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Development of Sea-to-Shore Strike Capabilities**



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Furious Seas, Raging Waves: The PLA's Development of Sea-to-Shore Strike Capabilities¹

Tian Ying²



Sea-to-shore strike operations involve the destruction and suppression of various enemy targets on land during modern amphibious landing warfare. Such strike operations can provide fire support and cover for landing forces and may even directly achieve operational objectives. With regards to potential future cross-sea landing operations, although Taiwan currently lies entirely within the striking range of the Chinese military's tactical ballistic missiles, cruise missiles, and long-range rocket artillery, and an initial wave of Chinese cross-strait fire strikes could destroy exposed targets and severely damage the island's defense systems, this capability alone is insufficient to completely eliminate all concealed targets held by the defending forces. During wartime, undetected or mobile air-defense systems, anti-ship missiles, and other anti-landing weapons could still impede Chinese landing operations. Therefore, to ensure continuous engagement of various time-sensitive targets—such as enemy fire positions that can rapidly re-emerge, mobile air-defense and anti-ship missile systems, and self-propelled artillery—conducting sea-to-shore strike operations throughout the entire amphibious landing operation and providing the needed fire support for landing forces is crucial in modern cross-sea landing campaigns.

Sea-to-Shore Strike Operations During a Cross-Sea Landing Campaign

At present, driven by anxiety and panic over China's rising power and a desire to contain its peaceful development, U.S. political circles frequently provoke China on core interests related to Taiwan. They have even schemed to exploit "Taiwan Independence" elements to cross a red line regarding forced reunification. Such plots aim to "Ukrainize" Taiwan and drive the island to ruin, thereby raising the cost of reunification for China in order to weaken the country's national strength and curb its development. Meanwhile, in recent months, "Taiwan Independence" forces on the island, emboldened by the backing of external powers, have acted with increasing brazenness. In response to

¹ 天鹰 [Tian Ying], 怒海狂涛—解放军海上对岸打击作战能力的发展 [“Furious Seas, Raging Waves: The PLA's Development of Sea-to-Shore Strike Capabilities”], 舰载武器 [Shipborne Weapons], no. 11 (2024), pp. 26-33.

Translator's note: *Shipborne Weapons* is a magazine published by the Zhengzhou Institute of Mechanical and Electrical Engineering, also known as the 713 Research Institute of the China State Shipbuilding Corporation.

² **Translator's note:** “Tian Ying” is a pseudonym.

the repeated actions by U.S. and Taiwan authorities that challenge the bottom line of peace, the Chinese People's Liberation Army must intensify preparations for military conflict so that, when necessary, it can force a crossing of the Taiwan Strait, launch large-scale amphibious landing operations, completely eliminate the "Taiwan Independence" forces, and achieve the complete reunification of the country.

As is well known, the Taiwan Strait extends from the coast of Fujian Province to the western shore of Taiwan, spanning a distance of approximately 400 kilometers. It is wider in the south and narrower in the north—with widths of about 400 kilometers at the southern entrance and 200 kilometers at the northern entrance—and reaches its narrowest point of 130 kilometers in the north. Its total area is approximately 90,000 square kilometers. Ever since the Nationalist forces were defeated and retreated to Taiwan in 1949, the Taiwan Strait has been regarded by the Taiwan authorities as a formidable natural barrier preventing the People's Liberation Army from launching an attack on the island.

Currently, Democratic Progressive Party authorities in Taiwan, intent on pursuing independence through military means, continue to view the Taiwan Strait as a critical barrier for resisting unification with the motherland. They aim to exploit the Strait's unique geography to mount a phased defense across maritime, coastal, and inland zones against the People's Liberation Army, seeking to stall for time and await reinforcements or military intervention by U.S. forces. As for the Chinese military, long-term development marked by the commissioning of numerous modern amphibious warfare vessels—such as the Type 071 comprehensive landing ship and the Type 075 amphibious assault ship—as well as the fielding of large numbers of transport helicopters, high-speed air-cushioned landing craft, and mobile amphibious infantry fighting vehicles has all enabled a significant shift in its cross-sea landing capabilities. In particular, it has enabled a transition from traditional beach-assault operations to over-the-horizon landing operations. This not only signifies a substantial reduction in the role of the Taiwan Strait

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The PLA Navy's Type 071 Amphibious Transport Vessel



The AH-64E Attack Helicopter Fleet of the Taiwan Region's Army Aviation Forces

as a natural barrier against a military offensive on the island, but also implies that the scope of the Chinese military's amphibious landing operations is no longer confined to the Strait; the entire maritime area surrounding Taiwan has now become an operational zone for the flexible mobile projection of Chinese military forces. However, "Taiwan Independence" elements and the forces backing them will not voluntarily lay down their arms simply because of the rapid development of the Chinese military's modern amphibious warfare capabilities. As the saying goes, "where the broom does not reach, the dust will not vanish on its own." Judging by current trends, the likelihood of achieving complete unification of the motherland through the use of force is steadily increasing.

Analyzing the coastal defense military exercises conducted by the Taiwan military over the years reveals that its military deployments and operational modes aimed at "defending independence by force" are constantly evolving in response to changing circumstances. One of their key features is the intent to launch long-range strikes during wartime, prioritizing attacks on People's Liberation Army naval vessels while they are docked in port or in transit formations. Operational methods include: deploying U.S.-made F-16 fighter jets, armed helicopters, and missile fast-attack craft to launch concentrated attacks on PLA naval targets using long-range air-, ship-, and shore-launched anti-ship missiles, thereby interdicting and delaying the assembly and transit of PLA landing forces; employing ship-to-ship missiles, shore-to-ship missiles, air-defense missiles, pre-positioned ground artillery, and armed helicopters at the forward edge and extending dozens of kilometers from the coastline to intercept PLA naval vessels, helicopters, air-cushioned landing craft, and other amphibious assault assets; strategically and densely deploying a wide array of standard explosives, obstacles, and incendiaries including naval mines, underwater piles, landmines, steel Czech hedgehogs, steel pyramid obstacles, log piles, concrete tetrahedrons, and barbed wire, as well as permanent obstacles created by modifying the terrain in coastal areas suitable for landings, in an effort to delay the PLA's advance through various means; and utilizing tank and armored units along with air cavalry brigades (equipped primarily with helicopters) as a mobile reserve force within the depth of the defensive lines to reinforce the frontline or launch counter-attacks against PLA amphibious assault troops depending on the development of the battle situation.

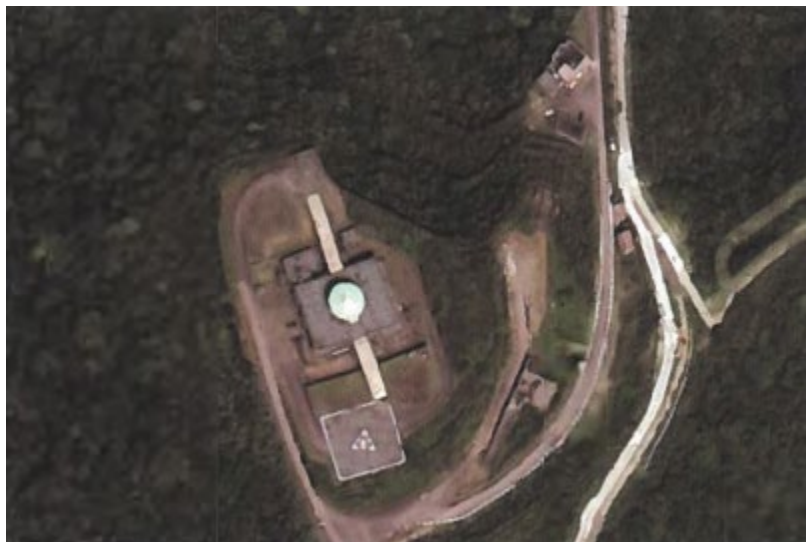
Given that the entire island of Taiwan currently lies well within the striking range of the PLA's diverse arsenal—which includes tactical ballistic missiles, cruise missiles, and long-range rocket artillery—any future campaign for unification by force would begin with large-scale, cross-strait fire

strikes targeting key military assets across the island. This point represents a consensus among military observers and marks a key feature distinguishing a future reunification campaign from the many amphibious landing operations seen throughout the history of warfare.

Based on predictions and simulations found in recent external analyses regarding a potential conflict in the Taiwan Strait, a prevailing view is that, should the situation escalate to the point where the People's Liberation Army must launch a large-scale amphibious landing to achieve complete national unification, the Taiwan military's command centers, airbases, and air defense systems would be the first to suffer devastating strikes from PLA firepower. Indeed, virtually all of Taiwan's key fixed military targets and facilities would likely be reduced to rubble under the PLA's precise, concentrated, and sustained cross-strait bombardment. These targets are subject to constant, close surveillance by the PLA's high-resolution reconnaissance satellites during peacetime; their coordinates are already logged in PLA databases and designated for destruction in the initial wave of attacks. The PLA would employ cross-strait strikes to maximally degrade the Taiwan military's resistance capabilities, thereby ensuring the successful achievement of the landing campaign's objectives.

For years, based on research and simulations regarding the PLA's operational methods for an invasion of Taiwan, the island's military leadership has adopted "preserving combat power" as the primary guiding principle for its contingency operations—aiming to minimize losses during the initial stages of a conflict and avoid severe damage from sudden, long-range precision strikes.

Over a long period of development, the Taiwan authorities have constructed extensive reinforced concrete tunnel fortifications across the island. These are reportedly capable of sheltering over 80 percent of their troops and equipment within protective bunkers during the initial phase of a hostile strike. Furthermore, key command centers and wartime command posts have been moved underground; these robust structures can withstand direct hits from heavy munitions and offer a degree of protection against nuclear and chemical threats. This implies that in a future campaign for unification by force, while the Chinese military's cross-strait fire strikes could



Satellite Image of the Mobile Radar Station at Lintianshan (Hetianshan) on Taiwan

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The "Brain" of Taiwan's Military – the Hengshan Command Center, Located Deep Underground Beneath Jinan Mountain in the Dazhi Area on the Outskirts of Taipei; It Is an Extremely Robust Facility

destroy various exposed targets and severely damage the opposing defense system, they would still be insufficient to completely eliminate all concealed operational and tactical targets held by the defending forces. During the conflict, numerous undetected or mobile air-defense systems, anti-ship missiles, and other counter-landing weapons would likely survive, posing a significant threat to Chinese landing operations.

In recent coastal defense exercises organized by the Taiwan military, drills have frequently simulated the utilization of concealed coastal fire to interdict amphibious assault vehicles or landing craft while they are crossing the water, or deploying armed attack helicopters that leverage terrain for cover to strike landing troops and equipment as the PLA assault forces reach the beachhead.

Taiwan's ground forces have deployed large numbers of U.S.-made howitzers and domestically produced multiple-launch rocket systems in key defensive zones. In recent years, they have also purchased highly mobile HIMARS long-range rocket systems and "Switchblade" loitering munitions from the United States. Most of these weapon systems, typically kept under strict concealment or within fortified positions, possess rapid mobility and relocation capabilities, making it unlikely that they could be neutralized by a single initial wave of cross-strait fire strikes. This implies that even Chinese assault forces, equipped with modern over-the-horizon amphibious warfare capabilities, will still face threats from a variety of enemy coastal defense fire systems during wartime. Consequently, future over-the-horizon amphibious operations must rely on sea-to-shore strike capabilities. Furthermore, unlike traditional linear amphibious operations—which involve a step-by-step advance from the coastline to enemy depth—over-the-horizon landing is a multidimensional combat pattern in which airborne vertical landings and surface landings are closely coordinated.



The Taiwanese Military Purchased 18 HIMARS Rocket Launchers from the United States. These Rocket Launchers Possess Strong Mobility and Long-Range Precision Strike Capabilities.

From the very beginning of an engagement, airborne delivery forces direct the thrust of their attack straight at the enemy's defensive depth, while the landing battle unfolds simultaneously across the full depth of the enemy's defenses. This requires employing various forms of firepower to engage, suppress, and destroy all enemy targets posing a threat to the landing forces in a timely manner—particularly by eliminating targets that appear suddenly, such as firing points, artillery batteries, and even enemy armored formations deployed for counter-landing operations.

However, the wartime operational procedures for land-based, long-range, cross-sea strike weapons are relatively complex; they struggle to meet the requirements for providing immediate fire support to amphibious assault forces or for rapidly engaging highly mobile, time-sensitive tactical targets. Therefore, even in the waters of the Taiwan Strait, conducting sea-to-shore strike operations is essential to provide the necessary fire support for landing forces during modern cross-sea landing campaigns. Such engagements ensure continuous strikes or suppression of various time-sensitive targets throughout the entire amphibious landing process, including suppression of resilient enemy firing points, mobile air defense/anti-ship missiles, and self-propelled artillery.

Modern sea-to-shore strike operations are multi-dimensional and integrated, drawing strike capabilities from air, surface, and underwater domains. Airborne strike assets include carrier-based aircraft, armed helicopters deployed from amphibious assault ships, and unmanned combat aerial vehicles, as well as fighters, bombers, and drones operating from inland airbases within the theater of operations. Air strike forces possess high-intensity firepower projection capabilities, enabling them to deliver sustained strikes against various enemy shore-based targets prior to the landing of amphibious troops. Surface strike capabilities include large-caliber naval guns and land-attack cruise missiles carried by destroyers and frigates, as well as multiple-launch rocket systems mounted on hastily modified surface platforms. These systems enable precise, sustained strikes against targets ranging from the enemy's coastal frontline to deep inland areas, all while operating beyond the effective range of hostile coastal defenses. Underwater strike capabilities primarily consist of submarine-launched cruise missiles. Compared to those launched from surface vessels, submarine-launched missiles offer greater stealth and the element of surprise while facing significantly lower threats from the enemy.

Modern sea-to-shore strike operations primarily target operational and tactical objectives within the enemy's defensive system. These operations rely on continuous reconnaissance and surveillance, utilizing diverse technologies to monitor the enemy's defense deployments across the full depth of the landing zone. Electronic warfare serves as the vanguard, disrupting and disabling enemy communications and early-warning systems to create



Static Display of the PLA Air Force JH-7A Fighter-Bomber and Its Compatible Munitions

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favorable conditions for various strike assets. Subsequently, diverse strike forces deliver firepower across the enemy's entire defensive depth from multiple directions, aiming to disrupt anti-landing deployments and establish a battlefield posture advantageous to China's landing forces. As modern coastal defense firepower extends its range and the Chinese military's cross-sea amphibious landing capabilities undergo a major shift—transitioning from traditional beach-assault tactics to over-the-horizon operations—sea-to-shore strike operations in modern amphibious campaigns will primarily feature long-range strikes. These operations will center on launching precision-guided munitions from outside the threat range of enemy coastal defenses and deploying large numbers of information-enabled unmanned combat platforms to destroy enemy targets ashore.

PLA Development of Capabilities for Conducting Coordinated Maritime Combat Operations from the Opposite Shore

In the mid-1990s, “Taiwan Independence” forces on the island suddenly became rampant, initiating substantive actions to undermine national sovereignty. Amidst the malicious agitation and even provocations by “Taiwan Independence” elements and hostile foreign forces, the situation across the Taiwan Strait inevitably descended into a prolonged period of tension. Consequently, the Chinese People's Liberation Army was compelled to prepare for potential military action to safeguard national sovereignty and territorial integrity. At the same time, however, it was evident that in the face of this rapidly shifting situation, the Chinese military's response countermeasures were hasty in a number of areas. Not only did its overall equipment standards and combat capabilities fall far short of the requirements of modern high-tech warfare, but its technical capabilities and operational

models for amphibious landing operations were essentially on par with those of foreign militaries during World War II.

The large joint operational exercises conducted by the Chinese military in the 1990s were primarily characterized by the following sequence: Air Force formations equipped with conventional bombs and rockets would first launch area-saturation strikes against enemy beachheads and immediate rear areas; subsequently, main force units would transit via a combination of a limited number of dedicated landing craft and a larger number of requisitioned civilian vessels, ultimately executing a beach assault under the cover of ship-borne artillery fire. At that time, the Chinese military lacked the capability to maintain continuous reconnaissance and surveillance covering the enemy's full defensive posture and movements across the operational zone. Furthermore, China was unable to employ long-range precision fires to strike, suppress, or destroy all targets posing a threat to the landing forces. Consequently, had a large-scale amphibious landing operation been required under these conditions, it is clear that it would inevitably have come at a very high cost.

Video footage from the large-scale amphibious landing exercises conducted by the PLA in the 1990s reveals that, in addition to the medium- and large-caliber naval guns mounted on destroyers and frigates, the PLA's sea-to-shore strike capabilities included 122mm rocket launchers temporarily installed on landing craft and Army tube artillery deployed on large, modified vessels. Consequently, during wartime, the PLA was compelled to position its high-value capital naval ships within the effective engagement range of enemy anti-ship fires from the shore. While the shipborne multiple-launch rocket systems of that era offered relatively wide area coverage, they suffered from limited range and precision and could only provide fire support for a limited time. As for mounting Army artillery on ships to conduct bombardment of targets on shore at a close range, this presented challenges regarding the safety of the firing position and the accuracy of the artillery fires. Since the host vessels inevitably moved with the sea swell, firing Army artillery from platforms lacking stabilization



In the 1990s, the Amphibious Landing Exercises Conducted by the People's Liberation Army Still Focused on Beach Assaults.



The PLA Once Placed Army Self-Propelled Artillery on Ship Decks to Provide Fire Support for Landing Forces.

systems made it extremely difficult to accurately hit specific targets. Although installing stabilization devices and improving gunner proficiency could gradually enhance the hit rate of such ship-borne artillery, these systems still struggled to meet the range requirements of modern amphibious operations—specifically, the need to strike targets deep in enemy-controlled territory. Moreover, the firing positions remained within the effective range of enemy shore-based fires. As conspicuous maritime targets, the transport vessels were vulnerable to being hit, which would inevitably render them unable to provide the necessary fire support to the assaulting forces. Therefore, the fundamental solution lies in the comprehensive development of advanced, long-range, high-precision, and high-yield munitions capable of being launched from various air and sea platforms, enabling deep-strike capabilities against operational targets from beyond the reach of enemy coastal defense weapons.

Since then, the PLA's long-range precision strike weaponry has entered a new phase of sustained development. As sea-to-shore strike operations are conducted based on the prerequisite of securing control over the operational space, the development of airborne weaponry and equipment is of critical importance. Public reports indicate that since the turn of the 21st century, frontline combat units of the PLA Air Force have fully transitioned from third-generation fighter jets to fourth-generation or "4.5-generation" models, while key "fist" units across various theater commands have been equipped with fifth-generation stealth fighters. The new generation of domestically produced fighter jets incorporates advanced propulsion and avionics systems. These aircraft are equipped with next-generation airborne radars capable of long-range detection and identification, as well as a diverse array of extended-range medium-range air-to-air

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The Large-Scale Entry into Service of the J-20 Stealth Fighter Has Brought About a Leap in the Combat Capability of the PLA Air Force, Entering an Era of "Defeating the Superior with the Superior"

missiles, short-range air-to-air missiles for air combat, anti-radiation missiles, air-to-ground missiles, and glide-guided bombs, and a variety of other standoff air-to-land (or -sea) surface weapons. These aircraft possess capabilities for both close-range dogfighting and long-range attacks against both airborne and ground- (or sea-) based targets beyond visual range. They can execute all-weather interception missions during wartime, engage various enemy aerial targets, compete for air superiority in the theater of operations, provide air cover for naval surface fleets, escort other types of combat aircraft, and—after air superiority has been secured—proceed to carry out missions to establish control over land and sea. They are capable of striking targets deep within enemy rear areas, as well as targets located in the immediate rear or front lines of the battlefield. Due to Taiwan's unique geographical location, the operational radius of PLA combat aircraft—even when deployed at coastal land-based airfields—is sufficient to cover the entire Taiwan Strait theater of operations; consequently, PLA land-based aviation forces will remain a vital component of cross-strait strike operations.

Regarding long-range sea-to-shore strike capabilities, since the turn of the century, the PLA has commissioned a large number of key assets such as Type 052C/D and Type 055 guided-missile destroyers, Type 054A guided-missile frigates, and the new generation Type 093 and Type 039 submarine series, all of which now possess the capability to deploy and launch land-attack weapons. In particular, the commissioning and attainment of combat readiness by the "Liaoning" and "Shandong" aircraft carriers, alongside the entry into service of amphibious assault ships like the "Hainan," have endowed the PLA with the capability to launch aerial fire strikes against enemy targets on land using carrier-based fighter jets and armed helicopters from mobile maritime positions. The operational scope for over-the-horizon amphibious landing operations has expanded to cover any direction around the island of Taiwan. However, given that any future PLA operation for the forceful unification of Taiwan would entail both cross-strait amphibious assault missions and tasks involving the interdiction and engagement of reinforcing enemy forces—in the case of the latter, the focal point

of the operation would be countering the external interventionist forces—the primary naval combat assets such as aircraft carrier strike groups would be tasked chiefly with thwarting any form of military intervention by hostile external powers. Consequently, the surface vessels tasked with providing escort and fire support for landing forces would likely consist predominantly of Type 052C/D destroyers and Type 054A/056A frigates.

Given that the primary threat facing landing ship formations during transit and ship-to-shore transfer is air strikes by enemy long-range missiles, the weapon configurations of Chinese escort vessels must prioritize air defense capabilities to the greatest extent possible. This implies that, in wartime, Chinese escort fleets cannot be equipped with large numbers of long-range land-attack missiles, thereby limiting their overall operational effectiveness. Consequently, for fire support missions during amphibious landing operations, shipborne guns—which carry relatively large ammunition loads—remain the most suitable assets for delivering sustained, precise, and timely fire. However, among Chinese vessels, only the Type 052D destroyer’s 130mm main gun possesses a degree of over-the-horizon strike capability when firing specialized ammunition; the single-barrel 76mm main guns on frigates such as the Type 054A and Type 056A are constrained by a limited maximum effective range. Engaging shore-based targets with these guns would require the ships to closely approach the enemy coast, inevitably placing the ships within the lethal range of various enemy coastal defense weapons. It is evident, therefore, that the guns organic to escort vessels are insufficient to meet mission requirements in wartime. There is a critical need to develop surface combat platforms capable of meeting the demands of modern naval warfare regarding range, precision, and responsiveness in land-attack operations.

In April 2002, the PLA modified the Type 053H guided-missile frigate “Jiujiang” – which had been in service for nearly 30 years – into a dedicated fire-support ship. During the conversion, the two twin-cell “SY-1” anti-ship missile launchers amidships and the large depth-charge launchers at the stern were removed. The vacated space was used to install five domestically developed 50-tube 122mm multiple-launch rocket system units featuring twin-pod configurations. At the same time, modular ammunition magazines and automated rapid-loading systems capable of lifting, transferring, and ramming rounds were installed below deck for each rocket launcher. Multiple compartments on the ship were reconfigured to house equipment and systems—such as fire control, servocontrol, aiming, and meteorological support—and designed to service the shipborne rocket system. The two main gun mounts at the bow and stern were replaced with domestically produced Type 79A twin-barrel 100mm naval guns. The shipborne 122mm multiple-launch rocket system installed on the “Jiujiang” utilizes the same types of ammunition as its land-based counterpart. These include high-explosive fragmentation rounds with steel pellets, thermobaric rounds, dual-purpose submunition rounds, high-explosive incendiary-fragmentation rounds, incendiary rounds, and mine-laying rounds. The system boasts a maximum range of 40 kilometers and an extremely high rate of fire.

The vessel can unleash 250 rockets against enemy coastal defense positions within mere tens of seconds



The Imposing Presence of the PLA Navy's Type 052D Destroyer

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Firing a 130mm Naval Gun Aboard a PLA Navy Type 052D Destroyer



Firing a 76mm Naval Gun Aboard a PLA Navy Type 054A Frigate

and a single salvo delivers more firepower than an Army rocket artillery battery equipped with six 40-tube launchers. Its exceptional fire density allows fire coverage over a large area, enabling it to effectively damage surface and underground fortifications, personnel, and weaponry across a vast expanse of the enemy's defensive zone.

Furthermore, as the “Jiujiang” carries at least two full combat loads of rockets in its below-deck magazines, its automatic loading system can autonomously reload the launchers, enabling the ship to quickly deliver a new round of fire. The ship's high-speed maneuverability allows it to rapidly occupy firing positions during wartime and provide timely fire support to amphibious landing forces. The successful development of a dedicated fire-support ship added a brand-new class of vessel—one possessing unique combat capabilities—to the PLA Navy's arsenal. In September 2005, following its refit and return to active service, the “Jiujiang” received a commendation from headquarters during the PLA's “Lijian-2005” joint amphibious landing exercise,



Fire Support Ship Converted from the Frigate “Jiujiang”

earning praise for its intense firepower and the precision of its strikes.

The successful conversion of aging vessels into fire-support ships demonstrates that, should the need arise, the PLA is fully capable of rapidly transforming large numbers of surface vessels into maritime platforms for standoff fire strikes against onshore targets. This grants the PLA the capability to conduct sustained, intense, and large-scale sea-to-shore strike operations during wartime. However,

the 122mm rocket launchers equipped on these fire-support ships have a maximum range of only 40 kilometers. While this provides an over-the-horizon strike capability, it remains insufficient for engaging enemy targets deeper inland from a safe standoff position. Particularly in the era of high-tech warfare, coastal defense systems have evolved to center on shore-based combat aircraft, long-range coastal defense missiles, and large-caliber rocket launchers—extending maritime defense ranges between 93 and 185 kilometers—necessitating a shift toward long-range or ultra-long-range capabilities for naval shore-strike artillery. In response, relevant domestic research and development sectors have initiated projects for long-range sea-to-land strike systems, such as the modular, ship-borne 300mm large-caliber long-range rocket launcher system. This system utilizes a self-stabilizing mount and features an integrated design, combining the long-range rocket launcher, control equipment, and ammunition supply system within a containerized unit. Combined with a simplified guidance system, it effectively mitigates the impacts of ship motion and displacement on firing accuracy.

According to publicly available data, land-based long-range rocket artillery systems of this caliber have an effective range of 60-120 kilometers, with the potential for further range extension, and can achieve long-range strike precision of 50-100 meters. The warheads utilize high-explosive fragmentation or shaped-charge anti-armor submunitions designed primarily to suppress and destroy massed enemy targets within a 60-120-kilometer radius. The system can complete a launch sequence within one minute, and a single multi-tube launcher unit can cover an area of 340,000 square meters. The ship-based modular large-caliber long-range rocket artillery system integrates large-caliber rocket launchers, control systems, and ammunition supply equipment into a containerized format, offering exceptional flexibility and convenience in loading, unloading, deployment, and operation. By utilizing standard shipping containers and universal components, the system not only facilitates multimodal transport across land, sea, and air, but also minimizes the risk of detection during storage, transport, and lifting operations. More importantly, during wartime, these combat modules can be rapidly installed onto large numbers of requisitioned civilian container ships and roll-on/roll-off vessels without



Firing Rockets from Rocket Launchers Aboard the “Jiujiang”

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Close-Up Of a Rocket Launcher Aboard the “Jiujiang”



Photo Circulated Online Depicting the Domestically Produced 300mm Modular Ship-Based Rocket Launcher

requiring major structural modifications. By simply hoisting containerized combat modules onto a vessel—based on available deck space—and performing basic setup calibration, the system is ready for immediate use. This not only facilitates the concealment of strategic and operational intentions but also significantly enhances the military’s maritime fire support capabilities. Thanks to its long range, the system enables combat platforms to operate safely outside the reach of hostile shore-based and shipborne firepower, while still meeting the requirements for deep fire support in modern amphibious operations. By employing a staggered deployment of firing positions at varying ranges during wartime, it can provide a comprehensive coverage of the enemy’s entire defensive system across the theater, spanning from the beachhead and immediate rear areas to deep inland zones. When supported by theater-level reconnaissance and surveillance assets such as UAVs that provide continuous monitoring of the full depth of the enemy’s defensive deployments and real-time movements across the entire amphibious landing zone, the system is fully capable of executing

operational and tactical missions to strike, suppress, and destroy targets throughout the enemy's defensive depth.

The rapid development of domestic UAV technology in recent years is providing the military with brand-new operational methods and capabilities for modern sea-to-shore missions, which are capabilities that better align with the cost-effectiveness requirements of warfare. Public reports indicate that various types of domestically produced reconnaissance-strike UAVs, stealth attack drones, and loitering munitions—characterized by simple designs and low manufacturing costs—have already entered operational service. With multiple models available for deployment from surface combat platforms, these assets will significantly enhance the PLA Navy's capability to conduct land-attack operations. Public reports also indicate that the various branches and services of the PLA currently possess organic UAV units, and a wide range of active-duty UAV models have recently been publicly displayed on multiple occasions. These UAV systems include high-altitude, long-endurance reconnaissance drones tasked with target acquisition, designation, and battle damage assessment for long-range precision strike weapons;



Photo Circulated Online Depicting the Reloading Process of a Domestically Produced 300mm Modular Rocket Launcher

unmanned combat aerial vehicles capable of immediate “see-and-strike” operations against ground targets; anti-radiation drones designed to locate and attack enemy air-defense radar systems; electronic warfare drones capable of suppressing and jamming enemy radio communications; loitering munitions that can remain airborne while autonomously searching for and attacking ground targets; and small drones capable of executing "swarm" attacks on designated targets. Leveraging a massive domestic industry for the independent research, development, and manufacturing of unmanned aerial vehicles, the PLA possesses an unmatched capability, in terms of both variety and quantity, to deploy such equipment in wartime. This implies that any large-scale cross-sea amphibious landing undertaken by the PLA at a critical juncture in the future will not be a mere replay of traditional warfare.

During wartime, once various cross-sea strike assets have achieved their intended effects, large numbers of drones with diverse mission capabilities will immediately arrive over the designated

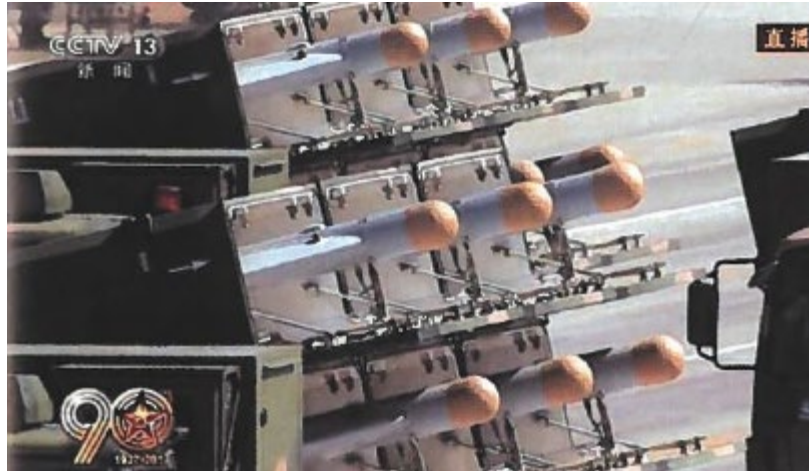
landing zone. Utilizing onboard optical, infrared, and radar sensors, they will conduct continuous, round-the-clock, all-weather ground observation, search, and surveillance. Upon detecting Taiwanese military maneuvers such as the movement of anti-landing forces or activities like the emergency repair of air defense positions, airfields, communications, and transport infrastructure, they will transmit target data in real-time to long-range strike command centers or other combat platforms. This will enable long-range strike assets to rapidly and accurately engage and destroy the targets, in addition to facilitating an assessment of the strike's effectiveness. Unmanned combat aerial vehicles with varying flight altitudes and payload capacities will autonomously patrol specific, smaller mission sectors to search for and attack ground-based resistance targets. They will employ lightweight, precision-guided munitions to identify, engage, and neutralize detected ground-based point targets and other time-sensitive targets on demand. Simultaneously, large numbers of drones capable of anti-radiation operations will loiter over their respective mission areas. Equipped with radar signal detection systems, they will specifically search for enemy radar and other electromagnetic emissions, ready to launch attacks at any moment.

According to available information, the new generation of domestically produced anti-radiation UAVs currently fielded by the PLA features a long operational radius, high flight speed, and extended endurance. Equipped with electro-optical video reconnaissance and real-time image transmission capabilities, these drones allow operators to monitor strike results in real time and directly pilot the aircraft to select targets, thereby enabling a wide range of

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Launch of a PLA-Operated Drone



Domestically Produced Anti-Radiation UAVs In Service with the PLA

operational applications. Compared to current manned combat aircraft, unmanned combat aircraft offer superior target strike precision, faster response times, and greater strike effectiveness. They also provide high controllability and result in minimal collateral damage, making it possible to achieve optimal operational outcomes with minimal risk or even zero casualties at a low cost.

Given the vast number of drones available for wartime deployment—allowing for rapid replenishment following combat losses—the resulting operational effectiveness is overwhelming. Consequently, in modern amphibious landing operations, drones are well-suited to provide aerial fire support and cover during both the transit and assault-landing phases. They can promptly suppress enemy firing points, tanks, and artillery emerging within coastal defense zones and shallow rear areas, thereby effectively mitigating the threat posed by various coastal defense weapons to landing forces at sea. As drones secure overwhelming operational superiority in the theater of operations, a wide range of enemy ground targets—including mobile coastal defense anti-ship missiles, artillery, and even personnel—will become targets for these unmanned systems. Such scenarios have become increasingly common in recent localized conflicts.

More importantly, the unmanned aerial vehicle systems that the PLA could deploy in large numbers across a theater of operations during wartime are not merely cost-effective platforms for aerial reconnaissance and combat; they also serve as critical nodes within the modern, information-centric battlefield architecture. By leveraging the connectivity and integration capabilities of advanced information technologies, these systems can seamlessly link with reconnaissance, command and control, and strike assets across various domains to form a cohesive, organic whole. An advanced, integrated battlefield information network not only provides the PLA with accurate, real-time situational awareness but also facilitates information-based command and control, thereby establishing an information-centric combat system capable of covering vast theater spaces, conducting real-time surveillance, and executing rapid precision strikes against detected targets. Undoubtedly, during wartime, the PLA will fully exploit the stealth, networked, and integrated capabilities of its unmanned combat aircraft to achieve rapid situational awareness, resource sharing, and close coordination among diverse weapon platforms, resulting in highly efficient information-

centric operations. Under the coverage of this advanced, integrated battlefield information network, there will be no "safe zones" anywhere within the full depth of the island of Taiwan.

Undoubtedly, any future campaign for "unification by force" would not be a replay of traditional warfare. Instead, it would manifest as a joint, integrated, cross-sea offensive launched by the PLA using multiple services and arms, characterized by overwhelming superiority. Supported by information superiority, the PLA could employ large quantities of precision-guided weapons to launch accurate fire strikes against the military forces of Taiwan. Therefore, should a war for national reunification break out, the PLA possesses the full capability—driven by formidable information-based warfare prowess—to completely crush any form of military resistance from Taiwan's forces. The so-called "hedgehog strategy" of resisting reunification through military means is nothing but a delusion. The day the campaign for national reunification is launched will mark the end for "Taiwan Independence" forces on the island. Whether they attempt to "seek independence by force" or "resist reunification by force," they will be "like a mantis attempting to stop a chariot" in the face of the People's Liberation Army's overwhelming offensive. No person or force could possibly stop the Chinese people's achievement of complete national unification.



Domestically Produced WZ-7 Large UAV

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