

Summary Report for Individual Task  
011-218-4948  
Perform Stall Warning System Check  
Status: Approved

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**Distribution Restriction:** Approved for public release; distribution is unlimited.

**Destruction Notice:** None

**Foreign Disclosure: FD5** - This product/publication has been reviewed by the product developers in coordination with the Fort Rucker foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

**Condition:** In a C-12 airplane, visual meteorological conditions (VMC), with access to the MTF manual.

**Standard:** 1. Correctly compute stall warning horn range.

2. Terminate maneuver, if stall warning horn does not sound at least 4 KIAS above the computed stall speed.

3. Recover with minimum loss of altitude.

4. Maintain bank angle within 15 degrees.

5. Maintain coordinated flight (trim ball out maximum).

**Special Condition:** None

**Safety Risk:** Medium

**MOPP 4:**

<b>Task Statements</b>
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**Cue:** None

<b>DANGER</b>
None

<b>WARNING</b>
None

<b>CAUTION</b>
None

**Remarks:** None

**Notes:** None

## Performance Steps

### WARNING

The C-12 may not produce a clean aerodynamic "break" (for example, in the C-12 the nose does not pitch down during a stall). The indication of a stall when the pitch attitude is held constant may be moderate buffet, a loss in control effectiveness, full aft yoke, or any sink rate as indicated on the altimeter or vertical speed indicator (VSI). Generally, 800 feet of altitude will be lost during a normal stall recovery. Begin the maneuver at 160 KIAS at an altitude that will allow recovery to be safely completed no lower than 7,500 feet AGL.

**WARNING:** Extreme caution must be used while performing this check since the aircraft is operating close to a stall. If any unusual flight characteristics are encountered, the maneuver will be terminated. If the stall warning horn does not sound in the designated speed range, terminate the maneuver and return the aircraft to maintenance for further adjustments and/or maintenance actions.

**WARNING:** Delayed recovery from a stall can result in a "deep stall," which is characterized by a level pitch attitude, flight path angle of approximately 45 degrees down, and a sink rate of up to 8,500 FPM. Recovery from a "deep stall" requires a 10 to 15 degree nose-down pitch change to break the stall. Allow the airspeed to increase to at least 25 knots above stall speed before recovery.

1. Crew action. The MP will ensure the checks are conducted according to the appropriate aircraft MTF manual. The MP will verify that all checks have been completed. The MP will determine the checks necessary for the test flight (general/limited), and will brief the P. During the briefing, the MP will delineate the duties the MP and P are required to perform. Prior to flight, the MP, with assistance from a maintenance contractor person, will physically check with a measuring tape or other approved device, the proper measurements and installation of the stall strips, in accordance with the appropriate maintenance manual. The MP will consult the stall warning system speed table to determine the stall speed and warning horn speed range for the aircraft at its weight and configuration during the flight. Then, during the MTF, the MP must ensure that the aircraft is not decelerated no lower than 4 KIAS above the computed stall speed. The briefing will include actions to be taken in the event the aircraft begins to roll during the maneuver. MP will stress flight safety considerations and procedures during the briefing.

#### 2. Procedures.

a. Discussion. Perform the checks according to the appropriate aircraft MTF manual. Since this check is detailed with numerous steps to accomplish, the MP will keep the P informed of the actions being performed. This check calls for various trim speeds for various configurations. The crew will ensure they have enough altitude, while performing this check, to allow recovery to be safely completed by 7,500 feet AGL.

b. System check. The crew will configure the aircraft for the check, in accordance with the MTF manual. Once the aircraft is configured, the power will be reduced to idle. The crew will adjust aircraft controls and trim to reach the trim speed specified in the appropriate MTF manual. Once the conditions are met, the airspeed will be reduced at a rate no greater than approximately 1 knot per second. The crew will cease all aileron inputs at the activation of the stall warning horn. The MP will maintain wings level with rudder. The crew will note at what indicated airspeed the stall warning horn activates. At the onset of the stall warning horn immediately reduce pitch attitude, apply maximum available power, and complete a go-around. If the crew detects any indication of a stall onset buffet prior to the lower limit of the warning horn speed range reduce the pitch attitude to lower the angle of attack then, if necessary, apply opposite rudder to stop any roll and complete a go-around. After the go-around, the P will record data, as required, for the checks to be performed.

(Asterisks indicates a leader performance step.)

**Evaluation Guidance:** Evaluation will be conducted in the aircraft.

**Evaluation Preparation:** Training will be conducted academically and in the aircraft or simulator.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Computed stall warning horn range.			
2. Terminated maneuver, if stall warning horn does not sound at least 4 KIAS above the computed stall speed.			
3. Recovered with minimum loss of altitude.			
4. Maintained bank angle within $\pm 15$ degrees.			
5. Maintained coordinated flight (trim ball $\frac{1}{4}$ out maximum).			

**Supporting Reference(s):**

Step Number	Reference ID	Reference Name	Required	Primary
	TM 1-1510-218-CL	OPERATORS AND CREWMEMBERS CHECKLIST FOR ARMY C-12C AIRCRAFT (NSN 1510- 01-070-3661); ARMY C-12D AIRCRAFT (1510-01-087-9129); ARMY C-12T AIRCRAFT (1510-01-470-0220)	No	No
	TM 55-1510-218-MTF	MAINTENANCE TEST FLIGHT MANUAL FOR ARMY MODEL C-12C, C-12D, AND C-12F AIRCRAFT	No	No

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

**Prerequisite Individual Tasks :** None

**Supporting Individual Tasks :** None

**Supported Individual Tasks :** None

**Supported Collective Tasks :** None