

The days of antiquated equipment, questionable training, and outdated concepts are over.

A Revolution for China's Air Force

By Richard Halloran

When Secretary of Defense Robert M. Gates was in Beijing in January 2011, the Chinese Air Force unveiled its new J-20 stealth fighter with a drumroll of publicity about its initial test flight that the SECDEF and his delegation could not miss.

The immediate question: Was this just coincidence, or was it flaunting by increasingly belligerent Chinese military leaders? “I asked President Hu [Jintao] about it directly and he said that the test had absolutely nothing to do with my visit and had been a preplanned test,” Gates said. “I take President Hu at his word that the test had nothing to do with my visit.”

Whatever the facts, the appearance of the J-20 was visible evidence China is building an air force Chinese military leaders have indicated is intended to be commensurate with their nation’s emerging status as a world power—and the equal of any other air force on the globe.

A leading Chinese airpower strategist, Lt. Gen. Liu Yazhou, has written that the world’s major air forces have progressed from ancillary to decisive players. Thus, he says, the People’s Liberation Army Air Force (PLAAF)

must build its strategic capabilities to enter the top tier of airpower nations.

The most recent white paper published by China’s Ministry of National Defense (MND), although written in obscure language, holds pertinent clues to the PLAAF’s mission. Boiled down, the white paper said the PLAAF must be capable of both offensive and defensive operations as it focuses on air strikes, air and missile defense, and the strategic projection of power.

The PLAAF, the white paper said, trains in electromagnetic environments and for air defense, with defense of the capital as the center and defense of coastal and border areas as the key. It has deployed airborne early warning and control aircraft, third-generation combat aircraft, and other advanced weaponry.

RAND Corp. has produced a broad assessment of the PLAAF for the US Air Force, titled *Shaking the Heavens and Splitting the Earth*. The report reads: “China’s air force is in the midst of a transformation. A decade ago, it was an antiquated service equipped almost exclusively with weapons based on 1950s-era Soviet designs.”

Those weapons, RAND noted, were “operated by personnel with questionable training according to outdated em-



Photo via chinesemilitaryreview.blogspot.com



PLAAF pilots march past a row of J-10A Vigorous Dragon fighters at a Chinese air base. The J-10, comparable to the US F-16, can carry beyond-visual-range air-to-air missiles.

Taiwan Strait Military Balance, Air Force

| China | | |
|---------------|-------|------------------------|
| Aircraft | Total | Within Range of Taiwan |
| Fighter | 1,680 | 330 |
| Bomber/Attack | 620 | 160 |
| Transport | 450 | 40 |

Should China attack Taiwan, the PLAAF would be tasked to gain air superiority to support an amphibious landing force. It has hundreds of aircraft in place to do so, and even more that could be moved into position.

ployment concepts. Today, the [PLAAF] appears to be on its way to becoming a modern, highly capable air force for the 21st century.”

Similarly, the National Air & Space Intelligence Center at Wright-Patterson AFB, Ohio, recently published a wide-ranging analysis of the PLAAF. “The People’s Liberation Army Air Force is an organization undergoing a series of major transitions and significant changes,” the center noted. “Like the rest of the Chinese armed forces, change in the PLAAF is happening across a wide front, and in myriad endeavors: in operational matters, in institutional affairs, and in the acquisition of new capabilities.

“Today, the PLAAF is more operationally capable than at any time in its past, and it is enjoying the fruits of years of focused and sustained reform and modernization,” the assessment continued, before cautioning that the PLAAF is coping with the “inevitable dislocations and uncertainties attendant to institutional change on a grand scale.” China’s Air Force thus “remains challenged in many areas.”

Chinese military planners refer to two island chains, shown here.

All of this—and much more—seems to dilute the validity of the charge by US politicians and military leaders that China lacks “transparency” in its military expansion. China’s Defense Ministry maintains a website in English, as does the *Liberation Army Daily*, which is published by the People’s Liberation Army. The PLA comprises all of China’s armed forces.

Shocked and Awed

There has also been a steady flow—in English—of research papers, monographs, and books by Americans, many based on Chinese sources, from universities, think tanks, and government agencies. Enter “PLAAF” into a computer search engine and 449,000 hits come up. They may be of varying utility, but there is clearly no shortage of information about China’s Air Force available even in the public domain.

Major changes are likely in the PLAAF this year, with shifts in China’s political and military leadership scheduled. If some or all of these changes occur, the already rising influence of the PLAAF will most likely climb higher. This will affect priorities, budgets, procurement

of weapons, and assignment of senior leaders—but it is not likely to break the traditional dominance of China’s military forces by the Army.

In the PLAAF itself, the present commander, Gen. Xu Qiliang, may become a vice chairman of the Central Military Commission (CMC). The CMC, headed by President Hu, controls the PLA. In turn, speculation holds that Gen. Ma Xiaotian, deputy chief of the general staff for intelligence and foreign affairs, will become commander of the PLAAF and a member of the CMC. Liu, the strategist now assigned as political commissar of the National Defense University, is in line to be promoted to general and to be political commissar of the CMC.

The 12 members of the CMC include two civilians, President Hu and a vice chairman, Xi Jinping. Two vice chairmen and five other members are Army generals. The junior members are the commander of the Second Artillery—a separate service controlling nuclear and conventional missiles—the commander of the People’s Liberation Army Navy, and the commander of the PLAAF. This lineup, in turn, reflects the past 90 years—when China relied



China rolled out its new fighter, the J-20, during a diplomatic visit from then-Defense Secretary Robert Gates.

on ground forces to fight Nationalists (Kuomintang), Japan, the US in the Korean War, India in border conflicts, and Vietnam. The mission of the PLAAF was to support the PLA's ground forces.

The PLAAF, founded in 1949 after Mao Zedong's communists had defeated the nationalist forces of Chiang Kai-shek, was in turmoil at the beginning. Mao's Soviet allies sent trainers and airplanes to China but they had hardly started training when North Korea attacked South Korea and China jumped into the Korean War.

The PLAAF was no match for USAF and the US Navy, which owned the skies over Korea. After the war, where Chinese pilots got their last combat experience, the PLAAF built a training base that provided pilots with about 120 hours a year of flying time. That was standard for the Warsaw Pact, but about half the hours provided for USAF pilots.

The PLAAF was set back, however, by the Sino-Soviet split in the 1960s after Mao and Soviet Premier Nikita Khrushchev disagreed over prospects for peaceful coexistence with the West, as well as over issues within the Communist bloc. The Soviets withdrew their aviation advisors and military aid. Then, in 1966, Mao's Cultural Revolution tore China apart. The PLAAF, like almost every other institution in China, was crippled by radical ideologues. Training was reduced to 12 months from 28 months, flying hours plummeted to 24 hours a year, and training manuals were destroyed—being labeled as capitalistic.

Mao died in 1976 and was succeeded by Deng Xiaoping, who set China on its present course of economic development and military buildup, with economics taking priority. When the economy eventually surged, funds were allocated to military expansion.

In 1991, PLAAF aviators were shocked and awed by US airpower during Desert Storm in Iraq. Liu belittled Iraq's line of defense in the desert, which proved helpless against US airpower. He likened it to the Great Wall of China, a source of national pride but unable to stop invasions from the north. Consequently, the PLAAF shed lingering Russian influence and learned from USAF.

PLAAF leaders aspired to free their service from supporting ground forces to become a strategic force. Liu, the main advocate of strategic airpower, was seen as a disciple of Giulio Douhet,



Photo via chinesemilitaryreview.blogspot.com

China's Y-8W/KJ-200 Balance Beam airborne early warning and control aircraft has a dual-sided active electronically scanned array radar mounted on top of a Y-8F-600 transport aircraft.

the Italian pioneer in airpower doctrine and strategy.

Today, Chinese thinking has evolved into three core missions for the PLAAF.

The first core mission is to defend China's airspace—particularly Beijing, headquarters of the Communist Party and the seat of government. Of China's seven military regions, that around Beijing takes priority. Air bases are concentrated around the city.

The Shenyang Military District, in northeastern China, bordering Russia, the Sea of Japan, and North Korea, is a close second priority. It features a layered defense of airpower, conventional missiles, anti-aircraft artillery, and early warning systems, also intended to help protect Beijing.

Core Missions

The second mission is preparation for an assault on Taiwan, the self-governing island the Nationalists fled to in 1949 and over which Beijing claims sovereignty. This task is assigned to the Nanjing Military District across the Taiwan Strait in the province of Fujian.

Beijing has never relinquished the threat to use military force against Taiwan, especially if the government in Taipei declared independence and asked other nations to recognize it as the legitimate government of a sovereign Taiwan. In the event of a war with Taiwan, the PLAAF would be tasked to gain air superiority over the island and strait and cover an amphibious landing force. The PLAAF might also mount an airborne invasion into Taiwan, as the PLA's paratroopers are part of the PLAAF, not the Army.

The PLAAF's third, and newest, core mission is to acquire the capability to project power into the South China Sea and the Pacific Ocean to what the Chinese call the second island chain. This island chain runs through Andersen Air Force Base on Guam to Japan, where USAF has bases at Kadena, Yokota, and Misawa.

In equipment, the PLAAF has gone from reliance on the Soviet Union to production of Russian aircraft on license—and reverse engineering—to domestic production. After the Soviet Union broke up in 1991, the impoverished Kremlin sold top-line aircraft to China, including the Su-27 fighter.

For the next 15 years, Russia was China's biggest arms supplier, providing \$20 billion to \$30 billion of fighters, destroyers, submarines, tanks, and missiles, according to the *Wall Street Journal*. RAND reported that the PLAAF operates more than 300 modern fighters now, with more in production. These include Su-27s and Su-30s plus the domestically developed J-10, comparable to the US F-16. Many PLAAF fighters carry beyond-visual-range air-to-air missiles and precision guided munitions.

The H-6 medium bomber can also be armed with first generation air launched cruise missiles. China is experimenting with airborne warning and control system aircraft, and PLAAF aircraft fly at low levels, over water, in bad weather, and at night—sometimes all at once. Meanwhile, the PLAAF has purchased Russian missiles of the S-300 series and surface-to-air missiles (SA-10s and SA-20s) and produced a home-built missile of comparable capability,



In 2006-07, China commissioned four KongJing-2000 aircraft. The AWACS aircraft are based on the airframe of the Russian-made A-50/II-76MD.

the HQ-9. RAND estimated that within a decade, the PLAAF's capabilities "could begin to approach those of the US Air Force."

Parallel to the PLAAF's development has been that of the Second Artillery, which reports directly to the CMC. The Second Artillery is "the core force of China for strategic deterrence," the MND proclaims on its website. "It is mainly responsible for deterring other countries from using nuclear weapons against China and for conducting nuclear counterattacks and precision strikes with conventional missiles."

The Second Artillery, reportedly named by the late Premier Zhou Enlai to differentiate it from the PLA Army's artillery, was set up as a nuclear force but later was tasked with "medium- and long-range precision strikes against key strategic and operational targets of the enemy," the MND states. Almost from the beginning, the Second Artillery and the PLAAF have competed not only for control of nuclear weapons but also for coordinating operations. It is still not clear who is responsible for meshing air and missile operations.

China has adopted a declared nuclear policy of "no first use;" that is, China will use nuclear weapons only after another nation has attacked it with a nuclear weapon. Chinese strategists said neither Mao nor Deng considered nuclear arms useful on the battlefield. Today's strategists in China are said to believe there is always the risk nuclear arms could be employed but, practically, conventional weapons have become so precise they have become the primary choice for strategic attack.

Although the PLAAF is charged with planning an assault on Taiwan and with projecting power well beyond China's borders, its primary mission is still to defend China's air space.

RAND researchers have identified six fundamental trends in PLAAF doctrine that American officers call the anti-access, area-denial strategy.

Trending

First, the importance of "key-point defense" is waning while that of "large-area defense" is growing. Given the PLAAF's previous focus on defending cities, industry, and military bases, this is perhaps the biggest change in Chinese thinking. The forward edge of the battle must be pushed toward the enemy, and intercepts must occur earlier.

Second, fixed defenses are giving way to "mobile air defense." The ability to "shoot and scoot" can improve chances of survival when PLAAF pilots are up against more and better reconnaissance and attack aircraft. Mobility can plug holes in an air defense and allow forces to mass and gain "local superiorities"—favorable conditions for Chinese forces to destroy their enemies.

Third, protective air defense is giving way to "offensive air defense" driven by more effective offensive operations. This calls for reliance on "integrated attack and defense" in which the offense mounts more attacks on enemy airfields. One source told RAND researchers commanders should "actively organize counterattack operations of various scales to distract and attrit the enemy, disrupt his plans, destroy his offensive posture, gradually move the enemy into a reactive mode, and, ultimately, seize the operational initiative."

Fourth is a trend toward "information air defense." Information has

become a core component of strength, and information superiority must be incorporated into the entire course of an air defense campaign.

Fifth is a trend toward the unification of air and space defense, requiring integrated command and control and the understanding that whoever controls space, controls the planet.

Sixth is the trend toward joint air defense, which RAND researchers said is part of a larger trend in PLA thinking toward joint operations, something many US officers have long argued causes the PLA great difficulty.

Beyond these points, the PLAAF has put new emphasis on recruiting and training pilots. The MND announced last fall that the PLAAF had joined with Tsinghua University, a prestigious technical institute, to set up a program intended to draw the best and the brightest into the air service. The first group of pilot cadets was required to meet the academic standards of civilian applicants and the physical standards of the PLAAF. Those accepted will spend three years as undergraduates at Tsinghua, and then transfer to the Aviation University of the Air Force for their final year of college. This effort would be analogous to the USAF joining with MIT or Cal Tech to educate young officers—and potentially, someday, Air Force generals.

Meantime, the Aviation University welcomed new pilot cadets into the "blue sky phalanx." Xu Qiliang, the PLAAF commander, and Gen. Deng Changyou, the PLAAF's political commissar, flew from Beijing to Jilin Province, to attend the ceremony in September 2011. Singled out for a welcome was Wang Xu, the first pilot cadet recruited from Tsinghua University to Aviation University. He has been selected to attend Aviation University for further studies.

In flight training, today's PLAAF reportedly gives pilots 200 hours a year in the air, a striking increase from the fewer than 24 hours a year during the depths of the Cultural Revolution. In this respect, the PLAAF is approaching the standard set by USAF. China's days of fielding obsolete air forces with poor training and outdated doctrine have clearly come to an end. ■

Richard Halloran, formerly a New York Times foreign correspondent in Asia and military correspondent in Washington, D.C., is a freelance writer based in Honolulu. His most recent article for Air Force Magazine, "Return to Vietnam," appeared in the January issue.