

Squadron Officer College
Air and Space Basic Course

OPERATION
AIRGAP

A1380R 3-1
Threat Manual
“THREE DASH ONE”

Integrated Air Defense System

Overview

The Democratic People’s Republic of Korea (DPRK) sovereign airspace is defended by the North Korean People’s Air Force (NKPAF), who fly the interceptor aircraft, and the North Korean People’s Army (NKPA) air defense artillery, who operate the surface-to-air defenses.

The North Korean integrated air defense system (IADS) is one of the densest and most lethal in the world. Density is achieved by the NKPAF’s reluctance to part with large numbers of older vintage fighter aircraft like the 2nd generation MiG-21 Fishbed and dozens of SA-2 and SA-3 batteries. Lethality is achieved with very long-range SA-5 Gammon SAMs plus 3rd generation interceptors like the MiG-23 Flogger and dual-role 4th generation MiG-29 Fulcrum. These fighters are equipped with AA-10 Alamo, AA-11 Archer, as well as Cold War vintage AA-7 and AA-8.

North Korea also has numerous attack aircraft which are primarily 1st generation fighters like the MiG-17, as well as some H-5 bombers, along with other Chinese-manufactured fighter-bomber aircraft. While the primary targets for these may be ROK and Coalition ground forces on the DMZ, the potential for some concerted airbase attacks can’t be discounted.

Sector 1 – Threat Orientation: Northwest

North Korea's primary air defense threat in **Sector 1** comes from the direction of China, so orientation of threat defenses will be primarily to the **northwest**.

Sector 1 is situated well to the north of the DMZ which makes Coalition attacks against its airbases a heavy risk. **Sector 1 contains most of the NKPAF's top-line fighters and interceptors:** the defense of the capital of Pyongyang must certainly be one of the top priorities for the air units at Onchon (MiG-29 Fulcrum), Pukchang and Sunchon (MiG-23 Flogger). OCA aircraft are based at Uiju (H-5 bombers) as well as Panghyon and Kaechon (MiG-17 Fresco), along with the latest generation of attack aircraft, the Su-25 Frogfoot sharing the airbase at Pukchang.

The NKPA has an extensive network of Big Back (1), Bar Lock (4), and over twenty Spoon Rest search radars to support Sector 1 interceptors and SAM battalions. **The Sector Operations Center for Sector 1 is located near Pukchang** and is the hardened nerve center controlling aircraft launches, target identification and intercepts, and SAM battery engagements for the sector. Sector 1 airspace is defended by four (4) SA-2 Guideline regiments, one (1) SA-3 Goa regiment, and one (1) SA-5 Gammon brigade.

Sector 2 – Threat Orientation: East

North Korea's primary air defense threat in **Sector 2** comes from the direction of Japan and Russia, so orientation of threat defenses will be primarily along the flat coastline to the **east**.

Sector 2 is also situated well to the north of the DMZ which makes Coalition attacks against its airbases a heavy risk. Sector 2's primary air interceptor is one wing of MiG-23 Floggers curiously based at Sunchon on the west coast near Pukchang. Sector 2 has one wing of MiG-21 Fishbed interceptors at Toksan, which routinely flies in attack configurations with bombs. OCA aircraft are based at Orang (H-5 bombers) , along with Chinese A-5 attack aircraft at Hwangsuwon and J-6 Farmers at Wonsan.

Sector 2 has a similar network of Big Back (1), Bar Lock (4), and over twenty Spoon Rest search radars to support Sector 2 interceptors and SAM battalions. **The Sector Operations Center for Sector 3 is located near Toksan** and is the hardened nerve center controlling aircraft launches, target identification and intercepts, and SAM battery engagements for the sector. Sector 2 airspace is defended by four (4) SA-2 Guideline regiments, two (2) SA-3 Goa regiments, and one (1) SA-5 Gammon brigade.

Sector 3 - Threat Orientation: South

North Korea's primary air defense threat in **Sector 3** comes from the direction of South Korea, so orientation of threat defenses will be primarily focused on the DMZ area to the **south**.

Sector 3 is located just above the DMZ which exposes its airbases to Coalition air attacks. Sector 3's primary air interceptors are two wings of late-model MiG-21 Fishbeds based at Hwangju to the west and Koksan to the center (just north of Seoul). Sector 3 has no long-range bombers but instead has several wings of short-range MiG-17 Fresco and J-6 Farmer attack aircraft to support ground forces along the DMZ.

Airspace surveillance for Sector 3 is accomplished by Big Back (1), Bar Lock (4), and over twenty Spoon Rest search radars to support Sector 3 interceptors and SAM battalions. **The Sector Operations Center for Sector 3 is located near Hwangju** and controls tactical air support, interceptor scrambles, target intercepts, and SAM battery engagements for the southern sector. Sector 3 airspace is defended by five (5) SA-2 Guideline regiments and one (1) SA-5 Gammon brigade.

Other Air Force Commands

The NKPAF is also organized with two air transport commands (one on each coast) which are dedicated to supporting NKPA ground forces, and a training command.

Fifth Transport Command headquarters is located near Taechon AB, not far from the 1st SOC. Fifth Transport Command operates transport and rescue aircraft (fixed-wing and rotary-wing) as well as attack helicopters along the **western** coast. Airbases for 5th Transport include Mirim-Pyongyang, Taechon, and Panghyon.

Sixth Transport Command headquarters is located near Sondok and Toksan AB, not far from the 2nd SOC. Sixth Transport Command operates transport and rescue aircraft (fixed-wing and rotary-wing) as well as attack helicopters along the **eastern** coast. Airbases for 6th Transport include Sondok, Maengsen, Taetan, and Kuum Ni.

Eighth Training Command headquarters is located far to the northeast, near the bomber base at Orang. Eighth Training Command has training bases at Samjiyon and Changjin in the **northern** part of the country (to minimize defections to South Korea) in addition to Sunan to the southwest (probably a divert base). Intelligence sources report that Hyesan airbase was recently reassigned from 8th Training Command to the 2nd Air Defense Sector, but Hyesan's aircraft and mission are unclear.

AIRGAP THREAT REFERENCE

NKPAF Air Intercept Missiles (AIM):

AA-11 Archer (R-73). One of the deadliest air combat weapons used by the NKPAF (particularly when cued by a helmet-mounted sight), the AA-11 Archer is the "great equalizer" for any Within Visual Range (WVR) air combat engagement. It has very good range for an infrared (IR) missile and minimal angular limitations for employment. It is carried on the **MiG-29 Fulcrum** and **Su-27 Flanker**, but can also be mounted on nearly any fighter aircraft.

AA-10 Alamo (R-27). The R-27R AA-10 Alamo A is the Communist Bloc's top semi-active radar homing (**SARH**) missile, and also comes in an IR version, the R-27T Alamo B. The AA-10 is the primary radar missile for the **MiG-29 Fulcrum**. Enhanced range versions of both guidance types (R-27RE Alamo C and R-27TE Alamo D) feature longer rocket bodies. The primary user of both regular and enhanced range versions of the AA-10 is the **Su-27 Flanker** and its subsequent variants (Su-30/33/35/37), although late model Flankers are converting to the new AMRAAM active radar missile counterpart, the AA-12 Adder.

AA-7 Apex (R-24). Based on an exploited AIM-7 Sparrow from the Vietnam War, the R-24R SARH AA-7 Apex is the primary radar missile for the **MiG-23 Flogger**. AA-7 Apex also comes in an IR variant, the R-24T.

AA-8 Aphid (R-60). The Aphid is a smaller and more maneuverable IR air intercept missile, and superior to the venerable Vietnam era AA-2 Atoll. Nearly all Communist Bloc fighters carry the AA-8 Aphid. Like all IR missiles, it is limited to employment in daylight and clear air.

AA-2 Atoll (R-3). The **Atoll** has equipped Communist Bloc fighters since the late 1960s and production began when the AIM-9 Sidewinder was exploited. The Atoll has significant angular limitations but provided an initial guided-missile capability in the Sixties. An SARH version of the AA-2 (R-3R) equips later model **MiG-21 Fishbeds** for night/all-weather intercepts.

PL-2 (K-13). The PL-2 is a Chinese-produced version of the AA-2 Atoll, with similar performance and limitations. Some NKPAF attack aircraft may carry the PL-2 for self-defense.

PL-7. The Chinese PL-7 and predecessor the PL-5, are Chinese copies of the French Matra Magic 550, with greater range and reliability than the PL-2, as well as fewer angular limitations for employment. Some NKPAF attack aircraft may carry the PL-2 for self-defense.