

Subaru Telescope Mirror Hatch Failure

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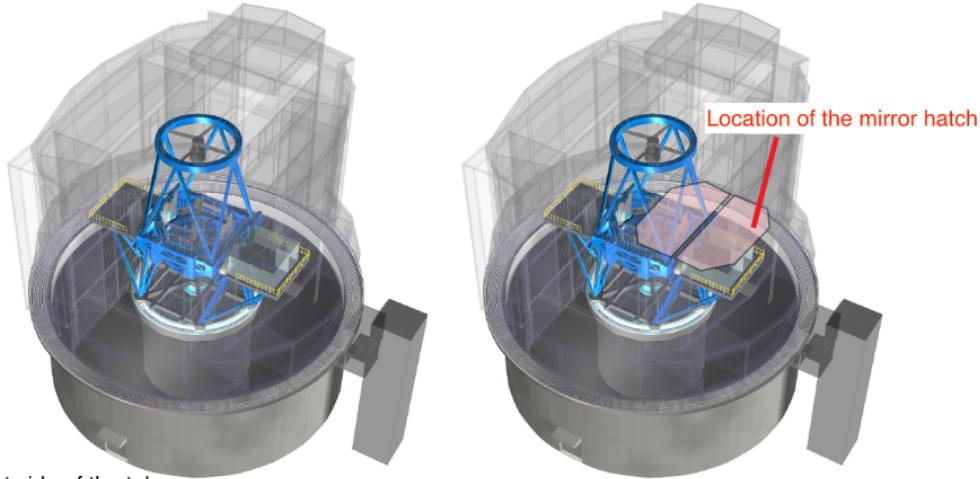
Subaru Telescope

Maunakea Operations and Engineering Workshop

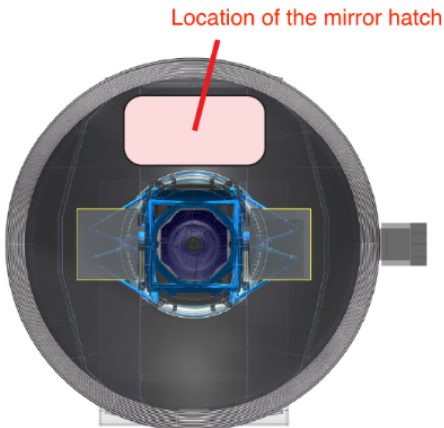
Dec. 8th, 2016

What is mirror hatch?

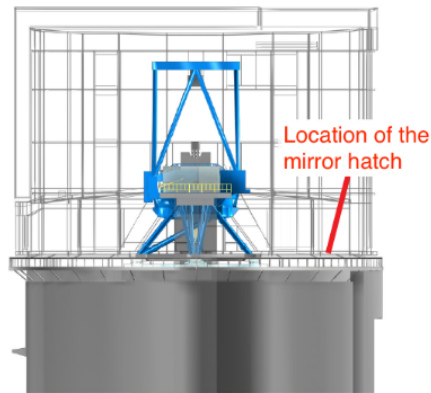
Rear side of the telescope



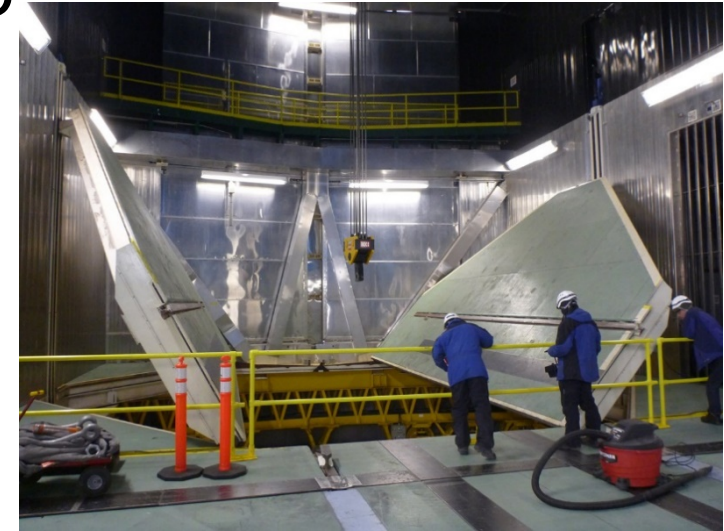
Front side of the telescope



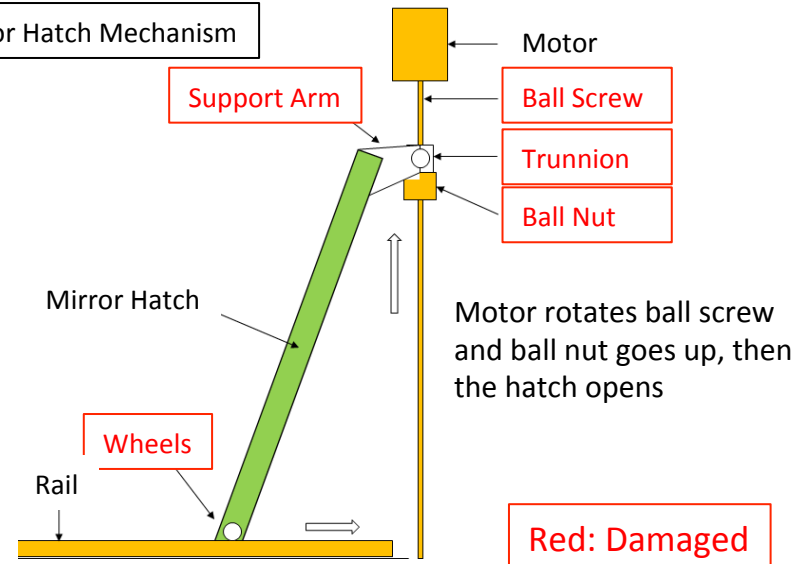
Top View



Side View

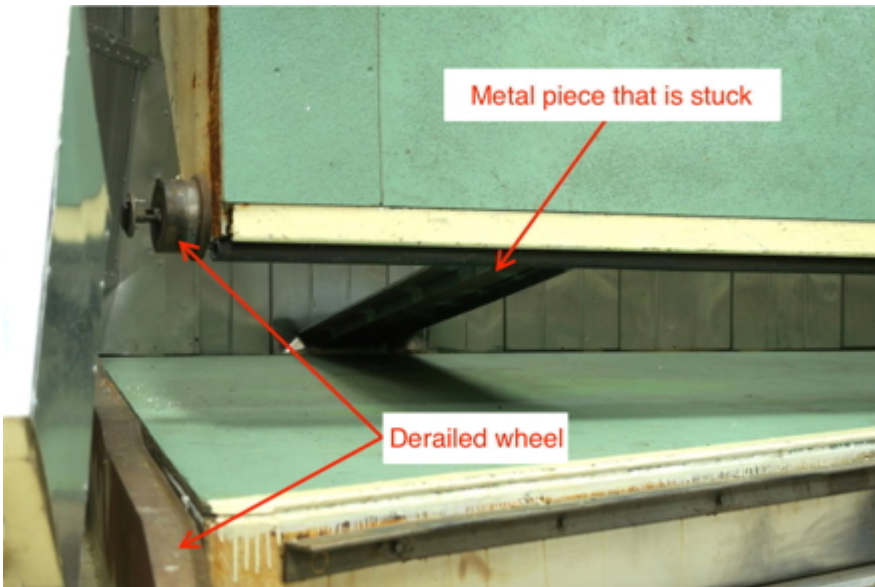


Mirror Hatch Mechanism



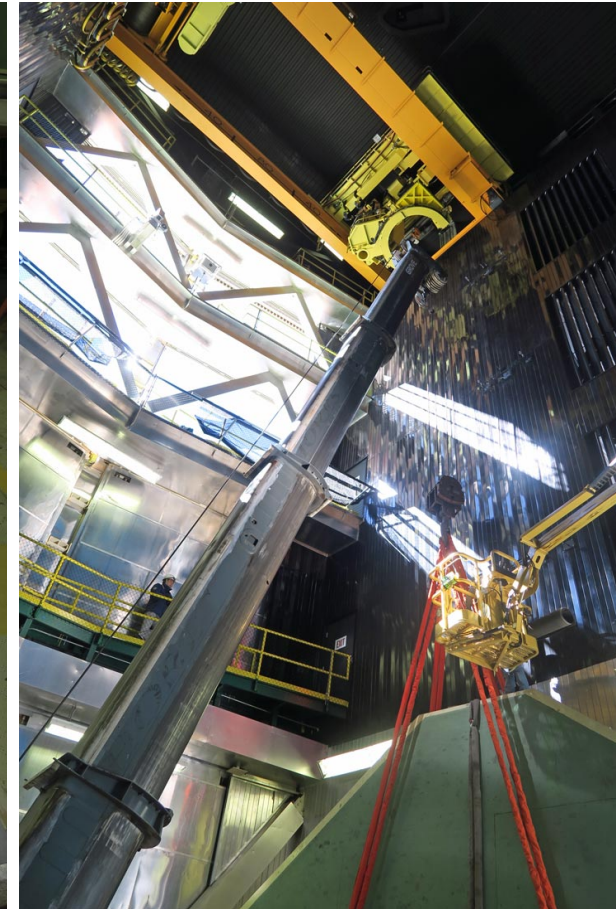
What happened?

- During the scheduled maintenance work on Feb 22, a mirror hatch stopped working when a metal piece was caught while being opened.
- It was found that the wheel of the mirror hatch derailed and there are some damages to the mirror hatch.



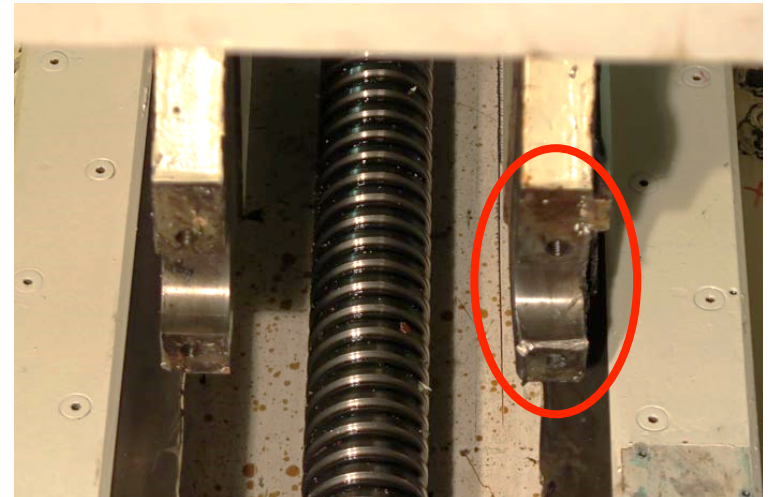
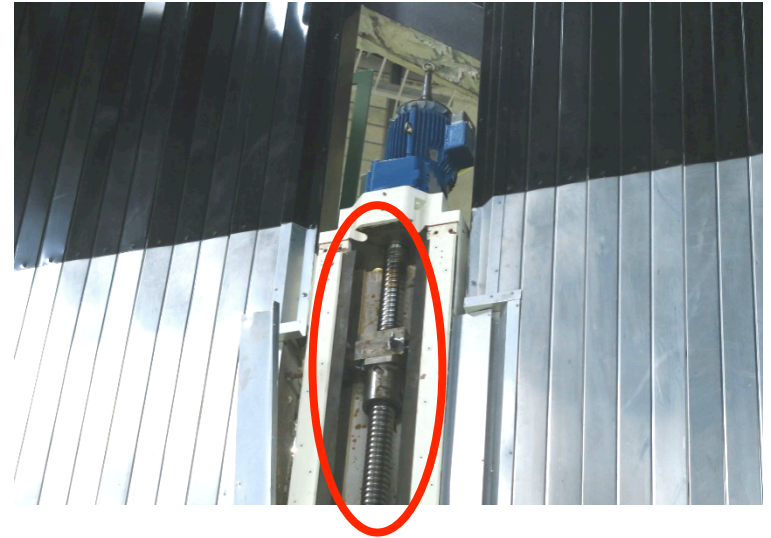
Temporary Recover

- We hired Isemoto's the second largest crane GROVE GMK 5120B.
- The crane slung up the 35,000 lbs. hatch then put it on the original position.
- We are so sorry for **light pollution** while the recovery work. We had to ventilate diesel exhaust from the crane. We are really appreciate for your understanding and cooperation.



What is difficulty?

- After the mirror hatch failure, we telescope engineering division studied, asked, and discussed about how to repair it.
- We paid 8 personal resources and 6 months for that and finally decided not to repair it by ourselves.
- We have no experience to handle with such kind of large and heavy structure/mechanism. If we repaired and failed, it may kill someone. Too many risks to repair.



The hatch has not repaired yet.
We will repair it with Mitsubishi Electric CO. in the next summer.