

# Wadkin

## Wood Turning Lathe, RS

(British Standard Classification 12.61)



Three sizes—6" RS 150, 8" RS 200  
and 10" RS 250

6" Machine will turn between centres 3' 6" long.  
8" Machine will turn between centres 5' 6" long.  
10" Machine will turn between centres 7' 6" long.

To special order, we can supply machines with shorter  
or longer beds, provided height of centres given are  
adhered to.

Telephone: 0533 769111  
Telegrams: } Woodworker, Leicester, Telex.  
Cables: }  
Telex: 34646 (Wadkin, Leicester)

**Wadkin Ltd.**  
Green Lane Works, Leicester, LE5 4PF

and at  
York House, Empire Way, Wembley, Middx.  
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# Wadkin

## Wood Turning Lathe, RS

The Wadkin Lathe has a proved record for accuracy, convenience and efficiency. It has been installed in hundreds of the leading Engineers' Pattern Shops throughout the world, where it has proved the ideal lathe for the general run of wood turning. Recent refinements in design have added to its value as a machine tool, by providing increased rigidity for the heavier classes of work, and ensuring greater convenience in operation.

The machine is an entirely self-contained unit and its installation involves no overhead fixing. It is provided with either four or eight speeds as preferred, which are obtained by a simple lever movement. The entire design is both simple and practical, and the machine can be relied on to produce high grade work over a period of years, with the minimum of attention and maintenance.

### Features

1. *Powerful and robust design throughout.*
2. *Heavy main frame and extra deep bed with removable gap piece.*
3. *Four or eight headstock speeds.*
4. *High tensile steel spindle on ball bearings.*
5. *Quick acting brake fitted to spindle.*
6. *Spindle screwed both ends for face plates.*
7. *Interchangeable Morse taper driving centres on headstock and tailstock.*
8. *Set-over motion by screw on tailstock for taper turning.*
9. *Machine self-contained electric driven.*
10. *A sound engineering job throughout.*



## Specification

### The Bed

The bed is of heavy proportions and has wide machined faces scraped dead true. It is securely bolted at one end to the main headstock and at the other end to a leg.

The bed is provided with a gap, and gap plate as shown in the illustration.

### The Headstock

The headstock is of unique construction and arranged to take the motor and driving belt inside, so that the machine is entirely self-contained and can therefore be placed in any desired position in the shop. The main spindle runs in ball bearings, with suitable provision for taking end thrust in either direction. The spindle is screwed at the front to receive the face plates, and bored out Morse taper to take centres. It is also extended and screwed at the back to receive a face plate for turning large work.

Either four or eight speeds are provided as required. All speeds are quickly obtainable by a belt-shifting lever fixed conveniently for the operator.

### The Travelling Slide Tool Carriage

The travelling slide tool carriage as illustrated can be supplied when required. It is provided with a lateral movement along the bed, controlled by machine-cut rack and pinion, and a cross motion controlled by square thread screw.

The tool post is mounted on a graduated swivel device on the cross cut slide to enable angular work to be accurately done. By means of the graduations the tool may be accurately set. The tool post is slotted to receive the turning tools, and suitable spacing collars are also provided, one of which is arranged with a spherical seating to suit an adjustable tool piece. This is supplied to enable the tool to be so adjusted that it is presented to the work at the most suitable cutting angle.

### The Tailstock

The tailstock is bored out and fitted with a long steel poppet controlled by large handwheel and square thread screw. The front end is bored out Morse taper the same size as the headstock spindle. The centres are self-discharging. The tailstock is arranged with set-over motion by screw and handle for taper turning.

### The Hand Rest

The hand rest can be fixed in any desired angular or lateral position along the bed by eccentric lever handle.

The tool rest is adjustable vertically, and is fitted with renewable steel plate.



*Tailstock has set-over motion and self-discharging centres*



*Travelling Slide Rack Carriage supplied if required*



## Specification (Contd.)

### The Drive

The drive is from totally enclosed motor mounted on a pivoting base plate inside the main frame. The motor is fitted with four-speed cone pulley and outer pedestal bearing. Power is transmitted by belt on to a similar four-speed cone pulley on the headstock spindle, and where eight speeds are required a two-speed motor is used.

Variations in speed are obtained by belt shifting lever mounted on the front of the headstock and a foot lever is arranged to raise the motor base plate slightly whilst actually changing speed. Adjustment is provided for taking up any slackness in the belt that may develop. In the case of eight speeds a speed selector switch is provided to obtain either of the two motor speeds.

### Control Gear

For three-phase alternating current the control gear is of the automatic contactor type operated by push buttons. The contactor gear embodies automatic no volt and three adjustable overload releases with time lags and is built into a dust-tight recess in the main frame. The gear is carried on the hinged door of the recess for convenient wiring and inspection. The stop button has large mushroom head for quick operation and embodies a special lock-out feature to prevent the motor being started inadvertently.

### Outside Turning

We can supply, when desired, a tripod stand, complete with off-set hand rest and 18" diameter face plate, for turning work of large diameter.

## Standard equipment supplied with the machine



### Details included with the machine:

One 6½" (165 mm.) face plate; One hand rest complete; Two dead centres; One 1½" (28 mm.) four-spur removable point driving centre; One 2¼" (57 mm.) screw point driving centre; One set of six assorted hand turning tools; Driving belt; One set of spanners; Lubricating pump and tin of lubricant for ball bearings.



## Dimensions and Capacities

	6" RS 150		8" RS 200		10" RS 250	
Height of centres	6½"	160 mm	8¼"	210 mm	10½"	260 mm
Will take between centres	3' 6"	1065 mm	5' 6"	1675 mm	7' 6"	2285 mm
Height from floor to centres	3' 7"	1090 mm	3' 7"	1090 mm	3' 7"	1090 mm
Diameter which can be turned with gap bed	2' 0½"	620 mm	2' 4½"	725 mm	2' 8½"	825 mm
Width which can be turned with gap bed	12"	305 mm	12"	305 mm	12"	305 mm
Diameter which can be turned over hand turning and travelling tool carriage	9"	230 mm	13"	330 mm	17"	430 mm
Speeds of spindle in r.p.m., on 50 cycles, when provided with four speeds			240—600—1,250—2,800			
Speeds of spindle in r.p.m., on 60 cycles, when provided with four speeds			280—720—1,500—3,350			
Speed of motor in r.p.m., on 50 cycles, for four-speed machine		950		950		950
Speed of motor in r.p.m., on 60 cycles, for four-speed machine		1,200		1,200		1,200
Speeds of spindle in r.p.m., on 50 cycles, when provided with eight speeds		200, 320, 500, 750, 960, 1,440, 1,850, 2,800				
Speeds of spindle in r.p.m., on 60 cycles, when provided with eight speeds		240, 380, 600, 900, 1,150, 1,750, 2,220, 3,360				
Speed of motor in r.p.m., on 50 cycles, for eight-speed machine			950—1,450			
Speed of motor in r.p.m., on 60 cycles, for eight-speed machine			900—1,800			
Horsepower of motor		1½		1½		1½
Floor space		7' 0" × 2' 3" 2135 × 685 mm		9' 0" × 2' 3" 2745 × 685 mm		11' 0" × 2' 3" 3355 × 685 mm
Net weight of standard machine in cwts.		12½ (1370 lb.) 625 kg		13½ (1485 lb.) 675 kg		15½ (1710 lb.) 775 kg
Gross weight of standard machine in cwts.		15½ (1765 lb.) 800 kg		17 (1905 lb.) 865 kg		19 (2130 lb.) 965 kg
Shipping measurements in cubic feet		58 1.6 cu. m		61 1.7 cu. m		66 1.8 cu. m



## Accessories for use on Wood Turning Lathes

### Outside Turning

Where the work is too large to be turned between the head and tailstock, this attachment will be found extremely handy.

It consists of a tripod stand carrying a universal adjustable hand tool rest. The stand is designed with a large machined base in order that it may be placed in any position without bolting down.

An 18" diameter accurately balanced face plate is supplied, provided with holes for securing the work. It is screwed to fit the back end of the lathe headstock spindle.



ITEM No. 1.



ITEM No. 2.

### Face Plates

These are made from special material, machined all over and accurately balanced. A number of holes are drilled in the face for securing the work by means of wood screws. When ordering, state which end of the lathe spindle the face plate is to fit, whether it is to work on the bed side, or on the opposite end for outside turning.

Diameter for Inside Turning	4"	6½"	8½"	10½"	12"	18"	—
Diameter for Outside Turning	—	—	—	—	12"	18"	24"



## Accessories for use on Wood Turning Lathes



ITEM No. 3.

### Single Tee Tool Rest

For use when carrying out ordinary hand turning operations. It is used in conjunction with the holder illustrated overleaf, Item No. 6. The rest itself is in steel and is supplied in various lengths. The shank is also of steel and  $1\frac{1}{8}$ " diameter.

When ordering, state the size of lathe for which the rest is required.

Length of Rest    6"    12"    16"    20"



ITEM No. 4.

### Double Tee Tool Rest

This is similar to the single type described but is extra long for turning long lengths by hand. It is rigidly held by using two holders, Item No. 6. One extra holder is included in the price to accommodate the additional stem. When ordering, state size of lathe for which rest is required.

Length of Rest    24"    30"    36"    42"



ITEM No. 5.

### Angle Tool Rest

On certain classes of work this type of rest is extremely useful and we offer it as an extra to those described above. It is made in two sizes with 2" and 6" long arms each at right angles to one another.

When ordering, give size of machine.



## Accessories for use on Wood Turning Lathes

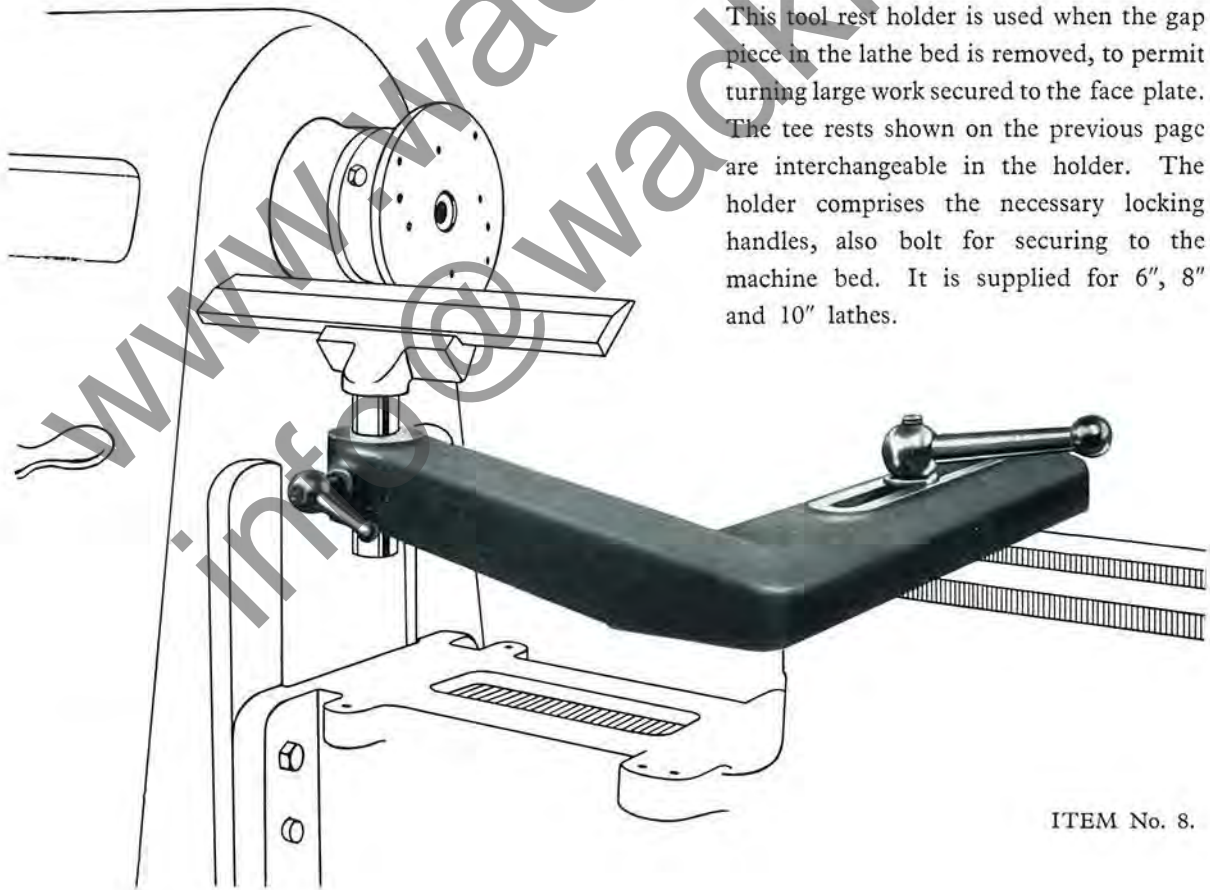


ITEM No. 6.

### Hand Tool Rest Holders

These are simple yet very effective holders for taking tool rests shown on previous page. The one opposite can be fixed in any desired position on the lathe bed by a powerful locking plate, actuated by eccentric lever handle, and is supplied for the 6", 8" and 10" lathes. With order please state size of lathe.

### Tool Rest Holder for use when Gap is removed

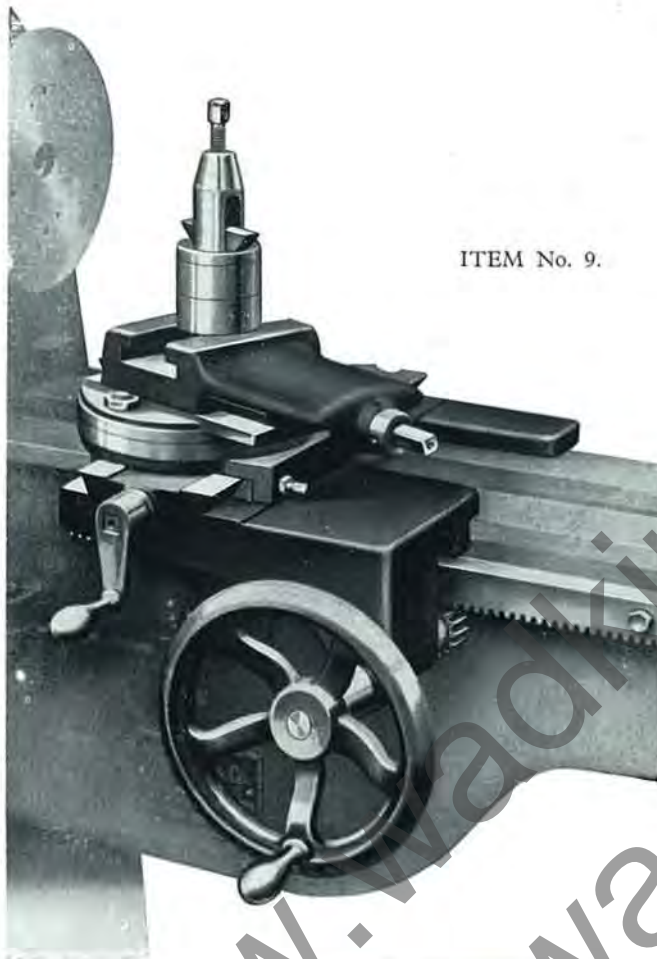


ITEM No. 8.





## Accessories for use on Wood Turning Lathes



ITEM No. 9.

### Travelling Slide Tool Carriage

This tool carriage is of great service for rapid and economic turning.

It is provided with lateral and cross motions and is traversed along the lathe bed by a handwheel engaging a steel rack and pinion. The tool post is mounted on a graduated swivel slide to enable angular end taper work to be done. The tool post is slotted to receive the turning tools and suitable spacing collars are provided. Adjustable spherical collars permit the tool being adjusted to the correct angle for clean cutting.

Travelling tool carriage is complete with tool post mounted on a compound slide as illustrated, including the necessary length of steel rack with machine-cut teeth for Wadkin Lathes.

6" Centre Lathe.	Will turn	9" diam.
8" " "	" " "	13" "
10" " "	" " "	17" "



ITEM No. 10.

### Improved Tool Holder

This is a device which will be appreciated by reason of its adaptability. The ordinary hand turning tools are held in it and therefore these tools can be used in the Travelling Carriage illustrated above. A quick means therefore is provided to enable the operator to use the most suitable tool for the job, obviating the necessity of making special cutters to fit the slot in the tool post.

It is simple to fix and will effectively hold the tool at any angle. The shank is  $\frac{1}{2}$ " thick.



## Accessories for use on Wood Turning Lathes

### Conical Centres

These are supplied in pairs, one for the driving headstock, and one for the tailstock. They are of tempered steel and accurately ground with No. 2 Morse taper shanks.



ITEM No. 11.

### Four Spur Driving Centres

These are made with four spurs and centre points. They are of tempered steel and accurately ground with No. 2 Morse taper shanks.

Sizes  $\frac{3}{4}$ "  $1\frac{1}{8}$ "  $1\frac{1}{2}$ "



Four Spur Driving Centre.

### Cup Centres

These are similar to those above with the exception that they are circular in shape.

Sizes  $\frac{1}{2}$ "  $\frac{3}{4}$ "



Cup Centres.

ITEM No. 12.

### Screw Point Driving Plate

The advantage of it will be quickly seen where it is necessary to turn small pieces which cannot be held between the conical centres. The centre of the plate is drilled to take an ordinary wood screw, which is operated through a hole in shank, while additional holes are drilled in the plate for securing the work. It is provided with a taper shank to fit into the driving headstock. Two sizes with diameter of driving plate  $2\frac{1}{2}$ " and  $3\frac{1}{2}$ " and No. 2 Morse taper shank.



ITEM No. 13.

### Revolving Centre, Model DB

It is sometimes found that the ordinary type of fixed centre in the tailstock gives trouble. To meet that difficulty we illustrate opposite a special type of work carrier arranged with a "live" or "revolving" centre. The centre spindle is mounted on ball bearings which are arranged to take the thrust load. The shank is accurately ground Morse taper to fit the tailstock spindle.

Morse taper	Dia. of body	Length overall
2	$1\frac{13}{16}$ "	$5\frac{3}{16}$ "



ITEM No. 14.



## Accessories for use on Wood Turning Lathes



ITEM No. 15.

### Screw Point Chuck

This chuck is for rapidly centring small work, which is held by the taper screw.

The further the work is screwed in the tighter it is held.

The chuck is screwed internally to fit the headstock spindle.

Two sizes, 3" diameter and 4" diameter.

When ordering, state size of lathe.



ITEM No. 16.

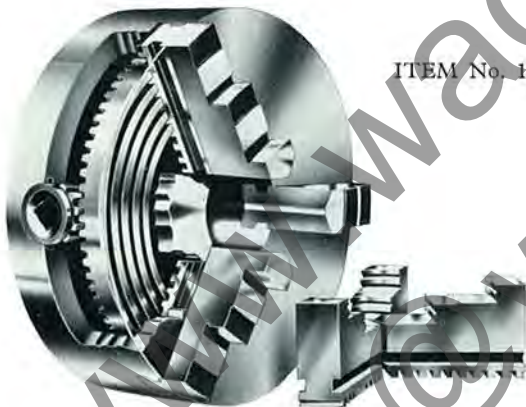
### Hollow or Bell Chuck

This is very useful as a quick-acting chuck. It is bored with a taper hole to hold the work firmly and is screwed internally to fit the headstock spindle.

The sizes given indicate the diameter of the hole to receive the work.

1"      1½"      2"      2½"

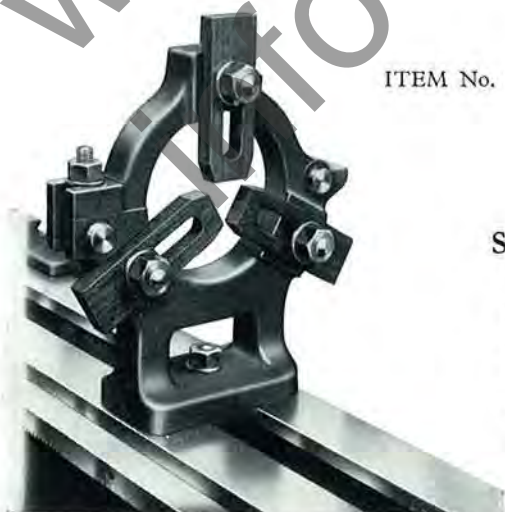
When ordering, state size of lathe.



ITEM No. 17.

### Three Jaw Geared Scroll Chuck

This self-centring geared chuck is ideal for turned wood bowls and similar articles. It is also very useful for non-ferrous patterns. Two sizes are available: 4" and 6" diameter. When ordering, state size of lathe.



ITEM No. 18.

### Steady Rest

This is for steadying long work while being turned. The pieces in contact with the work are of wood to prevent damage to the article turned.

The centre hole in the steady is 6½" diameter.

When ordering, state size of lathe.



## Accessories for use on Wood Turning Lathes

### Hand Turning Tools

Given below are a range of turners' tools suitable for all classes of turning operations. They are made from best quality cast steel and fitted with turned and polished wood handles.

#### Cast Steel Turning Chisels



ITEM No. 19.

Widths with taper round nose or diamond points ...  $\frac{1}{8}$ " ,  $\frac{1}{4}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " ,  $\frac{7}{8}$ " , 1" ,  $1\frac{1}{4}$ " ,  $1\frac{1}{2}$ "  
Included with machine:  $\frac{1}{2}$ " and 1" taper chisels.  $\frac{1}{4}$ " diamond point chisel.

#### Cast Steel Turning Gouges



ITEM No. 20.

Sizes ...  $\frac{1}{8}$ " ,  $\frac{1}{4}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " ,  $\frac{7}{8}$ " , 1" ,  $1\frac{1}{4}$ " ,  $1\frac{1}{2}$ "  
 $\frac{1}{2}$ " size included with machine.

#### Cast Steel V Shaped Turning Tools



ITEM No. 21.

$\frac{3}{8}$ " or  $\frac{1}{2}$ " sizes  
 $\frac{1}{2}$ " size included with machine.

#### Cast Steel Parting Off Tools



ITEM No. 22.

$\frac{3}{4}$ " or 1" sizes  
 $\frac{3}{4}$ " size included with machine.



ITEM No. 23.

#### Turning Tools for Travelling Slide Carriage

This set of tools has been specially prepared for use in the Travelling Slide Carriage and between them cover practically every job that can be done with the carriage. They are made from solid steel of the most suitable grade for wood turning. The shank is  $1" \times \frac{1}{2}"$  thick.

