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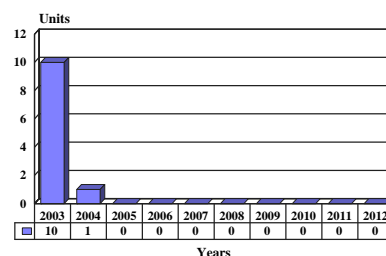
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Type WZ 523 - Archived 8/2004

Outlook

- Production of the Type WZ 523 is winding down for the domestic requirement
- Vehicle has been promoted on the export market, but no sales have yet been made
- The vehicle could be enhanced to increase its marketability
- There is essentially no modernization or retrofit potential for Western firms

10 Year Unit Production Forecast
2003 - 2012



Orientation

Description. A wheeled armored vehicle.

Sponsor. The development and procurement of the Type WZ 523 are sponsored by the People's Republic of China Central Military Commission through the Ministry of National Defense and the People's Liberation Army.

Contractors. This vehicle was designed by the Combat Vehicle Directorate of the Ministry of Ordnance Industry and manufactured at the People's Republic of China State Arsenal. Marketing for export is by China North Industries Corporation, Beijing, People's Republic of China.

Licensees. None

Status. The Type WZ 523 is in declining serial production and service with the People's Liberation Army. The development of the vehicle is most likely complete.

Total Produced. As of 2003, 1,462 Type WZ 523 vehicles have been manufactured.

Application. An armored personnel carrier for the transport of infantry to and within the battlefield. A number of versions, possibly including a mechanized infantry combat vehicle, have been developed from the basic vehicle.

Price. In equivalent 2003 United States dollars, the Type WZ 523 armored personnel carrier has a unit price of \$187,600.

Technical Data

Crew. The basic armored personnel carrier version of the Type WZ 523 has a crew of two: commander and driver, plus 10 infantrymen.

Configuration. 6x6

Armor. The Type WZ 523 hull is fabricated from conventional rolled homogeneous steel-alloy armor, affording protection from small arms fire and ballistic fragments.

Design Features. The Type WZ 523 armored personnel carrier vehicle is amphibious.

Dimensions. The following data are for the present production Type WZ 523.

	<u>SI units</u>	<u>US units</u>
Length:	6.02 meters	19.75 feet
Width:	2.54 meters	8.33 feet
Height:	2.73 meters	8.96 feet
Combat weight:	11.2 tonnes	12.34 tons
Fuel capacity:	255 liters	67.82 gallons

Performance. The automotive performance data are for a metaled road.

	<u>SI units</u>	<u>US units</u>
Maximum speed:	80 kilometers per hour	49.7 miles per hour
Maximum range:	600 kilometers	372.6 statute miles
Step:	45 centimeters	1.48 feet
Trench:	94 centimeters	3.1 feet
Slope:	30%	30%
Gradient:	60%	60%
Fording:	amphibious	amphibious

Engine. The Type WZ 523 uses the EQ 6105 liquid-cooled spark-ignition engine rated at 123.09 kilowatts (165 horsepower) at an unspecified engine speed. This engine is manufactured by the Second Automotive Plant of the Ministry of Ordnance Industry. The power-to-weight ratio is 11.06 kilowatts per tonne (13.37 horsepower per ton).

Gearbox. This vehicle uses an unspecified manually operated gearbox with one reverse and six forward gear ratios.

Suspension and Running Gear. The 6x6 Type WZ 523 uses a combination coil spring/hydropneumatic shock damper suspension. Run-flat tires are standard.

Armament. The basic armament fit for the Type WZ 523 is a Type 54 12.7 millimeter machine gun with 600 rounds of ammunition. Optionally, a 7.62 millimeter machine gun can be fitted.

Variants/Upgrades

Variants. A number of versions, possibly including a mechanized infantry combat vehicle, have been or are being developed from the basic Type WZ 523 vehicle. One variant, possibly designated Type WZ 531 or ZFB 91, is fitted with a fully enclosed one-man turret mounted on the vehicle. This turret mounts a cannon, possibly of 25 millimeters caliber, and a coaxial 7.62

millimeter machine gun. A bank of two smoke grenade launchers is mounted on each side of the turret, and a white-light spotlight is mounted on the roof.

Modernization and Retrofit Overview. No known modernization or retrofit programs have been developed for the Type WZ 523. In any event, any such programs would be limited to Chinese firms.

Program Review

Background. The past two decades or so have seen the People's Republic of China become a significant player in the world combat vehicle market. This process, which began manifesting itself in the 1970s, has been largely the result of either licensing or copying outright various designs of the former Soviet Union. It is only since the early 1980s that non-Russian designs have been turned to, mostly under unlicensed programs. In many cases, the Chinese have adapted existing designs to suit their specialized requirements. In any event, the People's Republic of China's expanding combat vehicle industry now represents a potentially significant threat to other players.

Type WZ 523. One of the People's Republic of China's significant efforts in the area of light wheeled vehicles has been the Type WZ 523, a program that represents a major new avenue in Chinese combat vehicle design. The design is totally indigenous, although drawing on the general concept of the Ratel and Sibmas vehicles; French design features may also be employed in the vehicle. Even though the Type WZ 523 was first seen in 1984, many particulars of the vehicle (and program) are still unknown. The United States Army refers to the Type WZ 523 as the M1984 armored personnel carrier.

Description. The Type WZ 523 bears a general similarity to most other light wheeled vehicles, with the Western influence clearly evident in the design. The hull is constructed of all-welded steel-alloy armor, affording protection from small arms projectiles (at least to 7.62 millimeter Armor Piercing rounds) and ballistic fragments. The interior design has the driver seated at the front to the left and the commander to the right. The windscreens are replaced by armored shutters for combat. When the shutters are in place, three periscopes are used for vision; the center periscope can be replaced by infrared vision equipment for night use. Both the commander and the driver are provided with center-hinged roof hatches; a door is also provided, on the right side of the vehicle behind the first wheel station.

The gunner is seated to the front of the troop compartment, which is at the rear of the vehicle. The 10 infantrymen are seated on bench seats on each side of the vehicle interior. The infantrymen enter and exit via a large door at the rear; a firing port is in this door. Two observation/firing ports are located on each side of the troop compartment, and two rectangular hatches are on each side of the roof. The engine compartment is in the center of the vehicle, possibly set to the left. The Type WZ 523, like all other Chinese vehicles of this type, is amphibious, with water propulsion by two waterjets. Standard equipment includes an A220 radio, run-flat tires, an automatic fire detection and extinguishing system, infrared night vision equipment for the driver, and nuclear, biological, and chemical defense system.

Funding

Funding for the development and procurement of the Type WZ 523 has been provided by the People's Republic of China Ministry of National Defense through the People's Liberation Army.

Recent Contracts

Not available, as contractual information is not released.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Early	1980s	Indigenous development of new wheeled armored personnel carrier begun
October	1984	Type WZ 523 program revealed
Mid	2003	Production ongoing; development probably complete

Worldwide Distribution

Export Potential. Since the early 1980s, the People's Republic of China has become a significant player in the international market for combat vehicles. The indigenous development of light wheeled vehicles by this nation fills a significant gap in the Chinese combat vehicle offerings, and it is only a matter of time before sales are made on the export market. Chinese combat vehicles have a growing appeal in less developed nations because of their rugged, easily maintained design and low unit price compared with competing Western vehicles. However, while the Type WZ 523 has been offered on the export market, as of mid-2003, no sales had been reported.

Country. **People's Republic of China** (1,462)

Forecast Rationale

While the general lack of available information for all military vehicle programs of the People's Republic of China makes forecasting production of the vehicles a difficult undertaking at best, research into the Type WZ 523 is especially difficult. The Chinese have never released any substantive data on this vehicle even though the evidence now clearly indicates that the serial production of this vehicle is winding down. While no

definite data exists, the probable reason is that the People's Liberation Army wants the newer and more effective Type WZ 551/551B in service in large numbers as quickly as possible. However, we make the caveat that if any variants of the Type WZ 523 have indeed been developed, this vehicle's production could be extended significantly.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Vehicle	(Engine)	through 02	High Confidence Level				Good Confidence Level			Speculative			Total 03-12
			03	04	05	06	07	08	09	10	11	12	
CHINESE STATE ARSENALS													
TYPE WZ 523 (a)	EQ 6105	1462	10	1	0	0	0	0	0	0	0	0	11
Total Production		1462	10	1	0	0	0	0	0	0	0	0	11

(a) All production is for service deliveries only and includes all production models and versions.