

Fig. 6

13. PNL Circuit Board

(Time Required: About 10 minutes)

- 13-1 Remove the slider knob (ASSIGN) from the control panel. (Fig. 1)
- 13-2 Separate the upper case unit and lower case unit. (See procedure 1.)
- 13-3 Remove the four (4) screws marked [S05A]. The two (2) panel stays A can then be removed. (Fig. 6)
- 13-4 Remove the twenty-two (22) screws marked [S05B]. The PNL circuit board can then be removed. (Fig. 6)

14. EN Circuit Board

(Time Required: About 6 minutes)

- 14-1 Remove the encoder knob from the control panel (Fig. 1, Fig. 7).
- 14-2 Separate the upper case unit and lower case unit. (See procedure 1.)
- 14-3 Remove the three (3) screws marked [S05C]. The ENC assembly can then be removed. (Fig. 9)
- 14-4 Remove the hexagonal nut marked [A] and the washer marked [B]. The ENC stay can then be removed. (Fig. 8)

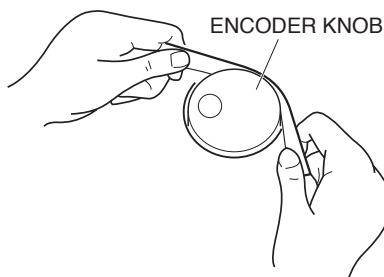


Fig. 7

15. PNC Circuit Board

(Time Required: About 8 minutes)

- 15-1 Remove the eight (8) slider knobs (ASSIGN) and the encoder knob from the control panel. (Fig. 1)
- 15-2 Separate the upper case unit and lower case unit. (See procedure 1.)
- 15-3 Remove the ENC assembly. (See procedure 14-3)
- 15-4 Release the lock at the back of the LCD unit, open the LCD unit and remove the screw marked [S05D] which has been hidden. (Fig. 9, 10)
- 15-5 Remove the five (5) screws marked [S05E], the screw marked [S05F], the screw marked [S05G] and the panel stay B. The PNC circuit board can then be removed. (Fig. 9)

16. PNR Circuit Board

(Time Required: About 9 minutes)

- 16-1 Separate the upper case unit and lower case unit. (See procedure 1.)
- 16-2 Remove the four (4) screws marked [S05H] and the protect sheet. (Fig. 6)
- 16-3 Remove the two (2) screws marked [S05I]. The panel stay C can then be removed. (Fig. 6)
- 16-4 Remove the fifteen (15) screws marked [S05J]. The PNR circuit board can then be removed. (Fig. 6)

• ENC Ass'y

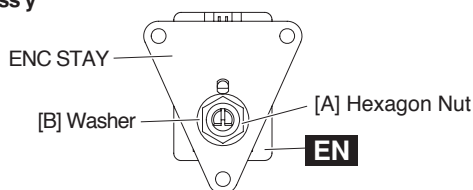
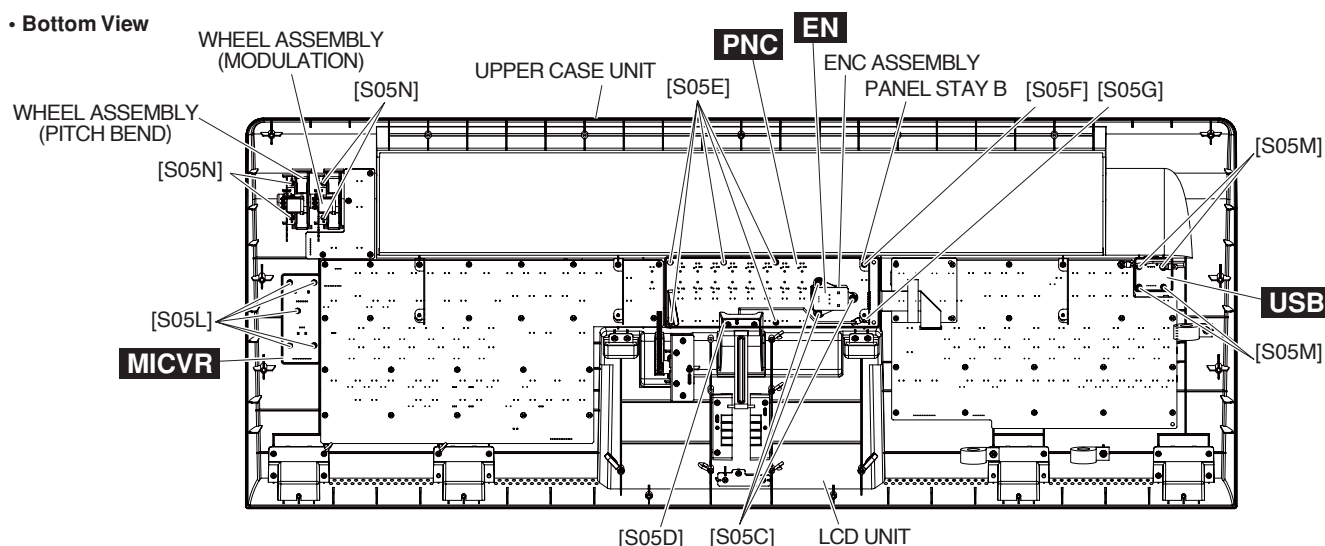


Fig. 8

• Bottom View



[S05]: BIND HEAD TAPPING SCREW-B 3.0X10 MFZN2W3 (WE774200)

Fig. 9

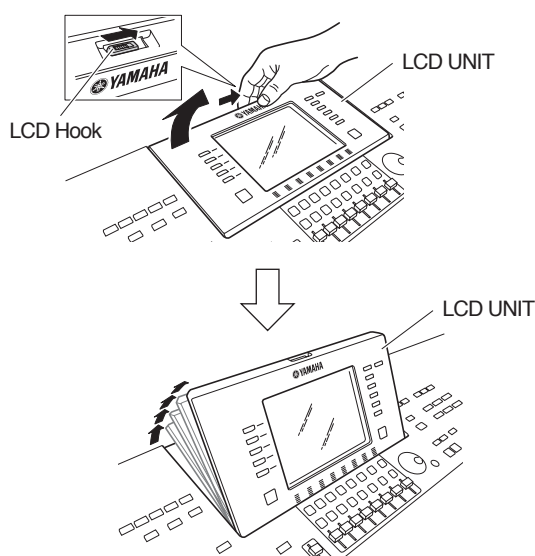


Fig. 10

17. PNLS Circuit Board

(Time Required: About 6 minutes)

- 17-1 Separate the upper case unit and lower case unit. (See procedure 1.)
- 17-2 Remove the four (4) screws marked [S05K]. The PNLS circuit board can then be removed. (Fig. 6)

18. MICVR Circuit Board

(Time Required: About 6 minutes)

- 18-1 Remove the VR knob (INPUT VOLUME) and the MASTER VOLUME knob from the control panel. (Fig. 1)
- 18-2 Separate the upper case unit and lower case unit. (See procedure 1.)
- 18-3 Remove the five (5) screws marked [S05L]. The MICVR circuit board can then be removed. (Fig. 9)

19. USB Circuit Board

(Time Required: About 6 minutes)

- 19-1 Separate the upper case unit and lower case unit. (See procedure 1.)
- 19-2 Remove the four (4) screws marked [S05M]. The USB circuit board can then be removed. (Fig. 9)

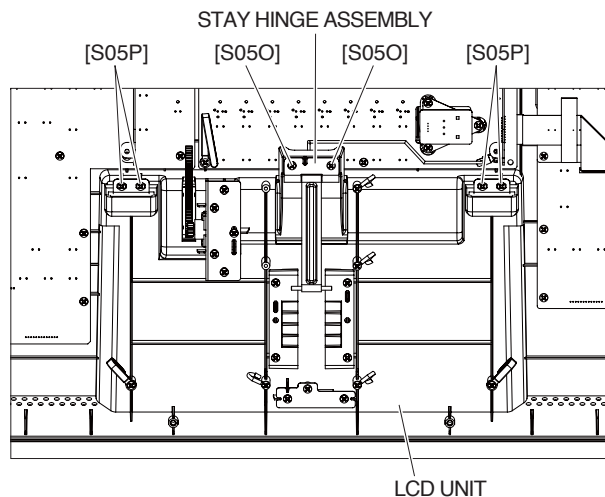
20. Wheel Assembly (PITCH BEND, MODULATION)

(Time Required: About 6 minutes)

- 20-1 Separate the upper case unit and lower case unit (See procedure 1.)
- 20-2 Remove the two (2) screws marked [S05N]. The wheel assembly (PITCH BEND) can then be removed. (Fig. 9)
- * **The wheel assembly (MODULATION) can be removed in the same way.**

21. LCD Unit (Time Required: About 7 minutes)

- 21-1 Separate the upper case unit and lower case unit. (See procedure 1.)
- 21-2 Remove the two (2) screws marked [S05O]. The stay hinge assembly can then be removed. (Fig. 11)
- 21-3 Remove the four (4) screws marked [S05P] and the screw marked [S05G]. (Fig. 9, 11)
- 21-4 Turn the front side of the upper case unit upward.
- * **Disconnect the connector assemblies of the LCD unit in advance.**
- 21-5 Release the lock at the back of the LCD unit, raise the LCD unit and remove the two (2) dust proof cloths. (Fig. 10, 12)
- 21-6 Tip the LCD unit until it is at an angle shown in Fig. 13, lift it a little and then pull it out obliquely upward. (Fig. 13)



[S05]: BIND HEAD TAPPING SCREW-B
3.0X10 MFZN2W3 (WE774200)

Fig. 11

22. LCD Lower Assembly and Gear (Time Required: About 7 minutes)

- 22-1 Separate the upper case unit and lower case unit.
(See procedure 1.)
- 22-2 Remove the LCD unit. (See procedure 21.)
- 22-3 Remove the eight (8) screws marked [S04E], slide the LCD hook and remove the LCD lower assembly and gear while shifting the hook at the back of the LCD unit as shown in Photo 4. (Fig. 14, Photo 4)

23. LCL Circuit Board (Time Required: About 7 minutes)

- 23-1 Separate the upper case unit and lower case unit.
(See procedure 1.)
- 23-2 Remove the LCD unit. (See procedure 21.)
- 23-3 Remove the LCD lower case assembly and gear.
(See procedure 22.)
- 23-4 Lift the stopper of the CN2 connector as shown in Fig. 15 and then remove the flat cable and ferrite core. (Fig. 15)
- 23-5 Remove the five (5) screws marked [S03J]. The LCL circuit board can then be removed. (Fig. 15)

24. LCR Circuit Board (Time Required: About 7 minutes)

- 24-1 Separate the upper case unit and lower case unit.
(See procedure 1.)
- 24-2 Remove the LCD unit. (See procedure 21.)
- 24-3 Remove the LCD lower case assembly and gear.
(See procedure 22.)
- 24-4 Remove the four (4) screws marked [S03K]. The LCR circuit board can then be removed. (Fig. 15)

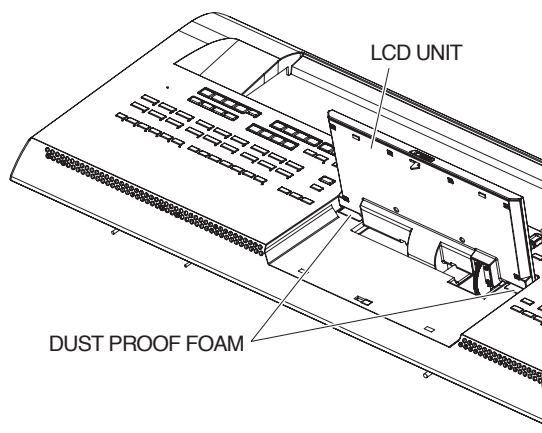


Fig. 12

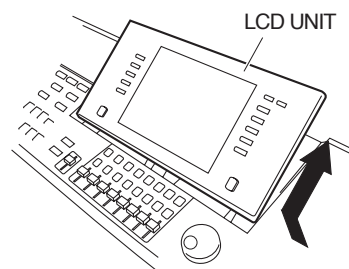
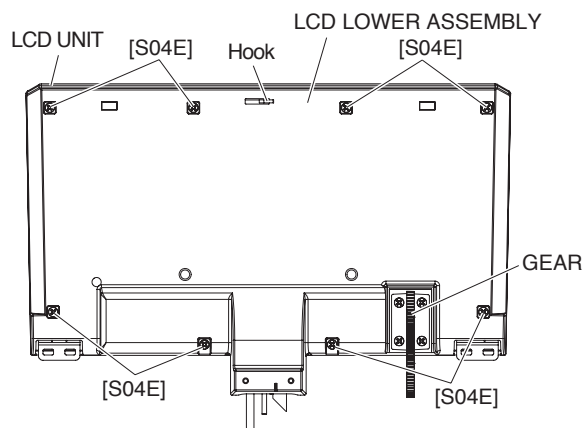


Fig. 13



[S04E]: BIND HEAD TAPPING SCREW-B
3.0X10 MFZN2B3 (WE972200)

Fig. 14




Photo 4



25. Crystal Display

(Time Required: About 7 minutes)

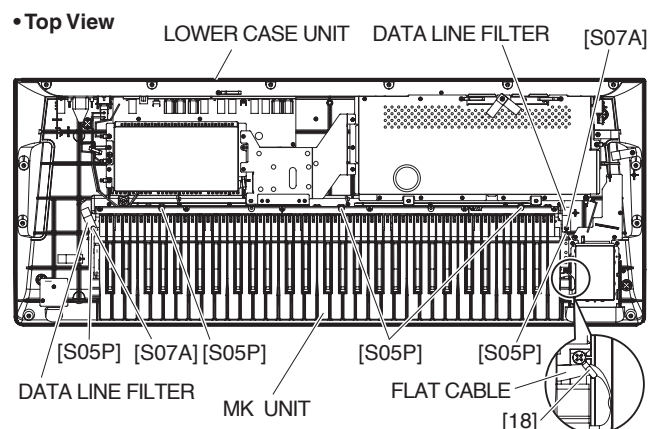
- 25-1 Separate the upper case unit and lower case unit.
(See procedure 1.)
- 25-2 Remove the LCD unit. (See procedure 21.)
- 25-3 Remove the LCD lower case assembly and gear.
(See procedure 22.)
- 25-4 Lift the stopper of the connector at the portion [A] as shown in Fig. 16 and then remove the flat cable and ferrite core. (Fig. 16)
- 25-5 Remove the four (4) screws marked [S03L]. The crystal display can then be removed. (Fig. 16)

 **When connecting to the connector, pay attention not to insert the cable inversely.**

26. Keyboard Assembly

(Time Required: About 9 minutes)

- 26-1 Separate the upper case unit and lower case unit.
(See procedure 1.)
- 26-2 Remove the two (2) screws marked [S07A]. The two (2) data line filters can then be removed. (Fig. 17)
- 26-3 Remove the eight (8) screws marked [S14B] and five (5) screws marked [S05P]. (Fig. 1, Fig. 17)
- * ***Be sure to loosen the cord holder marked [18] and release the flat cable (PC sensor) from the cord holder before lifting the keyboard. (Fig.17)***
If the keyboard is lifted without releasing the flat cable from the cord holder, the flat cable or the sensor may be damaged.
- 26-4 Raise the MK unit from front side so that the front side will face upward while paying attention to the connector assemblies. (Photo 5)
- 26-5 Remove the screw marked [MS13] and two (2) screws marked [MS03]. The keyboard assembly can then be removed. (Fig. 18)



[S05P]: BIND HEAD TAPPING SCREW-B 3.0X10 MFZN2W3 (WE774200)
[S07A]: PW HEAD TAPPING SCREW-B 3.0X12 MFZN2W3 (WF00210R)

Fig. 17

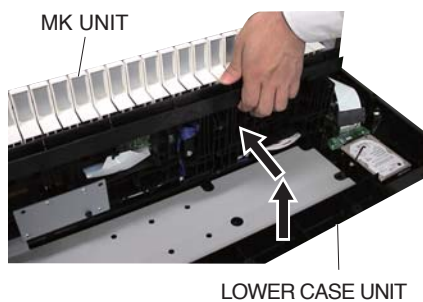
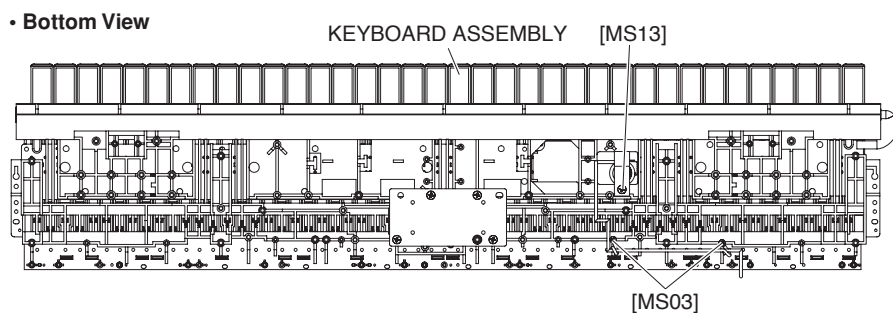


Photo 5



[MS03]: BIND HEAD TAPPING SCREW-B 3.0X8 MFZN2W3 (WE774301)
[MS13]: BIND HEAD TAPPING SCREW-B 4.0X12 MFZN2W3 (WE98120R)

Fig. 18

27. Keys (White and Black Keys)

27-1 Remove the keyboard assembly.
(See procedure 26.)

27-2 Remove the key stoppers corresponding to the keys to be replaced. (Table 1, Fig. 19)

27-3 White key

27-3-1 Place the white key in the horizontal position and remove it, lifting while pushing rearward. (Photo 6)

* *At this time, a key guide cap may come off together. (Photo 8)*

27-4 Black key

27-4-1 Remove the white keys on the right and left sides of the black key to be removed. (Photo 6)

27-4-2 Place the black key in the horizontal position and remove it, lifting while pushing rearward. (Photo 7)



Photo 6



Photo 7



Photo 8

Table 1

	KEY STOPPER L	KEY STOPPER H	KEY STOPPER 61
REMOVE SCREW	[240A] X 2, [240B] X 1	[240B] X 1, [240C] X 2	[240D] X 2

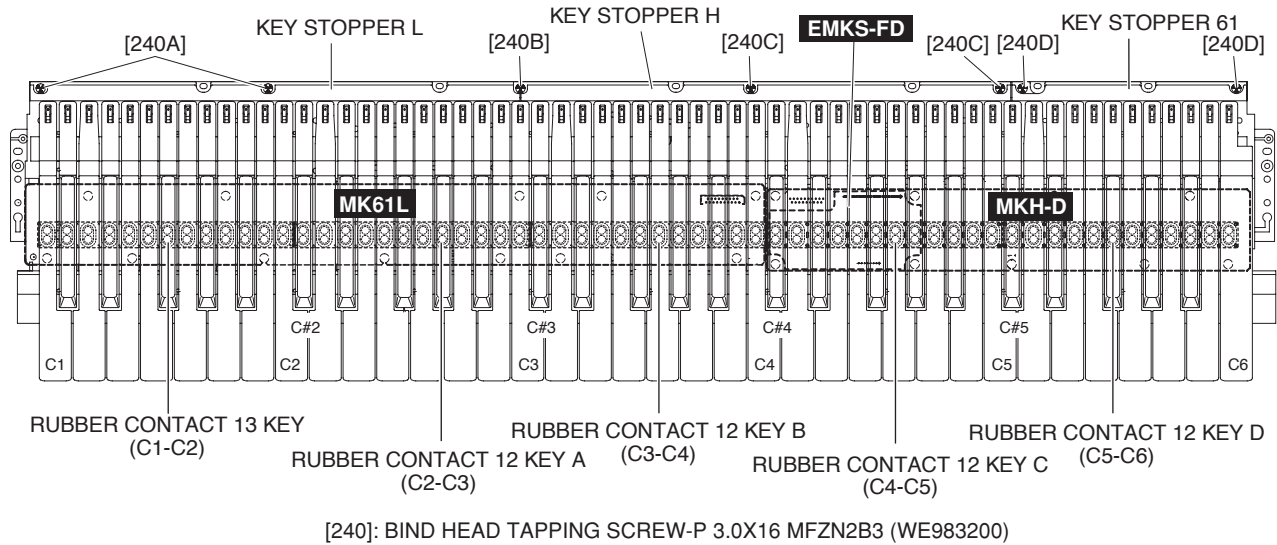


Fig. 19

28. Installing Keys (White and Black Keys)

28-1 Black key

28-1-1 With the white keys to the right and left sides removed, lower the front end of the horizontal black key and fit it into the frame while pushing it rearward.

* **At this time, pay attention not to bend the key guide cap by lowering the front portion of the key too much. (Photo 8)**

28-2 White key

28-2-1 After installing the black keys, install the white keys in the same way as the black keys.

(See procedure 28-1.)

28-3 Install the removed key stoppers.

(Table 1, Fig. 19)

29. Disassembling Keyboard Assembly

29-1 Rubber Contact

29-1-1 Remove the keyboard assembly.

(See procedure 26.)

29-1-2 Remove the key stoppers and keys listed in the table 2, corresponding to the rubber contacts to be removed. (Table 2, fig. 19) (See procedure 27.)

29-1-3 Pull out the rubber contact. (Fig. 19)

* **The orientation of rubber contacts on the keyboard is previously designated. Pay attention not to install the rubber contacts inversely. (Fig. 20)**

* **When installing the rubber contact, push it with the end of a clip. (Photo 9)**

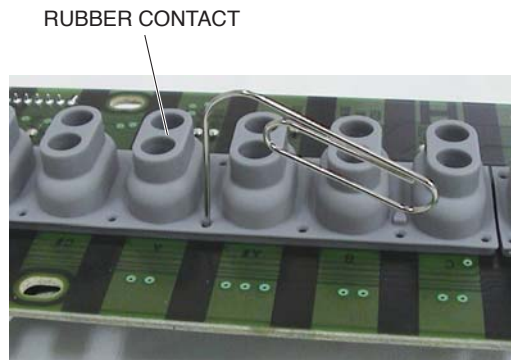


Photo 9

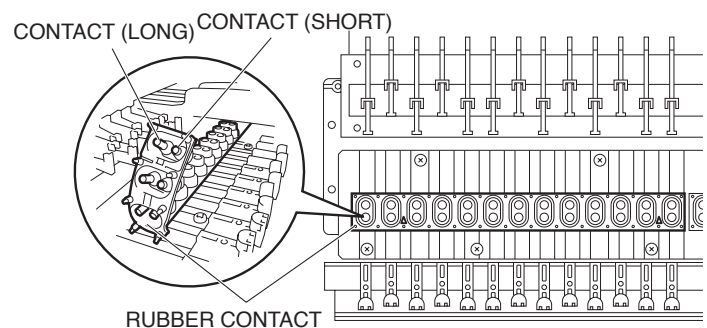
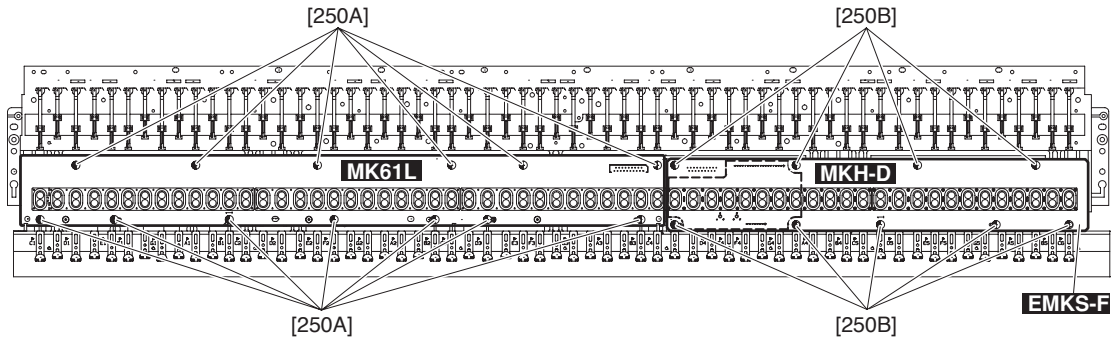


Fig. 20

Table 2

	RUBBER CONTACT 13KEY	RUBBER CONTACT 12KEY A	RUBBER CONTACT 12KEY B	RUBBER CONTACT 12KEY C	RUBBER CONTACT 12KEY D
APPLICATION CIRCUIT BOARD	MK61L	MK61L	MK61L	MKH-D	MKH-D
REMOVE KEY STOPPER	L	L, H	L, H	H	61
REMOVE KEY	C1-C2	C2-C3	C3-C4	C4-C5	C5-C6



[250]: BIND HEAD TAPPING SCREW-P 3.0X8 MFZN2B3 (WF266600)

Fig. 21

29-2 **MK61L Circuit Board**
(Time required: About 8 minutes)

- 29-2-1 Remove the keyboard assembly.
(See procedure 26.)
- 29-2-2 Remove the key stopper L and key stopper H. (Table 1, Fig. 19)
- 29-2-3 Remove the keys and the key springs from C1 to C4.
(See procedure 27.)
- 29-2-4 Remove the thirteen (13) screws marked [250A] and disconnect the connector from the underside of the keyboard unit. The MK61L circuit board can then be removed. (Fig. 21, Photo 10)

* **The rubber contacts are not parts of the MK61L circuit board. When replacing the MK61L circuit board, remove the rubber contacts from the circuit board and install them to new circuit board.**

29-3 **MKH-D Circuit Board, EMKS-FD Circuit Board**
(Time required: About 8 minutes)

- 29-3-1 Remove the keyboard assembly.
(See procedure 26.)
- 29-3-2 Remove the key stopper H and key stopper 61. (Table 1, Fig. 19)
- 29-3-3 Remove the keys and key springs from C4 to C6.
(See procedure 27.)
- 29-3-4 Remove the nine (9) screws marked [250B] and disconnect the connectors from the underside of the keyboard. The MKH-D circuit board can then be removed. (Fig. 21, Photo 10)

* **The EMKS-FD circuit board is a part of the MKH-D circuit board and is soldered to the MKH-D circuit board at connectors. (Photo 11)**

* **The rubber contacts are not parts of the MKC circuit board. When replacing the MKC circuit board, remove the rubber contacts from the circuit board and install them to new circuit board.**

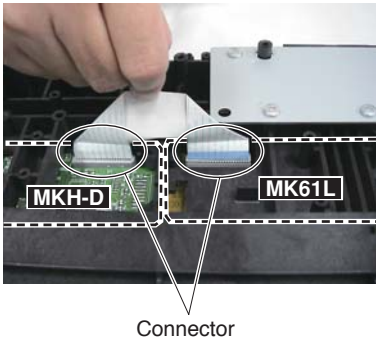


Photo 10

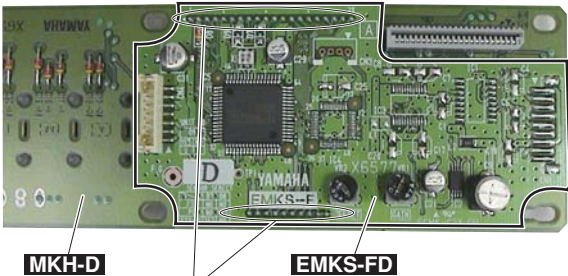


Photo 11

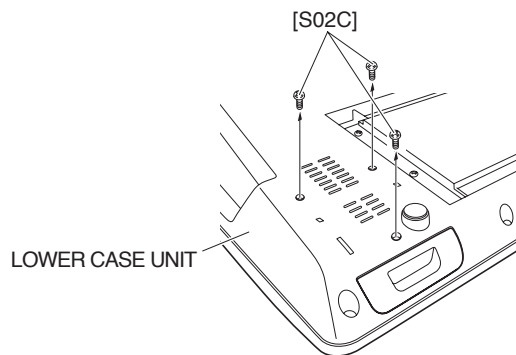
30. Hard Disk Drive Unit

Turn the Tyros3's power off, disconnect any cables including AC power cord from the keyboard.

Also make sure to close the LCD panel and disconnect a USB device from the USB TO DEVICE terminal.

Turn the Tyros3 face down on a blanket or some soft surface, giving you direct access to the bottom of the instrument.

- 30-1 Remove the three (3) screws marked [S02C].
(Fig. 1, Fig. 22)



[S02C]: BIND HEAD SCREW 3.0X8 MFZN2B3 (WE983600)

Fig. 22

- 30-2 Pull out the HDD bracket. (Fig. 23)

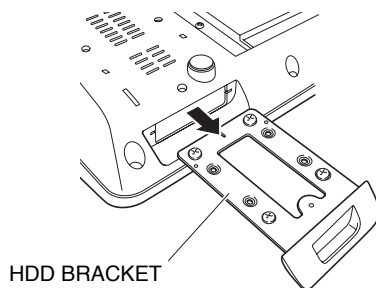
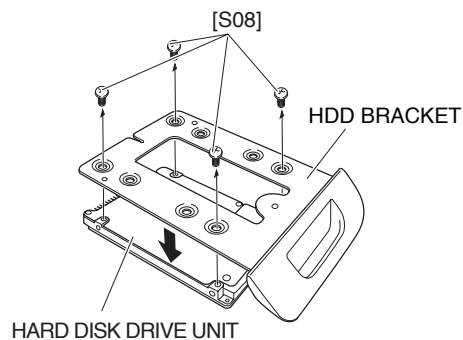


Fig. 23

- 30-3 Remove the four (4) screws marked [S08]. The hard disk drive unit can then be removed. (Fig. 24)



[S08]: BIND HEAD SCREW 3.0X4 MFNI33 (VG048000)

Fig. 24