## **Maintenance Information**

Regular maintenance is essential to a game's continuing contribution to the operator's earnings.

### Lubrication

The two main lubrication points of the Ball Release mechanism are the pivots for the arm. The mechanisms of other playfield devices are somewhat similar to the Ball Release, and have the same lubrication requirements. A medium viscosity oil (switch target grease) is satisfactory for these devices.

Because of the functional design (arm-actuated via solenoid plunger operation), the pivot points of the Left and Right Kickers ("Slingshots") all require lubrication as a regular servicing procedure.

Lubrication to ensure proper operation also applies to the target blades of the Drop Targets. MBI Instrument Grease, also known as Drop Target Switch Lubricant, with a Williams' part number of EI165, is a recommended lubricant.

#### **Switch Contacts**

#### Playfield Switches

For proper game operation, switch contacts should be free of dust, dirt, contamination, and corrosion. Blade switch contacts are plated to resist corrosion. Cleaning blade switch contacts requires gentle closing of the contacts on a clean business card or piece of paper, and then pulling the paper about 2 inches, which should restore the clean contact surface. Adjust the switch contacts to a 1/16-inch gap.

## Flipper Switches

This game uses the new Fliptronic II Electronic Flipper System. The End-of-Stroke switches, now called Breakaway switches, are NORMALLY OPEN. The switch should close when the flipper is energized. All Breakaway switches and flipper button cabinet switches are gold flashed computer grade leaf switches. Only low computer current is carried thru these switches. DO NOT FILE or abrasively clean these switches! DO NOT REPLACE these switches with the old style tungsten high current type switches as intermittent operation could occur. Unlike the old style of flipper, a Breakaway switch failure does not harm the flipper. The game will notifies the operator of the switch being mis-adjusted in the test report, but continues to play. The Breakaway switches are a means by which the new electronic flippers feel and play with all of the subtleties of the old flippers.

# Cleaning

Good game action and extended playfield life are the results of regular playfield cleaning. During each collection stop, the playfield glass should be removed and thoroughly cleaned and the playfield should be wiped off with a clean, lint-free cloth. The game balls should be cleaned and inspected for any chips, nicks, or pits. Replace any damaged balls to prevent playfield damage.

Regular, more extensive, playfield cleaning is recommended. However, avoid excessive use of water and caustic or abrasive cleaners because they tend to damage the playfield surface. Playfield wax (or any carnauba based wax), or polish may be used sparingly, to prevent a buildup on the playfield surface. Do not use cleaners containing petroleum distillates on any playfield plastics because they may dissolve the plastic material or damage the artwork.