

CANON

FTb & TLb

SERVICE MANUAL

EXPLODED VIEWS

AND

PARTS LIST

PREFACE

This manual is the guide for service after sales which we issue for the purpose of quality assurance of our products. This manual consists of six sections, i.e., General, Repair Manual, Repair Guide, Service Tools List, Price List of Spare Parts and Service Manual Report. If any repairs are required, refer to Repair Manual, Repair Guide and Service Tools List.

A revised edition will be issued for any major alteration of the product, and minor changes will be issued under the Service Manual Report.

When parts are needed, it is important to order them by specifying the serial numbers and filling in the provided form, and also for any further details regarding tools, refer to the catalogue.

Any comments or requests about this manual or product will be highly appreciated.

Canon Inc. SERVICE DEPARTMENT
30-2, Shimomaruko 3 Chome, Ohtaku,
Tokyo, Japan

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HOW TO USE THIS SERVICE MANUAL

Canon Service Manual consists of the following six sections: General, Repair Manual, Repair Guide, Service Tools List, Price List of Spare Parts and Service Manual Reports, which will be issued if the outward appearance, function or design of the product is changed. These six sections are divided by index sheets for easy identification.

GENERAL

The General section consists of information useful to the repairman. It may consist of any or all of the following: technical specifications, design principals, circuit explanations, new or unusual repair technics, or any other information useful to the repairman.

REPAIR MANUAL

1. The Repair Manual consists of Illustrated Parts List, containing Exploded Views and Parts List, and a numerical Part Number Index.
2. The parts list for each Exploded View is on the facing page and both pages have the same number.
3. The Illustrated Parts List are arranged in the correct sequence of disassembly, but it is not always necessary to follow the sequence exactly to remove a certain part, or make a particular adjustment.
4. The Table of Contents list the mechanisms. To identify a part in the exposure meter, find EXPOSURE METER in the table and then turn to the Exploded view on the listed page.
5. The Parts List consist of five columns. The function of each column is:

Column 1. Part description in Japanese

Column 2. CLASS: This column list the consumption code letter for the part. This indicates the replacement probability. For a complete explanation, refer to the "PARTS LIST of CANON PHOTO PRODUCTS".

Column 3. PARTS NO. This column list the part number.

Column 4. QTY. This column list the number of identical parts used in the mechanism.

- A. If several part numbers appear in square brackets and an N appears in the QTY. column, the part numbers indicate similar but not identical parts. The correct one should be used. Normally these are shims or washers of different thickness or ND filters of different transmission factor.

Ex.	Class	Parts No.	QTY.	Description
	A	[X32-505211] [X32-505212]	N	Washer

- B. If a single part number appears with an N in the QTY. column, it indicates that several of the part will probably be needed. Normally these are thin shims or washers.

Ex.	Class	Parts NO	Qty.	Description
	A	X32-504821	N	Washer

6. Parts listed in parenthesis () in the Exploded View are available individually, but are also a part of a Bonded Part (B.P.).
7. When a part number is known but its use is not, locate it in the numerical index of Part Numbers and turn to the indicated page.

REPAIR GUIDE

1. The repair guide contains the necessary instructions for complete repair, adjustment, and troubleshooting of the product.
2. In the troubleshooting section, the troubles are classified by mechanism. Possible causes and their remedies are listed for each trouble.
But we Canon Inc. firmly believe that none of these troubles can happen.

SERVICE TOOLS LIST

1. This list all special tools and test equipment required for service after sales and their uses.
2. For specifications and detailed explanation of test equipment, see the Service Manual Report for the test equipment.
3. Special Screwdrivers are listed in numerical order. Their part number includes the part number of the part they are designed to remove.
Ex. Screwdriver T08A-13-8033-1 was designed to remove part 13-8033.

PRICE LIST OF SPARE PARTS

1. Price List of Spare Parts presents the unit price of the service parts you receive from us.
2. The unit price is F.O.B. Tokyo/Yokohama.
3. The page number on the Repair Manual in which each part is described is shown on the right side of each part so that you may easily identify.
4. All the prices of the Spare Parts on the Price List section are subject to change without notice.

SERVICE MANUAL REPORT

In keeping with our policy of the best service after sale, Service Manual Reports are issued when any minor change is made in the product such as design or production changes, added capabilities, or appearance changes. Major changes are covered by the issuance of a revised Service Manual.

PREFACE

This **GENERAL** section of the Canon **SERVICE MANUAL** contains usefull information of a general nature.

The **GENERAL** section of the Service Manual is intended to supplement the Repair Guide and Repair Manual by explaining the "Why's" of a product as opposed to the "What" and "How" which the Repair Guide cover.

if you have any suggestions concerning items that you would like to see included in the **GENERAL** Section of future Service Manuals, please sen them to:

CANON INC.
Service Division
Camera Service Technical Section
3-30-2 Shimomaruko
Tokyo 144
Japan

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Canon FTb

1. Specifications

1.1 Model: 35mm focal plane shutter single-lens reflex system camera

1.2 Frame size: 24 x 36mm

1.3 Interchangeable Lenses: All lenses with Canon B (bayonet) Mount are usable.
(Except FLP38mm 1 : 2.8)

1. FD lenses are especially designed for the F-1 and FTb. They have automatic diaphragm and allow maximum aperture metering.
2. FL lenses are used with stopped-down TTL metering and automatic diaphragm.
3. R lenses use stopped down TTL metering, but the diaphragm must be operated manually.

1.4 Viewfinder

1. Type: Single-lens reflex system eyeclevel finder with fixed pentaprism.
Finder attachments: Angle finder A, magnifier and eyesight correction lenses.
2. Finder information
 - (1) Focusing and depth of field preview.
 - (2) CdS metering area (Indicated by a slightly darker rectangle in the center of the viewfinder.
 - (3) Ring-tipped following needle and meter needle
 - (4) Warning mark which detects incorrect exposure (Upper and lower zones)
 - (5) Index for stopped-down metering.
Also used for battery checker index
 - (6) Red warning mark which indicates that the selected shutter is out of the meters range.
3. Magnification: 0.85 with standard 50mm lens at infinity

4. Field of View: 94% of actual frame

5. Eyepiece: -1 diopter (standard)

1.5 Mirror

1. Instant return, total reflection type
2. Mirror lock mechanism: The mirror can be locked at any time by setting the lock lever to "M" position with the metering lever pushed. It is never necessary to lose a frame to lock the mirror.

When the mirror is up, the lens is automatically switched to the manual diaphragm operation.

1.6 Lens mount

1. **Mount:** Canon BB special breach lock bayonet mount. All lenses of FD, FL and R series can be attached. (except FLP 38mm 1 : 2.8)
Distance between mounting flange and pressure plate center: $42.14 \pm 0.015\text{mm}$

2. Lens coupling

- (1) Aperture signal lever for FD lens (right side facing mount)
- (2) Automatic diaphragm lever (underside)
- (3) Max. aperture correction lever (right lower corner facing mount)

3. Accessories are the same as those on FT with the exception of FD lens.

1.7 Shutter

1. **Type:** Cloth curtain focal plane shutter

2. Shutter speed dial

- (1) Single spindle, non-rotary system, equal interval scale
- (2) Shutter speed scale order:
B, 1, 2, 4, 8, 15, 30, 60, 125, 250, 500, 1000
X sync is at "60" which is yellow orange.
Other speeds are white.
- (3) Film speed scale: ASA (25 - 2000)

3. Shutter curtain speed: 14.0 - 15.5 (36mm)

4. Shutter button

By turning the shutter button lock lever to the red "L" the shutter button is locked. However, a cable release can still be used.

5. Self-timer

- (1) The self-timer is built in, charged by lever, and released by the shutter button. It can be charged at any time.
- (2) The delay time can be controlled. Maximum time: About 10 sec.
- (3) The self-timer lever is also used for the stopped-down metering lever when FL series lenses are used, and as a depth-of-field preview with FD or FL lenses.
- (4) With the lever locked, the self-timer can still be used.

1.8 Exposure alignment mechanism

1. **Type:** Unique TTL metering system with a CdS having high sensitivity and wide metering range is installed at the rear of the condenser lens which has a half mirror.
2. **Metering method:** Maximum aperture central area metering system. The area measured is visible in the finder. (With lenses other than FD lenses, stopped down metering is used.)
3. **Metered area:** The metering area is about 12% of frame. (Literally, the center 1/3 of the frame is measured.) The size is 12 x 8mm. The reflection ratio of the half mirror is 15%.
4. **Meter:** Pivot type equal interval meter.
5. **Metering mechanism:** By matching the following needle to the meter needle, exposure is adjusted. The following needle moves when the aperture ring of FD series lenses is turned. The meter needle deflects as shutter speed, film speed or brightness of object varies.
 - (1) When using FD series lenses, correct exposure can be obtained by merely setting the meter main switch to "ON" and then matching the following needle to the meter needle. Correction for different maximum apertures is automatic.
 - (2) When using FL series lenses
 - a) Set the meter main switch to "ON".
 - b) Turn the self-timer lever to the metering position. (By this procedure, the following needle swings to the bottom of the finder and the automatic diaphragm lever is actuated, so the lens stops down to the preset aperture.)
 - c) Make adjustment by turning the aperture ring so that the meter needle in the finder coincides with the index for stopped-down metering. When the needle aligns with the index, the exposure is correct.

When an FD lens is used, stopped-down metering is possible by turning the self-timer lever; but it is not recommended for critical exposure at large apertures since the system is corrected for open aperture measurement when using FD lenses.
6. **Metering lock**

By setting the lock lever to "L" and pushing the lever to the metering position, the aperture is stopped down and locked. The metering lock is convenient with the Booster.

7. **Exposure meter coupling range:**
When F1.4 lens is used with ASA 100 film;
EV3 - EV 18 (F1.4, 1/4 sec - F16, 1/1000 sec.)
When the shutter speed is out of range, a red warning signal appears in the right lower corner of the finder.
8. **Exposure meter battery:** Model HD mercury cell
(equivalent to Mallory PX625 or Eveready E625N)
1 ea, 1.3V Caution: use only mercury cell
9. **Battery checker:** When the shutter speed dial set to 1/1000 sec. and ASA 100, and the main switch set to "C", the cell voltage is correct if the meter needle swings to or above the index.
10. **Film speed setting:** Lift and turn the shutter dial until the correct ASA speed is visible in the window
Scale order: ASA 25
Scale order: ASA 25 (32, 40) 50 (64, 80) 100 (125, 160)
200 (250, 320) 400 (500, 640) 800 (1000, 1250)
1600 (2000)

1.9 Flash

1. **CAT system (CANON AUTO TUNING SYSTEM):**
The CAT system gives semi-automatic (match-needle) flash using the Canon Speedlite 133D and related accessories with the following FD lens: 50mm 1 : 1.4, 50mm 1 : 1.8, and 35mm 1 : 2.
2. **Flash synchronization:** Automatic timelag adjustment
1/1000 - 1/250 sec: FP sync
1/60 - 1 sec and B: X sync
1/30 - 1 sec and B: M, MF sync
3. **Flash socket:** Standard European (PC) type located on the front of the body.
The accessory shoe has a cordless contact and CAT control.

1.10 Body

1. **Film chamber:** Accepts standard 35mm film cartridge.
2. **Film loading:** Easy, speedy loading equipped with patented Canon QL system.
3. **Film winding:** Single stroke winding combined with shutter cocking. Ratchet winding is possible.
Winding angle: 174 degrees
Play: 21 degrees
4. **Back cover:** The back cover is opened by pulling the rewind knob up.

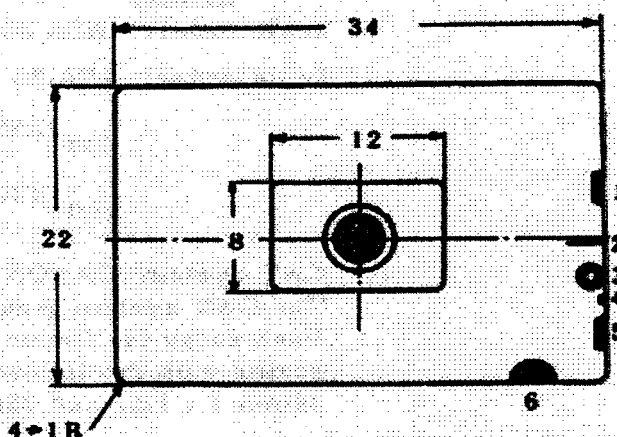
2. Details

2.1 Finder

It has been generally agreed since the original FT QL was put on the market that the finder is bright, clear and easy to focus. To further improve its function, the eyepoint has been moved back 2mm to 16mm through modification of the pentaprism eyepiece lens, and the radius of the corners of the finder frame has been to make the viewfinder image agree more closely with the actual frame.

Also, because of adoption of maximum aperture metering with, the meter needle (2), following needle (3), index point (4), and warning marks (1&5) visible in the finder, operation has been simplified.

A red warning mark (6) appears in the lower right corner of the finder when the shutter speed is beyond the range of the exposure meter.



2.2 TTL metering system

The metering system is exactly the same as Canon F-1, and max. aperture metering by FD lens is available. The construction and operation are almost the same as F-1.

2.3 Following needle Automatic Flash System

The principle and construction are the same as F-1. The FTb has the flash cordless contact and control contacts on a standard accessory shoe, therefore the flash coupler used on the F-1 is not necessary. The Canon Speedlite 133D is scheduled to be put on sale in the near future, so this system will be complete.

2.4 Human Engineering

Controls are basically the same as the well proven FT QL but detail changes have been made to make it easier to operate. The changes were made from user's suggestions. The shutter dial has been heightened 1.4mm and the markings made more legible. Another change is in the back cover opening. The cover now opens by simply pulling up on the rewind knob. The detent has been strengthened to prevent accidental opening.

5. **Film counter:** Normal counting system coupled with film winding.
Automatic reset when back cover is opened.
6. **Accessory shoe:** Located on pentaprism head
(with cordless contact)
7. **External dimensions:** 144 x 93 x 43mm (Body only)
8. **Weight:** 750g (Body only)

CANON REPAIR MANUAL

CANON FTb
(REF. NO. 1-20395)

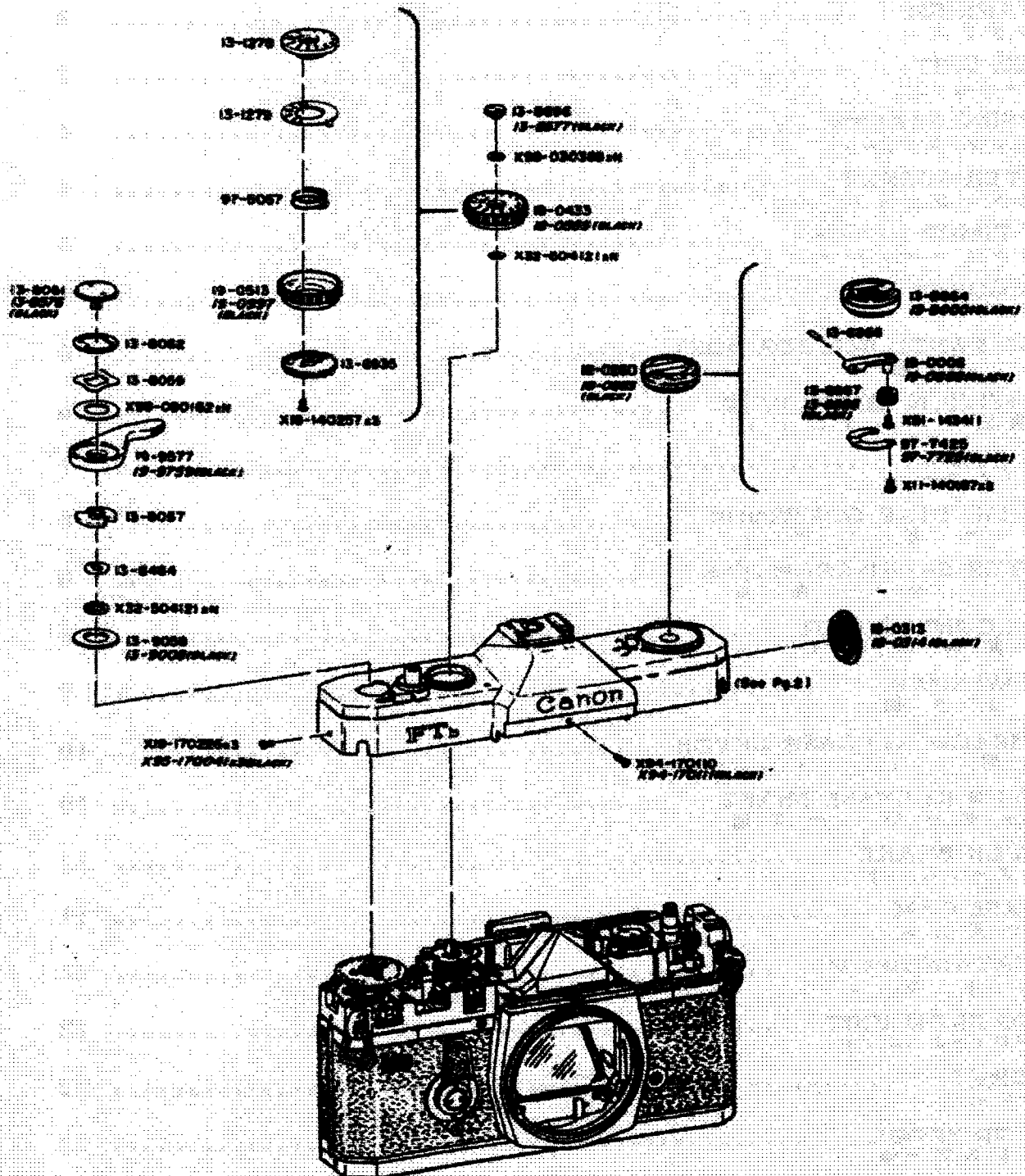
CANON BLACK FTb
(REF. NO. 1-20396)

CANON INC. JAPAN

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EXPLODED VIEW of CANON FTb, BLACK FTb



PARTS LIST

SHUTTER SPEED DIAL & REWIND CRANK

シャッター スピードダイヤル 巻き戻しクランク

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
シャッター文字盤	D	13-1278	1	Shutter Speed Dial
A S A 盤	C	13-1279	1	ASA Dial
巻き上げレバー座	D	13-8057	1	Winding Lever Seat
スプリングワッシャー	D	13-8059	1	Spring Washer
カニ面ビス	C	13-8061	1	Pin Face Screw
ワッシャー	D	13-8062	1	Washer
ワッシャー	D	13-8484	1	Washer
カニ面ビス	C	13-8576	1	Pin Face Screw
カニ面ビス	C	13-8577	1	Pin Face Screw
カニ面ビス	C	13-8696	1	Pin Face Screw
巻き戻しクランクつまみ	E	13-8864	1	Rewind Crank Knob
軸	E	13-8866	1	Pivot
つまみ	E	13-8867	1	Rewind Knob
A S A セット盤	E	13-8935	1	ASA Setting Disk
巻き戻しクランクつまみ	E	13-9000	1	Rewind Crank Nob
スベーサー	D	13-9008	1	Spacer
スベーサー	D	13-9058	1	Spacer
つまみ	E	13-9885	1	Rewind Knob
巻き戻しクランクユニット	D	18-0260	1	Rewind Crank Unit
電池蓋ふた	C	18-0313	1	Battery Cover
電池蓋ふた	C	18-0314	1	Battery Cover
シャッターダイヤルユニット	C	18-0433	1	Shutter Speed Dial
巻き戻しクランクユニット	D	18-0553	1	Rewind Crank Unit
シャッターダイヤルユニット	C	18-0559	1	Shutter Speed Dial
巻き戻しクランク	D	19-0006	1	Rewind Crank
シャッターダイヤルつまみ	C	19-0513	1	Knurled Knob
シャッターダイヤルつまみ	C	19-0997	1	Knurled Knob
巻き戻しクランク	D	19-0998	1	Rewind Crank
巻き上げレバー	D	19-9577	1	Winding Lever
巻き上げレバー	D	19-9759	1	Winding Lever
コイルスプリング	D	97-5067	1	Coil Spring
クリックスプリング	D	97-7425	1	Click Spring
クリックスプリング	D	97-7725	1	Click Spring
平ビス		X11-140187	2	Screw
十字皿ビス		X18-140257	3	Screw
十字丸皿ビス		X19-170226	3	Screw
調整ワッシャー		[X32-504121] [X32-504122]	N	Adjusting Washer
平ビス		X91-143411	1	Screw
皿ビス		X94-170110	1	Screw
皿ビス		X94-170111	1	Screw
丸皿ビス		X95-170041	3	Screw
ワッシャー		X98-030388	1	Washer
調整ワッシャー		X98-080162	N	Adjusting Washer

PARTS LIST

PENTAPRISM & METER UNIT

ペンタプリズム メーターユニット

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
ペンタプリズム	C	10-0233	1	Pentaprism
ペンタプリズムボックス	E	13-1206	1	Pentaprism Box
絶縁台	D	13-1218	1	Insulator Base
巻き戻し軸受け	D	13-1270	1	Rewind Shaft Holder
開閉レバー軸	D	13-1271	1	Stud
メーターセットカム	C	13-1281	1	Meter Set Cam
平ビス	D	13-1301	1	Screw
力ラー	D	13-1303	1	Collar
警告レバー	D	13-1306	1	Warning Lever
警告マーク	C	13-1308	1	Warning Mark
マスク	D	13-1330	1	Mask
ペンタプリズムカバー	C	13-1335	1	Pentaprism Cover
ナット	D	13-1336	1	Nut
絶縁板	D	13-2041	2	Insulator
巻き戻しフォーク軸	D	13-2771	1	Rewind Fork Shaft
絶縁板	D	13-8323	1	Insulator
スペーサー	D	13-8488	2	Spacer
スペーサー	C	13-8489	N	Spacer
ピニオン軸	E	13-8753	1	Pinion Shaft
力ラー	D	13-8755	1	Collar
巻き戻し軸	D	13-8863	1	Rewind Shaft
メーター取り付け柱	E	13-8942	1	Meter Support
メーター取り付け柱	E	13-8944	1	Meter Support
接触片	D	13-9084	1	Contact
巻き戻しフォーク	C	14-2213	1	Rewind Fork
メーターユニット	C	18-0455	1	Meter Unit
半固定抵抗ユニット	C	18-0464	1	Variable Resistor Unit
ペンタプリズム押え	D	19-0297	1	Pentaprism Holder
アイピース	D	19-0507	1	Eye piece
開閉レバー	C	19-0512	1	Opening Lever
メーター取り付け基板	D	19-0514	1	Meter Support Base
メーター接触片	D	19-0521	1	Meter Contact
警告レバー	D	19-0756	1	Warning Lever
アイドルギヤ	D	19-9739	1	Idle Gear
チェックカー接触片	D	19-9752	1	Checker Contact
連動ギヤ	C	97-0352	1	Coupling Gear
コイルスプリング	D	97-5605	1	Coil Spring
スプリング	D	97-6644	1	Spring
クリックスプリング	D	97-7586	1	Click Spring
十字ナベビス		X16-170228	3	Screw
十字ナベビス		X16-170707	3	Screw
十字ナベビス		X16-200508	2	Screw
十字星ビス		X18-170258	3	Screw
十字ナベビス		X26-140228	2	Screw
固定ワッシャー		X32-401171	1	Retaining Washer
固定ワッシャー		X32-401201	1	Retaining Washer
調整ワッシャー		X32-501531	N	Adjusting Washer
		X32-501532		
		X32-501533		
ワッシャー		X32-502120	1	Washer
十字ナベビス		X40-140157	2	Screw
十字ナベビス		X71-5179	2	Screw
スチールボール		X71-7001	1	Steel Ball
平ビス		X91-143512	1	Screw
平ビス		X91-143570	2	Screw

PARTS LIST

4

FOCUSING SCREEN & BOOSTER SOCKET

フォーカシング スクリーン ブースター ソケット

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
フォーカシングスクリーン	C	10-0240	1	Focusing Screen
下 部 カ バ ー	C	13-1204	1	Base Cover
コンデンサーボックス	E	13-1208	1	Condenser Lens Box
絞りたたきレバー	D	13-1254	1	Diaphragm Release Lever
モルトブレーション	D	13-1273	1	Light Shield
マ ス ク	D	13-1276	1	Mask
モルトブレーション	D	13-1339	1	Light Shield
ナ ッ ト	D	13-8095	1	Nut
早 ビ ス	D	13-8367	1	Screw
絶 縁 板	D	13-8368	1	Insulator
絶 縁 板	D	13-8369	1	Insulator
ビ ニ ー ル テ ー プ	C	13-8599	1	Vinyl Tape
マ ス ク	D	13-8677	1	Mask
板 バ ネ	D	13-8785	2	Plate Spring
スプリングピン	C	13-8787	2	Spring Pin
ブースターソケット	D	13-8869	2	Booster Contact
絶 縁 板	D	13-8870	1	Insulator
絶 縁 板	D	13-8871	2	Insulator
ラ グ	D	13-8873	2	Lug
ナ ッ ト	D	13-8874	2	Nut
電 池 室	D	13-8876	1	Battery Case
チェッカー接片	D	13-8893	1	Checker Contact
ND フィルター	D	13-8976(60.0)	N	ND Filter
CdS感度の調整に使用する カッコ内の数字は透過 率を示す。(単位%)		13-8976(65.0)		Used to adjust CdS Sensitivity. The number in parenthesis indica the transmission percentage.
		13-8976(90.0)		
		13-8976(95.0)		
遮 光 板	E	13-8992	1	Light Shield
下 部 カ バ ー	C	13-9042	1	Base Cover
調整ワッシャー	C	13-9086(0.10)	N	Adjusting Washer
カッコ内の数字はワッシャー の厚さを示す。(単位mm)		13-9086(0.20)		Number in Parenthesis indicates washer thickness in mm.
調整ワッシャー	C	13-9088(0.03)	N	Adjusting Washer
		13-9088(0.05)		Number in parenthesis indicates washer thickness in mm.
		13-9088(0.10)		
		13-9088(0.20)		
		13-9088(0.30)		
		13-9088(0.40)		
		13-9088(0.50)		
		13-9088(0.60)		
CdS ユニット	C	18-045	1	CdS Unit
エ ブ ロ ン	C	19-0505	1	Front Cover
エ ブ ロ ン	C	19-0996	1	Front Cover
コンデンサーレンズ	C	19-1011	1	Condenser Lens
十字ナベビス		X16-170208	2	Screw
十字ナベビス		X16-170256	1	Screw
十字丸皿ビス		X19-170226	1	Screw
早 ビ ス		X91-143241	3	Screw
早 ビ ス		X91-172478	1	Screw
皿 ビ ス		X94-170110	2	Screw
皿 ビ ス		X94-170176	2	Screw

[illegible]

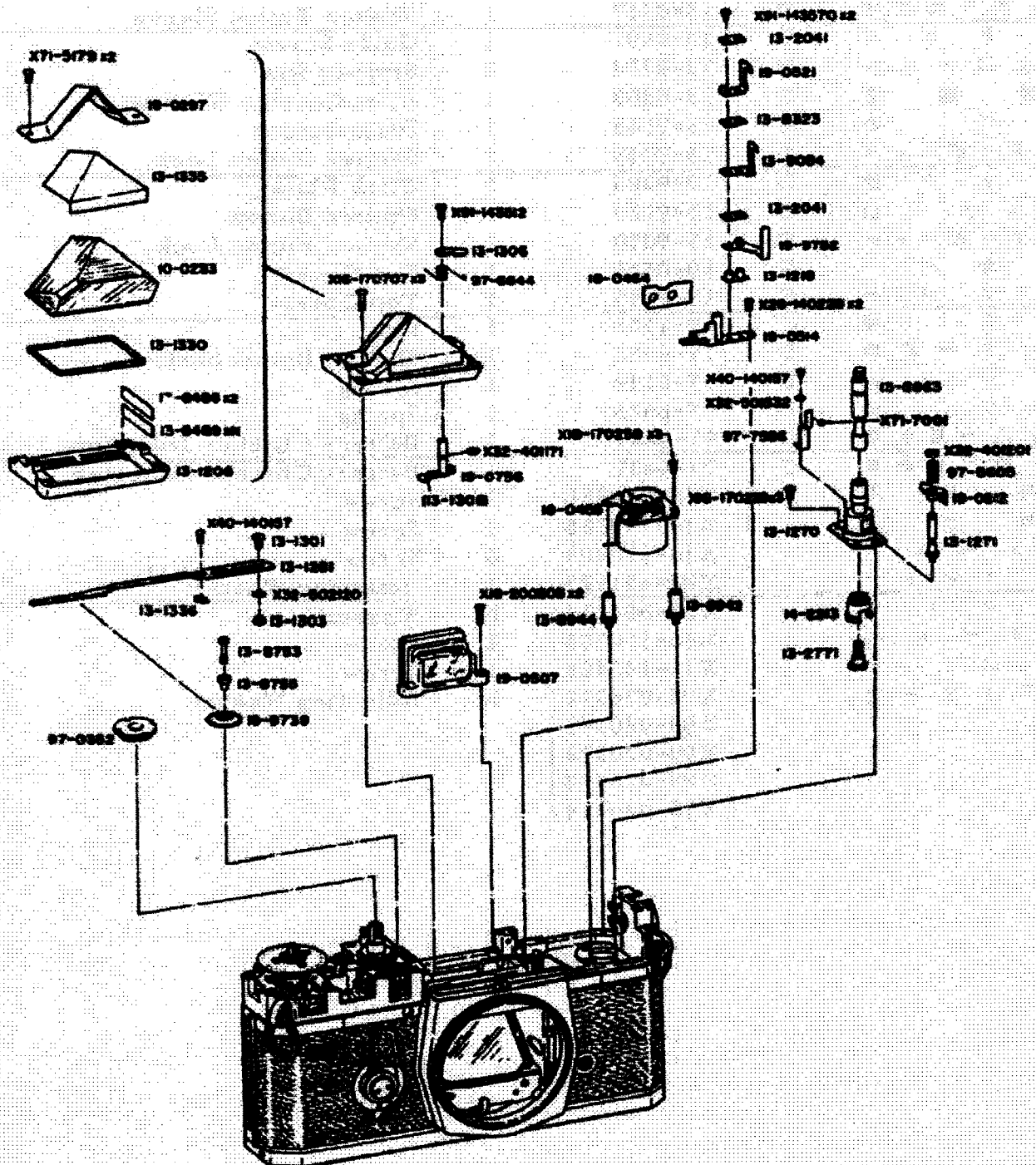
PARTS LIST

TOP COVER

上部カバー

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
アクセサリシュー	D	13-1320	1	Accessory Shoe
板バネ	C	13-1321	1	Plate Spring
アクセサリシュー台	D	13-1322	1	Accessory Shoe Base
アクセサリシュー止め板	D	13-1323	1	Shoe Rest Base
シャッター鉤受け	D	13-8167	1	Shutter Button Sleeve
ガイドビス	D	13-8497	1	Guide Screw
ストッパーピン	D	13-8784	2	Stopper Pin
枚数窓窓	D	13-8808	1	Film Counter Window
板バネ	C	13-9045	1	Plate Spring
シャッター鉤ロック	D	13-9048	1	Shutter Button Lock
タリック板	D	13-9085	1	Click Plate
シャッター鉤	D	13-9089	1	Shutter Button
シャッター鉤ロック	D	13-9090	1	Shutter Button Lock
上部カバー	C	19-0503	1	Top Cover
上部カバー	C	19-0995	1	Top Cover
ラグ	C	19-1004	1	Lug
シャッター鉤軸	D	19-9582	1	Shutter Button Shaft
スプリング	D	97-6139	1	Spring
スプリング	D	97-6673	1	Spring
チェッカー指示板	C	97-9241	1	Battery Checker Indicator
チェッカー指示板	C	97-9407	1	Battery Checker Indicator
止めビス		X10-140226	3	Screw
止めビス		X10-140228	3	Screw
十字ナベビス		X18-170808	2	Screw
固定ワッシャー		X32-401171	1	Retaining Washer
ワッシャー		X32-501631	N	Washer
十字ナベビス		X40-170908	2	Screw
平ビス		X91-142468	3	Screw
調整ワッシャー		X98-070370	N	Adjusting Washer
		X98-070371		
		X98-070372		
		X98-070373		
		X98-070374		

EXPLODED VIEW of CANON FTb, BLACK FTb



PARTS LIST

SELF TIMER LEVER & BACK COVER

セルフ タイマー レバー 裏 ぶ た

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
ミラー クランプ レバー	D	13-1220	1	Mirror Clamp Lever
指 標 板	C	13-1224	1	Index Plate
アース 接 片	D	13-1237	1	Earth Contact
キャッチャー スプリング	C	13-1294	1	Catcher Spring
レザ ー	B	13-1296	1	Leather
レザ ー	B	13-1297	1	Leather
絶 縁 板	D	13-2041	1	Insulator
ジョイント	C	13-2294	1	Coupling Joint
QL マーク	D	13-2777	1	QL Mark
継 ぎ 軸	E	13-4876	1	Shaft of Hinge
継 ぎ 軸	D	13-8327	1	Shaft of Hinge
マウン ト	D	13-8331	1	Lens Mount
カニ 歯 ビ ス	C	13-8627	1	Pin Face Screw
チャージ リング	D	13-8628	1	Self Timer Charge Ring
角 ジョイント	E	13-8629	1	Coupling Ring
バトロ ー ネ 押 入	E	13-8862	1	Cassette Holder
セルフ タイマー 指 標	D	13-8923	1	Self Timer Index
継 ぎ 軸	E	13-8948	1	Hinge
カニ 歯 ビ ス	C	13-9002	1	Pin Face Screw
スベ ー サ ー	C	13-9076	1	Spacer
スト ッ パ ー	D	13-9091	1	Stopper
遮 光 板	C	13-9302	4	Light Shield
絶 縁 板	D	14-2086	1	Insulator
セルフ タイマー レバー	C	19-0019	1	Self Timer Lever
圧 着 板	C	19-0299	1	Pressure Plate
ロ ッ ク レバー	D	19-0484	1	Lock Lever
フォーク レバー	D	19-0485	1	Fork Lever
セルフ レバー 受 け	D	19-0509	1	Lever Holder
フラッシュ ターミナル	D	19-9278	1	Flash Terminal
裏 ぶ た	D	19-9986	1	Back Cover
板 ば ね	D	97-7355	1	Plate Spring
十字 ナベ ビ ス		X16-140187	2	Screw
十字 皿 ビ ス		X18-170228	3	Screw
十字 皿 ビ ス		X18-170508	5	Screw
十字 皿 ビ ス		X18-200407	4	Screw
十字 皿 ビ ス		X28-140187	3	Screw
ワッ シ ャ ー		X32-503120	N	Washer
調整 ワッ シ ャ ー		[X32-503130] [X32-503131]	N	Adjusting Washer
平 ビ ス		X91-142468	2	Screw
平 ビ ス		X91-142536	2	Screw
平 ビ ス		X91-143120	2	Screw
丸 皿 ビ ス		X95-170040	1	Screw
段 ビ ス		X96-172216	1	Screw
ワッ シ ャ ー		X98-030125	N	Washer

PARTS LIST

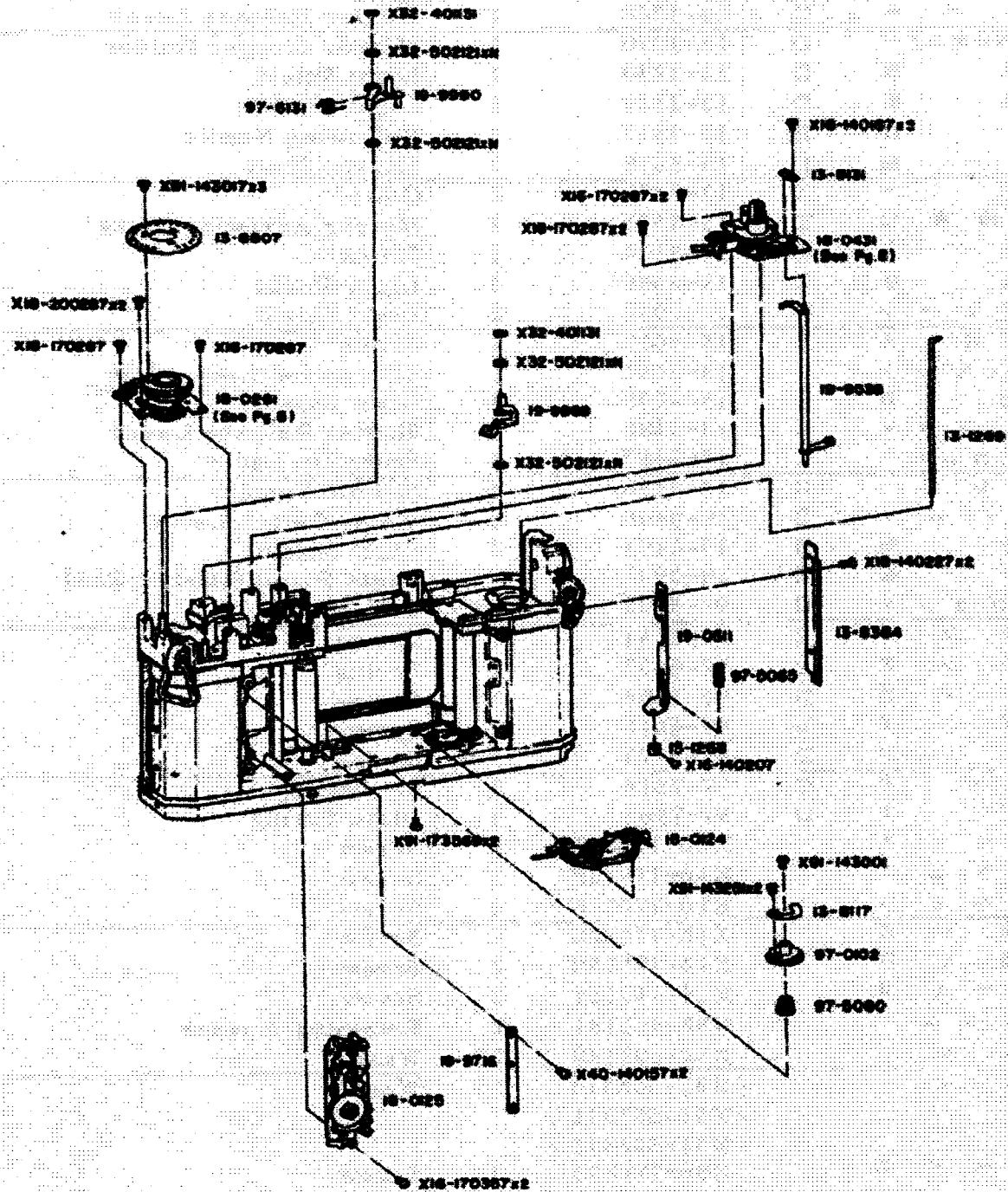
FRONT PANEL (MIRROR BOX) & CORRECTION LEVER UNIT

前板

開口補正レバーユニット

部品名称	CLASS	PARTS NO.	QTY.	DESCRIPTION
ミ ラ -	D	Y00-1288	1	Mirror Unit
ミ ラ -	C	10-0239	1	Mirror
連 路 レ バ -	D	13-1225	1	Connecting Lever
設 定 ビ ス	D	13-1226	1	Screw
装 定 レ バ -	C	13-1228	1	Shutter Release Lever
45°受けレバーホルダー	D	13-1230	1	Mirror Stopper Holder
遮 光 板	D	13-1238	1	Light Shield
遮 光 板	D	13-1239	1	Light Shield
追 針	B	13-1317	1	Following Needle
ミ ラ -	E	13-8275	1	Mirror Shaft
カ ラ -	D	13-8277	2	Collar
ミ ラ - 調整板	E	13-8503	1	Mirror Adjusting Plate
設 定 ビ ス	E	13-8504	1	Screw
遮 光 板	C	13-8540	1	Light Shield
モ ル ト ブ レ ー ン	D	13-8985	2	Light Shield
調 整 ビ ス	E	13-9019	1	Screw
開口補正レバーユニット	D	18-0457	1	Correction Lever Unit
遮 光 板	D	19-0285	1	Light Shield
み づ ぎ た レ バ -	D	19-0486	1	Shutter Release Lever
ミ ラ - 押上げレバー	E	19-0487	1	Swing Up Lever
45°受けレバー	D	19-0488	1	Mirror Stopper
メータースイッチレバー	D	19-0490	1	Meter Switch Lever
遮 光 板	D	19-0493	1	Light Shield
前 板	E	19-0502	1	Front Panel (Mirror Box)
コイルスプリング	D	97-5596	1	Coil Spring
ス プ リ ン グ	E	97-6161	1	Spring
ス プ リ ン グ	D	97-6637	1	Spring
ス プ リ ン グ	D	97-6638	1	Spring
ス プ リ ン グ	D	97-6670	1	Spring
ス プ リ ン グ	D	97-6671	1	Spring
押 え バ ネ	C	97-7518	2	Set Spring
板 バ ネ	D	97-7585	1	Plate Spring
十 字 ナ ベ ビ ス		X16-170207	2	Screw
十 字 ナ ベ ビ ス		X16-170208	1	Screw
十 字 ナ ベ ビ ス		X16-170228	4	Screw
十 字 皿 ビ ス		X18-170208	2	Screw
十 字 皿 ビ ス		X18-170258	2	Screw
十 字 ナ ベ ビ ス		X26-140188	2	Screw
装 定 ワ ッ シ ャ -		X32-401131	2	Retaining Washer
ワ ッ シ ャ -		X32-502130	2	Washer
ワ ッ シ ャ -		X32-502310	1	Washer
		X32-502311		
		X32-502312		
十 字 ナ ベ ビ ス		X96-172215	1	Screw
設 定 ビ ス		X96-172218	1	Screw
設 定 ビ ス		X96-172229	3	Screw
設 定 ビ ス		X96-172230	2	Screw

EXPLODED VIEW of CANON FTb, BLACK FTb



PARTS LIST

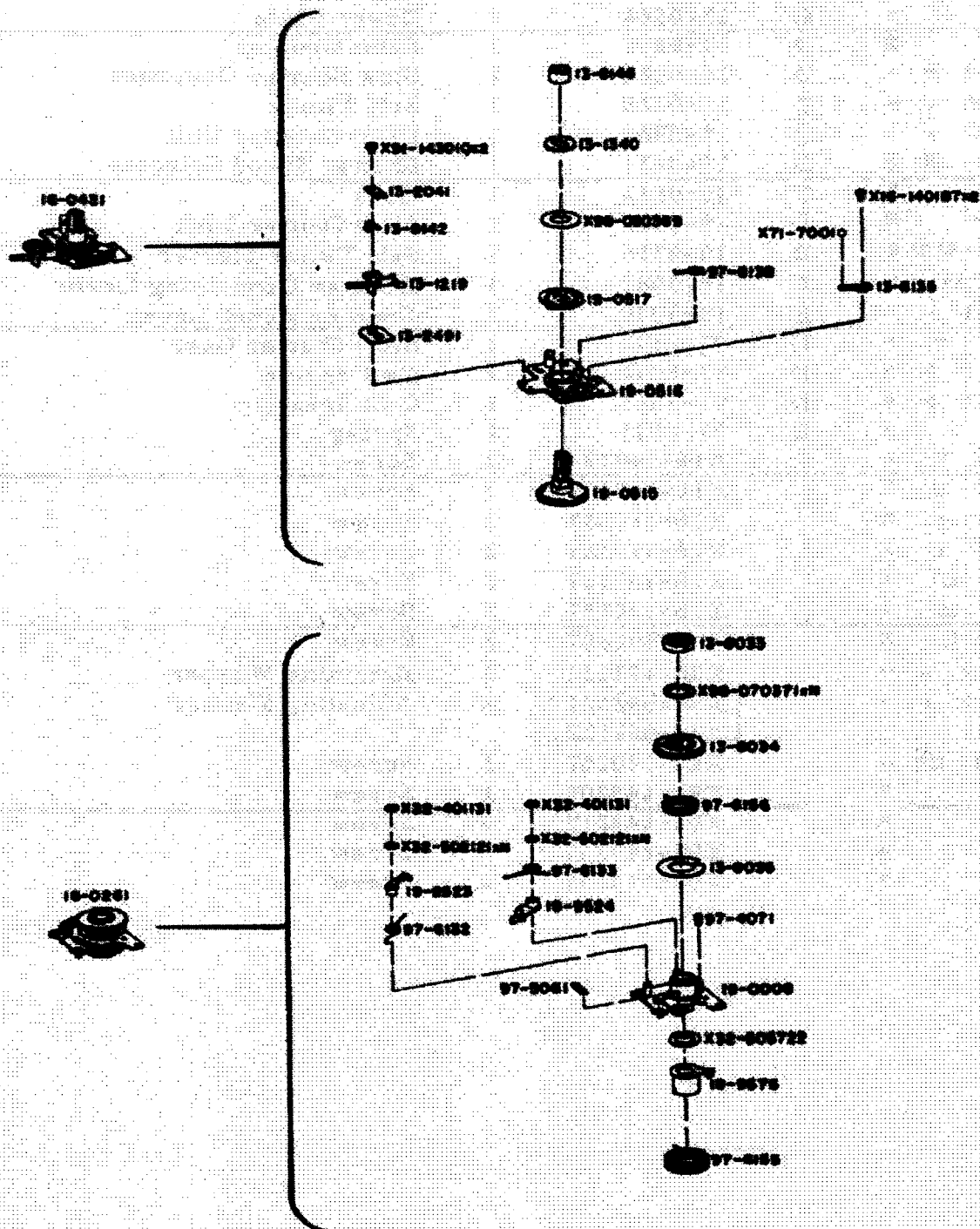
SELF TIRER & SLOW SHUTTER GOVERNOR

セルフ タイマー

スローガバナー

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
カ ラ ー	D	13-1268	1	Collar
ワ イ ヤ ー	D	13-1269	1	Wire
ス ロ ー	E	13-8117	1	Slow Shutter Pawl
ス ロ ー 軸 受 け	E	13-8131	1	Slow Shutter Link Holder
開 閉 爪 カ バ ー	E	13-8364	1	Cover Plate
枚 数 盤	D	13-8807	1	Film Counter
ス ロ ー ガ バ ナ ー	D	18-0124	1	Slow Shutter Governor
セ ル フ タ イ マ ー	C	18-0125	1	Self Timer
枚 数 盤 ユ ニ ッ ト	D	18-0261	1	Film Counter Unit
シャ ッ タ ー 選 択 板	D	18-0431	1	Shutter Speed Selector
開 閉 爪	C	19-0511	1	Hook
ス ロ ー 軸	D	19-9538	1	Slow Shutter Link
セルフタイマー始動板	D	19-9716	1	Self Timer Starter
中 間 レ バ ー	E	19-9989	1	Counter Connecting Lever
枚 数 盤 リ レ バ ー	E	19-9990	1	Counter Reset Lever
ス ロ ー ギ ヤ ー	D	97-0102	1	Slow Shutter Gear
コ イ ル ス プ リ ン グ	D	97-5060	1	Coil Spring
コ イ ル ス プ リ ン グ	D	97-5065	1	Coil Spring
ス プ リ ン グ	D	97-6131	1	Spring
十 字 ナ ベ ビ ス		X16-140187	2	Screw
十 字 ナ ベ ビ ス		X16-140207	1	Screw
十 字 ナ ベ ビ ス		X16-170287	3	Screw
十 字 ナ ベ ビ ス		X16-170357	2	Screw
十 字 皿 ビ ス		X18-140227	2	Screw
十 字 皿 ビ ス		X18-170287	3	Screw
十 字 皿 ビ ス		X18-200287	2	Screw
張 定 ワ ッ シ ャ ー		X32-401131	2	Retaining Washer
調 整 ワ ッ シ ャ ー		[X32-502121] [X32-502122]	N	Adjusting Washer
十 字 ナ ベ ビ ス		X40-140157	2	Screw
平 ビ ス		X91-143001	1	Screw
平 ビ ス		X91-143017	3	Screw
平 ビ ス		X91-143251	2	Screw
平 ビ ス		X91-173569	2	Screw

EXPLODED VIEW of CANON FTb, BLACK FTb



PARTS LIST

FILM COUNTER UNIT & SHUTTER SPEED SELECTOR

枚数盤 ユニット

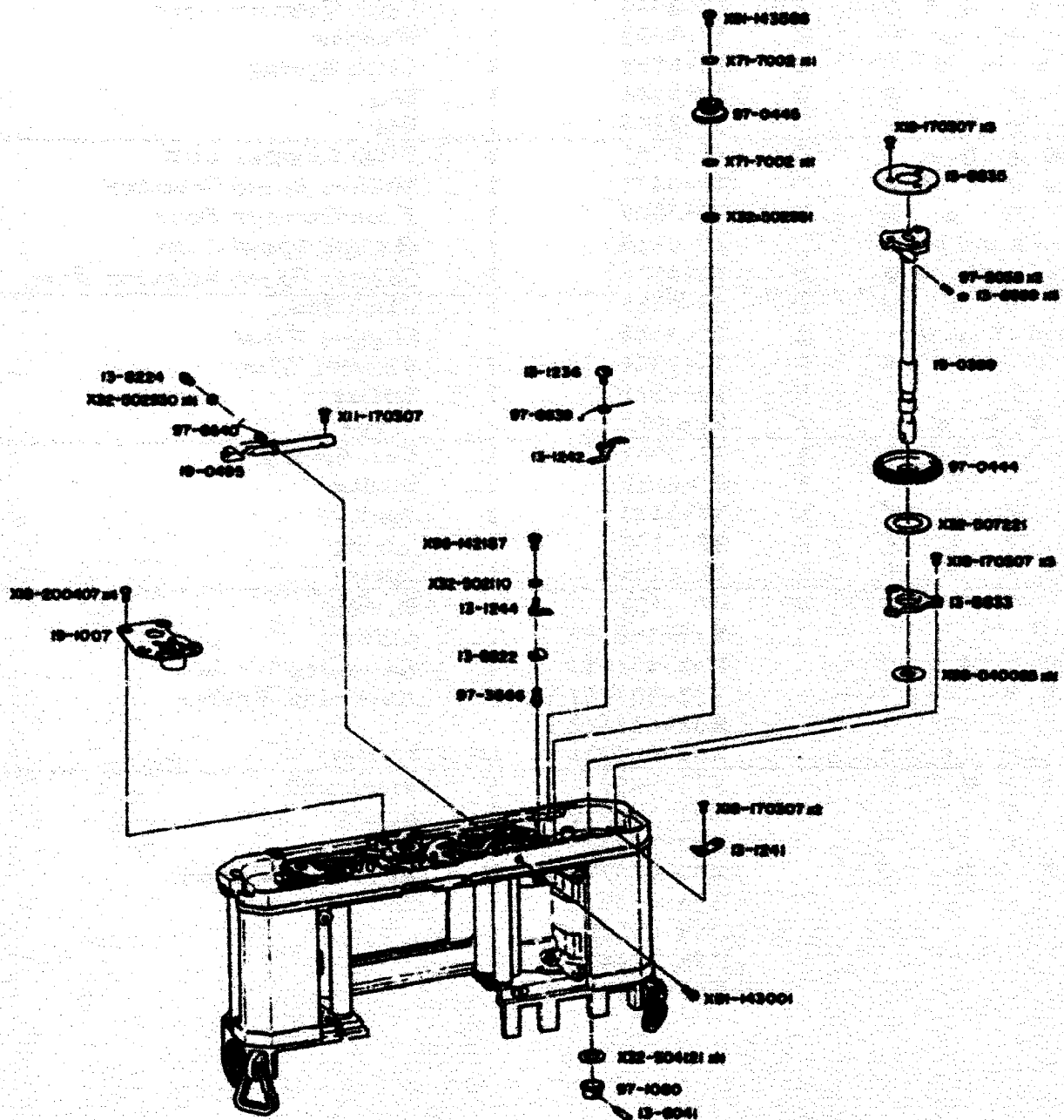
シャッター機構

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
X 接 点	D	13-1219	1	X Contact
フ ラ ッ シ ュ カ ム	D	13-1340	1	Flash Cam
絶 縁 板	D	13-2041	1	Insulator
絶 縁 板	D	13-2491	1	Insulator
ナ ッ ト	E	13-8033	1	Nut
ラ テ ッ ト ギ ャ ー	E	13-8034	1	Film Counter Gear
ワ ッ シ ャ ー	E	13-8035	1	Washer
ク リ ッ ク バ ネ	D	13-8135	1	Click Spring
ラ グ	D	13-8142	1	Lug
ナ ッ ト	D	13-8146	1	Nut
枚 数 盤 ユ ニ ッ ト	D	18-0261	1	Film Counter Unit
シ ャ ッ タ ー 機 構	D	18-0431	1	Shutter Speed Selector
枚 数 盤 基 座	E	19-0008	1	Film Counter Base
シ ャ ッ タ ー ス ピ ード カ ム	D	19-0515	1	Shutter Speed Cam
シ ャ ッ タ ー 機 構	D	19-0516	1	Shutter Speed Selector Base
ク リ ッ ク 板	D	19-0517	1	Click Disk
枚 数 盤 ス ト ッ パ ー	E	19-9523	1	Stopper Claw
枚 数 盤 送 リ 爪	D	19-9524	1	Feeding Claw
カ ラ ー	E	19-9576	1	Collar
バ ネ 掛 け ビ ス	E	97-4071	1	Screw
コ イ ル ス プ リ ン グ	E	97-5061	1	Coil Spring
ス プ リ ン グ	E	97-6132	1	Spring
ス プ リ ン グ	E	97-6133	1	Spring
ス プ リ ン グ	D	97-6138	1	Spring
ス プ リ ン グ	E	97-6155	1	Spring
ス プ リ ン グ	E	97-6156	1	Spring
十 字 ナ ベ ビ ス		X16-140187	2	Screw
緊 定 ワ ッ シ ャ ー		X32-401131	2	Retaining Washer
調 整 ワ ッ シ ャ ー		[X32-502121 X32-502122]	N	Adjusting Washer
ワ ッ シ ャ ー		X32-505722	N	Washer
ス テ ー ル ボ ール		X71-7001	1	Steel Ball
平 ビ ス		X91-143010	2	Screw
ワ ッ シ ャ ー		X98-050369	1	Washer
調 整 ワ ッ シ ャ ー		[X98-070370 X98-070371 X98-070372 X98-070373 X98-070374]	N	Adjusting Washer

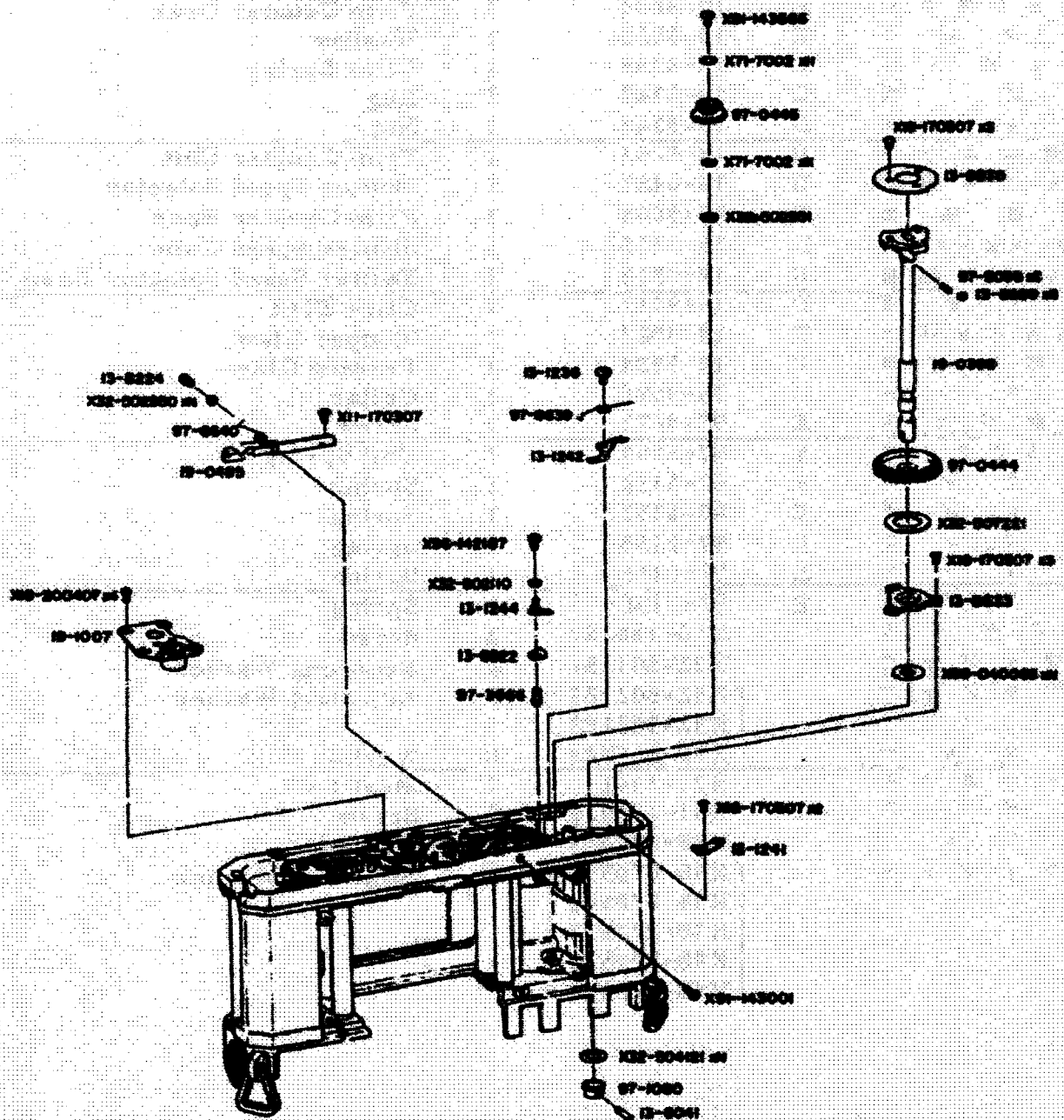
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EXPLODED VIEW
of

CANON FTb, BLACK FTb



EXPLODED VIEW of CANON FTb, BLACK FTb



PARTS LIST

WINDING SHAFT

巻き上げ軸

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
取 止 ね じ	D	13-1236	1	Screw
巻き上げストッパー	C	13-1241	1	Winding Stopper
巻き戻しクランプレバー	E	13-1242	1	Rewind Clamp Lever
制 定 レ バ ー	D	13-1244	1	Clutch Release Lever
止 ね じ	D	13-8041	1	Screw
レ リ ー ズ レ バ ー 軸	E	13-8224	1	Release Lever Shaft
ワ ッ シ ャ ー	E	13-8822	1	Washer
巻き上げギヤーマタル	E	13-8833	1	Winding Gear Base
風 車 押 え	D	13-8835	1	Cover Plate
ロ ー ラ ー	D	13-8989	3	Roller
巻 き 上 げ 軸	D	19-0399	1	Winding Shaft
ブ ロ べ ラ レ バ ー	E	19-0495	1	Release Lever
三脚取り付けネジ	D	19-1007	1	Tripod Socket
巻 き 上 げ ギ ヤ ー	D	97-0444	1	Winding Gear
二 段 ギ ヤ ー	E	97-0445	1	Stop Gear
カ ラ ー	E	97-1080	1	Winding Collar
制 定 レ バ ー 軸	D	97-3666	1	Clutch Release Lever Shaft
コイルスプリング	C	97-5058	3	Coil Spring
ス プ リ ン グ	D	97-6639	1	Spring
ス プ リ ン グ	D	97-6640	1	Spring
平 ね じ	S	X11-170307	1	Screw
十 字 皿 ね じ	S	X18-170307	8	Screw
十 字 皿 ね じ	S	X18-200407	4	Screw
ワ ッ シ ャ ー		X32-502110	N	Washer
ワ ッ シ ャ ー		X32-502930	N	Washer
ワ ッ シ ャ ー		X32-502931	N	Washer
調 整 ワ ッ シ ャ ー		(X32-504121) (X32-504122)	N	Adjusting Washer
ワ ッ シ ャ ー		X32-507221	1	Washer
ス テ ー ル ボ ー ル		X71-7002	22	Steel Ball
平 ね じ	S	X91-143001	1	Screw
平 ね じ	S	X91-143566	1	Screw
取 止 ね じ	S	X96-142187	1	Screw
ワ ッ シ ャ ー		X98-040065	N	Washer

PARTS LIST

DIAPHRAGM RELEASE LEVER & SHUTTER RELEASE SHAFT

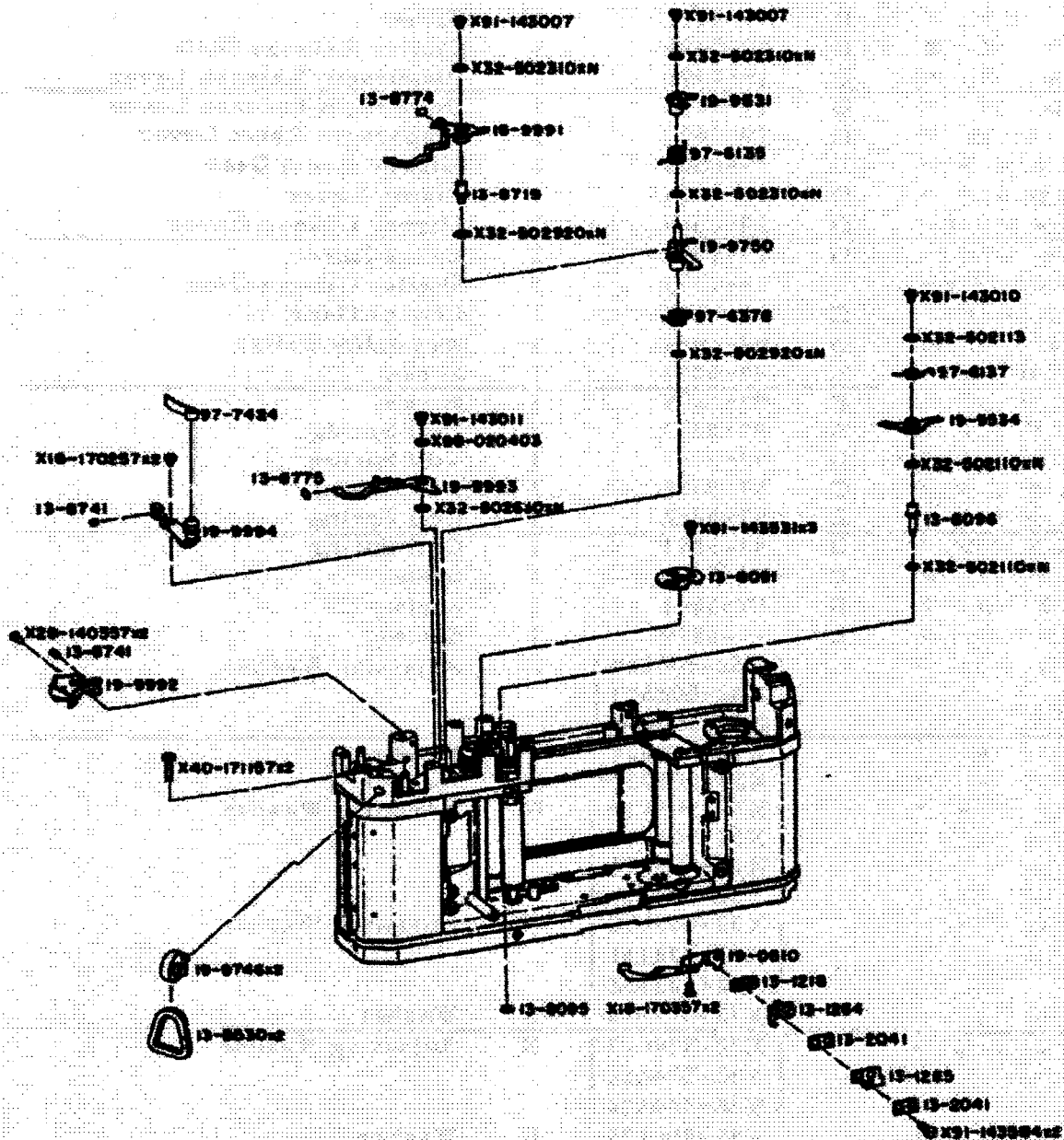
シャッターレバー

シャッターリリース軸

部品名称	CLASS	PARTS NO.	QTY.	DESCRIPTION
ミラーチャージレバー	D	13-1256	1	Mirror Charge Lever
六の字	D	13-8215	1	Shutter Charge Pawl
ナット	D	13-8506	1	Nut
カラ	D	13-8532	1	Collar
シャッター軸ガイド	E	13-8945	1	Shutter Shaft Guide
ビス	D	13-8946	1	Screw
チューブ	E	13-8949	1	Tube
止めビス	E	13-9003	1	Screw
リリース軸	E	19-0494	1	Shutter Release Shaft
シャッターレバー	D	19-0496	1	Diaphragm Release Lever
絞りレバー	D	19-0498	1	Diaphragm Release Lever
だるまレバー	E	19-0499	1	Diaphragm Reset Lever
ミラー戻しギヤ	D	19-0504	1	Mirror Reset Gear
ミラー駆動レバー	D	19-0506	1	Clamp Lever
ミラーチャージレバー	D	19-0508	1	Mirror Charge Lever
ブレーキレバー	D	19-9998	1	Brake Lever
シャッターチャージギヤ	D	19-9999	1	Shutter Charge Gear
チャージギヤ	E	97-0448	1	Charge Gear
待合せ環	D	97-1091	1	Assembly Collar
バネ掛けビス	E	97-4244	1	Screw
バネ掛けビス	E	97-4279	1	Screw
コイルスプリング	D	97-5057	1	Coil Spring
コイルスプリング	D	97-5427	1	Coil Spring
コイルスプリング	C	97-5428	1	Coil Spring
コイルスプリング	D	97-5442	1	Coil Spring
コイルスプリング	D	97-5597	1	Coil Spring
スプリング	D	97-6425	1	Spring
スプリング	D	97-6641	1	Spring
スプリング	D	97-6879	1	Spring
調整ワッシャー		[X32-502610] [X32-502611] [X32-502612]	N	Adjusting Washer
ワッシャー		X32-502620	N	Washer
ワッシャー		X32-502910	N	Washer
調整ワッシャー		[X32-503110] [X32-503111] [X32-503112] [X32-503113]	N	Adjusting Washer
調整ワッシャー		[X32-503130] [X32-503131] [X32-503132]	N	Adjusting Washer
ワッシャー		X32-503610	N	Washer
調整ワッシャー		[X32-504610] [X32-504611] [X32-504612]	N	Adjusting Washer
ワッシャー		X32-506220	N	Washer
調整ビス		[X91-142460] [X91-143461]	N	Adjusting Screw
平ビス		X91-143189	1	Screw
平ビス		X91-143535	1	Screw
平ビス		X91-143569	2	Screw
平ビス		X91-173131	2	Screw
平ビス		X91-173190	1	Screw
ワッシャー		X98-020429	1	Washer
ワッシャー		X98-060392	N	Washer

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EXPLODED VIEW of CANON FTb, BLACK FTb



PARTS LIST

SHUTTER BRAKE & RELEASE CAM

シャッター ブレーキ けりカム

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
絶 縁 台	D	13-1218	1	Insulator Base
フ ラ ッ シ ュ 接 片	D	13-1264	1	Flash Contact
フ ラ ッ シ ュ 接 片	D	13-1265	1	Flash Contact
絶 縁 板	D	13-2041	2	Insulator
け り カ ム	E	13-8091	1	Release Cam
ナ ッ ト	D	13-8095	1	Nut
レ リ ー ズ レ バ ー 軸	E	13-8096	1	Release Lever Shaft
吊 環	C	13-8530	2	Neck Strap Relation
先 幕 ブ レ ー キ 軸	D	13-8719	1	1st Curtain Brake Shaft
調 整 ビ ス	D	13-8741	2	Screw
皮	B	13-8774	1	Brake Leather
皮	B	13-8775	1	Brake Leather
後 幕 解 除 レ バ ー	D	19-0510	1	2nd Curtain Release Lever
ふ り こ	E	19-9531	1	2nd Curtain Release Lever
解 除 レ バ ー	D	19-9534	1	Shutter Release Lever
取 環	C	19-9746	2	Neck Strap Catch
カ ッ ム	D	19-9750	1	2nd Curtain Release Lever
先 幕 ブ レ ー キ	E	19-9991	1	1st Curtain Brake
先 幕 ブ レ ー キ 地 盤	E	19-9992	1	1st Curtain Brake Base
後 幕 ブ レ ー キ	E	19-9993	1	2nd Curtain Brake
後 幕 ブ レ ー キ 地 盤	E	19-9994	1	2nd Curtain Brake Base
ス プ リ ン グ	D	97-6135	1	Spring
ス プ リ ン グ	D	97-6137	1	Spring
ス プ リ ン グ	D	97-6378	1	Spring
ブ レ ー キ バ ン ド	E	97-7424	1	Brake Band
十 字 ナ ベ ビ ス		X16-170257	2	Screw
十 字 皿 ビ ス		X18-170357	2	Screw
十 字 皿 ビ ス		X28-140357	2	Screw
調 整 ワ ッ シ ャ ー		X32-502110	N	Adjusting Washer
		X32-502111		
		X32-502112		
		X32-502113		
調 整 ワ ッ シ ャ ー		X32-502310	N	Adjusting Washer
		X32-502311		
		X32-502312		
ワ ッ シ ャ ー		X32-502630	N	Washer
調 整 ワ ッ シ ャ ー		X32-502920	N	Adjusting Washer
		X32-502921		
		X32-502922		
十 字 ナ ベ ビ ス		X40-171157	2	Screw
平 ビ ス		X91-143007	2	Screw
平 ビ ス		X91-143010	1	Screw
平 ビ ス		X91-143011	1	Screw
平 ビ ス		X91-143531	3	Screw
平 ビ ス		X91-143564	2	Screw
ワ ッ シ ャ ー		X98-020403	N	Washer

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PARTS LIST

1st CURTAIN DRUM & SPRING DRUM UNIT

先幕ドラム

スプリングドラムユニット

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
先 幕 ギ ャ ー	E	Y00-0622	1	1st Curtain Gear
ナ ッ ト	D	13-0211	2	Nut
爪	D	13-3301	2	Claw
ドラム キャ ッ プ	D	13-3580	1	Flange
ロ ー ラ ー	D	13-3581	2	Roller
先 幕 ド ラ ム	D	13-3582	1	1st Curtain Drum
カ ラ ー	D	13-3587	1	Collar
ナ ッ ト	D	13-3588	2	Nut
偏 芯 コ ロ	E	13-8081	1	Eccentric Collar
後 幕 フ ッ ク	D	13-8084	1	2nd Curtain Hook
カ ラ ー	E	13-8101	1	Collar
セ ッ ト ピ ス	D	13-8105	3	Screw
カ ラ ー	D	13-8108	1	Collar
カ ラ ー	D	13-8110	1	Collar
ワ ッ シ ャ ー	D	13-8111	2	Washer
後 幕 ド ラ ム	E	13-8120	1	2nd Curtain Spring Drum
ド ラ ム コ ロ	D	13-8519	2	Flange
ブ レ ー キ 軸	E	13-8818	1	Brake Shaft
戻 し レ バ ー 軸	E	13-8933	1	Reset Lever Shaft
レ バ ー 軸	E	13-8943	1	Connecting Lever Shaft
モ ル ト ブ レ ー ン	D	13-8984	1	Light Shield
先幕ドラムユニット	D	18-0155	1	1st Curtain Drum
スプリングドラム	D	18-0156	1	Spring Drum Unit
遮 光 板	E	19-0284	1	Light Shield
後 幕 ス プ リ ン グ	D	19-9344	1	2nd Curtain Spring
先 幕 ス プ リ ン グ	D	19-9345	1	1st Curtain Spring
先 幕	D	19-9511	1	1st Curtain
後 幕	D	19-9512	1	2nd Curtain
先 幕 ド ラ ム	D	19-9536	1	1st Curtain Drum
先 幕 ド ラ ム 地 盤	E	19-9537	1	1st Curtain Drum Base
ア ン ク ル 軸	D	19-9539	1	Anchor Release Link
スプリング地盤	E	19-9550	1	Curtain Spring Base
後 幕 ド ラ ム	E	19-9578	1	2nd Curtain Drum
先 幕 ド ラ ム 軸	D	19-9579	1	1st Curtain Drum Shaft
後 幕 ド ラ ム 軸	E	19-9586	1	2nd Curtain Drum Shaft
後 幕 ギ ャ ー	E	19-9863	1	2nd Curtain Gear
後 幕 逆 カ ム	E	19-9996	1	Counter Cam
後幕スプリングギヤ	E	97-0103	1	2nd Curtain Spring Gear
十 字 ナ ベ ピ ス		X16-170257	1	Screw
十 字 皿 ピ ス		X18-140227	3	Screw
十 字 皿 ピ ス		X18-170257	1	Screw
平 皿 ピ ス		X21-140407	1	Screw
十 字 ナ ベ ピ ス		X26-140158	3	Screw
十 字 ナ ベ ピ ス		X26-140257	3	Screw
十 字 皿 ピ ス		X28-140257	3	Screw
固定ワッシャ		X32-401132	2	Retaining Washer
ワ ッ シ ャ ー		X32-501912	4	Washer
ワ ッ シ ャ ー		X32-501917	1	Washer
調整ワッシャ		X32-502610	N	Adjusting Washer
		X32-502611		
		X32-502612		
調整ワッシャ		X32-504610	N	Adjusting Washer
		X32-504611		
		X32-504612		
ス テ ー ル ボ ー ル		X71-7002	40	Steel Ball
平 皿 ピ ス		X91-143531	2	Screw
皿 皿 ピ ス		X96-141186	1	Screw

4/c

PARTS LIST

SPROCKET & TAKE UP SPOOL

スプロケット 巻取リスプール

部 品 名 称	CLASS	PARTS NO.	QTY.	DESCRIPTION
エキセンカラー	D	13-1235	1	Eccentric Collar
軸 番 軸	E	13-2757	1	Shaft of Hinge
遮 光 板	D	13-3492	1	Light Shield
ホ ー ー 軸	E	13-4913	3	Shaft
巻 戻 し 部	E	13-8197	1	Rewind Button
スプロケット軸	E	13-8199	1	Sprocket Shaft
遮 光 板	D	13-8505	2	Light Shield
平 ビ ス	C	13-8590	1	Screw
スプ ー ル 軸	E	13-8824	1	Spool Shaft
スプ ー ル 受けメタル	E	13-8826	1	Spool Support Metal
ナ ッ ト	D	13-8830	1	Nut
ス ペ ー サ ー	E	13-8831	1	Spacer
フ ァ イ バ ー	E	13-8832(0.50)	3	Fiber Washer
カッコ内の数字はワッシャー の厚さを示す(単位mm)		13-8832(0.80)		Number in Parenthesis indicates washer thickness in mm.
		13-8832(1.00)		
アイドルギヤー軸	E	13-8838	1	Idle Gear Shaft
スプロケットクラッチ	E	13-8840	1	Sprocket Clutch
スプロケット	E	13-8841	1	Sprocket
スプロケット軸受け	E	13-8842	1	Sprocket Bushing
フィルムガイドビス	D	13-8861	2	Film Guide Screw
巻き上げギヤー軸受け	E	13-8940	1	Winding Gear Bushing
ロ ー ラ ー	D	13-8950	1	Roller
ロ ー ラ ー	D	13-9014	1	Roller
巻 取 リ ス プ ー ル	D	18-0254	1	Take Up Spool Unit
スプロケットカバー	C	19-0004	1	Sprocket Cover
中 ぶ た	C	19-0005	1	Inner Cover
巻き取リスプール	E	19-0222	1	Take Up Spool
本 体	E	19-0501	1	Body
ホ ー ー 軸	E	19-9920	3	Friction Rubber
巻き取リスプール軸	E	19-9997	1	Take Up Spool Shaft
スプロケットギヤー	E	97-0446	1	Sprocket Gear
コイルスプリング	E	97-5056	1	Coil Spring
コイルスプリング	E	97-5426	1	Coil Spring
ス プ リ ン グ	E	97-6362	3	Spring
ス プ リ ン グ	D	97-6424	1	Spring
ス プ リ ン グ	D	97-6521	2	Spring
止 め ビ ス		X10-140217	1	Screw
十 字 皿 ビ ス		X16-170358	1	Screw
十 字 皿 ビ ス		X18-170258	3	Screw
十 字 皿 ビ ス		X28-140257	4	Screw
ワ ッ シ ャ ー		X32-502112	1	Washer
調整ワッシャー		X32-503611	N	Adjusting Washer
		X32-503612		
ワ ッ シ ャ ー		X32-504112	1	Washer
ワ ッ シ ャ ー		X32-506233	1	Washer
調整ワッシャー		X32-507711	N	Adjusting Washer
		X32-507712		
平 ビ ス		X91-143007	2	Screw
平 ビ ス		X91-143198	1	Screw
平 ビ ス		X91-143539	2	Screw
ワ ッ シ ャ ー		X98-010396	3	Washer
調整ワッシャー		X98-050375	N	Adjusting Washer
		X98-050376		
平 ビ ス		X99-0073	1	Screw

PREFACE

This Repair Guide is issued to insure the continued high quality of the CANON FTb through correct repair procedures.

This Guide consists of three parts, i.e., Introduction, Disassembly, and Replacement and Adjustment.

If any repairs are required, refer to this Guide. Any comments or suggestions concerning this Guide will be appreciated.

**Canon Inc.
Service Division, Camera Service
Technical Section
3-30-2 Shimomaruko
Ohta-ku, Tokyo, Japan**

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Introduction

The FTb is a redesigned and improved version of the proved FT QL design which incorporates many of the advanced features of the F-1, such as the FD lens group, Maximum Aperture Metering, Canon's "CAT System" flash automation, and an abnormal release prevention unit. These added features make the FTb slightly more complicated to repair and require more care on the part of the repairman.

1. Exposure accuracy is measured in the same way as the F-1 using the standard FD 50mm 1:1.4 lens. The Meter, CdS and variable resistor must be replaced as a unit. In order to maintain CAT system accuracy, variations in the start position of the meter needle should be kept to a minimum. Therefore, when aligning the meter for low brightness, the ND filters placed in front of the CdS should be carefully chosen, and fine adjustment made with the meter eccentric screw.
2. Distance from the lens mount surface to the Max. Aperture Correction Lever should be measured with slide calipers.
3. Since an abnormal release prevention unit is used in this design, play in the camera bottom levers is more critical than before. Excess play can cause the shutter curtain to stick during travel.

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1. Disassembly

1.1 Top Cover

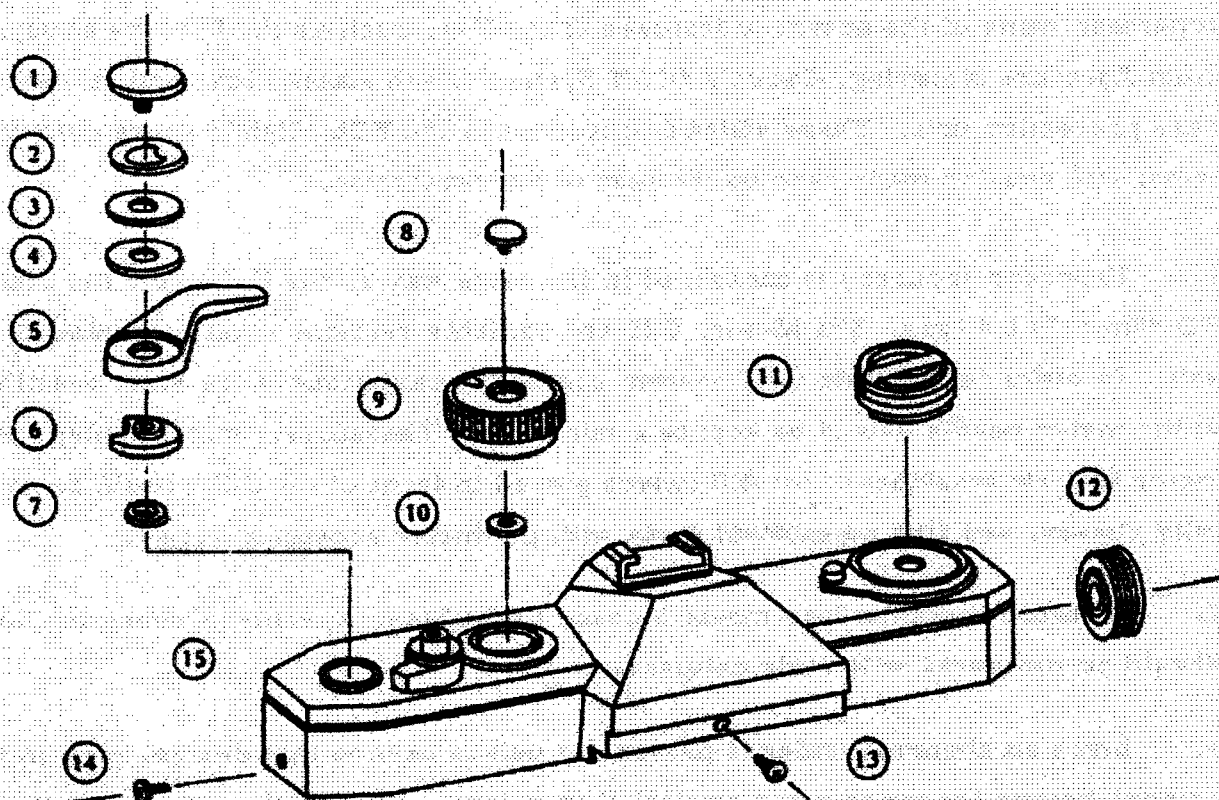


Fig. 1

1. Winding Lever	1	<u>Pin Face Screw</u> 13-8061	2	<u>Washer</u> 13-8062	3	<u>Spring Washer</u> 13-8059	
	4	<u>Washer</u> X98-080162	5	<u>Winding Lever</u> 19-9577			
	6	<u>Winding Lever Seat</u> 13-8057	7	<u>Washer</u> X32-504121 - 2	x n		
2. Shutter Speed Dial	8	<u>Pin Face Screw</u> 13-8696	9	<u>Shutter Speed Dial</u> 18-0433			
	10	<u>Washer</u> X32-504121 - 2	x n				
	11	<u>Rewind Crank Unit</u> 18-0260					
3. Rewind Crank Unit							
4. Top Cover	12	<u>Battery Cover</u> 18-0313	13	<u>Screw</u> X94-170110	14	<u>Screw</u> X19-170306	x 3
	15	<u>Top Cover</u> 19-0503					

1.2 Base Cover

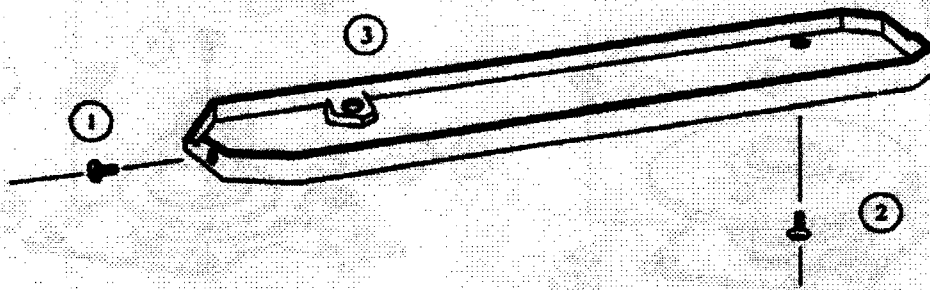


Fig. 2

1. Base Cover

1 Screw
X19-170306

2 Screw x 2
X18-170306

3 Base Cover
13-1204

1.3 Film Counter Unit and Shutter Speed Selection

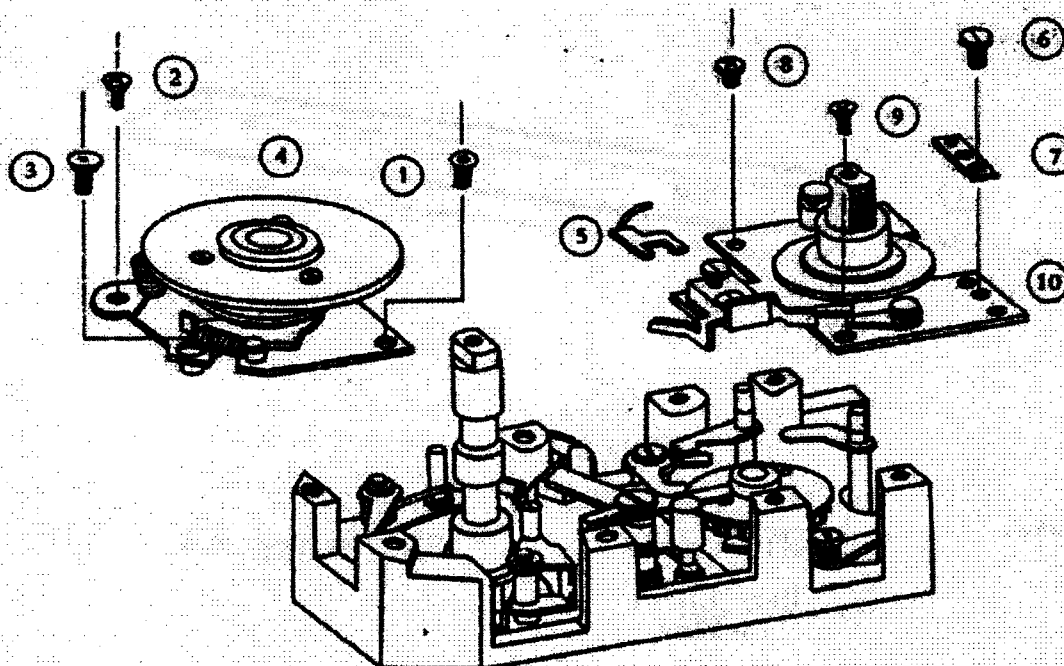


Fig. 3

1. Film Counter Unit	1	<u>Screw</u> X16-170287	2	<u>Screw</u> X18-170287	3	<u>Screw</u> X18-200287 x 2
	4	<u>Film Counter Unit</u> 18-0261				
2. Shutter Speed Selector	5	<u>Lug</u> 13-8142	6	<u>Screw</u> X16-140187 x 2		
	7	<u>Slow Shutter Link Holder</u> 13-8131			8	<u>Screw</u> X16-170287
	9	<u>Screw</u> X18-170287 x 2				
			10	<u>Shutter Speed Selector</u> 18-0431		

1.4 Front Panel (Mirror Box)

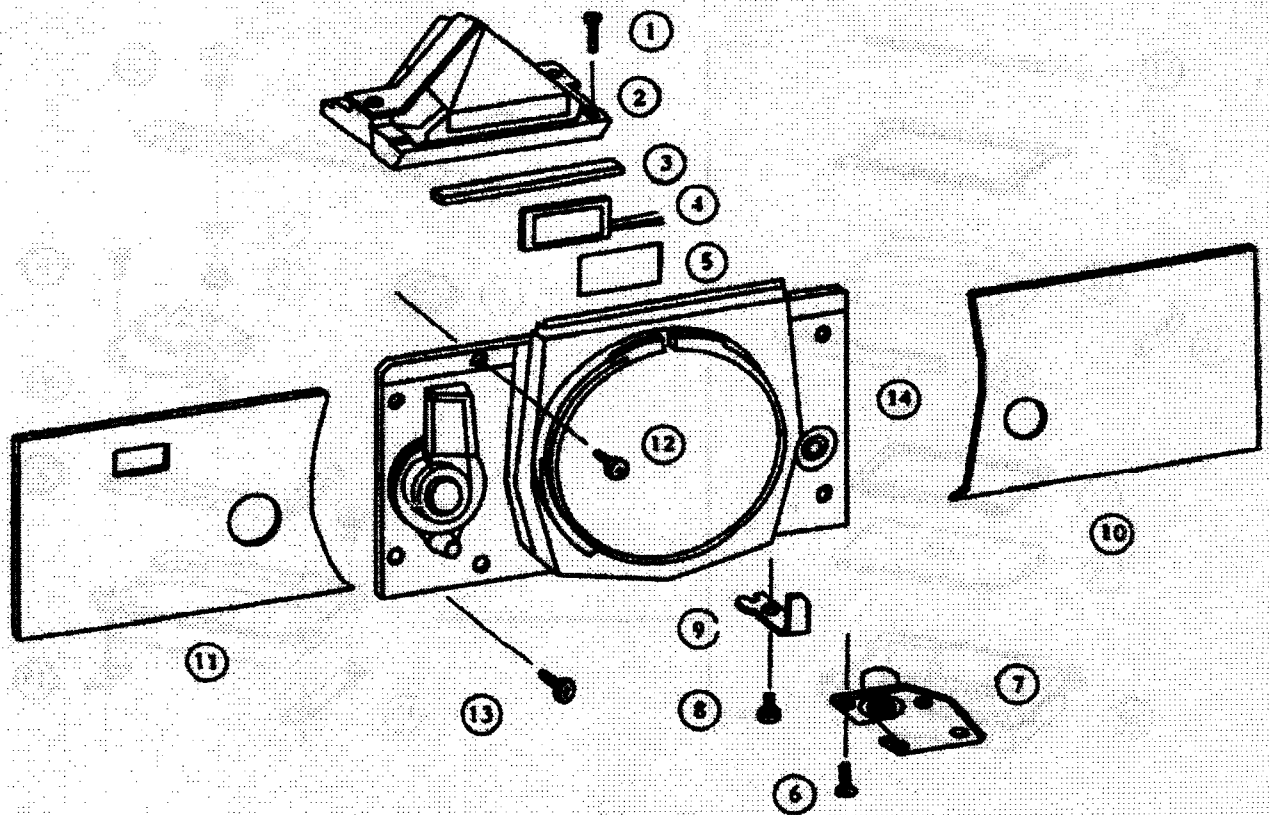


Fig. 4

1. Pentaprism	1	<u>Screw</u> X16-170707 x 3	2	<u>Pentaprism</u> 10-0233
	3	<u>Dust Guard</u> 13-1339	4	<u>CdS</u> P/O 18-0455
	5	<u>ND Filter</u> 13-8976		
2. Tripod Socket	6	<u>Screw</u> X18-200407 x 4	7	<u>Tripod Socket</u> 19-9546
	8	<u>Screw</u> X16-170208 x 2	9	<u>Diaphragm Release Lever</u> 13-1254
3. Front Panel	10	<u>Leather (right)</u> 13-1296	11	<u>Leather (left)</u> 13-1297
	12	<u>Screw</u> X95-170040	13	<u>Screw</u> X18-170508 x 5
	14	<u>Front Panel</u> 19-0502		

8-1

1.5 Condenser Lens Box

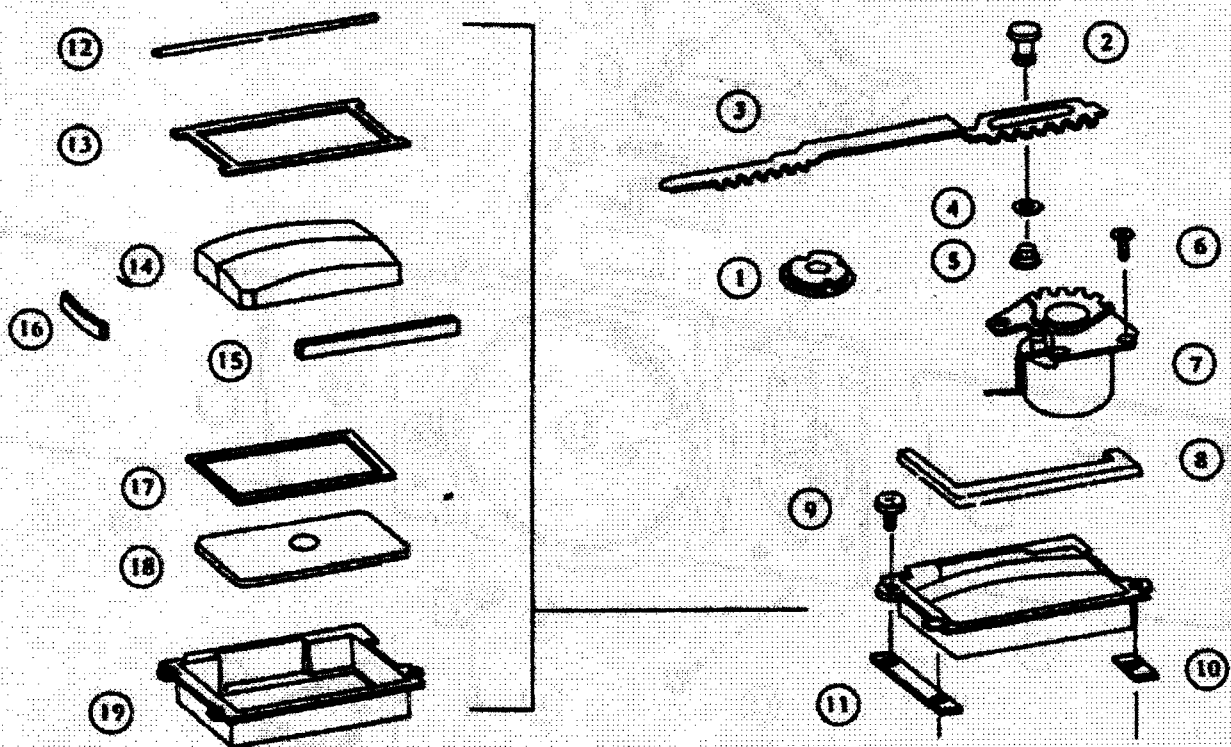


Fig. 5

1. Meter Unit	1	<u>Coupling Gear</u> 97-0352	2	<u>Screw</u> 13-1301	3	<u>Meter Set Cam</u> 13-1281
	4	<u>Washer</u> X32-502120 x n	5	<u>Collar</u> 13-1303	6	<u>Screw</u> X18-170258 x 3
	7	<u>Meter Unit</u> P/O 18-0455				
2. Condenser Lens	8	<u>Dust Guard</u> 13-1273	9	<u>Screw</u> X91-143241 x 3		
	10	<u>Washer (short)</u> 13-9088	11	<u>Washer (long)</u> 13-9089		
3. Condenser Lens Box	12	<u>Retainer</u> 13-8787	13	<u>Retainer</u> 13-8677	14	<u>Condenser Lens</u> 12-0238
	15	<u>Light Shield</u> 13-8992	16	<u>Plate Spring</u> 13-8785	17	<u>Mask</u> 13-8785
	18	<u>Focusing Screen</u> 10-0240	19	<u>Condenser Lens Box</u> 13-1208		

2. Replacement and Adjustment

2.1 Sprocket

1. Removal of Sprocket

Remove the following parts:

Shutter Speed Selector, Film Counter Unit, Shutter Release Shaft, Sprocket Cover, Take-up Spool Unit and Master Gear.

To remove Sprocket Gear and Clutch, Shutter Charge Gear should be removed.

2. Mounting Sprocket Clutch

- 1) Apply GE-7 to the circumference of Sprocket Gear (97-0446).
- 2) Mount Sprocket Clutch (13-8840) as shown in Fig. 1.

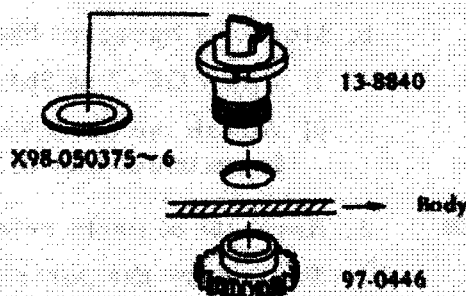


Fig. 1

3. Mounting Sprocket

- 1) Apply GE-7 to the inside surface of Sprocket Bushing (13-8842).
- 2) Apply IH-1* to the upper and lower fitting parts of Sprocket (13-8841).
- 3) Put Washer (X98-050375 and 6) on Sprocket Clutch (13-8840).
- 4) Mount the parts in the sequence shown in Fig. 2.

4. Adjustment

- 1) Make the distance between the upper and lower pawls of the Sprocket equal to that between the inside rails. Make adjustment with Washer (X98-050375 and 6).
- 2) Vertical play of the Sprocket must be 0.1 ~ 0.2mm. Adjust the play with Washer (X32-503611 and 2).

Note: * Photo Lube IH-1 is mistakenly listed as TH-1 in the Service Tools List Lubricants section. It is also known as PL-021.

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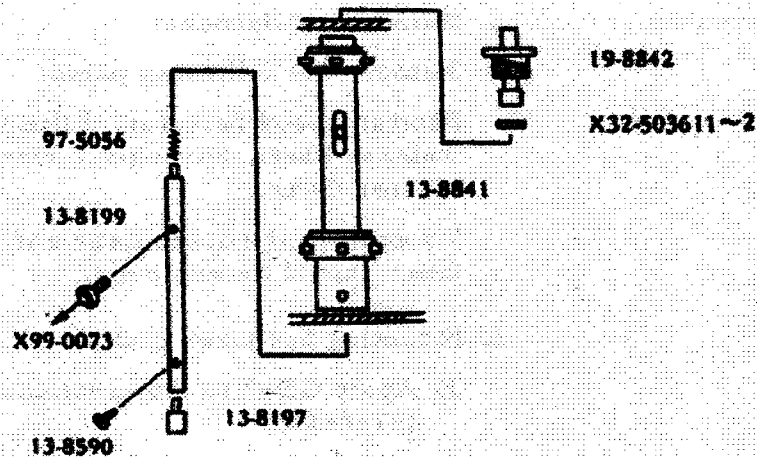


Fig. 2

5. Mounting Sprocket Shaft

- 1) Apply GE-7 to Sprocket Shaft (13-8199).
- 2) Attach the Sprocket Shaft and Coil Spring (97-5056) from underside of Body.

2.2 Parts related to Brake

1. Removal of parts related to Brake

To remove the parts related to Brake, Film Counter Unit and Shutter Speed Selector should be removed. Moreover, to remove 2nd Curtain Brake (19-9993), 1st Curtain Gear (Y00-622) and 2nd Curtain Gear (19-9863) should be removed. When adjusting the Brake torque, removal of the above parts is unnecessary.

2. Mounting parts related to Brake

- 1) Mount the parts in the sequence shown in Fig. 3.
- 2) After mounting, apply Launa 40 to Sprocket Bushing (13-8842) and 1st Curtain Brake Shaft (13-8719).

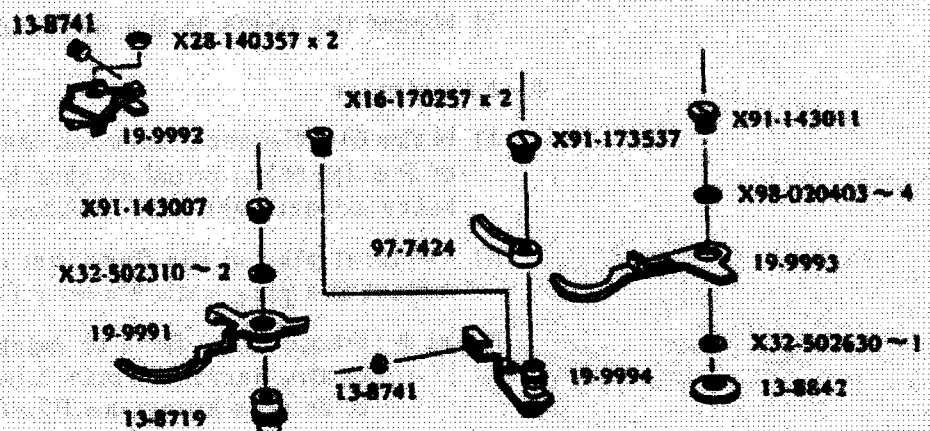


Fig. 3

3. Adjustment

- 1) Vertical play of 2nd Curtain Brake (19-9992) must be 0.03 ~ 0.08mm.
Adjust the play with Washer (X32-502630) and 1).
- 2) Vertical play of 1st Curtain Brake (19-9991) must be at least 0.05mm.
Adjust the play with Washer (X32-502310 - 2).

Note: The ends of 1st and 2nd Curtain Brakes shouldn't be in contact with each other.

4. Adjustment of Brake torque

- 1) Brake torque: 2nd Curtain Brake: 100 ~ 200g
1st Curtain Brake: 150 ~ 250g
- 2) Adjust the Brake torque with Screw (13-8741).

Note: After adjustment, apply Diabond (bonding agent) to the Screw.

2.3 Take-up Spool Unit

1. Mounting Take-up Spool Unit

Mount the parts in the sequence shown in Fig. 4.

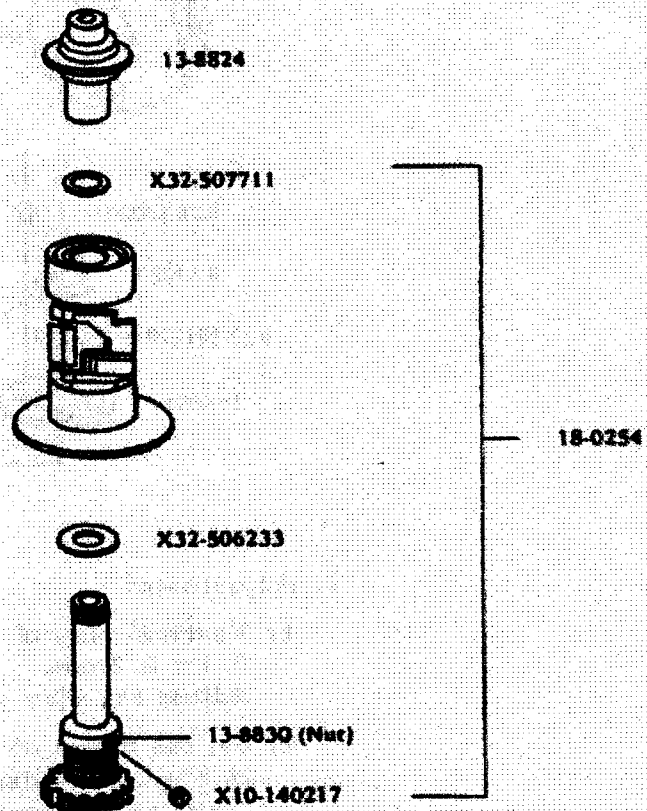


Fig. 4

2. Spool torque

Measure the torque by using a spring balance with nylon thread wound around Spool circumference:

Limit: 280 ~ 400g

Measurement with torque screwdriver:

Limit: 210 ~ 280gcm

Make adjustment with Nut (13-8830).

2.4 Parts related to Winding Shaft

1. Installation of Winding Shaft

- 1) Apply AD-1 to the inside face of Winding Gear (97-0444) and GE-7 to the rear side, respectively.
- 2) Apply GE-7 to the upper and lower fitted parts of Winding Shaft (19-0399).
- 3) Install the parts in the order shown in Fig. 5.

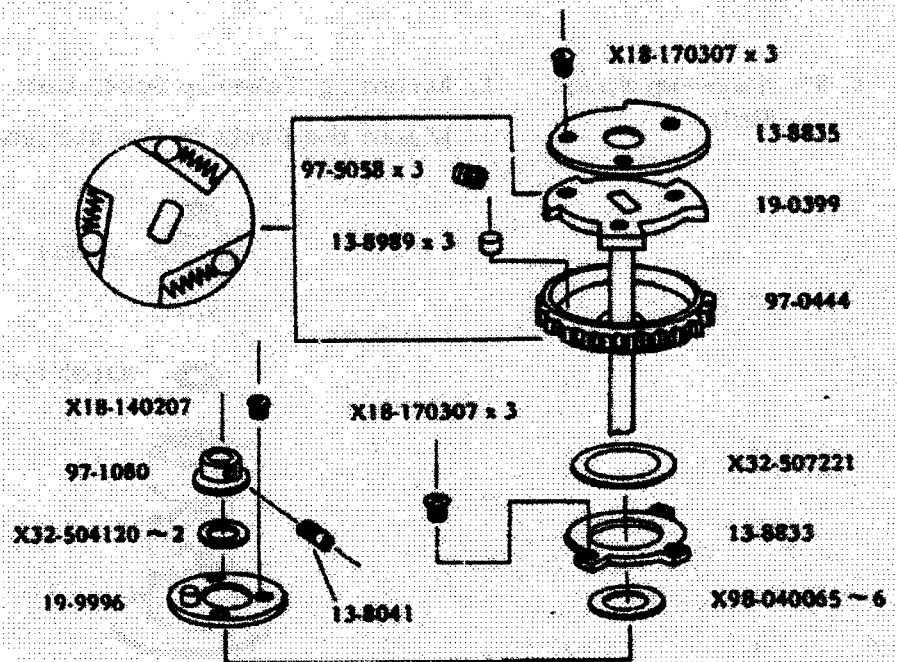


Fig. 5

2. Adjustment

- 1) Vertical play of Winding Shaft (19-0399) must be 0.1 ~ 0.2mm.
Adjust the play with Washer (X32-504120 - 2).
- 2) Set the dowel of Counter Cam (19-9996) at the position in Fig. 6, 35 degrees of angle $\pm$ one tooth.
Make adjustment by aligning the engaging position of Take-up Spool Shaft (19-9997).

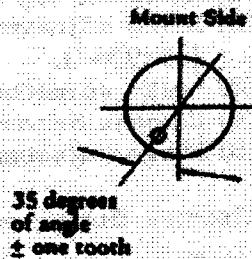


Fig. 6

2.5 Shutter Button stroke

1. Mounting Shutter Release Shaft

Mount the parts in the order shown in Fig. 7.
Apply MoS₂ grease to the respective fitted parts.

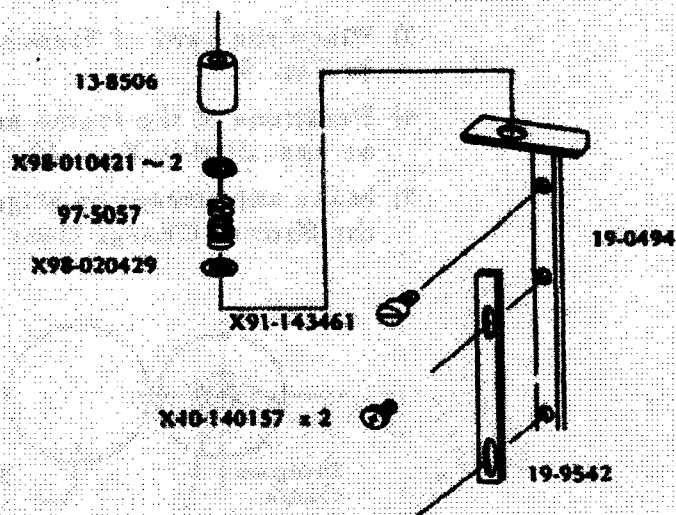


Fig. 7

2. Shutter Button stroke

1) Operation of the mechanism associated with the Shutter Button stroke is as follows.

	0.5mm	1mm	1.5mm	2mm
1. Free travel of Shutter Button during winding	↔			
2. Start of self-timer	↔			
3. Disengagement of Release Lever	↔			
4. Free travel of selftimer	↔			
5. Excess stroke	↔			

- (1) Bend the top end of Shutter Release Shaft (19-0494).
- (2) Make adjustment by using the slot of Selftimer Starter (19-9542).
- (3) Make adjustment with Screw (X11-170307).
- (4) Choose Screw (X91-143461).
- (5) Make adjustment with Washer (X98-010421 and 2).

3. Shutter Button pressure

- 1) Pressure: 150 ~ 450 g
- 2) Adjust the pressure with Spring (97-5057).

2.6 Shutter Charge Gear

1. Adjustment of perforation position

- 1) Wind the mechanism.
- 2) Set Charge Gear (97-0448) at the position 20 degrees $\pm$ one tooth in Fig. 8.
- 3) Place the pawl of Sprocket (13-8841) at the position in Fig. 9.
- 4) Positions of the frame and film perforation should be as specified in Fig. 10.
- 5) Make adjustment by aligning the engaging position of the Shutter Charge Gear (19-9999).

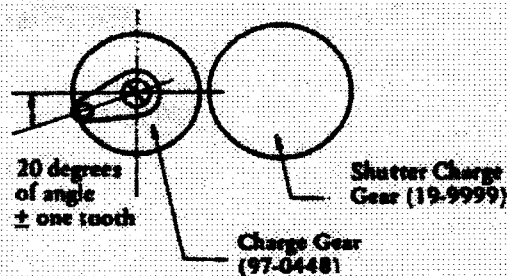


Fig. 8

Sprocket Cover
(19-0004)

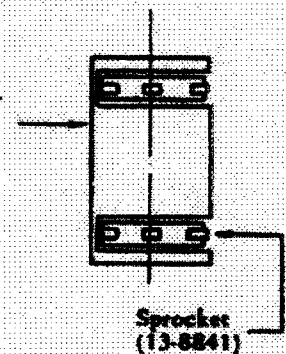


Fig. 9

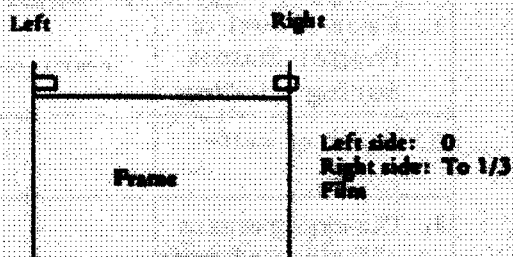
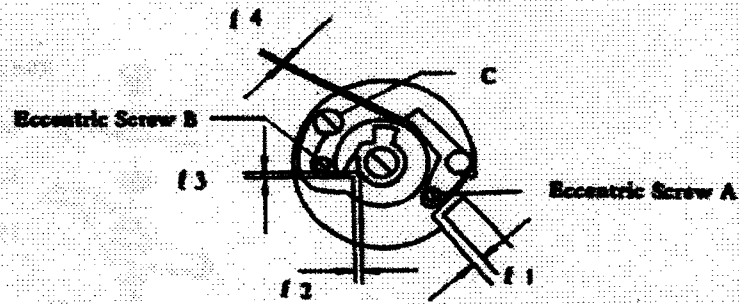


Fig. 10

2. Adjustment of Shutter Charge Gear



Unit: mm

Symbol	Limit	Adjustment	Remarks
l1	0 ~ 0.5	Selection of suitable Shutter Charge Pawl (13-8215)	With Winding Lever turned fully
l2	0.1 ~ 0.2	by eccentric screw B	With Winding Lever turned fully
l3	0.05~0.15	By adjusting hole of screw C	With Winding Lever turned fully
l4	0 ~ 0.5	By eccentric screw A	With curtain removed

Fig. 11

2.7 2nd and 1st Curtain Gears

1. Mounting Drums

- 1) Apply a low temp. grease to the upper and lower fitted parts of 2nd Curtain Drum Shaft (19-9586).
- 2) Mount 10 Steel Balls (X71-7002) on the 2nd Curtain Drum Shaft.
- 3) Mount the parts in the order shown in Fig. 11.
- 4) Mount Anchor Release Link (19-9539).
- 5) Mount 1st Curtain Drum (18-0155).

2. Mounting 2nd and 1st Curtain Gears

- 1) Apply a low temp. grease to the fitted parts of 2nd Curtain Gear (19-9863) and 1st Curtain Gear (Y00-0622).
- 2) Mount the parts in the order shown in Fig. 12.

2.8 Shutter Release 1. Mounting Shutter Release Lever

- 1) Install the parts in the order shown in Fig. 14.
- 2) Apply Loana 40 to Release Lever Shaft (13-8096).

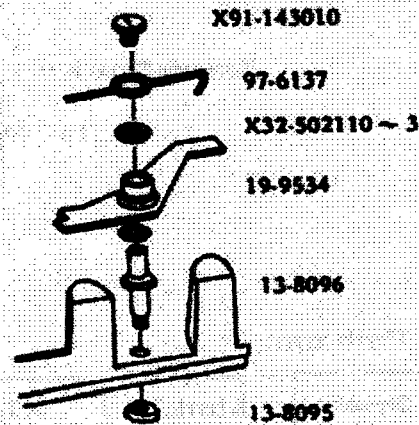


Fig. 14

2. Adjustment

- 1) Vertical play of the Shutter Release Lever (19-9534) must be 0.05 ~ 0.12mm.
Adjust the play with Washer (X32-502110 - 2).
- 2) Wind the mechanism.
- 3) Clearance between 1st Curtain Gear (19-9533) and Shutter Release Lever (19-9534) must be 0.1 ~ 0.2mm.
See Fig. 15. The clearance adjustment is to be made by turning Release Lever Shaft (13-8096).
(Use 13-8095-2 spanner)

Note: After adjustment, apply Diabond (bonding agent) to Nut (13-8095).

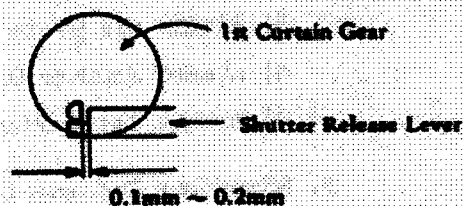


Fig. 15

2.9 Mirror Reset Gear

1. Mounting Curtain

- 1) When winding the mechanism, separation between the 2nd Curtain and the frame edge should be 5 ~ 5.5mm. See Fig. 16.
- 2) When 1st Curtain has already been mounted, separation 5mm should be provided at the position where 2nd Curtain is caught in 2nd Curtain Release Lever (19-9750).
- 3) Curtain overlap during winding should be 2 ~ 2.5mm at the center of the frame.

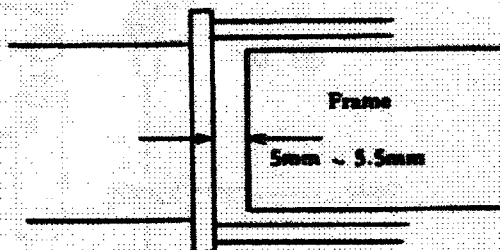


Fig. 16

2. Installation and adjustment of Mirror Reset Gear

- 1) Wind the mechanism.
- 2) Apply a low temp. grease to the fitted part of the Mirror Reset Gear (19-0504).
- 3) Mount the Gear at the position 2.5 ~ 3.5 teeth as shown in Fig. 17.
- 4) Adjustment is to be made by aligning engagement of the Mirror Reset Gear.

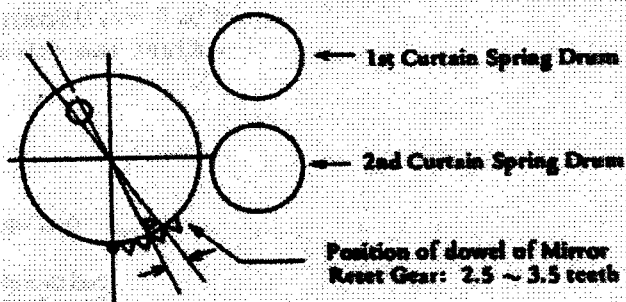


Fig. 17

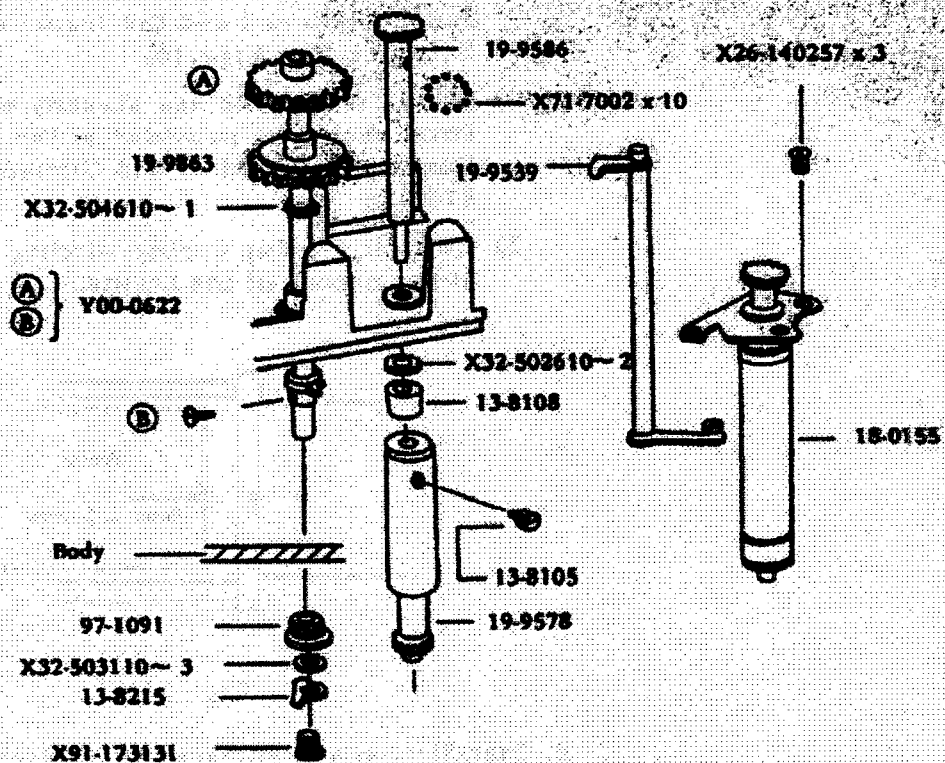


Fig. 12

3. Adjustment

- 1) Vertical play of the 2nd Curtain Drum Shaft must be 0.1 ~ 0.2mm.
Adjust the play with Washer (X32-503110 ~ 3).
- 2) The difference between the top of the 2nd Curtain Gear (19-9863) and the top of the bearing should be: $\pm 0.0 - 0.05\text{mm}$ See Fig. 13.
Adjust the difference with Washer (X32-504610 - and 1).

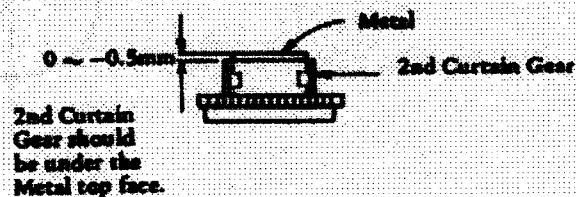


Fig. 13

- 3) Vertical play of 1st Curtain Gear must be 0.1 ~ 0.15mm.
Adjust the play with Washer (X32-503110 - 3).

2. 10 2nd Curtain Release Levers (19-9750) and (19-9531)

1. Mount the 2nd Curtain Release Levers (19-9750) and (19-9531) as shown in Fig. 18.

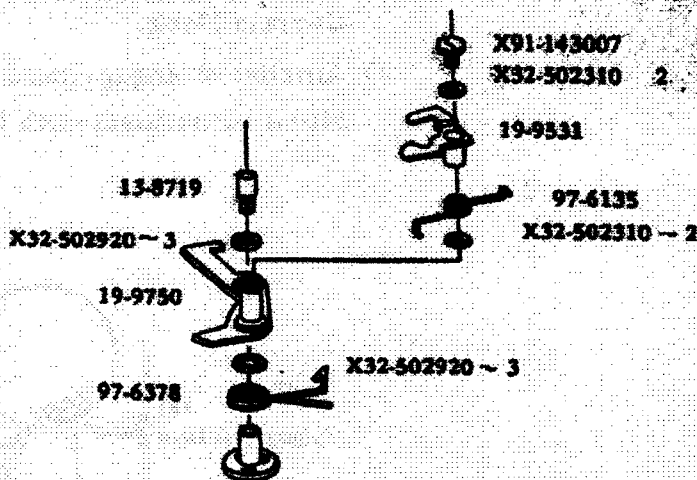
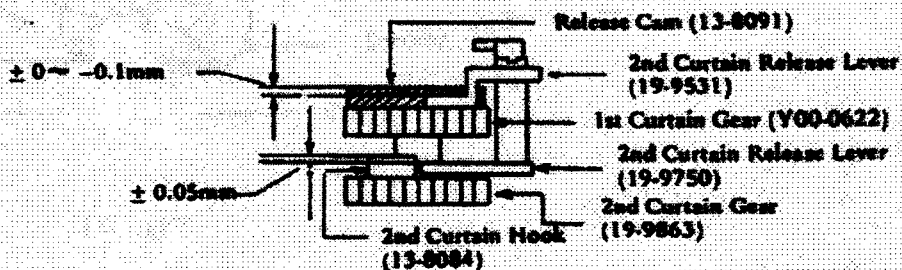


Fig. 18

2. Adjustment

- 1) Vertical play at the end of 2nd Curtain Release Lever must be 0.03 ~ 0.08mm.
The play is to be adjusted by Washer (X32-502920 - 3).
- 2) The Lever (19-9750) and 2nd Curtain Hook (13-8084) should be at the same level. Limit: $\pm 0.05\text{mm}$
See Fig. 19.
Make adjustment with Washer (X32-502920 - 3).
- 3) Vertical play of 2nd Curtain Release Lever must be 0.03 ~ 0.08mm.
Adjust the play with Washer (X32-502310 - 2).
- 4) The Lever (19-9531) and Release Cam (13-8091) should be at the same level. Limit: $+0 \sim -0.1\text{mm}$
See Fig. 19.
Make adjustment with Washer (X32-502310 - 2).



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3. Adjustment of separation between 2nd Curtain Release Lever (49-5750) and 2nd Curtain Hook

- 1) Separation "A": 0.2 ~ 0.4mm See Fig. 20.

Adjustment is to be made by using the slot of the 2nd Curtain Hook.

- 2) Amount of engagement "B": 0.3 ~ 0.4mm See Fig. 20

Make adjustment with Eccentric Collar.

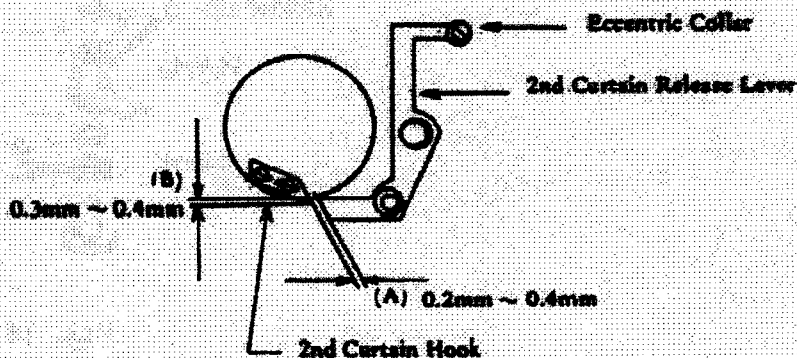


Fig. 20

2.11 Shutter

1. Installation and adjustment of Slow Shutter Gear

- 1) Apply a low temp. grease to the shaft of Slow Shutter Gear (97-0102).

- 2) Wind the mechanism.

- 3) Install Slow Shutter Pawl (13-8117) with it away from Slow Shutter Governor (18-0124) by 0.2 ~ 0.3mm. See Fig. 21.

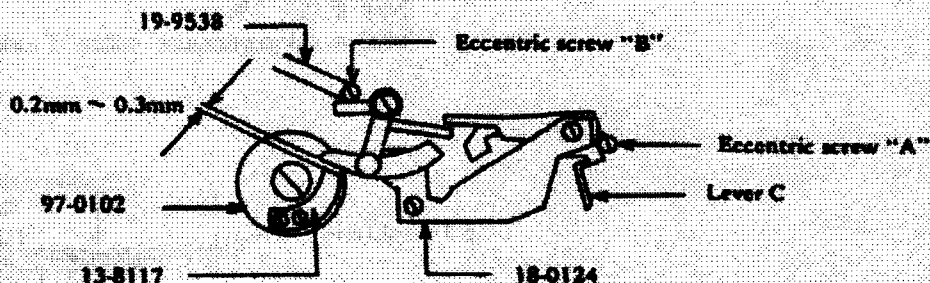


Fig. 21

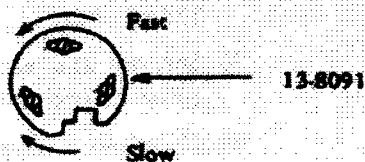
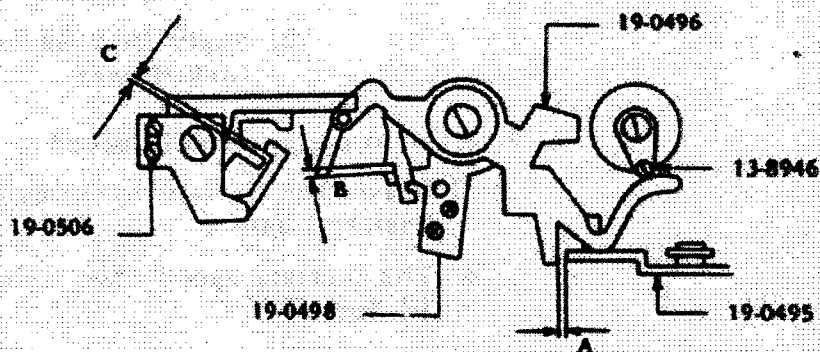


Fig. 22

If Release Cam is turned counter-clockwise, the shutter speed becomes high and vice versa.

2.12 Camera Bottom Lever Adjustments

1. Adjustment of charge amount of each Lever



Unit: mm

Symbol	Limit	Adjustment
A	Over 0.3	Select a suitable Screw (13-8946)
B	Over 0.3	Select a suitable Screw (13-8946)
C	0.1~0.2	Make adjustment by using the slot of Clamp Lever (19-0506)

Fig. 23

2. Mounting and adjusting Release Lever

- 1) Play at the clamped part of the Release Lever (19-0495) must be 0.03 ~ 0.08mm.
- 2) Adjust the play with Washer (X32-503120 ~ 2).

Note: Apply Luma 40 to the Release Lever shaft.

3. Mounting adjusting Diaphragm Release Lever

- 1) Vertical play of the clamped part of the Diaphragm Release Lever (19-0498) must be 0.03 ~ 0.08mm. Adjust the play with Washer (X32-504510 - 2).
- 2) Vertical play of the clamped part of Charge Lever (19-0496) must be 0.03 ~ 0.08mm. Adjust the play with Washer (X32-503130 and 1).

2. 13 Meter Unit

Note: Exchange the Meter, CdS and Variable Resistor on the Meter Unit as a unit.

1. Mounting Following Needle

- 1) Mount the Following Needle (13-1317) horizontally with Fluo bond.

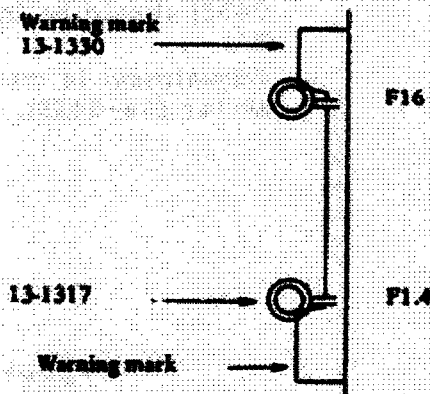


Fig. 24

- 2) At maximum aperture in FD Lens 50mm F 1.4, the inner diameter of the following needle should align the corner of the Warning Mark (13-1330). See Fig. 24.
- 3) When the aperture is stopped down to F16 in FD Lens F 1.4, the Warning Mark corner should be midway between the inside and outside diameters of the Following Needle. See Fig. 24.

2. Mounting and adjusting Meter Set Cam

Mount the Meter Set Cam (13-1281) properly referring to Fig. 25. (ASA100, 1/1000sec)
Make adjustment by aligning engagement of the Cam.

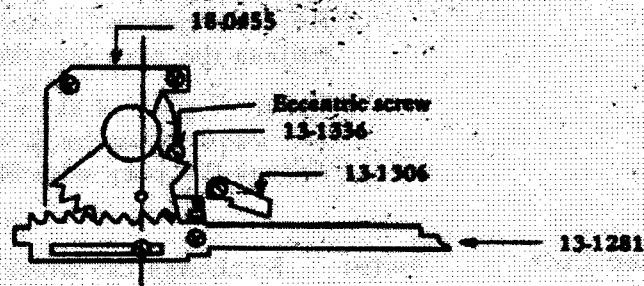


Fig. 25

3. Adjustment of Meter zero position

1) Turn off the meter.

2) At 1/4sec, ASA100, the needle of Meter Unit (18-0455) should be in the lower Warning Mark. See Fig. 26.

Adjustment is made with the eccentric screw of the Meter (18-0455).

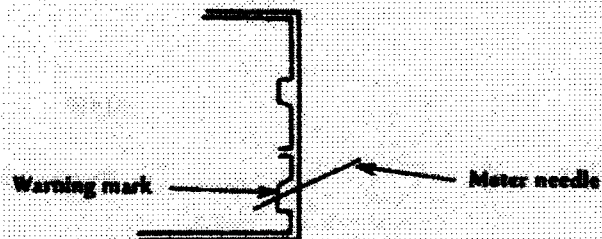


Fig. 26

4. Adjustment of Meter accuracy

At the specified brightness, the Meter needle should be at the center of Following Needle (13-1317).

Meter K constant = 14

EV	ASA	Shutter speed	Aperture	cd/m ²	Limit	Part adjusted
4	100	1/8	F 1.4	2.218	0.5 F	Meter eccentric screw (Fig. 25) ND filter: See "4", Front Panel" in "Disassembly"
10	100	1/30	F 5.6	141.9	0.5 F	R1
15	100	1/1000	F 5.6	4542	0.5 F	R2

Variable Resistor on Meter
Unit (18-0455)

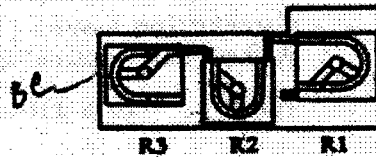


Fig. 27

5. Mounting and adjusting Warning Lever

The Warning Lever (13-1306) should be completely actuated between $1/4$ and $1/2$ at ASA100.

6. Attaching Warning Mark

- 1) Attach the Warning Mark (13-1308) Diabond.
- 2) The Mark should be visible in the View Finder when the Shutter speed is between $1/2$ sec and B at ASA 100 and not visible from $1/4$ to $1/1000$ sec. Make adjustment through Nut (13-1336) and Warning Lever (13-1306). See Fig. 25.

7. Adjustment of Battery Checker

At a low voltage power supply 1.3V, deflection of the Meter (18-0455) needle should be as specified in Fig. 28.
Limit: 0 to + 0.15mm (1.5 needle widths)
Make adjustment with R3 of Meter Unit (18-0455). (ASA 100, $1/1000$ sec) See Fig. 27.

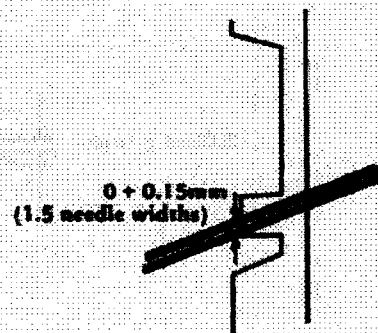


Fig. 28

**2.14 Parts related
to Front Panel
(Mirror Box)**

1. Adjustment of Correction Lever

Distance from the Mount face to the end of Max. Aperture Correction Lever (18-0457) is $0.9 \pm 0.1\text{mm}$.

Adjust the separation with the eccentric screw in Fig. 29.

Note: Use a slide calipers to measure to distance.

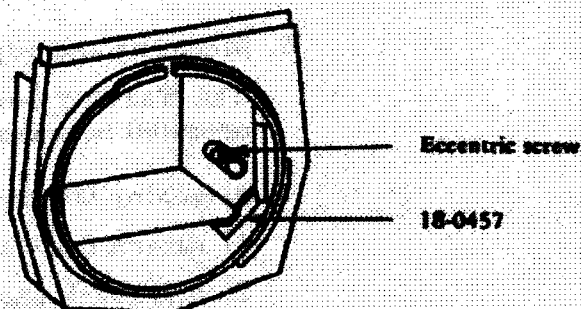


Fig. 29

2. Adjustment of Shutter

Release Lever release

- 1) The shutter should be released when separation between Mirror face and the shock absorber is $3.0 \pm 1\text{mm}$. See Fig. 30.

Make adjustment by bending Connecting Lever (13-1225).

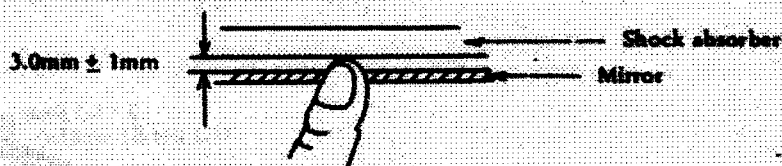
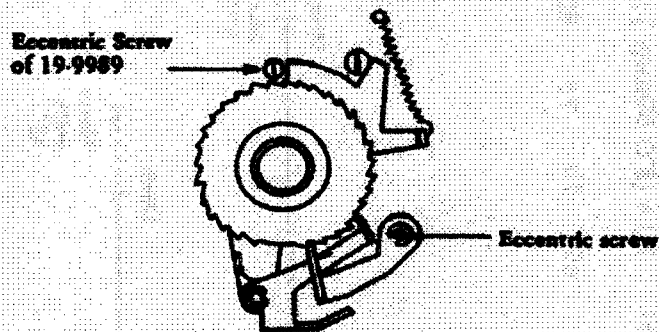


Fig. 30

**2.15 Other parts
(Film Counter,
Synchro timelag
and Range
Finder)**

1. Adjustment of Film Counter

For adjustment of film feeding, use both eccentric screws of Counter Connecting Lever (19-9989) and Film Counter Unit (18-0261). See Fig. 31.



k Fig. 31

2. Synchro timelag

Use 34mm Slit-4 for PA16 Transistor Shutter tester

Contact	Shutter speed	Line	Limit
FP	1/1000	A	10,5 ~ 13,5 ms
X	1/60	A	Over 0.5 ms
		B	Over 1.5 ms

Fig. 32

Tolerances shown in Fig. 32 should be met. Adjustment is to be made by changing clearance between contacts.

3. Adjustment of Range Finder

- 1) Flange back: $42.14 \pm 0.02\text{mm}$

Make adjustment with Washers (X32-502120 and X98-030125).

- 2) Finder back: $42.03 \pm 0.005\text{mm}$

Make adjustment with Washers (13-9088 and 13-9089). See Para. 1.5 in "Disassembly".

For fine adjustment, the Mirror angle may be changed very slightly.

- 3) For measurement of the finder back, use the standard of FD 50mm F 1.4 Lens and 2.5 Magnifier.

System Timing Chart

Shutter Speed: 1/16 sec.
Aperture: F16 (FD 50mm 1:1.4)

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80ms

Camera Aperture Release Lever

Start of Shutter Release Lever

Aperture

Open

Closed

Max. aperture

Mirror

Down

Up

Mirror angle 45°

Mirror angle 45°

1st Curtain Movement

Start

"X" Contact

Exposure start

Exposure completed

2nd Curtain Movement

Start

Exposure completed

CANON REPAIR GUIDE

CANON TLb
(REF. NO. 1-20397)

CANON INC. JAPAN

PREFACE

This Repair Guide is issued to insure the continued high quality of the CANON TLb through correct repair procedures.

This Guide consists of two parts, i. e., Introduction, and Replacement and Adjustment.

If any repairs are required, refer to this Guide or to the FTb Repair Guide for any repairs not covered in this guide. Any comments or suggestions concerning this Guide will be appreciated.

**Canon Inc.
Service Division, Camera Service
Technical Section
3-30-2 Shimomaruko
Ohta-ku, Tokyo, Japan**

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Introduction	1
1. Replacement & Adjustment	
1.1 Spool Unit	2
1.2 Meter	3
1.3 Correction Lever Unit	5

Introduction

The TLb is a popularly priced version of the Canon FTb. It has been designed by deleting some of the non-essential functions of the FTb without sacrificing any quality.

The following functions have been deleted:

1. Self Timer
2. Mirror Up Lock
3. Battery Checker
4. Meter Switch
5. Canon Booster Connection
6. Canon CAT System Automatic Flash

The Canon QL mechanism has been changed to the multi-slot spool used in the Canon F-1.

The metering system has been changed from the Canon center area semi-spot metering to a center-weighted averaging system.

These changes make this a very desirable camera for either budget minded photographers who want a quality 35mm SLR but don't need all the features of an F-1 or FTb, or for a professional or serious who needs a second body to complement his F-1 or FTb.

Special Precautions

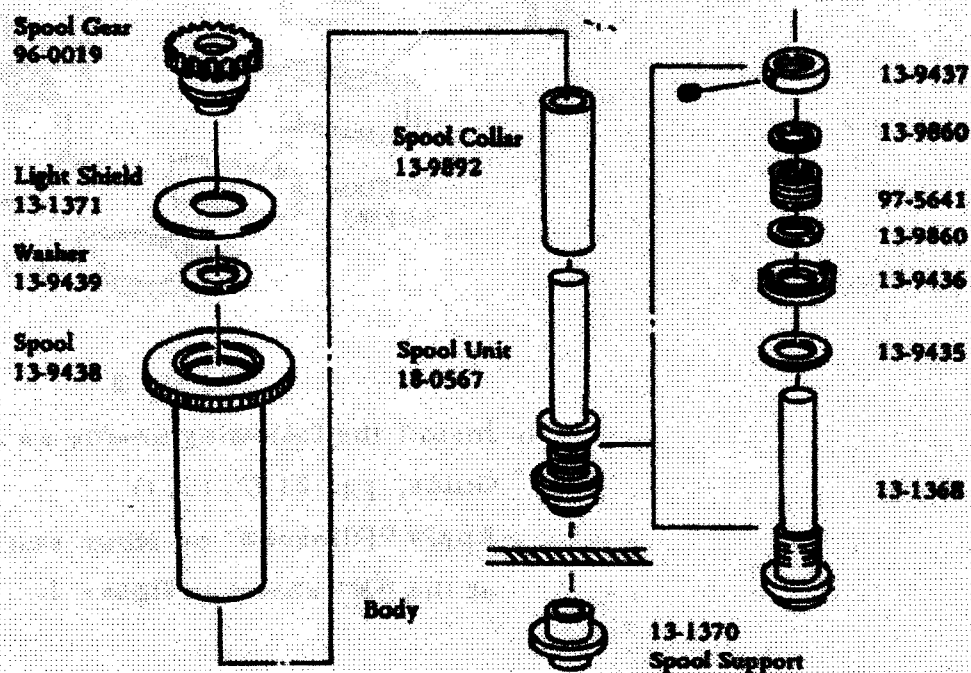
1. When adjusting the meter it is mandatory to shield the CdS from extraneous light. The CdS is located above the eyepiece and is easily effected by extraneous light if the top cover is not in place.
2. Molded plastic seats are used on the top cover for the shutter speed dial and the rewind crank. Solvents such as Ketone or Acetone should never be used on any plastic part. Jewelers rouge or other fine metal polishes can be used to clean the plastic. Any repair instructions not specifically covered in this guide are the same as for the FTb.

1. Replacement and Adjustment

1.1 Spool Unit

1. Apply MoS₂ grease (UTLM-5) to Washers (13-9435 and 13-9860).

2. Assemble into the camera as shown in figure 1.



3. Adjustment

1) Torque Driver Method: 100 to 180 gcm

2) Tension Gauge Method:

Wind string around the spool several times.

Attach a Correx tension gauge to the end of the string and pull.

Limit: 160 to 280 g.

3) Adjust by turning Nut (13-9437) after loosening its setscrew.

Note: Nut (13-9437) has left hand threads.

1.2 Meter Unit

1. Install the meter as shown in figure 2.

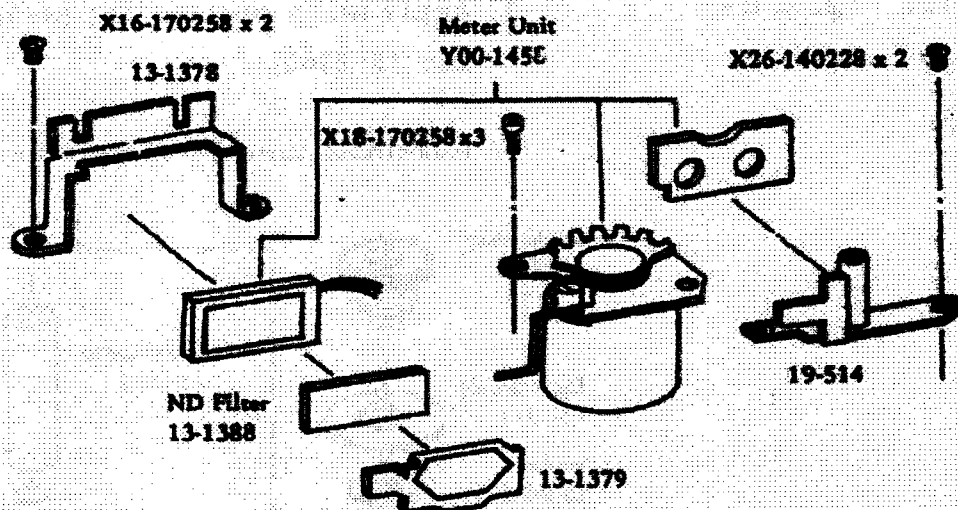


Fig. 2

2. Install the following needle as shown in FTb Repair Guide, pg. 21 (2.13.1).

Apply "Pliobond" or other suitable bond to the needle at the "X" shown in figure 3.



Fig. 3

3. Meter Set Cam

1) Mount Meter Set Cam (13-1281) as shown in figure 4. This is the correct alignment for ASA 50, 1/500 sec.

2) Make the adjustment by changing the mesh of the gears.

Note: "A", "B", and "C" must be in a strait line perpendicular to the Meter Set Cam.

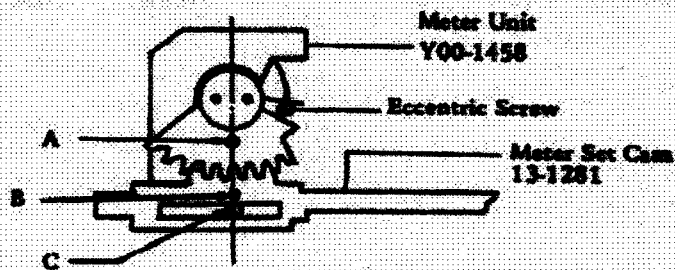


Fig. 4

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4. Adjustment

The center of the following needle is the index point.

Meter K = 12.5

EV	ASA	Shutter speed	Aperture	Brightness (cd/m ²)	Tolerance	Adjustment
9	100	1/15	5.6	64	±0.75F	Eccentric Screw (Fig. 4)
12	100	1/125	5.6	512	±0.75F	VR1
15	100	1/500	8	4096	±0.75F	VR2

Variable
Resistors

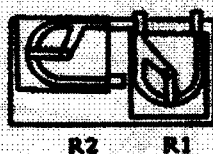


Fig. 5

5. Mount the warning lever as described in the FTb Repair Guide, pg. 23 (2.13.5).
6. Mount the warning mark as shown in the FTb Repair Guide, pg. 23 (2.13.6).

1.3 Correction Lever Unit

1. Adjust the distance from the Lens mount to correction Lever (18-0563) to 6.7 ± 0.1 mm.
2. Do not push the correction lever when measuring.
3. Adjust back focus before adjusting the correction lever.
4. If a height gage is not available, use slide calipers to check the distance.

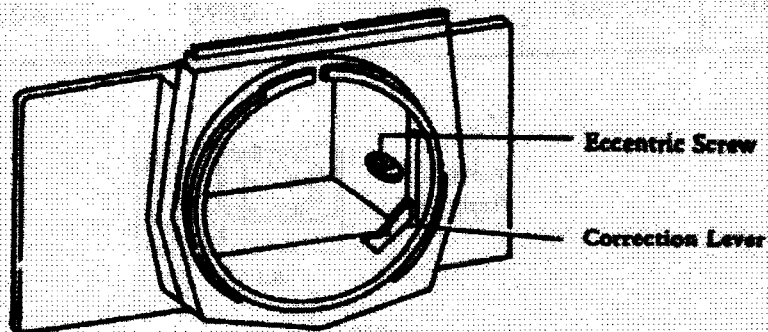


Fig. 6