

**Commercial
Space
Transportation
Experimental Permit**

Experimental Permit Number: EP 19-012 (Rev 1)

**Space Exploration
Technologies**

is authorized, subject to the provisions of 51 USC Subtitle V, ch. 509, and the orders, rules, and regulations issued under it, to conduct launches.

General. The permittee is authorized to conduct:

- (1) Flights of the Starship Hopper Reusable Launch Vehicle within the operating area identified by permit order A; and
- (2) Pre-flight and post-flight ground operations at Boca Chica Launch Site associated with flights of the Starship Hopper Reusable Launch Vehicle.

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

The permittee shall at all times conduct its operations in accordance with the regulations prescribed by the Office of Commercial Space Transportation for the activities authorized by this experimental permit.



US Department
of Transportation
Federal Aviation
Administration

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Kenneth Wong

Manager, Licensing & Evaluation Division

Experimental Permit Number: EP 19-012 (Rev 1)

Revision History:

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In General section (1), changed "An unlimited number of flights" to "Flights".

Experimental Permit Order No. EP 19-012A (Rev 1)

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
EXPERIMENTAL PERMIT ORDER REGARDING

REUSABLE SUBORBITAL ROCKET LAUNCHES

Under Experimental Permit No. EP 19-012
Issued to

SPACE EXPLORATION TECHNOLOGIES

1. Authority: This Order is issued to Space Exploration Technologies (SpaceX) under 51 U.S.C. Subtitle V, Chapter 509 and 14 C.F.R Ch. III.
2. Purpose: This Order modifies Experimental Permit No. EP 19-012 (the Permit) issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation (Office), authorizing SpaceX to conduct launches of its Starship Hopper reusable launch vehicle. This Order prescribes definitions and conditions applicable to each launch conducted by SpaceX under the Permit.
3. Definitions: For purposes of the Permit and any orders issued by the Office modifying the Permit, the following definitions apply:
 - (a) "Pre-flight ground operations" begin with loading of the propellant tanks of the Starship Hopper vehicle.
 - (b) "Post-flight operations" begin when Starship Hopper has landed and end after SpaceX returns the vehicle to a safe condition.
4. Safety Clear Zone:
 - (a) During propellant loading of the Starship Hopper propulsion system, SpaceX must establish a safety clear zone with a 2270 meter radius from the launch point as identified in SpaceX's permit application.
 - (b) During post-flight operations, SpaceX must maintain the 2270 meter radius safety clear zone upon landing until SpaceX verifies that no hazard exists.

Experimental Permit Order No. EP 19-012A (Rev 1)

5. Operating Area: "Operating Area" means a cylindrical region with a radius of 2270 meters from the launch point.
6. Post-Flight Trajectory Reporting: SpaceX must provide the FAA post-flight trajectory data in accordance with 14 CFR § 437.67 within 14 days of a permitted flight.
7. Operating Parameters:
 - (a) SpaceX may operate the Starship Hopper vehicle to an altitude that does not exceed 25 meters AGL, in accordance with its application.
 - (b) SpaceX may operate the Starship Hopper vehicle for one flight, without further FAA authorization, to a nominal altitude of 150 meters AGL or less, with a maximum propellant load of 30 metric tons at liftoff, in accordance with its application.
8. Permit Term: The term of the Permit is one year from the original issue date of the Permit.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: 
Kenneth Wong, Manager
Licensing and Evaluation Division

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Experimental Permit Order No. EP 19-012A (Rev 1)

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Deleted paragraph 6, Pre-Flight Propellant Loading Reporting and renumbered subsequent paragraphs.

Renumbered paragraph 8 to 7, replaced "Altitude" with "Operating Parameters", and added the following:

"(b) SpaceX may operate the Starship Hopper vehicle for one flight, without further FAA authorization, to a nominal altitude of 150 meters AGL or less, with a maximum propellant load of 30 metric tons at liftoff, in accordance with its application."

Experimental Permit Order No. EP 19-012B (Rev 1)

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
EXPERIMENTAL PERMIT ORDER REGARDING

FINANCIAL RESPONSIBILITY REQUIREMENTS

Under Experimental Permit No. EP 19-012
Issued to

SPACE EXPLORATION TECHNOLOGIES

1. Authority: This Order is issued to Space Exploration Technologies (SpaceX) under 51 U.S.C. Subtitle V, Chapter 509 and 14 C.F.R. part 440.
2. Purpose: This Order modifies Experimental Permit No. EP 19-012 (the Permit) issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation, by prescribing financial responsibility requirements for permitted activities in accordance with 14 C.F.R. part 440.
3. Definitions: For the purposes of this order, "permitted launch activities" means activities authorized by the Permit. Other terms used in this Order are defined in accordance with 14 C.F.R. § 440.3.
4. Liability Insurance: SpaceX must maintain a policy or policies of liability insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R. § 440.9(b) in the amount of One Hundred Million Dollars (\$100,000,000) for covered claims resulting from permitted activities performed at the Boca Chica Launch Site as described in Experimental Permit Order No. EP 19-012A for each launch of Starship Hopper.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: 
Kenneth Wong, Manager
Licensing and Evaluation Division

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In section (4), changed "Three Million Dollars (\$3,000,000)" to
"One Hundred Million Dollars (\$100,000,000)".