

# EPX Touchscreen and Display Replacement Assemblies

This document describes the procedures required to replace the touchscreen and display assembly in the EPX BZK-08T7 kit. The following procedures are described:

- *Opening the PowerStation*
- *Working with Units Using a Compact Flash*
- *Working with Units Using a Hard Drive*
- *Calibrating the Touchscreen*

## Before You Start

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Before attempting to replace the touchscreen in the PowerStation, be sure to follow the steps below.

- 1 Turn off the unit and disconnect the PowerStation from the power source.
- 2 Remove the unit from its enclosure (if installed) to gain access to the display.
- 3 Place the PowerStation on an Electrostatic Discharge (ESD) mat.

## Electrostatic Discharge (ESD) Precautions



Modern integrated electronic devices are extremely sensitive to electrostatic discharges (ESD) and fields. Before you open the system, be sure to follow these simple precautions to protect you and the equipment from harm resulting from ESD.

- Always disconnect power from the equipment before opening or removing the back cover. Do not touch any components of the PowerStation while it is on.
- Only handle internal components of the equipment in an ESD-safe location, using appropriate grounding methods.
- Wear a grounding wrist strap for continuous protection.
- Always ground yourself to remove any static charge before you touch the video controller board inside the unit.
- Be particularly careful not to touch the components on the video controller board.
- Keep any monitor part in its anti-static packaging when it is not installed and place it on a static dissipative mat when you are working on it.

## Opening the PowerStation

In order to replace the touchscreen and display assemblies, you must first open the PowerStation.

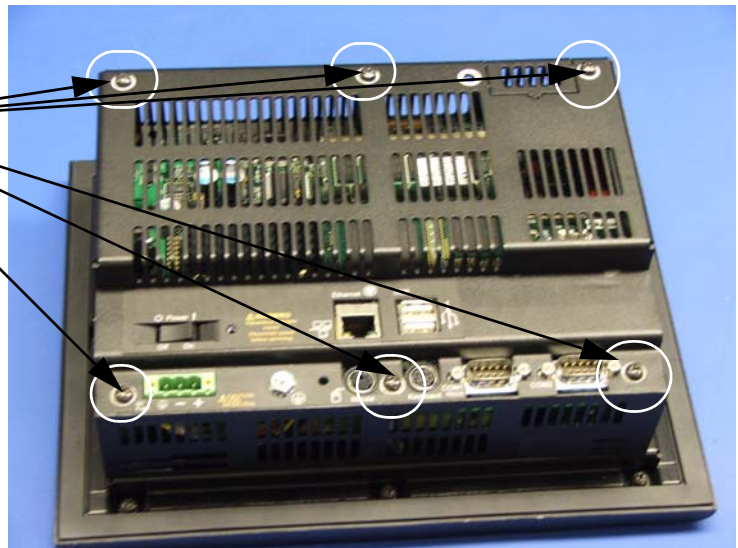


**Important:** For safety reasons, the PowerStation should be opened only by qualified service personnel.

- 1 Remove the compact flash from the PowerStation, if applicable. To do so, push the black, eject button located on the right-hand side of the unit.
- 2 Place the PowerStation on an ESD mat, display face down.
- 3 Remove the 6 screws holding the back cover on to the PowerStation as shown in Figure 1.

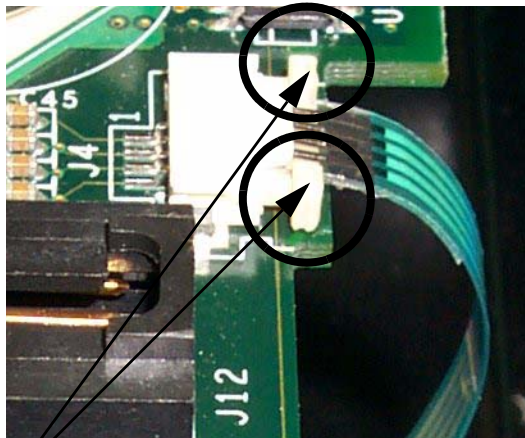
**Figure 1: Removing the Screws on the Back Cover**

Remove these 6 screws holding the back cover on to the PowerStation.

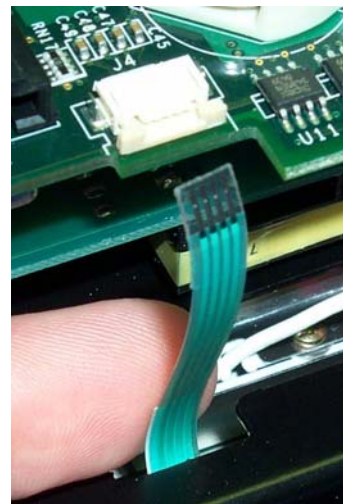


- 4 Gently remove the back cover and set it aside. Be careful not to break the black, compact flash eject button (located on the right-hand side) when removing the back cover.
- 5 Disconnect the touchscreen tail from the right side of the CPU board as shown in Figure 2. To do so, follow the steps below:
  - a Open the "drawer" holding the touchscreen tail. (There are two notches on either side of the connector, pull these out.)
  - b Gently pull the touchscreen tail out of the connector, see Figure 2.

**Figure 2: Disconnecting the Touchscreen Cable**



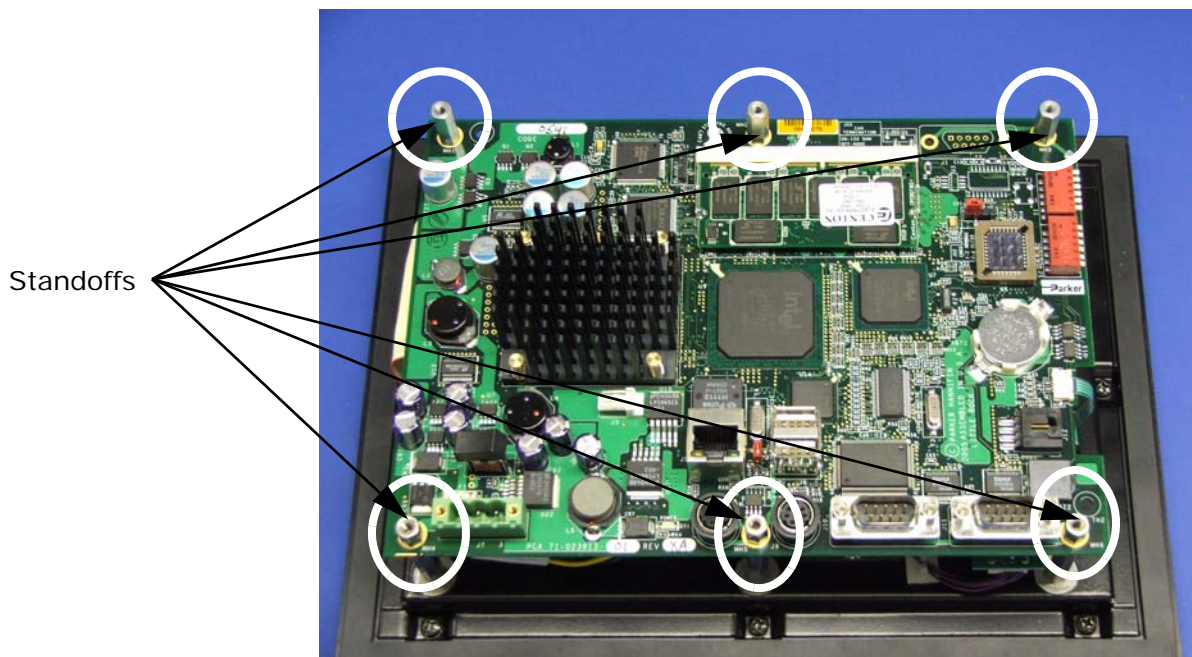
Open the "drawer" on the touchscreen tail, by pulling the notches out, as shown.



Disconnect the touchscreen cable as shown.

- 3 Remove the 6 standoffs holding the CPU board onto the display assembly as shown in Figure 3.

**Figure 3: Removing the CPU Board**



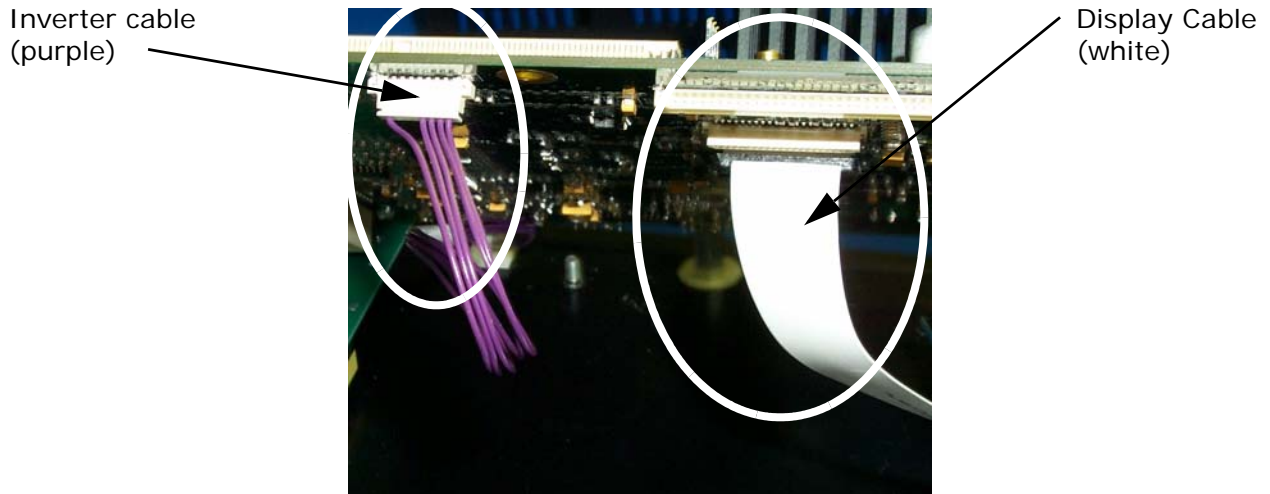
- 4 If you are working with a PowerStation that has a hard drive, go to *Working with Units Using a Hard Drive* on page 6. Otherwise, continue with *Working with Units Using a Compact Flash* below.

## Working with Units Using a Compact Flash

Follow the instructions below to replace the touchscreen and display assemblies on units with the operating system located on a compact flash.

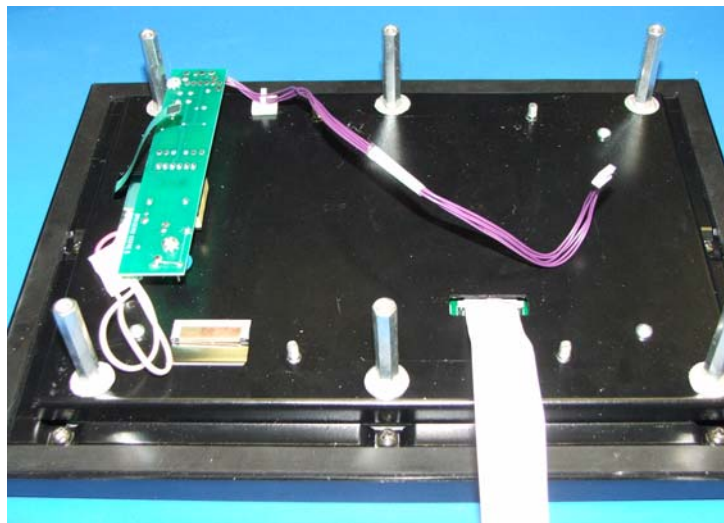
- 1 Gently lift the CPU board up to reveal the inverter and display cables as shown in Figure 4.

**Figure 4: Accessing the Inverter and Display Cables**



- 2 Disconnect the purple, inverter cable from the CPU board.
- 3 Disconnect the white, display cable from the CPU board.
- 4 Set the CPU board aside to reveal the touchscreen assembly to replace as shown in Figure 5.

**Figure 5: Touchscreen Assembly to Replace**





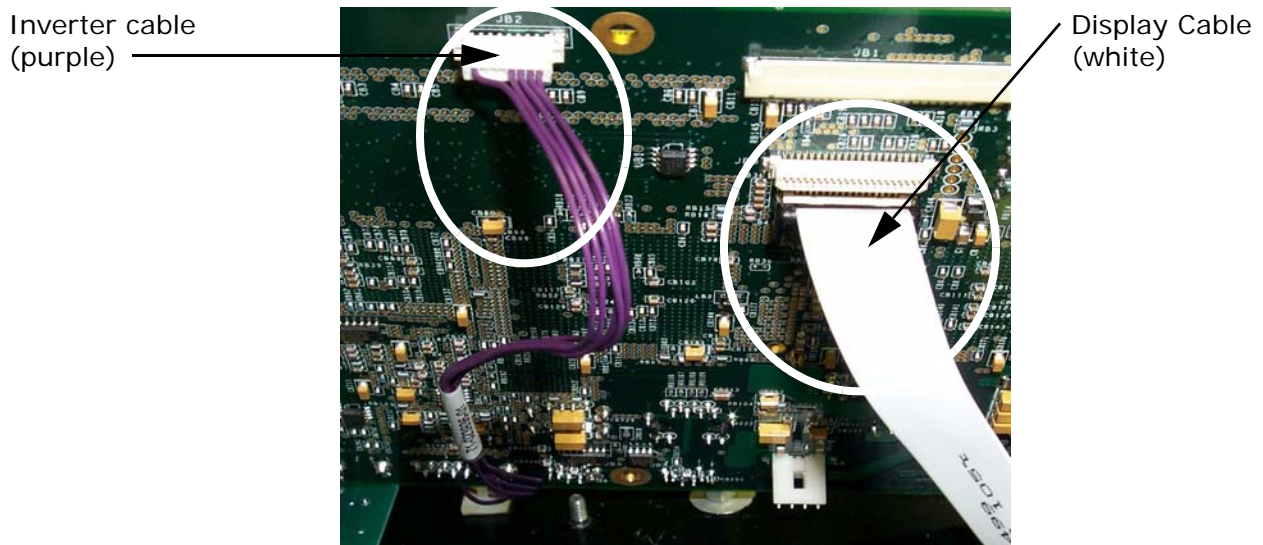
- 5 Replace the touchscreen with the new assembly. See *Reassembling Your Unit* below, for instructions on reconnecting the new assembly.

## Reassembling Your Unit

Follow the instructions below to reassemble your unit with the touchscreen replacement assembly.

- 1 Connect the white, display cable to the CPU board as shown in Figure 6, below.
- 2 Connect the purple, inverter cable to the CPU board as shown in Figure 6.

**Figure 6: Connecting the Inverter and Display Cables**



- 3 Replace the six standoffs removed in Step 3, on page 3.
- 4 Connect the touchscreen tail by opening the "drawer" as discussed in Step 5, on page 2.



**Caution:** Do not crease the touchscreen tail when inserting it into the CPU board connector. Use a pair of needle-nose pliers when inserting the touchscreen tail into the connector.

- 5 Replace the back cover by securing the screws removed in Step 3, on page 2.
- 6 Replace the compact flash.
- 7 Power on the unit and calibrate the touchscreen as described in *Calibrating the Touchscreen* on page 10.

## Working with Units Using a Hard Drive

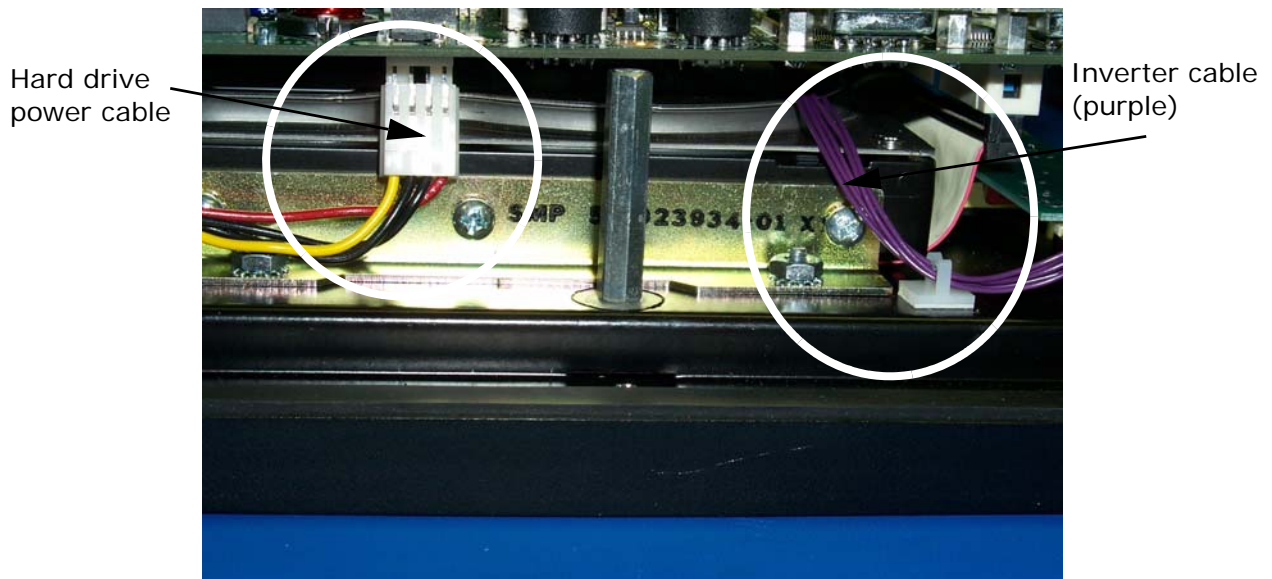
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Follow the instructions below to replace the touchscreen and display assemblies on units with the operating system located on a hard drive.

- 1 Disconnect the hard drive power cable (yellow, black and red) from the CPU board as shown in Figure 7.

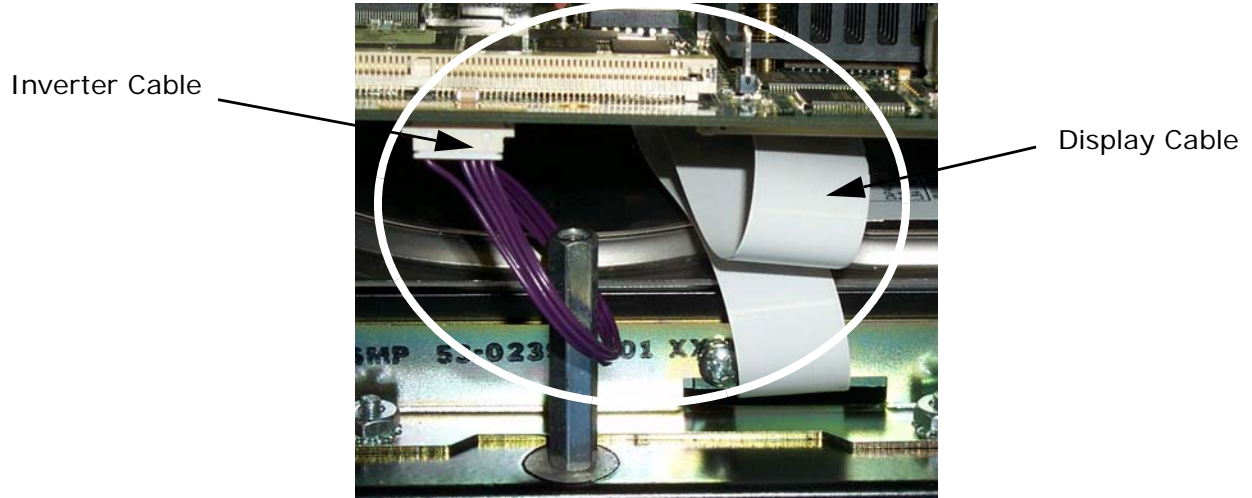
Note that the hard drive power cable has a locking mechanism to hold it in place. Therefore, you need to pull the cable out at a 20 degree angle.

**Figure 7: Accessing the Hard Drive Power Cable**



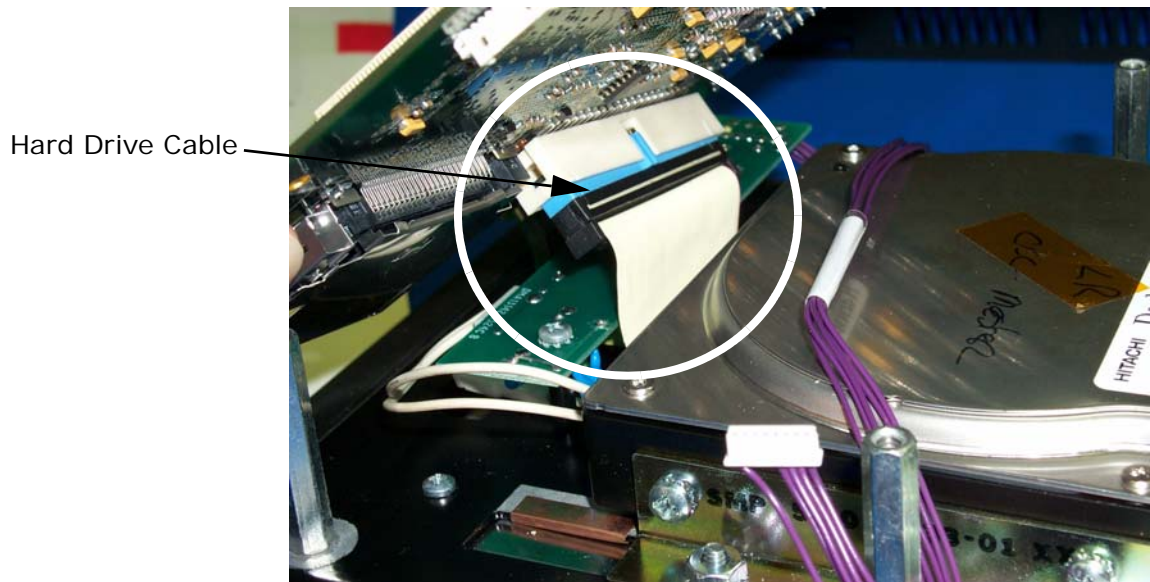
- 2 Turn the unit around so that the purple, inverter cable connector and the white, display cable is facing you.
- 3 Disconnect the inverter cable and the display cable from the board, see Figure 8. You can pull them both straight down to disconnect them.

**Figure 8: Accessing the Inverter and Display Cables**



- 4 Disconnect the yellow, hard drive cable as shown in Figure 9.

**Figure 9: Accessing the Hard Drive Cable (Ribbon)**



- 5 Gently lift the CPU board off of the unit and out of the way to reveal the hard drive, see Figure 10.

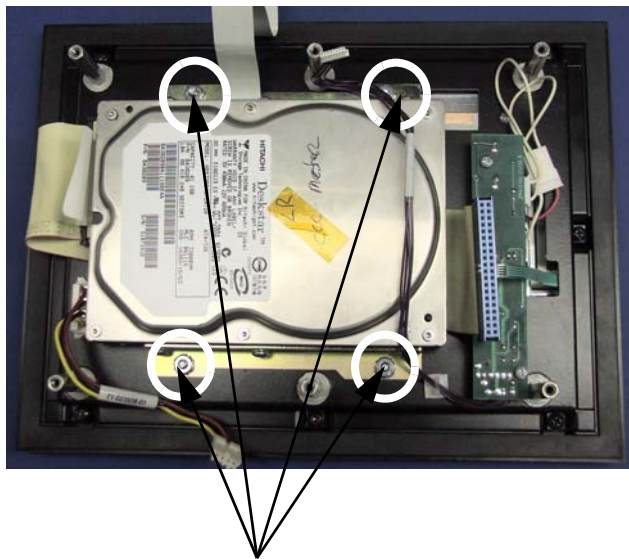
**Figure 10: Accessing the Hard Drive**



- 6 Remove the four nuts holding the hard drive in place, see Figure 11.
- 7 Lift the hard drive off of the unit as shown in Figure 11.

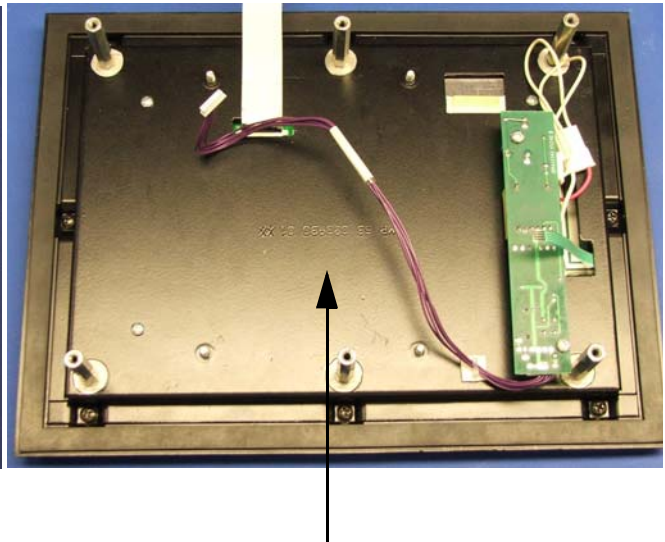
**Figure 11: Removing the Hard Drive**

**Figure 8a: Removing the Nuts**



Remove these four nuts to remove the hard drive from the touchscreen.

**Figure 8b: Touchscreen Assembly to Replace**



Replace this touchscreen with the new touchscreen assembly received from Parker - CTC.

- 8 Replace the touchscreen with the new assembly. See *Reassembling Your Unit* below, for instructions on connecting up the new assembly.

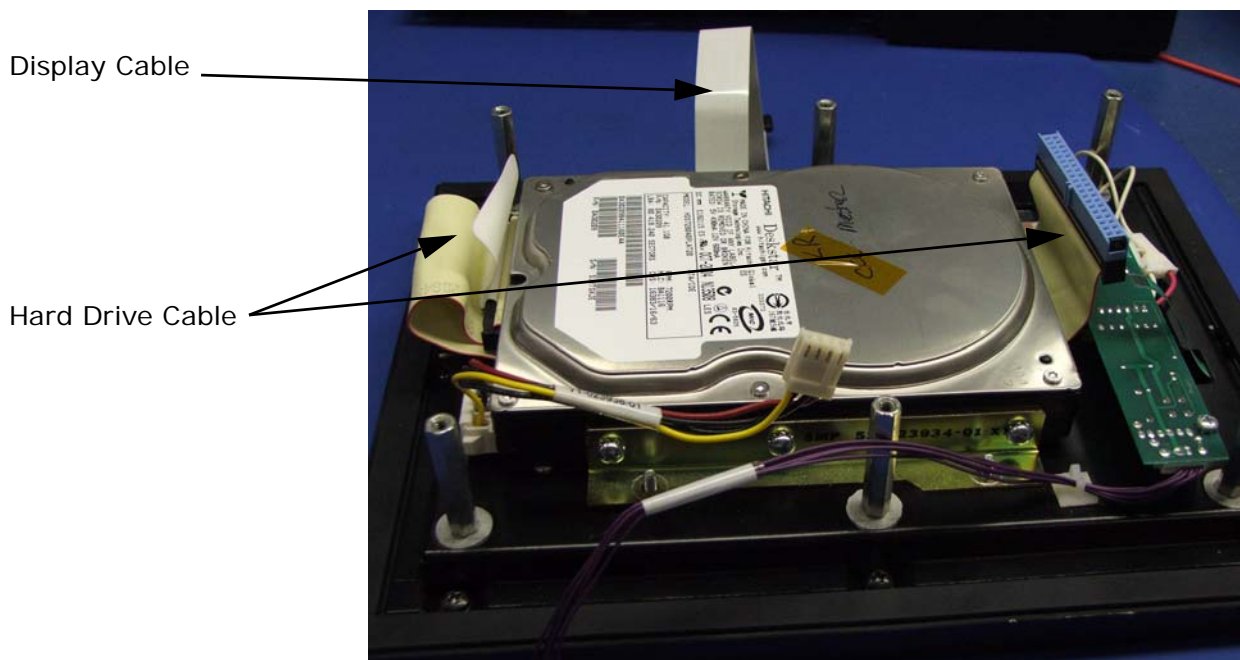


## Reassembling Your Unit

Follow the instructions below to reassemble your unit with the touchscreen replacement assembly.

- 1 Before setting the hard drive on the touchscreen, place the white, display cable through the notched cutout on the side of the hard drive.
- 2 Place the yellow, hard drive cable *underneath* the hard drive as shown in Figure 12.

**Figure 12: Placing the Hard Drive on the New Unit**



- 3 Replace the four nuts shown in Figure 11, on page 8, to connect the hard drive to the unit.
- 4 Connect the yellow, hard drive cable to the CPU board as shown in Figure 9, on page 7.
- 5 Connect the white, display cable and the purple, inverter cable to the CPU board as shown in Figure 8, on page 7.
- 6 Connect the yellow, black and white hard drive power cable to the CPU board as shown in Figure 7, on page 6.
- 7 Replace the six standoffs on the CPU board as shown in Figure 3, on page 3.
- 8 Connect the touchscreen tail on the right side of the CPU board as shown in Figure 2, on page 3.



**Caution:** Do not crease the touchscreen tail when inserting it into the CPU board connector. Use a pair of needle-nose pliers when inserting the touchscreen tail into the connector.

- 9 Replace the back cover by securing the screws removed in Step 3, on page 2.
- 10 Replace the compact flash, if applicable.
- 11 Power on the unit and calibrate the touchscreen, see *Calibrating the Touchscreen* below.

## Calibrating the Touchscreen

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After replacing the assembly, you need to calibrate the touchscreen. The EPX PowerStation uses the Hampshire TSHARC touchscreen driver for Windows XP Professional.

Follow the instructions below to calibrate your touchscreen:

- 1 Select **Start** → **Programs** → **Hampshire TSHARC Control Panel**. The control panel appears.
- 2 Follow the instructions on the screen for selecting which monitor to calibrate. Since you are only calibrating one monitor, select 1.
- 3 Select the Calibrate tab.
- 4 Click the center of where the arrows are pointing. The Calibration screen appears.
- 5 Touch the target where it appears on the screen, hold your finger there momentarily, and then release. The instructions on the screen guide you through the Touch - Hold - Release process.
- 6 Repeat the process three more times in the other three corners of the screen. A test screen appears.
- 7 Move your finger across the monitor. The target should move with your finger. If so, the calibration was successful.
- 8 Select Accept.
- 9 On the control panel, select Apply and then select OK.

If the touchscreen does not appear calibrated, and the cursor moves vertically when your finger moves horizontally on the screen or vice versa, the touchscreen cable may not be connected to the CPU board properly.