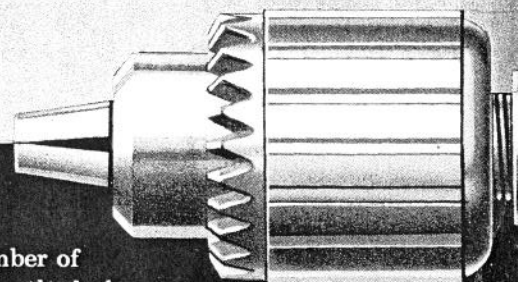
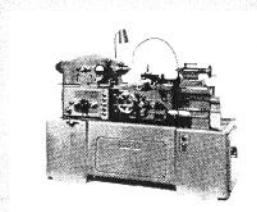
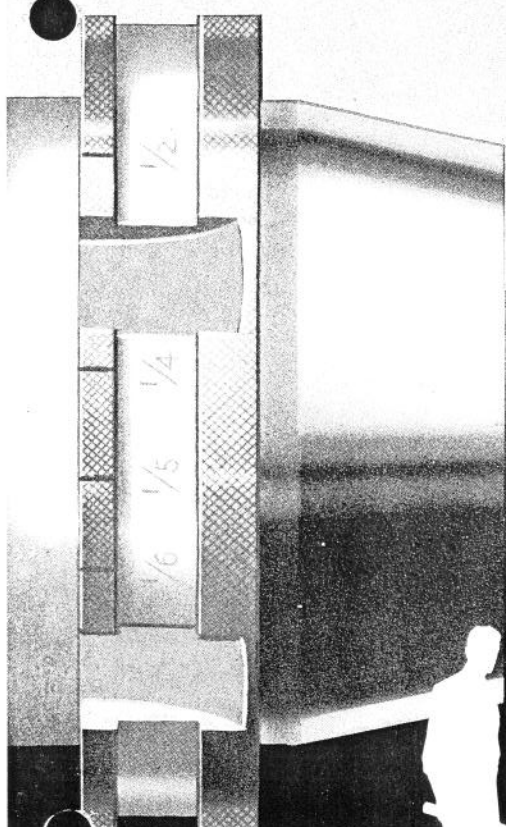


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RIVETT

1020 F

PRECISION
TOOLROOM
LATHE



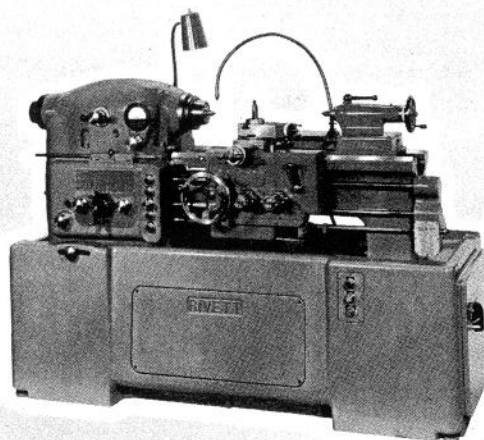
The model 1020F boasts a number of refinements over the original 1020 — the lathe which has won enduring friendship during the past 14 years with a host of good machinists. These improvements will help you in meeting the challenge for greater accuracy in your work.

The Rivett Man symbolizes the knowledge of many people in many places . . . he is at the drawing board or in the testing lab at the Boston headquarters . . . he is in all the great cities of our country . . . researching a new technique, a new application.

Added Productivity

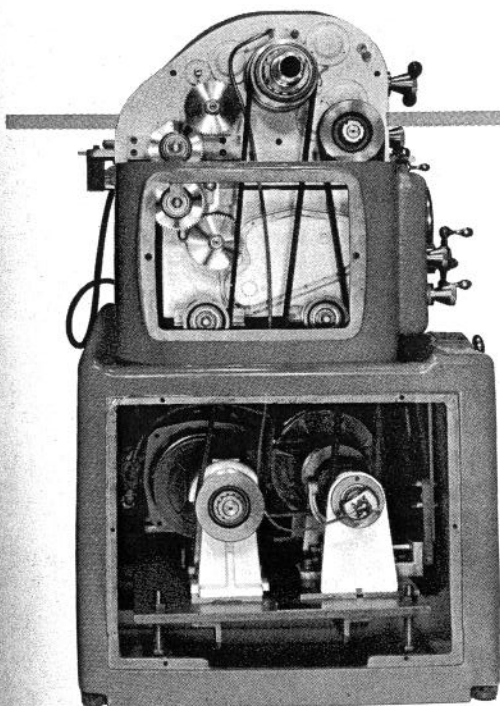
by RIVETT

With this new machine you can
put your ideas into practical form —
your ideas for greater productivity,
for more versatility and most importantly
for the ability to bring those
profitable super precision jobs
into the shop and handle them
speedily and with little effort.



Sensitive Precision

Any fine product is a reflection of the maker. In its craftsmanship you can see his knowledge, his experience — and his love. But above all, you can see his conscience — the innate sense of responsibility to produce something which is a little better. And this is particularly true of a fine lathe such as the 1020F. Here you see the maker's mark ! The Rivett Man with his knowledge of precision machinery — accumulated in years of designing and building lathes — gives substance to his heritage in this fine machine. Its accuracy is derived from a way of life at Rivett — where precision is always in the minds and hands of all.

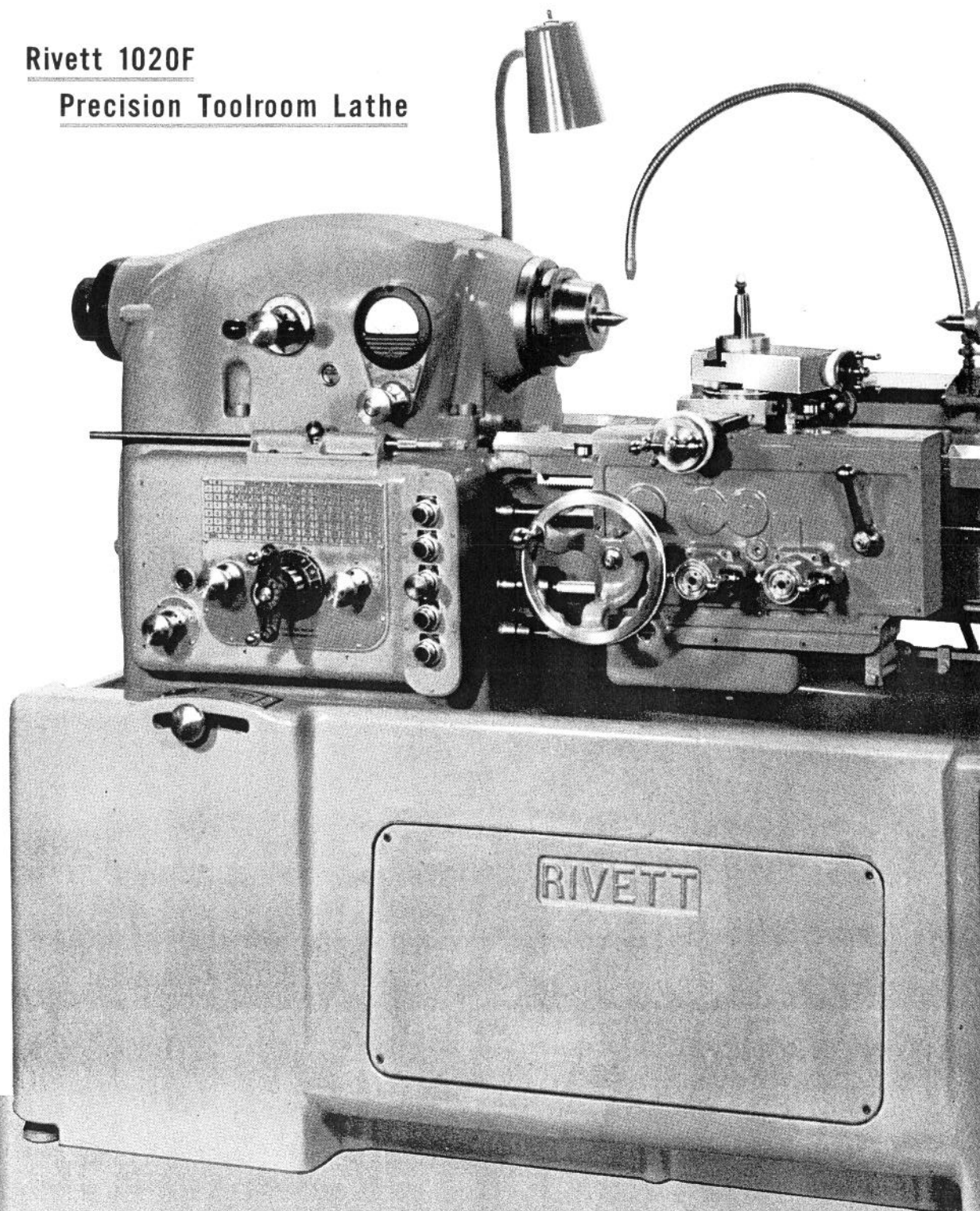


Power for any job

The 1020F will replace both a precision instrument lathe and a heavier engine-toolroom lathe and do the work of both. For small diameter pieces requiring high turning speeds, the spindle is driven by direct belt, free-running, with no gearing engaged, from 400 to 3600 r.p.m. Large diameters and work requiring heavy cuts are turned with spindle driven selectively through two sets of back gears. One set has $12\frac{1}{2}$ to 1 reduction, driving the spindle from 22 to 200 r.p.m. The other has $6\frac{1}{4}$ to 1 reduction for speeds from 44 to 400 r.p.m. The driving vee-belts retain their full efficiency as their running speed never drops below 300 feet per minute.

Rivett 1020F

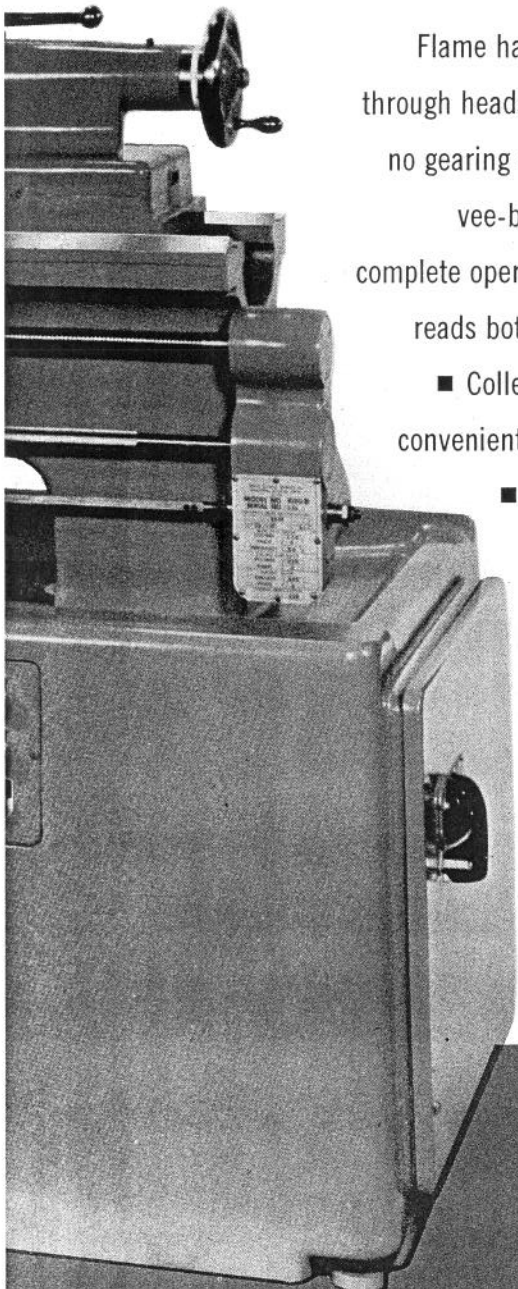
Precision Toolroom Lathe



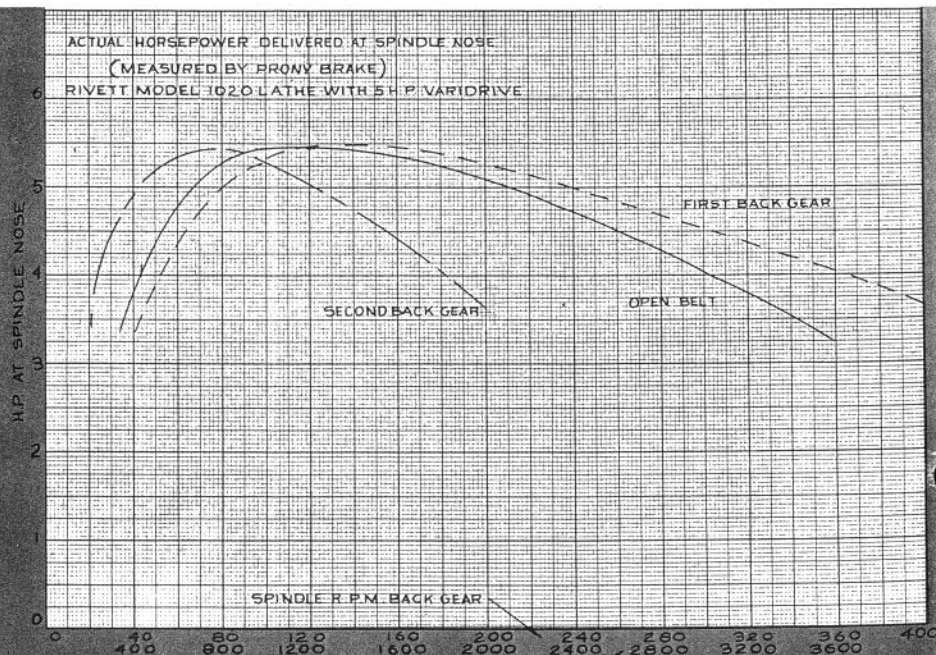
This powerful geared head lathe qualifies for the finest metalworking in any toolroom, experimental shop, laboratory or in production. It combines the feather-touch sensitivity of an instrument lathe with that heavy-biting ruggedness which carbide cutting tools require. Although the 1020F weighs 3900 pounds, has 13½" swing and 20" or 30" center distance, it responds to the lightest touch of the operator. Small work accurately held in collets can be driven at any required speed completely free from vibration. The beautifully balanced carriage affords sensitive tool control. Every 1020F lathe is guaranteed to turn, bore, face and thread

within the most exacting tolerances. Full horsepower of the main drive motor can be transmitted to the spindle in the lower speed range; see graph on Page 4. This is effected by back gearing in the headstock and by vee-belts always running at efficient driving speeds — a most important factor. Large work can be gripped in jaw chuck, held on to face plate or mounted on centers and turned with coarse feed. A ¼" chip with .020" feed on cold rolled steel is well within the capacity of the remarkable machine. If it can swing it, it will turn it! Work does not have to be selected for the 1020F.

Important reasons for **ADDED PRODUCTIVITY**

- 
- Flame hardened bed ways uniformly hardened to 70-72 scleroscope
 - Turning power through headstock back gearing at low spindle speeds
 - Free spindle by direct belt drive with no gearing engaged
 - Swing over bed is 13½"
 - Infinite spindle speeds through smooth, vee-belt, mechanical transmission
 - Push button control for speed changing and complete operation
 - Neutral clutch for stopping spindle without stopping drive
 - Tachometer reads both forward and reverse and indicates selected speed before starting spindle
 - Collets mount directly in spindle mouth to assure greatest precision
 - Handwheel for convenient turning of headstock spindle
 - Feed dials are contrasting black on white
 - Spindle index for multiple threads
 - Gear box for 72 feeds and 84 threads including every world standard from 2 to 240 per inch
 - Wide 12¾" V and flat ways to distribute and absorb cutting load
 - Multiple splined feed rod
 - Weight 3900 lbs.;
 - Floor space 29" x 73".

**Horsepower
Available at
the Spindle**



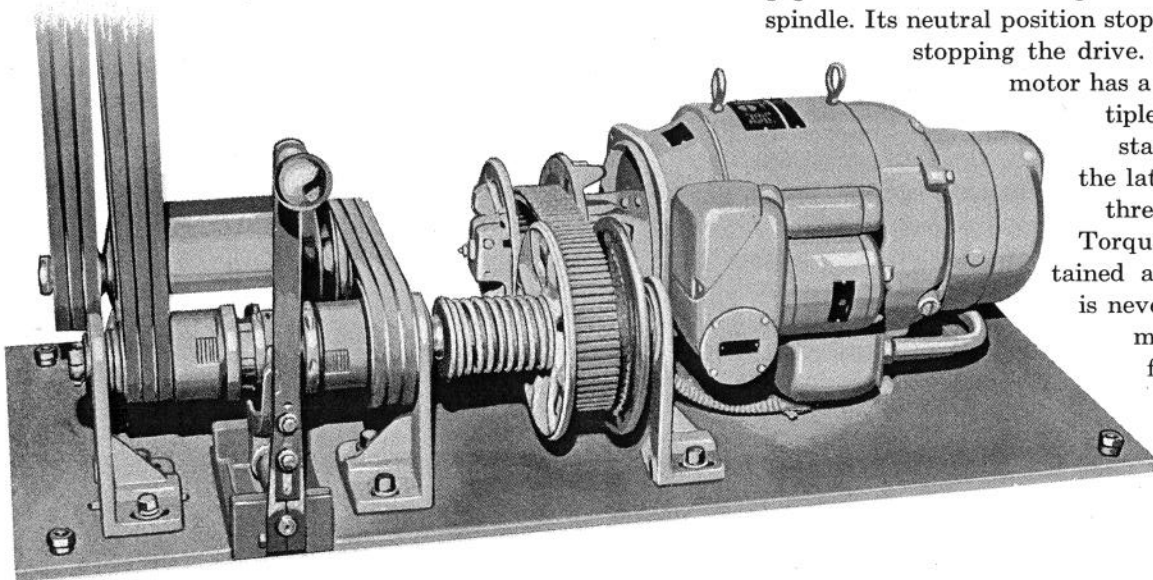
Save Operator's Time

Simple means for setting-up and well-marked dials and handles assure top efficiency, based on over-all machining time for the job in hand. The operator's convenience and comfort are assured by the functional grouping of all controls. Fatigue is avoided. Higher quality work and greater output result.

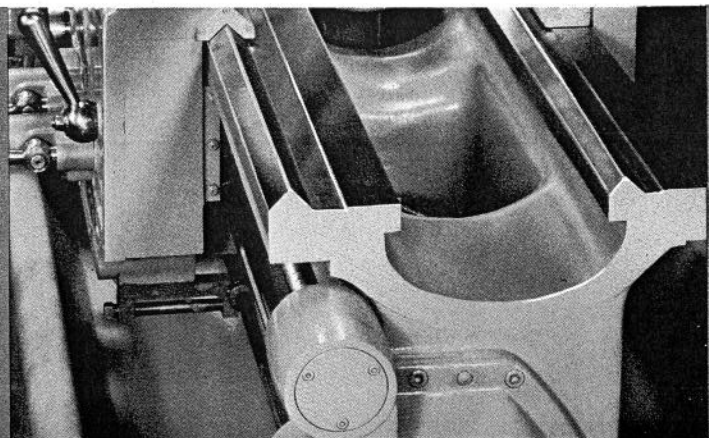
VARIABLE SPEED DRIVE

A complete unit assembly, the drive is mounted within the lathe base, easily accessible through panelled openings or removable through end door. Push buttons control main drive motor FORWARD, REVERSE and STOP. Push buttons marked FAST and SLOW operate a small independent motor to select desired spindle speed indicated by tachometer on lathe headstock. Speed can be selected before starting up spindle to avoid dangerous speeds for heavy work. Power transmission from standard, constant-speed motor is by variable pitch vee-belt drive. A selector clutch engages direct belt or back gear drive to the headstock spindle. Its neutral position stops the spindle without stopping the drive. The standard 5 h.p.

motor has a quiet operating multiple disc brake for instant stopping. Power to the lathe is transmitted by three matched vee-belts. Torque of spindle is maintained as belt surface speed is never below 300 feet per minute. This essential factor is achieved by headstock back gears at low r.p.m.



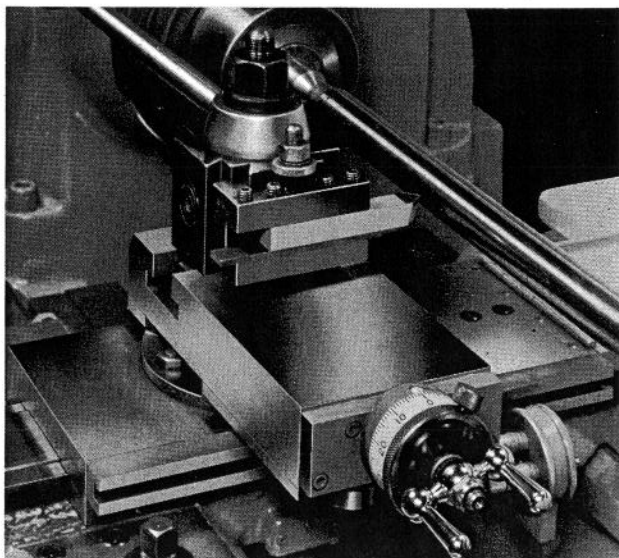
The broad, flame hardened bed will serve for years and years of use. No unrelieved stress or soft slide area can endanger its original accuracy. Bedways $12\frac{3}{4}$ " in width support saddle under cutting load. Carriage saddle has $55\frac{1}{2}$ square inches of bearing on the flame hardened ways. Carriage and tailstock ride on separate flats and vees. Heavy cast base fully encloses drive and all electrical equipment. Yet both are instantly accessible. Base top has deep well for chip collection and coolant.



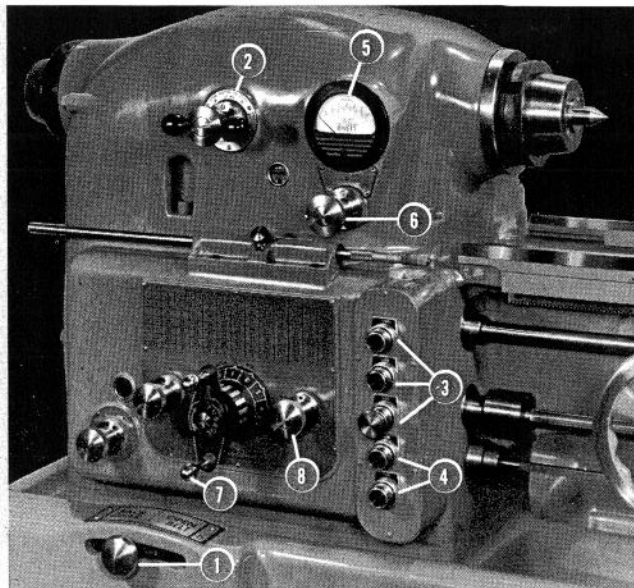
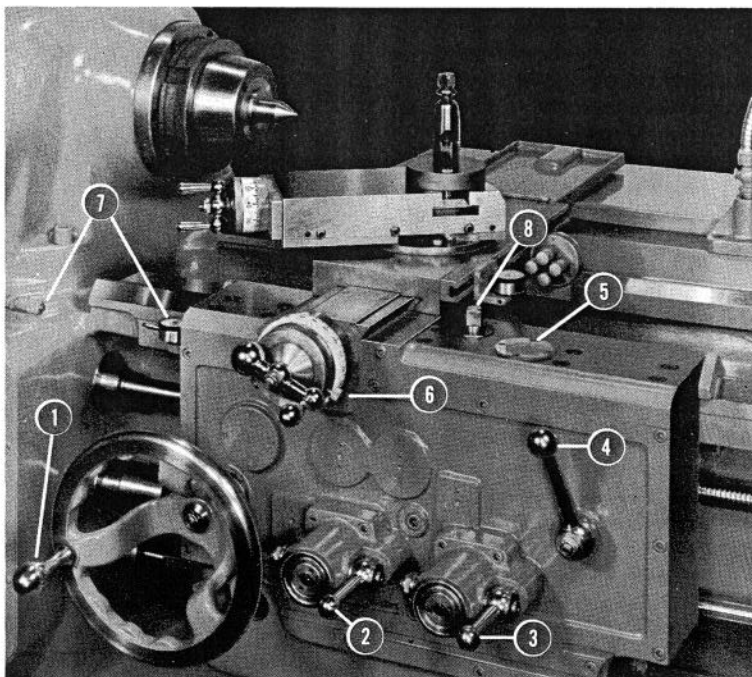
FLAME HARDENED BED

Good Design

provides added productivity



Compound and Cross Slide have generous bearing areas and full-length gibs with lock screws to maintain adjustment. Feed screws are heat-treated steel, precision ground. Feed screw nuts are adjustable to eliminate backlash. Dials are large with black graduations on a white background that read in thousandths. Compound swivel is graduated 180° either side of zero. Cross slide feed screw has adjustable ball stop for retracting and resetting threading tool without loss of micrometer reading.



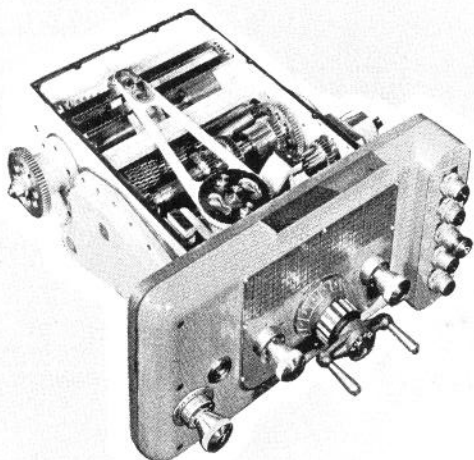
Headstock Spindle Controls

1. Lever selects drive to spindle by open belt or through back gears and also brings spindle to a coasting stop when desirable, without stopping main drive. Spindle is then free to roll by hand.
2. Knob sets up spindle drive by open belt, or through back gear trains.
3. Push buttons marked FORWARD, REVERSE and STOP govern main drive motor. Stop by automatic brake is instantaneous.
4. Push buttons marked FAST and SLOW set spindle speed within the open belt and back gear ranges.
5. Tachometer shows the spindle r.p.m. both forward and reverse. It can record selected speed before starting spindle.
6. Knob engages drive from headstock to gear box and selects drive to carriage for threading or for power feed.
7. Knobs and selector dial set up desired thread or feed.
8. Knob sets up carriage drive for right-hand or left-hand threading or turning. Neutral position disconnects.

Carriage Controls

1. Handwheel moves carriage one inch per revolution graduated in sixty-fourths.
2. Lever operates clutch for power longitudinal feed. Operator may optionally move lever up or down to engage.
3. Lever operates clutch for power cross feed. Operator may move lever up or down to engage.
4. Lever engages split nut with lead screw for threading.
5. Threading dial in immediate view of operator directs correct engagement of split nut.
6. Adjustable stop permits retracting and resetting threading tool without losing micrometer reading.
7. Carriage stop consists of precision dial indicator and adjustable rod with micrometer head.
8. Carriage clamp uses standard tool holder wrench.

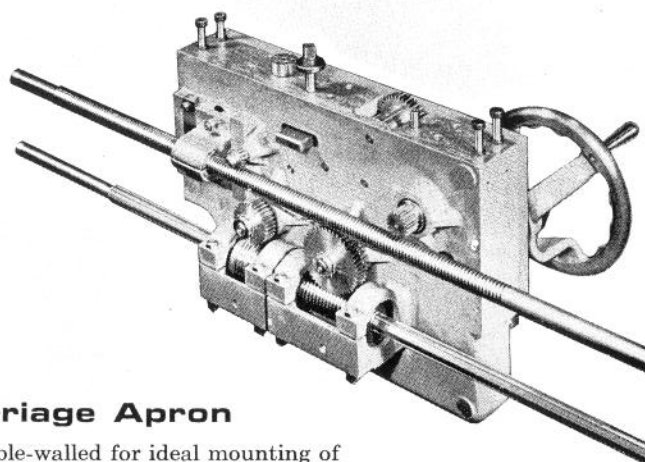
Electrical Carriage Control is an added accessory most valuable for chasing external or internal threads to limit the travel of carriage in either or both directions. Stops with screw adjustment simultaneously arrest the carriage and work rotation. The carriage travel is reversed by touching the convenient FORWARD or REVERSE push button. Perfect threads are assured as the lead screw nut is continuously engaged.



Gear Box

built as an independent assembly — is installed within the bed enclosure. Dials afford 72 feeds and 84 threads. Thread range includes every world standard from 2 to 240 threads per inch. Special or metric leads are conveniently set up with pick-off gears. Idlers run on grease-sealed bearings.

All gears are made of heat-treated alloy steel, shaved or ground. All sliding gears move on six-tooth involute splined shafts. All bearings are anti-friction.



Carriage Apron

is double-walled for ideal mounting of all shafts. Full bearing split nut engages precision-ground lead screw for threading. Multiple-splined feed rod has ball-bearing support. Safety interlock prevents simultaneous engagement of lead screw and feed rod. Cutting tool retracts from work if cross feed is engaged while longitudinal feed is operating forward. Carriage clamp is centrally located to prevent deflection. All bearings are anti-friction.

Automatic Lubrication

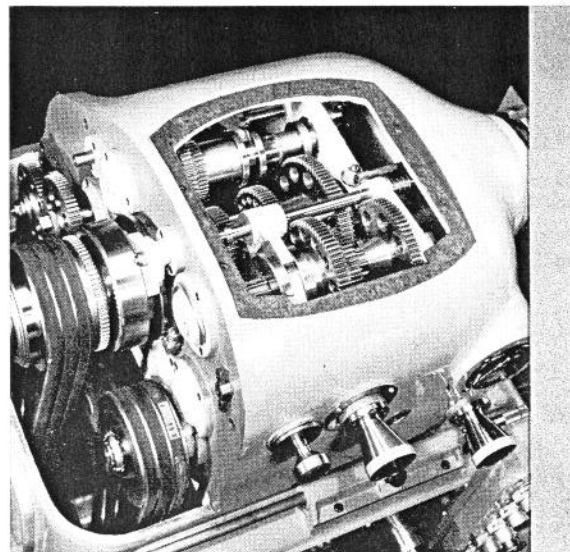
Headstock bearings, gears and splined shafts are splash lubricated. Spindle bearings are assured a continuous film of oil. Sight gauge indicates proper level. Gear box has its own ample oil supply. Bearings, gears and splined shafts are splash lubricated. Sight glass at front indicates proper level. Carriage and bedways are lubricated by a plunger pump operating off the power feed mechanism. Oil is drawn from a reservoir and metered to the bearings, gears, cross slide ways and bedways. Lubrication is constant irrespective of carriage feed or speed. Gauge glass indicates oil level in reservoir. Tailstock has two oil reservoirs for lubricating spindle and bedways. Drive bearings of anti-friction type are grease sealed for life. Slide bearings are lubricated through grease gun fittings.

Headstock

is a self-contained unit. All elements can be serviced through the top opening.

All gears are made of heat-treated alloy steel, shaved or ground. All sliding gears move on six-tooth involute splined shafts. Spindle runs on super-precision ball bearings.

There are no sliding gears on the spindle. All bearings are anti-friction.

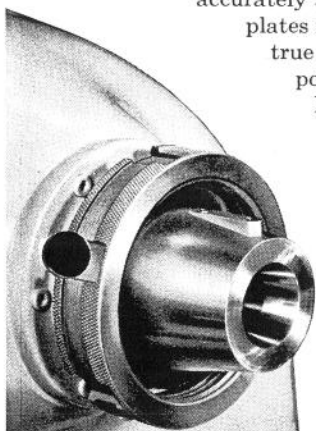


Long Taper Key-Drive Spindle Nose

accurately and firmly mounts chucks, plates and fixtures. The long taper assures true running while the key provides positive drive in either direction.

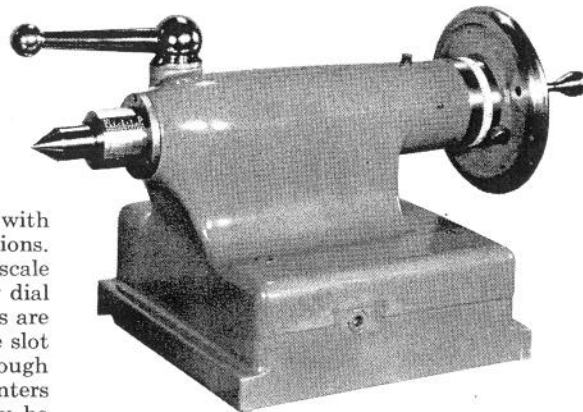
Rivett 6R collets mount directly in the spindle mouth for ultimate precision.

Camlock Spindle Nose—3"-D-1 is available on request. Requires nose adapter or spindle nose type chuck for collet use.



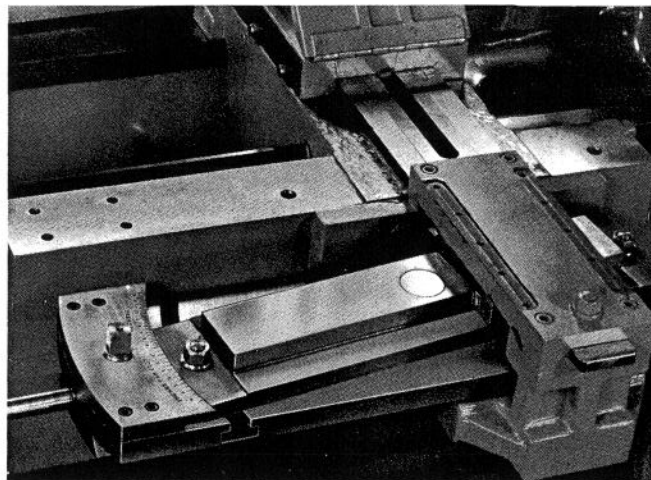
Tailstock

has hardened spindle with full bearing in all positions. Travel is graduated by scale in sixteenths and by dial in thousandths. Drills are driven by an inside slot which does not break through wall. Screw ejects centers and drills. Frame may be offset by screw adjustment.

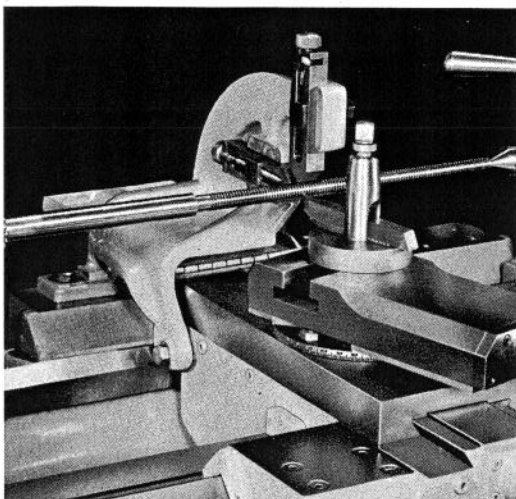


ACCESSORIES

furnish
added
productivity



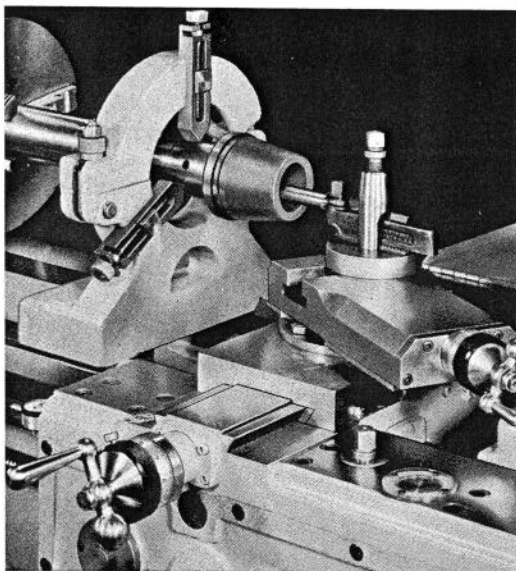
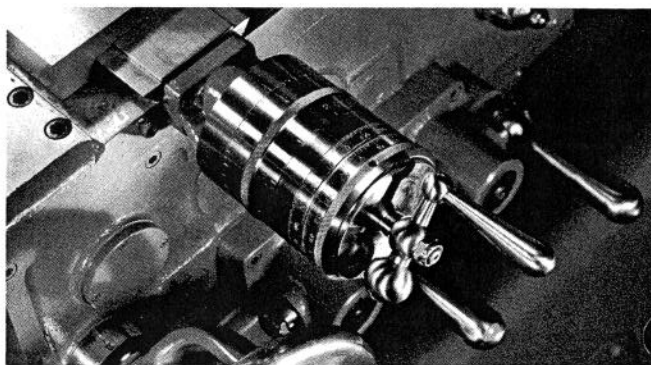
Taper Attachment may be used for turning tapers up to 18° included angle and 8" length at one setting. The slide is set at desired angle by geared adjustment. The setting is measured by hairline graduations in both degrees and inches per foot. (Hinged guards for protecting the taper slide are removed in the above illustration.)



Follower Rest has two adjustable jaws to provide vertical and horizontal support for work up to 2" diameter.

Accumulator Dial

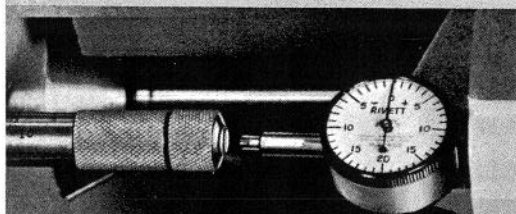
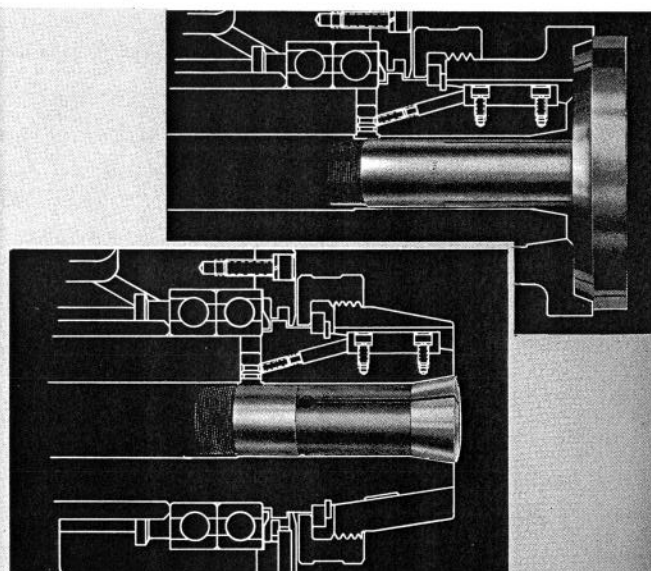
replaces standard cross feed dial. The outer dial, calibrated in thousandths of diameter, has separate numbering for turning and for boring. The inner dial accumulates and records the reading of the outer dial in hundreds of thousandths and in sixty-fourths.



Steady Rest is hinged and has three adjustable jaws. Standard steady rest has 4" diameter capacity. Steady rest with 6" diameter capacity is available.

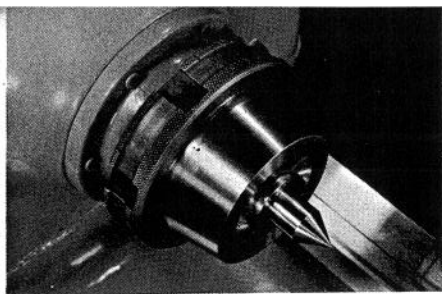
Draw-In Collets and Step Chucks

mount directly in LO spindle mouth (without adapters) and run true. Step chucks above 2" capacity use closing rings.

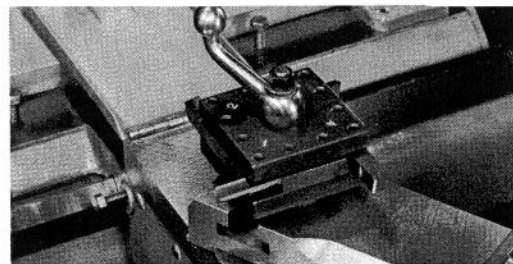


Carriage Dial Indicator Stop accurately locates carriage at any position on bed. The stop rod has a micrometer head which contacts the stem of a precision dial indicator.

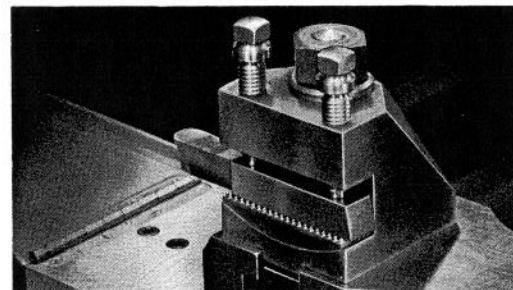




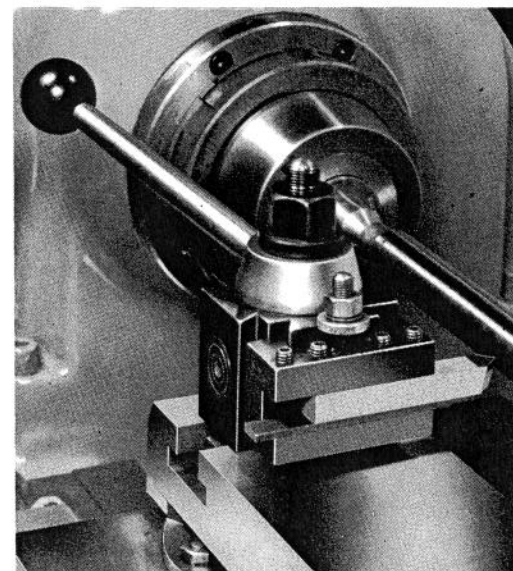
Turret Tool Post fitting directly on compound carries four tools $\frac{1}{2}$ " square and indexes to twelve positions.



Side Mounting Tool Block has rocker for tool height adjustment. Maximum tool sizes, $\frac{3}{8}$ " square.

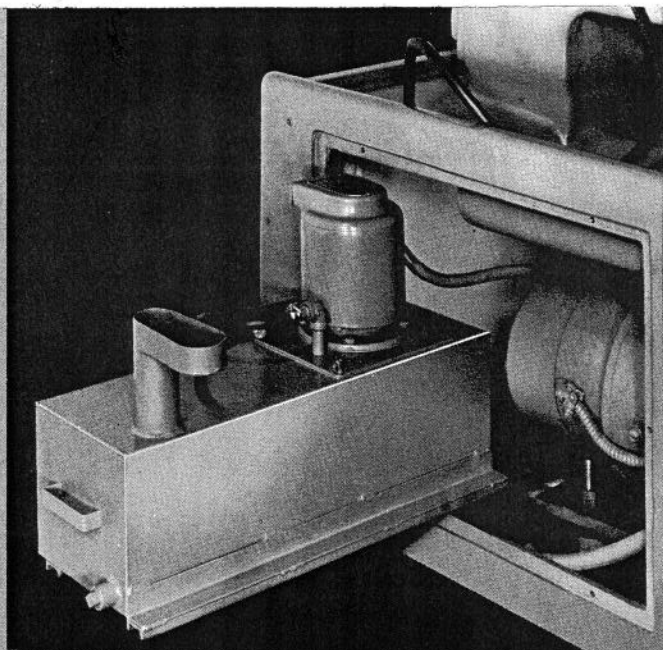
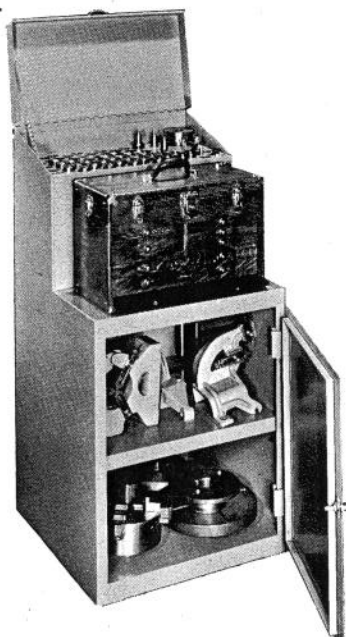


Aloris Tool Post mounts an assortment of interchangeable tools.



Cross Feed Stop with four adjustable micrometer heads. (See illustration Page 6.)

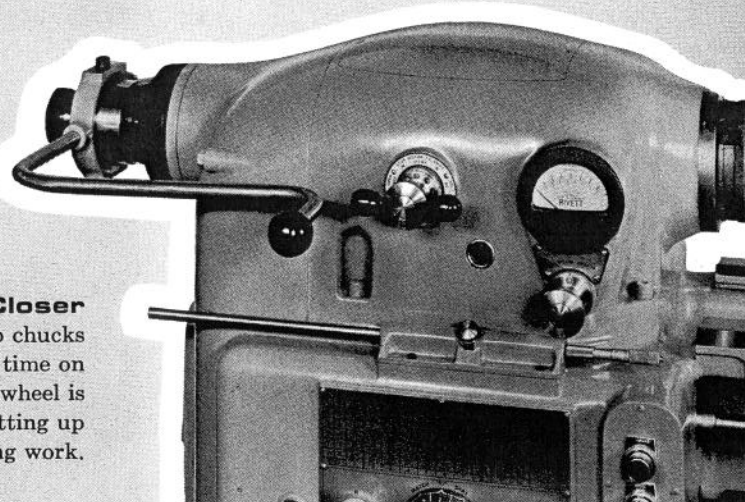
Floor Cabinet provides orderly storage for standard equipment, collets and special accessories.



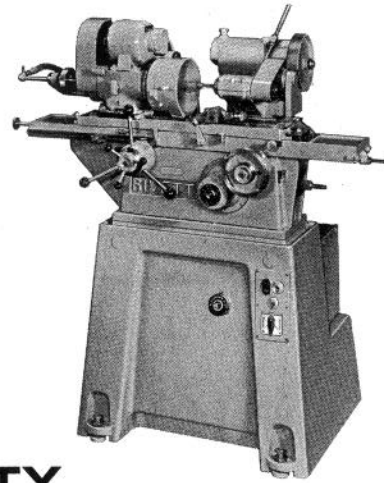
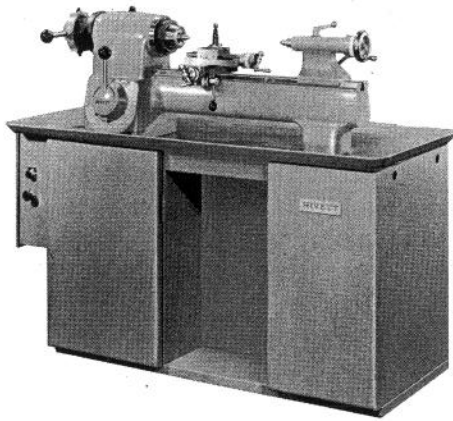
Coolant Pump a unit motor-driven immersion pump and 5-gallon reservoir. Flexible metal gooseneck with nozzle and shut-off attaches to carriage saddle and moves with cutting tool.

Multiple Carriage Positioning Stop mounts interchangeably with standard dial indicator stop. Any one of four adjustable micrometer heads can be indexed.

Lever Collet Closer used with collets and step chucks greatly reduces chucking time on duplicate parts. Handwheel is convenient when setting up and gauging work.



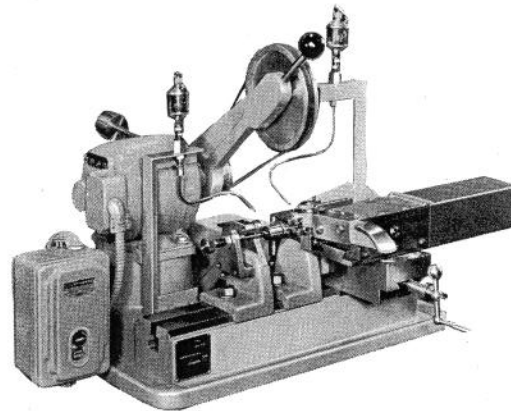
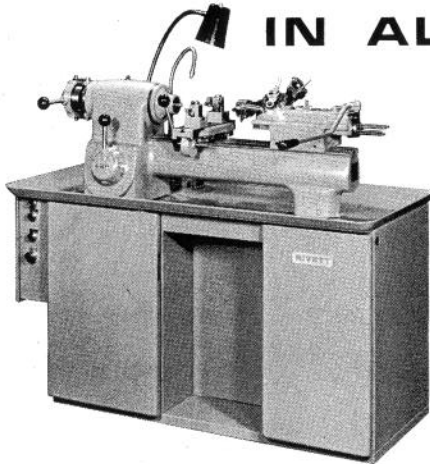
Rivett 60 Series Speed Lathe, 9½" swing, 18" between centers. "One-motion control" of unlimited speeds to 4800 r.p.m., instantly reversed. 1½" collet capacity. New bed form has both double-bevel and dovetail. Distortion-free mounting. Write for bulletin.



Rivett Model 84 Internal-External Grinder. Hole grinding and, or, external grinding up to 3" dia. and up to 4" length. Write for bulletin.

ADDED PRODUCTIVITY IN ALL RIVETT MACHINES

Rivett 60 Series Turret Lathe, 9½" swing. "One-motion control" of unlimited speeds to 4800 r.p.m., instantly reversed. 1½" capacity draw-in collet, or 1½½" capacity stationary collet. New bed form has both double-bevel and dovetail. Distortion-free mounting. Write for bulletin.



Rivett Model 1A Lathe. 8" swing, distance between holders 2½" to 8". Turning tool automatically cuts required depth and length on commentator. Write for bulletin.

General

Distance between centers with tailstock flush 20" or 30"
Swing over bed, dia. 13½"
Swing over carriage, dia. 7¼"
Height, work centers from floor 43"
Floor space 29" x 73"
Automatic Lubrication.

Headstock

Long taper key-drive spindle nose (standard) ASA No. L0
Draw-in collet mounted directly in LO spindle, max. dia. 1½"
Step chuck mounted directly in LO spindle, max. dia. 6"
Hole through LO spindle, max. dia. 1¼"
Camlock spindle nose (optional) ASA 3"-D-1
Draw-collet used with Sjogren collet chuck, max. dia. 1½"
Jacobs rubber-flex collet used with collet chuck, max. dia. 1½"
Hole through camlock spindle, max. dia. 1½"

Tailstock

Travel of tailstock spindle 3½"
Dia. of tailstock spindle 1½"
Taper of hole Morse No. 3
Scale graduations 3½" by 16ths
Dial graduations001"
Offset adjustment ½"

Gear Box

Number of feed changes 72
Feed range through gear box001" to .060"
Number of thread changes 84
Thread range through gear box 2 to 240
Actual threads through gear box: 2, 2¼, 2½, 2¾, 3, 3½, 3¾, 4, 4½, 4¾, 5, 5½, 5¾, 6, 6¼, 6½, 6¾, 7, 7½, 8, 9, 9½, 10, 11, 11½, 12, 12½, 13, 13½, 14, 15, 16, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 30, 32, 36, 38, 40, 44, 46, 48, 50, 52, 54, 56, 60, 64, 72, 76, 80, 88, 92, 96, 100, 104, 108, 112, 120. Following threads are cut by setting knob No. 6, Page 6, at "Feed" which doubles pitch of the twelve previous threads: 128, 144, 152, 160, 176, 184, 192, 200, 208, 216, 224, 240.

Bed

Width 12¾"
Depth 9"

Carriage and Compound

Carriage travel 20" or 30"
Length of carriage bed bearing 17¾"
Carriage bridge width 5"
Carriage saddle bearing on bedways 55½ sq. in.
Cross slide travel 7¼"
Compound slide travel 2"
Dial graduations001"
Size of lathe tool 3/8" x 7/8"

Motor

Size 1750 r.p.m., 5 h.p.

Spindle Speeds

Infinite through back gears 22 to 400 r.p.m.
Infinite by direct belting 400 to 3600 r.p.m.

Taper Attachment

Max. length of taper 8"
Max. included angle in degrees 18°
Max. taper inches per foot 3½"

Follower Rest

Max. opening 2¼"

Steady Rest

Max. opening (standard) 4"
Max. opening (special) 6"

Shipping Information

Net weight with motor and standard equipment 3900 lbs.
Crated for domestic shipment 4500 lbs.
Boxed for export shipment 4900 lbs.
Cubic feet, boxed for export shipment 130

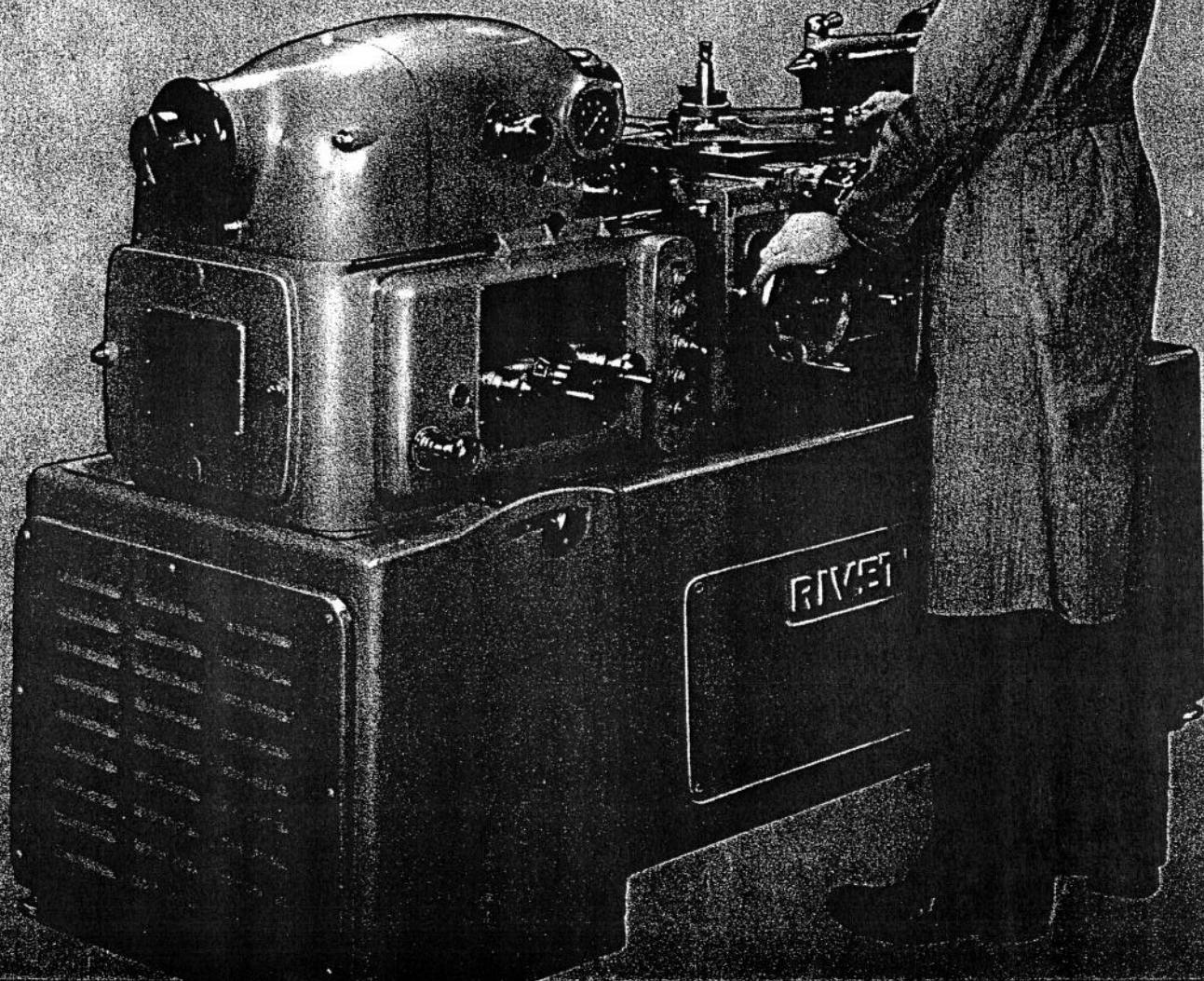
Rivett Lathe & Grinder, Inc., Brighton 35, Boston, Mass.

RIVETT

1020S

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Library of D. MAYERON
Berkeley, Calif.

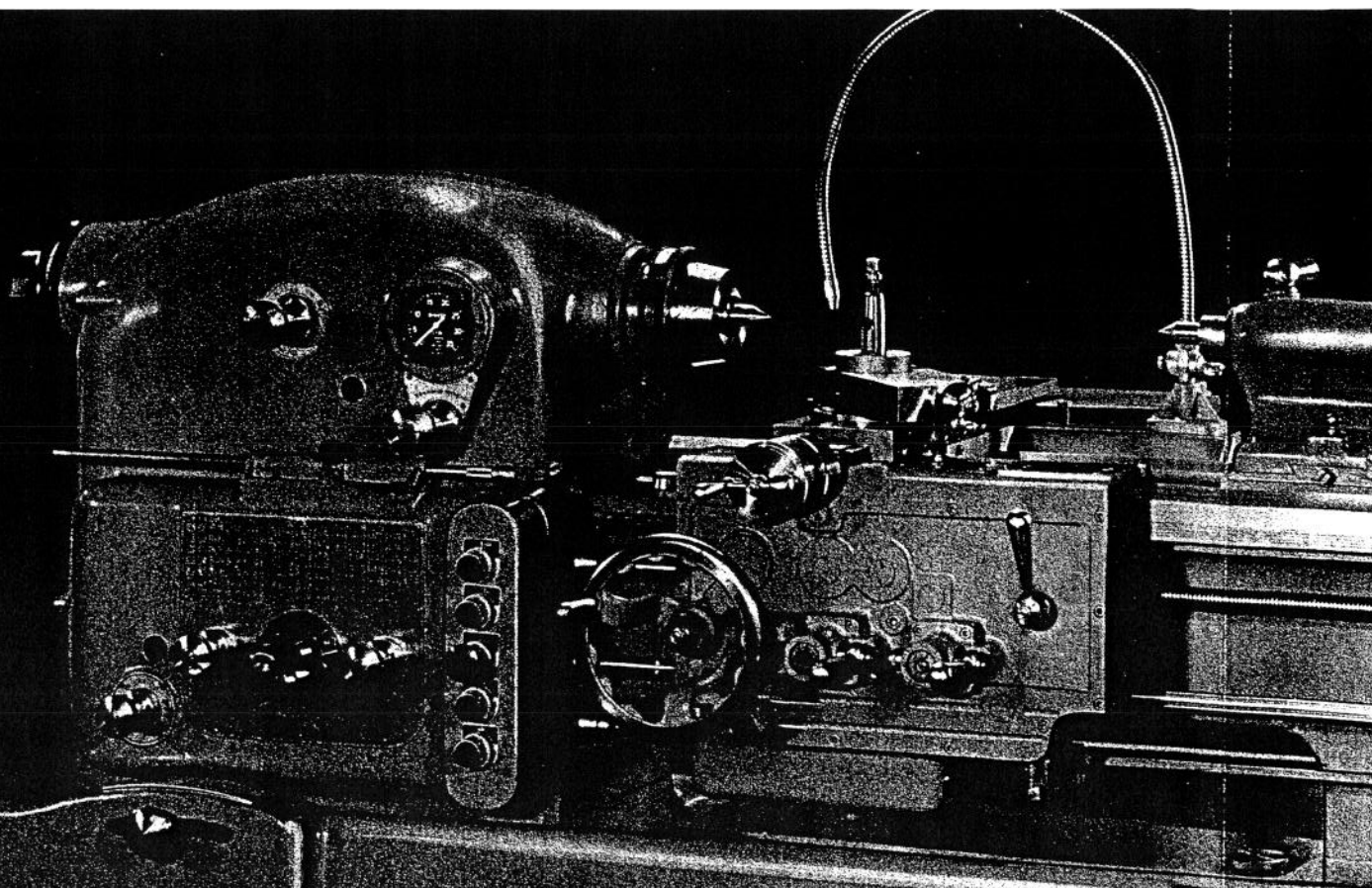
precision toolroom lathe



A SYMBOL OF ACCURACY IN MACHINE TOOLS

RIVETT LATHE & GRINDER, Inc.





RIVETT

RIVETT 1020 STEELWAY PRECISION TOOLROOM LATH

This powerful gear-head lathe qualifies for the finest metal working in any toolroom, experimental shop, laboratory or in production.

It combines the leather-touch sensitivity of an instrument lathe with the heavy-duty capacities which carbide cutting tools require. Its capacity for work is only limited by the size of the workpiece. It weighs 3900 pounds, mounts a 5 h.p. drive and its cast-iron bed is rigid and accurate. A long-life precision roller-bearing head design.

Feathering accuracy is also assured by an integral construction and the use of roller bearings. Another feature is the automatic lubrication system which is built into the machine.

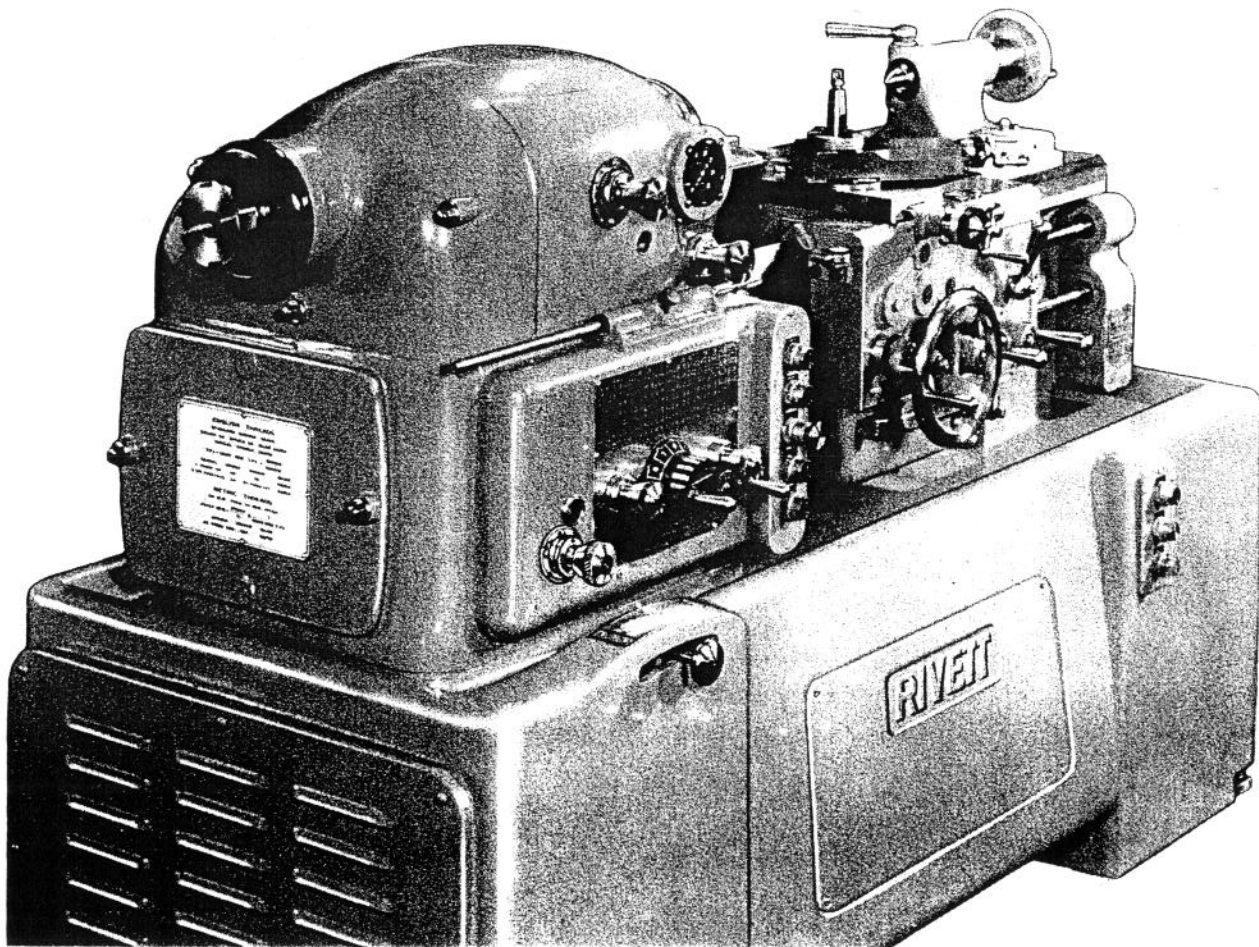
More
Precision
Work

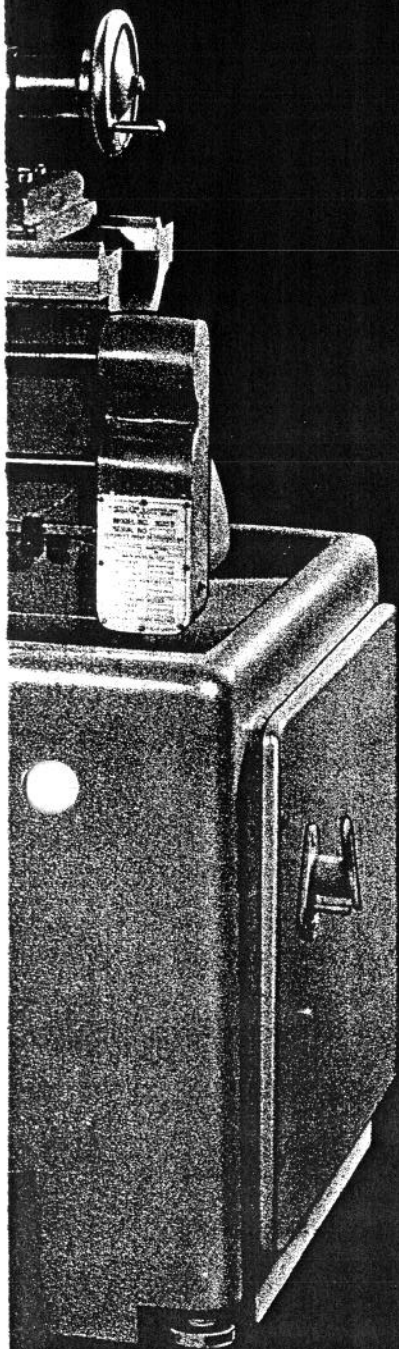
69 YEARS
A RIVETT PLEDGE

For 69 years our company has designed and built bench, cabinet and now full-grown lathes pledged to "More Precision Work."

The newest and most modern Rivett 1020S Precision Toolroom Lathe is such a machine capable of increased production within closer limits.

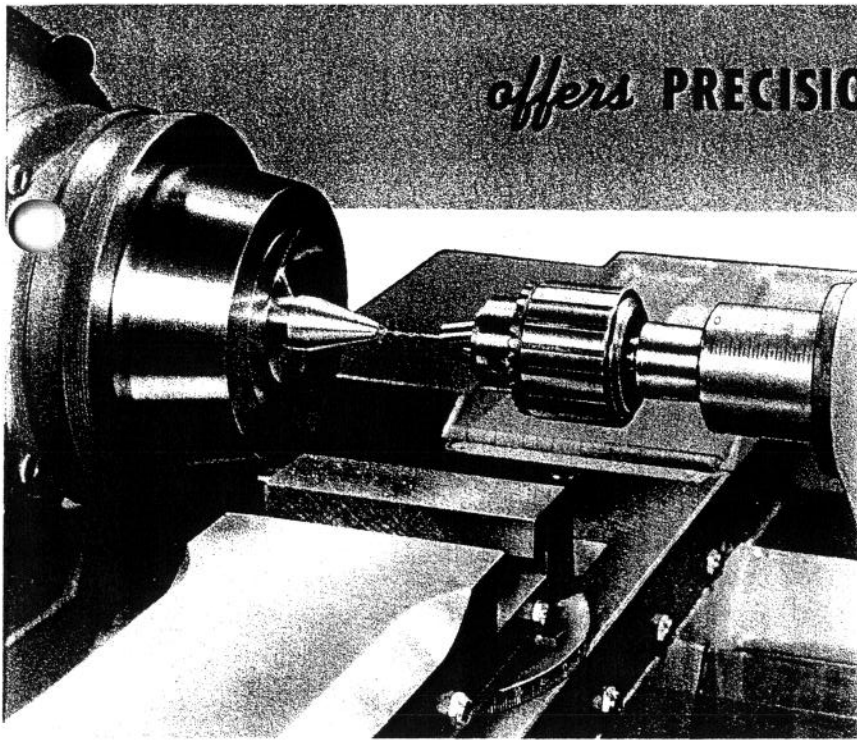
In this bulletin "The Rivett 1020 Steelway Precision Toolroom Lathe" presents itself to your friendly and critical attention. See how it may pay for itself within a year by doing more precision work at half the labor cost and saving floor space. Its initial price is reduced by the salvage value of the equipment it supplants. It is one of the world's best investments.





- **Steelway Bed** with inserted steel ways uniformly hardened to 60 Rockwell C Scale.
- **Turning Power** through headstock back gearing at low spindle speeds.
- **Free Spindle** by direct belt drive with no gearing engaged.
- **Infinite Spindle Speeds** through smooth, vee-belt, mechanical transmission.
- **Push Button Control** for speed changing and complete operation.
- **Neutral Clutch** for stopping spindle without stopping drive.
- **Three-Bearing Spindle Mount** to prevent spindle deflection.
- **Collets in Spindle** without adapter for perfect running truth.
- **Handwheel** for convenient turning of headstock spindle.
- **Spindle Index** for multiple threads.
- **Gear Box** for 72 feeds and 84 threads including every world standard from 2 to 240 per inch.
- **Ground Feed Screws** for lasting accuracy.
- **Unit Assemblies** to simplify service and repair.
- **Anti-Friction Bearings** without exception.
- **Automatic Lubrication** or grease sealed bearings throughout.

offers **PRECISION, SPEED and POWER**



SENSITIVE AS AN INSTRUMENT LATHE

Although the 1020S weighs 3900 pounds, has 12½" swing and 20" center distance, it responds to the lightest touch of the operator. Small work accurately held in collets can be driven at any required speed completely free from vibration. The beautifully balanced carriage affords sensitive tool control.

Every 1020S lathe is guaranteed to turn, bore, face and thread within the most exacting tolerances.

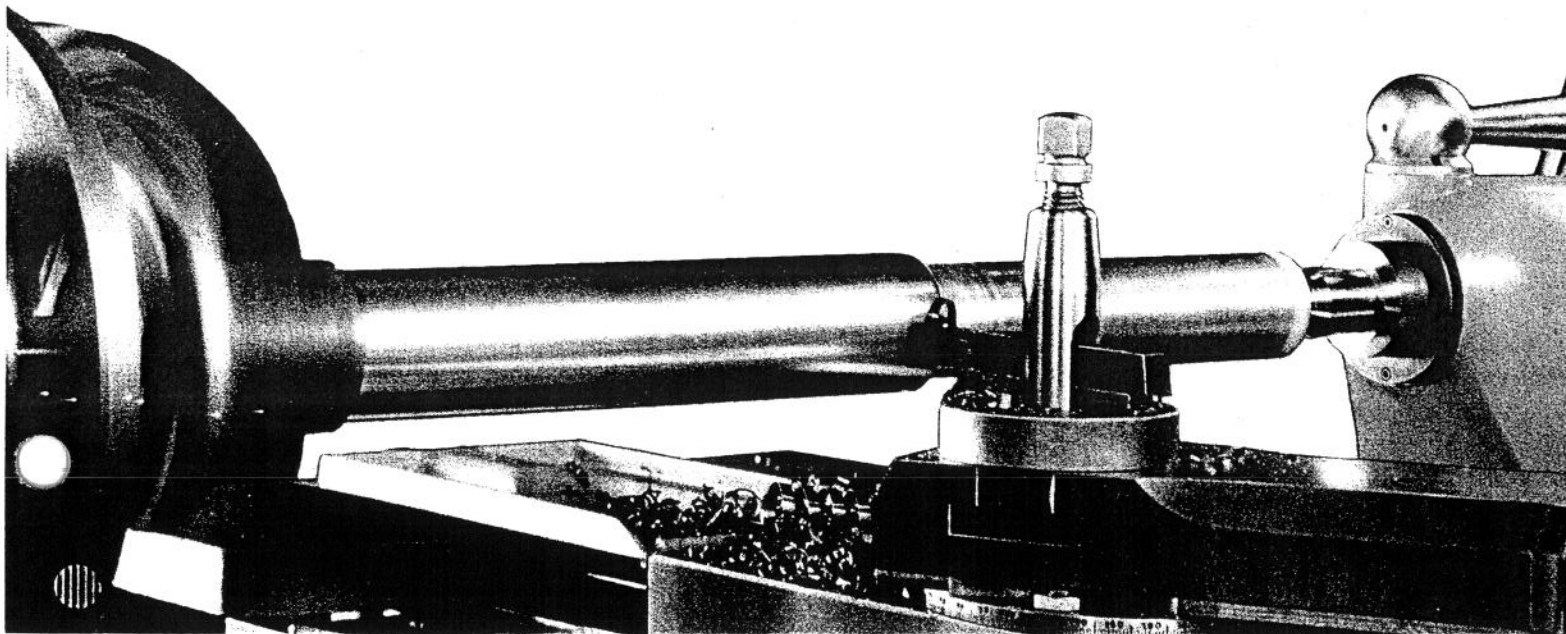
POWERFUL AS A LARGE ENGINE LATHE

Full horsepower of the main drive motor can be transmitted to the spindle in the lower speed range; see graph on page 5. This is effected by back gearing in the headstock and by vee belts always running at efficient driving speeds — a most important factor.

Large work can be gripped in jaw chuck, strapped to face plate or mounted on centers and turned with coarse feed. A ¼" chip with .020" feed on cold rolled steel is well within the capacity of this remarkable machine.

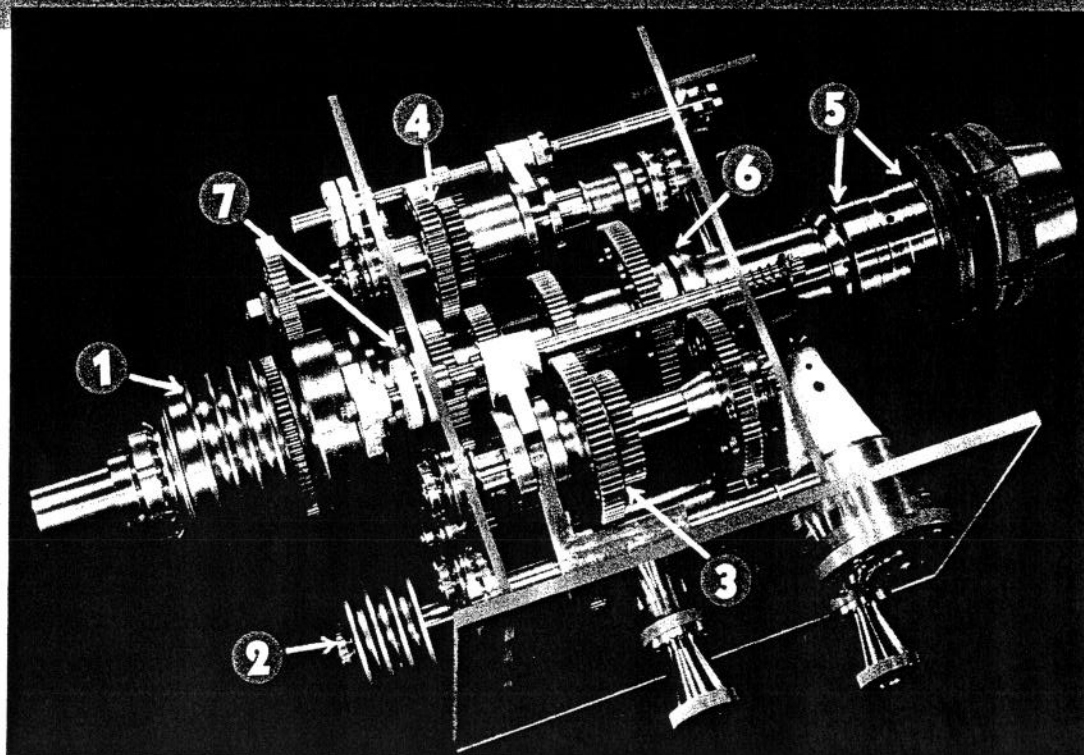
If it can swing it, it will turn it! Work does not have to be selected for the 1020S.

PAGE 3



TURNING POWER AT THE SPINDLE

1. Open belt input sheave with engaging clutch open.
2. Back gear input sheave.
3. Back gears for high and low range positioned in neutral.
4. Gear box driving gears for power feed and threading positioned in neutral.
5. Double-row preloaded ball bearings with spacer.
6. Single-row intermediate supporting ball bearing.
7. Single-row rear supporting ball bearing.



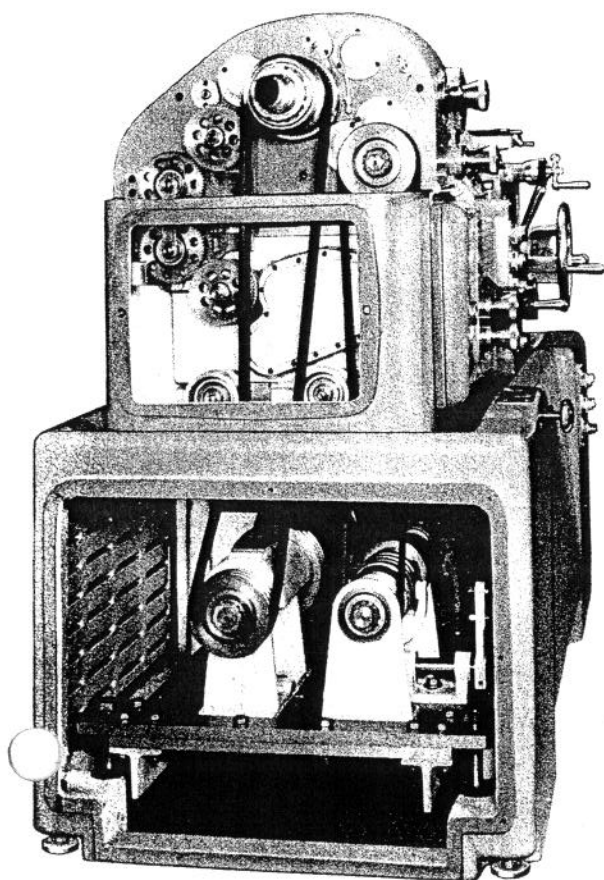
POWER FOR ANY JOB

The 1020S in many instances will replace a precision instrument lathe and a heavier engine-toolroom lathe and, with one able operator, do the work of both.

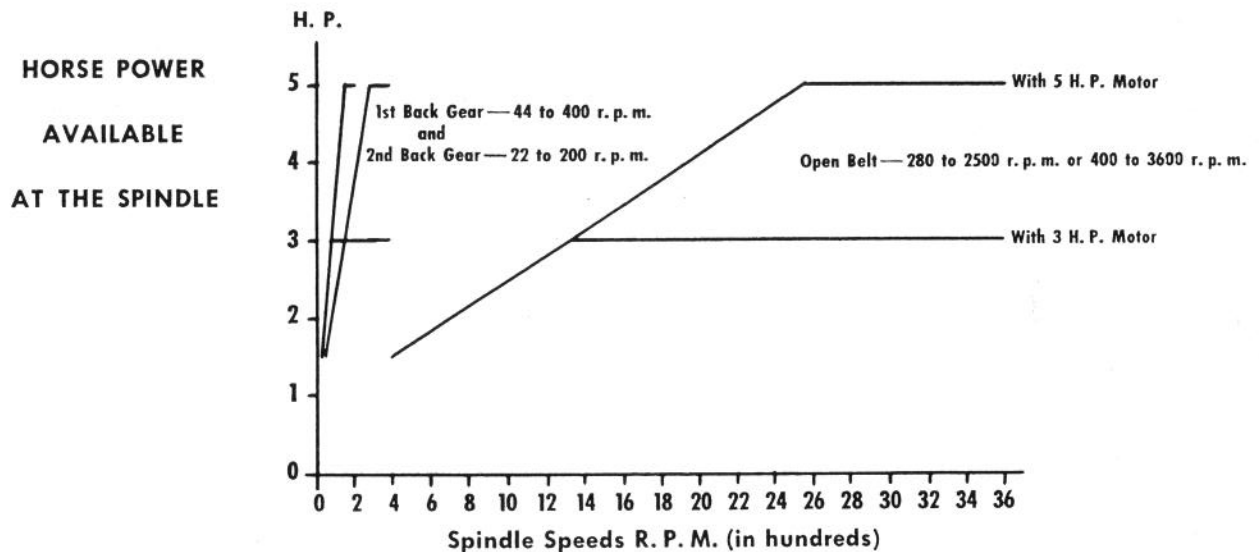
For small diameter pieces requiring high turning speeds, the spindle is driven by direct belt, free-running, with no gearing engaged, from 280 to 2500 r.p.m. or 400 to 3600 r.p.m.

Large diameters and work requiring heavy cuts are turned with spindle driven selectively through two sets of back gears. One set has $12\frac{1}{2}$ to 1 reduction, driving the spindle from 22 to 200 r.p.m. The other has $6\frac{1}{4}$ to 1 reduction for speeds from 44 to 400 r.p.m. The driving vee belts retain their full efficiency as their running speed never drops below 300 feet per minute.

It has the swiftness for diamond turning and the strength for carbide.

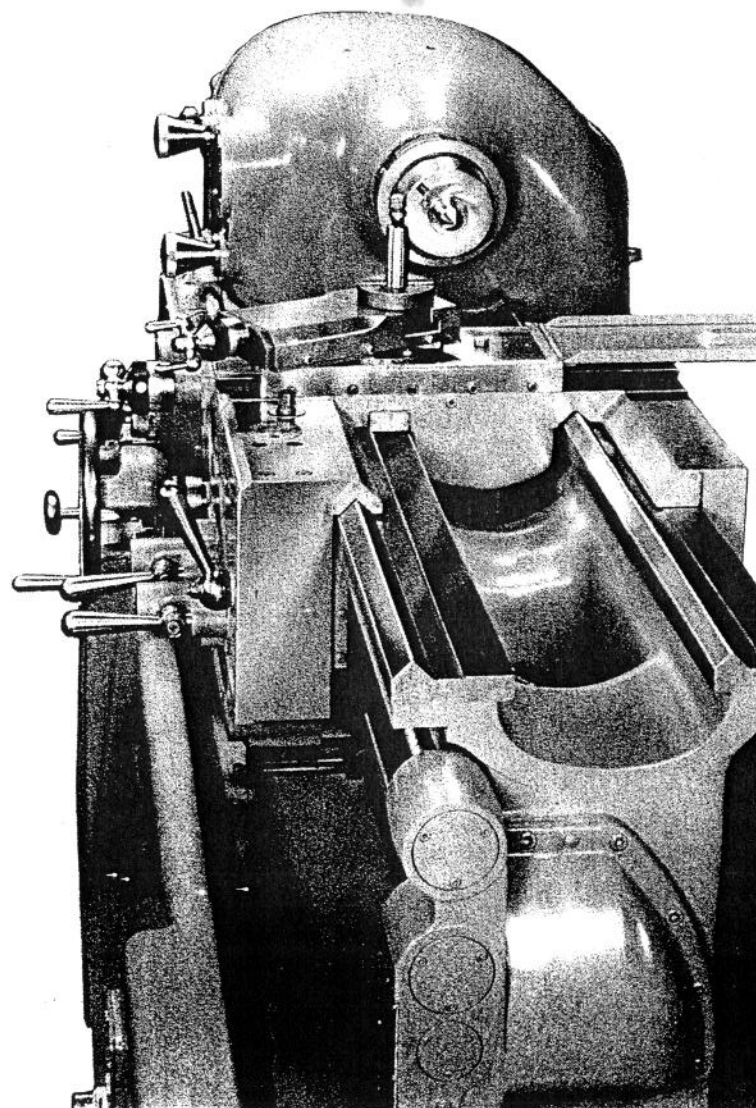


RIGIDITY AT THE CUTTING TOOL



STEELWAY BED AND BASE

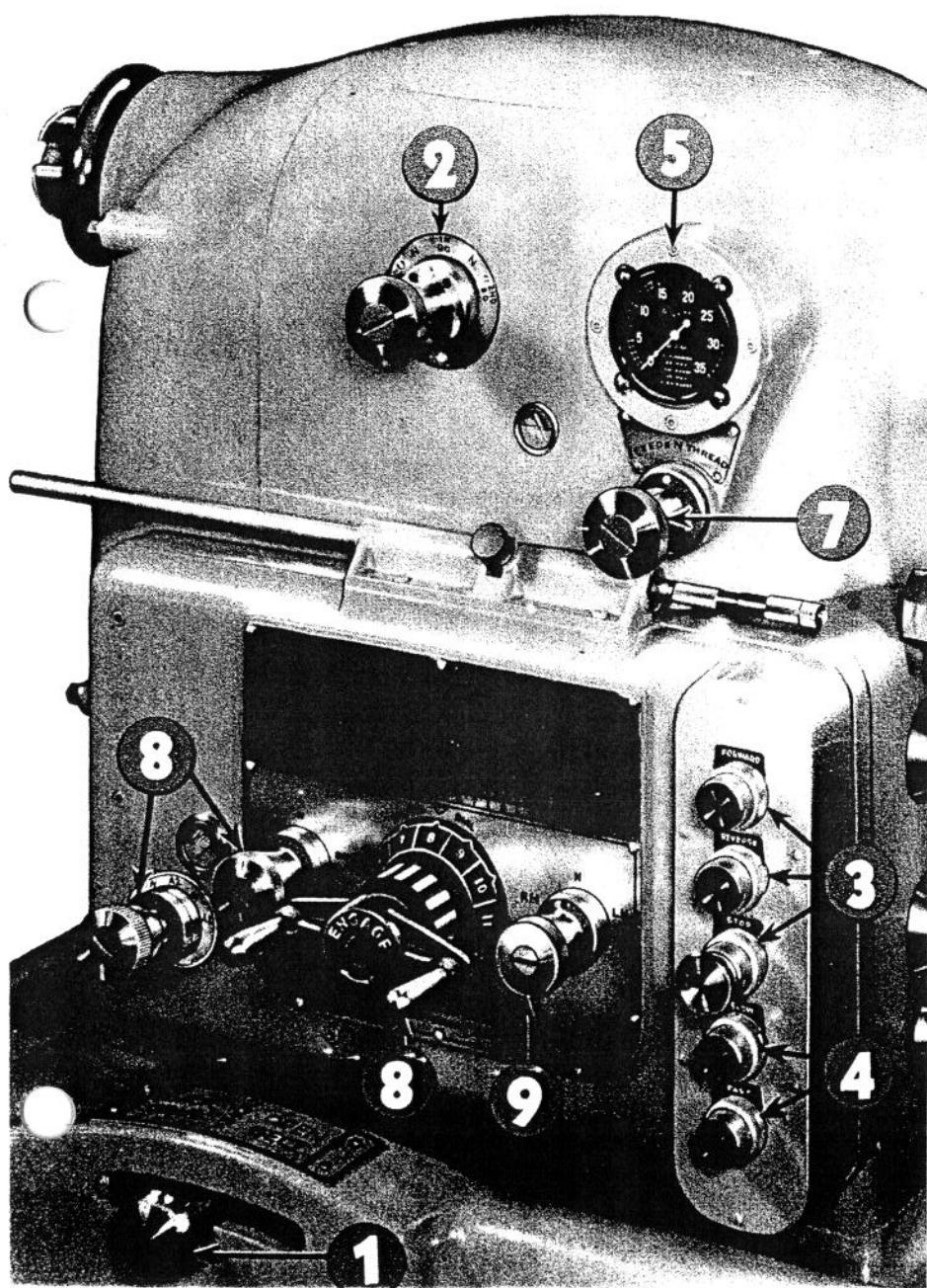
- The broad, heat-seasoned bed with its hardened and ground steelways is contrived for years and years of use. No unrelieved stress or soft slide area can endanger its original accuracy.
- Bedways $12\frac{3}{4}$ " in width support saddle under cutting load.
- Carriage saddle has $55\frac{1}{2}$ square inches of bearing on the hardened steelways.
- Carriage and tailstock ride on separate flats and vees.
- Heavy cast base fully encloses drive and all electrical equipment. Yet both are instantly accessible.
- Base top has deep well for chip collection and coolant.



*Simplified
Controls*

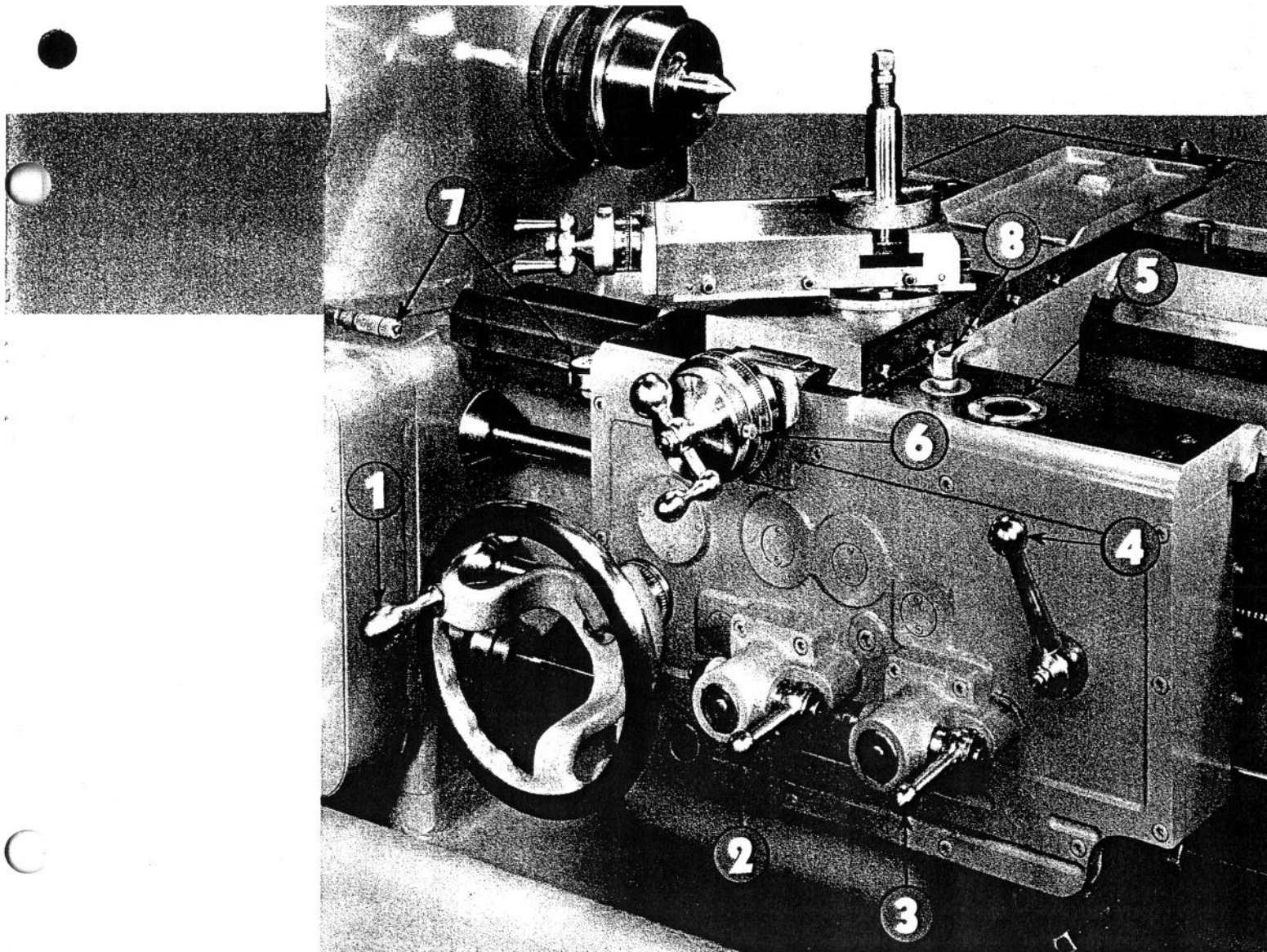
SAVE OPERATOR'S TIME

Simple means for setting-up and well-marked dials and handles assure top efficiency, measured in over-all machining time on the job in hand. The operator's convenience and comfort are assured by the functional grouping of all controls. Fatigue is avoided. Higher quality work and greater output result. Ten years of study, trial, error and change went into its creation.



HEADSTOCK SPINDLE CONTROLS

1. Lever selects drive to spindle by open belt or through back gears and is also used for bringing spindle to a coasting stop when desirable, without stopping main drive. Spindle is then free to roll by hand.
2. Knob sets up spindle drive by open belt, or through back gear trains.
3. Push buttons marked FORWARD, REVERSE and STOP govern main drive motor. Stop by automatic brake is instantaneous.
4. Push buttons marked FAST and SLOW set spindle speed within the open belt and back gear ranges.
5. Tachometer shows the r.p.m. by direct reading from the spindle.



CARRIAGE CONTROLS

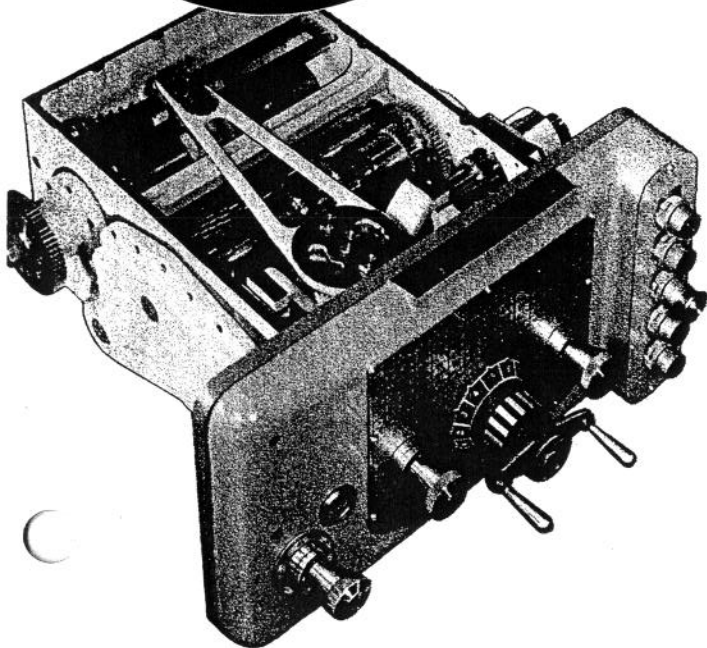
1. Handwheel moves carriage one inch per revolution graduated in sixty-fourths.
2. Lever operates clutch for power longitudinal feed. Operator may optionally move lever up or down to engage.
3. Lever operates clutch for power cross feed. Operator may optionally move lever up or down to engage.
4. Lever engages split nut with lead screw for threading.
5. Threading dial in immediate view of operator directs correct engagement of split nut.
6. Adjustable stop permits retracting and resetting threading tool without losing micrometer reading.
7. Carriage stop consists of precision dial indicator and adjustable rod with micrometer head.
8. Carriage clamp uses standard tool holder wrench.

GEAR BOX CONTROLS — See illustration on page 6

7. Knob engages drive from headstock to gear box and selects drive to carriage for threading or for power feed.
8. Knobs and selector dial set up desired thread or feed.
9. Knob sets up carriage drive for right-hand or left-hand threading or turning. Neutral position disconnects.



REDUCE MAINTENANCE AND DOWN



Gear Box—built as an independent assembly—is installed within the bed enclosure.

Dials afford 72 feeds and 84 threads.

Thread range includes every world standard from 2 to 240 threads per inch.

Special or metric leads are conveniently set up with pick-off gears. Idlers run on grease-sealed bearings.

All gears are made of heat-treated alloy steel, shaved or ground.

All sliding gears move on six-tooth involute splined shafts.

All bearings are anti-friction.

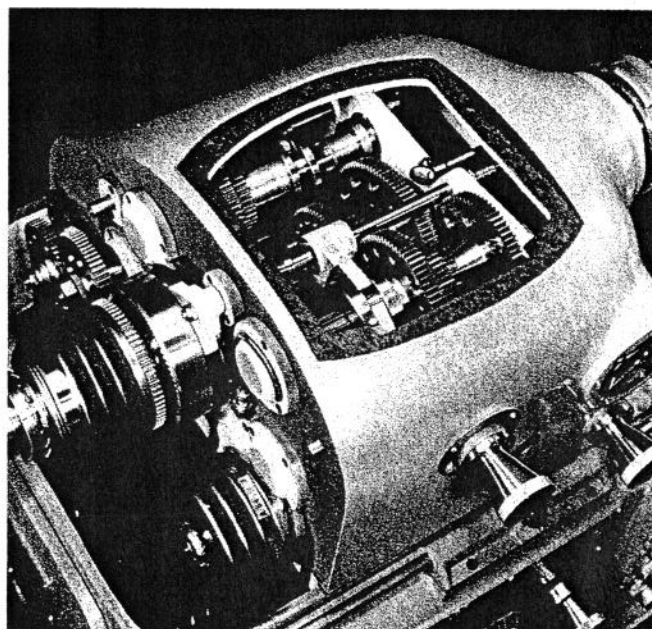
Headstock is a self-contained unit. All elements can be serviced through the top opening.

All gears are made of heat-treated alloy steel, shaved or ground.

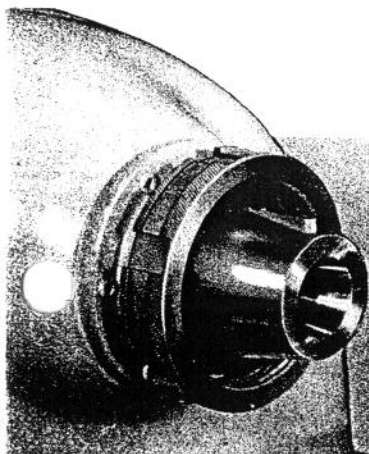
All sliding gears move on six-tooth involute splined shafts.

Spindle runs on super-precision ball bearings. Center bearing prevents deflection. There are no sliding gears on the spindle.

All bearings are anti-friction.

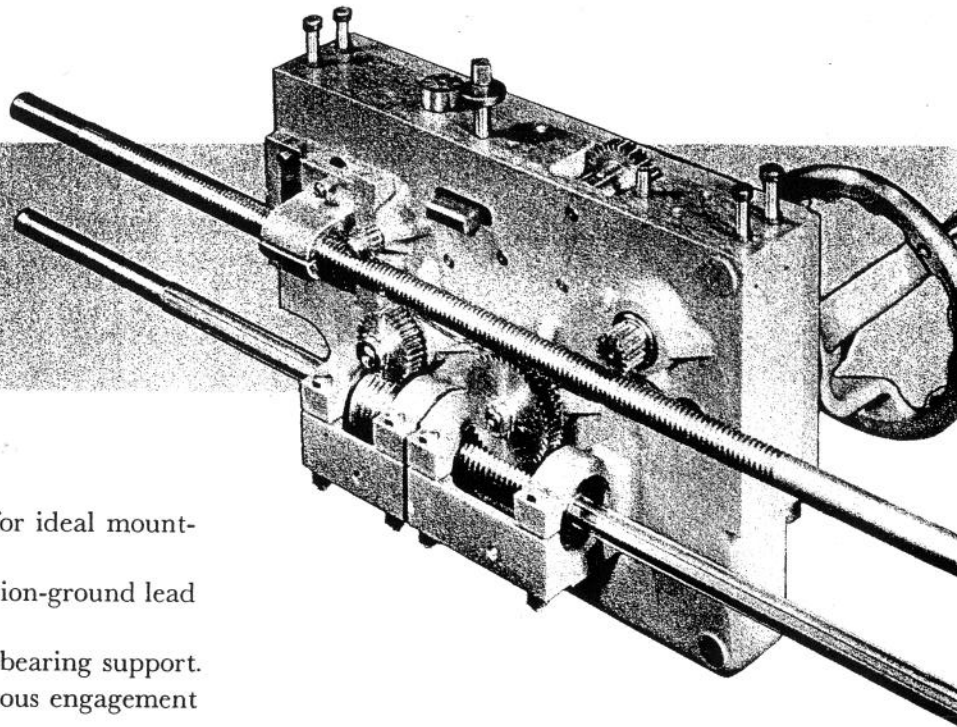


PAGE 8



Long Taper Key-Drive Spindle Nose accurately and firmly mounts chucks, plates and fixtures. The long taper assures true running while the key provides positive drive in either direction. Rivett 6R collets mount directly in the spindle mouth for ultimate precision.

TIME COSTS



Carriage Apron is double-walled for ideal mounting of all shafts.

Full bearing split nut engages precision-ground lead screw for threading.

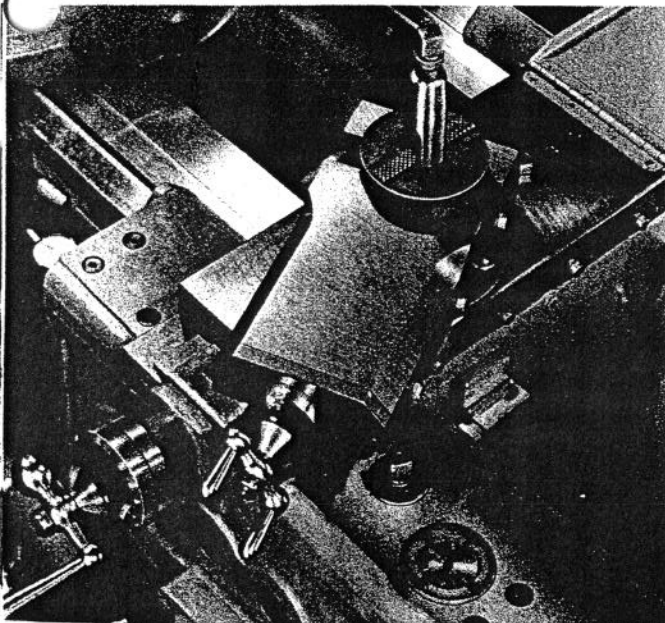
Multiple-splined feed rod has ball-bearing support.

Safety interlock prevents simultaneous engagement of lead screw and feed rod.

Cutting tool retracts from work if cross feed is engaged while longitudinal feed is operating forward.

Carriage clamp is centrally located to prevent deflection.

All bearings are anti-friction.



Compound and Cross Slide have generous bearing areas and full-length gibs with lock screws to maintain adjustment.

Feed screws are heat-treated steel, precision ground.

Feed screw nuts are adjustable to eliminate backlash.

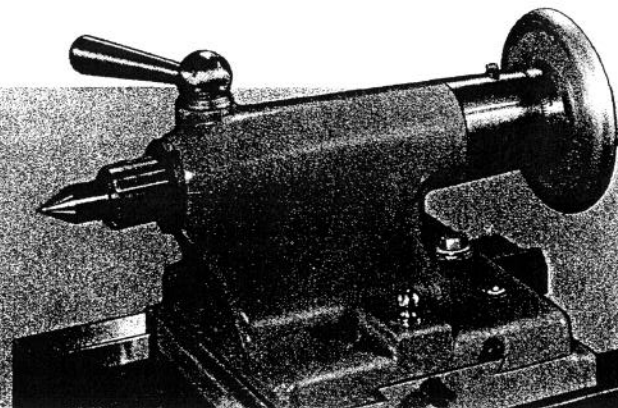
Dials are large and clearly engraved to read in thousandths.

Compound swivel is graduated 180° either side of zero.

Cross slide feed screw has adjustable ball stop for retracting and resetting threading tool without loss of micrometer reading.

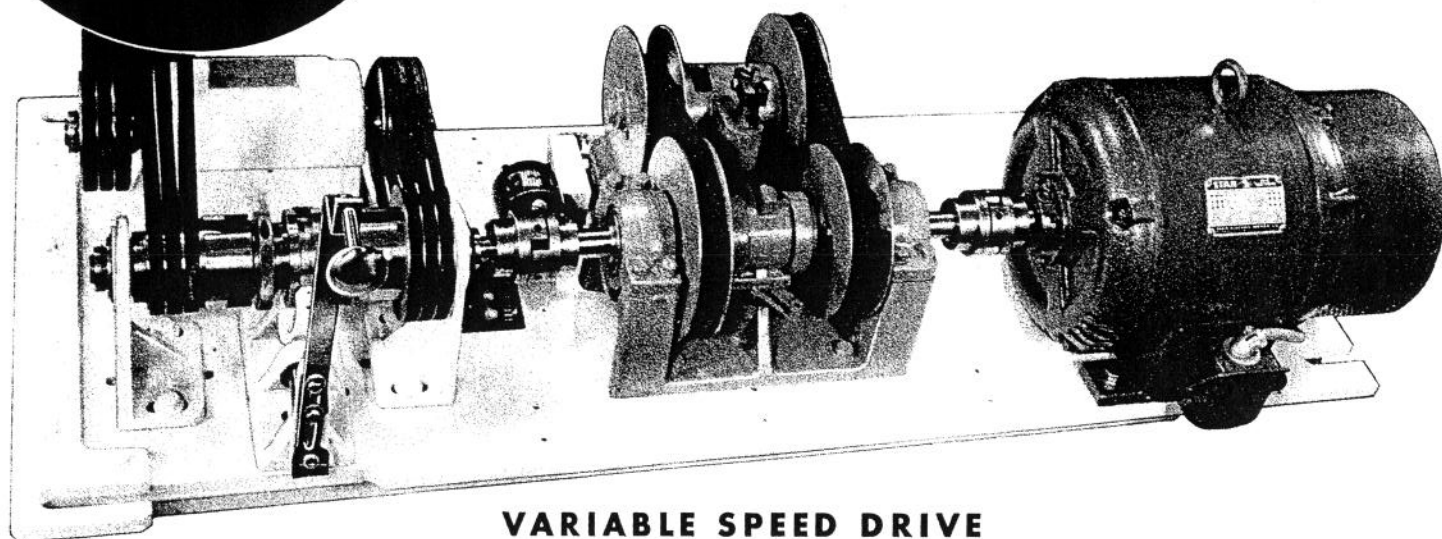
PAGE 9

Tailstock has hardened spindle with full bearing in all positions. Travel is graduated by scale in sixteenths and by dial in thousandths. Drills are driven by an inside slot which does not break through wall. Screw ejects centers and drills. Frame may be offset by screw adjustment.





with ELECTRICAL CARRIAGE CONTROL



VARIABLE SPEED DRIVE

A complete unit assembly, the drive is cushion mounted within the lathe base, easily accessible through panelled openings or removable through end door.

Push buttons control main drive motor FORWARD, REVERSE and STOP.

Push buttons marked FAST and SLOW operate a small independent motor to select desired spindle speed indicated by direct-reading tachometer on lathe headstock.

Power transmission from standard, constant-speed motor is by variable pitch vee-belt drive.

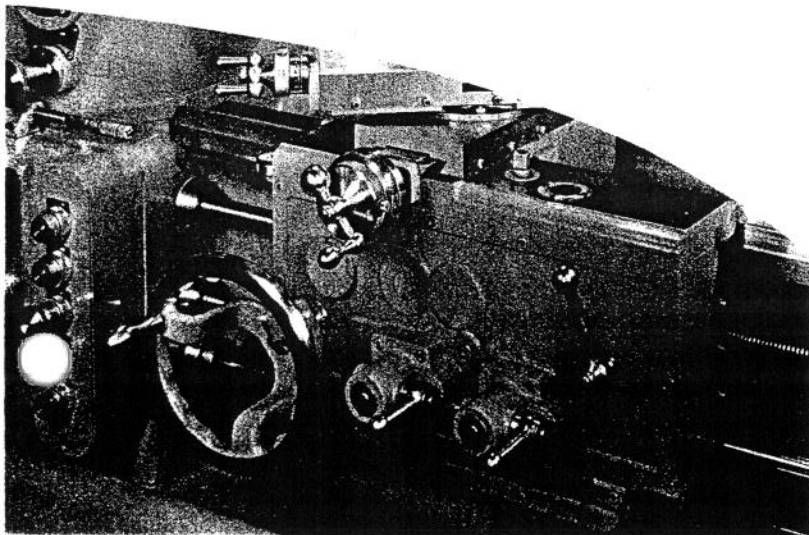
A selector clutch engages direct belt or back gear drive to the headstock spindle. Its neutral position stops the spindle without stopping the drive.

The standard 3 h.p. (or 5 h.p. when required) motor has a multiple disc brake for instant stopping.

Power to the lathe is transmitted by three matched vee belts. Irresistible torque of spindle is maintained as belt surface speed is never below 300 feet per minute. This essential factor is achieved by headstock back gears at low r.p.m.

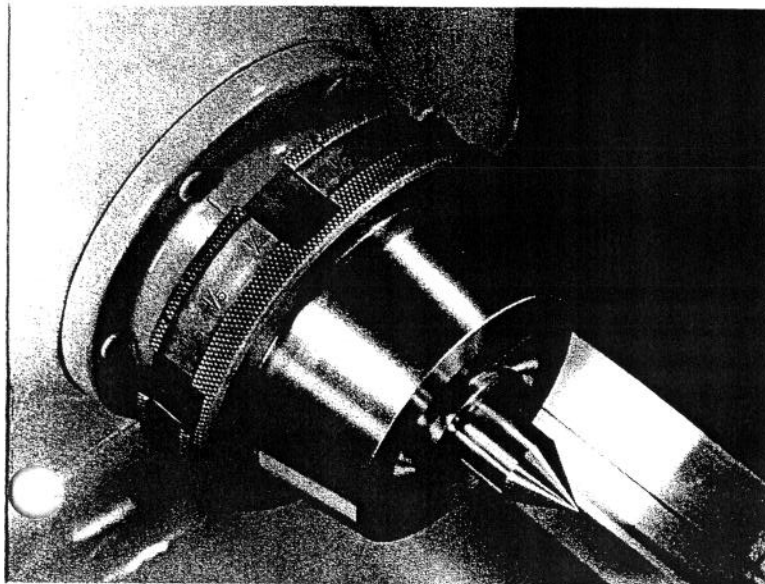
ELECTRICAL CARRIAGE CONTROL

The electrical carriage control is an added accessory most valuable for chasing external or internal threads to limit the travel of carriage in either or both directions. Stops with screw adjustment simultaneously arrest the carriage and work rotation. The carriage travel is reversed by touching the convenient FORWARD or REVERSE push button. Perfect threads are assured as the lead screw nut is continuously engaged.

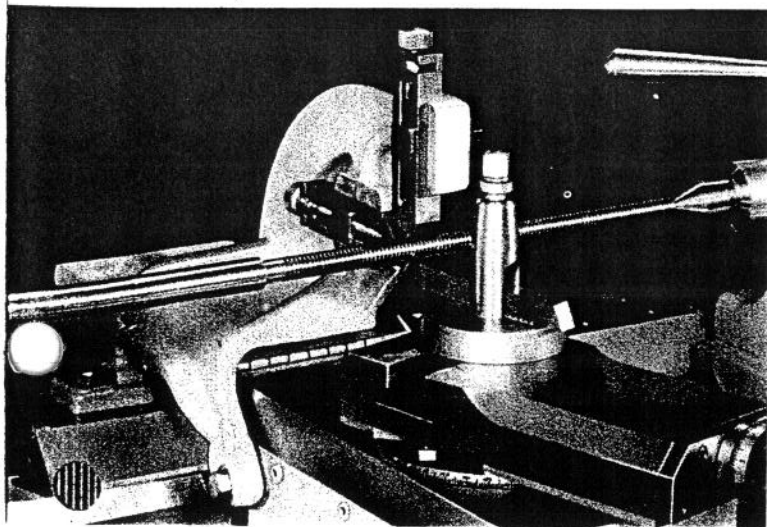


Standard Accessories

INCREASE PRODUCTION

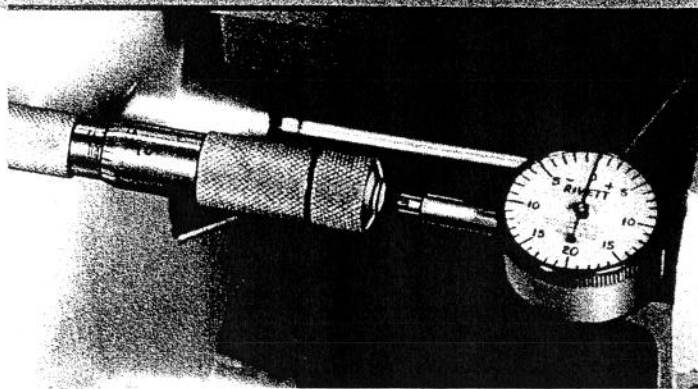


↑ **Multiple Thread Indexing** is accomplished with standard equipment. The nut on the LO type spindle nose is graduated for engaging the spindle gear to start 2, 3, 4, 5 or 6 threads.

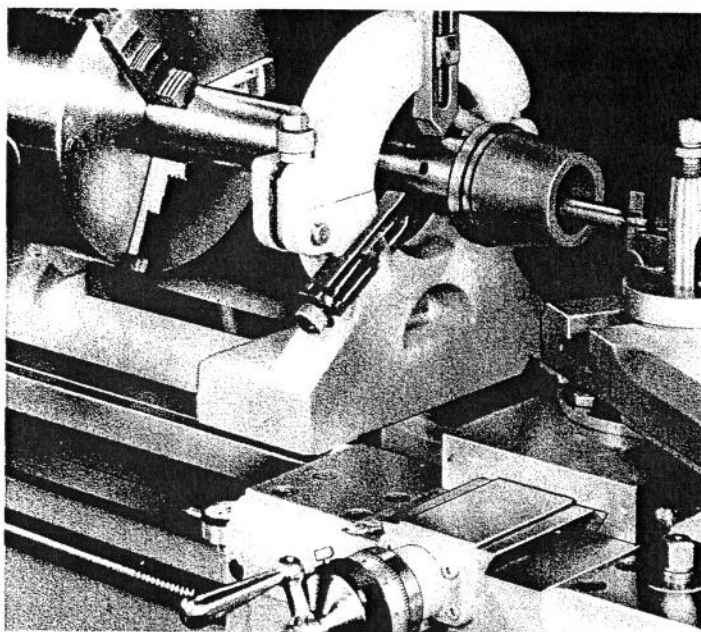


↑ **Steady Rest** is hinged and has three adjustable jaws. Standard steady rest has 3" diameter capacity. Steady rest with 6" diameter capacity is available.

← **Follower Rest** has two adjustable jaws to provide vertical and horizontal support for work up to 2" diameter.

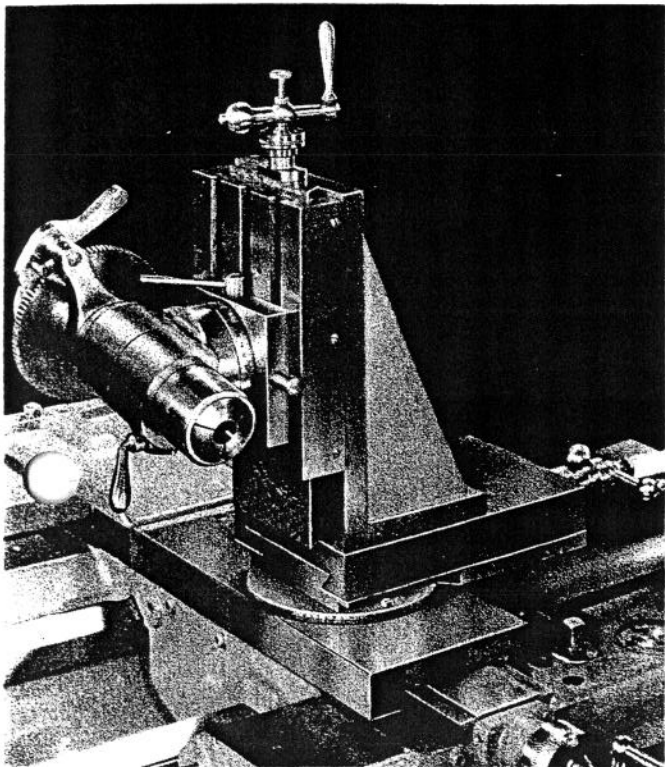


↑ **Carriage Dial Indicator Stop** accurately locates carriage at any position on bed. The stop rod has a micrometer head which contacts the stem of a precision dial indicator.

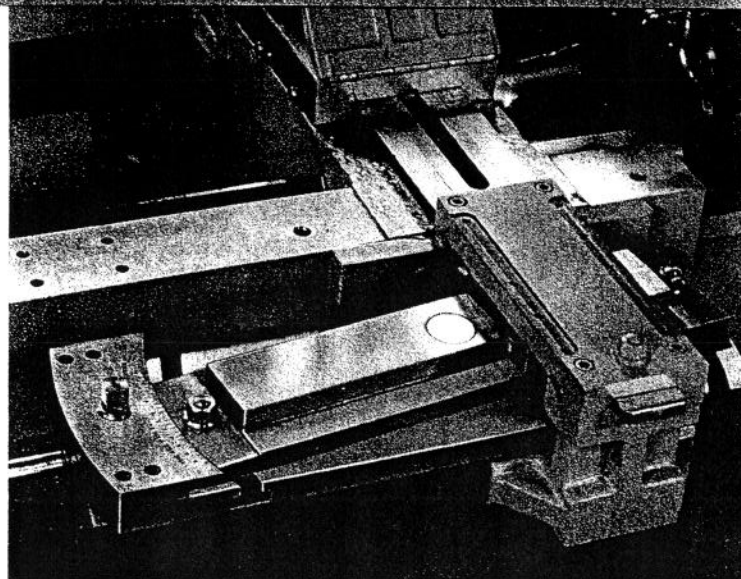


*Added
Accessories*

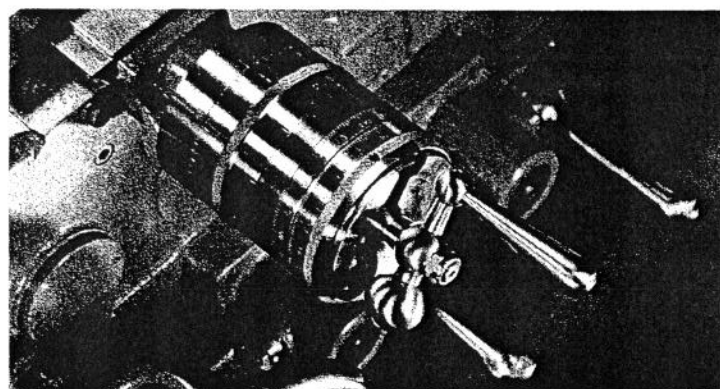
EXTEND MACHINING RANGE...



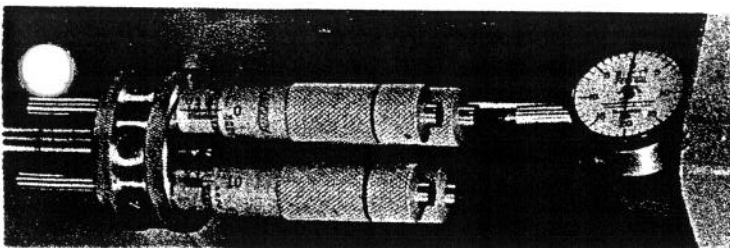
Universal Milling Attachment fits directly on bolt circle of cross slide and utilizes longitudinal and cross power feeds of carriage. Universal movements in three directions are graduated to .001". Vertical and horizontal swivels are graduated in degrees. Face of vertical slide is slotted for mounting work or index head. Spindle of index head uses same Rivett 6R collets as are used in lathe spindle. See Bulletin 130.



Taper Attachment may be used for turning tapers up to 18° included angle and 8" length at one setting. The slide is set at desired angle by geared adjustment. The setting is measured by hairline graduations in both degrees and inches per foot. (Hinged guards for protecting the taper slide are removed in the above illustration.)



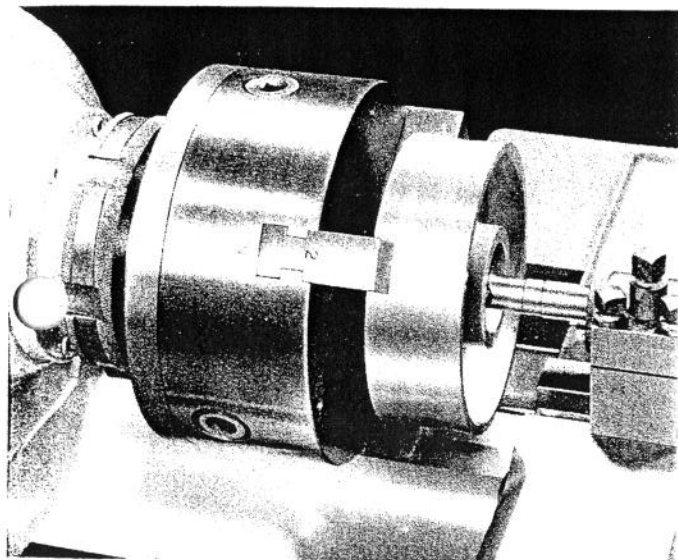
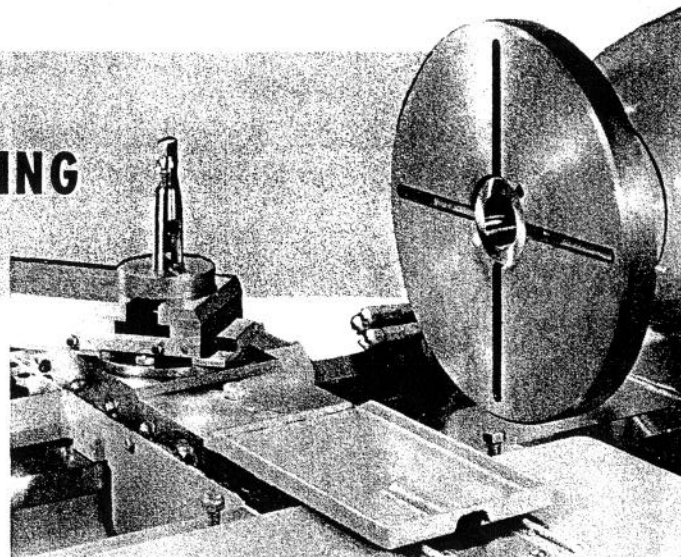
Accumulator Dial replaces standard cross feed dial. The outer dial, calibrated in thousandths of diameter, has separate numbering for turning and for boring. The inner dial accumulates and records the reading of the outer dial in hundreds of thousandths and in sixty-fourths.



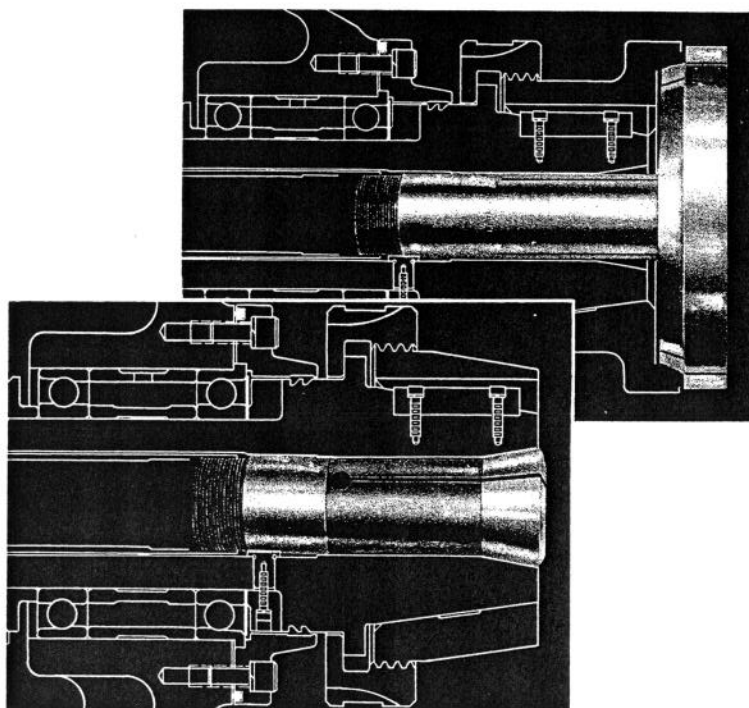
Multiple Carriage Positioning Stop mounts interchangeably with standard dial indicator stop. Any one of four adjustable micrometer heads can be indexed.

PROVIDE OPTIONAL WORK HOLDING

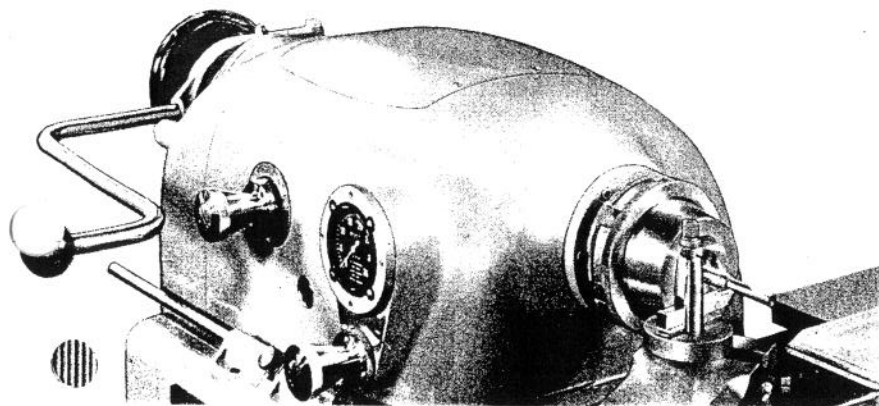
Slotted Face Plate has four tee slots for strapping and clamping odd shaped work. Diameter 12".



Jaw Chucks with three universal jaws or four independent jaws are offered in 6" and 8" sizes.

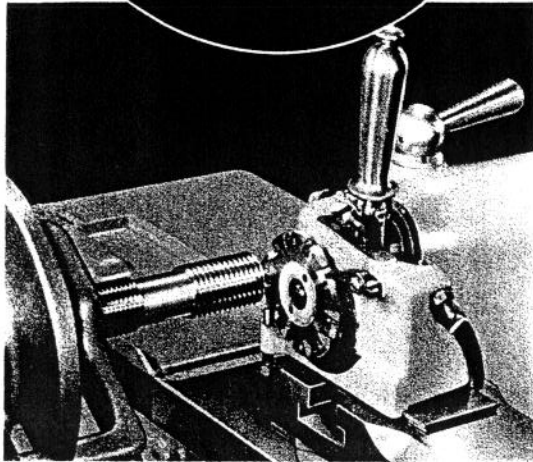


Draw-in Collets and Step Chucks mount directly in spindle mouth (without adapters) and run true. Step chucks above 2" capacity use closing rings.

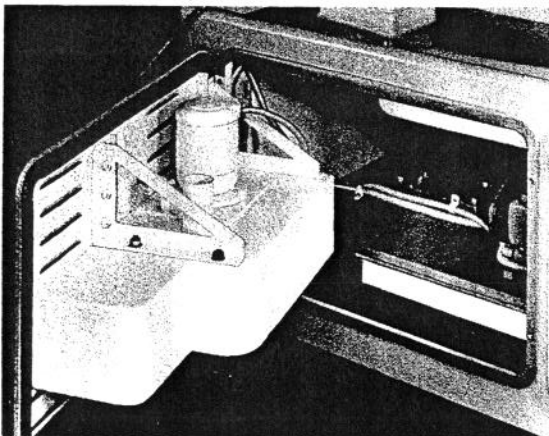


Lever Chuck Closer used with collets and step chucks greatly reduces chucking time on duplicate parts. Handwheel is convenient when setting up and gauging work.

*for
Specialized
Tooling*



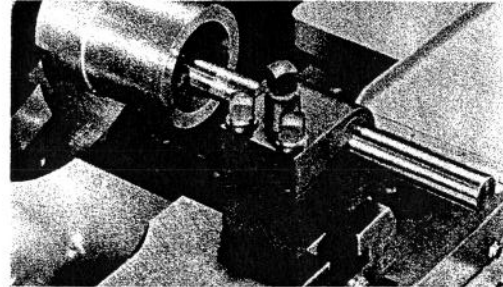
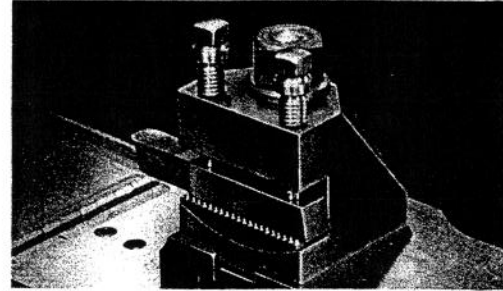
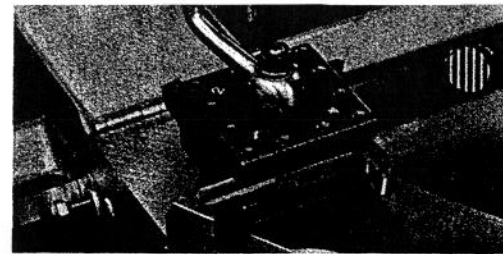
Thread Tool replaces single-point threading tool, carries a 10-tooth cutter and indexes each of its teeth successively to the work. Ten even cuts generate a perfect thread. (For detailed information request Bulletin 110.)



Turret Tool Post fitting directly on compound carries four tools $\frac{1}{2}$ " square and indexes to twelve positions.

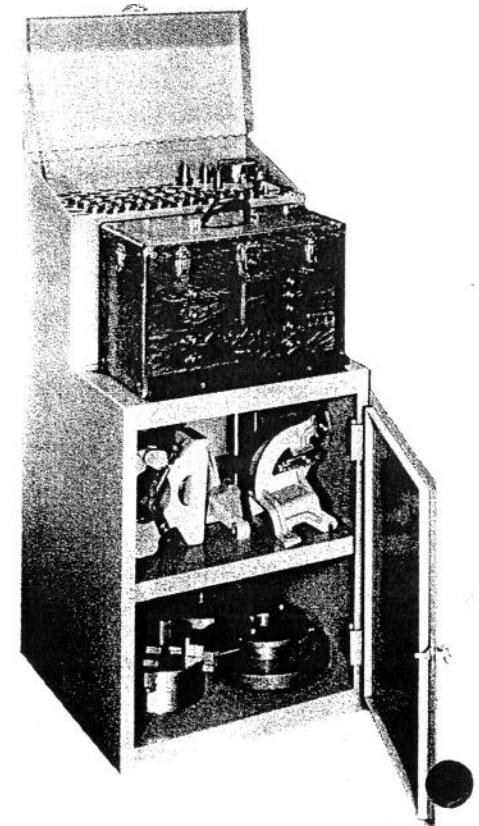
Side Mounting Tool Block has rocker for tool height adjustment. Maximum tool sizes, $\frac{5}{8}$ " square.

Eccentric Tool Holder mounts $\frac{3}{4}$ " or $\frac{1}{2}$ " dia. boring bar, straight cutter holder or angle cutter holder. Rotation of eccentric sleeve adjusts tool height. Square tool bits and round tools can be used with sleeves — rotation gives proper rake and clearance angle.



Coolant Pump—A unit motor-driven immersion pump and 6-gallon reservoir attach to hinged door at rear of base. Flexible metal gooseneck with nozzle and shut-off attaches to carriage saddle and moves with cutting tool.

Floor Cabinet provides orderly storage for standard equipment, collets and special accessories.



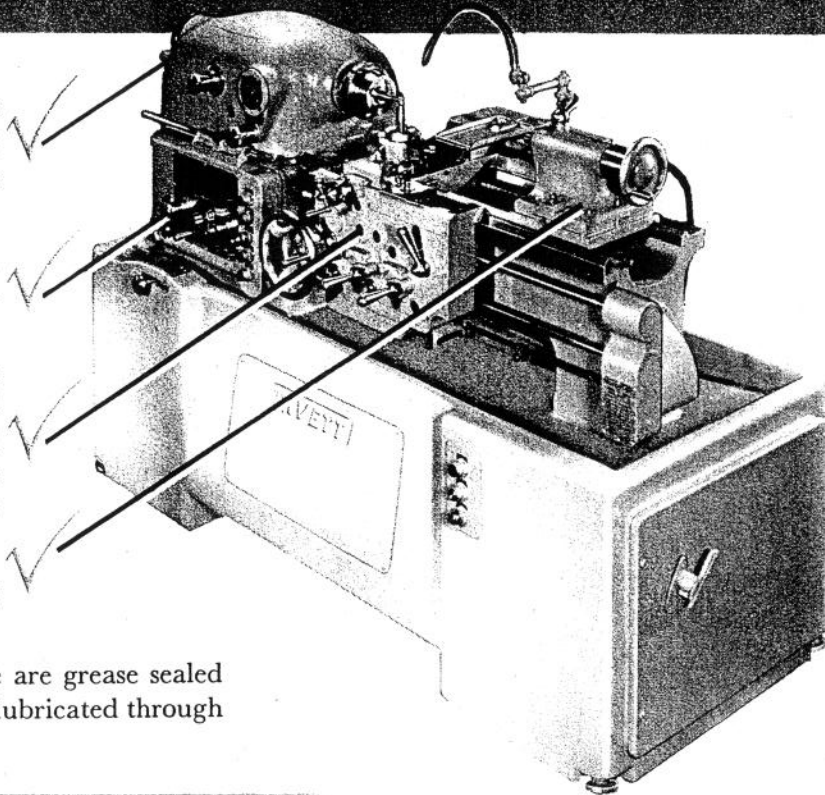
Headstock bearings, gears and splined shafts are splash lubricated. Spindle bearings are assured a continuous film of oil. Sight gauge indicates proper level.

Gear Box has its own ample oil supply. Bearings, gears and splined shafts are splash lubricated. Sight glass at front indicates proper level.

Carriage and Bedways are lubricated by a plunger pump operating off the power feed mechanism. Oil is drawn from a reservoir and metered to the bearings, gears, cross slide ways and bedways. Gauge glass indicates oil level in reservoir.

Tailstock has two oil reservoirs for lubricating spindle and bedways.

Drive bearings of anti-friction type are grease sealed for life. Bronze slide bearings are lubricated through grease gun fittings.



SPECIFICATIONS

GENERAL

Distance between centers with tailstock flush	20"
Swing over bed, dia.	12 1/2"
Swing over carriage, dia.	7 1/4"
Height, work centers from floor	43"
Floor space	29" x 73"
Automatic lubrication	

HEADSTOCK

Long taper key-drive spindle nose (standard)	ASA No. LO
Draw-in collet mounted directly in spindle, max. dia.	1 1/8"
Step chuck mounted directly in spindle, max. dia.	6"
Hole through spindle, max. dia.	1 1/4"
Camlock spindle nose (optional)	ASA 4" D-1
Draw-collet used with Sjogren collet chuck, max. dia.	1 3/8"
Jacobs rubber-flex collet used with collet chuck, max. dia.	1 3/8"
Hole through spindle, max. dia.	1 3/8"

TAILSTOCK

Travel of tailstock spindle	3 1/2"
Dia. of tailstock spindle	1 5/8"
Taper of hole	Morse No. 3
Scale graduations	3 1/2" by 16ths
Dial graduations	.001"
Offset adjustment	1/2"

GEAR BOX

Number of feed changes	72
Feed range through gear box	.001" to .060"
Number of thread changes	84
Thread range through gear box	.2 to 240
Actual threads through gear box: 2, 2 1/4, 2 3/8, 2 1/2, 2 3/4, 2 7/8, 3, 3 1/8, 3 1/4, 3 3/8, 3 1/2, 3 3/4, 4, 4 1/2, 4 3/4, 5, 5 1/2, 5 3/4, 6, 6 1/4, 6 1/2, 6 3/4, 7, 7 1/2, 8, 9, 9 1/2, 10, 11, 11 1/2, 12, 12 1/2, 13, 13 1/2, 14, 15, 16, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 30, 32, 36, 38, 40, 44, 46, 48, 50, 52, 54, 56, 60, 64, 72, 76, 80, 88, 92, 96, 100, 104, 108, 112, 120. Following threads are cut by setting knob No. 7, page 7, at "Feed" which doubles pitch of the twelve previous threads: 128, 144, 152, 160, 176, 184, 192, 200, 208, 216, 224, 240.	

STANDARD EQUIPMENT — driving plate, hard male center with center chuck, screw draw-in spindle for collets, spindle handwheel, spindle speed tachometer, dial indicator stop for carriage, compound rest, tool post, threading dial, quick threading stop, follower rest, steady rest, hard male center for tailstock, mechanical variable speed drive, 3 h.p. brake-motor, magnetic controller, disconnect switch and wrenches.

BED

Width	12 3/4"
Depth	9"

CARRIAGE AND COMPOUND

Carriage travel	20"
Length of carriage bed bearing	17 3/4"
Carriage bridge width	5"
Carriage saddle bearing on bedways	55 1/2 sq. in.
Cross slide travel	7 1/4"
Compound slide travel	2"
Dial graduations	.001"
Size of lathe tool	3/8" x 7/8"

MOTOR

Size (standard)	1750 r.p.m., 3 h.p.
Size (special)	1750 r.p.m., 5 h.p.

SPINDLE SPEEDS

Range No. 1 — infinite through back gears	22 to 400 r.p.m.
infinite by direct belting	280 to 2500 r.p.m.
Range No. 2 — infinite through back gears	22 to 400 r.p.m.
infinite by direct belting	400 to 3600 r.p.m.

TAPER ATTACHMENT

Max. length of taper	8"
Max. included angle in degrees	18°
Max. taper inches per foot	3 1/2"

FOLLOWER REST

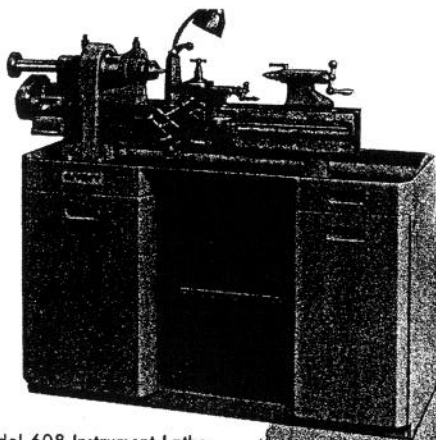
Max. opening	2 1/4"
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STEADY REST

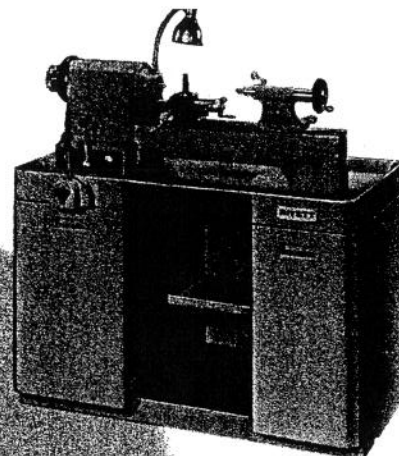
Max. opening (standard)	3"
Max. opening (special)	6"

SHIPPING INFORMATION

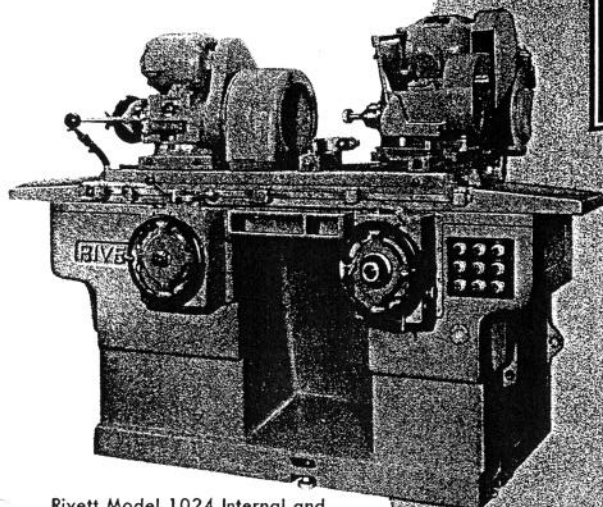
Net weight with motor and standard equipment	3900 lbs.
Crated for domestic shipment	4500 lbs.
Boxed for export shipment	4900 lbs.
Cubic feet, boxed for export shipment	130



Rivett Model 608 Instrument Lathe. 8½" swing, 18¼" between centers, 1" collet capacity. Write for Bulletin 608.



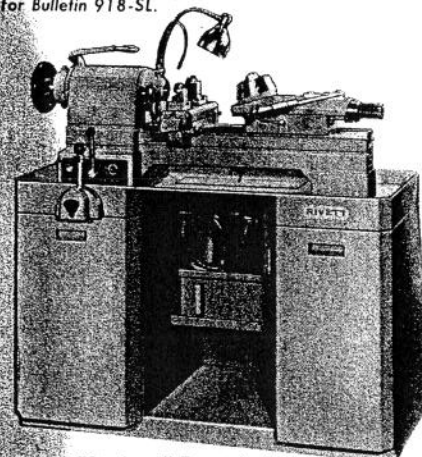
Rivett Model 918 "Steelway" Cabinet Lathe. 9" swing, 18" between centers, 1⅝" draw-in, or 1⅞" stationary collet capacity. Write for Bulletin 918-SL.



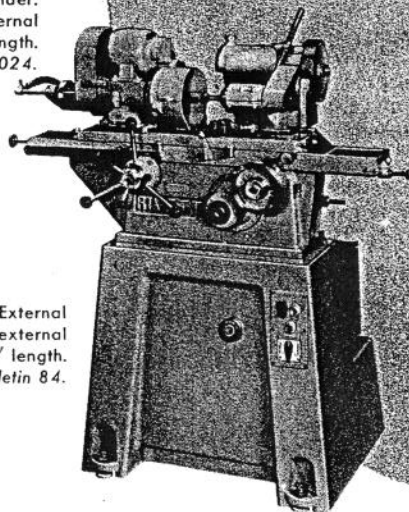
Rivett Model 1024 Internal and Universal Hydraulic Grinder. Hole grinding ½" to 9" dia.; external grinding to 12" dia. up to 21" length. Write for Bulletin 1024.

RIVETT

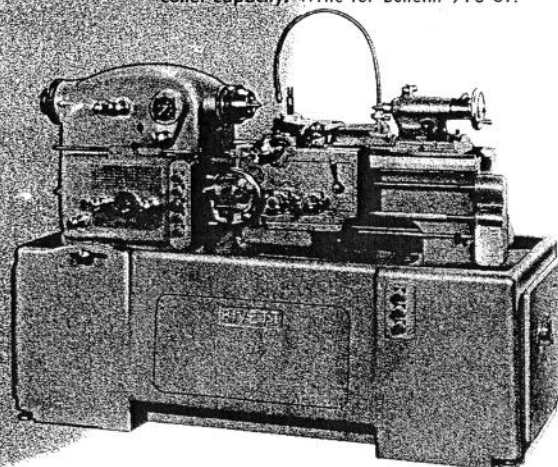
A SYMBOL OF ACCURACY IN MACHINE TOOLS



Rivett Model 918 "Steelway" Turret Lathe. 9" swing, 20" between collet and turret face, 1⅝" draw-in, or 1⅞" stationary collet capacity. Write for Bulletin 918-ST.

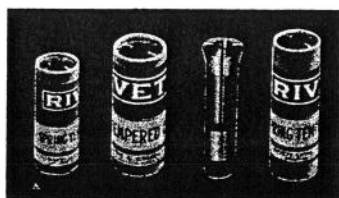


Rivett Model 84 Internal-External Grinder. Hole grinding and, or, external grinding up to 3" dia. and up to 4" length. Write for Bulletin 84.

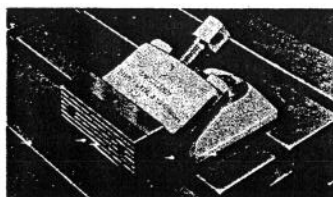


Rivett Model 1020S Precision Toolroom Lathe. 12½" swing, 20" between centers, 1⅝" draw-in collet capacity. Write for Bulletin 1020.

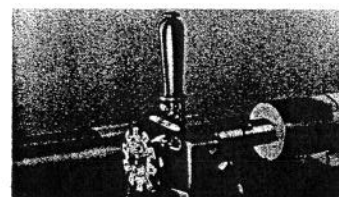
RIVETT ACCESSORIES



DRAW-IN COLLETS—are made in many standard and special styles for lathes, millers, grinders, etc. Carried in stock. Write for Bulletin 100



LOCKJAW—all purpose work clamps furnished in several sizes for planers, shapers, millers, etc. Eliminates expensive clamping and bolting. Write for Bulletin 140



THREAD TOOL—used on any screw-cutting lathe, and takes the place of single point threading tools. Ten teeth of a cutter are progressively indexed to form a perfect finished thread. Write for Bulletin 110

8/24/55

COMPARISONRIVETT 1020S LATHE AND MONARCH MODEL EE

	<u>Rivett</u>	<u>Monarch</u>
Weight including electrical equipment	3900 lbs.	2900 lbs.
Floor space	29" x 73" L	29" x 64" L
Maximum main drive horse power	5 HP	3 HP
Mechanical variable speed drive - simplifies service	Yes	No
Vee belts transmitting power to spindle	Three "A"	Two "A"
Minimum velocity of driving vee belts to spindle	314' per min.	6.8' per min.
Turning power through headstock back - allowing at low spindle speed	Yes	No
Spindle can be run at high speeds with no driving gears engages	Yes	No
Clutch between drive and headstock permits stopping lathe spindle without stopping main drive	Yes	No
Push button control for speed changing and complete operation	Yes	No
Spindle has intermediate, third-bearing to prevent spindle deflection	Yes	No
Spindle has convenient handwheel for moving	Yes	No
Lathe mount directly in ground mouth of lathe to assure greatest precision	Yes	No
Spindle in Standard Camlock spindle nose - suitable for 10" toolroom lathe	Yes with 4" D1	No with 3" D1
Spindle in American Standard long taper - suitable for 10"	Yes	No

COMPARISON

Page 2

Spindle nose is graduated for multiple thread indexing to start 2, 3, 4, 5 or 6 threads	Yes	No
Power from spindle to gear box carriage turning feed transmitted by	Gearing	Flat Belt
Number of threads automatically setup through gear box	84	60
Range of threads through gear box	2 to 240	3 to 184
Number of leads automatically setup through gear box	72	50
Multiple splined feed rod	Yes	No
Hardened and ground "Steelways"	Yes	No
Width of ways to distribute and absorb cutting load	12-3/4"	10-1/2"
Stock spindle diameter	1-5/8"	1-1/4"
Morse taper in tailstock	No. 3	No. 2
Drills are driven by an inside slot in tailstock spindle which does not break through the weaken wall	Yes	No

INSTRUCTIONS FOR OPERATION & MAINTENANCE
OF RIVETT 1020F AND 1030F PRECISION
TOOLROOM LATHE

MODEL NO. _____

SERIAL NO. _____

*Copied from the
Library of D. MAYERON
Berk., Calif.*

WHEN ORDERING REPLACEMENT PARTS PLEASE GIVE:
MODEL AND SERIAL NO.
DRAWING NO. AND PART NO.

RIVETT LATHES & GRINDERS
MANUFACTURED BY LELAND GIFFORD COMPANY
1001 SOUTHBRIDGE STREET
WORCESTER, MASSACHUSETTS 01601
TELEPHONE: AREA CODE 617 752-5635

September 1, 1967

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LATHE ASSEMBLY - Print 1020S With reference nos.

OPERATOR'S INSTRUCTION MANUAL

INTRODUCTION

The 1020F precision toolroom lathe qualifies for the finest metal turning in any toolroom, experimental shop or laboratory. Lasting quality has governed the design and selection of material throughout the lathe. The nature of the lathe should be recognized and every care be taken to maintain its original accuracy and appearance. The wide use of anti-friction bearings, automatic lubrication hardened and ground bed-ways and safety interlocks greatly simplify the maintainance.

The 1020S precision toolroom lathe is built from unit assemblies which greatly simplify service and repair. The headstock is an integral assembly and may be removed from the bed-ways. The gear box is an integral assembly and may be removed from the bed enclosure. The drive is an integral assembly and may be removed from the base casting. All parts in the lathe are manufactured to close tolerances and may be replaced without fitting.

The installation, operation and maintainance instructions are made with reference to assembly drawings to clarify the description. At times further information may be required which will gladly be furnished on written request. When writing it is suggested that the serial number of the lathe be included; this information can be taken from the serial number plate mounted at the front right end of the lathe bed.

INSTALLATION INSTRUCTIONS

RECEIVING AND UNPACKING

If any damage is noticed to packaging, machine or parts call representative of delivering carrier to inspect condition before removing crate or taking parts from boxes and enter claim against the transportation company. The shipper holds receipt in good order for the entire consignment.

Carefully unpack, using nail puller for removing crate, box covers and braces. Avoid jarring machine when doing this. Leave the machine mounted on the skid until it has been finally located. Check all items against packing list. If any shortage exists, re-examine packing material before discarding. Small pieces may easily be lost unless all excelsior and wrapping paper is thoroughly overhauled. Immediately report any shortage or discrepancies.

Remove slushing grease using fresh cotton waste or cloth with gasoline or kerosene. Immediately go over all ground, polished and scraped surfaces with an oily rag.

FOR REFERENCE NUMBERS SEE PRINT 1020F

SETTING UP (dwg. 1020S or 1030 M & S)

Machine should be close to its location on its skid; remove wooden clamps from skid and slide lathe off skid using rollers. Lifting hooks can be used on headstock end of base, remove panel #34 to expose lip for lifting hooks. Place machine on concrete or solid foundation.

Level machine using precision level lengthwise and crosswise on bedways. Lengthwise the level should be tested at both the headstock and tailstock ends of each flat surface. Crosswise the level should rest on two precision parallels each mounted on the flat surfaces of the bedways; the parallels should be of sufficient thickness so the level clears bedway vees. Level directly in front of the headstock and at the extreme tailstock end. Four levelling jacks with jack pads provide adjustment and eliminate the necessity of shims. All readings on level should be within .0005" per foot.

ASSEMBLING

1. Release carriage from bedway by relieving binder stud #13
2. Install draw-in spindle #2 if collets are to be used.
When not in use draw-in spindle fits in hole provided in collet board on top of tool cabinet.
3. Install dial indicator #11 on bracket at left end of carriage.

WIRING

Machine is wired in accordance with wiring diagrams located on the inside of the electrical panel door. Before connecting lead wires to terminal box at left-rear of lathe base, be sure that disconnect line switch #16 on electrical compartment door is in OFF position. Connect lead wires per wiring diagram; be sure leads are connected so that lathe spindle turns counter-clockwise when FORWARD push button #25 is depressed.

Pilot light #17 indicates when disconnect line switch is in ON position and power is available to the drive.

INITIAL OILING

Headstock, gear box and carriage are self-lubricating. Check the oil level in the gauge glass provided on each assembly and if the oil is not to proper level follow instructions under lubrication. Page 7 and lubrication chart 102CL. Carriage automatic lubrication also lubricates the bedways.

Tailstock is provided with three oil cups one for each of the bedways and one for the spindle. Those oil cups should be filled with SAE-20 lubricating oil.

For Reference Numbers See Print 1020F

FILLING COOLANT SYSTEM (optional)

The coolant tank mounts on slideway inside door at the rear of the machine base. To remove the tank from base first lift the drain tube in the sump of the machine base and then remove screws on the door. The coolant reservoir can be filled through the drain stand-pipe. The maximum capacity of the coolant tank is six gallons.

The coolant pump is driven by a vertically flange-mounted motor controlled by push-buttons #18 on the front of the base.

OPERATION INSTRUCTIONS

MAIN DRIVE

The drive consists of a 5 H. P. U. S. Varidrive Motor and countershaft with multidisc clutch to select one of two drives to the headstock. The main drive motor is controlled by Forward, Reverse, and Stop push buttons at the front of the lathe #25, #26 and #27. The Vari-pitch sheave on the output shaft of the motor belt drives a self adjusting vari-pitch sheave on the countershaft. A small geared motor is used to vary the pitch of the countershaft. A small geared motor is used to vary the pitch of the sheaves. The push-buttons marked FAST AND SLOW at the front of the lathe #29 and #28 control the output speed of the drive. The speed of the lathe spindle indicated on the tachometer #7, may be changed to any desired speed by operating the FAST or SLOW push-buttons. Speed changes cannot be made unless main drive motor is running. The countershaft has two output driving sheaves, one for driving the headstock spindle in open belt and one for driving the headstock spindle in back gears. The selecting clutch is operated by lever #33 with three positions OPEN BELT - NEUTRAL - BACK GEAR.

HEADSTOCK

The spindle may be driven by direct belting or through back gearing. Two sets of back gearing are used to provide a spindle speed range from 22 to 400 rpm. Lever #6 on the front of the headstock selects the spindle drive; it has three positions OPEN BELT - 1st BACK GEAR - 2nd BACK GEAR - with neutral between each. To drive the spindle through back gears, lever #33 operating the countershaft should be positioned in BACK GEAR and the control knob #6 on the headstock should be positioned in either 1st BACK GEAR for speeds from 44 to 400 rpm or in 2nd BACK GEAR for speeds from 22 to 200 rpm. To drive the spindle through open belting the lever #33 controlling the countershaft should be in position OPEN BELT and the control knob #6 on the headstock should be positioned in OPEN BELT. The spindle may be stopped by moving the lever #33 controlling the countershaft to NEUTRAL or by pushing the STOP push button #27. The main drive motor stops instantaneously by action of integral motor brakes. To lock headstock spindle when mounting spindle nose attachments, engage knob #6 in back gear position.

SPINDLE NOSE ATTACHMENTS

These mount on long taper key drive spindle nose, American St'd #10. Locking Nut #9 is turned clockwise to draw-up and lock face plates, jaw chucks or other attachments to the keyed long taper of the spindle nose. A spanner wrench is provided and may also be used for tightening draw-in spindle.

COLLETS

Rivett 6R draw-in type collets with round hole capacity up to 1-1/8" mount directly in the spindle mouth and are operated by draw-in spindle or by lever chuck closer if furnished.

GEAR BOX

The mechanism is driven through gearing from the headstock controlled by knob #8 on the front of the headstock. This knob has three positions; FEEDS - NEUTRAL - THREAD. When the Gear Box is used for power turning this lever is located at FEEDS. When the gear box mechanism is used for threading this lever is located at THREAD. When the gear box mechanism is not required this lever is located at NEUTRAL.

TO SELECT FEEDS

1. Turn control knob #8 to feeds position.
2. Note setting of gear box controls for desired feed from chart #37 on front of gear box.
3. Turn selecting locking lever #31 counter-clockwise to neutral detented position.
4. Turn selector dial #32 to match desired number with pointer.
5. Turn selector locking lever #31 clockwise as far as it will go to lock selector dial.
6. Turn control knob #35 to A1, A2 or A3 position as indicated by chart.
7. Turn control knob #36, to B1, or B2 position as indicated by chart.
8. Turn control knob #30 to R.H. for power longitudinal feed, in this position the feed rod will drive the carriage from right to left with the headstock spindle running counter-clockwise.
9. Turn control knob #30 to L.H. for power cross feed, in this position the feed rod will drive the cross slide in to reduce stock diameter

For Reference Numbers See Print 1020E

1. Drive headstock spindle at proper speed.
2. Turn control knob #8 to THREAD position.
3. Note setting of gear box controls for desired thread from chart #37 on front of gear box. If desired thread is not on chart see Instructions for special English or Metric Threads. Page 6.
4. Turn selector locking lever #31 counter clockwise to neutral detented position.
5. Turn selector dial #32 to match desired number with printer.
6. Turn selector locking lever #31 clockwise as far as it will go to lock selector dial.
7. Turn control knob #35 to A1, A2 or A3 position as indicated by chart.
8. Turn control knob #36 to B1 or B2 position as indicated by chart
9. Turn control knob #30 to R.H. for right hand threading or to L.H. for left hand threading.

CARRIAGE

Carriage locks to lathe bed by stud #13. Lathe is shipped with carriage in locked position. Be sure to release the carriage when setting-up lathe. Test free movement of carriage by using handwheel #24. ~~Clutch #23 may be pulled to release handwheel from gear train.~~ Be sure stops #19 are not locked to stop rod to interfere with desired carriage travel.

Lever #22 on front of lever operates clutch for power longitudinal feed. Horizontal position is neutral and lever may be moved up or down for engaging clutch.

Lever #21 on front of apron operates clutch for power cross travel. Horizontal position is neutral and lever may be moved up or down to engage clutch. Control knob #30 must be in L. H. position for power infeed.

Lever #15 engages the half-nuts with the lead screw for threading operations. An interlock prevents engagement of the half-nuts and the power longitudinal feed at the same time.

COMPOUND AND CROSS SLIDE

The screws have dials graduated in thousandths of radius. The swivel is graduated 180 either side of zero and is locked in position by two binder nuts. The cross slide may be locked by clamping nut located to the rear of the compound.

For Reference Numbers See Print 1020F

The cross slide feed screw has adjustable ball stop for retracting and resetting threading tool without losing the micrometer reading. The ball stop is locked in position by knurled screw #12. This provides a positive stop and limits the revolution of the cross slide feed screw to three turns.

THREADING DIAL

The dial mounts on the face of the carriage apron indicated by #14. Threads with the lead divisible by six do not require the use of the threading dial as the half-nuts may be engaged at any point. For all other even whole threads, the half-nuts may be engaged on any number of the threading dial. For all odd whole threads, the half-nuts must be engaged on alternate numbers of the threading dial, namely 1, 3 and 5, or 2, 4 and 6. For all fractional threads, the threading dial cannot be used; the half-nuts must be kept engaged.

DIAL INDICATOR CARRIAGE STOP

The stop assembly consists of an adjustable rod with micrometer stop #10 mounted at the front base of the headstock and dial indicator #11 mounted on the end face of the carriage apron. The dial indicator is graduated to register in thousandths.

ELECTRIC CARRIAGE CONTROL

This mechanism is used when chasing threads to control the travel of the carriage in either or both directions. Stops #19 are set for the desired travel of the carriage. Knurled screw #20 provides final adjustment. Work rotation is stopped automatically at each end of the carriage travel. The carriage travel is reversed by pushing the FORWARD or REVERSE push-button #25, or #26.

SPECIAL ENGLISH OR METRIC THREADS

Special threads not listed on chart #37 are cut using pick-off gears between headstock and gear box. Quadrant on which pick-off gears mount is located at the end of the end of the headstock and gear box. To gain across to quadrant remove guard #4 at left end of headstock and plate #1 at left end of gear box. To remove guard #4 first remove spindle handwheel assembly #3 which is held by nut and compression sleeve.

TAPER ATTACHMENT (optional)

The taper attachment when furnished is fastened to the rear and becomes a fixed part of the carriage. See Assembly Print #1020R-11. To set taper, loosen binder nuts #19A at each end of the slide, turn stud #5 until slide is at desired taper measured either in degrees or in inches per foot, lock binder nuts #19A.

Fasten clamp #25 to the rear of the bed and lock rod #1 between clamp and taper attachment lower slide. Loosen clamping nut #19B on the rear of the taper attachment top plate and tighten clamping bolt on the cross slide. Print 1020R part #32.

When the taper attachment is not in use the slide should be locked at zero taper and the rod #1 and clamp #25 which locks the taper attachment to the lathe bed should be removed. Tighten clamping nut #19B on the rear of the taper attachment top plate and loosen clamping bolt on the cross slide print 1020R-9A, part #32.

MAINTAINANCE INSTRUCTIONS

LUBRICATION

The headstock is automatically lubricated; however, care should be taken to maintain the oil at the level indicated by the guage glass on the front of the machine. To introduce oil to the headstock remove cover plate #38. Use filtered SAE-40 lubricating oil. The headstock should be drained and flushed once a year, the drain cock is located at the rear of the lathe.

The gear box is automatically lubricated; however, care should be taken to maintain the oil at the level indicated by the guage glass at the front of the lathe. To fill the gear box remove plate #1 at the left end of the lathe which gives access to a large filter cup. Use filtered SAE-40 lubricating oil. The gear box should be drained and flushed once a year. Use drain cock at the rear of the lathe.

The carriage is automatically lubricated by a pump driven by the feed rod. When starting machine after a prolonged shut-down, feed rod should be engaged by knob #30 (print 1020S) to insure lubrication of carriage before removing same. Carriage pump may be manually operated by placing knob #30 in neutral and turning feed rod by hand. Care should be taken to maintain the oil at the level indicated by the guage glass on the front of the apron. Use filtered SAE-40 lubricating oil. An oil cup adjacent to the guage glass on the front the apron is furnished for filling the reservoir. The carriage reservoir should be drained and flushed once a year, the drain plus is at the base of the apron.

The tailstock is provided with three oil cups one for each of the bedways and one for the spindle. Use filtered SAE-20 lubricating oil and apply once a week.

The U. S. Vari-drive requires periodic lubrication. See U. S. Vari-drive instruction sheet.

Motor has grease-packed ball bearings which should be re-lubricated once a year. A panel in the rear of the base at the tailstock gives access to the motor.

CARRIAGE GIB

The straight gib is adjusted with four gib screws with locking nuts to hold the adjustment. There should be a free sliding fit between the carriage gib and the hardened bed.

CROSS SLIDE GIB

This straight gib is adjusted with five gib screws having locking nuts to hold the adjustment.

COMPOUND SLIDE GIB

This straight gib is adjusted by three gib screws with locking nuts to hold the adjustment.

LEAD SCREW HALF-NUT GIB

From the right end of the carriage apron three gib screws with locking nuts can be adjusted to compensate the wear in the slide carrying the half-nuts.

LONGITUDINAL AND CROSS FEED CLUTCHES

A slotted nut on the front of each clutch housing adjusts the tension between the clutch faces. Clockwise adjustment of the slotted nut increased the clutch tension.

FEED ROD AND LEAD SCREW

End play may be adjusted. Adjustment on each is the same; remove the end-plate from the bearing housing at the right end of the bed and take up on the adjusting nuts. Lock the adjustment with leaf of winged washer and replace end plate.

CROSS SLIDE NUT

The back lash between the cross slide screw and nut can be adjusted to compensate for wear; see Assembly Print 1020F-9-1000 & 1020F-9A-1000. Lift hinged chip guard #1. Loosen check nut #28 and turn back-lash nut #27 until all play is removed between screw and nut. Lock adjustment with check nut #28.

For lathe with taper attachment see Assembly Print #1020F-9A-1000. Taper attachment connecting arm interferes with adjustment, therefore taper attachment and connecting arm must be removed. Thereafter the adjustment is the same as outlined in preceding paragraph.

COMPOUND SLIDE REST NUT

This nut is adjustable to compensate for wear; see assembly print 1020F-9-1000 and 1020F-9A-1000. Remove bearing collar #15 held by four Allen cap screws #17; push top-slide to the rear exposing feed screw and nut. Loosen check nut #28 and adjust the back-lash nut #48 by turning clockwise until all play between feed screw and feed screw nut is eliminated. Lock adjustment by tightening check nut #28.

MAIN DRIVE CLUTCH

The instructions for adjusting the multi-disc clutch are installation of new belts are detailed on varidrive sheet.

DRIVE BELTS

Two sets of three matched endless vee belts drive headstock. Each set of belts is individually tensioned by adjusting idler. Remove plate #1 at left-end of lathe to reach idlers.

MOTOR BRAKE

A Stearns magnetic disc brake is furnished for the main drive. The brake is an integral part of the motor. After prolonged use, slight wear of the brake linings may occur and require adjustment.

Brake is accessible through door at rear of base by sliding out coolant tank. Instructions for brake adjustment are found inside brake cover.

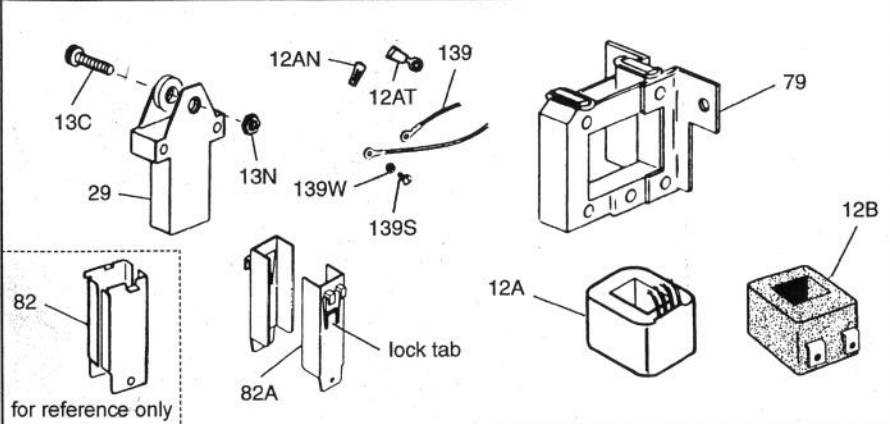
INDEX OF ASSEMBLY PRINTS

ASSEMBLY

PRINT NO.

Floor Plan 2 sheets)	1020S or 1030 M&S
Lubrication Diagram	1020L
Lever Chuck Closer	1020F-2-1000
Slide Rest	1020F-9-1000
Micro Gaging Dial	1020F-9U-1000
Idler	1020S-10A
Taper Attachment	1020R-11
Headstock (3 sheets)	1020F-12-1000-1001-1002
Draw-In Spindle	LN1020F-1000
Main Drive	1020F-16-1000
Power Transfer (c'shaft)	1020S-16A-1100
Clutch Shifter	1020S-16B-1100
Clutch Shaft Assembly	1020S-16E-1100
Gear Box	1020S-20
Tailstock	1020F-22-1000
Bed	1020F-23-1000
Idler Gears	1020S-23A & B
Carriage Apron & Saddle	1020F-26-1000
Carriage Pump	1020F-26P-1100
Coolant Supply	1020F-470S-1000
Coolant Drain	1020F-47-1100
Steady Rest	1020F-53-1000 or 1020F-53A-10
Micro Stop	1020S-63 or 63A
Cross Feed Multi Stop	1020S-63C
Follower Rest	1020F-69-1000
Line Light Box (& push button box)	1020S-73B or 73C
Control Panel	1020S-73TA
Control Circuit	1020S-73UA
Complete Circuit	1020S-73VA
Eccentric Tool Post	1020S-76
Side Mounting Tool Post	1020R-77
Gear Set-Up & St'd Metric Pitches in Millimeter & St'd Set Metric	
Translating Gears	

Service Instructions for No. 5 and 6 AC Coil Kits Single and Dual Voltage Coils

	Item no.	Description of Parts included in Kit (Kit contents will vary based on style of coil or plunger guide)	Qty per Kit
	12A/B 82A 12AN	Coil Plunger guide Wire nut	1 2 2

Important

Please read these instructions carefully before servicing your Stearns Brake. Failure to comply with these instructions could cause injury to personnel and/or damage to property if the brake is installed or operated incorrectly. For definition of limited warranty/liability, contact Rexnord Industries, LLC, Stearns Division, 5150 S. International Dr., Cudahy, Wisconsin 53110, (414) 272-1100.

Caution

1. Servicing shall be in compliance with applicable local safety codes including Occupational Safety and Health Act (OSHA). All wiring and electrical connections must comply with the National Electric Code (NEC) and local electric codes in effect.
2. To prevent an electrical hazard, disconnect power source before working on the brake. If power disconnect point is out of sight, lock disconnect in the *off* position and tag to prevent accidental application of power.
3. Be careful when touching the exterior of an operating brake. Allow sufficient time for the brake to cool before disassembly. Surface may be hot enough to be painful or cause injury.
4. Do not operate brake with housing removed. All moving parts should be guarded.
5. After usage, the brake interior will contain burnt and degraded friction material dust. This dust must be removed before servicing or adjusting the brake.
DO NOT BLOW OFF DUST using an air hose. It is important to avoid dispersing dust into the air or inhaling it, as this may be dangerous to your health.

- a) Wear a filtered mask or a respirator while removing dust from the inside of a brake.
- b) Use a vacuum cleaner or a soft brush to remove dust from the brake. When brushing, avoid causing the dust to become airborne. Collect the dust in a container, such as a bag, which can be sealed off.

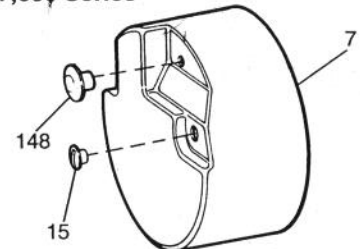
6. Maintenance should be performed only by qualified personnel familiar with the construction and operation of the brake.
7. For proper performance and operation, only genuine Stearns parts should be used for repairs and replacements.

Warning! Any mechanism or load held in position by the brake should be secured to prevent possible injury to personnel or damage to equipment before any disassembly of the brake is attempted or before the manual release knob or lever is operated on the brake.

Instructions

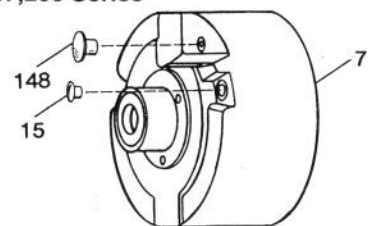
1. To remove housing, follow instructions listed under each individual brake series shown in next column, then continue with the following steps.
2. To replace coil (12A) or (12B), disconnect leads or lead wire terminal screws (139S), lock washers (139W) and lead wires and terminal assembly (139). It is *not* necessary to remove the support plate assembly (142).
3. Remove solenoid link screw (13C), nut (13N) and lift out solenoid plunger (29).
4. To remove non-metallic plunger guides (82A), remove screw(s) (84) if used. Insert shim stock or other thin gauge material at top center of coil between coil and solenoid frame. Push to release lock tab while lifting up on plunger guide. Repeat for other plunger guide.

87,000 Series



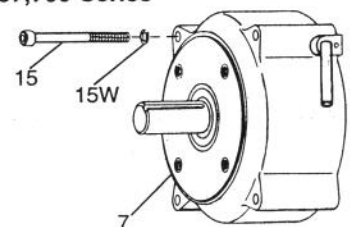
Remove manual release knob (148), two housing nuts (15), and housing (7) by pulling back.

87,200 Series



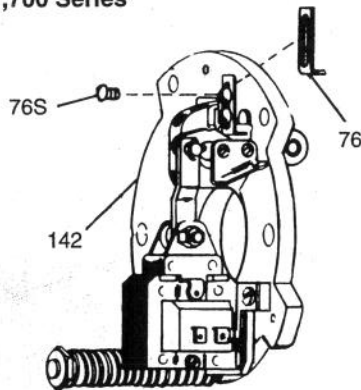
- a) Remove any accessories, sprockets, sheaves, etc. and bearing lock collar on standard enclosure brake from brake shaft on housing side.
- b) Remove manual release knob (148), two housing nuts (15), and housing (7) by pulling back

87,700 Series

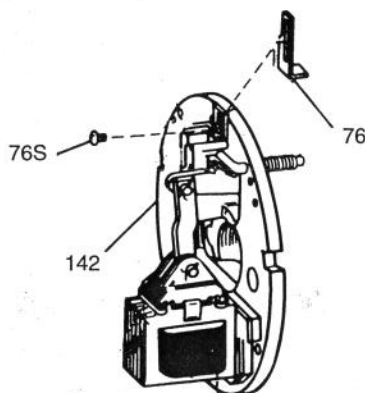


- a) Remove the brake and motor as a unit from the gear reducer.
- b) Remove four housing cap screws (15), lock washers (15W), housing (7) and shaft assembly.

87,700 Series



87,000 and 87,200 Series



On 87,700 style remove right plunger guide screw and insert shim stock to remove right guide as above. If coil (12A) is installed, slide coil to left in frame, remove left plunger guide screw and plunger guide as above, remove coil.

- a) For metallic plunger guide (82), remove plunger guide screw(s) (84) if used. Remove both plunger guides (82) by prying up on the flanges. Slide coil out of frame.

Note: Metallic plunger guides have been replaced by non-Metallic guides in the class "H" coil applications.

5. Slide coil out from solenoid frame (79) in the direction of the coil leads or terminals. If necessary, tap coil lightly with a soft hammer. If solenoid coil had burned out, be sure to remove all foreign material from the solenoid plunger (29) and solenoid frame.
6. Install new coil (12A) in same relative position as old coil if same style coil is used. If replacing coil (12B) with coil (12A), one of the following paragraphs of instructions would apply depending on model. On brakes without solenoid actuated auxiliary switch, position

leads on upper outboard side of solenoid frame.
On all (except the 87,700) with solenoid actuated switch, position leads at the upper inboard side of solenoid frame.

On the 87,700 with solenoid actuated auxiliary switch, position leads at the lower inboard side of solenoid frame.

- a) Assemble new non-metallic plunger guides (82A) by inserting into position following reverse of Step 4. Check that lock tab snaps under top bar of solenoid frame. (Guide screws are no longer required.)

7. Install new coil (12B) in same relative position as old coil. Install new non-metallic plunger guides (82A) (Guide screws are no longer required with plastic guides.)
8. Reassemble plunger into solenoid by reversing Step 3.
9. Dual voltage class H (encapsulated) coils have two terminals and two black wires. Dual voltage class B (molded) coils have two red and two black wires. Follow proper leadwire sequence shown in diagram.
10. If original lead wires (139) are damaged, replace with new lead wires. New terminal screws (139S) and lock washers (139W) are also provided in kit with encapsulated coil.

Be sure to check the following when installing lead wires.

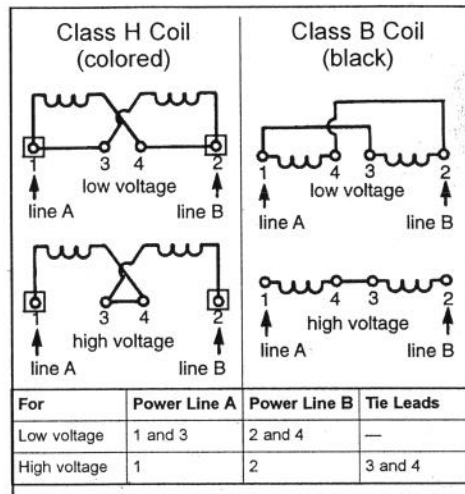
- 1) Must not be tight or pinched.
- 2) Must not make contact with friction disc.
- 3) Must not be trapped between solenoid plunger and frame.

11. Manually lift solenoid plunger to maximum travel. Depress fully and allow solenoid plunger to snap out several times. Measure solenoid air gap between mating surfaces of solenoid frame and solenoid plunger. (On vertically mounted brakes, it will be necessary to push solenoid plunger into solenoid frame to the point where spring pressure is felt, before measuring solenoid air gap.) The factory set solenoid air gap measurement is 13/16" to 15/16".
12. The solenoid air gap may be increased by raising or decreased by lowering the wrap spring stop (76). To accomplish this, loosen two stop screws (76S), move wrap spring stop slightly and retighten screws. Repeat

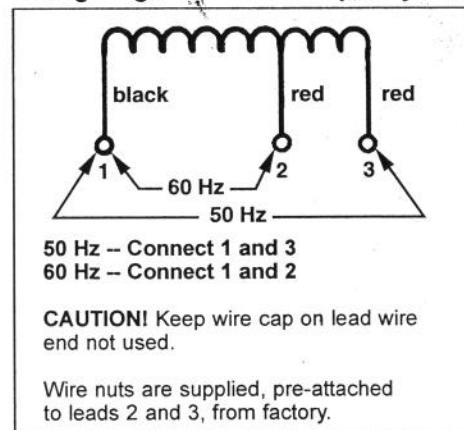
Step 11 after each change in wrap spring stop position to obtain correct solenoid air gap measurement of 13/16" to 15/16".

13. Reconnect coil leads.
14. Replace housing, screws and manual release knob in the reverse order of the appropriate point in Step 1.
15. **Caution 1!** Do not run motor with brake in manual release position. It is intended only for emergency manual movement of the driven load, not as a substitute for full electrical release.

Caution 2! Class H coils with terminals. Do not bend lead wire



Wiring Diagram — Dual Frequency Coil



crimp connection as this causes fatigue in the metal which may break under vibration.

NOTE: For complete instructions, with troubleshooting, request sheet applicable to the series of brake that you have.

repair parts bulletin 623
Effective Oct. 15, 1961

REPAIR PARTS LIST

style HT-70 SERIES



Stearns
electric

STEARNS MAGNETIC DISC BRAKES

style HT-70 series
magnetic disc brakes



Model 1-057-021

IMPORTANT

Use this multiplier to determine net price on brake parts.

Multiplier _____ Date _____

Company _____

If your multiplier is not shown in this space, please contact your local representative or the Milwaukee office for this information.

INFORMATION REQUIRED

When ordering repair parts, give the Stock Number of the part needed. This number will completely identify the part. The Item Number only may be used if the following Name Plate data is furnished:

Serial Number _____

Size _____ Voltage _____

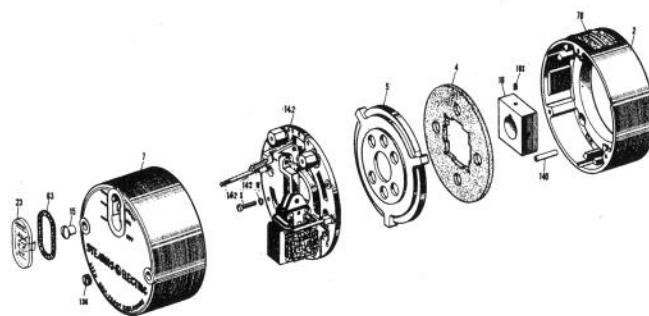
HOW TO USE THIS LIST

This repair parts list covers all sizes and models of Style HT-70 Series STEARNS magnetic Disc Brakes. After checking the exploded parts drawing, the proper Stock Number of the part needed may be found in the accompanying tables.

STEARNS ELECTRIC CORPORATION

Milwaukee 2, Wisconsin

Field Engineer



WHERE USED

ITEM NO.	DESCRIPTION	(X-REF.)	STOCK NO.	LIST PRICE EACH	Qty.	BRAKE SIZE						Regis-		Cur-	ENCLOSURE	Position		M.I.C. VARIABLES
						B2	72A	72B	72C	74	76	76A	9	11		AC	DC	
2	ENDPLATE - #9 REGISTER - OPEN - HORIZ. MTG. ENDPLATE - #9 REGISTER - OPEN - HORIZ. MTG. ENDPLATE - #9 REGISTER - OPEN - HORIZ. MTG. ENDPLATE - #9 REGISTER - OPEN - HORIZ. MTG. ENDPLATE - #11 REGISTER - OPEN - HORIZ. MTG. ENDPLATE - #11 REGISTER - OPEN - HORIZ. MTG. ENDPLATE - #11 REGISTER - OPEN - HORIZ. MTG.	(270H) (270HT) (271H) (271HT) (274H) (274HT) (275H) (272H) (273H)	8-002-701-1 8-002-720-1 8-002-702-1 8-002-721-1 8-002-703-1 8-002-722-1 8-002-704-1 8-002-705-1 8-002-706-1	\$ 38.00 38.00 55.25 42.25 65.25 45.00 42.00 69.25 71.50	1 1 1 1 1 1 1 1 1	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	SPECIFY LEADWIRE CONNECTIONS & LOCATION WHEN ORDERING ENDPLATES		
	ENDPLATE - #9 REGISTER - OPEN - VERT. ABOVE MTG. ENDPLATE - #9 REGISTER - OPEN - VERT. ABOVE MTG. ENDPLATE - #9 REGISTER - OPEN - VERT. ABOVE MTG. ENDPLATE - #9 REGISTER - OPEN - VERT. ABOVE MTG. ENDPLATE - #11 REGISTER - OPEN - VERT. ABOVE MTG. ENDPLATE - #11 REGISTER - OPEN - VERT. ABOVE MTG. ENDPLATE - #11 REGISTER - OPEN - VERT. ABOVE MTG.	(270H) (270HT) (271H) (271HT) (274H) (274HT) (275H) (272H) (273H)	8-002-701-3 8-002-720-3 8-002-702-3 8-002-721-3 8-002-703-3 8-002-722-3 8-002-704-3 8-002-705-3 8-002-706-3	42.00 42.00 63.25 58.85 77.25 62.00 46.00 77.25 83.50	1 1 1 1 1 1 1 1 1	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	x x x x x x x x x	SPECIFY LEADWIRE CONNECTIONS & LOCATION WHEN ORDERING ENDPLATES		
	ENDPLATE/SEAL ASS'Y. - #9 REG. - ENC. - HORIZ. MTG. ENDPLATE/SEAL ASS'Y. - #9 REG. - ENC. - HORIZ. MTG. ENDPLATE - #11 REGISTER - ENC. - HORIZ. MTG. ENDPLATE - #11 REGISTER - ENC. - HORIZ. MTG. ENDPLATE - #11 REGISTER - ENC. - HORIZ. MTG.	(2A70HT) (2A71HT) (2A74HT) (2A75HT) (2A72HT) (2A73HT)	5-22-7001 5-22-7003 5-22-7005 8-002-723-1 8-002-724-1 8-002-725-1	50.75 54.95 59.25 63.75 70.25 73.30	1 1 1 1 1 1	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	SPECIFY LEADWIRE CONNECTIONS & LOCATION WHEN ORDERING ENDPLATES		
	ENDPLATE - #9 REG. - ENC. - VERT. ABOVE MTG. ENDPLATE - #9 REG. - ENC. - VERT. ABOVE MTG. ENDPLATE - #11 REGISTER - ENC. - VERT. ABOVE MTG. ENDPLATE - #11 REGISTER - ENC. - VERT. ABOVE MTG. ENDPLATE - #11 REGISTER - ENC. - VERT. ABOVE MTG.	(370H) (3V70H) (480) (570HT) (570HT) (5B70HT) (5T70HT)	8-002-732-2 8-002-733-2 8-002-734-2 8-002-723-2 8-002-724-2 8-002-725-2	54.75 62.95 71.25 67.75 78.25 85.30	1 1 1 1 1 1	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	SPECIFY LEADWIRE CONNECTIONS & LOCATION WHEN ORDERING ENDPLATES		
3 3V 4	STATIONARY DISC. - HORIZ. MTG. STATIONARY DISC. - VERTICAL MTG. FRICION DISC PRESSURE PLATE - HORIZ. MTG. ONLY PRESSURE PLATE - HORIZ. & VERT. BELOW MTG. PRESSURE PLATE - VERT. BELOW ONLY PRESSURE PLATE - VERT. ABOVE	(370H) (3V70H) (480) (570HT) (570HT) (5B70HT) (5T70HT)	8-003-701-1 8-003-701-2 8-004-701 8-005-702-1 8-005-702-2 8-005-702-3 8-005-702-2	18.00 18.25 7.90 14.25 14.25 14.75 14.75	1 1 1 1 1 1 1	0 0 1 1 1 1 1	0 0 1 1 1 1 1	0 0 1 1 1 1 1	2 2 2 2 2 3 3	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	SPECIFY LEADWIRE CONNECTIONS & LOCATION WHEN ORDERING ENDPLATES		
7	HOUSING - #9 REG. - OPEN HOUSING - #9 REG. - OPEN HOUSING - #11 REG. - OPEN HOUSING - #11 REG. - OPEN HOUSING - #9 REG. - ENC. HOUSING - #9 REG. - ENC. HOUSING - #11 REG. - ENC. HOUSING - #11 REG. - ENC.	(7F70HT) (7F74HT) (7F75HT) (7F71HT) (7G76HT) (7G77HT) (7G78HT) (7G79HT)	8-007-715-1 8-007-716-1 8-007-717-1 8-007-718-1 8-007-719-1 8-007-720-1 8-007-721-1 8-007-722-1	17.00 19.75 20.50 21.25 24.00 25.00 26.00 27.00	1 1 1 1 1 1 1 1	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	SPECIFY SHAFT DIAMETER WHEN ORDERING HOUSINGS FOR THRU-SHAFT BRAKES		
70 15B	DRAIN PLUG - ENCLOSED ONLY HOUSING NUT HOUSING NUT GASKET	(1570H) (15B70H)	9-33-0105 8-015-701 8-167-701	.50 .75 .10	1 1 1	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x		
16	HUB - OPEN HUB - OPEN HUB - OPEN HUB - ENCLOSED HUB - ENCLOSED HUB - ENCLOSED (HUB) SET SCREW	(1680) (1681) (1682) (16A80) (16A81) (16A82) (2370H)	8-016-701 8-016-702 8-016-703 8-016-704 8-016-705 8-016-706 9-20-3108	12.00 14.75 18.25 16.75 18.75 21.00 2.00	1 1 1 1 1 1 2	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x	x x x x x x x			
16S 20 23	SEAL (COMPONENTS OF ENDPLATE/SEAL ASS'Y. ITEM 2) RELEASE COVER & CLIP - #9 REG. - OPEN RELEASE COVER & CLIP - #9 REG. - OPEN RELEASE COVER & CLIP - #11 REG. - OPEN RELEASE COVER - ENCLOSED (RELEASE COVER) SCREW - ENC.	(2080) (2370HT) (2380H) (2380H) (2380HT) (23B70HT)	9-02-0081 8-023-703 8-023-704 8-023-704 8-023-705 9-10-2706	5.50 2.15 1.85 1.85 2.15 .05	2 1 1 1 1 2	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x	SPECIFY SHAFT DIAMETER (BORE) AND KEYWAY WHEN ORDERING HUBS		
24 24S 24A	SHAFT BUSHING - ENC. THRU - SHAFT ONLY (BUSHING) SET SCREWS - ENC. THRU - SHAFT ONLY OIL SEAL - ENC. THRU - SHAFT ONLY	(8024HT) (9-20-0704) (9-02-007)	8-024-701 9-20-0704 9-02-007	33.00 .10 4.50	1 1 1	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	THRU SHAFT ONLY	
34 34S 61A	FLOOR MOUNTING BRACKET (FLOOR MOUNTING) CAP SCREW VERTICAL MOUNTING PIN - ABOVE VERTICAL MOUNTING PIN - ABOVE VERTICAL MOUNTING PIN - ABOVE VERTICAL MOUNTING PIN - ABOVE VERTICAL MOUNTING PIN - ABOVE VERTICAL MOUNTING PIN - BELOW VERTICAL MOUNTING PIN - BELOW	(3470H) (2570H) (61A70H) (61A71H) (61A72H) (61A73H) (61A74H) (61A75H) (6171H) (6172H)	8-034-701-1 9-17-1412 8-061-701 8-061-702 8-061-703 8-061-704 8-061-705 8-061-706 9-29-4719 9-29-4727	29.00 .80 .50 .50 .50 .50 .50 .50 .50 .50	1 1 1 1 1 1 1 1 1 1	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	x x x x x x x x x x	FLOOR MOUNTED ONLY		
62A 62B 62C 62D	VERTICAL MOUNTING SPRING - RED VERTICAL MOUNTING SPRING - RED VERTICAL MOUNTING SPRING - WHITE VERTICAL MOUNTING SPRING - BLUE	(62A70H) (62A70H) (62B70H) (62C70H)	8-062-701 8-062-701 8-062-702 8-062-703	.50 .50 .50 .50	3 3 3 3	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x		
63	VERTICAL MOUNTING SPRING - GREEN RELEASE COVER GASKET - 9 REG. - OPEN RELEASE COVER GASKET - 9 REG. - OPEN RELEASE COVER GASKET - 11 REG. - OPEN RELEASE COVER GASKET - ENCLOSED	(62D70H) (6370HT) (8360) (6380) (63A70HT)	8-062-704 8-063-703 8-063-704 8-063-704 8-063-705	.50 .50 .50 .50 2.00	3 1 1 1 1	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x		
69	GASKET, HOUSING TO ENDPLATE - 9 REG. - ENC. GASKET, HOUSING TO ENDPLATE - 11 REG. - ENC.	(6970HT) (69A70HD)	8-069-703 8-069-704 8-078-022	2.00 2.30 .05	1 1 4	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x		
78	NAMEPLATE (NAMEPLATE) DRIVE SCREW WEAR ADJUSTMENT PIPE PLUG	(8078-022) (9-25-1303) (3670H)	8-078-022 9-25-1303 8-136-701	.10 .05 .65	1 4 1	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x	x x x		
136 139 140	LEADWIRE & TERMINAL ASSEMBLY (SET OF 2) LEADWIRE BUSHING - POSITION D - INT. CONN. ONLY LEADWIRE BUSHING - POSITION A - INT. CONN. ONLY LEADWIRE BUSHING - ALL OTHER POS. - INT. CONN. ONLY	(14070HT) (14070HT) (14070HT)	8-39-0124 8-14-01-017 8-14-01-005 8-14-01-037	1.65 .70 .70 .70	1 1 1 1	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	x x x x	INTERNAL CONNECTIONS ONLY	
142	SUPPORT PLATE ASSEMBLY - #5 SOL., AC (WITH STD. COIL) SUPPORT PLATE ASSEMBLY - #5 SOL., DC (WITH STD. COIL) SUPPORT PLATE ASSEMBLY - #6 SOL., AC (WITH STD. COIL) SUPPORT PLATE ASSEMBLY - #6 SOL., DC (WITH STD. COIL) SUPPORT PLATE ASSEMBLY - #8 SOL., AC (WITH STD. COIL) SUPPORT PLATE ASSEMBLY - #8 SOL., DC (WITH STD. COIL) (SUPPORT PLATE) SCREW (SUPPORT PLATE) LOCKWASHER	SEE TABLE NO. 2 (7170H) (71A70H)	129.25 185.25 146.50 203.25 172.25 250.25 9-12-3014 9-45-1310	1 1 1 1 1 1 .10 .3	1 1 1 1 1 1 3 3	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	SPECIFY COIL STOCK NO. (FROM TABLE NO. 3) WHEN ORDERING SUPPORT PLATE ASSEMBLY			
142S 142W																		

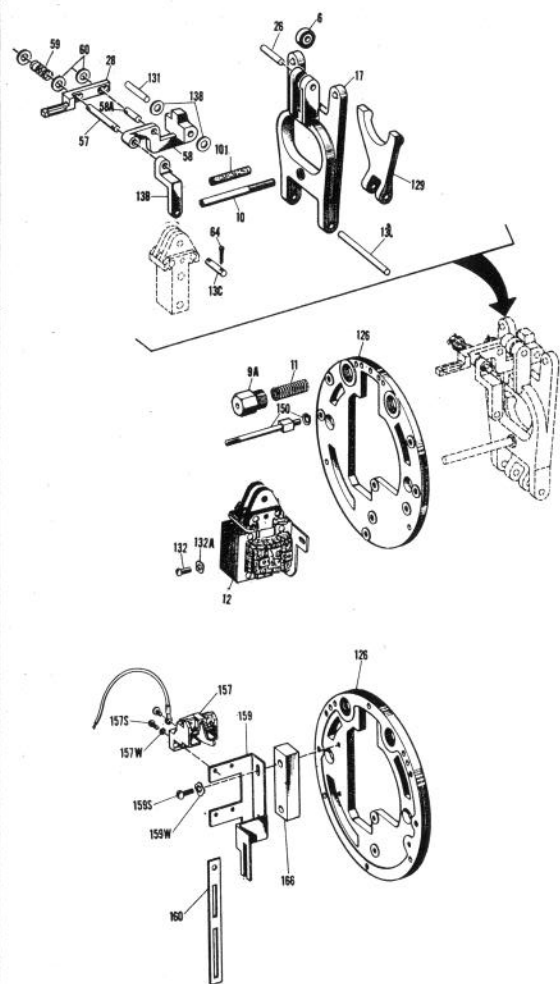


TABLE NO. 2 - SUPPORT PLATE (BRAKE MECHANISM) ASSEMBLY

ITEM NO.	DESCRIPTION	(X-REF.)	STOCK NO.	LIST PRICE EACH	No. Req.	5-42-7021A	5-42-7022C	5-42-7023A	5-42-7024C	5-42-7025A	5-42-7026C	5-42-7027A	5-42-7028C	5-42-7031A	5-42-7032C	5-42-7033A	5-42-7034C	5-42-7035A	5-42-7036C	5-42-7037A	5-42-7038C
6A	BALL BEARING	(680)	9-01-6801	\$3.30	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9A	SPRING TORQUE CUP	(9A70HT)	8-109-701	.80	2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	WEAR ADJUSTMENT STUD - #5 & #6 SOL.	(1070HT)	8-010-703	1.10	1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	WEAR ADJUSTMENT STUD - #8 SOL.	(1071HT)	8-010-704	1.50	1																
11	PRESSURE SPRING - GREEN	(1173HT)	9-70-1606	.75	2	x	x	x	x												
	PRESSURE SPRING - YELLOW	(1172HT)	9-70-1608	.75	2					x	x										
	PRESSURE SPRING - RED	(1174HT)	9-70-1607	.75	2																
12	SOLENOID ASSEMBLY COMPLETE - #5		SEE		1	x	x														
	SOLENOID ASSEMBLY COMPLETE - #6		TABLE		1			x	x	x	x										
	SOLENOID ASSEMBLY COMPLETE - #8		NO. 3		1							x	x								
13B	SOLENOID LINK - #5 & #6 SOL.	(13B70HT)	8-013-701-1	2.30	1	x	x	x	x	x											
	SOLENOID LINK - #8 SOL.	(13B71HT)	8-013-702-1	3.00	1																
13C	SOLENOID LINK PIN - #5 SOL.	(13C80H)	8-012-701	.65	1	x	x														
	SOLENOID LINK PIN - #6 SOL.	(13C81H)	8-012-702	.65	1			x	x	x											
	SOLENOID LINK PIN - #8 SOL.	(13C72HT)	8-012-704	1.00	1																
17	LEVER ARM & HELICOIL ASSEMBLY - #5 & #6 SOL.	(1770HT)	5-17-7001	4.25	1	x	x	x	x	x											
	LEVER ARM & HELICOIL ASSEMBLY - #8 SOL.	(17A71HT)	5-17-7002	4.25	1																
26	BEARING PIN		9-29-5022	.75	1	x	x	x	x	x											
28	WEAR INDICATOR - #5 & #6 SOL.	(2610H)	8-028-702	1.50	1	x	x	x	x	x											
	WEAR INDICATOR - #8 SOL.		8-028-703	1.50	1																
57	RELEASE PIN - #5 & #6 SOL.		8-057-701	.65	1	x	x	x	x	x											
	RELEASE PIN - #8 SOL.	(5770HT)	8-057-702	.80	1																
57P	(RELEASE PIN) COTTER PIN		9-31-0308	.05	2	x	x	x	x	x											
58	SOLENOID LEVER - #5 & #6 SOL.	(5870H)	8-008-701-1	5.10	1	x	x	x	x	x											
	SOLENOID LEVER - #8 SOL.	(5871H)	8-008-702-1	5.10	1																
58A	SOLENOID LEVER STUB PIN	(58A80H)	8-058-101	.65	1	x	x	x	x	x											
58P	(STUB PIN) COTTER PIN		9-31-0308	.05	1	x	x	x	x	x											
59	RELEASE SPRING	(5980)	9-70-0801	.25	1	x	x	x	x	x											
60	(STUB & RELEASE PIN) WASHER		9-45-0170	.05	3	x	x	x	x	x											
64	(SOLENOID LINK) COTTER PIN - 1/2"		9-31-0308	.05	2	x	x	x	x	x											
	(SOLENOID LINK) COTTER PIN - 3/4"		9-31-0312	.05	2																
101	WEAR ADJUSTMENT INSULATING SLEEVE	(15770HT)	8-101-701	\$.50	1	x	x	x	x	x											
126	SUPPORT PLATE - AC	(12670HT)	8-126-702-1	12.00	1	x	x	x	x	x											
	SUPPORT PLATE - DC		8-126-702-2	18.95	1																
129	WEAR ADJUSTMENT FORK	(12970HT)	8-129-701-1	2.50	1	x	x	x	x	x											
130	LEVER ARM PIVOT PIN	(13070HT)	9-29-5049	.35	1	x	x	x	x	x											
131	SOLENOID LEVER PIVOT PIN	(13170H)	9-29-5041	.40	1	x	x	x	x	x											
132	SOLENOID MOUNTING SCREW	(13280)	8-132-701	.10	3	x	x	x	x	x											
132A	(SOLENOID MOUNTING) LOCKWASHER		9-45-0828	.10	3	x	x	x	x	x											
132P	(SOLENOID MOUNTING) DRIVE PIN		9-32-3101	.10	1																
138	PIVOT BEARING - WASHER TYPE	(13880)	8-138-101	.10	4	x	x	x	x	x											
150	HOUSING STUD - #5 & #6 SOL.	(15070H)	8-150-701	1.10	2	2	2	2	2	2											
	HOUSING STUD - #8 SOL.	(150A70H)	8-150-702	1.20																	
150N	(HOUSING STUD) STOPNUT		9-40-2610	.50	1																
150W	(HOUSING STUD) LOCKWASHER		9-45-0311	.05		2	2	2	2	2											
157	DC SWITCH		5-57-0009	21.45	1	2	2	2	2	2											
157S	(SWITCH MOUNTING) SCREW		9-10-2705	.10	2	2	2	2	2	2											
157W	(SWITCH MOUNTING) LOCKWASHER		9-45-0307	.05	2	2	2	2	2	2											
159	SWITCH MOUNTING BRACKET		8-159-703	1.65	1	x	x	x	x	x											
159S	SWITCH BRACKET MOUNTING SCREW - 1/2"		8-132-701	.10	2	x	x	x	x	x											
	SWITCH BRACKET MOUNTING SCREW - 7/8"		8-132-702	.10	2																
159W	(SWITCH BRACKET) LOCKWASHER		9-45-0828	.05	2	x	x	x	x	x											
160	SWITCH TRIPPER		8-160-702	.65	1	x	x	x	x	x											
166	SWITCH BRACKET BLOCK		8-166-701	5.50	1																

TABLE NO. 3 - SOLENOID ASSEMBLIES * FOR HT70 BRAKES

ITEM NO.	DESCRIPTION	#5 SOLENOID FOR HT72		#6 SOLENOID FOR HT72A, 72B 74 & 76		#8 SOLENOID FOR HT72C, 74A & 76A	
		STOCK NO.	PRICE EACH	STOCK NO.	PRICE EACH	STOCK NO.	PRICE EACH
	SOLENOID ASSEMBLY LESS COIL	5-12-0051	\$ 45.75	5-12-0061	\$ 59.75	5-12-0081	\$ 73.50
	COMPONENTS FOR ABOVE ASSEMBLY						
29	PLUNGER	8-029-051	31.00	8-029-061	39.50	8-029-081	49.25
79	FRAME	8-079-051	31.00	8-079-061	39.50	8-079-081	49.25
82	COIL HOLDER - PLUNGER GUIDE	8-082-051	4.90	8-082-061	4.90	8-082-081	6.25
83	COIL CLAMP	8-083-051	4.40	8-083-061	4.40	8-083-081	5.75
84	COIL CLAMP SCREW & WASHER	8-084-051	.40	8-084-061	.40	8-084-081	.50
12A	COIL - AC - 110 VOLTS, 60 CYCLES	6-1-51106	13.50	6-1-61106	14.50	6-1-81106	23.50
	COIL - AC - 208 VOLTS, 60 CYCLES	6-1-52086	13.50	6-1-62086	14.50	6-1-82086	23.50
	COIL - AC - 220 VOLTS, 60 CYCLES	6-1-52206	13.50	6-1-62206	14.50	6-1-82206	23.50
	COIL - AC - 440 VOLTS, 60 CYCLES	6-1-54406	13.50	6-1-64406	14.50	6-1-84406	23.50
	COIL - AC - 550 VOLTS, 60 CYCLES	6-1-55506	13.50	6-1-65506	14.50	6-1-85506	23.50
	COIL - AC - 110 VOLTS, 50 CYCLES	6-1-51105	13.50	6-1-61105	14.50	6-1-81105	23.50
	COIL - AC - 208 VOLTS, 50 CYCLES	6-1-52085	13.50	6-1-62085	14.50	6-1-82085	23.50
	COIL - AC - 220 VOLTS, 50 CYCLES	6-1-52205	13.50	6-1-62205	14.50	6-1-82205	23.50
	COIL - AC - 380 VOLTS, 50 CYCLES	6-1-53805	13.50	6-1-63805	14.50	6-1-83805	23.50
	COIL - AC - 440 VOLTS, 50 CYCLES	6-1-54405	13.50	6-1-64405	14.50	6-1-84405	23.50
	COIL - AC - 550 VOLTS, 50 CYCLES	6-1-55505	13.50	6-1-65505	14.50	6-1-85505	23.50
	COIL - AC - 110 VOLTS, 25 CYCLES	6-1-51102	13.50	6-1-61102	14.50	6-1-81102	23.50
	COIL - AC - 220 VOLTS, 25 CYCLES	6-1-52202	13.50	6-1-62202	14.50	6-1-82202	23.50
	COIL - AC - 440 VOLTS, 25 CYCLES	6-1-54402	13.50	6-1-64402	14.50	6-1-84402	23.50
	COIL - AC - 550 VOLTS, 25 CYCLES	6-1-55502	13.50	6-1-65502	14.50	6-1-85502	23.50
	COIL - AC - 110/220 VOLTS, 60 CYCLES	6-2-51106	29.50	6-2-61106	30.80	6-2-81106	38.50
	COIL - AC - 220/440 VOLTS, 60 CYCLES	6-2-52206	29.50	6-2-62206	30.80	6-2-82206	38.50
	COIL - DC - 115 VOLTS	6-1-51150	46.00	6-1-61150	47.75	6-1-81150	56.00
	COIL - DC - 230 VOLTS	6-1-52300	46.00	6-1-62300	47.75	6-1-82300	56.00

* Solenoid Assemblies complete with coil require, for identification, both the "Solenoid Assembly Less Coil" Stock Number and the Coil Stock Number. List prices for solenoid assemblies complete with coil are the sum of the list price for the coil and for the assembly less coil.

VERTICAL MOUNTING (ABOVE MOTOR) COMPONENTS USED IN BRAKES MANUFACTURED AFTER JUNE, 1960 (STARTING WITH SERIAL NO. B-297697)

ITEM NO.	DESCRIPTION	STOCK NO.	LIST PRICE EACH	QTY.	WHERE USED												OPEN	ENCLOSED
					HT-70 BRAKE SIZE								REGI- STER		9	11		
					72	72A	72B	72C	74	74A	76	76A						
2	ENDPLATE - 9 REG. - OPEN	8-002-701-4	\$42.00	1	X	X	X							X		X		
	ENDPLATE - 9 REG. - OPEN	8-002-720-4	42.00	1				X						X		X		
	ENDPLATE - 9 REG. - OPEN	8-002-702-4	63.25	1					X					X		X		
	ENDPLATE - 9 REG. - OPEN	8-002-721-4	58.85	1						X				X		X		
	ENDPLATE - 9 REG. - OPEN	8-002-703-4	77.25	1										X		X		
	ENDPLATE - 11 REG. - OPEN	8-002-722-4	62.00	1								X		X		X		
	ENDPLATE - 11 REG. - OPEN	8-002-704-4	46.00	1	X	X	X	X								X		
	ENDPLATE - 11 REG. - OPEN	8-002-705-4	77.25	1					X	X						X		
	ENDPLATE - 11 REG. - OPEN	8-002-706-4	83.50	1							X	X				X		
	ENDPLATE/SEAL ASS'Y. - 9 REG. - ENC.	5-22-7002	54.75	1	X	X	X	X						X			X	
	ENDPLATE/SEAL ASS'Y. - 9 REG. - ENC.	5-22-7004	62.95	1					X	X				X			X	
	ENDPLATE/SEAL ASS'Y. - 9 REG. - ENC.	5-22-7006	71.25	1							X	X		X			X	
	ENDPLATE - 11 REG. - ENC.	8-002-723-4	67.75	1	X	X	X	X						X			X	
	ENDPLATE - 11 REG. - ENC.	8-002-724-4	78.25	1					X	X						X	X	
	ENDPLATE - 11 REG. - ENC.	8-002-725-4	85.30	1							X	X		X		X	X	
3	STATIONARY DISC	8-003-701-4	18.25	1	0	0	0	0	1	1	2	2		X		X	X	
5	PRESSURE PLATE	8-005-702-4	14.75	1	X	X	X	X	X	X	X	X		X		X	X	
61	VERTICAL MOUNTING PIN	8-061-711	.75	3	X	X	X	X						X		X	X	
	VERTICAL MOUNTING PIN	8-061-712	.75	3					X	X				X		X	X	
	VERTICAL MOUNTING PIN	8-061-713	.75	3										X		X	X	
62	VERTICAL MOUNTING SPRING - BLUE	9-70-0802	.50		3	3	3	3	6	6	9	9		X		X	X	
62S	SPRING SPACER	8-141-702	.15		0	0	0	0	3	3	9	9		X		X	X	

VERTICAL MOUNTING (BELOW MOTOR) COMPONENTS USED IN BRAKES MANUFACTURED DURING PERIOD FROM JUNE 1960 TO SEPT. 1961 (SERIAL NOS. B-297697 THRU B-327897).

ITEM NO.	DESCRIPTION	STOCK NO.	LIST PRICE EACH	QTY.	WHERE USED								
					BRAKE SIZE				REGI-STER	OPEN	ENCLOSED		
					74	74A	76	76A					
2	ENDPLATE - 9 REG. - OPEN	8-002-702-4	\$63.25	1	X				X		X		
	ENDPLATE - 9 REG. - OPEN	8-002-721-4	58.85	1		X					X		
	ENDPLATE - 9 REG. - OPEN	8-002-703-4	77.25	1			X				X		
	ENDPLATE - 9 REG. - OPEN	8-002-722-4	62.00	1				X			X		
	ENDPLATE - 11 REG. OPEN -	8-002-705-4	77.25	1	X	X			X		X		
	ENDPLATE - 11 REG. - OPEN	8-002-706-4	83.50	1			X	X		X	X		
	ENDPLATE/SEAL ASS'Y. - 9 REG. - ENC.	5-22-7004	62.95	1	X	X		X	X		X		
	ENDPLATE/SEAL ASS'Y. - 9 REG. - ENC.	5-22-7006	71.25	1			X	X	X		X		
	ENDPLATE - 11 REG. - ENC.	8-002-724-4	78.25	1	X	X					X		
	ENDPLATE - 11 REG. - ENC.	8-002-725-4	85.30	1			X	X			X		
3	STATIONARY DISC	8-003-701-4	18.25	1	1	1	2	2	X	X		X	
5	PRESSURE PLATE	8-005-702-4	14.75	1	X	X	X	X	X	X		X	
61	VERTICAL MOUNTING PIN	8-061-712	.75	3	X	X			X	X		X	
61	VERTICAL MOUNTING PIN	8-061-713	.75	3			X	X	X	X		X	
62	VERTICAL MOUNTING SPRING - BLUE	9-70-0802	.50		6	6	9	9	X	X		X	
62S	SPRING SPACER	8-141-702	.15		3	3	9	9	X	X		X	

NOTE: NO MODIFICATION NECESSARY FOR 72, 72A, 72B, 72C BRAKES.

VERTICAL MOUNTING (BELOW MOTOR) COMPONENTS USED IN BRAKES MANUFACTURED AFTER SEPT. 1961 (STARTING WITH SERIAL NO. B-327898)

ITEM NO.	DESCRIPTION	STOCK NO.	LIST PRICE EACH	QTY.	WHERE USED								
					BRAKE SIZE				REGI-STER		OPEN	ENCLOSED	
					74	74A	76	76A					
3	STATIONARY DISC	8-003-701-4	\$18.25	1	1	1	2	2	X	X	X	X	X
5	PRESSURE PLATE	8-005-702-5	14.75	1	X	X	X	X	X	X	X	X	X
61	VERTICAL MOUNTING PIN	8-061-715	.50	3	X	X			X	X	X	X	X
62	VERTICAL MOUNTING SPRING - BLUE	8-061-716	.50	3			X	X	X	X	X	X	X
62S	SPRING SPACER	9-70-0802	.50	3	3	3	6	6	X	X	X	X	X
		8-141-702	.15	0	0	3	3	3	X	X	X	X	X

NOTE: NO MODIFICATION NECESSARY FOR 72, 72A, 72B, 72C BRAKES.

STEARNS ELECTRIC CORPORATION

120 N. Broadway, Milwaukee 2, Wis.

The data in this bulletin is subject to change without notice.

LUBRICATION INSTRUCTIONS FOR 1020S LATHE

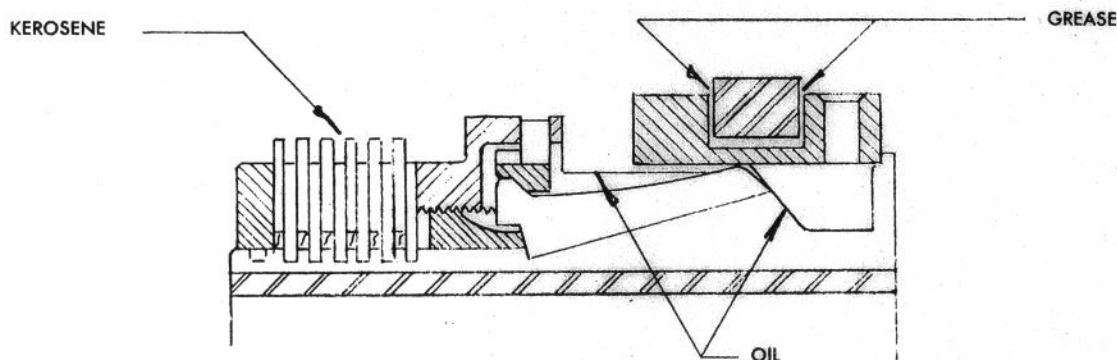
HEADSTOCK: Automatically lubricated; care should be taken to maintain the oil at the level indicated by the gage glass "A". Recommend draining and flushing once a year, the drain plug is located at the rear of the lathe. To fill, remove plate #1 Capacity approx. 10 qts.

GEAR BOX: Automatically lubricated; care should be taken to maintain the oil at the level indicated by the gage glass "B". To fill remove plate #10 at the left end of lathe which gives access to filler cup #3. Recommend draining and flushing once a year, use drain plug at rear of the lathe. Capacity approx. 8 quarts.

CARRIAGE: Automatically lubricated; care should be taken to maintain the oil at the level indicated by the gage glass "C". To fill, oil cup #6 adjacent to gage glass is provided. Recommend draining and flushing once a month, the drain plug is at the base of the apron. Capacity 1 quart.

TAILSTOCK: Three cups at #8 & #9 provided. Apply oil once a week.

DRIVE: Drive is accessible through removable panel at rear and front panel #12. Motor bearings are grease packed and should require no further lubrication; however, grease fittings are provided. Speed change motor #7 requires to be repacked with grease once a year. Grease points #4 & #5 twice a year. Flush plates of clutch #11, twice a year by pouring small amount of kerosene over them. Apply oil as per chart below, twice a year. Grease as shown applying grease sparingly.



LEVER CHUCK CLOSER: (If so equipped) — Grease fitting #2 at rear, grease twice a year.

GENERAL: Apply light oil on sliding surfaces of compound, taper attachment slide (if so equipped); cross slide screw, lead screw and feed rod, once a day.

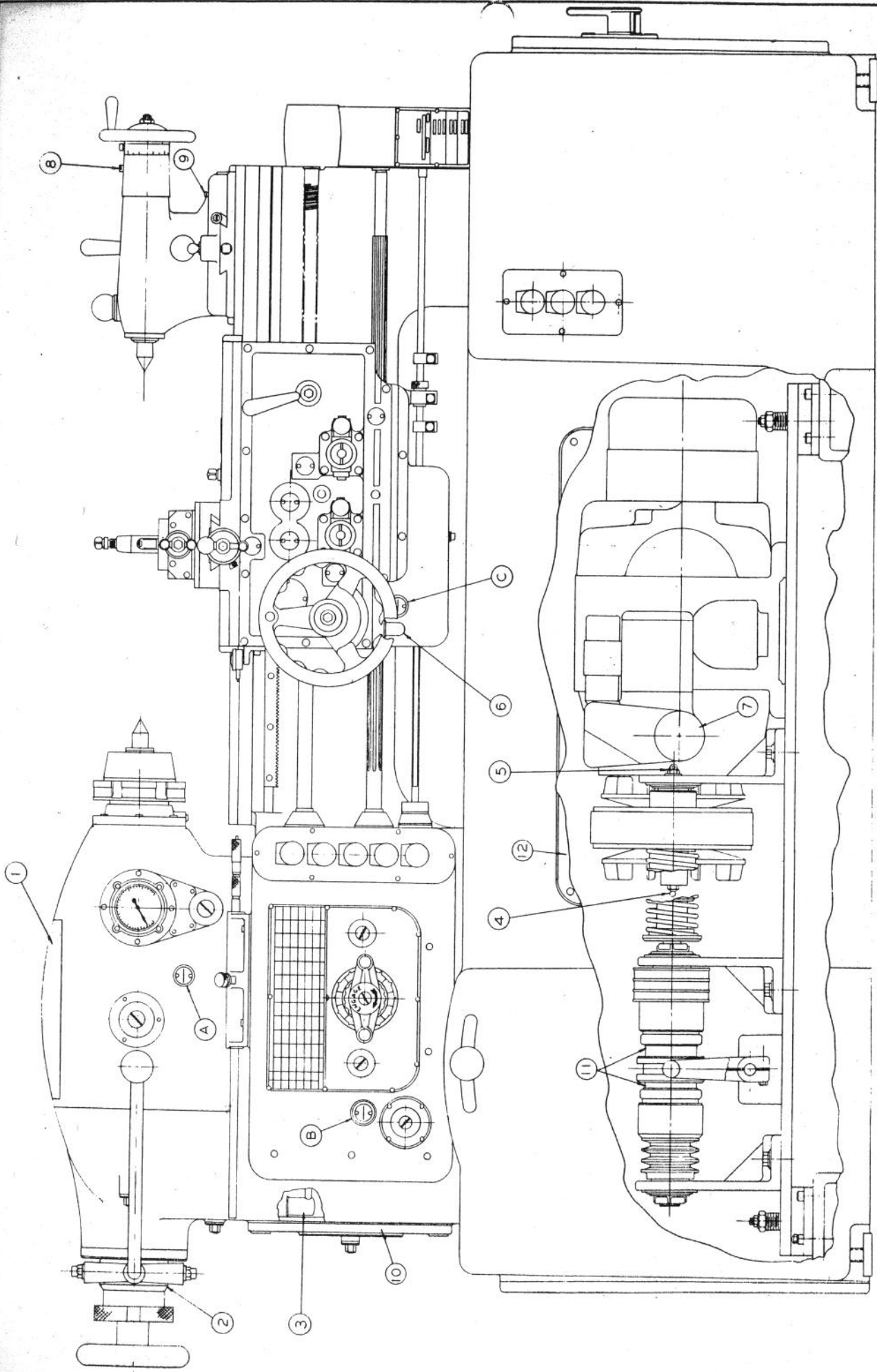
MILITARY LUBRICANT SPECIFICATIONS

HEADSTOCK & GEARBOX: MIL-L-15016A, Amend. 2 Military Symbol 3080, Viscosity SUV Sec. @ 100°C, 818, SAE Equivalent #40.

CARRIAGE: MIL-L-15017, Amend. 2 Military Symbol 2135H, Viscosity SUV Sec. @ 100°F, 305, SAE Equivalent #20.

GREASE: VV-C-632 Type B, Grade 1, Soft Federal Spec.: Mineral Oil Content Min. 85%, Viscosity SSA @ 110° 300/400 Work Penetration 310/340.

GENERAL OIL LUBRICANT: MIL-L-15017 Amend. 2, Military Symbol 2075H, SAE Equivalent #10.



RYETT LATHE & COMPANY, INC.

LUBRICATION DIAGRAM

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
1	Oil	1	Gal.	
2	Grease	1	Lb.	
3	Water	1	Gal.	
4	Oil	1	Gal.	
5	Grease	1	Lb.	
6	Water	1	Gal.	
7	Oil	1	Gal.	
8	Grease	1	Lb.	
9	Water	1	Gal.	
10	Oil	1	Gal.	
11	Grease	1	Lb.	
12	Water	1	Gal.	

1020S-L

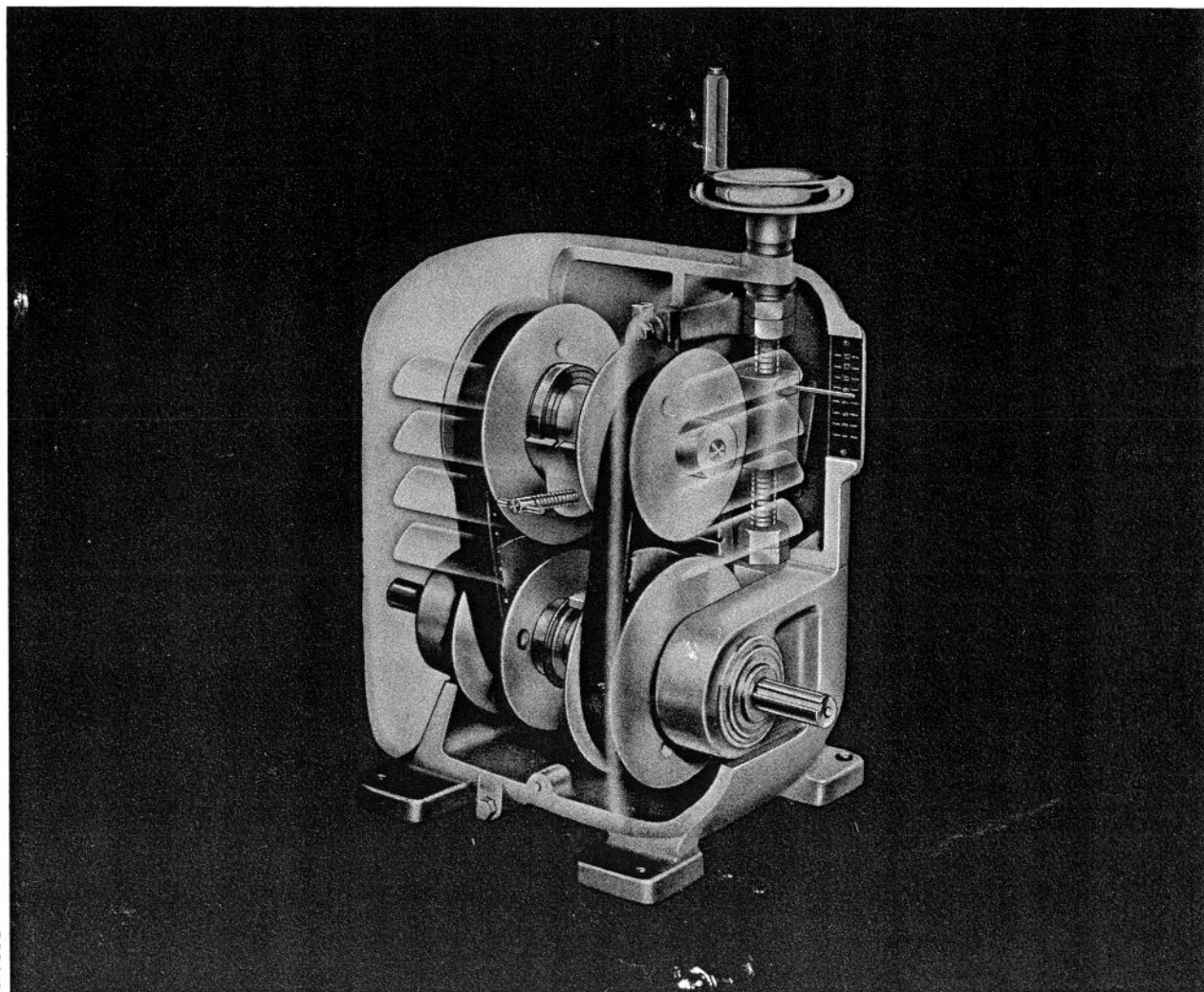
WORTHINGTON DRIVE

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Twin Tandem Belts

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Berk., Calif.

721-2001



70-7662

Allspeed Drives

$\frac{1}{3}$ to 5 hp

Speed Variations up to 20:1

STEHEDCO

P. O. BOX 1867 - PHONE (803) 244-4110
GREENVILLE, S. C. 29602

Vary production speeds—quickly, smoothly—positively

The Eaton Allspeed Drive is a simple, compact transmission to give you variable control of production speeds with brisk and positive action. Can be mounted in any position and run in either direction.

The Allspeed Drive, through an exclusive "positive set" linkage system, maintains its output speed setting regardless of load variations. Sheave pitch diameters and flange settings are maintained mechanically to hold the desired output speed. Once set, speeds cannot vary.

The extremely compact design has been achieved by an exclusive tandem twin V-sheave arrangement using two V-belts. This method results in a compounding of the speed ratio change and permits the use of drastically reduced sheave sizes and narrower V-belts.

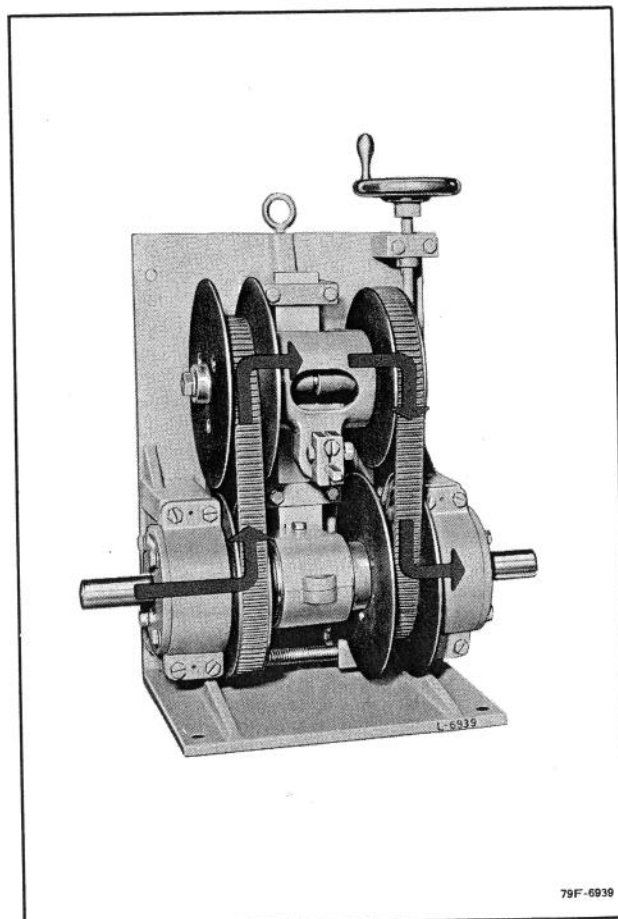
The Allspeed Drive employs a unique method of automatically controlling and maintaining uniform belt tension during the speed change cycle. An automatic cam bar riding in a cam roller is fastened to the control mechanism. The bar, angled at the bottom, varies with precise control, the center-to-center distance between the jackshaft and the input-output assemblies to maintain proper belt tension at all times.

A floating jackshaft allows you to remove the belts without disassembling any rotating parts or disconnecting the unit from other equipment. Wrench and screwdriver are all that are needed.

Upright or horizontal models are both available in either closed or skeleton frame designs. Handwheel control is standard. Lever or linkage arrangements can be furnished if requested.

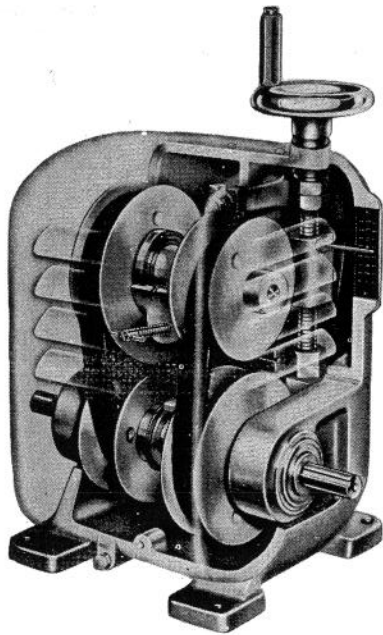
Model A—up to 1 hp. Model B—up to 3 hp.

Model C—up to 5 hp.



79F-6939

ALLSPEED DRIVES



**MODEL A TYPE UR ENCLOSED
WITH HAND-WHEEL CONTROL**

HAND WHEEL CONTROL

Standard equipment on the STEHECO Allspeed Drive is a hand-wheel control. In using this type of control, close regulation of the output speeds, ease of shifting, and freedom from undesired variation in speed is accomplished. The hand-wheel type of control can be extended by increased shaft length, sprockets, and chains, universal joints or worms and gears.

ELECTRIC REMOTE CONTROLS AND TACHOMETERS ARE ALSO AVAILABLE.

LEVER OR LINKAGE CONTROL

For certain types of applications, it is desirable that the machine be furnished with an extended control yoke shaft, for attachment of some form of lever or linkage control. When the extended shaft assembly is used, the hand wheel is omitted. However in a lever type of control, it is necessary that the lever be held in position, or the machine will revert to its slowest speed.

SELECTION

NECESSARY DATA

- 1 Required speed range of the driven machine.
- 2 Required horsepower of the driven machine at maximum and minimum speeds.
- 3 Type of load and operating conditions.
- 4 The input RPM to the Allspeed Drive.

PROCEDURE

Most Allspeed Drives are selected for normal industrial duty. However, where abnormal loads and conditions exist the horsepower requirement should be corrected by the applicable service factor from Table at right. (Required HP \times S.F.). Using the corrected horsepower requirement, speed range and input RPM to the Allspeed Drive, Table 51, Page 163, or charts A, B, and C, Pages 163-164, can be used to select the proper Allspeed to do the job. For 1750 and 1160 RPM input speeds use Table 51, Page 163, for other input speeds use the Charts.

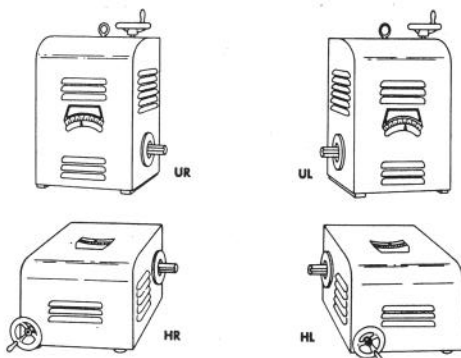
Since no machine is 100% efficient, Table 52, Page 163 recommends input horsepower for desired horsepower delivered at the output shaft.

CAUTION: Check the required horsepower at minimum driven speed against the rated capacity of the Allspeed drive to insure correct drive selection. Should the horsepower requirement be greater than the drive capacity, either a larger drive or higher input speed may be required.

SERVICE FACTORS

NORMAL DUTY		
1. Where occasional starting or peak load does not exceed 150% of the full load.	1.0	
2. Daily service—6 to 16 hours per day.		
HEAVY DUTY		
1. Where occasional starting or peak load does not exceed 200% of the full load.	1.2	
2. Daily service—16 to 24 hours per day.		
EXTRA HEAVY DUTY		
1. Where starting or peak load is in excess of 200% of the full load or where starting or peak loads and overloads occur frequently.	1.6	
2. Continuous service.		

For ordering, the letter designating the type of machine can be interpreted as follows: The first letter denotes either an upright or horizontal type ("U", upright—"H", horizontal). The second letter denotes the location of the output shaft. In the upright style, "R" denotes output shaft on right-hand side and "L" denotes output shaft on left-hand side, when looking at the front of the machine. In the horizontal style, "R" denotes output shaft on right-hand side while "L" denotes output shaft on left, when looking at the machine from the hand-wheel end.



SELECTION TABLES AND CURVES

TABLE 51—NORMAL DUTY HORSEPOWER RATINGS

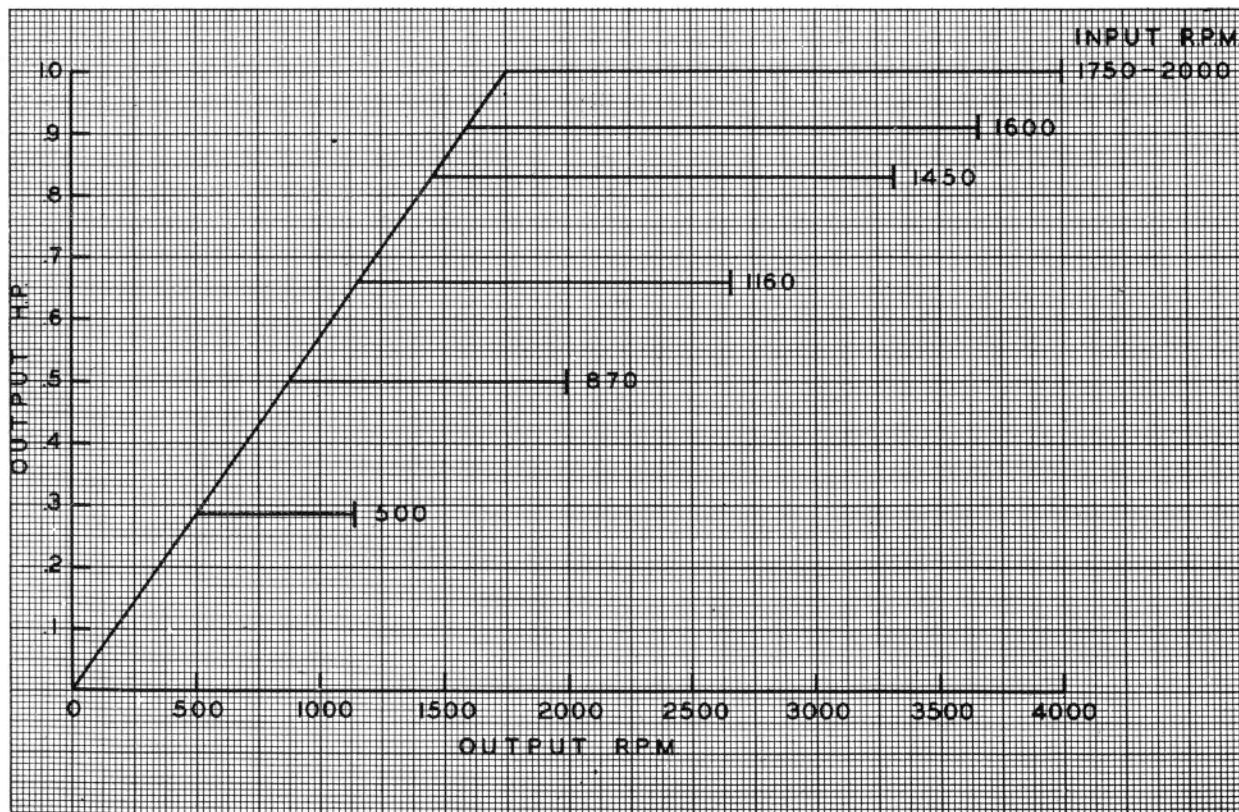
VARIATION	INPUT SPEED 1750 RPM						INPUT SPEED 1160 RPM					
	MODEL A		MODEL B		MODEL C		MODEL A		MODEL B		MODEL C	
	OUTPUT RPM	OUTPUT HP	OUTPUT RPM	OUTPUT HP	OUTPUT RPM	OUTPUT HP	OUTPUT RPM	OUTPUT HP	OUTPUT RPM	OUTPUT HP	OUTPUT RPM	OUTPUT HP
2:1	3450	1.00*	3000	3.00*	3600	5.00*	2250	.66*	1960	1.98*	2350	3.30*
	1725	.99	1500	2.60	1800	5.00	1125	.62	980	1.70	1175	3.30
3:1	3450	1.00*	3000	3.00*	3600	5.00*	2250	.66*	1960	1.98*	2350	3.30*
	1150	.70	1000	1.95	1200	3.56	750	.45	654	1.28	784	2.40
4:1	3450	1.00*	3000	3.00*	3600	5.00*	2250	.66*	1960	1.98*	2350	3.30*
	863	.55	750	1.61	900	2.78	563	.34	490	1.05	588	1.86
5:1	3450	1.00*	3000	3.00*	3600	5.00*	2250	.66*	1960	1.98*	2350	3.30*
	690	.47	600	1.42	720	2.30	450	.30	392	.92	470	1.66
6:1	3450	1.00*	3000	3.00*	3600	5.00*	2250	.66*	1960	1.98*	2350	3.30*
	575	.40	500	1.30	600	2.00	375	.28	327	.83	392	1.48
8:1	3450	1.00*	3000	3.00*	3600	5.00*	2250	.66*	1960	1.98*	2350	3.30*
	432	.36	375	1.20	450	1.64	256	.21	242	.70	281	1.21
10:1	3450	1.00*	3000	3.00*	3700	5.00*	2250	.66*	1960	1.98	2350	3.30*
	345	.32	300	1.00	370	1.05	225	.20	196	.65	235	.67
12:1	3450	1.00*	3600	3.00*	—	—	2250	.66*	2350	1.98*	—	—
	287	.29	300	1.00	—	—	187	.18	196	.65	—	—
16:1	3450	1.00*	—	—	—	—	2250	.66*	—	—	—	—
	215	.25	—	—	—	—	141	.15	—	—	—	—
20:1	4000	1.00*	—	—	—	—	2650	.66*	—	—	—	—
	200	.25	—	—	—	—	132	.15	—	—	—	—

* OUTPUT HP FROM MAXIMUM RPM DOWN TO INPUT RPM.

TABLE 52—MOTOR SELECTION FOR OUTPUT HORSEPOWER REQUIREMENTS

	MODEL A				MODEL B				MODEL C			
Output HP required	1/4	1/2	3/4	1	1	1 1/2	2	3	2	3	4	5
Suggested motor size	1/3	3/4	1	1 1/2	2	3	3	5	3	5	5	7 1/2

CHART A—MODEL "A" ALLSPEED DRIVE



SELECTION CURVES

CHART B—MODEL "B" ALLSPEED DRIVE

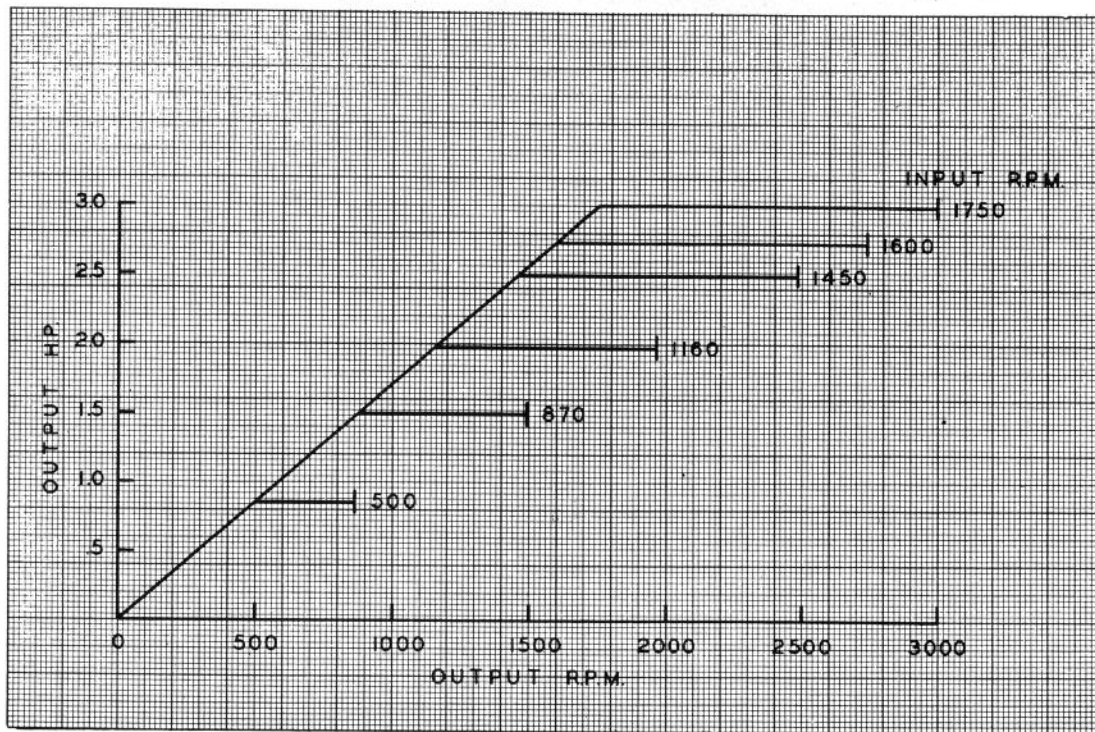
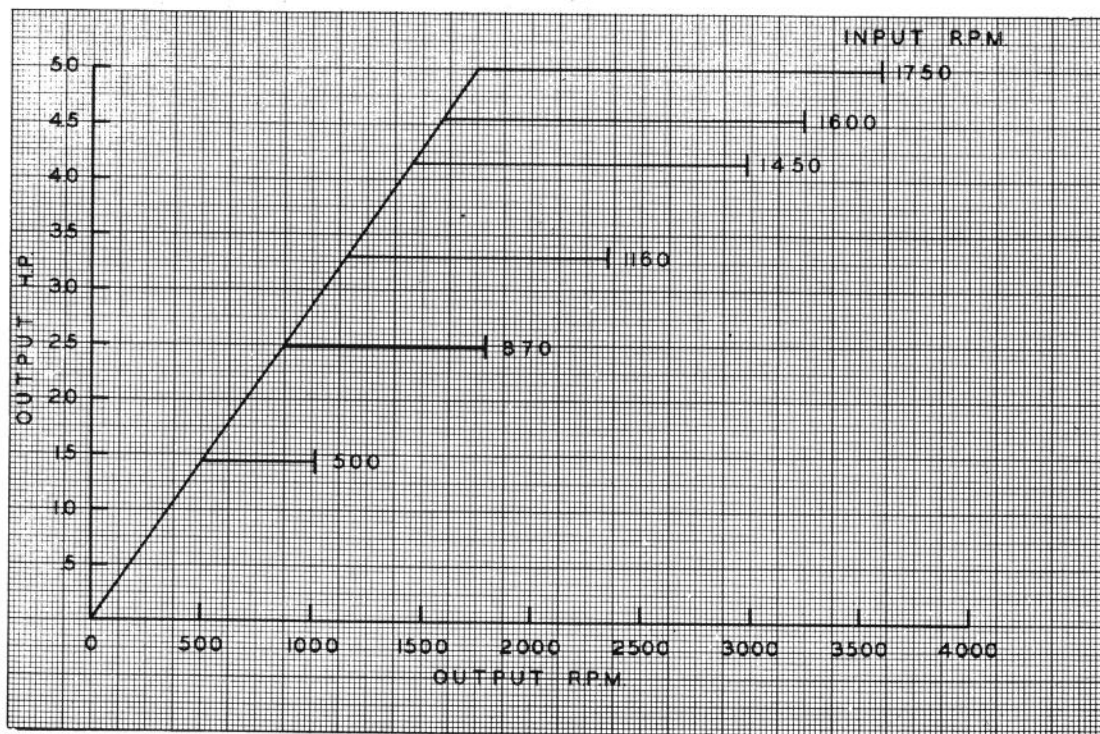
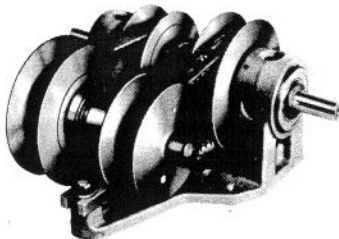


CHART C—MODEL "C" ALLSPEED DRIVE



MODEL "A" PLATE TYPE



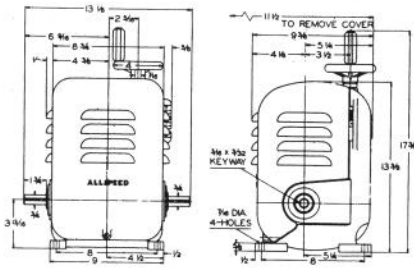
The Model "A" Allspeed drive is also available in the "Plate Type" shown in the illustration at the left. This type enables the working parts of the Allspeed to become an integral part of a machine.

It may be mounted in any position, with the output shaft either left or right, up or down. Speed variation is accomplished by means of an extended control yoke and lever on the back side of the plate. An adapter base plate is available to allow mounting in an upright, normal or inverted position.

DIMENSIONS

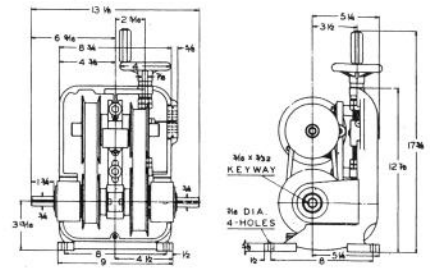
MODEL

A
UPRIGHT
ENCLOSED
71 lb.



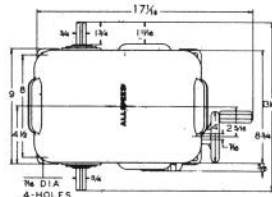
MODEL

A
UPRIGHT
SKELETON
64 lb.



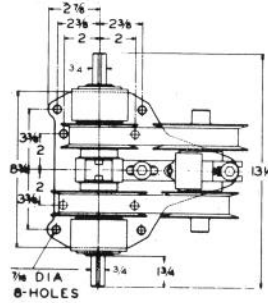
MODEL

A
HORIZONTAL
ENCLOSED
66 lb.



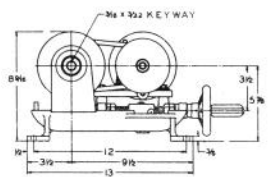
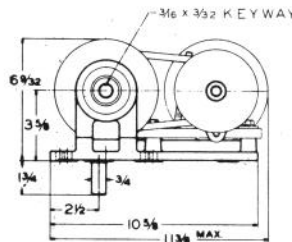
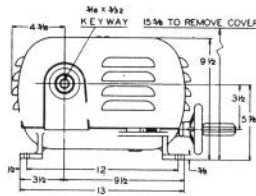
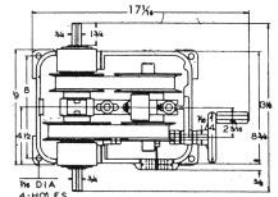
MODEL

A
PLATE
TYPE



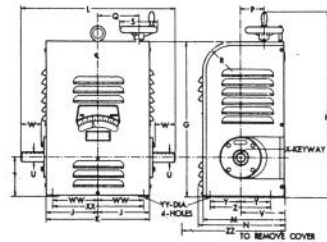
MODEL

A
HORIZONTAL
SKELETON
59 lb.



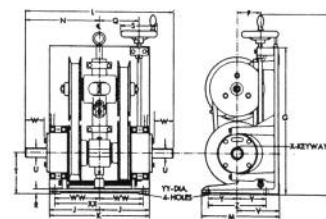
MODEL

B or C
UPRIGHT
ENCLOSED



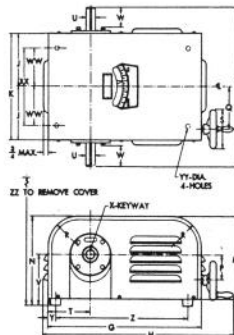
MODEL

B or C
UPRIGHT
SKELETON



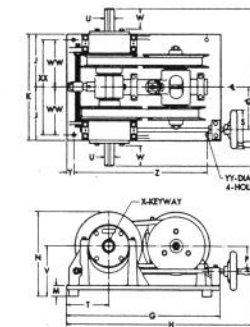
MODEL

B or C
HORIZONTAL
ENCLOSED



MODEL

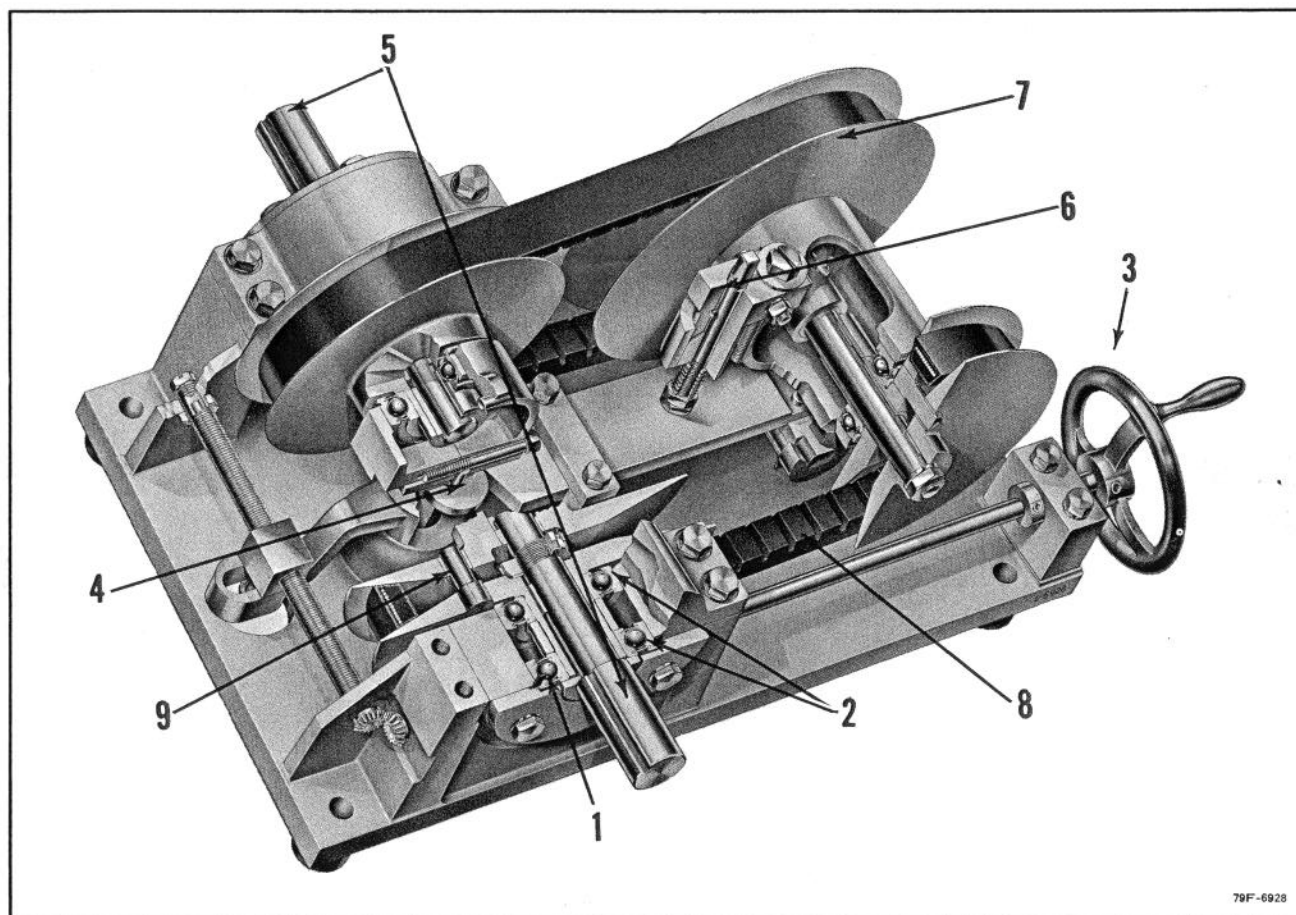
B or C
HORIZONTAL
SKELETON



CERTIFIED DIMENSION DRAWINGS AVAILABLE ON REQUEST.

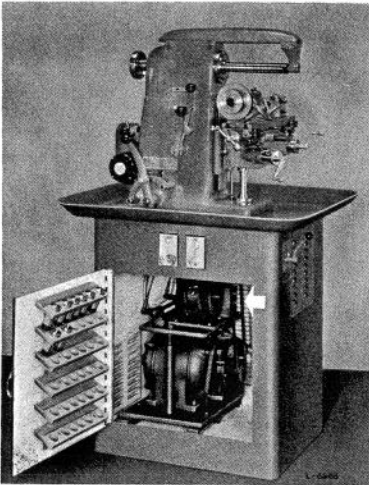
MODEL	FRAME	TYPE	G	H	J	K	L	M	N	P	Q*	R	S	T	U	V	W	X	Y	Z	WW	XX	YY	ZZ	WT. LBS.
B	SKEL	HORIZ	17	21	5 ⁷ / ₈	11 ³ / ₄	17	1 ¹ / ₈	9 ³ / ₄	3 ³ / ₈	4	—	4	4 ³ / ₄	1 ¹ / ₈	5 ¹ / ₈	2 ¹ / ₂	1 ¹ / ₄ x 1 ¹ / ₈	7 ¹ / ₈	15 ¹ / ₄	5	10	9 ¹ / ₈	—	138
B	SKEL	UPRIGHT	17 ¹ / ₄	21	5 ⁷ / ₈	11 ³ / ₄	17	9 ³ / ₈	8 ¹ / ₂	3 ³ / ₈	4	3 ¹ / ₄	4	5	1 ¹ / ₈	5 ¹ / ₈	2 ¹ / ₂	1 ¹ / ₄ x 1 ¹ / ₈	3 ¹ / ₂	7	5	10	9 ¹ / ₈	—	148
B	ENCL	HORIZ	17 ¹ / ₈	21 ¹ / ₂	6	12	17	9 ¹ / ₈	10 ¹ / ₈	3 ³ / ₈	4	3 ¹ / ₈	4	4 ¹ / ₈	1 ¹ / ₈	5 ¹ / ₈	2 ¹ / ₂	1 ¹ / ₄ x 1 ¹ / ₈	1 ¹ / ₈	15 ¹ / ₄	5	10	9 ¹ / ₈	20	146
B	ENCL	UPRIGHT	17 ³ / ₈	21	6	12	17	9 ¹ / ₈	10 ¹ / ₈	3 ³ / ₈	4	3 ¹ / ₈	4	5	1 ¹ / ₈	5 ¹ / ₈	2 ¹ / ₂	1 ¹ / ₄ x 1 ¹ / ₈	3 ¹ / ₂	7	5	10	9 ¹ / ₈	19	160
C	SKEL	HORIZ	20	23 ³ / ₄	6 ¹ / ₈	13 ³ / ₄	20 ¹ / ₂	1 ¹ / ₈	10 ¹ / ₈	3 ³ / ₈	5 ¹ / ₂	—	5	5 ¹ / ₂	1 ¹ / ₄	6 ¹ / ₂	2 ³ / ₈	1 ¹ / ₄ x 1 ¹ / ₈	1 ¹ / ₈	17 ³ / ₈	6 ¹ / ₈	12 ¹ / ₄	9 ¹ / ₈	—	205
C	SKEL	UPRIGHT	20	24	6 ¹ / ₈	13 ³ / ₄	20 ¹ / ₂	10 ¹ / ₈	10 ¹ / ₈	3 ³ / ₈	5 ¹ / ₂	3 ¹ / ₄	5	5 ¹ / ₂	1 ¹ / ₄	5 ¹ / ₈	2 ³ / ₈	1 ¹ / ₄ x 1 ¹ / ₈	4	8	6 ¹ / ₈	12 ¹ / ₄	9 ¹ / ₈	—	215
C	ENCL	HORIZ	20 ¹ / ₈	24	7	14	20 ¹ / ₂	10 ¹ / ₈	11 ¹ / ₈	3 ³ / ₈	5 ¹ / ₂	3 ¹ / ₈	5	5 ¹ / ₈	1 ¹ / ₄	6 ¹ / ₂	2 ³ / ₈	1 ¹ / ₄ x 1 ¹ / ₈	1	17 ³ / ₈	6 ¹ / ₈	12 ¹ / ₄	9 ¹ / ₈	22	234
C	ENCL	UPRIGHT	20 ¹ / ₈	24	7	14	20 ¹ / ₂	10 ¹ / ₈	11 ¹ / ₈	3 ³ / ₈	5 ¹ / ₂	3 ¹ / ₈	5	5 ¹ / ₂	1 ¹ / ₄	5 ¹ / ₈	2 ³ / ₈	1 ¹ / ₄ x 1 ¹ / ₈	4	8	6 ¹ / ₈	12 ¹ / ₄	9 ¹ / ₈	22	246

* 4 MODEL B HANDWHEEL LOCATED IN CENTER OF FRAME.

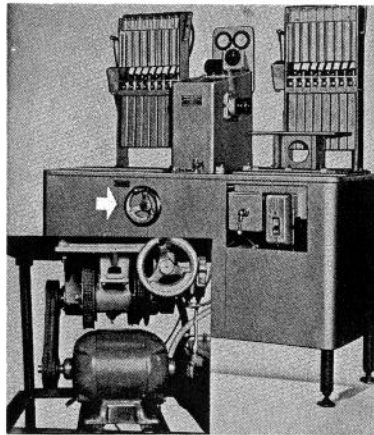


79F-6928

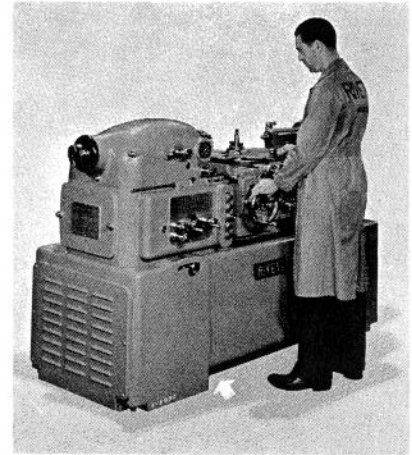
1. Life-lubricated ball bearings.
2. Tandem ball bearing construction designed to allow overhung load.
3. Built-in handwheel for exact speed adjustment.
4. Automatic positive belt-tensioning device.
5. Through-shaft construction.
6. Belt-tension indicator (Models B and C only).
7. Rotating sheaves fully machined and balanced.
8. Narrower V-belts for long life.
9. Power transmitted through bronze-bushed driving pins (Models B and C only).



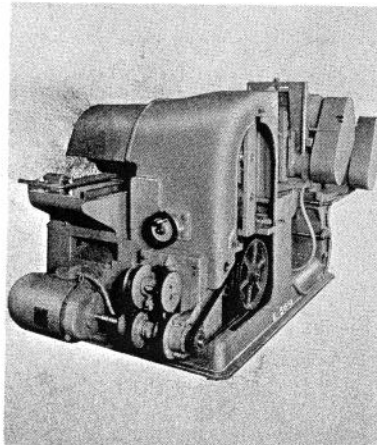
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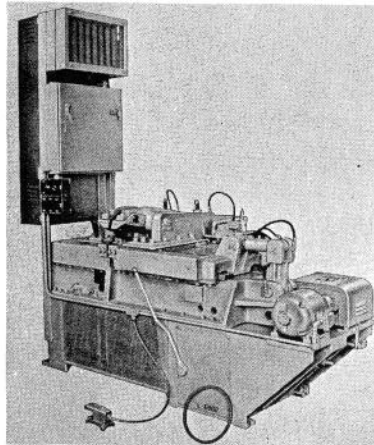
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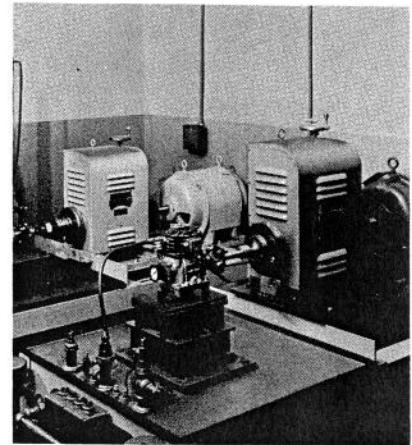
79F-6930



79F-5618



79F-6900



79F-7685

Allspeed Drive flexibility has resulted in its wide acceptance and use for all positive variable speed requirements. Shown here are: (top row) horizontal milling machine, fuel injection test stand, precision tool room lathe; (bottom row) wood-molding machine, automatic butt flash welder, rubber extruder applications.

Call you nearest Mechanical Power Transmission Division representative or distributor. He'll show you how the Allspeed Drive will give you accurate, speed variation. You will find him listed in the Yellow Pages under Power Transmission Equipment.

STEEL HEDDLE MFG. CO.

Industrial Division

Greenville, S. C. 29602

P. O. BOX 1867

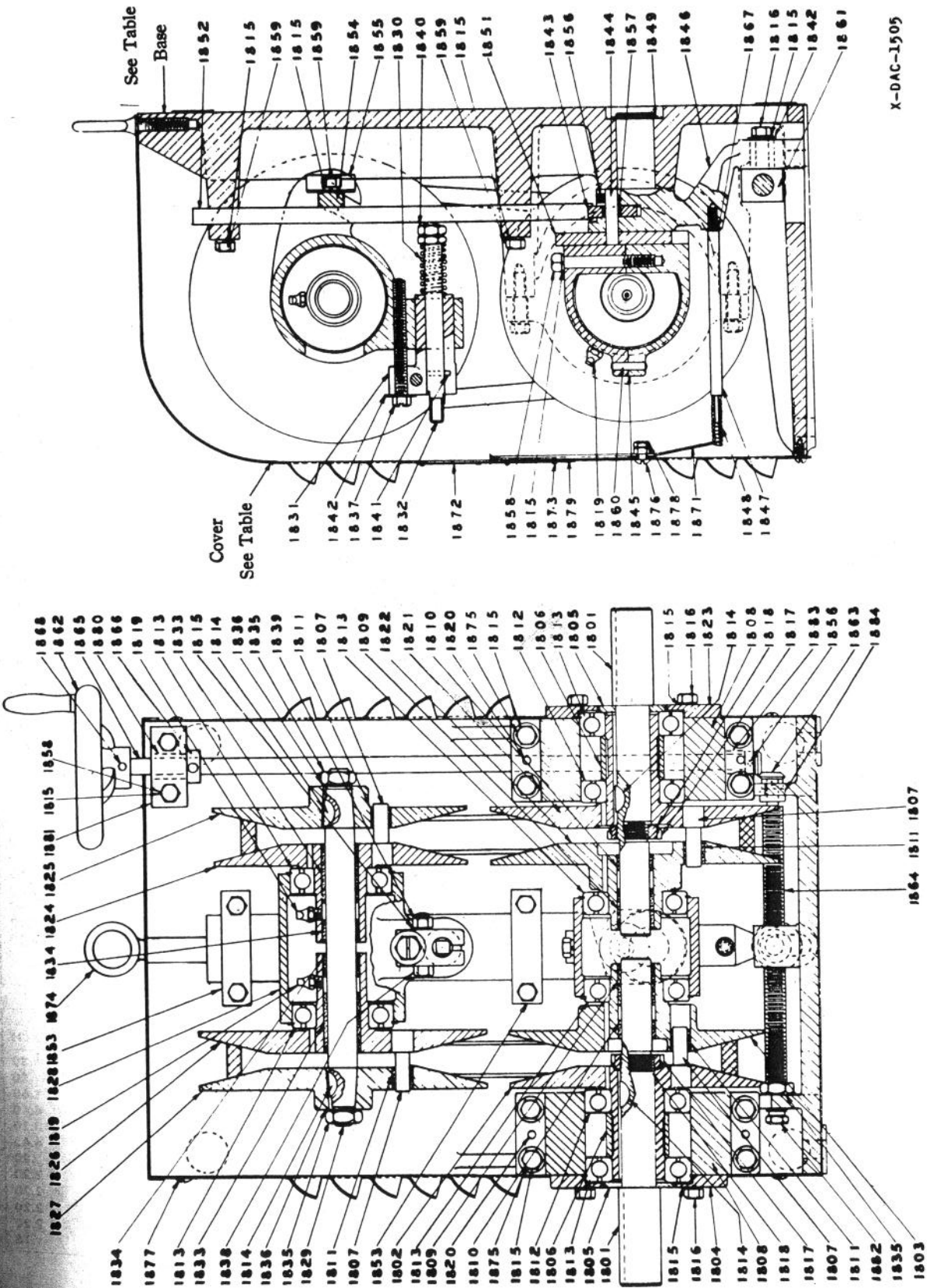
TELEPHONE: (803) 244-4110

ALLSPEED DRIVES
MODEL 3C
REPAIR PARTS LIST PRICES

STEHEDCO

P. O. BOX 1867 — PHONE (803) 244-4110
GREENVILLE, S. C. 29602

Dated October 1, 1970



Description	Part Number	
	For UR & For HR & UL Type	HL Type
Base	1869	1885
Cover	1870	1886

STEHEDCOP. O. BOX 1867 - PHONE (803) 244-4110
GREENVILLE, S. C. 29602**ALLSPEED DRIVES
MODEL 3C****REPAIR PARTS LIST PRICES**

721-8025

Dated October 1, 1970

WHEN ORDERING PARTS, FURNISH ALLSPEED MODEL AND SERIAL NUMBER**INPUT SHAFT ASSEMBLY COMPLETE - \$182.00**

PART NO.	INPUT SHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
1801	INPUT-OUTPUT SHAFT	1	\$23.00
1802	FIRST DRIVER STATIONARY FLANGE	1	46.00
1803	FIRST DRIVER SHIFTABLE FLANGE	1	46.00
1805	SHAFT COLLAR	1	3.30
1806	BEARING SPACER SLEEVE	1	4.40
1807	FLANGE DRIVING PINS	3	2.80
1808	BEARING SLEEVE	1	28.00
1809	BRONZE BUSHING	1	2.20
1810	BRONZE BUSHING	1	2.20
1811	BRONZE PIN BUSHING	3	.55
1813	BALL BEARING NO. 477508	2	8.80
1812	BALL BEARING NO. 77508	1	8.80
1814	WOODRUFF KEY	1	.20
1817	BALL BEARING LOCKNUT	1	1.10
1818	BALL BEARING LOCKWASHER	1	.30
1819	STRAIGHT FITTING (ZERK)	1	.25
1820	TAPER DOWELS	2	.25

OUTPUT SHAFT ASSEMBLY COMPLETE - \$182.00

PART NO.	OUTPUT SHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
1801	INPUT-OUTPUT SHAFT	1	\$23.00
1821	SECOND DRIVEN STATIONARY FLANGE	1	46.00
1822	SECOND DRIVEN SHIFTABLE FLANGE	1	46.00
1805	SHAFT COLLAR	1	3.30
1806	BEARING SPACER SLEEVE	1	4.40
1807	FLANGE DRIVING PINS	3	2.80
1808	BEARING SLEEVE	1	28.00
1809	BRONZE BUSHING	1	2.20
1810	BRONZE BUSHING	1	2.20
1811	BRONZE PIN BUSHING	3	.55
1813	BALL BEARING NO. 477508	2	8.80
1812	BALL BEARING NO. 77508	1	8.80
1814	WOODRUFF KEY	1	.20
1817	BALL BEARING LOCKNUT	1	1.10
1818	BALL BEARING LOCKWASHER	1	.30
1819	STRAIGHT FITTING (ZERK)	1	.25
1820	TAPER DOWELS	2	.25

JACKSHAFT ASSEMBLY COMPLETE - \$294.00

PART NO.	JACKSHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
1824	SECOND DRIVER STATIONARY FLANGE	1	\$46.00
1825	SECOND DRIVER SHIFTABLE FLANGE	1	46.00
1826	FIRST DRIVEN STATIONARY FLANGE	1	46.00
1827	FIRST DRIVEN SHIFTABLE FLANGE	1	46.00
1807	FLANGE DRIVING PINS	6	2.20
1828	JACKSHAFT HOUSING	1	38.00
1829	JACKSHAFT	1	28.60
1830	BELT TENSION INDICATOR SPRING	1	2.50
1831	BELT TENSION INDICATOR GLAND	1	17.20
1832	BELT TENSION INDICATOR ROD	1	5.50
1811	BRONZE PIN BUSHING	6	.55
1833	BRONZE BUSHING	2	2.20
1813	BALL BEARING NO. 477508	2	8.80
1814	WOODRUFF KEY	2	.20
1835	HEX JAM NUT	2	.40
1836	LOCKWASHERS	2	.20
1837	BELT TENSION ADJUSTMENT SCREW	1	1.10
1838	HEX BOLT	1	.40
1815	LOCKWASHER	1	.20
1839	HEX NUT	1	.20
1840	HEX JAM NUT	2	.40
1841	GROOVE-PIN	1	.20
1834	BRONZE BUSHINGS	2	2.20
1819	STRAIGHT FITTING (ZERK)	2	.25
1842	PLAIN WASHER	1	.20
1858	STOP ADJUSTING SCREW	2	.25
1860	NUT	2	.20
	BELT	2	24.20
1874	EYE BOLT	1	2.20

PART NO.	CONTROL YOKE ASSEMBLY PARTS	NO. REQ'D	EACH
1843	CAM ROLLER	1	\$ 4.00
1844	CAM ROLLER PIN	1	1.20
1845	SHIFTING SPACER	1	26.00
*1846	CONTROL YOKE	1	38.00
1849	CONTROL YOKE SNAP RING	1	1.00
1851	SHIFTING PLATE	1	3.30
1852	CAM BAR	1	16.00
1853	CAM BAR STRAPS	2	3.30
1854	JACKSHAFT HOUSING FULCRUM	1	7.70
1855	JACKSHAFT HOUSING GUIDE	1	2.20
1856	ROLL-PIN	2	.25
1857	BRONZE BUSHING	1	.55
1815	LOCKWASHERS	8	.20
1859	HEX BOLT	6	.40
1861	CONTROL YOKE DRIVE NUT	1	8.80
1862	HANDWHEEL	1	14.00
1868	TAPER PIN	1	.30
1847	CONTROL YOKE EXTENSION	1	4.40
1848	CONTROL YOKE EXTENSION SPRING	1	.80
1863	STEEL MITER GEARS	2	9.50
1864	CONTROL SHAFT	1	11.00
1865	HANDWHEEL SHAFT	1	4.40
1866	COLLAR WITH SET SCREW	1	1.50
1842	WASHER	1	.20
1816	HEX BOLT	1	.40
1867	WASHER (LOCK)	1	.20
*1846	CONTROL YOKE-EXT. CYL.	1	38.00

PART NO.	HOUSING ASSEMBLY PARTS	NO. REQ'D	EACH
	SEE DRAWING—SKELETON BASE	1	\$ 4.40
	SEE DRAWING—SKELETON BASE COVER	1	4.40
1871	POINTER	1	.25
1872	NAMEPLATE	1	.20
1873	SHEET METAL SCREW	7	.40
1815	LOCKWASHERS	10	.40
1858	HEX BOLTS	2	.20
1875	BOLTS (HEX.)	8	.15
1876	SCREW	1	1.10
1886	DRIVE SCREW-NAMEPLATE	1	.55

PART NO.	HOUSING ASSEMBLY PARTS	NO. REQ'D	EACH
1877	SCREW (RD. HD.)	10	\$.30
1878	HEX NUTS	2	.20
1879	OPERATIONAL NAMEPLATE	1	1.60
1880	BRONZE BUSHING	1	4.40
1881	HANDWHEEL SHAFT BEARING BLOCK	1	13.20
1882	ADJUSTMENT BUSHING	1	4.40
1835	JAM NUT	1	.20
1883	BRONZE BUSHING	1	2.20
1884	BRONZE BUSHING	1	2.20
1890	HANDWHEEL HANDLE	1	2.20
1868	HANDLE PIN	1	2.20
1885	SPRING PIN	1	.15

*NOT ILLUSTRATED

23-1 USEM Varibelt (Drive belt) Rivett Lathe 1/2" Thickness
 41 1/2" Cir. stamping on belt
 721-8025 Data subject to change without notice. Litho in U.S.A.

721-8006

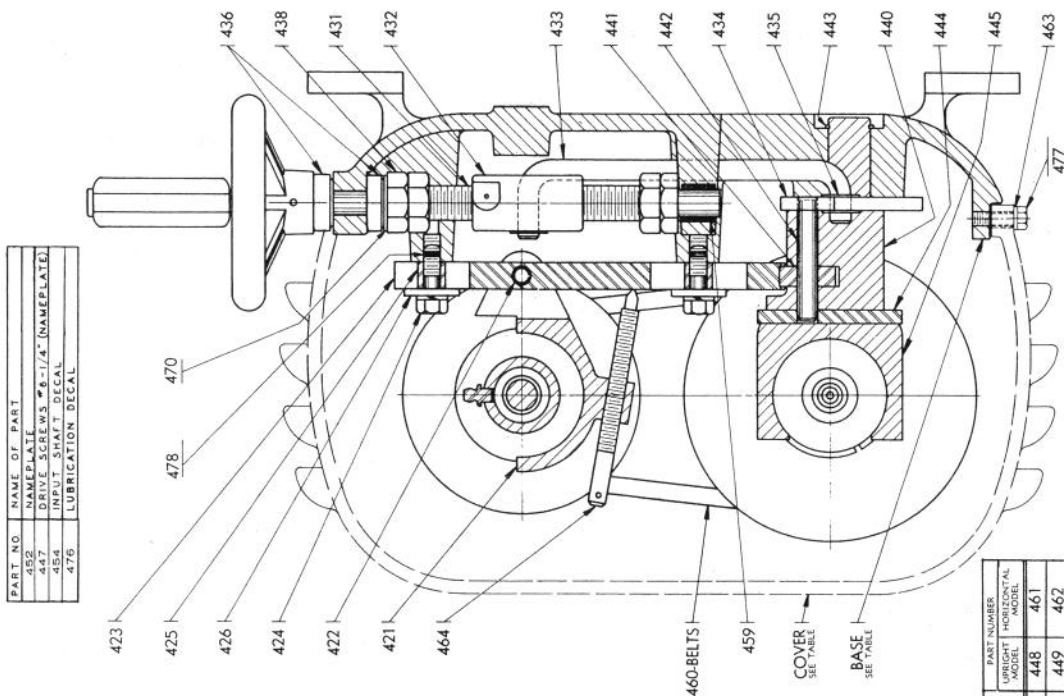
ALLSPEED DRIVES MODEL 4A

REPAIR PARTS LIST PRICES

STEHEDCO

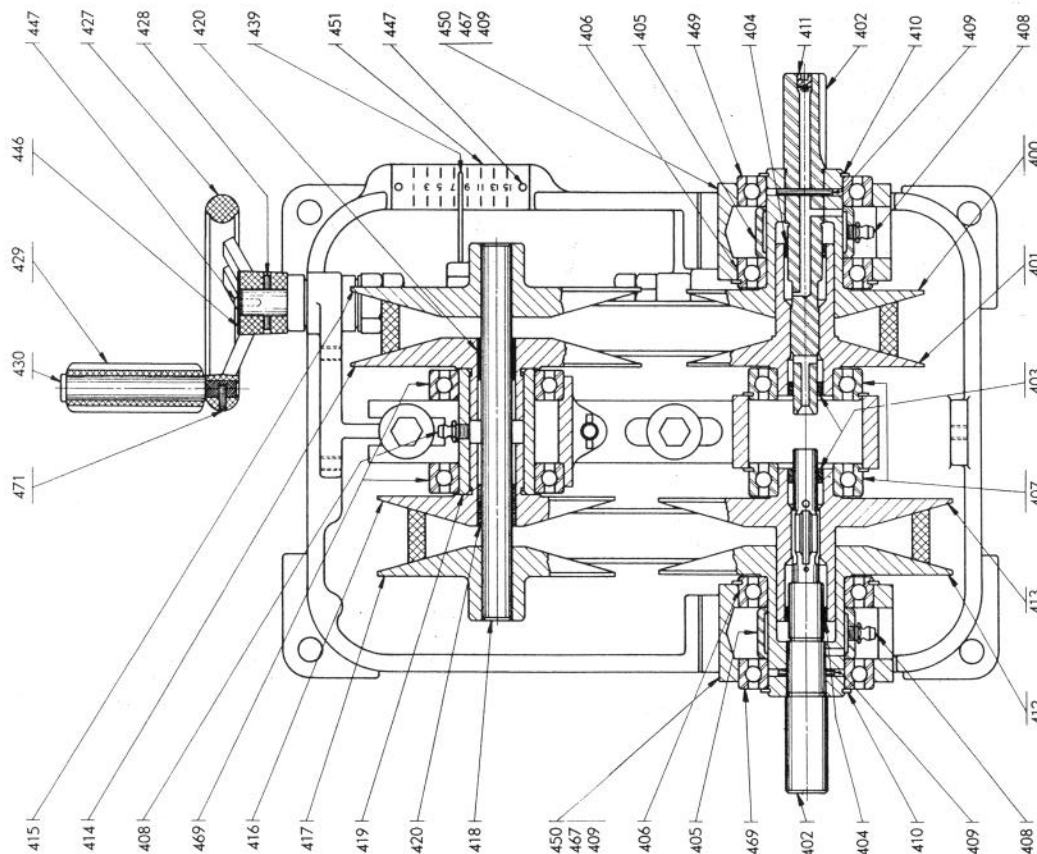
 P. O. BOX 1867 - PHONE (803) 244-4110
 GREENVILLE, S. C. 29602

Dated October 1, 1970



PART NO	NAME OF PART
452	NAMEPLATE
447	DRIVE SCREWS #8-1/4" (NAMEPLATE)
454	INPUT SHAFT DECAL
476	LUBRICATION DECAL

DESCRIPTION	PART NUMBER
BASE	448
COVER	449
	461
	462



W-DAA-1357

STEHEDCOP. O. BOX 1867 — PHONE (803) 244-4110
GREENVILLE, S. C. 29602**ALLSPEED DRIVES
MODEL 4A
REPAIR PARTS LIST PRICES**

721-8005

Dated October 1, 1970

WHEN ORDERING PARTS, FURNISH ALLSPEED MODEL AND SERIAL NUMBER

INPUT SHAFT ASSEMBLY COMPLETE - \$110.00			
PART NO.	INPUT SHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
400	FIRST DRIVER STATIONARY FLANGED*	1	\$26.00
401	FIRST DRIVER SHIFTABLE FLANGED*	1	24.00
402	INPUT-OUTPUT SHAFT*	1	24.00
403	INNER BUSHING*	1	.55
404	OUTER BUSHING*	1	.55
405	BEARING SPACER	1	5.50
406	BALL BEARING W/SNAP RING (OUTER)	1	6.60
407	BALL BEARING W/SNAP RING (INNER)	1	5.50
408	ALEMITE FITTING	1	.20
409	SHAFT PIN	1	.20
410	SHAFT RETAINING RING	1	.25
411	SET SCREW PLUG	1	.30
469	BALL BEARING	1	6.60

OUTPUT SHAFT ASSEMBLY COMPLETE - \$110.00			
PART NO.	OUTPUT SHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
412	SECOND DRIVEN STATIONARY FLANGED*	1	\$26.00
413	SECOND DRIVEN SHIFTABLE FLANGE*	1	24.00
402	INPUT-OUTPUT SHAFT*	1	24.00
403	INNER BUSHING*	1	.55
404	OUTER BUSHING*	1	.55
405	BEARING SPACER	1	5.50
406	BALL BEARING W/SNAP RING	1	6.60
407	BALL BEARING W/SNAP RING	1	5.50
408	ALEMITE FITTING	1	.20
409	SHAFT PIN	1	.20
410	SHAFT RETAINING RING	1	.25
411	SET SCREW PLUG	1	.30
469	BALL BEARING	1	6.60

JACKSHAFT ASSEMBLY COMPLETE - \$143.00			
PART NO.	JACKSHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
408	ALEMITE FITTING	1	\$.20
414	FIRST DRIVEN STATIONARY FLANGE	1	24.00
415	FIRST DRIVEN SHIFTABLE FLANGE	1	24.00
416	SECOND DRIVEN STATIONARY FLANGE	1	24.00
417	SECOND DRIVEN SHIFTABLE FLANGE	1	24.00
418	JACKSHAFT	1	12.00
419	COUPLER	1	9.30
420	BUSHING	2	1.10
469	BALL BEARING	2	6.60

CAM BAR ASSEMBLY COMPLETE - \$43.60			
PART NO.	CAM BAR ASSEMBLY PARTS	NO. REQ'D	EACH
421	JACKSHAFT HOUSING	1	\$22.00
422	JACKSHAFT HINGE PIN	1	.20
423	CAM BAR	1	15.00
424	CAM BAR GUIDE BOLT	2	.20
425	CAM BAR GUIDE BLOCK	2	2.20
426	CAM BAR GUIDE WASHER	2	.10
464	JACKSHAFT TENSION SCREW	1	2.00

CONTROL YOKE ASSEMBLY PARTS			
PART NO.	CONTROL YOKE ASSEMBLY PARTS	NO. REQ'D	EACH
440	CONTROL YOKE (HANDWHEEL)	1	\$13.40
441	CAM ROLLER	1	3.30
442	CAM ROLLER PIN	1	.55
443	CONTROL YOKE RETAINING RING	1	.20
444	SHIFTING PLATE	1	7.00
445	SHIFTING SPACER	1	9.90
446	CONTROL YOKE (EXTENDED)*	1	12.10
472	CONTROL LEVER*	1	9.00
473	SWIVEL*	1	6.20
474	HEX HEAD BOLT (LEVER)*	1	.30
475	LOCKWASHER (LEVER)*	1	.20
479	CONTROL YOKE - PLATE TYPE	1	12.10
478	CAM ROLLER PIN - PLATE TYPE		

HANDWHEEL & CONTROL ASSEMBLY PARTS			
PART NO.	HANDWHEEL & CONTROL ASSEMBLY PARTS	NO. REQ'D	EACH
427	HANDWHEEL	1	\$ 8.00
428	HANDWHEEL PIN	1	.25
429	HANDWHEEL HANDLE	1	2.20
430	HANDLE ROD	1	3.50
431	SHAFT	1	6.60
432	DRIVE NUT	1	6.60
433	LINK	1	3.30
434	LINK PLATE	1	6.60
435	RETAINING RING	3	.50
436	THRUST BEARING	2	3.00
438	STOP NUTS	4	.20
439	POINTER	1	.55
446	WARNING TAG (HANDWHEEL)	1	.20
447	DRIVE SCREW	1	.15
470	PLATE WASHER	1	.10
471	SPRING PIN	1	.15
459	BRONZE BUSHING	1	2.20

HOUSING ASSEMBLY PARTS			
PART NO.	HOUSING ASSEMBLY PARTS	NO. REQ'D	EACH
448	BASE - UPRIGHT*	1	\$77.00
449	COVER - UPRIGHT*	1	44.00
456	DRIVE SCREWS (UPRIGHT COVER)*	2	.15
458	HEX HEAD CAP SCREWS (UPRIGHT COVER)*	1	.20
461	BASE - HORIZONTAL	1	66.00
462	COVER - HORIZONTAL	1	44.00
463	WASHER (HORIZONTAL COVER)	3	.15
477	HEX HEAD CAP SCREWS (HORIZONTAL COVER)	3	.25
450	BEARING BRACKET	2	17.60

HOUSING ASSEMBLY PARTS			
PART NO.	HOUSING ASSEMBLY PARTS	NO. REQ'D	EACH
451	INDICATOR PLATE	1	\$ 1.10
452	NAMEPLATE	1	1.10
454	INPUT SHAFT DECAL	1	.10
409	DRIVE PINS (BEARING BRACKET)	4	.25
447	DRIVE SCREWS (INDICATOR PLATE)	7	.15
468	WASHER (UPRIGHT COVER)*	1	.15
467	HEX HEAD CAP SCREWS (BEARING BRACKET)	4	.25
476	LUBRICATION DECAL	1	.55
460	BELT	2	16.50

ADAPTER PLATE FOR PLATE MACHINE—\$18.50 LIST. WITH NUTS, BOLTS & WASHERS—\$21.30 LIST.

BASE-PLATE TYPE—\$19.80

BEARING BRACKET-PLATE TYPE— 24.20

LOCKWASHER-BEARING BRACKET— .25

DRIVE PIN-BEARING BRACKET-PLATE TYPE— .25

GROOVE PIN-PLATE TYPE—\$.15

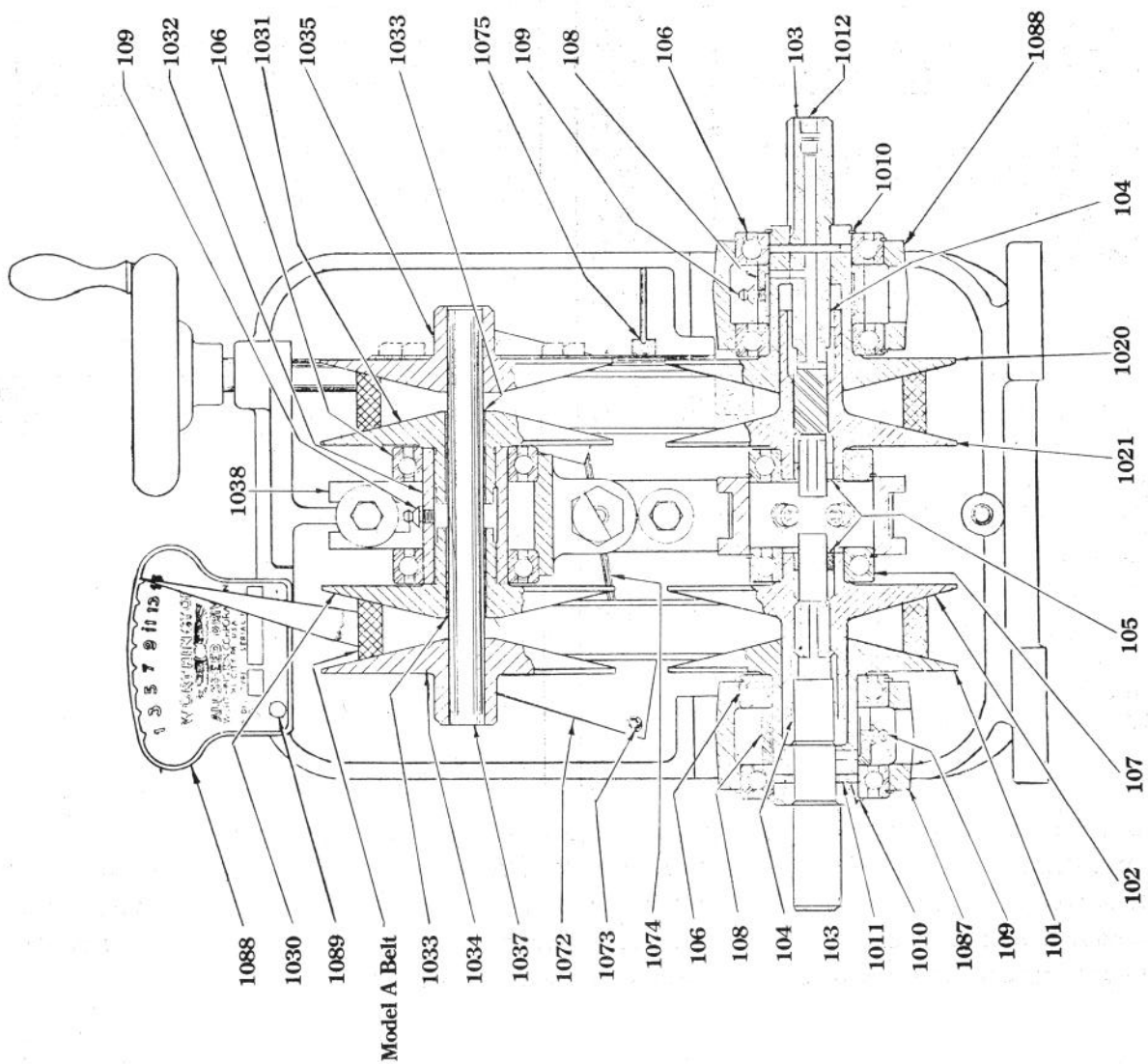
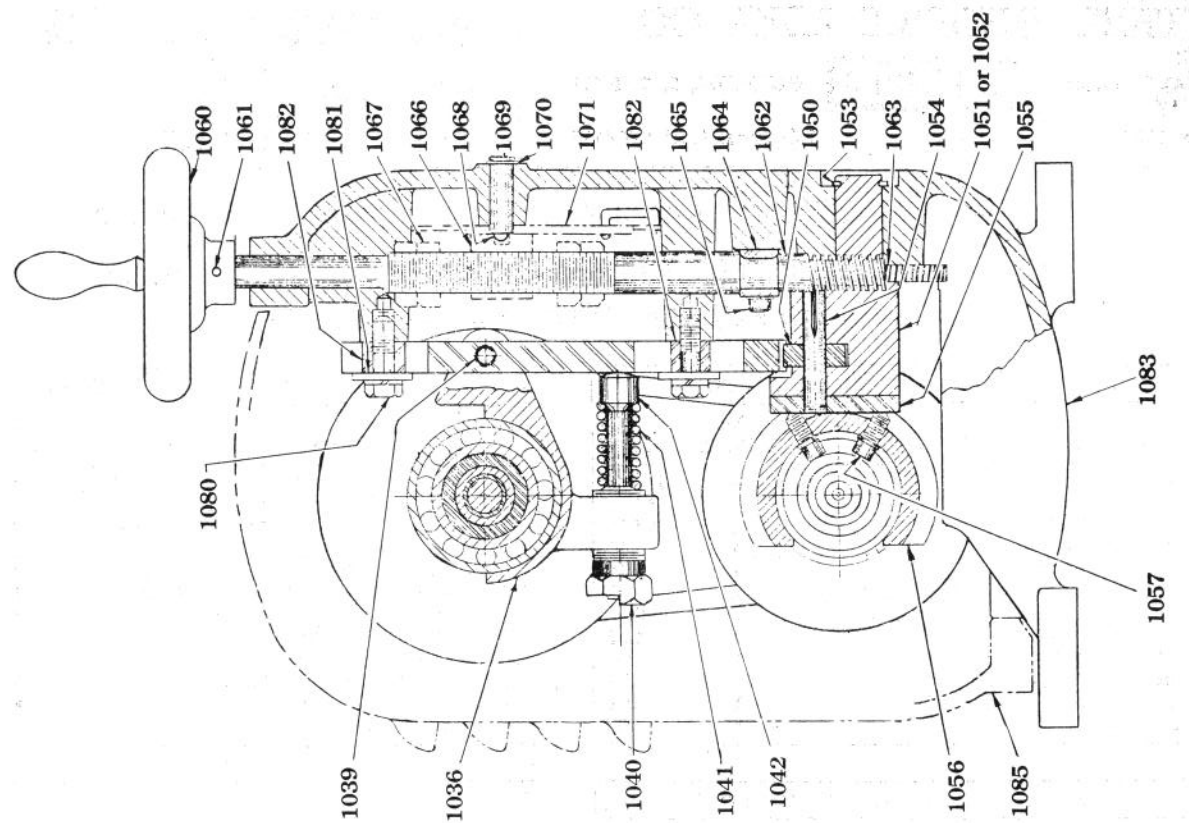
BOLT-ADAPTER PLATE— .15

NUT-ADAPTER PLATE— .15

LOCKWASHER-ADAPTER PLATE— .15

* RECOMMENDED AS AN ASSEMBLED UNIT DUE TO POSSIBLE WEAR OF MATING PARTS.

* NOT ILLUSTRATED



STEEL HEDDLE MFG. CO.

INDUSTRIAL DIVISION



GREENVILLE, S. C. 29602

P. O. Box 1867

Telephone: (803) 244-4110

ALLSPEED DRIVES MODEL 3A

REPAIR PARTS LIST PRICES

SH-381

WHEN ORDERING PARTS, FURNISH ALLSPEED MODEL AND SERIAL NUMBER

COMPLETE RECONDITIONING OF UNIT \$198.00

(Prepaid Freight Our Plant & F.O.B. Greenville, S. C.)

INPUT SHAFT ASSEMBLY COMPLETE - \$110.00			
PART NO.	INPUT SHAFT ASSEMBLY PARTS	NO. REQ'D.	EACH
101	FIRST DRIVER STATIONARY FLANGE	1	\$26.00
102	FIRST DRIVER SHIFTABLE FLANGE	1	24.00
103	INPUT-OUTPUT SHAFT	1	24.00
104	OUTER BUSHING	1	.55
105	INNER BUSHING	1	.55
106	BALL BEARING WITH SNAP RING	2	6.60
107	BALL BEARING WITH SNAP RING	1	5.50
108	BEARING SPACER	1	5.50
109	ALEMITE FITTING	1	.20
1010	SHAFT RETAINING RING	1	.20
1011	SHAFT PIN	1	.20
1012	SET SCREW	1	.20

OUTPUT SHAFT ASSEMBLY COMPLETE - \$110.00			
PART NO.	OUTPUT SHAFT ASSEMBLY PARTS	NO. REQ'D.	EACH
1020	SECOND DRIVEN STATIONARY FLANGE	1	\$26.00
1021	SECOND DRIVEN SHIFTABLE FLANGE	1	24.00
103	INPUT-OUTPUT SHAFT	1	24.00
104	OUTER BUSHING	1	.55
105	INNER BUSHING	1	.55
106	BALL BEARING WITH SNAP RING	2	6.60
107	BALL BEARING WITH SNAP RING	1	5.50
108	BEARING SPACER	1	5.50
109	ALEMITE FITTING	1	.20
1010	SHAFT RETAINING RING	1	.20
1011	SHAFT PIN	1	.20
1012	SETSCREW (PLUG)	1	.20

JACKSHAFT ASSEMBLY COMPLETE - \$143.00			
PART NO.	JACKSHAFT ASSEMBLY PARTS	NO. REQ'D.	EACH
109	ALEMITE FITTING	1	\$.20
106	JACKSHAFT BALL BEARING	2	6.60
1030	FIRST DRIVEN STATIONARY FLANGE	1	24.00
1031	SECOND DRIVER STATIONARY FLANGE	1	24.00
1032	COUPLER	1	9.30
1033	BUSHING	2	1.10
1034	FIRST DRIVEN SHIFTABLE FLANGE	1	24.00
1035	SECOND DRIVER SHIFTABLE FLANGE	1	24.00
1036	JACKSHAFT HOUSING	1	22.00
1037	JACKSHAFT	1	12.00
1038	CAM BAR	1	15.00
1039	JACKSHAFT HINGE PIN	1	.20
1040			
1041	} USE 1100	1	22.00
1042			

CONTROL YOKE ASSEMBLY PARTS			
PART NO.	CONTROL YOKE ASSEMBLY PARTS	NO. REQ'D.	EACH
1050	CAM ROLLER	1	\$ 3.30
1051	CONTROL YOKE (USED ON HANDWHEEL EQUIPPED CONTROL)	1	13.40
1052	EXTENDED CONTROL YOKE (NOT ILLUSTRATED) (USED ON LEVER CONTROL ONLY)	1	13.40
1053	CONTROL YOKE RETAINING RING	1	.20
1054	CAM ROLLER PIN	1	.20
1055	SHIFTING PLATE	1	7.00
1056	SHIFTING SPACER	1	9.90

HOUSING ASSEMBLY PARTS			
PART NO.	HOUSING ASSEMBLY PARTS	NO. REQ'D.	EACH
1080	CAM BAR GUIDE BOLT		
1081	CAM BAR GUIDE WASHER		
1082	CAM BAR GUIDE BLOCK		
1083	UPRIGHT BASE		
1084	HORIZONTAL BASE (NOT ILLUSTRATED)		
1085	UPRIGHT COVER		
1086	HORIZONTAL COVER (NOT ILLUSTRATED)		
1087	BEARING BRACKET — INPUT SIDE		
1088	BEARING BRACKET — OUTPUT SIDE		
1089	NAMEPLATE		
1090	DRIVE SCREW		

HANDWHEEL & POINTER CONTROLS			
PART NO.	HANDWHEEL & POINTER CONTROLS	NO. REQ'D.	EACH
1060	HANDWHEEL		
1061	HANDWHEEL PIN		
1062	WORM SHAFT		
1063	WORM WHEEL		
1064	WORM SHAFT BEARING		
1065	WORM SHAFT CAPSCREW		
1066	DRIVE NUT		
1067	STOP NUT		
1068	POINTER MOUNTING SCREW		
1069	GROOVED PIN		
1070	POINTER MOUNTING RETAINING RING		
1071	ADJUSTING PLATE		
1072	POINTER		
1073	POINTER RETAINING RING		
1074	CONNECTING ROD		
1075	BRAKE		

ADAPTER PLATE FOR PLATE MACHINE—\$18.50 LIST. WITH NUTS, BOLTS & WASHERS—\$21.30 LIST.

BASE-PLATE TYPE—\$19.80

GROOVE PIN-PLATE TYPE—\$.15

BELT - 465 — \$6.25

BEARING BRACKET-PLATE TYPE—\$24.20

BOLT-ADAPTER PLATE—\$.15

(Furnished In Pairs)

LOCKWASHER-BEARING BRACKET—\$.25

NUT-ADAPTER PLATE—\$.15

1632V210

DRIVE PIN-BEARING BRACKET-PLATE TYPE—\$.25

LOCKWASHER-ADAPTER PLATE—\$.15

STEHEDCOP. O. BOX 1867 — PHONE (803) 244-4110
GREENVILLE, S. C. 29602**ALLSPEED DRIVES
MODEL 4B
REPAIR PARTS LIST PRICES**

721-8015

Dated October 1, 1970

WHEN ORDERING PARTS, FURNISH ALLSPEED MODEL AND SERIAL NUMBER**INPUT SHAFT ASSEMBLY COMPLETE - \$165.00**

PART NO.	INPUT SHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
1601	INPUT-OUTPUT SHAFT	1	\$28.60
1602	FIRST DRIVER STATIONARY FLANGE	1	36.20
1603	FIRST DRIVER SHIFTABLE FLANGE	1	36.20
1604	SHAFT COLLAR	1	3.30
1605	BEARING SPACER SLEEVE	1	5.50
1606	FLANGE DRIVING PIN	3	2.20
1607	BEARING SLEEVE	1	26.00
1608	BRONZE BUSHING	1	.80
1609	BRONZE BUSHING	1	1.10
1610	BRONZE BUSHING	3	.40
1611	BALL BEARING NO. 477507	2	6.60
1612	WOODRUFF KEY	1	.20
1613	LOCKWASHER	2	.20
1614	HEX BOLT	2	.15
1615	BALL BEARING LOCKWASHER	1	.25
1616	BALL BEARING LOCKNUT	1	1.10
1617	ZERK FITTING	1	.20
1618	TAPER DOWEL	2	.25
	BALL BEARING	1	6.00

OUTPUT SHAFT ASSEMBLY COMPLETE - \$165.00

PART NO.	OUTPUT SHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
1601	INPUT-OUTPUT SHAFT	1	\$28.60
1604	SHAFT COLLAR	1	3.30
1605	BEARING SPACER SLEEVE	1	5.50
1606	FLANGE DRIVING PIN	3	2.20
1607	BEARING SLEEVE	1	26.00
1608	BRONZE BUSHING	1	.80
1609	BRONZE BUSHING	1	1.10
1610	BRONZE BUSHING	3	.40
1611	BALL BEARING NO. 477507	2	6.60
1612	WOODRUFF KEY	1	.20
1613	LOCKWASHER	2	.20
1614	HEX BOLT	2	.15
1615	BALL BEARING LOCKWASHER	1	.25
1616	BALL BEARING LOCKNUT	1	1.10
1617	ZERK FITTING	1	.25
1618	TAPER DOWEL	2	.25
1620	SECOND DRIVEN STATIONARY FLANGE	1	36.20
1621	SECOND DRIVEN SHIFTABLE FLANGE	1	36.20
	BALL BEARING	1	6.00

JACKSHAFT ASSEMBLY COMPLETE - \$236.00

PART NO.	JACKSHAFT ASSEMBLY PARTS	NO. REQ'D	EACH
1609	BRONZE BUSHING	2	\$ 1.10
1611	BALL BEARING NO. 477507	2	6.60
1622	SECOND DRIVER STATIONARY FLANGE	1	36.20
1623	SECOND DRIVER SHIFTABLE FLANGE	1	36.20
1624	FIRST DRIVER STATIONARY FLANGE	1	36.20
1625	FIRST DRIVER SHIFTABLE FLANGE	1	36.20
1626	JACKSHAFT HOUSING	1	22.00
1627	JACKSHAFT	1	26.10
1628	BELT TENSION INDICATOR SPRING	1	1.10
1629	BELT TENSION INDICATOR GLAND	1	11.20
1630	BELT TENSION	1	3.60
1632	HEX BOLT	1	.30
1639	JACKSHAFT HINGE PIN	1	.40
1640	BRONZE BUSHING	2	1.50
1659	FELT STRIP	2	.25
1672	ROLL PIN	2	.25
1661	SPACER BLOCK-CAM BAR NO. 38-1040	4	2.20

PART NO.	CONTROL YOKE ASSEMBLY PARTS	NO. REQ'D	EACH
1642	CAM ROLLER	1	\$ 3.30
1643	CAM ROLLER PIN	1	.25
1644	SHIFTING SPACER	1	26.20
*1645	CONTROL YOKE	1	16.50
1646	CONTROL YOKE SNAP RING	1	.30
1647	SHIFTING PLATE	1	2.50
1648	CAM BAR	1	13.20
1649	CAM BAR STRAP	2	2.20
1650	P. K. DRIVE SCREW	1	.10
1653	HEX BOLT	4	.40
1655	THREADED CONTROL SHAFT	1	5.50
1656	BRONZE BUSHING	1	2.20
1657	BRONZE BUSHING	1	.55
1658	HANDWHEEL	1	12.10
1659	LOCKWASHER	4	.15
1660	TAPER PIN	1	.25
1662	COLLAR	1	2.30
1663	SPACER BLOCK	1	6.60
1664	LOCKWASHER	2	.15
1673	CONTROL YOKE DRIVE NUT	1	6.60
1674	LINK	1	4.40
1675	STEP BEARING THRUST	2	2.20
1676	BOLT	2	.20
1677	SCREW	1	.20
1678	SCREW	2	.20
1679	RETAINING RING	3	.25
*1645	CONTROL YOKE	1	22.00

PART NO.	HOUSING ASSEMBLY PARTS	NO. REQ'D	EACH
1635	NUT	1	\$.15
	SEE DRAWING—BASE	1	
	SEE DRAWING—COVER	1	
1667	SHEET METAL SCREW	7	.25
1668	OPERATIONAL NAMEPLATE	1	1.50
1669	POINTER	1	3.00
	BELT	2	22.00
1884	PLATE WASHER	1	.15

PART NO.	HOUSING ASSEMBLY PARTS	NO. REQ'D	EACH
**1670	NAMEPLATE	1	\$ 4.40
1671	SCREW (RD. HD.)	1	.15
1672	SCREW (RD. HD.)	9	.15
1680	STUD FOR POINTER	1	2.20
1681	BRACKET FOR POINTER STUD	1	3.30
1682	WARNING PLATE	1	.55
**1670	NAMEPLATE-BASE	1	1.80
1650	DRIVE SCREWS-PLATES	4	.15

*NOT ILLUSTRATED

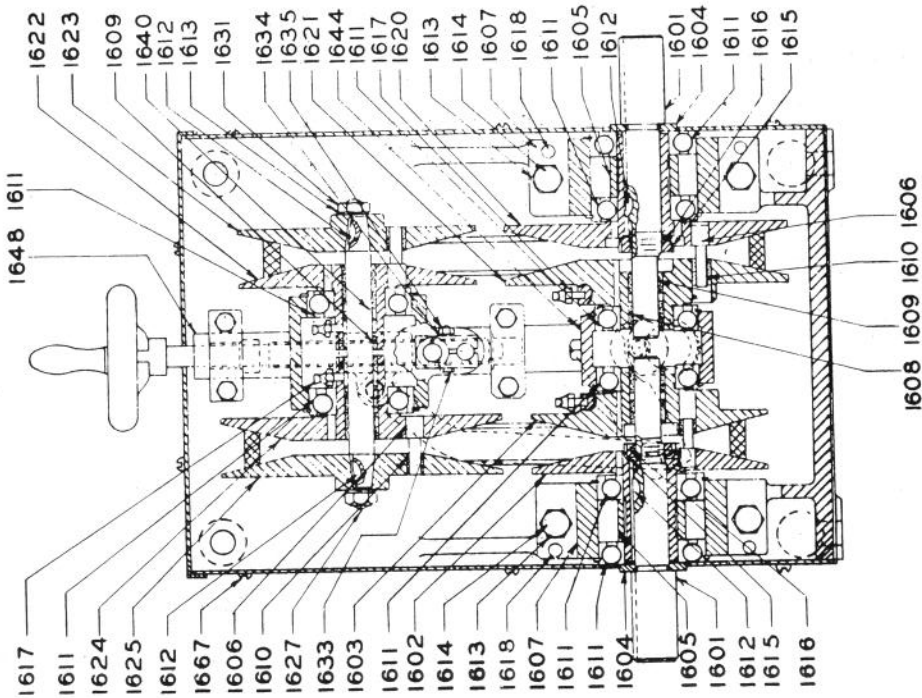
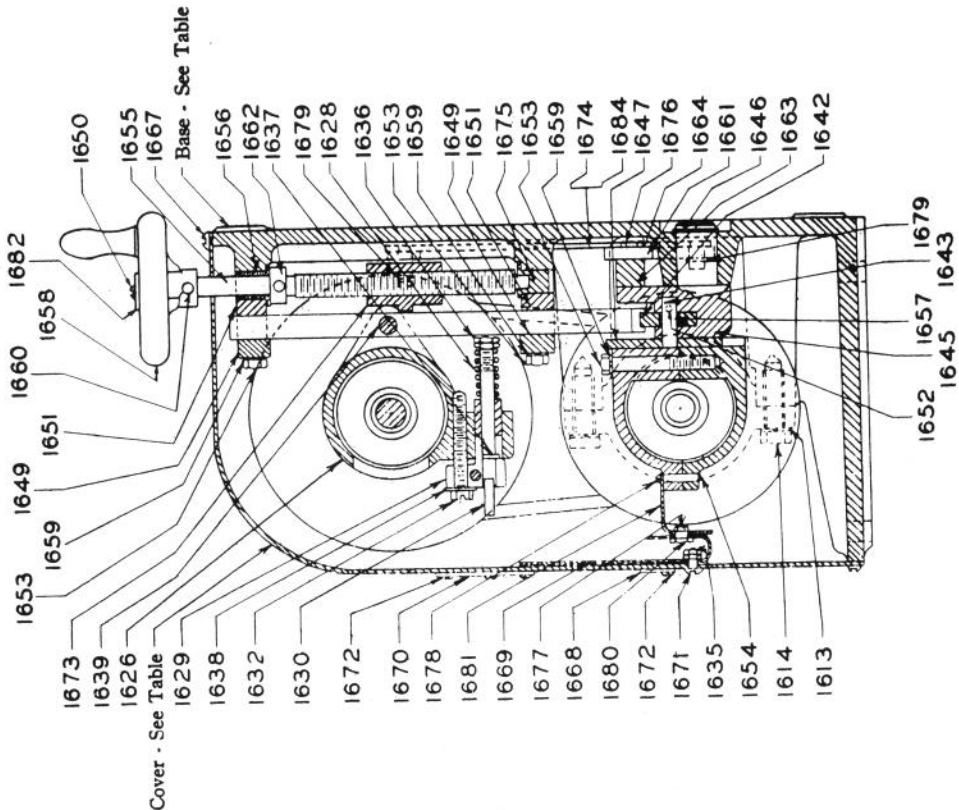
721-8016

**ALLSPEED DRIVES
MODEL 4B**
REPAIR PARTS LIST PRICES

STEHEDCO

P. O. BOX 1867 — PHONE (803) 244-4110
GREENVILLE, S. C. 29602

Dated October 1, 1970



Description	Part Number	
	For UR & For HR & UL Type	HL Type
Base	1665	1685
Cover	1666	1686

20-2

536-06

MODEL "C" ALLSPEED DRIVE PARTS

Input Shaft Assembly Complete			Output Shaft Assembly Complete		
Part No.	Input Shaft Assembly Parts	Total No. Req.	Part No.	Output Shaft Assembly Parts	Total No. Req.
1	- First Driver Stationary Flange	- 1	3	- Flange Driving Stud	- 3
2	- First Driver Shiftable Flange	- 1	4	- Bushing	- 2
3	- Flange Driving Stud	- 3	5	- Bushing	- 3
4	- Bushing	- 2	6	- Ball Bearing with Snap Ring	- 1
5	- Bushing	- 3	7	- Ball Bearing	- 1
6	- Ball Bearing with Snap Ring	- 1	8	- Ball Bearing (Thrust)	- 1
7	- Ball Bearing	- 1	9	- Bearing Spacer	- 1
8	- Ball Bearing (Thrust)	- 1	12	- Set Screw	- 1
9	- Bearing Spacer	- 1	13	- Woodruff Key	- 1
10	- Input Shaft with Collar (II)	- 1	14	- Speed Limiting Screw	- 1
12	- Set Screw	- 1	15	- Speed Limiting Locknut	- 1
13	- Woodruff Key	- 1	16	- Felt Strip	- 1
14	- Speed Limiting Screw	- 1	17	- Taper Pin	- 1
15	- Speed Limiting Lock Nut	- 1	30	- Second Driven Stationary Flange	- 1
16	- Felt Strip	- 1	31	- Second Driven Shiftable Flange	- 1
17	- Taper Pin	- 1	32	- Output Shaft with Collar (II)	- 1
Jackshaft Assembly Complete			Control Yoke Assembly Complete		
Part No.	Jackshaft Assembly Parts	No. Req.	Part No.	Control Yoke Assembly Parts	No. Req.
3	- Flange Driving Stud	- 6	12	- Set Screw	- 1
5	- Bushing	- 6	15	- Hex Nut	- 1
6	- Ball Bearing with Snap Ring	- 2	70	- Cam Roller	- 1
12	- Set Screw	- 2	71	- Cam Roller Bushing	- 1
40	- Second Driver Stationary Flange	- 1	72	- Cam Roller Pin	- 1
41	- Second Driver Shiftable Flange	- 1	78	- Lockwasher	- 1
42	- First Driven Stationary Flange	- 1	80	- Control Yoke	- 1
43	- First Driven Shiftable Flange	- 1	81	- Control Yoke Extension	- 1
44	- Bushing	- 4	82	- Control Yoke Extension Spring	- 1
45	- Jackshaft Housing	- 1	83	- Control Yoke Snap Ring	- 1
46	- Jackshaft	- 1			
47	- Woodruff Key	- 2			
48	- Hex Jam Nut	- 2			
49	- Lock Washer	- 2			
50	- Felt Strip	- 2			
51	- Belt Tension Indicator Spring	- 1			
52	- Belt Tension Indicator Gland	- 1			
53	- Belt Tension Adjusting Screw	- 1			
54	- Cap Screw-Hex Head	- 1			
55	- Hex Nut	- 1			
56	- Lockwasher	- 3			
57	- Belt Tension Indicator Rod	- 1			
58	- Hex Jam Nut	- 2			
59	- Groov-Pin	- 1			
Housing Assembly Parts					
Part No.		No. Req.	Part No.		No. Req.
73	- Hex Head Cap Screw	- 4	93	- Jackshaft Housing Fulcrum	- 1
74	- Lock Washer	- 4	94	- Hex Head Cap Screw	- 2
75	- Shifting Spacer	- 1	95	- Jackshaft Housing Guide	- 1
76	- Hex Head Cap Screw	- 2	110	- Housing	- 1
77	- Hex Head Cap Screw	- 1	111	- Housing Cover	- 1
78	- Lockwasher	- 3	112	- Input Mounting Flange	- 1
79	- Groov-Pin	- 3	113	- Output Mounting Flange	- 1
84	- Control Lever with Bolt and Nut	- 1	114	- Pointer	- 1
86	- Control Lever Swivel	- 1	115	- Pointer Pivot Pin	- 1
87	- Set Screw	- 1	116	- Stud	- 4
89	- Shifting Plate	- 1	118	- Cap Screw	- 10
91	- Cam Bar	- 1	119	- Lockwasher	- 10
92	- Cam Bar Strap	- 2	120	- Nameplate	- 1
			121	- P-K-Drive Screw	- 5

All shipments are F.O.B., Holyoke, Mass. When ordering, give serial number of Drive.