



**NER SUPPLEMENT 1**

**CAPR 62-1**

**1 Sep 2013**

**Safety**

**CIVIL AIR PATROL SAFETY RESPONSIBILITIES AND PROCEDURES**

CAPR 62-1, 19 December 2012, is supplemented as follows:

6.e *Added:* It is the responsibility of all CAP members to ensure each other's safety and to protect aircraft vulnerability associated with movement and storage. Safety of CAP members is the highest priority. All members will follow the NER Aircraft Ground Handling Procedures.

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# NER Aircraft Ground Handling Procedures

Sept 2013

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## ***NER Ground Handling***

It is the responsibility of all CAP members to ensure each other's safety and to protect aircraft vulnerability associated with movement and storage. Safety of CAP members is the highest priority. Protection of our aircraft and other assets are equally important. By defining and standardizing aircraft ground-handling policies and procedures, we can remove the assumption that everything is common sense.

### ***Sterile Flight Line***

The "Sterile Flight Line/Hangar" concept recognizes that flight line and aircraft ground-handling operations are intrinsically hazardous and require undivided and vigilant attention of all personnel involved. Prior to any aircraft movement, the Pilot in Command (PIC) or other CAP member authorized to conduct aircraft movement shall be designated within the group as "movement team leader (MTL)." He/she is then responsible to ensure that non-essential conversations, activities and otherwise distracting actions do not interfere with critical portions of aircraft ground-handling. Critical portions of aircraft ground-handling are ingress or egress from a hangar, aircraft movement in congested ramp areas with multiple parked or taxiing aircraft, or ramp areas containing hazardous poles, buildings, or other structures that could otherwise damage aircraft during movement.

Prior to aircraft movement, the "movement team leader" will conduct an operational risk safety briefing to ensure that all crewmembers assisting with aircraft movement and surrounding observers are aware of the "Sterile Flight Line/Hangar" requirement.

## **Aircraft Ground Movement**

This section formalizes position assignments and responsibilities for aircraft ground movement. For all aircraft ground movement from a hangar facility, either ingress or egress, a minimum of two members shall be required and one shall be designated the “movement team leader (MTL),” as noted above.

## **Single Person Movement**

When a single-person aircraft movement presents itself where only the aircraft PIC is available, a waiver from a competent authority is required. Caution to the PIC on the risks of hangar rash cannot be over-emphasized. Single-person movement of CAP aircraft is otherwise not permitted.

Appropriate planning and go/no-go risk management should be applied to ensure aircraft are not left exposed.

Members moving an aircraft will be referred to as the “ground movement team,” defined as a group of trained personnel who move an aircraft to and from its staging location. Ground-movement teams shall consist of a minimum of two, ideally three or more, qualified CAP members that have, at a minimum, observed CAP’s ground handling video and have received aircraft familiarization training through pilot training or from a qualified CAP pilot on the aircraft type being moved.

Ground-movement team directives and responsibilities include, but are not limited to:

- Establish the member at the nose of the aircraft as the movement team leader (MTL).
- The MTL will go through a checklist to make sure the aircraft is moved safely and stored correctly. (*See Attachment 1*)
- Each member of the tow team shall be a part of the checklist process.
- The “knock it off” rule will be emphasized any time a CAP aircraft is to be moved.
- All tow team members will wear correct personal protective equipment

(PPE), i.e. safety vests, hearing protection, goggles – as required, notification whistle

All tow team members will acknowledge the aircraft type being moved and confirm the movement line color, as applicable.

- All tow team members will ensure the correct equipment is available for moving the aircraft, i.e. correct tow bar, wheel chocks, etc  
The MTL will perform an aircraft walk-around to ensure aircraft is free from attachments and there is no pre-existing damage to the airframe.
- All tow team members will complete a path and route survey associated with the aircraft movement. Ensure a clear path is established for the aircraft empennage to clear all obstacles. Particular focus should be on the wings and tail. This process should include removal of Foreign Object Damage (FOD). Any objects that pose a risk to aircraft operations shall be disposed of properly.
- All tow team members will ensure aircraft hangar doors are fully open, unless an exception is otherwise provided by regulation. *See Hangar Procedures and Hangar Markings.*
- All tow team members will clear the taxi or aircraft movement path before and after aircraft movement is complete and ensure required flight control locks are in place, as required.
- All tow team members will complete an operational risk safety briefing before aircraft movement. Emphasize a “Knock it Off” call or whistle burst to stop aircraft movement due to hazards, perceived or real. The aircraft movement will stop until those hazards are verified and abated. Such hazardous items could be other aircraft, objects or structures.
- **ANYONE** on the movement ground team can call “knock it off” or blow a whistle if they feel there is risk to people, aircraft or property. **ALL** members of the ground team will cease aircraft movement **immediately**.
- Once the alarm has been sounded, the MTL will learn the nature of the alarm and determine the next course of action for the tow team.

**Operations will not resume until a “clear-to-continue” command is given by the MTL and is acknowledged by ALL members of the tow team.**

## Hangar Procedures

- During aircraft movement, the Sterile Hangar concept must be followed.

- Hangar doors must be fully opened or as marked. The only exception to this is if vertical style hangar doors can be opened where a 10 ft. clearance can be maintained beyond the wing tips of the aircraft in motion. Bi-fold style doors that open vertically must be fully opened unless the door height can be marked on the door frame for reference and the clearance must be a minimum of 3 ft. above the highest point of the aircraft in motion. See *Hangar Markings*.

- Nothing shall be stored within 3 ft. of a parked aircraft.

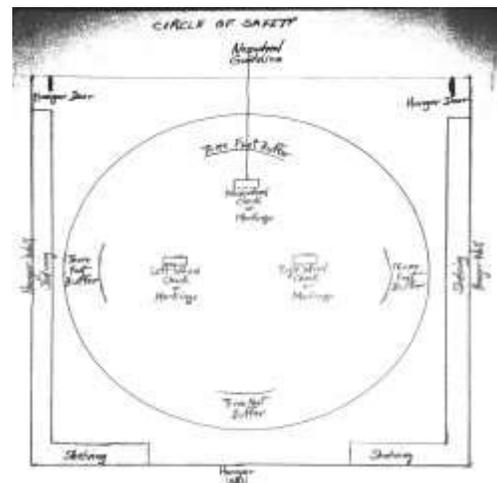
- Standard aircraft protective covers (i.e. pitot covers, engine inlet pads, propeller covers) and safety flags should be in place until the aircraft fully egresses from the hangar, as appropriate. Protective covers should be



installed on the aircraft before ingress to the hangar, as appropriate. Some environmental conditions may require early removal or installation.

- Chocks, unless permanently fastened to the floor, should be removed and placed in a designated storage location after an aircraft egresses. Chocks must be placed in their pre-determined location before the ingress movement of an aircraft commences.

- When an aircraft is parked, members shall respect a 3 foot “Circle of Safety” pathway around the aircraft unless working on or near the aircraft in preparation for departure or other operational or maintenance requirements. The “Circle of Safety” shall provide at least a 3-foot buffer surrounding the aircraft vertically and horizontally. The “Circle of Safety” is



also designed to provide a margin of clearance when moving aircraft into, out of and within the hangar. The “Circle of Safety” requires that all movable objects, such as ladders and tool carts, must be cleared from the “Circle of Safety” and should be stored properly prior to aircraft ingress or egress from a hangar.

### Hangar Markings

The following hangar markings shall be in place for all CAP aircraft. See *Letter of Alternate Procedure* on how to request approval of alternate practices where CAP policy cannot be complied with.

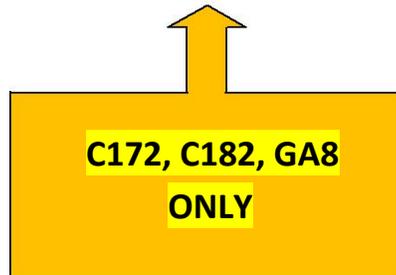
Required hangar markings are:

- Nose gear centerline
- Main landing gear wheel lines

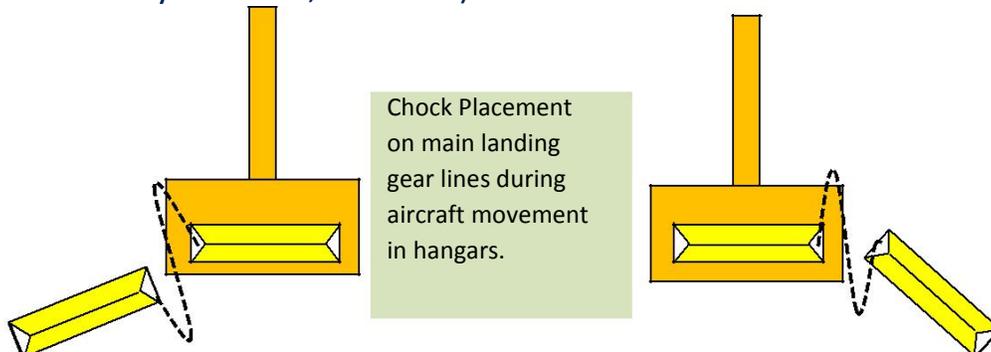


Note: Multiple aircraft types may require use of alternate guideline colors and must be discussed during the tow team briefing. Primary lines shall always be a standard yellow.

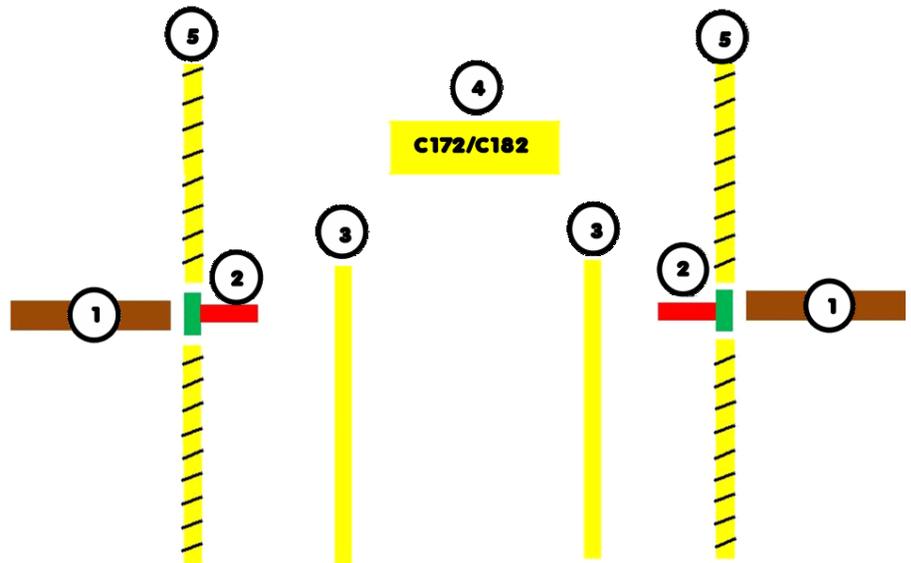
- Aircraft type designator box with approve aircraft types for the specified parking location shall be painted at the beginning of the aircraft centerline. Painting aircraft type on fastened chocks is also recommended.



- Main landing gear stop-wheel chock boxes. Aft chocks should be positioned in place before aircraft movement before ingress. (Not required if chocks permanently installed, as above)



## Door FULL OPEN markings



- ① Hangar Doors / Wall
- ② Door OPEN Markings
- ③ Main Landing Gear Lines
- ④ Nose Gear Centerline
- ⑤ Wing Clearance Line (optional)

## Wing clearance lines (optional)

- Circle of Safety (optional – not depicted)

*Note: Paint or tape can be used to mark surfaces.*

### Outside parking:

- Unit's assigned aircraft will ensure that outside parking is adequate for tie-down of CAP aircraft. This includes a parking surface that is in good condition, mowed as necessary and level.
- Three feet of wing tip and empennage clearance from any object must be maintained.

## ***Aircraft Ground-Handling Training***

Ground-movement teams shall consist of a minimum of two, ideally three or more, qualified CAP members that have, at a minimum, observed CAP's ground handling video and have received aircraft familiarization training through pilot training or from a qualified CAP pilot on the aircraft type being moved. Recurrent training is required biennially by all members who have the potential of participating in aircraft ground movement. It is recommended that all recurrent training requirements be completed during the annual safety day and evaluated during all CAPF 5 flight evaluations for pilots. Aircraft Ground Handling training should include a combination of classroom, video and hands-on techniques.

## ***Best Practice***

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### ***Facility Caution Markings and Protection***



Structures inside aircraft hangars that pose possible damage points to aircraft should be padded or marked with alert markings such as hazard tape or paint. Structural examples include structural pillars, support poles, shelf edging, cabinets, and movable door edging and door jambs and ladders.

## ***Letter of Alternate Procedure***

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It is recognized that the policies prescribed may not always be practical. Where policy cannot be met regarding hangar markings, aircraft protection or facility caution markings and protection, a letter of alternate procedure may be drafted by the affected unit and submitted to the group, as applicable, wing and region commander for approval. Approved alternate procedures shall be forwarded to the NER Operations Officer and NER Safety Officer. All alternate procedures must be maintained as attachments to CAPR 62-1 wing supplements and posted within the Aircrew Information File (AIF) of the effected aircraft at that location. If aircraft types are changed at a particular location requiring a change to the process, a revision letter will be required to be submitted through the same approval process.

Contact [se@ner.cap.gov](mailto:se@ner.cap.gov) for assistance

**AIRCRAFT GROUND MOVEMENT / MOVEMENT TEAM LEADER**

**OPERATIONAL RISK SAFETY BRIEFING CARD**

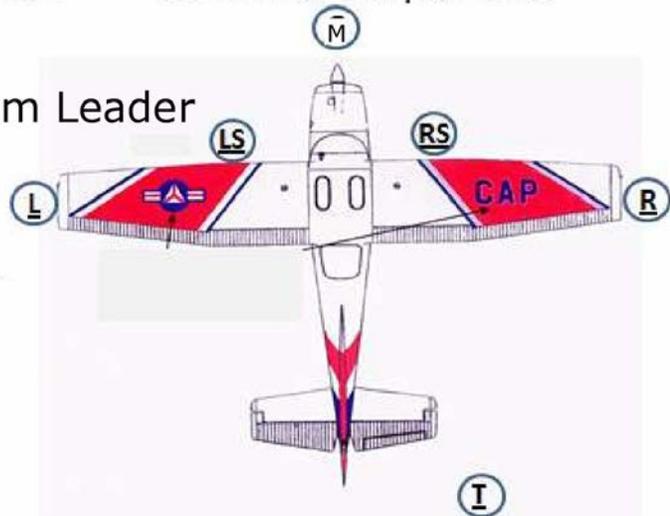
**PRIOR to aircraft movement**

1. Identify yourself as the “Movement Team Leader” who is responsible for aircraft movement.
2. Determine qualification of team members participating in aircraft movement.
3. TOW TEAM PERSONAL PROTECTIVE EQUIPMENT
4. Conduct Operational Risk Safety Briefing, to include:
  - a. Sterile Flight line / Hangar requirements
  - b. Statement that information related to aircraft movement or related hazards are always appropriate and shall be brought to the immediate attention of the Movement Team Leader. Safety concerns would be such items as potentially conflicting aircraft, objects or structures.
  - c. Mandatory 360 degree walk around the aircraft  
Visually Inspect for safe clearance from any obstacles along the entire path of aircraft movement. Identify potential contact points that include, but are not limited to:
    - right wing,
    - horizontal stabilizer,
    - vertical stabilizer,
    - left wing,
    - NOSE, Tow Bar

## HOW DO WE MOVE AIRCRAFT

- Hands-on aircraft movement into a hangar or aircraft in a line will require at least **2** CAP members— **4** more are optional

- Movement Team Leader
- Left Wing
- Right Wing
- Right Strut
- Left Strut
- Tail



### Movement Team Leader

The Movement Team Leader (MTL) is always positioned at the nose of the aircraft. Other members should be placed relevant to the highest risk to the aircraft being moved.