

Testobject : TriflexAir Seat / New Innotrax Floor
Manufacturer : Tribus Group / BraunAbility UK Ltd.

Test Report
for testing
strength of
seat belt anchorages

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1. Introduction

Upon request of the applicant, TÜV Rheinland Kraftfahrt GmbH has tested single seats in combination with an aluminium floor with regard to the strength of seat belt anchorages. The tests were conducted to determine if the anchorages and the seats meet the requirements specified under section 3. of this test report.

The present test report documents the tests carried out and serves to be presented at Technical Services for use within the type approval procedure.

- 1.1. Name and address of applicant / manufacturer : Tribus Group
 Proostwetering 71
 3543 AC Utrecht
 The Netherlands
- BraunAbility UK Ltd.
 The Horseshoe, Coat Road
 Martock, Somerset
 United Kingdom

2. Description of test objects

- 2.1. Characteristics : Single seat
- Type : TriflexAir
- Manufacturer : Tribus Group
- Technical description : Single seat with integrated three-point safety-belt, foldable seat cushion and adjustable headrest. The seat can be mounted on a seat leg or wheelarch bracket directly or with a swivel console in between. The usage of the wheelarch bridge requires the additional installation of a stopping element in front of the rear leg to prevent sliding forward.
- 2.2. Characteristics : Aluminium floor
- Type : New Innotrax / Classic Innotrax / Spacefloor M1
- Manufacturer : BraunAbility UK Ltd.
- Technical description : Aluminium rails equipped with slidable T-bolts for the fixation of seats
- 2.3. Worst case selection : The TriflexAir seat was tested on seat leg with swivel console and high version of wheelarch bridge in combination with New Innotrax aluminium floor as worst case. These tests do also cover the application of seat leg without swivel console, low version of wheelarchbridge, Classic Innotrax aluminium floor and Spacefloor M1

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3. Test basis and test equipment

3.1. Test basis

- Test of the strength of anchorages for safety belts according to UN Regulation No. 14/08 for vehicles of category M1 > 2,5 t and N1

3.2. Test equipment

- Seatbelt anchorage test rig at BraunAbility UK Ltd.

4. Description of tests

4.1. Date of test : 19.11.2019 – 21.11.2019

4.2. Place of test : Martock, United Kingdom

4.3. Tests carried out : see appendix 1

4.4. Remark : The fixation of the floor and seats in a vehicle was not part of these tests. Additional reports of tests in a body shell should be provided by the manufacturer.

5. Test results

The test objects meet the requirements of the test regulations.

6. Appendices

0. List of modifications
1. Test report of strength tests
2. Photographs of strength tests
3. Load diagrams of strength tests
4. List of manufacturers appendices

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7. Statement of conformity

The test sample described in section 2 meets the test specification in section 3. The samples used were representative in terms of the required level of performance for the type described.

The tests were carried out in accordance with the relevant requirements of EN ISO / IEC 17025:2005 or EN ISO / IEC 17020:2012.

The test results refer exclusively to the test objects listed in section 2 of this report.

Cologne, 07.01.2020



Daniel Schubert

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List of modifications

Appendix 0

Correction of : --
Modification of : --
Addition of : --
Deletion of : --

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Test report of strength tests

Appendix 1

Test Number		12508		Type	New Innotrax Floor		Class	M1 > 2,5 t		
Remarks		Tribus TriflexAir on seat leg with swivel console, Rigid situation						Seatrow	-	
Pos.	Object	Belt	Weight [kg]	Displacement [mm]		Nominal Force [kN]			Result	
				Max.	Act.	Belt		Seat		
L	-	-	-	-	-	Shoulder	-	-	All belt forces have been applied completely.	
						Lap	-	-		
M	Tribus TriflexAir Seat	Ar	25	451	267	Shoulder	13,5	4,9		
						Lap	13,5			
R	-	-	-	-	-	Shoulder	-	-		
						Lap	-			

Test Number		12511		Type	New Innotrax Floor		Class	M1 > 2,5 t		
Remarks		Tribus TriflexAir on wheelarch bridge, Rigid situation						Seatrow	-	
Pos.	Object	Belt	Weight [kg]	Displacement [mm]		Nominal Force [kN]			Result	
				Max.	Act.	Belt		Seat		
L	-	-	-	-	-	Shoulder	-	-	All belt forces have been applied completely.	
						Lap	-	-		
M	Tribus TriflexAir Seat	Ar	56	451	436	Shoulder	13,5	10,98		
						Lap	13,5			
R	-	-	-	-	-	Shoulder	-	-		
						Lap	-			

Test Number		12512		Type	New Innotrax Floor		Class	M1 > 2,5 t		
Remarks		Tribus TriflexAir on wheelarch bridge, Flexible situation (6,2mm lift)						Seatrow	-	
Pos.	Object	Belt	Weight [kg]	Displacement [mm]		Nominal Force [kN]			Result	
				Max.	Act.	Belt		Seat		
L	-	-	-	-	-	Shoulder	-	-	All belt forces have been applied completely.	
						Lap	-	-		
M	Tribus TriflexAir Seat	Ar	56	451	411	Shoulder	13,5	10,98		
						Lap	13,5			
R	-	-	-	-	-	Shoulder	-	-		
						Lap	-			

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Test report of strength tests

Appendix 1

Test Number		12513		Type	New Innotrax Floor		Class	M1 > 2,5 t		
Remarks		Tribus TriflexAir on seat leg with swivel console, Flexible situation (18,4mm lift)					Seatrow	-		
Pos.	Object	Belt	Weight [kg]	Displacement [mm]		Nominal Force [kN]			Result	
				Max.	Act.	Belt		Seat		
L	-	-	-	-	-	Shoulder	-	-	All belt forces have been applied completely.	
						Lap	-	-		
M	Tribus TriflexAir Seat	Ar	25	451	309	Shoulder	13,5	4,9		
						Lap	13,5			
R	-	-	-	-	-	Shoulder	-	-		
						Lap	-	-		

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Photographs of strength tests

Appendix 2

Test 12508 pre



Test 12508 post



Testobject : TriflexAir Seat / New Innotrax Floor
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Photographs of strength tests

Appendix 2

Test 12511 pre



Test 12511 post



Testobject : TriflexAir Seat / New Innotrax Floor
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Photographs of strength tests

Appendix 2

Test 12512 pre



Test 12512 post



Testobject : TriflexAir Seat / New Innotrax Floor
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Photographs of strength tests

Appendix 2

Test 12513 pre



Test 12513 post

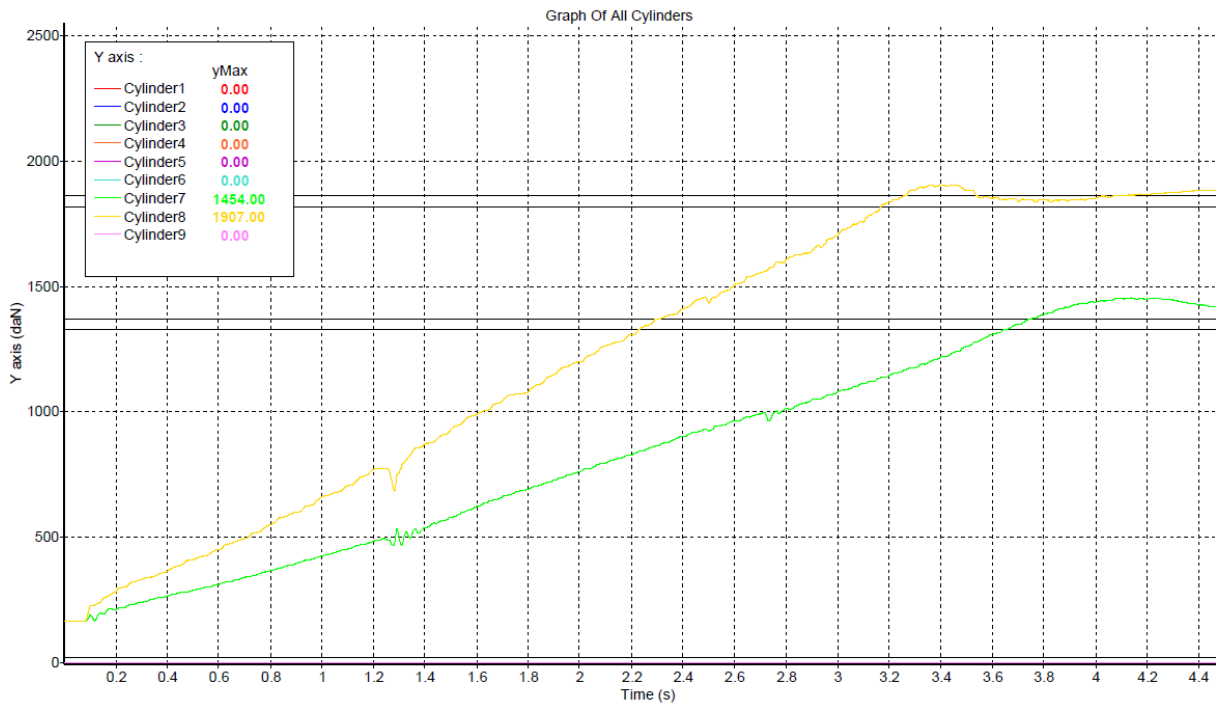


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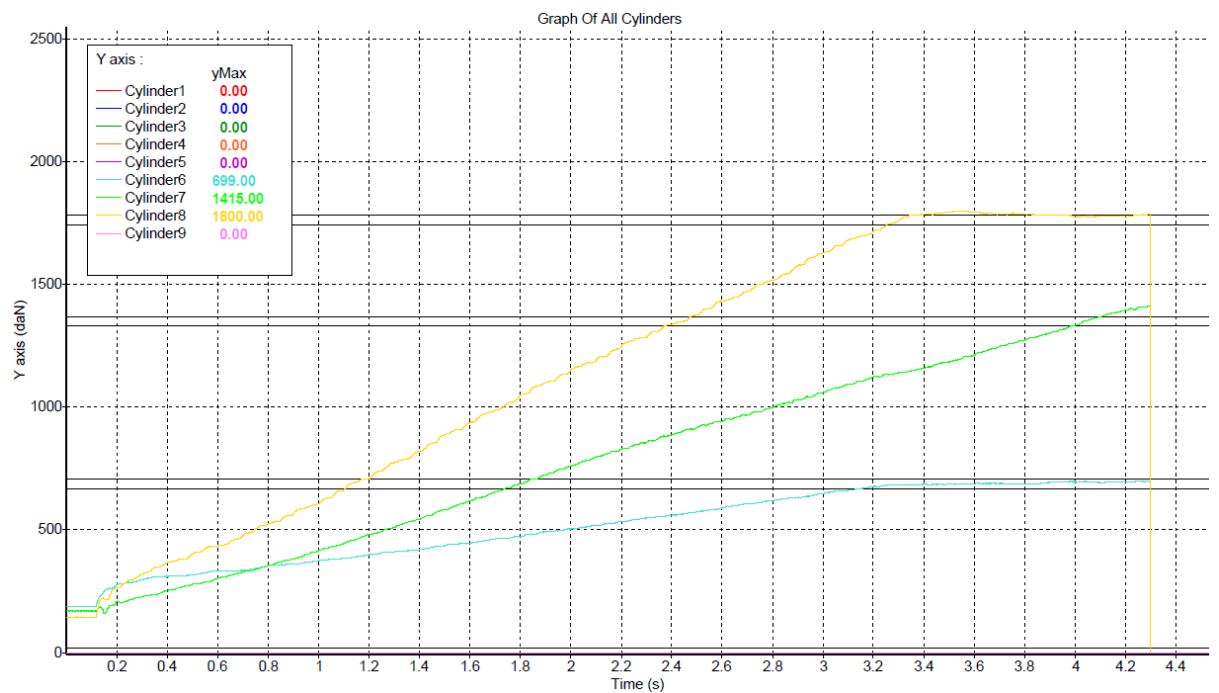
Load diagrams of strength tests

Appendix 3

Test 12508



Test 12511

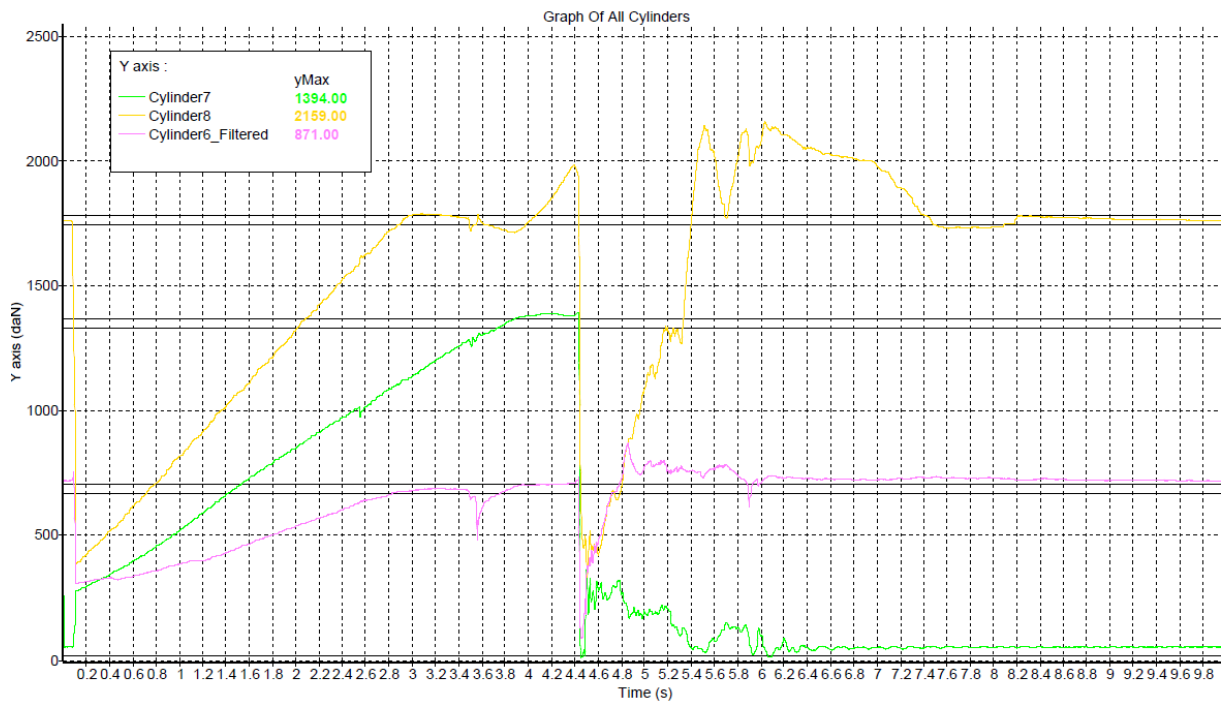


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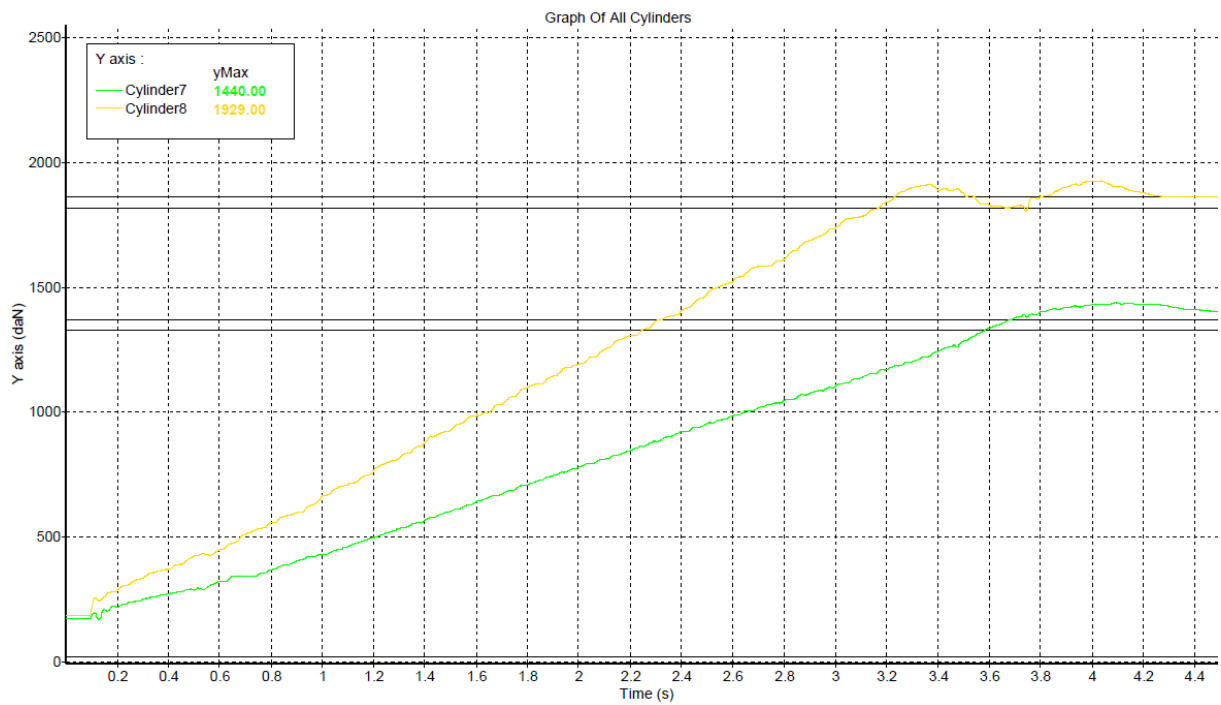
Load diagrams of strength tests

Appendix 3

Test 12512



Test 12513



Testobject : TriflexAir Seat / New Innotrax Floor
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List of manufacturers appendices

Appendix 4

Drawing	Number	Date
TriflexAIR without support	V-0000553002-1	05.03.2019
Montageblok vaste stoel TriflexAir	0000553201	12.04.2017
Poot tbv TriflexAIR stoel	0000553412	05.03.2019
Swivel TriflexAIR, L of R	0000553411	01.03.2019
Bedieningsschijf swivel	0000553441	09.03.2011
Glijplaat swivel	0000553651	28.09.2018
Wielkastbeugelprofiel TriflexAIR (2-zits)	0000553350	11.11.2019
Wielkastbeugelprofiel TriflexAIR (1-zits)	0000553351	11.11.2019
Wielkastbeugel montagestrip TriflexAIR	0000553400	28.02.2013
Wielkastbeugelpoot voorzijde TriflexAir	0000553413-1	30.10.2012
Wielkastbeugelpoot achterzijde TriflexAir	0000553413-2	30.10.2012
Wielkastbeugel TriflexAir (2-zits)	V-0000553020	20.11.2019
Wielkastbeugel TriflexAir (1-zits)	V-0000553019	20.11.2019
Vulblok wielkastbeugel TriflexAIR	0000553200	04.10.2017
Wielkastbeugel TriflexAir (2-zits) (VERHOOGD)	V-0000553042	20.06.2017
Wielkastbeugel TriflexAir (1-zits) (VERHOOGD)	V-0000553041	20.06.2017
NEW INNOTRAX RAIL SECTION - 55MM - ER1	09591	24.10.2019
INNOTRAX - R1 EXTRUSION (104.45)	05857	22.11.2018
INNOTRAX - R2 EXTRUSION (137.70)	05859	22.11.2018
INNOTRAX - R3 EXTRUSION (208.90)	08324	22.11.2018
MARTECH	MCM3125	07.06.2005
MARTECH	MCM3140	04.04.2008
MARTECH	MCM3143	08.07.2010
MARTECH	MCM3149	08.02.2012
MARTECH	MCM3154	24.06.2016
MARTECH	MCM3155	17.04.2018