JS J8 Deputy Director for C4

Joint Close Air Support
Tier I Joint Mission Thread

AV-2 Integrated Dictionary

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Joint Close Air Support Joint Mission Thread
AV-2 Integrated Dictionary

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A. INTRODUCTION

The AV-2 contains definitions of terms used in the given architecture. It consists of textual definitions in the form of a glossary. The AV-2 enables the set of architecture products to stand alone, allowing them to be read and understood with minimal reference to outside resources. The AV-2 is an accompanying reference to other products and its value lies in unambiguous definitions. The key to long-term interoperability can reside in the accuracy and clarity of these definitions.

B. OPERATIONAL NODES

B.1 **Airborne Command and Control (C2)**

Airborne command and control (C2) platforms supporting CAS include the E-3 Sentry Airborne Warning and Control System (AWACS), and the E-8C Joint Surveillance Target Attack Radar System (JSTARS) and E-2C Hawkeye. [JP 3-09.3, pg II-6; JCAS WG]

B.2 **Air Support Control Agency (ASCA)**

The ASCA is designed to coordinate and control overall CAS employment. [JP 3-09.3]

B.3 **Close Air Support (CAS) Platform**

Fixed- and rotary-winged manned and unmanned aircraft that deliver fires "...against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces." The Army does not consider its attack helicopters a CAS system, although they can conduct attacks employing CAS TTP when operating in support of other forces. Army rotary wing aircraft maneuver as part of the ground maneuver force and deliver "Close Combat Attack" support where, due to the capabilities of the Army aircraft and the enhanced situational awareness of the aircrews, terminal control from ground units or controllers is not necessary. [derived from JP 3-09.3]

B.4 **Forward Air Controller (Airborne) (FAC(A))**

A specifically trained and qualified aviation officer who exercises control from the air of aircraft engaged in Close Air Support of ground troops. The FAC (A) is normally an airborne extension of the tactical air control party (TACP). A qualified and current forward air controller (airborne) will be recognized across the Department of Defense as capable and authorized to perform terminal attack control. [JP 3-09.3 Terms and Definitions]

B.5 **Intermediate Maneuver Headquarters**

Unit headquarters where the land force commander and staff exercise C2 of maneuver operations through established relationships of its elements and activities. For the purpose of the JCAS JMT, Intermediate Maneuver Headquarters is an established category to describe the activities of the Brigade, Regiment, Group, Battalion and Squadron in the context of their participation in the Close Air Support mission. This participation is more centered on the tactical management of CAS in support of maneuver. [derived from FM 6-0, FM 3-90.31. FM 3-05.210]

B.6 **Intermediate Tactical Air Control Party (TACP)**

A subordinate operational component of a tactical air control system designed to provide air liaison to land forces and for the control of aircraft. Also called **TACP.** [JP 3-09.3]

B.7 **Joint Air Operations Center (JAOC)**

A jointly staffed facility established for planning, directing, and executing joint air operations in support of the joint force commander's operation or campaign objectives. Also called **JAOC.** See also **joint air operations.** [JP 3-30, JP 1-02]

B.8 **Joint Fires Observer (JFO)**

A trained and certified Service member who can request, adjust, and control surface-to-surface fires, provide targeting information in support of Type 2 and 3 Close Air Support terminal attack control, and perform autonomous terminal guidance operations. Also called **JFO**. [JP 3-09.3, Terms and Definitions, JP 1-02]

B.9 **Joint Force Air Component Commander (JFACC)**

The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking air forces; planning and coordinating air operations; or accomplishing such operational missions as may be assigned. The joint force air component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. [JP 3-09.3, Terms and Definitions, JP 3-0. JP 1-02]

B.10 **Joint Force Commander (JFC)**

A general term applied to a combatant commander, sub unified commander or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called **JFC**. [JP 3-09.3, Terms and Definitions, JP 1-02]

B.11 **Joint Force Land Component Commander (JFLCC)**

The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking land forces; planning and coordinating land operations; or accomplishing such operational missions as may be assigned. The joint force land component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. [JP 3-0, JP 1-02]

B.12 **Joint Force Maritime Component Commander (JFMCC)**

The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking maritime forces and assets; planning and coordinating maritime operations; or accomplishing such operational missions as may be assigned. The joint force maritime component commander is given the authority

necessary to accomplish missions and tasks assigned by the establishing commander. Also called **JFMCC**. [JP 3-0, JP 1-02]

B.13 **Joint Force Special Operations Component Commander (JFSOCC)**

The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking special operations forces and assets; planning and coordinating special operations; or accomplishing such operational missions as may be assigned. The JFSOCC is given the authority as necessary to accomplish missions and tasks assigned by the establishing commander. Also called **JFSOCC**. [JP 3-0, JP 1-02]

B.14 **Joint Intelligence, Surveillance, and Reconnaissance (JISR)**

A joint mission to produce relevant information from all sources in a dynamic, comprehensive, responsive, and timely manner. JISR functions include ISR sensor management, collection operations, processing, and analysis necessary to support initial exploitation of collected information and the dissemination of this intelligence to the user. [Common Joint Task Force Standing Operating Procedure Version 1.5, 10 February 2006]

B.15 **Joint Terminal Attack Controller (JTAC)**

A qualified (certified) Service member who, from a forward position, directs the action of combat aircraft engaged in Close Air Support and other offensive air operations. A qualified and current joint terminal attack controller will be recognized across the Department of Defense as capable and authorized to perform terminal attack control. Also called **JTAC.** See also **terminal attack control**. [JP 3-09.3, Terms and Definitions, JP 1-02]

B.16 **Senior Maneuver Headquarters**

Unit headquarters where the land force commander and staff exercise C2 of maneuver operations through established relationships of its elements and activities. For the purpose of the JCAS JMT, Senior Maneuver Headquarters is an established category to describe the activities of the Corps, Division, or Joint Special Operations Task Force in the context of their participation in the Close Air Support mission. This participation is more centered on the operational management of CAS in support of maneuver. [derived from FM 6-0, FM 3-90.31, and FM 3-05.210]

B.17 **Senior Tactical Air Control Party**

A subordinate operational component of a tactical air control system designed to provide air liaison to land forces and for the control of aircraft. Also called **TACP.** [derived from JP 3-09.3]

B.18 **Supported Maneuver Headquarters**

Unit headquarters where the land force commander and staff exercise C2 of maneuver operations through established relationships of its elements and activities. For the purpose of the JCAS JMT, Supported Maneuver Headquarters is an established category to describe the activities of

the Company, Troop, Detachment, Platoon, Squad, and Soldier in the context of their participation in the Close Air Support mission. This participation is categorized to represent the forces that are in direct contact with opposing forces and also directly supported by CAS missions. [derived from FM 6-0, FM 3-90.31, and FM 3-05.210]

C. INFORMATION NEEDLINE TYPES

This section describes the information needline types found in the JCAS Tier I OV-2 Operational Connectivity model. The information is required to be exchanged by operational nodes to conduct operational activities depicted in the JCAS Tier I OV-5b Operational Activity model. These are general categories of information and the respective descriptions were derived from, but are not exact quotes from, the sources referenced.

C.1 Allocation Request

A message used to provide an estimate of the total air effort, to identify any excess and joint force general support aircraft sorties, and to identify unfilled air requirements. This message is used only for preplanned missions and is transmitted on a daily basis, normally 24 hours prior to the start of the next air tasking day. [derived from JP 3-30, pg GL-7]

C.2 Close Air Support (CAS) Control Information

CAS Control Information is used to describe the CAS 9-line and related information such as Area of Operations Update and situational awareness data required for efficient execution of a CAS mission. In addition to the terminal control players (JTAC, FAC(A), JFO, and CAS platform), CAS Control Information is also produced and processed by supporting performers within the JCAS mission area such as maneuver headquarters, ASCA, etc. [derived from JP 3.09.3 pg V-39]

C.3 Close Air Support (CAS) Platform Tasking Information

Included instructions that provide for quick coordination of task assignment and reassignment (redirection, retargeting, or change of type of mission) and direct aircraft identification and engagement procedures and rules of engagement (ROE) appropriate to the nature of the threat. [derived from JP 3-09.3 pg III-33-37]

C.4 Ground Commander (CDR) Close Air Support (CAS) Request

Based on targeting information and available resources, the ground commander can choose to request CAS. The information needline is simply the request decision from the ground commander to the TACP/Air Liaison Officer (ALO). [JP 3-09.3 pg III-34-35]

C.5 Guidance

The Joint Force Commander (JFC) provides guidance on his objectives, desired effects, and priorities and what the effects of fires should have on the enemy. This guidance includes restrictions to fires as deemed necessary to project Joint Task Force (JTF) interests. The JFC establishes the guidance and priorities for CAS in Concept of Operations (CONOPS), operation

or campaign plans, the air apportionment decision, and when assigning capabilities and forces to the components. [JP 3-09.3 pg I-10]

C.6 **Intelligence/Unmanned Aircraft System (UAS) Information**

Intel/Unmanned Aircraft System (UAS) information supports target designation, target attack, and target assessment. [derived from JP 3-09.3 pg II-27]

C.7 **Joint Tactical Air Request (JTAR)/Air Support Request (ASR)/Target Nominations**

The Joint Tactical Air Strike Request (JTAR) is used for making CAS requests through the Air Support Operations Center/Direct Air Support Center (ASOC/DASC); typically for immediate CAS requests that develop outside the Air Tasking Order (ATO) planning cycle. An AIRSUPREQ/Air Support Request (ASR) is the preferred method of requesting air support through fire support channels. Target nominations are a target consolidated list of targets made up of the multiple candidate target lists, that is, a prioritized list of targets drawn from the joint target list and nominated by component commanders, appropriate agencies, or the JFC's staff for inclusion on the joint integrated prioritized target list. [derived from JP 3-09.3 pg III-33-37, JP 1-02 pg 62]

C.8 **Operational Coordination and Liaison**

Information that describes component level air plans in order to minimize the risk of fratricide, assure deconfliction, avoid duplication of effort, and provide visibility to all friendly forces. Assists in deconfliction of fire support missions in the area of combat operations ensures supported commander's intent is met. [derived from JP 3-30 pg II-18, JP 3-09 pg II-5]

C.9 **Sortie Allotment/Air Tasking Order (ATO)**

Information that supports the matching of specific targets compiled by the JFACC and staff with the capabilities and forces made available to the JFACC for the given ATO day. Includes task assignment, task reassignment, airspace control, and air defense instructions. [derived from JP 3-30 pg III-21, III-26]

C.10 **Tactical Coordination and Liaison**

Information required for coordination prior to each CAS engagement. Includes battle tracking, target nomination, airspace deconfliction and coordination, synchronization, weapons release authority, tactical risk assessment, types of terminal attack control, and which JTAC/FAC(A) will provide terminal attack control. [derived from JP 3-09.3 pg V-2]

C.11 **Target Information**

Information required to conduct each CAS engagement. Includes target elevation, description, location, and other target related information. [derived from JP 3-09.3 pg V-40]

C.12 **Target Updates**

Changes to target information received immediately prior to attack or reattack. [derived from JP 3-09.3 pg V-34, V-43]

D. SYSTEMS

D.1 Advanced Field Artillery Tactical Data System (AFATDS)

AFATDS is an integrated fire support C2 system. It processes fire mission and other related information to coordinate and optimize the use of all fire support assets, including mortars, field artillery, cannon, missile, attack helicopter, air support, and naval gunfire. [Joint Task Force (JTF) Headquarters (HQ) Crisis Response and Limited Contingency Operations Template (Stability Operations), Appendix A - Joint Task Force (JTF) Headquarters (HQ) Command and Control (C2) Glossary, 12 January 2007, Version 1.0 (J89)]

D.2 Battlefield Air Operations (BAO) Kit

An integrated System of Systems that provides SOF battlefield airmen with the capability to find and track enemy targets, collect and control sensor data, and provide SA to support CAS mission. [USJFCOM JBMC2 JCAS JMT DTA Final Report – 13 February 2008]

D.3 Command Post of the Future (CPOF)

Command Post of the Future is a planning and mapping tool intended for collaboration between multiple echelons in a tactical environment. The CPOF is a commander-centric software environment and an intuitive and easy-to-learn system that supports 2D and 3D visualization. It was specifically developed to enable distributed, collaborative, command and control. CPOF supports deep collaboration at the thought process level that literally allows commanders, subordinates, and key battle staff to see what the commander is thinking. It also supports parallel, synchronous and asynchronous, cross-functional planning and execution; and provides for bi-directional interoperability with Army Battle Command System (ABCS) and other Department of Defense (DoD) systems. [DAU, Command Post of the Future, January 2010., www.dau.mil]

D.4 Common Ground Station (CGS)

The Common Ground Station (CGS) is a tactical data processing and evaluation center that links multiple air and ground sensors to include the Joint STARS aircraft to the Army Battle Command System (ABCS) at nodes EAC, Corps, Division and Brigade. The Joint Surveillance Target Attack Radar System (Joint STARS) is a multi-service battle management and targeting system with airborne multi-modal radar incorporating an electronically scanned antenna. The radar combines Moving and Fixed Target Indicator (MTI/FTI) and Synthetic Aperture Radar (SAR) functions and is carried aboard an E-8 aircraft. Radar data is broadcast to the Army CGS through an Omni directional data link and over UHF SATCOM. Additional sensor data can also be received from other air platforms such as UAVs. The CGS integrates imagery and signal intelligence data into a single visual presentation of the battlefield, providing commanders with near real-time situational awareness, enhanced battle management and targeting capabilities. The CGS with its Joint STARS and other sensor feeds, fulfills an urgent air-land battlefield requirement by providing an Army/Air Force sensor and attack control capability designed to locate, track, classify and assist in attacking moving and stationary targets beyond the Forward Line of Troops (FLOT). CGS is the only Wide Area Surveillance System that has resolution and real-time capability to provide the commander the data necessary to be effective in the future

sensor-oriented battle management process. Additionally, there is a transit case deployable CGS configuration known as the Joint Services Work Station (JSWS).
[https://www.kc.us.army.mil/homekc.nsf/fsKCPortal; PEO C3T, PEO IEW&S]

D.5 Distributed Common Ground/Surface System-Army (DCGS-A)

Distributed Common Ground System - Army (DCGS-A) will serve as the primary ground system of systems for airborne and ground sensor platforms defined as Future Force systems. DCGS-A enables the commander to achieve situational understanding by leveraging multiple sources of data, information, and intelligence to synchronize the elements of Joint and Combined Arms combat power (maneuver, maneuver support and maneuver sustainment support). The core functions of DCGS-A are: receipt and processing of space, airborne, ground and maritime ISR sensor data; control of select Army and joint ISR sensor systems; intelligence synchronization; ISR planning, reconnaissance and surveillance (R&S) integration; fusion of sensor information, and direction and distribution/dissemination of sensor information. It draws information from a wide variety of automated and manual sources; on-board sensors, space platforms, unattended air and ground vehicles, existing and new ISR capabilities, and an assortment of databases to enable the land component commander to execute battle command, synchronize fires and effects, rapidly shift battle focus, achieve situational understanding, protect the force, and employ his forces more effectively. DCGS-A allows commanders at all levels to visualize and understand the threat and environment, predict threat intentions, execute targeting through targeting support, conduct ISR integration and support Information Operations.
[https://www.kc.us.army.mil/homekc.nsf/fsKCPortal; PEO C3T, PEO IEW&S]

D.6 Force XXI Battle Command Brigade-and-Below (FBCB2)

FBCB2 is a Situational Awareness (SA), as well as Command-and-Control (C2), system used by lower Army echelons. FBCB2 is a tablet-like computer with a touch screen and an enclosed all-weather keyboard. The existing SINCGARS or EPLRS radio is used for sending and receiving messages. [https://us.jfcom.mil/sites/J8/J89/Documents/J892/C2Systems/Army/FBCB2/]

D.7 Forward Observer System (FOS)

A U.S. Army automated fire support system used by Commanders, Fire Support Coordinators, Fire Support Officers, Fire Support Team Chiefs, and Forward Observers located at or employed remotely from fire support agencies at all echelons. FOS provides Fires and Effects integrators with an automated decision-making, planning, and execution capability which ensure seamless integration of synchronized and highly accurate fires into the maneuver commander's scheme of maneuver. [USJFCOM JBMC2 JCAS JMT DTA Final Report – 13 February 2008]

D.8 Improved Data Modem (IDM)/Air Force Applications Program Development (AFAPD)

A message most commonly associated with the Improved Data Modem (IDM) and Combat Net Radios (CNR). AFAPD-based TDLs are typically capable of secure, jam-resistant data communication, in point-to-point, point-to-multipoint, relay, and broadcast modes at data rates up to 16,000 bits per second (bps). [USJFCOM JBMC2 JCAS JMT DTA Final Report – 13 February 2008]

D.9 **Internet Relay Chat (IRC)**

Derived from Secure IRC: Provides a means of communication between intelligence activities, selected aircraft, ASOC, and IRC equipped TACPs. [JP 3-09.3 pg II-24]

D.10 **Joint Automated Deep Operations Coordination System (JADOCS)**

JADOCS is a mission management tool providing horizontal and vertical integration across battlefield functional areas. JADOCS is a distributed system supporting any number of workstations that are typically located at multiple command and control and fire support operation facilities. This enables JADOCS to provide horizontal coordination of tactical and functional information within each echelon, as well as vertical coordination with higher and subordinate headquarters. [https://us.jfcom.mil/sites/JSIC/JSIC Reports/FY 2005/JADOCS.doc]

D.11 **Joint Range Extension (JRE)**

Receives information transmitted on a tactical data link in a particular area of operations and forwards that information to another tactical data link BLOS. [USJFCOM JBMC2 JCAS JMT DTA Final Report – 13 February 2008]

D.12 **Link 16 Radio**

One of the J-Series Family of TDLs identified in the Joint Tactical Data Link Management Plan (JTDLMP), is an omni-directional, Time Division Multiple Access (TDMA) system that operates in the high UHF band (L band). It is a high speed, high-capacity, secure, jam-resistant, Low Probability of Intercept (LPI)/Low Probability of Detection (LPD), nodeless, multi-channel system that is being fielded across the U.S. Services for airborne, shipboard, land-based, and submarine employment supporting multiple mission areas. [USJFCOM JBMC2 JCAS JMT DTA Final Report]

D.13 **Local Area Network (LAN)**

A network that links together computers and peripheral equipment within a limited area, such as a building or a group of buildings. The computers in an LAN have independent central processing units, but they are able to exchange data with each other and to share resources such as printers. [Dictionary Definition]

D.14 **Marine Tacitcal System (MTS)**

A message set defined by the MTS Technical Interface Development Plan (TIDP) and approved Interface Change Proposal (ICP). The MTS message set is employed by AV-8B for purposes of passing digital CAS messages. This messaging capability may be replaced by variable message format (VMF) with the addition of StrikeLink-A into the AV-8B OFP in the 2012-2015 timeframe. [USJFCOM JBMC2 JCAS JMT DTA Final Report – 13 February 2008]

D.15 **Pocket-Sized Forward Entry Device (PFED)**

Windows based, utilizes existing SINCGARS Advanced System Improvement Program (ASIP) communications to provide the lightest, most powerful dismounted system for developing a Call for Fire (CFF) that is fully interoperable with AFATDS, other Current Fire Support systems and

Marine and Air Force. When coupled with the fielded Precision Lightweight GPS Receiver (PLGR), or optional integrated GPS, the PFED system enables rapid precision Sensor-to-Shooter and surveillance capabilities with “First Round Kill” accuracy. PFED is a subset of the Forward Observer System (FOS) software and enables users to plan, control, and execute fire support operations at the maneuver platoon level. [PM Battle Command, Director Handheld Systems]

D.16 **Radio (HF)**

The radio stations/ frequencies that use Automatic Link Establishment (ALE) addresses of Federal, State and industry organizations they need to communicate/coordinate with during emergency operations. It is available on a 24-hour basis and requires no prior coordination or activation to get messages through. [derived from http://www.ncs.gov/shares/index.html]

D.17 **Radio (UHF; VHF AM; VHF FM)**

Ultra high Frequency (UHF) AM/FM PSK: UHF AM/FM PSK operates in the 225-400MHZ and 225-450 MHZ frequency ranges. UHF AM/FM PSK will support analog and 16KBPS digital voice and data at rates up to 16 KBPS. UHF AM/FM PSK will be compliant with MIL-STD-188-181B and MIL-STD-188-243. The Very High Frequency (VHF) AM/FM operates in the 30-88 MHZ frequency range. VHF FM supports analog voice and digital voice at 16 KBPS. VHF FM will be compliant with MIL-STD-188-242. [http://jitc.fhu.disa.mil/jtrs/]

D.18 **Satellite Communications (SATCOM) Radio**

The Lightweight Super High Frequency (SHF) Satellite Communications (SATCOM) Terminal enables Navy ships to access the Defense Satellite Communications System (DSCS) for reliable, secure, beyond line-of-sight information exchange at medium-to-high data rates with other fleet units, fixed and mobile Joint and Allied Forces, and Navy C4I commands. [http://www.navy.mil/navydata/policy/vision/vis99/v99-ch3e.html]

D.19 **Secure Internet Protocol Router Netowrk (SIPRNET)**

The worldwide SECRET-level packet switch network that uses high-speed internet protocol routers and high-capacity Defense Information Systems Network circuitry. See also Defense Information Systems Network. [JP 6-0]

D.20 **Secure Telephone (STU; STE)**

The Secure Terminal Equipment (STE) is part of the next generation of secure voice and data terminals that will provide enhanced secure digital communications in the 21st century. The STE was also designed to be interoperable with the Secure Telephone Unit - Third Generation (STU-III) telephone devices that are supporting the Warfighter. Because of the current secure terminal limitations, several thousand STE models are being procured. [https://stp.fhu.disa.mil/]

D.21 **Situational Awareness Data Link (SADL) Radio (USAF)**

Directly interfaces to the aircrafts MIL-STD-1553B data buss which is integrated with aircrafts avionics. SADL provides inter-flight link for up to 16 aircraft, aircraft position reporting, flight parameters, and targeting information. SADL also provides positive air and ground friendly ID,

fighter-to-fighter SA (with other SADL equipped aircraft), and digitally-aided CAS control and targeting. [USJFCOM JBMC2 JCAS JMT DTA Final Report – 13 February 2008]

D.22 **Tactical Air Control Party - Close Air Support System (TACP-CASS)**

ACP-CASS is a suite that includes a military rugged tablet computer that hosts the TACP-CASS software. TACP-CASS software and supporting applications interface with the AN/PRC-117F multiband man-pack radio, the MK-VII LRF, GPS devices, and data link gateways to support ASOC/TACP missions. TACP-CASS refers to the software applications that include interfaces with the Theater Battle Management Core System (TBMCS), aircraft equipped with an IDM/Air Force Applications Program Development (AFAPD), VMF, and the MTS protocol digital communications systems. It also includes interfaces that allow communications with data link gateways equipped with JRE software to enable Link 16 and SADL communications. TACP-CASS also interfaces with components of the US Army Battle Command System (ABCS), the FBCB2 system, and AFATDS. [Bold Quest ’09 Coalition Military Utility Assessment Report, Annex K]

D.23 **Target Location, Designation, and Handoff System (TLDHS)**

TLDHS is an integrated, modular, team-portable equipment suite that provides US Marine Corps (USMC) foot-mobile fire support to Forward Observers (FOs) and Forward Air Controllers (FACs) with capabilities to quickly and accurately acquire/locate enemy ground targets and designate targets for laser-guided munitions and laser spot trackers. TLDHS provides the capability to digitally transmit (hand off) target data to naval surface fire support, field artillery, and CAS fire support coordination/direction agencies, and weapon delivery platforms. TLDHS is fielded to FOs, FACs, naval gunfire spotters, ISR group fire control teams, and force reconnaissance Marines. TLDHS consists of the following subsystems: Target Hand-off System (THS), Common Laser Range Finder (CLRF), Ruggedized Handheld Computer (RHC), and communications interfaces to include modems and AN/PRC-117F radios. [Bold Quest ’09 Coalition Military Utility Assessment Report, Annex K]

D.24 **Theater Battle Management Core Systems (TBMCS)**

The Theater Battle Management Core Systems (TBMCS) is a theater and tactical level automated information system. It is used to allocate aircraft sorties, plan aircraft missions, and then disseminates the Air Tasking Order (ATO) message mission tasking for unit flight scheduling and mission planning by aircrews and conclude with mission monitoring and mission assessment. TBMCS in conjunction with the Communications Data Link System (CDLS) are the equipment suites that support the Tactical Air Command Center (TACC). [www.mctssa.usmc.mil]

D.25 **Variable Message Format (VMF)**

Variable message format (VMF) is a modem-based message protocol found in F/A-18, A-10C, and some B-52H aircraft. VMF provides the most extensive digital information exchange between similarly capable platforms and ground based terminal attack controller kits. [JP 3-09.3]

D.26 **Video Down Link (VDL)**

VDL systems provide full motion video (FMV) downlink to the ground units for CAS execution. In CAS, VDLs are used to build aircrew and JTAC SA, provide precise coordination, target verification, fratricide reduction, collateral damage mitigation, and real time battle damage assessment (BDA). VDL systems enhance, but do not change standard CAS procedures. FMV feeds should not be used as a single-source target identification method. [JP 3-09.3 pg V-95]

D.27 **Video Down Link (VDL) Receiver**

VDL systems provide FMV downlink to the ground units for CAS execution. In CAS, VDLs are used to build aircrew and JTAC SA, provide precise coordination, target verification, fratricide reduction, collateral damage mitigation, and real time battle damage assessment (BDA). VDL systems enhance, but do not change standard CAS procedures. FMV feeds should not be used as a single-source target identification method. [JP 3-09.3 pg V-95]

E. ACTIVITY DEFINITIONS

JCAS activities are listed below in alphabetical order to aid the reader in locating specific entries. Proper sequential flow of the activities can be found in the OV-5b, Operational Activity model. These can also be found in the Additional Task Detail for Tactical Task TA 3.2.2, "Conduct Close Air Support" within the Universal Joint Task List (UJTL) database.

E.1 **Advise JFLCC and Staff on the Capabilities, Limitations and Employment of Air Support**

The Air Force component commander may establish an Air Component Coordination Element (ACCE) that interfaces and provides liaison with the JFLCC, or commander Army forces. The air component coordination element is the senior Air Force element assisting the JFLCC or commander Army forces in planning air component supporting and supported requirements. [JP 3-30, Command and Control for Joint Air Operations, GL-5; UJT OP 3.2.1]

E.2 **Allocate Resources IAW the JFC Approved Apportionment Decision**

The JFACC and staff examine readiness of all available air capabilities/forces to determine if there is enough to perform all specified and implied tasks. The JFACC identifies additional resources needed for mission success to the JFC. Factors to consider include available forces (including multinational contributions), command relationships (national and multinational), force protection requirements, ROE, laws of war, applicable treaties and agreements (including the existence of a status-of-forces agreement), base-use (including land, sea, and air) and overflight rights, logistic information (what is available in theater ports, bases, depots, war reserve materiel, host-nation support), and what can be provided from other theaters. ***[***JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-3; UJT OP 3.2.1.]

E.3 **Approve/Disapprove/Modify JFACC Apportionment Recommendation**

The JFC is the final approval authority for the air apportionment recommendation. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, II-23; UJT OP 3.2.1.]

E.4 **Complete Mission Analysis with Submission of Preplanned Air Support Requests**

CAS requirements foreseen early enough to be included in the joint ATO are submitted as preplanned requests. As soon as the requirements for CAS are identified during the planning process, CAS planners submit a preplanned request for CAS prior to the request cut off time, as specified by Higher Headquarters (HHQ). CAS planners prepare preplanned requests by using DD FORM 1972 (Joint Tactical Air Strike Request (JTAR)). [JP 3-09.3 Close Air Support, 8 July 2009, III-6; UJT TA 3.2.2; Additional Task Detail E1.1, T3.]

E.5 **Conduct Battle Tracking (Maintain Overall Situational Awareness)**

Battle tracking is the process of building and maintaining an overall picture of the operational environment that is accurate, timely, and relevant. Effective battle tracking increases the probability of CAS attack success by ensuring its application at the proper time and place. [JP 3-09.3 Close Air Support, 8 July 2009, V-2; UJT TA 3.2.2; Additional Task Detail E3.1, T1.]

E.6 **Conduct CAS Aircraft Check-in**

CAS aircrews check-in with the JTAC/FAC (A) using the CAS Check-In Briefing. If aircraft are on the ATO and the JTAC/FAC (A) have a copy of the ATO, the CAS asset may check-in "as fragged" and subsequent transmissions may be minimized. Authentication procedures will be used if deemed necessary. The JTAC/FAC (A) responds with traffic advisories that can include the presence of other aircraft on station, their call sign, operating altitude, and frequency. The JTAC/FAC (A) also provides airspace updates that advise aircrews of available airspace and desired IP/hold point locations for the attack. [JP 3-09.3 Close Air Support, 8 July 2009, V-34; UJT TA 3.2.2; Additional Task Detail E3.2, T2.]

E.7 **Conduct CAS Aircrew Planning**

Air crew planning includes the review of the ATO, the receipt of the pre-mission brief, and planning of the CAS mission. [JP 3-09.3 Close Air Support, 8 July 2009, B-1; UJT TA 3.2.2; Additional Task Detail E1.2, T1.]

E.8 **Conduct CAS Planning for Course of Action (COA) Development**

Support course of action (COA) development with CAS input as planners begin developing possible ways the force can accomplish the mission. It includes analyzing relative combat power, generating options, arraying initial forces, developing schemes of maneuver, assigning headquarters, and preparing COA statements and sketches. [JP 3-09.3 Close Air Support, 8 July 2009, III-6; UJT TA 3.2.2; Additional Task Detail E1.1, T4.]

E.9 **Conduct CAS Planning for Mission Analysis**

Support the analysis of received mission to define the tactical problem and begin to determine solutions. Resulting products include a restated mission, commander's guidance, commander's intent, initial Commander's Critical Information Requirement (CCIR), and a warning order. Commander's guidance facilitates COA development. Products appropriately incorporate CAS input. [JP 3-09.3 Close Air Support, 8 July 2009, III-4; UJT TA 3.2.2; Additional Task Detail E1.1, T2.]

E.10 **Conduct CAS Planning for Receipt of Mission**

The CAS decision-making process is a tool that assists the commander and staff in developing a fire support plan. CAS planners should be prepared to provide input to support development of ground commander initial guidance. [JP 3-09.3 Close Air Support, 8 July 2009, III-4; UJT TA 3.2.2; Additional Task Detail E1.1, T1.]

E.11 **Conduct FAC (A) Planning**

FAC (A)s must be familiar with the Operations Plan/Operations Order (OPLAN/OPORD), applicable theater/operation Standard Operating Procedures (SOPs), and the ATO. FAC (A) s should conduct liaison with the supported unit's air officer (AO)/ALO and Fire Support Center (FSC). In some cases, a face-to-face meeting will be possible; however, most of the time this will have to take place via other means. This liaison should clarify the information contained within the OPLAN/OPORD/ATO and any particular requirements of the supported ground unit. [JP 3-09.3 Close Air Support, 8 July 2009, III-38; UJT TA 3.2.2; Additional Task Detail E1.2, T2.]

E.12 **Conduct FAC(A), JTAC, and JFO Coordination**

The JTAC and the FAC (A) determine their mutual responsibilities prior to the attack. These responsibilities may include coordination with maneuver elements, attack aircraft briefing, target marking, airspace deconfliction, suppression of enemy air defenses (SEAD) execution, and who provides final attack clearance. The JTAC/FAC(A) coordinate with the JFO expectations for targeting information and terminal guidance operations (TGO). [JP 3-09.3 Close Air Support, 8 July 2009, V-34; UJT TA 3.2.2; Additional Task Detail E3.1, T4.]

E.13 **Conduct Movement to Position IAW Observation Plan (TACP, JTAC, JFO)**

Most TACP operations require movement to forward assembly areas, observation posts, or battle positions during the preparation phase of an operation. The maneuver unit OPORD will normally specify formations and techniques of movement. This allows the commander to position his elements where they will optimize the unit's battlespace and facilitate execution of his scheme of maneuver. In addition, the selection of TACP/JTAC positions enable target observation while ensuring survivability and communications capability. [JP 3-09.3 Close Air Support, 8 July 2009, IV-10; UJT TA 3.2.2; Additional Task Detail E2.3, T1.]

E.14 **Conduct Planning Based on JFC Guidance, Objective, and Intent for CAS**

Planning for joint air operations begins with understanding the JFC's mission and intent. The JFC's estimate of the operational environment and articulation of the objectives needed to accomplish the mission form the basis for determining components' objectives. The JFACC uses the JFC's mission, commander's estimate and objectives, commander's intent, CONOPS, and the components' objectives to develop a course of action (COA). When the JFC approves the JFACC's COA, it becomes the basis for more detailed joint air operations planning—expressing what, where, and how joint air operations will affect the adversary or current situation. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-1; UJT OP 3.2.1.]

E.15 **Conduct Reconnaissance of Battlefield**

If time and the tactical situation permit, the TACP/JTAC takes advantage of the opportunity to conduct reconnaissance of the battlefield. This reconnaissance allows the TACP/JTAC to confirm that observation positions offer visibility of engagement areas, enemy avenues of approach, and dead space; and allows the TACP/JTAC to verify communications connectivity. [JP 3-09.3 Close Air Support, 8 July 2009, IV-11; UJT TA 3.2.2; Additional Task Detail E2.3, T2.]

E.16 **Conduct Terminal Attack Control**

Once the clearance requirements for a particular type of control are met, it is important to pass clearance in a timely manner to give aircrews time to prosecute the attack before release parameters have expired. A wide variety of ordnance is available and suitable for CAS missions. Mixed weapons loads on aircraft or between flight members will require the flight lead and the JTAC to coordinate different delivery patterns. When employing standoff munitions or delivery methods, the JTAC must provide a timely clearance appropriate for the weapon being delivered. For example, medium-altitude level attacks can result in weapon releases at more than 4 nm from the target. [JP 3-09.3 Close Air Support, 8 July 2009, V-43; UJT TA 3.2.2; Additional Task Detail E3.2, T5.]

E.17 **Coorindate Communications**

CAS missions require a high degree of control exercised through effective communication. Communications must be flexible and responsive to ensure that links between aircraft and ground units are maintained, reducing the chance of fratricide and enhancing mission effectiveness. The TACP/JTAC verifies the communication plan during combined arms and fire support rehearsals. In addition, during the preparation phase, and often in consonance with the pre-combat inspections, communication links are checked and verified. This ensures that primary and backup voice and digital systems are checked, crypto material is current, time is synchronized, and code words, brevity codes, passwords and call signs are available and current. Ensure systems are fully operational and connectivity is established. Often unit SOPs will delineate connectivity checks (e.g., "...each station will perform a communications check on TAR/HR on the half hour reporting in precedence order"). Additionally, any extra measures such as day/night friendly marking procedures and visual or sound signals are practiced. [JP 3-09.3 Close Air Support, 8 July 2009, II-21, IV-2, IV-5, V-4, V-5; UJT TA 3.2.2; Additional Task Detail E2.1, T6.]

E.18 **Coordinate Fraticide Prevention Measures**

The likelihood of fratricide is minimized through detailed mission planning, standardized, procedures for friendly force tracking and supporting immediate air requests, realistic training/mission rehearsal, use of friendly tagging or tracking devices, and effective staff, terminal controller, AO/ALO coordination, and sound clearance of fires procedures. [JP 3-09.3 Close Air Support, 8 July 2009, I-11; UJT TA 3.2.2; Additional Task Detail E2.1, T8.]

E.19 **Coorindate Friendly Marking Procedures**

While marking friendlies during a CAS mission is undesirable as it introduces risk of confusion, the act is sometimes necessary to ensure either protection of friendlies or as a reference for efficient tally of the CAS target. Various methods of marking friendlies exist such as identification panels, smoke, radio tagging, cooperative identification systems for blue force tracking, IR marker/pointer, GLINT tape, visible lighting smoke, radio beacons, etc. The TACP/JTAC ensures coordination of intended method of marking friendlies and verifies friendly marking procedures during combined arms and fire support rehearsals. [JP 3-09.3 Close Air Support, 8 July 2009, I-8, IV-3, V-16, V-83; UJT TA 3.2.2; Additional Task Detail E2.1, T4.]

E.20 **Coordiante Mission Essential Information**

Ensure personnel in each subordinate element understand the mission, CONOPS, scheme of maneuver, and fires. [JP 3-09.3 Close Air Support, 8 July 2009, IV-7; UJT TA 3.2.2; Additional Task Detail E2.1, T1.]

E.21 **Coordinate Movement/Positions**

During the preparation phase, the AO/ALO performs the necessary coordination to ensure that TACP movement will be in accordance with the maneuver unit's observation plan. In addition, the AO/ALO recommends initial TACP/JTAC observation positions to the commander. The AO/ALO and the commander must consider three aspects in the TACP/JTAC positioning decision: security, observation, and communications. [JP 3-09.3 Close Air Support, 8 July 2009, IV-10; UJT TA 3.2.2; Additional Task Detail E2.1, T7.]

E.22 **Coordinate SEAD/EW Execution Procedures**

SEAD is an integral part of achieving air superiority and may be required during CAS attacks, may be accomplished by surface- and air-delivered weapons. Electronic warfare (EW) involves the use of electromagnetic and directed energy and consists of three divisions: electronic attack, electronic protection, and electronic warfare support. Air delivered SEAD and EW must be coordinated and deconflicted in order to provide necessary support during the time CAS is being conducted. The JTAC/TACP verifies the plan for SEAD during combined arms and fire support rehearsals. [JP 3-09.3 Close Air Support, 8 July 2009, IV-3, V-16, 17; UJT TA 3.2.2; Additional Task Detail E2.1, T2.]

E.23 **Coordinate Target Marking Procedures**

The commander employing CAS can improve its effectiveness by providing timely and accurate target marks. Target marking builds SA, identifies specific targets in an array, reduces the possibility of fratricide and collateral damage, and facilitates terminal attack control. The TACP/JTAC verifies CAS target marks during combined arms and fire support rehearsals. [JP 3-09.3 Close Air Support, 8 July 2009, IV-3; UJT TA 3.2.2; Additional Task Detail E2.1, T3.]

E.24 **Coordinate Timing of Air Assets and Surface Fires**

Timing is an integral part of CAS integration, deconfliction, and synchronization. A common time reference is essential to accomplish the high degree of coordination necessary for effective

CAS. In particular, timing directly effects CAS delivery methods (i.e. time on target (TOT), time to target (TTT)), marking, and SEAD. The TACP/JTAC verifies the timing of air assets and surface fires during combined arms and fire support rehearsals. [JP 3-09.3 Close Air Support, 8 July 2009, IV-5, V-5, V-8; UJT TA 3.2.2; Additional Task Detail E2.1, T5.]

During the preparation phase, the AO/ALO performs the necessary coordination to ensure that TACP movement will be in accordance with the maneuver unit's observation plan. In addition, the AO/ALO recommends initial TACP/JTAC observation positions to the commander. The AO/ALO and the commander must consider three aspects in the TACP/JTAC positioning decision: security, observation, and communications. [JP 3-09.3 Close Air Support, 8 July 2009, IV-10; UJT TA 3.2.2; Additional Task Detail E2.1, T7.]

E.25 **Deconflict CAS with Other Airspace Users**

Direct and indirect fires may interfere with aircraft operations. JTACs and fire support personnel must deconflict airspace to provide a reasonably safe operating space for aircraft to maneuver and attack targets. Deconfliction must also accommodate other airspace users to include Army Aviation, unmanned aircraft, Medical Evacuation (MEDEVAC), C2, ISR, and transport aircraft. CAS aircraft may require specific deconfliction and coordination using time, space, and altitude. JTACs and fire support personnel should select the separation techniques that require the least coordination without adversely affecting the ability to safely complete the mission. To be successful, all participants must be well versed in airspace coordination area (ACA) terminology and have knowledge of all applicable ACAs in use. [JP 3-09.3 Close Air Support, 8 July 2009, V-5; UJT TA 3.2.2; Additional Task Detail E3.1, T9.]

E.26 **Detect/Locate Target**

Perceive an object of possible military interest without confirming it by recognition (detect). Determine the placement of a target on the battlefield (locate). Target location can be expressed, for example, as a six-digit grid coordinate. [JP 3-09.3 Close Air Support, 8 July 2009, V-2, V-3, V-85; UJT TA 3.2.2; Additional Task Detail E3, T2.]

E.27 **Determine Whether Mission Met Ground Commander's Desired Effects**

Battle damage assessment provides commanders with a timely and accurate snapshot of their effect on the enemy. This helps commanders determine when or if their targeting effort is accomplishing their objectives. [JP 3-60 Joint Targeting, 13 April 2007, C-4; UJT TA 3.2.2; Additional Task Detail E4, T2.]

E.28 **Distribute ATO/ACO/SPINS**

The Airpsace Tasking Order/Airspace Control Order (ATO/ACO) production team is directly responsible for the technical production and distribution of the ATO, ACO, and special instructions (SPINS). It facilitates the timely production of the daily ATO and ACO, and disseminates them by the most expeditious means available. Normally, the ATO/ACO production team is sub-divided into two functionally oriented cells: the ATO production team and the ACO production team. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, F-1; UJT OP 3.2.1.]

E.29 **Identify Available and Required Resources to Execute CAS**

Following the JFC air apportionment decision, the JFACC translates that decision into total number of sorties by aircraft type available for each objective/task. On the basis of the JFC's air apportionment decision, internal requirements, and air support request messages, each air capable component prepares an allocation request (ALLOREQ) message for transmission to the JFACC (normally not less than 36 hours prior to the start of the ATO day; this coincides with the beginning of the Master Air Attack Plan (MAAP) process). [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-24; UJT OP 3.2.1.]

E.30 **Input Component Commanders' CAS requirements into the MAAP**

The Targeting Effects Team (TET) collates target nominations from the components. It screens all nominated targets to ensure they meet the JFC guidance and are relevant. It prioritizes the nominated targets based on the best potential achievement of the JFC guidance and the components' priorities and timing requirements. The product of this effort, when approved and signed by the JFACC, is the Joint Integrated Prioritized Target List (JIPTL). [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-22; UJT OP 3.2.1.]

E.31 **Integrate CAS with Maneuver**

Once a target has been nominated, the JTAC and Combat Operations Center/Tactical Operations Center (COC/TOC) must coordinate the CAS attack with affected maneuver elements. Cross-boundary clearance of fires, friendly air defense artillery (ADA), and CAS aircraft ingress/egress routing must be deconflicted and coordinated. [JP 3-09.3 Close Air Support, 8 July 2009, V-9; UJT TA 3.2.2; Additional Task Detail E3.1, T10.]

E.32 **Make Adjustment to the ATO and ACO based on mission requirements**

The JAOC must be responsive to required changes during the execution of the ATO. In-flight reports, the discovery of time-sensitive targets, and initial BDA may cause a redirecting of joint air capabilities/forces before launch or a redirection once airborne. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-25; UJT OP 3.2.1.]

E.33 **Match CAS missions to preplanned air support requests**

The MAAP team develops the MAAP in accordance with JFACC guidance, the air apportionment recommendation and prioritized target list. There may be two functionally oriented specialty cells: the fighter/bomber cell and the support planning cells. The fighter/bomber planning cell plans, coordinates, and tasks the employment of counterair, interdiction, strategic attack and CAS assets. The cell will ordinarily have representation for each type of aircraft and weapons system being employed. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-24; UJT OP 3.2.1.]

E.34 **Monitor CAS operational assessment and integrate into future plans**

During execution, the JAOC is the central agency for revising the tasking of joint air capabilities/forces. It is also charged with coordinating and deconflicting those changes with the

appropriate control agencies or components. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-25; UJT OP 3.2.1.]

E.35 **Nominate Target for CAS**

Commanders nominate CAS targets based on previously planned target sets or from spot reports received during execution. The nomination process can occur before or after aircraft arrive at the control point. [JP 3-09.3 Close Air Support, 8 July 2009, V-4; UJT TA 3.2.2; Additional Task Detail E3.1, T3.]

E.36 **Obtain Preplanned CAS Requests from BCD/MARLO/NALE/SOLE**

The BCD processes land force requests for air support, monitors and interprets the land battle situation in the JAOC, and provides the necessary interface for the exchange of current operational and intelligence data. The MARLO provides feedback to organizations within the JAOC on current and future joint air operations concerning integration of Marine Corps force requirements. The NALE processes Navy force and Marine Corps landing force requests for air support and monitors and interprets the maritime battle situation in the JAOC. The SOLE coordinates, integrates, and deconflicts all SOF air and surface activities by providing a SOF presence in the JAOC that is aware of the activities of special operations units in the field by providing visibility of SOF operations in the JFACC's ATO and ACO. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, G-1; UJT OP 3.2.1.]

E.37 **Process Joint Tactical Air Strike Request (JTAR)**

Joint Tactical Air Strike Requests (JTARs) are forwarded to the appropriate command post by the most effective means available, voice or digital. The most responsive air support for troops in contact may require immediate requests sent directly from the TACP (JTAC, ALO, AO) to the ASOC/DASC. The AO/FSC/ALO at each intermediate HQ monitors the flow of requests. Based on the commander's intent, and after considering whether organic assets are available to fulfill the request, they approve or deny the request. Silence by intermediate HQ implies consent to the request. [JP 3-09.3 Close Air Support, 8 July 2009, III-36; UJT TA 3.2.2; Additional Task Detail E3.1, T6.]

E.38 **Provide C2 for CAS assets**

Aircraft check-in procedures are essential for establishing the required flow of information between the CAS aircrews and control agencies. Controlling agencies should update all CAS assets on the current situation en route to the area of operations. Consequently, it is important for the JTAC to brief the current situation to the DASC/ASOC allowing CAS aircraft to arrive with the most current information available. [JP 3-09.3 Close Air Support, 8 July 2009, V-34; UJT TA 3.2.2; Additional Task Detail E3.2, T1.]

E.39 **Provide CAS Briefing**

JTACs will use a standardized briefing to pass information rapidly. The CAS brief, also known as the "9-Line Briefing," is the standard for use with fixed- and rotary-wing aircraft. The CAS briefing form helps aircrews in determining if they have the information required to perform the mission. The brief is used for all threat conditions and does not dictate the CAS aircraft's tactics.

The mission brief follows the numbered sequence (1-9) of the CAS Briefing Form. The first 9 lines are understood, and line numbers do not need to be passed. Lines 4, 6, and any remarks/restrictions are mandatory read-back items (verbal or digital) for all three types of control. Additionally, the JTAC may need confirmation that the aircraft has correctly received other critical items of the brief. In these situations, the JTAC will specify the additional items to be confirmed. [JP 3-09.3 Close Air Support, 8 July 2009, V-39; UJT TA 3.2.2; Additional Task Detail E3.2, T4.]

E.40 **Provide Follow-on Attack Recommendation**

Make recommendations to the commander, considering the level to which operational objectives have been achieved, regarding reattack, and other recommendations that address operational objectives relative to target, target critical elements, target systems, and enemy combat strengths. [JP 3-60 Joint Targeting, 13 April 2007, C-5; UJT TA 3.2.2; Additional Task Detail E4, T3.]

E.41 **Provide In-Flight Report**

The In-Flight Report (INFLTREP) can be used to report other tactical information of such importance and urgency that if the aircrew were to wait for a normal post-flight debriefing the information might no longer be useful. This might include the presence of Surface to Air Missile (SAMs), Anti-Air Artillery (AAA), or radar warning receiver indications or numbers of remaining targets. The INFLTREP is sent directly to any Theater Air-Ground Systems (TAGS)/Marine Air Command and Control System (MACCS) agency, the supported unit, or via any available relay. Message recipients may add additional information and forward via another INFLTREP. INFLTREP information is incorporated in all-source intelligence reports. The standard USMTF MISREP format is used to report mission results after return to base. [JP 3-09.3 Close Air Support, 8 July 2009, V-46; UJT TA 3.2.2; Additional Task Detail E4, T4.]

E.42 **Recommend Apportionment to the JFC**

Air apportionment allows the JFC to ensure the priority of the joint air effort is consistent with campaign or operation phases and objectives. After consulting with other component commanders, the JFACC makes the air apportionment recommendation to the JFC. The methodology the JFACC uses to make the recommendation may include priority or percentage of effort against assigned mission-type orders and/or categories significant for the campaign or operation such as the JFC's or JFACC's objectives. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-23; UJT OP 3.2.1.]

E.43 **Report Battle Damage Assessment**

Provide a timely and accurate estimate of damage resulting from the application of military force, either lethal or nonlethal, against a target. BDA is used to update the enemy order of battle. Accurate BDA is critical for determining if a target should be re-attacked. The BDA should be sent using joint Service formats. [JP 3-60 Joint Targeting, 13 April 2007, V-44; UJT TA 3.2.2; Additional Task Detail E4, T1.]

E.44 **Set Objectives and Focus on Course of Action**

In order to maximize operational effectiveness and avoid duplication of effort, the JFACC synchronizes and integrates the actions of assigned, attached, and supporting air capabilities/forces in time, space, and purpose. The JFACC must exploit the unique characteristics of air capabilities/forces made available for tasking to achieve assigned objectives as rapidly and as effectively as possible. [JP 3-30 Command and Control for Joint Air Operations, 12 January 2010, III-15; UJT OP 3.2.1.]

E.45 **Submit JTAR for Immediate CAS**

Immediate requests arise from situations that develop outside the ATO planning cycle. Because these requirements cannot be identified early on, tailored ordnance loads may not be available for specified targets. If CAS is unavailable, the senior ground echelon (e.g., Corps) AO/ALO may advise the G-3/S-3 to divert preplanned CAS missions or forward additional requests to the JAOC. During the execution phase of the ATO, the JFACC staff may need to redirect missions to cover immediate requests for CAS. [JP 3-09.3 Close Air Support, 8 July 2009, III-33; UJT TA 3.2.2; Additional Task Detail E3.1, T5.]

E.46 **Support COA Analysis/War Game with CAS Planning Inputs for each COA**

Support COA analysis with CAS input as planners analyze each COA for its advantages and disadvantage. This task normally includes the technique of war gaming as described in FM 101-5. Visualize each COA objectively, assess suitability, feasibility, and acceptability of the COA, focus Intelligence Preparation of the Battlespace (IPB) requirements, identify coordination requirements, anticipate critical operational events, and determine conditions and resources required for success. [JP 3-09.3 Close Air Support, 8 July 2009, III-8; UJT TA 3.2.2; Additional Task Detail E1.1, T5.]

E.47 **Support Combined Arms Rehearsals with CAS input**

Rehearsals help commanders and staffs prepare for an operation and describe their visualization in a better and more mature form. They also increase familiarity, expose gaps and build operational trust and teamwork among participants. Commanders use rehearsals to accomplish the following: simulate execution of the plan, further describe the commander's intent and concept of operations, identify and discuss options at decision points, synchronize activities within the force and among subordinate forces, revise and refine the mission plan using lessons learned from the rehearsal. Rehearsals may occur within and/or between separate tactical elements. The combined arms/maneuver rehearsal is conducted by a maneuver unit HQ and performed after subordinate units have issued their OPORD. CAS related areas should be covered and/or rehearsed during the combined arms rehearsal. [JP 3-09.3 Close Air Support, 8 July 2009, IV-2; UJT TA 3.2.2; Additional Task Detail E2.2, T1.]

E.48 **Support Fire Support Rehearsals with CAS input**

Fire support rehearsals focus on the execution of Essential Fire Support Tasks (EFST) and the Fire Support Execution Matrix (FSEM), the effectiveness of Fire Support Coordination Measures (FSCM), and the timing and synchronization of all fire support efforts with maneuver. Fire

support rehearsals serve to refine the Fire Support Plan, ensure understanding by all personnel in the Fire Support Coordination Cell/Fire Support Element (FSCC/FSE), and confirm the feasibility of the current plan. CAS related areas should be covered and/or rehearsed during the fire support rehearsal. [JP 3-09.3 Close Air Support, 8 July 2009, IV-4; UJT TA 3.2.2; Additional Task Detail E2.2, T2.]

E.49 **Support Orders Production with CAS Specific Fire Support Inputs**

Prepare a plan or order to implement the selected COA IAW the commander's decision by turning it into a clear, concise concept of operations, scheme of maneuver, and required support to include CAS. The plan includes annexes and overlays as necessary to implement the plan. This includes the establishment of graphic control measures, including fire support coordination measures. [JP 3-09.3 Close Air Support, 8 July 2009, III-11; UJT TA 3.2.2; Additional Task Detail E1.1, T6.]

E.50 **Synchronize CAS with Other Fires**

One of the most difficult functions performed by a FSCC/FSE is synchronizing CAS with surface fires. The intent is to coordinate the timing of air support, supporting arms, and maneuver to achieve the mass of a combined-arms attack. The goal is to accomplish this without suspending the use of any of the supporting arms or affecting the scheme of maneuver. An additional goal is to offer a reasonable measure of protection to aircraft from the effects of friendly surface fires. [JP 3-09.3 Close Air Support, 8 July 2009, V-13; UJT TA 3.2.2; Additional Task Detail E3.1, T8.]

E.51 **Task CAS Assets**

To resource an approved immediate request, the senior ground echelon (e.g., corps, division) AO/ALO may advise the G-3 to redirect scheduled CAS missions, to task on-call missions, or to forward the requests to the JAOC. During the execution phase of the ATO, the JFACC staff may need to redirect missions to cover immediate requests for CAS. [JP 3-09.3 Close Air Support, 8 July 2009, III-33; UJT TA 3.2.2; Additional Task Detail E3.1, T7.]

E.52 **Update Target Information**

After CAS aircrew checks in, the JTAC/FAC (A) will, if required, provide a current situation update that includes targets and enemy situation, threat activity and friendly information. [JP 3-09.3 Close Air Support, 8 July 2009, V-35; UJT TA 3.2.2; Additional Task Detail E3.2, T3.]

E.53 **Validate Available CAS**

Determine if CAS resources have been made available and are appropriate for the target(s). [JP 3-09.3 Close Air Support, 8 July 2009, III-33; UJT TA 3.2.2; Additional Task Detail E3.1, T4.]

F. ACRONYMS

ACO	Airspace Control Order
AFAPD	Air Force Applications Program Development
AFATDS	Advanced Field Artillery Tactical Data System
ASCA	Air Support Control Agencies
ASR	Air Support Request
ATO	Airspace Tasking Order
BAO	Battle Air Operations (kit)
C2	Command and Control
CAS	Close Air Support
CDR	Commander
CGS	Common Ground Station
COA	Course of Action
CPOF	Command Post of the Future
DCGS-A	Distributed Common Ground System - Army
EW	Electronic Warefare
FAC(A)	Forward Air Controller (Airborne)
FBCB2	Force XXI Battle Command Brigade-and-Below
FOS	Forward Observer System
IAW	In Accordance With
IDM	Improved Data Modem
IRC	Internet Relay Chat
JADOCS	Joint Automated Deep Operations Coordination System
JAOC	Joint Air Operations Center
JFACC	Joint Force Air Component Commander
JFC	Joint Force Commander
JFLCC	Joint Force Land Component Commander
JFMCC	Joint Force Maritime Component Commander
JFO	Joint Fires Observer
JFSOCC	Joint Force Special Operations Component Commander
JISR	Joint Intelligence, Surveillance, and Reconnaissance
JRE	Joint Range Extension
JTAC	Joint Terminal Attack Controller
JTAR	Joint Tactical Air Request
LAN	Local Area Network
MAAP	Master Air Attack Plan
MTS	Marine Tactical System
PFED	Pocket-Sized Forward Entry Device
SADL	Situational Awareness Data Link
SATCOM	Satellite Communications
SEAD	Suppression of Enemy Air Defenses
SIPRNET	Secure Internet Protocol Router Network
SPINS	Special Instructions

STE	Secure Terminal Equipment
TACP	Tactical Air Control Party
TACP-CASS	Tactical Air Control Party - Close Air Support System
TBMCS	Theater Battle Management Core Systems
TLDHS	Target Location, Designation, and Handoff System
UAS	Unmanned Aircraft System
VDL	Video Down Link
VMF	Variable Message Format