

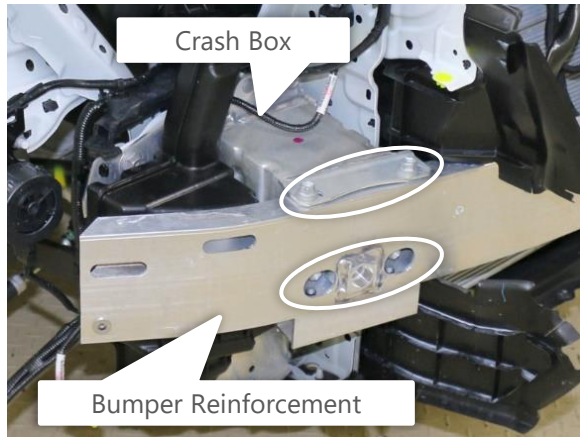
DET Supplemental Document

FB2-4 Front Bumper Reinforcement

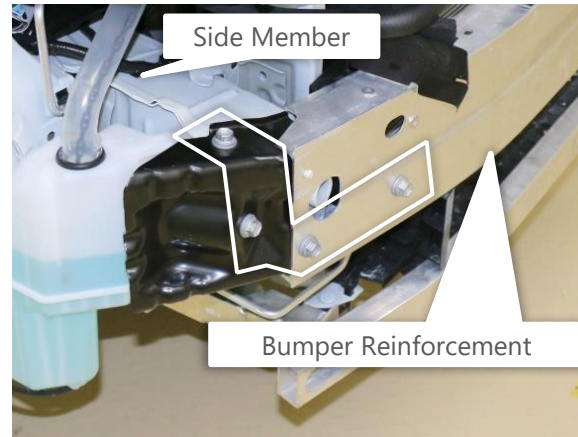
Condition

- Vehicles : Vehicles with Bumper Reinforcement attached with bolts and nuts
 - Part and Structure : Fastening part of Bumper Reinforcement
 1. Attachment between Bumper Reinforcement and Crash Box
 2. Attachment between Bumper Reinforcement and Side Member
- ☞ Vehicles with Bumper Reinforcement welded to Crash Box or Side Member, are not subject to be checked

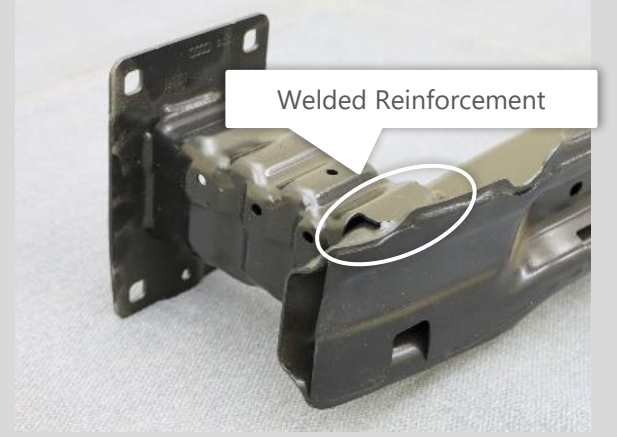
1. Attachment with Crash Box



2. Attachment with Side Member



Exclusion of this evaluation



Criteria

The Front Bumper Reinforcement should be installed without weld studs*.



1. Attachment between Front Bumper Reinforcement and Crash Box

or

2. Attachment between Front Bumper Reinforcement and Front Side Member

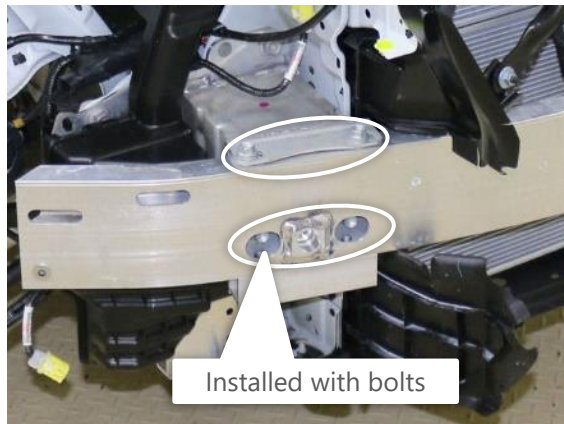
* Weld studs : Studs or bolts welded on parts
(referring the figure on p.8)

Reason

When the Front Bumper Reinforcement is installed without weld bolts for easy removal after a collision, the man-hours required for repair can be reduced.

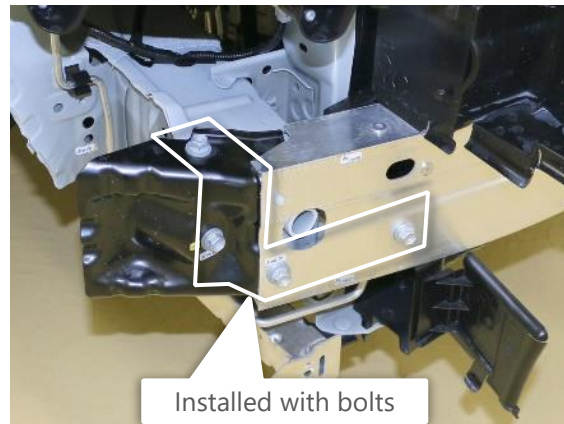
- 1 . Good example of an attachment between Reinforcement and Crash Box

The Reinforcement is installed with bolts to the Crash Box, which make removal of the Reinforcement easier after a collision.

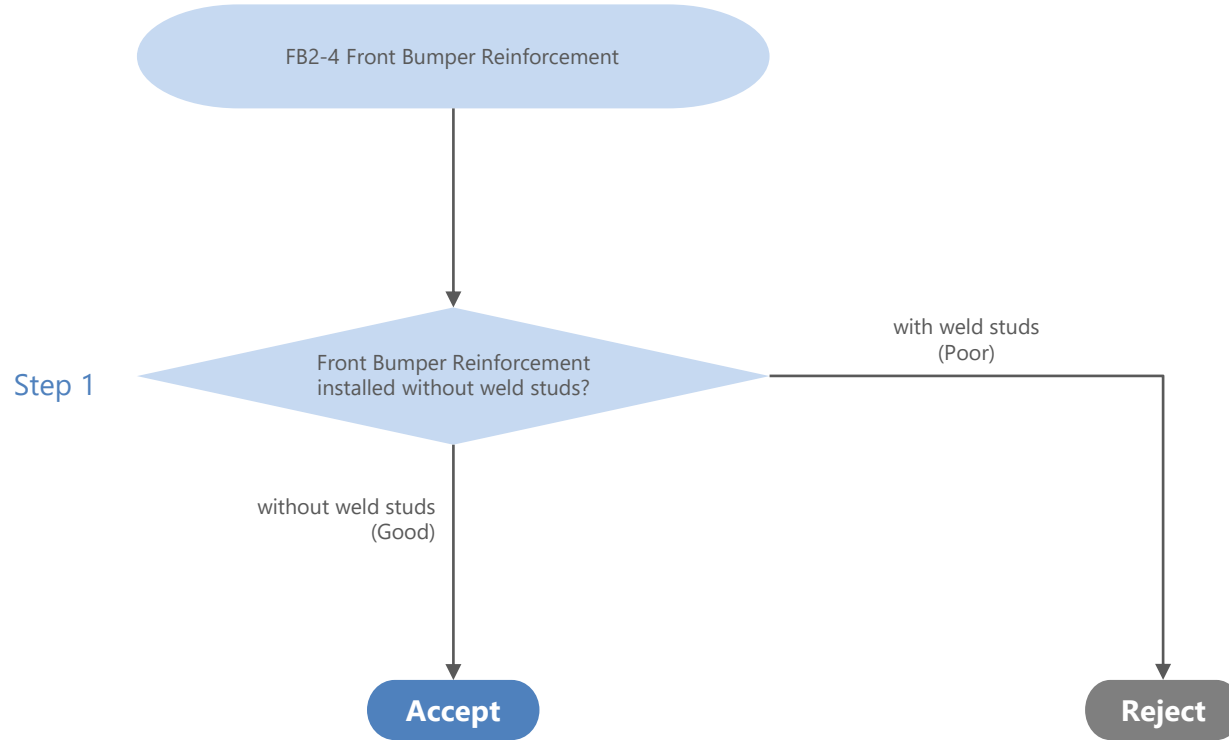


- 2 . Good example of an attachment between Reinforcement and Side Member

The Reinforcement is installed with bolts to the Side Member, which make removal of the Reinforcement easier after a collision.



Check Flow



Check – Step 1

Check if the Front Bumper Reinforcement is installed without weld studs and nuts.

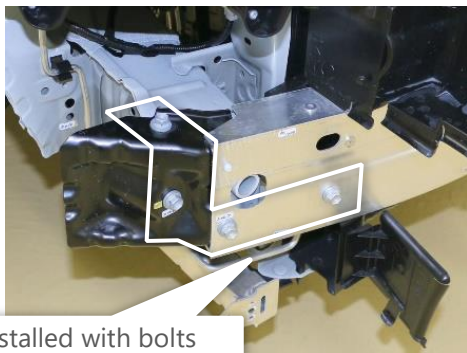
【Determination】

Good

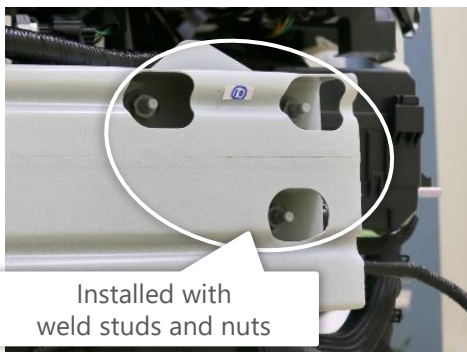


Installation with bolts is determined as Good and

Accept



Installed with bolts



Installed with
weld studs and nuts

Poor



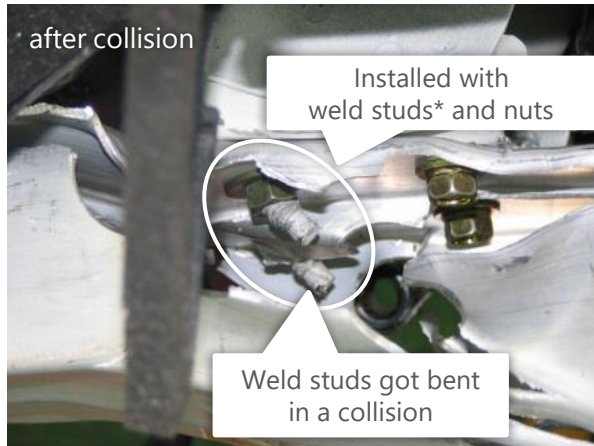
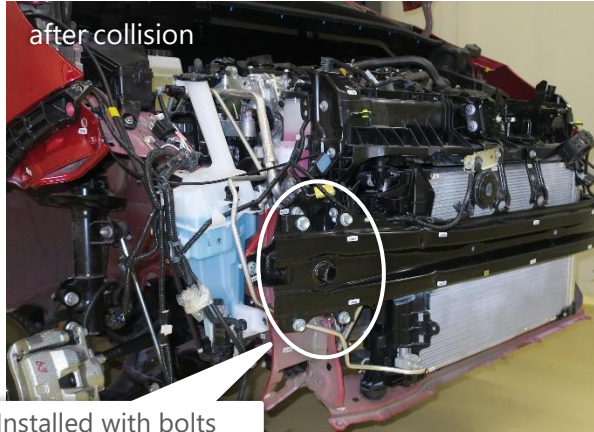
When there is even a single weld stud and nut fixation,
it is determined as Poor and

Reject



Weld studs as locators are not considered.

Examples of Accept / Reject



Accept

The Bumper Reinforcement is installed with bolts, of which screw threads are not exposed and less likely to get bent in a collision.

This makes removal of the Reinforcement after a collision easier.

Reject

The Bumper Reinforcement is installed with weld studs, of which screw threads are exposed and get bent in a collision.

This prevents the Reinforcement from being removed.

*** Weld studs : Studs or bolts welded on parts**