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China's New Land Armaments: Western Assistance Pays Off

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Summary

Technology acquisitions from Western weapon builders--most notably Israeli, British, Belgian, and Swiss--are yielding major advances in the development of China's ground force arsenal. New weapons that China advertised at a US arms exposition in April include a redesigned main battle tank, China's first infantry fighting vehicles, and long-range artillery with state-of-the-art ammunition. These weapons demonstrate that Beijing has successfully pursued appropriate Western assistance in order to improve basic Chinese designs and is not simply engaging in "window shopping" in the West.

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Beijing's concentration on non-US, Western sources for its defense upgrades reflects its reluctance to rely exclusively on one of the superpowers in the drive for defense modernization. In areas where attempts to independently develop crucial technologies have failed, China is pursuing state-of-the-art weapons and expertise from the United States, while seeking more practical, near-term assistance from Western Europe or Israel. China's new line of weapons will probably help the land

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[Redacted]

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arms industry reverse a recent decline in foreign arms sales. Moreover, if produced in quantity, China's new arsenal will begin to reduce somewhat Moscow's formidable edge in both the quality and quantity of weapons along the Sino-Soviet frontier. [Redacted]

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A Debut of New Ground Equipment

At an April exposition of military equipment near Los Angeles, NORINCO--China's primary producer of land arms--issued brochures touting a variety of new weapons. The systems displayed indicate fairly rapid progress toward improved ground force equipment. [Redacted] some of these systems are entering production. [Redacted]

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A Redesigned Tank

A sales brochure shows that the Chinese have achieved several armor advances since an improved Type 59 tank, designated the M1984-1 [Redacted] was displayed in an October 1984 military parade in Beijing. The parade tank featured a 105mm British-designed gun and an advanced fire-control system,¹ but the brochure indicates this tank has been heavily redesigned:

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- Speed and mobility are improved by a new engine--probably of Western origin--with 30 percent more power. New Western-style road wheels and suspension allow higher speeds across rough terrain and improve main gun accuracy when firing on the move.
- Crew protection is augmented by a modular composite armor plate--an Israeli speciality--which can be suspended on the front of the tank. A new, Western-style fire-suppression system is able to detect and extinguish vehicle fires in milliseconds.
- Survivability is increased by mounting on the turret launchers that fire illuminating flares, or grenades that create a dense smokescreen in under 30 seconds. [Redacted]

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We do not know if the redesigned tank is in production. [Redacted] [Redacted] approximately 250 improved tanks were built [Redacted] last year, but a lack of detectable, distinguishing features makes it impossible to discern whether these are the M1984-1 or the more modern Chinese tank shown in the brochure. [Redacted]

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[Redacted]

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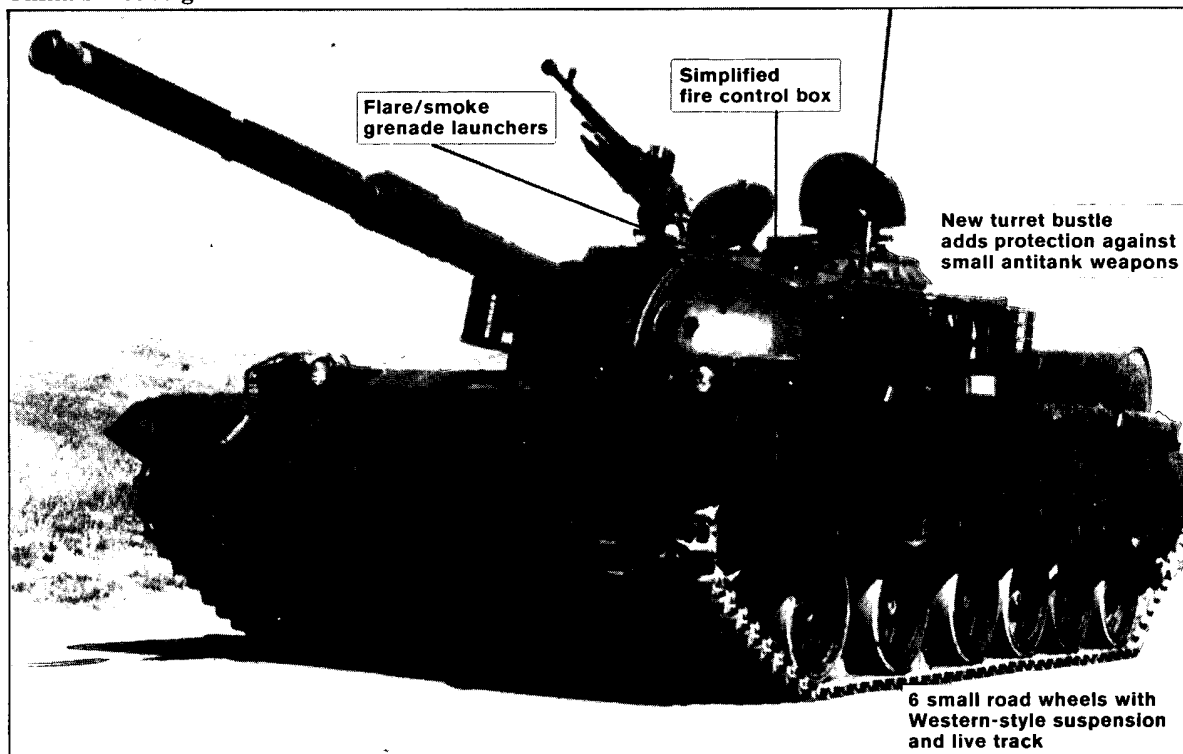
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China's M1984-1 Tank



China's Redesigned Main Battle Tank



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Table 1
Evolution of Chinese Tanks

	<u>Type 59</u>	<u>M1984-1</u>	<u>Redesigned Tank</u>
First produced	1959	1984	1986(?)
Main gun	100mm	105mm	105mm
Ammunition storage	34 rounds	34 rounds	44 rounds
Gun stabilization			
Vertical	yes	yes	yes
Horizontal	no	yes	yes
Weight (tons)	36.0	36.5	38.0
Engine horsepower	520 hp	580 hp	700 hp
Power-weight ratio (hp/ton)	14.4	15.8	18.4
Maximum speed	48 km/hr	50 km/hr	60 km/hr
Fuel capacity (with external tanks)	812 liters	812 liters	1400 liters
Fording depth	1.4 meters	1.4 meters	5.0 meters

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Infantry Fighting Vehicles

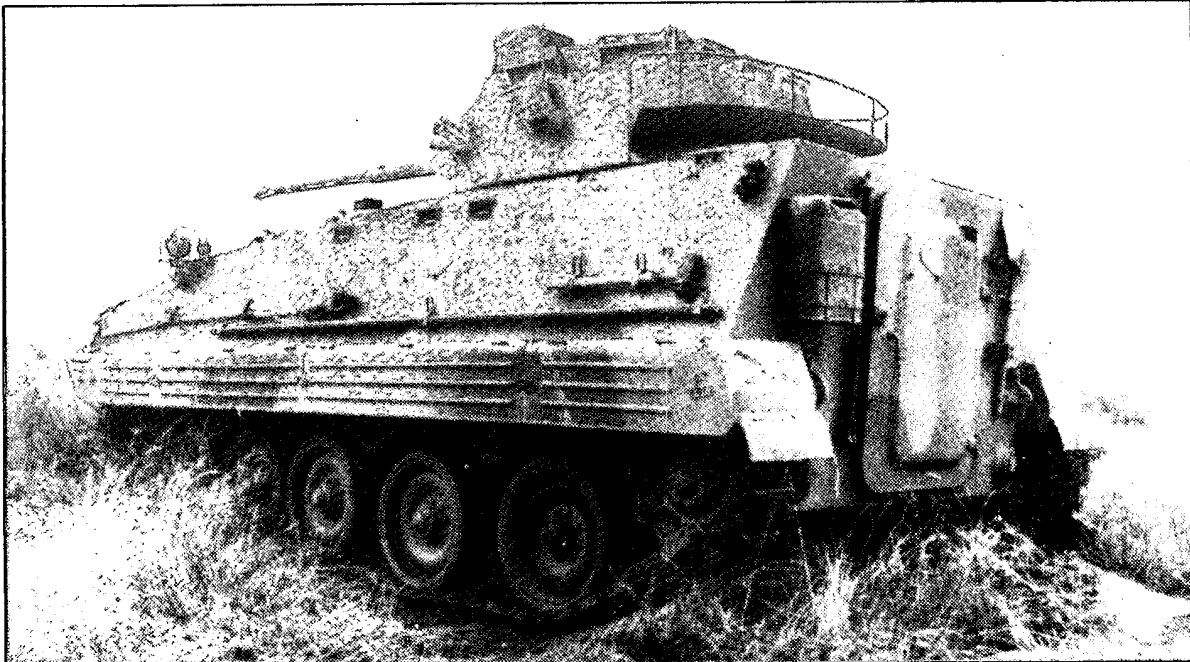
New brochures [] indicate the Chinese are pursuing several options to develop infantry fighting vehicles equipped with Western cannons effective against light armored vehicles, slow-flying aircraft, and attack helicopters. [] 25X1

[] several prototype infantry fighting vehicles have been built, 25X1 but none are yet in production. One brochure touts a joint venture between a British firm and NORINCO to build the NVH-1 infantry fighting vehicle with a two-man turret built by Vickers.² [] 25X1

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NVH-1 Infantry Fighting Vehicle (artist's conception)



NORINCO-Vickers joint venture, armed with a choice of 30-mm or 25-mm cannons in a two-man turret, carries a crew of 3 and 8 infantrymen.

YW307 Infantry Fighting Vehicle



Armed with a Swiss 25-mm cannon in a one-man turret, carries a crew of 3 and 7 infantrymen.

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The NVH-1 is based on China's Type 531 armored personnel carrier powered by a West German engine, but replaces the Chinese 14.5mm machinegun with either a British 30mm Rarden or Swiss 25mm Oerlikon KBB automatic cannon mounted in the turret.

[Redacted]

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The basic export model will use relatively unsophisticated optical sights, but the version planned for Chinese troops will include a light-intensification night vision system and laser rangefinder. A larger, fully amphibious version--the NVH-4--that can carry two additional infantry men is also planned. [Redacted]

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A second infantry fighting vehicle variant featured in a brochure--designated the YW307--is also based on the Type 531 armored personnel carrier but uses a one-man turret, probably based on a Swiss design. The main armament is probably the same 25mm KBB automatic cannon offered on the NVH-1, but with the smaller turret it may only carry half the ready ammunition. The YW307 lacks the sophisticated fire-control and optics systems of the NVH-1 and is probably designed primarily for export. Probably priced near \$400,000, it offers a less expensive, somewhat less capable--but still formidably armed--alternative to the NVH-1. [Redacted]

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Extended Range Artillery

Two new towed artillery pieces are also introduced in the brochures, both offering over twice the range of previous Chinese medium-caliber guns. The 155mm MF-45 is the first NATO-caliber howitzer produced outside the West. This weapon is probably a copy of the Belgian GC-45 howitzer and shares many of its features, including a 40-km range with base-bleed ammunition.³ [Redacted]

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[Redacted]

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The second towed gun--the Type 83--appears to be a hybrid of the old Type 66 (Soviet D-20) 152mm gun with features from the new MF-45 155-mm howitzer. Like the MF-45, this gun is towed with the gun barrel swung over the trails. The Chinese are also offering sophisticated base-bleed ammunition for the Type 83, extending its maximum range to 40 kilometers--more than double the range of other Chinese artillery.

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[Redacted] the Type 83 gun is in production with dozens shipped to Iraq [Redacted]

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on the Vickers joint venture. [Redacted]

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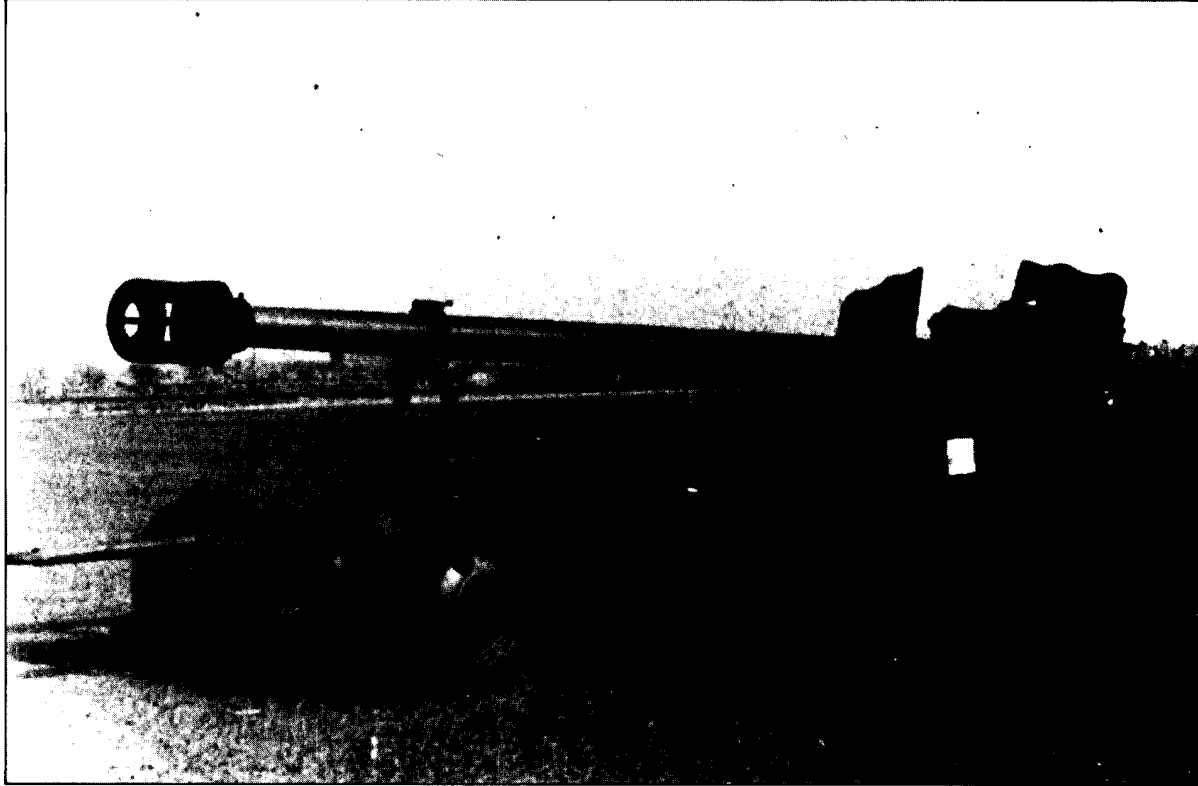
³ Base-bleed ammunition developed for the GC-45 incorporates two features that extend the range of artillery projectiles. The first feature is a projectile design that increases aerodynamic efficiency and reduces friction between the shell and the inner surface of the gun tube. The second feature is a small rocket motor, built into the projectile's base. [Redacted]

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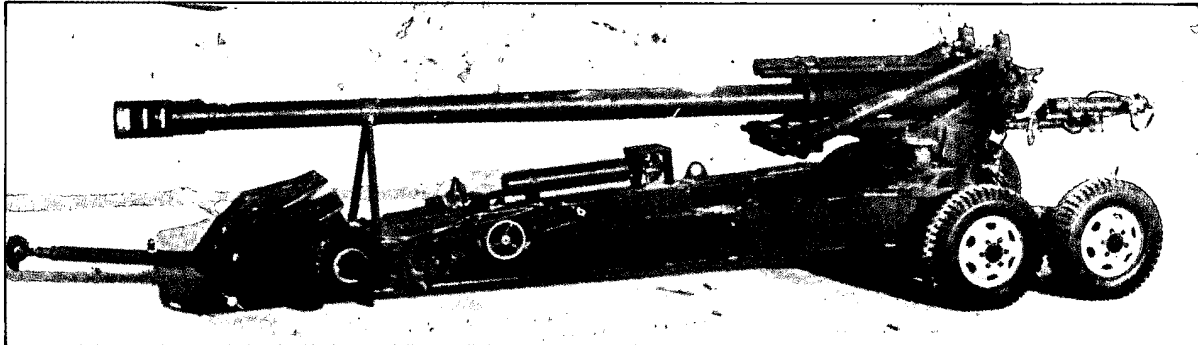
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Chinese-Type-83 152-mm Gun/Howitzer



Belgian GC-45 155-mm Howitzer, Cousin of China's New MF-45



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[Redacted]

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Air Defense Gun

China's first self-propelled anti-aircraft gun may also be entering production; a brochure indicates that China is offering a copy of the Soviet ZSU-57-2 for sale. The Chinese version, dubbed the Type 80, consists of twin 57mm guns mounted in an open-top turret on a Chinese tank chassis. [Redacted]

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This system would provide Chinese troops with their first mobile anti-aircraft artillery system and would be an improvement over current towed anti-aircraft guns--all of which are based on pre-1950 Soviet designs.⁴ Chinese forces could easily integrate the Type 80, because it shares many components with the Type 59 tank and uses the same gun and ammunition as China's 57mm towed anti-aircraft artillery. The Type 80 has no target acquisition or tracking radar, but the crew could be alerted against approaching enemy aircraft through radio links with forward observers and radar sites. Overall, the Type 80 would provide little defense against high-performance aircraft, but with an effective range of 4,000 meters, it could offer Chinese armored formations additional protection against Soviet antitank helicopters. [Redacted]

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Reliance on Western Technology

The new weapons depicted do not alter our assessment that Beijing stresses self-sufficiency in the production of new armaments. But they demonstrate that China is relying on the West for advanced weapons technology and has not just been "window shopping" in the West. Although Beijing acquires arms technology from many Western nations, several countries are playing leading roles in the modernization of ground force equipment:

[Redacted]

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[Redacted] a team representing each branch of Britain's armed forces, led by the Chief of the Military Sales Office for the Ministry of Defense, completed a three-week visit to China in March. Aside from Vickers' joint venture to produce an infantry fighting vehicle, Britain's Royal Ordnance Factory modified a Type 59 tank acquired from China in 1983, and licenses Israeli production of the 105mm gun now fitted on Chinese tanks. A brochure description suggests a Vickers gun sight--specifically designed for Type 59/T-55

[Redacted]

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tanks--is used on China's newest tank.

- **Switzerland:** A Chinese delegation probably plans to visit Switzerland soon to discuss final sales terms for Oerlikon turrets with 25mm cannons. The Oerlikon turret is probably the basis for a turret shown in a NORINCO brochure. The Chinese have also concluded a year-long evaluation of Oerlikon's Skyguard air defense system and are currently discussing production planning, financing, and support of the system with the Swiss.

[Redacted]

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Clearly, the desire for self-sufficiency is moderated by the need to acquire crucial technology, particularly in those areas where efforts to independently develop--or reverse-engineer--improved weapons have failed. [Redacted]

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[Redacted]

[Redacted] In our opinion, China is avoiding the purchase of expensive end items from foreign suppliers and focusing on joint production and technology transfer agreements that will lead to domestic production of the imported components. [Redacted]

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But Not US Military Technology

China's turn to West European suppliers--over US defense industries--in the past five years reflects Beijing's reluctance to rely on a superpower for weapons technology, and frustrations with Washington's restrictive export policies. By "buying European" Beijing supports its image of having an "independent foreign policy" and avoids the publicity, limits on technology, and delays inherent in Washington's Foreign Military Sales (FMS) process. Beijing, in particular, [Redacted] finds the Congressional review of US arms sales to China intrusive and is loath to provide conservative supporters of Taiwan additional opportunities to vent their anti-Beijing sentiments. [Redacted]

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[Redacted] pursue from the United States only those state-of-the-art technologies unavailable in Western Europe, while seeking more practical, near-term assistance from alternate sources. [Redacted]

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Implications for Chinese Arms Sales

NORINCO's new arsenal of arms for export may help restore China's foreign arms trade which has lagged over the past year or so. NORINCO began arms sales for profit in 1980 and set an annual sales goal of \$1 billion. [Redacted]

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NORINCO exceeded this goal in 1981 and 1982, netting \$3.4 billion in foreign sales--mostly to the Iraqi armed forces--but by 1985 sales had slumped to only \$600 million. At the same time, orders from the Chinese armed forces have declined because of budget reductions and a reluctance to acquire additional dated NORINCO equipment.⁵

[Redacted]

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The most attractive aspects of the new Chinese arms to foreign purchasers will be their relatively modern design, competitive prices, and Beijing's reputation for speedy delivery of large orders. Indeed, some of the weapons appear tailored for the foreign buyer; the 155mm field gun is unlikely to see service with the Chinese armed forces, which use 152mm medium artillery pieces similar to the new Type 83 gun. If the Chinese are able to market an infantry fighting vehicle for under \$500,000, it will be significantly cheaper than comparable systems from Western manufacturers. Moreover, NORINCO has proved its ability to deliver on time; Iraq ordered over 2,000 tanks and armored personnel carriers in 1981 for delivery by the end of 1985, and [Redacted]

[Redacted]

Beijing filled this order. [Redacted]

[Redacted]

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Impact on Ground Force Capabilities

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Even in the best of circumstances, it will take years before the Chinese deploy the needed quantities of advanced weapons to ensure that they can halt a Soviet assault before Beijing is overrun, or risk a "second lesson" against Vietnam's formidable Soviet-equipped border defenses. However, these new weapons could begin to fill some glaring gaps in Beijing's defenses:

⁵ The Chinese military supports NORINCO's creation of new arms but almost certainly would prefer to export these arms through its Baoli corporation, a direct subordinate of the General Staff's equipment department. [Redacted]

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China's central leadership has decreed that the military may increase the defense budget by exporting arms. [Redacted]

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Whereas NORINCO's profits are spent on plant modernization and worker bonuses, the PLA probably funnels profits from Baoli into new weapons--either domestically produced or foreign acquisitions--for the standing Army. [Redacted]

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[Redacted]

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[Redacted]

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- The new extended-range artillery systems provide impressive fire support, equaling or exceeding the range of even the most modern Soviet guns.
- The new Chinese tank is superior in range, accuracy, and mobility to standard T-54/55 and T-62 tanks which make up 90 percent of Soviet tanks currently facing China.
- The new infantry fighting vehicles offer an impressive challenge to the BMP, the backbone of Soviet mechanized infantry forces in Asia; the armament of prospective Chinese infantry fighting vehicles could destroy BMPs at ranges up to 3,000 meters, and even defeat BMPs fitted with additional armor--such as those identified in Afghanistan--at more normal combat ranges of up to 1,500 meters.
- Deployment of self-propelled antiaircraft artillery and infantry fighting vehicles with automatic cannons would provide Chinese mechanized forces with improved defense against Soviet attack helicopters. [Redacted]

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Over the longer term, Beijing's increasingly productive access to Western technology is likely to force Moscow to upgrade the quality of Soviet forces in the Far East. If Beijing allocates the monies to field its new weapons in large numbers, Moscow will have difficulty maintaining its commanding superiority without dramatically increasing the pace of equipment modernization among Soviet units along the Sino-Soviet border. [Redacted]

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In the shorter term, Beijing's modern weapons are likely to expand China's options for pressing the Vietnamese militarily. China's new generation of light armor is more suitable than tanks for the rough terrain of the Sino-Vietnamese border, giving Beijing the ability to conduct fast-moving raids on border targets. Using long-range artillery in border skirmishes--especially the ongoing combat at Malipo⁶ --Chinese troops could directly threaten even larger areas of northern Vietnam from Chinese soil. [Redacted]

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