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TEST REPORT: SEAT STRENGTH

Report/Job Number: ESK214542

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TEST DETAILS	
Subject	SEAT STRENGTH
EC Directive	
ECE Regulation	17.07 Annex 6.3
Location of Test	Millbrook Proving Ground
Date of Test	9 December 2009
VCA Representative	James Eccleston
Manufacturer's Representative	Phil Giblin
Reason for Test	Exmoor Trim design seat runners

MANUFACTURER DETAILS	
Manufacturer's Name	Exmoor Trim Ltd
Manufacturer's Address	Trakkers House Roughmoor Trading Estate Williton Somerset UK TA4 4RF
Model Type & description	See Manufacturers Documents
Category	Not Applicable

CONCLUSION
<p>The above mentioned vehicle was tested in accordance with annex 6.3 of Regulation 17.07 and was found to comply.</p> <div style="text-align: center;">  Signature: </div> <p>Name: James Eccleston Position: Test Engineer Date: 26/1/2010</p>

LIST OF ANNEXES		
ANNEX	No of PAGES	SUBJECT
1		RISK ASSESSMENT CONTROL MEASURES CHECKLIST
2		

TEST REPORT: SEAT STRENGTH

<i>Paragraph</i>	<i>Parameter</i>	<i>Complies</i>
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TEST SPECIFICATION/WORST CASE RATIONALE:

Test report only to cover testing to Annex 6.3 of Regulation 17.

The test was to cover the Exmoor trim seat slider and adjustment mechanism.

The seat anchorages (frame to vehicle floor) are not covered by this report.

In order to apply the greatest load to the seat runner, the Seat used was ballasted to 17kg to represent the heaviest seat variant offered by Exmoor trim, Classic, Elite, Mesh, Modular. The additional ballast was strapped to the top of the seat back to represent the worst case Centre of Gravity.

The seats were tested on a flat plat. This was in order to test the seats in there least favourable positions (Maximum forward and rearward travel). This meant that the seats would be tested in a position not achievable in a Land Rover due to the bulkhead position.

(Ref ECE
R17.04)

3.2	Manufacturer's documents in order	✓
	Vehicle and seats as specified	✓
	Seat identification / part Nos:	✓
	Head restraint identification / part Nos:	✓

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<i>Paragraph</i>	<i>Parameter</i>	<i>Complies</i>
6.3	<p>TEST OF STRENGTH OF SEAT ANCHORAGES AND THEIR ADJUSTMENT AND LOCKING SYSTEMS</p> <p>Location of test; Millbrook Proving Ground</p> <p>Brief description of test equipment; Millbrook Hy-Ge sled.</p> <p>During deceleration test seats were adjusted as specified in paragraphs 6.1.1 and 6.3.3 to 6.3.4</p>	<p>✓ See test spec. notes</p>
6.3.3	For seats fitted with head restraints the restraints were set in their highest position	✓
6.3.1	Seats subject to 20g deceleration for 30ms - forwards - rearwards	<p>✓</p> <p>✓</p>
6.3.5	Tests under point 6.3.1 replaced by collision test	n/a

TEST REFERENCE/REPORT NO:

TEST DETAILS

Run No:	Direction	Time at 20g
1	Forward and Rearward	45 msecs

REMARKS: Seat runners and adjustment mechanisms were in good working order after the test.

TEST RESULTS

5.15	No failure shown in the seat frame or in the seat anchorage, adjustment or displacement systems or their locking devices during or after the tests specified in paragraphs 6.2, and 6.3	✓
5.1.6	No release of the locking systems during tests specified in paragraph 6.3	✓
5.1.7	Displacement systems still operate	✓
5.2.5	No dangerous projections during loading of the head restraint	

TEST REPORT: SEAT STRENGTH

<i>Paragraph</i>	<i>Parameter</i>	<i>Complies</i>
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View of the seat runner.



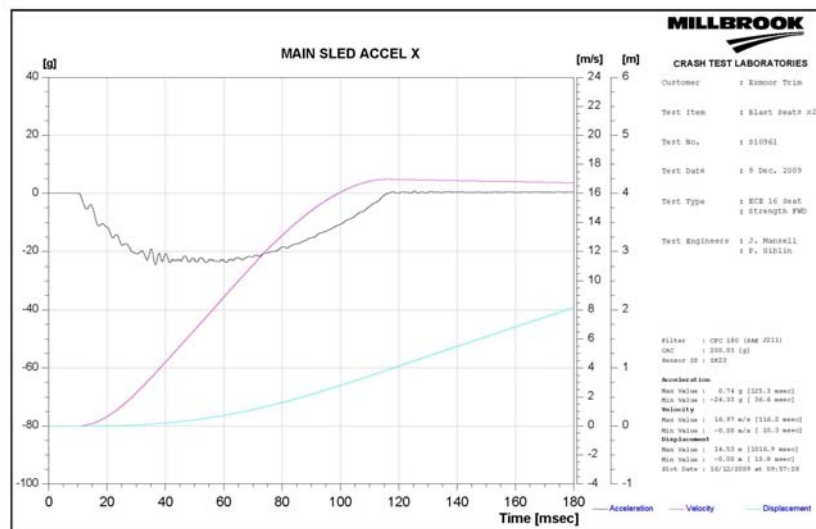
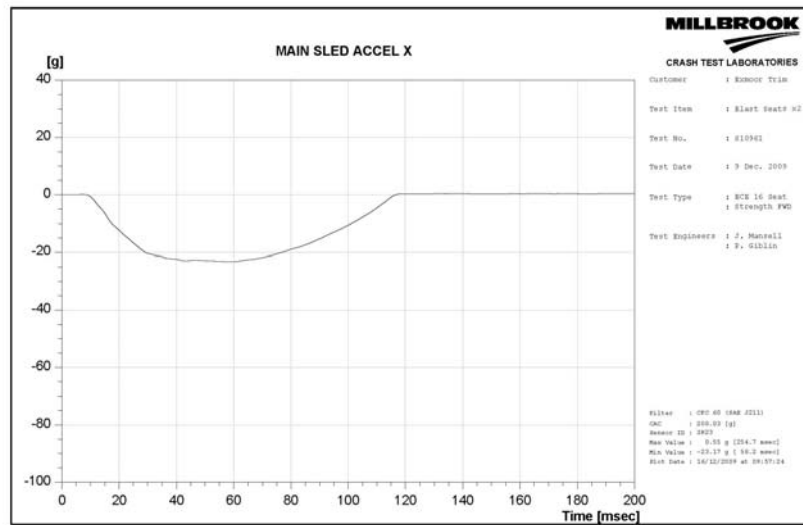
Overview of the Pre test seat setup at Millbrook.



TEST REPORT: SEAT STRENGTH

Paragraph	Parameter	Complies
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Hy Ge Graphs from the Seat Runner test 9th December 2009



TEST REPORT: SEAT STRENGTH

<i>Paragraph</i>	<i>Parameter</i>	<i>Complies</i>
<p>Extract from Regulation 17. This details how the seat runners were tested, Reg 17.07 Consolidated to Supp 3 (Rev 4 Amend 1) Seats, Anchorages</p>		
6.3.	TEST OF STRENGTH OF THE SEAT ANCHORAGE AND THE ADJUSTMENT, LOCKING AND DISPLACEMENT SYSTEMS	
6.3.1.	A longitudinal horizontal deceleration or, at the choice of the applicant, acceleration of not less than 20 g shall be applied for 30 milliseconds in a direction to the whole shell of the vehicle imitating a frontal collision, in accordance with the requirements of Annex 7, paragraph 1. At the request of the manufacturer the test pulse described in Annex 9 - appendix may be used alternatively[R1707s3-9].	
6.3.2.	A longitudinal deceleration or, at the choice of the applicant, acceleration in accordance with the requirements of paragraph 6.3.1. shall be applied imitating a rear collision[R1707s3-10].	
6.3.3.	<p>The requirements of paragraphs 6.3.1. and 6.3.2. above shall be verified for all positions of the seat. In the case of seats fitted with an adjustable head restraint, the test shall be conducted with the head restraints placed in the most unfavourable position (generally the highest position) allowed by its adjusting system. During the test the seat shall be so positioned that no external factor shall prevent the release of the locking systems.</p> <p>These conditions shall be considered to be met if the seat is tested after being adjusted in the following positions:</p> <p>the longitudinal adjustment is fixed one notch or 10 mm rearward of the most forward normal driving position or position of use as indicated by the manufacturer (for seats with independent vertical adjustment, the cushion shall be placed in its highest position);</p> <p>the longitudinal adjustment is fixed one notch or 10 mm forward of the most rearward normal driving position or position of use as indicated by the manufacturer (for seats with independent vertical adjustment, the cushion shall be placed in its lowest position), and, where appropriate, in accordance with the requirements of paragraph 6.3.4. below.</p>	
6.3.4.	In cases where the arrangement of the locking systems is such that, in a seat position other than those defined in paragraph 6.3.3. above, the distribution of the forces on the locking devices and seat anchorages would be less favourable than with either configuration defined in paragraph 6.3.3., the tests shall be conducted for that less favourable seating position.	
6.3.5.	The test conditions of paragraph 6.3.1. shall be considered to be satisfied if, at the request of the manufacturer, they are replaced by a collision test of the complete vehicle in running order against a rigid barrier as laid down in paragraph 2. of annex 7 to this Regulation. In this case, the seat shall be adjusted for the least favourable conditions of distribution of stresses in the anchorage system as provided for in paragraphs 6.1.1., 6.3.3. and 6.3.4. above.	