

Combat Search and Rescue



Air Force Doctrine Document 2-1.6
30 September 1998

19981123 149

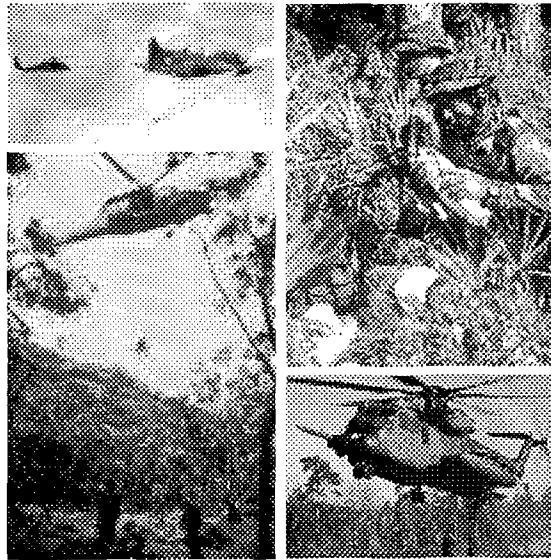
BY ORDER OF THE
SECRETARY OF THE AIR FORCE

AIR FORCE DOCTRINE DOCUMENT 2-1.6
30 SEPTEMBER 1998

Supersedes: AFDD 34, 30 December 1994
OPR: HQ AFDC/DR (Maj Richard W. Feeser, USAF)
Certified by: HQ AFDC/DR (Lt Col Thomas A. Bowermeister, USAF)
Pages: 52
Distribution: F
Approved by: Maj Gen Timothy A. Kinnan, USAF
Commander, Air Force Doctrine Center

FOREWORD

This document establishes operational doctrine for Air Force combat search and rescue (CSAR) operations and outlines the principles and procedures which guide Air Force CSAR organization, command and control, force composition, employment, and planning considerations. The Air Force organizes, trains, and equips personnel to conduct CSAR and search and rescue (SAR) operations



across the range of military operations. The Air Force has a rich history in CSAR operations dating back to World War II. Air Force combat rescue philosophy is based on maintaining a capability to recover combat aircrews and other isolated personnel from hostile or denied areas. This philosophy further assumes rescue forces are placed at risk to recover personnel. Successful CSAR enhances the joint force commander's (JFC) combat capability by returning personnel to areas under friendly control and denying adversaries the opportunity to exploit the intelligence and propaganda value of captured personnel. Additionally, the presence of a robust and viable CSAR force increases morale and, ultimately, operational performance.

TIMOTHY A. KINNAN
Major General, USAF
Commander, Air Force Doctrine Center

30 September 1998

TABLE OF CONTENTS

	Page
INTRODUCTION	v
CHAPTER ONE—Overview	1
General	1
Air Force CSAR History	2
Missions	3
CSAR Benefits	4
CHAPTER TWO—Organization and Command and Control	5
General	5
Combat Rescue Forces Command Authority	5
Joint Force Commanders	6
Joint Force Air Component Commander	6
Commander, Air Force Forces	7
Joint Search And Rescue Center	8
Rescue Coordination Center	8
CHAPTER THREE—Air Force CSAR Elements	9
Rescue Coordination Center	9
Director, Rescue Coordination Center	10
Search and Rescue Duty Officer	10
Unit Commanders	10
Isolated Personnel	11
Combat Search and Rescue Task Force	11
Airborne Mission Commander	13
On-scene Commander	13
Recovery Vehicles	14
Fixed-wing Rescue Assets	14
Individual Pararescue Specialist	14
Rescue Escort	15
Rescue Combat Air Patrol	15
Forward Air Controller	16
Other Forces	16
Special Tactics Teams	16
CHAPTER FOUR—Concept of Operations	17
General	17
Notification	18
Initial Response	18
Air Force CSAR Capabilities	19
Threat Environments	20

Employment Considerations	22
Mission Planning	22
Locating Isolated Personnel	23
Search Operations	23
Authentication	23
Risk Management	24
CHAPTER FIVE—CSAR Planning and Support	
Considerations	27
Operational Considerations	27
Intelligence	27
Global Geospatial Information And Services	28
Communications	28
Support Planning	29
Deployment Characteristics	29
Air Force RCC Mobility Requirements	29
Operations Security	30
Military Deception	30
Climate and Weather	30
Astronomical Conditions	31
Safety and Risk Management	31
Technological Considerations	31
CHAPTER SIX—Training and Education	33
Commanders' Responsibilities	33
Aircrews	33
RCC Controllers	34
Exercises	34
Summary	34
Suggested Readings	37
Glossary	38

INTRODUCTION

Those who are possessed of a definitive body of doctrine and of deeply rooted convictions upon it will be in a much better position to deal with the shifts and surprises of daily affairs than those who are merely taking short views...

Winston Churchill

PURPOSE

Air Force Doctrine Document (AFDD) 2-1.6 provides Air Force doctrine for combat search and rescue (CSAR) operations and supports basic aerospace power doctrine. It replaces AFDD 34 dated 30 December 1994.

APPLICATION

This AFDD applies to all active duty, Air Force Reserve, Air National Guard, and civilian Air Force personnel. This doctrine is authoritative but not directive. Commanders are encouraged to exercise judgment in applying this doctrine to accomplish their missions.

SCOPE

This document establishes the roles and responsibilities of Air Force personnel supporting CSAR operations and outlines the principles for planning and executing CSAR operations supporting theater campaign objectives. It describes the mission, command relationships, force composition, and planning considerations necessary to conduct operations. It also discusses the relationship between the Air Force component and joint combat search and rescue organizations and discusses the role of the Commander, Air Force Forces (COMAFFOR), as well as CSAR organization, responsibilities, capabilities, and procedures.

CHAPTER ONE

OVERVIEW

Preserving the life and well-being of our Service members and civilians who are placed in harm's way while defending our Nation's interests is, and must remain one of our highest priorities.

William J. Perry, Secretary of Defense
Secretary of Defense memorandum, 26 January 1996

GENERAL

Air Force CSAR is a specific task performed by rescue forces to effect the recovery of distressed personnel during major theater war or military operations other than war (MOOTW). Accomplished with a mix of dedicated and augmenting assets, CSAR is an element of personnel recovery (PR). PR is the umbrella term for operations focusing on recovering captured, missing, or isolated personnel from danger. The Air Force organizes, trains, and equips personnel to conduct CSAR operations across the range of military operations. *However, downed crewmembers (DCMs) are the most likely Air Force personnel to require a US Air Force CSAR effort during military operations. As such, our CSAR doctrine focuses on DCM recovery.*

Joint force commanders (JFCs), who may be commanders in chief (CINCs), subunified commanders, or joint task force (JTF) commanders, normally delegate the responsibility to recover isolated personnel to joint force component commanders. **Component commanders of a joint force have primary authority and responsibility to plan and conduct CSAR in support of their own operations.** The COMAFFOR should establish a rescue coordination center (RCC) to coordinate Air Force CSAR activities, including coordination with the joint search and rescue center (JSRC) and other component RCCs, as appropriate. *The Air Force component RCC should normally be collocated with the air operations center (AOC) to optimize integration and be manned with personnel specifically trained to coordinate CSAR operations.* CSAR and SAR organizational requirements may vary between theaters due to operational requirements and procedures.



Lt Devon Jones being rescued after his F-14 was shot down over Iraq.

By direction of the Chairman of the Joint Chiefs of Staff (CJCS), **theater combatant commanders should establish a standing JSRC or functional equivalent.** They normally maintain a capability to coordinate and control theater rescue efforts by designating one of the established component commanders responsible to manage and control joint CSAR operations. This component commander should be designated the supported commander for joint CSAR.

AIR FORCE CSAR HISTORY

The Air Force has a rich history in CSAR operations dating back to the Army Air Force (AAF) period of World War II. Heavy combat losses in the European Theater prompted AAF leaders to join efforts with the Royal Air Force Air-Sea Rescue Organization in demonstrating the first United States (US) aviation rescue capability. In the Pacific Theater, each unit developed its own rescue capability to meet unique requirements. By 1946, the Army Air Force had consolidated search and rescue operations and training under the Air Rescue Service (ARS). Credited with nearly 1,000 combat rescues during the Korean conflict, the ARS was redesignated as the Aerospace Rescue and Recovery Service (ARRS) in 1964. During the Vietnam conflict, ARRS units were credited with saving 4,120 lives, of which 2,780 were combat saves. After Vietnam, the ARRS established the Air Force RCC and began providing missile site support to Stra-

tegic Air Command and logistic support to remote Air Force sites. In 1983, ARRS was merged with Air Force special operations forces to form the 23d Air Force under Military Airlift Command (MAC). In 1989, Headquarters Air Rescue Service was activated under MAC to rebuild a dedicated combat rescue capability. In 1993, ARS was inactivated and the air rescue forces were transferred to the Combat Air Forces (CAF).

MISSIONS

Air Force combat rescue forces deploy to conduct CSAR with dedicated rotary- and fixed-wing aircraft, specially trained aircrews, and support personnel in response to theater CINC taskings. **The primary mission of Air Force CSAR is to recover downed crewmembers and other isolated personnel.** *Rescue forces may also conduct collateral missions unique to their capabilities, such as civil SAR, emergency aeromedical evacuation, disaster relief, international aid, noncombatant evacuation operations (NEO), counterdrug activities, and space shuttle support.* Basic aircraft and aircrew qualification permits aircrews to conduct rescue operations during MOOTW.

Bat 21

As the flight continued its right turn to depart the target area, another site began tracking the aircraft. It was located northwest, just above the DMZ. Bat 21 was between the site and the bombers, and was level at twenty-nine thousand feet. The site launched three missiles at the formation. One of the [electronic warfare officers] EWOs on Bat 21 electronically observed the site as it began tracking his aircraft, and he detected the [surface-to-air missile] SAM missile launches. He called a warning to the flight. For self-protection, the crew of Bat 21 began electronic jamming, and the pilot initiated a right jink turn into the missile. The EWO then called, "No, no, move left, move left!" and the pilot tried to reverse his turn. It was too late. The missile smashed into the middle underside of the aircraft, and the resulting explosion enveloped it in a massive ball of fire. The other aircraft escaped the barrage of missiles.

Lt Col Iceal Hambleton, the navigator of Bat 21, was seated just behind the pilot—the EB-66 did not have a position for a copilot. The missile hit right below Hambleton's seat and knocked out the intercom system. As the aircraft began to drop out of control, the pilot gave Hambleton a hand signal to eject. Hambleton squeezed the ejection handles and rocketed away from the aircraft. As he rose in his ejection seat, he looked down and saw the pilot looking up at him. A few seconds later, he heard another loud explosion. It occurred to him later that either the aircraft had exploded or it had been hit by a second missile. ...Bat 21 Bravo descended with pieces of the aircraft falling around him.

Darrell D. Whitcomb
The Rescue of Bat 21

CSAR BENEFITS

Air Force combat rescue philosophy is based on maintaining a capability to recover combat aircrews and other isolated personnel. This philosophy assumes rescue forces, like other combat forces, will be placed at risk to recover personnel. **Successful Air Force CSAR enhances the JFC's combat capability in at least three ways.** First, *CSAR operations return key personnel to friendly control*, allowing them to fight again. Secondly, CSAR operations often influence the course of national and international politics by *denying adversaries the opportunity to exploit the intelligence and propaganda value of captured personnel*. Lastly, the presence of a robust and viable CSAR force *increases morale, with a resultant increase in operational performance*.

CHAPTER TWO

ORGANIZATION AND COMMAND AND CONTROL

Order or disorder depends on organization.

Sun Tzu

GENERAL

Air Force combat rescue forces and coordination responsibilities are assigned to CAF major commands (MAJCOMs)—Air Combat Command (ACC), Pacific Air Forces (PACAF), and United States Air Forces in Europe (USAFE). During contingencies, these relationships change according to the particular operational plan (OPLAN) or tasking being executed. CAF-gained rescue forces from the air reserve component (ARC) are assigned to Headquarters, Air Force Reserve Command (AFRC), and the Air National Guard (ANG), respectively, until mobilization. Upon mobilization, CAF-gained AFRC/ANG forces are normally attached to the appropriate CAF MAJCOM until change of operational control (OPCON) to the employing commander.

ACC is the Air Force proponent for the CSAR mission. The ACC Commander (COMACC) exercises authority over all active duty US Air Force continental United States (CONUS) rescue forces. *This authority includes responsibility for organizing, training, equipping, and administering assigned forces, and providing these forces to the theater CINCs.* COMACC exercises this authority through subordinate numbered air forces (NAFs) and unit commanders. ACC is also the executive agent for CONUS inland search and rescue. Theater CAF commanders exercise authority over all active duty overseas rescue forces assigned to their theaters through respective NAF and subordinate commanders.

COMBAT RESCUE FORCES COMMAND AUTHORITY

A detailed discussion on the provisions of joint command can be found in Joint Pub 0-2, *Unified Action Armed Forces*. This document details the assignment and purposes of the different types of command authority, including combatant command (command authority) (COCOM), OPCON,

tactical control (TACON), and coordinating authority. Normally, JFCs assign the appropriate level of authority over forces to the supported commander for joint CSAR in accordance with the guidelines in Joint Pub 0-2. **If designated as the supported CSAR commander, the COMAFFOR or Air Force officer serving as joint force air component commander (JFACC) will normally exercise OPCON over Air Force CSAR forces and TACON over other forces involved in a joint CSAR operation.**

JOINT FORCE COMMANDERS

JFCs have the primary authority and responsibility for CSAR in support of US forces within their assigned area of responsibility (AOR), including civilian personnel, such as Civil Reserve Air Fleet (CRAF) crew members and deployed technical representatives. Therefore, *JFCs should establish a standing JSRC to plan, coordinate, and task components to support CSAR operations, review theater plans, and coordinate training and exercises.* Since CSAR is inherently joint and transcends component functional responsibilities and organizational boundaries, the JSRC should be staffed appropriately by each component to coordinate joint rescue requirements. During planning and execution, JFCs should ensure appropriate host-nation policies, laws, regulations, and capabilities are taken into consideration. JFCs should also ensure joint force component commanders support CSAR operations of the other components, to the maximum extent possible.

JOINT FORCE AIR COMPONENT COMMANDER

Unity of effort through centralized control of theater air assets is the most effective way to employ airpower. **The JFACC provides a JFC the means to exploit the capabilities of air and space power in a theater air campaign.** *The JFACC is normally the component commander with the preponderance of air assets and the C4I infrastructure to support joint air operations.* The JFACC's responsibilities and command authority assigned by the JFC include planning, coordinating, recommending apportionment, and tasking based on the JFC's apportionment decision. Using the JFC's guidance and authority in coordination with other component and assigned or supporting commanders, the JFACC recommends to the JFC apportionment of air sorties to various missions or geographic areas.

The supported commander for joint CSAR should be the commander with the preponderance of dedicated CSAR forces and the command, control, communications, computers, and intelligence (C4I) capability to con-

trol them. This commander should have overall responsibility and authority for planning, coordinating, and controlling joint SAR and CSAR operations within the geographical area assigned to the joint force, using those assets made available by the joint force. If the JFACC is designated as the supported commander for joint CSAR, the JFACC recommendation would include sorties required to conduct planned or projected CSAR operations.

COMMANDER, AIR FORCE FORCES

The COMAFFOR has the primary authority and responsibility to plan and conduct Air Force CSAR in support of CINC war plans. *The planning of such operations should take into account the availability and capability of other components of the joint force, to include the United States Coast Guard, if available.* The Air Force has traditionally been tasked to conduct the CSAR mission in support of theater joint air requirements. Today, the Air Force organizes, trains, equips, and provides a dedicated CSAR force, which includes aircraft, aircrews, and support personnel. The Air Force also has an established command and control mechanism, normally within the AOC to support CSAR operations. COMAFFOR responsibilities relating to CSAR normally include:

- ✱ Exercising OPCON of assigned Air Force rescue forces,
- ✱ Establishing an RCC or CSAR office of primary responsibility with clearly defined responsibilities,
- ✱ Ensuring all Air Force personnel committed to a hostile environment are familiar with tactics employed by rescue forces during recovery operations,
- ✱ Ensuring intelligence data to support planning and training for evasion and recovery (E&R) is available and disseminated to all personnel who have the potential of becoming isolated,
- ✱ Providing mutual support to sister Service rescue operations as directed by the JFC,
- ✱ Providing command and theater-specific rescue tactics, planning, and intelligence data to subordinate commands and gained units,
- ✱ Preparing rescue concept of operations plans or annexes to theater OPLANs or directives, and,
- ✱ Providing the JSRC with Air Force component capabilities, limitations, and standard operating procedures for dissemination to other components, as appropriate.

JOINT SEARCH AND RESCUE CENTER

The Joint Search And Rescue Center (JSRC) plans, coordinates, and tasks components to support CSAR missions, reviews theater plans, and coordinates training and exercises. Though staffed suitably by each component, *the primary responsibilities of JSRC controllers are to coordinate CSAR operations between component RCCs, prevent duplication of CSAR efforts, and to facilitate the efficient exchange of information.* CSAR support is based on real time operations and requires extensive coordination with other joint air assets and support functions. If the JFACC is designated the supported commander for joint CSAR, the JSRC should be fully integrated into the JFACC's joint air operations center (JAOC).

RESCUE COORDINATION CENTER

The COMAFFOR should establish a Rescue Coordination Center (RCC) integrated with the AOC to coordinate Air Force CSAR activities. If the COMAFFOR does not establish a RCC, these responsibilities will be delegated to a functional equivalent. In either case, a trained search and rescue mission controller is responsible for coordinating Air Force CSAR forces. *When the COMAFFOR is designated the JFACC, and supported commander for joint CSAR, the Air Force RCC may form the nucleus for the JSRC.*

NOTE: Specific JSRC and RCC responsibilities and procedures are outlined in Joint Pubs 3-50.2, *Doctrine for Joint Combat Search and Rescue*; 3-50.21, *Joint Tactics, Techniques and Procedures for Combat Search and Rescue*; and 3-50.3, *Joint Doctrine for Evasion and Recovery*.

CHAPTER THREE

AIR FORCE CSAR ELEMENTS

The distinctive character of imprisonment in a North Vietnam prison camp was the suffocating monotony ... the pervasive sameness of the routine, over and over, day in and day out.

Robbie Risner
Prisoner of War (POW) for more than seven years

RESCUE COORDINATION CENTER

The Air Force component's RCC is the hub of Air Force rescue activities. Air Force units requesting CSAR support will notify the RCC which initially assumes duties as the CSAR mission coordinator. RCC controller duties include the following:

- ✱ Initiating CSAR planning,
- ✱ Maintaining real time intelligence information on systems posing threats to CSAR activities,
- ✱ Designating isolated personnel reports (ISOPREP) control points,
- ✱ Obtaining ISOPREP data and evasion plans of action (EPAs) from units,
- ✱ Coordinating tasking among Air Force CSAR-capable forces,
- ✱ Coordinating CSAR activities with the JSRC, supporting agencies, and the requesting unit,
- ✱ Informing the JSRC if Air Force forces are capable of executing the mission, and
- ✱ Requesting additional recovery forces through the JSRC if Air Force CSAR forces are unable to execute the CSAR mission single-Service.

The RCC is also responsible for reviewing and developing CSAR and evasion and recovery appendices to Annex C (Operations) for Air Force supporting OPLANs, concept plans, and operational orders.

DIRECTOR, RESCUE COORDINATION CENTER

The COMAFFOR directs Air Force CSAR operations through the director of the RCC. The director of the Air Force RCC is responsible for the day-to-day operations of the RCC. If the COMAFFOR is designated the JFACC and responsible for joint CSAR operations, the director of the RCC will normally be designated the director of the JSRC. Additionally, that person will still be responsible for Air Force RCC operations.

SEARCH AND RESCUE DUTY OFFICER

The Search And Rescue Duty Officer (SARDO) provides an effective means of communication between the RCC and the AOC. The SARDO, who should be collocated with the AOC and normally works in the combat operations division, coordinates quick response assets to support CSAR operations. The SARDO requests assets from ongoing operations (forward air controller (FAC), close air support (CAS), combat air patrol (CAP), etc.) or from those on ready alert through the AOC. TACON of these assets may be transferred to the airborne mission commander (AMC) and/or the on-scene commander (OSC).

UNIT COMMANDERS

Unit commanders should be prepared, based on inherent capabilities, to launch dedicated and augmenting CSAR assets to sup-

CSAR in the Korean War

Certainly what must rank as one of the more bizarre rescues of the Korean War—it involved bridges, horsemen, and a bullet-riddled pickup on ice—happened to Marine Major David Cleeland. On his one hundred and first aerial mission Cleeland had just blown up a bridge when he took a hit in his Corsair and crashed on a thick cap of ice. Chinese Reds poured rifle fire at him, but he took refuge under his plane's wreckage. Finally they sent a Communist soldier after him—on horseback! Cleeland shot the man and then waited until a rescue "helo" could get to the scene. As the craft hovered, forty-eight-year-old Airman Second Class Thomas C. (Pop) Thornton stretched out his right hand to meet Cleeland's and pull him aboard. A Red bullet smashed Pop's hand. Half crazed from the searing pain, he still had the presence of mind, and the ingrained dedication to helping his fellow man, to reach out with his other hand and haul the Marine pilot in. The Sikorsky's right wheel was shot away as it lifted off, its gas tank was hit, and the tail rotor was damaged, but the pickup was carried out, and everyone made it back to safety.

L.B. Taylor, Jr.
*That Others May Live:
The Aerospace Rescue and
Recovery Service*

port their own operations or provide mutual CSAR support to other units. CSAR support should be *concurrently planned with ongoing offensive and defensive combat operations* while accounting for the capabilities of other units. All CSAR requirements should be forwarded through established channels to the RCC. Unit commanders should:

- ✱ Ensure assigned personnel are familiar with this AFDD as well as joint CSAR doctrine and joint tactics, techniques, and procedures (JTTP), and Air Force rescue concepts and procedures,
- ✱ Train their personnel in reporting requirements when overflying areas where isolated personnel are known or suspected to be located, and
- ✱ Ensure ISOPREPs and individual/unit evasion plans of action (EPAs) are properly prepared, classified, current, and safeguarded.

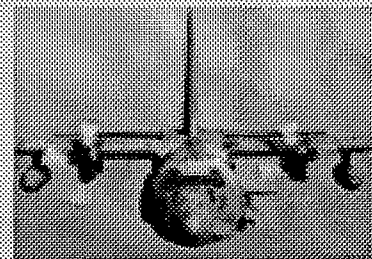
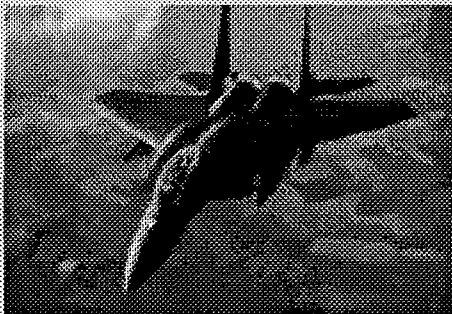
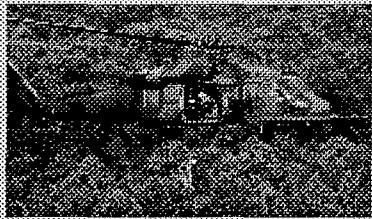
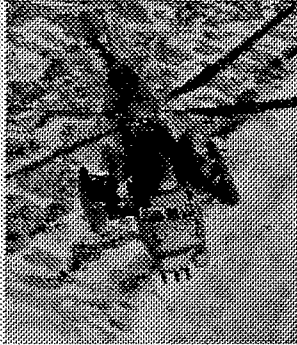
ISOLATED PERSONNEL

Isolated personnel can do much to enhance the success of their own rescue should the situation warrant. **Isolated personnel can best prepare themselves to assist rescue efforts by:**

- ✱ Completing and periodically **reviewing their ISOPREPs**,
- ✱ Developing, reviewing, and **updating EPAs**, as required,
- ✱ Thoroughly **understanding notification and authentication** requirements,
- ✱ Being intimately **familiar with survival equipment and techniques**,
- ✱ Being **familiar with search and rescue concepts of operations and procedures** in order to assist CSAR forces to the maximum extent, and
- ✱ Remaining **mentally and physically prepared** to survive and evade for indefinite periods.

COMBAT SEARCH AND RESCUE TASK FORCE

A Combat Search and Rescue Task Force (CSARTF) is a mutually supporting package of assets tailored to meet a specific CSAR requirement. The CSARTF was used extensively and effectively during the Southeast Asia conflict and on a more limited basis during the Gulf War. Although rescue assets may operate autonomously, **CSAR capabilities and mission outcomes can be significantly enhanced by employing carefully tailored CSARTFs.** Augmenting assets provide a variety of ser-



Typical Air Force Elements of a CSARTF

Clockwise from left: AC-130 Spectre, F-16 Fighting Falcons, HH-60 Pave Hawk, E-3 Airborne Warning and Control System, MH-53 Pave Low, A-10 Thunderbolt II, HC-130 Combat Shadows, F-15 Eagle.

vices to include: command, control, and communications; location and authentication of isolated personnel; protection of isolated personnel and task force elements from both air and ground attacks; navigation assistance; armed escort; combat air patrol; and air refueling support. Command and control arrangements and responsibilities must be clearly specified by the RCC or JSRC to ensure proper synergy and to effect successful CSARTF operation. *CSARTFs require thorough premission and real time planning and coordination with participating elements and may consist of any or all of the following elements:*

Airborne Mission Commander

An Airborne Mission Commander (AMC) may be designated by component RCCs or higher authority to coordinate the efforts of several assets. **The AMC serves as an extension of the RCC and if required, designates the OSC.** The E-3 Airborne Warning and Control Systems (AWACS), though highly tasked, is the most capable AMC platform due to its extensive avionics and ability to oversee the air picture. Other multicrewed assets such as the Navy E-2 Hawkeye, EC-130 airborne battlefield command and control center (ABCCC), and E-8 joint surveillance, target attack radar system (J-STARS) are also excellent AMC platforms. *The AMC coordinates and controls the flying mission for forces designated to support a specific CSAR operation.*

AMC responsibilities include coordinating the CSARTF radio net, managing the flow of aircraft to and from the objective area, coordinating for additional CSARTF support, and monitoring the tactical air and ground situation in and around the objective area and CSARTF. *The AMC keeps the CSARTF moving toward the objective.* Any member of the CSARTF, to include the rescue vehicle aircraft commander, OSC, rescue escort (RESCORT), or rescue combat air patrol (RESCAP), can recommend termination of the rescue operation. However, it is the AMC's responsibility to attempt to rectify the situation by requesting additional support forces or doing whatever else is necessary to accomplish the mission. Joint Pubs 3-50.2 and 3-50.21 further describe the duties of the AMC in joint operations.

On-scene Commander

The On-scene Commander (OSC) is the individual designated to control rescue efforts at the rescue site. The *RESCORT flight lead [Sandy 1]* is most often designated OSC. However, a wingman or RESCAP aircrew member may function as the OSC until the arrival of either the AMC or RESCORT [Sandy] aircraft. Transfer of the OSC role must be clearly

understood by all CSARTF participants. The OSC helps to ensure effective asset management in the often chaotic and hostile objective area.

Recovery Vehicles

Typically, a primary and a secondary recovery vehicle are flown to the objective area to make the pickup. The formation provides a backup mission aircraft and offers mutual support should the primary recovery vehicle encounter problems. The secondary recovery vehicle should be prepared to assume lead responsibilities and accomplish the recovery should the lead aircraft abort the mission or be unable to perform primary recovery responsibilities. Recovery vehicles may also be prepositioned to conduct operations from airborne orbits. *From a designated point in close proximity to the pickup zone, the recovery vehicle formation lead or aircraft commander will normally be the individual ultimately responsible for continuing the mission.*

Fixed-wing Rescue Assets

Fixed-wing tanker-capable rescue assets are a key element of CSAR operations and play a critical role in extending the operational range of air refuelable helicopters. Optimally, fixed-wing rescue assets should be capable of air-dropping personnel and equipment to isolated personnel should recovery efforts be protracted. Additionally, airland/transload and communications capability inherent of fixed-wing rescue assets may increase the effectiveness and flexibility of a CSARTF mission.

Individual Pararescue Specialist

Individual Pararescue Specialists (PJ) are rescue specialists trained in emergency trauma medicine, harsh environment survival, and assisted evasion techniques. *PJs are the essential surface/air link in personnel recovery.* They provide a rapid response capability and operate in the six geographic disciplines: mountain, desert, arctic, urban, jungle and water, day or night, to include friendly, denied, hostile, or sensitive areas. Their training includes survival, evasion, resistance, and escape (SERE); emergency trauma and field medical care; and security. PJs can move personnel and material to safety or friendly control when direct recovery by aircraft is not possible. They employ from rotary or fixed wing assets by landing, or by alternate insertion and extraction methods (hoist, fast rope, rappel), or by parachuting (static line and freefall). Their employment may include deployable watercraft or all-terrain vehicles.

Rescue Escort

Ideally, a limited number of Rescue Escort (RESCORT) aircraft should be dedicated and made available to the CSAR mission. **SANDY is the call sign of a dedicated RESCORT pilot uniquely trained and qualified in search procedures, authentication techniques, and helicopter support tactics.** The lead RESCORT is normally designated OSC for the CSAR mission. *RESCORT aircraft should be tactical aircraft capable of operating within altitude and endurance regimes similar to that of the recovery vehicles.* RESCORT aircraft protect rescue assets from surface threats to, from, and in the objective area. RESCORT aircraft also provide navigation assistance, armed escort, and assist in locating and authenticating isolated personnel. Although **slower aircraft (e.g., A-10s) are desired for RESCORT**, faster aircraft have also been successfully employed. RESCORT aircraft normally carry ordnance effective in CSAR operations, such as rockets, cluster bomb units, and onboard cannon.

Rescue Combat Air Patrol

Rescue Combat Air Patrol (RESCAP) aircraft are air superiority assets assigned to protect the CSARTF from airborne threats while en route to and from the objective. Once established, RESCAP aircraft also maintain patrol over the objective area. RESCAP aircraft may also assist RESCORT aircraft in locating and authenticating isolated personnel.

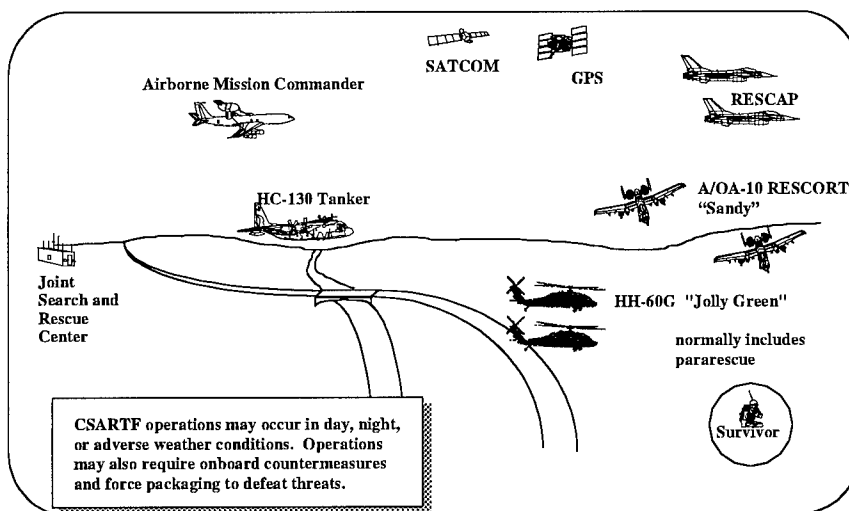


Figure 3.1. Notional CSARTF Operation

Forward Air Controller

A Forward Air Controller (FAC) provides a CSARTF several significant advantages. **A FAC may be able to locate and authenticate the isolated personnel before the arrival of other elements of the CSARTF and normally functions as the OSC until the CSARTF arrives.** The FAC may also provide a current and accurate assessment of enemy activity in and around the objective area.

Other Forces

Other Air Force forces can aid in locating isolated personnel and assist in rescue operations. Air Force aircraft systems include the E-3 AWACS, EC-130 ABCCC, E-8 JSTARS, fighters, AC-130 gunships, suppression of enemy air defenses (SEAD) aircraft, electronic warfare aircraft, and other fixed- and rotary-wing support aircraft. Ground-based elements include control and reporting centers, forward air control posts, tactical air control parties, and Air Force special tactics teams (STTs). National assets should be integrated into recovery plans and employed to enhance rescue efforts.

Special Tactics Teams

Special Tactics Teams (STTs) are ground combat forces assigned to Air Force Special Operations Command (AFSOC). They are composed of combat controllers and PJs specifically organized, trained, and equipped to facilitate and expedite the utilization of aviation assets and provide CSAR expertise when requested through appropriate channels.

Special tactics teams provide PR/CSAR planning expertise; facilitate contact, authentication and mechanical extrication; provide medical treatment at the paramedic level; facilitate movement and exfiltration for the recovery of personnel; and provide equipment not accessible to conventional CSAR resources. This may include unconventional assisted recoveries involving selected area for evasion (SAFE) servicing and hand-over operations. Additionally, special tactics teams provide command and control, ground-to-air and point-to-point communications, air traffic control, terminal attack control, and artillery call for fire in the objective area. AFDD 2-7, *Special Operations*, contains additional information governing employment of Air Force special operations forces.

CHAPTER FOUR

CONCEPT OF OPERATIONS

A captured man, he has to know that somebody is always out there coming after him, he has to have that hope.

Lt Col Horace Reisner
Joint Personnel Rescue Center commander,
Briefing to General William C. Westmoreland

GENERAL

Air Force rescue forces will receive notification of isolated personnel via the theater or joint task force command and control structure. A rescue could involve an aircrew bail-out over hostile territory, crash landing, ditching at sea, foundering naval vessels, or ground forces cut off from friendly lines. **Although rescue forces may launch upon initial notification of a CSAR incident, they will not normally proceed into medium or higher threat areas until a positive location and contact can be made.** Additionally, the *recovery should not be initiated until the identity of isolated personnel can be positively authenticated.* Single ship operations may be employed, but combat rescue forces primarily train to employ as two-ship elements using threat avoidance techniques and onboard defensive systems. A typical rescue might include:

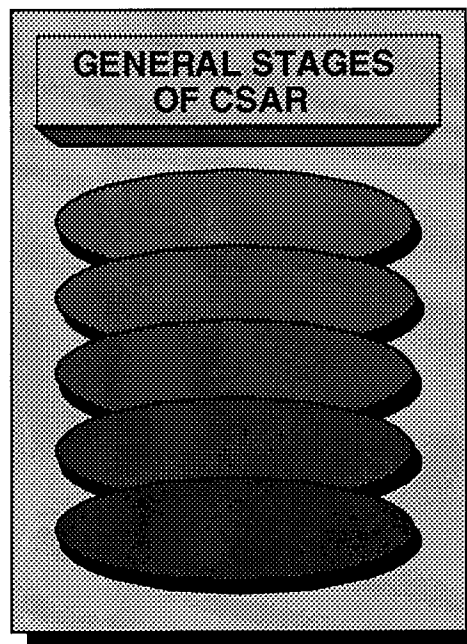


Figure 4.1. General Stages of CSAR

- ✱ Awareness and notification,
- ✱ Assessing the situation,
- ✱ Planning the mission,
- ✱ Launching the recovery vehicles,
- ✱ Refueling at a forward operating location or air refueling prior to ingress,
- ✱ Ingressing enemy territory to locate isolated personnel,
- ✱ Locating the isolated personnel,
- ✱ Authenticating the isolated personnel,
- ✱ Recovering the isolated personnel,
- ✱ Egressing enemy territory,
- ✱ Conducting air refueling, as required, and
- ✱ Recovering at a suitable friendly base.

NOTIFICATION

Threat conditions permitting, **isolated personnel should attempt to establish secure radio contact** with a wingman, escort aircraft, AWACS, ABCCC, or any other aircraft in the area using notification procedures outlined in the special instructions (SPINS) published in the air tasking order (ATO). **In a threat environment, transmissions should be as brief as possible** to avoid detection and compromising location. While in a permissive environment, transmissions should be long enough to allow for a direction finder plot of the aircraft or personnel position.

INITIAL RESPONSE

Once an actual or potential CSAR situation is observed, the RCC should be **immediately notified** through established channels, or any means available. **Upon notification, the RCC assumes CSAR mission coordinator responsibilities for missions involving US Air Force isolated personnel.** The RCC will then report the incident to the JSRC. The RCC also assumes CSAR mission coordinator responsibilities for missions involving joint or multinational aircrew members if tasked by the JSRC. In concert with the JSRC, the Air Force RCC coordinates the appropriate CSAR forces and assets. *The RCC or JSRC will notify responding units through appropriate channels and brief pertinent aspects of the mission.* The response



**CSAR operations
may occur over
land or sea.**

time and operations concept will depend on the enemy threat, environmental conditions, available assets, and other factors.

AIR FORCE CSAR CAPABILITIES

Although all Air Force weapon systems have the inherent capability to support CSAR operations, **the Air Force maintains certain rotary- and fixed-wing aircraft specifically dedicated to personnel rescue and recovery operations.** Specially configured rescue helicopters operate up through the medium threat environment using threat avoidance procedures, onboard electronic countermeasures and defensive systems, various forward-looking infrared (FLIR) and radar systems, and night vision devices. Specially equipped HC-130 tanker-capable aircraft are also apportioned as dedicated CSAR assets. The CAF and some AFSOC variants of these tanker-capable aircraft can operate in threat environments up through low threat using threat avoidance, onboard defensive systems and countermeasures dispensers, various FLIR and radar systems, and night vision devices. **The primary mission of these tanker aircraft is to extend the range of rescue helicopters through aerial refueling.** However, *they are also capable of deploying FJs, STTs, and/or equipment to provide direct assistance to isolated personnel if a delay is anticipated in the arrival of a recovery vehicle.* Although certain AFSOC MC-130 tanker-capable aircraft are capable of operating in medium or higher threat environments, the vulnerability of the helicopter and tanker aircraft during air refueling operations generally limits the execution of these operations to low threat areas.

When threat avoidance is not feasible, specially trained aircrews operating RESCORT- and RESCAP-capable aircraft may be employed to sup-

press and degrade the threat to permit successful CSAR operations. A carefully tailored CSARTF can significantly enhance CSAR operations. The complexity of the package depends on the mission requirements and enemy threat. **Combat rescue in a high-threat environment requires force packaging to degrade the threat or employment of other forces trained and equipped to operate in high-threat areas.** The AFSOC operates certain aircraft and STTs that are also CSAR-capable. Elements of these forces may be made available for CSAR operations through the joint force special operations component commander (JFSOCC).

THREAT ENVIRONMENTS

A key consideration in CSAR mission planning is the enemy threat. Real time intelligence data is a critical element in determining enemy threat levels. If available threat data is insufficient to adequately assess the threat, additional data should be requested. Commanders should consider not only capabilities of dedicated CSAR forces, but also capabilities of other available resources. The threat environment defines the enemy's ability to detect and lethally engage rescue aircraft. The threat environment is divided into three general intensity levels: low, medium, and high.

- ❖ **Low.** The low threat environment contains **widely scattered, thinly concentrated enemy forces** and assets with a **limited reconstitution capability**. Weapon systems may include small arms, light optically aimed anti-aircraft artillery (AAA) up to .50 caliber (12.7mm equivalent), rocket-propelled grenades, and hand-held infrared SAMs. Tactics

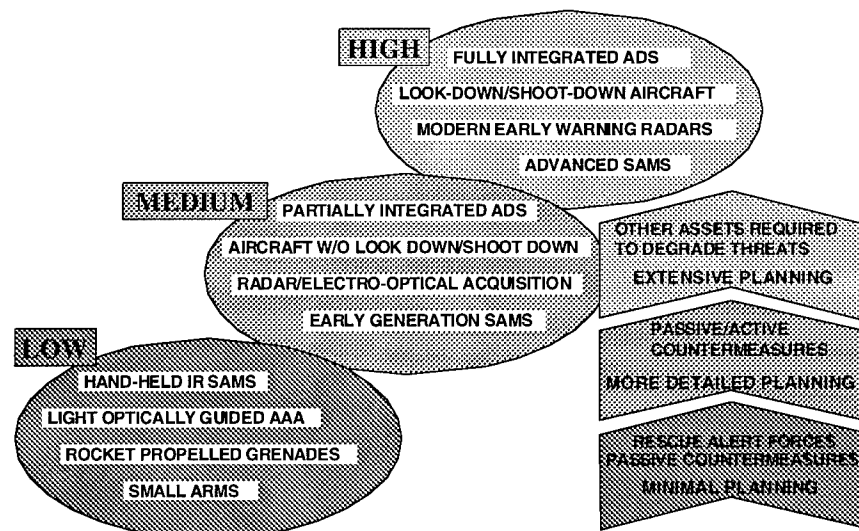


Figure 4.2. Threat Categories and Planning Considerations

and techniques employed by friendly forces do not normally require significant planning measures prior to launch and the environment permits operations using passive countermeasures to avoid detection and engagement by enemy forces.

- ⊛ **Medium.** The medium threat environment contains significant threats; the concentration, mobility, and types of enemy weapons employed normally require both passive and active measures to avoid or degrade the threats and prevent subsequent engagement. Weapons systems typically include low-threat systems, early generations SAMs, and aircraft lacking look-down, shoot-down capability. CSAR forces should expect to conduct extensive premission and on-alert planning. During mission prosecution, tasked units should expect to employ extensive threat avoidance tactics and evasive techniques, onboard countermeasure and defensive systems, external threat suppression or force protection aircraft (RESCAP, RESCORT, electronic attack), and night operations to preclude lethal engagement. The enemy may possess limited radar and electrooptical acquisition and engagement capability at medium ranges and a moderately Integrated Air Defense System (IADS).

Koh Tang Island during the Mayaguez Incident

Under intense fire, the marines began boarding the chopper, two-by-two. A pair would rise from their position near the trees, fire a few rounds into the jungle, dash to the chopper's ramp, turn and empty their M-16s at the enemy infested underbrush, then toss their rifles into the helicopter and scramble toward the front. One of the first pair of leathernecks aboard, in a hurry to get to the forward part of the cabin, ripped out the intercom system. From that point Captain Backlund, working the controls, had no way of communicating with his pararescuemen and flight mechanics supervising the loading in the rear. SSgt Harry W. Cash, the flight mechanic manning the rear ramp minigun, was blasting the jungle to provide covering fire for the retreating marines. He yelled into his intercom when the last two leathernecks leaped aboard. In the cockpit Backlund heard nothing. He held the precarious hover. Cash and the other crewmen in the rear yelled into their dead headsets for Backlund to pull up and away. Up front Captain Backlund wondered what was taking so long as he listened to enemy bullets pelting his chopper. Sergeant Cash saw black clad figures emerging from the jungle and swung his minigun to chop them down. One of the figures drew back to toss a grenade. As his arm started forward Cash's stream of fire sliced him in two. The grenade rolled toward the helicopter and exploded. With that Backlund decided that loaded or not it was time to go. Jolly Green 11 moved forward a few yards and then climbed.

Earl H. Tilford, Jr.
Search and Rescue in Southeast Asia

⊗ **High.** The high threat environment contains **hostile forces over a wide area of coverage, densely concentrated, and capable of rapid reconstitution and mobility.** Enemy weaponry includes advanced or late generation SAMs, modern ground-based radar, early warning systems, electronic counter-countermeasures, integrated AAA, and aircraft with look-down, shoot-down capabilities. High threat environments are characterized by **fully integrated air defense systems, command and control networks, and electronic warfare capabilities** that seriously diminish air support capabilities. Ground-based systems may be hardened and difficult to destroy or render ineffective. Operations in the high threat environment **require extensive and detailed mission planning and force packaging to defeat or degrade the threat.** *Detection by modern ground-based radar and IADS will likely result in lethal engagement of CSAR forces.*

EMPLOYMENT CONSIDERATIONS

The Air Force should consider the capabilities of the host nation, other Services, functional components, and multinational forces during all phases of CSAR mission planning. **In relatively low threat environments, resources may respond to rescue taskings with a minimum amount of mission planning. Operations in medium threat environments normally require timely, accurate intelligence, and more extensive mission planning.** The time required to conduct premission planning can be significantly reduced for CSAR alert crews when real time intelligence data is available and continuously updated through theater information systems. **Missions into high threat environments require significant degradation of the enemy threat and will require intensive mission planning and large force packaging by CSAR forces or be turned over to other forces trained and equipped to operate in high threat areas** to ensure successful combat rescue operations. When used, CSARTF packages require closely coordinated planning to properly integrate the effort. The JFC can direct precautionary CSAR coverage (within a limited geographic area) in advance of a major operation. To facilitate recovery, combat aircrews should be knowledgeable of the rescue process, to include EPA preparation, identified selected areas for evasion (SAFE), and proper evasion tactics and techniques.

MISSION PLANNING

The enemy threat level requires thorough mission planning interfaced with real time threat information and precise command

and control coordination. *The Air Force Mission Support System (AFMSS) may be used to optimize planning effectiveness, however, all available information tools must be used to assure the best possible understanding of the situation. The specific information necessary for premission planning and making the launch decision includes threat, weather, terrain, the objective, codes and authentication, safe passage corridors, and air refueling points. Direct communications with AOCs, the JSRC, multinational RCCs, and wing operations centers is essential. This direct communication is even more critical if augmentation of additional air resources such as formation of a CSARTF is warranted.*

LOCATING ISOLATED PERSONNEL

Regardless of the threat level, **friendly forces should locate and authenticate isolated personnel before committing CSAR forces to operating environments that present risk.** Several methods exist to determine location such as theater electronic surveillance, reconnaissance, command and control aircraft, global satellites, wingman reports, and battlefield radar control posts and centers. Recovery vehicles, fixed-wing CSAR assets, and RESCORT aircraft equipped with personnel locator systems can also pinpoint the isolated personnel's position when isolated personnel are equipped with specialized communications devices.

SEARCH OPERATIONS

The concept of "**combat search**" associated with Air Force CSAR **should be considered extremely limited in scope.** In most cases, the search will be primarily electronic. *The vulnerability of rescue resources in a threat environment precludes extended aerial search operations in all but a permissive environment.* Air Force rescue efforts will be primarily dedicated to recovering isolated personnel from previously identified geographic positions.

AUTHENTICATION

During combat operations, the **recovery of isolated personnel can depend on early authentication.** Isolated personnel will normally not be recovered until their identity has been positively confirmed. *An effective authentication system is essential to protect CSAR forces from enemy entrapment; therefore, authentication data must be strictly controlled and used in a manner that maintains security and viability. CSAR assets are extremely vulnerable during the recovery phase and need exact and reliable authentica-*

tion information. Extreme care should be taken by the isolated personnel and the rescue forces to ensure authentication information is never compromised. The information should be used in a manner that allows CSAR forces to continue to authenticate isolated personnel over extended periods. There are a number of means to authenticate isolated personnel in hostile environments, including ISOPREP data, ATO code words, letters, numbers, and visual signals. These procedures are detailed in Joint Pub 3-50.21. Theater or area of responsibility procedures should be published in appropriate directives, OPLANs, and/or SPINs.

RISK MANAGEMENT

Combat rescue is inherently a risky business. **Although risk can never be fully eliminated, it can be effectively managed and limited through a combination of careful planning, proactive troubleshooting, and the application of common sense techniques.** The formal process of risk management includes: *identifying the hazards; assessing the risks and benefits (and looking at things that will reduce the risk); deciding what to do; acting on the decision; and then reviewing the decision consequences and adjusting for the next time.*

Theater, joint force, component or Service, and individual unit commanders set the tone for CSAR operations. **CSAR operations should be planned during initial and follow-on phases of all military operations where hostile actions might occur.** Additionally, successful CSAR operations require detailed threat analysis, cost-benefit considerations, and prioritization in the same manner as other military operations. The enemy may use unrecovered personnel as leverage to influence outcomes within an operation or campaign. **CSAR operations should not:**

- ✱ Unduly risk isolating additional personnel,
- ✱ Routinely expose unique, high value assets to extreme risk, or
- ✱ Allow the overall military situation to deteriorate.

Commanders at all levels should *weigh the possibility of recovering isolated personnel and the psychological impact* of those aware of the efforts (benefit) **against the potential loss of additional resources** and the impact of possibly diverting resources from ongoing combat operations (cost), before authorizing a CSAR effort. It is often a challenge to commanders to ensure that blind enthusiasm does not supplant professional

risk management considerations. Air Force RCCs should develop standing CSAR risk decision matrices in conjunction with JSRCs, tailored to current threat analyses, to assist planners and commanders in the decision-making effort. Figure 4.3 provides a representative decision flow chart to assist further in this evaluation.

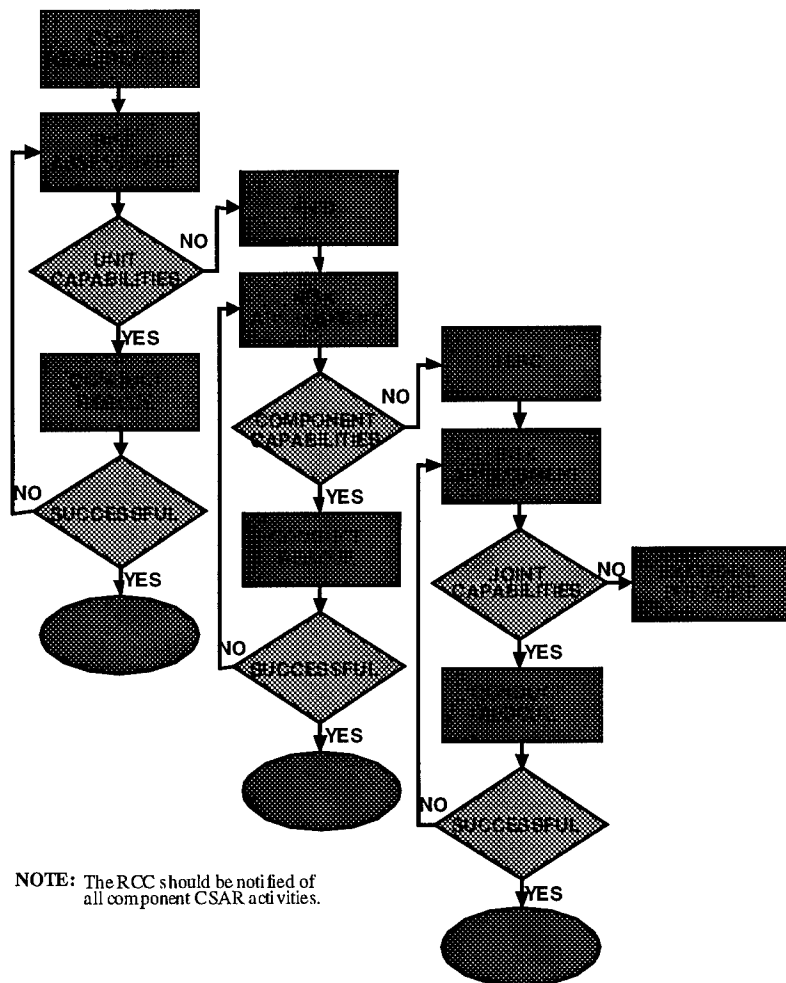


Figure 4.3. Typical CSAR Decision Flow

CHAPTER FIVE

CSAR PLANNING AND SUPPORT CONSIDERATIONS

Alert! Alert! Rescue helicopters needed immediately.

Wounded soldiers in the jungle must be evacuated. Enemy closing in.

CSAR Scramble Call
Bien Hoa, 1966

OPERATIONAL CONSIDERATIONS

CSAR is integral to combat operations and must be considered across the full range of military operations. **The dynamic nature of CSAR operations and the need for flexibility dictates careful integration into the air campaign and clear delineation in the ATO.** CSAR operations should be coordinated throughout the JAOC and with other component liaisons, to include the battlefield coordination detachment (BCD), the naval and amphibious liaison element (NALE), and the special operations liaison element (SOLE). Air Force personnel conducting or supporting CSAR operations should be thoroughly familiar with the rules of engagement. This is especially critical when conducting SAR or CSAR operations during MOOTW. During these operations, organizational structures and responsibilities may not be as clearly defined as during war, thereby increasing the potential for confusion.

INTELLIGENCE

Successful CSAR operations require timely and accurate intelligence support. Since the Air Force rescue mission is worldwide, **the intelligence support function should be an integral part of RCCs and rescue units.** *Intelligence specialists should be assigned to, and deploy with, RCCs and operational rescue units* and arrangements made for theater intelligence support. The threat level en route to and at the objective area determines the appropriate CSAR response, including tactics, personnel, force composition, and support. Intelligence personnel must continuously update known and suspected enemy ground, air, and sea threats to CSAR forces. In addition, they must be familiar with the target area's geography

and the local population's social and political climate. *Rescue missions place unique requirements on mission planning and require intelligence personnel knowledgeable in rescue operations (especially in the low-altitude regime) to include RCC and JSRC operations, SAR SPINS, and national systems and capabilities that can assist in CSAR.* Since threat information changes rapidly, intelligence personnel should have access to near-real-time (NRT) intelligence from MAJCOM, theater, or national sources and should be able to immediately relay situational updates to inflight crews. Routine time-consuming intelligence functions should be automated and mission planning systems should interface with intelligence databases. These include, but are not limited to, threat analysis, targeting, collection management, and order-of-battle data.

GLOBAL GEOSPATIAL INFORMATION AND SERVICES

Maps and charts, digitized Global Geospatial Information And Services (GGI&S) products, and precise geodetic coordinates are critical to mission planning and should have accuracy commensurate with CSAR requirements and weapon systems supporting the operation. Intelligence personnel and mission planners must work closely with operations personnel to determine GGI&S requirements and priorities. Short notice GGI&S requirements can normally be processed by deployed transmission capabilities, such as the Combat Information System and the Contingency Theater Automated Planning System.

COMMUNICATIONS

Rapid, reliable, and secure communication is one of the most critical elements of a successful CSAR operation. **All CSAR forces should be able to communicate with a minimum of interference, intrusion, or probability of intercept.** JSRCs and RCCs should have access to dedicated communication systems when integrated within the JAOC or AOC. Communication systems should provide redundant capabilities for secure intertheater and intratheater data and voice transmission. Knowledge of the enemy's communication equipment and procedures could facilitate effective use of the communication spectrum. All personnel should employ communications deception countermeasures to degrade a potential intruder's effectiveness. *The keys to optimum use of communications are planning, coordination, and brevity.* Brevity words and terminology can be found in Air Force Tactics, Techniques, and Procedures (AFTTP) (formerly

Multi-Command Manual) 3-1, Volume I; theater directives; and tasking orders. Communication planning requires integrating theater, component, and unit operating instructions and execution checklists. Successful contact procedures require thoroughly developed and coordinated planning, established contact procedures, and timely execution. Communications-out procedures, or procedures for handling situations when communications are disrupted or personnel/units are unexpectedly out of contact, are often warranted but should be commensurate with the enemy's signal intelligence capability. The CSAR plan must provide alternate means of communications and actions to be taken in case of equipment or communications failure during any phase of mission execution.

SUPPORT PLANNING

Early identification of CSAR requirements and inclusion in the force enhancement/force deterrent option (FE/FDO) and/or time-phased force and deployment data (TPFDD) are keys to sustaining support. During crisis action and deliberate planning, Air Force CSAR planners should ensure CSAR unit type codes (UTC) and other logistics considerations are included in the operations plan or operations order FE/FDO and/or TPFDD as applicable. This will ensure adequate preliminary crisis action and sustainment planning is conducted by the theater or joint force logistics staff and flowed by the Joint Operation Planning and Execution System (JOPES) to meet operational requirements and priorities.

Deployment Characteristics

Air Force CSAR forces should have the ability to execute time-sensitive deployments and to deploy as deliberately planned elements of an Air and Space Expeditionary Task Force (ASETF). Deploying forces should be able to respond and function in an environment with the strictest operations security (OPSEC) considerations. *Dedicated rescue forces are mobile, flexible, and responsive, and can deploy with organic maintenance and logistic support with minimal notification when adequately supported by Mobility Readiness Spares Packages.* Rotary-wing aircraft may self-deploy for distances less than 1,200 nautical miles (may require refueling) but should be airlifted for greater distances. Fixed-wing aircraft self-deploy configured for combat. Maintenance and support personnel and associated equipment require airlift support or surface transportation.

Air Force RCC Mobility Requirements

Since most CSAR operations involve operating from deployed locations, Air Force planners should consider establishing a deployable mobility package to provide the needed personnel to conduct RCC or JSRC operations. The standard Air Force UTC for an AOC should include SAR mission controllers and duty officers, communications support personnel, and associated communications and computer equipment to support the RCC. This UTC must be capable of providing 24-hour CSAR operations and, in many cases, will form the nucleus of the theater joint force commander's JSRC.

OPERATIONS SECURITY

Security of information is vital to CSAR forces from initial planning stages through recovery and mission termination. OPSEC denies the enemy information about friendly capabilities and intentions, including advance notice of mission unique training, joint preparations, deployment, and employment. **OPSEC should be carefully considered throughout the CSAR planning and execution phases by identifying, controlling, and protecting indicators and actions associated with the operation.** Failure to implement an effective OPSEC program could result in mission compromise and loss of personnel and resources.

MILITARY DECEPTION

Commanders and operations planners should consider including military deception in deployment and battle plans and individual missions. **Military deception techniques should be employed early in the planning process to effectively support objectives and enhance overall mission success rates.** Military deception may help commanders sustain operational security and attain surprise by causing an adversary to misallocate combat and support resources in terms of time, place, or quantity. Military deception planning processes should parallel and complement the normal sequence of operations planning actions.

CLIMATE AND WEATHER

Air Force CSAR forces require timely and accurate weather support during all phases of planning, deployment, employment, and redeployment. This allows CSAR forces to use weather conditions to their advantage. Temperature, barometric pressure, precipitation, humid-

ity, ground and low-level flight visibility, predicted winds, fog, cloud cover, radio frequency propagation, sensor detection ranges, and other hazards to recovery forces and the isolated personnel greatly impact CSAR planning and execution. Normally, the AMC monitors and tracks weather; however, this is a shared responsibility of all elements participating in a CSAR operation. The AMC or other assets can conserve valuable combat resources by advising the RCC or JSRC of adverse weather conditions.

ASTRONOMICAL CONDITIONS

Astronomical conditions, including sunrise, sunset, moonrise, moon phase, predicted ambient light, and hydrographic data affect CSAR operations much the same as weather data. **Astronomical conditions play an important role in the timing and tempo of CSAR operations and should be considered critical planning factors for CSAR operations.**

SAFETY AND RISK MANAGEMENT

Commanders can best preserve CSAR capability by minimizing unnecessary risk of specialized personnel, equipment, and material. Safety staffs should be immediately notified of hazards associated with employing weapon systems. Corrective actions must be carefully balanced to satisfy operational and training requirements while meeting mission objectives.

TECHNOLOGICAL CONSIDERATIONS

Effective Air Force CSAR capability is critically dependent on the most modern technology. It is imperative CSAR forces be equipped with state-of-the-art weapons; interoperable and scalable C4I systems; space-based navigation aids; and personnel locator systems to ensure continuous and total integration with other combat operations.

CHAPTER SIX

TRAINING AND EDUCATION

War is not an affair of chance. A great deal of knowledge, study, and meditation is necessary to conduct it well.

Frederick the Great

COMMANDERS' RESPONSIBILITIES

To optimize weapon system employment, each crewmember should have a thorough understanding of mission planning and execution by joint forces. The success of CSAR operations is directly proportional to, and dependent upon, effectiveness of the tactics training programs. The following points are crucial:

- ✱ *Commanders should take an active role in evaluating local training programs to ensure aircrew training and proficiency levels meet combat readiness requirements. They should also ensure that unit CSAR training programs support joint CSAR interoperability concepts, are integrated with other forces, and that training and exercise programs are realistic and effective.*
- ✱ *Flight discipline, crew coordination, mission planning, and mutual support of participating CSAR forces are essential to effective Air Force combat rescue force employment. The Joint Pub 3-50 series, this document, and applicable related Service and AFTTP instructions provide a background for developing these fundamentals. Commanders should ensure CSAR aircrews, planners, and support personnel are thoroughly familiar with the principles outlined in these documents and can apply them at the operational and tactical level.*

AIRCREWS

Air Force aircrew members should be prepared to assist rescue forces by ensuring they are familiar with CSAR tactics, techniques, and procedures, and personal survival techniques. All rescue crewmembers should receive combat survival training and threat systems capabilities and limitations training on a recurring basis. CAF aircrews

are trained to respond to CSAR as their aircraft capabilities permit and a limited number of fighter/attack aircraft pilots receive SANDY training. All Air Force crewmembers receive survival, evasion, resistance, and escape (SERE), and water survival training.

RCC CONTROLLERS

RCC controllers are the focal point for coordinating CSAR assets and supporting forces. All RCC controllers should complete a locally developed, CSAR-oriented, mission management course in addition to the Joint Combat Search and Rescue Coordinators Course. Other training oriented towards search and rescue, including the Inland SAR and Maritime SAR courses taught by the Coast Guard, is also desirable. Additionally, personnel who may command and control CSAR operations should consider attending appropriate US Air Force battle management courses and the Air Force Joint Doctrine Air Campaign Course. These courses teach development of air campaign plans, including integration of CSAR operations.

EXERCISES

To ensure interoperability and a smooth transition to combat, Air Force CSAR staffs and forces should conduct exercises with augmentation personnel and forces on a regular basis. *Commanders at all levels should participate in these exercises to familiarize themselves with the complexities and details of CSAR doctrine and operations.* The top priorities are Joint Chiefs of Staff field training exercises (FTX) and CAF Flag Exercises allowing for joint operations and employment of the air component RCC and Air Force flying units. The second priority is to participate in command post exercises allowing for RCC employment and emphasizing command, control, communications, and intelligence coordination procedures. These exercises provide invaluable experience for RCC controllers, which is normally not available during FTX participation. The CAF exercise schedules include both active duty and air reserve component (ARC) forces and are coordinated at exercise planning conferences.

SUMMARY

CSAR represents an important application of aerospace power across a range of military operations. It is **a key element in sustaining the morale, cohesion, and fighting capability of friendly forces.** Consisting of those air operations conducted to recover distressed personnel at all

levels of conflict, CSAR preserves critical combat resources while denying the enemy a potential intelligence source.

CSAR represents a total force team of active duty, AFRC, and ANG units throughout the CAF. During contingencies these forces may be provided to the JFC who normally delegates planning and execution authority for Air Force CSAR to the COMAFFOR who in turn establishes an RCC to coordinate all CSAR activities.

A CSAR operation typically progresses through deliberate stages designed to locate, contact, and recover personnel while minimizing the risk to CSAR assets. Though risk is inherent in CSAR operations, CSAR forces employ specially configured platforms designed to operate in hostile or denied environments as well as specialized tactics to minimize vulnerability to threats. Frequently, CSAR forces operate within a mutually supporting aircraft package that may include airborne command and control, armed escort, combat air patrol, and air refueling support. Whether operating alone or in a large package, CSAR assets represent a specialized application of aerospace power integral to US combat operations.

At the very Heart of Warfare lies doctrine...

SUGGESTED READINGS

- Stephen Brewster Daniels, *Rescue from the Skies: The Story of the Airborne Lifeboats* (Seven Hills Publishing). 1996.
- Norman L. R. Franks, *Another Kind of Courage: Stories of the UK-based Walrus Air-Sea Rescue Squadrons* (Sparkford Press). 1994.
- W. T. Grant, *Wings of the Eagle: A Kinsmen's Story* (Ivy Books). 1994.
- Wallace R. Hansen, *Greenland's Icy Fury* (Texas A & M University Press). 1994.
- Mary Pat Kelly, *"Good to Go": The Rescue of Captain Scott O'Grady, USAF, from Bosnia* (Naval Institute Press). 1996.
- Malcolm McConnell, *Into the Mouth of the Cat: The Story of Lance Sijan, Hero of Vietnam* (Replica Publishing). 1997.
- Robinson Risner, *The Passing of the Night: My Seven Years as a Prisoner of the North Vietnamese* (Ballantine Books). 1992.
- Paul B. Ryan, *The Iranian Rescue Mission: Why It Failed* (Naval Institute Press). 1985.
- L. B. Taylor, *That Others May Live: The Aerospace Rescue and Recovery Service* (Dutton Press). 1967.
- Earl H. Tilford, *Search and Rescue in Southeast Asia, 1961-1975* (Office of Air Force History). 1980.
- George J. Veith, *Code Name Brightlight: The Untold Story of US POW Rescue Efforts During the Vietnam War* (Free Press). 1998.
- Darrel D. Whitcomb, *The Rescue of Bat 21* (Naval Institute Press). 1998.
- John Winton, *For Those in Peril: Fifty Years of Royal Navy Search and Rescue* (R. Hale Publishing).

GLOSSARY

Abbreviations and Acronyms

AAA	antiaircraft artillery
AAF	Army Air Force
ABCCC	airborne battlefield command and control center
ACC	Air Combat Command
ADS	air defense system
AFDD	Air Force Doctrine Document
AFMSS	Air Force Mission Support System
AFRC	Air Force Reserve Command
AFSOC	Air Force Special Operations Command
AMC	airborne mission commander
ANG	Air National Guard
AOC	air operations center
AOR	area of responsibility
ARC	air reserve components
ARRS	Aerospace Rescue and Recovery Service
ARS	Air Rescue Service
ASETf	Air and Space Expeditionary Task Force
ATO	air tasking order
AWACS	Airborne Warning and Control System
BCD	battlefield coordination detachment
C4I	command, control, communications, computers, and intelligence
CAF	Combat Air Forces
CAP	combat air patrol
CAS	close air support
CINC	commander in chief
CJCS	Chairman of the Joint Chiefs of Staff
COCOM	combatant command (command authority)
COMACC	Commander, Air Combat Command
COMAFFOR	Commander, Air Force Forces
CONUS	continental United States
CRAF	Civil Reserve Air Fleet
CSAR	combat search and rescue
CSARTF	combat search and rescue task force
DCM	downed crewmember

DOD	Department of Defense
E&R	evasion and recovery
EPA	evasion plan of action
EWO	electronic warfare officer
FAC	forward air controller
FE/FDO	force enhancement/force deterrent option
FLIR	forward-looking infrared
FTX	field training exercise
GGI&S	global geospatial information and services
IADS	Integrated Air Defense System
IR	infrared
ISOPREP	isolated personnel report
JAOC	joint air operations center
JEACC	joint force air component commander
JFC	joint force commander
JFSOCC	joint force special operations component commander
JOPES	Joint Operation Planning and Execution System
JSRC	joint search and rescue center
JSTARS	joint surveillance, target attack radar system
JTF	joint task force
JTTP	joint tactics, techniques, and procedures
MAC	Military Airlift Command
MAJCOM	major command
MOOTW	military operations other than war
NAF	numbered air force
NALE	naval and amphibious liaison element
NEO	noncombatant evacuation operation
NRT	near-real-time
OPCON	operational control
OPLAN	operation plan
OPSEC	operations security
OSC	on-scene commander
PACAF	Pacific Air Forces
PJ	individual pararescue specialist
POW	prisoner of war
PR	personnel recovery

pub	publication
RCC	rescue coordination center
RESCAP	rescue combat air patrol
RESCORT	rescue escort
SAFE	selected area for evasion
SAM	surface-to-air missile
SANDY	call sign of a specially trained and dedicated rescue escort
SAR	search and rescue
SARDO	search and rescue duty officer
SEAD	suppression of enemy air defenses
SecDef	Secretary of Defense
SERE	survival, evasion, resistance, and escape
SOLE	special operations liaison element
SPINS	special instructions
STT	special tactics team
TACON	tactical control
TPFDD	time-phased force and deployment data
USAF	United States Air Force
USAFE	United States Air Forces in Europe
UTC	unit type code
W/O	without

Definitions

airborne mission commander—The commander serves as an airborne extension of the executing component's rescue coordination center (RCC) and coordinates the combat search and rescue (CSAR) effort between the combat search and rescue task force (CSARTF) and the RCC (or joint search and rescue center) by monitoring the status of all CSARTF elements, requesting additional assets when needed, and ensuring the recovery and supporting forces arrive at their designated areas to accomplish the CSAR mission. The AMC may be designated by the component RCC or higher authority. The AMC appoints, as necessary, an on-scene commander. Also called **AMC**. (Joint Pub 3-50.21, approved for inclusion in next edition of Joint Pub 1-02)

combat search and rescue—A specific task performed by rescue forces to effect the recovery of distressed personnel during war or military operations other than war. Also called **CSAR**. (Joint Pub 1-02) See also **personnel recovery**.

combat search and rescue mission coordinator—The designated person or organization selected to direct and coordinate support for a specific combat search and rescue mission. Also called **CSAR mission coordinator**. (Joint Pub 1-02)

evasion and escape—The procedures and operations whereby military personnel and other selected individuals are enabled to emerge from an enemy-held or hostile area to areas under friendly control. (Joint Pub 1-02)

evasion and recovery—The full spectrum of coordinated actions carried out by evaders, recovery forces, and operational recovery planners to effect the successful return of personnel isolated in hostile territory to friendly control. Also called **E&R**. (Joint Pub 1-02)

isolated personnel—Military or civilian personnel that have become separated from their unit or organization in an environment requiring them to survive, evade, or escape while awaiting rescue or recovery. (Joint Pub 1-02)

isolated personnel report—A DOD Form (DD 1833) which contains information designed to facilitate the identification and authentication of an evader by a recovery force. Also called ISOPREP. See also authentication; evader; recovery force. (Joint Pub 1-02)

joint force air component commander—The joint force air component commander derives authority from the joint force commander who has the authority to exercise operational control, assign missions, direct coordination among subordinate commanders, redirect and organize forces to ensure unity of effort in the accomplishment of the overall mission. The joint force commander will normally designate a joint force air component commander. The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these would include, but not be limited to, planning, coordination, allocation, and tasking based on the joint force commander's apportionment decision). Using the joint force commander's guidance and authority, and in coordination with other Service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander apportionment of air sorties to various missions or geographic areas. Also called **JFACC**. (Joint Pub 1-02)

joint search and rescue center—A primary search and rescue facility suitably staffed by supervisory personnel and equipped for planning, co-

ordinating, and executing joint search and rescue and combat search and rescue operations within the geographical area assigned to the joint force. The facility is operated jointly by personnel from two or more Service or functional components or it may have a multinational staff of personnel from two or more allied or coalition nations (multinational search and rescue center). The joint search and rescue center should be staffed equitably by trained personnel drawn from each joint force component, including US Coast Guard participation where practical. Also called **JSRC**. (Joint Pub 1-02)

military deception—Actions executed to deliberately mislead adversary military decision makers as to friendly military capabilities, intentions, and operations, thereby causing the adversary to take specific actions (or inactions) that will contribute to the accomplishment of the friendly mission. The five categories of military deception are: **a. strategic military deception**—Military deception planned and executed by and in support of senior military commanders to result in adversary military policies and actions that support the originator's strategic military objectives, policies, and operations. **b. operational military deception**—Military deception planned and executed by and in support of operational-level commanders to result in adversary actions that are favorable to the originator's objectives and operations. Operational military deception is planned and conducted in a theater of war to support campaigns and major operations. **c. tactical military deception**—Military deception planned and executed by and in support of tactical commanders to result in adversary actions that are favorable to the originator's objectives and operations. Tactical military deception is planned and conducted to support battles and engagements. **d. Service military deception**—Military deception planned and executed by the Services that pertain to Service support to joint operations. Service military deception is designed to protect and enhance the combat capabilities of Service forces and systems. **e. military deception in support of operations security (OPSEC)**—Military deception planned and executed by and in support of all levels of command to support the prevention of the inadvertent compromise of sensitive or classified activities, capabilities, or intentions. Deceptive OPSEC measures are designed to distract foreign intelligence away from, or provide cover for, military operations and activities. (Joint Pub 1-02)

on-scene commander—The person designated to coordinate the rescue efforts at the rescue site. Also called **OSC**. (Joint Pub 1-02)

pararescue team—Specially trained personnel qualified to penetrate to the site of an incident by land or parachute, render medical aid, accomplish survival methods, and rescue survivors. (Joint Pub 1-02)

personnel recovery—The aggregation of military, civil, and political efforts to obtain the release or recovery of personnel from uncertain or hostile environments and denied areas whether they are captured, missing, or isolated. That includes U.S., allied, coalition, friendly military, or paramilitary, and others as designated by the National Command Authorities. Personnel Recovery (PR) is the umbrella term for operations that are focused on the task of recovering captured, missing, or isolated personnel from harm's way. PR includes, but is not limited to, theater search and rescue; combat search and rescue; survival, evasion, resistance, and escape; evasion and recovery; and the coordination of negotiated as well as forcible recovery options. PR can occur through military action, action by nongovernmental organizations, other US Government-approved action, and/or diplomatic initiatives, or through any combination of these. Also called **PR**. (Joint Pub 3-50.21, approved for inclusion in next edition of Joint Pub 1-02)

rescue coordination center—A primary search and rescue facility suitably staffed by supervisory personnel and equipped for coordinating and controlling search and rescue and/or combat search and rescue operations. The facility is operated unilaterally by personnel of a single Service or component. For Navy component operations, this facility may be called a rescue coordination team. Also called **RCC** (or **RCT** for Navy component). (Joint Pub 1-02)

special tactics team—An Air Force team composed primarily of special operations combat control and pararescue personnel. The team supports joint special operations by selecting, surveying, and establishing assault zones; providing assault zone terminal guidance and air traffic control; conducting direct action missions; providing medical care and evacuation; and, coordinating, planning, and conducting air, ground, and naval fire support operations. Also called **STT**. (Joint Pub 1-02)

You are the United States Air Force



INTERNET DOCUMENT INFORMATION FORM

A . Report Title: Combat Search and Rescue Air Force Doctrine
Document 2-1.6

B. DATE Report Downloaded From the Internet 11/20/98

**C. Report's Point of Contact: (Name, Organization, Address,
Office Symbol, & Ph #):** Department of the Air Force
Pentagon
Washington, DC 20003

D. Currently Applicable Classification Level: Unclassified

E. Distribution Statement A: Approved for Public Release

F. The foregoing information was compiled and provided by:
DTIC-OCA, Initials: VM_ **Preparation Date:** 11/20/98__

The foregoing information should exactly correspond to the Title, Report Number, and the Date on the accompanying report document. If there are mismatches, or other questions, contact the above OCA Representative for resolution.