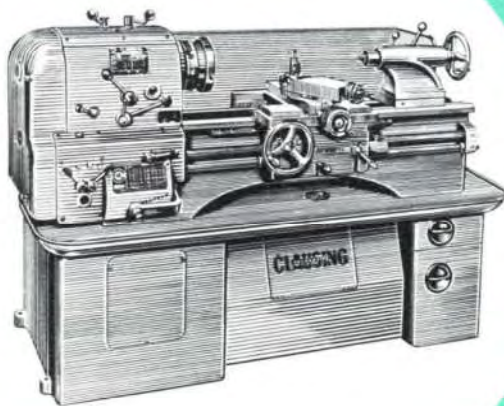


CATALOG 5756



CLAUSING COLCHESTER 13" 15" 17" GEARED-HEAD
PRECISION LATHES

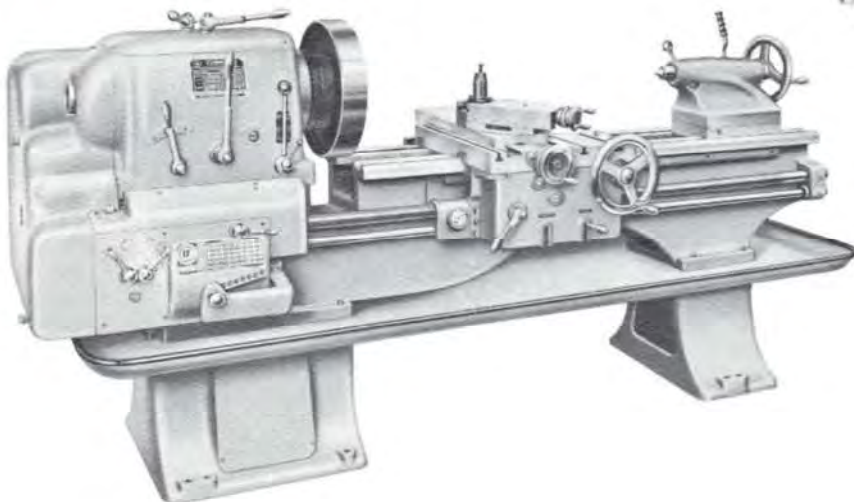
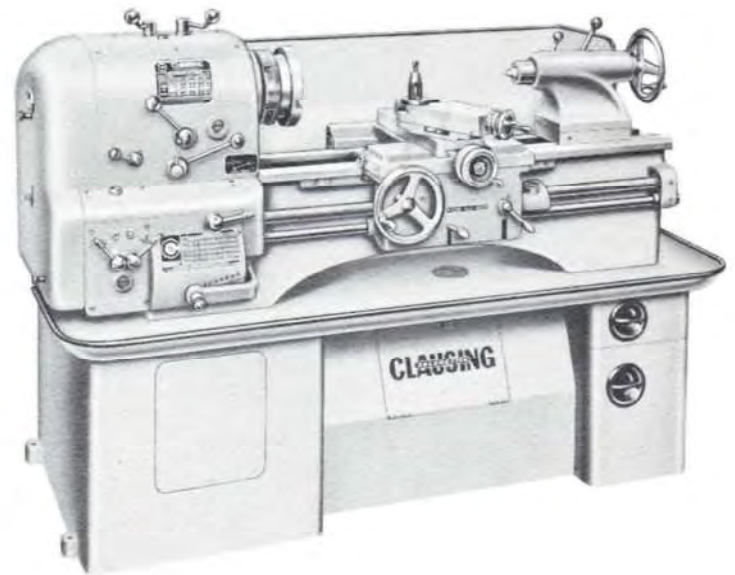
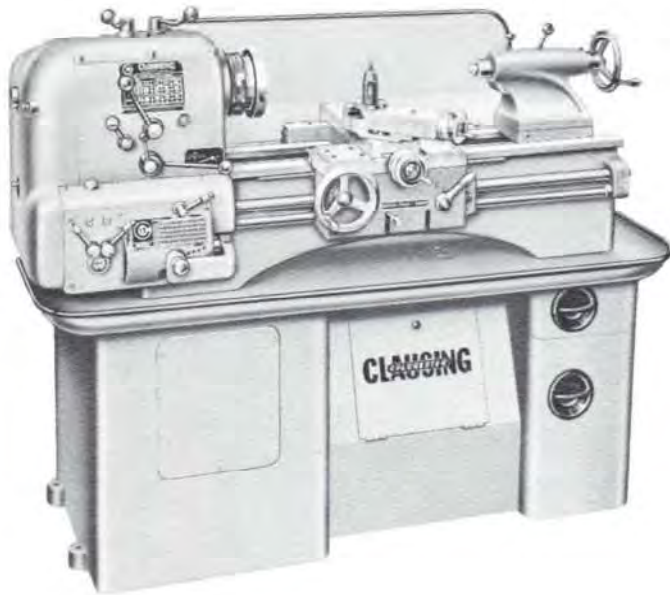
McDONALD MACHINERY CO.
MACHINE SHOP—WOODWORKING—SHEET METAL
Phone Central 1-9360
1531-37 N. Broadway St. Louis 6, Mo.

CLAUSING COLCHESTER

*13", 15", 17" geared head
precision lathes*

You get more . . . in job capacity, versatility and value . . . with Clausing-Colchester geared-head lathes. They are built to tool room standards of accuracy, and are world renowned for dependability.

Clausing-Colchester lathes, manufactured in England, are the product of one of the world's largest and most modern factories devoted exclusively to the manufacture of precision lathes — backed by the nation-wide Clausing sales, service and dealer organization.



13-inch lathes . . . page 6

15-inch lathes . . . page 8

17-inch lathes . . . page 10

gap bed lathes . . . page 12

Bigger spindle capacity is one of the many *plus* features of Clausing-Colchester lathes — note sizes in chart below.

Spindles are high-tensile forged steel — precision ground their entire length. Nose is American Standard taper key-lock — drive is positive, chucks are easy to install, remove. Nose tapers are hardened.

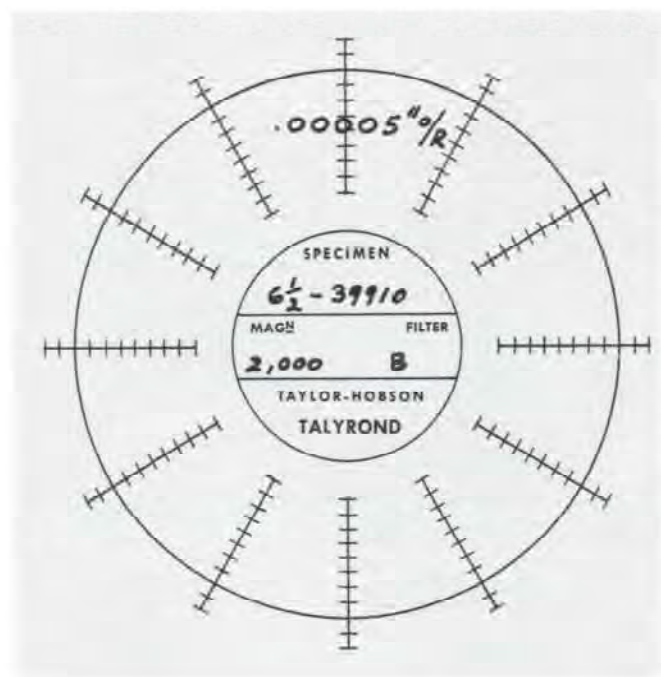
Lathe	17"	15"	13"
Hole thru spindle	3 $\frac{1}{8}$ "	2 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "
Nose taper key drive	L-2	L-1	L-0

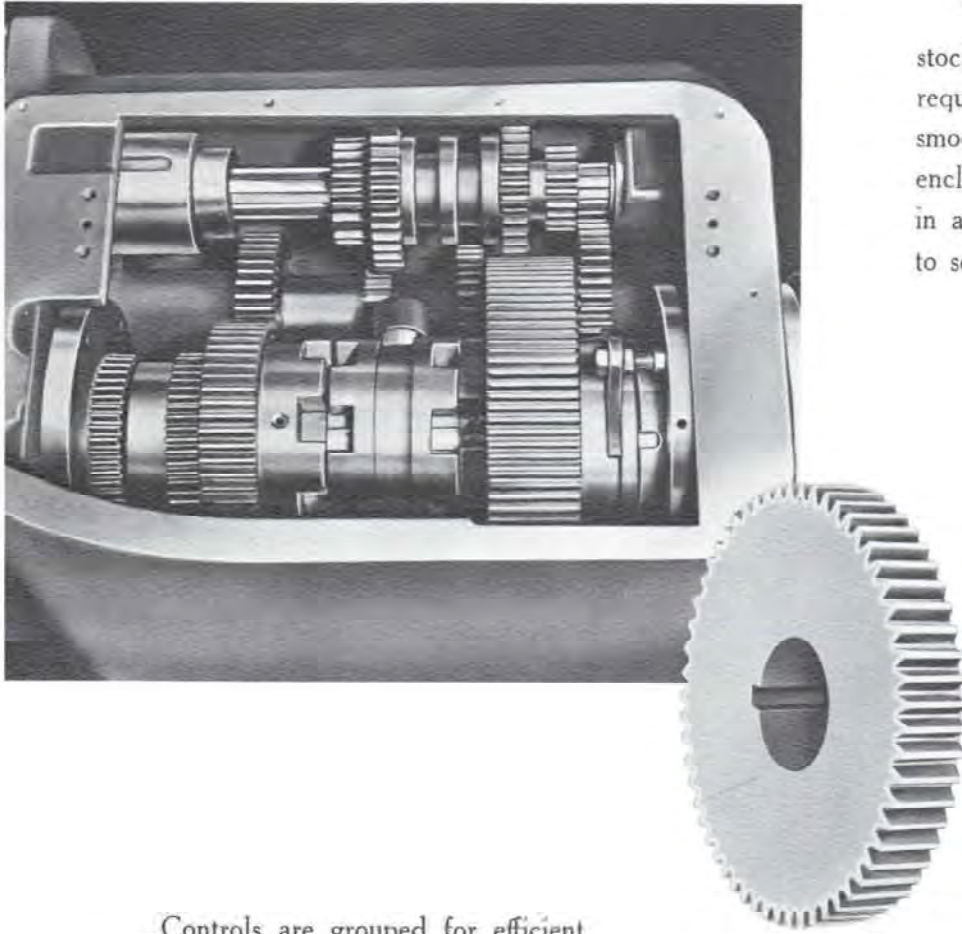


Every Clausing-Colchester lathe must turn round to within .0001". This remarkable accuracy is due in part to the Gamet Micron Precision tapered roller spindle bearings with oil-flow lubrication — *world-famous for superior accuracy and efficiency*. Front bearing is double row — rear is single row, spring loaded for automatic adjustment. Bearing sizes:

Lathe	17"	15"	13"
Front spindle bearing O.D.	7 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	4"
Rear spindle bearing O.D.	6"	4 $\frac{3}{8}$ "	3 $\frac{3}{8}$ "

Accuracy of each lathe is verified at the factory by inspecting a turned work piece on a Talyrond which records roundness on a graph like the one at right. Work piece and graph are supplied with lathe.

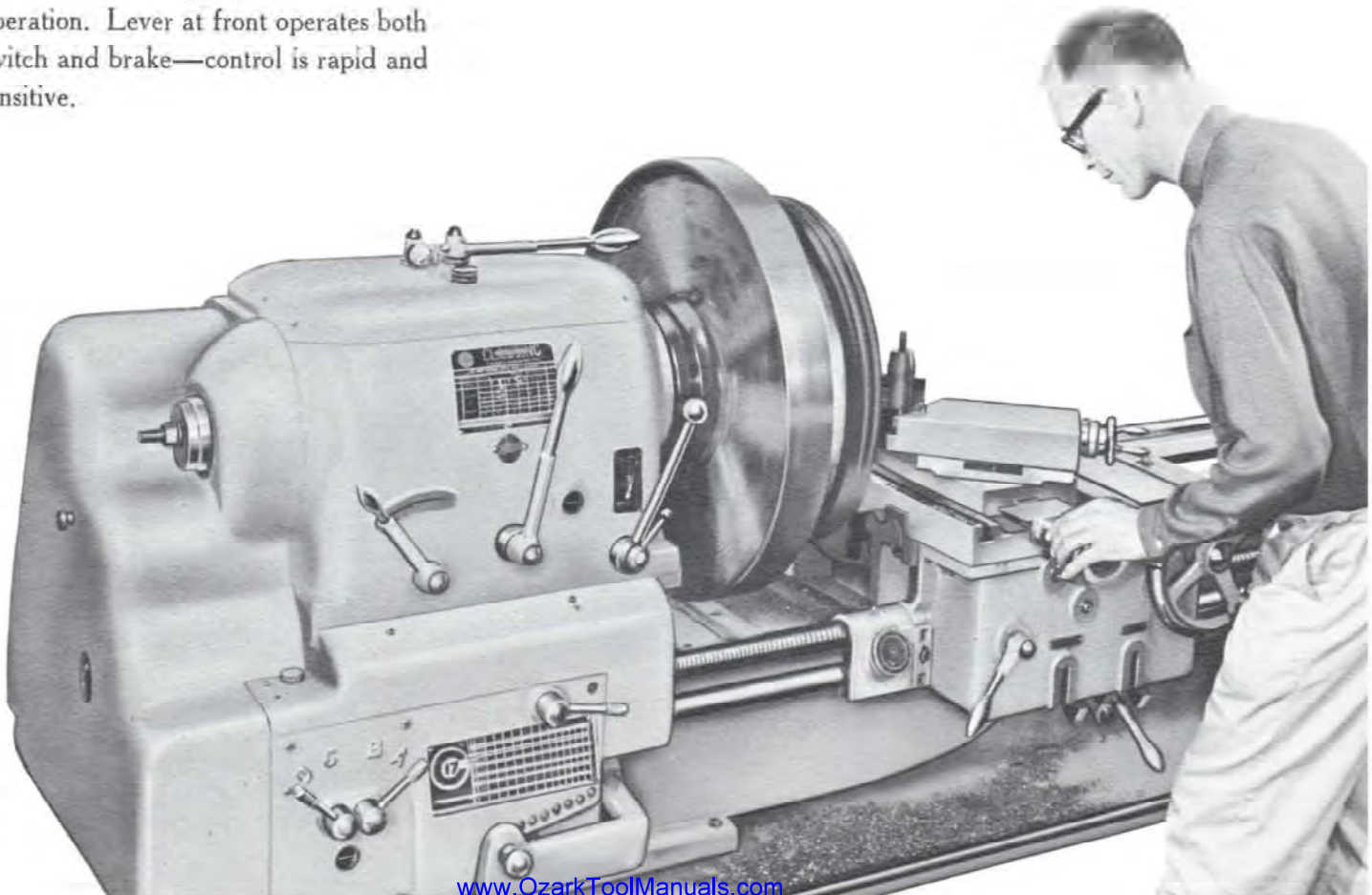




The Clausing-Colchester all-g geared headstock is designed and built to deliver the power required for heavy-duty operations and for smooth performance. Headstock is completely enclosed — gears, shafts and bearings travel in a bath of oil — a feature that adds years to service life.

The headstock gears are shaved, full-contour induction hardened, and honed. Shafts are high-tensile steel — sliding gear shafts are splined. The precision processing of gears and shafts, plus superior spindle bearings, assure high standards of work accuracy.

Controls are grouped for efficient operation. Lever at front operates both switch and brake—control is rapid and sensitive.



Tailstocks have large, tanged spindles — note sizes in chart below. Hole for spindle is honed. Spindle taper and O.D. are induction-hardened and ground. Spindles are graduated, have center ejector. Bed and spindle lock levers are permanently attached for speed and ease in set-up.

Lathe	17"	15"	13"
Tailstock spindle O.D.	2.687	2.500	1.700

induction-hardened bed ways

V-ways and flat ways of bed are induction-hardened and are precision ground to extremely close tolerance. Beds are massive, semi-steel castings with elliptical cross ribbing for maximum rigidity.

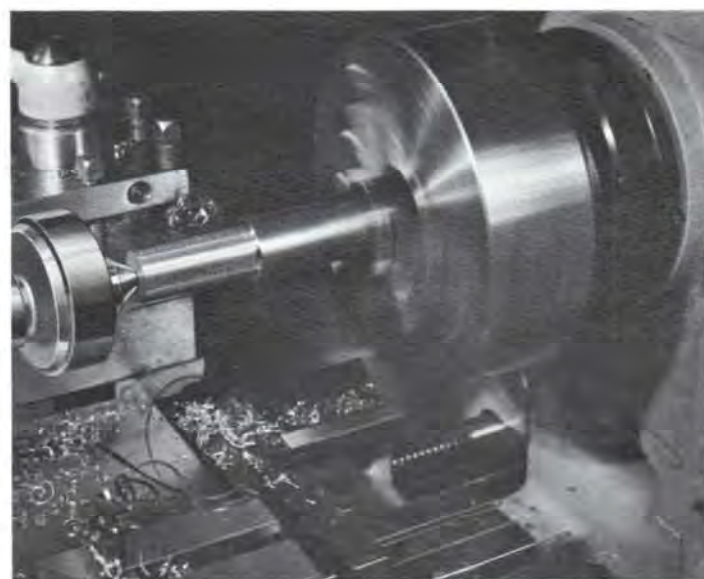
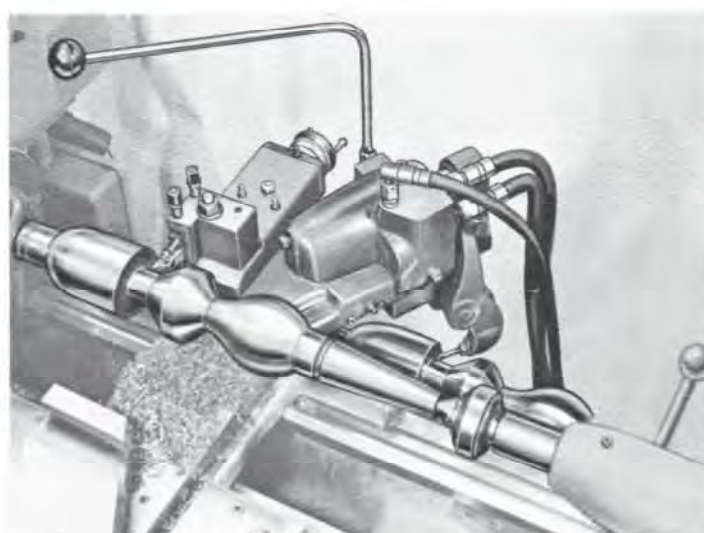
enclosed gear box, 45 threads and feeds

Quick-change gear box is totally enclosed — mechanism runs in bath of oil. Gears are shaved — shafts are multi-splined high tensile steel.

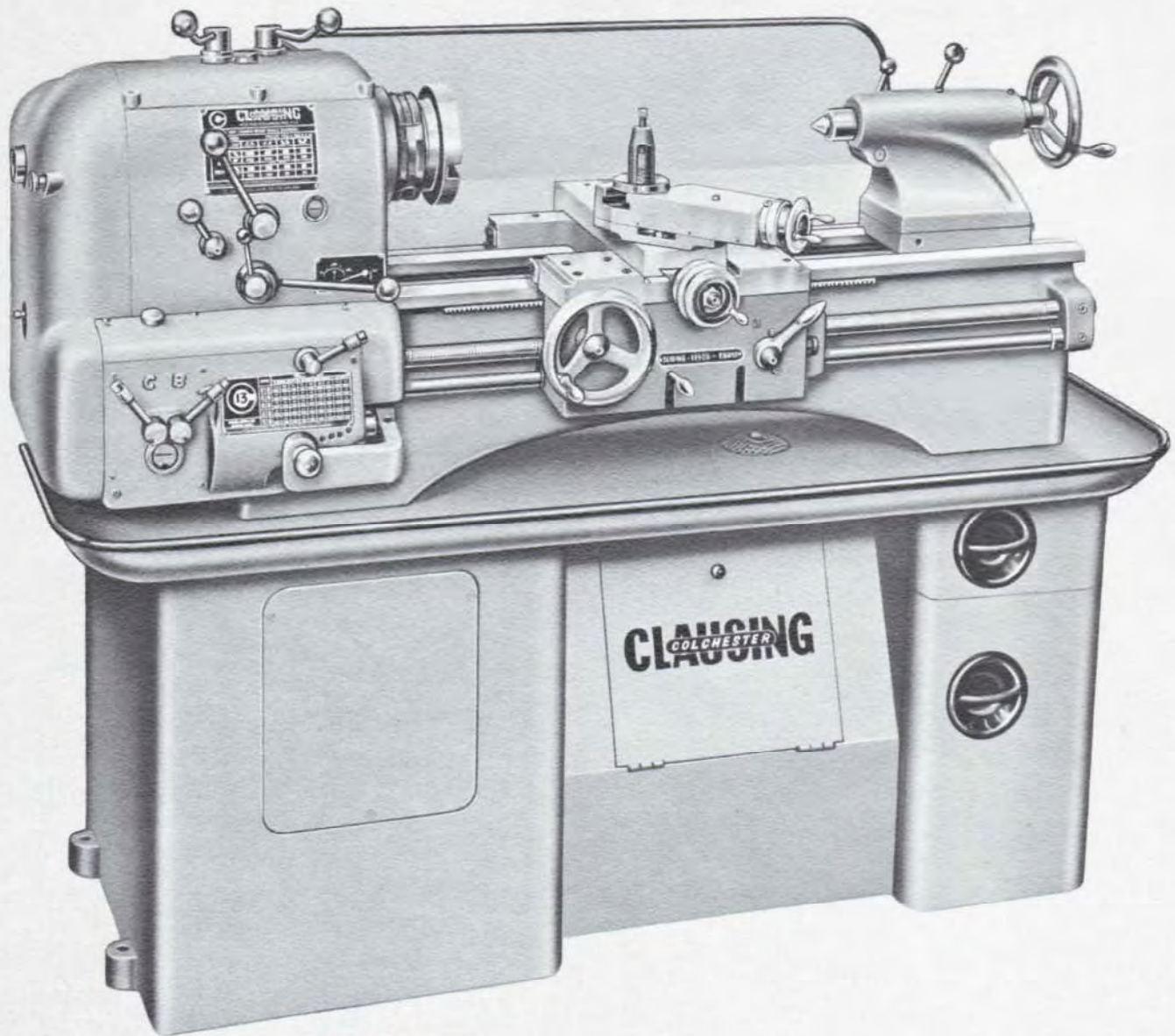
Power feeds are taken from a separate feed rod. The lead screw is used for thread cutting only — another feature of design that assures longer service and greater accuracy with a Clausing-Colchester. Feed rod has springball clutch that releases rod whenever the load becomes too great and automatically re-engages when strain is removed.

unequalled versatility

The wide range of accessories — combined with big work capacity — gives Clausing-Colchester lathes a high degree of versatility. Hydraulic tracer and high-speed threading attachments, for example, equip the lathe for top efficiency in specialized turning, yet in no way interfere with normal lathe operation.



CLAUSING COLCHESTER 13" geared head precision lathes



- All-geared headstock. 16 spindle speeds. Induction hardened gears.
- Headstock and quick-change box totally enclosed—gears, shafts and bearings travel in bath of oil.
- Gamet Micron Precision tapered roller bearings with oil-flow lubrication.
- L-0 taper key-drive spindle nose — 1 1/16" bore. Nose is hardened.
- Induction hardened bed ways.
- Separate rod for power feeds — lead screw used for thread cutting only.
- Big tailstock, with tanged spindle, lever-controlled locks.
- Accuracy verified by factory test reports.

straight bed lathes

Catalog Number	Swing Over Bed	Between Centers	Bed Length	Net Weight	Shipping Weight
6524	13"	24"	52 1/2"	1350 lb.	1860 lb.
6525	13"	36"	64"	1410 lb.	1920 lb.

specifications

capacities

Swing over bed	13"
Swing over cross slide	8"
Swing over carriage wings	12"
Distance between centers, flush	24" or 36"
Face plate, dia.	12"
Driving plate, dia.	6"
Follower rest, capacity	2"
Steady rest, capacity	4"

headstock

Hole through spindle	1 $\frac{1}{16}$ "
Spindle nose, taper key drive	L-0
Spindle nose, internal taper	No. 5 MT
Taper in spindle nose bushing	No. 3 MT
Spindle center	No. 3 MT
Spindle bearings, Gamet Micron Precision tapered roller	
Front	double row
Rear	single row, spring loaded
Spindle bearing outside diameters	
Front	4"
Rear	3 $\frac{1}{16}$ "

bed

Ways	2 V, 2 Flat
Length	52 $\frac{1}{2}$ " or 64"
Width	8 $\frac{1}{2}$ "
Depth at ends	11 $\frac{7}{8}$ "
Depth at center	8"

tailstock

Spindle, dia.	1.700"
Center	No. 3 MT
Spindle travel	4 $\frac{1}{4}$ "
Spindle graduated	0" to 4 $\frac{1}{4}$ " by $\frac{1}{8}$ "

carriage and compound

Carriage length	13 $\frac{1}{2}$ "
Width of carriage bridge	6"
Width of cross slide	4"

Width of compound rest	3 $\frac{1}{2}$ "
Cross slide travel	6 $\frac{1}{2}$ "
Compound rest travel	3 $\frac{3}{4}$ "
Tool post slot	for $\frac{9}{16}$ " square tools

spindle speeds

Spindle speeds	16
Speed range, rpm	39, 65, 78, 88, 129, 144, 177, 204, 288, 334, 408, 457, 667, 750, 915, 1500

motor

Two speed	3-1 $\frac{1}{2}$ hp, 1800/900 rpm, 3 ph. 220 or 440 v, 60 c
	Specify voltage when ordering.
Number of V-belts	2

threads and feeds

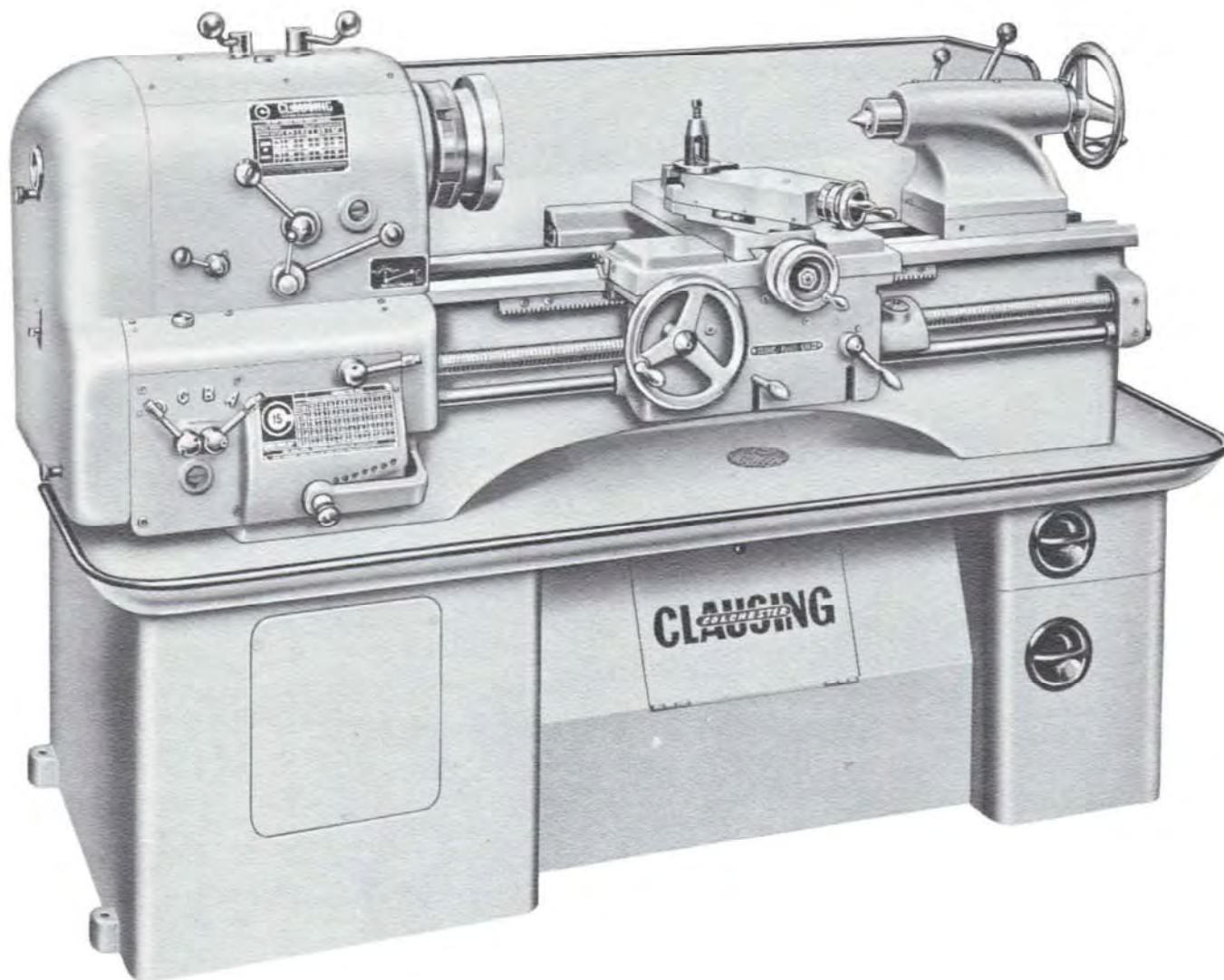
Lead screw	1 $\frac{1}{8}$ " — 6 Acme
Feed rod, dia.	$\frac{3}{4}$ "
Number of threads	45
Range	
	4, 4 $\frac{1}{2}$, 4 $\frac{3}{4}$, 5, 5 $\frac{1}{2}$, 5 $\frac{3}{4}$, 6, 6 $\frac{1}{2}$, 7, 8, 9, 9 $\frac{1}{2}$, 10, 11, 11 $\frac{1}{2}$, 12, 13, 14, 16, 18, 19, 20, 22, 23, 24, 26, 28, 32, 36, 38, 40, 44, 46, 48, 52, 56, 64, 72, 76, 80, 88, 92, 96, 104, 112
Number of feeds	45
Feed range	0.068" to 0.0025"

NOTE: Threads 4 thru 7 are obtained by using change gear furnished.

equipment furnished

Cabinet base with built-in chip pan, splash guards and coolant tank. Two-speed motor. Allen-Bradley magnetic-starter with reversing control. 12" face plate, 6" driving plate. Two No. 3 MT centers, reducing sleeve. Thread dial indicator. Follower rest, tool post. Change gear. Wrenches, Instruction and Parts List Manual. (Design and specifications are subject to change without notice.)

CLAUSING COLCHESTER 15" geared head precision lathes



- All-geared headstock. 16 speeds. Induction hardened gears.
- Oil-bath lubricated headstock and quick-change gear box.
- Gamet Micron Precision tapered roller bearings with oil-flow lubrication.
- High tensile steel spindle, with L-1 hardened nose — 2 $\frac{1}{16}$ " bore.
- Induction hardened bed ways.
- Separate rod for power feeds — lead screw used for thread cutting only.

- Massive tailstock, with tanged spindle, lever-controlled locks.
- Built to American standards of tool room lathe accuracy — accuracy verified by factory test report.

straight bed lathes

Catalog Number	Swing Over Bed	Between Centers	Bed Length	Net Weight	Shipping Weight
6534	15"	30"	63"	2100 lb.	2700 lb.
6535	15"	48"	83"	2250 lb.	2970 lb.

specifications

capacities

Swing over bed	15"
Swing over cross slide	8 $\frac{3}{4}$ "
Swing over carriage wings	14"
Distance between centers, flush	30" or 48"
Face plate, dia.	14"
Driving plate, dia.	8"
Follower rest, capacity	2 $\frac{1}{2}$ "
Steady rest, capacity	5"

headstock

Hole through spindle	2 $\frac{1}{16}$ "
Spindle nose, taper key drive	L-1
Spindle nose, internal taper per foot	0.732"
Taper in spindle nose bushing	No. 4 MT
Spindle center	No. 4 MT
Spindle bearings, Gamet Micron Precision tapered roller	
Front	double row
Rear	single row, spring loaded
Spindle bearing outside diameters	
Front	5 $\frac{1}{2}$ "
Rear	4 $\frac{3}{8}$ "

bed

Ways	2 V, 2 Flat
Length	65" or 83"
Width	10"
Depth at ends	14 $\frac{7}{8}$ "
Depth at center	10"

tailstock

Spindle, dia.	2 $\frac{1}{2}$ "
Center	No. 4 MT
Spindle travel	6"
Spindle graduated	0" to 6" by $\frac{1}{8}$ "

carriage and compound

Carriage length	17 $\frac{1}{2}$ "
Width of carriage bridge	8"
Width of cross slide	5 $\frac{1}{8}$ "

Width of compound rest	4 $\frac{1}{2}$ "
Cross slide travel	7"
Compound rest travel	4 $\frac{5}{8}$ "
Tool post slot	for $\frac{5}{8}$ " square tools

spindle speeds

Spindle speeds	16
Speed range, rpm	30, 58, 60, 82, 115, 120, 153, 163, 229, 241, 307, 319, 457, 600, 637, 1200

motor

Two speed	5-2 $\frac{1}{2}$ hp, 1800/900 rpm, 3 ph 220 or 440 v, 60 c Specify voltage when ordering.
Number of V-belts	3

threads and feeds

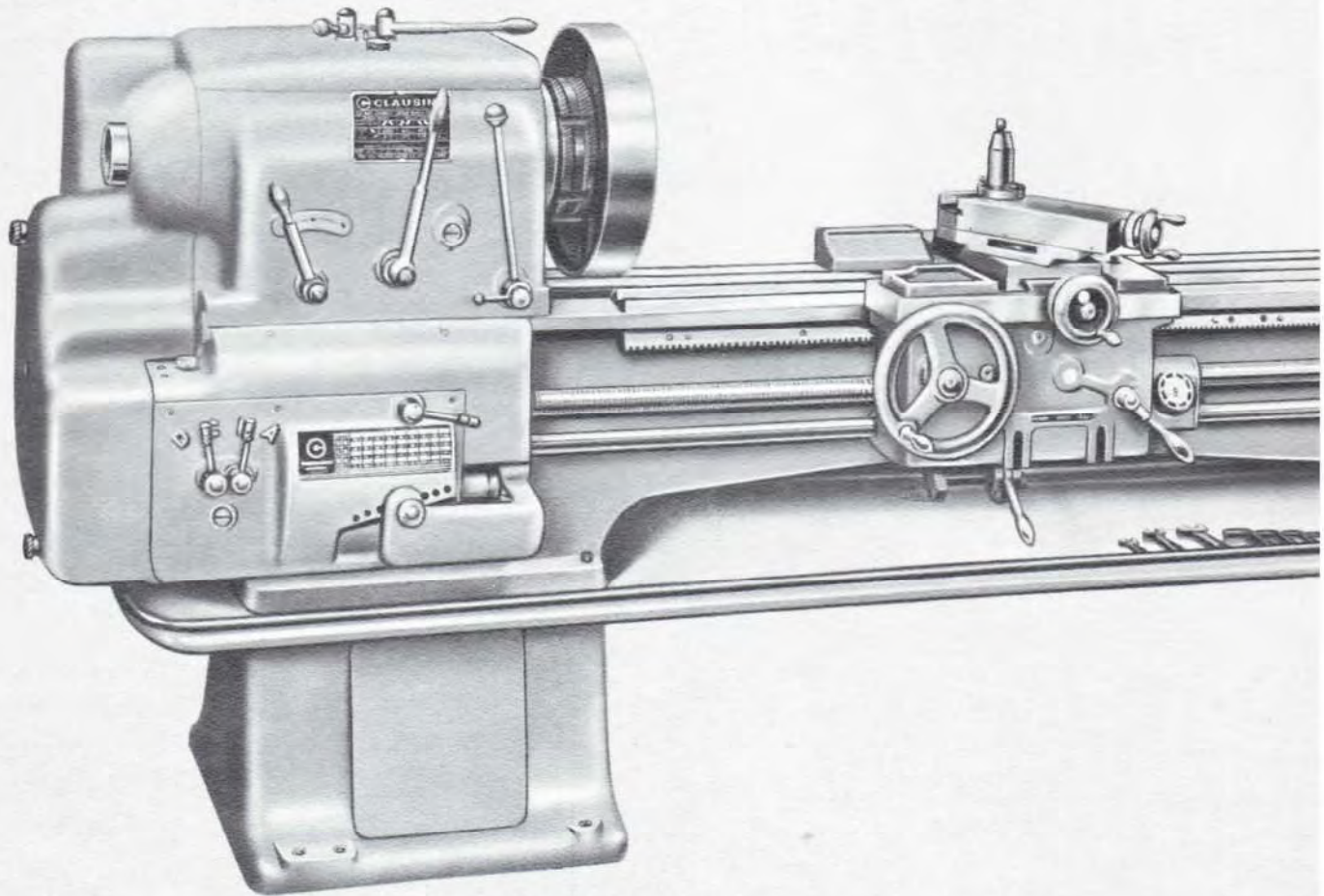
Lead screw, dia.	1 $\frac{1}{4}$ " — 4 Acme
Feed rod, dia.	1"
Number of threads	45
Range	4, 4 $\frac{1}{2}$, 4 $\frac{3}{4}$, 5, 5 $\frac{1}{2}$, 5 $\frac{3}{4}$, 6, 6 $\frac{1}{2}$, 7, 8, 9, 9 $\frac{1}{2}$, 10, 11, 11 $\frac{1}{2}$, 12, 13, 14, 16, 18, 19, 20, 22, 23, 24, 26, 28, 32, 36, 38, 40, 44, 46, 48, 52, 56, 64, 72, 76, 80, 88, 92, 96, 104, 112
Number of feeds	45
Feed range	0.048" to 0.0017"

NOTE: Threads 4 thru 7 are obtained by using change gear furnished.

equipment furnished

Cabinet base with built-in chip pan, splash guards and coolant tank. Two-speed motor. Allen-Bradley magnetic-starter with reversing control. 14" face plate, 8" driving plate. Two No. 4 MT centers, reducing sleeve. Thread dial indicator. Follower rest, tool post. Change gear. Wrenches. Instruction and Parts List manual. (Design and specifications are subject to change without notice.)

CLAUSING COLCHESTER 17" geared head precision lathes



- 3³/₁₆" spindle hole, L-2 taper key-drive hardened nose.
- Powerful, all-gear headstock. 16 speeds. Induction hardened gears.
- Oil bath lubricated headstock and quick-change gear box.
- Gamet Micron Precision tapered roller bearings with oil-flow lubrication.
- Induction hardened bed ways.
- Separate rod for power feeds — lead screw used for thread cutting only.
- Heavy tailstock with 2¹/₁₆" tanged spindle, lever-controlled locks.
- Two-speed, 4-8 hp motor.

- Built to American standards of tool room lathe accuracy — accuracy verified by factory test report.

straight bed lathes

Catalog Number	Swing Over Bed	Between Centers	Bed Length	Net Weight	Shipping Weight
6542	17"	78"	120"	4020 lb.	5160 lb.

capacities

Swing over bed	17"
Swing over cross slide	10 ¹ / ₈ "
Swing over carriage wings	16"
Distance between centers, flush	78"
Face plate, dia.	16"
Driving plate, dia.	10"
Follower rest, capacity	3"
Steady rest, capacity	6"



headstock

Hole through spindle	3 ¹ / ₁₆ "
Spindle nose, A.S. taper key drive	L-2
Spindle nose, internal taper per foot	0.744"
Taper in spindle bushing	No. 5 MT
Spindle center	No. 5 MT
Spindle bearings, Gamet Micron Precision tapered roller bearings	
Front	double row
Rear	single row, spring loaded
Spindle bearings outside diameters	
Front	7 ¹ / ₂ "
Rear	6"

bed

Ways	2 V, 2 Flat
Length	120"
Width	12 ⁷ / ₈ "
Depth at ends	18"
Depth at center	11 ³ / ₄ "

tailstock

Spindle, dia.	2 ¹¹ / ₁₆ "
Center	No. 5 MT
Spindle travel	6 ³ / ₄ "
Spindle graduated	0" to 6" by ¹ / ₈ "

carriage and compound

Carriage length	20"
Width of carriage bridge	8 ³ / ₄ "
Width of cross slide	6 ³ / ₄ "
Width of compound rest	5 ¹ / ₂ "
Cross slide travel	10 ¹ / ₂ "
Compound rest travel	6"
Tool post slot	for ³ / ₄ " square tools

spindle speeds

Spindle speeds	16
Speed range, rpm	28, 42, 55, 65, 84, 94, 130, 135, 187, 202, 270, 311, 405, 450, 622, 900

motor

Two speed	8-4 hp, 1800/900 rpm, 3 ph. 220 or 440 v, 60 c
	<i>Specify voltage when ordering.</i>
Number of V-belts	5

threads and feeds

Lead screw, dia.	1 ¹ / ₂ " — 4 Acme
Feed rod, dia.	1 ¹ / ₄ "
Number of threads	45
Range	4, 4 ¹ / ₂ , 4 ³ / ₄ , 5, 5 ¹ / ₂ , 5 ³ / ₄ , 6, 6 ¹ / ₂ , 7, 8, 9, 9 ¹ / ₂ , 10, 11, 11 ¹ / ₂ , 12, 13, 14, 16, 18, 19, 20, 22, 23, 24, 26, 28, 32, 36, 38, 40, 44, 46, 48, 52, 56, 64, 72, 76, 80, 88, 92, 96, 104, 112
Number of feeds	45
Feed range	0.050" to 0.0018"

NOTE: Threads 4 thru 7 are obtained by using change gear furnished.

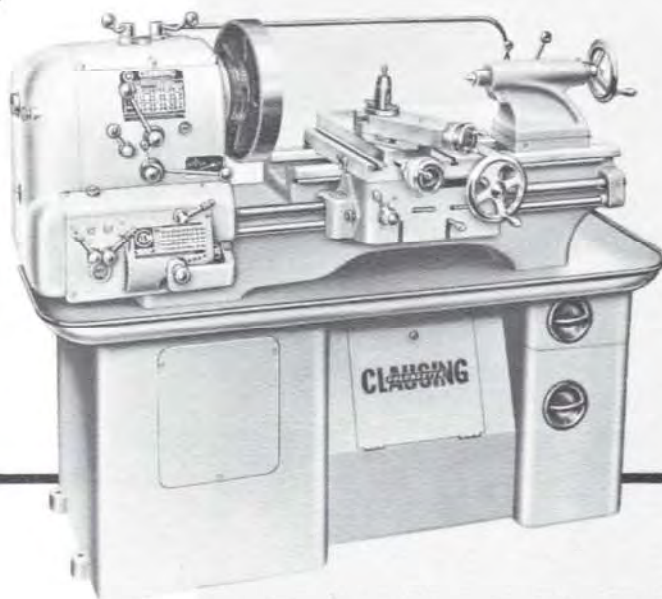
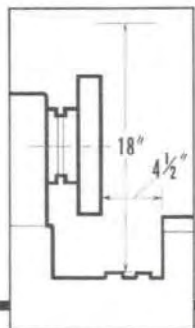
equipment furnished

Cast-iron mounting bases with chip and coolant tray. Two-speed motor. Allen-Bradley magnetic-starter with reversing control. 16" face plate, 10" driving plate. Two No. 5 MT centers, reducing sleeve. Thread dial indicator. Follower rest, tool post. Change gear. Wrenches. Instruction and Parts List manual. (Design and specifications are subject to change without notice.)

CLAUSING

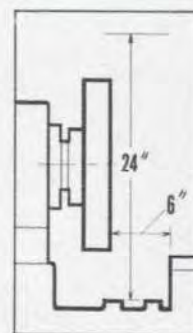
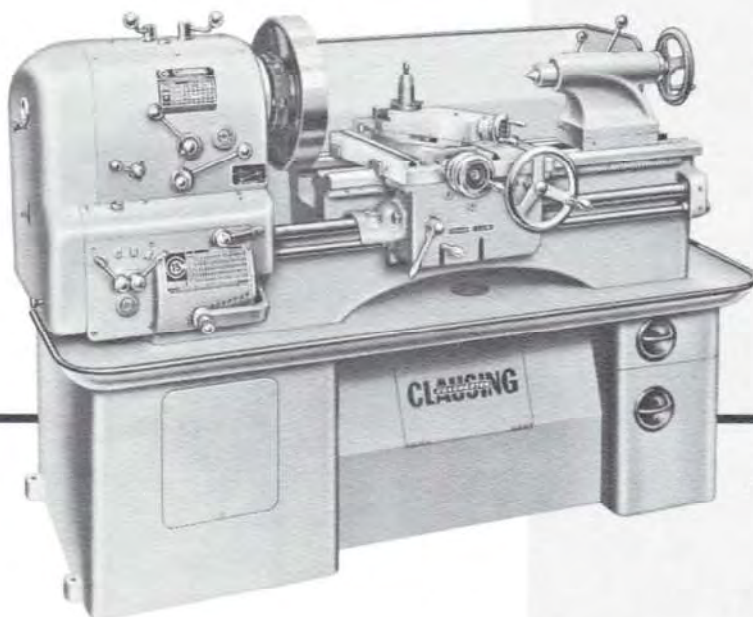
COLCHESTER

gap bed lathes

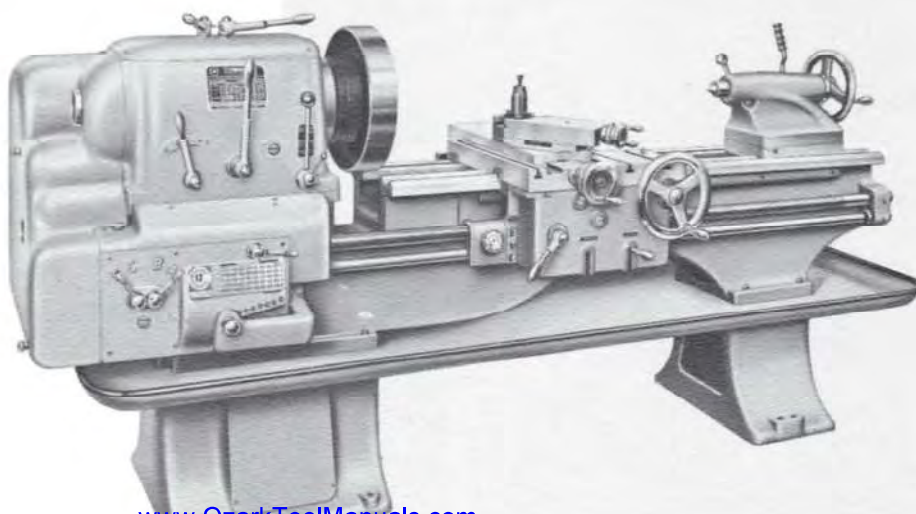
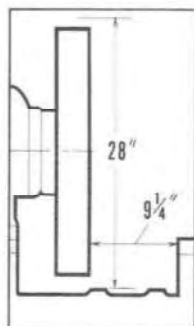


13" lathes

15" lathes



17" lathes



- Removable bed block — provides 18" swing.
- All-gear headstock. 16 spindle speeds. Induction hardened gears.
- Oil bath lubricated headstock and quick-change box.
- Gamet Micron Precision tapered roller bearings with oil-flow lubrication.
- L-0 taper key drive spindle nose. 1⁹/₁₆" bore. Hardened nose.
- Induction hardened bed ways.

- Separate rod for power feeds.
- Two-speed 1¹/₂-3 hp motor.

gap bed lathes

Catalog Number	Swing Over Bed	Between Centers	Bed Length	Net Weight	Shipping Weight
6526	13"	24"	52 ¹ / ₂ "	1350 lb.	1860 lb.
6527	13"	36"	64"	1410 lb.	1920 lb.

Swing in gap 18"
 Length of gap in front of face plate 4¹/₂"
 All other specifications same as those for 13" straight bed lathes — see page 7.

- Removable bed block provides 24" swing in gap.
- All-gear headstock. 16 spindle speeds. Induction hardened gears.
- Oil bath lubricated headstock and quick-change gear box.
- Gamet Micron Precision tapered roller bearings with oil-flow lubrication.
- 2¹/₁₆" hole thru spindle. L-1 hardened nose.
- Induction hardened bed ways.

- Separate rod for power feeds.
- Two-speed 2¹/₂-5 hp motor.

gap bed lathes

Catalog Number	Swing Over Bed	Between Centers	Bed Length	Net Weight	Shipping Weight
6536	15"	30"	65"	2100 lb.	2700 lb.
6537	15"	48"	83"	2250 lb.	2970 lb.

Swing in gap 24"
 Length of gap in front of face plate 6"
 All other specifications same as those for 15" straight bed lathes — see page 9.

- 28" swing in gap.
- 3¹/₁₆" spindle hole. L-2 tapered spindle nose. Nose is hardened.
- All-gear headstock. 16 speeds. Induction hardened gears.
- Oil bath lubricated headstock and quick-change box.
- Gamet Micron Precision tapered roller bearings with oil-flow lubrication.
- Induction hardened bed ways.

- Separate rod for power feeds — lead screw used for threading only.
- Two-speed 4-8 hp motor.

gap bed lathes

Catalog Number	Swing Over Bed	Between Centers	Bed Length	Net Weight	Shipping Weight
6554	17"	54"	96"	3720 lb.	4620 lb.
6543	17"	78"	120"	4020 lb.	5160 lb.

Swing in gap 28"
 Length of gap in front of face plate 9¹/₄"
 All other specifications same as those for 17" straight bed lathes — page 11.

accessories

burnerd 3-jaw griptru direct mount universal chucks



Concentricity within .0002" total indicator reading is the accuracy you can expect and get with Burnerd GRIPTRU chucks. Once the initial work piece is centered to the required tolerance, duplicate parts can be chucked to the same accuracy without further adjustment. GRIPTRU's micro-adjusting mechanism eliminates the need for expensive fixtures... saves time, ups production.

Burnerd GRIPTRU chucks are built to retain their accuracy under the toughest conditions. Bodies are Meehanite, scrolls are heat-treated alloy steel forgings. Pinions are case-hardened nickel steel—three pinions for faster operation. Jaws are case-hardened. Furnished with two sets of jaws, one inside, one outside, and wrench.

No.	Size	For Spindle	Jaws	Ship Wt.
131L0	6"	ASA—L-0	2 sets, solid	25¼
151L0	8"	ASA—L-0	2 sets, solid	58
151L1	8"	ASA—L-1	2 sets, solid	61
154L1	10½"	ASA—L-1	2 sets, solid	92
155L2	12"	ASA—L-2	2 sets, solid	136



burnerd 6-jaw griptru direct mount universal chucks

Indispensable wherever soft or fragile materials or tubing must be chucked and

machined to close tolerances. Chucking work to .0002" precision takes but one minute... duplicate parts are chucked to same accuracy at scroll-chuck speed. Furnished with two sets of jaws, one inside, one outside, and wrench.

No.	Size	For Spindle	Jaws	Ship Wt.
131ZL0	6"	ASA—L-0	2 sets, solid	27¾
151ZL0	8"	ASA—L-0	2 sets, solid	61
151ZL1	8"	ASA—L-1	2 sets, solid	64
154ZL1	10½"	ASA—L-1	2 sets, solid	98
155ZL2	12"	ASA—L-2	2 sets, solid	142



burnerd 3-jaw direct mount universal chucks

Bodies are high-tensile Meehanite for greater strength and long accurate service. Scrolls are

precision-machined heat-treated alloy steel. Pinions are case-hardened nickel steel—there are three in each chuck. Jaws are case-hardened. Bodies, bearing and gripping surfaces of jaws are ground.

Universal chucks furnished with two sets of jaws have one inside set, one outside set. Chucks furnished with master jaws have one set of reversible hard tops. Soft blank jaws, and master jaws with soft tops are available—data on request.

No.	Size	For Spindle	Jaws	Ship Wt.
31L0	6"	ASA—L-0	2 sets, solid	25½
31LOTJ	6"	ASA—L-0	Master w/reversible tops	25½
52L0	7½"	ASA—L-0	2 sets, solid	34
52LOTJ	7½"	ASA—L-0	Master w/reversible tops	34
51L0	8"	ASA—L-0	2 sets, solid	47
51LOTJ	8"	ASA—L-0	Master w/reversible tops	47
51L1	8"	ASA—L-1	2 sets, solid	51
51LOTJ	8"	ASA—L-1	Master w/reversible tops	51
53L1	9"	ASA—L-1	2 sets, solid	53
53LOTJ	9"	ASA—L-1	Master w/reversible tops	53
53L2	9"	ASA—L-2	2 sets, solid	66
54L2	10½"	ASA—L-2	2 sets, solid	94
54LOTJ	10½"	ASA—L-2	Master w/reversible tops	94
55L2	12"	ASA—L-2	2 sets, solid	136
55LOTJ	12"	ASA—L-2	Master w/reversible tops	136

burnerd 4-jaw direct mount independent chucks

Burnerd heavy-duty independent chucks have rugged Meehanite bodies, case-hardened ground steel jaws, heat-treated operating screws. Jaws are reversible. Wrench furnished.



No.	Size	For Spindle	Jaws	Ship Wt.
40L0	8"	ASA—L-0	4, reversible	39
41L0	10"	ASA—L-0	4, reversible	62
41L1	10"	ASA—L-1	4, reversible	65
42L1	12"	ASA—L-1	4, reversible	92
42L2	12"	ASA—L-2	4, reversible	100
43L2	14"	ASA—L-2	4, reversible	126
44L2	16"	ASA—L-2	4, reversible	164

semi-finished back plates

Hole finish-bored for tapered spindle nose.

- No. 13-218 BACK PLATE for ASA—L-0 spindle nose. 25 lb.
- No. 15-417 BACK PLATE for ASA—L-1 spindle nose. 35 lb.
- No. 17-519 BACK PLATE for ASA—L-2 spindle nose. 57 lb.

*burnerd lever-operated
dead length
collet chucks*

For rapid production chucking of precision work with Multisize Collets. Provide dead-length gripping action, with instantaneous release of work piece. Work may be chucked, machined and released without stopping lathe. Collet tension instantly adjustable by hand from heaviest to lightest grip. Bed linkage and clamp furnished.



*burnerd
key-operated
multisize
collet chucks*

Provides an accurate and powerful closing mechanism for Multisize Collets—key operation through bevel gears assures complete sensitivity for any desired gripping pressure.

Catalog Number	For Spindle	Bar Stock Capacity	Max. Capacity	Takes Collets Type	Wt. Lb.
13-228	L-0	1 1/2"	1 1/2"	MC	35
15-428	L-1	2"	2"	MD	85
15-429	L-1	2"	2 1/2"	ME	78
17-528	L-2	2 1/2"	2 1/2"	ME	84

Catalog Number	For Spindle	Bar Stock Capacity	Max. Capacity	Takes Collets Type	Wt. Lb.
KC15/L0	L-0	1 1/2"	1 1/2"	MC	17
KC20/L1	L-1	2"	2"	MD	58
KC25/L1	L-1	2"	2 1/2"	ME	60
KC25/L2	L-2	2 1/2"	2 1/2"	ME	61

end stops A positive adjustable work stop for key operated collet chucks. Easy to install, adjust, remove.

- No. E515 END STOP. For No. KC15/L0. 2 lb.
- No. E520 END STOP. For No. KC20/L1. 2 lb.
- No. E525 END STOP. For Nos. KC25/L1, KC25/L2.



*burnerd
multisize collets*

Each Multisize has a stepless gripping range of 1/8" — 10 will replace at least 100 ordinary collets.

Multisize collets *improve accuracy*—their precision construction, with .0005" maximum eccentricity at collet nose, gives accuracy unobtainable with standard spring collets.

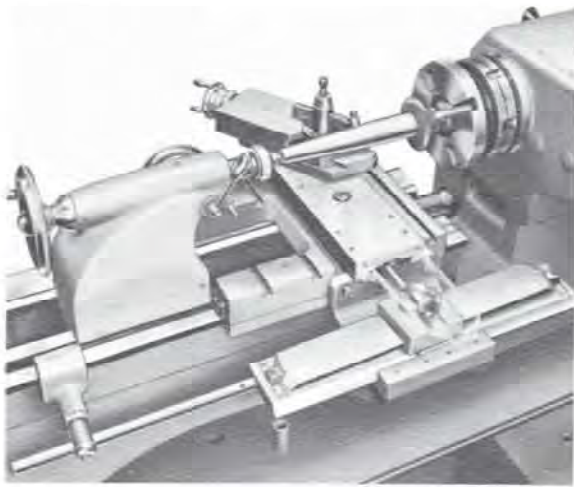
Greater gripping power—accurately ground blades, set radially in the tapered body, grip work along their *entire* length. Grip is infinitely variable—soft and thin-walled materials are chucked without damage or distortion.

Longer service life—Multisize collets are steel throughout for lasting accuracy.

USE WITH CHUCK NUMBERS:	13-228 KC15/L0		15-428 KC20/L1		15-429 17-528 KC25/L1 KC25/L2		13-228 KC15/L0		15-428 KC20/L1		15-429 17-528 KC25/L1 KC25/L2		13-228 KC15/L0		15-428 KC20/L1		15-429 17-528 KC25/L1 KC25/L2		
	for round stock						for hex stock						for square stock						
	Capacity of Collets	No.	Wt. Lb.	No.	Wt. Lb.	No.	Wt. Lb.	No.	Wt. Lb.	No.	Wt. Lb.	No.	Wt. Lb.	No.	Wt. Lb.	No.	Wt. Lb.	No.	Wt. Lb.
1/16" - 1/8"	MC2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1/8" - 1/4"	MC3	3	—	—	—	—	MC83	3	—	—	—	—	MC53	3	—	—	—	—	—
1/4" - 3/8"	MC4	3	MD4	5	—	—	MC84	3	MD84	5	—	—	MC54	3	MD54	5	—	—	—
3/8" - 1/2"	MC5	3	MD5	5	—	—	MC85	3	MD85	5	—	—	MC55	3	MD55	5	—	—	—
1/2" - 5/8"	MC6	3	MD6	5	ME6	8	MC86	3	MD86	5	ME86	7	MC56	3	MD56	5	ME56	8	—
5/8" - 3/4"	MC7	3	MD7	5	ME7	8	MC87	3	MD87	5	ME87	7	MC57	3	MD57	5	ME57	7	—
3/4" - 7/8"	MC8	3	MD8	5	ME8	8	MC88	3	MD88	5	ME88	7	MC58	2	MD58	5	ME58	7	—
7/8" - 1"	MC9	3	MD9	5	ME9	8	MC89	2	MD89	5	ME89	7	MC59	2	MD59	4	ME59	7	—
1" - 1 1/8"	MC10	3	MD10	5	ME10	8	MC90	2	MD90	4	ME90	7	—	—	MD60	4	ME60	7	—
1 1/8" - 1 1/4"	MC11	2	MD11	5	ME11	7	MC91	2	MD91	4	ME91	7	—	—	MD61	4	ME61	6	—
1 1/4" - 1 3/8"	MC12	2	MD12	4	ME12	7	—	—	MD92	4	ME92	7	—	—	MD62	3	ME62	6	—
1 3/8" - 1 1/2"	MC13	2	MD13	4	ME13	7	—	—	MD93	4	ME93	6	—	—	—	—	ME63	6	—
1 1/2" - 1 5/8"	—	—	MD14	4	ME14	7	—	—	MD94	3	ME94	6	—	—	—	—	ME64	5	—
1 5/8" - 1 3/4"	—	—	MD15	4	ME15	7	—	—	—	—	ME95	6	—	—	—	—	—	—	—
1 3/4" - 1 7/8"	—	—	MD16	4	ME16	6	—	—	—	—	ME96	5	—	—	—	—	—	—	—
1 7/8" - 2"	—	—	MD17	3	ME17	6	—	—	—	—	ME97	5	—	—	—	—	—	—	—
2" - 2 1/8"	—	—	—	—	ME18	5	—	—	—	—	ME98	5	—	—	—	—	—	—	—
2 1/8" - 2 1/4"	—	—	—	—	ME19	5	—	—	—	—	—	—	—	—	—	—	—	—	—
2 1/4" - 2 3/8"	—	—	—	—	ME20	5	—	—	—	—	—	—	—	—	—	—	—	—	—
2 3/8" - 2 1/2"	—	—	—	—	ME21	4	—	—	—	—	—	—	—	—	—	—	—	—	—

No. MC14 SET of 11 MULTISIZE COLLETS in metal case. Consists of collets Nos. MC3 thru MC13, listed above. 35 lb.





telescopic taper attachment

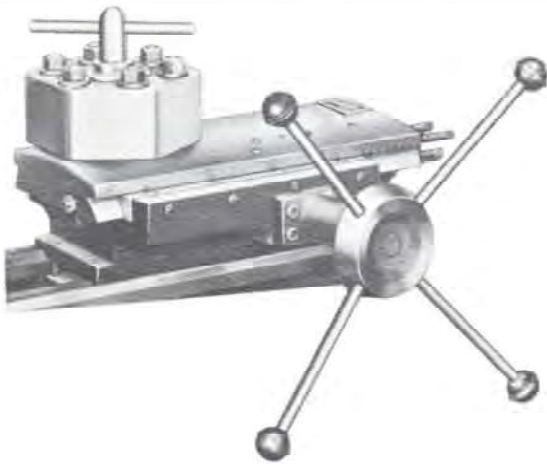
Has telescoping cross feed screw that eliminates the necessity of disengaging the cross feed for taper operations—doesn't interfere with regular use of cross slide. Screw turns on two ball thrust bearings in taper slide. Has two sets of graduations—one in degrees of taper, the other in inches per foot. Range, 10° both sides of center line (20° included angle) and 4" per foot.

No. 13-213 TELESCOPIC TAPER ATTACHMENT for 13" lathes serial No. 32175 and higher. Working stroke, 12". 44 lb.

No. 15-413 TELESCOPIC TAPER ATTACHMENT for 15" lathes serial No. 32687 and higher. Working stroke, 18". 85 lb.

No. 17-512 TELESCOPIC TAPER ATTACHMENT for 17" lathes serial No. 32707 and higher. Working stroke, 18". 99 lb.

Plain Taper Attachments are available for 13" lathes serial No. 32174 and lower—15" lathes serial No. 32686 and lower—17" lathes serial No. 32706 and lower. Data on request.



self-indexing hex bed turret for straight bed lathes

Model No.	For Lathe	Hex. Head Dims.		Finish Bore To	Slide Length	Slide Total Travel	Slide Working Travel
		Across Flats	Face Dims.				
13-651	13"	5 $\frac{5}{8}$ "	2 $\frac{7}{8}$ " x 3"	1"	16 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "
15-650	15"	7"	3 $\frac{1}{2}$ " x 4"	1 $\frac{1}{4}$ "	16 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "
17-650	17"	7"	3 $\frac{1}{2}$ " x 4"	1 $\frac{1}{4}$ "	16 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "

Turret must be fitted to lathe bed, and holes for tool holders must be bored and reamed on lathe with which turret is to be used.

turret tool post

Mounts in tool post slot. Each tool has 3 working positions.

Order No.	For Lathe	Tool Size Range	Tool Block Specifications	Shipping Weight
13-4 $\frac{1}{2}$ -5	13"	$\frac{3}{4}$ "	4 TOOL—12 POSITION 4 $\frac{1}{2}$ " sq. x 2 $\frac{1}{4}$ " thick	15 lb.
15-4 $\frac{1}{2}$ -R	15"	$\frac{3}{4}$ " solid tool or #0 holder	4 TOOL—12 POSITION 4 $\frac{1}{2}$ " sq. x 2 $\frac{3}{4}$ " thick	17 lb.
17-6-5	17"	1" solid tool or #1 holder	4 TOOL—12 POSITION 6" sq. x 3 $\frac{1}{8}$ " thick	33 lb.

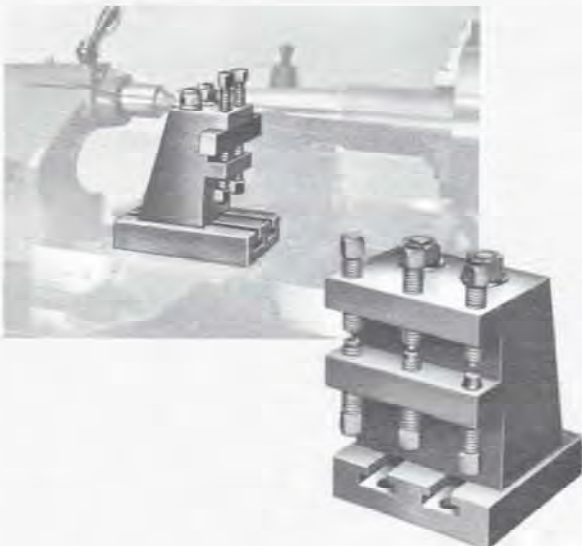
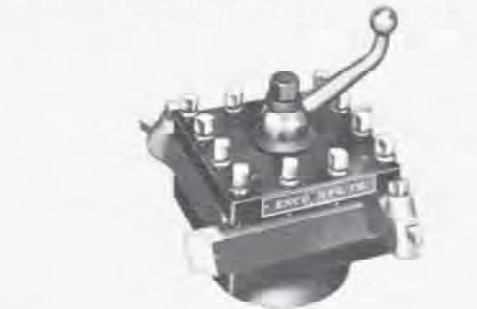
rear tool post

Permits additional operation from rear of cross slide. Mounts quickly, easily on cross slide of lathes listed below.

No. 13-217 REAR TOOL POST for 13" lathes serial No. 32175 and higher. 15 lb.

No. 15-418 REAR TOOL POST for 15" lathes serial No. 32687 and higher. 40 lb.

No. 17-524 REAR TOOL POST for 17" lathes serial No. 32707 and higher. 50 lb.



five-position carriage stop

Accurate indexing thru lever control is provided by steel ball under spring tension. Mounts on lathe carriage. Furnished with One-Position Stop, listed below.

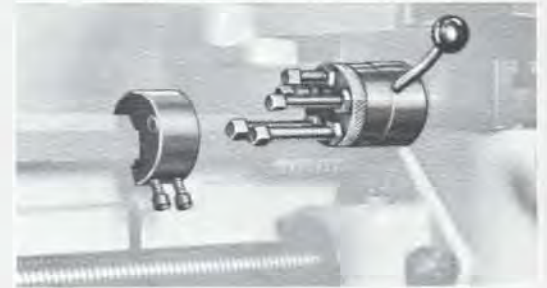
- No. 13-216** 5-POSITION CARRIAGE STOP for 13" lathes serial No. 33162 and higher. 3½ lb.
- No. 15-416** 5-POSITION CARRIAGE STOP for 15" lathes serial No. 33192 and higher. 4 lb.
- No. 17-515** 5-POSITION CARRIAGE STOP for 17" lathes serial No. 33207 and higher. 5 lb.



one-position carriage stop

Clamps on front bed way on either side of carriage. Same as furnished with 5-Position Carriage Stop.

- No. 13-214** ONE-POSITION CARRIAGE STOP for 13" lathe. 2 lb.
- No. 15-414** ONE-POSITION CARRIAGE STOP for 15" lathe. 3 lb.
- No. 17-514** ONE-POSITION CARRIAGE STOP for 17" lathe. 3 lb.



micro carriage stop

Clamps on front bed way. Micrometer control graduated in .001" — hardened stop locks securely in any position.

- No. 13-2000** MICRO CARRIAGE STOP for Clausing 13" lathes. 3 lb.
- No. 15-4000** MICRO CARRIAGE STOP for Clausing 15" lathes. 3 lb.
- No. 17-5000** MICRO CARRIAGE STOP for Clausing 17" lathes. 4 lb.

gamet rotating center

Gamet rotating centers are ideal for high speeds and heavy roughing cuts. Point rotates on tapered roller bearings. Bearings are grease packed, pre-loaded and sealed. 60° replaceable points.

- No. 13-215** GAMET ROTATING CENTER with No. 3 MT shank for 13" lathes, and for 15" lathes serial No. 37105 and lower. 2 lb.
- No. 17-516** GAMET ROTATING CENTER with No. 4 MT shank for 15" lathes serial No. 37106 and higher, and for 17" lathes serial No. 37716 and lower. 3 lb.
- No. 17-529** GAMET ROTATING CENTER with No. 5 MT shank for 17" lathes serial No. 37717 and higher. 4 lb.



face plates for gap bed lathes

Finish machined, ready to mount on lathe spindle nose.

- No. 13-203** 18" FACE PLATE for ASA—L-0 spindle nose. 65 lb.
- No. 15-403** 21" FACE PLATE for ASA—L-1 spindle nose. 105 lb.
- No. 17-503** 25" FACE PLATE for ASA—L-2 spindle nose. 180 lb.



steady rest

- No. 13-210** STEADY REST for 13" lathes. 4" dia. max. bar capacity. 24 lb.
- No. 15-410** STEADY REST for 15" lathes. 5" dia. max. bar capacity. 40 lb.
- No. 17-511** STEADY REST for 17" lathes. 6" dia. max. bar capacity. 60 lb.

coolant system

Consists of motor, circulating pump, switch, piping and connections. Patented ball-type shutoff valve permits easy control of coolant flow. Pump capacity is 3½ gallons per minute. Tank capacity, 5 gallons. Pump for 13" and 15" lathes mounts in built-in tank in lathe base — both readily accessible through door in front of lathe. Pump and tank for 17" lathe mount on floor beneath chip pan.

- No. 13-208** COOLANT SYSTEM for 13" lathes. 37 lb.
- No. 15-408** COOLANT SYSTEM for 15" lathes. 37 lb.
- No. 17-508** COOLANT SYSTEM for 17" lathes. 40 lb.



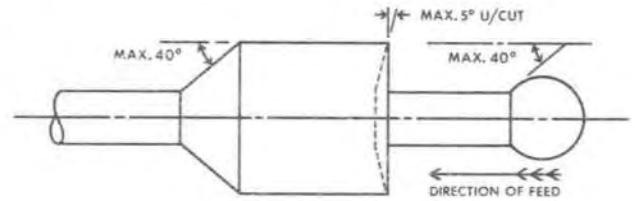


hydraulic tracer attachment

Equips lathe for automatic duplication of multiple diameters, 90° shoulders, tapers, bevels, radii, grooves, chamfers and undercuts. Does not interfere with standard lathe operations.

Mounts on rear of carriage cross slide at 60° to axis of lathe bed. Angle slide is powered by an integral hydraulic cylinder. Stylus arm pivots on ball bearings. Capacities are indicated below.

Complete with motor and integral pump, reservoir, lines, switch, template centers and support bar. Easily installed — holes for unit are pre-drilled and tapped.



- | | |
|---|---|
| No. 13-225 for 13" x 24" lathes. 307 lb. | No. 15-326 for 15" x 48" lathes. 307 lb. |
| No. 13-226 for 13" x 36" lathes. 307 lb. | No. 17-525 for 17" x 54" lathes. 588 lb. |
| No. 15-325 for 15" x 30" lathes. 307 lb. | No. 17-526 for 17" x 78" lathes. 588 lb. |

Tracer for lathe	13"	15"	17"
Max. profiling dia., one setting	5"	4½"	0-6", 6"-12"
Max. template dia.	5"	4½"	9"
Max. copying length, straight bed	31"	24", 32"	67"
Max. copying length, gap bed	27"	27", 40"	44", 67"

Specify serial number when ordering for installation on lathe in field.

hi-speed thread cutting unit

A Clausing-Colchester lathe equipped with a Hi-Speed Thread Cutting Unit —

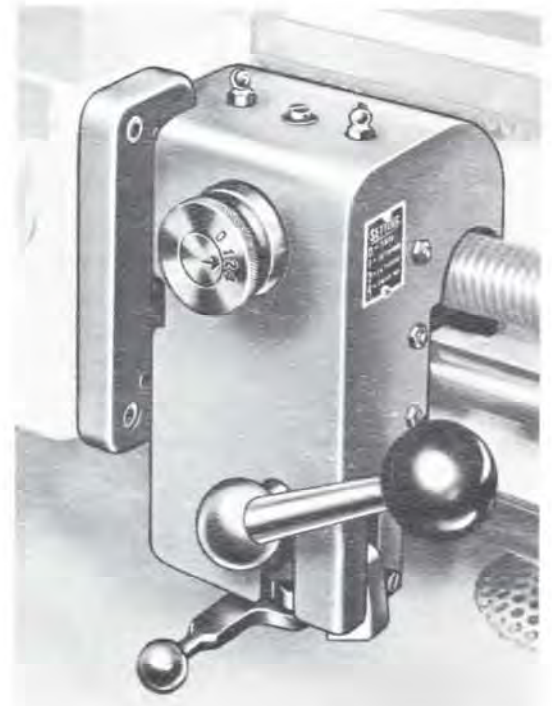
- ★ cuts threads 5 times faster than by normal methods
- ★ threads tight to a shoulder at maximum speed
- ★ eliminates rejects incurred in thread cutting
- ★ takes full advantage of carbide tools
- ★ does not restrict normal use of lathe.

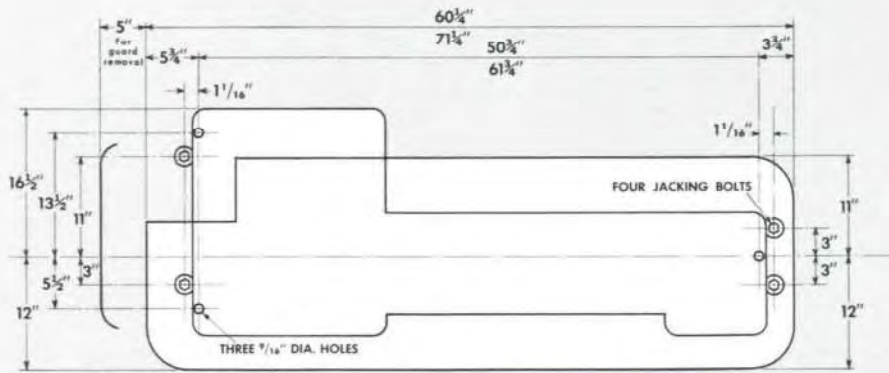
Cutting a 1⅜"-16 thread ... at 1200 rpm ... is an example of the production obtained with this unit on a Clausing-Colchester lathe. And precision threads are cut every time! The Hi-Speed Unit contains its own half-nuts and engagement mechanism that eliminates all danger of a thread's being "picked up" incorrectly. Tool can't run into work or chuck — adjustable stop disengages half-nuts automatically.

Operation is simple, fool-proof. Press the handle, and half-nuts engage at the correct point. Carriage travels to pre-set stop which disengages half-nuts. Operator then backs out tool, returns carriage to starting point, feeds the tool and presses starting lever.

Unit is easily installed on lathes in field.

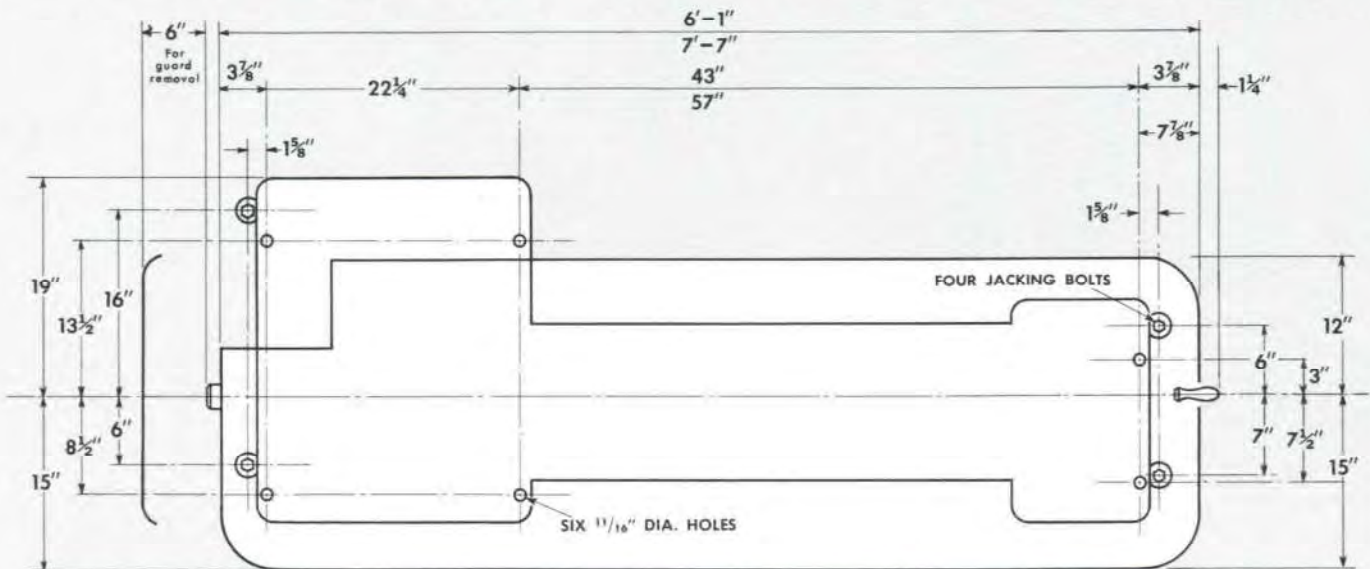
- No. 13-227** for Clausing-Colchester 13" lathes. 23 lb.
- No. 15-427** for Clausing-Colchester 15" lathes. 25 lb.
- No. 17-527** for Clausing-Colchester 17" lathes. 36 lb.



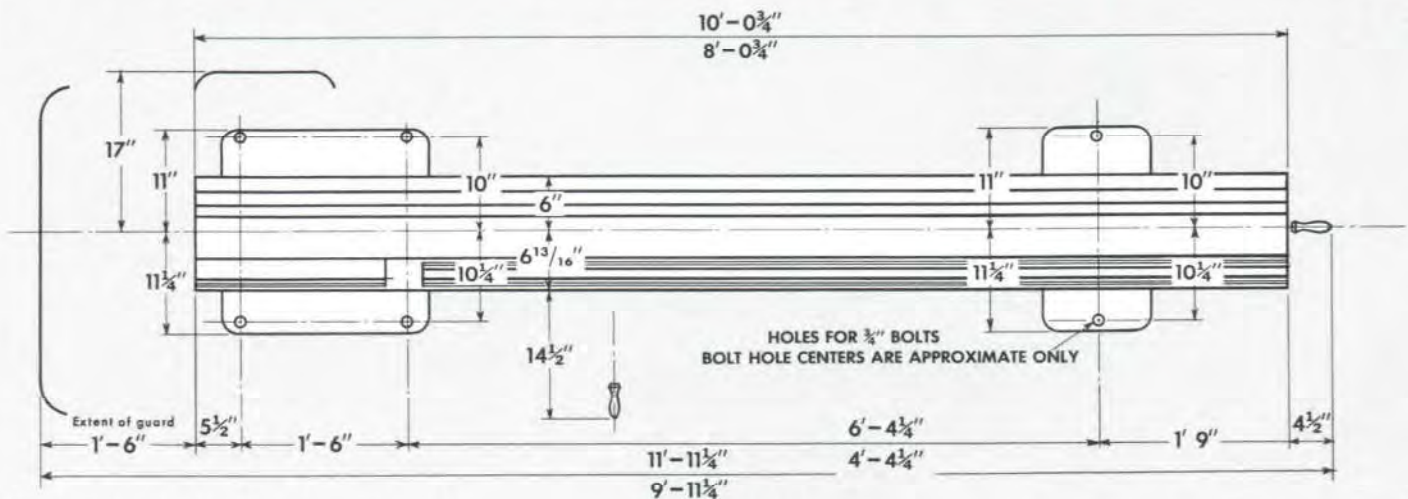


13" lathes

15" lathes



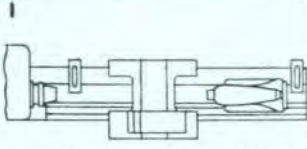
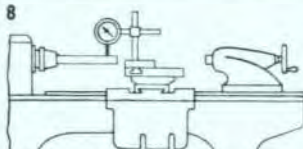
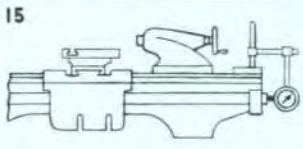
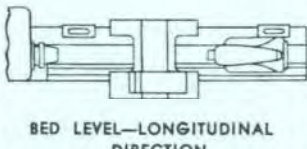
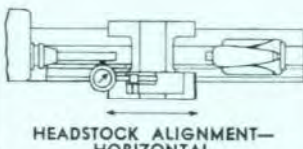
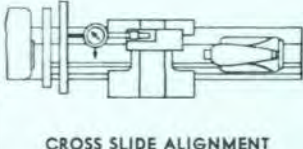
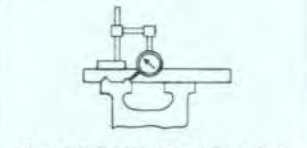
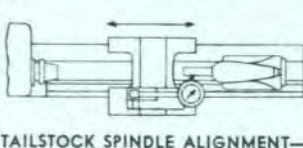
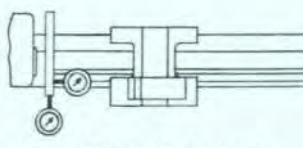
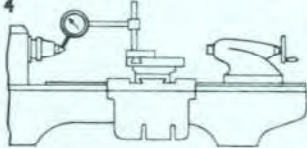
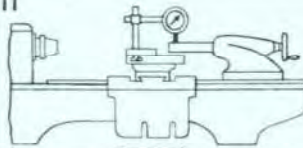
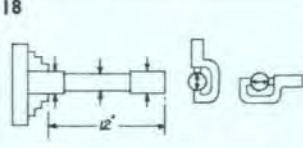
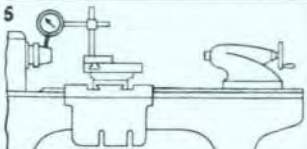
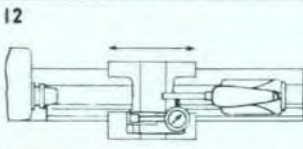

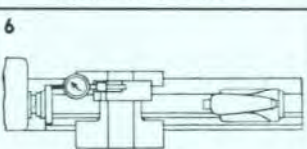
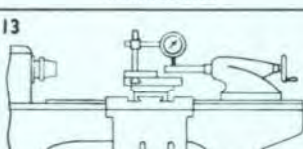
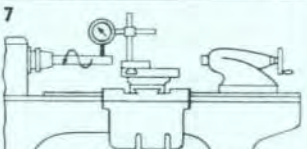
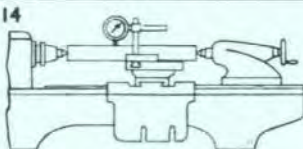
17" lathes



Clausing-Colchester lathes are built to American Standards of tool room lathe accuracy — each must pass tests similar to those shown below. Inspection after inspection, and test after test assure that every lathe measures up to

rigid specifications of construction and performance.

The Clausing-Colchester name plate is a symbol of quality, precision and value.

TEST	PERMISSIBLE ERROR	TEST	PERMISSIBLE ERROR	TEST	PERMISSIBLE ERROR
	ACTUAL ERROR		ACTUAL ERROR		ACTUAL ERROR
1  BED LEVEL—TRANSVERSE DIRECTION	When using Precision Level all Readings to be within 0.0006 in 12 in. of Bed Length	8  HEADSTOCK ALIGNMENT— VERTICAL	High at end of 12 in. Test Bar rising towards Tailstock End 0 to 0.0005	15  LEAD SCREW CAM ACTION	Maximum 0.0003
2  BED LEVEL—LONGITUDINAL DIRECTION	When using Precision Level along Bed Maximum Reading to be within 0.005 in 12 in. of Bed Length	9  HEADSTOCK ALIGNMENT— HORIZONTAL	At end of 12 in. Test Bar 0 to ± 0.0003	16  CROSS SLIDE ALIGNMENT	To face hollow or concave only on 12 in. diameter 0 to 0.0005
3  TAILSTOCK WAY ALIGNMENT	Maximum Reading along length of Bed 0.0005 in 48 in.	10  TAILSTOCK SPINDLE ALIGNMENT— HORIZONTAL	Forward at end of Spindle when fully extended 0 to 0.0005	17  FACE PLATE RUNOUT	On diameter 0 to 0.0005 on face at normal diameter 0 to 0.001
4  SPINDLE CENTER RUNOUT	Total Indicator Reading 0 to 0.0004	11  TAILSTOCK SPINDLE ALIGNMENT— VERTICAL	High at end of Spindle when fully extended 0 to 0.0005	18  WORK MOUNTED IN CHUCK	Must turn round 0.0003 Must turn cylindrical on 12 in. length of workpiece 0.0008
5  SPINDLE NOSE RUNOUT	Total Indicator Reading 0 to 0.0003	12  TAILSTOCK TAPER ALIGNMENT— HORIZONTAL	End of 12 in. Test Bar 0 to ± 0.0005	19  WORK MOUNTED IN CENTERS	Must turn cylindrical on a 12 in. length of workpiece 0.0004
6  CAM ACTION OF SPINDLE	Total Indicator Reading with Indicator on rear side of Test Plate 0 to 0.0003	13  TAILSTOCK TAPER ALIGNMENT— VERTICAL	High at end of 12 in. Test Bar 0 to 0.0005	20 LEAD SCREW LEAD PER FT. LEAD IN ANY 4"	± 0.001 ± 0.0004
7  SPINDLE TAPER RUNOUT	Total Indicator Reading at end of 12 in. Test Bar 0 to 0.0006 at end of Spindle Nose 0 to 0.0003	14  VERTICAL ALIGNMENT OF HEAD AND TAIL CENTERS	High at Tailstock 0 to 0.001	21 BACK LASH ON CROSS FEEDS SCREW ON COMPOUND REST SCREW	0.004 0.004