear	$2\frac{3}{4}$ in	70 mm
Taper of Centre	No. 4 Morse	No. 4 Morse

FEEDS AND THREADS

Longitudinal Feeds per revolution (Cross feeds are half longitudinal)

30 normal	0·0016 to 0·045 in / 0·04 to 1·12 mm
Fine (High Gear Range)	0·001 to 0·0014 in / 0·025 to 0·035 mm
Fine (Belt drive range)	0·00045 to 0·0014 in / 0·011 to 0·035 mm
Threads per inch 45 normal	4 to 112 tpi
Inch pitches 11 normal	$\frac{1}{8}$ to $\frac{7}{16}$ in
25 coarse	$\frac{1}{2}$ to 2 in
Metric pitches 22 normal	$\frac{1}{2}$ to 7 mm
27 coarse	8 to 56 mm
Module Pitches 13 normal	0·5 to 3·5
18 coarse	4 to 14
Diametral pitches 45 normal	8 to 224
18 coarse	2 to 7

SADDLE AND APRON

Length of Saddle Front	18 in	457 mm
Rear	13 in	330 mm
Width across saddle	$21\frac{9}{16}$ in	548 mm
Bearing surface area	62 sq. in	400 sq. cm
Width of saddle dovetails	$4\frac{1}{8}$ in	105 mm
Width of cross slide	$6\frac{5}{8}$ in	168 mm
Cross slide travel	$10\frac{1}{4}$ in	260 mm
Compound slide travel	$4\frac{1}{2}$ in	114 mm
Tool size square turret	$\frac{3}{4}$ in deep × $\frac{3}{4}$ in wide	19 mm × 19 mm
Leadscrew nut length	4 in	102 mm
Leadscrew	$1\frac{3}{8}$ in dia. × $\frac{1}{4}$ in pitch	35 mm × 6 mm or $\frac{1}{4}$ in pitch

TAILSTOCK

Spindle diameter	$2\frac{1}{8}$ in	54 mm
Spindle travel	8 in	200 mm
Taper of centre	No. 4 morse	No. 4 morse

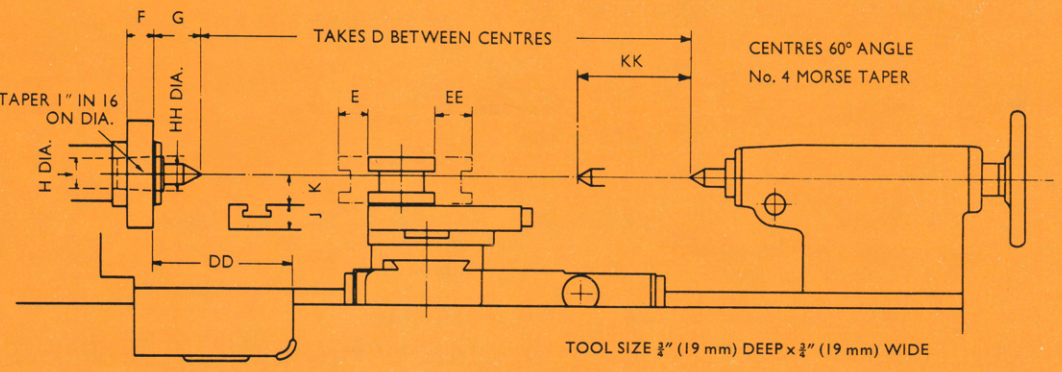
CENTRE DISTANCE

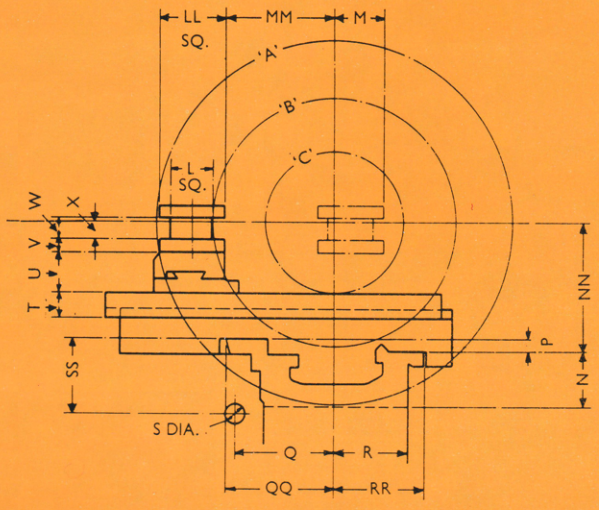
		Approximate Nett Weight lb.	Approximate Nett Weight kg.	Approximate Floor Sapce ft.	Approximate Floor Sapce m
30 in	750 mm	5300	2400	9 x 5	2·7 x 1·5
40 in	1000 mm	5550	2520	10 x 5	3 x 1·5
50 in	1250 mm	5800	2630	11 x 5	3·3 x 1·5

The above are for basic lathe and will vary with equipment included.

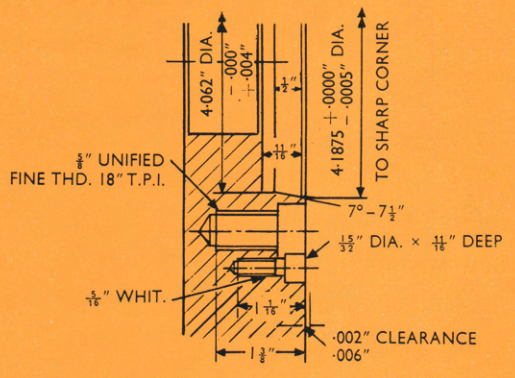
capacities

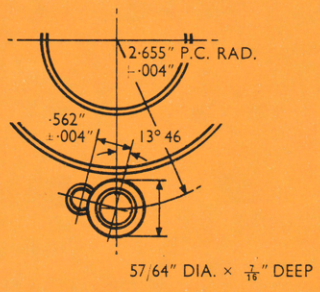
STD. AMERICAN TYPE D.1. ·6" SPINDLE NOSE





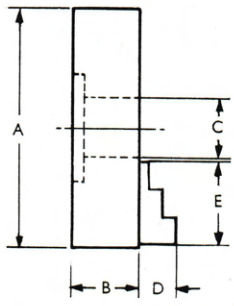
	A	B	C	D	DD	E	EE	F	G	H	HH	J	K	KK	L	LL	M	MM	N	NN	P	Q	QQ	R	RR	S	SS	T	U	V	W	X
ins.	22	14	7	30	9½	1¾	2¾	1¾	3 1/16	2 1/16	2¼	1 7/16	1 11/16	8	3½	5	3⅜	7¼	4¼	7 1/16	7/16	6⅝	6⅝	4 3/16	5¼	1⅜	5⅞	1⅜	2 3/16	1 3/16	1¼	⅞
mm	559	356	178	762	241	44	70	44	78	52	57	36	43	203	89	127	98	184	108	179	11	168	168	106	133	35	149	35	56	21	32	22





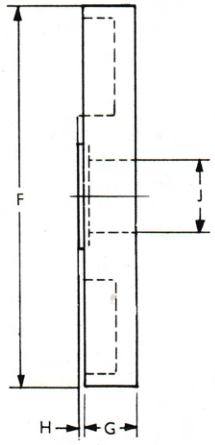
3 OR 6 SETS OF HOLES AS REQUIRED FOR MOUNTING

chucks



Type	A	B	C	D	E		Max. speed r.p.m.
10″ (254 mm.) dia. 4-jaw ind. chuck	10 254	$3\frac{1}{4}$ 83	$2\frac{1}{8}$ 54	$1\frac{33}{64}$ 38	$3\frac{3}{8}$ 86	in. mm.	1600
12″ (305 mm.) dia. 3-jaw scroll chuck	12 305	$3\frac{3}{8}$ 86	3 76	$1\frac{27}{32}$ 47	$4\frac{1}{8}$ 105	in. mm.	1600
10″ (254 mm.) dia. 3-jaw scroll chuck	10 254	$3\frac{3}{16}$ 81	$2\frac{1}{8}$ 54	$1\frac{1}{2}$ 38	$3\frac{1}{2}$ 89	in. mm.	1600
$8\frac{1}{4}$″ (210 mm.) dia. 3-jaw scroll chuck	$8\frac{1}{4}$ 210	$3\frac{3}{16}$ 81	$2\frac{1}{8}$ 54	$1\frac{3}{8}$ 35	3 76	in. mm.	2240

faceplates



Size	F	G	H		Max. speed r.p.m.
12″ dia.	12 305	$2\frac{1}{8}$ 54	$2\frac{1}{4}$ 57	in. mm.	690
16″ dia.	16 406	$2\frac{1}{2}$ 63	$2\frac{1}{4}$ 57	in. mm.	560
22″ dia.	22 559	$2\frac{1}{2}$ 63	$2\frac{1}{4}$ 57	in. mm.	400

NOTE: The above are the maximum recommended speeds for the chuck or faceplate only and do not take into account the workpiece size. Where workpiece is eccentric or bulky (*i.e.* having a large projection from the face of the chuck or faceplate, or the weight exceeds half that of the chuck) these speeds must be reduced.

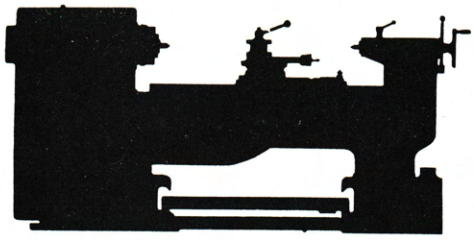
maximum weight of workpiece

The following table lists the approximate maximum weights of workpieces which can be supported in the machine based on the load carrying capacity of the headstock spindle and tailstock.
Where workpieces are eccentric, vibration can result due to the out of balance load, and this may adversely affect the cutting performance of the lathe. This is particularly applicable at the higher spindle speeds and it may be necessary for these maximum weights to be reduced to ensure satisfactory performance.

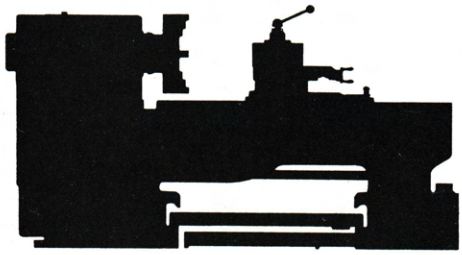
	Maximum weight of workpiece	
	lb	kg
In Chuck (with centre of gravity up to 3″ (76 mm.) from chuck face)	224	102
Between solid centres	364	165
For built-in revolving centre	364	165

Maximum capacity drilling from the saddle

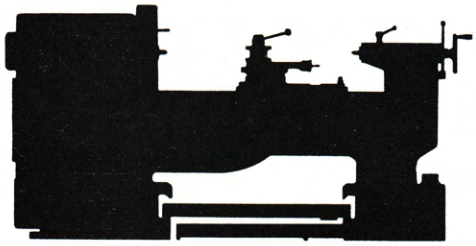
For general duty, it is recommended that thrust loads from the saddle be limited to approximately 1000 lb (450 kg). For occasional use, these can be increased by approx. 50%.



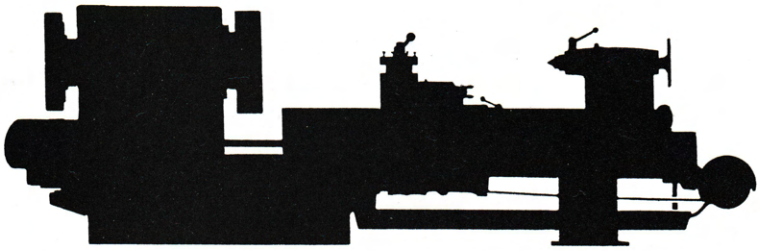
13″ to 30″ Swing Centre Lathes



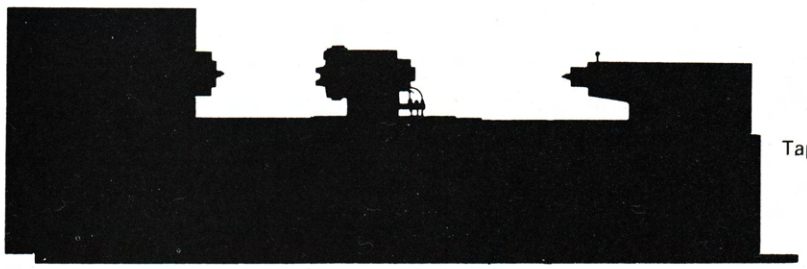
16″ to 24″ Swing Cross-feeding Turret Lathes



Toolroom Lathes



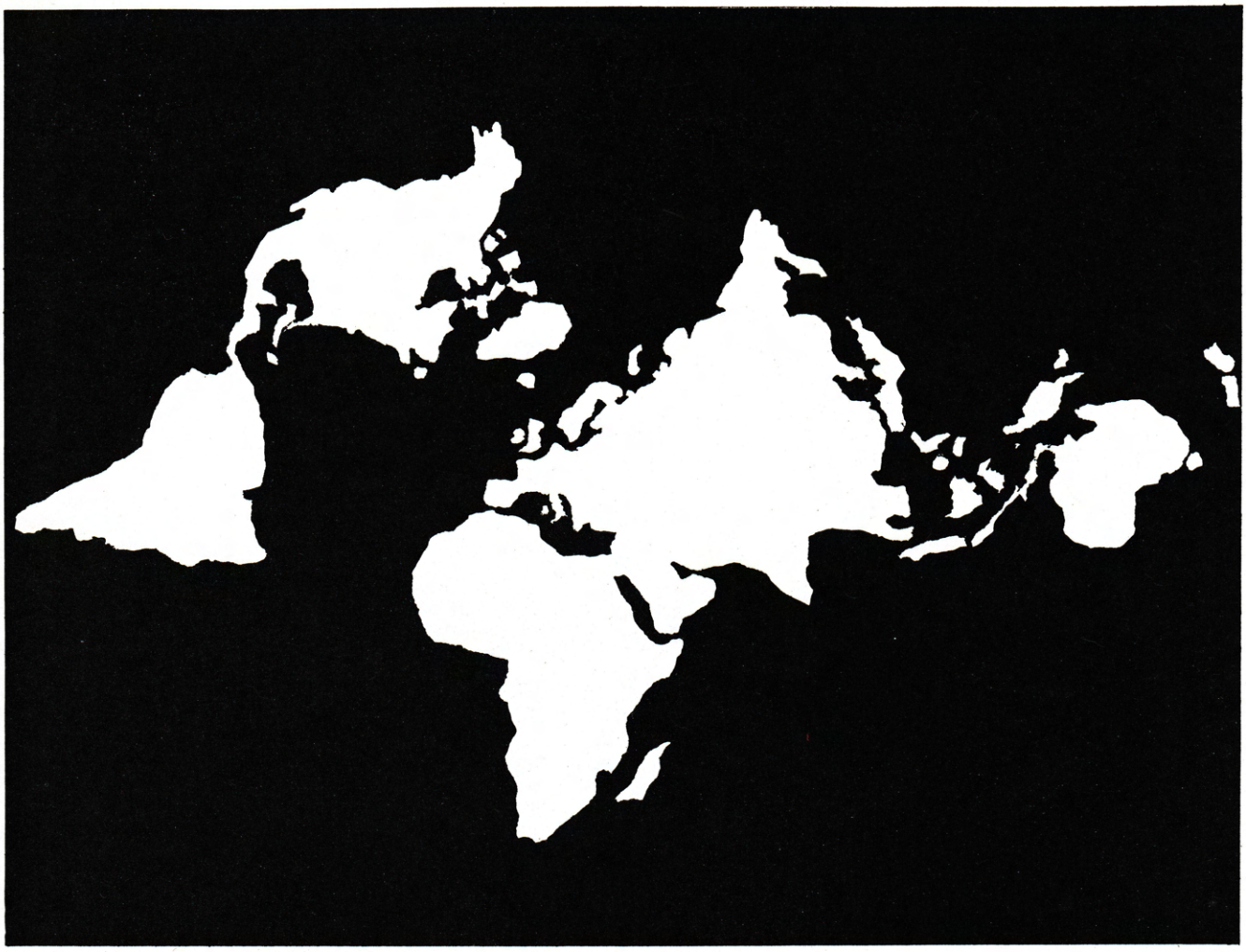
Oil Country Lathes



Tape Controlled Lathes

We manufacture 13″ to 30″ swing centre lathes, cross-feeding turret lathes, toolroom lathes, tape-controlled lathes, hydraulic copying units

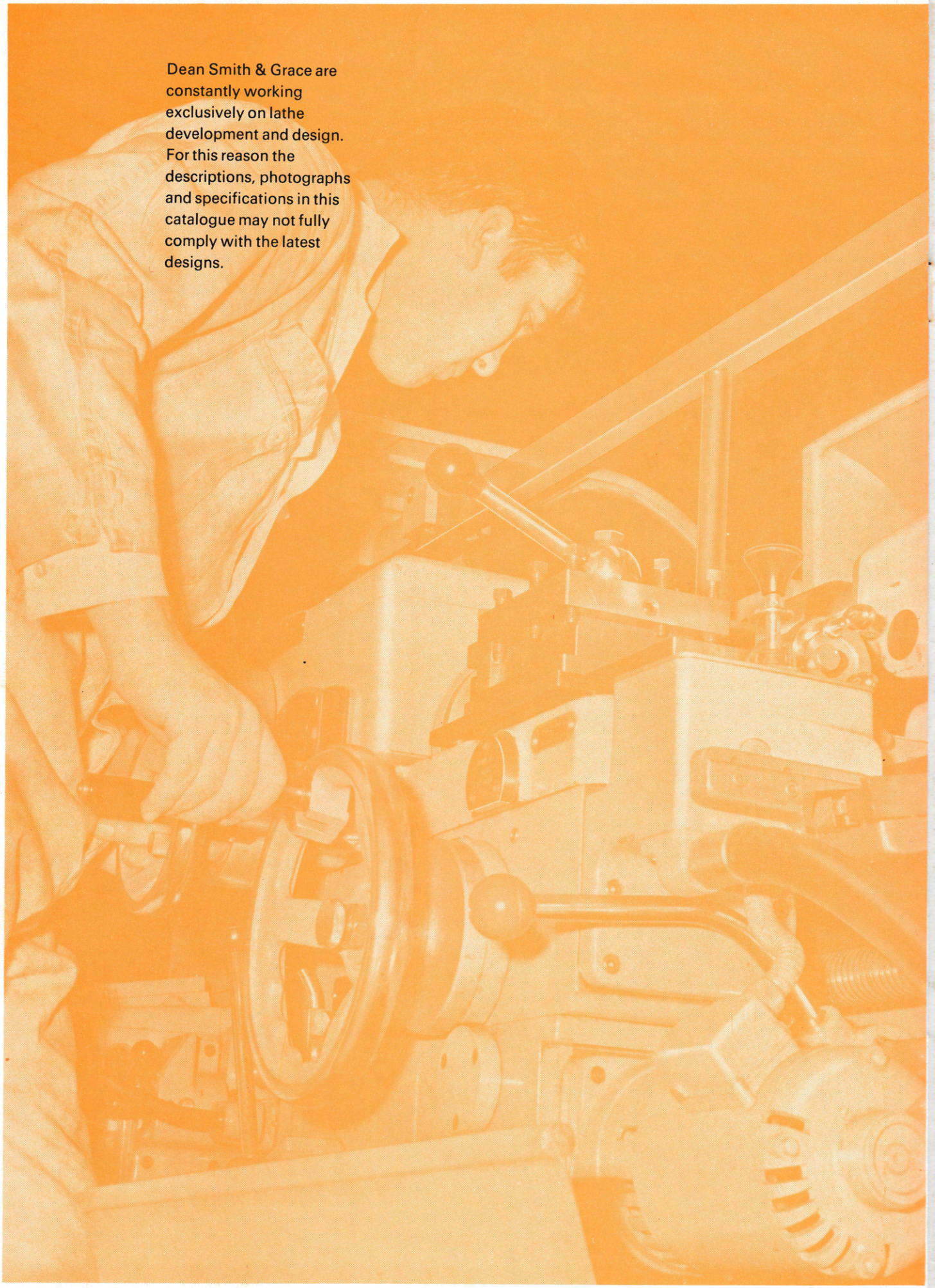
worldwide distribution



At about the time – a century ago – that Dean Smith and Grace began building lathes, Ralph Walldo Emerson wrote, "If a man make a better mouse trap . . . the world will make a beaten path to his door."

We feel this to be the truth but not the whole truth. Certainly the excellence of our lathes has played a major part in bringing customers to us from the world over; at the same time, we have beaten so many paths – outward paths – for ourselves that there are to-day innumerable doors, in nearly every manufacturing country, bearing our name or the names of our agents or distributors.

From this world network you may confidently expect realistic and efficient services covering anything from planning an installation, to replacement parts for any of our products.



Dean Smith & Grace are constantly working exclusively on lathe development and design. For this reason the descriptions, photographs and specifications in this catalogue may not fully comply with the latest designs.

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