

PRODUCT NAME

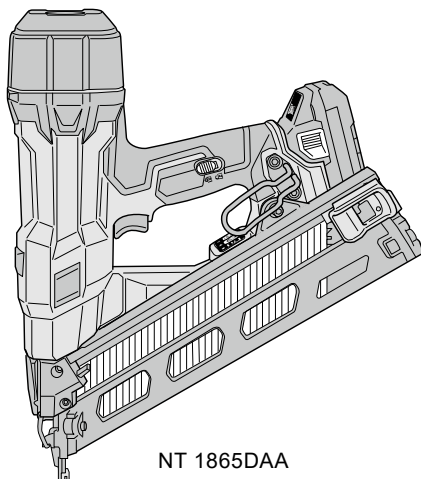
18 V Cordless Finish Nailer

Models NT 1865DAA, NT 1865DSA

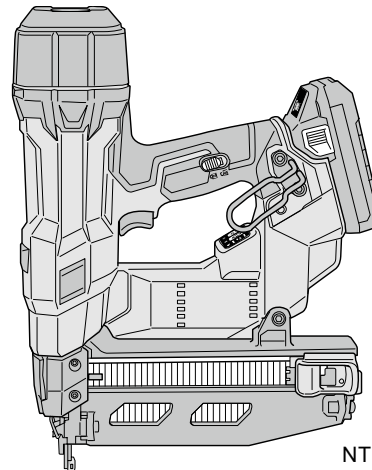
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NT 1865DAA



NT 1865DSA

Koki Holdings Co., Ltd.

Overseas Sales Management Dept.

TROUBLESHOOTING GUIDE

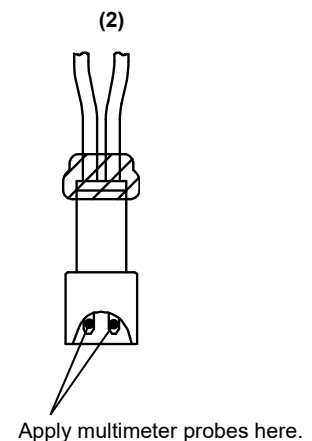
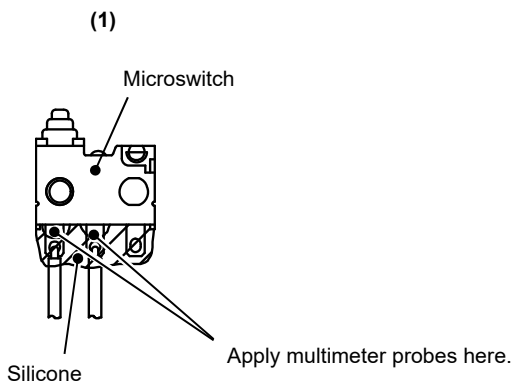
1. Troubleshooting and corrective action

Problem	Possible cause (*: Most common cause)	Inspection method	Corrective action
(1) Nails cannot be driven.	<Nails> • Magazine is not loaded with specified HiKOKI genuine nails. • Magazine is loaded with abnormal nails (e.g., bent nails, abnormal collation)	• Check whether the magazine is correctly loaded with specified nails.	• Use specified nails. • Remove abnormal nails and load the nailer with proper nails.
	• Worn-out piston tip	• Check whether the piston tip is excessively worn.	• Replace defective parts.
	• Piston trouble	• Check the piston for any trouble (e.g., deformation, burring, break).	• Replace defective parts.
	<Magazine section> • Nail feeder trouble (deformation, burring, break)	• Check the nail feed section for any trouble (e.g., burring, deformation, break, excessive wear).	• Remove burring. • Correct the deformed portion. • Replace defective parts.
	• Nail guide groove of the blade guide too narrow or wide • Nail guide groove trouble (protrusion or burring) of the blade guide • Step in the nail shank guide groove between the blade guide and magazine • Nail guide groove of the magazine too narrow or wide • Nail guide groove trouble (deformation or burring) of the magazine	• Load nails in the nailer and check that the nailer works normally.	
	* Unwanted objects (e.g., dust, wood dust, adhesives) in the nail guide groove of the blade guide, magazine and nail feeder	• Load nails in the nailer and check that the nailer works normally.	• Remove unwanted objects (e.g., dust, wood dust, adhesives).
	• Loose bolts of the output section and the magazine section	—	• Tighten the bolts at the specified torque.
	• Nail feeding trouble	• Check the nail feeder slide surface for dust. • Check the nail feeder slide surface for deformation. • Check the ribbon spring for damage.	• Replace defective parts.
	• No compressed air in the nailer • Compressed air leak	• Fill up the nailer with compressed air, leave the nailer still for one day, and then check the nailing work. • Check the sealing surfaces, X-rings, and O-rings inside the cylinder, piston, chamber cover, and chamber base for flaws, unwanted objects, and other failures.	• Supply compressed air. • Disassemble the nailer and clean the chamber, piston, and their vicinity. • Replace the sealing parts.

Problem	Possible cause (*: Most common cause)	Inspection method	Corrective action
(2) Dry-fire lockout mechanism is not working properly.	<ul style="list-style-type: none"> • Dry-fire lockout sensor trouble 	<ul style="list-style-type: none"> • Unload nails and press the pushing lever against a wood material to check that the dry-fire lockout mechanism works normally. (Front LED blinks immediately.) 	<ul style="list-style-type: none"> • Replace defective parts.
(3) Nails are driven but bent.	*• Worn-out piston tip	<ul style="list-style-type: none"> • Check the piston tip for excessive wear. 	<ul style="list-style-type: none"> • Replace defective parts.
	<ul style="list-style-type: none"> • Nails are not completely fed into the injection port. • Unspecified nails are used. 	<ul style="list-style-type: none"> • Check whether the magazine is correctly loaded with specified nails. 	<ul style="list-style-type: none"> • Use specified nails. • Remove abnormal nails and load the nailer with proper nails.
	• Wood material too hard to be nailed	<ul style="list-style-type: none"> • Drive nails into soft wood and check whether the driven nails are bent. 	<ul style="list-style-type: none"> • This nailer is not for hard wood.
	• Deformed output section	<ul style="list-style-type: none"> • Check the tips of the pushing lever and blade guide for warp, deformation and excessive wear. 	<ul style="list-style-type: none"> • Replace defective parts.
(4) Nails cannot be driven into the workpiece completely: the heads cannot be made flush.	• Worn-out piston tip	<ul style="list-style-type: none"> • Check the piston tip for excessive wear. 	<ul style="list-style-type: none"> • Replace defective parts.
	*• Worn-out piston rack	<ul style="list-style-type: none"> • Check the piston rack for excessive wear. 	<ul style="list-style-type: none"> • Replace defective parts.
	• Inadequate adjuster control	<ul style="list-style-type: none"> • Set the adjuster to nail deeper and then nail again. 	<ul style="list-style-type: none"> • Set the adjuster properly.
	• Wood material too hard to be nailed	<ul style="list-style-type: none"> • Drive nails into soft wood and check whether the nail heads are lifted. 	<ul style="list-style-type: none"> • This nailer is not for hard wood.
	• Weak thrusting force against wood to be nailed	<ul style="list-style-type: none"> • Firmly thrust the nailer against wood to be nailed and start nailing. Check whether the nail heads are still lifted. 	<ul style="list-style-type: none"> • Follow the nailer operation guide.
	• Deformed output section	<ul style="list-style-type: none"> • Check the nail guide groove of the pushing lever and blade guide for any trouble (e.g., deformation, excessive wear, burrs). 	<ul style="list-style-type: none"> • Replace defective parts.
	*• Insufficient grease on the cylinder and piston section	<ul style="list-style-type: none"> • Check the greasing condition of the cylinder and piston section. 	<ul style="list-style-type: none"> • Replenish grease.
	<ul style="list-style-type: none"> • No compressed air in the nailer • Compressed air leak 	<ul style="list-style-type: none"> • Fill up the nailer with compressed air, leave the nailer still for one day, and then check the nailing work. • Check the sealing surfaces, X-rings, and O-rings inside the cylinder, piston, chamber cover, and chamber base for flaws, unwanted objects, and other failures. 	<ul style="list-style-type: none"> • Supply compressed air. • Disassemble the nailer and clean the chamber, piston, and their vicinity. • Replace the sealing parts.

Problem	Possible cause (*: Most common cause)	Inspection method	Corrective action
(5) Nails jam.	<ul style="list-style-type: none"> * Abnormal nails are used (e.g., bent nails, abnormal collation) Nails are not completely fed into the injection port. 	<ul style="list-style-type: none"> Check whether the magazine is correctly loaded with specified nails. 	<ul style="list-style-type: none"> Use specified nails. Remove abnormal nails and load the nailer with proper nails.
	<ul style="list-style-type: none"> Worn-out piston tip 	<ul style="list-style-type: none"> Check whether the piston tip is excessively worn. 	<ul style="list-style-type: none"> Replace defective parts.
	<ul style="list-style-type: none"> Wood material too hard to be nailed 	<ul style="list-style-type: none"> Drive nails into soft wood and check whether nails jam. 	<ul style="list-style-type: none"> This nailer is not for hard wood.
	<ul style="list-style-type: none"> Piston slide surface trouble (e.g., galling, break) 	<ul style="list-style-type: none"> Check the surfaces on which the piston slides (guide plate, blade guide, and pushing lever). 	<ul style="list-style-type: none"> Replace defective parts.
	<Magazine section> <ul style="list-style-type: none"> Nail feeder trouble (e.g., deformation, burring, break) 	<ul style="list-style-type: none"> Check the nail feed section for any trouble (e.g., burring, deformation, break, excessive wear). 	<ul style="list-style-type: none"> Remove burring. Correct the deformed portion. Replace defective parts.
	<ul style="list-style-type: none"> Nail guide groove of the blade guide too narrow or wide Nail guide groove trouble (e.g., protrusion, burrs, excessive wear) of the blade guide Nail guide groove of the magazine too narrow or wide Nail guide section trouble (e.g., deformation, burrs) of the magazine 	<ul style="list-style-type: none"> Load nails in the nailer and check that the nailer works normally. 	<ul style="list-style-type: none"> Remove burring. Replace defective parts.
	<ul style="list-style-type: none"> Unwanted objects (e.g., dust, wood dust, adhesives) in the nail guide groove of the magazine and nail feeder 	<ul style="list-style-type: none"> Load nails in the nailer and check that the nailer works normally. 	<ul style="list-style-type: none"> Remove unwanted objects (e.g., dust, wood dust, adhesives).
	<ul style="list-style-type: none"> Deformed output section 	<ul style="list-style-type: none"> Check the pushing lever and nail guide groove of the blade guide for deformation, excessive wear, and burrs. 	<ul style="list-style-type: none"> Replace defective parts.
	<ul style="list-style-type: none"> Misaligned assembly of the blade guide and magazine 	<ul style="list-style-type: none"> Set HiKOKI genuine nails in the nailer and lightly push them against the magazine. Check that the nail tips closely touch the nail guide surface of the blade guide. (See "Disassembly and reassembly of the magazine section.") 	<ul style="list-style-type: none"> Reassemble the blade guide. See "Assembling the blade guide" in "Disassembly and reassembly of the magazine section."
<ul style="list-style-type: none"> Loose bolts of the output section and magazine section 	—	<ul style="list-style-type: none"> Tighten the bolts at the specified torque. 	
(6) Nailing started by single triggering.	<ul style="list-style-type: none"> * Malfunction caused by unwanted objects (e.g., adhesive, dust) near the pushing lever or blade guide, or by deformation of the lever or blade guide 	<ul style="list-style-type: none"> Check that the pushing lever moves smoothly (in a body). 	<ul style="list-style-type: none"> Clean the pushing lever and the blade guide without dust and adhesive. Then apply oil to them. Replace parts.
	<ul style="list-style-type: none"> Broken or worn-out pushing lever spring 	<ul style="list-style-type: none"> Check the spring for any trouble. 	<ul style="list-style-type: none"> Replace defective parts.

Problem	Possible cause (*: Most common cause)	Inspection method	Corrective action
(7) No nailing operation without motor rotation sound.	<ul style="list-style-type: none"> • Dry-fire lockout mechanism is activated. 	<ul style="list-style-type: none"> • Count the number of remaining nails. There should be 8 or more remaining nails for NT 1865DAA, or 7 or more remaining nails for NT 1865DSA. • Check that dry-fire lockout mechanism is working properly. 	<ul style="list-style-type: none"> • Load nails.
	<ul style="list-style-type: none"> *• Wire-related trouble of wiring, switch cable (A), and sensor (B) 	<ul style="list-style-type: none"> • Check whether the wires are firmly soldered. • Check whether the rotor emits a parching smell. • Check the conductivity of the switch and microswitch by using a multimeter. <p>[Checking procedure]</p> <p>(1) When switch cable (A) is not defective:</p> <ul style="list-style-type: none"> • Set the switch to OFF and apply tester probes to the points shown in the figure below. Check that the terminals are not electrically connected. • Set the switch to ON and apply tester probes to the points shown in the figure below. Check that the terminals are electrically connected. <p>(2) When the microswitch is not defective:</p> <ul style="list-style-type: none"> • Set the switch to ON and apply tester probes to the points shown in the figure below. Check that the contacts are electrically connected. • Set the switch to OFF and apply tester probes to the points shown in the figure below. Check that the contacts are not electrically connected. 	<ul style="list-style-type: none"> • Firmly resolder the disconnected wires. • Replace defective parts.

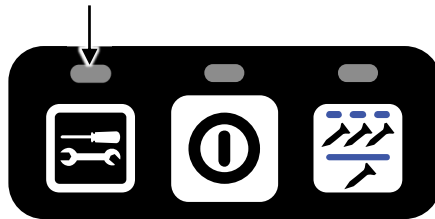


NOTE: Remove the silicone a little and apply the multimeter probes to the exposed terminal metal.




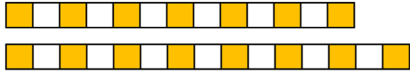


Problem	Possible cause (*: Most common cause)	Inspection method	Corrective action
(8) No nailing operation with the orange LED blinking. *See page 6.	*• Broken movable part that disabled nailing work.	• Check the movable part for any trouble (e.g., deformation, break, excessive wear).	• Replace defective parts.
	• Disconnected wiring and stator	• Check the wires and sensor assemblies for breaks or disconnection. • Check the conductivity of the stator.	• Replace defective parts.
	• Power transmission failure due to broken gears	• Check the gear box ass'y for breaks.	• Replace defective parts.
	• Sensor (C) trouble	• Visually check the sensor wires for breaks.	• Replace defective parts.
	• Excessively charged compressed air	• Check the LED lighting pattern.	• Move the piston down to the bottom dead point. Discharge the compressed air. Use the reduction valve set to feed compressed air again. See pages 30 to 31.
(9) No nailing operation with the red LED blinking	*• Overheat protector is activated.	• Cool the nailer body and check the nailing work.	—
	*• Overcool protector is activated.	• Warm the nailer body and check the nailing work.	—
	*• Low battery voltage	• Use a fully charged battery and check the nailing work again.	• Charge or replace the battery.

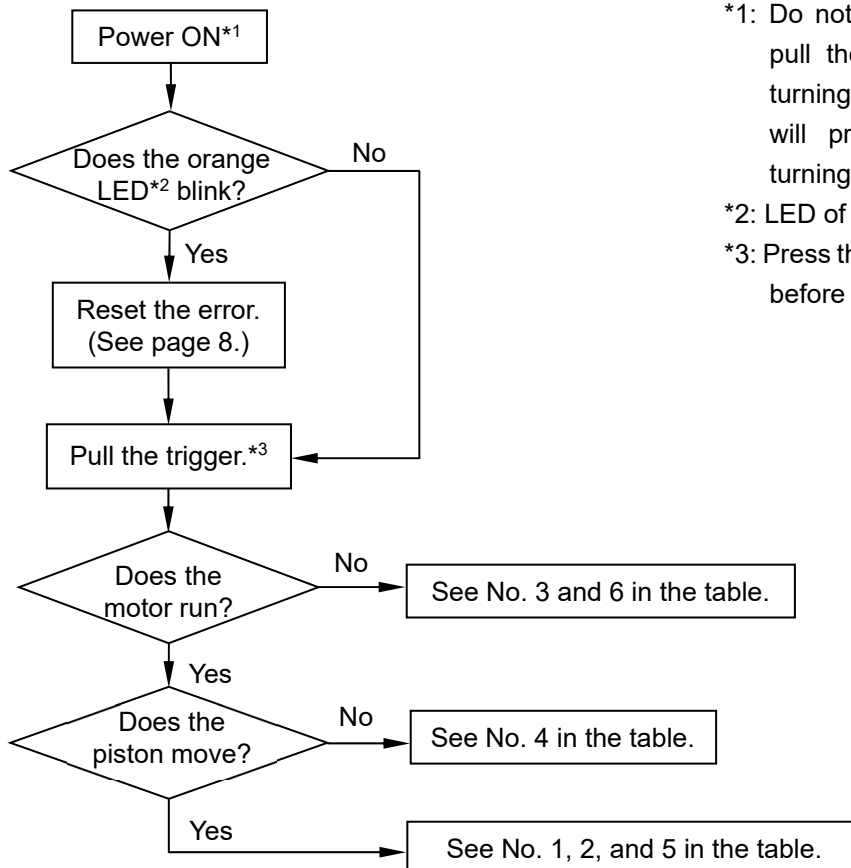
For problems (8) and (9)

Red LED/Orange LED



2. Corrective action when the orange LED blinks

No.	Orange LED lighting pattern	Possible cause	Corrective action
1	 Power switch is automatically turned off after about 10 seconds.	<ul style="list-style-type: none"> Reversed magnet polarity of position detector Sensor (C) failure or disconnection Failure of one-way clutch in gear box 	<ul style="list-style-type: none"> Replace defective parts.
2	 Power switch is automatically turned off after blinking 5 times (about 5 seconds).	<ul style="list-style-type: none"> Idle by broken gear 	<ul style="list-style-type: none"> Replace defective parts.
3	 Power switch is automatically turned off after blinking 6 times (about 6 seconds).	<ul style="list-style-type: none"> Broken wiring 	<ul style="list-style-type: none"> Replace defective parts.
4	 Power switch is automatically turned off after blinking 7 to 8 times (about 7 to 8 seconds).	<ul style="list-style-type: none"> Lock by broken gear Lock by worn-out piston rack Lock by broken piston bumper Broken wiring 	<ul style="list-style-type: none"> Replace defective parts.
5	 Power switch is automatically turned off after about 9 seconds.	<ul style="list-style-type: none"> Excessively charged compressed air Deformed or broken moving parts Moving parts are out of grease. 	<ul style="list-style-type: none"> Replace defective parts. Move the piston down to the bottom dead point. Discharge the compressed air. Use the reduction valve set to feed compressed air again. Replace moving parts. Lubricate the moving parts with grease.
6	 Power switch is automatically turned off after blinking 10 times (about 10 seconds).	<ul style="list-style-type: none"> Broken wiring 	<ul style="list-style-type: none"> Replace defective parts.



*1: Do not press the pushing lever and/or pull the trigger during the process of turning the power switch ON. Doing so will prevent the power switch from turning ON.

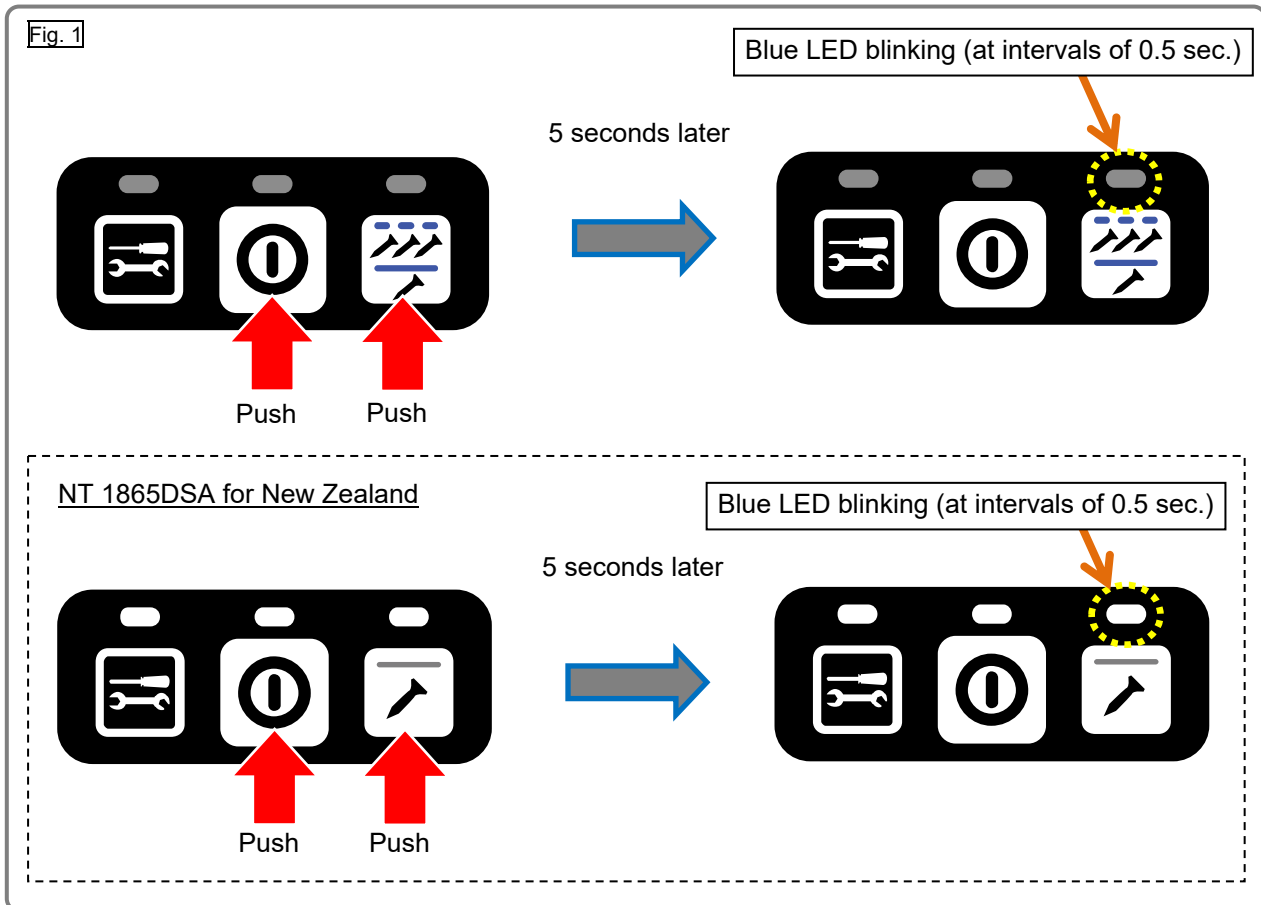
*2: LED of the information indicator

*3: Press the pushing lever against the wood before pulling the trigger.

3. Maintenance mode

Maintenance mode is used to move the piston down to the bottom dead point in preparation for feeding compressed air or overhauling the nailer. To set the nailer to the MAINTENANCE mode, hold down both the nailing operation switch* and the power switch on the operation panel for at least five seconds.

*: The nailing operation switch is not provided for the Model NT 1865DSA intended for New Zealand.



Indication: Indicated by the blue LED on the operation panel blinking (at intervals of 0.5 second).

Be careful not to mistake the blinking for contact actuation mode (at intervals of 1.0 second).

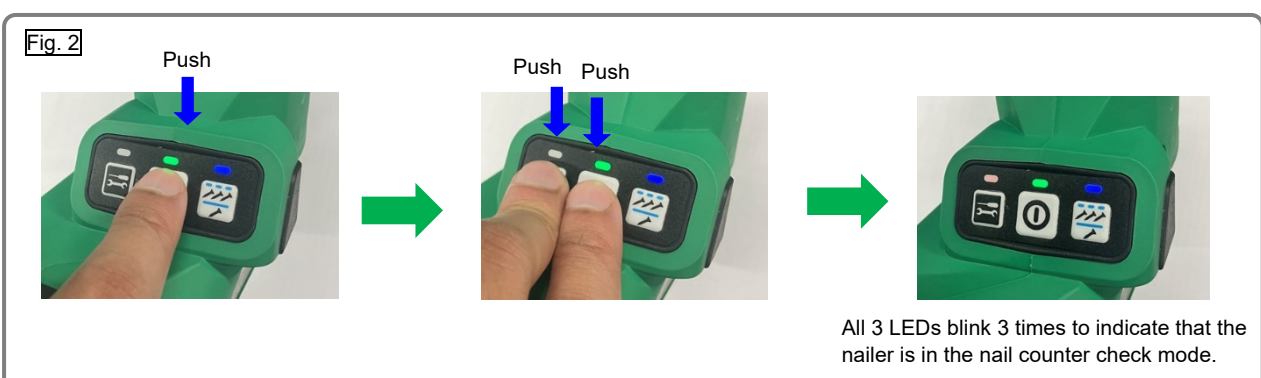
Function: Starts the motor when the pushing lever is pressed against wood and the trigger is pulled.

Stops the motor when detecting two motor rotations.

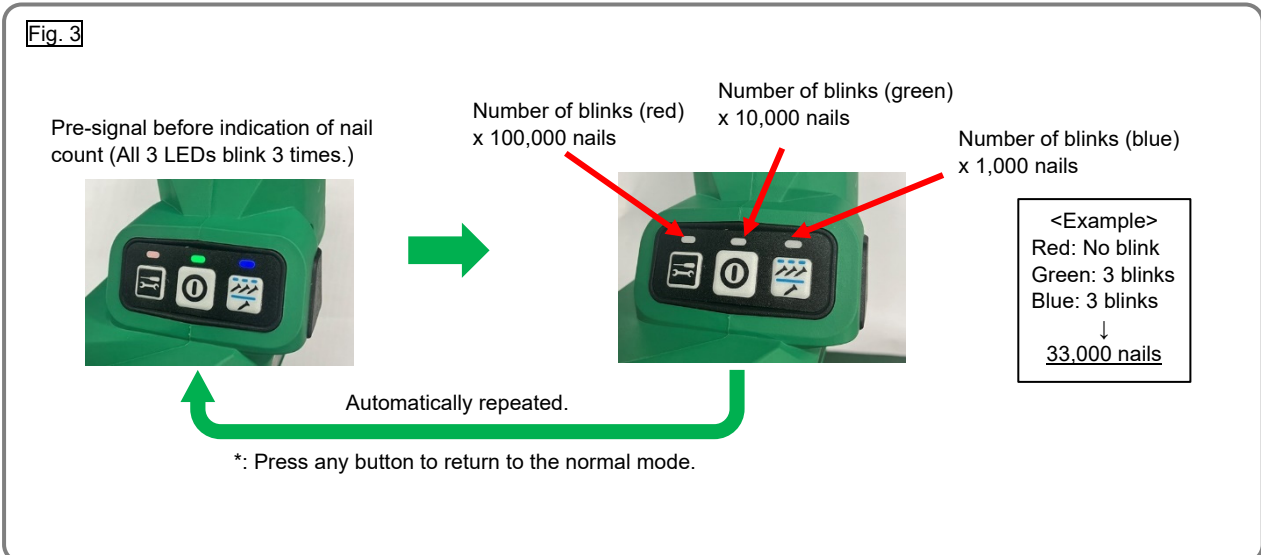
4. Nail counter check mode

You can check the cumulative number of driven nails by the LED lighting pattern on the operation panel.

To set the nailer to the nail counter check mode, hold down both the power switch and the leftmost switch for 5 seconds.



Then the nailer starts to indicate the nail count status by the number of blinks on each LED lamp.



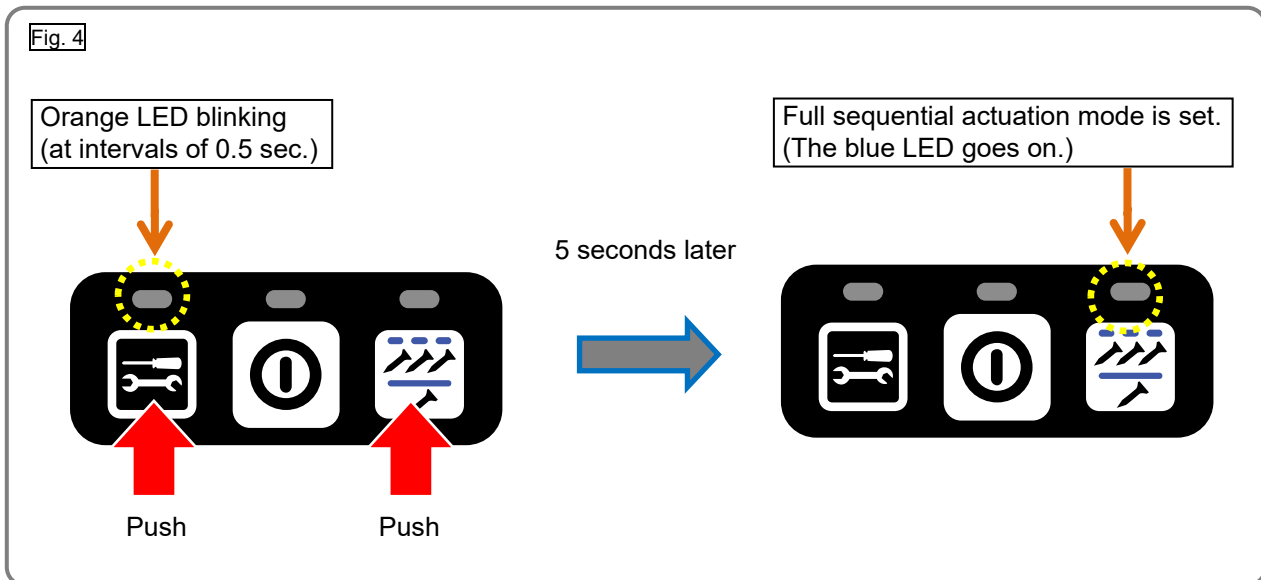
NOTE: The nail counter is reset to zero when replacing the Wiring Ass'y [80]{80} with new one.

5. Resetting error mode (when the orange LED is blinking)

Error indication: Indicated by the orange information indicator blinking (at intervals of 0.5 second).

The power indicator turns off automatically 10 seconds later.

To reset the mode: Hold down both the leftmost switch and the nailing operation switch for at least five seconds.



REPAIR GUIDE

The following describes the most essential precautions on disassembly and reassembly of the cordless finish nailers. Each of the Models NT 1865DAA and NT 1865DSA mainly consists of two sections: the output section and the magazine section.

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 NT 1865DAA, and **{Bold}** numbers to those of the Model NT 1865DSA.

WARNING: Always remove the battery from the main body before starting repair or maintenance work. Because the tool is cordless, inadvertently activating the switch with the battery left in the main body will start the motor rotating unexpectedly, and could cause serious injury.

Preparation before disassembly

1. Removal of the hook

Remove the Hook **[83]{83}** by removing the two Hex. Socket Bolts (W/Flange) M5 x 12 **[84]{84}** for easy disassembly work, although disassembly can be done without removing the Hook **[83]{83}**.

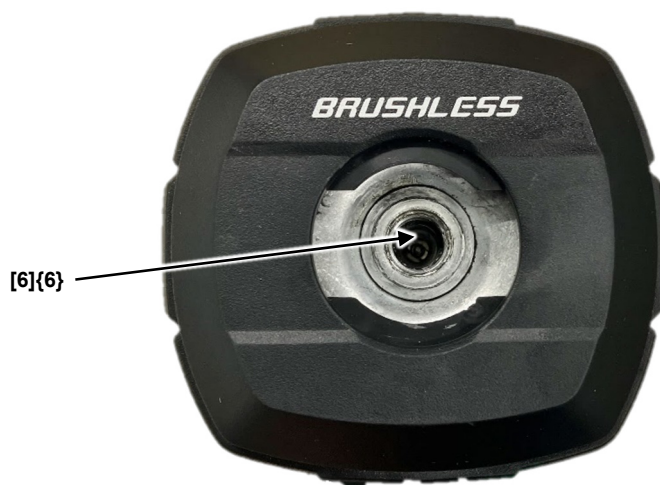
2. Removal of the charge cap cover

- When the nailer is enabled to nail, set the nailer to the MAINTENANCE mode and move the piston down to the bottom dead point referring to "Feeding compressed air" on page 30.
- Remove the Charge Cap Cover **[1]{1}**.
- Remove the Charge Cap **[3]{3}** by using a hexagonal socket wrench.

NOTE: If the Valve Core Cushion [5]{5} is left inside the Chamber Cover Ass'y [8]{8}, remove the Valve Core Cushion [5]{5} with tweezers.

- Push the Valve Core **[6]{6}** to release compressed air as shown below.

Fig. 5



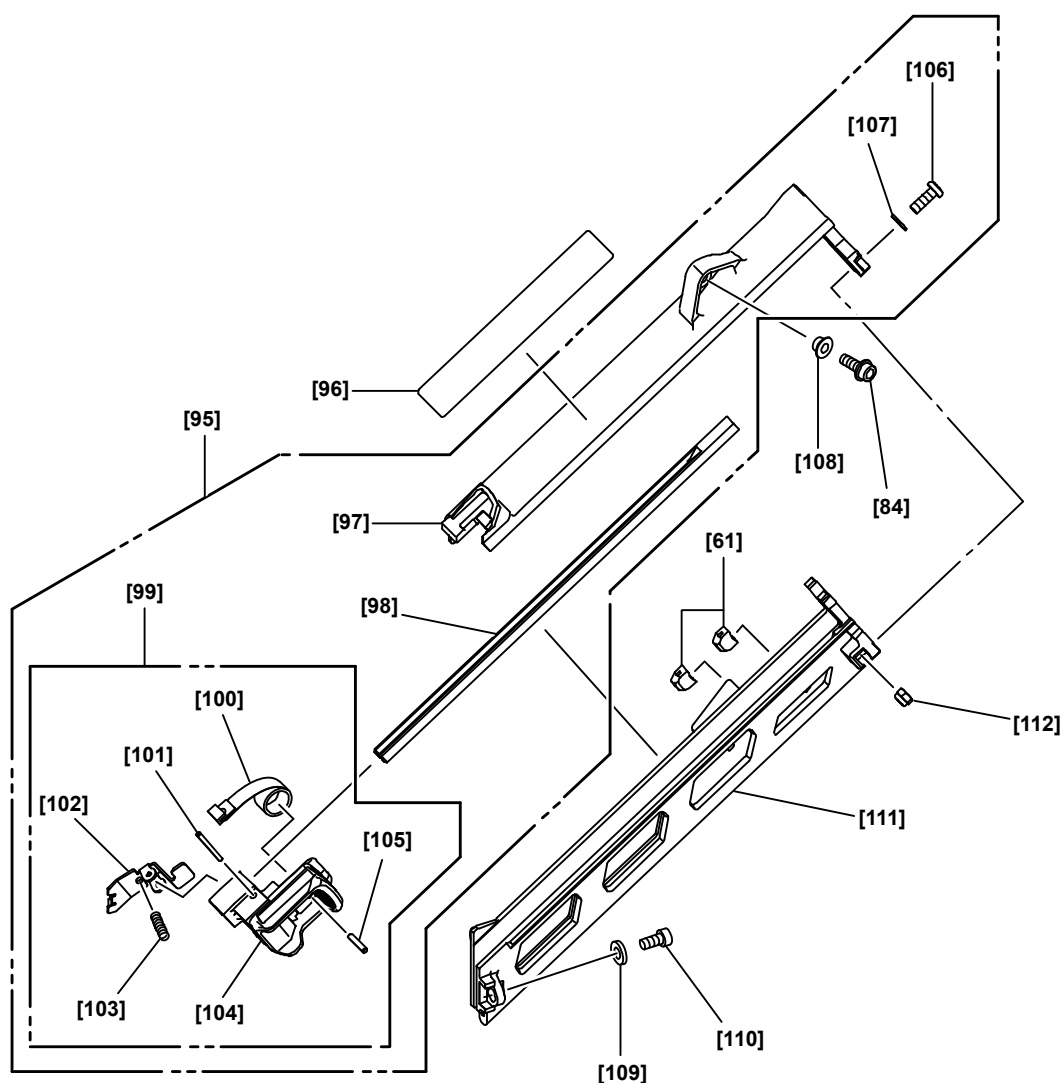
Disassembly and reassembly of the magazine section

1. Disassembly

(1) Model NT 1865DAA

- Remove the Hex. Socket Hd. Bolt M5 x 12 [84] and Distance Piece M5 [108] that fasten the Magazine Cover [97] to Housing (A).(B) Set [86].
- Remove the Nylock Hex. Socket Hd. Bolt M4 x 8 [110] that fastens the Magazine [111] to the Blade Guide [59], and then detach the Magazine Cover [97].
NOTE: Be careful not to let the Bolt Washer M4 (Black) [109] come off together with the bolt.
- Remove the two Machine Screws M5 x 15 (Black) [106] from the Magazine [111]. Be careful not to let the Bolt Washer M5 [107] and Nylon Nut M5 [112] come off together with the screws.
- Remove the Nail Rail [98] and Nail Feeder (B) Ass'y [99].

Fig. 6 • Model NT 1865DAA

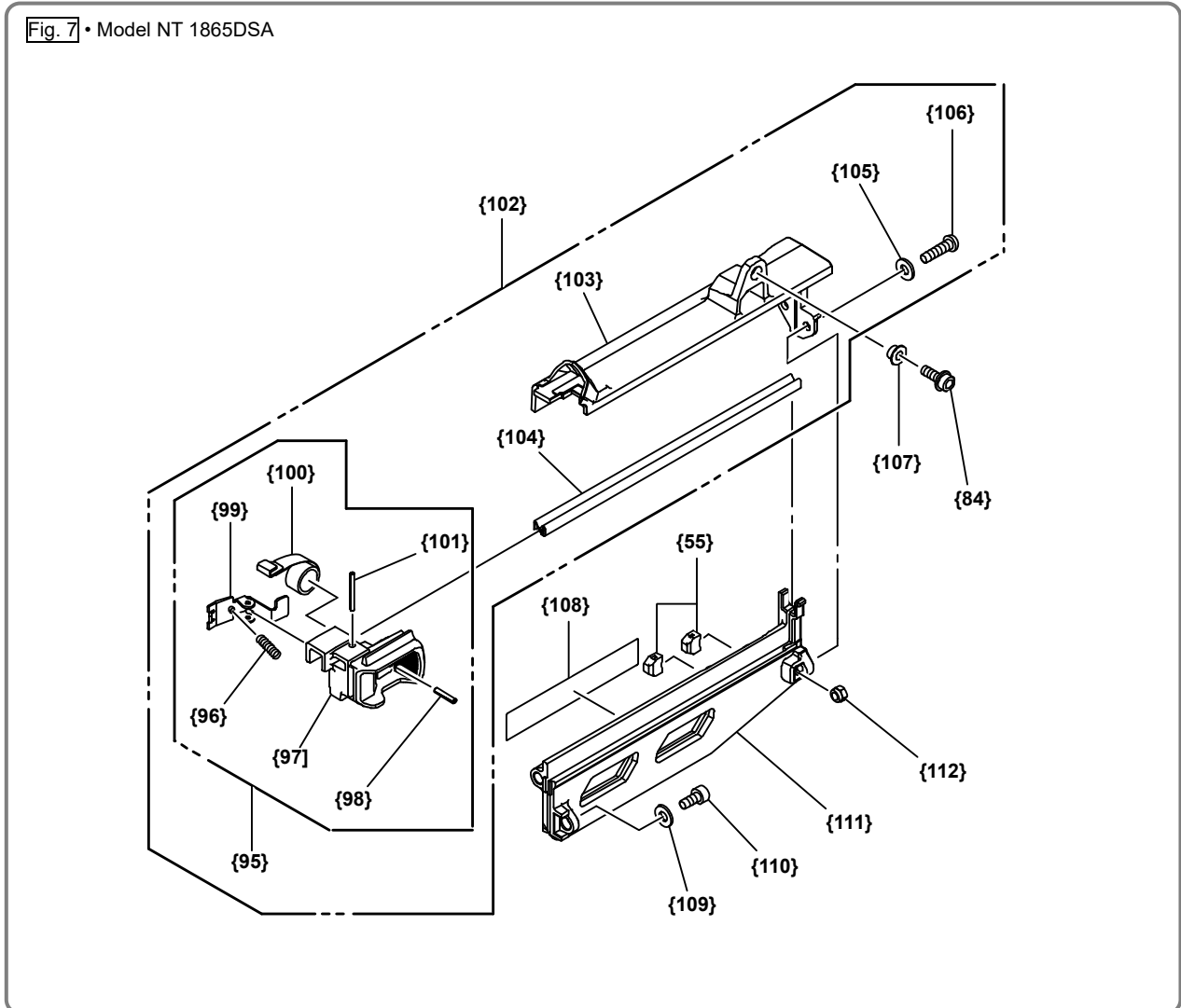


(2) Model NT 1865DSA

- Remove the Hex. Socket Hd. Bolt M5 x 12 {84} and Distance Piece M5 {107} that fasten the Magazine Cover {103} to Housing (A).(B) Set {86}.
- Remove the Nylock Hex. Socket Hd. Bolt M4 x 8 {110} that fastens the Magazine {111} to the Blade Guide {61}, and then detach the Magazine Cover {103}.

NOTE: Be careful not to let the Bolt Washer M4 (Black) {109} come off together with the bolt.

- Remove the two Machine Screws M5 x 15 (Black) {106} from the Magazine {111}. Be careful not to let the Bolt Washer M5 {105} and Nylon Nut M5 {112} come off together with the screws.
- Remove the Nail Rail {104} and Nail Feeder (B) Ass'y {95}.

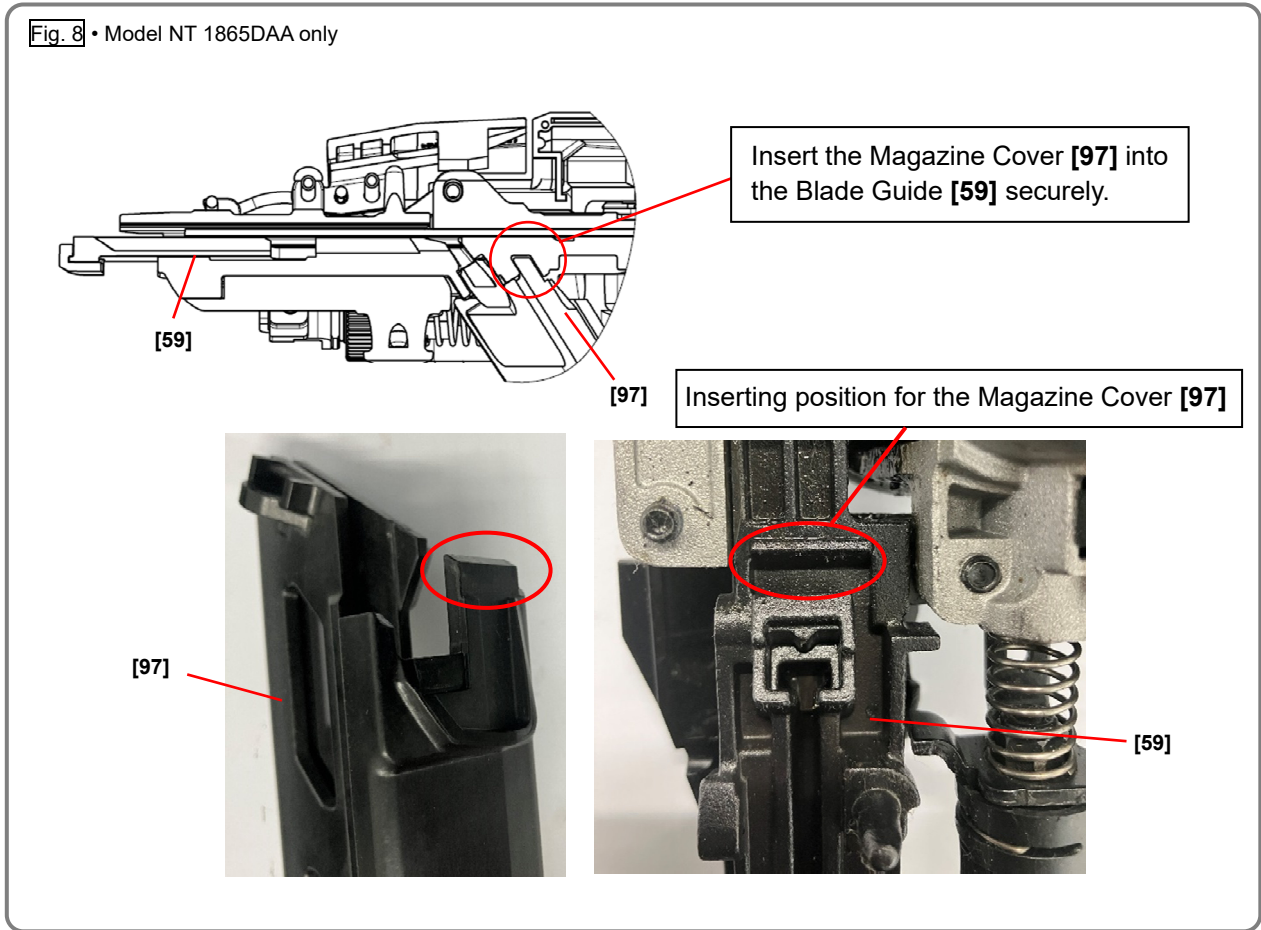


2. Reassembly

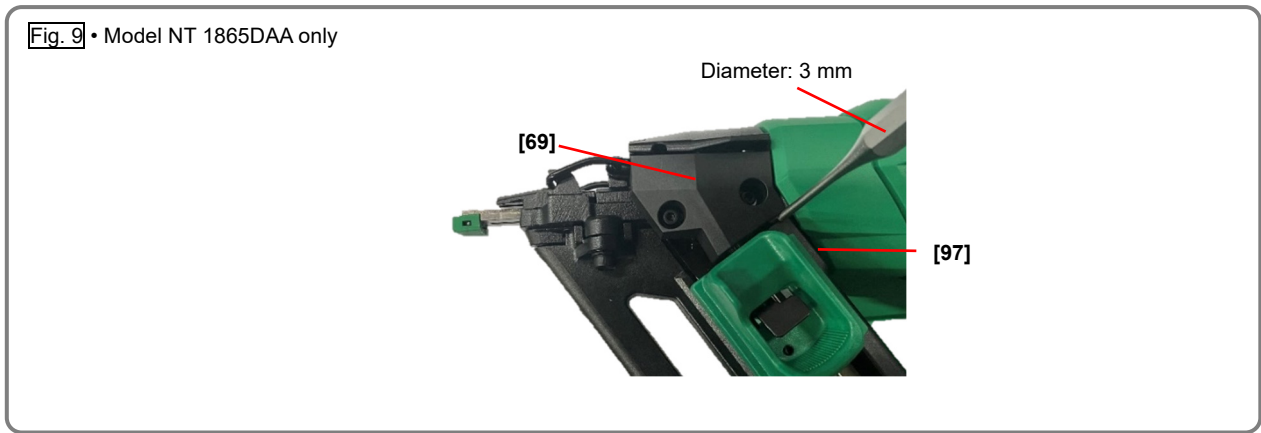
Reverse the disassembly procedure to reassemble. Note the following points:

- Do not forget to mount the two Bolt Washers M5 [107]{105} when mounting the Magazine [111]{111} and Magazine Cover [97]{103}.

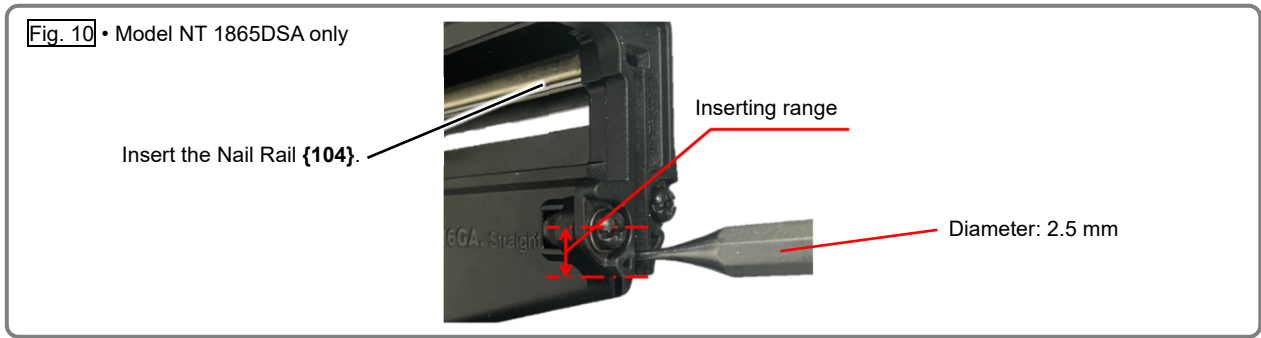
- For the Model NT 1865DAA, insert the Magazine Cover [97] into the Blade Guide [59] securely.



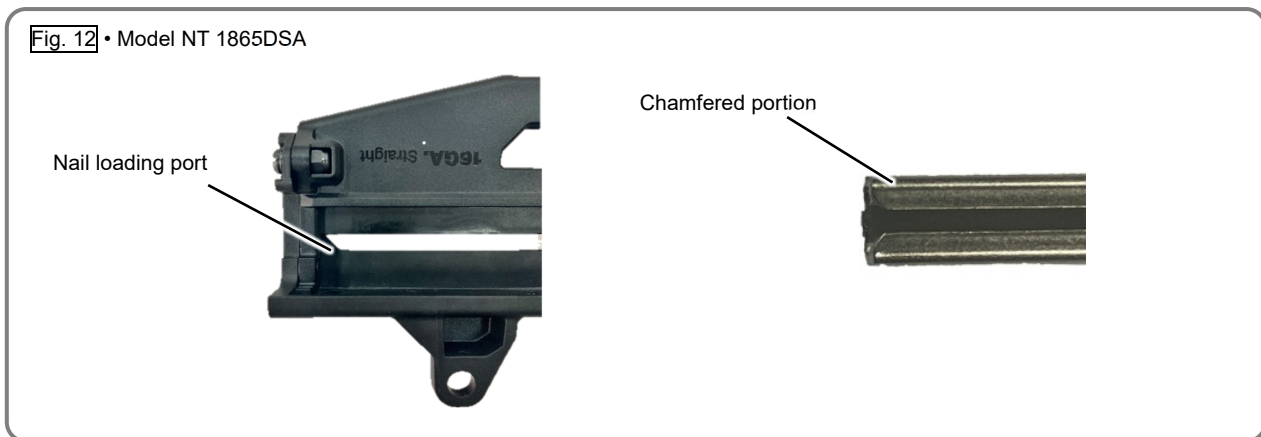
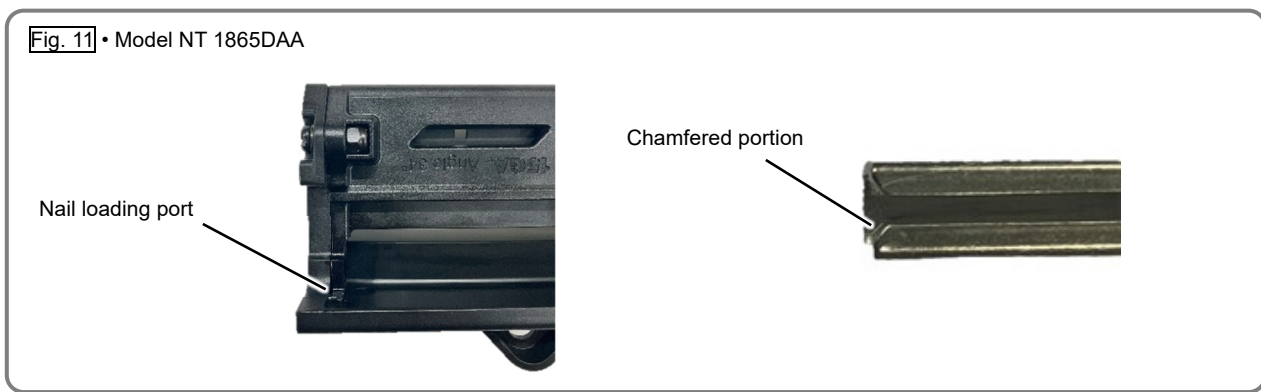
- Check that a pin punch of 3 mm in diameter cannot be inserted into the gap between the Magazine Cover [97] and the Sensor Cover [69] after reassembly. (Fig. 9)



- For the Model NT 1865DSA, insert the Nail Rail {104} and a pin punch of 2.5 mm in diameter between the Magazine {111} and the Magazine Cover {103} in the range as shown in Fig. 10 and tighten the two Machine Screws M5 x 15 (Black) {106}. After that, check that the Nail Rail {104} can be moved smoothly.



- Mount the Nail Rail [98]{104} on the Magazine Cover [97]{103} with the chamfered portion facing the nail loading port as shown in Figs. 11 and 12.



- Mount the Nylon Nut M5 [112]{112} correctly as shown in Fig. 13. Do not reverse its orientation.

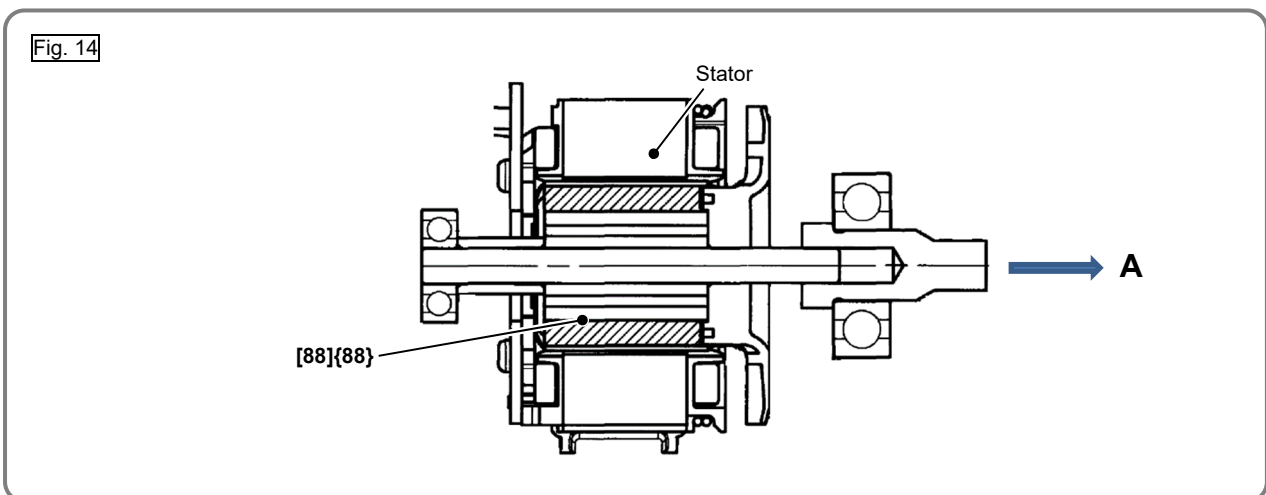


NOTE: After reassembly, move Nail Feeder (B) Ass'y [99]{95} up and down to check that it slides smoothly. Also check that the Nail Rail [98]{104} can be moved in the Magazine [111]{111}.

Disassembly and reassembly of the output section

1. Removal of the power assembly and wiring ass'y

- Housing (A).(B) Set [86]{86} consists of two halves: housing (A) and housing (B) with the Name Plate [71]{71}.
- For safety, push the Valve Core [6]{6} once more and confirm that compressed air is completely released.
- Remove the fifteen Tapping Screws (W/Flange) D3 x 16 (Black) [72]{72} from Housing (A).(B) Set [86]{86} and detach the Top Cover [2]{2}.
- Holding the battery portion of Housing (A).(B) Set [86]{86}, gently remove housing (B) from housing (A).
- Remove the Trigger [77]{77} and Spring (T) [76]{76} from housing (A).
- Remove Rubber Cushion (B) [22]{22} from housing (B) or Nose Cover [23]{23}.
- Disconnect the connectors of Sensor (B) [94]{94}, Sensor (C) [89]{89}, Sensor Case (D) [68]{68}, Switch Cable (A) [78]{78}, and Wiring Ass'y [80]{80}.
- Remove two O-rings (I.D 2.5) [75]{75} from Switch Cable (A) [78]{78}. Be careful not to lose the O-rings (I.D 2.5) [75]{75}.
- Carefully lift the Chamber Base [12]{12} and Nose Cover [23]{23} to remove the power assembly from housing (A) and Rotor [88]{88}.
- Remove the Gear Box [87]{87} from the power assembly.
- Firmly hold the stator of the Wiring Ass'y [80]{80} (as the Rotor [88]{88} has strong magnetic force). Slowly push the ball bearing (opposite to the pinion) of the Rotor [88]{88} in direction "A" to separate the Wiring Ass'y [80]{80} from the Rotor [88]{88} as shown in the figure below.



- Remove the Wiring Ass'y [80]{80} from housing (A).
- Remove Lever (C) [79]{79} from Lever (A) [85]{85}.
- Remove Lever (A) [85]{85} from housing (A).
- Remove Rubber Cushion (A) [93]{93} from housing (A).

2. Disassembly of the power assembly

NOTE: Make alignment marks on the Chamber Base [12]{12} as shown in Fig. 15 so as to indicate the coupling positions with the Cylinder [15]{15} before disassembling the power assembly.

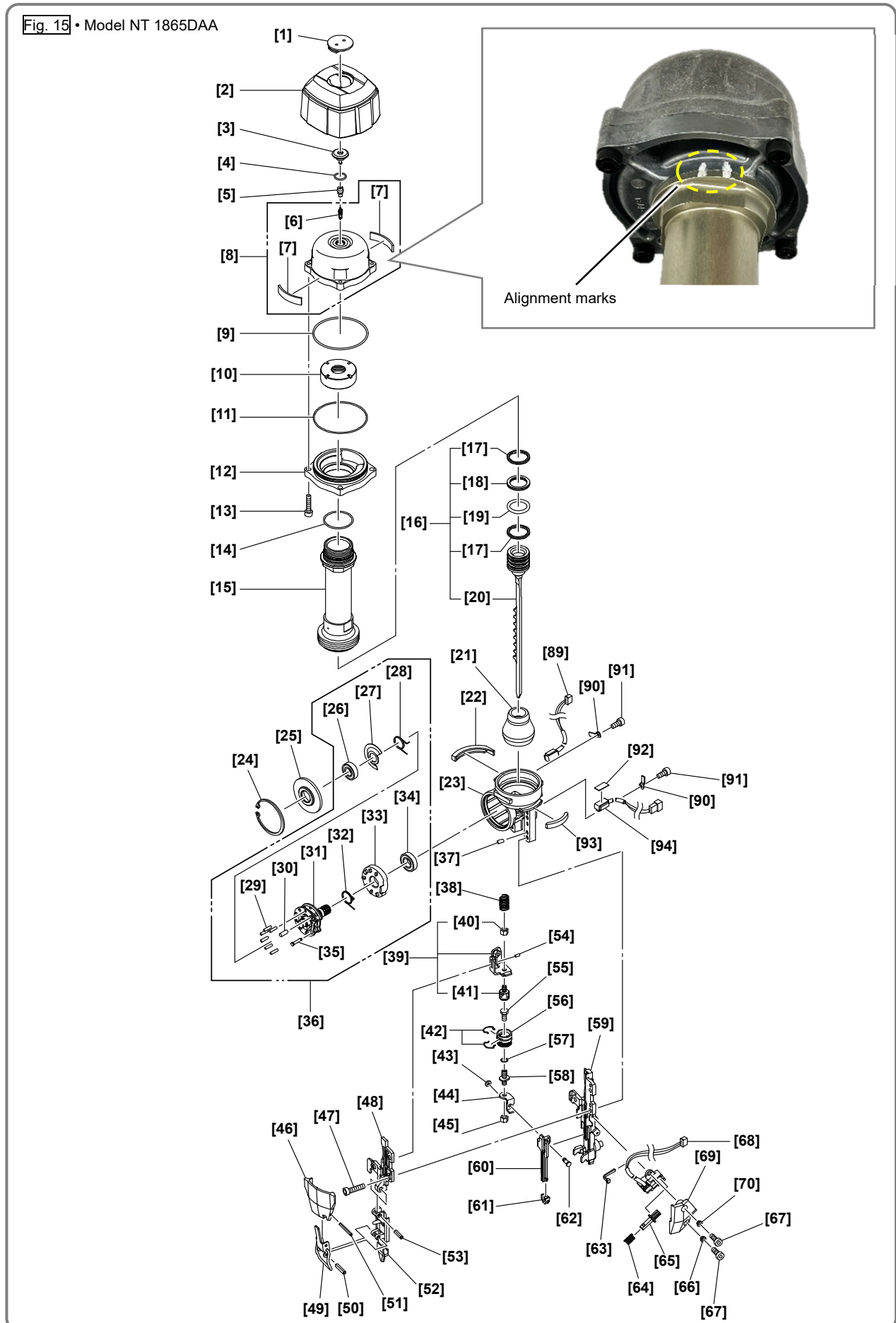
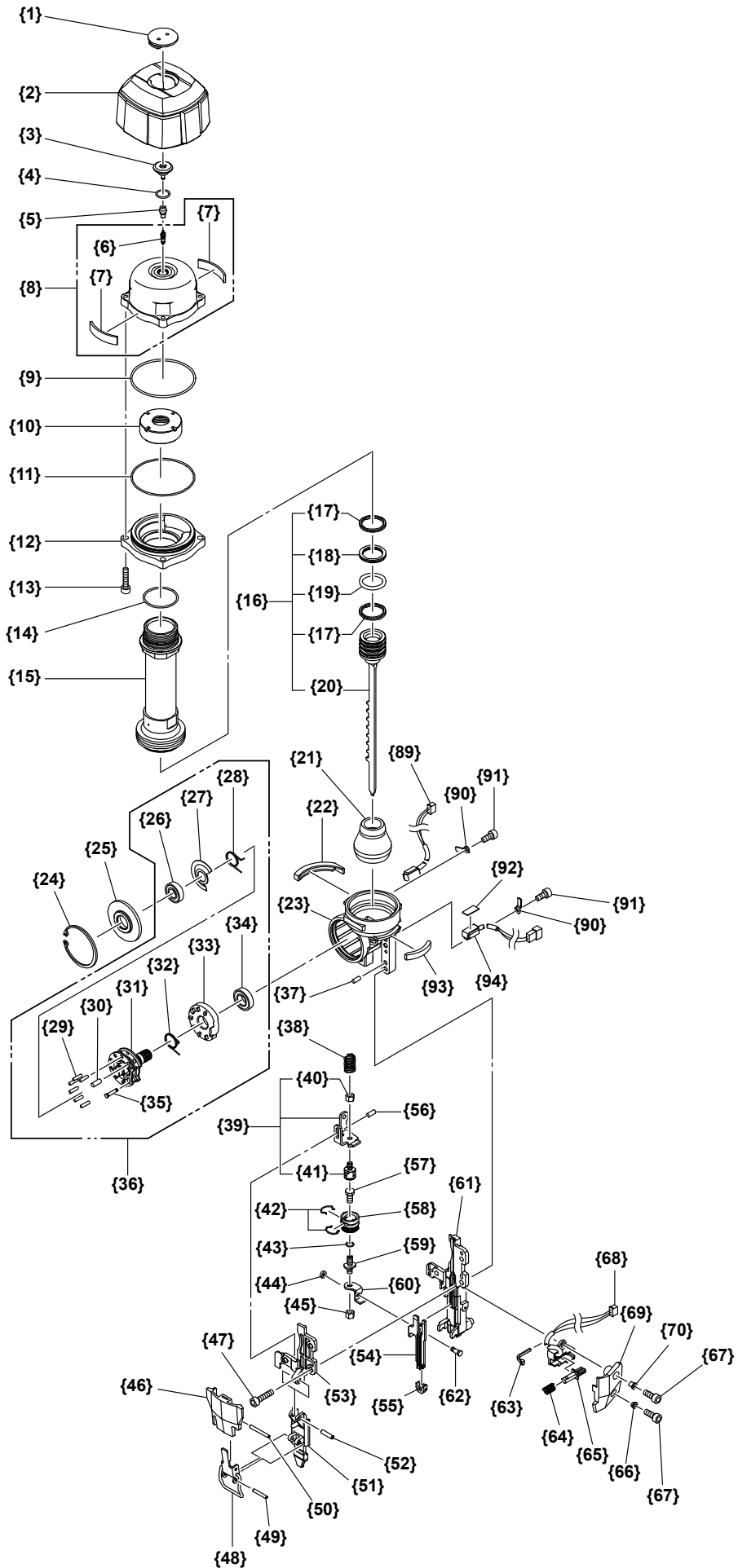
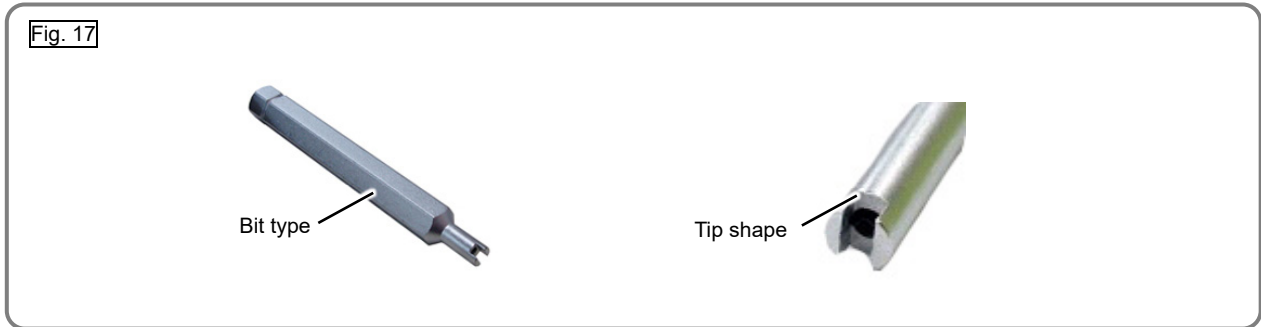


Fig. 16 • Model NT 1865DSA

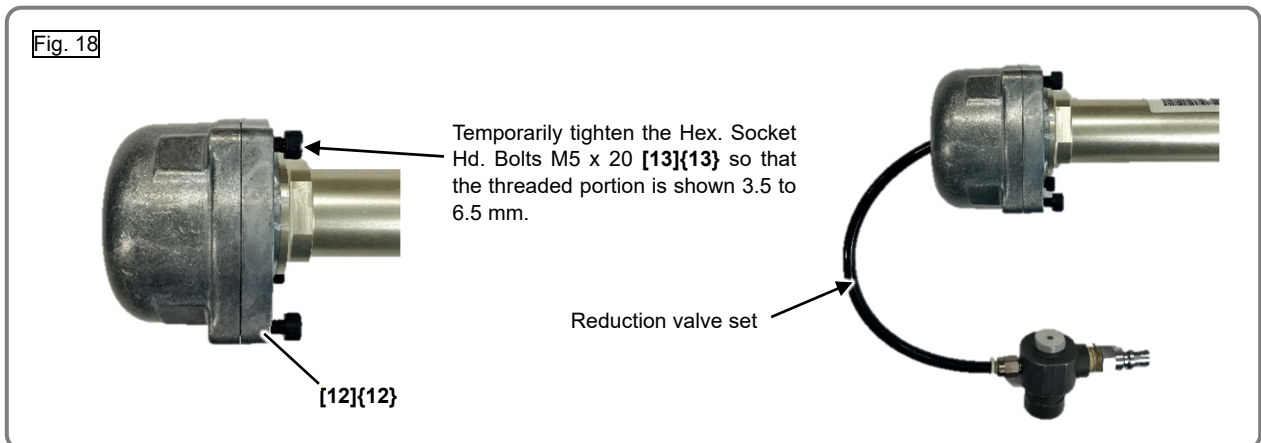


- Remove the Valve Core [6]{6} from the Chamber Cover Ass'y [8]{8} by using a commercial valve core tool. (See Fig. 17.)

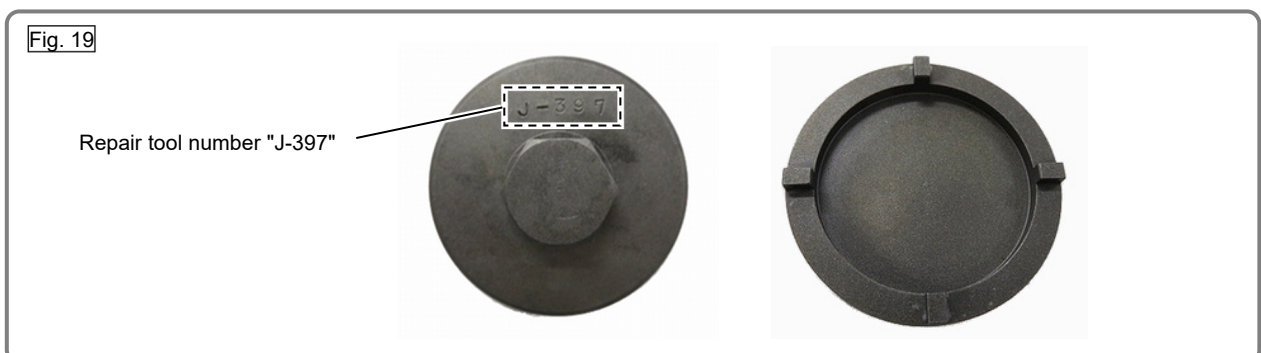


- Remove the four Hex. Socket Hd. Bolts M5 x 20 [13]{13} that fasten the Chamber Base [12]{12} and Chamber Cover Ass'y [8]{8}.

NOTE: If it is difficult to remove the Chamber Base [12]{12}, temporarily tighten at least two Hex. Socket Hd. Bolts M5 x 20 [13]{13} so that the threaded portion is shown 3.5 mm to 6.5 mm as shown in Fig. 18. Mount the reduction valve set and feed compressed air to remove the Chamber Base [12]{12}.

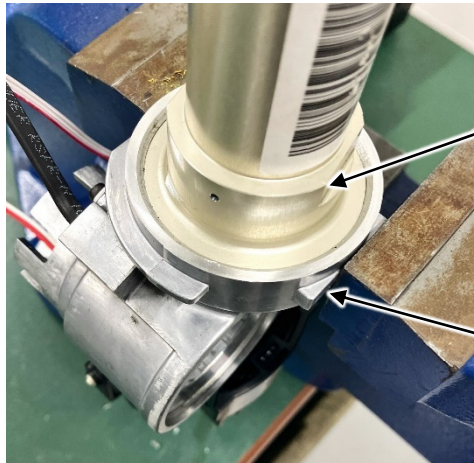


- Remove the O-ring (I.D 66.4) [9]{9} and O-ring (I.D 64.5) [11]{11} from the Chamber Base [12]{12}.
- Secure the Cylinder [15]{15} by holding the two opposite surfaces on the cylinder side and then remove Special Nut M36 (B) [10]{10} by using the J-397 special socket. (See Fig. 19.)



- Pull out the Cylinder [15]{15} and Chamber Base [12]{12}. Be careful not to damage the O-ring (I.D 32.99) [14]{14} and the sealing surfaces.
- Remove the O-ring (I.D 32.99) [14]{14} from the Cylinder [15]{15}.
- Secure the Nose Cover [23]{23} and then turn and remove the Cylinder [15]{15} while holding the Piston [20]{20} and Piston Bumper [21]{21}, both of which come out. (See Fig. 20.)

Fig. 20



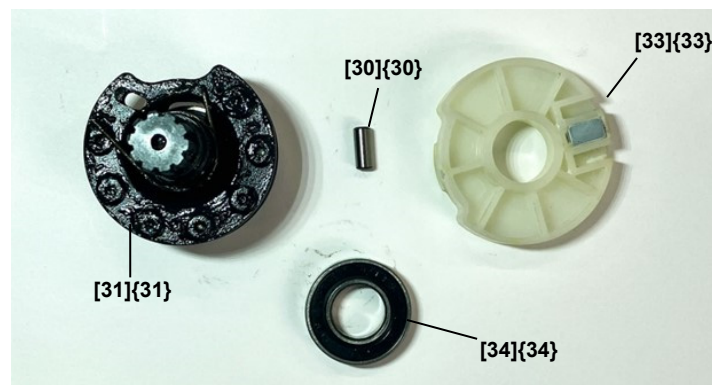
Turn the Cylinder [15]{15} using the width across flats.

Fix the width across flats of the Nose Cover [23]{23} with a vise.

- Slowly pull out the Piston [20]{20}. Be careful not to scratch the inner surface of the Cylinder [15]{15}.
- Remove the Slide Ring [17]{17}, X-ring [18]{18}, and O-ring (I.D 21.7) [19]{19} from the Piston [20]{20}.
- Remove the Retaining Ring D47 [24]{24} from the nose and pull out the BB Holder [25]{25} and Pin Wheel [31]{31}.
- Remove the Ball Bearing 6900VV [26]{26} and spacer (A) from the Pin Wheel [31]{31}.
- Remove Washer (A) [27]{27} from the Pin Wheel [31]{31}. Remove the Needle Roller D4.5 [30]{30}. Remove the six Needle Rollers D3 [29]{29} from the Pin Wheel [31]{31}.
- Remove the Ball Bearing 6901VV [34]{34} and then remove the Position Detector [33]{33} from the Pin Wheel [31]{31}.

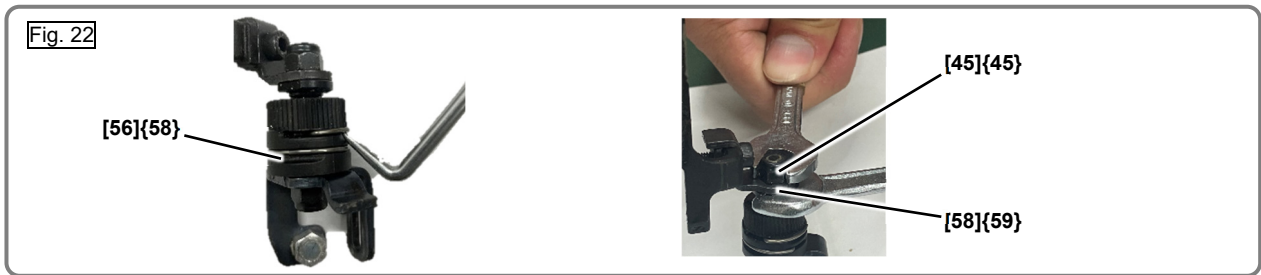
NOTE: The Pin Wheel [31]{31} can be removed only after removing the Piston [20]{20}.

Fig. 21



- Remove Wheel Spring (A) [28]{28} and Wheel Spring (B) [32]{32}. Remove Pin (A) [35]{35}.
 - Remove the two Nylock Hex. Socket Bolts M3 [67]{67} and the Sleeves [66]{66} and [70]{70}.
- NOTE: Be careful not to let the sleeves come off together with the bolts.**
- Remove the Sensor Cover [69]{69}, Magnet Holder [65]{65}, Stopper Spring [64]{64}, and Sensor Case (D) [68]{68} from the Blade Guide [59]{61}.
 - Cut the Wire Band [63]{63} that secures Sensor Case (D) [68]{68} by using nippers.
 - Remove the Ratchet Springs [42]{42} from the Adjuster [56]{58} by using a flat-blade screwdriver or similar tool as shown in Fig. 22.
 - Remove the Shaft Ring [43]{44} and Pushing Lever Shaft [62]{62} from Pushing Lever (A) [60]{54}.
 - Remove Pushing Lever (A) [60]{54} from the Blade Guide [59]{61}.

- Turn the Adjuster [56]{58} to set Pushing Lever (B) [58]{59} to the shallow position so that a spanner can be attached. Then remove the Nylon Nut M5 [45]{45} from Pushing Lever (B) [58]{59} by using a spanner as shown in Fig. 22.

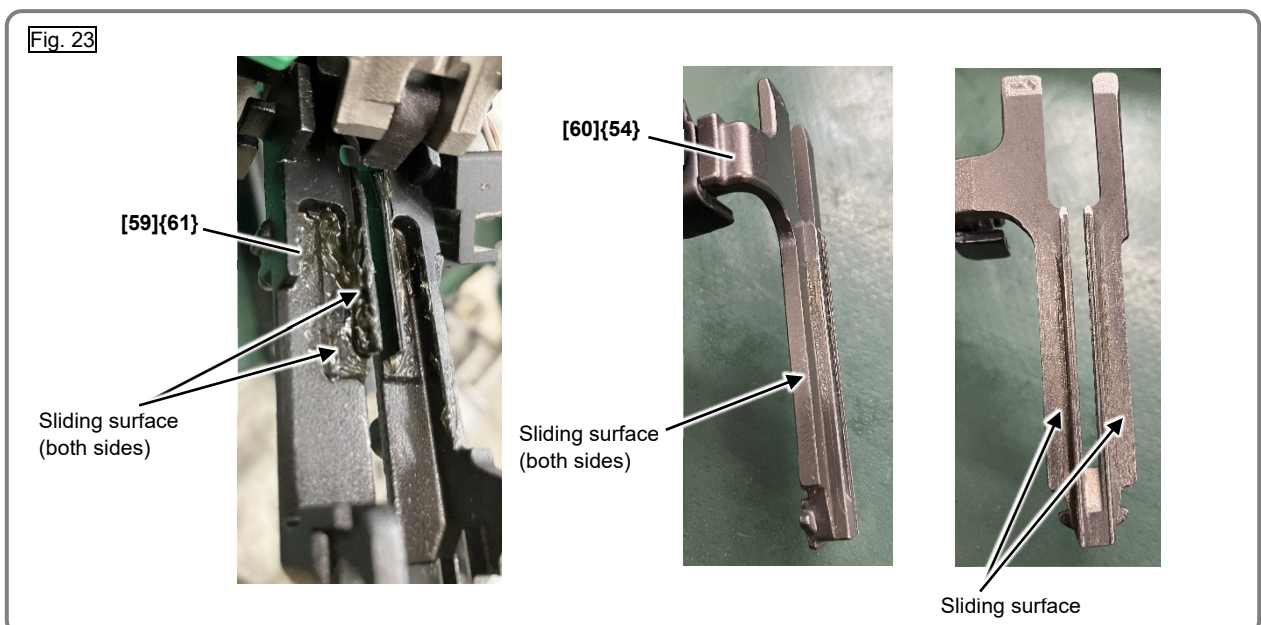


- Remove Pushing Lever Arm (A) [44]{60}, Hex. Hd. Bolt (Left) M3 x 6 [55]{57}, O-ring (S-5) [57]{43}, Pushing Lever (B) [58]{59}, and Adjuster [56]{58}.
- Pull up the Lock Lever Cover [46]{46} and remove the hook of the Lock Lever [49]{48} that fastens the Blade Guide [59]{61} and Guide Plate (A) [52]{51}.
- Remove the three Nylock Bolts M5 x 20 [47]{47} from Guide Plate (B) [48]{53} and Nose Cover [23]{23}.
- Remove Pushing Lever Arm (B) Ass'y [39]{39} and Pushing Lever Spring [38]{38} from the Blade Guide [59]{61}.
- Remove the Needle Pin D3 x 6 [54]{56}.
- Remove the Seal Lock Hex. Socket Hd. Bolt M3 x 8 [91]{91}. Remove Sensor Holder (C) [90]{90} (2 places).
- Remove Sensor (B) [94]{94}, Nose Piece [92]{92}, and Sensor (C) [89]{89} from the nose.
- Remove the Roll Pin D4 x 16 [53]{52}. Then remove Guide Plate (A) [52]{51} from Guide Plate (B) [48]{53}.
- Remove the Roll Pin D3 x 20 [50]{49}. Remove the Lock Lever [49]{48} from Guide Plate (A) [52]{51}.

3. Reassembly

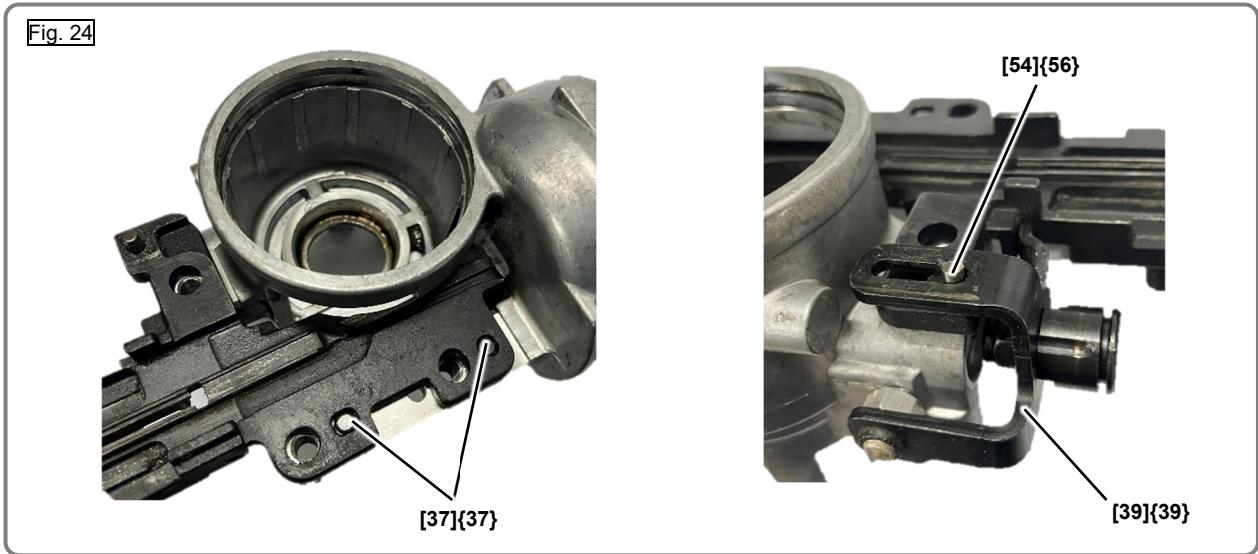
Reverse the disassembly procedure to reassemble. Note the following points:

- Use the specified tightening torques.
- Clean the sealing parts (e.g., O-ring (I.D 66.4) [9]{9}, O-ring (I.D 64.5) [11]{11}, X-ring [18]{18}, Valve Core [6]{6}) before reassembly. Protect these parts against contaminants and scratches.
- Apply about 0.1 g of Attolub No. 2 grease to Pushing Lever (A) [60]{54} sliding surface of the Blade Guide [59]{61}. (See Fig. 23.)
- Apply about 0.01 g of Attolub No. 2 grease to the sliding surface of Pushing Lever (A) [60]{54}. (See Fig. 23.)



- Always use brand-new seal lock bolts, nylock bolts, and shaft ring. Never reuse the old ones.

NOTE: Be sure to attach the Needle Roller D4 [37]{37} (2 pcs.), Needle Pin D3 x 6 [54]{56}, and Pushing Lever Arm (B) Ass'y [39]{39} before attaching Guide Plate (B) [48]{53}. (See Fig. 24.)

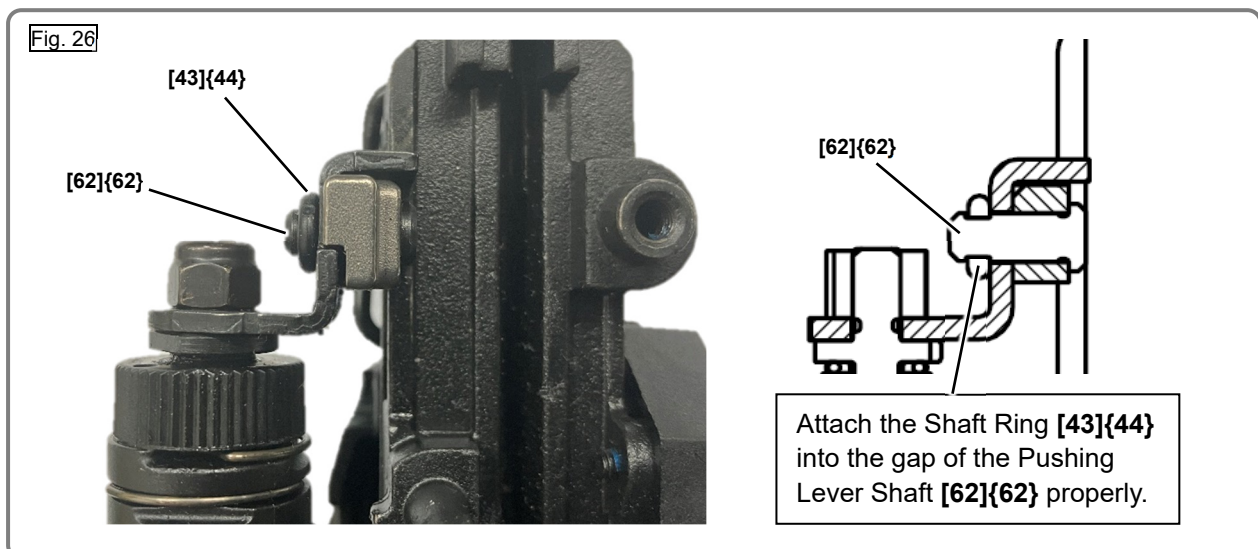


- Apply about 0.1 g of Attolub No. 2 grease to the Needle Pin D3 x 6 [54]{56} sliding surface of the Pushing Lever Arm (B) Ass'y [39]{39} before attaching Guide Plate (B) [48]{53}. (See Fig. 25.)

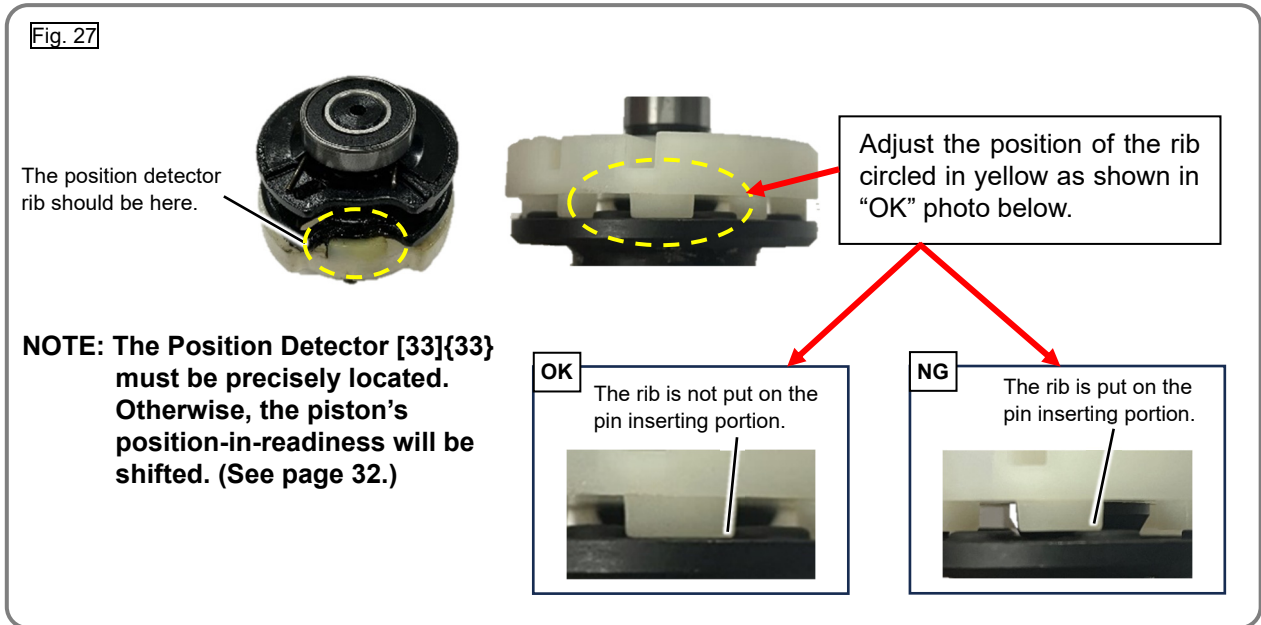


- Attach the Pushing Lever Shaft [62]{62} and Shaft Ring [43]{44} to the surface as shown in Fig. 26.

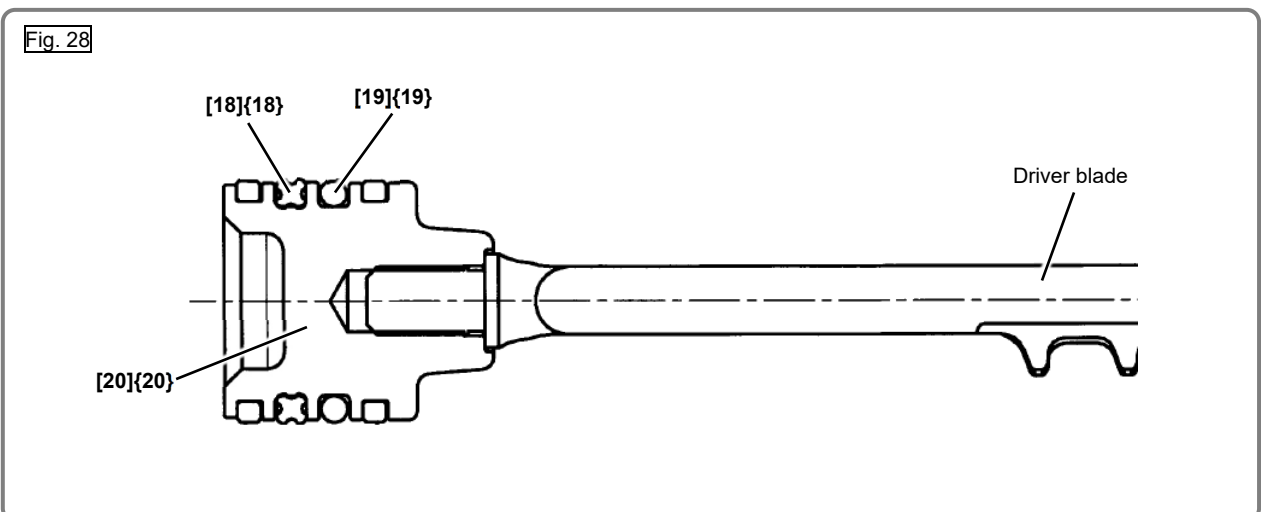
NOTE: Be sure to attach the Shaft Ring [43]{44} into the gap of the Pushing Lever Shaft [62]{62} properly (Fig. 26).



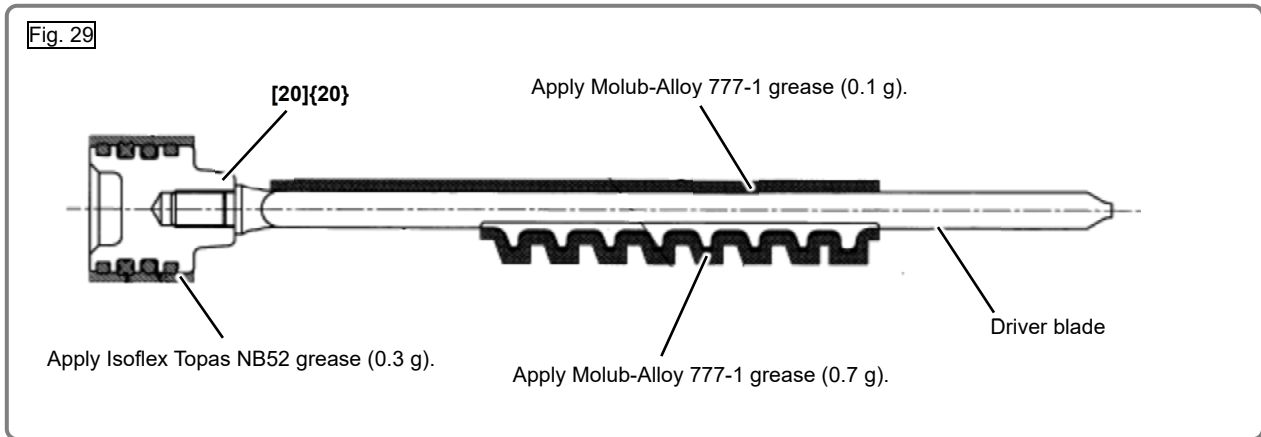
- Use the alignment marks (made before disassembly) for precise positioning when mounting the Chamber Base [12]{12} on the Cylinder [15]{15}.
- Slowly tighten the four Hex. Socket Hd. Bolts M5 x 20 [13]{13} to fasten the Chamber Base [12]{12} and Chamber Cover Ass'y [8]{8}. Be careful not to pinch and damage the O-ring (I.D 66.4) [9]{9} and O-ring (I.D 64.5) [11]{11}.
- Ensure precise alignment when mounting the Position Detector [33]{33} on the Pin Wheel [31]{31}. (See Fig. 27.)



- Remove dust from between the Pin Wheel [31]{31} and Needle Roller D3 [29]{29} and apply about 0.3 g of Molub-Alloy 777-1 grease to six Needle Rollers D3 [29]{29} and Needle Roller D4.5 [30]{30} evenly.
- Apply about 0.1 g of Isoflex Topas NB52 grease to two Slide Rings [17]{17} evenly. Then mount the two Slide Rings [17]{17} to the Piston [20]{20}.
- Apply about 0.1 g of Isoflex Topas NB52 grease to the X-ring [18]{18} and O-ring (I.D 21.7) [19]{19} evenly. Then mount the X-ring [18]{18} and O-ring (I.D 21.7) [19]{19} to the Piston [20]{20} (Fig. 28). After that, apply about 0.3 g of Isoflex Topas NB52 grease to the Piston [20]{20} as shown in Fig. 29.

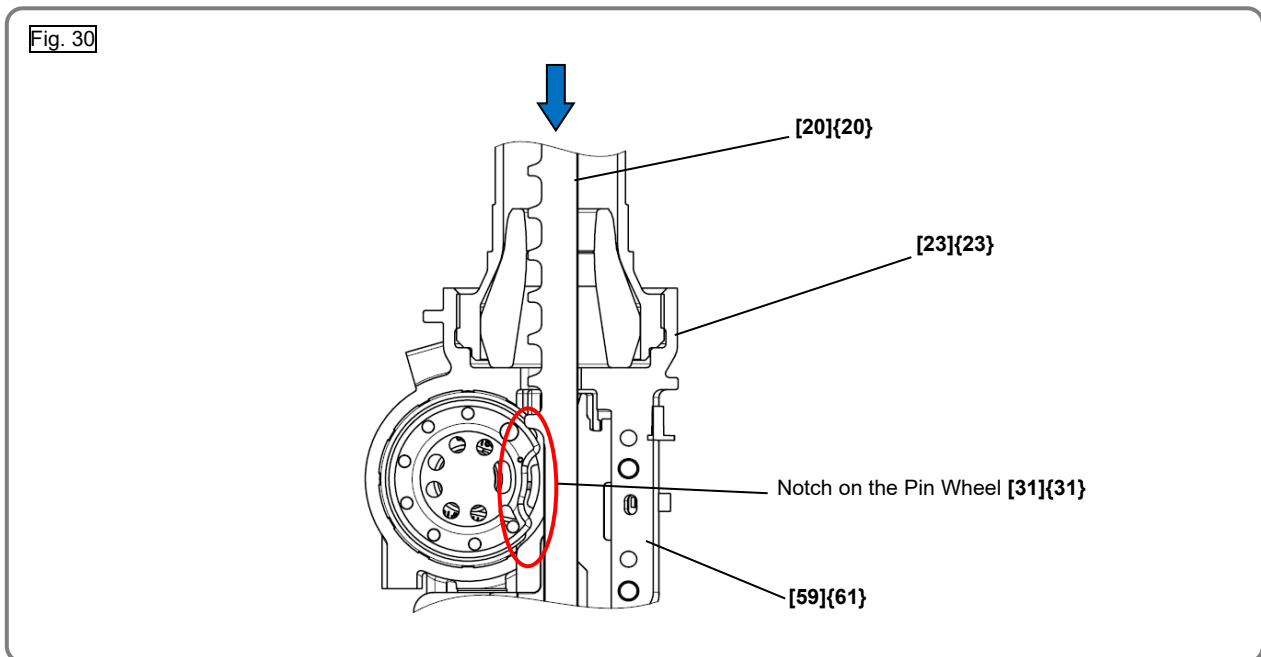


- Apply about 0.7 g of Molub-Alloy 777-1 grease to the driver blade as shown in Fig. 29.

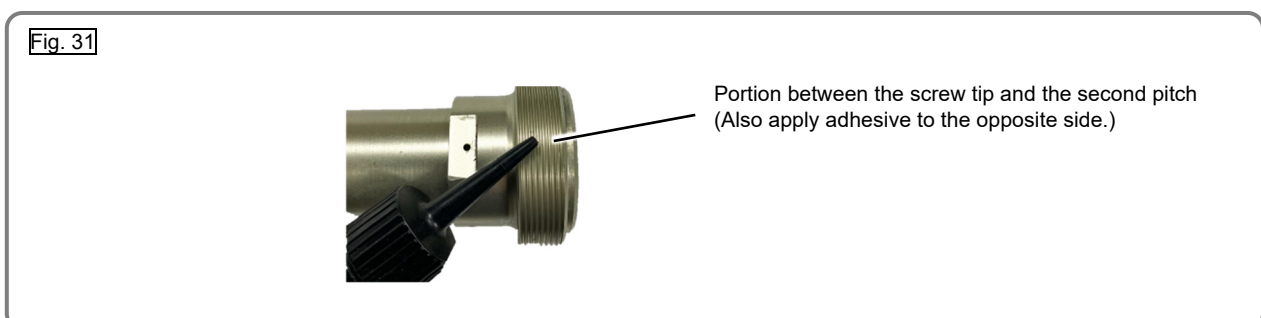


- Put the Pin Wheel [31]{31} in the Nose Cover [23]{23}. Facing the notch on the Pin Wheel [31]{31} to the Blade Guide [59]{61}, push the Piston [20]{20} down to the bottom dead point without meshing with six Needle Rollers D3 [29]{29} and Needle Roller D4.5 [30]{30} as shown in Fig. 30. Apply about 1.6 g of Isoflex Topas NB52 grease to the inside of the Cylinder [15]{15} evenly.

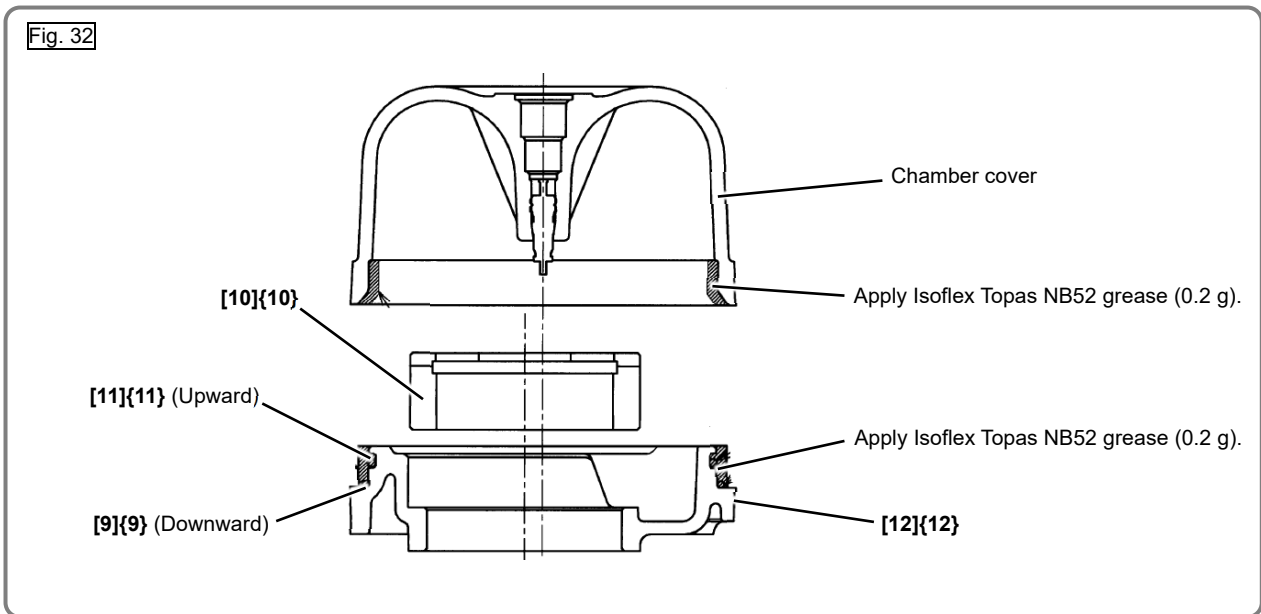
NOTE: If the Position Detector [33]{33} is not precisely located, an error (causing the orange LED of the information indicator to blink) may occur. In such a case, check the location of the Position Detector [33]{33} again.



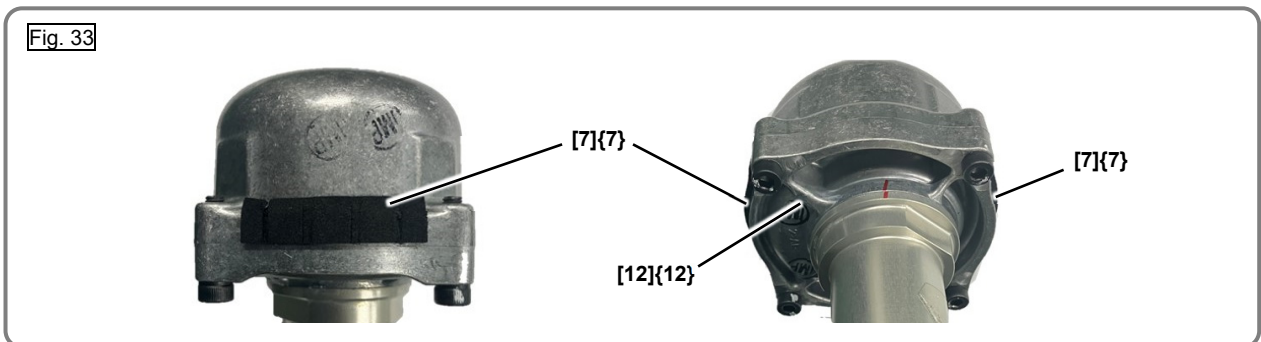
- Degrease the threaded portion of the Cylinder [15]{15} and apply adhesive (ThreeBond TB1342H) to the two preset positions shown in Fig. 31 before mounting the Cylinder [15]{15} into the nose.



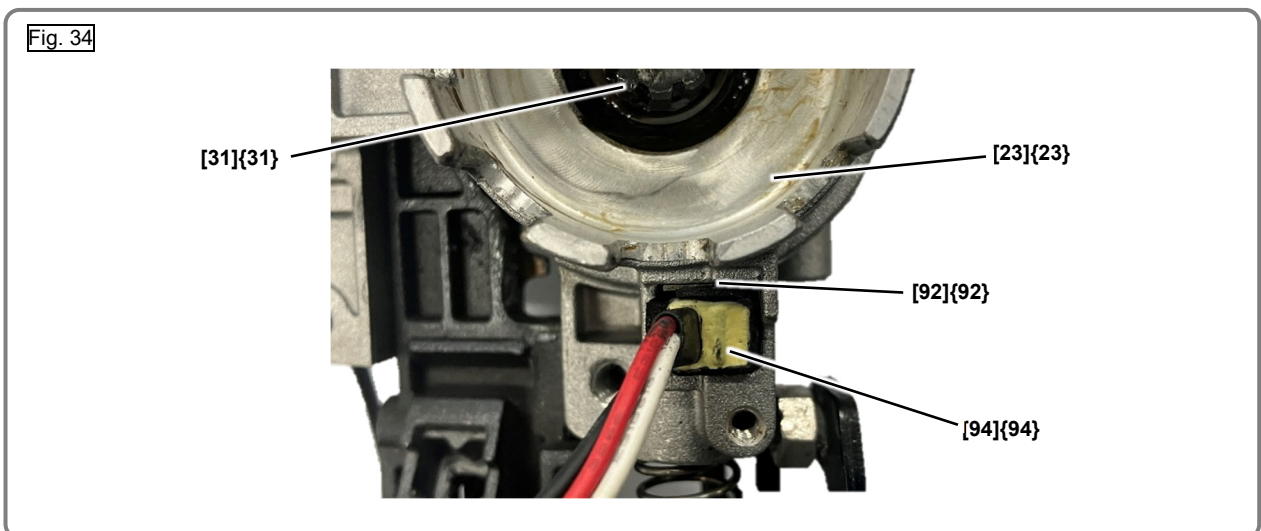
- Apply about 0.2 g of Isoflex Topas NB52 grease to the O-ring (I.D 64.5) [11]{11} and O-ring (I.D 66.4) [9]{9} evenly. Then mount the O-ring (I.D 64.5) [11]{11} and O-ring (I.D 66.4) [9]{9} to the Chamber Base [12]{12} as shown in Fig. 32. After that, apply about 0.2 g of Isoflex Topas NB52 grease to the Chamber Base [12]{12} as shown in Fig. 32.
- Apply about 0.2 g of Isoflex Topas NB52 grease to the chamber cover as shown in Fig. 32.



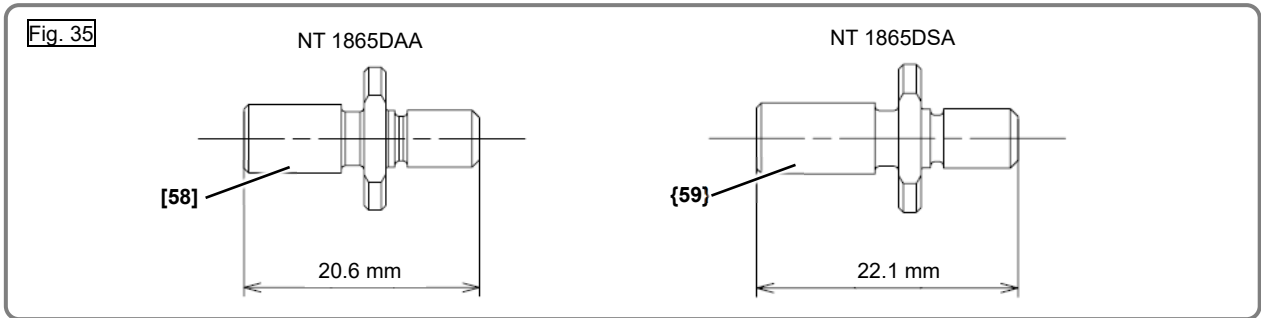
- Attach Cushion (A) [7]{7} to the center of the chamber cover after degreasing as shown in Fig. 33.
NOTE: Mount the Chamber Base [12]{12} in the proper direction as shown in Fig. 33.



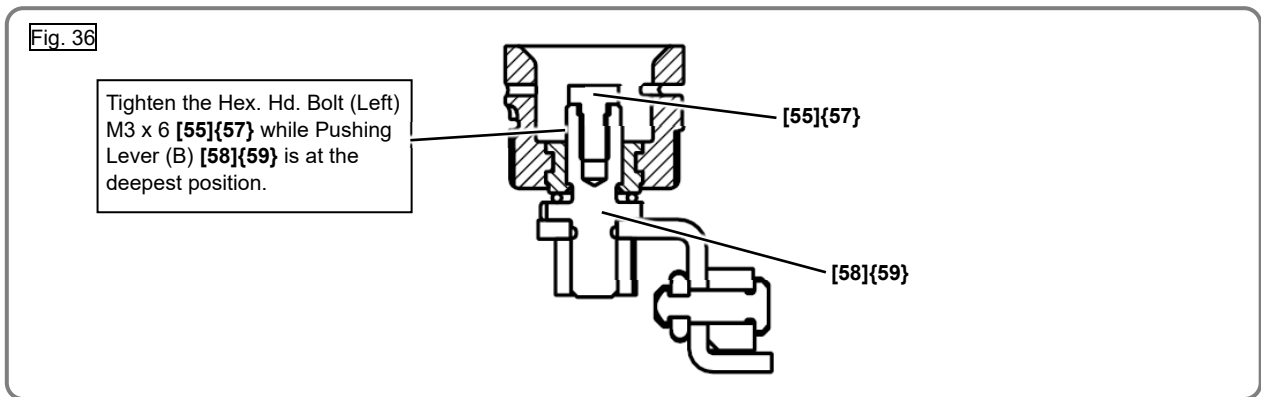
- Mount the Nose Piece [92]{92} between Sensor (B) [94]{94} and the Pin Wheel [31]{31} side of the Nose Cover [23]{23} as shown in Fig. 34.



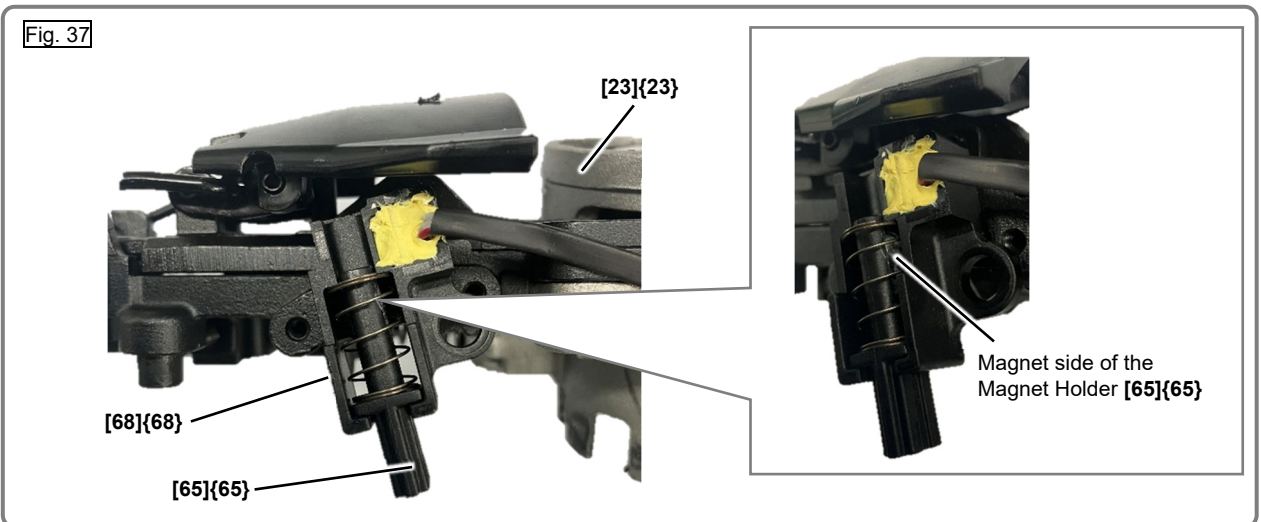
- Pushing Lever (B) [58] for the Model NT 1865DAA is different from Pushing Lever (B) [59] for the Model NT 1865DSA in length. Be sure to use the correct part when reassembling. (Fig. 35)



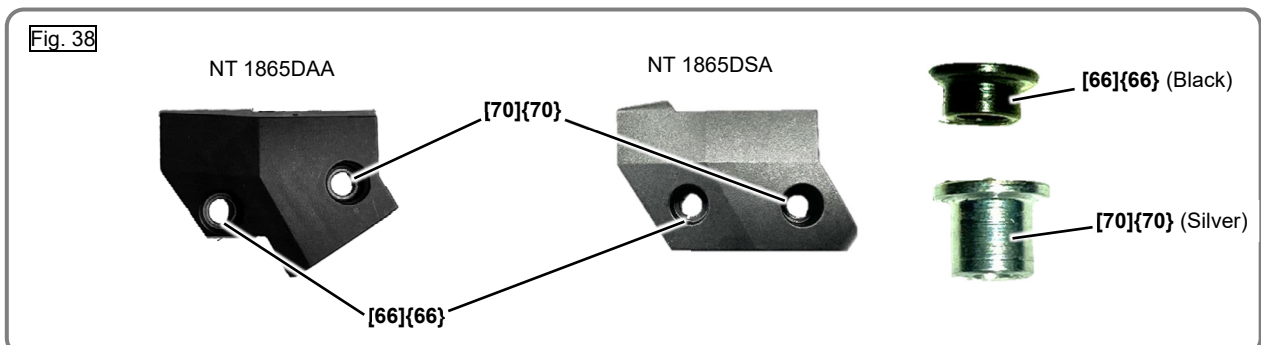
- Turn the Adjuster [56]{58} to set Pushing Lever (B) [58]{59} to the deepest position before tightening the Hex. Hd. Bolt (Left) M3 x 6 [55]{57} (Fig. 36).



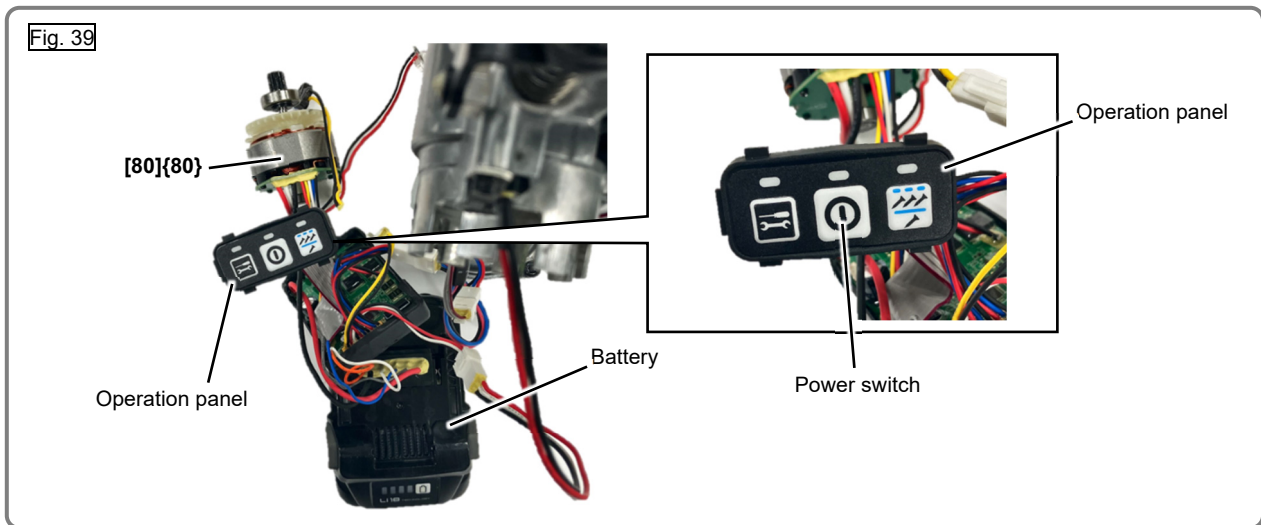
- Mount the Magnet Holder [65]{65} to Sensor Case (D) [68]{68} in proper direction as shown in Fig. 37.



- The Sleeve [66]{66} is different from the Sleeve [70]{70} in color and length. Mount the Sleeve [66]{66} and Sleeve [70]{70} properly as shown in the figure below.

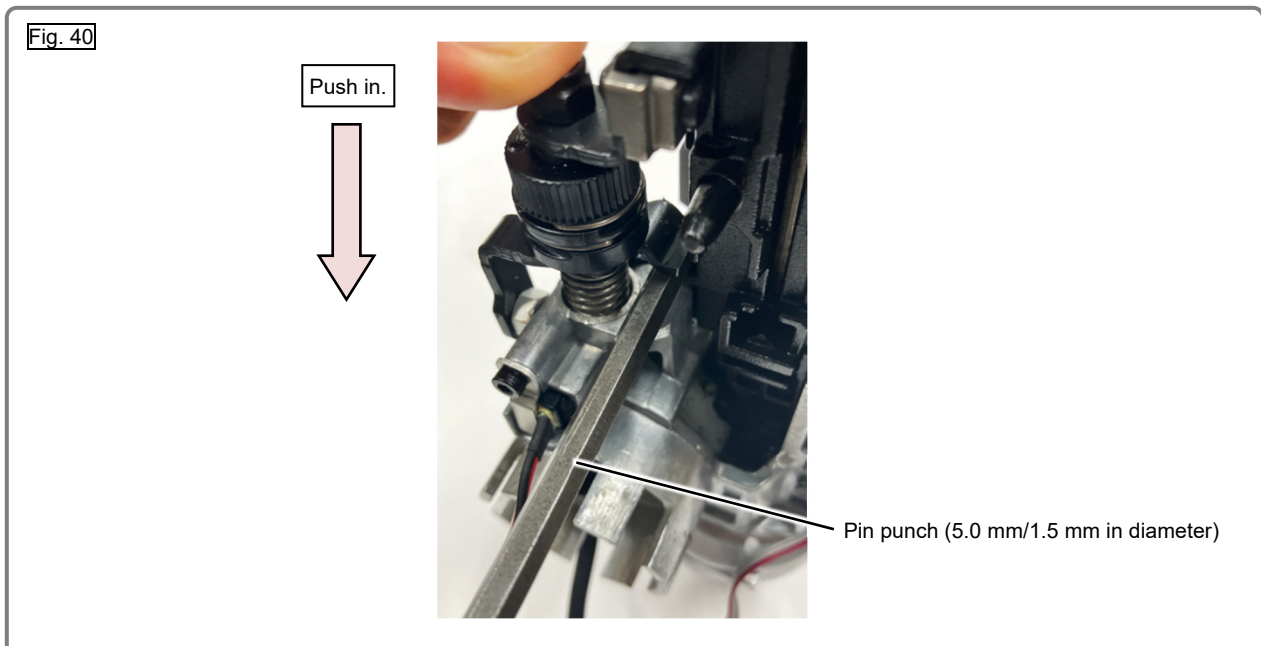


- Check the following after reassembly of the power assembly.
 - (1) Check that Pushing Lever (A) [60]{54} moves smoothly without any catch.
 - (2) Check that the Adjuster [56]{58} rotates smoothly.
 - (3) Connect Sensor (B) [94]{94} and Sensor (C) [89]{89} to the Wiring Ass'y [80]{80} and then connect the terminal to the battery as shown in Fig. 39 in order to check Sensor (B) [94]{94} for normal response.



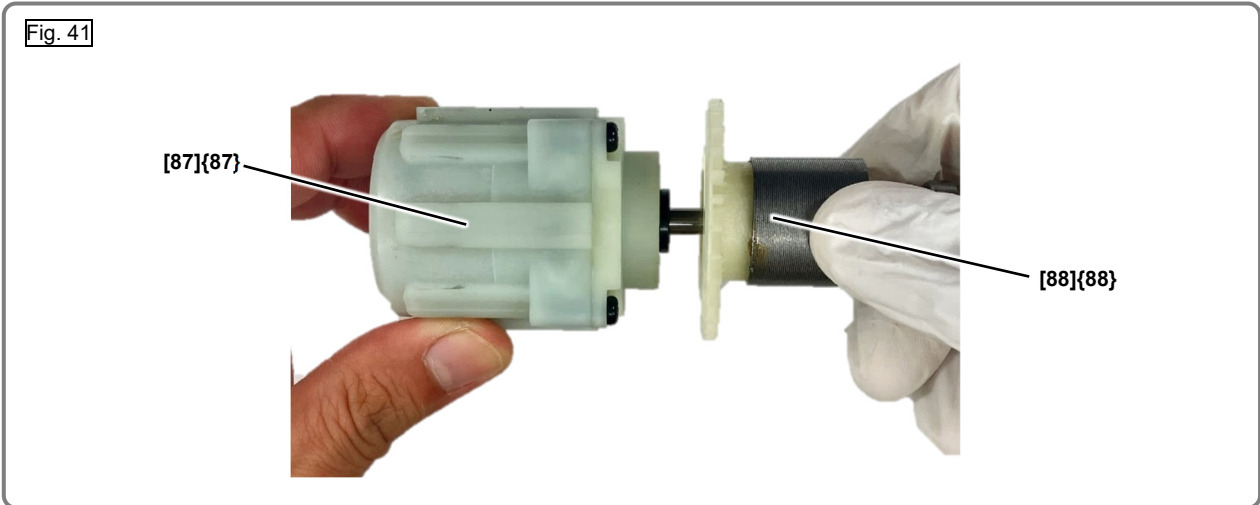
- (4) Insert a pin punch of 5.0 ± 0.1 mm in diameter between Pushing Lever (B) [58]{59} and the wall of the Blade Guide [59]{61}. Then push in Pushing Lever (A) [60]{54} and keep pressing the power switch on the operation panel for at least 2 seconds. Check that the LED steadily lights up. Next, insert a pin punch of 1.5 ± 0.1 mm in diameter and push in Pushing Lever (A) [60]{54}. Keep pressing the power switch on the operation panel for at least 2 seconds. Check that the LED blinks for 3 seconds at 1-second intervals.

NOTE: If a pin punch of 5.0 ± 0.1 mm (0.2 ± 0.0039 ") in diameter and a pin punch of 1.5 ± 0.1 mm (0.06 ± 0.0039 ") in diameter are not available, use the shank of a drill of 5.0 mm in diameter and a drill of 1.5 mm in diameter.

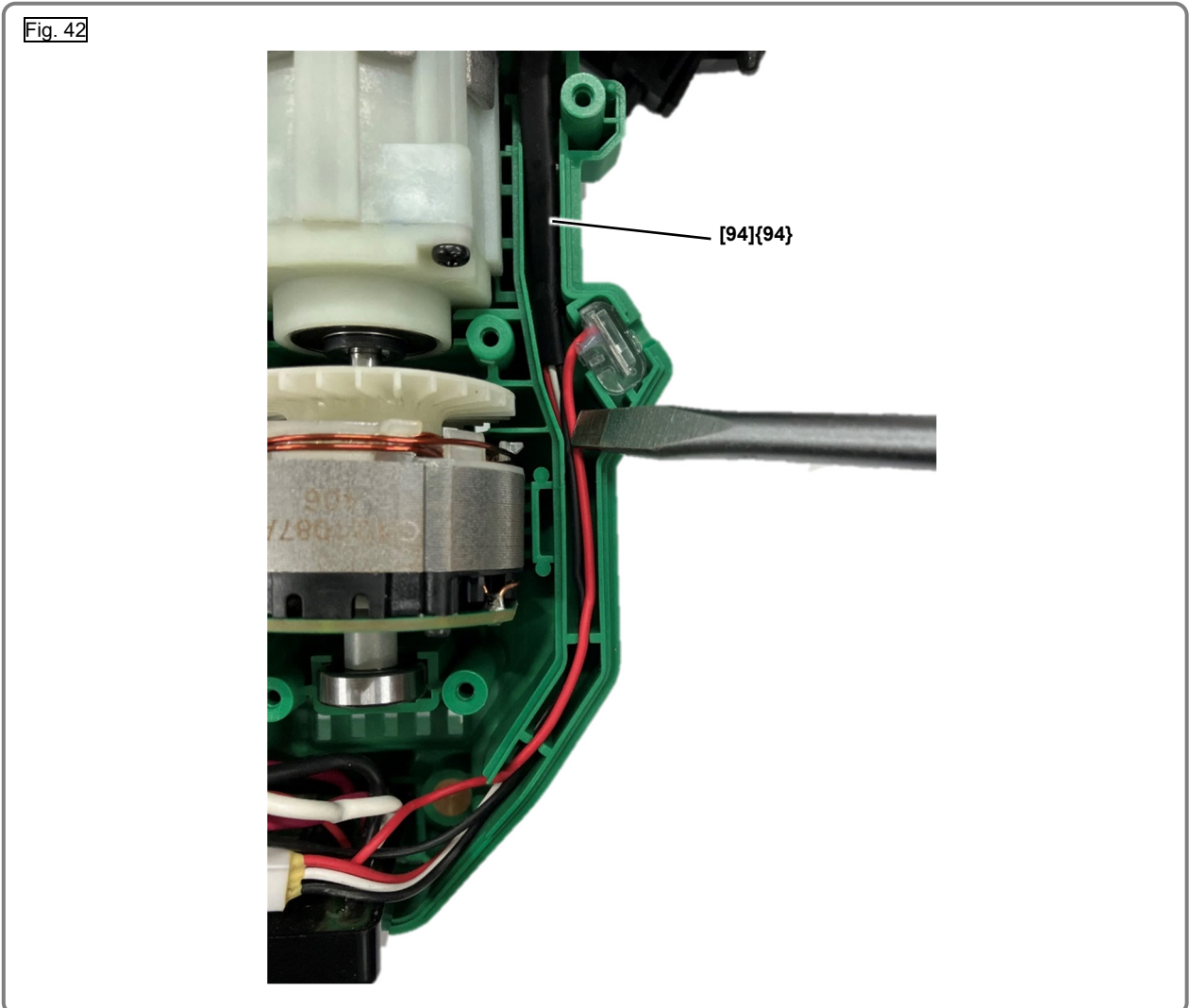


- (5) If the LED blinks for 3 seconds at 1-second intervals when inserting a pin punch of 5.0 mm in diameter during the operation check of Sensor (B) [94]{94} or if the LED steadily lights up when inserting a pin punch of 1.5 mm in diameter, Pushing Lever (B) [58]{59} or Sensor (B) [94]{94} may be damaged or deformed. Check and replace the damaged or deformed part and then perform the operation check of Sensor (B) [94]{94} again.

- Insert the Rotor [88]{88} into the Gear Box [87]{87} and check that the Rotor [88]{88} turns smoothly by hand as shown in Fig. 41.
- NOTE: If the Rotor [88]{88} cannot turn smoothly, the gear may be deformed or damaged. Replace the Gear Box [87]{87} with new one.**



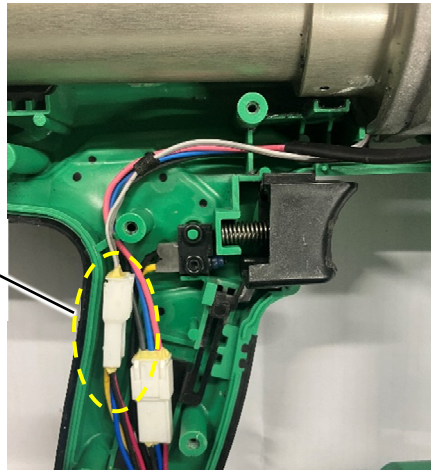
- Set the internal wires of Sensor (B) [94]{94} in housing (A) being careful not to twist or pull them.
- Put the internal wires of the LED on the internal wires of Sensor (B) [94]{94}.
- Push the internal wires in housing (A) with a flat-blade screwdriver being careful not to damage the coating as shown in Fig. 42.



- Place the connector cable of Sensor Case (D) [68]{68} at the position shown in Fig. 43.

Fig. 43

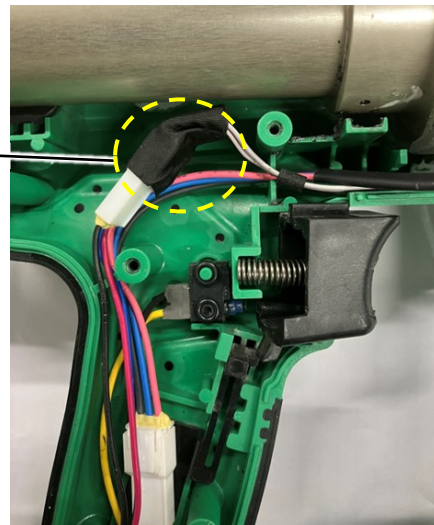
[68]{68}



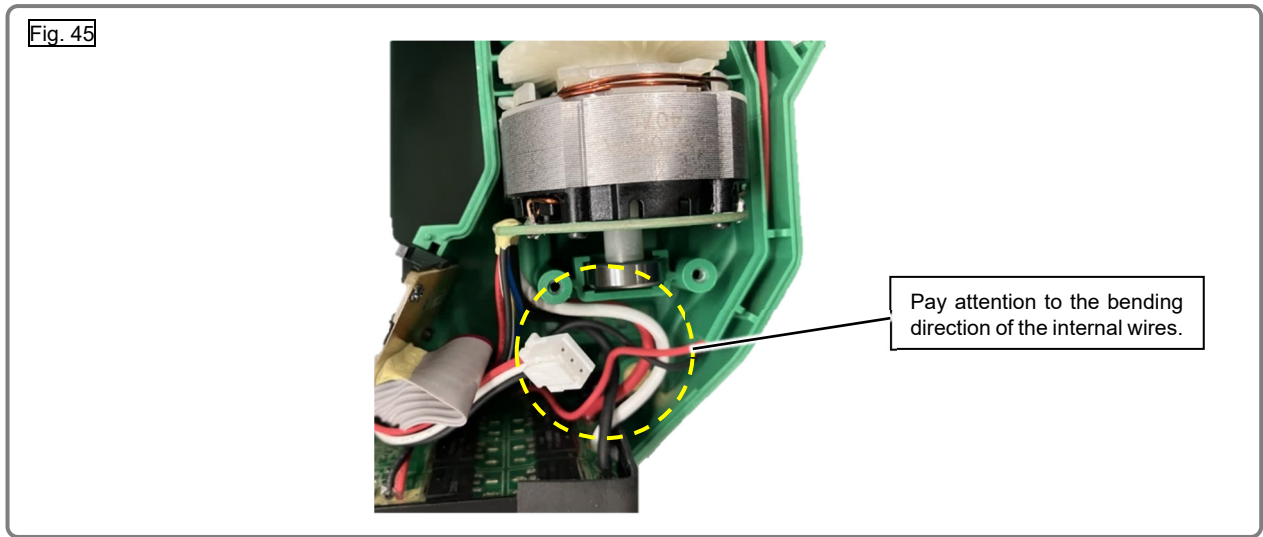
NOTE: If the connector cable of Sensor Case (D) [68]{68} was secured with tape as shown in Fig. 44, replace Sensor Case (D) [68]{68} with that for B work (Code No. 382168) for the Model NT 1865DAA or C work (Code No. 382755) for the Model NT 1865DSA.

Fig. 44

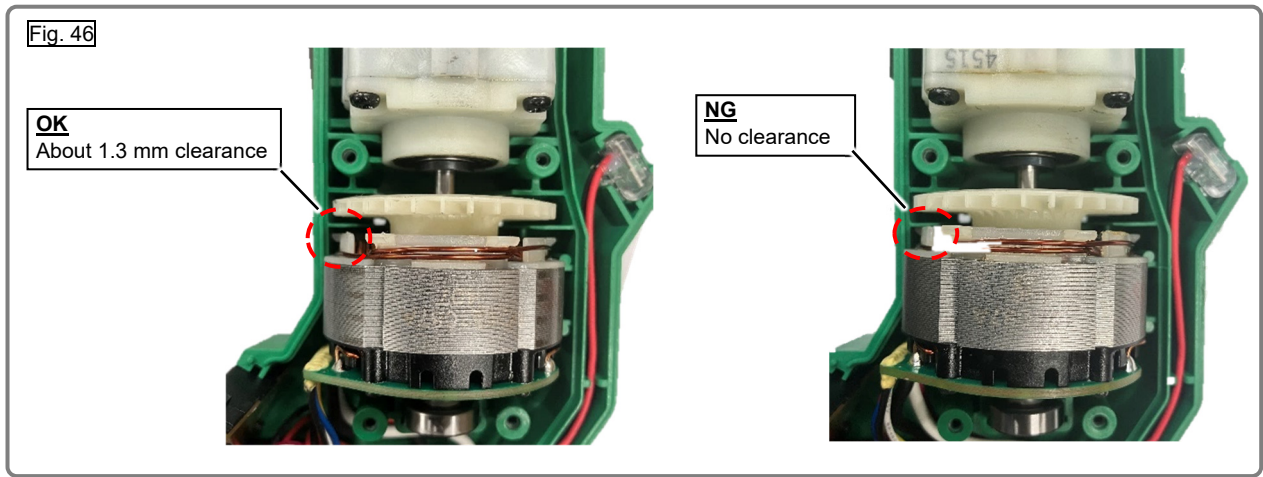
Connector cable of Sensor Case (D) [68]{68} secured with tape (Replacement needed)



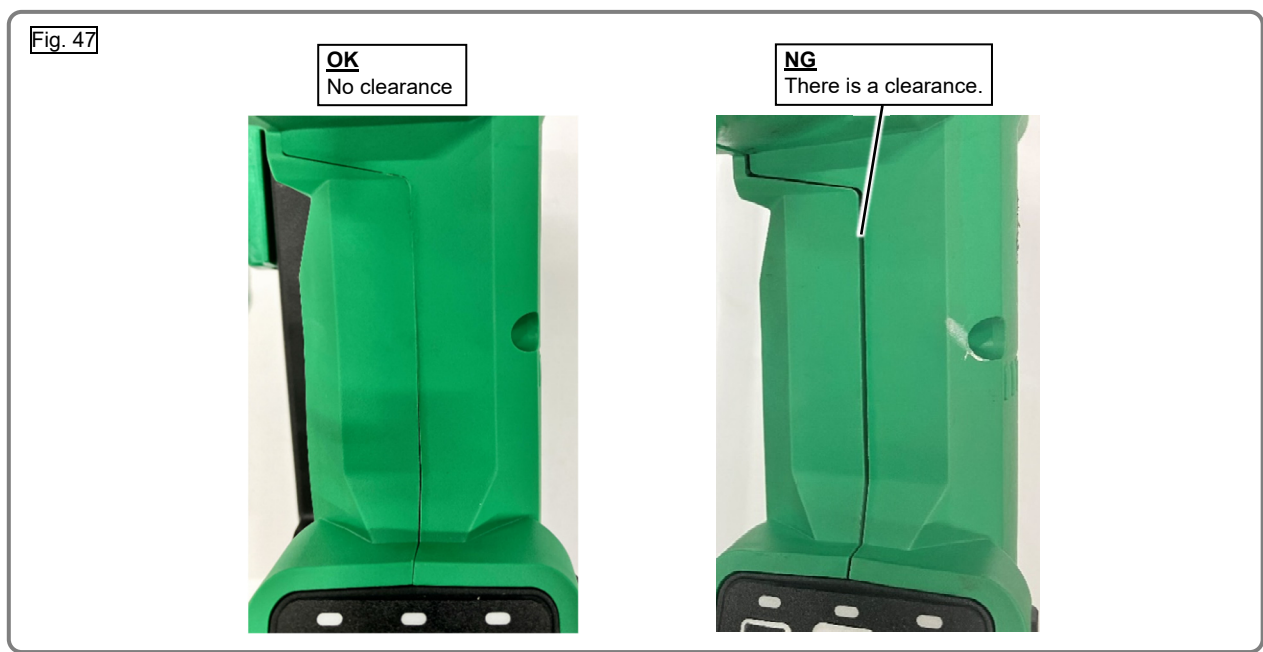
- Put the Wiring Ass'y [80]{80} in housing (A). Note the following points:
 - Place the internal wires of the stator ass'y at the position shown in Fig. 45 being careful not to damage the coating.



- Check that there is a proper clearance after fitting the stator ass'y in housing (A) as shown in Fig. 46.

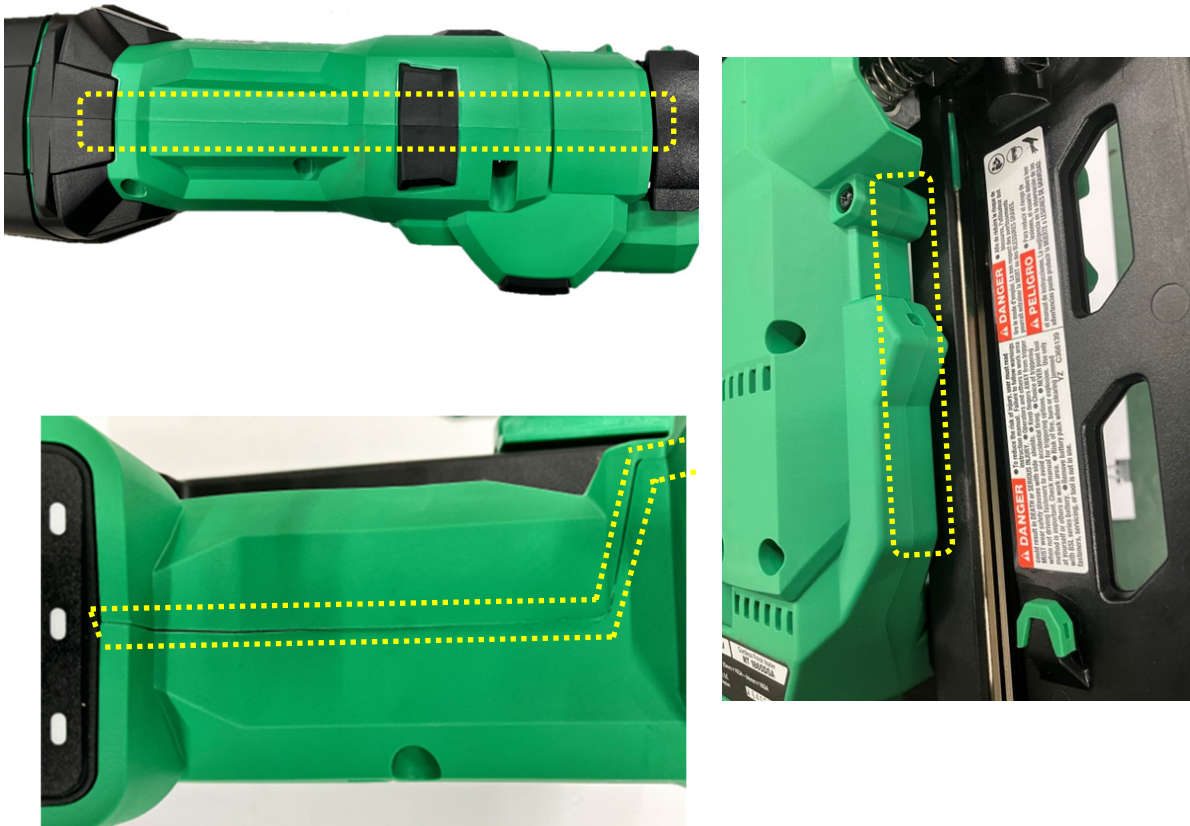


- Check that there is no clearance between housings (A) and (B) when putting them together at the position shown in Fig. 47.



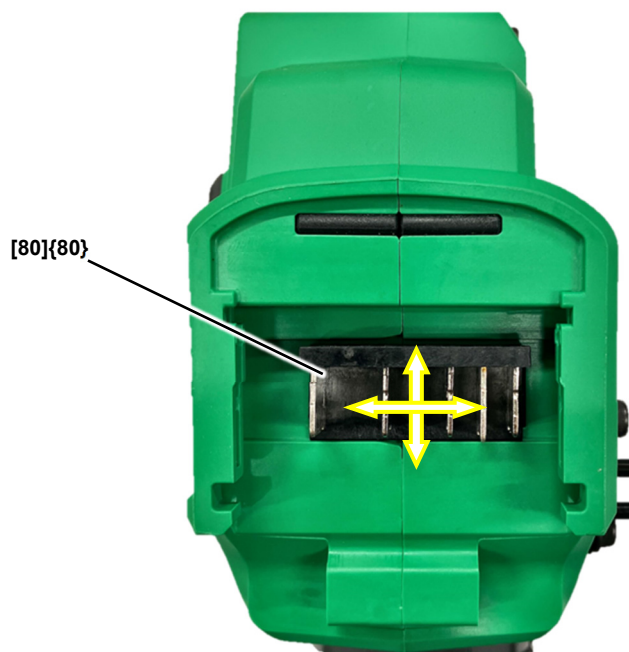
- (4) Check that the internal wires are not caught and there is no clearance between housings (A) and (B) when putting them together.

Fig. 48



- (5) After reassembly, check that the terminal of the Wiring Ass'y [80]{80} is properly mounted without mismatch and it is slightly movable as shown in Fig. 49.

Fig. 49

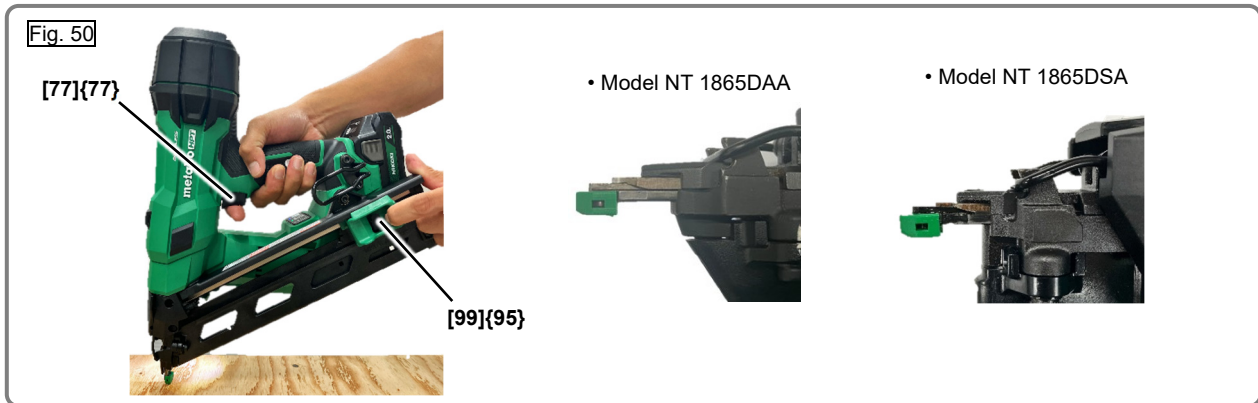


Feeding compressed air

CAUTION: Be sure to remove all the nails from the Magazine [111]{111} and Blade Guide [59]{61}. Then, set the nailer to the MAINTENANCE mode (see page 7) and move the Piston [20]{20} down to the bottom dead point before feeding or discharging compressed air. An oil-free compressor should be used to feed compressed air to the nailer.

1. Moving the piston down to the bottom dead point

- Turn on the nailer and set the nailer to the MAINTENANCE mode. (See page 7.)
- Repeat the steps below three or four times until the Piston [20]{20} reaches the bottom dead point.
 - (1) Move Nail Feeder (B) Ass'y [99]{95} down to reset the dry-fire lockout mechanism.
 - (2) Press Pushing Lever (A) [60]{54} against a piece of wood.
 - (3) Pull the Trigger [77]{77}.
- Check that the driver blade of the Piston [20]{20} protrudes from the Blade Guide [59]{61}.



2. Feeding compressed air

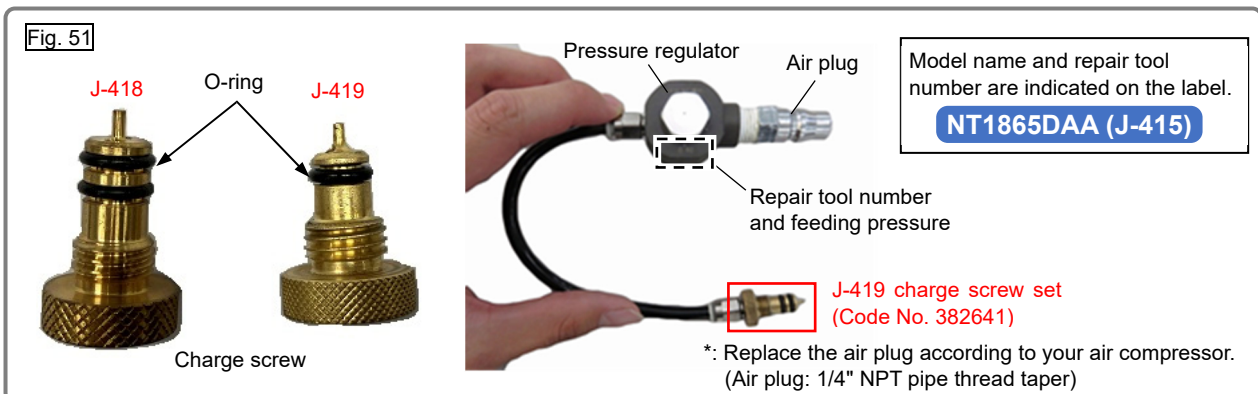
- Check that the battery is not mounted in the nailer body.
- Apply about 0.1 g of Attolub No. 2 grease to O-ring (I.D 10.7) [4]{4} and Valve Core Cushion [5]{5} of the Charge Cap [3]{3}.

NOTE: When replacing the Valve Core Cushion [5]{5}, be sure to push the Valve Core Cushion [5]{5} up to the bottom of the Charge Cap [3]{3}.

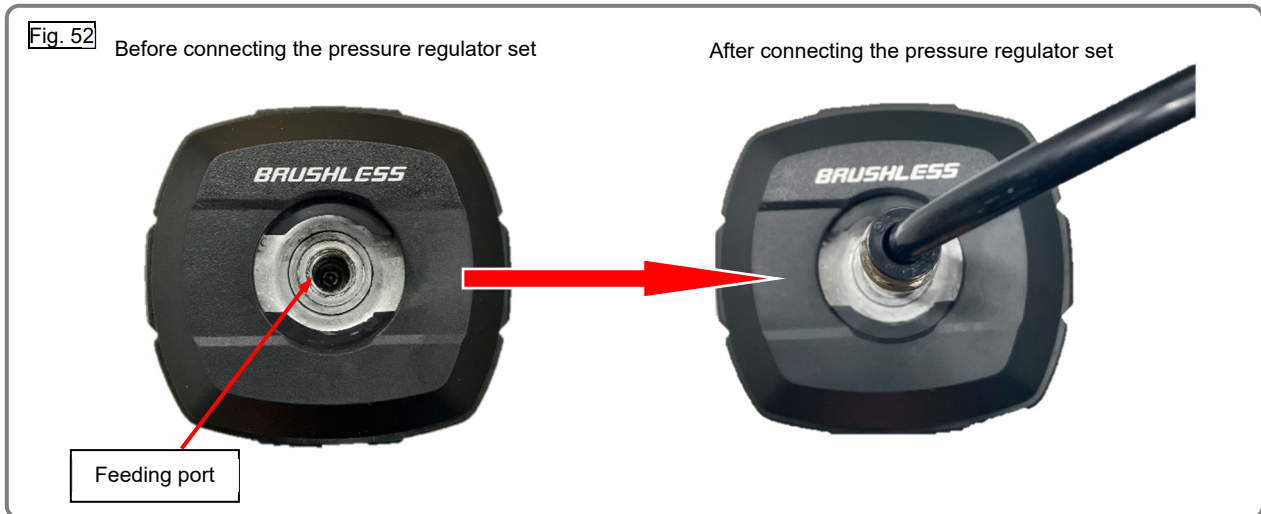
- Prepare the reduction valve set specified below.

Model	Model name indicated on label	Repair tool number	Preset feeding pressure
NT 1865DAA	NT 1865DAA	J-415 (Code No. 382461)	0.83 ± 0.03 MPa 8.5 ± 0.3 kgf/cm ²
NT 1865DSA	NT 1865DSA	J-416 (Code No. 382465)	0.7 ± 0.03 MPa 7.1 ± 0.3 kgf/cm ²

NOTE: Replace only the charge screw and the O-ring with the J-419 charge screw set (Code No. 382641).



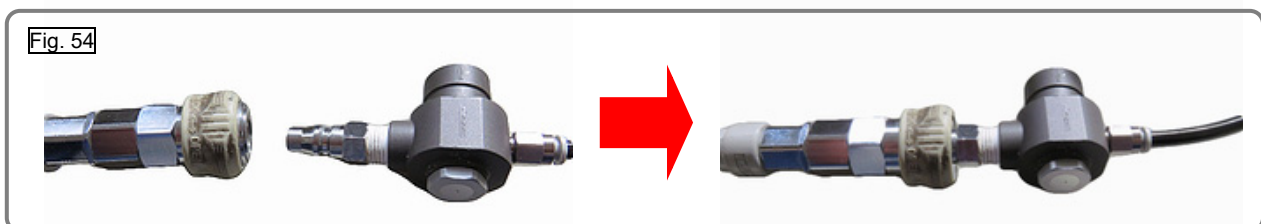
- Push the Valve Core [6]{6} and check that no compressed air is left.
- Apply lubricant to the O-ring (S-5) (Code No. 872822) of the charge screw. Always replace a defective O-ring with a new one.
- Screw in the charge screw into the pressure feeding port of the Chamber Cover Ass'y [8]{8}.



- Prepare an air compressor (0.93 MPa or higher) and set a delivery pressure of 0.93 to 1.2 MPa. (See Fig. 53.)



- Connect the reduction valve set to the air compressor for at least 10 seconds to feed compressed air. (See Fig. 54.)



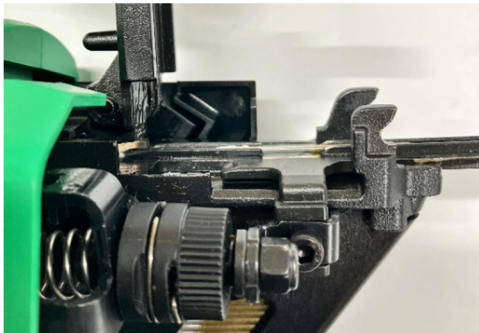
- Reverse the procedure above for disconnection.
- Quickly mount the Charge Cap [3]{3} on the feeding port within 30 seconds after feeding compressed air to prevent air leaks from the valve section.
- Turn on the nailer and move Nail Feeder (B) Ass'y [99]{95} down to reset the dry-fire lockout mechanism. Then fire the nailer once without loading nails to move the driver blade of the Piston [20]{20} to position-in-readiness.

NOTE: If you try to operate the nailer in the MAINTENANCE mode while the driver blade is at the bottom dead point, the nailer may not react. In such a case, mount the battery again to restart the nailer and fire the nailer once without loading nails to move the driver blade to position-in-readiness.

Checking after reassembly

- Check that Pushing Lever (A) [60]{54} moves smoothly without any catch.
- Check that the Adjuster [56]{58} rotates smoothly.
- For the Model NT 1865DAA, check that a pin punch of 3 mm in diameter cannot be inserted into the gap between the Magazine Cover [97] and the Sensor Cover [69] after reassembly (see page 11).
- Check that that the Nail Rail [98]{104} can be moved in the Magazine [111]{111}.
- Check that Nail Feeder (B) Ass'y [99]{95} slides smoothly.
- Move Lever (A) [85]{85} to the LOCK position and check that the Trigger [77]{77} is completely locked and cannot be pulled back.
- Turn on the nailer and check that no LED is blinking to indicate an error state.
- Turn on the nailer and check that the power indicator is ON.
- Unload nails and press Pushing Lever (A) [60]{54} against a wood material to check that the dry-fire lockout mechanism works normally (front LED blinks immediately).
- Load the longest nails into the nailer and check that the nails can pass through smoothly in the Magazine [111]{111}.
- Start nailing and check that no trouble (e.g., abnormal nailing, unusual sound, nail head lift) occurs. Press Pushing Lever (A) [60]{54} without pulling the Trigger [77]{77} in the contact actuation mode and check that the nailer does not work.
- After checking the actual nailing, check the position-in-readiness according to the following procedure: Load the longest nails in the nailer and open Guide Plate (A) [52]{51}. Check that the piston tip does not go over nail heads (see Figs. 55 and 56). If any check item is NG, the position detector may be incorrectly mounted. Check it again (see page 21).

Fig. 55 • Model NT 1865DAA



NG: The piston tip goes over the nail head.
(Nails are projected.)

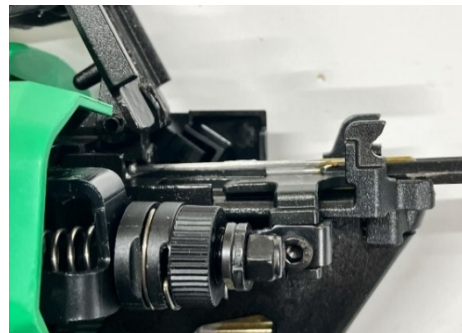


Fig. 56 • Model NT 1865DSA



NG: The piston tip goes over the nail head.
(Nails are projected.)

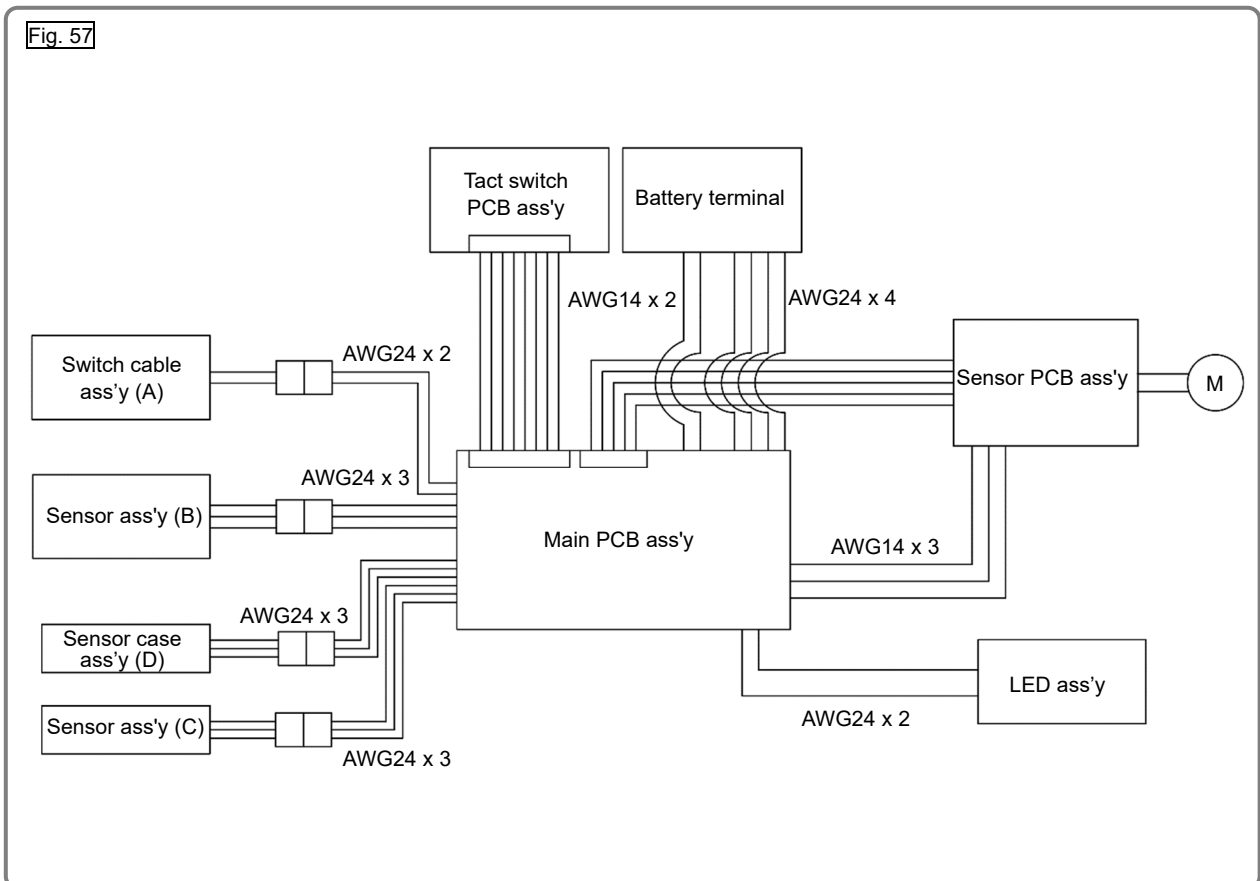


- Do not use the nailer for one day after checking the actual nailing, and then check that the nailer works normally without any nail heads lifted on the next day (air leak check).

Tightening torque

Item No.	Part name	Tightening torque	
		N•m	lbf-ft
[3]{3}	Charge Cap	4.5 ± 0.5	3.3 ± 0.4
[6]{6}	Valve Core	0.48 ± 0.04	0.35 ± 0.03
[10]{10}	Special Nut M36 (B)	29.4 ± 1.5	21.7 ± 1.1
[13]{13}	Hex. Socket Hd. Bolt M5 x 20	8.3 ± 1.5	6.2 ± 1.1
[15]{15}	Cylinder	39.2 ± 2.0	29 ± 1.5
[40]{40}	Nylon Nut M5	6.4 ± 0.5	4.7 ± 0.4
[55]{57}	Hex. Hd. Bolt (Left) M3 x 6	1.5 ± 0.15	1.1 ± 0.1
[67]{67}	Nylock Hex. Socket Hd. Bolt M3	1.9 ± 0.15	1.4 ± 0.1
[72]{72}	Tapping Screw (W/Flange) D3 x 16 (Black)	1.3 ± 0.3	1.0 ± 0.2
[84]{84}	Hex. Socket Hd. Bolt (W/Flange) M5 x 12	5.9 ± 1.5	4.3 ± 1.1
[91]{91}	Seal Lock Hex. Socket Hd. Bolt M3 x 8	1.3 ± 0.2	1.0 ± 0.2
[106]{106}	Machine Screw M5 x 15 (Black)	1.8 ± 0.4	1.3 ± 0.3
[110]{110}	Nylock Hex. Socket Hd. Bolt M4 x 8	3.4 ± 0.7	2.5 ± 0.5

Connecting diagram



STANDARD REPAIR TIME (UNIT) SCHEDULES

Model	Repair time	10	20	30	40	50	60 min.
		Work Flow					
NT 1865DAA							
NT 1865DSA							
	General Assembly	Top Cover Housing (C) Hook Pushing Lever Adjuster Pushing Lever Arm (A) Pushing Lever (B) Nylon Nut M5 Pushing Lever (A) Pushing Lever Shaft Shaft Ring	Valve Core Magazine Cover Magazine Nail Rail Nail Feeder (C) Magnet Holder Sensor Case (D) Stopper Spring	Chamber Cover Chamber Base Ass'y Special Nut M36 (B) O-ring x 3 Cylinder Piston Slide Ring X-ring Piston Bumper	Blade Guide Guide Plate (A) Guide Plate (B) Pushing Lever Arm (B) Ass'y Lock Lever Ass'y Spring		
				Pin Wheel Position Detector			