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Ignition test conducted on new rocket

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Chinese rocket scientists and engineers on Friday afternoon conducted a key test of a propulsion system that will be used on a new type of carrier rocket, which will be critical to China's future manned landings on the moon.

During the ignition test that took place at an engine testing facility in Beijing's Fengtai district, three YF-100K engines sped fire for several minutes, generating a combined thrust of 382 metric tons, according to the China Academy of Launch Vehicle Technology, the nation's top rocket maker.

The YF-100K engine will provide major lifting power for the Long March 10 rocket, which is under research and development at the Beijing-based academy, a subsidiary of State-owned industry giant China Aerospace Science and Technology Corp.

The Long March 10 will be a brand new type of rocket and will be tasked with ferrying the next

generation of China's crewed spacecraft and landing modules to the moon. The rocket is expected to be ready for its maiden flight around 2027.

The rocket will consist of a core booster and several side boosters and will be 92.5 meters tall, which is roughly the height of a 32-story residential building. The gigantic spacecraft will have a liftoff weight of 2,189 tons and a thrust of 2,678 tons.

It will be capable of transporting spacecraft weighing at least 27 tons to an Earth-moon transfer trajectory, according to designers.

China's plans for its first manned lunar expedition involves two Long March 10 launches from the Wenchang Space Launch Center in Hainan province to transport a landing module and a manned spacecraft to lunar orbit.

After reaching their preset orbital positions, the landing module and the spacecraft carrying astronauts will meet and dock with each other. Two crew members will enter the landing module, which will then undock and descend

toward the lunar surface for an engine-assisted soft landing.

On the moon, the astronauts will drive a rover to carry out scientific tasks and collect samples. Upon completion of their assignments, they will return to the landing module, which will then fly them back to their spaceship waiting in lunar orbit.

In the final stage, the astronauts will carry the samples onto their spacecraft, which will then undock and carry the crew back to Earth.

China has carried out six robotic missions to the moon. It deployed two rovers on the celestial body and retrieved samples during the Chang'e 5 and Chang'e 6 missions.

A variant of the Long March 10 without side boosters is also being developed.

This model will be 67 meters tall and will have a liftoff weight of about 740 tons. It will be used to transport astronauts or cargo with a combined weight of 14 tons to the Tiangong space station in low-Earth orbit, according to designers.

Renowned scientist passes away at age 91

By ZHAO LEI
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Wang Yongzhi, one of the most renowned rocket scientists in China who played a leading role in the country's manned spaceflight endeavors, died of a heart attack on Tuesday at age 91.

Born into an impoverished farmer's family in Changtu county, Liaoning province, in November 1932, Wang was the fifth of seven children.

At age 7, he became the first person in his family to attend school. He studied very hard and was deemed by his teacher as a truly gifted student.

Once he reached middle school, his studies were interrupted due to his family's inability to pay tuition fees as well as disruptions from the War of Liberation (1946-1949).

Thanks to a teacher's assistance, Wang was able to complete his studies and achieved high marks.

In 1949, he joined the Communist Party of China.

Upon graduating from middle school in Shenyang, capital of Liaoning, in 1952, Wang was admitted to Tsinghua University's aeronautics department to learn how to design combat aircraft.

One year later, Wang was selected to study in the former Soviet Union. He attended a Russian language training class at another university in Beijing before departing.

In 1955, he arrived at the Moscow Aviation Institute to study aircraft design. However, two years later, Wang changed his major after learning that China needed some students to learn how to design carrier rockets and ballistic missiles.

In the summer of 1961, Wang graduated from the Moscow institute and returned to China. He was assigned to the Ministry of National Defense's Fifth Academy — now known as the China Academy of Launch Vehicle Technology — to begin his career as a missile designer.

At the academy, Wang took part in the research and development of six types of ballistic missiles, including the DF-2, China's first domestically developed ballistic missile, and the DF-22, a long-range ballistic missile model whose development was later abandoned.

Most notable was his role as the deputy chief designer of the DF-5, China's first intercontinental nuclear missile that remains one of the nation's strategic deterrence pillars.

Wang also participated in the design of two carrier rocket models, laying the groundwork for China's future spacefaring ambitions.

In 1978, he was given a prominent position at the general design department of the China Academy of Launch Vehicle Technology.

He was named deputy head of the academy in 1980 and then became its president in 1986.

As president, the scientist guided the design and production work of new types of missiles and rockets and also played a leading role in Project 863, which was a national high-tech project launched in November 1986.

In 1991, Wang was promoted to deputy head of the former Ministry of Aerospace Industry's science and technology commission. There, he was the chief designer of a number of rockets and missiles.

The following year, he was named the first chief planner of Project 921, which launched the nation's manned space program.

In 1994, Wang was transferred to the former Commission for Science, Technology and Industry for National Defense and was given the military rank of major general. He was also elected one of the founding academicians of the Chinese Academy of Engineering that year.

He led the planning and implementation of China's manned space endeavors for 15 years before retiring in 2007.

Under his leadership, the country succeeded in its first manned spaceflight, established a robust research and manufacturing infrastructure for manned space programs and trained a large group of skilled spacecraft researchers and engineers.

For his valuable contributions to China's space program, Wang received the nation's top science and technology award in 2003.