About Section 4

This section is a guide for disassembly and reassembly of the Atlas Monitor. Always refer to current revision schematics, diagrams and final safety test procedures before attempting to service this device.

Do not attempt to service this instrument unless you have received Service Training from Welch Allyn or an authorized Training Agent, and are equipped with approved processes and test equipment. For more information about training call the Welch Allyn Customer Service phone number listed in Section 1 of this manual.

General:
The outside housing is removable in order to provide full access to all internal printed circuit boards and other components. Most of these are held in position with the surrounding "E-Pac" foam. E-Pac foam provides shock absorption, ventilation channels, and spaces for the components and boards. Pneumatic tubing and cables must be placed correctly in E-Pac to avoid problems with pinched tubing.
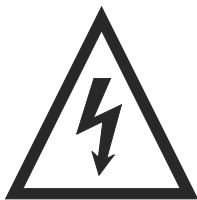
Problems During Service:
A Technical Support phone number is listed in Section 1 of this manual to answer questions you may have during the servicing of the Atlas Monitor.

Printer:
Print-head, printer motor, and printer roller can be replaced as necessary.

Printed Circuit Boards:
There are no component level repairs for the Printed Circuit Boards(PCB). These are replaced if found to be defective. During the warranty period, boards that are found to be defective should be returned to Welch Allyn.

Electrical Shock Hazard

CAUTION

EXERCISE EXTREME CAUTION WHEN SERVICING THE ATLAS MONITOR! THE CRT ASSEMBLY AND CRT DEFLECTION BOARD OPERATE ON APPROXIMATELY 8,000 VOLTS.

CRT:
The CRT and CRT Deflection Board are aligned at the factory and as such are replaced as a matched set if one or the other should fail in service.

! **ESD:** Circuit Boards are sensitive to static electricity. Use wrist straps, ESD mats and ESD storage bags.

Model 220 (623NP)

1. Battery Door Removal

Remove the two screws holding the battery door. Remove the battery door.

2. Battery Removal

Remove the battery connector from the main PCB. Remove battery.

3. Rear Housing Removal

3.1 Remove the four Torx head machine screws. Use a #10 Torx driver.

3.2 Pull the rear housing away from the front panel. Take special care not to damage any cables.

3.3 Flip the housing forward. Take special care not to damage any cables.

***NOTE:** Observe how hose fits in E-Pac Foam. The hose fits over wiring keeping wiring secure.*

4. Printer cable and Display Cable Removal

Remove both Printer and Display PCB cables from the Main PCB.

Printer Cable   Display PCB Cable
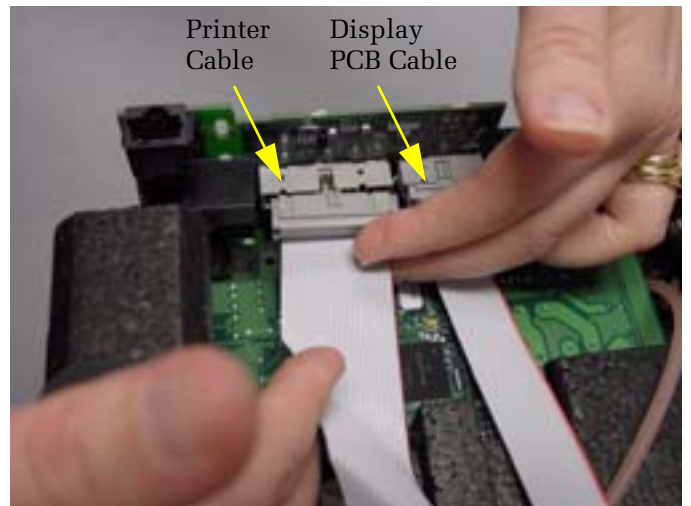
5. Power Supply Ground Wire Removal

Remove the two ground connectors from power supply chassis.

6. Tie Wrap Removal

Cut the tie wrap that secures the ground wires to the E-pac foam.
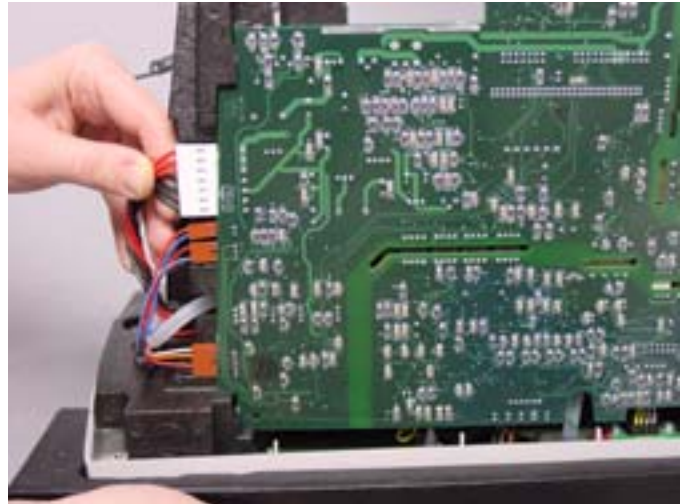

7. CPU Removal

Remove the CPU from the Main PCB.

8. Main PCB Removal

Use a tool T-16654 to pry the main Board away from the Deflection Board. Pull the E-pac tab to the right as you pry. Support the Main PCB while titling it away.
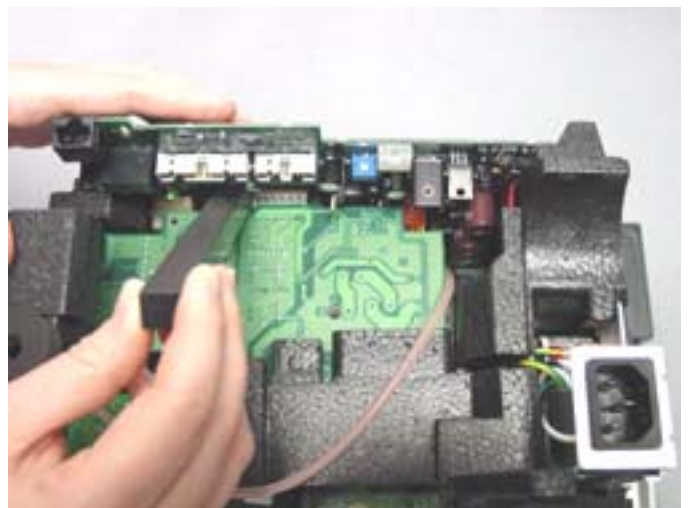
9. Main PCB Side Connector Removal.

Remove the four connectors(power supply, fan, speakers, BP pump) from the side of the main PCB.

10. Main PCB Hose and Wire Removal.

Disconnect hoses and connectors. BP hose, ecg cable, temp cable (modles 622 and 623 only, SpO_2 cable, CO_2 cable (model 623 only)and ground wire (Nelcor SpO_2 only) from main PCB.

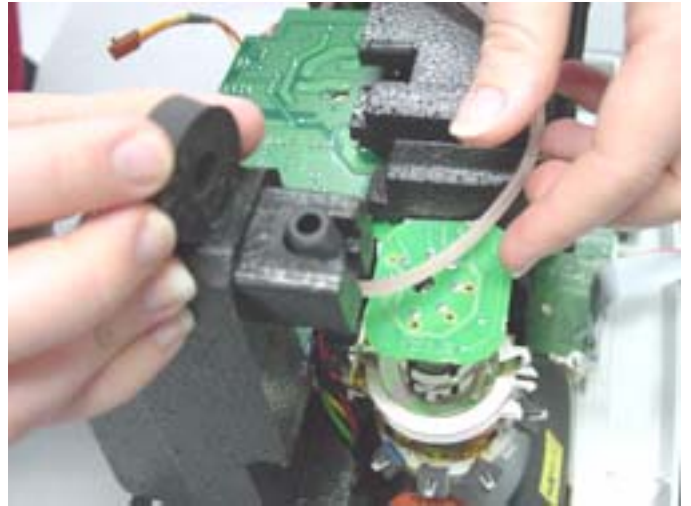*NOTE: Notice how hoses and connectors fit on Main PCB.*
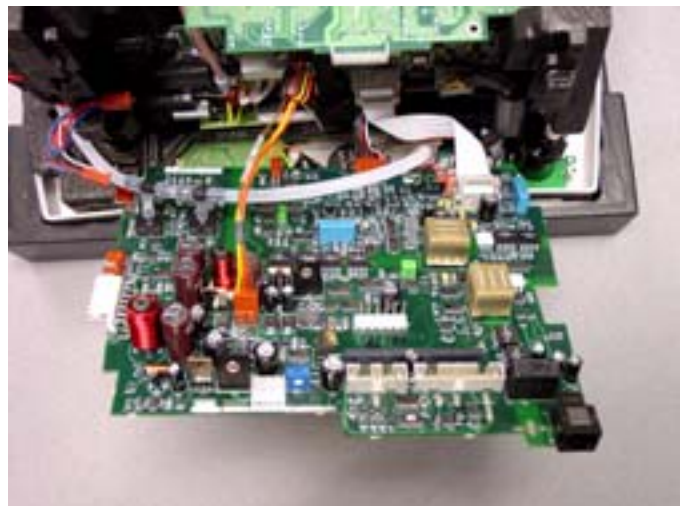
11. Pump Removal.

Remove the pump assembly from the E-Pac foam.

NOTE: Notice how pump fits in E-Pac Foam and how wires are routed out of pump.
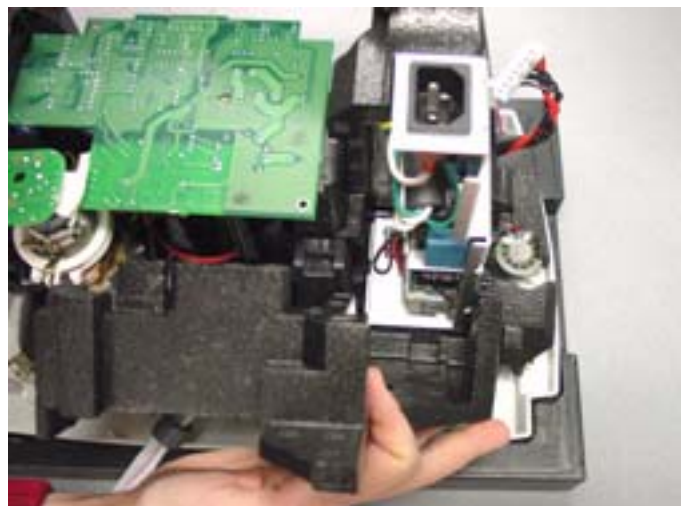
12. CO$_2$ Exhaust Removal.

Remove the CO$_2$ exhaust cover and remove the CO$_2$ connector from the E-Pac foam.

13. Pryon PCB Removal.

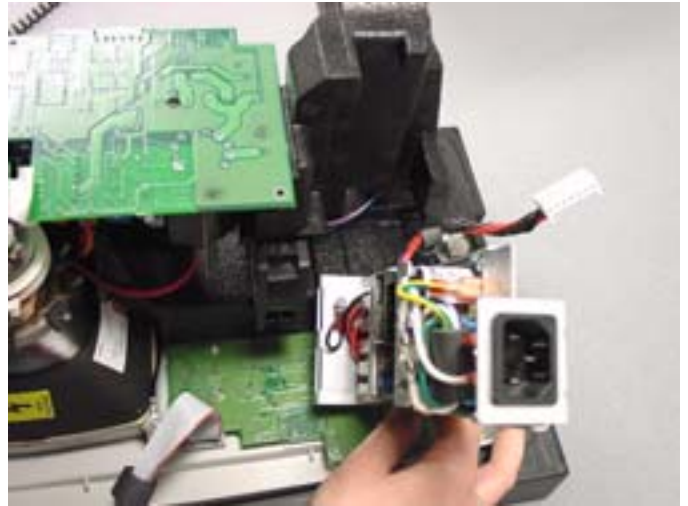Remove connectors from Pryon PCB. Pull Pryon PCB from E-Pac foam.
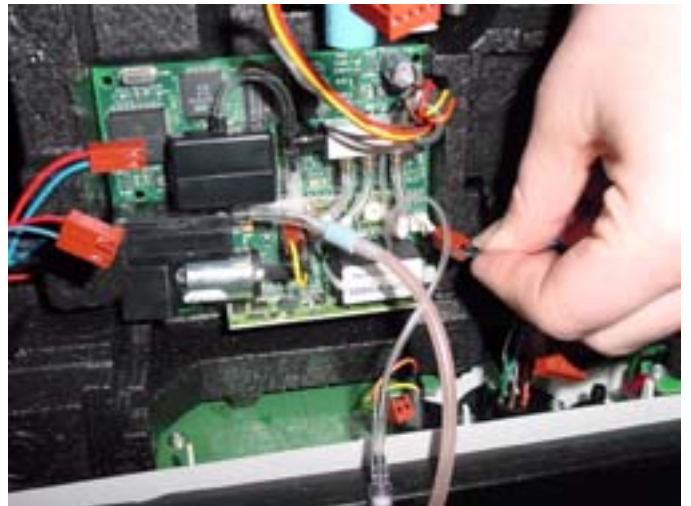
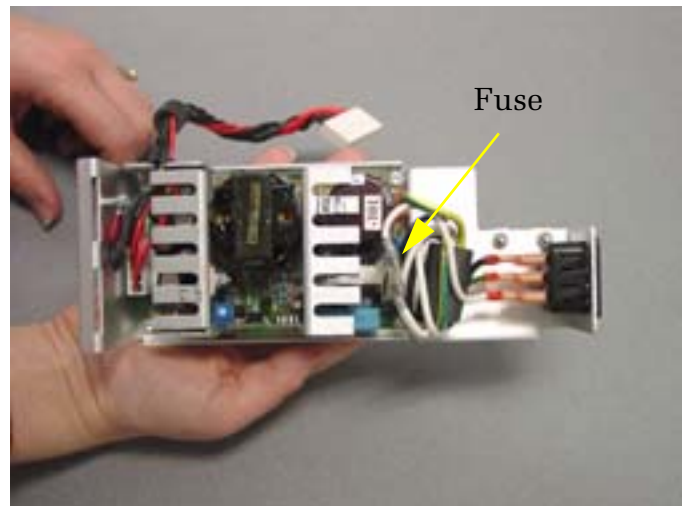## 14. E-Pac Foam Removal (Top).

Remove the top E-Pac foam.

15. Power Supply Removal.
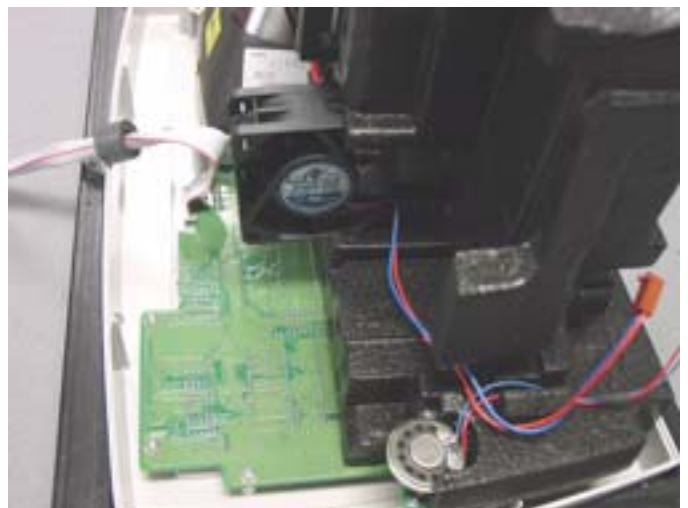
Slide the power supply out from the E-Pac Foam.

16. Power Supply Fuse Location

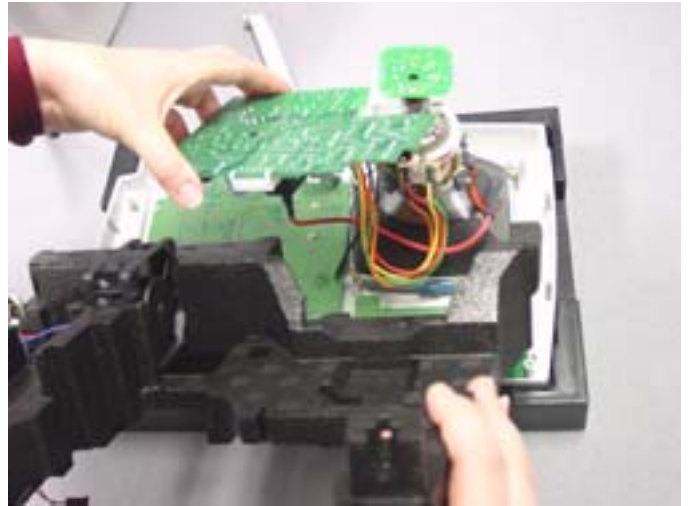*NOTE: Notice power supply and power supply fuse location.*

Fuse

17. Fan Removal

Slide fan out from E-Pac foam.

18. E-Pac Removal (Lower)

Remove lower E-Pac foam from unit.
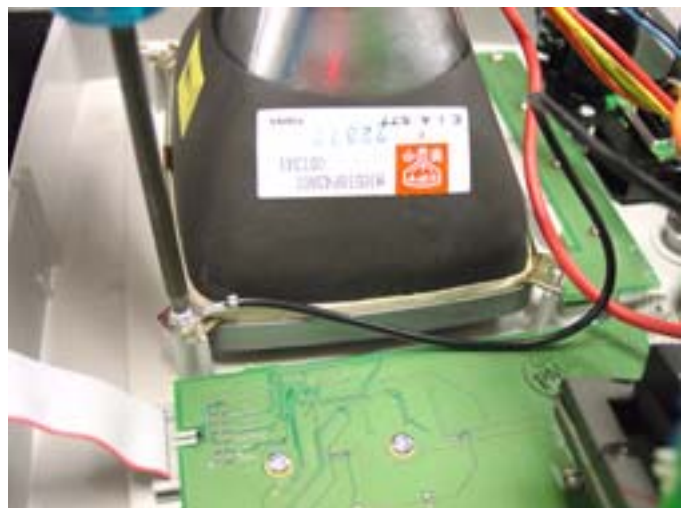
19. Deflection PCB Removal

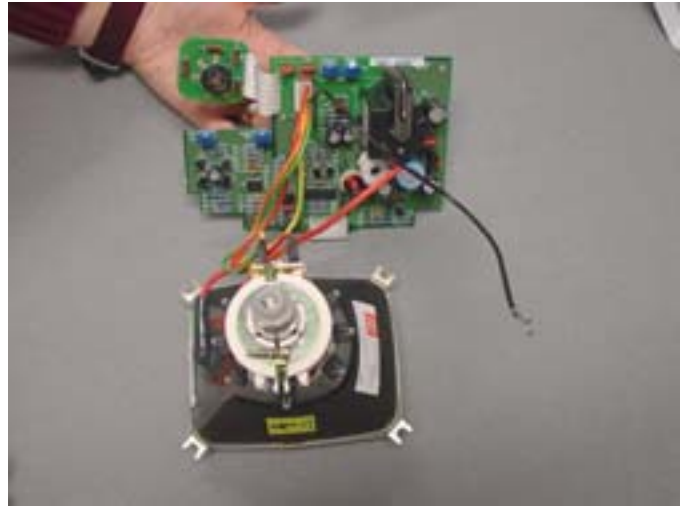Carefully remove the small deflection PCB from the CRT.

20. CRT Removal

Remove the two machine screws holding CRT to the front panel.

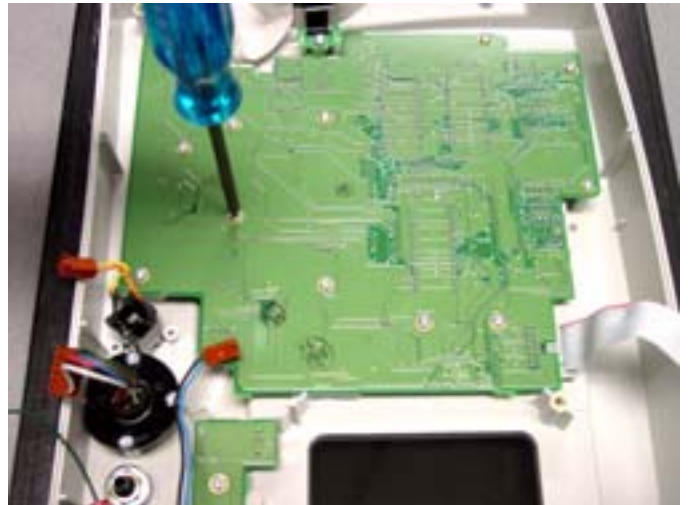***NOTE: Notice how the ground wire is attached and is located along the side of CRT.***

NOTE: *The CRT and deflection PCB are factory tuned as a unit and are sold only together as a unit.*

21. Display PCB Removal

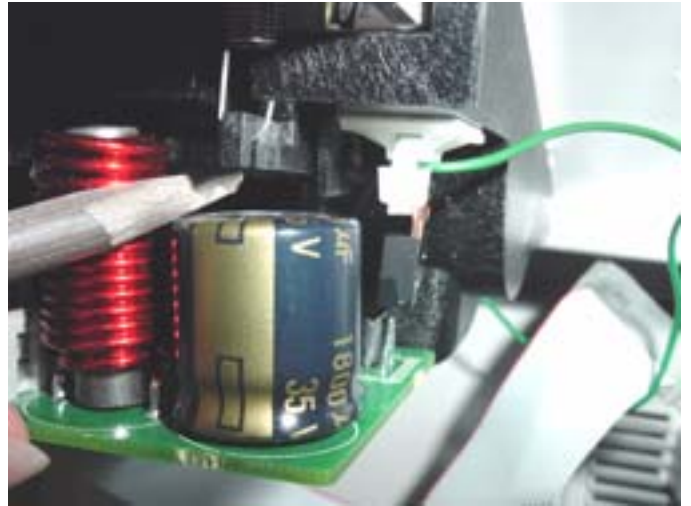Remove all 9 self tapping screws that hold the Display PCB to the Bezel.

NOTE: *Notice the correct orientation of CRT screw and washer.*

22. Printer Door Button Removal

Use a small screwdriver to push the door
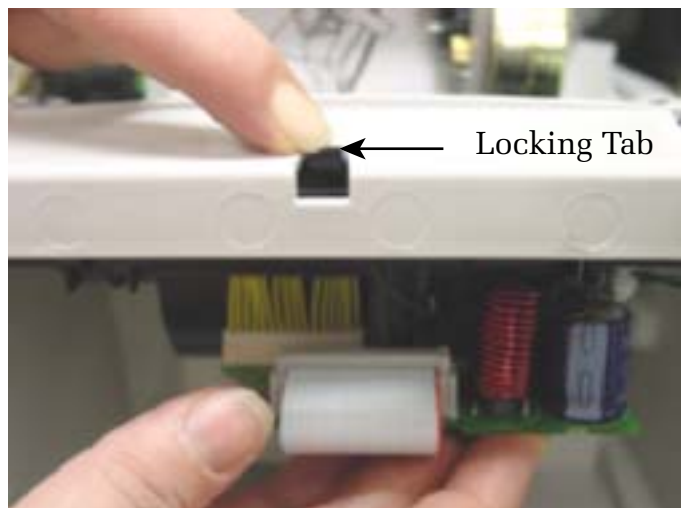button tab up and away from the pin that
locks it onto the printer frame.

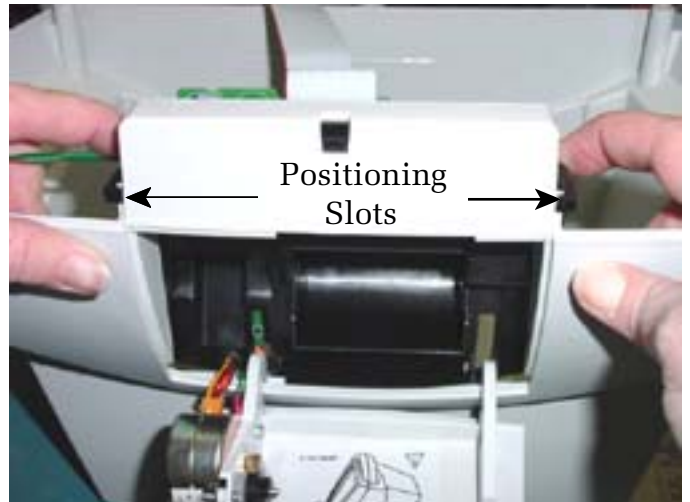*NOTE: Notice how the printer button is
being removed.*

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23. Printer Assembly Locking Tab Release.

Pull the locking tab down and towards the
front of the rear housing assembly.

Locking Tab

24. Printer Positioning Slot Removal

Make sure printer door is open. Begin to pull the positioning slots towards the front of the rear housing and then out from the rear housing.

25. Printer Assembly Removal.

After printer positioning slots have cleared the front rear housing, pull the printer down and out of the rear housing.

26. Printer Lip Assembly.

Observe how the printer assembly fits into the lip of the rear housing.

27. Printer Cable Routing.

Observe how the printer cable lies over the
printer PCB.