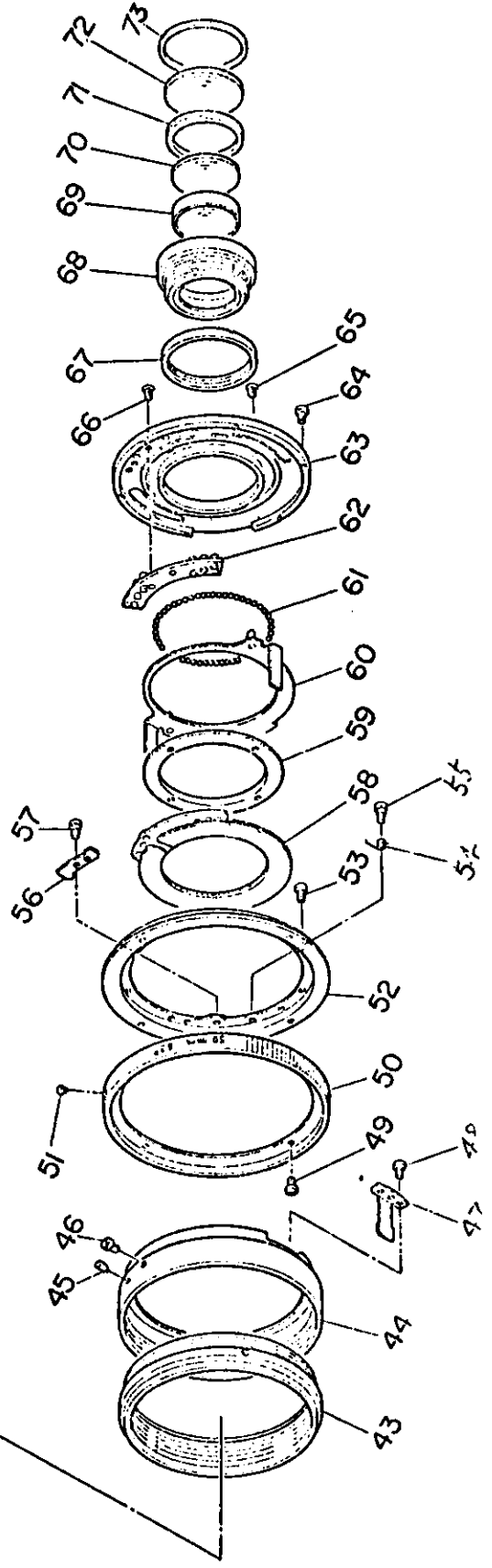
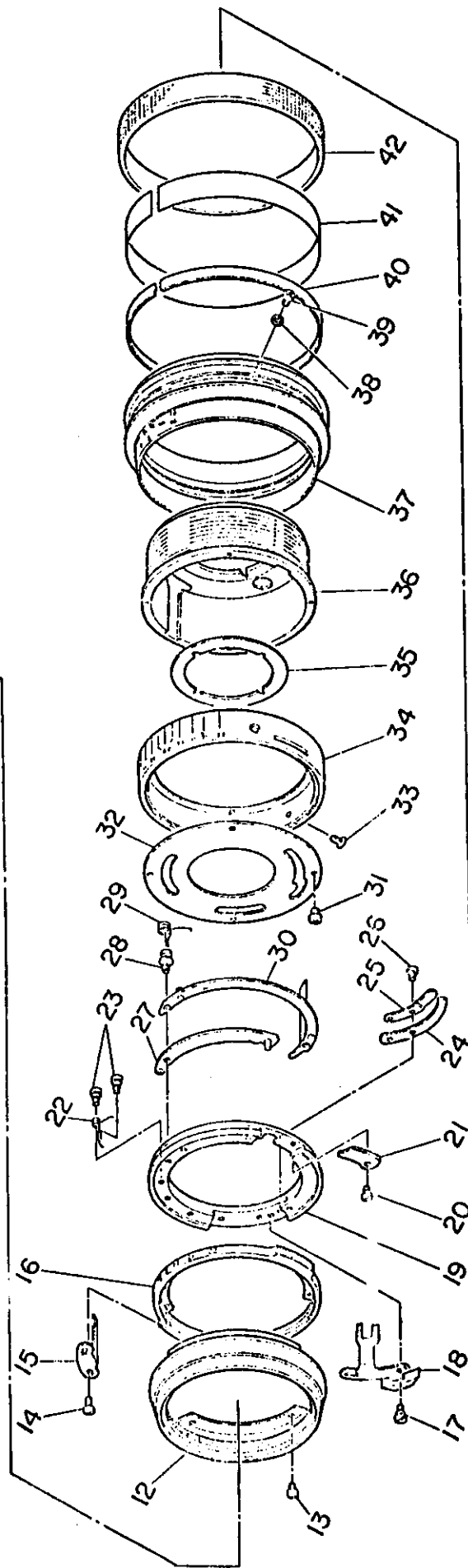
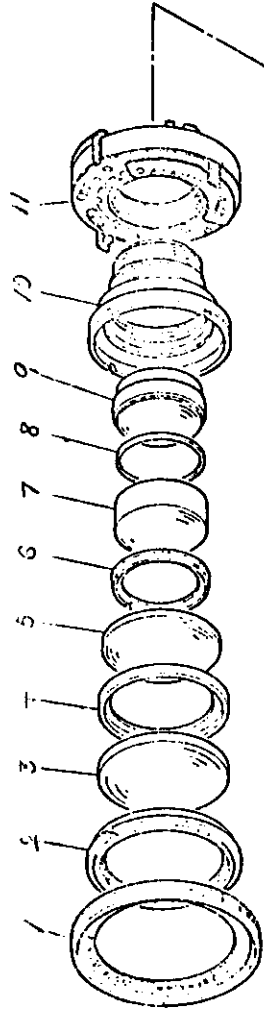


ETR / ZENZANON Lenses

40 · 50 · 150mm

Parts Lists & Repair Manuals

50 mm F2.8



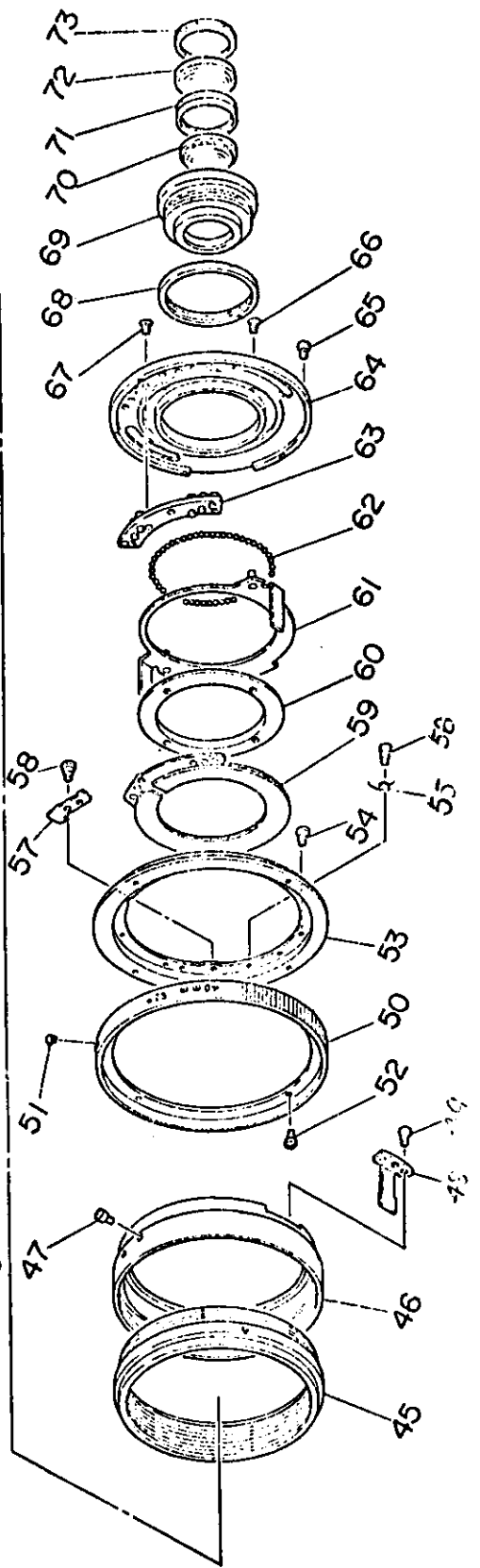
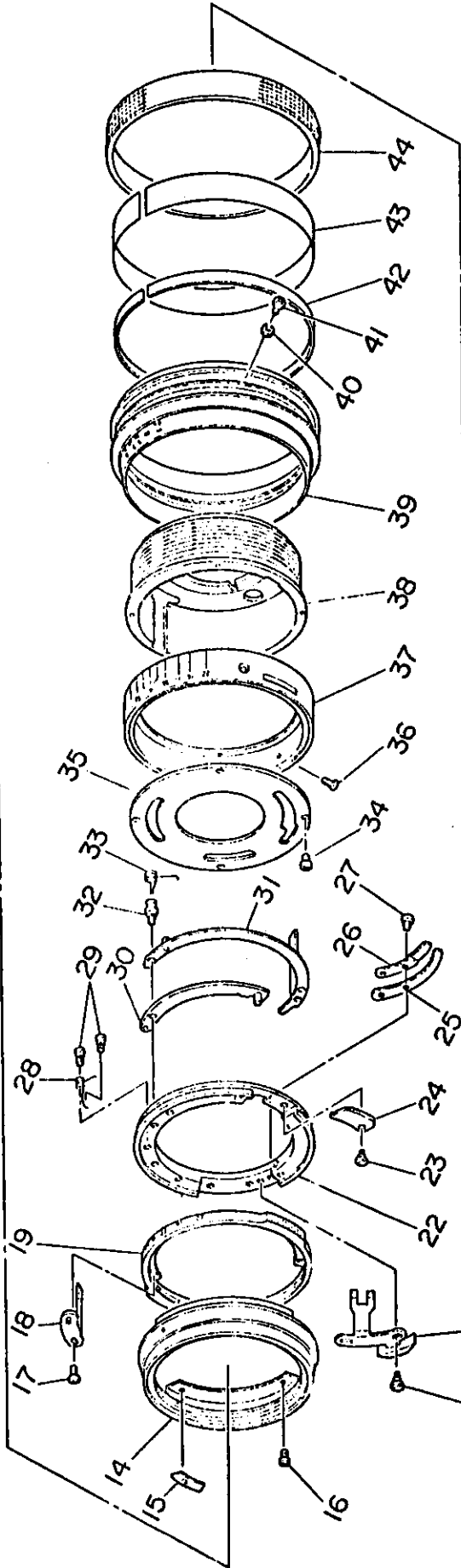
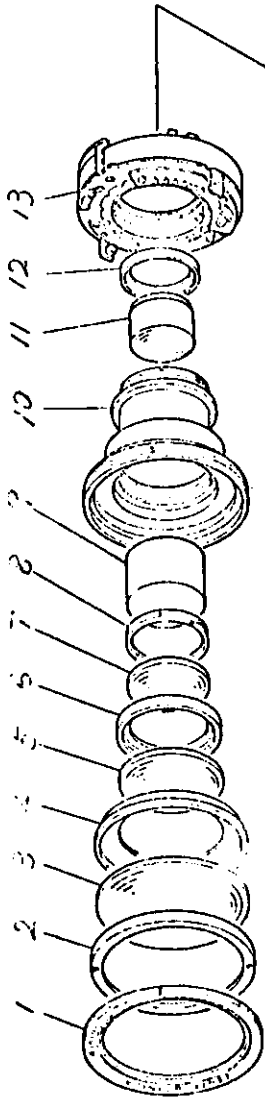
1145 (F2.8 / 50mm)

Index	Parts No.	Parts Name	Q'ty
1	1145-6	Name ring	1
2	1145-2	Front lens holder	1
3	G-1	Lens	1
4	1140-5	G1 · 2 spacer ring	1
5	G-2	Lens	1
6	1140-6	G3 holder	1
7	G-3	Lens	1
8	1145-3	G3 · 4 spacer ring	1
9	G-4.5	Lens	1
10	1145-1	Front lens frame	1
11	1145-817	Shutter	1
12	1144-36	Filter ring	1
13	1PM 1.7 x 4	Pan head small screw	4
14	3PM 1.7 x 3	Pan-head small screw	4
15	1144-3.8	Diaphragm fork	2
16	1145-8	Aperture ring	1
17	1144-34	T lever axis	2
18	1142-32	T change-over fork	1
19	1144-16	Relay ring	1
20	1144-31	Manual lever axis	1
21	1144-30	Manual lever	1
22	1144-26	Opening spring	1
23	1144-24	Spring axis	2
24	1144-28	Lever base plate	1
25	1144-29	Lever holding plate	1
26	3PM 1.7 x 4	Pan-head small screw	2
27	1144-17	Lever	1
28	1144-23	Lever axis	1
29	1144-27	Auxiliary spring	1
30	1144-20	C lever	1
31	1PM 1.7 x 3	Pan-head small screw	4
32	1144-25	Light-tight plate	1
33	1FM 1.7 x 3.5	Countersunk small screw	3
34	1145-10	Depth of field scale ring	1
35	1145-5	Shutter washer	1
36	1144-5	Inner cylinder	1
37	1145-7	Distance ring	1

1145 (F2.8 / 50mm)

Index	Parts No.	Parts Name	Q'ty
38	1144-11	Washer	3
39	1PM 1.7 x 3	Pan-head small screw	3
40	1144-12	Cover plate	1
41	1144-58	Tape	1
42	1144-13	Rubber knurling ring	1
43	1144-6	Helicoid female	1
44	1144-7	Master screw	1
45	NV 1.7 x 2.5	Fixing screw	1
46	1144-9	Stopper	1
47	1144-8	Key	2
48	1PM 1.7 x 3	Pan-head small screw	6
49	1PM 1.4 x 3	Pan-head small screw	4
50	1145-9	Bayonet ring	1
51	1144-43	Bayonet ring index	1
52	1144-41	Bayonet	1
53	1PM 1.7 x 4	Pan-head small screw	4
54	1144-51	Lock leaf spring	1
55	1144-50	Spring holder screw	1
56	1144-48	Set ring lock plate	1
57	1144-49	Lock plate axis	1
58	1144-52.53	Flexible printed board	1
59	1144-45	Set ring holder	1
60	1144-46	Set ring	1
61	1101-49	Steel ball	85
62	1144-54	Contact piece insulating plate	1
63	1144-44	Set ring base plate	1
64	1PM 1.7 x 3	Pan-head small screw	6
65	1FM 1.7 x 3	Countersunk small screw	4
66	B-tight 1FM 1.7 x 3	Countersunk small screw	4
67	1144-15	Shut clamp ring	1
68	1145-4	Rear lens frame	1
69	G-6	Lens	1
70	G-7	Lens	1
71	1140-8	Rear lens spacer ring	1
72	G-8	Lens	1
73	1140-9	Rear lens holder	1

40mm F.4



1144 (F4 / 40mm)

Index	Parts No.	Parts Name	Q'ty
1	1144-40	Name ring	1
2	1144-2	Front lens holder	1
3	G-1	Lens	1
4	1139-5	G1, 2 space ring	1
5	G-2	Lens	1
6	1139-6	G2, 3 space ring	1
7	G-3	Lens	1
8	1139-7	G4 holder	1
9	G-4	Lens	1
10	1144-1	Front lens frame	1
11	G-5 · 6	Lens	1
12	1144-3	G6 holder	1
13	1144-816	Shutter	1
14	1144-36	Filter ring	1
15	1144-39	Limit plate	1
16	1PM 1.7 x 4	Pan-head small screw	4
17	3PM 1.7 x 3	Pan-head small screw	4
18	1144-38	Diaphragm fork	2
19	1144-37	Aperture ring	1
20	1144-34	T lever axis	2
21	1144-32	T change-over fork	1
22	1144-16	Relay ring	1
23	1144-31	Manual lever axis	1
24	1144-30	Manual lever	1
25	1144-28	Lever base plate	1
26	1144-29	Lever holding plate	1
27	3PM 1.7 x 4	Pan-head small screw	2
28	1144-26	Opening spring	1
29	1144-24	Spring axis	2
30	1144-17	Lever	1
31	1144-20	C lever	1
32	1144-23	Lever axis	1
33	1144-27	Auxiliary spring	1
34	1PM 1.7 x 3	Pan-head small screw	4
35	1144-25	Light-tight plate	1
36	1FM 1.7 x 3.5	Pan-head small screw	3
37	1144-14	Depth of field scale ring	1

1144 (F4 / 40mm)

Index	Parts No.	Parts Name	Q'ty
38	1144-5	Cylinder	1
39	1144-10	Distance ring	1
40	1144-11	Washer	3
41	1PM 1.7 x 3	Pan-head small screw	3
42	1144-12	Cover plate	1
43	1144-58	Tape	1
44	1144-13	Rubber knurling ring	1
45	1144-6	Helicoid female	1
46	1144-7	Master screw	1
47	1144-9	Stopper	2
48	1144-8	Key	2
49	1PM 1.7 x 3	Pan-head small screw	6
50	1144-42	Bayonet ring	1
51	1144-43	Bayonet ring index	1
52	1PM 1.4 x 3	Pan-head small screw	4
53	1144-41	Bayonet	1
54	1PM 1.7 x 4	Pan-head small screw	4
55	1144-51	Lock leaf spring	1
56	1144-50	Spring holding screw	1
57	1144-48	Set ring lock plate	1
58	1144-49	Lock plate axis	1
59	1144-52 . 53	Flexible printed circuit board	1
60	1144-45	Set ring holder	1
61	1144-46	Set ring	1
62	1101-49	Steel ball	85
63	1144-54	Contact piece insulating plate	1
64	1144-44	Set ring base plate	1
65	1PM 1.7 x 3	Pan-head small screw	6
66	1FM 1.7 x 3	Pan-head small screw	4
67	B-tight 1FM 1.7 x 3	Pan-head small screw	4
68	1144-15	Shutter clamp ring	1
69	1144-4	Rear lens frame	1
70	G-7 . 8	Lens	1
71	1139-10	Rear lens space ring	1
72	G-9	Lens	1
73	1139-11	Rear lens holder	1

o 40mm F4 Zenzanon shutter unit replacing procedure

[Step 1]

Remove the name ring (2) with a name ring mounting jig (1).

[Step 2]

Remove the front lens (3) with a flexible pin-face wrench.

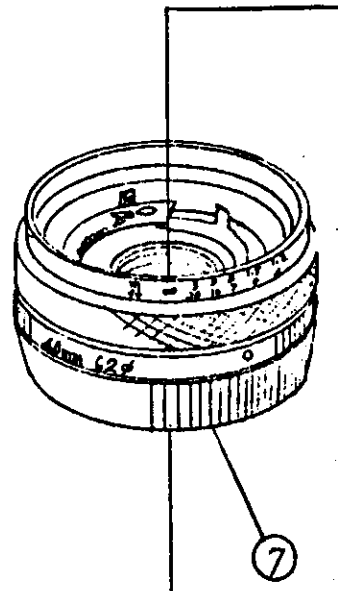
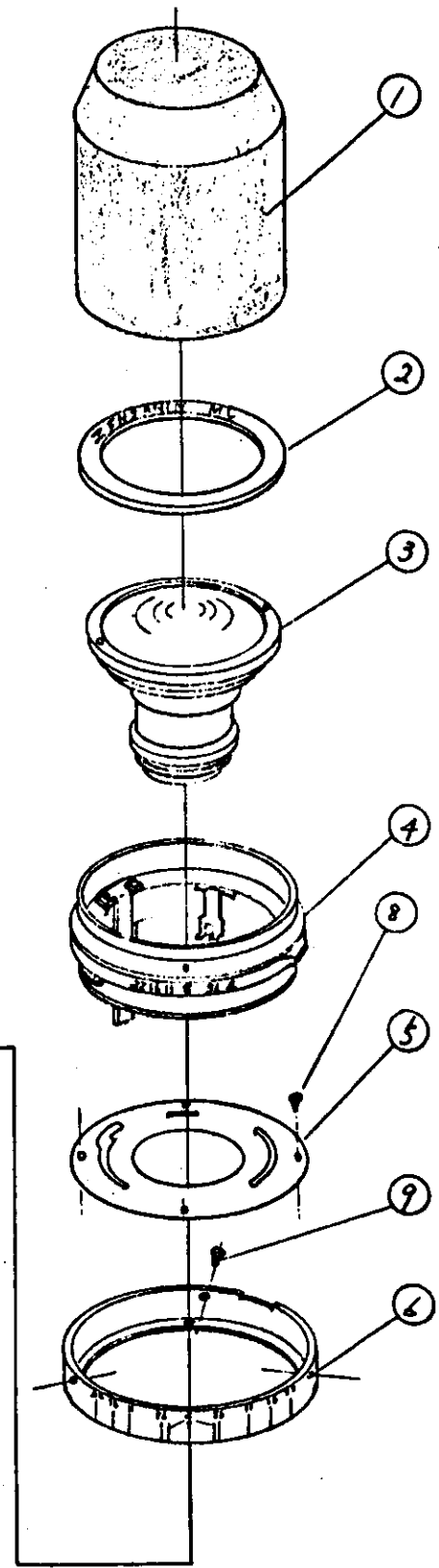
[Step 3]

Remove 3 screws (9) and then remove the front frame unit (4).

[Step 4]

After removing 4 screws (8), remove the light-tight plate (5) and depth of field scale ring (6).

Note: In performing the above work, be sure to place a rear cap (7) over the unit to protect the shutter contact and contact piece insulating plate from damage.



9	1FM 1.7 x 3.5	Countersunk small screw
8	1PM 1.7 x 3	Panheas small screw
7	1-242602	Rear cap
6	1144-14	Depth of field scale ring
5	1144-25	Light-tight plate
4		Front frame unit
3		Front lens
2	1144-40	Name ring
1	1-210482AJ	Name ring mounting jig

[Step 5]

After removing 6 screws (1), remove the set ring unit (2).

[Step 6]

Remove the rear lens (4).

[Step 7]

Remove solder of the contact piece insulating plate (3) and shutter.

[Step 8]

After removing the shutter clamp ring (5), remove the shutter.

[Step 9]

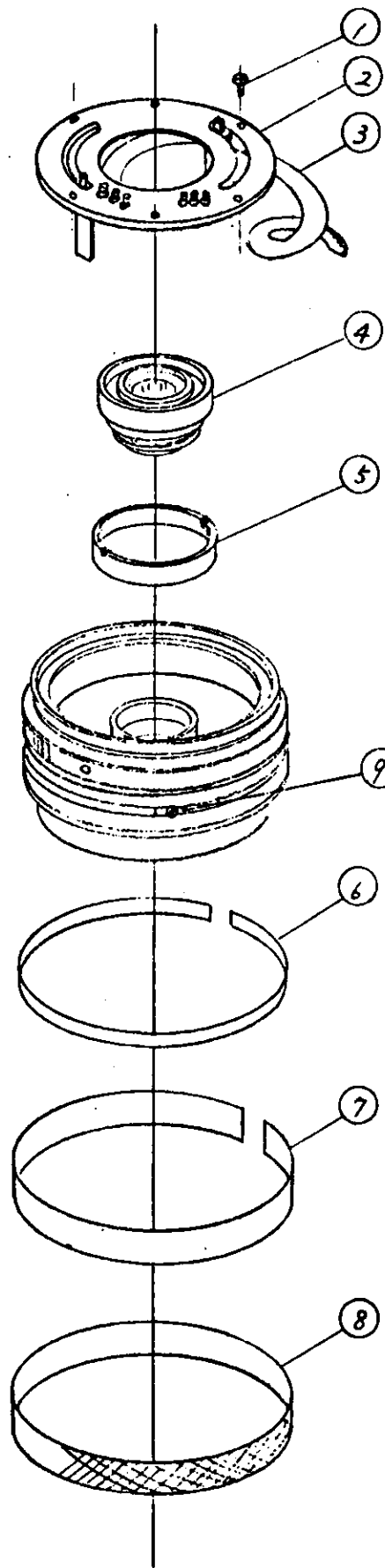
After replacing the shutter, assemble the unit in performing steps in reverse order.

[Step 10]

Upon completion of assembly, remove the rubber knurling ring (8), tape (7) and cover plate (6) and loosen screws 9 and perform mechanical focus adjustment of the unit.

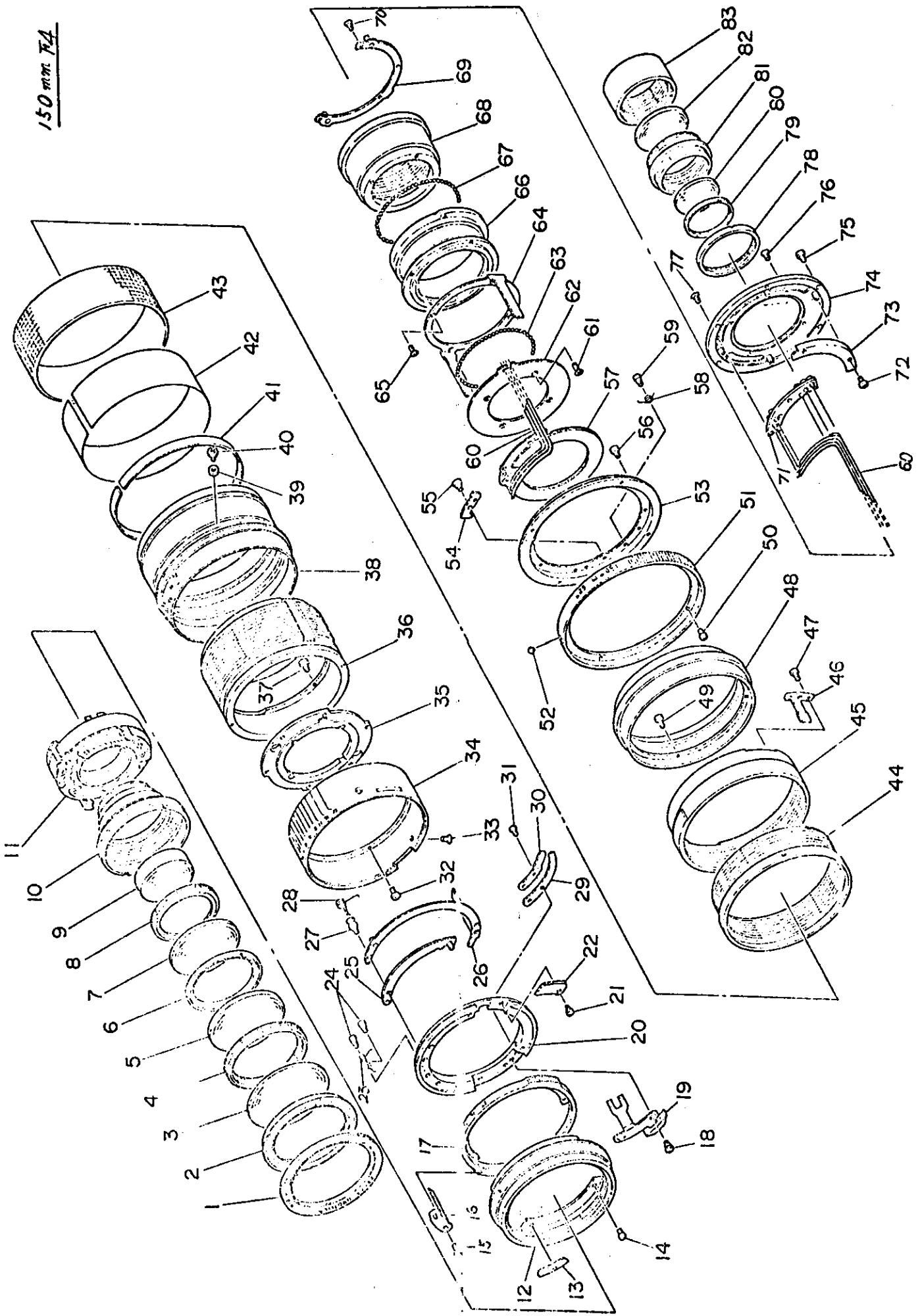
[Step 11]

After completing mechanical focus adjustment, install the rubber knurling ring (8), tape (7) and cover plate (6) and complete the work.



9	1PM 1.7 x 3	Pan-head small screw
8	1144-13	Rubber knurling ring
7	1144-58	Tape
6	1144-12	Cover plate
5	1144-15	Shutter clamp ring
4		Rear lens
3	1-710260	Contact piece insulating plate set
2		Set ring unit
1	1PM 1.7 x 3	Pan-head small screw

150 mm. 74



1147 (F4 / 150mm)

Index	Parts No.	Parts Name	Q'ty
1	1147-19	Name ring	1
2	1147-2	Front lens holder	1
3	G-1	Lens	1
4	1143-5	Front lens space ring	1
5	G-2	Lens	1
6	1143-6	G3 holder	1
7	G-3	Lens	1
8	1147-3	G3, 4 space ring	1
9	G-4	Lens	1
10	1147-1	Front lens frame	1
11	1147-818	Shutter	1
12	1147-17	Filter-ring	1
13	1144-39	Limit plate	1
14	1PM 1.7 x 4	Pan-head small screw	4
15	3PM 1.7 x 3	Pan-head small screw	4
16	1147-18	Diaphragm fork	2
17	1144-37	Aperture ring	1
18	1144-34	T lever axis	2
19	1147-16	T change-over fork	1
20	1144-16	Relay ring	1
21	1144-31	Manual lever axis	1
22	1144-30	Manual lever	1
23	1144-26	Opening spring	2
24	1144-24	Spring axis	1
25	1144-17	Lever	1
26	1144-15	Interconnected arm	1
27	1144-23	Lever axis	1
28	1144-27	Auxiliary spring	1
29	1144-28	Lever base	1
30	1144-29	Lever holding plate	1
31	3PM 1.7 x 4	Pan-head small screw	2
32	1PM 1.7 x 4	Pan-head small screw	4
33	1FM 1.7 x 3.5	Countersunk small screw	3
34	1147-14	Depth of field scale ring	1
35	1147-7	Shutter printed circuit board	1
36	1147-8	Helicoid male	1

1147 (F4 / 150mm)

Index	Parts No.	Parts Name	Q'ty
37	1PM 1.7 x 3.5	Pan-head small screw	4
38	1147-12	Distance ring	1
39	1144-11	Washer	3
40	1PM 1.7 x 3.5	Pan-head small screw	3
41	1144-12	Cover plate	1
42	1147-34	Tape	1
43	1147-13	Rubber knurling ring	1
44	1147-9	Helicoid female	1
45	1147-10	Master screw	1
46	1147-11	Key	2
47	1PM 1.7 x 3.5	Pan-head small screw	6
48	1147-20	Connecting ring	1
49	1FM 1.7 x 5	Pan-head small screw	4
50	1PM 1.4 x 3	Pan-head small screw	4
51	1147-33	Bayonet ring	1
52	1144-43	Bayonet index	1
53	1144-41	Bayonet	1
54	1144-48	Set ring lock plate	1
55	1144-49	Lock plate axis	1
56	1PM 1.7 x 4	Pan-head small screw	4
57	1144-52	Flexible printed circuit board	1
58	1144-51	Lock plate spring	1
59	1144-50	Spring holding screw	1
60	1147-30	Lead wire	1
61	1FM 1.7 x 3	Countersunk small screw	4
62	1147-23	Pole holder	1
63	1101-49	Steel ball	83
64	1147-26	Set ring plate	1
65	1FM 1.7 x 3	Countersunk small screw	4
66	1147-25	Set ring	1
67	1101-49	Steel ball	91
68	1147-22	Set ring holder	1
69	1147-24	Set ring knock plate	1
70	1FM 1.7 x 3	Countersunk small screw	4
71	1144-54	Contact piece insulating plate	1
72	3PM 1.4 x 2	Pan-head small screw	4

1147 (F4 / 150mm)

Index	Parts No.	Parts Name	Q'ty
73	1147-31	Light-tight plate	2
74	1147-21	Set ring base plate	1
75	1PM 1.7 x 3	Pan-head small screw	6
76	1FM 1.7 x 3.5	Countersunk small screw	4
77	B-tight 1FM 1.7 x 3	Countersunk small screw	4
78	1144-15	Shutter clamp ring	1
79	1147-5	G5 holder	1
80	G5	Lens	1
81	1147-4	Rear lens frame	1
82	G-6	Lens	1
83	1147-6	Rear lens holder	1

o 150mm F4 Zenzanon shutter unit replacing procedure

[Step 1]

Remove the name ring (2) with a name ring mounting jig (1).

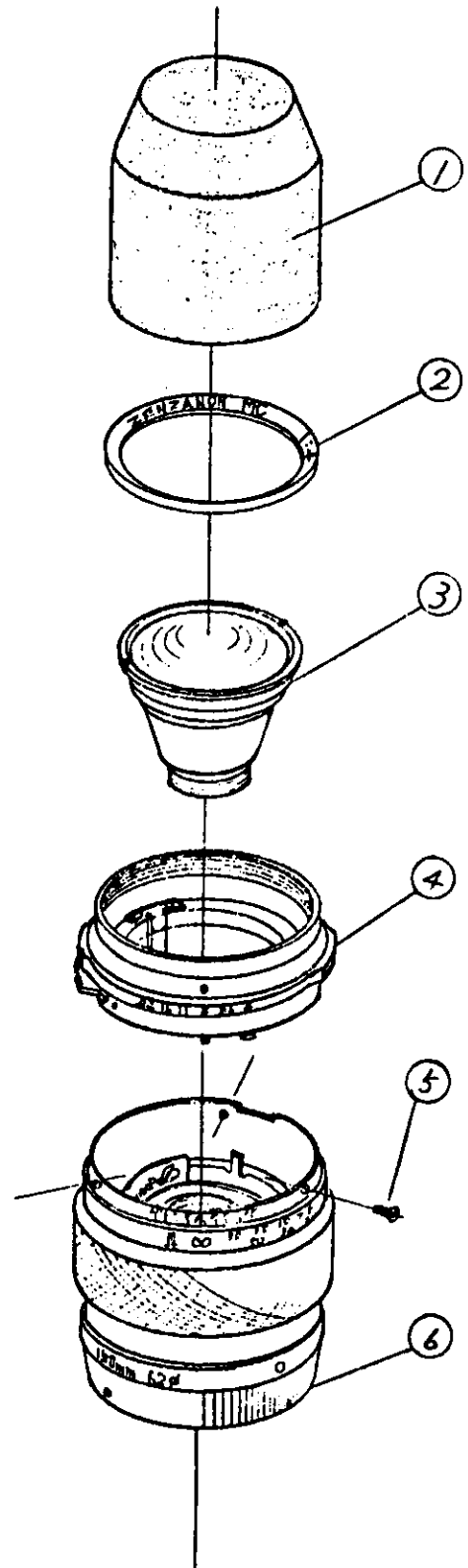
[Step 2]

Remove the front lens (3) with a flexible pin-face wrench.

[Step 3]

Remove 3 screws (5) and remove the front frame unit (4).

Note: At this time, be sure to put a rear cap (6) over the unit to protect the shutter contact and contact piece insulating plate from damage.



6	1-242602	Rear cap
5	1FM1.7 x 3.5	Countersunk small screw
4		Front frame unit
3		Front lens
2	1147-19	Name ring
1	1-210482AJ	Name ring mounting jig

[Step 4]

After removing 6 screws (1), remove the set ring unit (2).

[Step 5]

Remove the rear lens (4).

[Step 6]

Remove solder connecting the shutter cord and flexible printed circuit board (AA) (3).

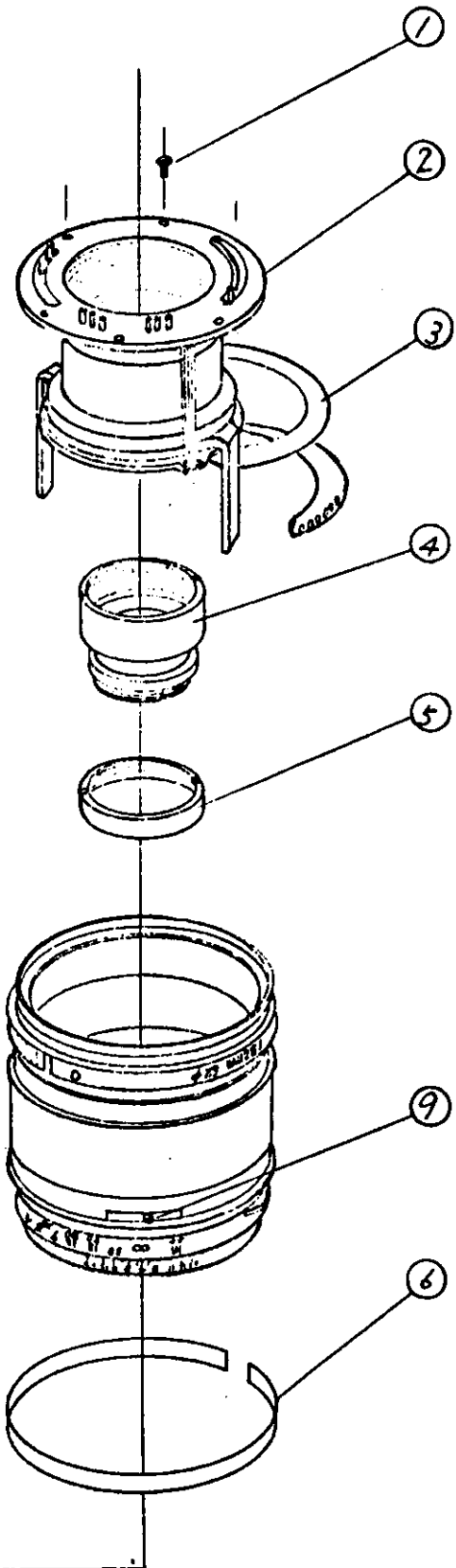
[Step 7]

Loosen the shutter clamp ring (5) and take the shutter out and replace it.

[Step 8]

After replacing a shutter, check the unit if properly assembled. If it is deviated partly, remove the rubber knurling ring (8), tape (7) and cover plate (6). After that, loosen screws (9) and perform mechanical focus adjustment of the unit. Upon completion of adjustment, tighten those screws securely.

Note: Assembly of shutter unit can be accomplished by performing the above steps in reverse order.



9	1PM1.7x3.5	Pan-head small screw
8	1147-13	Rubber-knurling ring
7	1147-34	Tape
6	1144-12	Cover plate
5	1144-15	Shutter clamp ring
4		Rear lens
3	1-710490	Flexible printed circuit board A
2		Set ring unit
1	1FM1.7x3	Countersunk small screw

