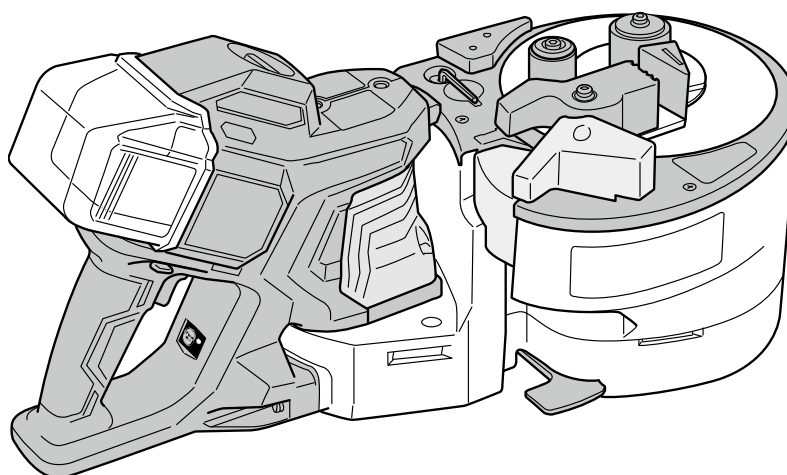


PRODUCT NAME.....

36 V Cordless Portable Rebar Cutter/Bender

Model VB 3616DA

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REPAIR GUIDE

WARNING: Be sure to remove the battery from the main body before starting repair or maintenance work. If the switch is activated inadvertently with the battery still mounted on the main body, the motor may turn unexpectedly and could cause serious injury.

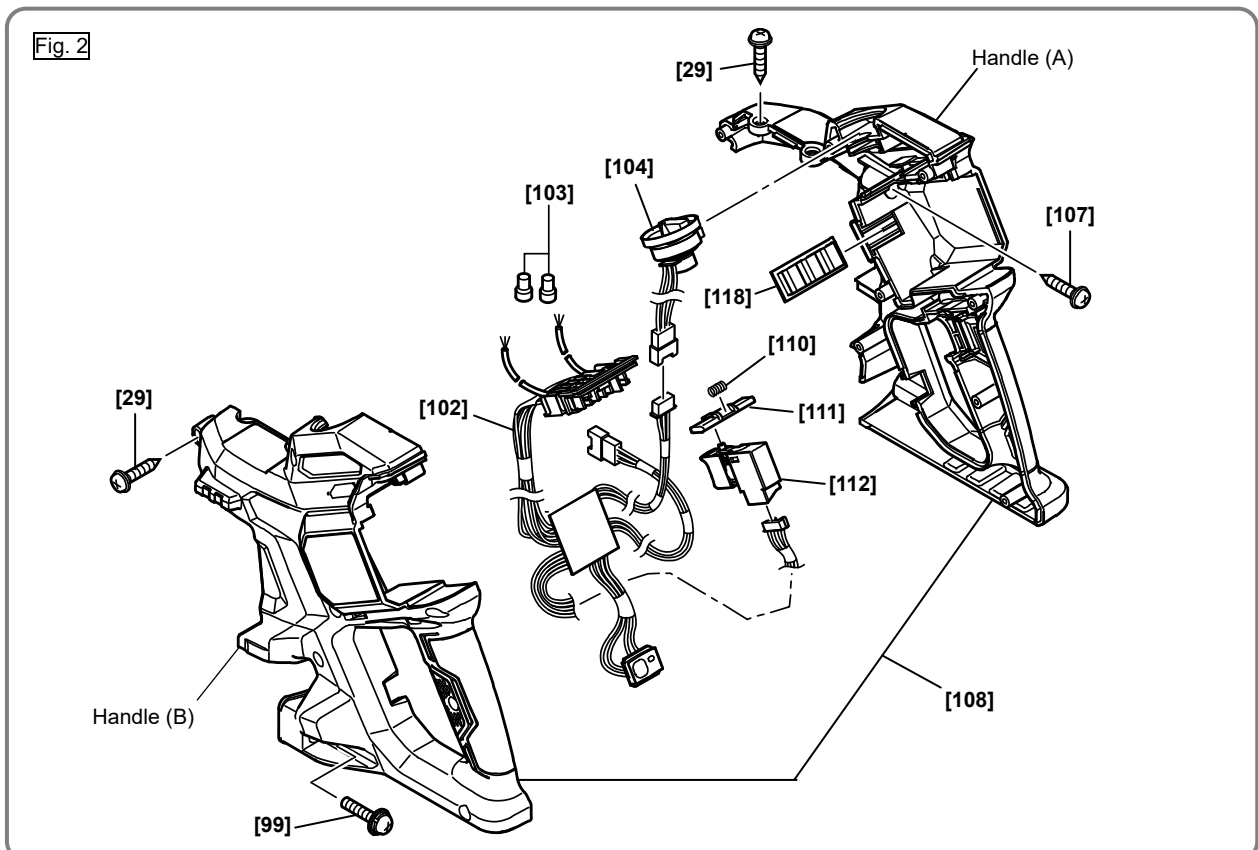
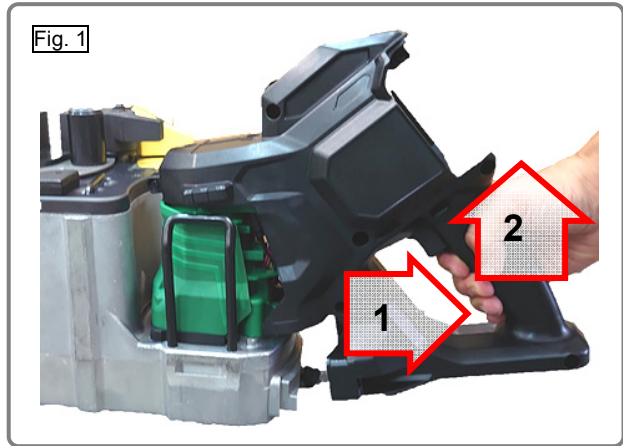
1. Precautions on disassembly and reassembly

[Bold] numbers in the description below correspond to the item numbers in the parts list and exploded assembly diagram for the Model VB 3616DA.

Disassembly

1. Disassembly of handle (A).(B) set

- (1) Remove the two Tapping Screws (W/Flange) D4 x 20 **[29]** and two Tapping Screws (W/Flange) D5 x 20 **[107]**, and two Machine Screws (W/Washers) M5 x 20 **[99]** from Handle (A).(B) Set **[108]**.
- (2) Holding the handle portion of Handle (A).(B) Set **[108]**, pull it backward and then upward to remove Handle (A).(B) Set **[108]** from the housing as shown in Fig. 1.
- (3) Remove the eight Tapping Screws (W/Flange) D4 x 20 **[29]** from handle (B). Disconnect the internal wires and remove the two Connectors **[103]**. Then, remove the Relay PCB **[102]**, DC-Speed Control Switch **[112]**, Pushing Button **[111]**, and Volume Holder **[104]** as shown in Fig. 2.



2. Removal of the gear cover ass'y

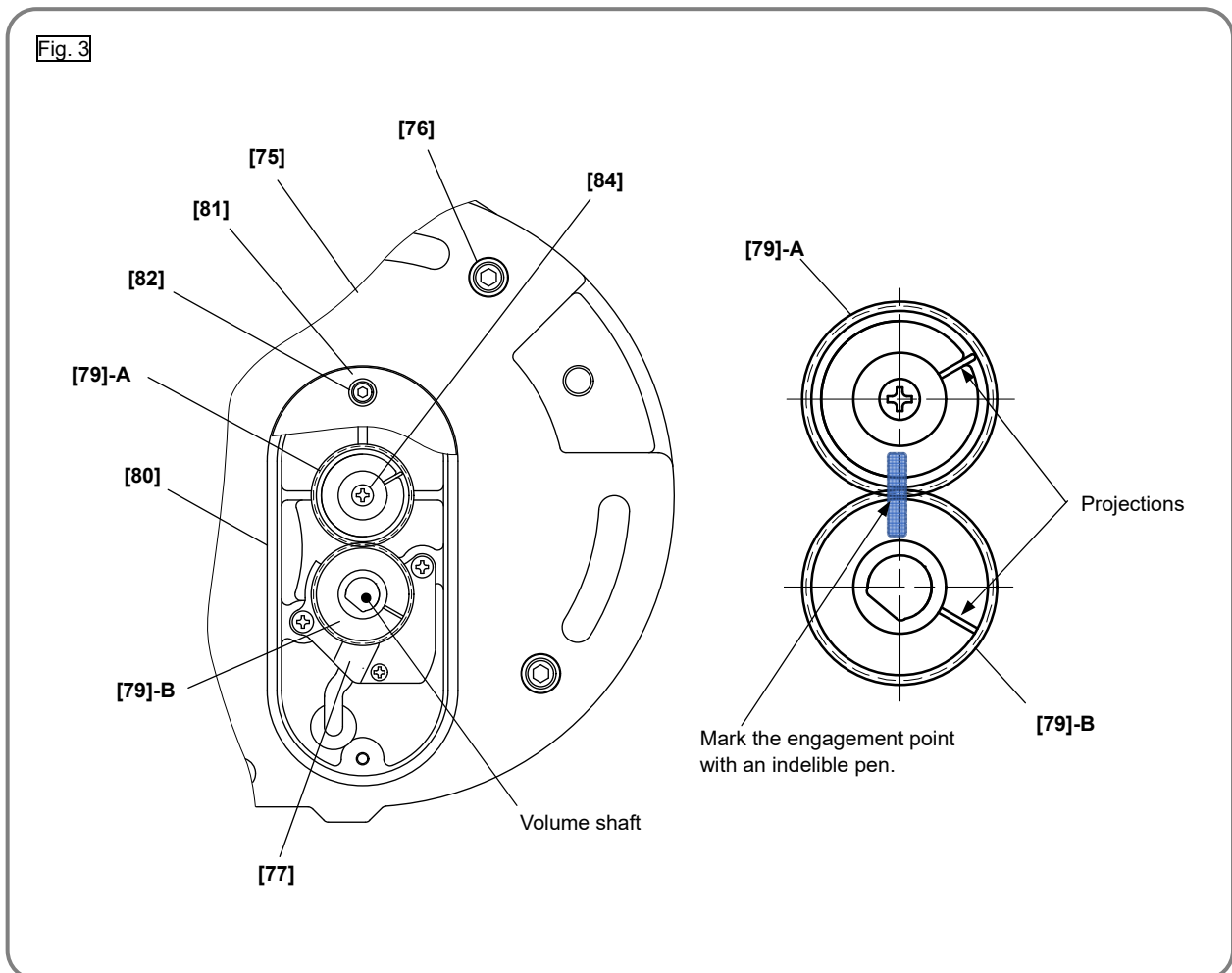
- (1) Remove the two Hex. Socket Hd. Bolts (W/Flange) M4 x 10 [82] from the bottom of the Gear Cover Ass'y [75]. Then, remove the Sensor Cover [81] and the O-ring [80].
- (2) Mark the engagement point between the Sensor Gear [79]-A and Sensor Gear [79]-B with an indelible pen positioning the Sensor Gears [79] as shown in Fig. 3.

NOTE: Marking is necessary to check the number of teeth from the engagement point to the projection of each Sensor Gear [79] for proper alignment at reassembly.

- (3) Remove the Seal Lock Screw (W/SP. Washer) M4 x 12 [84] from the Sensor Gear [79]-A and remove the Sensor Gear [79]-A from the Cam Shaft [14].

NOTE: The Sensor Gear [79]-B of Sensor Holder (A) Ass'y [77] is secured to the volume shaft and cannot be removed.

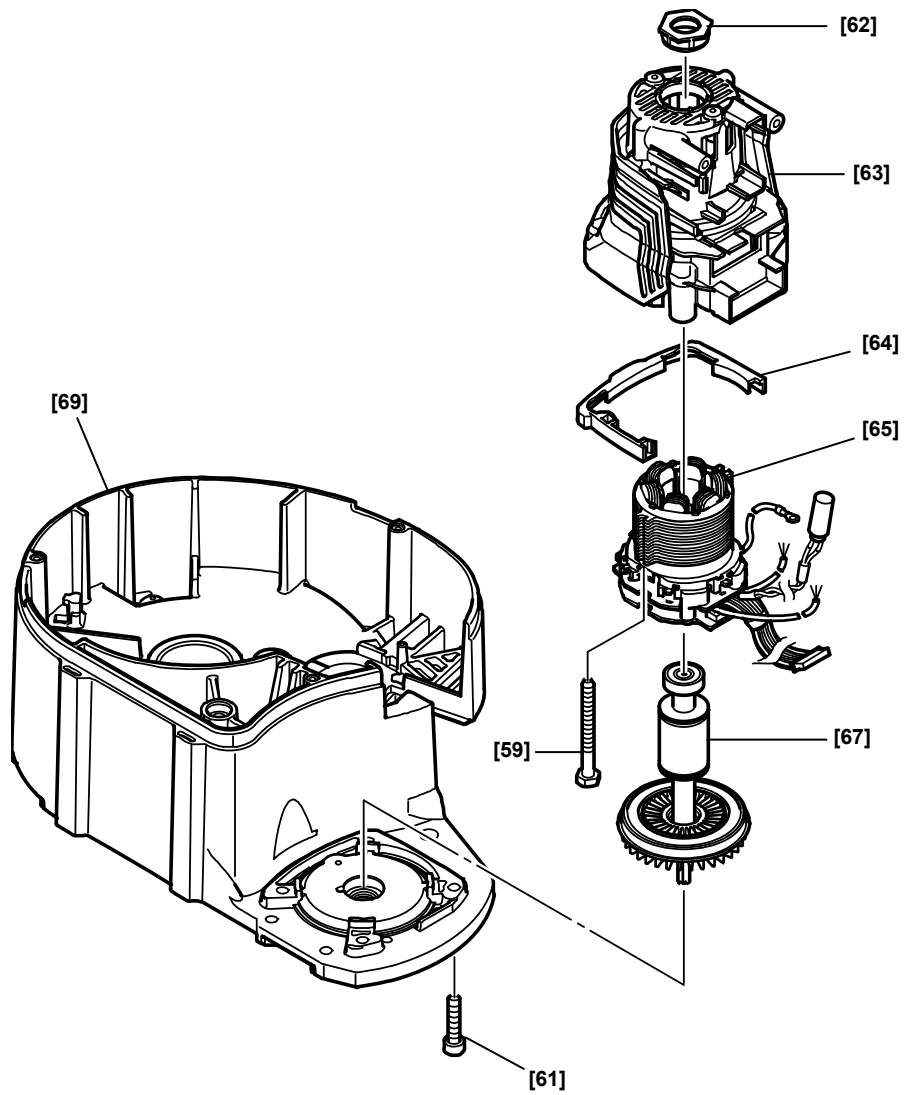
- (4) Remove the Gear Cover Ass'y [75] from the Inner Cover Ass'y [69].



3. Disassembly of the motor unit

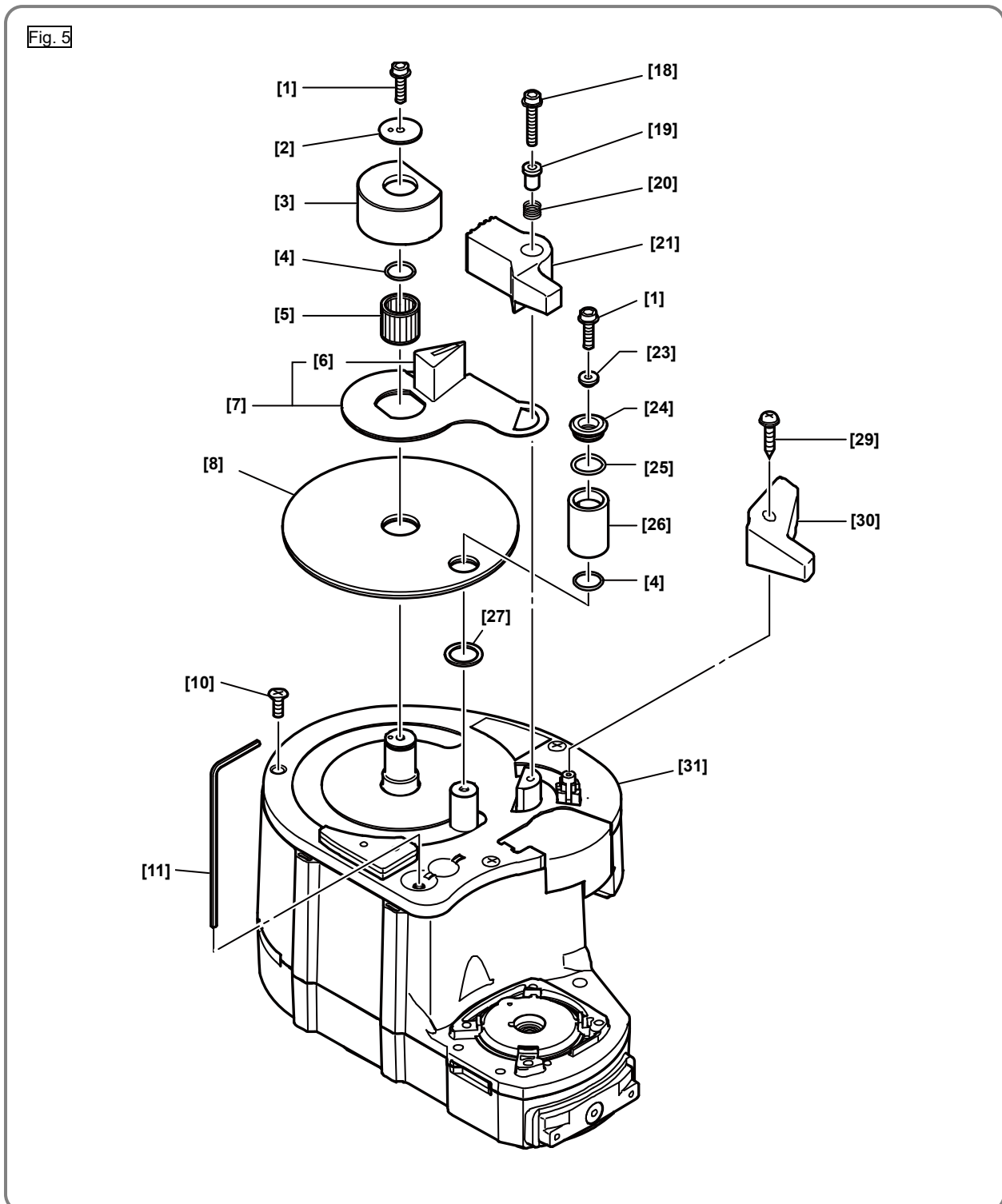
- (1) Remove the four Hex. Socket Hd. Bolts M6 x 20 [61]. Then, remove the Housing Ass'y [63] and Spacer [64].
- (2) Remove the Rotor [67].
- (3) Remove the two Hex. Hd. Tapping Screws D4 x 45 [59] and Stator PCB [65].

Fig. 4



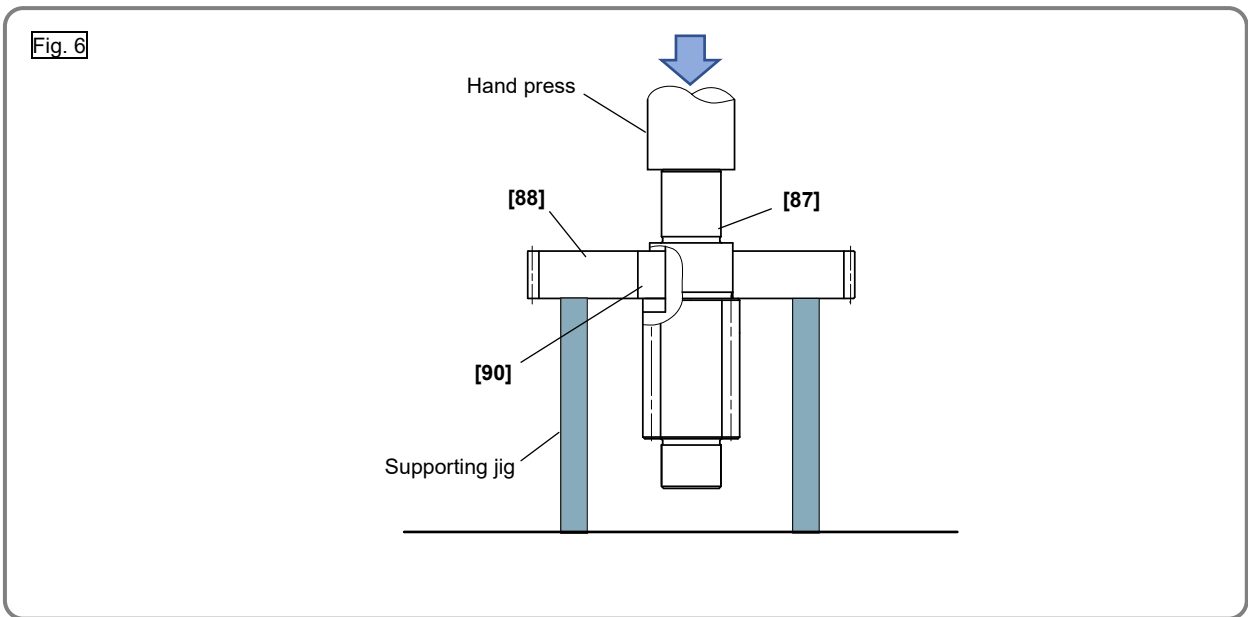
4. Disassembly of the bending unit

- (1) Remove the Nylock Bolt (W/Flange) M5 x 16 [1], Washer (A) [2], and Center Roller (D62) Set [3]. Remove the O-ring [4] from the Cam Shaft [14], then remove the Needle Bearing [5].
- (2) Remove the Nylock Bolt (W/Flange) M5 x 25 [18], Sleeve (G) [19], Spring (G) [20] and Guide (D62) [22]. Then, remove the Center Plate Ass'y [7].
- (3) Remove the Tapping Screw (W/Flange) D4 x 20 [29] and Lever (B) [30].
- (4) Remove the Nylock Bolt (W/Flange) M5 x 16 [1], Sleeve (R) [23], Cap [24], O-ring [25], Roller (B) [26], Washer (B) [27], and Turn Table [8].
- (5) Remove the Hex. Bar Wrench 4 mm [11] and three Nylock Flat Hd. Screws M4 x 12 [10] to remove the Cam Cover [31].



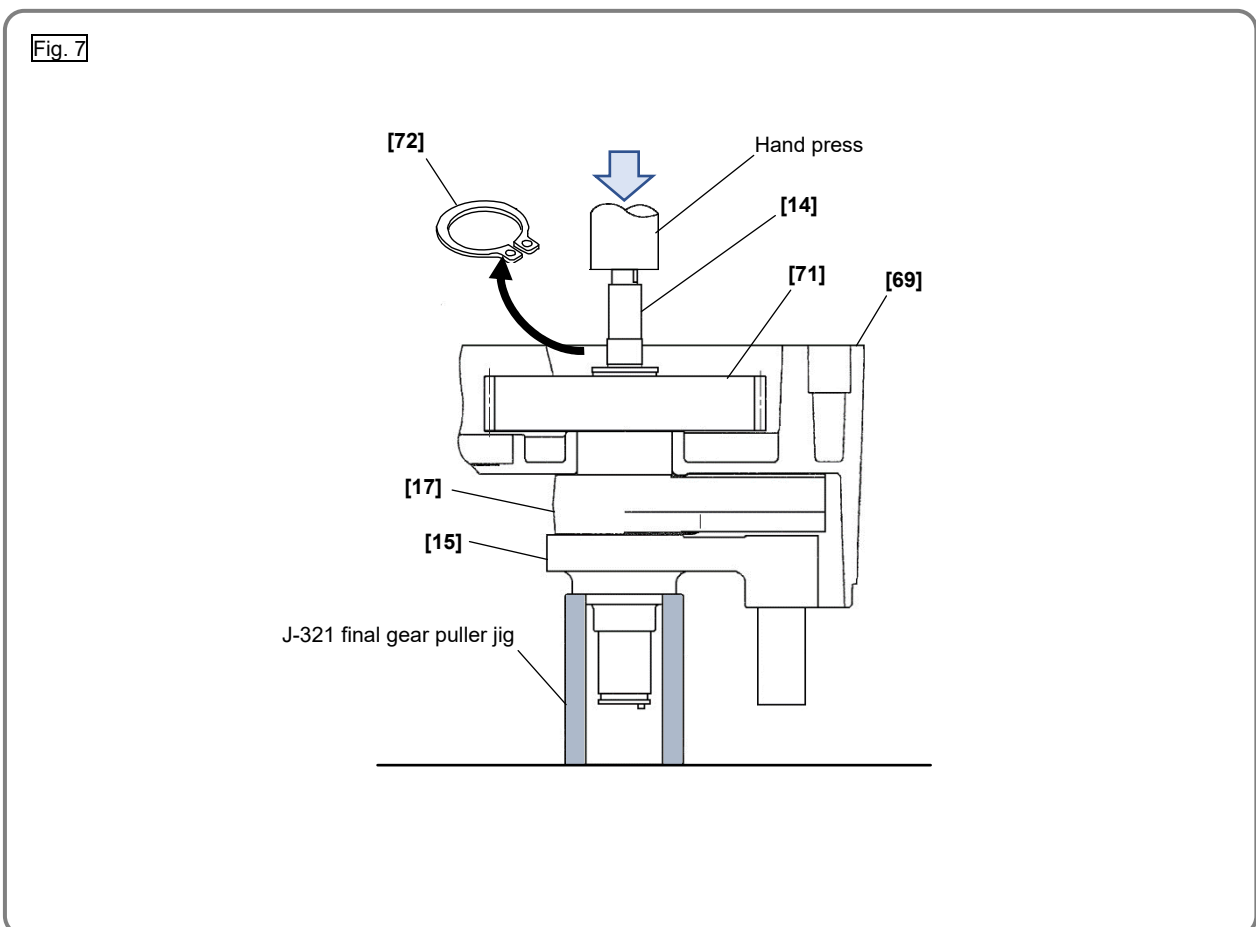
(6) Removal of the third pinion

Put the Third Gear [88] on a supporting jig and press the Third Pinion [87] with a hand press to remove it.



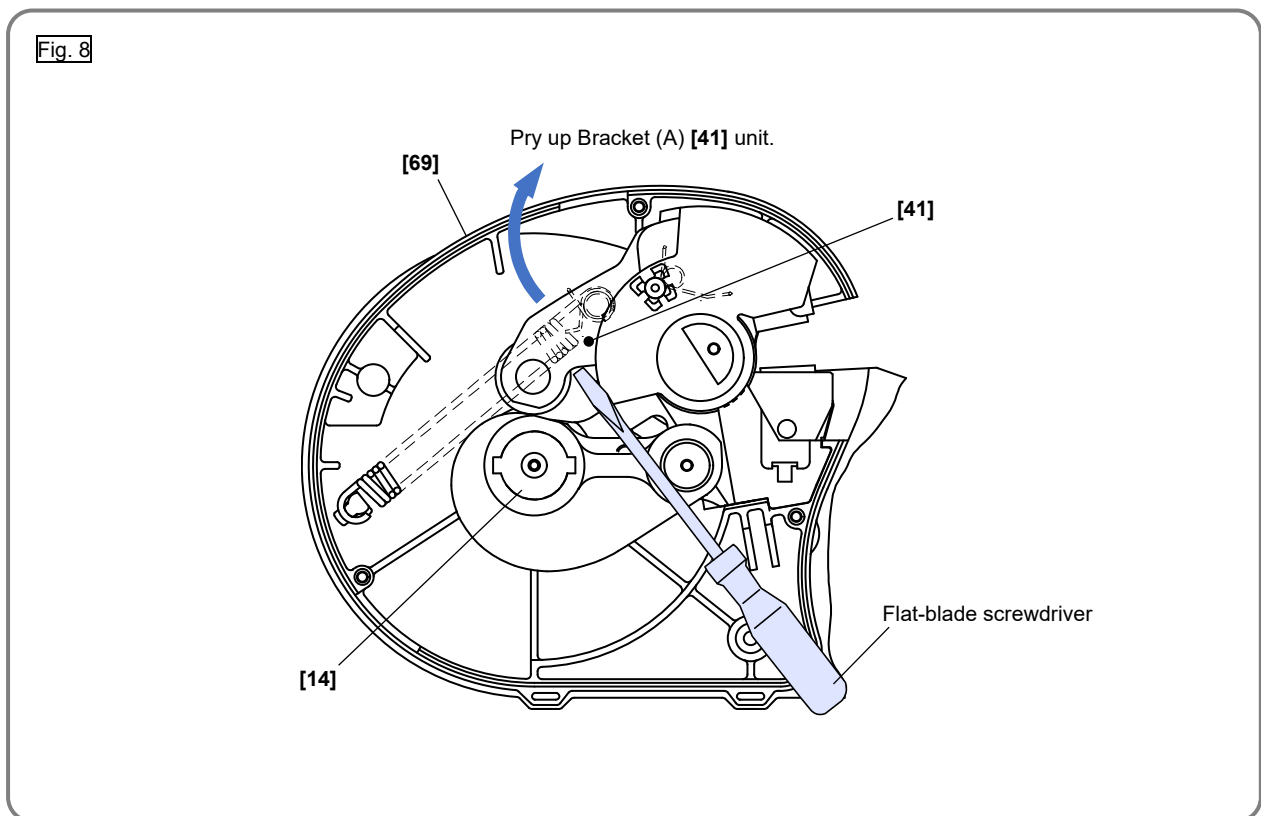
(7) Removal of the final gear

Remove the Retaining Ring for D28 Shaft [72]. Then, put the Cam [15] on the J-321 final gear puller jig (Code No. 320873) as shown in Fig. 7 and press the end surface of the Cam Shaft [14] with a hand press to remove the Final Gear [71].



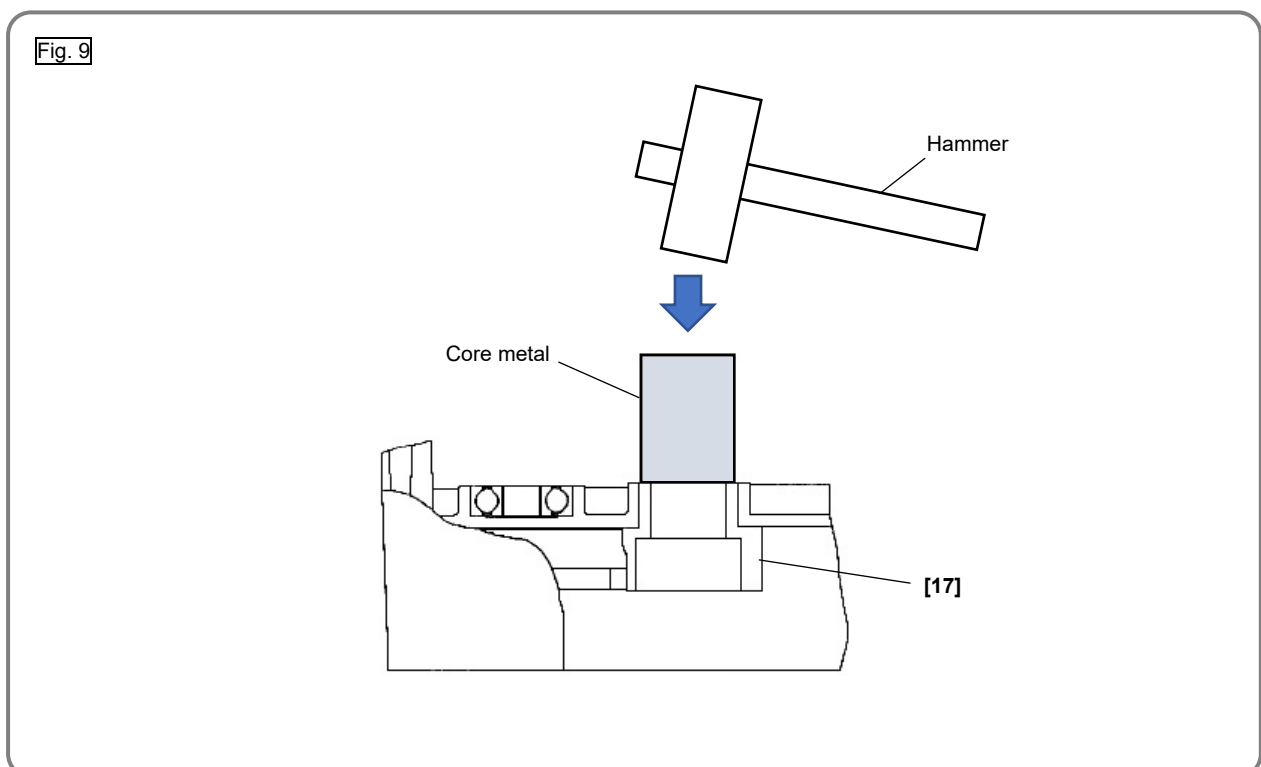
(8) Removal of the cam shaft unit

Pry up Bracket (A) [41] unit with a flat-blade screwdriver in the arrow direction as shown in Fig. 8 and remove the Cam Shaft [14] unit and Sleeve (B) [16] unit.



(9) Removal of the assembly of Bracket (A) [41] unit and Bracket (B) [17] unit from the inner cover ass'y

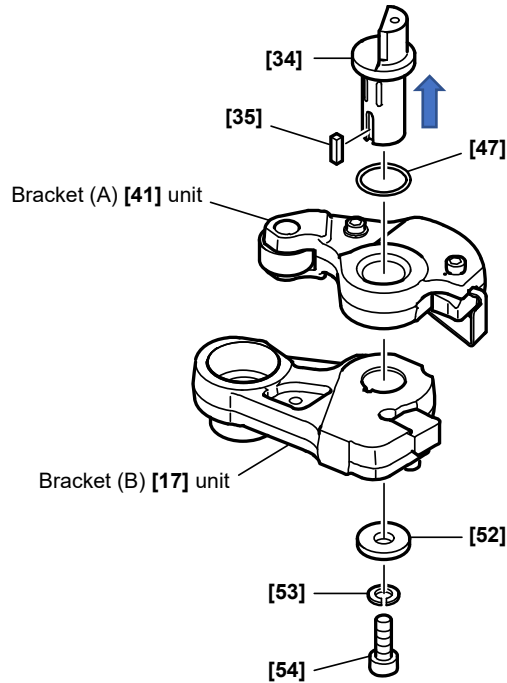
Remove the two Hex. Socket Hd. Bolts (W/Flange) M8 x 25 [70]. Put a core metal 36 mm to 39 mm in diameter on the end surface of Bracket (B) [17] and tap it with a hammer as shown in Fig. 9 to remove the assembly of Bracket (A) [41] unit and Bracket (B) [17] unit. Then, remove the Inner Cover Ass'y [69], Cover [33], and Return Spring [55].



(10) Separation of bracket (A) unit from bracket (B) unit

Remove the Seal Lock Hex. Socket Hd. Bolt M12 x 20 [54], Belleville Spring (For M12) [53], and Spacer [52]. Press Shaft (A) [34] with a hand press to remove it from Bracket (A) [41] and Bracket (B) [17]. Then, remove Bracket (A) [41] unit from Bracket (B) [17] unit.

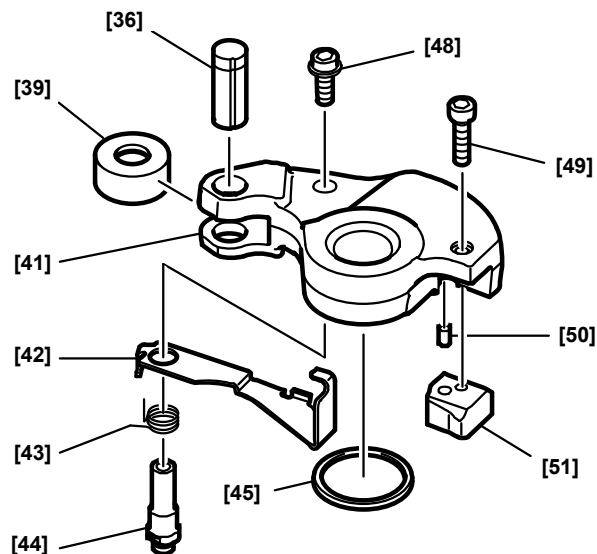
Fig. 10



(11) Disassembly of bracket (A) unit

Remove the Nylock Bolt (W/Flange) M6 x 12 [48], Cutter Guard [42], Spring (D) [43], and Pin for Spring [44]. Remove the Nylock Hex. Socket Hd. Bolt M5 x 16 [49] and the Cutter [51]. Press the Needle [36] with a hand press to remove Roller (C) [39] from Bracket (A) [41].

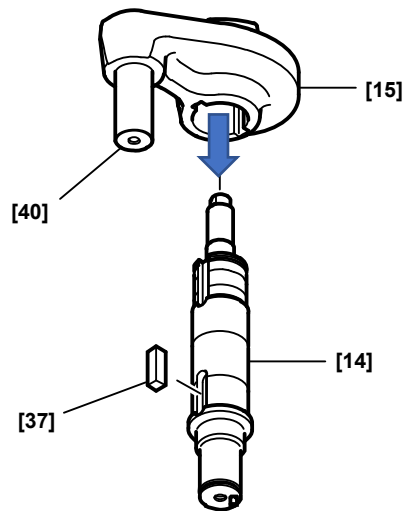
Fig. 11



(12) Removal of the cam shaft

Put the Cam [15] on a supporting jig and push down the Cam Shaft [14] with a hand press to remove the Cam Shaft [14] and Feather Key 7 x 7 x 22 [37].

Fig. 12



Reassembly

Perform reassembly by reversing the disassembly procedure, but note the following.

1. Reassembly of the power supply unit

Be sure to perform wiring connections as indicated in the wiring diagrams when replacing the Stator PCB [65], Relay PCB [102], Volume Holder [104], or DC-Speed Control Switch [112].

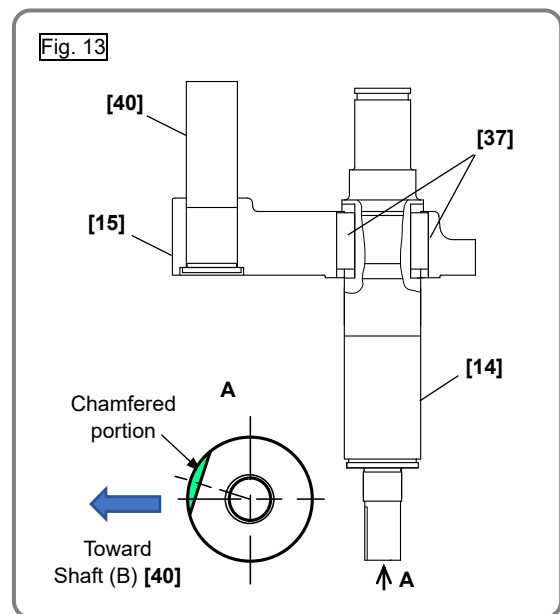
NOTE: If the terminal support in contact with the battery is covered with black oxide or plating on the terminal support is peeled off, the contact point may be hot, causing the battery and the tool to malfunction. In such a case, replace the Relay PCB [102] with new one.

2. Reassembly of the bending unit

(1) Mounting the cam shaft

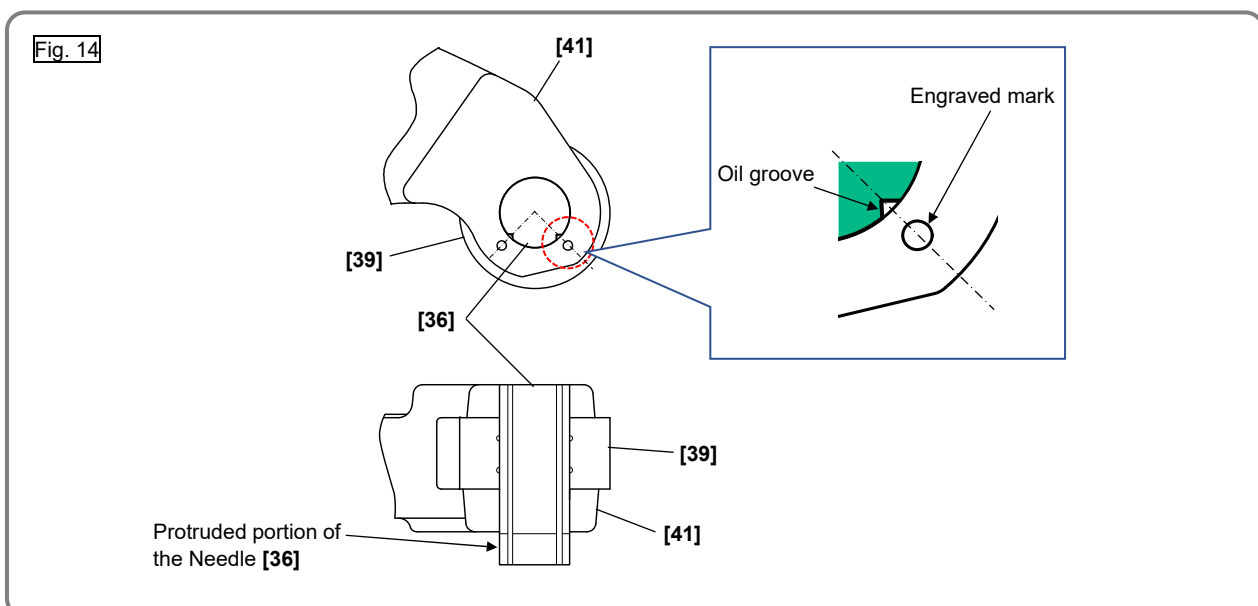
Press-fit the Cam Shaft [14] into the Cam [15] facing its chamfered portion to Shaft (B) [40] of the Cam [15] as shown in Fig. 13.

NOTE: If press-fitted wrongly, the sensor gear cannot be mounted in the proper position and there will be a fear of damage to the tool main body.



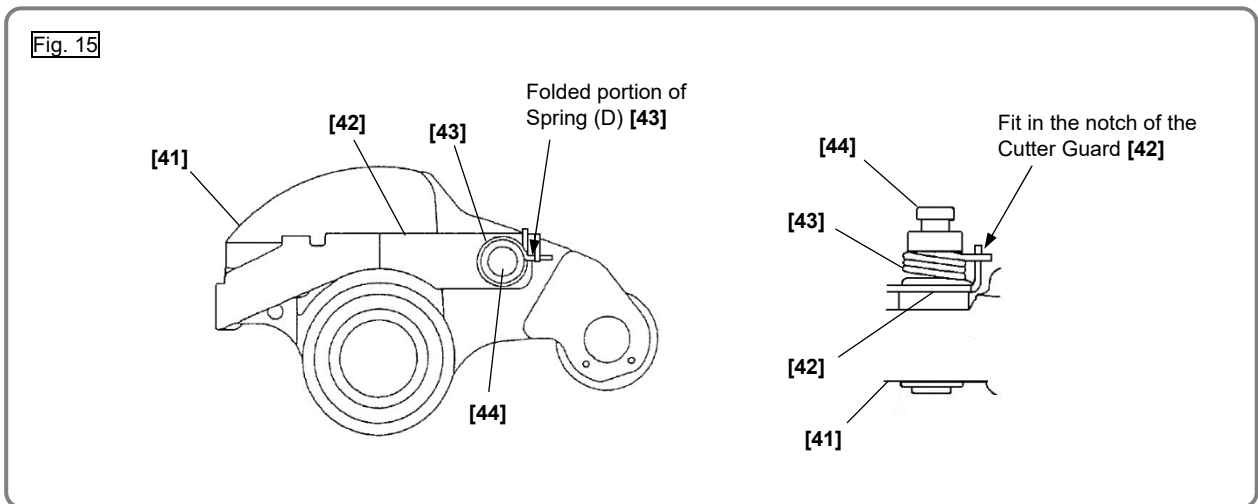
(2) Mounting roller (C)

When mounting Roller (C) [39], be careful of the press-fitting direction of the Needle [36]. Apply grease for impact wrench (Code No. 971042) to the outer circumference of the Needle [36] and then press-fit the Needle [36] into Bracket (A) [41] so that the oil grooves on the Needle [36] align with the engraved marks on Bracket (A) [41] as shown in Fig. 14.



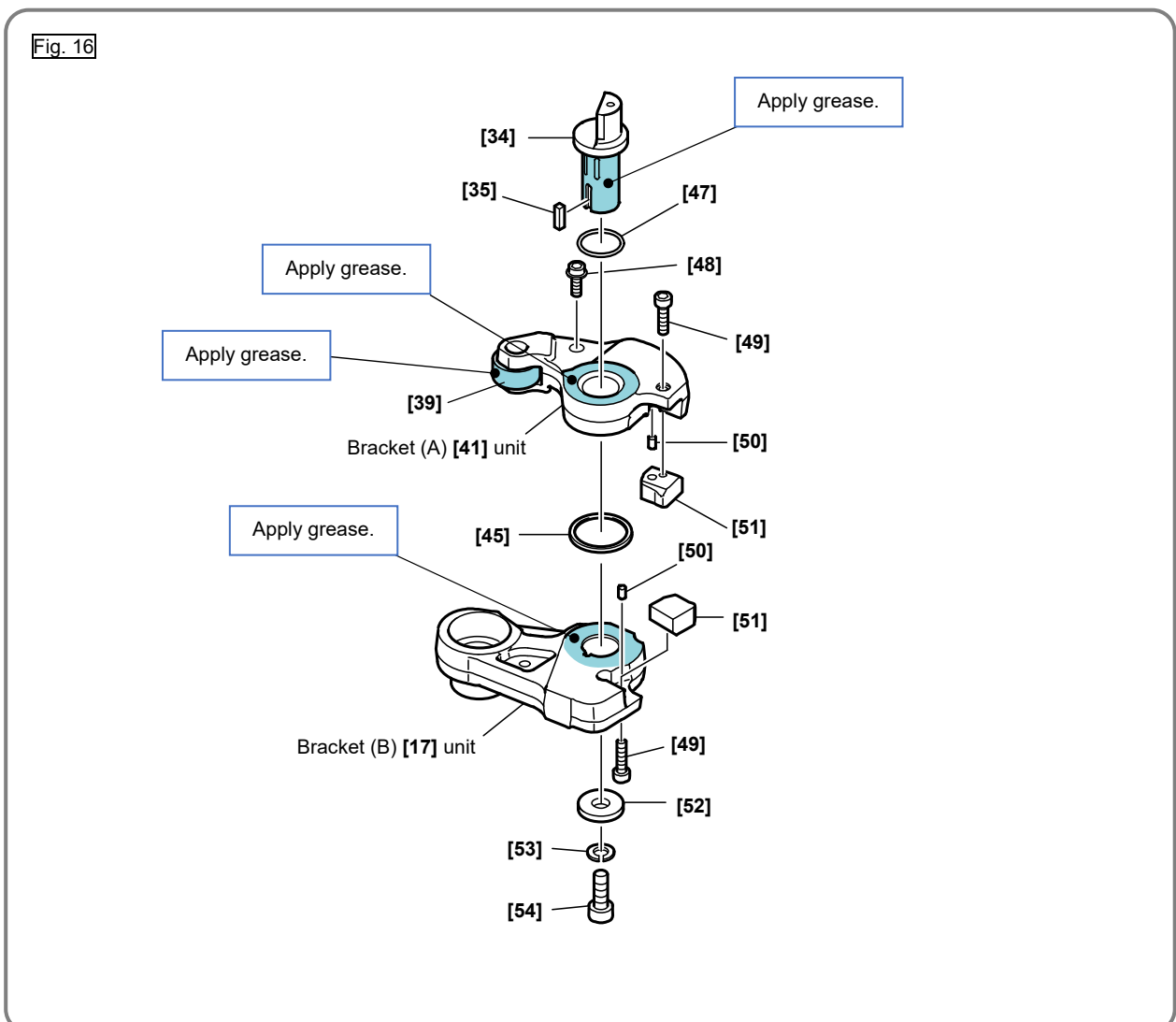
(3) Reassembly of bracket (A) unit

Mount the Pin for Spring [44], Cutter Guard [42], and Spring (D) [43] to Bracket (A) [41] so that the folded portion of Spring (D) [43] securely fits in the notch of the Cutter Guard [42] as shown in Fig. 15.



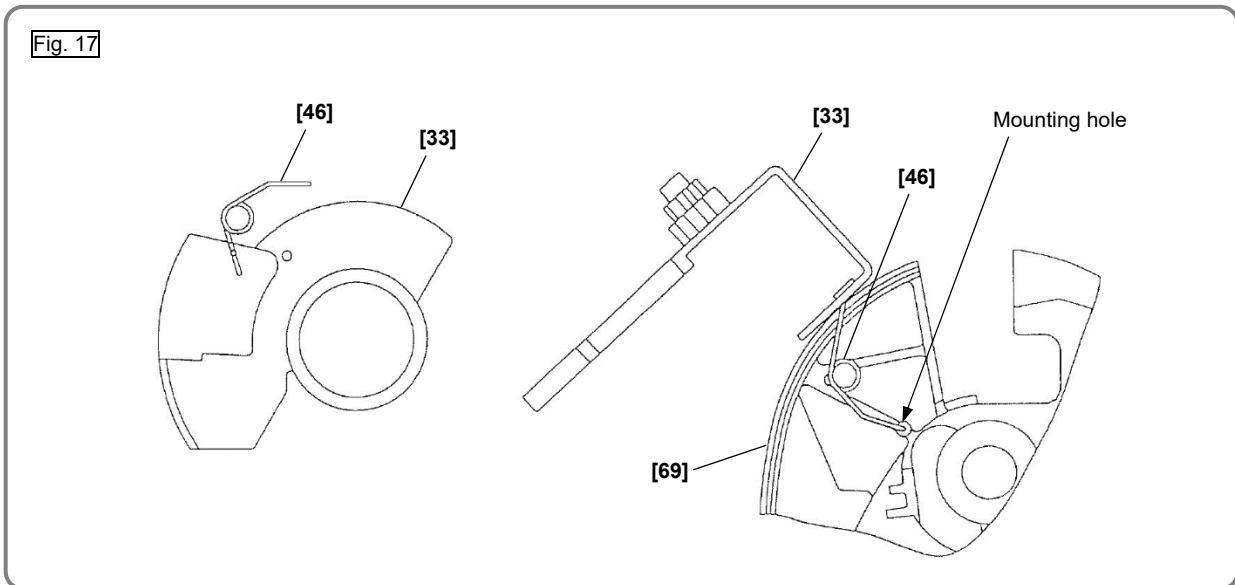
(4) Mounting bracket (A) unit to bracket (B) unit

Before mounting Bracket (A) [41] unit to Bracket (B) [17] unit, apply grease for impact wrench (Code No. 971042) to the shaded areas shown in Fig. 16 adequately. Aligning the key groove on Shaft (A) [34] with the key groove on Bracket (B) [17] unit, press-fit Shaft (A) [34] into Bracket (B) [17] until it contacts the end surface of Bracket (B) [17].



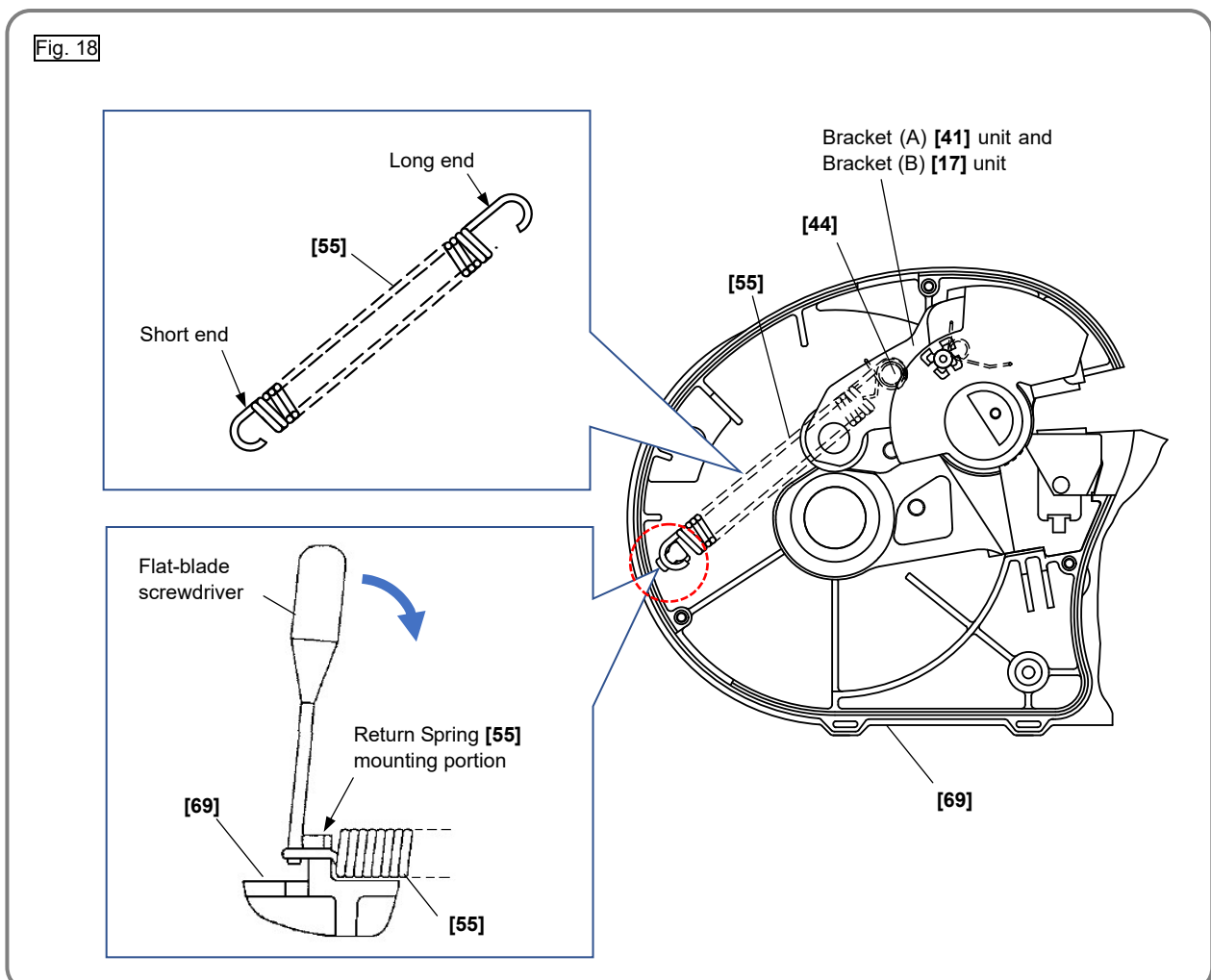
(5) Mounting the assembly of bracket (A) unit and bracket (B) unit to the inner cover ass'y

- Securely fit one end of Spring (F) [46] into the Cover [33] as shown in Fig. 17 before mounting Bracket (A) [41] unit and Bracket (B) [17] unit to the Inner Cover Ass'y [69].
- Securely fit the other end of Spring (F) [46] into the mounting hole on the Inner Cover Ass'y [69]. Leave the Cover [33] off the Inner Cover Ass'y [69] as shown in Fig. 17.



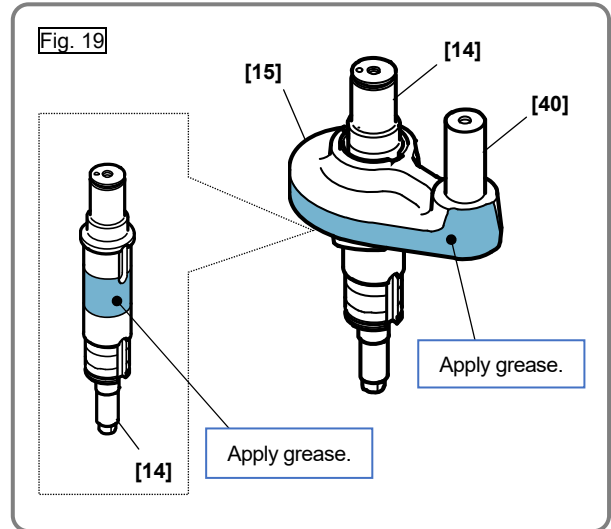
(6) Mounting the return spring

Hook the long end of the Return Spring [55] on the Pin for Spring [44] first then the short end on the mounting portion of the Inner Cover Ass'y [69] using a flat-blade screwdriver.



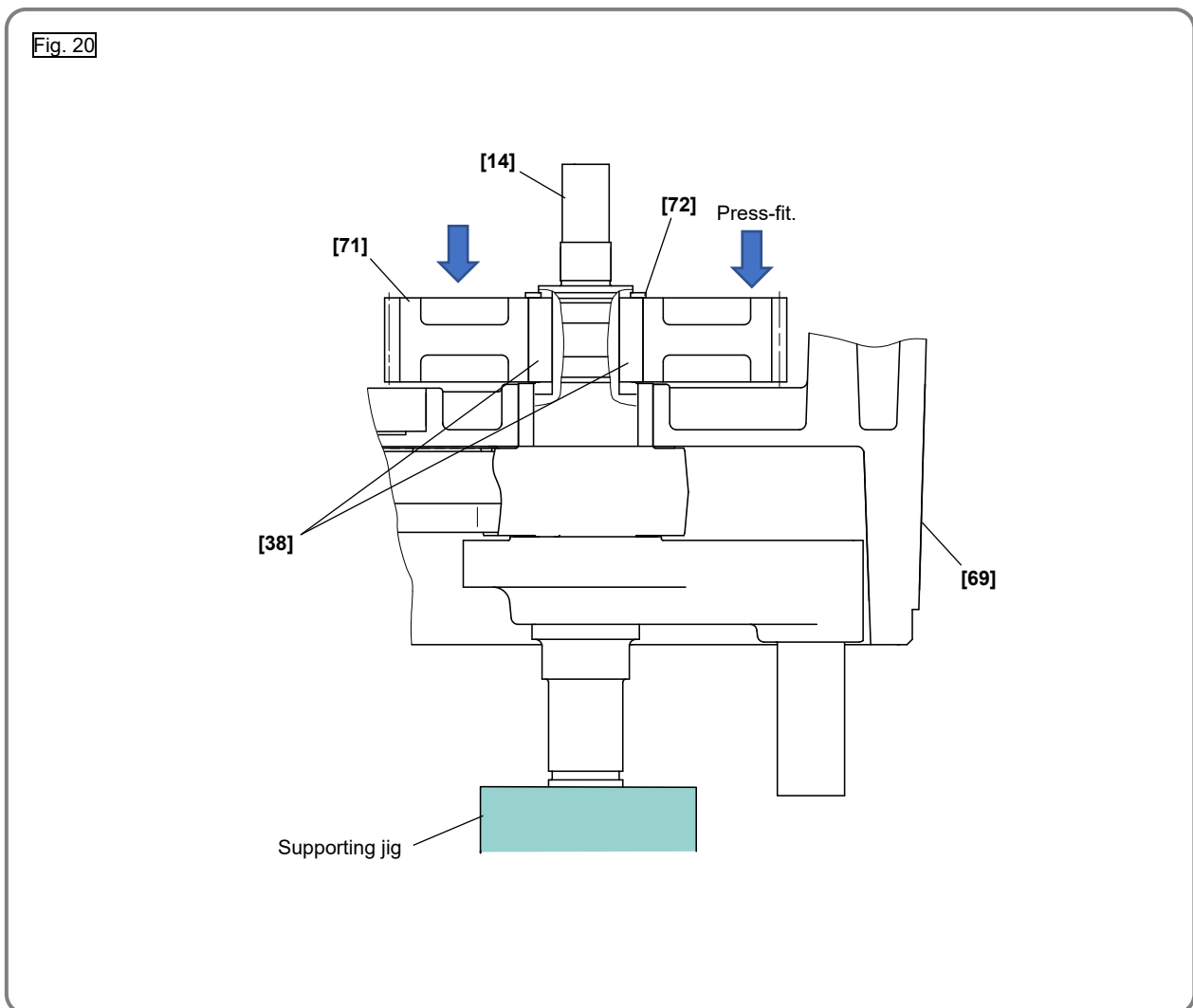
(7) Mounting the cam shaft

- Apply grease for impact wrench (Code No. 971042) to the sliding surfaces between the Cam [15] and Roller (C) [39], and between the Cam Shaft [14] and Sleeve (B) [16].
- Mount Sleeve (B) [16] to Bracket (B) [17]. Then, move Bracket (A) [41] with a flat-blade screwdriver to mount Bracket (A) [41] to Bracket (B) [17].



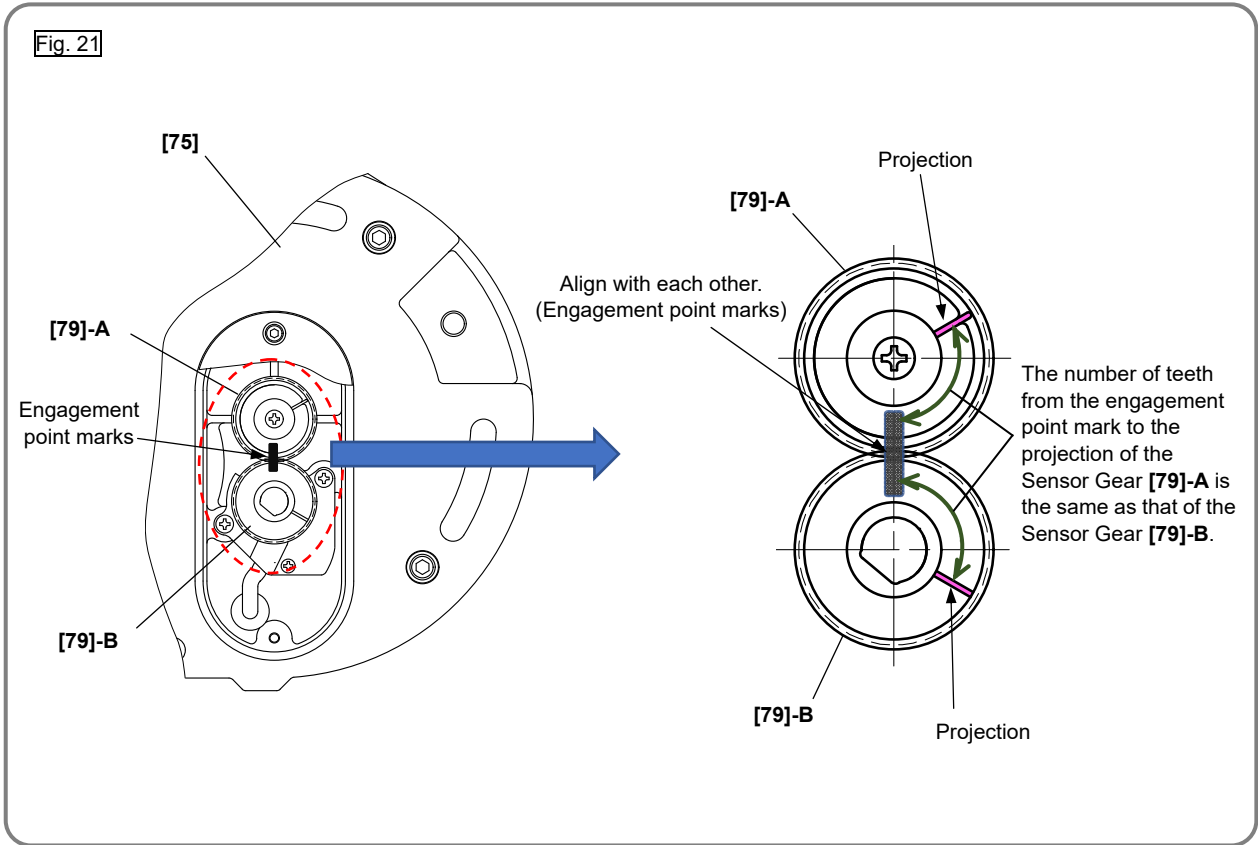
(8) Mounting the final gear

Mount the two Feather Keys 7 x 7 x 25 [38] to the Cam Shaft [14] and gradually press-fit the Cam Shaft [14] into the Final Gear [71] supporting the end surface of the Cam Shaft [14] as shown in Fig. 20. After press-fitting, be sure to secure the Final Gear [71] with the Retaining Ring for D28 Shaft [72].

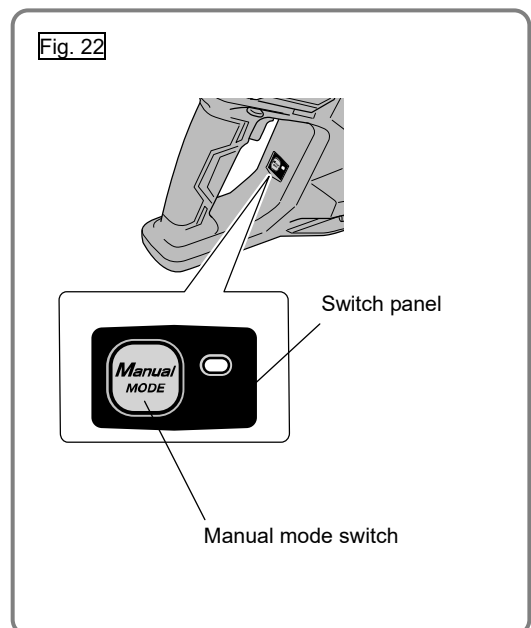


(9) Mounting the sensor gears

Mount the Sensor Gear [79]-A and Sensor Gear [79]-B so that the engagement point mark on the Sensor Gear [79]-A is aligned with that on the Sensor Gear [79]-B as shown in Fig. 21. If marking is omitted or erased unintentionally, mount the Sensor Gear [79]-A and Sensor Gear [79]-B properly so that the number of teeth from the engagement point to the projection of the Sensor Gear [79]-A is the same as that of the Sensor Gear [79]-B.

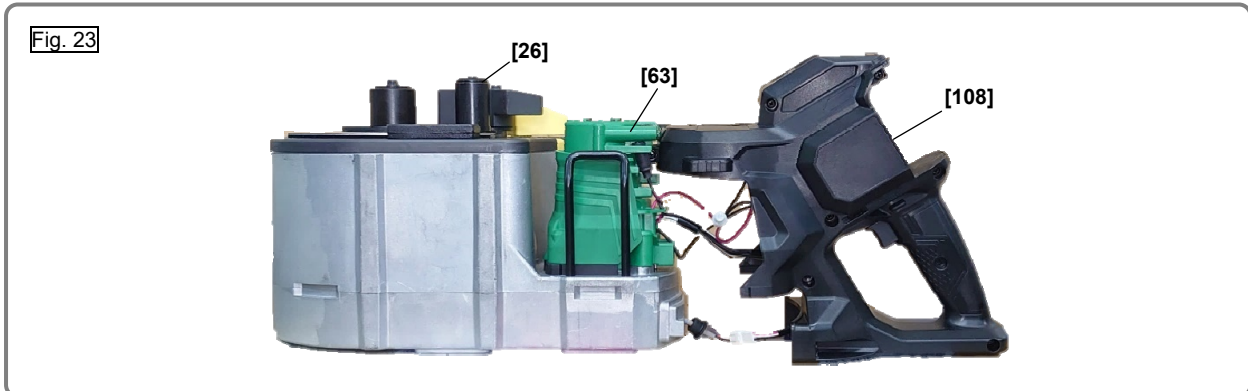


(10) Pay attention to the mounting direction of the switch panel when mounting the Relay PCB [102].



Adjustment of turning angle of roller (B)

Adjust the turning angle of Roller (B) [26] before mounting Handle (A).(B) Set [108] to the Housing Ass'y [63] (Fig. 23).



1. Check the following before adjustment.

(1) Check that the battery terminal has a proper backlash.

NOTE: If there is no backlash, the battery terminal may be improperly mounted on the ribs.

Installing the battery in such a state could cause a short circuit.

(2) Check that the Pushing Button [111] can be pushed in either side and it returns to the neutral position by releasing your finger.

(3) Check that the DC-Speed Control Switch [112] can be pulled only while the Pushing Button [111] is pushed.

2. Adjust the turning angle of Roller (B) [26] as follows.

(1) Turn the tool to the angle adjustment mode according to the following procedure.

(a) Install the battery. Pull the DC-Speed Control Switch [112] to drive the tool in order to supply power to the microcomputer.

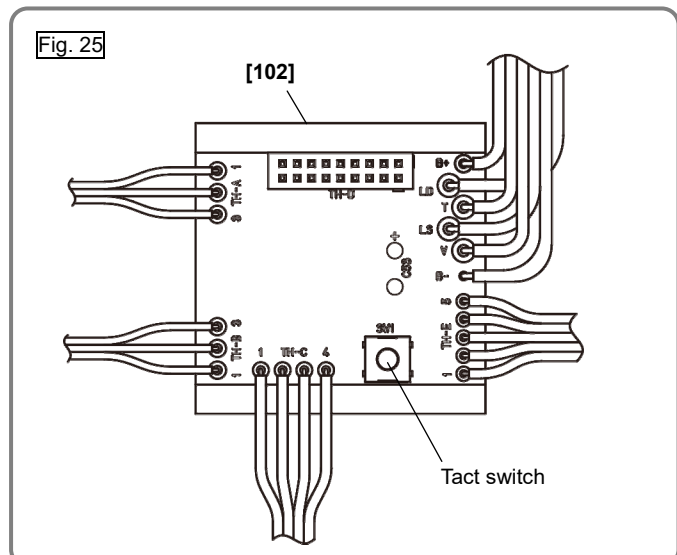
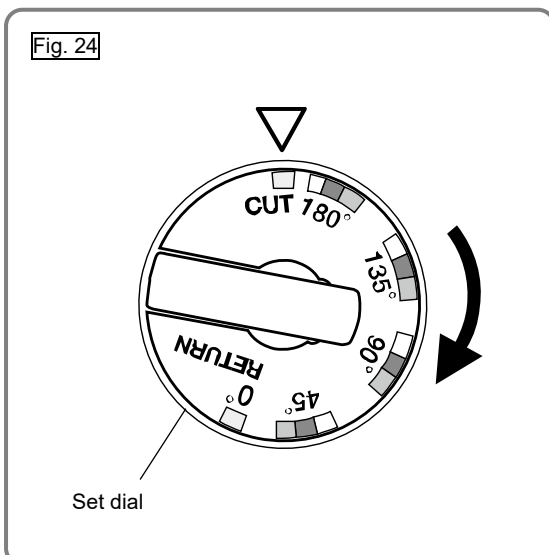
(b) Turn the set dial fully clockwise to the "CUT" position as shown in Fig. 24.

(c) Press the tact switch on the Relay PCB [102].

(d) Press the tact switch on the Relay PCB [102] once again within five seconds and keep on pressing.

(e) Pull the DC-Speed Control Switch [112] within five seconds while keeping the tact switch on the Relay PCB [102] pressed.

NOTE: Then Roller (B) [26] is driven. Be careful not to be caught.



(2) The tool turns to the angle adjustment mode and the mode indicator lamp of the manual mode switch lights after the steps from (a) to (e) in the above (1). Then the tool automatically operates in the following order to adjust the turning angle of Roller (B) [26].

(a) Roller (B) [26] rotates in reverse.

NOTE: Roller (B) [26] rotates in reverse at first regardless of location.

(b) Roller (B) [26] rotates in the normal direction after Roller (B) [26] returns to the original position.

(c) Roller (B) [26] rotates in the normal direction until it reaches the maximum angle 180° (set dial).

Then, Roller (B) [26] rotates in reverse and returns to the original position.

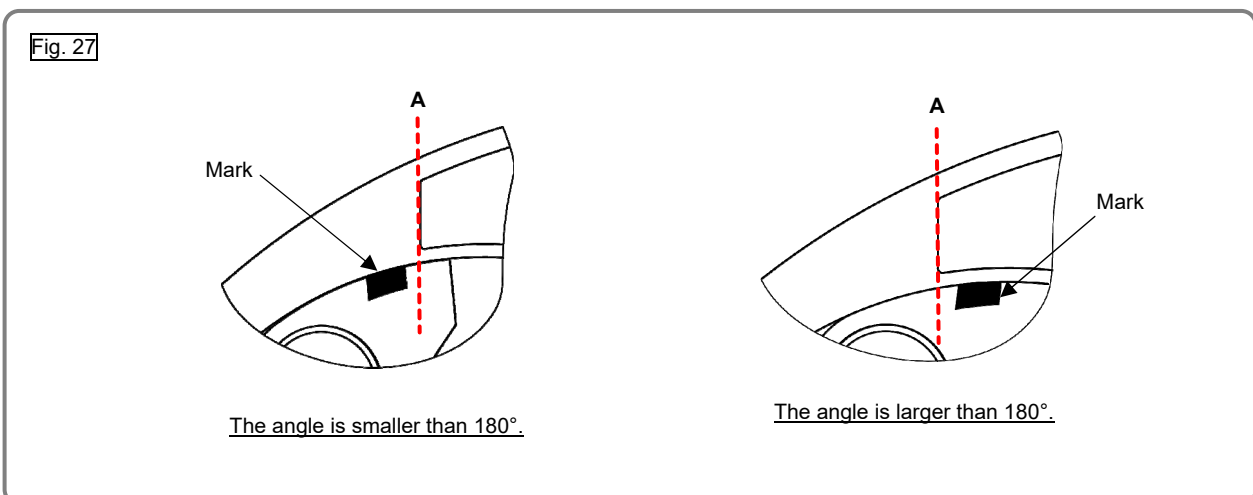
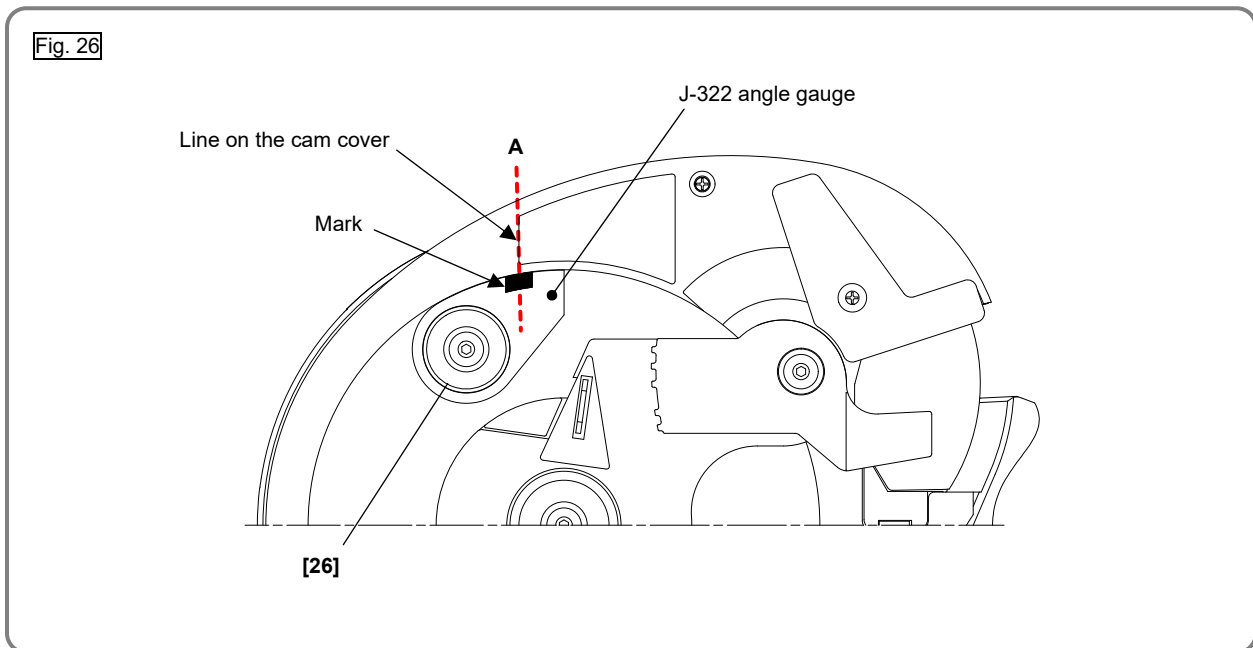
(3) After the automatic angle adjustment in the above (2), check the turning angle of Roller (B) [26] using the special repair tool J-322 angle gauge (Code No. 320874).

(a) Put the J-322 angle gauge around Roller (B) [26] and adhere it to the Turn Table [8] aligning with the perimeter as shown in Fig. 26.

(b) Turn the set dial fully clockwise as shown in Fig. 25. Pull the DC-Speed Control Switch [112] to start the tool.

(c) Check the position of the line "A" on the cam cover and the mark on the J-322 angle gauge when the tool switches from normal to reverse rotation as shown in Fig. 26.

(d) It is all right if the line "A" on the cam cover is within the range of the J-322 angle gauge mark when the tool switches from normal to reverse rotation.



(4) If the line "A" on the cam cover is out of the range of the J-322 angle gauge mark as shown in Fig. 27, finely adjust the turning angle according to the following procedure.

<Adjustment when the angle is smaller than 180°>

- (a) Turn the tool to the angle adjustment mode according to the above procedure (1).
- (b) Pull the DC-Speed Control Switch [112] within five seconds after the start of Roller (B) [26] rotation.
- (c) Perform the steps (b) and (c) in the above (3) again and check whether the line "A" on the cam cover is within the range of the J-322 angle gauge mark or not. If not, repeat the above steps from (a) to (c). In the step (b), increase the number of times the DC-Speed Control Switch [112] is pulled in sequence from 1 to 5 until the line "A" on the cam cover is within the range of the J-322 angle gauge mark.

NOTE: The angle is increased about 1° (larger angle) by pulling the DC-Speed Control Switch [112] once. It can be pulled up to 5 times.

<Adjustment when the angle is larger than 180°>

- (a) Turn the tool to the angle adjustment mode according to the above procedure (1).
- (b) Press the manual mode switch within five seconds after the start of Roller (B) [26] rotation.
- (c) Perform the steps (b) and (c) in the above (3) again and check whether the line "A" on the cam cover is within the range of the J-322 angle gauge mark or not. If not, repeat the above steps from (a) to (c). In the step (b), increase the number of times the manual mode switch is pressed in sequence from 1 to 5 until the line "A" on the cam cover is within the range of the J-322 angle gauge mark.

NOTE: The angle is decreased about 1° (smaller angle) by pressing the manual mode switch once. It can be pressed up to 5 times.

Mount Handle (A).(B) Set [108] after the adjustment of the turning angle of Roller (B) [26].

Checking after reassembly

After reassembly, check the following.

- (1) Check that the Cover [33] is opened and closed smoothly.
- (2) Check that the Pushing Button [111] moves smoothly and the trigger of the DC-Speed Control Switch [112] cannot be pulled in the neutral position.
- (3) Check that the switching operation of the DC-Speed Control Switch [112] is smooth and the Model VB 3616DA turns on and off, changes speed, and brakes reliably.
- (4) Check that the Model VB 3616DA switches between the reverse-rotation mode and the regular rotation mode each time the manual mode switch on the switch panel is pressed. Also check that the red indicator lamp lights during the reverse-rotation mode.

Lubrication points and type of lubricant

Apply specified amount of grease to the following portions.

Douplex 251 grease

- Outer circumference of the Cam Shaft [14], orbital plane of the Cam [15], and sliding surface of the Needle Bearing [5] About 2 g
- Entire circumferences of the O-rings [4][25][47] About 0.5 g
- Outer circumference, end plane, and oil groove of Shaft (A) [34] About 1 g
- Contact surfaces of Bracket (A) [41] and Bracket (B) [17] About 1 g
- Outer circumference of Roller (C) [39] About 0.5 g
- Engagement surfaces of Shaft (B) [40] and inside of Roller (B) [26] About 0.5 g
- Contact surfaces of Bracket (A) [41] and Grip Rubber [32] About 1.5 g
- Metal portions of the bearings (3 places) About 0.5 g

Nippeco SEP-3A grease

- Tooth surfaces of the Second Pinion Set [92] and First Pinion Set [95] About 1 g
- Tooth surface of the Rotor [67] pinion About 0.5 g

Please purchase the following grease as necessary.

Item	Registered part name	Net weight	Code No.
Douplex 251	Grease for impact wrench (100 g)	100 g	971042
Nippeco SEP-3A	Grease (SEP-3A) (100 g)	100 g	930035
	Grease (SEP-3A) (2.5 kg)	2.5 kg	930038

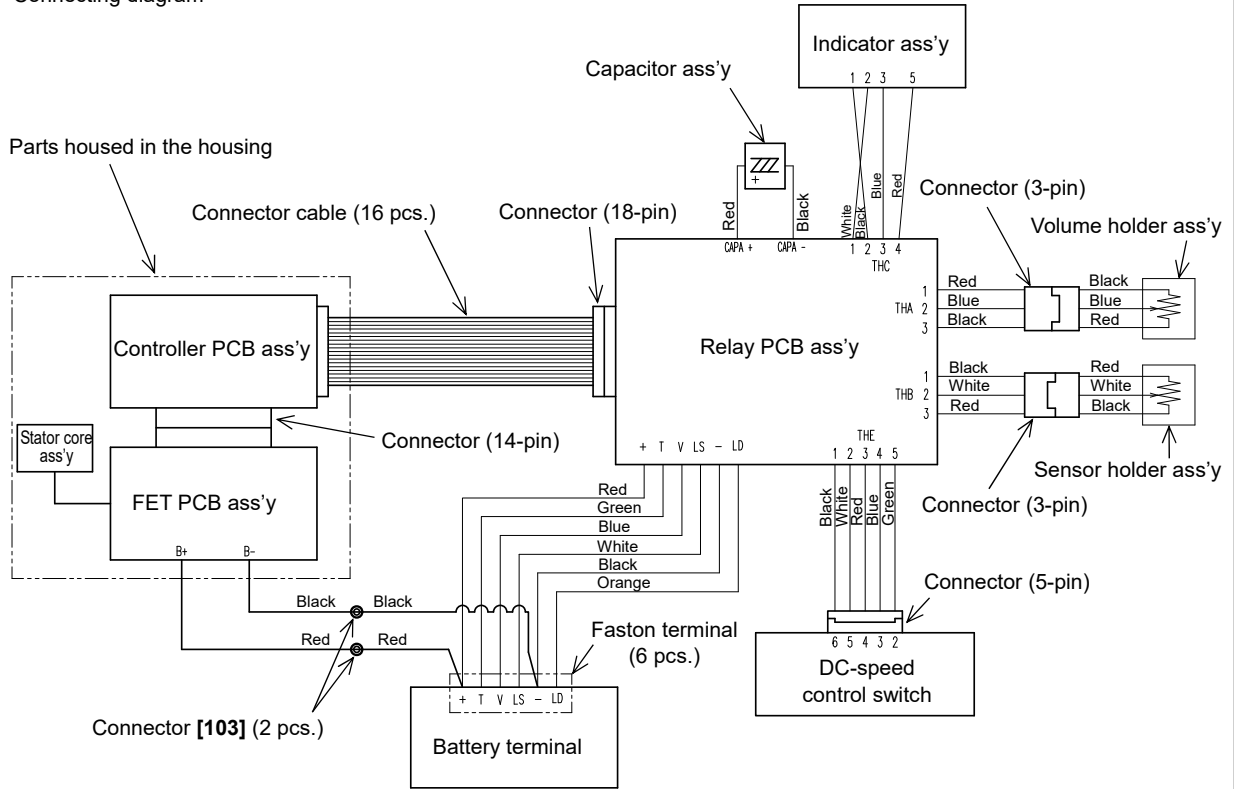
Tightening torque

Item No.	Part name	No. used	Tightening torque	
			N•m	kgf•cm
[1]	Nylock Bolt (W/Flange) M5 x 16	3	5.9 to 7.4	60 to 75
[10]	Nylock Flat Hd. Screw M4 x 12	10	2.2±0.4	22±4
[12]	Hex. Socket Hd. Bolt (W/Flange) M5 x 12	2	5.9±1.5	60±15
[18]	Nylock Bolt (W/Flange) M5 x 25	1	5.9 to 7.4	60 to 75
[29]	Tapping Screws (W/Flange) D4 x 20 (Black)	11	2.0±0.5	20±5
[48]	Nylock Bolt (W/Flange) M6 x 12	1	8.9±1	90±10
[49]	Nylock Hex. Socket Hd. Bolt M5 x 16	2	5.9 to 7.4	60 to 75
[54]	Seal Lock Hex. Socket Hd. Bolt M12 x 20	1	39.2±7.8	400±80
[59]	Hex. Hd. Tapping Screw D4 x 45	2	2.0±0.5	20±5
[61]	Hex. Socket Hd. Bolt M6 x 20	4	9.8 to 11.8	100 to 120
[70]	Hex. Socket Hd. Bolt (W/Flange) M8 x 25	2	22.1±4.9	225±50
[76]	Nylock Bolt (W/Flange) M6 x 16	7	8.9±1	90±10
[82]	Hex. Socket Hd. Bolt (W/Flange) M4 x 10	2	3.4±0.7	35±7
[84]	Seal Lock Screw (W/Sp. Washer) M4 x 12	1	1.8±0.4	18±4
[85]	Machine Screw M4 x 8	2	0.6±0.2	6±2
[99]	Machine Screw (W/Washers) M5 x 20 (Black)	2	3.4±0.7	35±7
[107]	Tapping Screw (W/Flange) D5 x 20 (Black)	2	2.9±0.5	30±5

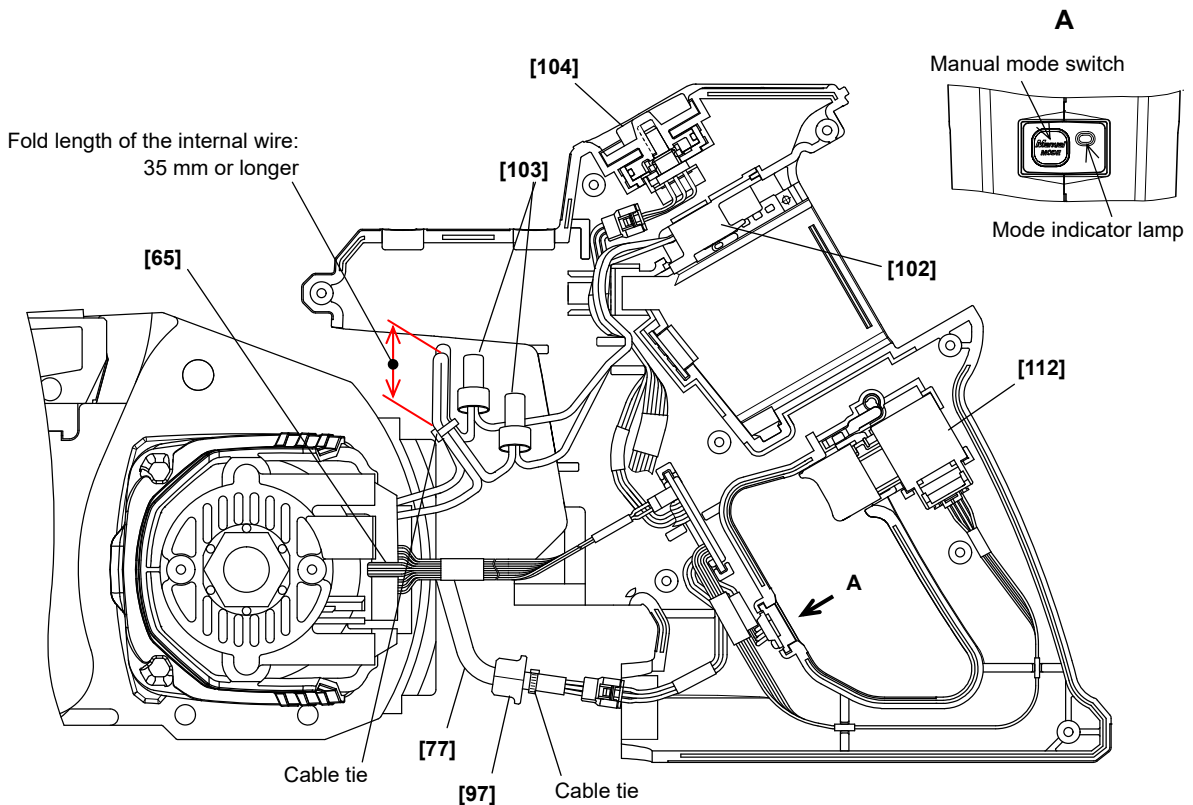
Wiring diagram

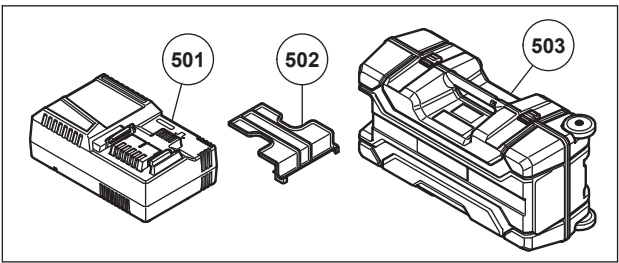
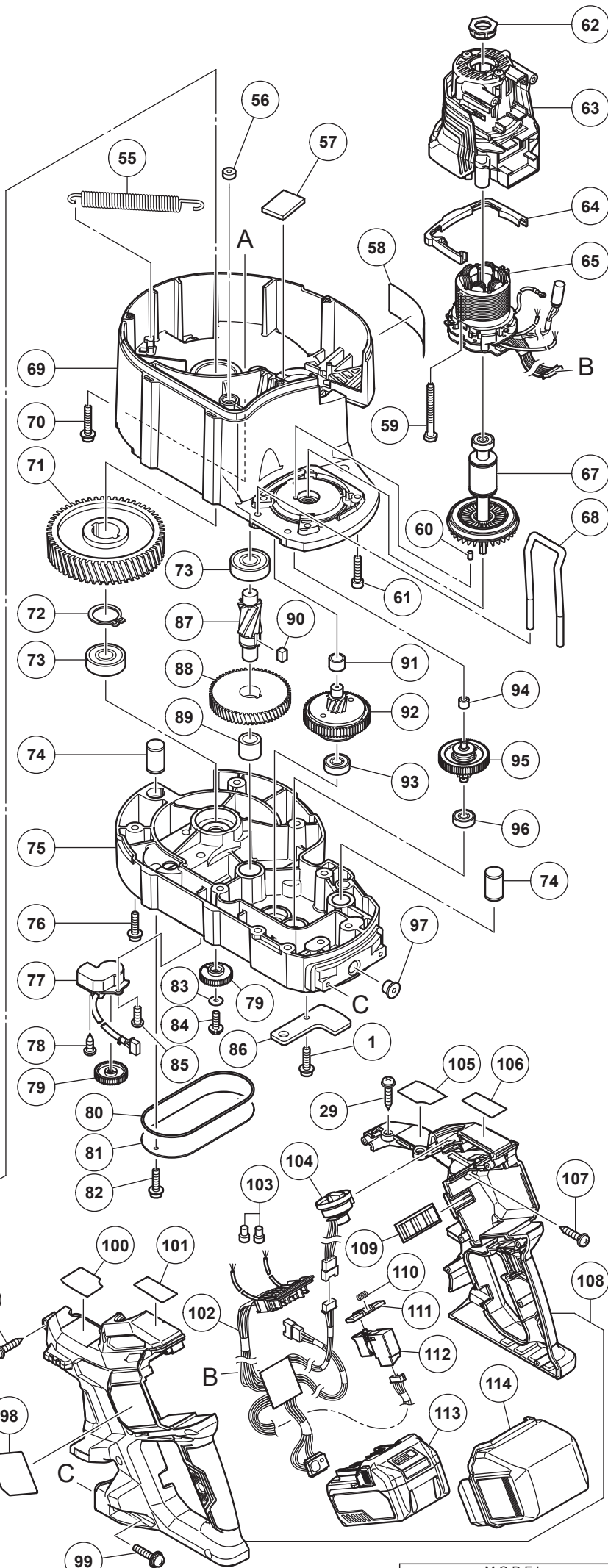
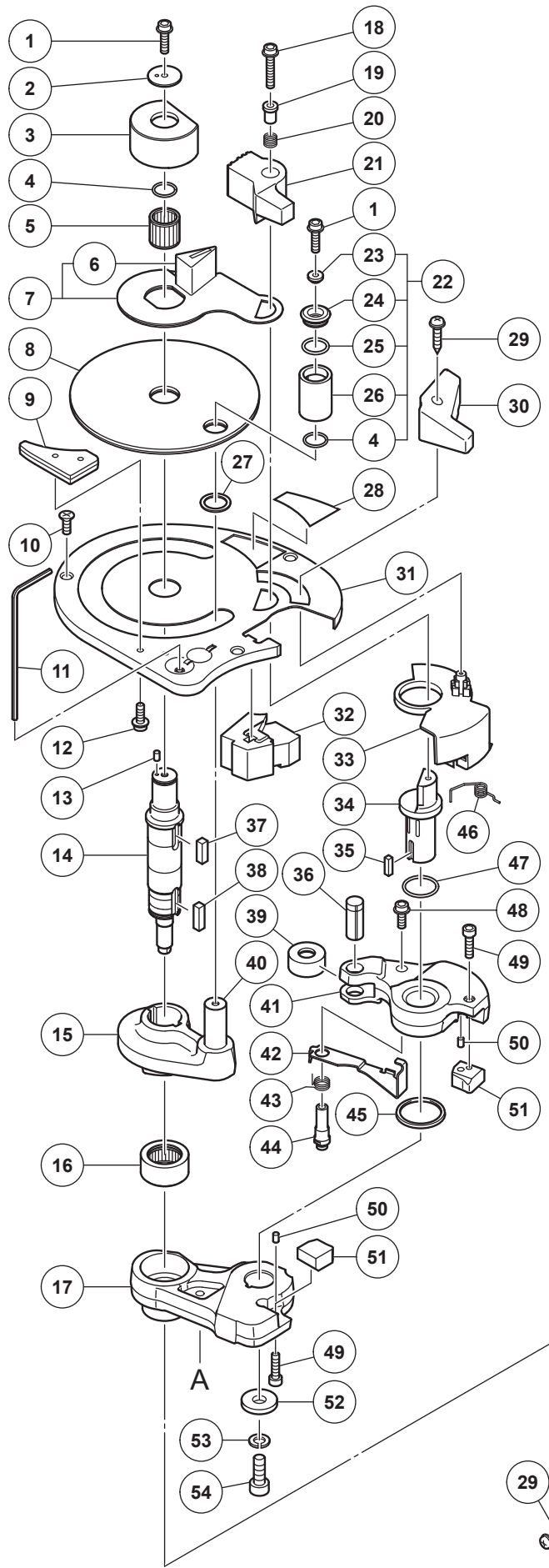
Be sure to perform wiring according to the following diagrams.

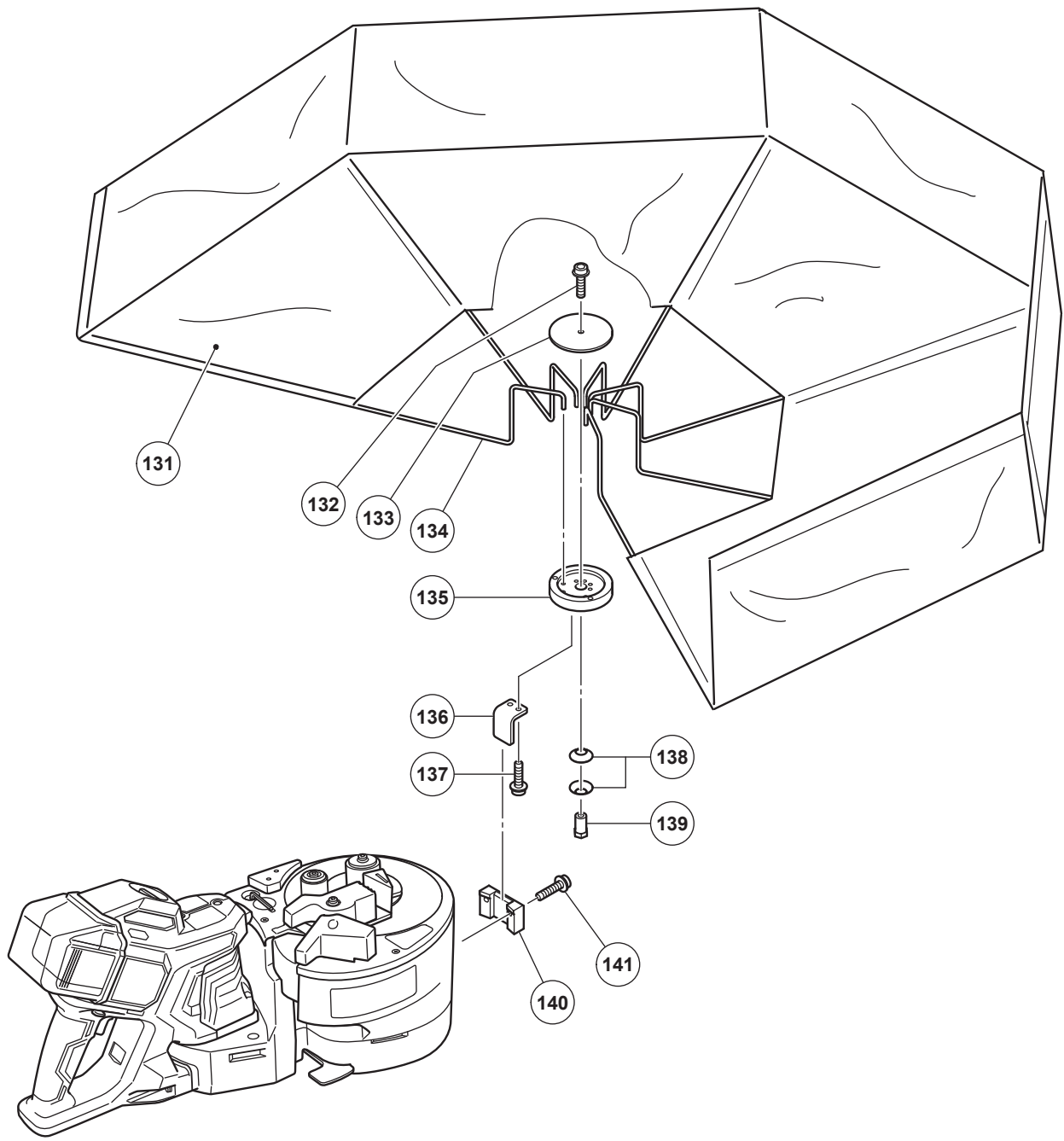
• Connecting diagram



• Wiring diagram







ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	313082	NYLOCK BOLT (W/FLANGE) M5 X 16	3	
2	319694	WASHER (A)	1	
*3	319714	CENTER ROLLER (D62) SET	1	INCLUD. 1, 18, 21
*3	321447	CENTER ROLLER (D62) SET	1	INCLUD. 1, 18, 21 FOR USA, CAN
4	944486	O-RING (1AP-20)	2	
5	319693	NEEDLE BEARING (D22)	1	
6	323992	RUBBER GUIDE	1	
7	319692	CENTER PLATE ASS'Y	1	INCLUD. 6
8	319691	TURN TABLE	1	
9	320427	PLATE (A)	1	
10	320264	NYLOCK FLAT HD. SCREW M4 X 12	3	
11	319699	HEX. BAR WRENCH 4 MM (LENGTH 45)	1	
12	998471	HEX. SOCKET HD. BOLT (W/FLANGE) M5 X 12	2	
13	949749	ROLL PIN D3 X 8 (10 PCS.)	1	
14	319679	CAM SHAFT	1	
15	319678	CAM	1	
16	320420	SLEEVE (B)	1	
17	320904	BRACKET (B)	1	
18	313077	NYLOCK BOLT (W/FLANGE) M5 X 25	1	
19	320425	SLEEVE (G)	1	
20	320426	SPRING (G)	1	
21		GUIDE (D62)	1	
22	322266	ROLLER (B) SET	1	INCLUD. 4, 23-26
23	322268	SLEEVE (R)	1	
24	322267	CAP	1	
25	876078	O-RING (S-20)	1	
26	322269	ROLLER (B)	1	
27	984118	WASHER (B)	1	
28		WARNING LABEL (A)	1	
29	301653	TAPPING SCREW (W/FLANGE) D4 X 20 (BLACK)	11	
30	319697	LEVER (B)	1	
31	319690	CAM COVER	1	
32	319689	GRIP RUBBER	1	
33	319688	COVER	1	
34	320901	SHAFT (A)	1	
35	320902	FEATHER KEY 5 X 5 X 18	1	
36	319664	NEEDLE	1	
37	967124	FEATHER KEY 7 X 7 X 22	2	
38	948081	FEATHER KEY 7 X 7 X 25	2	
39	319663	ROLLER (C)	1	
40	319680	SHAFT (B)	1	
41	320903	BRACKET (A)	1	
42	319665	CUTTER GUARD	1	
43	319666	SPRING (D)	1	
44	322655	PIN FOR SPRING	1	
45	319669	V-RING	1	
46	319687	SPRING (F)	1	
47	872470	O-RING (S-26)	1	
48	882974	NYLOCK BOLT (W/FLANGE) M6 X 12	1	
49	878181	NYLOCK HEX. SOCKET HD. BOLT M5 X 16	2	
50	980258	NEEDLE (C)	2	
51	319706	CUTTER SET (1PAIR)	2	INCLUD. 49
52	319673	SPACER	1	
53	320424	BELLEVILLE SPRING (FOR M12)	1	
54	319674	SEAL LOCK HEX. SOCKET HD. BOLT M12 X 20	1	
55	319677	RETURN SPRING	1	
56	307607	WRENCH HOLDER	1	
57	316186	SUPPORT (B)	1	
58		WARNING LABEL (B)	1	
59	981824	HEX. HD. TAPPING SCREW D4 X 45	2	
60	931701	BEARING LOCK	1	
61	949660	HEX. SOCKET HD. BOLT M6 X 20 (10 PCS.)	4	
62	310111	BEARING BUSHING (B)	1	
63	375659	HOUSING ASS'Y	1	INCLUD. 62
64	375652	SPACER	1	
65	341053	STATOR PCB	1	
67	361120	ROTOR	1	
68	375653	STAND	1	
*69	375657	INNER COVER ASS'Y	1	INCLUD. 57, 73, 91, 94
*69	375658	INNER COVER ASS'Y	1	INCLUD. 57, 73, 91, 94 FOR USA, CAN
70	319676	HEX. SOCKET HD. BOLT (W/FLANGE) M8 X 25	2	
71	319681	FINAL GEAR	1	
72	962553	RETAINING RING FOR D28 SHAFT	1	

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
73	6302VV	BALL BEARING 6302VVCMP2L	2	
74	370145	PIN (B)	2	
75	375656	GEAR COVER ASS'Y	1	INCLUD. 73, 74, 89, 93, 96
76	880474	NYLOCK BOLT (W/FLANGE) M6 X 16	7	
77	375993	SENSOR HOLDER (A) ASS'Y	1	INCLUD. 78, 79
78	316214	TAPPING SCREW D3 X 12	1	
79	316212	SENSOR GEAR	2	
80	319685	O-RING	1	
81	319686	SENSOR COVER	1	
82	316228	HEX. SOCKET HD. BOLT (W/FLANGE) M4 X 10	2	
83	962569	WASHER (B)	1	
84	987203	SEAL LOCK SCREW (W/SP. WASHER) M4 X 12	1	
85	949215	MACHINE SCREW M4 X 8 (10 PCS.)	2	
86	319661	GUIDE (B)	1	
87	319682	THIRD PINION	1	
88	319683	THIRD GEAR	1	
89	930076	METAL (B)	1	
90	998468	FEATHER KEY 7 X 7 X 12	1	
91	954789	METAL (B)	1	
92	320263	SECOND PINION SET	1	
93	6000VV	BALL BEARING 6000VVCMP2L	1	
94	316185	METAL	1	
95	322048	FIRST PINION SET	1	
96	333945	BALL BEARING 608VV	1	
97	375998	RUBBER BUSHING	1	
98		NAME PLATE	1	
99	316229	MACHINE SCREW (W/WASHERS) M5 X 20 (BLACK)	2	
*100		CAUTION LABEL (C)	1	
*100		WARNING LABEL (C)	1	FOR USA, CAN
*101		CAUTION LABEL (E)	1	FOR USA, CAN
102	375994	RELAY PCB	1	
103	959141	CONNECTOR 50092 (10 PCS.)	2	
104	375655	VOLUME HOLDER	1	
*105		CAUTION LABEL (D)	1	
*105		WARNING LABEL (D)	1	FOR USA, CAN
*106		CAUTION LABEL (F)	1	FOR USA, CAN
107	302089	TAPPING SCREW (W/FLANGE) D5 X 20 (BLACK)	2	
*108	375660	HANDLE (A).(B) SET	1	
*108	375660M	HANDLE (A).(B) SET	1	FOR USA, CAN
109	332668	RUBBER CUSHION	1	
110	301631	SPRING (F)	1	
111	375999	PUSHING BUTTON	1	
112	376000	DC-SPEED CONTROL SWITCH	1	
*113	371750	BATTERY BSL 36A18 (EUROPE, AUS, NZL)	2	INCLUD. 502
*113	373320	BATTERY BSL 36A18 (CHN)	2	INCLUD. 502
*113	372121M	BATTERY BSL 36B18 (USA, CAN)	2	INCLUD. 502
114	375650	BATTERY COVER	1	
*131	320914M	GUARD (CLOTH TYPE)	1	FOR USA, CAN
*132	880474	NYLOCK BOLT (W/FLANGE) M6 X 16	1	FOR USA, CAN
*133	320913	WASHER (D)	1	FOR USA, CAN
*134	320912	ARM	6	FOR USA, CAN
*135	320910	BASE (A)	1	FOR USA, CAN
*136	320909	BASE (C)	1	FOR USA, CAN
*137	313082	NYLOCK BOLT (W/FLANGE) M5 X 16	2	FOR USA, CAN
*138	980877	BELLEVILLE SPRING	2	FOR USA, CAN
*139	320911	SHAFT (C)	1	FOR USA, CAN
*140	320907	BASE (B)	1	FOR USA, CAN
*141	320908	NYLOCK BOLT (W/FLANGE) M5 X 20	2	FOR USA, CAN
STANDARD ACCESSORIES				
501		CHARGER (MODEL UC 18YSL3)	1	
502	329897	BATTERY COVER	2	
503	375990	CASE	1	
OPTIONAL ACCESSORIES				
*601	319712	CENTER ROLLER (D38) SET	1	
*601	321445	CENTER ROLLER (D38) SET	1	FOR USA, CAN
*602	319713	CENTER ROLLER (D50) SET	1	
*602	321446	CENTER ROLLER (D50) SET	1	FOR USA, CAN