



M-1989 170 mm self-propelled guns on parade in P'yongyang. (KCTV)

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M-1978 and M-1989 170 mm Self-Propelled Guns, Part II

By Joseph S. Bermudez Jr.

M-1989

Sometime during the mid-to-late 1980s the Third Machine Industry Bureau, of the Second Economic Committee, began production of a new 170 mm self-propelled gun that would subsequently become known as the M-1989.¹

The new system retained the same 170 mm gun as the M-1978 but is distinguished by its longer chassis with five roads per side—the forward two road wheels are more

widely separated than on the M-1978 which provides for greater reliability, stability and crew comfort in comparison to the older system. Attached to the rear of the hull are two large hydraulic recoil and stabilizing spades that are similar to those found on the M-1978. Mounted on top of the chassis is a large unenclosed sliding platform upon which is mounted the 170 mm gun. There is enclosed armored space to shelter four crew members—the driver and gun chief in a forward cab and two others in a central cab. During parades one of these crew members has frequently been seen armed with a SA-14 GREMLIN (9K34 Strella 3) or SA-16 GIMLET (9K310 Iгла 1) shoulder-fired surface-to-air missile. The remaining crew travel in a following ammunition and support truck. Mounted immediately behind the forward cab is a large folding travel lock for the gun barrel that closely matches the design of that found on the M-1978. The M-

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1989 bears a passing resemblance to the Soviet/Russian 2S7 Pion 203 mm self-propelled gun, which might have provided the inspiration for the system. Estimated specifications for the M-1989 are similar to those of the M-1978 and include,

Length, overall (hull and gun):	15 m
Length, hull (with spades):	8.7 m
Width:	3.27 m
Weight:	n/a
Speed:	30-40 kph
Road range:	300-400 km
Crew:	8
Gun:	170 mm
Range (HE-Frag):	43 km
Range (HE-Frag RAP):	54 km
Range (Chemical ?):	n/a

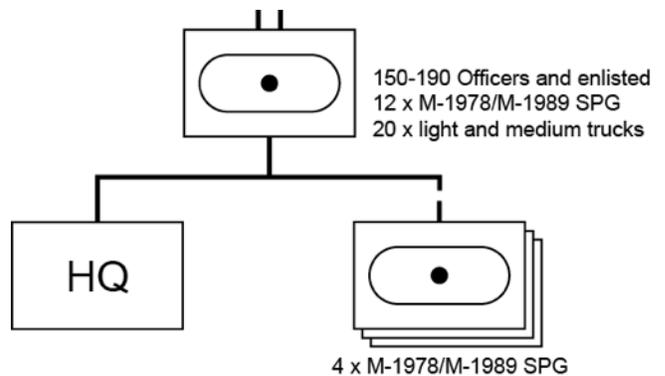
Rather than replacing the original M-1978s these new systems augmented them. They were used to first create additional army- and corp-level artillery units which were subsequently incorporated into two newly established artillery corps.

While the M-1978 was hardly seen publicly, the M-1989 has appeared in DPRK parades, propaganda and news broadcasts. For example, in 2009 Kim Chong-il and senior KPA officers reportedly attended a live-fire training exercise of the M-1989 equipped 681st Unit subordinate to the Artillery Command.

Despite the M-1989's visibility little detailed information has become available concerning the organization and deployment of units equipped with the system. During mid-March 2010 one of Google Earth's imagery partners captured what appears to be a M-1989 training exercise 1

km east of the town of Suchŏng-ni (39° 45' 03" N 124° 48' 23" E), P'yŏngan-bukto. This exercise was probably a part of the annual Winter training cycle for army- or corps-level units in the province.

Given the available information concerning the M-1978 and M-1989, known organizational structures of the KPA and available imagery it is likely that the majority of these systems are organized into army-level brigades under the peacetime control of the Artillery Command. Furthermore, a small number of corps-level brigades are also likely to exist. All these brigades are likely to be organized into a headquarters (including rear services), 3-6 artillery battalions and target acquisition, air defense and engineering elements. A possible M-1978/M-1989 battalion consists of 150-190 officers and enlisted personnel, 12 M-1989 and 20-30 light and medium trucks. These are organized into a headquarters and 3 firing batteries, each with 4 systems.

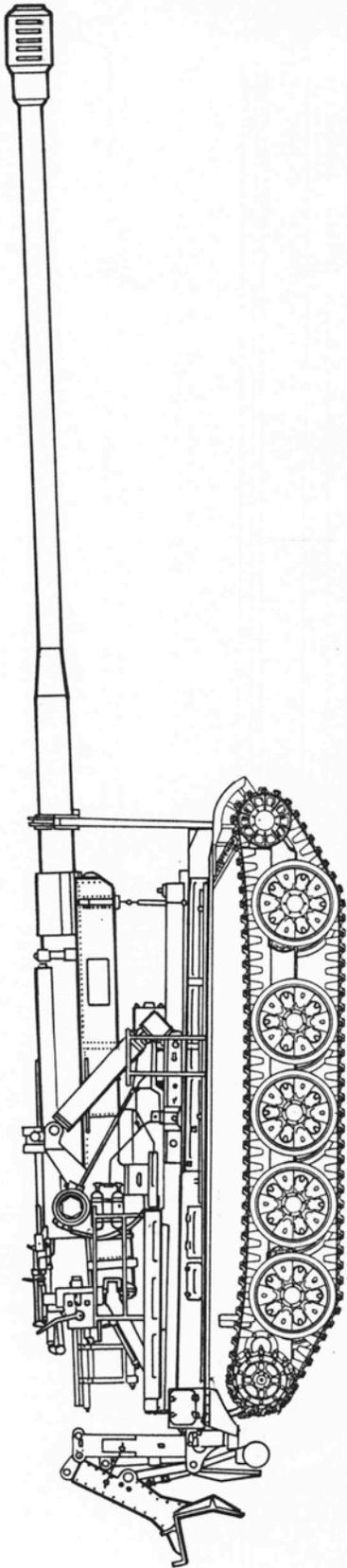


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Possible M-1978/M-1989 self-propelled gun battalion

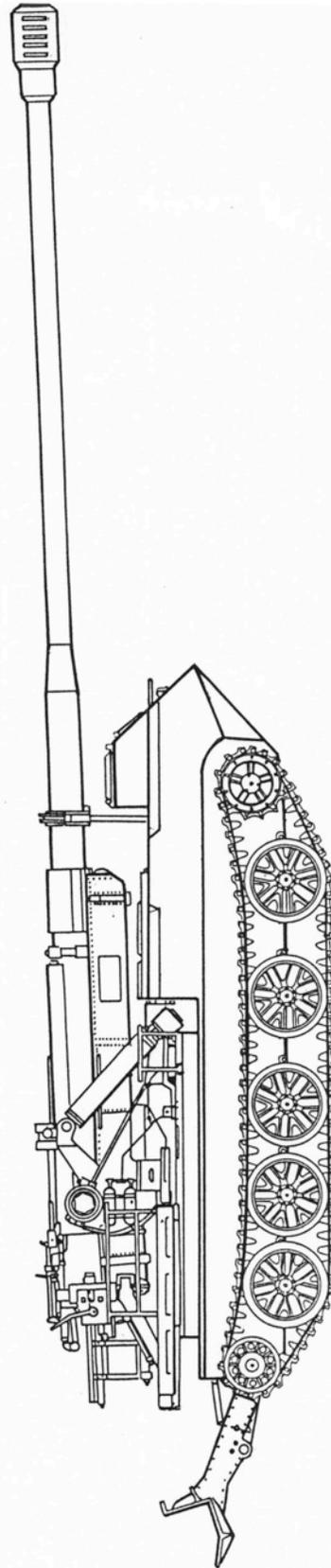


A group of M-1989s on parade in P'yongyang during 2009. (KCTV)



North Korean M-1978 170mm Koksan Self-Propelled Gun

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North Korean M-1989 170mm Koksan Self-Propelled Gun

Comparison drawings of the M-1978 and M-1989 170 mm self-propelled guns. (Copyright © 1990-2011 by Steve J. Zaloga, used with permission)



A group of M-1989s on parade in P'yongyang during 2009. (KCTV)



A battery of M-1989s (possibly from the 681st Unit subordinate to the Artillery Command) during a 2009 firing exercise. (KCTV)



This sequence of four images reportedly shows M-1989s of the 681st Unit subordinate to the Artillery Command during a 2009 firing exercise that was attended by Kim Chong-il and senior KPA officers. (KCTV)



This image reportedly shows M-1989s of the 681st Unit subordinate to the Artillery Command during a 2009 firing exercise that was attended by Kim Chong-il and senior KPA officers. (KCTV)



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A March 6, 2010 satellite image of what appears to be eight M-1989s during a training exercise 1 km east of the town of Such'öng-ni, P'yöngan-bukto. (Google Earth)



A close-up of the previous image. The ground scarring caused by the tracks suggest that the M-1989s were engaged in driver training and exercises to occupy revetted firing positions. (Google Earth)



Another close-up of the M-1989s, this time of the south two units. (Google Earth)

Yu Kyong-su, The Father of KPA Armor Forces

By Joseph S. Bermudez Jr.

If anyone interested in the Korean Peoples' Army (KPA) were to read, or listen to, the media produced by the Democratic Peoples' Republic of Korea (DPRK) for any length of time they would come across references to the 105th "Guards" "Seoul" "Yu Kyong-su" "Kum Song Lifeguard" "O Chung-hu'p Seventh Regiment" Tank Division.² The 105th directly traces its lineage to the KPA's first tank unit established in 1948 and is the service's premier tank unit serving as the incubator for tank and armor doctrinal and technological developments.³ Due to its importance, and thus its proximity to P'yongyang, Kim Il-sung, Kim Chong-il and Kim Chong-un have visited the 105th Tank Division on a regular basis since its creation.⁴ This, in turn, has served to increase the unit's importance so that only the best, or most politically influential, personnel are assigned to it. While the roots for the honorifics "Guard," "Seoul," "Kum Song Lifeguard" and "O Chung-hu'p Seventh Regiment" are generally well known that of "Yu Kyong-su" is not.

Yu Kyong-su (a.k.a., Ryu Kyong-su) was a first generation anti-Japanese revolutionary who was instrumental in the introduction of tanks (i.e., T-34-85) and armor (i.e., SU-76M self-propelled guns and BA-64 armored cars) into the KPA, organizing the service's first armor school and com-

manding the first tank unit—the 15th Tank Training Brigade. Within two years the 15th would become the 105th Tank Brigade and soon thereafter the 105th Tank Division.

Background⁵

Yu, was born on September 9, 1915 in Yenchi, Manchuria, and as a youth joined the popular communist anti-Japanese movement. Although reports are conflicting, he appears to have then joined and fought with the Chinese Communist 8th Route Army. Shortly afterwards he joined the Soviet Army and subsequently graduated from a Soviet Army tank school in 1938. During World War II he reportedly served as a company grade officer in a Soviet tank unit. Before the end of the war he was assigned to the 88th Special Independent Sniper Brigade of the Soviet Far East Command's Reconnaissance Bureau in Khabarovsk.⁶ Here his fluency in Korean, Russian and Chinese were of great value and he served as a platoon leader under Kim Il-sung—with whom he became a close associate. It was also in Russia that he met his future wife Hwang Sun-hui who was serving as a seamstress and nurse within the brigade.⁷

Following the liberation of northern Korea by Soviet forces in 1945 Yu returned to Korea alongside Kim Il-sung and his fellow partisans. He soon became a key member within the Korean Communist Party (soon to be the Korean Workers' Party) and commander within the newly established Railway Constabulary. When the Railway Con-



A wartime photograph believed to be showing Yu Kyong-su in the foreground. (Fatherland Liberation War Museum via Michael Madden)

stabulary was reorganized in 1946 Yu became brigade commander of the newly established 3rd Independent Infantry Mixed Brigade. In May 1947 he went on to assume

command of the 4th Regiment of the 2nd Infantry Division. Subsequently, based both upon his experience as a tanker within the Soviet Army during World War II and his political reliability, Yu was selected to oversee the establishment of armor forces within the KPA.

In May 1948 the KPA's first tank unit—the 15th Tank Training Regiment—was established under the command of Senior Colonel Yu Kyong-su. The 15th served as both a tank school training the future leaders of the KPA's tank and armor units and a nominally operational unit. In his position as commander Yu exerted considerable influence over the subsequent selection of personnel and the development of KPA tank and armor units.⁸ He would continue as commander when the 15th was reorganized as the 105th Tank Brigade in May 1949.

Fatherland Liberation War⁹

At 0500 hours on 25 June 1950 the KPA launched its invasion of the Republic of Korea by crossing the 38th Parallel and advancing south along three major routes. The 105th Tank Brigade led the western thrust towards Seoul, entering Uijongbu on 27 June, Seoul on 28 June, Yongdungp'o on 2 July, Inchön about 3 July and converged on Suwön shortly thereafter. For these actions the brigade was awarded the honorific title of "Seoul" and elevated to a tank division in Order No.7, dated 0800 10 July 1950, by Kim Il-sung.¹⁰ Despite its elevation to division the unit received no significant augmentation and would remain a brigade-sized unit for



A KPA photograph purportedly showing the 105th Tank Brigade entering Seoul on 28 June 1950.



Official colors of the 105th Tank Division displayed in the Fatherland Liberation War Museum. (Joseph S. Bermudez Jr. Collection)

most of the war.

During the next eight weeks elements of the 105th Tank Division supported the advance of both the I and II Corps towards Pusan. Tanks of the division were instrumental in the battles to capture Taejon, Kumch'ŏn and supported the attack across the Naktong River. In recognition of these

operations the unit was awarded a second honorific title of "Guards." During August Yu was awarded the KPA's highest decoration, the "Hero of the Democratic People's Republic Korea" with a concurrent award of the "Order of the National Flag 1st Class" for leadership of the 105th Tank Division during the capture of Seoul and subsequent fighting.¹¹

On or about 10 September 1950 units of the division were ordered to assemble in the vicinity of Kumch'ŏn to regroup and receive replacements. Concurrently, the United Nation's X Corps landed at Inch'ŏn on the same day. A few days after the Inch'ŏn landing the division was ordered to move north to Suwon to defend Seoul repel the X Corps. Before it had the opportunity to make an orderly withdrawal the division was heavily engaged on 19 September forces from the VIII Army advancing north from the Pusan Perimeter. The VIII Army advance encircled major elements of the division and the unit lost most of its tanks and equipment. Many personnel, however, managed to escape north on foot. During the fighting Yu was wounded and successfully evacuated first to Seoul and then further north, thus avoiding capture.

Four months later, during January 1951, Yu was named to head III Corps after its commander Kim Kwang-hyop was wounded. This assignment was allegedly due in part because of his "outstanding record" as commander of the 105th Tank Division. Despite these achievements Yu's reputation as a corps commander among his peers was rather poor and they rated him at, or near, the bottom among corps commanders.

Post Armistice

With the signing of the Armistice Agreement on 27 July 1953 Yu remained a KPA commander and an active participant in Korean Workers' Party functions. Sometime after July 1953 Yu was appointed commander (some sources say chief-of-staff) of the Front Line Headquarters. By late-1954 the Front Line Headquarters was designated Military District Command with Yu as commander. At this time the Military District Command was composed of the III, V and VII Corps and the 22nd Infantry Brigade, and was responsible for the defense of the eastern sector of the Demilitarized Zone. By July 1955 Military District Command was designated as the I Army Group. Yu remained in command of the I Army Group until at least January 1958. By which time he had been promoted to general.¹²

Yu passed away on November 19, 1958, at the age of 48, from presently unknown causes.¹³ He was survived by his wife Hwang Sun-hui (also considered a first-generation revolutionary) and a least one son, Yu Yong-kun and a daughter.¹⁴ Hwang Sun-hui was subsequently appointed to numerous positions within the Korean Worker's Party and in October 1965 was appointed as chairperson (later director) of the Korean Revolutionary Museum. She still retains

this position—although it is now honorary.¹⁵

Following Yu Kyong-su's death the 105th Guards Seoul Tank Division was awarded its third honorific of "Yu Kyong-su" in honor of its first commander.¹⁶ Years after this the division was awarded its fourth and fifth honorific titles of "Kum Song Lifeguard" and "O Chung-hu'p Seventh Regiment."¹⁷

There is a bust of Yu Kyong-su at the Revolutionary Martyrs' Cemetery on Taesong-san in P'yongyang and a statue of him in Sinhung-gun, Hamgyong-namdo.¹⁸

Editor's Notes

I'd like to thank everyone for their emails of support for both myself and *KPA Journal*. It has been both rewarding and humbling experience to read them. Thank you.

I'd like to thank Michael Madden and Dwight Rider for their assistance in the preparation of various aspects of this issue.

I would also like to extend my special thanks to Steven Zaloga for allowing me to use his copyrighted drawing of the M-1978 and M-1989 170 mm self-propelled guns. Steve is an longtime friend who has written too many books and articles to count on armored warfare, tanks and armored fighting vehicles development, Soviet/Russian missiles and a host of others areas. I can, without reservation, recommend any of his numerous books and articles.

If any readers have additional information or photographs of either the M-1978 or M-1989 I would greatly appreciate hearing from you.

I have uploaded several new declassified documents relating to the DPRK to the *KPA Journal* website.

Reader's have continued to express a strong interest in the KPA during the Korean War. Beginning with next issue I will return to that subject with a detailed, albeit small, unit history.

I continue to solicit your thoughts and suggestions on how to both improve *KPA Journal* and to tailor it more closely to your needs and interests, as well as those of the organizations you represent. Please feel free to contact me with any recommendations.

As always please feel free to share *KPA Journal* with your colleagues and friends. If you are a new reader and would like to be added to the *KPA Journal* mailing list please do so by sending me an email via the Contact feature on the website, www.kpajournal.com.

Thank you for your emails, encouragement and support.

—Joseph S. Bermudez Jr.

Endnotes

1. The national designator of the system is presently unknown. The term "Koksan" is frequently applied to both the older M-1978 and the newer M-1989 by ROK and US intelligence.
2. A few examples include "DPRK Monthly Features Military First-Based Revolutionary Leadership Anniversary," *Korea Today*, October 14, 2011; "Tank Division Named After Korean War Hero," *KCNA*, December 13, 1996; "Kim Chong-il Inspects KPA Tank Division," *Korea Central Broadcasting Network*, December 2, 1996; and "Military Parade, Rally Held To Mark Anniversary," *KCNA*, 10 October 1995. Among the many variations of the unit's designation some of the more common are: "Guard Seoul 105 Tank Division," "Guard Seoul Ryu Kyong-su 105th Tank Division," "Seoul Ryu Kyong Su 105 Guards Tank Division," "Yu Kyong-su 105 Seoul Guard Tank Division" and "Yu Kyong-su 105 Tank Division." Aside from its official honorifics the 105th is sometimes referred to within the DPRK's popular press in glowing terms such as the "Invincible Tank Division." *Korean Central Television*, April 25, 2000.
3. The DPRK has used the terms "breeding farm" or "seed bed" instead of "incubator." "KCNA Details Kim Chong-il's Inspection of Tank Division," *KCNA*, December 3, 1996 and "Kim Chong-il Inspects KPA Tank Division," *Korea Central Broadcasting Network*, December 2, 1996.
4. "Kim Jong Il Watches Tank Crews' Training," *KCNA*, December 31, 2010; "KCNA Details Kim Chong-il's Inspection of Tank Division," *KCNA*, December 3, 1996 and "Kim Chong-il Inspects KPA Tank Division," *Korea Central Broadcasting Network*, December 2, 1996.
5. Precise details concerning early KPA leaders are often confused and misleading. What is presented here was compiled from interview data, declassified contemporaneous intelligence reports, ROK media reports, defector statements and DPRK media reports.
6. The 88th Special Independent Sniper Brigade was a reconnaissance unit with the primary mission of collecting intelligence on Imperial Japanese Army forces and movements in Korea and China using indigenous personnel.
7. "KCNA Marks Anniversary of Death of Ryu Kyong-su," *KCNA*, November 19, 1998; and "Yu Song-chol's Testimony, Part 14," *Hanguk Ilbo*, 18 November 1990, p. 10. For an in-depth study of the 88th Special Independent Sniper Brigade see: Seiler, Sydney A. *Kim Il-song, 1941-1948*. Lanham: University Press of America, 1994.
8. Some sources state that Yu was a lieutenant colonel at the time he assumed command of the 15th Tank Training Regiment. Contemporaneous intelligence reports based upon prisoner-of-war interrogations, however, identify him as a senior colonel. "KCNA Marks Anniversary of Death of Ryu Kyong-su," *KCNA*, November 19, 1998.
9. Interview data acquired by Joseph S. Bermudez Jr.; Bermudez Jr., Joseph. *Combat History of the Korean Peoples' Army*, forthcoming; "Tank Division Named After Korean War Hero," *KCNA*, December 13, 1996; and U.S. Army. *History of the North Korean Army*, HQ, FEC, MIS, G2, 31 July 1952, pp. 79-80 and 97.
10. Ibid.
11. For a detailed study of the DPRK's awards and medals see: Boik, Col. William A. *Orders, Decorations, and Medals of the Democratic People's Republic of Korea*. Springfield: DBM Press, 2008.

12. Interview data acquired by Joseph S. Bermudez Jr.; and “KCNA Marks Anniversary of Death of Ryu Kyong-su,” *KCNA*, November 19, 1998. According to Yi Han-yong, a nephew of Kim Chong-il and a defector to the ROK, Yu Kyong-suserved as the commander of the VIII Special Purpose Corps, which was a special operations unit tasked with infiltrating the Republic of Korea. This appears to be incorrect as the VIII Special Purpose Corps was established during 1968-1969. See: Yi Han-yong, *Taedonggang Royol P'aemilli Soulchamhaeng 14 Nyon* [Taedong River Royal Family's 14 Years of Secretive Living in Seoul]. Seoul: Tong-a Ilbo, June 1996, pp. 71-78; and Bermudez Jr., Joseph. *North Korean Special Forces - Second Edition*, Annapolis: U.S. Naval Institute Press, November 1997, pp. 96-98.
13. “KCNA Marks Anniversary of Death of Ryu Kyong-su,” *KCNA*, November 19, 1998.
14. Yi Han-yong, *Taedonggang Royol P'aemilli Soulchamhaeng 14 Nyon* [Taedong River Royal Family's 14 Years of Secretive Living in Seoul]. Seoul: Tong-a Ilbo, June 1996, pp. 71-78.
15. Hwang Sun-hui. “From Distress to Happiness,” *Korea Today*, February 26, 2011; and Kim Tu-hwan. “DPRK's 'First Generation' of the Revolution Fades Away,” *Yonhap*, March 16, 2002.
16. “Tank Division Named After Korean War Hero,” *KCNA*, December 13, 1996.
17. “KCNA Details Kim Chong-il's Inspection of Tank Division,” *KCNA*, December 3, 1996 and “Kim Chong-il Inspects KPA Tank Division,” *Korea Central Broadcasting Network*, December 2, 1996.
18. “KCNA Marks Anniversary of Death of Ryu Kyong-su,” *KCNA*, November 19, 1998.