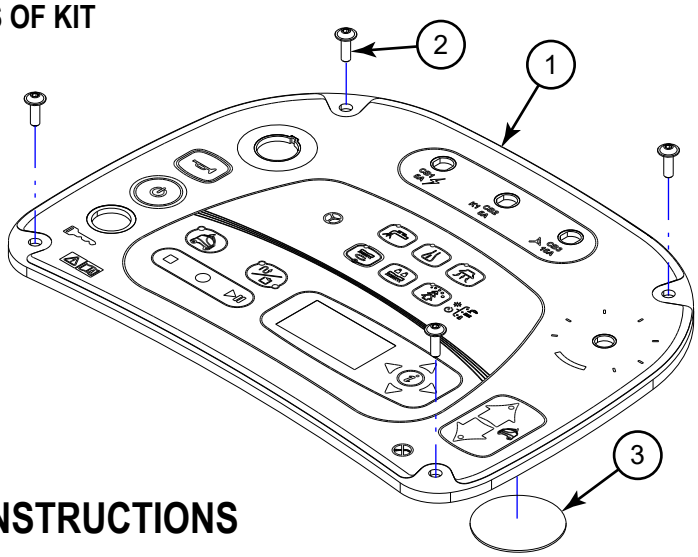
56104832 INTERFACE PANEL KIT

For Liberty SC50 Models: ALL

CONTENTS OF KIT

Item	Part Number	Qty	Description
[ ]	56090318	1	Instruction Sheet
1		1	INTERFACE PANEL ASSY-NO PCB
2		4	SCR M5X16 ISO7380-2 FLG BLK
3		1	TAPE-CIRCLE-VHB 4952

[ ] = Not Shown



INSTALLATION INSTRUCTIONS

The interface panel kit replaces the machine's interface panel, but does replace the Main Machine Controller attached to the original panel. Therefore, it is necessary to transfer all components attached to the original interface panel over to the new interface panel.

⚠ CAUTION!

When working on an SC50 and a battery disconnect is needed, ensure that the Autonomy Module is completely powered off before the power is pulled from the system. To verify that the Autonomy Module is completely powered down simply wait for both the safety LiDAR's and Dropoff lasers to power off, plus an additional 15 seconds after that. If this procedure is not followed when disconnecting the battery, there is a chance that the Autonomy Module could be permanently damaged and would need replacement.

⚠ WARNING! Disconnect battery before servicing.

REMOVE THE ORIGINAL INTERFACE PANEL

1. Disconnect the main battery connector located in the main electrical bay. (The main controller will still be powered until the battery is disconnected.)
2. **See Figure 1.** Loosen the setscrew **(A2)** in the speed limit knob **(A1)**, and slide the knob off the potentiometer shaft..
3. Remove the nut and lock washer from the potentiometer shaft.
4. Remove the front retaining nut **(B1)** from each of the 3 circuit breakers **(B)**.
5. Remove the 4 mounting screws **(2)** that secure the interface panel to the Main Controller Bay.
6. Lift/tilt the interface panel out of the Main Controller Bay to access the wiring components on the back side.

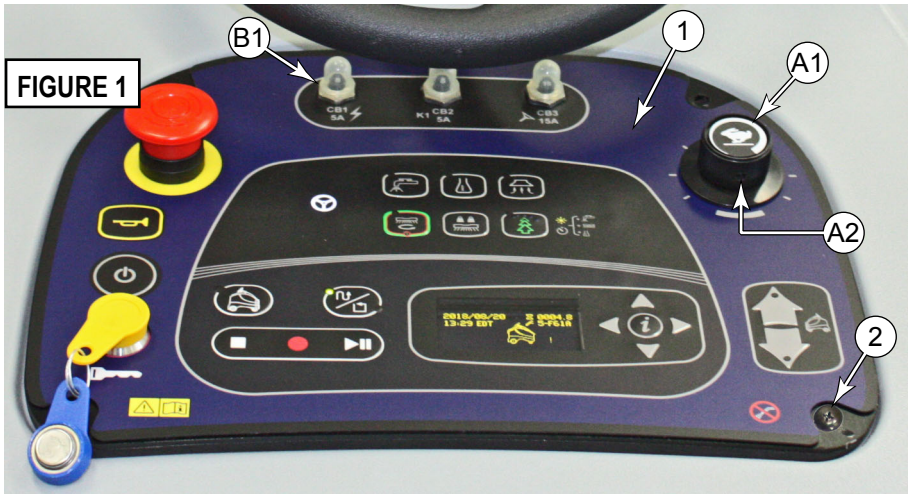


FIGURE 1

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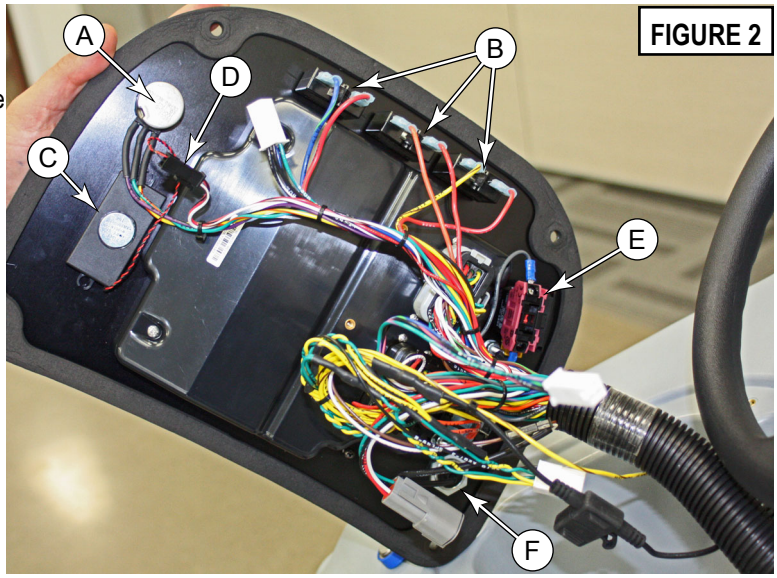
REMOVE DISCRETE COMPONENTS FROM INTERFACE PANEL

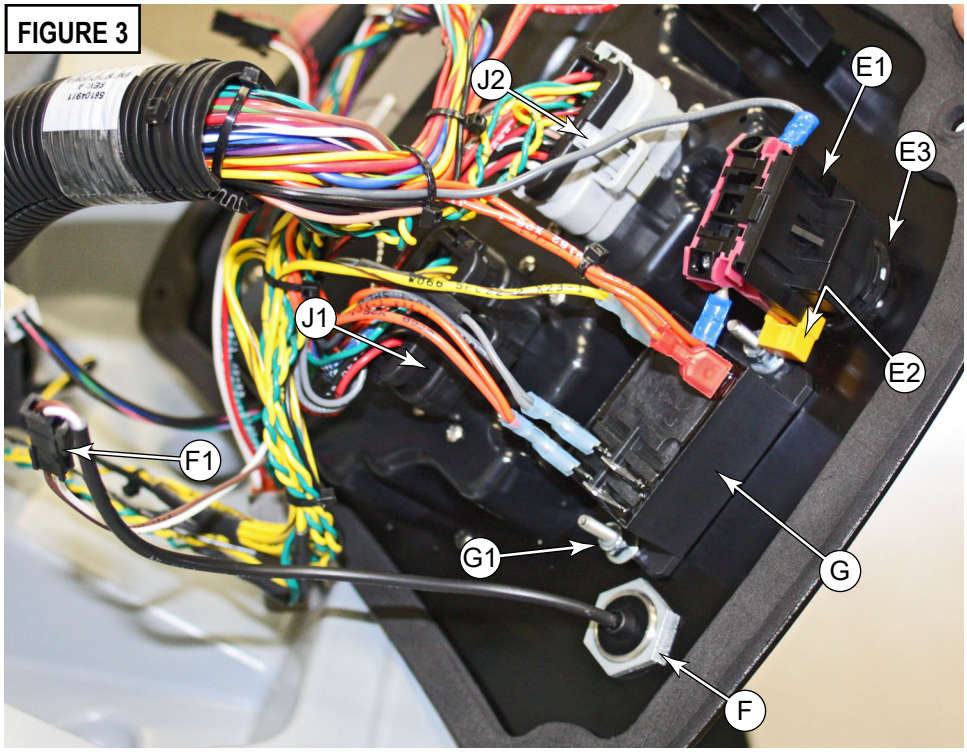
7. **See Figure 2.** Remove the potentiometer **(A)** from the back of the interface panel.
8. Remove the 3 circuit breakers **(B)** from the back of the interface panel. If possible, avoid disconnecting the wires.
9. Disconnect the speaker electrical connector **(D)**.
10. Carefully pry the speaker **(C)** from the back of the interface panel. Pry from the ends, instead of the center. The speaker cone is located in the center, and could be damaged.
11. Clean any tape residue from the back of the speaker.

FIGURE 2



12. **See Figure 3.** Disconnect the **J1** and **J2** connectors from the main machine controller.
13. Pull out on the E-stop switch release lever **(E2)** and lift the E-stop switch body **(E1)** off the button body **(E3)**.
14. Remove the nut that secures the E-stop button body **(E3)** to the interface panel, and remove the button body from the front of the panel.
15. Remove the two nuts **(G1)** that secure the KSI relay **(G)** to the interface panel, and remove the relay. If possible, avoid disconnecting the wires.
16. Remove the nut that secures the smart key reader **(F)** to the interface panel, and remove the reader.
17. Verify that all electrical components and connectors are removed from the interface panel, and separate the panel from the wiring harness.

FIGURE 3

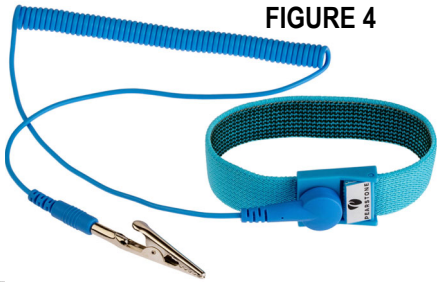


REMOVE MAIN MACHINE CONTROLLER FROM INTERFACE PANEL

18. Place the interface panel on a clean work surface in a low-static environment. .

19. Utilize appropriate anti-static protection, such as an anti-static wrist strap shown in **Figure 4**.

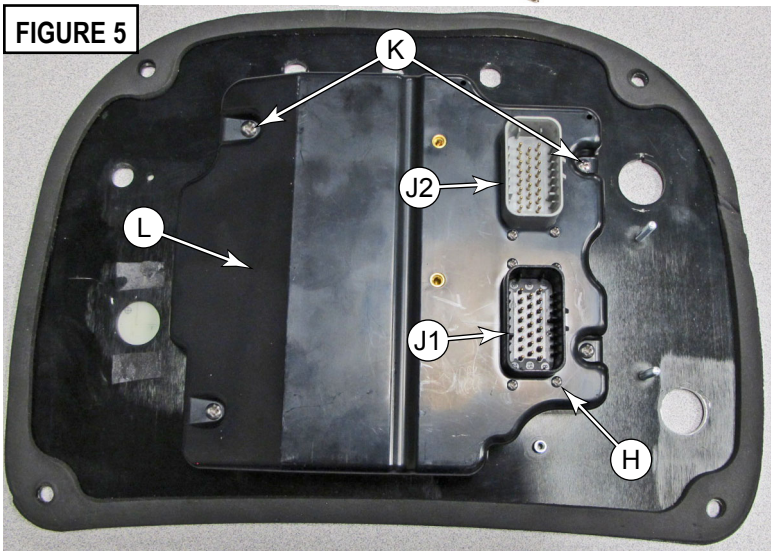
FIGURE 4



20. **See Figure 5.** Remove the 8 screws **(H)** that secure the control board cover **(L)** to the **J1** and **J2** connectors. (The connectors are part of the control board, but the back cover supports them.)

21. Remove the 4 screws **(K)** that secure the cover to the interface panel, and carefully lift the control board cover free from the **J1** and **J2** connectors.

FIGURE 5



22. **See Figures 6 and 7**. Remove the 3 top-side ribbon cables **(J5, J6, J7)**: For troubleshooting reference, J5 and J6 are for the membrane switches and J7 is for the interface panel LEDs.

    a. Carefully slide both sides of the locking bar **(O)** forward, approximately 1mm, as shown below.

    b. Gently pull the ribbon cable **(N)** out of the connector body.

23. Remove the 4 remaining screws **(M)** that secure the main control board to the interface panel. The screws are located on either side of the **J1** and **J2** connectors.

24. Carefully lift the control board, rotating it top-to-bottom, to access the display ribbon cable located on the underside.

25. **See Figure 8.** Remove the display ribbon cable **(J8)** from the back of the control board.

    a. Simultaneously lifting both ends, rotate the locking bar **(P)** upward to the vertical position.

    b. Gently pull the ribbon cable out of the connector body.

FIGURE 6

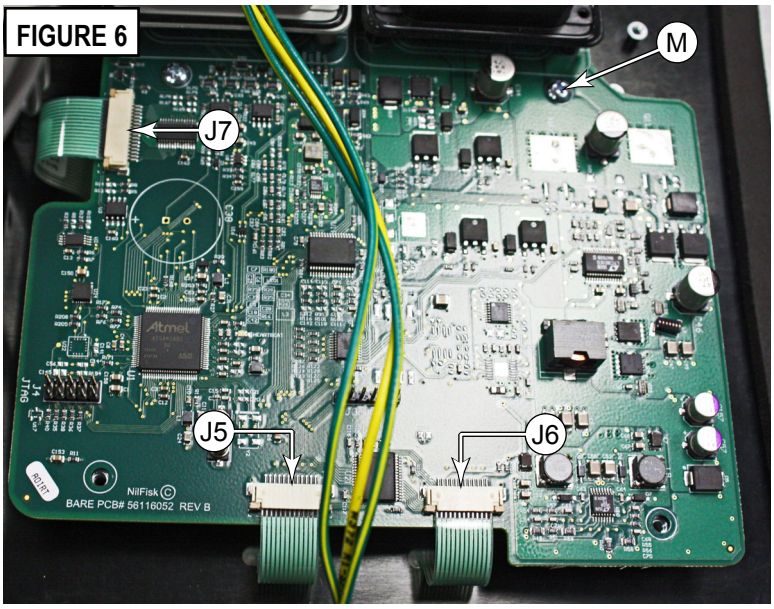


FIGURE 7

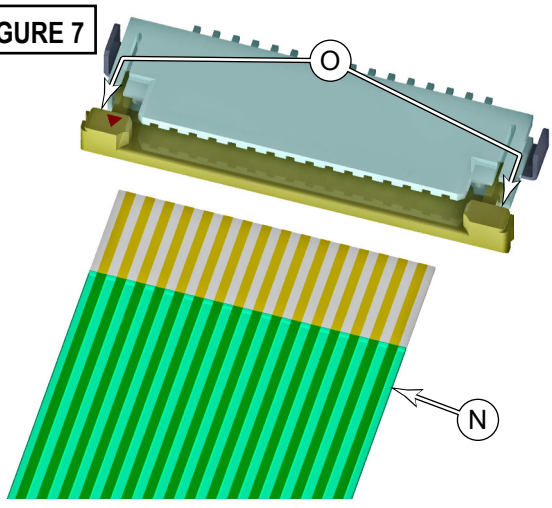
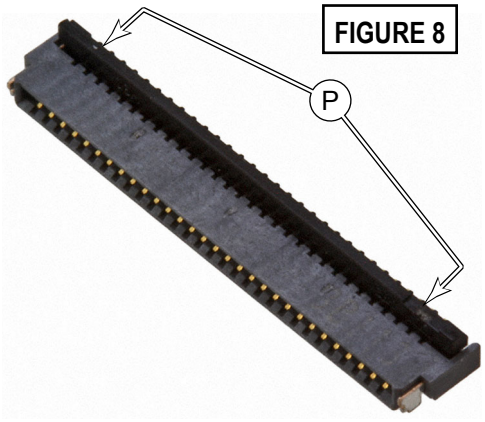


FIGURE 8



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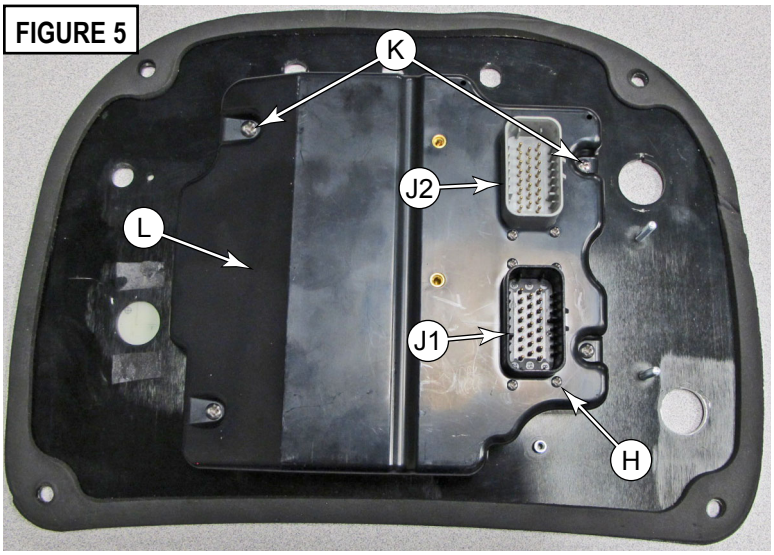
TRANSFER MAIN MACHINE CONTROLLER TO NEW PANEL

26. Install the display ribbon cable **(J8)** to the back of the control board.
    a. Make sure the locking bar is in the raised position.
    b. Insert the ribbon cable into the connector body. Make sure the cable is straight and fully inserted.
    c. Simultaneously press down on both ends of the locking bar **(P)** until it snaps into the horizontal position.
27. Install the first 4 screws **(M)** that secure the main control board to the interface panel. The screws are located on either side of the **J1** and **J2** connectors.
28. Install the 3 top-side ribbon cables **(J5, J6, J7)**.
    a. Make sure both sides of the locking bar **(O)** are forward.
    b. Insert the ribbon cable into the connector body. Make sure the cable is straight and fully inserted.
    c. Press both sides of the locking bar toward the connector body.
29. Carefully place the control board cover over the **J1** and **J2** connectors.
30. Install the 4 screws **(K)** that secure the cover to the interface panel. Torque to 8 in/lbs (0.90 Nm).
31. Install the 8 screws **(H)** that secure the control board cover **(L)** to the **J1** and **J2** connectors. Torque to 5 in/lb (0.56 Nm)

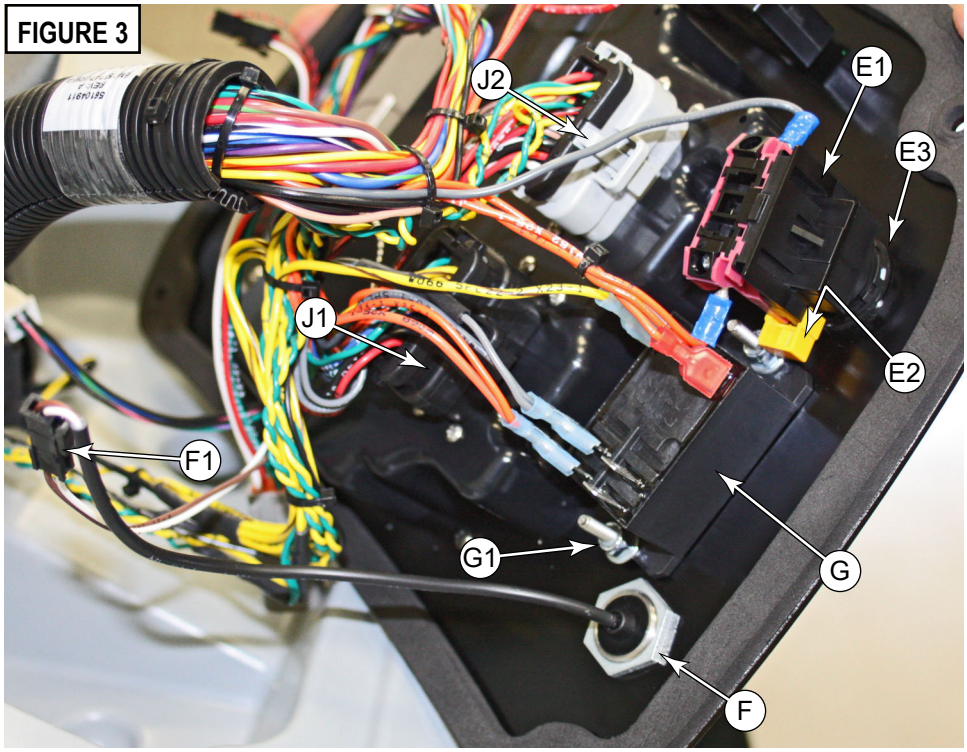
FIGURE 5



TRANSFER DISCRETE COMPONENTS TO NEW PANEL

32. Install the SmartKey reader to the interface panel, and secure it with the nut **(F)**.
33. Install the KSI relay **(G)** to the interface panel, and secure it with the two nuts **(G1)**. Torque to 18 in/lbs (2.03 Nm). Make sure the wires are securely connected.
34. Install the E-stop button body **(E3)** to the interface panel, and secure it with the nut. Secure nut firmly by hand or a pliers. If using a pliers, take care not to overtighten and damage the threads.
35. Pull out on the E-stop switch release lever **(E2)** and insert the E-stop switch body **(E1)** onto the button body **(E3)**. Press the release lever in.
36. Connect the **J1** and **J2** connectors to the main machine controller.

FIGURE 3



37. Apply new double sided tape **(3)** to the back of the speaker.

38. Align the speaker cone with the hole in the back of the interface panel, and press the speaker **(C)** onto the panel.

39. Connect the speaker electrical connector **(D)**.

40. Insert the 3 circuit breakers **(B)** through the back of the interface panel and secure them with the retaining nuts. Torque to 18 in/lbs. (2 Nm).

41. Insert the potentiometer **(A)** from the back of the interface panel, and secure it with the retaining nut.

42. Press the speed limit knob **(A1)** onto the potentiometer shaft, and secure it with the setscrew **(A2)**.

43. Insert the interface panel into the Main Controller Bay, and secure it with the 4 mounting screws **(2)**. Torque to 18 in/lbs. (2.03 Nm).

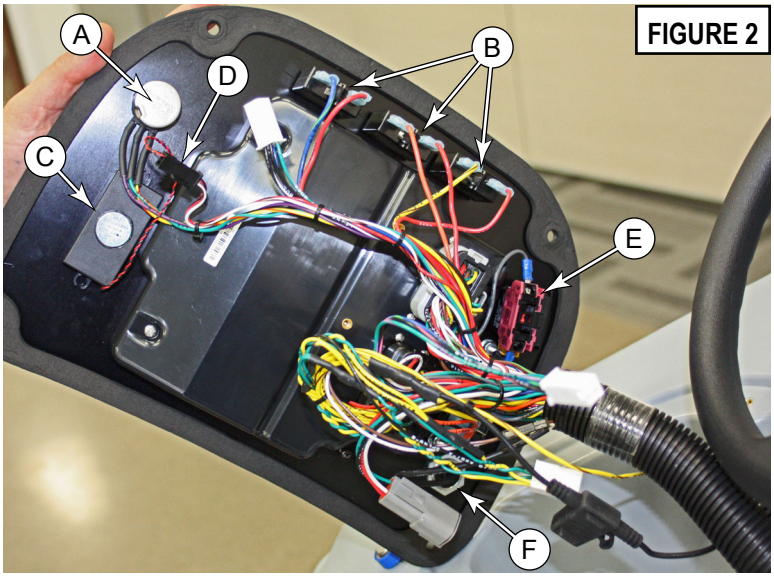


FIGURE 2

TEST THE INTERFACE PANEL LEDS, DISPLAY, AND BUTTONS

1. Reconnect the main battery connector located in the main electrical bay.

2. Power the machine with Service Mode access.

   a. Press and hold the Scrub **(1B)** and Vacuum **(1C)** buttons.

   b. Press and release the Power button **(1A)**.

   c. When the display illuminates and the machine begins its bootup process, you may release the Scrub and Vacuum buttons.

3. Press the information button **(1D)** to enter the menu system, and use the arrow buttons **(1E)** to navigate down to the Service Menu, and then to the Panel Test Menu.

   a. Press the Down Arrow to test all of the interface panel's LEDs.

   b. Press the Up Arrow to test the display screen.

   c. Except for the Left Arrow, press all buttons on the interface panel to test their function. A graphical confirmation will be shown on the display screen.

   d. To exit the panel test, press the Left Arrow.

4. If any interface panel testing fails, return to Step 22 to check the ribbon cable connections between the Main Machine Controller and the Interface Panel.

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