

NIKKOR Z 100-400mm f4.5-5.6 VR S

Repair Manual

Table of Contents

Intro	oduction	1
	Important Information	
	Notations used in this Repair Manual	2
	Safety precautions	
	Disclaimer of warranties and limitation of damages	6
	Notification	
Serv	rice Tools	7
	Nikon service tools	
	Standard service tools	7
Illus	trated Service Parts List	8
Parts	s Removal and Replacement Procedures	10
	Before disassembling the Product	
	During the repair process	10
	Reference Pages for Replacement Procedures by Major Parts	
	Disassembly	
	TRIPOD BASE UNIT	
	TRIPOD BASE UNIT	
	TRIPOD ATTACHING RING UNIT	
	ZOOM RUBBER RING	
	MF RUBBER RING	
	FRONT RUBBER	15
	FILTER RING UNIT	16
	REAR COVER RING	16
	MOUNT	17
	NAME RING UNIT	17
	TRIPOD RING HOLDER UNIT	
	MAIN PCB UNIT	19
	RETAINING UNIT	20
	CONTROL RING UNIT	20
	GND PLATE UNIT	21
	FOCUS WINDOW UNIT	21

FOCUS WINDOW UNIT GND PLATE UNIT CONTROL RING UNIT RETAINING UNIT MAIN PCB UNIT TRIPOD RING HOLDER UNIT NAME RING UNIT NAME RING UNIT REAR COVER RING FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING ITRIPOD ATTACHING RING UNIT. TRIPOD BASE UNIT	25 25 26 27
CONTROL RING UNIT RETAINING UNIT MAIN PCB UNIT TRIPOD RING HOLDER UNIT NAME RING UNIT NAME RING UNIT REAR COVER RING FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	25 26 27
RETAINING UNIT	26 27
MAIN PCB UNIT TRIPOD RING HOLDER UNIT NAME RING UNIT MOUNT REAR COVER RING FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	27
TRIPOD RING HOLDER UNIT NAME RING UNIT MOUNT REAR COVER RING FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	
NAME RING UNIT MOUNT REAR COVER RING FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	28
MOUNT REAR COVER RING FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	
REAR COVER RING FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	29
FILTER RING UNIT FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	30
FRONT RUBBER MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	31
MF RUBBER RING ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	31
ZOOM RUBBER RING TRIPOD ATTACHING RING UNIT	32
TRIPOD ATTACHING RING UNIT	32
	33
	34
	36
TRIPOD BASE UNIT	36
AF Accuracy Inspection Process	37
AF accuracy inspection	. 39
Control Ring Inspection Process	41
Control ring inspection	41
MF Ring Inspection Process	43
MF ring inspection	13

Introduction

Important Information

- For purposes of this Repair Manual, "Nikon" means Nikon Corporation, and all direct and indirect affiliated companies, including without limitation, Nikon Inc.
- This Repair Manual is solely intended for Nikon products imported into and sold in the United States by Nikon Inc.
- This Repair Manual includes technical instructions for replacing Nikon parts for the abovementioned product (the "Product") and is intended for individuals with the knowledge, experience, and tools required to repair electronic devices. Read this entire Repair Manual first. If you are not comfortable performing the repairs as instructed in this Repair Manual, do not proceed.
- Please note that, if you repair the Product on your own, we will not provide customer support or assistance regarding this Repair Manual or how to repair the Product. Please note that any incorrect repair may affect the Product's limited warranty and/or cause an increase in the fee if you request service from an authorized Nikon service center if you have repaired the Product on your own.

This Repair Manual is subject to revision without notice.

- Failure to follow the repair instructions or to use appropriate Nikon parts or tools may cause fire or other safety issues and lead to personal injury or death.
 Failure to follow the repair instructions or to use appropriate parts or tools may damage the Product or other property, or compromise the Product's functionality or water resistance (if applicable).
- NIKON SHALL NOT BE LIABLE FOR ANY DAMAGES, INJURIES OR OTHER LIABILITIES TO THE PRODUCT, OR ANY PERSON, OR PROPERTY THAT OCCURS AS A RESULT OF REPAIRS, DIAGNOSIS, MAINTENANCE, OR MODIFICATIONS PERFORMED BY YOU OR AN UNAUTHORIZED REPAIR PROVIDER, INCLUDING BUT NOT LIMITED TO, ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, ANY LOSS OF DATA, PRIVACY OR PROFITS, OR ANY INABILITY TO USE, OR REDUCED FUNCTIONALITY OF, THE PRODUCT.

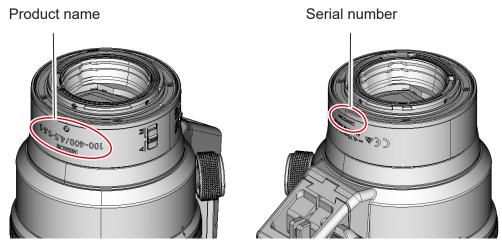
Notations used in this Repair Manual

In this guide, important information is indicated by the following icons.

	This indicates that incorrect use due to ignoring the contents described herein can result in potential death or serious injury.
	This indicates that incorrect use due to ignoring the contents described herein can result in potential injury or material loss.
IMPORTANT	This symbol indicates important information in this manual.

Product identification information

The NIKKOR Z 100-400mm f4.5-5.6 VR S serial number is written on the opposite side of the Product name as illustrated below.



Product name side

Serial number side



• The serial number may be required when you contact Nikon with regards to the Product. Make sure you do not lose the serial numbered part of the Product.

Read this first

- No part of this Repair Manual may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without Nikon's prior written permission.
- Illustrations shown in this Repair Manual may differ from the actual Product.
- Nikon is not responsible for any errors this Repair Manual may contain.
- The appearance, specifications, and capabilities of this Product and parts are subject to change without notice.

About controls for radio interference

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2)This device must accept any interference received, including interference that may cause unwanted operations.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and to EU EMC directive. These limits are designed to provide reasonable protection against harmful interference from residential installations. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may interfere with radio communications. However, there is no guarantee that interference will not occur at a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the distance between the equipment and receiver.
 - Consult the dealer or an experienced radio/TV technician for help.

Safety precautions

Strictly observe the guidelines contained in this Repair Manual in order to use this Product safely, and to prevent possible injury or property damage to you and others. Be sure to understand the contents thoroughly in order to correctly use the Product.

General safety precautions

Always observe the following general safety precautions.

- If you disassemble or repair the Product, it may involve risks of electric shock, Product damage, fire, and/or personal injury, or other hazards. Be careful when disassembling or repairing the Product as described in this Repair Manual.
- If you disassemble or repair the Product, the flange back or the back focus may shift, which may affect the focus when shooting. Check the focus position before disassembling or repairing the Product. Then, ensure that the focus position has not changed after re-assembling the Product. If the focus changes after re-assembling the Product, we recommend that you disassemble and repair the Product again.
- If the Product is dropped or has been subjected to impact due to dropping, or weight or stress has been placed on it, the camera and lens attachment parts may become deformed, which will prevent the Product from being able to be attached and will cause problems when shooting. In such cases, accurate adjustments and repair will be required and it is recommended that you contact Nikon for service repairs.
- If the Product contains a lithium-ion battery, then inappropriate use, transportation, recycling, reuse, or disposal of the lithium-ion battery may cause a fire, explosion, or other damage or injury. Lithium-ion batteries should be handled in accordance with local laws, rules, and regulations. Do not heat, create holes in, disassemble, or incinerate the Product or the lithium-ion battery. Do not leave the Product or the lithium-ion battery in direct sunlight or other hot places for long periods of time, and do not charge the Product in such an environment as doing so may damage the lithium-ion battery or cause it to melt, which may cause a fire, explosion, or other damage or injury.
- Do not dispose of your old Product or its lithium-ion battery (if any) and the replaced parts in your household trash or recycling bin. When disposing of the lithium-ion battery, follow your local area laws, rules, and regulations.

Repair-specific precautions and warnings

- As for the Product powered on by the power switch, before disassembling the Product, ensure that the Product is powered off and that the battery has been removed.
- As a safety measure, we recommend that you wear protective eyewear when disassembling or reassembling the Product.
- Always check the following points before and while disassembling the Product.
 - Wear an anti-static wrist strap.
 - The work area is appropriately grounded, and an environment in which electrostatic discharge (ESD) has been provided with safety measures is ensured.
- Before starting work, check that you are following the general guidelines and ESD compliance steps. For details, refer to "Before disassembling the Product" on page 10.
- When removing any parts from the Product, place all the attached parts and screws away from the work area to prevent the Product and parts from being damaged or lost.

Safety policy and procedure

- All Product safety issues must be managed according to the following points. If any of the following conditions are visible, stop repairing the Product and contact Nikon's customer service at <u>www.nikonproductsupport.com</u>.
 - There are burnt or melted components or traces on the outside of the Product, or other heat-related damage (including scorching on charging terminals or other connection terminals).
 - The Product has burnt or has melted parts or traces of burning on the inside, or has been damaged due to overheating.
 - Products that appear to have problems such as having been forcibly detached or disassembled for reasons other than misuse by the user or unauthorized repair (those that have been damaged by being subjected to impact due to dropping, those that have evidence of tampering, or those with damage or separation caused by dilatation of the battery).
 - Plastic parts with sharp edges that may pose an injury risk to the user.
- When contacting Nikon's customer service, please have the following information ready to enable us to check the situation:
 - Model, model number, and serial number of the affected Nikon Product and any thirdparty product used together with the Nikon Product, if any.
 - Description of the damage found.
 - Clear photos that show the damage.

Disclaimer of warranties and limitation of damages

- All the information, descriptions, materials, and products provided on or in connection with this Repair Manual are provided by Nikon on an "as-is basis" and "in the form that can only be provided if possible" unless otherwise expressly specified in writing by Nikon. With respect to the information, descriptions, materials, and products included in this Repair Manual, that accompany this Repair Manual, or that are provided to users in some way, Nikon makes no, and hereby disclaims all, representations, unless expressly specified in writing. You hereby expressly agree that your use of the information, descriptions, materials, and products included in this Repair Manual or that accompany this Repair Manual are at the user's sole responsibility. If you do not agree with the foregoing, do not use this Repair Manual.
- To the maximum extent allowed by applicable law, Nikon disclaims all warranties, express
 or implied. This includes the implied warranties of the merchantability and fitness for a
 particular purpose, but shall not be limited to these. To the maximum extent allowed by
 applicable law, Nikon disclaims and shall not be responsible for any damage that may
 arise through the use of any information, descriptions, materials, or products obtained from
 this Repair Manual or in connection with this Repair Manual. This includes direct, indirect,
 incidental, special, consequential, and/or punitive damages, but shall not be limited to these.

SOME STATES DO NOT ALLOW (A) LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR (B) THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

Notification

 Nikon and its suppliers may have patents, patent applications, trademarks, copyrights, and/ or other intellectual property and/or proprietary rights regarding the subject matter in this Repair Manual (collectively, "Intellectual Property Rights"). By making this Repair Manual available to you, Nikon does not grant any Intellectual Property Rights and does not imply a license.

When the user uses the Intellectual Property Rights with permission, it is only subject to Nikon's and its suppliers' Intellectual Property Rights.

This Repair Manual and the information contained herein are subject to change without notice. ©2024 Nikon Corporation. All rights reserved.

Service Tools

This section shows the tools used to repair products. The standard service tools are commercially available and can be purchased from third party retailers. Nikon hereby disclaims all responsibility and liability for any tools or other items purchased from third party retailers.

Nikon service tools

- Cleaning stick (EIZ0163)
- Lubricant (FG-600T)
- Lubricant (LENS317A)
- Lubricant (MDF-400T)
- Lubricant (PL-1016EL)
- Lubricant (OS-30MHP)

Standard service tools

- Electrostatic discharge (ESD) mat
- Anti-ESD wrist strap (1 MΩ resistance)
- Anti-ESD gloves
- Protective eyewear
- Isopropyl alcohol
- Isopropyl alcohol dispenser bottle
- Anti-ESD tweezers
- Phillips screwdriver (2.0 mm)
- Torque screwdriver (Use a product with a torque range of 0.12 N•m to 0.25 N•m.)
- Wrench (width 3.6mm)
- Brush for lubricant
- Front cap (LC-77B)
- Rear cap (LF-N1)
- Glue (ThreeBond1401C)
- Glue (Locktite 241)
- Glue (SX720B)

Illustrated Service Parts List

IMPORTANT

- The parts marked in red in the illustration cannot be replaced individually as replacement will affect the optical performance. If you need to replace these parts, use the No. 45 LENS UNIT (143SP).
- When disassembling and reassembling the Product, be careful not to damage or lose parts.











No.	Item code Parts name		Q'ty		
1	132PK	FRONT RUBBER	1		
2	134SW	SCREW	6		
3	132NA	FILTER RING	1		
4	132N7	ZOOM RUBBER RING	1		
5	132PD	TAPE	1		
6	135W2	TAPE	1		
7	1362T	TAPE	1		
8	1362S	TAPE	1		
9	1C-17030FD2	SCREW	2		
10	1336P	CONTACT UNIT	1		
11	132N6	MF RUBBER RING	1		
12	1361K	WASHER	1		
12	1361L	WASHER	1		
12	1361M	WASHER	1		
12	1361N	WASHER	1		
12	1361P	WASHER	4		
12	1361R	WASHER	1		
13	137J5	FOCUS WINDOW RING UNIT	1		
14	128SK	ACRYLIC PLATE	1		
15	6C-17040FB	SCREW	1		
16	133G4	WASHER	1		
17	137GP	CONTROL RING UNIT	1		
18	1362W	WASHER	1		
18	137WU	WASHER	1		
18	137WV	WASHER	4		
19	132N1	RETAINING UNIT	2		
20	135WA	SCREW	2		
21	137HC	TRIPOD RING HOLDER UNIT	3		
22	12Z0E	SCREW	4		
23	131SN	ROLLER	4		
24	12Z0F	ROLLER SHAFT	4		
25	A1-14035FD2	SCREW	1		
26	134SJ	TAPE	6		
27	139NN	NAME RING UNIT	1		
28	1C-17040FD2	SCREW	1		
29	127FD	RUBBER	4		
30	G1-14030FC2	SCREW	4		
31	1K010-858	SCREW	1		
32	1K120-012	SCREW	1		
33	133GJ	MOUNT	4		
34	1K120-472	SCREW	5		
35	132F2	REAR COVER RING	4		
36	12X42	CLAMP SCREW UNIT	1		
37	137HN	TRIPOD UNIT	1		
38	137J8	TRIPOD ATTACHING RING UNIT	1		
39	A2-25060FD2	SCREW	1		
40	131S9	PIN	1		
41	12Y8J	SCREW	1		
42	137HK		1		
43	1204L	SHEET	4		
44	138L4	TRIPOD BASE UNIT	2		
45	143SP	LENS UNIT			

Parts Removal and Replacement Procedures

Before disassembling the Product

- As for the Product powered on by the power switch, before disassembling the Product, be sure to check that the Product is powered off and that the battery has been removed.
- Check that all the lens, camera, and accessories attached to the Product are removed before disassembling the Product.

IMPORTANT

- Always cover the workbench's surface with a soft, non-scratch material suitable for ESD protection.
- Frequently clean the surfaces you use to work and keep them free of debris/abrasive particles.
- Always follow the work steps described in each process section.

During the repair process

- If there is this kind of indication, apply the specified grease or adhesive using a small brush.
 Example: MDF-1173S AX-125
- If there is a specified torque, use an appropriate torque driver for tightening screws.

IMPORTANT

- Example: 0.1 N•m
- If each part is shown with a circled number, perform the work in the order indicated by the numbers.
 Example: ①②③ (Work in the order of ① to ③.)
- Do not pinch the FPC or cord when assembling.
- Be careful not to damage or lose parts.

Reference Pages for Replacement Procedures by Major Parts

Tripod

Disassembly	P.12
Assembly	P.36

ZOOM RUBBER RING, MF RUBBER RING

Disassembly	P.12 - P.15
Assembly	P.32 - P.36

FILTER RING

Disassembly	P.15 - P.16
Assembly	P.31 - P.32

MOUNT

Disassembly	P.16 - P.17
Assembly	P.30 - P.31

FOCUS RING WINDOW UNIT

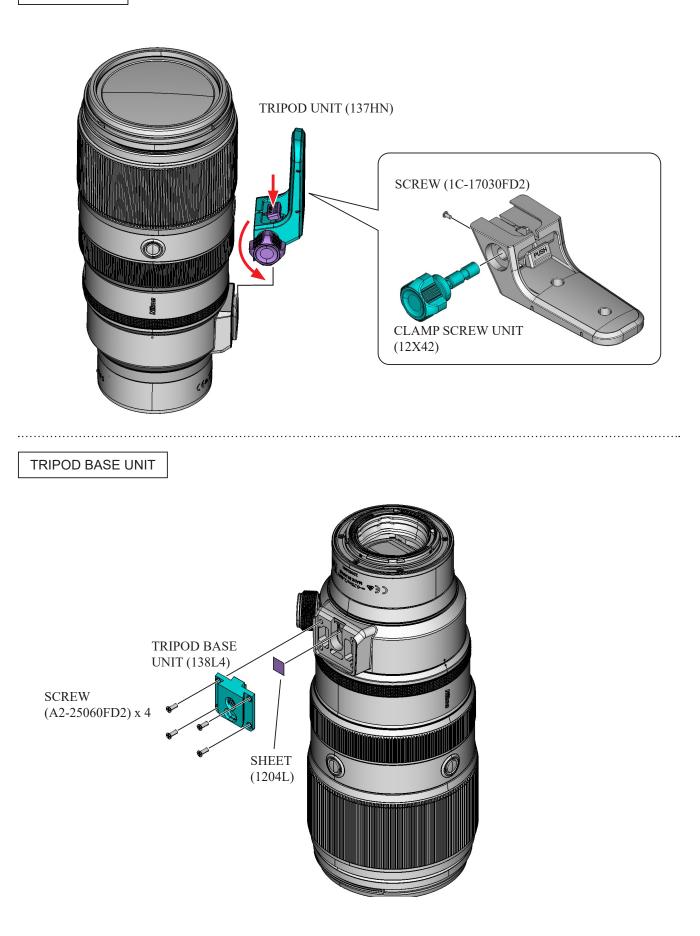
Disassembly	P.12 - P.13 , P.16 - P.22
Assembly	P.23 - P.31 , P.34 - P.36

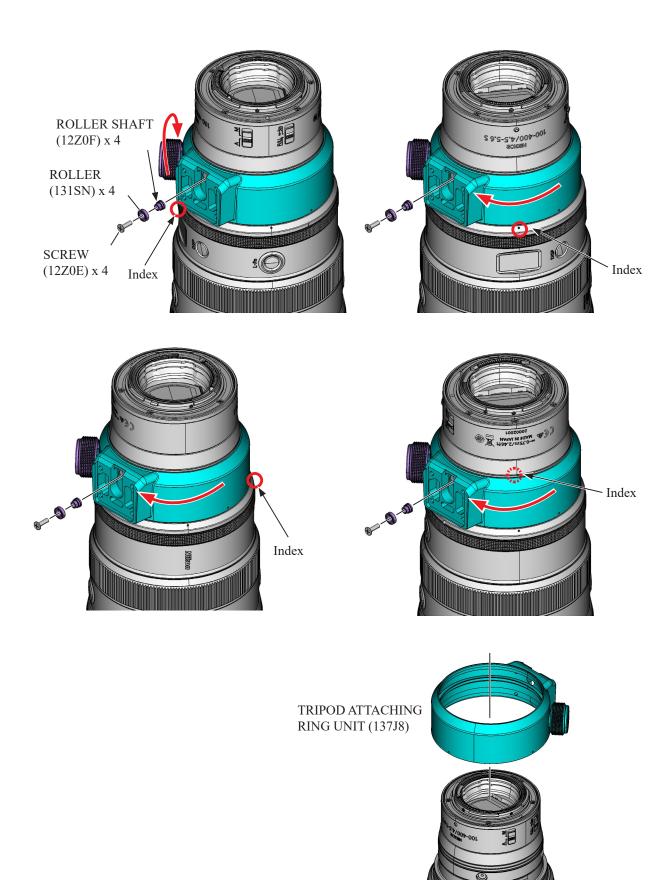
LENS UNIT

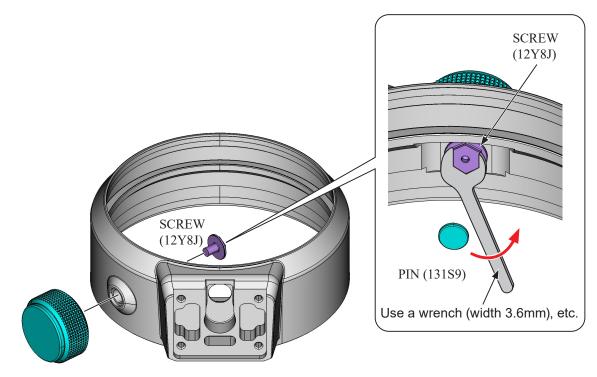
Disassembly	P.12 - P.15 , P.16
Assembly	P.31, P.32 - P.36

Disassembly

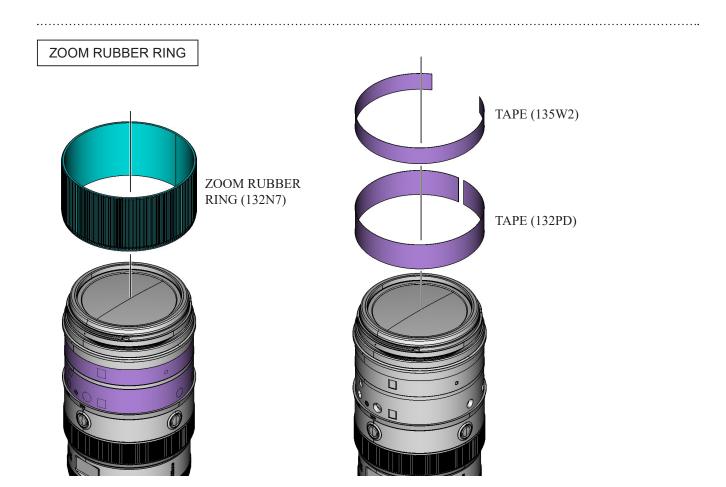
TRIPOD UNIT



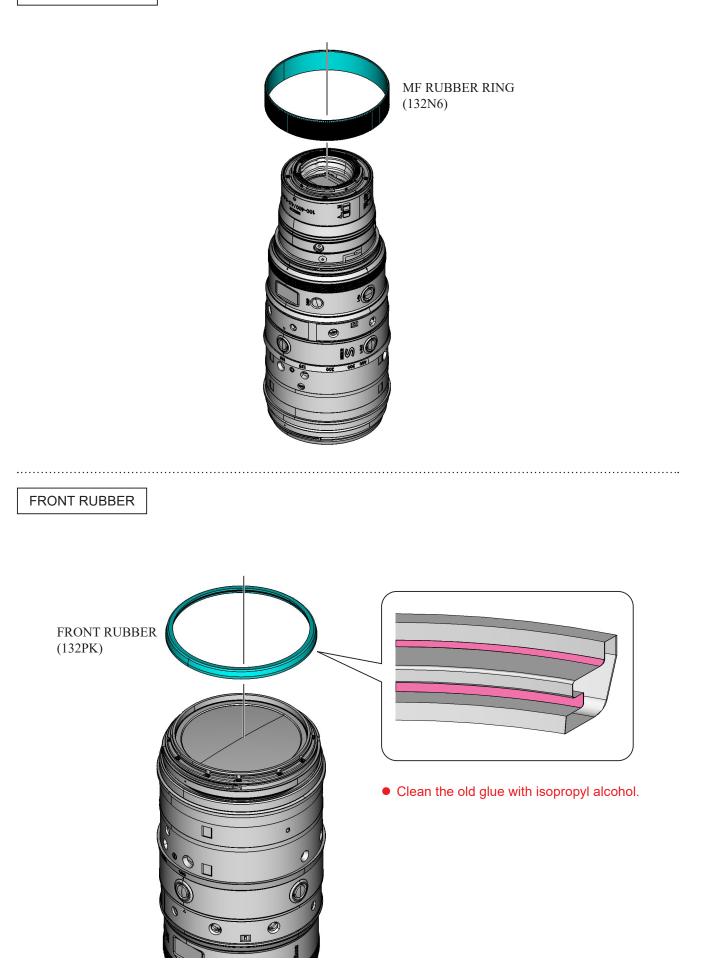




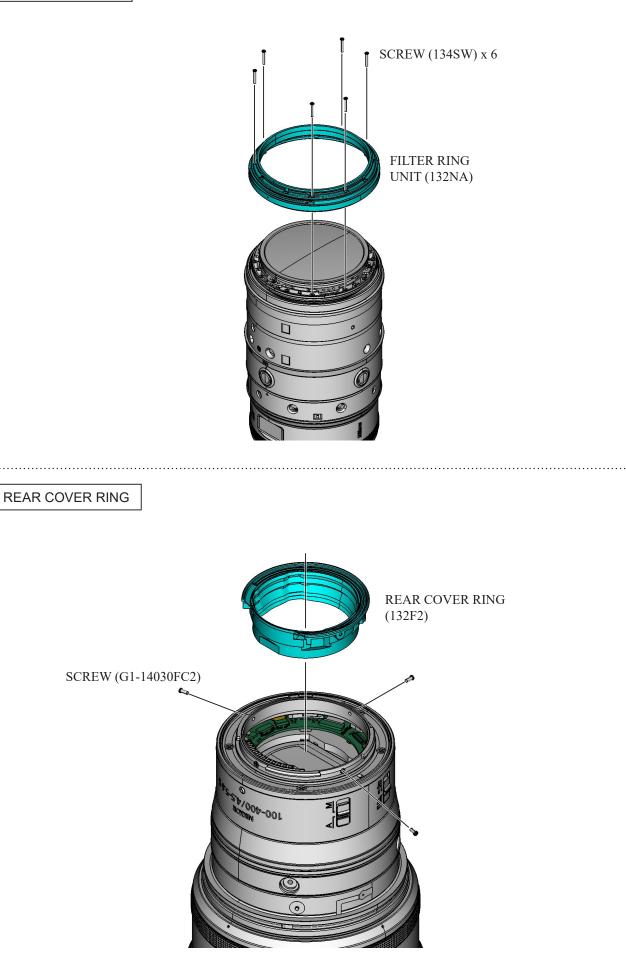
TRIPOD KNOB (137HK)



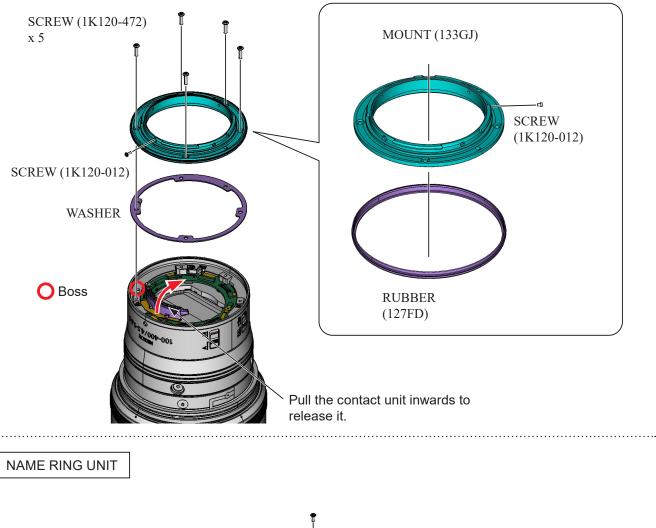


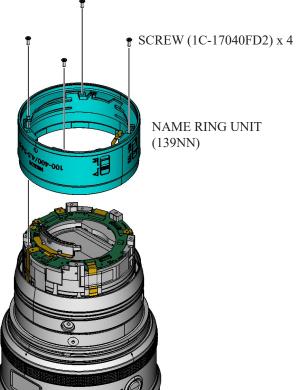


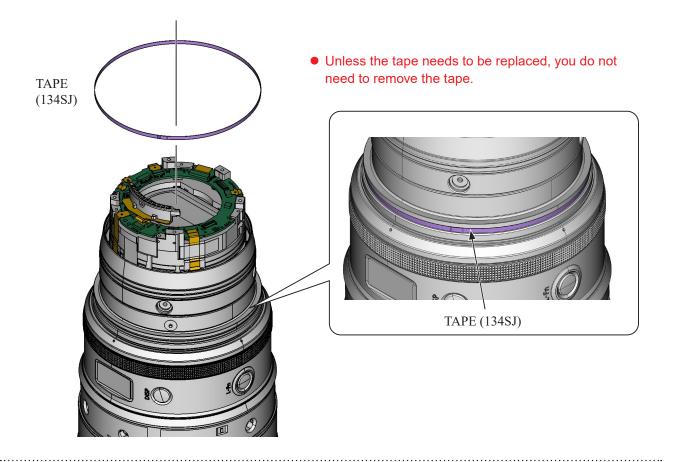
FILTER RING UNIT

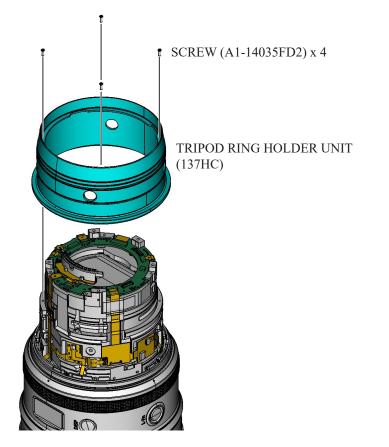


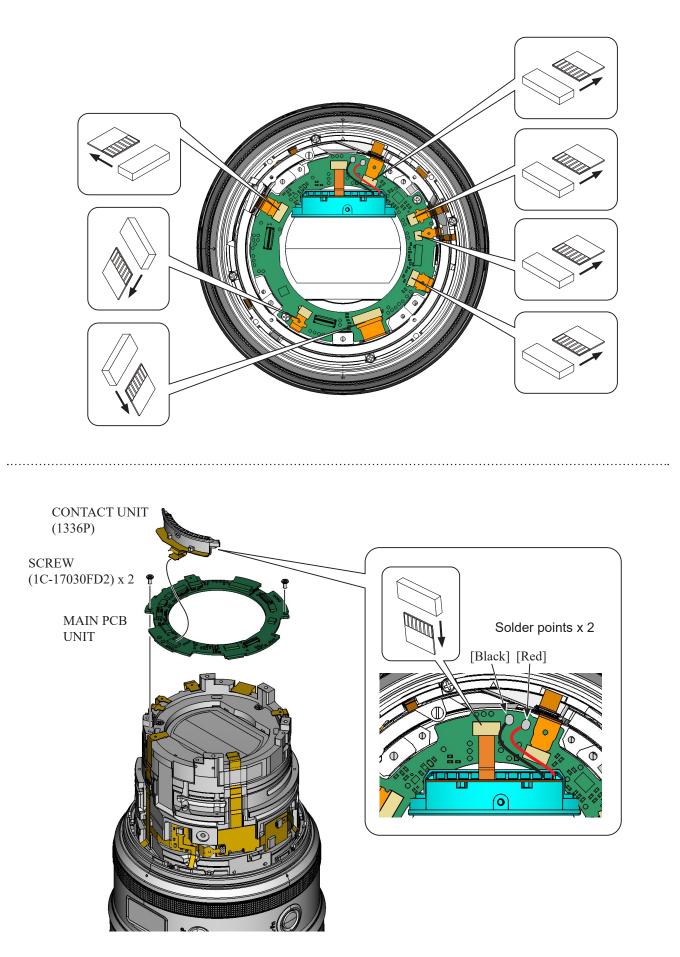
MOUNT



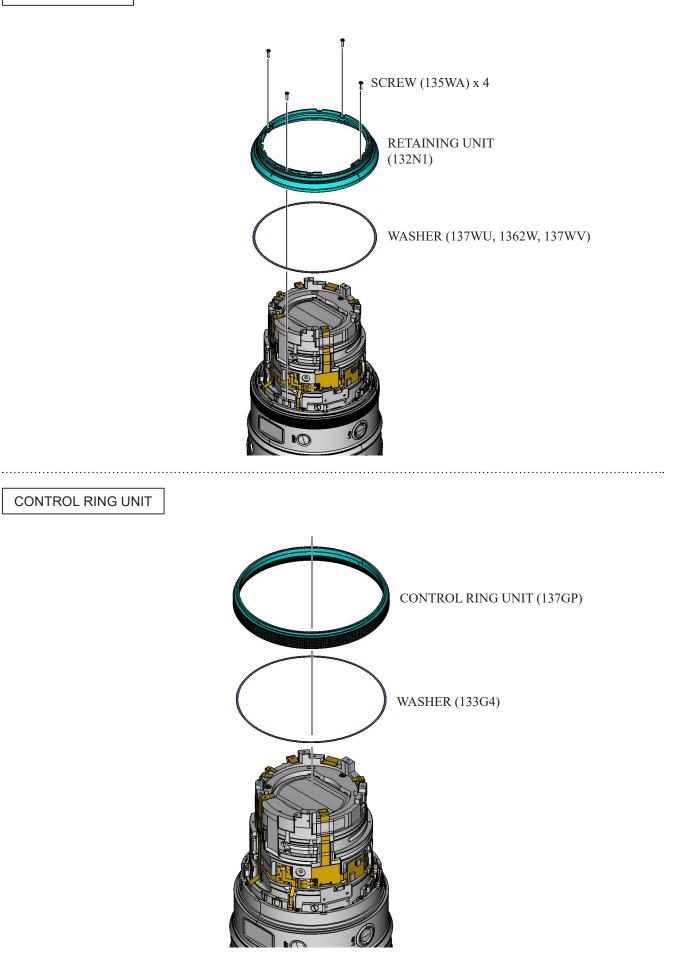


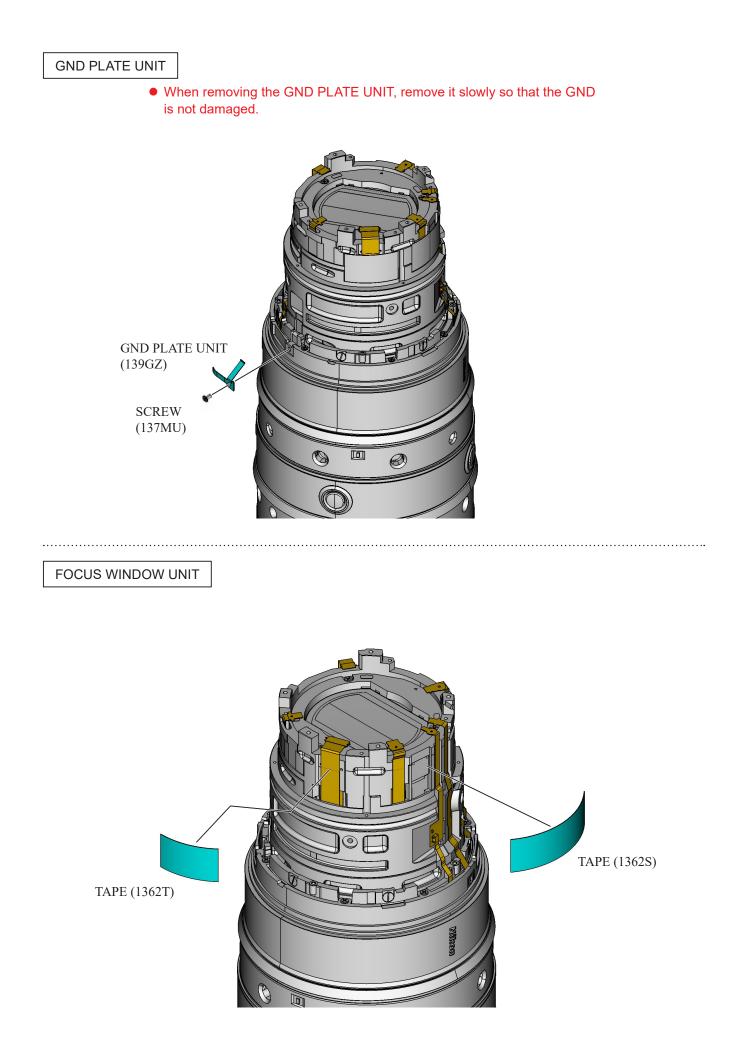


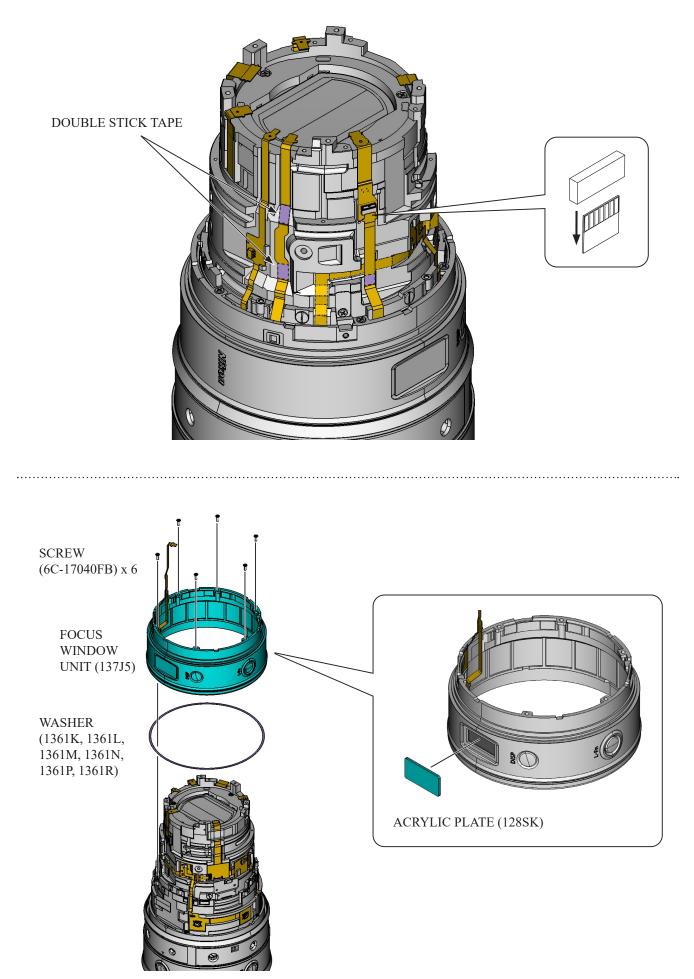




RETAINING UNIT

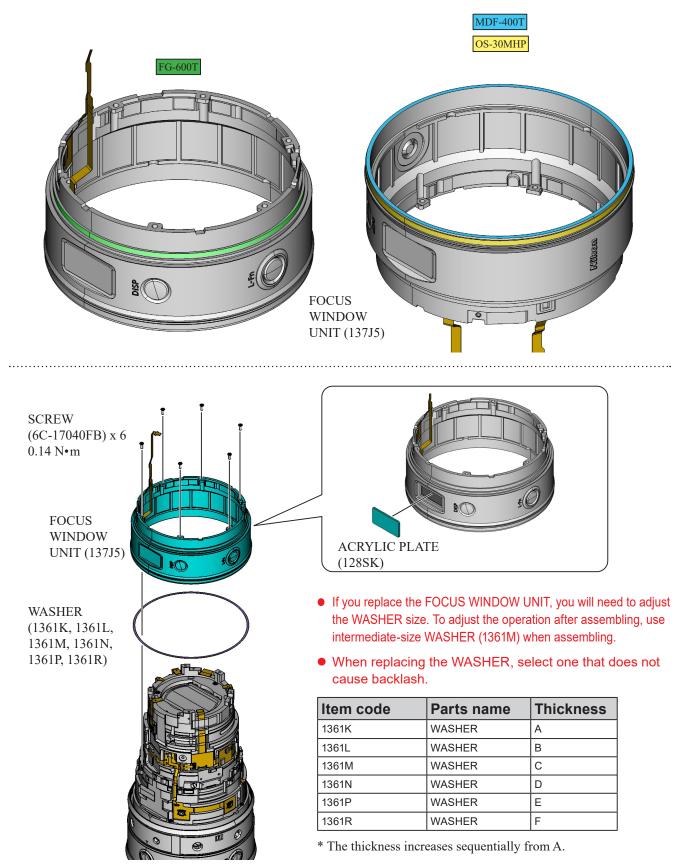


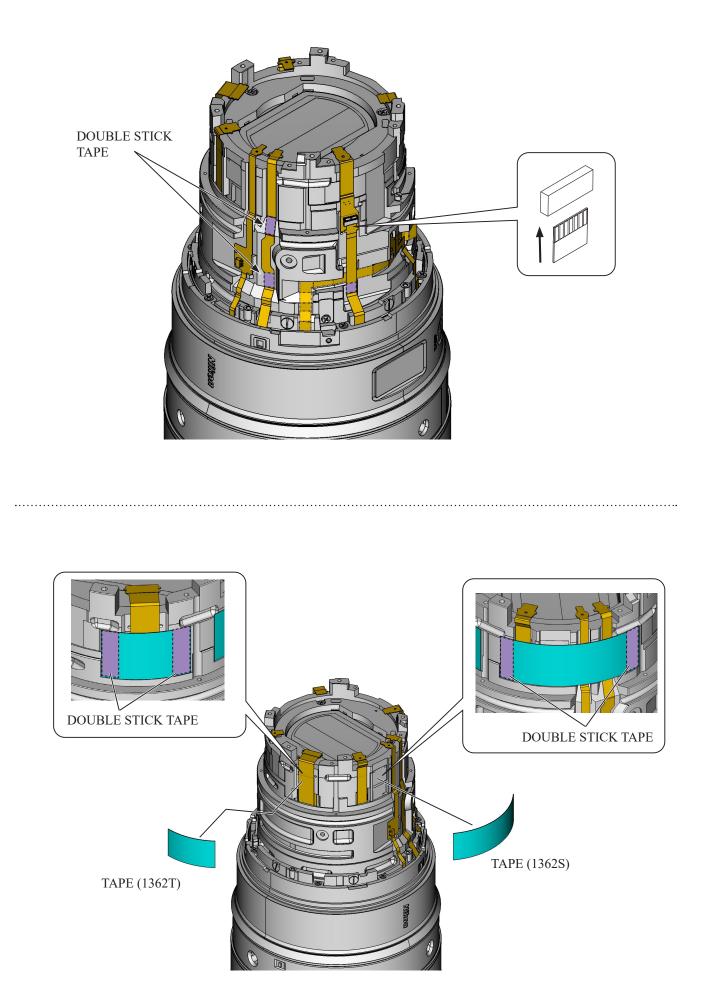




Assembly

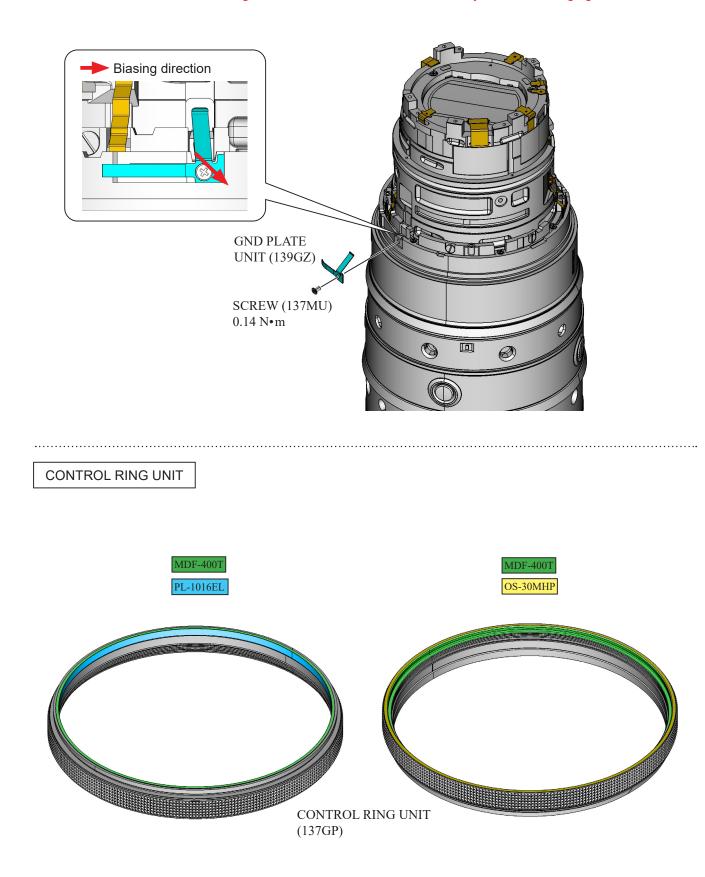
FOCUS WINDOW UNIT

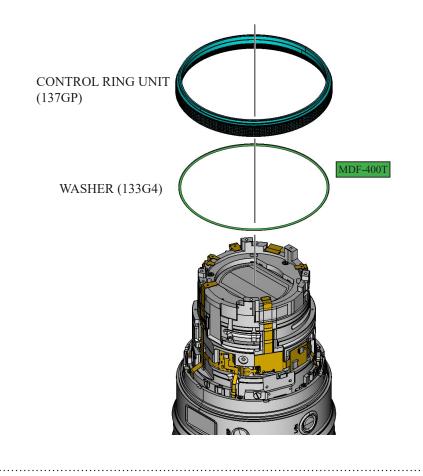


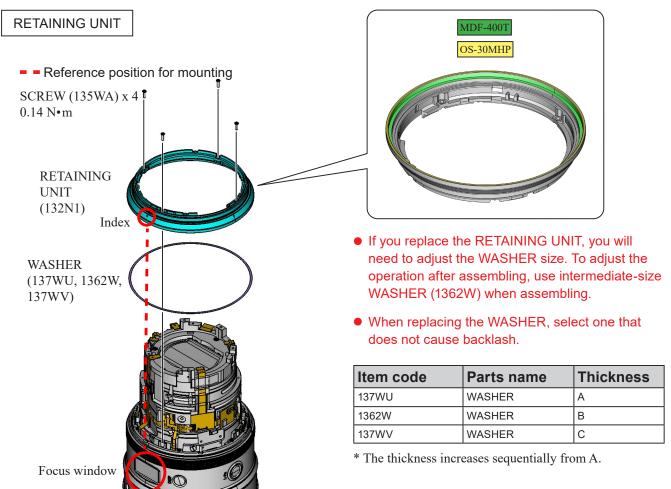


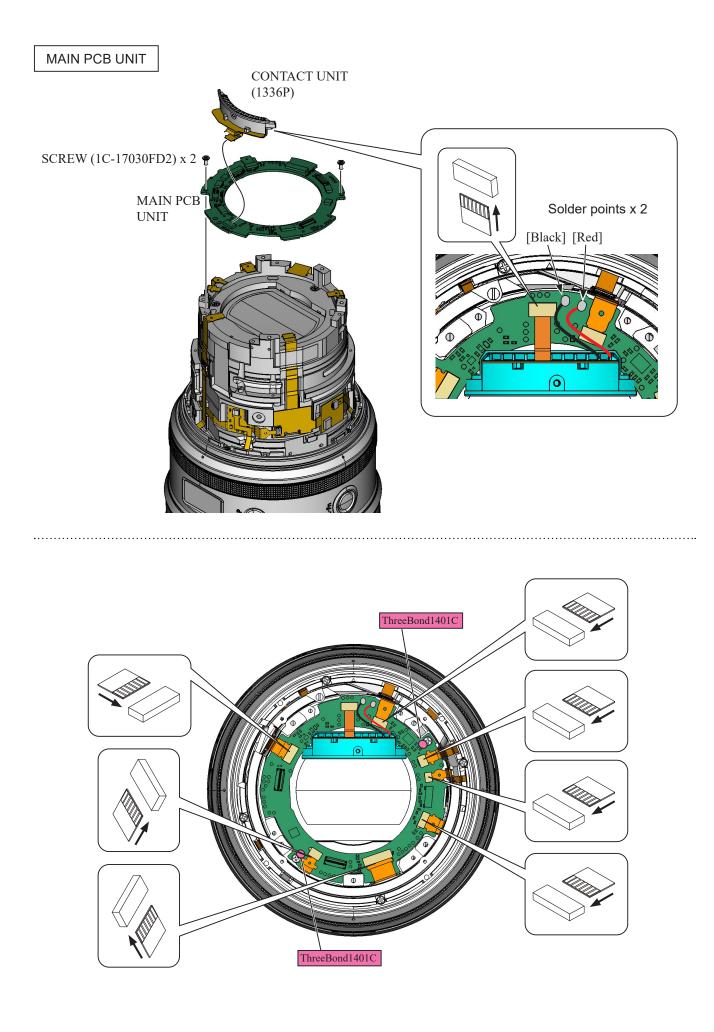
GND PLATE UNIT

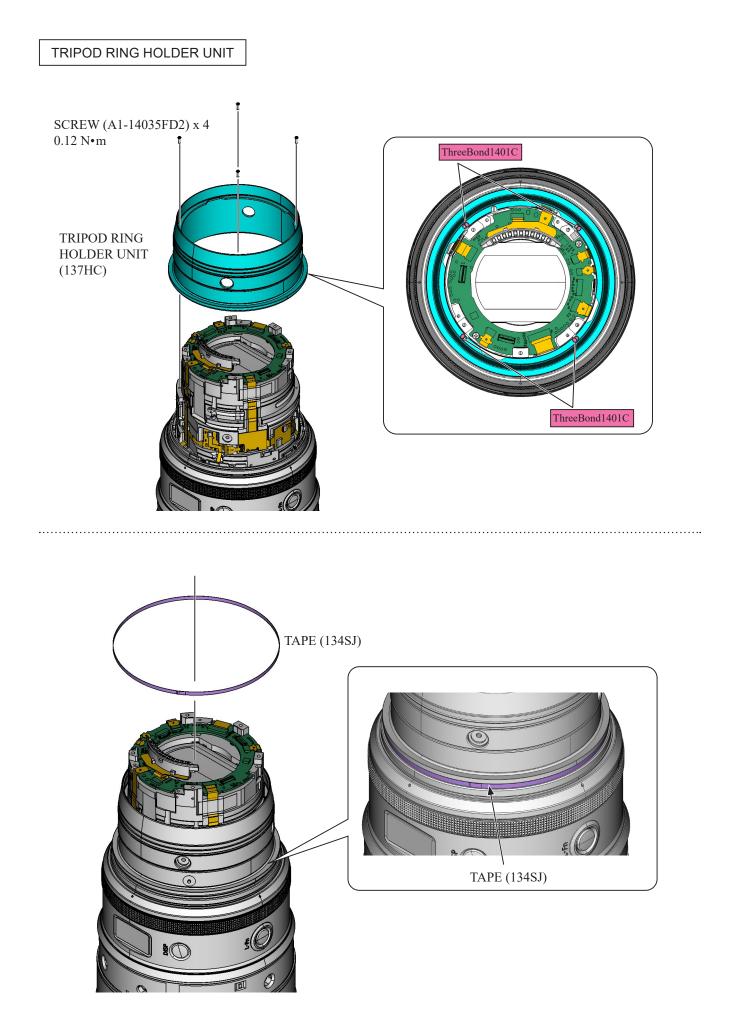
• When attaching the GND PLATE UNIT, attach it slowly to avoid damaging the GND.

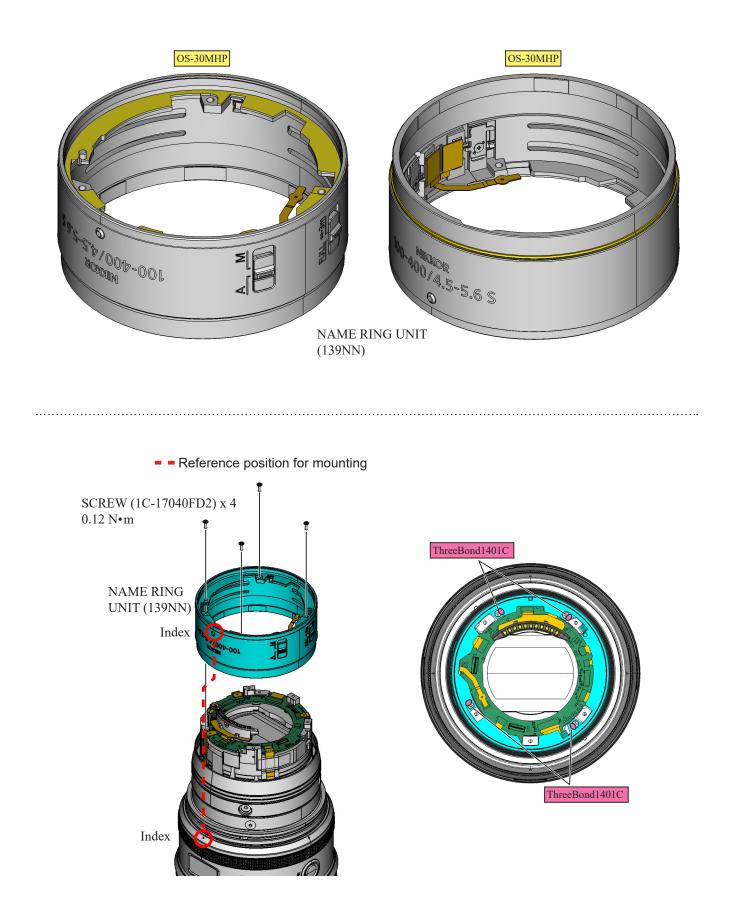


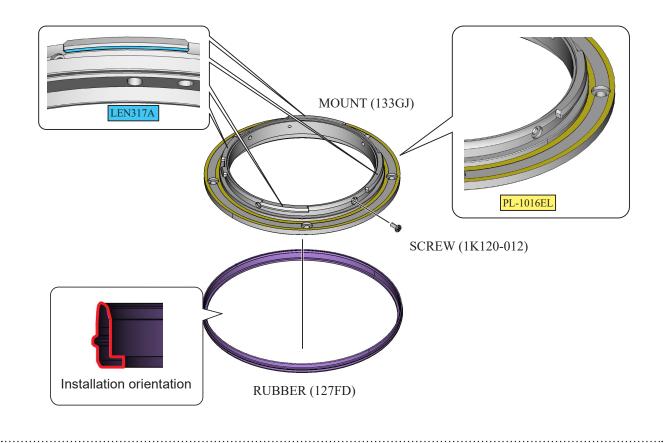


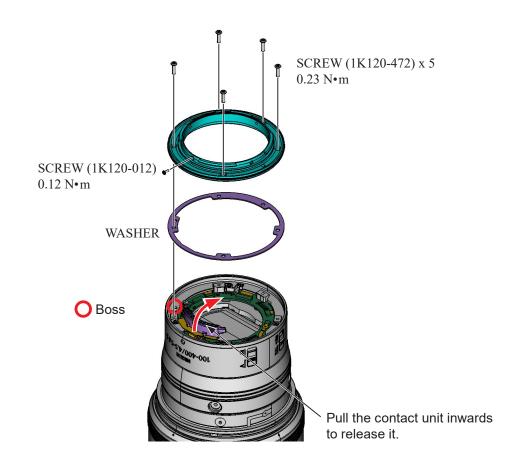


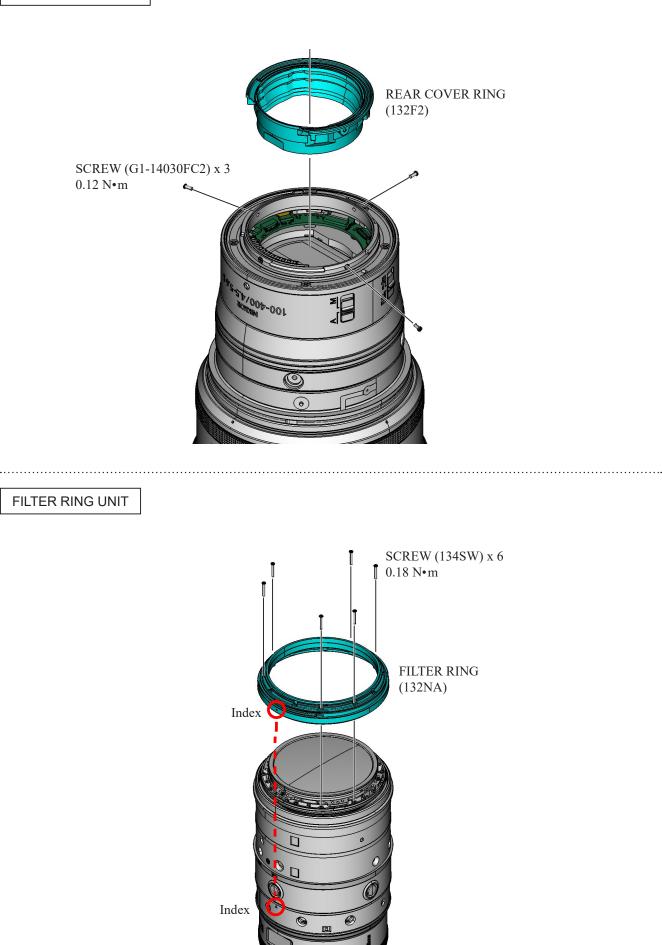


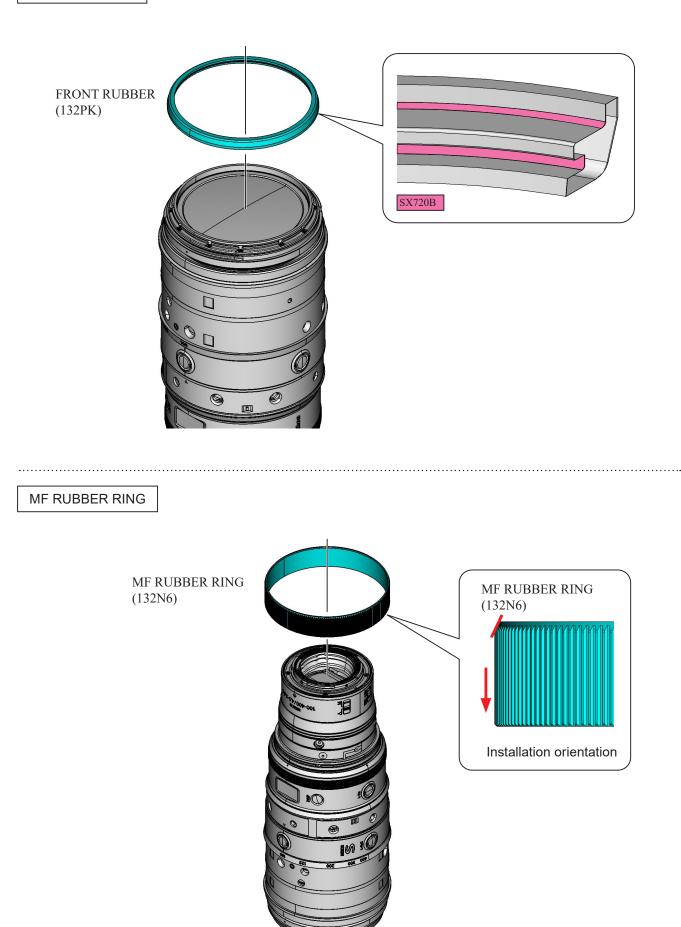


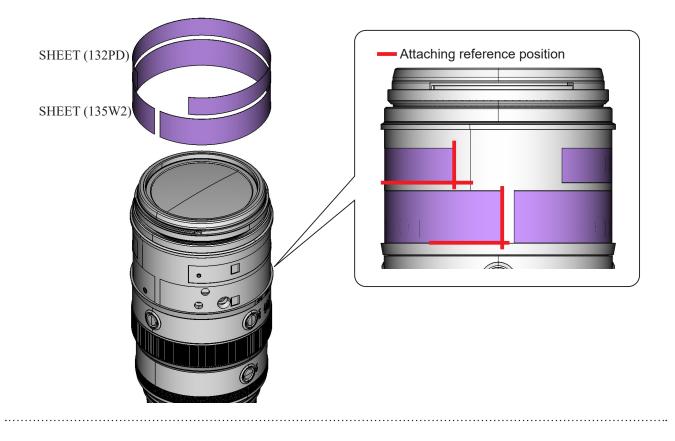


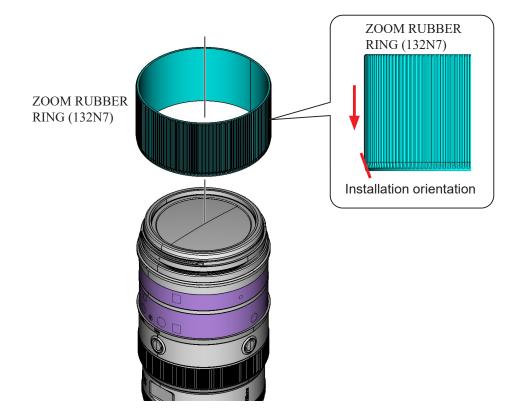


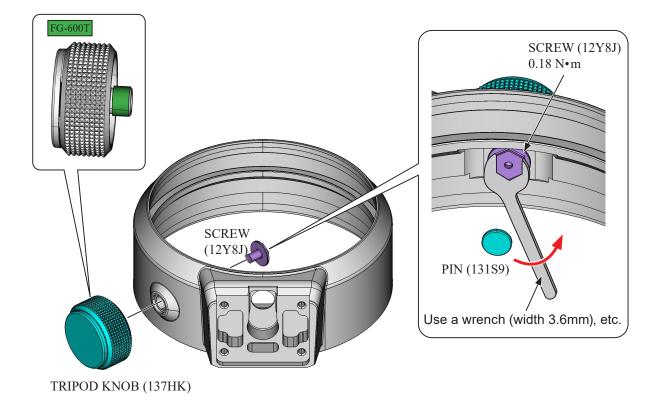


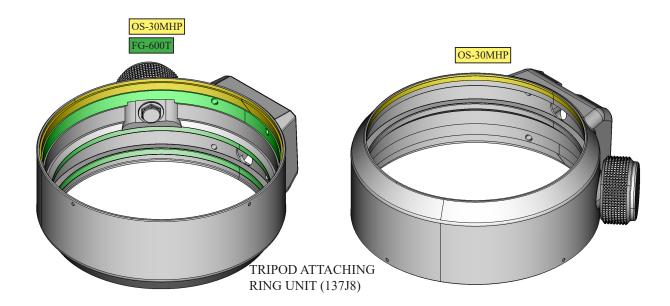


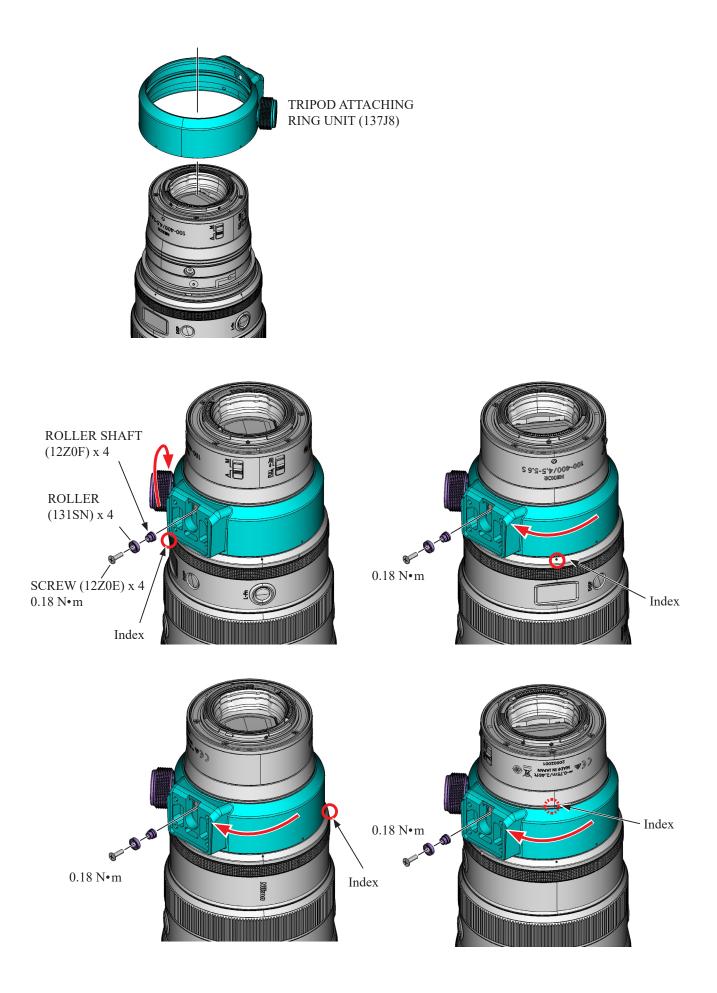




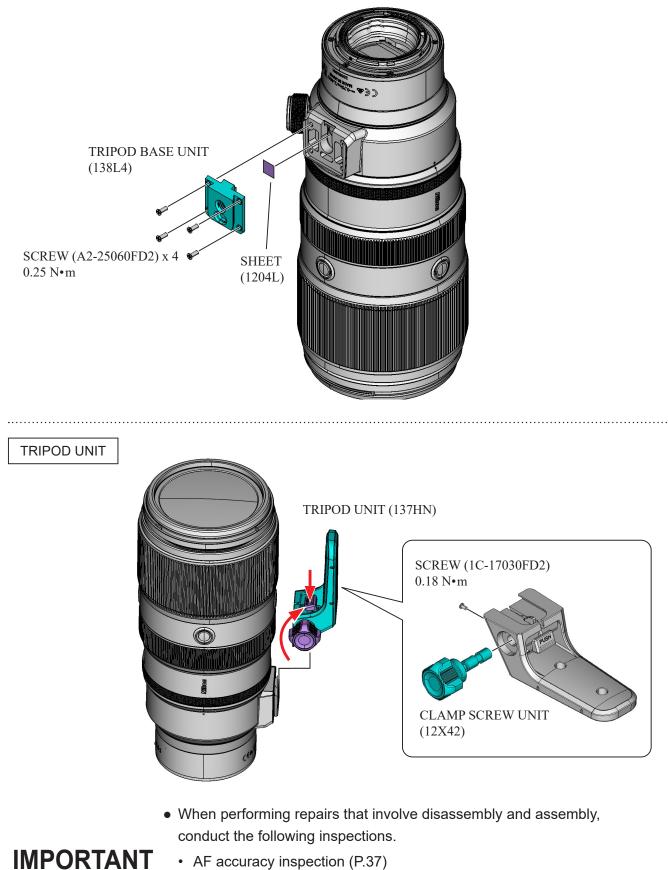












- Control ring inspection (P.41)
- MF ring inspection (P.43)

AF Accuracy Inspection Process

When performing repairs that involve disassembling and reassembling the mount, check the AF accuracy before and after disassembling.

Tools and parts required:

- Your mirrorless camera
- Tripod
- Indoor lighting (Use the flickerless light.)
- Commercially available focus chart that can measure the focus position
 - Focus charts can be purchased at stores that sell camera-related products or online stores that sell camera-related products.
 - Nikon hereby disclaims all responsibility and liability for any focus charts or other items purchased from third party retailers.

Camera settings

- The AF accuracy is inspected using your own mirrorless camera, so please make sure that there are no abnormalities in the operation of your camera before starting the inspection.
- When performing an inspection, change the camera settings as shown below.
- Be sure to turn <u>OFF</u> "AF Fine Adjustment" as it affects the inspection results.

Set the camera as follows.

For details on the camera settings, refer to the instruction manual of the camera.

Camera settings

- Shooting mode: A mode
- Image quality mode: FINE
- Image size: L
- Aperture: Full open
- ISO sensitivity: 100 to 800 (Automatic sensitivity control OFF)
- White balance: Auto (White priority)
- Picture control: SD (All parameters 0, or clarity 1 or 2)
- AF mode: AF-S
- AF area: Single point AF
- Active D-Lighting: OFF

- Diffraction correction: ON
- Automatic distortion correction: ON
- Vignette control: Standard
- Body VR: OFF
- Exposure delay mode: one to two seconds
- AF fine adjustment: OFF

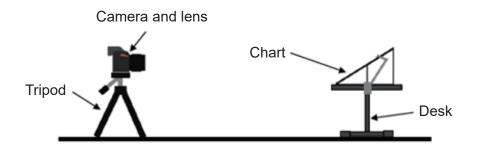
Shooting environment

Install the camera/lens and chart, referring to the figure below. Shoot in a location that meets the following requirements:

- Place that is not affected by vibrations
- Place where the brightness can be ensured under indoor lighting. (Please use flickerless lights.)

Example of shooting environment

The measurement method that uses a focus chart differs depending on the focus chart you use, so please check the instruction manual for the focus chart you are using.



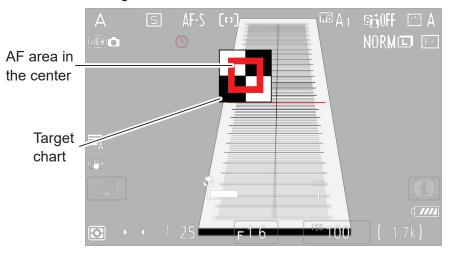
AF accuracy inspection

Follow the steps below to inspect the AF accuracy.

Inspection procedure

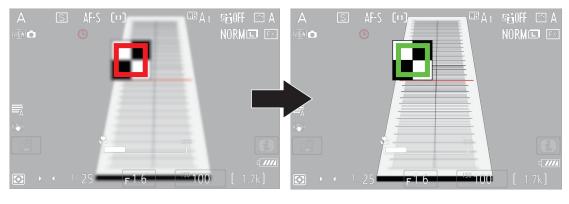
1 Adjust the camera position

- 1. Adjust the shooting distance so that the entire focus chart is displayed on the screen as shown in the image below.
 - Adjust the position so that the AF area in the center of the camera is aligned with the center of the target chart.



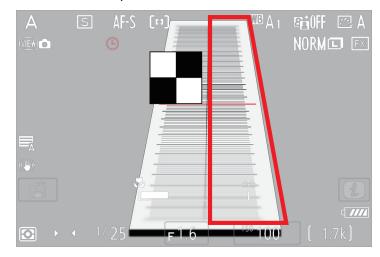
2 Check the focus

- 1. Turn the lens control ring clockwise viewed from the camera to change the focus to the infinity position.
- 2. Press the release button halfway and check that the chart is in focus.



3 Shoot the chart

- 1. Press the release button to shoot the target chart.
- 2. When checking before disassembling, check the inside of the red frame in the image, and record the focus position.



3. When checking after disassembling, confirm that there is no difference from the focus position recorded before disassembling.



• If the focus position is significantly different from what it was before disassembling, we recommend that you disassemble and repair the Product again.

Control Ring Inspection Process

When performing repairs that involve disassembling or reassembling the mount, inspect the control ring.

Tools and parts required:

• Your mirrorless camera

Control ring inspection

Follow the steps below to perform a control ring inspection.

Inspection procedure

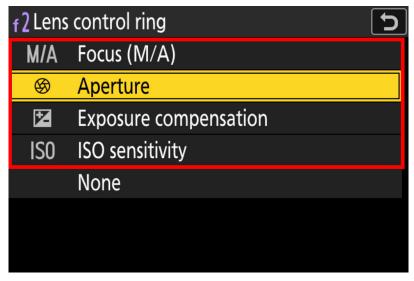
1 Check the functions assigned to the control ring

- 1. From the camera MENU, select [Custom Menu] [f Operation] [f2 Custom controls(shooting)].
 - The setting names may differ depending on the camera model.
- 2. Check the functions assigned to the control ring.
 - In the example below, confirm that "Aperture" is set.

f 2 Custor	n contro	ols (shoot	ing)			5
Lens control ring						
Aperture						
			X	e nterna de la constante de	L·Fn2	AF-ON
	0	1	ŀfn		Fn	r FOCUS
	0		Fn	⊁ FOCUS	M·SET	£FOCUS
			01	Ś		
CIENDOne						

The setting names may differ depending on the camera model.

• If no function is set on the control ring, set one of the following functions.



The setting names may differ depending on the camera model.

$\mathbf{2}$ Check the operation of the control ring

1. Rotate the lens control ring and check whether the assigned function is working.

- Focus (M/A): Check that the focus operation is performed.
- **Aperture**: Set the exposure mode to A mode or M mode, and check that the aperture changes.
- Exposure compensation: Check that the exposure compensation changes.
- ISO sensitivity: Check that the ISO sensitivity changes.

MF Ring Inspection Process

When performing repairs that involve disassembling or assembling the mount, inspect the MF ring.

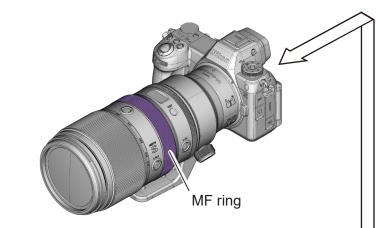
Tools and parts required:

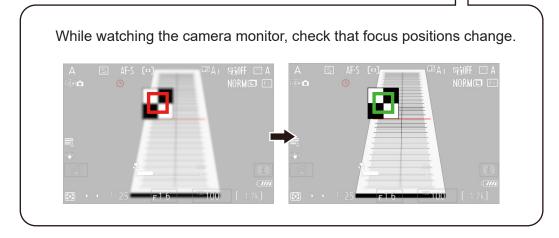
• Your mirrorless camera

MF ring inspection

Inspection procedure

- **1** Attach the lens to your mirrorless camera.
- **2** Rotate the MF ring and check that the focus function works.





No reproduction in any form of this document, in whole or in part (except for brief quotation in critical articles or reviews), may be made without written authorization from NIKON CORPORATION.

Out of concern for the environment, Nikon is working to reduce its use of paper.

NIKON CORPORATION

© 2024 Nikon Corporation