



Russian Flight Control Room

KOROLEV, RUSSIA

1
00:00:12,230 --> 00:00:04,950
and that first umbilical tower now

2
00:00:28,470 --> 00:00:14,070
the commanding for the engine start

3
00:00:32,229 --> 00:00:30,150
the second umbilical tower now

4
00:00:40,229 --> 00:00:32,239
retracting standing by for main engine

5
00:00:44,790 --> 00:00:42,470
main engine start engine engine turbo

6
00:00:49,110 --> 00:00:44,800
pumps at flight speed

7
00:00:53,670 --> 00:00:51,029
liftoff of the soyuz booster and the

8
00:01:09,830 --> 00:00:53,680
progress 45 resupply ship bound for the

9
00:01:09,840 --> 00:01:23,990
pitch and roll program underway

10
00:01:27,590 --> 00:01:25,749
40 seconds into the flight everything

11
00:01:29,749 --> 00:01:27,600
looking good

12
00:01:31,749 --> 00:01:29,759
the soyuz delivering about 100 tons of

13
00:01:43,190 --> 00:01:31,759

thrust from its four boosters in single

14

00:01:48,230 --> 00:01:44,710

one minute into the flight everything

15

00:01:55,190 --> 00:01:49,749

going through the period of maximum

16

00:02:17,270 --> 00:01:56,950

one minute 10 seconds into the flight

17

00:02:27,030 --> 00:02:19,270

one minute 30 seconds into the flight

18

00:02:47,190 --> 00:02:29,589

about 15 seconds away from the jettison

19

00:02:51,509 --> 00:02:49,270

the strap-on boosters have now been

20

00:02:57,990 --> 00:02:51,519

jettisoned

21

00:03:02,869 --> 00:03:00,869

the soyuz booster and 45 progress now at

22

00:03:17,509 --> 00:03:02,879

an altitude of 28 statute miles

23

00:03:17,519 --> 00:03:21,990

two minutes 30 seconds into the flight

24

00:03:29,750 --> 00:03:23,830

standing by for escape tower and launch

25

00:03:34,149 --> 00:03:32,470

launch route jettison now confirmed

26

00:03:36,229 --> 00:03:34,159

everything continues

27

00:03:38,710 --> 00:03:36,239

to operate normally with the soyuz

28

00:03:57,670 --> 00:03:38,720

booster delivering the 45 progress

29

00:04:03,910 --> 00:04:01,750

three minutes 15 seconds into the flight

30

00:04:09,589 --> 00:04:03,920

the soyuz booster traveling at a speed

31

00:04:18,310 --> 00:04:11,750

more than 400 miles downrange from the

32

00:04:22,150 --> 00:04:20,150

three and a half minutes into the flight

33

00:04:24,870 --> 00:04:22,160

everything continue uh

34

00:04:26,790 --> 00:04:24,880

continuing to perform normally

35

00:04:37,510 --> 00:04:26,800

the second stage is performing as

36

00:04:41,909 --> 00:04:39,270

coming up on the four minute mark into

37

00:04:43,749 --> 00:04:41,919

the flight the second or core stage of

38

00:04:47,830 --> 00:04:43,759

the soyuz

39

00:04:51,990 --> 00:04:50,710

a view of the cavernous uh russian

40

00:04:54,150 --> 00:04:52,000

international space station flight

41

00:04:57,749 --> 00:04:54,160

control room at the mission control

42

00:04:59,270 --> 00:04:57,759

center in karayof outside moscow

43

00:05:00,790 --> 00:04:59,280

we're all pitching y'all the vehicle

44

00:05:08,950 --> 00:05:00,800

reported to be

45

00:05:17,990 --> 00:05:10,550

coming up on the four and a half minute

46

00:05:22,230 --> 00:05:19,590

four and a half minutes into the flight

47

00:05:40,230 --> 00:05:22,240

mark halfway to its preliminary orbit

48

00:05:46,070 --> 00:05:44,070

second stage separation is confirmed

49

00:06:01,029 --> 00:05:46,080

the core stage engine has fulfilled its

50

00:06:06,790 --> 00:06:03,430

coming up on the point where the 44

51

00:06:08,550 --> 00:06:06,800

progress vehicle was lost

52

00:06:15,909 --> 00:06:08,560

however everything going by the book

53

00:06:19,830 --> 00:06:17,670

five and a half minutes into the flight

54

00:06:28,870 --> 00:06:19,840

the third stage continues to function

55

00:06:33,510 --> 00:06:31,110

almost six minutes into the flight

56

00:06:34,390 --> 00:06:33,520

the third stage providing 30 tons of

57

00:06:48,309 --> 00:06:34,400

thrust

58

00:06:52,230 --> 00:06:49,670

flight controllers at the russian

59

00:06:54,710 --> 00:06:52,240

mission control center receiving reports

60

00:06:59,189 --> 00:06:54,720

from baikonur that the roll yaw pitch

61

00:07:12,629 --> 00:06:59,199

program of the third stage is nominal

62

00:07:17,270 --> 00:07:14,150

this graphic basically shows the

63

00:07:18,629 --> 00:07:17,280

milestones of the progress on route to

64

00:07:20,390 --> 00:07:18,639

orbit

65

00:07:24,870 --> 00:07:20,400

we are now past the six and a half

66

00:07:32,230 --> 00:07:27,510

the third stage of the soyuz booster is

67

00:07:39,189 --> 00:07:35,589

poised to deliver the progress 45

68

00:07:41,550 --> 00:07:39,199

resupply craft to its preliminary orbit

69

00:07:45,029 --> 00:07:41,560

the progress contains 1

70

00:07:47,070 --> 00:07:45,039

653 pounds of propellant 110 pounds of

71

00:07:50,510 --> 00:07:47,080

oxygen

72

00:07:53,589 --> 00:07:50,520

926 pounds of water

73

00:07:56,070 --> 00:07:53,599

3108 pounds of dry cargo that includes

74

00:07:58,390 --> 00:07:56,080

maintenance hardware resupply items

75

00:07:59,749 --> 00:07:58,400

life support system items experiment

76

00:08:02,710 --> 00:07:59,759

hardware

77

00:08:04,469 --> 00:08:02,720

for a total of 2.9 tons

78

00:08:06,070 --> 00:08:04,479

of food fuel and supplies for the

79

00:08:11,350 --> 00:08:06,080

residents of the international space

80

00:08:14,469 --> 00:08:12,950

coming up on the seven and a half minute

81

00:08:28,390 --> 00:08:14,479

mark into the flight

82

00:08:40,469 --> 00:08:30,629

inside a minute until third stage

83

00:08:44,550 --> 00:08:42,230

approaching the eight minute mark into

84

00:09:17,670 --> 00:08:44,560

the flight

85

00:09:22,710 --> 00:09:19,750

the final seconds of third stage

86

00:09:42,310 --> 00:09:22,720

performance roll pitch and all nominal

87

00:09:48,550 --> 00:09:45,030

we now have third stage shutdown

88

00:09:51,910 --> 00:09:48,560

the soyuz booster has done its job for

89

00:09:53,990 --> 00:09:51,920

today the progress 45 has separated

90

00:09:55,509 --> 00:09:54,000

standing by for confirmation of solar

91

00:09:57,190 --> 00:09:55,519

raid deploy

92

00:09:59,350 --> 00:09:57,200

and all of the antennas have now

93

00:10:01,829 --> 00:09:59,360

deployed the solar rays have deployed

94

00:10:02,949 --> 00:10:01,839

the navigational antennas have deployed

95

00:10:04,710 --> 00:10:02,959

success

96

00:10:06,949 --> 00:10:04,720

for the russian federal space agency and

97

00:10:09,350 --> 00:10:06,959

rsc inergia

98

00:10:11,590 --> 00:10:09,360

as they worked their way through the

99

00:10:13,430 --> 00:10:11,600

failure of the previous soyuz booster

100

00:10:15,670 --> 00:10:13,440

back on august 24th

101

00:10:17,269 --> 00:10:15,680

did a careful analysis and inspection of

102

00:10:18,389 --> 00:10:17,279

the manufacturing techniques the

103

00:10:20,310 --> 00:10:18,399

processing

104

00:10:22,710 --> 00:10:20,320

and the engines involved in today's

105

00:10:27,590 --> 00:10:24,949

which has proven to be successful the

106

00:10:29,190 --> 00:10:27,600

progress 45 now in its preliminary orbit

107

00:10:31,990 --> 00:10:29,200

on route to the international space

108

00:10:34,150 --> 00:10:32,000

station for a docking on wednesday at 6