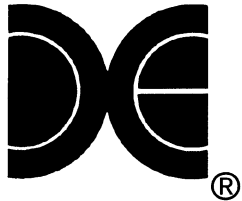


## Service Bulletin No. 59



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# Technical Support

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TO: Parts & Service Managers  
DATE: May 27, 1994  
RE: Servo Motor Stripping Gears on:

# TOMMY

**PLEASE READ: THIS SERVICE BULLETIN WAS PRODUCED TO COVER THE POSSIBILITY OF THE SERVO MOTOR FAILING. VERY LITTLE FAILURE IS REPORTED. IN MOST CASES, FAILURES ARE THE RESULT OF LIFTING THE PLAYFIELD BY THE ARCH AND THE METAL STRIP (BRACKET), BENDING THE METAL STRIP (BRACKET). AS TO THE SERVO MOTOR ITSELF, IT HAS BEEN SUCCESSFULLY LIFE TESTED, WITH UNITS HAVING OVER 2,000,000, CYCLES, EQUIVALENT TO 11.41 YEARS OF PLAY.**

**SYMPTOM** Blinders do not open all the way or may stick when attempting to close.  
\*\*\*DO NOT LIFT THE PLAYFIELD USING THE ARCH. SEE NOTE BELOW\*\*\*

**PROBLEM** The Link Arm and/or the left blinder (top) blade is getting stuck on the underside of the playfield arch. There is a metal strip (bracket) spot welded to the under side of the arch, which protrudes down to prevent ball traps (See Fig. 01). This metal strip (bracket) is getting bent, when the playfield is being lifted by the arch, and in some cases the metal strip (bracket) gets bent downward. In either case this could cause premature failure to the servo motor, if binding occurs.

### SOLUTION

**NOTE** *Please refrain from using the arch as a lifting device. Instead, use the left & right return lane ball guides. As always use great care in lifting the playfield.*

Inspect the underside of arch to ensure ball trap bracket is not bent. If bracket is bent adjust by re-bending the metal strip (bracket) according to the attached diagrams specifications. The specs. may vary depending on the particular arch assembly being used. The metal strip (bracket) should be parallel to the playfield with no bends.

***Servo Motor Replacement Instructions follow on the next page.***

## Servo Motor Replacement

If the servo motor is found to be defective and replacement is necessary, follow the procedure printed in your TOMMY manual on pg. 86 - 87. Here is the procedure for those who do not have manuals available.

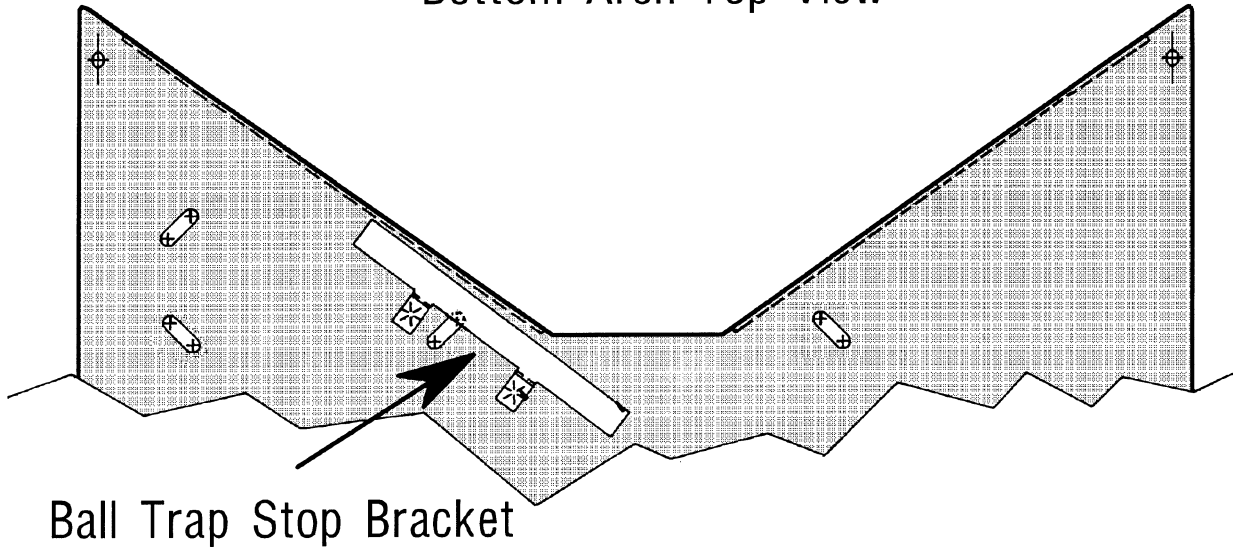
1. Turn game POWER OFF.
2. Remove the Arch, covering the trough and blinder assembly.
3. Remove the link arm set screw and link arm.
4. Remove servo motor from mounting bracket. Disconnect servo motor harness from servo interface bd.
5. Install the new (good) servo motor into the mounting bracket. Reconnect the servo motor harness to the servo interface bd. **(DO NOT POWER UP YET)**.
6. Using the linkarm, attach it to the servo motor shaft only and bias the motor (by hand) clockwise until the motor hits its mechanical stop. Remove the linkarm.
7. Turn the Power on. The servo motor will rotate slightly. This presets the servo to its electronic positioning (closure).
8. Fold the blinder blades in 100% (closed). Re-attach and secure the linkarm to the servo motor shaft and blinder blades. Your blinder assy. should now be ready for operation. Turn game OFF and ON. The blinders should remain in the closed position.
9. Perform test in Diagnostic Arch Test (open and close).
  - a. If blinders experience any chatter while performing the arch test opening / closure, an adjustment is necessary.
  - b. If a clicking noise is also heard during this test or when the game is in attract mode, an adjustment is necessary.
10. Adjustments are made on the servo motor interface bd. as follows.
  - a. Pot R2 (yellow) is for adjusting the opening (out) while the start button is depressed. Blinders should be centered, with blinder center line between flippers or at 90° with respect to the front molding. No chatter or clicking should occur.
  - b. Pot R5 (red) is for adjusting the closure (IN). This adjustment can be done at any time when the blinders are closed (Diagnostics or Game Over Mode). When the blinders are closed they should not protrude beyond the flat rail more than 3/16". If this does occur and / or chatter / clicking should occur, adjustment to R5 is necessary.
11. Once again make sure the ball trap bracket on the underside of the arch is not bent. This could cause premature failure to the servo motor once again.

**\*\*\*USE CAUTION WHEN LIFTING PLAYFIELD. TO PREVENT BENDING OF THE STOP BRACKET OR OTHER DAMAGE, LIFT THE PLAYFIELD BY THE LEFT AND RIGHT RETURN LAND BALL GUIDES. ALWAYS USE CARE WHEN LIFTING THE PLAYFIELD.\*\*\***

This is all you should have to do for replacement and adjustment to ensure your TOMMY blinders operate properly.

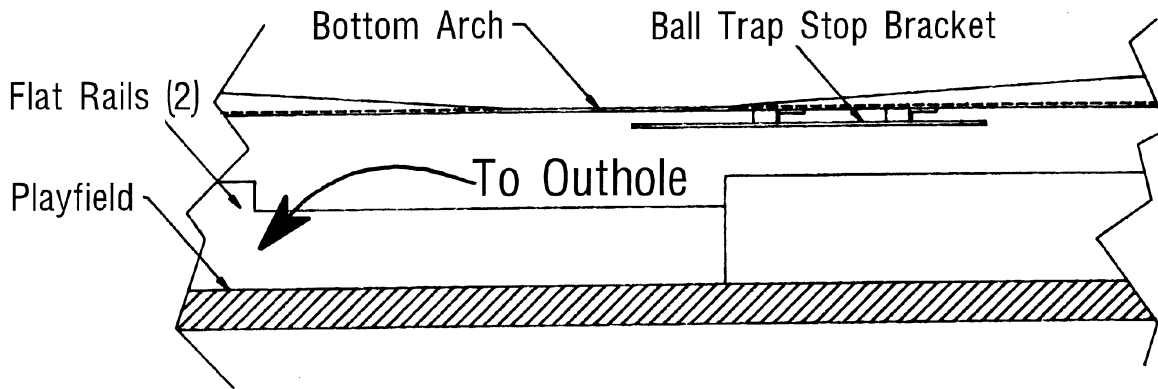
Fig. 01

### Bottom Arch Top View



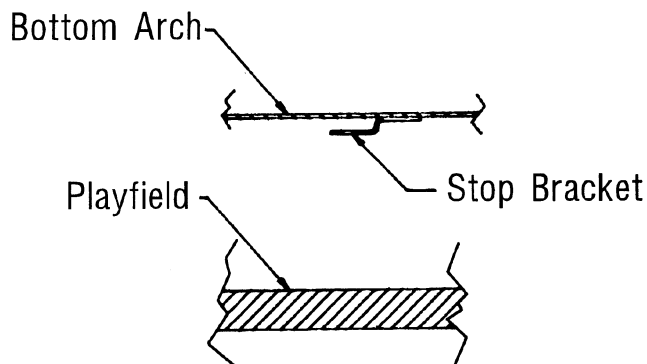
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### Bottom Arch Front View Looking In From Playfield



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### Bottom Arch Sideview Section



Note: The Stop Bracket is parallel to playfield.

Note: Other playfield components omitted for clarity.