Mission Procedures

Mars Mission 2016

Assignment Level: **Urgent**

Directive for: Astronauts

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Assignment Level: **Urgent**

Directive for: NASA Engineers; Mission Control

Incoming Status Report from Astronauts:

Explosion on spacecraft. Sensors detect a decrease in oxygen. Power diminishing, need help! Spacecraft physically damaged and trajectory misaligned with destination. Will use Mars Lander as lifeboat.

Carbon dioxide levels rapidly rising in Mars Lander. Dangerous conditions for breathing. Need to create a filter to fix this problem. Please send procedures. Awaiting radio call.

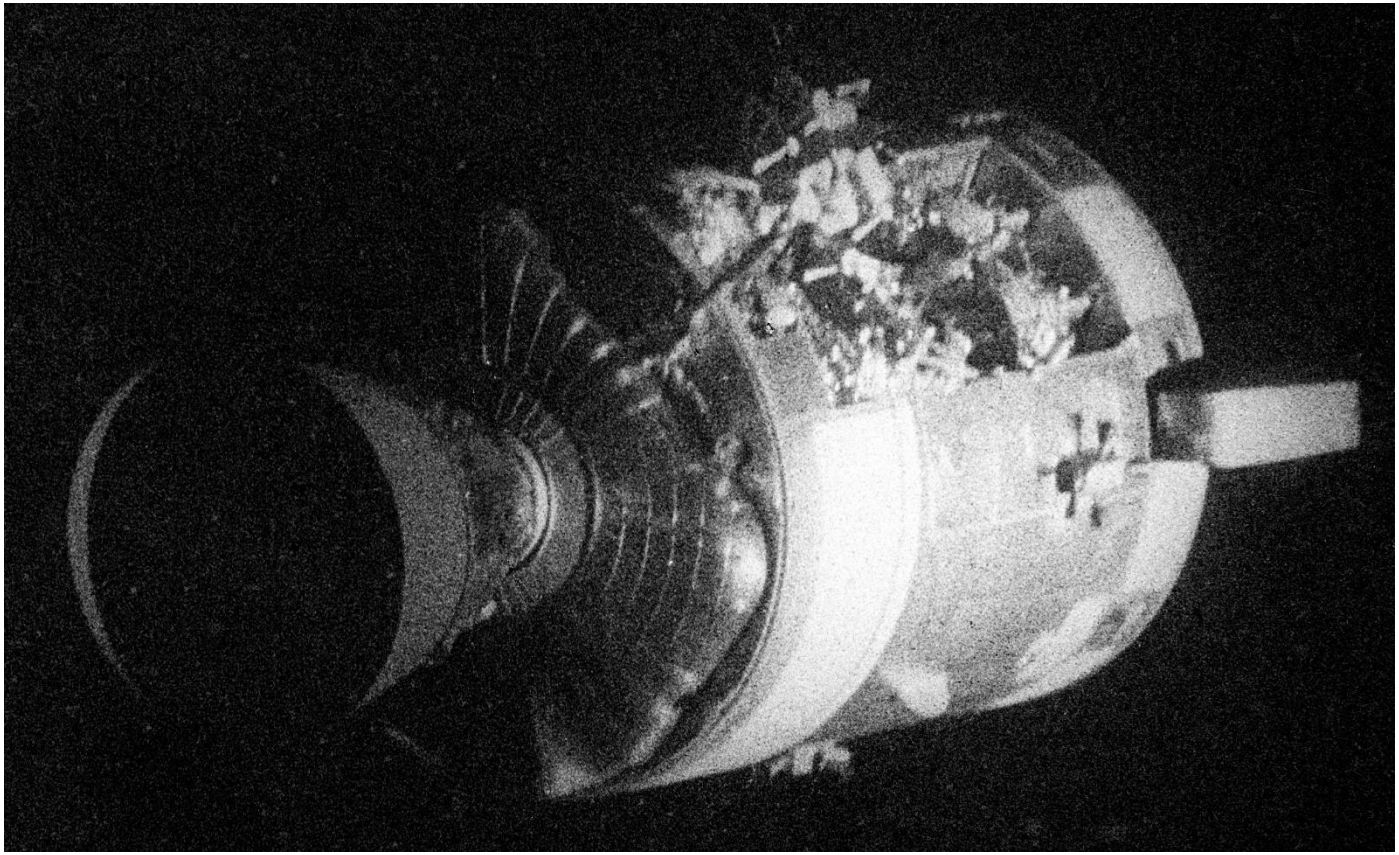
Incoming Status Report from Engineers:

We noticed an explosion on spacecraft. Sensors detect a decrease in oxygen. Power diminishing, will send help! Spacecraft physically damaged and trajectory misaligned with destination. Please use Mars Lander as lifeboat.

Carbon dioxide levels rapidly rising in Mars Lander. Dangerous conditions for breathing. Need to create a filter to fix this problem. We will send procedures. Stand by for radio call with directions.

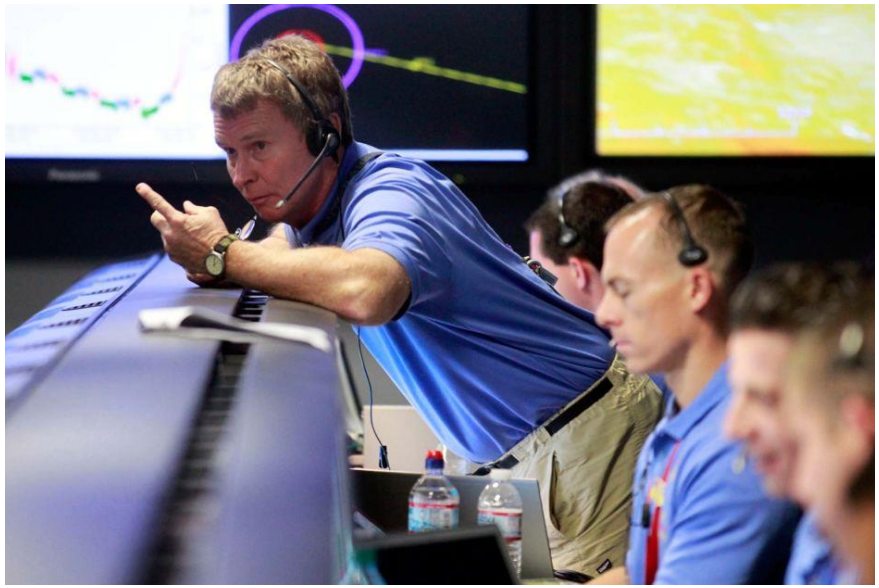
Incoming image:

"Sending visual of spacecraft back for analsis. We are patiently awaiting instructions"



Incoming images :

"Mission Control is working hard to solve the problem"



Mission:

1. **Astronauts:** Keep warm in the Mars Lander and wait for mission control to come up with a plan!

2. Gather up the materials needed to convert the CO_2 into O_2.

3. **Build the CO_2 filter as it is described to you** *(remember, you are millions of miles away and cannot see the prototype!)*

4. Install the filter in less than 15 minutes or you die of CO_2 poisoning and are lost in space forever!

Rules: You may not look at the engineer's design! All communications must be conducted over the radio. Remember to say "OVER" after every transmission.

Mission:

1. **Engineers:** use materials from each spacecraft that can convert a square CO_2 filter to a cylinder filter.

2. Build the new filter and write an emergency plan for the astronauts.

3. **Read the plan to the astronauts so that they can build the same filter and install it in their spacecraft.**

4. You have 15 minutes or the astronauts will die of CO_2 poisoning and are lost in space forever!

Rules: The astronauts may not look at your design! All communications must be conducted over the radio. Remember to say “Over” after every transmission.