ARMY, MARINE CORPS, NAVY, AIR FORCE, SPACE FORCE

ACC

MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR AIR CONTROL COMMUNICATION

ATP 3-52.4
MCRP 3-20F.10
NTTP 6-02.9
AFTTP 3-2.8

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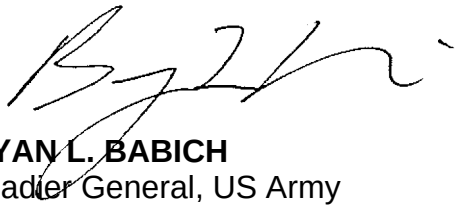
MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES

FOREWORD

This multi-Service tactics, techniques, and procedures (MTTP) publication is a product of the Air Land Sea Space Application (ALSSA) Center in accordance with the memorandum of agreement between the Headquarters of the United States (US) Army, Marine Corps, Navy, and Air Force doctrine commanders directing ALSSA to develop MTTP publications to meet the immediate needs of the warfighter.

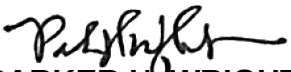
This MTTP publication has been prepared by ALSSA under our direction for implementation by our respective commands and for use by other commands as appropriate.



BRYAN L. BABICH
Brigadier General, US Army
Director
Mission Command Center of Excellence

K. R. ARBOGAST
Colonel, US Marine Corps
Director, Policy and Standards Division
Training and Education Command

MICHAEL R. DURKIN
Senior Executive Service, US Navy
Director
Navy Warfare Development Center



PARKER H. WRIGHT
Major General, US Air Force
Commander
Curtis E. Lemay Center for Doctrine Development and Education

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PREFACE

1. Purpose

This multi-Service tactics, techniques, and procedures (MTTP) publication establishes communications tactics, techniques, and procedures (TTP) for tactical command and control (TAC C2) to manage air operations and to control airspace and aircraft. It also establishes TTP for force packaging and direct air support coordination, air-to-air (A/A) communication, A/A intercept, threat A/A warning, threat surface-to-air warning, and air-to-surface communication.

2. Scope

This publication provides MTTP for the control and coordination of air operations in TAC C2 managed joint operations area (JOAs) or battle management areas (BMA).

3. Applicability

a. This MTTP publication applies to all TAC C2 airspace control elements and warfighters that conduct air operations in JOAs or BMAs managed by the joint force commander (JFC) and overseen by the airspace control authority in accordance with the JFC signed airspace control plan (ACP) and airspace control order (ACO). Operational planners and exercise planners can use this publication to inform the ACP, ACO, the special instructions, the area air defense plan, and rules of engagement.

b. This publication addresses an avenue for the Services to tap into the intelligence, surveillance, and reconnaissance constellation. It provides TTP to leverage current intelligence from platforms like RQ-4; RC-135; U-2; unmanned aircraft systems (UASs); space; and cyberspace by contacting the TAC C2. The TAC C2 may be manned by the United States (US) Air Force, Navy, or Marine Corps. TAC C2 would provide the current, consolidated battlespace picture.

4. Implementation Plan

Participating Service command offices of primary responsibility will review this publication; validate the information; and, where appropriate, use it as a reference and incorporate it in Service manuals, regulations, and curricula as follows.

Army. Upon approval and authentication, this publication incorporates the TTP contained herein into the United States (US) Army Doctrinal and Training Publishing Program as directed by the Commander, US Army Training and Doctrine Command. Distribution is in accordance with applicable directives listed on the authentication page.

Marine Corps.* The United States Marine Corps (USMC) will incorporate the procedures in this publication in USMC doctrine and training publications as directed by Commanding General, Training and Education Command (TECOM). Distribution is in accordance with the Marine Corps Order 5600.31 *Marine Corps Printing, Publishing, and Reprophraghics Equipment Regulations.*

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Navy. The Navy will incorporate these procedures in US Navy training and doctrine publications as directed by the Director, Navy Warfare Development Center (NWDC) [N5]. Distribution is in accordance with *MILSTRIP/MILSTRAP Desk Guide,* Naval Supply Systems Command Publication 409.

Air Force. The Air Force will incorporate the procedures in this publication in accordance with applicable governing directives. Distribution is in accordance with Department of the Air Force Instruction (DAFI) 90-160, *Publications and Forms Management* and Department of the Air Force Manual 90-161, *Publishing Processes and Procedures.*

Space Force. The United States Space Force will incorporate these procedures into relevant doctrine and training materials as directed by the Commander, Space Training and Readiness Command. Distribution is in accordance with applicable directives outlined in DAFI 90-160, *Publications and Forms Management*.

5. User Information

a. US Army Combined Arms Center; USMC, TECOM; NWDC; Curtis E. LeMay Center for Doctrine Development and Education; and Air Land Sea Space Application (ALSSA) Center developed this publication with the joint participation of the approving Service commands. ALSSA will review and update this publication as necessary.

b. This publication reflects current joint and Service doctrine, command and control organizations, facilities, personnel, responsibilities, and procedures. Changes in Service protocol, appropriately reflected in joint and Service publications, will be incorporated in revisions to this document.

c. We encourage recommended changes for improving this publication. Key your comments to the specific page and paragraph and provide a rationale for each recommendation. Send comments and recommendations directly to:

Army

Commander, US Army Combined Arms Center
ATTN: ATZL-MCD
Fort Leavenworth, KS 66027-6900
DSN 552-4885 COMM (913) 684-4885
E-mail: usarmy.leavenworth.mccoe.mbx.cadd-org-mailbox@army.mil

Marine Corps

Commanding General, Training and Education Command
Policy and Standards Division, Doctrine Branch
ATTN: C466
Quantico, VA 22134
COMM (703) 638-8352
E-mail: usmc_doctrine@usmc.mil

Navy

Director, Navy Warfare Development Center
ATTN: N5
1528 Piersey St, Building O-27
Norfolk, VA 23511-2723
DSN 341-4185 COMM (757) 341-4185
E-mail: nwdc_nrfk_fleetpubs@navy.mil

Air Force

Commander, Curtis E. LeMay Center for Doctrine Development and Education
ATTN: DDJ
401 Chennault Circle
Maxwell AFB, AL 36112-6428
DSN 493-7864/1681 COMM (334) 953-7864/1681
E-mail: afddec.ddj@us.af.mil

Space Force

Commander, Space Delta 10
2355 Fairchild Drive
Gregory Hall Suite 2N300
Air Force Academy, CO 80840
DSN 333-7723 COMM (719) 333-7723
E-mail: doctrine@spaceforce.mil

ALSSA

Director, ALSSA Center
114 Andrews Street
Joint Base Langley-Eustis, VA 23665-2785
DSN 575-0902 COMM (757) 225-0902
E-mail: ALSSAINFO@army.mil

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SUMMARY OF CHANGES

ATP 3-52.4/MCRP 3-20F.10/NTTP 6-02.9/AFTTP 3-2.8, *Multi-Service Tactics, Techniques, and Procedures for Air Control Communication*.

This revision:

Updates:

- Definitions for various terms.
- Replaced package commander with team lead.
- LOWDOWN priorities.
- Air-to-air intercept phases and priority communicators.

Removes:

- JACKAL section.

Adds:

- Battle management area definition.
- WAVE COMM standardization, associated communication and examples.
- Additional inflight report example.
- Additional PICTURE figures.
- SPREAD definition, scenario, and figure.
- Cruise missile defense clarification.

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ATP 3-52.4 **US Army Training and Doctrine Command**
Joint Base Langley-Eustis, Virginia
US Army Combined Arms Center
Fort Leavenworth, Kansas

MCRP 3-20F.10 **USMC, Training and Education Command**
Quantico, Virginia

NTTP 6-02.9 **Navy Warfare Development Center**
Norfolk, Virginia

AFTTP 3-2.8 **Curtis E. LeMay Center for Doctrine Development and Education**
Maxwell Air Force Base, Alabama

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ACC

MULTI-SERVICE TACTICS, TECHNIQUES, AND PROCEDURES FOR AIR CONTROL COMMUNICATION

EXECUTIVE SUMMARY ..... **xii**
CHAPTER I OVERVIEW **1**
1. Airspace Control **1**
2. Tactical Command and Control (TAC C2) **2**
3. Assumptions **2**
CHAPTER II TACTICAL ADMINISTRATION (TACADMIN) COMMUNICATION **5**
1. TACADMIN **5**
2. Communication Priorities **5**
3. Directive, Informative, Interrogative, Relay Transmissions **6**
4. Check-in Procedure **6**
5. Unable to Make Contact on the Primary Check-in NET **10**
6. Link 16 Fidelity Checks **10**
7. Link 16 ID Procedures **10**
8. JACKAL SOUR **12**
9. WORDS Procedures **12**

*Supersedes ATP 3-52.4/MCRP 3-20F.10/NTTP 6-02.9/AFTTP 3-2.8, dated 2 September 2021.

10. HAVE QUICK II/Secure Anti-Jam Tactical Ultrahigh Frequency Radio Network (SATURN) Procedures 13
11. Inflight Report (INFLTREP) 14
12. Return to Base/Returning Forces Phase 16
13. Establishing Procedural Control 16
CHAPTER III FORCE PACKAGING AND DIRECT AIR SUPPORT COORDINATION 19
1. Force Package Accountability and Roll Call 19
2. LOWDOWN 20
3. Timing Changes 21
4. CHATTERMARK Procedures 22
5. Lane Handover Procedures 23
6. Fuel/Weapons Statuses 24
CHAPTER IV AIR-TO-AIR COMMUNICATION FUNDAMENTALS 25
1. COMMUNICATION FUNDAMENTALS 25
2. GROUP 25
3. Core Information Format 26
4. GROUP Location 26
5. GROUP Altitude 28
6. Track Direction and Specific Aspect 29
7. Declaration 30
8. Fill-in Information 30
9. PICTURE 33
10. Core Information Concerning a PICTURE 34
11. Special Mission Aircraft (SMA) PICTURE 34
12. Anchoring a PICTURE 36
13. Traditional Labels for a PICTURE 37
14. Amplifying a Traditional Label for a PICTURE 37
15. SINGLE GROUP/TWO GROUPs Traditional Label for a PICTURE 46
16. THREE GROUPs or More Traditional PICTURE Labels 47
17. A LEADING EDGE PICTURE 54
18. PACKAGE PICTURE Labeling 56
19. NEW PICTURE 56
20. ADDITIONAL, POP-UP, and THREAT GROUPs 57
CHAPTER V AIR-TO-AIR INTERCEPT COMMUNICATION 59

1. Overview 59
2. Communication Cadence by Intercept Phase 59
3. COMMIT/TARGET Beyond Visual Range 60
4. Tactical (TAC) Range Call 61
5. TARGETED 61
6. SHOOT 63
7. DECLARE 63
8. HOSTILE Declaration During Shot Communication 64
9. CLEAN 64
10. GROUP Maneuvers 64
11. BOGEY DOPE/BRAA Request 70
12. Electromagnetic Attack (EA) 71
13. SPIKE 72
14. ENGAGE/MERGE 72
15. COLD Operations 73
16. Fighters in Depth 74
17. THREAT Call 74
18. FADED or VANISHED 76
19. SNAPLOCK 79
20. LEAKER 79
21. LANE CROSSERS and LANE RIDERS 79
22. CMD PICTURE 80
CHAPTER VI AIR-TO-SURFACE COMMUNICATION 83
1. Overview 83
2. A/S Tasking Serialization 83
3. A/S Tasking Format 83
4. Full Digital Taskings (J28.2 and J12.0 Tasking Against J3.X Track) 84
5. Full Voice Taskings 85
6. Partial Digital Taskings (Voice and J12.0 Tasking Against J3.X Track) 85
7. Read Backs 85
8. Ground/Surface Threat Picture Communication 85
9. Threat Reaction Communication 89
10. SEAD Contracts 89
11. Find, Fix, Track, Target, Engage, and Assess (F2T2EA) Contracts 90

REFERENCES **95**
GLOSSARY **97**

List of Figures

Figure 1. Target Aspect and Aspect Angle 29
Figure 2. Inner-GROUP Formations 33
Figure 3. SMA PICTURE Example 35
Figure 4. SMA PICTURE Update 36
Figure 5. Pre-COMMIT Core Information 37
Figure 6. OPENING 38
Figure 7. CLOSING 39
Figure 8. WEIGHTED VIC and CHAMPAGNE 40
Figure 9. Three GROUP Wall WEIGHTED 41
Figure 10. RANGE with ECHELON 42
Figure 11. AZIMUTH with ECHELON 42
Figure 12. Three GROUP Ladder Example 1 43
Figure 13. Three GROUP Ladder Example 2 43
Figure 14. Track Direction Assumed 44
Figure 15. Track Direction Not Assumed 45
Figure 16. Different Track Directions 46
Figure 17. Two GROUPs AZIMUTH 47
Figure 18. Two GROUPs RANGE 47
Figure 19. Three GROUP WALL 48
Figure 20. Four GROUP Wall with Separation 49
Figure 21. Five GROUP WALL 50
Figure 22. CHAMPAGNE 51
Figure 23. VIC 52
Figure 24. BOX 53
Figure 25. THREE-GROUP LADDER 53
Figure 26. LEADING EDGE example 1 55
Figure 27. LEADING EDGE example 2 55
Figure 28. MANEUVER SPREAD 66
Figure 29. MANEUVER RANGE 66
Figure 30. MANEUVER AZIMUTH 67
Figure 31. MANEUVER RANGE AND AZIMUTH 67
Figure 32. MANEUVER AZIMUTH AND RANGE 68
Figure 33. PASSING 69
Figure 34. CROSSING 70
Figure 35. JOINED 70
Figure 36. Cross-court THREAT Call 76
Figure 37. FADED 77
Figure 38. VANISHED 78
Figure 39. LANE RIDER 80

List of Tables

Table 1. Communication Priorities 5
Table 2. Check-in Procedures 8
Table 3. Aircrew Check-in Brief with TAC C2 (MNPOPCA Format) 9
Table 4. J3.5 Track Identification Plan 11
Table 5. J12.0 Mission Assignments by Aircraft 11
Table 6. Inflight Report Example 1 15
Table 7. Inflight Report Example 2 16
Table 8. Air-to-air Intercept Phases and Priority Communicators 60
Table 9. Description, Location, Elevation, Remarks/Restrictions (DLER) Attack Briefing Format 84
Table 10. Tactical Report (TACREP) Alphanumeric Designators 87
Table 11. Key to Brevity Codes 102

EXECUTIVE SUMMARY

ACC

Multi-Service Tactics, Techniques, and Procedures for Air Control Communication (ACC) establishes tactics, techniques, and procedures (TTP) to describe the format for direct coordinating communication. Air assets can use these TTP to coordinate force packaging and air-to-air (A/A) and air-to-surface (A/S) missions with tactical command and control (TAC C2) agencies. TAC C2 agencies can use these TTP to control airspace that air assets use to accomplish A/A and A/S missions.

Chapter I Overview

Chapter I gives an overview of airspace control and describes TAC C2. A list of assumptions are provided for the warfighter to understand appropriate times to apply these TTP.

Chapter II Tactical Administration Communication

Chapter II defines tactical administration. It describes procedures for network transmissions, check-in, WORDS, HAVE QUICK, inflight reports, returning force accountability, and procedural control.

Chapter III Force Packaging and Direct Air Support Coordination

Chapter III describes TTP for roll calls, LOWDOWN, mission timing changes, CHATTERMARK procedures, battlespace handover procedures, and weapons/fuel status communication contracts.

Chapter IV Air-to-air Communication Fundamentals

Chapter IV provides the fundamental ways fighters and TAC C2 agencies communicate about air entities. This lexicon and format for communication are critical for executing A/A intercepts.

Chapter V Air-to-air Intercept Communication

Chapter V establishes a communication format for A/A employment and air intercept control. It governs communication fundamentals, format, and integration between fighters and controllers, independent of mission design series (MDS) or type, model, and/or series (T/M/S). This chapter is the baseline for all A/A communication in training and combat. Service-specific differences are annotated.

Chapter VI Air-to-surface Communication

Chapter VI describes aircraft as any air assets executing an A/S mission under TAC C2. This chapter establishes a communication format for A/S employment. It governs communication fundamentals, format, and integration between aircraft and controllers, independent of MDS or T/M/S.

PROGRAM PARTICIPANTS

The following commanders and agencies participated in creating this publication:

Joint

United States (US) Joint Staff, J7, Suffolk, Virginia

Army

US Army Combined Arms Center, Fort Leavenworth, Kansas
US Army Training and Doctrine Command, Joint Base Langley-Eustis, Virginia

Marine Corps

Training and Education Command, Quantico, Virginia
MAGTF Training and Education Standards Division, Doctrine Branch, Quantico, Virginia

Navy

Navy Warfare Development Center, Norfolk, Virginia
Navy Aviation Warfighting Development Center, N7, TOPGUN, Fallon Naval Air Station, Nevada

Air Force

Curtis E. LeMay Center for Doctrine Development and Education, Maxwell Air Force Base, Alabama

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Chapter I
OVERVIEW

1. Airspace Control

a. Airspace control is the exercise of delegated authority over designated airspace and users through control procedures and coordination measures to maximize operational effectiveness (Joint Publication (JP) 3-52, *Joint Airspace Control*).

b. The joint force air component commander (JFACC) establishes battle management areas (BMAs) to support effective, decentralized execution and distributed control of air operations and delegated airspace control authority and area air defense commander (AADC) responsibilities.

c. There are two methods of airspace control: positive and procedural.

(1) Positive Control. A method of airspace control that relies on positive identification, tracking, and direction of aircraft within an airspace, conducted with electronic means by an agency having the authority and responsibility therein (JP 3-52). Positive control requires sensors to locate and identify airspace users in real time and provide communications to maintain continuous contact with the user.

(2) Procedural Control. A method of airspace control which relies on a combination of previously agreed upon and promulgated orders and procedures (JP 3-52). Examples include:

(a) Air defense identification (ID) procedures and aircraft ID maneuvers.

(b) Voice and/or digital communications between aircraft and airspace control elements.

(c) Airspace control measures, such as low-level transit routes, minimum-risk routes, coordinating altitude, restricted operations zones, and high-density airspace control zones.

(d) Fire support coordination measures, such as restrictive fire and no-fire areas.

d. At the tactical level, airspace control is provided by the interaction between airspace users and airspace control elements (JP 3-52). These may include, but are not limited to:

(1) A control and reporting center (CRC).

(2) A tactical air operations center (TAOC).

(3) An E-3 Airborne Warning and Control System (AWACS).

(4) A Navy tactical air control center (Navy TACC).

(5) An E-2 Hawkeye.

(6) A direct air support center (DASC).

(7) An air support operations center (ASOC).

(8) A battle control center (BCC).

(9) Air defense airspace management.

(10) A brigade aviation element.

(11) Agile control and integration team (ACIT).

(12) Integrated sensing and effects team (ISET).

(13) Other military and civil air traffic control entities.

2. Tactical Command and Control (TAC C2)

a. TAC C2. TAC C2 are airspace control elements under tactical control of the JFACC, joint force maritime component commander, or composite warfare commander (CWC) and use positive and/or procedural control methods to control airspace and manage air operations. Not all airspace control elements are considered TAC C2.

b. TAC C2 should:

(1) Enable the flow of forces to and from an objective area.

(2) Provide threat warning information and maintain situational awareness (SA) to the primary objective.

(3) Maintain SA of supporting asset status, threat information, and target area information.

(4) Maintain air asset deconfliction to and from a working area.

c. The following are some of the TAC C2 capable entities by Service.

(1) Army. None.

(2) Marine Corps. TAOC, DASC, and early warning and control.

(3) Navy. E-2 Hawkeye, *Ticonderoga*-class guided missile cruisers; *Arleigh Burke*-class guided missile destroyers; *Nimitz/Ford*-class aircraft carriers, nuclear; amphibious assault ships (general purpose); *Wasp*-class amphibious assault ships (multi-purpose); and the *San Antonio*-class amphibious transport docks.

(4) Air Force. AWACS, CRC, BCC, ASOC, ACIT, and ISET.

3. Assumptions

a. The functional/Service components will adhere to the joint force commander's (JFC's) guidance provided through the rules of engagement (ROE), airspace control plan, airspace control order (ACO), area air defense plan, special instructions (SPINS), and operations task link (OPTASKLINK).

b. The AADC establishes the policy for ID authority, with JFC approval, and promulgates it via the area air defense plan, SPINS, and/or an OPTASKLINK supplement. Execution of the ID policy is normally delegated to the tactical level, but care should be taken that the tactical commander is capable of performing the ID function.

c. Component commanders have outlined commit, ID, and engagement authority to battle managers through the area air defense plan, SPINS, ROE, and/or OPTASKLINK.

d. When executing as a standalone entity, the carrier strike group's CWC concept will independently fulfill the roles in paragraphs a.–c. The officer in tactical command may delegate authority to the CWC. Guidance outlined by the CWC will be implemented by the following principle warfare commanders:

(1) Air and missile warfare commander.

(2) Surface warfare commander.

(3) Antisubmarine warfare commander.

(4) Strike warfare commander.

(5) Information operations warfare commander.

Note: During peacetime operations, the surface warfare commander and antisubmarine warfare commanders are often combined into a single warfare commander, the sea combat commander.

e. The ASOC, DASC, or ACIT is the airspace control element for airspace control within their assigned BMAs. These two BMAs are normally short of the fire support coordination line and below a coordinating altitude. These BMAs are commonly referred to as division assigned airspace or Marine air-ground task force assigned airspace, respectively.

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Chapter II
TACTICAL ADMINISTRATION (TACADMIN) COMMUNICATION

Note: Information transmitted via a network (NET) (e.g., FRIENDLY, GROUP, or THREAT) and examples of NET transmissions are shown in all capital letters.

1. TACADMIN

a. TACADMIN consists of all processes and procedures that occur in the TAC C2 JOA or BMA. It relates to:

(1) Interflight and intraflight procedures.

(2) Airborne mission preparation that directly supports executing the tactical mission objective.

(3) Examples include weapon arming, sensor management, personnel recovery package marshalling, and tactical communication checks.

b. TACADMIN does not refer to processes and procedures that coordinate air assets outside the managed JOA or BMA. Examples are:

(1) Navigating in civil airspace under civilian air traffic control.

(2) Operating aircraft in the terminal area under military tower or local area air traffic control.

(3) Controlling air traffic to facilitate arrival to or departure from an operating base.

(4) An example of an exception to 1.b. is an aircraft launched under scramble orders (e.g., an alert status) but operating in civil airspace.

2. Communication Priorities

The prioritized and efficient flow of communication is vital to complex, contested air operations. Table 1 specifies the priority for air communication.

Table 1. Communication Priorities

1	Flight safety and aircraft emergencies.
2	KILL verification (in a training environment: range training officer (RTO) communications).
3	DEFENDING, SPIKE, and THREAT calls.
4	Requests for controller and fighter targeting situational awareness (i.e., DECLARE, BOGEY DOPE) or response to electromagnetic attack (EA) (e.g., STROBE).
5	PICTURE or fill-ins.
6	Tactical administration (e.g., WORDS update).

3. Directive, Informative, Interrogative, Relay Transmissions

A call sign is associated with every radio transmission. Refer to Chapter IV for additional transmission guidance (i.e., pronunciation and formatting).

a. Directive Transmissions. Aircrew and TAC C2 will use the call sign of the entity being directed.

Directive Transmission
Directed by HORNET 1: "HORNET 2, TARGET NORTH GROUP."

b. Interrogative Transmissions. Calls that are requests for a response will use the "[entity speaking to], [speaking entity]" format.

Interrogative Transmission
Interrogative from EAGLE 11: "MIKE, EAGLE 11, DECLARE ADDITIONAL GROUP."

c. Informative Transmissions. Calls that provide information that does not require a response. Informative calls will use [speaking entity] format.

Informative Transmission
Informative from EAGLE 11: "EAGLE 11, FUEL YELLOW."

Informative PICTURE Transmission
Informative from MAGIC: "MAGIC, PICTURE CLEAN."

d. Relaying a Call.

(1) The communication format is "[entity speaking to], relay, [call sign of entity call *being* relayed]."

(2) Do not include the relaying entity's call sign.

Relay Transmission
From HOG 1 relayed by SNAKE 11 to MIKE: "MIKE, RELAY HOG 1. STRIKE PACKAGE MILLER TIME." Note: SNAKE 11's call sign is omitted from the transmission.

4. Check-in Procedure

a. Check-in.

(1) The purpose of check-in is for aircrew and TAC C2 airspace control elements to establish contact, allow the airspace element to establish accountability of the airborne asset, and to pass critical information to the aircrew before handoff to a final mission controller.

(a) TAC C2 will verify position and identity of the aircraft.

(b) TAC C2 will route the aircrew to their mission area.

(c) The aircrew will gain updated information for the mission area (i.e., WORDS, situation update code (also referred to as SUC)).

(d) The aircrew can check anti-jam and secure communication systems.

(2) The aircrew should establish communication with TAC C2 on a dedicated check-in NET. Dedicated NETs support TACADMIN without interfering with employment.

(3) Once all tactical information has been relayed to the check-in aircraft, TAC C2 will switch the aircrew to the final controller tactical NET.

Note: When checking in with the final controller, the on-coming aircraft is assumed to be TACADMIN complete.

(4) For continuous operations (e.g., lane handoff), TAC C2 should consider passing big-picture information before pushing air assets to the tactical NET.

(5) Check-in should accomplish the items in table 2 before and after mission execution.

Table 2. Check-in Procedures[1]		
1.	Ensure positive friendly identification.[2]	
	a.	Correct or valid response to IFF (i.e., modes 1, 2, 3A, 5, and S).
	b.	PPLI is present on Link 16 or similar data link systems.
	c.	Secure voice with radar correlation.
	d.	Authentication procedures (e.g., challenge and reply, time, or ISOPREP).
	e.	Adherence to ACO.
	f.	Adherence to briefed sanctuaries (e.g., transit levels, TR, MRR, or LLTR).
2.	Accomplish ALPHA CHECK from BULLSEYE.[3]	
3.	Provide safety-of-flight information (e.g., airspace coordinating measure, airspace changes, or block changes).	
4.	Verify WORDS received via digital means (e.g., primary J28.2) or voice.	
5.	Check weather.	
	a.	Combat. Update operating area weather that impacts the briefed plan.
	b.	Training. Relay the weather plan or war call.
6.	Accomplish a post-mission inflight report.	
Notes: 1. Multiple TAC C2 NETs may be used to accomplish these check-in tasks. 2. Specific procedures are outlined in the SPINS. 3. ALPHA CHECK correlation is defined as within 3 nm. Solving for correlation rests with the aircraft checking in.		
Legend: ACO—airspace control order IFF—identification, friend, or foe ISOPREP—isolated personnel report LLTR—low-level transit route MRR—minimum-risk route NET—network nm—nautical mile PPLI—precise participant location and identification SPINS—special instructions TAC C2—tactical command and control TR—transit route		

b. Aircrew Check-in with TAC C2.

Note: This check-in is specific to terminal control agencies. Table 3 shows the MNPOPCA mnemonic which is useful for remembering the order of check-in.

Table 3. Aircrew Check-in Brief with TAC C2 (MNPOPCA Format)
Mission Number
Number and Type of Aircraft
Position and Altitude
Ordnance (if applicable)
PLAYTIME
Capabilities (e.g., laser, infrared pod, data link)
Abort Code

(1) AS FRAGGED Check-in. AS FRAGGED means the unit or element is performing as briefed, in accordance with the air tasking order (ATO) or air plan.

(a) Use an abbreviated aircraft check when aircraft are on a published ATO or air plan.

(b) Check in with the aircrew's mission number, AS FRAGGED, and request an ALPHA CHECK from the assigned BULLSEYE. The ALPHA CHECK provides aircrew a position system check.

Check-in AS FRAGGED
Aircraft: "MISER, HORNET 1, MISSION NUMBER 5-1-1-1, CHECKING IN AS FRAGGED, REQUEST ALPHA CHECK DEPOT."
TAC C2: "HORNET 1, MISER, CONTACT, ALPHA CHECK DEPOT 2-7-0/30."

(2) Aircrew must check in "with exceptions" if there are deviations.

(a) Communicate pertinent exceptions to the current mission.

(b) The following deviations should always be communicated by aircrew and controllers at check-in:

- Number of aircraft (e.g., a three-ship flight when four-ships are anticipated).
- Ordnance. WEAPONS YELLOW or RED or changes to the tasked loadout.
- PLAYTIME. FUEL YELLOW or RED.
- Capabilities (e.g., TIMBER SOUR, JACKAL SOUR, GADGET BENT).
- Other pertinent mission-specific exceptions (identify them during mission planning).

(c) The following is an example of a check-in with exceptions.

Check In with TAC C2 Exceptions Example #1

Aircraft: “MISER, EXXON 1, MISSION NUMBER 6-1-1-1, CHECKING IN WITH EXCEPTIONS, REQUEST ALPHA CHECK BULLSEYE.”

TAC C2: “EXXON 1, MISER, ALPHA CHECK BULLSEYE 2-7-0/30, CONTINUE WITH CHECK IN.”

Aircraft: “EXXON 1, FRAG MINUS 30.”

(d) The following is an example of a check-in with controller exceptions:

Check In with TAC C2 Exceptions Example #2

Aircraft: “MISER, HORNET 1, MISSION NUMBER 5-1-1-1, CHECKING IN AS FRAGGED, REQUEST ALPHA CHECK BULLSEYE.”

TAC C2: “HORNET 1, MISER, ALPHA CHECK BULLSEYE 2-7-0/30.”

Aircraft: “HORNET 1.”

TAC C2: “MISER, TIMBER SOUR.”

Aircraft: “HORNET 1.”

(3) The full aircraft check-in format will include mission number, aircraft number and type, position and altitude, ordnance, PLAYTIME, capabilities, and abort code.

(4) Unmanned aircraft systems (UAS) should check in with TAC C2 via tactical chat using the same format.

Unmanned Aircraft System (UAS) Check-in Example

<#UAS_OPS Chat Room>

MUSTANG 01: KINGPIN, CHECKING IN AS FRAGGED.

5. Unable to Make Contact on the Primary Check-in NET

a. The aircrew and TAC C2 should refer to the CHATTERMARK procedures.

b. If still unable to complete the check-in, contact the final controller and, at a minimum, receive an ALPHA CHECK and WORDS update.

6. Link 16 Fidelity Checks

a. Fidelity checks will begin as soon as aircraft have operational systems, and the checks will be completed routinely and prior to entering the JOA or BMA.

b. Three attempts will be made to conduct Link 16 fidelity checks. If unsuccessful after the third attempt, the affected asset will report TIMBER SOUR.

7. Link 16 ID Procedures

a. If an ID difference exists on a link track, coordination will be accomplished on the track supervision net to verify the correct ID as in the following example.

Track ID Coordination

MOJO: “BARNYARD, MOJO, TRACK 0-1-2-3-3 HOSTILE, TAG FLANKER”

BARNYARD: “BARNYARD, TRACK 0-1-2-3-3 HOSTILE, FLANKER.”

b. Table 4 outlines the standard J3.5 track ID plan for specific events. Table 5 outlines the J12.0 mission assignments by aircraft.

Table 4. J3.5 Track Identification Plan	
Event	**Track or Specific Type**
Convoy	Convoy moving.
Theater Ballistic Missile (TBM)	Ballistic missile defense site.
TBM Launch Position	Ballistic missile preparing for launch.
TBM Fire	Hostile ballistic missile firing.
High-Value Individual	Hostile train.
Surface-to-air Missile (SAM)	Hostile SAM site.
Troops in Contact	Hostile troop concentration.
Command and Control (C2)	Hostile C2 site.
Air Defense Artillery (ADA)	Hostile ADA.
Uncorrelated Mover (single)	Unknown vehicle.
Uncorrelated Rotator	Neutral radar site.
Downed Aircraft	J3.1 downed aircraft (bailout or pilot in water).
Downed Aircraft Refined Coordinates	Friendly troop concentration search and rescue.

Note: The first platform to correlate a kill holds the responsibility for dropping the track once the striking aircraft calls SPLASH with a BULLSEYE location and type.

Table 5. J12.0 Mission Assignments by Aircraft			
Mission Type	**Cockpit Displayed Messages**		
	Investigate	**Target**	**Smack**
A-10C	INV	Engage	Attack
B-1B	INV	Intervene	Attack
B-52	INV	TARGET	Attack
F-15	Visual ID	Interdict	Attack
F-16	Orbit	Interdict	Attack
FA-18	INVSTGAT	COMMIT	ATTACK
F-22	INV	Engage	Attack
F-35	INV	Armed Recon	Attack
Note: Investigate can also be “INTERROGATE”. Target can also be “PRIORITY KILL.”			

8. JACKAL SOUR

Fighters should communicate JACKAL SOUR to controllers during check-in or during the mission when they are not receiving accurate surveillance information.

a. If fighters are JACKAL SOUR, the controller should ensure correlation is met prior to targeting.

b. If correlation is in question, fighters may request the controller DECLARE a group or request BOGEY DOPE, bearing, range, altitude, and aspect (BRAA) to a GROUP prior to weapons employment.

9. WORDS Procedures

a. WORDS is a directive call or interrogative request regarding further information or directives pertinent to a mission or operating area. WORDS are designated by ATO day, numbered sequentially, and established and deleted individually. For example, WORDS AA01 (pronounced ALPHA ALPHA ZERO-ONE) would represent the first WORDS generated on ATO day "AA."

(1) WORDS are generated by the TAC C2 agency outlined in the SPINS.

(2) The first WORDS for a new ATO day should incorporate pertinent information from the previous day.

(3) WORDS are limited in scope to each operating area.

b. Examples of WORDS information include, but are not limited to:

(1) Changes to the package.

(2) NET changes (e.g., a new tactical mission NET).

(3) Timing changes.

(4) Threat updates (e.g., a new active threat axis or sector).

(5) Change to threat warning condition or weapons control status.

(6) Weather affecting execution.

(7) Combat search and rescue events.

c. TAC C2 will relay WORDS to all assets in the operating area, the joint air operations center (JAOC), Navy TACC, and/or appropriate CWC.

(1) New WORDS will be relayed by TAC C2.

(2) TAC C2 will use digital means (e.g., J28.2), to the maximum extent possible, when passing WORDS to air assets.

d. Aircraft that check in with TAC C2, should consider adding the current WORDS they have at the check-in call (i.e., "CHECKING IN WITH WORDS BRAVO ALPHA 0-1").

WORDS Change

TAC C2: “HORNET 1, GAMBLER, WORDS BRAVO ALPHA 0-2 NOW CURRENT.”

Aircraft: “GAMBLER, HORNET 1 WITH WORDS BRAVO ALPHA 0-1.”

TAC C2: “HORNET 1, GAMBLER WORDS BRAVO ALPHA 0-2 TO FOLLOW. NEW THREAT AXIS 3-1-0, THREAT WARNING CONDITION RED, WEAPONS CONTROL STATUS TIGHT.”

e. In the previous example, HORNET 1 had WORDS BA01.

(1) TAC C2 only had to relay WORDS BA02.

(2) If the aircrew had checked in without WORDS, TAC C2 would have relayed all information in WORDS BA01 and BA02.

f. When there are multiple command and control (C2) agencies in an operating area, WORDS are generated by the assigned TAC C2 agency based on the tactical situation and inputs from other agencies or units.

10. HAVE QUICK II/Secure Anti-Jam Tactical Ultrahigh Frequency Radio Network (SATURN) Procedures

a. Successful HAVE QUICK II/SATURN requires a synchronized time-of-day (TOD) signal, MICKEY, between all communicators. The following is a prioritized list of TOD sources.

(1) Secure Global Positioning System.

(2) Auto-TOD from an operating location.

(3) Aircrew manual MICKEY (e.g., FA-18 section lead pass to DASH 2).

(4) TAC C2 auto TOD.

(5) TAC C2 manual MICKEY.

Manual MICKEY

Aircraft: “STRIKE, DOOM 1, REQUEST MICKEY.”

TAC C2: “DOOM 1, MICKEY IN FIVE.”

b. Once the aircrew has received a tone, have them attempt a prebriefed HAVE QUICK II/SATURN NET with instructions on a return frequency if it fails.

HAVE QUICK II Check

Aircraft: “DOOM 1, GOOD MICKEY.”

TAC C2: “DOOM 1, STRIKE, PUSH ACTIVE TAD 57 POGO.”

Note: E-3 AWACS manual MICKEY is single tone only. Expect a multiple tone MICKEY from other TAC C2 agencies.

11. Inflight Report (INFLTREP)

This report expedites information flow to tactical and operational C2. It can assist in force management, WORDS generation, and intelligence gathering. It can aid in bomb hit assessments that inform retasking assets (e.g., reattack).

a. Theater SPINS or local guidance will outline INFLTREP procedures.

b. INFLTREPs should be passed to TAC C2 upon checking out from a JOA, BMA, or before returning to base.

c. Reports should be passed on the check-in/get-well frequency, a dedicated frequency, or via a J28.2.

d. Fighters should strive to pass as much information as possible.

e. READ BACKS for fighter INFLTREP. Theater or exercise guidance should specify the required read back. In the absence of direction, controllers should use the following formats for digital or voice fighter INFLTREPs, as depicted in table 6:

(1) For J28.2 only, controllers will respond with a J28.2, “GOOD ZAP (CALLSIGN MISSION NUMBER), LINE 3 DETAILS…”

(2) For voice, controllers will respond, “COPY (CALLSIGN MISSION NUMBER), LINE 3 DETAILS.”

Table 6. Inflight Report Example 1	
Item	**Example Radio Communication**
Request from Aircraft	“TOPROCK, COBRA 01, INFLIGHT REPORT.”
Acknowledgment from Tactical Command and Control	“COBRA 01, GO WITH INFLIGHT REPORT.”
Line 1—Call sign	“COBRA 01, FLIGHT.”
Line 2—Mission number	“5101.”
Line 3—Known blue attrition	“COBRA FLIGHT 3-SHIP, COBRA 04 FALLEN ANGEL BULLSEYE 0-4-0/27, GOOD CHUTES. ARCTIC 41 FALLEN ANGEL BULLSEYE 0-1-7/100.”
Line 4—Mission results	“COBRA 01, NO OBSERVED STRIKES PASSED, MISSION FAIL. 12 AMRAAMS EXPENDED.”
Line 5—Red tactics observed (FIGHTERS, STRIKERS, suppression of enemy air defenses (SEAD), special mission aircraft (SMA), FIGHT AXIS, mission planning assumptions or courses of action (COAs) met/not met)	“FOUR FLANKERS COMMITTED FROM THE MARSHALL, ESCORTING STRIKERS INGRESSING AT TWENTY-SEVEN THOUSAND. NO SEAD OBSERVED. TWO SMA DETECTED COUNTER-ROTATING CAPS BULLSEYE 1-9-0/58, TWENTY-SEVEN THOUSAND. MOST DANGEROUS COA IN EFFECT.”
Line 6—STATE check and aircraft intentions	“COBRA FLIGHT RED / RED. REQUEST POINT-OUT TO EXXON 71 FOR REFUEL, RTB TO HOME PLATE.”
Legend: AMRAAM—advanced medium-range air-to-air missile CAP—combat air patrol RTB—return to base	

f. JP 3-09.3, *Close Air Support,* provides an example of a non-fighter INFLTREP for reference, as depicted in table 7.

Table 7. Inflight Report Example 2	
Item	**Example Radio Communication**
Request from Aircraft	“COWBOY, HOSS 01, INFLIGHT REPORT.”
Acknowledgment from Tactical Command and Control	“HOSS 01, GO WITH INFLIGHT REPORT.”
Line 1—Call sign	“HOSS 01 FLIGHT.”
Line 2—Mission number	“0552.”
Line 3—Location	“N3645 W11523” (latitude and longitude), “10S 0559 4282” (grid), or “GAMECOCK” (place name/operating area).
Line 4—Time on target	“1518Z.”
Line 5—Result	“5 ENEMY TANKS DESTROYED, 5 LIGHT TRUCKS DISABLED, 30 TROOPS IN THE OPEN.”
Remarks	“DIRT SIX NORTH. REMAINING TANKS DISENGAGING WEST. LIGHT SURFACE-TO-AIR FIRE TO 10,000 FEET, 5 MILES SOUTH OF TARGET AREA.”

12. Return to Base/Returning Forces Phase

TAC C2 check-in controller should attempt to ensure the following for returning forces.

a. Verify aircraft are SQUAWKING appropriate modes and codes prior to friendly missile engagement zone (MEZ) entry.

b. Obtain mission results and flight statuses via Link 16 or voice and pass the inflight report to the JAOC or CWC.

c. Execute Wounded Bird, battle damage, or hung ordnance notification procedures in accordance with theater directives.

(1) FORCE TELL the track until directed by higher headquarters.

(2) Obtain call sign, status, and track number of the aircraft.

(3) Monitor and track the aircraft until it is out of radar coverage or until it is under recovery base approach control to ensure a safe return.

(4) Prepare to coordinate combat search and rescue operations.

d. Pass information on HOME PLATE weather and operational status (e.g., runway closures or recovery procedures).

13. Establishing Procedural Control

Procedural Control. TAC C2 may have positive contact on aircraft flying in the JOA or BMA, but use procedural control methods to deconflict air and ground battlespace

requirements. Some TAC C2 agencies should specify at check-in when procedural control is used based on system capabilities, crew tasking, and the battlespace situation. TAC C2 can establish hold points, control points, and initial points that are new or previously unknown. Methods include using common grid reference system, Global Area Reference System, common reference point, latitude/longitude, military grid reference system (MGRS), or as defined in theater SPINS. Weather, threats, and terrain are considerations for finding the bottom altitude of a stack. When TAC C2 moves from positive to procedural control, the aircrew should be advised, to the maximum extent practical:

a. Transmit, “NEGATIVE CONTACT”, when an aircraft checks in.

b. TAC C2 may use, “PROCEDURAL CONTROL IN EFFECT”, when the current operating area standard is positive control.

c. If the operating area standard is procedural control, then TAC C2 does not need to state, “PROCEDURAL CONTROL IN EFFECT.“

Procedural Control
“GRIM 11, VULTURE, NEGATIVE CONTACT, PROCEDURAL CONTROL IN EFFECT.”

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Chapter III
FORCE PACKAGING AND DIRECT AIR SUPPORT COORDINATION

Missions that involve a mission commander (MC) require extensive coordination to execute. The MC and TAC C2 should establish a plan to receive the LOWDOWN, obtain force package accountability before and after mission execution, establish backup communication plans, and establish air communication contracts. This section, and the following chapters, establish baseline tactics, techniques, and procedures for these items.

1. Force Package Accountability and Roll Call

The MC should ensure the required minimum forces are ready. Two techniques are a TAC C2-provided update or a roll call.

a. TAC C2 Update. TAC C2 should maintain a tally of players that have checked in. At a predetermined time, TAC C2 provides the MC with the current players.

C2 Update
"DARKSTAR, PACKAGE BRAVO WHISKEY, MINUS LION 01, MIN FORCES MET".

b. Roll Call. Roll call is initiated by the TAC C2 or MC, at a predetermined time. Once initiated, each aircraft, flight lead (FL), or team lead (TL) (as determined by the MC) will respond with call sign in a predetermined sequence. As a technique, this sequence can follow the call sign order on a coordination card.

FL Roll Call Example
Package BRAVO WHISKEY FLs: EAGLE, VIPER, BONES, GROWL, MOJO.
MC: "PACKAGE BRAVO WHISKEY, ROLL CALL."
FLs Respond in Sequence: "EAGLE", "VIPER WITH EXCEPTIONS", "BONES", "GROWL", "MOJO".
MC: "VIPER GO WITH EXCEPTIONS."
VIPER: "VIPER MINUS 2."
If a flight does not respond to the roll call, the MC can query TAC C2.

TL Roll Call Example
Package BRAVO WHISKEY TLs: Escort, Strike, Airlift, TAC C2.
MC: "PACKAGE BRAVO WHISKEY, ROLL CALL."
TLs Respond in Sequence: "ESCORT WITH EXCEPTIONS", "STRIKE", "AIRLIFT", "TAC C2."
MC: "ESCORT GO WITH EXCEPTIONS."
Escort TL: "ESCORT MINUS RAPTOR. MINIMUM FORCES MET."

c. Times to consider initiating a roll call.

(1) Post LOWDOWN.

(2) When there are updated WORDS.

(3) When forces completed their mission and are returning.

(4) When there is a suspected or known loss of an air asset.

(5) When there is a timing change to the mission.

(6) When the weather plan changes.

(7) When there is key mission enabler fallout.

(8) Post CHATTERMARK on a new NET.

(9) Escort commander/lane commander change when new commander was not previously established or provided with information airborne.

2. LOWDOWN

LOWDOWN is a request for the tactical electromagnetic support picture or ground/surface picture in an area of interest. TAC C2 should correlate all factor ground/surface systems using the BULLSEYE format.

Note: When communicating with United States (US) Army or US Marine Corps rotary-wing and UAS, pass surface threat information in MGRS, if known. Attempt to provide at least a six-digit grid.

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a. LOWDOWN is passed at a briefed time (e.g., 5 minutes prior to mission execution) and is immediately followed by a roll call.

b. Format for LOWDOWN is:

(1) Core information.

(2) PICTURE format, if assessed ground picture (or leading edge) meets PICTURE criteria and “MEZ PICTURE” or “LOWDOWN PICTURE” is requested. If long-range air defense (LRAD) surface-to-air missile (SAM) systems are a factor and not included in the PICTURE, communicate as core information.

c. An aircrew may request LOWDOWN but should do so in accordance with communication priorities (allow 30 to 60 seconds for TAC C2 to compile LOWDOWN).

d. For aircraft not in the tactical NET during the initial LOWDOWN, it is passed upon initial check-in as part of the WORDS.

e. LOWDOWN may not be required for each mission set, such as when fighters are conducting a defensive counterair mission in a permissive environment.

f. LOWDOWN is passed digitally, via Link 16 and tactical chat, or verbally. The LOWDOWN will include changes to the briefed order of battle, such as newly detected systems, systems that have moved a tactically significant distance, or

systems that are assessed to be DOWN. The following may be included in a LOWDOWN:

(1) LRAD or “strategic” SAM systems ACTIVE or AWAKE.

(2) Medium-range air defense (MRAD) systems ACTIVE or AWAKE.

(3) Short-range air defense (SHORAD) or “tactical” SAMs ACTIVE or AWAKE within the last hour (e.g., antiaircraft artillery or naval tactical SAM).

(4) MOVERS/ROTATORS meeting briefed reporting criteria.

(5) Additional entities, events, or areas of interest applicable to the mission.

Note: Specific systems or ranges used to prioritize LOWDOWN communications should be determined during mission planning.

LOWDOWN Example

“GOLIATH, LOWDOWN. SA TWENTY AWAKE BULLSEYE 0-9-0/10, HQ-9 ACTIVE BULLSEYE 0-8-5/13, FIFTEEN ACTIVE BULLSEYE 0-7-5/14, ROTATOR BULLSEYE 2-6-0/11. HOSTILE CONVOY BULLSEYE 2-7-0/10 TRACK EAST.”

g. For tactical SAMs and MOVERS, the order of dissemination is:

(1) Closest MEZ to friendly forces.

(2) Closest MEZ to friendly axis of attack or ingress routes.

(3) Most lethal.

3. Timing Changes

a. ROLEX. Timeline adjustment in minutes; always referenced from original preplanned mission execution time.

(1) ROLEX is used to adjust the mission timing.

(2) PLUS is assumed.

(3) If a time on target (TOT) window extension is required to adhere to the ROLEX, TAC C2 agencies should request approval and pass it to the affected flights.

(4) ROLEX is made in 5-minute increments and is not additive.

ROLEX Example

Original package WHISKEY ALPHA mission start time: 1500Z.

“COWBOY, PACKAGE WHISKEY ALPHA, ROLEX 10.”

New mission start time: 1510Z.

“COWBOY, PACKAGE WHISKEY ALPHA, ROLEX 15.”

New mission start time: 1515Z.

b. SLIP. SLIP is time delay to individual flight or element event. SLIP is not additive.

SLIP Example
Original TOT: 1500Z. “HARDROCK, HOSS 1, SLIP TOT 6 MINUTES.” New TOT: 1506Z. “HARDROCK, HOSS 1, SLIP TOT 9 MINUTES.” New TOT: 1509Z.

c. For changes to training vulnerability times, MCs and TAC C2 should use plain language to avoid confusion.

New Vul Time Example
“HARDROCK, NEW VUL TIME 1600Z.”

Note: A change to vul time will include all participants, including white and red forces.

4. CHATTERMARK Procedures

a. CHATTERMARK procedures are established to transition from primary to alternate tactical NETs.

b. The CHATTERMARK plan should:

(1) Provide alternate NETs, which reside in different frequency bands.

(2) Prioritize secure, frequency-hopping forms of radio communication. Tailor them based on threat communication jamming capabilities.

(3) Establish a “get well” NET, such as the TAC C2 check-in NET. If the aircrew are unsure of the current tactical NET, they can switch to the “get well” NET to receive direction from TAC C2.

(4) Outline the criteria and authority for executing a CHATTERMARK. This resides with MC or a designated TL. Degradation on the primary tactical NET due to communications jamming or system limitations for the aircrew or controller (e.g., UNABLE HAVE QUICK) are the most common reasons to CHATTERMARK.

c. Request a CHATTERMARK via a “Request POGO [NET name in color and number]” (e.g., INDIGO 03).

d. If a CHATTERMARK is directed, all assets will switch to the planned alternate NET, in accordance with the CHATTERMARK plan, and await a roll call.

(1) TAC C2 or MC will repeat CHATTERMARK three times on the primary tactical NET prior to switching to the alternate tactical NET and publish a digital message.

(2) If able, TAC C2 will simulcast on the old, affected NET and the new NET.

(3) TAC C2 simulcast will continue until force accountability is confirmed on the new NET.

(4) Force accountability on new NET.

(a) Per the mission plan, FLs or TLs should communicate their call sign on the new NET. TAC C2 should only acknowledge if communication time allows in accordance with communication priorities.

(b) TAC C2 should note accountability as players check in. TAC C2 will accomplish a ROLL CALL if needed.

(c) TAC C2 should communicate "NET SWEET" on the new NET once all players have checked in.

CHATTERMARK Example

Primary NET degradation is noted by TAC C2.

Transmitting on the Old NET:

MISER (TAC C2): "CHATTERMARK, CHATTERMARK, CHATTERMARK."

Transmitting on New NET:

FLs: "EAGLE." "RAPTOR." "HORNET." "GROWLER."

MISER: "NET SWEET."

5. Lane Handover Procedures

Note: Refer to other mission-specific publications for positive handoff of mission command roles (e.g., strike coordination and reconnaissance or close air support).

a. A positive handoff is required by the off-going and on-coming lane commander and should occur in the following sequence.

(1) MOVE FORWARD. On-coming aircraft may enter the operating area (e.g., defensive counterair lane). This does not transition lane commander authority.

MOVE FORWARD

Off-going Lane Commander: "HORNET 1, MOVE FORWARD."

On-coming Lane Commander: "HORNET 1."

(2) COMMIT. When directed by the lane commander, this call transitions communication priority to the committing aircraft.

(3) Lane Commander Transition. The off-going lane commander will get positive communication lane handoff to the on-coming lane commander.

Lane Handoff

Off-going Lane Commander: "HORNET 1, YOU HAVE THE LANE."

On-coming Lane Commander: "HORNET 1, HAS THE LANE."

b. The off-going aircraft will pass critical mission information to TAC C2 in accordance with theater INFLTREP procedures.

(1) TAC C2 will use this information to update WORDS or LOWDOWN.

(2) TAC C2 should pass big-picture information to the on-coming lane commander before pushing assets to the tactical frequency.

Example

"TULSA, TWELVE GROUPS, LEADING EDGE FOUR GROUP WALL TARGETED BY RAPTOR. RAPTOR FUEL YELLOW, EAGLE WEAPONS RED."

c. TAC C2 will relay critical information affecting off-going aircraft return-to-base procedures. Pass information on weather and airfield issues (e.g., runway closures).

6. Fuel/Weapons Statuses

a. Unless otherwise briefed, YELLOW and RED are defined as:

(1) YELLOW: Aircraft is at a weapon and/or fuel status that is approaching a level insufficient to continue execution of the mission.

(2) RED: Aircraft is at weapon and/or fuel state that is insufficient to continue execution of the mission.

b. Aircraft must relay when they are YELLOW to TAC C2.

c. Aircraft are assumed GREEN unless otherwise reported.

Note: A specific loadout or fuel state should be determined during mission planning (e.g., 1 radar missile/10 minutes fuel remaining).

d. TAC C2 is responsible to coordinate on-station relief prior to the aircraft communicating RED on the primary NET.

FUEL/WEAPONS State Example

Fighter that is FUEL red and WEAPONS green will report:

"RAMBO 01, FUEL RED, WEAPONS GREEN."

Chapter IV
AIR-TO-AIR COMMUNICATION FUNDAMENTALS

Note: For this publication, controller is a general term used to define the individual providing tactical control of an intercept or mission. The term “fighter” is used throughout this chapter. Fighter information applies to any aircraft capable of employing air-to-air (A/A) ordnance. Controller and fighter are used independent of platform or Service.

1. COMMUNICATION FUNDAMENTALS

a. A GROUP is the way TAC C2 and aircraft describe other air assets, and is used to describe unknown or enemy aircraft.

b. The PICTURE establishes a common tactical air image and describes the spatial relationship of GROUPs.

2. GROUP

a. A GROUP is any number of air CONTACTs within 3 nm in azimuth and range of each other.

(1) CONTACT is an individual radar return within a GROUP.

(2) SINGLE CONTACT is the assumed STRENGTH for all GROUPs. More CONTACTs are specified (e.g., SINGLE GROUP TWO CONTACTs).

Note: The controlling platform’s capabilities and limitations will determine if controllers communicate the number of CONTACTs in a GROUP. If unable to determine the number of CONTACTs, but assessed to be three or more, controllers will only use the fill-in, HEAVY.

b. GROUPs are distinguished by either a unique name or unique position.

(1) There are four unique naming conventions used:

(a) Cardinal Relationship (e.g., NORTH GROUP, SOUTH GROUP).

(b) Range Relationship. Relationship relative to a specific aircraft perspective (e.g., LEAD GROUP, TRAIL GROUP).

(c) Combined Cardinal and Range Relationship (e.g., NORTH LEAD GROUP).

(d) Descriptive Name (e.g., SINGLE GROUP, ADDITIONAL GROUP, POP-UP GROUP).

(2) Unique Position Reference. GROUPs can be distinguished using unique position names such as BULLSEYE, BRAA, or geographic reference (GEOREF).

c. UNTARGETED.

(1) If a GROUP has not been targeted inside the briefed targeting range, then the controller should use the term UNTARGETED. UNTARGETED will follow GROUP name/label to describe the priority GROUPS that are a risk to the mission or force (e.g., an enemy approaching the mission fail line).

UNTARGETED Example

"DRAGNET, NORTH GROUP UNTARGETED, BULLSEYE 2-7-0/15, TWENTY THOUSAND, TRACK WEST, HOSTILE."

Note: US Navy assets will issue directive targeting to fighters who are inside the targeting range if the controller assesses targeting has not been issued or is not sound.

(2) Tactics selection per the fighter's targeting plan will determine the applicability of UNTARGETED.

(3) If a fighter calls TARGETED or acknowledges directive targeting, contracts for UNTARGETED and THREAT calls are cancelled.

(4) Controllers could use UNTARGETED or issue directive targeting to the appropriate GROUP if inside targeting range and targeting is assessed to be unsound.

3. Core Information Format

Controllers and air assets will use the core information format to communicate GROUPs:

a. Total number of GROUPs.

b. GROUP location (i.e., BULLSEYE, BRAA, or GEOREF).

c. Altitude (rounded to the nearest thousands of feet).

d. Track direction or specific aspect (e.g., cardinal/sub-cardinal or HOT/FLANK/BEAM/DRAG).

e. Declaration.

f. Fill-ins (as appropriate).

4. GROUP Location

a. BULLSEYE (primary method to communicate the GROUP location).

(1) BULLSEYE is an established reference point from which the position of an object can be referred to by bearing (magnetic) and range (nm).

(2) BULLSEYE information is rounded to the nearest degree and nm.

(a) For example, BULLSEYE 225/30 means 30 nm on a magnetic bearing of 225 degrees from the BULLSEYE location.

(b) It is communicated "two-two-five thirty."

(c) If an aircraft is within 5 nm of BULLSEYE, the GROUP may be described as AT BULLSEYE.

GROUP AT BULLSEYE Example

"EAGLE 11, LEAD GROUP, AT BULLSEYE, THIRTY-NINE THOUSAND, TRACK NORTH, HOSTILE."

(3) Use the code name for BULLSEYE when directed by SPINS.

BULLSEYE Code Name Example

BULLSEYE Code Name: ROCK.

"MIKE, SOUTH GROUP, ROCK 2-5-5/29, THIRTY-NINE THOUSAND, CAP (combat air patrol), HOSTILE."

(4) BULLSEYE will not be truncated to "bull" to avoid it being misinterpreted as "BRAA."

b. BRAA.

(1) BRAA information for bearing and range are rounded to the nearest degree and nm.

(2) BRAA calls provide target bearing, range, altitude, and aspect relative to the specified FRIENDLY aircraft. For example, BRAA 225/10 means 10 nm on a magnetic bearing of 225 degrees from the FRIENDLY aircraft. It is communicated "two-two-five ten."

(3) Controllers should use the BRAA format if the information being communicated pertains only to one specific aircraft or if responding directly to the following fighter requests: BRAA, BOGEY DOPE, and SNAPLOCK.

(4) Controllers will also use the BRAA format when providing a THREAT call to an aircraft.

THREAT Call Example

"EAGLE 11, LEAD GROUP, THREAT BRAA 2-7-0/55, THIRTY-NINE THOUSAND, FLANK NORTHEAST, HOSTILE."

c. GEOREF Point.

(1) A GEOREF can be used to provide the approximate location of a GROUP. A GROUP within 5 nm of a designated GEOREF may be referred to as "At" that point, as with "AT BULLSEYE."

(2) Examples of GEOREFs may be a prominent natural feature, such as a mountain peak, or a prominent manmade structure, such as an airfield.

GEOREF Example

Prominent Enemy Airfield Code Name: DEPOT.

"EAGLE 11, LEAD GROUP, AT DEPOT, THIRTY-NINE THOUSAND, CAP, HOSTILE."

(3) Controllers may voice HITS when correlated sensor returns are not sufficient to fulfill the ID matrix or create a link track but corroborate with known enemy tactics or procedures. Controllers will voice GEOREFs or BULLSEYE and altitude if known.

HITS Example

Prominent Enemy Airfield Code Name: SEATTLE.

"FOCUS, HITS SEATTLE ELEVEN THOUSAND."

5. GROUP Altitude

a. Fighters and controllers will round altitudes to the nearest thousand feet indicated on their system.

b. Controllers will not use LOW or HIGH in place of the altitude and will use "ALTITUDE UNKNOWN" if the controlling platform is capable of determining altitude, but a solution is not available. Controllers may voice "LAST" after the altitude if the controlling platforms sensors have lost altitude data on a track, but the controller has reported or offboard data for a last known altitude, up to 30 seconds after report.

LAST Altitude Example

Fighter: "FOCUS, DECLARE NORTH GROUP."

Controller: "FOCUS, NORTH GROUP BULLSEYE 2-7-5/44, TWENTY THOUSAND LAST, TRACK EAST, HOSTILE."

c. Controllers will omit altitude from the communication format if the controlling platform is not capable of generating an altitude.

d. Altitude STACKS.

(1) Altitude separation in a GROUP greater than or equal to 10,000 feet are voiced as a STACK stating the higher altitude first, then the lower altitude.

Altitude Stack Example

"EAGLE 11, NORTH GROUP BRAA 3-0-0/32, STACK THIRTY-TWO THOUSAND, EIGHT THOUSAND, HOT, HOSTILE, TWO CONTACTS, FLANKER."

(2) If the STACK has two or more altitude separations of 10,000 feet within the group, then controllers may voice the number of CONTACTs HIGH/MEDIUM/LOW or at specific altitudes as fill-in information. One contact at each altitude is assumed. If multiple, the controller will voice all contacts.

HIGH/MEDIUM/LOW Altitude Stack Example

"HARDROCK, NORTH GROUP UTAH 3-0-0/12, STACK THIRTY-FIVE THOUSAND, TWENTY-FOUR THOUSAND, TRACK WEST, HOSTILE, HEAVY, THREE CONTACTS, TWO HIGH, ONE LOW."

Specific Altitude Example

"BARNYARD, ADDITIONAL GROUP PEAK 2-0-0/12, STACK THIRTY-FIVE THOUSAND, TWENTY-FOUR THOUSAND, TEN THOUSAND, TRACK WEST, HOSTILE, HEAVY, THREE CONTACTS."

6. Track Direction and Specific Aspect

a. Track direction will always be used to communicate a GROUP via BULLSEYE and communicated with the cardinal or sub-cardinal direction (e.g., TRACK SOUTH, TRACK NORTHEAST).

b. PICTURE Exception.

(1) If all GROUPs in a traditional PICTURE, LEADING EDGE, or PACKAGE are tracking the same direction, controllers should use the term TRACK with the cardinal direction following the PICTURE label.

GROUPs TRACK the Same Direction Example

"MIKE, TWO GROUPS RANGE THIRTY, TRACK EAST. LEAD GROUP ROCK 1-4-5/60, THIRTY-FIVE THOUSAND, HOSTILE. TRAIL GROUP TWENTY THOUSAND, HOSTILE."

(2) If amplifying the PICTURE with TRACK direction, controllers should not provide a track direction for every GROUP in the picture.

c. Specific aspects, as depicted in figure 1, are used when correlating a group to a specific fighter and will be used when communicating with the BRAA format.

(1) Specific aspects (i.e., HOT, FLANK, BEAM, and DRAG) are determined by the GROUP target aspect (TA) or aspect angle (also referred to as AA) to the fighter.

(2) FLANK, BEAM, and DRAG are accompanied with a cardinal/sub-cardinal direction (e.g., DRAG EAST).

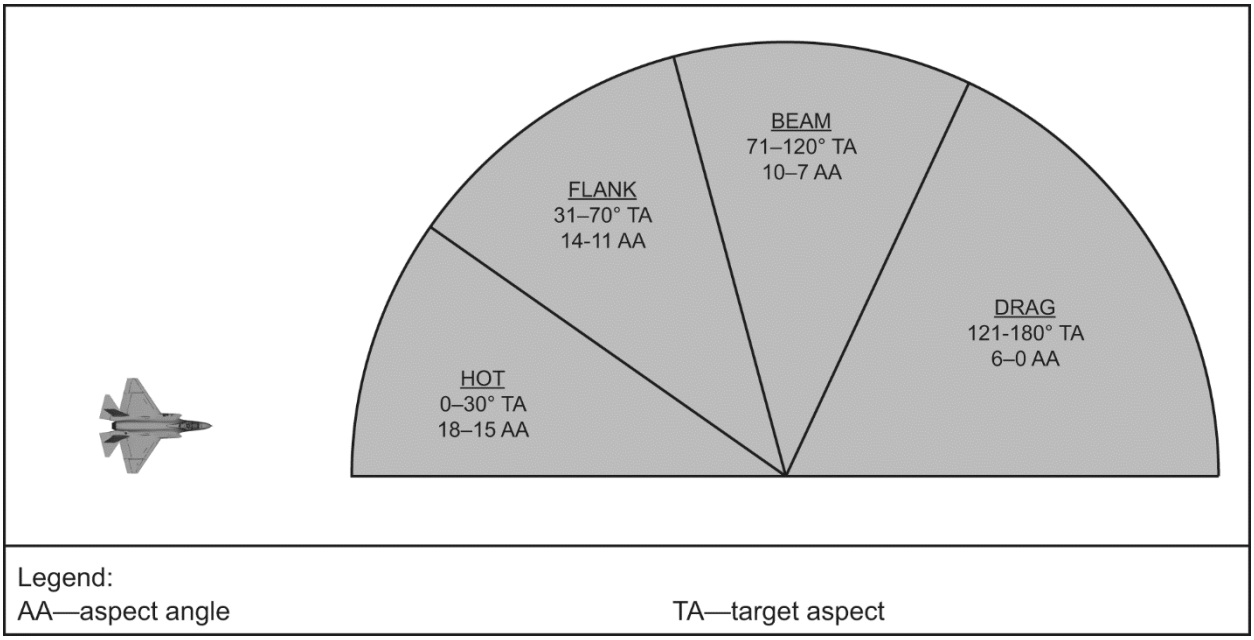


Figure 1. Target Aspect and Aspect Angle

Note: If the controller assesses GROUPs in a combat air patrol (CAP), "CAP" may be communicated in place of TRACK direction or a specific aspect.

d. MANEUVER Description (TRACK Direction or Specific Aspects).

e. Controllers may use "maneuver hot" to communicate groups/contacts that have maneuvered toward the fight axis.

f. When controllers assess GROUP maneuvers during the PICTURE call and are unable to determine the TRACK direction or aspect, controllers may use MANEUVER instead of the TRACK direction.

GROUP Maneuvers Example

"TANGO, TWO GROUPS RANGE TWENTY-FIVE OPENING. LEAD GROUP BULLSEYE 2-6-5/18, THIRTY-FIVE THOUSAND, MANEUVER, HOSTILE. TRAIL GROUP, THIRTY-FIVE THOUSAND, TRACK NORTH, HOSTILE."

7. Declaration

a. A declaration is required to communicate a GROUP via BULLSEYE or BRAA.

b. Voice declaration is BOGEY, FRIENDLY, NEUTRAL, BANDIT, or HOSTILE.

c. Link ID may be acceptable as a means of declaration if defined by SPINS and ROE.

8. Fill-in Information

a. Fill-ins increase descriptive details about a GROUP.

b. Fill-ins are prioritized as follows:

(1) HEAVY and Number of CONTACTs.

(a) A GROUP is HEAVY if it is known to contain three or more CONTACTs.

(b) Provide the number of CONTACTs in a GROUP, if it is determined.

(c) Fighters will use STRENGTH and controllers will use the term CONTACTs to distinguish who is providing the STRENGTH assessment.

CONTACTs Example

Controller: "CLUBHOUSE, WEST GROUP HEAVY FOUR CONTACTS."

STRENGTH Example

Fighter: "EAGLE 12, EAST GROUP HEAVY STRENGTH THREE."

(2) Platform/Type. Controllers will provide an aircraft platform (e.g., fighter or bomber), North Atlantic Treaty Organization (NATO) type designator (e.g., FULCRUM or FLANKER), or as mission planned with PICTUREs and requests for SA to that GROUP.

(3) HIGH. Contact is greater than 40,000 feet mean sea level. HIGH can be used as a fill-in.

(4) FAST or VERY FAST. These definitions are provided as references.

(a) FAST. Target speed of 660–900 knots ground speed or 1.1–1.5 mach.

(b) VERY FAST. Target speed greater than 900 knots or 1.5 mach.

Fill-ins Example

"DRAGNET, NORTH GROUP, BULLSEYE 2-7-0/15, FORTY-TWO THOUSAND, TRACK WEST, HOSTILE, HIGH, VERY FAST."

(5) TARGETED BY, LEANING ON, THREAT TO.

(a) TARGETED BY provides SA that a GROUP is already TARGETED.

TARGETED BY Example

Fighter: "MIKE, EAGLE 11, DECLARE NORTH GROUP."

Controller: "EAGLE 11, NORTH GROUP, BULLSEYE 2-8-5/35, TWENTY THOUSAND, TRACK EAST, HOSTILE, TARGETED BY HORNET 2."

(b) Targeting responsibility is cancelled when the fighters communicate any of the following: DROP(ING) (GROUP name), BLOW(ING) THROUGH, SPITTER, or executes an OUT. The group should be treated as UNTARGETED if no fighter subsequently targets.

(c) LEANING ON aids in assessing which aircraft a THREAT is possibly targeting.

- Making an accurate LEANING ON assessment is increasingly difficult with improved THREAT capabilities. For example, a FLANK or BEAM THREAT could be employing ordnance while LEANING ON another fighter.
- LEANING ON assessments are generally reserved for when fighters are in COLD operations but may be used in other situations, such as non-cooperative targeting.

LEANING ON Example

"DARKLORD, SINGLE GROUP ROCK 2-5-6/49, THIRTY-NINE THOUSAND, TRACK EAST, HOSTILE, FLANKER, LEANING ON EAGLE 1."

(d) THREAT TO may be used when fighters are in COLD operations and a fighter does not meet the minimum recommit range or as an additional fill-in to a traditional THREAT call.

THREAT TO Example

"MIKE, TWO GROUPS AZIMUTH TWENTY-FIVE. NORTH GROUP, ROCK 2-8-5/35, THIRTY-FIVE THOUSAND, TRACK EAST, HOSTILE, THREAT TO HORNET 1. SOUTH GROUP THIRTY THOUSAND, TRACK EAST, HOSTILE."

(6) IMPACT (PLUS time of flight).

(a) Controllers will add the IMPACT time to any FRIENDLY surface-to-air (S/A) fires when operating in a joint engagement zone or fighter engagement zone.

IMPACT Example 1

"GAMBLER, BIG STICK AWAY TRAIL GROUP, IMPACT ONE PLUS FIFTEEN."

(b) The IMPACT time is used to aid follow-on fighter targeting, decision making, and ensure fires deconfliction.

(c) IMPACT time can be used as a PICTURE fill-in as well.

IMPACT Example 2

"GAMBLER, TRAIL GROUP ROCK 1-8-0/85, THIRTY THOUSAND, TRACK NORTH, HOSTILE, IMPACT ONE PLUS FIFTEEN."

c. Inner GROUP Formations.

(1) When describing an inner GROUP formation, controllers and fighters will use the terms described in figure 2, Inner GROUP Formations.

(2) Controllers and fighters should only name the inner GROUP formation when this call will enhance fighter targeting or SA approaching the merge.

(3) Inner GROUP formations should be used inside expected radar resolution ranges.

(4) In cruise missile defense (CMD), inner COVEY formations should be voiced to the maximum extent possible.

9. PICTURE

a. PICTURE is a request to provide information pertinent to the mission in a BULLSEYE format, unless briefed otherwise.

b. The PICTURE establishes a common tactical air image and describes the spatial relationship of GROUPs.

Note: FRIENDLY, NEUTRAL, STRANGERs, and nonparticipating GROUPs will not be included in the PICTURE or total number of GROUPs identified as part of the tactical picture. If FRIENDLY, NEUTRAL, STRANGERs, or nonparticipating GROUPs are a factor, they are addressed in a separate transmission.

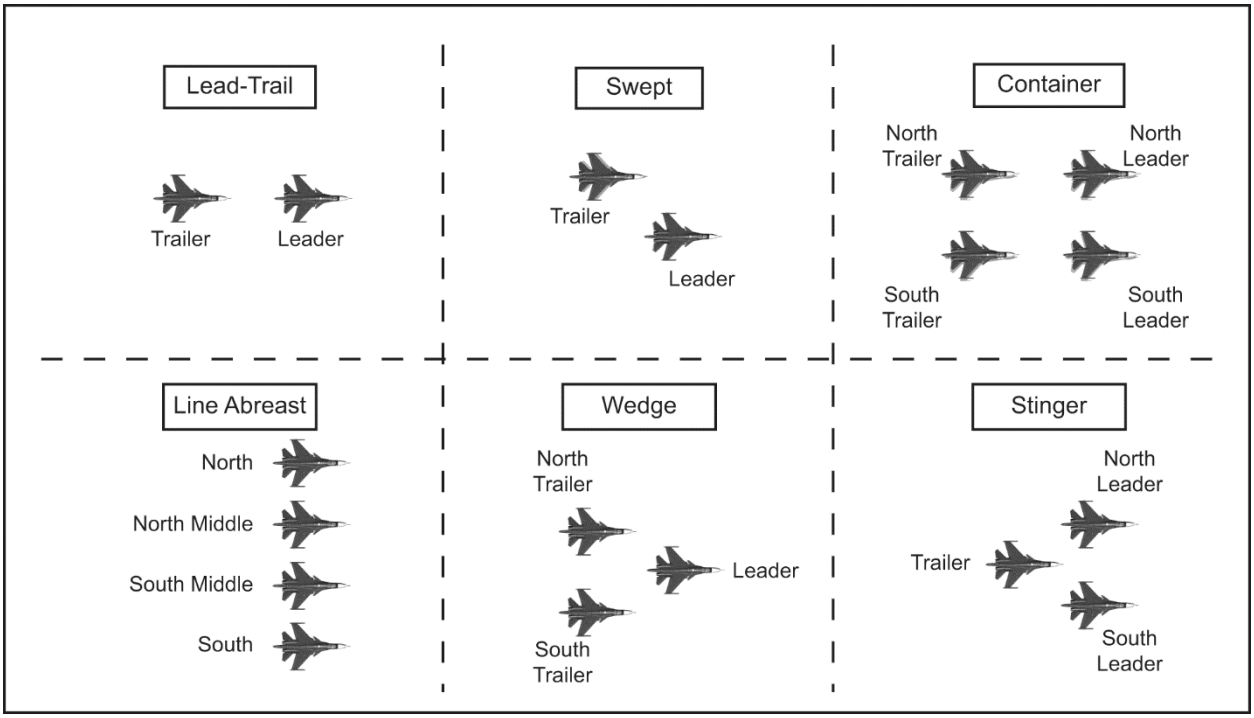


Figure 2. Inner-GROUP Formations

c. Standardized intercept contracts are executed based on the PICTURE.

d. PICTURE Format.

(1) There are five ways to communicate the PICTURE. They are:

(a) Core information.

(b) Traditional labels.

(c) LEADING EDGE communication.

(d) WAVEs.

(e) PACKAGEs.

(2) Within a PICTURE, each GROUP will have an established name that is retained until:

(a) A NEW PICTURE is called.

(b) The GROUP is reduced by attrition.

(c) The GROUP is no longer a factor to the operating area.

10. Core Information Concerning a PICTURE

a. Core information concerning a picture is primarily used to:

(1) Pre-COMMIT.

(2) If the PICTURE does not meet a traditional or LEADING EDGE label.

b. The PICTURE call will include the total number of GROUPs and is anchored in accordance with anchoring priorities as explained in paragraph 12.

c. FOUR GROUPs or More.

(1) The call will include the total number of GROUPs.

(2) Communicate only the three highest priority GROUPs.

FOUR GROUPs or More Example

"DARKSTAR, TEN GROUPS. GROUP BULLSEYE 0-2-0/25, TWENTY-SEVEN THOUSAND, TRACK EAST, HOSTILE, HEAVY, THREE CONTACTS. GROUP BULLSEYE 2-7-0/25, FIFTEEN THOUSAND, TRACK WEST, HOSTILE. GROUP BULLSEYE 2-9-0/35, TEN THOUSAND, TRACK WEST, HOSTILE."

11. Special Mission Aircraft (SMA) PICTURE

SMA are enemy aircraft that generally operate in a supporting role such as electromagnetic warfare or C2. Similar to a LOWDOWN, a SMA PICTURE will include any SMA relevant to the current mission. Once a SMA PICTURE is given, those aircraft can be excluded from any subsequent tactical pictures.

a. The SMA picture should be given after fighter check-in, prior to the initial picture, as depicted in figure 3.

b. When naming SMA for a SMA PICTURE there are two methods:

(1) If SMA positioning matches a traditional label, the associated names for that label will be used (e.g., NORTH SMA, MIDDLE SMA, SOUTH SMA).

(2) If SMA positioning does not match a traditional label, the SMA can be numbered (e.g., 1st SMA, 2nd SMA, 3rd SMA).

c. When anchoring each individual SMA, the following format will be used:

(1) Name.

(2) Location from BULLSEYE.

(3) Altitude.

(4) Declaration.

(5) Platform.

(6) Track number.

d. CAP will be assumed, and track direction will not be given unless deemed to be tactically significant.

e. If the SMA PICTURE is passed via secure communications, NATO designators can be used. If the SMA PICTURE is passed via non-secure communications, applicable code words should be used.

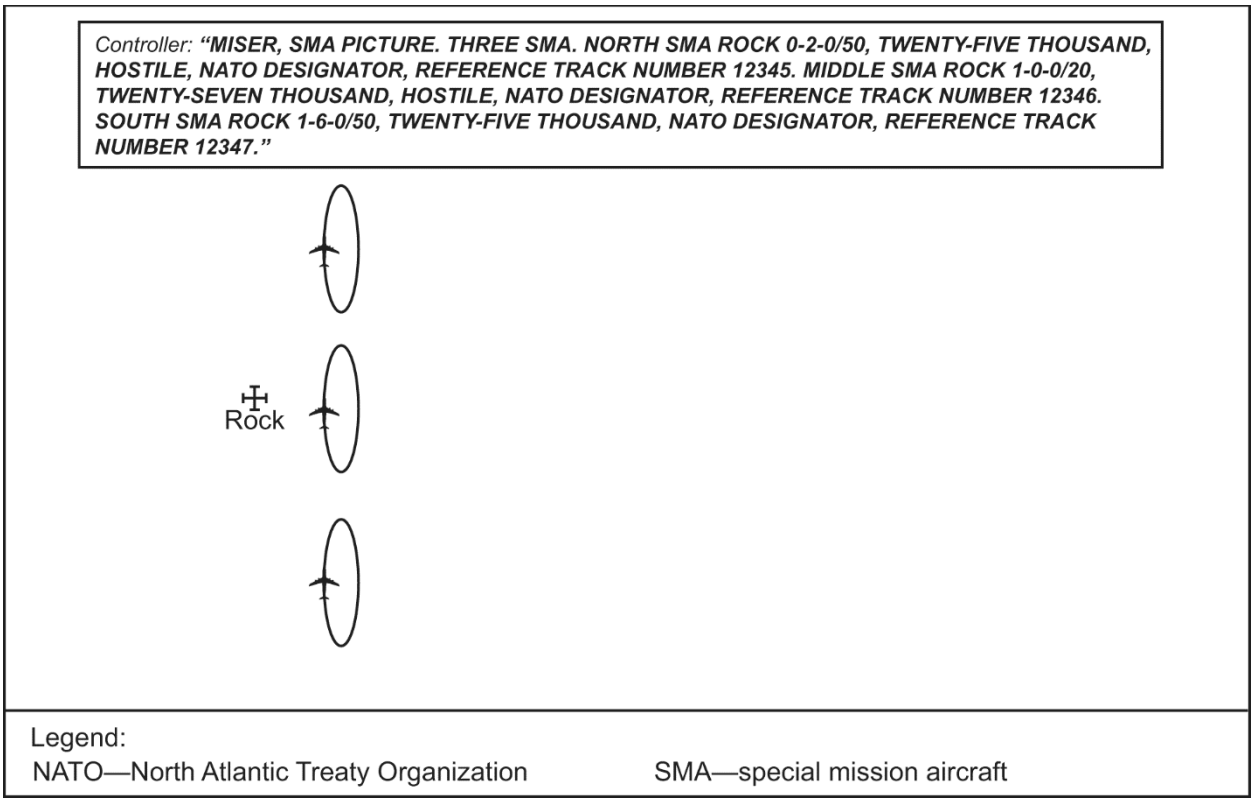


Figure 3. SMA PICTURE Example

f. Changes to the SMA PICTURE can be provided by a descriptive update, as depicted in figure 4.

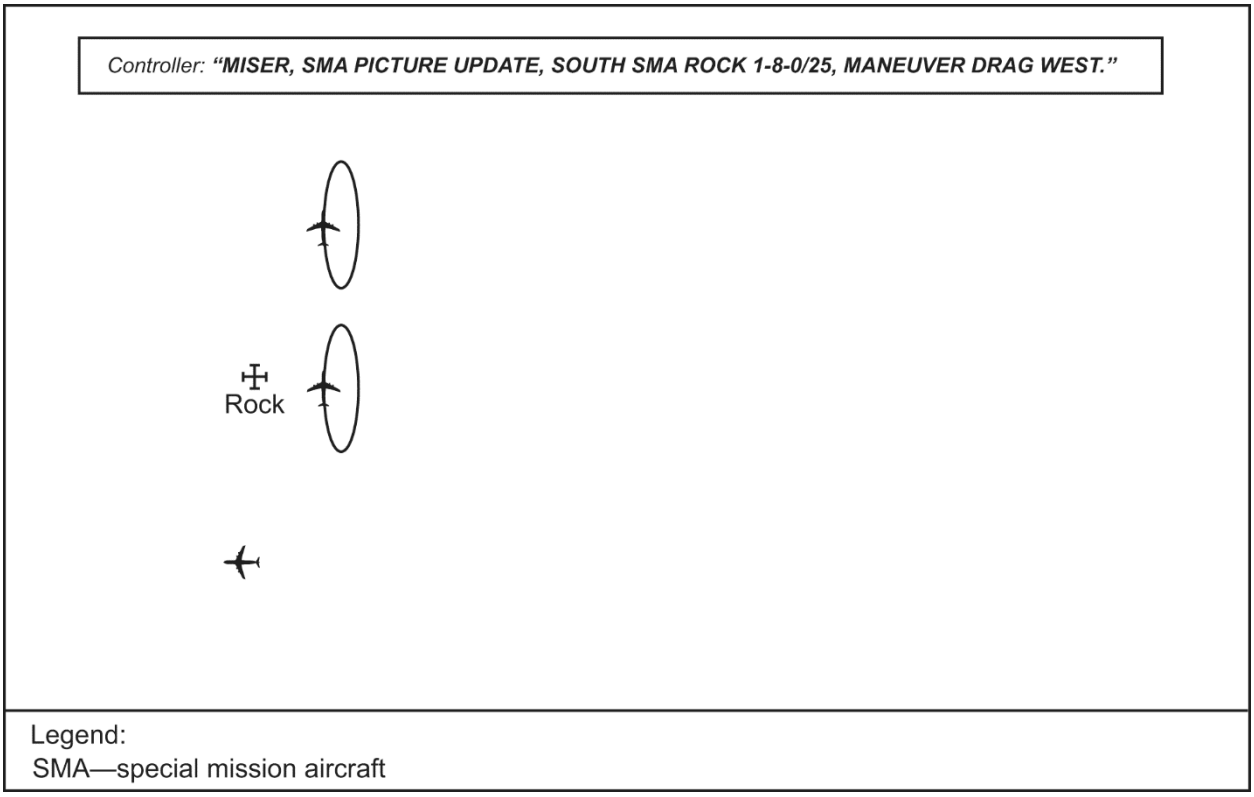


Figure 4. SMA PICTURE Update

12. Anchoring a PICTURE

An anchor is a BULLSEYE used to establish the PICTURE and aid in fighter targeting.

a. Geographic boundaries and the targeting game plan will dictate the maximum GROUPs that are anchored (e.g., dual-lane defensive counterair with a fighter engagement zone that has a defined azimuth boundary). Anchoring is prioritized based on risk to force and risk to mission.

b. Anchoring priorities can shift from risk to force (e.g., fighters) to risk to mission. For example, an enemy striker approaches a mission fail line and puts the mission at risk. In this case, the enemy striker may be the anchoring priority.

c. When risk to force is a higher priority than risk to mission, controllers will anchor GROUPs referring to the following priorities:

(1) The threat that is closest to fighters.

(2) The most capable threat (based on combat identification, declaration, aircraft type, flight profile).

(3) Highest GROUPs.

(4) The largest GROUP STRENGTH.

d. GROUPs will be anchored with BULLSEYE if the GROUPs are outside 10 nm in azimuth. With multiple GROUPs in azimuth, unless utilizing directive targeting, only anchor the outermost GROUPs.

13. Traditional Labels for a PICTURE

a. Controllers should use traditional labels and GROUP names with the following criteria:

(1) COMMIT criteria has been met.

(2) Threat formation is discernible, matches a traditional label, and labeling a PICTURE will build SA and aid fighter targeting.

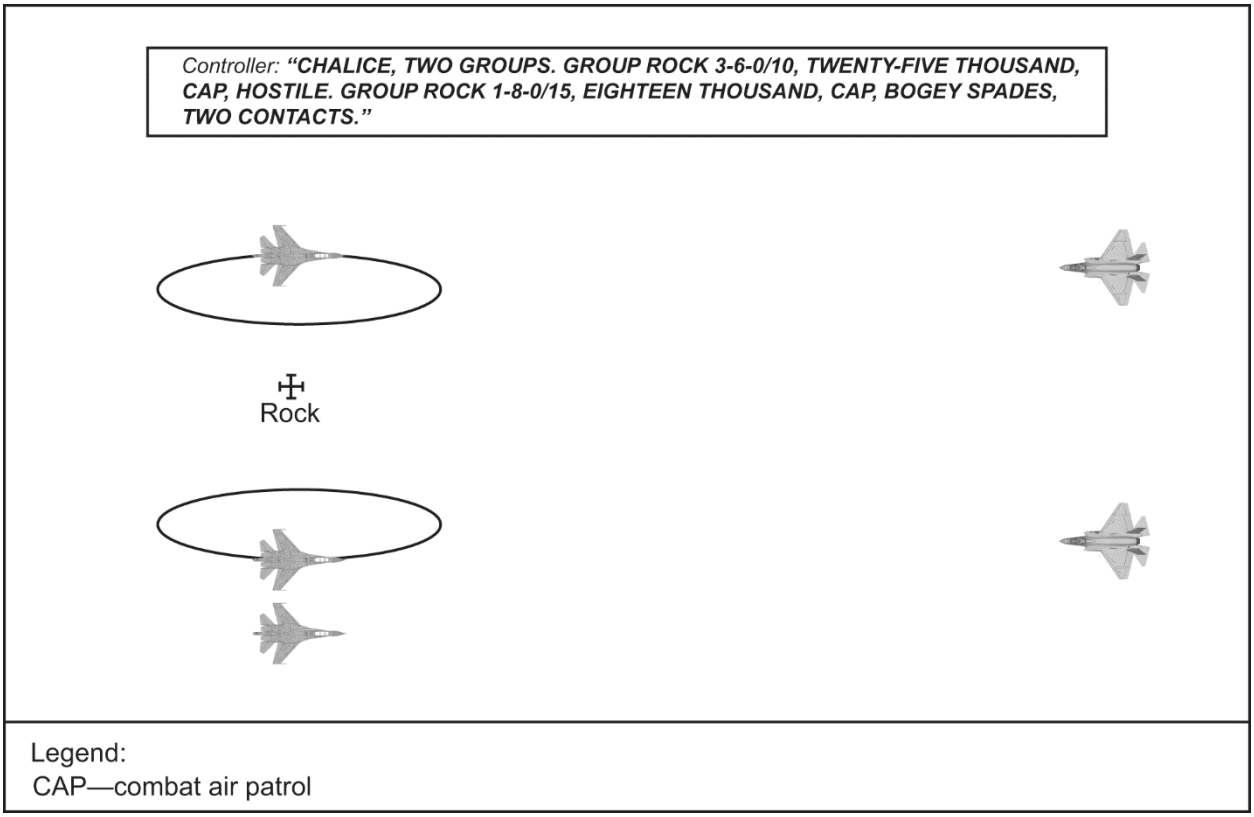


Figure 5. Pre-COMMIT Core Information

(3) If a traditional label does not apply based on the threat presentation, controllers should use LEADING EDGE communication.

b. The standard labels used are: SINGLE GROUP, RANGE, AZIMUTH, VIC, CHAMPAGNE, WALL, LADDER, and BOX.

Note: FRIENDLY, NEUTRAL, STRANGERs, and nonparticipating GROUPs will not be included in the PICTURE or total number of GROUPs identified as part of the tactical picture. If FRIENDLY, NEUTRAL, STRANGERs, or nonparticipating GROUPs are a factor, they are addressed in a separate transmission.

14. Amplifying a Traditional Label for a PICTURE

a. Amplifying remarks follow the dimensions of the traditional PICTURE. OPENING/CLOSING, TRACK, WEIGHTED, and ECHELON are the most common amplifying remarks.

b. PICTURE amplification order will be:

(1) OPENING/CLOSING.

(2) WEIGHTED.

(3) ECHELON.

(4) TRACK direction.

c. OPENING or CLOSING.

(1) OPENING or CLOSING can be applied when the distance between GROUPs is increasing or decreasing and may impact the fighter intercept.

(2) OPENING or CLOSING is placed following the PICTURE label and dimensions but in front of other amplifying remarks, such as ECHELON and TRACK, as depicted in figures 6 and 7.

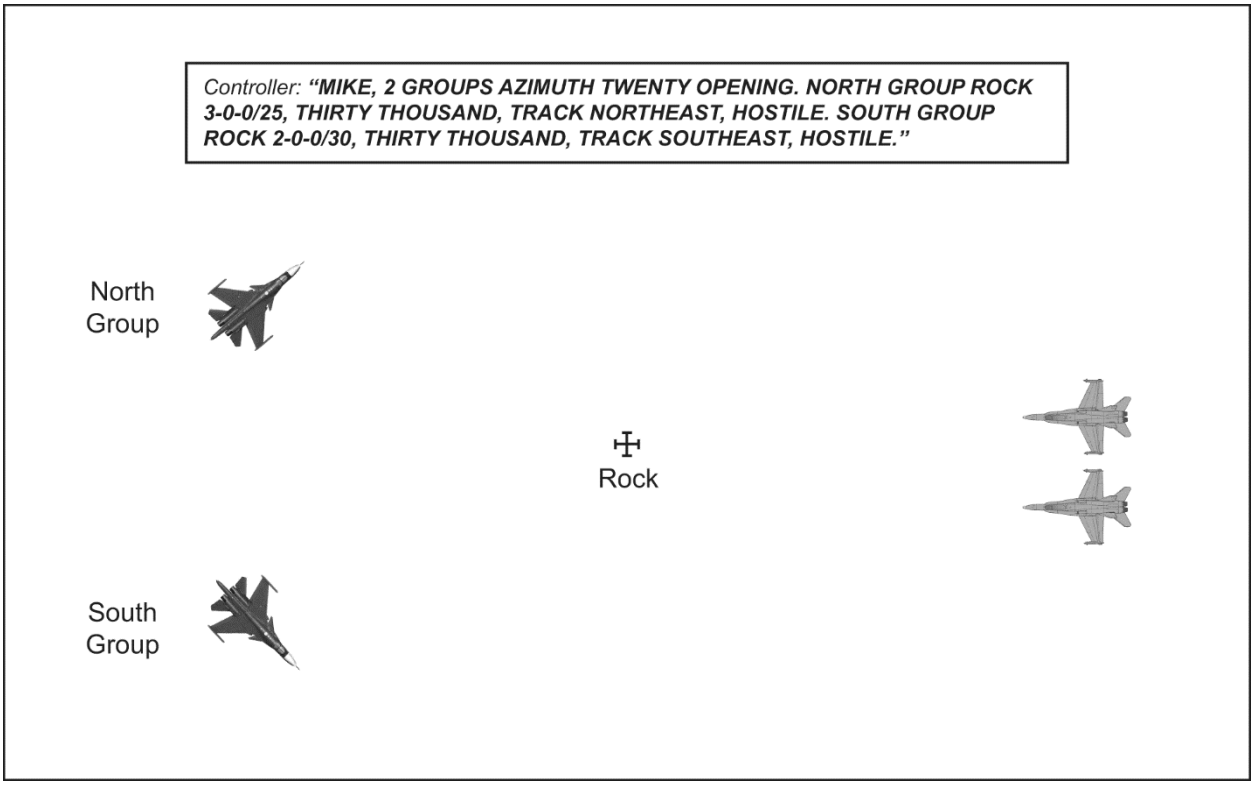


Figure 6. OPENING

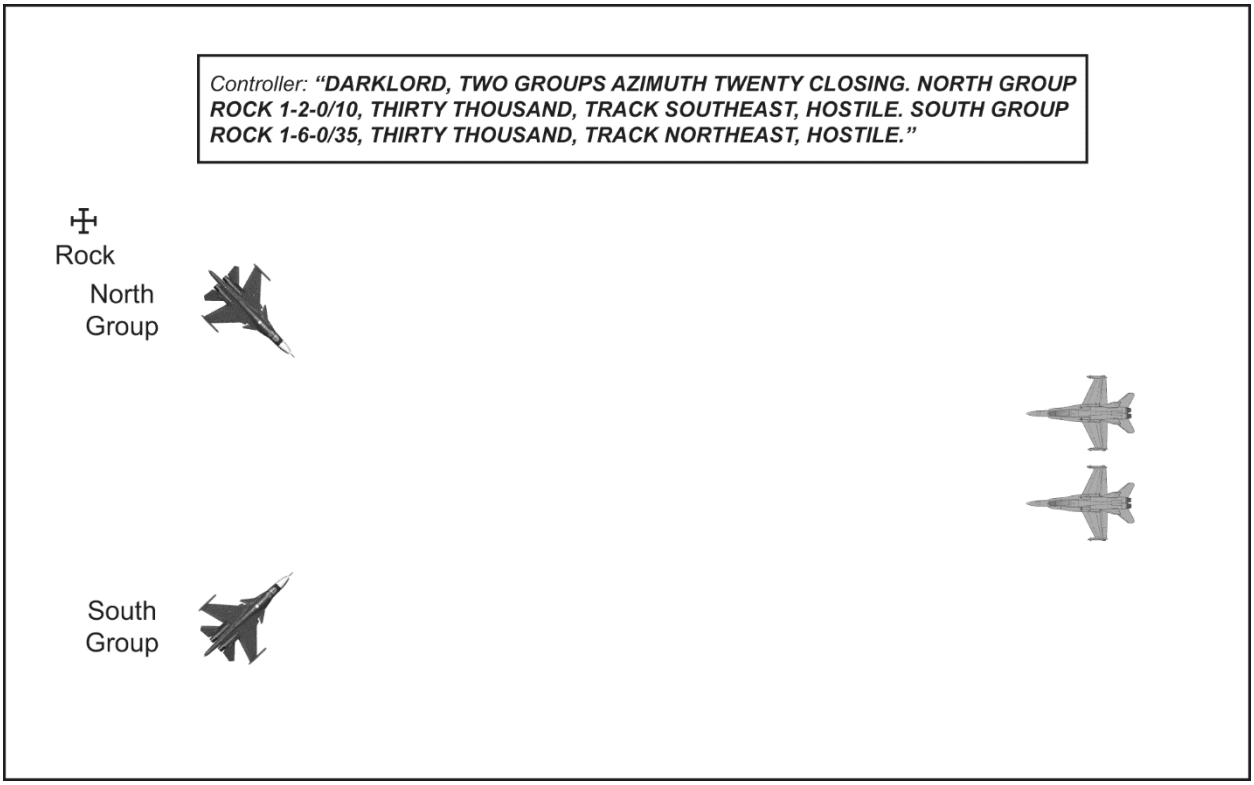


Figure 7. CLOSING

Picture Amplification Example
"VENOM, THREE GROUP VIC, FIFTEEN DEEP OPENING, TEN WIDE, WEIGHTED NORTH. LEAD GROUP BULLSEYE 2-7-0/80, FORTY-ONE THOUSAND, HOSTILE, HIGH, FAST; NORTH TRAIL GROUP SEVENTEEN THOUSAND, HOSTILE, TWO CONTACTS, SOUTH TRAIL GROUP TWELVE THOUSAND, BOGEY SPADES."

d. WEIGHTED. This is an amplifying remark that describes traditional labels with THREE GROUPs or more.

(1) The PICTURE is WEIGHTED if one or more GROUPs are offset (i.e., the distance between GROUPs are not equidistant).

(a) Divide the azimuth into thirds.

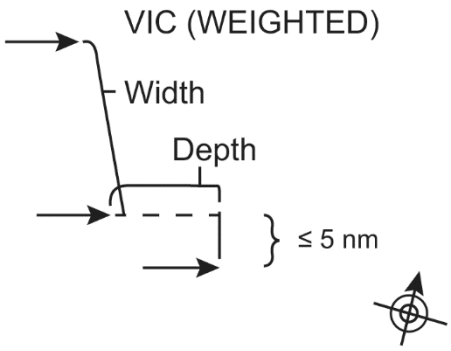
(b) If the out-of-position GROUP is outside the middle third, it is WEIGHTED.

(c) In a WEIGHTED WALL PICTURE, communicate a separation distance from the highest priority, anchored GROUP to the next closest GROUP.

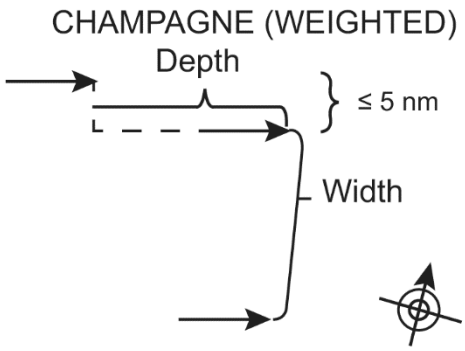
(d) If the picture is a weighted VIC and the lead group is outside of the trail groups, use weighted if the lead group is less than or equal to 5 nm laterally when measured perpendicular to the threat axis and not opening. Otherwise, consider using a wall label with an echelon component.

(e) If the picture is a weighted CHAMPAGNE and the trail group is outside of the lead groups, use weighted if the trail group is less than or equal to 5 nm

laterally when measured perpendicular to the threat axis and not opening. Otherwise, consider using a wall label with an echelon component, as depicted in figure 8.



"BARNYARD, 3 GROUP VIC, 8 DEEP, 10 WIDE, WEIGHTED SOUTH. LEAD GROUP BULLSEYE 2-7-9/15, 31 THOUSAND, HOSTILE. SOUTH TRAIL GROUP 24 THOUSAND, HOSTILE. NORTH TRAIL GROUP 15 THOUSAND, SPADES."



"BARNYARD, 3 GROUP CHAMPAGNE, 10 WIDE, 8 DEEP, WEIGHTED NORTH. NORTH LEAD GROUP BULLSEYE 3-4-7/13, 21 THOUSAND, HOSTILE. SOUTH LEAD GROUP BULLSEYE 3-1-01/13 35 THOUSAND, HOSTILE. TRAIL GROUP 17 THOUSAND, HOSTILE."

Legend:
nm—nautical miles

Figure 8. WEIGHTED VIC and CHAMPAGNE

(2) WEIGHTED is accompanied by a cardinal direction relative to the defined threat axis, as depicted in figure 9.

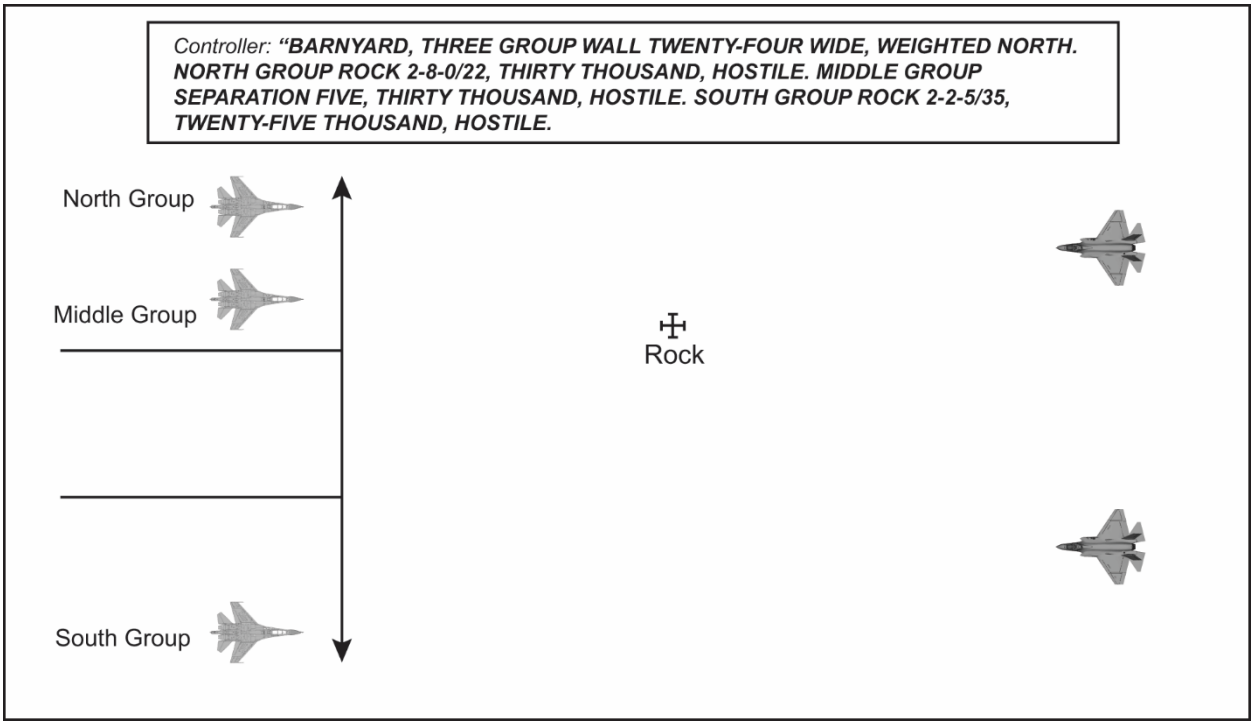


Figure 9. Three GROUP Wall WEIGHTED

e. ECHELON.

(1) ECHELON is used to amplify a traditional label when GROUPs in the traditional label are not directly in AZIMUTH or RANGE with one another.

(2) ECHELON should not be used if the depth component between GROUPs is less than or equal to 5 nm.

(3) ECHELON is accompanied by a cardinal or sub-cardinal direction and is stated following the PICTURE label and dimensions. The threat axis will determine the direction of the ECHELON.

(a) If the distance between GROUPs is wider than it is deep, the PICTURE is called AZIMUTH. If the separation is deeper than it is wide, the PICTURE is called RANGE.

(b) Controllers can create a line 45 degrees from the GROUP closest to the fighters, in the direction of the offset GROUP.

(c) If the offset GROUP is forward of the 45-degree line, the PICTURE is an AZIMUTH. If the GROUP is aft of the 45-degree line, the PICTURE is a RANGE, as depicted in figures 10, 11, 12, and 13. The distance between GROUPs will be passed as SEPARATION.

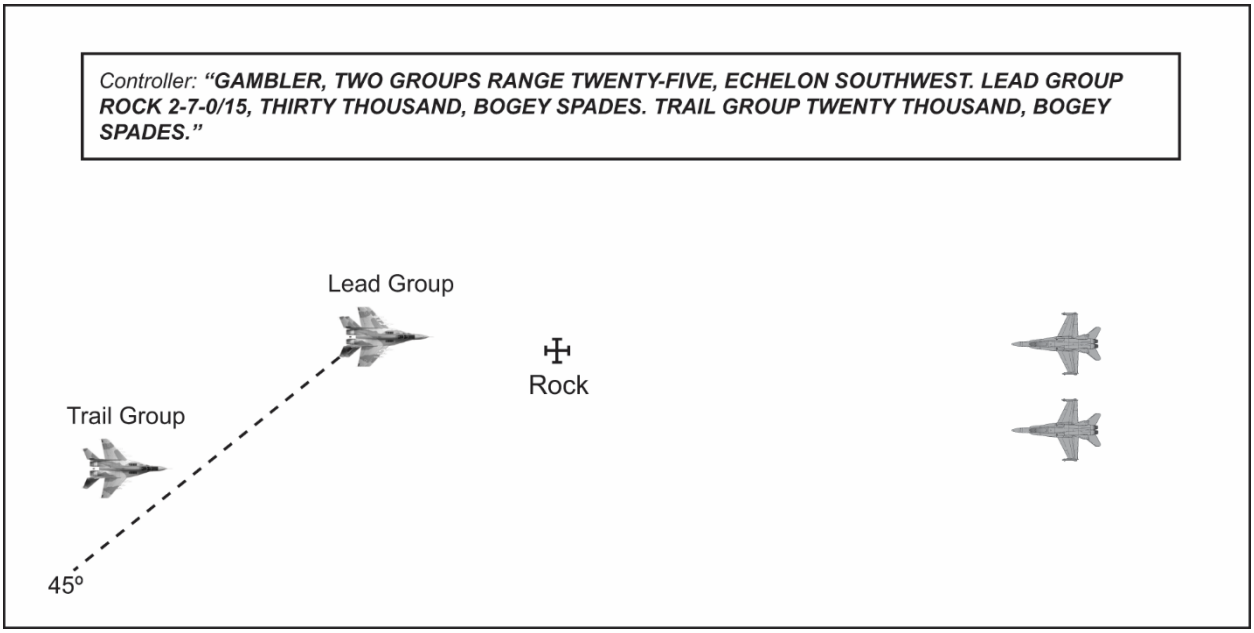


Figure 10. RANGE with ECHELON

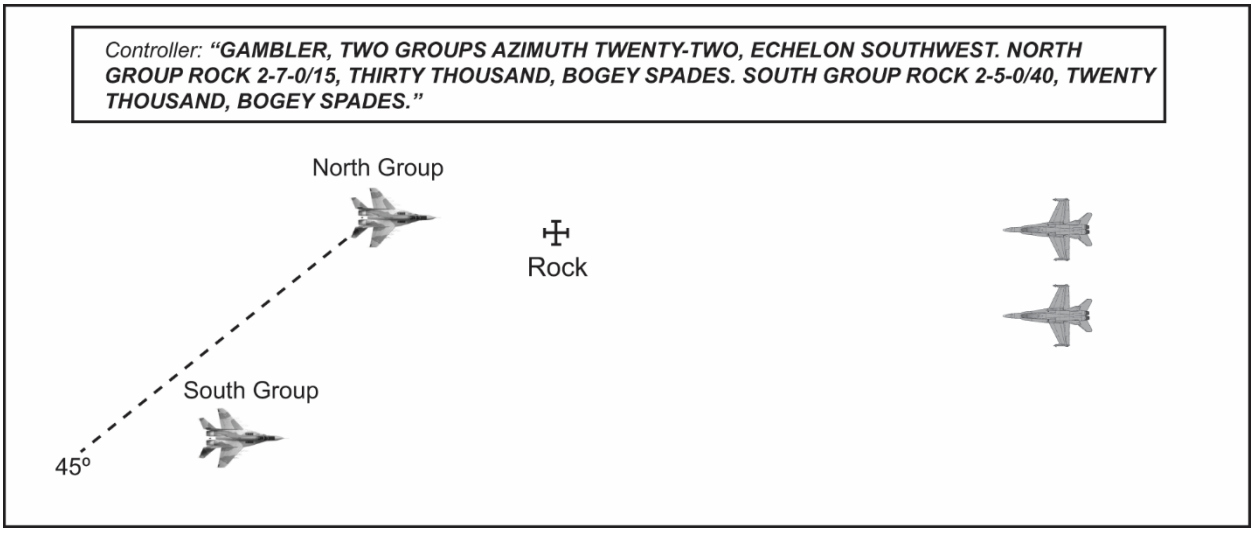


Figure 11. AZIMUTH with ECHELON

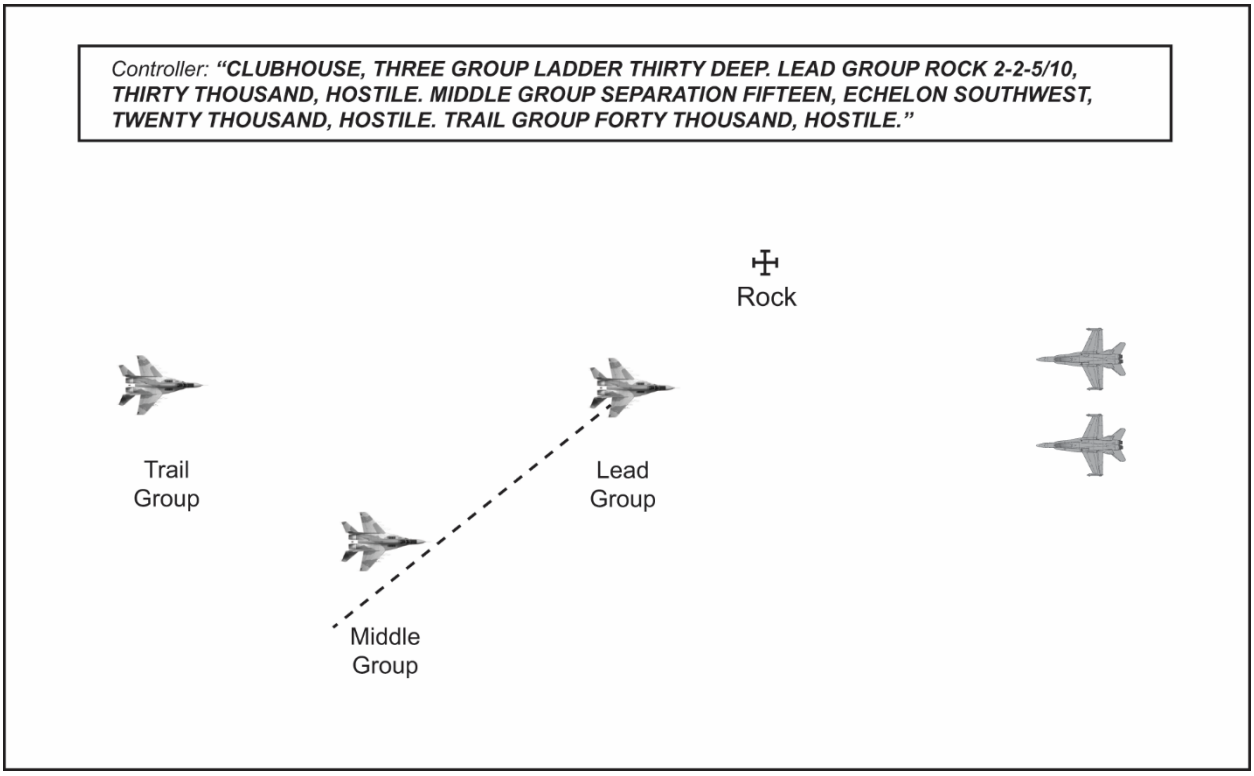


Figure 12. Three GROUP Ladder Example 1

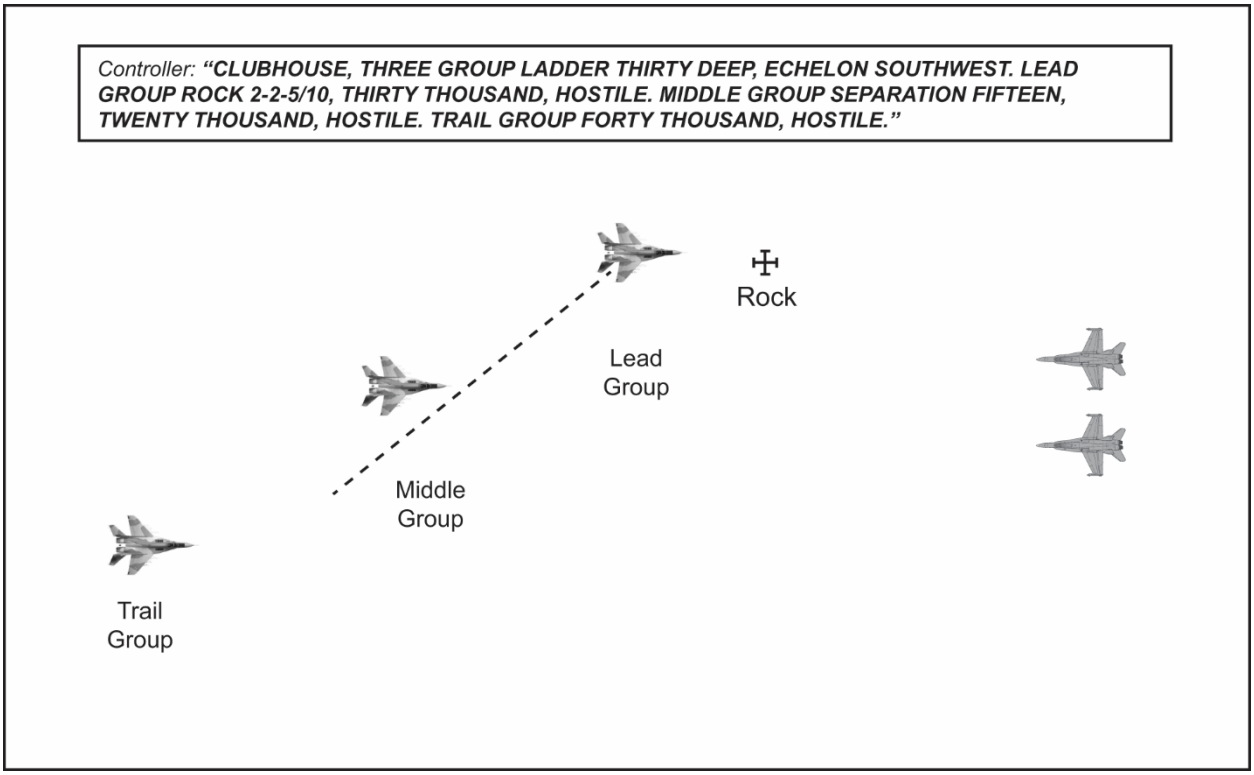


Figure 13. Three GROUP Ladder Example 2

f. TRACK.

(1) If all GROUPs in a PICTURE are HOT along the fight axis, track direction is assumed, as depicted in figure 14.

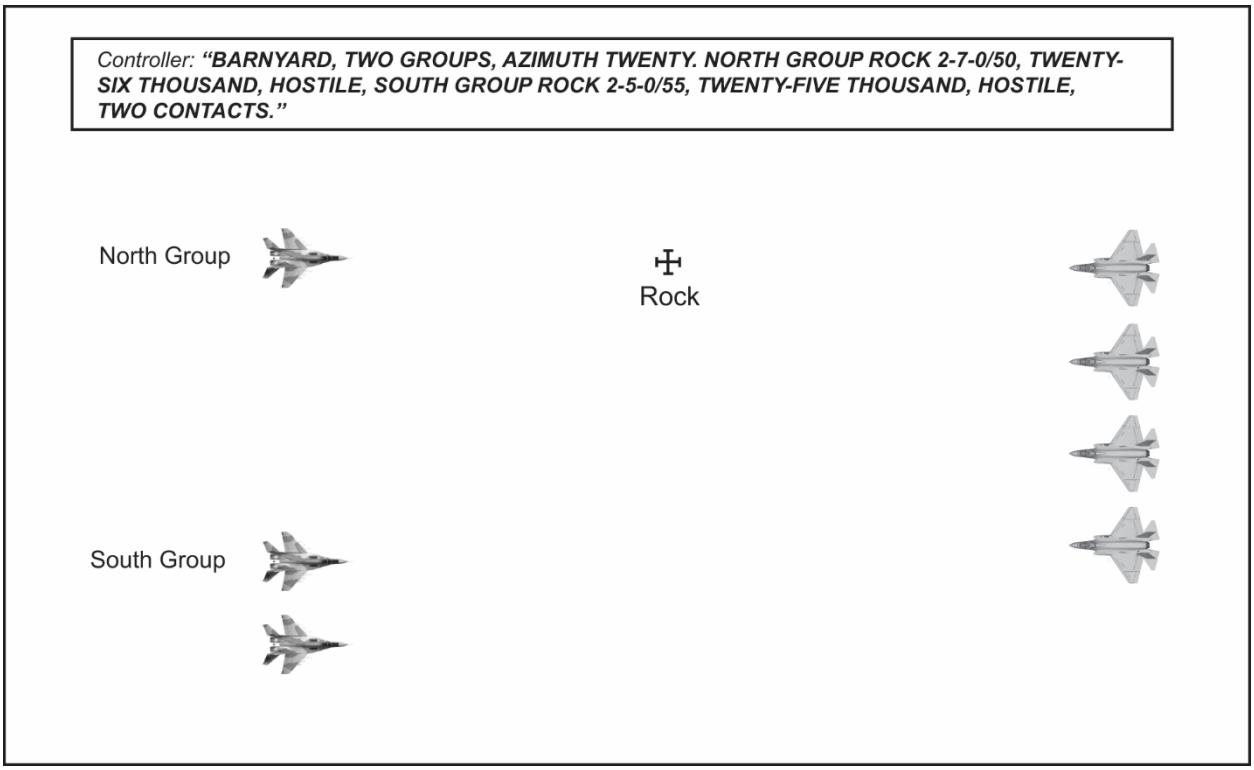


Figure 14. Track Direction Assumed.

(2) If all GROUPs share a common track direction other than hot, controller will voice the track direction amplification for the entire picture, as depicted in figure 15.

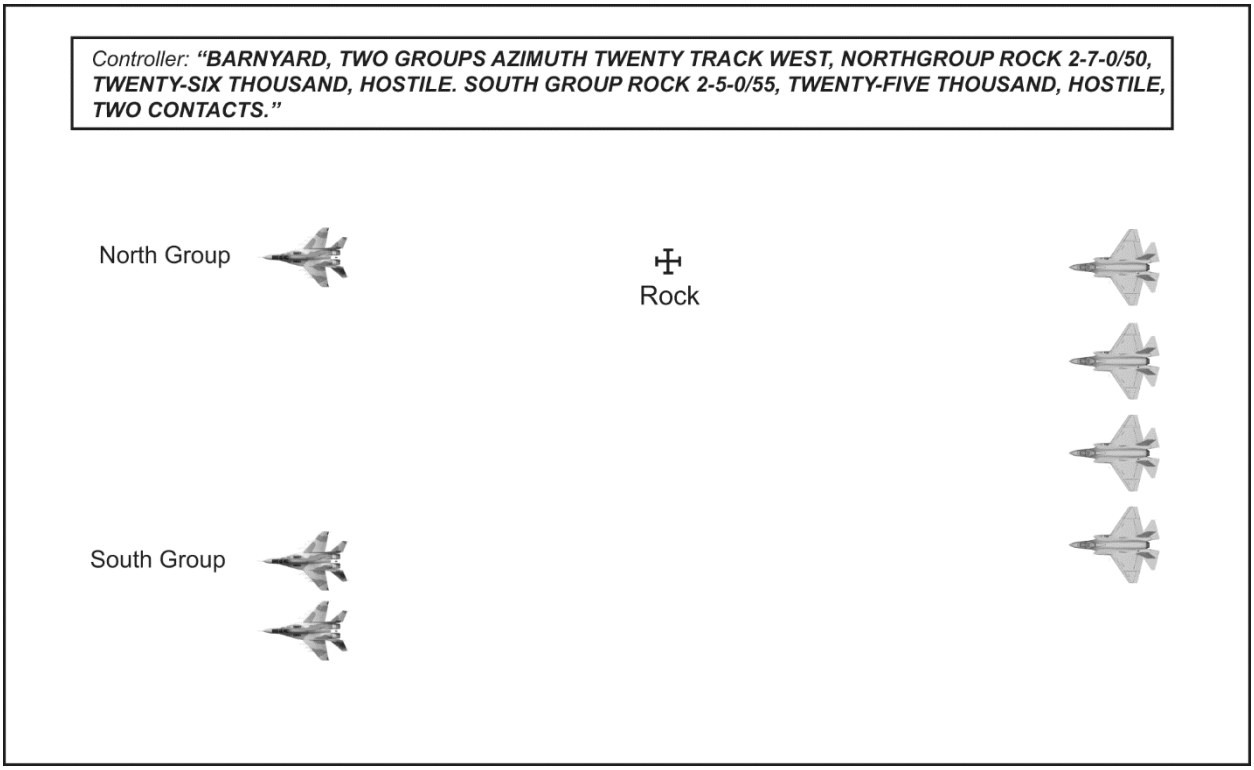


Figure 15. Track Direction Not Assumed

(3) If GROUPs do not share a common track direction, controller will provide track direction fill-ins on each individual GROUP, as depicted in figure 16.

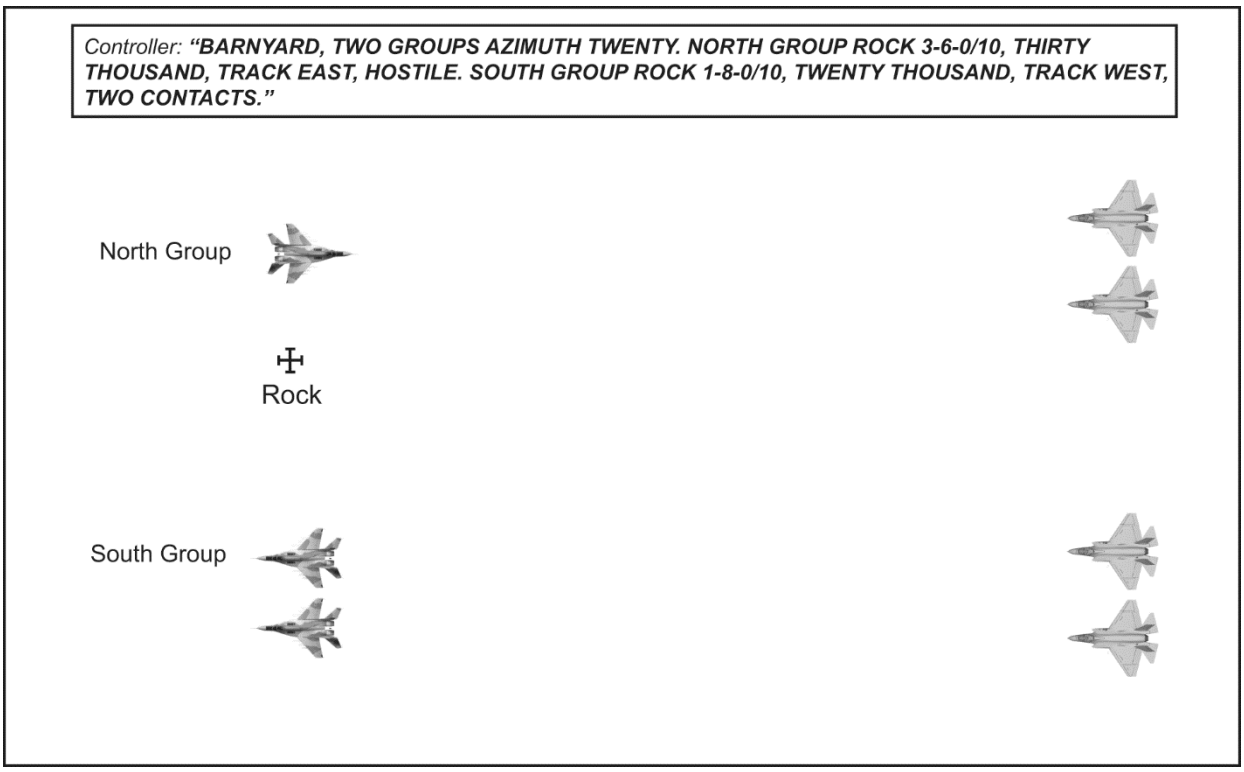


Figure 16. Different Track Directions

15. SINGLE GROUP/TWO GROUPs Traditional Label for a PICTURE

a. The label SINGLE GROUP will only be used when one known BOGEY/BANDIT/HOSTILE GROUP is detected in an operating area. The label is SINGLE GROUP and all information is passed as core information.

SINGLE GROUP Example
"CHALICE, SINGLE GROUP BULLSEYE 3-6-0/20, TWENTY THOUSAND, TRACK WEST, BOGEY SPADES."

b. TWO GROUPs are labeled AZIMUTH or RANGE.

(1) AZIMUTH. When the distance from the GROUPs relative to the fighters are approximately the same. GROUPs in AZIMUTH are named using cardinal directions, as depicted in figure 17.

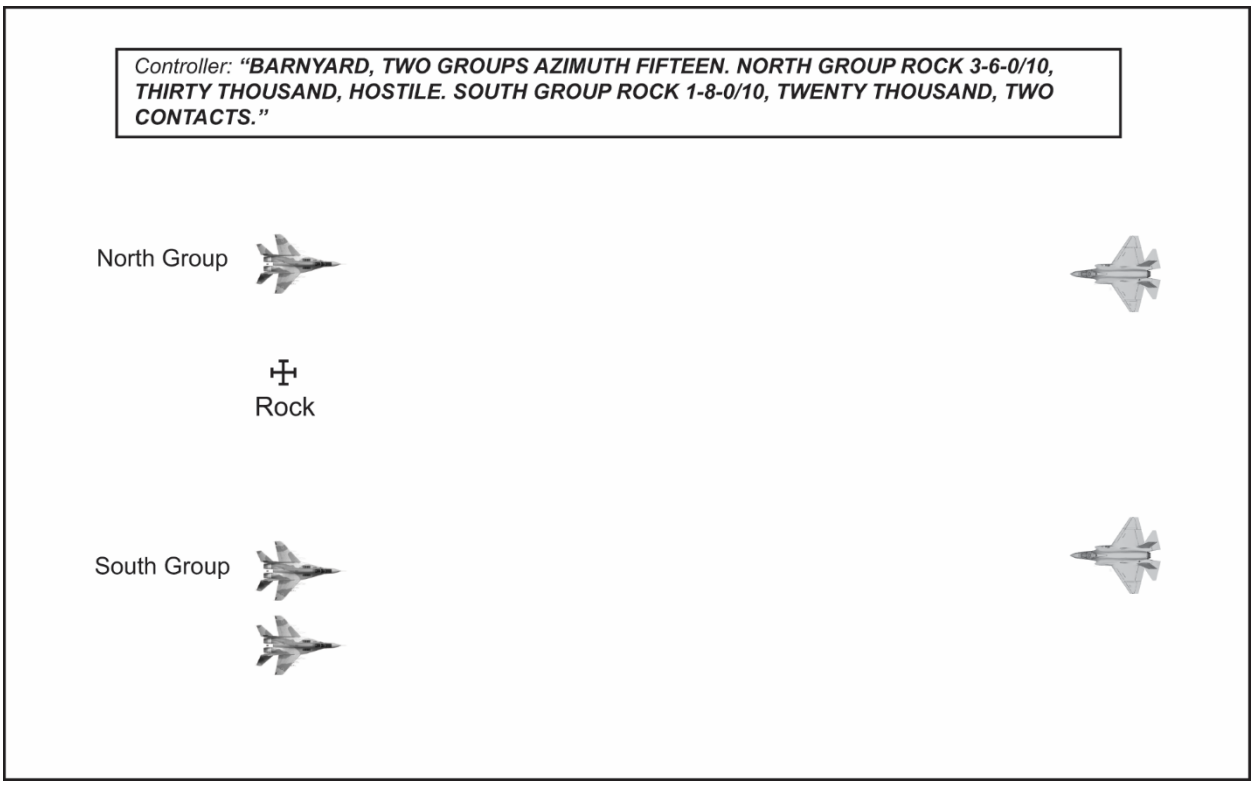


Figure 17. Two GROUPs AZIMUTH

(2) RANGE. If one GROUP is closer to the fighters than the other, RANGE is used as the PICTURE label. GROUPs in RANGE are named LEAD GROUP and TRAIL GROUP, as depicted in figure 18.

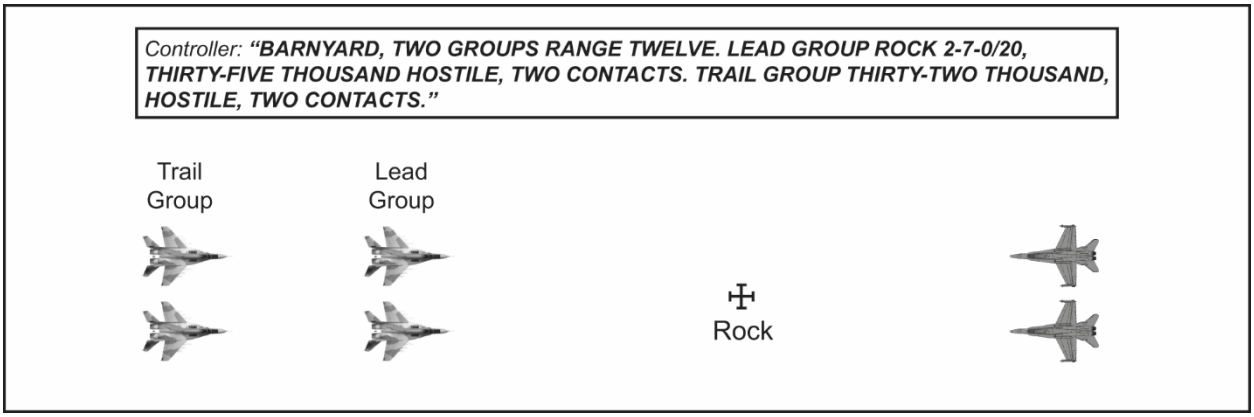


Figure 18. Two GROUPs RANGE

16. THREE GROUPs or More Traditional PICTURE Labels

a. General. The five traditional PICTURE labels for three or more GROUPs are: WALL, CHAMPAGNE, VIC, BOX, and LADDER. Controllers will use 5 nm of depth to determine the tactical relationship between GROUPs. WALL is the label used if depth is equal to or less than 5 nm or CLOSING inside of 5 nm. CHAMPAGNE or VIC is the label used if the depth is greater than 5 nm or OPENING outside 5 nm.

b. WALL. THREE GROUPs or more separated in AZIMUTH.

(1) WIDE. The term WIDE, prefaced with distance in nm, is used to describe the dimension of a WALL.

(2) THREE GROUPS.

(a) The outer GROUP names are the cardinal direction relative to the defined THREAT axis. For example, EAST GROUP and WEST GROUP.

(b) The inner GROUP is named MIDDLE GROUP, as depicted in figure 19.

(c) In a WEIGHTED WALL PICTURE, a separation distance will be communicated from the priority, anchored GROUP to the next closest GROUP.

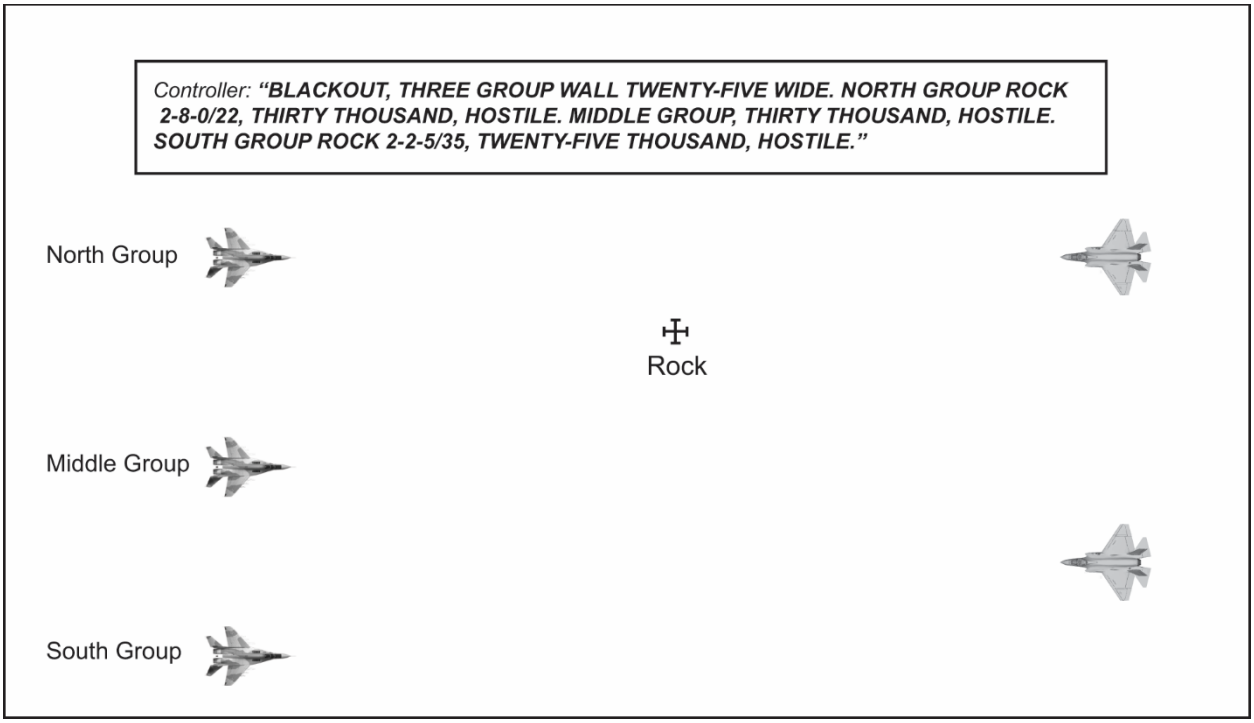


Figure 19. Three GROUP WALL

(3) Five GROUPs or Less.

(a) The outer GROUP names are the cardinal direction relative to the defined THREAT axis. For example, EAST GROUP and WEST GROUP.

(b) The inner GROUPs are named MIDDLE GROUPs.

(c) A cardinal direction is added to multiple MIDDLE GROUPs so each has a unique GROUP name. For example, NORTH MIDDLE GROUP, MIDDLE GROUP, and SOUTH MIDDLE GROUP, as depicted in figure 20.

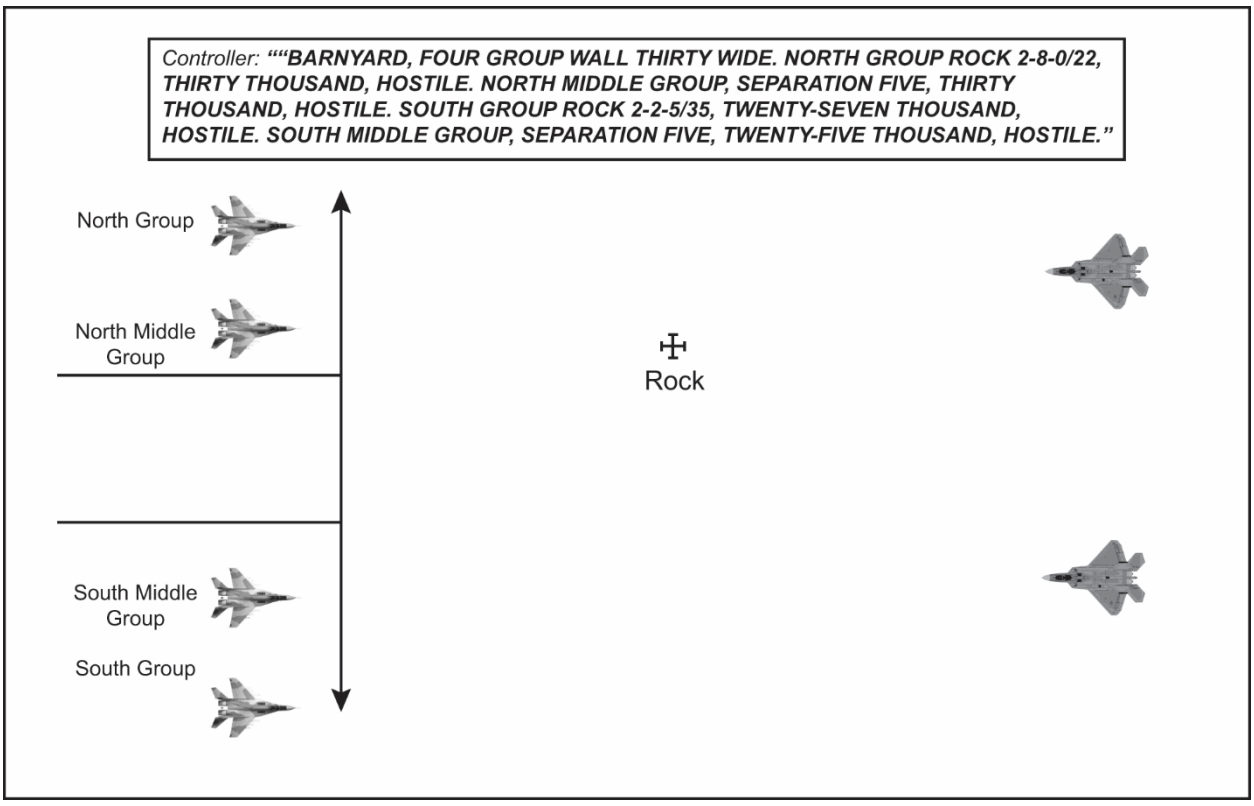


Figure 20. Four GROUP Wall with Separation

(4) More than FIVE GROUPs.

(a) The fighters and controller should name the outrigger GROUPs based on cardinal relationship (i.e., NORTH, SOUTH, EAST, WEST) and inner GROUPS in numerical sequence (e.g., NORTH GROUP, SECOND GROUP… SEVENTH GROUP, SOUTH GROUP.)

(b) The SECOND GROUP will always be closest to the first anchored outrigger GROUP.

(c) In a WALL formation with no GROUPs in the middle third, voice separation from the outrigger to middle GROUPs.

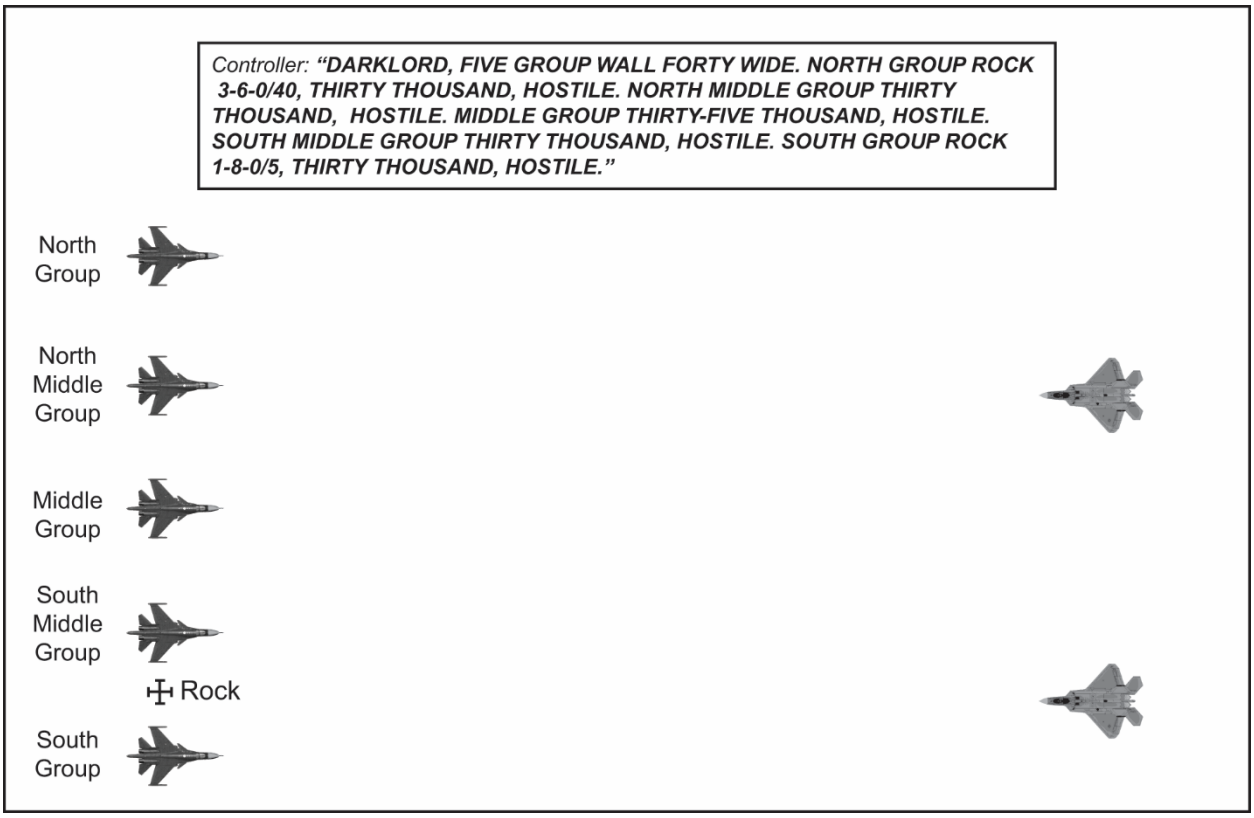


Figure 21. Five GROUP WALL

c. CHAMPAGNE. This is THREE GROUPs with the two closest GROUPs to the fighters in AZIMUTH and the third GROUP in RANGE.

(1) The term WIDE is used first to describe the AZIMUTH dimension of the CHAMPAGNE.

(2) The term DEEP is used second to describe the RANGE dimension of the CHAMPAGNE.

(3) The two GROUPs closest to the fighters are named LEAD GROUPs with a cardinal direction descriptor. The GROUP in trail is named the TRAIL GROUP, as depicted in figure 22.

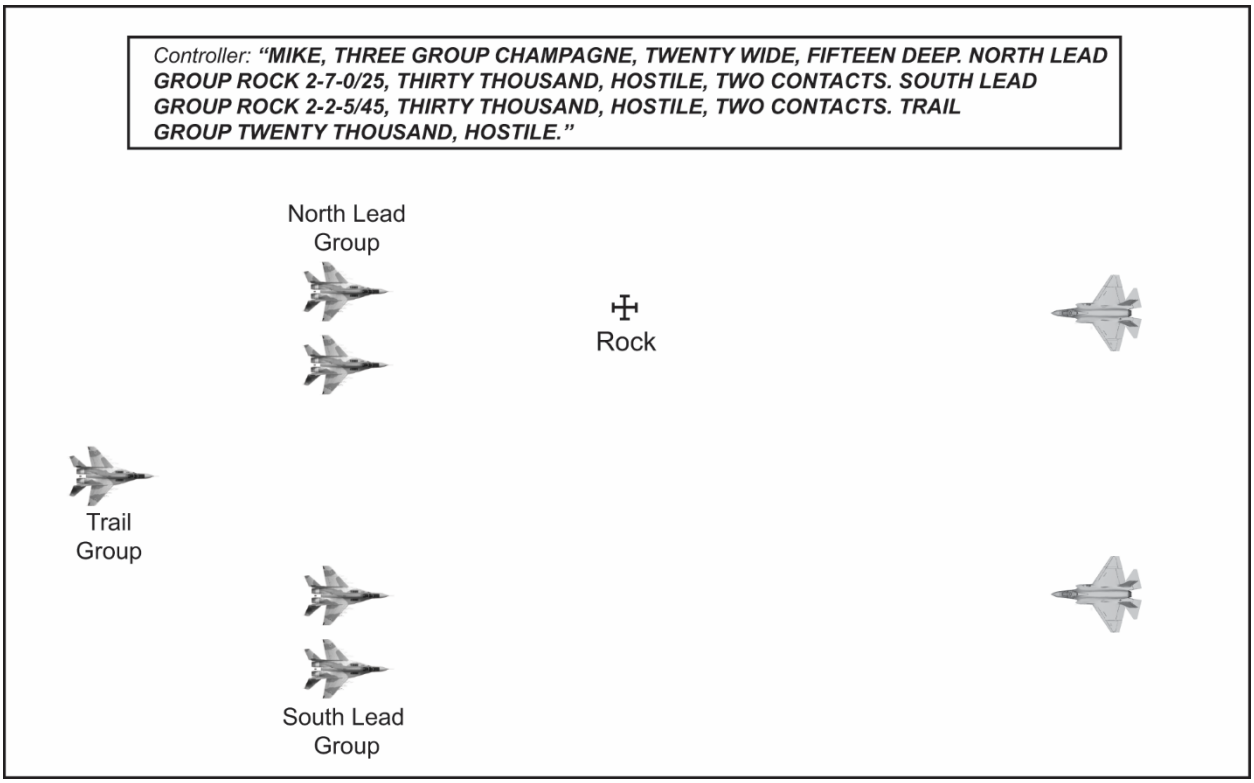


Figure 22. CHAMPAGNE

d. VIC. This is three GROUPs with the first GROUP closest to the fighters and two GROUPs in RANGE of the first GROUP, separated in AZIMUTH.

(1) The term DEEP is used first to describe the RANGE dimension of the VIC.

(2) The term WIDE is used second to describe the AZIMUTH dimension of the VIC.

(3) The GROUP closest to the fighters is named LEAD GROUP. The two GROUPs in RANGE are named the TRAIL GROUPS with a cardinal direction descriptor, as depicted in figure 23.

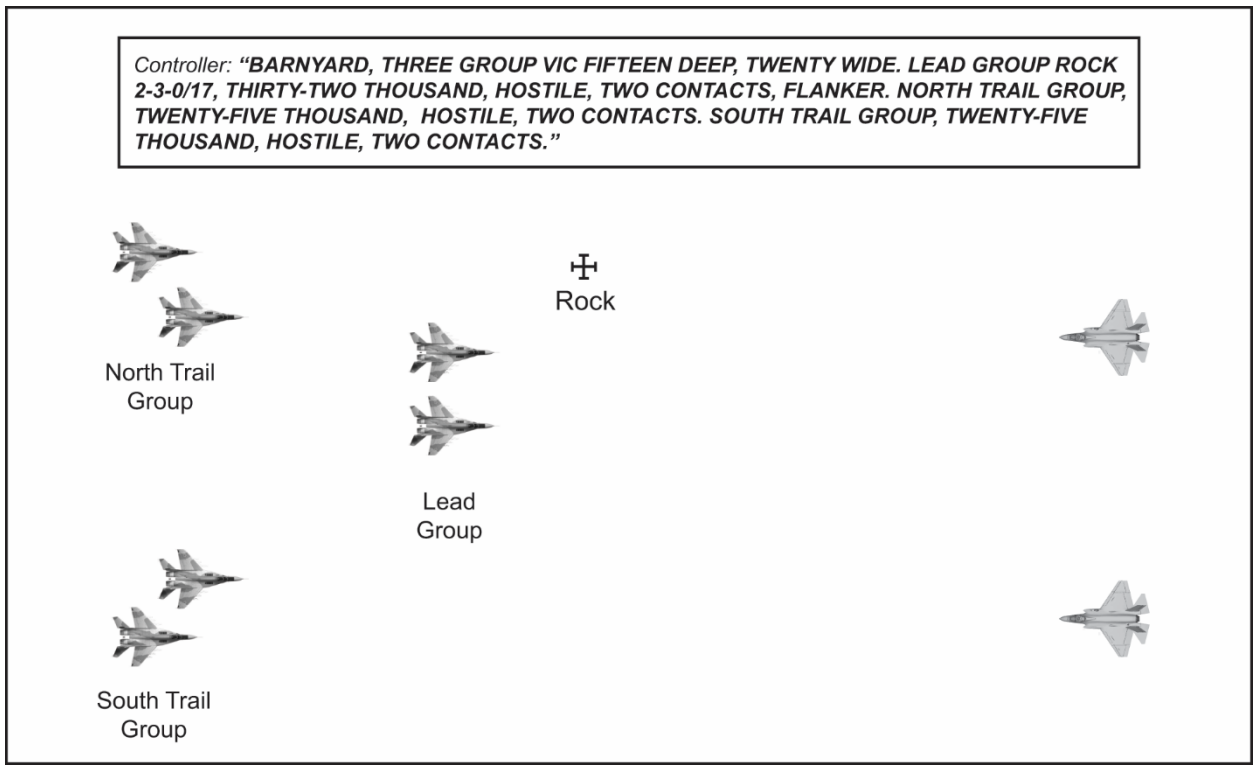


Figure 23. VIC

e. BOX. A BOX is four GROUPs with two GROUPs closest to fighters separated in AZIMUTH and two GROUPs farthest from fighters also separated in AZIMUTH.

(1) The term WIDE is used first to describe the AZIMUTH dimension of the BOX.

(2) The term DEEP is used second to describe the RANGE dimension of the BOX.

(3) The GROUPs closest to the fighters are named LEAD GROUP with a cardinal direction descriptor (i.e., EAST LEAD GROUP and WEST LEAD GROUP).

(4) GROUPs will be voiced clockwise or counterclockwise, based on anchoring priorities of the lead groups.

(5) The GROUPs farthest from the fighters are named TRAIL GROUP with a cardinal direction descriptor, as depicted in figure 24.

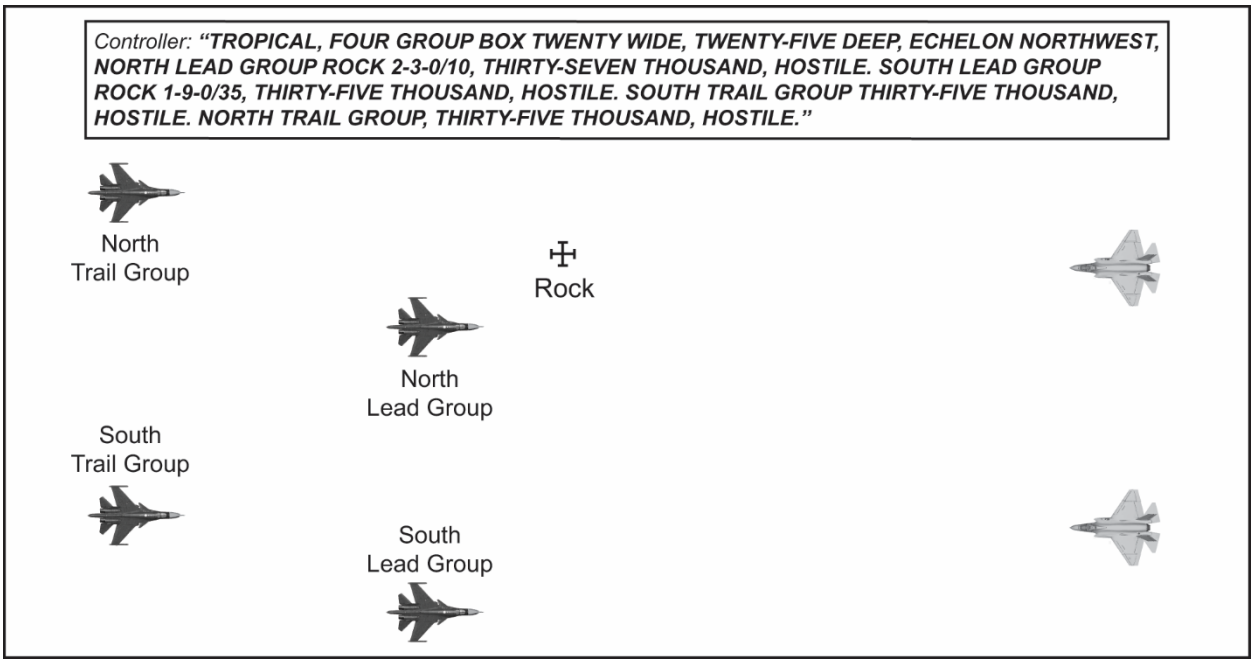


Figure 24. BOX

f. LADDER. This is three GROUPs or more separated in RANGE from one another.

(1) The term DEEP is used to describe the total RANGE dimension of the LADDER.

(2) The first GROUP in a LADDER will always be named LEAD GROUP. The last GROUP will always be the TRAIL GROUP.

(3) A separation distance will be communicated from the LEAD GROUP to the next GROUP.

(4) In a THREE-GROUP LADDER, The GROUP names are LEAD GROUP, MIDDLE GROUP, and TRAIL GROUP, as depicted in figure 25.

(5) When there are more than three GROUPs, the GROUP names are LEAD GROUP, SECOND GROUP, THIRD GROUP, TRAIL GROUP.

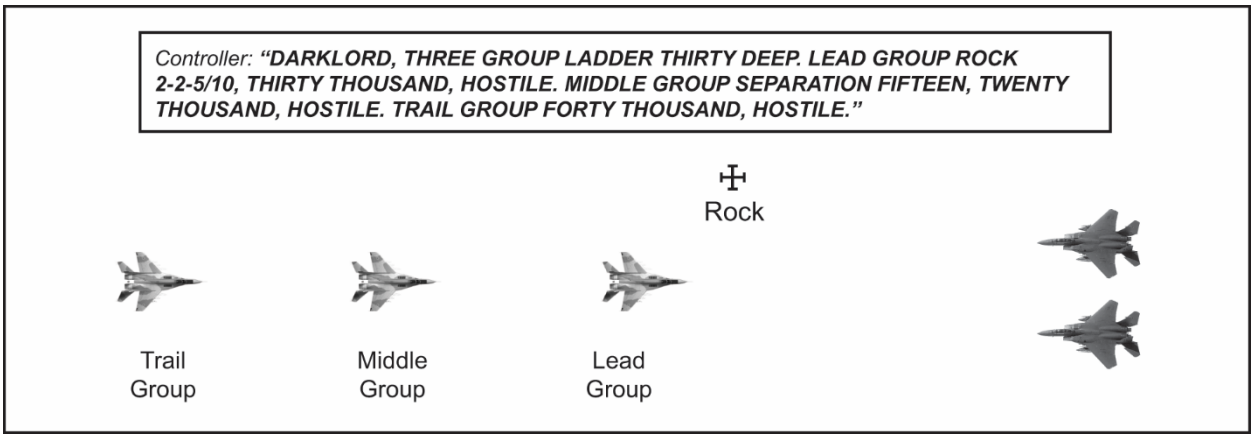


Figure 25. THREE-GROUP LADDER

17. A LEADING EDGE PICTURE

a. The LEADING EDGE is defined based on which GROUPs the fighters expect to employ on an intercept.

Note: this depth is mission design series (MDS) and type, model, and/or series (T/M/S) specific and must be discussed in mission planning.

b. LEADING-EDGE communication is applied:

(1) When all GROUPs in an operating area do not fit a traditional label.

(2) To minimize the radio transmission when communicating complicated PICTURES.

(3) To facilitate rapid targeting of priority GROUPs.

c. If LEADING EDGE communication is not appropriate, fighters and controllers can relay the PICTURE using core information.

d. The following is the LEADING EDGE communication format.

(1) The controller should communicate the total number of GROUPs prior to communicating LEADING EDGE.

(2) A traditional PICTURE label will follow LEADING EDGE.

(3) The controller should label the PICTURE based on which GROUPs are expected to be targeted in the upcoming fighter attack (e.g., fighter recommit).

e. Follow-on GROUPs will be communicated using WAVE communication. WAVES are coordinated tactics between threat formations operating with defense-in-depth. Waves are differentiated from packages by their depth component.

(1) The closest GROUP(s) behind the LEADING EDGE will be labeled as the SECOND WAVE.

(2) WAVES will be numbered numerically (i.e., SECOND WAVE, THIRD WAVE, etc.).

(3) The SECOND WAVE and any subsequent WAVES will also be given traditional labels, as depicted in figure 26.

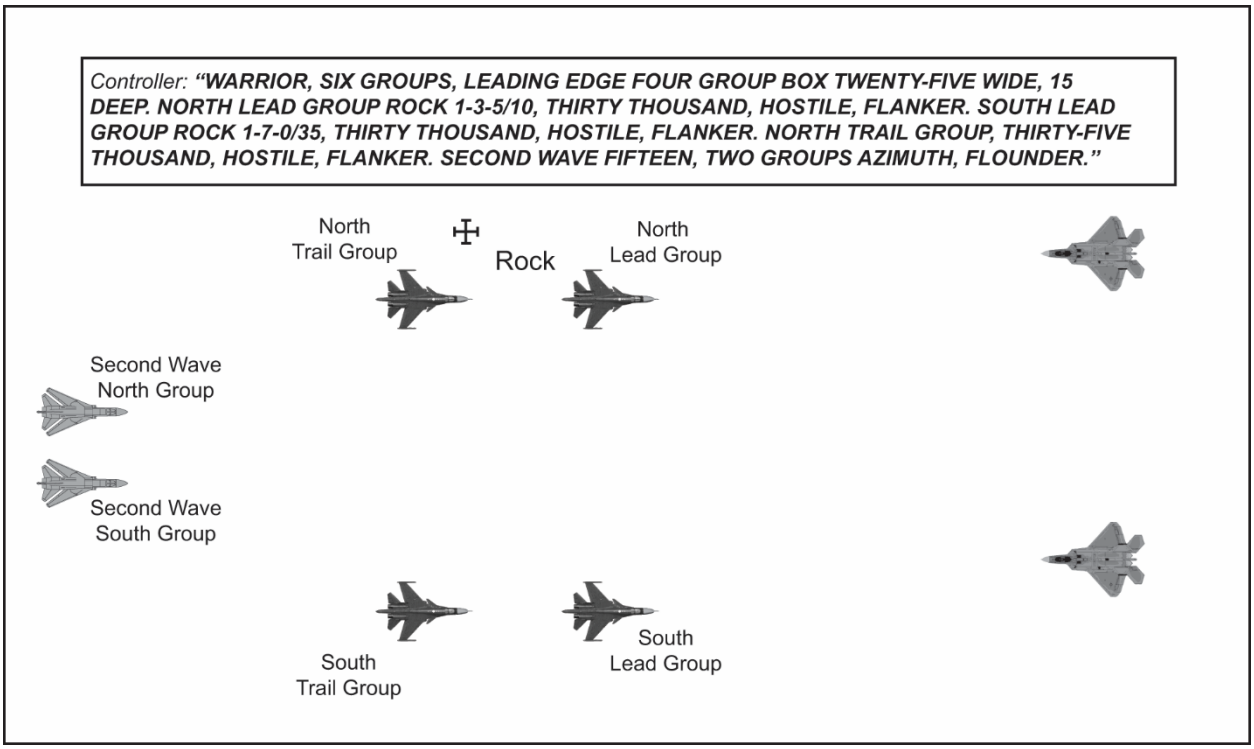


Figure 26. LEADING EDGE example 1

(4) A separation to the SECOND WAVE will be given after the LEADING EDGE is labeled, as depicted in figure 27.

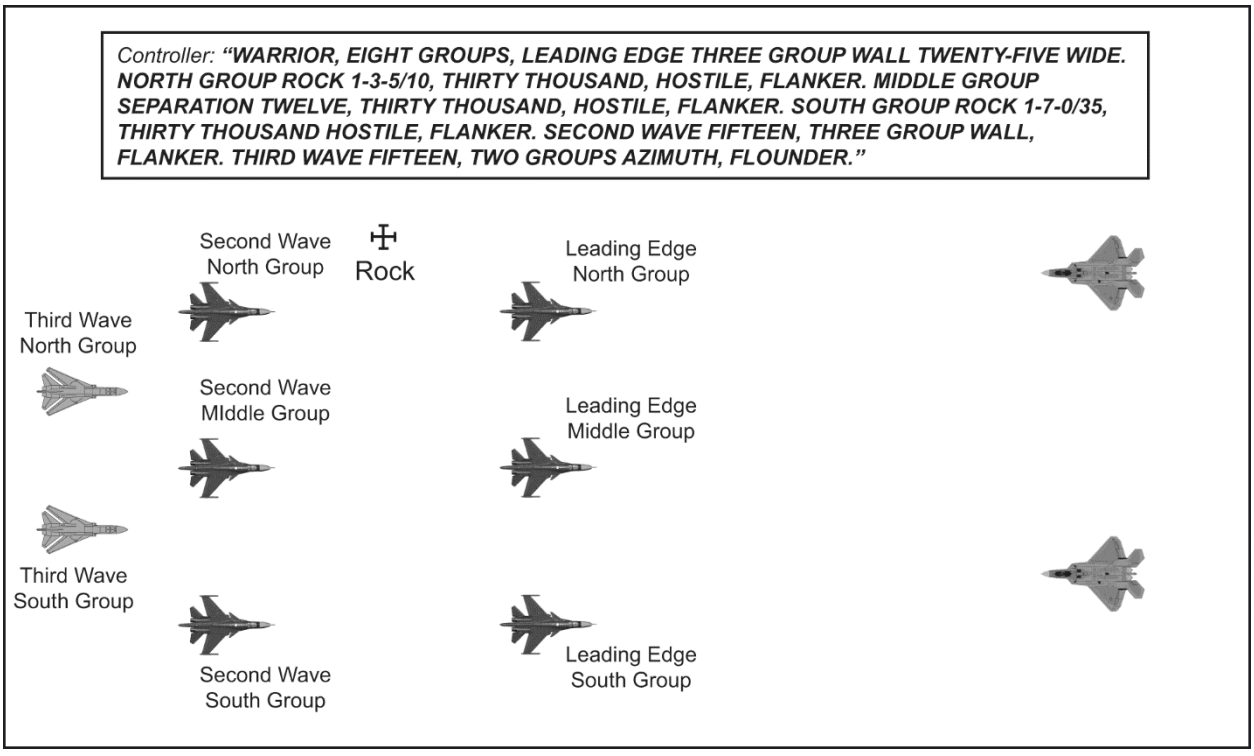


Figure 27. LEADING EDGE example 2

(5) The separation to the SECOND WAVE will be the shortest distance between the LEADING EDGE and the SECOND WAVE, along the threat axis.

(6) When using WAVE communication, the controller should only provide information that is tactically relevant to facilitate targeting and flow decisions for the fighters on the current attack based on communication time available.

(7) Controllers should strive to communicate WAVES maneuvering with "REFORMING," "RECOMMITTING," and "PASSING" communication if applicable.

WAVES PASSING Example
"FOCUS SECOND WAVE PASSING FIRST WAVE."

18. PACKAGE PICTURE Labeling

a. Define bounding limits in mission planning. Some considerations should include:

(1) Bounding limits can be determined based on geographic separation. For example, if executing multi-lane, defensive counterair and the controller is operating in one lane, the controller does not discuss GROUPs in the other lane.

(2) Elements operating outside the predetermined bounding range are not considered operating in a common formation.

PACKAGE Example
"GOLIATH, TWO PACKAGES AZIMUTH SIXTY, NORTH PACKAGE BULLSEYE 0-3-0/45, SOUTH PACKAGE BULLSEYE 1-1-0/55."

b. Within each PACKAGE, there may be a PICTURE that can be labeled.

PACKAGE with a PICTURE Example
"CHALICE, NORTH PACKAGE, TWO GROUPS RANGE TEN, TRACK WEST. LEAD GROUP BULLSEYE 0-4-5/35, TWENTY-FIVE THOUSAND, HOSTILE, TWO CONTACTS. TRAIL GROUP FIFTEEN THOUSAND, HOSTILE, TWO CONTACTS."

c. The GROUP name and PACKAGE name are used when referring to GROUPs, if multiple PACKAGES are being TARGETED.

PACKAGE TARGET Example
"VIPER 2, TARGET LEAD GROUP NORTH PACKAGE."

d. If bounding limits are defined by a known geographic boundary, controllers may use GEOREF to describe the relationship between PACKAGES.

LANE with Truncated PICTURE Example
"GOLIATH, NORTH LANE THREE GROUP CHAMPAGNE."

19. NEW PICTURE

a. Controllers should maintain original labels unless a new label and names will fix or better facilitate targeting. If time compressed when combining a range call and a

picture, controllers will truncate fill-ins and respond comparatively after targeting calls.

b. Controllers may make an abbreviated NEW PICTURE call inside the targeting range if it facilitates fighter targeting. Situations where this may apply include, but are not limited to:

(1) Electromagnetic attack (EA).

(2) Adversary maneuvers.

(3) Newly detected GROUPs.

Abbreviated PICTURE Example

"BARNYARD, NEW PICTURE, TEN GROUPS, LEADING EDGE THREE GROUP CHAMPAGNE."

c. If fighters request a PICTURE inside the targeting range (e.g., fighters clear a merge) controllers should use PICTURE labeling criteria unless the nearest GROUP meets THREAT criteria.

d. Fighters executing COLD operations will request a PICTURE.

e. The term NEW PICTURE will be used when fighters are HOT.

20. ADDITIONAL, POP-UP, and THREAT GROUPs

a. ADDITIONAL GROUP.

(1) ADDITIONAL GROUP is applied to a GROUP that is newly detected outside the targeting range or does not fit a traditional label.

(2) An ADDITIONAL GROUP is anchored using BULLSEYE in accordance with the defined anchoring priorities.

ADDITIONAL GROUP Example

Controller: "MISER, TWO GROUPS AZIMUTH TWENTY. NORTH GROUP BULLSEYE 3-6-0/20, THIRTY-TWO THOUSAND, TRACK WEST, HOSTILE. SOUTH GROUP AT BULLSEYE, EIGHT THOUSAND, TRACK EAST, HOSTILE."

Fighter: "EAGLE 1, ADDITIONAL GROUP BULLSEYE 0-9-0/7, FIVE THOUSAND, TRACK WEST, HOSTILE FLANKER."

(3) If an ADDITIONAL GROUP is part of the LEADING EDGE and the fighters are outside the targeting range, the controller should re-label it as a NEW PICTURE and include the ADDITIONAL GROUP as part of the NEW PICTURE.

(4) If there are multiple ADDITIONAL GROUPs, each ADDITIONAL GROUP is prefaced with a cardinal direction and/or number (e.g., NORTH ADDITIONAL GROUP, FIRST ADDITIONAL GROUP).

b. POP-UP GROUP.

(1) If a previously undetected or unreported GROUP appears inside the targeting range and outside the THREAT range, it is named a POP-UP GROUP.

(2) A POP-UP GROUP is anchored using BULLSEYE in accordance with the defined anchoring priorities.

(3) If there are multiple POP-UP GROUPs, each POP-UP GROUP is prefaced with a cardinal direction and/or number (e.g., WEST POP-UP GROUP, FIRST POP-UP GROUP).

POP-UP GROUP Example

Controller: "DARKSTAR, FIRST POP-UP GROUP BULLSEYE 2-7-0/15, FIVE THOUSAND, TRACK WEST, BOGEY SPADES. SECOND POP-UP GROUP BULLSEYE 3-0-0/20, TEN THOUSAND, TRACK NORTHWEST, BOGEY SPADES."

c. THREAT GROUP.

(1) If an undetected or unreported GROUP meets briefed THREAT criteria, it is named a THREAT GROUP. Controllers should use the BRAA format when issuing a THREAT call to the closest aircraft.

THREAT GROUP Example

Controller: "RAMBO 2, THREAT GROUP BRAA 2-7-0/13, ONE THOUSAND, HOT, HOSTILE."

(2) If there are multiple THREAT GROUPS, each THREAT GROUP is prefaced with a cardinal direction and/or number (e.g., EAST THREAT GROUP, FIRST THREAT GROUP).

Chapter V
AIR-TO-AIR INTERCEPT COMMUNICATION

1. Overview

This chapter establishes a communication format for A/A employment and air intercept control. It governs communication fundamentals, format, and integration between fighters and controllers, independent of MDS or T/M/S. This chapter is the baseline for all A/A communication in training and combat. Service-specific differences are annotated. Refer to the following weapons schools for Service-specific tactics and employment considerations:

a. United States Army Aviation Center of Excellence (USAACE), Fort Novosel, Alabama.

b. Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), Marine Corps Air Station, Yuma, Arizona.

c. Naval Aviation Warfighting Development Center (NAWDC), N7 (TOPGUN), Fallon Naval Air Station, Nevada.

d. United States Air Force Weapons School (USAFWS), Nellis Air Force Base, Nevada.

Note: For this publication, controller is a general term used to define the individual providing tactical control of an intercept or mission. The term fighter is the example used throughout this chapter, but this information applies to any aircraft capable of employing A/A ordnance. Controller and fighter are used independent of platform or Service.

2. Communication Cadence by Intercept Phase

a. The A/A communication cadence establishes the flow of information during different phases of a mission. It ensures fighters receive priority information transmitted by the controller.

(1) Communication priorities shift between controllers and fighters during different phases of an intercept.

(2) Priorities shift based on what asset has the most SA to communicate time-sensitive information.

b. Table 8 outlines the A/A intercept phases and the communication priorities.

Table 8. Air-to-air Intercept Phases and Priority Communicators	
Phase	**Priority Communicators**
1. Pre-COMMIT or MARSHAL	1. Controller. 2. Fighters.
2. Post-COMMIT or PUSH	1. Controller. 2. Fighter.
3. Targeting/Weapons Employment	1. Fighters. 2. Controller.
4. MERGE	1. Engaged Fighter. 2. Supporting Fighters. 3. Controller.
5. Post-MERGE	1. Fighter Clearing a Merge. 2. Supporting Fighters. 3. Controller.

3. COMMIT/TARGET Beyond Visual Range

a. COMMIT Criteria.

(1) During mission planning, COMMIT criteria is determined based on the overall mission objective.

(2) COMMIT criteria considerations are:

(a) Range based (e.g., predetermined range from fighters or a defended asset).

(b) Location based (e.g., enemy assets affecting a strike route).

(c) Threat based (e.g., only COMMIT against certain aircraft types).

(d) Weapon employment based (e.g., allow fighters to employ at their first available employment range).

b. COMMIT Authority.

(1) COMMIT authority is derived from the combatant commander and can be delegated to the MC, TL, FL, or controller based on the theater SPINS/OPTASKLINK.

(2) If only the MC, TL, or FL retain the COMMIT authority:

(a) The entity with delegated COMMIT authority will COMMIT once COMMIT criteria has been achieved.

(b) Any entity (e.g., controller) that does not have delegated COMMIT authority can recommend the COMMIT.

Fighter Authority COMMIT Example

Controller: “TANGO, TEN GROUPS, GROUP ROCK 2-5-0/45, THIRTY-FIVE THOUSAND, TRACK EAST, HOSTILE, RECOMMEND RAPTOR COMMIT.”

Fighter: “RAPTOR COMMIT.”

(3) If only the controller retains COMMIT authority:

(a) The controller should direct the COMMIT once COMMIT criteria has been met.

(b) The MC or TL may only recommend COMMIT.

Controller Authority COMMIT Example
Fighter: “RAPTOR 1, RECOMMEND COMMIT.”
Controller: “TANGO, TEN GROUPS, GROUP ROCK 2-5-0/45, THIRTY-FIVE THOUSAND, TRACK EAST, HOSTILE, RAPTOR COMMIT.”
Fighter: “RAPTOR 1.”

(4) Two-way communication between the fighters and controller is required when a COMMIT is recommended or directed.

(5) If a COMMIT is directed by the fighter, the controller will transition from pre-COMMIT communication standards to tactical control and traditional label or LEADING EDGE PICTURE communication.

Fighter COMMIT Example
Fighter: “RAPTOR COMMIT.”
Controller: “TANGO, TEN GROUPS, LEADING EDGE TWO GROUPS AZIMUTH FORTY, TRACK EAST. NORTH GROUP ROCK 3-0-0/15, THIRTY-FIVE THOUSAND, HOSTILE. SOUTH GROUP ROCK 2-3-0/20, THIRTY-FIVE THOUSAND, HOSTILE. FOLLOW-ON GROUP TWENTY-FIVE.”

4. Tactical (TAC) Range Call

a. Fighters should prebrief the “TAC RANGE” call with controllers.

b. A 60-nm separation from the closest fighter to the closest GROUP is a default.

c. The first to recognize the appropriate separation will make the “TAC RANGE” call using the closest fighter call sign and the closest GROUP name.

TAC Range Example
“EAGLE 11, NORTH GROUP TAC RANGE.”

5. TARGETED

a. Fighters will communicate targeting using the minimum words required while enabling C2 to verify targeting. A fighter that has called “TARGETED” indicates that fighter is maintaining awareness of and responsibility for the specified group.

b. With data link between fighters and C2, the only communications required may be TARGETED and the group label. Without a data link, the targeted call must include location information, preferably BULLSEYE. Without C2, fighters should use minimum communications while enabling the FL to verify targeting.

TARGETED COMMUNICATIONS Examples

Data link enabled to C2: “RAMBO 2, TARGETED WEST GROUP.”

Data link not enabled to C2: “SATAN 2 TARGETED WEST GROUP BULLSEYE 2-7-0/15.”

c. Fighters may include more information if they desire to update or re-emphasize information provided by C2 (e.g., more contacts detected, altitude changes, expected changes to flow or targeting that the FL has not yet communicated). If including more information, fighters will use the format described in core information format.

Core Information Format Example

“RAMBO 2, TARGETED WEST GROUP BULLSEYE 2-7-0/15, TWENTY THOUSAND, HOT, HOSTILE, STRENGTH TWO.”

d. Fighters may combine targeting with shot communication by voicing “FOX” (with a sort, as appropriate) after “TARGETED.”

TARGETING Examples

“RAMBO 2, TARGETED, FOX 3 TWO-SHIP WEST GROUP BULLSEYE 2-7-0/15, TWENTY THOUSAND.”

“RAMBO 2, TARGETED, FOX 3 SORTED EASTERN, WEST GROUP BULLSEYE 2-7-0/15, TWENTY THOUSAND, STRENGTH THREE.”

e. Quality Control (QC) TARGETING. Controllers will respond to targeting calls with QC comparative communication if fighter targeted communication does not correlate to known group, match briefed shot doctrine, or to correct fighter misperception. QC targeting communication updates or corrects core information and fill-ins. If all information provided by the fighter correlates to information available to the controller, no response is provided.

QC TARGETING Example 1

Fighter: “RAMBO 2, TARGETING NORTH GROUP BULLSEYE 2-6-0/20, TWENTY THOUSAND.”

Controller: “VENOM, NORTH GROUP HEAVY, THREE CONTACTS.”

QC TARGETING Example 2

Fighter: “RAMBO 4, TARGETED SOUTH GROUP BULLSEYE 2-2-0/15, THIRTY THOUSAND.”

Controller: “RAMBO 4 TARGETED SOUTH MIDDLE GROUP. SOUTH GROUP BULLSEYE 2-3-0/18, TWENTY-EIGHT THOUSAND, HOSTILE, TWO CONTACTS.”

Note: Not all controller platforms can correlate a J12.6 and shot line. Query the controlling platform during mission planning to evaluate this contract.

f. C2 contracts for the UNTARGETED fill-in and THREAT calls are canceled if a fighter calls “TARGETED” on their targeting responsibility with:

(1) A correlated bullseye; or,

(2) A GROUP name and a J12.6 with lock/shot-line that is correlated to or displayed within 3 nm of the surveillance track. Shots against GROUPS other than the primary targeting responsibility with no “TARGETED” call do not cancel C2 contracts.

6. SHOOT

This is directive communication by fighters for missile employment against a specific GROUP or CONTACT when fighters are targeting another GROUP. This does not imply BANZAI flow to the GROUP or CONTACT and does not invoke fighter targeting responsibility.

SHOOT Example
Fighter: “BOLT 4, SHOOT SOUTHERN SOUTH LEAD GROUP.”

7. DECLARE

a. A DECLARE call is an interrogative call (i.e., request for information) made by either the fighters or controller.

b. Use the following communication format when declaring off of BULLSEYE.

(1) Call sign of asset maintaining custody to the GROUP.

(2) The requesting asset’s call sign.

(3) “DECLARE BULLSEYE.”

(4) Position of the group in the BULLSEYE format.

(5) Altitude.

(6) Track direction (only required to discriminate).

DECLARE Request Example 1
“DARKSTAR, VIPER 1, DECLARE BULLSEYE 2-3-0/12, TWELVE THOUSAND.”

c. When a declaration request is made after the tactical picture has been labeled, the GROUP name can be used instead of the BULLSEYE location.

DECLARE Request Example 2
“CHALICE, HORNET 1, DECLARE EAST GROUP.”

d. DECLARE Response.

(1) Controllers will always respond to a DECLARE request with BULLSEYE, altitude, track direction, declaration, and fill-ins.

(2) DECLARE responses may include: BOGEY, FRIENDLY, NEUTRAL, BANDIT, HOSTILE, FURBALL, UNABLE, CLEAN, or VANISHED.

DECLARE Response Example

"CHALICE, EAST GROUP BULLSEYE 2-7-3/27, TWENTY-TWO THOUSAND, TRACK EAST, BOGEY SPADES."

8. HOSTILE Declaration During Shot Communication

a. If a fighter determines a GROUP HOSTILE, and ROE has been met, the fighter may employ weapons against that GROUP.

b. Fighters should communicate GROUP BULLSEYE, altitude, and HOSTILE in the shot transmission so other fighters and the controller can correlate to each other.

Fighter Declaration/Shot Communication Example

"RAPTOR 1, FOX 3 LEAD GROUP BULLSEYE 1-2-5/27, TWENTY-NINE THOUSAND, HOSTILE."

c. Track direction is included only if it enhances SA.

9. CLEAN

Fighters will call CLEAN if they have no sensor information on a GROUP of interest. If a fighter calls CLEAN on their targeting responsibility, controllers will provide a full positional update or respond with CLEAN, FADED, or VANISHED.

CLEAN Example

"MIKE, EAGLE 11 CLEAN NORTH GROUP."

"MIKE, NORTH GROUP BULLSEYE 2-9-0/35, THIRTY-EIGHT THOUSAND, TRACK EAST, HOSTILE."

10. GROUP Maneuvers

a. Controllers and fighters are responsible to communicate GROUP maneuvers. The three components to each maneuver are:

(1) Recognizing the maneuver.

(2) Communicating the relationship of the maneuver.

(3) Updating GROUP names to aid in fighter targeting, as well as GROUP altitude to include fighter targeting, stacks, change in +/- 5 thousand feet, or a change in fighter sanitization areas.

b. GROUPs maneuver into ARMs. ARMs maneuver into CONTACTs.

(1) Once a maneuver is recognized, it is communicated using the term MANEUVER.

(2) If a maneuver direction can be determined, the controller or fighter will update the maneuver using: own CALL SIGN, GROUP name, and type of maneuver (e.g., BEAM NORTH or DRAG EAST).

GROUP Maneuver Example 1

"DARKSTAR, LEAD GROUP BEAM NORTH."

(3) If a specific aspect is not applicable to all fighters, controllers and fighters should use the TRACK DIRECTION to describe the maneuver.

GROUP Maneuver Example 2
"DARKSTAR, LEAD GROUP TRACK NORTH."

Note: Maneuvers can drive a NEW PICTURE if it is outside targeting range or during COLD operations.

c. AZIMUTH, RANGE, and SPREAD Maneuvers.

(1) Communicate "MANEUVER SPREAD" if a GROUP maneuvers and all CONTACTs remain FLANK/HOT. The intent is to communicate that all CONTACTs are remaining HOT, as depicted in figure 28.

(2) Communicate "MANEUVER RANGE" if a GROUP maneuvers and one CONTACT remains FLANK/HOT, and at least one CONTACT maneuvers BEAM/DRAG. The intent is to communicate that at least one CONTACT in the GROUP is remaining HOT, as depicted in figure 29.

(3) Communicate, "MANEUVER AZIMUTH," if all CONTACTs BEAM/DRAG with no CONTACTs remaining FLANK/HOT. The intent is to communicate that no CONTACTs are remaining HOT, as depicted in figure 30.

(4) Communicate "MANEUVER RANGE AND AZIMUTH" if three or more CONTACTs maneuver in RANGE and AZIMUTH simultaneously while at least one CONTACT(S) remains FLANK/HOT, as depicted in figure 31.

(5) Communicate, "MANEUVER AZIMUTH AND RANGE", if three or more CONTACTs maneuver in AZIMUTH and RANGE, simultaneously, while the CONTACT(S) BEAM/DRAG with no CONTACTs remaining FLANK/HOT, as depicted in figure 32.

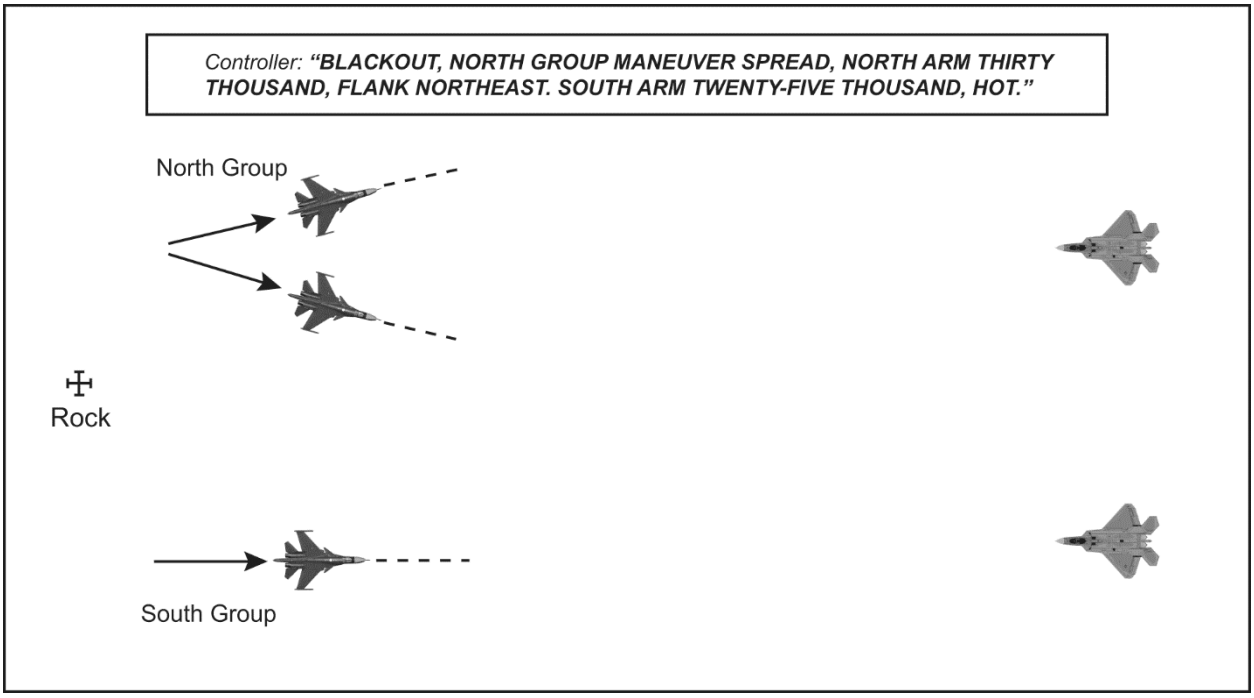


Figure 28. MANEUVER SPREAD

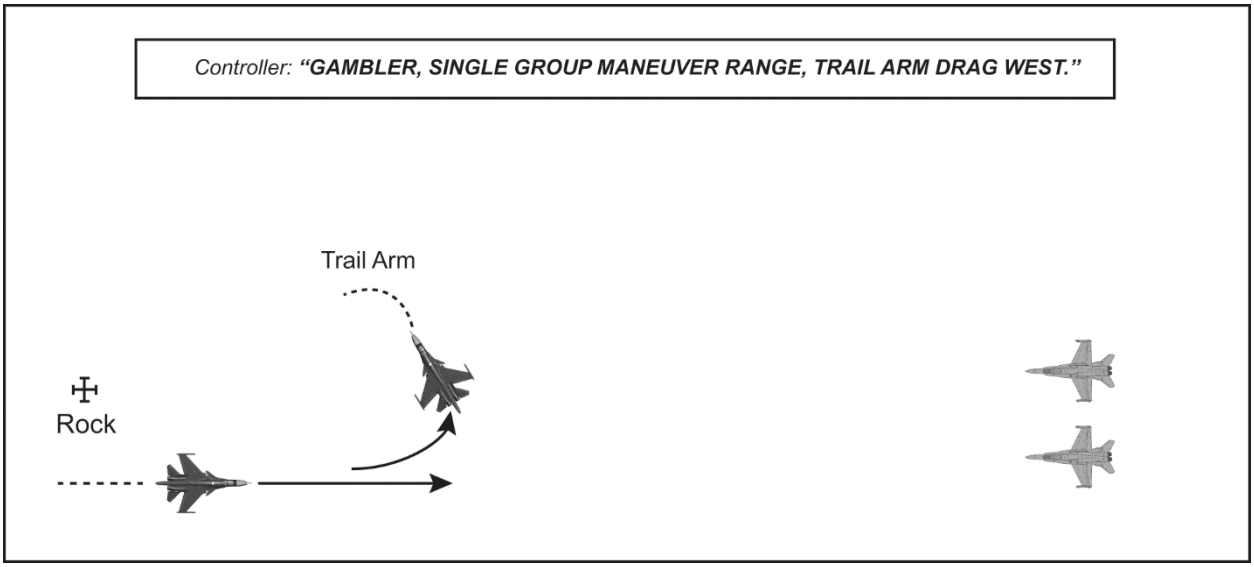


Figure 29. MANEUVER RANGE

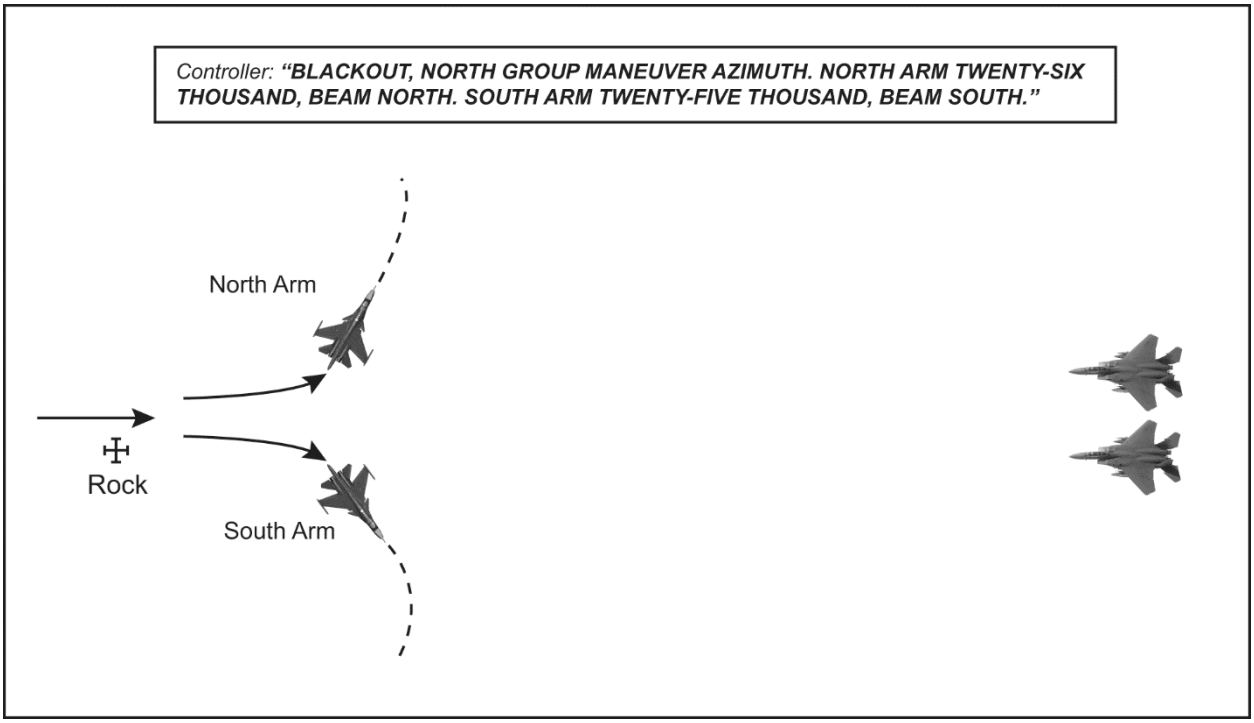


Figure 30. MANEUVER AZIMUTH

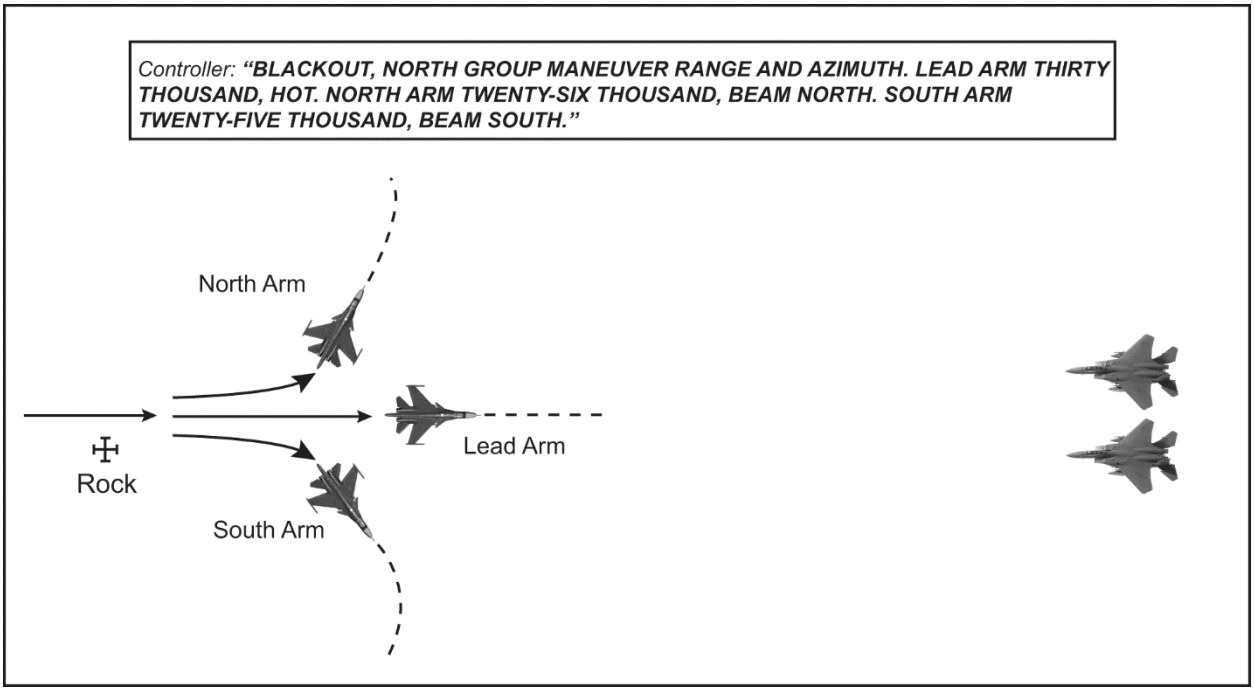


Figure 31. MANEUVER RANGE AND AZIMUTH

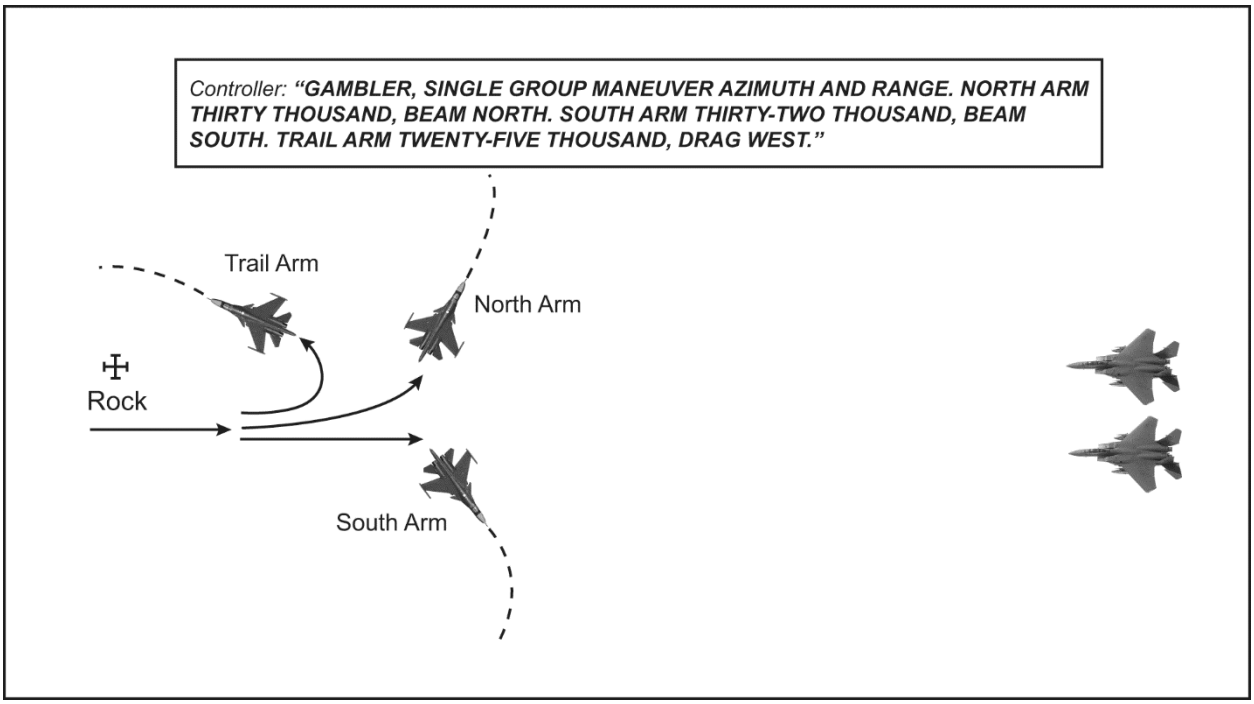


Figure 32. MANEUVER AZIMUTH AND RANGE

(6) As a technique, if a GROUP with three or more CONTACTs maneuvers to a traditional label (e.g., VIC, WALL, or CHAMPAGNE), controllers may communicate a NEW PICTURE to simplify targeting.

d. Changing GROUP names relative to targeting range. Fighter timelines will vary based on MDS and T/M/S and threat capabilities. Prior to any mission, controllers and fighters should ensure they are referring to the same timeline. If controllers and fighters are not able to brief each other, the following concepts and timeline considerations are used as defaults.

(1) Targeting Range. Targeting range refers to the first-time targeting is issued for any fighter in the element or the term TARGETED is communicated on the control NET.

(2) Outside Targeting Range. If maneuvers occur outside the targeting range, controllers may issue a NEW PICTURE.

(3) Inside Targeting Range. If maneuvers occur inside the targeting range, controllers can choose to:

(a) Update each CONTACT with a new name.

(b) Use UNTARGETED for the highest factor GROUP, ARM, or CONTACT not being TARGETED.

(c) Issue targeting per the fighters' targeting game plan.

(d) If it will enhance fighter SA and targeting, controllers (as a technique) may provide an abbreviated NEW PICTURE.

(4) If multiple GROUPs maneuver outside GROUP criteria, fighters and controllers should use the new name (e.g., ARM or CONTACT) and the previous GROUP name (e.g., LEAD GROUP or NORTH GROUP).

ARM Examples
Multiple NORTH ARMS: “DARKSTAR, NORTH ARM LEAD GROUP TRACK NORTH.”
Single NORTH ARM: “DARKSTAR, NORTH ARM TRACK NORTH.”

e. When GROUPs maneuver and their positional relationships affect targeting or flow, use PASSING, CROSSING, or JOINED.

(1) PASSING. PASSING is two or more named GROUPs with a RANGE relationship maneuver to opposite sides in a RANGE relationship. It is an informative call using the GROUP names from the original PICTURE, as depicted in figure 33.

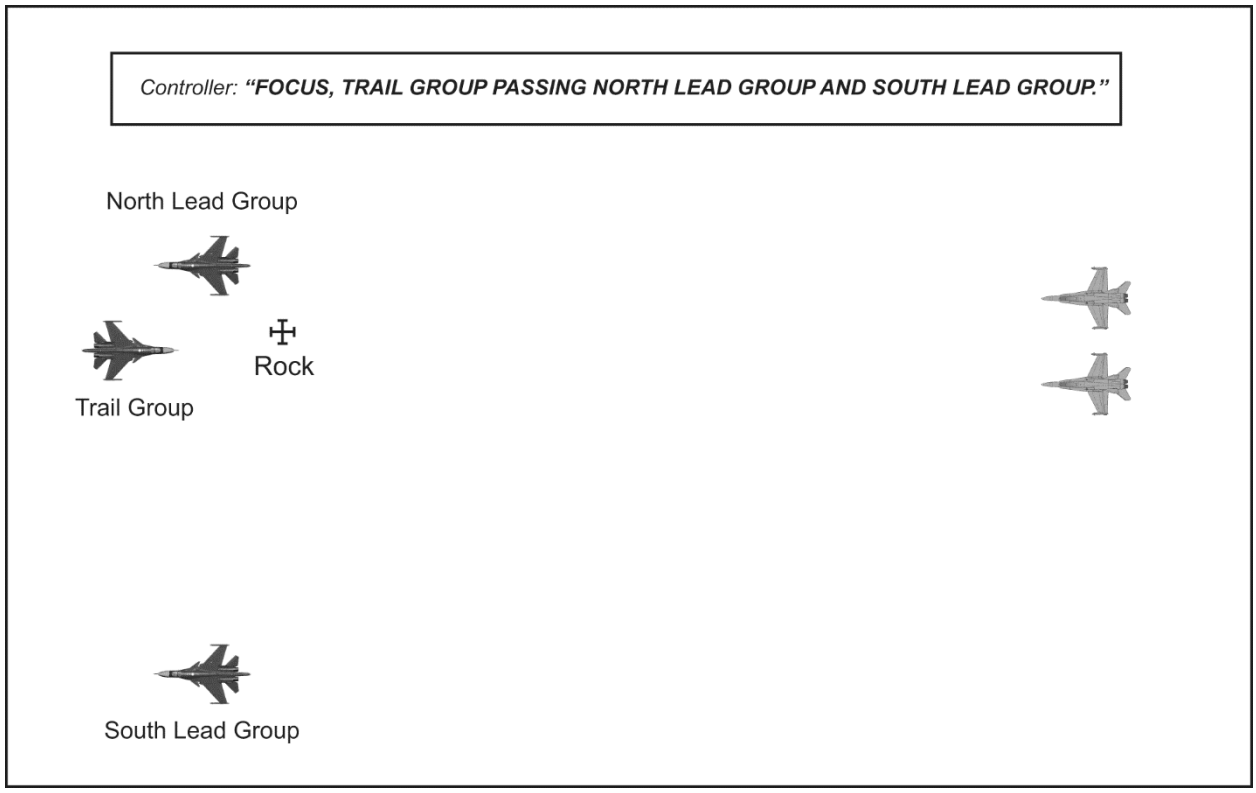


Figure 33. PASSING

(2) CROSSING. CROSSING is two GROUPs with an AZIMUTH relationship maneuver to opposite sides in an AZIMUTH relationship. CROSSING is an informative call using the GROUP names from the original PICTURE, as depicted in figure 34.

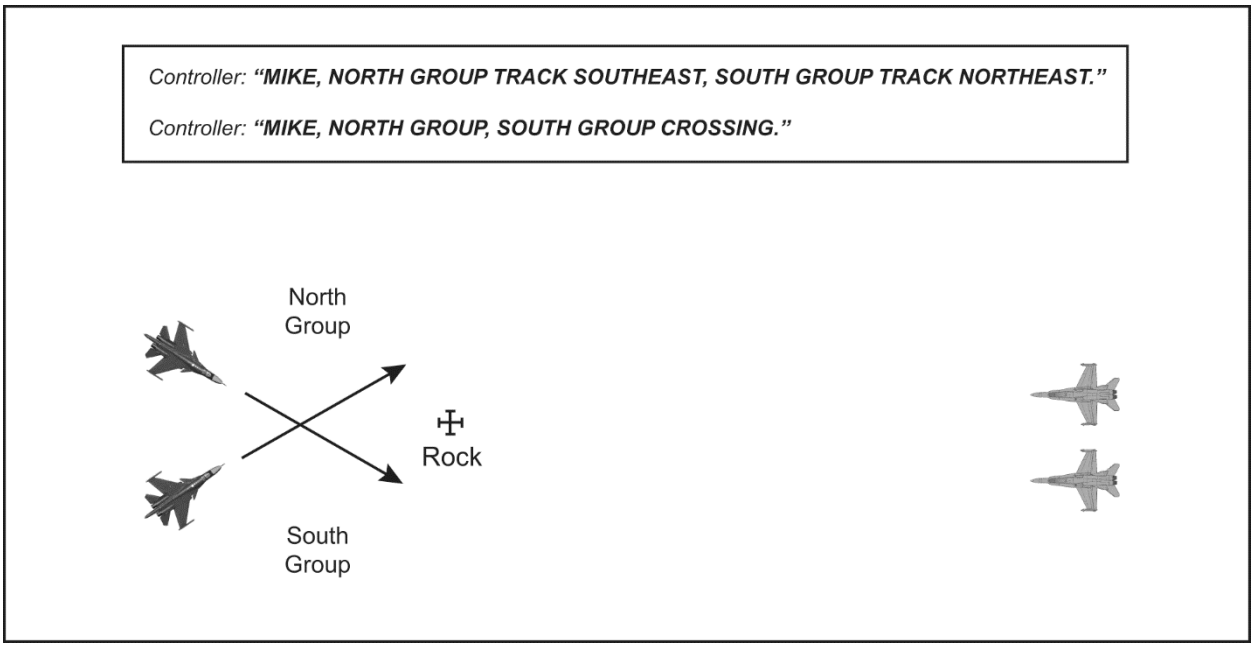


Figure 34. CROSSING

(3) JOINED. JOINED occurs when two or more named GROUPs maneuver to meet and maintain GROUP criteria. The new GROUP label should make sense based on the tactical situation (e.g., based on the new targeting plan), as depicted in figure 35.

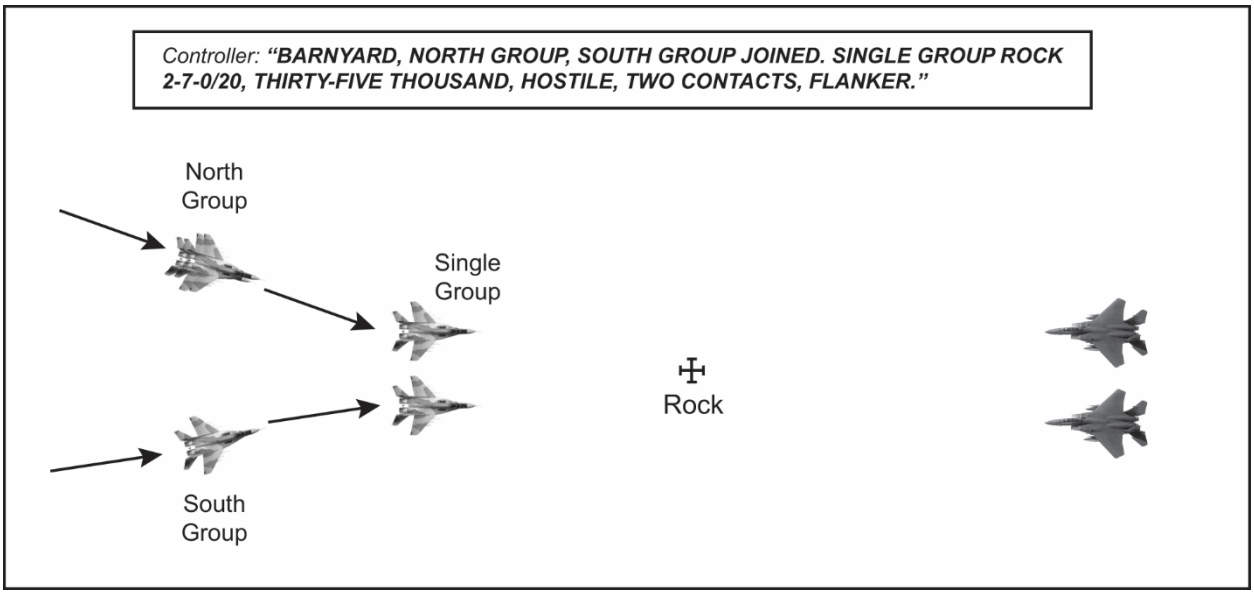


Figure 35. JOINED

11. BOGEY DOPE/BRAA Request

a. BOGEY DOPE is a request for information relative to ownship position on an indicated GROUP or closest GROUP (if not indicated) to build/enhance fighter SA.

b. If fighters are CLEAN to a GROUP and desire a GROUP location relative to ownship, they should request a BRAA/BOGEY DOPE to the GROUP.

BRAA Request Example

"MIKE, EAGLE 11 BRAA NORTH GROUP."

"EAGLE 11, NORTH GROUP BRAA 2-1-0/28, THIRTY-EIGHT THOUSAND, HOT, HOSTILE."

BOGEY DOPE Request Example

"MIKE, EAGLE 11 BOGEY DOPE NORTH GROUP."

"EAGLE 11, NORTH GROUP BRAA 2-1-0/28, THIRTY-EIGHT THOUSAND, HOT, HOSTILE."

c. Controllers will respond using the BRAA format and add appropriate fill-ins.

BOGEY DOPE Example

"WARRIOR, EAGLE 1 BOGEY DOPE."

"EAGLE 1, FIRST ADDITIONAL GROUP BRAA 1-2-0/38, THIRTY-FIVE THOUSAND, HOT, HOSTILE."

d. BOGEY DOPE does not imply fighter targeting.

12. Electromagnetic Attack (EA)

a. STROBE. Controllers will respond to STROBE calls with range, altitude, aspect (HOT assumed), declaration, and GROUP name (if applicable) to the closest GROUP along that line of bearing.

STROBE Example

Fighter: "RAMBO 1, STROBE 3-6-0" or "RAMBO 1, STROBE LEAD GROUP."

Controller: "RAMBO 1, STROBE RANGE THIRTY-SEVEN, TWENTY-FIVE THOUSAND, HOSTILE, LEAD GROUP."

b. MUSIC.

(1) MUSIC is an informative call that fighters are experiencing radar electromagnetic deceptive jamming from a GROUP.

(2) Controllers will respond to MUSIC calls by anchoring the GROUP off BULLSEYE and providing the altitude, track direction, declaration, and fill-ins.

MUSIC Example

Fighter: "HEAT 1, MUSIC EAST GROUP."

Controller: "BARNYARD, EAST GROUP, BULLSEYE 2-1-0/15, TWENTY-FIVE THOUSAND, TRACK EAST, HOSTILE, TWO CONTACTS LINE ABREAST THREE."

Note: If controllers cannot correlate STROBE +/- 30 degrees to a GROUP, they should respond with CLEAN. This indicates the contact may be below the controller sensor coverage or may be a ground-based jammer.

c. METALLICA.

(1) This is an informative call to communicate EA is preventing fighter employment on a specific GROUP.

(2) Controllers are not required to respond to METALLICA.

(3) METALLICA does not alleviate fighter targeting responsibility for a GROUP.

METALLICA Example
Fighter: “PYTHON 2, METALLICA LEAD GROUP.”

13. SPIKE

a. Fighters call SPIKED with a bearing or cardinal/sub-cardinal direction.

(1) The controller should correlate the SPIKE ±30 degrees of the bearing to a detected GROUP.

(2) If multiple GROUPs correlate, controller should voice the highest priority GROUP.

(3) Respond with the range, altitude, aspect (HOT assumed), declaration, GROUP name (if applicable), and fill-ins.

SPIKED Example 1
Fighter: “EAGLE 1, SPIKED 2-7-0.”
Controller: “EAGLE 1, SPIKE RANGE 17, THIRTY THOUSAND, HOSTILE EAST GROUP, TWO CONTACTS.”

b. If a controller cannot correlate any GROUP along the aircraft’s SPIKE bearing or cardinal direction, controllers will respond with CLEAN and the bearing of the SPIKE.

SPIKED Example 2
Fighter: “EAGLE 1, SPIKED 2-7-0.”
Controller: “EAGLE 1, WARRIOR CLEAN 2-7-0.”

14. ENGAGE/MERGE

a. Controllers should refer to fighters as MERGED when the resolution capabilities of the controller systems become limiting factors or when fighters are within 3–5 nm of a GROUP, or if a fighter calls ANCHORED (GROUP name) or STANDBY (GROUP name).

b. Controllers should talk to a MERGED fighter for:

(1) Fighter requests.

(2) THREAT calls.

(3) TRESPASS calls.

(4) STRENGTH disparity (e.g., comparative communication).

(5) Update fighter flow direction to follow on GROUPs (if required).

c. ANCHORED or STANDBY calls should include the BULLSEYE location, if the GROUP does not have a name.

ANCHORED Example
Fighter: “RAPTOR 1, STANDBY SOUTH GROUP” or “RAPTOR 1, ANCHORED BULLSEYE 1-7-0/50.”

d. SEPARATION.

(1) SEPARATION is a fighter request or C2 enhancing call to provide the distance (nm) between two GROUPs or WAVEs.

(a) It is used when a fighter is ANCHORED.

(b) SEPARATION request implies it is from the current ANCHORED GROUP to the requested GROUP, if not specified.

(2) In the SEPARATION response, controllers should use their call sign followed by the follow-on GROUP or WAVE’s SEPARATION, altitude, and fill-ins.

(3) Controllers may use RANGE SEPARATION or AZIMUTH SEPARATION, if the tactical relationship between GROUPs changed and the controller did not have the ability to make a NEW PICTURE call.

15. COLD Operations

a. Fighters should communicate COLD operations with either “FLOW COLD” or FLOW with a COLD heading.

FLOW Example
“EAGLE, FLOW COLD.” or “EAGLE, FLOW 0-9-0.”

b. Communication priorities are as follows:

(1) SPIKES (from unexpected bearing).

(2) RANGE BACK calls.

(a) RANGE BACK is an informative or interrogative call to communicate the distance (nm) from the closest friendly aircraft to the closest GROUP, ARM, or CONTACT measured parallel to the fight axis.

(b) Controllers will voice “RANGE BACK” during COLD operations or “launch and leave” operations once fighters are established COLD.

(c) Controllers will maintain PICTURE labels to the maximum extent to facilitate fighter targeting.

(3) FADED or POP-UP GROUPs inside of launch and decide targeting depth.

(4) DELOUSE or directive targeting.

(5) PICTURE.

(6) Fighter targeting game plan.

COLD Operations Example

Fighter: “DICE FLOW 1-9-0.”

Controller: “DICE 4, FOCUS, RANGE BACK THIRTY-FIVE ADDITIONAL GROUP.”

Fighter requested RANGE BACK Example

Fighter: “FOCUS, DEMON 1 SAY RANGE BACK.”

Controller: “DEMON 2 RANGE BACK SEVENTEEN GROUP BULLSEYE 0-5-0/20, THIRTY-EIGHT THOUSAND, TRACK SOUTHWEST, HOSTILE.”

16. Fighters in Depth

a. Applies when elements are executing an “OUT” and subsequent “IN” or “HOT;” all communications will comply with the briefed priorities and occur on the primary frequency.

b. Continue to update the PICTURE with fighters operating in depth, while meeting the priorities listed below:

(1) Controllers should maintain the original labels unless a new label and names will fix or better facilitate targeting.

(2) If time is compressed when combining a range call and a PICTURE, controllers will truncate fill-ins and respond comparatively after targeting calls.

(3) Communication priorities are as follows:

(a) Any SPIKE responses.

(b) PICTURE or BOGEY DOPE to the “IN” or “HOT” element.

(c) Assist in gaining mutual support (as required).

17. THREAT Call

a. If a fighter will pierce the THREAT range to an UNTARGETED GROUP, a THREAT call is made using the GROUP name, bearing or cardinal/sub-cardinal direction, range, altitude, and aspect, followed by declaration and fill-ins.

b. The THREAT call is completed no later than threat range.

c. THREAT criteria is defined during mission planning and relayed during the brief or check-in with the controller.

(1) Controllers should use 35 nm, independent of aspect, as a default THREAT criteria.

THREAT Example

Controller: “HEAT 31, ADDITIONAL GROUP THREAT, BRAA 1-2-5/35, THIRTY-FIVE THOUSAND, HOT, HOSTILE.”

(2) If the exact fighter location is not known, or the THREAT pertains to multiple fighters, THREAT information may be provided using BULLSEYE.

(a) BULLSEYE will immediately follow the word THREAT.

(b) If a fighter receives a THREAT BULLSEYE call, the fighter should respond with own call sign.

Note: When communicating with US Army or US Marine Corps rotary-wing aircraft and UAS, pass surface threat information in MGRS. Attempt to provide at least a six-digit grid.

THREAT with BULLSEYE Example

Controller: “COBRA 1, CHALICE, NORTH GROUP THREAT, BULLSEYE 2-9-5/26, TWENTY THOUSAND, TRACK WEST, HOSTILE.”

(3) When a THREAT is within 5 nm of FRIENDLY fighters, controllers may provide THREAT information using the cardinal direction, range, altitude, track direction, and declaration.

THREAT within 5 nm Example

Controller: “BOLT 1, THREAT NORTH THREE, TEN THOUSAND, TRACK SOUTH, HOSTILE.”

(4) If a fighter calls TARGETED or acknowledges directive targeting, contracts for UNTARGETED and THREAT calls are cancelled.

d. Cross-court THREAT.

(1) A cross-court THREAT is a GROUP that is TARGETED by one fighter but meets THREAT criteria to another.

(2) For example, when operating outside a visual formation, the controller may give a THREAT call to a GROUP that is TARGETED by another fighter within the element.

(a) Fighters may use the term HEADS UP to other flights or elements when TARGETED GROUPs maneuver and appear to meet THREAT criteria to the other flight or element.

(b) Controllers may add TARGETED BY as fill-in information in the THREAT call, if applicable, as depicted in figure 36.

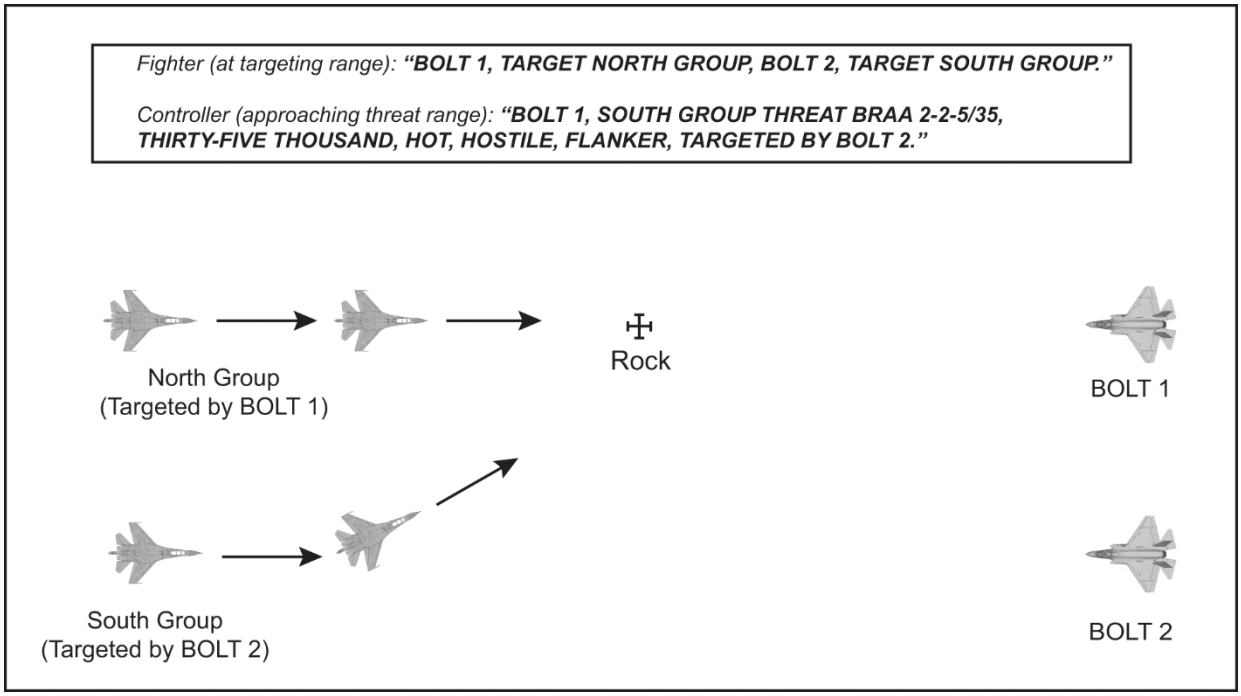


Figure 36. Cross-court THREAT Call

e. Stern weapon engagement zone (WEZ) threat. Threat stern WEZ ranges vary greatly between enemy missiles and should be specified for each threat platform in scenario based on current intelligence community assessments. During COLD operations, fighters in depth, or situations of detached mutual support when a friendly element indicates a COLD flow (via EXIT, OUT, ABORT, COLD, or FLOW) in relation to the enemy, the controller will use threat ranges determined during mission planning.

18. FADED or VANISHED

a. FADED.

(1) If a previously tracked GROUP is not updated by on- or off-board sensors for 30 seconds, a controller will report the GROUP as FADED, as depicted in figure 37.

(2) If a status of the FADED GROUP/CONTACT(S) is requested or if a "PICTURE/NEW PICTURE" call is made within 1 minute of the fade, controllers will reference the last sensor return with BULLSEYE position and number of contacts. If the contact was continuously tracked by a fighter after the controller lost contact on the group, the last fighter location will be used in the "FADED…LAST KNOWN" call. Otherwise, controllers will respond with "CLEAN" and "[number of] CONTACTs FADED."

PICTURE within 1 Minute of Fade Example

"VENOM, TWO GROUPS AZIMUTH EIGHT, NORTH GROUP BULLSEYE 2-7-0/30, TWENTY-THREE THOUSAND, HOSTILE, SOUTH GROUP TEN THOUSAND, HOSTILE…SINGLE CONTACT FADED BULLSEYE 2-8-0/45, TRACK EAST, BEAR."

PICTURE Last Known Location Example

"VENOM, TWO GROUPS AZIMUTH EIGHT, NORTH GROUP BULLSEYE 2-7-0/30, TWENTY-THREE THOUSAND, HOSTILE, SOUTH GROUP TEN THOUSAND, HOSTILE…SINGLE CONTACT FADED LAST KNOWN BULLSEYE 2-8-0/45, TRACK EAST, BEAR."

PICTURE Single Contact Fade from Multiple Contact Group

"VENOM, NORTH GROUP NOW SINGLE CONTACT ONLY. ONE CONTACT FADED BULLSEYE 2-7-0/30, TRACK EAST."

(3) In response to a PICTURE request, controllers will report "1," "2," or "multiple" contacts FADED, as appropriate.

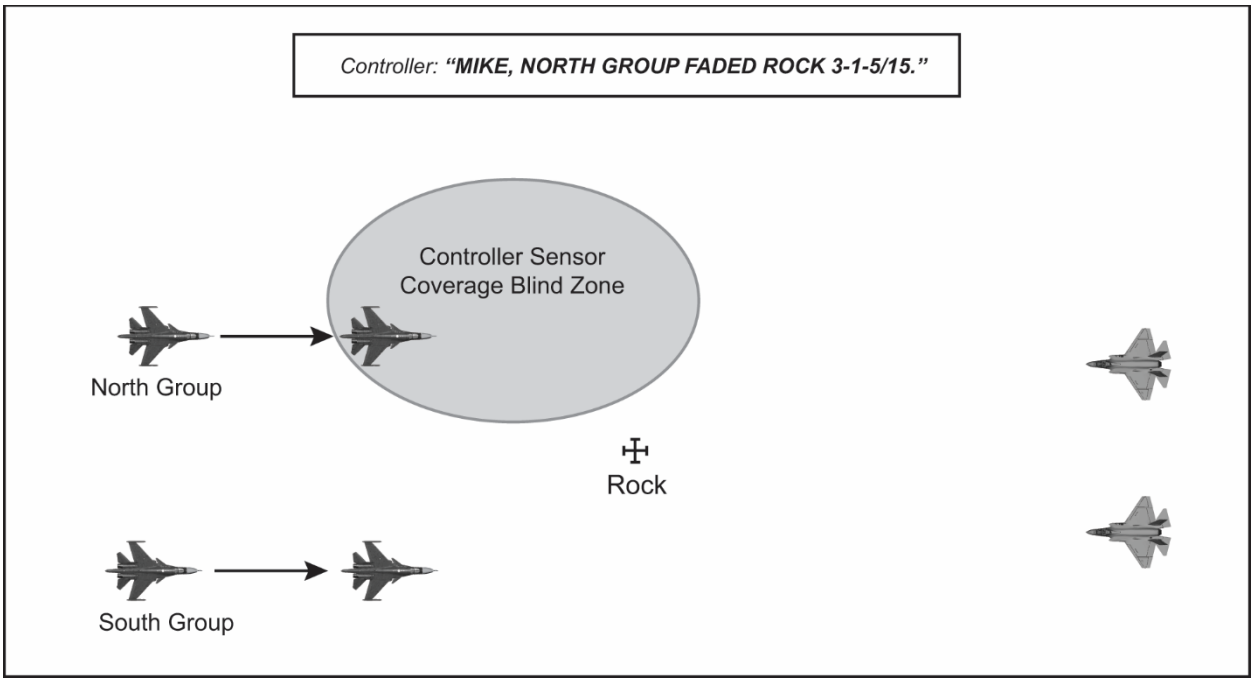


Figure 37. FADED

FADED Example

Fighter: "BARNYARD, PYTHON 1, PICTURE" (requested more than 1 min after fade).

Controller: "BARNYARD, SINGLE GROUP AT BULLSEYE, THIRTY THOUSAND, HOSTILE, BARNYARD TWO CONTACTS FADED."

Note: Controllers should not anchor a group previously FADED if the elapsed time from when the group FADED exceeds 1 minute due to system limitations and degradations in sensor SA.

(4) Fighters will maintain MONITOR responsibility for the GROUP that has been voiced “FADED” by controllers, if the fighters can maintain correlation.

Note: FADED will not be used to describe FRIENDLY aircraft. Controllers will use NEGATIVE CONTACT to report a lack of sensor data on FRIENDLY aircraft.

b. NEGATIVE CONTACT. If a friendly aircraft is within a known TAC C2 sensor blind zone or “NEGATIVE CONTACT” was previously voiced by TAC C2 to a call sign, any pilot requesting range information (e.g., SPIKE, STROBE, BOGEY DOPE, etc.) will preface their request with ownship’s BULLSEYE.

NEGATIVE CONTACT EXAMPLE

Fighter: “BARNYARD, HOSS 01, BOGEY DOPE SOUTH GROUP.”

Controller: “HOSS 01, BARNYARD, NEGATIVE CONTACT.”

c. VANISHED. VANISHED is a special case of FADED. If a previously tracked GROUP is not updated by on- or off-board sensors, a controller will report the GROUP as VANISHED, if it meets the following criteria:

(1) It is not in a known blind zone (terrain masking or Doppler blind zone).

(2) It is correlated to a shot, by FRIENDLY forces, that meet parameters for successful termination, as depicted in figure 38.

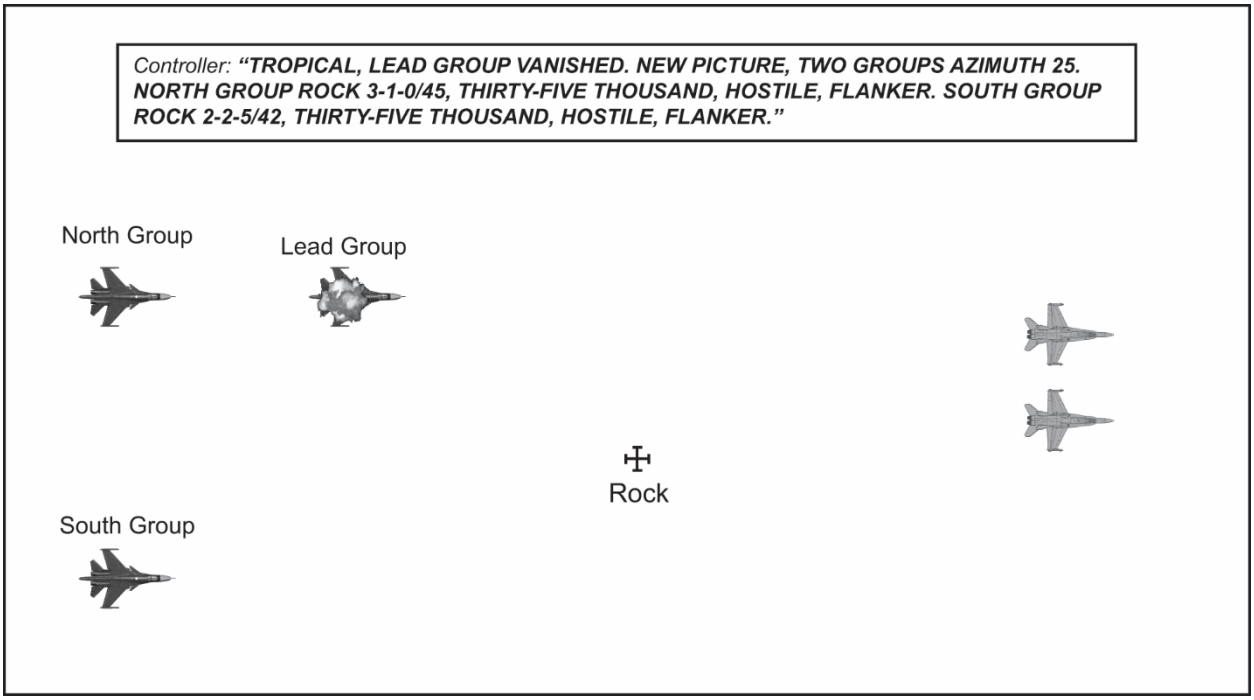


Figure 38. VANISHED

Note: In training, when GROUPs are called DEAD by a range training officer (RTO) or a GROUP acknowledges a KILL call/KILL removes, controllers will use VANISHED in response to DECLARE/STATUS requests and updated PICTURES to prevent erroneous targeting.

The RTO should respond to requests on dead aircraft with DEADMAN. If a GROUP has alive and dead CONTACTs, update the number of CONTACTs in the GROUP counting only those that are alive.

19. SNAPLOCK

If fighters gain sensor SA to a group inside the THREAT range with BEAM or hotter aspect, fighters should make a SNAPLOCK call.

a. During the SNAPLOCK call, BRAA and aspect are implied due to the reduced timeline to identify and attrite the threat.

b. The controller should respond to a SNAPLOCK call with the GROUP name, BRAA, declaration, and fill-ins.

c. If the GROUP was not previously detected, it is named THREAT GROUP.

SNAPLOCK Example

"FREEDOM 31, SNAPLOCK 1-2-5/10, EIGHT THOUSAND."

"FREEDOM 31, THREAT GROUP BRAA 1-2-5/10, EIGHT THOUSAND, HOT, HOSTILE, TWO CONTACTS."

20. LEAKER

a. A LEAKER is an airborne threat that has passed through a defensive layer.

b. LEAKER can be communicated by fighters or controllers.

c. The entity making the LEAKER call should use own call sign.

LEAKER Example

VIPER 1: "VIPER 1, LEAKER BULLSEYE 3-0-5/65, FIVE THOUSAND, TRACK SOUTH, HOSTILE TWO CONTACTS."

21. LANE CROSSERS and LANE RIDERS

a. A LANE CROSSER is a GROUP that maneuvers into different areas of targeting responsibility.

b. A LANE RIDER is a GROUP that maintains a track direction on or near the line that divides different areas of targeting responsibility.

c. During mission planning, fighters and controllers should identify whether a LANE CROSSER/LANE RIDER is TARGETED via integrated fires or, organically, by the fighters in the lane.

(1) There is increased communication required between the controllers of both targeting lanes to facilitate fighter targeting or integrated fires.

(2) The controller should use the fill-ins LANE CROSSER/LANE RIDER and TARGETED BY to describe who is targeting the GROUP.

(3) TARGETED BY fill-ins can be added during the PICTURE call or as a descriptive update.

LANE RIDER Example
Example 1, Controller (as a descriptive update): “BLACKOUT, NORTH GROUP LANE RIDER TARGETED BY HORNET.”
Example 2, Controller: “BLACKOUT, NORTH GROUP LANE RIDER TARGETED BY NORTH LANE.”

(4) Fighters in the lanes can direct targeting a LANE CROSSER/LANE RIDER or the controller or fighters can delegate this targeting authority to the controller.

(5) When operating in a multiple lane construct, the controller should incorporate LANE CROSSERS and LANE RIDERS in the PICTURE call, as depicted in figure 39.

(6) Controllers in the adjacent lanes may include the same GROUP into their PICTURE call. Controllers are responsible to coordinate targeting to avoid double targeting.

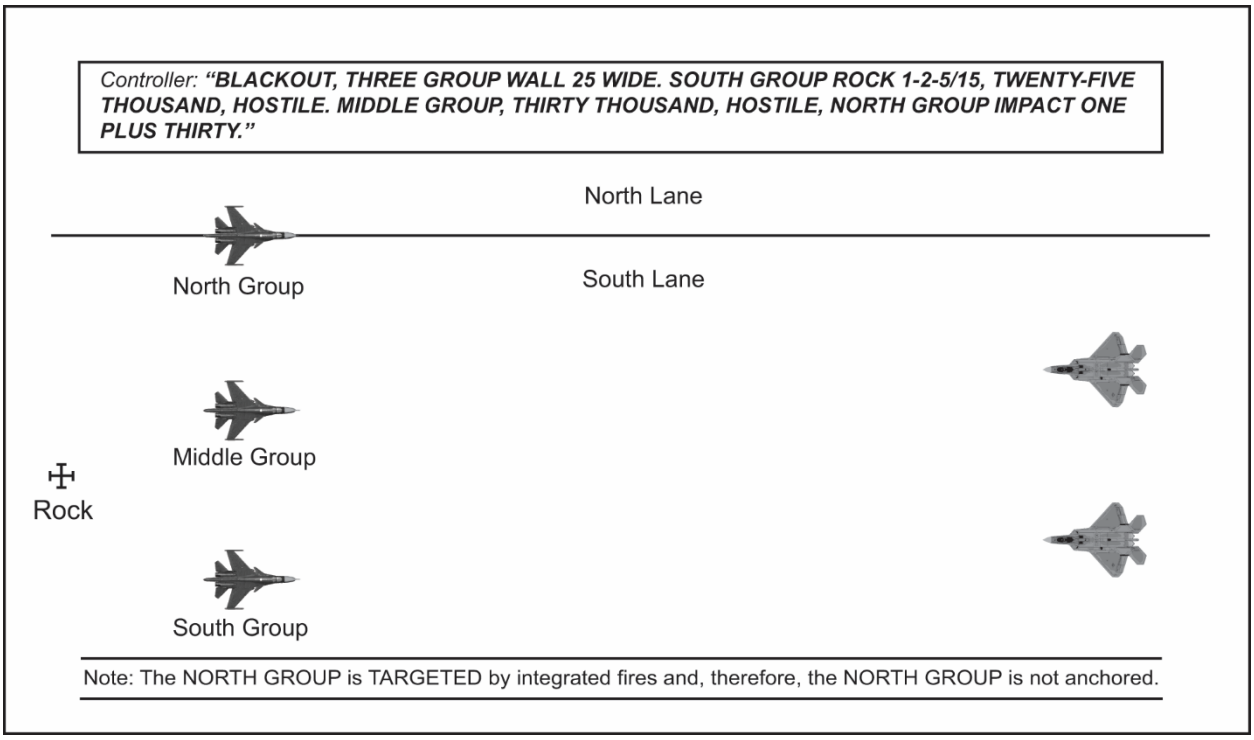


Figure 39. LANE RIDER

22. CMD PICTURE

a. When referring to positively identified cruise missiles, the terms “GROUP” and “CONTACT” will be replaced with “COVEY” and “QUAIL,” respectively. Use of “ARM” will remain the same. PICTURE priorities will be briefed in mission planning and may change based on mission parameters.

b. Inter-covey formation will always be included as core information.

c. If a traditional label does not apply based on the threat presentation, then controllers should use LEADING EDGE communication with the following changes:

(1) The controller should communicate the total number of COVEYs prior to communicating the LEADING EDGE. The LEADING EDGE comprises all COVEYs within the mission planned targeting depth.

(2) LEADING EDGE data will include the number of COVEYs, the azimuth and depth, the geographical relationship mirroring inter-GROUP labels if able, weight, and the total number of QUAIL, followed by core data to the priority COVEY.

CMD Example

"BARNYARD, TWO COVEYS RANGE FIFTEEN. LEAD COVEY BULLSEYE 0-3-2/32, FIVE THOUSAND, HOSTILE, HEAVY, FOUR QUAIL, LINE ABREAST FIVE. TRAIL COVEY FOUR THOUSAND, HOSTILE, TWO QUAIL, SWEPT NORTHWEST."

"BARNYARD, EIGHT COVEYS. TWO WAVES, LEADING EDGE SIX COVEYS, TWELVE DEEP, FIFTEEN WIDE, WEDGE, WEIGHTED NORTH. LEAD COVEY BULLSEYE 3-3-2/32, FOUR THOUSAND, HOSTILE, SECOND WAVE TWENTY."

d. A 35-nm separation from the closest fighter to the closest COVEY is the default tactical range call.

e. CLOSE CONTROL. If a fighter requests CLOSE CONTROL, C2 will direct vectors to put the fighter on a HOT aspect to the COVEY specified in the request or the closest COVEY if no COVEY was requested. C2 will provide the COVEY's location using the BOGEY DOPE format following the initial vectors. C2 will provide only bearing and range after subsequent vectors. C2 will transition to tactical control at the TARGETED call or at the GO TACTICAL call.

CLOSE CONTROL Example

Fighter: "RAMBO 4, REQUEST CLOSE CONTROL NORTH COVEY."

Controller: "RAMBO 4, REFERENCE 0-4-4. NORTH COVEY BRAA 3-1-7/17, FOUR THOUSAND FLANK EAST, HOSTILE."

Controller: "RAMBO 4, HARD LEFT, REFERENCE 2-8-0. NORTH COVEY BRAA 2-8-0/15."

Fighter: "RAMBO 4, TARGETED NORTH COVEY, FOUR THOUSAND."

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Chapter VI
AIR-TO-SURFACE COMMUNICATION

1. Overview

This chapter establishes a communication format for air-to-surface (A/S) employment. It governs communication fundamentals, format, and integration between aircraft and controllers, independent of MDS or T/M/S. For interflight communication, refer to the appropriate MDS- or T/M/S-specific manual. Refer to the following weapons schools for Service-specific tactics and employment considerations:

a. USAACE, Fort Novosel, Alabama.

b. MAWTS-1, Marine Corps Air Station, Yuma, Arizona.

c. NAWDC, N7 (TOPGUN), Fallon Naval Air Station, Nevada.

d. USAFWS, Nellis Air Force Base, Nevada.

Note: For this publication, controller is a general term used to define the individual providing tactical control of an intercept or mission. The term aircraft is a general term for air assets executing an A/S mission. Controller and aircraft are used independent of platform or Service.

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2. A/S Tasking Serialization

A/S taskings are passed from controllers to aircraft. During a high operation tempo, multiple A/S taskings may be passed. Therefore, it is advantageous to use serialization. Serialization is a system for assigning unique codes to simplify communication. It can use letters, numbers, or symbols to identify a large set of information. Serialization is applied to each task in the order of creation and does not imply priority or confidence.

a. Plan for the mission to include the A/S tasking serialization technique.

b. The labeling convention should use the ATO day and two-digit numeric sequencing. For example:

(1) AA01 is the first task of ATO day AA.

(2) This designator should precede the tasking message.

(3) Digital messages should end with “EOM” meaning “end of message.” This indicates receipt of all digital message data (e.g., “[aircraft call sign] AA01 [tasking message text] EOM”).

3. A/S Tasking Format

A/S taskings can be passed as full or partial digital or voice.

a. Taskings should pass the minimum information required to accomplish the mission safely and efficiently.

b. Taskings should include the following information, when applicable.

(1) Call sign of the tasked asset.

(2) Task type (e.g., TARGET, INVESTIGATE, or SMACK). See table 5 for data link mission assignments (page 11).

(3) Link 16 track number and target description.

(4) Desired point of impact (DPI) in the requested format or formatted in accordance with the SPINS (e.g., MGRS or latitude (DDMM.MMM), longitude (DDDMM.MMM), elevation (mean sea level or height above ellipsoid)).

(5) Target location error (TLE) or categories (CATs) 1–6. This segment may be repeated for targets with more than one DPI.

(6) Quantity (Q), number (N), and application [per (P) or total (T)] for each DPI. Per (P) is used with multiple DPI target sets and total (T) is used if only one DPI is shown.

(7) Remarks. These can include mission priority, additional target description for INVESTIGATE or TARGET tasks, and coordinating data for other missions assigned to the package (i.e., BULLSEYE for escort).

c. Taskings may be passed in the description, location, elevation, remarks/restrictions (DLER) format, as depicted in table 9.

Table 9. Description, Location, Elevation, Remarks/Restrictions (DLER) Attack Briefing Format

Information	Description
Description	May include target type, size, description, and other amplifying data.
Location	Format must be compatible with the receiving asset system. Options include Global Area Reference System, latitude and longitude, talk-ons, and BULLSEYE.
Elevation	Given in feet mean sea level.
Remarks/Restrictions	Include deconfliction measures, ordnance, final attack heading, and time on target (TOT) windows, as required. List restrictions.

4. Full Digital Taskings (J28.2 and J12.0 Tasking Against J3.X Track)

a. If a response is desired, controllers should start the tasking process by communicating CHECK DATA.

b. J28.2 is the assumed data source unless the controller specifies another.

Full Digital Tasking Example

Controller: “BONE 1, STRIKESTAR, CHECK DATA, ALPHA ALPHA 0-1.”

J28.2 message: BE01//AA01//TGT//160/10//JS010//TANKS//CAT4//EOM

Aircraft: “STRIKESTAR, BONE 1, GOOD DATA, ALPHA ALPHA 0-1.”

Controller: “BONE 1, COMEBACK WITH ETA, TOT, AND BDA.”

c. Controllers should use all available J-series messages, even if the tasked asset is TIMBER SOUR or not Link 16 capable. This serves to increase force package SA on the operating area taskings.

5. Full Voice Taskings

Full Voice Tasking Example
Controller: "HORNET 1, SABRE, TARGET TASKING TO FOLLOW. TARGET SET IS THREE VEHICLE CONVOY EASTBOUND, QUADRANT ONE IN THE VICINITY OF MAIN SUPPLY ROUTE EVERGREEN/ASR ATLANTIC INTERSECTION, 11S QR 123 456, ELEVATION 150 FEET MSL, REMAIN IN QUADRANT ONE."
Aircraft: "HORNET 1, COPIES 11S QR 123 456, 150 FEET, THREE VEHICLE CONVOY EASTBOUND, REMAIN IN QUADRANT ONE."
Controller: "HORNET 1, READBACK CORRECT. CONFIRMED ENEMY TANKS IN THE OPEN. COME BACK WITH ETA, TOT, AND BDA."

6. Partial Digital Taskings (Voice and J12.0 Tasking Against J3.X Track)

a. For taskings with a J3.3 or J3.5 message only, use a modified voice format.

Partial Digital Tasking Example
Controller: "HOSS 1, SABRE, TASK ALPHA ALPHA 0-1. TARGET BULLSEYE 1-6-0/10, TRACK NUMBER JS010, CAT IV. CALL READY REMARKS."
Aircraft: "HOSS 1, CAPTURED JS010. READY REMARKS ALPHA ALPHA 0-1."
Controller: "HOSS 1, CONFIRMED ENEMY TANKS IN THE OPEN, COME BACK WITH ETA, TOT, AND BDA."

b. If a tasked asset is HOLLOW for the J3.3 or J3.5 message, pass full voice tasking.

7. Read Backs

Theater or exercise guidance should specify the required read back. In the absence of direction, the following read-back formats for full and partial digital and voice are listed from least restrictive and least radio time to the most restrictive and most radio time.

a. WILCO digital response to J12.0.

b. Voice response with task type and location (e.g., BULLSEYE, J3.5 track number, or coordinates).

c. Voice response with task type, coordinates, elevation, and remarks.

8. Ground/Surface Threat Picture Communication

a. Common Tactical Ground Picture. The signals intelligence (SIGINT) ID authority is responsible for maintaining accuracy of the common tactical ground picture based on emitter or ROTATOR information as well as resolving any emitter ID ambiguities.

(1) Radar type at locations should be primary (e.g., SCRUM HALF, TOMBSTONE) for strike aircraft.

(2) Refer to SAM systems by their number only (e.g., SIX or ROLAND) to preserve brevity on the tactical NET.

(3) Voice full SAM system name only if required to eliminate ambiguity (e.g., “S-A-(number)” or “H-Q-(number)”).

(4) System status terminology may include but is not limited to the following:

(a) AWAKE. This describes land or surface activity detected via communications intelligence.

(b) ACTIVE. This means the emitter is radiating (derived from electronic intelligence).

(c) OCCUPIED. This means ground equipment at tasked target location.

(d) VACANT. This means ground equipment is not present at specific or tasked target location.

Note: Assume all threat emitters only remain ACTIVE/AWAKE for short periods and, therefore, only report DOWN (previously active, but no longer emitting) or ASLEEP in response to a status request or to eliminate ambiguity.

(e) REPORTED. Use this if a threat emitter is derived from an off-board source.

(5) COLOR and TAG.

(a) COLOR calls will have the requesting agency’s call sign, COLOR system/subsystem type, frequency, and location (if known), and fill-ins.

(b) Transmit a J14.0 with every COLOR call.

(c) Respond to a COLOR call with TAG. Use comparative communication for TAG responses, providing the mission information or tactical report (TACREP) for the emitter, if appropriate.

COLOR and TAG Example

Known Frequency (freq): “CHALICE, COLOR MIPPLE FREQ 10 thousand 300 MEGAHERTZ, BULLSEYE 1-2-3/30” (CHALICE FORCE TELL associated J14.0).

Unknown Freq: “CHALICE, COLOR BULLSEYE 1-2-3/30.”

Response: “AGENT, TAG TOMBSTONE BULLSEYE 1-2-3/30.”

(6) TACREP.

(a) Transmit TACREPs on voice product networks (VPNs) indicating the collection of tactical intelligence.

(b) Assign TACREPs an alphanumeric designator indicating the type of activity and serialization.

(c) Use the phrase “UPDATE TACREP” to provide updated or amplifying information on an existing TACREP.

(d) Ensure alphanumeric designators are in accordance with table 10.

Table 10. Tactical Report (TACREP) Alphanumeric Designators	
Alphanumeric	**Intelligence**
A-##	Communication (air activity)
E-##	Electromagnetic
G-##	Communication (ground activity)
F-##	Fusion (all/multi-source)
H-##	Human
I-##	Imagery or nonimaging infrared
J-##	Radar moving-target indication
M-##	Measurement and signature intelligence
N-##	Communication (naval activity)
O-##	Overhead persistent infrared
R-##	Air operations center
S-##	Survivor/isolated personnel

TACREP Example

"AGENT, TACREP ECHO 0-4, BIG BIRD ACTIVE, BULLSEYE 2-3-5/18, TRACK NUMBER 1-3-2-0-7, FREQ X-X-X-X-X."

b. Situation Report (SITREP). Pass SIGINT, imagery intelligence, and moving target indication information on surface emitters on VPN.

(1) The SITREP is passed 5 minutes prior to the package LOWDOWN unless mission planning directs otherwise.

(2) Emitters are passed using system type (e.g., BIG BIRD, LOW BLOW), BULLSEYE location, and operating frequency in the following priority:

(a) Air activity and location, in absence of an air PICTURE (e.g., controller system is degraded).

(b) ACTIVE/AWAKE LRAD SAMs that were not a part of the briefed enemy order of battle.

(c) ACTIVE/AWAKE MRAD SAMs that were not a part of the briefed enemy order of battle.

(d) Any ACTIVE/AWAKE (or within the last hour) SHORAD/tactical SAMs.

(e) Early warning or ground control intercept radars.

Note: The order of dissemination for ACTIVE/AWAKE SAMs is as follows: closest MEZ to friendly forces, closest MEZ to friendly axis of attack or ingress routes, and most lethal.

SITREP Example

"AGENT, SU-27 AIRBORNE TONOPAH. [SYSTEM NAME] ACTIVE BULLSEYE 1-2-1/20, FREQ [X-X-X-X-X], TRACK NUMBER 0-6-0-2-3. [SYSTEM NAME] AWAKE BULLSEYE 1-3-5/40, TRACK NUMBER 0-6-0-0-4. AWAKE BULLSEYE 1-2-5/35, TRACK NUMBER 0-6-0-3-7. TALL KING ACTIVE BULLSEYE 0-9-0/6 FREQ [X-X-X-X-X]."

c. Combat Advisory Broadcast (CAB). Active S/A threat emitters are passed on the tactical NET using prebriefed labels or the BULLSEYE format.

(1) CAB is an addition to the threat picture.

(2) C2 agencies will relay CAB information received from VPN to the appropriate NETs.

CAB Example

CAB from BANDSAW on primary NET: "BANDSAW, TWO ACTIVE BULLSEYE 0-3-5/8" or "BANDSAW, NORTH TWO ACTIVE."

d. Imminent Threat Warning (ITW). ITW is a S/A threat warning to a friendly asset.

(1) An ITW is passed when a friendly aircraft is within 5 nm of the maximum recommended intercept range of any ACTIVE, AWAKE, launching, or firing threat.

(2) An ITW is prefaced with the aircraft call sign or the BULLSEYE position of the friendly aircraft and uses prebriefed labels or the BULLSEYE format for the threat description.

Note: When communicating with US Army or US Marine Corps rotary-wing aircraft and UASs, pass surface threat information in MGRS, if known. Attempt to provide at least a six-digit grid.

(3) No ITW is required if an aircraft has reported MUD, DEFENDING, or SINGER to the specified threat, or the pre-planned mission directs asset into active WEZ.

(4) ITW procedures are coordinated for low-observable assets during mission planning.

ITW Example

"EAGLE 1, AGENT, LOW BLOW ACTIVE BULLSEYE 0-1-5/9."

e. TRESPASS. Aircraft, controllers, and agencies will voice TRESPASS when an aircraft is within a not-previously-known SAM MEZ (e.g., a POP-UP SAM) or any non-suppression of enemy air defenses (SEAD) team aircraft crosses inside the maximum recommended intercept range of any known SAM. The voicing entity will direct a SNAP heading 180 degrees away from the SAM and voice the SAM's bullseye, being directive then descriptive.

TRESPASS Example

"RAMBO 2, SNAP 1-7-0, TRESPASS FIFTEEN BULLSEYE 3-2-0/32."

9. Threat Reaction Communication

a. Targeted aircraft should communicate S/A threat reactions on mission tactical NETs:

(1) If it enables, or aircraft requires, reactive SEAD.

(2) To enhance the common tactical picture for other mission or package assets.

b. These transmissions should be in either a low- or high-fidelity format. Minimum accuracy to consider a threat "high fidelity" is a 5 nm, semi-major ellipse, or as mission planned.

Low-Fidelity Format
Call sign, radar warning receiver indication, bearing, DEFENDING with cardinal direction, ownship BULLSEYE.
Low-Fidelity Example
"HORNET 1, SINGER ELEVEN, BEARING 3-6-0, DEFENDING WEST, BULLSEYE 3-4-5/30."

High Fidelity Format
Call sign, radar warning receiver indication, S/A threat BULLSEYE/LOCATION, DEFENDING with cardinal direction.
High Fidelity Example
"BOLT 1, SINGER ELEVEN, BULLSEYE 3-6-0/32, DEFENDING WEST."

10. SEAD Contracts

a. SEAD aircraft should provide one of four responses to a DEFENDING call:

(1) HARM INBOUND. High-speed antiradiation missile (HARM) already employed.

(2) MAGNUM. Launch of FRIENDLY antiradiation missile (ARM).

(3) EMPTY. No emitters of interest detected.

(4) ARIZONA. No ARM ordnance remaining.

(5) CANYON. Use electromagnetic jamming on radar frequency indicated or in accordance with previous orders or information call for execution EA list or EA against designated group.

b. SNIPER and SLAPSHOT Communication.

(1) SNIPER.

(a) This is a directive call from the SEAD package/FL.

(b) It indicates a specific aircraft/element should employ an ARM against a range-known S/A threat.

SNIPER Example

Directive Call: “STORM, SNIPER ELEVEN BULLSEYE 3-6-0/32.”

Response: “STORM 2, MAGNUM ELEVEN BULLSEYE 3-6-0/32.”

(2) SLAPSHOT.

(a) This is a directive call indicating an aircraft or element should immediately employ the best available ARM on the specified threat bearing.

(b) SLAPSHOT assumes the S/A threat range is unknown.

SLAPSHOT Example

Directive Call: “STORM, SLAPSHOT FIFTEEN BEARING 3-1-7.”

Response: “STORM 2, HARM INBOUND.”

(3) SEAD players respond with HARM INBOUND, MAGNUM, EMPTY, or ARIZONA.

c. EA Communication. Aircraft should direct or communicate EA using the following terminology:

EA Examples

Directing EA: “BOLT 1, JAM ELEVEN, BULLSEYE 3-6-0/32.”

Informative EA: “BOLT 1, CANYON ELEVEN, BULLSEYE 3-6-0/32.”

Ceasing EA: “BOLT 1, CLAM ELEVEN, BULLSEYE 3-6-0/32.”

11. Find, Fix, Track, Target, Engage, and Assess (F2T2EA) Contracts

a. Find. The MC is responsible to hold or delegate authority for aircraft or element search contracts.

Find Example

MC: “BOLT, WORK SIX BULLSEYE 3-6-0/34.”

Aircraft: “BOLT 1, WORKING SIX BULLSEYE 3-6-0/34.”

MC: “HOSS, MAP FIFTEEN BULLSEYE 3-1-7/17.”

Aircraft: “HOSS 3, MAPPING FIFTEEN BULLSEYE 3-1-7/17.”

MC: “CONAN, INVESTIGATE TRACK NUMBER 1-2-3-4-5.”

Aircraft: “CONAN.”

b. Fix.

(1) Locate the threat and pass TLE or ellipse (semi-major) quality with the FIXED call.

(2) Use the following terms to delineate fix quality:

(a) Low Accuracy. Inside 1 nm.

Low Accuracy Example

“BOLT 1, SIX FIXED BULLSEYE 3-6-0/32, LOW ACCURACY.”

(b) High Accuracy. Inside 1,000 feet.

High Accuracy Example

"AGENT 6, FIXED BULLSEYE 3-6-0/32, HIGH ACCURACY, TRACK NUMBER 0-3-0-0-7."

(c) TARGETABLE. CAT II low is assumed.

- Any other TLE is added as a fill-in.
- Controllers should populate a J3.5 over individual J12.6s once they are called TARGETABLE.
- Controllers should report "HOLLOW [BULLSEYE]" if they do not hold the J12.6.

Targetable Examples

"HOSS 3, FIXED SCRUM HALF BULLSEYE 3-1-7/17, TARGETABLE."

"AGENT, SCRUM HALF BULLSEYE 3-1-7/17, TARGETABLE, TRACK NUMBER 1-6-1-7-3."

c. TRACK.

(1) TRACKING is necessary for custody of a threat, SAM, high-value target, or other surface entity.

(2) The MC or TL can direct an asset to TRACK, SCAN, or MONITOR an area or object.

(a) TRACK. This is a directive call assigning responsibility to maintain sensors or a visual on a defined object or area to an asset.

(b) MONITOR.

- Maintain sensor awareness on a specified GROUP or object. It implies tactically significant changes are communicated.
- For maritime operations, it means maintain contact or targeting information on a maritime surface contact.

(c) SCAN. Search the indicated sector and report any CONTACTs.

(3) Assets can respond with OCCUPIED, TALLY, TRACKING, CAPTURED, or MONITORING, if able to TRACK.

TALLY Example

MC: "HOSS, TRACK THREE VEHICLE CONVOY BULLSEYE 3-0-0/45, MOVING WEST, TRACK NUMBER 3-4-3-4-5."

Aircraft: "HOSS 1, TALLY."

CAPTURED Example

MC: "SABRE, TRACK T-72 COLUMN BULLSEYE 0-5-0/55, MOVING NORTH."

Aircraft: "SABRE, CAPTURED, TRACK NUMBER 2-2-2-2-2."

MONITORING Example

MC: “WEASEL 51, MONITOR ELEVEN, TRACK NUMBER 1-1-1-1-1.”

Aircraft: “WEASEL 51, MONITORING ELEVEN, BULLSEYE 3-1-6/60.”

(4) Assets can respond with NO JOY if they have not found the object.

d. TARGET and Attack Plan.

(1) The purpose of the ATTACK plan is to:

(a) Establish a SORT, especially across multiple formations.

(b) To establish weapon pairings.

(c) Reference locations (e.g., predetermined points, anchor references with distance, or BULLSEYE).

(d) Time and deconfliction prior to PUSHING as a force package.

(2) This plan should also delineate responsibilities.

Note: The plan can be communicated via Link 16, and each player needs only to acknowledge GOOD DATA.

Attack Game Plan Example

In the following example, RAMBO is the MC and escort TL, HORNET is the strike TL, BOLT is a strike FL, and PYTHON is the SEAD TL.

RAMBO (MC): “HORNET, BOLT, PYTHON, STANDBY GAME PLAN.”

FLs: “HORNET.” “BOLT.” “PYTHON.”

RAMBO: “HORNET, TARGET AND SCAN ALPHA ALPHA 0-1, TWO VEHICLE CONVOY BULLSEYE 2-7-5/69, MOVING SOUTH, BEST. PUSH AT 21:17 FROM RED OSCAR.”

“BOLT, COVER ALPHA ALPHA 0-1.”

“RAMBO ESCORT AND PYTHON SEAD PER BRIEF.”

FLs: “HORNET.” “BOLT.” “PYTHON.”

e. Engage.

(1) The aircraft executing the attack will call PUSHING at the push, with a TOT, once all players have acknowledged the plan.

(2) Aircraft should call releases with time of flight and IMPACT, when able. If an aircraft has additional support requirements for the A/S weapon, provide this as a fill-in (e.g., LASING or SCANNING).

PUSHING Example

“HORNET, CAPTURED ALPHA ALPHA 0-1. PUSHING TOT 21:21:15.”

“HORNET 1, ONE WEAPON AWAY ALPHA ALPHA 0-1, 45 SECONDS, LASING.”

“HORNET 1, SPLASH ALPHA ALPHA 0-1.”

f. Assess.

(1) SCAN can be used to direct the weapon effects assessment.

(a) SCAN means to search the indicated sector and report any CONTACTs.

(b) Once the target or object has been acquired and is being tracked with an onboard sensor or visually, respond with CAPTURED or TALLY.

(c) If unable to find the target or object, relay VACANT, EMPTY, or NO JOY.

(2) To describe the weapon results, use successful or unsuccessful.

(a) SUCCESSFUL. Desired weapon effects were generated. SUCCESSFUL can be used to complete the F2T2EA chain.

- DROPPING is an informative call from a tasked aircraft that the aircrew is no longer TARGETING/TARGETED to a tasking.

Weapons Effects Generated (DROPPING) Example

HORNET: "HORNET, SPLASH ALPHA ALPHA 0-1 SUCCESSFUL. DROPPING ALPHA ALPHA 0-1."

- DROP is a directive call to remove a ground target from the tactical ground picture.

Weapons Effects Generated (DROP) Example

HORNET: "HORNET, SPLASH ALPHA ALPHA 0-1 SUCCESSFUL."
HORNET: "DARKSTAR, DROP ALPHA ALPHA 0-1, T-N 5-2-3-4-2."

(b) FUMBLE. Desired weapon effects were not generated.

- Informative fill-ins can assist when relaying UNSUCCESSFUL.
- "FUMBLE CLEAN" (i.e., no visible battle damage) indicates the target sustained no damage or no weapon impact was noted.
- "FUMBLE HIT" indicates weapon impact was noted within a lethal distance, but the effects were not generated.

Weapons Effects Not Generated Example

HORNET: "HORNET, SPLASH ALPHA ALPHA 0-1, FUMBLE HIT."

(3) Reattack.

(a) Plan reattack options during mission planning, if an asset is capable of a real-time hit assessment.

(b) To facilitate rapid reattack, consider using SCAN with COVER.

- COVER. This is a directive call to be ready for reattack or reengage, if weapons effects are not generated.
- HOUNDDOG. This call is in response to COVER, indicating the directed aircraft is in a position to employ weapons.

Reattack Option Example

MC: “HORNET TARGET AND SCAN ALPHA ALPHA 0-1.
BOLT COVER ALPHA ALPHA 0-1.”
HORNET: “HORNET 1, ONE WEAPON AWAY ALPHA ALPHA 0-1,
45 SECONDS, LASING AND SCANNING.”
HORNET: “HORNET, SPLASH ALPHA ALPHA 0-1, UNSUCCESSFUL HIT.”
BOLT: “BOLT, HOUNDDOG ALPHA ALPHA 0-1.”
MC: “BOLT, REATTACK, ALPHA ALPHA 0-1.”

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GLOSSARY

PART I - ABBREVIATIONS AND ACRONYMS

A

A/A	air-to-air
A/S	air-to-surface
AA	aspect angle
AADC	area air defense commander
ACIT	agile control and integration team
ACO	airspace control order
ACC	air control communication
ADA	air defense artillery
AFTTP	Air Force tactics, techniques, and procedures
ALSSA	Air Land Sea Space Application (Center)
AOR	area of responsibility
ARM	antiradiation missile
ASOC	air support operations center
ATO	air tasking order
AWACS	Airborne Warning and Control System

B

BCC	battle control center
BDA	battle damage assessment
BMA	battle management area
BRAA	bearing, range, altitude, and aspect

C

C2	command and control
CAB	combat advisory broadcast
CAP	combat air patrol
CAT	category
CG	guided missile cruiser
CRC	control and reporting center
CWC	composite warfare commander

D

DAFI	Department of the Air Force instruction

DASC	direct air support center
DLER	description, location, elevation, remarks/restrictions
DPI	desired point of impact
	E
EA	electromagnetic attack
EOM	end of message
ETA	estimated time of arrival
	F
F2T2EA	find, fix, track, target, engage, assess
FL	flight lead
freq	frequency
	G
GEOREF	geographic reference
	H
HARM	high-speed antiradiation missile
	I
ID	identification
IFF	identification, friend or foe
INFLTREP	inflight report
ISET	integrated sensing and effects team
ISOPREP	isolated personnel report
ITW	imminent threat warning
	J, K
JAOC	joint air operations center
JFACC	joint force air component commander
JFC	joint force commander
JP	joint publication
	L
LLTR	low-level transit route
LRAD	long-range air defense
	M
MAWTS-1	Marine Aviation Weapons and Tactics Squadron One
MC	mission commander
MCRP	Marine Corps reference publication

MDS	mission design series
MEZ	missile engagement zone
MGRS	military grid reference system
MRAD	medium-range air defense
MTTP	multi-service tactics, techniques, and procedures

N

NATO	North Atlantic Treaty Organization
Navy TACC	Navy tactical air control center
NAWDC	Naval Aviation Warfighting Development Center
NET	network
nm	nautical mile
NTTP	Navy tactics, techniques, and procedures
NWDC	Navy Warfare Development Center

O, P, Q, R

OPTASKLINK	operations task link
QC	quality control
ROE	rules of engagement
RTO	range training officer

S

S/A	surface-to-air
SA	situational awareness
SAM	surface-to-air missile
SATURN	Secure Anti-Jam Tactical Ultrahigh Frequency Radio Network
SEAD	suppression of enemy air defenses
SHORAD	short-range air defense
SIGINT	signals intelligence
SITREP	situation report
SPINS	special instructions

T

TA	target aspect
TAC	tactical
TACADMIN	tactical administration
TAC C2	tactical command and control

TACREP	tactical report
TAOC	tactical air operations center (USMC)
TBM	theater ballistic missile
TECOM	Training and Education Command
TL	team lead
TLE	target location error
T/M/S	type, model, and/or series
TOD	time of day
TOT	time on target
TTP	tactics, techniques, and procedures
	U
UAS	unmanned aircraft system
US	United States
USAACE	United States Army Aviation Center of Excellence
USAFWS	United States Air Force Weapons School
USMC	United States Marine Corps
	V
VPN	voice product network
	W, X, Y, Z
WEZ	weapon engagement zone

PART II - TERMS AND DEFINITIONS

agile control and integration team—ground-based USAF C2 element comprised of TACP, functioning on behalf of the JFACC, and may combine with other C2 entities or elements. It relies on rapid deployment capabilities to create localized and dispersed nodes, providing limited command of airspace pockets and control (positive or procedural) for integration of joint fires across multiple domains in support of the air scheme of maneuver. (Source: TAGS MTTP)

airspace control—Airspace control is the exercise of delegated authority over designated airspace and users through control procedures and coordination measures to maximize operational effectiveness. (DoD Dictionary. Source: JP 3-52, Joint Airspace Control)

airspace control authority—The commander designated for overall responsibility for airspace control. Also called ACA. (DoD Dictionary. Source: JP 3-52)

airspace control order—An order implementing the airspace control plan that provides the details of the approved requests for airspace coordinating measures. Also called ACO. (DoD Dictionary. Source: JP 3-52)

air tasking order—A method used to task and disseminate to components, subordinate units, and command and control agencies projected sorties, capabilities, and/or forces to targets and specific missions. Also called ATO. (DoD Dictionary. Source: JP 3-30)

battle management area—The battle management area construct is to position tactical battle management command and control elements to provide areas of responsibility, for decentralized execution of offensive and defensive operations to achieve the joint force commander's objectives. Also called BMA. (Source: TAGS MTTP)

combatant commander—A commander of one of the unified or specified combatant commands established by the President. Also called CCDR. (DoD Dictionary. Source: JP 3-0)

composite warfare commander—An officer to whom the officer in tactical command of a naval task organization may delegate authority to conduct some or all of the offensive and defensive functions of the force. Also called CWC. (DoD Dictionary. Source: JP 3-32)

contract—A preestablished communication plan for the purpose of delineating roles and responsibilities, outlining criteria for execution, and establishing the method of communication. (This term and its definition are applicable only in the context of this publication and cannot be referred to this way outside this publication.)

descriptive calls—A transmission providing information but does not require a response. See also interrogative call. (This term and its definition are applicable only in the context of this publication and cannot be referred to this way outside this publication.)

electromagnetic warfare—Military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. Also called EW. See also directed energy; electronic attack; electromagnetic protection; electromagnetic support. (DOD Dictionary of Military and Associated Terms. Source: JP 3-85)

integrated sensing and effects team—tactical air control party team that integrates with the joint service or partner nations capable of employing at the Forward Edge of the Battle Area. It provides a tactical advantage through advanced sensing grids, establishes or expands ground-based C2 mesh networks, and provides procedural control of net-enabled weapons, aircraft, and long-range precision fires. (Source: TAGS MTTP)

interrogative call transmission—A transmission requiring a response. See also descriptive call. (This term and its definition are applicable only in the context of this publication and cannot be referred to this way outside this publication.)

joint air operations center—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. (DoD Dictionary. Source: JP 3-30)

joint force air component commander—The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for recommending the proper employment of assigned, attached, and made available for tasking air forces; planning and coordinating air operations; or accomplish

in such operational missions. Also called JFACC. See also joint force commander. (DoD Dictionary. Source: JP 3-0)

joint force commander—A general term applied to a combatant commander, subordinate unified commander, or joint task force commander. Also called JFC. (DoD Dictionary. Source JP 1-0, Vol 1)

joint force maritime component commander—The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for recommending the proper employment of assigned, attached, and made available for tasking maritime forces and assets; planning and coordinating maritime operations; or accomplishing such operational missions. Also called JFMCC. (DoD Dictionary. Source: JP 3-0)

tactical administration—The interflight and intraflight processes and procedures established in a tactical command and control managed area of responsibility. Also called TACADMIN. See also tactical command and control. (This term and its definition are applicable only in the context of this publication and cannot be referred to this way outside this publication.)

tactical command and control—The use of positive and/or procedural control methods, by specific airspace control elements, to control airspace and manage air operations. Also called TAC C2. (This term and its definition are applicable only in the context of this publication and cannot be referred to this way outside this publication.)

tactical control—The authority over forces that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Also called TACON. (DoD Dictionary. Source: JP 1, Vol 2)

PART III – BREVITY CODES

Table 11. Key to Brevity Codes

*	Meaning differs from the North Atlantic Treaty Organization (NATO) brevity word.
**	Not a NATO brevity word.
No Caveat	Denotes a general brevity code.
[A/A]	Brevity code meaning applies to air-to-air (A/A) operations or communications.
[AIR-MAR]	Brevity code meaning applies to maritime air (AIRMAR) operations or communications.
[A/S]	Brevity code meaning applies to air-to-surface (A/S) operations or communications.
[EW]	Brevity code meaning applies to electromagnetic warfare (EW) operations or communications.

[MAR]	Brevity code meaning applies to maritime-to-maritime (MAR) operations or communications.
[S/A]	Brevity code meaning applies to surface-to-air (S/A) operations or communications.
[SO]	Brevity code meaning applies to space operations (SO) or communications.
[S/S]	Brevity code meaning applies to surface-to-surface (S/S) operations or communications.

ANCHORED [location]—[A/A] Turning engagement at the specified location. (Source: Brevity MTTP)
BANDIT—1. [A/A] [AIR-MAR] Positively identified as an enemy IAW theater ID criteria. The term does not imply direction or authority to engage.

2. * [SO] A SUSPECT whose orbital parameters are such that it may become a collection and/or counterspace concern to a spacecraft in the relative near-term, therefore limiting decision space. (Source: Brevity MTTP)

BLOW(ING) THROUGH— 1. [A/A] Directive call to continue straight ahead at the MERGE and do not become ANCHORED with target(s). 2. [A/A] Informative call that the intercepting aircraft is dropping targeting responsibility and commencing a BLOW THROUGH. (This modified brevity code is approved for use and will be included in the next edition of the Brevity MTTP)
BOGEY—[A/A] [S/A] [SO] A CONTACT whose identity is unknown. (Source: Brevity MTTP)
CLEAN—1. [A/A] No sensor information on a GROUP of interest.

2. No visible battle damage.

3. Aircraft not carrying external stores. (Source: Brevity MTTP)

COLD—1. [A/A] Initiate(ing) a turn in the combat air patrol away from the anticipated threats.

2. [A/S] Defined area is not expected to receive fire (enemy or FRIENDLY).

3. [A/A] Intercept geometry will result in a pass or roll out behind the target.

4. * [A/A] Contact aspect stabilized 0-20 degrees from the tail or 160-180 degrees from the nose.

5. [A/S] Contact aspect stabilized 0-20 degrees or 160-180 degrees from referenced position (friendly forward operating base, named area of interest (NAI), target area, etc.).

6. [AIR-MAR] Contact aspect stabilized 0-20 degrees from stern or 160-180 degrees from bow. (This modified brevity code is approved for use and will be included in the next edition of the Brevity MTTP).

CROSSING—[A/A] Two GROUPs initially separated in azimuth decreasing azimuth separation to pass each other. (Source: Brevity MTTP)
DECLARE—[A/A] [S/A] [AIR-MAR] Inquiry as to the ID of a specified track(s), target(s), or correlated GROUP. Responses include: FRIENDLY, BOGEY, BANDIT, HOSTILE, NEUTRAL, UNABLE, CLEAN, or FURBALL. Full positional data (BULLSEYE) must accompany responses. (This modified brevity code is approved for use and will be included in the next edition of the Brevity MTTP)
DROP(ING)— 1. [A/A] [A/S] Stop or stopping monitoring of specified emitter or target or GROUP and resume(ing) search responsibilities.

2. (TRACK number) Remove the emitter or target from tactical picture or track stores.

3. [EW] Remove a specific system or EOB category from search responsibilities. (Source: Brevity MTTP)

FRIENDLY—1. A positively identified FRIENDLY aircraft, ship, spacecraft, or ground position. (Source: Brevity MTTP)
FURBALL—1. [A/A] Non-FRIENDLY aircraft and FRIENDLY aircraft are inside of 5 nautical miles of each other. Can be response to a DECLARE request.

2.* [SO] Spacecraft are so close together that off-board sensors cannot distinguish relative positions. (Source: Brevity MTTP)

GROUP(S)—1. [A/A] Any number of air CONTACT(S) within 3 nautical miles in azimuth and range of each other.

2. [AIR-MAR] Any number of surface CONTACTs within 1 nautical miles of each other. (This brevity code is approved for use and will be included in the next edition of Brevity MTTP)

HOSTILE—** A contact identified as enemy upon which clearance to fire is authorized IAW theater rules of engagement. (Source: Brevity MTTP)

WARNING
This use of HOSTILE is as a brevity term for air engagements and should not be confused with the same term in tactical data link identification.

LANE CROSSER—A GROUP that maneuvers into different areas of targeting responsibility. See also **LANE RIDER**. (This brevity term and its definition are applicable only in the context of this publication and cannot be referred to this way outside this publication.)
LANE RIDER—A GROUP that maintains a track direction on or near the line dividing different areas of targeting responsibility. See also **LANE CROSSER**. (This brevity term and its definition are applicable only in the context of this publication and cannot be referred to this way outside this publication.)
JOINED—** [A/A] Two or more radar returns have come together. (Source: Brevity MTTP)
MERGE—[A/A] FRIENDLIES and targets have arrived in the visual arena. (Source: Brevity MTTP)

MONITOR(ING) [GROUP or object]—1. [A/A] [A/S] Maintain(ing) sensor awareness on specified GROUP or object. Implies that tactically significant changes will be communicated.

2. * [AIR-MAR] Maintain contact or targeting information on a maritime surface contact. (Source: Brevity MTTP)

NEUTRAL—** A positively identified aircraft, ship, or ground position whose characteristics, behavior, origin, or nationality indicate it is neither supporting nor opposing FRIENDLY forces. (Source: Brevity MTTP)
NEW PICTURE—[A/A] [A/S] [AIR-MAR] Used by controller or aircrew when tactical PICTURE has changed. Supersedes all previous calls and reestablishes PICTURE for all players. (Source: Brevity MTTP)
PASSING—[A/A] Two GROUPs initially separated in range, decrease range separation and are passing each other. (Source: Brevity MTTP)
PLAYTIME— Amount of time aircraft can remain on station, given in hours plus minutes (e.g., ONE PLUS THIRTY equals 1 hour and 30 minutes). (Source: Brevity MTTP)
TARGETED—* [A/A] Fighter has acquired assigned GROUP and has assumed responsibility for it. (Source: Brevity MTTP)
TRACK—** 1. [A/A] GROUP or CONTACTS direction of flight or movement.

2. ** [A/S] [S/S] Directive call assigning responsibility to an asset for maintaining sensor or visual observation of a defined object or area.

3. ** [A/S] Rotary-wing directive call to establish racetrack (e.g., “Taz 31, TRACK left).

4. ** [A/S] [AIR-MAR] Information call stating direction of vehicle or CONTACT in motion (e.g., TALLY TECHNICAL TRACK Northwest). (Source: Brevity MTTP)

UNABLE—Cannot comply as requested or directed. (Source: Brevity MTTP)
WORDS—Directive calls or interrogative requests regarding further information or directives pertinent to the mission. Generated by the tactical command and control agencies and outlined in the theater specific SPINS. (Source: Brevity MTTP)

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Official:

MARK F. AVERILL
Administrative Assistant
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