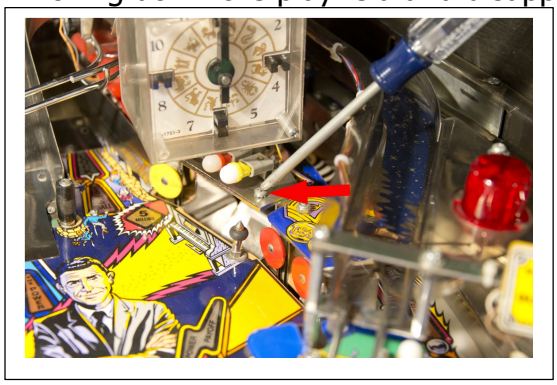
I N S T A L L A T I O N I N S T R U C T I O N S

103501 Twilight Zone Pinball – Carpet Lighting LED Clock Board

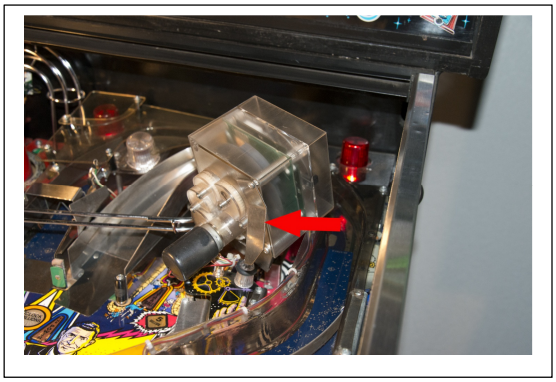
The original clock face on your Twilight Zone clock used four tiny socketed incandescent lamps, which would spread sequenced lighting across four quadrants. The problem was that the lighting design proved to be poor and uneven, and the lamps created excessive heat, which led to component failure. Other designs have been produced using LEDs, with varying results and appearance.

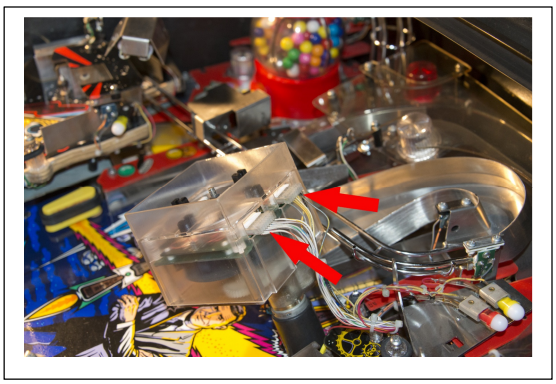
This PC board assembly is designed to replace the pair of circuit boards found inside the clock assembly on the playfield. When installed, heat is no longer a factor because of the cool-running LEDs, and illumination is even and consistent due to the "carpet lighting" effect using a total of 12 high-brightness LEDs. Also, the LEDs are directional which reduces the spill-off lighting effect on the clock housing, and promotes even and clean clock-face lighting.

To install this PC board:
Turn on your pinball machine, get the clock to show 12:00, then turn it off. Remove glass. Place a folded towel on the playfield as shown. This gives you a convenient place to put the hardware removed from the clock, and keeps those pieces from rolling down the playfield and disappearing.



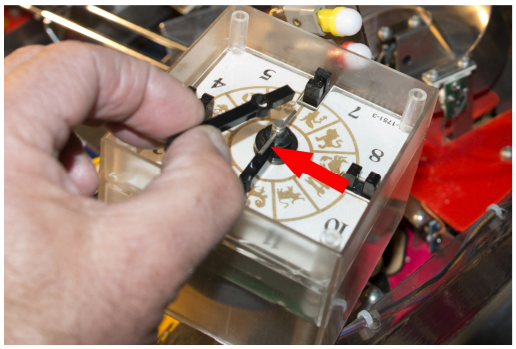
Locate the single Philips-head screw which secures the clock assembly to the playfield. Remove this screw and slide the clock assembly towards the rear to unhook the rear latch, then lift up on it. Rotate the position the clock to access all of its hardware. You will then need to remove four short screws on the face of the clock and four longer screws on the rear of the clock. Leave the wiring thru the playfield intact and work on top of the playfield. Note position of ball deflector in image below.



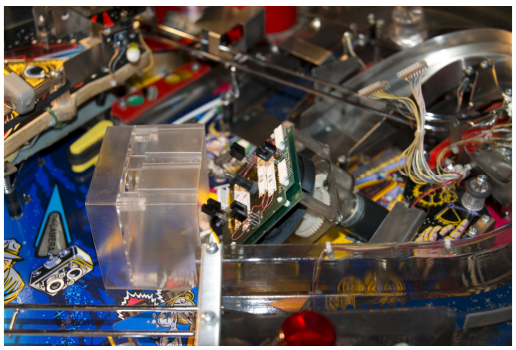


Next, unplug both connectors found at the bottom of the clock. These two connectors will plug into the new PC board. They look identical, but one of them has a blocked cavity so you can't accidentally plug them into the wrong location when re-assembling the clock.

(SEE OTHER SIDE)



Using a small screwdriver, carefully remove the snap ring that holds the hands in place. Putting a piece of clear tape over it will help keep it from flying away. Place it on the towel. The kit includes an extra snap ring just in case the original ring flies away (referred to as the "ogeesis" ring). Make a note of the position of each clock hand (should be 12:00). Once the minute hand is pulled off the shaft, there is a long pin that aligns it to the shaft; carefully slide this pin out and place it on the towel. You can now remove the hour hand and grasp the clock face frame, then remove it as shown. This will reveal the circuit board assembly, which can now be removed from the clock assembly. Slide the clock housing off to access the circuitry.



With the two connectors removed, you can now remove the original assembly and replace it with the new assembly. Note the connectors; one has a missing pin, so they can't be accidentally reversed.

Once the new board assembly is in place, position the board back onto the clock movement assembly so that the two connectors exit the bottom of the assembly. An arrow indicates the top, which is printed on the new board assembly.

Reverse the procedure to re-assemble, being careful not to lose the long pin which goes in right after you re-install the hour hand, and before you install the minute hand. Replace snap ring carefully.

Standard LEDs are high brightness white. Other colors are available; Blue, Green and Red - contact us. Note the even lighting on the numerals of the clock face.