

IR-TRACC TH-472-6100 3D Zero-Position Verification Fixture

Publication Date: January, 2019

A new zero-position fixture has been developed for 3D sensors that allows taking zero-position data with improved reproducibility.

Background

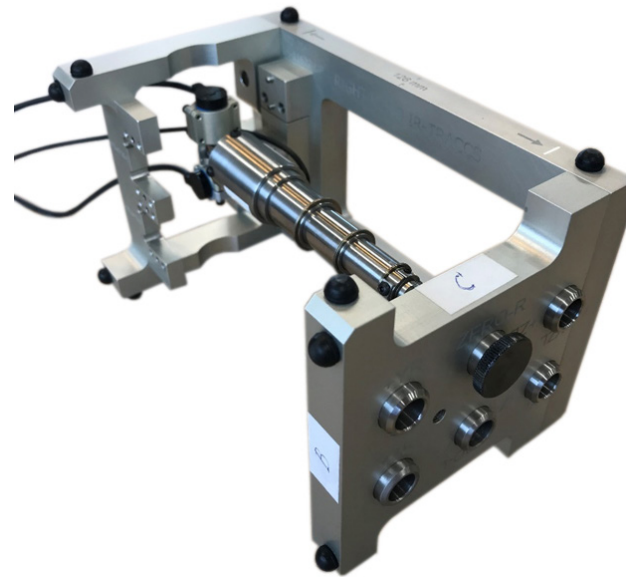
The International Standards Organisation, ISO, is working on a new report covering multi-dimensional measurement systems. The ISO report TR21002 is, at the time of writing this bulletin, under review in a draft format by ISO/TC 22/SC 36/WG3 members. The report sets a standard method for measuring multi-dimensional displacement for shoulder, chest and abdomen in THOR dummies (50M and 5F), WorldSID dummies (also 50M and 5F) and Q10 dummies (frontal and lateral impact) using 2D and 3D IR-TRACCs and equivalent sensors. A new zero-position fixture, Humanetics part# TH-472-6100, was developed for 3D sensors that allows taking zero-position data with improved reproducibility.

! *The new fixture can be acquired for use in place of the existing part # TF-472-6000-B-KIT upgrade kit for SBL-B THOR-50M dummies. See below for SBL-B identification information.*

TH-472-6100 Overview

The benefits over the existing zero-position fixture are:

1. Compatible with future ISO TR21002 incorporating multi-dimensional sensors into one single method
2. Easier handling, far fewer configuration changes necessary to set up different sensor models
3. Simulates a dummy spine with sensor manipulations in positive SAE-J211 directions for all models



4. Provides data collection in 6 extreme conditions leading to greater reproducibility
5. Well-structured data collection method and template
6. Prepared for THOR-50M SBL-B version and THOR-5F 3D IR-TRACCs
7. A better tool to help adjust angle sensors in the zero-position

The new ISO 3D zero-position fixture is now made available for customers considering purchase of the THOR-50M SBL-B upgrade kit to be prepared for the future ISO standard and take advantage of the benefits it offers over the existing zero-ing fixture upgrade kit.

! *Please note that the ISO fixture does not support pre SBL-B IR-TRACC versions, as positioning pins will block the mounting of non SBL-B Sensors. For pre SBL-B versions, continue to use TF-472-6000, which will continue to be offered and supported by Humanetics for those IR-TRACC versions.*

Also note that ISO TR-21002 will continue to use Humanetics part # TH-4000-2D for 2D IR-TRACCs, which remains unchanged.

(Con't)

IR-TRACC TH-472-6100 (Con't)

TH-472-6100 Overview (con't)



The new zero-position fixture shown with a typical IR-TRACC in the "ZERO" Position



The new zero-position fixture shown with a typical IR-TRACC in the "+Y" Position



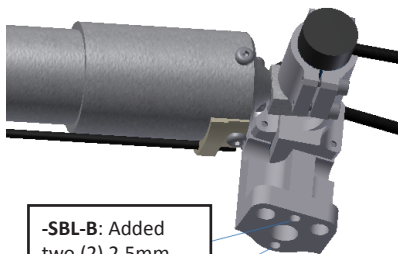
The new zero-position fixture shown with a typical IR-TRACC in the "+YZ" Position

THOR-50M SBL-A and SBL-B identification

THOR-50M IR-TRACCs can be identified as either version SBL-A or SBL-B through the IR-TRACC Serial Number and visual observation.

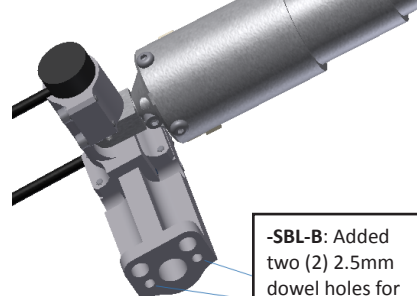
- IR-TRACC S/N ED9999 and before - SBL-A
- IR-TRACC S/N EE5000 and after - SBL-B
- IR-TRACC S/N EE0000 to EE4999 inclusive - may be SBL-A or SBL-B. SBL-B have dowel pin locating holes in the mounting base of each IR-TRACC assembly. These dowel holes are shown in the following figures.

THOR-50M Upper Thorax IR-TRACC



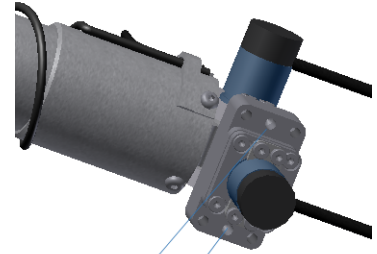
-SBL-B: Added two (2) 2.5mm dowel holes for location to upper spine
 -SBL-A: Smaller hole in one location only

THOR-50M Lower Thorax IR-TRACC



-SBL-B: Added two (2) 2.5mm dowel holes for location to lower spine
 -SBL-A: No added holes

THOR-50M Abdomen IR-TRACC



-SBL-B: Changes two (2) of the M3 mounting holes to 2.5mm dowel holes for location to pelvis
 -SBL-A: Two (2) M3 tapped holes in same location