

## Appendix G

# Joint Air Attack Team

This appendix implements portions of STANAG 2404.

### **PURPOSE**

G-1. JAAT is not a mission in itself. It is an engagement technique used to increase the effectiveness of offensive or defensive operations by combining the target acquisition and firepower of fixed-wing aircraft with the target acquisition, designation, and suppression capabilities of Army aircraft. Indirect FA fires or naval gunfire, along with direct fire from ground forces should also be employed to increase the survivability of all JAAT players. The attack may be against a single enemy element or against several enemy elements within a specified area. An ACT is frequently called upon to perform a JAAT while conducting its assigned missions. For an ACT, a JAAT is conducted as a normal attack mission with the additional CS of TACAIR. The addition of TACAIR gives both the ACTM and TACAIR team greater survivability while simultaneously increasing their firepower and complicating the enemy's countering attack. JAAT can be used to support the ground commander's maneuver scheme or can be tasked to support air or maritime commanders' objectives.

G-2. While procedures are in place to help orchestrate a JAAT in which several different types of FS are synchronized, JAATs work best when helicopter pilots and fixed-wing pilots communicate in plain language, "attack pilot to attack pilot." Detailed attack synchronization is sometimes necessary; however, the most valuable attribute of a JAAT is the capability to overwhelm the enemy by applying an enormous amount of firepower in a relatively short amount of time. All coordination measures and communications should ensure this capability is maintained, while minimizing the potential for fratricide and maximizing the survivability of the JAAT participants.

G-3. New systems fielded on helicopters and fixed-wing aircraft enable JAATs to occur any time, day or night, any place on the battlefield. AH-64 systems include NVGs and a FLIR. OH-58D systems include NVGs and a TIS. A/OA-10 pilots are now equipped with NVGs as well as IR pointers and may carry IR and white light flares. Some F-16s are equipped with LANTIRN pods and NVGs. F/A-18 and AV-8 aircraft may be equipped with a FLIR and/or targeting pod and their pilots will usually be equipped with NVGs. The night capability these systems provide make night JAAT operations particularly effective.

## **COMPOSITION**

### **COMMANDER**

G-4. The ground maneuver force commander is responsible for the ground and airspace below the coordinating altitude where the supported commander must synchronize the JAAT into the battle and bring its combined fires into play at the decisive moment. To plan and coordinate the JAAT, ground force commanders use their S3, TACP, FSO, and the squadron commander or his air liaison officer. Air commanders may use the FAC-A, TACP, ASOC, AOC, wing ground LNO, and/or the squadron commander.

### **ATTACK HELICOPTERS**

G-5. The attack helicopter portion of the JAAT consists of OH-58D Kiowa Warriors in the DCS and both the AH-64 Apache and the Kiowa Warrior in the RAS. Except for the additional planning and coordination necessary for a joint operation, the unit will conduct the JAAT operation as they would a normal attack mission. During the JAAT operation, the ACTM AMC will plan the operation, coordinate the attacks in the EA, and provide SEAD for attacking TACAIR and armed helicopters. Although the ACTM will provide suppressive fires against enemy AD, the primary armor killers are TACAIR. The size of the JAAT depends upon the squadron commander's analysis of the factors of METT-T and the number of TACAIR sorties allocated.

### **TACTICAL AIRCRAFT**

G-6. TACAIR that can perform CAS are the USAF A/OA-10 and F-16; USN F/A-18; and USMC AV-8 and F/A-18. However, other TACAIR may be employed. JAATs will normally be formed with USAF participants. However, USN and USMC assets may be available in some cases. The use of TACAIR significantly increases the combat power of the ACT or ACTM by virtue of the large and varied ordnance payloads available.

G-7. The USAF A/OA-10 provides the most flexible support to JAATs and has several advantages over other aircraft. A/OA-10s were specifically designed for and dedicated to the CAS mission. A/OA-10 pilots have trained extensively with Army units in CAS and JAAT employment TTP. Their night attack capabilities have increased due to the fielding of NVGs and associated equipment. The A/OA-10 has extensive loiter and multipass capabilities and can react quickly to a changing attack plan. Other TACAIR assets will not normally possess the extended loiter capability of the A/OA-10 but are very capable due to their LANTIRN or targeting pods, FLIRs, and/or NVGs.

G-8. The use of aircraft other than A/OA-10s may require more coordination between the FAC and the ACT commander as they may not be well trained in JAAT TTP.

### **FORWARD AIR CONTROLLER**

G-9. The FAC (airborne) will handoff fixed-wing aircraft to the JAAT AMC who will control the JAAT from the initial point inbound. The battle captain

is the on- scene commander for the execution of the JAAT. The TACAIR flight lead will control employment of the flight. The FAC (airborne) can help locate targets and threats (threat dependent) prior to or during the JAAT mission.

### **JOINT AIR ATTACK TEAM FIRE SUPPORT**

G-10. Indirect FS is used when available and can greatly increase the survivability of the aircraft and the destruction of the enemy. FS is normally used to begin the attack, suppress or destroy enemy AD, force armored vehicles to deploy, and create confusion within the C<sup>2</sup> of the element under fire.

G-11. The squadron commander may use his FSO to conduct FS planning to support the JAAT. The FSO must work closely with the USAF TACP located at a ground maneuver brigade, aviation brigade, division, or corps headquarters so that FS will fit smoothly into the plan. Once the JAAT mission begins, the ACT commander or ACTM AMC works directly with the FSO to coordinate FS.

### **MISSION PLANNING**

G-12. Because each member of the JAAT retains his own C<sup>2</sup> system, mission planning must be a coordinated effort. Constant coordination is required between the ground maneuver commander, aviation commander, TACAIR flight lead/ALO/FAC, and FSO. As elements of the mission change, all members must be informed so that they can adjust their plans accordingly. Success of the JAAT operation depends on the proper synchronization of assets and how well each member of the JAAT understands the operation. JAAT operations may be preplanned, immediate, or spontaneous. Attack helicopter battalions will normally be designated to execute preplanned JAAT. DCSs and RASs can expect to execute immediate or spontaneous JAAT during both reconnaissance and security operations.

#### **PREPLANNED**

G-13. A preplanned JAAT operation is used when time is available to request CAS in the normal planning cycle (usually 36 hours). The preplanned request is drafted by the FSO in coordination with the TACP and processed through Army channels to the AOC. The AOC processes the request according to priorities selected by the joint force commander. Approved preplanned JAATs will appear on the ATO with the number of sorties, times, and ordnance.

#### **IMMEDIATE**

G-14. An immediate request for CAS is used when time is not available to process the request within the normal planning cycle. An immediate CAS request should be submitted as soon as the need is recognized. For example, if it is 1,000 hours and a JAAT is planned for 2,300 hours, the immediate request for CAS ASAP will be placed to allow TACAIR coordination and planning to begin. Immediate CAS request is transmitted by the appropriate echelon TACP over the USAF air request net directly to the ASOC collocated

at the corps TOC. Intermediate level-TACPs monitor these requests and advise their respective commanders. Intermediate echelon commanders may direct their assigned TACP to disapprove the request using the air request net if other assets are available or they otherwise do not support the request. Silence by intermediate-level TACPs for a specified amount of time (normally 10 minutes) is considered approval. Following approval by the corps FSE, the ASOC coordinates with the AOC to fulfill the requirement.

## **SPONTANEOUS**

G-15. A spontaneous JAAT operation occurs when all members of the team are available but no time is available to plan and coordinate. To be successful, spontaneous JAAT operations depend on unit SOPs, training, and communications. A successful JAAT operation is possible anytime pilots are able to coordinate actions by talking with each other. A common JAAT frequency that can be used by the team members is a critical portion of a spontaneous JAAT operation and should be included in SOIs and USAF ATOs. A common JAAT frequency will allow the ACTM to communicate and coordinate its attacks with the CAS aircraft in a minimal amount of time.

## **SEQUENCING**

G-16. A well-orchestrated JAAT operation will normally require a number of radio calls to ensure it is a success. In order to reduce radio traffic to a minimum, a preplanned method of coordinating JAAT activities is often used. Two methods are provided as examples:

### **JOINT AIR ATTACK TEAM CLOCK**

G-17. The JAAT clock (Figure G-1) is the best known and widest used method to control JAAT operations. It is a method of sequencing the JAAT engagement based on time. To initiate the JAAT, the ACTM updates the target information and issues the TACAIR a time hack (3 minutes is the most common) that starts the JAAT Clock. The time hack serves as the TOT for the TACAIR. TACAIR will have ordinance impact or be over the target when the JAAT Clock runs out. The ACTM can employ fires throughout the JAAT Clock, except during a safety buffer (normally 30 seconds) prior to the TOT. This safety buffer ensures that residual ordinance effects of the impacting rounds do not endanger TACAIR. The ACTM employs additional fires as required to suppress the enemy during the TACAIR egress. A reattack can be either immediate or based upon an abbreviated JAAT Clock. An example of a typical engagement follows:

- ACTM AMC coordinates the attack and then calls “3 minute hack...ready, ready, hack.”
- TACAIR lead responds with “good hack.”
- ACTM AMC engages the target with indirect fires as required to suppress the enemy.
- TACAIR departs the initial point as required to meet the 3 minute TOT.
- ACTM AMC ensures “check fire” on all indirect fires at the required time. This time is calculated by subtracting the required safety buffer

(30 seconds) and the artillery time-of-flight (10 seconds) from the TOT (3:00-0:40=2:20). The AMC may continue to suppress with direct fire weapons using visual separation.

- TACAIR engages the target at the 3-minute mark.
- ACTM issues TACAIR either “reattack” or “return to initial point,” suppresses with direct fire to cover the TACAIR egress.

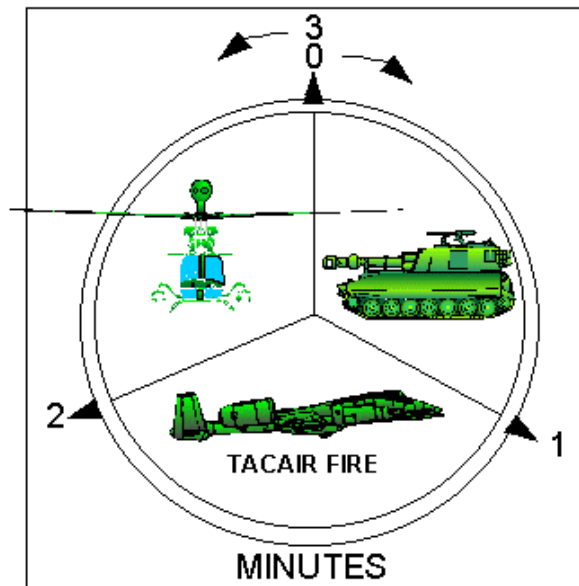


Figure G-1. Joint Air Attack Team Clock

### JOINT AIR ATTACK TEAM SEQUENCE CARD

G-18. The JAAT sequence card (Figure G-2) consists of a number of different attack sequences and would be used by all those likely to be involved in a JAAT operation. The option to be used for any specific attack would be broadcast by the JAAT controller giving the letter code, a number, and an H-hour. The letter code refers to the type of attack and the number to the length of time of the artillery bombardment. For example, if the controller orders “KILO 3 at 1232 hours”, the attack will begin at 1232 hours, with an artillery bombardment for 3 minutes followed at 1235 (1232 + 3 minutes) by armed helicopters and then the TACAIR at 1237. The artillery then engages (rounds on target) at 1240, until given “check fire” by the artillery observer. From the single call, all JAAT players can work out their involvement and plan accordingly. The format of the card is variable and can be constructed or amended to meet different situations as required.

H Hour	min	2 min	3 min	"Check Fire"
K	Arty	Avn	TAC Air	Arty
I	Arty	TAC Air	Avn	Arty
J	Arty	Avn	Arty	TAC Air
N	Arty	Avn	Arty	
M	Arty	TAC Air	Arty	
R	Avn	TAC Air		
T	TAC Air	Avn		

Figure G-2. Joint Air Attack Team Sequence Card

**EMPLOYMENT**

G-19. Employment of the JAAT depends on the factors of METT-T. The method of employment is decided as early as possible so that attacking assets can be coordinated. The two basic employment methods are sector attacks and combined attacks. Sector attacks allow each element of the JAAT to attack within a specified sector. Combined attacks occur when JAAT elements mass their fires by attacking in the same sector.

**SECTOR ATTACKS**

G-20. The three types of sector attacks are sector-simultaneous, sector-sequential, and sector-random. Sectors work best when easily recognizable terrains such as roads, rivers, ridgelines, or tree lines are used. Sectoring the target reduces targeting deconfliction and provides each weapons system flexibility in prioritizing the targets within the designated sector.

**Sector-simultaneous**

G-21. During sector-simultaneous attacks, each element maneuvers to attack within its assigned sector to engage targets simultaneously with other JAAT elements. All aircraft must coordinate ordnance fans to avoid fratricide.

**Sector-sequential**

G-22. During sector-sequential attacks, each element maneuvers to attack within its assigned sector to attack in a predetermined sequence. This sequence may range from several seconds to several minutes. This option reduces the ordnance fan coordination problem and facilitates covering fire for each preceding element.

**Sector-random**

G-23. During sector-random attacks, each element maneuvers to attack within its assigned sector and engages targets at will. All elements must coordinate ordnance fans and ensure fratricide avoidance.

**COMBINED ATTACKS**

G-24. The three types of combined attacks are combined-simultaneous, combined-sequential, and combined-random. Combined attacks usually involve helicopters and TACAIR using approximately the same avenue of approach to the target. Combined attacks typically provide good mutual support between the different elements but require more coordination and are more predictable to the enemy, after the initial attack.

**Combined-simultaneous**

G-25. During combined-simultaneous attacks, all elements engage targets in the same sector and attack simultaneously. All elements must coordinate ordnance fans and ensure fratricide avoidance. Combined-simultaneous attacks maximize destruction of the enemy and are the simplest to control. This is an excellent control method when FA fires are not available or when elements can use maximum ordnance elevation for deconfliction of airspace.

**Combined-sequential**

G-26. During combined-sequential attacks, all elements engage targets in the same sector and attack in a predetermined sequence. This sequence may range from several seconds to several minutes. This option reduces the ordnance fan coordination problem and facilitates covering fire for each preceding element. Use of the "JAAT Clock" method is an example of a combined sequential.

**Combined-random**

G-27. During combined-random attacks, all elements engage targets in the same sector and attack at will. Once again, all elements must coordinate ordnance fans and ensure fratricide avoidance because attacks may inadvertently be simultaneous.

**CONDUCT OF OPERATIONS**

G-28. After receiving the mission, the squadron will conduct mission analysis in as much detail as time allows. Planning, coordinating, analyzing, and rehearsing are conducted to ensure success.

G-29. Upon departing the holding area, ACTMs move forward to reconnoiter the target area. ACTMs verify BPs, avenues of approach, obstacles, and potential EAs that have not been already identified. If the enemy has already entered the EAs, ACTMs maintain contact and attempt to locate the enemy's AD systems.

G-30. ACTMs should establish contact with the unit providing indirect FS during reconnaissance. This contact should continue throughout the mission, with the ACTMs serving as the FS element on the battlefield during the

JAAT. Careful consideration should be given to using artillery prior to direct fire engagements with AH and TACAIR assets. Obscurants generated by the impacting rounds may interfere with laser range finders and designators, degrading the effectiveness of precision guided munitions.

G-31. In preplanned JAAT operations, the arrival of the armed helicopters should coincide with the arrival of the TACAIR at the initial point. This is the most difficult part of a JAAT operation. The aviation commander must attempt to flow all the assets into the battle in various combinations without piecemealing the force. As the armed helicopter arrives in the BP, the platoons take up their positions and begin their attack according to the commander's scheme of maneuver. A portion of the ACT and/or ATKHT will most likely begin the attack by engaging AD targets identified by the ACTMs during their reconnaissance. The ACTM that is assigned to SEAD and security is determined by the local threat. The remainder of the troop attacks in sector according to squadron and/or troop attack priorities.

G-32. When the TACAIR flight leader arrives in the battle area, he contacts the ALO and/or FAC. He gives the ALO and/or FAC his call sign, mission number, available ordnance, and loiter time. The ALO and/or FAC, ACT commander, or ACTM AMC, if the ALO and/or FAC is not available, passes the target information to the TACAIR flight lead. The ACT commander and/or AMC, the ALO, and the TACAIR flight lead must have good communications.

G-33. TACAIR usually enter the target area in a flight of two. The flight leaves the initial point using low-altitude tactical navigation techniques. This maximizes terrain masking if operating low or in a variety of formations with an altitude stack between aircraft, if the situation permits medium altitude operations. The flight leader contacts the ALO and/or FAC or the ACT and/or ATKHT commander for an update on friendly and enemy activities. In addition to receiving an update on the situation, the TACAIR flight leader should also give an inbound call. This call is expressed in units of time, for example, 30 seconds. The ACT commander and/or AMC uses this call as his signal to lift or shift the fires and coordinate the battle.

G-34. As TACAIR attack, the ACT commander and/or AMC observes their attack. Then directly or through the ALO and/or FAC, the ACT commander and/or AMC adjusts the TACAIRs' subsequent attacks by using cardinal headings and distances from the last impacts. The ACTM can use its lasers to mark targets, the center mass of the target array, and boundaries of the sector or designate targets for USAF delivered precision munitions. The use of lasers increases the speed and security of the attack and reduces the amount of communications necessary between the ACTM and the TACAIR flight.

## **COMMUNICATIONS**

G-35. The communications link between members of the JAAT is critical. The ACTM and the TACP or HHQ must coordinate the frequencies to be used and who will transmit to whom the word of day or "Mickey" before TACAIR arrive at the initial point.



## ADVANCED HELICOPTER CAPABILITIES

G-36. The AH-64 and OH-58D give the JAAT the capabilities discussed below.

### COMMUNICATIONS

G-37. Communications are the key to effective JAAT operations. The Have Quick radio system on the AH-64, OH-58D, and TACAIR allow jam-resistant, nonsecure frequency hopping communications with ALO/FAC and TACAIR elements. The armed helicopters and the TACP must coordinate the frequencies to be used before the TACAIR arrive at the initial point. Use the TACAIR check-in briefing below (Figure G-3) to coordinate the voice frequencies, digital data frequencies, and laser codes between the TACAIR and armed helicopters.

(Aircraft Transmit to Controller)	
Aircraft* _____,	this is _____ *
(Controller Call Sign)	(Aircraft Call Sign)
1. Identification/Mission Number:* _____	*
Note: Authentication and appropriate response suggested here. The brief may be abbreviated for brevity or security ("as fragged" or "with exception").	
2. Number and type of aircraft:* _____	*
3. Position and Altitude:* _____	*
4. Ordnance:* _____	*
5. Play time:* _____	*
6. Abort Code:* _____	*

Figure G-3. Sample Format of a Tactical Aircraft Check-in Briefing

### LASER DESIGNATION

G-38. The AH-64A/D and OH-58D laser designator can mark sectors, targets, and enemy positions for TACAIR equipped with proper sensing devices. The FAC is responsible for coordinating the laser code used.

## ADVANCED TACAIR CAPABILITIES

### COMMUNICATIONS

G-39. TACAIR and FAC aircraft are equipped with jam-resistant, non-secure frequency hopping communications via the Have Quick II radio. They are also equipped with a variety of other communications systems (VHF-AM and VHF-FM, additional UHF radio, and data link) depending on the aircraft participating.

### PRECISION MUNITIONS

G-40. Precision munitions offer improved effects on the targeted enemy force. Laser-guided munitions can destroy bridges and other priority targets while allowing TACAIR greater survivability. The IR and optically guided versions of the Maverick missile provide precision hard and moving target kill capability.

## **FORWARD AIR CONTROLLER**

G-41. If the FAC is available to brief the CAS aircraft then the following attack brief is to be used by the AMC:

- Distance and/or direction reference.
- Specific target identification.
- Specific threat identification.
- Specific friendly identification.
- Specific attack restrictions.
- FAC position.
- Final clearance.

## **BRIEFING**

G-42. When briefing the JAAT in the absence of the FAC, the AMC will provide a nine-line brief (Figure G-4) to the TACAIR.

Omit data not required. Do not transmit line numbers. Units of measure are standard unless otherwise specified. \*Denotes minimum essential in limited communications. Bold denotes readback items when requested.

Terminal controller: " \_\_\_\_\_, this is \_\_\_\_\_"  
Aircraft Call Sign (Terminal Controller)

**Figure G-4. Sample Format of a Tactical Aircraft Briefing Form (Nine-Line)**