

作成承認印

配布許可印



ZOOM400

FCA40001

Lite•Touch Zoom80

FCA40101

ZOOM400 QD

FCA40201

FCA40211

FCA40221

Lite•Touch Zoom80 QD

FCA40301

PARTS LIST

修理部品表

Nikon | NIKON CORPORATION
Tokyo, Japan

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無断転載を禁ず!!

1

2

3

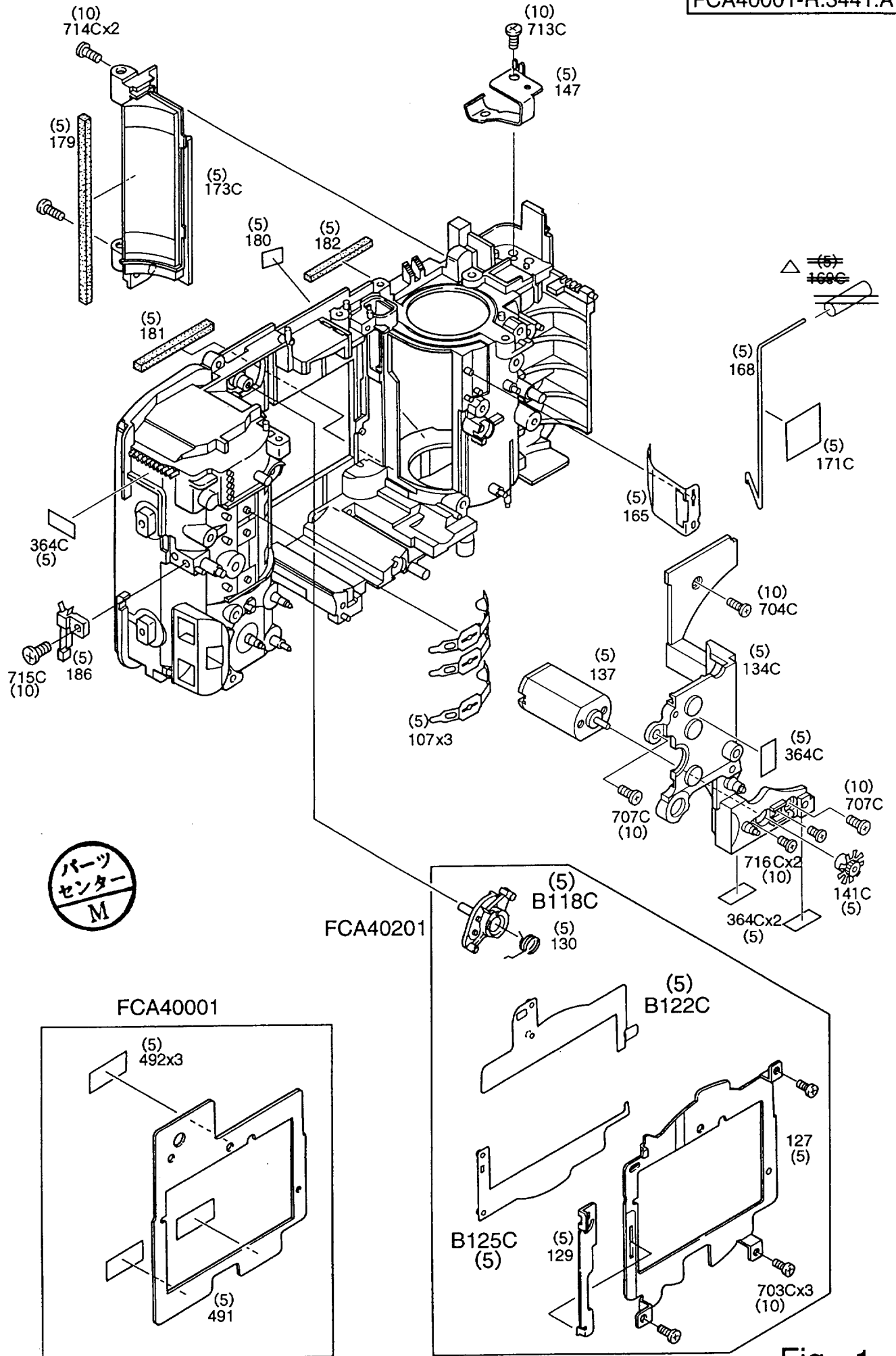


Fig. 1

A

B

1

2

3

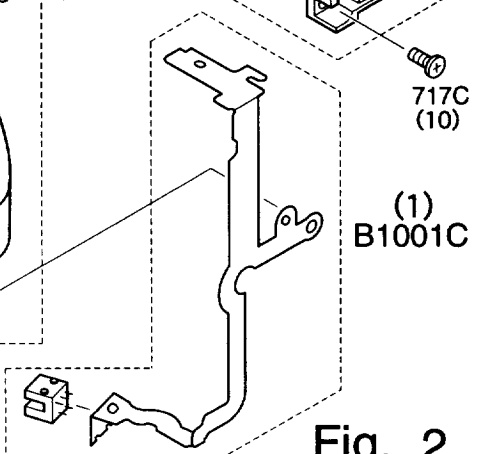
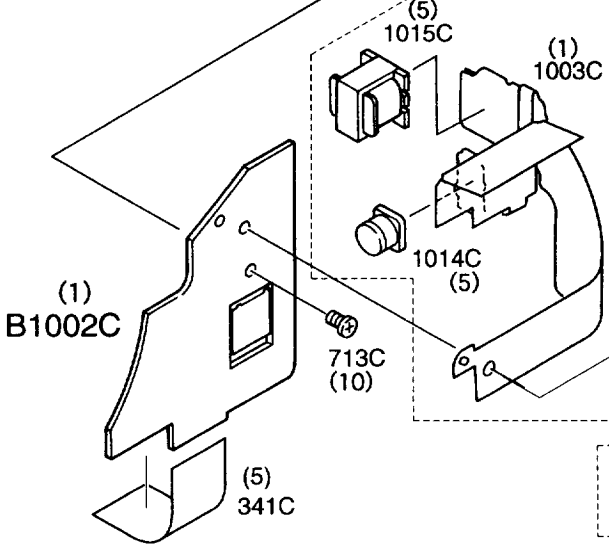
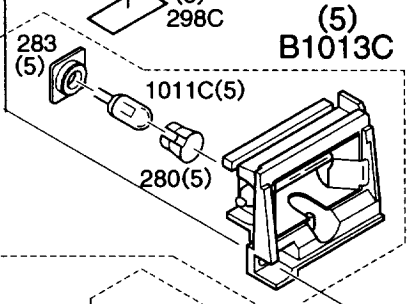
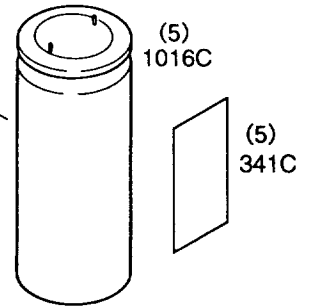
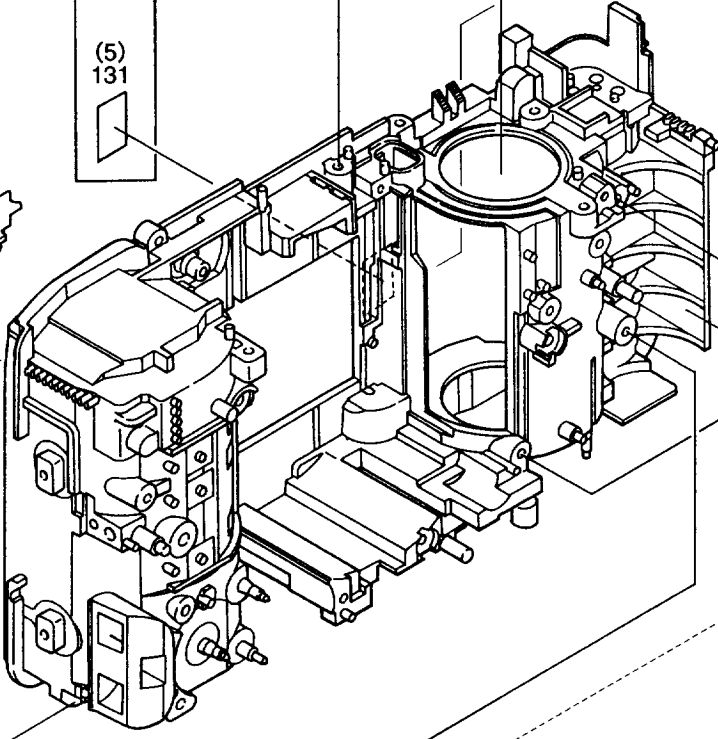
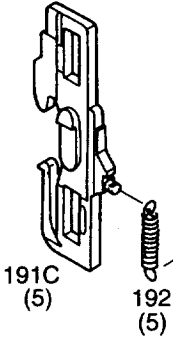
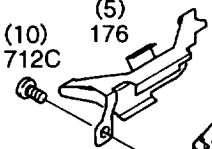
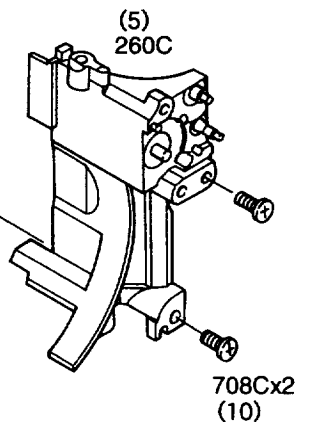
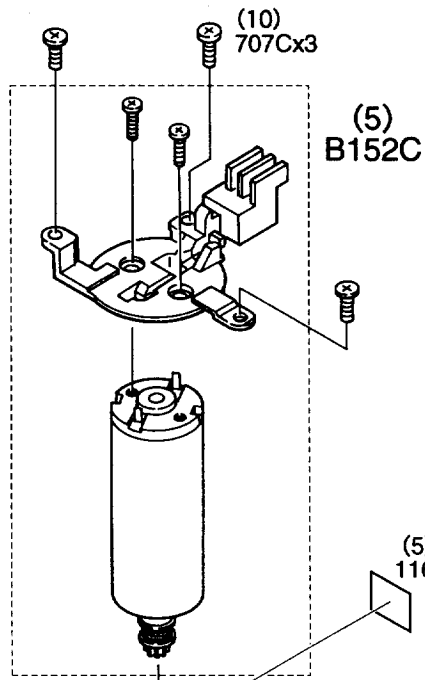
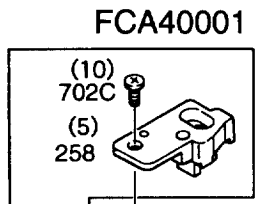
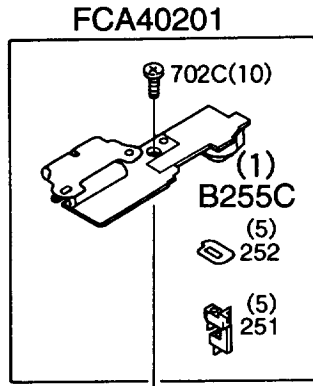


Fig. 2

1

2

3

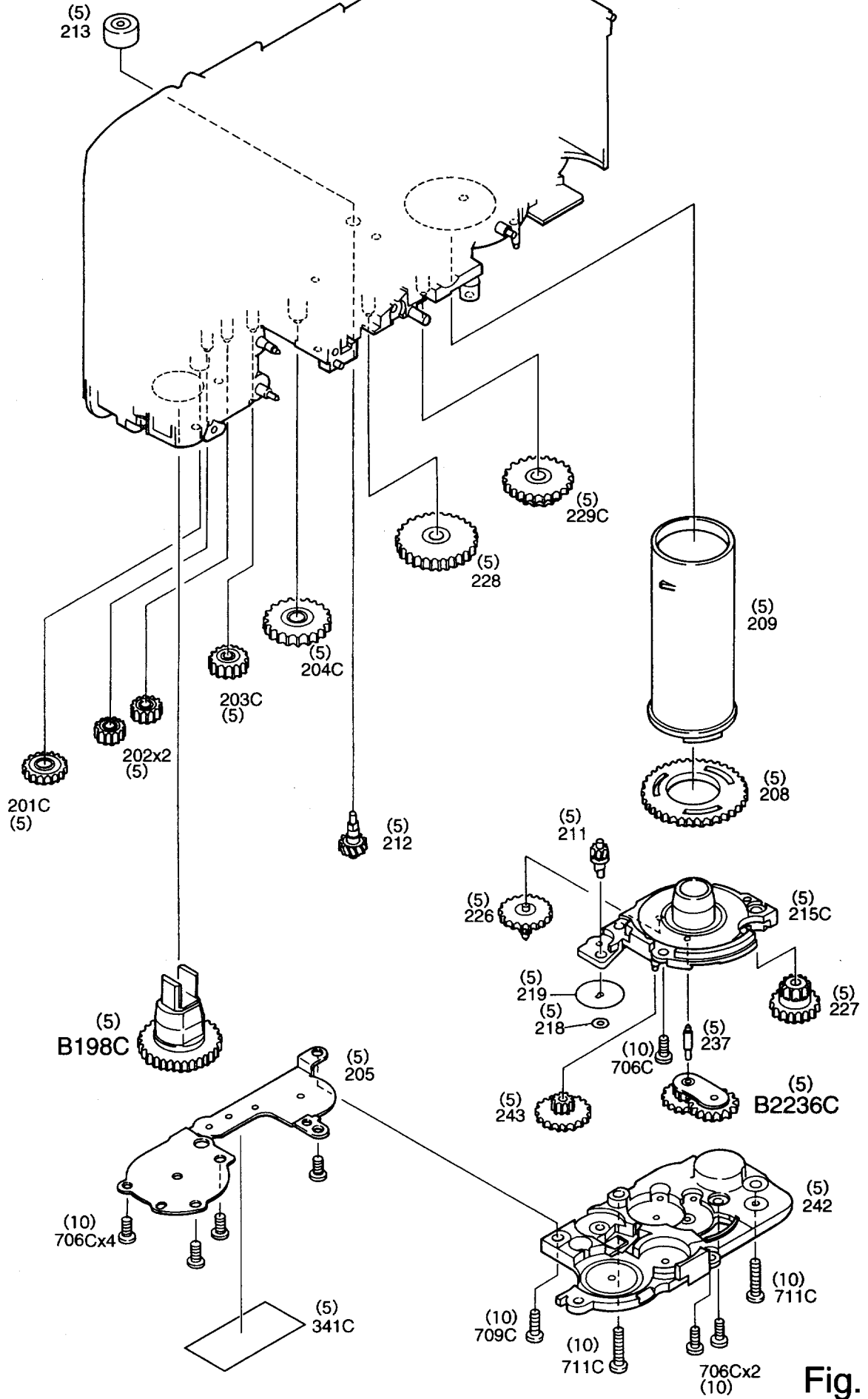


Fig. 3

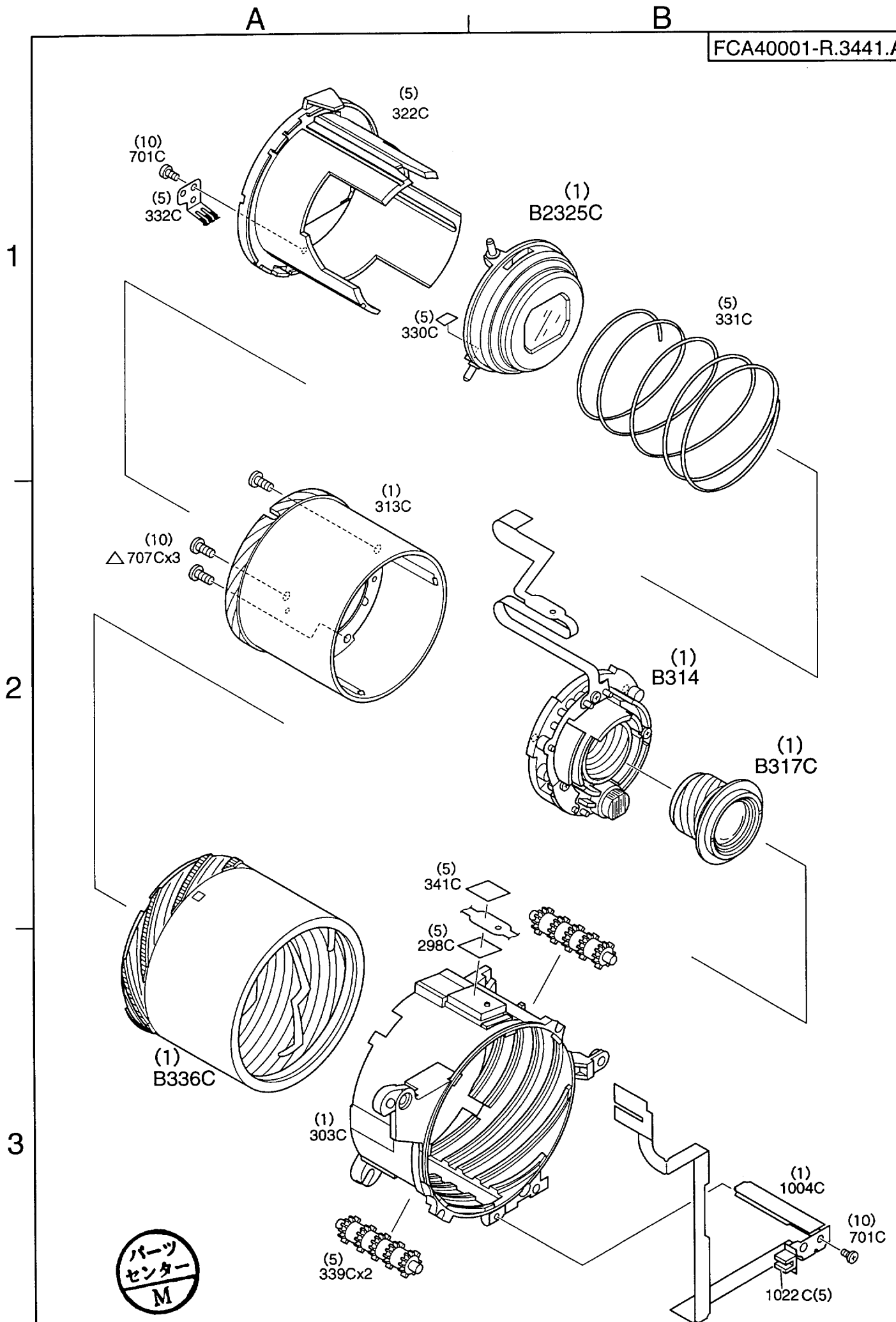


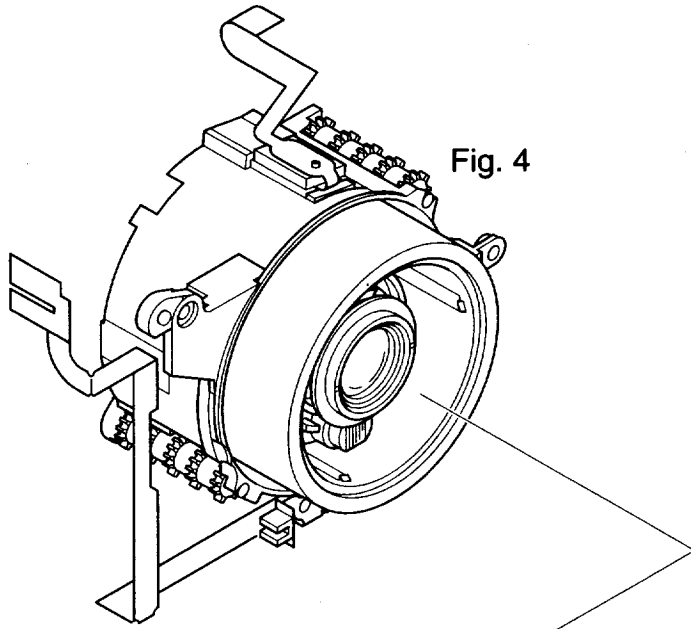
Fig. 4

A

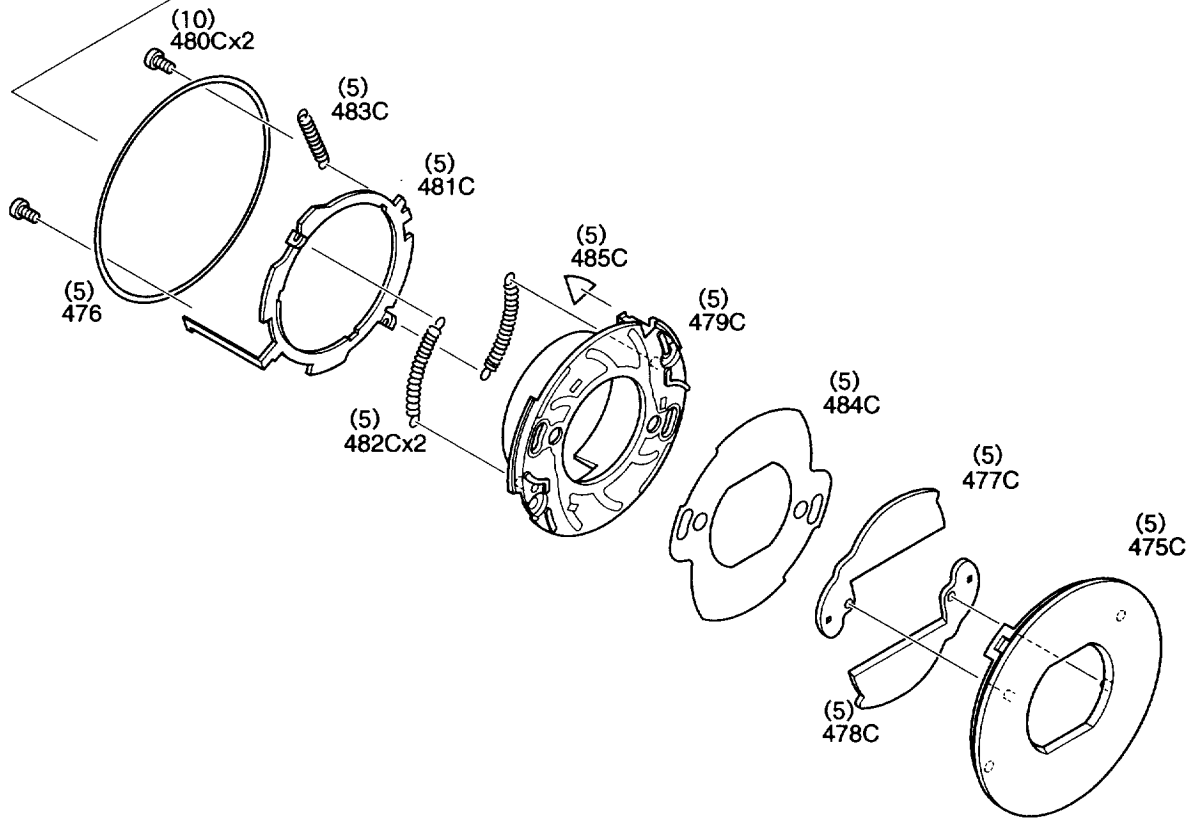
B

1

Fig. 4



2



3

Fig. 5

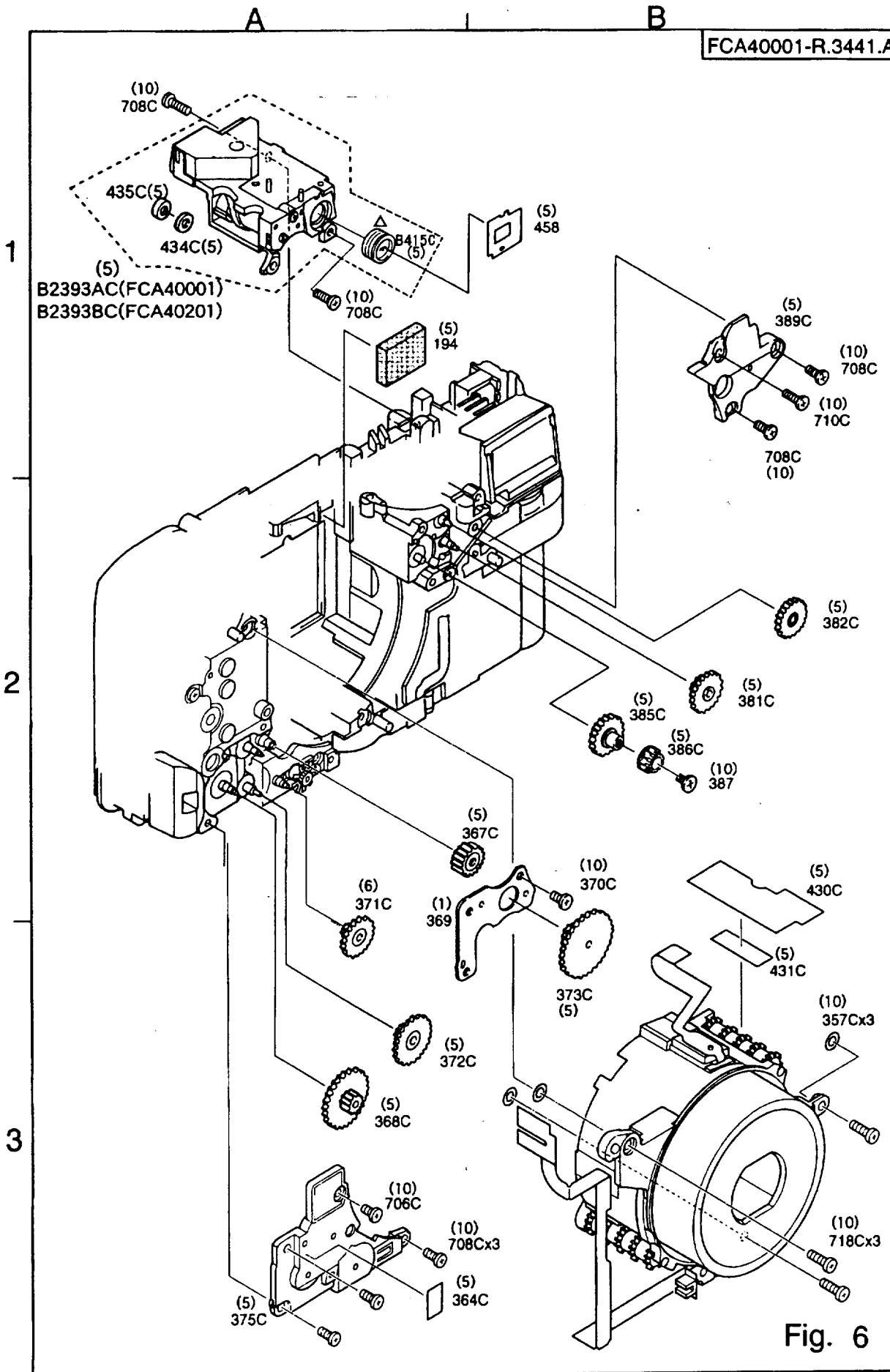


Fig. 6



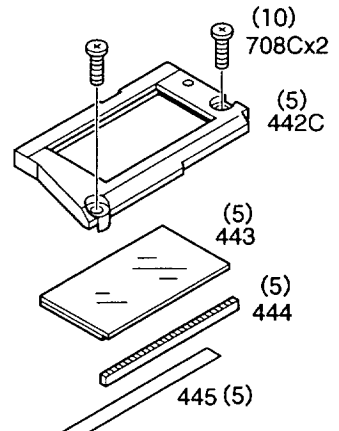
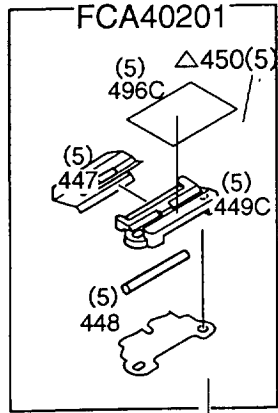
A

B

1

2

3



(1) B437

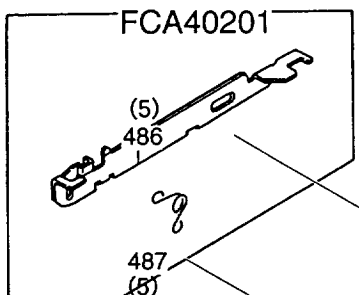


Fig. 7

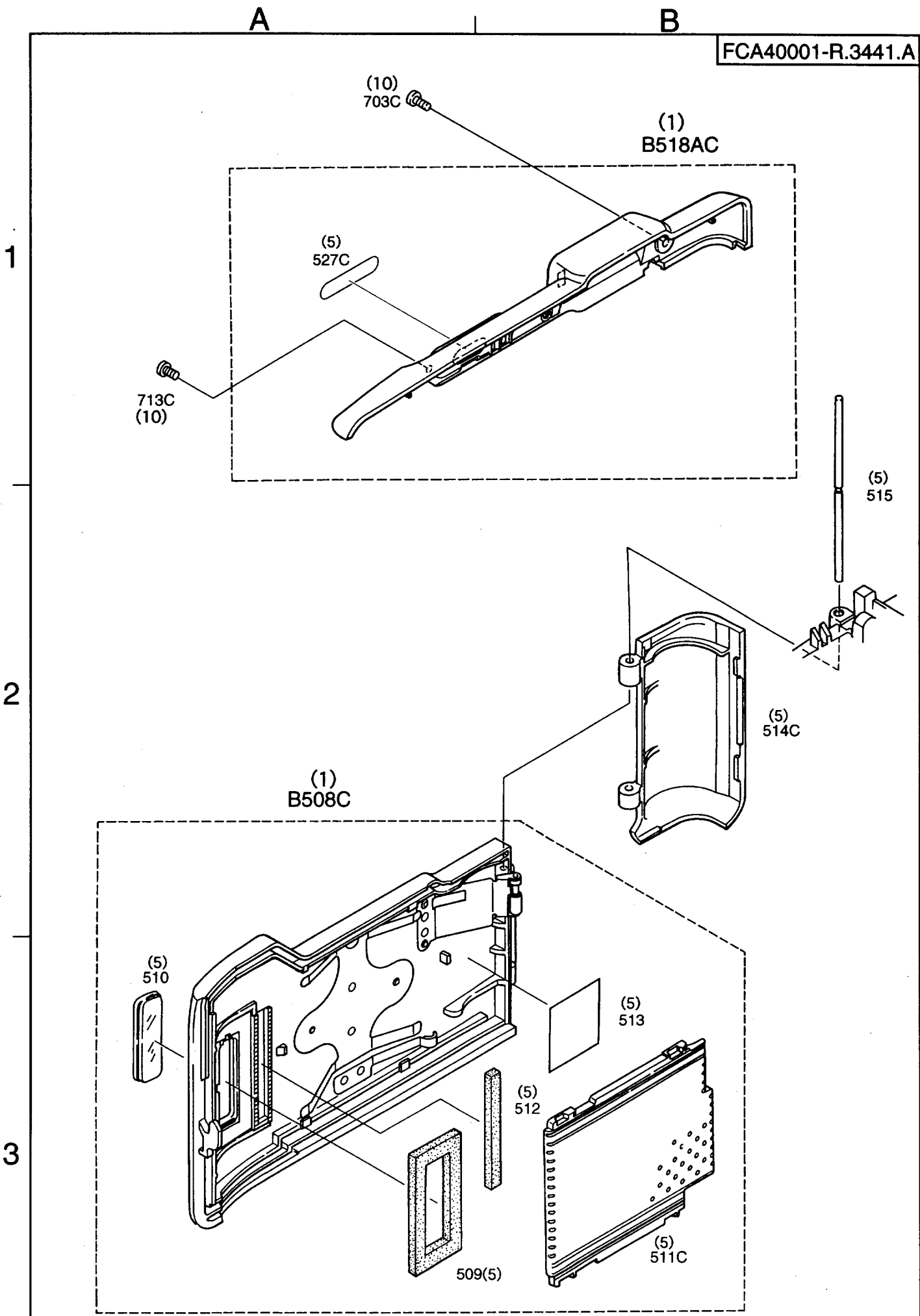


Fig. 8

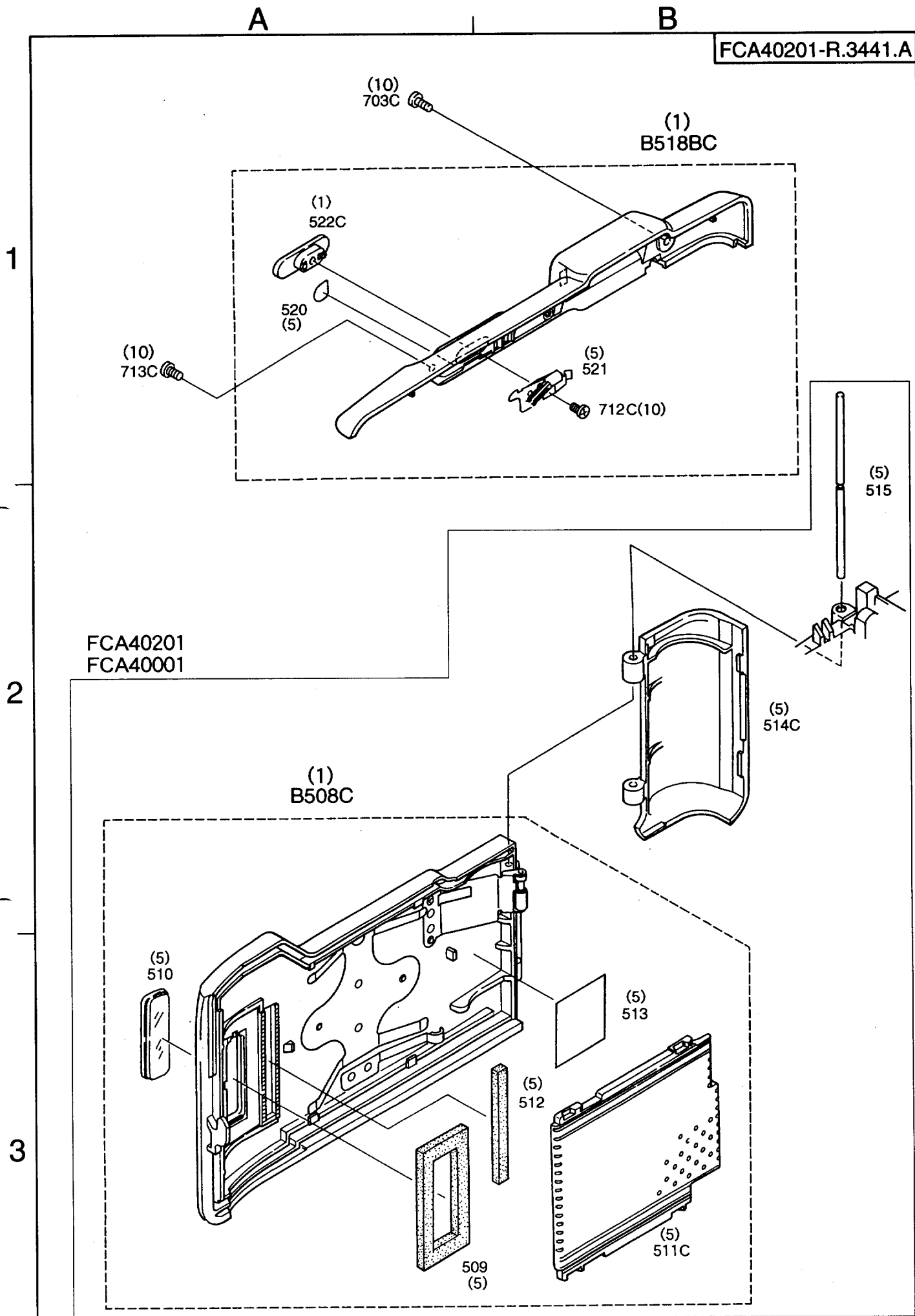


Fig. 9

A

B

FCA40001-R.3441.A

1

(10)
710C

(10)
457C

(1)

- △ B470AC (FCA40101-B470AC)
- △ B462BC (FCA40201-B462BC)
- △ B470BC (FCA40301-B470BC)

(1)

- B462AC(FCA40001)
- △ B462BC(FCA40101)
- △ B462CC(FCA40201)
- △ B462DC(FCA40301)

2

495C
(10)

(10)
468C

465
(10)

(10)
707Cx2

469C
(10)

3

707Cx2
(10)

466C
(10)

707C(10)

(5)
464C

463C
(10)

(10)
710C

(5)
531C-533C

707C
(10)

530 C(FCA40001)
530AC(FCA40201)



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Fig. 10

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部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
1003C (FCA40001-1003C)	1003	SB FPC SB FPC	1	B1013C	2	○△		1
1004C (FCA40001-1004C)	1004	鏡筒 FPC LENS BARREL FPC	1		4	○		1
*1011C (FCA23001-127)	1011	赤目ランプ RED-EYE REDUCTION LAMP	1	B1013C	2	○△		5
1014C (FCA40001-1014C)	1014	トランス 1 TRANSFOMER 1	1	B1013C	2	○△		5
1015C (FCA40001-1015C)	1015	トランス 2 TRANSFORMER 2	1	B1013C	2	○△		5
1016C (FCA40001-1016C)	1016	メインコンデンサー MAIN CONDENSER	1		2	○		5
1022C (FCA40001-1022C)	1022	フォトインタラプタ PHOTO INTERRUPTER	1		4	○		5
*107 (FCA20001-37)	107	D X 接片 DX CONTACT	3		1	○		5
*116 (FCA23001-217)	116	両面テープ DOUBLESIDED ADHESIVE TAPE	1		2	○		5
*131 (FCA23001-26)	131	デートマスクカバー DATE MASK COVER	1		2	○		5
134C (FCA40001-134C)	134	D X カバー DX COVER	1		1	○		5
137 (FCA40001-137)	137	レンズモーター LENS MOTOR	1		1	○		5
141C (FCA40001-141C)	141	L ギア 1 L GEAR 1	1		1	○		5
*147 (FCA23001-12)	147	電池接片 1 BATTERY CONTACT 1	1		1	○		5
165 (FCA40001-165)	165	ファインダーアーム 1 FINDER ARM 1	1		1	○		5
*168 (FCA23001-13)	168	電池接片 2 BATTERY CONTACT 2	1		1	○		5

部品表 Parts List

FCA40001-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Qty per order
△ 169C (FCA40001-169C)	169	熱収縮チューブ TUBU	1		1	○	RP-9805	5
171C (FCA40001-171C)	171	両面テープ DOUBLESIDED ADHESIVE TAPE	1		1	○		5
*173C (FCA23001-4)	173	ヒンジ HINGE	1		1	○		5
*176 (FCA23001-5)	176	パトローネ押さえ PATORONE RETAINER	1		2	○		5
*179 (FCA23001-1)	179	遮光板 LIGHT SHIELD PLATE	1		1	○		5
*180 (FCA20001-25)	180	フィルムシール FILM SEAL	1		1	○		5
*181 (FCA23001-3)	181	下モルト LOWER SPONGE	1		1	○		5
*182 (FCA23001-2)	182	上モルト UPPER SPONGE	1		1	○		5
*186 (FCA23001-125)	186	ストッパーSW STOPPER SW	1		1	○		5
△ *191C (FCA23001-60)	191	鍵板 KEY PLATE	1		2	○	RP-9805	5
*192 (FCA23001-131)	192	鍵バネ KEY SPRING	1		2	○		5
*194 (FCA23001-146)	194	モルト SPONGE	2		6 7	○		5
*201C (FCA23001-71)	201	ギア19 GEAR 19	1		3	○		5
*202 (FCA23001-70)	202	ギア17 GEAR 17	2		3	○		5
*203C (FCA23001-69)	203	ギア16 GEAR 16	1		3	○		5
*204C (FCA23001-68)	204	ギア15 GEAR 15	1		3	○		5
△ *191C (FCA23001-8)	191	鍵板 KEY PLATE	1		2	○	RP-9805	5



部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Qty per order
*205 (FCA23001-73)	205	巻き戻しギア押さえ REWIND GEAR RETAINER	1		3	○		5
*208 (FCA20001-160)	208	ギア 1 1 GEAR 11	1		3	○		5
*209 (FCA23001-60)	209	スプール SPOOL	1		3	○		5
*211 (FCA23001-76)	211	給送ギア 2 FILM ADVANCE GEAR 2	1		3	○		5
*212 (FCA23001-75)	212	給送ギア 1 FILM ADVANCE GEAR 1	1		3	○		5
*213 (FCA23001-74)	213	給送ドラム FILM ADVANCE DRAM	1		3	○		5
*215C (FCA23001-62)	215	スプール下受け SPOOL LOWER HOLDER	1		3	○		5
*218 (FCA23001-77)	218	給送ワッシャー FILM ADVANCE WASHER	1		3	○		5
*219 (FCA20001-195)	219	給送エンコーダー FILM ADVANCE ENCODER	1		3	○		5
224C (FCA40001-224C)	224	両面テープ DOUBLESIDED ADHESIVE TAPE	1		7	○		5
*226 (FCA20001-151)	226	ギア 2-3 GEAR 2-3	1		3	○		5
*227 (FCA20001-159)	227	ギア 9-10 GEAR 9-10	1		3	○		5
*228 (FCA23001-67)	228	ギア 14 GEAR 14	1		3	○		5
*229C (GFCA23001-66)	229	ギア 12-13 GEAR 12-13	1		3	○		5
*237 (FCA23001-64)	237	ギア 6-7 レバー軸 GEAR 6-7 LEVER SHAFT	1		3	○		5
*242 (FCA23001-63)	242	下カバー LOWER COVER	1		3	○		5

部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
*243 (FCA20001-152)	243	ギア4-5 GEAR 4-5	1		3	○		5
*258 (FCA23001-54)	258	デートカバー DATE COVER	1		2	○		5
260C (FCA40001-260C)	260	スプールカバー SPOOL COVER	1		2	○		5
280 (FCA40001-280)	280	赤目傘 RED-EYE SHADE	1	B1013C	2	○△		5
*283 (FCA23001-126)	283	ランプ押さえ LAMP RETAINER	1	B1013C	2	○△		5
298C (FCA40001-298C)	298	両面テープ DOUBLESIDED ADHESIVE TAPE	2		2 4	○		5
303C (FCA40001-303C)	303	固定環 FIXED RING	1		4	○		1
313C (FCA40001-313C)	313	移動枠2 SHIFT FRAM 2	1		4	○		1
322C (FCA40001-322C)	322	キー環 KEY RING	1		4	○		1
330C (FCA40001-330C)	330	植毛紙 FLOCKED SHEET	1		4	○		5
331C (FCA40001-331C)	331	移動枠バネ MOVING FRAME SPRING	1		4	○		5
332C (FCA40001-332C)	332	摺動SW OPERATION SW	1		4	○		5
339C (FCA40001-339C)	339	Lギア11 L GEAR 11	2		4	○		5
341C (FCA40001-341C)	341	遮光テープ LIGHT SHIELD TAPE	3		2 3 4	○		5
*357C (FCA23001-256)	357	ワッシャー WASHER	3		6	○		10
364C (FCA40001-364C)	364	両面テープ DOUBLESIDED ADHESIVE TAPE	4		1 6	○		5

部品表 Parts List

FCA40001-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
365C (FCA40001-365C)	365	モルト SPONGE	1		7	○		5
*367C (FCA23001-95)	367	Lギア10 L EAR 10	1		6	○		5
*368C (FCA23001-93)	368	Lギア6-7 L GEAR 6-7	1		6	○		5
*369 (FCA23001-99)	369	Lギア10押さえ L GEAR 10 RETAINER	1		6	○		1
370C (FCA40001-370C)	370	SCREW SCREW	1		6	○		10
371C (FCA40001-371C)	371	Lギア2-3 L GEAR 2-3	1		6	○		5
372C (FCA40001-372C)	372	Lギア4-5 L GEAR 4-5	1		6	○		5
*373C (FCA23001-94)	373	Lギア8-9 L GEAR 8-9	1		6	○		5
375C (FCA40001-375C)	375	Lギア押さえ L GEAR RETAINER	1		6	○		5
381C (FCA40001-381C)	381	Fギア5-6 F GEAR 5-6	1		6	○		5
*382C (FCA23001-48)	382	Fギア7 F GEAR 7	1		6	○		5
385C (FCA40001-385C)	385	Fギア3 F GEAR 3	1		6	○		5
386C (FCA40001-386C)	386	Fギア4 F GEAR 4	1		6	○		5
*387 (FCA23001-51)	387	SCREW SCREW	1		6	○		10
389C (FCA40001-389C)	389	Fギア押さえ F GEAR RETAINER	1		6	○		5
430C (FCA40001-430C)	430	遮光シート LIGHT SHIELD SHEET	1		6	○		5
376C (FCA40001-376C)	376	モルト SPONGE	1		9	○	RP-9805	5

△



☆ ALTERNATIVE PART IS SHOWN ON PAGE 8

部品表 Parts List

FCA40001-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
431C (FCA40001-431C)	431	両面テープ DOUBLESIDED ADHESIVE TAPE	1		6	○		5
432C (FCA40001-432C)	432	遮光シート LIGHT SHIELD SHEET	1		7	○		5
*433 (FCA29001-304)	433	モルト SPONGE	1		7	○		5
439C (FCA40001-439C)	439	SCREW SCREW	1		7	○		10
442C (FCA40001-442C)	442	LCDカバー LCD COVER	1		7	○		5
*443 (FCA20201-340D)	443	カバー COVER	1		7	○		5
*444 (FCA20001-42)	444	LCDコネクタ LCD CONNECTOR	1		7	○		5
445 (FCA40001-445C)	445	LCDテープ LCD TAPE	1		7	○	RP-9808	5
*451 (FCA23001-101)	451	カーテン組 1 CARTAIN UNIT 1	1		7	○		5
455C (FCA40001-455C)	455	カーテン組 2 CARTAIN UNIT 2	1		7	○		5
457C (FCA40001-457C)	457	三脚間座 PLATE	1		10	○		5
*458 (FCA23001-50)	458	ファインダー絞り FINDER APERTURE	1		6	○		5
463C (FCA40001-463C)	463	AF窓 AF WINDOW	1	B462AC	10	○△		5
464C (FCA4001-464C)	464	プロテクター PROTECTOR	1	B462AC	10	○△		5
*465 (FCA23001-36)	465	LCD窓 LCD WINDOW	1	B462AC	10	○△		5
466C (FCA40001-466C)	466	グリップ GRIP	1	B462AC	10	○△		5
432 (FCA40001-432)	432	遮光シート LIGHT SHIELD SHEET	1		7	○		5
464C (FCA40001-464C)	464	プロテクター PROTECTOR	1	B462AC	10	○△		5

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部品表 Parts List

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部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
468C (FCA40001-468C)	468	モード釦 MODE BUTTON	1		10	○		5
469C (FCA40001-469C)	469	リリース釦 RELEASE BUTTON	1		10	○		5
475C (FCA40001-475C)	475	前飾り FRONT DECORATION	1		5	○		5
*476 (FCA23001-88)	476	○リング O RING	1		5	○		5
477C (FCA40001-477C)	477	バリアA BARRIER A	1		5	○		5
478C (FCA40001-478C)	478	バリアB BARRIER B	1		5	○		5
479C (FCA40001-479C)	479	バリア基板 BARRIER PLATE	1		5	○		5
480C (FCA40001-480C)	480	SCREW SCREW	2		5	○		10
481C (FCA40001-481C)	481	バリア駆動リング BARRIER DRIVING RING	1		5	○		5
482C (FCA40001-482C)	482	バリアバネ BARRIER SPRING	2		5	○		5
483C (FCA40001-483C)	483	バリア駆動バネ BARRIER DRIVING SPRING	1		5	○		5
484C (FCA40001-484C)	484	バリア遮光リング BARRIER LIGHT SHIELD RING	1		5	○		5
485C (FCA40001-485C)	485	バリア遮光板 BARRIER LIGHT SHIELD PLATE	1		5	○		5
*491 (FCA23001-25)	491	撮影枠 PHOTOGRAPHY FRAM	1		1	○		5
492 (FCA40001-492)	492	テープ TAPE	3		1	○		5
495C (FCA40001-495C)	496	絶縁テープ INSULATE TAPE	1		10	○		5
△ 434C (FCA40001-434C)	434	ワッシャー WASHER	1	B2393AC	6	○	RP-9805	5
△ 435C (FCA40001-435C)	435	ラバーワッシャー RUBBER WASHER	1	B2393AC	6	○	RP-9805	5

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部品表 Parts List

FCA40001-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
496C (FCA40001-496C)	496	絶縁テープ INSULATE TAPE	1		7	○		5
*509 (FCA20001-88)	509	モルト SPONGE	1	B508	8 9	○△		5
*510 (FCA20001-87)	510	パノラマ窓 PANORAMA WINDOW	1	B508	8 9	○△		5
*511C (FCA23001-37)	511	圧板 PRESSURE PLATE	1	B508	8 9	○△		5
*512 (FCA23001-145)	512	モルト SPONGE	1	B508	8 9	○△		5
*513 (FCA23001-149)	513	裏蓋シール BACK DOOR SEAL	1	B508	8 9	○△		5
*514C (FCA23001-11)	514	電池蓋 BATTERY LID	1		8 9	○		5
*515 (FCA23001-38)	515	芯金 WICK METAL	1		8 9	○		5
527C (FCA40001-527C)	527	パノラマシートカバー PANORAMA SHEET COVER	1	B518AC	8	○		5
530C (FCA40001-530C)	530	ナンバー板 NUMBER PLATE	1		10	○	S/N. 5900001~	5
531C (FCA40001-531C)	531	原産地国板 2 COUNTRY OF ORIGIN PLATE 2	1		10	○	NIKON JAPAN	5
532C (FCA40001-532C)	532	原産地国板 3 COUNTRY OF ORIGIN PLATE 3	1		10	○	MADE IN CHINA (W=2.2)	5
533C (FCA40001-533C)	533	原産地国板 1 COUNTRY OF ORIGIN PLATE 1	1		10	○	MADE IN CHINA (W=2.8)	5
*701C (FCA23001-801)	701	SCREW SCREW	2		4	○		10
*702C (FCA23001-802)	702	SCREW SCREW	2		2	○		10
*703C (FCA20001-801)	703	SCREW SCREW	4		1 8	○		10
△ 445 (FCA40001-445)	445	LCDテープ LCD TAPE	1		7	○	RP-9808	5

CHANGE PAAGE(差し替え) △X1

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部品表 Parts List

FCA40001-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Q'ty per order
*704C (FCA23001-805)	704	SCREW SCREW	1		1	○		10
*706C (FCA10001-619)	706	SCREW SCREW	8		3 6	○		10
*707C (FCA11001-810)	707	SCREW SCREW	15		1 2 10	○		10
△ *708C (FCA10001-627)	708	SCREW SCREW	12		2 6 7	○	RP-9805	10
*709C (FCA11001-817)	709	SCREW SCREW	1		3	○		10
*710C (FCA12001-810)	710	SCREW SCREW	3		6	○		10
*711C (FCA20001-820)	711	SCREW SCREW	3		3	○		10
*712C (FCA06001-502)		SCREW SCREW	2		1 9	○		10
*713C (FCA10201-905)	713	SCREW SCREW	4		1 2 10 8	○		10
△ *714C (FCA10001-627)	714	SCREW SCREW	2		1	○	RP-9805	10
*715C (FCA20001-842)	715	SCREW SCREW	1		1	○		10
*716C (FCA23001-831)	716	SCREW SCREW	2		1	○		10
*717C (G1-17035FB)	717	SCREW SCREW	4		2 4	○		10
*718C (FCA17001-818)	718	SCREW SCREW	3		6	○		10
△ *708C (FCA10001-620)	708	SCREW SCREW	12		2 6 7	○	RP-9805	10
△ *714C (FCA20001-840)	714	SCREW SCREW	2		1	○	RP-9805	10



☆ ALTERNATIVE PART IS SHOW ON PAGE 10A

部品組品表 Assembly List

FCA40001-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名 称 Name	1台分 個 数 Pcs. Per Unit	大部組品番号 Main Assembly No.	参照 図番 Fig. No.	備 考 Remarks	要求単位 Q'ty per order
B1001C (FCA40001-B1001C)	B100 1	給送FPC部組 FILM ADVANCE FPC UNIT	1		2		1
*B1002C (FCA23001-SX)	B100 2	SB基板部組 SB SUBSTRATE UNIT	1		2		1
*B1013C (FCA29001-SB)	B101 3	SB部組 SB UNIT	1		2		5
B152C (FCA40001-B152C)	B152	給送モーター部組 FILM ADVANCE MOTOR UNIT	1		2		5
B198C (FCA40001-B198C)	B198	ギア20部組 GEAR 20 UNIT	1		3		5
*B2236C (FCA23001-G2)	B223 6	ギア6-7レバー部組 GEAR 6-7 LEVER UNIT	1		3		5
B2325C (FCA40001-B2325C)	B232 5	2群レンズ室部組 2ND LENS HOUSING UNIT	1		4		1
△ B2393AC (FCA29001-AF)	B139 3	ファインダー部組 FINDER UNIT	1		6	RP-9808	5
B314 (FCA40001-B314)	B314	シャッター部組 SHUTTER UNIT	1		4		1
B317C (FCA40001-B317C)	B317	1群レンズ室部組 1ST LENS HOUSING UNIT	1		4		1
△ B336C (FCA40001-B336)	B336	移動枠部組1 SHIFT FRAM UNIT 1	1		4	RP-9808	1
△ B437 (FCA40001-B437C)	B437	AFブロック部組 AF BLOCK UNIT	1		7	RP-9808	1
B462AC (FCA40001-B462AC)	B462 A	前カバー部組 FRONT COVER UNIT	1		10		1
*B508C (FCA23001-S)	B508	裏蓋部組 BACK DOOR UNIT	1		8 9		1
B518AC (FCA40001-B518AC)	B518 A	後カバー部組 REAR COVER UNIT	1		8		1
△ B336C (FCA40001-B336C)	B336	移動枠部組1 SHIFT FRAM UNIT 1	1		4	RP-9808	1
△ B437 (FCA40001-B437)	B437	AFブロック部組 AF BLOCK UNIT	1		7	RP-9808	1
△ B415C (FCA40001-B415C)	B415	ファインダーレンズ部組 FINDER LENS UNIT	1			RP-9808	5

CHANGE PAGE(差し替え) △X 6

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部品表 Parts List

FCA40201-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	部組品番号 Assembly No.	参照 図番 Fig. No.	販売区分 Term of Delivery	備考 Remarks	要求単位 Qty per order
*127 (FCA23201-15)	127	パノラマ枠押さえ PANORAMA FRAME RETAINER	1		1	○		5
*129 (FCA23201-14)	129	パノラマレバー2 PANORAMA LEVER 2	1		1	○		5
*130 (FCA23201-18)	130	パノラマ枠2バネ PANORAMA FRAM 2 SPRING	1		1	○		5
*251 (FCA23201-52-1)	251	デートプリズム DATE PRISM	1		2	○		5
*252 (FCA23201-53)	252	デート絞り DATE APERTURE	1		2	○		5
*447 (FCA23001-23)	447	圧接バネ PRESS CONTACT SPRING	1		7	○		5
*448 (FCA23001-21)	448	圧接ゴム PRESS CONTACT RUBBER	1		7	○		5
449C (FCA40201-449C)	449	圧接モールド PRESS CONTACT MOLD	1		7	○		5
*486 (FCA23201-16)	486	パノラマレバー3 PANORAMA LEVER 3	1		7	○		5
*487 (FCA23201-17)	487	パノラマレバー3バネ PANORAMA LEVER 3 SPRING	1		7	○		5
*520 (FCA23201-43)	520	パノラマシート PANORAMA SHEET	1	B518BC	9	○△		5
*521 (FCA23201-41)	521	パノラマクリック1 PANORAMA CLICK 1	1	B518BC	9	○△		5
*522C (FCA23201-40)	522	パノラマノブ PANORAMA KNOB	1	B518BC	9	○△		1
530AC (FCA40201-530AC)		ナンバー板 NUMBER PLATE	1		10	○	S/N. 4900001~	5
△ 450 (FCA40201-450)	450	貼り板D PLATE D	1		7	○	RP-9805	5



部組品表 Assembly List

FCA40201-R. 3441. A

部品番号 Part No.	補助番号 Ckt No.	名称 Name	1台分 個数 Pcs. Per Unit	大部組品番号 Main Assembly No.	参照 図番 Fig. No.	備考 Remarks	要求単位 Qty per order
*B118C (FCA23201-P)	B118	パノラマレバー部組1 PANORAMA LEVER UNIT 1	1		1		5
*B122C (FCA23201-PW1)	B122	パノラマ枠部組1 PANORAMA FRAM UNIT 1	1		1		5
*B125C (FCA23201-PW2)	B125	パノラマ枠部組2 PANORAMA FRAM UNIT 2	1		1		5
△ *B2393BC (FCA29201-AED)	B239 3B	ファイnder部組 FINDER UNIT	1		6	RP-9808	5
*B255C (FCA23201-DB)	B255	デートモジュール部組 DATE MODULE UNIT	1		2		1
B462C6 (FCA40201-B462C6)	B462 C	前カバー部組 (QD) FRONT COVER UNIT (QD)	1		10	RP-9805	1
B518BC (FCA40201-B518BC)	B518 B	後カバー部組 (QD) REAR COVER UNIT (QD)	1		9		1
B462BC (FCA40201-B462BC)	B462 B	前カバー部組 (QD) FRONT COVER UNIT (QD)	1		10	RP-9805	1
△ B2393BC (FCA40201-B2393BC)	B239 3B	ファイnder部組 FINDER UNIT	1		6	RP-9808	5



作成承認印

配布許可印



ZOOM400

FCA40001

Lite•Touch Zoom80

FCA40101

ZOOM400 QD

FCA40201

FCA40211

FCA40221

Lite•Touch Zoom80 QD

FCA40301

REPAIR MANUAL

Nikon | NIKON CORPORATION
Tokyo, Japan

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SPECIFICATIONS

1. Major items

Focal length	38 ~ 80 mm / F 5.0 - 9.6
Shooting distance	0.7 m ~ ∞
Auto exposure range (ISO 100)	W : EV 7.0 ~ 15.0 T : EV 9.0 ~ 17.0
SB guide No.	9 (ISO 100, m)
AF steps	40 Steps (including infinity focus)
Base line length	29.4 mm
Metering range	BV 2 ~ 10

2. Operation times

Operation	time
Automatic film loading	Blank exposure starts in approx. 0.4 sec. after closing the cartridge chamber cover.
Automatic film loading error	Detection timer: 12 sec.
Film advancing	360 edges / 1 frame
Automatic film rewinding	When one frame advancing PI signal is not detected in approx. 2 sec., film advance mode is activated.
Film rewinding auto stop	Film rewinding timer: 8 sec
Manual film rewinding	Starts immediately after detecting MUS ON.
Fork free after the completion of film rewind operation	Film rewind motor rotates in normal direction for approx. 0.5 seconds after the completion of film rewind operation.
Display timer	Display timer goes out after main switch is turned ON for over 3 min., or after the film rewind operation is completed for 6 sec. (lens barrel returns to wide position.)

3. Warning indicators

Item	Message
Unloaded film	"E" indicator blinks at 1.9Hz after main switch is turned ON.
Auto film loading error	
Irregular operation on lens barrel	If no PI pulse is detected within approx.1 sec., during lens barrel operation, all indicators inside the LCD blink at 1.9Hz.
Battery energy consumption	Low battery power indicator blinks at 1.9Hz.
Flash not ready warning	Red LCD blinks (at 3.8Hz) while pressing shutter release button slightly.

4. Flash mode operation

Mode	Function	Limited shutter speed
Auto flash (AUTO)	When available light is low, flash automatically activated.(FM control)	1 / 4 5 s e c
Flash cancel	Flash does not fire regardless of subject brightness.	1 / 4 . 5 s e c
Anytime flash	Flash fires every time regardless of subject brightness	1 / 4 5 s e c
Slow sync. flash	Camera automatically selects longer shutter speed (1/4.5 sec.) than normal limited shutter speed.	1 / 4 . 5 s e c

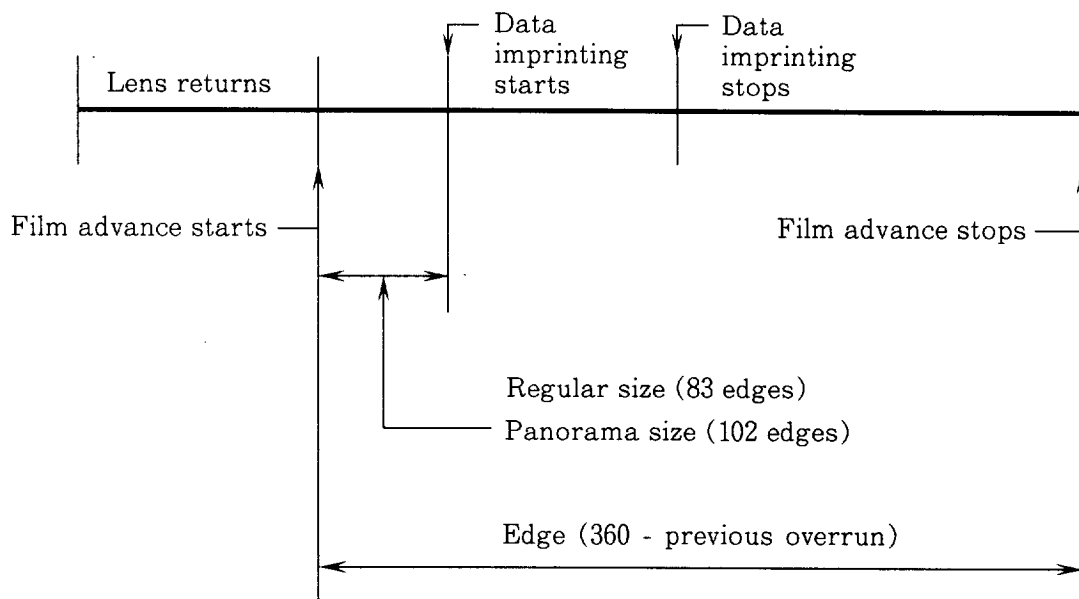
※ In infinity focus mode, flash is automatically canceled.

5. Setting of multiple functions

	Flash mode				
	Auto flash	Flash cancel	Anytime flash	Slow synchro	Forced infinity
Red-eye reduction	OK	☆ OK	OK	OK	☆ OK
Self-timer	OK	OK	OK	OK	OK

☆ : Red-eye reduction indicator appears but red-eye reduction lamp does not lights up.

6. Data imprinting sequence



Imprinting time

ISO	Time
ISO ≤ 100	164 ± 2 μS
ISO = 200	84 ± 2 μS
ISO ≥ 400	48 ± 2 μS

7. For the Manual Inspection Mode

- ① In order to arrange this applicable mode, use the operation switches of S1, MOS and SBS.
- ② Arranged any contents shall be displayed on the LCD.
- Then, 'blinking the battery mark' means the manual test mode.
- ③ For any data indication, refer to the numerical data in the column 3).

1) Arrangement procedures to the manual inspection mode

Turn the main switch ON.



Press the following three buttons together for 10 sec.
(Press the MOS button at first, and then, switch on the SBS button and the S1 within 1 sec.)

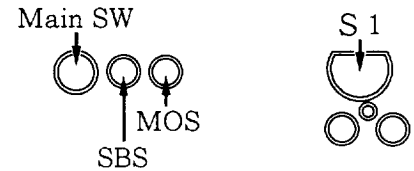


Everything is displayed for 1 sec. and then the battery mark shows up as described in the right figure.



Keep the MOS button on and simultaneously remove your fingers from the SBS button.

Then, the Manual Inspection Mode is completely set.



*Note that even the battery mark blinks after turning off the MOS button, the Manual Inspection Mode becomes cancelled then.

2) Arrangement procedures to each mode

- ① How to set the bulb condition in accordance with the prearranged numbers of AF step by executing the command No. 1 which is explained in the column 3) of 'The list of test commands'.

In accordance with the procedures in the column 1) above, set the 'Arrangement procedures to the manual inspection mode'.



Repeat to press the SBS button and select "1". Then, keep pressing the SBS button.

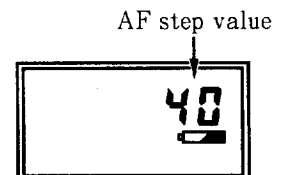
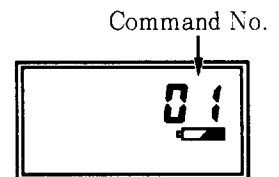


While pressing the pre-release switch and holding its condition, repeat to press the SBS button and select any number of the AF step.



Confirm the arranging number of AF step and then remove your fingers from every button for releasing the shutter.

*The numerical value in the right figure is just an example which shows 40-step as the closest object distance.



- ② For any other commands, perform the same procedures.

The list of test command

No.	Name of command	Data display	Contents
0	For the normal operations		
1	Arrangement of the bulb mode	1 to 40 of AF data	After arranging any AF step, the release switch(or, so-called 'S2') is turned on. Then, it shall be strictly required to close the bulb within a minute.
2	Arrangement of the AF count	1 to 40 of AF data	Shooting is made in accordance with the prearranged number(s) of step on the LCD. Then, even in the case of arranged command infinite mode by the SBS button, the AF step prearranged in the test command mode is the priority.
3	Display of the AF results by turning on the S1	0 to 40 of AF data	Any AF results is displayed by turning the S1 on. Then, "0" is always displayed in the shutter release locking mode.
4	Zooming mode indication	1 to 5 of zooming data	The lens barrel is driven by operating the zooming switch. Then, after removing your finger from the zooming switch, any certain zooming data is displayed for 1 sec.
5	ISO indication and EV data indication	ISO data 7.0 to 15.0 of EV data (every 0.125 interval)	As the S1 is turned on after setting any ISO value, the camera shows the certain EV data in accordance with the ISO value prearranged in the test command mode.

*For canceling the manual test mode, turn the main switch off and open the back dorr.

3) The data of numerical values

① The AF data

AF data as step No.	Distance in meter (m)		AF data as step No.	Distance in meter (m)	
	Prearranged objectdistance in meter	Position to be switched in meter		Prearranged objectdistance in meter	Position to be switched in meter
1	15.30	Infinity	21	1.228	1.204
2	9.293		22	1.181	
3	6.145	7.000	23	1.137	1.158
4	4.945	5.478	24	1.097	1.116
5	4.144	4.508	25	1.060	1.078
6	3.572	3.836	26	1.025	1.042
7	3.143	3.343	27	0.994	1.009
8	2.808	2.966	28	0.964	0.979
9	2.541	2.668	29	0.936	0.950
10	2.322	2.426	30	0.910	0.923
11	2.140	2.227	31	0.886	0.898
12	1.986	2.060	32	0.863	0.875
13	1.854	1.917	33	0.842	0.852
14	1.739	1.794	34	0.822	0.832
15	1.639	1.687	35	0.803	0.812
16	1.550	1.593	36	0.784	0.793
17	1.471	1.510	37	0.767	0.776
18	1.401	1.435	38	0.751	0.759
19	1.338	1.368	39	0.736	0.743
20	1.280	1.308	40	0.721	0.728
		1.254			

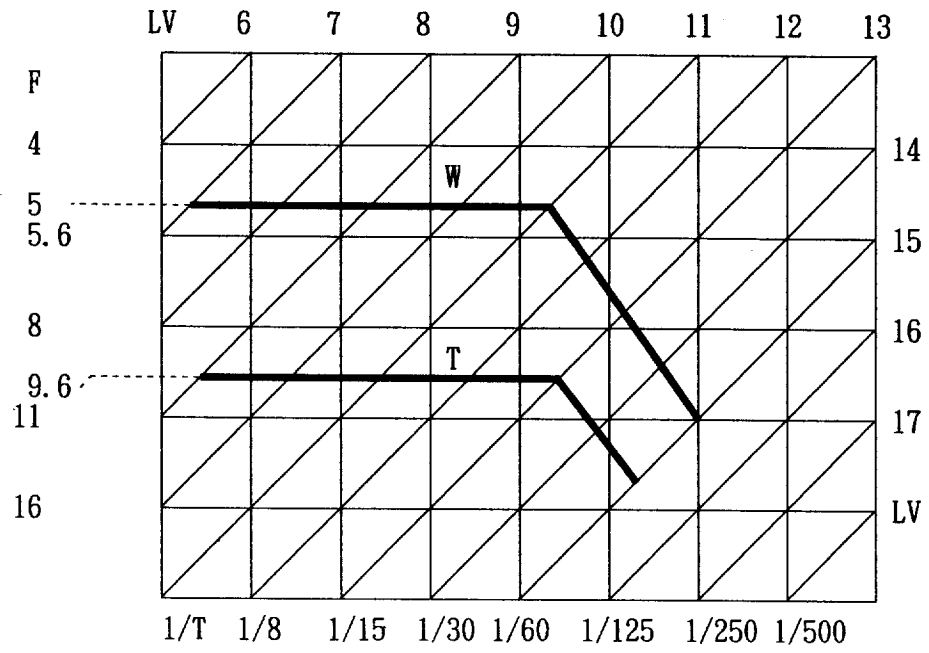
③ Zoom zone

Zoom zone	Distance (mm)
5 (Tele)	77.567 ~ 68.868
4	68.292 ~ 61.457
3	57.575 ~ 52.640
2	48.502 ~ 44.952
1 (Wide)	39.037 ~ 36.703

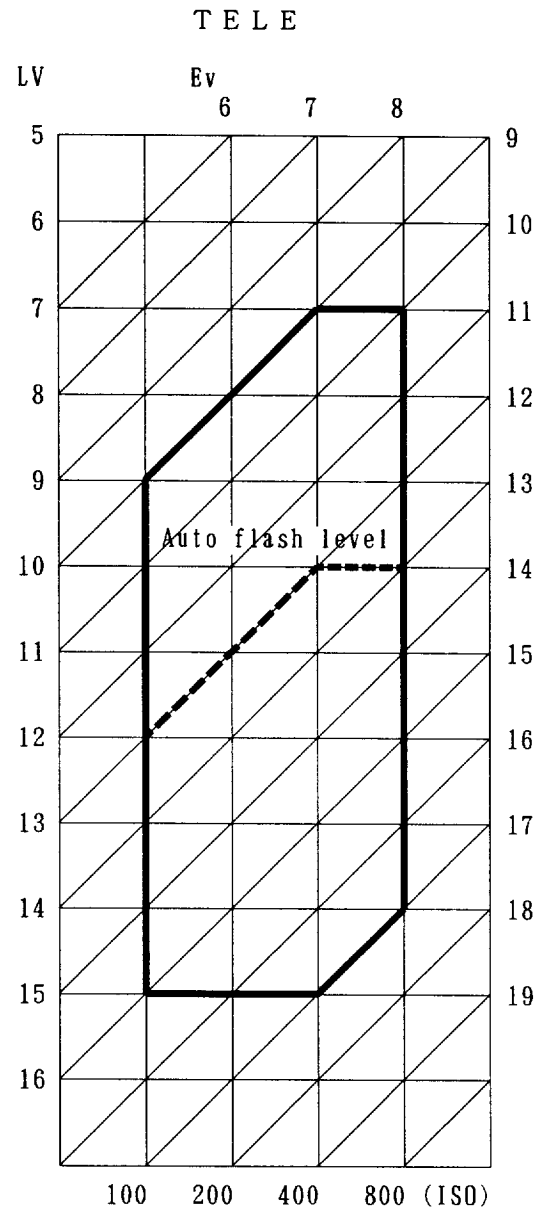
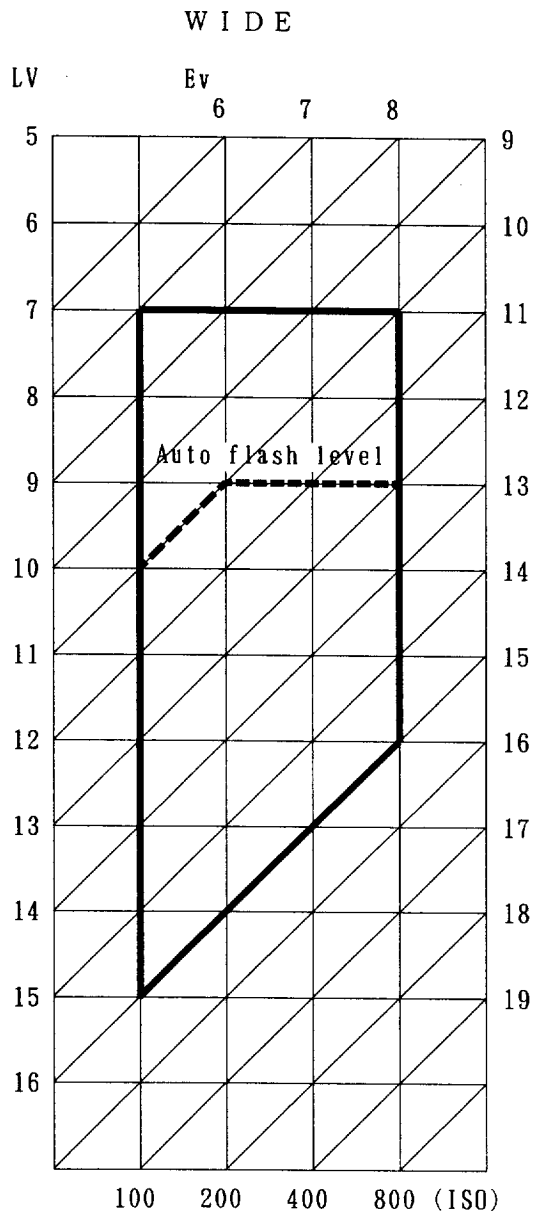
④ ISO value

ISO value	Data display
1 0 0	1 0
2 0 0	2 0
4 0 0	4 0
8 0 0	8 0

Program chart



A E Range chart



DISASSEMBLING / ASSEMBLING / ADJUSTMENT

⚠ WARNING



- Due to its internal high voltage area, make sure to check the safety when removing the cover.
- Be sure to discharge the static electricity from the main condenser according to the instruction in the repair manual after removing the front cover.

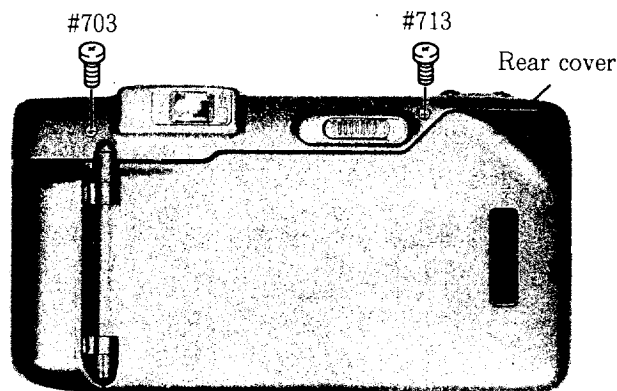
Note :

- ① Be sure to take off the battery before disassembly.
- ② At disassembly, make sure to memorize how to arrange the wires, how to fix the screws, and the types of used screws.
- ③ Be sure to get yourself grounded because of the static electricity which exerts any serious adverse effect to ICs.
- ④ Make sure which side is back or forth when taking off the gear.

DISASSEMBLING

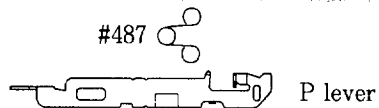
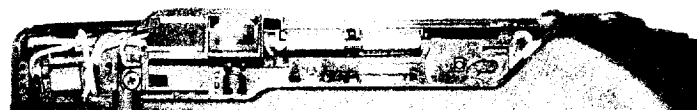
1. SEPARATING THE LENS BARREL FROM THE REAR BODY

REAR COVER UNIT

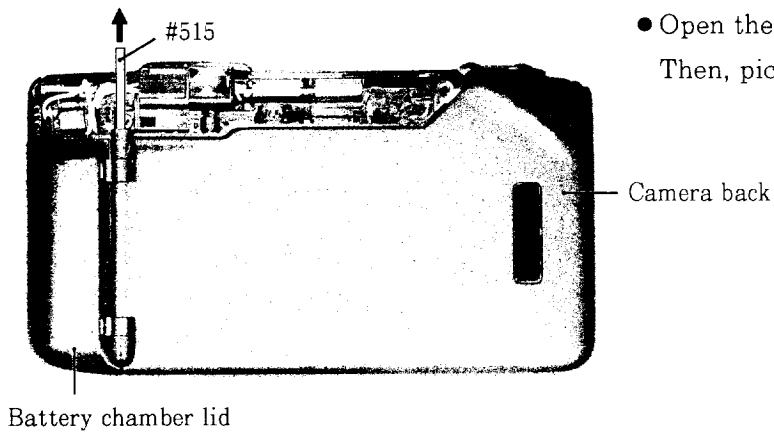


- Set the panorama lever to the "P" position to remove the rear cover.

P LEVER



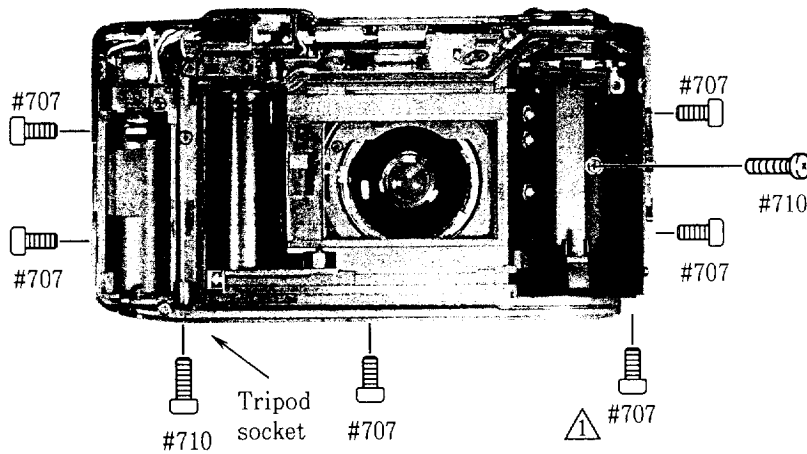
CAMERA BACK / BATTERY CHAMBER LID



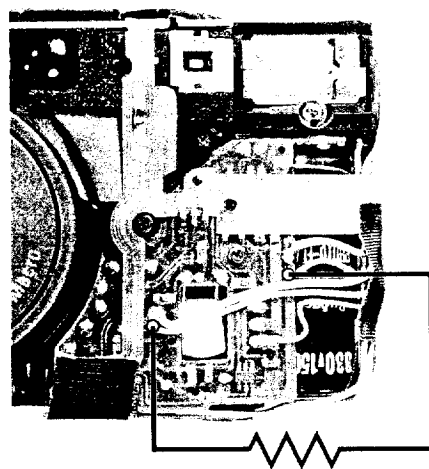
- Open the rear cover.
- Then, pick up #515 and pull it up.

FRONT COVER

- Hook the edge of front cover bottom near the tripod socket with finger and then pull the cover up and remove it.



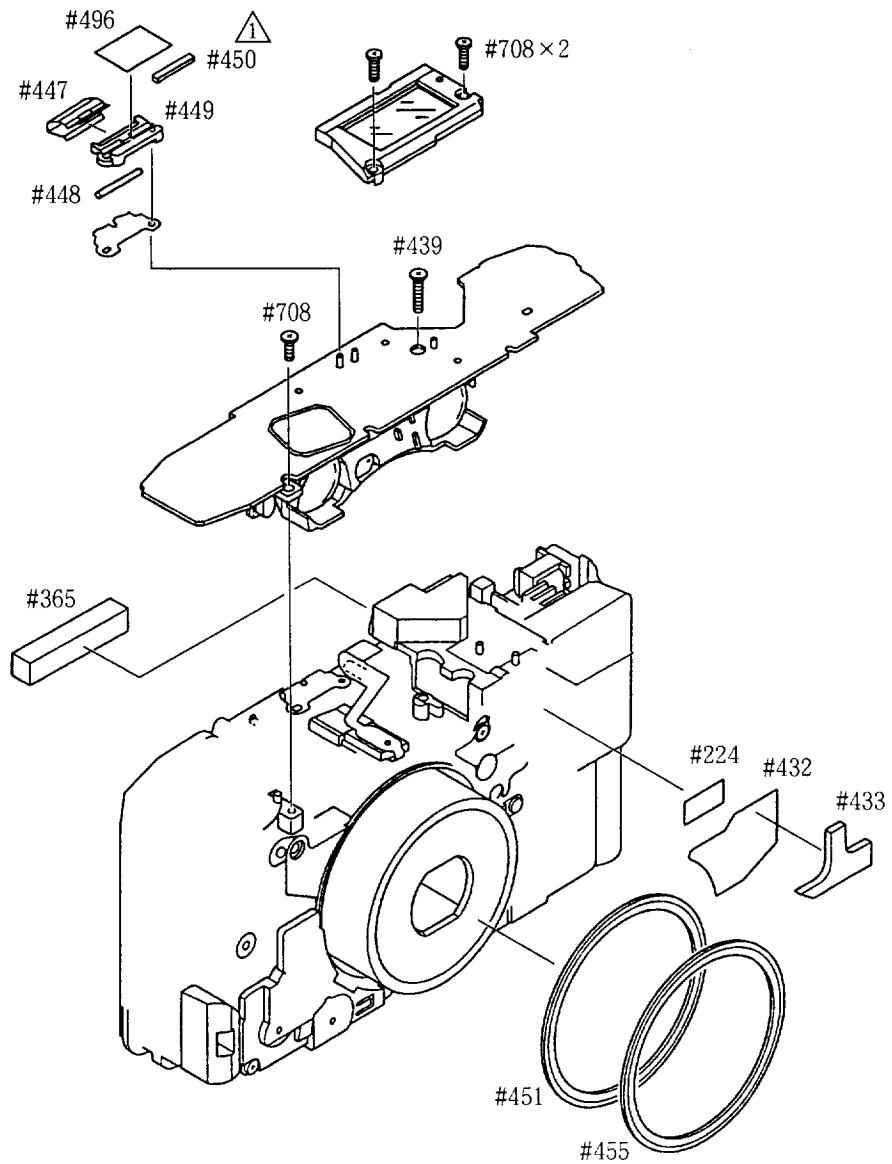
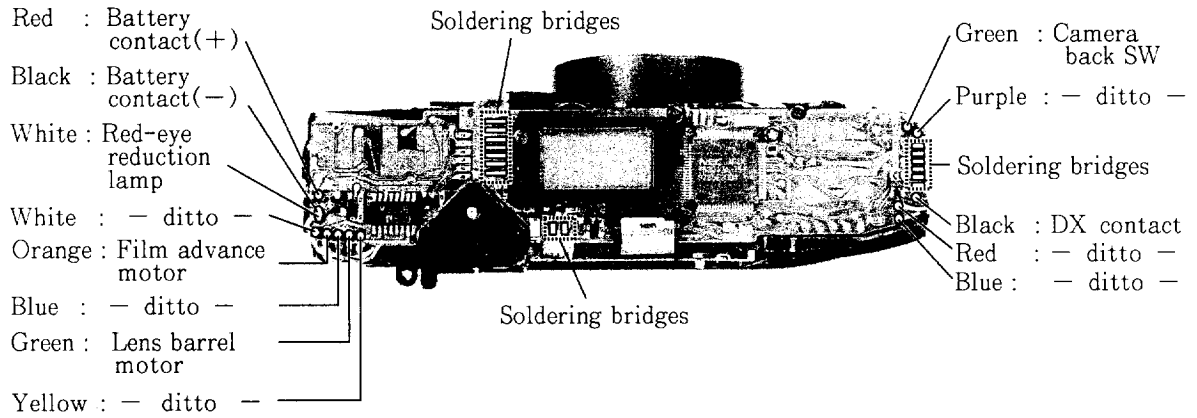
DISCHARGING OF THE MAIN CONDENSER



Discharge resistor

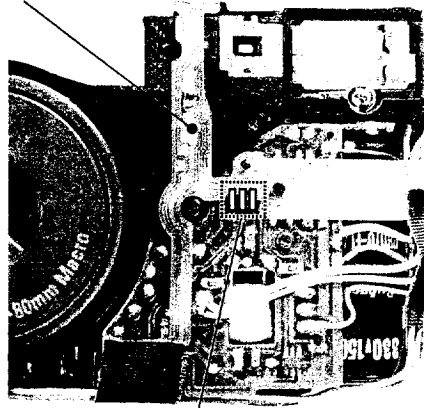
- Discharge the electricity between both terminals on the main capacitor.
- For the discharging, utilize the discharging resistor with its capacity of approximately 2KΩ / 5W.

AF BLOCK UNIT



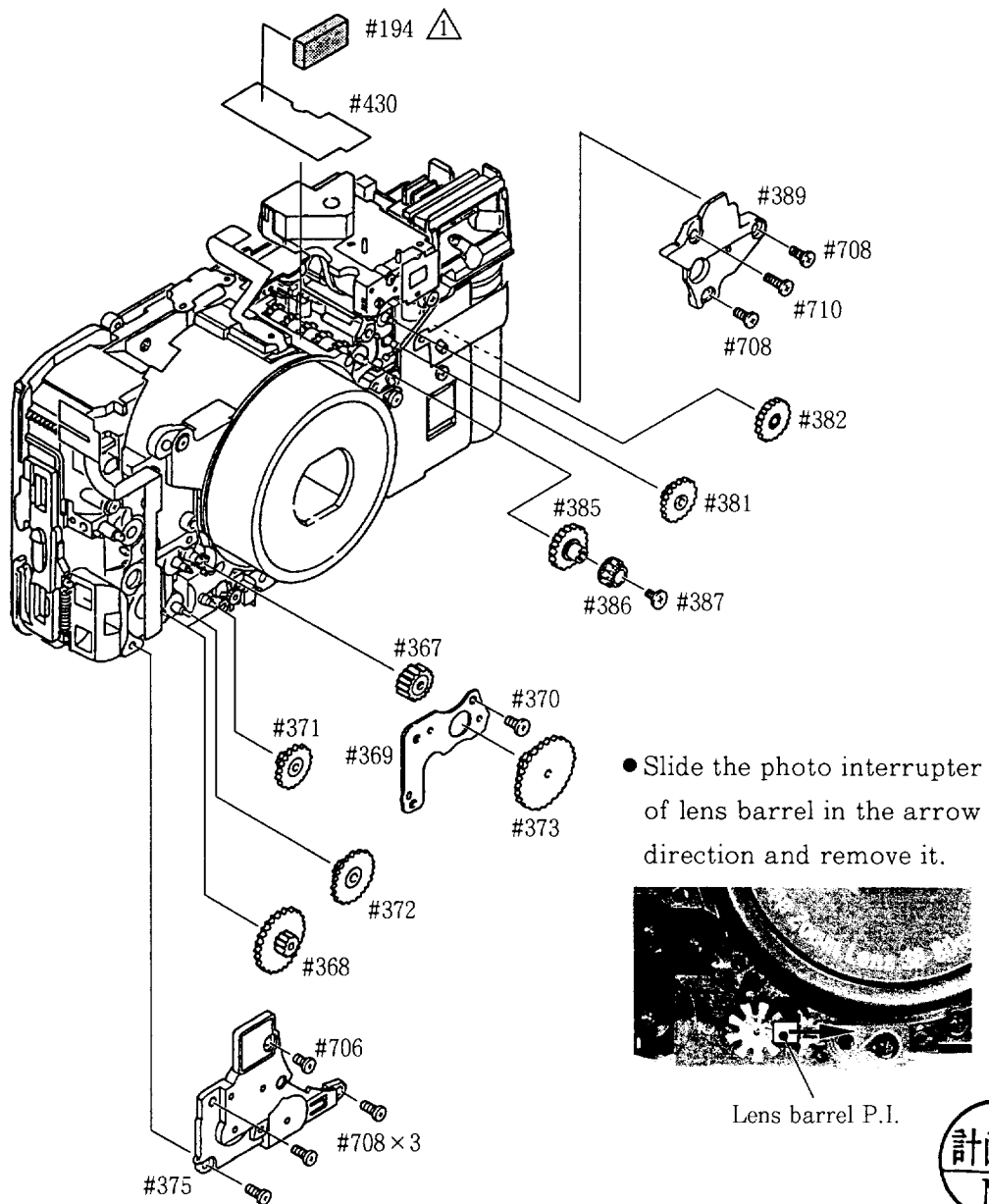
FPC UNIT (W/R P.I.)

FPC unit (W/R P.I.)

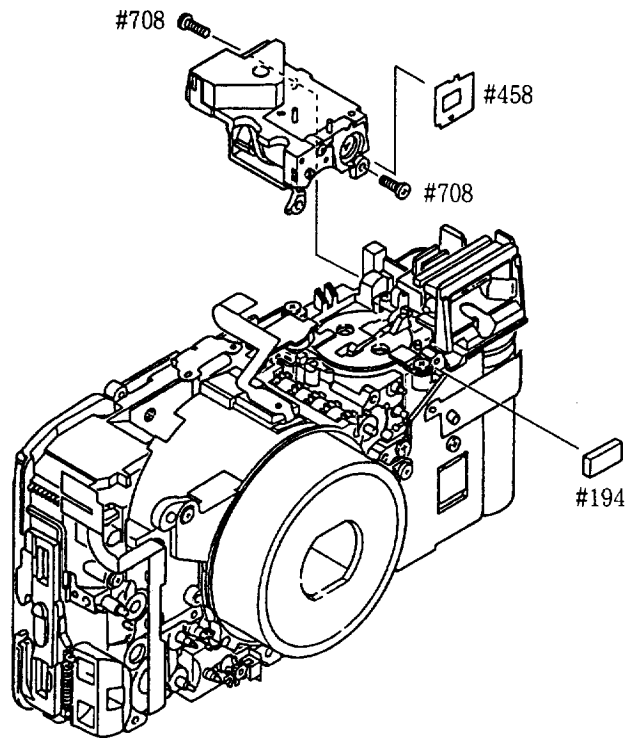


Soldering bridges

JOINT GEAR

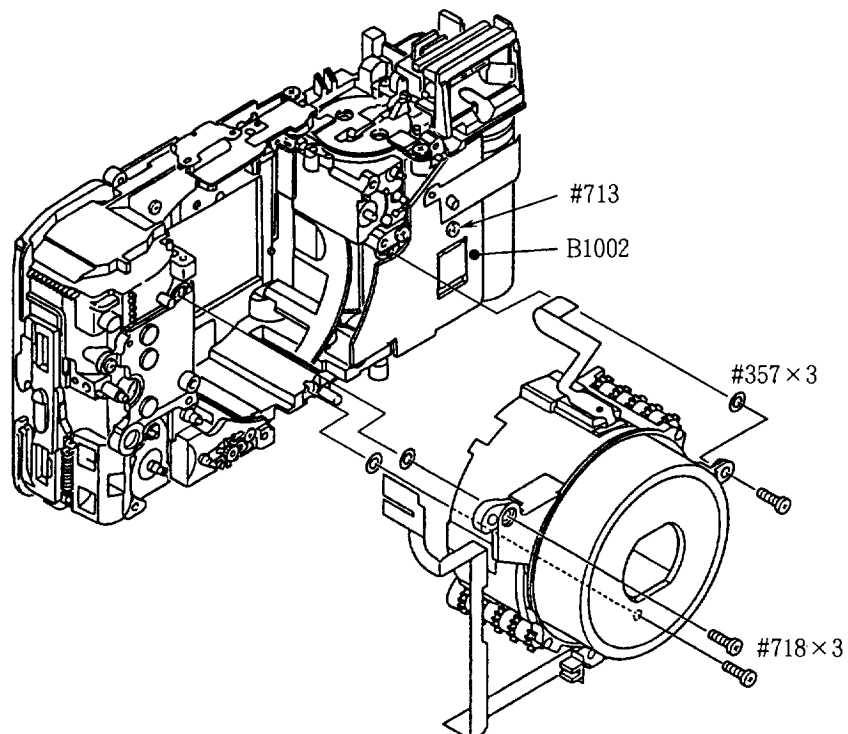


VIEWFINDER UNIT



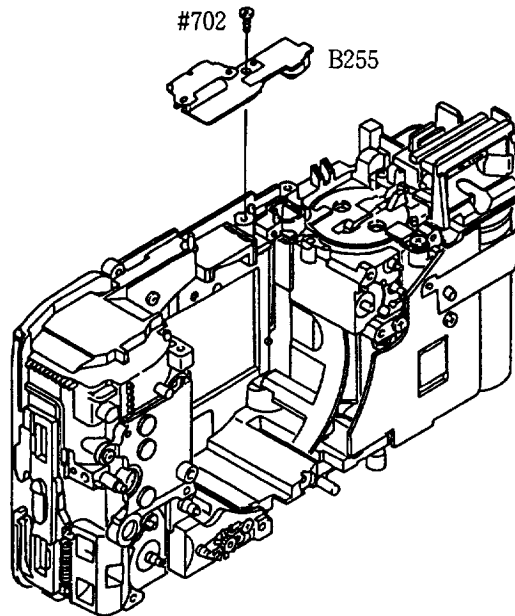
REMOVING LENS BARREL UNIT

- Unfasten the screw #713 and set in order to readily remove the lens barrel body.

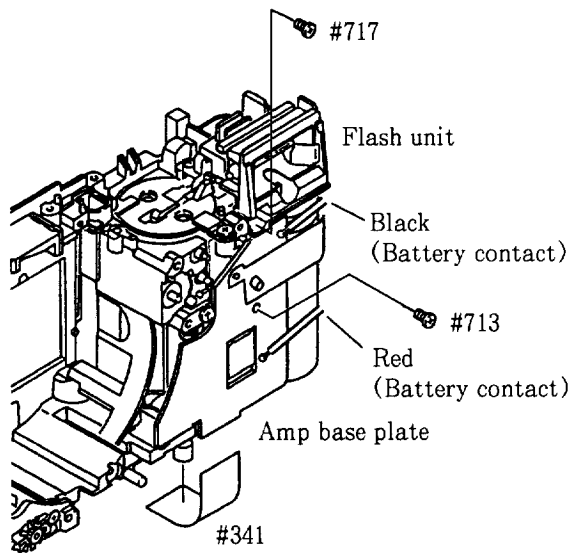


2. REAR BODY

DB MODULE

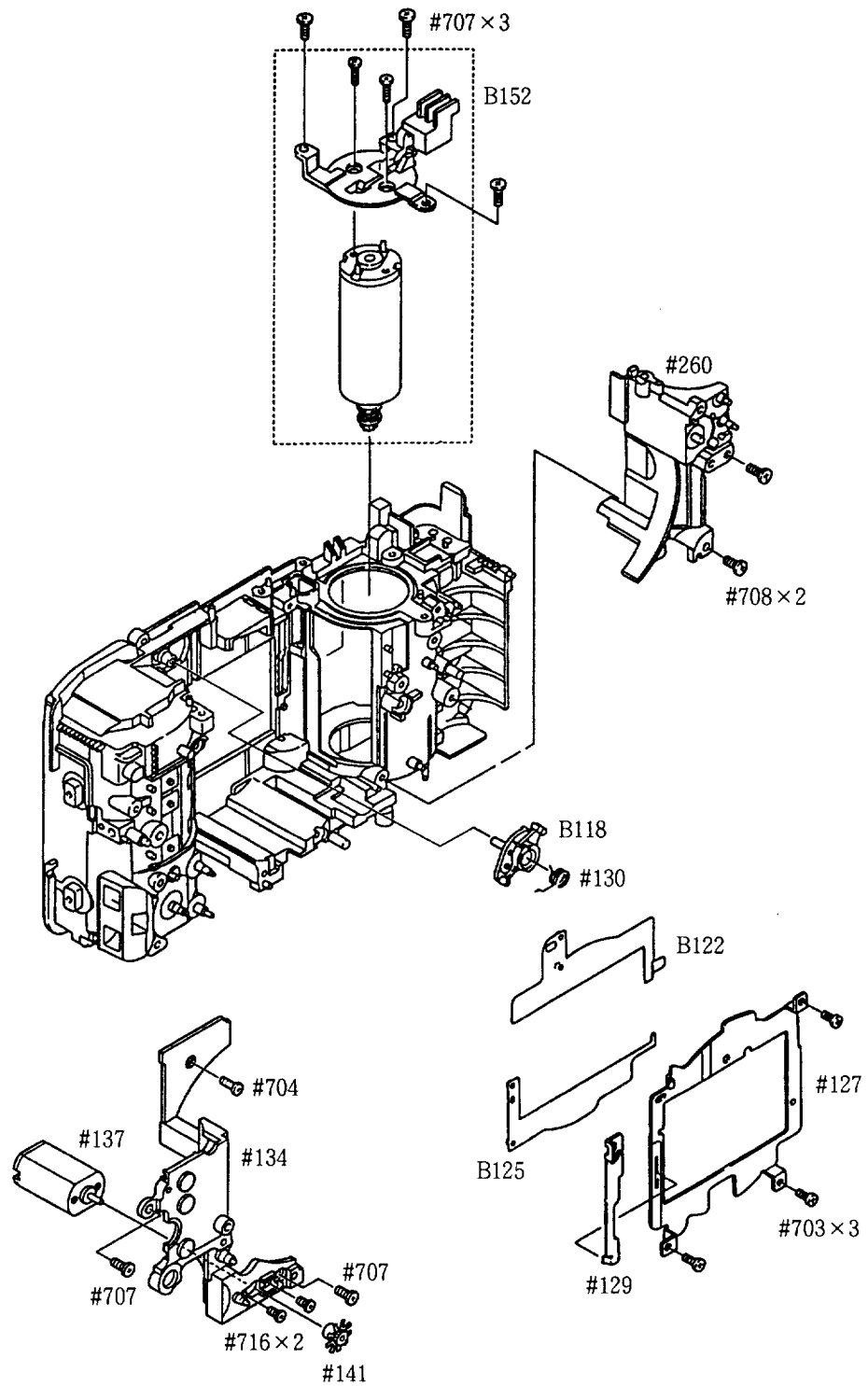


FLASH UNIT / AMP BASE PLATE

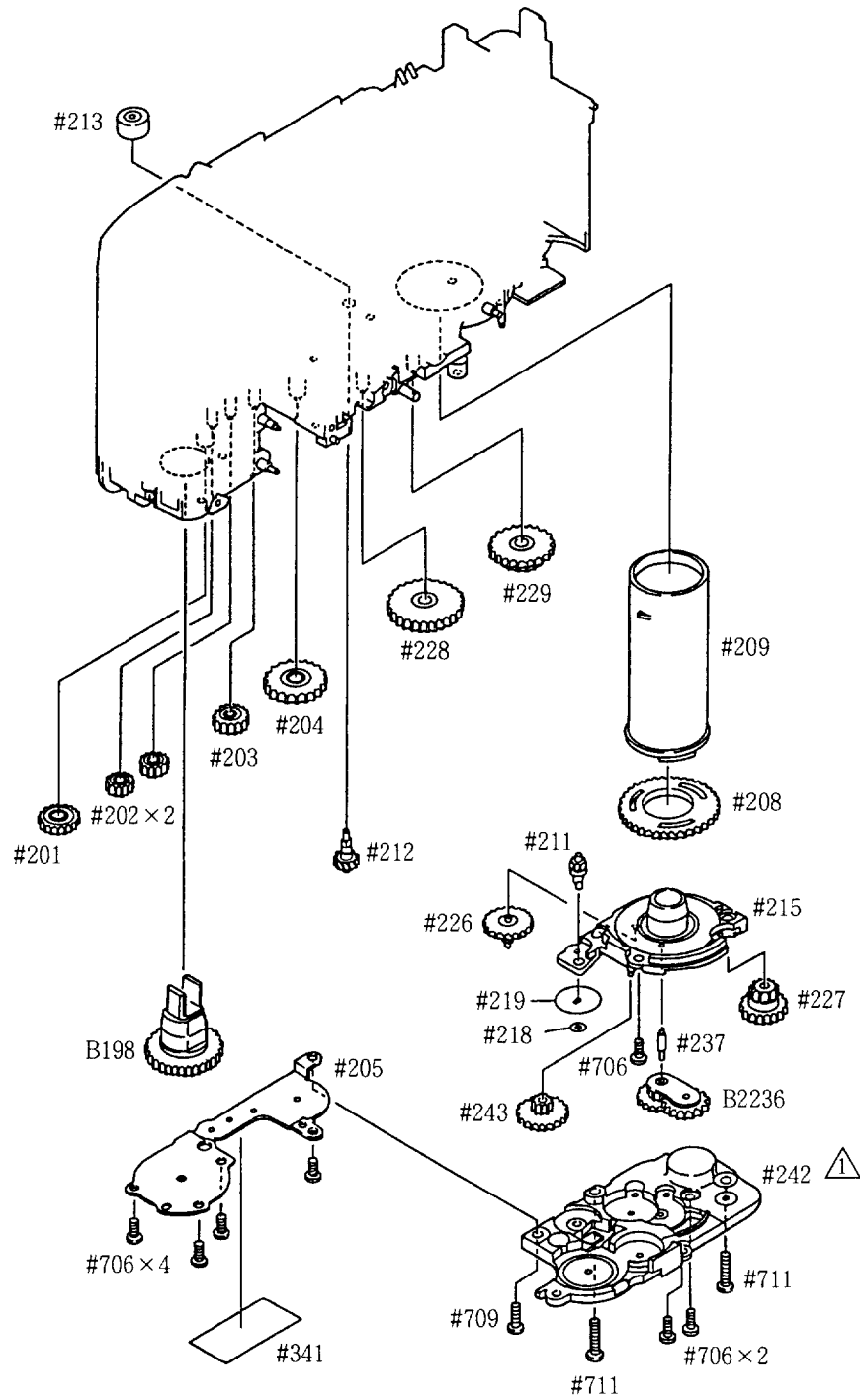


- ① Remove the soldered red and black colour cords expanding from the battery contact.
- ② Remove the screws #713 and #717.
- ③ Then, each of the light emission area, the printed circuit for amplifier and the main capacitor is removed.

PANORAMA GROUP / MOTOR GROUP

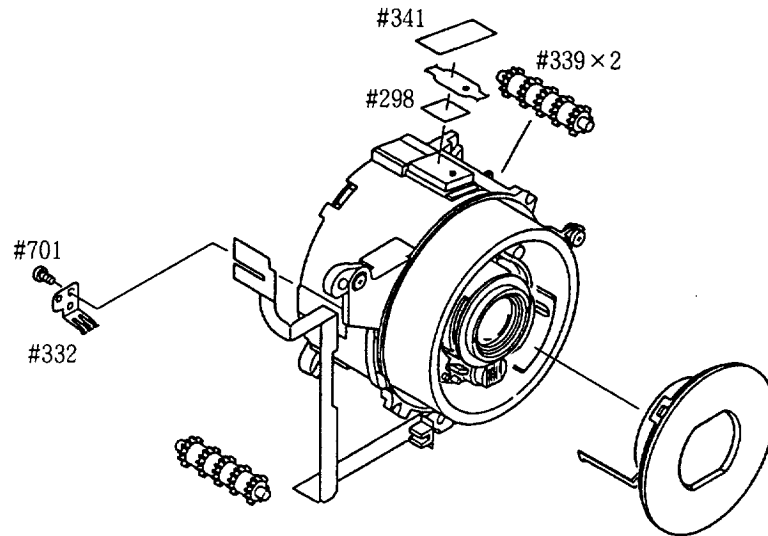


FILM ADVANCE GEAR GROUP

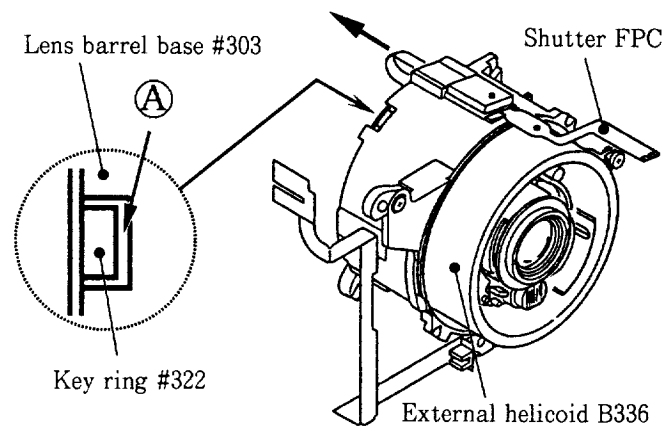


3. LENS BARREL

BARREL SW / GEAR / LENS COVER

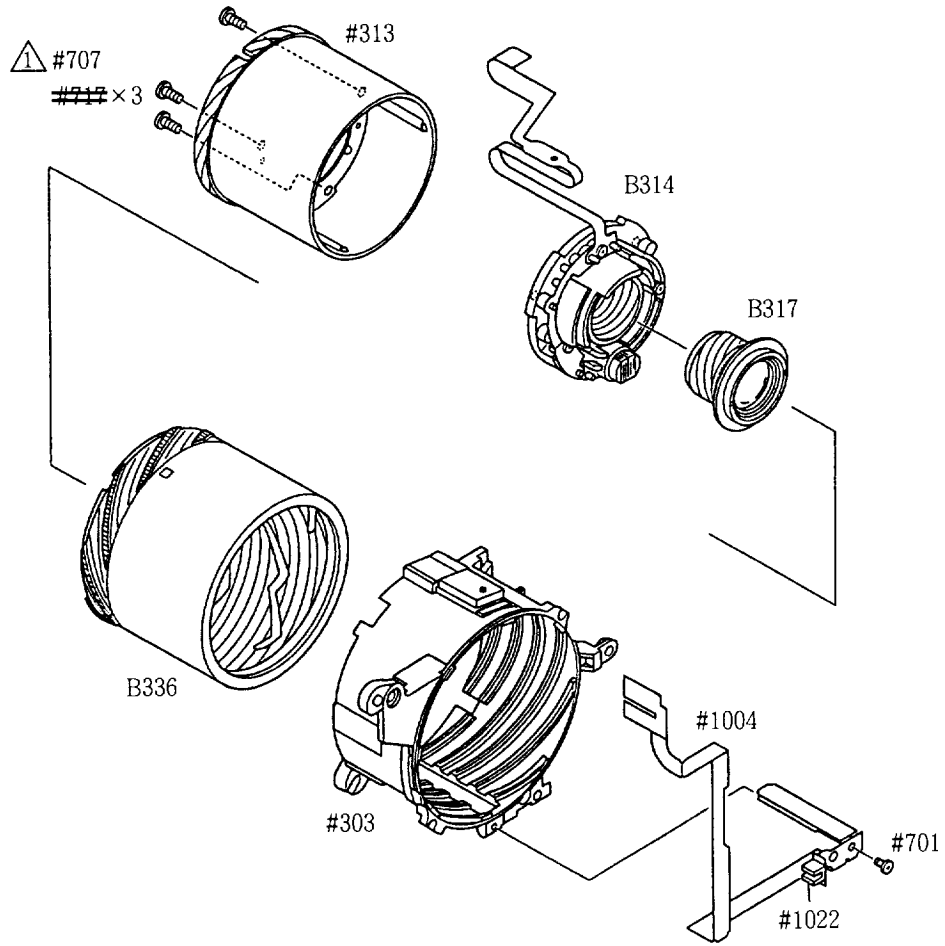


REAR LENS GROUP / KEY RING



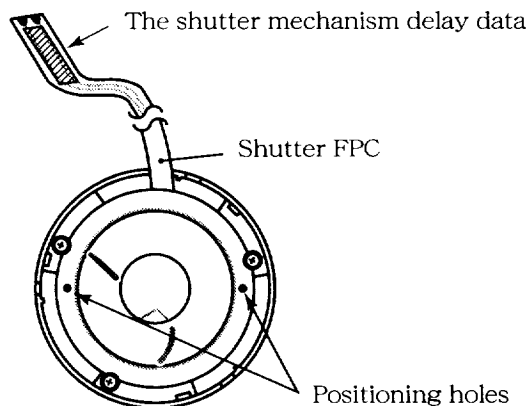
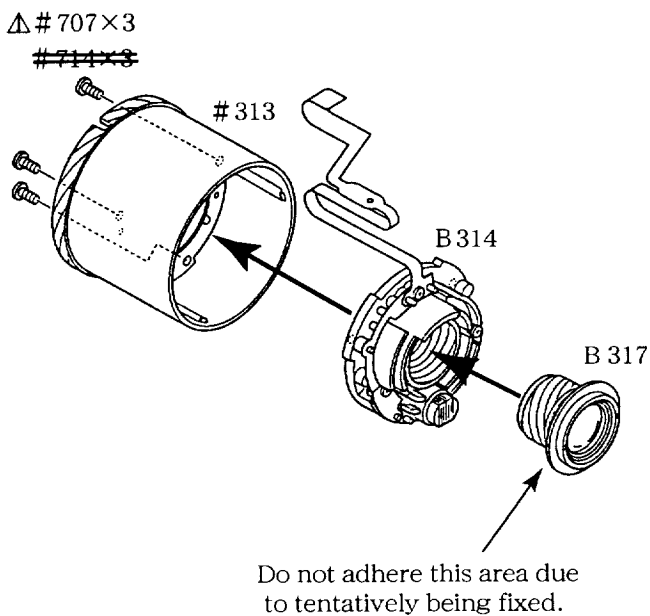
- ① Pull out the shutter FPC in the arrow direction.
- ② Set the lens barrel to the Wide position.
- ③ Insert the tip point of a slotted screwdriver to the point **A** as described in the left figure, and then remove the three hooked areas.
- ④ Pull out the key ring #322 to the front.
- ⑤ Maintain the fixed condition of external helicoid B336 and rotate the key ring #322 clockwise.
- ⑥ Remove the rear lens group B2325, the key ring #322 and the spring #331.

HELICOID / SHUTTER UNIT



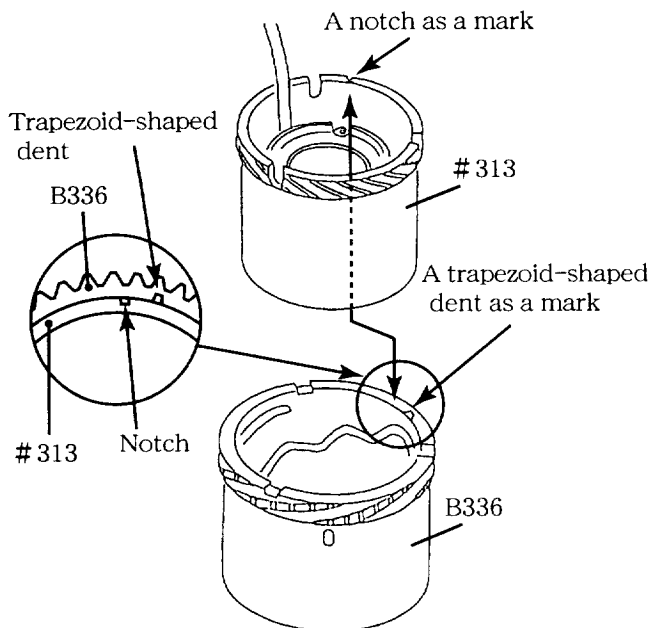
ASSEMBLING

SHUTTER UNIT, 1ST LENS GROUP



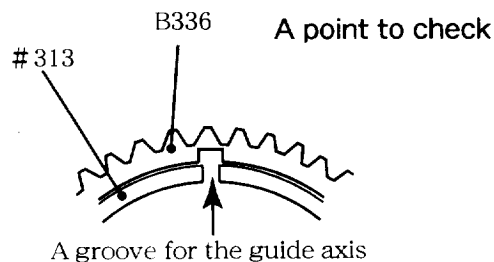
In case of replacing the shutter unit or the AF unit, make sure to memorize the shutter mechanism delay data for further usage in adjustment case(s).

EXTERNAL HELICOID UNIT



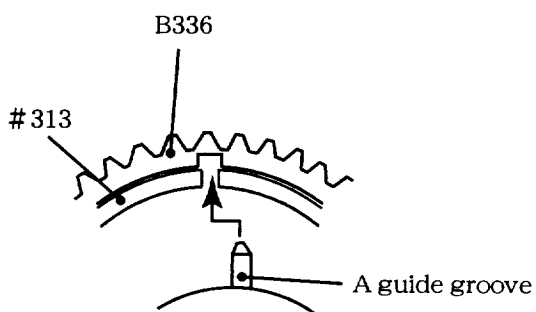
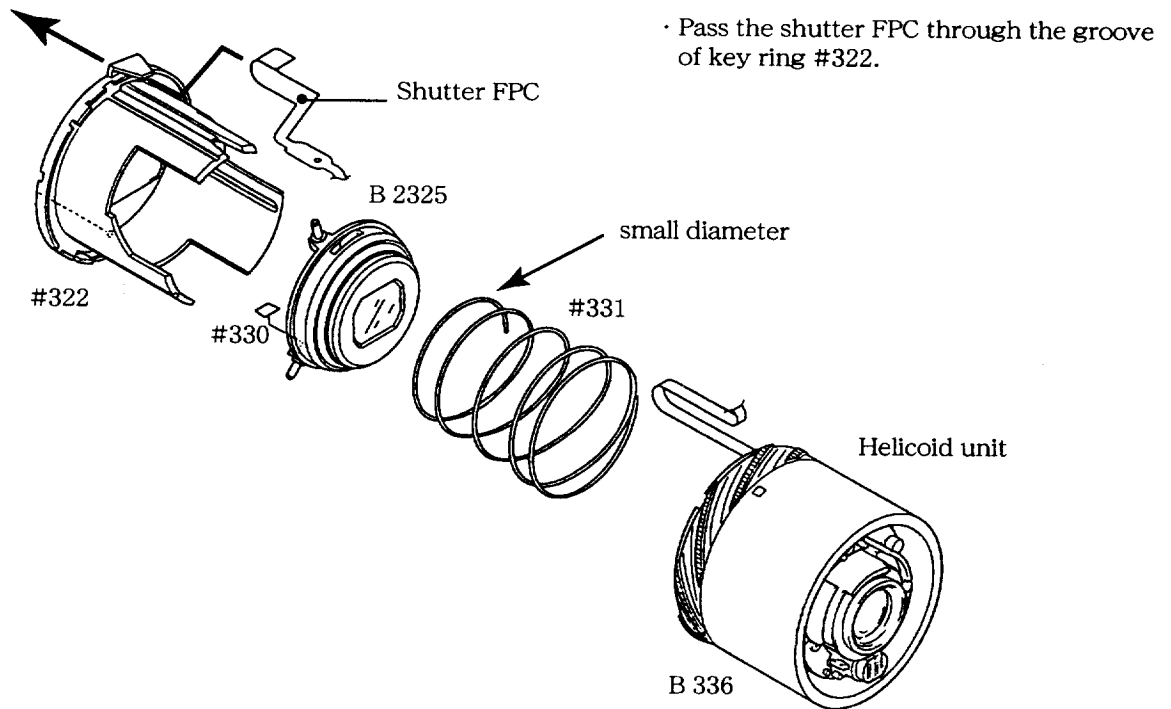
· Mount the external helicoid B336 on the position as defined in the left figure.

Note : Towards the notch of inner helicoid #313, set the trapezoid-shaped dent of outer helicoid B336 slightly to the right side and mount them together.



· Rotate the internal helicoid #313 counterclockwise in order to put the groove for guide axis on the position as described above, check whether or not the height of both internal and external helicoids is the same after mounting and fixing them together.

REAR LENS GROUP , KEY RING



① Mount the rear lens group (unit) B2325 and the key ring #322 on the cam tube unit and fix them together.

Then, set the external helicoid unit #B336 to meet the groove #313 as described in the left figure.

② Press the center on the surface of rear lens group (unit) by finger(s) in order to enable the guide axis to hook the three grooves.

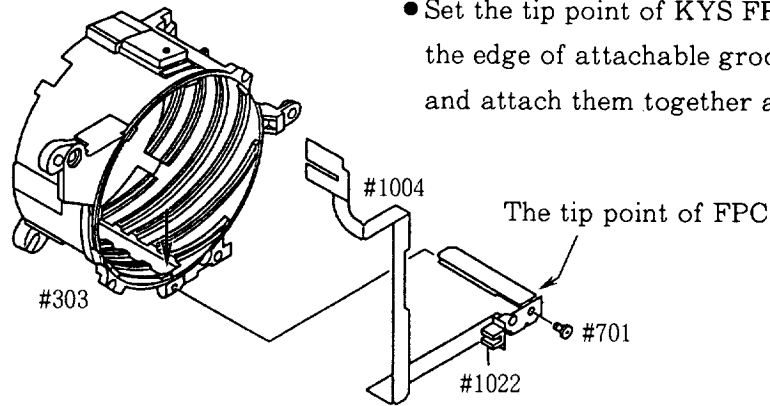
Then, rotate it counterclockwise.

③ Rotate the external helicoid unit #B336 in order to check whether the operational condition(s) of rear lens group (unit) can move smoothly or not.

Note : Avoid to press the key ring #322 to the very end.

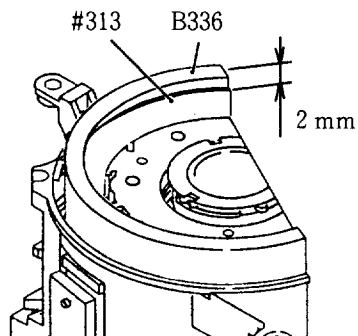
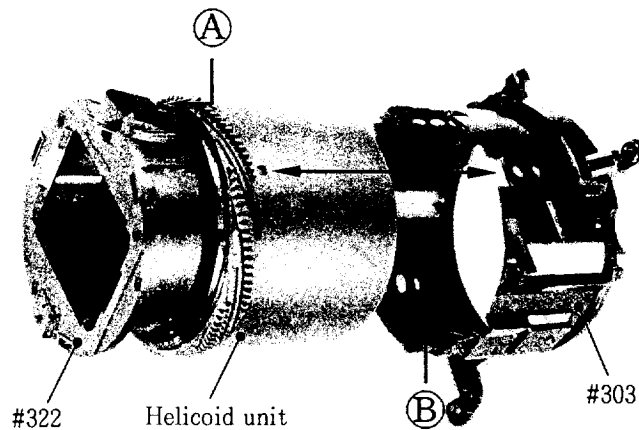
KYS FPC

- Set the tip point of KYS FPC #1004 to fit up with the edge of attachable groove on fixed ring #303 and attach them together at the arrow point below.



FIXED RING

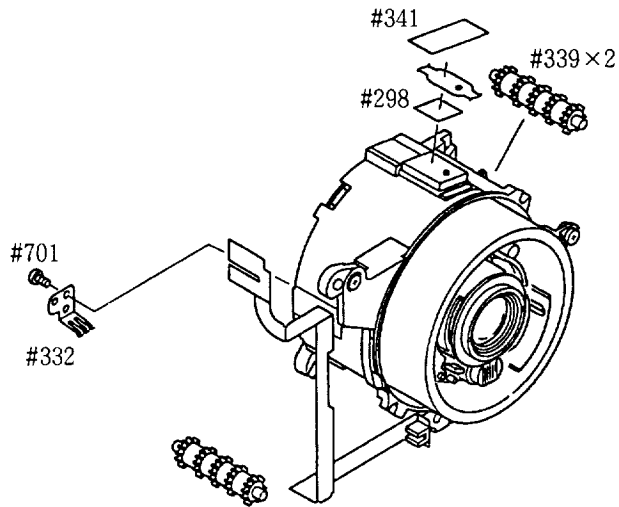
- ① Set the helicoid unit to the Wide end position, and fix them together as described in the left figure.
 - ② Set the point Ⓐ on key ring #322 to meet the point Ⓑ on fixed ring #303 and mount them together.
- Then, the key ring #322 and the helicoid unit can hook with each other.



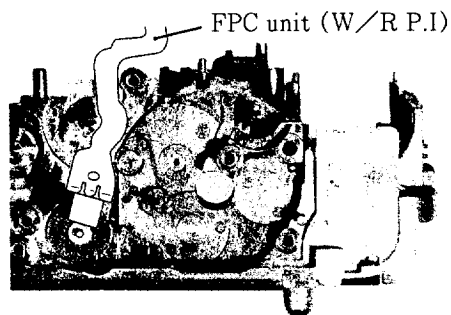
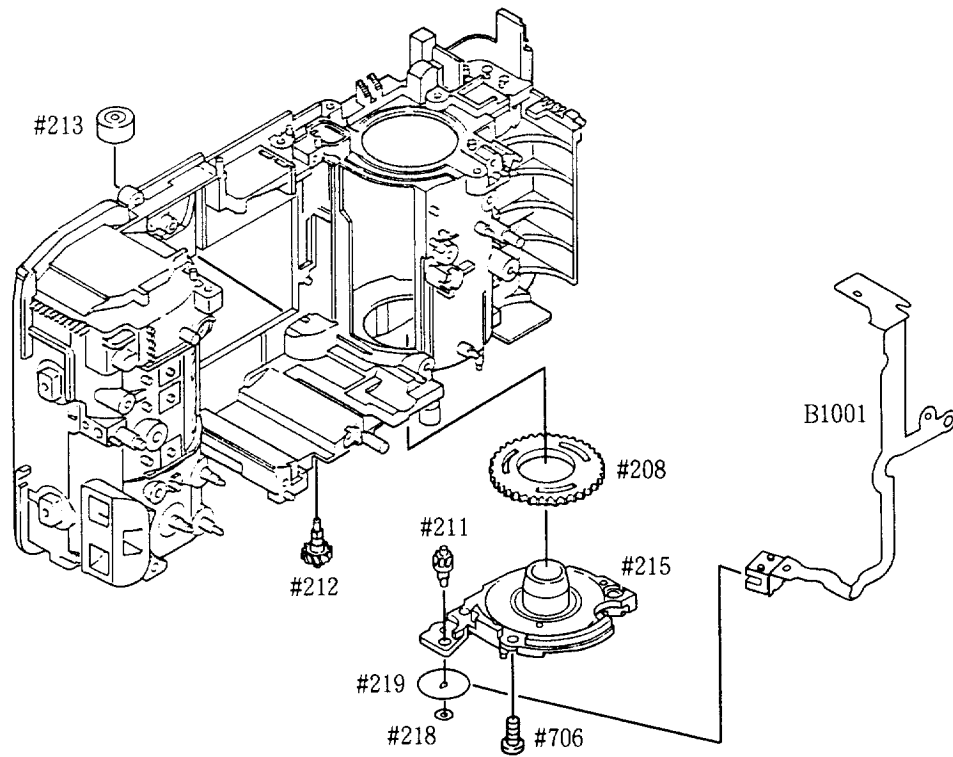
Check :

As described in the left figure, approximately 2 mm of the height difference shall be made when setting the helicoid to the most profound position.

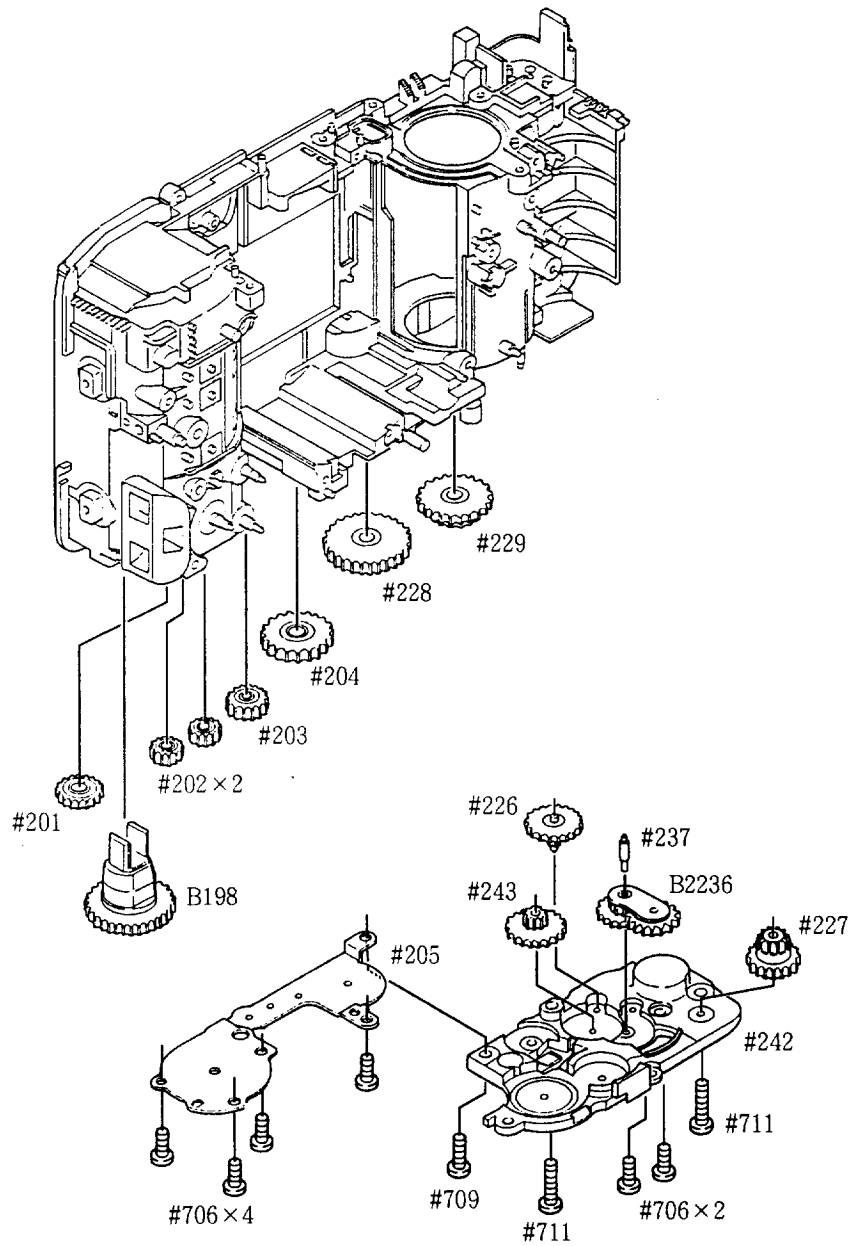
BARREL SW / GEAR



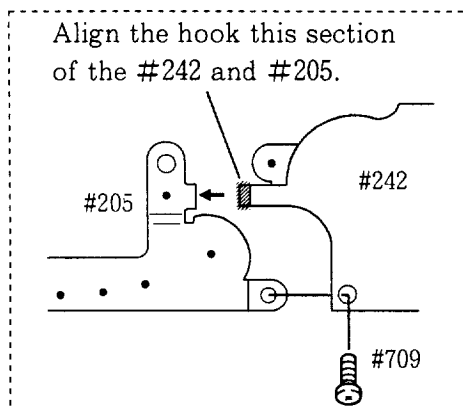
FPC UNIT (W/R P.I.)



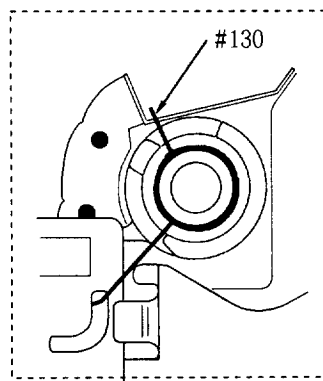
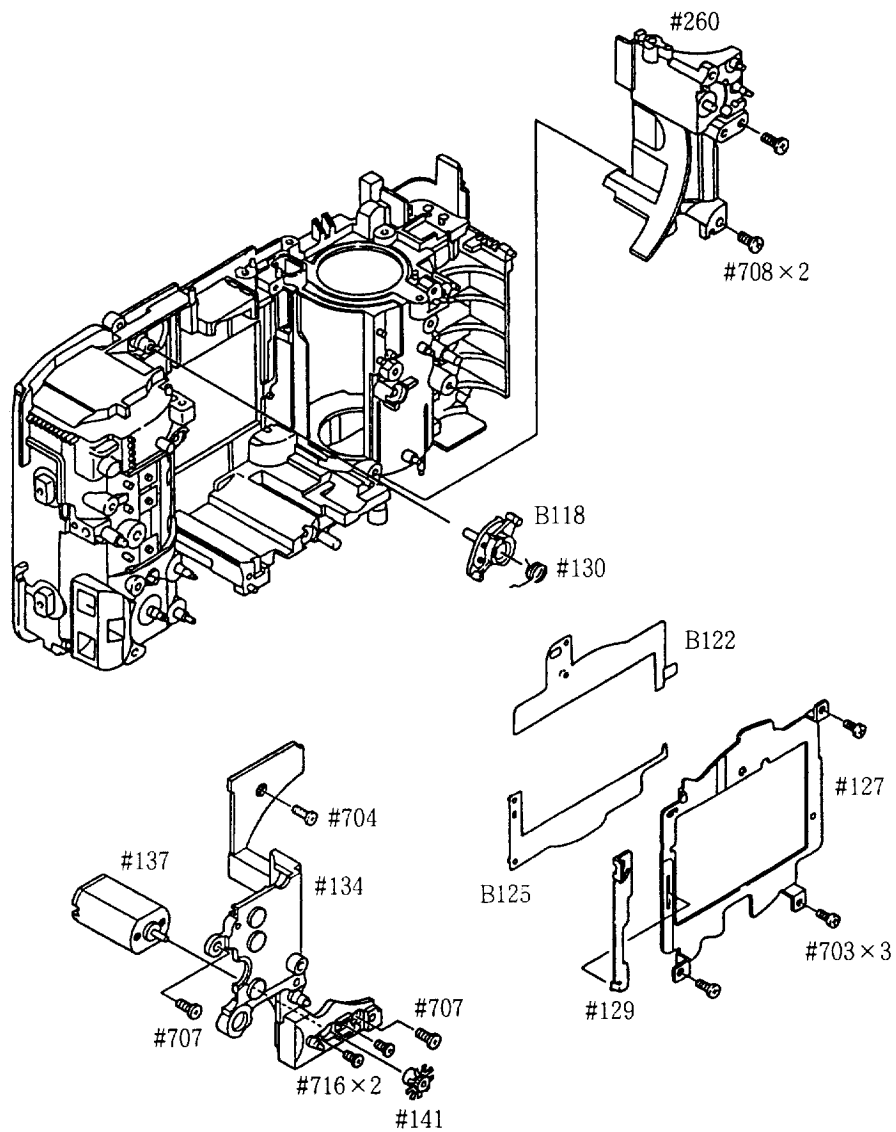
FILM ADVANCE GEAR GROUP



- Apply the grease G-474C slightly to each gear and to the gear axis.

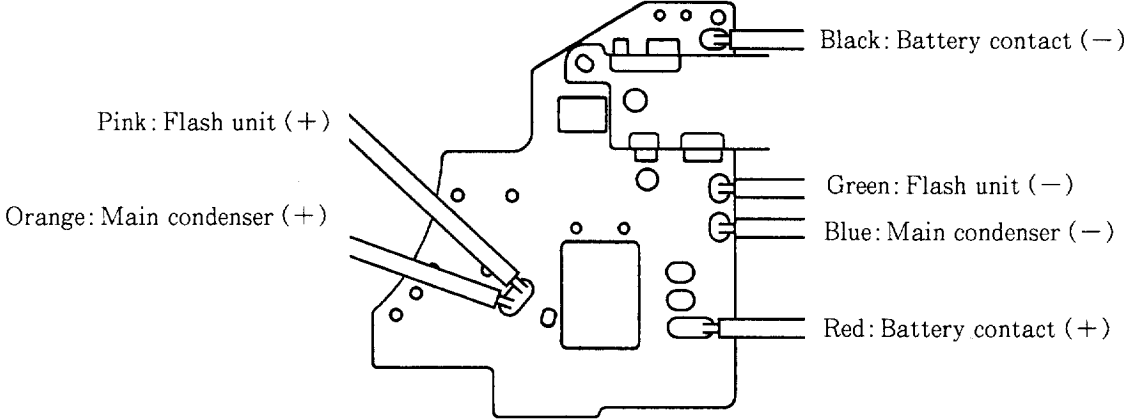
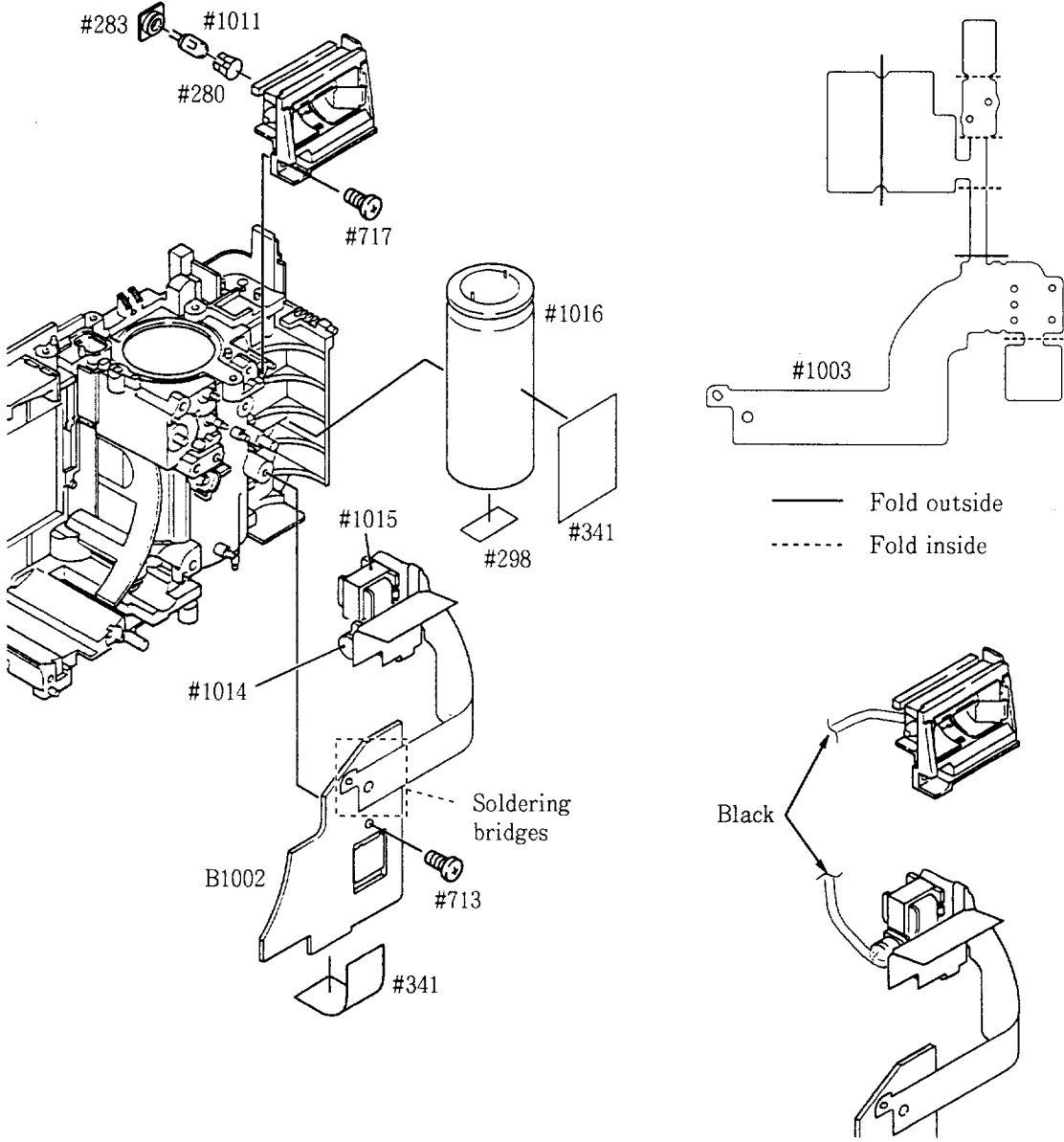


PANORAMA GROUP / MOTOR GROUP

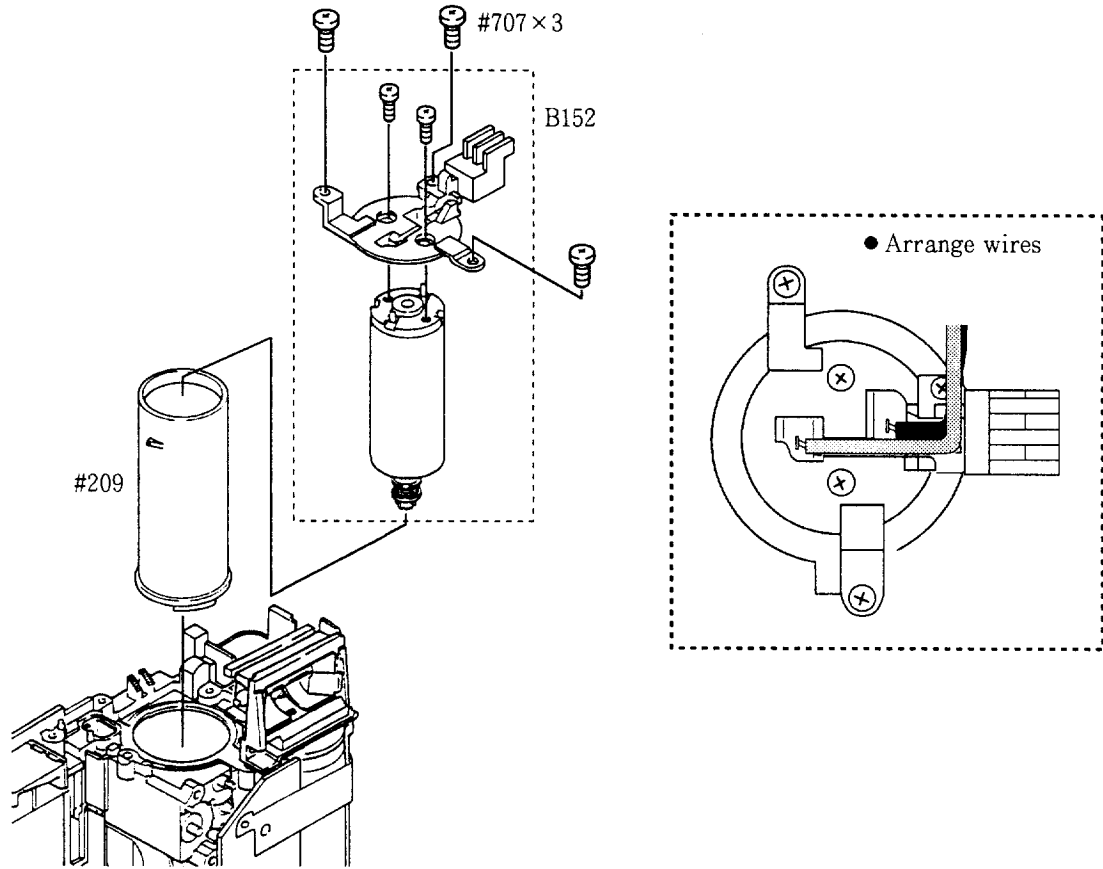


● Fix #130 at the position as described in the left figure.

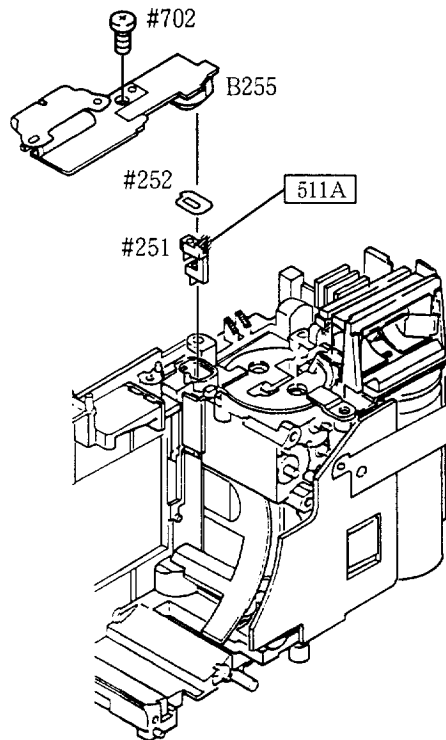
FLASH UNIT / AMP BASE PLATE



W/R MOTOR

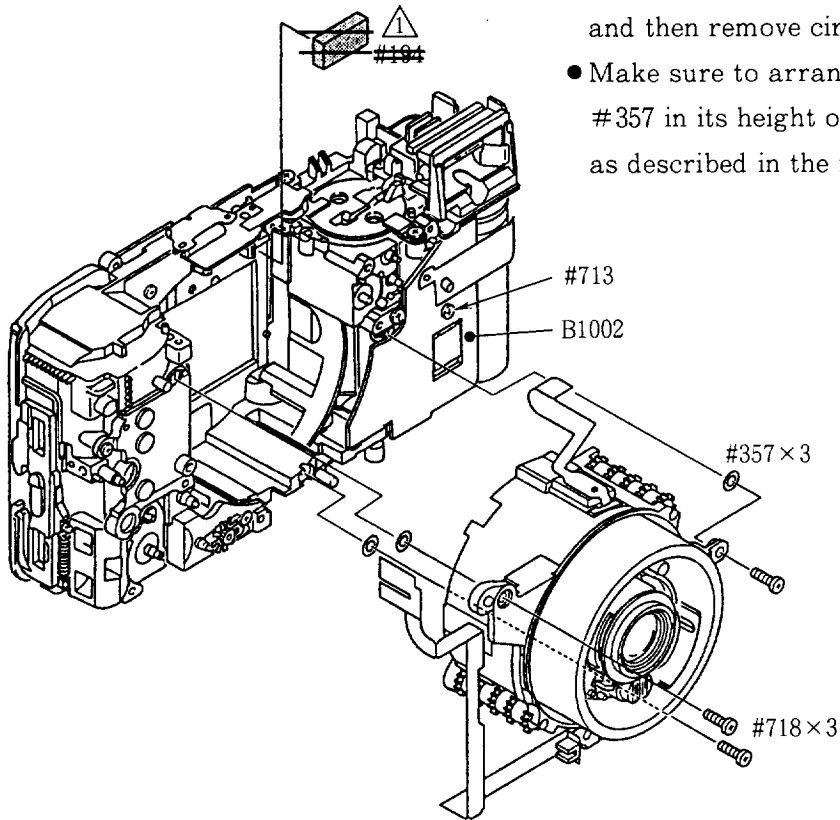


DB MODULE / D PRISM

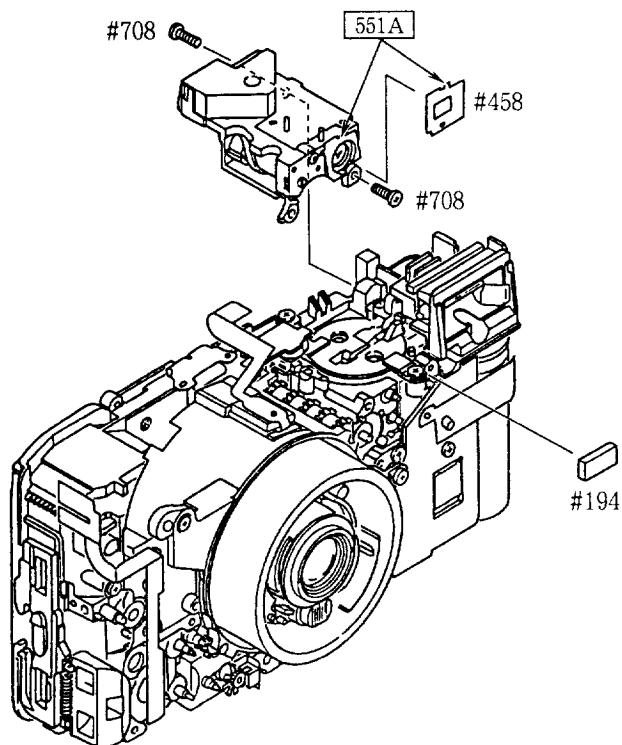


ATTACHING THE LENS BARREL UNIT TO THE REAR BODY

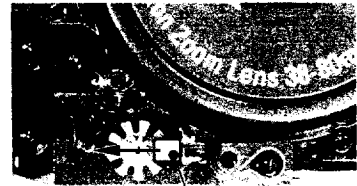
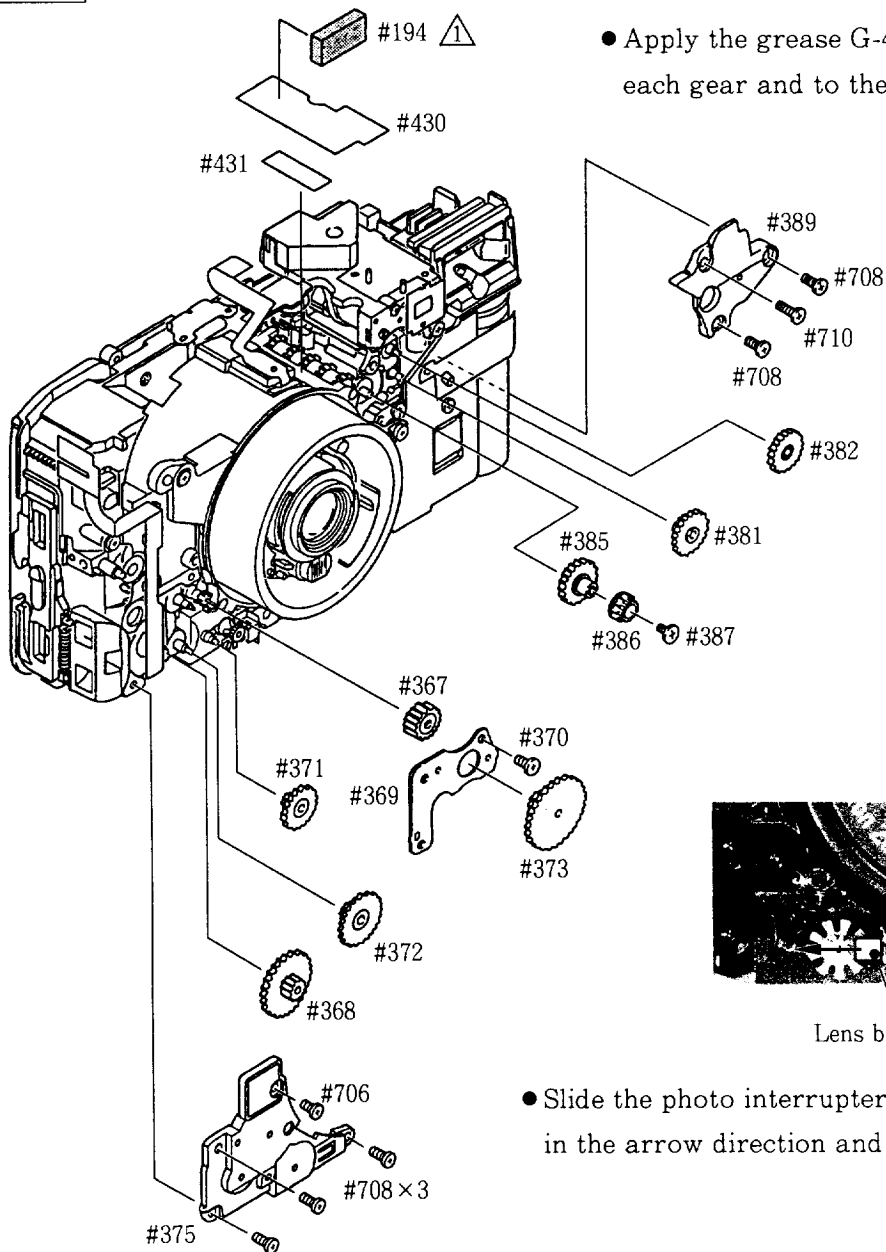
- Unfasten the screw #713 in order to set the printed circuit for amplifier B1002, and then remove circuit.
- Make sure to arrange each of the washer #357 in its height of 0.5 mm at each position as described in the figure below.



VIEWFINDER UNIT



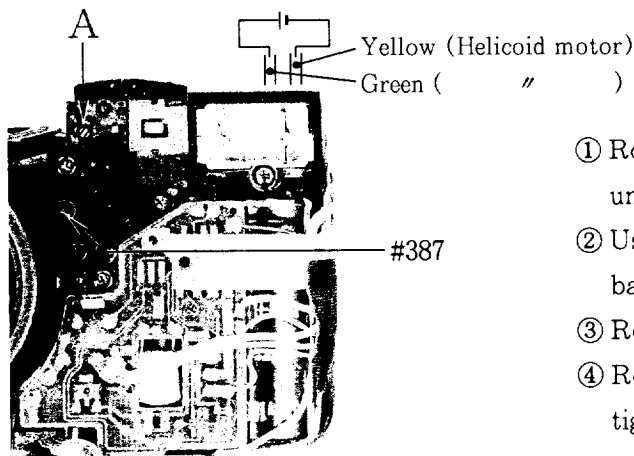
JOINT GEAR



Lens barrel P.I.

- Slide the photo interrupter for lens barrel in the arrow direction and fix it.

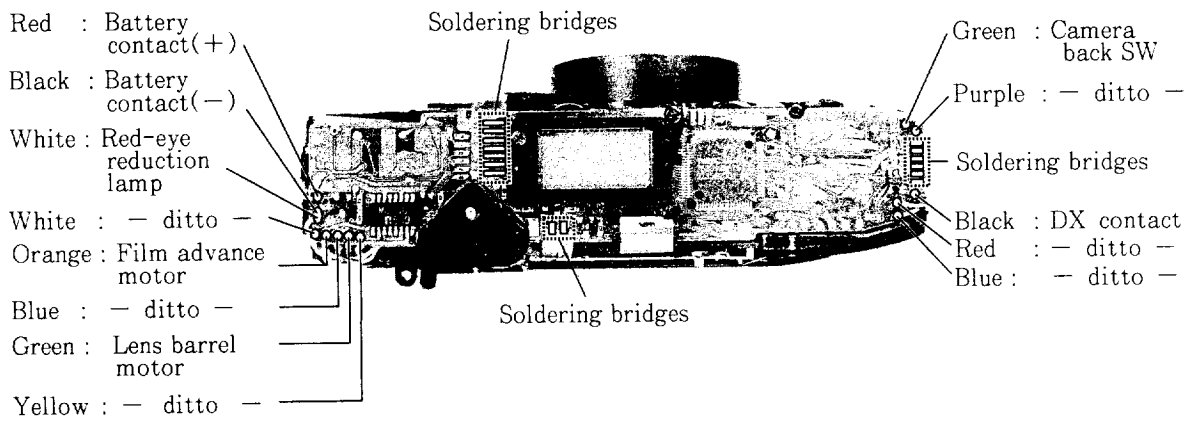
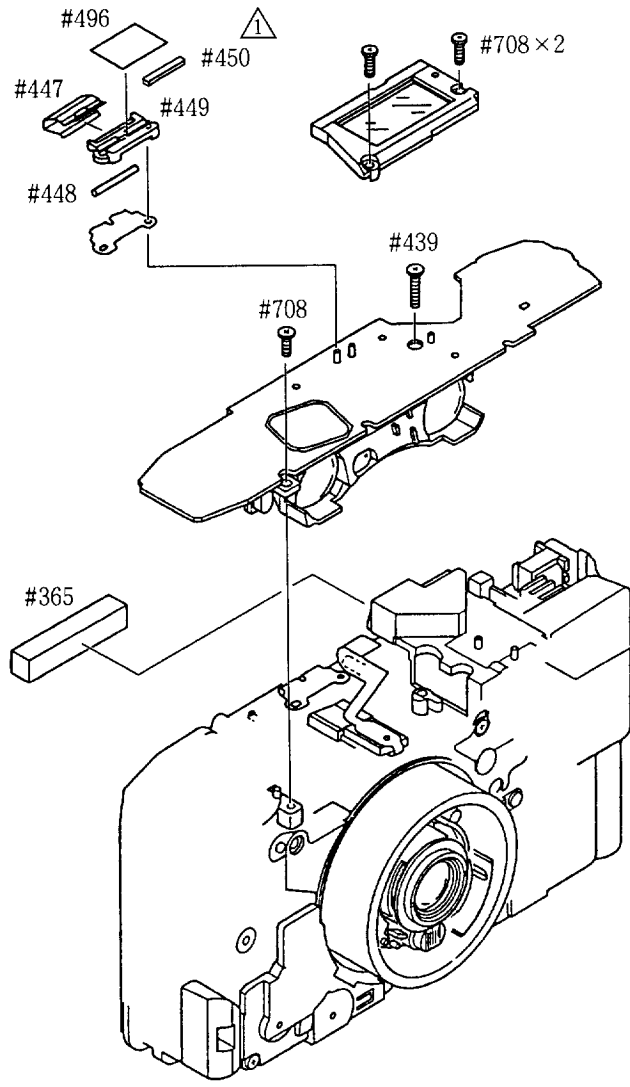
ADJUSTMENT OF VIEWFINDER POSITION



- ① Rotate the screw #387 clockwise and unfasten it.
- ② Using a battery energy, operate the lens barrel and set it to the Tele position.
- ③ Rotate the shaft A clockwise until it stops.
- ④ Rotate the screw #387 anticlockwise and tighten it up.

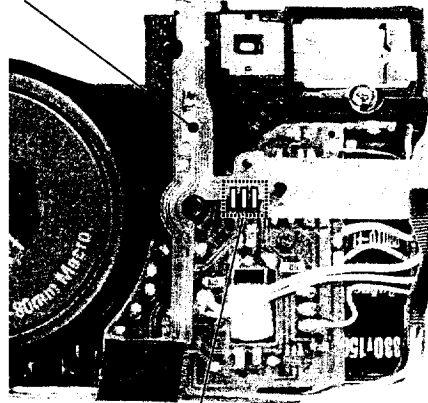


AF BLOCK UNIT



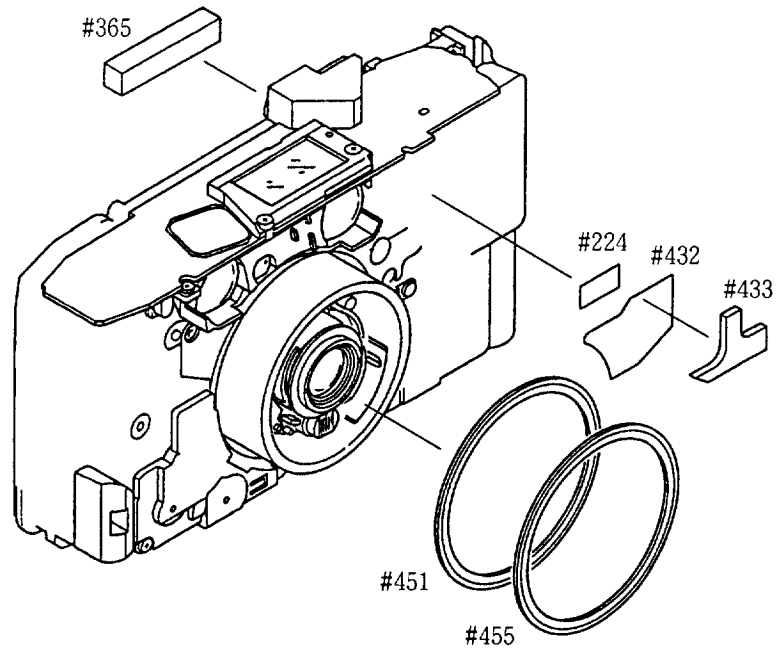
FPC UNIT (W/R P.I.)

FPC unit (W/R P.I.)

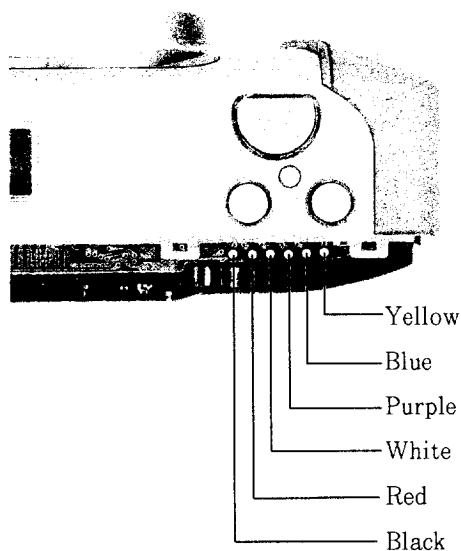


Soldering bridges

LIGHT BAFFLE SPONGE / CARTAIN



HOW TO CONNECT WITH THE APPLICABLE CAMERA



- As described in the left figure, perform the soldering on the camera body.
- Set the camera to communicate with PC and perform its inspection and adjustment.



SHUTTER MECHANISM DELAY TIME VALUE WRITING

Be sure to write data when replacing shutter unit or AF block unit. Be sure to check AE operation after writing data.

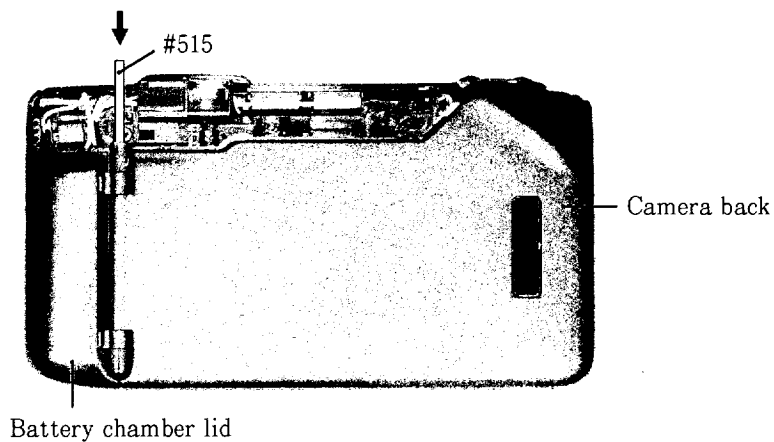
- ① Start up inspection and adjustment software and connect the camera to a personal computer.
- ② Write data (see page A1) written in the shutter FPC unit in EEPROM using a personal computer.

INSPECTION & ADJUSTMENT OF BACK FOCUS, AE, AF

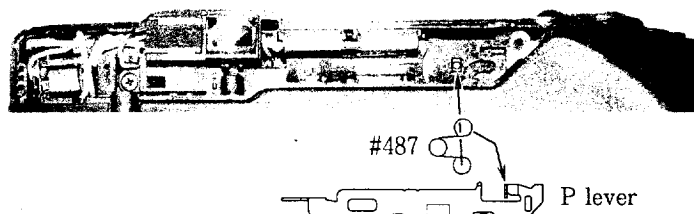
- Follow anything displayed on a PC screen for adjustment.
- ⚠ ● In case of removing the first lens group, adjust the position of the first lens group by selecting the lens back adjustment item from the application software.
- Besides, after such an adjustment, adhere the first lens group on the exterior of lens holder.



CAMERA BACK / BATTERY CHAMBER LID

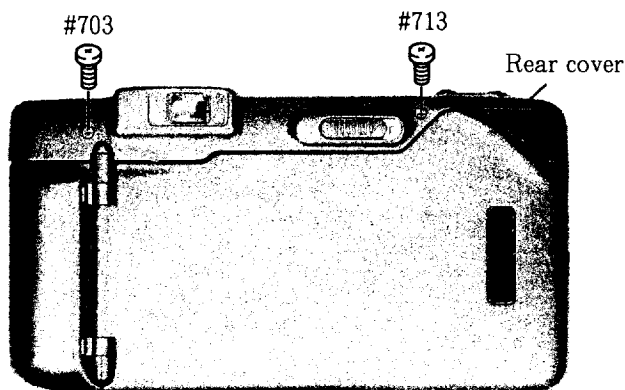


P LEVER



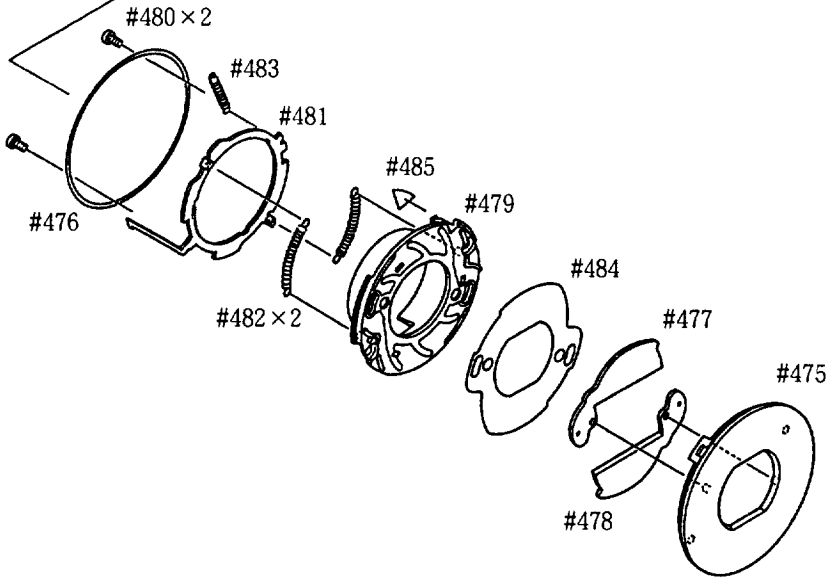
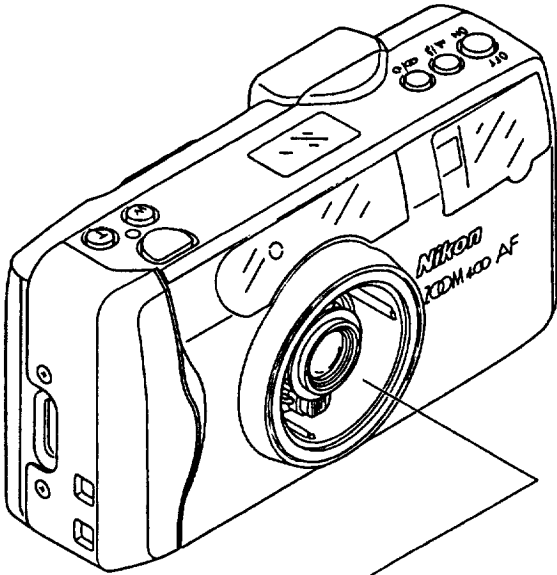
- Set the panorama switch lever to the panorama mode, and then hook the panorama lever on the spring #487 for prevention against the spring #487 to come off.
- Repeat to switch the panorama switch lever in order to check whether the panorama mode can be switched to the normal mode and vice versa or not.

REAR COVER UNIT

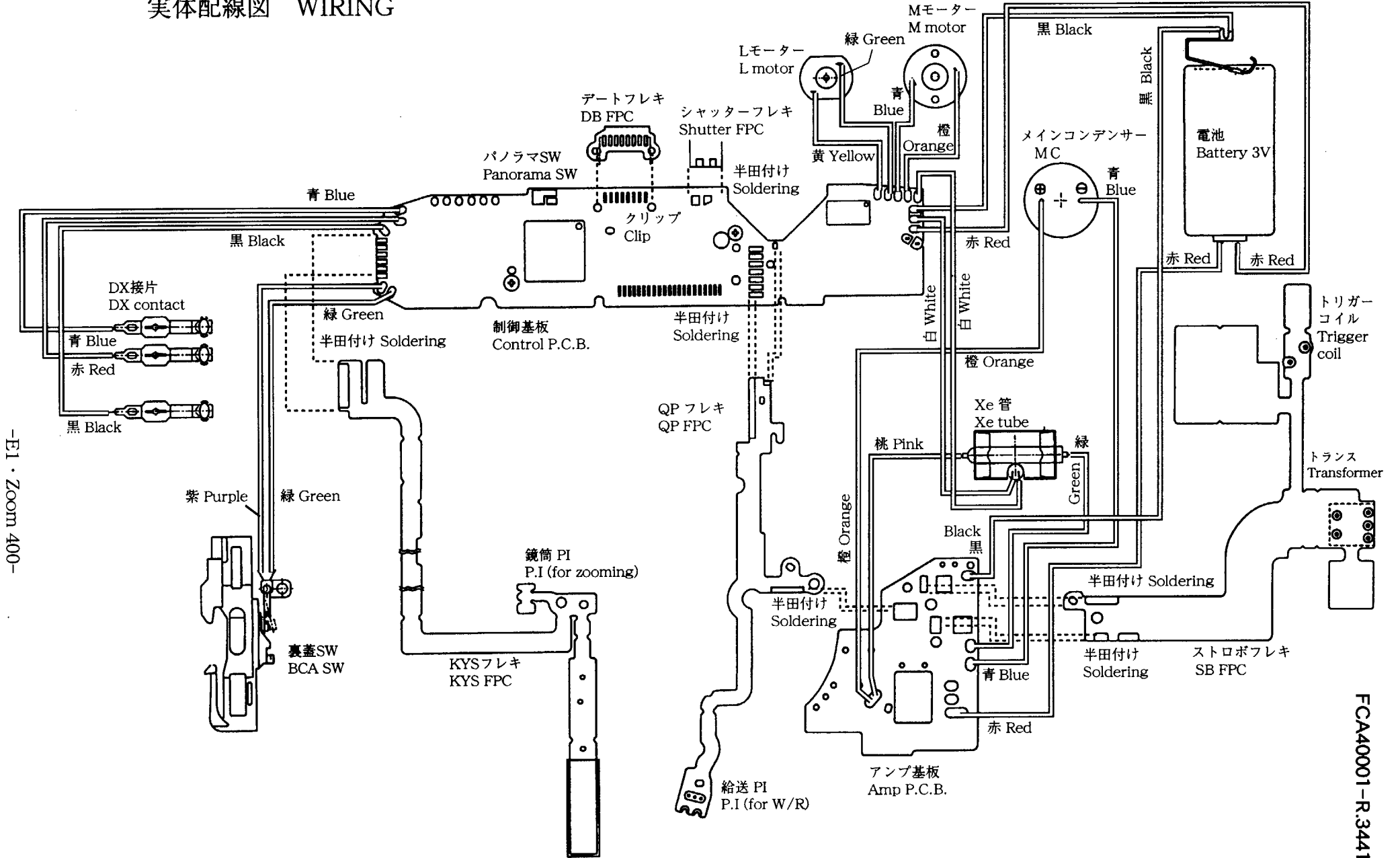


- Maintain the panorama lever in the 'P' mode and fix it.

LENS COVER

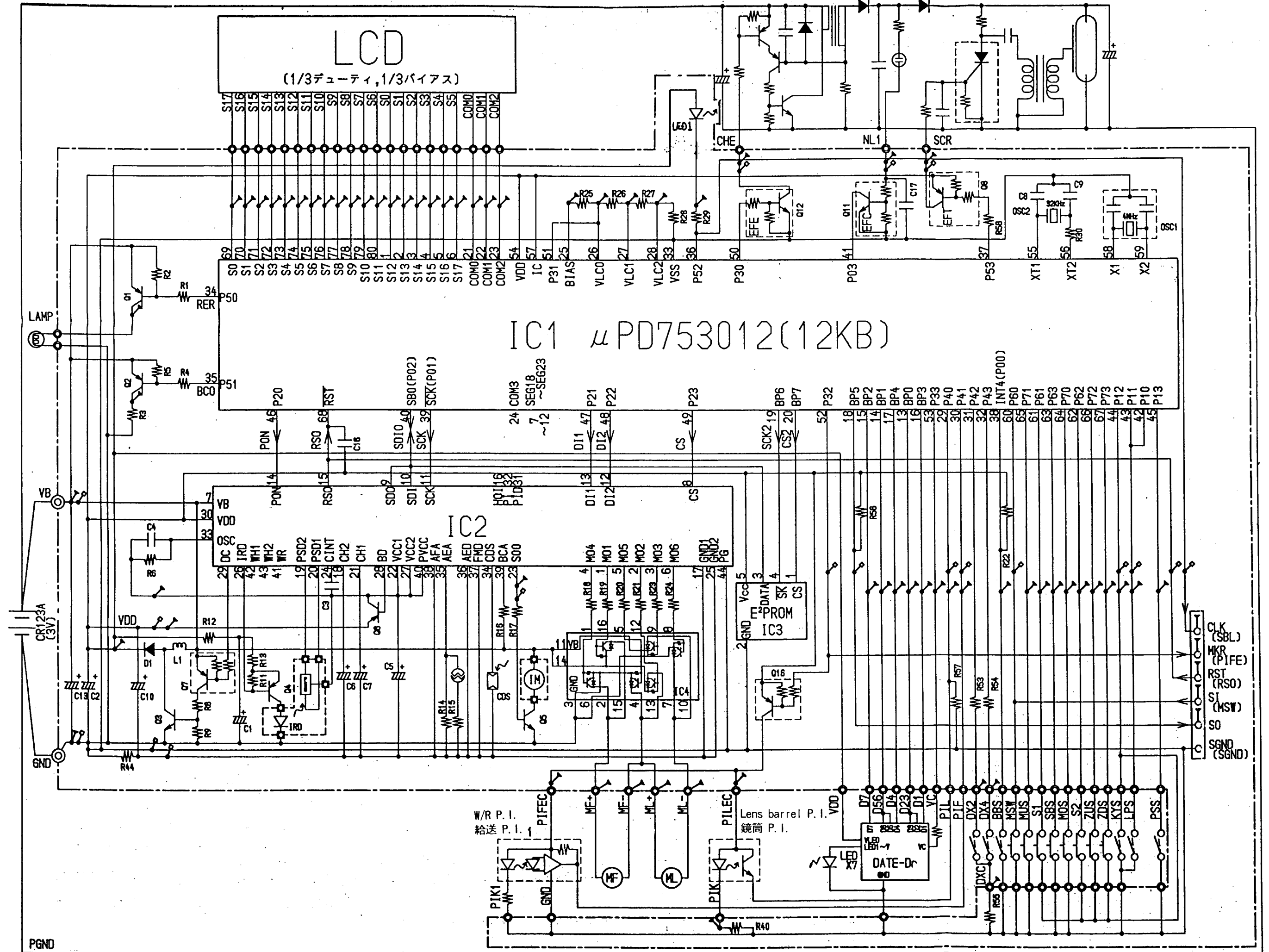


実体配線図 WIRING



-E1・Zoom 400-

FCA40001-R.3441.A



LCD
(1/3デューティ, 1/3バイアス)

IC1 μPD753012(12KB)

IC2

DATE-Dr

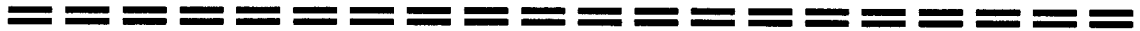
- CLK (SBL)
- MKR (PIFE)
- RST (RSO)
- ST (MSW)
- SO
- SGND (SGND)

PGND

Inspection standard for repair tools

(1) Inspection standard for repair ----- R 1

(2) Tools ----- T 1



Conditions for inspection

Normal remperature: 25 ± 5 ° C (Relative humidity: $65 \pm 20\%$)

Power source: $3.0 \pm 0.03V$, 2A or more at 0.5Ω load

Loght source: Surface light source 2.854° K

K coefficient: 1.3

(1) INSPECTION STANDARD

	IETEM	STANDARD	TOOLS												
FRAMES	Picture frame size	Short size: 24 $\begin{matrix} +0.8\text{mm} \\ -0.3\text{mm} \end{matrix}$ Long size: 36 $\begin{matrix} +0.8\text{mm} \\ -0.3\text{mm} \end{matrix}$ Short size(panorama frame): 13.3 $\begin{matrix} +2.7\text{mm} \\ -0.3\text{mm} \end{matrix}$	Slide calipers Scale Film												
	Frame-to-frame space	0.5 ~ 3.5mm													
	Frame position	·Over 0.2mm between film perforation and frame. ·Inclination of frame is less than 0.15mm. ·Over 6.5mm from the film center (panoram frame).													
AE ACCURACY	AE accuracy	Inspection result should meet the following conditions. (ISO 100)	EF-511N or EF-8000 DC regulated power supply Film												
	<table border="1"> <thead> <tr> <th>Exposure value</th> <th>Allowance</th> <th>variation</th> <th>Difference</th> </tr> </thead> <tbody> <tr> <td>Z:5 9.0 ≤ EV < 11.0</td> <td>$\begin{matrix} +2.0\text{mm EV} \\ -1.0\text{mm} \end{matrix}$</td> <td rowspan="3">2.0EV</td> <td rowspan="3">Not to be inverted</td> </tr> <tr> <td>Z:5 7.0 ≤ EV < 9.0</td> <td>$\begin{matrix} +2.5\text{mm EV} \\ -1.5\text{mm} \end{matrix}$</td> </tr> <tr> <td>Z:5 11.0 ≤ EV ≤ 15.0 Z:1 9.0 ≤ EV ≤ 15.0</td> <td></td> </tr> </tbody> </table>			Exposure value	Allowance	variation	Difference	Z:5 9.0 ≤ EV < 11.0	$\begin{matrix} +2.0\text{mm EV} \\ -1.0\text{mm} \end{matrix}$	2.0EV	Not to be inverted	Z:5 7.0 ≤ EV < 9.0	$\begin{matrix} +2.5\text{mm EV} \\ -1.5\text{mm} \end{matrix}$	Z:5 11.0 ≤ EV ≤ 15.0 Z:1 9.0 ≤ EV ≤ 15.0	
	Exposure value	Allowance		variation	Difference										
	Z:5 9.0 ≤ EV < 11.0	$\begin{matrix} +2.0\text{mm EV} \\ -1.0\text{mm} \end{matrix}$		2.0EV	Not to be inverted										
Z:5 7.0 ≤ EV < 9.0	$\begin{matrix} +2.5\text{mm EV} \\ -1.5\text{mm} \end{matrix}$														
Z:5 11.0 ≤ EV ≤ 15.0 Z:1 9.0 ≤ EV ≤ 15.0															
Allowance: Range of the values inspected five times Exposure variation: Difference between min. and max. values EV inspected five times															
Shutter operation in bright condition	Shutter should open at LV11 with ISO 800 film speed setting.														
Adjustment of tester	Settings: ISO 100, K=1.3, LV9 Set lens to Wide position, open shutter sector and then set camera to tester. Under above condition, set tester's switch to " CAL " and adjust tester with variable resistor so that indication will be +1.35EV.														
FM ACCURACY	Flash brightness	Wide: · BV=5 ± 1EV in auto flash mode · BV=4 ± 1EV at flash speed higher than ISO 200 Tele: · BV=7 ± 1EV in auto flash mode · BV=6 ± 1EV at flash speed than ISO 200 · BV=5 ± 1EV at flash speed higher than ISO 400	EF-511N or EF-8000												

	IETEM	STANDARD			TOOLS							
AF ACCURACY	AF step location and switching position	Refer to the AF step location and the switching position described in the specifications.			Personal computer							
	AF sensor error	Reference value : ±1.5 step										
LENS BARREL	Time and current when lens barrel switches over	Position	Operating time	Current	Oscilloscope							
		R e → W	Within 2.0 sec	Within 600mA								
		W → · ← T	Within 2.0 sec									
BACK FOCUS	Back focus	Set adjustment focus stand on film guide rail and set lens to step 1. 300△ Zoom zone 5 (Tele end) : 0 ± 300 ³⁰⁰ μm 300△ 4 : 0 ± 420 ³⁰⁰ μm 300△ 3 : 0 ± 440 ³⁰⁰ μm 300△ 2 : 0 ± 480 ³⁰⁰ μm 300△ 1 (Tele end) : 0 ± 300 μm			Collimator (J19019) Adjustment focus stand (J15291)							
MOTOR	Film advance	<table border="1" style="width: 100%;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;">Operating time</td> <td style="width: 33%;">Operating Current</td> </tr> <tr> <td>With film</td> <td>Within 2.0 sec</td> <td>600mA or less</td> </tr> </table> Note: Film advance time at 36th frame.		Operating time	Operating Current	With film	Within 2.0 sec	600mA or less	Film Oscilloscope			
		Operating time	Operating Current									
With film	Within 2.0 sec	600mA or less										
Film rewind	<table border="1" style="width: 100%;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;">Operating time</td> <td style="width: 33%;">Operating Current</td> </tr> <tr> <td>Film rewind</td> <td>Within 55 sec</td> <td>600mA or less</td> </tr> <tr> <td>End of film detection</td> <td>8.0 ± 1.0 sec</td> <td>—</td> </tr> </table> Note: Film advance time at 36th frame.		Operating time	Operating Current	Film rewind	Within 55 sec	600mA or less	End of film detection	8.0 ± 1.0 sec	—		
	Operating time	Operating Current										
Film rewind	Within 55 sec	600mA or less										
End of film detection	8.0 ± 1.0 sec	—										
Flash	Flash level	Full: 8 ± 0.4EV (ISO 100 distance 2m)			Flash meter Standard reflector Stop watch							
	Guide number	Within 6.0 sec. of firing using fresh battery.										
	Recycling time	Measure light at following points. Difference from center should be within -1.0EV.										
	Light distribution feature	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Top</td> <td>Bottom</td> <td>Right</td> <td>Left</td> </tr> <tr> <td>16°</td> <td>17°</td> <td>23°</td> <td>26°</td> </tr> </table> Remarkable unevenness is not to be found.			Top	Bottom	Right	Left	16°	17°	23°	26°
Top	Bottom	Right	Left									
16°	17°	23°	26°									
	Color temperature	5,800 ± 300 ° K			Color temperature meter							



	IETEM	STANDARD	TOOLS						
VIEW-FINDER	Diopter	-1.0 ± 1 dpt	Diopter telescope Viewfield chart Film scale						
	Viewfinder coverage	Over 85% and under 100% both horizontally and vertically at distance 3m.							
	Parallax	Viewfinder image does not exceed the actual image at distance 3m.							
	Magnification	Wide end: $0.311x \pm 0.05x$ Tele end: $0.566x \pm 0.05x$							
OTHERS	Self-timer	(Time in sec) ± 1 sec	Stop watch DC regulated power supply Digital multi-meter						
	Battery check voltage								
	<table border="1"> <tr> <td>2.40 ± 0.1 V</td> <td>Battery check level</td> </tr> <tr> <td>2.30 ± 0.1 V</td> <td>LCD blinks</td> </tr> <tr> <td>2.10 ± 0.1 V</td> <td>LCD goes out Shutter releas lock level</td> </tr> </table>			2.40 ± 0.1 V	Battery check level	2.30 ± 0.1 V	LCD blinks	2.10 ± 0.1 V	LCD goes out Shutter releas lock level
	2.40 ± 0.1 V	Battery check level							
	2.30 ± 0.1 V	LCD blinks							
2.10 ± 0.1 V	LCD goes out Shutter releas lock level								
Standby current	$25\mu\text{A}$ or less when main SW is off.								
Pre-release current	30 mA or less								

(2) TOOLS

Major general tools and testers

Tool No.	Name	Specifications
	DC regulated power supply	Metronics 526 (0-18V, 2A) Metronics MTR (0-18V, 5A)
	Digital multimeter	Hioki 3200 Sanwa CD-780C
J15291	Micro stand for adjusting FFD	
J19019	Collimator	Goko 24LT-2DTS, f=193.5mm
J19036 J19042	Multi shutter tester	EF-511N or EF-8000
J18190	Standard reflector paper	OXFORD GRAY No. 22
J15312	Connection tool	
J18289A	Inspection and adjustment FD	NEC 5 inch
J18289B	Inspection and adjustment FD	NEC 3.5 inch
J18289C	Inspection and adjustment FD	IBM 5 inch
J18289D	Inspection and adjustment FD	IBM 3.5 inch