

UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION
BOARD REPORT



MC-130H T/N 88-0194
SPECIAL TACTICS PARACHUTE MISHAP
23D SPECIAL TACTICS SQUADRON
24TH SPECIAL OPERATIONS WING
HURLBURT FIELD, FLORIDA



DATE OF ACCIDENT: 5 NOVEMBER 2019
BOARD PRESIDENT: MAJOR GENERAL L. KIP CLARK
Conducted IAW Air Force Instruction 51-307

**EXECUTIVE SUMMARY
UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION**

**MC-130H T/N 88-0194
SPECIAL TACTICS PARACHUTE MISHAP
HURLBURT FIELD, FL
5 NOVEMBER 2019**

At 1116 local time on 5 November 2019, during the 24th Special Operations Wing Special Tactics (ST) Rodeo competition, the Mishap Jumpmaster (MJM), 23d Special Tactics Squadron, sustained fatal injuries when his T-11R reserve parachute inadvertently deployed into the wind stream during a static-line parachute jump event. The mishap occurred while the MJM was spotting the approach to Air Commando Drop Zone (DZ) from the right paratroop door of the Mishap Aircraft (MA), MC-130H tail number 88-0194. The mishap aircraft (MA) and mishap crew (MC) were assigned to the 15th Special Operations Squadron of the 1st Special Operations Wing. The MJM descended under fully inflated reserve and main parachute canopies into the Gulf of Mexico approximately 2.5 nautical miles south of the coast and 3.5 nautical miles south of the Air Commando DZ on Hurlburt Field, FL.

The MA turned and located the MJM's two parachutes in the water as well as a figure the MC believed to be the MJM. Within a few minutes, the parachutes were no longer visible. Over the next hour and a half, the MC attempted to direct civilian and military boats, helicopters, and other rescue craft onto positions the crew believed to be the MJM before running low on fuel and returning to Hurlburt Field. None of these rescue craft, nor any other means deployed during an exhaustive 17-day search of the surface and subsurface of 4,546 square miles of the northern Gulf of Mexico, were able to locate the remains of the MJM. The search involved the combined efforts of the United States Air Force, United States Navy, United States Army, United States Coast Guard, the FL Fish and Wildlife Conservation Commission, and the Santa Rosa County Sheriff's Office.

The Accident Investigation Board President (BP) found, by a preponderance of the evidence, the mishap was caused by an incorrectly configured T-11R reserve parachute as a direct result of jumpmaster procedural knowledge on the T-11R Reserve inserts and side tuck-tabs.

The BP further found, by the preponderance of evidence, the following factors substantially contributed to this mishap: The TO process failed to deliver information effectively. Leadership lacked investment in time, intellect and resources for Training and Standards/Evaluations program management. Inadequate organizational leadership led to insufficient command oversight of this event.

Under 10 U.S.C. § 2254(d) the opinion of the accident investigator as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.

**SUMMARY OF FACTS AND STATEMENT OF OPINION
UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION**

**MC-130H T/N 88-0194
SPECIAL TACTICS PARACHUTE MISHAP
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5 NOVEMBER 2019**

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ACRONYMS AND ABBREVIATIONS

1 SOG	1st Special Operations Group	CLR	Clear
1 SOW	1st Special Operations Wing	Col	Colonel
15 SOS	15th Special Operations Squadron	COMNAVSEASYSCOM	Commander
17 STS	17th Special Tactics Squadron		Navy Sea Systems Command
21 STS	21st Special Tactics Squadron	CSE	Chief of Standards and Evaluation
22 STS	22d Special Tactics Squadron	CSO	Combat Systems Officer
23 STS	23d Special Tactics Squadron	DoD	Department of Defense
24 SOW	24th Special Operations Wing	DOE	Date of Expiration
720 STG	720th Special Tactics Group	DOI	Date of Installation
A3	Air Force Operations Directorate	DOM	Date of Manufacture
AC	Aircraft Commander	DZ	Drop Zone
ADZCO	Assistant Drop Zone Control Officer	DZCO	Drop Zone Control Officer
AF	Air Force	EP	Event Planner
AFB	Air Force Base	EWO	Electronic Warfare Officer
AFE	Air Flight Equipment	F	Fahrenheit
AFE/C	Air Flight Equipment Chief	FA	Flight Authorization
AFI	Air Force Instruction	FAA	Federal Aviation Administration
AFMAN	Air Force Manual	FAST	Fatigue Avoidance Scheduling Tool
AFOSI	Air Force Office of Special Investigations	FCIF	Flight Crew Information File
AFPAM	Air Force Pamphlet	FE	Flight Engineer
AFSOC	Air Force Special Operations Command	FERMS	Flight Equipment Records Management System
AFSOCSUP	AFSOC Supplement	FL	Flight Level
AFTO	Air Force Technical Order	FL	Florida
AGL	Above Ground Level	FMR	Full Material Release
AIB	Accident Investigation Board	FORSCOM	United States Army Forces Command
AJM	Assistant Jumpmaster	FPM	Feet Per Minute
AJM/G	Assistant Jumpmaster/Grader	FT or ft	Feet
APQ-170	Type of Radar System	G or g	Gravitational Force
ATM	Army Technical Manual	GA	Georgia
ATPS	Advanced Tactical Parachute System	GPA	Ground Precautionary Advisory
ATV	All-Terrain Vehicle	HFACS	Human Factors Analysis and Classification System
BECMG	Becoming	HQ	Headquarters
BKN	Broken	IAW	In Accordance With
C	Celsius	IL	Instructor Loadmaster
Capt	Captain	IMDS	Integrated Maintenance Data System
CARP	Computed Air Release Point	IMT	Information Management Tool
CAUT	Caution	IOT	In Order To
CC	Commander	IVO	In Vicinity Of
CCT	Combat Control Team	JM	Jumpmaster
CG	Coast Guard	JMB	Jumpmaster Briefing

JMD	Jumpmaster Directed	NSRDEC	Natick Soldier Research, Development & Engineering Center
JMPI	Jumpmaster Personnel Inspection	NSWC	Naval Surface Warfare Center
K	Thousand	OG	Operations Group
KHRT	Hurlburt Field	OPFOR	Opposition Forces
KTAS	Knots True Airspeed	Ops Tempo	Operations Tempo
KTS or kts	Knots	ORM	Operational Risk Management
KU	Radar frequency band	OSS	Operation Support Squadron
L	Local Time	OVC	Overcast
LCMC	Life Cycle Management Center	PA	Public Affairs
LGT	Light	PE PI	Point Estimate Point of Impact
LM1	Loadmaster 1	PEF	Permanent Exercise Facility
LM2	Loadmaster 2	PFD	Personal Flotation Device
LM3	Loadmaster 3	PHA	Periodic Health Assessment
LM4	Loadmaster 4	PI	Point of Impact
LPU	Life Preserver Unit	PJ	Pararescueman
Lt Col	Lieutenant Colonel	PJM	Primary Jumpmaster
MA	Mishap Aircraft	PJM/S	Primary Jumpmaster/Safety
Maj	Major	PM-SCIE	US Army Product Manager Soldier Clothing and Individual Equipment
MAJCOM	Major Command	PR	Personnel Recovery
MC	Mishap Crew	PSI	Pounds Per Square Inch
MCOE	Maneuver Center of Excellence	PWAC	Practical Work inside the Aircraft
MCP	Mishap Copilot	QA	Quality Assurance
MDSO	Mishap Direct Support Operator	RMK	Remark
ME	Mishap Flight Engineer	RMO	Rigger/Malfunction Officer
Med Flight or MF	Medical Life Flight	ROV	Remotely Operated Vehicle
METAR	Meteorological Report	RTB	Return-To-Base
MEWO	Mishap Electronic Warfare Officer	SAR	Search and Rescue
MJM	Mishap Jumpmaster	SCT	Scattered
ML	Mishap Loadmaster	SDO	Senior Duty Officer
MN	Mishap Navigator	SII	Special Interest Item
MO	Malfunction Officer	SM or sm	Statute Miles
MOLLE	Modular Lightweight Load- carrying Equipment	SNCO	Senior non-Commissioned Officer
MP	Mishap Pilot	SOF	Special Operations Forces
MPH	Miles Per Hour	SOG	Special Operations Group
MS	Mishap Sortie	SOS	Special Operations Squadron
MSL	Mean Sea Level	SOW	Special Operations Wing
NAWCWD	Naval Air Warfare Center, Weapons Division	SQ	Squadron
NC	North Carolina	ST	Special Tactics
NM	New Mexico	STAN/EVAL	Standards & Evaluation
NM or nm	Nautical Miles	STIF	Special Tactics Information File
NNW	North-Northwest	STG	Special Tactics Group
NOTAM	Notice To Airmen	STS	Special Tactics Squadron
		STTS	Special Tactics Training Squadron
		SWTG	Special Warfare Training Group

T/N	Tail Number	USACIL	US Army Criminal Investigation Lab
TACOM	Tank-automotive & Armaments Command	USCG	US Coast Guard
TAF	Terminal Aerodrome Forecast	USLM	Universal Static Line-Modified
TBA	Training Business Area	USN	United States Navy
TC-STD	Type Classification-Standard	USSOCOM or SOCOM	US Special Operations Command
TCTO	Time Compliance Technical Order	UUV	Unmanned Underwater Vehicle
TEMP	Temporary	VVI	Vertical Velocity Indication
TM	Team	WA	Washington
TO	Technical Order	WX	Weather
TOD	Tech Order Data	Z	Zulu Time
Twr	Tower		

SUMMARY OF FACTS

1. AUTHORITY AND PURPOSE

a. Authority

On 19 November 2019, Major General (Maj Gen) Vincent K. Becklund, Deputy Commander, United States Air Force Special Operations Command (AFSOC), appointed Maj Gen L. Kip Clark to conduct an accident investigation into the 5 November 2019 mishap involving a MC-130H aircraft, Tail Number (T/N) 88-0194, near Hurlburt Field, FL (Tab Y-3 to Y-4). The investigation commenced at Hurlburt Field, FL, on 6 January 2020 (Tab BB-231). Maj Gen Becklund also appointed the following additional board members: Medical (Colonel), Pilot (Lieutenant Colonel), Legal Advisor (Lieutenant Colonel), Maintenance (Senior Master Sergeant), Jumpmaster (Master Sergeant) and Recorder (Technical Sergeant) (Tab Y-3 to Y-6). Additionally, the following personnel were appointed as subject matter experts (SME): Operational Psychologist/Human Factors (Lieutenant Colonel), Airdrop Systems Technician (Chief Warrant Officer Three) and Loadmaster (Master Sergeant) (Tab Y-7).

b. Purpose

In accordance with AFI 51-307, *Aerospace and Ground Accident Investigations*, this accident investigation board conducted a legal investigation to inquire into all the facts and circumstances surrounding this Air Force accident, prepare a publicly releasable report, and obtain and preserve all available evidence for use in litigation, claims, disciplinary action, and adverse administrative action.

2. ACCIDENT SUMMARY

On 5 November 2019, during the 24th Special Operations Wing Special Tactics (ST) Rodeo competition, the Mishap Jumpmaster (MJM), assigned to the 23d Special Tactics Squadron, was extracted from the Mishap Aircraft (MA), MC-130H T/N 88-0194, when his T-11R reserve parachute inadvertently deployed into the wind stream during a static-line parachute jump event (Tabs H-33, O-59, V-18.3, and CC-41 to CC-42). The mishap occurred while the MJM was spotting the approach to Air Commando Drop Zone (DZ) from the right paratroop door of the MA (Tab V-4.6 and V-18.3). The MJM descended under fully inflated reserve and main parachute canopies into the Gulf of Mexico approximately 2.5 nautical miles south of the coast and 3.5 nautical miles south of the Air Commando DZ on Hurlburt Field, FL (Tabs V-25.9, Z-71, CC-140, and DD-270). A 17-day search of the surface and subsurface of 4,546 square miles of the northern Gulf of Mexico was unable to locate the remains of the MJM (Tab DD-232, DD-247, DD-262, and DD-266).

3. BACKGROUND

a. Air Force Special Operations Command

The Air Force Special Operations Command (AFSOC) provides Air Force Special Operations Forces (SOF) for worldwide deployment and assignment to regional unified commands (Tab BB-5). The command's SOF are composed of highly trained, rapidly deployable Airmen, conducting global special operations missions ranging from precision application of firepower to infiltration, exfiltration, resupply and refueling of SOF operational elements (Tab BB-5). The command's core missions include battlefield air operations, agile combat support, aviation foreign internal defense, information operations/military support operations, precision strike, specialized air mobility; command and control; and intelligence, surveillance and reconnaissance (Tab BB-5). AFSOC's unique capabilities include airborne radio and television broadcast for psychological operations, as well as aviation foreign internal defense instructors to provide other governments military expertise for their internal development. The command's special tactics squadrons combine combat controllers, tactical air control party members, special operations weathermen and pararescuemen with other service SOF to form versatile joint special operations teams (Tab BB-5 to BB-6).



b. 1st Special Operations Wing

The 1st Special Operations Wing (1 SOW) at Hurlburt Field, FL is one of five Air Force active duty special operations wings and falls under AFSOC (Tab BB-9). The 1 SOW is a pivotal component of AFSOC's ability to provide airpower to conduct special operations missions worldwide (Tab BB-9). The primary mission of the 1 SOW is to rapidly plan and execute specialized and contingency operations in support of national priorities (Tab BB-9). The wing's core missions include close air support, precision aerospace firepower, specialized aerospace mobility, intelligence, surveillance and reconnaissance operations, and agile combat support (Tab BB-9).



c. 1st Special Operations Group

The 1st Special Operations Group (1 SOG) is one of four groups assigned to the 1 SOW at Hurlburt Field, FL (Tab BB-12). The group plans, prepares, and executes special operations and security assistance worldwide in support of theater commanders (Tab BB-12). In order to accomplish its special operations mission, the group employs more than 55 fixed-wing and tilt-rotor aircraft to provide day or night, all-weather access to hostile and/or denied airspace (Tab BB-12).



d. 15th Special Operations Squadron

The 15th Special Operations Squadron (15 SOS), located at Hurlburt Field, FL, is one of nine flying squadrons within the 1 SOW (Tab BB-15). The squadron flies the MC-130H Combat Talon II (Tab BB-15).



e. MC-130H Combat Talon II

The Combat Talon II is a derivative of the C-130H Hercules modified for special operations (Tab BB-15). The mission of the aircraft involves a global, day and night, adverse weather capability to insert, extract and resupply special operations forces by low or high altitude airdrop or airland operations (Tab BB-15).



f. 24th Special Operations Wing

The primary mission of the 24th Special Operations Wing (24 SOW) is to conduct global air, space, and cyber-enabled special operations across the spectrum of conflict to prepare for, fight and win our nation's wars (Tab BB-21). The 24 SOW is U.S. Special Operations Command's tactical air/ground integration force and the Air Force's special operations ground force that leads global access, precision strike, personnel recovery and battlefield surgery operations (Tab BB-21). Core capabilities encompass airfield reconnaissance, assessment, and control; personnel recovery; joint terminal attack control; battlefield surgery; and environmental reconnaissance (Tab BB-21). The 24 SOW is the parent wing for the Special Tactics Training Squadron (STTS) and 720th Special Tactics Group (Tab BB-21).



g. 720th Special Tactics Group

The 720th Special Tactics Group's (STG) mission is to organize, train, and equip Special Tactics forces to perform precision strike, global access, personnel recovery and battlefield surgery by integrating group, air and space power in a specified area of operation (Tab BB-208). The 720th STG is the parent group for all of AFSOC's Special Tactics Squadrons (STS) (Tab BB-208). This includes the 17 STS, Fort Benning, GA, 21 STS at Fort Bragg, NC, the 22 STS at Joint Base Lewis-McChord, WA, the 23 STS at Hurlburt Field, FL and the 26 STS Cannon AFB, NM (Tab BB-208 and BB-244).



h. 23d Special Tactics Squadron

The 23d Special Tactics Squadron (23 STS) mission is to organize, train, equip and command forces to conduct Access, Strike, Recovery in support of current Geographic Combatant Commanders objectives, and future conflicts against near-peer threats (Tab BB-208).



i. Special Tactics Training Squadron

The Special Tactics Training Squadron (STTS) recruits, assesses, selects, trains and develops five-level combat controllers, special reconnaissance, pararescuemen and special operations qualified tactical air control party members for the 24 SOW, while also providing initial joint terminal attack control training to Army, Marine Corps and Air Force SOF (Tab BB-209).



j. Combat Controller

Combat Controllers (CCTs) are the Air Force's most highly trained Airmen. As Federal Aviation Administration certified air traffic controllers, CCTs are capable of infiltrating via sea, air or land and controlling assets in the skies above (Tab BB-24). Airfield assessment and control is a capability put to use by our CCTs for combat missions or humanitarian relief (Tab BB-25). CCTs can assess, open, and control major airfields to clandestine dirt strips in either permissive or hostile locations, providing strategic access for the nation's military (Tab BB-25).



k. Jumpmaster

A jumpmaster is a highly skilled parachutist and adept communicator able to maintain superior air awareness and safely deploy parachutists and equipment into the objective area (Tab BB-79). Jumpmaster personnel receive qualification only after demonstrating satisfactory knowledge and a high standard of proficiency in all other phases of parachute operations (Tab BB-79).



l. Jump Safety Personnel

For static line parachute jumps, safety personnel ensure proper and safe handling of paratroop jumpers' static line during exit. During in-flight rigging missions, safety personnel assist in parachute issue, monitor buddy rigging, JM personnel inspection (JMPI), and operate correction stations as directed by the Primary Jumpmaster (PJM) (Tab BB-240).

m. Static-Line Parachute System

A parachute system in which a line or strap is attached from the parachute to an anchor cable in the aircraft so that, when the jumper exits the aircraft, the parachute is deployed automatically (Tab BB-108). The static line in use by the Air Force is the Universal Static Line-Modified (USLM) (BB-241).



n. Jumpmaster-Directed Static-Line Airdrop

A jumpmaster-directed (JMD) static-line airdrop is a paratrooper airdrop method in which the jumpmaster uses ground references spotted from the open paratroop door to determine the point along the approach that jumpers exit the aircraft (release point) to land on the predetermined point of impact (PI) on the DZ (Tab BB-49).

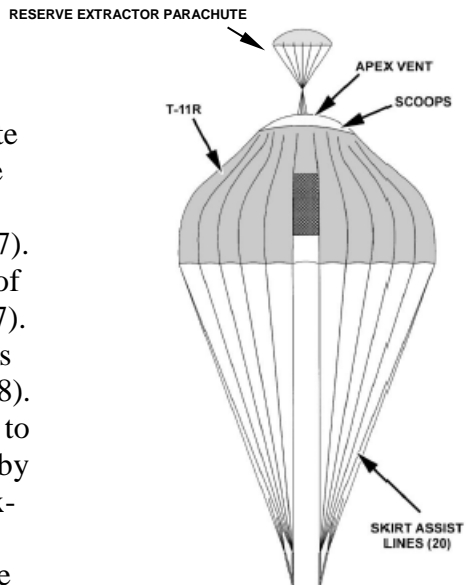
o. MC-6 Main Canopy/T-11R Reserve Parachute System

The MC-6 is a highly portable parachute system, which includes the main canopy assembly, the reserve canopy assembly, a deployment bag, two pack trays, a harness assembly, risers, and a universal static-line (Tab BB-233). It is capable of supporting 400 pounds (Tab BB-233). The complete system weight is 42 pounds (Tab BB-233). The MC-6 is a steerable canopy (Tab BB-233).

The MC-6 Main Canopy has a 32-foot nominal diameter, is polyconical-shaped, and block constructed of Type IV low permeability nylon parachute cloth (Tab BB-234). Depending on the jumper's total weight and drop altitude, its rate of descent is between 14.5 to 18.5 feet per second. The canopy has a forward speed of 10 knots (kts), and can complete a 360-degree turn in 5 seconds. (Tab BB-234)

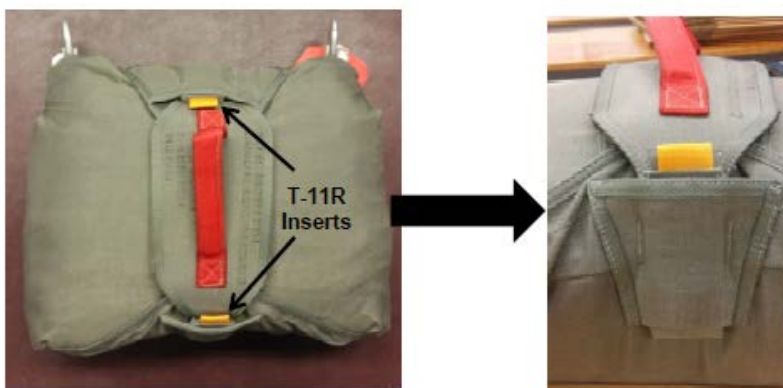
p. T-11R Reserve Parachute

The T-11R reserve parachute is an emergency-type parachute designed to be activated by the jumper if the main parachute malfunctions (Tab BB-235). Its canopy is designed to open rapidly with a minimum post-inflation collapse (Tab BB-237). The designed shape resists malfunctions, including the risk of air stealing by a malfunctioned main parachute (Tab BB-237). A ripcord handle activates the reserve parachute and requires approximately 14 to 22 pounds of pull pressure (Tab BB-238). The reserve extractor parachute, seen at the top of the photo to the right, assists in the deployment of the parachute canopy by serving as an air anchor (Tab BB-236 to BB-237). It is a six-foot diameter, circular parachute (Tab BB-236). An ejector spring pushes the reserve extractor parachute and apex of the canopy laterally into the airflow (Tab BB-236).



q. T-11R Inserts

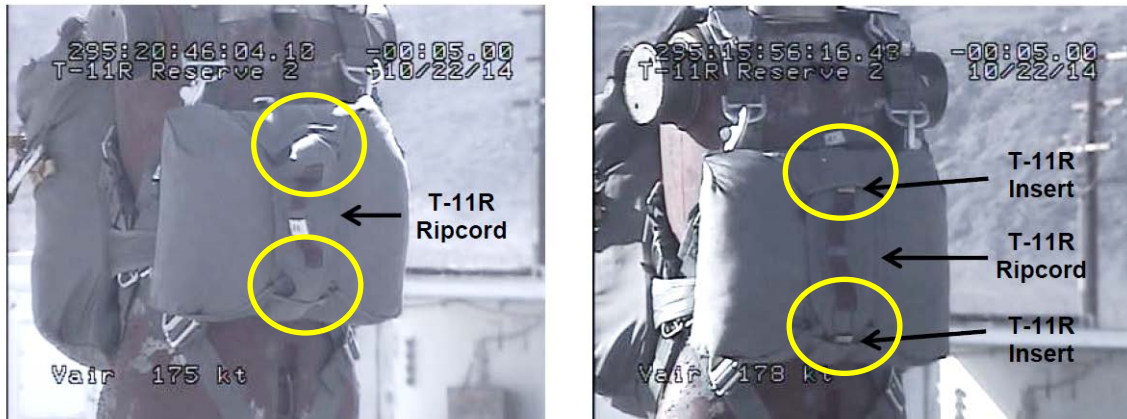
To mitigate the potential risk of inadvertent T-11R activations from impacts and windblasts, the U.S. Army Natick Soldier Research, Development & Engineering Center (NSRDEC) developed and tested a materiel fix that utilizes top and bottom tuck pocket inserts (Tab C-24). The T-11R inserts apply pressure to the top and bottom tuck tabs, preventing them from ballooning outward when exposed to wind blast, which could cause inadvertent activation (Tab C-24).



T-11R Parachute with Inserts Installed

Figure 1. Properly seated tuck tab inserts (Tab C-26)

In 2014, the Naval Air Warfare Center Weapons Division performed wind tunnel testing on T-11R parachutes configured with and without T-11R inserts at various wind speeds and angles (Tab M-33 to M39). No T-11R parachutes configured with T-11R inserts deployed at wind speeds of 150 mph and 175 mph (Tab M-33 to M-39). Two of twenty T-11R parachutes configured without T-11R inserts deployed at wind speeds of 175 mph (Tab M-33 to M-39). Additionally, a T-11R configured with T-11R inserts but with the side tuck tab loosened to show a second line of stitching deployed at test wind speeds of 175 mph (Tab M-41).



T-11R ripcord exposed to high winds without inserts installed.

T-11R ripcord exposed to high winds with inserts installed.

Figure 2. NSRDEC wind testing (Tab C-24).

The use of T-11R inserts with the T-11 reserve parachute is mandatory for all primary jumpmasters (PJM)s, assistant jumpmasters (AJM)s, and No.1 jumper assisting in pushing a door bundle (Tab BB-41). If a jumper using a T-11R reserve parachute requires, the parachute's carrying handle is marked with yellow pressure-sensitive tape (Tab BB-45).



Figure 3. T-11R marked with yellow tape

r. Life Preserver Units (LPU)

The LPU-10/P consists of two neoprene coated fabric flotation cells, each packed into a flat envelope-type container (Tab BB-241). This life preserver incorporates an inflator with a cell-venting capability that eliminates the need for a breathing clip. The LPU-10/P is inflated by pulling downward and slightly outward on the lanyards that extend from the lower front corner of each container (Tab BB-242). If a failure occurs, the life preserver may be orally inflated (Tab BB-242). After inflation, connect the cells with the adjustable hook and pile tape connectors provided with the assembly (Tab BB-242).



Figure 4. LPU-10/P stowed (Tab Z-84)



Figure 5. LPU-10/P Worn and deployed (Tab Z-84)

4. SEQUENCE OF EVENTS

a. Special Tactics Rodeo Mission

The 24 SOW planned its first Special Tactics (ST) Rodeo in over 20 years to take place 2 to 9 November 2019 in and around Hurlburt Field, FL (Tabs V-1.9, and CC-42 to CC-44). The rodeo was an esprit de corps-building competition featuring six teams, arriving from the 17 STS at Fort Benning GA, 21 STS at Pope Army Airfield NC, 22 STS at Joint Base Lewis-McChord WA, 23 STS at Hurlburt Field FL, 26 STS at Cannon Air Force Base, NM, and the STTS at Hurlburt Field FL (Tabs BB-244, CC-41, and CC-172). The sequence of events was: Tier II physical training test (4 November); jump operation, obstacle course, and land navigation (5 November); shooting competition and ST skills round robin (6 November); tactical field skills race called “Monster Mash” and closing ceremony (7 November); ending ceremonies and clean-up (9 November) (Tab CC-132).

(1) Aircraft Mission

On 24 September 2019, the 1 SOW tasked the 15 SOS to support the 5 November 2019 ST Rodeo jump event and the 15 SOS committed to supporting the event (Tab CC-23). The aircraft would launch with all six teams of jumpers on board, conduct one jumpmaster directed (JMD) parachute jump for each team, land, and repeat the process on a second sortie (Tab V-7.4). The mission had exclusive use of the Hurlburt airfield and Air Commando Drop Zone (DZ) from 0800 local time (L) until 0950L and then again from 1050L to 1200L for the jump operation. (Tab CC-66, CC-79 to CC-82).

(2) Jump Mission

Air Commando DZ is a 1561 yard by 675 yard portion of the airfield at Hurlburt Field surveyed for personnel parachute operations (Tab CC-48). The airdrops on 5 November 2019 were JMD static-line airdrops from the paratroop doors (Tab CC-24 and CC-64). The Rodeo competition criteria was a time-based event in which the team that had the fastest time from the first jumper exiting the aircraft to last jumper touching the PI would win (Tab CC-129). The JMD calculations for these drops were compared to the MC-130H navigator's computer generated Computed Air Release Point (CARP) calculations to ensure that all jumpers would land safely at the desired PI on the DZ (Tab V-7.5).

Each team was composed of four members, an AJM to direct the team and three other jumpers to follow (Tab CC-102). Each team had a fifth member on standby near the landing zone (Tabs V-17.4 and CC-102). Event planners graded teams on a variety of factors including jump calculations, jumpmaster procedures, time to target, and distance from the PI (Tab CC-129).

On the morning of 5 November 2019, the event planners informed the teams' AJMs that the event would involve two static-line jumps (Tabs V-18.32 and CC-137). The teams' two jump scores would be averaged together (Tab V-16.30). Teams 1 to 6 would jump in order, one team per pass, and alternate between the left and right paratroop doors (Tab V-35.12). On the second sortie, the teams would jump in reverse order, starting with Team 6 on the left door (Tabs V-31.11 and CC-123). That way, each team would jump out of both paratroop doors (Tab V-16.6).

b. Planning

(1) Aircrew Planning

On 4 November 2019, part of the mishap crew (MC) including the navigator, electronic warfare officer, copilot and some of the loadmasters met at 1000L to plan and prepare for their sortie on 5 November (Tab V-4.6, V-7.6, V-26.5, and V-34.7). They reviewed the weather restriction, timeline, mission profile, location and sequence of events, DZ survey and airspace allocation for their sortie (Tabs H-9, V-4.6, V-7.6, V-26.5, V-34.7, and CC-24). Additionally, the navigator began his CARP calculations for the ST Rodeo airdrops at Air Commando DZ (Tab V-7.5).

On the morning of 4 November, due to scheduling conflicts, the two previously scheduled aircraft commanders were removed and the mishap pilot (MP) was added to the crew (Tab V-4.6). Mishap loadmaster one (ML1) was also added to the crew complement on 4 November, in order for him to regain training currency for a basic aircraft sortie and personnel airdrop (Tab V-24.2).

The mishap navigator (MN) met with the MP later in the day on 4 November and discussed the use of life preservers units (LPUs) for the MC and jumpers due to the flight path for the airdrops being over water (Tab V-7.4). MN testified that he and MP wanted to emphasize that LPUs would be worn on 5 November 2019 (Tab V-7.4).

(2) ST Rodeo and Jump Planning

Planning for the ST Rodeo began during August 2019 (Tab CC-41). Although it was a 24 SOW event, the STTS provided most of the planning and execution support for the event (Tab CC-41 to CC-44). The STTS Operation Superintendent (Event Planner 1 (EP1)) was responsible for overall

planning of the Rodeo, and the STTS Chief of Standards and Evaluations (CSE) was the event lead planner for the jump event (Tabs V-10.3, CC-23, and CC-44).

Witness statements and planning documents show that event planners identified but did not implement safety boats, safety swimmers, and LPU requirements to mitigate risk of drowning during the jump event (Tabs V-9.4, V-10.4, V-12.3, and CC-127 to CC-128). The CSE drafted a squadron-level Operational Risk Management (ORM) worksheet that included LPUs and rescue boats and swimmers (Tabs V-16.3 and CC-127 to CC-128).

On 30 October 2019, EP1 chaired the final ST Rodeo planning meeting for key personnel where they readdressed the ORM for LPUs and safety boats/swimmers (Tabs V-9.4, V-10.4, V-12.3, and CC-176 to CC-179). The attendees had differing recollections on EP1's decision regarding LPUs: the EP1 testified that he directed CSE that jumpers would have LPUs, the EP2 testified that EP1 directed CSE to have the jumpers wear LPUs if the aircrew is wearing them, and the STTS Aircrew Flight Equipment Chief (AFE/C) testified that EP1 did not require LPUs, but that he [AFE/C] would have LPUs available if event planners later requested them (Tab V-9.4, V-10.4, and V-12.3). The CSE testified that EP1 told EP2 to remove the boat support from the ORM document, but leave in the LPUs (Tab V-16.13). The CSE testified that these boats and swimmers, if provided, would have been staged in the Santa Rosa Sound, the closest body of water to Air Commando DZ (Tab V-16.17). After the meeting, EP2 transferred the contents of the squadron-level ORM worksheet to an AF Form 4437, Deliberate Risk Assessment Worksheet (Tabs V-9.7 and CC-25). The new form called for safety swimmers but made no mention of rescue boats or personnel LPUs (Tabs V-9.7 and CC-25). The EP2 forwarded the AF Form 4437 to CC1, who approved it on 1 November 2019 (Tabs V-9.7 to V-9.8 and CC-25). On 5 November 2019, there were no LPUs worn, or rescue boats and swimmers positioned during the jump event (Tab V-16.4 and 16.9)

Planners also gave inconsistent testimony regarding the type of flotation that was available (Tab V-12.3, V-18.8, and V-30.15). The RMO testified that his unit, the STTS/AFE, only had equipment flotation devices available, not LPUs (Tab V-30.15). He stated that jumpers usually provide their own LPUs for deliberate water operations (Tab V-30.15). The PJM/S stated they were not planning for LPUs for the ST Rodeo, rather they only planned to use equipment flotation to prevent parachutes from sinking (Tab V-18.8). The AFE/C testified that STTS had both personnel and equipment flotation available at the time of the incident, but STTS never uses personnel flotation (Tab V-12.3). He said the equipment flotation is used during jumps by combat divers, so that the parachutes do not sink after the jumper transitions to a dive (Tab V-12.3).

Both the STTS and the 23 STS provided parachute equipment for the ST Rodeo jump event (Tab V-30.2 and V-30.5). The STTS provided the MC-6 main parachutes, rigging equipment, Malfunction Officer, and other DZ support personnel (Tab V-30.2 to V-30.5). The 23 STS provided the T-11R reserve parachutes and the T-11R tuck tab inserts (Tab V-30.2 and V-30.16). On 4 November 2019, the assistant jumpmaster/grader (AJM/G) met with the DZ support personnel to discuss equipment requirements (Tab V-20.20). The AJM/G testified that he told the parachute riggers, AFE/C, the Aircrew Flight Equipment 4 (AFE4), and the Rigger/Malfunction Officer (RMO), to have the T-11R inserts and LPUs ready for the jumpers (Tab V-20.20). The ST Rodeo welcome packet directed individual jumpers to bring the following equipment: radio, Load Bearing Equipment (LBE), helmet, goggles, and gloves (Tab V-32.7 and CC-114).

The ST Rodeo participants arrived on 3 November 2019 (Tab CC-110). For the duration of the ST Rodeo, all participants slept and ate at the Hurlburt Field Permanent Exercise Facility (PEF) (Tab CC-83). On 4 November 2019, the participants completed a Tier II fitness assessment, which includes a 1500-meter swim component, without incident (Tabs V-17.2, V-19.6, V-32.11, and BB-195). That evening the rodeo planners held a welcome dinner for the participants (Tabs V-32.11 and CC-84).

c. First Sortie

(1) Aircrew Preflight

On the morning of 5 November, all MC members initialed by their name and annotated the time they arrived that day on the flight authorization (FA) (Tab H-3). The first person on the MC to show was the Mishap Loadmaster 3 (ML3) at 0305L and the last was the Mishap Flight Engineer (ME) at 0445L (Tab H-3). At 0630L the MP, MN, mishap electronic warfare officer (MEWO) and all loadmasters met with the PJM/S and AJM/G for the aircrew jumpmaster briefing (JMB) immediately behind the aircraft (Tab V-4.7 and V-7.5 to V-7.6). Multiple MC members testified that the briefing covered the following: planned jumper exit points, time advisories that would be passed from the navigator to the loadmasters and jumpers, planned flight path for the airdrops, and emergency procedures for a towed parachutist (Tab V-4.7, V-7.5, V-15.6, V-25.6, and V-34.8).

The Mishap Loadmaster 2 (ML2), the mishap Instructor Loadmaster (IL), and MN testified that there may have been a discussion about MC and jumper actions if a parachute activated inside the aircraft, but no one recalled there being a discussion about sending other jumpers to follow a jumper that inadvertently left the aircraft (Tab V-7.5, V-15.6, and V-25.6). No written guidance covers such emergency procedures and therefore it is rarely briefed (Tabs V-7.5, V-15.6, V-25.6, BB-27 to BB-36, and BB-197).

The MP, Mishap copilot (MCP), MN, MEWO and four of the loadmasters testified that the PJM/S stated that the jumpers would be wearing LPUs (Tab V-4.7, V-6.9, V-7.9, V-8.8, V-15.4, V-24.9, V-25.5, and V-26.7). The aircraft commander's (AC) brief followed the JMB (Tab V-4.7). At approximately 0730L the aircraft taxied to the parking ramp to load the jumpers on to the aircraft for the first lift of airdrops (Tab V-4.7 and V-25.5).

(2) Jump Preflight

On 5 November 2019 at 0430L, the AJMs for each ST Rodeo team met at the PEF and received the weather forecast and Air Commando DZ survey (Tabs V-16.6, V-19.1, V-19.9, and CC-114). The first graded task was for the JMs to plot jumper release point onto a map (Tabs V-18.6, V-19.9, V-20.11, and CC-129). The remaining ST Rodeo participants arrived later in the morning to receive their JM briefing conducted by the PJM/S (Tabs V-18.5, V-33.21, CC-114, and CC-135 to CC-162).

Once the JM brief was complete, the teams traveled by bus to the Hurlburt Field flight line (Tabs V-33.21 and CC-52 to CC-53). The event planners laid out 24 MC-6/T-11R parachute systems in six groups of four (Tab V-30.2). They provided a T-11R marked with yellow tape on the carrying

handle and T-11R inserts for each team (Tab V-30.3 and V-31.19). There were no LPUs available for the jumpers (Tab V-30.15).

The lead ST Rodeo Planner, EP1, testified that on the day of the mishap he asked the CSE about the lack of LPUs at the staging area (Tab V-10.12). CSE denied that this conversation took place (Tab V-16.15). Despite questioning why LPUs were not present, EP1 testified that he took no further action to make LPUs available (Tab V-10.12). EP1, CSE, and PJM/S were near ST Rodeo participants while they donned their equipment (Tab Z-72).

One of MJM's teammates who was not performing JM duties on 5 November donned the team's designated yellow-taped T-11R reserve parachute (Tab V-31.19). The MJM obtained an alternate T-11R with yellow tape and T-11R inserts from the RMO (Tab V-30.4).

After the participants donned their equipment, the teams reported to a designated STTS cadre member to receive a JMPI (Tabs V-35.3 and CC-168). JMPII conducted the official JMPI on the MJM (Tab V-35.8). He did not place the T-11R tuck tab inserts in the tuck tab pockets (Tab V-35.7 and V-35.11). According to JMPII, the MJM would have inserted his T-11R inserts after his JMPI (Tab V-35.10). Figures 6 and 7 show that the base of the yellow tab on the MJM's top and bottom tuck tab inserts was not flush with the green pockets on his T-11R parachute ripcord assembly before and after MJM's first jump (Tab Z-11 and Z-73). Additionally, Figure 7 shows that the MJM's T-11R parachute has enough loose material on his left side tuck tab so that a second seam was visible after his first jump (Tab Z-11).



Figure 6. MJM first sortie (boarding aircraft)
(Tab Z-73)



Figure 7. MJM first sortie (DZ post jump recovery)
(Tab Z-11)

(3) Six Completed Jump Operations on First Sortie

After loading the jumpers, the MA departed Hurlburt Field at 0800L (Tab H-43). The Team 1 AJM called "No Drop" on his first three passes over the DZ before jumping on the fourth pass (Tab H-38). The Team 2 AJM and Team 3 AJM (MJM) each called "No Drop" on their first pass before jumping on the second pass (Tab H-38). AJM/G stated that the "No Drop" calls were a result of confusion on when the aircrew provided the green jump light (Tab V-20.21).

MJM's team jumped a few seconds too early to reach the PI (Tab V-33.22). Once on the ground, he had to run about 300 meters to reach the PI (Tab V-31.8).

AFMAN 11-420, *Static Line Parachuting Techniques and Training*, states that when given the command of "Safety, control my static-line" the safety will inspect the JM's rip cord assembly to ensure the tuck tabs are in place and the T-11R inserts are installed properly, before the JM assumes control of the paratroop door (Tab BB-47). The safety will then take control of the JM's USLM (Tab BB-47).

The PJM/S testified that his duties and responsibilities as the safety included performing a visual inspection of the AJMs before giving them the paratroop door (Tab V-18.11 to V-18.12). The PJM/S said that he conducted a "once over look" of the AJMs and explained that "through repetition we know what right looks like and when you see something that is wrong it like sticks out" (Tab V-18.12 to V-18.13). The PJM/S testified that T-11R inserts "were not required for the operations we were doing that morning" and "it doesn't hurt to have the tabs, but [it was] not required" (Tab V-18.10 to V-18.11). The PJM/S testified that the T-11R inserts "add friction to the top of the handle to prevent it from getting pulled as easily therefore it can't be pulled out by the wind" (Tab V-18.15).

AJM/G stated he and the PJM/S did not review the AFMAN 11-420 in preparation for the ST Rodeo (Tab V-20.16). Photographic evidence of the first sortie shows that the PJM/S allowed AJMs to perform duties in the door with T-11R inserts not fully seated or not present at all (Tab Z-73 to Z-74).



Figure 8. AJM/1B (pre-flight) yellow binding tape on T-11R (Tab Z-74)



Figure 9. AJM/1B (in-flight) in paratroop door without T-11R inserts (Tab Z-74)

AJM/G stated that he did not utilize AFMAN 11-420 to develop a Practical Work inside the Aircraft (PWAC) grade sheet (Tabs V-20.13 and BB-47). The AJM/G developed his grade sheet utilizing products received at his Combat Control Static-Line Jumpmaster course in 2013 (Tab V-20.13). He testified both CSE and EP1 reviewed the grade sheet and made adjustments to develop

a final grading product (Tab V-20.13). According to the grading criteria a “Major Gig” (infraction) would result in a 1-minute time penalty, and a “Minor Gig” would result in a 15-second time penalty (Tab CC-129). AJM/G stated that if anybody performed a major safety violation, they would have been notified immediately (Tab V-20.14).

Following the mishap, the AJM/G’s PWAC grade sheets were lost and not available for review, but a photo in the aircraft shows the AJM/G filling out a sheet (Tabs V-20.14 and Z-75). The AJM/G testified that he was not familiar with any actions required by the PJM/S at the command “safety, control my static-line” (Tab V-20.21). The grade sheet in the photo shows no grade marks by the “safety control my static-line” line item (Tab Z-75). Evidence shows the PJM/S accepting an AJM’s static-line while the AJM had a T-11R bottom tuck tab so loose that light was visible underneath it (Tab Z-75).

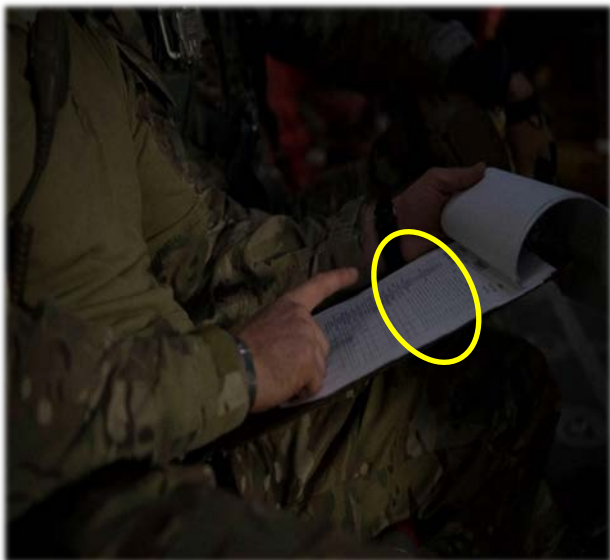


Figure 10. AJM/G PWAC command “safety control my static-line” on the sheet but not graded (Tab Z-75)



Figure 11. PJM/S receiving static-line from AJM. The lower tuck tab is loose with light showing underneath it (Tab Z-75)

After the first six static-line parachute drops were complete, the MA landed back at Hurlburt Field to recover the jumpers for the second planned sortie (Tab CC-114).

d. Second Sortie

(1) Jump Preflight

Following the first jump, the jumpers returned to the staging area and donned new MC-6 main parachutes along with their original T-11R reserve parachutes (Tabs V-33.27, V-35.12, and CC-121). The MJM again checked his teammates’ parachute systems before the team reported to JMPI1 for their official JMPI (Tab V-31.12 and V-35.9). JMPI1 once again did not insert the T-11R inserts in the MJM’s T-11R parachute’s top and bottom tuck tab pockets (Tab V-35.7 and V-35.11). Some JMs stated they were concerned during the first sortie about conducting door operations over the open water without LPUs, but no one reported the lack of LPUs as a problem (Tabs N-23.43 and V-23.9). During the preflight, MJM told his teammates that he would wait

three seconds later than the previous release point, which would allow the team to land closer to the PI (Tab V-32.17).

(2) MC Preflight

After landing, the aircraft taxied back to the parking ramp to pick up the jumpers for the second sortie's airdrops (Tab P-10). After re-loading the jumpers, the MA taxied onto the runway for take-off at 1008L (Tab P-10). Hurlburt Field Tower cleared the MA for takeoff at 1016L for their second airdrop sortie (Tab P-11).

(3) Three Completed Jump Operations on Second Sortie

After takeoff, Hurlburt tower instructed the MA to enter a holding pattern south of the airfield and wait for two aircraft to depart Hurlburt Field (Tab P-11). The other aircraft departed Hurlburt at 1050L (Tab P-18). Hurlburt Tower cleared the MA to continue airdrops at 1053L (Tab P-18). The first three teams on the second sortie executed their airdrops at 1057L, 1104L, and 1110L, respectively, all without incident (Tab P-19 to P-20).

(4) Summary of Accident

After the 1110L airdrop, the MA made a right hand turn back to the south over the Gulf of Mexico (Tabs P-20 and DD-268). The MC ran the appropriate checklist, and passed the applicable time advisories to the PJM/S and the MJM (Tab V-18.2 to V-18.3). Teams 6, 5 and 4 performed their jumps and Team 3 was next (Tabs P-20 and V-31.11). The MJM directed his three jumpers to stand up, and provided PWAC jump commands up to having the PJM/S take control of his static-line (Tab V-18.2 to V-18.3). A photo of the MJM waiting to pass his static-line to the PJM/S shows his bottom tuck tab insert sticking out approximately one inch from the edge of its pocket (Tab Z-49).



Figure 12. MJM's T-11R parachute just prior to the mishap. The bottom tuck tab insert with approximately one inch between the edge of the pocket and the yellow material and left side tuck tab is loose enough to showing two seams. (Tab Z-49)

The PJM/S testified that he conducted another "visual inspection" prior to taking the MJM's USLM and giving him control of the right paratroop door (Tab V-18.12). The MJM took his

position in the paratroop door, conducted checks of the jump platform and door, and leaned out of the aircraft to locate his desired release point (Tab V-18.3). Air Commando DZ cleared the MA to execute the drop at 1114 (Tab P-20). At that point, the MA was flying on a heading of 357, at an altitude of 1012 feet above mean sea level (MSL), at 130 kts of calibrated airspeed (Tab BB-243). The MP held a consistent course after achieving the heading toward the DZ (Tabs BB-243 and DD-268).

As the MA approached the DZ, the MJM again leaned out of the aircraft (Tabs V-18.3 and DD-268). He also rose up on his toes, possibly to see past the wind deflector door to his desired release point, and then returned to a neutral body position with his hands on the doorframe and his elbows at a 90-degree angle (Tabs V-33.3 and X-11).

e. Extraction

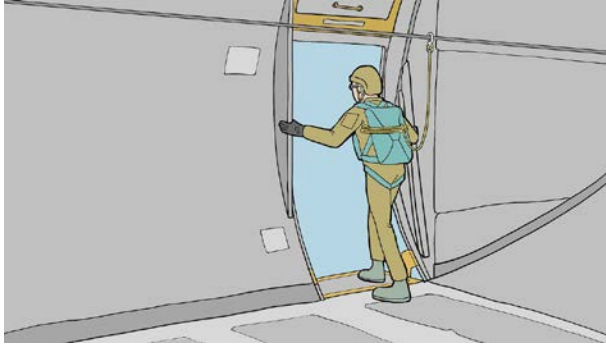
At this point, MJM's T-11R parachute ripcord assembly was exposed to relative winds outside the aircraft (Tab V-18.3). As the MJM was facing out the right paratroop door, he would be traveling to his left with respect to the ground (Tab Z-14). The MJM's bottom T-11R insert was sticking out approximately one inch from its pocket in the moments prior to the mishap and his left side tuck tab showed signs that it was loose after his first jump of the day (Tab Z-11, Z-45, Z-47, Z-49, and Z-51). When exposed to the relative winds while spotting for his second jump, the MJM's ripcord handle assembly failed to hold the internal spring-loaded extractor in place (Tabs V-16.25, V-18.3, V-33.3, and X-4). A released spring-loaded extractor will push the T-11R reserve's extractor parachute away from the container (Tabs X-4 and BB-236). The extractor parachute caught the relative winds of 130 kts and pulled the reserve parachute out of its container (Tabs V-8.3, V-18.3, V-33.3, X-4, and BB-236). The parachute pulled MJM directly into and then around the aft frame of the MA's right paratroop door (Tabs V-18.3, V-19.5, V-20.5, V-33.3, and X-4). The MA was over the Gulf of Mexico, approximately 2.5 nautical miles south of Santa Rosa Island and about 3.5 nautical miles south of Air Commando DZ (Tab DD-22). Once extracted, the MJM's MC-6 main parachute deployed, as designed, by his USLM (Tab Z-16 to Z-19 and Z-71).

The force of the USLM during the unplanned exit of the MJM also injured the PJM/S's hand (Tab V-18.20). AFMAN 11-420 states that safeties grasp the USLM one hand above and one hand below their bight (Tab BB-47). Photographic evidence from onboard the aircraft show the PJM/S grasping the USLM without a bight (Tab Z-76 and Z-78).

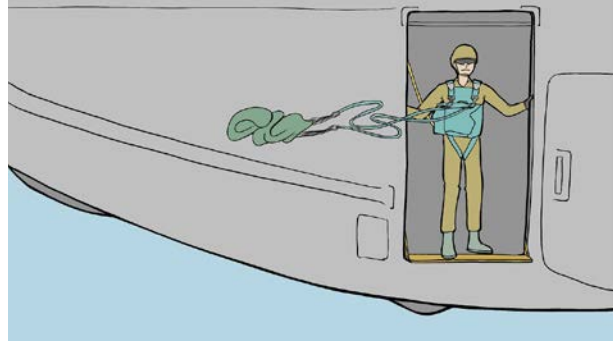
(1) Visual Depiction of MJM's Extraction

The 23PJ1, PJM/S, and AJM/G provided specific details on the MJM's extraction from the aircraft (Tab V-18.3, V-20.3, and V-33.3). These witnesses were positioned within three to twelve feet from the MJM, and offered different vantage points: the 23PJ1 was four feet from the MJM's left, the AJM/G was approximately 12 feet behind the MJM, and the PJM/S was three feet from the MJM's right (Tabs V-20.4 to V-20.5, V-33.3, and Z-76). The MJM was generally midway in the doorframe and slightly interior to the aircraft (Tab V-18.3, V-18.16 to V-18.17, V-20.5, and V-33.3). The MJM maintained a forward-leaning stance, with both hands gripped onto the doorframe (Tab V-18.16 to V-18.17, V-33.3, and V-33.6).

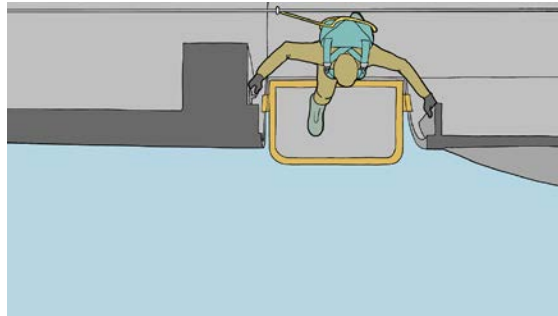
Figure 13:



MJM Sequence 1, Interior Vantage (Tab X-11)



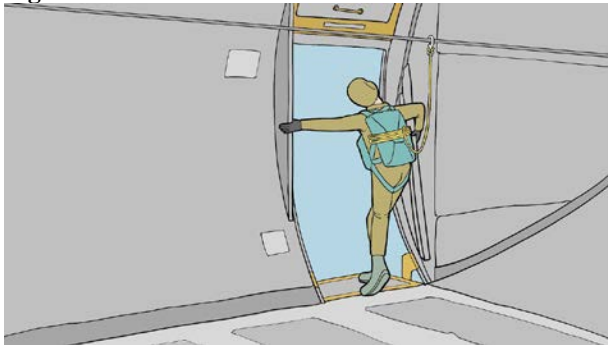
MJM Sequence 1, Exterior Vantage (Tab X-13)



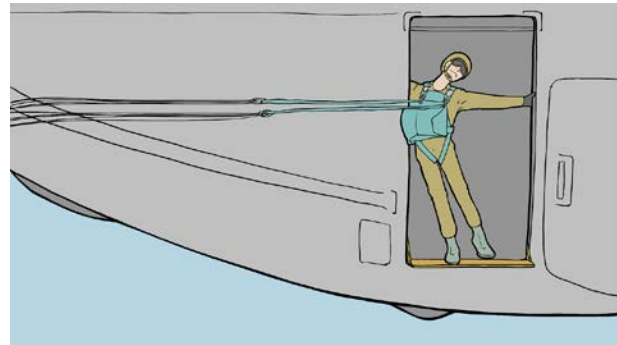
MJM Sequence 1, Overhead Vantage (Tab X-17)

Upon reserve parachute inflation outside the aircraft, the MJM impacted the aft door frame “violently” and generated a loud noise (Tab V-18.3, V-18.17 to V-18.18, V-20.5, V-33.3, V-33.7, and V-33.17).

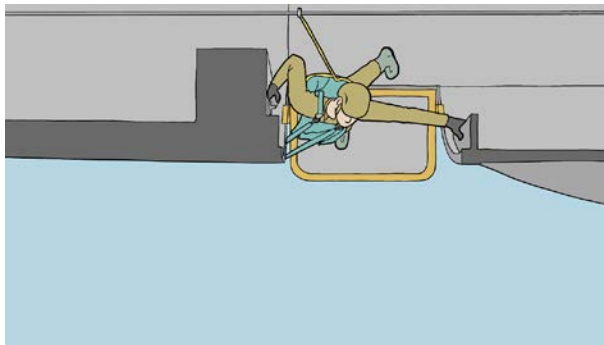
Figure 14:



MJM Sequence 2, Interior Vantage (Tab X-11)



MJM Sequence 2, Exterior Vantage (Tab X-14)

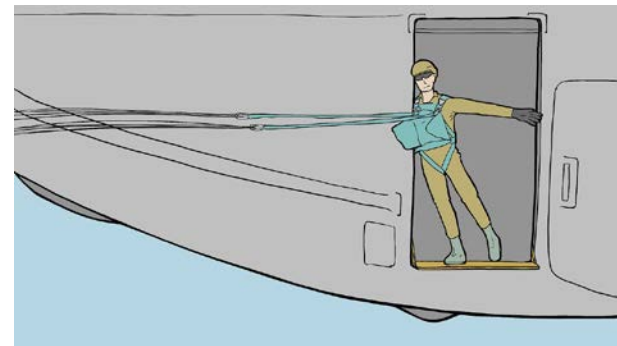


MJM Sequence 2, Overhead Vantage (Tab X-17)

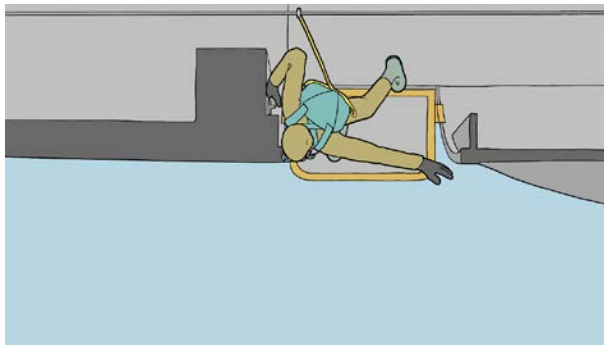
Figure 15:



MJM Sequence 3, Interior Vantage (Tab X-12)



MJM Sequence 3, Exterior Vantage (Tab X-14)



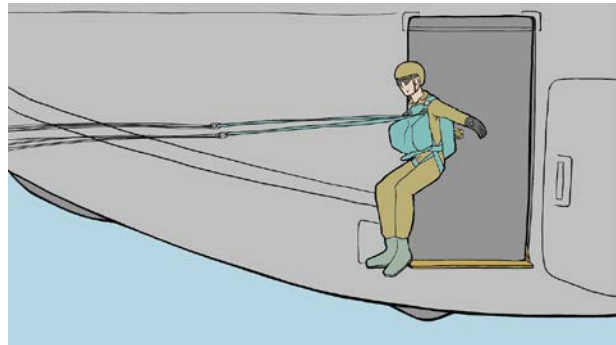
MJM Sequence 3, Overhead Vantage (Tab X-18)

The 23PJ1, PJM/S, and AJM/G observed the MJM rotate around the aft doorframe and out of the MA (Tab V-18.3, V-18.16 to V-18.17, V-18.20, V-20.29, V-33.3, V-33.7, V-33.14, and V-33.16 to V-33.17).

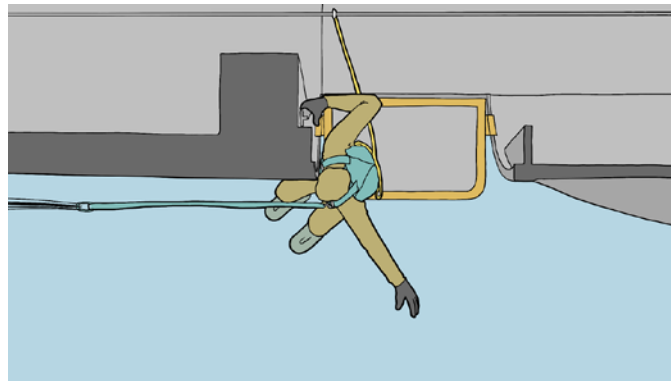
Figure 16:



MJM Sequence 4, Interior Vantage (Tab X-12)



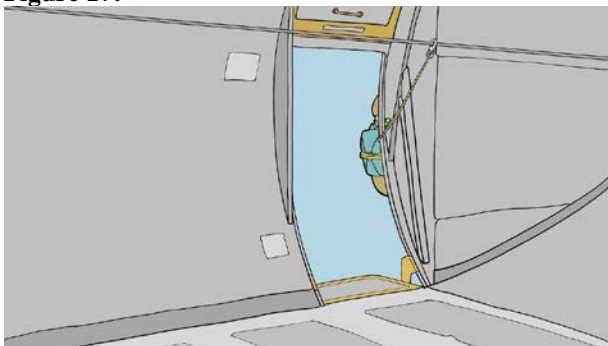
MJM Sequence 4, Exterior Vantage (Tab X-15)



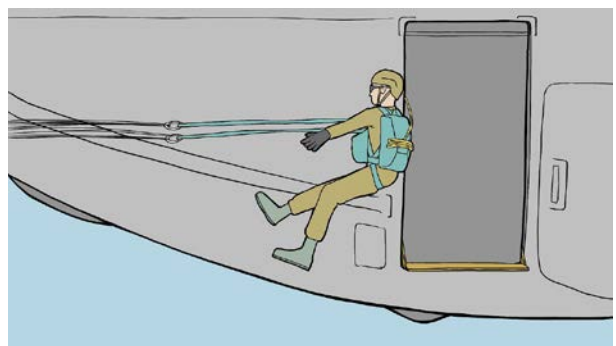
MJM Sequence 4, Bird's Eye Vantage (Tab X-18)

As the MJM's hips and torso completed their rotation out of the aircraft, his legs began to arc upwards (Tab V-18.20, V-33.3, V-33.8, and V-33.14 to V-33.17).

Figure 17:



MJM Sequence 5, Interior Vantage (Tab X-13)



MJM Sequence 5, Exterior Vantage (Tab X-15)

Once out of the MA, the MJM's was roughly horizontal with a slight bent at the waist (Tab V-33.3, V-33.8, and V-33.16 to V-33.17).

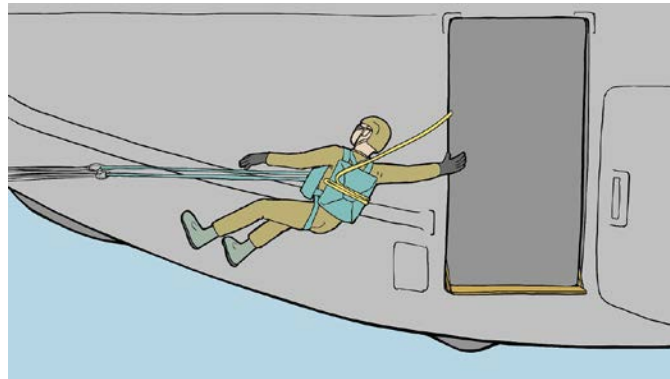


Figure 18. MJM Sequence 6, Exterior Vantage (Tab X-16)

Several witnesses heard a second loud noise that could have been the MJM impacting the exterior of the MA (Tab V-24.6, V-26.5, V-31.7 to V-31.8, V-33.4, V-33.10, V-33.18, and V-34.3).

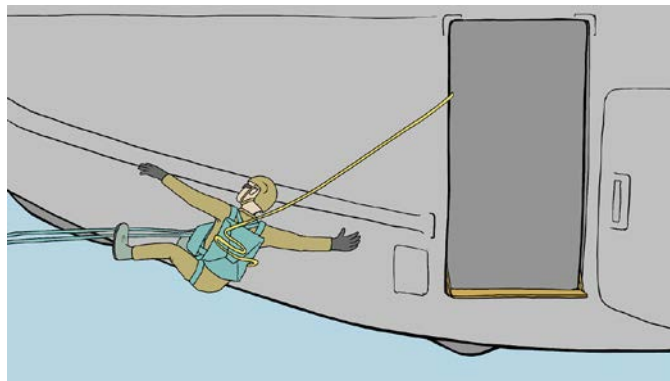


Figure 19. MJM Sequence 7, Exterior Vantage (Tab X-16)

f. Post-Extraction

After hearing a loud bang and realizing that the MJM was no longer standing in the paratroop door, the Mishap Loadmaster 4 (ML4) announced a towed jumper over the intercom and prepared the towed parachutist retrieval system (Tab V-34.3). The IL saw that the MJM's static-line extended out of the aircraft high in the doorframe, indicating that the MJM was not a towed jumper of the right paratroop door (Tab V-25.3). The IL looked out of the paratroop door and verified that the MJM was not towed (Tab V-25.3). The IL saw the MJM in the air, suspended under two parachutes (Tab V-25.3). DZ personnel took photographs of two parachutes off in the distance (Tabs V30.4 and Z-71).



Figure 20. Photo from Air Commando DZ showing MJM under two parachute canopies (Tab Z-71)

After seeing the MJM away from the MA, the IL made a correcting call on the intercom that the jumper was not being towed (Tab V-25.3). The MN marked their position in the aircraft's mission computer (Tab V-7.3). The PJM/S then moved the remaining jumpers in the MJM's team back to their seats and the IL closed the paratroop door (Tab V-18.3 and V-25.3).

The MJM wore a radio and used it to communicate with teammates prior to the mishap (Tab V-31.5 and V-32.14). His teammates testified that he made no radio calls after the mishap (Tab V-31.7 and V-32.14).

g. Search and Rescue (SAR)

Over the next several hours, multiple aircraft and outside agencies responded to assist in the SAR efforts (Tab DD-7).

(1) 5 November 2019

After the IL announced that the MJM departed the aircraft, the MCP notified Hurlburt Tower and Air Commando DZ of the problem and the MP began a right hand turn back towards the MJM (Tabs V-4.3, P-21, and DD-270). The MC scanned the surface to acquire and maintain visual contact with the MJM (Tab V-4.3). The IL discovered that none of the jumpers were wearing LPUs (Tab V-25.4). The MP notified the tower and Air Commando DZ that the MJM was not wearing an LPU (Tab P-11).

While the MP circled the MA over the MJM's last known location, the MC members in the front and back of the plane scanned for the MJM and his parachutes (Tab V-6.3 and V-25.3). At the same time, pararescuemen from Team 2 and Team 3 prepare for an impromptu rescue jump (Tab V-34.3). However, the MP did not feel that he had the authority to drop additional personnel in those circumstances (Tab V-4.13). The MP also testified that deploying additional personnel into the water was dangerous and unnecessary given that he and others believed they could see the MJM treading water on the surface and that rescue aircraft and boats were enroute. (Tab V-4.3).

Following the MJM's exit, multiple MC members testified that they saw the MJM in the water and that he was rhythmically treading water while floating on his back (Tab V-4.3, V-4.5, V-4.10, V-6.3 to V-6.7, V-7.3 to V-7.4, and V-8.4 to V-8.5). The MCP described the MJM as floating on his back, while calmly looking up at the MA (Tab V-6.4 and V-6.12 to V-6.13). However, the MCP had no recollection of the MJM's helmet, hair color, and facial hair (Tab V-6.12). The MCP denied seeing any sea turtles (Tab V-6.13). Other personnel on the MA stated that they saw what appeared to be two parachutes in the water but are unclear if they ever saw the MJM in the water (Tabs N-9.3 and V-11.5)

About 20 minutes after the mishap, a civilian life flight helicopter volunteered its assistance and coordinated the search efforts with the MA (Tab P-21 to P-24). The MC made several calls to direct the helicopter to objects in the water that they believed were the MJM (Tab P-24 to P-28).

Coast Guard search boats from the Destin Coast Guard station approximately eight miles to the east arrive in the area ten minutes later and begin surface searches (Tab P-26). The life flight helicopter and the MA spot what they thought was the MJM in various locations near where he exited the MA, but neither can keep focus on the object long enough to confirm the sighting (Tab P-24 to P-29). A CV-22B arrived on scene to assist in search efforts (Tab P-17). The MA landed back at Hurlburt Field after running low on fuel at 1250L (Tabs P-39 to P-40 and V-6.6).

About an hour and a half after the mishap, an Air Force support boat found a T-11R parachute's small pilot parachute extractor floating in the Gulf of Mexico near the coordinates: N 30° 21.13' W 086° 41.2' (Tabs P-4 and Z-21 to Z-25). This point was approximately one-half mile away from the MJM's estimated location of exit from the MA (Tab DD-269 to DD-270). The location was within view of the coast (Tab Z-25).



Figure 21. Recovery of T-11R pilot parachute extractor (Tab Z-25)

Throughout the afternoon and into the evening, several aircraft and boats continued to search until fuel status required them to land or return to the base (Tab P-3). Towards the end of the day, the

1 SOW commander directed U-28 aircraft to perform 24-hour operations over the search area and AC-130 aircraft to perform search operations during their normal flying window (Tab P-3 to P-4). A United States Coast Guard Liaison Officer arrived at Hurlburt Field from Mobile, Alabama, to integrate Coast Guard capabilities into the Air Force search operation (Tab N-24.3).

(2) 6 - 8 November 2019

Low cloud ceilings over the search area limited the search aircraft to two U-28s, one Coast Guard HC-144 and one Coast Guard HH-65 (Tab P-5). Additionally, STS personnel on all-terrain vehicles searched the beach from Destin to Pensacola (Tab DD-22). An HH-60 and HC-130 from Patrick AFB arrived on 6 November to assist the search until 8 November (Tab P-5).

At 1700L on 8 November 2019, the US Coast Guard suspended its rescue efforts and the Air Force transitioned to a recovery operation (Tab DD-22, DD-30, and DD-264).



Searches Completed Day 1- 4

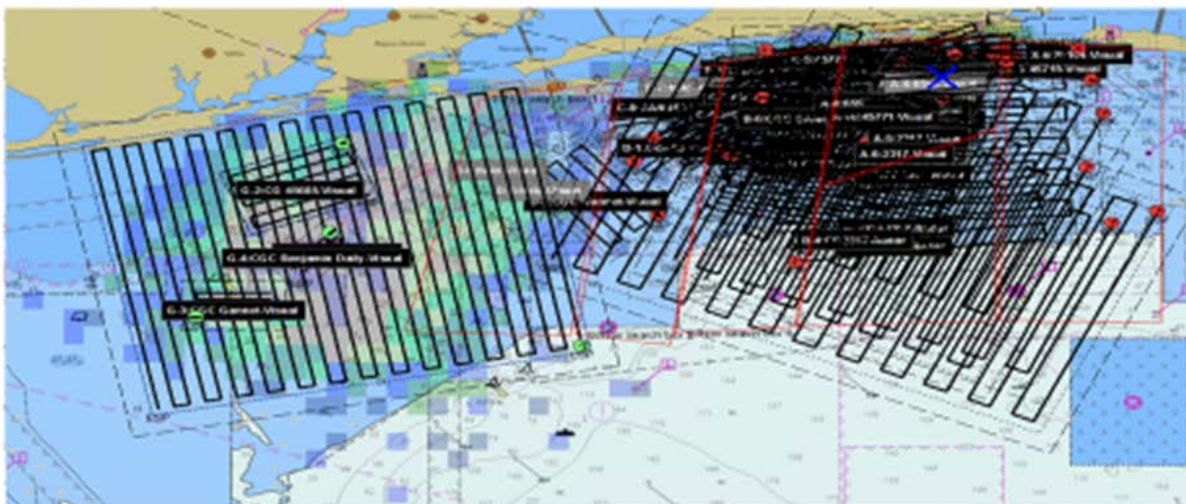


Figure 22. Air Force and Coast Guard search areas, 5 to 8 November 2019 (Tab DD-247)

(3) 9 – 22 November 2019

The Air Force and US Navy continued search and recovery efforts in the Gulf of Mexico south of Hurlburt Field until 15 November 2019 (Tab DD-222 to DD-228). On 22 November 2019, the Naval Surface Warfare Center, Panama City, Florida, dispatched Research Vessel *Patriot* to conduct sub-surface searches with side-scan sonars, six unmanned underwater vehicles (UUVs), and three remotely operated vehicles (ROV) (Tab DD-266). Scuba divers conducted over 100 dives to search areas of interest that sonar operators discovered (Tab DD-267). The military suspended all search efforts for the MJM on the evening of 22 November 2019 (Tab DD-266 to DD-267).

h. Recovery of Remains

The MJM's remains were not recovered (Tab DD-266).

i. Indicators of MJM's Condition Post-Extraction

Witnesses stated that MJM's "violently" impacted the MA's paratroop doorframe (Tab V-18.3 and V-33.3). Within 15 minutes of his extraction, the MA directed other aircraft onto various coordinates of what the MC thought was the MJM, but the other aircrews only found marine life (Tabs N-1.2, N-22.3, V-4.5, V-6.4 to V6.7, V-7.3, and V-11.12). The standard for an under-30 year old combat controller, such as the MJM, to swim 1500 meters during a Tier II fitness assessment is 34 minutes (Tabs O-59, BB-195, and DD-265). Yet sightings of him 45 minutes after his departure placed him approximately two NM (3704 meters) from his estimated point of exit (Tabs V-4.4, V-4.12, V-6.5, V-7.6 to V-7.7, V-8.12 to V-8.13, Z-77, and DD-282). The shore to the north was in view of his exit point, the seas were calm, and the weather was clear, allowing a capable swimmer to see and reach the shore (Tabs Z-25 and DD-269 to DD-270). Of all the search assets involved, only a six-foot olive green parachute that had become detached was found in the water (Tabs Z-21 to Z-25 and BB-236).

5. AIRCRAFT MAINTENANCE

a. Forms Documentation

A review of the MA's maintenance records, including Air Force Technical Order (AFTO) Form 781 series, the aircraft's 90-day history, and aircraft jacket file showed no discrepancies relevant to the mishap (Tab D-3).

b. Inspections

A review of the MA's maintenance records show the MA was current on its inspections (Tab D-3).

c. Maintenance Procedures

A review of the MA's maintenance records showed no indication that aircraft maintenance procedures were a factor in the mishap (Tab D-3).

d. Maintenance Personnel and Supervision

The maintenance personnel records show no discrepancies relevant to the mishap (Tab T-34 to T-157).

e. Fuel, Hydraulic, Oil, and Oxygen Inspection Analyses

Not applicable.

f. **Unscheduled Maintenance**

A review of the MA's maintenance records showed no indication that unscheduled maintenance was a factor in the mishap (Tab D-3).

6. **AIRFRAME, MISSILE, OR SPACE VEHICLE SYSTEMS**

a. **Structures and Systems**

(1) **Mishap Aircraft**

Data obtained from the MA during the impoundment indicated no evidence of mechanical, structural, electrical or any other recurring maintenance problems (Tab D-3). The right-hand air deflector door forward of the right paratroop door extended 15.25 inches from the fuselage, which is within limits (Tabs BB-196 and Z-81). The air deflector door pushes wind turbulence away from the paratroop door (Tab V-18.3). There is no evidence aircraft structures or systems were factors in the mishap.

The mishap caused a dent and deep scratch on the right paratroop door's track guard (Tabs K-9 and Z-82). Photographic evidence shows this damage was not present on 5 November 2019 prior to the mishap (Tab Z-82).



Figure 23. Paratroop Door Pre-Mishap
(Tab Z-82)



Figure 24. Paratroop Door Post-Mishap
(Tab Z-82)

(2) Parachute System

The MJM wore MC-6 main parachute, Local ID 122, during the mishap (Tab D-4). Applicable regulations require repacking every 120 days (Tab BB-189). The STTS Flight Equipment Records Management System (FERMS) shows that STTS/AFE last inspected, repacked, and deemed serviceable the unit on 23 September 2019 (Tab D-4). The date of expiration (DOE) is 1 May 2030 (Tab D-4). The main parachute assembly was not recovered and therefore unable to be inspected post-mishap.

The MJM wore T-11R reserve parachute, Local ID: STS-11 (Tab D-5). Regulations require repacking every 365 days (Tab BB-189). The 23 STS FERMS shows that 23 STS/AFE last inspected, repacked, and deemed serviceable the unit on 11 April 2019 (Tab D-5). The DOE for the risers and canopy was 30 April 2026, and the DOE for harness was 30 April 2024 (Tab D-4). The reserve parachute assembly was not recovered and therefore unable to be inspected post-mishap.

(3) Personal Equipment

The MJM appeared to wear a MultiCam® colored, Ops-Core Fast Bump High Cut Helmet, which appears on the Air Force Approved for Use List for parachute operations (Tabs K-7 and BB-202). This item The manufacturer's data sheet describes the helmet as "designed for less extreme environments where exposure to great blunt forces is limited or non-existent, or where the primary need is for integration of mission configured components" (Tab BB-207). The MJM also carried a radio, gloves, and load-bearing equipment (Tabs V-32.7 and CC-114). None of this equipment was recovered.

b. Evaluation and Analysis

(1) Mishap Parachute System

About an hour and a half after the mishap, rescue personnel recovered a T-11R parachute's small pilot parachute extractor near where the MJM exited the MA (Tabs P-4 and Z-21 to Z-25). Photographs show that four straps that secure the pilot parachute to rest of the T-11R snapped (Tab Z-21 to Z-23).

(2) Metallurgy/Trace Evidence Analysis

The United States Army Criminal Investigative Laboratory (USACIL) performed trace evidence analysis of the aircraft's right paratroop aft door track guard and same type of equipment the MJM wore during the mishap (Tab U-3 to U-4). USACIL found silver-colored material containing cadmium in the dent on the door track guard (Tabs U-3 and Z-79). Analysis of metal clips similar to those worn by the MJM were silver in color and contained cadmium (Tab U-3).

(3) Prior Similar Mishaps

Fort Lee Aerial Delivery Field Services Department, Army Quartermaster, and Schools maintains a database of reported inadvertent T-11R reserve parachute activations (Tab BB-153 to BB-162). Since fielding the system in 2009, there have been six prior mishaps similar to the 5 November

2019 mishap (Tab BB-154 to BB-160). Of those, two involved an activation out of a C-130 paratroop door (Tabs X-3, BB-156, and BB-159).

On 19 December 2012, an Air Force JM suffered bruising to his shoulder from hitting the exterior of the aircraft (Tab BB-156). The Airman reported that his T-11R inadvertently deployed while he leaned out of the aircraft's right paratroop door (Tab BB-156).

On 23 June 2014, a Navy JM suffered fatal injuries when his T-11R parachute inadvertently deployed (Tab BB-159). An analysis of video from the Navy mishap shows the JM in a position similar that of the MJM immediately prior to his exit (Tab X-3 to X-5). The Navy JM suffered a basilar skull fracture and a broken neck, both of which are fatal injuries (Tab X-5). This mishap prompted NSRDEC to develop the T-11R inserts (Tab Z-70).

The remaining prior mishaps were from the rear ramp of the aircraft or the door of a much larger type of aircraft and caused minor injuries (Tab BB-154 to BB-155, BB-157 to BB-158, and BB-160). Only one of the mishaps occurred after fielding of the T-11R inserts; however, the report does not indicate whether the jumper used the inserts (Tab BB-160).

7. WEATHER

a. Forecast Weather

The forecast temperature at ground level was 19°C, winds from the northeast at 6 kts, partial cloud layer at 1000 feet, unrestricted visibility, barometric pressure of 30.12 inches of mercury, and no precipitation (Tab R-8). The forecast temperature at 1000 ft above ground level was 18°C with winds from the southeast at 13 kts (Tab R-8).

b. Observed Weather

The weather conditions at the time of the mishap were: winds were from the north-northwest at 5 kts, visibility was 10 statute miles; few clouds at 1700 ft above ground level, a broken layer of clouds at 20,000 ft, and an overcast layer at 30,000 ft; temperature of 24°C, dew point of 17°C, and barometric pressure of 30.13 inches of mercury (Tab R-4).

The Gulf of Mexico sea state was 2 to 3 foot swells, an ocean current moving east to west at 0.5 kts, outgoing tide (north to south) at 0.8 kts, and the water temperature of 78° F (Tab DD-68 and DD-239).

c. Space Environment

There were no relevant space environment conditions affecting the mishap or search, rescue, and recovery efforts.

d. Operations

Weather limitations for static-line airdrop operations are winds at ground level no greater than 13 kts (Tab B-8). The MC-130H is an all-weather capable aircraft (Tab BB-197). None of the operations conducted on this sortie exceeded any weather limitations of any of the systems in use.

8. CREW QUALIFICATIONS

In the tables below the “Name” reflects the acronym used to redact the crew member’s name while the “Crew Position” annotates the authorized position they were filling on the mishap sortie.

Mishap Aircrew 7/30/60/90 Day Look Back- Simulator Time Excluded									
Name	Crew Position	7 Days (hrs)	30 Days	60 Days	90 Days	7 Days (Sorties)	30 Days	60 Days	90 Days
MP	Mission Pilot/Aircraft CC	0	2.8	63	63	0	2	14	14
MCP	Mission Copilot	0	14.5	49.5	67.9	0	6	21	33
MN	Mission CSO	0	0	0	29.4	0	0	0	11
MEWO	Mission EWO	0	3.7	27.8	66.6	1	1	10	22
ME	Mission FE	0	13.5	34.8	42.2	0	3	9	12
IL	Instructor LM	0	0	0	4.3	1	1	1	1
ML1	Mission LM	0	0	0	0	0	0	0	0
ML2	Mission LM	0	0	3.3	7.7	0	0	3	5
ML3	Mission LM	0	11.2	40.8	40.8	0	4	15	15
ML4	Mission LM	0	4.7	10.3	20.8	0	1	2	5
MDSO	Mission DSO	0	0	4.1	N/A	0	0	1	N/A

Figure 25 (Tab T-158).

Name	Crew Position	MC-130H Hrs	Total Hrs
MP	Mission Pilot & Aircraft CC	1037	1772.3
MCP	Mission Copilot	185.9	207.9
MN	Mission CSO	1097.9	2429.3
MEWO	Mission EWO	212.9	287.9
ME	Mission FE	1384	4799
IL	Instructor LM	2369	3852.3
ML1	Mission LM	3187	5088.4
ML2	Mission LM	165.1	2165.7
ML3	Mission LM	106.5	129
ML4	Mission LM	96.7	
MDSO	Mission DSO	98.5	98.5

Figure 26 (Tab T-158).

a. Mishap Aircrew

The IL supervised the ML3 and the ML4 for initial training and the ML1 for re-currency in Personnel Airdrops on 5 November 2019 (Tab V-24.2 and V-25.3). All other MC members were current and qualified in all required areas for the mission conducted on 5 November 2019 (Tab H-9 to H-19).

b. Primary Jumpmaster/Safety

The PJM/S was qualified to perform JM duties but not current on the morning of 5 November 2019 because he had not performed such duties in the previous 180 days (Tab T-3 to T-4). Under the supervision of AJM/G, he regained currency when the first jumper exited the aircraft on the first flight of the morning (Tab T-3 to T-4).

Name	Task Name	Date Last Accomplished	Due Date
PJM/S	Static-line	Mar 27, 2019	Sep 23, 2019

	Static-line Refresher	Mar 12, 2019	Sep 8, 2019
	Static-line Jumpmaster	Mar 27, 2019	Sep 23, 2019

Figure 27 (Tab T-4).

c. Assistant Jumpmaster/Grader

The AJM/G was qualified and current to perform jumpmaster duties on 5 November 2019 (Tab T-5 to T-10).

Name	Task Name	Date Last Accomplished	Due Date
AJM/G	Static-line	Aug 22, 2019	Feb 18, 2020
	Static-line Refresher	Aug 16, 2019	Feb 12, 2020
	Static-line Jumpmaster	Sep 17, 2019	Mar 15, 2020

Figure 28 (Tab T-19).

d. Mishap Jumpmaster

The MJM enlisted in the Air Force in 2012 and entered a two-year combat control training program (Tab DD-265). He completed the United States Army Infantry School Airborne Course at Fort Benning, Georgia, on 6 December 2013 (Tab O-17). On 5 May 2014, he was assigned to the 23 STS at Hurlburt Field, FL (Tab O-58). The MJM completed the Naval Special Warfare Advanced Training Command's Navy Parachute Course Freefall at Chula Vista, California, on 17 October 2014 (Tab O-16). He completed the US Air Force Combat Dive Course Open Circuit on 15 August 2014 and Closed Circuit on 4 September 2014 (Tab O-14 to Tab O-15). The MJM completed Military Diver Personnel Qualifications Standard on 24 June 2016 (Tab O-12). He became static-line JM qualified on 31 May 2019 (Tab O-18). He was current for all of his duties on the mishap sortie on 5 November 2019 (Tab O-59). He had 106 combined military freefall and static-line jumps during his Air Force career (Tab O-57).

In 2016, the MJM deployed to Africa with the Expeditionary Special Tactics Squadron where he was awarded the Air Force Achievement Medal (Tab T-165). In 2018, he deployed to Afghanistan with the 23d Expeditionary Special Tactics Squadron in support of Operation FREEDOM'S SENTINEL where he was awarded the Air Force Commendation Medal with "C" Device and the Air Force Combat Action Medal (Tab T-164 and T-166).

Following the mishap, the MJM was listed as Duty Status Whereabouts Unknown from 5 November 2019 until 8 November 2019 (Tab DD-8, DD-12 and DD-221). His duty status changed to Deceased on 8 November 2019 (Tab DD-8 and DD-221). He was 29 years old (Tab DD-265).

Name	Task Name	Date Last Accomplished	Due Date
MJM	Static-line	Oct 21, 2019	Apr 18, 2020
	Static-line Refresher	Oct 21, 2019	Apr 18, 2020
	Static-line Jumpmaster	Oct 21, 2019	Apr 18, 2020

Figure 29 (Tab O-49).

9. MEDICAL

a. Qualifications

At the time of the mishap, all members of the MC had current annual flight physical examinations and were medically qualified for worldwide flight duty without restrictions (Tab X-7). In addition, the MJM, PJM/S, JMPI1, 23PJ2, 23PJ3, AJM/G, and AFE2 had current annual flight physical examinations and were medically qualified for jump duty without restrictions (Tab X-7).

b. Health

A medical records review of all MC, the MJM, PJM/S, JMPI1, and AFE2 showed no indication that any medical conditions or illnesses contributed to the mishap (Tab X-7 to X-8).

c. Pathology

Toxicology screening for all MC, the PJM/S, JMPI1, and AFE2 showed no abnormal findings (Tab X-7 to X-8).

d. Lifestyle

A review of the 72-hr and 7-day histories for all MC members, the PJM/S, JMPI1, 23PJ2, 23PJ3, AJM/G, and AFE2 and witness testimony showed no indication that lifestyle factors contributed to the mishap (Tab X-7 to X-8).

e. Crew Rest and Crew Duty Time

A review of the 72-hr histories for MC, the PJM/S, 23PJ2, 23PJ3, and AJM/G showed that crew rest and crew duty time requirements were in accordance with AFI 11-202v3, *General Flight Rules*, and AFI 11-410, *Personnel Parachute Operations* (Tabs X-7 to X-8, BB-41, and BB-117 to BB-118). The MP, MCP, IL, ML4, and 23PJ2 completed the Fatigue Avoidance Scheduling Tool immediately after landing (Tab F-3 to F-12). There is no evidence to suggest fatigue contributed to the mishap (Tabs V-9 and X-7 to X-8).

10. OPERATIONS AND SUPERVISION

a. Operations

The 24 SOW hosted the ST Rodeo, which included multiple competitive events over the course of five days to include: Physical Fitness, Static-Line jump, Shooting, Obstacle Course, Land Navigation, and other competitive events (Tab CC-84). On the day of the mishap, there was a static-line jump event in the morning and land navigation and obstacle course in the afternoon and evening (Tab CC-132). There is no evidence to suggest any of the planned events were outside of normal operational training requirements.

The JMs and event cadre attended the 0530 JM brief at the PEF and the first jump planned for 0900L (Tab CC-24, CC-42, and CC-105). The PJM/S gave both the JMB and the AC Brief (Tabs CC-135 to CC-162, V-18.5, and V-18.10). Prior to the morning of 5 November 2019, the teams expected to conduct only one jump that day (Tab V-18.32). However, the cadre informed them that morning at the JMB that they would jump twice (Tabs CC-37 and V-18.32). The operations tempo planned and executed on the day of the event was normal, with the exception of adding a second jump (Tab V-32.13 and V-32.15). However, other than some jumpers not enjoying static-

line jumps, the second jump was not a significant impact on the morning's operational tempo (Tab V-18.33 and V-33.23 to V-33.24). There is no evidence to suggest that the operational tempo of the morning's event contributed to the mishap.

b. Supervision

(1) ST Rodeo Oversight and Planning

Per his testimony, 24 SOW/CC (CC1) was aware of this exercise, received a PowerPoint presentation providing an overview of the ST Rodeo, and signed the ORM forms (Tabs V-1.3, V-1.8, and CC-25 to CC-32). The STTS/CC was aware of the event; however, he was not involved in any planning or ORM, and did not contribute any oversight of the ST Rodeo (Tab V-2.3). The STTS/DO also was not involved in the planning, coordination, or execution of this event (Tab V-5.2).

This was a 24 SOW event and EP1 was the primary project officer for the entire ST Rodeo (Tab V-10.3). He is the STTS Operations Superintendent, a combat controller, and a 26-year service member (Tab V-10.3). He led the planning and coordination meetings leading up to the ST Rodeo (Tab V-1.3 and V-10.3). The CSE, a pararescuemen for 24 years and a qualified JM, was the primary supervisor of the jump event (Tab V-16.2 to V-16.4). Medical personnel were present during the airdrop operations (Tab Z-10). The MJM and members of his team, as well as the AJM/G were current in accordance with regulatory guidance and documented in the Aviation Resource Management system (Tabs O-59 and T-5 to T-10). The PJM/S regained currency under the supervision of AJM/G on the first sortie (Tab T-3 to T-4).

The EP1, CSE, JMPII, RMO, and JMs from both the 23 STS and STTS oversaw jump operations, assisted with JMPIs, and equipment management (Tab V-10.2, V-16.15, V-35.6, and V-30.17). The CSE, AJM/G, and PJM/S were involved with a portion of the planning (Tab V-16.2 to V-16.4, V-18.5 to V-18.9, and V-20.9 to V-20.16).

The operational supervision of this event did not provide all of the proper safety equipment and personnel on the morning of the mishap (Tabs V-10.10 to V-10.14, V-14.7, V-16.13 to V-16.19, V-30.6, BB-38, BB-48, BB-50, and BB-199). Also, the cadre performing JMPIs did not check the proper configuration of the T11-R inserts and side tuck tabs (Tabs V-35.4 to V-35.10, Z-11, Z-28, Z-40, Z-42, Z-49, Z-54, Z-58, Z-60, Z-62, and BB-45). The PJM/S and AJM/G were in the aircraft for the static-line jump event (Tab V-18.5). During the airborne operations of the event, PJM/S acted as the Primary Jumpmaster and Safety while AJM/G scored JM procedures (Tabs V-18.2, V-20.2 to V-20.3, Z-53, and Z-57). Neither the PJM/S nor the AJM/G, detected and corrected misconfigured T-11R reserve parachutes during jump operations (Tabs V-18.12 to V-18.13, Z-11, Z-28, Z-40, Z-42, Z-49, Z-54, Z-58, Z-60, Z-62, BB-47, BB-92, and BB-94 to BB-95).

Formal ORM for the mishap jump event was accomplished and assessed as medium (Tab CC-25 to CC-26). The CSE drafted the squadron-level ORM calling for, among other things, personal protective equipment and flotation to be worn as briefed by the primary JM and two safety swimmers staged on boats (Tab CC-163). The CSE submitted his worksheet to EP2 for further coordination (Tab V-9.4 to V-9.9, V-10.11 to V-10.15, and V-16.3 to V-16.4). Per discussion with other planners, EP2 intended to remove the references to boats, swimmers, and LPUs (Tab V-9.8). However, EP2 did not remove reference to the swimmers while transferring information from the

CSE's worksheet to AF Form 4437 and submitted the form to CC1 for approval and signature (Tabs V-9.7 and CC-26).

(2) 24 SOW Culture

24 SOW leadership testified that the wing developed a culture of complacency regarding risk acceptance and a reduced emphasis on training standards (Tab V-1.6, V-1.9, V-2.10 to V-2.11, and V-16.29). Event planners provided inconsistent testimony regarding equipment to be supplied to the jumpers and safety requirements (Tab V-9.4, V-10.4, V-12.3, V-18.8, and V-30.15). The ORM form submitted to the wing commander for approval contained errors (Tab V-9.8). The JMPI1 did not follow regulatory guidance when he allowed the MJM to leave his JMPI without placing T-11R inserts into his parachute (Tab V-35.7 and V-35.11). The PJM/S and the MJM failed to remedy the MJM's T-11R Reserve parachute before PJM/S gave him control of the right side paratroop door (Tab Z-49).

(3) 24 SOW Safety, Standards and Evaluations (Stan/Eval), and Training Programs

Stan/Eval is a concept in which everyone is responsible for maintaining standards, and the program provides an indicator of training effectiveness and unit capability (Tab BB-191). CC1 testified that the 24 SOW Stan/Eval function "didn't exist to the same degree that it should exist" (Tab V-1.4). He stated that the Stan/Eval program was under-resourced, with two or three people in the 720 STG for a group of 1000 operators (Tab V-1.13).

The Air Force's risk management process is consolidated under a director or chief of safety (Tab BB-212 and BB-217). The chief of safety must be qualified in the unit's primary weapons system or have a safety officer so-qualified (Tab BB-217). EP1 is the civilian 24 SOW Chief of Safety and works as a reservist in the AFSOC Safety Office (Tab V-9.2). He testified that he has a law enforcement and tactical background and has worked in flight safety, ground safety and weapons safety, but he is not a jumper (Tab V-9.2 to V-9.4). He is the only person in his office and he is TDY two weeks a month and missed "quite a few" ST Rodeo planning meetings (Tab V-9.3 and V-9.7). He testified that he made an error when using his phone to transcribe ORM material from their old ST risk management form to a new Air Force form (Tab V-9.3 and V-9.7).

11. HUMAN FACTORS

a. Introduction

The AIB considered all human factors as prescribed in the Department of Defense Human Factors Analysis and Classification System (Tab BB-163). The following human factors were directly involved in this mishap.

b. Human Factor 1: SI003 Failed to Provide Proper Training

Onetime or recurrent training programs, upgrade programs, transition programs or any other local training is inadequate or unavailable, etc (Note: the failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem.) (Tab BB-230).

c. Human Factor 2: OP003 Provided Inadequate Procedural Guidance or Publications

Provided Inadequate Procedural Guidance or Publications is a factor when written direction, checklists, graphic depictions, tables, charts or other published guidance is inadequate, misleading or inappropriate (Tab BB-229).

d. Human Factor 3: OP006 Inadequate Program Management

Inadequate Program Management is a factor when programs are implemented without sufficient support, oversight or planning. (Tab BB-230).

e. Human factor 4: SI001 Supervisory/Command Oversight Inadequate

The availability, competency, quality or timeliness of leadership, supervision or oversight does not meet task demands (Tab BB-230). Inappropriate supervisory pressures are also captured under this code (Tab BB-230).

12. GOVERNING DIRECTIVES AND PUBLICATIONS

a. Publicly Available Directives and Publications Relevant to the Mishap

- (1) AFI 51-307, *Aerospace and Ground Accident Investigations*, 18 March 2019
- (2) AFI 91-204_AFGM2019-01, *Safety Investigations and Hazard Reporting*, 30 July 2019
- (3) AFI 11-410, *Personnel Parachute Operations*, 4 August 2008
- (4) TC 3-21.220 (TC 3-21.220/MCWP 3-15.7/AFMAN 11-420/NAVSEA SS400-AF-MMO-010), *Static-line Parachuting Techniques and Training*, October 2018
- (5) AFI 13-217 AFSOC Supplement, *Drop Zone and Landing Operations*, 15 May 2014
- (6) AFI 48-123, *Medical Examinations and Standards*, 5 November 2013
- (7) AFI 48-149, *Flight and Operational Medical Program*, 12 November 2014

NOTICE: All directives and publications listed above are available digitally on the Air Force Departmental Publishing Office website at: <http://www.e-publishing.af.mil>.

b. Other Directives and Publications Relevant to the Mishap

- (1) COMNAVSEASYSYSCOM, *MC-6 with the T-11R Reserve Safety of Use Message 14-003*, 28 August 2014
- (2) Memorandum for All Air Force Parachutists, HQ USAF/A3OS, *T-11R Reserve Parachute Safety Restrictions*, 31 October 2014
- (3) COMNAVSEASYSYSCOM, *Interim Solution to MC-6 with T-11R Reserve Material Deficiency*, 22 December 2014
- (4) COMNAVSEASYSYSCOM, *Implementation Procedures for the T-11R Inserts*, 19 February 2015
- (5) Department of the Army, United States Army Evaluation Center, *Amendment 1 to the Safety Confirmation for the T-11 Advanced Tactical Parachute System (ATPS) Provided for Type Classification-Standard (TC-STD) and Full Material Release (FMR)*, 9 February 2015

- (6) Department of the Army, *Product Manager Soldier Clothing and Individual Equipment, Rigger Procedures for Operating and Maintaining T-11 Reserve Parachute Inserts*, 1 May 2015
- (7) Department of the Army, *Product Manager Soldier Clothing and Individual Equipment, Jumpmaster Procedures for Operating and Maintaining T-11 Reserve Parachute Inserts*, 1 May 2015
- (8) Memorandum for All Air Force Parachutists, HQ USAF/A3OS, *Mandatory Use of T-11 Reserve Parachute Inserts, Part # 11-1-9497*, 6 May 2015
- (9) Ground Precautionary Action Message, TACOM LCMC GPA 15-012, *Packing Orientation Clarification of a Fully Seated T-11R Reserve Ripcord Handle Tuck Tab*, 19 May 15
- (10) Flight Crew Information File 2015-110, AFSOC/A3V MSG 113, *Mandatory Use of T-11 Reserve Parachute Inserts Part #11-1-9497*, 21 May 2015
- (11) AF IMT 3823, Drop Zone (DZ) Survey, Air Commando DZ Hurlburt Field FL, 19 December 2018
- (12) Army Technical Manual 10-1670-327-23&P/Air Force Technical Order 14D1-2-472-2/Navy NAVSEA SS400-A1-MMO-010, *MC-6 Personnel Parachute System*, 15 January 2009, change No 3, 15 September 2012

c. Deviations from Applicable Guidance

(1) LPU, Boat Detail, and Safety Swimmer Guidance

According to AFI 13-217_AFSOCSUP, *Drop Zone and Landing Operation*, 15 May 2014, paragraph 2.5.9.6.2., “USAF parachutists will wear AF and/or MAJCOM-approved flotation devices when a water obstacle is within 1,000 meters of the intended jumper dispersal pattern (CARP to DZ), or when directed by AFMAN 11-420 (I)” (emphasis added) (Tab BB-38). Multiple JMs testified that LPUs were not required because there were no water hazards within 1,000 meters of the jumper dispersal pattern (Tab V-10.8 to V-10.10, V-16.16, and V-18.8). However, AFMAN 11-420, paragraph 12-111, states, “Jumpers wear life preservers whenever a flight is conducted over water” (Tab BB-48). In addition, AFMAN 11-420, Appendix D, *Drop Zone Risk Assessment Analysis*, states, “When conducting an Airborne operation deliberate risk assessment, the commander should consider the proximity of the water hazard to the DZ” (Tab BB-50). “High risk conditions exist if a water hazard is within 1000 meters of any edge of the DZ, water depth is four feet or more, and water is 40 feet wide or wider. If a high risk condition exists, it is necessary to use a boat detail and have jumpers use approved life preservers” (Tab BB-50). A boat detail includes two boat operators for each boat and two recovery personnel/safety swimmers (Tab BB-199). Per this guidance, LPUs and boats with safety swimmers were required for the ST Rodeo static-line jump event via two criteria. First, the planned aircraft run-in tracked over the Gulf of Mexico and Santa Rosa Sound (Tab DD-268 to DD-270). Second, the edge of Air Commando DZ was within 1000 meters of both Santa Rosa Sound and Gator Lake, both of which meet the definition of a water obstacle (Tabs E-3 to E-4, Z-6 to Z-8, and BB-48).

(2) DZ Survey Preparation

AF IMT 3823, Drop Zone Survey, has mandatory completion sections on the front page of the document, while the back page contains a remarks section for additional content (Tab E-3 to E-4). AFI 13-217_AFSOCSUP, *Drop Zone and Landing Zone Operations*, paragraph A4.1.11, states that remarks section must “include any statements concerning safety in the DZ area (i.e., hazards,

towers, etc.). Annotate all charted or observed bodies of water and power lines within 1,000 meters of the DZ boundaries” (Tab BB-39). The Air Commando DZ survey was prepared by the 1st Special Operations Support Squadron and approved by the 1 SOG (Tab E-3). Section 11, Remarks, provides critical hazard data in a manner inconsistent with AFI 13-217 guidance (Tab BB-39). Specifically, Item 5 states, “Obstacles / Hazards Outside DZ boundaries are estimated distance and direction from PE PI” (Tab E-4). The survey then lists five known hazards, including Gator Lake (Tab E-4).

The Santa Rosa Sound is not listed within the known obstacles/hazards section on the Commando DZ Survey (Tab E-4). Rather, it is described separately in Remarks item 9b, “Santa Rosa Sound is located 1,400 meters south and the Gulf of Mexico is located 2,700 meters south of the DZ. Depending on A/C run in, PFD [Personal Flotation Devices] may be needed” (Tab E-4). However, satellite imagery shows that Santa Rosa Sound is less than 1000 meters from the DZ edge (Tabs E-6 and Z-7 to Z-8).

(3) Static-line JM Compliance with AFMAN 11-420 Regarding T-11R Inserts

AFMAN 11-420, paragraph 2-40, states that, “use of T-11R inserts ... with the T-11 reserve parachute are mandatory for all primary jumpmasters (PJMs), assistant jumpmasters (AJMs), and No. 1 jumper assisting in pushing a door bundle” (Tab BB-41). Paragraph 2-41 states “All jumpers that have the T-11 reserve parachute inserts will receive a final visual inspection of their reserve prior to assuming duties at the door or ramp” (Tab BB-42). The regulation contains figure showing fully seated inserts (Tab BB-42). JMPII conducted JMPIs on the MJM and his team (Tab V-35.9). He did not place the T-11R tuck tab inserts in the tuck tab pockets (Tab V-35.7 and V-35.11). According to JMPII, the MJM would have inserted his T-11R inserts after his JMPI (Tab V-35.10).

In addition to deviations by JMPII and PJM/S discussed above, several other jumpers and JMs revealed they did not know what the inserts were, how they were supposed to be utilized, or what the yellow safety tape on the carrying handle of the T-11R parachute represented (Tabs N-26.1, V-2.7, V-12.12, V-16.20, V-17.11 to V17-12, V-18.10 to V-18.12, and V-31.18 to V31.19).

AFMAN 11-420, Chapter 10, paragraph 23 states, “The safety will inspect the JMs rip cord assembly to ensure the tuck tabs are in place and the T-11R inserts are installed properly, before the JM assumes control of the paratroop door” (Tab BB-47). PJM/S testified that he performed a general inspection of the JMs before they assumed control of the paratroop door, but did not testify that he verified correct T-11R insert positioning (Tab V-18.12 to V-18.13, V-18.15, and V-19.14). In-flight video footage and photographic evidence from the jump event shows the PJM/S interacting with the MJM and the other JMs prior to their assuming duties at the paratroop door, but PJM/S did not correct at least four jumpmasters with improperly positioned or missing tuck tab inserts (Tab Z-26 to Z-27, Z-32, Z-53 to Z-54, and Z-57 to Z-58). This included the MJM immediately prior to his T-11R actuation and extraction from the aircraft (Tab Z-48 to Z-51).

(4) Publication of Parachute Rigger Technical Order Guidance for Packing of T-11R Parachute

The Army maintains and updates TO 14D1-2-472-2 regarding parachute packing procures (Tabs V-28.4 and BB-176). On 19 May 2015, the US Army Tank-Automotive & Armaments Command Life Cycle Management Center (TACOM/LCMC) Safety Office issued a Ground Precautionary

Action (GPA) Message #15-012, *Packing/Orientation Clarification of a Fully Seated T-11R Reserve Ripcord Handle Tuck Tab* (Tab C-66). The message provided interim visual guidance and clarification to Army, Air Force, and Navy parachute riggers on how to properly configure side tuck tabs so that it does not expose loose fabric to relative winds (Tab C-77). GPA #15-012, Section 7a, states that the message would be incorporated into TO 14D1-2-472-2 by the fourth quarter of fiscal year 2016 (Tab C-68). However, the Army's most recent update to TO 14D1-2-472-2 prior to the mishap was in 2012 (Tab BB-180). TACOM/LCMC personnel (WIT6) testified that funding and other priorities prevented the incorporation of GPA #15-012 into the TO (Tab V-29.5).

(5) Dissemination of Sister Service Guidance for Storage of T-11R Parachute Tuck Tab Inserts to Parachute Riggers

On 19 February 2015, US Navy Office of COMNAVSEASYS COM sent Administrative Message, *Implementation Procedures for the T-11R Inserts Used with the U.S. Navy T-11R Reserve Parachute* to internal US Navy channels and USSOCOM (Tab C-40). Section 5 of the message directs parachute riggers to remove T-11R inserts as soon as practical after each operation to reduce the stretching of the top and bottom tuck tab pockets and to store the T-11R reserve with the T-11R inserts removed (Tab C-42 and C-44). Despite being forwarded to USSOCOM, there is no evidence to indicate that Air Force riggers in the STTS or 23 STS received this message or were aware of this guidance (Tab V-1.6 to V-1.7, V-12.8 to V-12.10, V-14.5, V-21.5, and V-22.7 to V-22.8). Riggers in the 23 STS/AFE stated that they store T-11R parachutes with the inserts placed in the tuck tab pockets (Tab V-12.11, V-14.5, V-21.5, and V-21.14). Alternatively, a STTS/AFE rigger stated that his unit stores T-11R parachutes without inserts, but that there was no known procedural basis for this practice (Tab N-25.13). On the day of the mishap, 23 STS supplied the T-11R parachutes and they were issued to jumpers with the inserts pre-positioned in the tuck tab pockets (Tabs N-26.12, V-30.15 to V-30.16, and Z-65 to Z-67).

(6) Dissemination of Sister Service Guidance for Correct Seating of T-11R Parachute Side Tuck Tabs to JMs

The previously described 19 February 2015 COMNAVSEASYS COM Administrative Message, *Implementation Procedures for the T-11R Inserts Used with the US Navy T-11R Reserve Parachute*," also provided guidance to JMs regarding correct positioning of the T-11R side tuck tabs (Tab C-44 to C-46). The message requires JMs to ensure that the side tuck tabs are fully seated in their respective tuck tab pockets and that the side binding tape on the ripcord is lying relatively flat and not exposing the second row of stitching on the underside of the binding tape (Tab C-44). As with AF riggers, there is no evidence to indicate that JMs in 24 SOW operational or training units received this guidance (Tabs N-26.12, V-1.6 to V-1.7, V-12.8 to V12.10, V-22.3 to V22.4, and V-35.3 to V-35.4).

6 MARCH 2020

L. KIP CLARK
Major General, USAF
President, Accident Investigation Board

STATEMENT OF OPINION

MC-130H T/N 88-0194 SPECIAL TACTICS JUMPMASER HURLBURT FIELD, FL 5 NOVEMBER 2019

Under 10 U.S.C. § 2254(d) the opinion of the accident investigator as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.

1. OPINION SUMMARY

On 5 November 2019, the mishap jumpmaster (MJM) was assigned to the 23d Special Tactics Squadron, 720th Special Tactics Group, 24th Special Operations Wing (24 SOW), Hurlburt Field, FL. He was flying on an MC-130H (T/N 88-0194) engaged in the Special Tactics Rodeo static-line jump competition. At approximately 1116 local time, the MJM was performing jumpmaster (JM) duties, which involved leaning out the mishap aircraft's (MA) right paratroop door to spot the jumper release point. Following his paratroop door check, the MJM's T-11R reserve parachute inadvertently deployed into the relative wind outside the MA and extracted the MJM from the MA. The preponderance of the evidence indicates the MJM impacted the aft doorframe and exterior side of the aircraft, which resulted in fatal injuries. Photographic evidence showed the MJM's main and reserve parachutes fully inflated as he descended into the Gulf of Mexico. His remains have not been recovered.

I find, by the preponderance of the evidence, the mishap was caused by an incorrectly configured T-11R reserve parachute as a direct result of JM procedural knowledge on the T-11R Reserve inserts and side tuck-tabs.

I also find, by the preponderance of evidence, the following factors substantially contributed to this mishap: The Technical Order (TO) process failed to deliver information effectively. Leadership lacked investment in time, intellect and resources for Training and Standards/Evaluations program management. Inadequate organizational leadership led to insufficient command oversight of this event.

2. CAUSE

I found, by the preponderance of the evidence, that the MJM's T-11R ripcord assembly failed to keep the parachute in its container because his T-11R reserve parachute inserts were not properly seated in the top and bottom tuck tab pockets and the left side tuck tab was not properly inserted under the its side tuck tab pocket. These conditions of the MJM's reserve parachute allowed loose fabric under the reserve parachute ripcord handle to catch relative wind and inadvertently deploy the T-11R reserve parachute. Almost instantaneously, the MJM was extracted from the aircraft at

a velocity relative to the aircraft airspeed, which was 130 knots (150 MPH). He hit the aft doorframe with enough force that his equipment dented and scratched the metal door track guard. The preponderance of the evidence indicates the MJM sustained fatal injuries during impact with the aircraft.



Paratroop Door Pre-Mishap



Paratroop Door Post-Mishap

I also found, by the preponderance of the evidence, that the MJM's unsafe T-11R configuration was the direct result of a lack of JM procedural knowledge within the 24 SOW and subordinate units on the T-11R Reserve inserts and side tuck-tabs.

Regulatory guidance mandates two independent safety checks of the equipment. First, a qualified JM must perform a jumpmaster personnel inspection prior to the mission. This inspection includes checking the T-11R side tuck tabs for loose material. For jumpers requiring T-11R inserts, after inspecting the jumper's parachute components, the JM performing the Jumpmaster Personnel Inspection (JMPI) is supposed to place the T-11R inserts into the top and bottom tuck tab pockets. As depicted in AFMAN 11-420, the inserts are supposed to be seated so that only the yellow fabric on the end is visible outside of the pockets. Second, a qualified JM performing the duties as safety on the aircraft is supposed to inspect the JM's rip cord assembly to ensure the tuck tabs are in place and the T-11R inserts are installed properly before the JM assumes control of the paratroop door.

On 5 November 2019, JMPI1 performed the JMPI on MJM and his team before both of their scheduled jumps. On both occasions, JMPI1 did not call attention to the loose material on MJM's left side tuck tab. Also on both occasions, JMPI1 did not follow regulatory guidance and place T-11R inserts into the MJM's T-11R top and bottom tuck tab pockets. Instead, he left the task to the MJM to accomplish himself. Aboard the aircraft, photographic evidence shows several JMs performing duties in the door with incorrect or missing T-11R tuck tab inserts. The lack of JM training on the T-11R Reserve inserts and side tuck-tab was causal to the mishap. The Primary Jumpmaster/Safety (PJM/S) and MJM failed to remedy the situation with the MJM's T-11R Reserve parachute before PJM/S gave him control of the right side paratroop door.



**MJM immediately after his first jump with tuck tab inserts
Improperly seated and loose left side tuck tab**



**MJM just prior to the mishap with bottom tuck tab insert
improperly seated and loose left side tuck tab**

By regulation, all primary jumpmasters (PJMs) and Assistant Jumpmasters (AJMs) operating in a paratroop door are required to wear a reserve parachute with the inserts fully seated in the T-11R's top and bottom tuck tab pockets. The inserts add friction to the reserve parachute handle to prevent the fabric of the parachute reserve ripcord handle from catching the relative wind and inadvertently actuating the parachute. In his testimony, PJM/S stated that inserts were not required for any jumpers on 5 November 2019. However, each team had a JM operating in the paratroop door. PJM/S clearly misunderstood the regulatory requirements of inserts and procedures as the safety.

The unsafe situation was not limited to JMPI1 and PJM/S. AJM/G was also aboard the aircraft to grade the competitors. While his grading sheet purported to evaluate JM procedures with the

safety, AJM/G testified that he was not familiar with those actions. Additionally, regulatory guidance requires use of life preserver units (LPUs) and rescue boats and swimmers when any edge of drop zone is within 1000 meters of water, and LPUs when operating over open water. There are two bodies of water within 1000 meters of Air Commando DZ: Gator Lake to the northeast and Santa Rosa Sound to the south. The south-to-north approach to the DZ required the MA to fly over the Gulf of Mexico. Event planners, who were experienced jumpmasters themselves, determined that rescue boats and swimmers would not be used. There was ambiguity at a planning meeting whether they would provide LPUs for the jumpers and errors in the Operational Risk Management assessment submitted to the wing commander for approval and signature. Ultimately, there were no LPUs for the jumpers.

I find by a preponderance of the evidence that event planners, safety personnel, numerous jumpmasters, and jumpers did not understand regulatory requirements for safe static-line jump operations. I view this widespread misunderstanding to be a training issue within the 24 SOW and not an isolated issue with particular individuals.

Finally, there is evidence that pararescuemen aboard the MA prepared to perform a rescue jump, but they had to take off their parachute equipment to put on the mishap aircrew's LPUs and re-don and reconfigure their parachutes. The Mishap Pilot did not authorize them to exit the aircraft. It is my opinion that it was an unrealistic expectation to perform a rescue jump close enough to the MJM's location in the water in time to recover the MJM before he submerged. I believe the preponderance of the evidence indicates the MJM landed in the water with two inflated parachutes and fatal bodily injuries. Because of the weight of the MJM's body and equipment, he submerged within minutes.

3. SUBSTANTIALLY CONTRIBUTING FACTORS

a. Technical Order (TO) Management and Dissemination of Sister-Service Guidance

I find, by a preponderance of the evidence, the TO publication process regarding T-11R reserve parachute side tuck tabs and failure to disseminate sister-service safety guidance regarding parachute procedures substantially contributed to this mishap. As a result, parachute riggers received inadequate procedural guidance.

As the program manager for parachute operations, the Army maintains and updates the TO applicable to packing and storing the T-11R parachute. In 2015, the Army issued a Ground Precautionary Action (GPA) message providing visual guidance and clarification to Army, Air Force, and Navy parachute riggers on how to configure side tuck tabs so that they do not expose loose fabric to relative winds. The GPA provided time-sensitive guidance until the TO could be updated. The terms of the GPA stated that the guidance would be included in a new version of the TO in 2016. The Army failed to update the TO in 2016 or the years since. Intended to be temporary, a five year-old GPA is not an effective way to instruct parachute riggers.

The Navy published guidance on procedures for the storage of the T-11R reserve parachutes, specifically to not store parachutes with inserts in the tuck tab pockets because of the danger of stretching the pockets. The Navy forwarded this guidance to US Special Operations Command,

but there is no indication that Air Force tactical units received this guidance. Ideally, this information would also be consolidated into a TO for the benefit of all end users.

b. Training and Standards and Evaluation (Stan/Eval) Program Management

I find, by a preponderance of the evidence, inadequate Training and Stan/Eval program management was a substantially contributing factor to this mishap. In the weeks and months preceding the mishap, if leadership would have placed emphasis and resources on these programs, it is my belief the outcome could have been different.

The Special Tactics (ST) community is required to maintain training currency in an extraordinary breadth of skillsets. However, I believe the organizational infrastructure on the date of the mishap did not effectively meet the demand, and the culture did not emphasize the importance or function of Training and Stan/Eval programs. In his own words, the wing commander believed that these programs were under-resourced given the population of ST Airmen in his wing.

The evidence shows a high percentage of individuals interviewed lacked knowledge of regulatory guidance within the ST community (PJs, Combat Controllers, and parachute riggers) regarding static line operations and the T-11R reserve parachute, specifically the inserts. Additionally, testimony revealed a limited knowledge of regulatory guidance with regards to LPU and water hazard requirements. The sample size was small; but regardless, this indicates a lack of training and adherence to, or knowledge of, standards. Therefore, a lack of an effective Training and Stan/Eval programs in conjunction with appropriate training contributed to a deterioration in the foundation of knowledge and discipline.

c. Inadequate Command Oversight

I find, by a preponderance of the evidence, inadequate organizational leadership leading to a lack of command oversight over the ST Rodeo was a substantially contributing factor to this mishap.

Personnel from six 24 SOW squadrons located throughout the United States competed in this event. A significant number of ST Airmen from the wing and Special Tactics Training Squadron (STTS) at Hurlburt Field contributed to its planning and execution. However, testimony and evidence revealed minimal involvement by command in this event. Although EP1, the lead coordinator for this event, was a highly experienced ST Airman, the complexity of the ST Rodeo should have involved greater level of command oversight. According to the STTS squadron commander, he had no involvement despite the fact that most of the lead planners were in his squadron. The wing commander had minimal involvement; he signed off on an Operational Risk Management (ORM) form that, unknown to him, contained errors regarding rescue swimmers and lacked satisfactory rigor regarding mitigation of water hazards. As such, the oversight by the chain of command was inadequate for a competition of this magnitude.

4. CONCLUSION

I find, by the preponderance of the evidence, the mishap was caused by an incorrectly configured T-11R reserve parachute as a direct result of JM procedural knowledge on the T-11R Reserve inserts and side tuck-tabs.

I also find, by the preponderance of evidence, the following factors substantially contributed to this mishap. The TO process failed to deliver information effectively. The lack of a leadership driven investment in time, intellect and resources for Training and Standards/Evaluations programs eroded the disciplined act of attention to detail and inadequate organizational leadership led to insufficient command oversight of this event.

6 MARCH 2020

L. KIP CLARK
Major General, USAF
President, Accident Investigation Board

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