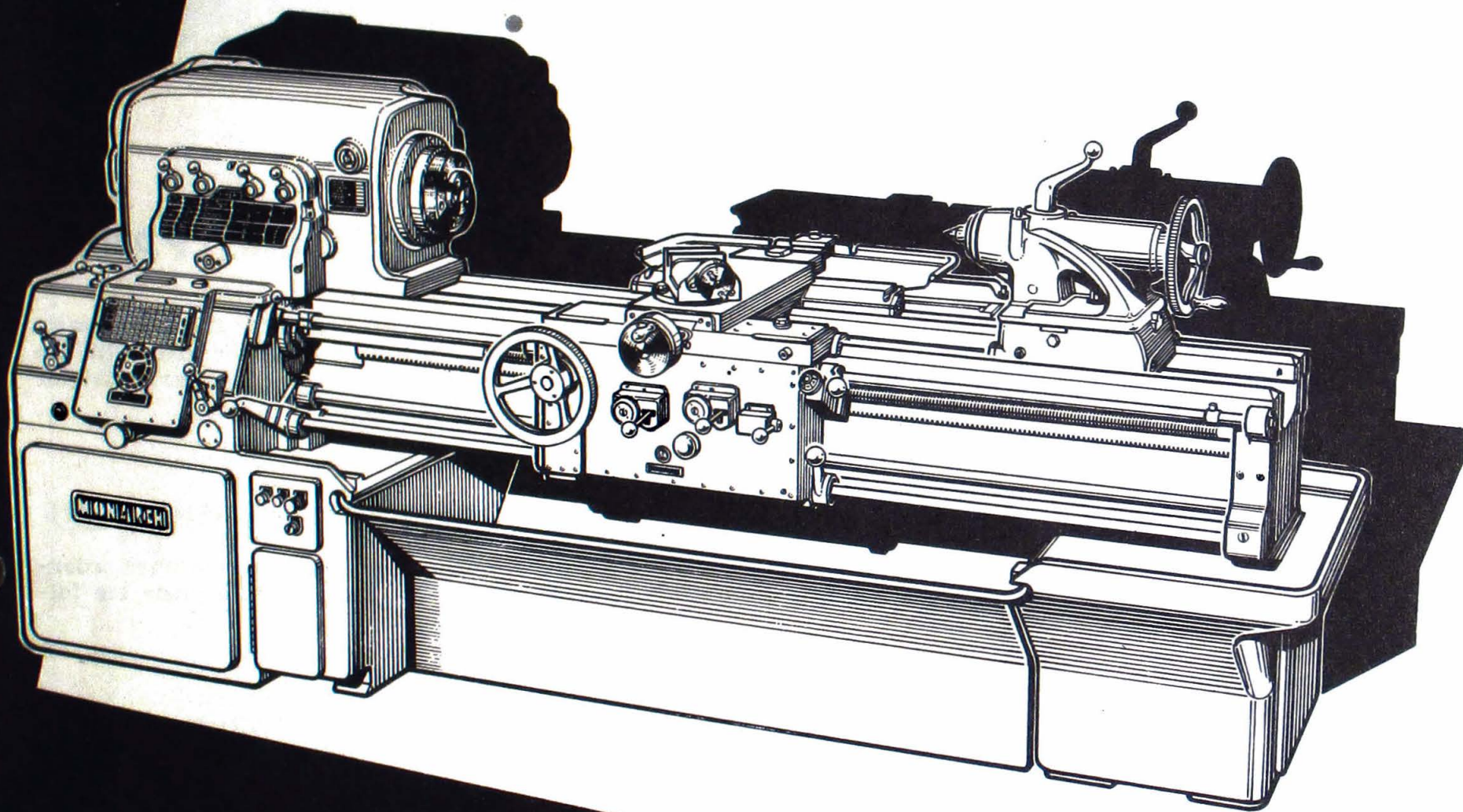


The **MONARCH**

SERIES 61

**ENGINE & TOOLMAKER'S
LATHES**

SIZES 13", 16", 20"



**THE MONARCH
MACHINE TOOL CO.
SIDNEY, OHIO**

PARTS CATALOG

MONARCH

SERIES 61 ENGINE & TOOLMAKER'S LATHES SIZES 13", 16", 20"

PARTS CATALOG

Inherent in the purchase of this Monarch Series 61 Lathe is the guarantee of precise equipment construction. It has been designed, manufactured, and produced under the most rigid and exacting quality control conditions possible to insure accurate and long-life service. However, natural wear, general maintenance, or damage to the equipment may necessitate the ordering of replacement parts. To assure prompt service in ordering replacement parts, we have prepared this parts catalog, specifically designed to give you every possible assistance in quickly identifying and ordering required parts. It is a tangible result of Monarch's ever-continuing effort to provide users with the finest type of service possible and to make parts replacement ordering simple yet efficient.



HOW TO IDENTIFY AND ORDER REPLACEMENT PARTS

CATALOG PLAN

For simplicity and clarity of presentation, the complete lathe has been separated into specific groups or units as indicated by the Visual Index on page 3. In the pages that follow, each unit is illustrated in exploded view form to show every detail part that forms the complete unit.

Certain units required more than one exploded view to clearly show all parts and these are grouped together as indicated in the Visual Index.

Each illustration is designated by a letter (Figure A, B, C, etc.) and the sequence of illustrations through the catalog is in alphabetical order. Each illustration has an adjoining parts list for part name identification.

LOCATING AND IDENTIFYING PARTS

Turn to the Visual Index on page 3 and determine the name of the unit where the part required can be found.

Note the figure letter and page number on which the unit is illustrated in exploded form.

Turn to the proper page, locate the illustrated part, and match the index number of the part with the corresponding index number of the parts list for part name identification.

HOW TO ORDER REPLACEMENT PARTS

To assure prompt and accurate service when ordering replacement parts, be sure to include the following information.

- (1) Quantity required.
- (2) Index number and name of part.
- (3) Serial number of lathe requiring replacement part.

A sample order, properly worded, would read as follows: 1 - Part number B51, Bushing, for Monarch 13" Series 61 Engine Lathe, Serial No. 12345.

NOTE

Always make certain the serial number of the lathe concerned is included in the order. The serial number of your lathe is stamped at two points as indicated in the Visual Index (page 3).

VISUAL INDEX

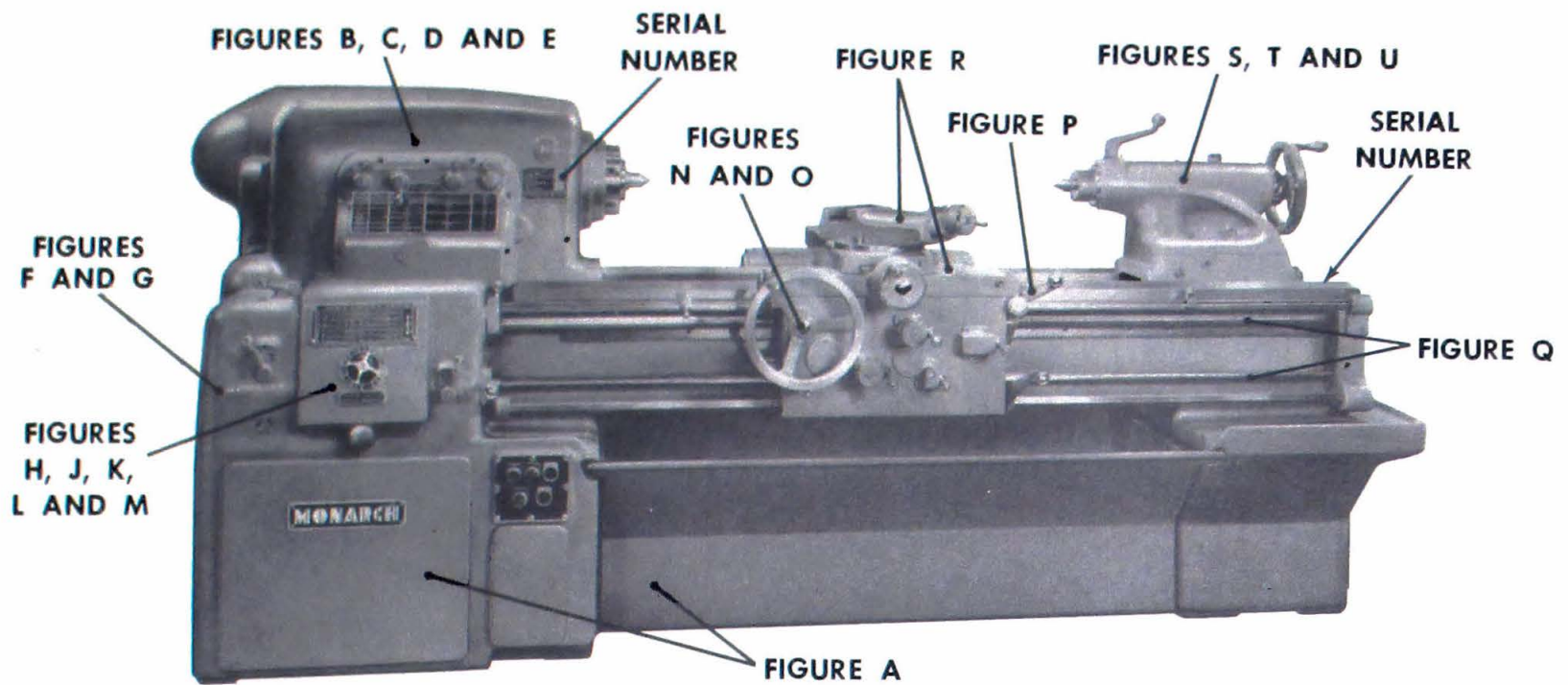


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NN	Connected Compound and Plain Block Rear Rest and Sub-Headstock	78 - 79
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PP	16" - 20" Metric Gear Box	82 - 83

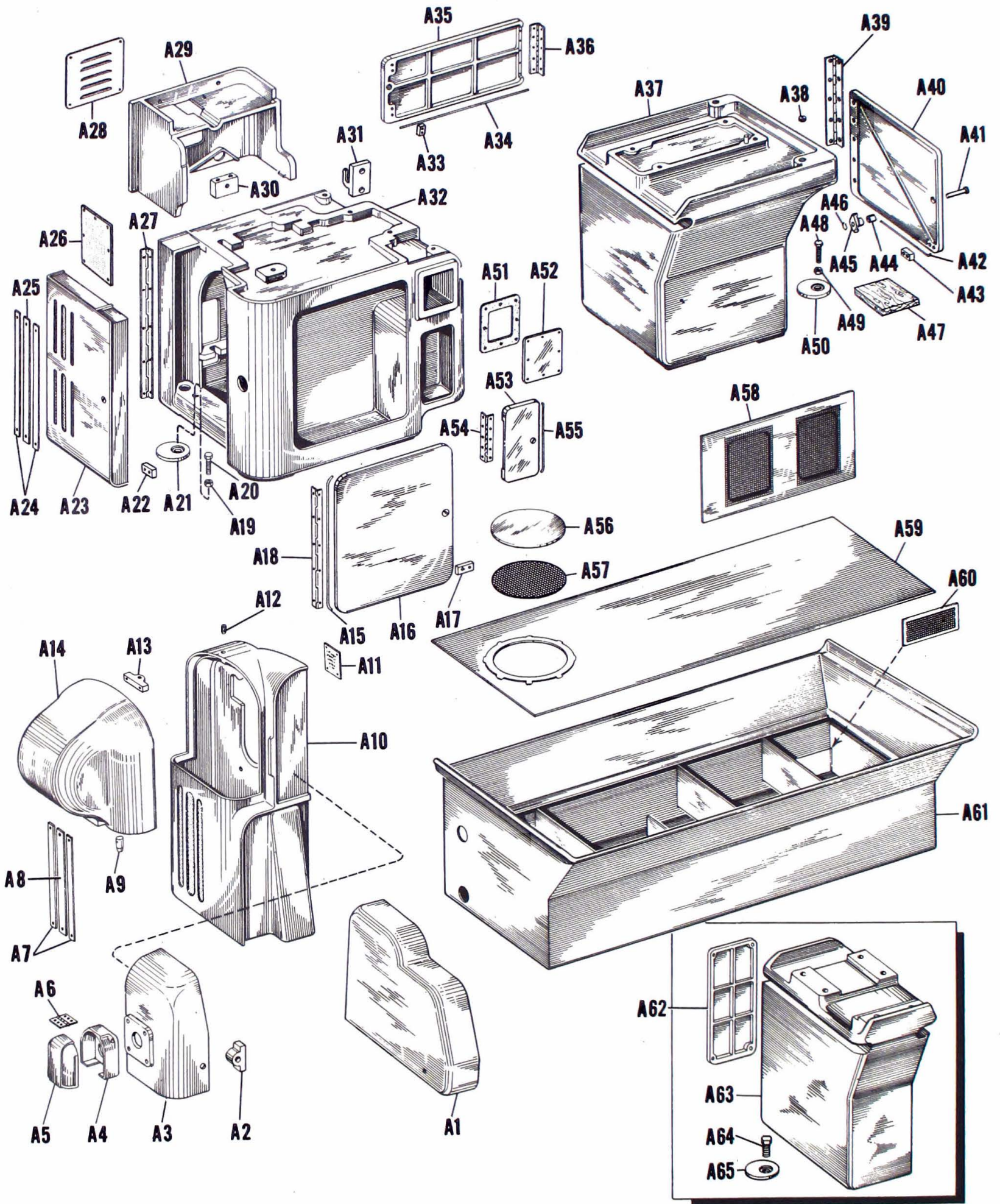


Figure A, Cabinet Legs, End Guards and Pan

Parts List for Figure A, Cabinet Legs, End Guards and Pan

INDEX NO.	PART NAME
A1	End Gear Cover
A2	Bracket
A3	Cover
A4	Bracket
A5	Cover
A6	Hinge
A7	Louvers
A8	Louver
A9	Locating Pin
A10	Guard
A11	Instruction Plate
A12	Screw
A13	Bracket
A14	End Guard Cover
A15	Door Seal
A16	Head End Door
A17	Door Support
A18	Hinge
A19	Full Nut
A20	Leveling Screw
A21	Leveling Plate
A22	Door Support
A23	End Door
A24	Louvers
A25	Louver
A26	Screen
A27	Hinge
A28	Vented Cover
A29	Guard
A30	Bracket
A31	Rod Hanger
A32	Motor Cabinet Leg
A33	Door Support

INDEX NO.	PART NAME
A34	Door Seal
A35	Rear Door
A36	Hinge
A37	Tail End Leg
A38	Plug
A39	Hinge
A40	Tail End Door
A41	Latch Pin
A42	Door Seal
A43	Door Support
A44	Latch Bushing
A45	Latch
A46	Retaining Ring
A47	Floor Board
A48	Leveling Screw
A49	Full Nut
A50	Leveling Plate
A51	Gasket
A52	Switch Plate
A53	Door
A54	Hinge
A55	Door Seal
A56	Pump Disc
A57	Pump Screen
A58	Pump Chamber Cover
A59	False Bottom for Pan
A60	Coolant Screen
A61	Pan
A62	Cover
A63	Center Leg
A64	Leveling Screw
A65	Leveling Plate

NOTE: A41, A44, A45 and A46 are also used on doors A16, A23, A35 and A53.

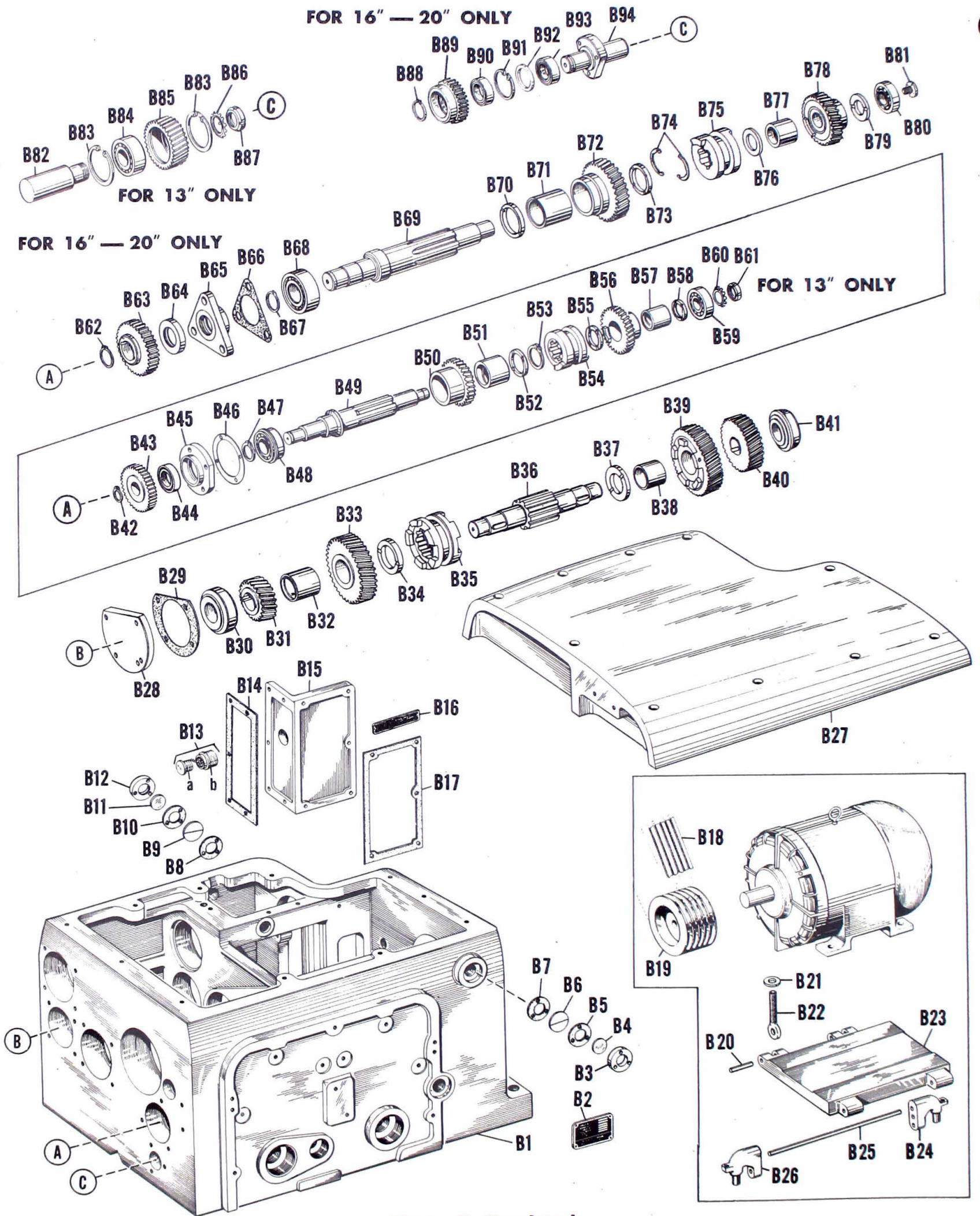


Figure B, Headstock

Parts List for Figure B, Headstock

INDEX NO.	PART NAME
B1	Headstock
B2	Lathe Serial Number Plate
B3	Oil Gauge Housing
B4	Lucite Window
B5	Gasket
B6	Oil Indicator Plate
B7	Gasket
B8	Gasket
B9	Oil Indicator Plate
B10	Gasket
B11	Lucite Window
B12	Oil Gauge Housing
B13	Oiler Assembly
B13-a	Oiler Body
B13-b	Oil Filler Cap
B14	Gasket
B15	Cover
B16	Lubrication Instruction Plate
B17	Gasket
B18	"V" Belt
B19	Pulley
B20	Adjusting Screw Stem
B21	Washer
B22	Adjusting Screw
B23	Motor Base
B24	Motor Base Hinge
B25	Motor Base Shaft
B26	Motor Base Hinge
B27	Headstock Cover
B28	Short Int. Shaft Cap - L. H.
B29	Shim
B30	Roller Bearing
B31	Short Int. Shaft Drive Gear - L. H.
B32	Bushing
B33	Short Int. Shaft Clutch Gear - L. H.
B34	Spacer
B35	Short Int. Shaft Clutch
B36	Short Int. Shaft
B37	Spacer
B38	Bushing
B39	Short Int. Shaft Clutch Gear
B40	Short Int. Shaft Drive Gear
B41	Roller Bearing
FOR 13" ONLY	
B42	Retaining Ring
B43	Gear
B44	Garlock Closure
B45	Bearing Cap
B46	Shim
B47	Retaining Ring
B48	Double Row Ball Bearing
B49	Reverse Shaft

INDEX NO.	PART NAME
B50	Reverse Clutch Gear (30T)
B51	Bushing
B52	Spacer
B53	Retaining Ring
B54	Reverse Clutch
B55	Spacer
B56	Reverse Clutch Gear (33T)
B57	Bushing
B58	Spacer
B59	Single Row Bearing
B60	Lock Washer
B61	Locknut
FOR 16" AND 20" ONLY	
B62	Retaining Ring
B63	Gear
B64	Garlock Closure #544
B65	Reverse Shaft Oil Seal Retainer
B66	Gasket
B67	Retaining Ring
B68	Double Row Ball Bearing
B69	Reverse Shaft
B70	Spacer
B71	Large Reverse Gear Bushing
B72	Large Reverse Clutch Gear
B73	Spacer
B74	Retaining Ring
B75	Reverse Clutch
B76	Spacer
B77	Small Reverse Clutch Gear Bushing
B78	Small Reverse Clutch Gear
B79	Spacer
B80	Double Row Ball Bearing
B81	Retaining Screw
FOR 13" ONLY	
B82	Reverse Idler Gear Stud
B83	Retaining Ring
B84	Double Row Ball Bearing
B85	Reverse Idler Gear
B86	Lock Washer
B87	Locknut
FOR 16" AND 20" ONLY	
B88	Retaining Ring, External
B89	Gear
B90	Ball Bearing
B91	Retaining Ring, Internal
B92	Spacer
B93	Ball Bearing
B94	Idler Stud

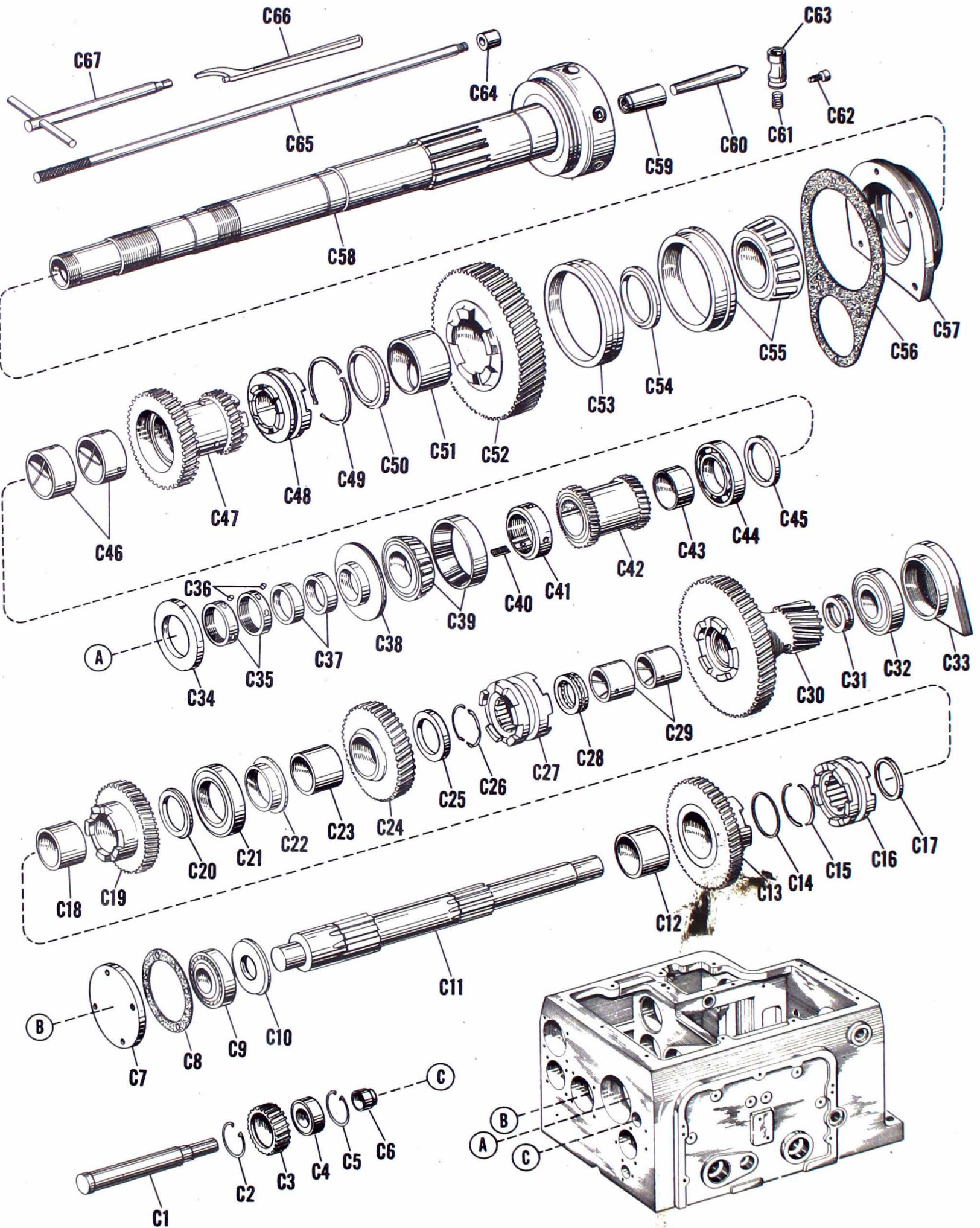


Figure C, Headstock

Parts List for Figure C, Headstock

INDEX NO.	PART NAME
C1	Idler Gear Shaft
C2	Retaining Ring
C3	Gear
C4	Double Row Ball Bearing
C5	Retaining Ring
C6	Spacer
C7	Long Int. Shaft Cap - L. H.
C8	Shim
C9	Bearing
C10	Spacer
C11	Long Int. Shaft
C12	Bushing
C13	Long Int. Shaft Gear
C14	Spacer
C15	Retaining Ring
C16	Long Int. Shaft Clutch - L. H.
C17	Spacer
C18	Bushing
C19	Long Int. Shaft Gear
C20	Spacer
C21	Bearing
C22	Bearing Sleeve
C23	Bushing
C24	Long Int. Shaft Gear
C25	Spacer
C26	Retaining Ring
C27	Long Int. Shaft Clutch - R. H.
C28	Thrust Bearing
C29	Bushings
C30	Double Back Gear
C31	Thrust Bearing
C32	Bearing
C33	Front Int. Shaft Cap
C34	Rear Oil Ring

INDEX NO.	PART NAME
C35	Spindle Locknut
C36	Spindle Locknut Plug
C37	Spindle Spacing Collar
C38	Rear Oil Deflector Ring
C39	Precision Bearing
C40	Locknut Insert
C41	Locknut
C42	Compound Gear
C43	Spacer
C44	Bearing
C45	Spacer
C46	Bushings
C47	Large and Small Spindle Drive Gear
C48	Spindle Clutch
C49	Retaining Ring
C50	Spacer
C51	Bull Gear Bushing
C52	Bull Gear
C53	Oil Pump Cam
C54	Spacer
C55	Precision Bearing
C56	Gasket
C57	Spindle Bearing Cap
C58	Camlock Spindle
C59	Spindle Bushing
C60	Center
C61	Cam Spring
C62	Cam Screw
C63	Cam
C64	Ram Head
C65	Ram Head Rod
C66	Spanner Wrench
C67	Spindle Wrench

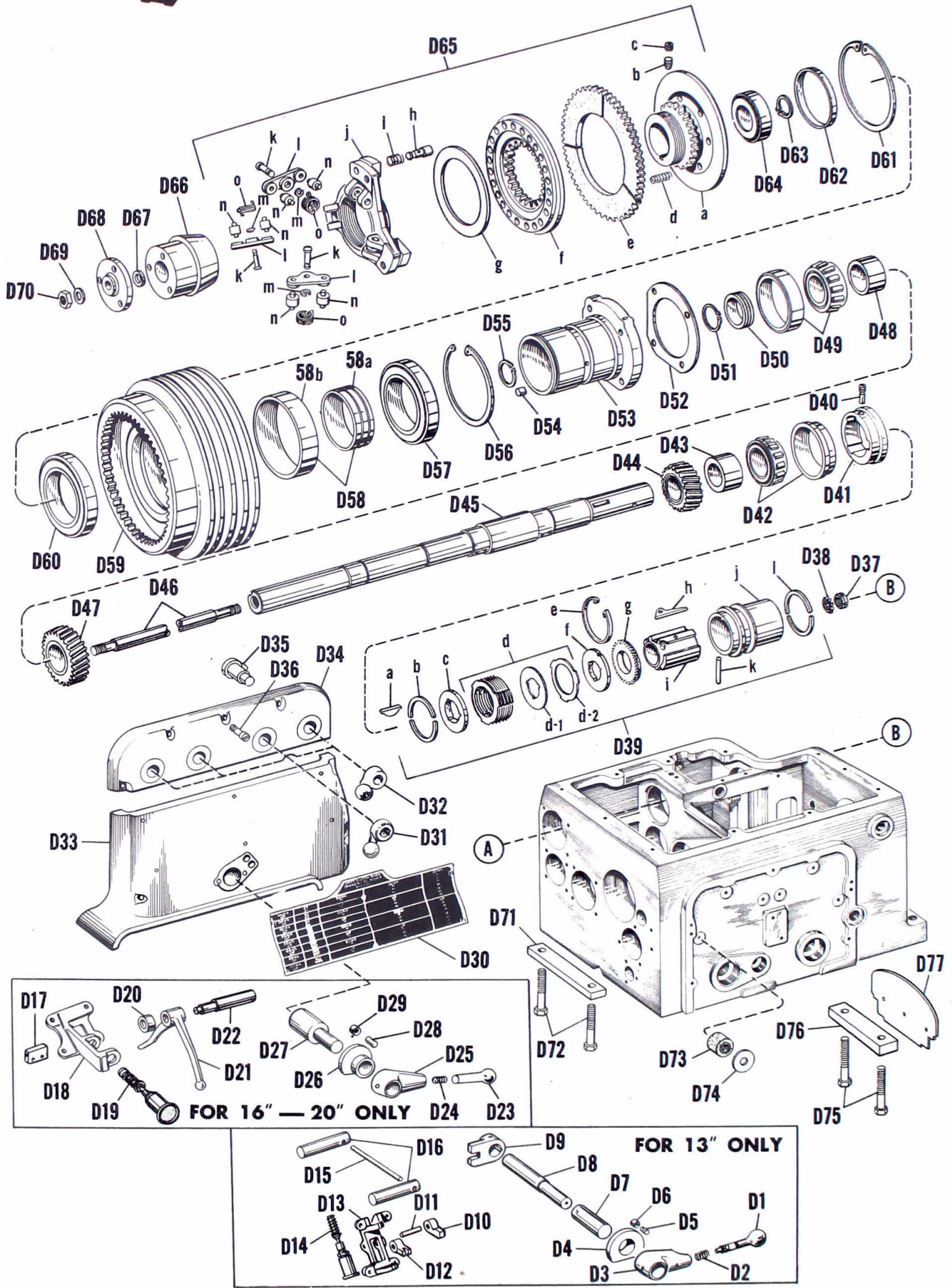


Figure D, Headstock

Parts List for Figure D, Headstock

INDEX NO.	PART NAME
FOR 13" ONLY	
D1	Shifter Lever
D2	Shifter Lever Spring
D3	Shifter Lever Hub
D4	Bushing
D5	Plunger Pin
D6	Insert
D7	Stub Shaft
D8	Segment Shaft
D9	Inside Reverse Segment
D10	Pump Stroke Arm
D11	Pump Bracket Stem
D12	Pump Plunger Arm
D13	Pump Bracket
D14	Lubrication Pump
D15	Plunger Rod
D16	Plunger Rod Support
FOR 16" AND 20" ONLY (D17 - D29)	
D17	Junction Bar (3 Way)
D18	Bracket
D19	Lubricator Pump
D20	Collar
D21	Pump Plunger Arm
D22	Pin
D23	Shifter Lever
D24	Shifter Lever Spring
D25	Shifter Lever Hub
D26	Bushing
D27	Stub Shaft
D28	Plunger
D29	Insert
D30	Speed Plate
D31	Lever
D32	Lever
D33	Front Cover (Lower)
D34	Front Cover (Upper)
D35	Eccentric
D36	Lock Screw
D37	Locknut
D38	Lockwasher
D39	Brake Clutch Assembly
D39-a	Hypro Keys
D39-b	Split Ring
D39-c	Thrust Plate
D39-d	Disc Assembly
D39-d-1	Inner Disc
D39-d-2	Outer Disc
D39-e	Lock Spring
D39-f	Pressure Plate
D39-g	Adjustment Collar
D39-h	Dogs
D39-i	Clutch Body
D39-j	Shipper Sleeve
D39-k	Anchor Pin

INDEX NO.	PART NAME
D39-1	Split Ring
D40	Cross Feed Nut Lock Screw
D41	Driving Cup
D42	Roller Bearing
D43	Pulley Shaft Gear Spacer
D44	Pulley Shaft Gear - R. H.
D45	Pulley Shaft
D46	Brake Rod
D47	Pulley Shaft Gear - L. H.
D48	Pulley Shaft Gear Spacer
D49	Single Row Bearing
D50	Oil Deflector
D51	Retaining Ring
D52	Shim
D53	Bearing Sleeve
D54	Hydraulic Plug
D55	Retaining Ring
D56	Retaining Ring
D57	Bearing
D58	Spacer Assembly
D58-a	Inside Spacer
D58-b	Outside Spacer
D59	Sheave
D60	Bearing
D61	Retaining Ring
D62	Spacer
D63	Retaining Ring
D64	Seal Bearing
D65	Twin Disc Clutch
D65-a	Hub and Back Plate
D65-b	Dog Point Set Screw
D65-c	Lock Screw
D65-d	Compression Spring
D65-e	Driving Plate
D65-f	Floating Plate
D65-g	Roller Disc
D65-h	Adjusting Pin
D65-i	Compression Springs
D65-j	Adjusting Yoke
D65-k	Pin
D65-l	Lever
D65-m	Retainer Rings
D65-n	Lever Roller
D65-o	Torsion Spring
D66	Cone Ring and Collar Assembly
D67	Spacer
D68	Cap
D69	Lockwasher
D70	Locknut
D71	Clamp
D72	Clamp Screw
D73	Bumper
D74	Washer
D75	Clamp Screw
D76	Clamp
D77	Guard

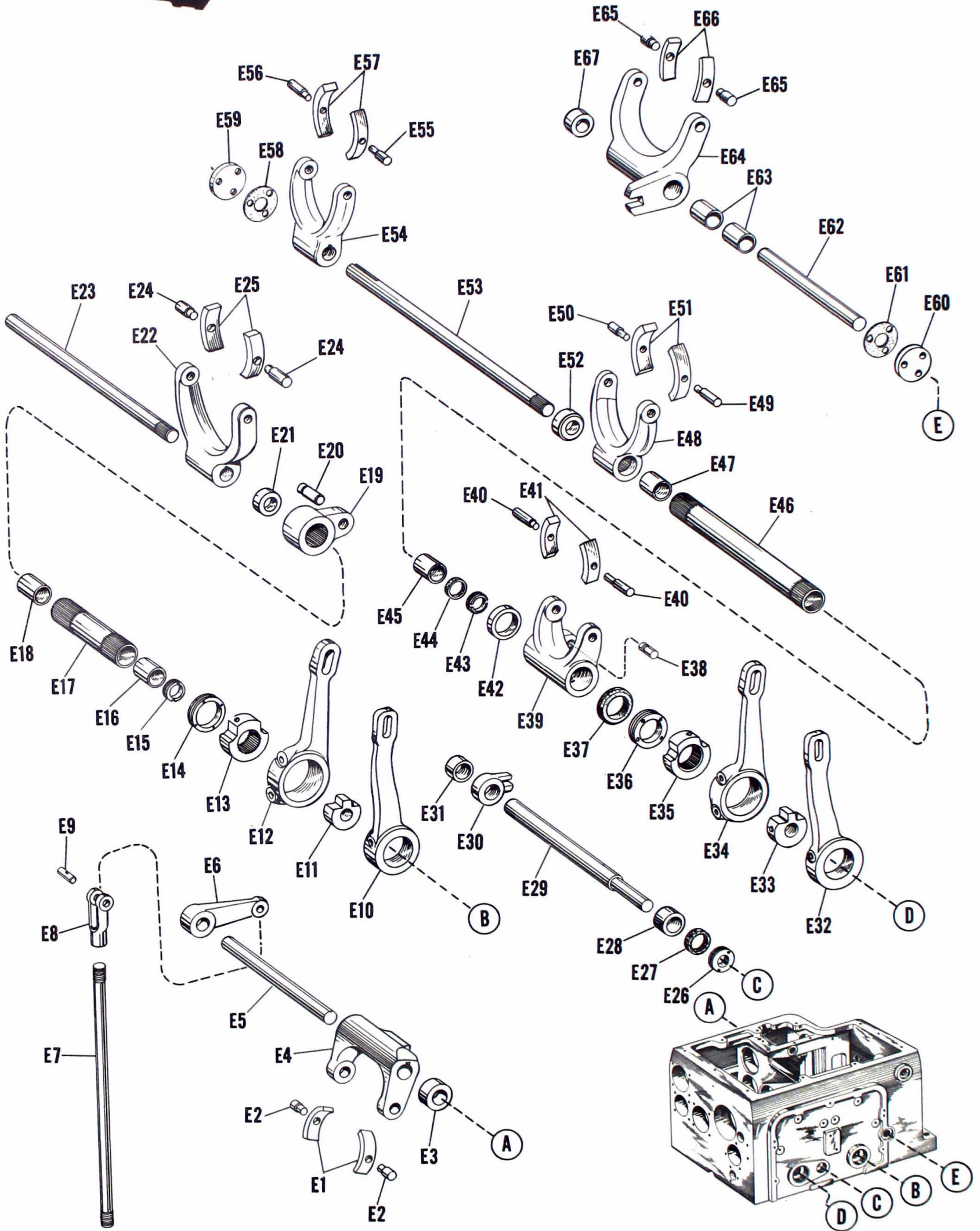
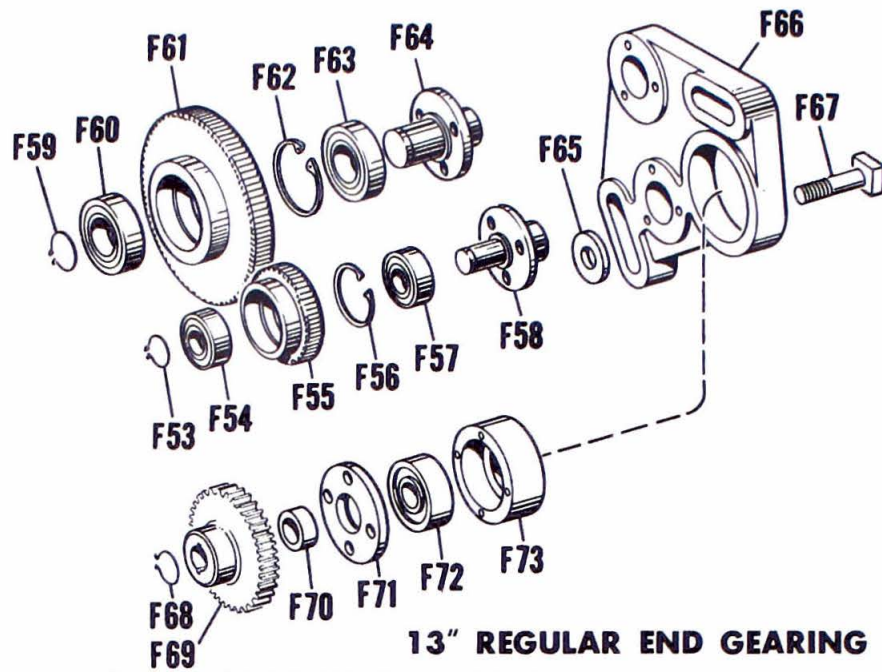


Figure E, Headstock

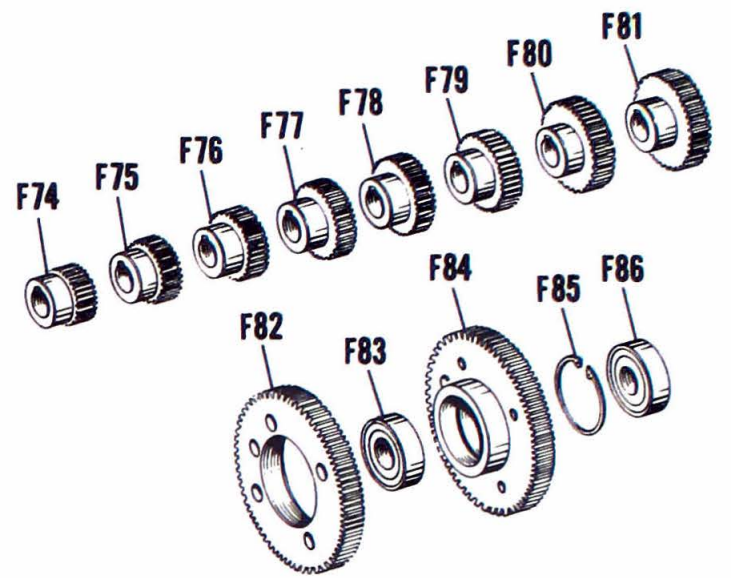
Parts List for Figure E, Headstock

INDEX NO.	PART NAME
E1	Short Int. Shaft Clutch Shoe
E2	Clutch Shoe Pin
E3	Feed Rod Collar
E4	Shifter Fork
E5	Shaft
E6	Lever
E7	Connecting Rod
E8	Yoke End
E9	Pin
E10	Shaft Lever
E11	Collar
E12	Tube Lever
E13	Collar
E14	Packing Nut
E15	Clutch Shifter Tube Gland Nut
E16	Oilite Bushing
E17	Clutch Shifter Tube
E18	Oilite Bushing
E19	Shifter Finger
E20	Spindle Fork Shifter Pin
E21	Feed Rod Collar
E22	Long Int. Shaft Fork - R. H.
E23	Clutch Shifter Shaft
E24	Clutch Shoe Pin
E25	Spindle Clutch Shoe
E26	Stuffing Plug
E27	Packing
E28	Feed Rod Collar
E29	Shaft
E30	Segment
E31	Feed Rod Collar
E32	Shaft Lever
E33	Collar
E34	Tube Lever

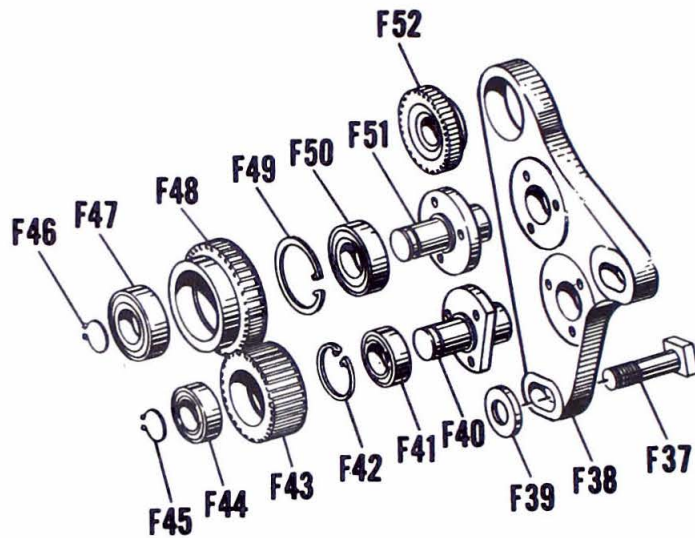
INDEX NO.	PART NAME
E35	Collar
E36	Packing Nut
E37	Packing
E38	Pin
E39	Clutch Fork
E40	Clutch Shoe Pin
E41	Rev. Shaft Clutch Shoe
E42	Collar
E43	Clutch Shifter Tube Gland Nut
E44	Packing
E45	Oilite Bushing
E46	Clutch Shifter Tube
E47	Oilite Bushing
E48	Long Int. Shaft Fork
E49	Clutch Shoe Pin
E50	Clutch Shoe Pin
E51	Spindle Clutch Shoe
E52	Feed Rod Collar
E53	Clutch Shifter Shaft
E54	Short Int. Shaft Fork
E55	Clutch Shoe Pin
E56	Clutch Shoe Pin
E57	Spindle Clutch Shoe
E58	Gasket
E59	Plug
E60	Plug
E61	Gasket
E62	Spindle Clutch Shifter Shaft
E63	Tumbler Gear Bushings
E64	Clutch Fork
E65	Clutch Shoe Pin
E66	Spindle Clutch Shoe
E67	Feed Rod Collar



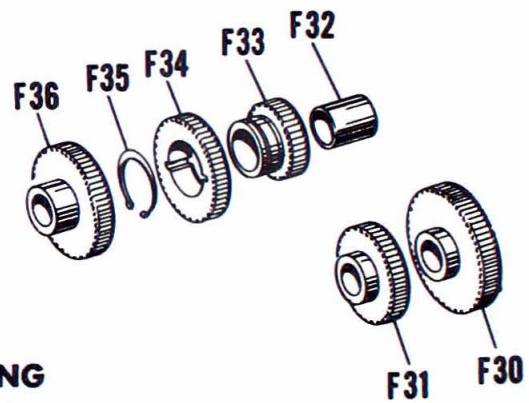
13" REGULAR END GEARING



13" METRIC TRANSPOSING GEARS



13" METRIC END GEARING



13" ENGLISH TRANSLATION END GEARING

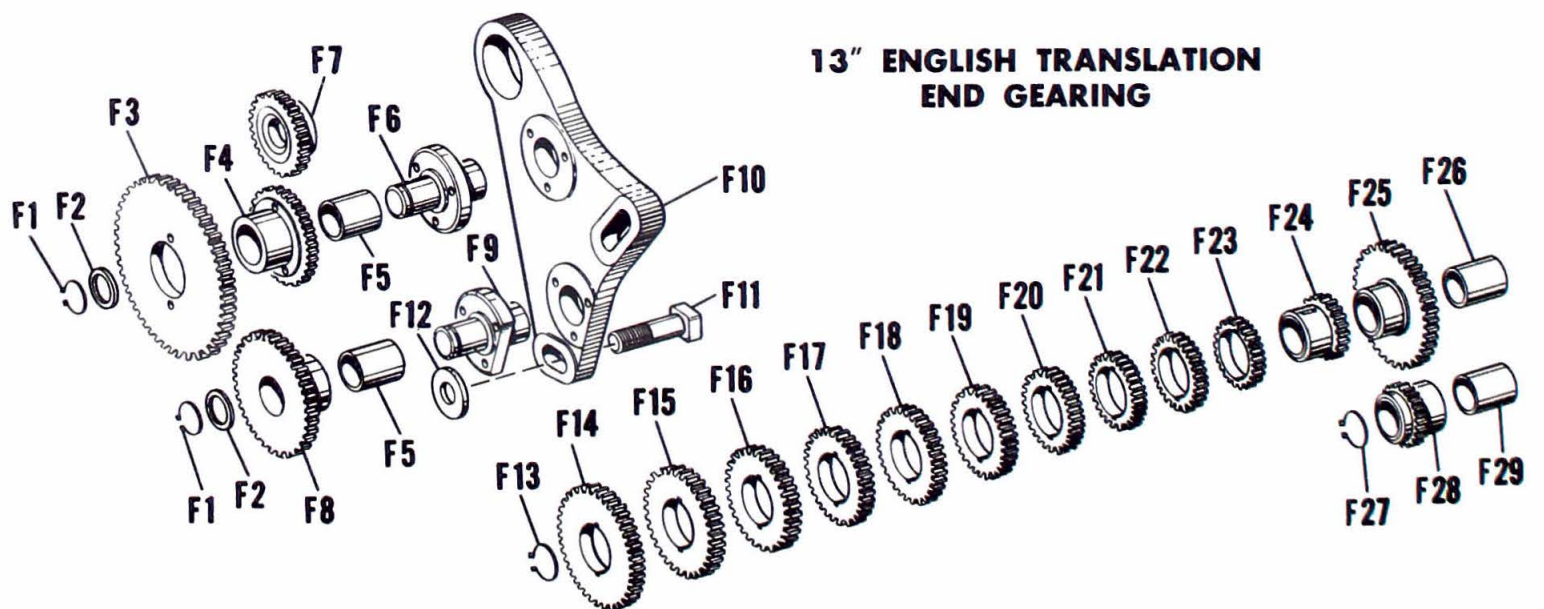


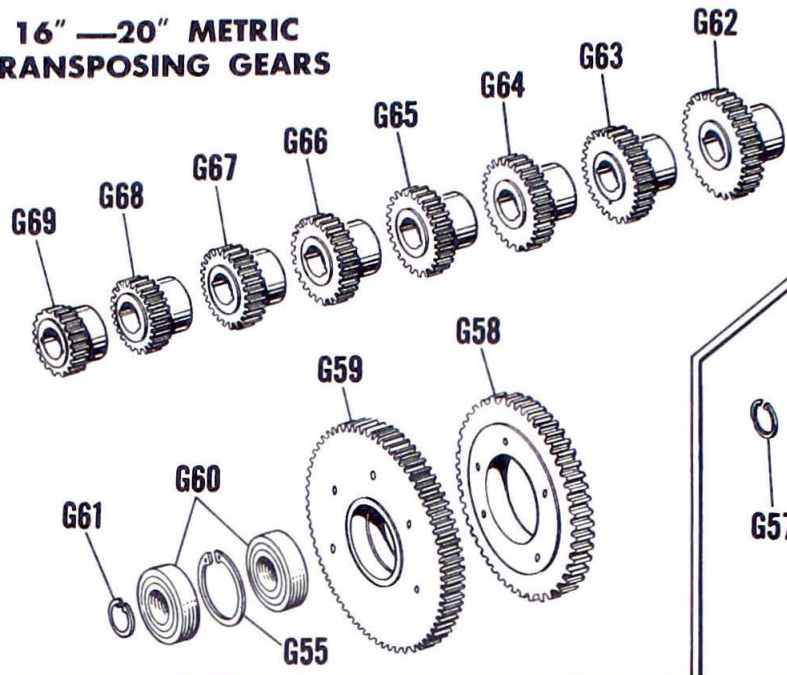
Figure F, 13" Regular End Gearing, Metric Transposing Gears, Metric End Gearing and English Translation End Gearing

**Parts List for Figure F, 13" Regular End Gearing,
Metric Transposing Gears, Metric End Gearing and
English Translation End Gearing**

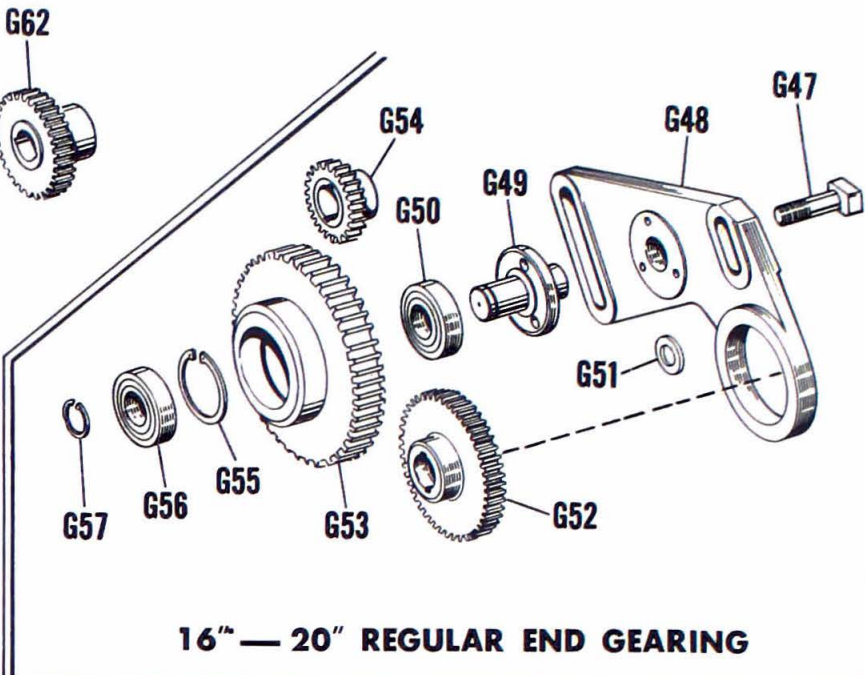
INDEX NO.	PART NAME
13" ENGLISH TRANSLATION END GEARING	
F1	Retaining Rings
F2	Spacer
F3	Gear (127T)
F4	Gear (36T)
F5	Bushing
F6	Stud
F7	Gear (36T)
F8	Gear (83T)
F9	Stud
F10	Quadrant
F11	T-Bolt
F12	Washer
F13	Retaining Ring
F14	Gear (84T)
F15	Gear (81T)
F16	Gear (78T)
F17	Gear (72T)
F18	Gear (69T)
F19	Gear (66T)
F20	Gear (60T)
F21	Gear (57T)
F22	Gear (54T)
F23	Gear (48T)
F24	Gear (26T)
F25	Gear (52T)
F26	Bushing
F27	Retaining Ring
F28	Gear (26T)
F29	Bushing
13" METRIC END GEARING	
F30	Gear (52T)
F31	Gear (36T)
F32	Bushing
F33	Gear (26T)
F34	Gear (36T)
F35	Retaining Ring
F36	Gear (42T)
F37	T-Bolt
F38	Quadrant
F39	Washer
F40	Stud
F41	Ball Bearing
F42	Retaining Ring
F43	Gear (36T)
F44	Ball Bearing

INDEX NO.	PART NAME
F45	Retaining Ring
F46	Retaining Ring
F47	Ball Bearing
F48	Gear (48T)
F49	Retaining Ring
F50	Ball Bearing
F51	Stud
F52	Gear (36T)
13" REGULAR END GEARING	
F53	Retaining Ring
F54	Ball Bearing
F55	Gear (36T)
F56	Retaining Ring
F57	Ball Bearing
F58	Stud
F59	Retaining Ring
F60	Ball Bearing
F61	Gear (75T)
F62	Retaining Ring
F63	Ball Bearing
F64	Stud
F65	Washer
F66	Quadrant
F67	T-Bolt
F68	Retaining Ring
F69	Gear (50T)
F70	Spacer
F71	Bearing Cap
F72	Bearing
F73	Bearing Cup
13" METRIC TRANSPOSING GEARS	
F74	Gear (35T)
F75	Gear (40T)
F76	Gear (45T)
F77	Gear (50T)
F78	Gear (52T)
F79	Gear (55T)
F80	Gear (56T)
F81	Gear (65T)
F82	Gear (75T)
F83	Ball Bearing
F84	Gear (127T)
F85	Retaining Ring
F86	Ball Bearing

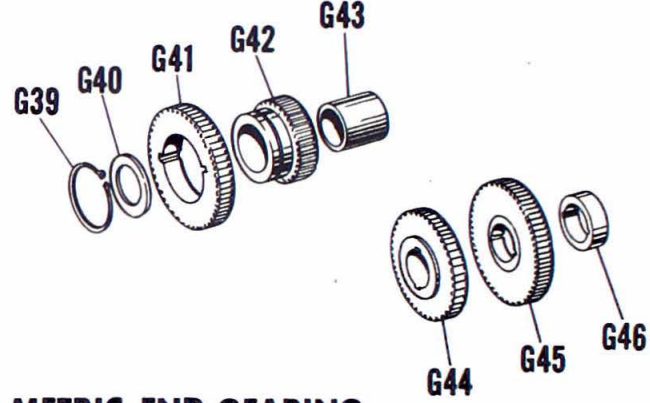
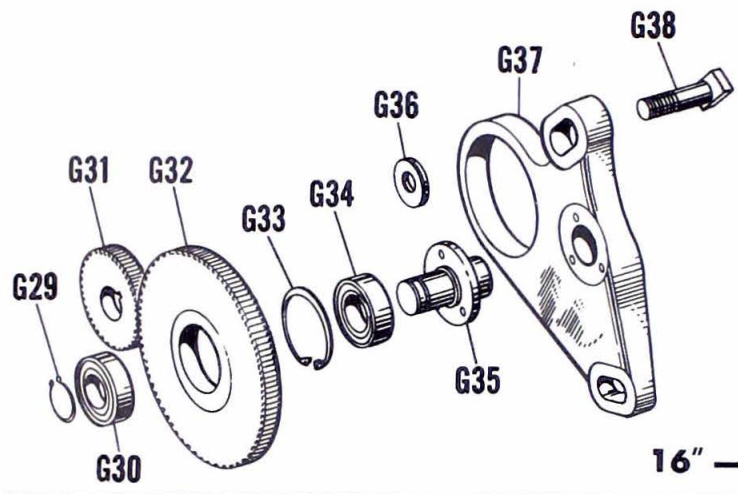
**16" — 20" METRIC
TRANSPOSING GEARS**



16" — 20" REGULAR END GEARING



16" — 20" METRIC END GEARING



**16" — 20"
ENGLISH TRANSLATION
END GEARING**

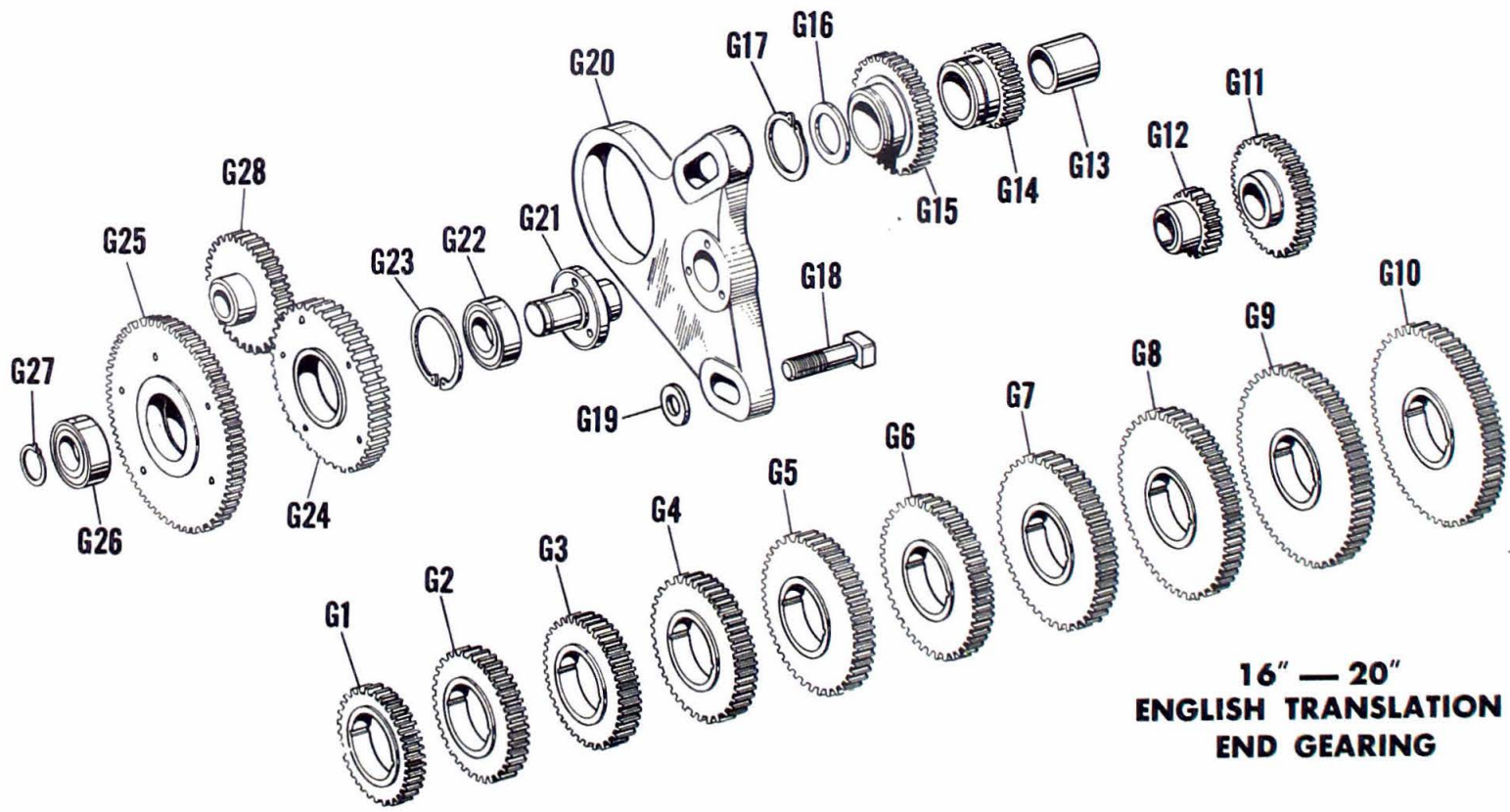


Figure G, 16" — 20" Regular End Gearing, Metric Transposing Gears, Metric End Gearing and English Translation End Gearing

**Parts List for Figure G, 16" — 20" Regular End Gearing,
Metric Transposing Gears, Metric End Gearing and
English Translation End Gearing**

INDEX NO.	PART NAME
16" AND 20" ENGLISH TRANSLATION END GEARING	
G1	Eng. Trans. Gear (48T, 16P)
G2	Eng. Trans. Gear (54T, 16P)
G3	Eng. Trans. Gear (57T, 16P)
G4	Eng. Trans. Gear (60T, 16P)
G5	Eng. Trans. Gear (66T, 16P)
G6	Eng. Trans. Gear (69T, 16P)
G7	Eng. Trans. Gear (72T, 16P)
G8	Eng. Trans. Gear (78T, 16P)
G9	Eng. Trans. Gear (81T, 16P)
G10	Eng. Trans. Gear (84T, 16P)
G11	Gear, 60T, 12P (Use With G14)
G12	Gear, 30T, 12P (Use With G15)
G13	Bushing
G14	Gear, 30T, 12P (Use With G11)
G15	Gear, 60T, 12P (Use With G12)
G16	Washer
G17	Retaining Ring
G18	T-Bolt
G19	Washer
G20	Quadrant
G21	Stud
G22	Ball Bearing
G23	Retaining Ring
G24	Gear (66T, 12P)
G25	Gear (127T, 12P)
G26	Ball Bearing
G27	Retaining Ring
G28	Gear (66T, 12P)
16" AND 20" METRIC END GEARING	
G29	Retaining Ring
G30	Ball Bearing
G31	Gear (45T, 12P)
G32	Gear (87T, 12P)
G33	Retaining Ring
G34	Ball Bearing
G35	Stud

INDEX NO.	PART NAME
G36	Washer
G37	Quadrant
G38	T-Bolt
G39	Retaining Ring
G40	Washer
G41	Gear (45T, 12P)
G42	Gear (30T, 12P)
G43	Bushing
G44	Gear (45T, 12P)
G45	Gear (60T, 12P)
G46	Collar
16" AND 20" REGULAR END GEARING	
G47	T-Bolt
G48	Quadrant
G49	Stud
G50	Ball Bearing
G51	Washer
G52	Gear (50T, 10P)
G53	Gear (75T, 10P)
G54	Gear (25T, 10P)
G55	Retaining Ring
G56	Ball Bearing
G57	Retaining Ring
16" AND 20" METRIC TRANSPOSING GEARS	
G58	Metric Trans. Gear (75T, 16P)
G59	Metric Trans. Gear (127T, 16P)
G60	Ball Bearing
G61	Retaining Ring
G62	Metric Trans. Gear (65T, 16P)
G63	Metric Trans. Gear (56T, 16P)
G64	Metric Trans. Gear (55T, 16P)
G65	Metric Trans. Gear (52T, 16P)
G66	Metric Trans. Gear (50T, 16P)
G67	Metric Trans. Gear (45T, 16P)
G68	Metric Trans. Gear (40T, 16P)
G69	Metric Trans. Gear (35T, 16P)

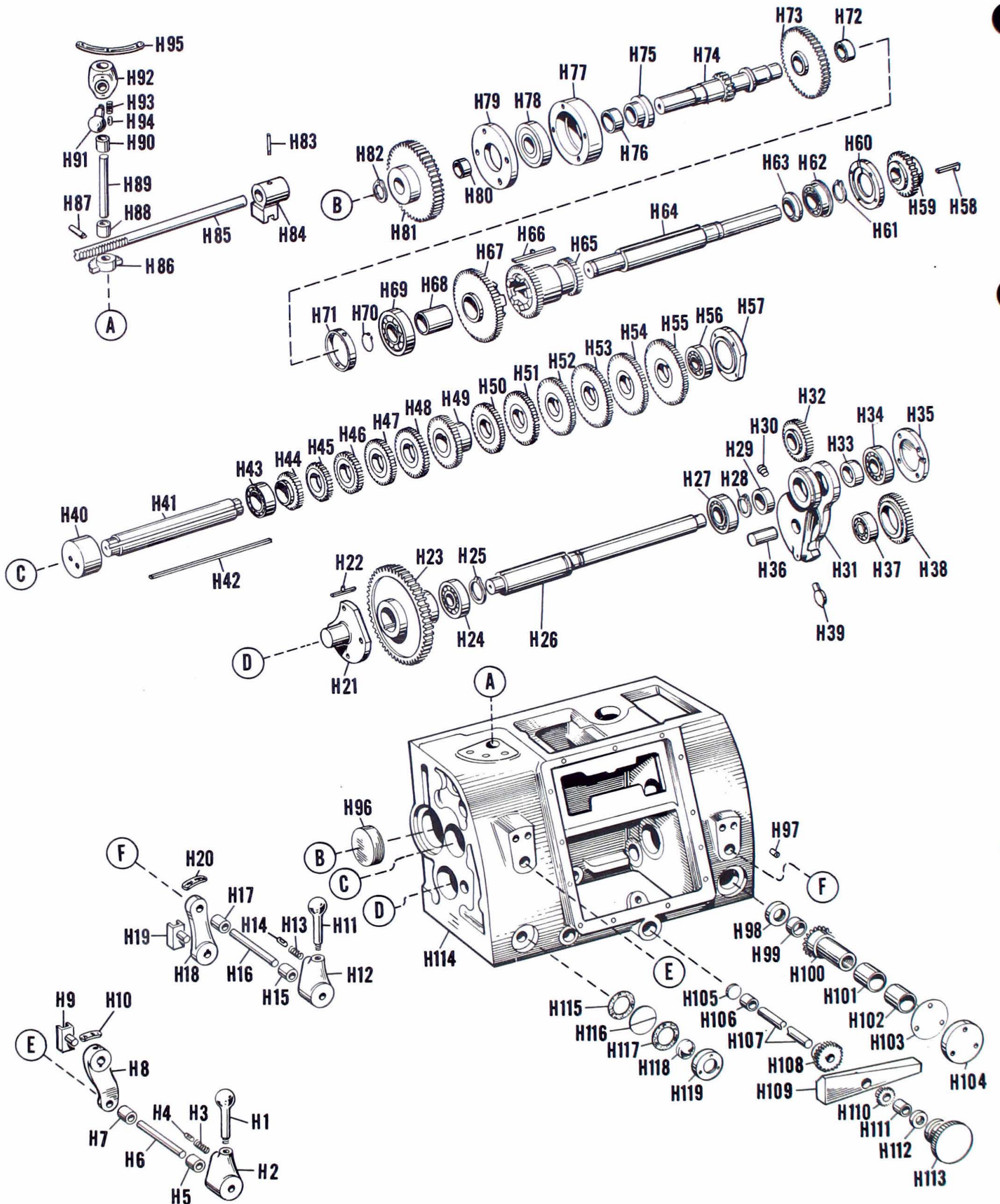


Figure H, 13" Gear Box (Both with and without Power Rapid Traverse)

Parts List for Figure H, 13" Gear Box (Both with
and without Power Rapid Traverse)

INDEX NO.	PART NAME
H1	Shifter Lever
H2	Shifter Lever Hub
H3	Shifter Lever Spring
H4	Plunger Pin
H5	Bushing
H6	Shaft
H7	Bushing
H8	Lever
H9	Shoe
H10	A-B Index Plate
H11	Shifter Lever
H12	Shifter Lever Hub
H13	Shifter Lever Spring
H14	Plunger Pin
H15	Bushing
H16	Shaft
H17	Bushing
H18	Lever
H19	Shoe
H20	Index Plate (Threads-Feeds)
H21	Plate
H22	Tit Key
H23	Gear (52T, 26T)
H24	Bearing
H25	Retaining Ring
H26	Tumbler Shaft
H27	Bearing
H28	Retaining Ring
H29	Bushing
H30	Button
H31	Tumbler
H32	Gear (32T)
H33	Bushing
H34	Bearing
H35	Bearing Cap
H36	Tumbler Idler Stud
H37	Bearing
H38	Tumbler Idler Gear (40T)
H39	Tumbler Stud
H40	Plug
H41	Cone Shaft
H42	Key
H43	Bearing
H44	Gear (32T)
H45	Gear (36T)
H46	Gear (38T)
H47	Gear (40T)
H48	Gear (44T)
H49	Gear (48T)
H50	Gear (46T)
H51	Gear (52T)
H52	Gear (54T)
H53	Gear (56T)
H54	Gear (60T)
H55	Gear (64T)
H56	Bearing
H57	Bearing Cap
H58	Key
H59	Slip Gear (30T)
H60	Bearing Cap

INDEX NO.	PART NAME
H61	Retaining Ring
H62	Bearing
H63	Collar
H64	Clutch Shaft
H65	Sliding Clutch Gear (48T, 32T)
H66	Tit Key
H67	Clutch Gear (64T)
H68	Oilite Bushing
H69	Bearing
H70	Retaining Ring
H71	Spacer
H72	Bearing
H73	Gear (52T)
H74	Compound Shaft (13T)
H75	Cam
H76	Spacer
H77	Bearing Retainer
H78	Bearing
H79	Bearing Cap
H80	Bushing
H81	Gear (50T)
H82	Retaining Ring
H83	Worm Lock Screw
H84	Shifter Fork
H85	Shifter Rack (16T)
H86	Gear Segment (32T)
H87	Key
H88	Bushing
H89	Shaft
H90	Bushing
H91	Shifter Lever
H92	Shifter Lever Hub
H93	Shifter Lever Spring
H94	Plunger Pin
H95	C-D-E Index Plate
H96	Plug
H97	Insert
H98	Oil Seal
H99	Oilite Bushing
H100	Sleeve Miter Gear (17T)
H101	Oilite Bushing
H102	Oilite Bushing
H103	Gasket
H104	Cap
H105	Plug
H106	Oilite Bushing
H107	Shaft
H108	Gear (26T)
H109	Cam Plate
H110	Bevel Gear (32T)
H111	Oilite Bushing
H112	Oil Seal
H113	Shifter Knob
H114	Gear Box
H115	Gasket
H116	Oil Indicator Plate
H117	Gasket
H118	Lucite Window
H119	Oil Gauge Housing

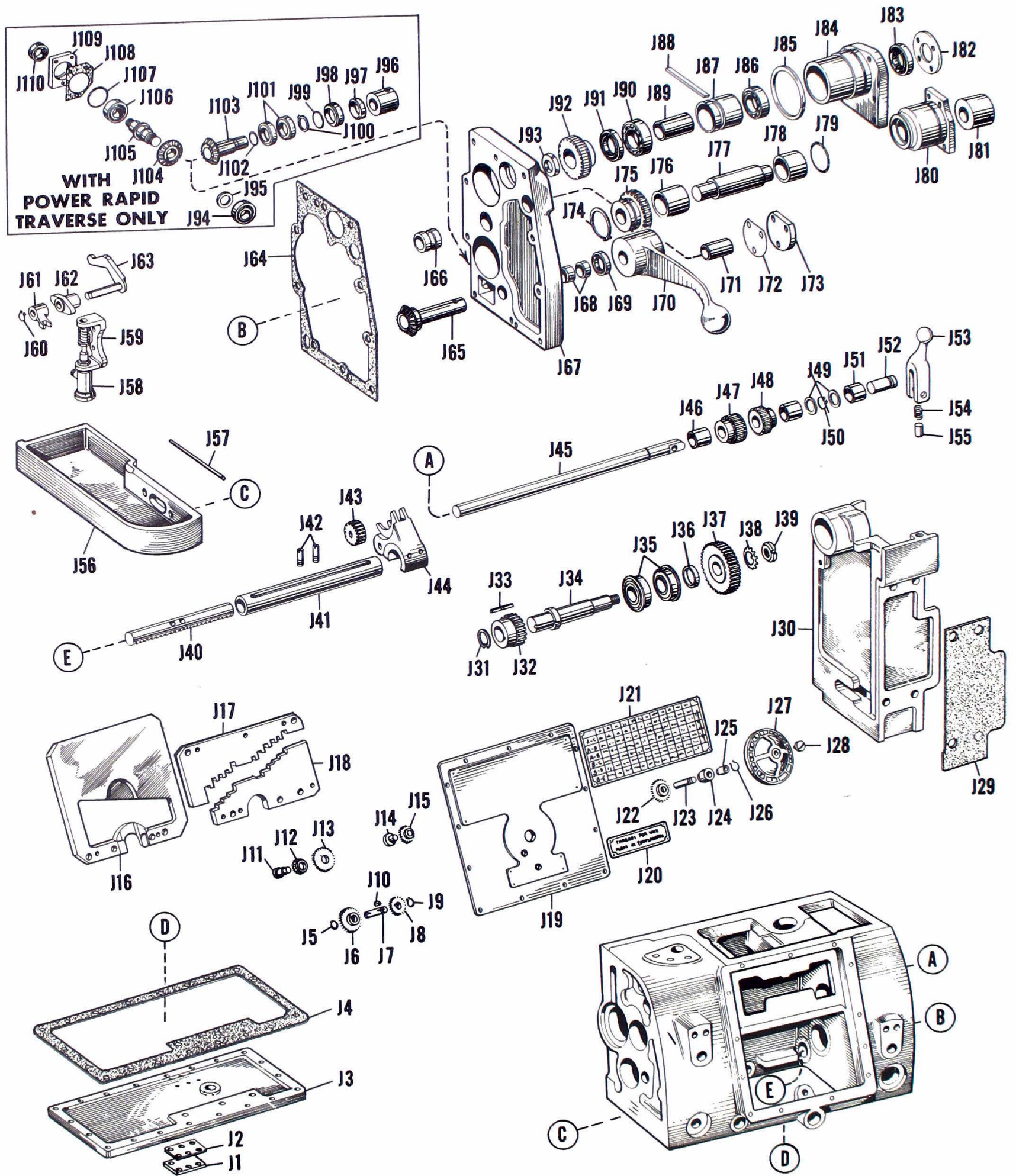


Figure J, 13" Gear Box (Both with and without Power Rapid Traverse)

Parts List for Figure J, 13" Gear Box (Both with
and without Power Rapid Traverse)

INDEX NO.	PART NAME
J1	Cover
J2	Gasket
J3	Cover
J4	Gasket
J5	Retaining Ring
J6	Bevel Pinion (46T)
J7	Shaft
J8	Gear (32T)
J9	Retaining Ring
J10	Key
J11	Gear Stud
J12	Gear (32T)
J13	Gear (53T)
J14	Stud
J15	Gear (32T)
J16	Rack Plate
J17	Tumbler Plate
J18	Tumbler Plate
J19	Cover
J20	Instruction Plate
J21	Index Plate
J22	Gear (45T)
J23	Shaft
J24	Bushing
J25	Bushing
J26	Retaining Ring
J27	Dial
J28	Screw
J29	Gasket
J30	End Gear Housing
J31	Retaining Ring
J32	Gear (25T)
J33	Key
J34	Shaft
J35	Bearing
J36	Spacer
J37	Gear
J38	Lockwasher
J39	Locknut
J40	Rack
J41	Sleeve
J42	Dowel Screw
J43	Gear (22T)
J44	Shifter
J45	Shaft
J46	Oilite Bushing
J47	Gear (24T)
J48	Gear (24T)
J49	Spacer
J50	Retaining Ring
J51	Oilite Bushing
J52	Stud
J53	Shifter Lever
J54	Spring
J55	Pin
J56	Sump
J57	Seal

INDEX NO.	PART NAME
J58	Pump
J59	Bracket
J60	Retaining Ring
J61	Pump Lever
J62	Flange Bearing
J63	Pump Lever
J64	Gasket
J65	Miter Gear (17T)
J66	Bushing
J67	Leadscrew Feed Rod Support
J68	Oilite Bushing
J69	Oil Seal
J70	Control Lever
J71	Oilite Bushing
J72	Gasket
J73	Cover
J74	Retaining Ring
J75	Gear
J76	Oilite Bushing
J77	Stud Shaft
J78	Oilite Bushing
J79	"O" Ring
J80	Feed Rod Bearing Housing
J81	Collar
J82	Oil Seal Retainer
J83	Oil Seal
J84	Leadscrew Bearing Housing
J85	"O" Ring
J86	Bearing
J87	Outer Bearing Spacer
J88	Oil Retainer (Felt)
J89	Inner Bearing Spacer
J90	Bearing
J91	Retaining Ring
J92	Gear
J93	Nut
WITH POWER RAPID TRAVERSE ONLY	
J94	Bearing
J95	Washer
J96	Coupling
J97	Oil Seal
J98	Retaining Ring
J99	"O" Ring
J100	Retaining Ring
J101	Bearing
J102	Washer
J103	Miter Gear
J104	Miter Gear
J105	Gear Shaft
J106	Bearing
J107	"O" Ring
J108	Gasket
J109	Retaining Plate
J110	Oil Seal

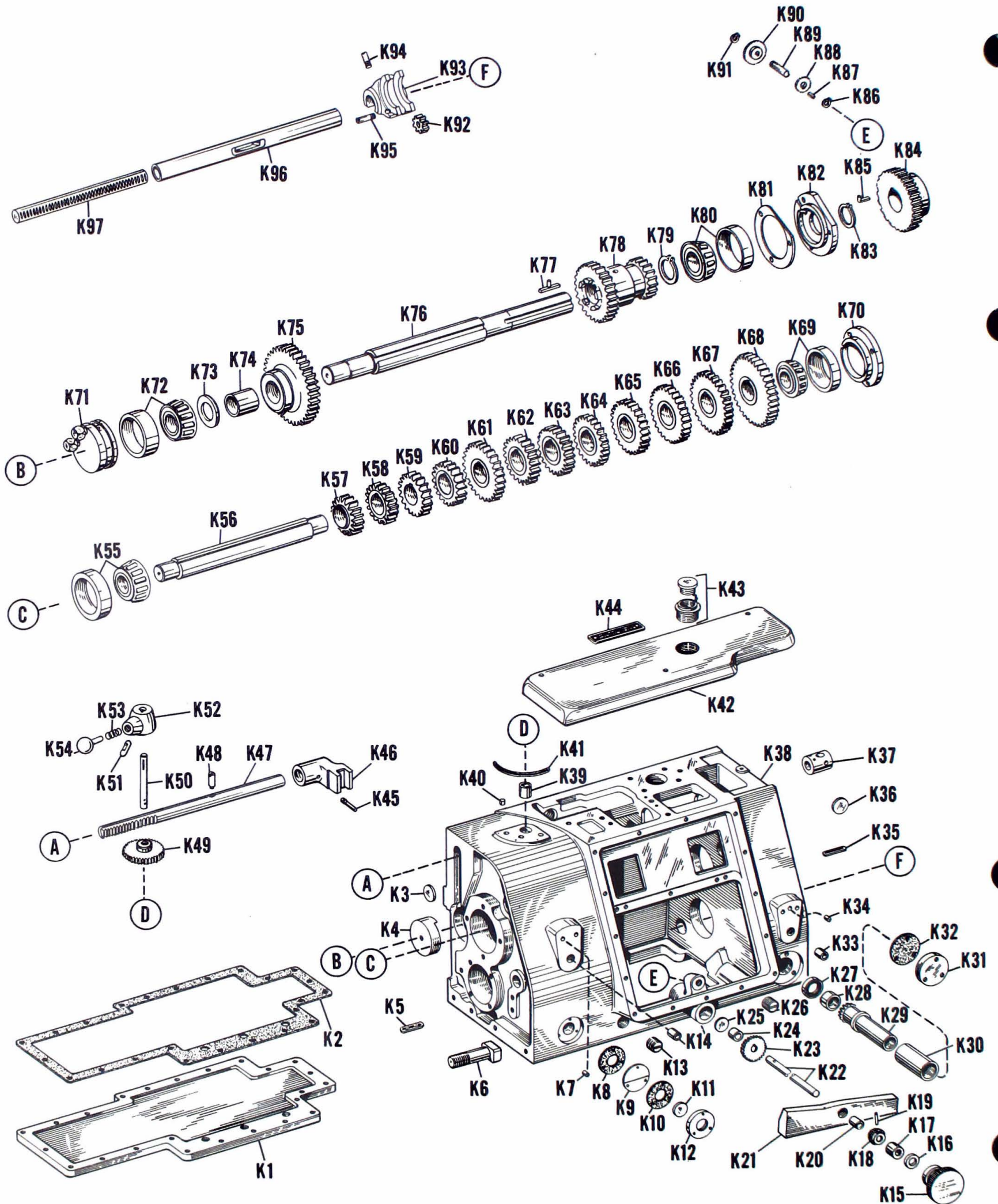


Figure K, 16" — 20" Gear Box (Both with and without Power Rapid Traverse)

Parts List for Figure K, 16" — 20" Gear Box (Both
with and without Power Rapid Traverse)

INDEX NO.	PART NAME
K1	Cover
K2	Gasket
K3	Expansion Plug
K4	Plug
K5	A-B Index Plate
K6	T-Bolt
K7	Insert
K8	Gasket
K9	Oil Indicator Plate
K10	Gasket
K11	Lucite Window
K12	Oil Gauge Housing
K13	Plug
K14	Oilite Bushing
K15	Shifter Knob
K16	Garlock Oil Seal
K17	Oilite Bushing
K18	Bevel Gear (32T)
K19	Threaded Dowel
K20	Oilite Bushing
K21	Cam Plate
K22	Shaft
K23	Bevel Gear
K24	Oilite Bushing
K25	Expansion Plug
K26	Plug
K27	Garlock Oil Seal
K28	Oilite Bushing
K29	Miter Gear
K30	Oilite Bushing
K31	Cap
K32	Gasket
K33	Oilite Bushing
K34	Insert
K35	Leadscrew and Feed Rod Plate
K36	Expansion Plug
K37	Oilite Fitting
K38	Gear Box
K39	Oilite Bushing
K40	Plug
K41	C-D-E Index Plate
K42	Cover
K43	Oiler Assembly
K44	Lubrication Plate
K45	Worm Lock Screw
K46	Shifter Fork
K47	Shaft Rack
K48	Key
K49	Gear (40T)

INDEX NO.	PART NAME
K50	Shaft
K51	Plunger Pin
K52	Shifter Lever Hub
K53	Shifter Lever Spring
K54	Shifter Lever
K55	Single Row Bearing
K56	Cone Shaft
K57	Cone Gear
K58	Cone Gear #2
K59	Cone Gear #3
K60	Cone Gear #4
K61	Cone Gear
K62	Cone Gear #6
K63	Cone Gear #7
K64	Cone Gear #8
K65	Cone Gear #9
K66	Cone Gear #10
K67	Cone Gear #11
K68	Cone Gear
K69	Single Row Bearing
K70	Bearing Cap
K71	Plug
K72	Single Row Bearing
K73	Collar
K74	Oilite Bushing
K75	Gear (36T)
K76	Clutch Shaft
K77	Key
K78	Gear (27T, 18T)
K79	Retaining Ring
K80	Single Row Bearing
K81	Shim
K82	Bearing Cap
K83	Retaining Ring
K84	Slip Gear
K85	Slip Gear Key
K86	Retaining Ring
K87	Key
K88	Bevel Gear (32T)
K89	Shaft
K90	Bevel Gear (47T)
K91	Retaining Ring
K92	Gear (8T)
K93	Shifter
K94	Dowel Screw
K95	Dowel Screw
K96	Sleeve
K97	Rack

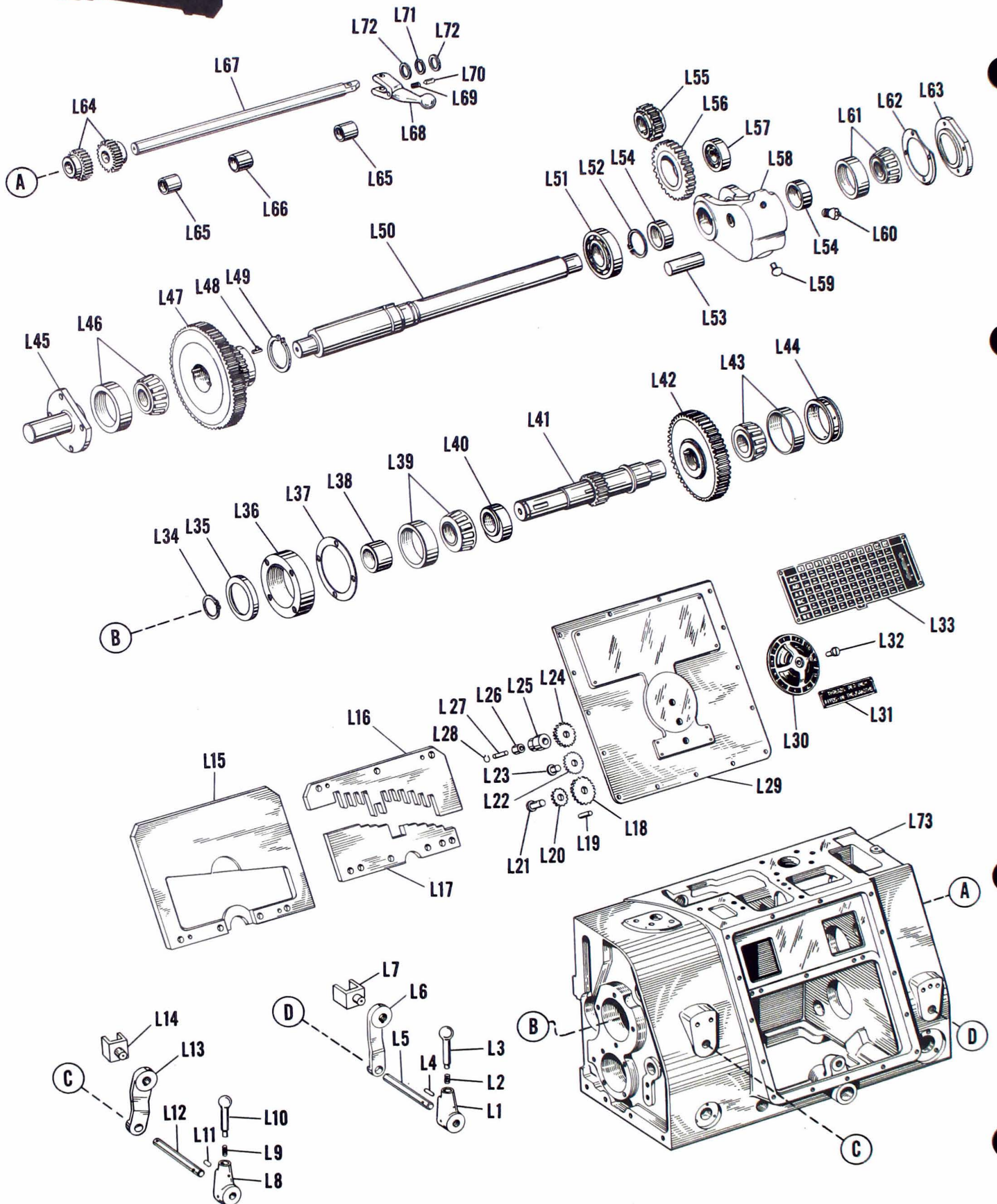


Figure L, 16" — 20" Gear Box (Both with and without Power Rapid Traverse)

Parts List for Figure L, 16" — 20" Gear Box (Both
with and without Power Rapid Traverse)

INDEX NO.	PART NAME
L1	Shifter Lever Hub
L2	Shifter Lever Spring
L3	Shifter Lever
L4	Plunger Pin
L5	Shaft
L6	Lever
L7	Slip Gear Shoe
L8	Shifter Lever Hub
L9	Shifter Lever Spring
L10	Shifter Lever
L11	Plunger Pin
L12	Shaft
L13	Lever
L14	Compound Shoe
L15	Rack Plate
L16	Tumbler Plate
L17	Tumbler Plate
L18	Gear (48T)
L19	Pin
L20	Gear (32T)
L21	Gear Stud
L22	Gear (42T)
L23	Stud
L24	Gear (44T)
L25	Bushing
L26	Oilite Bushing
L27	Shaft
L28	Retaining Ring
L29	Cover
L30	Dial
L31	Instruction Plate
L32	Screw
L33	Index Plate
L34	Retaining Ring
L35	Cup Deflector
L36	Bearing Retainer
L37	Shim

INDEX NO.	PART NAME
L38	Spacer
L39	Single Row Bearing
L40	Cam
L41	Compound Shaft
L42	Gear
L43	Single Row Bearing
L44	Bearing Spacer
L45	Cover Plate
L46	Single Row Bearing
L47	Gear
L48	Key
L49	Retaining Ring
L50	Tumbler Shaft
L51	Ball Bearing
L52	Retaining Ring
L53	Shaft
L54	Bushing
L55	Tumbler Gear
L56	Tumbler Idler Gear
L57	Ball Bearing
L58	Tumbler
L59	Button
L60	Tumbler Stud
L61	Single Row Bearing
L62	Shim
L63	Bearing Cap
L64	Gear (32T)
L65	Bushing
L66	Bushing
L67	Shaft
L68	Shifter Lever
L69	Spring
L70	Pin
L71	Retaining Ring
L72	Collar
L73	Gear Box

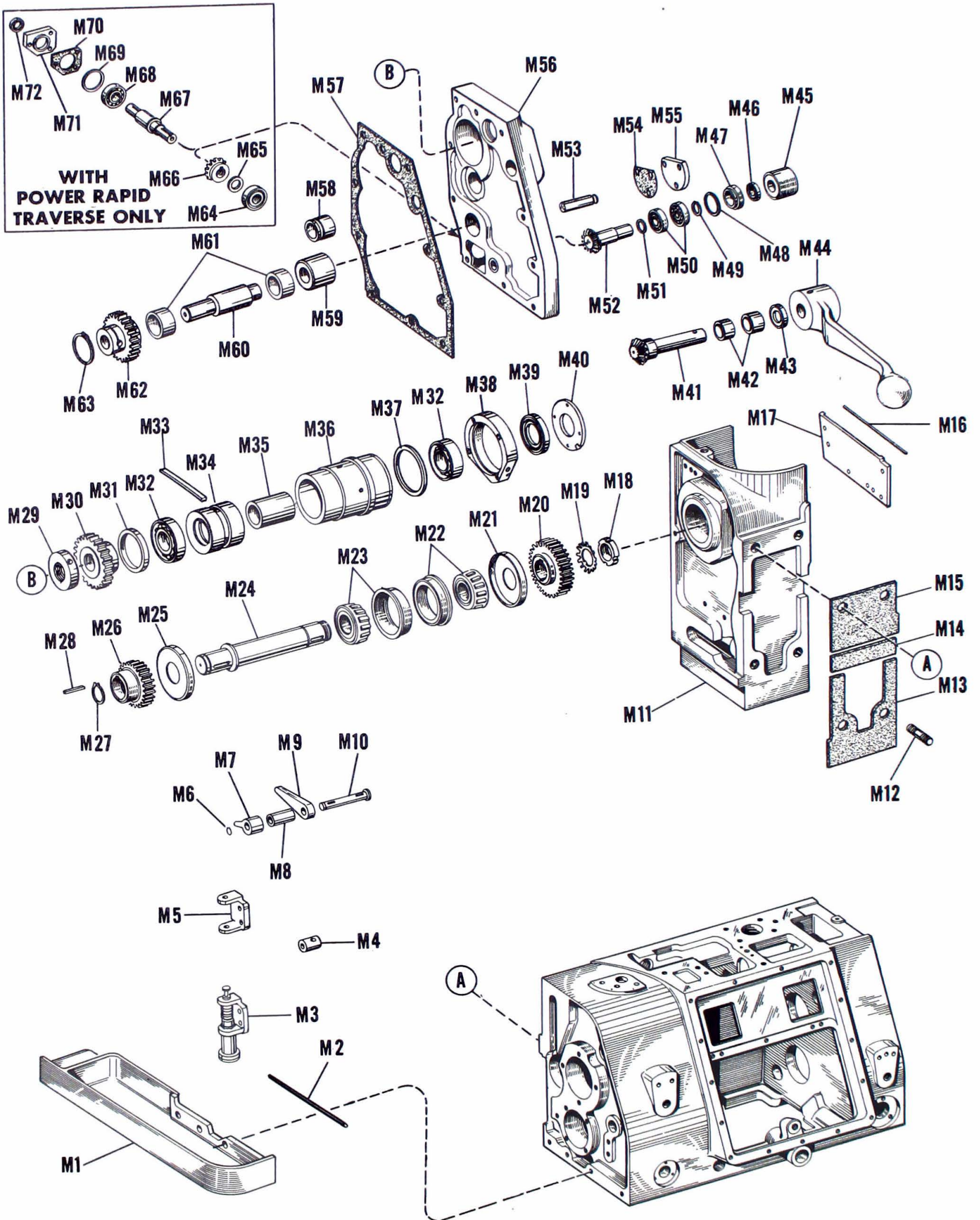


Figure M, 16" — 20" Gear Box (Both with and without Power Rapid Traverse)

**Parts List for Figure M, 16" — 20" Gear Box (Both
with and without Power Rapid Traverse)**

INDEX NO.	PART NAME
M1	Sump
M2	Sealing Element
M3	Lubricator Pump
M4	Oil Fitting
M5	Oil Pump Bracket
M6	Retaining Ring
M7	Pump Lever
M8	Bushing
M9	Pump Lever
M10	Shaft
M11	End Gear Housing
M12	Stud
M13	Gasket
M14	Gasket
M15	Gasket
M16	Sealing Element
M17	Guard
M18	Locknut
M19	Lock Washer
M20	Gear
M21	Oil Deflector
M22	Single Row Bearing
M23	Single Row Bearing
M24	Shaft
M25	Oil Deflector
M26	Gear
M27	Retaining Ring
M28	Key
M29	Nut
M30	Gear
M31	Retainer Ring
M32	Bearing Assembly (Leadscrew)
M33	Oil Retainer (Felt)
M34	Outer Spacer
M35	Inner Spacer
M36	Bearing Housing
M37	Linear "O" Ring
M38	Cap

INDEX NO.	PART NAME
M39	Garlock Closure
M40	Leadscrew Bearing Housing Cap
M41	Miter Gear
M42	Bushings
M43	Oil Seal
M44	Lever
M45	Coupling
M46	Garlock Oil Seal
M47	Retaining Ring
M48	Linear "O" Ring
M49	Retaining Ring
M50	Bearing
M51	Washer
M52	Miter Gear
M53	Lever Locating Stud
M54	Gasket
M55	Cover
M56	Leadscrew and Feed Rod Support
M57	Gasket
M58	Bushing
M59	Collar
M60	Stub Shaft
M61	Oilite Bushing
M62	Gear
M63	Retaining Ring
WITH POWER RAPID TRAVERSE ONLY	
M64	Bearing
M65	Washer
M66	Miter Gear
M67	Gear Shaft
M68	Bearing
M69	Linear "O" Ring
M70	Shim
M71	Retaining Plate
M72	Garlock Oil Seal

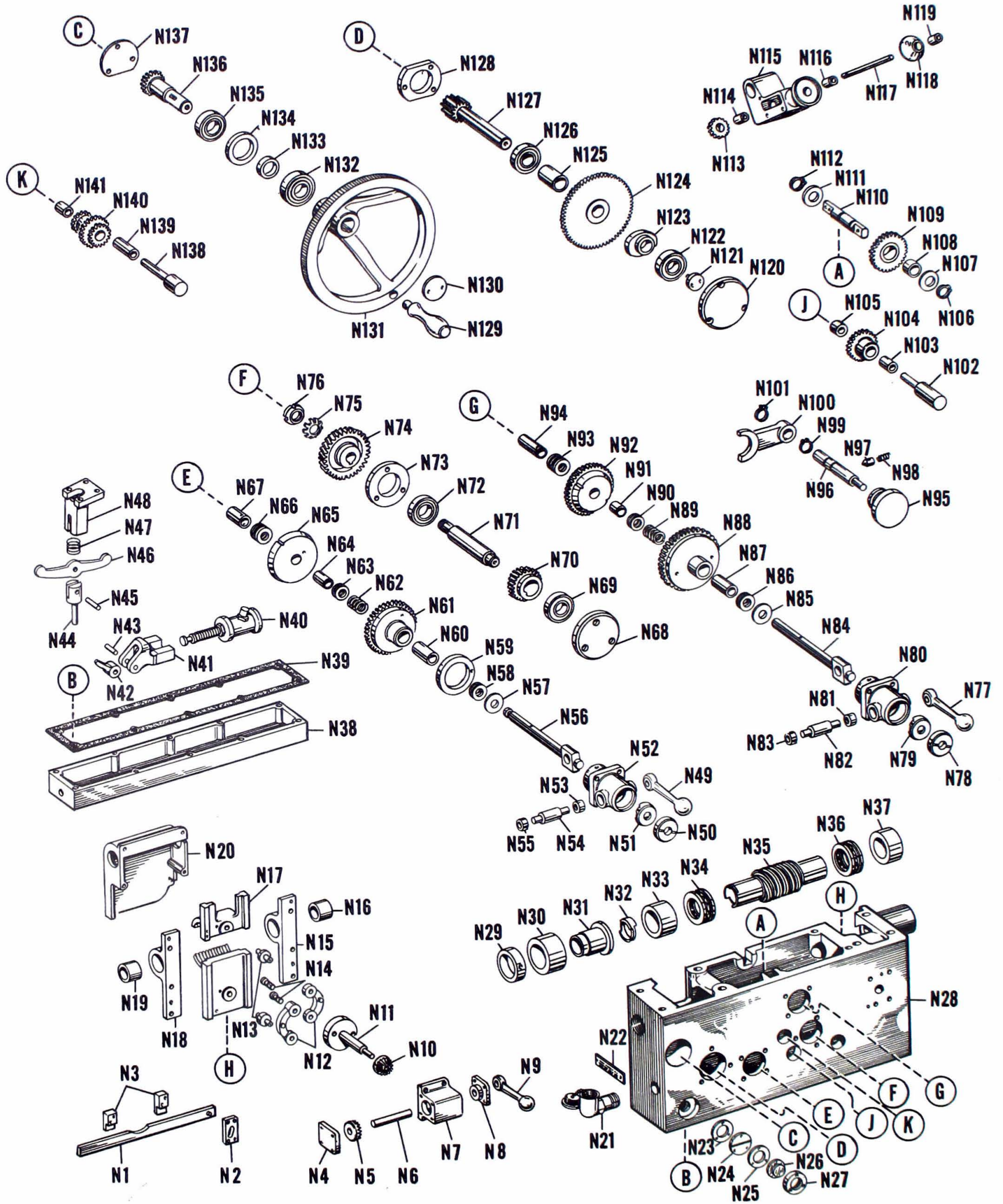


Figure N, 13" Plain Apron

Parts List for Figure N, 13" Plain Apron

INDEX NO.	PART NAME
N1	Lock Bar
N2	Interlock Guide
N3	Bar Guide
N4	Housing Cap
N5	Miter Gear
N6	Half Nut Lever Shaft
N7	Half Nut Lever Housing
N8	Housing Cap
N9	Shifter Lever
N10	Miter Gear
N11	Shaft
N12	Half Nut Link
N13	Stud
N14	Stud
N15	Half Nut Gib - R. H.
N16	Bushing
N17	Half Nut
N18	Half Nut Gib - L. H.
N19	Bushing
N20	Guard
N21	Oil Filler
N22	Oil Instruction Plate
N23	Gasket
N24	Oil Indicator Plate
N25	Gasket
N26	Lucite Window
N27	Oil Indicator Housing
N28	Apron
N29	Collar
N30	Bushing
N31	Driver
N32	Driver Plate
N33	Bushing
N34	Thrust Bearing
N35	Worm
N36	Thrust Bearing
N37	Bushing
N38	Pump Housing
N39	Gasket
N40	Lubrication Pump
N41	Pump Bracket
N42	Pump Lever
N43	Pump Lever Pin
N44	Cam Follower Plunger
N45	Cam Follower Pin
N46	Pump Cam Follower
N47	Plunger Spring
N48	Cam Follower Bracket
N49	Friction Handle
N50	Friction Stem Nut
N51	Cam Washer
N52	Front Friction Cap
N53	Cam Bushing
N54	Cam
N55	Cam Bushing
N56	Longitudinal Friction Shaft
N57	Bearing Retainer
N58	Thrust Bearing
N59	Pump Cam
N60	Friction Stem Bushing
N61	Friction Disc Gear
N62	Friction Spring
N63	Thrust Bearing
N64	Oilite Bushing
N65	Friction Disc Assembly (Gear, Disc and Bush)
N66	Thrust Bearing
N67	Bushing
N68	Cover
N69	Bearing
N70	Gear
N71	Wormwheel Shaft

INDEX NO.	PART NAME
N72	Bearing
N73	Cover
N74	Wormwheel
N75	Lockwasher
N76	Lock Nut
N77	Friction Handle
N78	Friction Stem Nut
N79	Cam Washer
N80	Front Friction Cap
N81	Cam Bushing
N82	Cam
N83	Cam Bushing
N84	Cross Feed Friction Shaft
N85	Bearing Retainer
N86	Thrust Bearing
N87	Friction Stem Bushing
N88	Friction Disc Gear
N89	Friction Spring
N90	Thrust Bearing
N91	Oilite Bushing
N92	Friction Disc Assembly (Gear, Disc and Bush)
N93	Thrust Bearing
N94	Bushing
N95	Knob
N96	Feed Reverse Shifter Shaft
N97	Plunger
N98	Cam Spring
N99	Retaining Ring
N100	Shifter Yoke
N101	Retaining Ring
N102	Idler Gear Shaft
N103	Oilite Bushing
N104	Gear
N105	Bushing
N106	Retaining Ring
N107	Spacer
N108	Bushing
N109	Gear
N110	Shaft
N111	Spacer
N112	Retaining Ring
N113	Chasing Dial Worm Gear
N114	Bushing
N115	Chasing Dial Housing
N116	Bushing
N117	Shaft
N118	Chasing Dial
N119	Bushing
N120	Cap
N121	Bearing Retaining Screw
N122	Bearing
N123	Cam
N124	Gear
N125	Spacer
N126	Seal Bearing
N127	Rack Pinion
N128	Cap
N129	Handle (Revolving)
N130	Shoulder Screw
N131	Handwheel
N132	Seal Bearing
N133	Spacer
N134	Spacer
N135	Bearing
N136	Gear
N137	Cover
N138	Gear Shaft
N139	Oilite Bushing
N140	Gear
N141	Bushing

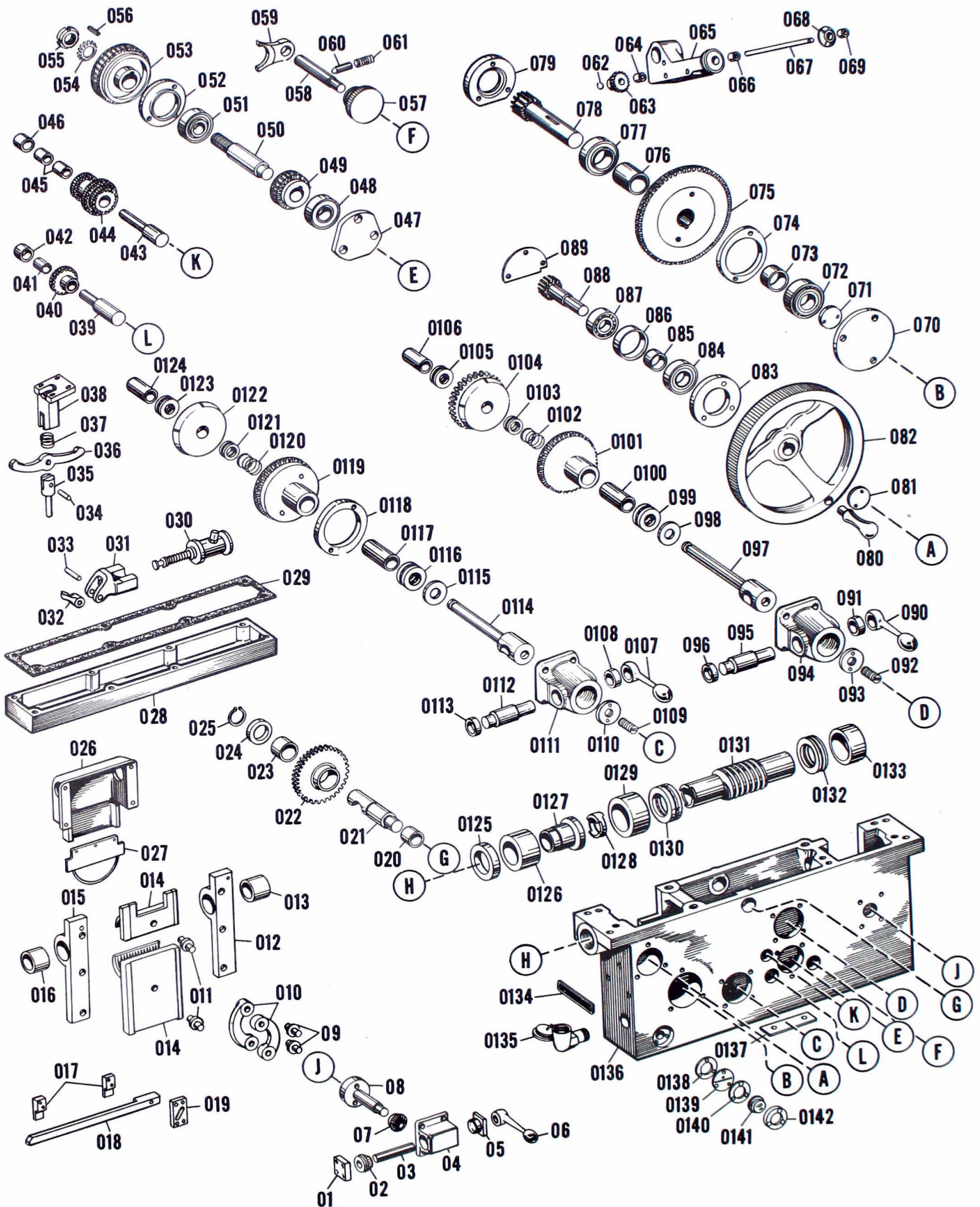


Figure O, 16" — 20" Plain Apron

Parts List for Figure O, 16" — 20" Plain Apron

INDEX NO.	PART NAME
O1	Housing Cap - L. H.
O2	Miter Gear
O3	Half Nut Lever Shaft
O4	Half Nut Lever Housing
O5	Housing Cap - R. H.
O6	Lever
O7	Miter Gear
O8	Shaft
O9	Stud
O10	Half Nut Link
O11	Stud
O12	Half Nut Gib - L. H.
O13	Bushing
O14	Half Nut
O15	Half Nut Gib - R. H.
O16	Bushing
O17	Bar Guide
O18	Lock Bar
O19	Interlock Guide
O20	Bushing
O21	Shaft
O22	Gear
O23	Oilite Bushing
O24	Washer
O25	Retaining Ring
O26	Guard
O27	Guard
O28	Pump Housing
O29	Gasket
O30	Oil Pump
O31	Oil Pump Bracket
O32	Pump Lever
O33	Pump Lever Pin
O34	Cam Follower Pin
O35	Cam Follower Plunger
O36	Pump Cam Follower
O37	Plunger Spring
O38	Cam Follower Bracket
O39	Gear Shaft
O40	Gear
O41	Bushing
O42	Bushing
O43	Gear Shaft
O44	Gear
O45	Bushing
O46	Bushing
O47	Cover
O48	Bearing
O49	Gear
O50	Wormwheel Shaft
O51	Seal Bearing
O52	Cap
O53	Wormwheel
O54	Lockwasher
O55	Locknut
O56	Key
O57	Shifter Knob
O58	Feed Reverse Shifter Shaft
O59	Shifter Yoke
O60	Plunger
O61	Spring
O62	Retaining Ring
O63	Gear
O64	Oilite Bushing
O65	Chasing Dial Housing
O66	Oilite Bushing
O67	Shaft
O68	Chasing Dial Head
O69	Bushing
O70	Cap
O71	Cross Feed Shoulder Screw
O72	Bearing

INDEX NO.	PART NAME
O73	Spacer
O74	Cam
O75	Gear
O76	Spacer
O77	Seal Bearing
O78	Rack Pinion
O79	Cap
O80	Handwheel Handle
O81	Cross Feed Shoulder Screw
O82	Handwheel
O83	Cover
O84	Bearing
O85	Spacer
O86	Spacer
O87	Bearing
O88	Handwheel Pinion Shaft
O89	Cover
O90	Lever
O91	Bushing
O92	Cam Stud
O93	Lock Nut
O94	Front Friction Cap
O95	Cam
O96	Bushing
O97	Cross Feed Friction Shaft
O98	Bearing Retainer
O99	Thrust Bearing
O100	Bushing
O101	Friction Disc Gear
O102	Friction Spring
O103	Spring Thrust Bearing
O104	Gear and Disc Assembly
O105	Thrust Bearing
O106	Bushing
O107	Lever
O108	Bushing
O109	Cam Stud
O110	Lock Nut
O111	Front Friction Cap
O112	Cam
O113	Bushing
O114	Longitudinal Friction Stem
O115	Bearing Retainer
O116	Thrust Bearing
O117	Bushing
O118	Cam
O119	Friction Disc Gear
O120	Friction Spring
O121	Spring Thrust Bearing
O122	Friction Disc and Gear Assembly
O123	Thrust Bearing
O124	Bushing
O125	Collar
O126	Bushing
O127	Driver
O128	Drive Plate
O129	Bushing
O130	Thrust Bearing
O131	Worm
O132	Thrust Bearing
O133	Bushing
O134	Instruction Plate
O135	Oil Filler
O136	Apron
O137	Spacer Block
O138	Gasket
O139	Oil Indicator Plate
O140	Gasket
O141	Lucite Window
O142	Oil Gauge Housing

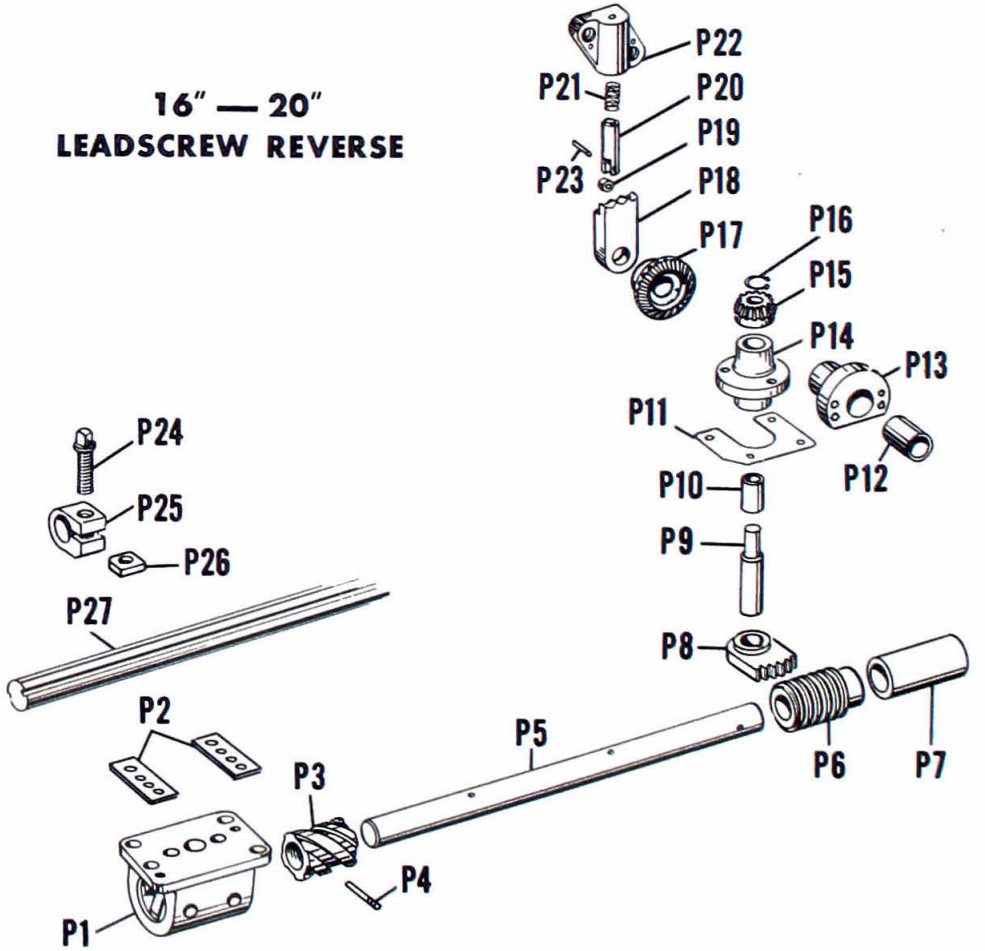
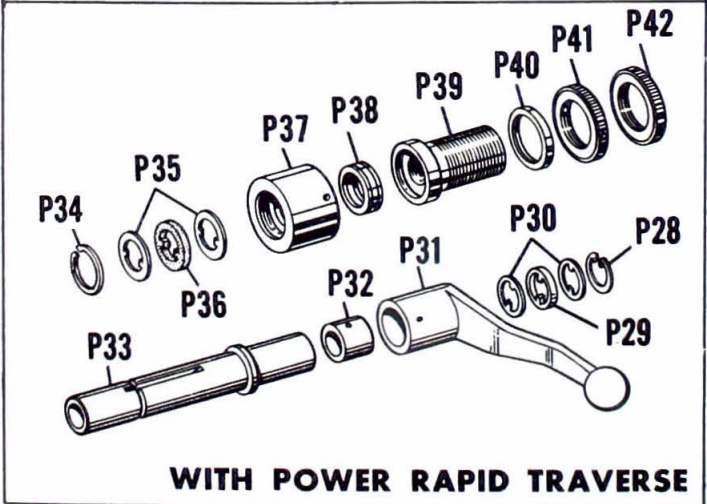
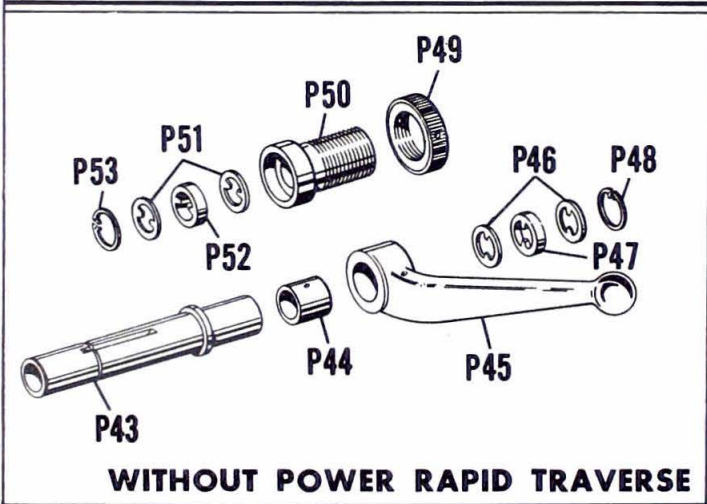
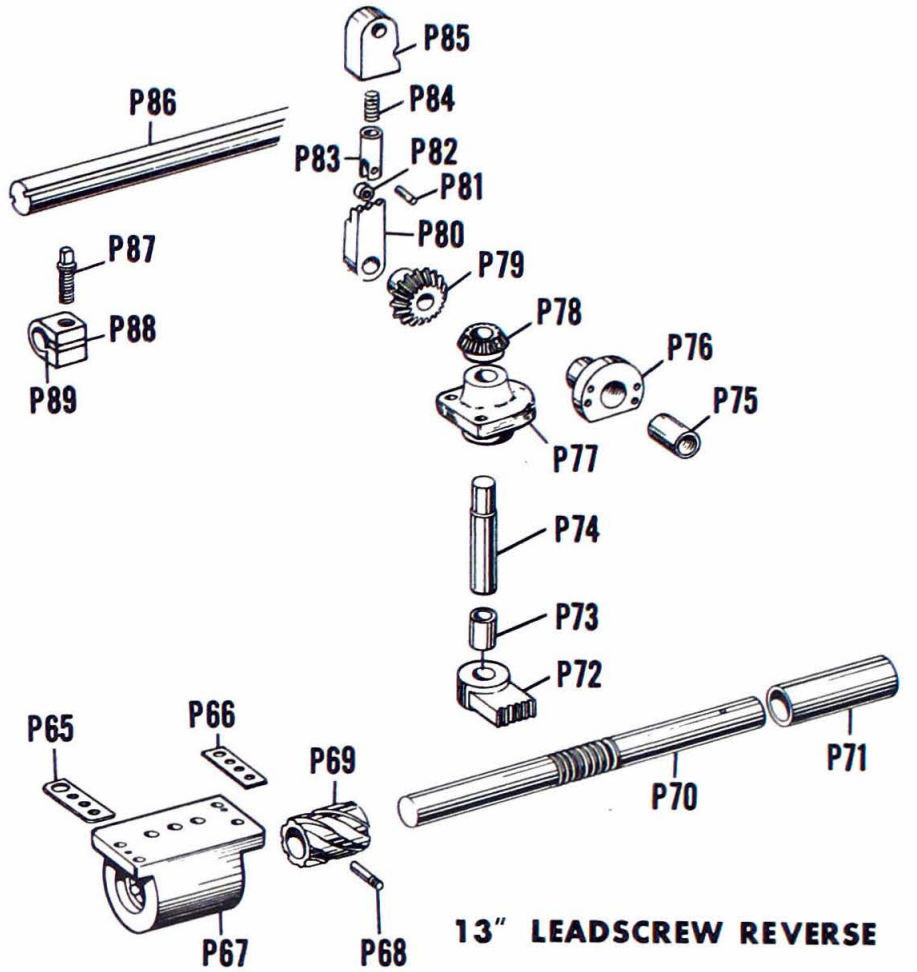
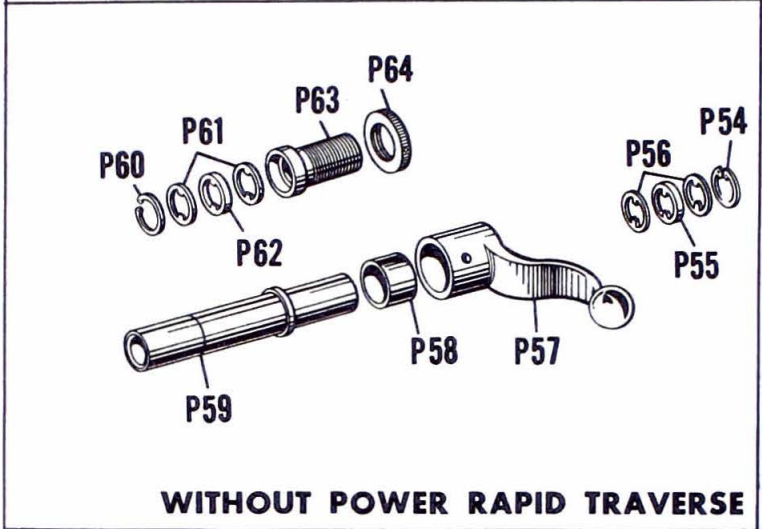
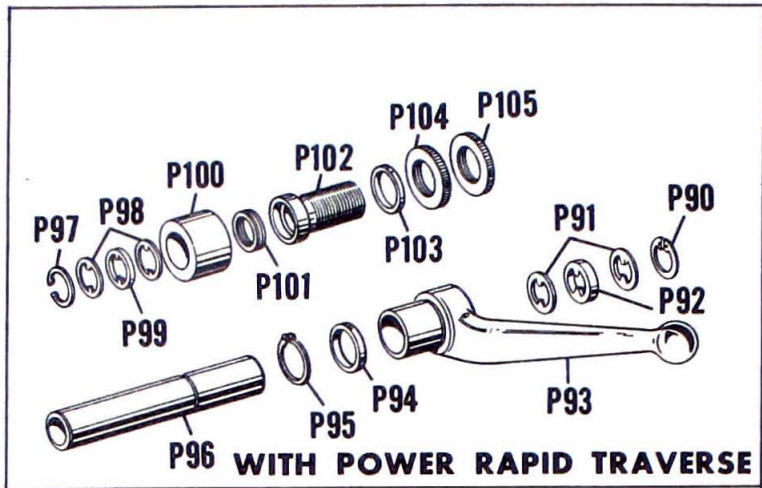


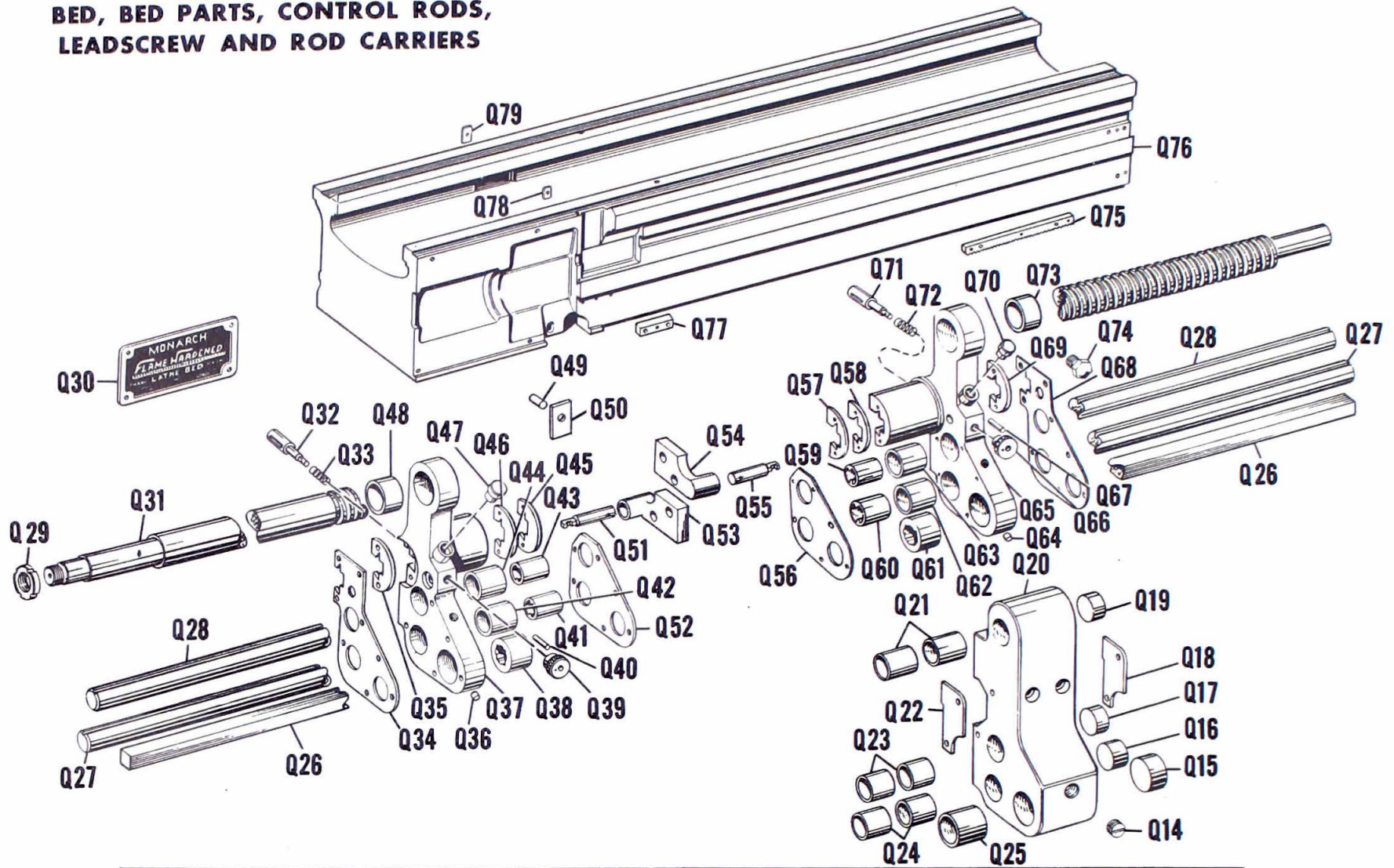
Figure P, 13" Apron Leadscrew Reverse and 16" — 20" Apron Leadscrew Reverse

**Parts List for Figure P, 13" Apron Leadscrew Reverse
and 16" — 20" Apron Leadscrew Reverse**

INDEX NO.	PART NAME
LEADSCREW REVERSE	
P1	Nut
P2	Shim
P3	Worm
P4	Worm Lock Screw
P5	Reverse Rod
P6	Reverse Rod Rack
P7	Reverse Rod Coupling
P8	Reverse Segment
P9	Segment Shaft
P10	Bushing
P11	Shim
P12	Oilite Bushing
P13	Bushing
P14	Bevel Gear Bracket
P15	Bevel Gear
P16	Retaining Ring
P17	Large Bevel Gear
P18	Index Sector
P19	Roller
P20	Plunger
P21	Detent Spring
P22	Detent Case
P23	Roller Shaft
P24	Clamp Bolt
P25	Safety Collar
P26	Safety Key
P27	Leadscrew Reverse Rod
WITH POWER RAPID TRAVERSE	
P28	Retaining Ring
P29	Wiper
P30	Wiper Plate
P31	Lever
P32	Reverse Control Sleeve Bushing
P33	Reverse Control Sleeve
P34	Retaining Ring
P35	Wiper Plate
P36	Wiper
P37	Thrust Collar
P38	Thrust Bearing
P39	Reverse Rod Adjusting Sleeve
P40	Retaining Ring
P41	Reverse Rod Adjusting Nut
P42	Reverse Rod Lock Nut
WITHOUT POWER RAPID TRAVERSE	
P43	Reverse Control Sleeve
P44	Reverse Control Sleeve Bushing
P45	Lever
P46	Wiper Plate
P47	Wiper
P48	Retaining Ring
P49	Reverse Rod Adjusting Nut
P50	Reverse Rod Adjusting Sleeve
P51	Wiper Plate
P52	Wiper
P53	Retaining Ring

INDEX NO.	PART NAME
WITHOUT POWER RAPID TRAVERSE	
P54	Retaining Ring
P55	Wiper
P56	Wiper Plate
P57	Lever
P58	Reverse Control Sleeve Bushing
P59	Reverse Control Sleeve
P60	Retaining Ring
P61	Wiper Plate
P62	Wiper
P63	Reverse Rod Adjusting Sleeve
P64	Reverse Rod Adjusting Nut
LEADSCREW REVERSE	
P65	Shim
P66	Shim
P67	Nut
P68	Worm Lock Screw
P69	Worm
P70	Reverse Rod Rack
P71	Reverse Rod Sleeve
P72	Reverse Segment
P73	Oilite Bushing
P74	Bevel Pinion Shaft
P75	Oilite Bushing
P76	Bushing
P77	Reverse Segment Bracket
P78	Bevel Pinion
P79	Bevel Gear
P80	Index Sector
P81	Roller Shaft
P82	Roller
P83	Plunger
P84	Detent Spring
P85	Detent Case
P86	Leadscrew Reverse Rod
P87	Clamp Bolt
P88	Safety Key
P89	Safety Collar
WITH POWER RAPID TRAVERSE	
P90	Retaining Ring
P91	Wiper Plate
P92	Wiper
P93	Lever
P94	Reverse Control Sleeve Bushing
P95	Retaining Ring
P96	Reverse Control Sleeve
P97	Retaining Ring
P98	Wiper Plate
P99	Wiper
P100	Thrust Collar
P101	Thrust Bearing
P102	Reverse Rod Adjusting Sleeve
P103	Retaining Ring
P104	Reverse Rod Adjusting Nut
P105	Reverse Rod Lock Nut

BED, BED PARTS, CONTROL RODS, LEADSCREW AND ROD CARRIERS



ELECTRICAL PARTS

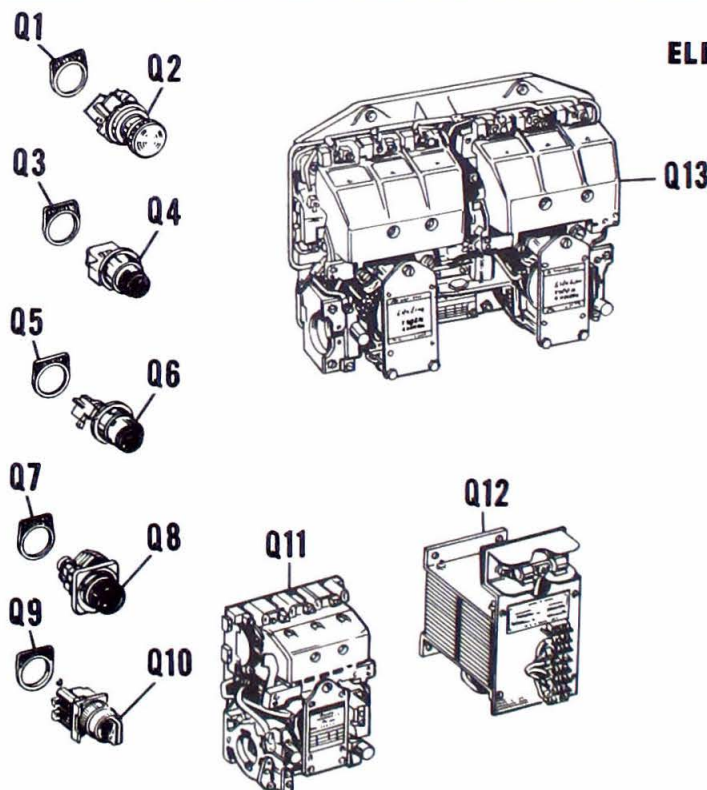


Figure Q, Bed, Bed Parts, Control Rods, Leadscrew, Rod Carriers and Electrical Parts

Parts list for Figure Q, Bed, Bed Parts, Control Rods,
Leadscrew, Rod Carriers and Electrical Parts

INDEX NO.	PART NAME
ELECTRICAL PARTS	
Q1	Legend Plate
Q2	Push Button (Mushroom Head)
Q3	Legend Plate
Q4	Push Button
Q5	Legend Plate
Q6	Push Button
Q7	Legend Plate
Q8	Pilot Light
Q9	Legend Plate
Q10	Selector Switch
Q11	Non-Reversing Starter
Q12	Transformer
Q13	Reversing Starter
BED, BED PARTS, CONTROL RODS, LEADSCREW AND ROD CARRIERS	
Q14	Threaded Plug
Q15	Plug
Q16	Plug
Q17	Plug
Q18	Cover Plate
Q19	Plug
Q20	Rear Leadscrew Box
Q21	Bushing
Q22	Cover Plate
Q23	Bushing
Q24	Bushing
Q25	Control Rod Bushing
Q26	Control Rod
Q27	Traverse Rod
Q28	Feed Rod
Q29	Nut
Q30	Name Plate
Q31	Leadscrew
Q32	Plunger
Q33	Spring
Q34	Plate
Q35	Wiper
Q36	Hydraulic Plug
Q37	Rod Support (Headstock - L. H.)

INDEX NO.	PART NAME
Q38	Bushing
Q39	Knob
Q40	Pin
Q41	Sleeve
Q42	Bushing
Q43	Sleeve
Q44	Bushing
Q45	Wiper Plate
Q46	Wiper
Q47	Oil Hole Cover
Q48	Bushing
Q49	Dowel Pin
Q50	Wear Block
Q51	Latch - L. H.
Q52	Plate
Q53	Bracket - L. H.
Q54	Bracket - R. H.
Q55	Latch - R. H.
Q56	Plate
Q57	Wiper Plate
Q58	Wiper
Q59	Sleeve
Q60	Sleeve
Q61	Bushing
Q62	Bushing
Q63	Bushing
Q64	Hydraulic Plug
Q65	Rod Support (Tailstock - R. H.)
Q66	Knob
Q67	Pin
Q68	Plate
Q69	Wiper
Q70	Oil Hole Cover
Q71	Plunger
Q72	Spring
Q73	Bushing
Q74	Button
Q75	Rack
Q76	Bed
Q77	Block
Q78	Filler Plate (Front)
Q79	Filler Plate (Rear)

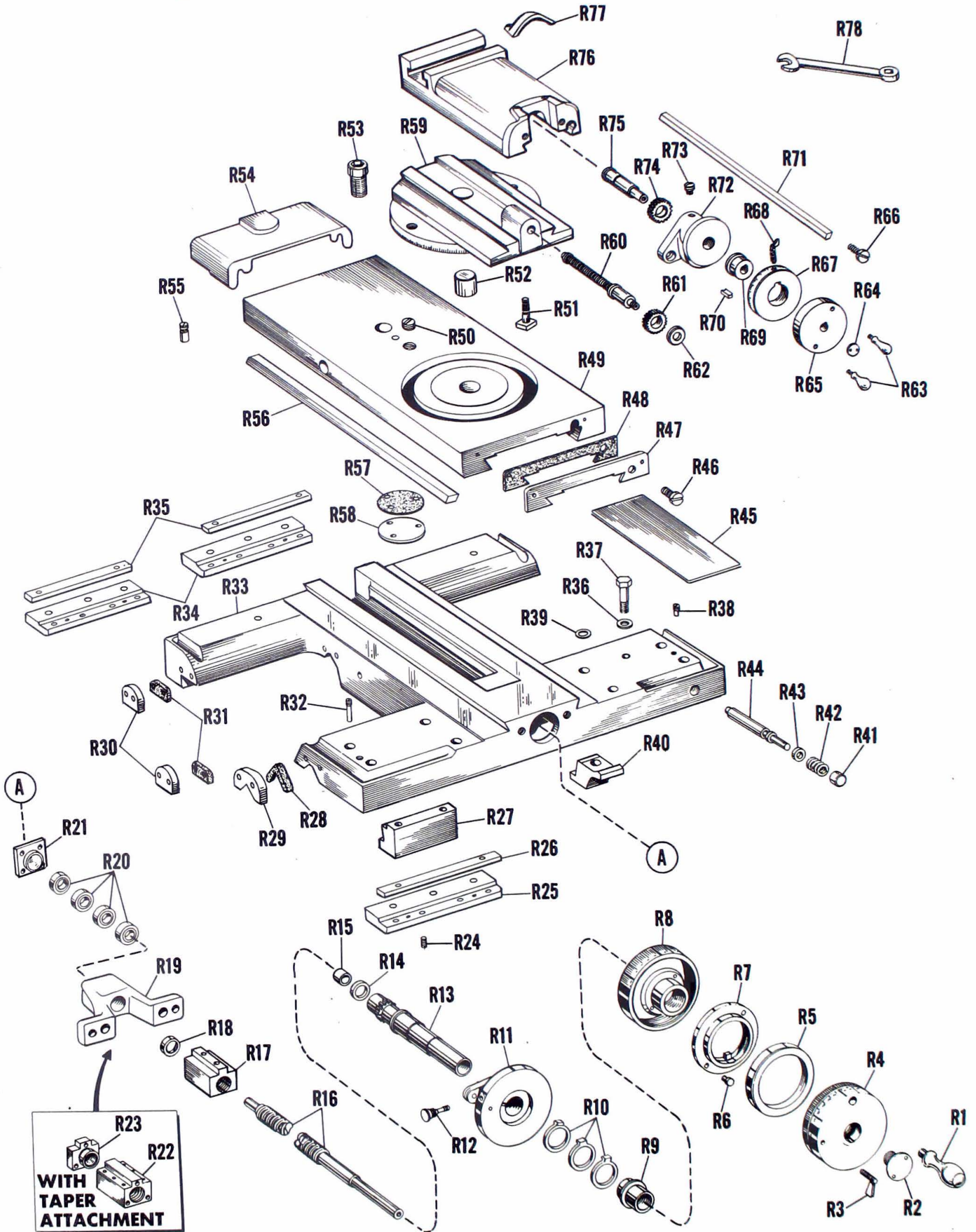


Figure R, Carriage, Cross Feed Screw, Cross Slide and Compound Rest

**Parts List for Figure R, Cross Feed Screw, Carriage,
Cross Slide and Compound Rest**

INDEX NO.	PART NAME
R1	Balcrank Handle
R2	Cross Feed Shoulder Screw
R3	Lock Screw Assembly
R4	Cross Feed Knob
R5	Dial Lock Ring
R6	Micrometer Dial Lock Button
R7	Cross Feed Dial Disc
R8	Cross Feed Micrometer Dial
R9	Dial Bushing
R10	Lock Collar Assembly
R11	Cross Feed Screw Bushing
R12	Stop Screw
R13	Cross Feed Screw Sleeve Gear
R14	Garlock Closure
R15	Bushing
R16	Cross Feed Screw
R17	Cross Feed Screw Nut
R18	Oil Seal
R19	Bracket (Without Taper)
R20	Bearings
R21	Bearing Cap (Without Taper)
R22	Bearing Housing (With Taper Only)
R23	Bearing Cap (With Taper Only)
R24	Bridge Clamp Gib Screw
R25	Carriage Clamp
R26	Clamp Gib
R27	Carriage Clamp - L. H.
R28	Vee Wiper
R29	Vee Wiper Case
R30	Flat Wiper Case
R31	Flat Wiper
R32	Dowel
R33	Carriage
R34	Carriage Clamp
R35	Clamp Gib
R36	Washer
R37	Hex. Head Cap Screw
R38	Threaded Dowel

INDEX NO.	PART NAME
R39	Copper Washer
R40	Binder Clamp
R41	Plunger Head
R42	Compression Spring
R43	Collar
R44	Plunger
R45	Dust Plate
R46	Gib Screw
R47	Bottom Slide Wiper Case
R48	Bottom Slide Wiper
R49	Bottom Slide
R50	Clamp Hold Plug
R51	Swivel Bolt
R52	Swivel Pin
R53	Socket Head Cap Screw
R54	Dust Cover
R55	Cross Feed Nut Lock Screw
R56	Bottom Slide Gib
R57	Drain Cover Gasket
R58	Drain Cover
R59	Swivel
R60	Compound Screw
R61	Compound Gear
R62	Compound Screw Washer
R63	Machine Handles
R64	Crank Retaining Screw
R65	Compound Knob
R66	Gib Screw
R67	Compound Dial
R68	Lock Screw Assembly
R69	Compound Dial Bushing
R70	Key
R71	Top Slide Gib
R72	Compound Bushing
R73	Gits Oil Hole Cover
R74	Compound Gear
R75	Compound Gear Stud
R76	Top Slide
R77	Compound Gear Cover
R78	Wrench

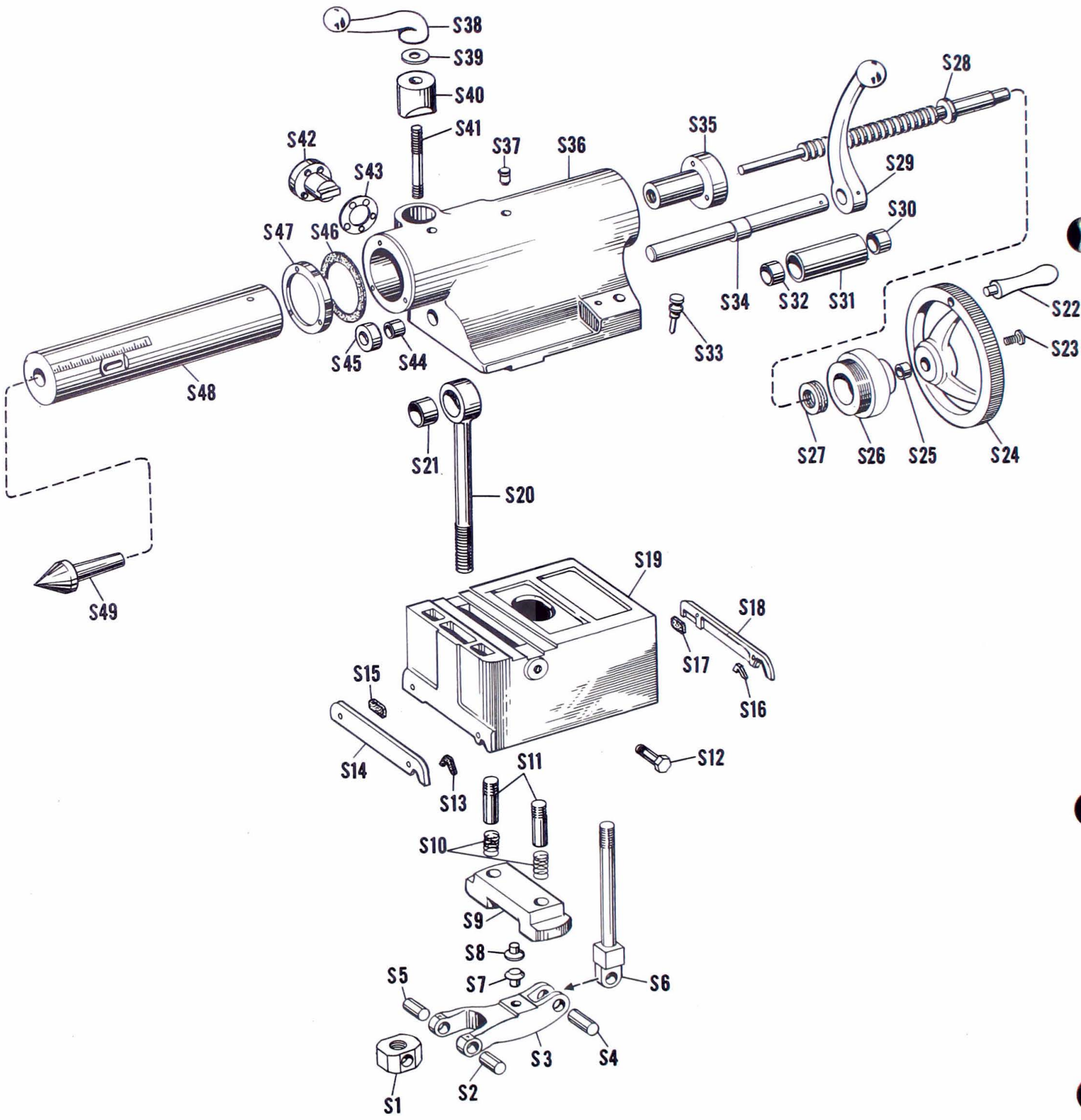


Figure S, 13" Tailstock

Parts List for Figure 5, 13" Tailstock

INDEX NO.	PART NAME
S1	Sliding Block
S2	Fork Pin
S3	Clamp Fork
S4	Hinge Pin
S5	Fork Pin
S6	Pivot Stud
S7	Clamp Fork Button
S8	Clamp Button
S9	Clamp
S10	Clamp Spring
S11	Guide Pin
S12	Set-Over Screw
S13	Vee Wiper
S14	Wiper Case - L. H.
S15	Flat Wiper
S16	Vee Wiper
S17	Flat Wiper
S18	Wiper Case - R. H.
S19	Tailstock Base
S20	Eye Bolt
S21	Eye Bolt Bushing
S22	Handwheel Handle
S23	Shoulder Screw
S24	Handwheel
S25	Oilite Bushing

INDEX NO.	PART NAME
S26	Bell
S27	Thrust Bearing
S28	Screw
S29	Eccentric Lever
S30	Oilite Bushing
S31	Eccentric Shaft Sleeve
S32	Oilite Bushing
S33	Center Oiler Plug
S34	Eccentric Shaft
S35	Spindle Nut
S36	Top
S37	Oil Hole Cover
S38	Binder Plug Lever
S39	Binder Washer
S40	Binder Plug
S41	Stud
S42	Plug
S43	Shim
S44	Bushing
S45	Eccentric Shaft Collar
S46	Wiper (Spindle)
S47	Spindle Wiper Case
S48	Spindle (Tang Slot)
S49	Center

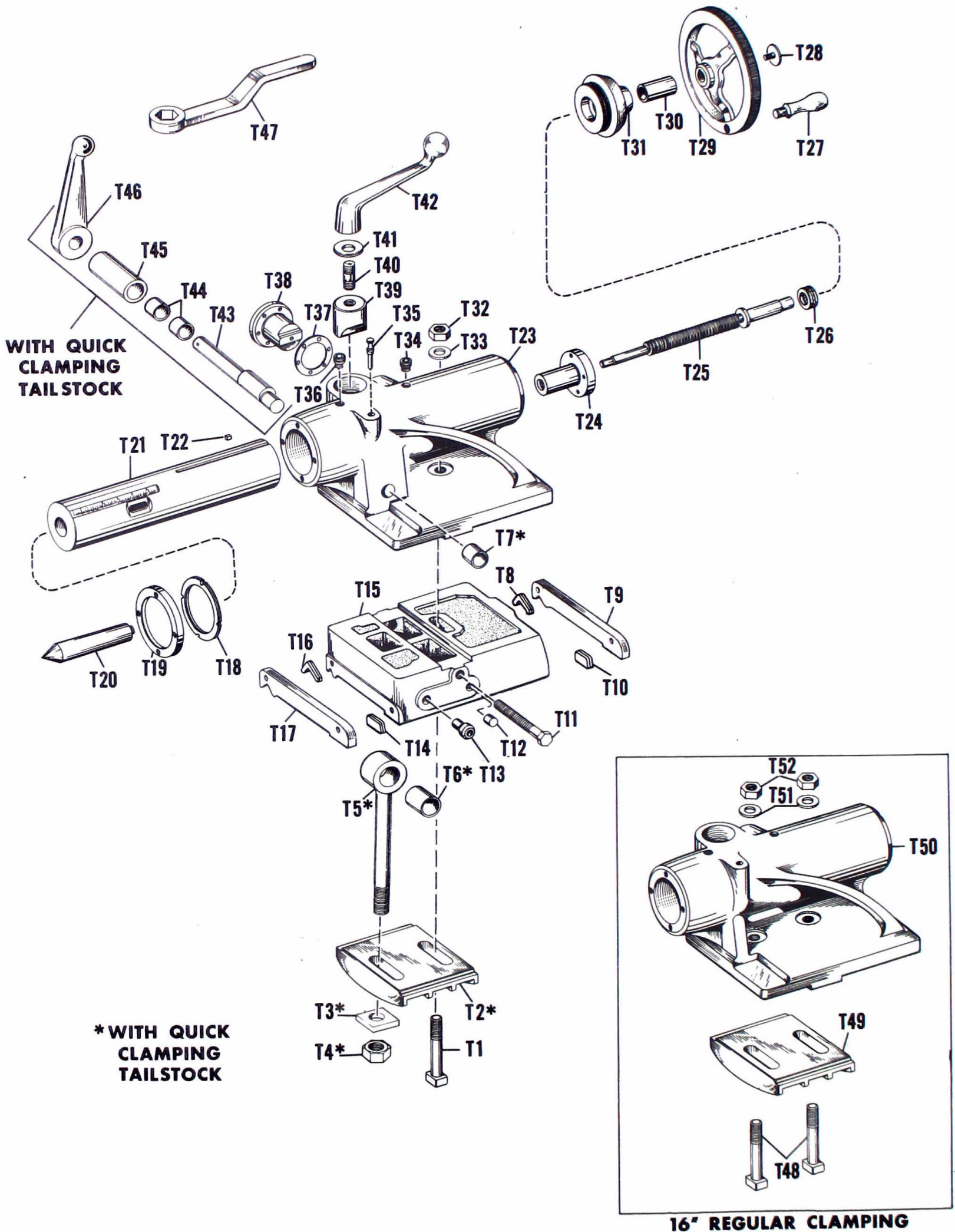


Figure T, 16" Tailstock (Regular and Quick Clamping)

**Parts List for Figure T, 16" Tailstock
(Regular and Quick Clamping)**

INDEX NO.	PART NAME
T1	Clamp Bolt
WITH QUICK CLAMPING TAILSTOCK ONLY (T2 - T7 and T43 - T46)	
T2	Clamp
T3	Clamp Washer
T4	Nut
T5	Eye Bolt
T6	Eye Bolt Bushing
T7	Bushing
T8	Vee Wiper
T9	Wiper Case - R. H.
T10	Flat Wiper
T11	Set Over Screw
T12	Plug
T13	Pick-Up Block
T14	Flat Wiper
T15	Tailstock Base
T16	Vee Wiper
T17	Wiper Case - L. H.
T18	Spindle Wiper
T19	Spindle Wiper Case
T20	Center
T21	Tang Slot Spindle
T22	Oil Wick
T23	Tailstock Top
T24	Spindle Nut
T25	Tailstock Screw
T26	Thrust Bearing

INDEX NO.	PART NAME
T27	Handle
T28	Shoulder Screw
T29	Handwheel
T30	Bushing
T31	Tailstock Bell
T32	Clamp Bolt Nut
T33	Clamp Bolt Washer
T34	Oil Hole Cover
T35	Center Oiler Plug
T36	Oil Hole Cover
T37	Shim
T38	Plug
T39	Binder Plug
T40	Stud
T41	Binder Washer
T42	Binder Lever
T43	Eccentric Shaft
T44	Oilite Bushings
T45	Eccentric Shaft Sleeve
T46	Eccentric Lever
T47	Tailstock Wrench
16" REGULAR CLAMPING	
T48	Clamp Bolts
T49	Clamp
T50	Tailstock Top (Regular Clamping)
T51	Clamp Washer
T52	Clamp Nut

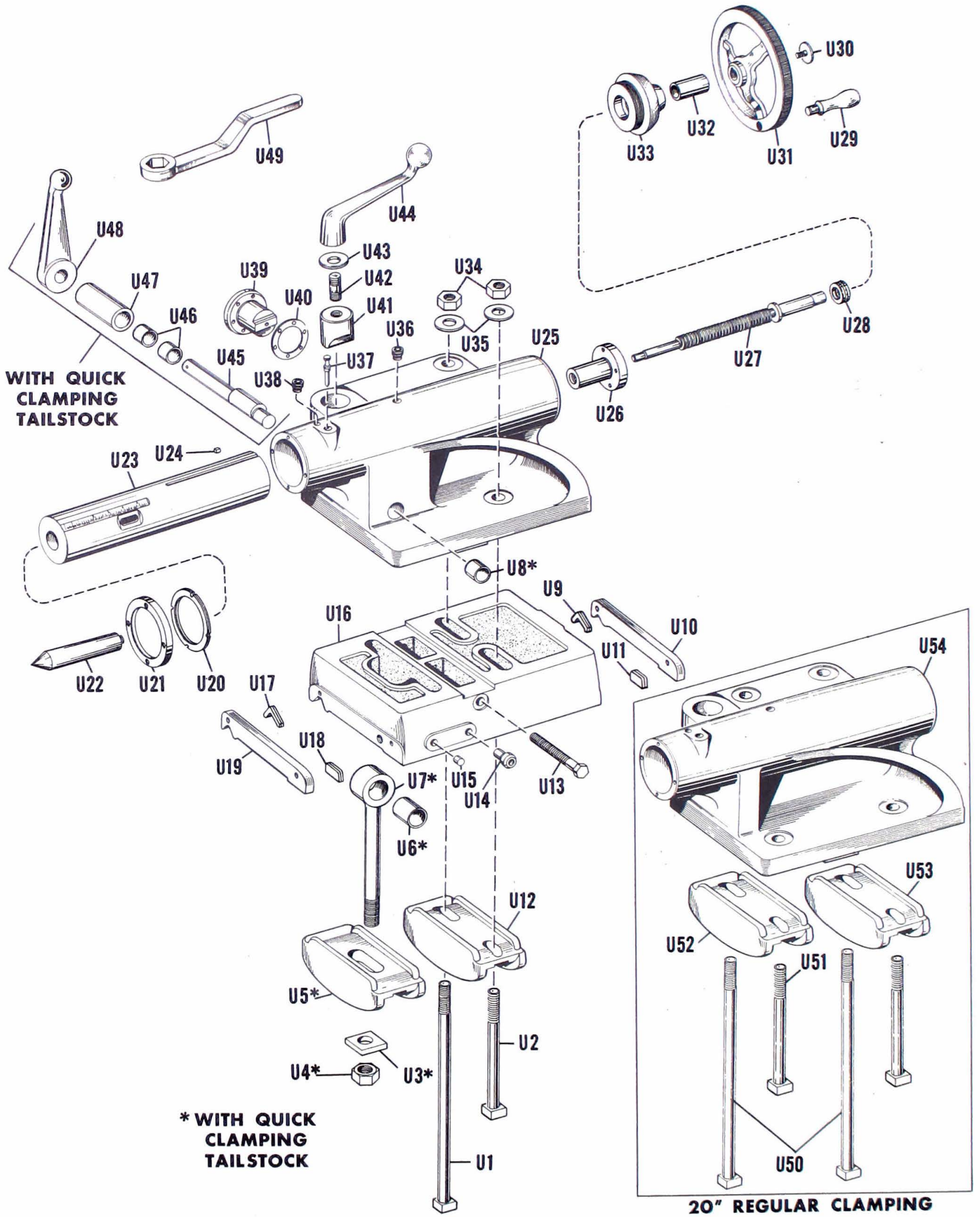


Figure U, 20" Tailstock (Regular and Quick Clamping)

**Parts List for Figure U, 20" Tailstock
(Regular and Quick Clamping)**

INDEX NO.	PART NAME
U1	Clamp Bolt
U2	Clamp Bolt
WITH QUICK CLAMPING TAILSTOCK ONLY (U3 - U8 and U45 - U48)	
U3	Clamp Washer
U4	Clamp Nut
U5	Clamp
U6	Eye Bolt Bushing
U7	Eye Bolt
U8	Bushing
U9	Vee Wiper
U10	Wiper Case - R. H.
U11	Flat Wiper
U12	Clamp
U13	Set Over Screw
U14	Pick-Up Block
U15	Plug
U16	Tailstock Base
U17	Vee Wiper
U18	Flat Wiper
U19	Wiper Case - L. H.
U20	Wiper
U21	Spindle Wiper Case
U22	Center
U23	Tang Slot Spindle
U24	Oil Wick
U25	Tailstock Top
U26	Spindle Nut
U27	Tailstock Screw

INDEX NO.	PART NAME
U28	Thrust Bearing
U29	Handle
U30	Shoulder Screw
U31	Handwheel
U32	Bushing
U33	Tailstock Bell
U34	Clamp Bolt Nut
U35	Clamp Bolt Washer
U36	Oil Hole Cover
U37	Center Oiler Plug
U38	Oil Hole Cover
U39	Plug
U40	Shim
U41	Binder Plug
U42	Stud
U43	Binder Washer
U44	Binder Lever
U45	Eccentric Shaft
U46	Bushings
U47	Bushing
U48	Eccentric Lever
U49	Tailstock Wrench
20" REGULAR CLAMPING	
U50	Clamp Bolt
U51	Clamp Bolt
U52	Clamp
U53	Clamp
U54	Tailstock Top (Regular Clamping)

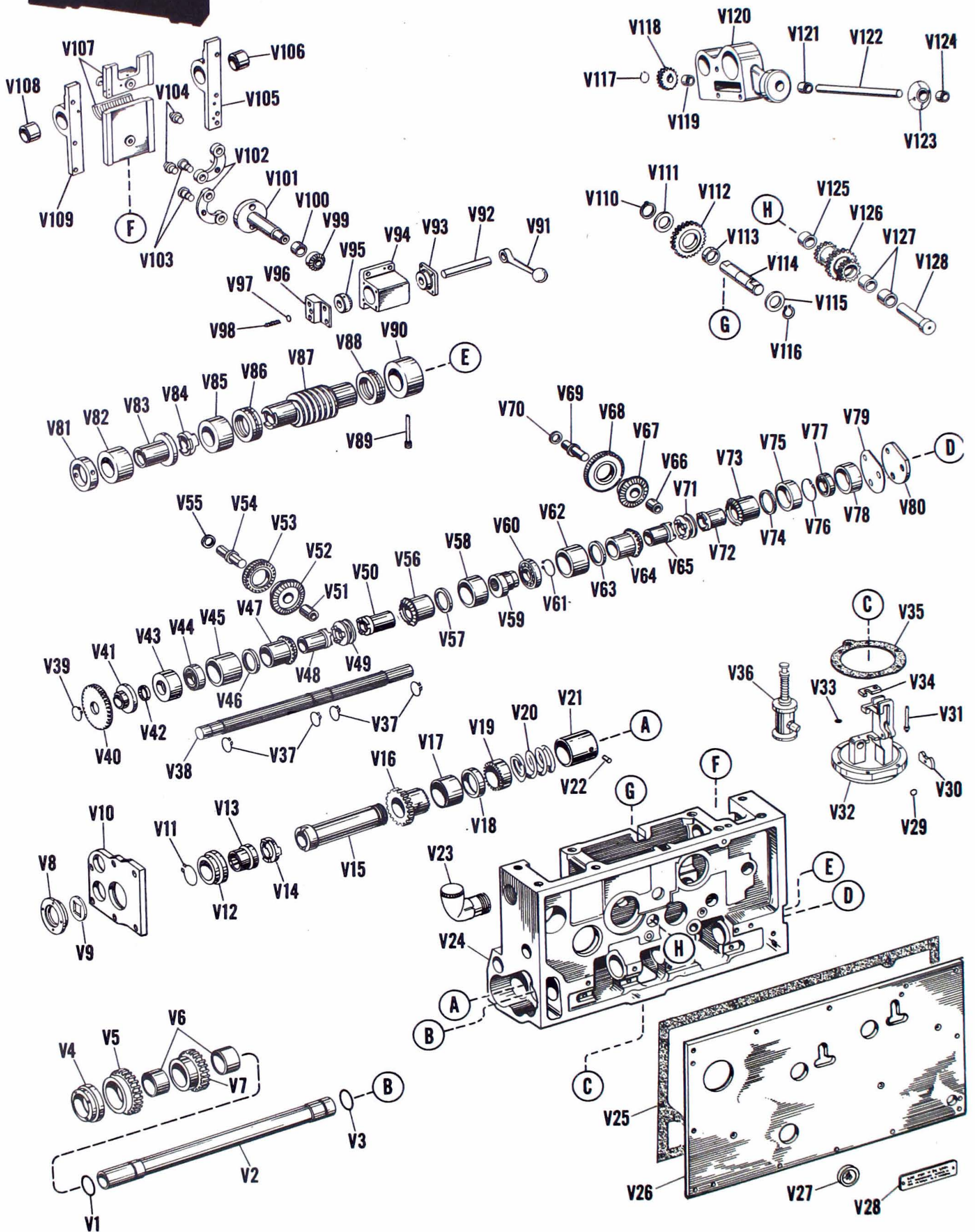


Figure V, 13" Apron with Power Rapid Traverse

Parts List for Figure V, 13" Apron with Power Rapid Traverse

INDEX NO.	PART NAME	INDEX NO.	PART NAME
V1	"O" Ring	V65	Clutch
V2	Control Rod Tube	V66	Oilite Bushing
V3	"O" Ring	V67	Bevel Gear
V4	Rapid Traverse Bearing	V68	Gear
V5	Gear	V69	Shaft
V6	Oilite Bushing	V70	Washer
V7	Gear	V71	Rapid Traverse Clutch
V8	Retaining Plate	V72	Clutch
V9	Cover	V73	Bevel Gear
V10	Cover	V74	Washer
V11	Retaining Ring	V75	Miter Gear Bushing
V12	Rapid Traverse Bearing	V76	Retaining Ring
V13	Rapid Traverse Drive Coupling	V77	Radial Bearing
V14	Rapid Traverse Drive Coupling Disc	V78	Bearing Cap
V15	Drive Sleeve	V79	Gasket
V16	Gear	V80	Cover Plate
V17	Bushing	V81	Collar
V18	Drive Gear Collar	V82	Bushing
V19	Safety Clutch	V83	Driver
V20	Spring	V84	Drive Plate
V21	Adjusting Nut	V85	Bushing
V22	Plug	V86	Thrust Bearing
V23	Oil Filler	V87	Worm
V24	Apron	V88	Thrust Bearing
V25	Gasket	V89	Dowel Screw
V26	Front Cover	V90	Bushing
V27	Oil Window	V91	Shifter Lever
V28	Instruction Plate	V92	Half Nut Lever Shaft
V29	"O" Ring	V93	Housing Cap - R. H.
V30	Pump Actuator	V94	Half Nut Lever Housing
V31	Pump Actuator Pin	V95	Miter Gear
V32	Pump Bracket	V96	Housing Cap - L. H.
V33	"O" Ring	V97	Steel Ball
V34	Pump Actuator Block	V98	Spring
V35	Gasket	V99	Miter Gear
V36	Lubricator Pump	V100	Bushing
V37	Retaining Ring	V101	Eccentric Shaft
V38	Clutch Shaft	V102	Half Nut Link
V39	Retaining Ring	V103	Stud
V40	Gear	V104	Stud
V41	Gear Hub	V105	Half Nut Gib - L. H.
V42	Oil Seal	V106	Bushing
V43	Bearing Block	V107	Half Nut
V44	Radial Bearing	V108	Bushing
V45	Miter Gear Bushing	V109	Half Nut Gib - R. H.
V46	Washer	V110	Retaining Ring
V47	Bevel Gear	V111	Spacer
V48	Clutch	V112	Gear
V49	Rapid Traverse Clutch	V113	Bushing
V50	Clutch	V114	Shaft
V51	Oilite Bushing	V115	Spacer
V52	Bevel Gear	V116	Retaining Ring
V53	Gear	V117	Retaining Ring
V54	Shaft	V118	Gear
V55	Washer	V119	Bushing
V56	Bevel Gear	V120	Chasing Dial Housing
V57	Washer	V121	Bushing
V58	Miter Gear Bushing	V122	Shaft
V59	Cam	V123	Chasing Dial
V60	Radial Bearing	V124	Bushing
V61	Retaining Ring	V125	Oilite Bushing
V62	Miter Gear Bushing	V126	Gear
V63	Washer	V127	Oilite Bushing
V64	Bevel Gear	V128	Gear Shaft

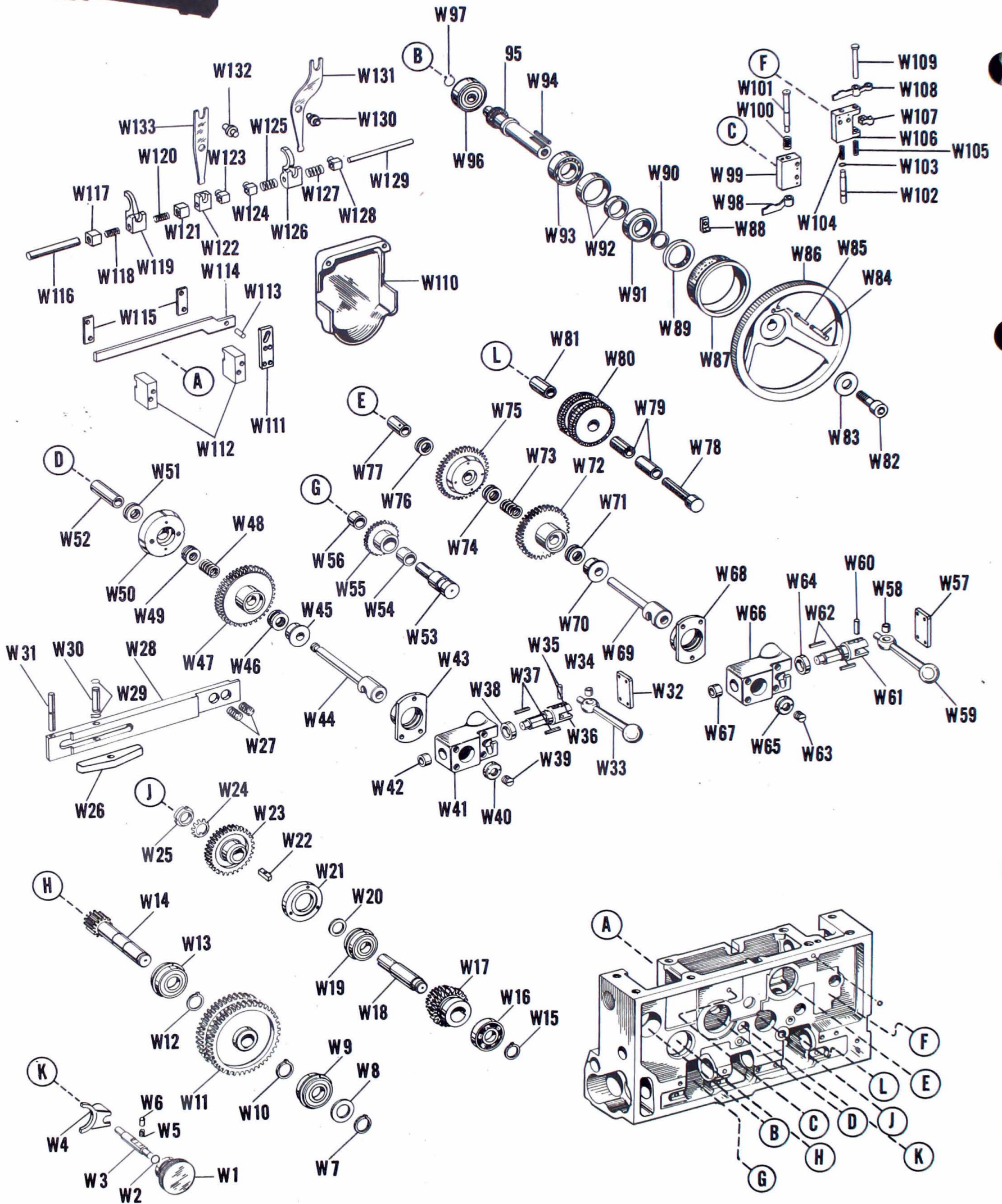


Figure W, 13" Apron with Power Rapid Traverse

Parts List for Figure W, 13" Apron with Power Rapid Traverse

INDEX NO.	PART NAME	INDEX NO.	PART NAME
W1	Knob	W68	Bearing Cap
W2	"O" Ring	W69	Cross Feed Friction Stem
W3	Feed Reverse Shifter Shaft	W70	Retaining Bushing
W4	Shifter Yoke	W71	Thrust Bearing
W5	Spring	W72	Friction Disc Gear
W6	Detent Pin	W73	Friction Spring
W7	Retaining Ring	W74	Thrust Bearing
W8	Spacer	W75	Friction Disc Assembly (Disc and Gear)
W9	Radial Bearing	W76	Thrust Bearing
W10	Retaining Ring	W77	Bushing
W11	Cluster Gear	W78	Gear Shaft
W12	Retaining Ring	W79	Bushing
W13	Radial Bearing	W80	Cluster Gear
W14	Rack Pinion	W81	Bushing
W15	Retaining Ring	W82	Cap Screw
W16	Radial Bearing	W83	Retaining Washer
W17	Feed Reverse Gear	W84	Dial Locknut and Pin Assembly
W18	Worm Wheel Shaft	W85	Dial Lock Screw
W19	Radial Bearing	W86	Handwheel
W20	Worm Wheel Shim	W87	Dial
W21	Bearing Retainer	W88	Pointer
W22	Key	W89	Oil Seal
W23	Worm Wheel	W90	Spacer
W24	Lock Washer	W91	Radial Bearing
W25	Lock Nut	W92	Spacer Assembly
W26	Shoe	W93	Radial Bearing
W27	Spring	W94	Key
W28	Support Arm	W95	Handwheel Pinion Shaft
W29	Retaining Ring	W96	Radial Bearing
W30	Pin	W97	Retaining Ring
W31	Arm Hinge Pin	W98	Valve Finger
W32	Cover Plate	W99	Valve Body
W33	Friction Lever	W100	Compression Spring
W34	Oilite Bushing	W101	Valve Stem
W35	Friction Lever Pin	W102	Valve Stem
W36	Friction Cam	W103	Spring Retainer
W37	Friction Cam Wiper	W104	Compression Spring
W38	Oilite Bushing	W105	Compression Spring
W39	Cam Screw	W106	Valve Block
W40	Lock Nut	W107	Half Nut Valve Finger
W41	Friction Cam Housing	W108	Valve Finger
W42	Oilite Bushing	W109	Stem
W43	Bearing Cap	W110	Guard
W44	Longitudinal Friction Stem	W111	Lock Bar Cam
W45	Retaining Bushing	W112	Lock Bar Guide
W46	Thrust Bearing	W113	Pin
W47	Friction Disc Gear	W114	Lock Bar
W48	Friction Spring	W115	Lock Bar Guide Cover
W49	Thrust Bearing	W116	Shifter Shaft
W50	Friction Disc Assembly (Gear and Disc)	W117	Spring Stop Block
W51	Thrust Bearing	W118	Spring
W52	Bushing	W119	Shifter
W53	Gear Shaft	W120	Spring
W54	Oilite Bushing	W121	Spring Stop Block
W55	Gear	W122	Shifter Collar
W56	Bushing	W123	Spring Stop Block
W57	Cover Plate	W124	Spring Stop Block
W58	Oilite Bushing	W125	Spring
W59	Friction Lever	W126	Shifter
W60	Friction Lever Pin	W127	Spring
W61	Friction Cam	W128	Spring Stop Block
W62	Friction Cam Wiper	W129	Shifter Shaft
W63	Cam Screw	W130	Stud
W64	Oilite Bushing	W131	Fork
W65	Lock Nut	W132	Stud
W66	Friction Cam Housing	W133	Fork
W67	Oilite Bushing		

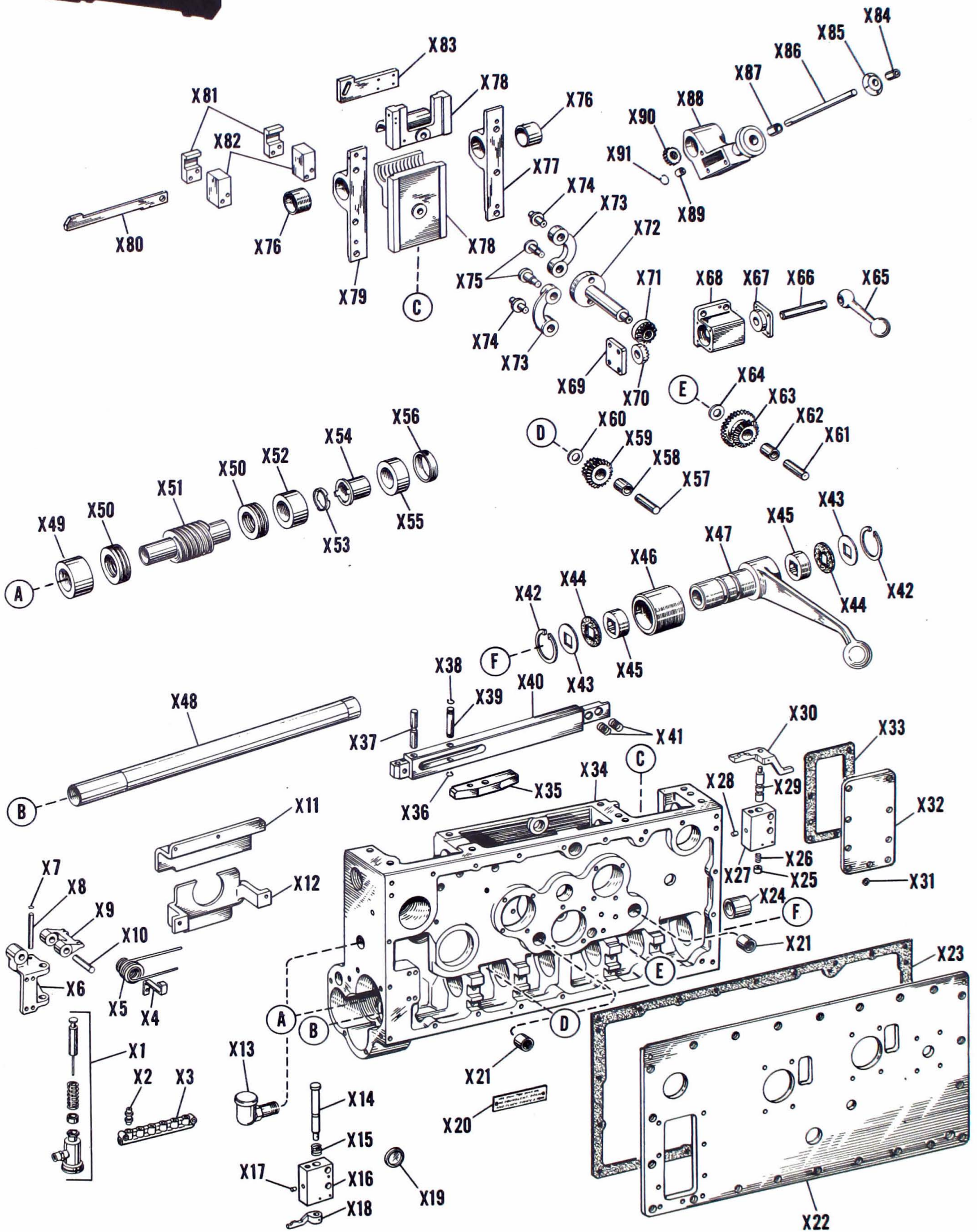


Figure X, 16" — 20" Apron with Power Rapid Traverse

Parts List for Figure X, 16" — 20" Apron with Power Rapid Traverse

INDEX NO.	PART NAME
X1	Lubricator Pump
X2	Meter Unit
X3	Junction (6 way)
X4	Tube Bracket
X5	Capillary Tubing Coil
X6	Pump Bracket
X7	Retaining Ring
X8	Shaft
X9	Lever
X10	Shaft
X11	Upper Guard
X12	Lower Guard
X13	Oil Filler
X14	Valve Stem
X15	Compression Spring
X16	Valve Body
X17	Hydraulic Plug
X18	Valve Finger
X19	Oil Window
X20	Instruction Plate (Lubrication)
X21	Oilite Bushing
X22	Front Cover Plate
X23	Gasket
X24	Bushing
X25	Spring Retainer
X26	Compression Spring
X27	Valve Body
X28	Hydraulic Plug
X29	Valve Stem
X30	Valve Finger
X31	Washer
X32	Cover Plate
X33	Gasket
X34	Apron
X35	Shoe
X36	Retaining Ring
X37	Hinge Pin
X38	Retaining Ring
X39	Pin
X40	Support Arm
X41	Springs
X42	Retaining Ring
X43	Wiper Plate
X44	Wiper
X45	Bushing
X46	Collar

INDEX NO.	PART NAME
X47	Control Lever
X48	Control Rod Tube
X49	Bushing
X50	Thrust Bearing
X51	Worm
X52	Collar
X53	Coupling
X54	Universal Jaw
X55	Sleeve
X56	Set Collar
X57	Bevel Gear Stud
X58	Bushing
X59	Drive Gear
X60	Washer
X61	Bevel Gear Stud
X62	Bushing
X63	Drive Gear
X64	Washer
X65	Lever
X66	Half Nut Lever Shaft
X67	Housing Cap - R. H.
X68	Half Nut Lever Housing
X69	Housing Cap - L. H.
X70	Miter Gear
X71	Miter Gear
X72	Eccentric Shaft
X73	Half Nut Link
X74	Stud
X75	Stud
X76	Bushing
X77	Half Nut Gib - L. H.
X78	Half Nut
X79	Half Nut Gib - R. H.
X80	Interlock Bar
X81	Guide Plate
X82	Block
X83	Interlock Guide
X84	Bushing
X85	Chasing Dial Head
X86	Shaft
X87	Bushing
X88	Housing
X89	Bushing
X90	Chasing Dial Worm Gear
X91	Retaining Ring

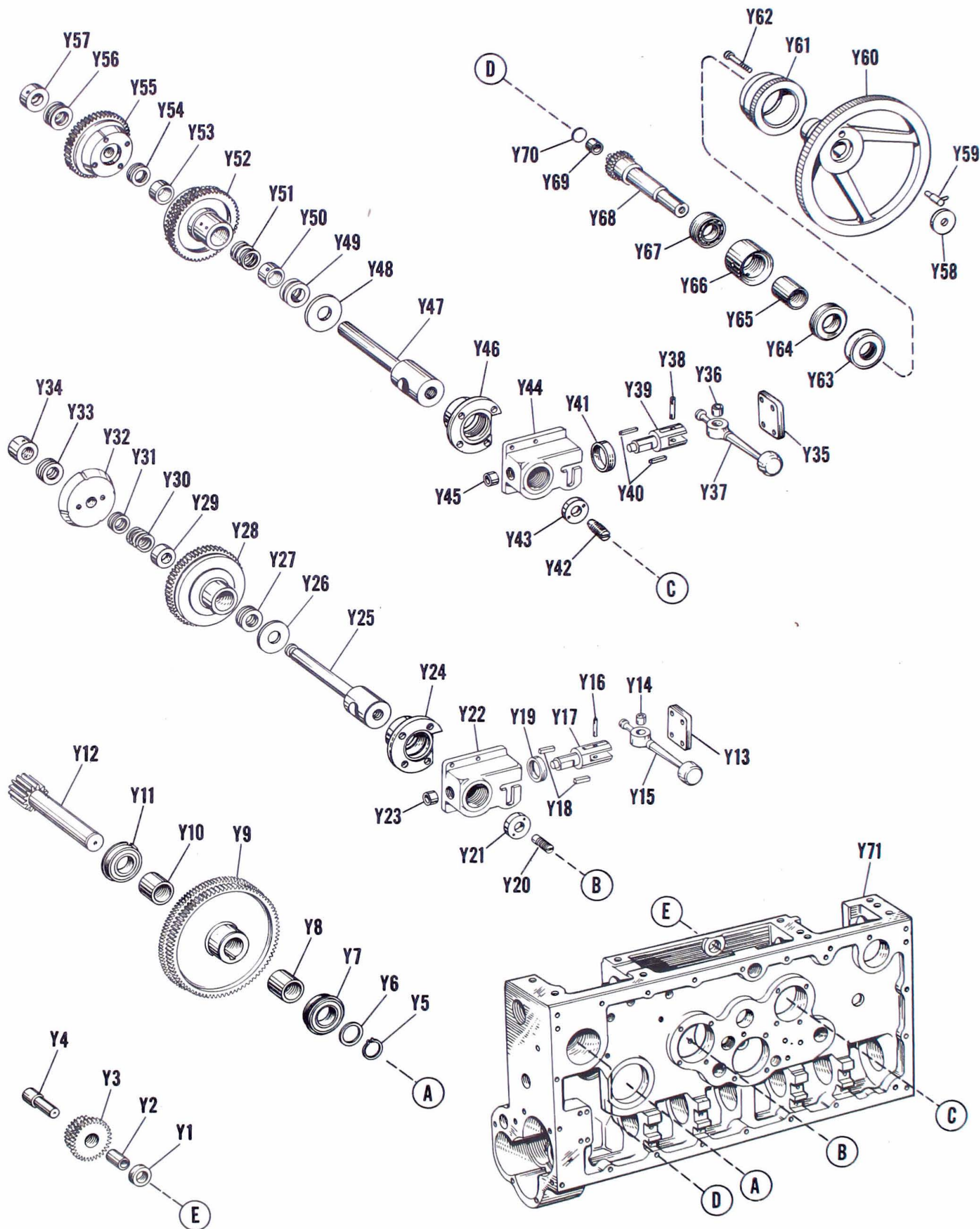


Figure Y, 16" — 20" Apron with Power Rapid Traverse

Parts List for Figure Y, 16" — 20" Apron with Power Rapid Traverse

INDEX NO.	PART NAME
Y1	Collar
Y2	Oilite Bushing
Y3	Gear
Y4	Gear Stud
Y5	Retaining Ring
Y6	Collar
Y7	Bearing
Y8	Spacer
Y9	Cluster Gear
Y10	Spacer
Y11	Bearing
Y12	Rack Pinion (12T)
Y13	Friction Cam Housing Cover
Y14	Oilite Bushing
Y15	Friction Lever
Y16	Friction Lever Pin
Y17	Friction Cam
Y18	Friction Cam Wiper
Y19	Bushing - R. H.
Y20	Friction Stem Adjusting Screw
Y21	Friction Stem Locknut
Y22	Friction Cam Housing
Y23	Bushing - L. H.
Y24	Friction Gear Bushing
Y25	Friction Stem
Y26	Collar
Y27	Thrust Bearing
Y28	Longitudinal Friction Gear
Y29	Bushing
Y30	Compression Spring
Y31	Spring Thrust Bearing
Y32	Friction Disc Assembly
Y32-a	Friction Disc
Y32-b	Friction Disc Gear
Y33	Thrust Bearing
Y34	Collar
Y35	Friction Cam Housing Cover
Y36	Oilite Bushing

INDEX NO.	PART NAME
Y37	Friction Lever
Y38	Friction Lever Pin
Y39	Friction Cam
Y40	Friction Cam Wiper
Y41	Bushing - R. H.
Y42	Friction Stem Adjusting Screw
Y43	Friction Stem Locknut
Y44	Friction Cam Housing
Y45	Bushing - L. H.
Y46	Friction Stem Gear Bushing
Y47	Friction Stem
Y48	Collar
Y49	Thrust Bearing
Y50	Bushing
Y51	Compression Spring
Y52	Friction Gear
Y53	Bushing
Y54	Spring Thrust Bearing
Y55	Friction Disc Assembly
Y55-a	Friction Disc
Y55-b	Friction Disc Gear
Y56	Thrust Bearing
Y57	Sleeve
Y58	Handwheel Retaining Washer
Y59	Dial Lock Nut and Pin Assembly
Y60	Handwheel
Y61	Handwheel Dial
Y62	Dial Lock Screw
Y63	Oil Seal
Y64	Bearing
Y65	Inner Spacer
Y66	Outer Spacer
Y67	Bearing
Y68	Pinion Shaft
Y69	Needle Bearing
Y70	Expansion Plug
Y71	Apron

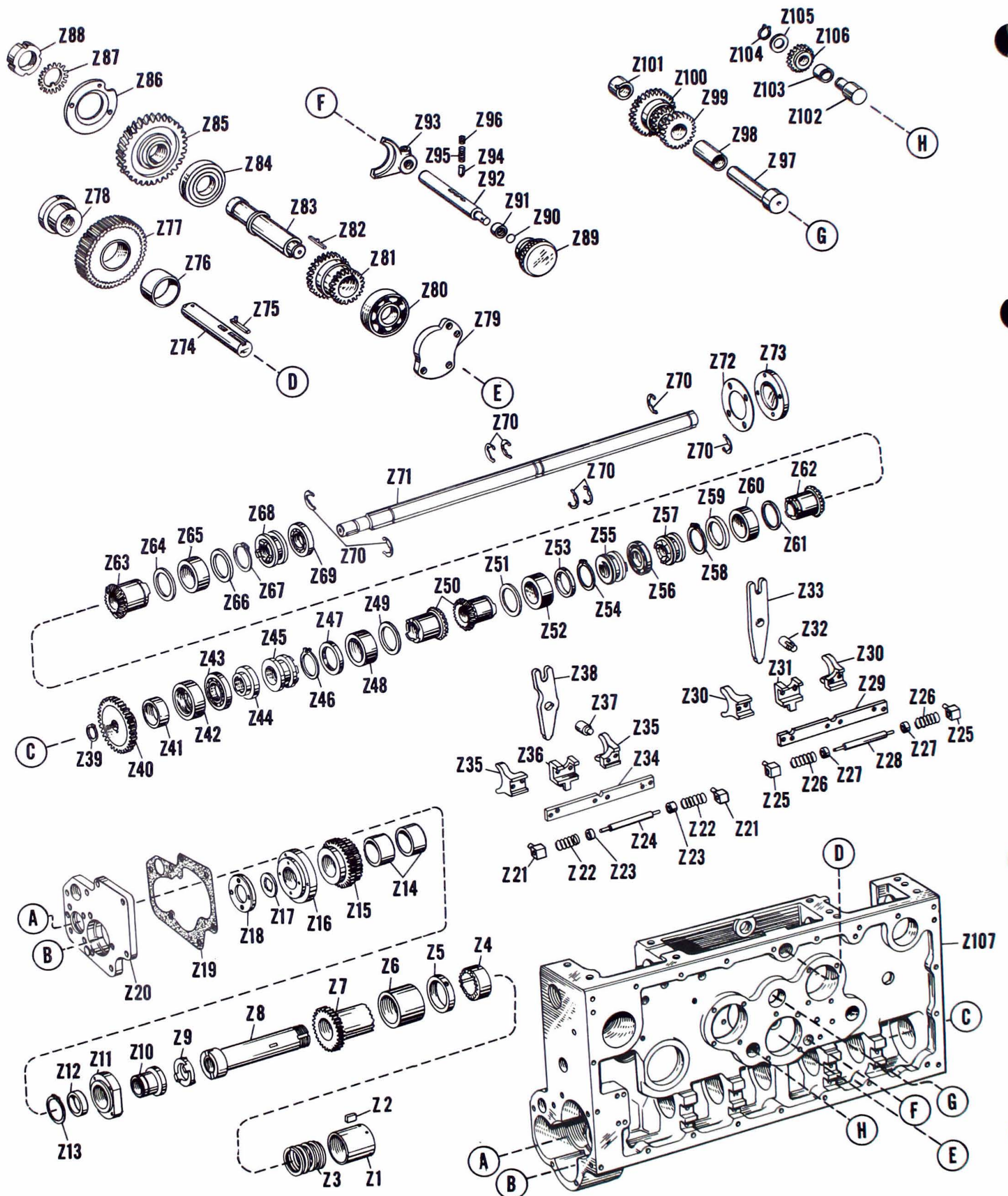


Figure Z, 16" — 20" Apron with Power Rapid Traverse

Parts List for Figure Z, 16" — 20" Apron with Power Rapid Traverse

INDEX NO.	PART NAME
Z1	Adjusting Nut
Z2	Locknut Insert
Z3	Spring
Z4	Safety Clutch
Z5	Drive Gear Collar
Z6	Bushing
Z7	Gear (29T)
Z8	Drive Sleeve
Z9	Rapid Traverse Drive Coupling Disc
Z10	Rapid Traverse Drive Coupling
Z11	Rapid Traverse Bearing
Z12	Bushing
Z13	Retaining Ring
Z14	Oilite Bushing
Z15	Idler Compound Gear
Z16	Bushing
Z17	Cover
Z18	Retaining Plate
Z19	Gasket
Z20	Cover
Z21	Spring Stop Block
Z22	Spring
Z23	Spring Stop Collar
Z24	Traverse Control Spring Stem
Z25	Spring Stop Block
Z26	Spring
Z27	Spring Stop Collar
Z28	Traverse Control Spring Stem
Z29	Fork Rod
Z30	Clutch Shifter Fork
Z31	Shifter Block
Z32	Fork Shaft
Z33	Fork
Z34	Fork Rod
Z35	Clutch Shifter Fork
Z36	Shifter Block
Z37	Fork Shaft
Z38	Fork
Z39	Retaining Ring
Z40	Gear
Z41	Oil Seal
Z42	Seal Retainer
Z43	Bearing
Z44	Pump Cam
Z45	Rapid Traverse Clutch
Z46	Retaining Ring
Z47	Spacer
Z48	Miter Gear Bushing
Z49	Washer
Z50	Miter Gear
Z51	Washer
Z52	Miter Gear Bushing
Z53	Spacer

INDEX NO.	PART NAME
Z54	Retaining Ring
Z55	Rapid Traverse Clutch
Z56	Bearing
Z57	Rapid Traverse Clutch
Z58	Retaining Ring
Z59	Spacer
Z60	Miter Gear Bushing
Z61	Washer
Z62	Miter Gear
Z63	Miter Gear
Z64	Washer
Z65	Miter Gear Bushing
Z66	Spacer
Z67	Retaining Ring
Z68	Rapid Traverse Clutch
Z69	Bearing
Z70	Retaining Ring
Z71	Traverse Clutch Shaft
Z72	Gasket
Z73	Cap
Z74	Gear Stud
Z75	Clutch Gear Key
Z76	Oilite Bushing
Z77	Gear
Z78	Eccentric Bushing
Z79	Bearing Cap
Z80	Bearing
Z81	Sliding Cluster Gear
Z82	Tit Key
Z83	Wormwheel Shaft
Z84	Bearing
Z85	Wormwheel
Z86	Bearing Cap
Z87	Lockwasher
Z88	Locknut
Z89	Knob
Z90	Linear "O" Ring
Z91	Spacer
Z92	Shifter Shaft
Z93	Shifter
Z94	Detent Pin
Z95	Compression Spring
Z96	Set Screw
Z97	Shoulder Stud
Z98	Oilite Bushing
Z99	Cluster Gear
Z100	Gear (30T)
Z101	Bushing
Z102	Gear Stud
Z103	Oilite Bushing
Z104	Retaining Ring
Z105	Spacer
Z106	Gear
Z107	Apron

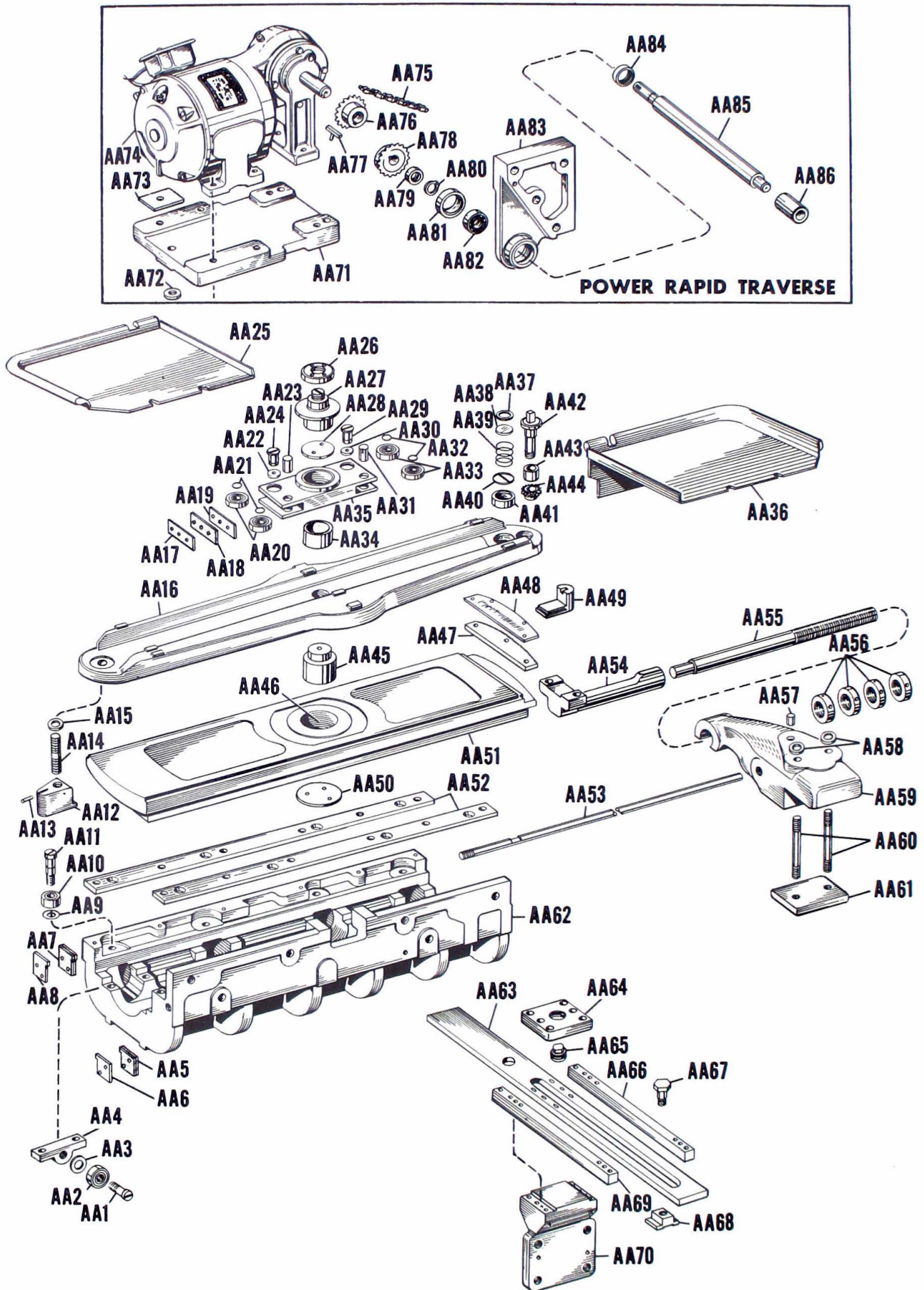


Figure AA, Power Rapid Traverse and Taper Attachment

Parts List for Figure AA, Power Rapid Traverse and Taper Attachment

INDEX NO.	PART NAME
AA1	Lower Bearing Eccentric Stud
AA2	Bearing
AA3	Bearing Shim
AA4	Lower Bearing Support
AA5	Wiper
AA6	Slide Wiper - R. H.
AA7	Wiper
AA8	Slide Wiper - L. H.
AA9	Bearing Shim
AA10	Bearing
AA11	Slide Bearing Eccentric Stud
AA12	Swivel Clamp - L. H.
AA13	Swivel Clamp Pin
AA14	Housing Stud
AA15	Washer
AA16	Swivel
AA17	Outside Shoe Wiper Case
AA18	Shoe Wiper
AA19	Inside Shoe Wiper Case
AA20	Bearing
AA21	Bearing Shim
AA22	Shoe Stud Lock Collar
AA23	Shoe Bearing Pin
AA24	Shoe Bearing Eccentric Stud
AA25	Guard - L. H.
AA26	Shoe Stud Nut
AA27	Shoe Stud
AA28	Shoe Stud Cap
AA29	Shoe Bearing Eccentric Stud
AA30	Shoe Stud Lock Collar
AA31	Shoe Bearing Pin
AA32	Bearing Shim
AA33	Bearing
AA34	Shoe Stud Bushing
AA35	Shoe
AA36	Guard - R. H.
AA37	Bezel Spring
AA38	Bezel Glass
AA39	Lens Spring
AA40	Lens
AA41	Bezel
AA42	Swivel Gear Stem
AA43	Swivel Stem Bushing
AA44	Swivel Setting Gear
AA45	Swivel Stud

INDEX NO.	PART NAME
AA46	Slide Bushing
AA47	Rack
AA48	Index Plate
AA49	Swivel Clamp - R. H.
AA50	Swivel Stud Cap
AA51	Slide
AA52	Slide Gib
AA53	Bed Bracket Rod
AA54	Draw Rod Bracket
AA55	Draw Rod
AA56	Draw Rod Nut
AA57	Bar Binder Plug
AA58	Washer
AA59	Bed Bracket
AA60	Clamp Stud
AA61	Bed Bracket Clamp
AA62	Carriage Bracket
AA63	Draw Bar
AA64	Support Cover
AA65	Clamp Stud
AA66	Bar Rail - L. H.
AA67	Clamp Nut Screw
AA68	Clamp Nut
AA69	Bar Rail - R. H.
AA70	Bar Rail Support
POWER RAPID TRAVERSE	
AA71	Motor Base
AA72	Washer
AA73	Shim
AA74	Motor
AA75	Diamond Chain
AA76	Sprocket
AA77	Spider Key
AA78	Sprocket
AA79	Garlock Seal
AA80	Retaining Ring
AA81	Seal Retainer
AA82	Ball Bearing
AA83	Bracket
AA84	Garlock Seal
AA85	Shaft
AA86	Coupling

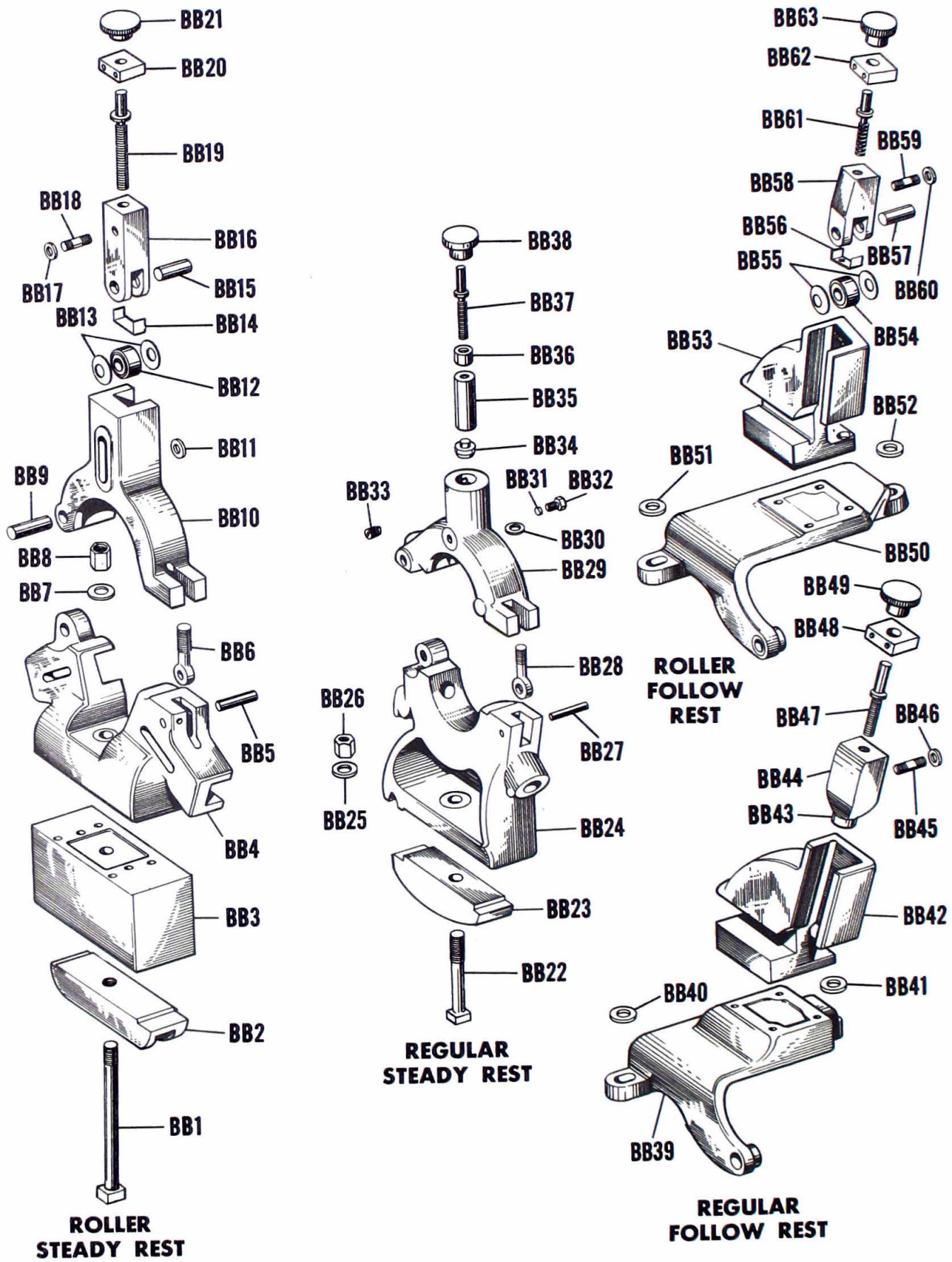


Figure BB, Steady Rests and Follow Rests

Parts List for Figure BB, Steady Rests and Follow Rests

INDEX NO.	PART NAME
ROLLER STEADY REST	
BB1	Clamp Bolt
BB2	Clamp
BB3	Sub Base
BB4	Steady Rest Base
BB5	Eye Bolt Pin
BB6	Eye Bolt
BB7	Washer
BB8	Nut
BB9	Hinge Pin
BB10	Steady Rest Top
BB11	Washer
BB12	Bearing
BB13	Washer
BB14	Bearing Chip Guard
BB15	Jaw Roller Shaft
BB16	Jaw
BB17	Washer
BB18	Jaw Stud
BB19	Jaw Adjusting Screw
BB20	Jaw Block
BB21	Adjusting Screw Knob
REGULAR STEADY REST	
BB22	Bolt
BB23	Clamp
BB24	Steady Rest Base
BB25	Washer
BB26	Nut
BB27	Eye Bolt Pin
BB28	Eye Bolt
BB29	Steady Rest Top
BB30	Washer
BB31	Binder Screw Plug
BB32	Jaw Clamp Screw

INDEX NO.	PART NAME
BB33	Jaw Clamp Key
BB34	Jaw Cap
BB35	Jaw
BB36	Adjusting Screw Nut
BB37	Screw
BB38	Adjusting Screw Knob
REGULAR FOLLOW REST	
BB39	Follow Rest Base
BB40	Cam Ring
BB41	Cam Ring
BB42	Follow Rest Top
BB43	Jaw Cap
BB44	Jaw
BB45	Jaw Stud
BB46	Washer
BB47	Jaw Adjusting Screw
BB48	Jaw Block
BB49	Adjusting Screw Knob
ROLLER FOLLOW REST	
BB50	Follow Rest Base
BB51	Cam Ring
BB52	Cam Ring
BB53	Follow Rest Top
BB54	Bearing
BB55	Washer
BB56	Bearing Chip Guard
BB57	Jaw Roller Shaft
BB58	Jaw
BB59	Jaw Stud
BB60	Washer
BB61	Jaw Adjusting Screw
BB62	Jaw Block
BB63	Adjusting Screw Knob

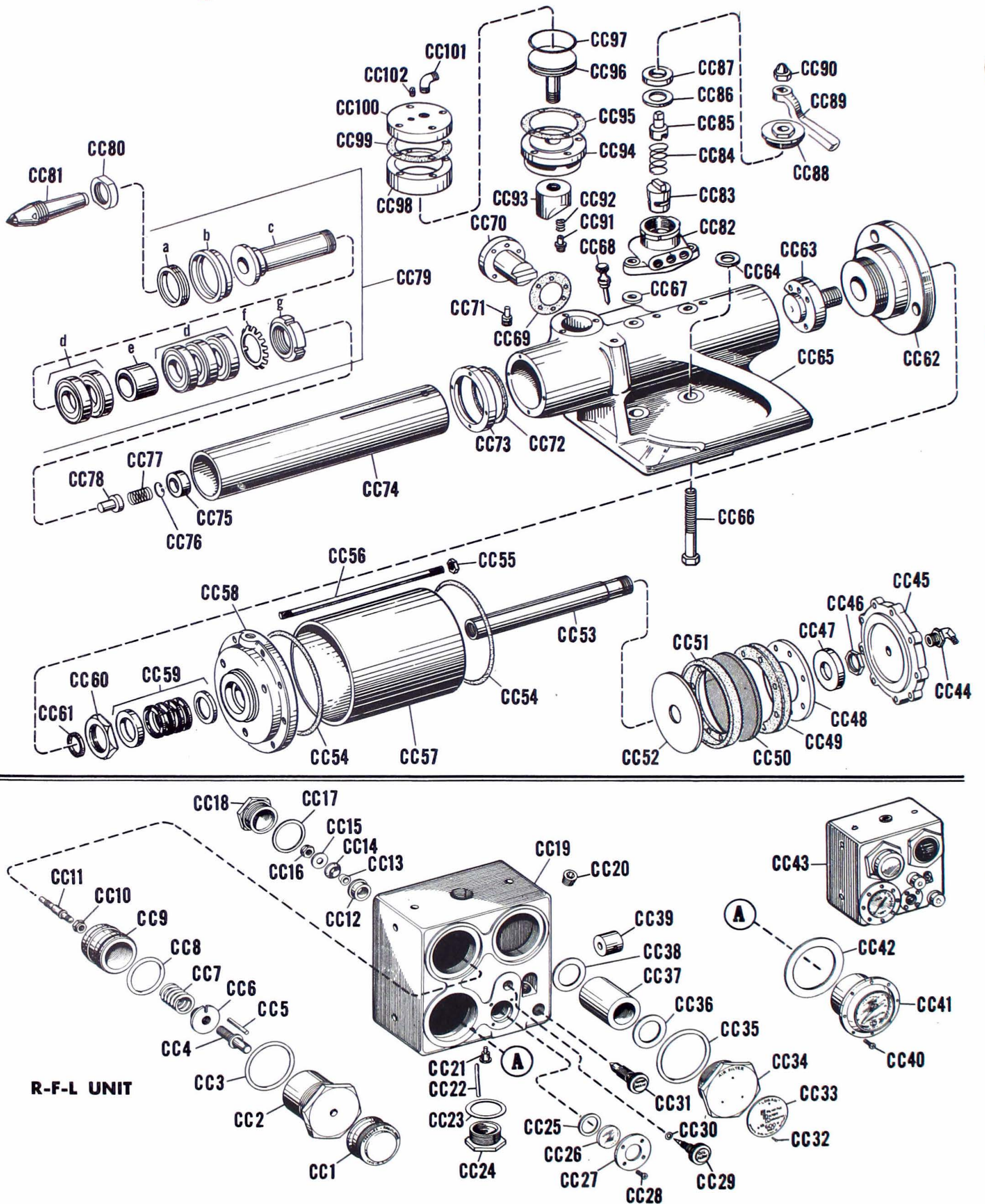


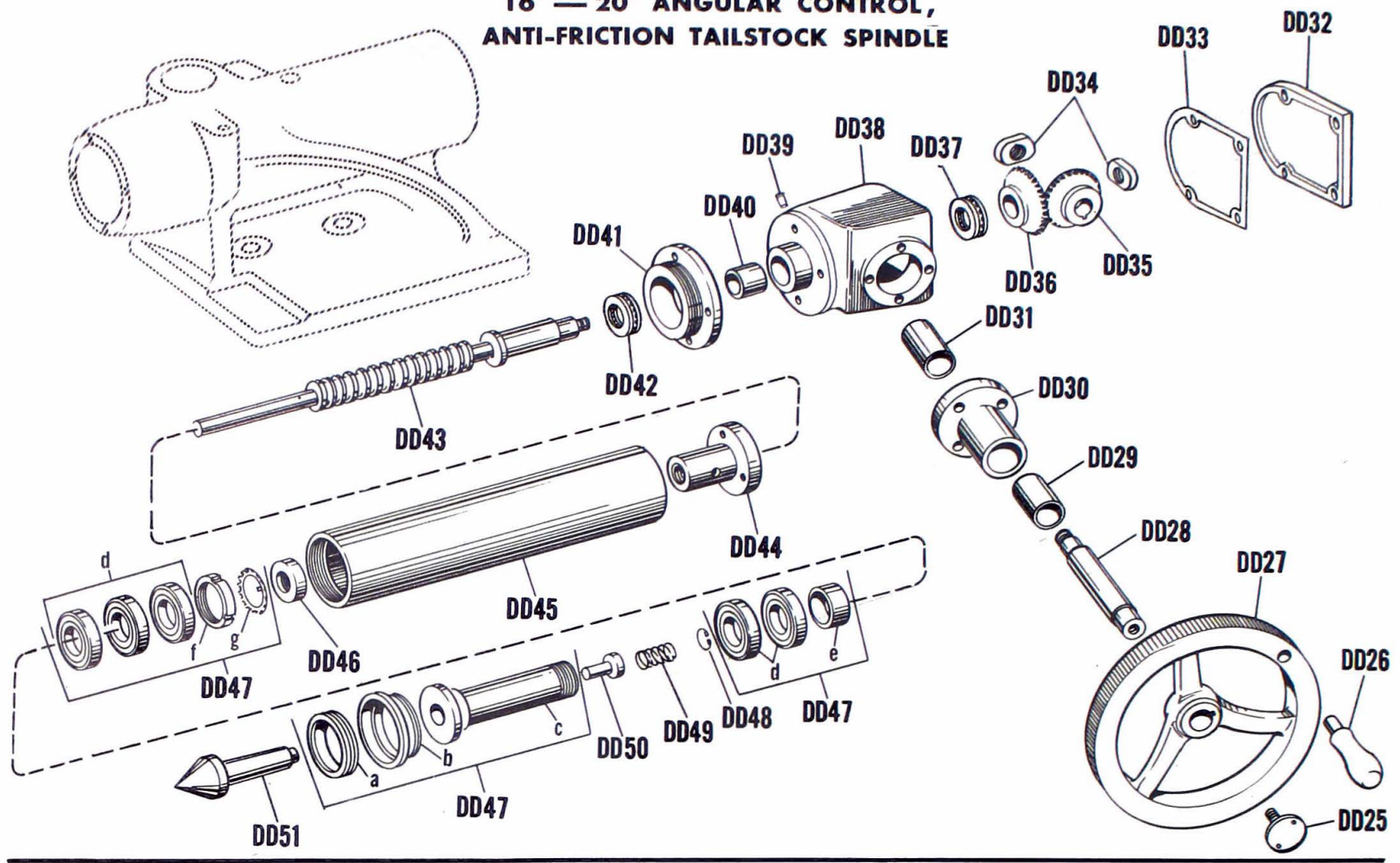
Figure CC, Air Operated Tailstock

SIZES**13"****16"****20"****PARTS LIST****OPTIONAL AND ACCESSORY
EQUIPMENT****Parts List for Figure CC, Air Operated Tailstock**

INDEX NO.	PART NAME
CC1	Adjusting Knob
CC2	Air Regulator Cover
CC3	Cover Gasket "O" Ring
CC4	Adjusting Shaft
CC5	Knob and Guide Pin
CC6	Spring Seat
CC7	Regulator Spring
CC8	Piston "O" Ring
CC9	Regulator Piston
CC10	Elastic Stop Nut
CC11	Valve Seat Stem
CC12	Valve Seat Bushing
CC13	Seat Retainer
CC14	Valve Seat
CC15	Seat Washer
CC16	Elastic Stop Nut
CC17	Plug Gasket
CC18	Plug
CC19	Unit Body
CC20	Oil Filler Plug
CC21	Check Valve Assembly
CC22	Oil Tube
CC23	Plug Gasket
CC24	Plug
CC25	Lens Gasket
CC26	Gauge Lens
CC27	Lens Retainer
CC28	Retainer Screws
CC29	Oil Regulator Needle
CC30	Needle "O" Ring
CC31	Drain Needle
CC32	Name Plate Pins
CC33	Name Plate
CC34	Air Filter Cover
CC35	Cover Gasket "O" Ring
CC36	Element Gasket
CC37	Filter Element
CC38	Element Gasket
CC39	Venturi Bushing
CC40	Gauge Screws
CC41	Pressure Gauge
CC42	Gauge Gasket
CC43	Logan 600 RFL Unit Assembly
CC44	Fitting
CC45	Blind End Cover
CC46	Piston Check Nut
CC47	Star Washer
CC48	Piston Ring
CC49	Cup Packing
CC50	Cup Follower
CC51	Cup Packing
CC52	Piston
CC53	Piston Rod
CC54	Cover Gasket
CC55	Tie-Rod-Nut

INDEX NO.	PART NAME
CC56	Tie-Rod
CC57	Tubing
CC58	Rod End Cover
CC59	"V" Ring Packing
CC60	Packing Retaining Nut
CC61	Rod Wiper
CC62	Cylinder Adapter
CC63	Draw Rod
CC64	Washer
CC65	Tailstock Top
CC66	Tailstock Bolt
CC67	Washer
CC68	Center Oiler Plug
CC69	Shim
CC70	Plug
CC71	Oil Hole Cover
CC72	Spindle Wiper
CC73	Spindle Wiper Case
CC74	Tailstock Spindle
CC75	Oil Seal
CC76	Retaining Ring
CC77	Spring
CC78	Ejector Pin
CC79	Center Shank Assembly
CC79-a	Oil Deflector
CC79-b	Retainer Nut
CC79-c	Center Shank
CC79-d	Bearing Set
CC79-e	Spacer
CC79-f	Lock Washer
CC79-g	Lock Nut
CC80	Center Draw Nut
CC81	Center
CC82	Valve Body
CC83	Plug
CC84	Spring
CC85	Stem
CC86	Washer
CC87	Bearing
CC88	Cover
CC89	Handle
CC90	Crown Nut
CC91	Stud
CC92	Detent Spring
CC93	Binder Plug
CC94	Cylinder Flange
CC95	Gasket
CC96	Piston
CC97	Linear "O" Ring
CC98	Cylinder
CC99	Gasket
CC100	Cap
CC101	Male Elbow
CC102	Pipe Plug

16" — 20" ANGULAR CONTROL, ANTI-FRICTION TAILSTOCK SPINDLE



13" ANGULAR CONTROL, ANTI-FRICTION TAILSTOCK SPINDLE

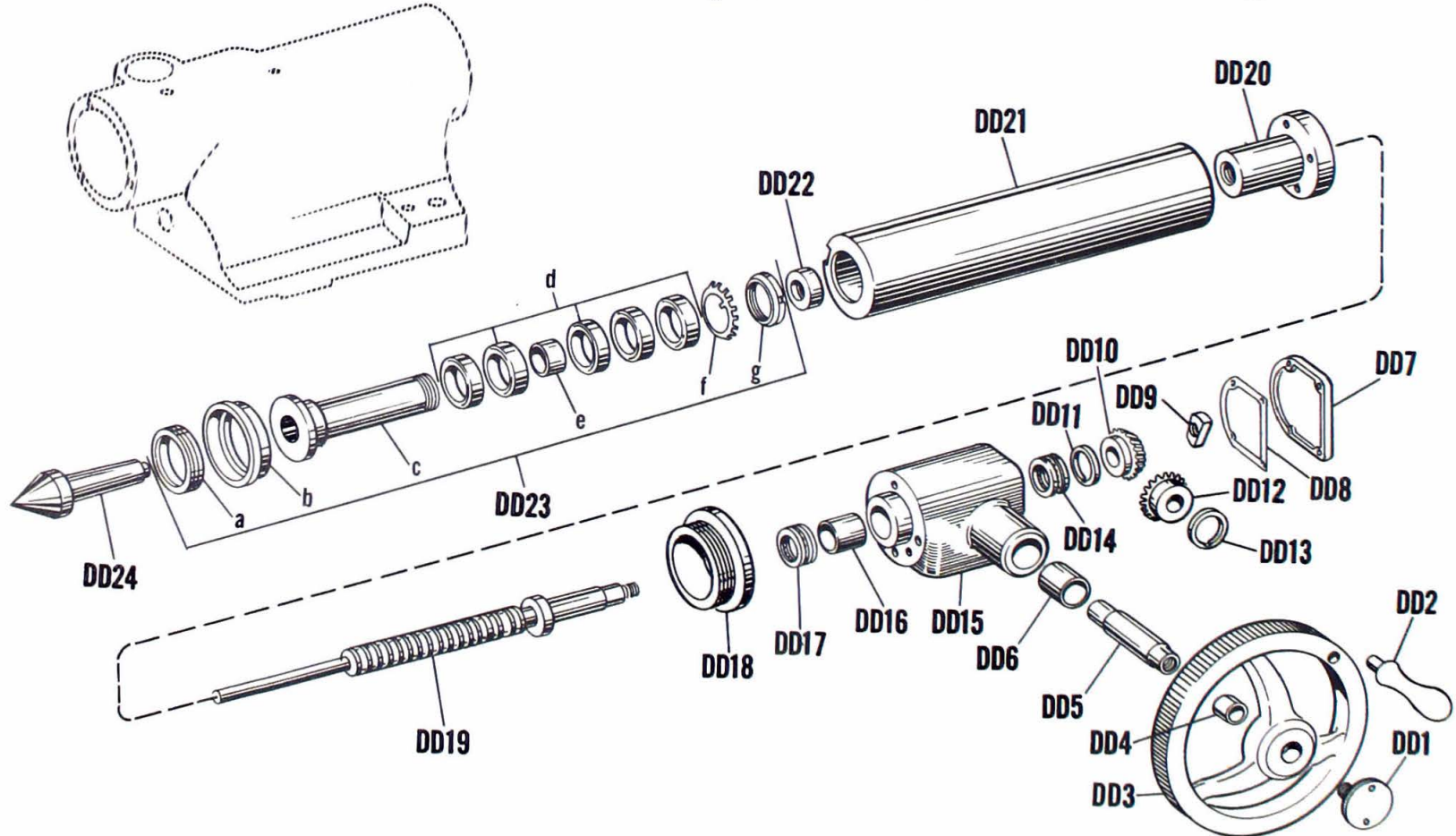
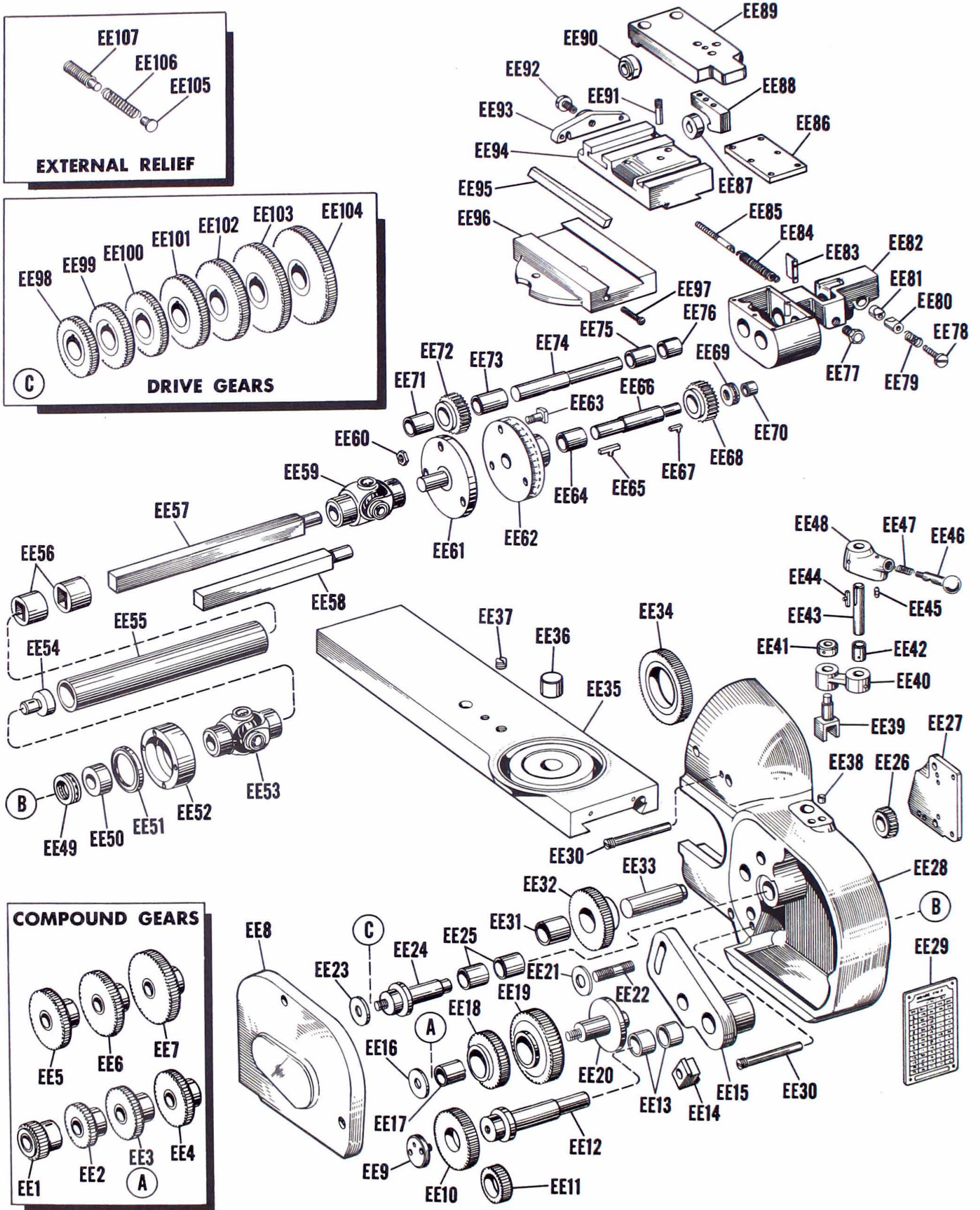


Figure DD, Angular Control, Anti-Friction Tailstock Spindle

Parts List for Figure DD, Angular Control,
Anti-Friction Tailstock Spindle

INDEX NO.	PART NAME
ANTI-FRICTION TAILSTOCK SPINDLE	
DD1	Shoulder Screw
DD2	Handwheel Handle
DD3	Handwheel
DD4	Bushing
DD5	Bevel Gear Shaft
DD6	Oilite Bushing
DD7	Housing Cover
DD8	Housing Gasket
DD9	Nut
DD10	Bevel Gear
DD11	Spacer
DD12	Bevel Gear
DD13	Washer
DD14	Thrust Bearing
DD15	Bevel Gear Housing
DD16	Oilite Bushing
DD17	Thrust Bearing
DD18	Adapter
DD19	Screw
DD20	Spindle Nut
DD21	Spindle (Anti-friction)
DD22	Oil Seal
DD23	Center Shank Assembly
DD23-a	Oil Deflector
DD23-b	Retainer Nut
DD23-c	Center Shank
DD23-d	Bearing Set
DD23-e	Spacer
DD23-f	Lockwasher
DD23-g	Locknut
DD24	Center

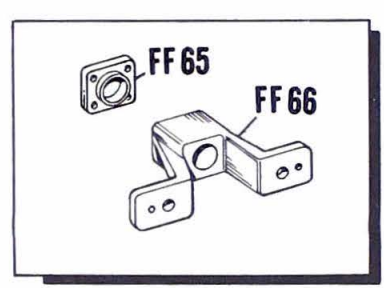
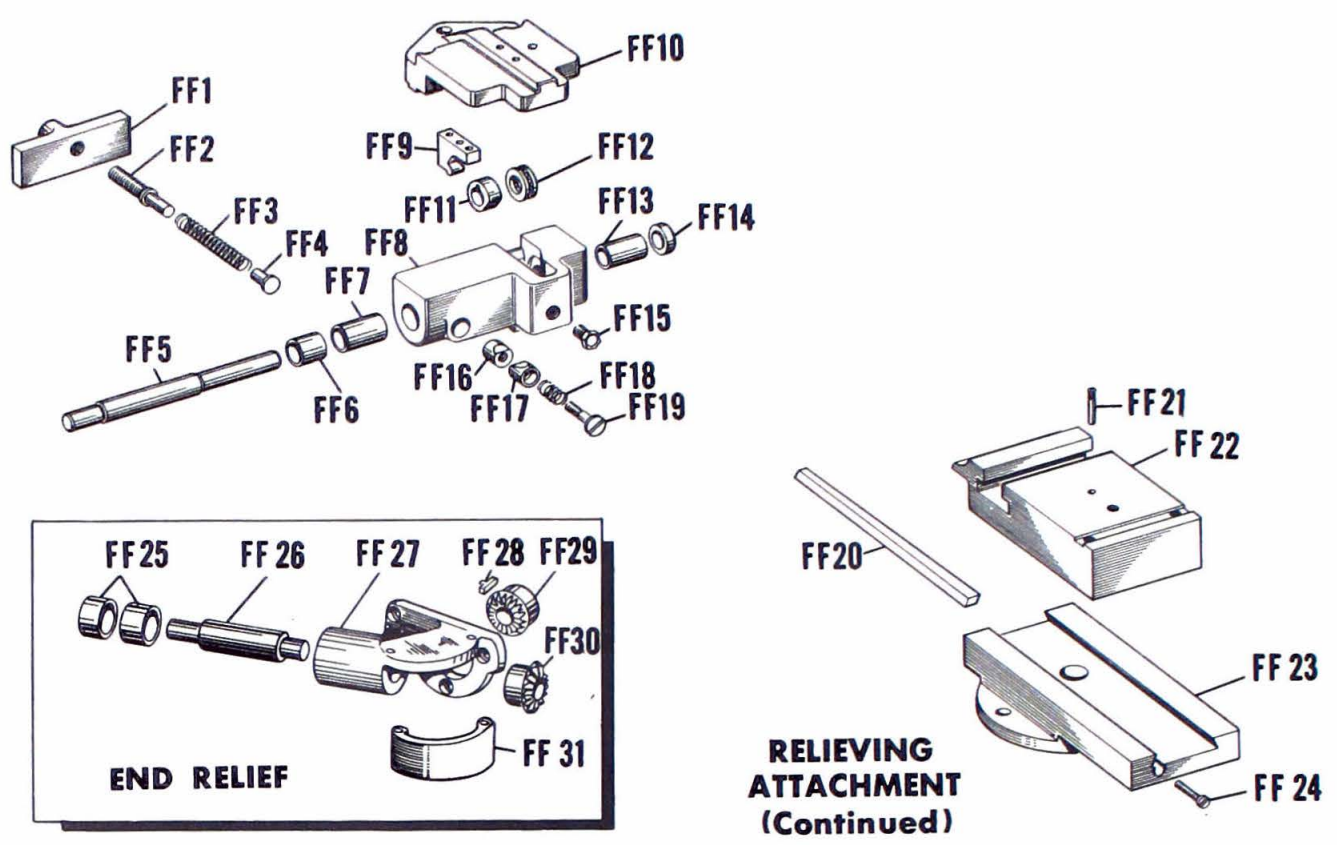
INDEX NO.	PART NAME
ANGULAR CONTROL TAILSTOCK SPINDLE	
DD25	Shoulder Screw
DD26	Handwheel Handle
DD27	Handwheel
DD28	Bevel Gear Shaft
DD29	Oilite Bushing
DD30	Handwheel Extension
DD31	Oilite Bearing
DD32	Cover
DD33	Gasket
DD34	Nut
DD35	Bevel Gear
DD36	Bevel Gear
DD37	Thrust Bearing
DD38	Bevel Gear Housing
DD39	Threaded Dowel
DD40	Oilite Bearing
DD41	Adapter
DD42	Thrust Bearing
DD43	Screw
DD44	Spindle Nut
DD45	Spindle
DD46	Oil Seal
DD47	Center Shank Assembly
DD47-a	Oil Seal
DD47-b	Retainer Nut
DD47-c	Center Shank
DD47-d	Bearing Set
DD47-e	Spacer
DD47-f	Locknut
DD47-g	Lockwasher
DD48	Retaining Ring
DD49	Spring
DD50	Ejector Pin
DD51	Center



Parts List for Figure EE, Relieving Attachment

INDEX NO.	PART NAME
COMPOUND GEARS (EE1 - EE7)	
EE1	Compound Gear (30T)
EE2	Compound Gear (35T)
EE3	Compound Gear (40T)
EE4	Compound Gear (45T)
EE5	Compound Gear (50T)
EE6	Compound Gear (55T)
EE7	Compound Gear (65T)
EE8	Housing Cover
EE9	Lock Screw
EE10	Driven Gear (45T)
EE11	Driven Gear (30T)
EE12	Driven Shaft
EE13	Bushings
EE14	Clamp
EE15	Quadrant
EE16	Washer
EE17	Bushing
EE18	Hub Compound Gear (45T)
EE19	Hub Compound Gear (60T)
EE20	Compound Shaft
EE21	Washer
EE22	Stud
EE23	Washer
EE24	Drive Shaft
EE25	Bushings
EE26	Drive Shaft Pinion
EE27	Shaft Plate
EE28	Housing
EE29	Index Plate
EE30	Threaded Dowel
EE31	Bushing
EE32	Slip Gear (47T)
EE33	Slip Gear Shaft
EE34	Spindle Gear (70T)
EE35	Bottom Slide
EE36	Swivel Pin
EE37	Plug
EE38	Insert
EE39	Shoe
EE40	Lever
EE41	Collar
EE42	Bushing
EE43	Stem
EE44	Tit Key
EE45	Plunger Pin
EE46	Shifter Lever
EE47	Spring
EE48	Shifter Lever Hub
EE49	Thrust Bearing
EE50	Collar
EE51	Garlock Closure
EE52	Cap
EE53	Universal Joint
EE54	Drive Tube Hub
EE55	Drive Tube
EE56	Broached Bushings
EE57	Drive Rod (Long)

INDEX NO.	PART NAME
EE58	Drive Rod (Short)
EE59	Universal Joint
EE60	Timer Bolt Nut
EE61	Timer Plate
EE62	Timer
EE63	Swivel Bolt
EE64	Bushing
EE65	Tit Key
EE66	Shaft
EE67	Tit Key
EE68	Shaft Gear
EE69	Thrust Bearing
EE70	Bushing
EE71	Bushing
EE72	Cam Shaft Gear (36T)
EE73	Bushing
EE74	Cam Shaft
EE75	Oilite Bushing
EE76	Oilite Bushing
EE77	Oil Gauge
EE78	Brake Adjusting Screw
EE79	Spring
EE80	Front Brake Plug
EE81	Back Brake Plug
EE82	Cam Bracket
EE83	Guard
EE84	Adjusting Spring
EE85	Adjusting Screw
EE86	Cover Plate
EE87	Cam, (1/16-1/8-3/16 Single Throw)
EE88	Abutting Block
EE89	Cam Bracket Cover
EE90	Cam, (1/16-1/8-3/16 Double Throw) (Specify Throw)
EE91	Spring Lock Stud
EE92	Adjusting Screw Sleeve
EE93	Adjusting Screw Bracket
EE94	Top Slide
EE95	Top Slide Gib
EE96	Swivel
EE97	Gib Screw
DRIVE GEARS	
EE98	Drive Gear (52T)
EE99	Drive Gear (66T)
EE100	Drive Gear (70T)
EE101	Drive Gear (72T)
EE102	Drive Gear (80T)
EE103	Drive Gear (84T)
EE104	Drive Gear (96T)
EXTERNAL RELIEF	
EE105	Adjusting Screw Spring Guide
EE106	Adjusting Screw Spring
EE107	Adjusting Screw



WITHOUT TAPER ATTACHMENT

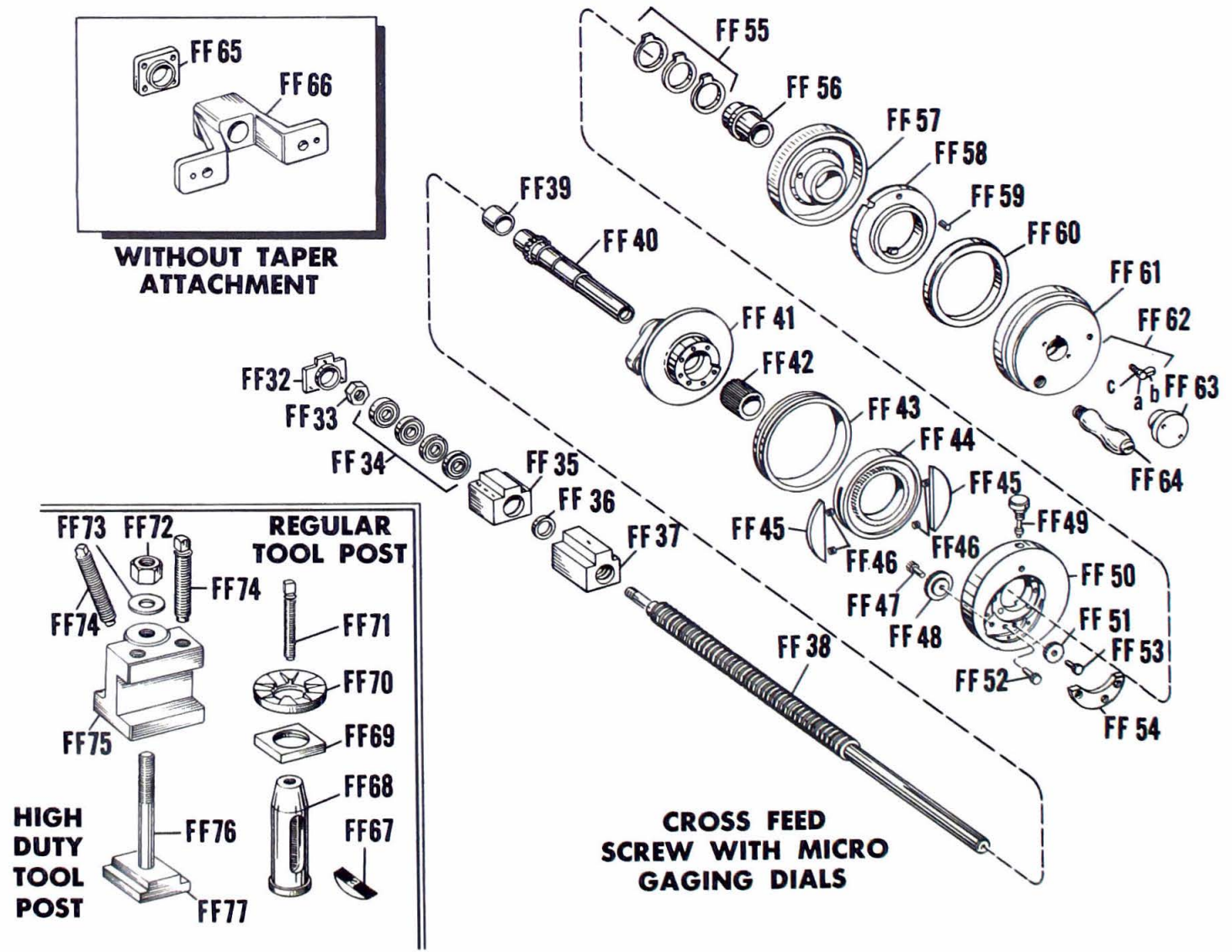


Figure FF, Relieving Attachment Continued, Cross Feed Screw with Micro Gaging Dials and Tool Rests

**Parts List for Figure FF, Relieving Attachment Continued,
Cross Feed Screw with Micro Gaging
Dials and Tool Rests**

INDEX NO.	PART NAME
RELIEVING ATTACHMENT CONTINUED	
FF1	Adjusting Screw Bracket
FF2	Adjusting Screw
FF3	Adjusting Screw Spring
FF4	Spring Guide
FF5	Cam Shaft
FF6	Bushing
FF7	Bushing
FF8	Cam Bracket
FF9	Cam Follower
FF10	Cam Bracket Cover
FF11	Cam (1/16-1/8-3/16-1/4 Single Throw) (Specify Throw)
FF12	Thrust Bearing
FF13	Cam Shaft Bushing
FF14	Cam Shaft Collar
FF15	Oil Gauge
FF16	Brake Plug (Rear)
FF17	Brake Plug (Front)
FF18	Spring
FF19	Brake Adjusting Screw
FF20	Top Slide Gib
FF21	Headless Set Screw
FF22	Top Slide
FF23	Swivel
FF24	Gib Screw
END RELIEF	
FF25	Bushings
FF26	Miter Gear Shaft
FF27	Bevel Gear Bracket
FF28	Sleeve Key
FF29	Miter Gear
FF30	Miter Gear
FF31	Bevel Gear Guard
CROSS FEED SCREW WITH MICRO GAGING DIALS	
FF32	Bearing Cap (With Taper)
FF33	Nut
FF34	Bearings
FF35	Bracket (With Taper)
FF36	Oil Seal
FF37	Cross Feed Screw Nut
FF38	Cross Feed Screw

INDEX NO.	PART NAME
FF39	Bushing
FF40	Cross Feed Screw Sleeve Gear
FF41	Cross Feed Screw Bushing
FF42	Compound Gear
FF43	Diameter Dial
FF44	Diameter Dial Bushing Assembly
FF45	Diameter Dial Friction Plate
FF46	Spring
FF47	Compound Pinion
FF48	Compound Gear
FF49	Stop Screw
FF50	Dial Spacer
FF51	Compound Gear
FF52	Idler Pinion
FF53	Compound Pinion
FF54	Plate
FF55	Lock Collar Assembly
FF56	Dial Bushing
FF57	Cross Feed Micro Dial
FF58	Cross Feed Dial Disc
FF59	Micro Dial Lock Button
FF60	Dial Lock Ring
FF61	Cross Feed Knob
FF62	Lock Assembly
FF62-a	Lock Screw Finger
FF62-b	Pin
FF62-c	Lock Screw
FF63	Cross Feed Shoulder Screw
FF64	Balcrank Handle (Revolving)
FF65	Bearing Cap } Without Taper
FF66	Bracket } Attachment
REGULAR TOOL POST	
FF67	Tool Post Rocker
FF68	Tool Post
FF69	Tool Post Block
FF70	Tool Post Collar
FF71	Tool Post Screw
HIGH DUTY TOOL POST	
FF72	Clamp Bolt Nut
FF73	Cam Ring
FF74	Tool Post Screw
FF75	High Duty Tool Post
FF76	Stud
FF77	Clamp

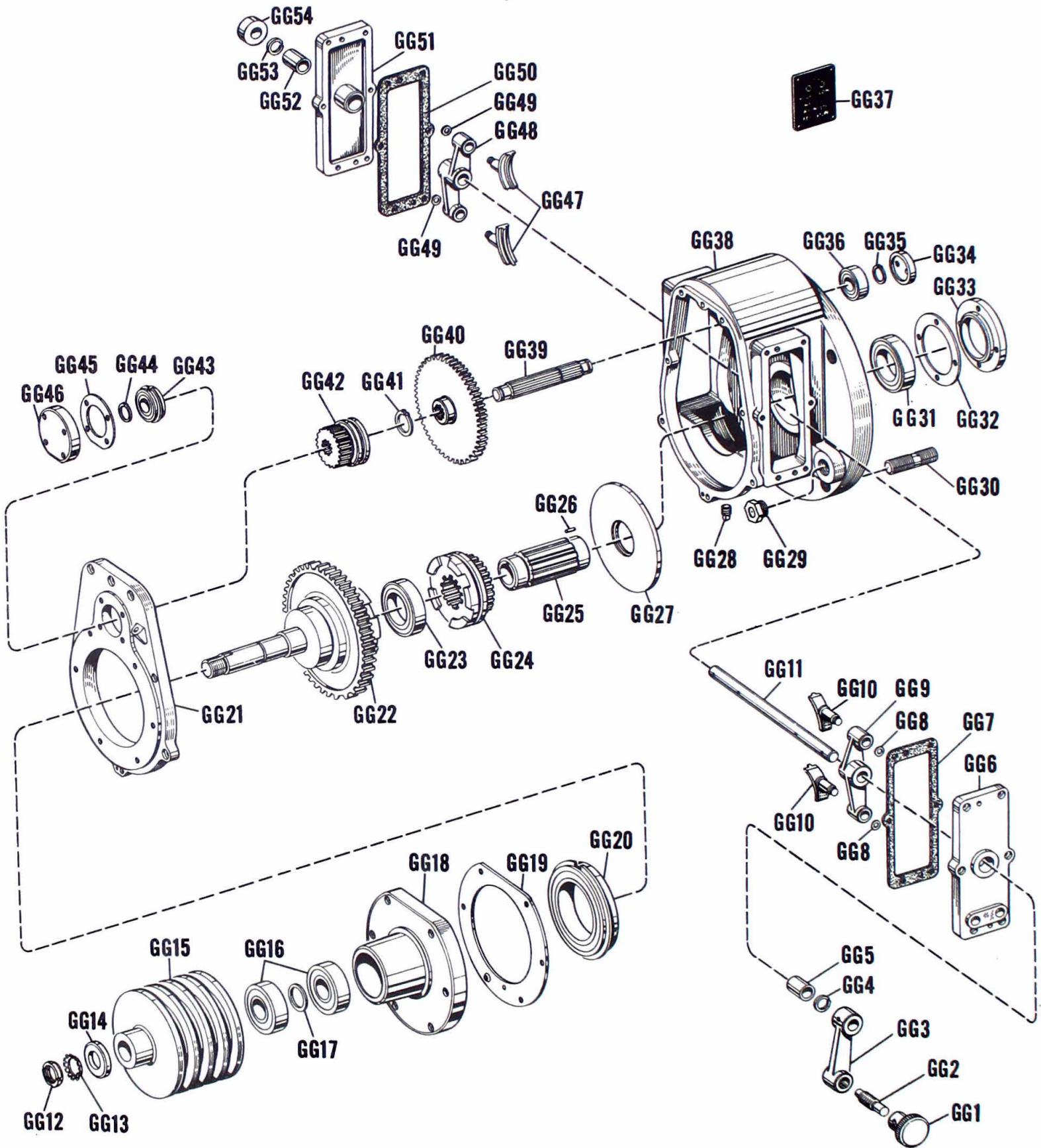
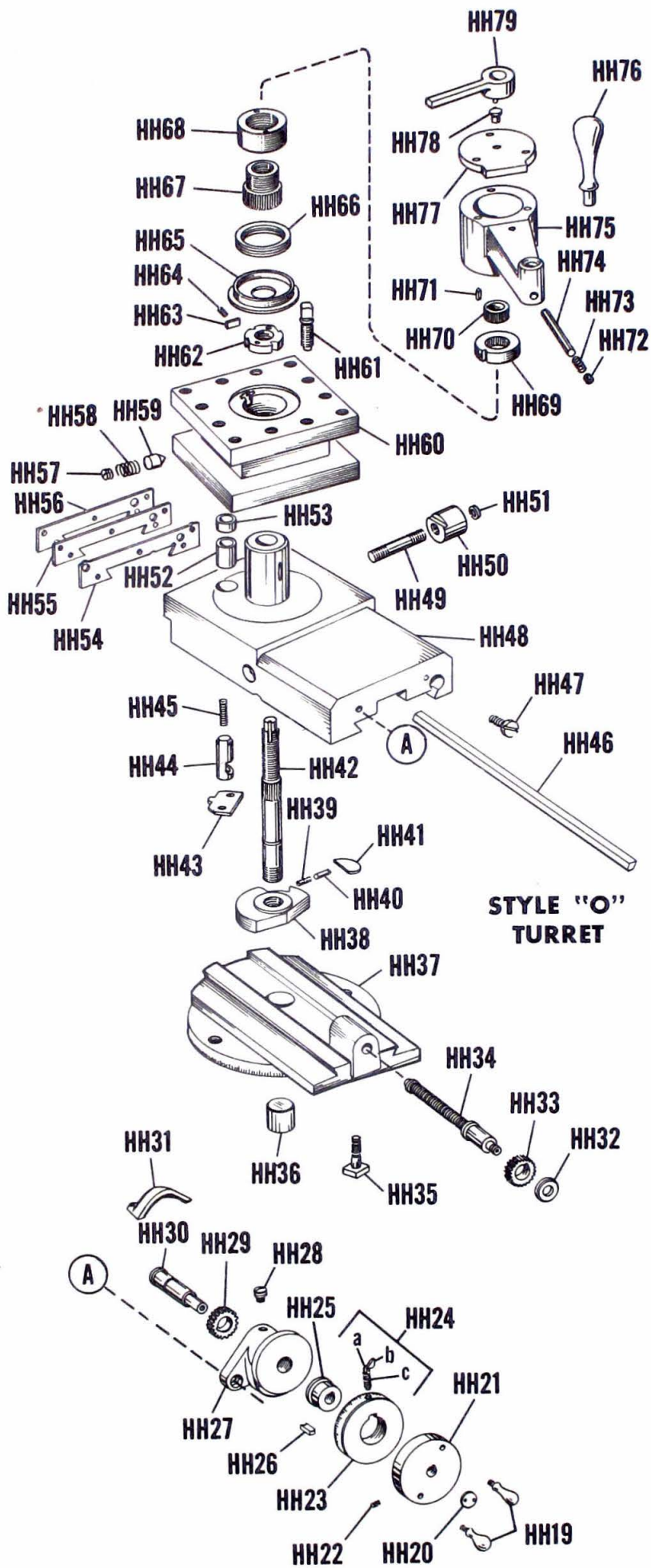


Figure GG, Speed Reducer

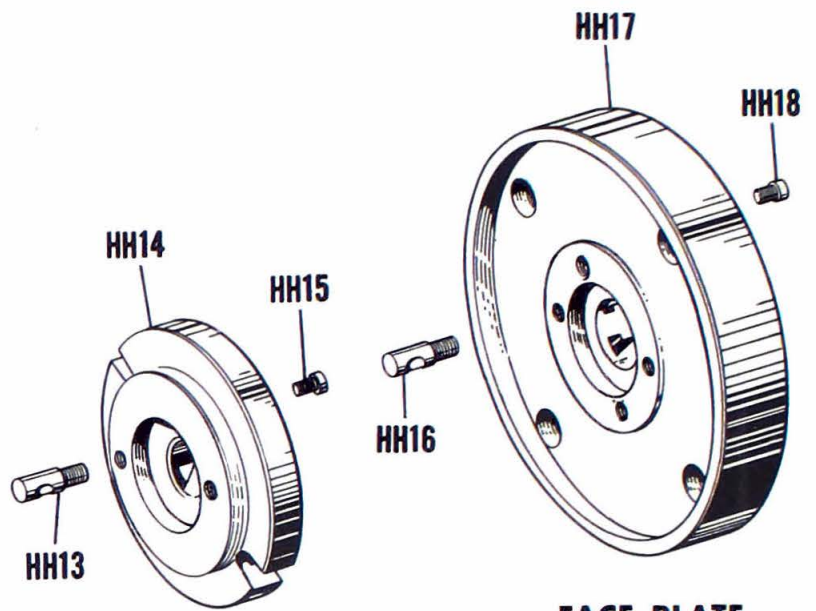
Parts List for Figure GG, Speed Reducer

INDEX NO.	PART NAME
GG1	Shifter Knob
GG2	Reverse Segment Lever Pin
GG3	Shifter Lever
GG4	Linear "O" Ring
GG5	Oilite Bushing
GG6	Shifter Plate - R. H.
GG7	Gasket
GG8	Washers
GG9	Shifter Arm
GG10	Shifter Shoe
GG11	Shaft
GG12	Locknut
GG13	Lockwasher
GG14	Washer
GG15	Sheave
GG16	Bearings
GG17	Shim
GG18	Bearing Retainer
GG19	Shim
GG20	Radial Bearing
GG21	Front Cover
GG22	Gear
GG23	Seal Bearing
GG24	Clutch Gear
GG25	Sleeve
GG26	Pin
GG27	Oil Slinger

INDEX NO.	PART NAME
GG28	Plug
GG29	Oil Gauge
GG30	Stud
GG31	Seal Bearing
GG32	Shim
GG33	Seal Retainer
GG34	Plug
GG35	Retaining Ring
GG36	Radial Bearing
GG37	Index Plate
GG38	Gear Housing
GG39	Shaft
GG40	Gear
GG41	Retaining Ring
GG42	Sliding Gear
GG43	Radial Bearing
GG44	Retaining Ring
GG45	Shim
GG46	Bearing Cap
GG47	Shifter Shoes
GG48	Shifter Arm
GG49	Washers
GG50	Gasket
GG51	Shifter Plate - L. H.
GG52	Oilite Bushing
GG53	Linear "O" Ring
GG54	Collar

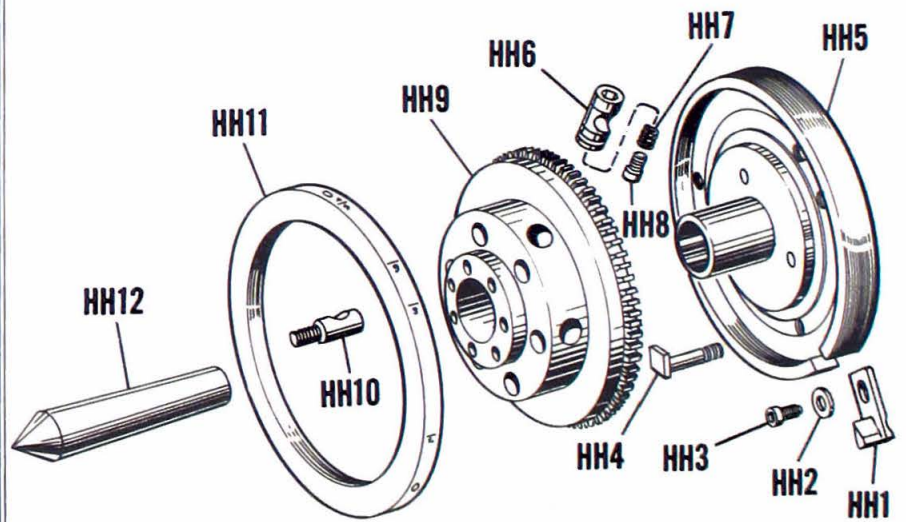


STYLE "O" TURRET



DOG PLATE

FACE PLATE



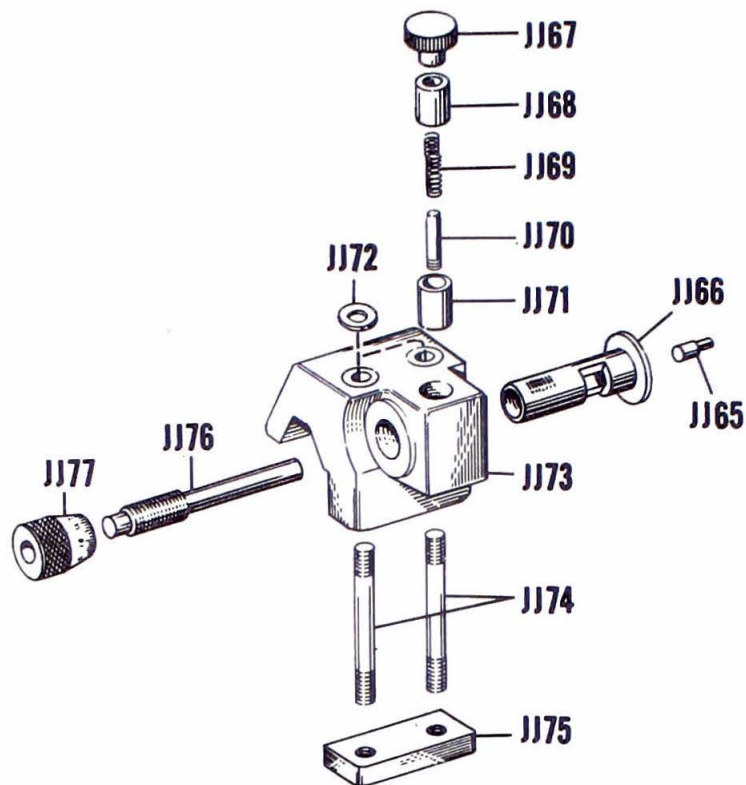
MULTIPLE INDEXING FACE PLATE

Figure HH, Style "O" Turret, Dog Plate and Face Plate and Multiple Indexing Face Plate

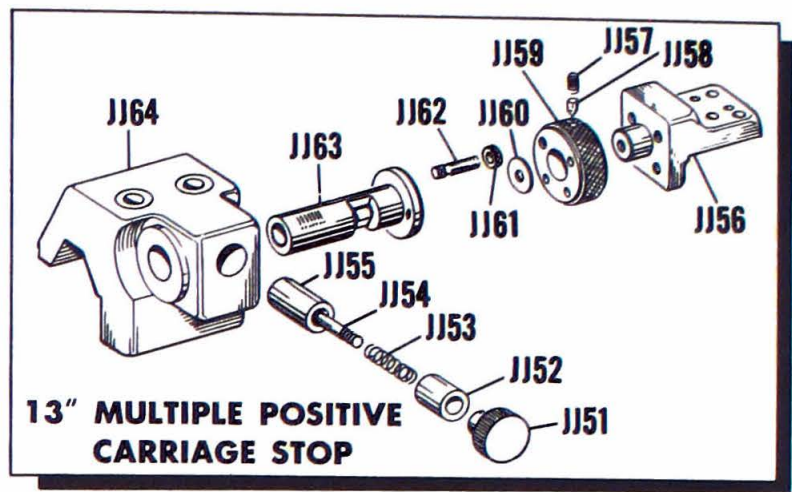
**Parts List for Figure HH, Style "O" Turret, Dog Plate and
Face Plate and Multiple Indexing Face Plate**

INDEX NO.	PART NAME
MULTIPLE INDEXING FACE PLATE	
HH1	Indexing Latch
HH2	Washer
HH3	Cam Screw
HH4	Clamp Bolt
HH5	Hub
HH6	Cam
HH7	Cam Spring
HH8	Locking Screw
HH9	Sub-Nose
HH10	Cam Stud
HH11	Index Ring
HH12	Center
DOG PLATE	
HH13	Cam Stud
HH14	Dog Plate
HH15	Locking Screw
FACE PLATE	
HH16	Cam Stud
HH17	Tee Slot Face Plate
HH18	Locking Screw
STYLE "O" TURRET	
HH19	Handle
HH20	Crank Retaining Screw
HH21	Compound Knob
HH22	Screw
HH23	Compound Dial
HH24	Lockscrew Finger Assembly
HH24-a	Lockscrew Finger
HH24-b	Pin
HH24-c	Lockscrew
HH25	Compound Dial Bushing
HH26	Key
HH27	Compound Bushing
HH28	Oil Hole Cover
HH29	Compound Gear
HH30	Compound Gear Stud
HH31	Compound Gear Cover
HH32	Compound Screw Washer
HH33	Compound Gear

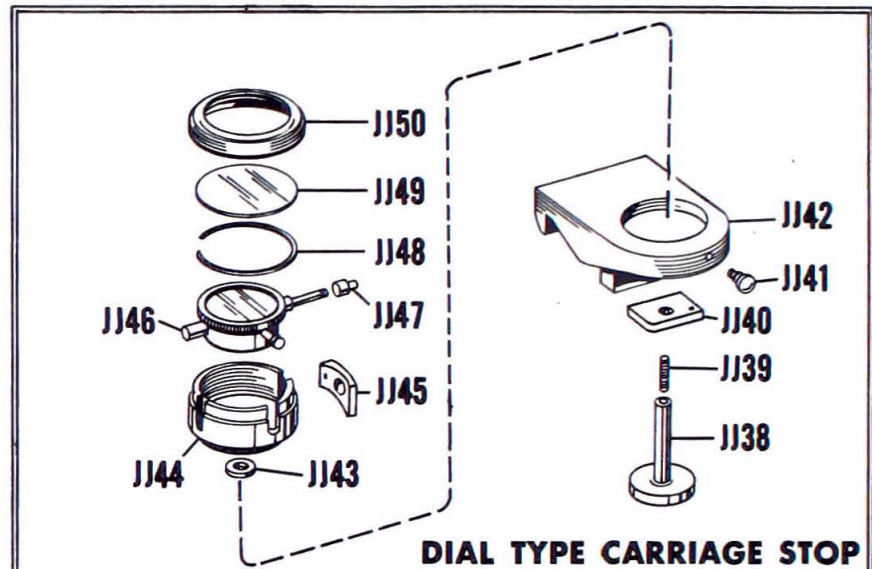
INDEX NO.	PART NAME
HH34	Compound Screw
HH35	Swivel Bolt
HH36	Swivel Pin
HH37	Swivel
HH38	Cam Body
HH39	Spring
HH40	Plunger
HH41	Cam
HH42	Stud
HH43	Spring Plate
HH44	Plunger
HH45	Spring
HH46	Gib
HH47	Gib Screw
HH48	Turret Slide
HH49	Stud
HH50	Plug
HH51	Washer
HH52	Bushing
HH53	Insert
HH54	Plate
HH55	Wiper
HH56	Wiper Plate
HH57	Screw
HH58	Spring
HH59	Pin
HH60	Turret Body
HH61	Tool Post Screw
HH62	Index Cam
HH63	Dog
HH64	Spring
HH65	Retainer Plate
HH66	Bearing
HH67	Lock Screw
HH68	Adjusting Screw
HH69	Plunger Cam
HH70	Collar
HH71	Key
HH72	Screw, Cup Point
HH73	Spring
HH74	Plunger
HH75	Handle
HH76	Balcrank Handle
HH77	Cover
HH78	Oil Hole Cover
HH79	Wrench



**REGULAR MICROMETER
CARRIAGE STOP**

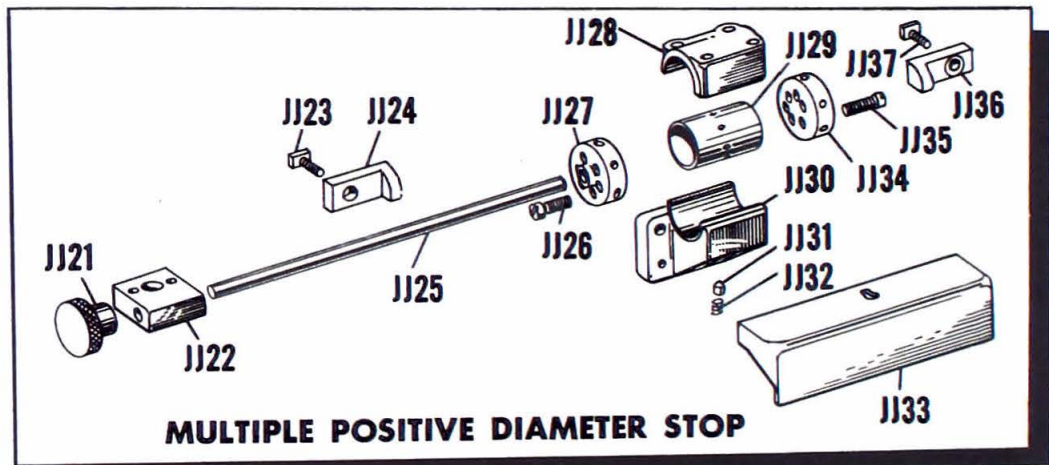
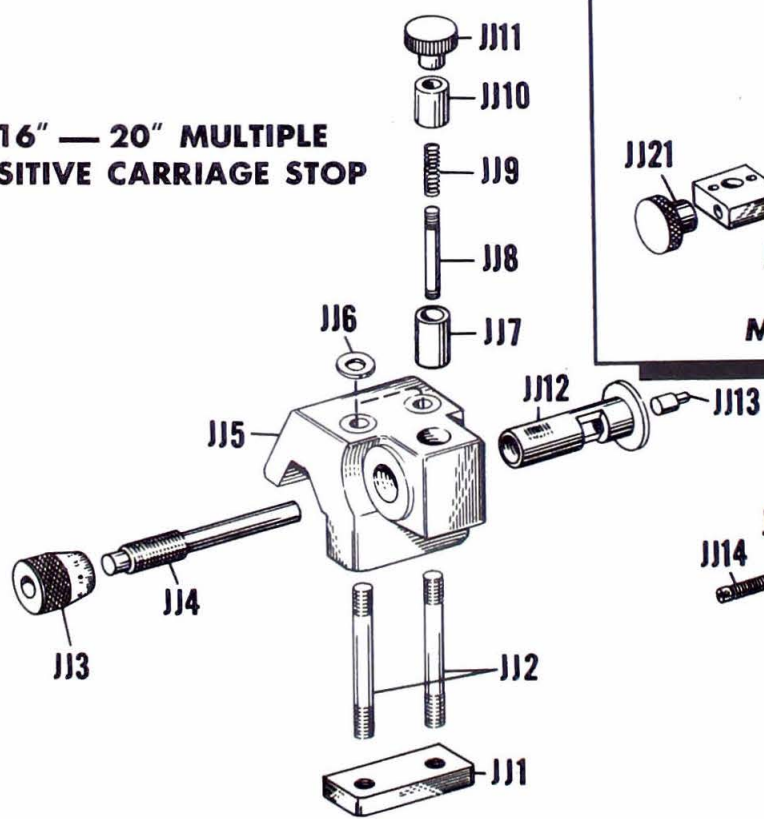


**13" MULTIPLE POSITIVE
CARRIAGE STOP**



DIAL TYPE CARRIAGE STOP

**16" — 20" MULTIPLE
POSITIVE CARRIAGE STOP**



MULTIPLE POSITIVE DIAMETER STOP

Figure JJ, Carriage and Cross Feed Stops

Parts List for Figure JJ, Carriage and Cross Feed Stops

INDEX NO.	PART NAME
16" AND 20" MULTIPLE POSITIVE CARRIAGE STOP	
JJ1	Micrometer Bracket Clamp
JJ2	Micrometer Bracket Stud
JJ3	Micrometer Dial
JJ4	Micrometer Spindle
JJ5	Micrometer Bracket
JJ6	Washer
JJ7	Lower Clamp Plug
JJ8	Clamp Plug Stud
JJ9	Spring
JJ10	Upper Clamp Plug
JJ11	Knob
JJ12	Micrometer Body
JJ13	Stop Button
JJ14	Index Screw
JJ15	Lock Nut
JJ16	Index Body Post
JJ17	Index Body
JJ18	Index Body Washer
JJ19	Detent Plunger
JJ20	Spring
MULTIPLE POSITIVE DIAMETER STOP	
JJ21	Adjusting Screw Knob
JJ22	Rod Support
JJ23	Dog Clamp Bolt
JJ24	Front Trip Bracket
JJ25	Index Rod
JJ26	Index Screw
JJ27	6 Station Dial Cap (Front)
JJ28	Index Dial Bracket Cap
JJ29	Index Dial Barrel
JJ30	Bracket
JJ31	Index Plunger
JJ32	Spring
JJ33	Cover
JJ34	6 Station Dial Cap (Rear)
JJ35	Index Screw
JJ36	Rear Trip Bracket
JJ37	Dog Clamp Bolt

INDEX NO.	PART NAME
DIAL TYPE CARRIAGE STOP	
JJ38	Clamp Knob
JJ39	Clamp Stud
JJ40	Bed Bracket Clamp
JJ41	Clamp Screw
JJ42	Dial Case Bracket
JJ43	Washer
JJ44	Dial Case Bottom
JJ45	Indicator Protection Stop
JJ46	Dial Indicator
JJ47	Stop Button
JJ48	Dial Glass Snap Ring
JJ49	Dial Glass
JJ50	Dial Case Top
13" MULTIPLE POSITIVE CARRIAGE STOP	
JJ51	Knob
JJ52	Upper Clamp Plug
JJ53	Spring
JJ54	Clamp Plug Stud
JJ55	Lower Clamp Plug
JJ56	Index Body Post
JJ57	Spring
JJ58	Detent Plunger
JJ59	Index Body
JJ60	Index Body Washer
JJ61	Lock Nut
JJ62	Index Screw
JJ63	Micrometer Body
JJ64	Micrometer Bracket
REGULAR MICROMETER CARRIAGE STOP	
JJ65	Stop Button
JJ66	Micrometer Body
JJ67	Knob
JJ68	Upper Clamp Plug
JJ69	Spring
JJ70	Clamp Plug Stud
JJ71	Lower Clamp Plug
JJ72	Washer
JJ73	Micrometer Bracket
JJ74	Micrometer Bracket Stud
JJ75	Micrometer Bracket Clamp
JJ76	Micrometer Spindle
JJ77	Micrometer Dial

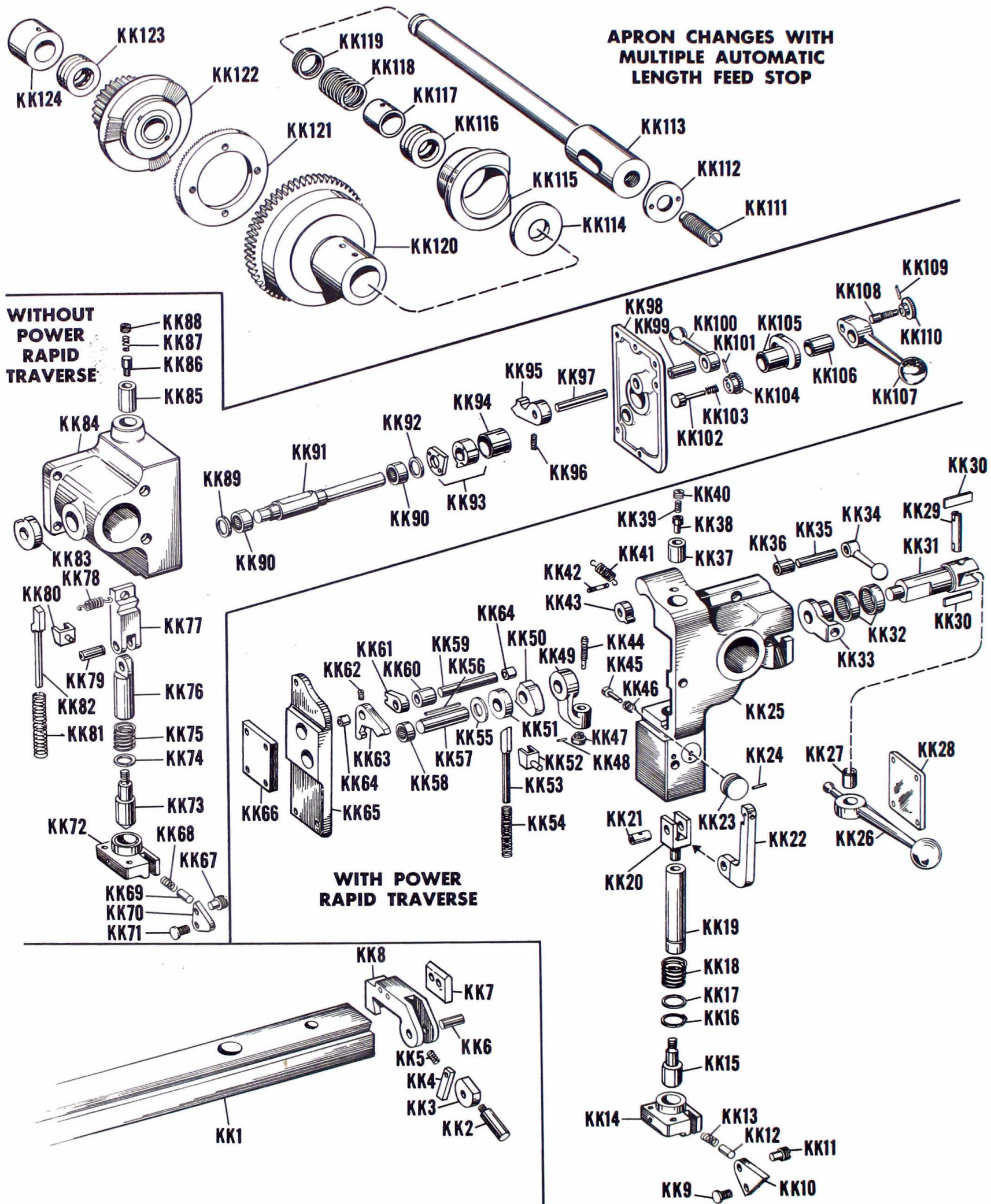


Figure KK, Multiple Automatic Length Feed Stop

Parts List for Figure KK, Multiple Automatic Length Feed Stop

INDEX NO.	PART NAME
KK1	Rail
KK2	Cam Locking Pin
KK3	Cam
KK4	Cam Binder Bar
KK5	Plunger Spring
KK6	Dowel Pin
KK7	Stop Block
KK8	Gauge Block Base
WITH POWER RAPID TRAVERSE	
KK9	Flag Stop Screw
KK10	Flag Stop
KK11	Dowel Screw
KK12	Pin
KK13	Spring
KK14	Cap
KK15	Plunger
KK16	Retaining Ring
KK17	Washer
KK18	Spring
KK19	Plunger Top
KK20	Yoke
KK21	Yoke Pin
KK22	Link
KK23	Knob
KK24	Pin
KK25	Longitudinal Cam Housing
KK26	Friction Lever
KK27	Oilite Bushing
KK28	Friction Cam Housing Cover
KK29	Friction Lever Pin
KK30	Friction Cam Wiper
KK31	Clutch Cam
KK32	Needle Bearing
KK33	Drive Arm
KK34	Handle
KK35	Shaft
KK36	Bushing
KK37	Insert
KK38	Plunger
KK39	Spring
KK40	Screw
KK41	Spring
KK42	Roll Pin
KK43	Knuckle
KK44	Locking Screw
KK45	Uplock Plunger
KK46	Spring
KK47	Knob
KK48	Pin
KK49	Lock Arm
KK50	Locking Cam
KK51	Drive Cam
KK52	Shoe
KK53	Cam Release Plunger
KK54	Spring
KK55	Spacer
KK56	Straight Key
KK57	Lock Cam Shaft
KK58	Needle Bearing (GB-88)
KK59	Pawl Shaft
KK60	Spacer
KK61	Release
KK62	Screw
KK63	Pawl
KK64	Bushing

INDEX NO.	PART NAME
KK65	Cover
KK66	Cover Plate
WITHOUT POWER RAPID TRAVERSE	
KK67	Dowel Screw
KK68	Spring
KK69	Pin
KK70	Flag Stop
KK71	Stop Screw
KK72	Cap
KK73	Plunger
KK74	Washer
KK75	Spring
KK76	Plunger Top
KK77	Link
KK78	Spring
KK79	Plunger Pin
KK80	Shoe
KK81	Spring
KK82	Cam Release Plunger
KK83	Collar
KK84	Longitudinal Friction Housing
KK85	Insert
KK86	Plunger
KK87	Spring
KK88	Screw
KK89	Spacer
KK90	Needle Bearing
KK91	Cam Shaft
KK92	Spacer
KK93	Cam Ratchet Assembly
KK94	Oilite Bushing
KK95	Pawl
KK96	Screw
KK97	Shaft
KK98	Cover
KK99	Bushing
KK100	Handle
KK101	Dowel Pin
KK102	Uplock Plunger
KK103	Spring
KK104	Knob
KK105	Sleeve
KK106	Bushing
KK107	Handle
KK108	Locking Screw
KK109	Pin
KK110	Knob
APRON CHANGES WITH MULTIPLE AUTOMATIC LENGTH FEED STOP	
KK111	Friction Stem Adjusting Screw
KK112	Lock Nut
KK113	Longitudinal Feed Clutch Shaft
KK114	Friction Stem Collar
KK115	Friction Gear Bushing
KK116	Thrust Bearing
KK117	Bushing
KK118	Compression Spring
KK119	Spring Thrust Bearing
KK120	Clutch Gear
KK121	Clutch
KK122	Gear and Clutch Assembly
KK123	Thrust Bearing
KK124	Collar

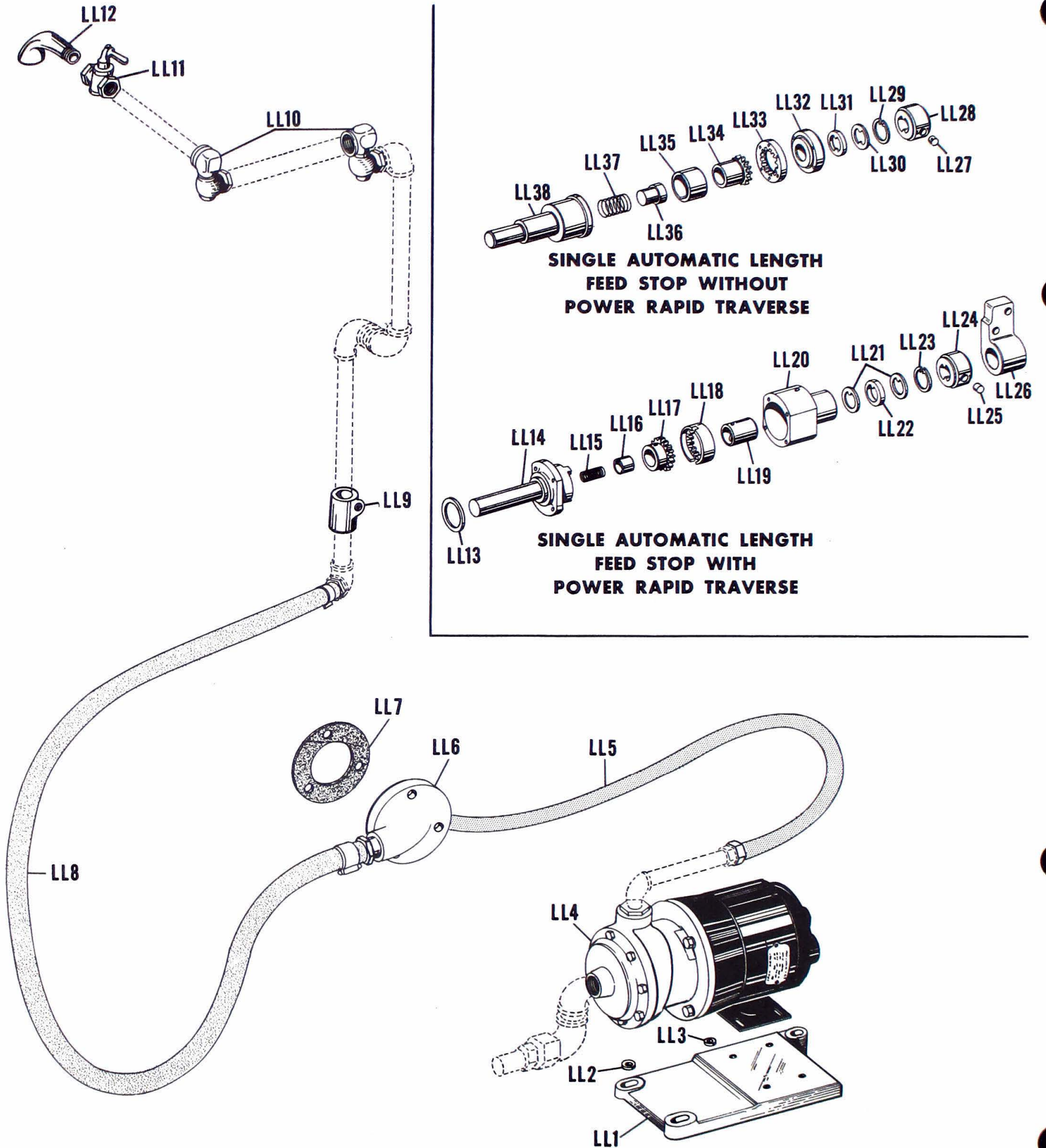


Figure LL, Single Automatic Length Feed Stop and Coolant System

**Parts List for Figure LL, Single Automatic Length
Feed Stop and Coolant System**

INDEX NO.	PART NAME
LL1	Pump Motor Base
LL2	Washer
LL3	Washer
LL4	Motor Driven Centrifugal Pump
LL5	Hose
LL6	Flanged Fitting
LL7	Gasket
LL8	Hose
LL9	Pipe Support
LL10	Swivel Joint
LL11	Stop Cock
LL12	Water Spout
SINGLE AUTOMATIC LENGTH FEED STOP WITH POWER RAPID TRAVERSE	
LL13	Oilite Thrust Bearing
LL14	Clutch Shaft
LL15	Spring
LL16	Thrust Button
LL17	Gear Clutch (27T)
LL18	Internal Gear (27T)
LL19	Bushing

INDEX NO.	PART NAME
LL20	Clutch Housing
LL21	Wiper Plate
LL22	Wiper
LL23	Retaining Ring
LL24	Feed Rod Stop Collar
LL25	Binder Plug
LL26	Stop Bracket
SINGLE AUTOMATIC LENGTH FEED STOP WITHOUT POWER RAPID TRAVERSE	
LL27	Binder Plug
LL28	Feed Rod Stop Collar
LL29	Retaining Ring
LL30	Wiper Plate
LL31	Wiper
LL32	Clutch Cover
LL33	Internal Gear (24T)
LL34	Gear Clutch (24T)
LL35	Bushing
LL36	Thrust Button
LL37	Spring
LL38	Clutch Shaft

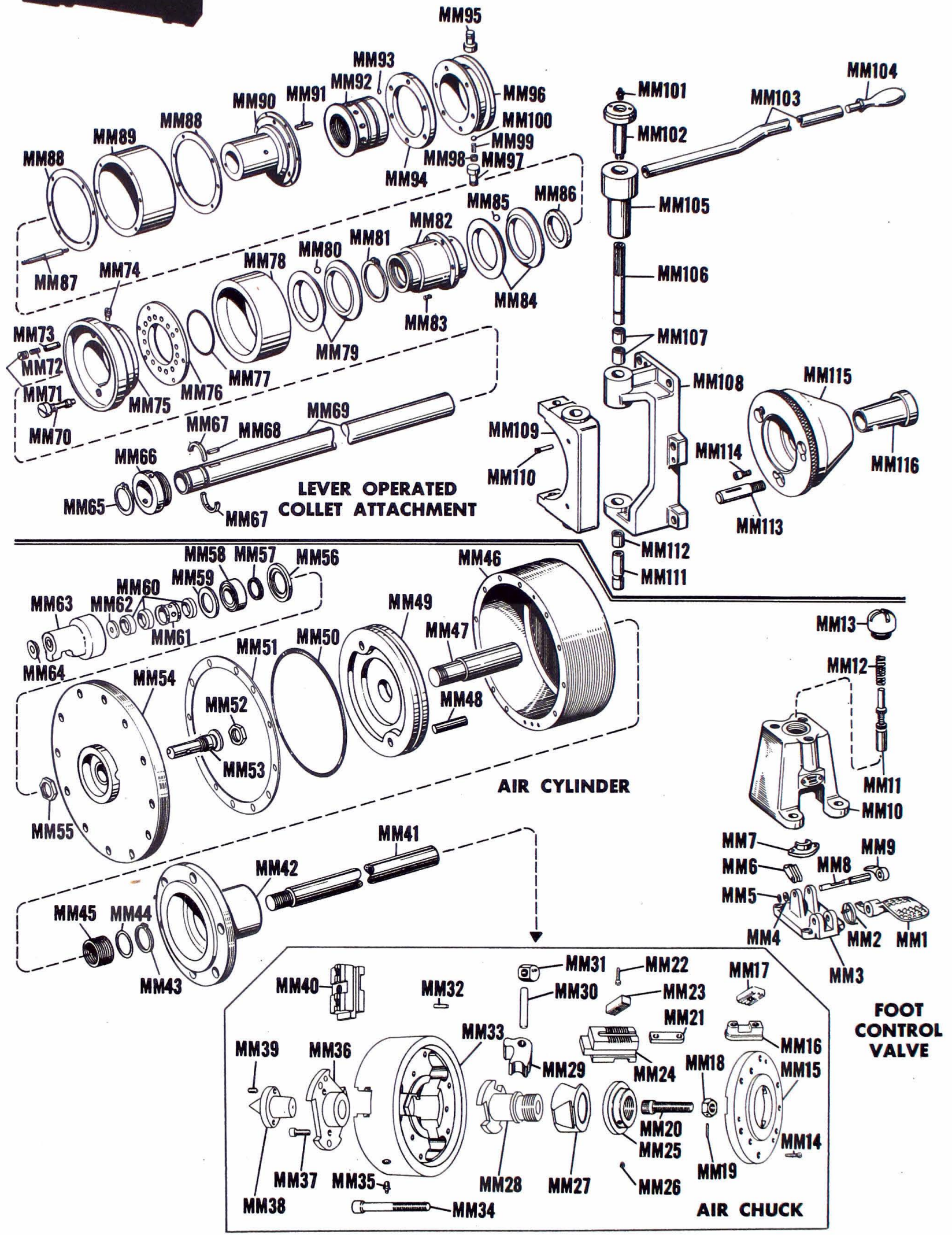
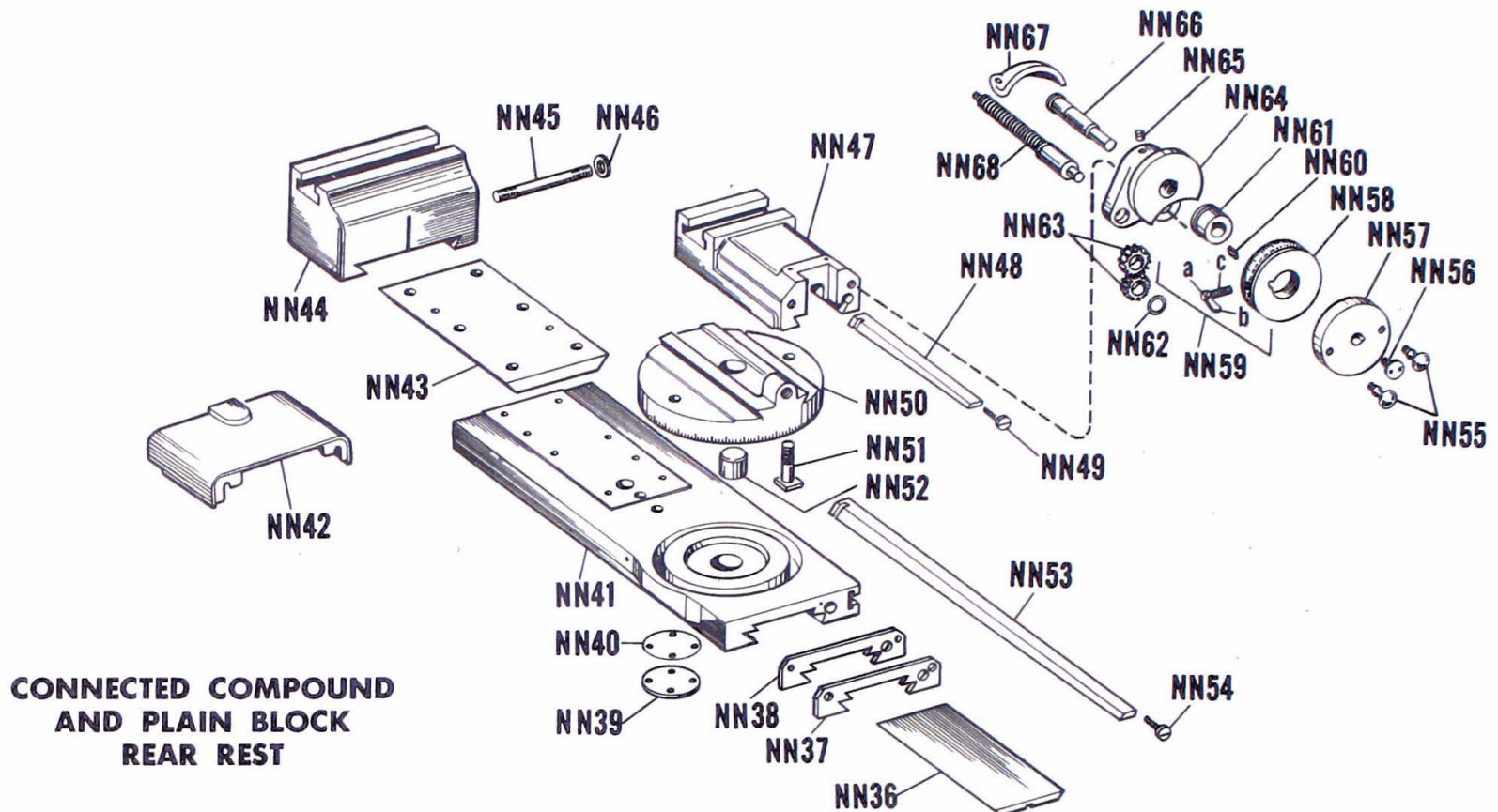


Figure MM, Lever Operated Collet Attachment, Air Cylinder, Air Operated Chuck and Foot Control Valve

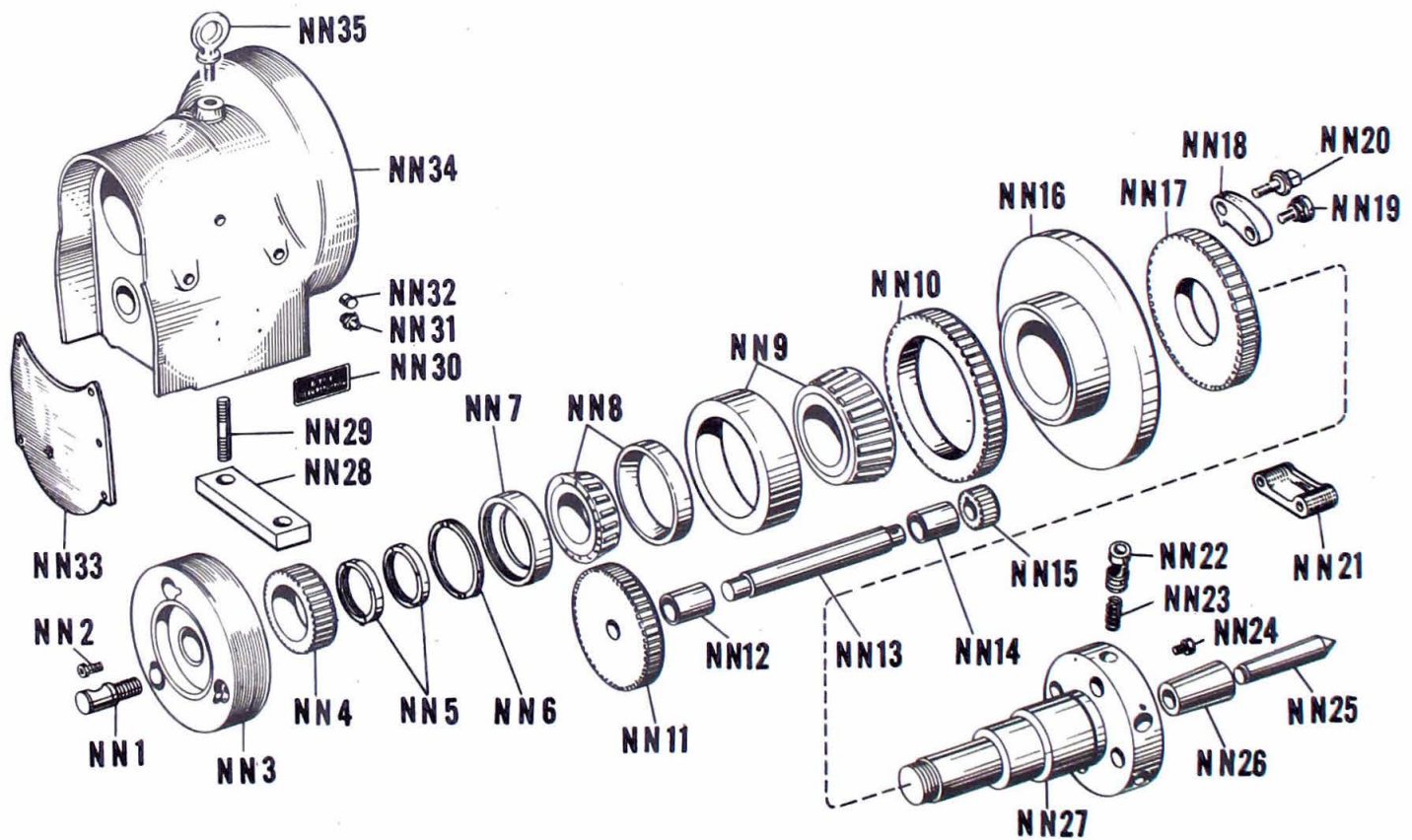
**Parts List for Figure Parts List for MM, Lever Operated Collet Attachment,
Air Cylinder, Air Operated Chuck and Foot Control Valve**

INDEX NO.	PART NAME
FOOT CONTROL VALVE	
MM1	Foot Pedal
MM2	Pedal Return Spring
MM3	Pedal Mounting Base
MM4	Friction Washer
MM5	Thrust Washer
MM6	Latch Dog
MM7	Piston Latch
MM8	Latch Lock Cam
MM9	Latch Cam Handle
MM10	Valve Body
MM11	Piston Rod Assembly
MM12	Spring
MM13	Spring Cap
AIR CHUCK	
MM14	Adapter Screw
MM15	Adapter
MM16	Jaw Nut
MM17	Jaw Slide Key
MM18	Draw Screw Nut
MM19	Draw Screw Lock Nut Pin
MM20	Draw Screw
MM21	Jaw Nut
MM22	Jaw Slide Key Screw
MM23	Jaw Slide Key
MM24	Jaw Slide
MM25	Spool Nut
MM26	Draw Cam Set Screw
MM27	Draw Cam
MM28	Draw Cam Spool
MM29	Operating Lever
MM30	Lever Pin
MM31	Lever Pin Bearing
MM32	Dust Plate Dowel
MM33	Body
MM34	Spindle Screw
MM35	Alemite Fitting
MM36	Dust Plate or Bushing
MM37	Dust Plate Screw
MM38	Center
MM39	Center Removal Screw
MM40	Jaw Slide
AIR CYLINDER	
MM41	Draw Rod
MM42	Air Cylinder Adapter
MM43	Packing Retainer Seal
MM44	Packing Retainer Washer
MM45	Rod Packing
MM46	Cylinder Housing
MM47	Cylinder Draw Rod
MM48	Guide Pin
MM49	Piston
MM50	"O" Ring
MM51	Gasket
MM52	Draw Rod Nut
MM53	Inlet Shaft
MM54	Cover
MM55	Inlet Shaft Nut
MM56	Bearing Retainer

INDEX NO.	PART NAME
MM57	Grease Ring
MM58	Bearing
MM59	Bearing Spacer
MM60	Inlet Shaft Packing
MM61	Packing Spacer
MM62	Pressure Plate
MM63	Air Inlet Housing
MM64	Adjusting Screw Lock Nut
LEVER OPERATED COLLET ATTACHMENT	
MM65	Retaining Ring
MM66	Draw Rod Nut
MM67	Retainer Ring
MM68	Key
MM69	Collet Draw Rod
MM70	Driving Pin
MM71	Adjusting Screw
MM72	Spring
MM73	Poppet
MM74	Stop Screw
MM75	Adjusting Nut
MM76	Cap
MM77	Linear "O" Ring
MM78	Cam
MM79	Washer
MM80	Steel Ball (1/2" Dia.)
MM81	Retaining Ring
MM82	Spool
MM83	Spring
MM84	Washer
MM85	Steel Ball (1/2" Dia.)
MM86	Seal
MM87	Sleeve Screw
MM88	Gasket
MM89	Cam Sleeve
MM90	Inner Sleeve
MM91	Key
MM92	Adjusting Sleeve
MM93	Linear "O" Ring
MM94	Retainer
MM95	Cam Follower Roller Bearing
MM96	Spool Sleeve
MM97	Cam Follower Roller Bearing
MM98	Adjusting Screw
MM99	Spring
MM100	Steel Ball (1/4" Dia.)
MM101	Alemite Fitting
MM102	Spanner Screw
MM103	Lever
MM104	Handle
MM105	Shifter Sleeve
MM106	Shifter Pin
MM107	Oilite Bushings
MM108	Shifter Bracket
MM109	Shifter
MM110	Dowel Screw
MM111	Shifter Pin
MM112	Oilite Bushing
MM113	Locking Screw
MM114	Cam Stud
MM115	Collet Adapter
MM116	Collet Adapter



**CONNECTED COMPOUND
AND PLAIN BLOCK
REAR REST**



SUB-HEADSTOCK

**Figure NN, Connected Compound and Plain Block
Rear Rest and Sub-Headstock**

**Parts List for Figure NN, Connected Compound and Plain Block
Rear Rest and Sub-Headstock**

INDEX NO.	PART NAME
SUB HEADSTOCK	
NN1	Cam Stud
NN2	Locking Screw
NN3	Drive Plate
NN4	Drive Plate Gear
NN5	Thrust Nut
NN6	Packing Nut
NN7	Packing Gland
NN8	Bearing Assembly
NN9	Bearing Assembly
NN10	Ring Gear
NN11	Pinion Drive Gear
NN12	Stud Gear Bushing
NN13	Pinion Shaft
NN14	Stud Gear Bushing
NN15	Ring Gear Pinion
NN16	Ring Gear Plate
NN17	Index Gear
NN18	Index Dog
NN19	Index Dog Screw
NN20	Jaw Clamp Bolt
NN21	Pinion Guard
NN22	Cam
NN23	Cam Spring
NN24	Cam Screw
NN25	Center
NN26	Spindle Bushing
NN27	Camlock Spindle
NN28	Headstock Clamp
NN29	Tracer Binder Stud
NN30	Plate
NN31	Grease Fitting
NN32	Oil Hole Cover
NN33	Gear Guard
NN34	Housing
NN35	Eye Bolt

INDEX NO.	PART NAME
CONNECTED COMPOUND AND PLAIN BLOCK REAR REST	
NN36	Dust Plate
NN37	Wiper Case
NN38	Wiper
NN39	Drain Cover
NN40	Gasket
NN41	Bottom Slide
NN42	Dust Cover
NN43	Dovetail Plate
NN44	Tool Rest
NN45	Stud
NN46	Washer
NN47	Top Slide
NN48	Gib
NN49	Gib Screw
NN50	Swivel
NN51	Swivel "T" Bolt
NN52	Swivel Pin
NN53	Bottom Slide Gib
NN54	Gib Screw
NN55	Handle
NN56	Crank Retaining Screw
NN57	Compound Knob
NN58	Compound Dial
NN59	Lock Screw Finger
NN59-a	Dial Lock Screw Finger
NN59-b	Pin
NN59-c	Lock Screw
NN60	Key
NN61	Compound Dial Bushing
NN62	Compound Screw Washer
NN63	Compound Gears
NN64	Compound Bushing
NN65	Oil Hole Cover
NN66	Compound Gear Stud
NN67	Compound Gear Cover
NN68	Compound Screw

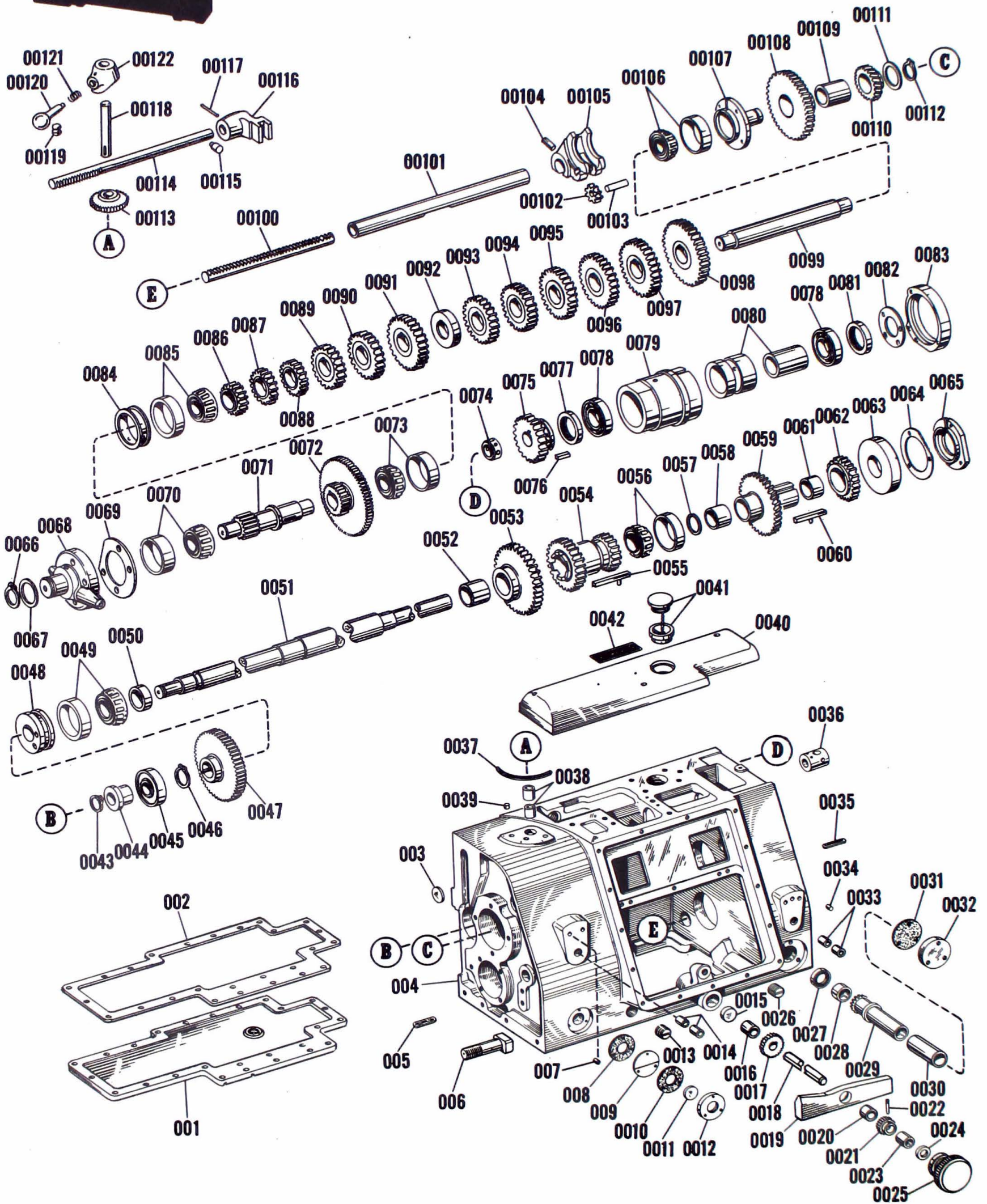


Figure 00, 16" — 20" Metric Gear Box

SIZES**13"****16"****20"****PARTS LIST****OPTIONAL AND ACCESSORY
EQUIPMENT****Parts List for Figure OO, 16" — 20" Metric Gear Box**

INDEX NO.	PART NAME
001	Cover
002	Gasket
003	Plug
004	Gearbox
005	A-B Index Plate
006	T-Bolt
007	Insert
008	Gasket
009	Oil Indicator Plate
0010	Gasket
0011	Lucite Window
0012	Oil Indicator Housing
0013	Plug
0014	Oilite Bushing
0015	Expansion Plug
0016	Oilite Bushing
0017	Gear (26T)
0018	Shaft
0019	Cam Plate
0020	Bushing
0021	Bevel Gear (32T)
0022	Threaded Dowel
0023	Oilite Bushing
0024	Oil Seal
0025	Knob
0026	Plug
0027	Oil Seal
0028	Oilite Bushing
0029	Miter Gear (15T)
0030	Oilite Bushing
0031	Gasket
0032	Cap
0033	Oilite Bushing
0034	Insert
0035	Leadscrew and Feed Rod Plate
0036	Oil Fitting
0037	C-D-E Index Plate
0038	Oilite Bushing
0039	Insert
0040	Cover
0041	Oiler Assembly
0042	Lubrication Instruction Plate
0043	Retaining Ring
0044	Cam
0045	Bearing
0046	Retaining Ring
0047	Gear (54T)
0048	Plug
0049	Bearing
0050	Collar
0051	Clutch Shaft
0052	Oilite Bushing
0053	Gear (36T)
0054	Gear (27T, 18T)
0055	Key
0056	Bearing
0057	Oilite Thrust Bearing
0058	Bushing
0059	Helical Gear (35T)
0060	Key
0061	Bushing

INDEX NO.	PART NAME
0062	Gear (23T)
0063	Bushing
0064	Shim
0065	Bearing Cap
0066	Retaining Ring
0067	Spacer
0068	Gear Stud
0069	Shim
0070	Bearing
0071	Compound Shaft (18T)
0072	Gear (75T, 27T)
0073	Bearing
0074	Nut
0075	Gear (23T)
0076	Key
0077	Retaining Ring
0078	Bearing (Leadscrew)
0079	Bearing Housing
0080	Spacer Assembly
0081	Garlock Closure #655
0082	Leadscrew Bearing Housing Cap
0083	Leadscrew Housing Cap
0084	Bearing Spacer
0085	Bearing
0086	Cone Gear (16T)
0087	Cone Gear (17T)
0088	Cone Gear (18T)
0089	Cone Gear (19T)
0090	Cone Gear (20T)
0091	Cone Gear (27T)
0092	Spacer
0093	Cone Gear (22T)
0094	Cone Gear (24T)
0095	Cone Gear (26T)
0096	Cone Gear (28T)
0097	Cone Gear (30T)
0098	Cone Gear (36T)
0099	Cone Shaft
00100	Rack (42T)
00101	Sleeve
00102	Gear (8T)
00103	Dowel Pin
00104	Dowel Screw
00105	Shifter
00106	Bearing
00107	Stud
00108	Gear (45T)
00109	Bushing
00110	Helical Gear (21T)
00111	Collar
00112	Retaining Ring
00113	Gear (40T)
00114	Shaft Rack (18T)
00115	Key
00116	Shifter Fork
00117	Worm Lock Screw
00118	Shaft
00119	Plunger Pin
00120	Shifter Lever
00121	Shifter Lever
00122	Shifter Lever Hub

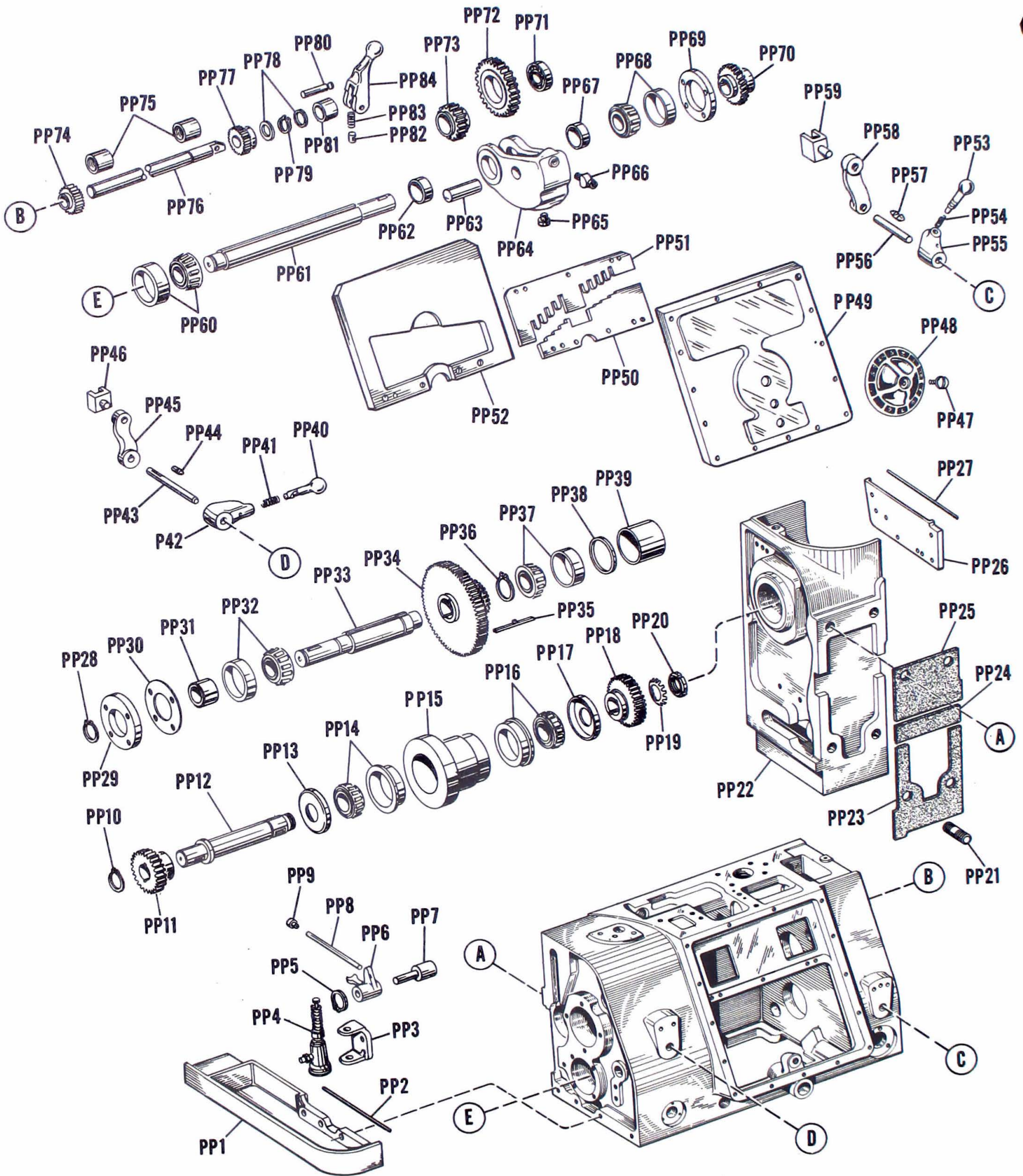


Figure PP, 16" — 20" Metric Gear Box

Parts List for Figure PP, 16" — 20" Metric Gear Box

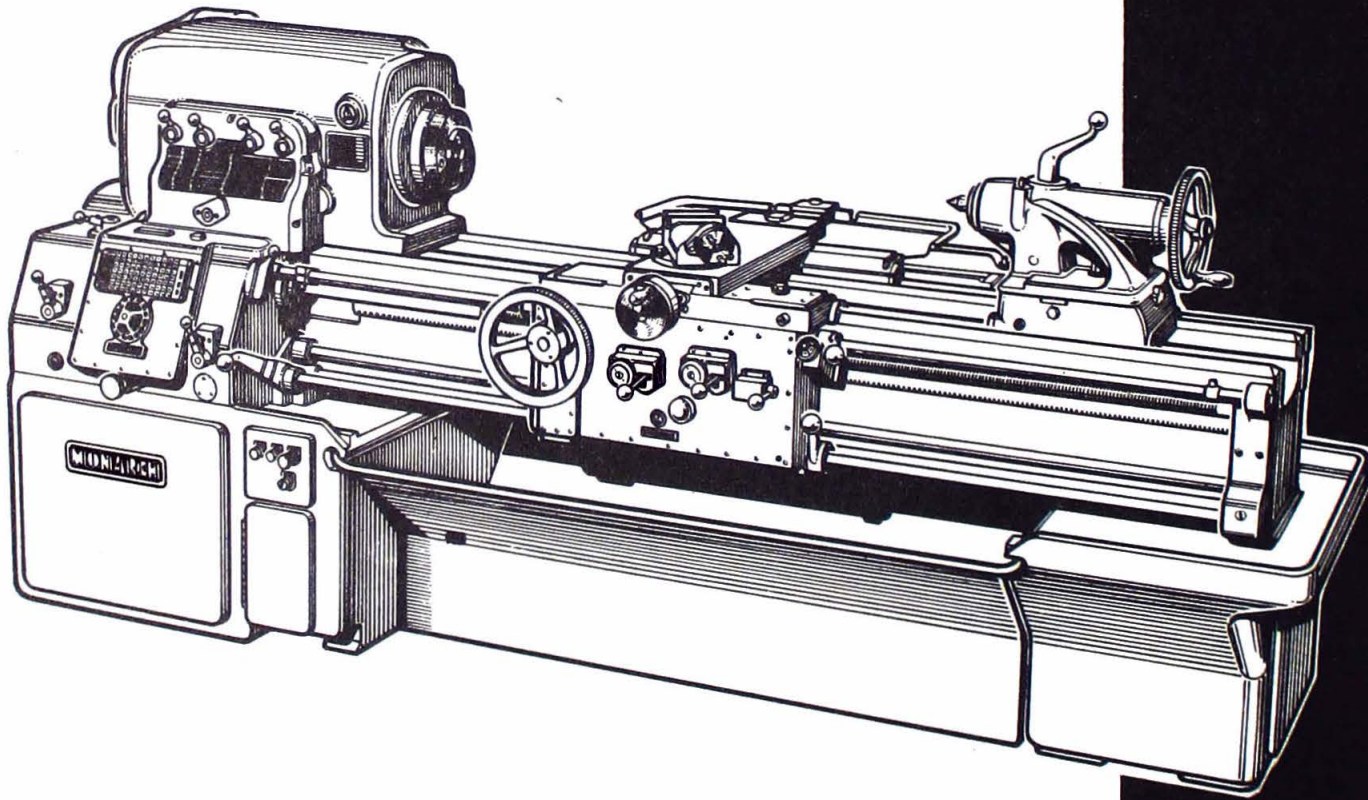
INDEX NO.	PART NAME
PP1	Sump
PP2	Sealing Element
PP3	Pump Bracket
PP4	Lubricator Pump
PP5	Retaining Ring
PP6	Pump Lever
PP7	Pump Lever Shaft
PP8	Push Rod
PP9	Tip
PP10	Retaining Ring
PP11	Gear
PP12	Shaft
PP13	Oil Deflector
PP14	Bearing
PP15	Sleeve
PP16	Bearing
PP17	Oil Deflector
PP18	Gear
PP19	Lock Washer
PP20	Lock Nut
PP21	Stud
PP22	End Gear Housing
PP23	Gasket
PP24	Gasket
PP25	Gasket
PP26	Guard
PP27	Sealing Element
PP28	Retaining Ring
PP29	Bearing Cap
PP30	Shim
PP31	Spacer
PP32	Bearing
PP33	Shaft
PP34	Gear
PP35	Tit Key
PP36	Retaining Ring
PP37	Bearing
PP38	Spacer
PP39	Bearing Sleeve
PP40	Shifter Lever
PP41	Shifter Lever Spring
PP42	Shifter Lever Hub

INDEX NO.	PART NAME
PP43	Shaft
PP44	Plunger Pin
PP45	Lever
PP46	Compound Shoe
PP47	Screw
PP48	Dial
PP49	Cover
PP50	Tumbler Plate
PP51	Tumbler Plate
PP52	Rack Plate
PP53	Shifter Lever
PP54	Shifter Lever Spring
PP55	Shifter Lever Hub
PP56	Shaft
PP57	Plunger Pin
PP58	Lever
PP59	Slip Gear Shoe
PP60	Bearing
PP61	Tumbler Shaft
PP62	Bushing
PP63	Shaft
PP64	Tumbler
PP65	Button
PP66	Tumbler Stud
PP67	Bushing
PP68	Bearing
PP69	Bearing Cap
PP70	Gear
PP71	Ball Bearing
PP72	Tumbler Idler Gear
PP73	Tumbler Gear
PP74	Gear
PP75	Bushing
PP76	Shaft
PP77	Gear
PP78	Collar
PP79	Retaining Ring
PP80	Lever Locating Stud
PP81	Bushing
PP82	Pin
PP83	Spring
PP84	Shifter Lever

Monarch



TURNING MACHINES



THE MONARCH MACHINE TOOL CO., SIDNEY, OHIO