1
00:00:05,940 --> 00:00:04,530
good day and welcome to Mission Control

2
00:00:08,430 --> 00:00:05,950
Houston where a team of flight

3
00:00:10,230 --> 00:00:08,440
controllers is watching over the systems

4
00:00:12,720 --> 00:00:10,240
aboard the International Space Station

5
00:00:15,930 --> 00:00:12,730
and support of the expedition 34 crew in

6
00:00:18,179 --> 00:00:15,940
orbit today the crew is focusing on

7
00:00:20,009 --> 00:00:18,189
experiments that once again look at

8
00:00:23,249 --> 00:00:20,019
plumbing concepts for future spacecraft

9
00:00:26,400 --> 00:00:23,259
using surface tension to move fluids

10
00:00:28,290 --> 00:00:26,410
instead of gravity also working on an

11
00:00:31,229 --> 00:00:28,300
experiment on how liquids with magnetic

12
00:00:35,190 --> 00:00:31,239
suspended solids might be used as smart

13
00:00:37,170 --> 00:00:35,200

fluids for mechanical purposes Tom

14
00:00:40,200 --> 00:00:37,180
Marshburn worked with the capillary flow

15
00:00:42,480 --> 00:00:40,210
experiment three that work is starting

16
00:00:45,300 --> 00:00:42,490
new experiments on flows in weird

17
00:00:47,850 --> 00:00:45,310
containers that can passively passively

18
00:00:49,380 --> 00:00:47,860
separate fluid the researchers at the

19
00:00:51,480 --> 00:00:49,390
Portland State University in Oregon

20
00:00:53,130 --> 00:00:51,490
intend to use the results to help guide

21
00:00:55,710 --> 00:00:53,140
development of new systems for

22
00:00:57,870 --> 00:00:55,720
spacecraft that make plumbing a lot more

23
00:00:59,490 --> 00:00:57,880
like Earth plumbing where the effects of

24
00:01:03,570 --> 00:00:59,500
surface tension replaced the role of

25
00:01:05,609 --> 00:01:03,580
gravity Chris Hadfield work with the

26
00:01:08,730 --> 00:01:05,619
colloid experiment that looks at how

27
00:01:10,230 --> 00:01:08,740
solids suspended in fluids called

28
00:01:12,209 --> 00:01:10,240
investigating the structure of

29
00:01:15,569 --> 00:01:12,219
paramagnetic aggregates from colloidal

30
00:01:17,789 --> 00:01:15,579
emulsions two three researchers at the

31
00:01:21,959 --> 00:01:17,799
university of delaware will obtain data

32
00:01:23,520 --> 00:01:21,969
on magneto rheological fluids and those

33
00:01:25,649 --> 00:01:23,530
are fluids that change properties in

34
00:01:27,539 --> 00:01:25,659
response to magnetic fields that could

35
00:01:30,209 --> 00:01:27,549
be used to develop new brake systems and

36
00:01:32,489 --> 00:01:30,219
robotics essentially making them smart

37
00:01:34,649 --> 00:01:32,499
liquids Hadfield also had some time to

38
00:01:36,149 --> 00:01:34,659

work on inventory management to get

39
00:01:38,639 --> 00:01:36,159
ready for the next spacex dragon cargo

40
00:01:40,950 --> 00:01:38,649
ship who also is continuing work on

41
00:01:43,440 --> 00:01:40,960
servicing spacewalk suits with minimal

42
00:01:47,249 --> 00:01:43,450
or no interaction with Mission Control

43
00:01:49,859 --> 00:01:47,259
part of a demonstration called the ISS

44
00:01:52,620 --> 00:01:49,869
as testbed for analog research or I star

45
00:01:54,929 --> 00:01:52,630
and they're working with extra vehicular

46
00:01:58,370 --> 00:01:54,939
Mobility unit cooling loops primarily

47
00:02:00,599 --> 00:01:58,380
Tom Marshburn subdividing the tasks

48
00:02:02,789 --> 00:02:00,609
beyond the normal blocks of time that

49
00:02:04,469 --> 00:02:02,799
would have been scheduled for that on a

50
00:02:05,819 --> 00:02:04,479
normal type of thing where Mission

51
00:02:07,919 --> 00:02:05,829
Control watched over their shoulders

52
00:02:10,770 --> 00:02:07,929
yesterday the crew did a fluid loop

53
00:02:12,780 --> 00:02:10,780
scrub to clean the lines and begin work

54
00:02:14,190 --> 00:02:12,790
and is continuing today on adding iodine

55
00:02:15,290 --> 00:02:14,200
to the cooling water to prevent buildup

56
00:02:17,780 --> 00:02:15,300
so could closet

57
00:02:20,300 --> 00:02:17,790
the lines the idea of the whole thing is

58
00:02:22,550 --> 00:02:20,310
to develop procedures that are much more

59
00:02:25,400 --> 00:02:22,560
refined and what in the future allow

60
00:02:26,660 --> 00:02:25,410
crews to complete the work without a lot

61
00:02:28,930 --> 00:02:26,670
of interaction with Mission Control

62
00:02:32,600 --> 00:02:28,940
which would be very important for

63
00:02:36,680 --> 00:02:32,610

long-duration missions to distant places

64
00:02:38,270 --> 00:02:36,690
like meteor I like asteroids or other

65
00:02:40,220 --> 00:02:38,280
planets such as Mars where the

66
00:02:43,340 --> 00:02:40,230
communication delay start to become a

67
00:02:45,200 --> 00:02:43,350
problem Kevin Ford collected hardware

68
00:02:46,930 --> 00:02:45,210
from the amine swingbed today in

69
00:02:49,370 --> 00:02:46,940
preparation for its periodic maintenance

70
00:02:51,890 --> 00:02:49,380
researchers are evaluating how well the

71
00:02:54,350 --> 00:02:51,900
experimental vacuum regenerated aiming

72
00:02:56,120 --> 00:02:54,360
system can effectively room remove

73
00:02:57,920 --> 00:02:56,130
excess carbon dioxide from the app as

74
00:03:00,050 --> 00:02:57,930
fair helping out the other carbon

75
00:03:01,850 --> 00:03:00,060
dioxide removal systems ford also has

76
00:03:03,680 --> 00:03:01,860
taken digital photos of the various

77
00:03:05,330 --> 00:03:03,690
payload racks on the station to document

78
00:03:07,640 --> 00:03:05,340
any configuration changes for the

79
00:03:08,720 --> 00:03:07,650
payload Operations Center people at the

80
00:03:11,120 --> 00:03:08,730
Marshall Space Flight Center in

81
00:03:12,380 --> 00:03:11,130
Huntsville Alabama which coordinates all

82
00:03:14,960 --> 00:03:12,390
the research onboard the space station

83
00:03:16,490 --> 00:03:14,970
and the Russians nowitzki tarelkin and

84
00:03:18,740 --> 00:03:16,500
romanenko also work with a variety of

85
00:03:20,600 --> 00:03:18,750
their experiments and some station

86
00:03:22,580 --> 00:03:20,610
maintenance task Romanenko routed some

87
00:03:23,900 --> 00:03:22,590
communication cables to get ready for

88
00:03:25,430 --> 00:03:23,910

the arrival of the next European

89
00:03:28,010 --> 00:03:25,440
automatic transfer vehicle later this

90
00:03:30,260 --> 00:03:28,020
year Tyrell can work with the relaxation

91
00:03:32,320 --> 00:03:30,270
experiment that makes ultraviolet

92
00:03:35,000 --> 00:03:32,330
spectrometer observations of the

93
00:03:37,250 --> 00:03:35,010
reactions in the xenon plasma from

94
00:03:38,570 --> 00:03:37,260
firings of two plasma contactor units

95
00:03:41,600 --> 00:03:38,580
that are on the outside of the space

96
00:03:44,870 --> 00:03:41,610
station's truss and viski worked on some

97
00:03:46,910 --> 00:03:44,880
headset maintenance outside the space

98
00:03:48,530 --> 00:03:46,920
station robotics flight controllers in

99
00:03:51,199 --> 00:03:48,540
Houston backed up by their Canadian

100
00:03:53,840 --> 00:03:51,209
counterparts near Montreal have been

101
00:03:56,420 --> 00:03:53,850
using canadarm2 and the dexter phi

102
00:03:58,670 --> 00:03:56,430
manipulator system to move some spare

103
00:04:00,949 --> 00:03:58,680
equipment replacement units around the

104
00:04:03,530 --> 00:04:00,959
slow but deliberate work by the robotics

105
00:04:05,240 --> 00:04:03,540
officers resulted yesterday and the

106
00:04:07,340 --> 00:04:05,250
transfer of failed main bus switching

107
00:04:09,740 --> 00:04:07,350
unit from its temporary storage location

108
00:04:12,170 --> 00:04:09,750
on external stowage platform to outside

109
00:04:14,390 --> 00:04:12,180
the quest airlock over to external

110
00:04:17,390 --> 00:04:14,400
logistics carrier too which is on the

111
00:04:18,620 --> 00:04:17,400
starboard truss that failed the device

112
00:04:21,500 --> 00:04:18,630
was replaced last summer during

113
00:04:24,230 --> 00:04:21,510

spacewalks by expedition 33 sonny

114
00:04:25,580 --> 00:04:24,240
williams and aki hoshide a today the

115
00:04:27,740 --> 00:04:25,590
ground robotics experts are going to be

116
00:04:30,130 --> 00:04:27,750
transferring a cargo transport container

117
00:04:33,680 --> 00:04:30,140
from external logistics carrier to and

118
00:04:35,660 --> 00:04:33,690
installing it on Dexter's temporary

119
00:04:38,510 --> 00:04:35,670
equipment holder and then Wednesday

120
00:04:40,910 --> 00:04:38,520
they'll move a direct current switching

121
00:04:42,740 --> 00:04:40,920
unit from external storage platform to

122
00:04:44,990 --> 00:04:42,750
over to external logistics carrier to

123
00:04:47,890 --> 00:04:45,000
and then Thursday they'll be stowing the

124
00:04:50,870 --> 00:04:47,900
Dexter unit on the mobile base switching

125
00:04:52,640 --> 00:04:50,880
unit and then we have very busy week of

126
00:04:54,260 --> 00:04:52,650
robotic operations guided by the folks

127
00:04:58,100 --> 00:04:54,270
here on the ground freeing the crew on

128
00:04:59,510 --> 00:04:58,110
orbit for all of the up close and