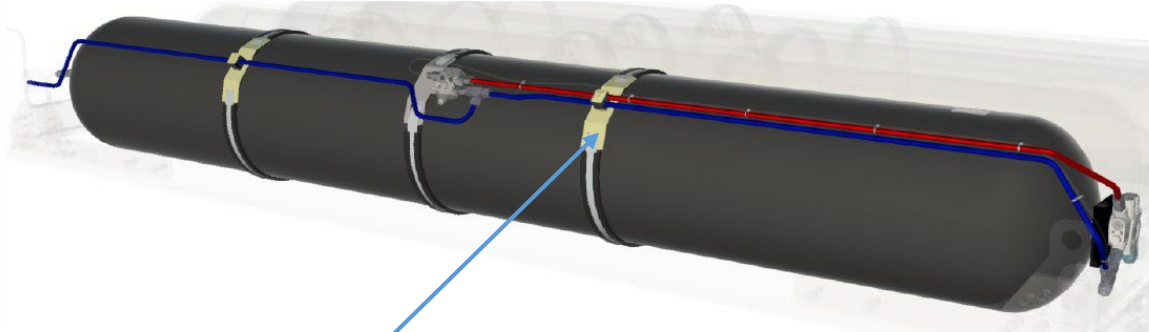


## (1) Insights concerning "Supply lines for additional TPRDs"

### Cylinder Assembly – Type 3



Supply and Vent lines cannot be too rigid due to cylinder expansion



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Source: Document from the 14th GRSP TF on the transposition of GTR 13 Phase 2 to UN R 134, dated 10/07/2023~12/07/2023

This parts is considered that provide additional support and/or protection to the supply lines for additional TPRDs.

In the current proposal, this parts is not included in the definition of CHSS but may be used for each test such as Verification tests for performance durability. It is necessary to consider whether this parts should also be defined together with supply lines for additional TPRDs or not.

## Proposal from Japan

Regarding the parts, as we consider them to have the same functionality as a container attachment. [1]

Additionally, we are concerned that attaching the parts to the container may cause severe abrasion to the composite surface like as mounting straps. [2]

Therefore, we propose adding the following footnote to the draft definition of "Container Attachment" [1] and amending "Surface damage test" in Annex 3, Paragraph 3.3.(a) as follows [2]:

[1] "2.5. "Container Attachments" mean non-pressure bearing parts attached to the container that provide additional support and/or protection to the container and that may be only temporarily removed for maintenance and/or inspection only with the use of tools.

**Note : The non-pressure bearing parts attached to the container that provide additional support and/or protection to additional TPRDs and supply lines are also considered as container attachments. "**

[2] 3.3. Surface damage test (unpressurized):

"(a) Surface flaw generation: A saw cut at least 0.75mm deep and 200mm long is made on the surface specified above.

If the container is to be affixed to the vehicle by compressing its composite surface **or container attachments for additional TPRDs and/or supply lines are attached to composite surface of the container**, then a second cut at least 1.25 mm deep and 25 mm long is applied at the end of the container which is opposite to the location of the first cut;"

## (2) Insights concerning "The number of hydraulic sequential tests conducted"

GTR13 Phase 2	UNR134 02 series
<p><b>5.1.1.2. Baseline initial pressure cycle life</b></p> <p>Three (3) new containers randomly selected from the design qualification batch are hydraulically pressure cycled without rupture for 22,000 cycles or until a leak occurs in accordance with paragraph 6.2.2.2. The container attachments, if any, shall also be included in this test, unless the manufacturer can demonstrate that the container attachments do not affect the test results and are not affected by the test procedure. Leakage shall not occur within <u>7,500 or 11,000 cycles for light-duty vehicles</u>, at the Contracting Parties' discretion and 11,000 cycles for heavy-duty vehicles.</p> <p><b>5.1.2. Verification tests for performance durability (Hydraulic sequential tests)</b></p> <p><u>If all three pressure cycle life measurements made in para. 5.1.1.2. are greater than 11,000 cycles, or if they are all within <math>\pm 25</math> per cent of each other</u>, then only one (1) container is tested in para. 5.1.2. Otherwise, three (3) containers are tested in para. 5.1.2. (The rest is omitted.)</p>	<p><b>5.1.2. Baseline initial pressure cycle life</b></p> <p>Three (3) containers shall be hydraulically pressure cycled without rupture for 22,000 cycles or until a leak occurs in accordance with Annex 3, paragraph 2.2. The container attachments, if any, shall also be included in this test, unless the manufacturer can demonstrate that the container attachments do not affect the test results and are not affected by the test procedure. Leakage shall not occur within <u>11,000 cycles</u>.</p> <p><b>5.2. Verification tests for performance durability (Hydraulic sequential tests)</b></p> <p><sup>②</sup>  <del>【If all three pressure cycle life measurements made in paragraph 5.1.2. are greater than 11,000 cycles,】</del> <del>【 or if they are all within <math>\pm 25</math> per cent of each other, then</del> <sup>①</sup>  <del>only-】</del> one (1) container is tested in paragraph 5.2. <del>【Otherwise, three (3) containers are tested in paragraph 5.2.】</del> <sup>①</sup>            (The rest is omitted.)</p>



We believe that the underlined portion of 5.1.2. is applicable when the pressure cycle life of containers, tested based on 5.1.1.2., are greater than 11,000 cycles or less (for instance, 7,500 cycles for LDV), and the difference of the pressure cycle life are within  $\pm 25\%$ .



On the other hand, in UNR134, since the pressure cycle life are unified to 11,000 cycles in 5.1.2., so, the provision for a pressure cycle life of 7,500 cycles is unnecessary. Therefore, we believe that the highlighted area of, <sup>①</sup>, should be deleted. Furthermore, if <sup>①</sup> is to be deleted, it is also considered that <sup>②</sup> should be deleted.