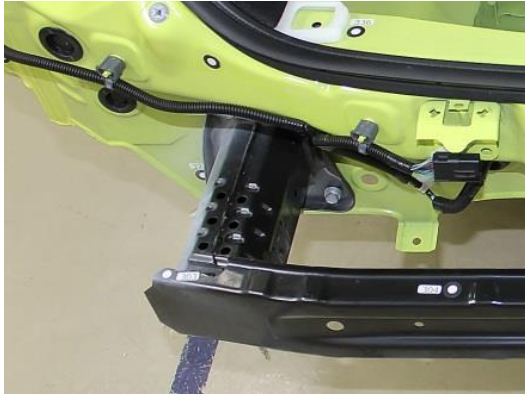


DET Supplemental Document

RB3-2 Rear Crush Box

Condition

- Vehicle : All vehicles
- Part and Structure : Rear Cush Box



Criteria

The panel of the Rear Crush Box which is in contact with and fixed to the vehicle body, should be thicker than the main part of the Crush Box to prevent the Crush Box from collapsing in the event of a collision.



Panel thickness of Rear Crush Box in contact with the body

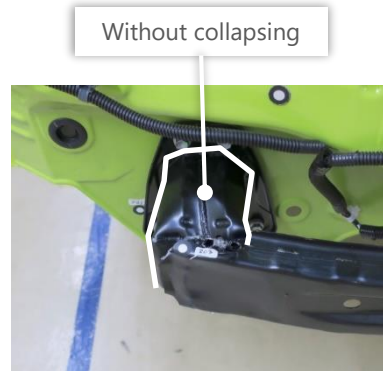
Reason

When the panel of the Rear Crush Box which is in contact with and fixed to the vehicle body, should be thicker than the main part of the Crush Box, the Crush Box is less likely to collapse and can provides sufficient energy absorption capability and helps prevent damage from spreading to the Rear Side Member on the Structure Test.

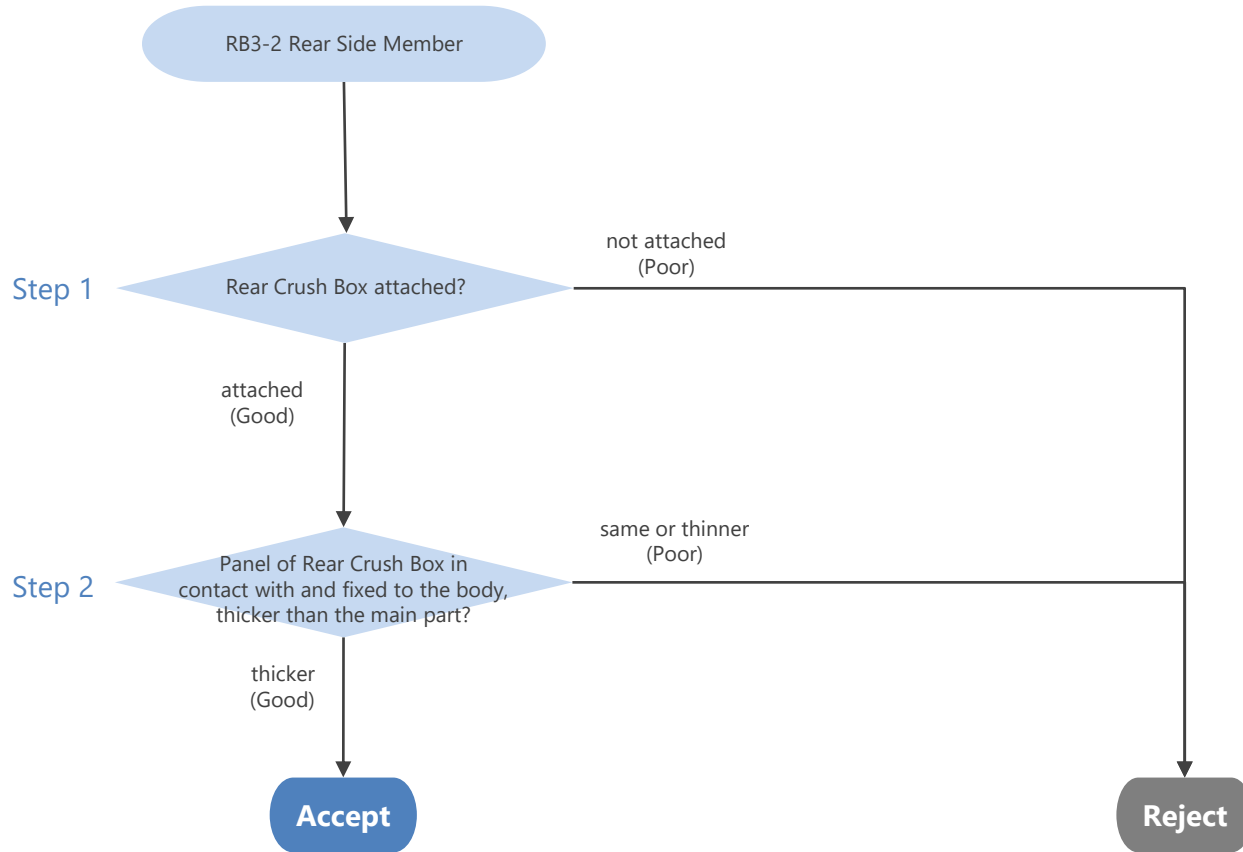
Good example of the Rear Crush Box whose panel in contact with the body had enough thickness.

The panel in contact with body was thick enough to prevent collapsing on the Structure Test.

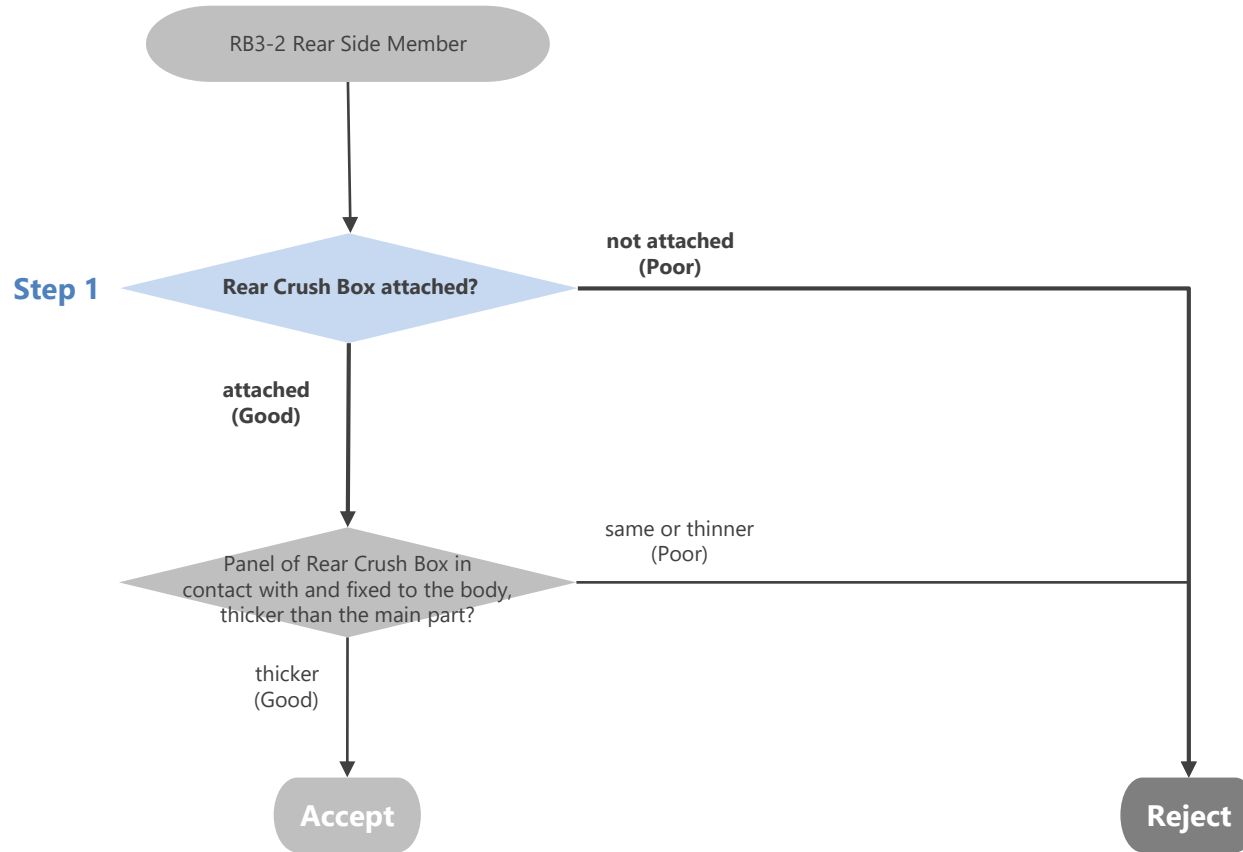
The Crush Box crushed properly and no damage to the Rear Side Member occurred.



Check Flow



Check Flow – Step 1



Check – Step 1

Check if the Rear Crush Box is attached.

【Determination】

Good



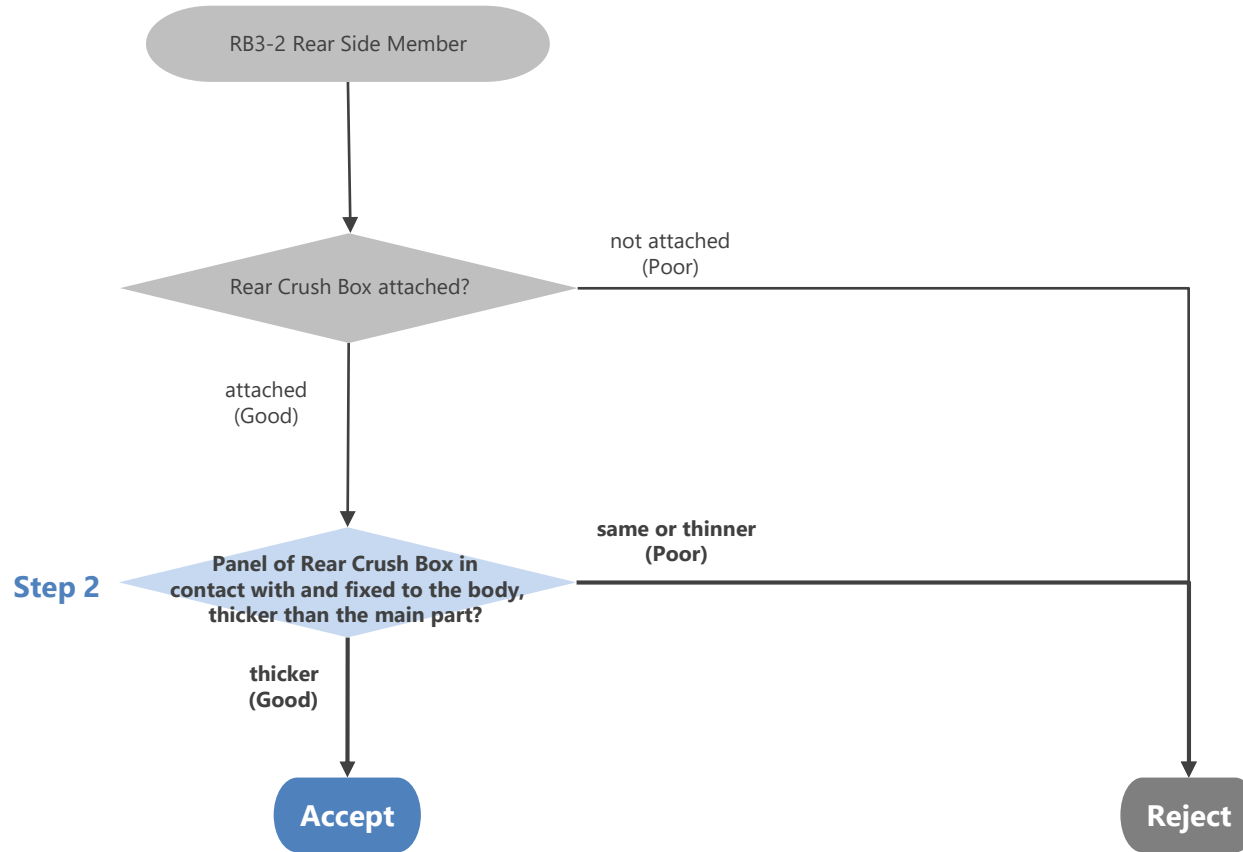
➡ When the Rear Crush Box is attached, it is determined as Good.

Poor



➡ When the Rear Crush Box is not attached, it is determined as Poor and **Reject**

Check Flow – Step 2



Check – Step 2

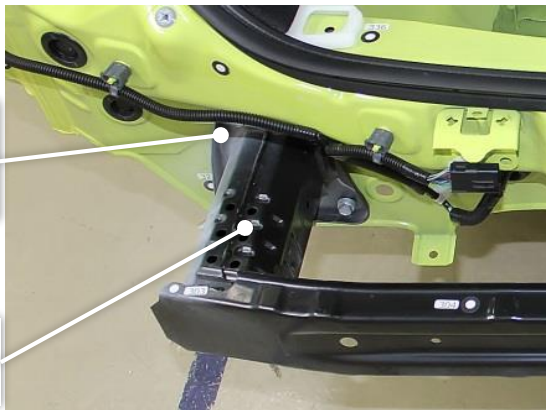
Check if the panel of the Rear Crush Box which is in contact with and fixed to the body, is thicker than the main part of the Crush Box.

【Determination】

Good

Panel in contact
with body
 $t = 2.1 \text{ mm}$

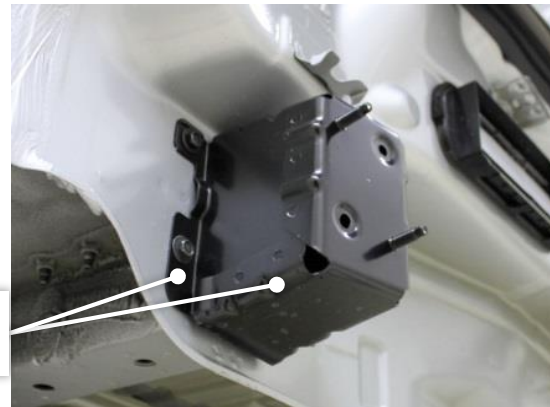
Main part
 $t = 1.4 \sim 1.6 \text{ mm}$



☞ When the panel in contact with the body is thicker than the main part, it is determined as Good and **Accept**

Poor

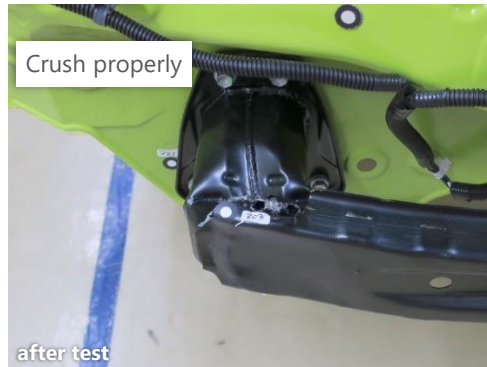
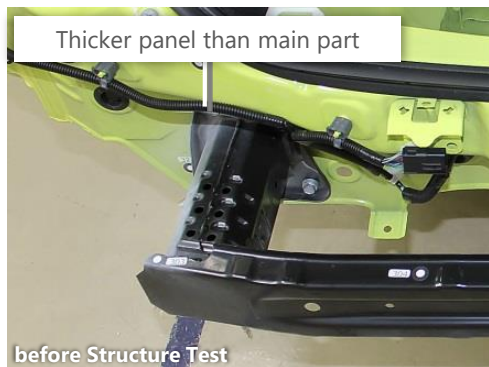
Both panel
 $t = 1.6 \text{ mm}$



☞ When the panel in contact with the body is the same or thinner than the main part, it is determined as Poor and **Reject**

Example of Accept / Reject

Accept



- ☞ The Crush Box crushed properly due to the thickness of the panel in contact with and fixed to body was thick enough.
- Therefore, no damage to the Back Panel or Rear Side Member occurred.

Reject



- ☞ The thickness of the panel in contact with and fixed to body was thin.
- Therefore, the Crush Box collapsed and damage to the Back Panel and Side Member occurred.