MICRO FLOPPYDISK DRIVE MP-F63W

SUPPLEMENT

This supplement covers revisions of Section 5-1 "Radial Alignment and TRK00 Sensor Adjustment" and the relating pages. In our reviewing, we found that the description appeared in that section was insufficient for the proper operation. For your easy handling of Section 5, Please replace whole Section 5 located in service manual with the attached pages.

SONY®
SERVICE MANUAL

4-3-2 Installation

Note: check if the switch lever of write protection is not damaged before installation.

a. Install the Mounted Board with two screws (P2.6x6) (One screw with a toothed lock washer).

b. Install the Stator Yoke and Rotor Spacer with four screws (P2.6x6). (Refer to Fig. 4-3)

c. Be careful not to damage to six disk motor coils for disk motor, while installing the Rotor Yoke with a screw (K2x2). (Refer to Fig. 4-3)

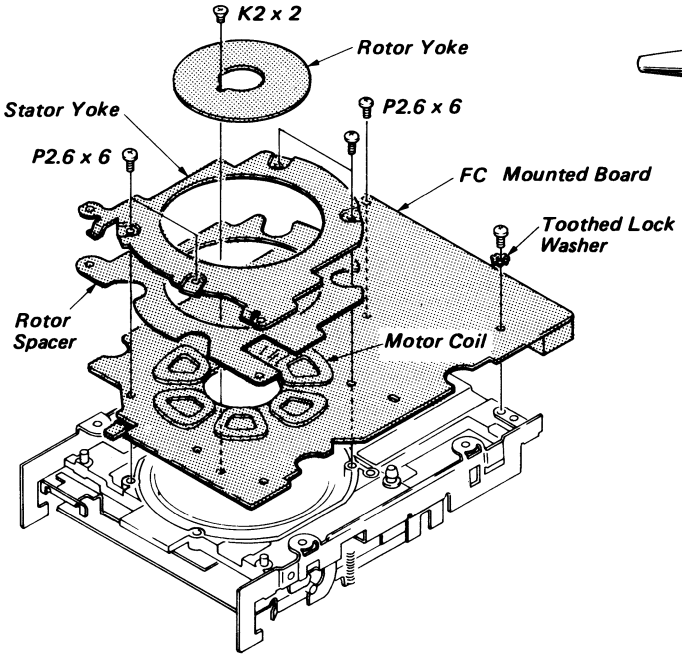


Fig. 4-3 FC Mounted Board Replacement

d. Connect all of the connectors.

e. Perform the Index Phase. (Refer to 5-3)

f. Perform the radial alignment and TRK00 sensor adjustment. (Refer to 5-1)

g. Install the shield cover. (Refer to 4-2)

4-4 CASSETTE HOLDER AND HEAD LIFTER REPLACEMENT

4-4-1 Removal

a. Remove the shield cover. (Refer to 4-2)

b. Set a piece of paper between both heads with tweezers, and then manually set the Disk-in mode. (Refer to Fig. 4-4 (a))

c. While lifting the tab of the Head Lifter as shown in Fig. 4-4 (b), take it out toward the rear of the drive carefully. Don't apply excessive force to the head carriage ass'y.

d. Push the eject lever to set the Disk-out mode.

e. Remove the one end of compression springs on the both sides plate of the drive.

f. While pushing the eject lever, take the Cassette Holder. (Refe to Fig. 4-4 (b))

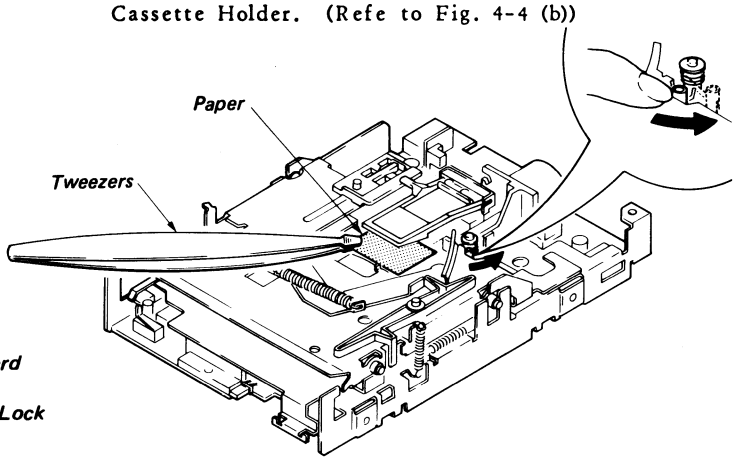


Fig. 4-4 (a) Setting to Disk-In Mode

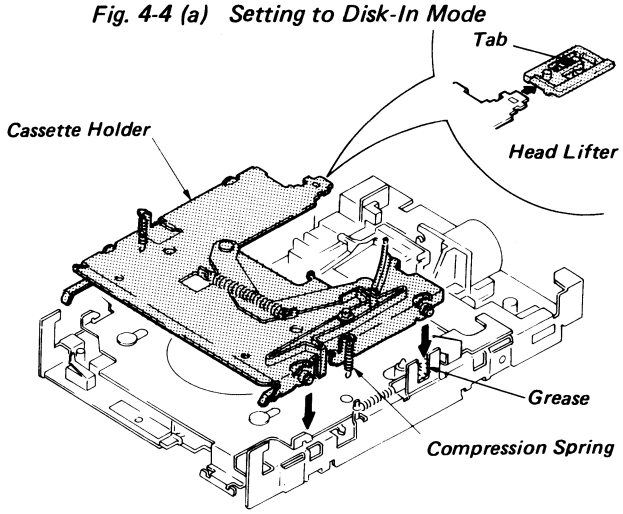


Fig. 4-4 (b) Cassette Holder and Head Lifter Replacement

4-4-2 Installation

Note: Apply Molykote Grease (EM10L) to the specified area of both side plates as shown in Fig. 4-4 (b).

a. While pushing the eject lever, set the Cassette Holder into the location shown by the arrow and then hang a compression spring on each side of the drive as shown in Fig. 4-4 (b).

b. Manually set the Disk-In mode.

SECTION 5
CHECK AND ADJUSTMENT

5-1 RADIAL ALIGNMENT AND TRK00 SENSOR

Disassemble the following parts and then perform the measurement and adjustment.

a. Shield Cover (Refer to 4-2)

5-1-1 Tools and Measuring Equipment

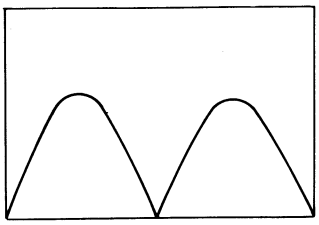
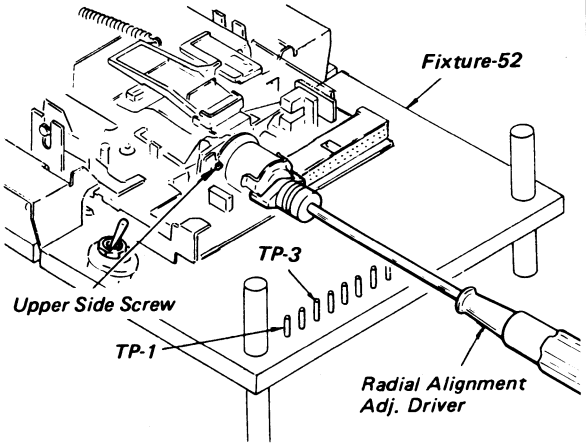
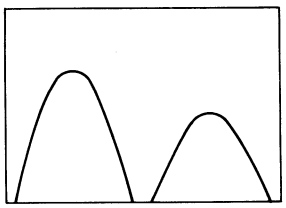
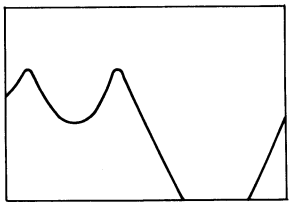
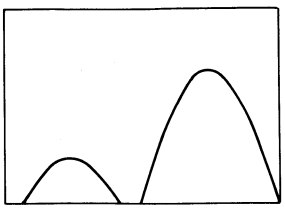
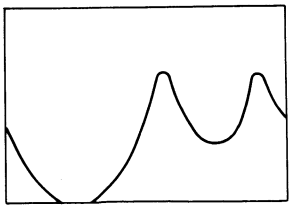
a. SMC System
b. R/E System Disk-63 (OR-D174VA)
c. 50 Auto Disk (OR-D157WA)
d. CP/M Disk
e. TRK00 Sensor Adj. Driver
f. Radial Alignment Adj. Driver
g. Torque Driver
h. Digitizer
i. Fixture-63
j. IF Board 52/53
k. Conversion Cable (01) (only for MP-F63W-01D)

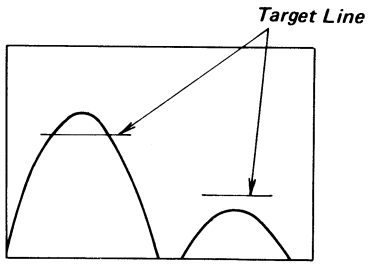
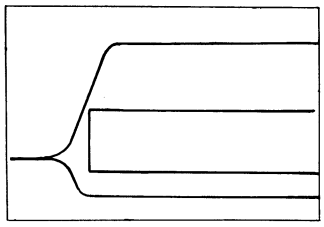
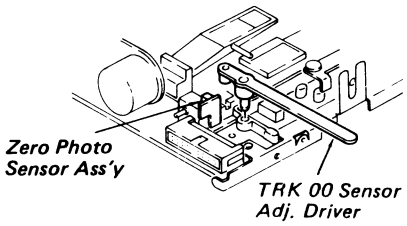
5-1-2 Initial Setting

a. Connect the system as shown in Fig. 2-12.
b. Insert the CP/M Disk into the SMC System.
c. Turn on the power switch. "A>" is displayed on screen.
d. Eject the CP/M Disk and then insert the R/E system disk-63.
e. Perform keying [A][D][6][3] and [RETURN].
f. Connect the disk drive (under test) to the cable which leads to the IF board 52/53, insert the 50 Auto Disk, and set the DRIVE SELECT switch (S101) to 0 (most right side). (Refer to Fig. 2-12)
g. The set-up command is automatically setted.

Note: For resuming the state of SMC system to the initial state (that appears immediately after power goes on) press the reset button.

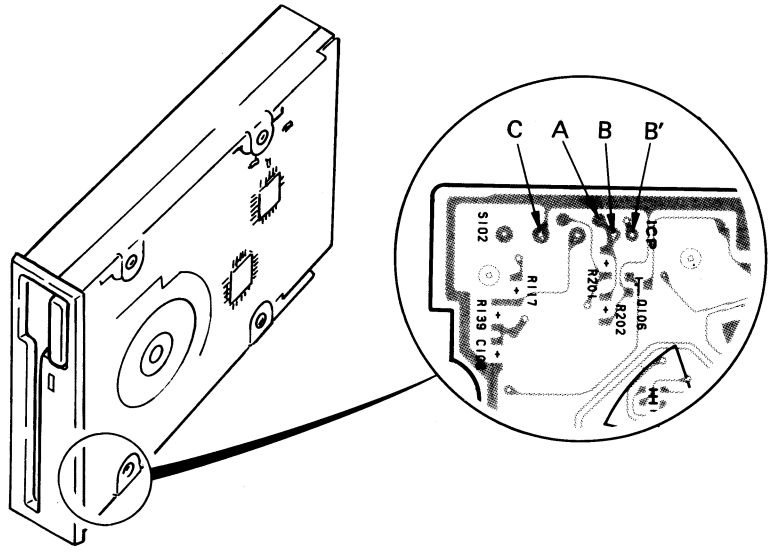
Function	Keying	Display
		=== SET UP MENU === [1] HUMIDITY ..... : 50 [%] [2] OFF TRACK ..... : 26 [μm] [3] Exit
1. The initial value for the humidity is to be set it at 50%.	[1]	(1) HUMIDITY..... :
(EX) In case the humidity of 60% is keyed in,	[6][0] [RETURN]	
2. The initial value for the specified off track is to be set at 26μm.	[2]	(2) OFF TRACK ..... :
(EX) In case an off track of 30μm is keyed in,	[3][0] [RETURN]	
3. After the SET UP ends, the drive under test is set in the Fixture-52 and 34 pin connector and power connector is connected to the drive, hit the 3 key. **Note:** This will start the adjustment.	[3]	Turn on the power of IF board.
4. Set POWER SEL switch to "OFF" side (D1/D2 indicators do not light.) and then turn on the power.	[RETURN]	Set XADJ SW to OFF.
5. Set XADJ SW to "OFF" side.	[RETURN]	Set MOTOR ON SW to ON and insert Alignment Disk.

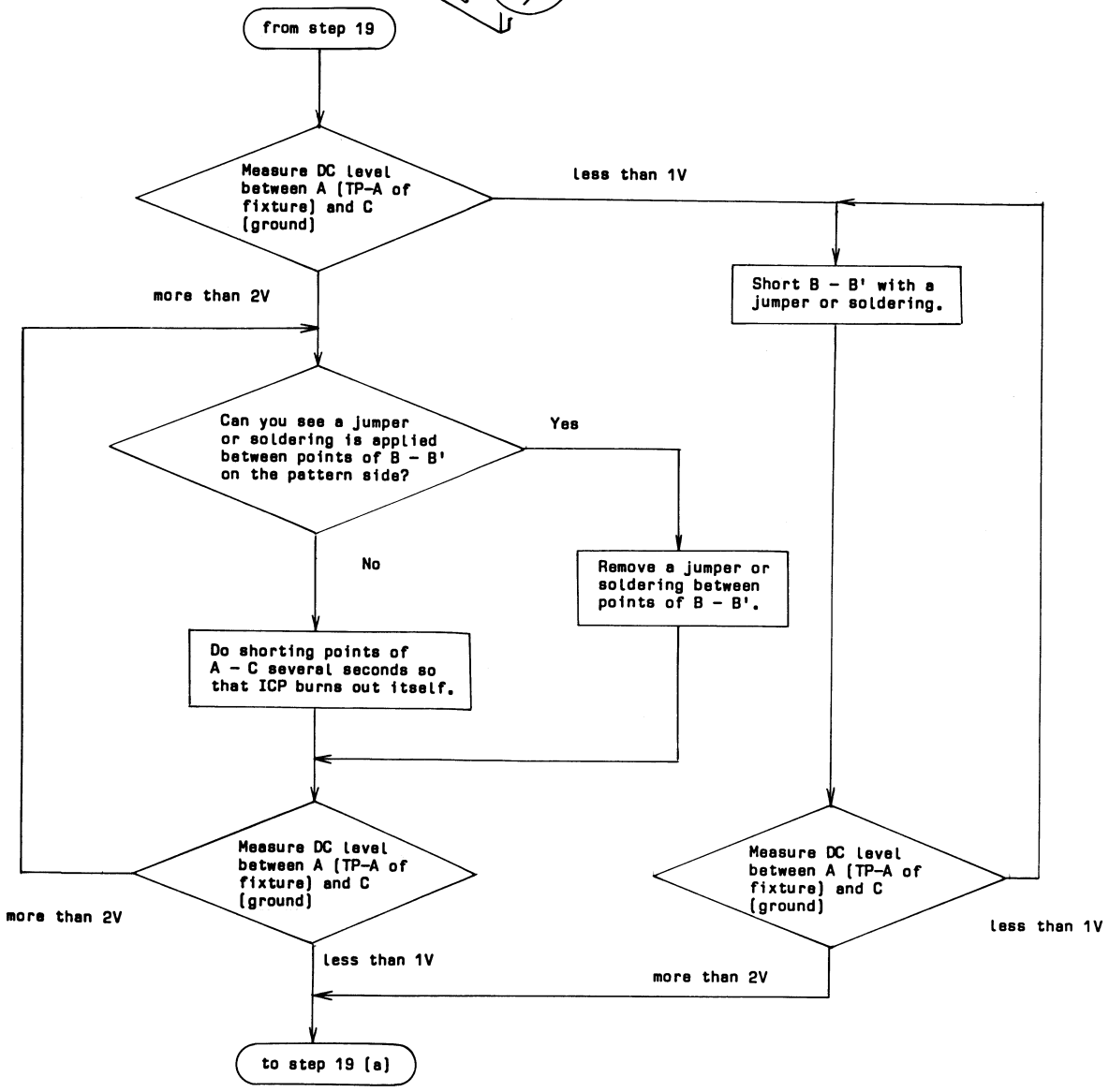
Function	Keying	Display
6. Turn the MOTOR ON switch of IF Board-52/53 off and then on, and insert a 50 Auto disk.		Set XADJ SW to ON.
7. Set XADJ switch to "ON" side.	RETURN	=== PRE ADJSTMENT ===
8. Loose the upper side screw securing the stepping motor. Turn the stepping motor with the Radial Alignment Adj. driver as shown in Fig. 5-1 (b) until the amplitude ratio of left and right peaks becomes equal. (Refer to Fig. 5-1 (a))		 *Fig. 5-1 (a)*
Note: When the ratio of left and right peaks is within the specification, wave lines become red color.		
9. When the adjustment does not satisfy the specification (wave lines do not become red color), move the head innerwards or outerwards by pushing the arrow key [->] or [<-].		 *Fig. 5-1 (b) Radial Alignment Adjustment*
Note: [<-] move the head innerward. [->] move the head outerward.		
Note: If adjustment of the stepping motor cannot be conducted, first find the appropriate position in accordance with the followings, and perform the adjustment again.		
(1) When the cat's eye pattern is similar to Fig. 5-1 (c) or (d), turn the Radial Alignment adj. driver clockwise.		 *Fig. 5-1 (c)*  *Fig. 5-1 (d)*
(2) When the cat's eye pattern is similar to Fig. 5-1 (e) or (f), turn the Radial Alignment Adj. driver counterclockwise.		
10. Hit [RETURN] key.	RETURN	 *Fig. 5-1 (e)*  *Fig. 5-1 (f)*
Note: Unless the wave line becomes pink color, the next step cannot be executed even if [RETURN] key is depressed.		

Function	Keying	Display
11. The off track value of TRK00 to TRK79 is being measured, and then the calculation is completed. The maximum and minimum off track values are displayed.		Max=x.x Min=x.x
12. The RF signals on adjustment tracks and two target lines are simultaneously displayed on screen. Turn the stepping motor with the Radial Alignment Adj. driver until the peak points of the cat's eye pattern reach the target line. (Refer to Fig. 5-1 (g)) **Note:** At the point of correct adjustment, the color of target lines becomes red. **Note:** Unless the stepping motor is located at the point of the correct adjustment, the next step cannot be executed even if RETURN key is depressed.		 *Fig. 5-1 (g)*
13. Tighten the upper-side screw securing the stepping motor by the torque driver with the torque force of 3 to 3.5Kg-cm.		 *Fig. 5-1 (h) TRK00 Sensor Level*
14. Apply the nut lock paint to the upper side screw.		
15. The adjustment of TRK00 sensor level is executed.	RETURN	
16. The TRK00 sensor level is displayed. Loose the screw securing the Photo Zero Sensor Ass'y, and move the board by the TRK00 Sensor adj. driver so that the upper or lower lines does not cross the red lines marked. (Refer to Fig. 5-1 (h), (i)) Tighten the screw by the torque driver with the torque force of 4Kg-cm.		 *Fig. 5-1 (i) TRK00 Sensor Level Adjustment*

Function	Keying	Display
17. Hit [RETURN] key. **Note:** Unless the location of the photo zero sensor ass'y is properly settled, the next step cannot be executed even if [RETURN] key is depressed.	[RETURN]	Set XADJ SW to OFF.
18. Set the XADJ switch of Fixture-63 to "OFF" side.	[RETURN]	
19. Only IC Link condition is not properly settled, the message is displayed. For the setting, take an action in accordance with the flow-chart titled "How to change the phase mode of stepping motor" on the page 7.		Change IC Link condition.
(a) Hit [RETURN] key.	[RETURN]	Turn on the power of IF board.
(b) Set POWER SEL switch to "OFF" side and then turn on the power.	[RETURN]	Set XADJ SW to OFF.
(c) Set XADJ SW to "OFF" side.	[RETURN]	Set MOTOR ON SW to ON and insert Alignment Disk.
(d) Turn the MOTOR ON switch of IF Board-52/53 off and then on, and insert a 50 Auto disk.		
20. The off track value of TRK00 to TRK79 is being measured, and then the calculation is completed. The maximum and minimum off track values are displayed.		Max=x.x Min=x.x
21. If the adjustment is within the specification, the CRT screen is changed to green color. or If not, the CRT screen is changed to red color.		
22. To retry the adjustment, hit [RETURN] key. or To ternimate the adjustment, hit the key of [E]	[RETURN] or [E]	Turn on the power of IF board. A>

How to change the phase mode of stepping motor.





5-2 HEAD COMPLEANCE

Disassemble the following parts and then perform the measurement and adjustment.

a. Shield Cover (Refer to 4-2)

5-2-1 Tools and Measuring Equipment

a. Oscilloscope
b. Fixture-63
c. MFD Function Checker
d. IF Board 52/53
e. Pad Weight
f. Level Disk (OR-D46WA)

5-2-2 Measurement

a. Connect the drive to the MFD Function Checker. (Refer to Fig. 2-10) Insert the level disk in place.
b. Connect the CH-1 and CH-2 probes of oscilloscope to TP-2 of IF Board 52/53 and TP-3 of MFD Function Checker. The oscilloscope is triggered by CH-2.
c. Move the head until it arrives at TRK79, and then pad weight is loaded on head carriage ass'y as shown in Fig. 5-2.
d. Write "2F" on TRK79.
e. Observe the waveform of out-put signal by setting the timing knob of oscilloscope to 20msec.
f. Take the Pad Weight, and check if the out-put signal level variation at between unloading and loading of the Pad Weight is 5% or less of that obtained by item "e".

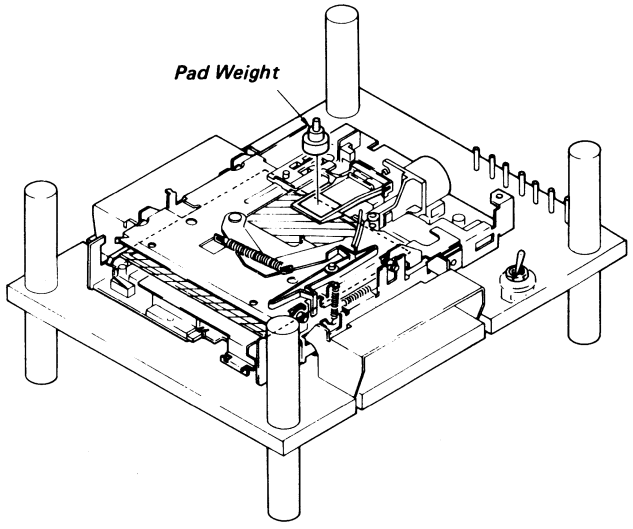


Fig. 5-2 Head Compliance Measurement

5-2-3 Adjustment

a. If the out-put signal level does not meet item 5-2-2 "f", replace the head carriage ass'y. (Refer to 4-7)

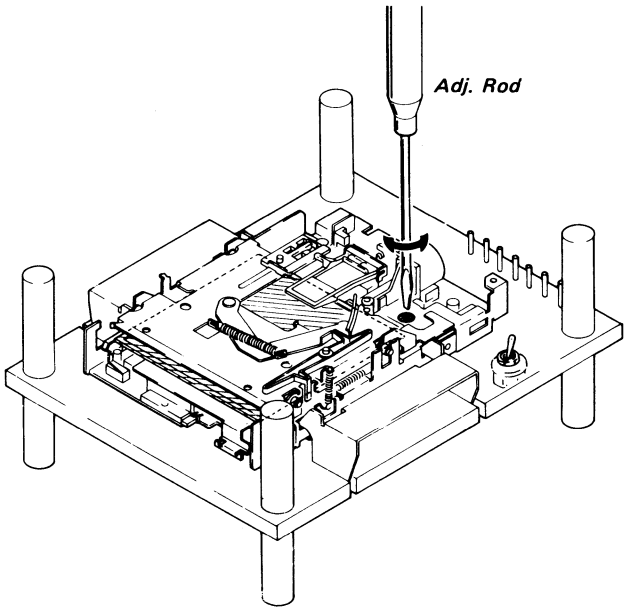
5-3 INDEX PHASE

Disassemble the following parts and then perform the measurement and adjustment.

a. Shield Cover (Refer to 4-2)

5-3-1 Tools and Measurement Equipment

a. Oscilloscope
b. MFD Function Checker
c. IF Board 52/53
d. 50 Auto Disk (OR-D157WA)
e. Adj. Rod
f. Fixture-63



(a)

Fig. 5-3 Index Phase Adjustment

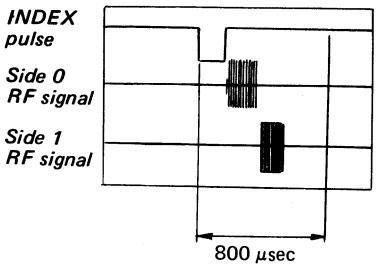
5-3-2 Measurement

a. Connect the drive to the MFD Function Checker. (Refer to Fig. 2-10)
b. Insert the 50 Auto Disk in place.
c. Connect the CH-1 and CH-2 probes of oscilloscope to TP-2 of IF Board 52/53 and TP-3 of MFD Function Checker. The osciloscope is triggered by CH-2.
d. Move the head to TRK40.

e. Check if the phase relation at both sides between the INDEX signal and output signal meets the specification as shown in Fig. 5-3 (b).

5-3-3 Adjustment

a. If the phase relation described above does not meet the specification, adjust RV101 so that INDEX pulse on both sides are within 0 to +800μsec as Fig. 5-3 (b) with an adj. rod tool. (Refer to Fig.5-3 (a))



(b)

Fig. 5-3 Index Phase Adjustment

5-4 HEAD CLEANING

5-4-1 Tools and Measuring Equipment

a. Cleaning Disk (OR-D29WA)

b. MFD Function Checker

c. Fixture-63

5-4-2 Cleaning with Cleaning Disk

a. Connect the drive to the MFD Function Checker. (Refer to Fig. 2-10)

b. Move the head until it arrives at an unused track of the cleaning disk.

c. Set the cleaning disk in place and hold it for about 10 seconds. Thereafter, eject the cleaning disk.

Note: Do not use any scratched cleaning disk. Do not reuse any used track because reuse of the track weakens the cleaning effect on the head.

Note: Cross out numbers of the used tracks on a cleaning disk label, as shown in the example for avoiding reusage.

Cleaning Disk

Check Column

~~00~~	~~01~~	~~02~~	03	04	05	06	07	08	09
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79

OR-D29WA

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