

1ES SHUTTER for RZ LENS

PARTS CATALOG & REPAIR MANUAL

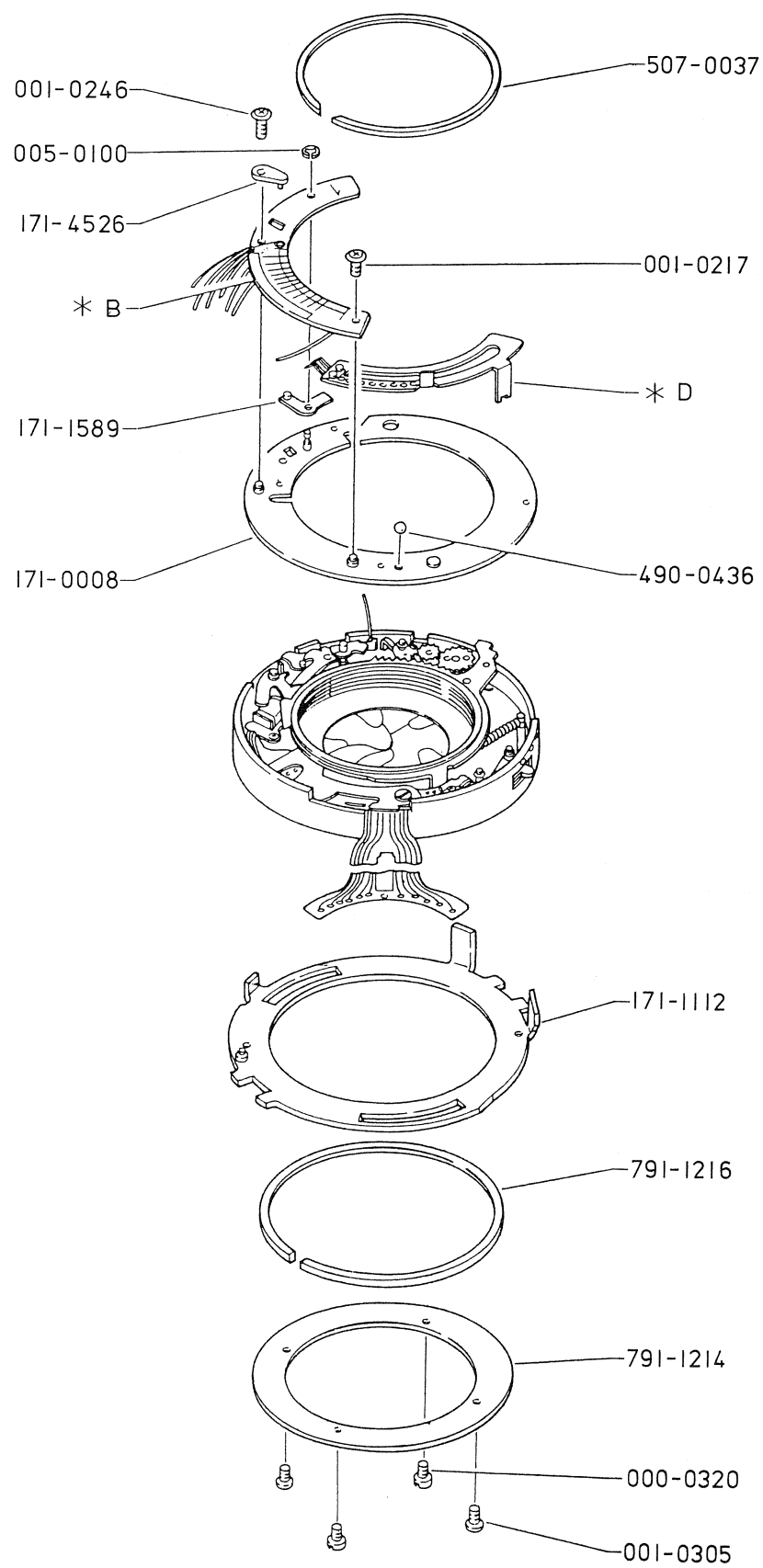

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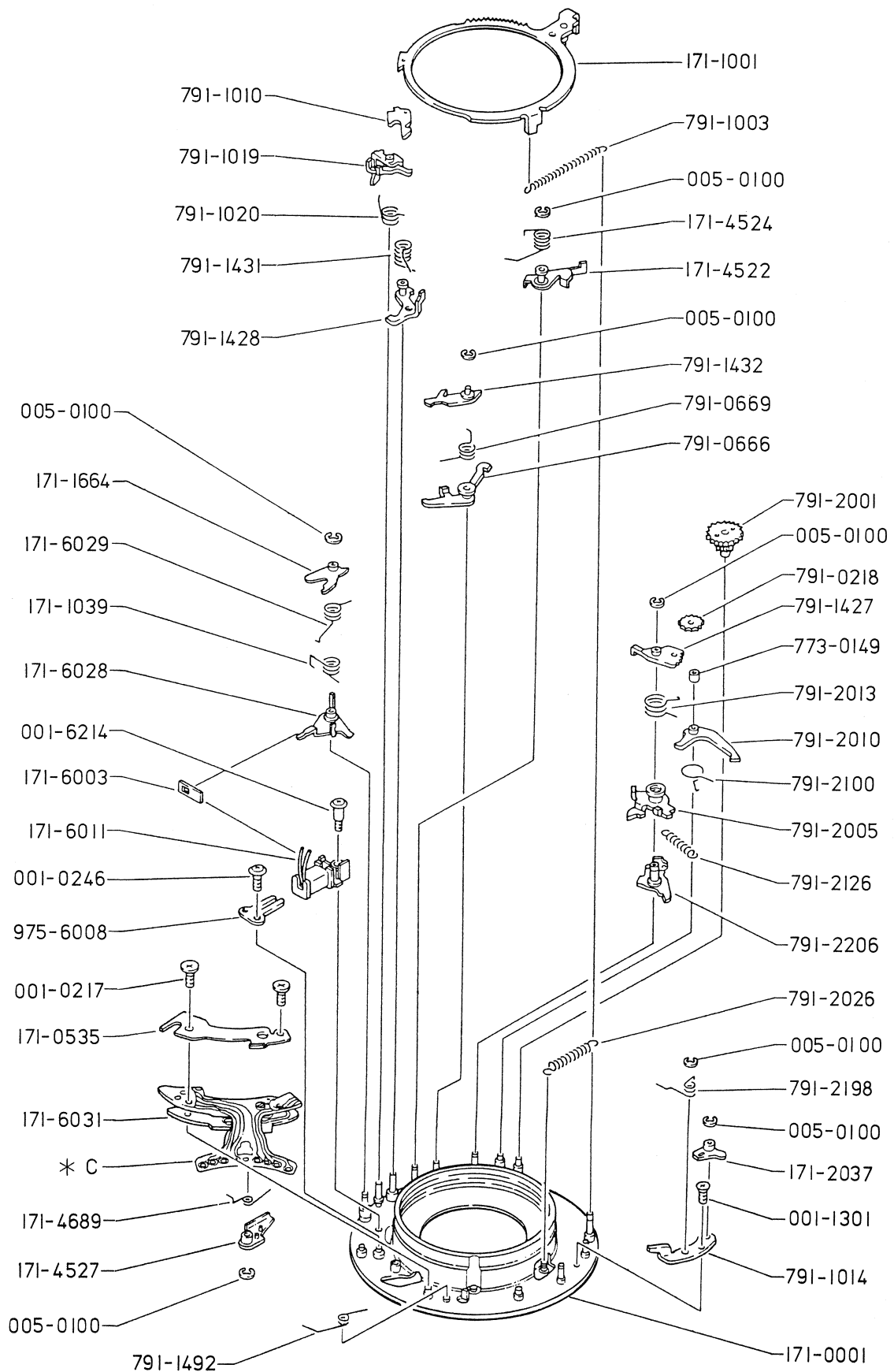
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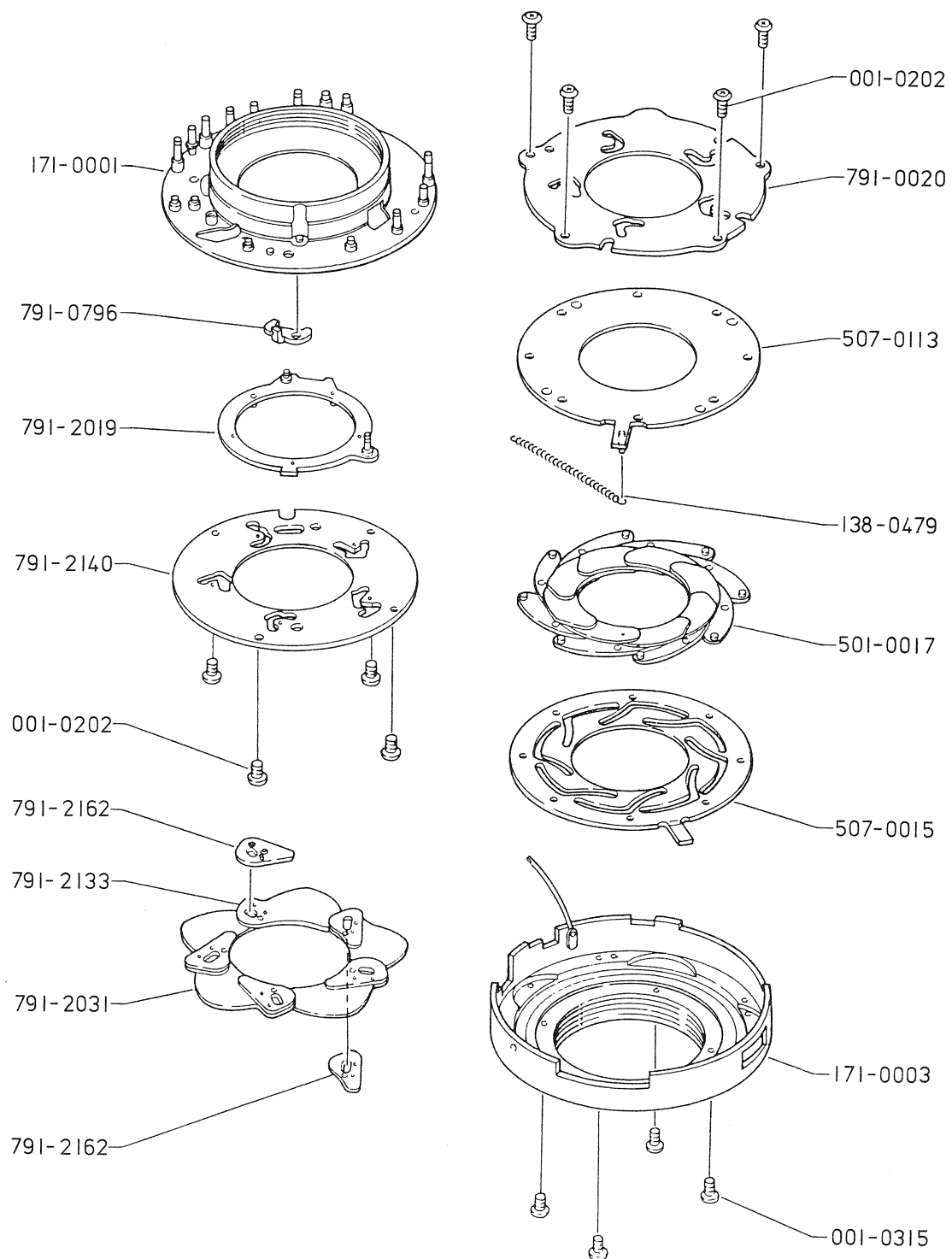
PARTS CATALOG

Note

When placing an order for any part *B, *C, or *D marked with asterisk, please refer to the chapter six on the repair manual page 27 and 28.







1ES RZ-lens Shutter

Parts No.	Description	Pcs.	Ref. Page
* B	PC plate	1	2
* C	FPC plate	1	1
* D	Aperture-act. lever	1	2
* Please refer to Chapter six on the Repair manual page 27 and 28 when placing an order.			
000-0320	Positioning screw	2	2
001-0202	Screw	8	3
001-0217	Screw	3	1, 2
001-0246	Screw	1	2
001-0305	Screw	2	2
001-0315	Screw	4	3
001-1301	Screw	7	1
001-6214	Screw	1	1
005-0100	E-ring	7	1, 2
138-0479	Spring	1	3
171-0001	Base plate	1	2
171-0003	Shutter case	1	2
171-0008	Cover ring	1	2
171-0535	Fixing plate	1	1
171-1001	Cocking ring	1	1
171-1039	Spring	1	1
171-1112	Set ring	1	2
171-1589	Time lever	1	2
171-1664	Lever B	1	1
171-2037	Opening lever	1	1
171-4522	Synchro contact	1	1
171-4524	Spring	1	1
171-4526	Fixing plate	1	2
171-4527	Contact lever	1	1
171-4689	Timing switch contact	1	1
171-6003	Armature	1	1
171-6011	Magnet	1	1
171-6028	Armature lever	1	1
171-6029	Spring	1	1

Parts No.	Description	Pcs.	Ref. Page
171-6031	PC plate	1	1
490-0436	Click ball C	1	2
501-0017	Diaphragm blade	8	3
507-0015	Cam ring	1	3
507-0037	Retainer	1	2
507-0113	Operating ring	1	3
773-0149	Roller	1	1
791-0020	Blade set ring	1	3
791-0218	Idle gear	1	1
791-0666	Contact lever	1	1
791-0669	Spring	1	1
791-0796	Bounce lever	1	3
791-1003	Cocking ring spring	1	1
791-1010	Latch	1	1
791-1014	Base plate	1	1
791-1019	Release lever	1	1
791-1020	Spring	1	1
791-1214	Fixing ring	1	2
791-1216	Spacer	1	2
791-1427	Set gear B	1	1
791-1428	Lever	1	1
791-1431	Spring	1	1
791-1432	Latch	1	1
791-1492	Bounce spring	1	1
791-2001	Set gear	1	1
791-2005	Drive cam	1	1
791-2010	Lock lever	1	1
791-2013	Main drive spring	1	1
791-2019	Actuating ring	1	3
791-2026	Spring	1	1
791-2031	Sector A	4	3
791-2100	Spring	1	1
791-2126	Spring	1	1
791-2133	Sector B	1	3
791-2140	Sector base ring	1	3

Parts No.	Description	Pcs.	Ref. Page
791-2162	Auxiliary sector	2	3
791-2198	Spring	1	1
791-2206	Drive cam B	1	1
975-6008	Iron core	1	1

REPAIR MANUAL

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1

REPLACEMENT OF SHUTTER SECTOR

1-1 Disassembly

- 1) Arabic numeral in a circle indicates the procedure of disassembly.

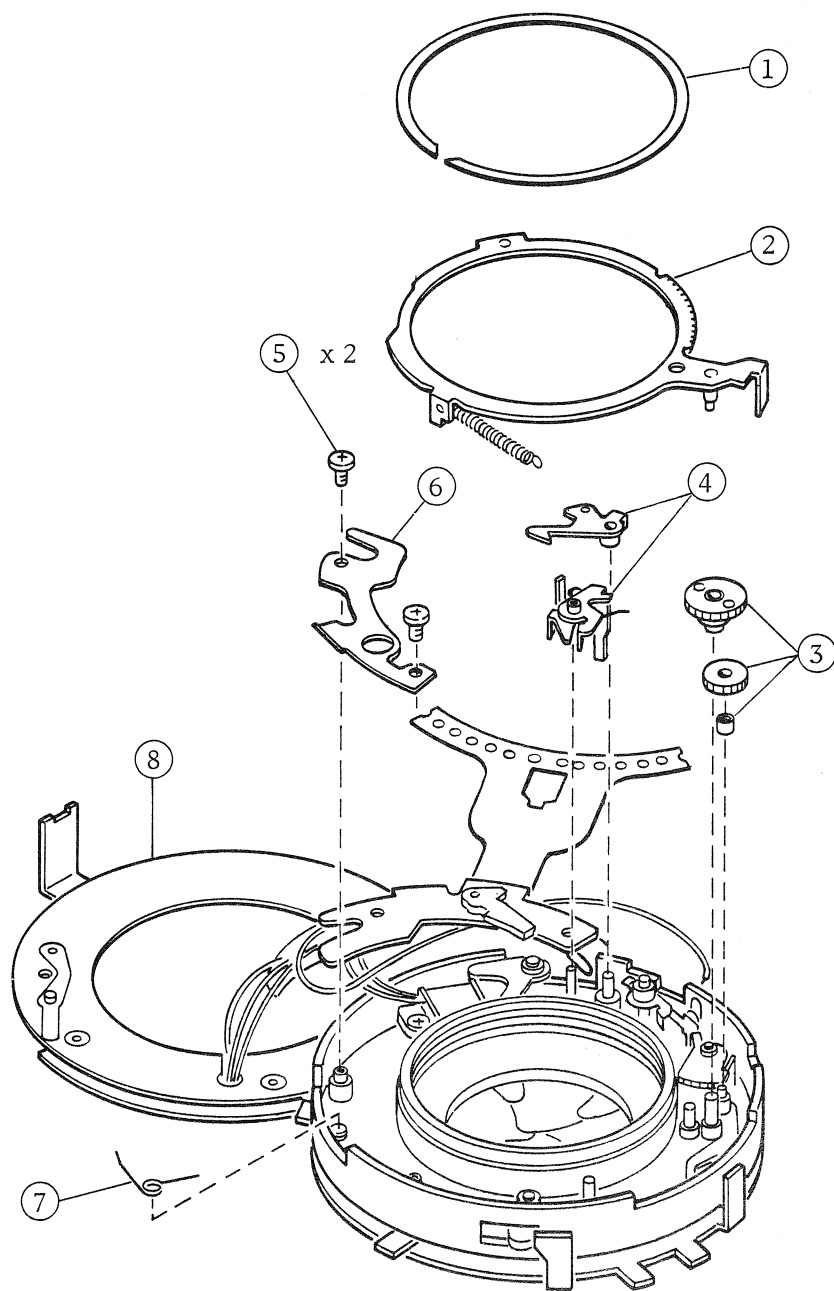


Fig. 1

- 2) Before disassembling the backside parts of the shutter, remove a rear lens unit and screw it into thread for a front lens.

Carefully invert the shutter and then resume disassembling for backside parts.

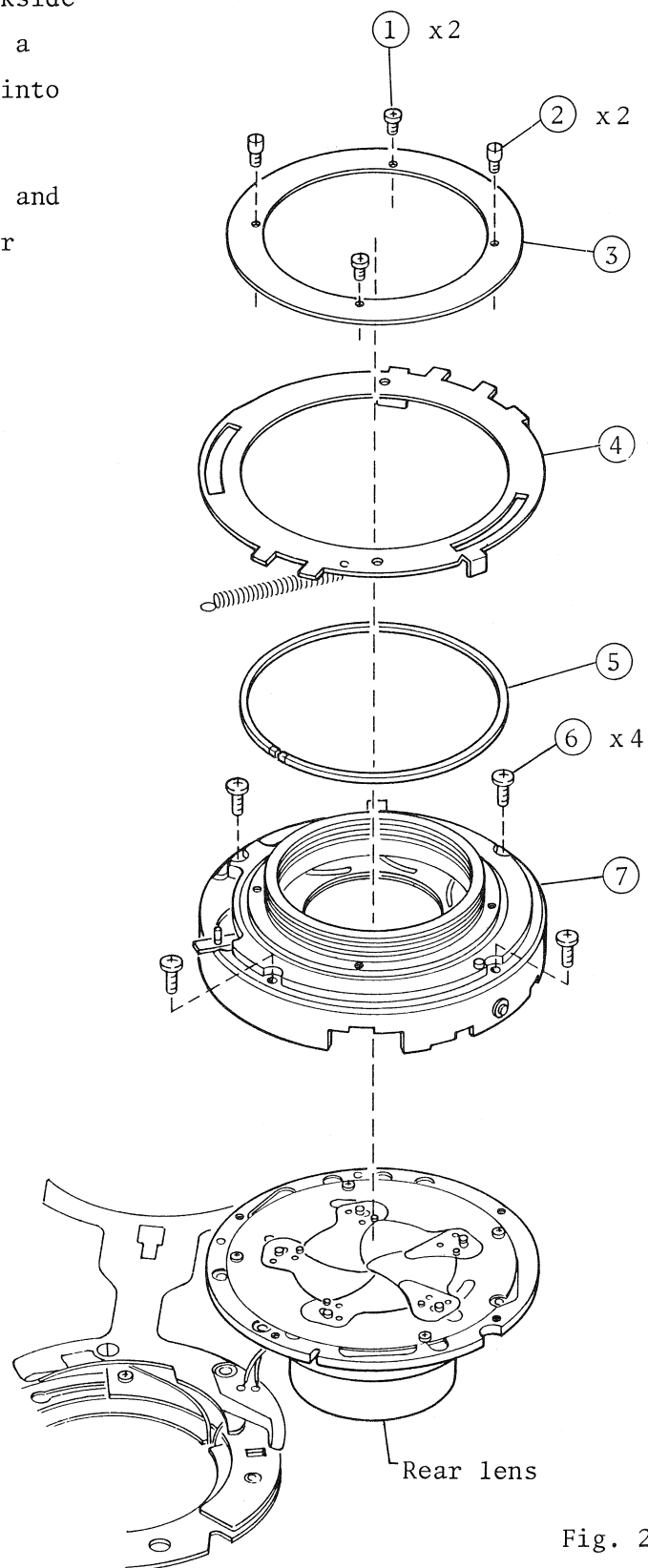


Fig. 2

1-2 How to install shutter sector

- 1) First put a (C) auxiliary sector on the start position and install the each appointed sector to (2), (3) - - - (6) in turn, clockwise. Finally put the other (C) auxiliary sector upon the (5) sector.

Three types of sector

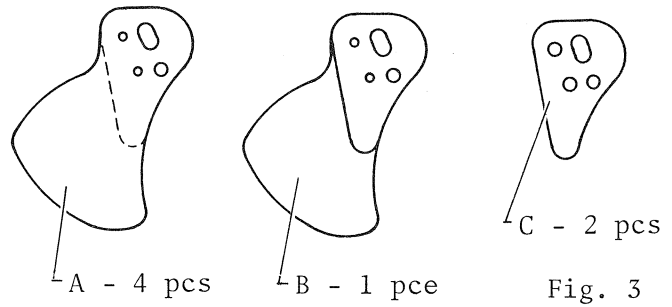


Fig. 3

- 2) Assembled shutter-sector pattern will be shown in Fig. 5 and 6.

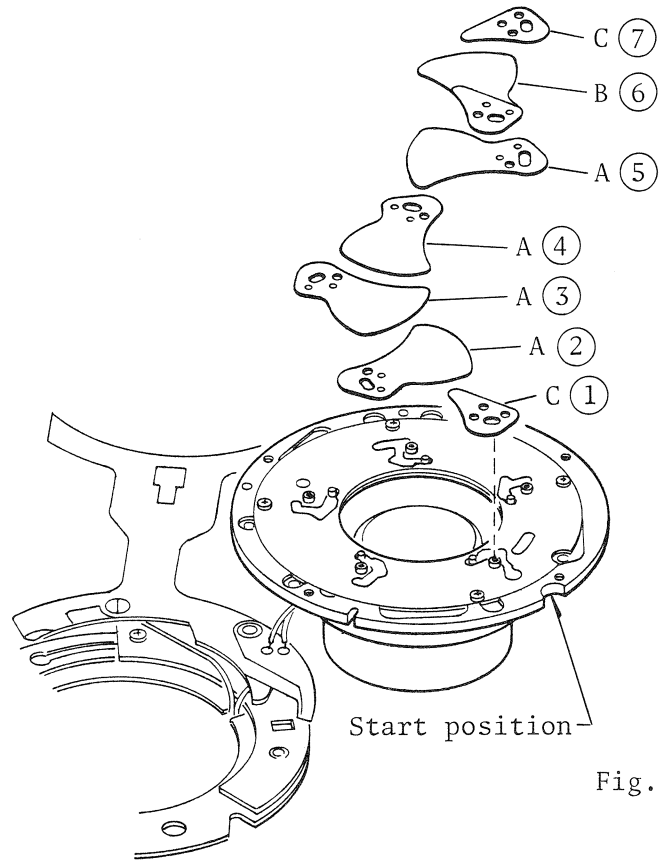


Fig. 4

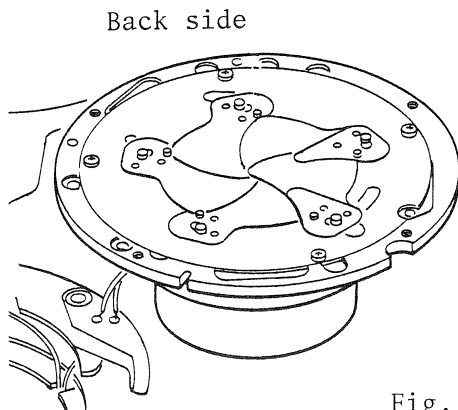


Fig. 5

Front view

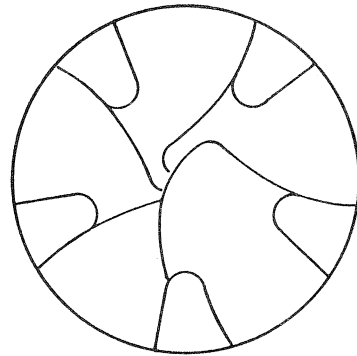


Fig. 6

2

POSITION OF SPRING

2-1 791-1492 bounce-prevention spring

Before installing the FPC plate,
must put the bounce-prevention
spring on as shown in Fig. 7.

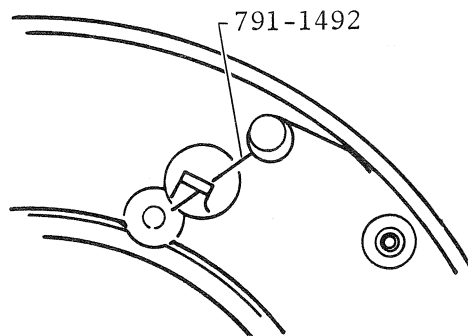


Fig. 7

2-2 171-4524 synchro contact spring

After installing (A) latch,
never forget to hang the synchro
contact spring on the latch.

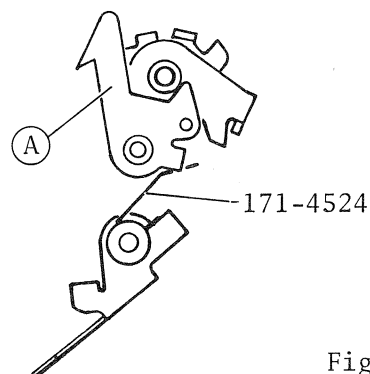


Fig. 8

2-3 171-1039 bulb spring and
171-6029 armature spring

The two springs are very im-
portant for shutter exposure time.
If they are damaged or bent, must
replace them with new ones.

1) 171-1039 bulb spring

Put the spring as shown in
Fig. 9.

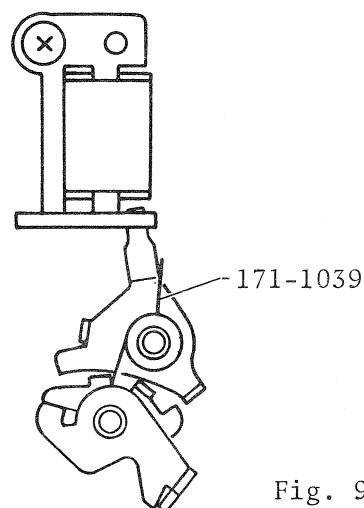


Fig. 9

2) 171-6029 armature spring

a) Remove 791-1010 latch as shown in Fig. 8.

b) Set the armature spring on the 171-1664 lever (B) as shown in Fig. 10 and pull end of the spring with a pair of tweezers.

c) Carefully raise a pair of tweezers vertically and hold the lever (B) in barance with your third or middle finger.
(Fig. 11)

d) Carefully set the 171-1664 armature lever (B) to its shaft and put end of the spring on (C) lever.
Set an E-Ring to the shaft.

e) Install 791-1010 latch again and set the synchro contact spring to the latch.

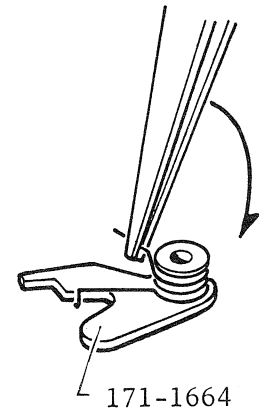


Fig. 10

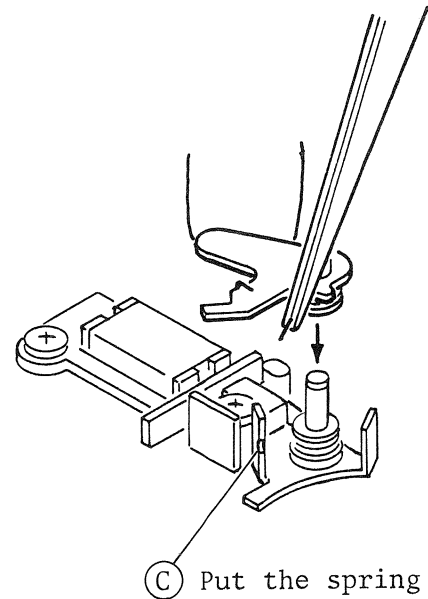


Fig. 11

3

REPLACEMENT OF FPC PLATE

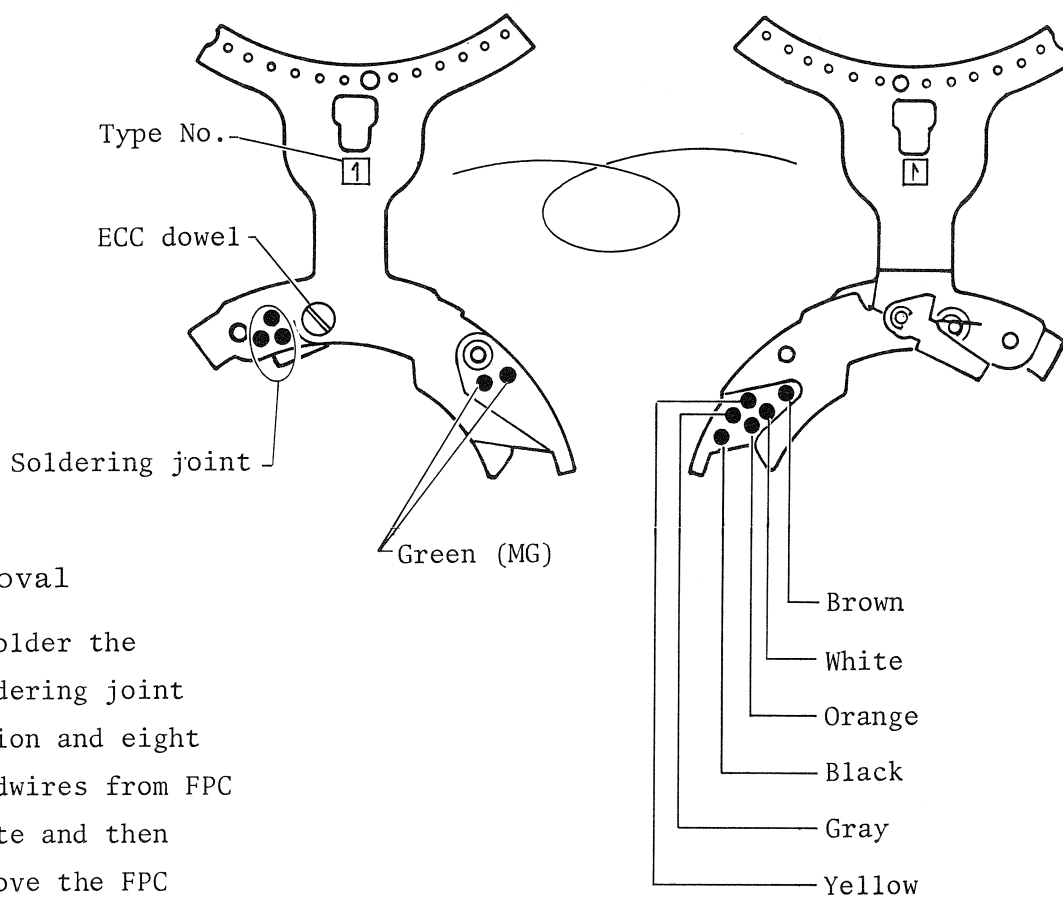


Fig. 12

3-1 Removal

Unsolder the soldering joint region and eight leadwires from FPC plate and then remove the FPC plate.

Note: Must not touch the eccentric dowel.

3-2 Installation

- 1) When replacing the FPC plate, must install the same type number's FPC plate.
- 2) Pay your attention for making good clean solder joint.
- 3) There is no polarity of the magnet.

4

ENGAGEMENT OF SET GEARS WITH SHUTTER COCKING RING

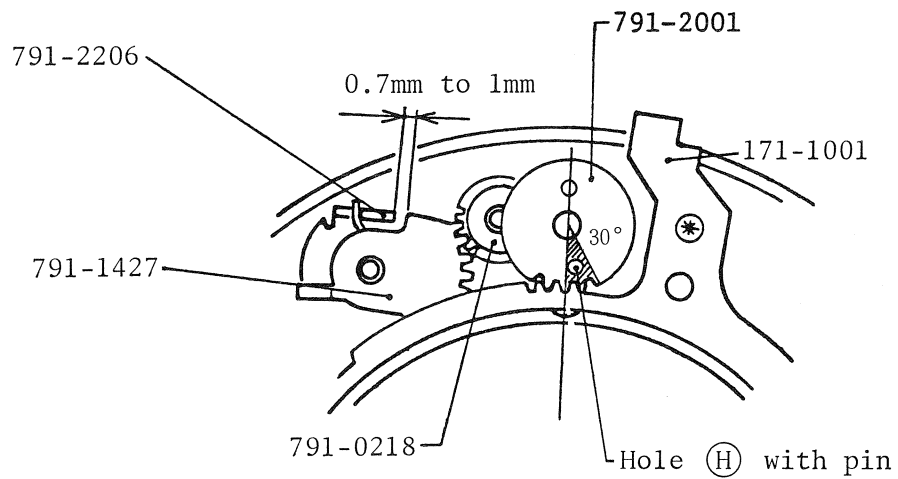


Fig. 13

- 1) Engage 791-1427 set gear B with 791-0218 idle gear.
- 2) Set 171-1001 shutter cocking ring at start position (released position).
- 3) Make clearance 0.7mm to 1mm between 791-1427 set gear B and 791-2206 drive cam B.
- 4) When engaging 791-2001 with 171-1001 shutter cocking ring, the hole (H) with pin on its backside should be in the shade portion.

5

CHECK AND ADJUSTMENT OF SHUTTER SPEED

Check and adjustment of the shutter speed
Should be required after repairing
shutter in any case.

5-1 Check

- 1) Tentatively assemble lenses and shutter without installing the M5123-02211 fixing ring.
- 2) Attach the lens to a camera body and check shutter speed 1/400, 1/250 and 1/125 in releasing shutter at electronic mode.

5-2 Adjustment of 1/250 sec

- 1) Adjustment is made by turning the eccentric dowel through the hole. (Fig. 14 and 15)
- 2) Accomplishing the adjustment, assemble the lens completely.

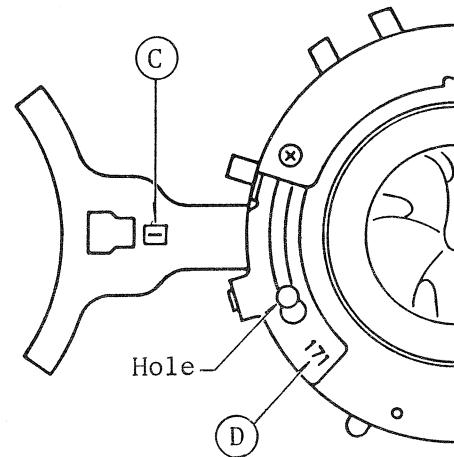


Fig. 14

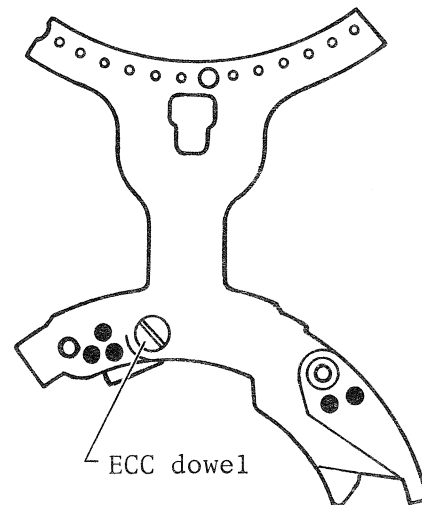


Fig. 15

6

EXCLUSIVE PARTS FOR EACH TYPE OF LES SHUTTER

The three component parts for the shutter are different among of the interchangeable lenses, you should pay your great attention for them when replacing the whole unit of the shutter or the individual part.

6-1 Exclusive use parts list

(A) Shutter Type	Lens	Exclusive use part		
		(B)	(C)	(D)
		PC-plate	FPC-plate	Aperture -act lever
171	110 ^{mm} /F2.8	171-6032	171-6033	171-0137
172	90 / F3.5	172-6032	171-6033	172-0137
173	127 / F3.8	173-6032	171-6033	173-0137
174	180 / F4.5	173-6032	174-6033	174-0137
175	250 / F4.5	173-6032	175-6033	175-0137
176	360 / F6	172-6032	175-6033	176-0137
177	500 / F8	171-6032	175-6033	177-0137
178	75 / F4.5	173-6032	174-6033	178-0137
181	65 / F4	171-6032	171-6033	181-0137
182	140 / F4.5	173-6032	174-6033	182-0137
185	50 / F4.5	173-6032	171-6033	185-0137
186	37 / F4.5	173-6032	174-6033	186-0137

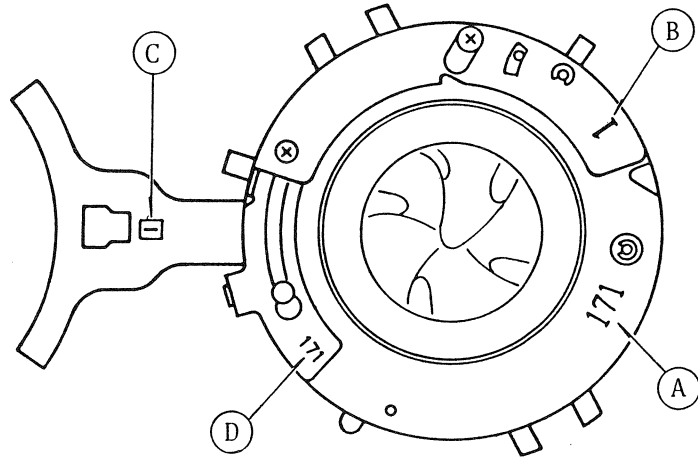


Fig. 17

1) Shutter type

There are 13 different type shutters for each interchangeable lens.

The figure of the (A) as shown in Fig. 17 indicates the shutter type.

2) PC-plate

There are three different types and the figure of the (B) indicates its own type.

For example:

- a) The figure "1" stamped on the PC plate indicates 171-6032.
- b) The figure "3" stamped on the plate indicates 173-6032.

3) FPC plate

There are three different types and the figure of the (C) indicates its own type.

For example:

- a) The figure "1" printed on the FPC indicates 171-6033.
- b) The figure "5" indicates 175-6033.

4) Aperture actuating lever

There are 13 different types and the figure of the (D) indicates its own type.

For example:

- a) The figure "171" stamped on the lever indicates 171-0137.
- b) The figure "182" indicates 182-0137.

