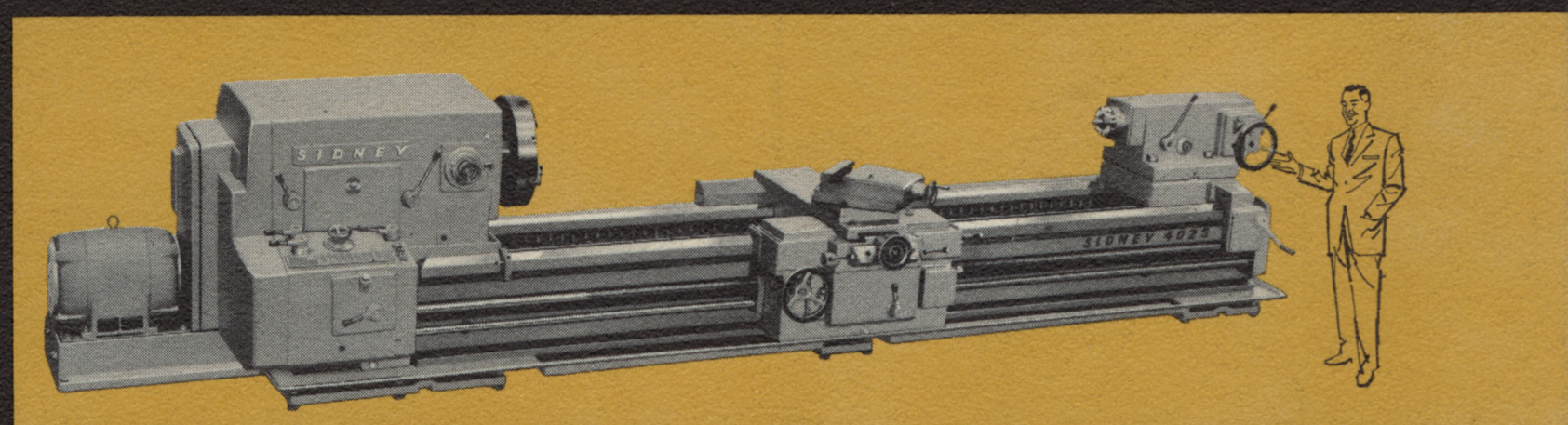


SIDNEY 4025

SIDNEY MACHINE TOOL COMPANY, Sidney, Ohio/A Wholly Owned Subsidiary of Buhr Machine Tool Company

SIDNEY®

4025

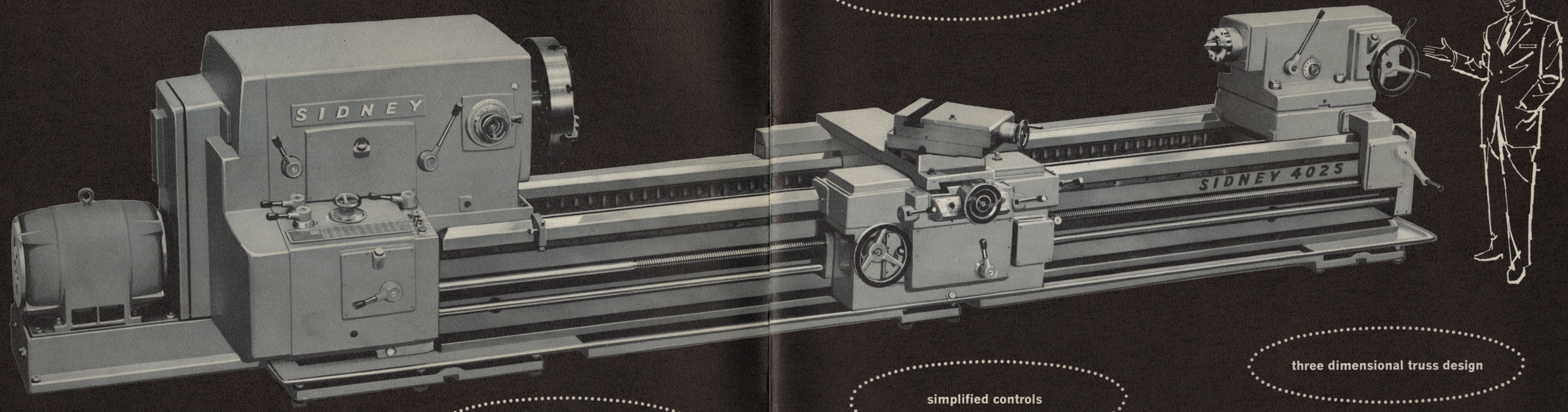
Removes metal faster, easier, at lower cost...on a wide range of jobs

75 usable horsepower

60 threads and feeds

direct reading dials

full power, four-way rapid traverse



three dimensional truss design

simplified controls

dual cam tumbler lock

HERE'S WHAT THE ALL-NEW 4025 MEANS TO YOU . . .

- 180 Cu. In. Per Min. Metal Removal Rate—cuts tough metals with ease . . . completes the job faster.
- Fine Micro-inch Finishes—converts rough cut to smooth finish without removing workpiece from lathe.
- Simplified Controls—cuts operator fatigue . . . increases daily production.
- Modern Appearance—looks better in the plant . . . reduces dirt catching areas . . . provides safer operation.
- Rugged Construction—reduces maintenance costs . . . increases life of the machine.

One look will tell you . . . the Sidney 4025 is completely new "from the floor up", designed for and with you, the user. From its crisp, functional styling to its massive rugged construction, the heavy-duty 4025 is loaded with advanced design features . . . features which lathe users have always wanted.

The 4025 removes metal at the rate of 180 cubic inches per minute for fast, efficient operation. The simplified controls, direct reading feed and thread plate as well as other features make the operator's job easier. The high speed of operation and longer life of the machine mean a reduced cost per individual job. The speed, power and extended range of gear speeds permit work on a wide range of metals from rough cutting to fine micro-inch finishes.

These unique features plus automatic lubrication, readily accessible lubrication stations, anti-friction bearings, four-way, full power rapid traverse and many others, give you a rugged lathe which not only does the job quicker and easier, but lasts longer with a minimum of maintenance.

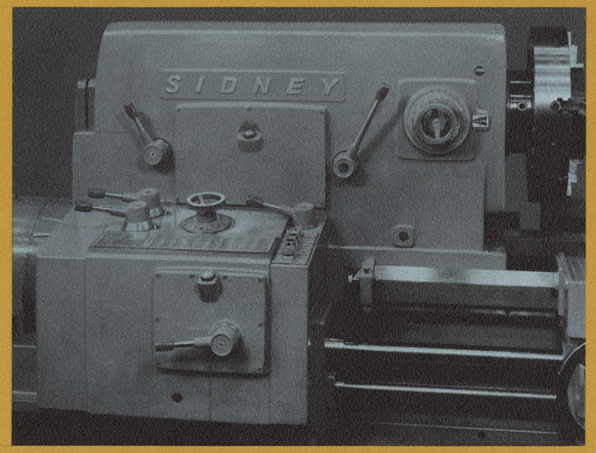
The Sidney 4025 is available in three models. The basic 4025 has a swing over the bed of 40½ ″ and a swing over the compound of 25½ ″. Model 4025-31 has swings of 45½ ″ and 31½ ″ respectively. Model 4025-36 has swings of 49″ and 36½ ″. Beds are available in lengths ranging from 13 to 49 feet.

Patent applications pending on new features.

SIDNEY

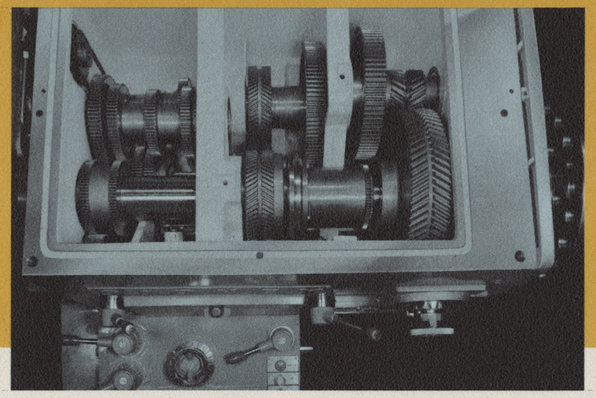
4025

means SPEED . . . 75 usable horsepower, 36 spindle speeds, simplified controls

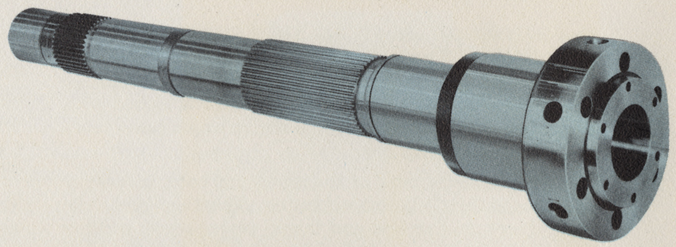


Many features combine to give the Sidney 4025 unusual ease of operation. The full 75 horsepower in all speed ranges makes possible a metal removal rate of 180 cubic inches per minute. Simplified controls make settings quick and easy for the operator. 36 spindle speeds permit the most efficient surface speed for any job.

HEADSTOCK—Featuring 36 spindle speeds with an overall speed ratio of 160 to 1, the headstock provides the proper surface speed for a wide range of materials and applications. The simplified headstock shifting mechanism permits dial setting of either r.p.m. or work diameter. Selection of work diameter enables operator to obtain the correct surface speed. There is no speed up gearing and therefore torque loss is held to a minimum.

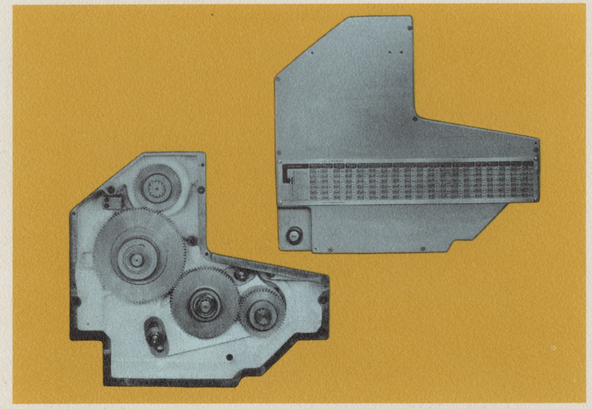


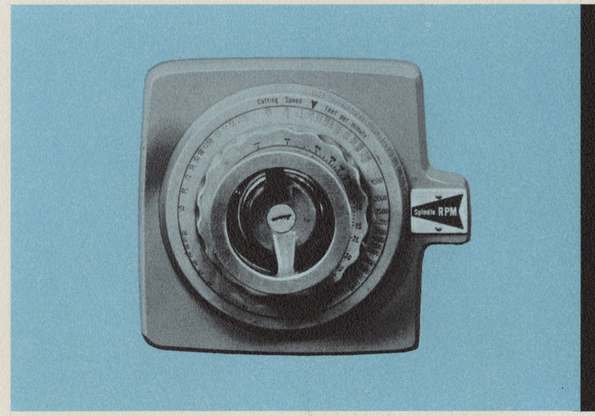
HEADSTOCK GEARING—The 4025 will operate in a range of 5 to 800 r.p.m., an unusual high and low for a heavy-duty lathe. All gears are hardened and ground or shaved for smooth operation and reduced maintenance costs. Opposed helix angle drive gears permit exceptionally smooth cutting. The headstock also features automatic metered spray lubrication, anti-friction bearings and all SAE involute splines.



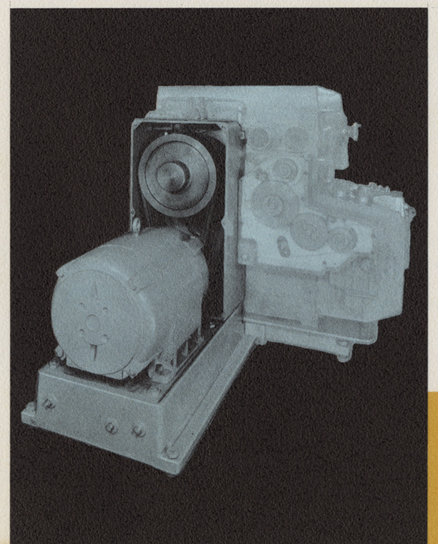
SPINDLE—The rugged spindle is machined from an alloy steel forging and provides necessary strength to transmit full horsepower. Spindle nose hardness is 50 "C" Rockwell. Final drive to the spindle is through opposed helix angle gears. Spindle bore of 4 1/16" permits up to 4" diameter bars to be fed through the spindle.

END GEARING—Totally enclosed, the end gearing stays free of dirt, yet is readily accessible by removing cover. The end gearing has provision for conversion from conventional to metric leads. A greatly simplified 1 to 1 end gear ratio makes this conversion quick and easy. Gears for both metric and special leads are available from Sidney. An index plate on the cover outlines special lead settings. The gearing is automatically lubricated and anti-friction throughout. All gears are hardened and shaved.





CONTROLS—The spindle control consists of a single dial and shifting lever. The operator simply turns the dial to the desired r.p.m. or surface speed and moves the shifter lever into position. This provides fast, accurate ease of operation.

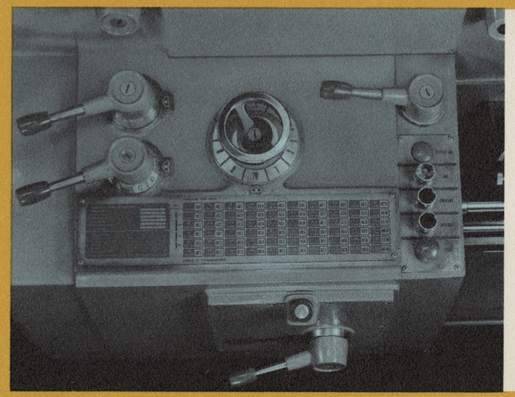


MAIN DRIVE—Super matched V-belts flow smooth power through the automatically lubricated, electrically actuated disc stack type clutch and brake. Sleeve mounting eliminates drive shaft deflection. Belt tension is easily controlled by an externally adjusted worm and gear arrangement in the motor base.

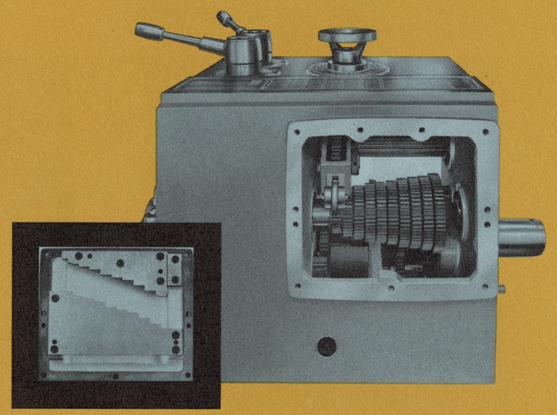
SIDNEY

4025

means VERSATILITY... metric and special leads, 60 standard threads and feeds, direct reading plate

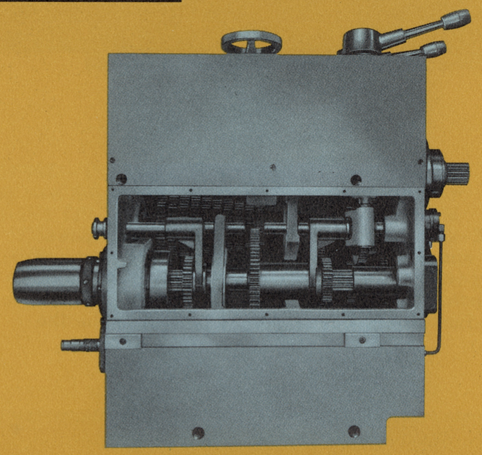


The Sidney 4025 has been designed to perform a wide range of cutting operations covering a variety of metals. The ability of this lathe to go from rough metal removing to accurate micro-inch finishes means that fewer machines are necessary to do the job and time previously lost in transferring materials is gained.

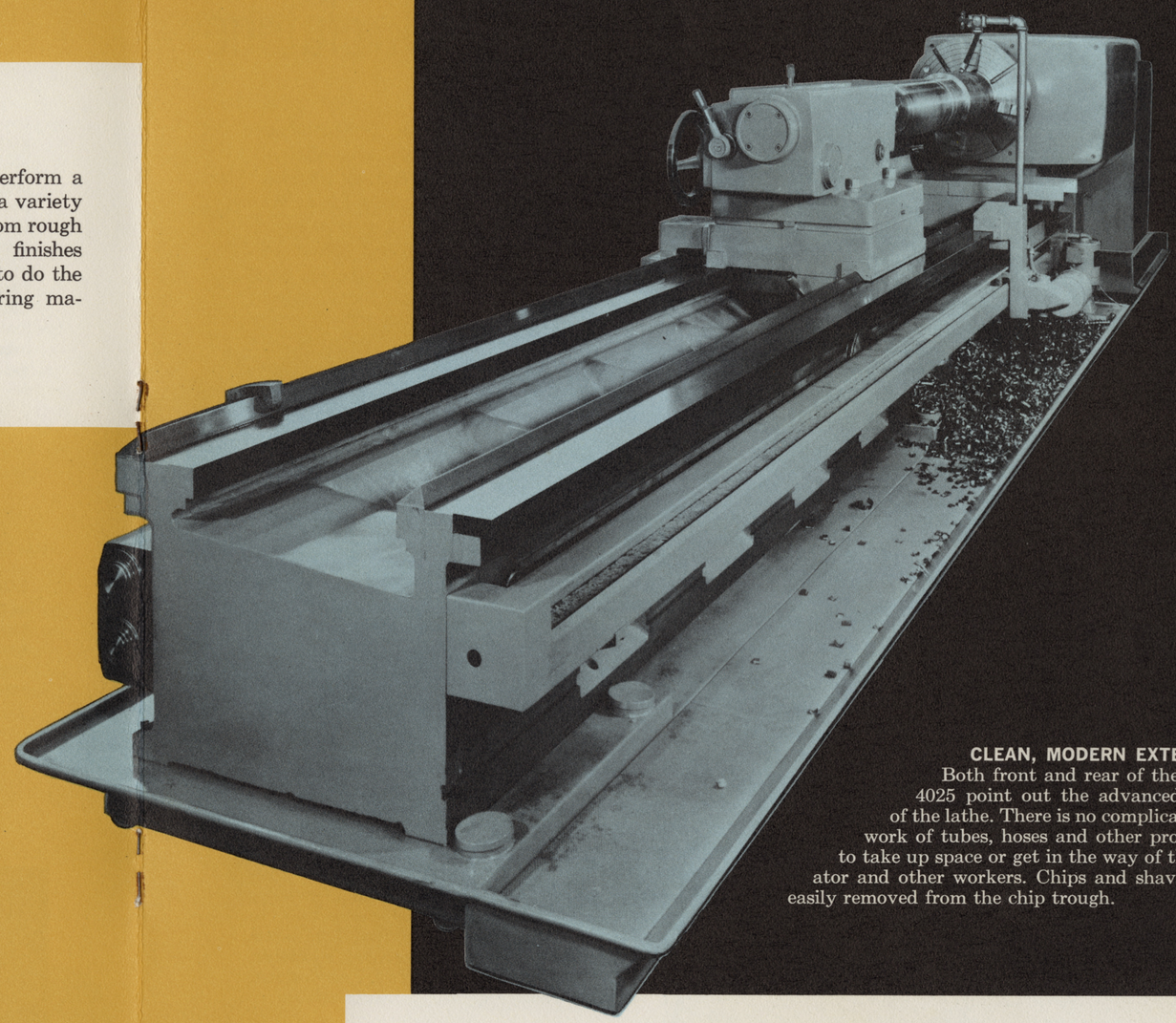


GEARBOX—Direct reading feed and thread plate tells the operator at a glance the proper settings for any required thread or rate of feed. Shifting is through two levers and a hand wheel, all grouped conveniently near the plate for quick settings. The gearbox provides 60 threads and feeds for a wider range of versatility.

DUAL CAM TUMBLER LOCK—The cover plate is easily removed from the front of the gear box for inspection or maintenance. This modern gearbox features an exclusive dual cam tumbler lock which has been especially designed to overcome cone and gear unlocking during exceptionally heavy feeds. This permits coarser feeds at high surface speeds.



ANTI-FRICTION THROUGHOUT—The gearbox is completely anti-friction and has automatic filtered lubrication throughout. The gearing features an electric clutch and safety release mechanism to protect the apron.



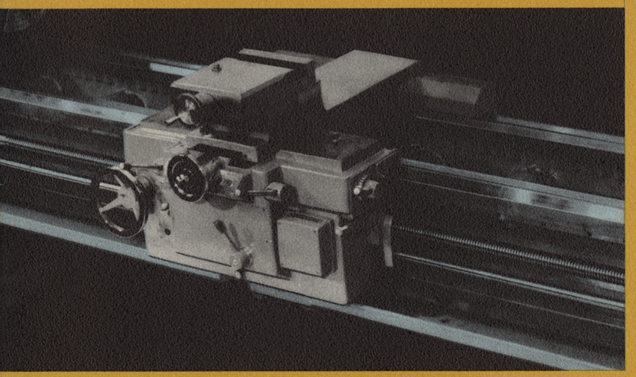
CLEAN, MODERN EXTERIOR—Both front and rear of the Sidney 4025 point out the advanced design of the lathe. There is no complicated network of tubes, hoses and other projections to take up space or get in the way of the operator and other workers. Chips and shavings are easily removed from the chip trough.

COOLANT SYSTEM—Dual pumps in the lathe's coolant system eliminate hoses. Aerated coolant trough and perforated removable reservoir covers provide easy access for cleaning. Monel screen filter and angular chip removal mean lower maintenance costs for the system.

SIDNEY

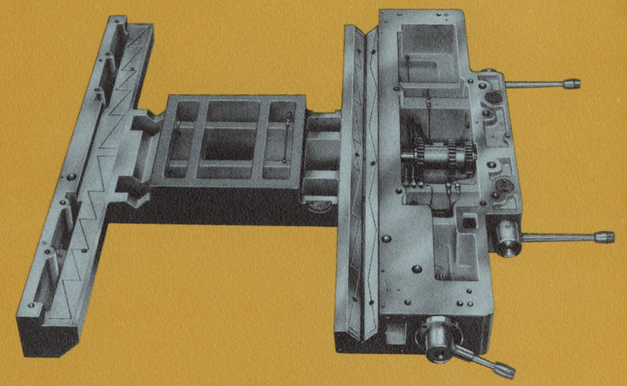
4025

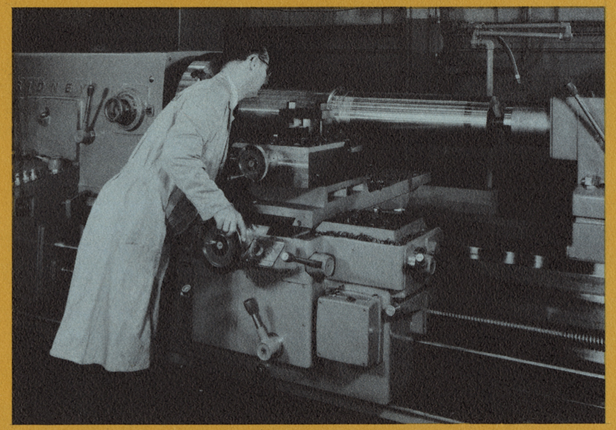
means EASE OF OPERATION... full traverse, no stick clutches, power, 4-way rapid convenient controls



A machine which is easy to run usually turns out work in larger volume with consistent quality all day long. With this in mind, the Sidney 4025 has been designed to make the operator's job easier. Convenient controls, full power, four-way rapid traverse and anti-glare dials are but a few features of the 4025 which simplify operation and provide a greater profit.

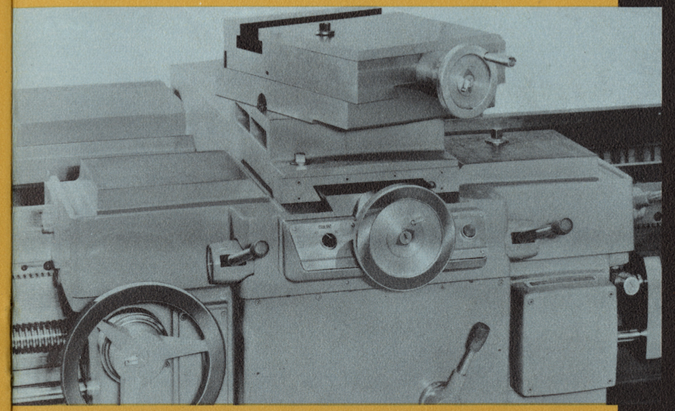
CARRIAGE AND COMPOUND—Heavy-duty top slide construction supplies the essential rigidity to hold up under heavy cutting operations. All compound components utilize the full carriage bridge width. Four bolts securely lock the square swivel. A precision graduated scale permits any desired angular setting. Individual slide and carriage lock clamps securely position all components. All slides incorporate adjustable double locked tapered gibs. The extra large carriage bearing areas are all protected by tensional wipers. The extremely rigid carriage receives automatic metered lubrication at all bearing areas whether hand or power feed, threading, or rapid traverse is used. Front and rear gibs are also provided. The threads on the cross feed screw are hardened and ground.



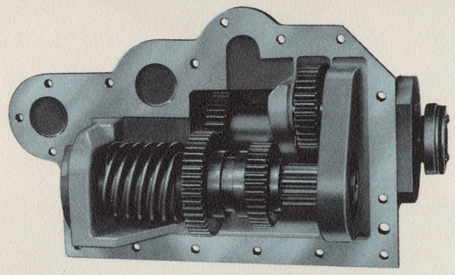


DIRECT READING DIALS—Dials are anti-glare chrome plated and include memory clips. Thread chasing stop permits up to three revolutions of cross feed handwheel without disturbing dial setting. Hardened and ground cross-slide ways are an optional extra.

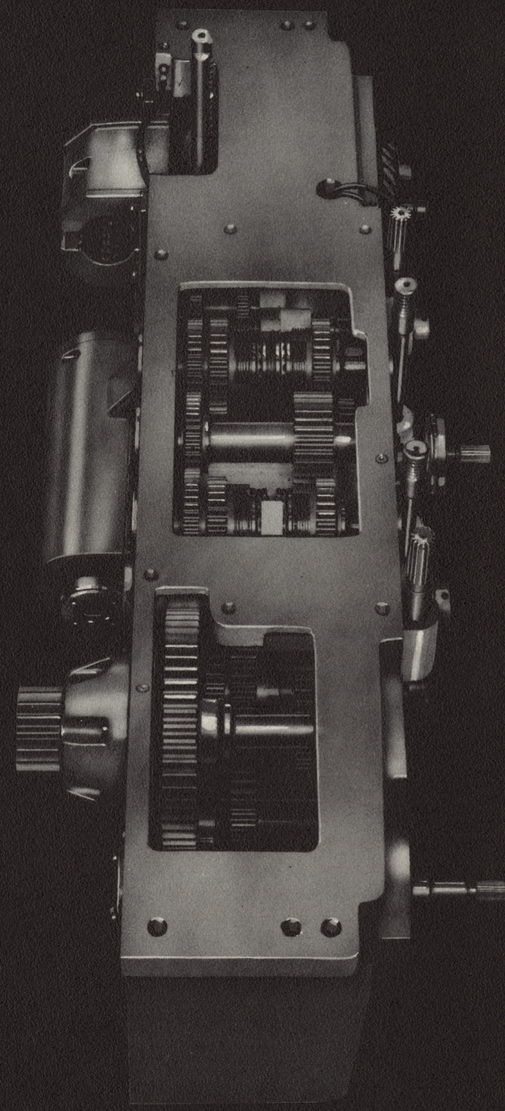
RAPID TRAVERSE—The carriage provides variable rate, four-way power traverse to combine maximum control with simplicity of operation. Safety overload clutch protects the carriage and apron from damage should the operator accidentally run the carriage into an obstruction.



APRON—Combination feed and traverse control, through independent cross and longitudinal levers, is positioned for ready access and operator convenience. Precision, no-stick jaw feed clutches are standard to assure accurate, even and instant response to the operator.



WORM DRIVE—The apron's worm gear drive from the feed rod provides smooth power and precision complementing the lathe's high metal removal capacity. Feeds, cross and longitudinal, (ratio 1:1) may be separate or synchronized for added versatility.



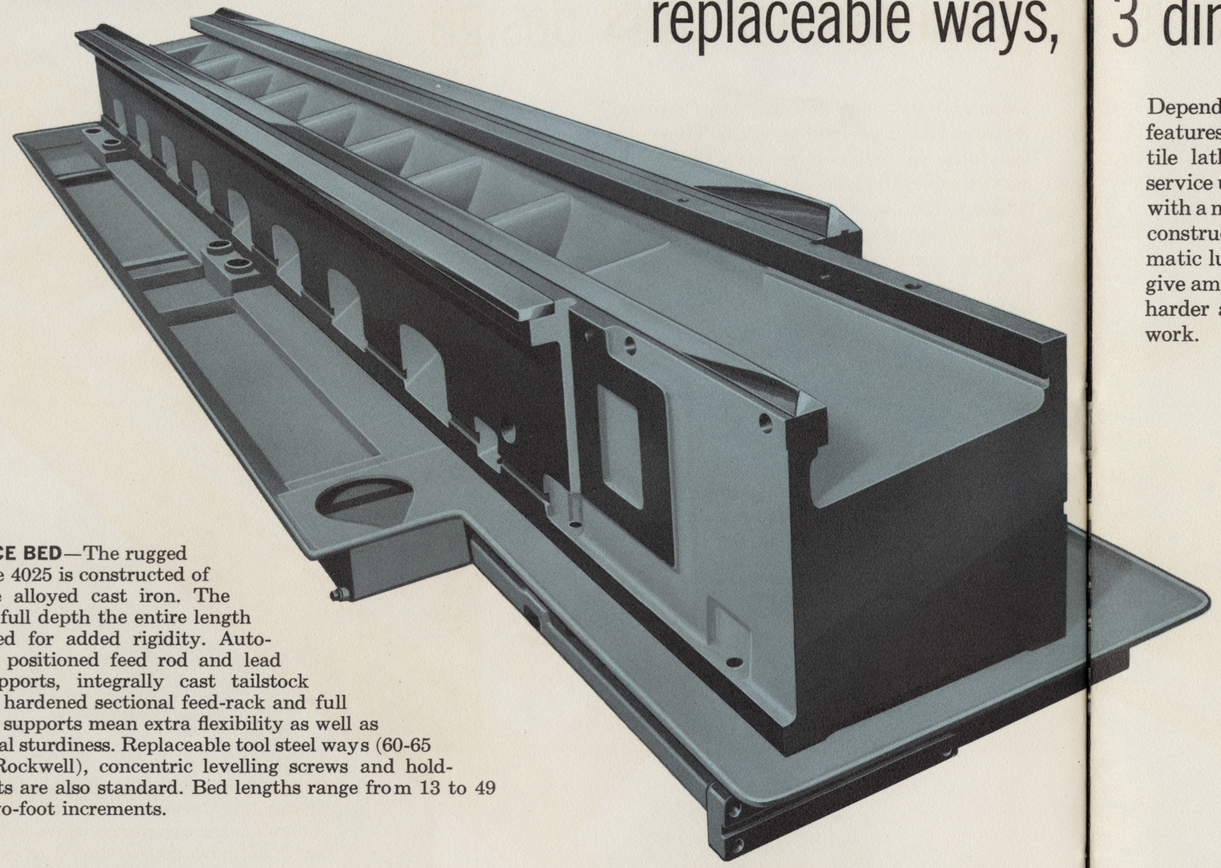
APRON GEARING—Total enclosure of apron mechanism in a one piece housing eliminates deflection; shaft mounting is in two walls. All gears are hardened and shaved. SAE involute splines and hardened and ground rack pinion are standard. A length dial with memory clips, enclosed rapid traverse motor and automatic lubrication to all movements are added design features of the apron.

SIDNEY

4025

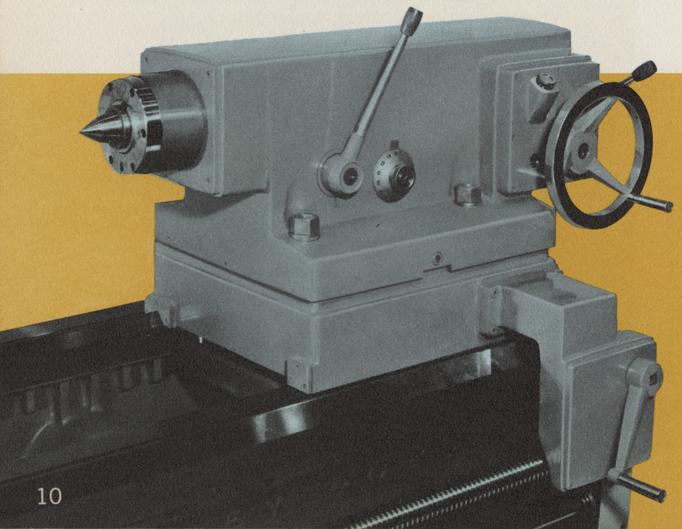
means DEPENDABILITY...full replaceable ways, width, full depth bed walls, 3 dimensional truss design

Dependability and long life are "built-in" features on the new Sidney 4025. This versatile lathe is designed to give dependable service under the heaviest cutting operations with a minimum of maintenance. The rugged construction of the lathe, labor saving automatic lubrication plus anti-friction bearings give ample assurance that the 4025 will work harder and longer to turn out high quality work.



ONE PIECE BED—The rugged bed of the 4025 is constructed of one piece alloyed cast iron. The walls are full depth the entire length of the bed for added rigidity. Automatically positioned feed rod and lead screw supports, integrally cast tailstock bed rack, hardened sectional feed-rack and full width leg supports mean extra flexibility as well as exceptional sturdiness. Replaceable tool steel ways (60-65 C-Scale Rockwell), concentric levelling screws and hold-down bolts are also standard. Bed lengths range from 13 to 49 feet in two-foot increments.

THREE DIMENSIONAL TRUSS DESIGN—An outstanding feature of the bed is the three dimensional truss design through the entire length. The heavy corrugated truss of alloyed cast iron runs the entire length and incorporates convenient chip-shed chutes . . . a unique combination of strength and utility.



TAILSTOCK—The massive tailstock features hardened 7½" diameter spindle, high or low speeds, and positive lock to spindle. Operator selected anti-friction or dead spindle center with drilling lock are optional extras. The tailstock also provides a friction depth reading dial which measures spindle travel and reduces chance for operator error. Added features include all SAE involute splines, automatic lubrication to all areas and enclosed key way which permits complete sealed protection of the spindle and housing bore.

Accessories

As optional equipment a full line of accessories is available for the Sidney 4025

TRACER CONTROLS—simplifies operation, cuts costs on small runs and quantity production.

TAPER ATTACHMENT—Provides necessary rigidity to produce accurate tapers, micrometer adjusting screw assures accurate settings. Available with hardened guide bearings or anti-friction construction.

EUROPEAN STYLE TOOL REST—Desirable for multiple tool extra heavy duty turning operations.

STEADY RESTS—Available with replaceable bronze tips or anti-friction roller jaws.

FOLLOW RESTS—Available with replaceable bronze tips or anti-friction roller jaws.

SIDNEY 4025 / SPECIFICATIONS

	MODEL 4025	MODEL 4025-31	MODEL 4025-36
GENERAL			
Swing over Bed	40½" Dia.	45½" Dia.	49" Dia.
Swing over Compound	25½" Dia.	31½" Dia.	36½" Dia.
Spindle Center to Floor	47"	50"	52½"
Center Distance	60"	60"	60"
Center Distance Increase	24" Increments	24" Increments	24" Increments
Floor Space	6'-2" x 17'-3"	6'-2" x 17'-3"	6'-2" x 17'-3"
Floor Space Increase	24" Increments	24" Increments	24" Increments
HEADSTOCK			
Number of Speeds	36	36	36
Range of Speeds	5 to 800	5 to 800	5 to 800
Spindle Nose	D1-11" or L-3	D1-11" or L-3	D1-11" or L-3
Spindle Bore—D1-11"	4 1/16" Dia.	4 1/16" Dia.	4 1/16" Dia.
Spindle Bore—L-3	3 9/16" Dia.	3 9/16" Dia.	3 9/16" Dia.
Center—Morse Taper	No. 7	No. 7	No. 7
Bearing Length	50 3/8"	50 3/8"	50 3/8"
Spindle speed range—5, 6, 7, 8, 9, 11, 13, 15, 17, 19, 22, 25, 29, 34, 39, 45, 52, 60, 70, 80, 92, 107, 125, 143, 165, 190, 220, 250, 290, 335, 390, 450, 520, 600, 700, 800 R.P.M.			
GEARBOX			
Number of Changes	60	60	60
Range of Threads per Inch	½ to 30	½ to 30	½ to 30
Range of Feeds per Rev.	.004-.240	.004-.240	.004-.240
Lead Screw Diameter	2½"-2 Acme (3"-2 Special)	2½"-2 Acme (3"-2 Special)	2½"-2 Acme (3"-2 Special)
Actual threads cut per inch with quick change gear box—½, 9/16, 5/8, 11/16, 23/32, ¾, 13/16, 27/32, 7/8, 15/16, 1, 1 1/8, 1 ¼, 1 3/8, 1 7/16, 1 ½, 1 5/8, 1 11/16, 1 ¾, 1 7/8, 2, 2 ¼, 2 ½, 2 ¾, 2 7/8, 3, 3 ¼, 3 3/8, 3 ½, 3 ¾, 4, 4 ½, 5, 5 ½, 5 ¾, 6, 6 ½, 6 ¾, 7, 7 ½, 8, 9, 10, 11, 11 ½, 12, 13, 13 ½, 14, 15, 16, 18, 20, 22, 23, 24, 26, 27, 28, 30.			
CARRIAGE & COMPOUND			
Carriage Length	48"	48"	48"
Bridge Width	15"	15"	15"
Bottom Slide Travel	20"	20"	20"
Top Slide Travel	8"	8"	8"
Rapid Traverse—Long.	240 I.P.M.	240 I.P.M.	240 I.P.M.
Rapid Traverse—Cross	120 I.P.M.	120 I.P.M.	120 I.P.M.
TAILSTOCK			
Spindle Diameter	7½"	7½"	7½"
Tailstock Spindle Travel	14"	14"	14"
Tailstock Set Over	½"	½"	½"
Tailstock Bearing Length	27 5/8"	27 5/8"	27 5/8"
BED			
Width	33"	33"	33"
Depth—Full Length	22"	22"	22"
MAIN DRIVE MOTOR			
Horsepower	75	75	75
R.P.M.	1800	1800	1800
SHIPPING WEIGHT			
With Average Accessory Equip.	32,000 lbs.	33,500 lbs.	35,000 lbs.

FORM NO. S-604

Litho in U.S.A.