



FEDERATION INTERNATIONALE DE L'AUTOMOBILE

FIA STANDARD 8853-2016

SAFETY HARNESSES

CLARIFICATION NOTE

INTRODUCTION

The aim of this document is to clarify DESIGN REQUIREMENTS AND TEST PROCEDURES of the standard. Every time this document will be updated, it will be shared with Manufacturers and Test House approved for 8853-2016 Safety Harnesses.

This document is meant to be a clarification and does not modify or replace any content of the FIA Standard 8853-2016.

5.3 ALTERNATIVE ATTACHMENTS

"The manufacturer may request a homologation extension for alternative attachments to fit a range of vehicles, in which case the following requirements must be met:

1. the alternative attachment must meet the requirements defined in this standard, excluding the dynamic test, which is not required;
2. a supplementary test following the requirements defined in Article 6.7.2 and/or 6.9.1 must be carried out with the following modification: the alternative attachment must be rotated 30° relative to the direction of load application AND 30° around the axis of load application as shown in Figure 7;

The total elongation measured between clamps of a tensile-testing machine at a load of 15 kN shall not be +/- 10% of the elongation measured with the original attachment set-up"

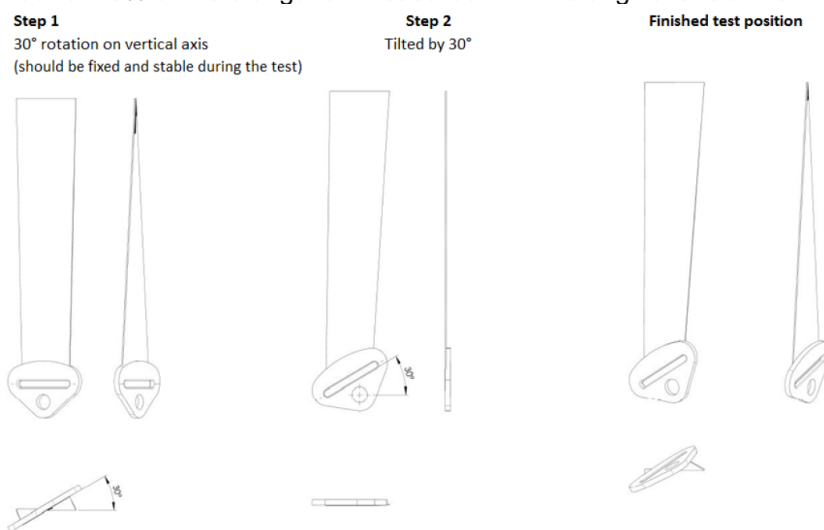


Figure 7. Alternative attachment rotated 30° relative to the direction of load application AND 30° around the axis of load application as defined in Article 5.3

The starting position to calculate the "Step 1" and "Step 2" shall be equivalent to the ideal angle that the strap will create with the attachment when the harness it is fitted in the car ± 10 deg.

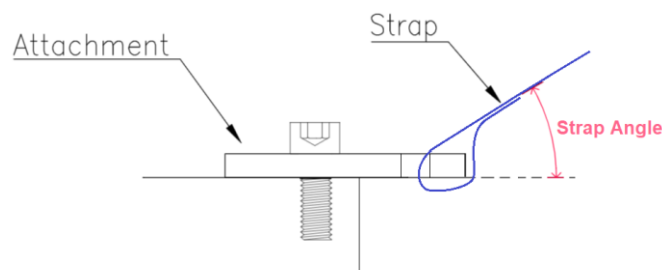


Figure. Definition of Strap angle when the harness is installed in the vehicle

A.2.4.4 Opening test for turn buckles

For this test, two belt assemblies or restraint devices which have already undergone the i) dynamic test in conformity with Article A.5.4.2 and ii) oblique load strength test in conformity with Appendix D shall be used.

The first buckle shall be tested with the tongues properly attached and the straps free of any additional load.

For the second buckle each of them, the belt assembly is removed from the test bench without the buckle being opened. A load is applied to the buckle via all the straps to which it is connected, such that each strap is subjected to a load of $\frac{900}{n}$ N, where n is the number of straps connected to the buckle when it is in the locked position. The test shall be performed avoiding any friction between the straps and the apparatus.

In the case where the buckle is connected to a rigid part, the load shall be applied at the same angle as the one formed by the buckle and the rigid end during the dynamic test.

The torque required for opening the buckle shall be applied with a measuring device, in the normal manner and direction for opening. The apparatus shall guarantee that the rotation axis of the measuring device and the rotation axis of the lever/buckle are coincident ± 1 mm.

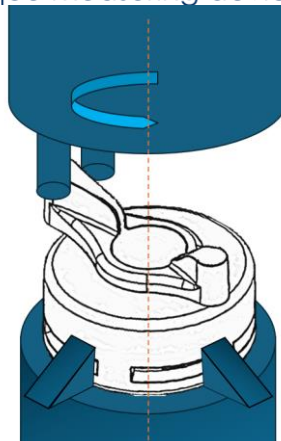
The load applied to the geometric centre of the surface of the lever to obtain this torque shall be calculated.

The design of the test rig for this test can be defined by each Test House but some common requirements must be respected and they will be checked during the FIA Audit, particularly:

- No friction between the straps and the apparatus, this can be achieved with the usage of bearing roll as shown in the following figure:



- The buckle and the measuring system shall be blocked in an apparatus/frame which will guarantee that the rotation axis of the buckle will be coincident with the rotation axis of the torque measuring device.



STANDARD IMPLEMENTATION IMPORTANT DATES

2 December 2015:

- Publish FIA Standard 8853-2016.
- Start of test and approval process for 8853-2016 harnesses.

1 January 2016:

- Publish TL with 8853-2016 approved harnesses.

1 February 2016:

- Start the sale of 8853-2016 stickers.

31-December 2016:

- Deadline to approve 8853-98 harnesses.

31 July 2017:

- Deadline to receive sticker 8853/98 orders.

31 December 2017:

- Cut-off point to glue 8853/98 sticker.

31 December 2022:

- FIA-approved 8853/98 harness no longer valid.

1st January 2026:

- **The updates approved in December 2024 apply to the New homologations and Re-Homologation (Re-Homologation with QC will need to present test in compliance with the new requirements)**