

SERVICE BULLETIN

SUBJECT: ROLLER GAMES "Deep Freeze" Magnet Performance Adjustments

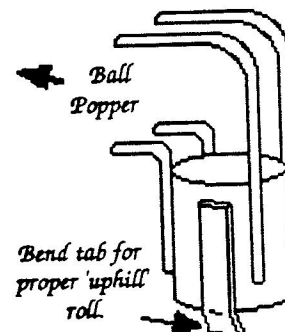
Information: Three adjustments are recommended, to ensure proper "Deep Freeze" Magnet operation. Determine which is applicable for your game. (Some games may need only one; some may need more than one.)

The first adjustment affects the ball direction, as it exits the tube at the end of the Ball Popper Wire Ramp. The second adjustment affects the ball location when 'frozen' by the magnet. The third adjustment affects the magnet core height.

Ball Popper Wire Ramp Exit Tube Adjustment

Procedure:

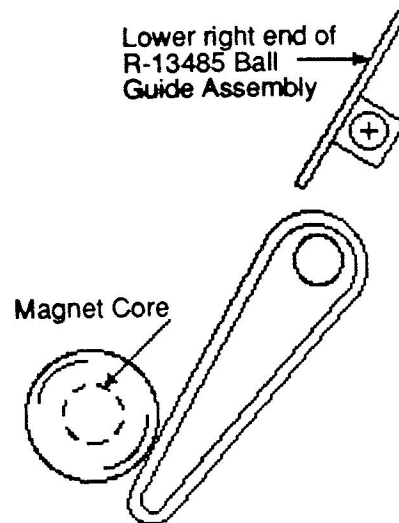
1. Check the direction and distance of ball movement as it exits the Ball Popper Wire Ramp tube. As it drops out of the tube, the tab at the bottom of the tube should send the ball rolling 'uphill' (upward on the playfield) approximately 1 inch, before rolling down the ball guide into the "Deep Freeze" Magnet region, near the Upper Right Flipper.
2. Adjust the tab at the lower end of the Ramp tube to obtain the proper 'uphill' roll. Be careful of the 'uphill' roll distance because too long an 'uphill' roll can cause the ball to gain too much momentum and roll completely through the magnet area too fast for the magnet to 'freeze' (hold) it. Also, be careful of the direction of the roll. The tab should direct the ball slightly toward the ball guide to ensure that the ball will roll through the magnet region, rather than possibly bouncing away from the magnet region.



Upper Right Flipper Paddle Adjustment

Procedure:

1. Check the ball movement as the magnet 'freezes' (holds) it. Ideally, the ball will be rubbing on the red flipper rubber, during the 'freeze'. This dampens the magnetic oscillations much faster and allows a well-aligned shot up the left Upper Plastic Ramp.
2. Adjust the Upper Right Flipper paddle position, if possible, to allow the ball to rest on the red flipper rubber, while the magnet is holding it.
3. Be careful during this adjustment to **avoid** making the "loop" shot around the ball guide at the top of the playfield end in an 'outhole' drain (up the left side of the ball guide, around the upper rim, and down the right side of the ball guide, past the flipper paddle, and down between both lower flippers into the outhole). The Upper Right Flipper paddle should send the ball onto the lower right flipper, when properly adjusted.

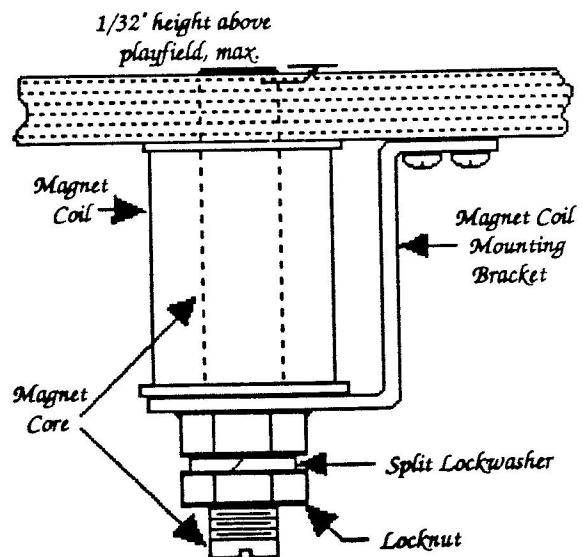


Ball resting on Upper Right Flipper rubber, during Magnet 'Freeze'

Magnet Core Height Adjustment

Procedure:

1. Check the height of the metal "Deep Freeze" magnet core above the playfield surface. The optimum height is approximately $\frac{1}{32}$ ". This height causes the ball to "freeze" faster, by reducing the speed of the ball movement, yet it does not apparently interfere with other shots.
2. Raise the playfield to allow a straight-bladed screwdriver blade to turn the core for the proper height. If necessary, slightly loosen the locknut securing the core in its bracket. Retighten the locknut following the height adjustment to secure the core at the desired height.



Shooter Lane Exit Path Adjustment

Information: As the ball exits the shooter lane, it should proceed across the playfield and go up the plastic ramp (as shown by the dark arrow). Adjustment of the shooter lane ball guide may be necessary to obtain this ramp shot.

Procedure:

1. Check the ball trajectory (path) from the shooter lane ball guide toward the plastic ramp. The ball should move smoothly up the ramp entrance.
2. If necessary, loosen the ball guide screw in the ball guide slot, and reposition the ramp to obtain the proper ramp entry.
3. To maintain the ball guide position, install another screw in the Locking Screw hole.

