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| General Service Bulletin (GSB):   | LVDS and USB Cable Tester   |
| GSB Overview:   | Information on availability of new tester that can be used to test out LVDS and USB cables. |
| NOTE: This information is not intended to replace or supersede any warranty, parts and service policy, Work Shop Manual (WSM) procedures or technical training or wiring diagram information. |   |

**This GSB includes information on the following topic:**

- **Usage of tester for testing low voltage differential signaling (LVDS) and universal serial bus (USB) cables**
- **Circuit Continuity Tester Kit with LVDS and USB adaptor  
– Tool number NUD420-912 and NUD420-912-USB**

# LVDS and USB Cable Tester

## MAIN CABLE TESTER SWITCH BOX



Figure 1



Figure 2

The Cable Tester Switch Box NUD420-912 allows you to connect into today's smaller electrical connections, such as USB and LVDS, in order to help identify open circuits, shorts, and intermittent connections. Simply attach the appropriate adapter to the test box, plug in the suspect vehicle harness, and turn the dial. Connections between the two ends of the vehicle harness will illuminate the LED for the connected line.

The USB adapter kit NUD420-912-USB can be used in conjunction with the cable tester switch box to test USB cables. The following information can be used to set up the cable tester switch box and determine which test harness to connect to Connector 1 and Connector 2.

## Main Cable Tester Switch Box and USB adapter kit

Available on the RTTP website

(Figures 1&2)

# LVDS and USB Cable Tester

## EXAMPLE OF LVDS CABLE TEST SET UP



### For testing : LVDS HARNESS

|   |   |
|---|---|
| Use test harness<br><b>NUD420-912-<br/>HSDLVDS-FO</b> | Use test harness<br><b>NUD420-912-<br/>HSDLVDS-FZ</b> |
| Connector 1 Signal<br>Return                          | Connector 2 Switch<br>Output                          |
| <i>Switch position</i>                                | <i>LED illuminated</i>                                |
| Position - 1  | LED = B illuminated                                   |
| Position - 2  | LED = A illuminated                                   |
| Position - 3  | LED = D illuminated                                   |
| Position - 4  | LED = C illuminated                                   |
| Position - 5  | LED = E illuminated                                   |
| Position - 6 thru 12                                  | No LED Illuminated                                    |



Figure 3

## Tester set up for testing LVDS cable

(Figure 3)

# LVDS and USB Cable Tester

## EXAMPLE OF USB MINI B MALE TO USB MINI B MALE CABLE TEST SET UP



| For testing: USB MINI B MALE to USB MINI B MALE HARNESS |  |
|---|--|
| Use Test Harness<br><b>NUD420-912-USBminiB-F</b>        | Use Test Harness<br><b>NUD420-912-USBminiB-F</b> |
| Connector 1 Signal Return                               | Connector 2 Switch Output                        |
| <i>Switch position</i>                                  | <i>LED illuminated</i>                           |
| Position - 1  | LED = A Illuminated                              |
| Position - 2  | LED = B Illuminated                              |
| Position - 3  | LED = C Illuminated                              |
| Position - 4  | No LED Illuminated                               |
| Position - 5  | LED = E Illuminated                              |
| Position - 6  | LED = F Illuminated                              |
| Position - 7 thru 12                                    | No LED Illuminated                               |



Figure 4

## Tester set up for testing USB Mini B male to USB Mini B male cable

(Figure 4)

# LVDS and USB Cable Tester

## EXAMPLE OF USB A FEMALE TO USB MINI B MALE CABLE TEST SET UP



### For testing: USB A FEMALE to USB MINI B MALE OR FEMALE HARNESS

|   |  |
|---|--|
| Use Test Harness<br><b>NUD420-912-<br/>USBA-M</b>   | Use Test Harness<br><b>NUD420-912-<br/>USBminiB-F</b><br>OR<br>Use Test Harness<br><b>NUD420-912-<br/>USBminiB-M</b> |
| Connector 1 Signal Return   | Connector 2 Switch Output  |
| <i>Switch position</i>  | <i>LED illuminated</i>   |
| Position - 1  | LED = A Illuminated  |
| Position - 2  | LED = B Illuminated  |
| Position - 3  | LED = C Illuminated  |
| Position - 4  | No LED Illuminated   |
| Position - 5  | LED = D Illuminated  |
| Position - 6  | LED = E Illuminated  |
| Position - 7 thru 12  | No LED Illuminated   |
| **Be sure to connect the proper harness to the proper input connector on test box<br><i>Improper connection will result in alternate test results</i> |  |



Figure 5

## Tester set up for testing USB A female to USB Mini B male cable

(Figure 5)

# LVDS and USB Cable Tester

## REFERENCE TABLE FOR TESTER CABLES

| For testing : LVDS HARNESS                            |   |
|---|---|
| Use test harness<br><b>NUD420-912-<br/>HSDLVDS-FO</b> | Use test harness<br><b>NUD420-912-<br/>HSDLVDS-FZ</b> |
| Connector 1 Signal Return                             | Connector 2 Switch Output                             |
| <i>Switch position</i>                                | <i>LED illuminated</i>                                |
| Position - 1  | LED = B illuminated                                   |
| Position - 2  | LED = A illuminated                                   |
| Position - 3  | LED = D illuminated                                   |
| Position - 4  | LED = C illuminated                                   |
| Position - 5  | LED = E illuminated                                   |
| Position - 6 thru 12                                  | No LED Illuminated                                    |

| For testing: USB A FEMALE to USB MINI B MALE OR FEMALE HARNESS   |  |
|--|--|
| Use Test Harness<br><b>NUD420-912-<br/>USBA-M</b>  | Use Test Harness<br><b>NUD420-912-<br/>USBminiB-F</b><br>OR<br>Use Test Harness<br><b>NUD420-912-<br/>USBminiB-M</b> |
| Connector 1 Signal Return  | Connector 2 Switch Output  |
| <i>Switch position</i>   | <i>LED illuminated</i>   |
| Position - 1   | LED = A Illuminated  |
| Position - 2   | LED = B Illuminated  |
| Position - 3   | LED = C Illuminated  |
| Position - 4   | No LED Illuminated   |
| Position - 5   | LED = D Illuminated  |
| Position - 6   | LED = E Illuminated  |
| Position - 7 thru 12   | No LED Illuminated   |
| <i>**Be sure to connect the proper harness to the proper input connector on test box<br/>Improper connection will result in alternate test results</i> |  |

| For testing: USB MINI B MALE to USB MINI B MALE HARNESS |   |
|---|---|
| Use Test Harness<br><b>NUD420-912-<br/>USBminiB-F</b>   | Use Test Harness<br><b>NUD420-912-<br/>USBminiB-F</b> |
| Connector 1 Signal Return                               | Connector 2 Switch Output                             |
| <i>Switch position</i>                                  | <i>LED illuminated</i>                                |
| Position - 1  | LED = A Illuminated                                   |
| Position - 2  | LED = B Illuminated                                   |
| Position - 3  | LED = C Illuminated                                   |
| Position - 4  | No LED Illuminated                                    |
| Position - 5  | LED = E Illuminated                                   |
| Position - 6  | LED = F Illuminated                                   |
| Position - 7 thru 12                                    | No LED Illuminated                                    |

## Reference tables for different cable information and tester directions