



Number: TSB-FC-2014-011

Symptom: CS7000 control board failures,
headlights not working, error codes
displayed

Date: 10th June 2014

Urgency: Medium

Author: Matt Herr

Urgency:

☐

HIGH: Rework needs to
be done immediately

☒

MEDIUM: Rework
needs to be done by
next possible occasion

☐

LOW: Rework to be done
if necessary

☐

GENERAL: General
information

SYMPTOM:

Headlights inoperative, Error code 044 displayed on the control panel

PRODUCTS:

CS7000 / Haram Captor II models

SYSTEM:

Lighting / Control Board Assembly

ISSUE:

The control boards can be exposed to unwanted excessive Electro-static Spark Discharge (ESD) via the LED headlight control circuit causing failure of headlights, control board damage and Error Code 044 to be displayed.

CAUSE:

Some CS7000 machines may have a non-typical path for ESD to enter the wiring harness via the headlamp circuit due to insufficient grounding. Hopper ground isolation of the CS7000 allows a capacitive static charge of the hopper to build up that can be discharged through the LED headlight or Shaker motor circuit within the controller potentially damaging the control board.

PRODUCTION CORRECTIVE ACTIONS:

Additional headlamp case and shaker motor ground wires and hopper grounding strap have been implemented on all machines manufactured after serial number 1000053098

PRODUCTION SOLUTION IMPLEMENTATION DATE and / or SERIAL NUMBER:

First production machine with new grounding kit (56383909) installed as Standard equipment:

Serial Number: 1000053098



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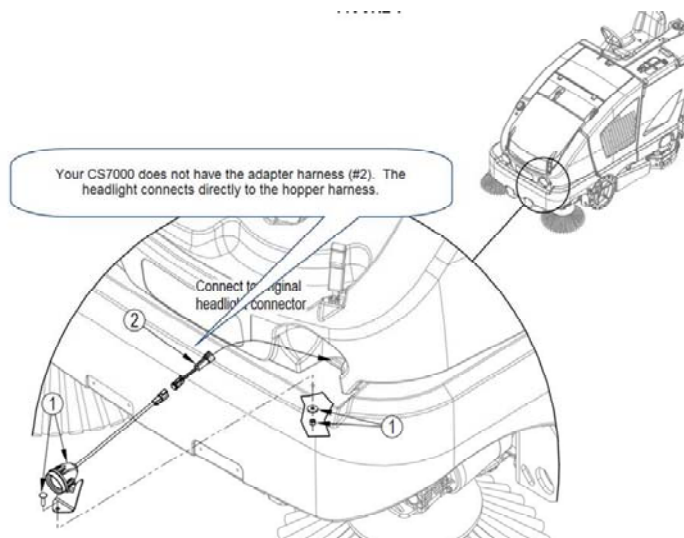
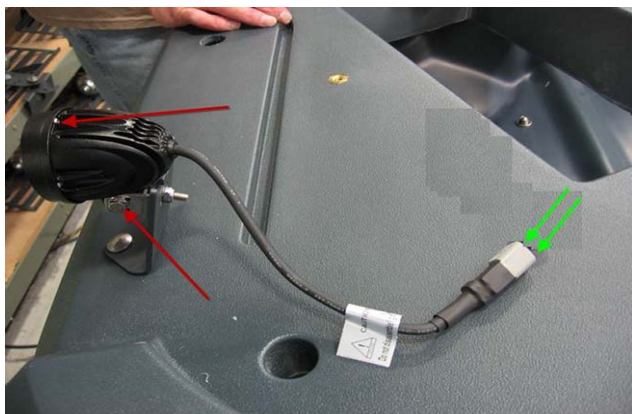
FIELD CORRECTIVE ACTIONS: (All machines built prior to Serial Number 1000053098)

Install headlight grounding and ground strap kit (56383909) as shown in Instruction sheet IS56090238.

Note: Prior to installation of the Harness Ground Kit, each headlight (Work Light, and Side Broom Light if installed) should be checked for an internal short to its housing.

With the headlights unplugged from the harness, test for continuity or resistance between the pin (green arrows- check both pins) at the headlight connector and headlight housing at the pivot bolt and lens cover screw (red arrow).

The Ohm Meter should read OL, open line, no continuity, infinite resistance. If you find there is low resistance showing between LED housing and either the pins on the headlight connector, replace the headlight as well (PN 56383032).





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SPARE PARTS or Kits Needed:

Ground Wire Kit 56383909

Qty 2 of LED Headlight 56383032 (IF REQUIRED DUE TO FAILURE)

Control Board Kit 56511503 (IF REQUIRED DUE TO FAILURE)

Note: The Ground Wire Kit includes wire assembly to ground lights and shaker motor as well as a hopper grounding strap.

Related TSB-FC-2014-019 Flickering UI Panel LED should be implemented at the same time if possible

COMPONENT LOCATIONS / PICTURES: Headlights, Shaker Motor, located within the debris hopper.

See instruction sheet 6090238 included in Ground Wire Kit for all component locations and detailed installation instructions