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9th Aviation Brigade Likely Validates Manned-Unmanned Teaming Combat Methods

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The People's Liberation Army Air Force (PLAAF) has likely made significant progress in developing effective manned-unmanned teaming (MUMT) concepts and employment tactics. As early as 2024, combat units began participating in the combat method validation process for MUMT. A maintainer affiliated with the 9th Aviation Brigade based at Wuhu Air Base in Anhui Province claims his unit supported the validation of new combat methods[i] for the J-20 involving "MUMT coordinated penetration operations" (见证歼-20 与无人机有人+无人协同突防的新型战法验证).[1] This is likely a combat method to enable the suppression or destruction of enemy air defenses in preparation for strikes or other offensive air operations.[ii]

The 9th Aviation Brigade has a long history of operational "firsts," including being the first PLAAF combat unit to receive new types of aircraft, such as the fifth-generation J-20 fighter, and being the first to test new combat methods associated with their use. This is done either through its participation in systems confrontation force-on-force exercises at service-level test and training bases (TTB), where it sometimes acts as an aggressor, or through its involvement in developing lessons learned from these exercises.[2] The 9th Aviation Brigade also has a history of disseminating new combat methods across the PLAAF, and has routinely transferred its pilots to other aviation units with the express purpose of enhancing the receiving unit's ability to transition to the J-20 and adopt new tactics.[3] The PLA tends to adopt advanced technologies and new systems before it has completed the development of concepts and employment tactics for these advanced systems. The evidence presented in this article suggests that, at least in this instance, the PLAAF may be trying to negate the negative impacts of this tendency.

It is likely that the validation of MUMT coordinated penetration operations identified in the article was part of a larger PLAAF combat method development apparatus. Most combat method development at PLAAF combat units focuses on new employment methods for existing airframes, weapons, and sensors the unit employs, or on adapting to new aircraft the unit is

[i] The PLAAF views "Combat Methods" as the basis from tactics, and allow the development of specific tactics, techniques, and procedures. See Kenneth Allen and Christina Garafola, "70 Years of the PLA Air Force", China Aerospace Studies Institute, April 12, 2026.

[ii] The 2006 version of the PLA textbook *Science of Campaigns* discusses penetration operations in the context of opening strike corridors and degrading enemy antiaircraft defenses as a prerequisite for an air offensive campaign. China Aerospace Studies Institute, In Their Own Words: Science of Campaigns (2006), 2020, p. 662.

transitioning to. Wuhu Air Base is not home to a unit that operates uncrewed aerial vehicles (UAVs) and establishing regular coordination with an aviation unit that operates UAVs would require extensive coordination across chains of command. For example, there are no confirmed Eastern Theater Command Air Force units operating the class of UAV shown in Image 1, taken of Wuhu Air Base (see below). The bureaucratic obstacles to effectively working with units from outside the 9th Aviation Brigade's chain of command for a combat method validation effort are a strong indicator that this is likely at the behest of PLAAF headquarters' subordinate units. As a result, it is possible that, given the 9th Aviation Brigade's extensive experience operating the J-20 and involvement in other combat method development efforts, it was tasked by the PLAAF tactics development apparatus to assist in the further refinement of MUMT combat methods in preparation for their incorporation into regulations.

Commercially available satellite imagery shows possible evidence of this combat method validation test in October 2024. Vantor imagery from 9 October 2024, displayed below, shows abnormal activity at Wuhu Airbase with one J-20 variant parked next to two CH-4 airframes, along with mobile satellite communication vehicles and other ground support modules for supporting UAV operations, annotated in the image.[4] Between 2022 and the end of 2024, no images are available of Wuhu Airbase displaying UAV activity at this airfield other than this photo. The CH-4s parked right next to the J-20 airframe breaks the pattern of life behaviors observed at most PLAAF airfields where both UAVs and fighter aircraft are deployed. Usually, a significant space separates the two aircraft types. Although this outlier is not conclusive proof that this unit was developing and refining a MUMT combat method, it is likely that many other events with CH-4 or similar airframes would have occurred and been imaged. However, the organizational friction required to conduct such tests likely limits the frequency of this activity, or these airframes were being operated from another air base.

Image 1: Image of Wuhu Air Base depicting possible combat method validation

Assuming that the combat method validation occurred in October 2024, it would have occurred just before the official unveiling of the PLAAF's J-20S variant, an upgraded, two-seat version of the J-20 intended for employing MUMT tactics, at the Zhuhai Airshow in 2024. The PLAAF's first operational J-20S is based out of the Cangzhou/Cangxian TTB. This is due to the Cangzhou/Cangxian TTB's status as the initial tester of new combat methods and tactics for new platforms introduced to the PLAAF. Currently, the 9th Aviation brigade has not been confirmed to operate any J-20S variants and was only recently confirmed to have transitioned to the J-20A variant, an upgraded single-seat version of the J-20.[5]

The restriction of the J-20S to Changzhou/Cangxian TTB, Cangzhou/Cangxian TTB's status as the primary hub for tactics development, and ongoing development and testing efforts of uncrewed platforms at other testing facilities—not at operational units—are strong indicators that the 9th Aviation Brigade was selected by the PLAAF combat methods and tactics development apparatus to assist in the refinement of the airspace penetration MUMT combat method. The claimed validation conducted by the 9th Aviation Brigade indicates that the PLAAF may be further ahead in adopting the concepts of operation and doctrinal thinking required for the widespread employment of MUMT than previously assessed.

Operational units validating MUMT combat methods with operational platforms suggest a substantial step toward establishing an operational capability. However, several factors constrain the analysis of this development using available sources. There have yet to be confirmed indications that the 9th Aviation Brigade operates the J-20S or that the units that operate the J-20S at the Cangzhou/Cangxian TTB deployed it to the 9th Aviation Brigade to assist in combat method development. It is unclear if this unit was coordinating activity between a CH-4 controlled by a ground-based operator akin to what a J-16 unit was reported to have done in the past,[6] or if this was, in fact, a J-20S coordinating the employment of the CH-4 through the use of a weapons system operator in the back seat.

If this TTP validation involved a J-20A, which the 9th Aviation Brigade has transitioned to, coordinating weapons employment or sensor usage with a CH-4, this may indicate significant improvements in the PLAAF's ability to use data links to share data between uncrewed platforms and crewed platforms or use uncrewed platforms as data link relays to work with other platforms. PLA concepts of UAV employment for information support frequently discuss the utility of UAV as data nodes,[7] enabling aircraft to relay information back to command posts, or potentially in the case of air operations airborne command posts in aircraft like the KJ-500. Notionally, fifth generation aircraft passive sensing capabilities could also allow the J-20 to share information to other components of a SEAD package while maintaining a low observable profile, using a UAV as a relay.

The exact mission profile of the combat method tested, and the roles of the respective platforms, are also unclear. Given the description of the combat method tested, the platforms imaged at the airfield, and dated PLA doctrinal writing on air operations, it is possible that this was related to the suppression or destruction of enemy air defenses. While CH-4 has not been directly associated with a SEAD mission, PLA discussions of SEAD tactics suggest prominent roles for UAVs, particularly for higher risk missions due to their low cost and ease of replacement.[8] Several of these missions include information domain support, including ISR, electronic warfare, and serving as decoys so enemy radar operators are forced to start emitting.[9]

The information available on this combat method validation, however, is not conclusive proof of a mature TTP that involves J-20 weapons system officers or a J-20 variant otherwise coordinating employment of weapons with uncrewed platforms from the air. The exact extent of the testing is unclear. Given the presence of ground support vehicles, it is possible that the CH-4 ground-based operators were coordinating employment with the J-20, and the systems were not being directed or otherwise controlled by the J-20. Alternatively, this validation could have been utilizing the CH-4 as a stand-in platform for another system that has yet to reach combat units. The event depicted in the satellite imagery could also be explained as a potential propaganda move by the unit's political work department, in an attempt to send the signal up echelon that the 9th Aviation Brigade is pursuing MUMT efforts as part of the PLA's modernization program. Assuming that this combat method validation involved sharing targeting information between the two platforms or other actual collaborative practices between a J-20 variant and the CH-4 airframes, the involvement of the 9th Aviation Brigade could help accelerate the adoption of this combat method by the rest of the PLAAF.

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Endnotes

[1] ["School of Art and Design Holds Lecture on the Spirit of the Fourth Plenary Session of the 20th CPC Central Committee"] 艺术与设计学院开展党的二十届四中全会精神宣讲会, [Jiangxi Vocational College of Foreign Languages and Foreign Trade School of Art and Design Wechat Account] 江西外语外贸职院艺术与设计学院, 24 November 2025, https://mp.weixin.qq.com/s/j-jxVY2UuR3n-G9xDIoqUw.

[2] [Xu Yong] 徐勇 and [Lu Hui] 卢辉, ["Reflections on Victory by a Heroic Squadron: A Visit to the 'Wang Hai Squadron' of a Certain Aviation Brigade in the Eastern Theater Command Air Force, Which Was Awarded a First-Class Collective Merit This Year"] "英雄大队的胜战之思走进今年荣立集体一等功的东部战区空军航空兵某旅"王海大队"", [Airforce News] 空军报, 24 June 2022, p 1.

[3] ["This is the "Wang Hai Squadron""] "这就是"王海大队"", [People's Air Force Wecaht Account] 人民空军, 20 January 2026, https://mp.weixin.qq.com/s/e8LtmjY71Tkh5eP67tvJ-A.

[4] Vantor, World View 03 VNIR, WV03_VNIR 2024-10-09T02:50:35Z 104001009CA91700, 9 October 2024.

[5] X post, @RupprechtDeino, 3 April 2026, https://x.com/RupprechtDeino/status/2039978725203169452/photo/1

[6] John Chen and Emilie Stewart, "PLA Concepts of UAV Swarms and Manned/Unmanned Teaming", China Aerospace Studies Institute, 21 April 2025, p. ₽25. https://www.airuniversity.af.edu/CASI/Display/Article/4147751/pla-concepts-of-uav-swarms-and-mannedunmanned-teaming/.

[7] Caroline Tirk and Eli Tirk, "PLA Information Support to the Battlefield: UAV Employment Concepts and Challenges", China Aerospace Studies Institute, April 2025, p.₽ 12. https://www.airuniversity.af.edu/CASI/Display/Article/4147737/pla-information-support-to-the-battlefield-uav-employment-concepts-and-challeng/.

[8] Maj. John Garrison, "China's SEAD Tactics and Doctrine", China Aerospace Studies Institute, June 2026, p.₽ 27.

[9] Ibid.