

Japanese Test Plan for Full Frontal Impact

Japan

GRSP Informal Group on Frontal Impact

October 11, 2012

Outline

- Japanese Recommendation for Full Frontal Test Procedure
- Japanese Test Plan for Full Frontal Impact.

FWRB and FWDB

	Importance	FWRB	FWDB
PEAS height evaluation	High	Very Good	Good
SEAS detection	High	Impossible	Poor ?
Harmonization	Medium	Good	Poor
Cost	Medium	Good	Poor

- Both FWRB and FWDB tests can evaluate the PEAS height.
- Harmonization with the US is easier for the FWRB when the GTR is considered for the target.
- It costs \$5,000 (honeycomb) for every test in FWDB.

Japanese View for Full Frontal Test

- By the combination of FWRB and Option 2 (SEAS) test, the structural interaction of vehicles can be evaluated, if SEAS has enough performance.
- When considering GTR for the target, the FWRB may be accepted easier for the harmonization with the US.
- FWRB test is more economical than FWDB test in terms of PEAS height evaluation.

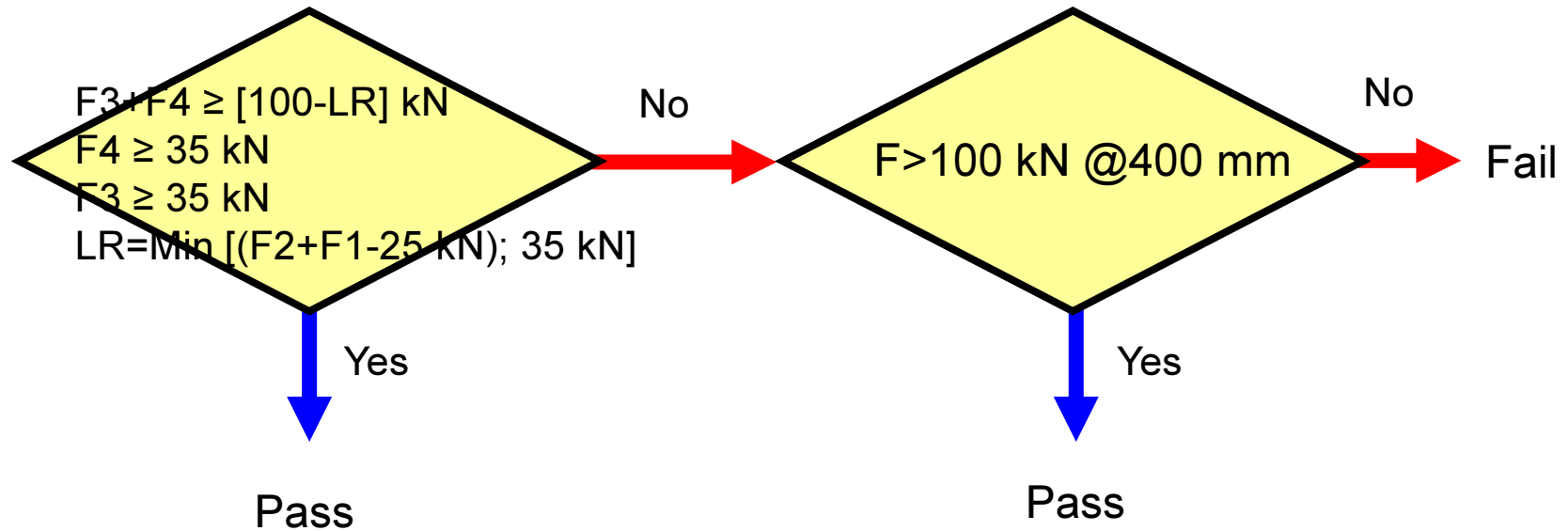
Japan recommends the FWRB with Option 2 test.

Test Procedure

Stage 1: FWRB test

Stage 2: Option 2 test

@ LCW force 200 kN



Issues for Full Frontal Test

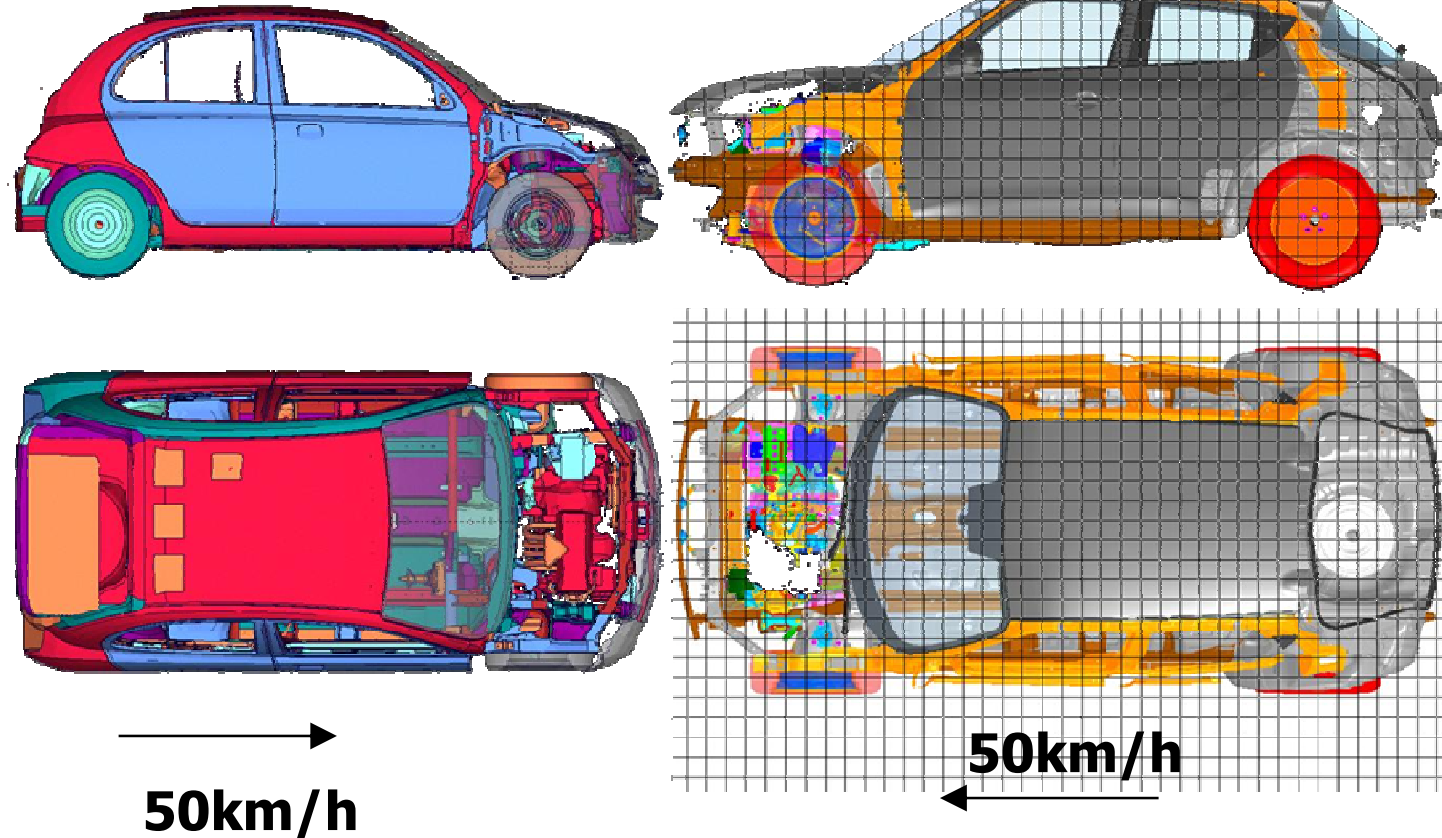
- In past researches, there were not enough data to evaluate whether SEAS is effective to reduce occupant injury of struck vehicle or not , because the mass between striking and struck vehicle had too large difference.
- It is necessary to research if SEAS is effective to reduce occupant injury of struck vehicle (needs for option2 test).

Japanese Test Plan

Car to Car Full Frontal Test

March (Micra)

Juke (SUV)



March (curb mass 940kg)
Juke (curb mass 1170 kg)



The difference of vehicle mass is not so large.

Test Vehicles

March (Micra)



Juke (SUV)

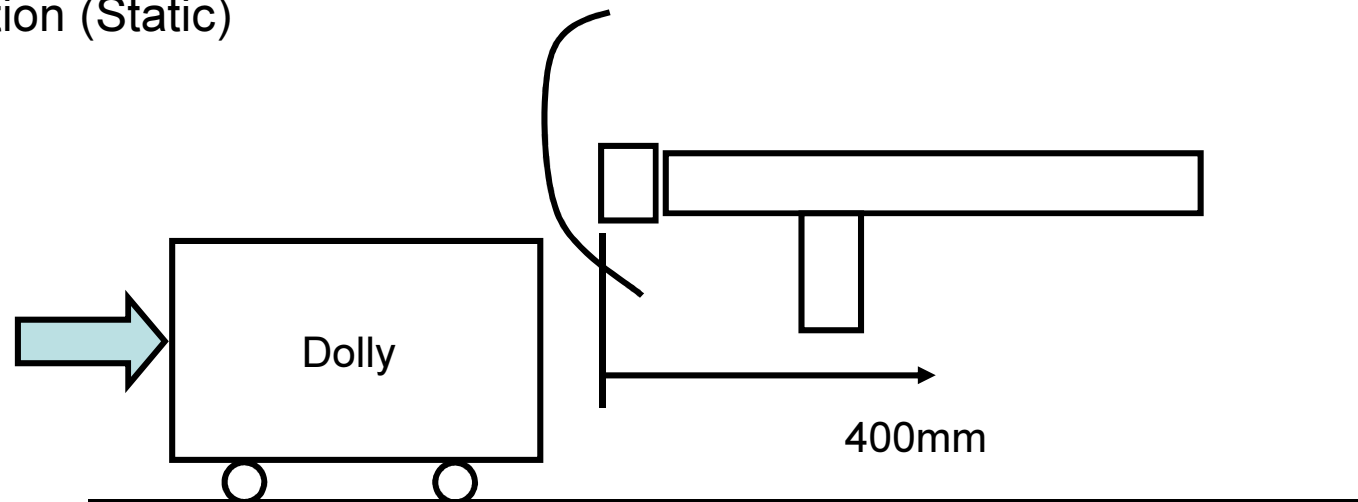


	unit	March (Micra)	Juke
Length x width x hight	mm	3780 x 1685 x 1515	4135 x 1765 x 1565
Curb mass	kg	940	1170
Engine displacement	cc	1198	1498

Option 2 Test

Juke Option 2 test data will be obtained from JAMA.

Test condition (Static)



Japanese Test Plan

- Car to Car Full Frontal crash test
 - ⇒ To confirm the effectiveness of SEAS for reducing occupant injury of struck vehicle
- SEAS option 2 US self regulation
 - ⇒ If the SEAS has enough performance, test data will be the rough indication of performance of SEAS.