



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

*Details and Specifications*

**Model "N"**

**EXTRA HEAVY DUTY**

*24" Helical-gearred*

*16-speed*

*Timkenized Lathe*

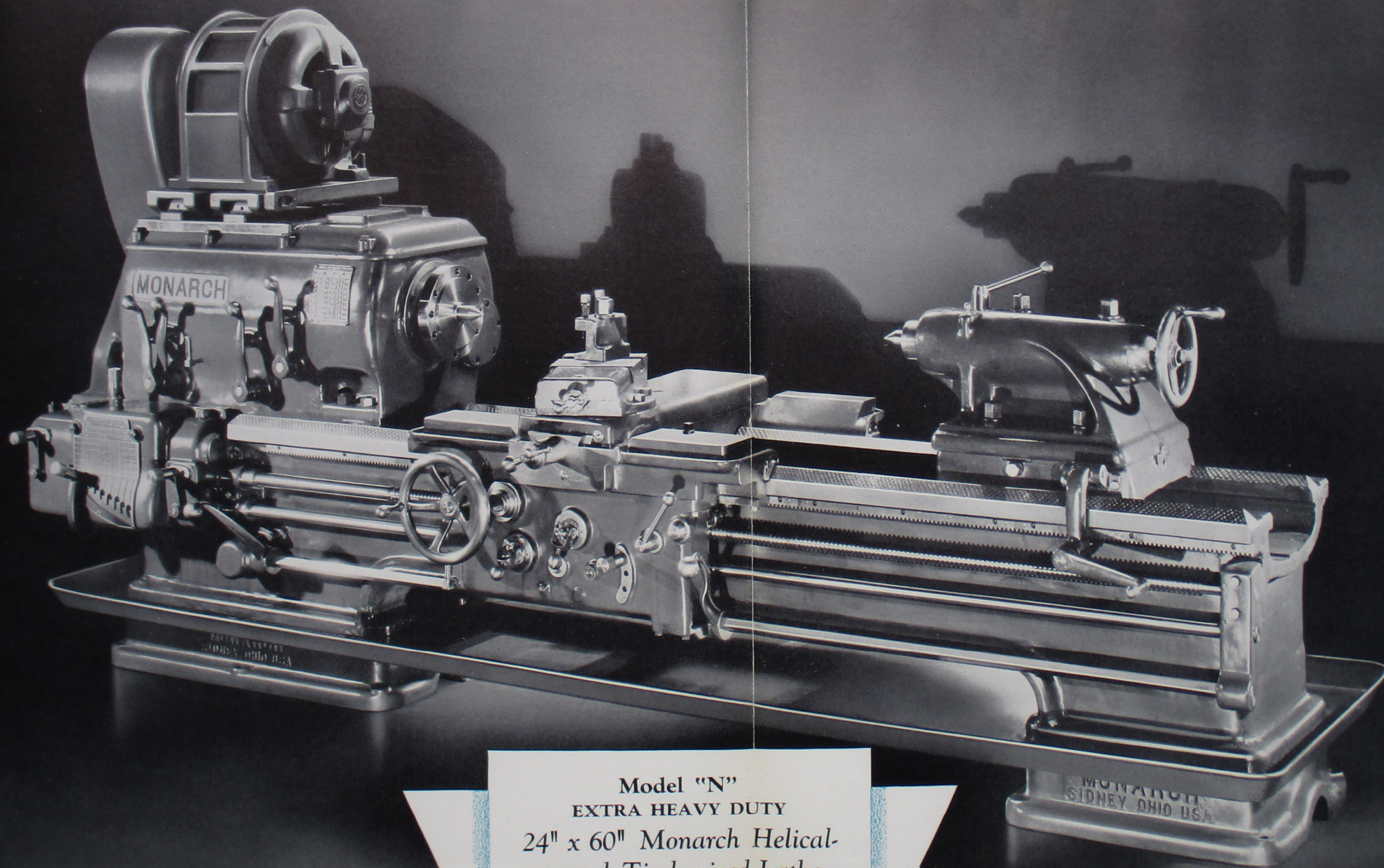
**CODE WORD "FAST"**

**THE MONARCH MACHINE TOOL COMPANY**

**SIDNEY, OHIO, U. S. A.**

**New York Sales Office: 413 Graybar Bldg.**

**Chicago Sales Office: 622 W. Washington Blvd.**



Model "N"  
EXTRA HEAVY DUTY  
24" x 60" Monarch Helical-  
geared Timkenized Lathe

# Monarch Lathes

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

## 24" x 60" Monarch Model "N" Extra Heavy Duty Helical-geared 16-speed Timkenized Lathe

Swing over bed.....	27½"
Swing over compound rest.....	14½"
Takes between centers, tailstock flush.....	60"
Takes between centers, tailstock overhung.....	65"
Base length shipping weight.....	11800 lbs.
Weight extra two feet.....	700 lbs.
Hole through spindle.....	2⅜"
Front spindle bearing.....	Precision Timken
Rear spindle bearing.....	Precision Timken
Center Morse taper.....	No. 5
Spindle nose, standard flange type.....	11" diam.
Lead screw, diameter and threads per inch.....	2"—2 thd.
Range of threads per inch, quick-change.....	¾ to 46
Range of feeds per inch, quick-change.....	.0023 to .145
Number of threads and feed changes, regular quick-change.....	48
Headstock base length.....	40"
Tailstock base length.....	21"
Tailstock spindle diameter.....	4"
Tailstock spindle traverse and set-over.....	11"—1"
Steady rest opening, regular.....	11"
Maximum capacity oversize steady rest we can furnish.....	17½"
Carriage length.....	42"
Cross bridge width.....	12"
Compound rest top slide travel.....	6"
Size of lathe tool.....	⅞" x 1¾"
Motor, size recommended, ordinary service.....	10 to 15 HP.
Motor, size recommended, heavy duty service.....	20 to 25 HP.
Distance, spindle center to floor.....	43"
Geared head driving pulley, diameter, face.....	16" x 6"
Width of bed.....	25"

Depth of bed..... 17—24"  
Distance between centers in multiples of 2'. 5' to 23'

Actual threads cut with full quick-change gear box: ¾, ⅜, 1, 1½, 1¼, 1⅜, 1⅞, 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 and 46.

Spindle speed range, with driving pulley at 500 R.P.M.: 6, 8, 10, 13, 17, 22, 29, 37, 50, 64, 83, 106, 141, 191, 236 and 303 R.P.M. Spindle speeds as high as 600 R.P.M. may be used to get full efficiency from Tungsten-carbide tools.

REGULAR EQUIPMENT includes large and small face plates, high duty tool post with 2 screws, steady rest and all necessary wrenches. Equipped with automatic force feed lubrication to carriage, bed ways, compound rest and apron.

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

ACCESSORY EQUIPMENT which can be furnished includes: Power rapid traverse to carriage. All styles of tool rests and turrets (see special bulletin showing all these accessories). Taper attachment. Oil pan. Follow rest. Single or multiple automatic length feed stops. Sub-headstock for chasing coarse leads. Electrical apron control in addition to mechanical apron control. Rack in center of bed to support tailstock (gratis when specified on order). Full swing rest.

### Exclusive Features

Helical headstock gears... only 14 gears in headstock... high carbon alloy steel, heat treated and hardened... silent, smooth transmission of power... no gear tooth marks on work.

Sixteen spindle speeds with only 14 gears; speed changes made by double jawed clutches sliding on 10 spline shafts, by means of four 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 all 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.

Multiple disc driving clutch with brake, operate both from headstock and apron.

Quick-change gear box with all shafts mounted in Timkens. Box completely inclosed. Direct reading index plate. Each Timken bearing runs in oil. Shafts and gears .60 carbon steel; gears performing heavy service are oil hardened. Multiple integral keys are used.

Apron is complete box section. All bearings are anti-friction, automatically oiled. Monarch patented apron friction feed levers are provided.

Ball thrust bearings are used on tailstock and cross-feed screws.

Equipped with automatic force feed lubrication to carriage, bed ways, compound rest and apron.

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

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