

**Summit Machine  
Tool Manufacturing  
Corporation**



# **Precision Engine Lathes**

**14" Lathes**

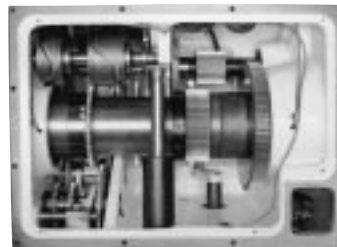
The **Summit 14"** Lathes combine accuracy, simplicity and affordability to bring you a proven industry leader. Tested under the most demanding work conditions, the **Summit 14"** turns rings around other lathes in their class.

The 14" lathes have just the right amount of engineering to afford simplicity of operation, coupled with plain and simple rugged reliability. In addition, built in safety features like the safety clutch in the apron that kicks out the feed and the feed/threading safety interlock eliminating the simultaneous engagement of the feed and threading motion, place these machines in a field of their own — unparalleled in performance.

A few of the outstanding features of the 14" lathes are a cross ribbed headstock for added strength and stability, with anti-friction mounted shafts and dynamically balanced components; hardened and ground alloy steel gears, shafts and splines, and an oversized precision chrome alloy spindle with a big 2-1/4" thru hole that is mounted in double row angular contact thrust bearings and 2 double row roller bearings. These large spindle bearings give the 14" greater radial and thrust capacities ensuring very precise turning capabilities.

Available in 40" and 60" center distances, the 14" lathes have 14-1/2" swing over the bed, 9" swing over the cross slide, and 18-3/4" swing in the gap. They also feature hardened and precision ground bedways on a heavy one-piece closed grain cast bed that is fully ribbed for maximum stability and even thermal expansion. Standard on every machine is a quick-change gearbox for cutting Metric, Module and Diametral Pitch threads as well as standard American threads.

The engineering excellence, fine workmanship, materials and impressive specifications of the Summit Lathes assure you of greater production and easy, trouble free operation for years to come.



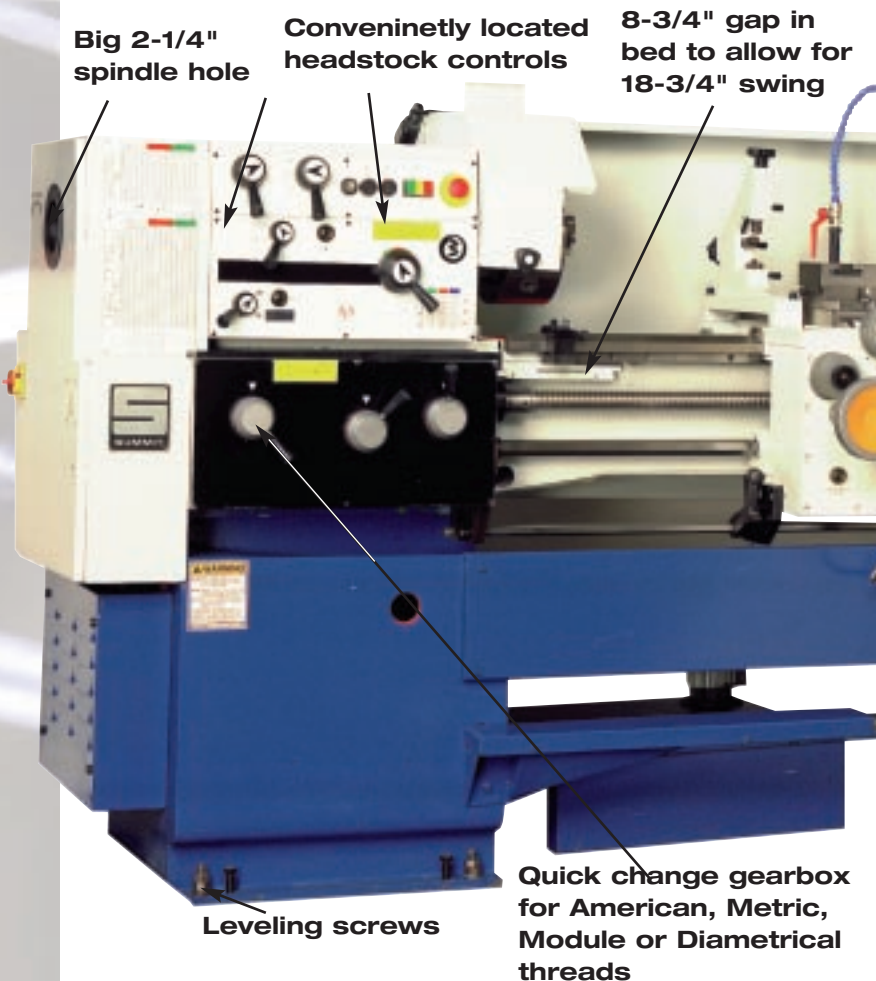
### Headstock

Fully geared headstock provides sixteen (16) spindle speeds through precise, hardened and ground gears. Each gear is thoroughly tested for accurate tooth configuration and flank engagement to assure optimum quiet and smooth running, and is precision fitted on hardened and ground splined shafts for ease of speed selection. All shafts are mounted in ball or tapered roller bearings. Spindle drive is achieved through mechanical "multi-disc" clutches for forward, and reverse rotation.



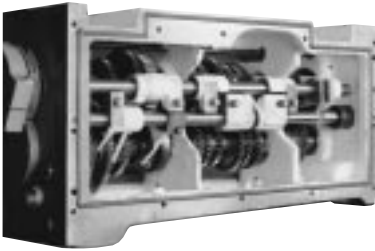
### "Thru Hole"

Spindle is precision machined, hardened and ground from a massive one-piece forging. It features a full 2-1/4" thru hole, enabling large work pieces to be introduced without excessive overhang. The spindle is mounted in precision angular contact thrust bearings for accuracy and smooth running, and is supported by large diameter precision roller bearings for stability. Chuck mounting is standard D1-6 camlock and a reduction sleeve is provided to facilitate use of Morse taper tooling.



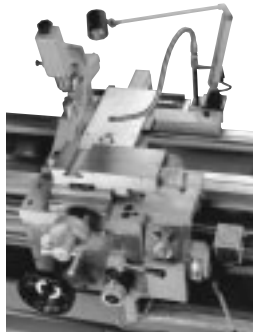


# Summit 14" Precision Engine Lathes



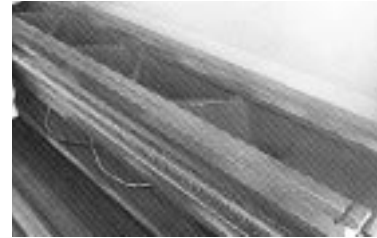
## Norton Control Box

Totally enclosed, quick change feed gearbox allows easy selection of most standard and metric threads and feeds without use of change gears. All gears and splined shafts are of hardened and ground alloy steel, precision fitted for ease of shifting and mounted in high precision anti-friction bearings. The feed gearbox assembly is oil bath lubricated for smooth operation and quiet running.



## Carriage

Carriage assembly features extended cross slide for accommodation of special tooling, tracer attachments, etc. The cross slide is constructed of high quality cast iron and incorporates externally adjustable nuts to provide for backlash elimination. The rugged, heavy duty taper attachment is capable of generating tapers of  $\pm 10$  degrees up to 11 inches long and is graduated in degrees for convenience of operation.



## Bedway

The bed is constructed of high grade, alloyed cast iron, normalized and aged to achieve maximum stability. The design features heavy cross ribbing for rigidity and vibration dampening and utilizes hardened and ground, bedways. The bedway design is of the double vee, 60 degree opposed style (most commonly described as the "LeBlond Profile"), affording extended accuracy and long machine life.

Single lever control with Four way rapid traverse

Apron mounted emergency stop

Induction hardened and ground bedways

Pull out type oil and chip pan

Easy to read swivel mounted thread dial

## STANDARD FEATURES

- Hardened and ground bedways
- Big 2-1/4" thru hole
- Removable gap
- Inch/metric threads
- Conveniently located controls
- Forced lubrication to the head-stock, carriage and bedways
- Cuts most American & Metric threads without change gears
- Complete accessory package
- Crossfeed and threading safety interlock
- Feed reversing at the apron
- Hardened and ground cross slide ways
- 4-way rapid traverse
- Heavily ribbed bed
- Single lever control for feeds and rapids
- Full length chip and coolant guard

## ACCESSORIES

- Thread dial
- Steady rest
- Follow rest
- Coolant system
- 3-Jaw chuck
- 4-Jaw chuck
- Carriage stop
- Work light
- Taper Attachment

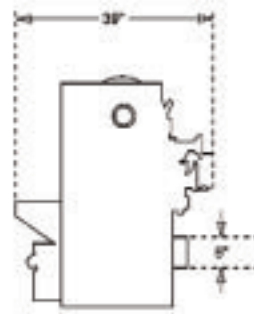
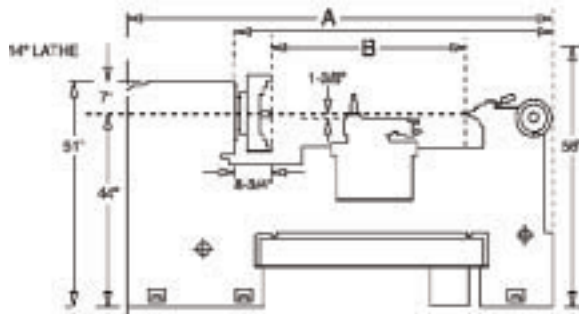
All accessories at no extra charge when purchased with lathe.

## OPTIONAL EQUIPMENT

- Quick change tool post
- Faceplate
- Electronic DRO
- Hydraulic tracer
- Other workholding devices & tooling available on request

# Specifications

## 14" Precision Engine Lathe



### 14" Lathe Dimensions

A	92"	112"
B	40"	60"

SPECIFICATIONS	Standard	Metric
<b>CAPACITIES</b>		
Swing over bed	14 1/2"	370mm
Swing over cross slide	9"	228mm
Swing over gap	18 3/4"	475mm
Length of gap	8 3/4"	222mm
Length of gap in front of face plate	5 1/2"	140mm

<b>HEADSTOCK</b>		
Spindle speeds - number	16	
Spindle speeds - range (RPM)	35 to 2000	
Hole thru spindle	2 1/4"	57mm
Spindle nose type	D1-6 Camlock	
Headstock center	#6 MT	
Number of bearings on spindle	3	
Headstock length on bed	18 3/4"	475mm
Type of bearings on spindle	Angular Contact Thrust Bearings Straight Roller Radial Bearings	

<b>QUICK CHANGE GEARBOX</b>		
Threads per inch - (number) range	(56) 1/2 to 60	
Metric threads - (number) range	(56) .5 to 60	
Module threads - (number) range	(56).125 to 15	
Diametral pitch - (number) range	(56) 2 to 240	
Long. feeds - (number) range	(56) .0012 to .1890	
Cross feeds - (number) range	(56) .0009 to .1418	
Leadscrew - diameter/range	1 3/8" / 2 T.P.I.	
Feed rod diameter	1"	25mm
Lubrication system	Oil bath	

<b>CARRIAGE &amp; APRON</b>		
Cross slide travel	7 3/4"	200mm
Cross slide depth of bridge	3 3/4"	95mm
Cross slide width of bridge	6 1/4"	158mm
Compound rest travel	4"	100mm
Compound rest width	4"	100mm
Length of carriage bearing on ways	16"	400mm
Graduation of apron handwheel	.020"	0.5mm
Travel of carriage per revolution of handwheel	1 5/8"	42mm
Graduations of carriage cross slide handwheel (direct reading)	.002"	0.05mm

SPECIFICATIONS	Standard	Metric
Travel of cross slide per revolution of handwheel	.200"	5mm
Height from top of compound to centerline of lathe	1 3/8"	35mm
Type of lubrication system	Reciprocating Pump	

<b>TAILSTOCK</b>		
Travel of spindle barrel	4"	100mm
Diameter of spindle barrel	2"	50mm
Taper of center	#4 MT	
Tailstock body length on bed	8"	200mm
Length of barrel graduations on spindle	4"	100mm
Type of clamping on bed	Bolts and Lever Clamp	
Type of lubrication system	Reservoir	

<b>TAPER ATTACHMENT</b>		
Degrees of taper	±10°	
Maximum turning length per setting	11"	280mm

<b>BED</b>		
Width of bed	10 5/8"	270mm
Depth of bed	11"	280mm
Hardness of bed (Rockwell C)	42 to 48	

<b>HEADSTOCK DRIVE &amp; MOTORS</b>		
Type of input drive	vee belt	
Number of vee belts	3	
Main drive motor	7 1/2 H.P.	5 KW
Coolant pump motor	1/8 H.P.	.1 KW

<b>MISCELLANEOUS</b>		
Steady rest - min. to max capacity	3/8" to 4"	9.5 to 100mm
Follow rest - min. to max capacity	3/8" to 2 1/2"	9.5 to 64mm
Centerline height above floor	44"	1118mm

<b>SHIPPING DATA</b>		
Overall width	39"	1,000mm
Overall height	56"	1,422mm
Overall length/weight		
40" Centers (In/lbs - mm/kgs)	98"/3650 lbs.	2,490/1660 kg
60" Centers (In/lbs - mm/kgs)	118"/3960 lbs.	3,000/1800 kg

FOR MORE INFORMATION CALL  
**1-800-654-3262**



**WARRANTY:** A copy of Summit Machine Tool Manufacturing Corp.'s standard written warranty is attached to each Summit Machine. Call or write to Summit for a copy or for further information concerning Summit's standard warranty. All purchases are subject to Summit's standard written warranty. Specifications are subject to change without notice.

**POINT OF OPERATION** guarding is the responsibility of the end user. For information contact your local OSHA office.

**Summit Machine Tool Manufacturing Corp.**

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