



BALLAST/BULB TO LED FIELD CONVERSION GUIDE

(FOR MID/HIGH TOPPER SIGNAGE)

VERSION 2.0
TDN 07103-00146B 05/2007

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IMPORTANT NOTICE

Triton Systems has discontinued offering a ballast/bulb (AC-powered) light assembly for topper signage (mid/high) and light panels. This affects models 8100, 9100, 97XX, RL5000 (X-Scale/XP), and FT5000 (X-Scale) units. LED-lit (DC-powered) light assemblies will be the replacement option.

***Note:** Limited ballast/bulb parts may be available for field replaceable parts and repair until current inventory is depleted.*

INTRODUCTION

This guide covers the steps for removal of the ballast/florescent bulb assembly and installation of the LED light bar assembly(s) and cable connectivity. These procedures include a list of tools and hardware required for the replacement as well as the steps involved.

**** Attention ****

Flourescent bulb contains mercury. Dispose of according to local, state, or federal laws. For more information (US), go to www.lamprecycle.org.

- ☐ **MIDTOPPER LED FIELD CONVERSION KIT (P/N 06200-08109).** Models 8100/9100/97XX/RL5000 (X-Scale).
- ☐ **MIDTOPPER LED FIELD CONVERSION KIT (P/N 06200-08119).** Model RL5000^{XP} only.
- ☐ **HIGHTOPPER LED FIELD CONVERSION KIT (P/N 06200-08110).** Models 97XX/RL5000 X-Scale.
- ☐ **HIGHTOPPER LED FIELD CONVERSION KIT (P/N 06200-08120).** Model RL5000^{XP} only.

BALLAST/BULB TO LED CONVERSION (MID/HIGH TOPPERS)

SCOPE

This Midtopper conversion procedure applies to all service personnel involved in the process of maintaining or converting Triton ATMs.

REQUIRED PARTS AND TOOLS

TOOLS REQUIRED		
#2 Phillips Screwdriver (Magnetic)		
MIDTOPPER LED INSTALLATION KITS P/N 06200-08109 P/N 06200-08119 (RL5000 ^{XP} only)		
PARTS SUPPLIED		
PART NUMBER	DESCRIPTION	QUANTITY
09100-00188	Light Bar Module, LED	1
03011-00967	Bracket, LED Light Bar	1
02050-00006	Rivet, Snap	6
Note: The three (3) parts listed above will be factory assembled together.		
¹ 09120-00390	Power Cable, LEDs (8-pin molex)	1
² 09120-00633	Power Cable, LEDs (2-pin molex)	1
³ 09120-00826	Cable, Power Splitter	1
05200-00150	LED Installation CD (Includes 07103-00146 LED Installation manual)	1
¹ Included in kit 06200-08109 ² Included in kit 06200-08119 ³ Required for Model 9100 ATMs with TDM or Minimech dispenser		



BALLAST/BULB LIGHT ASSEMBLY



LED LIGHT PANEL

MIDTOPPER LED CONVERSION PROCEDURE

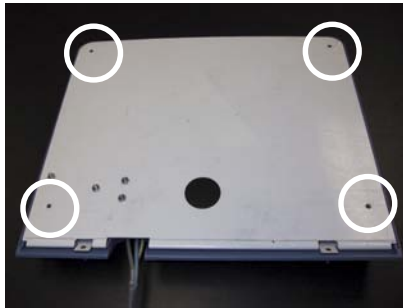
Note: These procedures are completed with the terminal AC power **OFF**.

For RL5000 units. If terminal is **ON**, enter **MANAGEMENT FUNCTIONS > SYSTEM PARAMETERS > SHUT DOWN TERMINAL**. When prompted, turn power **OFF** on the units power supply.



REMOVING BALLAST/BULB ASSEMBLIES:

1. Unlock and open the cabinet control panel. Using a 3/8" nut driver, remove the nuts that secure the topper assembly. Remove the Midtopper assembly and place on a flat surface, rear side up, as shown in Figure below..
2. Remove the four (4) screws that hold the front and rear panels of the assembly together. Retain the screws.



3. Carefully flip the entire assembly over, so that the front side is up. Lift the front of the topper assembly away from the rear half. It may be necessary to tilt the panel to clear the four mounting studs. Set the front panel aside.
4. **Rear panel.** Remove the four (4) screws that hold the ballast/bulb assemblies. Discard these assemblies accordingly. Set rear panel aside.

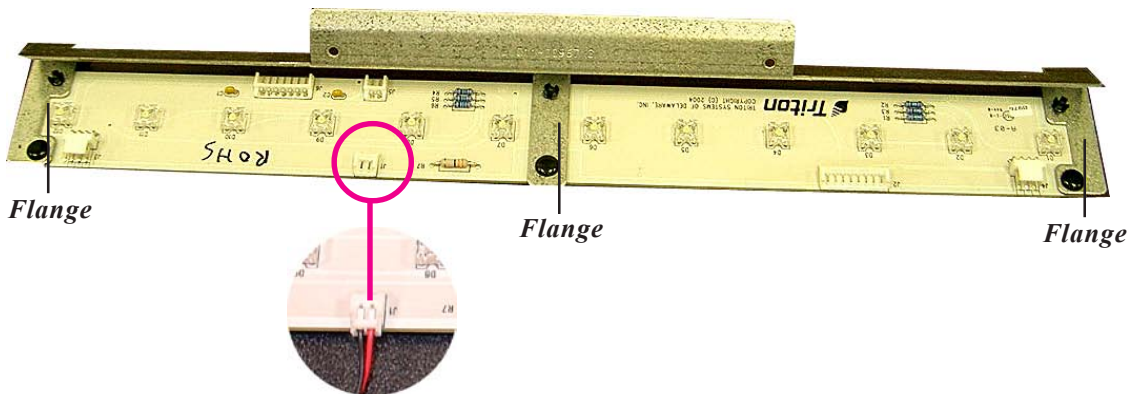
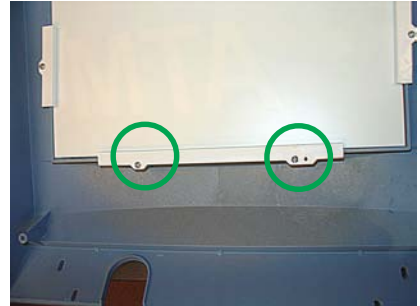


BALLAST/BULB TO LED CONVERSION (MID/HIGH TOPPERS)



INSTALL LED LIGHT BAR/BACKET/CABLE:

5. **Front panel.** Remove the two (2) screws shown and remove the lower sign plastic standoff. Retain the screws. Discard the plastic standoff.
6. Connect the LED power cable shown below to either <J1> or <J5> on the LED light bar assembly (pre-assembled). *Note: Either jack will work depending which one is away from the bracket flange.*



7. Mount the LED light bar assembly (factory assembled) as shown and secure with the two (2) screws removed in Step 5 above.

**** IMPORTANT ****

Before installing the LED light bar assembly, verify the light bar circuit board is mounted UNDER the bracket flanges as shown above.



8. Reinstall the topper rear panel. Flip the chassis over and attach the two halves using the four (4) screws removed in Step 2.
9. Reinstall the Midtopper to the cabinet.

DC CONNECTIONS (LED-LIT TOPPER)

Plug the LED power cord (8-pin molex connector) from the topper into any available DC output connector on the power supply (***see Notes**) as shown in **Figures 1 -4**.

¹**Note:** The dispensing mechanism uses the largest molex connection on the power supply.

²**Note: Model RL5000XP only.** The power cord is a 2-pin molex connector. This 2-pin connects to the GPIO board assembly. **Figure 5** show the GPIO connection point.

³**Note: Model 9100 w/TDM or Minimech dispensers.** The LED power cord requires a power splitter adapter (included). **Figures 6 through 8** show the connection points.

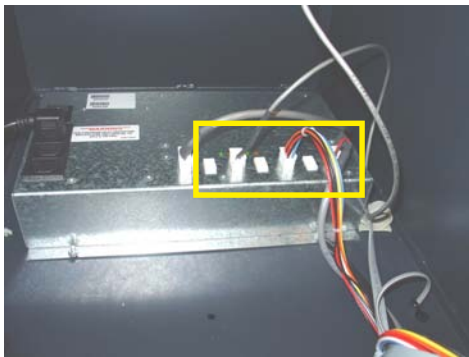


Figure 1. Model 9100 (w/SDD)

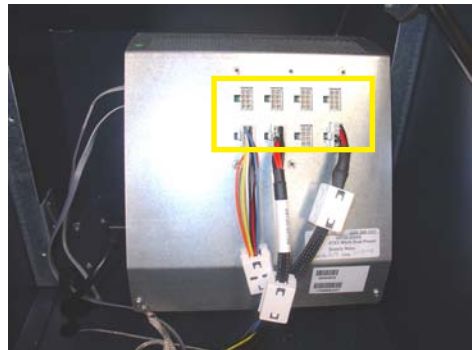


Figure 2. Model 97XX

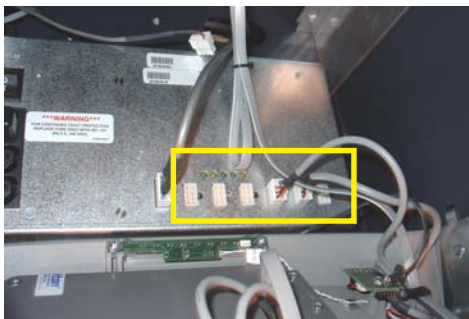


Figure 3. Model RL5000 (X-Scale)



Figure 4. Model 8100

GPIO assy

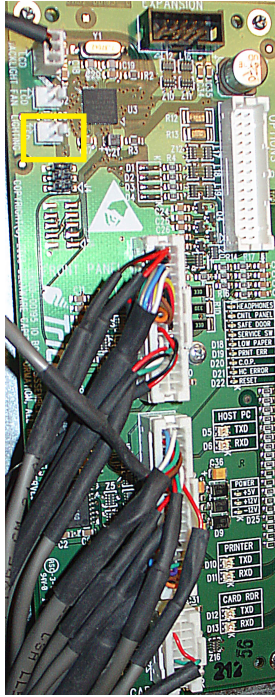
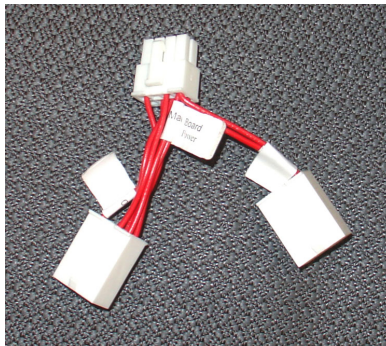


Figure 5. Model RL5000 (XP)

³ **Note: 9100 w/TDM or Minimech** - Locate the Power splitter adapter included in kit (Figure below). The cables connectors are marked. Disconnect the Main boards power input (**Figure 6**) and connect to one leg of the extension cable. Connect the toppers DC power cable to the other leg (**Figure 7**). Reconnect this power cable assembly back to the main board. **Figure 8** shows the power assembly diagram.



Power splitter adapter

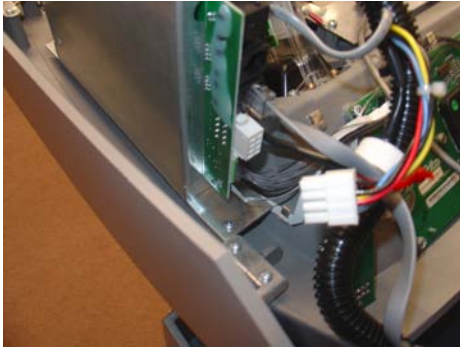


Figure 6. Main board power disconnected.

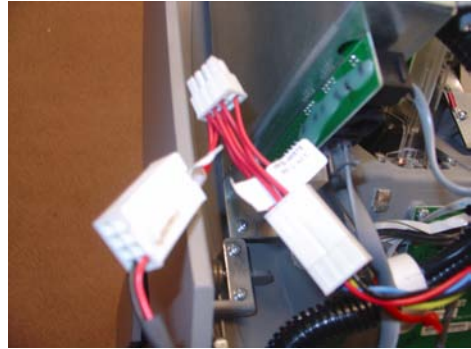


Figure 7. Power splitter cable with topper and main board power cables connected.

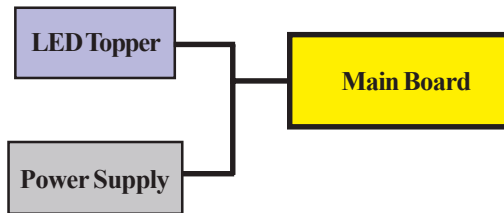


Figure 8. Power splitter cable configuration.

10. Turn the power supply to ON (I). The topper sign should light up. Close and lock the control panel.

BALLAST/BULB TO LED CONVERSION (MID/HIGH TOPPERS)

SCOPE

This Hightopper conversion procedure applies to all service personnel involved in the process of maintaining or converting Triton ATMs.

REQUIRED PARTS AND TOOLS

TOOLS REQUIRED		
#2 Phillips Screwdriver (Magnetic) Diagonal Cutters		
HIGH TOPPER LED INSTALLATION KIT P/N 06200-08110 P/N 06200-08120 (RL5000 ^{XP} only)		
PARTS SUPPLIED		
PART NUMBER	DESCRIPTION	QUANTITY
09100-00188	Light Bar Module, LED	1
03011-01051	Top Bracket, LED Light Bar, (Right)	1
03011-01052	Top Bracket, LED Light Bar, (Left)	1
02050-00006	Rivet, Snap	4
Note: The four (4) parts listed above will be factory assembled together for the Top LED bracket assembly .		
09100-00188	Light Bar Module, LED	1
02050-00006	Rivet, Snap	6
02054-00050	Screw	4
09120-00412	Cable, Jumper, LED Panels	1
³ 03011-01047	Hinge, Right	1
³ 03011-01048	Hinge, Left	1
¹ 09120-00411	Power Cable, LEDs (8-pin molex)	1
² 09120-00633	Power Cable, LEDs (2-pin molex)	1
05200-00150	LED Installation CD (Includes 07103-00146 LED Installation manual)	1
¹ Included in kit 06200-08110 ² Included in kit 06200-08120 ³ Required for older stylehigh toppers		

HIGHTOPPER LED CONVERSION PROCEDURE

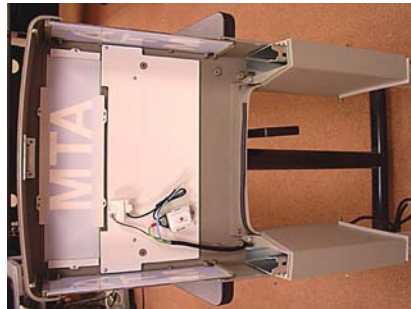
Note: These procedures are completed with the terminal AC power **OFF**.

For RL5000 units. If terminal is **ON**, enter **MANAGEMENT FUNCTIONS > SYSTEM PARAMETERS > SHUT DOWN TERMINAL**. When prompted, turn power **OFF** on the units power supply.



REMOVING HIGHTOPPER/PANEL ASSEMBLIES:

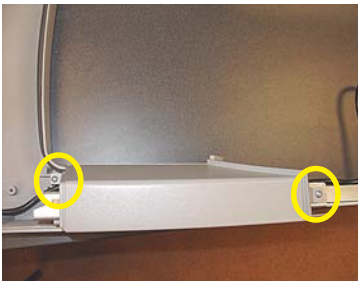
1. Unlock and open the cabinet control panel. Unplug the Hightopper power cable from the power supply.
2. Using a phillips screwdriver, loosen or remove the screws that secure the Hightopper legs to the mounting brackets. Remove the Hightopper assembly and place on a flat surface, front panel up, as shown in Figure below.
3. Unlock, open and remove the front cover panel by lifting free of assembly.



REMOVING BALLAST/BULB ASSEMBLY:

4. Using a phillips screwdriver, remove the two (2) screws on the **Left** leg bracket cover. Remove the cover and retain the screws. Feed the AC power cable out of the leg bracket until it's free of the assembly. **Note: Cut any Ty wraps that are securing the cable to the leg assembly.**

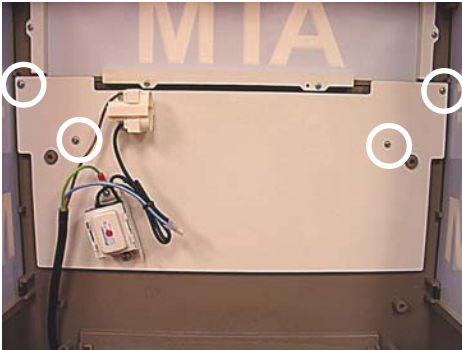
Reinstall the cover and secure with screws.



BALLAST/BULB TO LED CONVERSION (MID/HIGH TOPPERS)

5. **Note:** *The ballast/bulb assemblies are secured to a back plate. This step will remove the plate (with ballast/bulb still attached). The plate is not required for the conversion procedures.*

Remove the bulb. Using a phillips screwdriver, remove the four (4) screws shown. Next, remove the plate (with ballast/bulb/power cable assemblies) from the hightopper assembly. Figure below shows the hightopper assembly with ballast/bulb assemblies removed.



INSTALL LED LIGHT BAR/BRACKET ASSEMBLIES:

Note: *There are two (2) LED light bar assemblies to install. The first step is for the Top (closest to lock latch) LED assembly..*

6. Mount the LED light bar assembly (factory assembled) as shown and secure with the four (4) screws



*** NOTE ***

Before installing the lower LED light bar, ensure the required hinge brackets are correct. If you have a topper with hinge brackets that look like the ones pictured below, you must first replace these with the brackets included in the kit.



7. Lower LED - Install the other LED light bar assembly to the existing brackets (or kit brackets if required) and secure with four (4) plastic rivets. Light bar mounts towards inside of bracket and rivets inserted on same side. The figures below and on the next page show the brackets, direction of the light bar, and both LED light bars installed.

Note: The direction of the light bar assembly (Triton logo up/down) is not relevant. The power connectors <J1> and <J5> are electrically the same.



Hinge brackets required.

BALLAST/BULB TO LED CONVERSION (MID/HIGH TOPPERS)



Lower LED installed.

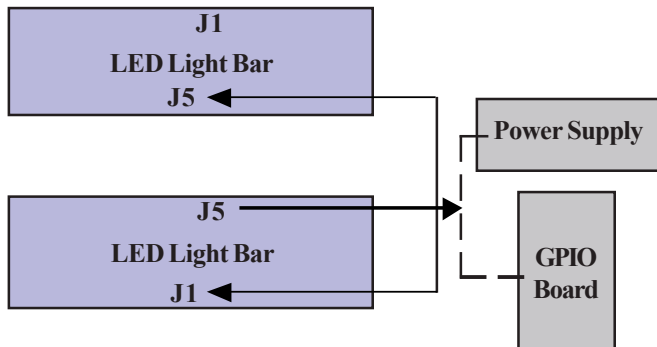


LED light bars installed.



INSTALL/ROUTE LED POWER CABLES:

Note: The power connectors <J1> and <J5> are electrically the same.



Example of cable connections.

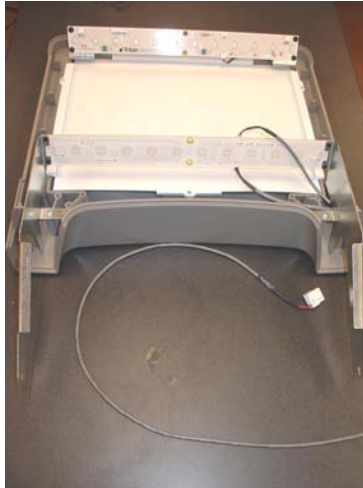
8. LED Panels Jumper Cable - Locate the jumper cable included in kit (P/N 09120-00412). Connect one end to the **Top** LED light bar, either <J1> or <J5> (whichever is closest to white panel) and route cable down to the **Lower** LED light bar. Connect this end to either <J1> or <J5> (whichever is closest to white panel).

Jumper cable connected and routed.



BALLAST/BULB TO LED CONVERSION (MID/HIGH TOPPERS)

9. LED Power Cable - Locate the power cable included in kit (P/N 09120-00411 (8-pin molex end) or (P/N 09120-00633 - 2-pin molex ends). Connect one end of the cable to either <J1> or <J5> on the **Lower** LED light bar (whichever is available).



10. Route the cable down through the **Right** leg assembly. Reinstall the front cover panel.



11. Install the converted Hightopper assembly to the ATM and secure. Connect the 8-pin or 2-pin molex connector end to the applicable power source. See pages 6 and 7 for locations. Secure cable to topper leg with Ty wraps included