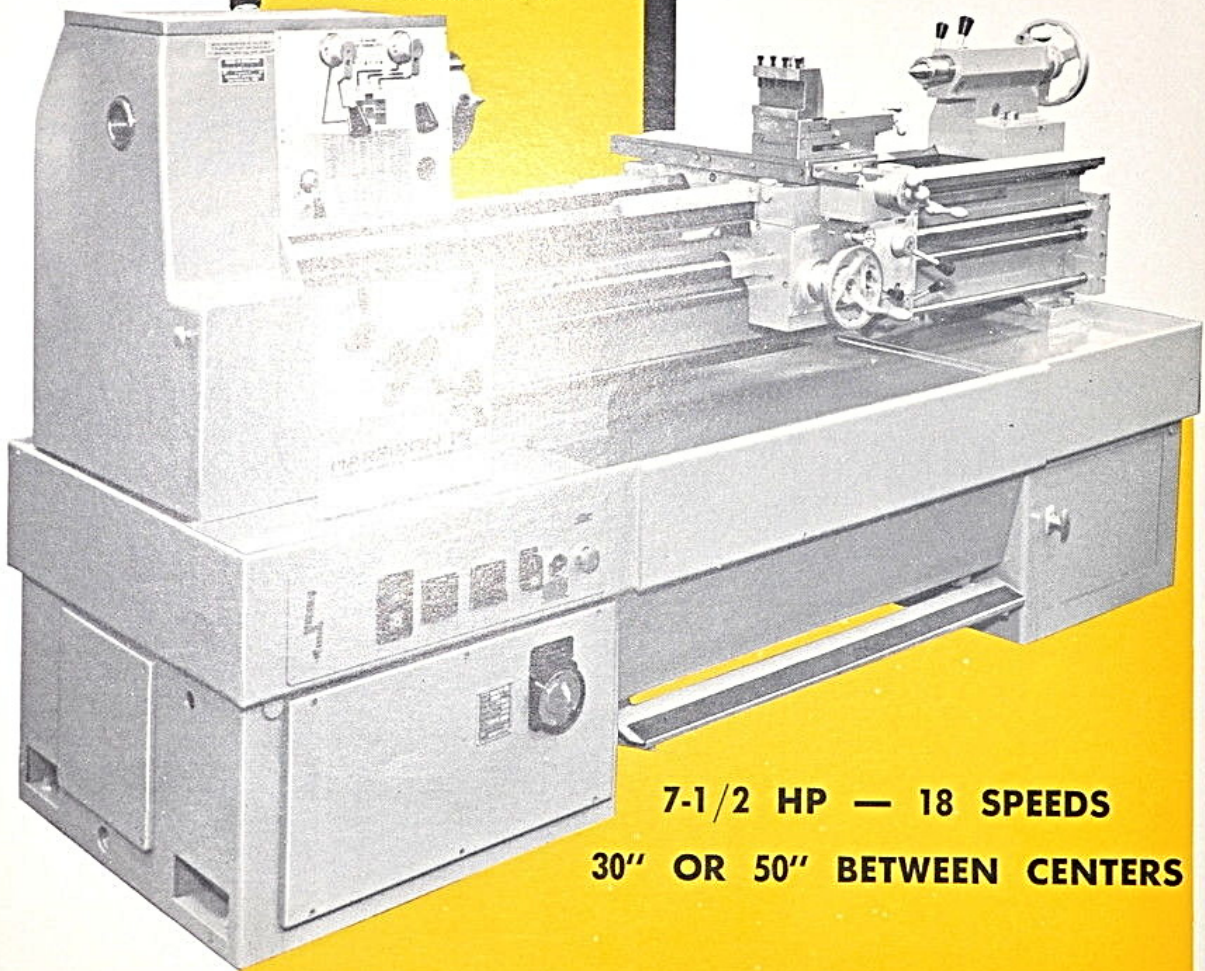


Harrison

15" SWING PRECISION LATHES

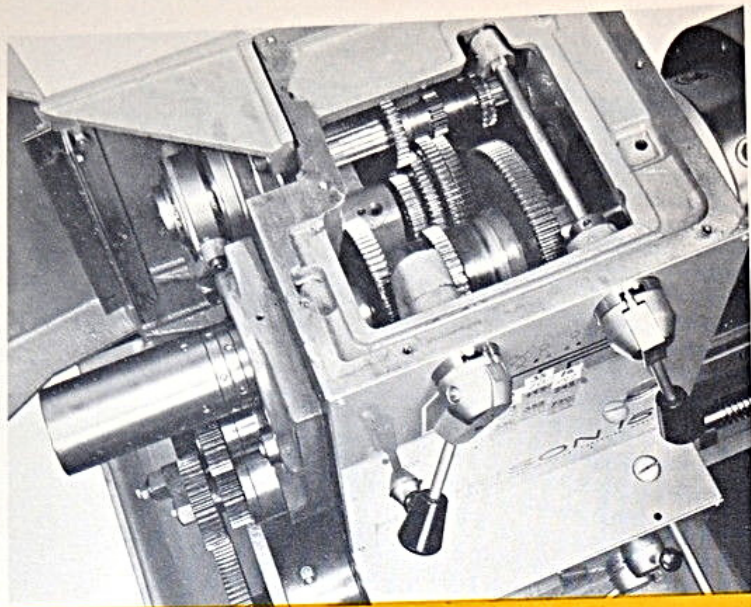
For

- TOOL ROOM
- LABORATORY
- PRODUCTION
- EDUCATION

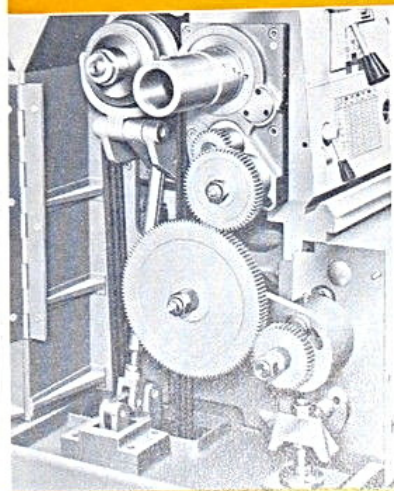


7-1/2 HP — 18 SPEEDS

30" OR 50" BETWEEN CENTERS



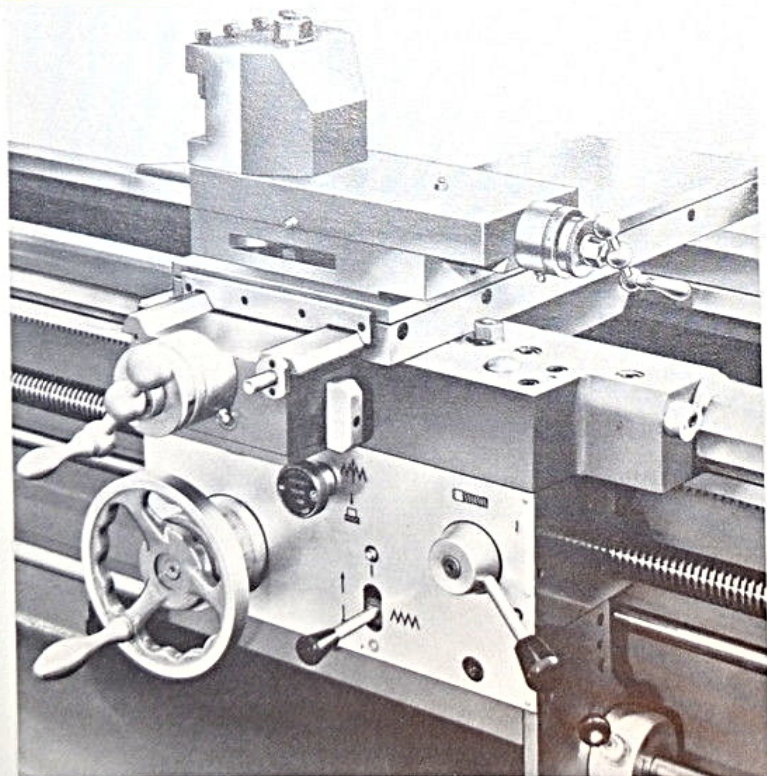
THE 18 SPEED HEADSTOCK—KEY TO SUPERIOR TURNING PERFORMANCE—is all-g geared, splash lubricated, and provided with automatic braking. The heavy duty 6" Cam Lock spindle is mounted in large Timken precision roller bearings, with the nose ground after assembly to assure maximum accuracy. The Reischauer-ground gears, carried on 7-splined shafts assembled in anti-friction bearings, are wide-faced and relatively chip-proof. Mating gears have a constantly changing mesh sequence to ensure even wear and to prevent "gear pattern" on turned work.



THE END GEARS are wide-faced steel, easily accessible through a hinged door. Change gears are readily available for metric and odd pitches or special feed rates.

THE FULL LENGTH CROSS SLIDE is the full width of the carriage bridge, and features exclusive inverted Vee and Flat guideways for increased strength and easier maintenance. The cross feed screw is fitted with a chromed dial reading .001" on diameter. A one-shot lubrication system serves the cross slide and carriage wings.

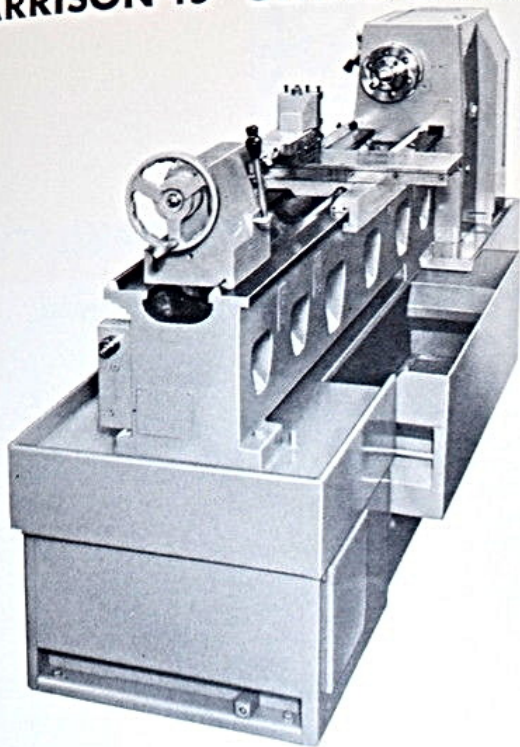
THE APRON is totally enclosed with oil bath lubrication, and fitted with suitable safety interlocks to prevent simultaneous engagement of lead-screw and feed rod. There is provision for reversing the cross feed without reversing the feed rod.



The right hand side of the apron carries the SINGLE LEVER CONTROL FOR SPINDLE FORWARD-NEUTRAL-REVERSE which is interlocked with the foot-operated spindle braking system. Whenever the brake is actuated the spindle control is automatically returned to NEUTRAL and the main drive motor is switched OFF. The spindle control lever is held positively in NEUTRAL by a safety device to prevent accidental starting of spindle rotation—an important safety feature.



HARRISON 15" SWING LATHES . . .



The **STURDY BED** of modern chip chute design measures 12.5" wide x 12.5" deep to provide a superb foundation for sustained high accuracy under punishing operating conditions. The generously proportioned Vee and Flat bed ways are fully hardened and ground.

THE HEAVY CABINET BASE is a one-piece steel plate weldment, the top of which serves as a coolant and chip pan. It houses and protects the motor drive and controls, and contains a lockable storage section. A coolant reservoir, less pump, is part of the cabinet base assembly.

IMPORTANT NOTE: Lathes are pre-levelled on their cabinet bases at the factory.

Bases must not be firmly bolted down but merely made steady by use of suitable shims.

are the all-g geared head type, designed to meet the approval of those concerned with tool room work, quantity production, and the training of students. These lathes are built in a modern plant that has every facility and the skilled hands to ensure the production of high-quality machine tools at a very reasonable cost. Safety, simplicity of operation, and the ability to remove metal to close tolerances are provided to the maximum degree.

DESIGN HIGHLIGHTS

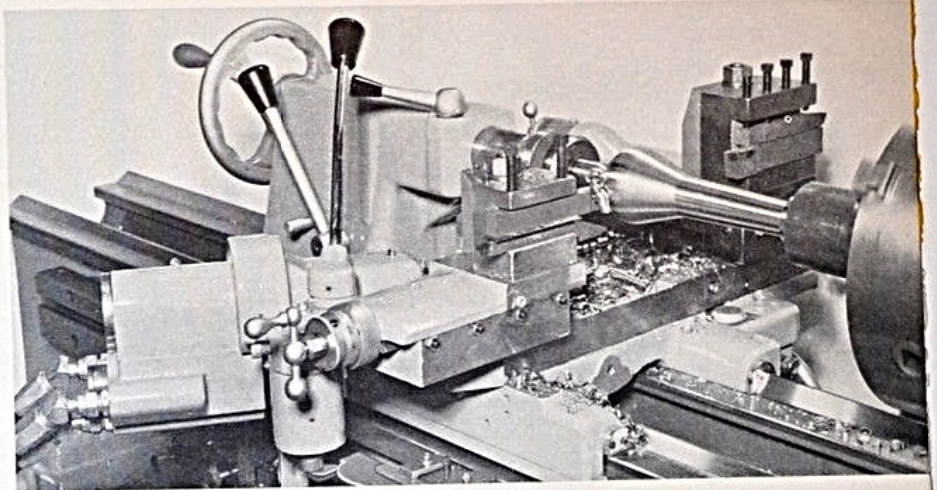
- Heavy Duty Construction
- Hardened and Reischauer-Ground Headstock Gears on 7-Spline Shafts
- Camlock D1-6" Spindle — Timken Bearings
- Removable Gap Block — Standard Equipment Allows 23" Swing
- Full Length Cross Slide with Exclusive Full Width Inverted Vee and Flat Ways
- One-Shot Lube System for Cross Slide and Carriage Wings
- Foot-Operated Spindle Braking
- Micrometer Dials on Tailstock and Apron Handwheels
- Built-In Chip Pan and Coolant Reservoir

SAFETY FEATURES

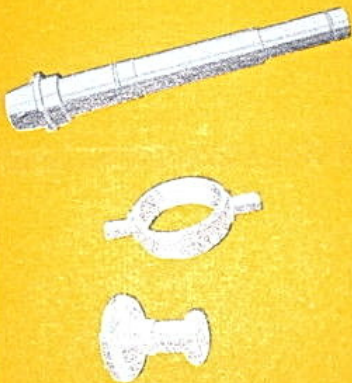
- Totally Enclosed All-Geared Headstock
No Belts Inside Headstock
- Totally Enclosed Gearbox with Oil Bath
- Totally Enclosed Apron with Oil Bath
- Safety Torque Limiter on Lead Screw —
No Outmoded Shear Pin
- Safety Slip Clutch on Feed Rod —
No Outmoded Shear Pin
- Single Lever Spindle Control at Apron
- Isolator Switch — no Extra Charge
- Fail-Safe Electrical System
- Safe Storage with Lock and Key
- Chip-Proof Steel End Gears —
Not Fragile Cast Iron

15" Combination Tool Room and Hydraulic Copying Lathe

The introduction of Tracer Controlled equipment is one of the greatest advances in the history of machine design. High speed turning with Tracer Control, using single point tools, can show remarkable production results. Complicated components as well as plain shafts and spindles can be copy-turned at rates rarely equalled by any other method. The use of tracer controlled equipment is not only suitable for long production runs, but it is also an economic method even for very small batches of components, as few as 5 pieces.



Typical example of suitable components for copy turning

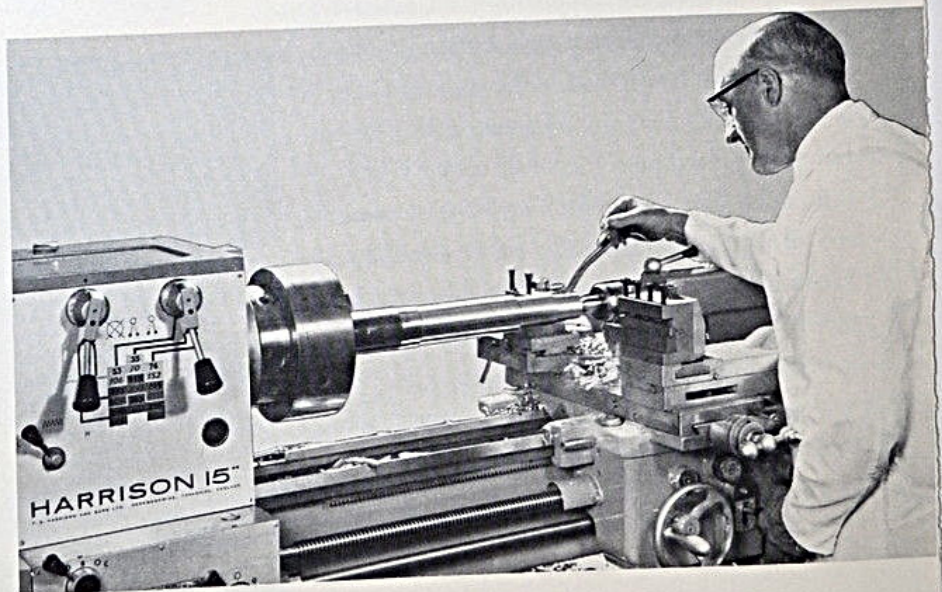


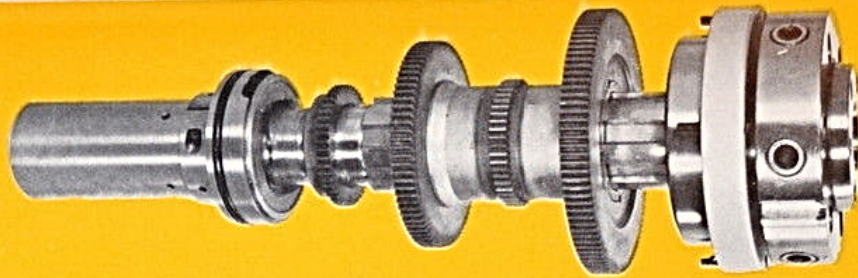
THE COPYING UNIT, utilizing the locked hydraulic servo principle, is built into the rear of the machine so that normal lathe operation is unrestricted. The tracing tool is mounted in a micrometer adjustable tool slide carried by the tracing slide. A swiveling open side tool holder readily accommodates either single point tools for external tracing or a boring bar holder for internal contouring applications.

Movement of the tracer slide is produced from a hydraulic cylinder, controlled in relation to a round or flat template by a spool type valve and stylus system. The hardened steel stylus is pivoted on taper roller bearings so that perfect freedom of movement exists without play. The control lever actuating the slide is mounted so that it is easily reached from the front operating position of the machine. The cutting tool can be withdrawn or engaged with the work at any point.

Pressure, return and drain lines convey oil to the hydraulic cylinder from the pump unit which can be placed at the end or behind the lathe. The lid of the completely covered tank carries the relief valve, pressure gage, totally enclosed flange-mounted motor, and the gear pump which is immersed in oil to prevent aeration. Operating pressure is relatively low at 150 lbs. per square inch and joint leakage and maintenance problems are virtually eliminated by this feature.

While copy turning can produce intricate contours, both internal and external, the production of stepped shafts and spindles is in itself of sufficient value to warrant use of this system. Ordinary turning methods require measuring of every change in diameter, whereas with tracer control the operator need only check the first diameter, and with this correct, the remaining diameters will be automatically turned to their correct dimensions.





KNOWN THE WORLD OVER FOR ACCURACY AND DEPENDABILITY

GENERAL SPECIFICATIONS — HARRISON 15" — 7.5 HP GEARED HEAD LATHE — 1970 MODEL

CAPACITY AND DIMENSIONS

Swing over bed	15-1/2"
Swing over Carriage Wings	15"
Swing over extended Cross Slide	9-1/4"
Full length Gap Piece	Standard Equipment
Swing in gap	23"
Gap length in front of Face Plate	6-1/8"
Bed lengths	5'-4-1/2" or 7'-0-1/2"
Center distances	30" and 50"
Bed width	12-1/2"
Bed depth	12-1/2"
Drive Motor — two speed	7.5HP/3.75HP

HEADSTOCK — ALL-GEARED

Spindle Bearings — Timken	Yes
All shafts in anti-friction bearings	Yes
Spindle Nose-American Std.	D1-6" Cam Lock
Hole through spindle	2"
Speed range with 2-speed motor	35 — 1500 RPM
Optional Speed Ranges	on Application
No. of spindle speeds, Forward & Reverse	18
Centers	No. 4 Morse
Spindle, forward & reverse control	Standard Equipment
from apron	Standard Equipment
Foot operated brake	Standard Equipment

CARRIAGE AND COMPOUND

Cross Slide width	7-15/16"
Carriage width	17"
Compound width	4-1/2"
Cross Slide travel	9-1/2"
Tool Slide travel	4-5/8"
One-shot lubrication	Standard Equipment
Full length Cross Slide	Standard Equipment
Micrometer Dial on Apron Handwheel	Yes
Safety Overload Clutch on Feed Rod	Yes
Safety Torque Limiting Device on Lead Screw	Yes

THREADS AND FEEDS

Changes available	47
Range of threads	2 to 60
Range of feeds, longitudinal0015" to .046"
Range of feeds, cross0005" to .0162"
Lead Screw	1-1/4" x 4 T.P.I.
Feed Rod diameter	3/4"

SPECIFICATIONS ARE SUBJECT TO MODIFICATION AND IMPROVEMENT WITHOUT NOTICE

HARRISON LATHES and MILLERS are built in England for REM SALES INCORPORATED, a subsidiary of The Robert E. Morris Company, West Hartford, Connecticut 06107. A complete stock of spare parts and accessories is maintained together with a staff of trained service engineers assuring quick service from coast-to-coast.

TAILSTOCK

Spindle diameter	2-3/8"
Graduations on Spindle	1/8"
Graduations on Micrometer Dial001"
Spindle travel	6-1/8"
Spindle Taper	No. 4 Morse
Set over	3/8"
Tang Drive, with drift slot	Yes

HYDRAULIC COPYING MODELS

Copying length between centers	26" or 46"
Swing over Cross Slide	9-1/4"
Maximum profile depth (diameter)	4"
Hydraulic Pump Motor	1/2 HP

WEIGHTS AND MEASUREMENTS (APPROX.)

	Standard Lathes	Net Wt.	Boxed Wt.
30" between centers		2740 lbs.	3100 lbs.
50" between centers		3000 lbs.	3450 lbs.
Copying Lathes			
30" between centers		2940 lbs.	3300 lbs.
50" between centers		3240 lbs.	3700 lbs.
Shipping Case:	30" centers — 40" x 83" x 58"		
	50" centers — 40" x 103" x 58"		

STANDARD EQUIPMENT

Spindle forward & reverse control from apron, foot-operated spindle brake, micrometer dials on apron & tailstock handwheels, safety overload clutch for feed rod, safety torque limiting device for lead screw, full-length cross slide, one-shot lubrication for carriage, open side tool post, drive plate, tang drive tailstock spindle with drift slot, threading dial, center sleeve and 2 centers, bed wipers, steel bedway covers, chrome-plated handwheels, 3 vee belts, set of wrenches, instruction and parts manual, accuracy test sheet.

COMPLETE ELECTRICAL EQUIPMENT consisting of 7.5/3.75 HP two-speed reversing main drive motor, forward/reverse contactors with overload and no-volt protection, two speed selector switches, inch button and isolator switch.

EXTRA EQUIPMENT

Rear tool post, face plates, chucks, collet equipment, taper attachment, follow and steady rests, coolant facilities, square turret, bed turret, micrometer carriage stop, drill chucks, etc.