

Firmware

Firmware 38:

Older style must be used with a chopper wheel with **one** index hole.
These units have a processor in the CB11 marked as "Pic18F 6620".

Note don't upgrade from this version OR earlier without checking the sensor alignment. If this is not done the symptoms are; Limits will set OK but on first operation the stop OR start position will be short 150mm.

When replacing the timing assembly and it has a "one hole chopper wheel", ensure it is adjusted as per N5-14 using firmware 38 or earlier.

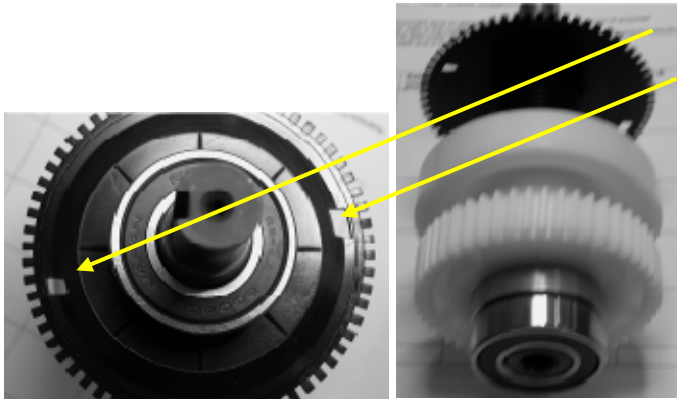
Firmware 40:

May 2006

A new style encoder wheel is being implemented along with CB11 firmware version 40.

These models can easily be identified by looking at the firmware version or the encoder wheel itself. The new encoder wheel has 2 index notches as the older one has just one.

Using control boards that have older versions can cause problems if a sensor is required. Any adjustments for single index encoders must be performed using version 38 or earlier. In this way either style of chopper wheel can be used.



Firmware 41

Oct 2006

1. This firmware can mean that either style of chopper wheel can be used.
2. Sometimes the logic board identifies problem and displays "SENSOR FAULT M1". In some cases the problem is not related to the unit but a glitch in the firmware. This update allows these errors to be cleared just by using the remote. If the display doesn't change then it is likely that a real hardware fault has occurred.
3. These units have a processor in the CB11 marked as "Pic 18F 6620".

Firmware 61:

Sept 2006

This firmware can mean that either style of chopper wheel can be used.

This update also allows for use with back up battery option. No circuit modification are now required. It also incorporates a new processor, marked as "Pic18F 6722".

Firmware 62:

Nov 2006

1. This firmware can mean that either style of chopper wheel can be used.
2. Sometimes the logic board identifies problem and displays "SENSOR FAULT M1". In some cases the problem is not related to the unit but a glitch in the firmware. This update allows these errors to be cleared just by using the remote. If the display doesn't change then it is likely that a real hardware fault has occurred.
3. It also incorporates a new processor, marked as "Pic18F 6722".

Firmware 64:

Nov 2006

Allows the unit the run Boot loader program via the PG3 programmer. This firmware is basically the same as 62.

Dec 2006

This firmware update allows a simple test on the sensor operation. **The unit must not be connected to the gate.** All other changes are the same as 64.

Timing adjustment:

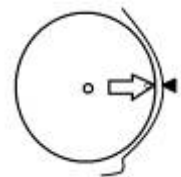
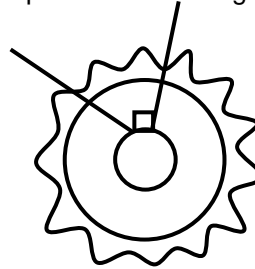
May 2006

Bios version 0.38 and earlier, units after this version do not required an adjustment

Procedure:

1. Remove slider from position so as to be able to free-turn the pinion gear.
(Important! remove from gate racking)
2. Loosen the PCB Support and transformer, remove old the timing assembly.
(Check if sensors were damaged, shouldn't replace because chopper wheel was not aligned in central, send back unit for service)
3. Replace new timing assy.
4. Place motor connector on left hand installation.
5. Disengage motor lever.
6. Power on unit whilst holding **CLOSE, PREV** and **NEXT** buttons keeping buttons depressed for about 6 seconds until a beep is heard and Alignment mode is displayed.

Set Edge 0/1 (0)
leave in 0 > SET



7. Turn the pinion gear so the key faces upwards.
8. Loosen the timing wheel screw and turn to line up arrow markers and slightly tighten screw.
9. Turn the pinion gear by hand until single beeps are heard. Twisting gear between the beeps you will notice two numbers alternating between the brackets on the display. The desired numbers are **1** and **0**.
The beeps need to alter the numbers between the pointer positions shown in the diagram (about 10 o'clock). Loosening and tightening the timing wheel may need to be done many times to get to the correct position.
The bracketed number needs to be left on (0).
10. Engage the lever and press the SET button.
The motor will run for a couple of minutes in both directions and a report will be shown at the end. If report says "GOOD" then turn off and assemble the unit.
If it shows "BAD" the timing wheel will need adjusting again and the aligning process repeated.

11. The code displays the following info after an alignment test is completed:

```
111 222 333 444
555 666 777 xxx #
```

Where:

```
111 = MIN Open error
222 = MID Open error
333 = MAX Open error
444 = Max backlash
555 = MIN Close error
666 = MID Close error
777 = MAX Close error
xxx = result GOOD or BAD
# = If result BAD then # corresponds to the last item of 1, 2, 3, 4, 5, 6, 7
```

The limits are set to MIN = 32

MAX = 96

Max backlash = 22

Motor Current:

Oct 2007

A simple check on V24dc motor can ensure the correct “tuning” or power usage of the motor. Typically around ½ amp but less than 1 amp.

- Align the motor chassis, yoke, and end bell on a straight line as shown below
- To confirm that the armature brushes are fully connected by hitting the end bell with the handle of a screw driver.
- With the end bell screws a bit loose, connect to 24VDC power supply and measure the current with a DVM. While the motor is running slightly twist the loose end bell to get lowest current as possible. Tighten the end bell.

End bell



Alignment Chopper Wheel

May 2007

Several units have had the chopper wheel poorly aligned to the photo sensor. Using a service tool allows the position to be seen when the timing assembly is removed. Although minor misalignment is not a problem, over time rubbing of the chopper wheel to the sensor can create plastic dust. This dust can stop the sensor to create a valid signal to the control board.

All V24 and V24ms models should be checked for this when performing bench and field repairs.

EMC Terminal PCB:

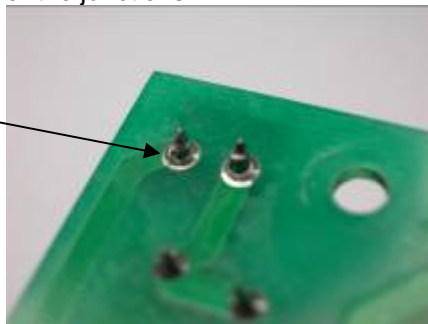
Aug 2007

Some units have been identified with physical damaged to the 240V input terminal on the EMC3.02 PCB.

Symptom: No power to unit

Cause: Factory physical damaged at 240V input terminal on EMC filter board caused by driving screw driver with extra force.

The solution is to resolder the junctions.



Fitting RX2 Option:

Aug 2007

In some cases a RX2-303 or RX2-BND receiver needs to be installed to a V24. This can be wired in to the GND, 24V & OSC terminals. However the power supply is not suitable for the RX2 and an external capacitor needs to be fitted.

Connect a 470uF 50V electrolytic capacitor across the supply terminals.