



MODEL  
XK Range

DATE  
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NUMBER  
JTB00061

**SERVICE**

**TECHNICAL BULLETIN**

**THIS BULLETIN REPLACES ALL ISSUES OF 501-55.  
THE CHANGES ARE HIGHLIGHTED WITH GREY BACKGROUND**

**SECTION: 501-20B**

## **Supplemental Restraint System (SRS) Flash Code and PID Code Definitions – Diagnostic Aid**

**AFFECTED VEHICLE RANGE:**

XK Range

VIN: A30645 – A48684  
Model Year: 2003 – 2006

**Situation:** This bulletin provides information on Flash Codes and Parameter Identification (PID) code descriptions to assist in the diagnosis of Supplemental Restraint System (SRS) faults. This document is to be used as a guide only. It supports the existing diagnostic equipment, circuit diagrams in the Electrical Guide, and the Workshop Manual.

**Action:** In the event of a customer concern of the above, perform the following Diagnostic Procedure outlined below.

**PARTS:**

None required. Informational purposes only.

**TOOLS:**

Jaguar IDS with IDS DVD 108 or later and Midtronics PCS-550 Vehicle Power Supply are required.

**WARRANTY:**



**NOTE:** Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Always refer to DDW to obtain the latest repair time.

DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

*Normal warranty policy and procedures apply.*

**NOTE:** The information in Technical Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment required to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers." If you are not a Retailer, do not assume that a condition described affects your vehicle. Contact an authorized Jaguar service facility to determine whether the bulletin applies to a specific vehicle.

## DIAGNOSTIC PROCEDURE

### RETRIEVING FLASH CODES

 **CAUTION: A Midtronics PSC-550 Vehicle Power Supply must be connected to the vehicle battery during diagnosis.**


1. Connect the Midtronics PSC-550 Vehicle Power Supply to the vehicle battery.

 **NOTE: Only one Flash Code will be displayed at a time; however, there may be multiple fault codes stored which will only be displayed after the original fault is repaired.**

2. Retrieve and record any Flash Codes stored in the Restraint Control Module (RCM) by observing the SRS warning indicator located in the instrument cluster.

### RETRIEVING DTC AND PID CODES

1. Connect the IDS to the vehicle and begin a new diagnostic session by entering the correct VIN for the current vehicle.


 **NOTE: The PID code displayed in brackets next to the DTC differs from the Flash Code. These two codes must not be confused as incorrect diagnosis may occur.**

2. Retrieve and record any logged Diagnostic Trouble Codes (DTCs) and PID codes from the RCM.


### DIAGNOSING THE FAULT(S)


 **WARNING: Ensure all safety procedures are followed before and during any work that is carried out on the SRS.**

1. Using the Index, the retrieved Flash Codes, DTCs, and PID codes determine the correct fault description.
2. Check the list of possible causes/connectors against that fault description for poor connections, backed out or bent pins, visible damage, or trapped harnesses.

 **NOTE: Within the IDS Datalogger function there is a facility to display airbag circuit resistance as seen by the restraints control module. Utilizing the Restraints Control Module resistance read function provides an opportunity to observe circuit resistance stability when investigating harness and connector integrity. The IDS airbag resistance read function can be accessed in the body system section of Datalogger. Typical resistance values are between 1.6 – 2.9 Ohms with the exception of driver front airbag which is between 2.4 – 4.2 Ohms due to additional circuit length within clockspring.**

3. Repair using standard SRS repair processes.

 **NOTE: If a fault is identified within the Occupancy Classification System (OCS) Module, passenger seat weight sensor, or passenger seat weight sensor harness, ALL of these components MUST be replaced as a complete kit.**

 **NOTE: If the RCM has been identified as being faulty and requires replacement, any additional faults within the SRS MUST be repaired and DTCs cleared BEFORE replacing the RCM.**

4. Clear all DTCs.
5. Disconnect the IDS and Midtronics PSC-550 from the vehicle.

# INDEX

Flash Code	Combination Faults	Front Air Bags	Side Air Bags	Safety Belt Pretensioners	Impact Sensors	Occupant Classification System (OCS)	Occupant Position System (OPS)	Front Safety Belt Buckle and Seat Track Position Switches	Miscellaneous	Component Replacement
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12										x
13										x
14									x	
15										x
16	x					x				x
17	x						x			x
18									x	
19	x	x								
21		x								
22	x		x							
23	x		x							
33	x			x						
34	x			x						
42	x				x					x
43	x				x					x
44	x				x					x
49	x							x		
51	x							x		
52	x							x		
53									x	
ON	x								x	
OFF									x	

## COMBINATION FAULTS

Flash Code	DTC (PID code)	Fault Description	Possible Causes
43	B2296 (31)	Driver Side Impact Sensor - Mount/Communication Fault	Connector: RH009
44	B2296 (29)	Passenger Side Impact Sensor - Mount/Communication Fault	
17	B2291 (24)	OPS Sensor 4 Fault - B Pillar	
Flash Code	DTC (PID code)	Fault Description	Possible Causes
16	B2290 (26)	OCS Communication Fault Front Passenger Side	Driver Side fuse box, fuse 14 (10A), Blown or Missing, (pre 2003 MY vehicles only)
51	B2691	Driver Seat Belt Buckle Switch Open Circuit	
52	B2692	Front Passenger Seat Belt Buckle Switch Open Circuit	
	B1869	Airbag Warning Indicator Open Circuit	
Flash Code	DTC (PID code)	Fault Description	Possible Causes
17	B2291(27)	OPS Sensor 1 (center headliner) - Sensor Fault	Connector RZ001
	B2291(26)	OPS Sensor 2 (instrument panel console) - Sensor Fault	
	B2291(25)	OPS Sensor 3 (A pillar) - Sensor Fault	
Flash Code	DTC (PID code)	Fault Description	Possible Causes
19	B2293 (29)	Driver Air Bag Front - Stage 1 Open Circuit	Connector: SC3, SW010
	B2293 (21)	Driver Air Bag Front - Stage 2 Open Circuit	
Flash Code	DTC (PID code)	Fault Description	Possible Causes
34	B2292 (26)	Passenger Pretensioner Circuit Front - Open Circuit	Connector: PT001
33	B2292 (30)	Driver Pretensioner Circuit Front - Open Circuit	

Flash Code	DTC (PID code)	Fault Description	Possible Causes
49	C1981	Driver Seat Position Switch Circuit Fault	Connector: FC009
51	B2691	Driver Safety Belt Buckle Switch Front - Circuit Fault	
52	B2692	Passenger Safety Belt Buckle Switch Front - Circuit Fault	
42	B2296 (19)	Front Impact Sensor - Mount/Communication Fault	
44	B2296 (29)	Passenger Side Impact Sensor - Mount/Communication Fault	
43	B2296 (31)	Driver Side Impact Sensor - Mount/Communication Fault	
23	B2295 (25)	Passenger Air Bag Side - Open Circuit	
22	B2295 (29)	Driver Air Bag Side - Open Circuit	
34	B2292 (26)	Passenger Pretensioner Circuit Front - Open Circuit	
33	B2292 (30)	Driver Pretensioner Circuit Front - Open Circuit	
Flash Code	DTC (PID code)	Fault Description	Possible Causes
ON		Restraint Control Module (PAD Lamp OFF, No Diagnostic Communications)	Connector: FC008
Flash Code	DTC (PID code)	Fault Description	Possible Causes
17	B2291 (28)	OPS Calibration Fault	Clear DTCs and Cycle Ignition
	B2291 (29)	OPS Communication Fault	
Flash Code	DTC (PID code)	Fault Description	Possible Causes
16	B2290 (26)	Local CAN Open/Short	Connector: SP021, SP001, FC010. Harness: Instrument Panel, Passenger Seat
17	B2291 (29)		

## FRONT AIR BAGS

Flash Code	DTC (PID code)	Fault Description	Possible Causes
19	B2293 (20)	Driver Air Bag Front - Stage 2 Squib Low Resistance	Connector: SW013. Clockspring Connectors: SC3, SW010, FC008. Harness: Instrument Panel, Driver Air Bag
19	B2293 (21)	Driver Air Bag Front - Stage 2 Open Circuit	Connector: SW013, Clockspring. Connectors: SC3, SW010, FC008. Harness: Instrument Panel, Driver Air Bag
19	B2293 (22)	Driver Air Bag Front - Stage 2 Short Circuit to Battery	Connector: SW013, Clockspring. Connectors: SC3, SW010, FC008. Harness: Instrument Panel
19	B2293 (23)	Driver Air Bag Front - Stage 2 Short Circuit to Ground	Connectors: SW010, FC008. Clockspring. Harnesses: Instrument Panel, Driver Air Bag
19	B2293 (28)	Driver Air Bag Front - Stage 1 Squib Low Resistance	Connectors: SW012, SC3, SW010, FC008. Clockspring. Harnesses: Instrument Panel, Driver Air Bag
19	B2293 (29)	Driver Air Bag Front - Stage 1 Open Circuit	Connectors: SW012, SC3, SW010, FC008. Clockspring. Harnesses: Instrument Panel, Driver Air Bag
19	B2293 (30)	Driver Air Bag Front - Stage 1 Short to Battery	Connectors: SW012, SC3, SW010, FC008. Clockspring. Harnesses: Instrument Panel
19	B2293 (31)	Driver Air Bag Front - Stage 1 Short to Ground	Connectors: SW010, FC008. Clockspring. Harnesses: Instrument Panel, Driver Air Bag
21	B2293 (24)	Passenger Air Bag Front - Stage 1 Squib Low Resistance	Connectors: FC008, FC075. Passenger Air Bag. Harness: Instrument Panel
21	B2293 (25)	Passenger Air Bag Front - Stage 1 Open Circuit	Connectors: FC008, FC075. Passenger Air Bag. Harness: Instrument Panel
21	B2293 (26)	Passenger Air Bag Front - Stage 1 Short to Battery	Connectors: FC008, FC075. Harness: Instrument Panel
21	B2293 (27)	Passenger Air Bag Front - Stage 1 Short to Ground	Connectors: FC008, FC075. Passenger Air Bag. Harness: Instrument Panel

Flash Code	DTC (PID code)	Fault Description	Possible Causes
21	B2293 (16)	Passenger Air Bag Front - Stage 2 Squib Low Resistance	Connectors: FC008, FC076. Passenger Air Bag. Harness: Instrument Panel
21	B2293 (17)	Passenger Air Bag Front - Stage 2 Open CircuitZ	Connectors: FC008, FC076. Passenger Air Bag. Harness: Instrument Panel
21	B2293 (18)	Passenger Air Bag Front - Stage 2 Short to Battery	Connectors: FC008, FC076. Harness: Instrument Panel
21	B2293 (19)	Passenger Air Bag Front - Stage 2 Short to Ground	Connectors: FC008, FC076. Passenger Air Bag. Harness: Instrument Panel

### SIDE AIR BAGS

Flash Code	DTC (PID code)	Fault Description	Possible Causes
22	B2295 (28)	Driver Seat, Side Air Bag Squib - Low Resistance	Connectors: FC009, SD013, SD015. Driver Side Air Bag. Harnesses: Driver seat, Instrument Panel
22	B2295 (29)	Driver Seat, Side Air Bag - Open Circuit	Connectors: FC009, SD013, SD015. Driver Side Air Bag. Harnesses: Driver seat, Instrument Panel
22	B2295 (30)	Driver Seat, Side Air Bag - Short to Ground	Connectors: FC009, SD013, SD015. Driver Side Air Bag. Harnesses: Driver seat, Instrument Panel
22	B2295 (31)	Driver Seat, Side Air Bag - Short to Battery	Connectors: FC009, SD013, SD015, Harnesses: Driver seat, Instrument Panel
23	B2295 (24)	Passenger Seat, Side Air Bag Squib - Low Resistance	Connectors: FC009, SP013, SP015. Passenger Side Air Bag. Harnesses : Passenger seat, Instrument Panel
23	B2295 (25)	Passenger Seat, Side Air Bag - Open Circuit	Connectors: FC009, SP013, SP015. Passenger Side Air Bag. Harnesses: Passenger seat, Instrument Panel
23	B2295 (26)	Passenger Seat, Side Air Bag - Short to Ground	Connectors: FC009, SP013, SP015. Passenger Side Air Bag. Harnesses: Passenger seat, Instrument Panel
23	B2295 (27)	Passenger Seat, Side Air Bag - Short to Battery	Connectors: FC009, SP013, SP015. Passenger Side Air Bag. Harnesses: Passenger seat, Instrument Panel

## SAFETY BELT PRETENSIONERS

Flash Code	DTC (PID code)	Fault Description	Possible Causes
33	B2292 (28)	Driver Pretensioner Front - Short to Ground	Connectors: FC009, PT001, PT003,(RHD), PT002 (LHD). Harnesses: Instrument Panel, Pretensioner Harness (Seat). Driver Pretensioner front
33	B2292 (29)	Driver Pretensioner Front - Short to Battery	Connectors: FC009, PT001, PT003, (RHD), PT002 (LHD). Harnesses: Instrument Panel Pretensioner Harness (Seat)
33	B2292 (30)	Driver Pretensioner Front - Open Circuit	Connectors: FC009, PT001, PT003 (RHD), PT002 (LHD). Harnesses: Instrument Panel, PT (Seat). Driver Pretensioner front
33	B2292 (31)	Driver Pretensioner Squib Front - Low Resistance	Connectors: FC009, PT001, PT003 (RHD), PT002 (LHD). Harnesses: Instrument Panel, PT (Seat). Driver Pretensioner front
34	B2292 (24)	Passenger Pretensioner Front - Short to Ground	Connectors: FC009, PT001, PT002 (RHD), PT003 (LHD). Harnesses: Instrument Panel, PT (Seat). Driver Pretensioner front
34	B2292 (25)	Passenger Pretensioner Front - Short to Battery	Connectors: FC009, PT001, PT002 (RHD), PT003 (LHD). Harnesses: Instrument Panel, PT (Seat)
34	B2292 (26)	Passenger Pretensioner Front - Open Circuit	Connectors: FC009, PT001, PT002 (RHD), PT003 (LHD). Harnesses: Instrument Panel, PT (Seat). Driver Pretensioner front
34	B2292 (27)	Passenger Pretensioner Squib Front - Low Resistance	Connectors: FC009, PT001, PT002 (RHD), PT003 (LHD). Harnesses: Instrument Panel, PT (Seat). Driver Pretensioner front



## IMPACT SENSORS

Flash Code	DTC (PID code)	Fault Description	Possible Causes
42	B2296 (19)	Front Impact Sensor Mount/Communication Fault	Connectors: FC009, LF002, LF050. Harnesses: Instrument Panel. Engine. Impact sensor mount fixing loose, Front Impact Sensor
43	B2296 (31)	Driver Side Impact Sensor - Mount/Communication Fault	Connectors: FC009, RH009, RH016 (RHD), RH015 (LHD). Harnesses: Instrument Panel. Impact sensor mount fixing loose, Driver Side Impact Sensor
44	B2296 (29)	Passenger Side Impact Sensor - Mount/Communication Fault	Connectors: FC009, RH009, RH015 (RHD), RH016 (LHD). Harnesses: Instrument Panel. Impact sensor mount fixing loose, Passenger Side Impact Sensor

## OCCUPANT CLASSIFICATION SYSTEM (OCS)

Flash Code	DTC (PID code)	Fault Description	Possible Causes
16	B2290 (24)	Passenger OCS Sensing Element Fault	Passenger seat weight pressure sensor. Harness: Passenger seat weight pressure sensor. Connectors: SP021, SP018
16	B2290 (26)	OCS Communication Fault	Connectors: SP001, SP021, FC010. Harnesses: Passenger Seat, Instrument Panel

## OCCUPANT POSITION SYSTEM (OPS)

Flash Code	DTC (PID code)	Fault Description	Possible Causes
17	B2291 (24)	Passenger OPS Sensor 4 (outer headliner/B pillar) - Sensor Fault	Connectors: FC010, RH009, RH011 (LHD), RH010 (RHD). Passenger OPS Sensor 4. Harnesses: Rearward, between Instrument Panel and Luggage Compartment
17	B2291 (25)	Passenger OPS Sensor 3 (A pillar) - Sensor Fault	Connectors: FC010, RZ001 (RHD), RF005 (LHD), RZ003 (RHD), RF003(LHD). Passenger OPS Sensor 3. Harnesses: Roof, Instrument Panel
17	B2291 (26)	Passenger OPS Sensor 2 (instrument panel console) - Sensor Fault	Connectors: FC010, RZ001, RZ002. Passenger OPS Sensor 2. Harnesses: Roof, Instrument Panel
17	B2291 (27)	Passenger OPS Sensor 1 (center headliner) - Sensor Fault	Connectors: FC010, RZ001, RZ002. Passenger OPS Sensor 2. Harnesses: Roof, Instrument Panel
17	B2291 (28)	Passenger OPS Calibration Fault	Clear Fault Code and Cycle Ignition
17	B2291 (29)	Passenger OPS Communications Fault	Clear Fault Code and Cycle Ignition

## FRONT SAFETY BELT BUCKLE AND SEAT TRACK POSITION SWITCHES

<b>Flash Code</b>	<b>DTC (PID code)</b>	<b>Fault Description</b>	<b>Possible Causes</b>
49	C1981	Driver Seat Track Position Switch - Open Circuit/Short to battery	Connectors: FC009, SD001, SD021. Harnesses: Driver Seat. Instrument Panel. Driver Seat Track Position Switch
49	C1947	Driver Seat Track Position Switch - Short to Ground	Connectors: FC009, SD001, SD021. Harnesses: Driver Seat. Instrument Panel. Driver Seat Track Position Switch
49	C1948	Driver Seat Track Position Switch - Circuit Resistance out of Range	Connectors: FC009, SD001, SD021. Harnesses: Driver Seat. Instrument Panel. Driver Seat Track Position Switch
51	B2691	Driver Safety Belt Buckle Switch Front - Open Circuit/Short to battery	Connectors: FC009, SD001, SD020. Driver Safety Belt Buckle Switch. Harnesses: Instrument Panel. Driver Seat
51	B2434	Driver Safety Belt Buckle Switch Front - Short to Ground	Connectors: FC009, SD001, SD020. Driver Safety Belt Buckle Switch. Harnesses: Instrument Panel. Driver Seat
51	B2435	Driver Safety Belt Buckle Switch Front - Circuit Resistance out of Range	Connectors: FC009, SD001, SD020. Driver Safety Belt Buckle Switch
52	B2438	Passenger Safety Belt Buckle Switch Front - Short to Ground	Connectors: FC009, SP001, SP020. Passenger Safety Belt Buckle Switch. Harnesses: Instrument Panel. Passenger Seat
52	B2692	Passenger Safety Belt Buckle Switch Front - Open Circuit/Short to battery	Connectors: FC009, SP001, SP020. Passenger Safety Belt Buckle Switch. Harnesses: Instrument Panel. Passenger Seat
52	B2439	Passenger Safety Belt Buckle Switch Front - Circuit Resistance out of Range	Connectors: FC009, SP001, SP020. Passenger Safety Belt Buckle Switch

## MISCELLANEOUS

Flash Code	DTC (PID code)	Fault Description	Possible Causes
14	B1921	Restraint Control Module - Open Circuit or High Resistance on Bracket Ground	Restraint Control Module Fixings Loose. Restraint Control Module
18	B1884	Passenger Air Bag Deactivation (PAD) Warning Indicator - Open Circuit (PAD warning indicator OFF)	Connectors: FC008, FC015, FCS44. PAD Lamp. Harnesses: Instrument Panel
18	B1884	PAD Warning Indicator - Short to Ground (PAD warning indicator ON)	Connectors: FC008, FC015. PAD Lamp. Harnesses: Instrument Panel
18	B1890	PAD Warning Indicator - Short To Battery (PAD warning indicator OFF)	Connectors: FC008, FC015. PAD Lamp. Harnesses: Instrument Panel
53	B1891	Air Bag Audible Warning - Short to Battery	Connectors: FC008, FC014. Harness: Instrument Panel
53	B1892	Air Bag Audible Warning - Short to Ground or Open Circuit	Connectors: FC008, FC014. Harness: Instrument Panel
ON	B1317	Battery Voltage High	Charging system
ON	B1318	Battery Voltage Low	Charging system
OFF (fails to light during lamp prove out)	B1870	Air Bag Warning Indicator - Short To Battery	Connectors: FC008. Harness: Instrument Panel
OFF (fails to light during lamp prove out)	B1869	Air Bag Warning Indicator - Open Circuit	Fuse 14 (10A) blown or missing, Driver side fuse box. Connectors: FC005 Harness: Instrument Panel
42	B2296(19)	Front Impact Sensor Mount/Comms Fault	Connector: LF002. Harnesses: Instrument Panel. Engine Bay. Impact Sensor
ON		Feed to Restraint Control Module Open Circuit/Short to Ground (unable to communicate with module)	Fuse 10 (10 A) blown or missing - Driver Side Fuse Box. Connector: FC008
12	B1342	Restraint Control Module - Internal Failure	Restraint Control Module - Fixing Loose, Battery Voltage out of Range, Ground Point FC01S, Restraint Control Module

## COMPONENT REPLACEMENT

<b>Flash Code</b>	<b>DTC (PID code)</b>	<b>Fault Description</b>	<b>Possible Causes</b>
13	B1231	Crash Data Memory Full	Clear Fault Code and Cycle Ignition, If DTC can't be cleared replace the RCM
15	C1414	RCM Version Conflicts with OCS	Restraint Control Module or OCS Service Kit
16	B2290 (25)	OCS Calibration Fault	OCS Service Kit
16	B2290 (27)	Generic OCS Module Fault	OCS Service Kit
17	B2291 (30)	Generic OPS Module Fault	OPS Control Module
42	B2296 (18)	Front Impact Sensor - Internal Fault	Front Impact Sensor
43	B2296 (30)	Driver Side Impact Sensor - Internal Fault	Driver Side Impact Sensor
44	B2296 (28)	Passenger Side Impact Sensor - Internal Fault	Passenger Side Impact Sensor