

Testing of the Elap seat

January 2000

The Testing and Development of the Elap seat

Seat Testing

At this point in time there is no legislation either European or National to govern the strength and durability of replacement car seats. Despite this Elap have maintained their usual policy of ensuring the highest possible standards for their products.

Elap are proud to have established an in-house test facility so that complete tests of the seat and rotating unit can be performed when required.

Despite there being no legislation to adequately cover the strength of rotating car seats; Guidelines have been designed for this purpose by STATUS which is a recognised authority for the testing of such units.

The guidelines are based almost entirely on the ECE Regulations which cover original equipment seats in all European vehicles. They have only been modified where necessary in order that the ECE test procedures adequately encompass rotating seats. The resulting guideline clearly is not a 'soft option' but is in fact a more rigorous test than the procedure on which it is based.

Clearly a replacement vehicle seat, of any kind, should be expected to meet the same safety standards as those of the seat it replaces.

Elap have therefore adopted this test procedure, to which all our rotating seat units are designed and where necessary tested. Both the Upholstered seat and the rotating and sliding mechanism have been tested, from the chassis securing bolts to the head-restraint.

We feel that our customers are entitled to a replacement seat which is of at least the same quality and durability as that of the existing seat in their vehicle. As an example the cloth used on our upholstered seat is the same cloth as that used by a leading car manufacturer on their luxury models, not the cheapest alternative. This policy is repeated throughout the manufacture of our whole seat unit.

Independent Tests

In addition to in-house testing we have had independent testing of the seat unit carried out so that our results could be validated.

Testing has been performed by a Nationally recognised authority solely concerned with the testing and certification of vehicle components. This testing programme was

completed by December 1992, perfectly timed for the new European Market which began in January 1993. Copies of this report are available from Elap.

Elap rotating car seats have been shown to conform to:

Seat, seat anchorage and head rest strength.

ECE Reg/17 [6.2, 6.3, 5.1.5]

EEC Dir/74/408 [6.1, 6.2, 6.3, 7.1]

Seat belt anchorages.

ECE Reg/14 ; EEC Dir/76/115

Head restraint strength test.

ECE Reg/25 [7.4]

Continued Development

After completing the testing of the seat unit we did not stop development of the seat. We have always maintained the policy of continual development of the seat unit over the past two decades and we will continue to develop and improve the unit in the future. This we feel ensures that Elap retains the reputation of being the worlds' leading rotating car seat manufacturer.

Quality Control

All our units are manufactured completely in house by our experienced workforce. Throughout every stage of manufacture quality checks are performed. In addition a full quality control check is performed on the final assembly prior to despatch from our factory. We feel this is the way to ensure that the rotating seat you receive is of the highest possible standard.

Warranty

All our rotating units and our upholstered seats are covered by a full 12 months guarantee against defective workmanship. Should you feel that your unit, in any way, is not of the standard expected from Elap do not hesitate to contact us.

In almost two decades of manufacturing and supplying rotating car seats to the disabled we have never charged one of them for a repair or replacement of their unit, regardless of the length of service. A record of which we are extremely proud.

STATUS

SPECIALIST TRANSPORT ADVISORY & TESTING UTILITY SOCIETY

Letter of conformity from above body confirming ELAP's
successful performance against STATUS own and ECE test criteria.

STATUS

SPECIALIST TRANSPORT ADVISORY & TESTING UTILITY SOCIETY



the
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15/4/94

Dear Chris

TESTS CONDUCTED ON A ELAP MK 3 SEAT

This letter is intended to provide confirmation that Seat and seat anchorage tests have been conducted to the specifications stated in 5.9, 5.10, 6.1, 6.2 and 6.4 of ECE Regulation 17 and paragraph 6.2 of ECE/74/408. The seat supplied passed strength and deflection tests as specified in the above ECE Regulation and EEC Directive.

The ELAP Mk 3 Seat as supplied passed tests for the strength and deflection of the seat back, the base frame assembly (including swivel), the back angle adjustment system and the head restraint. The seats as supplied would therefore comply with STATUS requirements for seats of this type.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'Denzil Brunning'.

Denzil Brunning
STATUS Engineer

MIDDLESEX UNIVERSITY
ROAD SAFETY ENGINEERING LABORATORY

DYNAMIC RIG TEST REPORT

TEST No: 3062 CLIENT ELAP Engineering Ltd
Fort Steet, Accrington, Lancs.
DATE 23-Apr-96 BB5 1QG
TIME(GMT) 16:31 RUN No ELAP 04

TEST OBJECTIVE Test of strength of the seat anchorage and the adjustment , locking and displacement systems.

TEST SPECIFICATION Dynamic crash pulse of ECE R17 - frontal impact.(6.3.1)

SEAT

Manufacturer	ELAP Engineering Ltd
Description	Double sliding passenger seat (port side) - short adjustment lever
Model	for FLAT Brava
Sample/tests	4/1
Anchorage	Stiff steel structure bolted to sled floor
Configuration	Forward Facing (6.3.1)

<u>TEST DATA</u>	SLED	velocity change(km/h)	50.5
		stop distance(mm)	555
		peak deceleration(g)	22.0
		mean deceleration(g)	18.1 ($V^{**2}/2gS$)

COMMENT The Crash Pulse was within the calibration envelope required by ECE R17 (20g for 30ms).

REQUIREMENTS of STANDARD

- 5.1.5 No failure shall be shown in the seat frame or in the seat anchorage, the adjustment and displacement systems or their locking devices during or after the tests.
- 5.1.6 No release of the locking systems shall occur during the tests.
- 5.1.7 After the tests, the displacement systems intended for permitting or facilitating must be in working order; they must be capable, at least once, of being unlocked and must permit the displacement of the seat.

RESULTS The system performed to the requirements of (5.1.5, 5.1.6 and 5.1.7) when impacted to a sled pulse of the severity defined in 6.3.1.

CONCLUSION Satisfactory dynamic performance of Seat.

gowrings mobility

CERTIFICATE OF E.C. STANDARD OF MANUFACTURE & INSTALLATION

Mechanism Number: 2303092

As the provider of the Gowrings Mobility Standard Swivel Seat mechanisms we confirm that this mechanism has been precision engineered and assembled to the standard required by the T.U.V. Rheinland Test and Test Report and therefore is suitable for use in accordance with the E.C. pattern of requirements. The upholstered seat is also T.U.V. tested and meets all relevant E.C. requirements.

This mechanism has been supplied to:

*Mr Tony King
26 Railway Road, Newbury RG14 7PE
Vauxhall Vectra
K1 AWK
On 20th March 2003*

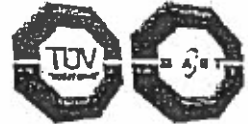
Signed for and on behalf of
Gowrings Mobility Products Ltd.
On 26th March 2003



Gowrings Mobility Products Limited
Bone Lane
Newbury
Berkshire
RG14 5UE

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- o Management System Certification including ISO 9000; QS-9000; ISO 14001;
- o ISO/TS 16949; TE Supplement Certification; VDA 6.1
- o Crash Tests / Research and Development
- o Electromagnetic Compatibility (EMC) Testing & Certification
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issued: 20/11/00

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