
E FLIGHT CENTER
GODDARD SPACE

1
00:00:00,000 --> 00:00:01,301
[background music]

2
00:00:01,301 --> 00:00:04,037
In another section of the
exhibit hallway, these cases

3
00:00:04,037 --> 00:00:08,141
hold additional astronaut tools.
The middle case contains tools

4
00:00:08,141 --> 00:00:11,712
used to repair the Advanced
Camera for Surveys, a workhorse

5
00:00:11,712 --> 00:00:14,715
camera whose power supply failed
after almost five years of

6
00:00:14,715 --> 00:00:19,319
service. To fix the instrument,
astronauts had to first use this

7
00:00:19,319 --> 00:00:23,590
grid cutter to slice through a
metal grid that blocked a cover.

8
00:00:23,590 --> 00:00:26,627
That cover had to be removed to
get to circuit boards underneath

9
00:00:26,627 --> 00:00:30,564
it. The tool contains 12
individual cutter blades on the

10
00:00:30,564 --> 00:00:33,634
back that sheared through the
metal grid when the front bolts

11

00:00:33,634 --> 00:00:37,204
were turned. The astronauts then
used the Fastener Capture Plate,

12
00:00:37,204 --> 00:00:40,974
a tool that prevented 32 small
screws that were holding that

13
00:00:40,974 --> 00:00:43,410
cover on the instrument, from
floating away when they were

14
00:00:43,410 --> 00:00:49,149
taken out. Next, astronauts used
a card extractor to remove four

15
00:00:49,149 --> 00:00:53,053
circuit boards that were under
that cover. One of those circuit

16
00:00:53,053 --> 00:00:56,790
boards is located in the next
display case to the right. The

17
00:00:56,790 --> 00:00:59,893
overall repair was successful
and the instrument has now been

18
00:00:59,893 --> 00:01:03,897
functioning longer than it did
before its initial failure. The

19
00:01:03,897 --> 00:01:06,733
built-in display case on the
wall has parts of the first

20
00:01:06,733 --> 00:01:10,137
spectrograph that flew on Hubble
– the Goddard High Resolution

21

00:01:10,137 --> 00:01:14,441
Spectrograph. It flew in space
for 7 years. It was designed to

22
00:01:14,441 --> 00:01:17,477
measure the intensity of light
at different wavelengths to

23
00:01:17,477 --> 00:01:20,814
reveal information about an
object's properties. The

24
00:01:20,814 --> 00:01:24,151
spectrograph used gratings,
which act like prisms to break

25
00:01:24,151 --> 00:01:27,688
the light into a rainbow.
Special detectors then captured

26
00:01:27,688 --> 00:01:30,457
the spectral data from the
rainbow of light produced by the

27
00:01:30,457 --> 00:01:34,294
gratings. The other half of the
built-in display case contains

28
00:01:34,294 --> 00:01:37,164
more awards received by the
Hubble mission as well as

29
00:01:37,164 --> 00:01:40,067
various Hubble mementos,
including US flags and

30
00:01:40,067 --> 00:01:44,571
spacecraft insulation that flew
in space. On the far wall is a

31

00:01:44,571 --> 00:01:47,741
copy of one of the blueprints of
the Hubble Space Telescope that

32
00:01:47,741 --> 00:01:52,346
was made in 1981 when Hubble was
being built. We hope you have

33
00:01:52,346 --> 00:01:55,916
enjoyed this tour of the Hubble
Space Telescope Control Center.

34
00:01:55,916 --> 00:01:59,419
To find out more about Hubble or
its operations, explore our