

**12 October 1999**



**Maintenance**

**MAINTENANCE AND HANDLING OF F-16  
CANOPIES, SEATS AND EXPLOSIVE  
COMPONENTS**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction establishes procedures and defines responsibilities for safe and efficient maintenance, transportation, inspection, and temporary storage of seats, canopies and explosive devices handled by egress personnel. It implements AFPD 91-2, *Safety Programs*. References AFMAN 91-201, *Explosives Safety Standards*, T.O. 11A-1-1, *Conventional Munitions Restricted or Suspended*, T.O. 11A-1-10, *Munitions Serviceability Procedures*, AFI 21-112, *Aircraft Egress and Escape Systems*, AFOSH STD 91-66, *General Industrial Operations*, T.O. 11A-1-46, *Management Data and Ammunition Complete Round Chart*, T.O. 11P Series, *Egress System Explosive Devices and Equipment*, T.O. 13A-1-1, *Aircraft Safety Belts, Shoulder Harness and Miscellaneous Personnel Equipment*, T.O. 13A4-22-13, *Inertia-locking Powered Retracting Reel Assembly*, T.O. 16W2-5-2, 16W2-6-2, *Canopy Assembly*, T.O. 1F-16C-95FI-00-1, *Fault Isolation Crew Escape and Safety System*, 1F-16C-2-95JG-00-1, *Crew Escape and Safety System*, T.O. 1F-16C-2-10JG-00-1, *Aircraft Safety*, 1F-16C-2-95JG-10-1 and 10-2, *Ejection Seat*, 1F-16C-2-95JG-20-1 through 20-4, *Canopy Jettison System*, 1F-16C-2-95JG-50-1, *Survival Equipment*, and T.O. 13A5-56-11, *Escape system Assembly*. This instruction applies to all 419th Logistics Group (LG) and 419th Operations Group (OG) personnel.

**SUMMARY OF REVISIONS**

This revision adds additional policy guidance on working on an aircraft during the disconnection, removal, installation or connection of any ejection system explosive item (Attachment 2). A (I) indicates revision from the previous edition.

**1. Responsibilities :**

1.1. Logistics group commander (LG/CC), operations group commander (OG/CC) and flying squadron maintenance (FSM) superintendent ensures all egress personnel are thoroughly familiar with the provisions of this regulation.

1.2. OICs and NCOICs within their respective areas ensures the provisions of this regulation is accomplished by all egress personnel as prescribed by applicable directives.

1.3. Supervisors:

1.3.1. Review requirements of this regulation.

1.3.2. Provide training to operating personnel.

1.4. Operators:

1.4.1. Comply with requirements of this regulation.

1.4.2. Certify training.

**2. Explosive Limits .** 100 pounds net explosive weight of hazard class and or division 1.3 or 1.4, compatibility group S/D/C, and fire symbol 3 or 4, with transportation placard B or C.

**NOTE:** All technical data related to explosive items are stock listed on (attachment 1).

**3. Personnel limits .** Operators: 6, casuals: 3.

**4. Equipment Requirements :**

4.1. Hand Tools.

4.2. Shop Work. Protective caps, safety pins, grounding devices, and shorting shunts.

4.3. Hangar Work. Transportation trailers, protective caps, plugs, safety pins and power hoist, canopy and seat slings, rubber sheet, and tie-down straps.

**5. Location of Operations .** Egress shop, wing flightline, hangar floor, and all deployed locations.

**NOTE:** Prior to performing any operation, (attachment 2) is reviewed, and briefed by team leader.

5.1. Operation Number One:

5.1.1. Aircraft safe for maintenance. Ensure aircraft is safe for seat and canopy removal, or other maintenance.

5.1.2. Remove canopy and seat and/or other maintenance tasks as required.

5.1.3. Prior to canopy removal, place sheet over aft transparency (C model only), to preclude damage to aircraft. Install all applicable safety pins in seat and canopy. Place seat and canopy on transportation equipment. Strap down securely and move to egress shop.

5.1.3.1. Install safety pin in stapack rocket motor and power supply arming lever on seat removed from aircraft.

5.1.3.2. Ensure seats and canopies are securely tied down to transportation equipment.

5.1.3.3. Do not tow over 5 MPH, or make sharp or quick turns.

5.1.3.4. Display the correct fire symbol on transportation equipment conspicuously on each side, back and front of each vehicle transporting hazardous materials. Placards are not required on the side of towing vehicles or tractors, unless vehicles are actually loaded with material requiring placarding.

## 5.2. Operation Number Two:

5.2.1. Remove explosive devices as required, as prescribed by applicable technical data. Only qualified and/or authorized personnel are allowed to work on egress systems.

5.2.2. Attach AFTO Form 350, **Repairable Item Processing Tag** to removed explosive components with aircraft tail number and item location.

5.2.2.1. Ensure caps, plugs, safety pins and/or shorting shunts are installed on items as applicable.

5.2.2.2. Handle items carefully. CAD/PAD items dropped in excess of 6 feet and non-flexible explosive lines bent over 20 degrees from original position render items unserviceable.

5.2.2.3. Serviceable explosive items removed from egress systems are not mixed with unserviceable items. All safety pins, shorting shunts, caps and plugs are installed as applicable for all explosives in storage.

5.2.3. Perform inspections, maintenance and testing for all egress items as required, as prescribed by applicable technical data.

5.2.3.1. Ground seats while in shop and or being worked on.

5.2.3.2. Ensure effective safety measures are taken to prevent theft or unauthorized handling of explosive items.

5.2.3.3. Wearing jewelry during explosive devices handling is not permitted.

5.2.3.4. Ensure correct fire symbols are displayed, as prescribed by AFMAN 91-201.

5.2.3.5. If abnormal and or dangerous conditions are noted, work is stopped and qualified guidance obtained to determine what actions are to be taken. The aforementioned conditions are as follows:

5.2.3.5.1. Mechanical actuated devices in a preloaded condition or activated.

5.2.3.5.2. Gas actuated devices have been activated or damaged.

5.2.3.5.3. Explosive lines damaged beyond allowable limits or fired.

5.2.3.5.4. Non-flexible explosive lines bent more than 20 degrees from original position.

5.2.3.5.5. Recovery sequencer indicator is red.

5.2.3.5.6. Any condition not covered by this regulation, appropriate technical data, and/or regulation.

**WARNING:** Personnel will not attempt to disassemble any explosive device; except as authorized by 11P Series T.O.'s and 13A5-56-11.

5.2.4. Reinstall explosive components that were removed, as prescribed by technical data.

5.2.4.1. Ensure shorting shunts are removed prior to connecting "P" leads to electrically fired devices.

5.2.4.2. Ensure all mechanical/gas actuated devices are properly connected, hoses properly routed and torqued.

5.2.4.3. Ensure that there is no FOD in the seats and/or canopies.

5.2.4.4. Ensure all linkages, cables and "P" leads are properly routed, connected, and safety pins removed from JAU8A/25 Initiators prior to installing blast panels on seats. Ensure DTAs and linkages are properly routed and secured prior to installing fairings on canopies.

5.3. Operation Number Three:

5.3.1. Place seats and canopies on transportation equipment for movement to aircraft as directed.

5.3.2. Ensure seats and canopies are secured to transportation equipment.

5.3.3. Check cockpit for FOD, damaged or missing parts in areas that are inaccessible, including when seat is installed.

5.3.3.1. Remove FOD.

5.3.3.2. Have qualified personnel repair or replace parts as required, prior to seat installation.

5.3.4. Reinstall seats and canopies, as prescribed by applicable technical data.

5.3.4.1. Ensure safety pin is removed from sta-pack motor and power supply arming lever prior to seat installation.

5.3.4.2. Prior to installing canopy, place rubber sheet on aft transparency, to prevent damage when installing canopy, (C model only).

**NOTE:** Conducts safety briefings prior to beginning maintenance at any of the aforementioned locations. Review 419 FWI 91-204 annually.

F.C. WILLIAMS, Colonel, USAFR  
Commander

## Attachment 1

## EXPLOSIVE STOCK LISTING

STOCK#	NOUN	PART#	DIV	EXP/CLS	SYMBOL	N.E.W
1377010537877	Det Trans	16K0341-1	1.4S	C	4	.0007
1377010537878	Det Trans	16K0341-18	1.4S	C	4	.0015
1377010537879	Det Trans	16K0341-3	1.4S	C	4	.0002
1377010537880	Det Trans	16K0341-4	1.4S	C	4	.0023
1377010537881	Det Trans	16K0341-5	1.4S	C	4	.0030
1377010537888	Det Trans	16K0341-9	1.4S	C	4	.0019
1377010537891	Det Trans	16K0341-8	1.4S	C	4	.0018
1377010872190	Det Trans	16K0341-27	1.4S	C	4	.0036
1377010883615	Det Trans	16K0341-28	1.4S	C	4	.0036
1377010572190	Det Trans	16K0341-29	1.4S	C	4	.0036
1377010883615	Det Trans	16K0341-30	1.4S	C	4	.0036
1377010792663	Det Trans	16K0341-25	1.4S	C	4	.0040
1377010792664	Det Trans	16K0341-26	1.4S	C	4	.0040
1377010537883	Det Trans	16K0341-20	1.4S	C	4	.0018
1377010558621	Det Trans	16K2038-1	1.4S	C	4	.0023
1377010558622	Det Trans	16K2038-2	1.4S	C	4	.0016
1377010432193	Det Trans	16K2038-39	1.4S	C	4	.0016
1377010558624	Det Trans	16K2038-42	1.4S	C	4	.0009
1377010739124	Det Trans	16K2038-40	1.4S	C	4	.0016
1377010558628	Det Trans	16K2038-22	1.4S	C	4	.0010
1377010564520	Det Trans	16K2038-23	1.4S	C	4	.0010
1377010564521	Det Trans	16K2038-24	1.4S	C	4	.0011
1377010564524	Det Trans	16K2038-37	1.4S	C	4	.0017
1344010795328	Det Trans	16K2038-38	1.4S	C	4	.0017
1377010558626	Det Trans	16K2038-33	1.4S	C	4	.0009
1377010558627	Det Trans	16K2038-34	1.4S	C	4	.0009
1377010824026	Det Trans	16K2038-41	1.4S	C	4	.0017
1377010564526	Det Trans	16K2038-35	1.4S	C	4	.0010
1377010564527	Det Trans	16K2038-36	1.4S	C	4	.0010
1377010564528	Det Trans	16K2038-31	1.4S	C	4	.0043

1377010564529	Det Trans	16K2038-32	1.4S	C	4	.0043
1377010564525	Det Trans	16K2038-29	1.4S	C	4	.0012
1377010612268	Det Trans	16K2038-30	1.4S	C	4	.0012
1377011153850	Det Trans	16K2038-44	1.4S	C	4	.0010
1377012009013	Det Trans	51281-726	1.4S	C	4	.0009
1377011606506	Det Trans	51281-725	1.4S	C	4	.0006
1377011987481	Det Trans	51281-727	1.4S	C	4	.0009
1377011664261	Det Trans	0113226-23	1.4S	C	4	.0069
1377017319271	Init M-53	10520619	1.4S	C	4	.0050
1377017319272	Init M-99	10520405	1.4S	C	4	.0050
1377010580122	Rocket Can	2820100-1	1.3C	B	3	.6879
1377010575431	Rocket Can	2820100-2	1.3C	B	3	.6879
1377010530586	Rocket Motor	50436-5	1.3C	B	3	1.10
1377010531587	Rocket Diverg	1143-3	1.3C	B	3	.1012
1377012621679	Rocket Cat	117743975	1.3C	B	3	5.5
1377011697797	Rocket Cat	5184322	1.3C	B	3	5.5

**Attachment 2****SAFETY BRIEFING****A2.1. Pre-task Briefing:**

A2.1.1. Example of operations to be accomplished:

A2.1.1.1. Aircraft safe for maintenance (T.O.1F-16C-210JG-30-1).

A2.1.1.2. Safety pins installed in arming lever and manual release handle on seat (T.O. 1F-16C-2-95JG-10-1 and T.O. 13A5-56-11).

A2.1.2. General Safety Requirements:

A2.1.2.1. Explosive hazards involved (AFMAN 91-201)

A2.1.2.2. Explosive class and serviceability (T.O. 11A/11P Series TOs).

A2.1.2.3. Security of seats, canopies, and explosive devices (as prescribed by applicable directives).

A2.1.2.4. Seats will be grounded when in shop and or maintenance is being accomplished. (T.O. 13A5-56-11 and AFMAN 91-201).

A2.1.2.5. Seats, canopies, and explosive devices will not be roughly handled in any way (T.O. 13A5-56-11 and AFMAN 91-201).

A2.1.2.6. Smoking is not allowed in shop at any time (AFMAN 91-201 and local directives).

A2.1.2.7. No other personnel other than egress personnel/egress augmentees shall work on an aircraft and a 50' danger area will be observed during disconnection, removal, installation or connection of any ejection system explosive item.

**A2.2. Emergency Procedures:**

A2.2.1. In case of fire if explosives are involved; sound alarm, clear area, notify fire department ext. 911. **WARNING:** Do not attempt to fight fire except as authorized by AFMAN 91-201.

A2.2.2. In case any explosive is found in an unsafe condition (pre-loaded, damaged beyond limits, actuated, etc.), notify explosive ordnance disposal. (EOD ext. 7-5501 or 7-5502).

A2.2.3. Upon any unusual circumstances, (covered or not) by this regulation, notify maintenance operation center, and advise of the situation.