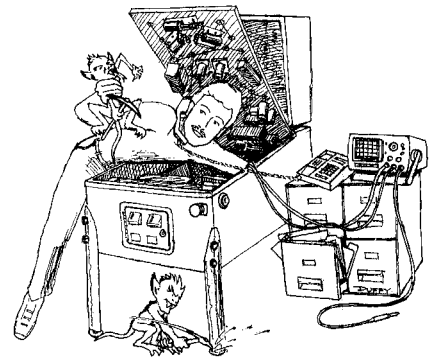


# Service Bulletin N° 91



Joe Blackwell  
Technical Support Manager

Eric Winston  
Technical Support Engineer

Ted Kilpin  
Technical Support Engineer

Jay Alfer  
Tech. Doc. Administrator

**TO:** Parts & Service Managers

**DATE:** November 27, 1996

**SUBJ:** *TWISTER* Magnet Processor Board & Magnet Disc Motor Updates

## **SYMPTOM:**

The Skill Shot is awarded when the Right or Left Flipper Button is pressed at the start of each ball while the ball is still in the shooter lane, the Spinning Disc Magnet intermittently energizes throughout the course of a game and the 3 Amp Magnet Fuse located underneath the playfield may blow every couple of days.

## **REASON:**

This game extensively utilizes the Magnet Feature during Multiball ("sense & grab" and "holding of the pinball"). The Zener Diode 1N6267A, Loc. D13, may have failed and is now *shorted* (check with a meter). A contributing factor to this diode failure is an intermittent reset problem which may be contributed by noise from the Neon Bulb across the Spinning Disc Motor Connector.

## **SOLUTION:**

Order the **Twister Mag Update Kit, Part N° 500-6173-00**, which *includes two (2) 1N6267A Zener Diodes and one (1) 22Ω 1/2 watt resistor*. With this kit you can add the replacement diodes on the Magnet Processor Board and add a 22Ω 1/2 watt resistor to the Connector on the Motor Wiring Harness (after removing the Neon Bulb).

## **BOARD UPDATE PROCEDURE:**

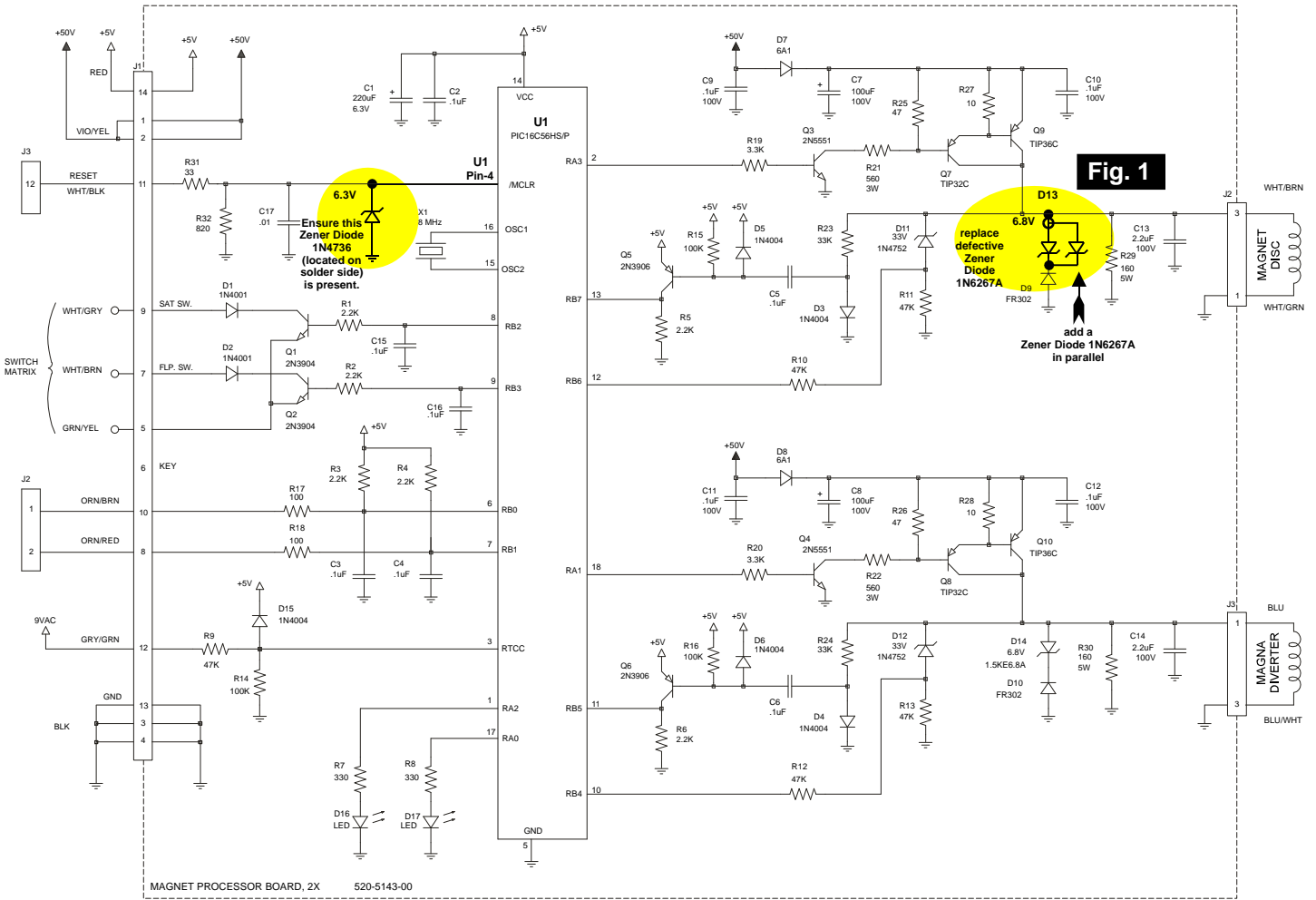
Replace the defective Zener Diode 1N6267A, Sega Part N° 112-5011-00, and add one in parallel at Loc. D13; Ref. Fig. 1 on the Magnet Processor / Driver Schematic *on the next page*.

## **MOTOR UPDATE PROCEDURE:**

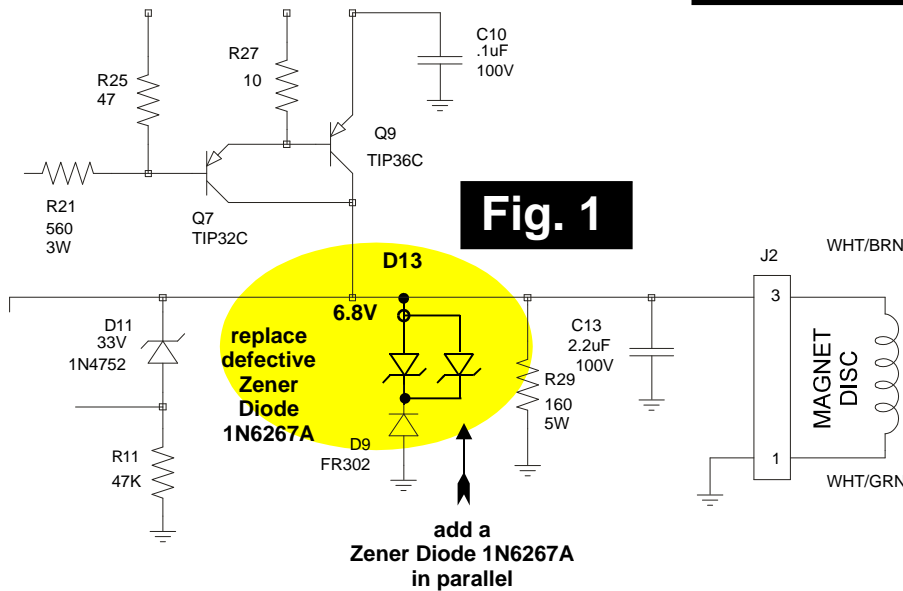
1. Remove the Neon Bulb from the Magnet Disc Motor Connector.
2. Add a 22Ω 1/2 watt resistor, Sega Part N° 121-5040-00, in series with the Disc Motor TI 2.2J 205VDC/160VAC Capacitor (Sega Part N° 125-5002-00) located at the harness connector. Refer to the Magnet Disc Motor Drawing on page 3.

*Continued on the next pages.*

# MAGNET PROCESSOR SCHEMATIC



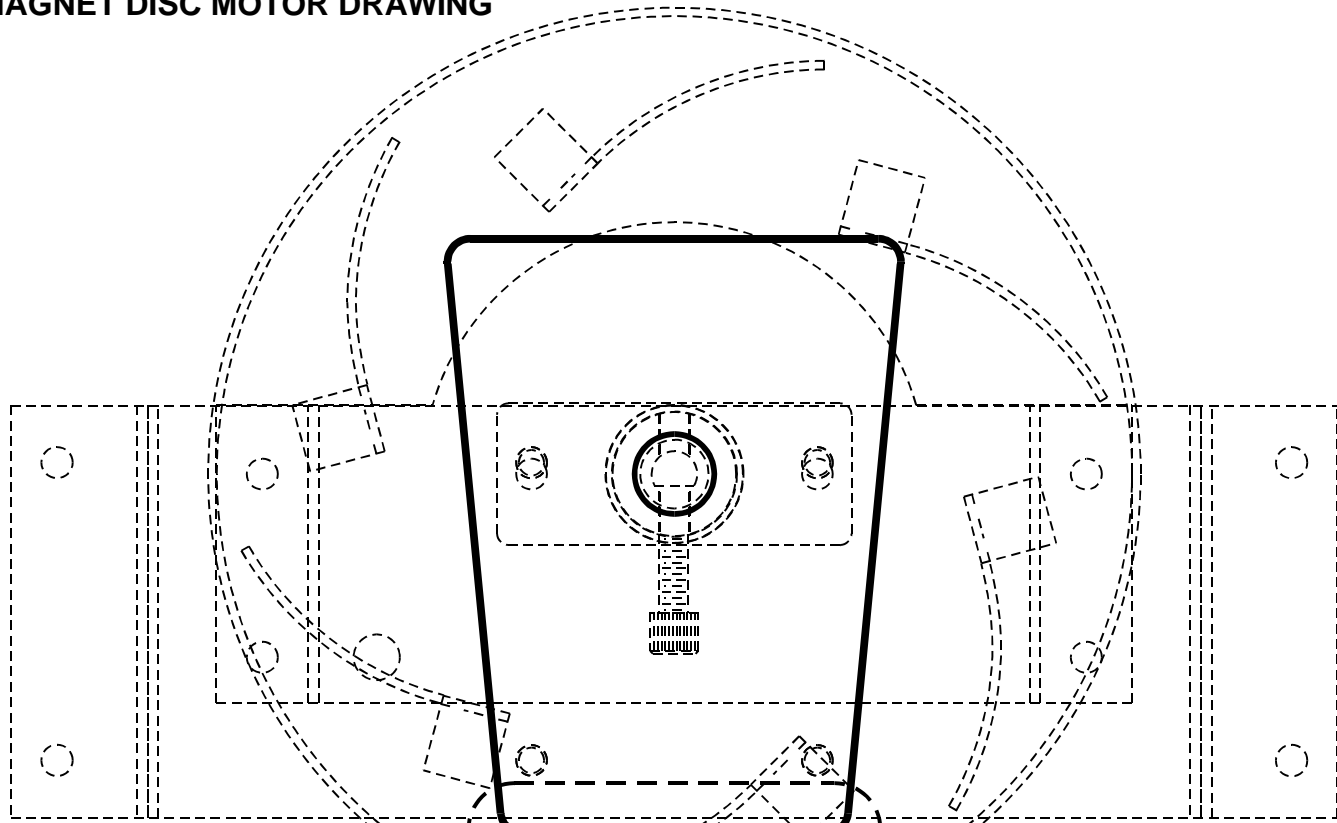
**Please Note: Update your Manual Schematic, Section 5, Chapter 2, Page 90: As shown above, J2 should be Magnet Disc, and J3 should be Magnet Diverter. The manual referenced them the other way around.**



**Twister Mag Update Kit, Part # 500-6173-00 includes two (2) each 1N6267A Diodes and one (1) each 22Ω 1/2 watt resistor.**

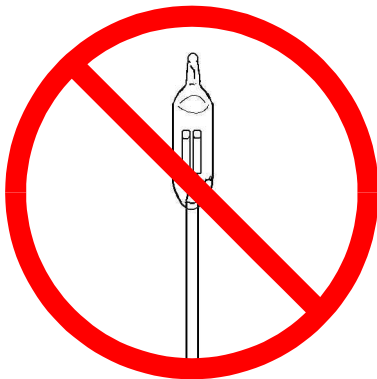
**TWISTER**

# MAGNET DISC MOTOR DRAWING



Motor 24v AC  
60Hz 3W 6 RPM CW

Remove the Neon Bulb  
from the Magnet Disc Motor  
Connector by clipping the leads.



This connector should have  
this large yellow capacitor, not the  
small "disc" shape .01 Capacitor.

TI 2.2J.  
250VDC/160VAC  
CAPACITOR

22Ω 1/2W  
Resistor

After removal of the Neon Bulb, add  
this resistor in series with the Capacitor.



Connector

Twister Mag Update  
Kit, Part # 500-6173-00  
includes two (2) each  
1N6267A Diodes and  
one (1) each 22Ω 1/2  
watt resistor.