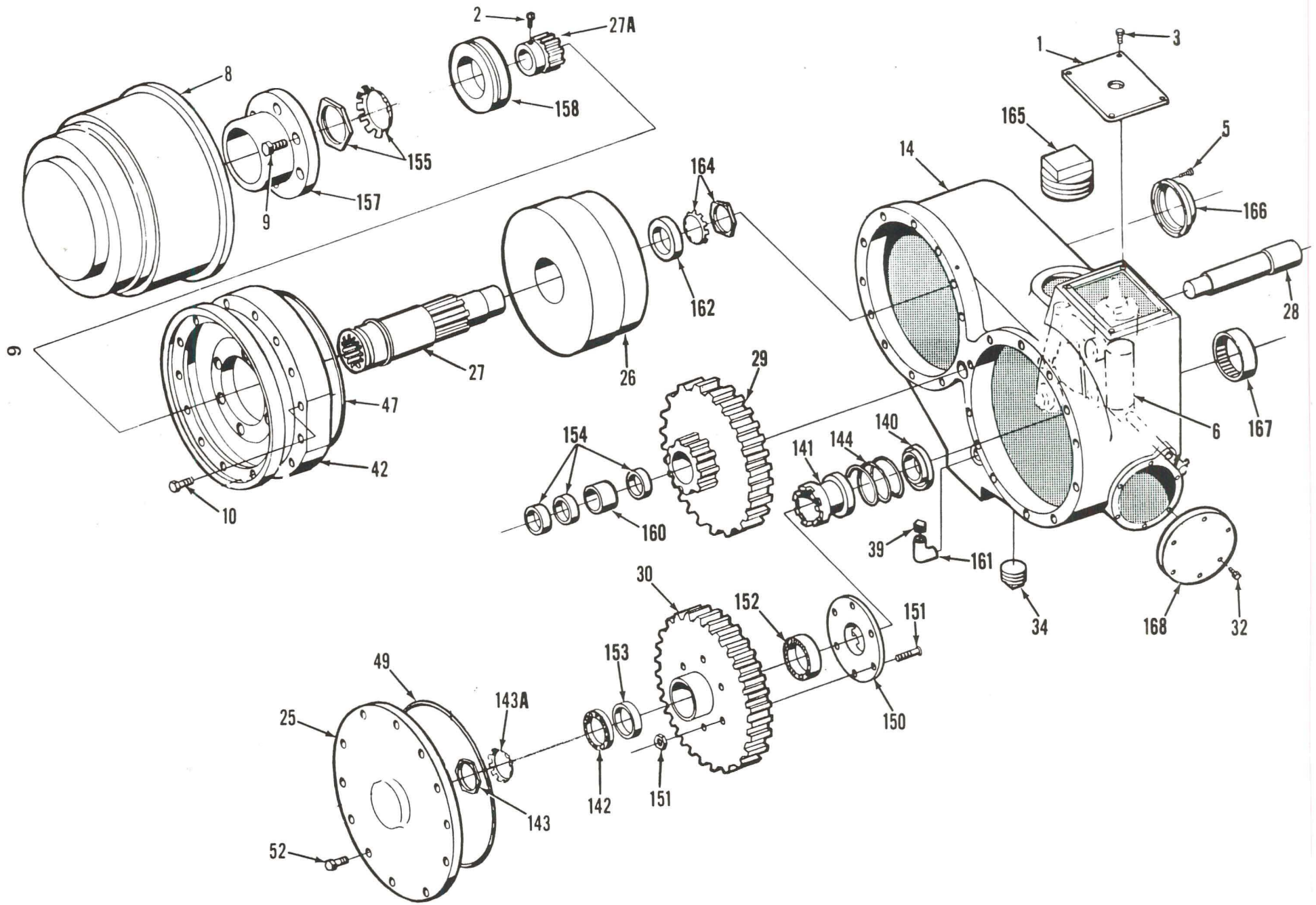


SINCE THE REFERENCE OR CALL OUT NUMBERS ON THE FOLLOWING PARTS LIST ARE  
DUPLICATED ON OTHER PARTS LISTS, SPECIFY PART REQUIRED BY GIVING  
REFERENCE NUMBER AND FULL NAME FOLLOWED BY FORM AND PAGE NUMBER.

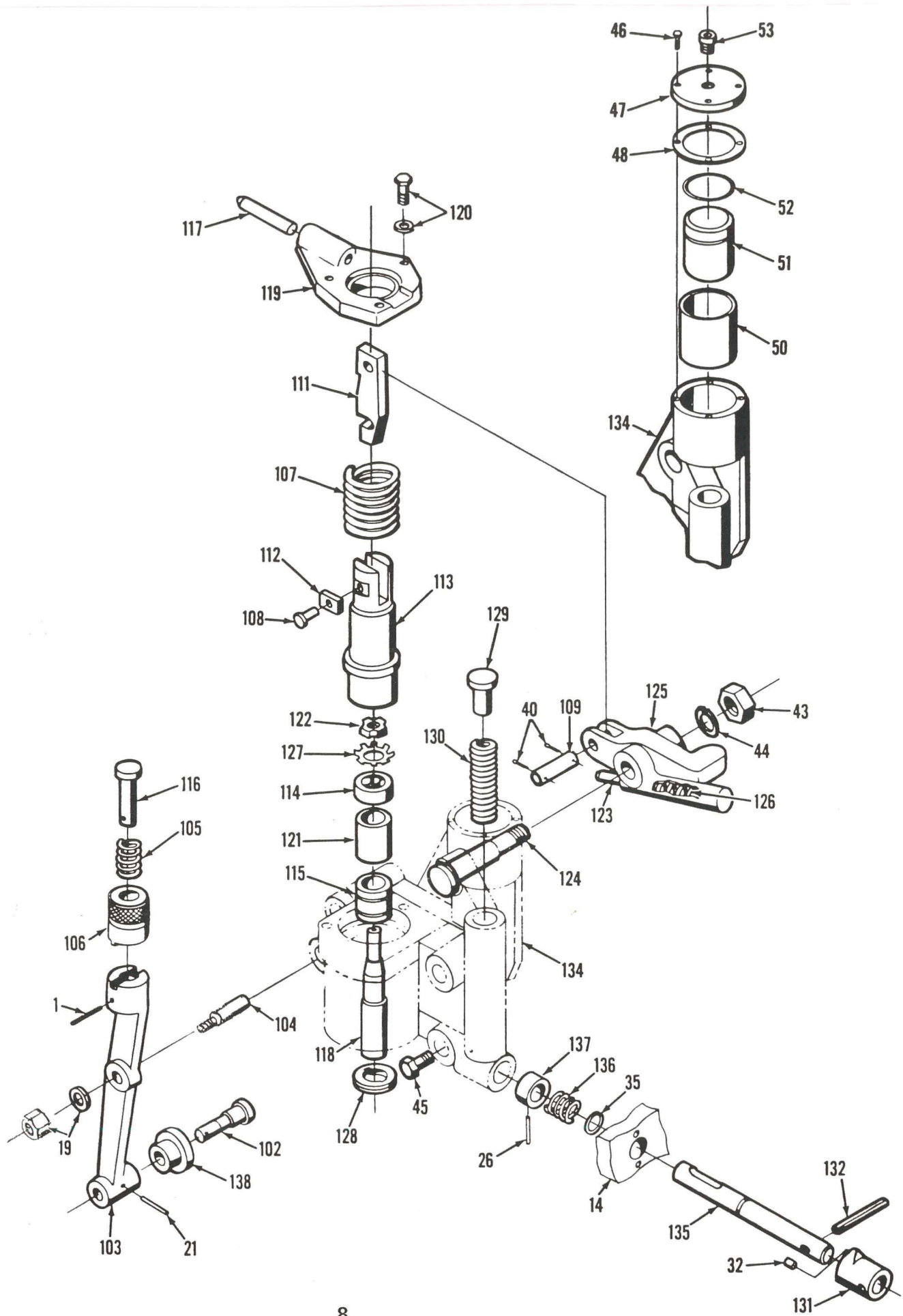
**HOUSINGS, BED & RAM**

1. Gearbox Assembly (See Separate
2. L. H. Housing Parts List)
3. L. H. Top Cover
4. Screw
5. Upper Rear Cover
6. Lower Rear Cover
7. Screw
8. Holding Plate
9. Screw
10. R. H. Housing
11. R. H. Top Cover
12. Screw
13. Side Cover
14. Screw
15. Detent And Brake Assembly (See
17. Eccentric Shaft Separate Parts List)
18. Shaft Collar
19. Bearing (Models 6 & 7 only)
20. Holddown Eccentric Connection
21. Holddown Pin
22. Eccentric Oiler Chain
23. Ram Eccentric Connection
24. Ram Pin
25. L. H. Eccentric
26. Bearing
27. Key
28. Bed Key Dowel
29. Bed Key
30. Bed
31. Bed Adjusting Screw
32. Bed Mounting Bolt
33. Bed Mounting Washer
34. Fixed Blade
35. Fixed Blade Plow Bolt
36. Fixed Blade Washer
37. Fixed Blade Nut
38. Scale
39. Screw
40. Scale Clamping Washer
41. Bolt Pocket Cover
42. Screw
43. Side Gage
44. Screw
45. Front Gage Bracket
46. V-Head Bolt
47. Hex Nut
48. Disappearing Stop
49. Screw
50. Holddown
51. Holddown Foot
52. Holddown Foot Cap
53. Holddown Foot Spring
54. Holddown Foot Washer
55. Hex Nut
56. Holddown Gib
57. Screw
58. Blade Guard
59. Guard Bolt
60. Hex Nut
61. Set Screw
62. Hex Nut
63. Holddown Guard
64. Rod Holder
65. Holddown Guard Crossbar
66. Screw
67. Rod
68. Set Screw
69. Holddown Guard Bar
70. Screw
71. Screw
72. Washer
73. Ram
74. Brace Rod
75. Turnbuckle
76. Jam Nut
77. Adjusting Nut
78. Brace Rod Nut
79. Moving Blade
80. Moving Blade Plow Bolt
81. Moving Blade Washer
82. Moving Blade Nut
83. Holddown Gib
84. Screw
85. Ram Gib
86. Screw
87. Liner (Specify R. H. or L. H.)
88. Screw
89. Liner Backing (Specify R. H.  
or L. H.)
90. Screw
91. Ram Pin Lock
92. Screw
93. Counterbalance Bracket
94. Screw
95. Counterbalance Rod
96. Washer
97. Counterbalance Spring Washer
98. Counterbalance Spring
99. Counterbalance Spring Spacer
100. Jam Nut
101. Brace Rod Bolt



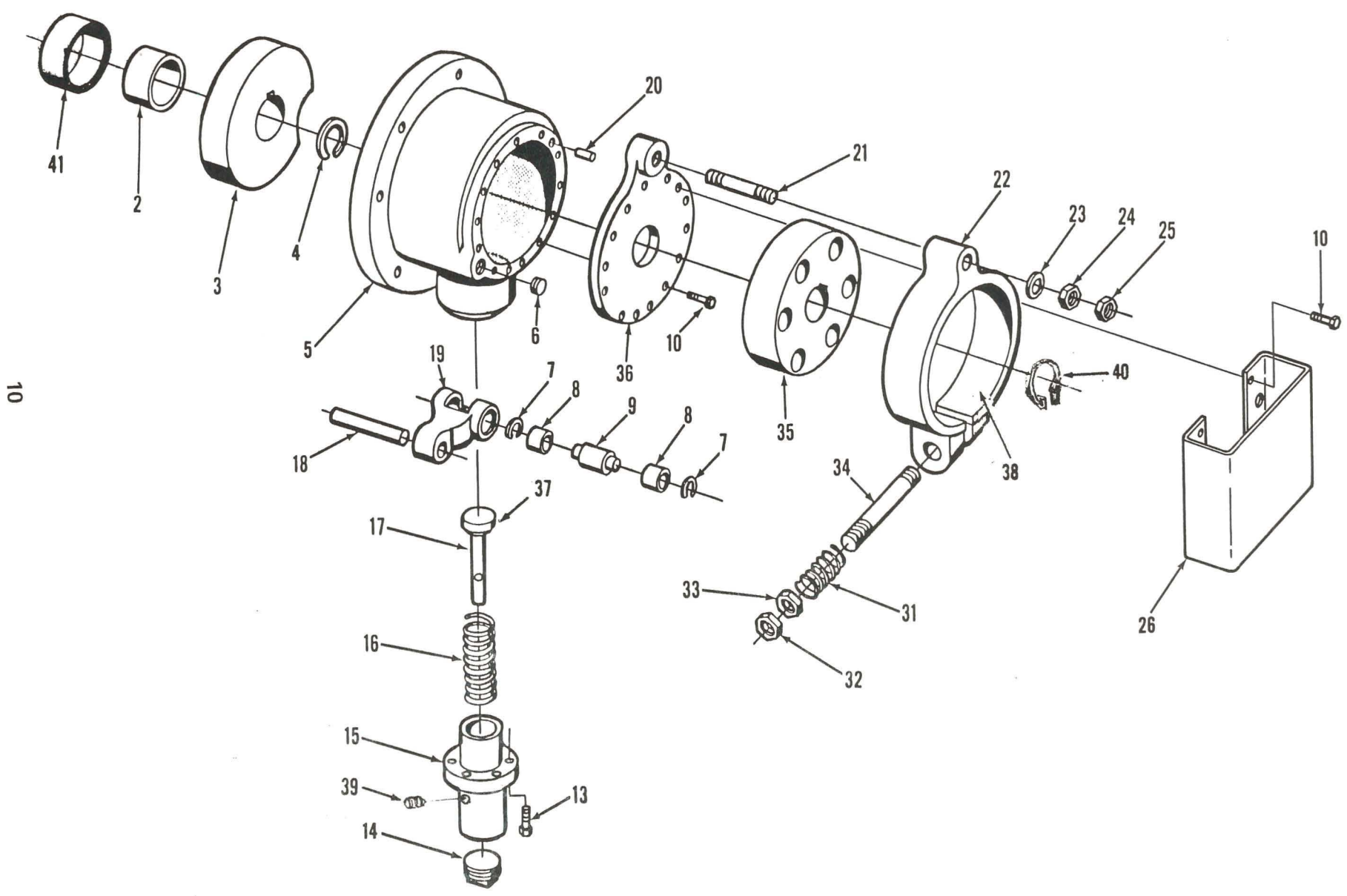
1. Cover
2. Set Screw
3. Hex Head Screw
5. Hex Head Screw
6. Latch Bracket Assembly (See Separate Parts List)
8. Motor
9. Hex Head Screw
10. Hex Head Screw
14. Gear Box
25. Gear Box Cover
26. Flywheel
27. Drive Shaft
- 27A Splined Motor Coupling
28. Intermediate Shaft
29. Intermediate Gear and Pinion Cluster
30. Clutch Gear
32. Hex Head Screw
34. Pipe Plug
39. Pipe Plug
42. Motor Adapter Flange
47. O-Ring
49. O-Ring

52. Hex Head Screw
140. Single Stroke Cam
141. Clutch Sleeve
142. Outer Clutch Gear Bearings
143. Locknut
- 143A Lockwasher
144. Clutch Sleeve Spring
150. Clutch Wheel Face
151. Clutch Face Bolt & Nut
152. Inner Clutch Gear Bearing
153. Clutch Gear Bearing Spacer
154. Intermediate Shaft Bearings
155. Locknut & Washer
157. Oil Catcher & Bearing Retainer
158. Pinion Shaft Flywheel Bearing
160. Intermediate Shaft Bearing Spacer
161. Oil Level Elbow
162. Pinion Shaft Bearing
164. Locknut & Washer
165. Single Stroke Cam Cover
166. Pinion Shaft Bearing Cover
167. Eccentric Shaft Bearing
168. Inspection Cover



## LATCH BRACKET ASSEMBLY

1. Roll Pin
14. Gear Box Housing
19. Nut & Washer
21. Roll Pin
26. Taper Pin
32. Pin
35. O-Ring
40. Cotter Pins
43. Nut
44. Lockwasher
45. Hex Head Capscrew
46. Cover Mounting Screw
47. Cylinder Cover
48. Cylinder Gasket
50. Bushing
51. Piston
52. O-Ring
53. Air Fitting
102. Cam Roller Shaft
103. Cam Lever
104. Cam Lever Pin
105. Selector Knob Spring
106. Single Stroke Selector Knob
107. Throwout Spring
108. Throwout Pin
109. Latch Hinge Pin
111. Latch
112. Throwout Key
113. Throwout
114. Throwout Ball Bearing
115. Throwout Needle Bearing
116. Selector Knob Pin
117. Sliding Pin
118. Throwout Shaft
119. Throwout Housing End Cover
120. End Cover Bolt and Washer
121. Spacing Collar
122. Throwout Shaft Locknut
123. Latch Spring Pin
124. Bell Crank Pin
125. Bell Crank
126. Latch Spring
127. Lock Washer
128. Throwout Shaft Nut
129. Treadle Spring Plunger
130. Treadle Spring
131. Locking Bar Indicator
132. Locking Bar Handle
134. Clutch Bracket
135. Locking Bar
136. Locking Bar Spring
137. Locking Bar Collar
138. Cam Roller



10

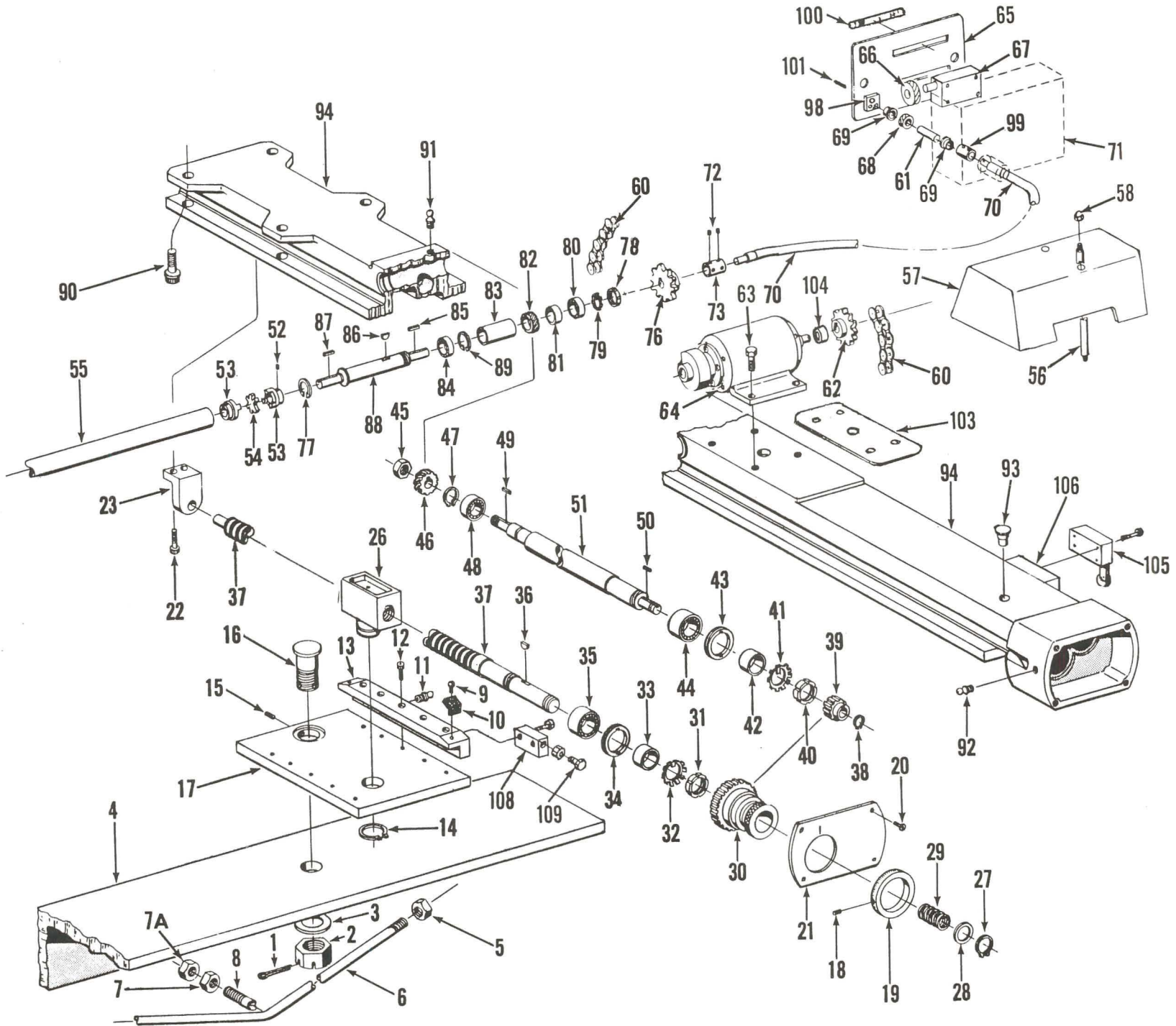
**Detent Parts**

2. Spacer
3. Detent Cam
4. Retaining Ring
5. Cam Housing
6. Pipe Plug
7. Retaining Ring
8. Bearing
9. Cam Roller
10. Hex Head Screw
13. Hex Head Screw
14. Plug
15. Spring Pot
16. Spring
17. Spring Plunger
18. Lever Pin
19. Cam Lever

**Brake Parts**

20. Dowel Pin
21. Stud
22. Brake Strap
23. Washer
24. Hex Nut
25. Hex Jam Nut
26. Brake Guard
31. Spring
32. Hex Jam Nut
33. Hex Nut
34. Stud
35. Brake Collar
36. Cover and Brake Support
37. Spring Plunger
38. Brake Lining
39. Pipe Plug
40. Retaining Ring
41. Detent Bushing





- |                                 |                          |   |
|---------------------------------|--------------------------|---|
| 1. Cotter Pin                   | 36. Adjusting Collar Key | 71. Indicator Bracket                         |
| 2. Castle Nut                   | 37. Adjusting Screw      | 72. Set Screw                                 |
| 3. Washer                       | 38. Retaining Ring       | 73. Shaft Adapter                             |
| 4. Gage Bar                     | 39. Adjusting Gear       | 76. Driveshaft Sprocket                       |
| 5. Brace Rod Nuts               | 40. Locknut              | 77. Outside Retaining Ring                    |
| 6. Brace Rod                    | 41. Lockwasher           | 78. Locknut                                   |
| 7. Jam Nut                      | 42. Bearing Spacer       | 79. Lockwasher                                |
| 7A Brace Rod Bolt Adjusting Nut | 43. Bearing Nut          | 80. Bearing                                   |
| 8. Brace Rod Bolt               | 44. Bearing              | 81. Gear Spacer                               |
| 9. Wiper Fastening Screw        | 45. Retaining Nut        | 82. Helical Gear                              |
| 10. Wiper                       | 46. Worm Gear            | 83. Bearing Spacer                            |
| 11. Lube Fitting                | 47. Retaining Ring       | 84. Bearing                                   |
| 12. Slide Cap Fastening Screw   | 48. Bearing              | 85. Coupling Key (Used only with Part No. 53) |
| 13. Slide Cap                   | 49. Worm Gear Key        | 86. Helical Gear Key                          |
| 14. Retaining Ring              | 50. Collar Key           | 87. Coupling Key (Used only with Part No. 53) |
| 15. Set Screw                   | 51. Intermediate Shaft   | 88. Drive Shaft                               |
| 16. Slide Stud                  | 52. Set Screw            | 89. Inside Retaining Ring                     |
| 17. Slide                       | 53. Coupling Half        | 90. Bracket Mounting Screw                    |
| 18. Set Screw                   | 54. Coupling Insert      | 91. Center Gear Case Lube Fitting             |
| 19. Indicating Collar           | 55. Connecting Shaft     | 92. End Gear Case Lube Fitting                |
| 20. Plate Mounting Screw        | 56. Mounting Rod         | 93. Oil Cup                                   |
| 21. Gear Cover Plate            | 57. Guard Nut            | 94. Gage Brackets                             |
| 22. Support Mounting Screw      | 58. Acorn Nut            | 98. Retainer                                  |
| 23. Screw Support               | 60. Chain                | 99. Coupling                                  |
| 26. Adjusting Nut               | 61. Pinion Shaft         | 100. Magnifier                                |
| 27. Retaining Ring              | 62. Motor Sprocket       | 101. Roll Pin                                 |
| 28. Washer                      | 63. Motor Mounting Screw | 102. Lubrication Plate (Not shown)            |
| 29. Adjusting Collar Spring     | 64. Motor with Brake     | 103. Cover                                    |
| 30. Adjusting Collar            | 65. Indicator Cover      | 104. Trantorque Unit                          |
| 31. Locknut                     | 66. Counter Helical Gear | 105. Limit Switch                             |
| 32. Lockwasher                  | 67. Counter              | 106. L.S. Mounting Plate                      |
| 33. Bearing Spacer              | 68. Shaft Helical Gear   | 108. Adj. Screw Mounting Plate                |
| 34. Bearing Nut                 | 69. Bushing              | 109. Adusting Screw                           |
| 35. Bearing                     | 70. Flexible Shaft       |   |

**FORM C-10 SUPP.-A**

**#14 GEAR BOX REMOVAL**

1. Remove #25 Gear Box Cover.
2. Remove #143 Locknut and Lock Washer.
3. Remove #31 Cover Bearing and Spacer.
4. Pull #30 Clutch Gear.
5. Remove #141 Clutch Sleeve, #144 Clutch Sleeve Spring, and #140 Single Stroke Cam.
6. Remove #135 Locking Bar. This is accomplished by knocking out the taper pin found close to the inside wall of the gear box housing. This releases the collar and permits the entire locking bar to be withdrawn from the front of the gear box.
7. Disconnect the #33A Treadle Connecting Link from #125 Bell Crank by removing the pin and cotter key.
8. #134 Throw-out Housing Assembly should then be removed by removing the four #133 Cap Screws. To remove this assembly from the gear Box it is not necessary to disassemble or force the bracket in any way. By maneuvering and twisting the bracket to the correct position it may easily be withdrawn.
9. Remove the #32 Motor from the #42 Motor Adapter Flange.
10. Remove bolts attaching #14 Gear Box to #4 Left Hand Housing. Holes are provided in the web of the #29 Intermediate Gear for access to the bolts obstructed by the gear. A long socket wrench is necessary. With the bolts removed and a sling from a crane or chain hoisted around the gear box, the gear box may be pried off. Care should be taken to pry off the gear box evenly.

**#15 DETENT CAM BOX ASSEMBLY REMOVAL**

1. Remove cover plate from #15 Detent Cam Box.
2. Remove pipe plug from bottom of #16 Spring Pot. Insert cap screw through pipe plug hole into tapped hole of #69A Plunger Stem.
3. Tighten cap screw to compress #68 Spring and remove pressure of #66 Cam Roller against #40 Cam.
4. Remove #40A Washer from end of shaft.
5. Remove pipe plug from side of #15 housing and withdraw #67A Lever Pin.
6. Remove #67 Cam Lever assembly.
7. Pull #40 Detent Cam using tapped holes provided.
8. Unbolt #15 Cam housing from #5 right hand housing and carefully slide cam housing off end of shaft.

**#2 CROSSHEAD REMOVAL**

1. Block #2 Crosshead securely in place by driving wood blocks from left to right at several positions between upper and lower knives.
2. Remove cover plates from rear of #4 and #5 housings, draining oil completely from each housing.
3. Measure and record exact length of #59 rod extending below #63 washer and restore to same position on reassembly.
4. Hold top of counterbalance spring rod #59 and remove jam nut from below #63 Counter Balance Spring Washer. While holding lower spring and washer from turning unscrew #59 rods entirely and remove from top of #4 and #5 housings.
5. Remove sheet metal cover plates from top of #4 and #5 housings, unbolt and remove #60 Crosshead Counter Spring Brackets.
6. Place sling around crosshead protecting upper knife with blocks.
7. Through cover plates on side of each housing remove #12 Wrist Pins.
8. Lift crosshead out of shear being careful to lift vertically and evenly.
9. Removal of entire backgauge from crosshead may be found convenient for handling of crosshead although it is not absolutely necessary.

**#6 MAIN SHAFT REMOVAL**

The #9 Left Hand Eccentric located at the gear box end of the shaft has an interference shrink fit and cannot be removed from the shaft. The #8 Right Hand Eccentric has a tapping sliding fit on the shaft.

1. Tie #10 Crosshead Strap and #11 Holddown strap in vertical position with rope to top of housings.
2. Hold block of hard wood or fibre against right hand end of shaft and drive shaft out left hand or gear box side with dolly bar or heavy battering ram. Be careful at all times to prevent upsetting of detent end of shaft.

**#1 BED AND #4 AND #5 HOUSING REMOVAL**

1. Block between #1 Bed and floor.
2. Unbolt and remove #4 and #5 housings from bed. The shear can be reassembled in the reverse order of disassembly.

# INSTRUCTIONS FOR SHEARS EQUIPPED WITH LEVELING SCREWS

## FORM C-10 SUPP.-B

These instructions are intended to supplement the leveling instructions on pages 4 and 5 of form C-10.

Leveling screws permit quick, accurate leveling without the use of jacks or wedges. Brackets in conjunction with the rear leveling screws are used to locate the shear and prevent any tendency for it to move from its foundation.

The shear should be placed on its foundation and leveled in accordance with the instructions on pages 4 and 5 of form C-10. Should it be required to shim, the leveling screws are used to raise the shear off its foundation for the insertion of shims under the housings as required. Back off leveling screw "A", Fig. 1 and insert a piece of scrap plate steel under the lug "B" for the screw to bear on without embedding into the floor or foundation. Tightening the leveling screws "A" will raise the housing to permit the insertion of shims. After the shims have been inserted, back off the leveling screws and check in accordance with the leveling instructions. When the final leveling is accomplished, all four leveling screws should be backed off. **UNDER NO CIRCUMSTANCES SHOULD THE WEIGHT OF THE SHEAR REMAIN ON THE LEVELING SCREWS DURING OPERATION OF THE SHEAR.** They are intended only as an aid to leveling.

After the shear has been leveled, to prevent the shear from moving, the two positioning brackets "C" on Fig. 2 are lagged to the floor under the REAR leveling lugs only. When the brackets are in place lower the leveling screws "A" through the bracket hole until they bear against the floor and then back off one or two turns and secure with locknuts "D". Then lag the positioning brackets to the floor.

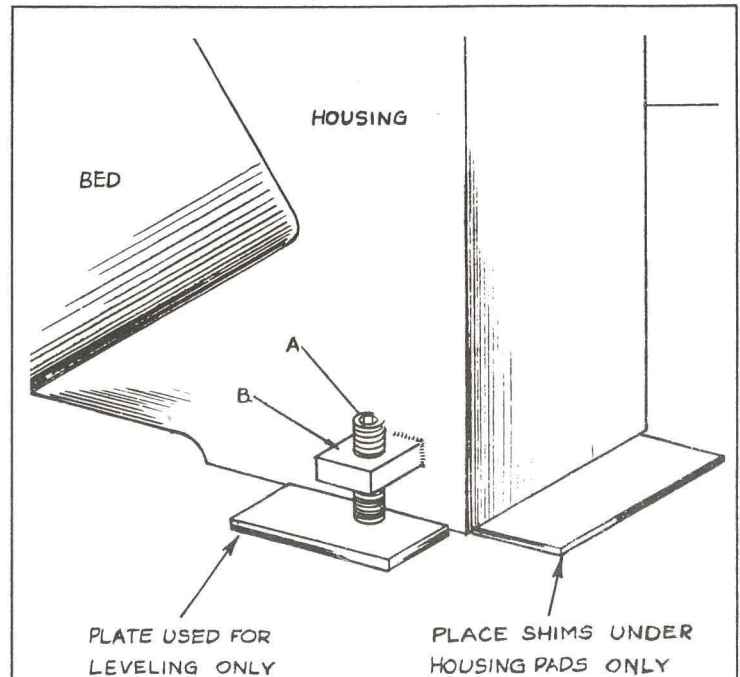


Fig. 1

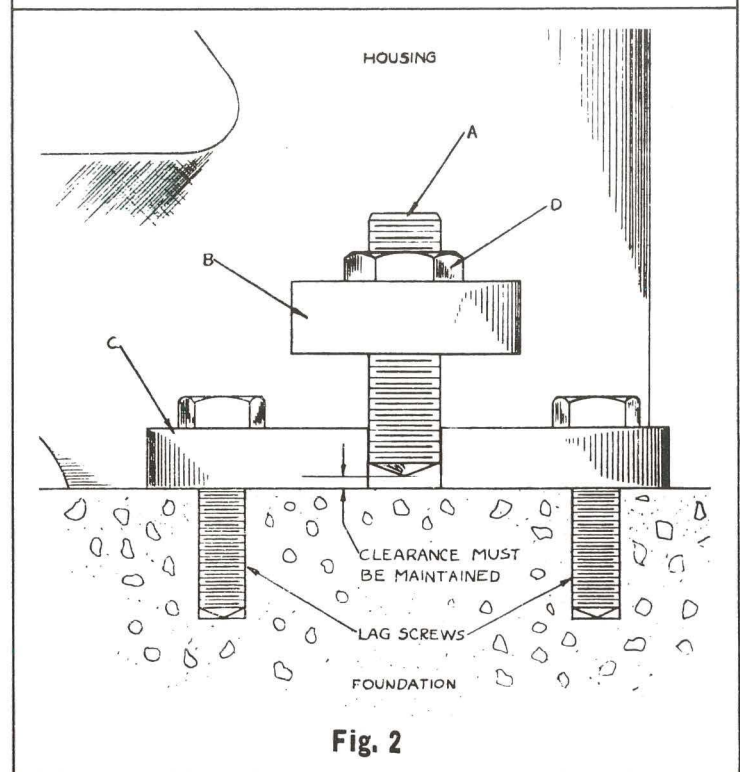
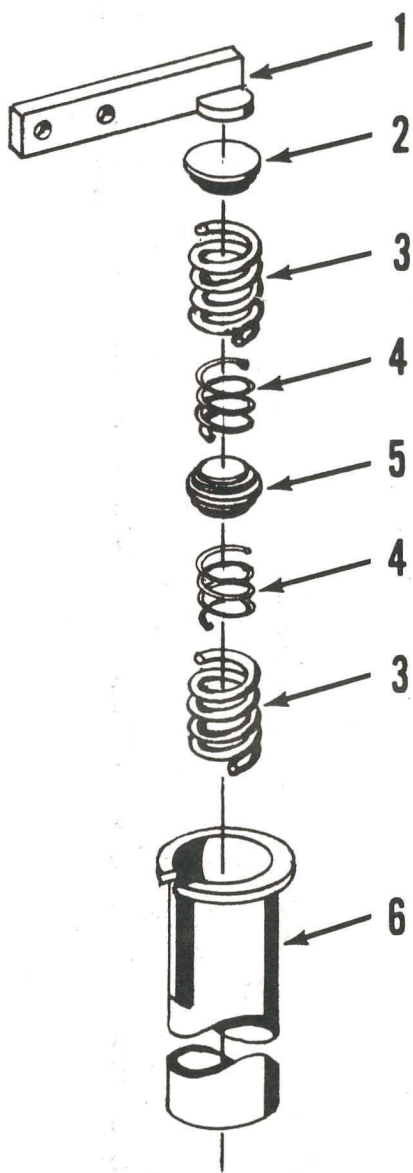


Fig. 2

# COUNTERBALANCE INSTRUCTIONS FOR MODELS 10 & 12 SHEARS

FORM C-10 SUPP. C



**CAUTION:** Counterbalance brackets are under spring pressure. Do not remove bolts fastening counterbalance brackets to ram unless ram is removed from shear.

## COUNTERBALANCE PARTS LIST (Models 10&12)

1. Bracket (Specify RH or LH)
2. Top Spring Washer
3. Outer Spring (Shown shortened)
4. Inner Spring (Shown Shortened)
5. Spring Spacer
6. Spring Casing (Located in housing)