

Figure 1

1. INTRODUCTION

This instruction sheet covers information on Next Generation Controller (NGC) 38-Way Female Connectors. See Figure 1.



Dimensions on this sheet are in metric units [with U.S. customary equivalents in brackets]. Figures are for reference only and are not drawn to scale.

Reason for revision may be found in Section 10, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

Each 38-way female connector consists of an insulator shell, secondary lock, interfacial seal, main body, grommet seal, cover/plug plate, and a CPA.

3. MATING PROCEDURE

The female connector assemblies are keyed and color coded to match their mating header bay (i.e. either A, B, C, or D) on the NGC module. See Figure 2. The female connector assembly has been designed to be inserted into the proper mating bay with very little effort. An audible “click” will be heard when the female connector assembly’s main latch passes over the locking ramp on the header bay.

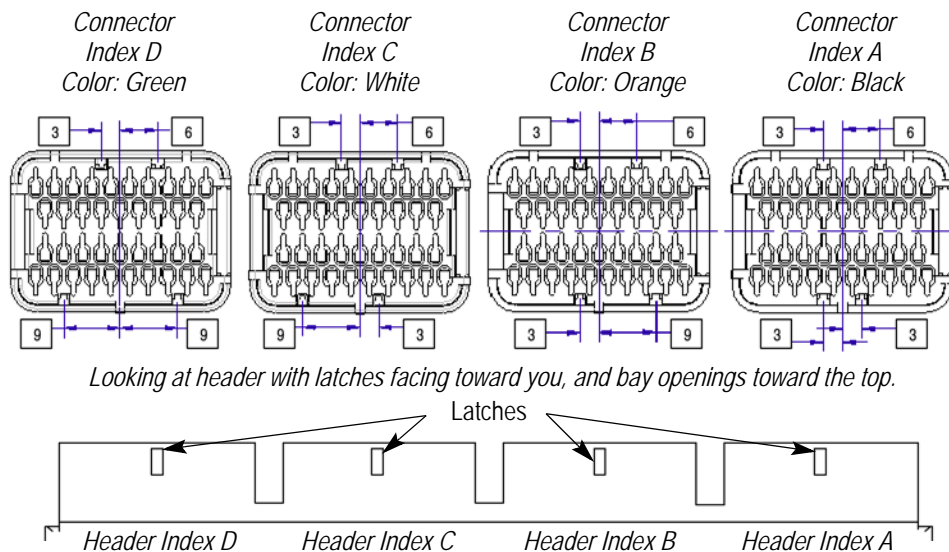


Figure 2

When the main latch is properly positioned over the locking ramp on the header bay, the CPA will be able to be pushed forward with minimal force. When the CPA is pushed into the forward position, an audible “click” will be heard, signifying that the system has been properly mated. See Figure 3.

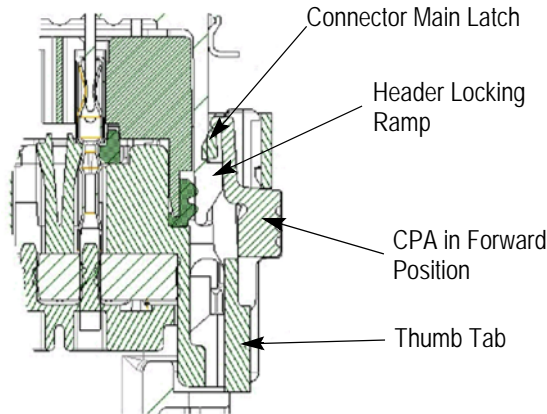


Figure 3

4. UNMATING PROCEDURE (Figure 4)

Pull the female connector assembly's CPA back to the un-actuated position. Depress the thumb tab on the main latch and pull on the female connector assembly.

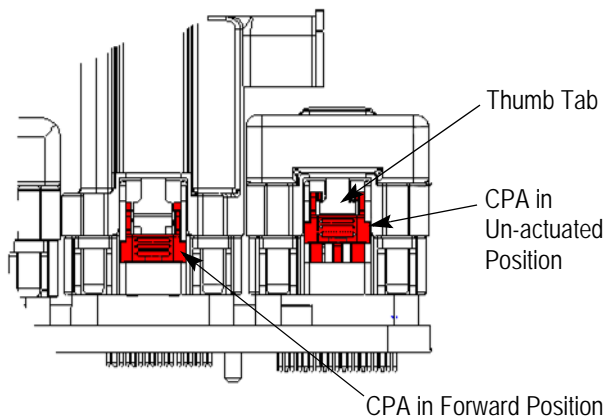


Figure 4

5. 38-WAY ELECTRICAL TEST AREA

An area has been designed into the front face of the female connector assembly to allow for continuity checks. This area exposes the hood (rectangular sleeved portion) of the female terminal, so that it can be accessed with a meter probe. See Figure 5.

The recommended procedure to check for electrical continuity on these connectors is to contact only the outside area of the hood, on the female terminal, with the meter probe. Probing inside the hood area may cause spreading of the female contact beams, thereby resulting in electrical intermittencies.

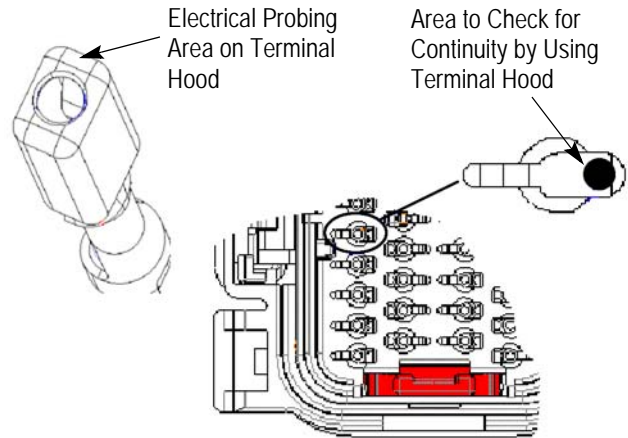


Figure 5

6. 38-WAY SECONDARY LOCK VERIFICATION

The female connector assembly is shipped with the secondary lock in the open position. After all the terminals have been inserted into the female connector assembly, the secondary lock is to be closed. In order to close the secondary lock, push inward on the red rectangular tab protruding from the side of the female connector assembly. See Figure 6.

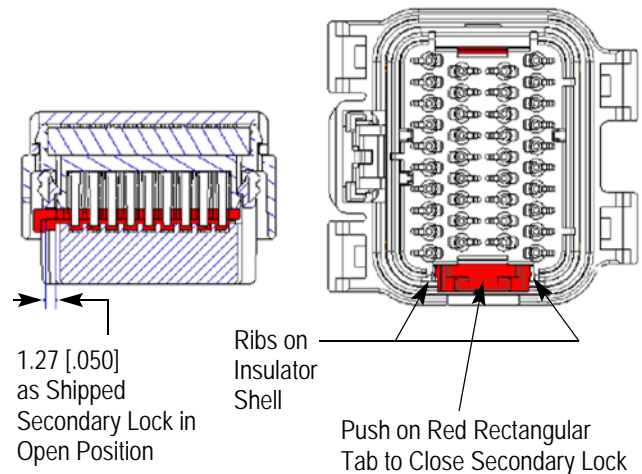


Figure 6

To verify that the secondary lock is in the closed position, look at the bottom (terminal end) of the connector, and confirm that the secondary lock protrudes through both ends of the connector shell. When the secondary lock has been properly closed, the red rectangular tab will be positioned inside the ribs of the shell. See Figure 7.

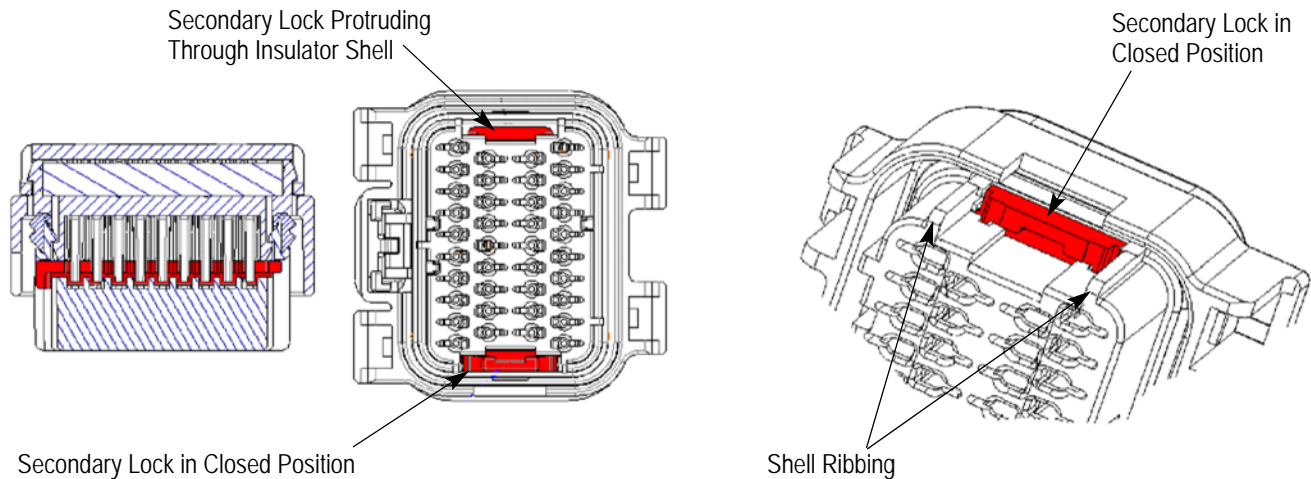


Figure 7

7. 38-WAY CPA VERIFICATION

The CPA is the red component, with three elliptical depressions, on the top side of the female connector assembly. To verify that the CPA is in the correct position and not broken, apply a "light force" to the CPA trying to push it forward. If the CPA does not move forward, when unmated to a header bay, then the CPA is functioning properly. The CPA is designed to slide forward only when it has been properly mated to a header bay. Additionally, if the CPA is missing or broken, the connector should be replaced. See Figure 8.

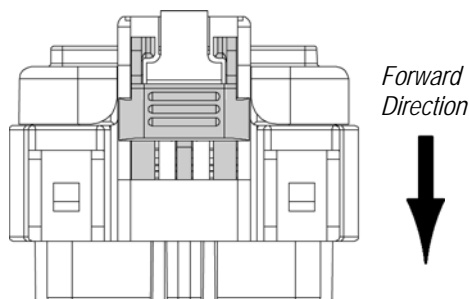


Figure 8

8. 38-WAY BROKEN LATCH VERIFICATION

The main latch of the female connector assembly should not be loose or missing. If the main latch is loose or missing, then the connector is damaged and must be replaced.

9. 38-WAY TERMINAL EXTRACTION

There are two ways to remove terminals from a female connector assembly. Total connector replacement and limited terminal replacement.

9.1. Limited Terminal Replacement

If the plastic female connector assembly is not damaged, and only a limited number of terminals need to be replaced, it is recommended that the following procedure be used:

1. Open the secondary lock by inserting a small screwdriver behind the secondary lock's red rectangular tab and prying it open. See Figure 9.

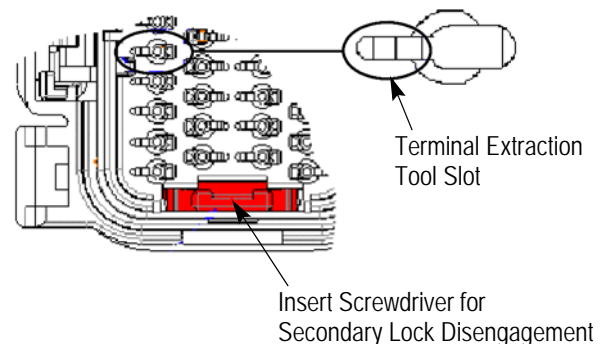


Figure 9

2. Use Extraction Tool 8638 from SPX Miller Special Tools to remove the terminals from the connector.

- a. Insert the tip of the extraction tool in the slot along side of the terminal hood, with the point of the tool toward the terminal hood. See Figure 10.
- b. Insert the tool until a resistive force from the primary locking finger is felt.
- c. Pull on the wire of the terminal to be extracted.
- d. If the terminal will not pull out of the cavity, apply a little more axial force to the extraction tool handle. Tilt the tool toward the terminal side to act as a lever arm to push the primary locking finger away from the terminal.

e. If there is any sensation of snapping or breaking of plastic during this process, then the connector has been damaged and should be replaced.

9.2. Extraction Tools

Extraction Tool 8638 must be purchased from:

SPX Miller Special Tools
28635 Mound Road
Warren, MI 48092
586-582-5824

10. REVISION SUMMARY

Since the previous version of this document, the following changes were made:

- Updated document to corporate requirements.

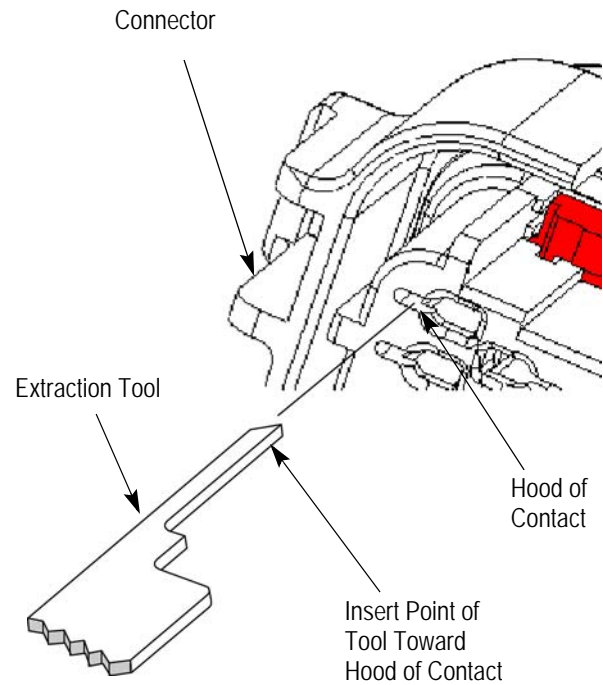


Figure 10