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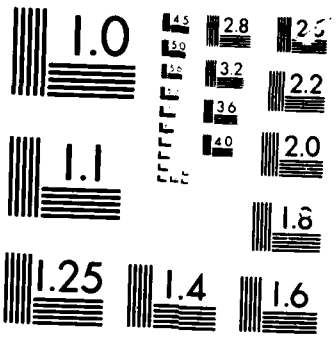
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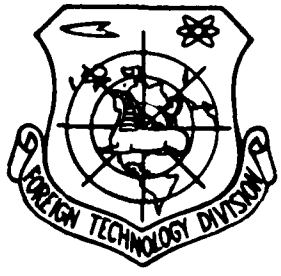
# FOREIGN TECHNOLOGY DIVISION


THE CHINESE GUIDED MISSILES STRIDE TOWARD MODERNIZATION

by

H. Zhangnuo and Y. Mu





# HUMAN TRANSLATION

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# THE CHINESE GUIDED MISSILES STRIDE TOWARD MODERNIZATION

The 1985 April issue of the Japanese "Aviation Intelligence" magazine published an article written by Doi Hiroshi on the status of our country's guided missile technology striding toward modernization. This article is herein translated for reference. The fact that this magazine translates and publishes this article does not indicate we either concur or confirm its report. Rather, it is solely to provide our readers with some information on what comments are being made abroad about our country's modernization of national defense.

Currently, China is putting the realization of the four modernizations as a national goal. The People's Liberation Army also wants to be built into a modernized army.

## The First Display of Strategic Guided Missiles in a Military Parade

In order to commemorate the 35th anniversary of the establishment of the People's Republic, China held a national day ceremony in Beijing Tian An Man Square on October 1, 1984. The celebration parade was renewed for the first time in 14 years. A military parade was also conducted which had not been seen for a full 25 years. The armed forces which participated in the military parade included the People's Liberation Army, Military Police and militia totaling 8,080 men. There was a total of 428 vehicles in the military parade including tanks and armed vehicles. The parade formation stretched 3 kilometers.

The last military parade in China was conducted in 1954. Major weapons displayed that time included T-59 tanks (Soviet Union model of T-54), F-5 fighters (Soviet Union model of MIG-17) and Illusan-28 bombers, etc. This time, in addition to tanks and airplanes, there were also guided missiles on display. The guided missiles displayed included the Army's anti-tank guided missiles, the Navy's submarine-launched ballistic guided missiles, ground-to-ship and air-to-ship guided missiles, the Air Force's surface-to-air guided missiles, and the CSS-2, CSS-3, and CSS-4, three strategic guided missiles.

At first, the weapons were produced using technologies introduced from the Soviet Union. Currently, China has been able to manufacture them independently. Since China now puts an open society and the raising of the standard of living as the first goal, the modernization of the Liberation Army's equipment, including guided missiles, is not necessarily guaranteed a faster pace of development. However, the potential strength of her guided missile forces is still not to be underestimated. Especially, China now possesses strategic guided missiles which include submarine-launched ballistic guided missiles. This portion of weapons alone indicates that China has a high level of scientific technologies. Let's discuss the guided missiles on display this time for the purpose of predicting future Chinese military power.

It appears that the anti-tank guided missiles are copied from the French "HOT" guided missiles. This missile is 128 centimeters in length, 14 centimeters in diameter, 31 centimeters in wing span, and weighs 21 kilograms. It is armed with a regular warhead and has a range of 4,000 meters using solid-fuel. The missile guidance is wire controlled. There were 32 jeeps, each carrying 3 missiles in the before-mentioned military parade. It is reported that China also has the Russian AT-3 "SAG" anti-tank guided missiles which are smaller in dimensions than those of the subject guided missiles.

## The Military Forces Have Been Armed With Nuclear Submarines and Under Water-Launched Guided Missiles

In October 1982, China successfully conducted tests of launching ballistic guided missiles from submarines (basically G-class submarines) for the first time. Undoubtedly, the submarine-launched guided missiles on display in the before-mentioned military parade were of the same type. It is reported that China currently has one Xia-class (hereinafter all weapons are referred to by their Chinese names) nuclear submarine capable of carrying 12 CSS-NX-3 guided missiles (it is not known whether they are the modified CSS-2 guided missile mentioned below). Said guided missile has a range of 2,800 kilometers and its warhead contains the equivalent of 2 MT explosives. Further, it is reported that China is in the process of building 4 such nuclear submarines with the plan of deploying a total of 12 such submarines.

HY-2 (Sea Hawk) ground-to-ship guided missiles are copied from the Russian SS-N-2 ("Styx") ship-to-ship guided missile. This missile is 6.3 meters in length, 0.75 meter in diameter, 2.8 meters in wing span and weighs 2.8 tons with a range of 40 kilometers. On October 21, 1967, an Egyptian guided missile boat launched this type of guided missile late that afternoon and sank the Israeli destroyer, the Elath, over the sea near the north dock of the Suez Canal. In addition to coast defense facilities uses, this kind of guided missile is also used to arm destroyers and patrol boats.

Air-to-ship and ship-to-ship guided missiles had been introduced in the live television coverage of the before-mentioned military parade by Beijing. During the Falkland Islands War in May 1982, China was greatly interested in the French "Exocet" air-to-ship guided missiles used by the Argentinean airplanes and might consider importing it, but the details are unknown.

Moreover, according to reports by the "1984-1985 Military Power Balance" magazine, China has two Han-class nuclear-powered submarines each armed with 6 CSS-N-4 cruise missiles (range 1,600 kilometers), two Jiang Dong cruisers, each armed with 2 twin ship-to-air guided missiles. The details, however, are unknown.

The Chinese Air Force currently has a surface-to-air guided missile battery which is armed with 100 CSA-1's (Red Flag-2, i.e., copy of the Russian SA-2 "SAM II") and a total of 16,000 anti-aircraft guns for the protection of critical locales like major cities, industrial areas, military bases and depots, etc. Thirty-two Red Flag-2 guided missiles participated in the before-mentioned military parade. This missile is 10.7 meters in length, 0.7 meter in diameter, 3.5 M in speed and has a range of 50 kilometers. In the Vietnam War, the North Vietnamese used it to counter the American strategic bombers. It was reported that the Soviet Union used the same kind of missile to shoot down the American U-2 high altitude reconnaissance airplane on May 1, 1960.

Land-launched ballistic guided missiles include CSS-1 quasi-medium range ballistic guided missiles, CSS-2 medium range ballistic guided missiles, and CSS-3 and CSS-4 intercontinental ballistic guided missiles. Three of each of the latter three guided missiles participated in the before-mentioned military parade.

The CSS-1 guided missile is copied from the earlier Soviet SS-3. It has a range of 1,800 kilometers and its nuclear warhead contains the equivalent of 20 KT explosives. Since 1970, China has deployed about 50 such guided missiles along her northern border defense line. It seemed at that time that China would deploy more of such guided missiles. But before this was realized, China turned her focus to the research and manufacture of long range guided missiles. However, China's CSS-1 guided missiles might recently be retro-fitted with thermal nuclear warheads and consequently pose a threat to the Soviet Union.

The CSS-2 guided missile has a range of 4,000-5,000 kilometers, and its warhead contains the equivalent of 2 MT explosives. Sixty such missiles have been deployed since 1971. Although these missiles are launched from stationary launch sites, it is estimated that China will redeploy them (not to say that they could not have sufficient mobility). Presently the annual production rate of this missile is 5-10. It is reported that this kind of guided missile is the same type as the first stage of the rocket which China used to launch her first satellite in April 1970.

The Deployment of Intercontinental Ballistic Guided Missile and New Development in Solid-Fuel

In 1976, China conducted tests on multi-stage rocket ballistic guided missiles that had longer ranges. The CSS-3 is a type of intercontinental ballistic guided missile that uses a two-stage rocket. It has a range of 7,000-10,000 kilometers, and its nuclear warhead contains the equivalent of 2-3 MT explosives. It was reported that during the period from 1975 to 1980, China deployed two such guided missiles in her western region and 6 more are in the process of being manufactured. According to reports by the "1984-1985 Military Power Balance" magazine, China has already deployed 4 such missiles.

In May 1980, China launched two experimental intercontinental ballistic guided missiles to the region near the Solomon Islands, Fiji Islands and Gilbert Islands in the Pacific Ocean. They were CSS-4's. The range of the missiles during the tests was 7,000 kilometers (some speculated that it was 13,800 kilometers). The guided missiles in those tests were not armed with warheads. It was reported that such guided missiles could be armed with a warhead that contains the equivalent of 5 MT explosives. This guided missile is 33 meters in length, and the current estimation of its range is 13,000 kilometers. It uses a two-stage liquid-fuel rocket. Presently, there are 2-3 such missiles deployed in China's central region.

So far all the intercontinental ballistic guided missiles deployed by China use liquid-fuel. China, however, has been conducting research and manufacture of solid-fuel. According to reports, solid-fuel had been used in the test launches in 1980. It is also possible that the existing CSS-4 guided missiles already use solid-fuel.

The aforementioned guided missiles are armed with a single warhead. China has not deployed MIRV guided missiles. However, in September 1981, China launched three satellites using one rocket. It is clear that China is in the process of conducting research and manufacture of MIRV guided missiles.

As strategic guided missile forces, the Chinese ballistic guided missile batteries form the Second Artillery Corps. Although this Corps is under the army organizational system, it receives orders directly from the Ministry of Defense.

The guided missiles for fighter-bombers were not displayed in the before-mentioned military parade. It appears, however, that the fighter-bombers are armed with PL-2 air-to-air guided missiles (copied from the Soviet AA-2 "Lagoon" guided missiles). This missile is 280 centimeters in length, 12 centimeters in diameter, 53 centimeters in wing span. It is armed with a regular warhead. It has a range of 15 kilometers using solid-fuel and is guided by infra-red system.

Although the Chinese guided missile forces in general are combat-worthy, there still exists technical problems which need to be solved in the future.

In order for the ballistic guided missiles to have mobility and fast response capability, it is necessary to use solid-fuel. In order to attack multiple targets, MIRV must be used. In order to decrease loss probability of the intercontinental ballistic guided missiles when under attack, efforts must be expended to raise the missile launcher's survivability. The performance of a guidance system for all guided missiles also needs to be improved so as to increase their

accuracy.

When Defense Minister Zhang Aiping visited the United States in June 1984, he was greatly interested in the American "TOW" anti-tank guided missile and "Hawk" surface-to-air guided missile. This confirms that China had considered the need for anti-tank guided missiles to counter an attack by superior Russian tank columns. The deployment of air defense forces must be strengthened to counter air-borne attacks by the Russian paratroopers. In order to win ground battles, China also considers arming her ground forces with tactic nuclear weapons (artillery shells, mines and guided missiles), and using B-6 medium range bombers (copied from the Soviet Tupolev-16) armed with nuclear weapons to attack bases behind enemy lines.

It appears, on the one hand, that China deploys intercontiental ballistic guided missiles for deterrent purposes and, in the mean time, for the potential consideration of improving her national prestige.

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