618 ATLAS 6" BACK GEARED SCREW CUTTING LATHE and 12A, 16A ARMATURE LATHE

INSTRUCTIONS FOR ORDERING REPAIR PARTS

IT IS IMPORTANT TO FURNISH THE FOLLOWING INFORMATION IN ADDITION TO QUANTITY REQUIRED:

1. PART NUMBER
2. PART NAME
3. MODEL and SERIAL NUMBER of machine tool-you'll find both on the metal plate attached to machine.

ORDER REPAIR PARTS
FROM
CLAUSING SERVICE CENTER
811 EISENHOWER DRIVE, SOUTH
GOSHEN, INDIANA 46526

TABLE OF CONTENTS FOR LATHE PARTS

UNIT ASSEMBLIES .................................................. 3
CARRIAGE and COMPOUND .................................. 4-5
HEADSTOCK ....................................................... 6
LEAD SCREW, CHANGE GEARS, GEAR GUARD and LATHE BED .............................................. 7
COUNTERSHAFT and TAILSTOCK .............................. 8
**NO. 6L-1**

**SIX INCH LATHE MOUNTING**

**JAN. 1969**

**FILE NO. 6L-1**

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**MOUNTING LATHE**

Place lathe on bench in approximately position shown in figure 1. Bench top should be at least 20 by 34 inches. Front edges of legs should be about 3/8" from front of bench top. Mark positions of four holes in lathe legs and drill holes to accommodate either lag screws or bolts as desired.

Next, bolt lathe to bench top and level bed by carefully following instructions contained in bulletin "PROPERLY LEVEL THE LATHE BED". This is a most important step and should not be slighted.

**ROCKER LEVER (In belt tension position)**

**BELT TENSION SCREWS**

**COUNTERSHAFT BRACKET**

**SPINDLE BELT**

**MOUNTING COUNTERSHAFT**

The four holes for the countershaft bracket may now be located and drilled by following the dimensions in figure 1. With countershaft belt tension screws (refer to figure 2), in about the midway position, place spine belt on smallest step of countershaft pulley and largest step of spindle pulley. Bolt countershaft bracket lightly to bench.

Put rocker lever in tension position, that is, so that the belt tension screws (refer to figure 2) rest on the smaller of the two flat spots on rocker shaft. Now move countershaft bracket on its slotted holes so that countershaft spindle is parallel with lathe spindle. Move bracket away from lathe until belt is tight and tighten the four mounting bolts. With belt tension screws, adjust belt so that with a moderate amount of pressure belt can be depressed about 1" in the center. Lock this adjustment by tightening locknuts on belt tension screws.

**MOUNTING MOTOR**

Before mounting motor, make all electrical connections.

Slide pulley on motor shaft so that small step is toward motor. Place motor in position shown in figure 2, with belt on small step of motor pulley and on large step of countershaft pulley. Be sure rockershaft is still in tension position and pull motor as close to countershaft bracket as belt will allow, line up belt and bolt motor to bench. Check tension and alignment of both belts, then tighten all mounting screws or bolts securely.

Printed in U.S.A.
INSTRUCTIONS

GEAR CLEARANCE

JAN. 1969  FILE NO. 6L-2

View of two meshing gears showing gear clearance.

When setting up gear train, sufficient clearance must be allowed between two meshing gears. Gear clearance does not reduce accuracy of a thread cutting operation because all play, or back lash, is taken up in one direction.

A SUGGESTED METHOD TO OBTAIN PROPER GEAR CLEARANCE IS:

1. Place a sheet of thick wrapping paper between the teeth of two meshing gears.
2. Tighten gears in position.
3. Remove paper.

Clean gears occasionally to remove any chips which become lodged in gear teeth. Chips in gear teeth result in inaccuracies when cutting screw threads. A wad of cloth placed in the rear end of spindle will prevent chips from working into gear teeth.

LUBRICATION

A small amount of S.A.E. No. 30 oil or grease (we recommend Keystone No. 122 Gear Lubricant or equivalent) applied to gear teeth, will aid in obtaining smoother, more quiet operation.

NOTE: Remove oil and dirt before applying grease.
**LATHE BENCH REQUIREMENTS**

1. A rigid bench or floor stand must be used for mounting the lathe. Bench top must have a clear semi-hard or hard-wood top at least 1-5/8" thick, cleated or well doweled to form a rigid table. Do not use soft-woods or boards not cleated together.

2. Bench legs should be of heavy construction, preferably 4" x 4" lumber, well braced and securely anchored to bench top. Provide legs with lugs for bolting bench securely to floor. Overall height of bench should be approximately 30 or 32 inches.

3. Level the floor stand or bench before mounting lathe, this will omit excessive shimming when leveling lathe bed. Use a precision machinists level, placing shims as required between bench legs and floor to accurately level bench top. BOLT BENCH TO FLOOR.

4. Mount the lathe on the floor stand or bench. If bench is used, mark and drill four 3/8" diameter holes in bench top under corresponding holes in lathe legs. Do not bolt lathe securely in position.

**HOW TO LEVEL THE LATHE BED**

1. Using only a precision machinists spirit level, check level readings at the positions shown in Figure 1 above. A VERY SENSITIVE LEVEL MUST BE USED. A sensitive level should move the bubble approximately 1/8" when a .003" shim is placed under one end of lathe.

2. Level readings in the four positions must be identical. Compensate variations of bubble readings with thin metal shims placed around bolts between lathe legs and bench top until bubble readings are identical. See Figure 2 for approximate size of shim.

3. Shim should be the only contact point with the bench top. If outer or inner edges of bench legs bear on bench top, bed is apt to be bowed or twisted when lathe is bolted down.

4. Bolt lathe securely in position and recheck level readings. Variations in bolt pressure may twist the lathe bed out of level.

5. The levelness of the lathe should be inspected at frequent intervals, especially before and after machining heavy work.

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**IF SATISFACTORY PERFORMANCE IS NOT OBTAINED OR OPERATING INACCURACIES OCCUR—CHECK THE LATHE BED AND MAKE SURE IT IS PERFECTLY LEVEL**

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*Printed in U.S.A.*
LUBRICATION CHART
FOR ATLAS 6" LATHE

IMPORTANT — LUBRICATE LATHE BEFORE OPERATING

CODE
A — OIL DAILY with S.A.E. No. 20 oil
B — OIL WEEKLY with S.A.E. No. 20 oil
C — OIL MONTHLY with S.A.E. No. 20 oil

CARRIAGE —
HEADSTOCK AND BACK GEARS
*Remove screw to oil bearings.

D — KEEP CLEAN and well oiled at all times.
E — LUBRICATE gear teeth with Keystone No. 122 gear lubricant, or equivalent, to obtain smoother, more quiet operation. Remove oil and dirt before applying grease.

TAILSTOCK — LEADSCREW —
LEADSCREW BEARING — RACK

**About once a month clean with kerosene and a brush, then cover with oil.

KEEP YOUR LATHE CLEAN
Oil and dirt form an abrasive compound which can easily damage carefully fitted bearing surfaces. Wipe the bed and all polished parts with a clean oily rag at frequent intervals. Use a brush to clean spindle threads, gear teeth, lead screw threads, etc.

SPEED CHART

SPINDLE SPEEDS IN R.P.M.

<table>
<thead>
<tr>
<th>MOTOR</th>
<th>COUNTERSHAFT</th>
<th>SPINDLE</th>
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<td>1725 R.P.M.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<table>
<thead>
<tr>
<th>SPINDLE BELT POSITION</th>
<th>DIRECT DRIVE</th>
<th>BACK GEAR DRIVE</th>
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</thead>
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<tr>
<td>A</td>
<td>B</td>
<td>A</td>
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ATLAS PRESS COMPANY • KALAMAZOO, MICH., U.S.A.
INSTRUCTIONS and PARTS

CLAUSING CORPORATION
KALAMAZOO, MICHIGAN 49007

WIRING INSTRUCTIONS

for
SINGLE PHASE MOTORS

Manufactured by
Howell Electric Motors Co.
JULY, 1976

1. Make all wiring connections before mounting motor.

2. Run both line and switch cords through the TOP knock-out in the terminal box (see diagram below).

3. Motor must rotate counterclockwise when viewed from the end of the motor opposite the shaft -- diagram below shows correct hook-up for either 110V or 220 V current.

<table>
<thead>
<tr>
<th>MOTOR NO.</th>
<th>CATALOG NO.</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>38 - J11 - 4100 - 2</td>
<td>2720</td>
<td>1/2 HP - 1-phase - 115/230 volts - 1725 RPM - 7.3/3.5 AMPS.</td>
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<tr>
<td>38 - J3 - 3100 - 2</td>
<td>2730</td>
<td>1/3 HP - 1-phase - 115/230 volts - 1725 RPM - 5.6/2.8 AMPS.</td>
</tr>
</tbody>
</table>

Made by Howell Electric Motors Company.

This wiring diagram applies only to motors listed above.

NOTE: TO REVERSE ROTATION OF MOTOR INTERCHANGE RED LEAD WITH BLACK LEAD.
To wire other make motors follow manufacturer's instructions.
LUBRICATION CHART
FOR ATLAS 6" LATHE

IMPORTANT — LUBRIFICATE LATHE BEFORE OPERATING

CODE
A — OIL DAILY with S.A.E. No. 20 oil
B — OIL WEEKLY with S.A.E. No. 20 oil
C — OIL MONTHLY with S.A.E. No. 20 oil

CARRIAGE —
HEADSTOCK AND BACK GEARS

*Remove screw to oil bearings.

D — KEEP CLEAN and well oiled at all times.
E — LUBRICATE gear teeth with Keystone No. 122 gear lubricant, or equivalent, to obtain smoother, more quiet operation. Remove oil and dirt before applying grease.

TAILSTOCK — LEADSCREW —
LEADSCREW BEARING — RACK

**About once a month clean with kerosene and a brush, then cover with oil.

KEEP YOUR LATHE CLEAN
Oil and dirt form an abrasive compound which can easily damage carefully fitted bearing surfaces. Wipe the bed and all polished parts with a clean oily rag at frequent intervals. Use a brush to clean spindle threads, gear teeth, lead screw threads, etc.

SPEED CHART

COUNTERSHAFT

SPINDLE

SPINDLE SPEEDS IN R.P.M.

<table>
<thead>
<tr>
<th>SPindle Belt Position</th>
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<th>BACK GEAR DRIVE</th>
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<td>Motor Belt Position</td>
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<td>Motor Belt Position</td>
<td>Motor Belt Position</td>
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ATLAS PRESS COMPANY • KALAMAZOO, MICH., U.S.A.
COUNTERSHAFT AND TAILSTOCK PARTS LIST

M6-76 SHAFT, ROCKER 3/16 x 1 GROOVE PIN
M6-77 HUB 1/8 x 1 COTTER PIN
M6-208 COUNTERSHAFT BRACKET

51-56 BALL
51-52 HANDLE

1/4-20 x 3/16 SO. SET SCREW (CUP PT., 2 REQ'D)
L2-682 COLLAR

1/4"-20 x 1 1/4" H'DLESS SET SCR. (OVAL PT.) 2 REQ'D.
M6-427 PULLEY
M6-80 PULLEY
M6-107 SPINDLE
10-264 BEARING
9-122 HINGE PIN
M6-21A HANGER with bearings
1/4"-20 HEX JAM NUT (2 REQ'D)

M6-21AX COUNTERSHAFT HANGER ASSEMBLY

M6-429 MOTOR PULLEY (1/4" HOLE)
(W44-2 1/4" ALLEN WRENCH
W44-1 No. 10 ALLEN WRENCH (USED ON M6-429)

L9-125 MOTOR-TO-COUNTERSHAFT BELT

M6-208X COUNTERSHAFT ASSEMBLY
WITH MOTOR BELT AND PULLEY

M6-45 SLEEVE
M6-44 LOCK 1/2"-20 x 1 1/2" SQ. HD. MACH. BOLT
M6-8 RAM, TAILSTOCK
M6-90 THRUST NUT
M6-34 SCREW 10-24 x 1/2" H'DLESS SET SCR. (DOG PT.) AND NUT
M6-129 GIB
M6-7 CLAMP

3926-20 HANDWHEEL ASSEMBLY
3950-20 TAILSTOCK ASSEMBLY
3950-30 TAILSTOCK BASE 1/16" WASHER
10D-60* GIB SCREW

3950-24 TAILSTOCK ASSEMBLY

#10-24 x 1/2 RD. HD. MACH. SCREW
* Must be bought as assembly No. 0618-10

M6-129 GIB
10D-60 GIB SCREW

1/4"-20 x 1 1/4" HEADLESS SET SCR. (OVAL PT., 2 REQ'D)
3/8"-16 x 2 1/2" SQ. HEAD MACH. BOLT

1/4"-20 HEX (2 REQ'D)

618
THREADING CHART

for
6" ATLAS LATHES

JULY, 1976

A-B-C ARE GEAR STUD POSITIONS
B=BACK POSITION (TOWARD HEADSTOCK)
F=FRONT POSITION (AWAY FROM HEADSTOCK)
I=IDLER GEAR — BLANK
S=SPACER GEAR XXS=STEEL SPACER

<table>
<thead>
<tr>
<th>THREADS PER INCH</th>
<th>GEAR ON SCREW</th>
<th>POSITION C</th>
<th>POSITION B</th>
<th>POSITION A</th>
<th>SPINDLE STUD GEAR</th>
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FEED PER REVOLUTION OF SPINDLE

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.0039" 64F 64 32 — 24 48 16 5
.0048" 64B 20 64 — 48 24 32 6
.0078" 64B 32 64 — 48 24 32 6