



Historic track

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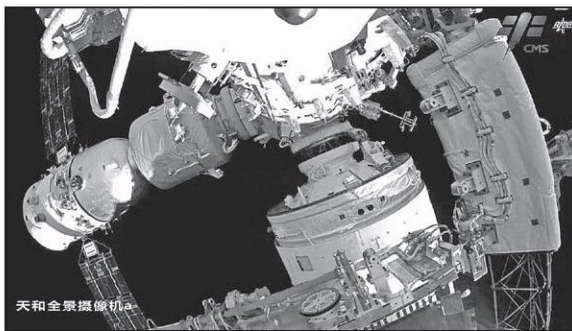
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The Wentian lab module of China's Tiangong space station is seen docking with a radial port on the station's Tianhe core module on Friday. CHINA MANNED SPACE ENGINEERING OFFICE

Major space maneuver stellar success

By ZHAO LEI
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The Wentian lab module of China's Tiangong space station was repositioned to dock with a radial port on the station's Tianhe core module on Friday afternoon, which marks a key step in Tiangong's in-orbit assembly, said the China Manned Space Agency.

The agency said in a news release that the hourlong operation that finished at 12:44 pm featured a maneuver carried out with cooperation between astronauts inside Tiangong and ground control technicians.

After the operation, Tiangong is now L-shaped and will remain so until docking with the Mengtian lab module, which is scheduled to be launched around year's end, the agency noted.

This was the first time for China to use specialized apparatus to move a large spacecraft in orbit, it said.

Manned spaceflight expert Pang Zhihao said moving a space station

module as large and heavy as Wentian is sophisticated and challenging as ground controllers must make sure the entire station maintains a balanced orbital attitude during the operation.

Engineers with the China Academy of Space Technology, the builder of Tiangong, said they have conducted several ground tests and calculations to ensure the maneuver's success.

Wentian was launched in late July from Wenchang Space Launch Center in Hainan province to connect with the Tianhe core module.

Weighing 23 metric tons and 17.9 meters in length, Wentian is currently the largest and heaviest spacecraft China has ever built and is also the world's heaviest self-propelled spaceship in service.

Inside the gigantic lab, there are eight scientific compartments mainly used to serve biological and life science studies and support research on the growth, aging and genetic traits of plants, animals and microbes in a zero-gravity

environment.

Wentian also has 22 extravehicular payload adapters capable of carrying scientific equipment needed for experiments that feature exposure to weightlessness, cosmic rays and solar winds.

Three groups of Chinese astronauts have already lived and worked inside Tiangong, which now consists of the Tianhe module, the Wentian lab, the Shenzhou XIV spacecraft and the Tianzhou-4 cargo ship.

The current occupants — the three crew members of the Shenzhou XIV mission — have spent nearly four months on board and have conducted two spacewalks. They are to stay in the station until early December, when the Shenzhou XV crew will take over.

The Mengtian space lab, Tiangong's second lab component, is scheduled to be launched in October.

Once Mengtian is connected to Tiangong, astronauts will have as much as 110 cubic meters of usable space.