

Report: Syria test fires series of long-range missiles

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Meanwhile: UPDATE: Syrian President To Visit Russia Wednesday - Kremlin

Channel 2: IDF detects Syrian rocket test

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JPost.com Staff , THE JERUSALEM POST

Syria test-launched a series of ground to ground missiles in recent months, Channel 2 reported Monday.

According to data released by the military censor, Damascus has been testing rockets over a period of time, and the tests have been detected by Israeli radar systems, including the systems linked to Israel's missile defense systems.

Most of Syria's long-range missiles are based on the Scud design, Channel 2 reported.

While Syria's arsenal of missiles is based mainly on antiquated soviet ware upgraded and improved in Syria, the missiles - with a range of 300-700 km. - can still reach any target in Israel.

Syria is believed to hold chemical warheads in its arsenal and is also suspected of having experimented with biological warheads.

However, the inaccurate and heavy Scud missiles - of which Syria has about 1,000 - only supplement dozens of batteries of smaller rockets with a shorter range but also greater accuracy.

According to the Channel 2 report, Israel is more concerned with Syria's arsenal of smaller medium range rockets.

The Syrian doctrine has changed following the Second Lebanon War, which Damascus has been watching and analyzing closely, and the Syrian army has been emulating tactics used by Hizbullah in recent drills and exercises.

This article can also be read at <http://www.jpost.com/servlet/Satellite?cid=1218710398117&pagename=JPost%2FJPArticle%2FShowFull>

Specifications

R-11 `Scud A'

R-17 `Scud B'

`Scud C'

`Scud D'

Length

10.7 m

11.25 m

11.25 m

12.29 m

Body diameter

0.88 m

0.88 m

0.88 m

0.88 m

Launch weight

5,500 kg

5,900 kg

6,400 kg

6,500 kg

Payload

Single warhead;

Single warhead;

Single warhead;

Single warhead;

950 kg

985 kg

600 kg

985 kg

Warheads

Nuclear 50 kT, or HE

HE, Chemical or Nuclear 5-70 kT

HE

HE, chemical or nuclear

Guidance

Inertial

Inertial

Inertial

Inertial with digital scene matching

Propulsion

Single stage liquid

Single stage liquid

Single stage liquid

Single stage liquid

Range

190 km

300 km

550 km

300 km

Accuracy

3,000 m CEP

450 m CEP

700 m CEP

50 m CEP

Contractor

The SS-1 Scud family was designed by the Korolyev Design Bureau (OKB-1).

Report: Syria test fires series of long-range missiles

By Yuval Azoulay, Haaretz Correspondent and Haaretz Service

Syria has recently test-launched a series of surface-to-surface missiles and rockets, Channel 2 news reported yesterday.

The test launch was detected by Israel's radar systems, including the Oren Yarok (Green Pine) and Oren Adir (Magnificent Pine) radars, which activate Israel's Arrow defense missiles, Channel 2 reported. Advertisement

Syria has some 1,000 models of Scud missiles with a range of 300 to 700 kilometers.

The Syrian missiles are capable of striking targets anywhere in Israel. The Syrian military can fit the missiles with chemical warheads, and may have conducted experiments with biological warheads as well.

In addition to its Scud missile arsenal, Syria also possesses SS-21 missiles with a range of 80 kilometers but with a much higher precision than the Scuds.

The biggest threat facing Israel, however, is Syria's arsenal of thousands of rockets with a range of nearly 100 kilometers, some of which can reach as far as Haifa bay. These rockets are far more accurate than the Scud missiles.

In response to Syria's drill, the Israel Defense Forces and the Israel Air Force anti-aircraft unit conducted an exercise simulating a possible Syrian missile attack.

Channel 2 reported that Israel's defense establishment was more concerned with the threat posed by Syria's long-range rockets than the Scuds it possesses.

<http://www.haaretz.com/hasen/spages/1012839.html>

<http://www.haaretz.com/hasen/spages/1012826.html>

SS-21 SCARAB 9K79 Tochka FROG-7 Luna
{youtube}VeRzHyFX68M{/youtube}

Syria

Designation	Alternate Name	Class	Payload	Range (km)	Status
M-11 variant	DF-11/CSS-7	SRBM	Single warhead, 800 kg	280	Operational
M-9 variant	DF-15/CSS-6	SRBM	Single warhead, 320 kg	800	Operational
Scud B/C/D variants		SRBM	Single warhead		Operational

UPDATE: Syrian President To Visit Russia Wednesday - Kremlin

MOSCOW (AFP)--Syrian President Bashar al-Assad will visit Russia Wednesday at the invitation of his Russian counterpart Dmitry Medvedev, the Kremlin said Tuesday.

"On Aug. 20-21, 2008, the president of the Syrian Arab Republic, Bashar al- Assad, will make a working visit to Russia at the invitation of Russian President Dmitry Medvedev," the Kremlin said in a statement.

The Kremlin provided no further details on the agenda for the visit.

It was announced however as Russia faced mounting international pressure to pull its forces out of Georgia and as Moscow signaled it was in no rush to do so.

Assad visited Moscow in December 2006, when he said that, as an influential power in the Middle East, Syria was open to dialogue with the U.S. but would not take "instructions" from Washington.

Russia's conflict with Georgia has also turned into a standoff between Moscow and Washington. The U.S. has strongly supported Georgia and also backs Syrian adversary Israel in the Middle East.

In remarks to soldiers near the conflict zone Monday, Medvedev warned that no one should have any "illusion" about Russia's determination to ensure security in the Caucasus region and to protect its own citizens anywhere.

Last year, Russian media reported that Moscow had delivered MiG-31 fighter planes and modern air defense systems to Syria, angering Israel.

Damascus is a Soviet-era ally of Moscow, which maintained a naval base in the Syrian port of Tartus starting in the 1970s. The Russian media has speculated in recent years that Moscow is hoping to revive the base.

Scud B/C/D variants
 Country: Syria
 Associated Country: Russia, Iran, North Korea
 Class: SRBM
 Basing: Road mobile
 Payload: Single warhead
 Warhead: HE, chemical, submunitions
 Propulsion: Single-stage solid
 Status: Operational

Details

While the names of most ballistic missiles are obscure, the Scud has become almost a household name. The SS-1A 'Scud' was designed a short time after the end of World War II by captured German scientists and is based upon the Nazi V-2 rocket which attacked London in the second world war. In essence, the 'Scud' is the AK-47 of the missile world: reliable, simple and ubiquitous. The missile was produced in huge quantities and not even the Russians know exactly how many they built, let alone the number copied by foreign companies.

While most 'Scuds' carry conventional explosives, the 'Scud' was originally developed to carry a 50 kT nuclear warhead. The SS-1B 'Scud A' (Russian designation R-11) entered into service in 1955 as a short range nuclear weapon to attack

western Europe and was intended to carry a nuclear 50 kT yield warhead. The high explosive (HE) warhead was developed for export to other communist countries in the Cold War whom the Soviet Union was leery of giving nuclear strike capabilities.

The missile is 10.3 m long, 0.88 m in diameter, has a launch weight of 5,400 kg with a range of 190 km (118.061 miles), and an accuracy of 3,000 m CEP. Many of the missiles remaining in service today have substantially increased accuracy, but they are still not counter-force grade by any means.

The 'Scud A' was soon replaced with the SS-1C 'Scud B'. The new missile had the advantage of being compatible with a Transporter-Erector-Launcher (TEL) and could thus be deployed quickly and covertly. It has built-in test equipment and is able to aim and fire the missile autonomously, though a separate command and control vehicle typically controls the targeting and firing.

By 1965, the new 'Scud B' missile was operational in many European and Middle Eastern countries. In 1973, Egypt fired a small number of the 'Scud B' missiles against Israel. Over 600 'Scud B' and North Korean 'Scud B' variants were fired by Iran and Iraq between 1980 and 1988. Over 2,000 'Scud B,' and possibly a small number of 'Scud C' missiles, are thought to have been used in Afghanistan. The 'Scud' missiles used by Iraq during the Gulf War in 1991 were largely the Iraqis' own improved variant of the 'Scud B', the Al Hussein. There was also a small number of 'Scud' missiles used in the 1994 civil war in Yemen and by Russia in Chechnya in 1996. A Russian report suggests that there were four 'Scud B' TEL and approximately 100 missiles in Afghanistan, some with the Taliban and some with Massoud's forces, and could have been possibly passed to other various terrorist organizations. In 1998, Ukraine was reported to have three brigades with 'Scud B' missiles and a total of 55 missiles in service. Libya paraded in 1999 with some 20 refurbished 'Scud B' TEL vehicles with missiles. It is thought that this was done with the assistance from North Korea.

'Scud B' missiles have been exported to: Afghanistan, Azerbaijan, Belarus, Bulgaria, Czech Republic, Egypt, Georgia, Hungary, Iran, Iraq, Kazakhstan, North Korea, Libya, Poland, Romania, Slovakia, Syria, UAE, Ukraine, Vietnam, and Yemen. Unconfirmed reports between 1996 and 2000 have suggested that 'Scud B' missiles have been purchased by Armenia, Democratic Republic of the Congo, Ecuador, Pakistan, Peru, and the Sudan. These missiles may have been built in the former Soviet Union. It has been reported that as many as 7,000 'Scud' missiles may have been built in Russia and that 'Scud B' missiles and improved variants have been built in Egypt, Iran, Iraq, North Korea and Syria. Consequently, it is difficult to identify the source and quantity of missile supplies.

In addition to the very high production level of the Scud missiles, a myriad of variations and additions exist for the 'Scud' platform. Several different warheads were developed for the 'Scud B' missiles including nuclear yields between 5 and 70 kT, chemical agents, and conventional high explosive. The 'Scud B' is 11.25 m long, 0.88 m in diameter and has a launch weight of 5,900 kg, with a range of 300 km (186 miles) with accuracy of 450 m CEP. A typical 'Scud B' takes approximately one hour to finish a single launch sequence.

It is suggested that there is a SS-1C missile is the same size as the 'Scud B' but with a range increase of 550 km (342 miles) and an accuracy of 700 m CEP. The 'Scud C' is thought only to launch HE warheads. It is also suggested that there is a 'Scud D' design with the same range and weight as the 'Scud C,' but with an improved accuracy of 50 m CEP. This missile presumably launches HE, chemical and nuclear warheads.

The Syrian involvement with Scud missiles is significant. Reports state that approximately 550 North Korean designed 'Scud B', 'Scud C', and 'Scud D' variants have been manufactured by Syria with ranges of 300, 550 and 700 km (186, 342 and 435 miles) respectively. The first 'Scud' test firings are believed to have occurred in July 1992 with production starting in 1993. A 1996 Israeli reported stated that Syria had 200 'Scud B' and 60 'Scud C' missiles. There is evidence that Syria is developing both chemical and biological warheads for its 'Scuds', with chemical warhead test flights for 'Scud B' variant missiles in 1998 and 2001. The 'Scud B' was tested in May 2005. Syria may be producing 10 'Scud C's per year; they may increase production. In 2001 Syria started building 'Scud D's. The 'Scud D' has an improved terminal guidance system and separating warheads. It is reported that between 15 and 30 new 'Scud D' missiles are built each year with the assistance of North Korea and Iran.(1)

Footnotes

Duncan Lennox, Jane's Strategic Weapons Systems 46 (Surrey: Jane's Information Group, January 2007), 100-101.

Rubin: Iran 'Major Missile Power' in Region
November 30, 2006 :: UPI :: Analysis

Uzi Rubin, former head of Israel's missile defense program, argues in a new study published by the Institute for National Security Studies that Iran is now 'the major missile power' in the Middle East. 'No other country in the world … comes close to Iran in the number and variety of ballistic missiles in development or already

deployed," Rubin writes. He lists Iran's assets: Shahab-3 medium-range missiles, an "an indispensable complement to [Iran's] nuclear ambitions"; Scud B and Scud C short-range missiles, manufactured "in considerable quantities"; Zelzal short-range missiles, which can target troop concentrations; the Raad, an advanced version of the Chinese Silkworm anti-ship cruise missile; and an assortment of smaller anti-tank missiles. "Every major city and military installation between the western shores of Turkey and the eastern border of Pakistan and between the Black Sea in the north and the southern narrows of the Red Sea are within range," he writes. Moreover, Iran can now hit any point in the Middle East from well-protected, fixed silos "survivable against preemption." He warns: "There should be no doubt that in case of conflict, Iran will launch Shahab-3 missiles regardless of their flight test record, and that some of them will reach their destinations." Rubin adds that Iran is also developing satellites, and that any suitably modified space launch vehicle can serve as an intercontinental ballistic missile. At the rate they are going, "Iranian missiles will dominate the entire continent of Europe by the end of this decade," he concludes. (Article, Link)

» More stories on: Israel, Iran, Analysis

» Missile details: Shahab-6, Scud variant, Scud B/C/D variants, Zelzal-1/2/3

Gaffney: Missiles Abroad Should Concentrate the American Mind
July 25, 2006 :: Washington Times :: Analysis

The development, deployment, and proliferation of ballistic missile technology abroad requires a "concentration" of American minds and a concerted effort to develop robust missile defenses, writes Frank J. Gaffney Jr., president of the Center for Security Policy, in The Washington Times. Gaffney catalogues the missile threats that have grown in recent years: North Korea's readiness to sell missile technology to willing buyers; Pakistan's intention to build as many as 40 to 50 nuclear warheads per year; Iran's continued development of nuclear weapons and ballistic missile technology; China's ever increasing missile arsenal; and Russia's development of newer intercontinental ballistic missiles possibly with maneuverable re-entry vehicles.

Gaffney makes particular note of the fact that Iran has test launched a short-range Scud missile off of a ship, which would allow it to attack the U.S. without developing an intercontinental ballistic missile. He also points out that Iran has tested its medium-range Shahab-3 ballistic missile in a manner that appears designed to detonate a nuclear weapon in space. Such a detonation above the U.S. would result in an electromagnetic pulse (EMP) capable of wiping out electrical systems and crippling the U.S. infrastructure and economy.

Gaffney suggests that the Bush administration carefully examine the newly released report by the Independent Working Group, entitled Missile Defense, the Space Relationship and the Twenty-First Century, which lays out a roadmap for the development and deployment of a robust, layered, and effective U.S. missile defense shield. The report calls for the deployment of space-based defenses and the expansion of sea-based defenses, and describes ways in which the necessary technical, public, and political support can be obtained and sustained. (Article, Link) » Read the 2007 report: The Independent Working Group on Missile Defense, the Space Relationship, and the Twenty-First Century (8 MB)» More stories on: Analysis, Electromagnetic Pulse (EMP) Weapons, Iran, Ship-Launched Threat» Missile details: Scud B/C/D variants, Shahab-6

Capabilities Overview
Long-range Artillery Rockets (FROG-7s) Scud-B (SS-1C, R-17 Elbrus) Scud-C (Hwasong-6) Scud-D (No-dong 1) SS-21 (Scarab)

Maps
WMD in the Middle East
China's Missile Exports and Assistance to Syria
Treaties and Organizations
Global Security: Nuclear Weapons Programs
Syria's Secret Nuclear Program and Long Term Threat
Syria and WMD: incentives and capabilities. (2004)
The Nuclear Capabilities and Ambitions of Iran's Neighbors (2005)
Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions (2003)
Syria's Chemical Weapons (1997)
Syria's Chemical and Biological Weapons: Assessing Capabilities and Motivations (1997)