

# Service Manual

## ViewSonic VP2290B-2

Model No.VLCDS24728-2W

### *Digital LCD Display*

(VP2290b-2\_SM\_706 Rev. 1a Jun 2003)

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ViewSonic ® 381 Brea Canyon Road, Walnut, California 91789 USA - (800) 888-8583



**Assembly (Dis-Assy) Procedure**  
For  
**VIEWSONIC VP2290b MONITOR**

**1. Purpose**

The purpose of this procedure is to ensure that all Liquid Crystal Display (LCD) repair processes adhere to the specifications set forth in Incline's *LCD Repair Process Manual*, document number 11010.

**2. Scope:**

This document delineates the generic repair processes for flat panel display. Other processes not specifically mentioned in this procedure are subject to the processes and methods delineated in the *LCD Repair Process Manual* 11010.

**3. Responsibility:**

It is the responsibility of the Engineering Department to maintain this procedure.

**4. Reference Documents:**

LCD Test Process 11010  
Corrective Action Request (CAR) Form #11192  
Incline LCD Traveler Form No. 11043-001

**5. Tools Required:**

Philips screwdriver, #1  
Power screwdriver (adjustable torque)  
Tweezers  
Tube tool (Hose)  
Cotton gloves  
Protective mylar film ( 12.5" wide )  
Black ESD carrier ( 18" x 24" )  
Foam cushion for carrier (approx. 12" x 20" )  
Protective foam for workbench (approx. 12" x 20" )  
Large ESD workstation

**6. Areas Affected:**

Employ this procedure in all operational repair areas of Incline Corporation.

**7. Document Retention Period:**

Retain this document for 12 months after it has been declared obsolete.

# Assembly (Dis-Assy) Procedure

For

## VIEWSONIC VP2290b MONITOR

### 8. STANDARDS AND PRECAUTIONS

*LCD panels are very delicate electronic instruments and need to be handled with great care at all times during all phases of the repair process. Below is a list of some of the DOs and DON'Ts when handling LCD panels of any kind.*

#### 8.1 ESD

Before opening a LCD assembly, ensure that you are at an ESD compliant workstation with your ESD wrist strap attached. Wear gloves or finger cots to protect the LCD from fingerprints as much as possible. Keep the workstation free of debris.

#### 8.2 Contamination/Damage Avoidance

Avoid putting pressure on the plastic film covering the LCD as it can easily be damaged. Never allow the front or rear Polarizer to come into direct contact with the bench top or granite work area as this may scratch the Polarizer. Use a clean cloth to protect the surface of the LCD. Ensure that all screws are immediately placed in a container after removal from the LCD. Care should be taken with broken glass both for the safety of the operator and the LCD Polarizer. After a LCD with a broken glass panel or Backlight is discovered and processed, the workspace should be swept with a rag to remove any small bits of glass.

#### 8.3 Product Tracking

Incline has developed a custom MIS program known as FAST (Facility Automated Serial Tracking) to track and disposition all products. WIP (Work In Process) stations are located throughout the facility to allow for convenient access to FAST. Always fill out both the paper traveler and the WIP screen as accurately as possible. When moving the LCD between locations update the location on the WIP screen. Throughout this entire procedure, references are made to the LCD Matrix. The Matrix lists all of the specific tooling and setups required for each LCD. Key elements of the Matrix are also accessed through the WIP screen.

#### 8.4 Miscellaneous

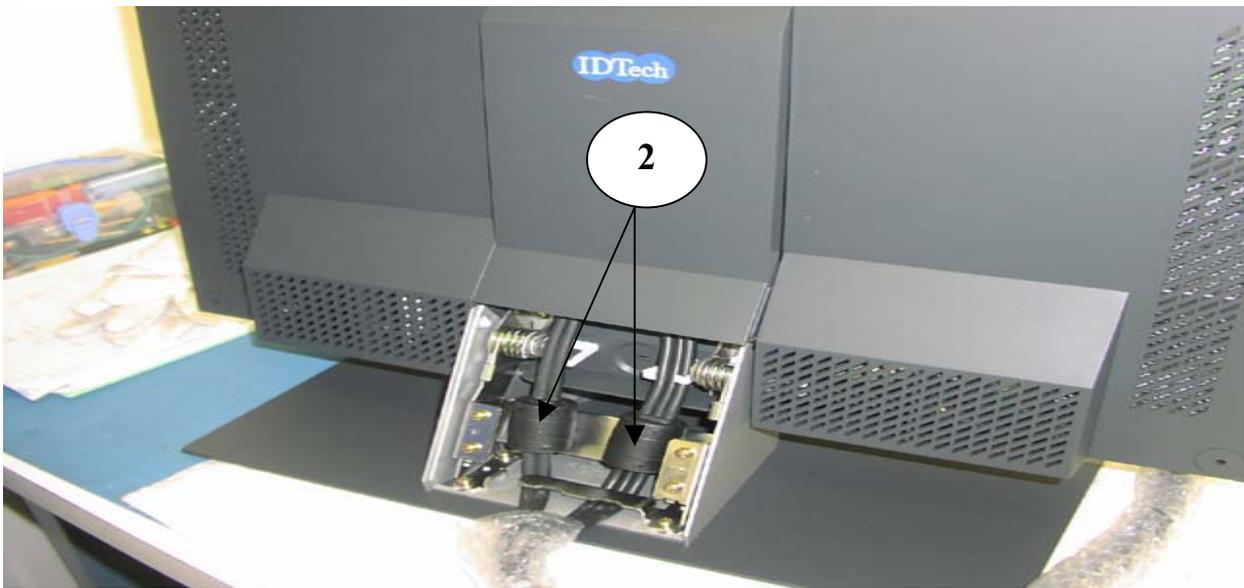
1. *Always use ESD protection devices, such as a grounded workstation and wrist strap, when handling LCD panels.*
2. *When handling LCDs where tabs are mounted to PCBs which flex and can potentially make contact with the polarized panel surfaces (both inside and outside polarizers) ensure that there is always a protective sheet between the PCB and the polarizer surfaces.*
3. *Always use an air gun to clear particles from illuminator surfaces. Never use a clean wipe. Do not touch the illuminator surfaces with your fingers; skin oils leave a mark that is very difficult to remove without damaging the illuminator.*

**Assembly (Dis-Assy) Procedure**  
For  
**VIEWSONIC VP2290b MONITOR**

**9. Procedure: *INSTRUCTIONS FOR DIS-ASSEMBLY***



Situate monitor on workbench in preparation for removal of two (2) rear panels (Item 1)



Disengage latch from bottom panel and remove panel to gain access to two (2) cables (Item 2).

**Assembly (Dis-Assy) Procedure**  
For  
**VIEWSONIC VP2290b MONITOR**

***DIS-ASSEMBLY***



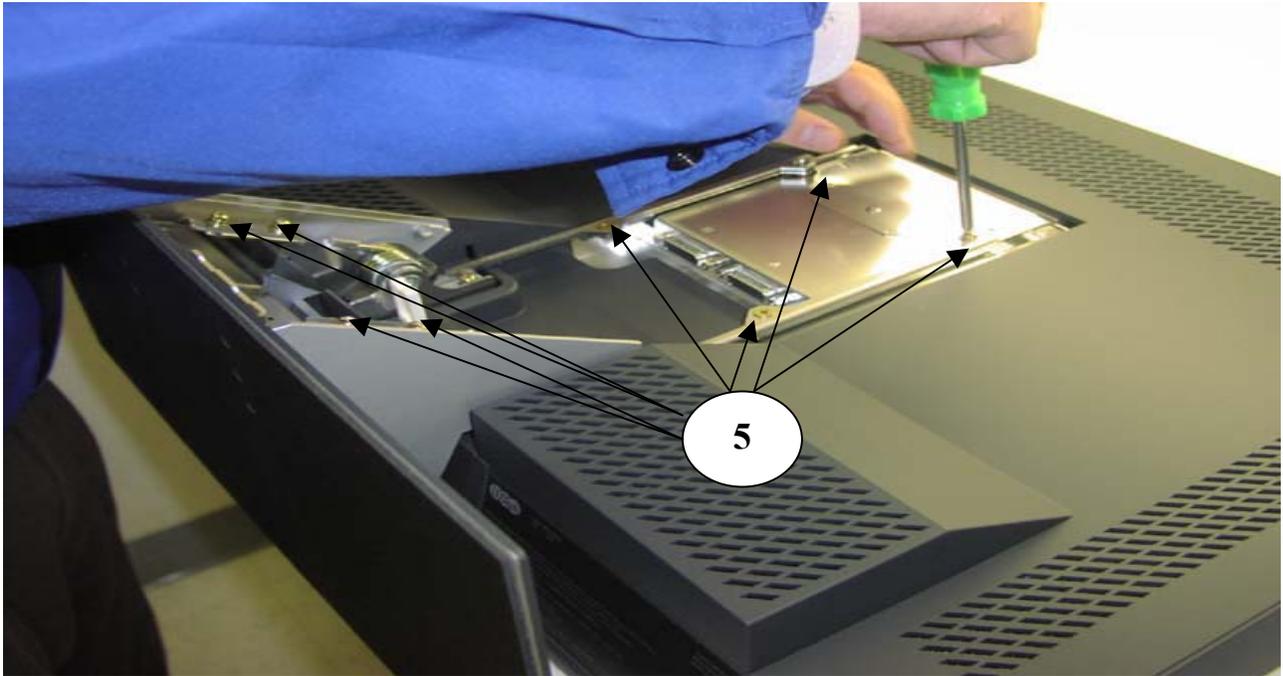
After second panel is removed, use a tube (Item 3) to loosen the four (4) connector mounting screws.



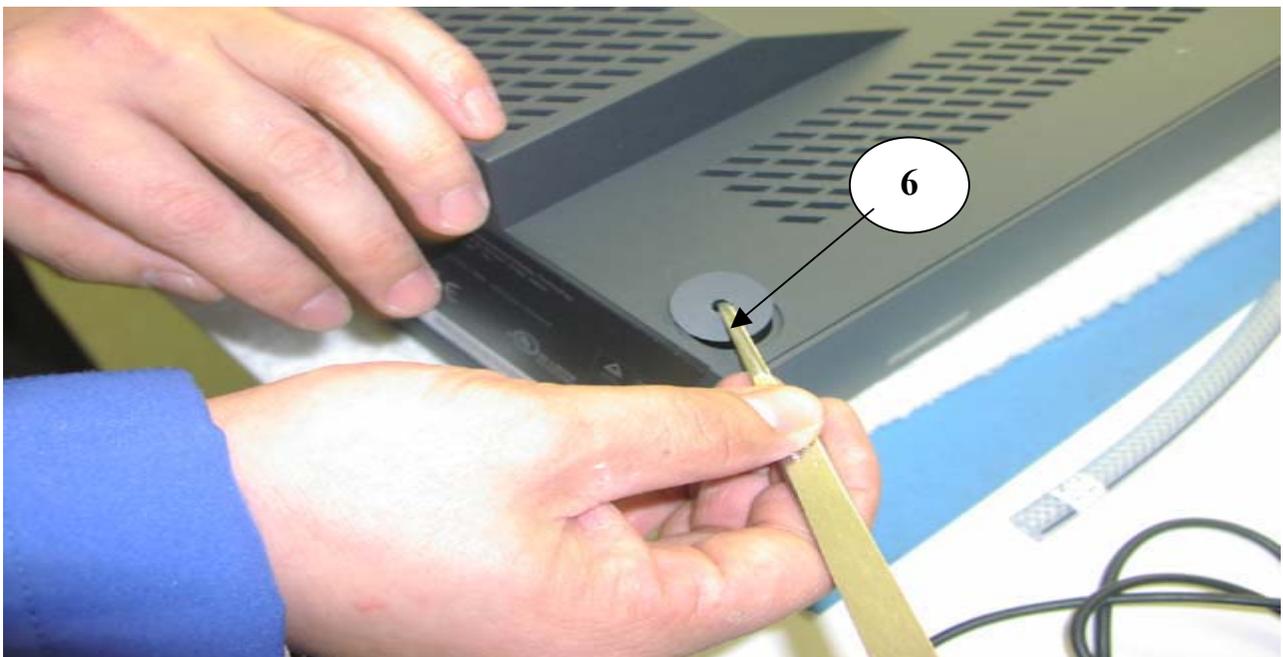
Once both cables are removed from the monitor, lay monitor on bench with screen surface down (protected by foam- Item 4) in preparation for removal of base (Item 4A).

**Assembly (Dis-Assy) Procedure**  
For  
**VIEWSONIC VP2290b MONITOR**

***DIS-ASSEMBLY***



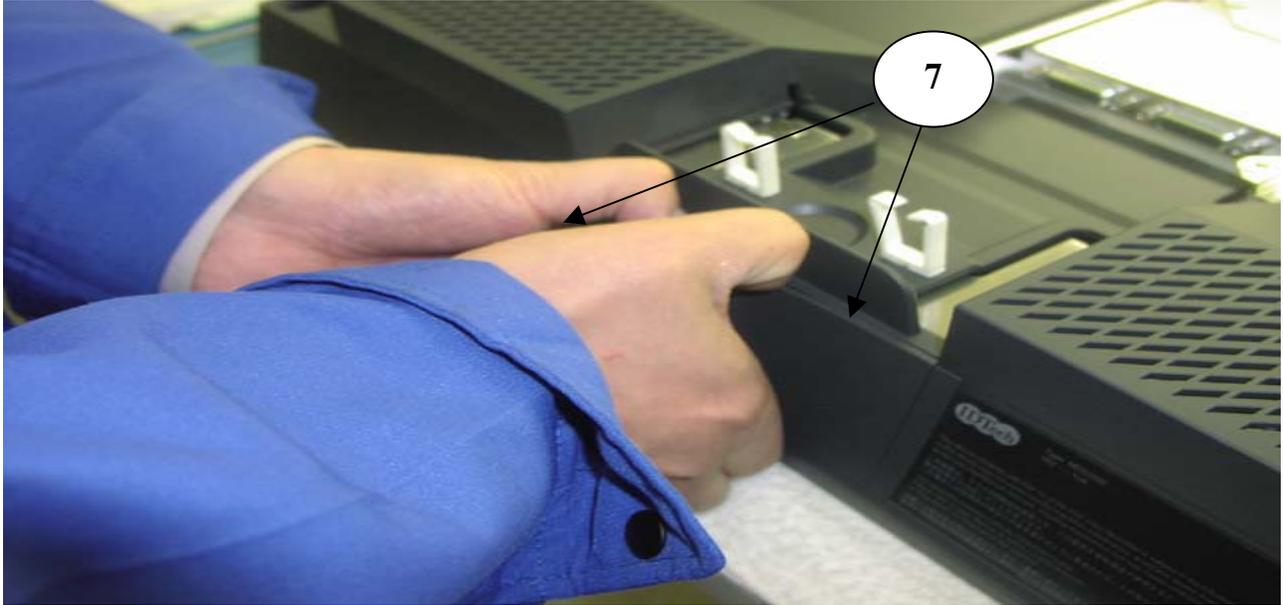
Remove eight (8) screws (Item 5) that secure monitor base. Lift and remove base from monitor.



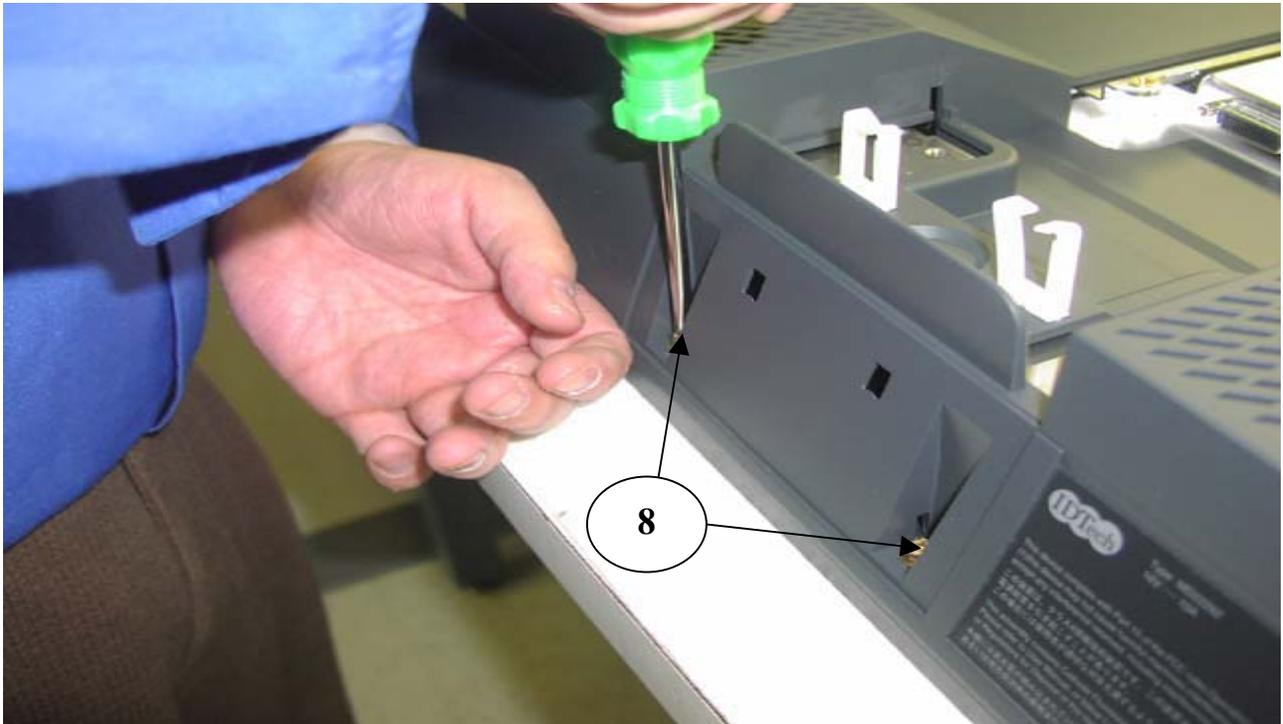
Using tweezers, remove screw covers (Item 6), a total of four (4), one in each corner. Proceed to remove four (4) screws.

**Assembly (Dis-Assy) Procedure**  
For  
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***DIS-ASSEMBLY***



Grasp and unsnap panel (Item 7) that is located on monitor bottom, beneath where base was previously located.



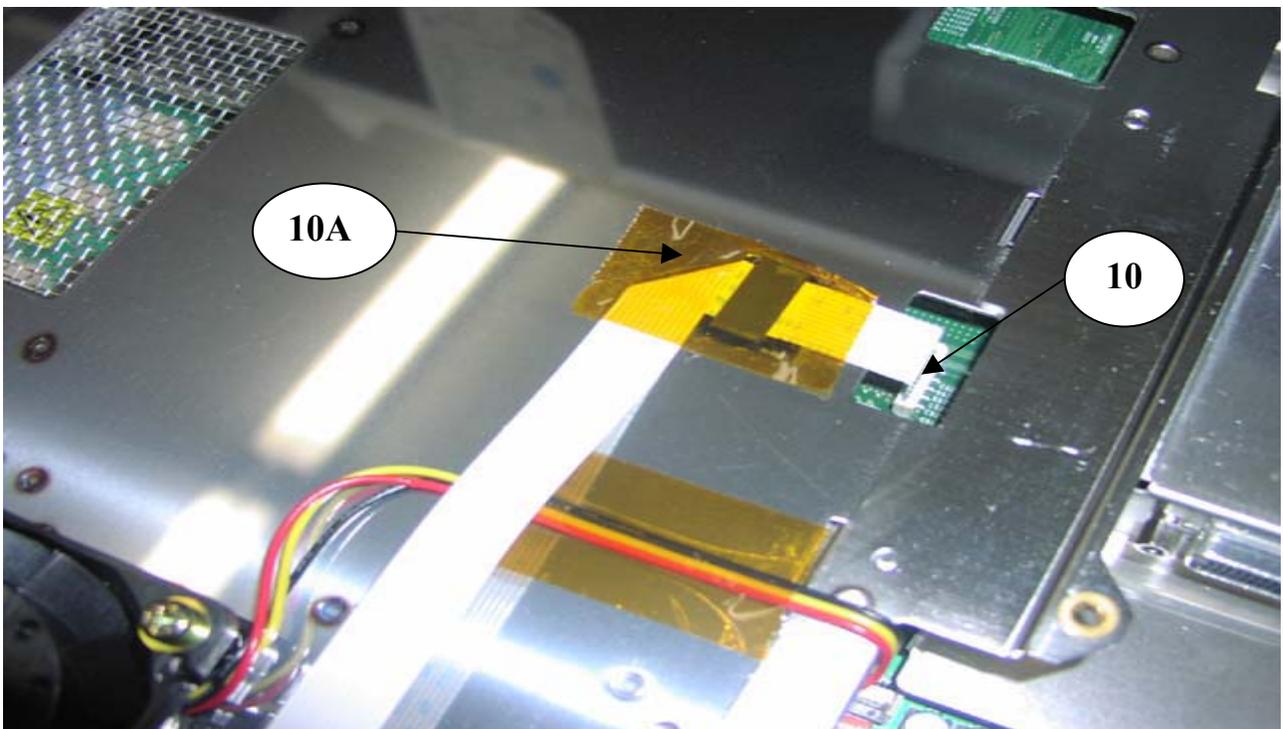
Remove two (2) screws (Item 8) that can now be accessed.

Assembly (Dis-Assy) Procedure  
For  
**VIEWSONIC VP2290b MONITOR**

*DIS-ASSEMBLY*



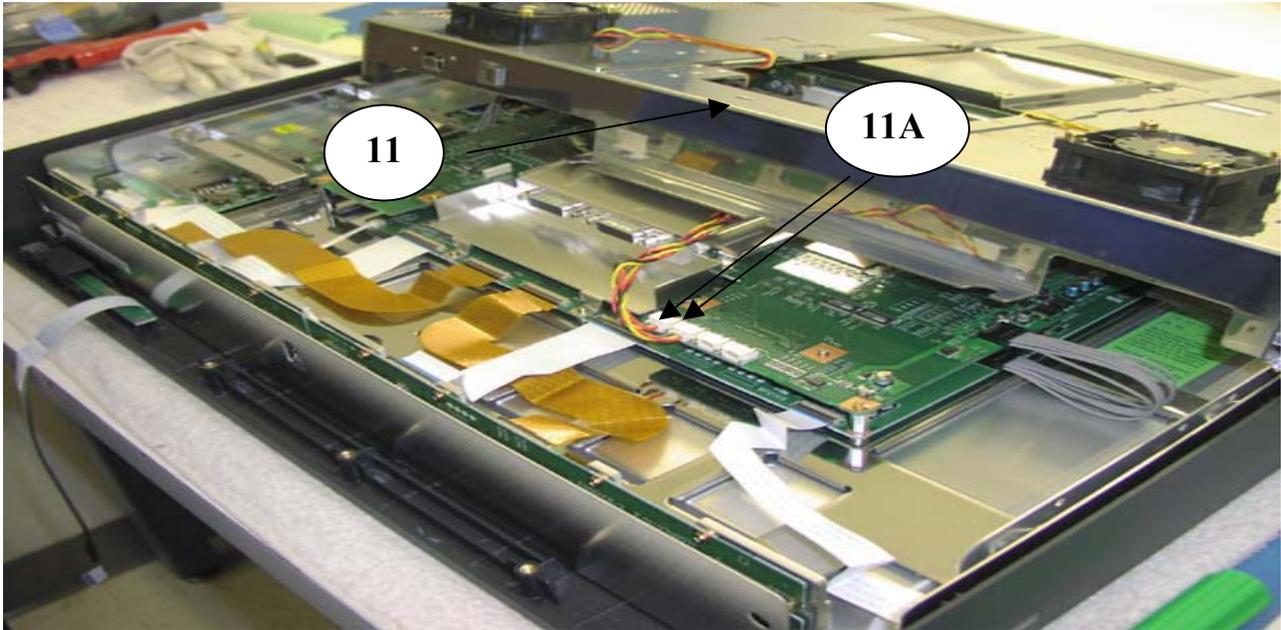
Grasp and unsnap rear housing (Item 9) by lifting until completely separated from monitor.



Remove ribbon cable from connector (Item 10). Peel back tape (Item 10A) to disengage cable from metal backbone.

**Assembly (Dis-Assy) Procedure**  
For  
**VIEWSONIC VP2290b MONITOR**

***DIS-ASSEMBLY***



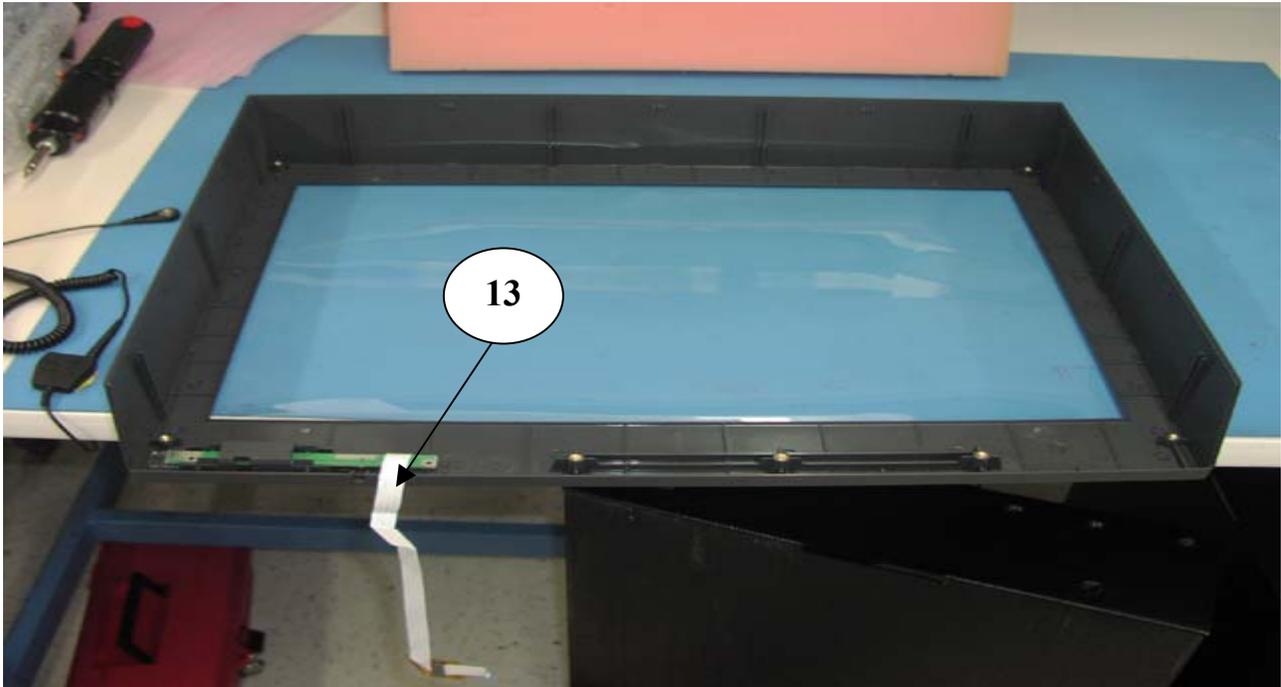
Lift metal backbone (Item 11) and slide toward top of module to enable access to the two (2) fan cables (Item 11A). Disconnect the two cables and note their corresponding mating connectors. Once cables are free, remove metal backbone completely from monitor.



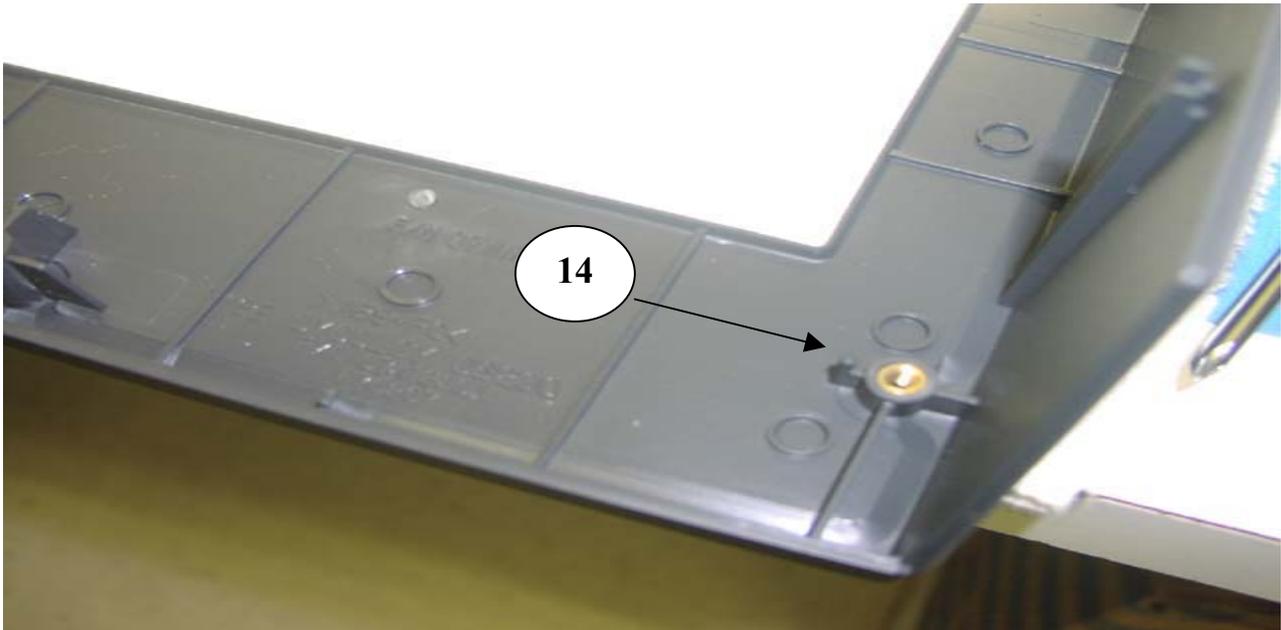
Lift and separate LCD module (Item 12) from monitor bezel (Item 12A).

Assembly (Dis-Assy) Procedure  
For  
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*DIS-ASSEMBLY*



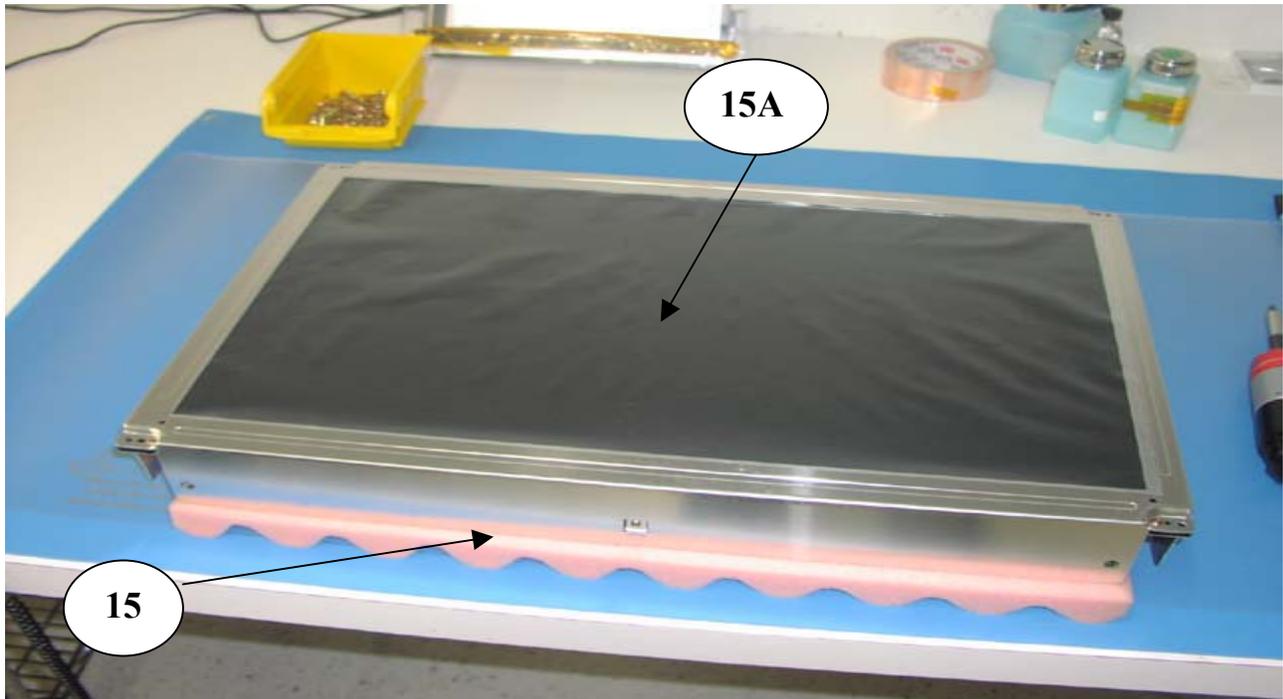
Lay bezel on bench to inspect for any damage; pay particular attention to function cable (Item 13).



Inspect four (4) guide pins in bezel (one pin in each corner- Item 14) for damage.

**Assembly (Dis-Assy) Procedure**  
For  
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***DIS-ASSEMBLY***



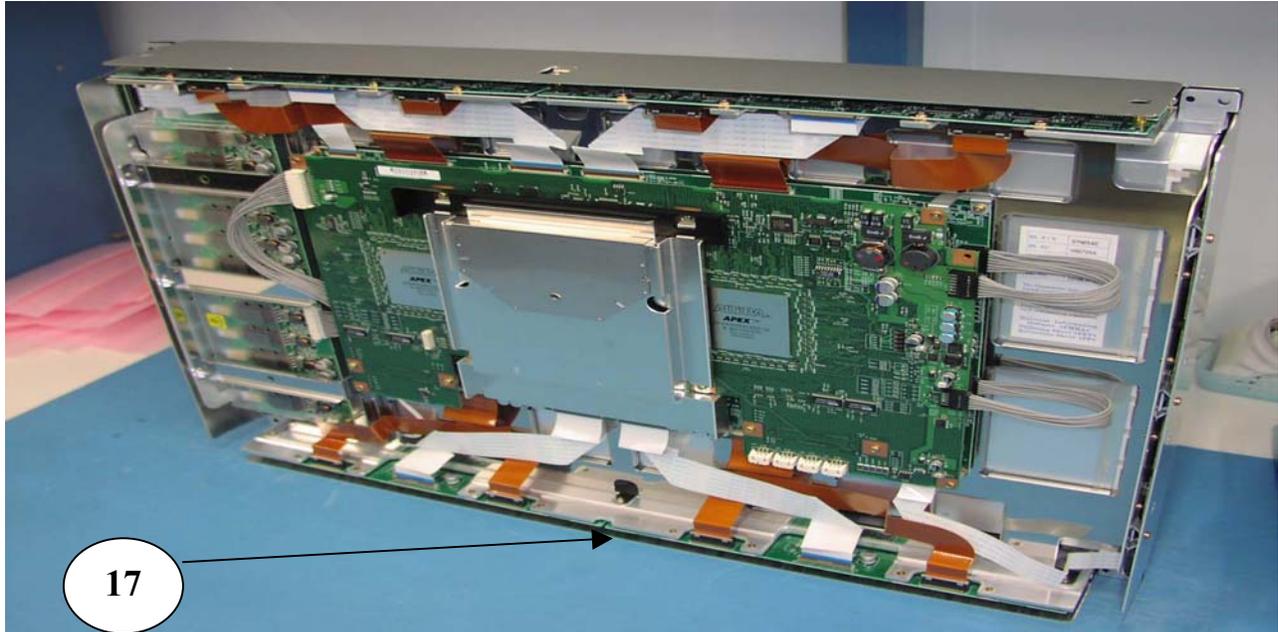
Situate LCD module onto foam cushion (Item 15) to protect underlying PCBs. Install protective mylar film onto front polarizer (Item 15A).



If LCD module (IPN F8991) is to be transported to another work area, use carrier (Item 16).  
If LCD module is to be disassembled at same work bench, refer to “Assembly (Dis-Assy) Procedure for VIEWSONIC F8991 MODULE” document.

**Assembly (Dis-Assy) Procedure**  
For  
**VIEWSONIC VP2290b MONITOR**

*INSTRUCTIONS FOR ASSEMBLY*



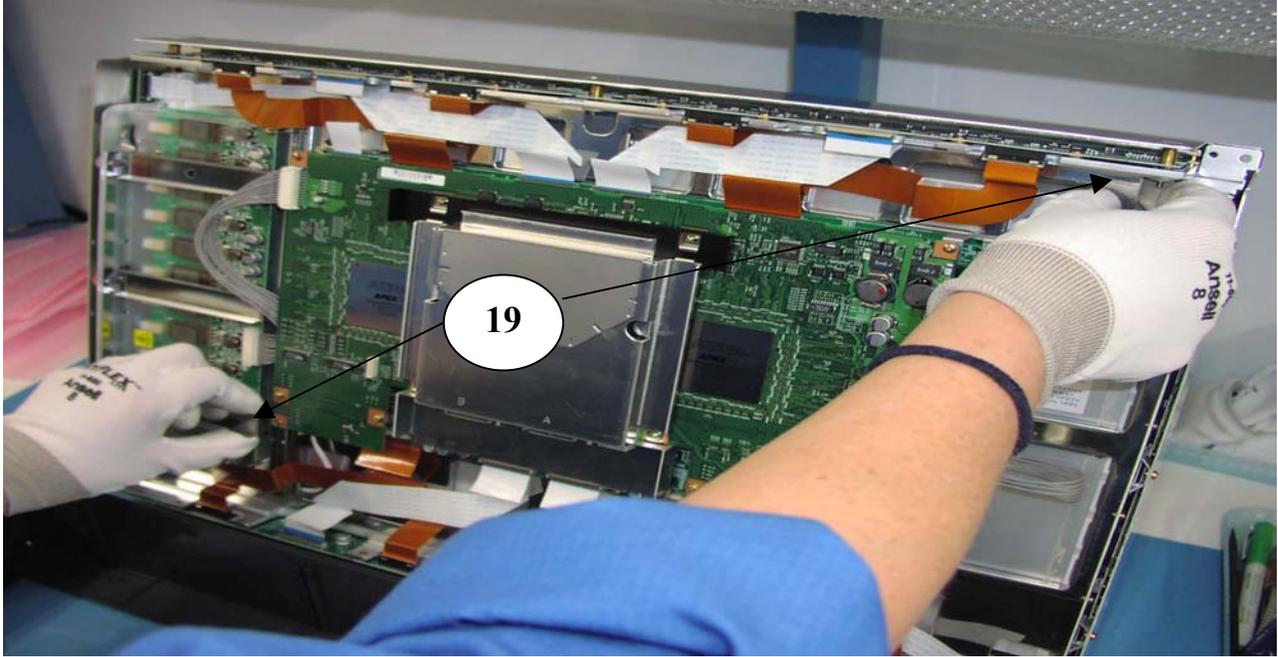
After removing mylar from front polarizer, situate panel assembly (IPN F8991) on edge (Item 17) in preparation for installation into bezel.



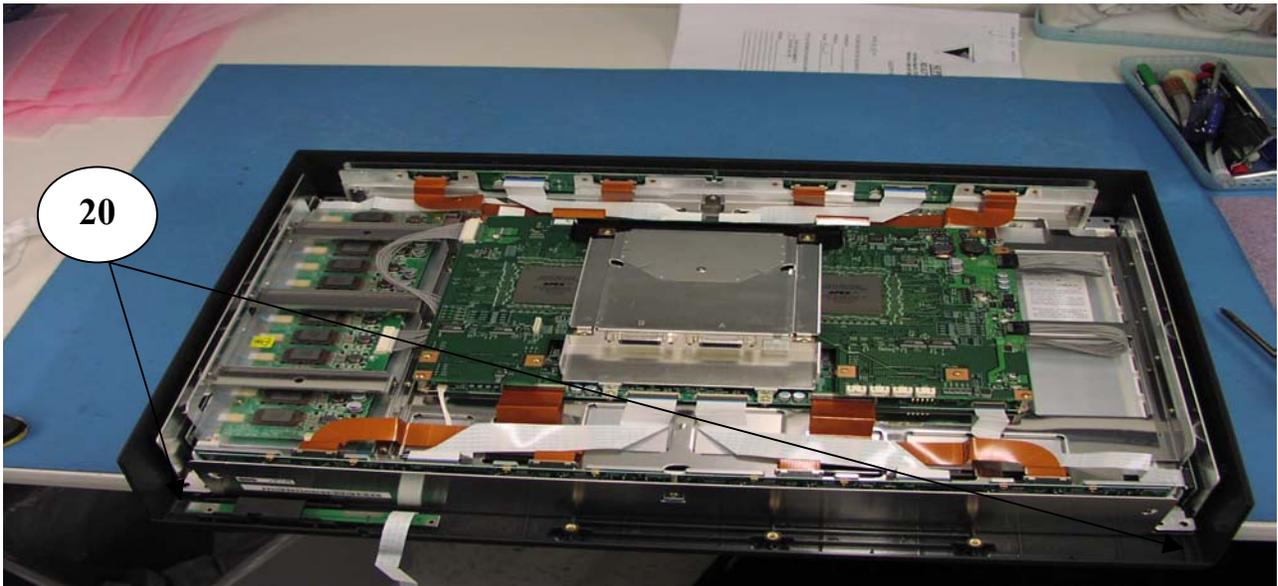
Situate bezel (Item 18) in front of panel. Place the bottom of bezel (with cable- Item 18A) off the table edge to protect the underlying function control buttons.

Assembly (Dis-Assy) Procedure  
For  
**VIEWSONIC VP2290b MONITOR**

*ASSEMBLY*



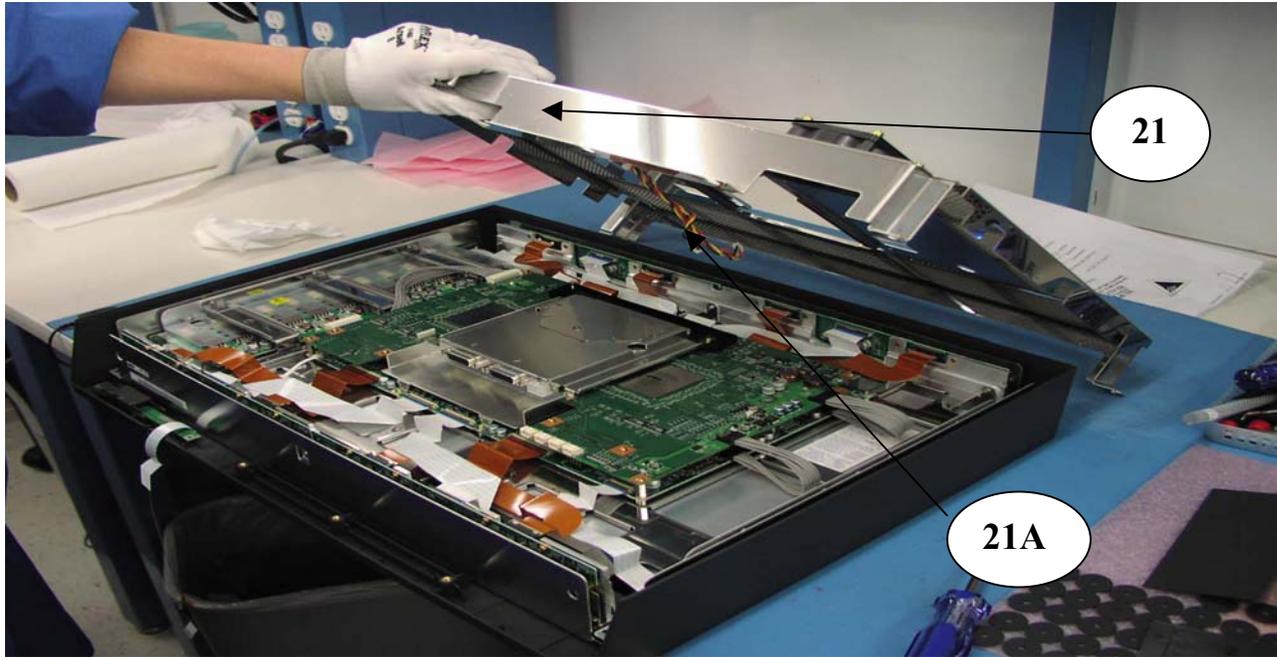
Grasp the panel by the metal arms (Item 19) in order to lift and position into bezel.



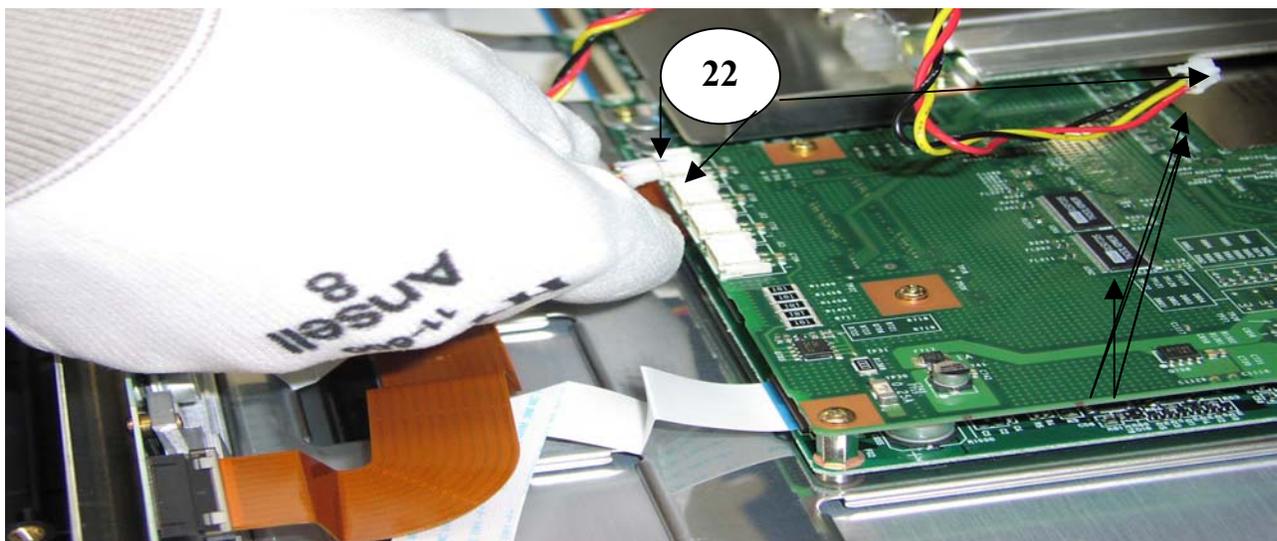
Carefully lower panel into bezel (Item 20), ensuring the panel drops into the bezel guide pins.

Assembly (Dis-Assy) Procedure  
For  
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*ASSEMBLY*



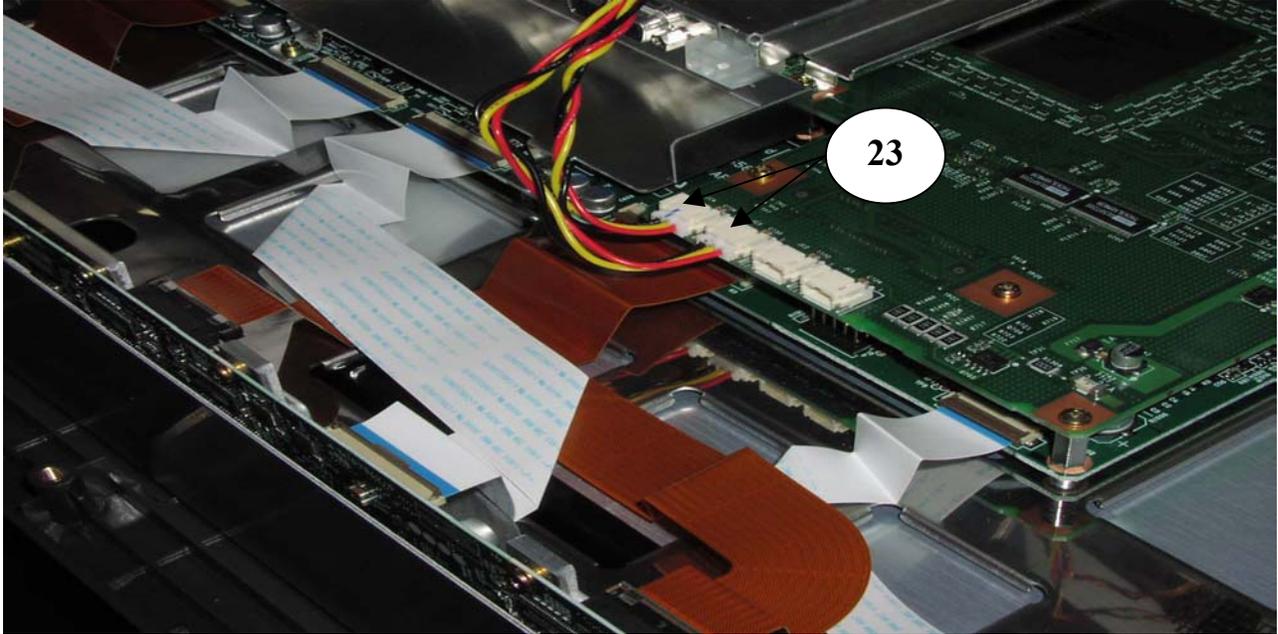
Situate metal backbone (Item 21) over panel and lower onto panel, enough to connect the two (2) fan cables (Item 21A).



Connect two (2) fan cables into the original connector mates on the PCB (Item 22). Do not mix.

Assembly (Dis-Assy) Procedure  
For  
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*ASSEMBLY*



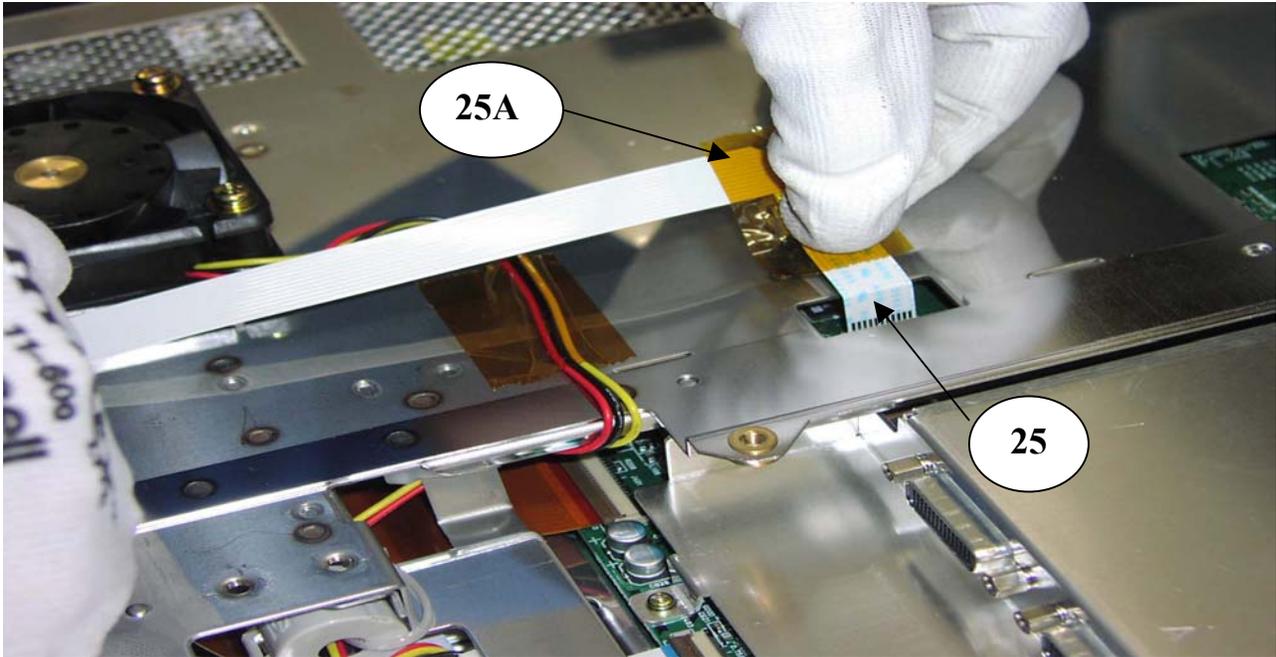
Ensure both fan cables are securely seated and in their original connector positions (Item 23).



Lower backbone fully into the bezel, ensuring backbone is properly seated (Item 24).

**Assembly (Dis-Assy) Procedure**  
For  
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*ASSEMBLY*



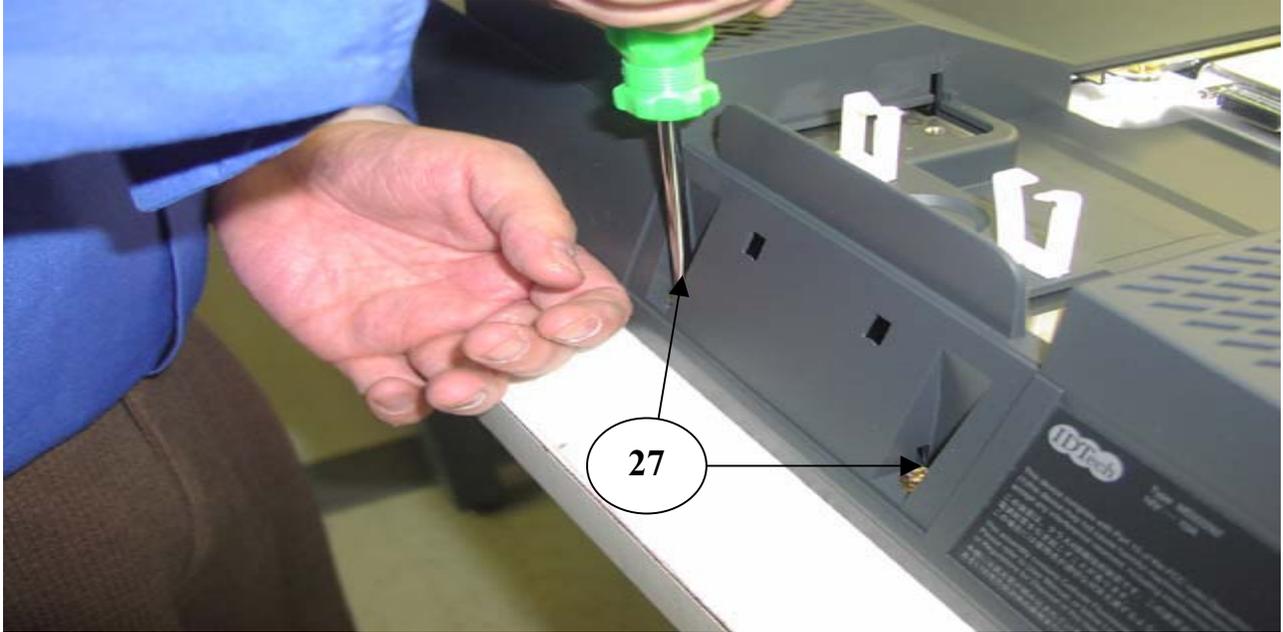
Insert control cable into connector (Item 25) and restick tape (Item 25A).



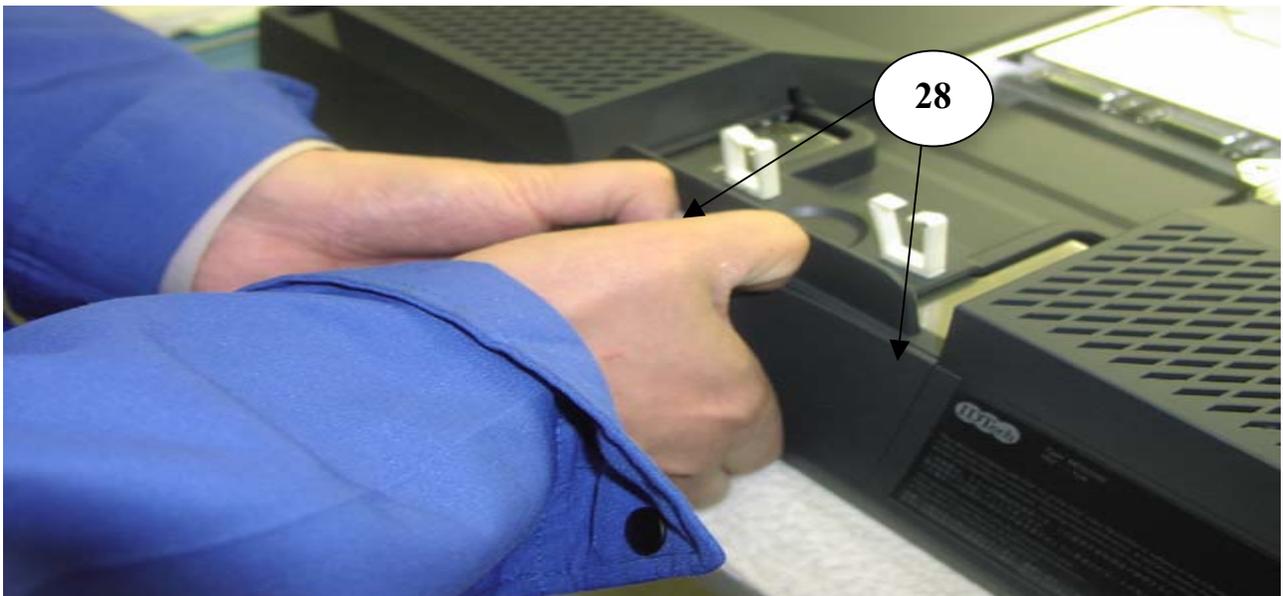
Place back cover (Item 26) onto panel assembly, ensuring cover is fully seated.

Assembly (Dis-Assy) Procedure  
For  
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*ASSEMBLY*



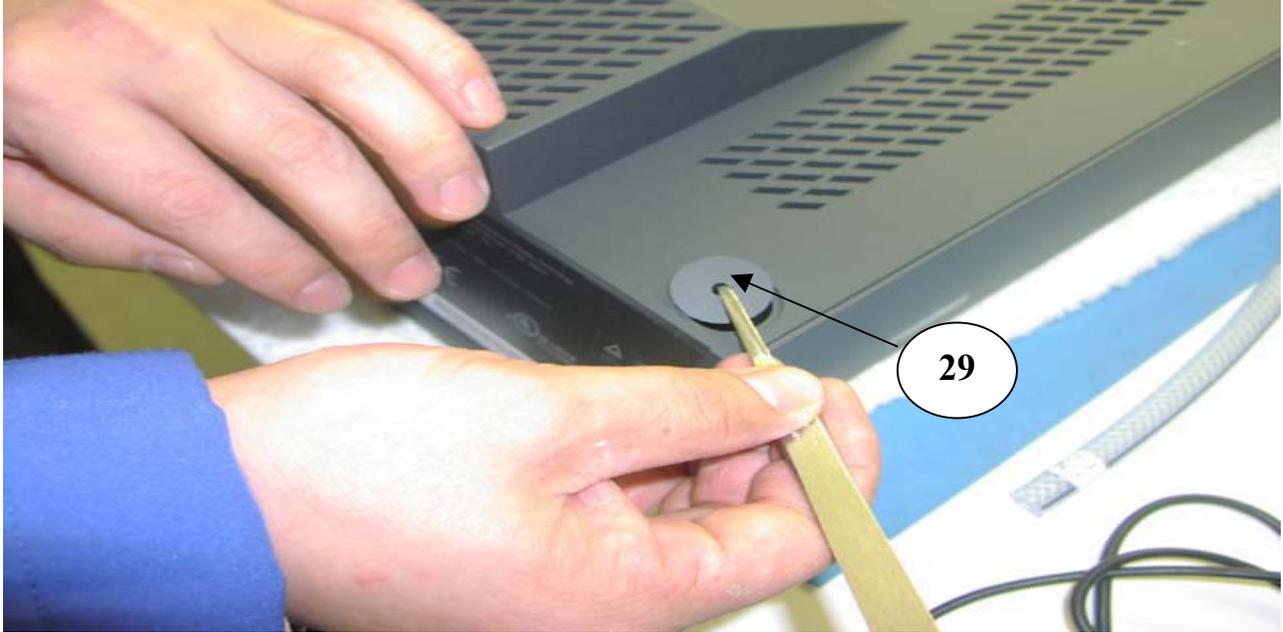
Insert two (2) screws (Item 27) into bottom of monitor.



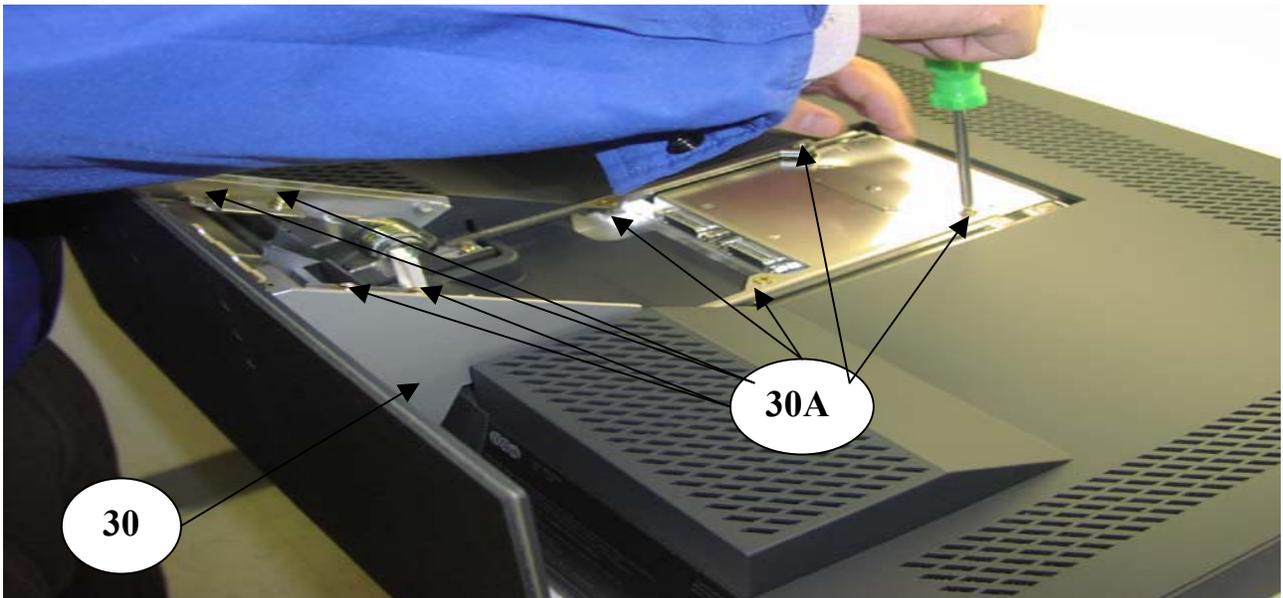
Grasp and install cover panel (Item 28) by snapping into position.

**Assembly (Dis-Assy) Procedure**  
For  
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**ASSEMBLY**



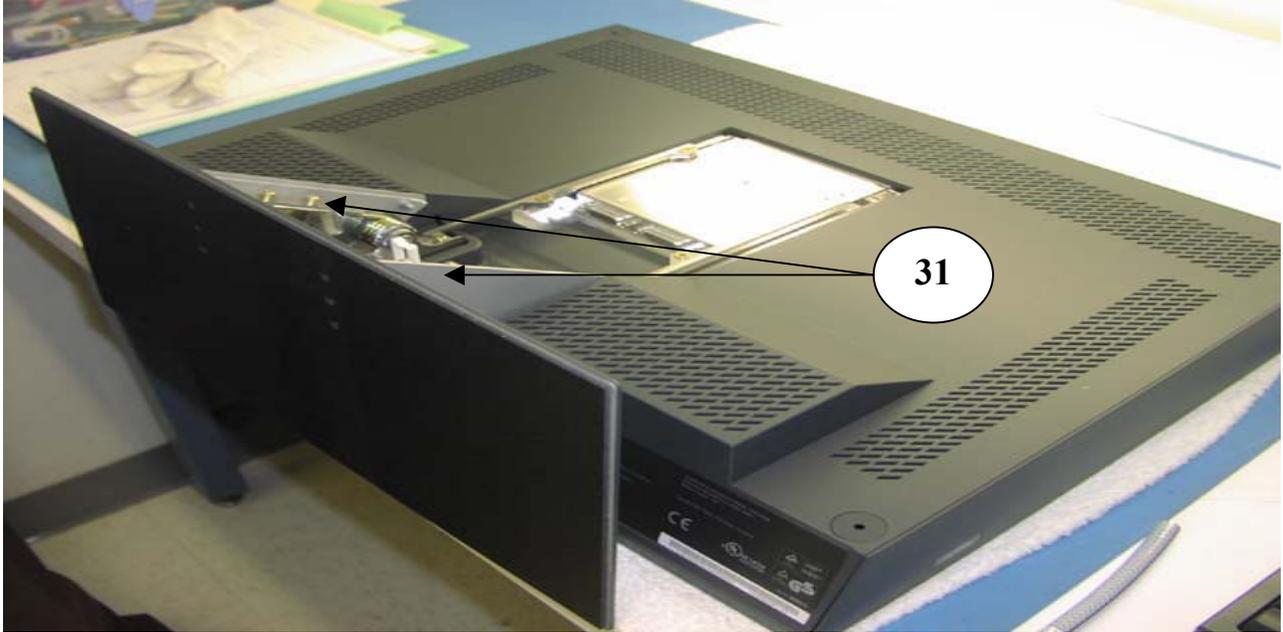
Insert four (4) screws into the rear cover, one in each corner. Replace screw covers (Item 29).



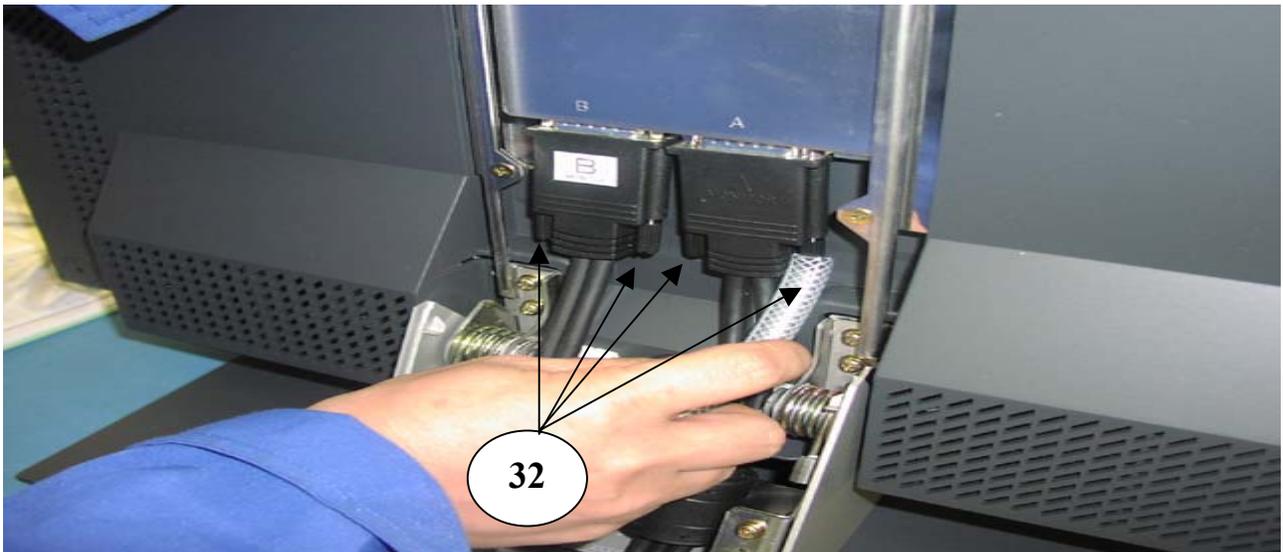
Place monitor base into position (Item 30) and insert eight (8) screws (Item 30A).

**Assembly (Dis-Assy) Procedure**  
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**ASSEMBLY**



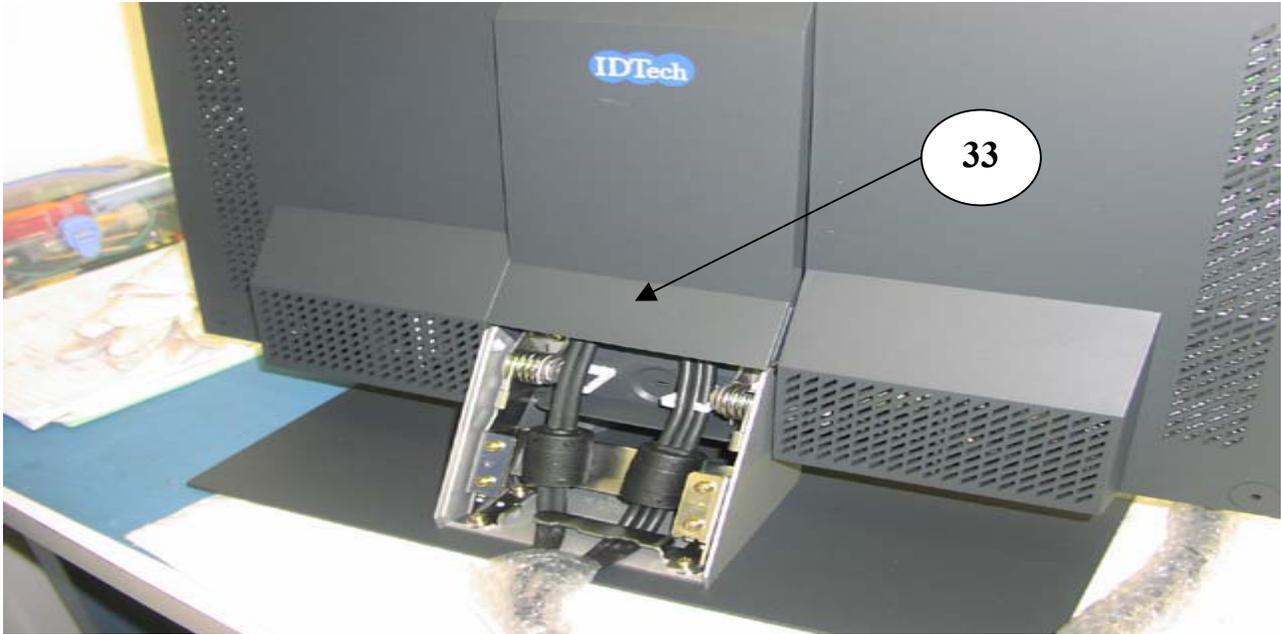
Ensure monitor base (Item 31) is secure before lifting monitor into upright position.



With monitor in upright position, connect two (2) interface cables and secure four (4) screws (Item 32) with the hose tool.

**Assembly (Dis-Assy) Procedure**  
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**VIEWSONIC VP2290b MONITOR**

**ASSEMBLY**



Install upper rear cover panel (Item 33) by snapping into position.



Install lower rear cover panel (Item 34) by snapping into position. Ensure interface cables routed through the opening (Item 34A). Monitor assembly is complete.

## *\*Reader's Response\**

Dear Readers:

Thank you in advance for your feedback on our Service Manual, which allows continuous improvement of our products. We would appreciate your completion of the Assessment Matrix below, for return to ViewSonic Corporation.

### Assessment

A. What do you think about the content after reading VP2290b-2 Service Manual?

<i>Unit</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
SPECIFICATION				
THEORY OF OPERATION				
TROUBLE SHOOTING FLOW CHART				
ADJUSTMENT				
EXPLODED VIEW AND MECHANICAL PARTS LIST				
ELECTRICAL PARTS LIST				
BLOCK DIAGRAM				
SCHEMATIC DIAGRAMS				
WIRING DIAGRAM				
PCB LAYOUT				

B. Are you satisfied with the VP2290b-2 service manual?

<i>Item</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any other opinion or suggestion about this service manual?

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