PLA Adopts New Digital Camouflage for All Services

OE Watch Commentary: The PLA is beginning to transition to a new type of camouflage, an updated digital pattern that will be used across all services and arms.

PLA Tank crew wearing Type 07 camouflage participate in the Tank Biathlon 2018 in Russia.
Source: Mil.ru via Wikimedia, https://commons.wikimedia.org/wiki/File:TankBiathlon2018-74.jpg, CC BY 4.0

China began development of camouflage in the 1980s, releasing the Type 81, a mottled camouflage roughly similar to the "Frog Skin" or "Duck Hunter" patterns. Improvements came with the high contrast Type 87 with rounded leaf pattern similar to US woodland, that with some improvements, was still used as late as 2007 across most of the PLA.

In the late 2000s, the PLA adopted the digital Type 07 pattern which has since become the standard across the PLA. Type 07 also had a multitude of service and climate-specific types including a basic pattern, Navy and Army Special Forces pattern, and terrain-specific patterns for the People's Armed Police and Rocket Force. According to the accompanying article, it suffered several deficiencies, such as the use of impractical blue for Marine and Navy forces, which only had limited utility during amphibious operations and in normal times made it harder to spot personnel that had fallen in the water. The design used for the PLAAF Airborne Corps similarly only helped reduce signature while parachuting but had high contrast in almost all environments once troops were on the ground.

Perhaps representing an attempted solution to these problems, the PLA appears to have tried a more general pattern several years ago. At the military parade in 2017 held in Zhurihe, Inner Mongolia, PLA units were shown wearing "Type 15," a pattern similar to Multicam. It first adopted low-visibility patches and name tapes, which has been carried over to the latest version. However, it does not appear to have been used widely.

The first indication that China was rolling out yet another new type of camouflage was in September 2019 when Chinese Central Military Commission member and Defense Minister Wei Fenghe wore the camouflage during his visit to Russia and observation of the Tsentre-2019 exercise. On October 1st 2019, the PLA displayed the camouflage at the National Day parade. As noted by the article, commanders and commissars of the five joint Theater Commands and formations of troops in the parade wore the different patterns. The camouflage was jointly developed by the Institute of Military Equipment [军需装备研究所] in Beijing, a subordinate organization of the Logistic Support Department of the Central Military Commission, and SunTexGroup [中天科技], an Anhui province-based textile manufacturer.

The "starry sky" pattern, which will likely be called Type 19 [19式], does away with the service-specific patterns in favor In comparison to the Type 07 camo, "starry sky" uses a smaller 'pixel-size' and has a more dispersed pattern. While this adopts a single digital pattern, unlike the U.S. Universal Camouflage Pattern (UCP) adopted in 2004 it has color variants for different environments and missions. The article notes that in addition to offering superior concealment, the universal adoption will also reduce logistics requirements.

Notably, the adoption of new camouflage appears to be part of a broader effort that will affect other parts of the PLA. The PLAAF, for example, rolled out new regulations on paint schemes for aircraft in March, adopting a low-visibility style low observable coatings and markings which will incorporate radar signature reducing materials. **End OE Watch Commentary (Wood)**

"The new "Starry Sky Camouflage" combat uniforms have improved color and style, abandoning the previous model of dividing the camouflage type according to military service. The new type uses five types: woodland, jungle, desert, wasteland and urban, making them more in line with actual camouflage and the requirements of a realistic combat environment."

Continued: PLA Adopts New Digital Camouflage for All Services

Source: "'星空迷彩'扰敌 新戎装重实战 ('Starry Sky Camouflage' to Confuse Enemies, New Equipment for Real Combat," *Takungpao [大公报]*) 2 December 2019. http://www.takungpao.com/news/232108/2019/1202/384299.html

Beginning this year the People's Liberation Army will replace its uniforms. The new "Starry Sky Camouflage" combat uniforms have improved color and patterns, abandoning the previous model of dividing camouflage type according to military service. The new camo uses five types: woodland, jungle, desert, wasteland and urban, bringing them more in line with the requirements of a realistic combat environment. The uniform is part of an integrated individual combat system that includes gloves, bulletproof clothing, helmets, etc., placing equal emphasis on incorporating cutting edge technology and combat effectiveness to meet the needs of all services and arms carrying out joint operations in all types of terrain.

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The "Starry Sky" pattern is divided into five types: woodland, jungle, desert, wasteland and urban. Woodland camouflage is used in temperate regions, and jungle camouflage is used in tropical regions. While the pattern is the same, darker or lighter shades of green are used to adapt to different types of vegetation. Desert camouflage is also similar to wasteland camouflage. While the former is a lighter tint to mimic a sand dune environment, the latter is darker to mimic the shade of the rock and brush vegetation environment of the Gobi desert. The urban camouflage pattern uses a mixture of light gray and blue pixels.

Leaders of Five Theater Commands Act as "Models"

During the October military parade, the formation carrying the PLA flag was led by five generals, the commanders and commissars of the five major theater commands, each wearing a type of camouflage. General Liu Yuejun [刘粤军], the commander of the Eastern Theater , Lieutenant General Wang Jianwu [王建武], Commissar of the Southern Theater, General Zhao Zongqi [赵宗岐], commander of the Western Theater, Lieutenant General Li Qiaoming [李桥铭] commander of the Northern Theater, and Zhu Shengling [朱生岭], Commissar of the Northern Theater were dressed in the new woodland, jungle, desert, wasteland, and urban camouflage. The ongoing military reorganization is breaking the barriers between arms and services and promoting joint operations— "Starry Sky camouflage" is also the result of this trend.

The PLA's current Type 07 camouflage distinguishes military units by color, such as Army woodland and desert camouflage, Navy marine camouflage, Air Force urban camouflage, Rocket Force jungle camouflage, etc, which would have significant shortcomings in combat. For example, the blue and white camouflage of the Marine Corps and the light blue camouflage of the Air Force paratroopers only have a camouflage effect during a brief part of amphibious landings or landing by parachute, and their color contrasts significantly with their environment. Additionally, conspicuous armbands and logos impair soldiers' ability to avoid detection.

Helping Soldiers Remain Concealed

"Starry sky camouflage" marks a shift from "service camouflage uniforms" to "universal camouflage uniforms", which are common to all military services and are used according to terrain, environment, and missions. This is the first time that the People's Liberation Army replaced military camouflage with general-use camouflage. The fact that military service cannot be determined by camouflage is also tactical. For example, during the parade, the Air Force Airborne Force and the Army Special Operations Forces are all dressed in desert camouflage. In the future, officers and men of the Marine Corps at the Djibouti base will wear desert camouflage, which is more in line with the local geographical conditions. Additionally, universal camouflage is also more in line with the joint logistics support model to ensure three-dimensional offensive and defensive operations in border areas [疆域立体攻防作战].

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The pixel block of the Type 07 camouflage used large pixels, and while the "starry sky camouflage" retains the use of a digital camouflage design, the pixel color blocks are much smaller and use more dispersed patterns to enhance the degree of realism and ability to blend into the background. It also produces different effects according to lighting and distance and has enhanced camouflage effects in low-light and near-infrared.