

TEAC FD-235H(G)S-10XX  
TECHNICAL DESCRIPTION OF DIFFERENCE

REV.A

## TABLE OF CONTENTS

Title	Page
1. OUTLINE.....	3
2. MODEL NAME AND PARTS NUMBER.....	3
3. DIFFERENCE IN EXTERNAL APPEARANCE .....	3
4. DIFFERENCE IN SPECIFICATION .....	3

## 1. OUTLINE

This document describes the differences when the TEAC FD-235H(G)S microfloppy disk drive (hereinafter abbreviated as SFD) is changed from the previous 9XX series to the new 10XX series.

With the 10XX series, the flexible disk drive (hereinafter abbreviated as FDD) is changed from the 6XXX series to the 7XXX series.

The changes in the new series entail the production discontinuation of the 6XXX series FDD.

For the differences between the 6XXX series and 7XXX series FDDs, kindly refer to the "Description of differences" of the FD-235XX-7XXX.

## 2. MODEL NAME AND PARTS NUMBER

The FC-1 mounting bracket of the SFD is marked as shown in Table 1, distinguishing between the 9XX series and 10XX series.

(Table 1) Model name and parts number

Nameplate	Previous series	New series
Model name	FD-235H(G)S-9XX	FD-235H(G)S-10XX
Parts number	19307799-XX	19308110-XX

On those 9XX series models that can be replaced or substituted with the 10XX series as is, the first digit on the top of the model number is changed from "9" to "10" (the remaining two digits (numbers) remain unchanged).

e.g. FD-235HS-900 → FD-235HS-1000

## 3. DIFFERENCE IN EXTERNAL APPEARANCE

Only the FDD is different.

## 4. DIFFERENCE IN SPECIFICATION

The FC-1 and all other specifications including the software specifications, dimensions, operating characteristics, environmental conditions and reliability etc., remain the same as the previous series.

TEAC FD-235XX-7XXX  
TECHNICAL DESCRIPTION ON DIFFERENCE

This document is prepared to describe detailed difference conventional multiple series (FD-235XX-6XXX) and new multiple series (FD-235XX-7XXX).

REV.A

## TABLE OF CONTENTS

Title	Page
1. OUTLINE .....	3
2. MODEL NAME AND PARTS NUMBER .....	3
3. DIFFERENCE IN EXTERNAL APPEARANCE .....	3
3.1 Mechanical Parts .....	3
3.2 Spindle Motor, Stepping Motor .....	5
3.3 Head carriage (new) .....	5
3.4 PCBA MFD Control .....	5
4. DIFFERENCE IN SPECIFICATION .....	6
4.1 Outline .....	6
4.2 Signal Interface .....	6

## 1. OUTLINE

This document describes the details of change for the TEAC FD-235 micro floppy disk drive (hereinafter referred to as FDD) from the -6XXX series to -7XXX series.

In 7XXX series, its mechanism, assignment of each pin and main parts, and the front bezel design are designed based on conventional 6XXX series and the components count is reduced, whereby improving reliability and productivity.

This document describes typical models of the 6XXX series and 7XXX series as example. If you have any questions about the specifications of individual models, etc., kindly contact us through our sales department.

## 2. MODEL NAME AND PARTS NUMBER

The nameplate attached on the rear of the FDD frame has the indication shown in Table 1, to distinguish between the 6XXX series and 7XXX series.

(Table 1) Model name and parts number

Indication	6XXX series	7XXX series
Model name	FD-235XX-6XXX	FD-235XX-7XXX
Parts Number	1930776X-XX	1930777X-XX

For a model of 6XXX series which can be replaced by the 7XXX series as it is, the top digit of the number is changed from "6" to "7" remaining the last three digits as they are.

e.g. FD-235HG-6417 → FD-235HG-7417

## 3. DIFFERENCE IN EXTERNAL APPEARANCE

For details, refer to the each specification or the actual model.

Table 2 shows a list of main differences in the external appearance.

### 3.1 Mechanical Parts

(Table 2) External appearance of mechanical parts on difference(1/2)

Different points		Details	Relative drawings
Frame	Side	Guide grooves have been changed as a result of the change for the holder shape.	Fig.1(1-a)
		A notch for installing has been eliminated as a result of the disuse of the soft damper Ass'y (optional).	Fig.1(1-b)
	Bottom	A position in the PCB fixing screws has been changed.	Fig.1-1 (1-1-c)
		The shape in convex section for protecting the parts has been changed as a result of the change for the parts location.	Fig.1(1-c)
	Rear	The guard for protecting the connector at power connector insertion/remove has been added.	Fig.1(1-d)

(Table 2) External appearance of mechanical parts on difference(2/2)

Different points		Details	Relative drawings
Frame	Top	The insertion pin has been eliminated and the hole for inserting the rotational axis of the lever latch has been added as a result of the change for the shape of the lever latch material.	Fig.1(1-f)
		The shapes related to convex section for the protecting the parts have been changed as a result of the changes for the shape of the lever latch material.	Fig.1(1-f)
		A notch for installing the soft damper Ass'y (optional) has been eliminated. The shape of boss tap and relative parts has been eliminated as a result of the elimination of the damper and disuse of soft damper (optional).	Fig.1(1-g)
		FPC connector hole for the head carriage has been moved side-wards and made smaller.	Fig.1(1-h)
		The number of tapped hole for the spring rod and the boss has been changed.	Fig.1(1-h)
		For using for both conventional and new head carriages, the inside shape on rear side of the head load spring has been changed.	Fig.1(1-i)
Spring rod		Number of screws hor fixing has changed to two screws.	Fig.2
Cover		A galvanized sheet (SEC) has been newly accepted to add to conventional tinplate sheet (SPTE).	
Holder		A mechanical damper plate and a spring have been added.	Fig.3(3-a)
		The position of guide for up/down has been changed.	Fig.3(3-b)
		Mold part in the protector has been eliminated and only the twisted coil spring had been accepted due to simplification.	Fig.3(3-c)
		The bend in the head carriage ass'y upper arm has been added in order to strengthen lifting portion.	Fig.3(3-d)
Slider		The rack gear for operating the damper and the cam for operating the soft damper ass'y (optional) have been eliminated.	Fig.4(4-a)
		The shape connecting it to the lever latch has been changed.	Fig.4(4-b)
		The notch for operating the mechanical damper has been added.	Fig.4(4-c)
Lever latch		Material has been changed from SPCC to a molded resin (POM).	
		The shape of the shaft section has been changed and a split polyester slider has been changed as a result of the molding.	Fig.5(5-a)

### 3.2 Spindle Motor, Stepping Motor

(Table 3) Difference in motor appearance

Different points	Details	Relative drawings
Spindle motor Ass'y	The pin of switch for ED hole detection of 4MB disk has been eliminated.	
	The rotor diameter of motor has been changed from $\phi 68$ to $\phi 50$ .	
Stepping motor	The molded pivot bearing has been newly accepted to add to conventional the plate pivot bearing.	Fig.6(6-a)
	The shape of FPC has been changed so that it can be soldered on the PCB.	Fig.6(6-b)
	The molded lead screw has been accepted to add to conventional SUS screw. However, combination of head carriage is limited to the followings. •SUS screw + conventional head carriage ass'y, or New head carriage. •Molded screw + New head carriage	

### 3.3 Head carriage (new)

(Table 4) Difference in head carriage ass'y appearance

Different points	Details	Relative drawings
Head carriage ass'y	Teeth of screw has been changed to the pin $\phi 0.8$ made of SUS as the molded screw has been accepted.	Fig.7(7-a)
	To improve contact between the upper arm and the disk, the length of the leaf spring has been made longer to have flexible.	Fig.7(7-b)
	To improve the adjusting work, the location of the head load spring coil has been changed.	Fig.7(7-b)
	The shape of the upper arm lifting section has been simplified. (due to the disuse of soft damper)	Fig.7(7-c)
	The shield plate on side 1 has made common to side 2. (standardize in new side 1)	Fig.7(7-d)

### 3.4 PCBA MFD Control

(Table 5) Difference in PCBA appearance

Different points	Details	Relative drawings
PCB	External appearance has been changed.	Fig.1-1
Connector for stepping motor	The connector has been eliminated so that the soldering FPC can be used.	
Power connector	The connector without the plate for protecting PCB has been accepted to add to conventional connector.	



## 4. DIFFERENCE IN SPECIFICATION

The difference in the specification is only the terminator resistor value in the three-mode FDD. All the other specifications such as physical dimensions, operational characteristics, environmental conditions, reliability, etc. are the same as for the 6XXX series.

### 4.1 Outline

Refer to item 1 in the specification

Different points	6XXX series	7XXX series
Input signal terminator	$2.2\text{k}\Omega \pm 5\%$	$1\text{k}\Omega \pm 5\%$

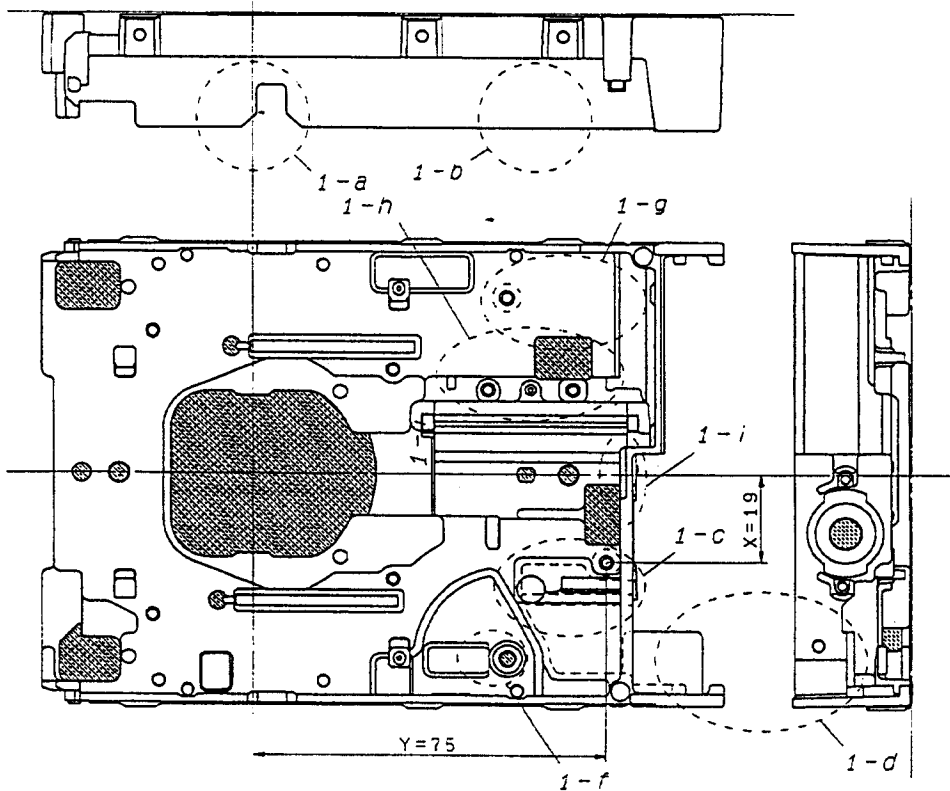
(Table 6) Difference in the OUTLINE

### 4.2 Signal Interface

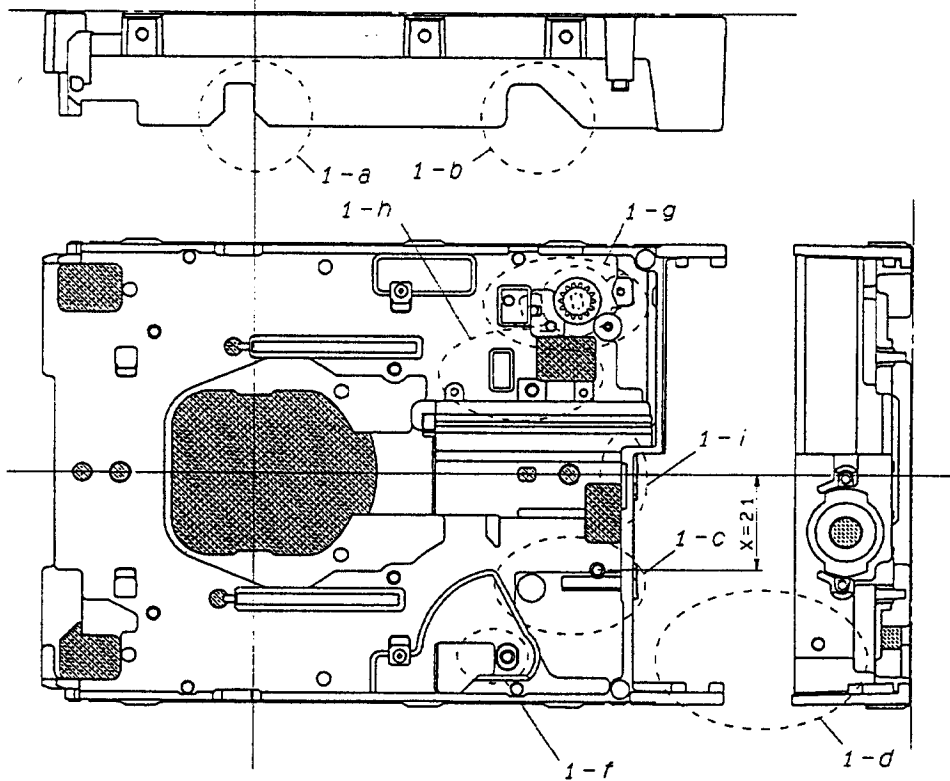
Refer to item 8 in the specification

Different points	6XXX series	7XXX series
Input signal (TTL level)		
Input current	2.8mA, Max.	5.9mA, Max.
Terminator resistor value	$2.2\text{k}\Omega \pm 5\%$	$1\text{k}\Omega \pm 5\%$

(Table 7) Difference in the SIGNAL INTERFACE

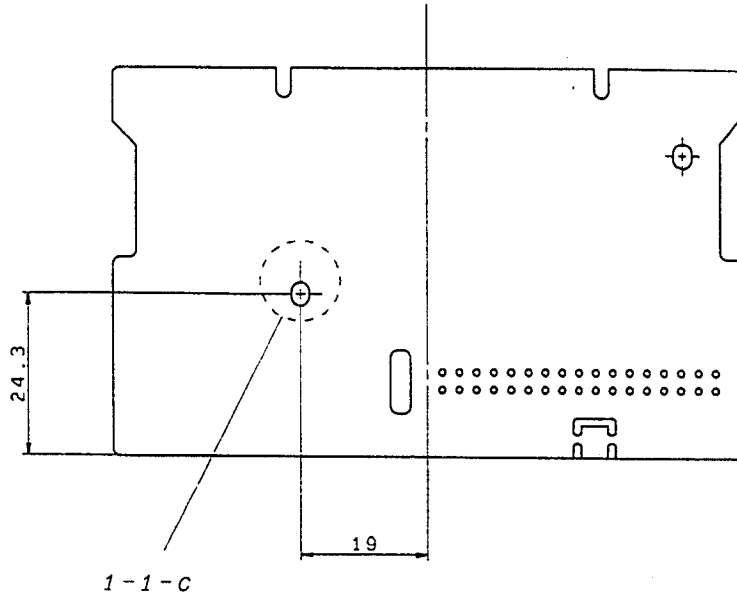


FD-235-7XXX(FRAME)

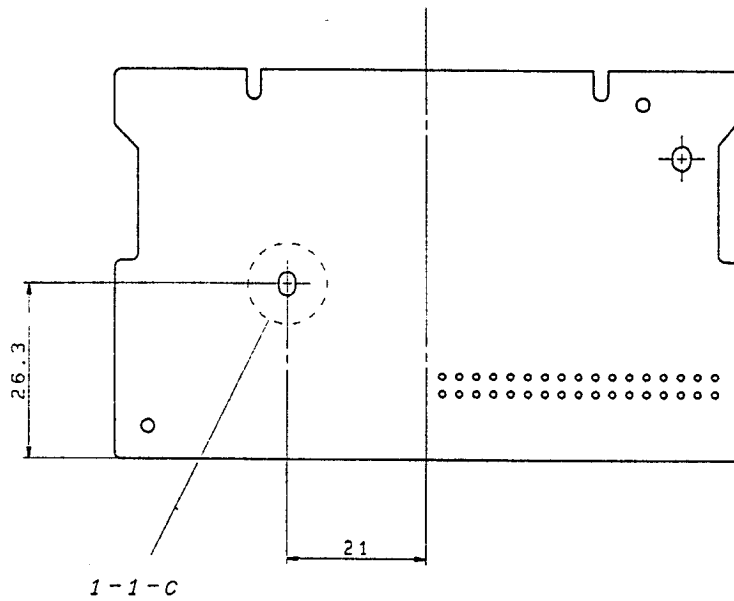


FD-235-6XXX(FRAME)

(Fig. 1)

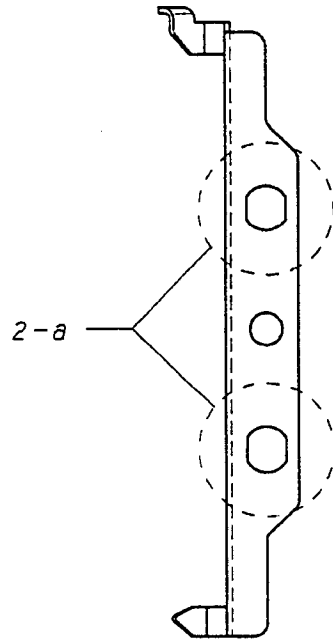


FD-235-7XXX(PCB)

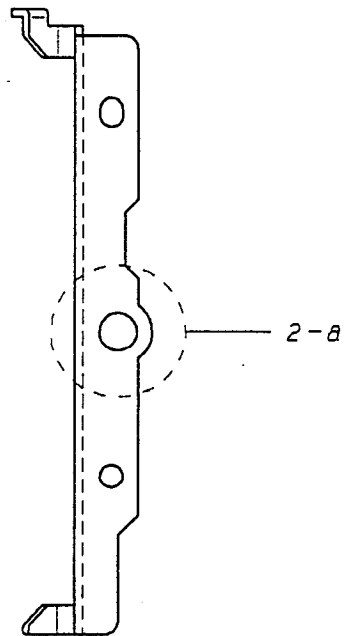


FD-235-6XXX(PCB)

(Fig. 1-1)

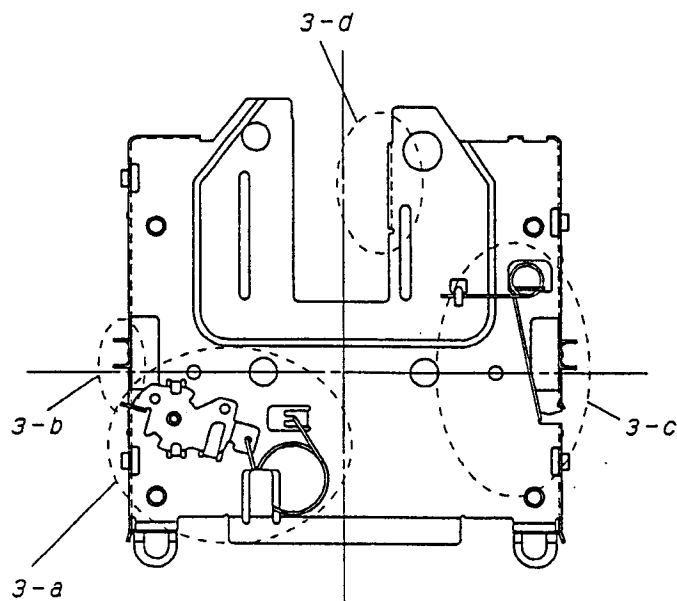


FD-235-7XXX (SPRING ROD)

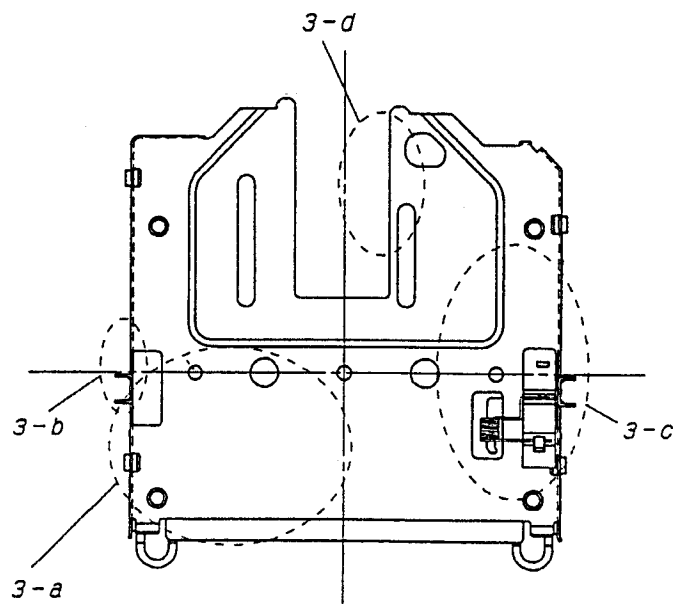


FD-235-6XXX (SPRING ROD)

(Fig. 2)

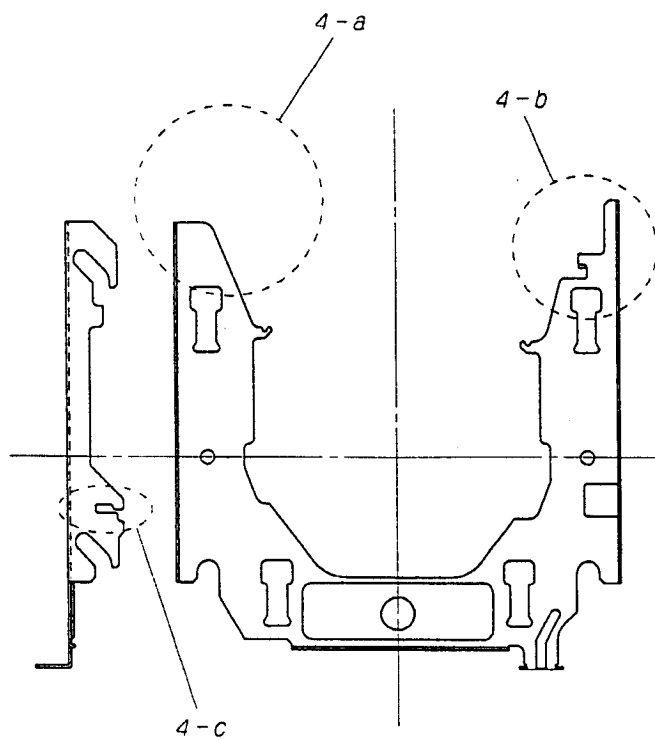


FD-235-7XXX(HOLDER)

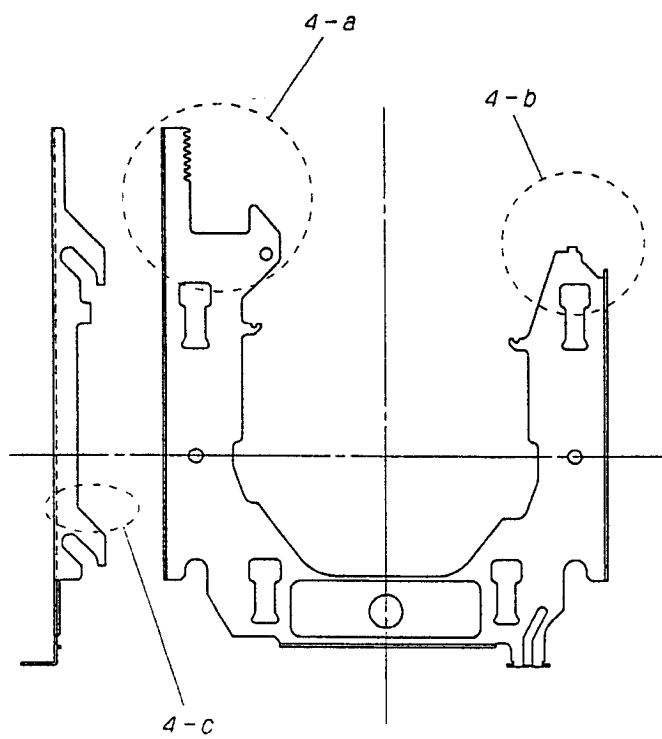


FD-235-6XXX(HOLDER)

(Fig. 3)

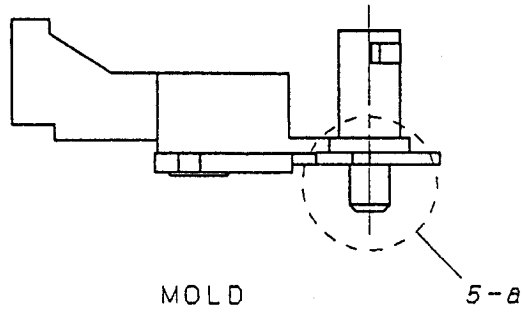
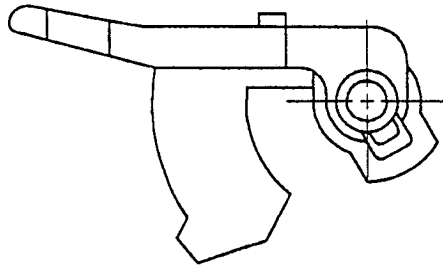


FD-235-7XXX(SLIDER)



FD-235-6XXX(SLIDER)

(Fig. 4)



FD-235-7XXX(LEVERLATCH)

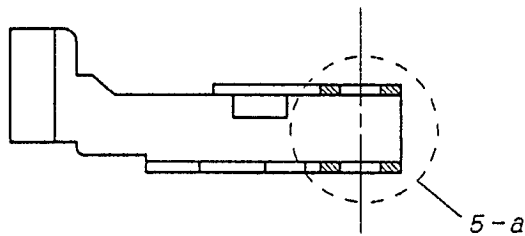
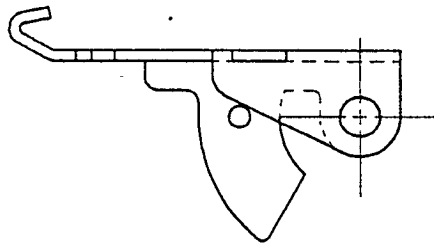
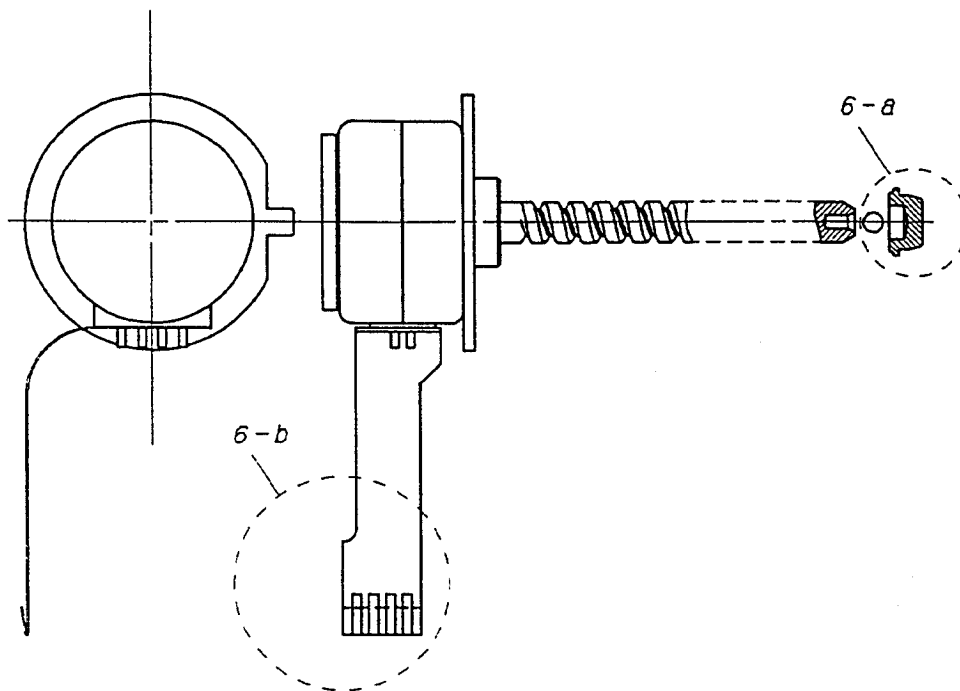


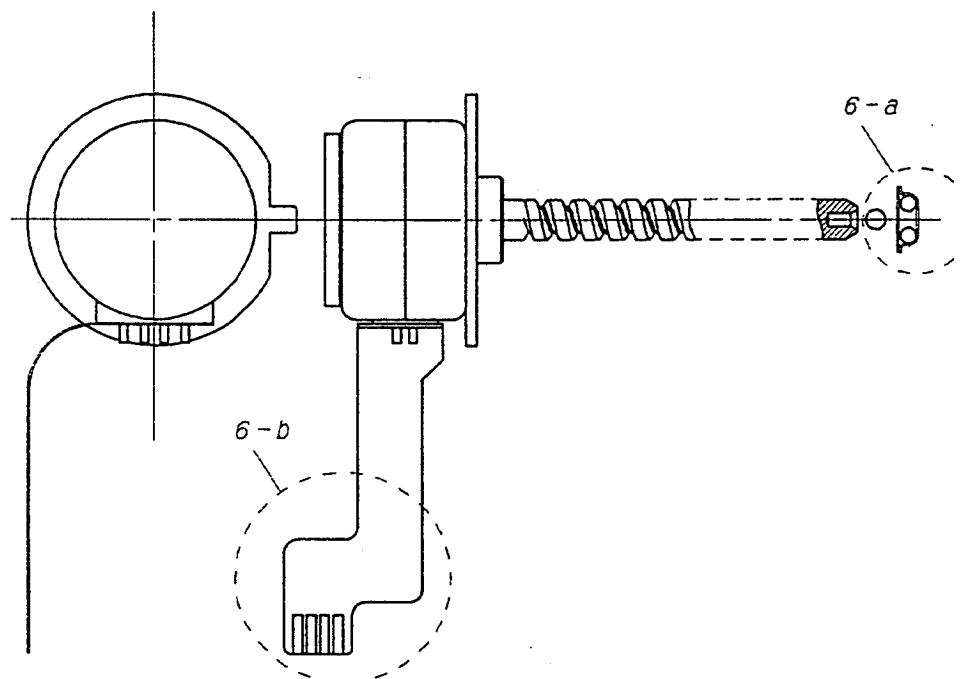
PLATE METAL

FD-235-6XXX(LEVERLATCH)

(Fig. 5)



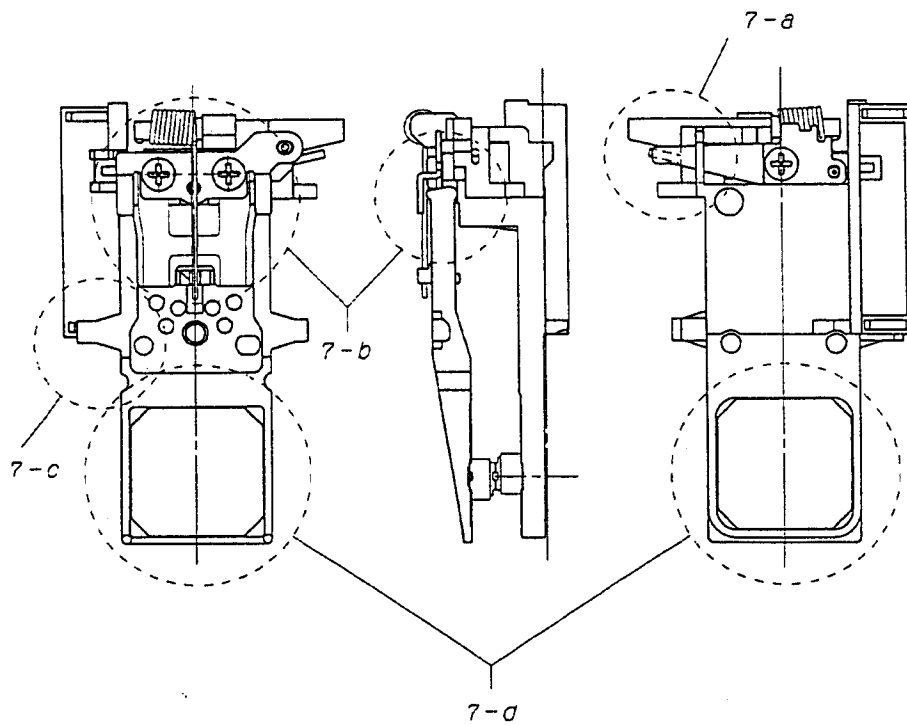
FD-235-7XXX(STEPPING MOTOR)



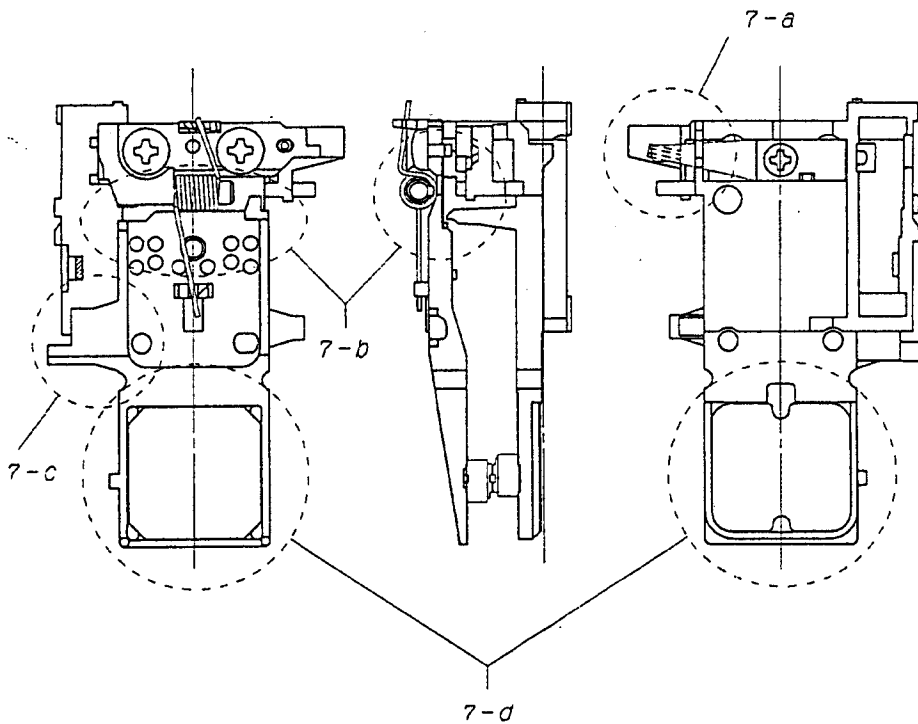
FD-235-6XXX(STEPPING MOTOR)

(Fig. 6)





FD-235-7XXX(NEW-HCA or CURRENT-HCA)  
(shown NEW- HCA)



FD-235-6XXX(CURRENT-HCA)

(Fig. 7)