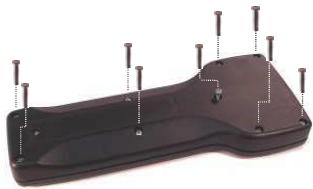


INSTALLING THE NCE POWERCAB™ UPGRADE CHIP

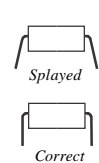
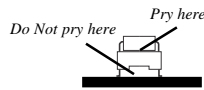


thumbwheel. It is the largest chip inside the PowerCab™

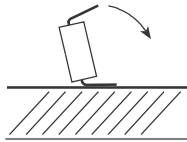
1. Unplug the PowerCab™.
2. Remove the 9 screws that hold the back to the front of the case.
3. Lift off the back of the case and set aside.
4. Locate the EPROM chip next to the



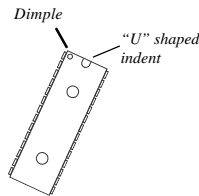
5. Use a small Flat screw driver or hobby knife to separate the EPROM chip from the socket. Make sure you pry **BETWEEN** the socket and the chip. Work end to end lifting a little on one end, then a little on the other end. Pry the Eprom chip straight up from the socket it is pressed in to. You will no longer need this chip but hang on to it for the time being.



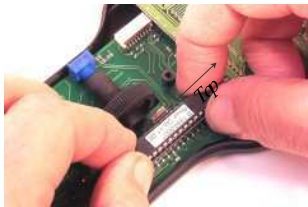
6. The new EPROM chip comes to you with its legs slightly splayed outward. You will need to bend these legs so that they are straight down from the sides of the chip. Place the chip on a flat, hard surface as shown in the diagram and bend the body of the chip so that the legs are straight. Repeat with the opposite side legs.



7. There is a small "U" shaped indent and/or a dimple in one end of the chip. This is the TOP of the chip. Place the chip on the socket with this "U" shape toward the top of the cab (toward the LCD pc board).



8. Align the legs to the socket. When satisfied that ALL of the legs are in line with a socket position, press the new chip down into the socket. Work from end to end, press a little on one end, then a little on the other end. Keep doing this until the EPROM chip is FULLY seated in the socket.



Make sure none of the legs are bent under or outside the socket.

9. Examine the installation to ensure ALL 28 of the legs have engaged the socket correctly.
10. Replace the back of the case and the 9 screws that hold the back to the front. **DO NOT OVERTIGHTEN THE SCREWS.** You could inadvertently break the screw boss inside the cab front.
11. Plug the PowerCab™ back into your PCP panel and enjoy the greatest train control in model railroading!



PowerCab™ Software Update Notes

Version: 1.65B Summary

of new features

- ✓ All throttles now have up to 6 recalls
- ✓ Support for 3 external throttles
- ✓ Support for 3 AIU, USB or Mini-Panels *in addition* to the extra throttles
- ✓ New thumbwheel control of CV programming values
- ✓ Easy "memory" operation of the last thrown turnout
- ✓ Support for Analog Fast Clocks
- ✓ New, improved USB/computer commands
- ✓ Programmable 'ProCab™ mode' timeout so multiple PowerCabs™ can be used together

Notice: The look and feel of this software and its interaction with the user are copyright 1994-2012 by NCE Corporation. The distinctive shape of the ProCab with LCD display and/or thumbwheel is a trademark of NCE Corporation, 82 East Main Street, Webster, NY 14580

If you are updating from any previous Version:

All consists, macros and system setup parameters will be cleared and reset back to factorydefault conditions. This is because these items are stored in the chip that is being replaced. See the Installation Instructions on Page 4.

New features in this Version

The PowerCab™ now supports cab addresses 3-5 for a total of 3 external throttles in addition addresses 8, 9 and 10 may be used for non-throttle type devices such as AIUs, Mini-Panels or USB interfaces. Regular throttles will not work on address 8, 9 or 10.

There are now 6 recall slots for throttles. The number of recalls can be adjusted from 1-6 using the appropriate selection in the "SET CAB PARAMS" menu. Factory default is 2 recalls.

The "SET CMD STATION" menu now has an option to change the power-on timeout that determines how long the 'ProCab™, part of the PowerCab™ will wait for cab bus activity beforegoing into PowerCab mode. This value is in seconds (approximately) and can be in the range of 1-30. This will ensure the primary PowerCab™ has a chance to startup before the additional throttles. Factory default is 4 seconds.

In the program CV feature of the PROGRAM ON MAIN menu you can now use the speed buttons or thumbwheel to change the CV values dynamically. Each button press or thumbwheel movement sends the next higher or lower value to the decoder. You can still enter CV data the old way by pressing number buttons as before. Pressing ENTER or PROG/ESC will exit this mode. This is useful for setting start voltage, sound volumes, etc.

If you press SELECT ACCY twice in a row the last used accessory will toggle to the opposite position.

A new setup parameter in SET CMD STA has been added to disable issuing of speed and function packets when a new loco has been selected.

Things that have changed from Version 1.28:

Key code 101 (0x65) now sends the user to the "Set Recalls" menu instead of the obsolete cab setup mode. This enables the CAB06 to set recalls in the PowerCab™.

There are now 6 recall slots available for each cab (addresses 2-5). The number of recalls can be adjusted from 1-6 using the appropriate selection in the "SET CAB PARAMS" menu. Factory default is 2 recalls.

The menu selection "PROG ACCY ON MAIN" has been changed to read "OPS PROG ACCY CV"

The menu selection "PROG SIG ON MAIN" has been changed to read "OPS PROG SIG Cvs"

USB and Computer Related Stuff

CHANGES:

The version returned by binary command 0xaa is now 7.x.x depending on the configuration of the USB jumpers.

New USB commands

NOTE: Use of the new commands requires USB version 7.x.x (free if you return your USB interface to NCE with a note stating you need the upgrade)

0x9B yy	Return status of AIU yy	(returns 2 bytes)	<current hi byte>
	yy= cab bus address of AIU		<current lo byte>
Command Format: 0x9b <data>			

0xB3 yy xx		(returns 1 byte)	!= success
	Set the cab context page memory read/write pointer to cab address yy memory location xx with yy in the range of 0-255 and cab bus address ranging from 0-63 (useful only in the range of 0-15 in the PowerCab™)		
Command Format: 0xB3 <data><data>			

0xB4 xx		(returns 1 byte)	!= success
	Write 1 byte to cab bus memory at the memory pointer location. The pointer will increment after the write		
Command Format: 0xB4 <data>			

0xB5 xx		(returns 1,2, or 4 bytes)	
	Return 1,2 or 4 bytes (indicated by XX = 1,2,or 4) from cab memory at the memory pointer location. The pointer will increment with each byte read.		
Command Format: 0xB5 <data>			

Known bugs in version 1.65:

Binary command 0xA2 op code 0x01 and 0x02 (USB command for loco 28 speed mode commands) will occasionally put speed commands in TEMP_Q rather than TRK_Q which will send the speed packet only 4 times to the loco then stop sending.