

Next-generation rocket for nation's manned space missions on track

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China's next-generation rocket to carry astronauts is expected to be ready for its maiden flight around 2027, according to a leader on the project.

Zhang Zhi, a senior rocket designer at the China Academy of Launch Vehicle Technology, said on Monday that research and development on the new rocket model, named Long March 10, has been progressing based on the project schedule at the Beijing-based academy, the major rocket maker in the nation and a subsidiary of China Aerospace Science and Technology Corp.

"The Long March 10 will be a brand new type of launch vehicle and will be tasked with launching the country's new-generation crewed spacecraft and the lunar landing module," he said. "It will feature a high level of reliability and operational safety."

Zhang said the moon-mission rocket will consist of a core booster and several side boosters and will be 92 meters tall, which is roughly the height of a 32-story residential building. The gigantic vehicle will have a liftoff weight of 2,187 metric 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, he added.

All necessary conditions for the rocket's first launch mission will be ready in 2027, he said.

"The Long March 10 will also have a variant that will not have side boosters. 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," said Zhang.

He was speaking at an activity in Beijing hosted by the National Work Committee of the Chinese Young Pioneers. The event invited distinguished figures in China's manned spaceflight program such as Yang Liwei, the first Chinese person in space, to meet young stu-



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denies to share their spaceflight stories.

China's roadmap 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 rendezvous 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 fly them back to their spaceship waiting in lunar orbit.

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

China has carried out five robotic missions to the moon. It has deployed two rovers on the celestial body and has retrieved samples through the most recent Chang'e 5 mission.



Yang Liwei interacts with young students during an activity in Beijing on Monday to commemorate the 20th anniversary of China's first manned space flight. XU JINGKANG / CHINA DAILY