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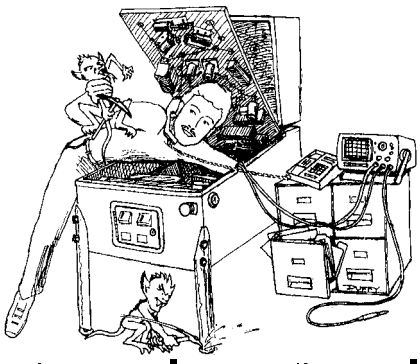
Nº 148 SERVICE BULLETIN



Joe Blackwell	Patty Schraps	Dorothy Brown	Chas Siddiqi	Patrick Powers	J. Alfer
Director, Parts Sales & Technical Support	Parts Sales Manager	Parts Sales Representative	Technical Support Engineer	Technical Support Engineer	Technical Support Doc. Administrator

TO: Parts & Service Mgrs.

DATE: April 29, 2004

SUBJ: **Balrog LED Kit!**

Announcement:

The initial production run of ***Lord of the Rings™ Pinball***, used a #89 Bayonet bulb to light up the **Balrog (Motor & Gate) Asm**. Current production is using a LED (Red) Module. Although the LED (Red) Module *is not as bright, it is more reliable!*

Your LOTR Pinball may already have the LED Module installed in the Balrog, *but your game manual may not have included the part numbers on Page 87 (the Blue Pages).* You will be able to easily tell the differences of the Module & Socket upon inspection *(view 6C & 3B in the graphic)*. For the **LED (Red) Module Bayonet 12.8v 20-25mA**, use SPI Part # **112-5023-02** and for the **2-Lug Laydown Bayonet Socket (Modified)**, use SPI Part # **077-5003-00-80**.

The ***optional*** **Balrog LED Kit** is now available *(ask for SPI Part # 502-5022-00)*. SPI is currently providing this kit at cost through your authorized distributor *(listings in your Service Game Manual or on our website).*

Use the **SINGLE COIL TEST (Q32)** to check your bulb operation. The replacement involves the removal of the old socket and bulb using the existing hardware *(see the Installation Procedure for more information).*

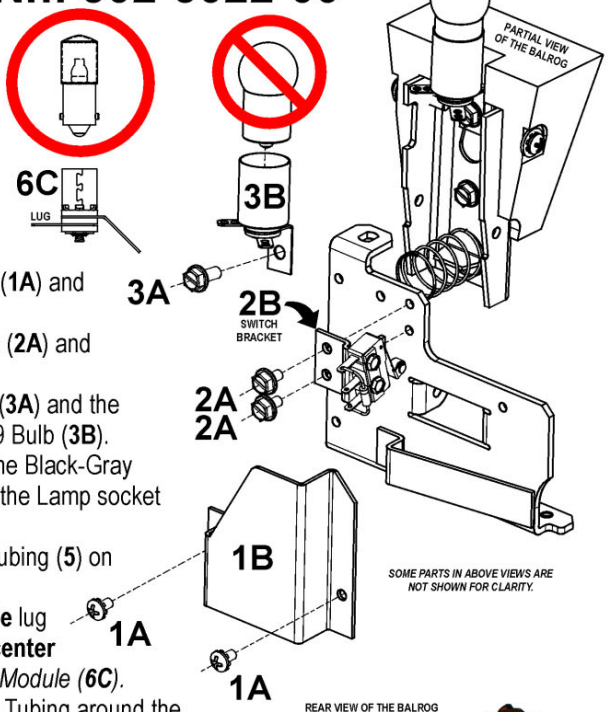
Please or eMail with any questions or comments at the below numbers or address.

THE LORD OF THE RINGS

Balrog LED Module Installation
SPI Kit Nr.: 502-5022-00

Contents:
LED (Red) Module Bayonet 12.8v 20-25mA (**112-5023-02**), 2-Lug Laydown Bayonet Socket, Modified (**077-5003-00-80**), and Shrink-Wrap Tubing (**605-5002-00, 2 pcs.**).

Tools Required:
Phillips Screwdriver, 1/4" Nut Driver and Soldering Iron.



Step 1: Remove two Philips Head Screws (**1A**) and the Balrog Protector Bracket (**1B**).

Step 2: Remove two ¼" Hex Head Screws (**2A**) and the Switch Bracket (**2B**).

Step 3: Remove one ¼" Hex Head Screw (**3A**) and the Large Bayonet Socket with the #89 Bulb (**3B**).

Step 4: Unsolder the Orange (**ORG**) and the Black-Gray (**BLK-GRY**) wires from the lugs of the Lamp socket in Step 3.

Step 5: Place the enclosed Shrink-Wrap Tubing (**5**) on each wire.

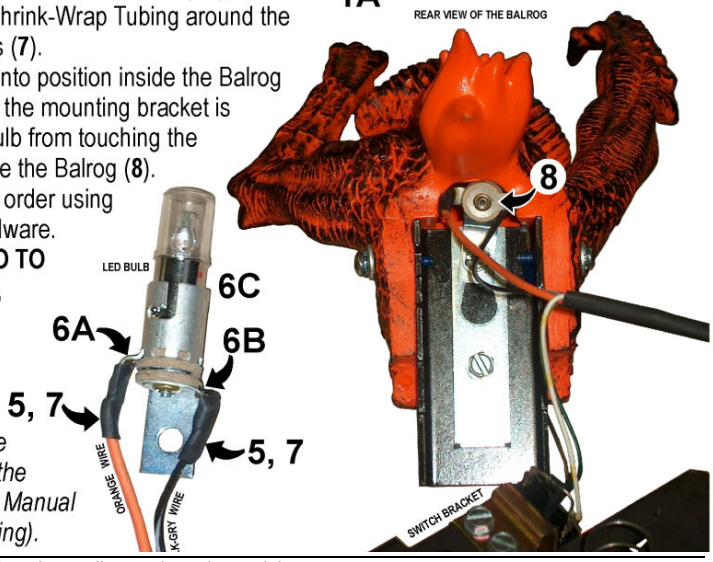
Step 6: Solder the **ORG** wire to the **outside** lug (**6A**) and solder the **BLK-GRY** to **center** lug (**6B**) of the *new enclosed LED Module (**6C**).*

Step 7: Position and heat the Shrink-Wrap Tubing around the soldered wires and lugs (**7**).

Step 8: Place socket and LED into position inside the Balrog and ensure the bend in the mounting bracket is sufficient to keep the bulb from touching the sides of the cavity inside the Balrog (**8**).

Step 9: Reassemble in reverse order using the same securing hardware.

Step 10: In Portals™, access **GO TO DIAGNOSTICS MENU, GO TO COIL MENU, SINGLE COIL TEST** and advance to **Q32** to test the newly installed LED *(see page 18 of your The Lord of the Rings™ Service Game Manual for more details on testing).*



• 2020 Janice Ave. • Melrose Park, IL 60160 • Tel 708-345-7700 (Option 1) • Toll-Free (USA/Canada) 1-800-542-5377 • Fax 708-345-7889 •