

Kerry Legg

From: Covelli, Joseph [Joseph.Covelli@nyct.com]
Sent: Wednesday, June 27, 2007 2:12 PM
To: Don_Nielsen@irco.com; Chuck_Rodman@thermoking.com
Cc: Alan Farrant; Roscoe_Lacy@thermoking.com
Subject: FW: Power Consumption
Importance: High

Hi Don/Alan,

We had a recent interior fire on an Articulated bus. The fire occurred in the rear half section right by the forward roadside evap drain tube. It appears that the evap drain tube is right in line with the interior dome light ballast and wiring. Damage was limited due to the bus operators quick actions. However, in checking various buses and various years of the articulated fleet we have noted that this is a concern on every articulated bus. It is only in this area, the other drain tubes are clear of any crushing by the dome light ballast (this ballast/light panel is shorter than the rest and therefore places the ballast in line with the drain). This buses drain tube finally wore a hole in it due to the constant contact concern noted. The water then entered directly into the ballast and harness plug. As a result the wiring and plug burnt along with some of the drain tube hose.

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I felt that this information is good for New Flyer and TK to be aware of and correct as needed on the various bus builds with TK roof units. Pictures will follow in the AM.

Regards,

Joe Covelli

From: LaBouff, Gary
Sent: Wednesday, June 27, 2007 9:48 AM
To: 'Roscoe_Lacy@thermoking.com'
Cc: Ilioiu, Danny; Covelli, Joseph
Subject: Power Consumption

I got your name from Joe Covelli. I am trying to find out what the total air conditioning power consumption is of the A/C systems on the Orion VII hybrid buses.

I am looking for:
Shaft power to the compressor (power vs. speed)
Electrical power to the fans

Can you help me locate this information?

Thank you,

Gary LaBouff
Director, Research & Development
New York City Transit, Department of Buses
(718) 566-3535
Gary.LaBouff@nyct.com

From: Kerry Legg
Sent: Wednesday, July 11, 2007 10:32 AM
To: Alan Farrant; Bernard Hejda; Scott Halbesma
Cc: Cliff Murray
Subject: New York - Roof top Evaporator Fires

I spoke with Sonny from NHTSA this morning.
He is hearing reports of roof top evaporators causing fires in New York on 60 footers.
Have we received any reports of such?

*Kerry Legg
Safety & Compliance Manager
New Flyer Industries Canada ULC
Customer Services Head Office
25 DeBaets St., Winnipeg, Manitoba, Canada R2J 4G5
Office (204) 934-4876 Cell (204) 228-2942 Fax (204) 224-0248
kerry_legg@newflyer.com*

From: Bernard Hejda
Sent: Wednesday, July 11, 2007 10:35 AM
To: Kerry Legg; Alan Farrant; Scott Halbesma
Cc: Cliff Murray
Subject: RE: New York - Roof top Evaporator Fires

That's a new one.

-----Original Message-----

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From: Bernard Hejda
Sent: Wednesday, July 11, 2007 10:38 AM
To: Kerry Legg; Alan Farrant; Scott Halbesma
Cc: Cliff Murray
Subject: RE: New York - Roof top Evaporator Fires

I'll check with Mike Lyons when I am at East NY Monday.

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From: Scott Halbesma
Sent: Wednesday, July 11, 2007 10:40 AM
To: Kerry Legg; Alan Farrant; Bernard Hejda
Cc: Cliff Murray
Subject: RE: New York - Roof top Evaporator Fires

I have not heard anything.

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kerry_legg@newflyer.com

From: Kerry Legg
Sent: Wednesday, July 11, 2007 11:32 AM
To: Sonny Murianka (E-mail)
Subject: Evaporator unit fires

Sonny

We have had no reports of fires in New York on 60 foot roof top evaporator units.

We did have issues with Suttrak A/C roof top units on the six 40 foot buses in Broward County FL. The Suttrak units were shorting out at the power block because of moisture accumulation, this was due to kinked evaporator drain lines. The drain lines were re-routed, and the power units repaired.

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Kerry Legg

From: Sonny.Murianka@dot.gov
Sent: Wednesday, July 11, 2007 11:38 AM
To: Kerry Legg
Subject: RE: Evaporator unit fires

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Sent: Wednesday, July 11, 2007 11:57 AM
To: Kerry Legg; Alan Farrant; Scott Halbesma
Cc: Cliff Murray
Subject: RE: New York - Roof top Evaporator Fires

I just talked to Mike Lyons and Bart Betz. Nobody has heard anything about this. I will try Jos Covelli if I can get through to him.

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Kerry Legg

From: Alan Farrant
Sent: Wednesday, July 11, 2007 11:58 AM
To: Bernard Hejda; Kerry Legg; Scott Halbesma
Cc: Cliff Murray
Subject: Re: New York - Roof top Evaporator Fires

I have info which came from Cavellin one busn but am in a meeting. Will forward when I am free

Sent from my BlackBerry Wireless Device

-----Original Message-----

From: Bernard Hejda
To: Kerry Legg; Alan Farrant; Scott Halbesma
CC: Cliff Murray
Sent: Wed Jul 11 11:56:32 2007
Subject: RE: New York - Roof top Evaporator Fires

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From: Bernard Hejda
Sent: Wednesday, July 11, 2007 12:17 PM
To: Alan Farrant; Kerry Legg; Scott Halbesma
Cc: Cliff Murray
Subject: RE: New York - Roof top Evaporator Fires

Seems the drain for the a/c is being crushed by a ballast in the rear coach. In time it gets cut and water runs into the ballast. Joe has a contact and part number for the repair which is being done at the depots.

John Barone at 631-293-8271. Part # 24499, cost about \$29.00 US.

-----Original Message-----

From: Alan Farrant
Sent: Wednesday, July 11, 2007 12:58 PM
To: Bernard Hejda; Kerry Legg; Scott Halbesma
Cc: Cliff Murray
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Kerry Legg

From: Kerry Legg
Sent: Wednesday, July 11, 2007 12:23 PM
To: 'Sonny.Murianka@dot.gov'
Subject: RE: Evaporator unit fires

Sonny

I am just now getting some information by word of mouth, of a similar situation with evaporator drain lines becoming blocked or damaged in New York. More hard information should be coming my way soon. No fires have been reported to us by the Transit. Repair costs for the drain lines are about \$39 for parts plus labor.

-----Original Message-----

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To: Kerry Legg
Subject: RE: Evaporator unit fires

thanks, I look into it deeper.

Kerry Legg

From: Sonny.Murianska@dot.gov
Sent: Wednesday, July 11, 2007 12:24 PM
To: Kerry Legg
Subject: RE: Evaporator unit fires

thanks Kerry

Kerry Legg

From: Alan Farrant
Sent: Thursday, July 12, 2007 7:41 AM
To: Bernard Hejda; Cliff Murray; Kerry Legg; Scott Halbesma
Subject: FW: Power Consumption
Importance: High

This is the information that had been provided to me.
 Alan.

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From: Covelli, Joseph [mailto:Joseph.Covelli@nyct.com]
Sent: Wednesday, June 27, 2007 2:12 PM
To: Don_Nielsen@irco.com; Chuck_Rodman@thermoking.com
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Gary LaBouff

*Director, Research & Development
New York City Transit, Department of Buses
(718) 566-3535
Gary.LaBouff@nyct.com*

Kerry Legg

From: Kerry Legg
Sent: Thursday, July 12, 2007 8:02 AM
To: 'Sonny.Murianka@dot.gov'
Subject: RE: Evaporator unit fires

Sonny,
Looks like the "fire" was a short involving a lighting ballast and moisture from an evaporator drain hose which had worn against the ballast over time.
NY appears to be handling this as an internal issue and are issuing a maintenance directive (see attached draft copy) to campaign the fleet.

Kerry

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Sent: Thursday, July 12, 2007 7:41 AM
To: Bernard Hejda; Cliff Murray; Kerry Legg; Scott Halbesma
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From: Kerry Legg
Sent: Thursday, July 12, 2007 8:07 AM
To: Kerry Legg
Subject: RE: New York - Roof top Evaporator Fires



MD NF evaporator
and dome ligh...

-----Original Message-----

From: Bernard Hejda
Sent: Wednesday, July 11, 2007 5:29 PM
To: Kerry Legg; Alan Farrant; Scott Halbesma
Cc: Cliff Murray
Subject: RE: New York - Roof top Evaporator Fires

<< Message: FW: >>
Caution.....large file.

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Kerry Legg

From: Sonny.Murianka@dot.gov
Sent: Thursday, July 12, 2007 8:25 AM
To: Kerry Legg
Subject: RE: Evaporator unit fires

Good Morning:
So why isn't New Flyer into this issue.
I would think the other fleets should be seeing the same issue over time.
So, New flyer position is that they only know about 2 fleets?

Sonny

Kerry Legg

From: Sonny.Murianka@dot.gov
Sent: Thursday, July 12, 2007 8:26 AM
To: Kerry Legg
Subject: RE: Evaporator unit fires

Also, Kerry, does NF concur with this fix.

Kerry Legg

From: Kerry Legg
Sent: Thursday, July 12, 2007 8:48 AM
To: 'Sonny.Murianka@dot.gov'
Subject: RE: Evaporator unit fires

I only found out about the NY situation as of last night. New York did not convey a sense of urgency with this issue to our regional managers. I will show the corrective notice to our engineering group.

We have not received any other reports from similar fleets for longevity issues with evaporator drain tubes. The issue I mentioned in Florida was for 6 brand new buses and it has since been corrected.

The New York bus which had the short was seven years old, so I cannot determine if the hose or the ballast were in the original factory configuration. Joe indicates that contact between the hose and the ballast is not consistent on the buses checked so far. The maintenance directive indicates this only effects units built prior to 2001.

I am sure more discussion will ensue between New Flyer and New York once the cost of the campaign has been determined.

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Sent: Thursday, July 12, 2007 8:26 AM
To: Kerry Legg
Subject: RE: Evaporator unit fires

Also, Kerry, does NF concur with this fix.

From: Kerry Legg
Sent: Thursday, July 12, 2007 9:00 AM
To: Mark Oleski
Cc: Scott Halbesma
Subject: FW: New York - Roof top Evaporator Fires

Mark

Attached is a corrective action New York is developing in response to a damaged evaporator hose rubbing against and shorting out a lighting ballast.

NHTSA would like to know what New Flyers response to this corrective action is (i.e. do we agree, disagree)

Also is there any way of determining if the original factory configuration for D60HF buses had the line contacting the ballast.

My current stance with NHTSA is that the failure occurred on a 7 year old bus, that the other buses checked so far do not consistently have the line contacting the ballast, so we as manufacture cannot determine if this was the original factory configuration. NY has done a lot of work in those side lighting panels over the years, modifying touch tape wiring, changing A/C ducting etc. etc.

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From: Kerry Legg
Sent: Thursday, July 12, 2007 8:07 AM
To: Kerry Legg
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MD NF evaporator
and dome ligh...

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Kerry Legg

From: Sonny.Murianka@dot.gov
Sent: Thursday, July 12, 2007 11:40 AM
To: Kerry Legg
Subject: RE: Evaporator unit fires

Kerry, are the 40's lf or hf. do you make a lf and hf 40 and 60?

Kerry Legg

From: Kerry Legg
Sent: Thursday, July 12, 2007 11:54 AM
To: 'Sonny.Murianka@dot.gov'
Subject: RE: Evaporator unit fires

Sonny

We can make both 40 and 60 foot models in high and low floor configurations.

We have not had an order for a 40 foot high floor since 2002

New York has (from New Flyer) 60 foot high floors and 40 foot low floors.

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From: Sonny.Murianka@dot.gov [mailto:Sonny.Murianka@dot.gov]
Sent: Thursday, July 12, 2007 11:40 AM
To: Kerry Legg
Subject: RE: Evaporator unit fires

Kerry, are the 40's lf or hf. do you make a lf and hf 40 and 60?

Kerry Legg

From: Sonny.Murianka@dot.gov
Sent: Thursday, July 12, 2007 8:57 AM
To: Kerry Legg
Subject: RE: Evaporator unit fires

Kerry:

Given the serious nature of bus fires, I would think some sort of action to check all buses for proper routing is in order. If the issue is an abrading issue, then it would take time to reveal itself. We will most like open an investigation into this issue, please keep me informed.

Sonny

Kerry Legg

From: Bernard Hejda
Sent: Wednesday, July 11, 2007 7:02 PM
To: Contact Reports - Service
Subject: Contact Report - Service, New York

Contact Report - Service**Customer/City:**

Date of Call:
7-11-07

Phone or Visit:
Phone

Contact(s):
Mike Lyons, Warranty Manager
Bart Betz, Project Manager
Joe Covelli, Tech Services, accident investigation
Remaining Acceptance Issue(s) Status:

- None

Warranty Issue Issue(s):
• None

Retrofit Progress:
• None

New Technical issue(s):
• SR 613 had a fire, again. Seems we put the a/c drain behind a light ballast on the rear coach, road side, behind the artic joint. In time, ballast rubbed through the tube and water entered the ballast causing the "flare up. Attached is Joe's maintenance directive for repair to the depots.

Pictures:
None

Competitor Information:
None

Special Topic(s):
None

Miscellaneous:

FW:

Kerry Legg

From: Covelli, Joseph [Joseph.Covelli@nyct.com]
Sent: Wednesday, July 11, 2007 2:40 PM
To: Bernard Hejda
Subject: FW:

draft doc attached shows both issues on artic, roof hatch frame leak and crushed drain tube by dome ballast. Joe C.

From: Covelli, Joseph
Sent: Monday, July 02, 2007 4:19 PM
To: Lu, Steven
Subject: FW:

From: Lu, Steven
Sent: Monday, July 02, 2007 3:19 PM
To: Covelli, Joseph
Subject: RE:

From: Covelli, Joseph
Sent: Monday, July 02, 2007 3:05 PM
To: Lu, Steven
Subject:

Can you e-mail me the draft doc?



Maintenance Directive

July 2, 2007

To: All General Managers
All Assistant General Managers
All General Superintendents, Maintenance
All Concerned

From: Stephen A. Vidal, Chief Maintenance Officer, Department of Buses

Subject: Interior Dome Lights and Evaporator hose on New Flyer 1997, 1998, 2000 and 2003 Articulated Buses

Recently, a problem was reported with the interior dome light connectors on the 2000 New Flyer Articulated buses. Water was entering the roof hatch and seeping into the fluorescent light ballasts, contaminating the Molex connector of the pig tail harness. This condition **was** also found in the evaporator drain hose area. If the fluorescent light is burnt out, the high voltage at the connector plus the water from the hatch can result in a thermal event as seen in Figure #1 below. **This** wiring configuration is on 1997 (1000-1069), 1998 (1070-1109), and 2000 (5250-5509) New Flyer Articulated buses. Therefore, in order to eliminate this **concern**, the high voltage **wire** in this specified dome light **connector** must be separated from **the remaining two wires**, (see Figure #2 for the affected dome light locations). Additionally, the roadside forward evaporator drain hose, in the rear section of the bus, must be rerouted to avoid any evaporator drain hose/ballast contact concern. Constant chaffing of the drain tube from the ballast can result in a water leak concern into the ballast and/or ballast connector.

There will be no connector wiring **change needed** on the 2003 (5510-5769) New Flyer Articulated buses, **due to the use of a Deutsch connector instead of the Molex connector**. However, the rerouting of the evaporator drain hose is still required on all New Flyer Articulated buses.

It is recommended that the depots perform the attached procedure as soon as possible. A MIDAS Campaign # 4451 and Benchmark work order # 30439 have been created in the "CMO" location. Depots are to copy these and create their own campaigns in their respective locations. A TA job number will be forthcoming.

Material: per bus

Snap on terminal removing kit TA # 42-69-3645

Female connector TA # 88-57-0807 Qty 2
Male connector TA # 88-30-7765 Qty 2
Plug (Female connector) TA # 88-83-1020 Qty 4
Receptacle (Male connector) TA # 88-83-1021 Qty 4
45 degree elbow with adapter thread TA # **being setup**
Hose barb fitting TA # **being setup**

Tools:

Extraction tool TA # 42-69-0080 Molex # 11-03-0006
Snap-on needle nose Pliers 597CCP TA # 42-42-6965

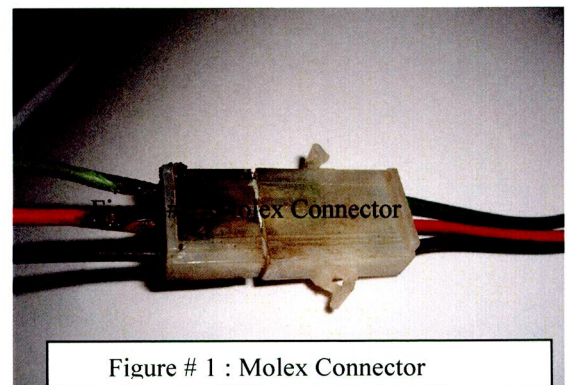


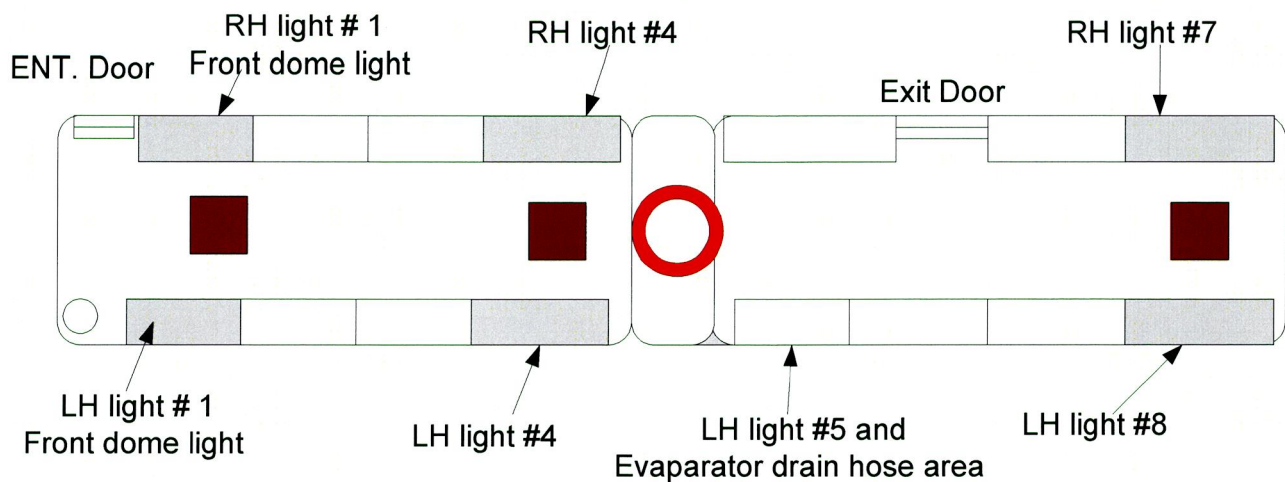
Figure # 1 : Molex Connector

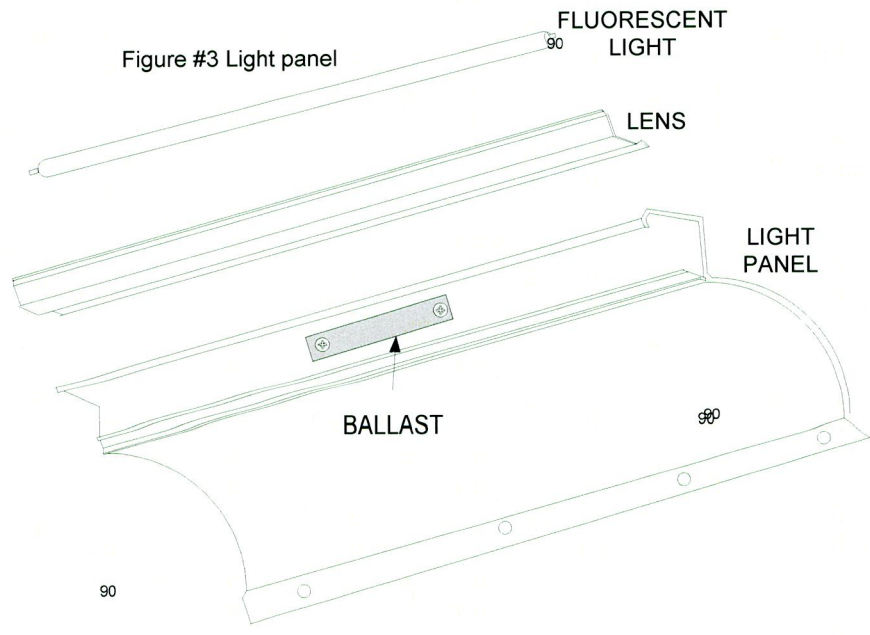
PROCEDURE TO REWORK THE MOLEX CONNECTOR ON THE BALLAST AND REROUTE THE EVAPORATOR HOSE.

Task Time: 90 minutes per bus (one hour) include light connector and evaporator hose reroute.
30 minutes per bus for evaporator hose reroute only. (Step #14 to #16)

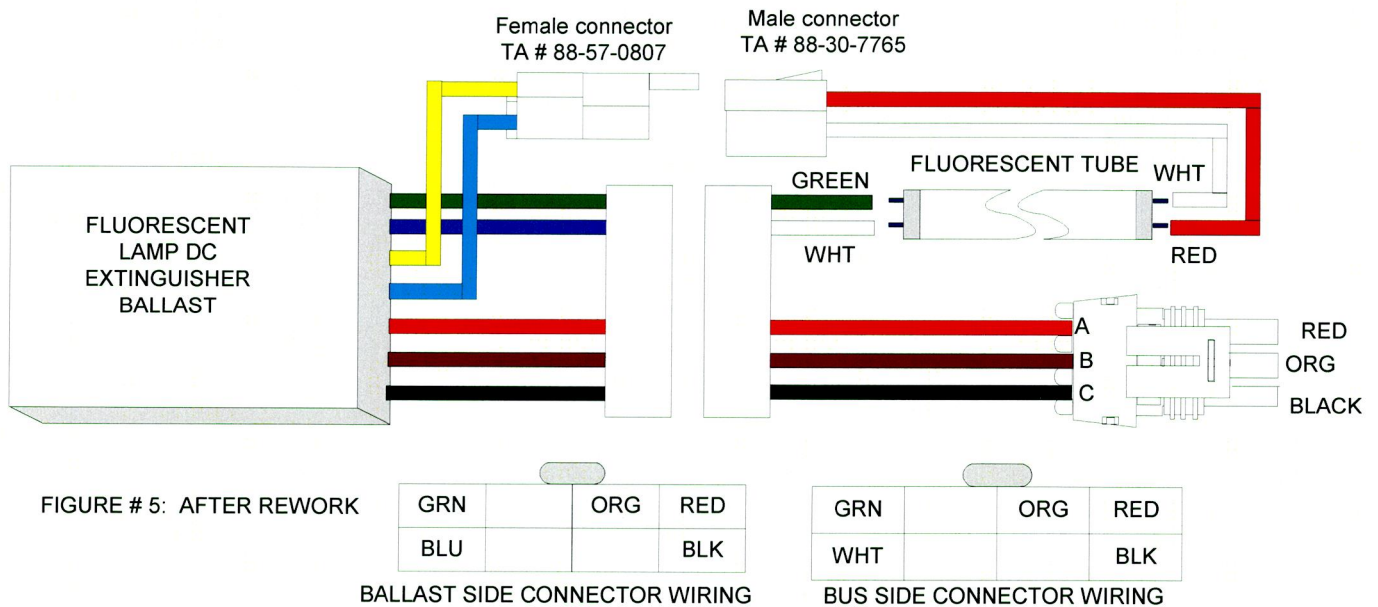
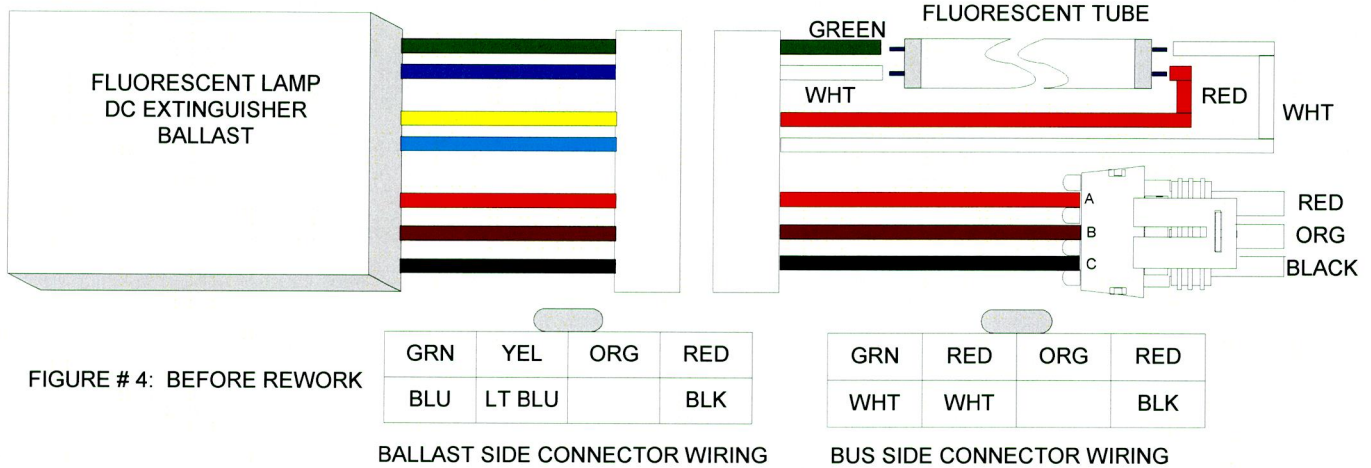
1. Turn the battery disconnect switches off. *Normally, is important to make sure the lights are off before removing any fluorescent lamp. The failure to do so can result in an electrical arc being produced which can damage the light socket and/or cause personal injury. See Figure # 2 for the rework dome lights locations.*
2. Remove the dome light lens, and the fluorescent light.
3. Remove the two screws on the ballast and slid the ballast out to gain access to the pigtail harness. See Figure # 3.

FIGURE # 2 rework light location





4. For the front RH and LH #1 dome lights, disconnect the **8-way** connector at the ballast.
5. At the ballast connector, locate the yellow and light blue wires (see Figure # 4). **Use Snap-On tool # 597 CCP needle nose pliers (TA # 42-42-6965)** to extract the wires. The locking pin on these wires must be reopened before inserting into the female connector (TA # 88-57-0807). See Figure # 5.
6. On the bus side connector, use the small screw driver from the Snap On terminal removing kit (TA # 42-69-3645) to extract the red and white wires. Re-open the female terminal locking pin before inserting into the male connector (TA # 88-30-7765). See Figure #5. Check the connector wiring. Make sure they match the wiring arrangement as shown in Figure #5.
7. Reconnect all the connectors. Make sure no other terminals were pushed out of the connectors during this process. Secure the connectors with plastic ties, make sure to place them away from each other (see Figure # 6). **Reinstall the ballast and fluorescent lamp.**



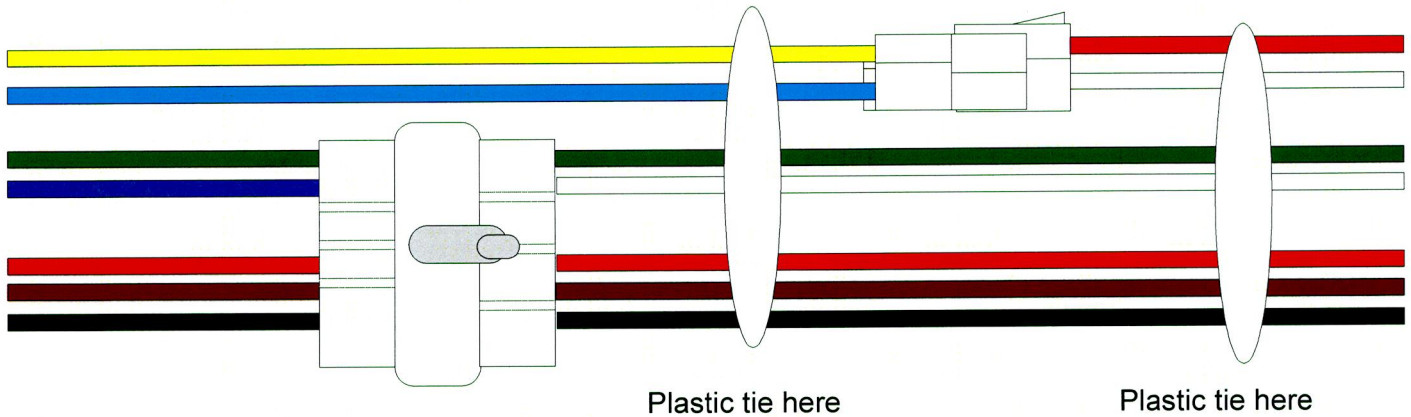


FIGURE # 6: SEPARATE THE CONNECTORS

8. For the RH # 4, # 7 and LH # 4, #5 and # 8 dome lights, disconnect the Molex connector. Use the extraction tool (TA # 42-69-0080) to remove the Red wire from the plug (female) and from the receptacle (male) connectors (see Figure # 7).
9. Use the extraction tool to slightly open the male and female terminal locking tabs. Then, insert the terminals into the new connectors at the center (middle) slot as shown in Figure # 8.

FIGURE # 7: BEFORE REWORK

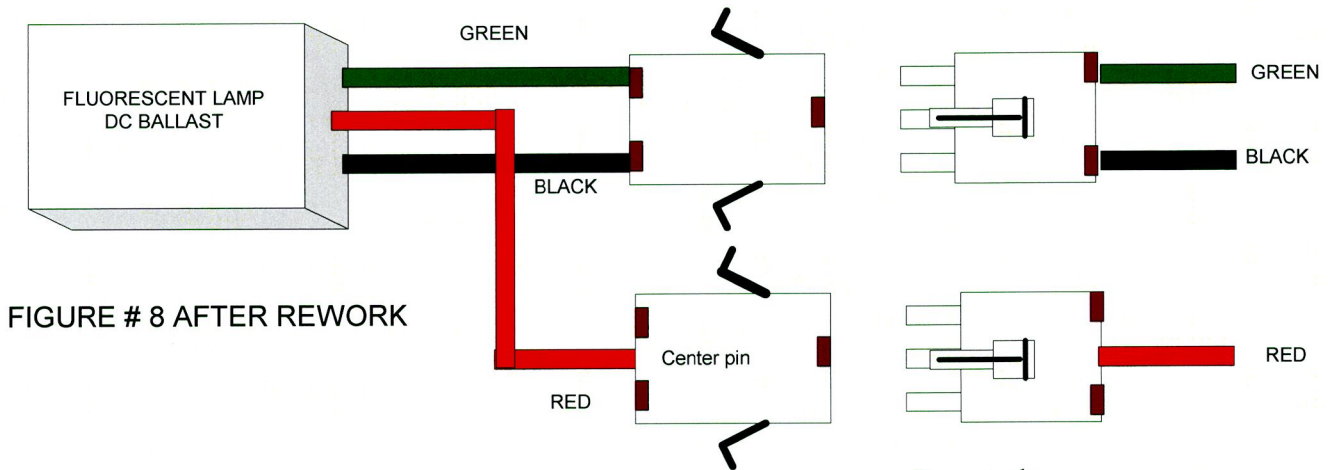
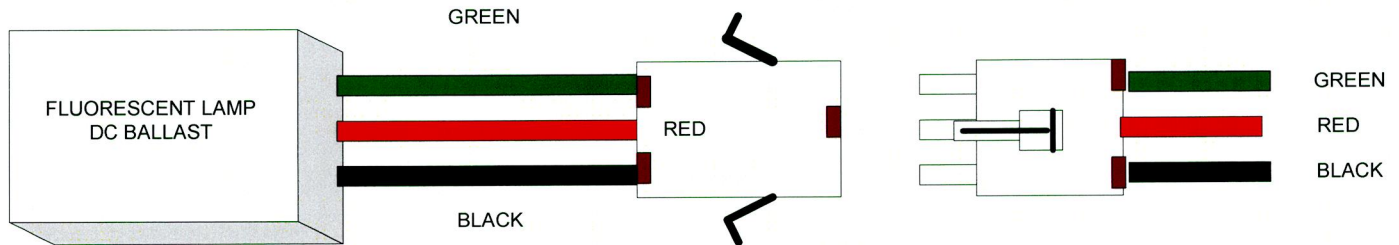
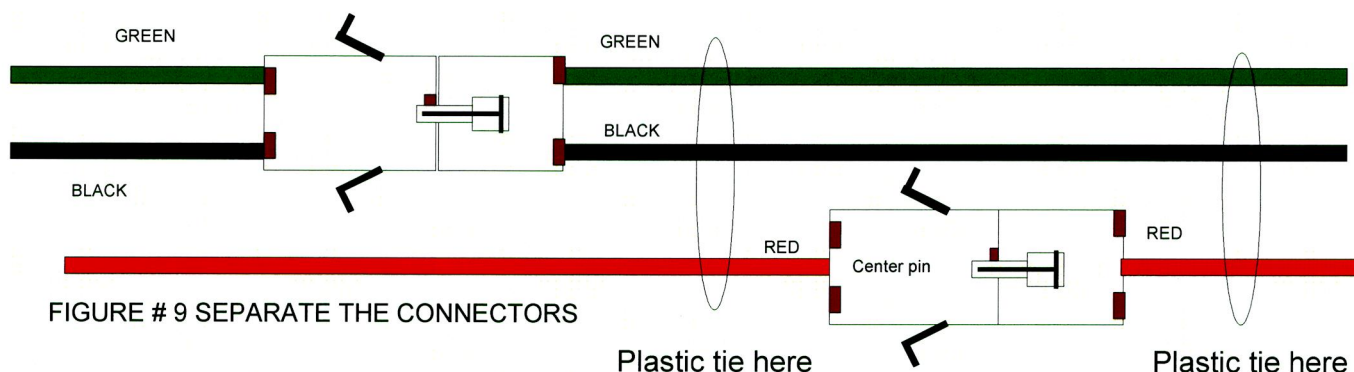


FIGURE # 8 AFTER REWORK

Plug
TA # 88-83-1020
Molex # 19-09-2038

Receptacle
TA # 88-83-1021
Molex #19-09-1039

10. Reconnect all the connectors. Make sure no other terminals were pushed out of the connectors during this process. Secure the connectors with plastic ties, and make sure to place them away from each other (see Figure # 9). Reinstall the ballast and fluorescent light.



11. Turn the battery switches ON and start the bus. Check the front dome lights by placing the Master run switch to the night run position, turn the front dome light switch OFF, and VERIFY:

- The front dome lights are OFF when front door is in a fully closed position.
- The front dome lights are ON, when front door is in an opened position.

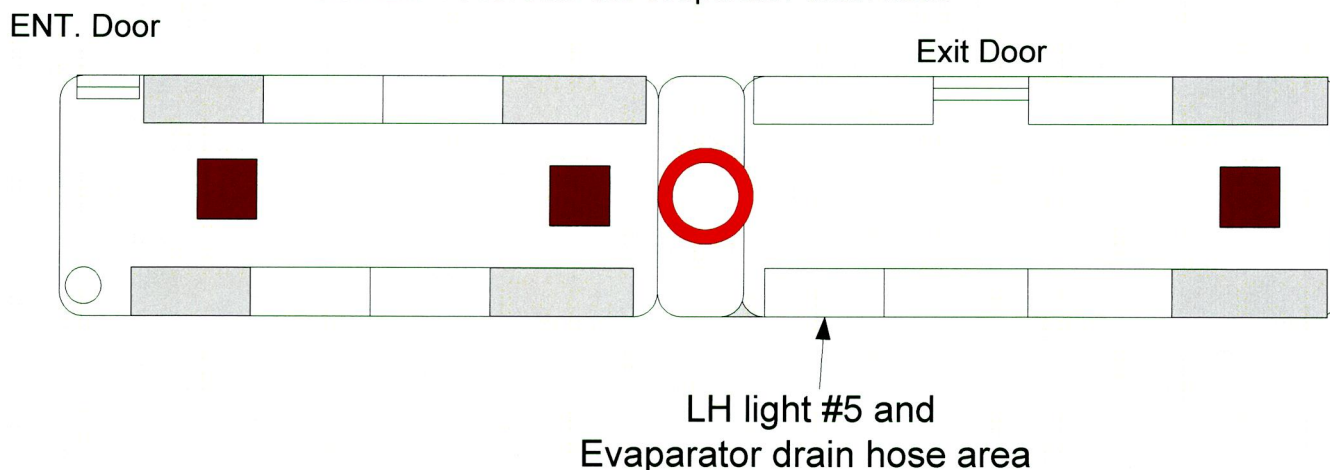
12. Turn the “Aisle light” switch ON. Verify all the lights are working properly.

13. Reinstall all the lenses.

The following is the procedure to reroute the evaporator drain hose

14. When performing the connector upgrade in the LH #5 light panel, locate the evaporator drain hose. **Remove the hose and plastic fitting at the top of the evaporator assembly.** See Figure #10, 11 and 12.

FIGURE # 10 reroute the evaporator drain hose



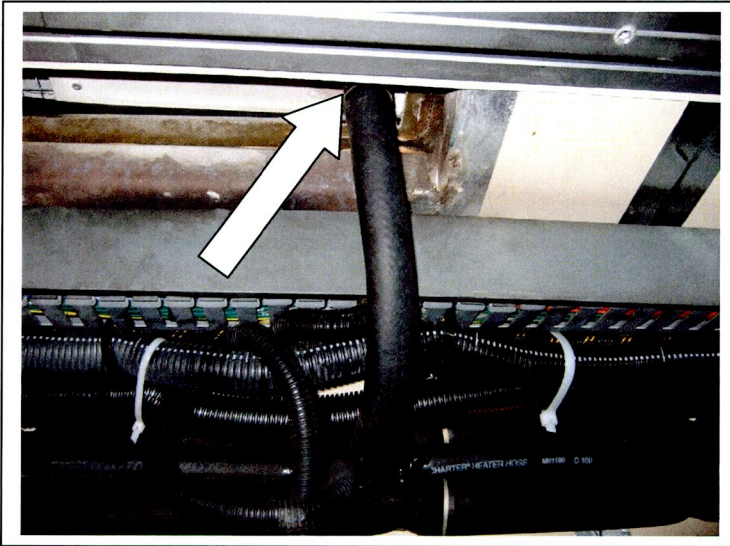


Figure #11: Loosen the hose clamp and remove evaporator drain hose at the top.

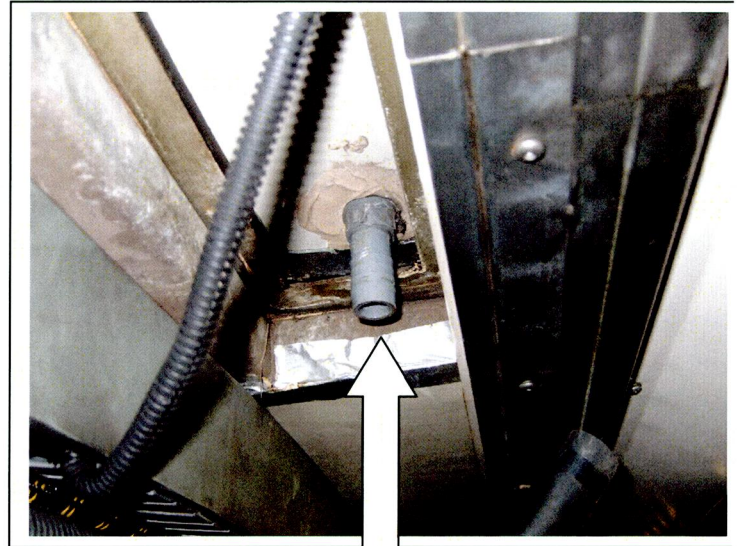


Figure #12: Remove and discard the OEM plastic fitting

15. Install the 45 degree Elbow and the hose barb fitting. The fitting should be faced the front of the bus, as shown in the Figure #13 and 14.

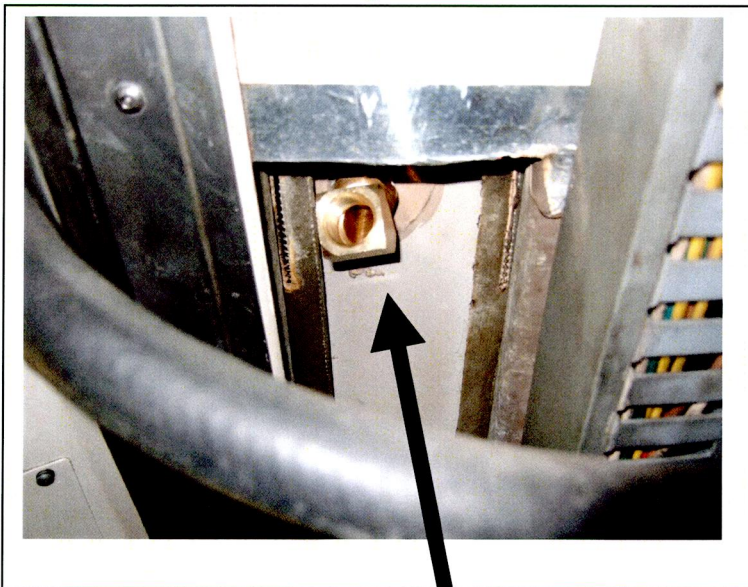


Figure #13: Install/secure the 45-degree elbow with reducer fitting attached. Elbow must face towards front of bus as shown.

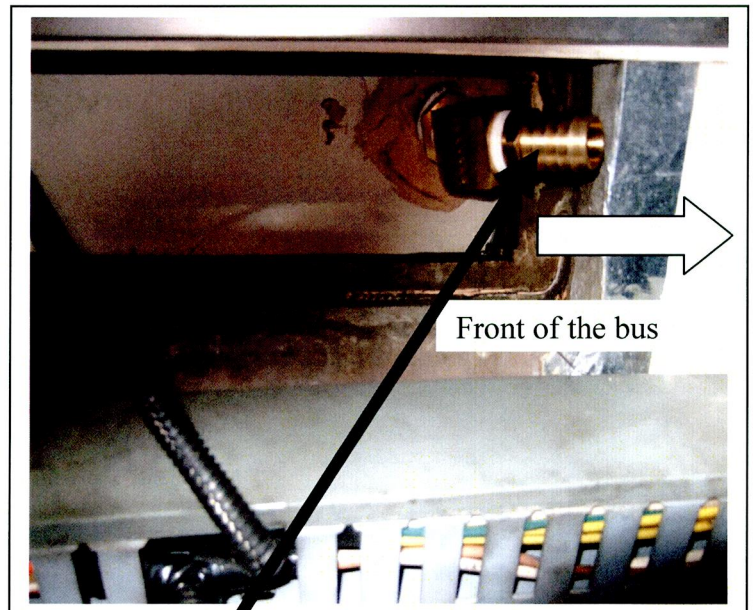


Figure #14: Now install/secure the hose barb fitting into the 45-degree fitting as shown above.

16. Install the same hose back onto the new hose barb fitting (if hose is damaged or chaffed replace this hose with TA # 00-00-0000, 3/4 heater hose). Secure with the original hose clamp. See Figure #15.

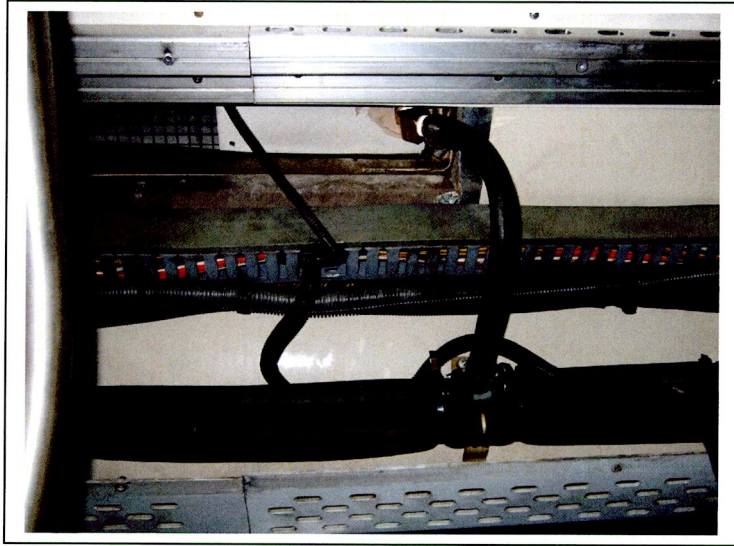


Figure #15: Install the hose back onto the hose barb fitting and secure.

Note: Secure/repair/replace, surrounding wires/hoses/harnesses as needed.

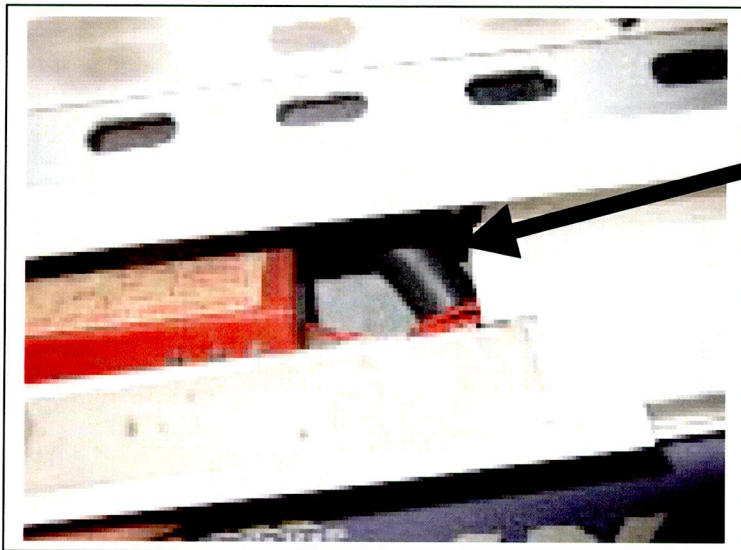


Figure # 16: Evaporator drain hose in now relocated and no longer contacting the dome light ballast and/or ballast plug.

Molex Connector for New Flyer Dome Light Ballast

Prepared by: Steven Lu 04/23/07

Hand crimping tool
TA # 42-69-0020
Molex #63811-3200

Extraction tool
TA # 42-69-0080
Molex #11-03-0006

Insertion tool (No picture)
TA # 42-69-1990
Molex #11-02-0003

Male terminal
TA # 88-83-1023
Molex # 02-09-2103
Tin 14-20 AWG

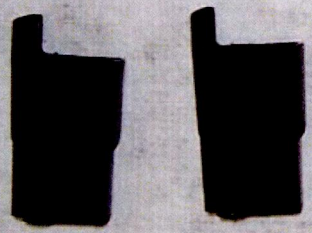
Female terminal
TA # 88-83-1022
Molex # 02-09-1104
Tin 14-20 AWG

Receptacle
TA # 88-83-1021
Molex #19-09-1039

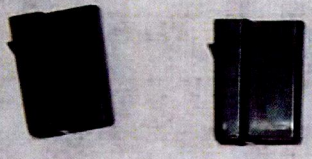
Plug
TA # 88-83-1020
Molex # 19-09-2038

04/23/2007

Female Connector
TA # 88-57-0807

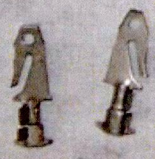


Male Connector
TA # 88-30-7765



Prepared by: Steven Lu 04/30/07

Male terminal TA # 88-30-7767



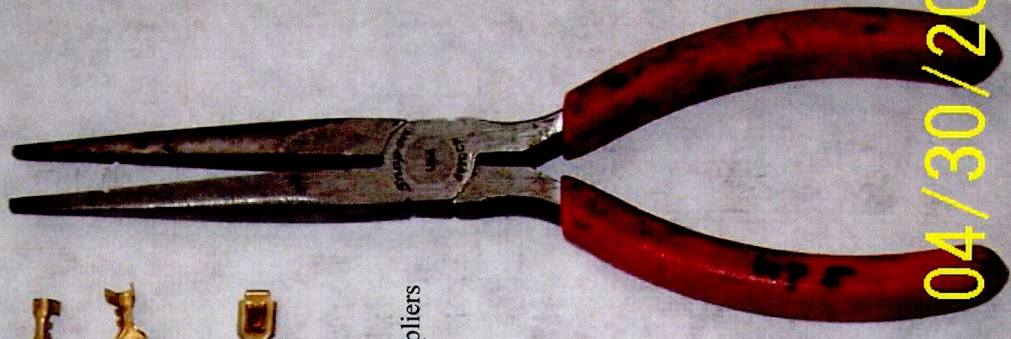
Female terminal TA # 88-30-7765



Snap on TT600 Terminal removing tool kit
TA # 42-69-3645



Snap On needle nose pliers
597CCP
TA # 42-42-6965



04/30/2007