Performance Measures - Task #0008

(TP 350-70-1, Par 7-6)

Complete the following table for Task #0008 using all the information gathered during the task analysis. The performance measures below are specific, observable, and measurable to allow the evaluator to determine if the task was performed correctly.

Task Number:

0008

Task:

Calculate Descent Time Using sUAS Parameters

Condition:

The task is performed in an operational planning environment where mission planning data, digital calculation tools, sUAS technical specifications, and current environmental data (e.g., temperature, pressure, humidity) are available. All data sources must be verified and referenced against established doctrinal materials (FM 3-05.301, UAS_Calculations_for_leaflet_drops.pdf).

Standard:

Descent time must be calculated accurately within a 5% error margin of expected benchmark values. The calculation must incorporate the standard descent rate (2.5 ft/s), with adjustments made for platform performance and environmental conditions. All intermediate and final results must be documented, validated, and prepared for integration into the overall mission plan.

Performance Steps

Step Sequence required?

Yes

Performance Step 1: Gather Altitude and Descent Rate Data

- **Sub-Step Sequence required?** Yes
  - a. Retrieve operational altitude from mission planning data and verify the value.
  - b. Confirm that the altitude is measured in the required unit (feet or meters) and convert if necessary.
  - c. Retrieve the standard descent rate (2.5 ft/s) from doctrinal references (e.g., Table D-1).
  - d. Adjust the descent rate using the specific performance data for the sUAS platform as provided in technical manuals.
  - e. Cross-check the retrieved data against previous mission records for consistency.
- **Go/No Go:**
  ☒ Go

  ☐ No Go

Performance Step 2: Apply Descent Time Formula

- **Sub-Step Sequence required?** Yes
  - a. Input the verified altitude value into the descent time formula.
  - b. Apply the formula: **Descent Time = Altitude ÷ Descent Rate**.
  - c. Calculate the preliminary descent time value.
  - d. Document the calculation process, including formulas and conversion factors.
- **Go/No Go:**

  ☒ Go

  ☐ No Go

Performance Step 3: Adjust for Environmental Factors

- **Sub-Step Sequence required?** Yes
  - a. Access current environmental data (temperature, pressure, humidity) from digital sensors.
  - b. Analyze how environmental variables (e.g., denser air at lower temperatures) affect the descent rate.
  - c. Apply the appropriate environmental adjustment factors to the preliminary descent time.
  - d. Recalculate the descent time incorporating the adjustment factors.
  - e. Verify that the adjusted value reflects realistic conditions compared to doctrinal examples.
- **Go/No Go:**

  ☒ Go

  ☐ No Go

Performance Step 4: Validate and Document Final Calculation

- **Sub-Step Sequence required?** Yes
  - a. Compare the final calculated descent time with historical data or expected benchmark values.
  - b. Verify that the final value is within the acceptable 5% error margin.
  - c. Document the final descent time calculation, including all applied adjustment factors and conversion details.
  - d. Prepare the documentation for integration into the overall mission plan, ensuring clarity for review by supervisors.
- **Go/No Go:**

  ☒ Go

  ☐ No Go