Burden Carrier Tractor Test and Evaluation Plan
70Z03826QE0000050
Attachment 5

1.0 Introduction

This document outlines the test and evaluation (T&E) plan for the First Article of the conventional aircraft tow tractor, as solicited by the United States Coast Guard (USCG). The purpose of this T&E is to verify that the vehicle meets all salient characteristics and performance requirements outlined in the solicitation before production units are accepted. Testing will be performed by the USCG Aviation Logistics Center's (ALC) Aviation Ground Support Equipment (AGSE) team and Engineering Specialists.

2.0 Scope

This plan covers the verification of the tractor's physical dimensions, weight, performance, operator cabin features, safety systems, and required documentation. Each characteristic listed in the solicitation will be tested and evaluated against the specified requirements.

3.0 Test Procedures

The following tests will be performed on the First Article unit. The location of the First Article Testing will be at United States Coast Guard (USCG) Aviation Logistics Center (ALC).

3.1 Dimensional and Weight Verification

The vehicle will be measured and weighed using certified scales and measurement tools to ensure it conforms to the physical requirements.

Characteristic	Requirement	Test Method	Pass/Fail Criteria
Length (w/o hitches)	≤ 120 inches	Measure with a calibrated tape measure from the furthest points of the main body, excluding hitches.	Must be within the specified maximum length.
Length (w/ hitches)	≤ 150 inches	Measure with a calibrated tape measure from the furthest points, including hitches.	Must be within the specified maximum length.
Overall Height	≤ 90 inches	Measure from the ground to the highest point of the cab (including beacon).	Must be within the specified maximum height.
Overall Width	≤ 80 inches	Measure at the widest point of the vehicle.	Must be within the specified maximum width.

Gross Weight	7,000 ≤ 10,000 lbs	Weigh the vehicle on a certified vehicle scale.	Must meet or exceed the minimum weight.
Chassis Color	Flat black	Visually inspect the vehicle's paint color.	Color must be flat black.
Markings	ATA airport markings, reflective	Visually inspect for correct markings on all sides. Test reflectivity in low light.	Markings must be present, correct, and reflective.
Hitch Pin Diameter	1.18 ≤ 2.75 inches	Measure the pin diameter of the front and rear hitches using calipers.	Diameter must match the requirement.

3.2 Functional and Performance Tests

These tests will verify the operational and performance capabilities of the tractor.

Characteristic	Requirement	Test Method	Pass/Fail Criteria
Draw Bar Pull (DBP)	5,000 lbs (front and rear)	Perform a DBP test using a calibrated load cell or dynamometer.	Achieves a sustained pull of at least 5,000 lbs.
Transmission	1 reverse, Neutral, 1 Forward or 1 Reverse, Neutral, 2 Forward	Operate the vehicle through all gears (R, N, D1, D2 or R, N, F as required)	All gears must engage and function correctly.
Drive and Steering	2 or 4-wheel drive, hydrostatic steering	Drive the vehicle on various surfaces and execute turns.	Drive engages and steering is responsive and functional.
Travel Speed	The tractor, without load, shall be capable of attaining and maintaining a travel speed on level, paved roads ≥15 mph forward.	Drive the vehicle without load passed 15mph and maintain speed.	The vehicle can hold 15 mph or faster going forward without a load
Brakes	Hydraulic service braking circuit, parking brake independent of primary braking circuit	Perform service brake tests and verify the parking brake holds the vehicle on an incline.	Brakes must function effectively; parking brake must hold and release correctly.

Inching Controls	Front and rear controlled inching movement minimum 3 inches within 5 seconds	Test the inching controls at both the front and rear of the vehicle.	Vehicle must move in small, controlled increments as commanded within specified requirements.
Battery and Charging	≥ 10 kW capacity, onboard charging system 208-240V and/or 440/480V input voltage, 3-phase, 60 Hz	Inspect battery specifications. Connect the charger to input power.	Battery meets specs; charging system initiates and functions correctly.

3.3 Operator's Cab, Lights, and Safety Systems

This section verifies all features related to operator comfort, visibility, and safety are present and functional.

Characteristic	Requirement	Test Method	Pass/Fail Criteria
Mirrors	View of front & rear hitch	Operator sits in the driver's seat and confirms a clear line of sight to both hitches via mirrors.	Both hitches must be visible.
Climate Control	Defrost, A/C (optional), heat, fan	Activate all climate control functions ((defrost, A/C (optional), heat, fan)) and verify operation.	All systems must produce conditioned air as expected.
Wipers	Front and rear windshield	Activate front and rear wipers and washer fluid systems.	Wipers must clean the windshields effectively.
Seating	Suspended driver seat and passenger seat	Inspect seat configuration and test driver and passenger seat suspension.	Seating configuration is correct; suspension provides dampening.
Driver Seat Safety Switch	A switch needs to be under the driver seat that automatically turns the vehicle off when the driver is not sitting	Will drive the vehicle and the driver will stand up from the seat	The vehicle will turn off automatically once the driver is no longer sitting in the seat

Lights & Signals	Beacon, head/tail/side lights, turn/hazard, work lights, reverse lights	Activate all lighting systems individually and verify they illuminate correctly.	All lights must be present and fully functional.
Alarms	Reverse buzzer, horn	Engage reverse gear to test the buzzer. Activate the horn.	Both alarms must sound clearly.
Backup Camera (optional, if installed)	Weatherproof, dash-mounted	Engage reverse and check the dash-mounted screen for a clear view from the camera.	Camera provides a clear, weatherproof rear view.
Fire Extinguisher	20 lbs, mounted	Verify the fire extinguisher is a 20 lb model and is securely mounted.	Extinguisher must meet size and mounting requirements.

4.0 Documentation Verification

The T&E team will verify that all required documentation has been delivered as specified.

Item	Requirement	Test Method	Pass/Fail Criteria
Operations Manual	One (1) complete hardcopy	Verify receipt of the printed manual.	Manual must be present and complete.
Electronic Manuals	PDF of operation, maintenance, and parts manuals	Verify receipt of a digital file (e.g., on a USB drive or via email) containing the three manuals in PDF format.	All three manuals must be present, complete, and legible in PDF format.

5.0 Pass/Fail Criteria

The First Article unit must pass **100%** of the tests outlined in Sections 3.0 and 4.0 of this plan to be approved. Any failure will result in the rejection of the First Article. If the First Article is rejected for failure to meet the requirements of the approved test plan, the Government reserves the right to reject the unit, and no production quantities will be purchased under the contract. The USCG ALC AGSE team holds final approval authority.