



PRIORITY:	Urgent
DATE:	October 19, 2006
TITLE:	AlphaVision PC support latch upgrade kit instructions
ECO REFERENCE:	n/a
PRODUCT(S) AFFECTED:	AlphaVision PC sign models AVPC320128, AVPC320112, AVPC32096, and AVPC32080
SUMMARY:	The AlphaVision PC Support Latch Upgrade Kit (pn 1132201101) applies to the AlphaVision sign models listed above. The support latch and handle provide extra support for the display panels to help prevent them from closing and to make them safer to open and close during servicing. These instructions explain how to replace the lower ball studs and all gas spring ball sockets, how to install the support latch and handle, and where to place the labels.

IMPORTANT! Apply loctite to all threaded parts prior to installing.

Kit contents

Part #	Quantity	Description
1132000501	1	Support latch
1132000401	4	Ball stud (one for the bottom of each gas sprong plus one extra)
43300049	6	Plastic ball socket
4190000101	1	Hex flange nut, 5/16-18
61230644	1	Hex bolt
61612911	1	Jam nut
63100008	2	8-inch tie wrap
67010020	0.5ml	Loctite 242 removable chemical
68116068	1	Black handle
98000079	1	Door latch release caution label
1132600901	1	Maintenance label
1132600201	2	Crush hazard label, support latch engaged prior to servicing
1132601001	1	Support latch engaged/disengaged label

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The distinctive trade dress of this product is a trademark claimed by Adaptive Micro Systems LLC.

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

Tools needed

- screwdriver
- drill
- 1/4-inch drill bit
- torque wrench with size 12 or 1/2-inch socket
- pen or felt-tip marker
- prop tool to hold the display panel open (see “Securing the display panel open” on page 2 for details).

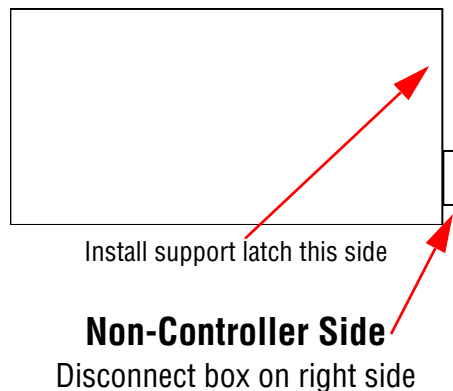
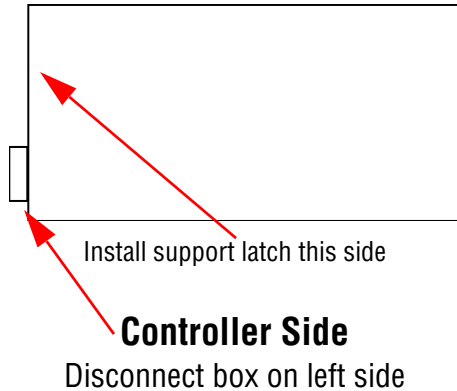
Before you begin

Verify this kit applies to your sign model. Compare the model number from the sign label (located on the bottom of the sign) to the model numbers listed at the beginning of this document. Only use this kit for sign models listed at the beginning of this document.



This equipment contains components that may be damaged by “static electricity,” or electrostatic discharge. To prevent this from happening, be sure to follow the guidelines in Adaptive Tech Memo 00-0005, “Preventing Electrostatic Discharge (ESD) Damage,” available on our Web site at <http://www.adaptivedisplays.com>.

Controller side and non-controller side



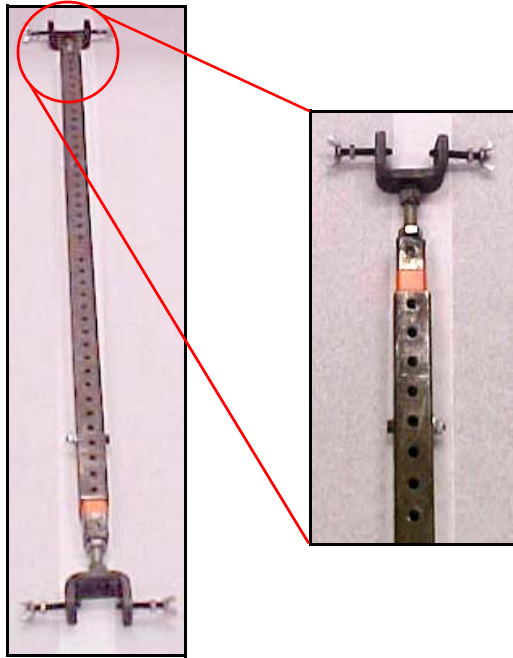
Securing the display panel open

When you are installing this kit, it is extremely important to secure the display panel firmly in place in an open position so that it is not resting on the gas springs.

Before you install this kit, decide how you will secure the display panel in place. Make sure the method you use adheres to your organization’s safety policies.

Adaptive recommends replacing the ball sockets and installing the support latch on the gas spring closest to the disconnect box before replacing the ball sockets on the sign’s other gas springs.

Alternatives for securing the LED display panel

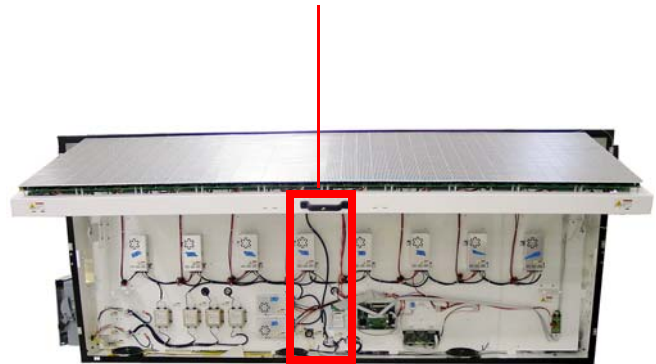


Alternative 1 – Fabricate a custom assembly

A “prop assembly” similar to the one shown can be fabricated to hold the display panel securely in position.

This example provides the flexibility to tighten each end in place and adjust the height of the prop rod itself.

If you use an assembly similar to this one, Adaptive recommends positioning it approximately at sign center.



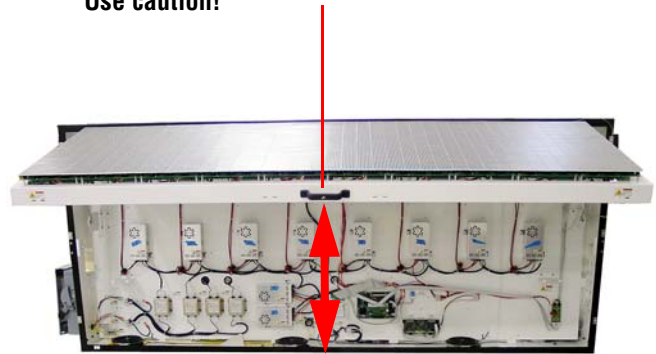
Alternative 2 – Other prop

Use caution! When working on the sign that is propped open in another manner, ensure that the prop is securely in place and cannot be pushed out of position.

If you elect to use another means to prop the door open, make sure it supports the display panel in an open position.

Alternative: Wedge the upper part of the prop against the corner in the center of the display panel and the lower part against the bottom and back panel vertically in line with the top.


Use caution!



Kit installation instructions


Install the support latch

1 Remove power from the sign.

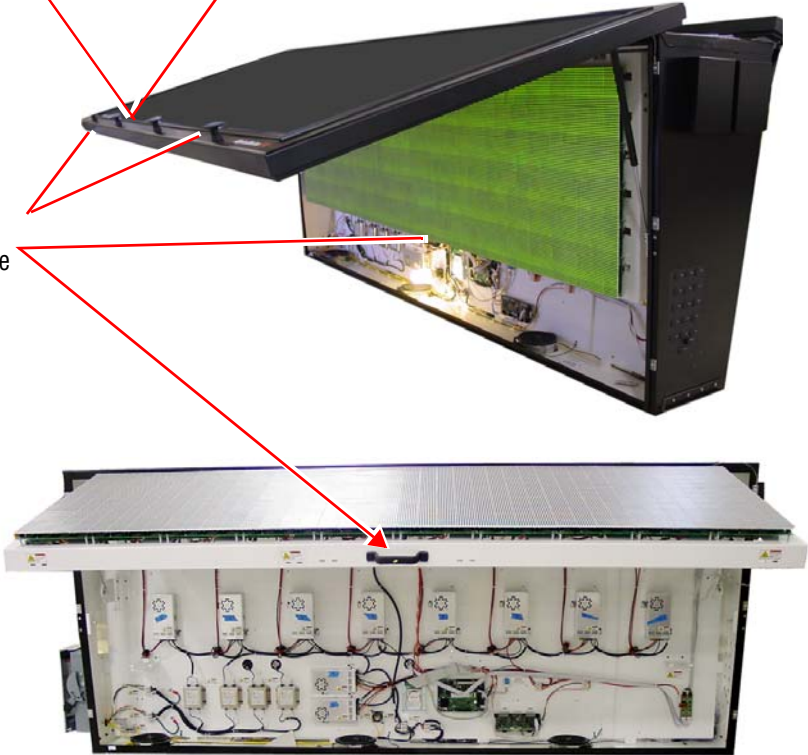
	⚠ WARNING Hazardous voltage. Contact with high voltage may cause death or serious injury. Always disconnect power to unit prior to servicing. SM1000A
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2 On the controller side, position warning label and open the sign door and display panel.

- Clean area between the second and third latches.
- Position the warning label between the second and third latches.

	⚠ WARNING Avoid personal injury. Door will spring open when door latches are released.
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- Turn the door latches.
- Lift the door up.
- Using the handle, lift up the display panels.

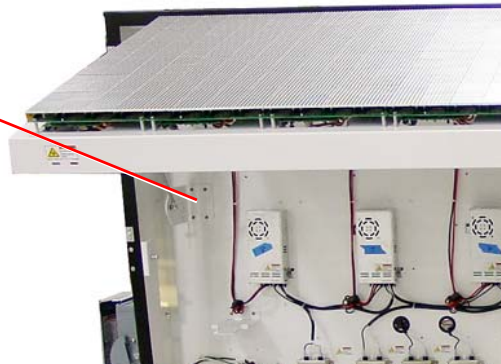


3 Secure the display panel in the open position so the gas springs are fully opened. See “Securing the display panel open” on page 2 for more information.

4 Position warning and hazard labels.



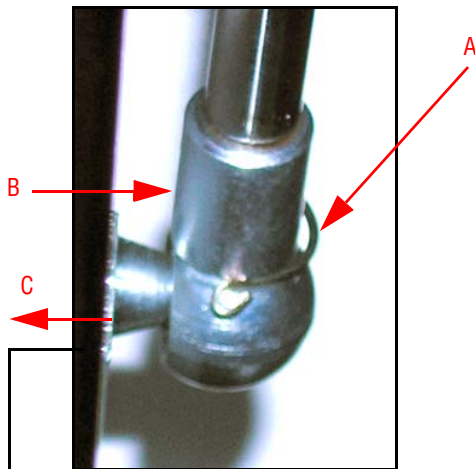
A Position a small crush hazard label on the support latch.



B Locate the display panel's gas spring closest to the disconnect box and position a small crush hazard label on the lower gas spring bracket.

5 Remove the gas spring and lower ball stud.

CAUTION: If the display panel is not properly supported, it will come down. See "Securing the display panel open" on page 2 for how to secure the display panel.



A Pull out the safety clip from the ball sockets on each end of the gas spring.

Tip: If they don't come right out, use a screwdriver to gently pry them out.

B Use a screwdriver to pry the gas spring off the ball studs.

C Remove the lower ball stud. Standard nuts or PEMs are used to hold the ball stud in place.

- For PEMs – Unscrew the ball stud.
- For nuts – Use a wrench to loosen the nut holding the ball stud and then unscrew the ball stud. You will replace the nut with a jam nut in the next step.

Threaded end of the ball stud may use a PEM or a standard nut.



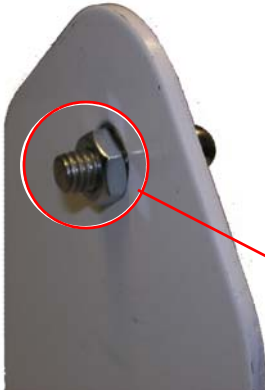
If a standard nut is used, you will replace it with a jam nut in the next step.

6

Apply loctite to the replacement ball stud and attach.



A Apply loctite to the threads of the ball stud.



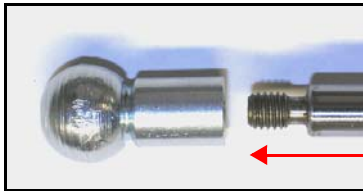
B Secure the lower ball stud:

- For PEMs – Screw the ball stud through the hole in the original location until it is tight (torque specification: 144 lb-in).
- For nuts – Use a wrench to attach the jam nut to the ball stud until it is tight (torque specification: 144 lb-in).

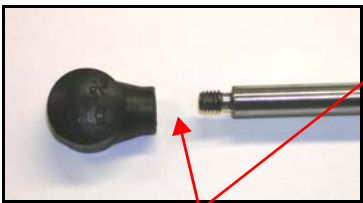
Ball stud with jam nut attached (non-PEM).

7

Apply loctite to the replacement ball sockets and attach to all gas springs.

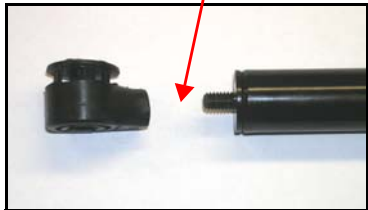


A Unscrew end connectors from both ends of the gas spring.



B

- Apply loctite to gas spring threads and replacement ball socket threads.
- Attach ball sockets to gas spring.



C Tighten the ball sockets until both ends of the gas spring line up with the ball studs.

Do not overtighten ball sockets.

8

Attach the gas spring and support latch.

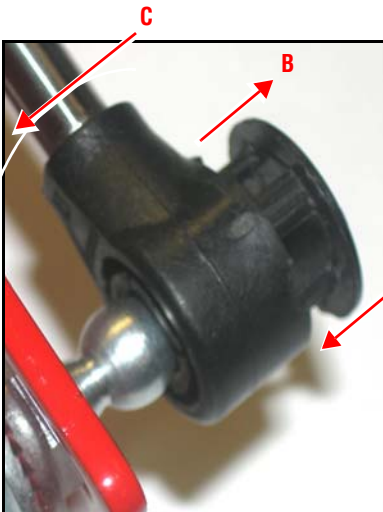
NOTE: The support latch is installed on the gas spring closest to the disconnect box. Follow steps B through D for other gas springs.



A Slide the support latch onto the gas spring through the front hole.

B Use a screwdriver to move the safety clips to the out position.

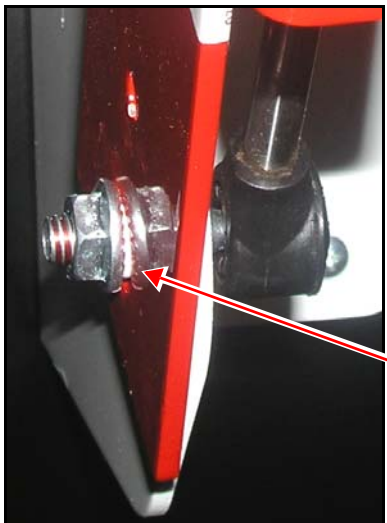
The safety clips must be in the out position to snap the sockets in place.



C Press the gas spring over the ball studs until the ball sockets snap in place.

D Press the safety clips into the ball sockets.

If the safety clips are not properly installed, the gas spring will come off the ball studs.



- E**
- Place the support latch over the threaded end of the lower ball stud.
 - Apply loctite to the flange nut.
 - Fasten the flange nut to the ball stud until it is tight (torque specification: 144 lb-in).

CAUTION!

The display panel will collapse, possibly causing physical injury, if the safety clip is improperly installed!

9

Verify the installation of the safety clip.



When the safety clips are properly installed, the gas spring will remain in place.

To test the installation:

Pull both ends of the gas spring away from their bracket.

CAUTION!

Improper installation of the safety clip will result in the gas spring separating from the ball stud, causing the display panel to be unsupported!

It is extremely important to verify the proper installation of the safety clips!

10

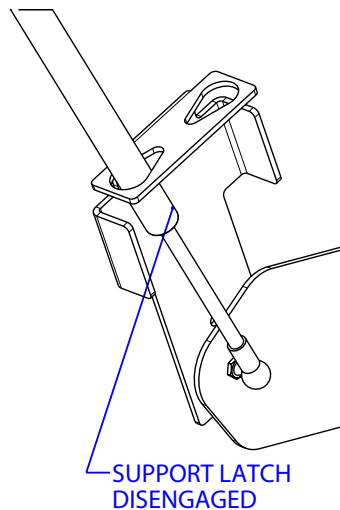
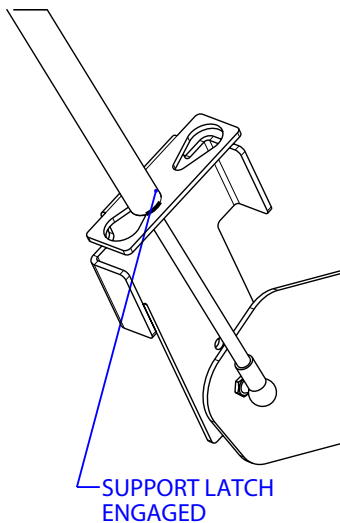
Remove the support tool that was holding the display panel in place and test the support latch.

Engage the support latch:

- Lift the display panel until the latch slides into place.
- Lower the display panel and release. The display panel should remain open.

Disengage the support latch:

- Lift up the display panel slightly until there is no pressure on the support latch.
- Push the latch back.
- Lower the display panel until the base of the gas spring is below the top of the latch.



Install additional ball studs and sockets

1

For each additional gas spring, install the ball stud and ball sockets according to steps 5 through 8 in the “Install the support latch” section, as applicable.

- Remove the gas spring and the lower ball stud.
- Apply loctite to the replacement ball stud and attach.
- remove the ball sockets from the gas spring.
- Apply loctite to the gas spring threads and replacement ball sockets.
- Attach replacement ball sockets to the gas spring.
- Attach the gas spring to the sign.

2

Discard extra ball studs and ball sockets.

3

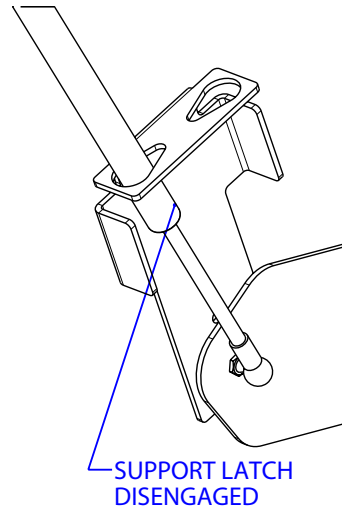
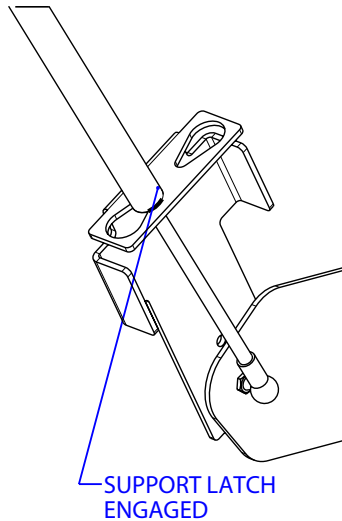
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Engage the support latch:

- Lift the display panel until the latch slides into place.
- Lower the display panel and release. The display panel should remain open.

Disengage the support latch:

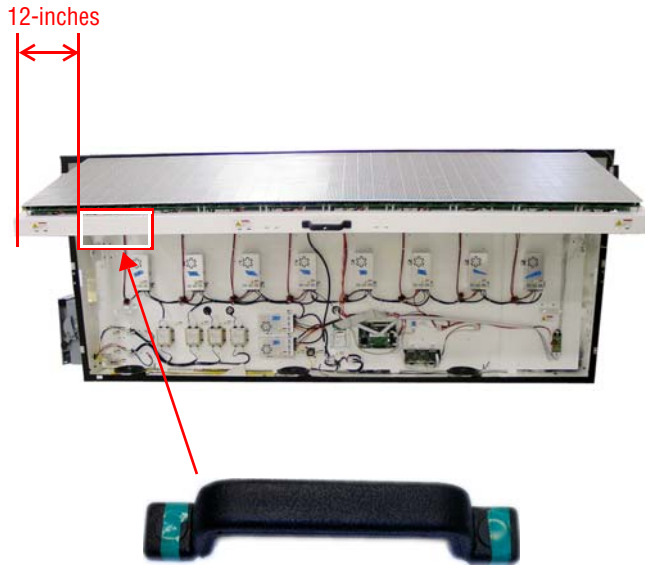
- Lift up the display panel slightly until there is no pressure on the support latch.
- Push the latch back.
- Lower the display panel until the base of the gas spring is below the top of the latch.



Install the handle and attach labels

1

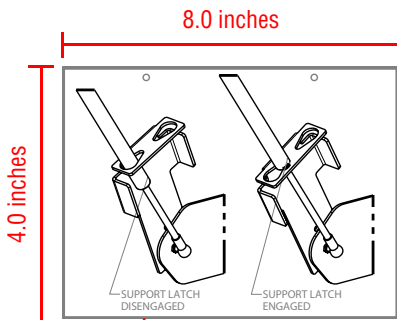
Install handle.



- Remove the cosmetic plugs from the handle.
- Position the handle 12 inches from the edge of the display panel on the side closest to the disconnect box.
- Using the handle as a template, mark the hole locations with a pen or marker.
- Drill 1/4-inch clearance holes where you marked the hole locations. Clean the metal shavings out of the sign before continuing.
- Insert the bolts through each end of the handle and through the drilled holes.
- Secure the bolts with nuts on the inside of the display panel.
- Insert the cosmetic plugs over the bolts.

2

Affix the Support Latch Engaged/Disengaged label to the front of the sign.



- Insert a tie wrap through each hole at the top of the label.
- Loop the tie wraps through the cut outs on the underside of the display panel behind the newly installed handle.
- Secure the tie wraps, allowing about 2-3 inches for the label to hang.



3

Close the LED display panel and the sign door and then apply power to the sign.

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