

# Commercial Space Transportation Safety Approval

Safety Element Approval Number: SA 10-001 (Rev 2)

## National Aerospace Training and Research Center

is issued a safety element approval, subject to the provisions of 51 USC Subtitle V, ch. 509, and the orders, rules, and regulations issued under it.

The FAA has determined that the National Aerospace Training and Research Center's Space Training System: Model 400 suborbital space flight simulator is capable of replicating the G forces associated with suborbital space flight within the following envelope:

Human space flight profiles up to 12 Gz and 8 Gx, with an onset rate up to +/- 8 G/Sec and an accuracy in Gz and Gx axes of +/- 0.1 G.

This safety element approval is granted subject to the terms, conditions, and limitations set forth in safety approval order A and any subsequent orders issued by the Office of Commercial Space Transportation.

The holder of this safety element approval must at all times comply with the regulations prescribed by the Office of Commercial Space Transportation relating to this Safety Element Approval.



US Department  
of Transportation  
Federal Aviation  
Administration

800 Independence Ave., S.W.  
Washington, D.C. 20591

Original Issued On: April 7, 2010  
Rev 2 Issued On: June 17, 2022  
Rev 2 Effective On: June 17 2022

MICHELLE  
S MURRAY

Digitally signed by  
MICHELLE S MURRAY  
Date: 2022.06.17  
16:15:05 -04'00'

Manager, Safety Authorization Division

**Revision History:**

Original Safety Approval - Issued April 7, 2010

Revision 1 - Issued April 3, 2015

- 1) Redesignated Safety Approval Number: SA 10-001 to SA 10-001 (Rev 1)
- 2) Due to transfer of code, redesignated Authority to read "51 USC Subtitle V, ch. 509"
- 3) Replaced "Associate Administrator for" with "Office of" prior to the name Commercial Space Transportation.

Revision 2 - Issued June 17, 2022

- 1) Redesignated Safety Approval Number: SA 10-001 (Rev 1) to Safety Element Approval Number: SEA 10-001 (Rev 2)
- 2) Replaced "Safety Approval" with "Safety Element Approval" to reflect name change
- 3) Replaced "manned flight" with "human space flight" to reflect gender-neutral language
- 4) Changed "Issued" and "Effective" dates to "June 17, 2022"

**Safety Element Approval Order No. SEA 10-001A (Rev 2)**

OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
SAFETY ELEMENT APPROVAL ORDER REGARDING

**SPACE TRAINING SYSTEM MODEL 400 (STS-400)**

SAFETY ELEMENT APPROVAL NO. SEA 10-001 (Rev 2)  
ISSUED TO

NATIONAL AEROSPACE TRAINING AND RESEARCH CENTER

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1. Authority: This Order is issued to the National Aerospace Training and Research Center (NASTAR) under 51 U.S.C. Subtitle V, chapter 509.
2. Purpose: This Order modifies Safety Element Approval No. SEA 10-001 (Rev 2) issued concurrently by the Federal Aviation Administration's (FAA) Office of Commercial Space Transportation (AST). This Order prescribes as conditions to the Safety Element Approval certain requirements applicable to the approved safety element.
3. Scope: The FAA verifies that the STS-400 can replicate human space flight profiles up to 12 Gz and 8 Gx, with an onset rate up to +/- 8 G/Sec and an accuracy in Gz and Gx axes of +/- 0.1 G, as represented in NASTAR's application.
4. Maintenance: NASTAR must follow the STS-400 maintenance procedures as represented in NASTAR's application.
5. Calibration: NASTAR must calibrate all STS-400 accelerometers and tachometers, as represented in NASTAR's application, on an annual basis.
6. Crew Qualification and Training: NASTAR may offer the STS-400 to a prospective launch operator to meet the applicable components of the crew qualification and training requirements of 14 CFR § 460.5.
7. Safety Element Approval Term: Safety Element Approval No. SEA 10-001 (Rev 2) expires in 5 years from the effective date of the Safety Element Approval.

**Safety Element Approval Order No. SEA 10-001A (Rev 2)**

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By: **MICHELLE S MURRAY** Digitally signed by MICHELLE S MURRAY  
Date: 2022.06.17 16:10:47 -04'00'  
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Michelle S. Murray, Manager  
Safety Authorization Division

Issued: June 17, 2022  
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