Mini PlayField (MPF) Operations FAQ

Caution:

If you are not comfortable working on pinball hardware and/or high voltage electronics, please get professional support for this. In general: use your common sense. Don't experiment. Don't be a nihilist. Only skilled and trained people are allowed to open this system. The manufacturer accepts no responsibility for injuries caused by unauthorized operation. Keep long hair, fingers, jewelry, etc. away from turning parts of the system.

General overview

The MPF (also called upper playfield) offers several functionality

- Has a mini loopramp to get Let's Go Bowling Lit
- A scoop which leads the ball to the main playfield
- A cardoor with a bash-toy
- Two parking targets which validate a darmode
- Another scoop which brings the ball via a VUK (the Jesus shot) to the MPF
- Another way to get the ball to the MPF is via the Walter ramp

Working of the Cartoy

The cartoy is a bashtoy. To activate a carmode the 2 parking targets need to be shot till the blue led inserts in front are lit. When than the scoop is shot you can select 1 of 3 carmodes and play it.

When a carmode is activated the cardoor swings open and reveals the Car. The mechanism of the car has in fact 3 switches. One switch is the Car Closed switch (SW 54; you could see this as a Home switch) and the other 2 are the 2 parking targets (SW52 and SW53). They have both the same functionality and act as EOS switch. It doesn't matter which of these 2 is activated, as soon as 1 of these 2 switches is triggered the car will see this as END and will stop moving outwards.

So if the cardoor swings open and is stutters against the parking targets it means the parking switches are not triggered and need some re-adjusting. If it doesn't close properly the Close switch needs readjusting.

Switch overview

Switch Overview Mini Playfield
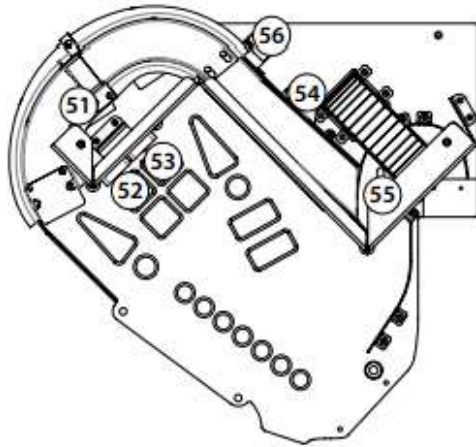
51. Mini PF Ramp Enter	Microswitch
52. Left Parking	Target
53. Right Parking	Target
54. Car Close	Microswitch
55. Right Ramp Made	Rollover
56. Mini PF RampMade	Rollover

The ramp had two switches: Mini Ramp enter (SW51) and Mini Ramp made (SW56), you see them both in below pictures. When shooting the plastic ramp it will continu over a metal rampand drop of at the end

The cardoor operation already showed the switches envolved in this.

Most issues with a malfunctioning MPF are towards the cardoor and focus here are the parking targets.

To get access to the leafblades of the parking targets its most easy to remove the bowling roof (2 allen screws). It can also be convenient to move the walls (4 thorx screws). A good functioning of these 2 switches is crucial for proper working of the cardoor. During a carmode the cardoor is 'parked' against these 2 targets and if the car is bashed it is supposed to trigger 11 of the 2 parking targets and count is as a hit.

The bottom of the MPF has the PCB where all switches are connected to. Below picture is of the latest design MPF, eg. with the stepper motro connected to (first design had the stepper motr under the main playfield).
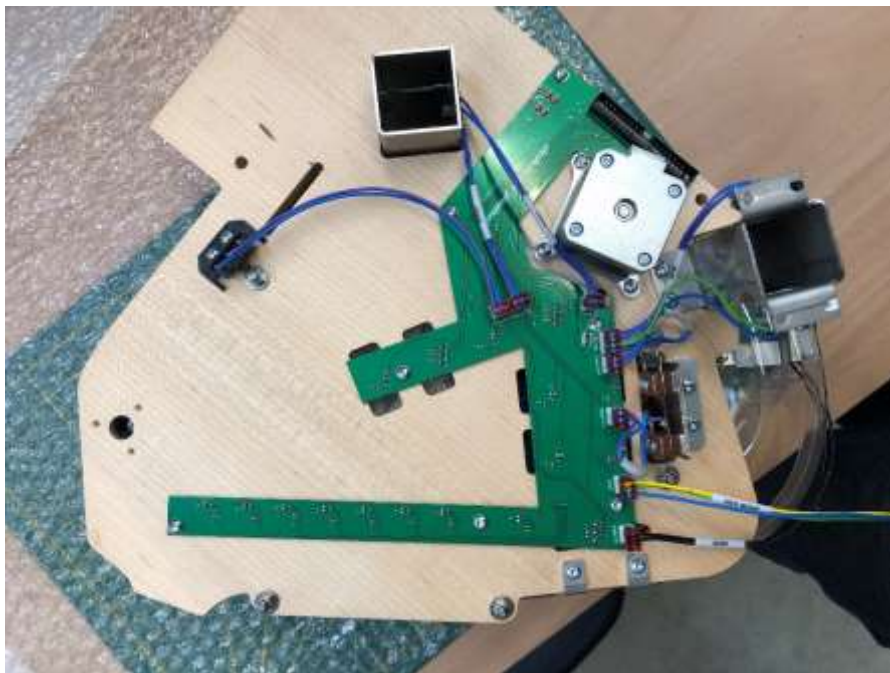
MPF Overview in TBL

As pictures say more than 1.000 words some pictures of the MPF installed in the TBL which can be convenient for reference purposes with your MPF. These pictures don't show the backboard installed. The MPF is connected with 1 screw to the backboard and 3 screws to the main playfield. Clearly shown in these pictures is the flatcable running all wiring from the MPF to the Main Middle board under the main playfield. IF nothing is working on the MPF first thing to check if this flatcable is properly connected.

Test functionality

- Boot the TBL and go into the testmenu

In this menu, you can carry out any test you desire to check if something is working properly.
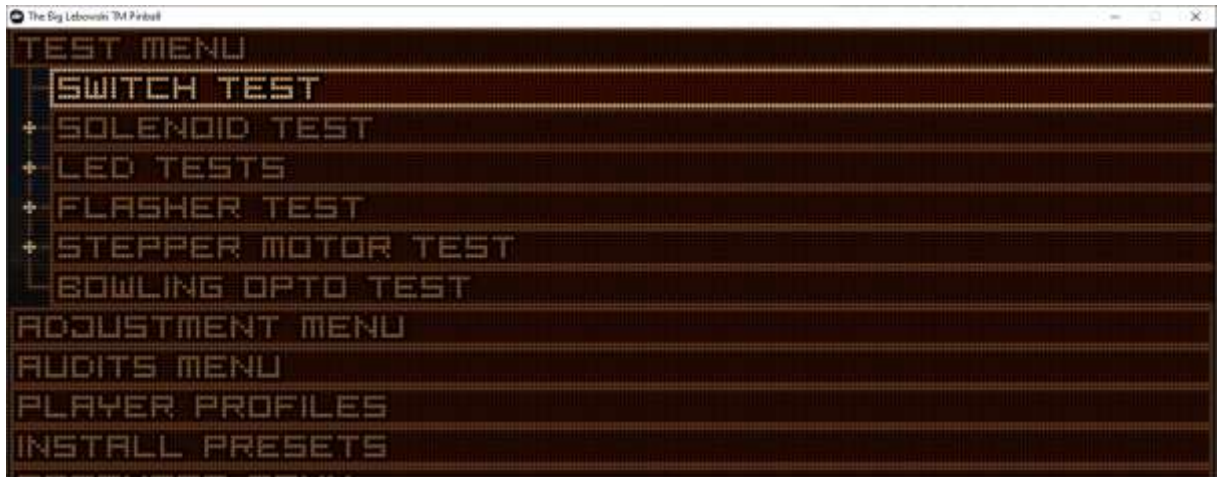
Switch test

If you activate this test, it will display all switches which are active at that moment.


If you have doubts about a certain switch, you can check the correct working here. Push the switches on the MPF (parking targets, loop ramp, ramp made, closed door) and see if this switch pops up on the display here. Check that the 2 parking targets are not always lit (which means a stuck switch) Also, a sound can be heard when a switch is activated and you can also see if there are no switches active when they should not be.

LED tests

If you select LED test, you can check the proper working of all LED's and if the multi-color LEDs are displaying all colors correctly.

All LEDS test
The easiest and most straight forward test is the All LEDs Test.
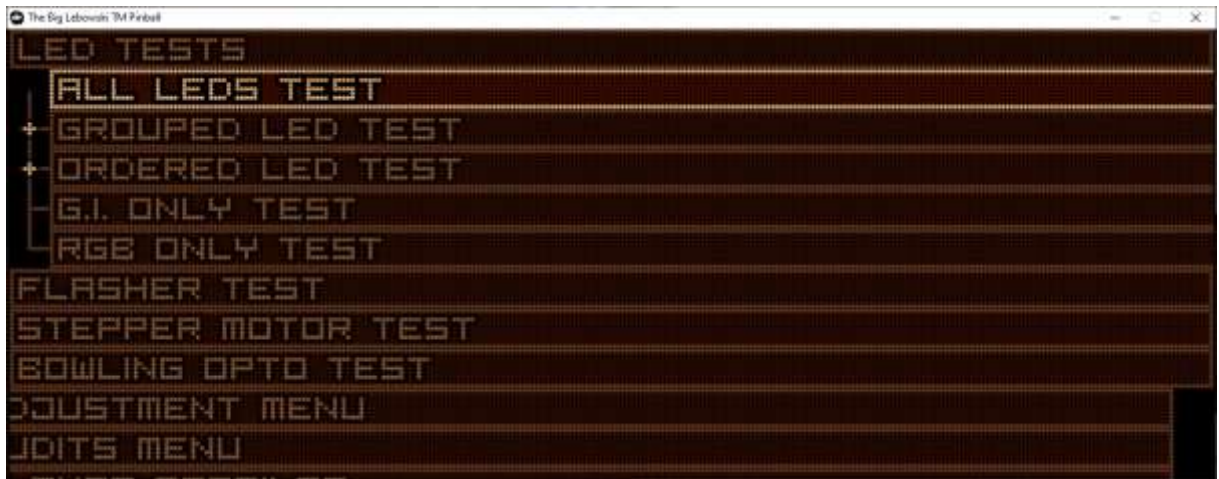
All LEDs will light up. The multi-color LEDs will cycle through different colors. You can select the following test patterns, which all speak for themselves.
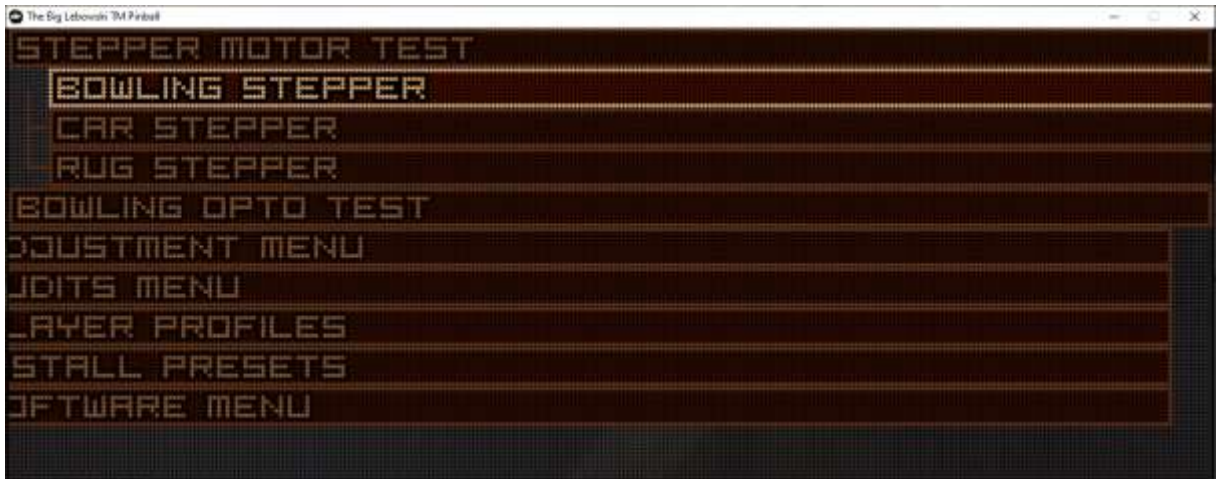
Stepper motor test

The TBL has three stepper motors:

- In the Bowling alley below the playfield, which moves the ball launcher left and right.
- On the MPF, you will find a moving door behind which the car is placed. This Car Door is moved by a stepper motor.
- The rug on the playfield is also controlled by a stepper motor.

Remember that for the stepper motors to work in the Test Menu, the switch which enables power supply to the 12 & 48 VDC circuits must be enabled!

The switch responsible for this protection can be found on a bracket at the left side of the coin door. If you want to disable this protection during testing, you have to pull the pin on this switch till you feel it click. The protection circuit is now disabled! It is important be aware of this when you touch parts at the bottom of the playfield. If you close the coin door, the protection is re-instated for the next time.
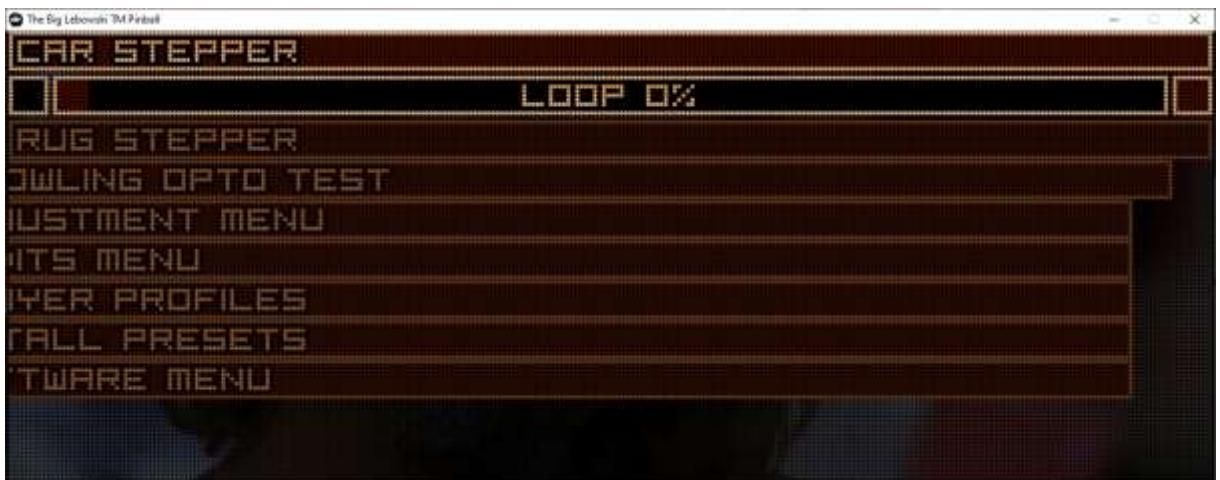
Select the stepper motor you want to test. In this case, we take the Car Stepper.

If you select it, you will get the following
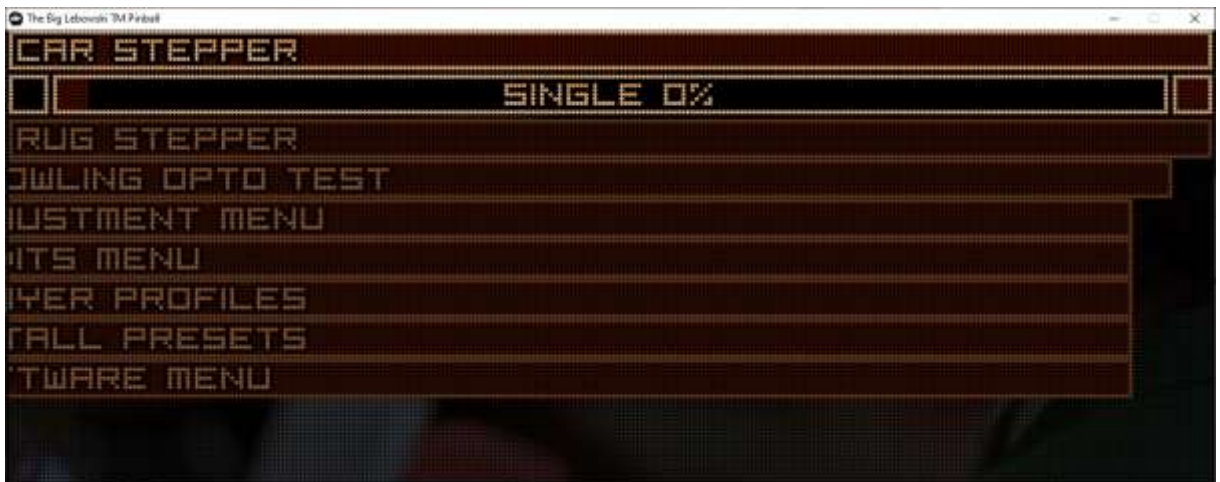
In this mode, the door will move only once. Pushing + will open it, pushing – will close it.

However, if you push Enter it will go to the looping mode.

In this mode, the motor will run continuously. If you suspect any intermittent problem, this can be useful to diagnose it or to adjust a switch. Cardoor should go open and close smoothly. If the cardoor stutters against the parking targets you will need to adjust the parking targets, if it stutters when closed, you will have to adjust the switch there. In this test these 3 switches can be easily checked on proper working.