HOPPER ERROR CODE: 34 – SENSOR ERROR

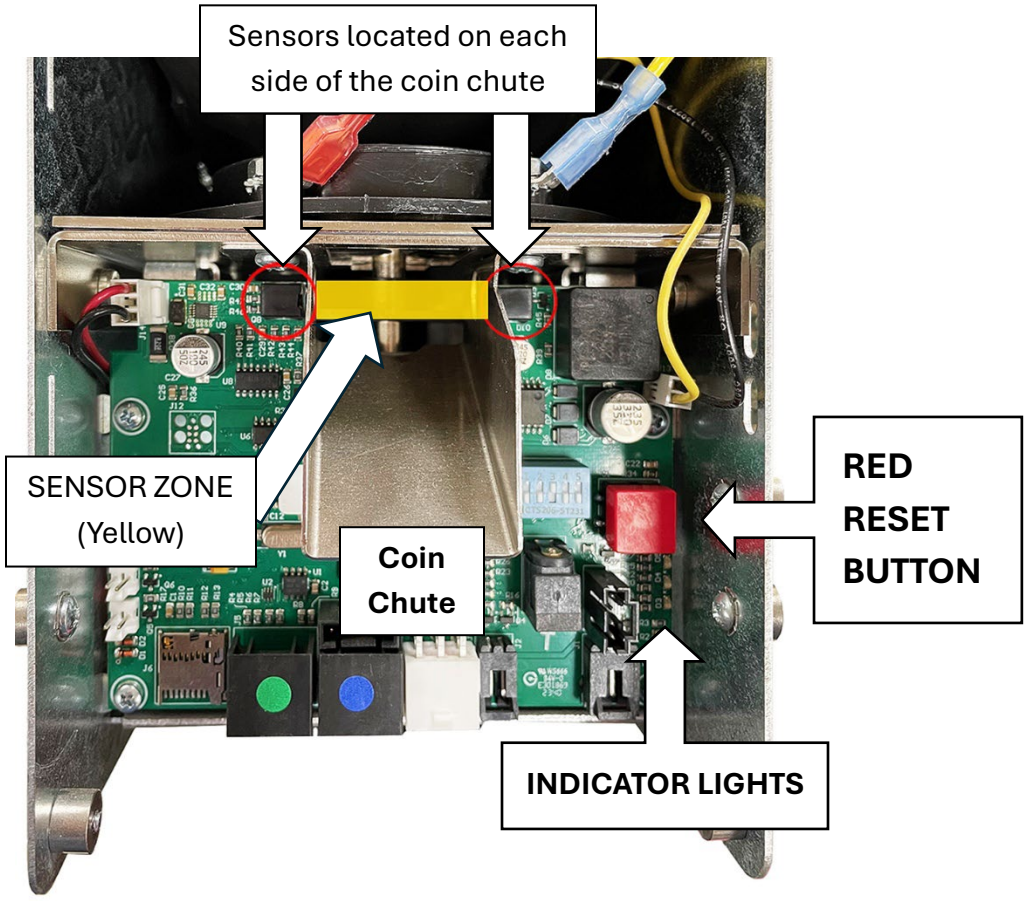


Figure 1 - Front Load Modular (MC) Series Hopper Board - red circles indicate the location of the coin sensors, and the yellow line indicates the sensor zone – area inside the coin chute between the two sensors.

WHAT IS A "34" ERROR?

Flash Code 34 is a "Sensor Error," meaning the coin counting sensors located on each side of the hopper coin chute are blocked or counted an extra coin.

NOTE: *In some older machines, the Error Code Reference sticker identifies this as an "Overpay Error."*

When you open the Hopper door on a front-load machine, you will see a green control board as shown in Figure 1. In the middle, you have the Hopper Coin Chute, which guides coins dropped out of the Dispense Mechanism into the coin cup of the change machine.

At the top of the Control Board located on each side of the Hopper Coin Chute are two black blocks. These two blocks are paired sensors that emit and receive an LED infrared beam of light across the chute, which we designated as the sensor zone in Figure 1. The sensor pair are aligned with the holes at the top of the Hopper Coin Chute, as shown in Figure 2.

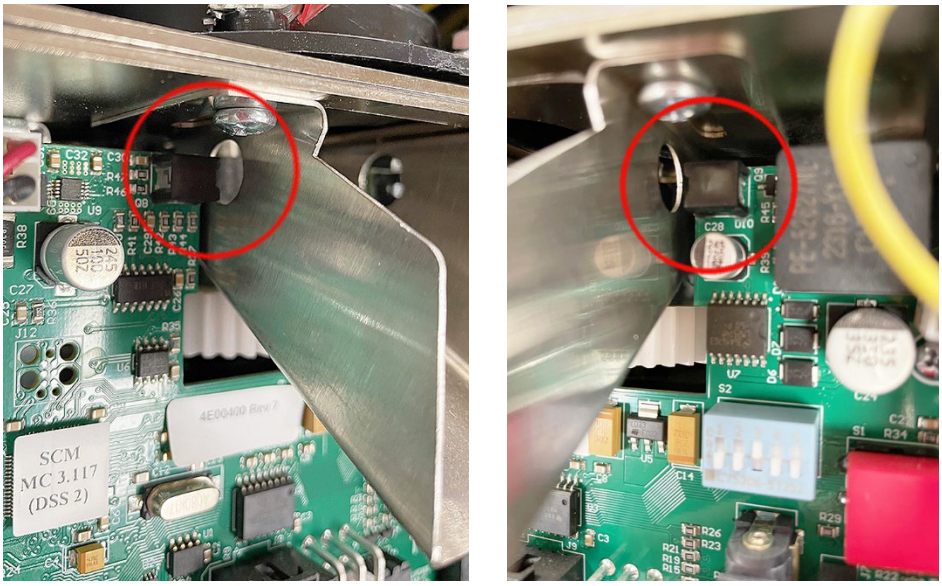


Figure 2 - Front Load Modular (MC) Series Hopper Board - red circles indicate the location of the coin sensors. Please note the hole in the Hopper Coin Chute that allows the LED infrared light beam to pass between the two sensors. As coins drop from the Dispense Mechanism, they fall through this beam and are counted.

HOPPER LED INDICATOR LIGHTS

YELLOW

GREEN

RED

When you first examine the hopper board, you will see the three LED lights on the right side of the hopper board. The lights are YELLOW – GREEN – RED (from top to bottom). The flashing yellow should be signaling the 34 error code (three quick flashes – short pause – four quick flashes – long pause). The Green light will be on, indicating the hopper is still getting power.

At this point, check the Red light. If the red light is on solid, it means there is something in the sensor field or stuck at the top of the hopper coin chute. (In normal operating mode, the red light flashes as coins are dropped from the dispense mechanism.) If the sensor field is clear, the red light should be off as well.

The obstruction can be lint, dirt, insects, or a jammed coin. Once the obstruction is cleared (you will know because the red light turned off), simply push the Red Reset Button on the Hopper Control Board to clear or reset the error.

After the hopper reboots, if you cleared the obstruction, the hopper and machine should return to Normal Operating Mode – the yellow indicator light will flash repetitively, and the green light will be solid on.

If the hopper returns to a 34 Error again, there is still something obstructing the sensor field. At this point, we will need to clean the sensors. Using canned air (which can be purchased online or at any store that sells electronics, computers, and computer accessories) – spray the air in short

bursts at the black sensors through the holes in the hopper coin chute. This will help clean any accumulated dust or debris that was sitting on the sensors.

Next, use a clean, dry cloth to wipe down the hopper coin chute.

Push the Red Reset Button again, and after the system reboots, the hopper should return to normal operating mode. If the 34 error occurs again, there may be a problem with the Control Board, and it needs to be replaced.

You can purchase a replacement board by contacting the Standard Change-Makers Service/Parts Department by calling 800-968-6955 or emailing parts@standardchange.com

IMPORTANT NOTES:

The above directions used images for the Front Load Coin Hopper. In a Rear Load machine Hopper, the Control Board is on the back of the hopper (so the indicator lights and reset button are facing the door). There are no black sensor blocks or coin chute on the Rear Load Hopper Main Control Board. There is a Secondary Board, with sensor blocks, that has connector wires to the main Control Board – please see Figure 3.

You would clean the sensors in the same manner as discussed on the Front Load Hoppers.

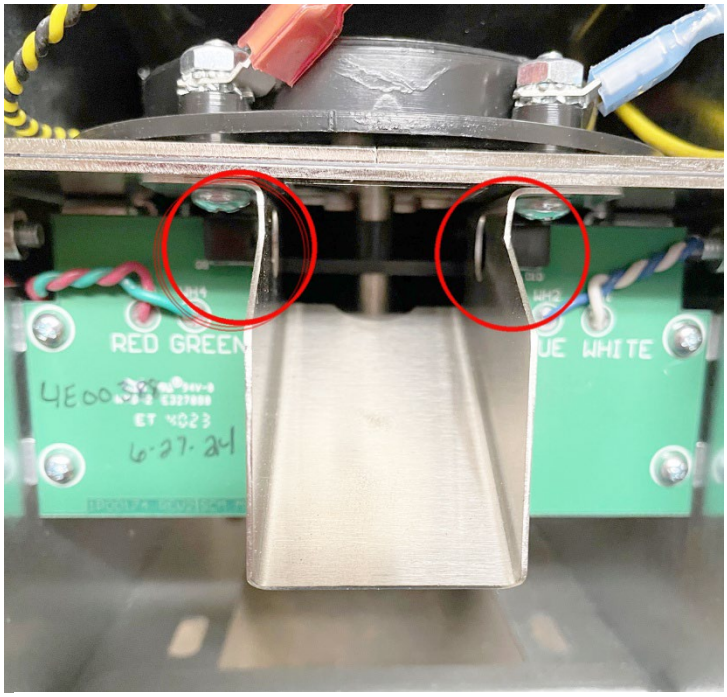


Figure 3 - Rear Load Modular (MC) Series Secondary Sensor Board, with two red circles showing the location of the sensors on each side of the coin chute. Notice the red/green and blue/white wires that connect the board to the Main Control Board.

OTHER ISSUES THAT CAN CAUSE A 34 ERROR

There are other issues that can cause the Sensor Error (34) that are not related to dirt or coins stuck in the sensor field on the Control Board. These issues are:

1. Hopper Coin Chute Alignment
2. Hopper-to-Coin Cup Alignment
3. “Coin Bounce”

HOPPER COIN CHUTE ALIGNMENT

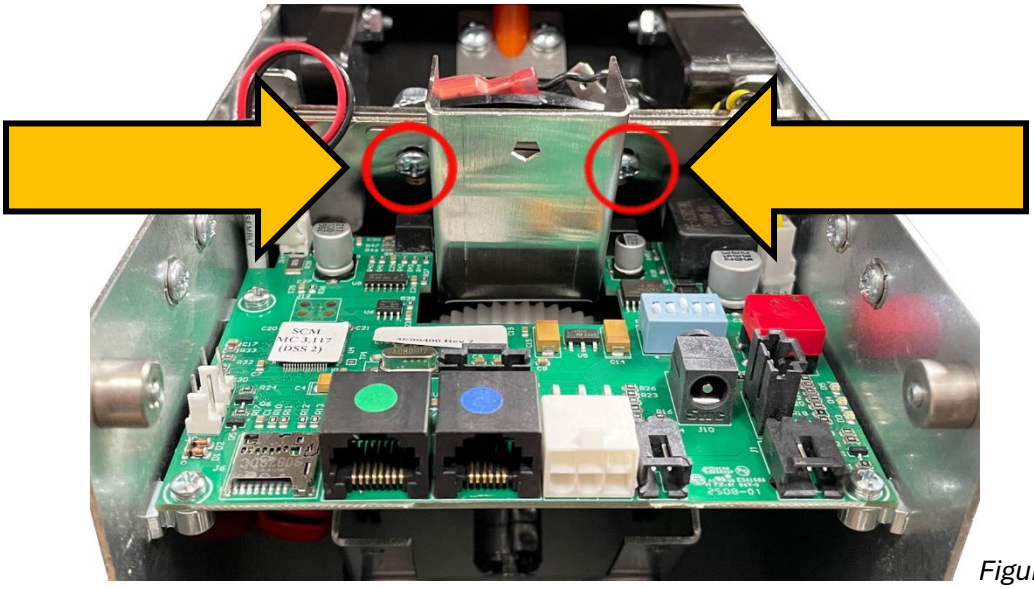


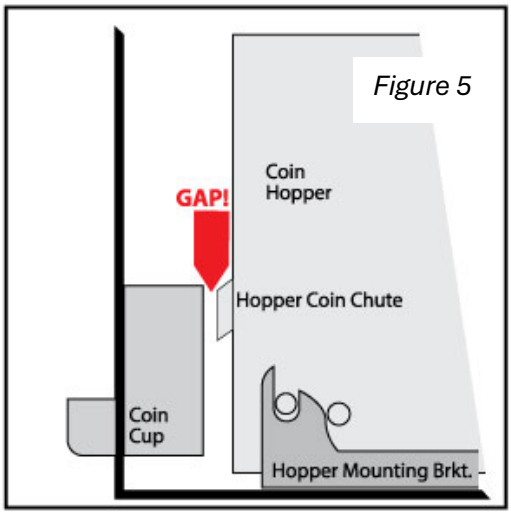
Figure 4

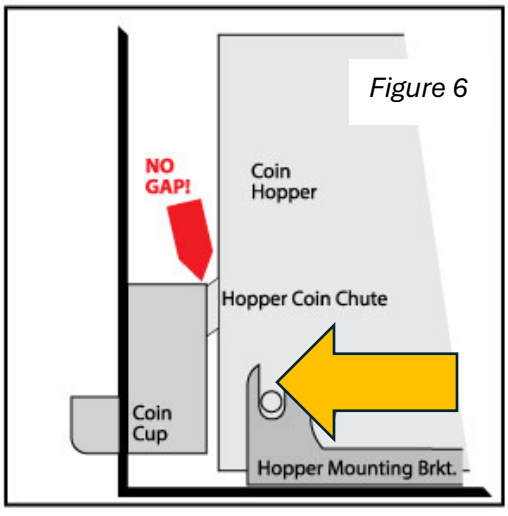
As noted above, the steel Hopper Coin Chute has two holes at the top of the chute. Sometimes during the assembly process or transport of the machine, that chute can move slightly, so that the holes are not in alignment with the sensor blocks. This prevents the sensor connection and interrupts the sensor field.

To adjust the Hopper Coin Chute and get the holes back in alignment with the sensors, there are two small screws at the top of the chute. All you need to do is loosen the screws slightly, adjust the chute so the holes are aligned with the sensors, then tighten the screws.

Test the hopper by plugging into the machine and running some quarters through it to make sure the error is eliminated.

HOPPER-TO-COIN CUP ALIGNMENT





If you find that your hopper sensor field is clear and you have cleaned the sensors, you should check the alignment of the Hopper Coin Chute to the Coin Cup. There should not be a gap between the chute and the coin cup. If a gap exists – quarters can bounce off the edges of the coin cup or accumulate in the coin chute and back-up to the sensors, which will trigger the sensor error.

To remedy this condition, you should remove the hopper. You will see four nuts that hold the Hopper Mounting Bracket to the cabinet. Follow these instructions:

1. Loosen the four nuts
2. Replace the Hopper and move the hopper forward so there is no gap between the chute and coin cup.
3. Mark the location of the Hopper Mounting Bracket at this point (in case it moves during Step 4).
4. Try to remove the hopper again – without moving the bracket.
5. Adjust the Mounting Bracket to your mark and tighten the four nuts.
6. Install the Hopper and check the Hopper Coin Chute alignment to the Coin Cup.
7. Re-connect the cables and test the hopper by filling it partially and inserting bills in the bill acceptor.

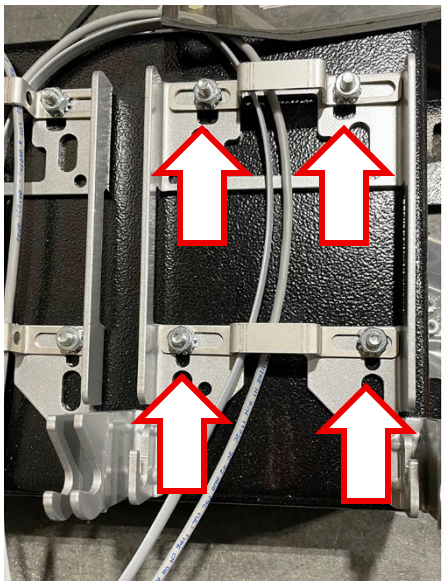


Figure 7 - Top View of Hopper Mounting Bracket with four nuts holding it in place. Loosen these four nuts, the mounting bracket slides back & forth.

"COIN BOUNCE"

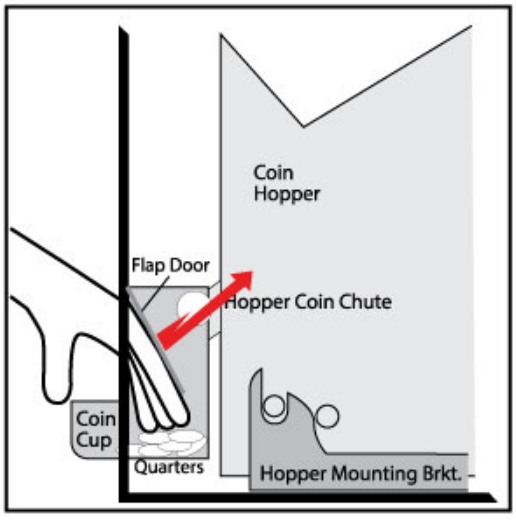


Figure 8 - Diagram of hand reaching into the coin cup and a coin bouncing off the flap door and back up into the sensor field. That bouncing count can get counted twice, and that would signal a 34 Error code as an overpay condition.

In some models, there is a condition called “coin bounce” that can trigger a 34 Error. This happens when, during the coin dispense, a customer puts their hand in the coin cup and starts to scoop the quarters up. This causes the flap door to angle up, and as coins are continuing to dispense, a coin will bounce off the flap door and go back up the chute and trigger the sensor field again, before falling back into the coin cup. The triggering of the sensor throws the dispense count off, and that signals the 34 error as an overpay condition.

There have been certain coin cup re-designs that have helped eliminate this condition by inserting PEM studs in the sides of the coin cup so that the flap door can’t be pushed back as far. If you suspect this issue, please contact the Service Technicians at Standard Change-Makers.

CONCLUSION

If you have checked these conditions in your change machine, and the hopper continues to show a 34 Error, you should contact the Service/Parts Department at Standard Change-Makers by calling 1-800-968-6955 or emailing service@standardchange.com

The technician can help you determine if the hopper needs to be sent to the factory for repair, or if parts can be purchased for replacement in the machine.

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