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Viewbook of DPRK 10 October 2020 Parade

Prepared by ONN

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This is a viewbook prepared after the 10 October 2020 DPRK military parade in celebration of the 75th anniversary of the founding of the Workers' Party of Korea.

The slides are arranged according to the order of parade, which started with tactical, anti-tank weapons and ended with very heavy, land mobile liquid propellant intercontinental ballistic missiles.

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Parade order:

- Anti-Tank Guided Missile 1
- Anti-Tank Guided Missile 2
- Wheeled Self-Propelled Gun
- New Tank
- Self-Propelled Howitzer
- 240 mm Multiple Rocket Launcher (MRL)
- KN-09 MRL
- KN-25 MRL (4 tubes; wheeled chassis)
- KN-25 MRL (6 tubes; tracked chassis)
- New MRL
- Anti-Ship Cruise Missile
- Pukguksong-4 Submarine Launched Ballistic Missile
- New Short-Range Air Defense System
- KN-06 Air Defense Missile
- Pukguksong-2 Medium-Range Ballistic Missile
- Possible Land Attack Cruise Missile
- KN-23 Short-Range Ballistic Missile
- KN-24 Short-Range Ballistic Missile
- Hwasong-12 Intermediate-Range Ballistic Missile
- Hwasong-15 Intercontinental Ballistic Missile
- New Intercontinental Ballistic Missile - A New Strategic Weapon

Anti-Tank Guided Missile (ATGM) System 1

Photos above: during parade on 10 October 2020
View from missile's TV seeker (bottom left), target hit (bottom right)
Source: KCNA, KCTV (2016 documentary)

DESIGNATION	Unknown
RANGE	Possibly around or below 10 km
VEHICLE	DPRK 6 x 6 armored vehicle

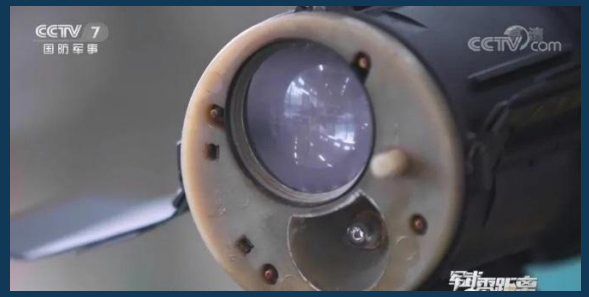
This is presumed to be an advanced ATGM that is possibly guided through fiber optics.

In this guidance mode, the missile's TV or infrared imaging seeker sends the image in real time through the fiber optic to the operator, who in turn steers the missile towards the target until hit. The missile is thought to have a helicopter launched variant.

Anti-Tank Guided Missile (ATGM) System 2

During parade on 10 October 2020. Source: KCNA

DESIGNATION	Unknown
RANGE	Possibly around 5 km
VEHICLE	DPRK 8 x 8 armored vehicle



The rear end of a Chinese beam-riding ATGM. The sensor receives the laser, which is directed at the target, and keeps the missile inside the narrow beam. Thus, it "rides on" the beam and flies towards target. Source: China Central Television

This new type of light weight ATGM has not been seen before. It bears some resemblance to the Russian 9M133 Kornet ATGM. However, the guidance method of this new ATGM cannot be confirmed at this stage. It is unclear if this system is operational. The DPRK military currently operates two older types of ATGMs that originated from Soviet designs; they were not shown in this parade.

Wheeled Self-Propelled Gun

During parade on 10 October 2020. Source: KCNA

DESIGNATIONS	Official designation unknown
RANGE	Main gun firing range within 2 km
VEHICLE	Based on DPRK 8 x 8 armored vehicle

This wheeled self-propelled gun has not been seen before. Its main gun has a small caliber, possibly under 100 mm (possibly 85 mm or 76 mm). ONN will conduct further analysis to confirm this observation. It is worth noting that it has an unmanned turret. It is unknown whether this system is operational.

Prototype Tank

During parade on 10 October 2020 Source: KCNA

DESIGNATIONS	KCNA called it “prototype tank”
RANGE	Main gun firing range within 2 km
VEHICLE	Tracked chassis with seven road wheels each side

This new tank has not been seen before. It has some features of modern US, Russian and Chinese tank designs. However, its main gun is small. ONN will conduct further analysis to confirm this observation. The tank appears to have modern fire control equipment, which are likely not functional and made especially for the parade.

Self-Propelled Howitzer

During parade on 10 October 2020. Source: KCNA

DESIGNATIONS	Official designation unknown
RANGE	Short range
VEHICLE	Based on DPRK tank chassis

A relatively modern self-propelled howitzer. Its caliber is unknown (Russia has been using 152 mm, NATO and China adopted 155 mm). The number “155” is painted on the paraded howitzers. However, random numbers are painted on different systems displayed during the parade, thus it cannot serve as exclusive evidence that the DPRK has chosen a NATO standard caliber.

240 mm Multiple Rocket Launcher (MRL)

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Long-Range Multiple Rocket Launchers	Solid Fuel

During parade on 10 October 2020. Source: KCTV

Official name plate on the system reads "240 mm multiple rocket launcher (22)", 2015. Source: ONN

DESIGNATIONS	240 mm multiple rocket launcher
VEHICLE	T813 8x8 truck
FIRST KNOWN TEST	In the 1980s

This artillery is the DPRK's first multiple rocket launcher that can directly hit the greater Seoul area. Similar types of launchers with fewer tubes are also in service.

In the 2020 parade, the 22-tube launcher is mounted on the same type of truck that is used by the KN-25.

KN09 MRL

Long-Range Multiple Rocket Launchers	Solid Fuel

During parade on 10 October 2020. Source: KCNA

DESIGNATIONS	Official designation unknown; Referred to as “KN09” by the United States
VEHICLE	Truck
FIRST KNOWN TEST	Presumed to have taken place in 2013. A total of 32 to 54 suspected rounds were fired over the years.

The KN09 guided multiple rocket launcher is thought to have transitioned from testing to deployment in 2018. The system was first shown at a parade on 10 October 2015.

In the 2020 parade, it is mounted on an unknown new truck and the number of launching tubes has increased from 8 to 12. The guided rocket system has exhibited a maximum range of about 200 km in test firings.

KN25 MRL (4 tubes; wheeled chassis)

Long-Range Multiple Rocket Launchers	Solid Fuel

During parade on 10 October 2020. Source: KCNA

DESIGNATIONS	Official designation unknown; Referred to as “KN25” by the United States
VEHICLE	Lengthed T813 8x8 truck
FIRST KNOWN TEST	2019. To date a total of 18 to 19 such rockets have been fired, with one suspected failure.

The KN25 multiple rocket launchers have used both wheeled and tracked chassis. With a diameter of ~600 mm, the system might be nuclear capable. Though it is commonly referred to as a multiple rocket launcher system, the rockets are de facto ballistic missiles. The guided rocket system has exhibited a maximum range of ~400 km in test firings.

KN25 (6 tubes; tracked chassis)

Long-Range Multiple Rocket Launchers	Solid Fuel

During parade on 10 October 2020. Source: KCNA

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DESIGNATIONS	Official designation unknown; Referred to as “KN25” by the United States
VEHICLE	Tracked chassis
FIRST KNOWN TEST	2019. To date a total of 18 to 19 such rockets have been fired, with one suspected failure

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Multiple Rocket Launcher

Multiple rocket launcher concept	Solid Fuel

During parade on 10 October 2020. Source: KCNA

DESIGNATIONS	Official designation unknown
VEHICLE	Possibly lengthed T813 8x8 truck with modified cabin
FIRST KNOWN TEST	Not tested

These are believed to be MRL mock-ups; it is doubtful that they represent real armaments. North Korea may develop these in the future as it has done with previous parade mock-ups.

Anti-Ship Cruise Missile

During parade on 10 October 2020. Source: KCNA

DPRK anti-ship missile launch in 2017. This earlier version is only armed with four missiles. There is also a shipborne version of this missile. Source: KCNA

DESIGNATIONS	Official designation not confirmed.
RANGE	Over 100 km
VEHICLE	Tracked chassis

This is presumed to be an anti-ship missile system as it bears some resemblance to the anti-ship missile launcher the DPRK previously tested and displayed. Another reason to conclude that it is an anti-ship system is that there is no other apparent anti-ship system in the 2020 parade and, in previous large military parades, anti-ship missile systems have always been shown.

Each vehicle carries eight missile canisters.

Pukguksong-4 Submarine Launched Ballistic Missile

Short- to Medium-Range Ballistic Missile	Solid Fuel

Pukguksong-4 at parade on 20 October 2020
Source: KCNA

DESIGNATIONS	Pukguksong-4; No US designation announced yet
RANGE	Unknown, possible medium range
VEHICLE	Possibly Sinpo-class experimental submarine
FIRST KNOWN TEST	Untested, parade marks the first public appearance

New solid-fuel missile likely to be deployed as a submarine launched ballistic missile. This is the first appearance of the missile in public. There have been no recorded ejection tests on land or at sea yet. The missile is nuclear capable. The airframe appears to be made of wound filament, making it strong and light.

New Short-Range Air Defense System

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New air defense system at parade on 20 October 2020
Source: KCNA

DESIGNATIONS	Unannounced
RANGE	Possibly over 10 km
VEHICLE	Trailer truck
FIRST KNOWN TEST	Untested, parade marks the first public appearance

The configuration of this missile model is similar to that of the Russian “Tor” and Chinese HQ-17 short range air defense missile systems. It has structures representing a rotating search radar, a fire control radar and vertical launch tubes located in between. However, it is not clear at this time whether the system is operational or under development.

KN-06 Air Defense Missile

Air Defense Weapon System	Solid Fuel

KN-06 at parade on 20 October 2020
Source: KCNA

DESIGNATIONS	US designation KN06
VEHICLE	New trailer truck – not yet identified
FIRST KNOWN TEST	2016

Surface-to-air missile system that was announced as operational following a reported test on 28 May 2017. The system bears a resemblance to early types of the Soviet S-300 air defense missile systems. In the 2020 parade the launcher system has been upgraded with a new trailer truck to carry a total of four missiles instead of three.

Pukguksong-2 Mid-Range Ballistic Missile

Short- to Medium-Range Ballistic Missile	Solid Fuel

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Pukguksong-2 shown at a parade on 10 October 2020
Source: KCNA

DESIGNATIONS	Pukguksong-2; Referred to as "KN15" by the United States
RANGE	Medium-range
VEHICLE	Tracked chassis
FIRST KNOWN TEST	2017

The Pukguksong-2 is a land-based variant of the Pukguksong-1. A two-stage solid-fuel medium-range ballistic missile, it was tested twice in 2017. The tracked chassis allows for off-road mobility and may increase chances of survivability.

Possible Land Attack Cruise Missile

During arade on 20 October 2020. Source: KCNA

DESIGNATIONS	Unknown
VEHICLE	New vehicle – not yet identified
FIRST KNOWN TEST	Untested

This new mock-up was sandwiched between the Pukguksong-2 and the KN-23 ballistic missiles during the parade. It is possible that this model represents a land attack cruise missile project. The long and thin canisters are reminiscent of the Russian 9M728 and 9M729 cruise missiles. No further information is available.

KN23 Short-Range Ballistic Missile

Short- to Medium-Range Ballistic Missile	Solid Fuel

KN23 on truck at parade on 10 October 2020 Source: KCNA

KN23 on tracked vehicle at parade 10 October 2020 Source: KCNA

DESIGNATIONS	Described as a "tactical guided weapon" by DPRK State media; Referred as "KN23" by the United States
RANGE	Short-range
VEHICLE	Four-axle truck and tracked vehicle
FIRST KNOWN TEST	2019

The KN23 bears a close resemblance to the Russian 9K723/Iskander and has demonstrated accuracy during test firings targeting a small island off the DPRK's eastern coast. It is possibly nuclear capable and has a quasi-ballistic trajectory that makes it harder to intercept. Four tests involving eight missiles have reportedly been carried out between May and August 2019.

KN24 Short-Range Ballistic Missile

Short- to Medium-Range Ballistic Missile	Solid Fuel

KN24 on tracked vehicle
Source: KCNA

DESIGNATIONS	Described as a “tactical guided weapon” and a “Juche projectile of Korean style” by DPRK State media; referred to as “KN24” by the United States
RANGE	Short-range
VEHICLE	Tracked chassis
FIRST KNOWN TEST	2019

The KN24 was tested three times between 10 August and March 2020 with a total of six missiles fired. Its development status is unknown, but it is presumed to be deployed soon. It is possibly nuclear capable and has a quasi-ballistic trajectory that makes it harder to intercept.

Hwasong-12 Intermediate-Range Ballistic Missile

Intermediate-Range Ballistic Missile	Liquid Fuel

Hwasong-12 shown in a parade on 10 October 2020
Source: KCNA

DESIGNATIONS	Hwasong-12; Referred to as “KN17” by the United States
RANGE	Intermediate-range
VEHICLE	MAZ-547 (six axles)
FIRST KNOWN TEST	2017

Single-stage intermediate-range ballistic missile with liquid propellant. The missile was successfully flight tested three times in 2017. It is nuclear-capable.

Hwasong-15 Intercontinental Ballistic Missile

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Intercontinental-Range Ballistic Missile	Liquid Fuel

Hwasong-15 shown on a 9-axis modification of the WS51200 on 8 February 2018
Source: KCNA

DESIGNATIONS	Hwasong-15; Referred to as “KN22” by the United State
RANGE	Intercontinental-range
VEHICLE	WS51200, modified to have an additional (9th) axle
FIRST KNOWN TEST	2017

The Hwasong-15 is a two-stage, liquid-propellant mobile ICBM. It uses the same engine technology as the Hwasong-12 and Hwasong-14 for its first stage. The second stage is presumed to have a new unknown engine. The Hwasong-15 was only flight tested once, on 29 November 2017. Official DPRK reports claim that the new system can carry a “super-large heavy warhead which is capable of striking the whole mainland of the US.”

New Intercontinental Ballistic Missile - A New Strategic Weapon

Intercontinental-Range Ballistic Missile	Liquid Fuel

A possible new strategic weapon on 11-axle TEL in parade 10 October 2020
Source: KCTV

DESIGNATIONS	"New strategic weapon" (DPRK official statements)
RANGE	Intercontinental-range
VEHICLE	Unknown 11-axle vehicle
FIRST KNOWN TEST	Untested

The "new strategic weapon," if operational, would be the largest among the DPRK's ballistic missile inventory. The new missile appears to be based on the Hwasong-15 system, but is longer and has a larger diameter than the Hwasong-15. The first stage of the new missile seems large enough to hold two dual-chamber engines, while the Hwasong-15 is powered by one dual-chamber engine. The warhead section appears large enough to accommodate a large single warhead or multiple warheads and/or penetration aids.

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One Earth Future's Open Nuclear Network programme is a non-aligned, non-governmental entity that seeks to increase security for all States by ensuring that nuclear decision makers have access to high quality, shareable open source information which enables them to make the best decisions in the face of escalating conflict.

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