JAGUAR	XJ range	DATE 09/04 Amended 02/05	XJ413-02

SERVICE **TECHNICAL BULLETIN**

Multiple Warnings On Instrument Cluster – Poor Pin Connections – Check & Repair Pins

MODEL	2004 MY XJ range
VIN	G00001-G25490

Remove and destroy Bulletin XJ413-02, amended 10/04.
Replace with this Bulletin.
Revisions are marked with a bar and in **bold text**.

Issue:

Some 2004 XJ range vehicles, within the above VIN range, may exhibit multiple warnings on the instrument cluster due to poor male/female electrical pin connections.

The following symptoms will result:

- All the warning lights are illuminated on the instrument cluster.
- Tachometer, speedometer and coolant temperature gauges all drop to zero.
- Transmission goes into limp home mode.
- Power steering defaults to the heavy setting.
- Air suspension goes to hard setting.
- All of the warning messages scroll through on the instrument cluster message center.

Note: The vehicle can still continue to be driven, however, if the condition still exists when the engine is switched off, it will not be possible to restart the engine.

Action:

In case of a verified customer complaint of the above symptoms, interrogate the following Controller Area Network (CAN) modules and record the exact DTCs found. Compare the DTCs to the codes listed at the beginning of each workshop procedure. Perform only the procedure which applies to the DTCs found on the vehicle.

WORKSHOP PROCEDURE 1

Fault lies between the ABS and the climate control module. The Controller Area Network (CAN) system will log the following missing node DTCs in the stated modules.

> **Note:** Pay particular attention for the presence of one or more of the bold codes before performing this procedure.

- Engine control module (ECM) P1672, P1638, **P0860**, **P1699**.
- Transmission control module (TCM) P1798, **P1774**.
- Climate control module **U2521**, **U2523**.
- Instrument cluster U2515, U2521, U2522, U2523.
- Air suspension module U2521, U2523.

1. Open driver door.
2. Power driver seat to the rear most position.
3. Disconnect battery (see Workshop Manual, section: 414-01).
4. Open hood and install fender protector covers.

ELECTRICAL CONNECTOR EC030 PINS 11 AND 15

5. Disconnect the Anti-lock Braking System (ABS)/Dynamic Stability Control (DSC) module electrical connector EC030 (black 47 way) (Illustration 1).

ABS/DSC CONNECTOR EC030

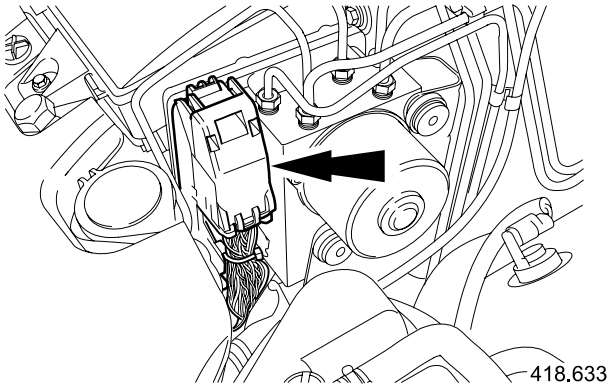

ILLUSTRATION 1

6. Use a male pin 418-411-47 from the harness repair kit, to check the integrity of pins 11 and 15 (Illustration 2).

EC030 PINS 11 AND 15

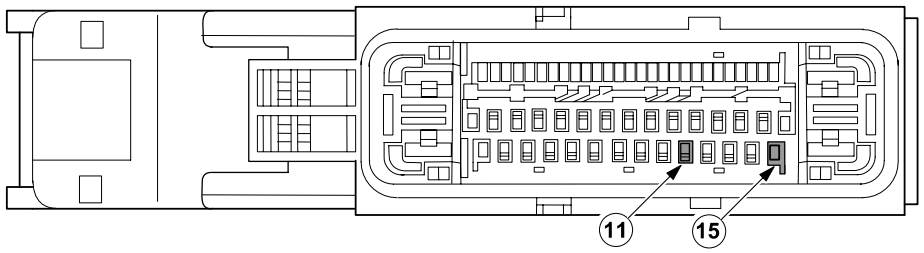

ILLUSTRATION 2

Note: The male to female electrical connection must be very firm, and be felt for the full length of the electrical connector. If there is initial resistance then the pin slips freely into the female pin, replace the female pin. If there is any doubt replace the female pin. Repeat this check with the new pin to verify a proper fit.

If pins are OK, continue with inspection of electrical connector IP055, if not, replace any faulty pin(s) using pre-terminated end **418-411-74** as follows:

REPLACING FAULTY PINS

1. Remove the front power distribution box securing bolts.
2. Disconnect the front power distribution box electrical connectors.
3. Remove the nut securing the main battery cable to the front power distribution box and reposition the main battery power cable.
4. Remove the nut securing the generator supply cable to the front power distribution box and reposition the generator supply cable.
5. Remove the front power distribution box from the vehicle.
6. Reroute the ABS/DSC harness for access.

7. Cut, remove and discard the wire tie securing the harness to the electrical connector.
8. Remove the anti-back-out device from the electrical connector.
9. Use the special tool ‘A’ from the harness repair kit to displace the affected pin(s) from the electrical connector.
10. Unwind the affected wire from the second wire of the Controller Area Network (CAN) bus.
11. Cut back affected wire to the required length to facilitate repair.
12. Strip back outer casing of the cut wire 6 to 7 mm.
13. Crimp butt-splice connector 418-107 from the harness repair kit to the prepared wire.
14. Strip back outer casing from the new pre-terminated end **418-411-74**.
15. Crimp the new pre-terminated end to the butt-splice connector.
16. Slide heat shrink tube 418-104 from the harness repair kit over the butt-splice connector.
17. Using a suitable heat source, shrink the tube over the butt-splice connector.
18. Insert the new pin(s) into the electrical connector.
19. Insert the anti-back-out device.
20. Secure the harness to the electrical connector with a wire tie.
21. Cut the protruding end of the wire tie and discard.
22. Reroute the ABS/DSC harness and connect the electrical connector.
23. Install the generator supply cable to the front power distribution box, install and tighten the generator supply cable securing nut.
24. Install the main battery power cable to the front power distribution box, install and tighten the main battery cable securing nut.
26. Install the front power distribution box electrical connectors.
27. Install and tighten the front power distribution box securing bolts.

ELECTRICAL CONNECTOR IP055 PINS 21 AND 22

1. Remove the right hand side scuff plate trim panel (see Workshop Manual, section: 501-05).
2. Remove the right hand side A-post lower trim pad.

3. Displace the intermediate connector IP055 (black 22 way) from the mounting tang (Illustration 3).

INTERMEDIATE CONNECTOR IP055

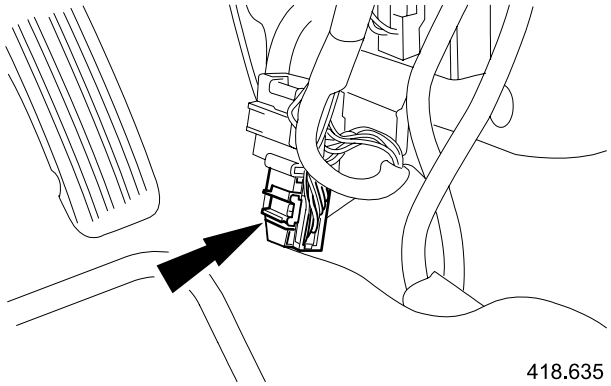

ILLUSTRATION 3

4. Disconnect the intermediate connector IP055.
5. Position harness for access.
6. Use a male pin 418-411-47 from the harness repair kit, check the integrity of pin 21 and 22 (Illustration 4).

IP055 PINS 21 AND 22

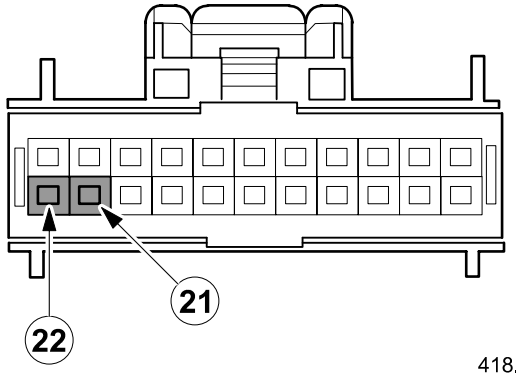

ILLUSTRATION 4

Note: The male to female electrical connection must be firm, and be felt for the full length of the electrical connector. If there is initial resistance, then the pin slips freely into the female pin, replace the female pin. If there is any doubt replace the female pin. Repeat this check with the new pin to verify a proper fit.

7. If pins require replacing, strip back the harness tape to adequate length to facilitate repair. If not, continue with step 20 of this procedure
8. Remove the anti-back-out device from the electrical connector.
9. Displace affected pin(s) from the electrical connector using special tool ‘A’ from the harness repair kit.
10. Unwind the affected wire from the second wire of the Controller Area Network (CAN) bus.
11. Cut back affected wire to the required length to facilitate repair.
12. Strip back outer casing of the cut wire 6 to 7 mm.
13. Crimp butt-splice connector 418-107 from the harness repair kit to the prepared wire.
14. Strip back outer casing from the new pre-terminated end **418-411-75**.
15. Crimp the new pre-terminated end to the butt-splice connector.
16. Slide heat shrink tube 418-104 from the harness repair kit over the butt-splice connector.
17. Using a suitable heat source, shrink the tube over the butt-splice connector.
18. Insert the new pin(s) into the electrical connector.
19. Insert the anti-back-out device.
20. Tape harness to original condition.
21. Connect intermediate connector IP055.
22. Install intermediate connector IP055 to the mounting tang.
23. Install right hand side A-post lower trim pad.
24. Install right hand side scuff plate trim panel (see Workshop Manual section: 501-05). Continue with inspection of connector CR120.

ELECTRICAL CONNECTOR CR120 PINS 3 AND 4

1. Remove securing scrivets to remove lower instrument panel finisher.

2. Disconnect electrical connector CR120 (black 8 way) (Illustration 5).

ELECTRICAL CONNECTOR CR120

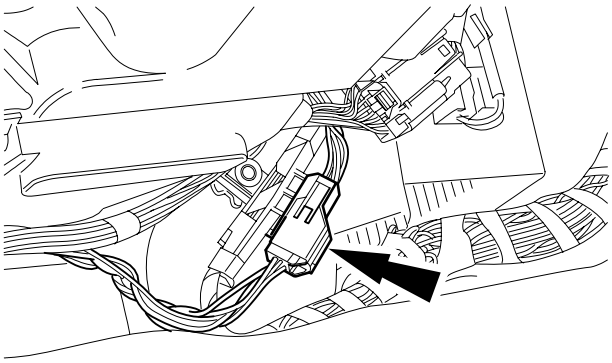

ILLUSTRATION 5

3. Use a male pin 418-411-47 from the harness repair kit to check the integrity of pin 3 and 4 (Illustration 6).

> **Note:** The male to female electrical connection must be firm, and be felt for the full length of the electrical connector. If there is initial resistance, then the pin slips freely into the female pin, replace the female pin. If there is any doubt replace the female pin. Repeat this check with the new pin to verify a proper fit.

CR120 PINS 3 AND 4

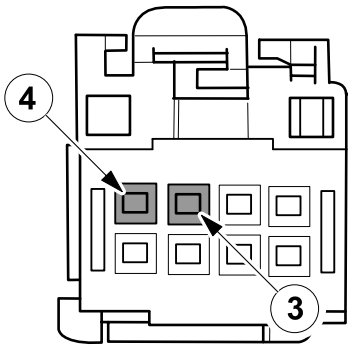

ILLUSTRATION 6

4. If pins require replacing, strip back the harness tape to adequate length to facilitate repair. If not, continue with step 17 of this procedure.
5. Remove the anti-back-out device from the electrical connector.
6. Displace affected pin(s) from the electrical connector using special tool ‘A’ from the harness repair kit.

7. Unwind the affected wire from the second wire of the Controller Area Network (CAN) bus.
8. Cut back affected wire to the required length to facilitate repair.
9. Strip back outer casing of the cut wire 6 to 7 mm.
10. Crimp butt-splice connector 418-107 from the harness repair kit to the prepared wire.
11. Strip back outer casing from the new pre-terminated end **418-411-45**.
12. Crimp the new pre-terminated end to the butt-splice connector.
13. Slide heat shrink tube 418-104 from the harness repair kit over the butt-splice connector.
14. Using a suitable heat source, shrink the tube over the butt-splice connector.
15. Insert the new pin(s) into the electrical connector.
16. Insert the anti-back-out device.
17. Tape harness to original condition.
18. Connect electrical connector CR120. Continue with inspection of connector CR119.

ELECTRICAL CONNECTOR CR119 PINS 6 AND 7

1. Disconnect electrical connector CR119 (gray 22 way) (Illustration 7).

ELECTRICAL CONNECTOR CR119

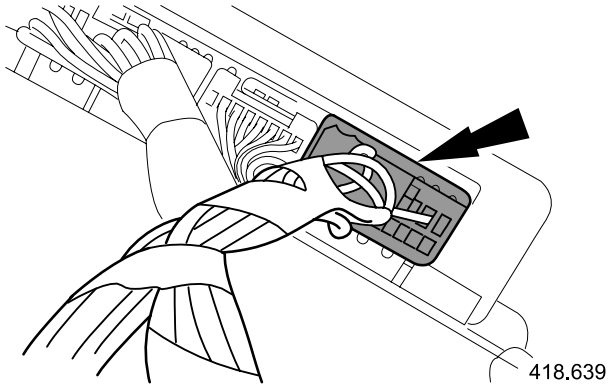

ILLUSTRATION 7

2. Displace electrical harness from mounting point.
3. Align harness for access to electrical connector.

4. Using the male pin 418-411-47 from the harness repair kit, check the integrity of pin 6 and 7 (Illustration 8).

> **Note:** The male to female electrical connection must be firm, and be felt for the full length of the electrical connector. If there is initial resistance then the pin slips freely into the female pin, replace the female pin. If there is any doubt replace the female pin. Repeat this check with the new pin to verify a proper fit.

CR119 PINS 6 AND 7

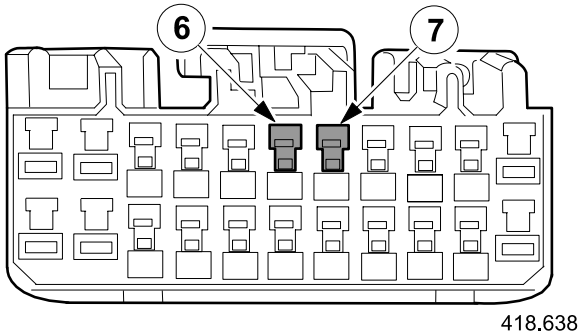

ILLUSTRATION 8

5. If pins require replacing, displace anti-back-out device, strip back the harness tape to adequate length to facilitate repair. If not continue with step 18 of this procedure.
6. Remove the anti-back-out device from the electrical connector.
7. Displace affected pin(s) from the electrical connector using special tool ‘A’ from the harness repair kit.
8. Unwind the affected wire from the second wire of the Controller Area Network (CAN) bus.
9. Cut back affected wire to the required length to facilitate repair.
10. Strip back outer casing of the cut wire 6 to 7 mm.
11. Crimp butt-splice connector 418-107 from the harness repair kit to the prepared wire.
12. Strip back outer casing from the new pre-terminated end **418-411-75**.
13. Crimp the new pre-terminated end to the butt-splice connector.
14. Slide heat shrink tube 418-104 from the harness repair kit over the butt-splice connector.
15. Using a suitable heat source, shrink the tube over the butt-splice connector.
16. Insert the new pin(s) into the electrical connector.
17. Insert the anti-back-out device.
18. Reroute harness to original position.
19. Secure electrical harness to mounting point.

20. Connect electrical connector CR119.
21. Install driver side lower instrument panel finisher with the securing scrivets.
22. Remove fender protector covers and close hood.
23. Connect battery (see Workshop Manual, section: 414-01).
24. Power driver seat to original position.
25. Close driver door.

WORKSHOP PROCEDURE 2

Fault lies between the J-gate and the instrument cluster.
The CAN system will log the following missing node DTCs in the stated modules.

- Engine control module (ECM) P1672, P1638.
- Transmission control module (TCM) P1798.
- Adaptive Speed control module **U2520**.
- Remote climate control module U2520.
- Instrument cluster U2515, U2521, U2522, U2523.
- Air suspension module **U2518**, U2521, U2523.

1. Open driver door.
2. Power steering column to the fully extended and the lower most position.
3. Disconnect battery (see Global Technical Reference GTR Workshop Manual, section 414-01).

ELECTRICAL CONNECTOR IP032 PINS 11 AND 12

Check connector IP032 pins 11 and 12 for integrity and renew with pre terminated end 418-411-13 if necessary.

4. Remove floor console for access (see Global Technical Reference GTR Workshop Manual, section 501-12).
5. Remove the rear vent duct securing scrivet and remove duct.
6. Displace electrical connector IP032 from the fir tree fixing.

ELECTRICAL CONNECTOR IP032

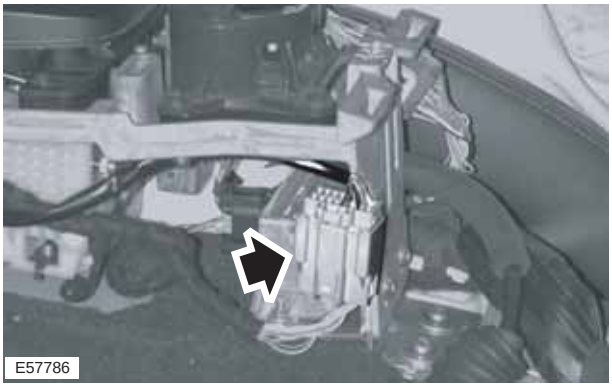

ILLUSTRATION 9

7. Disconnect electrical connector IP032 (green 16-way) Illustration 9.
8. Using the male pin 418-411-12 from the harness repair kit, check the integrity of pins 11 and 12) Illustration 10.

> **Note:** The male-to-female electrical connection must be very firm, and be felt for the full length of the electrical connector. If there is initial resistance then the pin slips freely into the female pin, replace the female pin. If there is any doubt replace the female pin.

PINS 11 AND 12

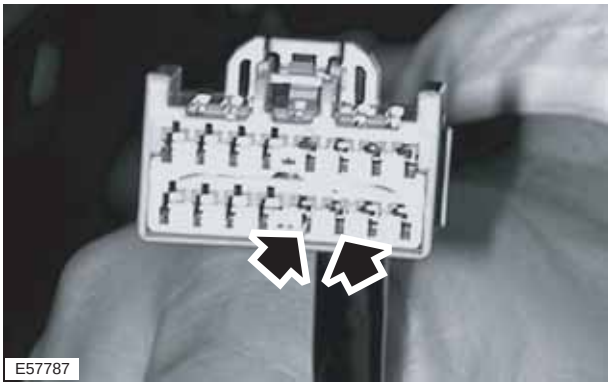

ILLUSTRATION 10

9. Replace any faulty pin(s); refer to the Wiring Harness Repair Guide JTP586 in the wiring harness repair kit.
10. Reconnect electrical connector IP032.
11. Install connector to the fir tree fixing.

ELECTRICAL CONNECTOR IP006 PINS 8 AND 9

Check electrical connector IP006 pins 8 and 9 for integrity and renew with pre-terminated end 418-411-32 if necessary.

12. Remove instrument cluster for access (see Global Technical Reference GTR Workshop Manual, section 413-01).

13. Using male pin 418-411-47 from the harness repair kit, check the integrity of pins 8 and 9, (Illustration 11).

> **Note:** The male-to-female electrical connection must be very firm, and be felt for the full length of the electrical connector. If there is initial resistance then the pin slips freely into the female pin, replace the female pin. If there is any doubt replace the female pin.

ELECTRICAL CONNECTOR IP006 PINS 8 AND 9

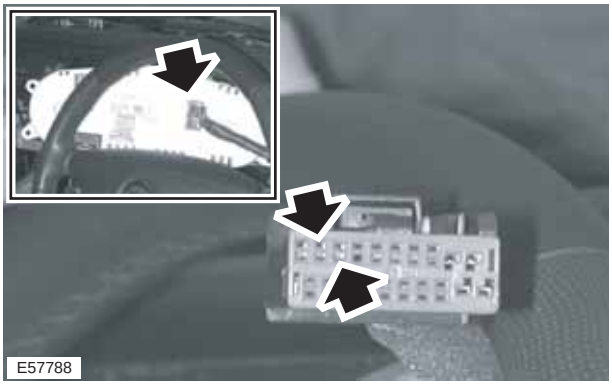

ILLUSTRATION 11

14 . Replace any faulty pin(s); refer to the Wiring Harness Repair Guide JTP586 in the wiring harness repair kit.

15 . Install the rear vent duct and install and tighten securing scrivet.

16 . Install instrument cluster (see Global Technical Reference GTR Workshop Manual, section 413-01).

17 . Install floor console (see Global Technical Reference GTR Workshop Manual, section 501-12).

18 . Connect battery (see Global Technical Reference GTR Workshop Manual, section 414-01).

19 . Power steering column to the original position.

20 . Close driver door.

Global Technical Reference (GTR) Workshop Manual Information:

Dealer access: https://hub.franchise.jaguar.com

Internet access: http://www.jaguartechinfo.com

Parts Information:

Pre-terminated wire ends (418-411-74 and 418-411-75) for the harness repair kit (418-A411-01) can be obtained by contacting SPX at 1-800-533-5338. Refer to Administration Bulletin 1-177.

Warranty Information:

Warranty claims should be submitted quoting the information found in the table below. This will result in payment of the stated time. **Individual pre-terminated wires should be submitted as a miscellaneous expense**

Description	SRO	Time	Causal Part Number
Multiple warnings on instrument cluster Workshop Procedure 1	86.93.30/01	1.6 hrs	C2C 13290
Multiple warnings on instrument cluster Workshop Procedure 2	86.93.30/02	1.0 hrs.	C2C 13290