



U.S. Department
of Transportation

Memorandum

**National Highway
Traffic Safety
Administration**

Subject: Documents referenced in THOR-50M Notice of
Proposed Rulemaking

Date: August 25, 2023

From: Ryan Posten
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Vehicle Safety Research

To: Docket No. NHTSA-2023-0031

Thru: Terrence Sommers
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The THOR-50M Notice of Proposed Rulemaking (NPRM) references several NHTSA-produced research documents. This includes the documents that comprise the technical data package (Table 1), design reference documentation (Table 2), and other NHTSA research documentation supporting the THOR, such as the qualification repeatability and reproducibility study (Table 3). NHTSA has not placed these documents in the public docket for this rulemaking action because NHTSA had already begun, prior to the publication of this NPRM, publishing versions of these documents in either a separate research docket (Docket No. NHTSA-2019-0106, NHTSA Crashworthiness Research - THOR-50M Documentation) or on NHTSA's website. To avoid the potential confusion associated with having these documents (or updated versions of these documents) also placed in the public docket for this rulemaking action, NHTSA is instead placing updated versions of these documents in the THOR-50M research docket. The following tables identify the locations where these documents may be found.

In addition, the NPRM and the supporting research documentation contain citations to materials such as academic articles and publications, which are subject to copyright and/or proprietary restrictions on public distribution. Such materials have not been included in the public docket, but are available for review at the agency upon request, to the degree consistent with applicable law.

Table 1. THOR-50M Technical Data Package Documentation

Title	Link
THOR 50th Percentile Male with Alternate Shoulders Frontal Crash Test Dummy Drawings, External Dimensions, and Mass Properties	https://www.regulations.gov/document/NHTSA-2019-0106-0013
*THOR-50M DAS Integration Kit Drawings, April 2023	https://www.regulations.gov/document/NHTSA-2019-0106-0019
*Parts List, THOR-50M DAS Integration Kit, April 2023	https://www.regulations.gov/document/NHTSA-2019-0106-0018
Parts List, THOR 50th Percentile Male Frontal Crash Test Dummy with Alternate Shoulders	https://www.regulations.gov/document/NHTSA-2019-0106-0015
THOR 50th Percentile Male (THOR-50M): Procedures for Assembly, Disassembly, and Inspection (PADI), June 2023	https://www.regulations.gov/document/NHTSA-2019-0106-0017
THOR 50th Percentile Male (THOR-50M) Qualification Procedures and Requirements, April 2023	https://www.regulations.gov/document/NHTSA-2019-0106-0010

*The DAS Integration Kit drawings and drawing/parts list would not themselves be incorporated by reference into Part 572. It is anticipated that, upon finalization of this proposal, these documents will be fully integrated within the relevant technical data package components.

Table 2. THOR-50M Design Reference Documentation

Title	Link
THOR-50M Drawing Package - 2D AutoCAD Jan 2023	https://static.nhtsa.gov/nhtsa/downloads/THOR_50M_Drawing_Package/NPRM/THOR-50M%20with%20Alternate%20Shoulders%20Jan%202023-AutoCAD%20DWG%20Files.zip
THOR-50M Drawing Package-3D Inventor Format Jan 2023	https://static.nhtsa.gov/nhtsa/downloads/THOR_50M_Drawing_Package/NPRM/THOR-50M%20with%20Alternate%20Shoulders%20Jan%202023-Inventor%20Files.zip
THOR-50M Drawing Package -3D STEP Format Jan 2023	https://static.nhtsa.gov/nhtsa/downloads/THOR_50M_Drawing_Package/NPRM/THOR-50M%20DAS%20Integration%20Kit-3D%20STEP%20Files_April%202023.zip
THOR 50th Percentile Male with Alternate Shoulders Drawing Revisions, Jan 2023	https://www.regulations.gov/document/NHTSA-2019-0106-0014
THOR-50M DAS Integration Kit – 2D AutoCAD, April 2023	https://static.nhtsa.gov/nhtsa/downloads/THOR_50M_Drawing_Package/NPRM/THOR-50M%20DAS%20Integration%20Kit-AutoCAD%20DWG%20Files_April%202023.zip

Title	Link
THOR-50M DAS Integration Kit – 3D STEP Format, April 2023	https://static.nhtsa.gov/nhtsa/downloads/THOR_50M_Drawing_Package/NPRM/THOR-50M%20DAS%20Integration%20Kit-3D%20STEP%20Files_April%202023.zip
THOR-50M DAS Integration Kit – Inventor Format, April 2023	https://static.nhtsa.gov/nhtsa/downloads/THOR_50M_Drawing_Package/NPRM/THOR-50M%20DAS%20Integration%20Kit-Inventor%20Files_April%202023.zip

Table 3. Other THOR-50M Research Documentation

Title	Link
Biofidelity Evaluation of the THOR and Hybrid III 50th Percentile Male Frontal Impact Anthropomorphic Test Devices	https://www.regulations.gov/document/NHTSA-2019-0106-0004
THOR-50M Repeatability and Reproducibility of Qualification Tests	https://downloads.regulations.gov/NHTSA-2019-0106-0009/attachment_2.pdf
THOR-50M Durability Report	https://www.regulations.gov/document/NHTSA-2019-0106-0003
Repeatability and reproducibility of oblique moving deformable barrier test procedure	https://www.regulations.gov/document/NHTSA-2019-0106-0005