



Apple 3.5 Drive

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## Specifications

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Apple 3.5 Drive





## Performance

### **Recording Media**

Disk diameter: 3.5 in.

Recording surfaces: 2

Tracks per in.: 80

### **Drive Speed**

Seek time (track-to-track): 6 ms maximum

Settle time: 30 ms maximum

Drive startup time: 600 ms maximum

### **Head Position Accuracy**

$\pm 0.035$  mm





## Capacity

### **Formatted Data Capacity**

800K

Disks used in the Apple 3.5 Drive should contain certified double-sided media.

### **Unformatted Data Capacity**

1,246K





# Interfaces

## Interfaces

Direct disk-drive port connection to the following computers:

- Macintosh 512K enhanced, with ROM upgrade
- Macintosh Plus
- Macintosh SE and SE/30
- Macintosh Classic, Classic II, and Performa 200
- Macintosh Portable
- Macintosh IIsi
- Macintosh IIcx and IIci
- Apple IIGS
- Apple IIe and IIe Plus
- Apple IIc

With the Apple IIGS, one additional drive can be daisy-chained.





## Environmental

### **Operating Temperature**

40-122°F (5-50°C)

### **Storage Temperature**

-40 to 140°F (-40° to 60°C) with no condensation

### **Relative Humidity**

5-90% (maximum wet bulb temperature of 85°F [29°C] and no condensation)





## Electrical

### Volts

+12 V

Standby: 10  $\mu$ A

Typical: 120 mA

Peak: 600 mA

(During eject only: 2-second maximum duration)

+5 V

Standby: 10 mA

Typical: 360 mA





## Physical

### Size

Height: 2.01 in. (51 mm)

Width: 4.72 in. (120 mm)

Depth: 7.87 in. (200 mm)

### Weight

2.8 lb. (1.3 kg)





# Troubleshooting

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## Apple 3.5 Drive





## General

The Symptom Charts included in this chapter will help you diagnose specific symptoms related to your product. Because cures are listed on the charts in the order of most likely solution, try the first cure first. Verify whether or not the product continues to exhibit the symptom. If the symptom persists, try the next cure. (Note: If you have replaced a module, reinstall the original module before you proceed to the next cure.)

If you are not sure what the problem is, or if the Symptom Charts do not resolve the problem, refer to the Flowchart for the product family.

For additional assistance, contact Apple Technical Support.





# Symptom Charts

## Miscellaneous

Drive does not come on; LED flashes once or does not light

- 1 If Apple 3.5 Drive 800K mechanical assembly is being used in Macintosh internal drive, verify that logic board-to-drive cable is yellow, not red.
- 2 Replace drive mechanism.
- 3 Replace external drive cable.
- 4 Replace LED assembly.

Drive reads but does not write

- 1 Replace drive mechanism.
- 2 Replace external drive cable.

Drive does not read, but LED comes on

- 1 Check software.
- 2 Replace drive mechanism.





## Miscellaneous (Continued)

Drive does not eject disk	<ol style="list-style-type: none"><li>1 Replace drive mechanism.</li><li>2 Replace eject switch cable assembly.</li></ol>
Drive functions, but LED does not light	<ol style="list-style-type: none"><li>1 Replace LED assembly.</li><li>2 Replace drive mechanism.</li></ol>
Drive ejects known-good system disks, but reads/writes after booting from another disk	<ol style="list-style-type: none"><li>1 Replace disk.</li><li>2 Replace disk cable.</li><li>3 Replace mechanical assembly.</li></ol>
Drive reads and writes, but does not eject	Replace mechanical assembly.





## Miscellaneous (Continued)

Internal 3.5-inch drive on Macintosh Plus ejects continuously

Verify that cable has yellow stripe, not red stripe.

When one or more Apple 3.5 drives are daisy-chained to a DuoDisk or to one or more UniDisk 5.25 drives, the drive(s) suddenly start to spin and can no longer be accessed by the Apple IIGS

Check part number on gate array component on daisy chain interface board. If part number indicates Revision A board (CXD1085A), replace board with Revision B board (CXD1085B).





Take Apart  

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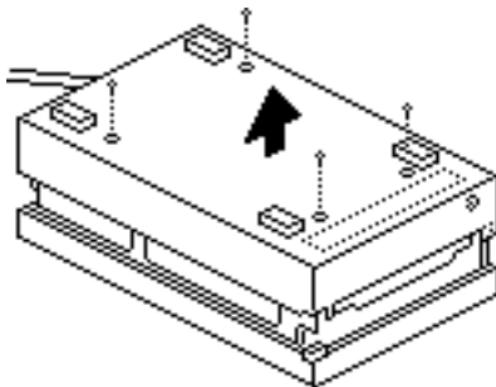
Apple 3.5 Drive





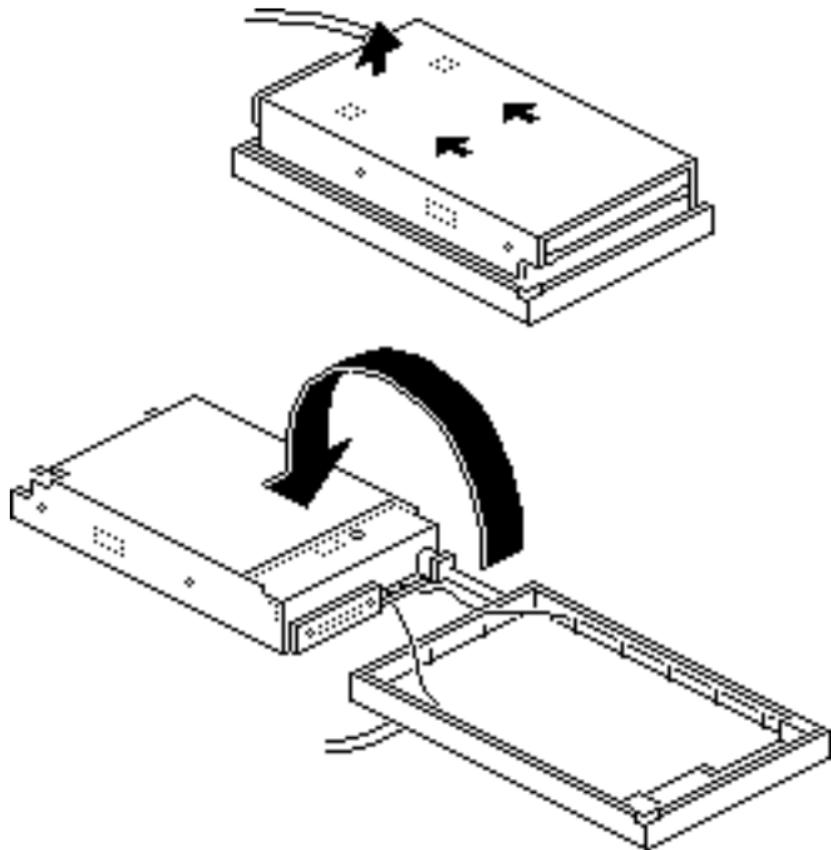
## Top & Bottom Cover

No preliminary steps are required before you begin this procedure.



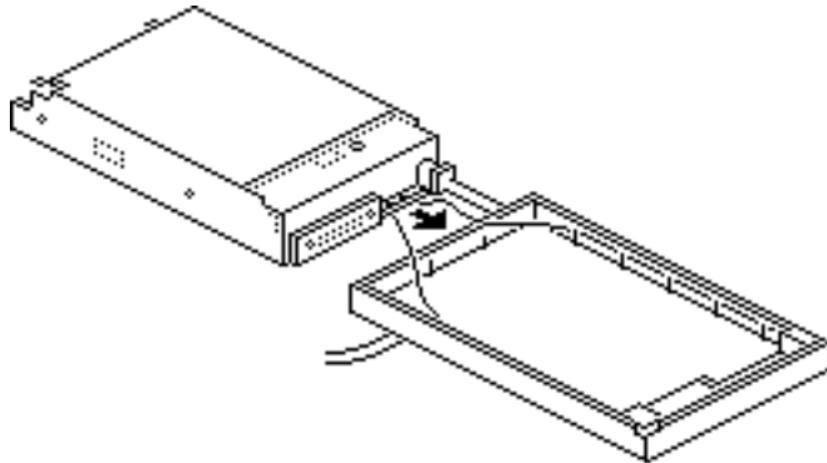
- 1 Remove the four screws from the case bottom and pull the bottom cover off the drive.
- 2 Pull the cable anchor free of the tab on the top case.



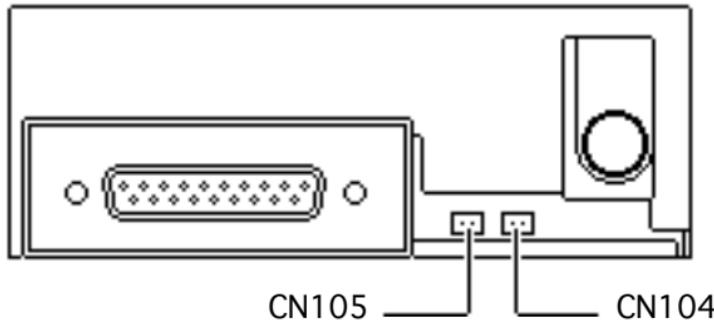


- 3 Grip the case top in one hand and the drive assembly in the other. Slide the drive assembly as far as it will go to the cable end of the case top.
- 4 Lift the drive assembly out of the case top. Flip the drive assembly over. The drive assembly and the case top will be end to end.





- 5 Disconnect the following cable connectors using needlenose pliers:
- LED cable from drive assembly connector CN104
  - Eject  $\Sigma\Sigma$  button cable from drive assembly connector CN105

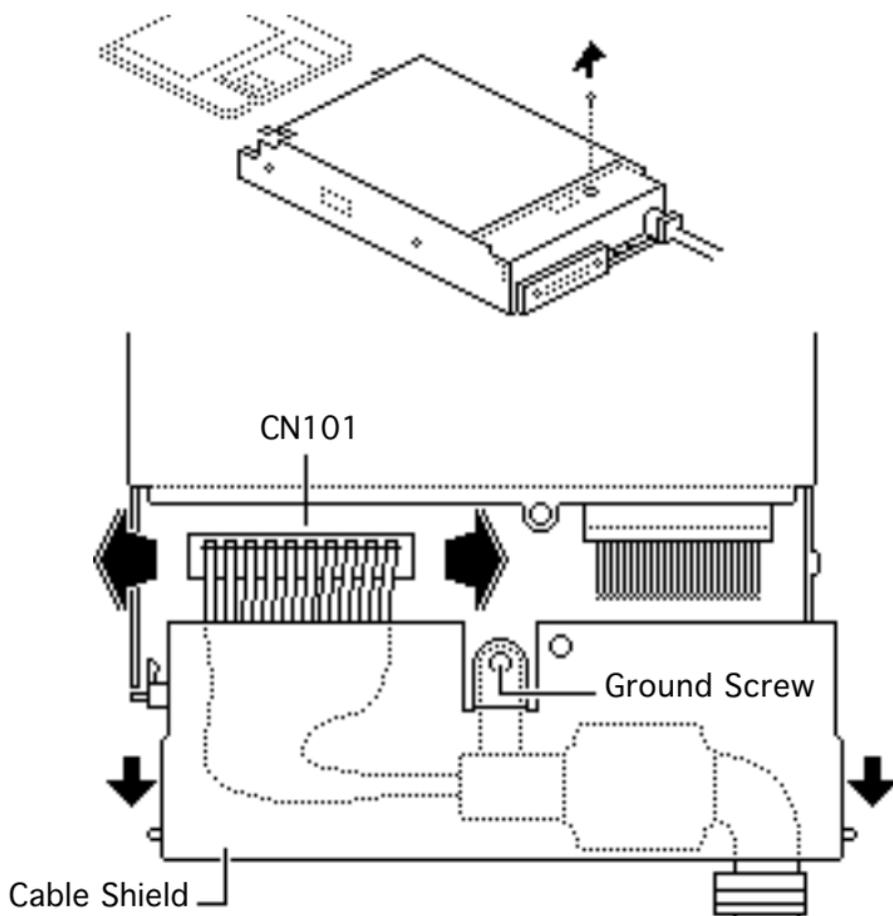




## External Cable & Shield

Before you begin, remove top and bottom cover.

- 1 Remove the mounting screw from the external drive shield.
- 2 Gently pull back the external drive cable shield and disconnect the external drive cable from drive assembly connector CN101.





**Note:** If you are replacing the shield or the external drive cable, first separate them by removing the ground screw.



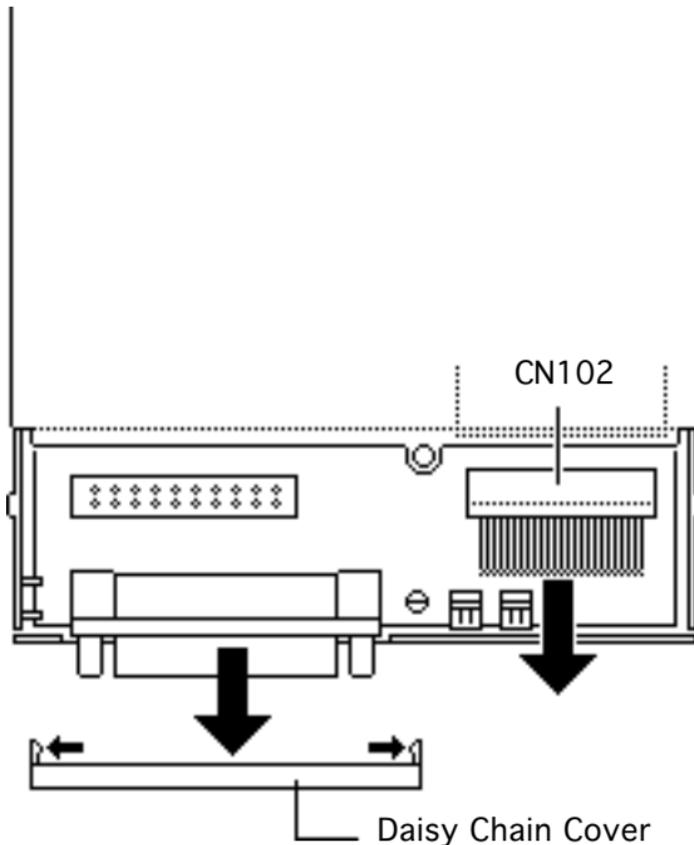


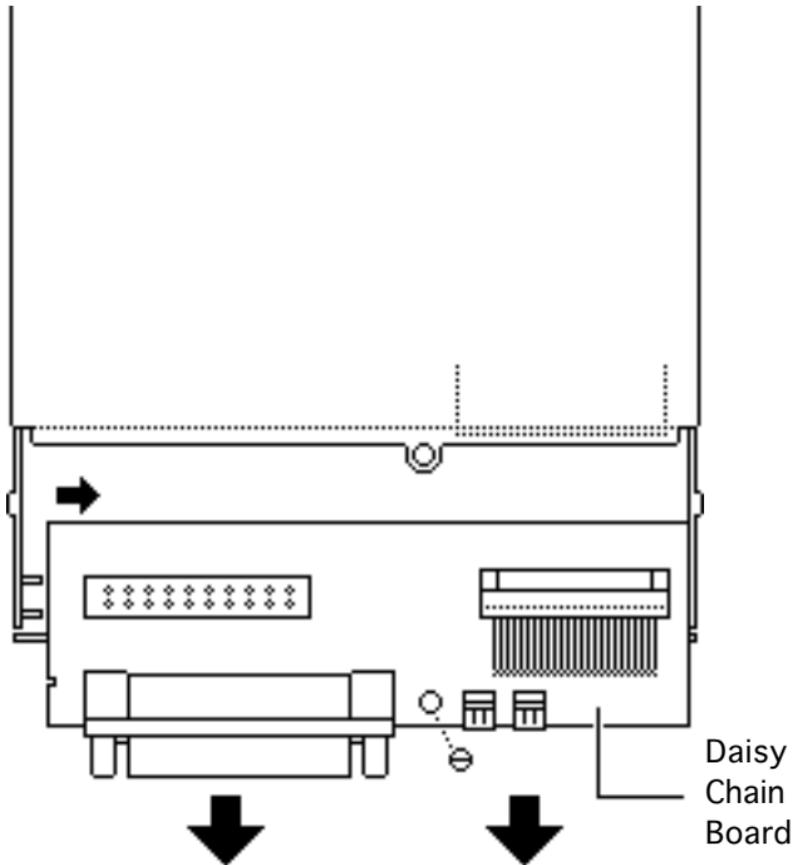
## Daisy Chain Interface Board

Before you begin, remove the following:

- Top & bottom cover
- External cable & shield

- 1 Disconnect cable connector CN102 from the drive mechanism.
- 2 Pull back the two side tabs and remove the plastic daisy chain cover from the outer metal shield.





- 3 Remove the screw that holds the daisy chain interface board to the metal shield.
- 4 Slide the daisy chain board to the right and remove it from the outer metal shield

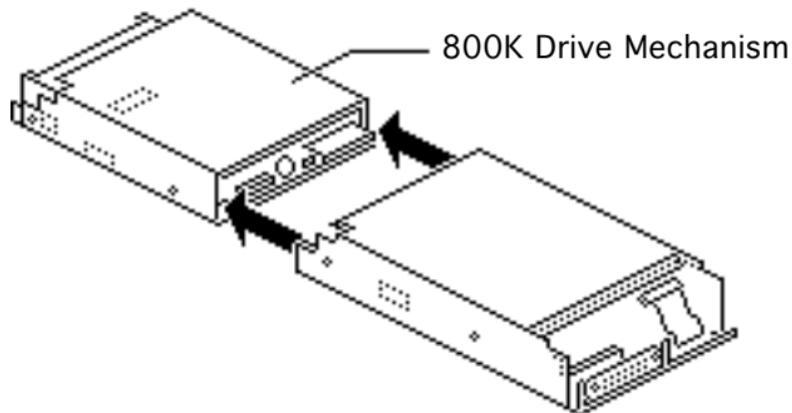
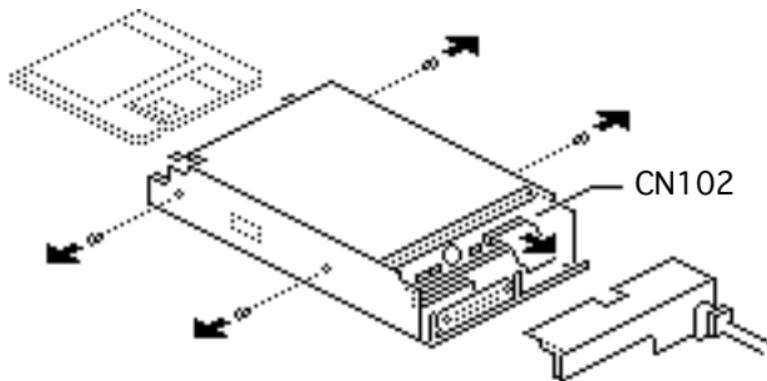


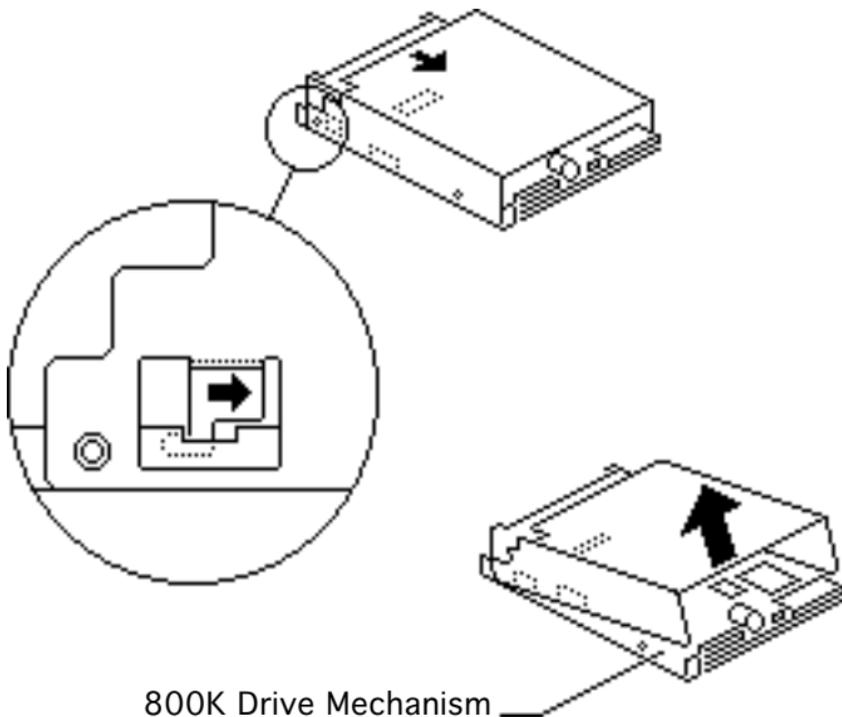


## 800K Drive Mechanism

Before you begin, remove the external cable & shield.

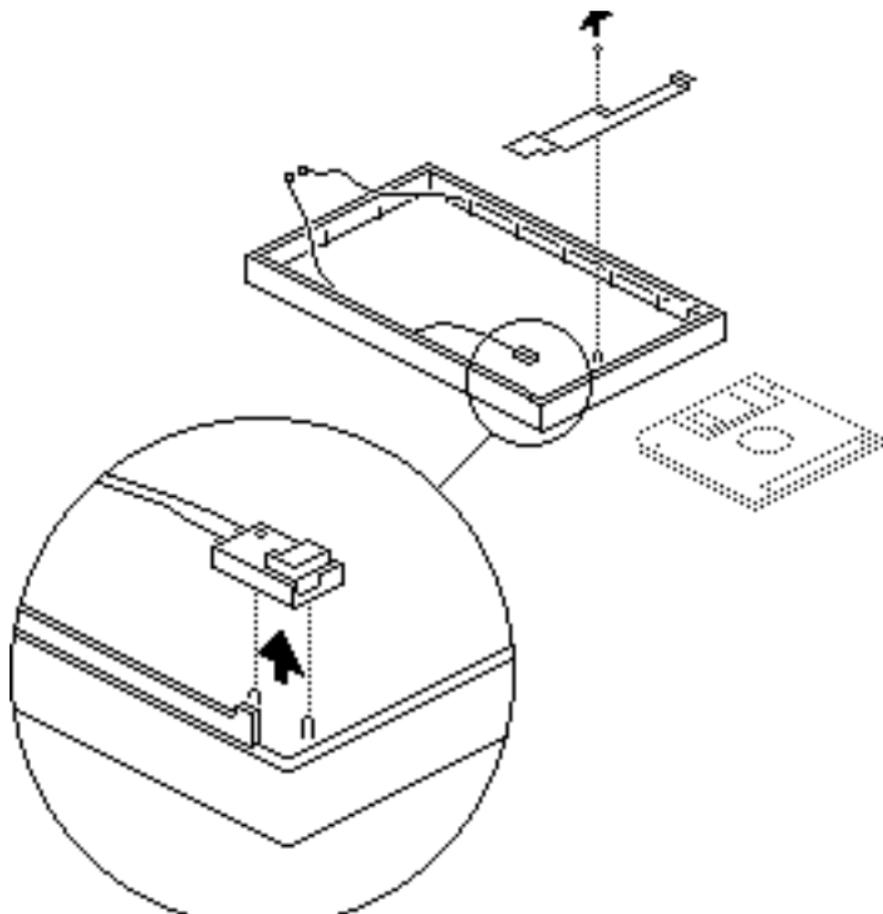
- 1 Remove the four screws from the outer metal shield.
- 2 Disconnect cable connector CN102 from the drive mechanism.
- 3 Slide the 800K drive mechanism out of the outer metal shield (away from the external cable end).





- 4 Remove the inner metal shield by firmly pushing it in the direction of the arrow until the tabs on each side of the shield clear the holes in the drive mechanism.
- 5 Lift the shield off the drive.





## Eject Switch Assembly

Before you begin, remove top & bottom cover.

- 1 Remove the mounting screw that holds the metal bracket to the case top and remove the bracket.
- 2 Lift the eject switch assembly off the holding tabs.

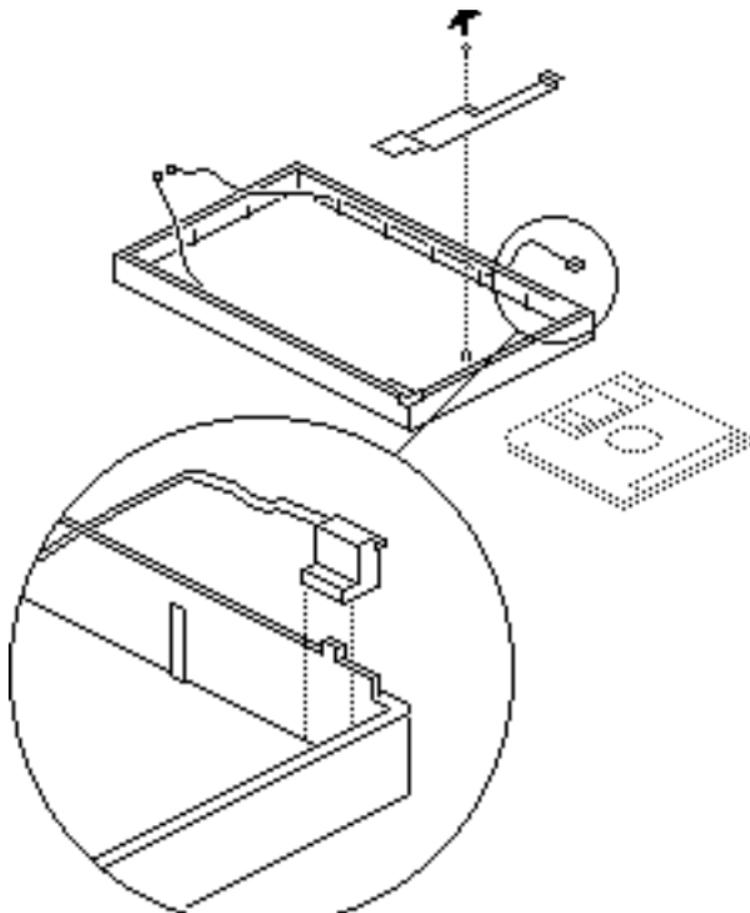




## LED Assembly

Before you begin, remove top & bottom cover.

- 1 Remove the mounting screw that holds the metal bracket to the case top and remove the bracket.
- 2 Lift the LED assembly off the holding tabs.





Exploded View

Apple 3.5 Drive



