

<b>PRIORITY:</b>	Normal
<b>DATE:</b>	September 11, 2001
<b>TITLE:</b>	Replacing the Turbo Extender board on an AlphaEclipse™ Controller board
<b>ECO REFERENCE:</b>	N/A
<b>PRODUCT(S) AFFECTED:</b>	AlphaEclipse™ 3500 series electronic signs
<b>SUMMARY:</b>	A loose connection between an AlphaEclipse™ Controller board and a Turbo Extender board can cause intermittent (1) erratic displays on two or more LED boards and/or (2) loss of message synchronization in back-to-back sign configurations. This loose connection can be fixed by a Turbo Extender board upgrade.

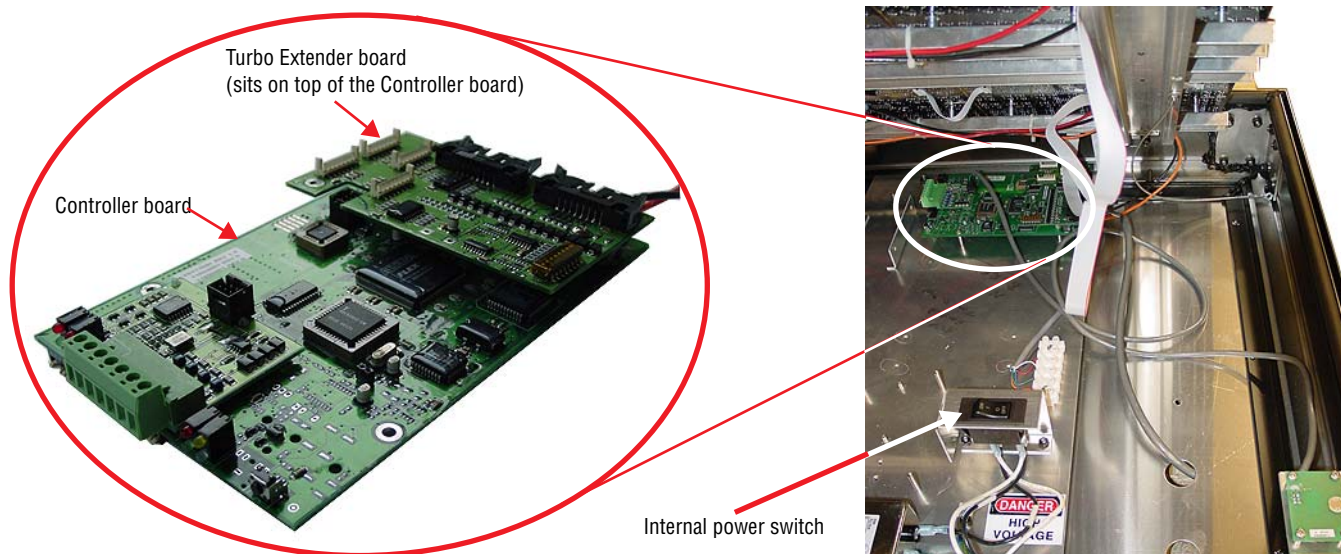
## Introduction

### Problem:

- the pixels (LEDs) on two or more LED boards in a row intermittently light up or remain off
- in back-to-back sign configurations, messages will not appear on both signs *at the same time*

### Recommended solution:

Replace the Turbo Extender board that is attached to the sign's Controller board:



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Due to continuing product innovation, specifications in this manual are subject to change without notice.

## Required materials

Item	Part number	Function
Turbo Extender board kit	1160-9015	Contains Turbo Extender board, standoffs, and screws
Latch key	6811-6061	Necessary to open sign door
Phillips head screwdriver	—	Removing screws
Isopropyl ("rubbing") alcohol	—	For cleaning ribbon cable connectors
Small plastic brush (like a toothbrush)	—	Used with alcohol to clean connectors


## Instructions

**⚠ WARNING**



**Hazardous voltage.**  
Contact with high voltage may cause death or serious injury. Always disconnect power to unit prior to servicing.

**⚠ WARNING**



**Hazardous voltage.**  
After removing power, wait **AT LEAST ONE MINUTE** before continuing this procedure. Otherwise, serious injury or death may occur

### Open the sign door

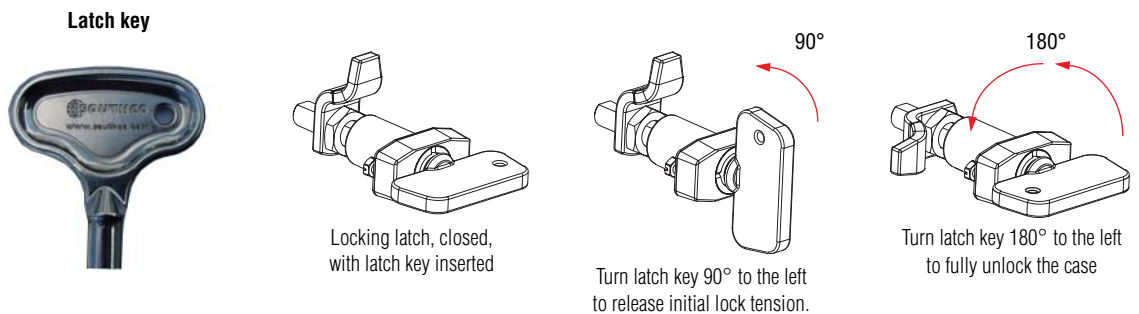
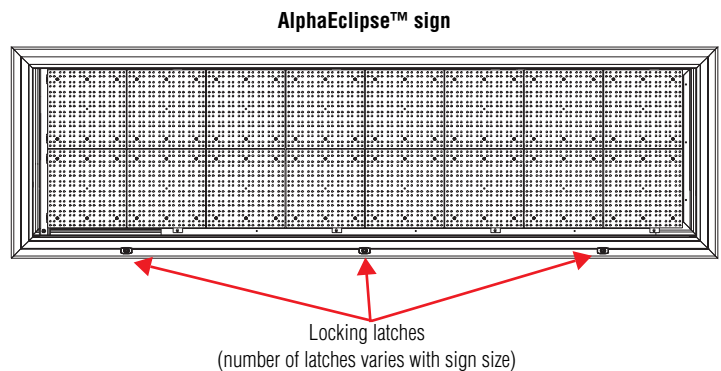
**NOTE:** Do NOT attempt to open the door on a sign in windy conditions.

1. Disconnect power from the sign.
2. Use a latch key to unlock and open the locking latches along the lower edge of the sign's front door:

**⚠ WARNING**



**Possible fall hazard.**  
Remain clear of access door when opening. Install safety bar when door is open.



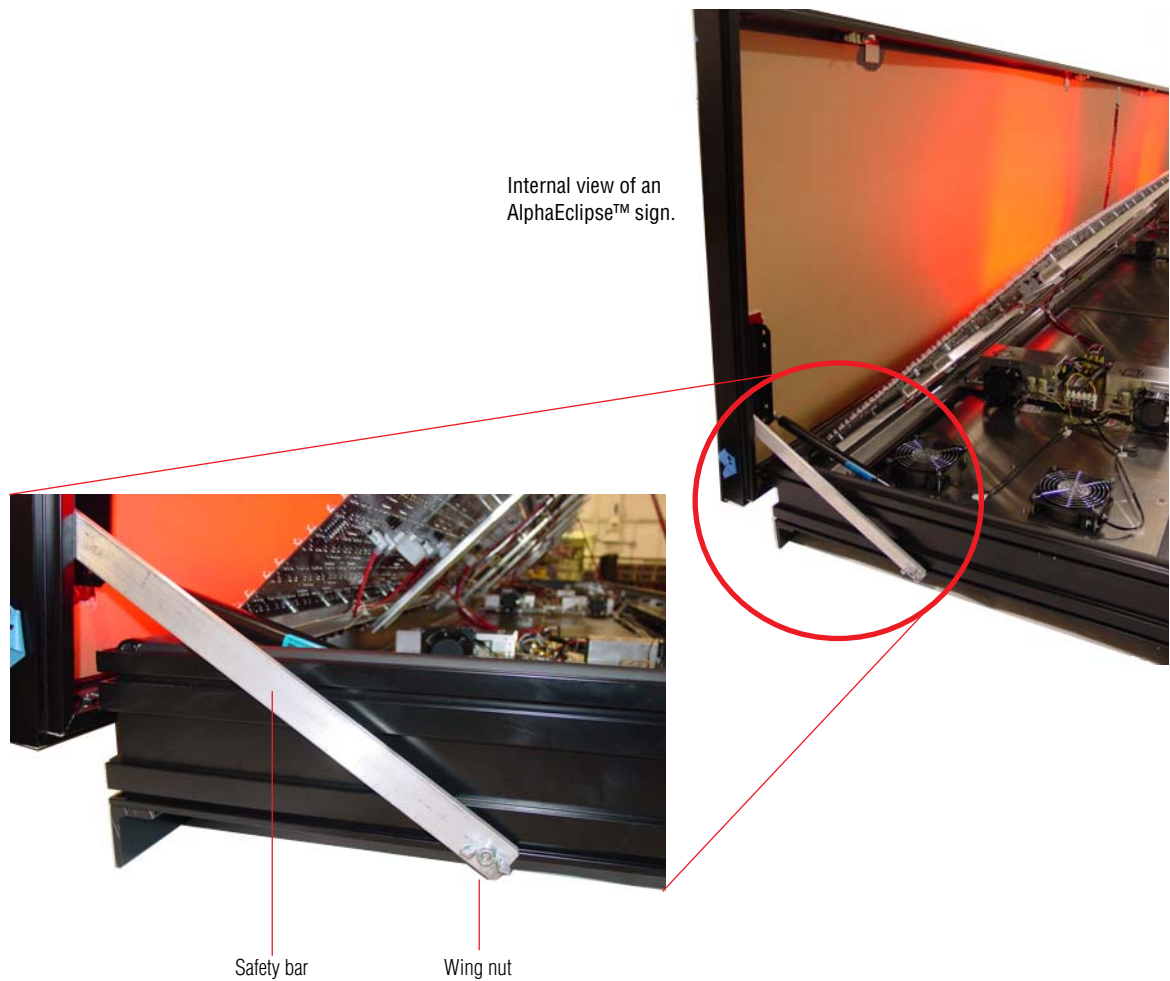
3. Stand away from the front of the unit and lift the door upward.

**NOTE:** With wide signs, a person may be needed at each end of the sign to assist in opening.

**NOTE:** If a sign is equipped with gas shock absorbers, the front door may open more quickly than expected, especially on small signs.

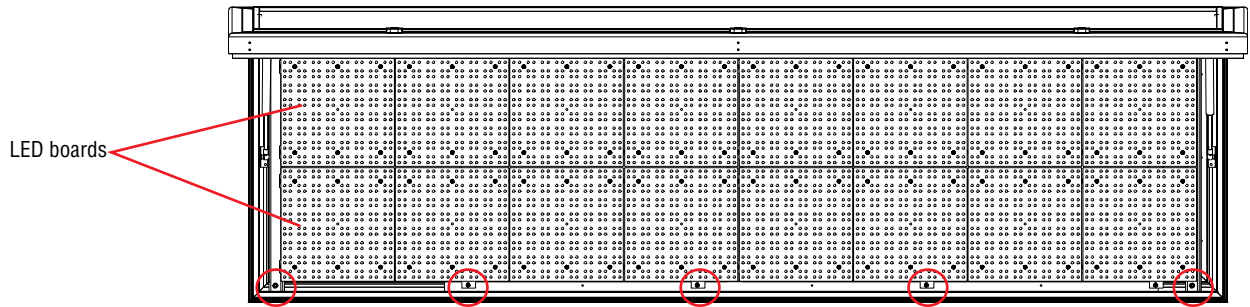
4. Unscrew and remove the wing nut on each safety bar. Then swing each safety bar down and attach it to the bolt *outside* the sign using the wing nut.

**NOTE:** If there is a plastic sleeve on the bolt, remove and save it.



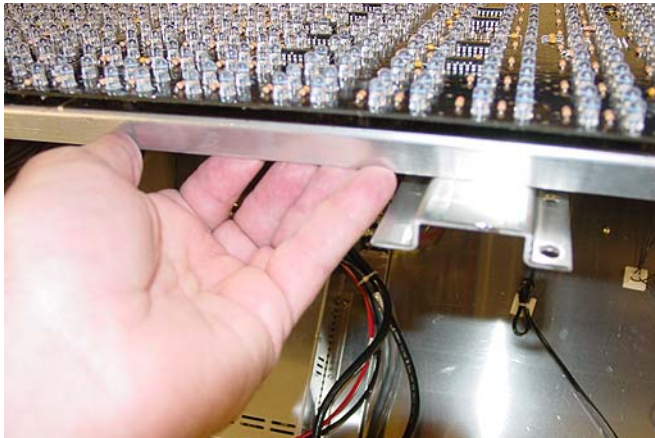
## Raise the LED boards

5. Remove the rail screw (circled below) at the bottom of each internal vertical rail:

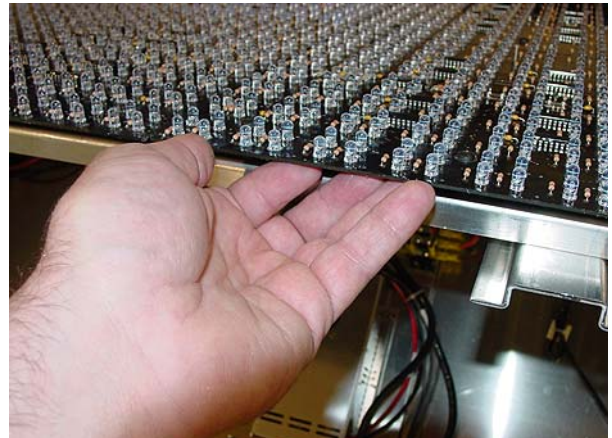


6. Carefully lift the LED boards by placing your hands underneath the mounting rail — *NOT* an LED board — as shown below:

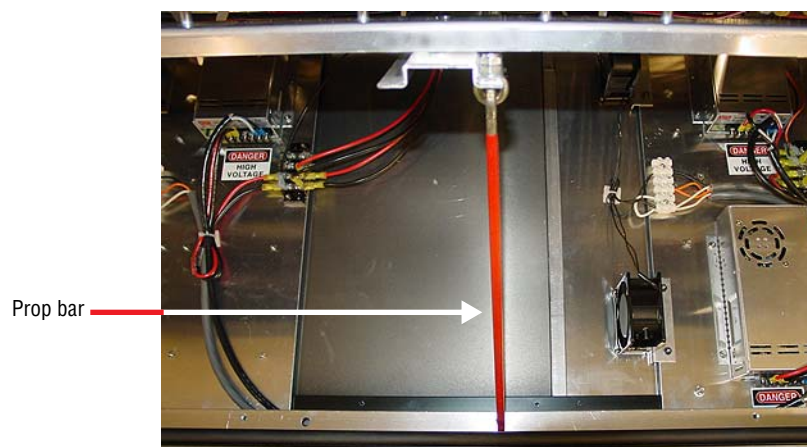
**RIGHT WAY to Lift**



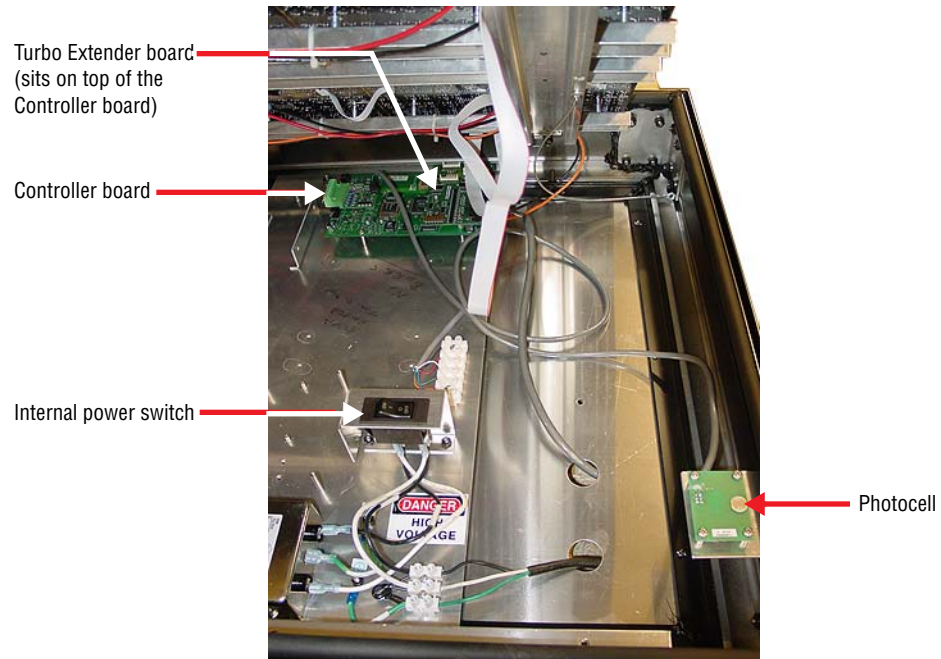
**WRONG WAY to Lift**



7. Lower and fasten each prop bar to support the LED boards:

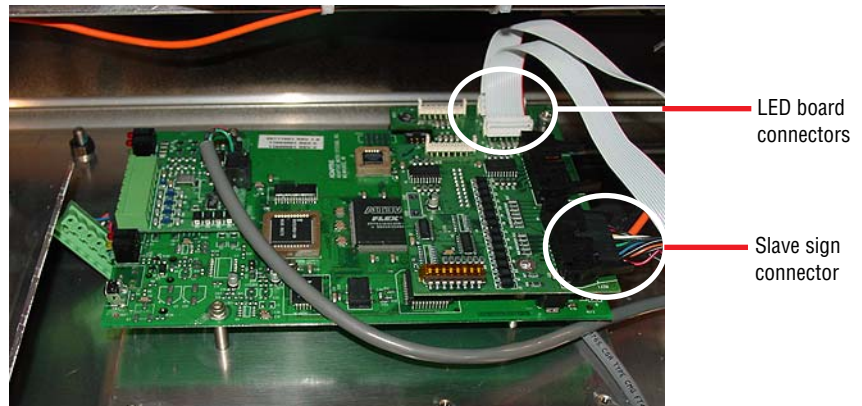


8. Once the LED boards are raised and supported by the prop bar(s), turn off the sign's internal power switch by pressing on 0:



### Remove the faulty Turbo extender board

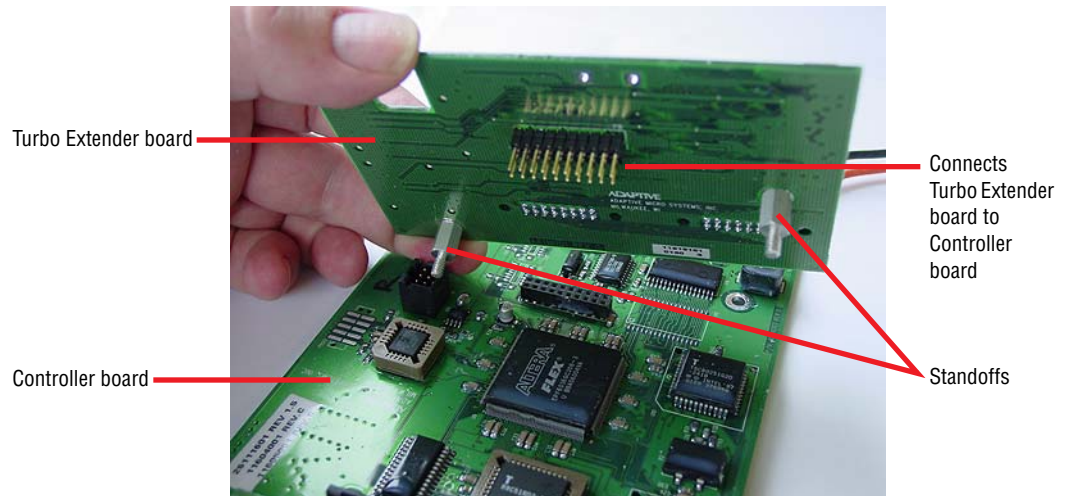
9. Detach all the cables (circled below) connected to the sign's Turbo Extender board:



10. Remove the screws (circled below) that hold the Turbo Extender board to the Controller board:



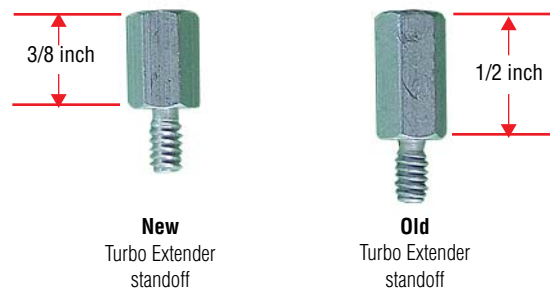
11. Pull the Turbo Extender board off of the Controller board:



### Install the replacement Turbo Extender board

12. Install the replacement Turbo Extender board.

**NOTE:** The standoffs on the replacement Turbo Extender board should be 3/8-inch long:



### Reassemble the sign

13. Press 1 on the sign's internal power switch.
14. Lower the LED boards and fasten a rail screw to each vertical rail.
15. Unfasten each safety bar and return the bar to its original position.
16. Close and lock the sign's door using the latch key.
17. Restart the sign. If the sign continues to have problems, contact Adaptive Customer Support.