# FORWARD AREA AIR TRAFFIC REGULATION AND IDENTIFICATION

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SUBJECT: Forward Area Air Traffic Regulation and Identification

1. PROBLEM. To determine what air traffic control measures are necessary for Army aircraft operating forward of the division base airfield.

2. FACTS BEARING ON THE PROBLEM.

   a. Air traffic regulation and identification is needed to coordinate and expedite the safe and orderly flow of Army air traffic, facilitate air defense operations, and provide warning and inflight assistance to Army aircraft. (4:144)

   b. The Army's concept of present and future air traffic tactical operations is based upon freedom of action and minimum regulation. (9:1)

   c. There is a system for air traffic regulation and identification forward of the division base airfield. (9:10)

   d. The line-of-sight characteristics of existing communication equipment employed in air traffic regulation and identification limit the effective accomplishment of the air traffic regulation and identification mission. (4:142, 144)

3. DISCUSSION.

   a. The demands for the use of air space over the battle area are many. These demands give rise to many problems that require coordination. (Annex A)

   b. Although reasonable and calculated risks are recognized (13:16) air traffic regulation and identification measures must be implemented to facilitate the safe, orderly flow of Army air traffic. This control must extend forward of the division base airfield since the problem is not unique to rear areas. (Annex A)

   c. The Army's concept of freedom of action and minimum regulation in air traffic tactical operations states that higher echelon commanders should exercise no more control over organic aviation of subordinate units than is exercised over other elements of that unit. (7:2) In conflict with this principle the Corps FOC exercises control over division and brigade aircraft by requiring simplified flight plans on aircraft operating forward of the division base airfield. (Annex B)

   d. There is a system for air traffic regulation and identification forward of the division base airfield, a primary purpose of which is to identify aircraft for air defense units when the air space over the forward area is effectively covered by radar controlled antiaircraft weapons. (9:10)

e. The primary forward area air defense weapon is the Duster (M42, self-propelled, twin 40mm gun). Target identification for this weapon is visual. (1:75)

f. Pending universal availability of improved radar identification systems (IFF), the field army commander, in coordination with the air defense commander, may establish joint rules of engagement. (Annex C)

g. Low level aircraft in forward areas have extreme difficulty communicating with present air traffic regulation and identification facilities. (Annex C)

h. A division, brigade, or battalion has the means to coordinate the use of air space over its respective zone of action. (Annex D)

4. CONCLUSIONS.

a. The present system of forward area regulation:

(1) Violates the Army's concept of freedom of action and minimum regulation.

(2) Is not needed for the purpose of air defense identification when joint rules of engagement are adopted or when the Duster is the primary forward area air defense weapon.

(3) Is impractical because of present line-of-sight communications systems.

b. A division, brigade or battalion has the means to coordinate the use of air space over its zone of action.

5. ACTION RECOMMENDED.

a. Section II, Air Traffic Regulation and Identification Forward of Division Base Airfields, FM 1-60, Army Aviation Air Traffic Operations Tactical, be deleted.

b. The procedure in Annex E be adopted for forward area air traffic regulation and identification.

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ANNEXES:
A - Demands on Air Space
B - Forward Area Regulation (Present)
C - Air Defense
D - Communications
E - Forward Area Regulation
X - Bibliography

CONCURRENCES: (Omitted)
NONCONCURRENCES: (Omitted)
CONSIDERATION OF NONCONCURRENCES: (Omitted)
ANNEXES ADDED: (Omitted)
ACTION BY APPROVING AUTHORITY:

Date:

Approved (disapproved), including (excluding) exceptions.

Signature

ANNEX A--Demands on Air Space

1. All services have the undeniable right to operate in the air space and the responsibility for coordinating inter-service requirements is assigned to the service having a predominant interest in its use. (13:16) Normally the field army commander has responsibility for the air space within the field army boundaries from the surface to and including five-thousand feet. (5)

2. Competing for the air space forward of the division base airfield we have:

   a. Tactical Air Forces.

      (1) Close Air Support - Controlled at low altitudes near the FEBA by a TACP.

      (2) Tactical Air Reconnaissance - Controlled by a CRC. (6:31)

   b. Artillery.

      (1) Air Defense - Controlled by the AADCP.

      (2) Conventional - Controlled by the FSCC.

      (3) Missiles - Controlled by the FSCC. (1:42)

   c. Army Aviation.

      (1) Organic to the Infantry, Armored, Mechanized and Airborne Division:

| | | |
|---|---|---|
| | (a) Airplane obsn mdm - | 4 |
| | (b) Hel obsn - | 47 |
| | (c) Hel util - | 19 |
| | (d) Hel util tac trans - | 31 |
| * | (e) A/N USD-1 Drone Systems - | 1 |

      * Not found in the Airborne Division. (3:5)

      (2) Army Aircraft. Not organic to the division.

   d. Employment of chemical, biological or nuclear weapons may effect the use of air space.

ANNEX B--Forward Area Regulation (Present)

1. The basic purposes for air traffic regulation and identification are:

   a. Expedite the safe, orderly flow of Army air traffic.

   b. Assist the accomplishment of air defense.

   c. Provide warning and in-flight assistance to Army aircraft. (4:144)

2. There are four general types of air traffic regulation in the combat zone:

   a. Forward area regulation.

   b. Route regulation.

   c. Point-to-point regulation.

   d. Airfield control (9:9)

3. Route and point-to-point regulation are applicable to rear areas. (9:10)

4. Airfield control for the division base airfield is provided by elements of the aviation battalion. (8:2.1)

5. For clarity in discussing Army air traffic regulation in the field army, the field army area is divided into three subareas, namely: Subarea 1 forward of the FEBA to the maximum effective range of Army air defense missiles; Subarea 2 between the FEBA and the division rear boundary; and Subarea 3 between the division rear boundary and the field army rear boundary (this area may extend into the communications zone when necessary). (9:10)

6. Forward area regulation is that area of Army air traffic regulation encompassed in Subareas 1 and 2. A primary purpose of forward air traffic regulation is to identify aircraft for air defense units when the air space over the forward area is effectively covered by radar controlled antiaircraft weapons. (9:10)

7. Regulation of Army air traffic is accomplished by the Army Air Traffic Regulation and Identification (AATRI) System. This system normally provides one flight operations center (FOC), an alternate FOC, and one flight coordination center (FCC) assigned to each field Army and Corps. Terminal facilities are also provided. FOC's and Army air defense command posts (AADCP's) will be collocated or operationally connected at field Army and Corps to provide aircraft regulation and in-flight assistance, and coordination of Army aviation and AD operations on a continuing basis. The FOC's area of responsibility will approximately coincide with that of the AADCP. Minute-to-minute coordination with Air Force Control and Reporting Centers (CRC) and Control and Reporting Posts (CRP) is maintained by AADCP's and FOC's. (11:49)

ANNEX B CONTINUED

8. Individual Army aircraft operations within Subarea 2 will require filing of a simplified flight plan with the appropriate base airfield having communication with FOC. Air defense intelligence service is thereby made aware of the friendly character of the flight. All Army aircraft operating in Subarea 1 will file a simplified flight plan. (9:12)

9. Air warning broadcasts are disseminated over air warning or emergency channels by flight operations centers in each Corps and Army service area and by flight coordination centers in forward areas. In addition, airfields receive air warnings on established air warning nets. The warnings are retransmitted over tactical channels to in-flight Army aircraft. (10:53)

ANNEX C--Air Defense

1. A proposed allocation of AD weapons to a type field army consist of six Nike Hercules battalions, eight Hawk battalions, and nine forward area weapons battalions, organized into five groups under one brigade headquarters.

   a. The Nike Hercules battalions provide medium and high altitude air defense for the field army.

   b. Hawk battalions provide medium and low altitude air defense. They are employed throughout the entire army area of operations based upon priorities for low altitude defense established by the field army commander.

   c. Duster forward area weapon battalions, if allocated to the field army, provide a mobile defense against attack by low flying aircraft. Duster units may deploy to defend infantry, armored, and mechanized brigades, nuclear delivery means, march columns, assembly areas, and other critical points. (FM 44-1, p 45)

2. Pending universal availability of IFF for air defense identification purposes, approved joint rules for engagement must be established to protect Army aircraft and facilitate Army aviation operations. For example, it may be established that aircraft operating at or below 115-130 knots air speed up to 1500 feet absolute altitude within the field army air space and which are not committing hostile acts or penetrating a designated control line, will not be engaged by friendly air defense forces. Exact altitudes and speeds will be determined by the Army commander, in coordination with the regional AD commander, depending on enemy capabilities, terrain, mission, degree of air superiority, and other considerations.

3. Aircraft penetrating the designated control line, or operating at altitudes or air speeds in excess of those prescribed above, are identified as prescribed by the unified commander through the area air defense commander. (11:49)

ANNEX D-Communications

1. The heart of the entire AATRI system is its communications network. The bulk of the control information is transmitted by radio. The radios currently being used include VHF, UHF and tactical FM, all of which have line-of-sight characteristics. (4:151)

2. Normally Army aircraft are equipped with an FM and a UHF or VHF radio. The FM radio is the primary radio used by Army aviation for tactical communication with supported ground units. It is regarded as a secondary means of communication for regulation and control of air traffic tactical operations. However, it cannot be used for both simultaneously. Some line-of-sight range limitations exist, particularly in the upper portion of the frequency band. The VHF or UHF radio constitutes the primary means of air-ground-air communications for use in the regulation and control of air traffic. It is limited in range to line-of-sight distances. (9:43)

3. Messages from aircraft to AATRI facilities and visa versa may have to be relayed by various means. (9:41)

4. A division, brigade or battalion has the means to coordinate the use of air space over its respective zone of action.

   a. A primary function of air traffic regulation in forward areas, to assist in the accomplishment of air defense, can be achieved by establishing joint rules of engagement. Aircraft which fly either too high or too fast must file with FOC. (Annex C)

   b. At division level, aircraft under operational control of the division, may be controlled by the aviation battalion. (8:2.1) Aircraft in support of the division, for example the air cavalry troop, may be controlled through command channels just as other units of the division are controlled. This can be accomplished through detailed briefings on the situation and mission and communication over existing nets.

   c. The brigade and battalion S3 Air has an FM and UHF capability. (2:186) This capability, along with coordination between the FSCC, TACP, S3 Air and any assigned, attached or supporting aircraft, can affect the necessary coordination for the use of air space over the brigade or battalion zone of action.

   d. In air and mobile operations, the lowest echelon capable of controlling and coordinating the operation exercises control of supporting aerial vehicles in accordance with the overall plan. This includes coordination of artillery, air defense, air support, and army air traffic with other users of the air space over the area of operations, and coordination of the plan of maneuver with those of higher, lower, and adjacent units. (12:5)

ANNEX E--Forward Area Regulation

1. Forward area regulation is that area of Army air traffic regulation encompassed in Subareas 1 and 2 of the field army area.

2. Joint rules of engagement will be adopted to facilitate air defense operations. Aircraft exceeding the altitude or air space limitations in the joint rules of engagement must file a flight plan with FOC.

3. Aircraft entering forward areas from the rear and having a need to operate in the forward area must land at the division base airfield to effect necessary coordination.

4. Units having operational control of Army aviation units or aircraft will coordinate the use of air space over their zone of action up to an altitude prescribed by the field army commander.

5. It is the responsibility of units having operational control of Army aircraft to provide warnings and in-flight assistance to aircraft under their control as required.

6. The use of drones will be coordinated with the units affected.

ANNEX X--Bibliography


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