

OPERATOR'S MANUAL

Bridgeport MACHINES, INC.

BRIDGEPORT, CONNECTICUT - U. S. A.

Angular settings in one plane are achieved by turning the Hand Wheel which controls the Keyed Overarm.

The Overarm is 5" in diameter and amply rigid. There is also provision for a Slotting Attachment on the other end of the Overarm, making it possible to use the Machine for more than one purpose.

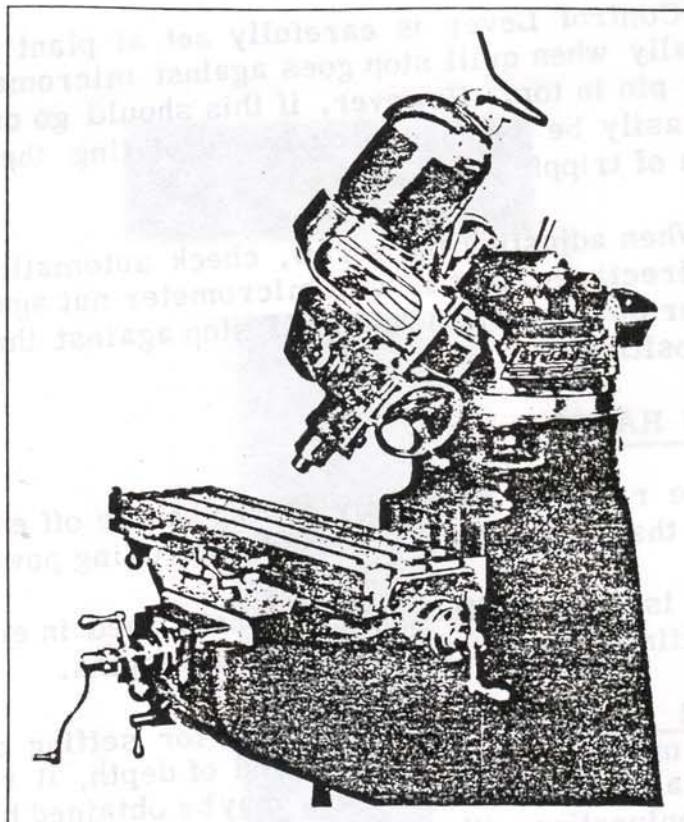
The Machine weighs 1500 pounds and is of convenient size for easy hand operation, yet due to the ability to move the Milling Unit in and out as well as to each end of the Table, it has more range than any Vertical Machine twice its size.

All Bridgeport Attachments manufactured since 1930 will fit the Standard Adapter furnished with the Machine.

15" Diameter Turret
with 5" Overarm.

Rugged Column, Knee
and Table construction
with wide ways and ta-
per gibbs for accurate
and vibrationless opera-
tion.

Table, Knee and Saddle
Locks located in the
front of Machine for
convenient operation.



Anti Friction Bearing
throughout entire Ma-
chine.

Large graduated dial
3 1/4" in diameter.

Keyed Overarm with
Worm Wheel Control
for Angular Settings.

SPECIFICATIONS

BRIDGEPORT TURRET MILLING MACHINE

RANGE.

Longitudinal feed.....	20"
Cross Feed.....	9"
Vertical feed of knee.....	16"
Maximum distance spindle to table.....	17"
Maximum spindle to column.....	19 1/2"
Size of table.....	9"x32"
Weight of Milling Machine, approx.....	1500 lbs.

BRIDGEPORT MASTER MILLING UNIT

RANGE:

Spindle speeds....	275, 425, 700, 1050, 2100, 4250
Quill travel.....	3 1/2"
Rack and worm feed for drilling and boring	
Dependable Micrometer depth stop graduated in	
thousandths	
Positive quill lock	
No. 2 Morse or No. 7 B & S taper spindle optional	
1/2 H.P. Heavy Duty Motor	
Weight of Milling Unit.....	113 lbs.

Made by

BRIDGEPORT MACHINES, INC.

Formerly The Bridgeport Pattern & Model Works

52 REMER STREET

BRIDGEPORT, CONN., U.S.A.

Sold by

OPERATING MANUAL

UNCRATING

Carefully remove protective crating so that the machine and parts are not marred, scratched or impaired. In the event of damage in transit, communicate at once with our representative and the transportation company making delivery.

SHORTAGES

Check shipment carefully against the itemized packing list which is included in the parts box. In case of shortages, report them immediately to the representative from whom the machine was purchased indicating parts not received which have been checked on the packing list. Shortages should be reported within ten days.

HOISTING

Do not use chain or cable! Use rope of sufficient strength around overarm. Exercise extreme care when hoisting machine, balancing on rope before raising.

MOUNTING HEAD ON OVERARM ADAPTER

Face on flange should be thoroughly cleaned, as this aligns milling head square with table working surface. Then clean mounting surface of head carefully and place against flange. When two surfaces are contacted, tighten bolts evenly using normal pressure. Care should be taken so as not to apply abnormal pressure since this will cause distortion of the quill housing.

MOUNTING MOTOR

Place belt over bottom step of spindle pulley, then place motor in housing and lower to place, switch being on left hand side.

PLACING AND ADJUSTING BELTS

Release lock nut handle which is the handle on right of belt housing and also handle on left side and adjust V belts to proper driving tension, then tighten both motor clamping handles.

MACHINE IS READY TO OPERATE

If quill and head are to be used in stationary position, quill lock should be applied. Micrometer depth stop scale is graduated in 20ths of an inch, pitch is .050 and nut is graduated in thousands. By utilizing these

graduations it is possible to work very accurately as far as different depths are concerned. Micrometer nut when in position is locked securely by tightening micrometer lock nut.

OPERATING INSTRUCTIONS

When tightening or loosening the draw bar it is necessary to lock the spindle. To accomplish this, use spindle brake and lock which is located at top of belt housing, turning it either to the right or left until it binds, then raise handle.

Drawbar has 7/16-20 right hand thread and should be tightened with normal amount of pressure using wrench furnished with machine. To loosen collet back off drawbar and if collet does not open immediately give knob on top of drawbar a slight tap. Spindle has non sticking taper and collets should release readily.

SPINDLE BRAKE

Lever can be moved in either direction to stop spindle; however, when locking spindle, lever should be moved to right or left and then raised.

CAUTION: Be certain that the spindle brake is released before starting the motor. This is important as the motor can be damaged if switch is left on with brake in locked position.

REVERSING SWITCH is used to obtain clockwise or counter clockwise rotation of spindle.

Note: Due to back gear construction, when machine is running in low speed range, spindle rotation is opposite to that of high speed range. Therefore forward on your reversing switch becomes reverse switch in low speed range.

HIGH LOW SPEED CLUTCH CONTROL is directly in front of motor. When knob is in position, as shown on picture, clutch is in high speed position. To put clutch into low speed position turn lever to the extreme right. It is necessary to rotate spindle while engaging high speed clutch. This can be accomplished by either turning spindle nose by hand or by turning drawbar knob using wrench, providing drawbar is pulled up tightly.

CAUTION: Do not shift clutch while motor is running.

Back gear control is used in conjunction with the high low speed clutch control; above back gear control handle is stamped IN and OUT. When back gear control handle is in OUT position, which is the position furthest from face of machine, then HIGH LOW speed clutch control should be located as illustrated in photograph. With these controls in position as explained, head is set for operation in high speed range (660-2720 RPM).

When back gear control lever is moved to IN position and HIGH LOW speed clutch control moved to extreme right then the head is ready for operation in the low speed range (80-325 RPM).

POWER FEED TRANSMISSION ENGAGEMENT CRANK engages power feed worm gear. When lever is in position as indicated in photograph, the power feed worm gear is engaged. To disengage worm gear, pull knob out and crank handle in clockwise or down direction and move to opposite position.

Note: Crank cannot be swung around in counter clockwise direction; however no damage will occur if moved in this direction. To engage the worm a counter clockwise movement is required.

CAUTION: Power feed worm gear may be engaged when spindle is rotating, however it should be engaged gently to avoid damage to worm gear. The worm gear may be disengaged at any time.

IMPORTANT: It is recommended that the Power Feed worm gear be disengaged whenever the power feed is not required. This will avoid unnecessary wear on power feed worm gear.

QUILL FEED SELECTOR

This crank is used for selecting the three feeds; 1.5, 3 and 6 thousandths per revolution. It is shifted by pulling knob out and turning from one position to the other. Feeds are stamped on cover below indentation hole. Feed is more readily engaged when spindle is running.

FEED REVERSING KNOB

Position of this handle depends upon direction of spindle rotation. If boring with right hand cutting tools, pull feed handle towards operator until clutch becomes engaged.

Neutral position is between forward and reverse position. It is recommended that the handle be left in neutral position when not in use.

MANUAL FEED

Reversing clutch knob should be in neutral position and feed control lever engaged. Clockwise rotation of handwheel moves quill down. The Manual Feed Handwheel and the quill feed handle may be disengaged by moving outward about 1/8".

Note: Feed control lever must be engaged in order to use manual feed controls. Manual Feed Handle and Handwheel may be taken off when not in use.

FEED CONTROL LEVER

Engages over-load clutch on pinion shaft when thrown to left and will stay engaged until either quill stop comes in contact with micrometer nut, forcing feed control lever to drop out automatically, or released manually by throwing lever to right.

Note: Feed Control Lever is carefully set at plant to throw out automatically when quill stop goes against micrometer nut or against safety pin in top. However, if this should go out of adjustment it may easily be brought back by regulating the screw located at bottom of tripping rod.

CAUTION: When adjusting the screw, check automatic throw off in both directions; that is with micrometer nut against the quill stop for down position and quill stop against throw out pin for up position.

QUILL FEED HANDLE

May be removed by simply pulling handle off end of shaft. It is recommended that handle be disengaged when using power feed.

QUILL STOP is used to disengage automatic feed in either direction as well as the setting point for working to given depths.

MICROMETER ADJUSTING NUT is used for setting of depths. Each graduation on nut indicates one thousand of depth, it reads directly to scale mounted along side of it. Depths may be obtained by setting micrometer nut in conjunction with quill stop.

QUILL LOCK

This is a positive quill lock to be used when quill is in stationary position such as milling operations. It is recommended that this lock be used whenever quill movement is not desired.

INDICATOR MOUNTING ROD is used for the fastening of an indicator.

LUBRICATION

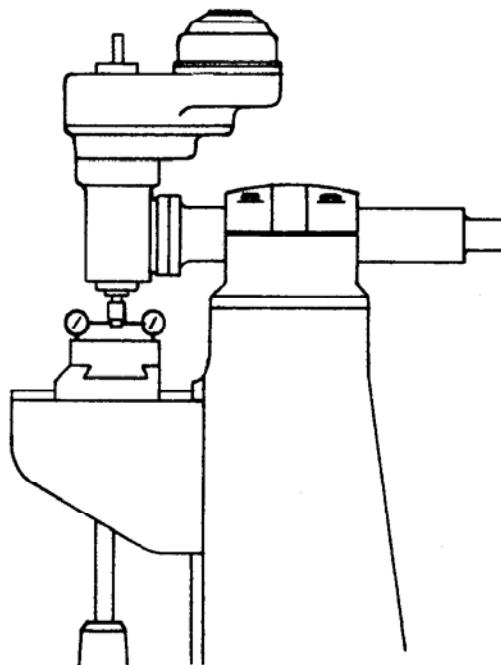
Do not operate machine until properly lubricated. Lubrication of head is obtained by use of the drip feed method through two oil cups located at right side of belt housing. Oil cup should be filled every 4 hours of running time with light machine oil such as Socony D.T.E. light or equivalent.

SQUARING ATTACHMENT

In case of precision boring or work of that nature, it is necessary

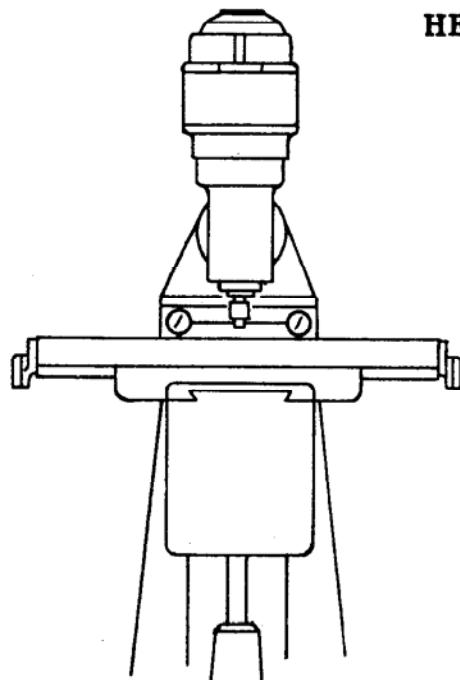
to have head perfectly square with table as described below, figure A and B.

TABLE SQUARE
WITH SPINDLE IN PLANE
THROUGH TRANSVERSE AXIS



TYPE A

TABLE SQUARE
WITH SPINDLE IN PLANE
THROUGH LONGITUDINAL AXIS



TYPE B

For normal milling operations, graduations on turret and overarm are sufficiently accurate.

Note: When indicating, as in figure A, it may be impossible to get a dead zero in back and front of table as machines are fitted to be slightly high in front, usually about .001".

ANGULAR SETTINGS in one plane are achieved by turning the hand wheel which controls the keyed overarm.

POSITION OF OVERARM can be regulated by loosening two bolts on turret and pulling arm in or out to desired position.

CAUTION: Care should be taken to lock overarm securely after setting.

Note: It is recommended that on heavy milling work, head should be kept as close to face of turret as possible, as maximum rigidity is then obtained.

OPERATION

To operate in high speed range, move high low speed clutch control handle to extreme left then put back gear control in OUT position.

Then, if power feed is desired, crank power feed transmission engagement to IN position, (refer back to explanation of controls) and feed reversing knob should be pushed in for down feed and pulled out for up feed.

The next step is to throw feed control lever to left. Power feed is now in operation in high speed range. Feeds can be selected by cranking quill feed selector to desired feeds.

BACK GEAR OR LOW SPEED RANGE

Stop spindle, then move high low speed clutch control to extreme right and also back gear control handle over to IN position.

RECOMMENDATIONS

Use 2, 3, or 4 flute end mills. 8 flute end mills are usually not as satisfactory. When using shell or face mills standard cutter practice should be observed.

Power feed can be used for drilling up to 3/8" diameter drills. Use manual feed for drills larger than 3/8".

Overload clutch is set at factory to hold up to 200 lbs. DOWN pressure on quill, which will accommodate drills up to 3/8" diameter in mild tool steel.

CAUTION: This clutch should not be tampered with in the field.

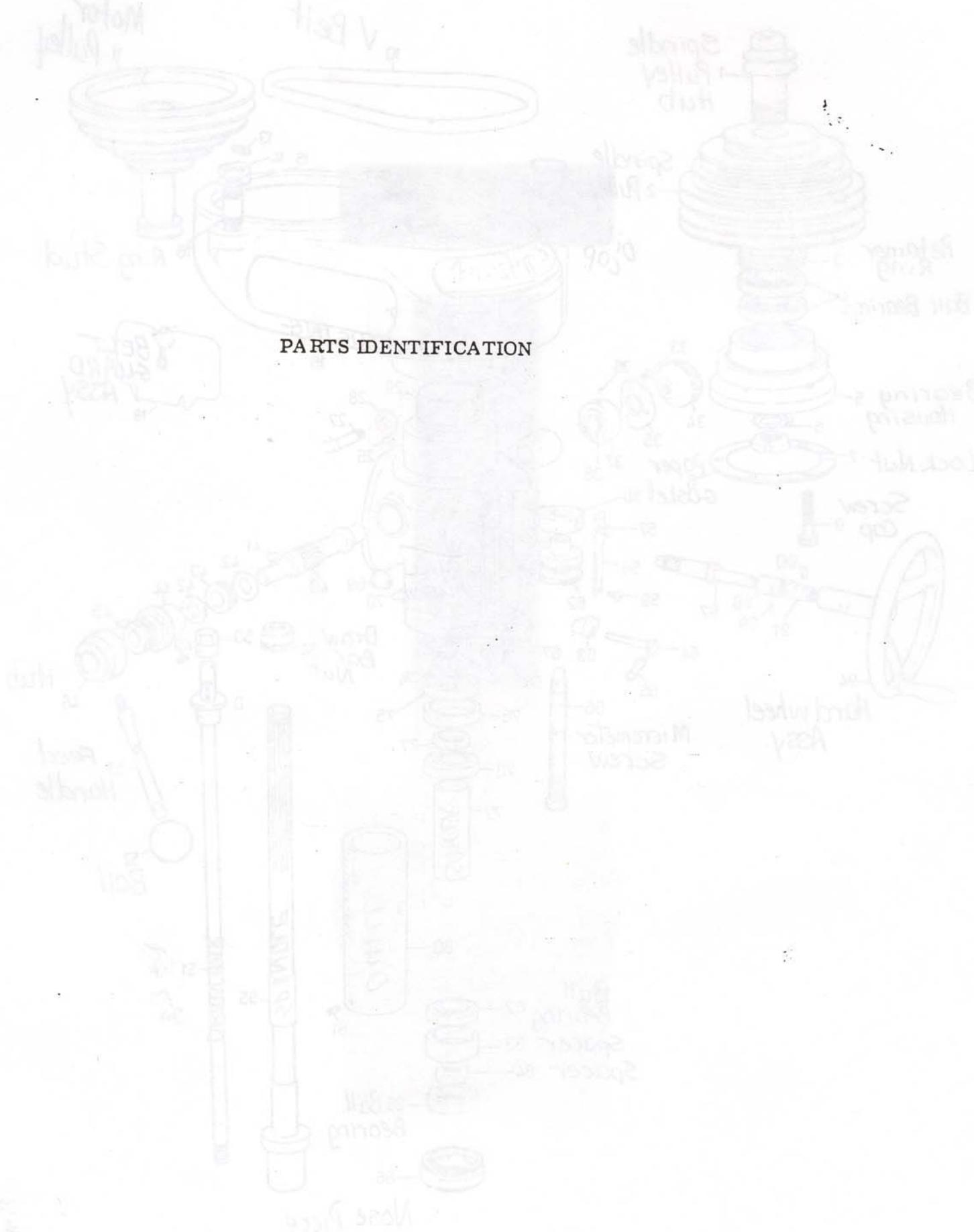
GENERAL SPEED RECOMMENDATIONS

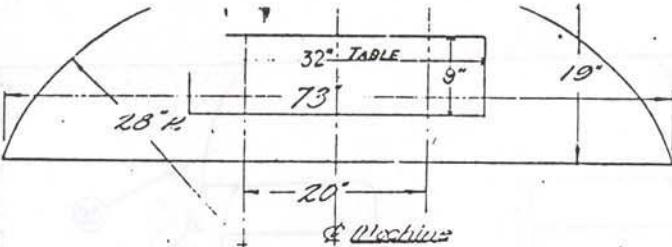
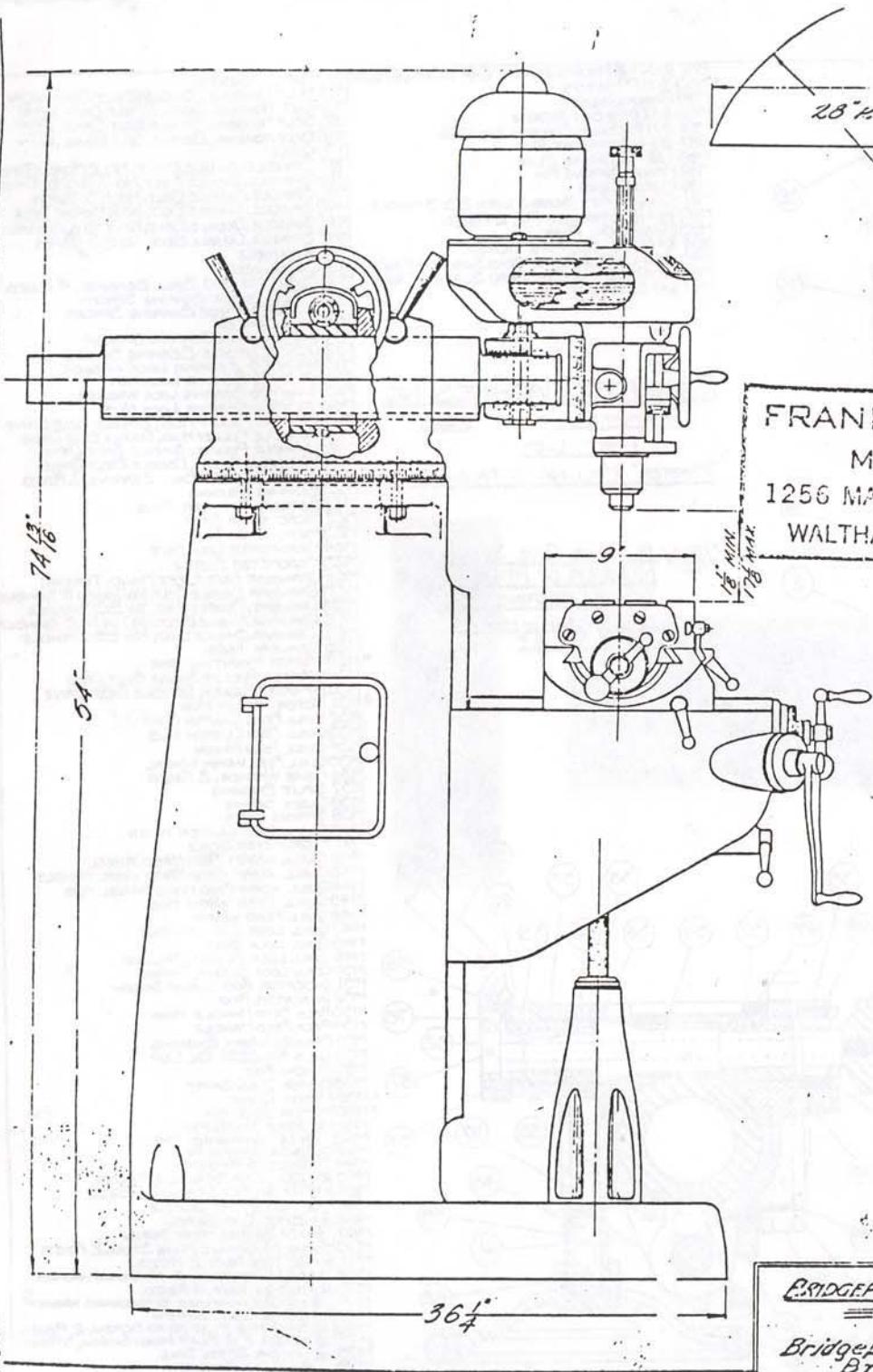
Material to be cut	Feet Per Minute		
	Rough Cut	Rough and Finish	Light and Finish Cut
Cast Iron-Soft-(Under 200 Brinnell)	70	80-90	120
Cast Iron-Med.-(200-300 Brinnell)	55	60-70	90
Cast Iron-Hard-(Over 200 Brinnell)	40	50-60	70
Steel (Chrome Nickel 40-45 Shore)	30	40	50
Steel (Stainless)	60	80	90
Steel (Low Carbon)	80	90	140
Steel (High Carbon)	40	50	70
Bronze (Medium)	90	120	150
Bronze (Hard)	65	90	130
Brass (Hard)	100	150	200
Copper	150	200	300
Duraluminum	400	---	600
Aluminum	600	---	1000

TABLE OF CUTTING SPEEDS AND FEEDS

Feet Per Minute	15	20	25	30	40	50	60	70	80	90	100
Diameter, Inches	Revolutions Per Minute										
1/16"	917	1222	1528	1833	2445	3056	3667	4278	4889	5500	6112
1/8"	458	611	764	917	1222	1528	1833	2139	2445	2750	3056
3/16"	306	407	509	611	815	1019	1222	1426	1630	1833	2037
1/4"	229	306	382	458	611	764	917	1070	1375	1375	1528
5/16"	183	244	306	367	489	611	733	856	978	1100	1222
3/8"	153	204	255	306	407	509	611	713	815	917	1019
7/16"	131	175	218	262	349	437	524	611	698	786	873
1/2"	115	153	191	229	306	382	458	535	611	688	764
5/8"	91	122	153	183	244	306	367	428	489	550	611
3/4"	76	102	127	153	204	255	306	357	407	458	509
7/8"	65	87	109	131	175	218	262	306	349	393	437
1 "	57	76	95	115	153	191	229	267	306	344	382
1 1/8"	50	67	84	102	136	170	204	238	272	306	340
1 1/4"	45	61	76	91	122	153	183	214	244	275	306
1 3/8"	41	55	69	83	111	139	167	194	222	250	278
1 1/2"	38	50	63	76	102	127	153	178	204	229	255
1 5/8"	35	47	58	70	94	118	141	165	188	212	235
1 3/4"	32	43	54	65	87	109	131	153	175	196	218
1 7/8"	30	40	50	61	81	102	122	143	163	183	204
2 "	28	38	47	57	76	95	115	134	153	172	191

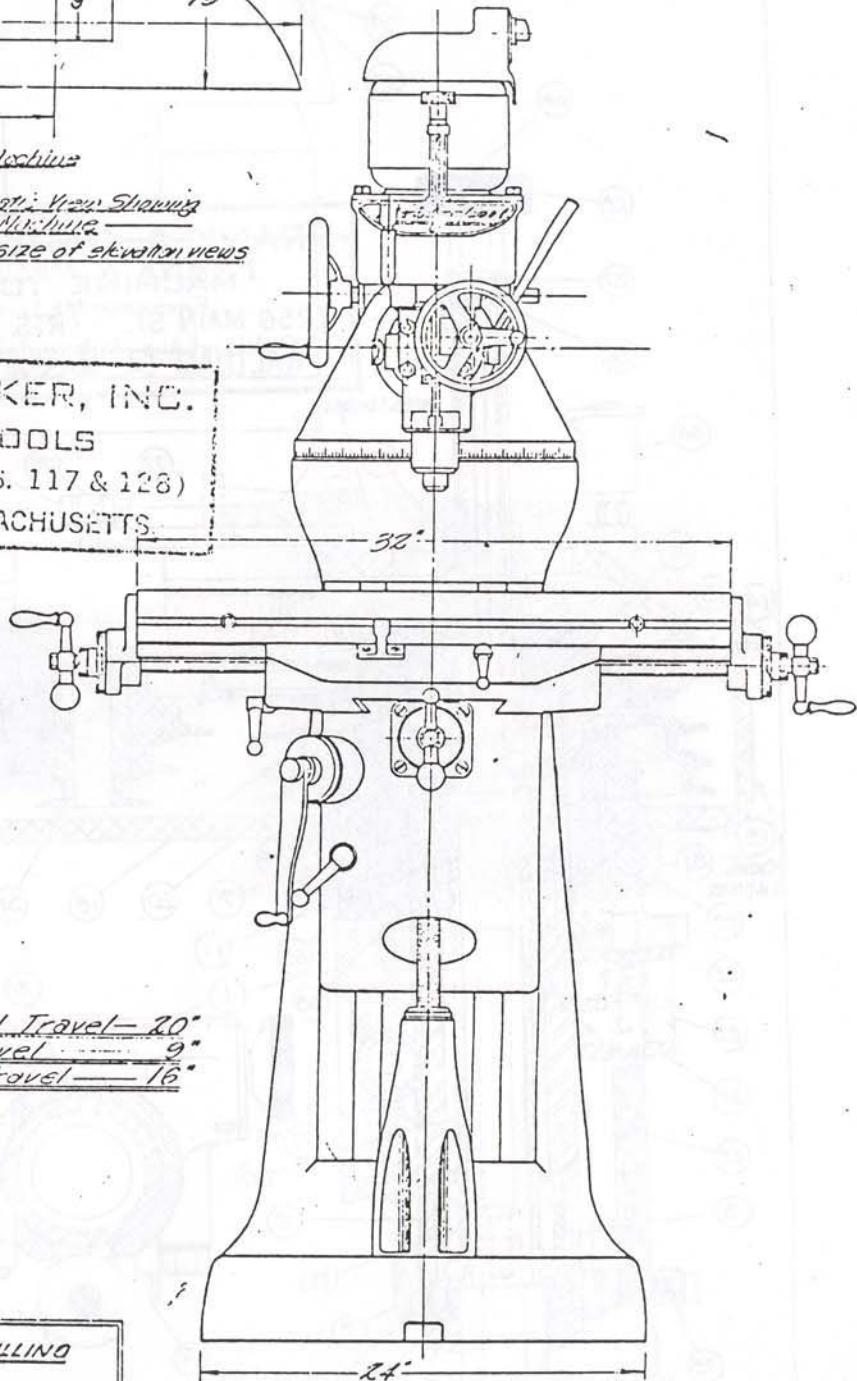
PARTS IDENTIFICATION





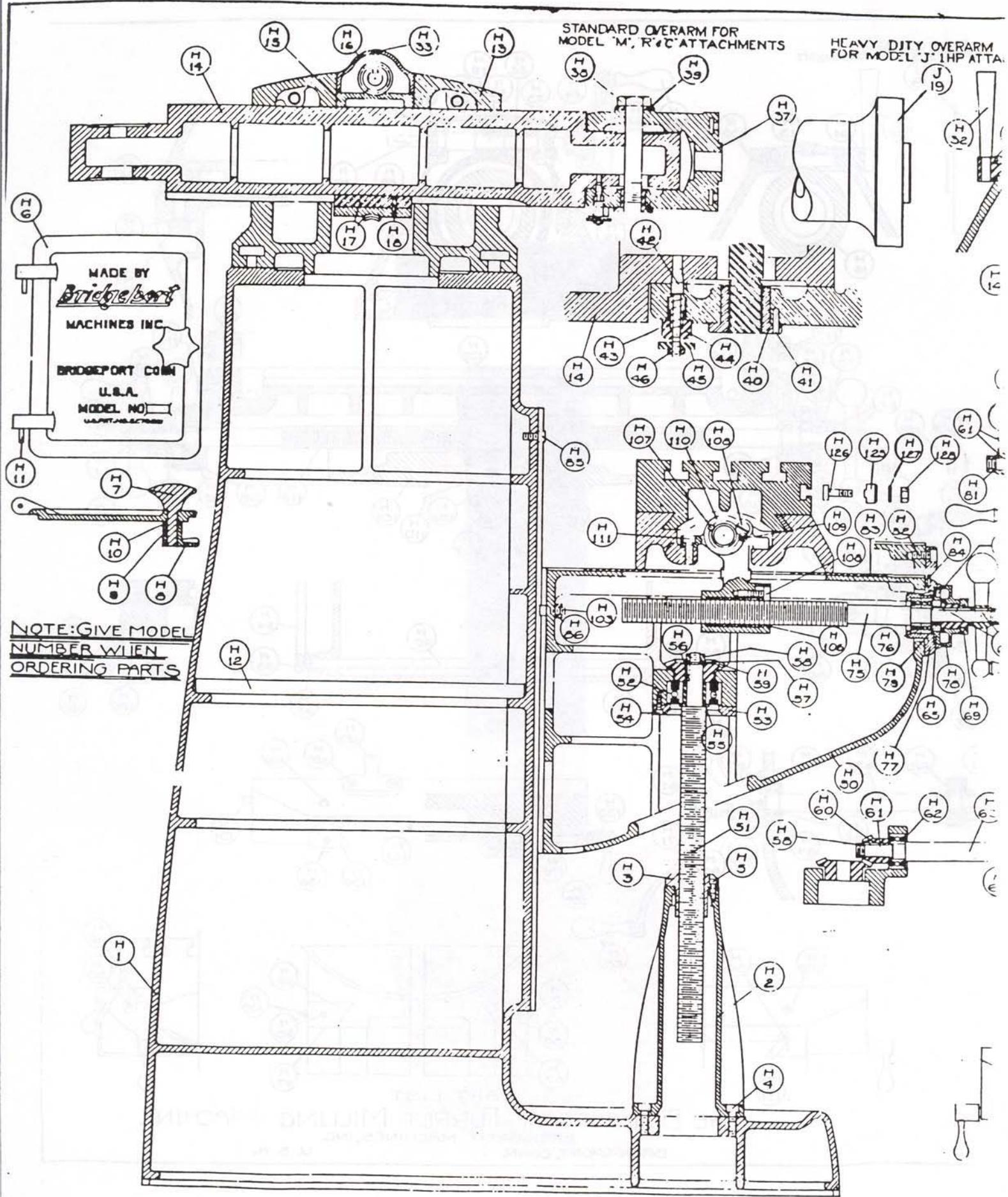
Diagrammatic View Drawing
Profile of Machine
Scale & size of elevation views

FRANK A. PARKER, INC.
MACHINE TOOLS
1256 MAIN ST. (RTS. 117 & 128)
WALTHAM 54, MASSACHUSETTS.

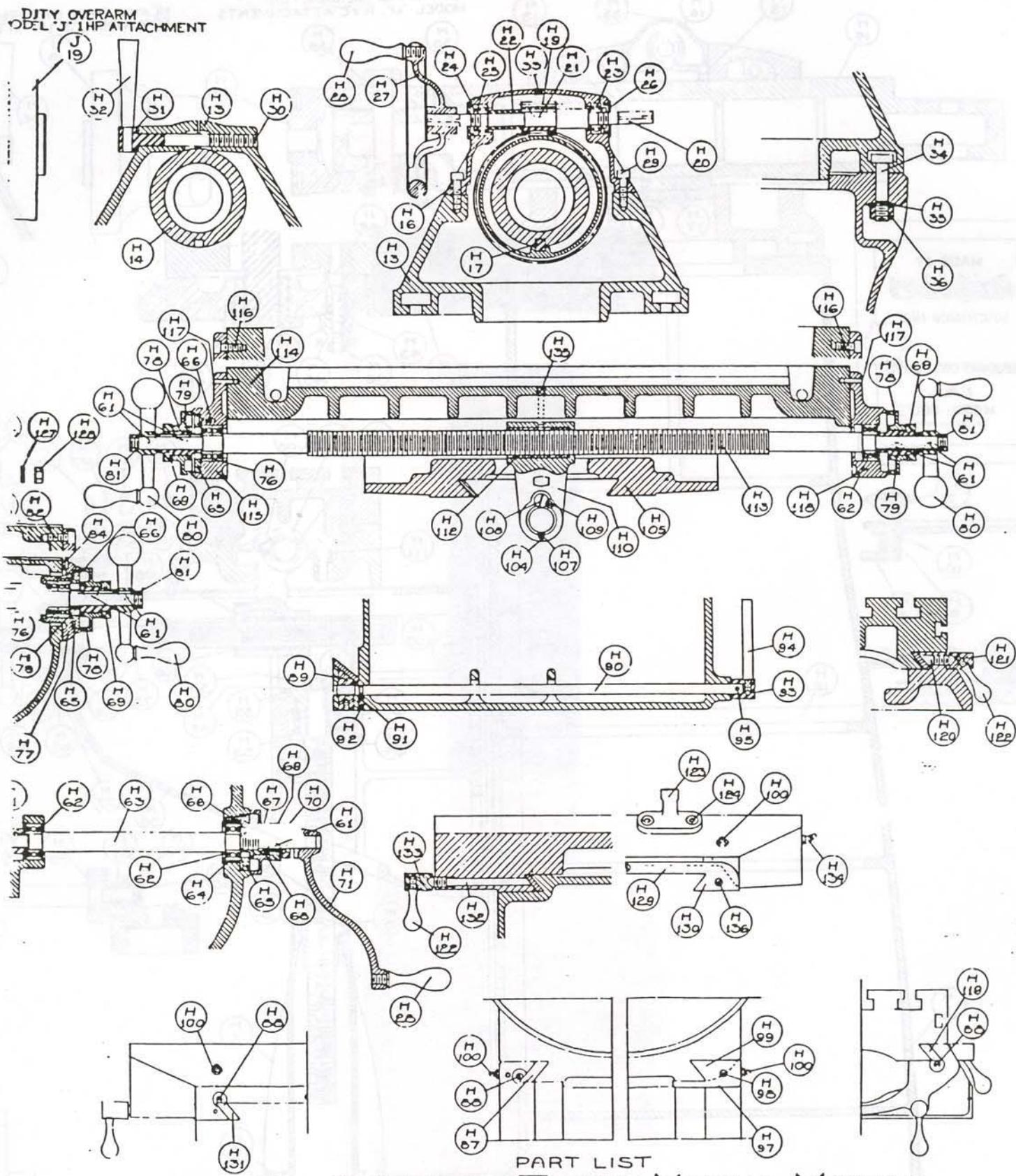


Longitudinal Travel - 20"
Cross Travel - 9"
Vertical Travel - 16"

BRIDGEPORT TURRET MILLING
= MACHINE =
Bridgeport MACHINES INC.
Bridgeport Conn.



DJTY OVERARM
MODEL J 1 HP ATTACHMENT

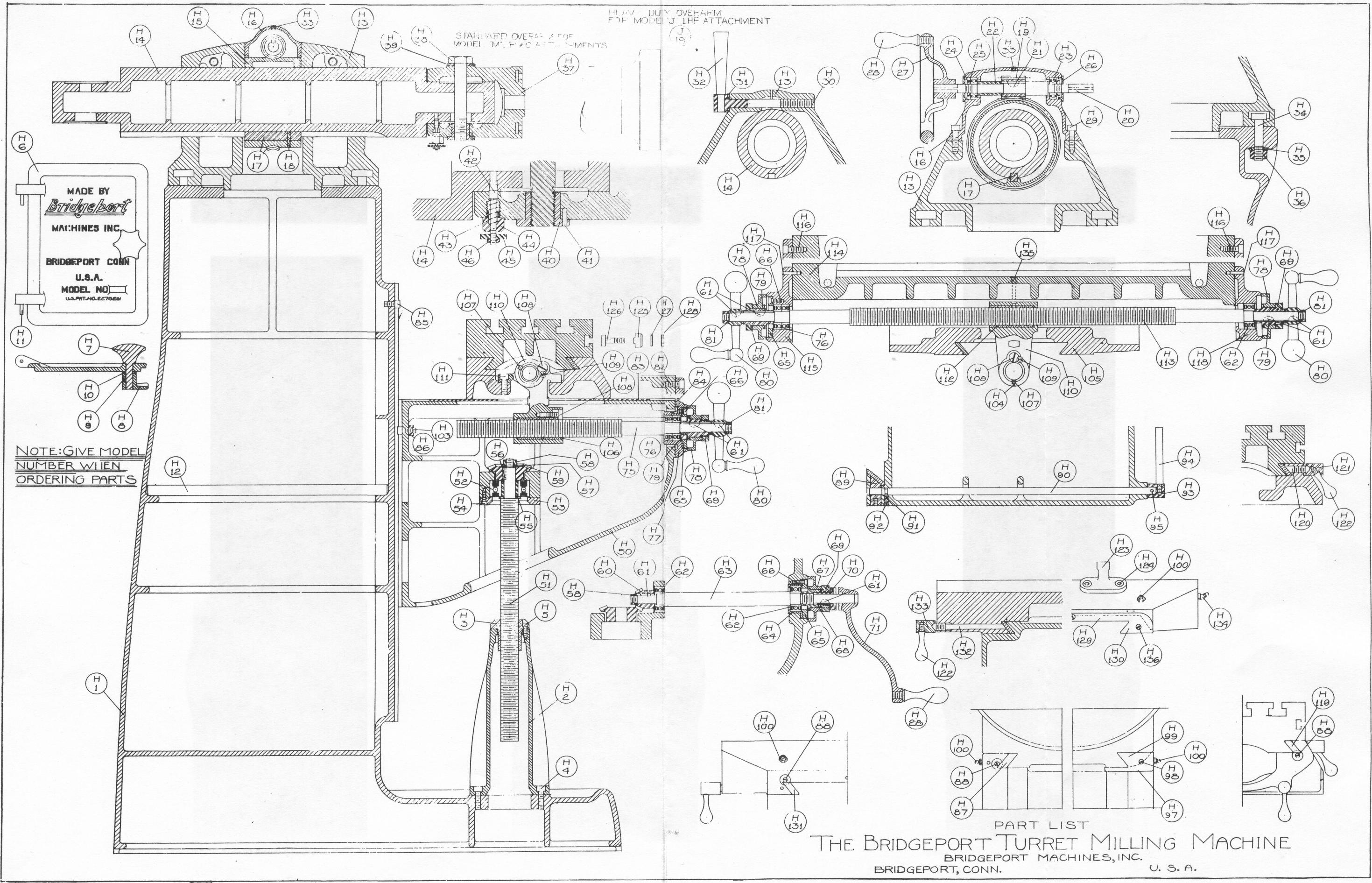


PART LIST

THE BRIDGEPORT TURRET MILLING MACHINE

BRIDGEPORT MACHINES, INC.
BRIDGEPORT, CONN.

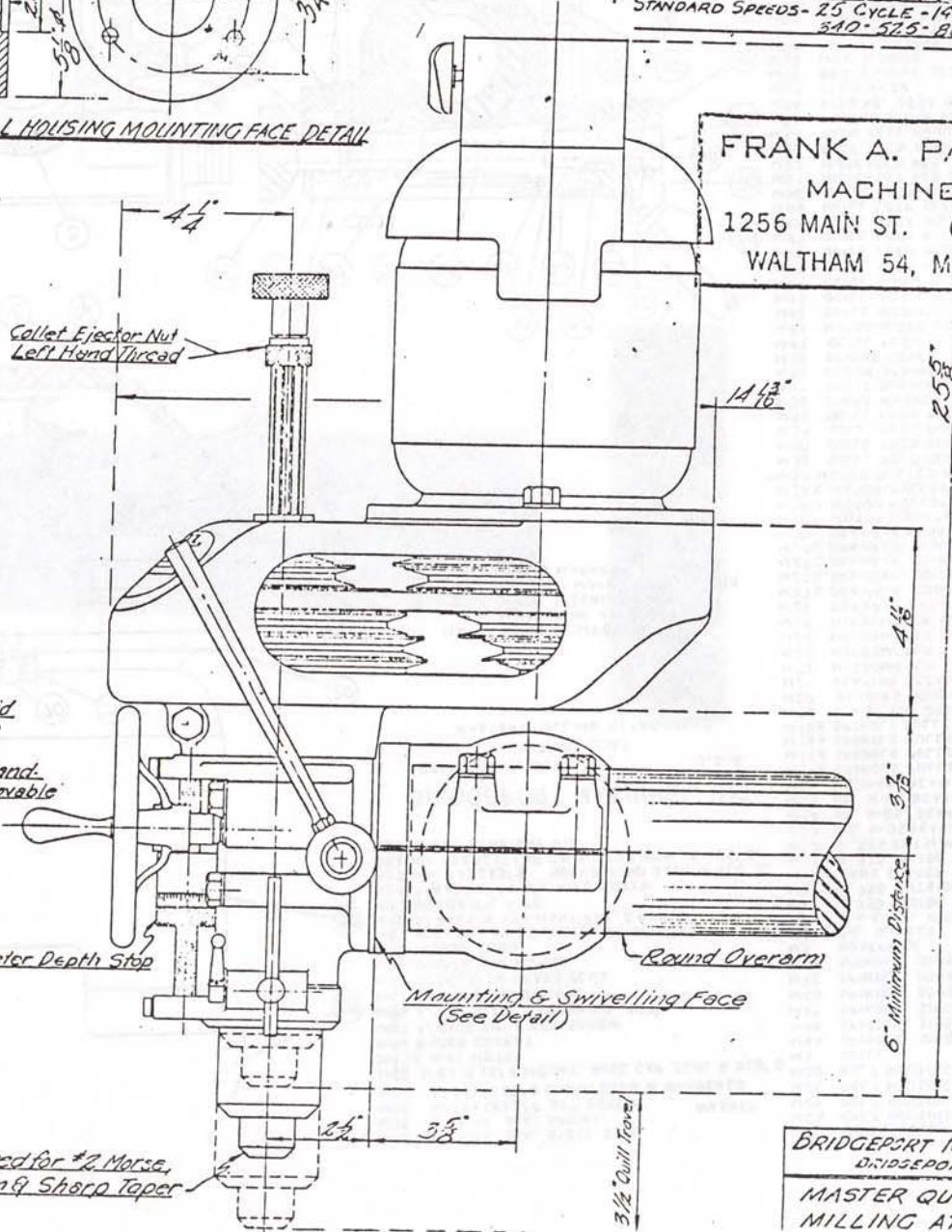
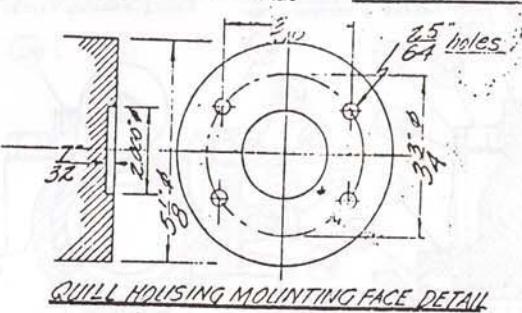
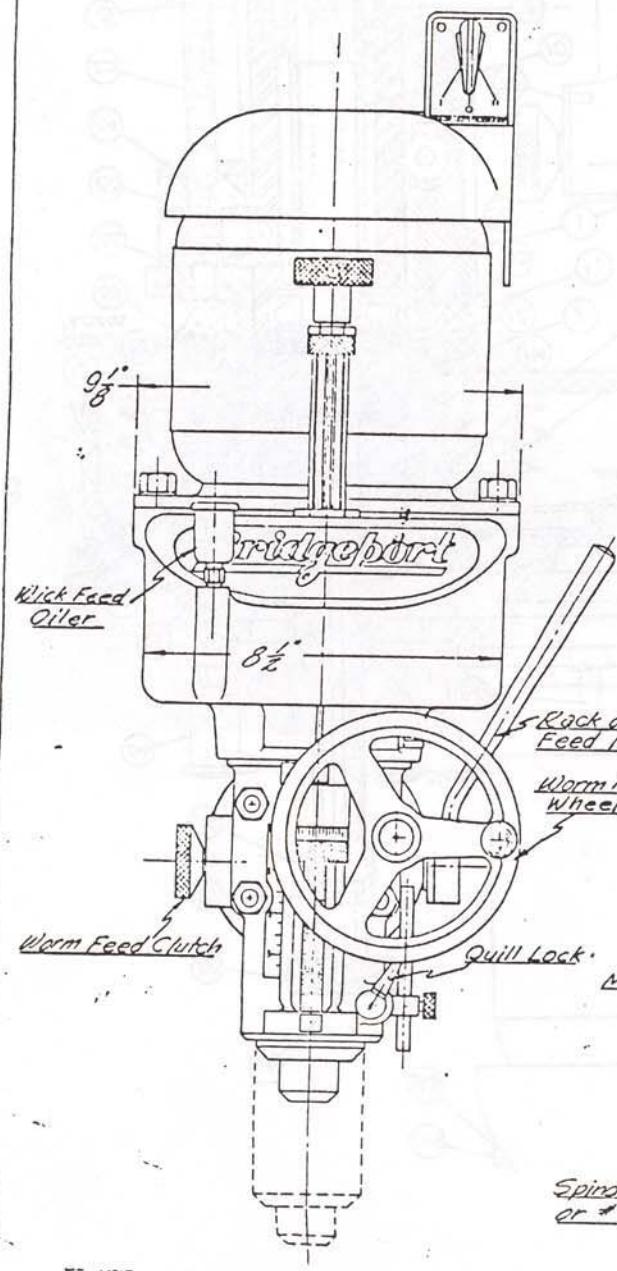
U. S. A.



PART LIST--THE BRIDGEPORT TURRET MILLING MACHINE

- H-1 COLUMN AND BASE
- H-2 ELEVATING SCREW HOUSING
- H-3 ELEVATING SCREW NUT
- H-4 3/8 - 16 x 1 HOLLOW HEAD CAP SCREW (2 REQUIRED)
- H-5 1/4 - 20 x 3/4 HOLLOW HEAD CAP SCREW (3 REQUIRED)
- H-6 DOOR
- H-7 DOORKNOB
- H-8 DOOR LOCKING CAM
- H-9 1/4 - 20 x 1/4 SET SCREW
- H-10 17/32 x 1 SPACER
- H-11 3/16 x 1 1/2 HINGE PIN (2 REQUIRED)
- H-12 WOODEN SHELF (2 HALVES)
- H-13 TURRET
- H-14 OVERARM
- H-15 WORM GEAR
- H-16 WORM GEAR HOUSING
- H-17 5/8 x 5/8 x 4 KEY
- H-18 3/16 x 1 PIN
- H-19 WORM
- H-20 WORM SHAFT
- H-21 NO. 9 WOODRUFF KEY
- H-22 SPACER
- H-23 NO. 203 PP BALL BEARINGS (2 REQUIRED)
- H-24 NO. N-03 BEARING LOCKNUT (2 REQUIRED)
- H-25 NO. W-03 BEARING LOCK WASHER (2 REQUIRED)
- H-26 BEARING COVER (2 REQUIRED)
- H-27 HAND WHEEL
- H-28 HANDLE (2 REQUIRED)
- H-29 3/8 x 16 x 1 1/2 HOLLOW HEAD CAP SCREW (2 REQUIRED)
- H-30 OVERARM LOCKING BOLT (2 REQUIRED)
- H-31 21/32 x 1 3/16 x 3/16 WASHER
- H-32 OVERARM LOCKING BOLT HANDLE (2 REQUIRED)
- H-33 BALL VALVE OILER
- H-34 TURRET T-BOLT (4 REQUIRED)
- H-35 21/32 x 1 3/16 x 3/16 HARDENED, CHAMFERED WASHER (4 REQUIRED)
- H-36 5/8 - 11 HARDENED HEXAGON NUT (4 REQUIRED)
- H-37 OVERARM ADAPTER
- H-38 ADAPTER LOCKING BOLT
- H-39 29/32 x 2 x 1/4 WASHER
- H-40 ADAPTER LOCK NUT
- H-41 3/16 x 1/2 PIN
- H-42 ADAPTER INDEXING PLUNGER
- H-43 5/16 x 1 1/4 COIL SPRING
- H-44 ADAPTER INDEXING PLUNGER SPRING NUT
- H-45 KNULED PLUNGER NUT
- H-46 #10 - 32 JAM NUT
- H-50 KNEE
- H-51 ELEVATING SCREW
- H-52 NO. 3606-J GREASE-SEALED BALL BEARING
- H-53 BEARING RETAINER RING
- H-54 1/4 x 20 x 1/2 HOLLOW HEAD CAP SCREW (3 REQUIRED)
- H-55 BEARING BUSHING
- H-56 3/16 x 3/16 x 7/8 KEY
- H-57 33/64 x 1 x 0.100 WASHER
- H-58 1/2 - 20 JAM NUT (2 REQUIRED)
- H-59 BEVEL GEAR
- H-60 BEVEL PINION
- H-61 NO. 7 WOODRUFF KEY
- H-62 NO. 77020 GREASE-SEALED BALL BEARINGS (3 REQUIRED)
- H-63 GEAR SHAFT
- H-64 BEARING CUP
- H-65 BEARING RETAINER RING (3 REQUIRED)
- H-66 1/4 - 20 x 1/2 HOLLOW HEAD CAP SCREW (9 REQUIRED)
- H-67 DIAL WITH 100 GRADUATIONS

H-68 DIAL HOLDER
H-69 DIAL LOCK NUT (4 REQUIRED)
H-70 GEARSHAFT CLUTCH INSERT
H-71 ELEVATING CRANK
H-75 CROSS FEED SCREW
H-76 NO. XF-12 GREASE-SEALED BALL BEARINGS (2 PAIRS REQUIRED)
H-77 CROSS FEED BEARING BRACKET
H-78 DIAL WITH 200 GRADUATIONS (3 REQUIRED)
H-79 DIAL HOLDER (3 REQUIRED)
H-80 BALL CRANK HANDLE (3 REQUIRED)
H-81 1/2 - 20 JAM NUT (3 REQUIRED)
H-82 3/8 - 16 x 1 HOLLOW HEAD CAP SCREW (4 REQUIRED)
H-83 CHIP GUARD
H-84 NO. 10 - 32 x 5/8 STOP SCREW
H-85 3/8 - 16 x 3/4 MACHINE SCREW
H-86 3/8 - 16 HEXAGON NUT
H-87 KNEE COLUMN GIB
H-88 GIB SCREW (3 REQUIRED)
H-89 KNEE LOCKING PLUNGER
H-90 KNEE LOCKING CAMSHAFT
H-91 5/16 - 18 x 5/16 DOG POINT SET SCREW
H-92 5/16 - 18 x 5/16 SET SCREW
H-93 CAM SHAFT HUB
H-94 CAM SHAFT HANDLE
H-95 NO. 1 x 1" TAPER PIN
H-96 LEFT HAND KNEE-COLUMN WIPER HOLDER
H-97 RIGHT HAND KNEE-COLUMN WIPER HOLDER
H-98 1/4 - 20 x 1 HOLLOW HEAD CAP SCREW (2 REQUIRED)
H-99 FELT WIPER (2 REQUIRED)
H-100 NO. 1610 ALEMITE FITTING (4 REQUIRED)
H-103 3/8 - 16 x 1 MACHINE SCREW
H-104 3/32 x 3/8 PIN
H-105 SADDLE
H-106 CROSS FEED NUT
H-107 3/16 x 3/16 x 2 1/2 KEY (2 REQUIRED)
H-108 CROSS FEED NUT RETAINING SCREW (2 REQUIRED)
H-109 NO. 8 - 32 x 3/8 WASHER HEAD SCREW (2 REQUIRED)
H-110 FEED NUT BRACKET
H-111 3/8 - 16 x 1 HOLLOW HEAD CAP SCREW (4 REQUIRED)
H-112 LONGITUDINAL FEED NUT
H-113 LONGITUDINAL FEED SCREW
H-114 TABLE
H-115 LEFT BEARING BRACKET
H-116 3/8 - 16 x 1 HOLLOW HEAD CAP SCREW (8 REQUIRED)
H-117 3/16 x 1 DOWEL PINS (6 REQUIRED)
H-118 RIGHT BEARING BRACKET
H-119 SADDLE-TABLE GIB
H-120 TABLE LOCK PLUNGER
H-121 TABLE LOCK BOLT
H-122 TABLE LOCK BOLT HANDLE (2 REQUIRED)
H-123 TABLE STOP BRACKET
H-124 3/8 - 16 x 1/2 HOLLOW HEAD CAP SCREW (2 REQUIRED)
H-125 TABLE STOP PIECE (2 REQUIRED)
H-126 STOP PIECE T-BOLT (2 REQUIRED)
H-127 13/32 x 3/4 x 1/8 HARDENED CHAMFERED WASHER (2 REQUIRED)
H-128 3/8 - 16 HEXAGON NUT (2 REQUIRED)
H-129 SADDLE-KNEE WIPER PLATE (2 REQUIRED)
H-130 FELT WIPER (4 REQUIRED)
H-131 SADDLE-KNEE GIB
H-132 SADDLE LOCK PLUNGER
H-133 SADDLE LOCK BOLT
H-134 NO. 1611 ALEMITE FITTING (2 REQUIRED)
H-135 5/16 - 18 x 5/16 SET SCREW
H-136 NO. 10 - 32 x 1/2 OVAL HEAD SCREW (6 REQUIRED)
H-140 1 1/4 OPEN END AND 1 1/16 BOX END WRENCH
H-141 GREASE GUN



SPINDLE SPEEDS

STANDARD SPEEDS - 60 CYCLE 1150 RPM 140-000
825-120-700-1050-8100-1250

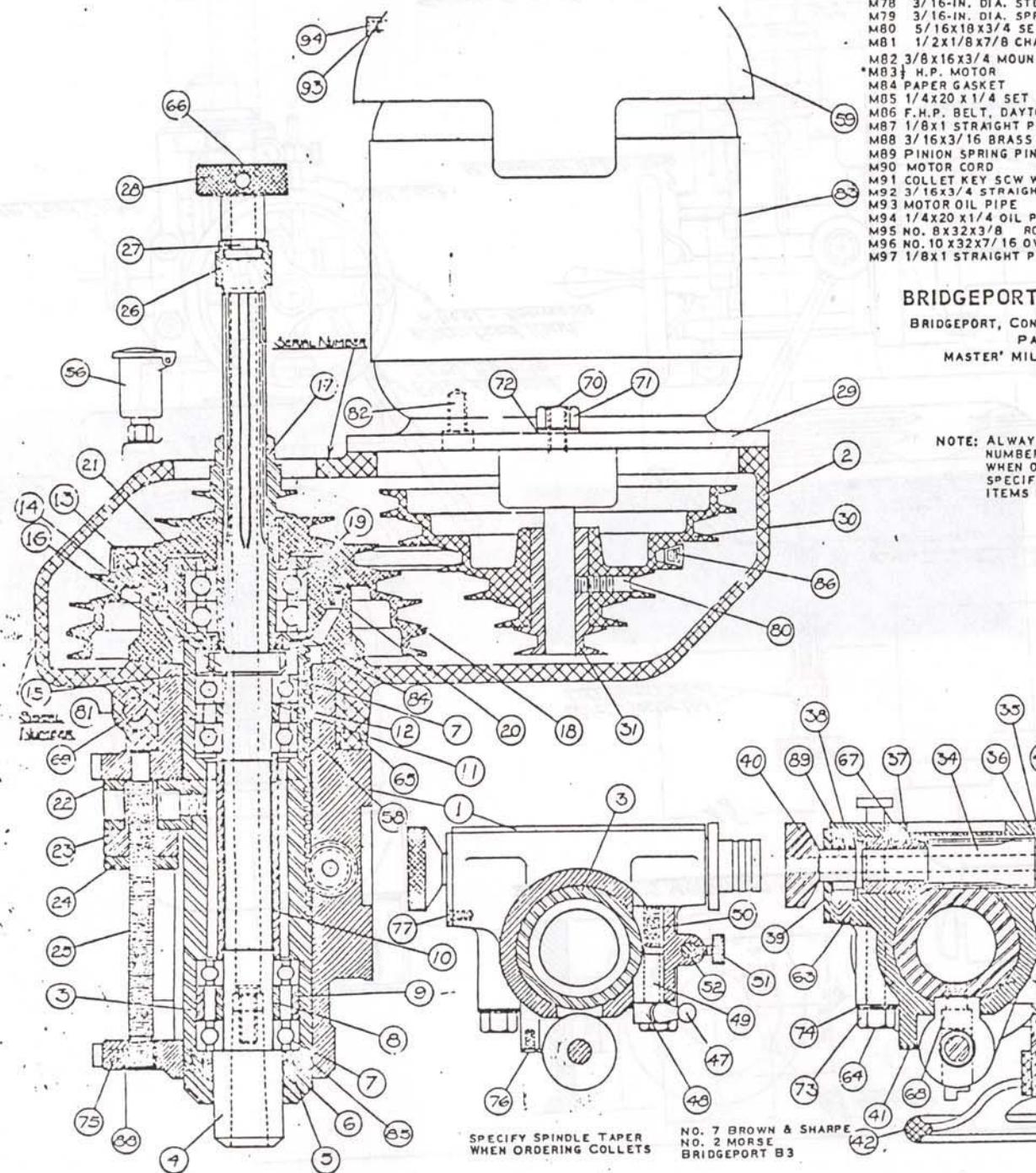
SPECIAL SPEEDS - 60 CYCLE 1150 RPM 140-000
110-615-1065-1500-1800-2100-2500

SPECIAL SPEEDS - 60 CYCLE 1150 RPM MOTOR
110-615-1065-1500-2100-2500

STANDARD SPEEDS - 25 CYCLE - 1425 RPM MOTOR
540-525-865-1300-1100-4250

FRANK A. PARKER, INC.
MACHINE TOOLS
1256 MAIN ST. (RTS. 117 & 128)
WALTHAM 54, MASSACHUSETTS.

BRIDGEPORT MACHINES, INC.
BRIDGEPORT, CONN.
MASTER QUILL HEAD
MILLING ATTACHMENT



NO. 7 BROWN & SHARPE
NO. 2 MORSE
BRIDGEPORT B3

M1	QUILL HOUSING
M2A	BELT HOUSING, SINGLE BELT DRIVE, 60
M2B	BELT HOUSING, DOUBLE BELT DRIVE 60
M2C	BELT HOUSING, SINGLE BELT DRIVE, 2½
M2D	BELT HOUSING, DOUBLE BELT DRIVE, 2½
M3	QUILL
M4A	SPINDLE, SINGLE BELT NO. 2 MORSE TA
M4B	SPINDLE, SINGLE BELT, NO. 7 B&S TAP
M4C	SPINDLE, SINGLE BELT, NO. B3 TAPER
M4D	SPINDLE, DOUBLE BELT, NO. 2 MORSE TA
M4E	SPINDLE, DOUBLE BELT, NO. 7 B&S TAPI
M4F	SPINDLE, DOUBLE BELT, NO. B3 TAPER
M5	NOSEPIECE
M6	OIL SLINGER
M7	S.A.E. NO. 205 BALL BEARING, 4 REQ'D.
M8	0.750 INSIDE BEARING SPACER
M9	0.750 OUTSIDE BEARING SPACER
M10	LONG SPACER
M11	0.375 INSIDE BEARING SPACER
M12	0.375 OUTSIDE BEARING SPACER
M13	NO. W-05 BEARING LOCK WASHER
M14	NO. N-05 BEARING LOCK NUT
M15	NO. W-06 BEARING LOCK WASHER
M16	NO. N-06 BEARING LOCK NUT
M17A	SPINDLE PULLEY HUB, SINGLE BELT DR
M17B	SPINDLE PULLEY HUB, DOUBLE BELT DR
M18A	SPINDLE PULLEY, SINGLE BELT DRIVE
M18B	SPINDLE PULLEY, DOUBLE BELT DRIVE
M19	S.A.E. NO. 206 BALL BEARING, 2 REQ'D.
M20	BEARING HOUSING
M21	BEARING RETAINER RING
M22	MICROMETER STOP
M23	MICROMETER NUT
M24	MICROMETER LOCK NUT
M25	MICROMETER SCREW
M26	DRAWBAR NUT (LEFT HAND THREAD)
M27A	DRAWBAR, DOUBLE BELT, NO. 7 OR NO. 2 S
M27B	DRAWBAR, DOUBLE BELT, NO. B3 SPINDLE
M27C	DRAWBAR, SINGLE BELT, NO. 7 OR NO. 2
M27D	DRAWBAR, SINGLE BELT, NO. B3 SPINDL
M28	DRAWBAR KNOB
M29	MOTOR MOUNTING RING
M30A	MOTOR PULLEY, SINGLE BELT DRIVE
M30B	MOTOR PULLEY, DOUBLE BELT DRIVE
M31	MOTOR PULLEY HUB
M32	QUILL FEED CLUTCH BOLT
M33	QUILL FEED CLUTCH HUB
M34	QUILL FEED PINION
M35	QUILL FEED WORM WHEEL
M36	FIBRE WASHER, 2 REQ'D.
M37	SPLIT RUSHING
M38	CLOCK SPRING
M39	SPRING COVER
M40	QUILL FEED CLUTCH KNOB
M41	MICROMETER SCALE
M42	QUILL WORM FEED HAND WHEEL
M43	QUILL WORM FEED HAND WHEEL HANDLE
M44	QUILL WORM FEED HAND WHEEL HUB
M45	QUILL FEED WORM HUB
M46	QUILL FEED WORM
M47	QUILL LOCK BOLT HANDLE
M48	QUILL LOCK BOLT
M49	QUILL LOCK SLEEVE DRILLED
M50	QUILL LOCK SLEEVE, TAPPED
M51	INDICATOR ROD CLAMP SCREW
M52	INDICATOR ROD
M53	RACK FEED HANDLE HUB
M54	RACK FEED HANDLE
M55	BRONZE WORM BUSHING
M56	GITS NO. 2551 OIL CUP
M57	PINION KEY
M58	BRASS QUILL SKIRT
M59	MOTOR DOME
M60	MOTOR SWITCH
M61	NO. D0X1/2 TAPER PIN
M62	3/16X1 1/8 STRAIGHT PIN
M63	OUTSIDE SPRING PIN
M64	T-BOLT, 4 REQ'D.
M65	1/4X20 CAP SCREW, 6 REQ'D.
M66	1/4X20 X3/8 SET SCREW, 2 REQ'D.
M67	5/16X18X3/8 SET SCREW
M68	7/16X20 X1/2, CAP SCREW
M69	1/2X13X3 1/4 HEX. HEAD SCREW
M70	MOTOR MOUNTING RING STUD, 2 REQ'D.
M71	1/2X20 HEX. NUT, 2 REQ'D.
M72	1/2X1 1/8X1 CHAMFERED & HARDENED WA
M73	3/8X16 HEX. NUT, 4 REQ'D.
M74	3/8X1 1/8X3/4 CHAMFERED & HARDENED
M75	1/4X20 X1/4 SET SCREW
M76	NO. 5X40 X1/4 FLAT HEAD SCREW, 2 REQ'
M77	NO. 10X24X3/8 FLAT HEAD SCREW, 3 REQ'

BRIDGEPORT MACHINES, INC.

BRIDGEPORT, CONN. U.S.A.

PART LIST MASTER MILLING ATTACHMENT

NOTE: ALWAYS GIVE SERIAL NUMBER OF ATTACHMENT WHEN ORDERING PARTS. SPECIFY MAKE OF MOTOR FOR ITEMS MARKED *

MASTER HEAD PARTS LIST WITH DISCOUNT SHOWN

Retail

M-1	Quill Housing.....	36.00
M-2A	Belt Housing, Single Belt Drive, 60 Cycle.....	26.50
M-2B	Belt Housing, Double Belt Drive, 60 Cycle.....	26.50
M-2C	Belt Housing, Single Belt Drive, 25 Cycle.....	26.50
M-2D	Belt Housing, Double Belt Drive, 25 Cycle.....	26.50
M-3	Quill	34.00
M-4A	Spindle, Single Belt #2 MT Taper.....	27.50
M-4B	Spindle, Single Belt #7 B & S Taper	27.50
M-4C	Spindle, Single Belt B-3 Taper	27.50
M-4D	Spindle, Double Belt #2 MT Taper.....	27.50
M-4E	Spindle, Double Belt #7 B & S Taper.....	27.50
M-4F	Spindle, Double Belt B-3 Taper	27.50
M-5	Nosepiece.....	.60
M-6	Oil Slinger	1.55
*M-7	Ball Bearing (4 req'd).....	10.00 ea.
*M-8	0.750 Inside Bearing Spacer * Machined as unit.....	1.55
*M-9	0.750 Outside Bearing Spacer * Machined as unit.....	1.55
*M-10	Long Spacer * aligner spring plunger assembly.....	2.50
*M-11	0.375 Inside Bearing Spacer * Machined as unit.....	1.55
*M-12	0.375 Outside Bearing Spacer * Machined as unit.....	1.55
M-13	W-05 Bearing Lock Washer.....	.35
M-14	N-05 Bearing Lock Nut.....	.75
M-15	W-06 Bearing Lock Washer.....	.35
M-16	N-06 Bearing Lock Nut.....	.75
M-17A	Spindle Pulley Hub, Single Belt Drive	10.00
M-17B	Spindle Pulley Hub, Double Belt Drive	10.00
M-18A	Spindle Pulley, Single Belt Drive	13.50
M-18B	Spindle Pulley, Double Belt Drive.....	15.50
M-19	Ball Bearings (2 req'd).....	9.00 ea.
M-20	Bearing Housing	8.50
M-21	Bearing Retainer Ring	1.55
M-22	Micrometer Stop	6.50
M-23	Micrometer Nut.....	7.50
M-24	Micrometer Lock Nut	2.50
M-25	Micrometer Screw.....)
M-26	Drawbar Nut	1.50
M-27A	Drawbar, Double Drive, #7 B & S, #2 MT Taper	4.50
M-27B	Drawbar, Double Drive, B-3 Taper.....	4.50
M-27C	Drawbar, Single Drive #7 B & S, #2 MT Taper	4.50
M-27D	Drawbar, Single Drive B-3 Taper	4.50
M-28	Drawbar Knob	2.00
M-29A	Motor Mounting Ring for U. S. Motor (New Type - 19.50)	6.50
M-30A	Motor Pulley, Single Drive, with Hub M-31*	15.00
M-30B	Motor Pulley, Double Drive, with Hub M-31*	15.50
M-32	Quill Feed Clutch Belt	1.55
M-33	Quill Feed Clutch Hub	3.60
M-34	Quill Feed Pinion.....	6.95
M-35	Quill Feed Worm Wheel.....	2.75
M-36	Fibre Washer (2 req'd).....	.25
M-37	Split Bushing.....	2.75
M-38	Clock Spring	1.55
M-39	Spring Cover	2.60
M-40	Quill Feed Clutch Knob	2.60
M-41	Micrometer Scale	2.60
M-42	Quill Worm Feed Handwheel *	3.75

MASTER HEAD PARTS LIST WITH DISCOUNT SHOWN (Continued)

Retail

M-43	Quill Worm Feed Hand Wheel Handle *	.95
M-44	Quill Worm Feed Hand Wheel Hub * Assembly .	1.55 6.25
M-45	Quill Feed Worm Hub.	2.60
M-46	Quill Feed Worm .	4.25
M-47	Quill Lock Bolt Handle .	1.45
M-48	Quill Lock Bolt .	1.45
M-49	Quill Lock Sleeve, Drilled.	1.45
M-50	Quill Lock Sleeve, Tapped .	1.45
M-51	Indicator Rod Clamp Screw .	.45
M-52	Indicator Rod .	.75
M-53	Rack Feed Handle Hub*	2.50
M-54	Rack Feed Handle .	3.00
	*Assembly .	7.50
M-55	Bronze Worm Bushing .	.75
M-56	Gits #2551 Oil Cup .	.75
M-57	Pinion Key .	.40
M-58	Brass Quill Skirt .	1.45
M-59	Motor Dome .	7.00
M-60	Motor Switch (See Switch List). .	
M-61	Taper Pin .	.30
M-62	Straight Pin .	.25
M-63	Outside Spring Pin .	.45
	*When ordering Motor Pulley specify make of Motor	
M-64	T-Bolt (4 req'd) .	.50
M-65	1/4 x 20 Cap Screw (6 req'd) .	.30
M-66	1/4 x 20 x 3/8 Set Screw .	.30
	Set Screw .	.30
M-68	Cap Screw .	.30
M-69	Hex Head Screw .	.35
M-70	Motor Mounting Ring Stud (2 req'd) .	.35
M-71	1/2 x 20 Hex Nut (2 req'd) .	.30
M-72	1/2 x 1/8 x 7/8 Chamfered & Hardened Washer .	.35
M-73	3/8 x 16 Hex Nut (4 req'd) .	.30
M-74	3/8 x 1/8 x 3/4 Chamfered & Hardened Washer .	.30
M-75	Set Screw .	.30
M-76	Flat Screw (3 req'd) .	.25
M-77	Flat Head Screw (2 req'd) .	.25
M-80	Set Screw .	.30
M-82	3/8 x 16 x 3/4 Mounting Ring Cap Screw (4 req'd) .	.25
M-84	Paper Gasket .	.30
M-85	Set Screw .	.30
M-86	V Belt .	1.45
M-87	Straight Pin .	.30
M-88	Brass Plug .	.30
M-89	Pinion Spring Pin .	.45
M-90	Motor Cord .	2.15
M-91	Collet Key Screw with B-3 spindle .	.30
M-93	Motor Oil Pipe .	.75
M-94	1/4 x 20 x 1/4 Oil Pipe Screw .	.25
M-95	#8 x 32 x 3/8 Round Head Screw (4 req'd) .	.25
M-96	#10 x 32 x 7/16 Oval Head Screw (4 req'd) .	.25
	Straight Pin .	.30
	Ball Handle .	.35
M-260	Dowel Pin * Assembly of M-54, M-53 .	.45

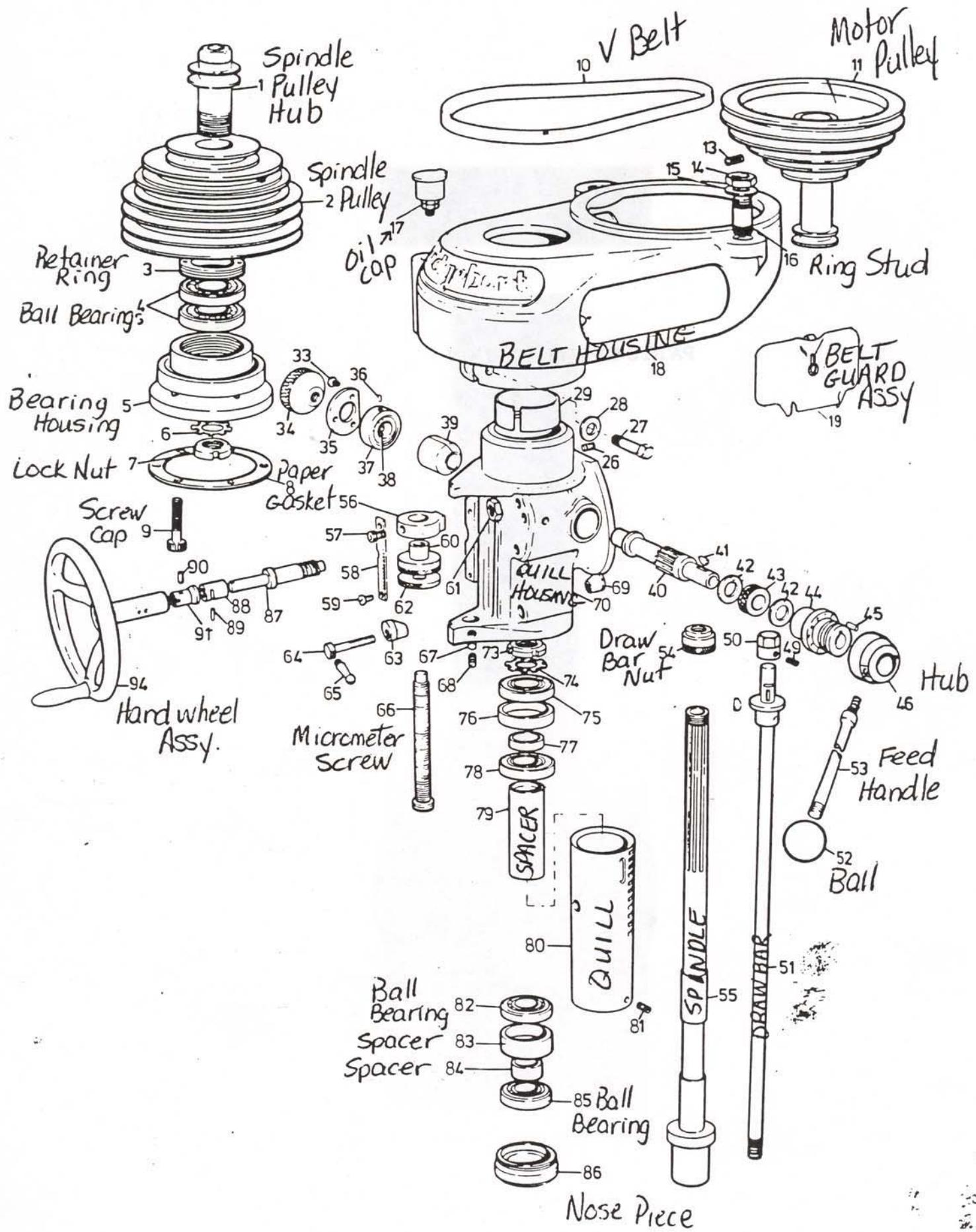
OHM

MASTER HEAD PARTS LIST WITH DISCOUNT SHOWN (Continued)

Retail

J-310	Steel Ball * Assembly of M-54, M-53 .....	.45
J-330	Compression Spring .....	.45
J-333	Black Ball for M-54 *	.75
	Spindle 6" Travel	10.00 EXTRA
	Quill Housing Assembly for M head	195.00
	Spindle Assembly for M Head	115.00
	COMPLETE DRAWBAR (6" quill travel).....	10.00

*M Head

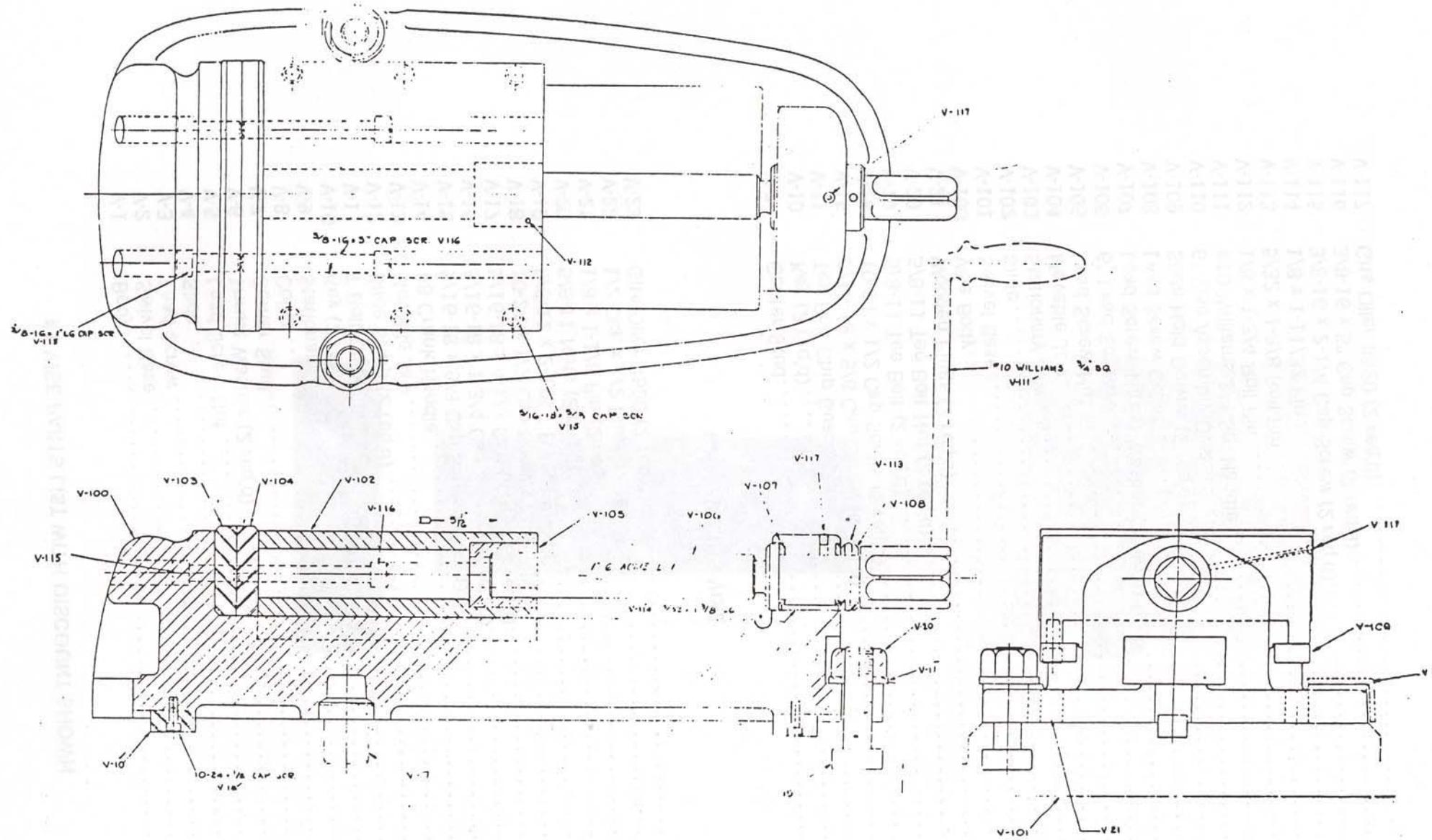


M HEAD

ITEM NO. CODE NO. DESCRIPTION

1	2204826	Spindle Pulley Hub, Single Belt Drive	53	2203466	Rack Feed Handle	
2	2200069	Spindle Pulley, Single Belt Drive	54	/2200078	Drawbar Nut	
3	2200072	Bearing Retainer Ring	55A	2204820	Spindle, Single Belt #2 MT Taper	
4	1200202	Ball Bearings (2 Req.)	55B	2204821	Spindle, Single Belt #7 B & S Taper	
5	2204834	Bearing Housing	55C	2204822	Spindle, Single Belt B-3 Taper	
6	1241940	Bearing Lock Washer	56	2200073	Micrometer Stop	
7	1241786	Bearing Lock Nut	57	1011118	Cap Screw	
8	1202450	Paper Gasket	58	1202845	Micrometer Scale	
9	1011040	Cap Screw (6 Req.)	59	1011411	Flat Head Screw (2 Req.)	
10	1202102	V Belt	60	2190084	Micrometer Nut	
11	2204847	Motor Pulley, Single Drive	61	1011720	Hex Nut (4 Req.)	
13	1011240	Set Screw	62	2200076	Micrometer Lock Nut	
14	1011715	Hex Nut (2 Req.)	63	2200100	Quill Lock Sleeve, Drilled	
15	2200109	Chamfered & Hardened Washer	64	2200099	Quill Lock Bolt	
16	1011855	Motor Mounting Ring Stud (2 Req.)	65	2200098	Quill Lock Bolt Handle	
17	1203108	Oil Cup	66	2200077	Micrometer Screw	
18	2204833	Belt Housing, Single Belt Drive, 60 Cycle	67	2200110	Brass Plug	
19	2204854	Belt Guard Assembly	68	1011285	Set Screw	
26	1011236	Set Screw	69	2200101	Quill Lock Sleeve, Tapped	
27	1011170	Hex Head Screw	70	2204832	Quill Housing	
28	2200109	Chamfered & Hardened Washer	73	1201788	Bearing Lock Nut	
29	2200108	Brass Quill Skirt	74	1191942	Bearing Lock Washer	
33	1011455	Round Head Screw (3 Req.)	75	1200201	Ball Bearing (4 Req.)	
34	2200093	Quill Feed Clutch Knob	76	2204840	Outside Bearing Spacer)*	
35	2200092	Spring Cover	77		Inside Bearing Spacer) *	
36	2200108	Outside Spring Pin	78	1200201	Ball Bearing (4 Req.)	
37	1202021	Clock Spring	79	2200064	Long Spacer aligner spring plunger assembly	
38	2200111	Pinion Spring Pin	80	2200053	Quill	
39	2200091	Split Bushing	81	1011285	Set Screw	
40	2204837	Quill Feed Pinion	82	1200201	Ball Bearing (4 Req.)	
41	1013076	Pinion Key	83	2204842	Outside Bearing Spacer)*	
42	1202452	Fibre Washer (2 Req.)	84		Inside Bearing Spacer) *	
43	2200090	Quill Feed Worm Wheel	85	1200201	Ball Bearing (4 Req.)	
44	2204836	Quill Feed Clutch Hub	86	2200060	Nosepiece	
45	1010541	Roll Pin	87	2200097	Quill Feed Worm	
46	2201031	Hub	88	1633638	Bronze Bearing	
49	1011265	Set Screw	89	2200107	Straight Pin	
50	2204835	Drawbar Knob	90	2200112	Straight Pin	
51A	2204845	Drawbar, Single Drive #2 MT Taper	78xs	91	2200096	Quill Feed Worm Hub
51B	2204846	Drawbar, Single Drive B-3 Taper		94	2204849	Quill Worm Feed Handwheel Assembly
52	1202170	Ball				

* Machined as unit



2 MILLING VISE
V-110

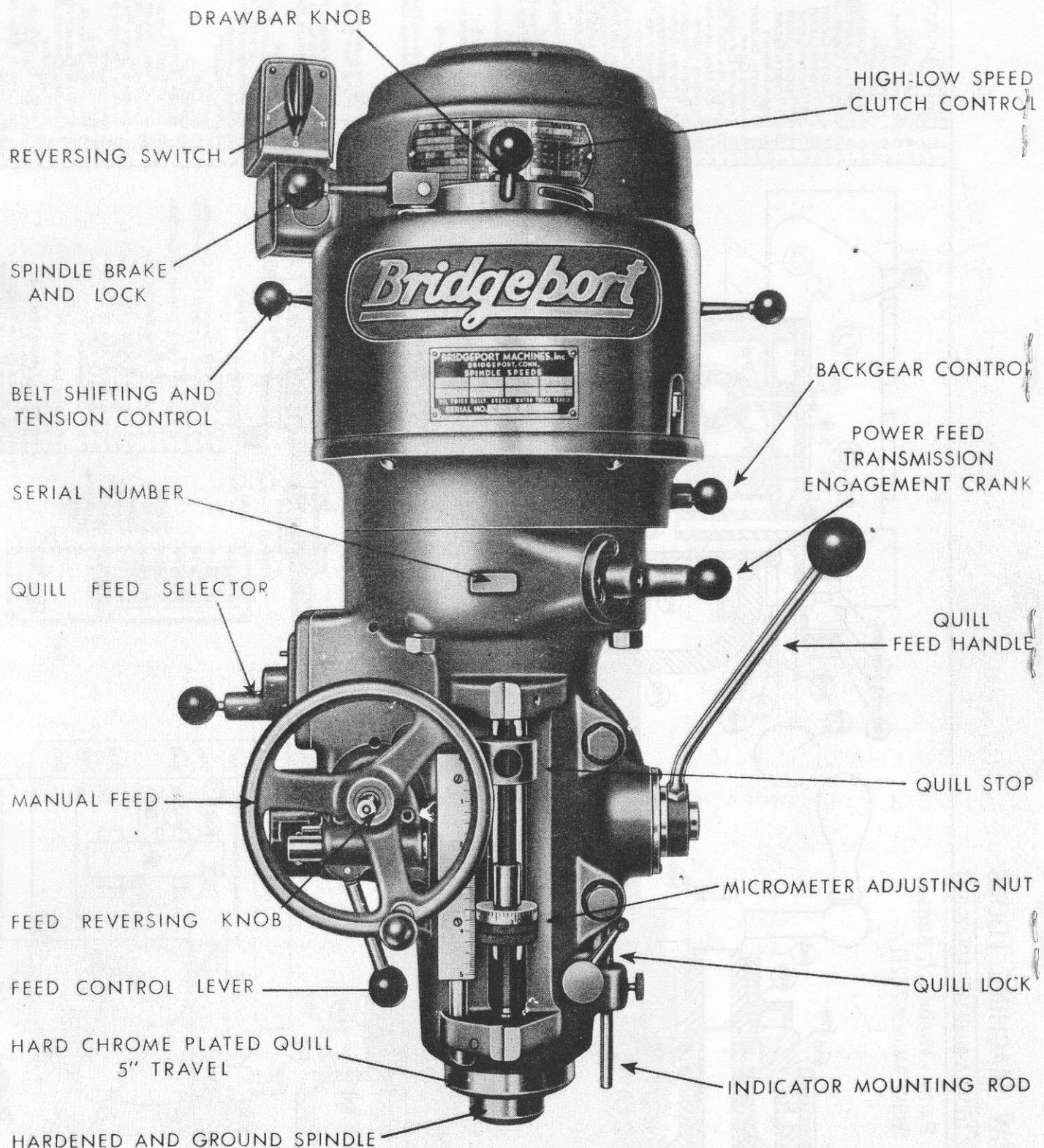
#1 VISE PARTS LIST WITH DISCOUNT SHOWN

Retail

V-1	Body.....	44.00
V-2	Swivel Base.....	12.00
V-3	Lead Screw	5.00
V-4	Slide.....	23.00
V-5	Lead Screw Nut	2.00
V-6	Thrust Washer (2 req'd) .....	.40
V-7	Center Stud.....	1.00
V-8	Collar .....	.45
V-9	Stationary Jaw	4.00
V-10	Key (2 req'd).....	.45
V-11	T Bolt Chip Guard (2 req'd) .....	.75
V-12	Slide Strap (2 req'd)	2.50
V-13	Movable Jaw	2.50
V-14	#8 Crank Handle	7.00
V-15	5/16-18 x 5/8 Cap Screws (6 req'd) .....	.20
V-16	5/16-18 x 1-3/4 Cap Screws (2 req'd).....	.25
V-17	5/16-18 x 4-1/2 Cap Screws (2 req'd).....	.30
V-18	10-24 x 1/2 Cap Screws (2 req'd) .....	.20
V-19	5/8-11 x 2-1/8 T Bolts (2 req'd).....	1.00
V-20	5/8-11 Nuts (2 req'd).....	.45
V-21	1/8 x 1-1/8 Pin (2 req'd).....	.20
V-22	1/2 Dia. x 1/2 Plugs (2 req'd).....	.55
V-23	Gits Oiler #520 (2 req'd).....	

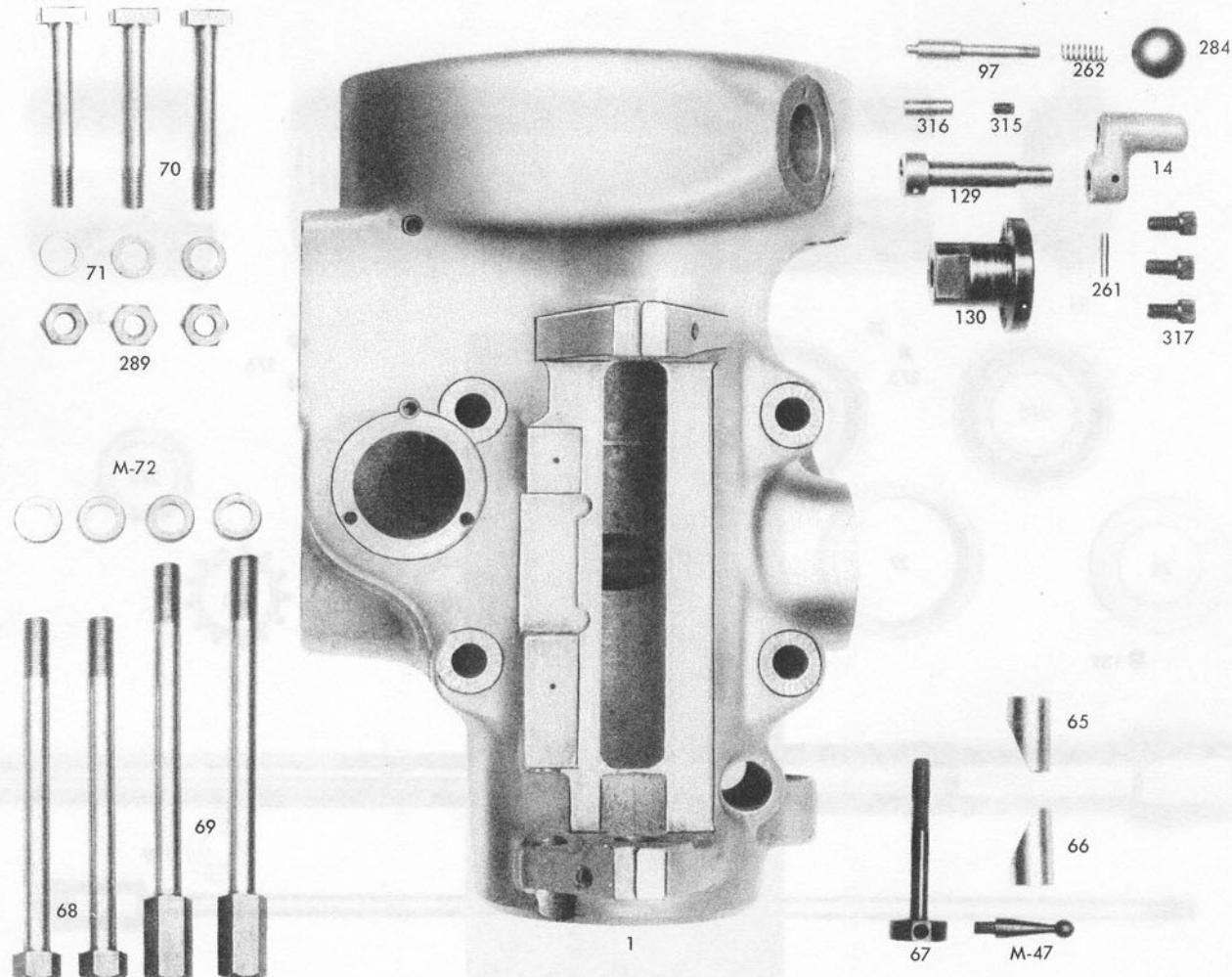
#2 — MILLING VISE

V-7	Center Stud.....	1.00
V-10	Key (2 req'd).....	.45
V-11	Tee Bolt Chip Guard (2 req'd) .....	.75
V-15	5/16-18 x 5/8 Cap Screw (6 req'd) .....	.20
V-18	10-24 x 1/2 Cap Screw (2 req'd) .....	.20
V-19	5/8-11 Tee Bolt (2 req'd).....	.3
V-20	5/8-11 Tee Bolt Nut (2 req'd).....	.45
V-21	Wooden Plugs (2 req'd) .....	.20
V-100	Vise Body.....	45.00
V-101	Swivel Base.....	18.00
V-102	Slide.....	28.00
V-103	Stationary Jaw	4.00
V-104	Movable Jaw	5.00
V-105	Lead Screw Nut	4.00
V-106	6" Lead Screw.....	8.00
V-107	Lead Screw Thrust Washer (2 req'd) .....	.45
V-108	Lead Screw Collar .....	.55
V-109	Slide Hold Downs (2 req'd)	2.50
V-110	6" Vise Assembly Dwg.....	
V-111	#10 Williams 3/4 Sq. Handle	10.00
V-112	1/8 x 1-3/4 Roll Pin .....	.20
V-113	5/32 x 1-3/8 Roll Pin .....	.25
V-114	1/8 x 1-11/32 Pin.....	.20
V-115	3/8-16 x 2-1/4 Cap Screw (2 req'd) .....	.25
V-116	3/8-16 x 5" Cap Screw (2 req'd) .....	.35
V-117	Gits Oiler #520 (2 req'd).....	.40



Quill Housing Unit

PARTS LIST

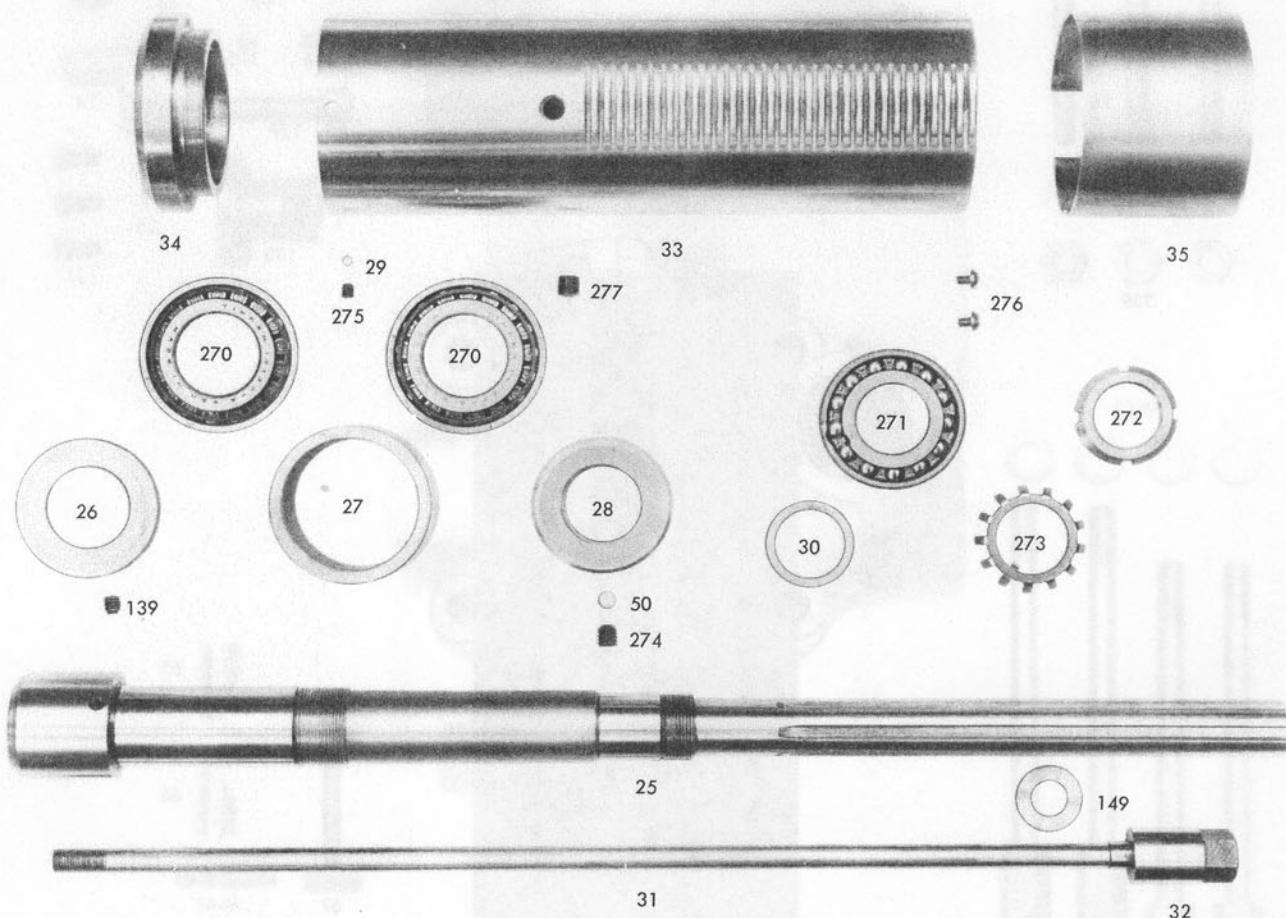


1 Quill Housing
 14 Shift Crank
 M-47 Lock Handle
 65 Quill Lock Sleeve (Tapped)
 66 Quill Lock Sleeve
 67 Quill Lock Bolt
 68 Quill Housing Lockbolt
 69 Quill Housing Lockbolt (Long)
 70 Vertical Tee Bolt
 71 Vertical Tee Bolt Washer
 M-72 Quill Housing Lock Bolt Washer

97 Gearshift Plunger
 129 Worm Gear Cradle Throw-out
 130 Shift Sleeve
 261 $\frac{1}{8} \times \frac{7}{8}$ lg. Roll Pin
 262 Compression Spring
 284 $\frac{1}{4}$ -20 Bakelite Ball Handle
 289 $\frac{7}{16}$ -14 Hex Nut Hardened
 (American Std. regular)
 315 # 10-24 x $\frac{3}{8}$ lg. K. P. Set Screw
 316 $\frac{5}{16} \times \frac{7}{8}$ lg. Dowel Pin
 317 # 10-24 x $\frac{1}{2}$ lg. Cap Screws (use 264)

Quill Unit - PARTS LIST

UP TO SERIAL NO. J1200

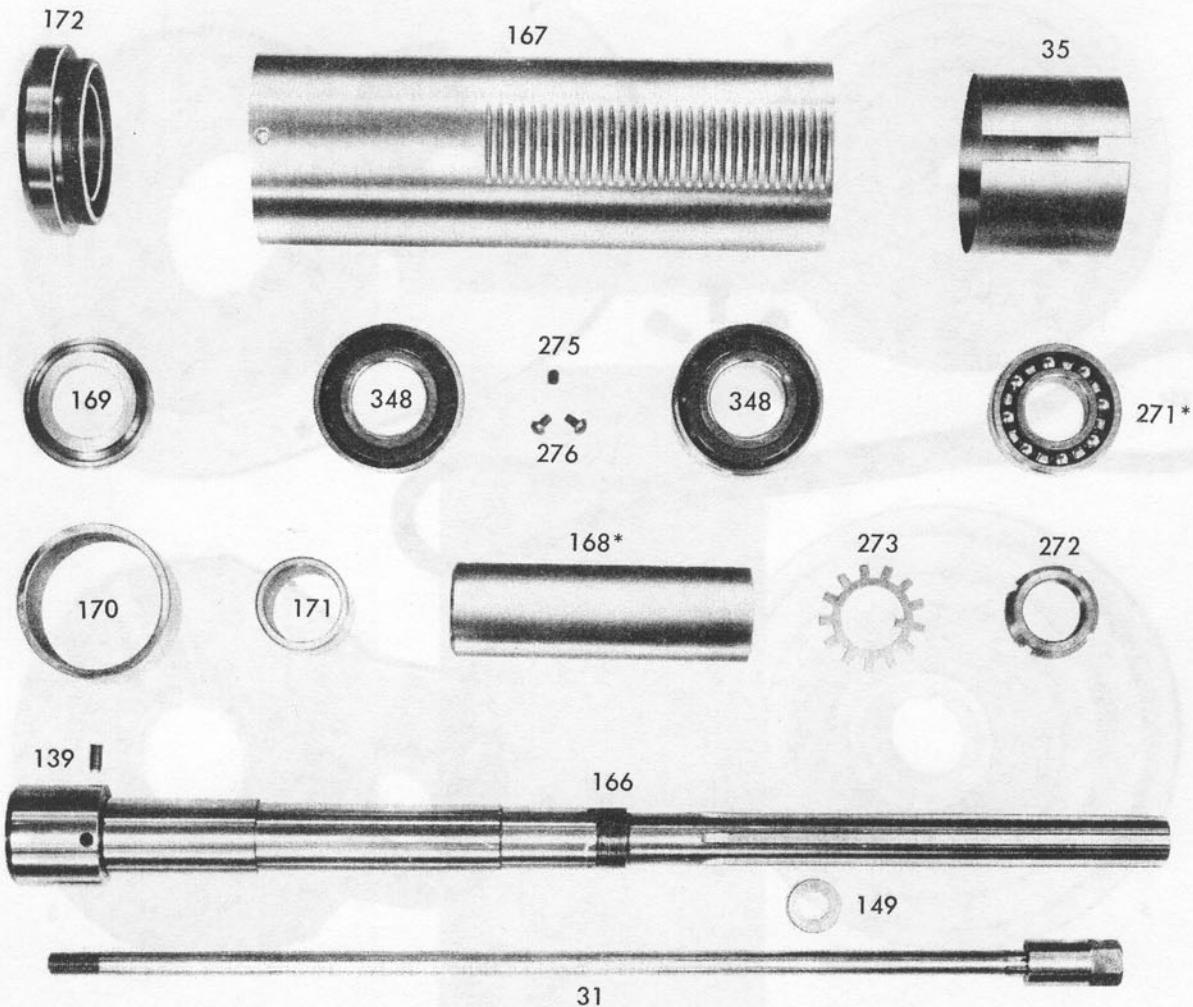


25	Spindle	50	Locknut Binding Plug
26	Spindle Dirt Shield	139	Collet Aligning Screw
27	Timken Brg. Spacer	149	Drawbar Washer
28	Spindle Br. Locknut	270	#0 Precision Brg.
29	Spindle Locknut Binding Plug	271	N.D. #5206 Ball Brg. #5 Precision
30	Brg. Shoulder Ring	272	N-06 Locknut
31	Drawbar for R-8 collet	273	W-06 Lockwasher
32	Drawbar Knob	274	3/8-16 x 3/8 K.P. Set Screw
33	Quill	275	1/4-20 x 1/4 lg. Set Screw
34	Quill Nosepiece	276	10-32 x 5/16 lg. Rd. Hd. Screw
35	Quill Skirt	277	1/8 Allen Pip Plug

Quill Unit

PARTS LIST

SERIAL No. J1200 AND UP

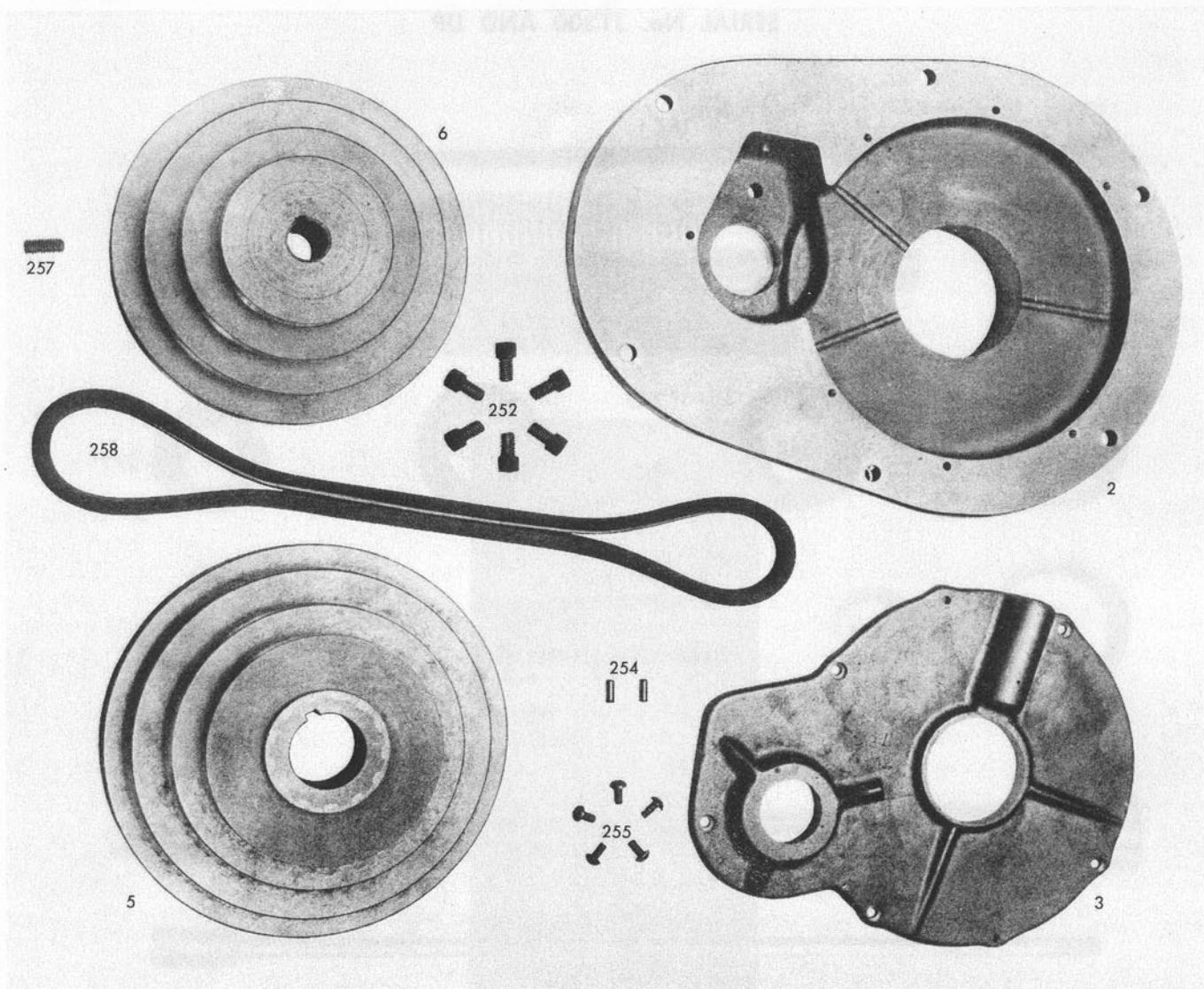


166	Spindle	139	Collet Aligning Screw
169	Spindle Dirt Shield	149	Drawbar Washer
170, 171, 168*	Brg. Spacer	348*	MM-207 WI #5 Precision
31	Drawbar for R-8 collet	271*	N.D. #5206 Ball Brg. #5 Precision
32	Drawbar Knob	272	N-06 Locknut
167	Quill	273	W-06 Lockwasher
172	Quill Nosepiece	275	1/4-20 x 1/4 lg. Set Screw
35	Quill Skirt	276	10-32 x 5/16 lg. Rd. Hd. Screw

*For Serial No. 1750 and up
 #349 replaces #271 and
 #176 replaces #168

V Belt Unit

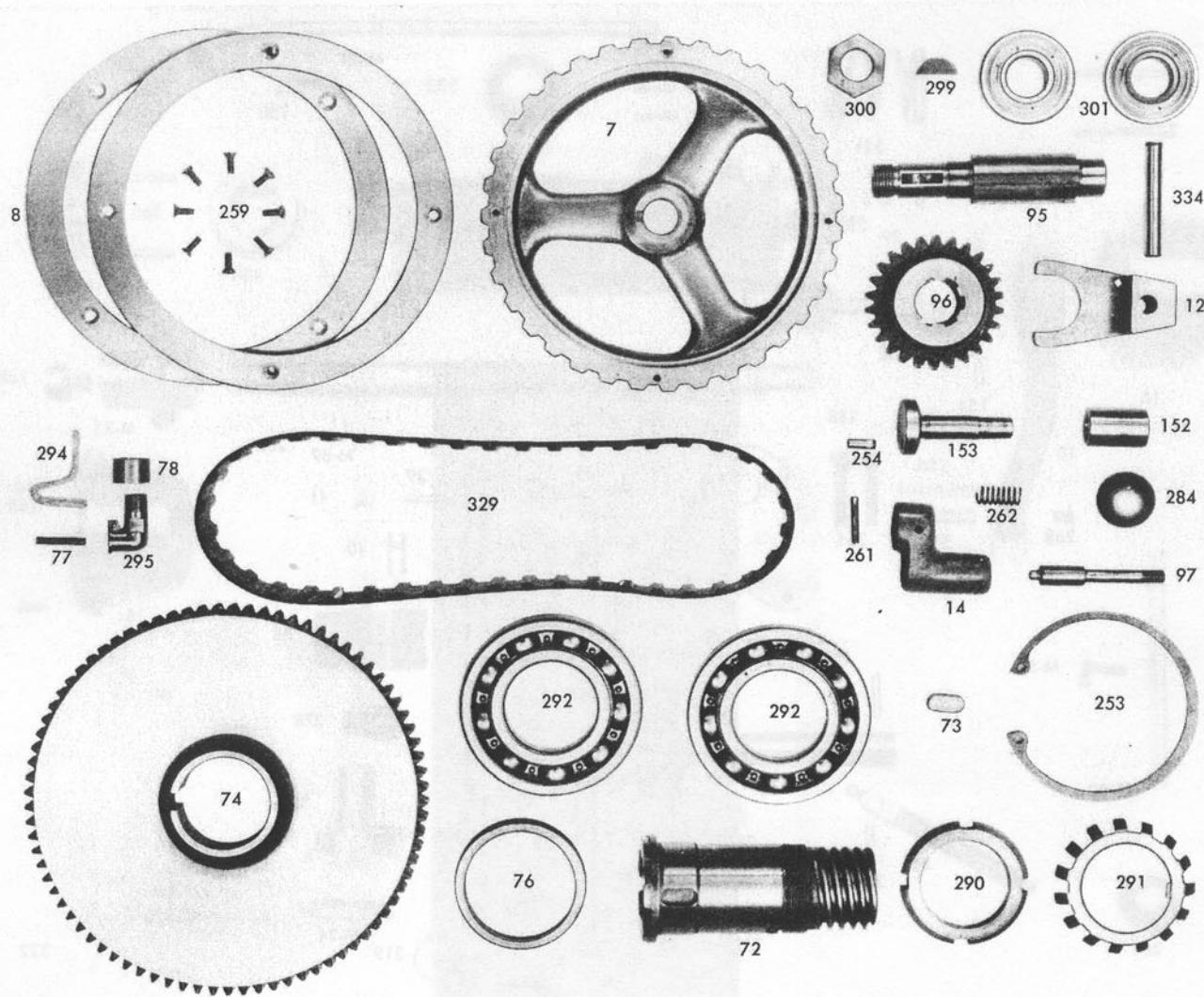
PARTS LIST



2	Gear Housing	254	$3/16 \times 1/2$ lg. Dowel Pins
3	Gear Housing Cover	255	#10-24 x $3/8$ lg. Rd. Head Screws
5	Spindle Pulley	257	$5/16-18 \times 1/2$ lg. K.P. Set Screw
6	Motor Pulley	258	Gilmer #3345 Vee Belt
252	$5/16-18 \times 5/8$ lg. Socket Cap Screws		

Back Gear Transmission Unit

PARTS LIST



7	Timing Belt Pulley	254	$\frac{3}{16} \times \frac{1}{2}$ lg. Dowel Pins
8	Timing Belt Pulley Flange	259	#6-32 x $\frac{3}{8}$ lg. Flat Head Screws
12	Back Gear Shifter Fork	261	$\frac{1}{8} \times \frac{7}{8}$ lg. Roll Pin
14	Shift Crank	262	Compression Spring
72	Splined Gear Hub	284	$\frac{1}{4}$ -20 Bakelite Ball Handle
73	Bull Gear Key	290	N-08 Special $\frac{5}{16}$ thick Brg. Locknut
74	Spindle Bull Gear	291	W-08 Lockwasher
76	Pulley Collar	292	ND #3208 Ball Brgs. #3 Precision
77	Oiler Tube	294	Wick $\frac{1}{8}$ O.D.
78	Oil Plug	295	#1249 Gits Oil Cup
95	Countershaft	299	#9 Woodruff Key
96	Countershaft Gear	300	$\frac{5}{8}$ -18 Hex Jam Nut
97	Gearshift Plunger	301	ND #99503 Double Seal Brg. #3 Precision
152	Backgear Shift Bushing	329	E-2 Construction Spec. TB 4B
153	Backgear Shift Crank	334	$\frac{5}{16} \times 2$ " lg. Dowel Pin
253	Kohinoor #5008-315 Snap Ring		

Made by

BRIDGEPORT MACHINES, INC.

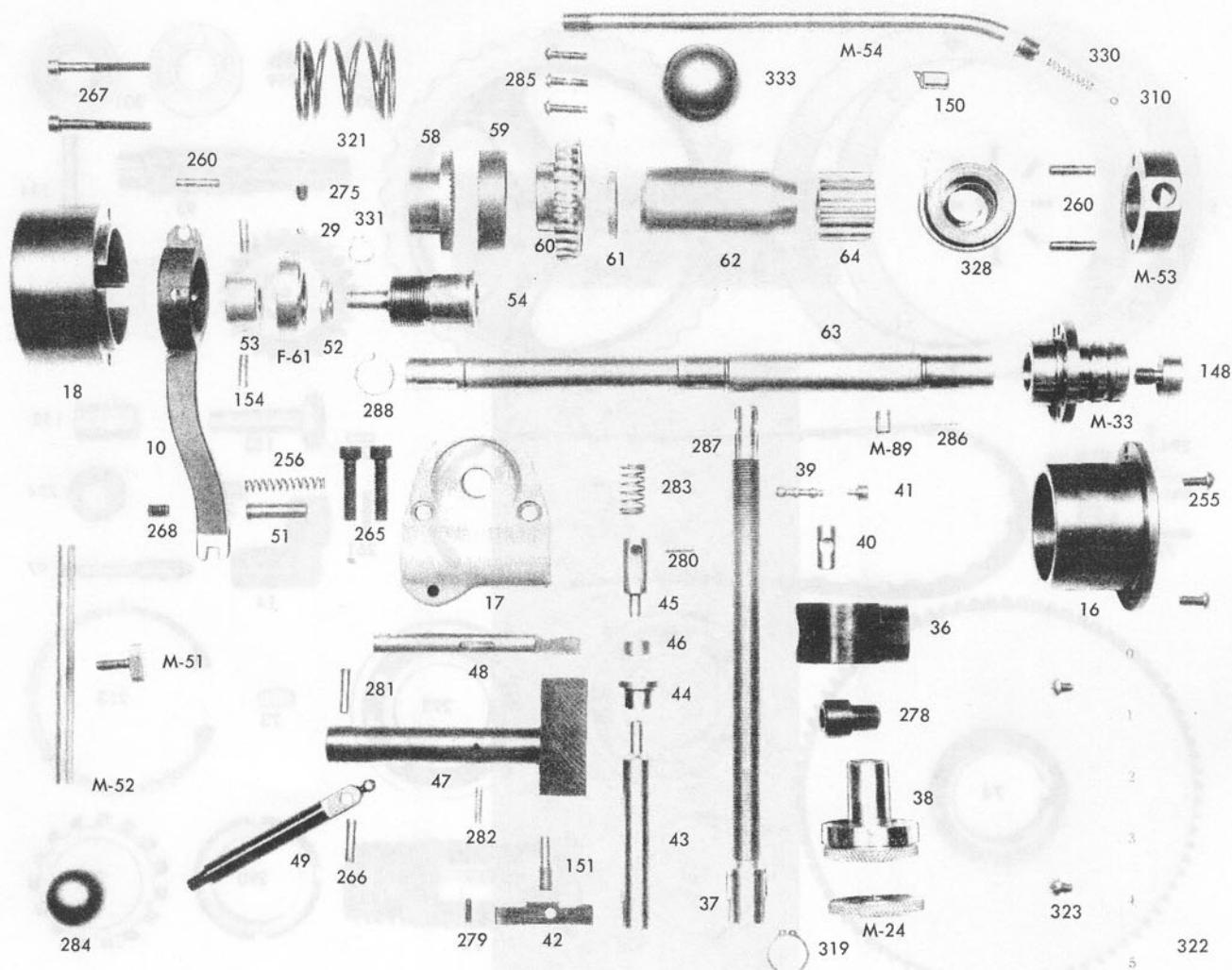
500 LINDLEY STREET

BRIDGEPORT, CONN., U.S.A.

Sold By

16

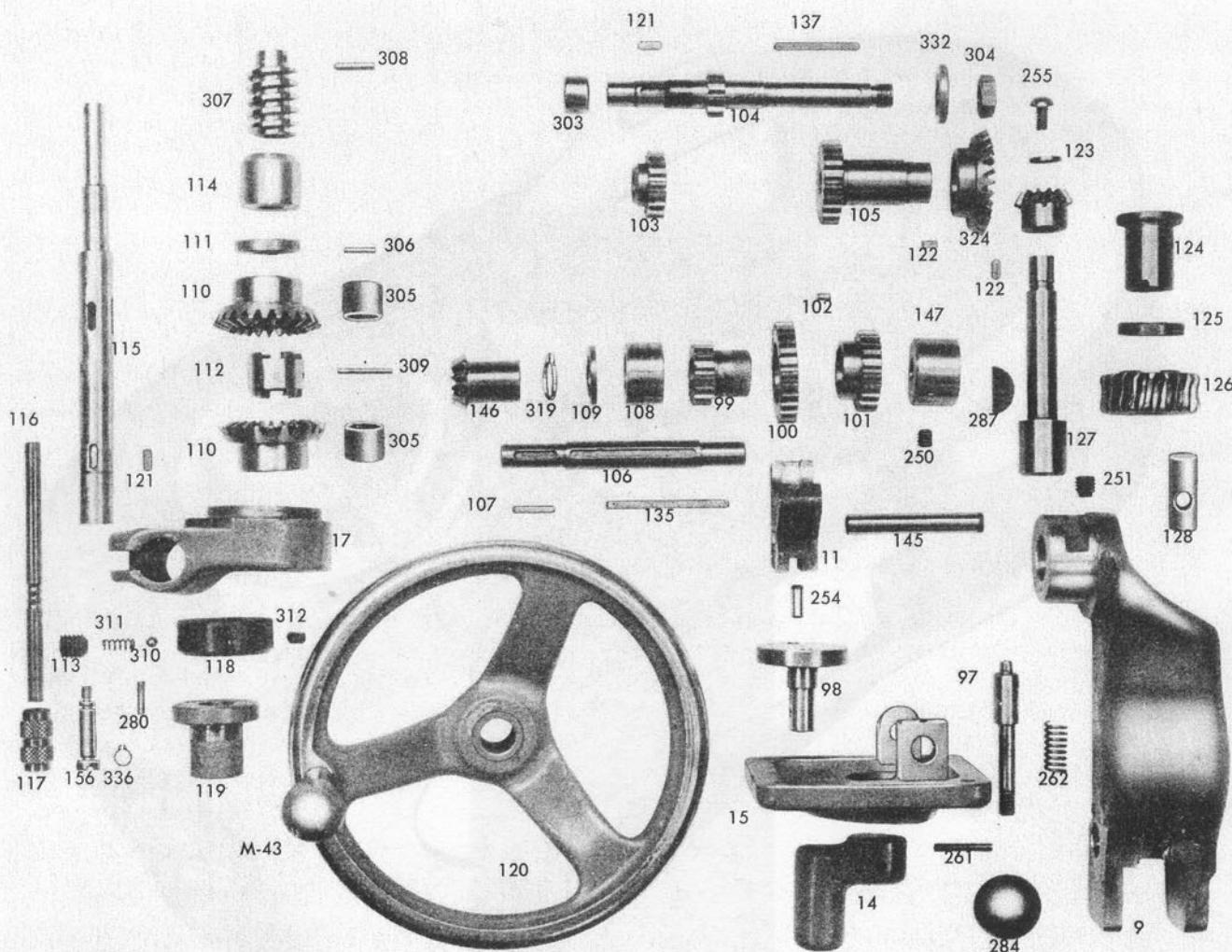
Quill Pinion and Overload Clutch Assembly - PARTS LIST



10	Overload Clutch Trip Lever	M-52	Indicator Rod	268	$\frac{1}{4}$ -20 x $\frac{1}{4}$ lg. S.L. Set Screw
16	Spring Cover	53	Clutch Ring	275	$\frac{1}{4}$ -20 x $\frac{1}{4}$ lg. Set Screw
17	Feed Trip Bracket	M-53	Pinion Shaft Hub	278	$\frac{3}{8}$ -24 x $\frac{5}{8}$ Cap Screw
18	Clutch Arm Cover	54	Overload Clutch Sleeve	279	#6-32 x $\frac{3}{8}$ Set Screw
M-24	Micro Screw Jam Nut	M-54	Pinion Shaft Hub Handle	280	$\frac{1}{8}$ x $\frac{7}{16}$ lg. Dowel Pin
29	Spindle Locknut Binding Plug	58	Overload Clutch	281	$\frac{3}{16}$ x $\frac{5}{8}$ lg. Dowel Pin
M-33	Pinion Shaft Hub Sleeve	59	Overload Clutch Ring	282	$\frac{1}{8}$ x $\frac{9}{16}$ lg. Roll Pin
36	Quill Stop Knob	60	Overload Clutch Worm Gear	283	Compression Spring
37	Quill Stop Micro. Screw	61	Pinion Shaft Worm Gear Spacer	284	$\frac{1}{4}$ -20 Bakelite Ball Handle
38	Micrometer Nut	F-61	Gear Sleeve Nut	285	8-32 x $\frac{5}{8}$ lg. Rd. Hd. Screw
39	Reverse Trip Ball Lever	62	Quill Pinion Shaft Bushing	286	#3 Woodruff Key
40	Feed Reverse Trip Plunger	63	Quill Pinion Shaft	287	#7 Woodruff Key
41	Reverse Trip Ball Lever Screw	64	Quill Pinion	288	#5108-59 Kohinoor Snap Ring
42	Feed Trip Lever	M-89	Clockspring Stud	310	$\frac{3}{16}$ Steel Ball
43	Feed Trip Plunger	148	Pinion Shaft Hub Screw	319	5108-62 Waldes Snap Ring
44	Trip Plunger Bushing	150	Outside Clockspring Pin	321	Safety Clutch Spring
45	Trip Plunger	151	Trip Lever Pin	322	Micrometer Scale
46	Feed Trip Plunger Bushing	154	Clutch Ring Pin	323	6-32 x $\frac{1}{4}$ lg. Rd. Hd. Screw
47	Cam Rod Sleave Assembly	255	#10-24 x $\frac{3}{8}$ lg. Rd. Head Screws	328	$\frac{5}{8}$ x .020 x 42 lg. Clock Spring
48	Cam Rod	256	Compression Spring	330	Compression Spring
49	Trip Handle	260	$\frac{3}{16}$ x $\frac{3}{4}$ lg. Dowel Pin	331	5108-37 Kohinoor Snap Ring
51	Overload Clutch Lever Spring Plunger	265	$\frac{1}{4}$ -20 x 1 lg. Cap Screw	333	Black Ball for M-54
M-51	Indicator Rod Screw	266	$\frac{3}{16}$ x $\frac{3}{4}$ lg. Dowel Pin		
52	Overload Clutch Washer	267	#10-24 x $\frac{1}{2}$ lg. Cap Screw		

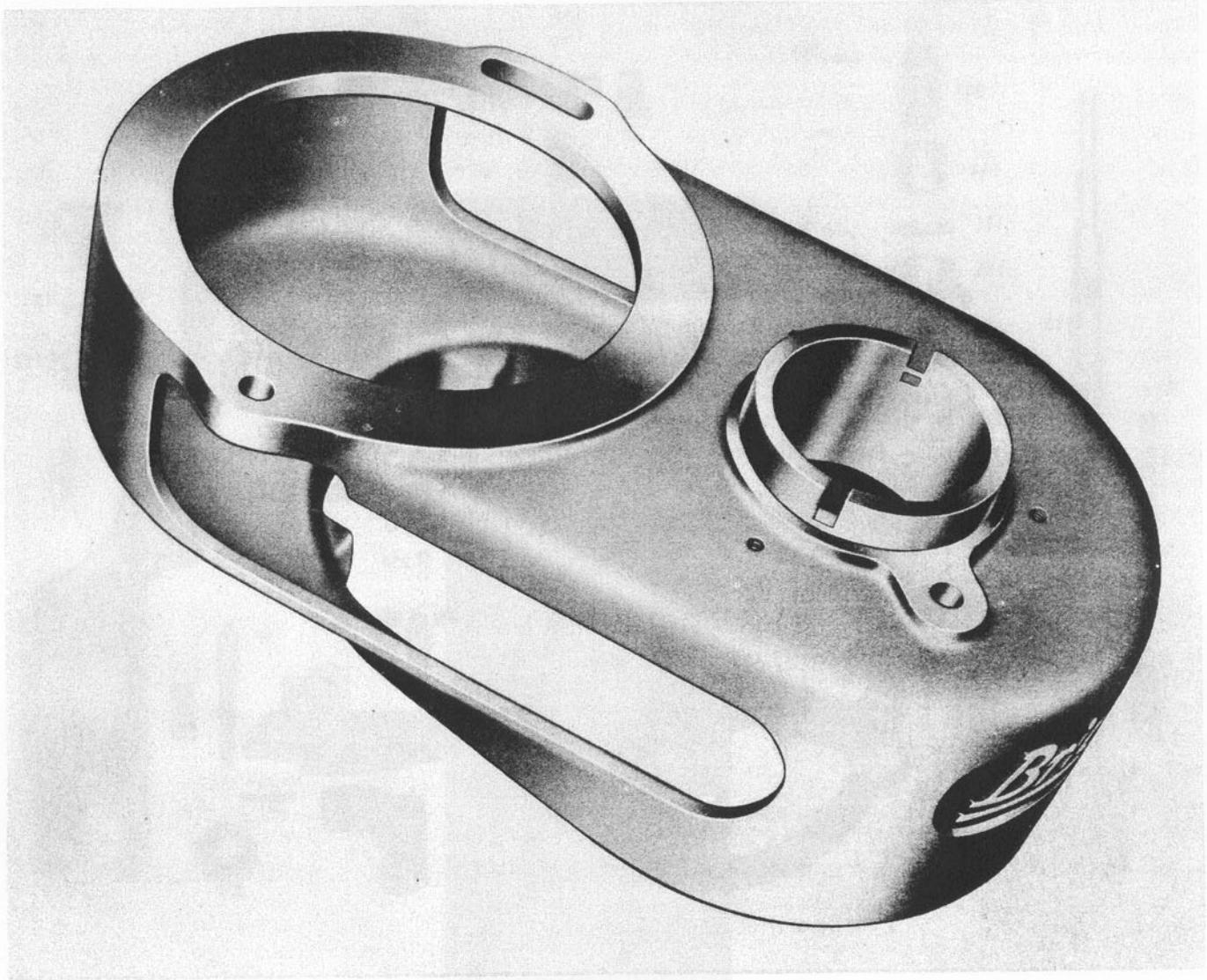
Feed Transmission Unit

PARTS LIST



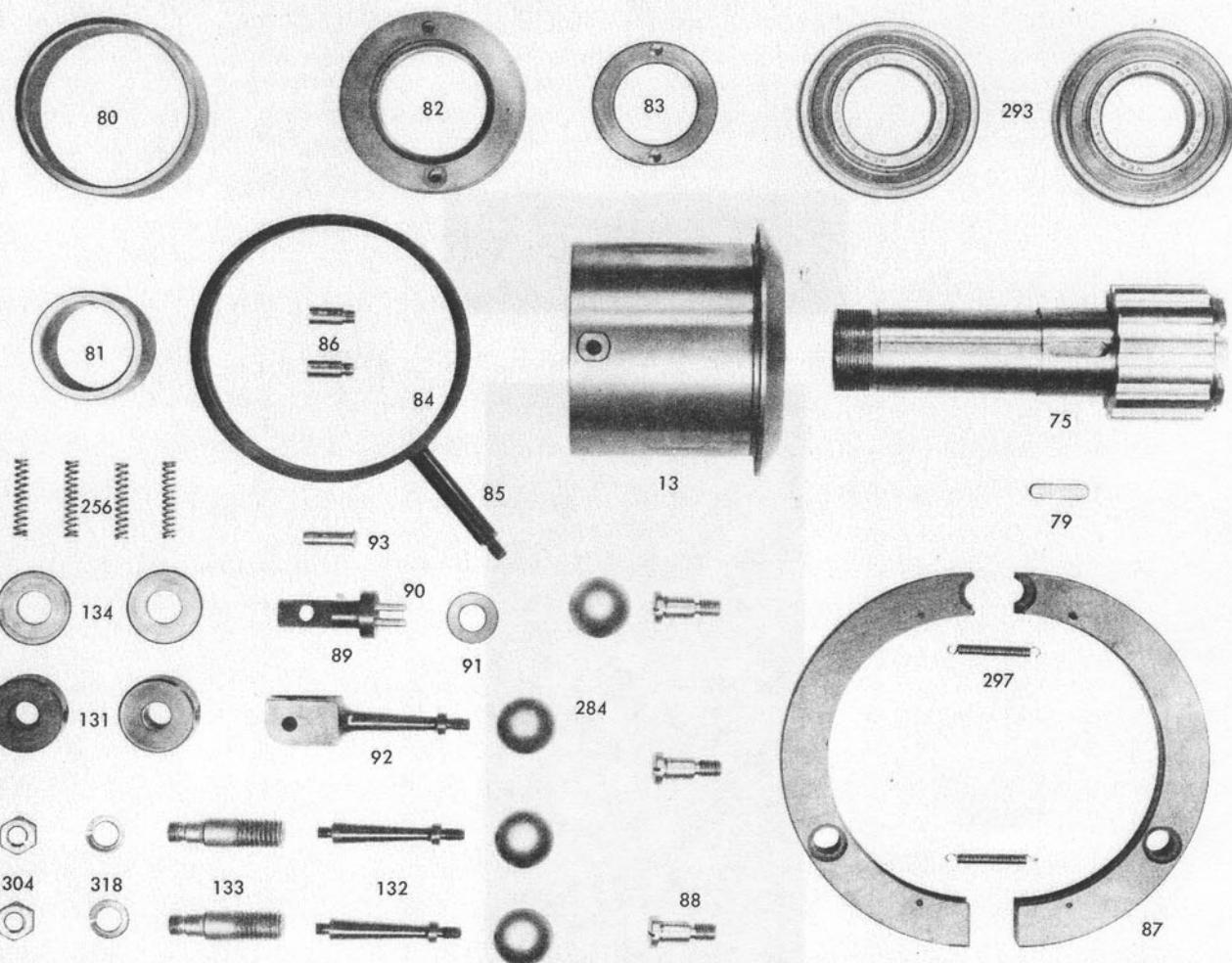
9	Worm Gear Cradle	114	Feed Worm Shaft Bushing	251	Set Screw
11	Feed Gear Shifter Fork	115	Feed Worm Shaft	254	$\frac{3}{16} \times \frac{1}{2}$ lg. Dowel Pins
14	Shift Crank	116	Reverse Clutch Rod	255	# 10-24 x $\frac{3}{8}$ lg. rd. Head Screws
15	Cluster Gear Cover	117	Feed Reverse Knob	261	$\frac{1}{8} \times \frac{7}{8}$ lg. Roll Pin
17	Feed Trip Bracket	118	Handwheel Clutch	262	Compression Spring
M-43	Handwheel Handle	119	Handwheel Bushing	280	$\frac{1}{8} \times \frac{7}{16}$ lg. Dowel Pin
97	Gearshift Plunger	120	Handwheel (use M 42 Casting)	284	$\frac{1}{4}$ -20 Bakelite Ball Handle
98	Cluster Gear Shift Crank	121	Worm Shaft Key	287	#7 Woodruff Key
99	Feed Drive Cluster Gear	122	Feed Driving Gear Key	303	B-66 Torrington Needle Brdg.
100	Feed Drive Cluster Gear (Center)	123	Bevel Pinion Washer	304	$\frac{3}{8}$ -24 Hex Jam Nut
101	Feed Drive Cluster Gear (Upper)	124	Feed Worm Gear Shaft Sleeve	305	A-672-4 Oilitic Bearing
102	Cluster Gear Key	125	Worm Gear Spacer	306	$\frac{3}{32} \times \frac{5}{16}$ lg. Pin
103	Feed Drive Gear	126	Feed Drive Worm Gear	307	Boston Worm #HLVH
104	Cluster Gear Input Shaft	127	Feed Drive Worm Gear Shaft	308	.110 Dia. x $\frac{7}{16}$ lg. Pin
105	Feed Driving Gear	128	Feed Engage Pin	309	$\frac{3}{32} \times \frac{3}{4}$ lg. Roll Pin
106	Cluster Gear Shaft	135	Cluster Gear Key	310	$\frac{3}{16}$ Steel Ball
107	Cluster Gear Key	137	Cluster Gear Key	311	Compression Spring
108	Bevel Gear Bearing	145	Feed Shift Rod	312	$\frac{1}{4}$ -28 x $\frac{5}{16}$ lg. Set Screw
109	Bevel Gear Thrust Spacer	146	Feed Reverse Bevel Pinion	319	319-5108-62 Waldes Snap Ring
110	Feed Reverse Bevel Gear (Boston L 148)	147	Cluster Gear Shaft Upper Brdg.	324	Feed Reverse Bevel Gear
111	Feed Worm Shaft Thrust Washer	156	Feed Reverse Knob Stud	332	$\frac{3}{8}$ Star Washer
112	Feed Reverse Clutch	250	$\frac{1}{4}$ -20 x $\frac{3}{8}$ lg. K.P. Set Screw	336	Snap Ring 5100-25
113	Handwheel Clutch Spring Screw		$\frac{5}{16}$ -18 x $\frac{5}{16}$ lg. half dog pt.		

No. 4 Belt Housing

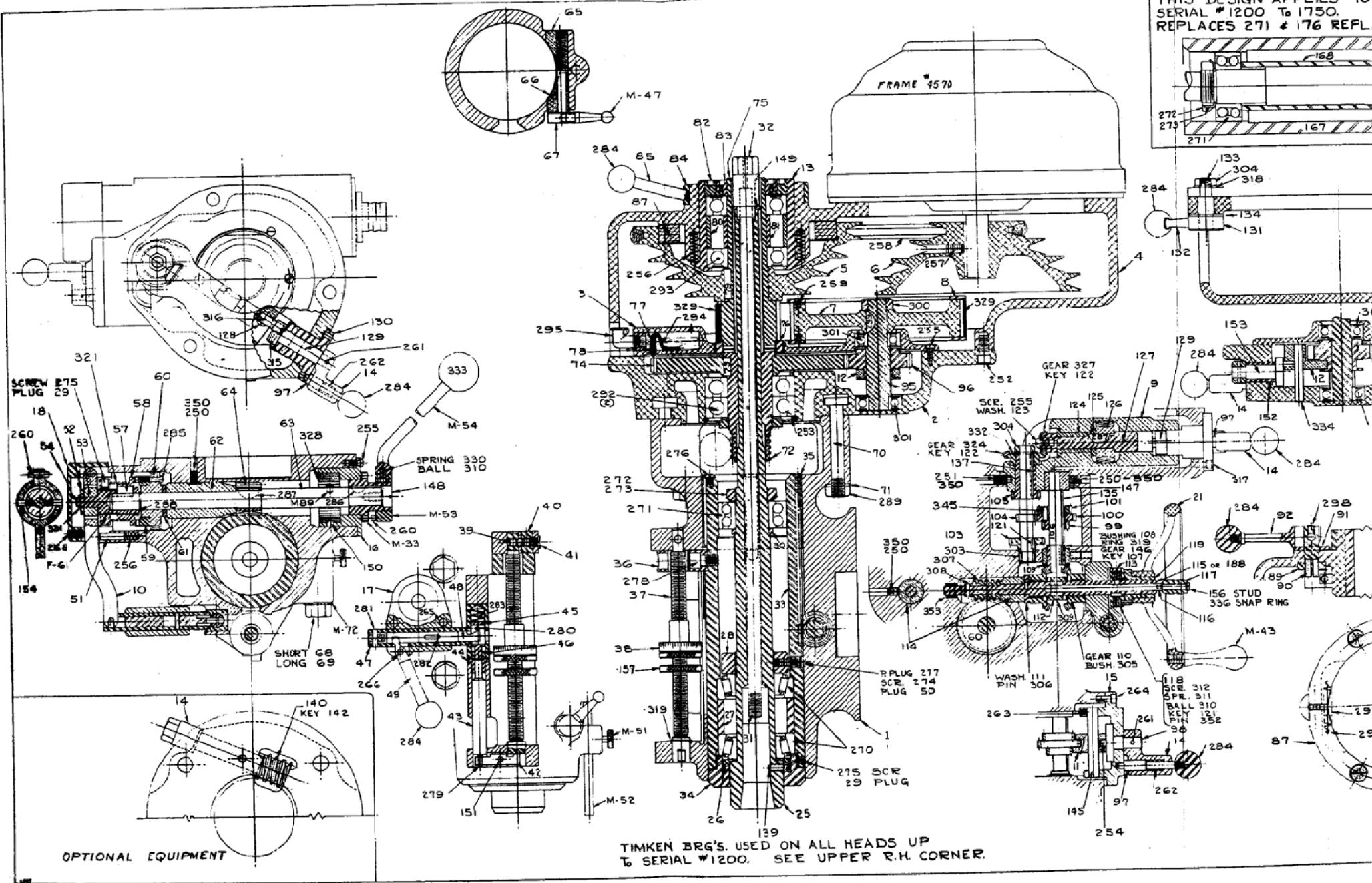


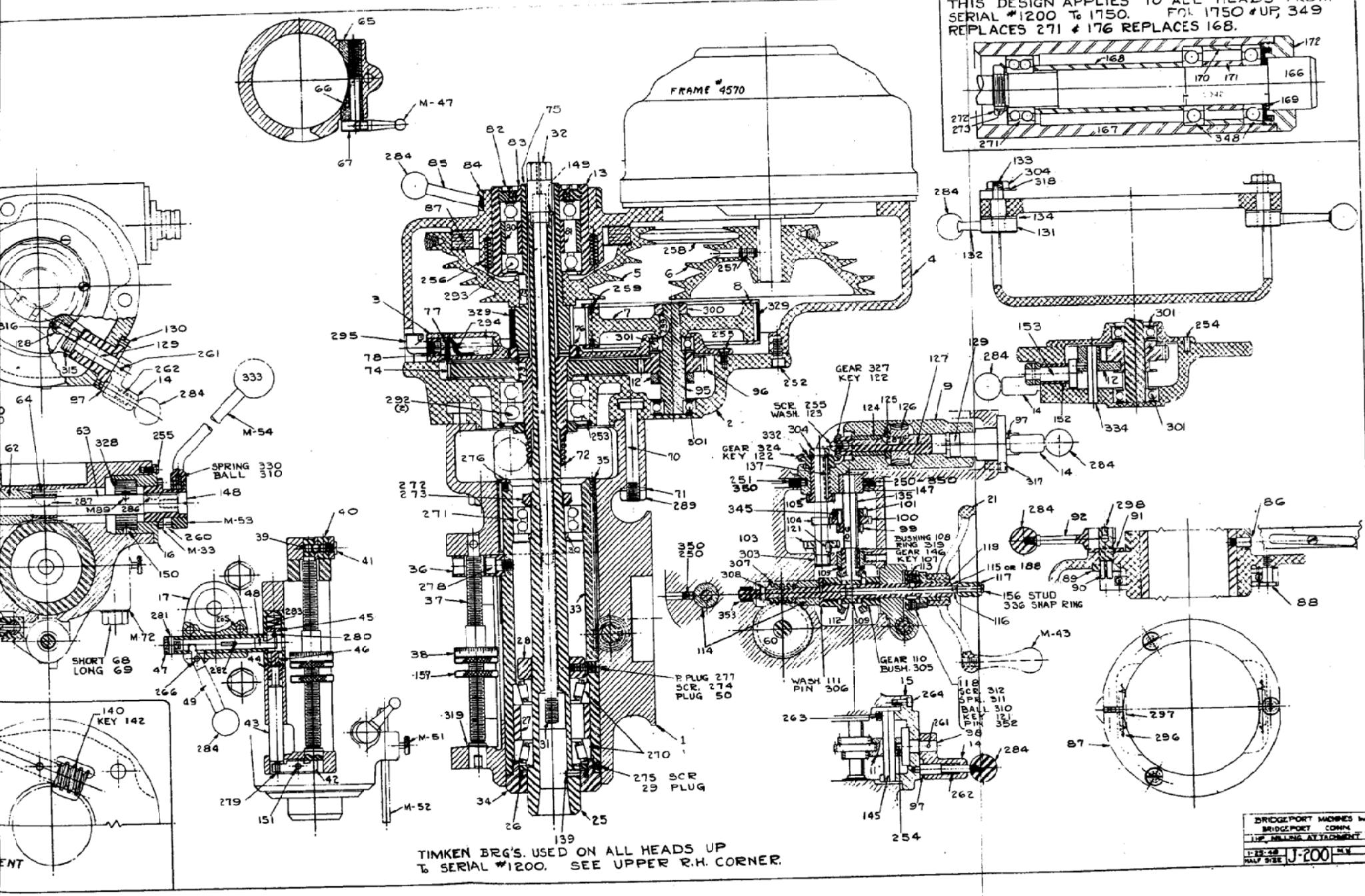
Brake & Clutch Unit

PARTS LIST



- | | | | |
|----|-----------------------------|-----|---|
| 13 | Spindle Pulley Brg. Sleeve | 91 | Brake Lock Washer |
| 75 | Spindle Pulley Hub | 92 | Brake Lock & Handle |
| 79 | Spindle Pulley Key | 93 | Brake Lock Pin |
| 80 | Upper Brg. Spacer (Large) | 131 | Motor Locknut |
| 81 | Upper Brg. Spacer (Small) | 132 | Motor Locknut Handle |
| 82 | Brg. Sleeve Locknut | 133 | Motor Mounting Studs |
| 83 | Upper Brg. Locknut | 134 | Motor Mounting Stud Washers |
| 84 | Cam Ring | 256 | Compression Spring |
| 85 | Spindle Clutch Lever | 284 | 1/4-20 Bakelite Ball Handle |
| 86 | Spindle Clutch Cam Ring Pin | 293 | ND #9507 Single Plate Ball Brg. |
| 87 | Brake Block | 297 | W.B. Jones #167-A Ext. Spring (Lindquist) |
| 88 | Brake Ring Screw | 304 | 3/8-24 Hex Jam Nut |
| 89 | Brake Lock Stud | 318 | 3/8 Lockwasher |
| 90 | Brake Pins | | |



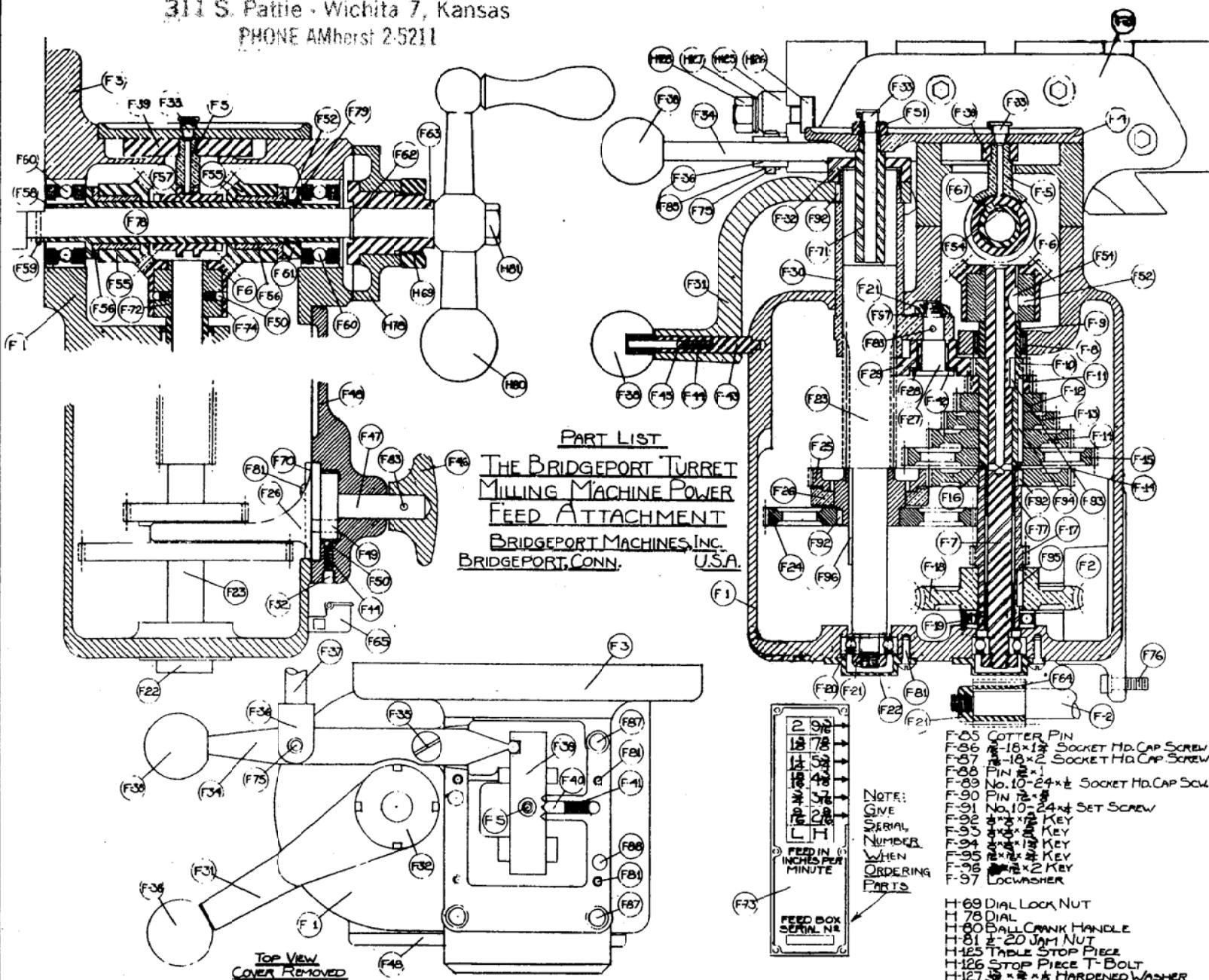


DOROW MACHINE TOOLS

MACHINE TOOLS & AUXILIARY EQUIPMENT

311 S. Pattie - Wichita 7, Kansas

PHONE AMherst 2-5211



- F-1 HOUSING
- F-2 MOTOR: ½ H.P., 1725 R.P.M.
- F-3 BRACKET
- F-4 COVER PLATE
- F-5 REVERSING FORK
- F-6 MITER GEAR
- F-7 GEAR SHAFT
- F-8 NEEDLE BEARING
- F-9 BEARING INNER RACE
- F-10 16 TOOTH GEAR WITH HUB
- F-11 20 TOOTH GEAR
- F-12 28 TOOTH GEAR
- F-13 38 TOOTH GEAR
- F-14 48 TOOTH GEAR
- F-15 64 TOOTH GEAR
- F-16 FIBER WASHER
- F-17 18 TOOTH SLEEVE GEAR
- F-18 WORM GEAR
- F-19 THRUST BEARING
- F-20 S.A.E. No. 200 BALL BEARING
- F-21 ½-20 HEX. JAM NUT
- F-22 BEARING COVER
- F-23 16 TOOTH PINION WITH SHAFT
- F-24 70 TOOTH GEAR
- F-25 40 TOOTH GEAR WITH HUB
- F-26 GEAR SHIFTING FORK
- F-27 IDLER STUD
- F-28 NEEDLE BEARING
- F-29 27 TOOTH IDLER GEAR
- F-30 GEAR SHIFTING SLEEVE
- F-31 GEAR SHIFTING HANDLE
- F-32 SHIFTING SLEEVE CAP
- F-33 OILER
- F-34 REVERSING HANDLE
- F-35 PIVOT SCREW
- F-36 REVERSING STOP ROD FORK
- F-37 REVERSING STOP ROD
- F-38 BALL HANDLE
- F-39 REVERSING SLIDE
- F-40 LOCK PIN
- F-41 SPRING $\frac{1}{2} \times \frac{3}{8}$
- F-42 THRUST WASHER
- F-43 LOCK PIN
- F-44 SPRING $\frac{1}{2} \times \frac{1}{8}$
- F-45 PK
- F-46 SPEED CHANGE KNOB
- F-47 SPEED CHANGE CRANK
- F-48 DOOR
- F-49 PIN
- F-50 DALL
- F-51 ½-20 HEX. JAM NUT
- F-52 $\frac{1}{2} \times 20 \times \frac{1}{4}$ SET SCREW
- F-53 SWITCH
- F-54 No. 7 WOODRUFF KEY
- F-55 MITER GEAR WITH CLUTCH FACE
- F-56 MOLDED BRONZE BEARING
- F-57 CLUTCH
- F-58 GEAR SLEEVE
- F-59 COTTER (SHEAR) PIN
- F-60 GREASE-SEALED BALL BEARING
- F-61 GEAR SLEEVE NUT
- F-62 SPLIT WASHER
- F-63 DIAL HOLDER
- F-64 WORM
- F-65 OIL CUP
- F-66 CORD SET
- F-67 $\frac{1}{2} \times \frac{1}{8} \times \frac{1}{2}$ KEY
- F-68 STOP ROD CLAMP
- F-69 STOP ROD COLLAR
- F-70 SHIFTING FORK HOLD-DOWN
- F-71 SLEEVE GUIDE PIN
- F-72 SAFETY RELEASE INSERT
- F-73 NAMEPLATE
- F-74 SPRING $\frac{1}{2} \times \frac{1}{8}$
- F-75 STOP ROD FORK PIN
- F-76 $\frac{1}{2} \times 20 \times \frac{1}{4}$ SOCKET HD. CAP SCREW
- F-77 MOLDED BRONZE BEARING
- F-78 FEED SCREW
- F-79 BRASS PLUG $\frac{1}{2} \times \frac{1}{8}$
- F-80 No. 10-24 $\frac{1}{4}$ RD. HD. SCREW
- F-81 No. 10-24 $\frac{1}{4}$ RD. HD. SCREW
- F-82 PIN $\frac{1}{2} \times \frac{1}{8}$
- F-83 NO. 00 $\frac{1}{8}$ TAPER PIN
- F-84 NO. 00 $\frac{1}{8}$ TAPER PIN