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[CHANDRAYAAN-3] FINAL ORBIT-REDUCTION SUCCESSFUL

CHANDRAYAAN-3 COMPLETES FINAL MOON-BOUND MANOEUVRE

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NEW DELHI: Chandrayaan-3 on Wednesday completed its final moon-bound manoeuvre, bringing the spacecraft closer to the lunar surface, a week before the mission attempts a soft landing.

"With this, the lunar-bound manoeuvres are completed. It's time for preparations as the propulsion module and the lander module gear up for their separate journeys," the Indian Space Research Organisation (Isro) said on Wednesday. The next big development will be on Thursday when the craft's propulsion module will be separated from the lander. The lander module will then begin preparing for the landing phase.

→P2

India's Moon mission enters last lap

Chandrayaan-3 on Wednesday finished the last of its manoeuvres — reducing its orbit size around the Moon — and will begin separating the lander and rover from the propulsion module today. A look at what the mission's home stretch consists of. **By Soumya Pillai**

SCHEDULED TODAY: PROPULSION, LANDER MODULE SEPARATION

The craft's propulsion module will today separate from the lander module to perform its own experiments.

The propulsion module contains a single experimental payload — Spectro-polarimetry of Habitable Planet Earth, or SHAPE. Propulsion module will stay in lunar orbit for 3-6 months and take photos of the Earth as part of its own experiment

What happens after separation and before the lunar landing?

The lander module will begin identifying its 4km x 2.5km landing spot, which Isro has earmarked

Isro will perform a series of complex braking manoeuvres to ensure the craft makes a soft landing and does not crash

At the same time, Isro will also make sure errors that kept Chandrayaan-2 from making a successful landing are corrected in real-time and not repeated.

153 km by 163 km
The craft's new orbit radius after Wednesday's orbit-dropping manoeuvre

Propulsion module

Lander module

Rover

AUGUST 23
Scheduled soft landing

AFTER THE MODULE LANDS

The rover will roll out of the lander and take pictures of the lunar surface for experimentation for the next 14 days (one Lunar day)

What went wrong for Chandrayaan-2

- The five engines that were used to cut the craft's built up more thrust than intended.
- The landing spot was limited to 500m x 500m, which did not provide enough flexibility for the craft to overcome possible errors and still ensure safe landing. This time the marked landing area has been increased to 4km x 2.5 km, so it will not limit the craft to a small space.