

WORLDSID-50M STERNUM THORAX BIB W50-35020-PR

Service Bulletin



May 2020

Humanetics is now offering an improved thorax bib for the WorldSID-50M to increase the sternum durability for far-side testing in updated Euro NCAP protocols.

Background

EURO NCAP SIDE IMPACT DUAL OCCUPANCY

In the latest update to the Euro NCAP Far Side Occupant & Assessment Procedure (Version 2.0, June 2019), occupant-to-occupant protection is evaluated to demonstrate countermeasures for head protection in occupant interaction. The protocol states where a vehicle is equipped with occupant interaction countermeasure protections, the effectiveness of these countermeasures will be demonstrated using two mid-sized WorldSID dummies in the official Euro NCAP pole impact test. In the interim years of 2020 and 2021, the performance of these occupant-to-occupant countermeasures may be confirmed in an AE-MDB (Advanced European Mobile Deformable Barrier) test (Side Impact Mobile Deformable Barrier Testing Protocol Version 8.1, June 2019) in place of the official Oblique Pole Side Impact test (Version 7.1, June 2019).

WorldSID-50M

FAR-SIDE TESTING

It is worth noting that the WorldSID-50M was designed to be used in near-side tests. With the introduction of the new far-side application, damage to WorldSID-50M ATDs have been increasingly seen in the field. Humanetics has been actively working to develop design solutions that meet the performance criteria of near-side testing, but are also robust enough for use in far-side testing since the EuroNCAP far-side assessment will become an integral part of the rating for all vehicles launched in 2020 onwards.

Thorax Bib Concerns

REAL WORLD OBSERVATIONS

During WorldSID ISO Task Group meetings it was disclosed that members were seeing tearing of the WorldSID-50M thorax bib (W50-35022) at the attachment to the shoulder rib during far-side testing (figure 1). The accepted hypothesis is that the shoulder belt catches the arm and holds it while the dummy moves towards impact which applies a tensile load to the bib.

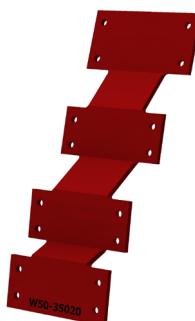
Updated Thorax Bib Option

MULTI-USE BIB

Humanetics has designed a new thorax bib with increased load carrying capacity and physical elongation without changing the stiffness characteristics to avoid possible changes in dummy performance. The new bib features:

- 3mm of material added outboard of attachment holes on each side in the shoulder section
- Added radii in each transition between attachment sections and connecting sections
- Updated material (same stiffness properties as previous)
- New torque spec for attachment screws = 1.4Nm

This new thorax bib can be used for both near-side and far-side testing without the need to change over parts for each test scenario. Customer testing of the bib has shown that it holds up well in far-side tests without the damage seen in the current version.



AVAILABILITY

Currently the new Humanetics thorax bib is available to order as a optional spare part. It is not included as a standard component in the WorldSID-50M dummy.

Part Number	Description
W50-35020-PR	STERNUM, THORAX BIB

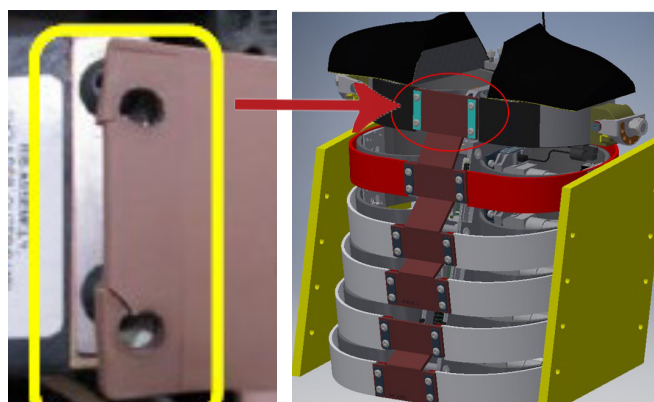


Figure 1 - Bib damage shown in ISO meeting presentation N1169 from JAMA (Left), WorldSID thorax showing bib installed (Right)

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