

## **Squadron Operations. FAC: 1412**

CATCODE: 141753

OPR: AF/A3O-A

OCR: N/A

1.1. **Description.** This building is a main control point for all unit flight and flying training tasks including planning, briefing, administration, and critique of combat crews. The Squadron Operations provides an organized operation facility for each flying squadron to carry out its mission.

1.2. **Requirements Determination.** Each squadron needs an operational building for administration, scheduling, training, briefing, personal equipment maintenance, and storage for aircrews. High-threat areas require additional design considerations to ensure facility and personnel survivability during hostile events. The North Atlantic Treaty Organization (NATO) may have additional criteria for tactical and transport airfields. Submit projects for unlisted missions, squadron types, or additional space requirements through the MAJCOM/A3/A7 to AF/A3O-A.

1.3. **Scope Determination.** Provide space for the commander and staff. Crew training records are prepared and updated with other required squadron records. Space is required for aircrew flight equipment systems maintenance and the care, storage, and issue of flying clothing and equipment for each crew member. Equipment includes parachutes, survival kits, life rafts, anti-exposure suits, arctic clothing, life preservers, transceiver radios, mobility equipment, helmets, and oxygen masks. Space is necessary for an operations officer to direct flight operations and also for intelligence, mission planning, computers, radar and navigation, cruise control, photos and maps, briefing room, locker area, and radio and electronic countermeasures.

1.3.1. **Aircrew Flight Equipment Shop.** This shop works on parachutes, flotation equipment, and the repair and manufacture of fabric items. Flotation equipment includes life rafts, life preservers, and emergency escape slides carried aboard aircraft that may make over water flights. Facility provides space for parachute inspection, packing, washing, drying, repair, chemical cleaning and fabrication. It also provides space for survival/flotation equipment storage (if required), inspection, inflation, and repacking.

1.3.2. Provide space for parachutes and flotation equipment that are periodically inflated, inspected, and repacked and where survival items and accessories are concurrently inspected.

1.3.3. A large room equipped with long tables for inspecting and repacking parachutes is the core of the survival equipment shop. The number of tables needed largely determines the space requirement for the shop (see [Table 1.2](#)). Provide the following spaces:

1.3.3.1. Personnel parachute inspection and packing room;

1.3.3.2. Deceleration/Drone parachute inspection and packing room (if required);

1.3.3.3. Parachute washing room and drying tower;

1.3.3.4. Sewing room with space for repair and manufacture of fabric, canvas, leather survival equipment, and locally manufactured products;

1.3.3.5. Storage areas for survival equipment and flotation equipment (if required);

1.3.3.6. Flotation room for inspection, inflation, and repacking of rubberized survival equipment and accessories; and

1.3.3.7. Chemical use room for cleaning parachute components, repairing anti-exposure suites, and gluing rubberized items. Ensure hazardous materials storage complies with local, state and federal requirements and other guidance as defined in Chapter 3, paragraph 1.3.1 and 1.8.6.

#### 1.3.4. Search and Rescue.

1.3.1.1. Search and Rescue Aircrew professional gear consists of cold/hot weather clothing, publications, checklists, protective gloves, preflight equipment, rain gear, spare boots, uniforms, etc. Spatial requirements for storage of this equipment are 40 square feet per aircrew member assigned. (**EXAMPLE:** 20 PAI unit @1.5 crew ratio = 150 aircrew members x 40 sf<sup>2</sup> = 6,000 ft<sup>2</sup> total ([20x(1.5x5)=150 150x40=6,000]). See [Table 1.3](#).

1.3.1.2. Search and Rescue Aircrew Alternate Insertion and Extraction (AIE) Equipment Storage, Cleaning, Rinsing, Inspection, and Drying (SCRID) requires 300 ft<sup>2</sup> covered area to clean; rinse, inspect, and “flat dry” recently utilized equipment. Ensure the area is able to house at least two industrial wash basins, and two 10-foot long tables for flat drying recently rinsed equipment. See [Table 1.3](#).

#### 1.3.5. Weather Facilities.

1.3.5.1. **General.** Weather operations are supported by two types of facilities. Operational buildings (or building space) in Category Group 141 are necessary to provide an observing site. Operational structures in Category Group 149 consist of installed equipment and supporting structures.

1.4. **Dimensions.** [Table 1.1](#) lists space requirements for squadron operations. See [Table 1.1](#) and [Table 1.2](#) for centralized aircrew flight equipment space requirements and [Table 1.3](#) for Search and Rescue space requirements. Additional space may be authorized in high-threat areas for chemical and biological filters in the mechanical room, donning and doffing areas in air locks, chemical warfare defense ensemble (CWDE), and aircrew ensemble locker rooms, crew quarters, and subsistence supplies.

#### 1.5. Design Considerations.

1.5.1. Locate to satisfy explosives safety standards in relationship to other flight line explosives storage and operating facilities. Special Q-D standards apply to hardened facilities; see AFMAN 91-201.

1.5.2. Buildings used by fighter squadrons and fighter interceptor squadrons require special construction for storage areas used for personnel parachutes packed with ballistic deployment devices. Ensure these storage areas meet the requirements of AFI 31-101 for non-nuclear munitions. These requirements include masonry walls, steel doors, and heavy screening on door grills, windows, and duct openings.

1.5.3. Design buildings in high-threat areas to operate during hostile events. Special design considerations may be necessary such as hardening exterior walls, chemical warfare filtration, over-pressurization, and additional storage space.

**Table 1.1 Space Requirements for Squadron Operations.**

MISSION	Gross Area <sup>1,2,3</sup>	
	m <sup>2</sup>	ft <sup>2</sup>
Fighter, Tactical Bomber	1,230	13,260
Air Rescue, Aerial Tracking	539	5,800
Tactical Airlift (C-130E)	2370	25,500
Tactical Fighter (24 PAA) <sup>4</sup>	1,300	14,000
Airlift	2,010	21,636
Missile Squadrons <sup>5</sup>	See Note 5	
Special Operations Squadrons <sup>6</sup>	1,858	20,000
Combat Search and Rescue Helicopter Unit (15PAA) <sup>6</sup>	2,601	28,000
Combat Search and Rescue Refuel/Tanker Unit (9PAA) <sup>6</sup>	1,858	20,000
Guardian Angel Rescue Squadron	5,574	60,000
Heavy Bomber (16 PAA)	1,200	12,900
Tanker	2,740	29,513
Airborne Early Warning, Weather Recon	780	8,400
Subsistence Supplies	37	400
Chemical Warfare Filters (Mechanical Room)	46	500
Mobility Storage	37	400
Airlocks/Donning & Doffing (each)	70	750
Logistics Support	1,200	12,900
High-Threat Area Additives:		
Crew Quarters (in banks)	56	600

**NOTES:**

1. Gross area for training squadrons varies due to size and mission. Consult AETC for definitive guidance.
2. Gross floor credit for semi-hardening is 20% of gross area.
3. Refer to Chapter 6 of this Manual for approved office types and sizes.
4. Based on previously defined space F-16 (18 PAA) and F-15 (PAA) Fighter aircraft requirements.
5. Criteria are developed between MAJCOM and AF/A3O-A or on an individual basis.
6. Space is determined by individual analysis and validated by the appropriate MAJCOM.

**Table 1.2 Centralized Aircrew Flight Equipment Requirements.**

Area Names	Net Building Area									
	2 Squadrons		3 Squadrons		4 Squadrons		5 Squadrons		6 Squadrons	
	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>
Wing Aircrew Flight Equipment Office <sup>1,2</sup>	--	--	--	--	--	--	--	--	--	--
Aircrew Training <sup>2</sup>	149	1,600	149	1,600	149	1,600	149	1,600	149	1,600
Centralized Aircrew Flight Equipment Shop	840	9,040	968	10,420	1,096	11,800	1,224	13,180	1,353	14,560
Support Areas	230	2,480	261	2,810	296	3,190	326	3,505	353	3,795
Associate Reserve Requirements <sup>3</sup>	325	3,500	372	4,000	418	4,500	465	5,000	511	5,500
<p>NOTES:</p> <ol style="list-style-type: none"> <li>1. Number of personnel requires user justification.</li> <li>2. Refer to Chapter 6 of this Manual for approved office types and sizes.</li> <li>3. Associate reserve squadron requirements include space for storage and support areas.</li> </ol>										

**Table 1.3. Additional Space Requirements for Aircrew Flight Equipment with Former Survival Equipment Function.**

Number of Tables		Gross Area <sup>1</sup>			
Personnel Parachutes <sup>2</sup>	Deceleration Parachutes <sup>3</sup>	With Flotation Equipment		Without Flotation Equipment	
		m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	Ft <sup>2</sup>
2	1	663	7,135	563	6065
5	2	1,070	11,510	874	9,410
9	5	1,650	17,783	1,400	15,045

**NOTES:**

1. Space needs for units supporting aircrew flight equipment differ depending on mobility requirements. Consider whether a unit has full, partial, or no mobility requirements in determining equipment storage and servicing needs.

2. Determine the number of tables for a single unit shop (or for each unit in a multi-unit shop). Justify space allowances for personnel parachutes not based on the following equation:

$$\text{Number of tables for personnel parachutes} = \frac{\text{Number of personnel parachutes on base} \times 3}{88 \text{ work days per IPI} \times 8 \text{ hours per day}}$$

Where:

4 = The average number of hours required to inspect and repack each ACES II personnel parachute.

IPI = The inspection and repacking interval -120 days.

If supporting Combat Controllers or Pararescue, add 65 m<sup>2</sup> (700 ft<sup>2</sup>) per table to the gross area for the square parachute packing table.

3. Space allowances for deceleration parachutes is based on the following equation:

Number of tables for deceleration parachutes =

$$\frac{\text{Number of deceleration parachutes used per month} \times 1.02}{22 \text{ work days per month} \times 8 \text{ hours per day}}$$

Where:

The number of deceleration parachutes used per month = the base average for a 6 month period, extrapolated to the end position time period.

1.02 = a factor to compensate for alerts, generations, other exercises, and for deceleration parachutes returned wet or repacked more than 60 days ago.

If supporting B-52 deceleration chutes, add 64 m<sup>2</sup> (688 ft<sup>2</sup>) per table to the gross area to support the 27.4 m (90 ft) long packing table.

If supporting Drones, add 161 m<sup>2</sup> (1,731 ft<sup>2</sup>) per table to the gross area to support the 53.9 m (177 ft) long packing table.

**Table 1.4. Additional Search and Rescue Space Requirements.**

Area Names	Net Building Area			
	Search and Rescue Helicopters (15 PAA)		Search and Rescue HC-130 (9 PAA)	
	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>
SAR Professional Gear Storage <sup>1,2</sup>	551	5,940	198	2,138
Aircrew Alternate Insertion Extraction gear storage <sup>1,2</sup>	133	1,440	74	800
<p>NOTES:</p> <p>1. Helicopter method computed: 39.6 ft<sup>2</sup>/member. Example:  7.5 crew members per PAI unit, @ 15PAA = 150 aircrew members x 39.6 ft<sup>2</sup> = 5940 ft<sup>2</sup> total.</p> <p>2. HC-130 method computed: 39.6 ft<sup>2</sup>/member. Example:  6 crew members per PAI unit, @ 9PAA = 54 aircrew members x 39.6 ft<sup>2</sup>= 2138 ft<sup>2</sup> total.</p>				