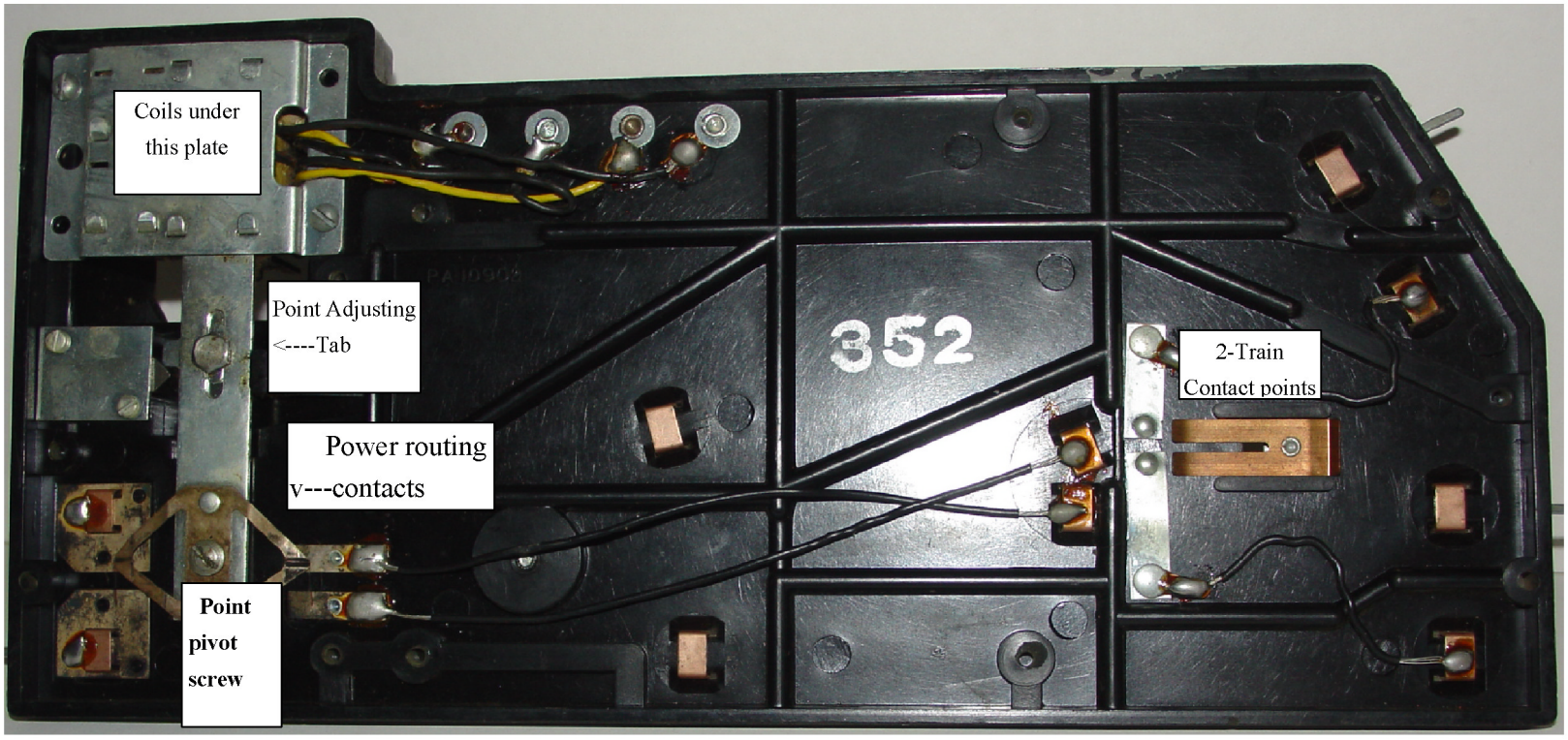

American Flyer Switch Tune-Up

There are two main components to AF switch maintenance, mechanical and electrical. Start with the mechanical. Apply 15 to 18 volts to the black terminal and the red and green terminals in sequence. The switch should throw with a crisp snap with the points firmly against the outside rail. If the switch is sluggish, check for binding in the mechanism by removing the metal plates on the bottom of the switch. The throw bar is located at the motor end of the switch. Try lubricating the moving parts, however do not use oil on the rod that moves inside the two coils. If the switch only throws in one direction, the problem is either a broken wire from the terminals to the coils or a burned out coil. Replace any broken wires and test again by applying power to the switch. Burned out coils are rare and not really worth trying to fix. Don't replace the bottom plates until after you have prformed the electrical test.

If the points don't rest firmly against the outside rails, there is an adjustment feature on the throw bar (see photo). There is a spring loaded pointed dog that presses against the adjustment tab. The tab can be loosened and moved in either direction to change the tension against the points.

On to the electrical. There are several sets of electrical contacts on the bottom of each switch that control the routing of power to the straight and curved route of the switch. Dirt or corrosion on these contacts will result in poor operation of engines on the track beyond the switch. The resistance through the switch should be as low as possible, preferably less than one Ohm. To test for this you will need a multi-meter set to measure Ohms. With the switch in the straight position place one test lead on the long curved rail and the other on the short straight rail at the diverging end of the switch. Then move the test lead from the test lead from the short straight rail and place it on the movable points. Then with the switch in the curved position place one test lead on the long straight and the short curved rail at the diverging end of the witch. Then move the test lead from the test lead from the short curved rail and place it on the movable points. A reading of much more than one Ohm in either test indicates dirty contacts.

The contacts a found on the bottom of the switch as indicated in the photo. I generally use spray contact cleaner and a Scotch Bright pad to clean the contacts. Loosen the point pivot screw so you can clean the underside of the contacts on the throw bar. The is another set of sliding contacts at the other end of the switch for the 2-Train operating feature. These should be cleaned as well.

The wiring on the bottom of the switch is connected electrically to the rails by solder joints to brass clips the are pressed against the rails. If these are loose or have dirt under them, they can also cause high resistance. If the are loose against the rail, first clean underneath them with contact cleaner. Then tighten them with a center punch, fist placing a backing block under the rail from the bottom side of the switch.

Run the resistance test again and hopefully the resistance will have dropped to an acceptable level. If not go over the contacts and brass track clips again.