

MODEL DH 50SB

1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY:

The circled numbers in the descriptions below correspond to the item numbers in the Parts List and exploded assembly diagram.

1-1. Disassembly:

1-1-1. Disassembly of the Stop Lever:

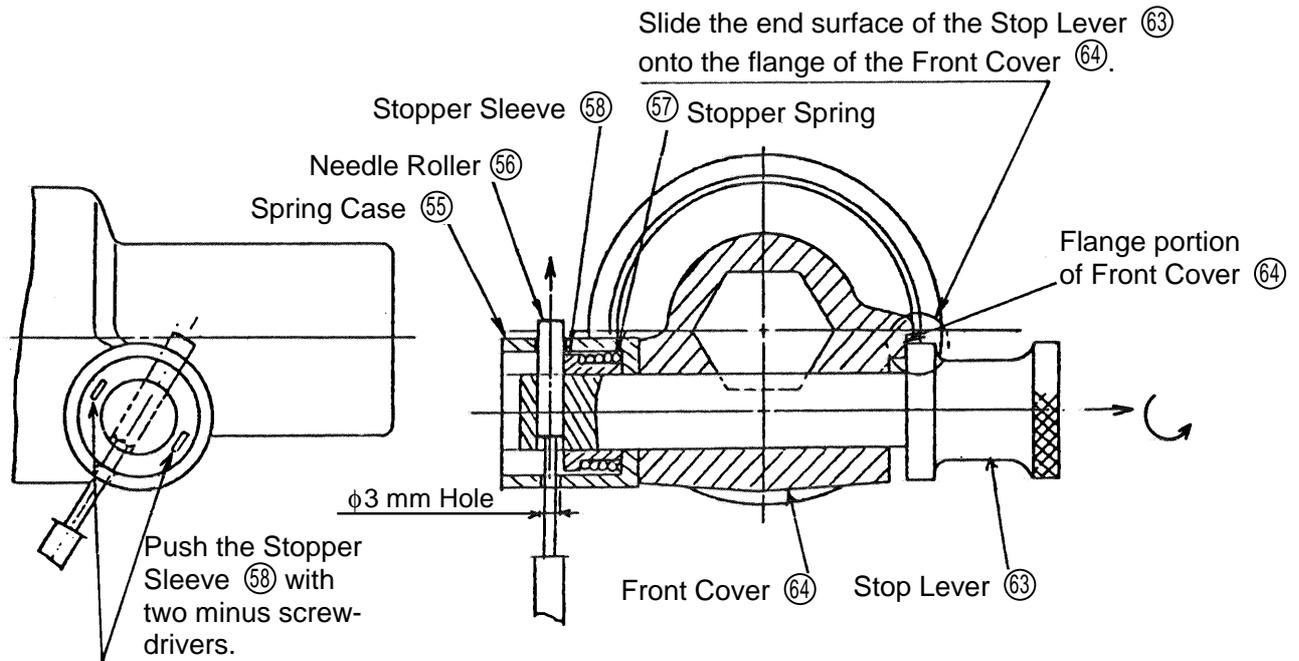


Fig. 5

Disassembly procedures are illustrated in Fig. 5. Pull the Stop Lever (63) outward in the direction indicated by the arrow, and turn it slightly so that its end surface comes to rest on the flange portion of the Front Cover (64). Next, turn the Spring Case (55) so that the hole of the Spring Case (55) is aligned with the Needle Roller (56). Push in the Stopper Sleeve (58) with two minus screwdrivers to compress the Stopper Spring (57), and insert a steel rod (less than 0.118" [3 mm] in diameter) into the 0.118" (3 mm) diameter hole of the Spring Case (55) to push out the Needle Roller (56). The Stop Lever (63), Stopper Sleeve (58) and Stopper Spring (57) can then be taken off.

1-1-2. Piston and Striker O-Rings:

Loosen the four M6 x 35 Hexagon Socket Hd. Bolts (8) which fasten the Cylinder Case Ass'y (7), and remove the Cylinder Case Ass'y (7) from the Crank Case (98). As the Piston (6) remains in the Crank Case side, simply remove the C-Type Retaining Ring (14) and disassemble the Connecting Rod Ass'y (16) from the Crank Shaft (24). The Striker (3) can be removed by lightly tapping the Cylinder Case Ass'y (7) with a plastic hammer. If it cannot be easily removed, push the reassembled Connecting Rod and Piston back into the Cylinder, and pull them out again sharply. The Striker should come out at the same time.

1-1-3. Disassembly of the Cylinder:

When the Cylinder Case Ass'y (7) is removed from the Crank Case (98), and the Front Cover (64) is removed from the Cylinder Case Ass'y, the Third Gear (13), Damper Washer (68), Damper (69), Washer (70), Second Hammer (67) and Cylinder (1) can all be taken out.

1-1-4. Removal of the Gears Within the Crank Case:

The slip clutch portion can be removed by lightly tapping the end surface of the Gear Cover (114) with a plastic hammer. To remove the First Gear (99), remove the D47 C-Type Retaining Ring 26 and push down on the gear cover side of the Crank Shaft (24) with a hand press to release the pressure fitting. The First Gear (99) and related parts can then be separated.

To disassemble the slip clutch portion, secure a J-137 Second Gear Block Ass'y (Special Repair Tool, Code No. 970917) in a vise, insert the Second Gear (104) in the block ass'y as illustrated in Fig. 6, and loosen the M5 x 6 Hexagon Socket Hd. Set Screw (109). Finally, loosen the Special Nut (108) by turning it counter-clockwise with a J-122 Wrench (Special Repair Tool, Code No. 970884), and disassemble the remaining parts. At this time be very careful not to lose the seventeen Steel Balls (105) which are installed between the Second Gear (104) and the Clutch Plate (106).

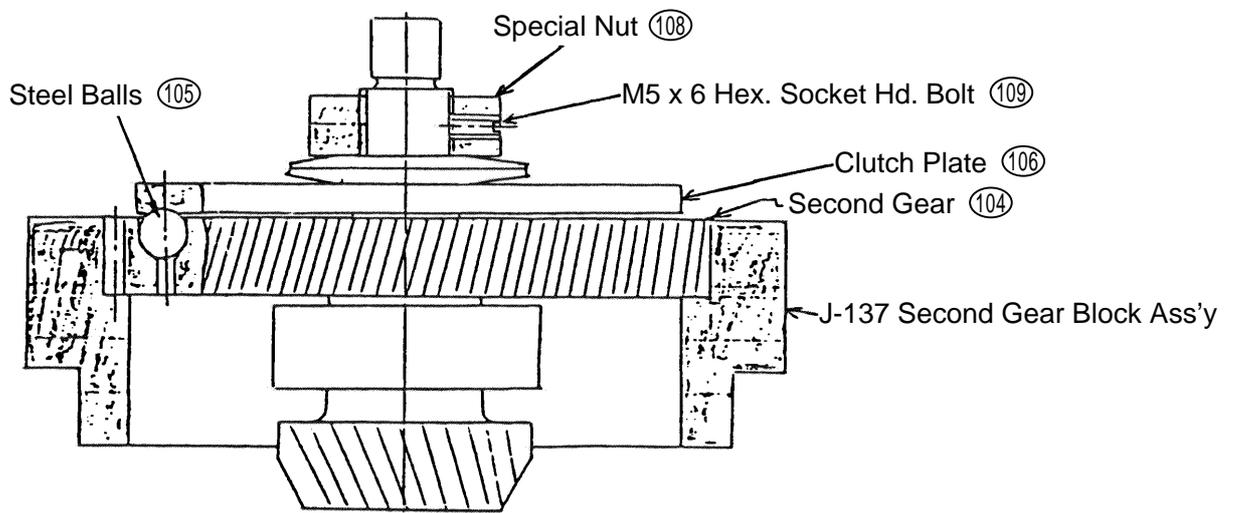


Fig. 6

1-1-5. Disassembly of the Handle:

After the four M5 x 14 Hexagon Socket Hd. Bolts (31) have been removed, Handles (A) and (B) (81) (86) can be removed from the main body.

1-2. Reassembly:

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

1-2-1. Application of Special Grease:

Coat Special Grease (Code No. 980927) on the following:

- The Needle Bearing of the Connecting Rod Ass'y (16).
- The Needle Bearing which supports the Crank Shaft (24).
- The O-Rings (4) on the Piston (6) and Striker (3).
- The Oil Seal (116).
- The O-Ring (66) on the Second Hammer (67).
- The inner and outer surfaces of the Cylinder (1).
- The bearing portion of the Cylinder Case (7).
- The shaft portion of the Third Pinion (101).
- The inner circumference and Steel Ball retaining holes of the Second Gear (104).
- The pinion portion of the Armature (118).

Please refer to paragraph 7-3 for replacement of the grease within the hammering section and the speed-change gear section.

1-2-2. Reassembly of the Stop Lever:

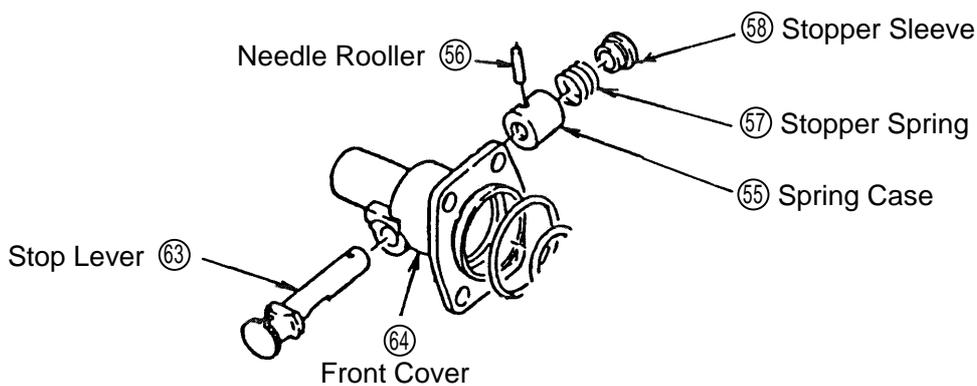


Fig. 7

Coat grease (Molub Alloy #777-1, Code No. 971042, is recommended) on the shaft portion of the Stop Lever (63), and reassemble it by referring to Fig. 7 above and Fig. 5 in paragraph 1-1-1.

1-2-3. O-Rings and Oil Seal:

Be very careful not to damage the O-Rings (65, 66, 4, 11, 23, 27) and the Oil Seal (106) during reassembly.

1-2-4. Reassembly of the Slip Clutch Portion:

First, press fit the Ball Bearing (103) onto the Third Pinion (101). Then, mount the Second Gear (104), and insert the 17 Steel Balls (105) into the retaining holes on the Second Gear. Next, mount the Clutch Plate (106) and the Belleville Spring (107), and temporarily tighten the Special Nut (108).

Secure a J-137 Second Gear Block Ass'y in a vise, mount the Second Gear (104) in the block ass'y as illustrated in Fig. 8, and tighten the Special Nut (108) with a J-122 Wrench. Next, turn the unit upside down in the block ass'y so that the Second Gear (104) is positioned as illustrated in Fig. 9, and fit a J-138 Socket Ass'y and J-139 Spacer to the Third Pinion (101). Finally, using an appropriate torque wrench as indicated, adjust the slip torque of the Third Pinion to 303 - 320 lbs-in (3.5 - 3.7 kg-m) through adjustment of the tightness of the Special Nut.

On completion of adjustment, tighten the M5 x 6 Hexagon Socket Hd. Set Screw (109) to a rated torque of 26 lbs-in (30 kg-cm).

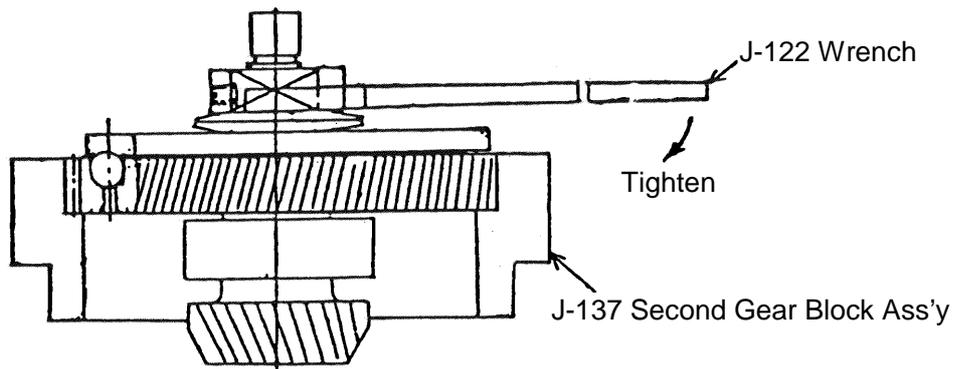
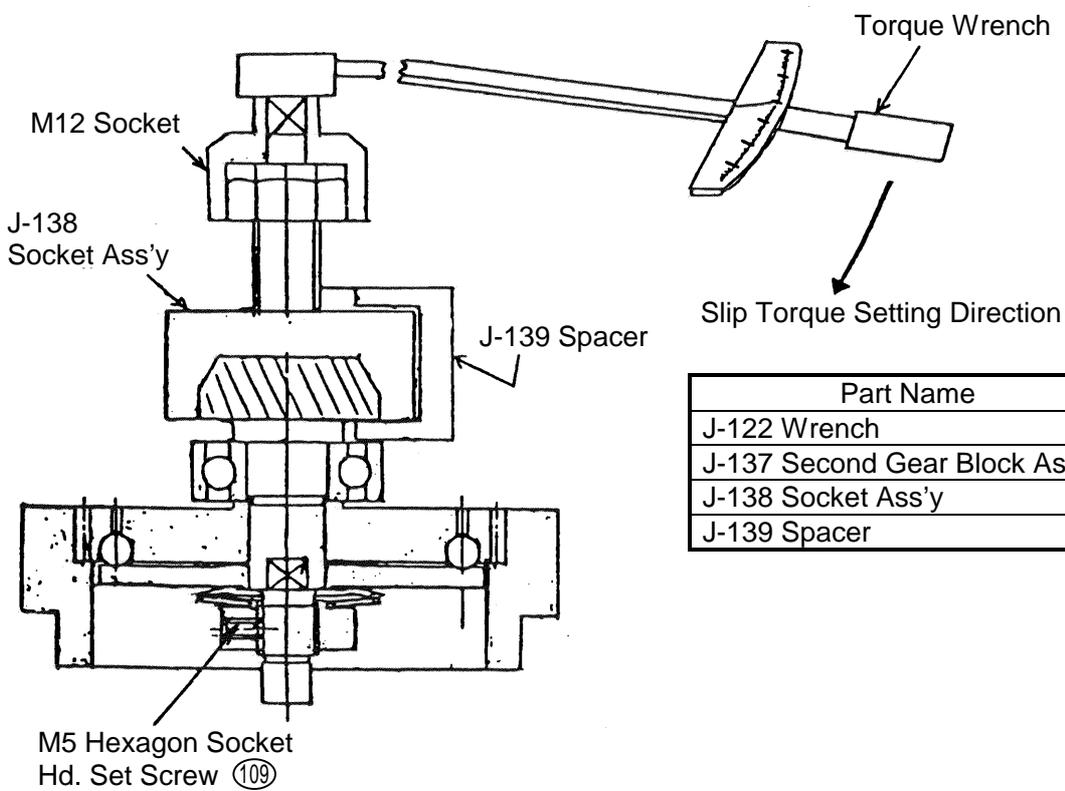


Fig. 8



Part Name	Code No.
J-122 Wrench	970884
J-137 Second Gear Block Ass'y	970917
J-138 Socket Ass'y	970918
J-139 Spacer	970919

Fig. 9

1-3. Adhesives and Screw Locking Agents:

As loosening of screws and bolts due to vibration could cause serious damage to the main body of the tool, thoroughly remove grease and dirt from male and female threads with gasoline, thinner or similar solvent, and coat the threaded portions of each of the screws and nuts listed in paragraph 1-4 with Three-Bond TB1401 Screw Locking Agent before tightening them to rated torque.

1-4. Tightening Torques:

D4 Tapping Screws	13 - 21.7 lb-in (15 - 25 kg-cm)
D5 Tapping Screws	26 ± 4.3 lb-in (30 ± 5 kg-cm)
M4 Hexagon Socket Hd. Bolts	39 ± 4.3 lb-in (45 ± 5 kg-cm)
M5 Hexagon Socket Hd. Bolts	69.4 ^{+17.3} ₀ lb-in (80 ⁺²⁰ ₀ kg-cm)
M6 Hexagon Socket Hd. Bolts	86.7 ^{+17.3} ₀ lb-in (100 ⁺²⁰ ₀ kg-cm)
M6 x 60 Hex. Socket Hd. Bolts which fix the Housing	43.4 ± 17.3 lb-in (50 ⁺²⁰ ₀ kg-cm)
M8 Hexagon Socket Hd. Bolts	260 ± 8.7 lb-in (300 ± 10 kg-cm)

1-5. Insulation Tests:

After disassembly or repair has been completed, be sure to measure the insulation resistance and perform dielectric strength test (withstand voltage test).

Insulation Resistance: 7 megohms or more

Dielectric Strength: Should be free of abnormality after 4,000 volts is applied for 1 minute.

1-6. No-Load Current Value:

The no-load current value after the rotary hammer is operated under no-load condition for 30 minutes should be as follows:

115V/60Hz: 5.7 A or less