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**Safety**

**HANGAR DOOR OPERATION**

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OPR: 913 MXG/CC (Maj Joel R. Clay)

Certified by: 913 AW/CC  
(Col Timothy J. Thomson)

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This instruction implements AFD 91-2, *Safety Programs*, AFI 91-202, *The US Air Force Mishap Prevention Program*, and AFI 21-101, *Aerospace Equipment Maintenance Management*. It provides information on the training and safe operation of all hangar doors in the Maintenance Group. It applies to all personnel who are stationed at the Willow Grove Air Reserve Station in Pennsylvania and appropriate Geographically Separated Units (GSUs).

**1. References:**

- 1.1. Air Force Occupational Safety and Health Standard (AFOSH) 91-100, *Aircraft Flight Line/ Ground Operations and Activities*.
- 1.2. Air Force Instruction 21-101, *Aerospace Equipment Maintenance Management*.

**2. Hangar Door Signage Requirements:**

2.1. Danger Sign.

2.1.1. A danger sign will be mounted next to all hangar door controls.

2.1.2. Overall sign dimension will be 7x10 inches.

2.1.3. The word "DANGER" will be printed on top in 1-7/16-inch, white font.

2.1.4. Message below "DANGER" must contain the following statement using black font: "ONLY QUALIFIED PERSONNEL AUTHORIZED BY THEIR SQUADRON COMMANDER MAY OPERATE HANGAR DOORS."

2.1.5. The bottom of the sign must have reference to AFOSH Standard 91-100 stenciled as follows: "IAW AFOSH STD. 91-100, PARA. 7.2.3.4."

### 3. Identification of hazards:

3.1. Pinch point areas are areas where the doors overlap creating a pinch hazard during door operation. These areas are marked with yellow and black striped tape placed vertically on the edge of each door indicating the pinch point.

3.2. Crush areas are defined as areas where “path of travel” will crush personnel or equipment during hangar door movement.

3.2.1. Crush areas are marked with a 5ft. “Clear Zone” outlined on the floor with a 3-inch wide yellow and black striped line.

3.2.2. The area inside the “Clear Zone” must have identical diagonal lines.

3.2.3. All sides visible when approaching hazard area must have a 14-inch x 20-inch “DANGER” sign painted on the floor just outside of the lined area.

3.2.4. The sign must be placed so that it can be read when approaching the “hazard” area.

3.2.5. The word “DANGER” must be printed on top with 2-7/8-inch, white font.

3.2.6. The message below “DANGER” must contain the following statement: “HAZARDOUS AREA – STAND CLEAR DURING DOOR OPERATIONS.”

3.3. Clearance Markings:

3.3.1. Hangar floors will be marked with “MINIMUM DOOR OPENING.”

3.3.2. Ten feet from when the hangars doors are in the closed position, there will be a 6-inch wide x 6-foot long red line painted on the floor.

3.3.3. Within the red line, the words “MINIMUM DOOR OPENING” will be painted in black or white.

3.4. Control Panel Markings:

3.4.1. Hangar door controls in both buildings are located on adjacent walls. Placing directional arrows is not practical and adding such markings will confuse the operator. Building controls will be marked as follows.

3.4.1.1. Building 201 - A placard placed above each control unit will indicate the direction of travel when activated. In addition each control mechanism is labeled to indicate direction of travel. When operated the control lever physically points to a label on the control mechanism that states “OPEN or CLOSE”.

3.4.1.2. Building 230 – The control mechanisms utilize color-coded buttons, RED for close and BLACK of open. A label placed above each button identifies mode of operation as well.

### 4. Responsibilities:

4.1. Maintenance Group Commander:

4.1.1. The MXG/CC will ensure a standardized hands-on OJT program is developed for all personnel who operate electric and manual hangar doors. As a minimum, qualification training will include hangar door hazards, emergency procedures and hangar door operations.

- 4.1.2. Ensure standardized awareness training for all personnel whose work centers are assigned to hangar, but do not need to operate electric or manual hangar doors. At a minimum, awareness training will include hangar door hazards and emergency procedures.
  - 4.1.3. Ensure hangar door operating checklists are developed, and posted at each hangar door control panel.
  - 4.1.4. Ensure a local GO-81 course code is generated for each type of hangar door training.
  - 4.1.5. Ensure all hangar door training is documented using locally developed course codes for each type of hangar door.
  - 4.1.6. Ensure all hangar door training is documented on AF Form 55.
- 4.2. Squadron Commanders:
- 4.2.1. Identify by appointment letter all personnel under your command that do not work in the maintenance complex, but will be authorized to operate hangar doors. This letter will be forwarded to the Maintenance Group Commander for verification and a copy will be maintained in the Maintenance Operations Flight for record.
  - 4.2.2. Ensure Point Of Contacts for hangar door training conduct an annual operational check of all hangar doors annually in their respective buildings. See Paragraph 4.4.8. for points of contact.
  - 4.2.3. Enforce hangar door training requirements IAW AFOSH STD. 91-100.
  - 4.2.4. Ensure all personnel under their command document AF. Form 55 accordingly.
- 4.3. Civil Engineering (C.E.):
- 4.3.1. C.E. is responsible for the installation and repair to signage, floor safety markings, warning devices, and hangar door inspections and repairs.
  - 4.3.2. C.E. maintenance will conduct annual inspections of all signage, floor safety markings, warning devices and hangar doors identified in this Operating Instruction, ensuring proper operation is maintained.
- 4.4. Building Custodians:
- 4.4.1. For the purpose of this instruction the Building Custodians for training on hangar doors as follows:
    - 4.4.1.1. Building 201: The Maintenance and Inspections Flight Chief is responsible for all training on hangar door operation and familiarization.
    - 4.4.1.2. Building 230: The Fuel Cell System Shop Supervisor is responsible for all training on hangar door operation and familiarization.
  - 4.4.2. Custodians are responsible for developing a hangar door operation checklist, in coordination with Q.A., and Wing Safety.
  - 4.4.3. Ensure operation checklists are posted at all hangar door control panels.
  - 4.4.4. Ensure hangar doors are in compliance with AFOSH STD. 91-100.
  - 4.4.5. Conduct initial qualification training for individuals designated by the Squadron Commanders as hangar door operation trainers. Upon completion of this training, Squadron Com-

manders will forward a letter to the Unit Training NCOIC, listing all personnel qualified to conduct hangar door training.

4.4.6. Ensure qualified trainers utilize the operational procedures checklist to conduct hands-on training to other personnel.

4.4.7. Ensure hangar floors are marked for minimum 10 feet opening clearances.

4.4.8. Ensure covers are used when control panels are not being operated, to keep inadvertent movement of doors from taking place.

4.4.9. For the purpose of this operating instruction, the point of contact (POC) for training on hangar doors in building 201 will be the Maintenance and Inspections Flight Chief. The POC for training on hangar doors in building 230 will be the Fuel Cell System Shop Supervisor.

#### 4.5. MOF Training NCOIC:

4.5.1. Letters designating qualified hangar door operators of personnel assigned to squadrons other than Maintenance will be kept in the Maintenance Operations Flight (MOF) Training Office. The letter will specify exactly which hangar doors individuals are authorized to operate.

4.5.2. Review operating procedures checklists to ensure they're IAW AFI 36-2234.

4.5.3. Initiate annual review of operating procedures and lesson plan.

4.5.4. Ensure training is documented in GO81.

4.6. Quality Assurance: with Wing Safety to initially verify hangar door program custodian qualifications, and thereafter when a new custodian is assigned. Upon completion of assessment, a letter will be generated and signed by Quality Assurance (QA) and Wing Safety, concurring with evaluation of qualified personnel. This letter will be forwarded to the Maintenance Group Commander for record.

#### 4.7. Wing Safety:

4.7.1. Perform monthly spot checks of hangar door marking, training, and documentation.

4.7.2. Require unit Safety Representatives of affected areas to include these areas in their monthly spot inspections.

4.7.3. Coordinate with QA to assess hangar door custodians as indicated in paragraph 4.6.

### 5. Training Requirements:

5.1. All personnel will be familiar with hangar door hazards and emergency procedures. Additionally, personnel who routinely work in hangar facilities will be qualified in hangar door operations.

5.1.1. The Maintenance and Inspection Flight Chief (Hanger 201) and the Fuel Cell System Shop Supervisor (Hanger 230) will conduct Initial Training. Trainers designated in writing by the squadron commander will receive this one-time requirement. Training will be certified and documented on an AF Form 55 and an AF Form 2426, which will be submitted to the Training Office for update in GO81. These GO81 course codes are as follows:

5.1.1.1. Building 201, Initial Hangar Door Training (WGRV 002012).

5.1.1.2. Building 230, Initial Hangar Door Training (WGRV 002302).

5.1.2. Hangar Door Awareness Training: The designated instructors or trainers on the applicable hangar door system will conduct this training. Training is required annually for all personnel that do not operate hangar doors, but work within the maintenance complex. Training will be certified and documented on an AF Form 55 and an AF Form 2426, which will be submitted to the training office for update in GO81. These G081 course codes are as follows:

5.1.2.1. Building 201, Hangar Door Awareness Training (WGRV 002011).

5.1.2.2. Building 230, Hangar Door Awareness Training (WGRV 002301).

5.1.3. Hangar Door Operation Training: The designated instructors or trainers on the applicable hangar door system will conduct this training. Training is required annually for all personnel who routinely work in specific hangars. Training will be certified and documented on the AF Form 55 and on an AF Form 2426, which will be submitted to the training office for update in GO81. These G081 course codes are as follows:

5.1.3.1. Building 201, Annual Hangar Door Operation Training- WGRV 002013.

5.1.3.2. Building 230, Annual Hangar Door Operation Training- WGRV 002303

## **6. Operating Procedures:**

6.1. Only qualified personnel who have completed prescribed training and have documented G0-81 entries indicating which hangar door qualifications they have, are authorized to operate those hangar doors.

6.2. Specific operating procedures are posted above all hangar door controls.

TIMOTHY J. THOMSON, Colonel., USAFR  
Commander