

ProCab Startup Procedures

1. Setting the Cab Identification Number (To be Done One Time Only!)

Each ProCab has an internally programmed cab identification number. **If you are using a NCMRS-owned ProCab**, its identification number is on a label on the back. **You can skip this section and proceed to Section 2.**

A list of NCMRS-owned ProCab identification numbers is posted on the club Bulletin Board adjacent to the Fiddle Yard. Numbers are listed as Club-Owned, Reserved, Assigned, or Available. If you have not been assigned a number, select one from the **Available** list. Enter your name in the appropriate place in the list. This process is intended to prevent the next member from taking the same choice.

Only your assigned personal number can be used on your ProCab. If your ProCab has already been **Assigned**, skip the rest of this Section, and proceed to Section 2.

If you are using your own personal ProCab for the first time, use the following procedure to **“Assign”** it the number you have chosen. **You only will have to do this once. No member may obtain assignment of more than one number.**

Do this step on the workbench system where we have the Programming Track: **Do not do it on the main layout system!** While holding down the **SELECT LOCO** button of your ProCab, plug it into the Command Station. Enter an Available number into the ProCab (for example, press **5** followed by **6** to assign Cab ID 56). Then press the **ENTER** button. If you make a mistake, unplug the ProCab and start over. (To verify the Cab ID without changing it, press **ENTER** without a new Cab ID.)

This prompt will appear on the ProCab display.

YARD OR NORMAL
1=YARD 2=NORM 2

Press **2**, followed by **ENTER**. Press **PROG/ESC** to complete the assignment.

**“Yard” mode configuration may be implemented on your personal ProCab.
At present, do NOT use Yard mode on an NCMRS-owned ProCab!
See the ProCab Configuration document (not yet available) for instructions.**

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More advanced ProCab features are described in the PowerPro System Reference Manual, published by NCE. At the present time (May, 2007) these features must not be used on the NCMRS layout.

2. Connecting

Step 1:

Verify that the NCMRS layout is powered up and ready to run. If you need help, ask an experienced member for a demonstration. For further information, refer to the ***North County Model Railroad Society Member's Manual***, Paragraph II.A.1.

Step 2:

The NCMRS ProCab uses a tethered throttle cord. A flat Telephone connector is at one end. A round five pin DIN connector, with a right angled jack, is on the other end.

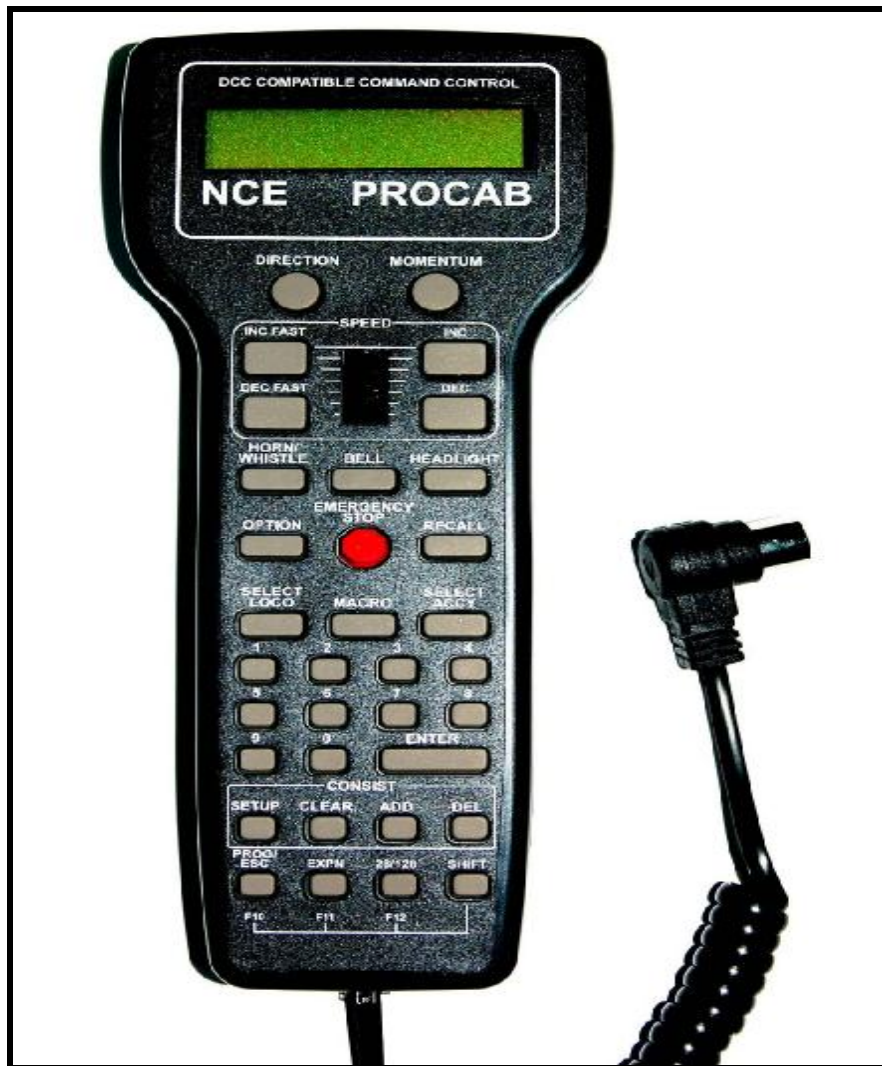
Plug the Telephone connector into the base of the ProCab. Notice that there is only one correct orientation!

Plug the DIN connector into an available round DIN socket **that is within the fiddle yard**. (The DIN sockets are located on anodized aluminum squares along the layout fascia.) The correct orientation is with the cord at the bottom of the right angle jack, as in this photograph.



Right angle DIN connector correctly plugged into a fascia plate.

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ProCab throttle with coiled cable and Right Angle DIN connector.

The screen of the ProCab will light up. The display will look like this momentarily:

```
NCE PROCAB V1.3  
CAB ADDRESS = 23
```

The two digit number in the lower right corner of this display is the ProCab ID number, your ProCab should display your number and not the “23” represented here and chosen as a typical value. (A yellow background in this document highlights the important areas of the display.)

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After approximately one second, the display will change to something similar to one of these:

```
LOC: 1234 12: 01AM  
FWD: 123  L123- 56
```

```
CON: 099 12: 01AM  
REV: 000  - - - - -
```

This display tells you about the **previous** locomotive or consist (if any) that was assigned.

The **first line** tells you that either a locomotive “LOC:” or a consist “CON:” was assigned. It provides the one to four digit number for the locomotive or consist.

The **first line** also displays the current value of the “Fast Time” clock. You may ignore the clock.

The **second line** tells you the direction of the train (“FWD” or “REV”).

The **second line** also shows the speed **step** setting of the locomotive or consist (“123” in the “LOC:” illustration).

Finally, the **second line** also shows the state of the first seven of the locomotive’s function outputs (L123-56 in the “LOC:” example; where “-“ indicates OFF). (See the Power Pro System Reference Manual for a description of the output functions.)


Step 3:

If the first line of the display shows LOC: skip this step and proceed to Step 4. If the line shows CON: this must be changed. To do this, locate the ProCab key group that is labeled “CONSIST”. Press the **CLEAR** key in that row and follow the instructions that are displayed.

About Consists: Preparation and operation of consists, using the NCE ProCab, is explained in another document. See “ProCab Consist Procedures” (not yet available), or the NCE Power Pro System Reference Manual, for further information. Do not attempt to prepare and operate consists until you have mastered the contents of this manual.

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Step 4:

Press the **SELECT LOCO** key. The ProCab expects you to identify your locomotive using a one to four digit “short” or “long” DCC locomotive address. A flashing black square  appears on the screen where you enter the next number.

For an individual locomotive, always use a long address.

If your locomotive is set to respond to a long address (0000 – 9999), but has a number below 128, you must enter a leading zero before the number (example: enter 63 as **063**). If your locomotive has a three digit address above 127 just enter the number (example: for 345, press **345**).

A locomotive with a **long address** and a number between 1 and 127 will be displayed with an **asterisk** followed by three digits.

```
LOC: *123 12: 01AM  
FWD: 000  - - - - -
```

Caution: A locomotive with a short address will be shown on the display as a three digit number without an asterisk:

```
LOC: 123 12: 01AM  
FWD: 000  - - - - -
```

If your locomotive has a short address, you must reprogram it to use a long address. Consult your locomotive’s User’s Manual to learn how to do this.

If you hit a wrong digit key while programming, keep pressing numbers until the display clears; then try again.

Press the **ENTER** key to accept the new locomotive address.

(If you press the **PROG/ESC** key before the **ENTER** key, you will exit the select loco function without changing the current locomotive address.)

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Step 5:

Press the **28/128** key to toggle between 28 speed steps and 128 speed steps. The display will toggle back and forth between screens similar to these:

LOC: 3756 12: 01AM
FWD: 000 **SP: 28**

LOC: 3756 12: 01AM
FWD: 000 **SP: 128**

The NCE ProCab system cannot use decoders that are limited to 14 speed steps. You must replace any decoder limited to this choice.

If your locomotive decoder is capable of 14 **and** 28 speed steps, make sure it is set to 28 speed steps. **Some of the older locomotive decoders may not work if the ProCab is set to 128 speed steps.**

If the locomotive decoder is capable of 28 **and** 128 speed steps, either setting of the ProCab speed steps is acceptable. Decoders that are capable of 28 and 128 will automatically detect which kind of signal they are receiving and will respond correctly.

Press the **ENTER** key when you have selected the option that is consistent with the way your locomotive is programmed.

Step 6:

You are now ready to verify control of your locomotive. Any of the following tests may be used to do this.

1. If your locomotive is wired for a headlight, the headlight is toggled on and off by either the **HEADLIGHT** key or the **0** key.
2. If your locomotive has sound functions, and they are turned on, the bell is toggled on and off by either the **BELL** key or the **1** key. (Early sound decoders may require you to use the **3** key for the bell. However, some early sound decoders may be reprogrammed to use the **BELL** or **1** key.)

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3. If your locomotive has sound functions and they are turned on, the horn or whistle will sound under either of these two conditions:
 - a. If you hold down the **HORN / WHISTLE** key (causes momentary blow).
 - b. If you press the **2** key (toggles whistle/horn on and off).

If your locomotive is equipped does not respond in cases (2) or (3), it may be because the sound functions are turned off. Press the **8** key to turn them on, and repeat step (2) or (3).

3. Running.

Press the **DIRECTION** key to toggle between “FWD” or “REV”.

To set the speed, do one of the following:

1. Roll the **SPEED** Thumbwheel upward to increase or downward to decrease the throttle setting.
2. Press the **INC** and **DEC** keys to increase or decrease the throttle setting one step at a time.
3. Press the **INC FAST** and **DEC FAST** keys to increase or decrease the throttle setting by several steps at a time.

If your throttle is set for 28 speed steps, the increment and decrement will be 4 steps for each time you press one of these keys (to a maximum of 28).

If your throttle is set for 128 speed steps, the increment and decrement will be 10 steps for each time you press one of these keys (to a maximum of 126!).

4. Locomotive Emergency Stop

If an emergency occurs to **your locomotive only**, you may stop it quickly by pressing the **EMERGENCY STOP** key **exactly ONCE**. The momentum setting for your locomotive will be ignored, and your train will come to a sudden stop.

The previous value of your speed setting will be retained in the ProCab memory and display. After clearing the emergency, press any of the **DIRECTION**, **INC FAST**, **DEC FAST**, **INC**, or **DEC** keys will cause the locomotive to resume at approximately its previous speed. (**Caution:** If you use the **DIRECTION** key the locomotive direction will be reversed.)

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5. System Emergency Stop (To Be Avoided Unless Absolutely Necessary!)

If you press the **EMERGENCY STOP** key three times in succession (**without another intervening key press**), you will **stop all trains on the layout!** Only **your** ProCab will be able to cancel the emergency stop. A display similar to this will show on **all** active ProCabs:

LOC: 3756 12: 01AM
E- STOP BY CAB 23

The throttle number of the ProCab that caused the stop is displayed. To restart the system after clearing the emergency, you must press the **ENTER** key on **the same throttle** to cancel the System Emergency Stop. **No other throttle** can be used for this purpose.

If a System Emergency Stop occurs, it is imperative that the causing throttle clear the emergency before its operator leaves the layout.

AFTER the System Emergency Stop is cleared, other throttles may be restarted by pressing a speed change key, or a function toggle key, such as bell, etc.

6. Returning a Club Throttle to Its Storage Location

If you are using a club-owned ProCab, you must do the following before leaving the layout.

1. If you have used a personal consist (see Paragraph 2, Step 3, above), **Kill** it.
2. Set the Locomotive Number to long address 00 (see the procedure in Paragraph 2, Step 4, above).
3. Return the Throttle to the Club Throttle Storage Location.

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ProCab Certification Procedure

Members belong to one of three classes:

1. Certified Trainer
2. Certified Operator
3. Uncertified (may not operate trains on the NCMRS ProCab layout)

To become a Certified Operator on the NCMRS layout, and to use a ProCab controller, first consult the Club bulletin board (located in the Fiddle Yard area). Identify a Certified Trainer member who is present, and ask him (her) to help you.

In the presence of this member, demonstrate your ability to perform the following actions:

1. Show how to obtain the ID number of any ProCab other than your own.
2. Show that you know how to perform system startup. (If the system is already started, you need only describe the steps without performing them.)
3. Demonstrate the steps needed to power up your ProCab and verify that it is working in Normal mode.
4. Demonstrate the steps needed to take control of a locomotive with the ProCab.
5. Demonstrate stopping your locomotive as if your train is in an emergency situation.
6. Demonstrate how to restart your train after the emergency stop.
7. After warning any members currently running trains, and after receiving their approval, demonstrate how to perform a System Emergency Stop.
8. Demonstrate restarting the layout following System Emergency Stop.
9. If you have used an NCMRS-owned ProCab for the test, demonstrate restoring the Throttle Locomotive number to 00.

After successfully completing these operations, ask the Certified Trainer member to add your name to the Certified Operator member list posted on the Club bulletin board..