AF Zoom-Nikkor 70-300/4-5.6G

REPAIR MANUAL

Nikon | NIKON CORPORATION
Tokyo, Japan

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※DISASSEMBLING/ASSEMBLING/ADJUSTMENT

①This repair manual is made simply because the basic structure of this lens is the same as JAA76451 (AF ED 70-300/4.5-6D).
When repairing the lens, please refer to the drawings and the Repair Manual for JAA76451 (AF ED 70-300/4-5.6D).

②If removing the 4th lens group and then mounting it as it is, the error occurs in the projection resolution. Therefore, the adjustment for optical axis is needed.
Repair and adjust the lens that is needed the adjustment for optical axis at the place where the point tester is set up.
Do not remove the 4th lens group if the point tester is not set up.
DISASSEMBLING/ASSEMBLING/ADJUSTMENT

1. DISASSEMBLING

REAR COVER RING

BAYONET MOUNT
REAR LENS BARREL UNIT

- Rear lens barrel unit.

Do not damage the connection FPC when removing the rear lens barrel unit.

MAIN PCB

- Remove the FPC from the connector.

- Unscrew the screw #38 and remove the main PCB.

— L 2 • AF 70–300/4–5.6 G —
① Rotate the focus ring #34 in the arrow direction.
② When the joint is separated, remove the focus ring #34 backward.
1. Remove the external helicoid #3 to the front while rotating it in the arrow direction.

2. Remove #16 x 3 and #17 x 3 and then remove the helicoid ring.
Rotate the cam ring in the arrow direction and remove it at the position that it meets the limit.
2. ASSEMBLING/ADJUSTMENT

CAM RING GROUP

Apply GE-8 to the cam ring, the cam groove and the straight groove of the straight groove ring #18 and each sliding part.

Mount the cam ring at the position shown in Picture on the left, and then rotate it in the arrow direction.

REAR LENS GROUP

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Mount the 2nd group lens at the position shown in Figure above.

ADJUSTMENT OF ZOOM ENCODER BRUSH POSITION

1. Attach the hand-made tool. (Refer to L15 for the making method of the hand-made tool.)

2. Set the zoom to 70mm.

3. Loosen the screw #10 x 2 and adjust the position of the brush so that the end of the brush is at the position shown in Figure below.
1st HELICOID GROUP

1st lens group

To the helicoid screw

To the straight groove

MZ-800S

Helicoid ring

#3

MZ-800S

FC-4

#2

FC-4

#3

A

B

<Check>
The projection C and the index should be match when the end face A of #3 comes to the position of the end face B as shown in Figure on the left.
Set the lens barrel body to the WIDE end.

Set the \( \infty \) mark and the zoom interlocking key of the lens barrel body, and then assemble them. Then, put the 3 projection of the external helicoid in the guide grooves inside the focus ring.

Rotate the focus ring slowly in the arrow direction A. When it meets the joint position, push the focus ring slightly to the front and rotate it in the arrow direction B.
① Make the focus ring meet the \( \infty \) stopper.

② Loosen the screw \#36 and adjust the position of the brush so that the end of the brush is at the position shown in Figure below.
1. Mount the main PCB by the screw #38.

2. Connect the FPC to 2 places of the connector.
① Set the lever #53 to the maximum aperture position.
② Loosen the screw #54x2.
③ Move the aperture operation lever #52 to the position where the aperture blade does not project the open diameter.
④ Tighten the screw #54 x 2 and fix them by the screw lock.
FFD ADJUSTMENT

For the FFD adjustment, please refer to the Repair Manual for JAA76451 (AF ED 70-300/4-5.6D).

· γ adjustment
  The difference between the measured value of TELE side and WIDE side should be within
  0.05 to +0.15mm.

· Adjustment for ∞ stopper
  Standard: 46.5 ±1.4 to ±2.0

OPTICAL AXIS ADJUSTMENT

For the optical axis adjustment, please refer to the Repair Manual for JAA13051 (AF 14/2.8D) (Page A13 to A15). Adjust it by moving the 4th group lens.

Notes:
It is impossible to set the aperture position at will, therefore, fix the aperture lever by a piece of tape etc. to make it the maximum aperture condition.
Measure the optical axis after setting the focus ring to the ∞ position.
Use the chart for 14/2.8mm (J15383) for the point tester.

REAR COVER RING

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**PROJECTION RESOLUTION ADJUSTMENT**

For the set up condition and the standard of the lens, please refer to [RESOLUTION REFERENCE] being distributed to the service facilities that has the resolution projector.

**INSPECTION OF ENCODER SIGNAL**

For the inspection method, please refer to the Repair Manual for JAA76451 (AF ED 70-300/4-5.6D).

<table>
<thead>
<tr>
<th>Distance scale position</th>
<th>Zoom position</th>
<th>f = 70 mm</th>
<th>f = 135 mm</th>
<th>f = 300 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most infinity position</td>
<td>DEh</td>
<td>5Ah</td>
<td>DEh</td>
<td>E6h</td>
</tr>
<tr>
<td>5 m</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most close distance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**HAND-MADE TOOL**

- Use a repair part and cut the oblique lined part to make the tool as shown in Figure below.