

# Monarch Lathes



*Helical Gears - Timken Bearings*  
SMOOTHER... QUIETER... MORE POWERFUL



*Details and Specifications*

Type "BB"  
HEAVY DUTY

20" Helical-gear  
Timkenized Lathe



*This Mark*  
identifies the Product of America's Largest  
Producers of High Grade Engine Lathes



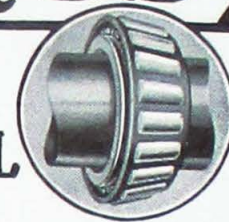
Model "BB" 18" and 20" Lathes can be furnished with either  
8-speed or 16-speed Helical-gear Timkenized Headstock

**THE MONARCH MACHINE TOOL CO.**  
SIDNEY, OHIO, U. S. A.

# Monarch Lathes

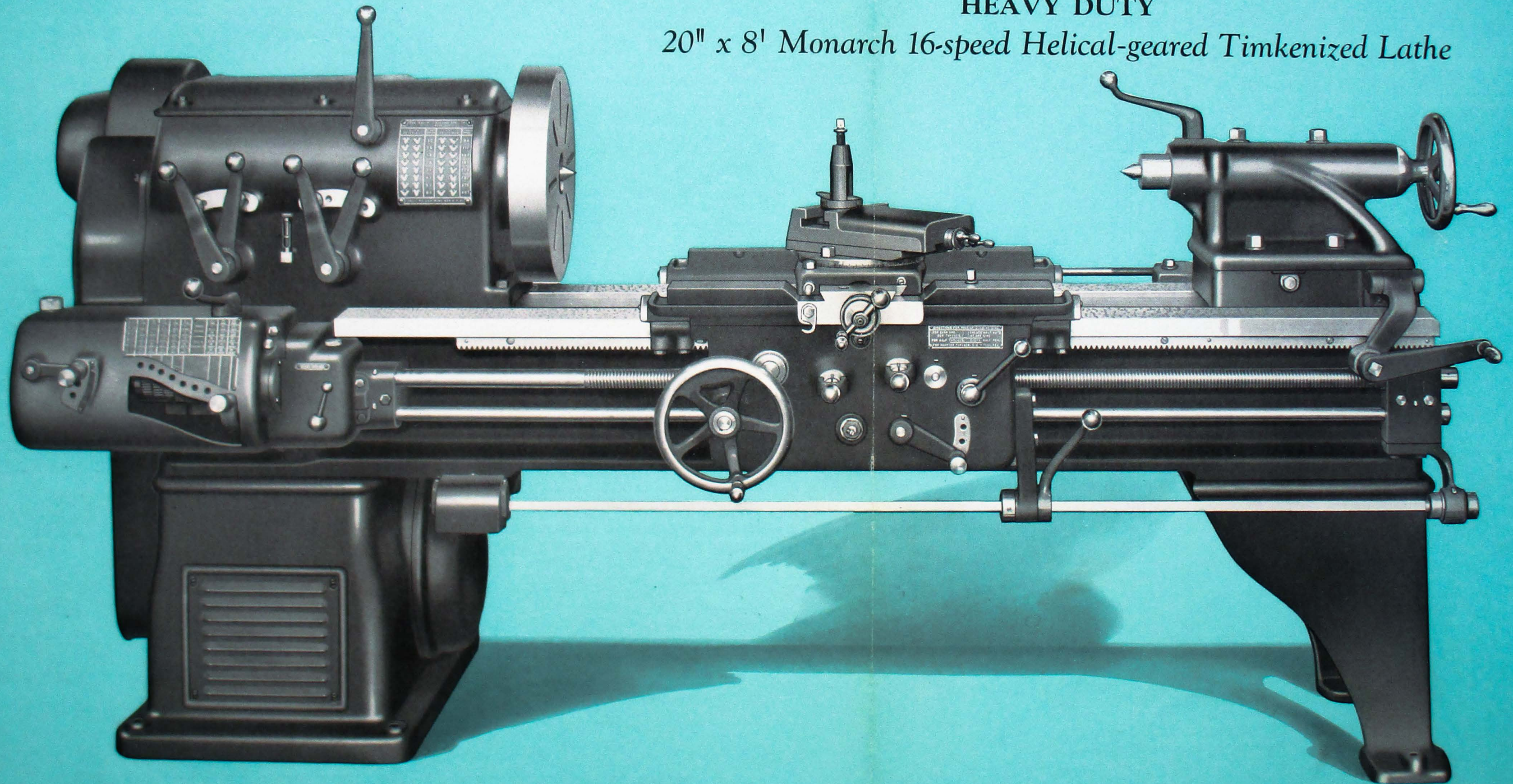


*Helical Gears - Timken Bearings*  
**SMOOTHER...QUIETER...MORE POWERFUL**



Type "BB"  
HEAVY DUTY

20" x 8' Monarch 16-speed Helical-geared Timkenized Lathe



Can also be furnished with 8-speed Headstock  
Cabinet leg is regularly furnished at tailstock end instead of plain leg

# Dimensions and Specifications of 20" x 6' Monarch Type "BB" Heavy Duty Helical-gearbed Timkenized Lathe

Swing over bed .....	20½"
Swing over carriage .....	14"
Swing over bottom slide .....	12"
8-speed geared headstock takes between centers, tailstock flush .....	1' 10"
16-speed headstock takes between centers, tailstock flush .....	1' 10"
Tailstock can be overhung .....	6"
Base length .....	6'
Base length weight without motor, 8-speed ..	4700 lbs.
Base length weight without motor, 16-speed ..	4900 lbs.
Weight extra two feet .....	350 lbs.
Hole through spindle .....	1½"
Front spindle bearing .....	Precision Timken
Rear spindle bearing .....	Precision Timken
Center Morse taper .....	No. 4
Spindle nose, standard flange .....	8¼" diam.
Threaded spindle nose, optional .....	3½"—4 thd.
Lead screw diameter and threads per inch ..	1½"—4 thd.
Range of threads per inch, quick change .....	1½ to 92
Range of feeds per inch, quick change .....	.0027 to .170"
Number of threads and feed changes, regular quick change .....	48
Headstock base length, 8-speed .....	27"
Headstock base length, 16-speed .....	28"
Tailstock base length .....	15½"
Tailstock, spindle diameter .....	2⅞"
Tailstock, spindle traverse and setover .....	10"—1¼"
Steady rest opening, regular .....	6"
Maximum capacity oversize steady rest .....	12"
Carriage length .....	31½"
Carriage bridge width .....	9"
Compound rest top slide travel .....	5"
Size of lathe tool .....	¾" x 1⅝"
Motor, size recommended .....	7½ to 10 HP
Motor speed, see price list.	
Distance, spindle center to floor .....	43½"
Speed of geared head driving pulley, 8-speed ..	345 R.P.M.
Speed of geared head driving pulley, 16-speed ..	500 R.P.M.

Geared head driving pulley, diameter, face..	10" x 5"
Width of bed .....	18½"
Depth of bed .....	13½"
Length of bed, 6', and in multiples of 2' up to 30'	
Maximum collet capacity, bar type .....	1⅝"
Maximum collet capacity, spindle nose type ..	1¾"

Actual threads cut with quick change gear box: 1½, 1⅝, 1¾, 2, 2¼, 2½, 2¾, 2⅞, 3, 3¼, 3½, 4, 4½, 5, 5½, 5¾, 6, 6½, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 23, 24, 26, 28, 32, 36, 40, 44, 46, 48, 52, 56, 64, 72, 80, 88 and 92.

Spindle speeds obtained on 8-speed geared head lathe with driving pulley operated at 345 R.P.M.: 13, 22, 32, 55, 75, 127, 183 and 311 R. P. M.

Spindle speeds obtained on 16-speed geared head lathe with driving pulley operated at 500 R.P.M.: 12, 15, 19, 25, 31, 41, 52, 68, 84, 110, 140, 180, 225, 292, 375 and 487.

See price list for spindle speed ranges.

REGULAR EQUIPMENT consists of face plate, dog plate, steady rest, compound rest, centers, chasing dial, chasing stop and wrenches.

MOTOR DRIVE is thru either silent chain or multiple "V" ropes as preferred. Motor is mounted inside headstock leg.

ACCESSORY EQUIPMENT which can be furnished includes: All styles of tool rests and turrets (see special bulletin showing all these accessories). Taper attachment. Oil pan. Chuck plates. Follow rest. Single or multiple automatic length or cross feed stops. Carriage spacing attachment. Ball turning rest. Micrometer carriage stop. Tool cabinet, pyramid for holding chucks, rests, etc. Sub-headstock for chasing coarse leads. Electrical apron control in addition to mechanical apron control. (See special bulletin illustrating all accessories).

## Exclusive Features

Helical headstock gears, only 10 gears in headstock on 8-speed head, 14 gears on the 16-speed head, high carbon alloy steel, heat treated and hardened. Silent, smooth transmission of power—no gear tooth marks on work.

Spindle speed changes made by double jawed clutches sliding on splined shafts, by means of levers on front of headstock. Impossible to engage conflicting gear ratios and no interference devices necessary. Extreme simplicity, rigid construction, nothing to get out of order.

Spindle and headstock shaft bearings are Timken, giving greater rigidity, greater precision, greater production without chatter, longer life and greater power economy.

Oiling by splash system. A cascade of oil floods every working part in headstock. Filtered

oil supplied to Timken spindle bearings.

Monarch-Edgemont multiple disc driving clutch with brake, operated both from headstock and apron.

Headstock oil tight. No gears, oil tubes or other mechanism in top cover plate.

Apron is full double plate, all high carbon steel gears and shafts, and is equipped with the Monarch patented eccentric ball feed control levers.

Rack pinion mounted in ball bearings, and ball thrust bearings throughout apron feed mechanism.

Ball thrust bearings on tailstock and cross feed screws.

All bearings in quick change gear box are Timkens.

*We guarantee every Monarch Lathe to  
give complete satisfaction to the purchaser*

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