



1  
00:00:15,799 --> 00:00:13,520  
skylab was the first test of our ability

2  
00:00:17,540 --> 00:00:15,809  
to endure weightlessness and astronauts

3  
00:00:20,120 --> 00:00:17,550  
found that they could effectively work

4  
00:00:23,179 --> 00:00:20,130  
exercise eat and sleep in their

5  
00:00:25,070 --> 00:00:23,189  
temporary home more recently the space

6  
00:00:27,800 --> 00:00:25,080  
shuttle has allowed us to fly into orbit

7  
00:00:29,660 --> 00:00:27,810  
conduct our business and return in

8  
00:00:31,510 --> 00:00:29,670  
addition to providing a laboratory for

9  
00:00:33,740 --> 00:00:31,520  
carrying out experiments in microgravity

10  
00:00:35,930 --> 00:00:33,750  
Arizona was also renovated us

11  
00:00:39,010 --> 00:00:35,940  
commercially and scientifically through

12  
00:00:41,840 --> 00:00:39,020  
the deployment and capture of satellites

13  
00:00:44,360 --> 00:00:41,850

hello world the shuttle was designed

14

00:00:46,400 --> 00:00:44,370

with a larger goal in mind to transport

15

00:00:54,960 --> 00:00:46,410

astronauts and materials to a proposed

16

00:01:01,119 --> 00:00:58,479

in November of 1985 shuttle astronauts

17

00:01:03,160 --> 00:01:01,129

Jerry Ross and sherwin spring tested an

18

00:01:05,530 --> 00:01:03,170

assembly concept for construction of

19

00:01:09,490 --> 00:01:05,540

erectile structures in space more

20

00:01:11,650 --> 00:01:09,500

commonly known as access holes were

21

00:01:13,300 --> 00:01:11,660

linked together to make a frame similar

22

00:01:18,640 --> 00:01:13,310

to Romero will be used to build the

23

00:01:20,290 --> 00:01:18,650

space station in the early 1990s at the

24

00:01:22,540 --> 00:01:20,300

McDonnell Douglas underwater test

25

00:01:24,700 --> 00:01:22,550

facility astronauts can practice outer

26  
00:01:27,969 --> 00:01:24,710  
space construction in a neutral buoyancy

27  
00:01:30,190 --> 00:01:27,979  
tank here they assemble poles in 25

28  
00:01:32,609 --> 00:01:30,200  
meter cube at central service building

29  
00:01:34,990 --> 00:01:32,619  
blocks for the framework of the station

30  
00:01:36,370 --> 00:01:35,000  
sophisticated robot systems will assist

31  
00:01:38,710 --> 00:01:36,380  
in the building of the station and

32  
00:01:41,310 --> 00:01:38,720  
capture of satellites according to space

33  
00:01:43,779 --> 00:01:41,320  
station chief scientist dr. David black

34  
00:01:46,690 --> 00:01:43,789  
now one of the crucial capabilities and

35  
00:01:48,730 --> 00:01:46,700  
it's being provided by Canada is a major

36  
00:01:51,639 --> 00:01:48,740  
remote manipulator that will run around

37  
00:01:53,650 --> 00:01:51,649  
and on a trust like structure on tracks

38  
00:01:55,480 --> 00:01:53,660

and be able to move all throughout the

39

00:01:57,069 --> 00:01:55,490

space station and the reason that's

40

00:02:00,520 --> 00:01:57,079

important is that we plan on using that

41

00:02:03,310 --> 00:02:00,530

robust very healthy arm to assemble the

42

00:02:04,810 --> 00:02:03,320

space station itself the OMB are the

43

00:02:07,240 --> 00:02:04,820

orbiting maneuvering vehicle is in

44

00:02:10,710 --> 00:02:07,250

effect a little space tug and its

45

00:02:13,090 --> 00:02:10,720

purpose is to go out attach itself to

46

00:02:15,610 --> 00:02:13,100

satellites which we want to bring back

47

00:02:17,050 --> 00:02:15,620

to the space station for repair hold

48

00:02:18,490 --> 00:02:17,060

them back into the vicinity of the space

49

00:02:20,440 --> 00:02:18,500

station then they can be put in the

50

00:02:23,710 --> 00:02:20,450

hangar or the garage where the

51  
00:02:25,630 --> 00:02:23,720  
astronauts can then work on it the new

52  
00:02:28,300 --> 00:02:25,640  
space station is designed to avoid the

53  
00:02:30,699 --> 00:02:28,310  
tremendous drag of solar arrays by

54  
00:02:32,440 --> 00:02:30,709  
incorporating solar dynamics large

55  
00:02:34,600 --> 00:02:32,450  
mirrors will reflect the sun's energy

56  
00:02:38,690 --> 00:02:34,610  
onto a fluid which becomes superheated

57  
00:02:43,290 --> 00:02:41,430  
roughly the size of a football field the

58  
00:02:45,230 --> 00:02:43,300  
space station will house modules from

59  
00:02:47,670 --> 00:02:45,240  
the United States Japan and Europe

60  
00:02:51,440 --> 00:02:47,680  
modules provide space for housing

61  
00:02:54,000 --> 00:02:51,450  
microgravity and life science research

62  
00:02:56,040 --> 00:02:54,010  
making a place to live that meets crew

63  
00:02:58,320 --> 00:02:56,050

needs in an airless weightless

64

00:03:01,230 --> 00:02:58,330

environment is a primary importance in

65

00:03:03,930 --> 00:03:01,240

the space station design again dr. black

66

00:03:07,650 --> 00:03:03,940

we are trying to make the habitability

67

00:03:09,510 --> 00:03:07,660

part of the structure comfortable as

68

00:03:11,460 --> 00:03:09,520

much space as we possibly get so that

69

00:03:12,990 --> 00:03:11,470

the astronauts don't feel crime there

70

00:03:14,160 --> 00:03:13,000

will be windows in the facility so they

71

00:03:17,970 --> 00:03:14,170

can look out and it turns out that's

72

00:03:23,250 --> 00:03:20,940

NASA's Space Station a springboard for