



1
00:00:25,990 --> 00:00:24,070
good morning and welcome to nasa

2
00:00:27,990 --> 00:00:26,000
headquarters we're excited to have with

3
00:00:29,429 --> 00:00:28,000
us here today seven astronauts from the

4
00:00:31,029 --> 00:00:29,439
apollo program

5
00:00:32,790 --> 00:00:31,039
they're here to help us commemorate the

6
00:00:33,910 --> 00:00:32,800
historic first lunar landing 40 years

7
00:00:35,510 --> 00:00:33,920
ago today

8
00:00:37,110 --> 00:00:35,520
joining us here in the order they first

9
00:00:42,229 --> 00:00:37,120
flew on apollo

10
00:00:51,350 --> 00:00:46,549
james lovell with apollo 8 and apollo 13

11
00:00:55,430 --> 00:00:51,360
david scott with apollo 9 apollo 15

12
00:01:03,029 --> 00:00:59,270
charles duke apollo 16.

13
00:01:04,630 --> 00:01:03,039

thomas stafford apollo 10

14

00:01:08,149 --> 00:01:04,640
and eugene cernan

15

00:01:10,149 --> 00:01:08,159
apollo 10 and apollo 17.

16

00:01:11,429 --> 00:01:10,159
the paul astronauts will begin i think

17

00:01:12,630 --> 00:01:11,439
actually jim loves going to begin with

18

00:01:14,630 --> 00:01:12,640
an opening statement and then we'll take

19

00:01:16,710 --> 00:01:14,640
q a here at nasa headquarters followed

20

00:01:17,830 --> 00:01:16,720
by our nasa field centers

21

00:01:19,429 --> 00:01:17,840
jim

22

00:01:24,070 --> 00:01:19,439
john thank you

23

00:01:28,230 --> 00:01:24,080
i think that today we ought to look at

24

00:01:30,789 --> 00:01:28,240
july 20th and the celebration of the

25

00:01:33,429 --> 00:01:30,799
landing of apollo 11 and really the in

26

00:01:36,310 --> 00:01:33,439

in really the uh

27

00:01:40,550 --> 00:01:36,320

uh complete context of what we're doing

28

00:01:42,550 --> 00:01:40,560

here this is not just uh to celebrate uh

29

00:01:45,109 --> 00:01:42,560

the flight of the last 60 miles of the

30

00:01:47,190 --> 00:01:45,119

apollo living crew to the landing

31

00:01:49,749 --> 00:01:47,200

certainly we all honor the apollo 11

32

00:01:50,789 --> 00:01:49,759

crew and the people that provided their

33

00:01:54,469 --> 00:01:50,799

support

34

00:01:56,630 --> 00:01:54,479

in reality this is a national

35

00:01:58,789 --> 00:01:56,640

celebration of the completion of

36

00:02:01,429 --> 00:01:58,799

something that president kennedy

37

00:02:04,389 --> 00:02:01,439

suggested and committed to

38

00:02:05,749 --> 00:02:04,399

nine years before the landing of apollo

39

00:02:07,990 --> 00:02:05,759

11.

40

00:02:11,670 --> 00:02:08,000

and we have to really celebrate in a

41

00:02:13,990 --> 00:02:11,680

national scope uh the flights of mercury

42

00:02:17,270 --> 00:02:14,000

the original pioneers and what they did

43

00:02:19,750 --> 00:02:17,280

there uh the flights of gemini that did

44

00:02:21,830 --> 00:02:19,760

all the work that uh and all the

45

00:02:24,390 --> 00:02:21,840

processes and the rendezvous and the

46

00:02:26,390 --> 00:02:24,400

evas and the long distance flights that

47

00:02:28,470 --> 00:02:26,400

made the final landing on the moon

48

00:02:30,309 --> 00:02:28,480

possible and then we have to look at

49

00:02:33,670 --> 00:02:30,319

some of the early

50

00:02:35,030 --> 00:02:33,680

apollo flights that uh that finally

51
00:02:38,470 --> 00:02:35,040
led the way

52
00:02:40,309 --> 00:02:38,480
made

53
00:02:43,750 --> 00:02:40,319
this final 11

54
00:02:45,430 --> 00:02:43,760
uh landing a really a national

55
00:02:46,949 --> 00:02:45,440
celebration and something that we can

56
00:02:49,830 --> 00:02:46,959
all be proud of so

57
00:02:51,750 --> 00:02:49,840
in aspects of all the apollo uh

58
00:02:55,270 --> 00:02:51,760
celebrations we've had this year we've

59
00:02:58,149 --> 00:02:55,280
had seven and ten and eight

60
00:03:00,470 --> 00:02:58,159
this is really a national celebration

61
00:03:04,149 --> 00:03:00,480
this is really a celebration for all

62
00:03:07,350 --> 00:03:04,159
those people that helped neil and buzz

63
00:03:08,149 --> 00:03:07,360

and mike make that final 60 miles

64

00:03:11,030 --> 00:03:08,159

uh

65

00:03:13,670 --> 00:03:11,040

travel to the surface of the boat and so

66

00:03:15,830 --> 00:03:13,680

we're all here to celebrate this day on

67

00:03:17,830 --> 00:03:15,840

really a national scope of a great

68

00:03:20,550 --> 00:03:17,840

project

69

00:03:24,470 --> 00:03:20,560

in a bold move and well conceived and a

70

00:03:29,270 --> 00:03:26,630

okay thank you we'll start taking

71

00:03:32,070 --> 00:03:29,280

questions here any other open remarks

72

00:03:33,430 --> 00:03:32,080

from anyone

73

00:03:35,509 --> 00:03:33,440

okay we'll start taking uh questions

74

00:03:36,949 --> 00:03:35,519

here at nasa headquarters uh followed by

75

00:03:39,190 --> 00:03:36,959

our field centers remember to wait for

76
00:03:41,030 --> 00:03:39,200
the microphone state your full name and

77
00:03:42,149 --> 00:03:41,040
affiliation and who your question is

78
00:03:43,750 --> 00:03:42,159
directed to

79
00:03:52,470 --> 00:03:43,760
um questions

80
00:03:56,789 --> 00:03:54,550
it's working good morning

81
00:03:59,110 --> 00:03:56,799
tomm fitzgerald from fox television wttg

82
00:04:01,270 --> 00:03:59,120
here in washington

83
00:04:02,710 --> 00:04:01,280
mr aldrin if i could ask you uh we'll

84
00:04:06,710 --> 00:04:02,720
start with you since this is the

85
00:04:09,110 --> 00:04:06,720
anniversary of the apollo 11 landing

86
00:04:09,910 --> 00:04:09,120
so many people talk about where they

87
00:04:11,750 --> 00:04:09,920
thought

88
00:04:14,789 --> 00:04:11,760

the united states and the space program

89

00:04:16,870 --> 00:04:14,799

it would be by now looking back on this

90

00:04:19,030 --> 00:04:16,880

day 40 years ago

91

00:04:20,710 --> 00:04:19,040

where do you think where did you think

92

00:04:22,629 --> 00:04:20,720

we would be by now

93

00:04:25,030 --> 00:04:22,639

and where do you see us

94

00:04:27,510 --> 00:04:25,040

moving forward from this point

95

00:04:31,270 --> 00:04:27,520

in 2009

96

00:04:33,909 --> 00:04:31,280

i think we were all caught up with the

97

00:04:36,710 --> 00:04:33,919

task at hand to give a whole lot of

98

00:04:39,590 --> 00:04:36,720

thought to where this really would fit

99

00:04:41,749 --> 00:04:39,600

into the future i would call it

100

00:04:44,710 --> 00:04:41,759

being naive maybe

101
00:04:47,670 --> 00:04:44,720
in comparison to where i think

102
00:04:52,150 --> 00:04:47,680
i as an individual stand today looking

103
00:04:53,430 --> 00:04:52,160
at the past and looking at the future

104
00:04:55,909 --> 00:04:53,440
clearly

105
00:04:58,710 --> 00:04:55,919
the commitment to land on the moon was

106
00:05:00,710 --> 00:04:58,720
absolutely pioneering

107
00:05:02,150 --> 00:05:00,720
uncharted

108
00:05:04,469 --> 00:05:02,160
technology

109
00:05:07,110 --> 00:05:04,479
and we achieved that and flushed with

110
00:05:08,390 --> 00:05:07,120
success six out of seven successful

111
00:05:10,790 --> 00:05:08,400
landings

112
00:05:12,790 --> 00:05:10,800
about the odds that we thought

113
00:05:16,629 --> 00:05:12,800

our mission was that we would be able to

114

00:05:19,510 --> 00:05:16,639

land and and come back 95 i guess we

115

00:05:21,430 --> 00:05:19,520

felt of coming back alive

116

00:05:25,110 --> 00:05:21,440

uh

117

00:05:26,710 --> 00:05:25,120

so i i think we're we we are today is is

118

00:05:29,270 --> 00:05:26,720

quite a bit different

119

00:05:31,909 --> 00:05:29,280

uh with the success that we had with

120

00:05:33,510 --> 00:05:31,919

apollo and when we chose to terminate

121

00:05:36,230 --> 00:05:33,520

that because of

122

00:05:38,629 --> 00:05:36,240

a fading interest in

123

00:05:41,270 --> 00:05:38,639

wondrous things being done on on the

124

00:05:44,150 --> 00:05:41,280

last missions that the gene was involved

125

00:05:45,909 --> 00:05:44,160

in just tremendous achievements but but

126

00:05:48,310 --> 00:05:45,919

it was not really stimulating the

127

00:05:51,189 --> 00:05:48,320

ongoing interest of the people we had uh

128

00:05:53,189 --> 00:05:51,199

southeast asia problems going on uh with

129

00:05:54,629 --> 00:05:53,199

good friends of us all of us

130

00:05:56,950 --> 00:05:54,639

probably would have been over there

131

00:05:59,189 --> 00:05:56,960

dropping bombs shooting shooting down

132

00:06:00,710 --> 00:05:59,199

migs or something had it not been for

133

00:06:04,469 --> 00:06:00,720

the space program

134

00:06:07,749 --> 00:06:04,479

we had those things to solve we had a a

135

00:06:10,390 --> 00:06:07,759

sort of a new uh uprising

136

00:06:11,270 --> 00:06:10,400

of uh questioning authority

137

00:06:21,110 --> 00:06:11,280

uh

138

00:06:24,309 --> 00:06:21,120

decisions and maybe a few of them going

139

00:06:26,150 --> 00:06:24,319

to canada or whatever

140

00:06:28,870 --> 00:06:26,160

there was clearly uh

141

00:06:30,629 --> 00:06:28,880

a flower in the end of a rifle there was

142

00:06:33,510 --> 00:06:30,639

there was an opposition to what the

143

00:06:35,909 --> 00:06:33,520

government was doing

144

00:06:39,110 --> 00:06:35,919

uh with the success that we had with

145

00:06:40,070 --> 00:06:39,120

with apollo i i think perhaps we uh

146

00:06:42,710 --> 00:06:40,080

uh

147

00:06:45,110 --> 00:06:42,720

felt we could do much more by catching

148

00:06:47,990 --> 00:06:45,120

up what we'd left behind and that is

149

00:06:50,790 --> 00:06:48,000

reusable spacecraft

150

00:06:53,110 --> 00:06:50,800

going to low-earth orbit to a laboratory

151
00:06:55,990 --> 00:06:53,120
that would begin to do all sorts of

152
00:06:57,670 --> 00:06:56,000
wondrous things in low-earth orbit well

153
00:07:00,629 --> 00:06:57,680
unfortunately neither of those quite

154
00:07:03,029 --> 00:07:00,639
lived up to the marketing expectations

155
00:07:06,950 --> 00:07:03,039
that we put on on them

156
00:07:09,110 --> 00:07:06,960
uh and now we're still uh attempting to

157
00:07:11,029 --> 00:07:09,120
begin to terminate

158
00:07:11,909 --> 00:07:11,039
those activities

159
00:07:14,629 --> 00:07:11,919
uh

160
00:07:16,790 --> 00:07:14,639
and i think we're getting back to what

161
00:07:19,510 --> 00:07:16,800
nasa and what the country really likes

162
00:07:21,670 --> 00:07:19,520
to see and that's exploration

163
00:07:23,510 --> 00:07:21,680

to me exploration is going to some place

164

00:07:25,350 --> 00:07:23,520

you haven't been before

165

00:07:28,070 --> 00:07:25,360

i'm sure i'll get into that a little

166

00:07:28,080 --> 00:07:32,469

thank you next question

167

00:07:38,550 --> 00:07:36,150

hi uh jeff kluger uh time magazine

168

00:07:40,710 --> 00:07:38,560

um i'm wondering if any of you guys want

169

00:07:43,110 --> 00:07:40,720

to comment on the um

170

00:07:45,430 --> 00:07:43,120

the uh likely recommendations of the

171

00:07:47,990 --> 00:07:45,440

augustine commission when it releases

172

00:07:50,309 --> 00:07:48,000

its uh its guidelines or its suggestions

173

00:07:52,309 --> 00:07:50,319

in august uh do you feel nasa is on the

174

00:07:53,189 --> 00:07:52,319

right track now for return to the moon

175

00:07:55,430 --> 00:07:53,199

do you think there should be a

176

00:07:57,749 --> 00:07:55,440

modification of the um

177

00:08:00,309 --> 00:07:57,759

the plans for the boosters being used

178

00:08:02,550 --> 00:08:00,319

and is the timetable generally correct

179

00:08:05,029 --> 00:08:02,560

or do we need a little more time to fly

180

00:08:06,869 --> 00:08:05,039

the shuttle before we uh before we uh

181

00:08:09,110 --> 00:08:06,879

put that away jeff i've talked to you on

182

00:08:14,950 --> 00:08:09,120

the phone but i can't see where are you

183

00:08:21,909 --> 00:08:18,710

you know back in 1989

184

00:08:24,790 --> 00:08:21,919

president bush 41 president bush senior

185

00:08:27,270 --> 00:08:24,800

the 20th anniversary of the first lunar

186

00:08:29,430 --> 00:08:27,280

landing said nasa you know after

187

00:08:31,189 --> 00:08:29,440

completing the space station said

188

00:08:33,430 --> 00:08:31,199

should set its sight after the turn of

189

00:08:35,589 --> 00:08:33,440

the century turning to the moon at this

190

00:08:37,509 --> 00:08:35,599

time to stay and then eventually an

191

00:08:38,469 --> 00:08:37,519

expedition potentially to mars and

192

00:08:41,190 --> 00:08:38,479

started

193

00:08:43,909 --> 00:08:41,200

you know that idea and then there was

194

00:08:46,150 --> 00:08:43,919

several things put forth by nasa that uh

195

00:08:48,630 --> 00:08:46,160

so i then the reactivated space council

196

00:08:50,870 --> 00:08:48,640

disagreed with and then i got asked to

197

00:08:53,110 --> 00:08:50,880

volunteer to had a task force

198

00:08:54,790 --> 00:08:53,120

which i did for about a year voluntarily

199

00:08:55,670 --> 00:08:54,800

and had two floors over here in crystal

200

00:08:57,590 --> 00:08:55,680

city

201
00:08:59,350 --> 00:08:57,600
and put together

202
00:09:00,870 --> 00:08:59,360
all the ideas from

203
00:09:03,910 --> 00:09:00,880
the department of defense nasa

204
00:09:05,590 --> 00:09:03,920
department of energy academia ideas from

205
00:09:07,110 --> 00:09:05,600
around america all the aerospace

206
00:09:09,990 --> 00:09:07,120
industrial firms

207
00:09:12,310 --> 00:09:10,000
and it's called america at the threshold

208
00:09:14,790 --> 00:09:12,320
and we have showed the

209
00:09:17,190 --> 00:09:14,800
basic uh technology priorities in the

210
00:09:17,990 --> 00:09:17,200
different options of architectures

211
00:09:20,150 --> 00:09:18,000
and

212
00:09:22,150 --> 00:09:20,160
what they have today in constellation is

213
00:09:25,110 --> 00:09:22,160

somewhat of a modification of one of

214

00:09:26,710 --> 00:09:25,120

those but today the augustine commission

215

00:09:27,910 --> 00:09:26,720

and president obama's asked him to

216

00:09:30,070 --> 00:09:27,920

review it

217

00:09:32,230 --> 00:09:30,080

and norm augustine asked me to be the

218

00:09:34,389 --> 00:09:32,240

first one to make a presentation and

219

00:09:36,550 --> 00:09:34,399

told him you know that here

220

00:09:37,829 --> 00:09:36,560

here were the options and

221

00:09:40,070 --> 00:09:37,839

really about the only one you could look

222

00:09:41,110 --> 00:09:40,080

at is architecture one will go into that

223

00:09:43,670 --> 00:09:41,120

but uh

224

00:09:45,350 --> 00:09:43,680

there's a they're looking at the

225

00:09:46,710 --> 00:09:45,360

at the options and from that they'll

226

00:09:49,350 --> 00:09:46,720

make a series they'll make

227

00:09:52,230 --> 00:09:49,360

recommendations that here is a series of

228

00:09:54,470 --> 00:09:52,240

options what we should do but you know

229

00:09:56,550 --> 00:09:54,480

the nature of nasa bus is outlined it is

230

00:09:58,550 --> 00:09:56,560

to explore and go ahead now everybody

231

00:09:59,430 --> 00:09:58,560

can have their own little design

232

00:10:01,670 --> 00:09:59,440

but

233

00:10:04,150 --> 00:10:01,680

we have a new administrator now some

234

00:10:06,310 --> 00:10:04,160

good people on board and let's have them

235

00:10:07,990 --> 00:10:06,320

look at the options and decide what is

236

00:10:10,870 --> 00:10:08,000

reasonable to go forward to have this

237

00:10:13,350 --> 00:10:10,880

country explore again

238

00:10:18,150 --> 00:10:13,360

walter cunningham

239

00:10:21,110 --> 00:10:19,590

the first question that was asked i

240

00:10:23,670 --> 00:10:21,120

don't think there was a soul in the

241

00:10:25,590 --> 00:10:23,680

astronaut office back in the 1960s that

242

00:10:28,310 --> 00:10:25,600

wouldn't have thought we would have been

243

00:10:30,310 --> 00:10:28,320

on the moon by the year 2000

244

00:10:33,509 --> 00:10:30,320

uh because

245

00:10:36,150 --> 00:10:33,519

mars excuse me mars that's

246

00:10:37,829 --> 00:10:36,160

a big mistake uh but that's the way we

247

00:10:39,990 --> 00:10:37,839

thought about it in those days but when

248

00:10:41,350 --> 00:10:40,000

you ask about the augustine commission i

249

00:10:43,829 --> 00:10:41,360

don't think there's anyone that's better

250

00:10:45,990 --> 00:10:43,839

qualified than nasa to evaluate the

251
00:10:48,230 --> 00:10:46,000
various options

252
00:10:49,590 --> 00:10:48,240
but it may all be very academic because

253
00:10:52,870 --> 00:10:49,600
it's not

254
00:10:54,230 --> 00:10:52,880
in this uh era unless it has the funding

255
00:10:56,630 --> 00:10:54,240
to do it it doesn't make any difference

256
00:11:00,470 --> 00:10:56,640
which option they take and that seems to

257
00:11:02,470 --> 00:11:00,480
be probably the most critical point

258
00:11:04,470 --> 00:11:02,480
until we were willing to pay the price

259
00:11:06,230 --> 00:11:04,480
the american public is not going to have

260
00:11:09,110 --> 00:11:06,240
a very aggressive

261
00:11:11,350 --> 00:11:09,120
space program again

262
00:11:14,310 --> 00:11:11,360
thank you tracy watson yeah tracy watson

263
00:11:16,470 --> 00:11:14,320

with usa today for mr cernan and mr duke

264

00:11:18,230 --> 00:11:16,480

i think since you've had a good stretch

265

00:11:20,630 --> 00:11:18,240

of time on the moon what advice would

266

00:11:22,630 --> 00:11:20,640

you offer nasa about sending astronauts

267

00:11:24,470 --> 00:11:22,640

back for longer missions what are the

268

00:11:27,430 --> 00:11:24,480

big considerations in your mind about

269

00:11:29,910 --> 00:11:27,440

making making that stay there um

270

00:11:32,310 --> 00:11:29,920

you know productive and and reasonably

271

00:11:34,310 --> 00:11:32,320

comfortable thanks

272

00:11:38,949 --> 00:11:34,320

go ahead

273

00:11:42,550 --> 00:11:38,959

you'll find out most of us have a lot of

274

00:11:43,670 --> 00:11:42,560

advice for nasa at this point

275

00:11:45,110 --> 00:11:43,680

i get a lot of advice for the

276

00:11:46,389 --> 00:11:45,120

administration too which you may not

277

00:11:48,870 --> 00:11:46,399

want to hear about

278

00:11:51,990 --> 00:11:48,880

but i i think so goes the administration

279

00:11:53,269 --> 00:11:52,000

so goes america so goes to space program

280

00:12:09,269 --> 00:11:53,279

and uh

281

00:12:14,550 --> 00:12:11,509

to the final steps on the moon the space

282

00:12:16,710 --> 00:12:14,560

program sort of mirrors the last 230

283

00:12:18,870 --> 00:12:16,720

years of this country think about it

284

00:12:21,670 --> 00:12:18,880

we had to accept challenges we had to be

285

00:12:22,829 --> 00:12:21,680

bold we had to take risks

286

00:12:25,509 --> 00:12:22,839

we had to make

287

00:12:28,710 --> 00:12:25,519

sacrifices and think about that and in a

288

00:12:31,350 --> 00:12:28,720

sense it's a it's a capsulation of

289

00:12:33,269 --> 00:12:31,360

it's encapsulation of 230 years of what

290

00:12:35,190 --> 00:12:33,279

america is all about

291

00:12:37,350 --> 00:12:35,200

we can recapture that kind of spirit in

292

00:12:38,949 --> 00:12:37,360

america we can recapture the spirit of

293

00:12:41,190 --> 00:12:38,959

the space program

294

00:12:42,470 --> 00:12:41,200

and the greatest legacy i think we have

295

00:12:45,110 --> 00:12:42,480

from apollo

296

00:12:46,470 --> 00:12:45,120

is the inspiration it provided for those

297

00:12:49,509 --> 00:12:46,480

young dreamers who follow in our

298

00:12:53,269 --> 00:12:51,590

we can live and stay on the moon as long

299

00:12:55,509 --> 00:12:53,279

as we want to charlie and i were there

300

00:12:56,870 --> 00:12:55,519

for three days i mean we both i'm sure

301
00:12:58,230 --> 00:12:56,880
would rather have been there for three

302
00:12:59,990 --> 00:12:58,240
weeks

303
00:13:00,870 --> 00:13:00,000
we didn't have the capability nor the

304
00:13:03,190 --> 00:13:00,880
time

305
00:13:04,790 --> 00:13:03,200
but we need to go back to the moon

306
00:13:07,590 --> 00:13:04,800
we need to learn a little bit more about

307
00:13:09,590 --> 00:13:07,600
what we think we know already we need to

308
00:13:11,829 --> 00:13:09,600
establish bases put new telescopes on

309
00:13:13,829 --> 00:13:11,839
the moon get prepared to go to mars

310
00:13:15,829 --> 00:13:13,839
because the ultimate goal

311
00:13:17,590 --> 00:13:15,839
truly is the goal of mars

312
00:13:18,949 --> 00:13:17,600
and you know someone asked a question

313
00:13:21,030 --> 00:13:18,959

earlier about

314

00:13:22,150 --> 00:13:21,040

about whether we where we thought we

315

00:13:23,750 --> 00:13:22,160

were going

316

00:13:25,590 --> 00:13:23,760

i was the last guy in the moon and when

317

00:13:27,350 --> 00:13:25,600

i came back i got in my soap box and you

318

00:13:28,949 --> 00:13:27,360

know everyone said how's it feel to be

319

00:13:30,870 --> 00:13:28,959

the tail of the dog how does it feel to

320

00:13:32,870 --> 00:13:30,880

be the last one over the fence the end

321

00:13:34,389 --> 00:13:32,880

and i kept saying it's not the end it's

322

00:13:37,030 --> 00:13:34,399

the beginning

323

00:13:39,509 --> 00:13:37,040

and i really believed that we'd be back

324

00:13:41,430 --> 00:13:39,519

to the moon by the end of that decade

325

00:13:43,269 --> 00:13:41,440

and on our way to mars

326

00:13:45,509 --> 00:13:43,279

by the turn of the century

327

00:13:48,629 --> 00:13:45,519

my glass has been half empty

328

00:13:49,509 --> 00:13:48,639

for three decades at least

329

00:13:50,230 --> 00:13:49,519

and

330

00:13:52,230 --> 00:13:50,240

but

331

00:13:53,670 --> 00:13:52,240

hopefully hopefully we can turn that

332

00:13:56,150 --> 00:13:53,680

around because what we did then is

333

00:13:59,189 --> 00:13:56,160

doable again and i think the next major

334

00:14:00,870 --> 00:13:59,199

goal is not to spend three days just

335

00:14:03,430 --> 00:14:00,880

on the moon or three weeks or three

336

00:14:05,430 --> 00:14:03,440

months on the moon but to sit here have

337

00:14:07,189 --> 00:14:05,440

you folks or your kids or grandkids sit

338

00:14:08,470 --> 00:14:07,199

here and talk to a group of guys that

339

00:14:11,110 --> 00:14:08,480

can tell you what it was like to go to

340

00:14:18,310 --> 00:14:14,829

uh i think uh let me answer that

341

00:14:21,189 --> 00:14:18,320

operationally uh two week stay or three

342

00:14:23,750 --> 00:14:21,199

weeks day of what on the moon is uh

343

00:14:26,069 --> 00:14:23,760

is a challenge uh

344

00:14:27,269 --> 00:14:26,079

for the systems that we have today we

345

00:14:29,670 --> 00:14:27,279

need to

346

00:14:31,030 --> 00:14:29,680

develop a better spacesuit

347

00:14:33,030 --> 00:14:31,040

more

348

00:14:36,150 --> 00:14:33,040

tactile feeling

349

00:14:39,350 --> 00:14:38,230

lunar dust i think is going to be a real

350

00:14:41,509 --> 00:14:39,360

problem

351

00:14:42,470 --> 00:14:41,519

for a long duration

352

00:14:43,990 --> 00:14:42,480

so

353

00:14:47,269 --> 00:14:44,000

we're looking at you should look at

354

00:14:48,069 --> 00:14:47,279

concepts of uh airlocks where we leave

355

00:14:55,350 --> 00:14:48,079

the

356

00:14:58,470 --> 00:14:55,360

things like that that we need to look at

357

00:15:01,670 --> 00:14:58,480

and uh to develop and and that's work is

358

00:15:04,550 --> 00:15:01,680

going on uh i participated in a

359

00:15:08,310 --> 00:15:04,560

back in december a few of us did a lunar

360

00:15:11,590 --> 00:15:08,320

uh suit uh symposium uh jack schmidt

361

00:15:13,269 --> 00:15:11,600

apollo 17 uh chaired that

362

00:15:15,750 --> 00:15:13,279

we're looking at some of the new

363

00:15:18,069 --> 00:15:15,760

architectures and so the operational

364

00:15:20,550 --> 00:15:18,079

problems we're going to solve those uh

365

00:15:22,870 --> 00:15:20,560

and we're trying to give our uh

366

00:15:26,949 --> 00:15:22,880

experience to those decisions to help

367

00:15:28,629 --> 00:15:26,959

them make the right decisions uh and uh

368

00:15:31,030 --> 00:15:28,639

i i

369

00:15:32,710 --> 00:15:31,040

i think we can do it and i

370

00:15:35,509 --> 00:15:32,720

and i think the human spirit is going to

371

00:15:40,870 --> 00:15:35,519

return us to the moon and then build on

372

00:15:43,110 --> 00:15:40,880

that and on we go to to mars eventually

373

00:15:45,189 --> 00:15:43,120

those things we need to do

374

00:15:46,470 --> 00:15:45,199

uh for long-duration flight for

375

00:15:48,389 --> 00:15:46,480

protection

376

00:15:50,310 --> 00:15:48,399

uh and all that why go to the most

377

00:15:51,910 --> 00:15:50,320

difficult place the surface of the moon

378

00:15:54,150 --> 00:15:51,920

to do those why not do those at the

379

00:15:56,470 --> 00:15:54,160

space station prolong the life of the

380

00:15:59,590 --> 00:15:56,480

space station make the internationals

381

00:16:02,310 --> 00:15:59,600

happy develop an exploration module that

382

00:16:05,350 --> 00:16:02,320

will last a year two years and three

383

00:16:08,069 --> 00:16:05,360

years something that can be adapted to

384

00:16:09,749 --> 00:16:08,079

land on asteroids land on foveus and

385

00:16:12,069 --> 00:16:09,759

eventually because it's designed

386

00:16:12,949 --> 00:16:12,079

initially to land on mars instead of the

387

00:16:14,870 --> 00:16:12,959

moon

388

00:16:18,389 --> 00:16:14,880

we've got a pathway

389

00:16:21,189 --> 00:16:18,399

that doesn't require us to expend our

390

00:16:23,110 --> 00:16:21,199

resources that are precious right now we

391

00:16:25,829 --> 00:16:23,120

put 100 billion dollars into the space

392

00:16:27,749 --> 00:16:25,839

station and that's uh uh enormous in

393

00:16:30,790 --> 00:16:27,759

comparison to what the other nations do

394

00:16:33,590 --> 00:16:30,800

do we want to put 200 billion into

395

00:16:35,189 --> 00:16:33,600

permanence on the moon or uh

396

00:16:37,670 --> 00:16:35,199

six months on the moon

397

00:16:39,590 --> 00:16:37,680

why we can help other people with only

398

00:16:41,910 --> 00:16:39,600

studies we talked about

399

00:16:44,710 --> 00:16:41,920

the dust on the moon is different than

400

00:16:47,990 --> 00:16:44,720

the dust on on mars it's different from

401
00:16:50,230 --> 00:16:48,000
the dust here because there's no water

402
00:16:52,629 --> 00:16:50,240
no air up there and so it's fractured

403
00:16:57,670 --> 00:16:52,639
it's sharp pieces of dust and that's not

404
00:17:02,069 --> 00:17:00,069
thank you all right question down here

405
00:17:04,470 --> 00:17:02,079
randy shostak with eos the newspaper of

406
00:17:06,870 --> 00:17:04,480
the american geophysical union not to

407
00:17:08,789 --> 00:17:06,880
mince wards then president nixon told

408
00:17:10,789 --> 00:17:08,799
the apollo 11 astronauts when you came

409
00:17:12,150 --> 00:17:10,799
back quote this is the greatest week in

410
00:17:13,350 --> 00:17:12,160
the history of the world since the

411
00:17:15,590 --> 00:17:13,360
creation

412
00:17:21,829 --> 00:17:15,600
uh i'd like comments and perspective

413
00:17:27,350 --> 00:17:23,750

well it was uh it was eight days and it

414

00:17:29,510 --> 00:17:27,360

was certainly a great eight days uh

415

00:17:32,150 --> 00:17:29,520

we we didn't start with let there be

416

00:17:35,029 --> 00:17:32,160

light and then end up uh

417

00:17:38,310 --> 00:17:35,039

with at the end of the the week uh set

418

00:17:41,110 --> 00:17:38,320

aside sundays for uh reflection

419

00:17:42,549 --> 00:17:41,120

um i don't know what the greatest week

420

00:17:46,390 --> 00:17:42,559

in history is

421

00:17:48,789 --> 00:17:46,400

uh but it was certainly a pioneering

422

00:17:51,029 --> 00:17:48,799

opening the door

423

00:17:53,669 --> 00:17:51,039

with the door open when we touch down on

424

00:17:55,190 --> 00:17:53,679

the moon because that is what enabled

425

00:17:57,430 --> 00:17:55,200

uh humans

426
00:17:58,950 --> 00:17:57,440
to put many many more footprints on the

427
00:18:01,029 --> 00:17:58,960
surface of the moon

428
00:18:03,270 --> 00:18:01,039
landing on another object is what will

429
00:18:05,350 --> 00:18:03,280
enable us to put many other things

430
00:18:08,630 --> 00:18:05,360
determine many other things with humans

431
00:18:10,789 --> 00:18:08,640
being there inspiring other people

432
00:18:13,190 --> 00:18:10,799
america to mars is

433
00:18:16,870 --> 00:18:13,200
what ought to be not america back to the

434
00:18:19,110 --> 00:18:16,880
moon america can use our experience

435
00:18:20,390 --> 00:18:19,120
great experience and the last four years

436
00:18:22,549 --> 00:18:20,400
of experience

437
00:18:24,630 --> 00:18:22,559
in detail preparation for us to go we

438
00:18:27,510 --> 00:18:24,640

can share that with somebody else let's

439

00:18:29,669 --> 00:18:27,520

do that let's expand our resources in

440

00:18:31,909 --> 00:18:29,679

these precious times when we have to

441

00:18:34,549 --> 00:18:31,919

conserve things right now

442

00:18:39,750 --> 00:18:34,559

now is a starting point when we need to

443

00:18:44,070 --> 00:18:42,710

let me comment a little bit if i can

444

00:18:46,950 --> 00:18:44,080

thank you

445

00:18:48,230 --> 00:18:46,960

uh we have to again to look at what we

446

00:18:50,710 --> 00:18:48,240

want to do

447

00:18:53,029 --> 00:18:50,720

with our space activities

448

00:18:55,430 --> 00:18:53,039

what do we want to accomplish

449

00:18:56,950 --> 00:18:55,440

now if you talk to the scientists

450

00:19:00,710 --> 00:18:56,960

we barely

451
00:19:02,630 --> 00:19:00,720
they would love to have the last of the

452
00:19:05,590 --> 00:19:02,640
apollo flights continue

453
00:19:07,590 --> 00:19:05,600
you know 18 19 and 20. because we've

454
00:19:09,350 --> 00:19:07,600
just stepped on the moon we spent at the

455
00:19:11,350 --> 00:19:09,360
most three days there

456
00:19:14,310 --> 00:19:11,360
so if you talk to the scientific

457
00:19:17,110 --> 00:19:14,320
community there's a lot still to be done

458
00:19:18,070 --> 00:19:17,120
on the moon which is just 240 000 miles

459
00:19:21,029 --> 00:19:18,080
away

460
00:19:25,430 --> 00:19:21,039
now if you want to look at a national

461
00:19:26,870 --> 00:19:25,440
project one that brings prestige and uh

462
00:19:28,630 --> 00:19:26,880
and you know

463
00:19:31,350 --> 00:19:28,640

something that you can be proud of and

464

00:19:34,070 --> 00:19:31,360

it really a consortium of countries

465

00:19:35,990 --> 00:19:34,080

then we want to go to mars

466

00:19:38,230 --> 00:19:36,000

and as bus says there's a lot we can do

467

00:19:40,150 --> 00:19:38,240

with the international space station

468

00:19:41,909 --> 00:19:40,160

because we spent a lot of money up there

469

00:19:44,390 --> 00:19:41,919

for almost nothing it's almost a white

470

00:19:46,150 --> 00:19:44,400

elephant and until we can really get a

471

00:19:49,190 --> 00:19:46,160

return on our investment of that

472

00:19:52,150 --> 00:19:49,200

particular project then it

473

00:19:54,549 --> 00:19:52,160

it was money wasted so you have to look

474

00:19:56,150 --> 00:19:54,559

at what the priorities of our space

475

00:19:58,070 --> 00:19:56,160

activities are

476

00:19:59,909 --> 00:19:58,080

go back to the moon

477

00:20:01,430 --> 00:19:59,919

expand the space station to look back at

478

00:20:04,149 --> 00:20:01,440

the earth

479

00:20:05,590 --> 00:20:04,159

go on to mars which is a grand project

480

00:20:07,430 --> 00:20:05,600

which will probably be

481

00:20:09,669 --> 00:20:07,440

accumulation of many of the countries

482

00:20:11,190 --> 00:20:09,679

and probably by that time china after

483

00:20:13,270 --> 00:20:11,200

feeling that they are very confident in

484

00:20:16,070 --> 00:20:13,280

space will join us

485

00:20:18,070 --> 00:20:16,080

then that is a a project that will bring

486

00:20:20,630 --> 00:20:18,080

the earth closer together all the

487

00:20:23,669 --> 00:20:20,640

countries working on a project that has

488

00:20:23,679 --> 00:20:26,070

okay

489

00:20:29,590 --> 00:20:27,830

i guess we all have

490

00:20:31,029 --> 00:20:29,600

an opinion on what we should do next and

491

00:20:33,270 --> 00:20:31,039

it's a great debate

492

00:20:34,390 --> 00:20:33,280

i always find it quite stimulating

493

00:20:36,630 --> 00:20:34,400

but i'd like to

494

00:20:39,029 --> 00:20:36,640

emphasize a couple of points

495

00:20:41,830 --> 00:20:39,039

going to the moon exploring the moon is

496

00:20:43,750 --> 00:20:41,840

very very difficult it's not easy

497

00:20:46,310 --> 00:20:43,760

sometimes we made it look easy because

498

00:20:48,070 --> 00:20:46,320

the television was terrific i remember

499

00:20:50,549 --> 00:20:48,080

jack schmidt bouncing across the moon

500

00:20:51,990 --> 00:20:50,559

staying in mary month of may wasn't easy

501
00:20:53,350 --> 00:20:52,000
it was difficult

502
00:20:56,950 --> 00:20:53,360
going to mars

503
00:20:59,270 --> 00:20:56,960
is about a factor of 10 more difficult

504
00:21:01,270 --> 00:20:59,280
we know how to do it we could land but

505
00:21:03,830 --> 00:21:01,280
the duration of the flight almost three

506
00:21:06,549 --> 00:21:03,840
years puts us in a situation where we

507
00:21:08,070 --> 00:21:06,559
need new technology and new capabilities

508
00:21:09,669 --> 00:21:08,080
to go to mars

509
00:21:11,830 --> 00:21:09,679
at the same time

510
00:21:15,029 --> 00:21:11,840
going to mars over that long period of

511
00:21:18,390 --> 00:21:15,039
time is very expensive cost about two

512
00:21:20,789 --> 00:21:18,400
jillion dollars or whatever

513
00:21:23,669 --> 00:21:20,799

and in a democratic society

514

00:21:25,830 --> 00:21:23,679

we have to have a reason to sustain a

515

00:21:28,549 --> 00:21:25,840

high level of funding for a long period

516

00:21:31,750 --> 00:21:28,559

of time we live in a democratic society

517

00:21:33,750 --> 00:21:31,760

fortunately but we have to find a reason

518

00:21:36,390 --> 00:21:33,760

to go to mars that will continue the

519

00:21:37,990 --> 00:21:36,400

funding and i sort of like to step back

520

00:21:40,549 --> 00:21:38,000

and look at it i i believe in

521

00:21:42,710 --> 00:21:40,559

exploration i was really lucky i was

522

00:21:45,270 --> 00:21:42,720

part of this great group of guys

523

00:21:46,310 --> 00:21:45,280

and the other 400 000 people who made it

524

00:21:47,430 --> 00:21:46,320

happen

525

00:21:50,230 --> 00:21:47,440

but you know

526

00:21:52,549 --> 00:21:50,240

it's sort of like columbus just returned

527

00:21:54,549 --> 00:21:52,559

and the world isn't flat after all

528

00:21:56,710 --> 00:21:54,559

but cabot and magellan haven't been born

529

00:21:59,029 --> 00:21:56,720

yet and the pilgrims aren't even on the

530

00:22:01,510 --> 00:21:59,039

drawing board so i think we're at the

531

00:22:03,750 --> 00:22:01,520

beginning of a long long phase of

532

00:22:05,350 --> 00:22:03,760

exploration into the planets and i think

533

00:22:07,350 --> 00:22:05,360

we will go to mars

534

00:22:09,190 --> 00:22:07,360

we'll have to take it a step at a time

535

00:22:11,510 --> 00:22:09,200

and i would challenge everybody to think

536

00:22:13,350 --> 00:22:11,520

about what's the reason to go how can we

537

00:22:16,149 --> 00:22:13,360

stimulate the public and stimulate

538

00:22:17,909 --> 00:22:16,159

congress to fund it in the long term but

539

00:22:20,149 --> 00:22:17,919

i'm sure we'll do it and i look forward

540

00:22:22,630 --> 00:22:20,159

to seeing the young people who are

541

00:22:24,870 --> 00:22:22,640

learning today go do it for us

542

00:22:26,870 --> 00:22:24,880

what percentage of the national budget

543

00:22:29,750 --> 00:22:26,880

is a jillion

544

00:22:32,870 --> 00:22:29,760

no no i said two jillion

545

00:22:35,669 --> 00:22:32,880

all right twice as much what percentage

546

00:22:37,909 --> 00:22:35,679

i mean we got a half a percent right now

547

00:22:40,230 --> 00:22:37,919

we'll keep going at a half a percent

548

00:22:41,830 --> 00:22:40,240

until we get out of this recession you

549

00:22:44,310 --> 00:22:41,840

don't have to make the investment to go

550

00:22:46,190 --> 00:22:44,320

to mars right now a little bit more

551
00:22:49,350 --> 00:22:46,200
the investment that we made back in the

552
00:22:51,350 --> 00:22:49,360
1960s was paying back you got the return

553
00:22:54,549 --> 00:22:51,360
on the investment for the next 30 years

554
00:22:55,430 --> 00:22:54,559
it was a driver of technology that it

555
00:22:56,950 --> 00:22:55,440
really

556
00:22:59,270 --> 00:22:56,960
helped make us

557
00:23:01,669 --> 00:22:59,280
the leading driving economic force in

558
00:23:03,830 --> 00:23:01,679
the world what are we doing today what

559
00:23:06,070 --> 00:23:03,840
investment are we making today that will

560
00:23:09,510 --> 00:23:06,080
ensure that we have that kind of return

561
00:23:12,549 --> 00:23:09,520
for the next 30 years i don't see it out

562
00:23:15,110 --> 00:23:12,559
there somebody ought to be educating

563
00:23:16,870 --> 00:23:15,120

right here in washington dc what is the

564

00:23:20,310 --> 00:23:16,880

difference between an investment and an

565

00:23:23,590 --> 00:23:20,320

expenditure the 1960s we invested four

566

00:23:25,669 --> 00:23:23,600

percent of the federal budget up to four

567

00:23:26,950 --> 00:23:25,679

percent in the federal budget

568

00:23:27,990 --> 00:23:26,960

some place where it was going to make a

569

00:23:30,710 --> 00:23:28,000

return

570

00:23:33,350 --> 00:23:30,720

we now seem to be think it's too much to

571

00:23:34,390 --> 00:23:33,360

put even 0.6 percent into the nasa

572

00:23:39,190 --> 00:23:34,400

budget

573

00:23:42,149 --> 00:23:41,190

okay thank you let's uh take a question

574

00:23:44,789 --> 00:23:42,159

down here

575

00:23:46,549 --> 00:23:44,799

um for mr aldrin

576

00:23:48,149 --> 00:23:46,559

since this is the 40th anniversary can

577

00:23:51,350 --> 00:23:48,159

you take us back

578

00:23:52,789 --> 00:23:51,360

to the moment when you're leaving the

579

00:23:54,789 --> 00:23:52,799

orbiter

580

00:23:56,950 --> 00:23:54,799

you and neil armstrong what you were

581

00:23:59,190 --> 00:23:56,960

thinking what you were feeling were you

582

00:24:03,430 --> 00:23:59,200

afraid did you look at each other just

583

00:24:07,350 --> 00:24:05,990

i i was marketing some books uh

584

00:24:08,470 --> 00:24:07,360

yesterday

585

00:24:10,470 --> 00:24:08,480

uh

586

00:24:12,230 --> 00:24:10,480

called magnificent desolation and i

587

00:24:13,669 --> 00:24:12,240

explained a lot of these long and about

588

00:24:16,070 --> 00:24:13,679

you don't want to get me

589

00:24:18,149 --> 00:24:16,080

involved in the feelings uh along the

590

00:24:20,070 --> 00:24:18,159

whole flight path down to the surface of

591

00:24:22,870 --> 00:24:20,080

the moon we'll never get out of here

592

00:24:24,950 --> 00:24:22,880

we felt like we had a job to do we were

593

00:24:27,110 --> 00:24:24,960

looking at the checklist mike and neal

594

00:24:30,070 --> 00:24:27,120

and i and we were doing things as it

595

00:24:33,110 --> 00:24:30,080

unfolded marveling at what it was but it

596

00:24:35,510 --> 00:24:33,120

wasn't the first time gene and tom had

597

00:24:37,669 --> 00:24:35,520

done these things on apollo 9.

598

00:24:39,909 --> 00:24:37,679

they had feelings too they just weren't

599

00:24:41,990 --> 00:24:39,919

going to land on the moon

600

00:24:45,830 --> 00:24:42,000

but we instead of

601
00:24:48,149 --> 00:24:45,840
stopping at 50 000 feet or 47 000 feet

602
00:24:50,630 --> 00:24:48,159
we we kept going we lit the engine and

603
00:24:53,190 --> 00:24:50,640
we uh opened the door to the future of

604
00:24:54,230 --> 00:24:53,200
exploration by touching down on another

605
00:24:56,310 --> 00:24:54,240
object

606
00:24:57,750 --> 00:24:56,320
were we emotionally involved in that no

607
00:25:00,549 --> 00:24:57,760
we're trying to make a successful

608
00:25:02,470 --> 00:25:00,559
landing and when we touched down and i

609
00:25:04,789 --> 00:25:02,480
said contact like we looked at each

610
00:25:05,750 --> 00:25:04,799
other and kind of briefly congratulated

611
00:25:07,269 --> 00:25:05,760
each other

612
00:25:10,870 --> 00:25:07,279
but if something was wrong we had to

613
00:25:11,590 --> 00:25:10,880

abort quickly or wait for two hours

614

00:25:16,310 --> 00:25:11,600

uh

615

00:25:19,830 --> 00:25:16,320

worrying you're not fearful those are

616

00:25:22,390 --> 00:25:19,840

clouding emotions that cloud performance

617

00:25:24,710 --> 00:25:22,400

performance requires an alert

618

00:25:26,710 --> 00:25:24,720

uh mind looking to the future that's

619

00:25:28,549 --> 00:25:26,720

what we were doing

620

00:25:30,470 --> 00:25:28,559

having

621

00:25:32,230 --> 00:25:30,480

motion is involved

622

00:25:34,549 --> 00:25:32,240

the adrenaline is pumping everything

623

00:25:36,549 --> 00:25:34,559

buzz said is right but there's something

624

00:25:37,750 --> 00:25:36,559

else happening that you don't have total

625

00:25:39,669 --> 00:25:37,760

control of

626

00:25:42,149 --> 00:25:39,679

that you got to accept at the time

627

00:25:43,750 --> 00:25:42,159

because when we landed on 17 the earth

628

00:25:46,149 --> 00:25:43,760

wasn't up here it was out the front

629

00:25:48,149 --> 00:25:46,159

wheeler the whole time all the way down

630

00:25:50,470 --> 00:25:48,159

to the surface and if that isn't

631

00:25:52,230 --> 00:25:50,480

emotional then nothing in the world

632

00:25:53,269 --> 00:25:52,240

is

633

00:25:55,669 --> 00:25:53,279

all right

634

00:25:58,230 --> 00:25:55,679

okay thank you um we want to remind you

635

00:26:00,390 --> 00:25:58,240

please don't use flash photography

636

00:26:04,149 --> 00:26:00,400

and we'll take a question down here

637

00:26:05,990 --> 00:26:04,159

bob asman nbc news retired

638

00:26:06,950 --> 00:26:06,000

this is a question you can all discuss

639

00:26:08,950 --> 00:26:06,960

you've been talking about the

640

00:26:11,990 --> 00:26:08,960

international space station

641

00:26:14,390 --> 00:26:12,000

what's to keep it uh from

642

00:26:17,590 --> 00:26:14,400

propelling itself to a higher orbit and

643

00:26:20,070 --> 00:26:17,600

perhaps making a real way station to

644

00:26:23,269 --> 00:26:20,080

mars and beyond in other words use of

645

00:26:25,590 --> 00:26:23,279

the space station it has rocket power

646

00:26:26,870 --> 00:26:25,600

can't we raise the orbit enough to make

647

00:26:28,230 --> 00:26:26,880

it uh

648

00:26:30,230 --> 00:26:28,240

no

649

00:26:32,710 --> 00:26:30,240

there's an intense radiation at the

650

00:26:35,430 --> 00:26:32,720

south atlantic anomaly and that limits

651
00:26:37,590 --> 00:26:35,440
the upper uh altitude that you want the

652
00:26:39,190 --> 00:26:37,600
space station

653
00:26:41,909 --> 00:26:39,200
we made a decision to put the

654
00:26:44,789 --> 00:26:41,919
international space station in a 51.6

655
00:26:46,230 --> 00:26:44,799
degree inclination orbit

656
00:26:47,990 --> 00:26:46,240
that limited

657
00:26:50,549 --> 00:26:48,000
our choices of what we can do with it as

658
00:26:52,549 --> 00:26:50,559
a way as a way station to mars from that

659
00:26:55,990 --> 00:26:52,559
time on originally it was planned to go

660
00:26:57,590 --> 00:26:56,000
in what 28 28 and a half degree orbit

661
00:26:58,789 --> 00:26:57,600
from that particular angle of

662
00:27:01,430 --> 00:26:58,799
inclination

663
00:27:02,710 --> 00:27:01,440

it could have had some uh functionality

664

00:27:05,350 --> 00:27:02,720

in as a

665

00:27:06,789 --> 00:27:05,360

way station and kickoff to mars so we

666

00:27:08,230 --> 00:27:06,799

have to use it for a lot of other things

667

00:27:09,669 --> 00:27:08,240

now but it's probably not going to be

668

00:27:10,870 --> 00:27:09,679

used to

669

00:27:12,950 --> 00:27:10,880

head us out to

670

00:27:15,430 --> 00:27:12,960

go on a little bit further again in that

671

00:27:17,750 --> 00:27:15,440

year's study we looked at that

672

00:27:19,830 --> 00:27:17,760

but it uh really

673

00:27:22,470 --> 00:27:19,840

you know it really didn't

674

00:27:25,590 --> 00:27:22,480

wasn't a very good option

675

00:27:30,389 --> 00:27:27,990

we we talked about everything except our

676

00:27:32,870 --> 00:27:30,399

national deficit which is pretty steep

677

00:27:34,789 --> 00:27:32,880

and getting steeper by the day

678

00:27:38,389 --> 00:27:34,799

what are the chances of nasa

679

00:27:42,389 --> 00:27:38,399

accomplishing even a minimal program uh

680

00:27:45,269 --> 00:27:44,310

well i think you know uh

681

00:27:46,870 --> 00:27:45,279

every

682

00:27:48,549 --> 00:27:46,880

company in the united states has a

683

00:27:50,710 --> 00:27:48,559

capital budget

684

00:27:52,149 --> 00:27:50,720

and they invest some of their capital

685

00:27:54,549 --> 00:27:52,159

into the future

686

00:27:58,149 --> 00:27:54,559

and to me that's what the space program

687

00:27:59,269 --> 00:27:58,159

is uh is an investment in our future

688

00:28:01,110 --> 00:27:59,279

uh

689

00:28:03,590 --> 00:28:01,120

as we all say

690

00:28:05,830 --> 00:28:03,600

there was not one dime spent on the moon

691

00:28:08,870 --> 00:28:05,840

it was all spin in america

692

00:28:12,310 --> 00:28:08,880

and it and it created technologies uh

693

00:28:15,750 --> 00:28:12,320

and uh that we all enjoy today

694

00:28:18,950 --> 00:28:15,760

my blackberry has 65 thousand times the

695

00:28:21,190 --> 00:28:18,960

memory of our apollo computer and so we

696

00:28:23,830 --> 00:28:21,200

all enjoy the benefits of the

697

00:28:27,510 --> 00:28:23,840

technologies that we developed and so we

698

00:28:30,950 --> 00:28:27,520

should continue to invest

699

00:28:33,190 --> 00:28:30,960

some resources as our nation into

700

00:28:35,190 --> 00:28:33,200

the future like every company does you

701
00:28:36,870 --> 00:28:35,200
know what that investment amounts to for

702
00:28:39,110 --> 00:28:36,880
all of us here in this room who pay

703
00:28:44,870 --> 00:28:39,120
taxes i hope we all do

704
00:28:51,909 --> 00:28:49,029
uh less than one penny out of every

705
00:28:53,830 --> 00:28:51,919
dollar we send to the federal government

706
00:28:57,990 --> 00:28:53,840
in income taxes

707
00:28:59,750 --> 00:28:58,000
goes to space less than one of your tax

708
00:29:02,710 --> 00:28:59,760
dollars one pen out of every one of your

709
00:29:06,389 --> 00:29:02,720
tax dollars goes to support space you

710
00:29:12,149 --> 00:29:08,389
haven't we really experienced just

711
00:29:14,789 --> 00:29:12,159
recently the uh the flexibility of uh

712
00:29:15,830 --> 00:29:14,799
promoting uh funds for doing various

713
00:29:17,350 --> 00:29:15,840

things

714

00:29:18,870 --> 00:29:17,360

i mean haven't we just had a great

715

00:29:20,870 --> 00:29:18,880

recession haven't we had all that

716

00:29:24,389 --> 00:29:20,880

stimulus money suddenly

717

00:29:26,549 --> 00:29:24,399

show up trillions i couldn't imagine it

718

00:29:28,230 --> 00:29:26,559

and uh so if a little bit of stimulus

719

00:29:29,430 --> 00:29:28,240

flowed towards

720

00:29:30,710 --> 00:29:29,440

space

721

00:29:34,389 --> 00:29:30,720

which is a

722

00:29:37,269 --> 00:29:34,399

a program of creativity that brings

723

00:29:39,990 --> 00:29:37,279

technology and uh

724

00:29:42,870 --> 00:29:40,000

and knowledge back to the people of the

725

00:29:44,630 --> 00:29:42,880

earth it's a one part of a stimulus

726

00:29:46,310 --> 00:29:44,640

program that would really

727

00:29:48,870 --> 00:29:46,320

pay off with

728

00:29:51,909 --> 00:29:48,880

a lot of dividends the older the older

729

00:29:54,310 --> 00:29:51,919

that i get the more i realize that what

730

00:29:56,310 --> 00:29:54,320

happens in the space program is less a

731

00:29:58,549 --> 00:29:56,320

function of what we can do or what the

732

00:30:01,510 --> 00:29:58,559

technology is and it's a function of

733

00:30:03,269 --> 00:30:01,520

what you do right here in washington

734

00:30:04,230 --> 00:30:03,279

where those things don't seem to be a

735

00:30:06,630 --> 00:30:04,240

factor

736

00:30:09,029 --> 00:30:06,640

it's the politics and the the money the

737

00:30:11,269 --> 00:30:09,039

expenditures going on here it's up to

738

00:30:13,029 --> 00:30:11,279

you people right here in washington to

739

00:30:14,710 --> 00:30:13,039

start doing something about that to

740

00:30:16,389 --> 00:30:14,720

straighten out that kind of a thinking

741

00:30:18,950 --> 00:30:16,399

to know the difference between an

742

00:30:20,870 --> 00:30:18,960

expenditure and an investment let me

743

00:30:23,990 --> 00:30:20,880

bring up a point i think said this

744

00:30:25,750 --> 00:30:24,000

several times that if apollo the

745

00:30:27,990 --> 00:30:25,760

internet had been there when apollo went

746

00:30:29,590 --> 00:30:28,000

on we'd had a very difficult time of

747

00:30:31,830 --> 00:30:29,600

completing apollo

748

00:30:33,350 --> 00:30:31,840

because after the tragic fire and other

749

00:30:35,590 --> 00:30:33,360

times there were all different

750

00:30:37,350 --> 00:30:35,600

engineering

751

00:30:38,789 --> 00:30:37,360

scientists said we should do it this way

752

00:30:40,870 --> 00:30:38,799

or it's unsafe

753

00:30:42,950 --> 00:30:40,880

but then we had good decision makers we

754

00:30:45,669 --> 00:30:42,960

made the decisions we went ahead

755

00:30:47,669 --> 00:30:45,679

today when that happens they go to their

756

00:30:49,830 --> 00:30:47,679

computer and send an email to the

757

00:30:52,310 --> 00:30:49,840

staffers on the hill the congressman to

758

00:30:54,549 --> 00:30:52,320

the press to you people and so it shows

759

00:30:55,590 --> 00:30:54,559

up all over we didn't have that in

760

00:30:57,830 --> 00:30:55,600

apollo

761

00:30:59,590 --> 00:30:57,840

it had been lots tougher in nepal think

762

00:31:01,029 --> 00:30:59,600

about that

763

00:31:02,230 --> 00:31:01,039

thank you we'll uh we will take some

764

00:31:03,990 --> 00:31:02,240

more question headquarters but first

765

00:31:08,230 --> 00:31:04,000

let's take a couple questions from ames

766

00:31:13,830 --> 00:31:11,190

hi this is mike swift with the san jose

767

00:31:15,509 --> 00:31:13,840

mercury news

768

00:31:17,190 --> 00:31:15,519

people always remember the names of

769

00:31:20,710 --> 00:31:17,200

explorers that dave scott earlier

770

00:31:22,710 --> 00:31:20,720

mentioned cabot magellan in columbus and

771

00:31:25,269 --> 00:31:22,720

a thousand years from now

772

00:31:27,509 --> 00:31:25,279

the only names of people now live that

773

00:31:28,710 --> 00:31:27,519

people may know maybe neil armstrong but

774

00:31:32,230 --> 00:31:28,720

aldrin

775

00:31:33,909 --> 00:31:32,240

jim lovell gene cernan um how do you

776

00:31:35,669 --> 00:31:33,919

guys feel about having that type of

777

00:31:37,430 --> 00:31:35,679

notoriety and

778

00:31:38,950 --> 00:31:37,440

do you see it as a burden or an

779

00:31:42,389 --> 00:31:38,960

opportunity and have you dealt with it

780

00:31:42,399 --> 00:31:47,029

i don't have to worry about it

781

00:31:52,070 --> 00:31:49,190

yeah i don't think that uh

782

00:31:54,870 --> 00:31:52,080

uh all of us except for perhaps the 11

783

00:31:57,029 --> 00:31:54,880

crew because uh they did complete the

784

00:31:58,630 --> 00:31:57,039

project which started and they're our

785

00:32:00,630 --> 00:31:58,640

most well known

786

00:32:03,269 --> 00:32:00,640

really have to worry about that

787

00:32:05,830 --> 00:32:03,279

celebrity status uh uh

788

00:32:08,470 --> 00:32:05,840

i think most of us live our normal lives

789

00:32:10,950 --> 00:32:08,480

we're not really bothered except on you

790

00:32:12,710 --> 00:32:10,960

know occasions like this that

791

00:32:15,110 --> 00:32:12,720

that that we

792

00:32:16,789 --> 00:32:15,120

are congenial to talk to the people

793

00:32:18,630 --> 00:32:16,799

i can see the problems that the apollo

794

00:32:19,830 --> 00:32:18,640

11 crew can have

795

00:32:23,750 --> 00:32:19,840

uh

796

00:32:25,669 --> 00:32:23,760

sorry for neil every once in a while

797

00:32:27,669 --> 00:32:25,679

because he's every time he goes

798

00:32:29,269 --> 00:32:27,679

someplace in public he's usually

799

00:32:30,630 --> 00:32:29,279

recognized and

800

00:32:32,310 --> 00:32:30,640

people want to ask questions take

801
00:32:33,909 --> 00:32:32,320
pictures get autographs and things like

802
00:32:39,269 --> 00:32:33,919
that but they'll only have to do that

803
00:32:43,750 --> 00:32:41,909
i'd like to make an observation maybe

804
00:32:47,509 --> 00:32:43,760
some validity to it

805
00:32:52,070 --> 00:32:47,519
somewhere around world war ii

806
00:32:55,750 --> 00:32:52,080
the expansion of human capabilities

807
00:32:58,710 --> 00:32:55,760
reached beyond the ability of one person

808
00:33:01,669 --> 00:32:58,720
to marshal his idea together

809
00:33:05,350 --> 00:33:01,679
and lead people to do something

810
00:33:08,470 --> 00:33:05,360
it has taken a team to do things

811
00:33:11,029 --> 00:33:08,480
none of us up here originated the idea

812
00:33:13,029 --> 00:33:11,039
of going to the moon and then organize

813
00:33:15,190 --> 00:33:13,039

the people to do that

814

00:33:18,389 --> 00:33:15,200

but lindbergh did

815

00:33:20,950 --> 00:33:18,399

and byrd did and the other people that

816

00:33:22,950 --> 00:33:20,960

we look to as explorers that go down in

817

00:33:25,110 --> 00:33:22,960

history

818

00:33:26,310 --> 00:33:25,120

somebody said to

819

00:33:31,190 --> 00:33:26,320

uh

820

00:33:36,950 --> 00:33:33,830

i don't know which one stepped on the

821

00:33:38,549 --> 00:33:36,960

missouri river first

822

00:33:40,870 --> 00:33:38,559

but it was lewis and clark doing

823

00:33:42,630 --> 00:33:40,880

something and they carried out to the

824

00:33:45,110 --> 00:33:42,640

best of their ability

825

00:33:47,190 --> 00:33:45,120

without instructions from washington dc

826

00:33:51,029 --> 00:33:47,200

or anywhere else

827

00:33:55,830 --> 00:33:51,039

the the pioneers uh had real

828

00:33:57,350 --> 00:33:55,840

pioneering activities and experiences

829

00:33:59,509 --> 00:33:57,360

that they carried out because they

830

00:34:01,750 --> 00:33:59,519

originated the idea they marshaled the

831

00:34:05,269 --> 00:34:01,760

people behind them

832

00:34:07,669 --> 00:34:05,279

now we're going to send some people

833

00:34:09,190 --> 00:34:07,679

we the planet earth is going to send

834

00:34:11,190 --> 00:34:09,200

some people

835

00:34:13,909 --> 00:34:11,200

one day

836

00:34:16,310 --> 00:34:13,919

to the surface of mars

837

00:34:18,550 --> 00:34:16,320

and and uh if we think we're going to

838

00:34:20,790 --> 00:34:18,560

send them there for a year and a half

839

00:34:22,470 --> 00:34:20,800

and bring them back

840

00:34:24,310 --> 00:34:22,480

and then send another group there for a

841

00:34:26,550 --> 00:34:24,320

year and a half and bring them back i'll

842

00:34:28,790 --> 00:34:26,560

tell you what washington will do they

843

00:34:30,149 --> 00:34:28,800

will find another way to spend that

844

00:34:32,470 --> 00:34:30,159

money

845

00:34:35,909 --> 00:34:32,480

unless we have declared

846

00:34:39,190 --> 00:34:35,919

that our objective is an increasing

847

00:34:41,430 --> 00:34:39,200

permanence a settlement

848

00:34:42,710 --> 00:34:41,440

the pioneers the pilgrims on the

849

00:34:44,470 --> 00:34:42,720

mayflower

850

00:34:46,869 --> 00:34:44,480

did not come over and hang around

851
00:34:50,149 --> 00:34:46,879
plymouth rock looking for their way back

852
00:34:53,669 --> 00:34:50,159
home again let's start thinking

853
00:34:55,829 --> 00:34:53,679
of exploration as it really is and are

854
00:34:57,750 --> 00:34:55,839
we up to it

855
00:34:59,670 --> 00:34:57,760
i don't think there's any point in

856
00:35:02,390 --> 00:34:59,680
sending human beings

857
00:35:04,630 --> 00:35:02,400
to the surface of the moon and having

858
00:35:05,750 --> 00:35:04,640
them spend the rest of their career

859
00:35:10,550 --> 00:35:05,760
there

860
00:35:12,069 --> 00:35:10,560
but i am entertaining that idea

861
00:35:14,710 --> 00:35:12,079
that willingness

862
00:35:17,190 --> 00:35:14,720
until we have the technology that can

863
00:35:18,950 --> 00:35:17,200

afford to send people there and bring

864

00:35:21,990 --> 00:35:18,960

them back i asked

865

00:35:24,310 --> 00:35:22,000

dr craft chris kraft up at mit

866

00:35:25,750 --> 00:35:24,320

i said look when i look at mission

867

00:35:27,510 --> 00:35:25,760

planning and what it takes to get

868

00:35:30,710 --> 00:35:27,520

somebody to mars and what it takes to

869

00:35:32,470 --> 00:35:30,720

get somebody back i think the mission

870

00:35:35,829 --> 00:35:32,480

that sends people there and brings them

871

00:35:38,150 --> 00:35:35,839

back is four times as expensive as if we

872

00:35:41,990 --> 00:35:38,160

just take them there and then supply

873

00:35:44,790 --> 00:35:42,000

them he said no i think it's ten times

874

00:35:47,430 --> 00:35:44,800

so so let's look at what investment we

875

00:35:50,150 --> 00:35:47,440

are thinking about we're we're not

876

00:35:52,390 --> 00:35:50,160

thinking about uh just going across the

877

00:35:55,589 --> 00:35:52,400

atlantic and and coming back we are

878

00:35:57,349 --> 00:35:55,599

thinking of the

879

00:35:59,270 --> 00:35:57,359

the purposes

880

00:36:03,109 --> 00:35:59,280

of which we

881

00:36:05,109 --> 00:36:03,119

should construct a pathway for humans

882

00:36:09,670 --> 00:36:05,119

to mars

883

00:36:11,510 --> 00:36:09,680

steve squires does a wonderful job with

884

00:36:13,829 --> 00:36:11,520

spirit and

885

00:36:15,190 --> 00:36:13,839

and and they're alive for over five

886

00:36:17,270 --> 00:36:15,200

years

887

00:36:20,390 --> 00:36:17,280

other people have estimated that if we

888

00:36:23,109 --> 00:36:20,400

had uh a human being

889

00:36:25,430 --> 00:36:23,119

on pobus the moon of mars directly

890

00:36:27,670 --> 00:36:25,440

controlling those robots in a safe

891

00:36:29,349 --> 00:36:27,680

position not on the surface where they

892

00:36:30,230 --> 00:36:29,359

have to land and they have to lift off

893

00:36:32,390 --> 00:36:30,240

again

894

00:36:35,750 --> 00:36:32,400

we could have done the job of spirit and

895

00:36:38,790 --> 00:36:35,760

opportunity uh in four or five months

896

00:36:41,589 --> 00:36:38,800

instead of years so just think of what

897

00:36:43,349 --> 00:36:41,599

the speed of light means when we are

898

00:36:44,710 --> 00:36:43,359

dealing with the moon or dealing with

899

00:36:47,030 --> 00:36:44,720

the mars

900

00:36:48,710 --> 00:36:47,040

can i get back that question real quick

901
00:36:50,470 --> 00:36:48,720
may surprise you but everyone on this

902
00:36:52,829 --> 00:36:50,480
stage puts their pants on one leg at a

903
00:36:56,230 --> 00:36:52,839
time just like he did

904
00:36:57,829 --> 00:36:56,240
okay but a friend of mine once told me

905
00:37:00,150 --> 00:36:57,839
that's fine but

906
00:37:02,550 --> 00:37:00,160
other people don't look at you the same

907
00:37:04,710 --> 00:37:02,560
way you look at yourself which is good

908
00:37:07,589 --> 00:37:04,720
other people look at these guys

909
00:37:08,950 --> 00:37:07,599
differently than they look at themselves

910
00:37:11,349 --> 00:37:08,960
they all went to the moon they all went

911
00:37:13,589 --> 00:37:11,359
to space they all did something

912
00:37:15,430 --> 00:37:13,599
that comes with a tremendous opportunity

913
00:37:17,750 --> 00:37:15,440

because then there and anyone here who

914

00:37:19,589 --> 00:37:17,760

doesn't realize that they can get

915

00:37:22,069 --> 00:37:19,599

your attention that's why you're here

916

00:37:24,069 --> 00:37:22,079

they get young people's attention if

917

00:37:25,910 --> 00:37:24,079

they if they get people listening to

918

00:37:28,470 --> 00:37:25,920

them so they gotta we gotta watch what

919

00:37:30,470 --> 00:37:28,480

we say and we gotta make sure we believe

920

00:37:32,390 --> 00:37:30,480

ourselves and what we say

921

00:37:34,790 --> 00:37:32,400

but it comes with an awesome

922

00:37:36,230 --> 00:37:34,800

responsibility when we got assigned to a

923

00:37:37,270 --> 00:37:36,240

crew and assigned to a flight no one

924

00:37:38,870 --> 00:37:37,280

said you're going to get your name in

925

00:37:40,710 --> 00:37:38,880

the history book and that was not part

926
00:37:43,109 --> 00:37:40,720
of the equation

927
00:37:47,270 --> 00:37:43,119
it just happened that way but there is a

928
00:37:48,870 --> 00:37:47,280
tremendous responsibility that goes with

929
00:37:51,510 --> 00:37:48,880
what you asked about

930
00:37:53,750 --> 00:37:51,520
because you do look at us

931
00:37:56,069 --> 00:37:53,760
differently than we look at ourselves

932
00:37:58,150 --> 00:37:56,079
which is the way it should be we're just

933
00:38:00,069 --> 00:37:58,160
like you we're just we just happen to be

934
00:38:02,230 --> 00:38:00,079
the luckiest group of people in the

935
00:38:03,990 --> 00:38:02,240
entire history of the modern world to

936
00:38:05,510 --> 00:38:04,000
have done something to live our dreams

937
00:38:07,030 --> 00:38:05,520
to go somewhere where no man has ever

938
00:38:07,910 --> 00:38:07,040

gone before

939

00:38:12,950 --> 00:38:07,920

and

940

00:38:14,710 --> 00:38:12,960

back in some way or another or provide

941

00:38:16,710 --> 00:38:14,720

as buzz and the guys are talking about

942

00:38:19,829 --> 00:38:16,720

the opportunities for those who follow

943

00:38:21,829 --> 00:38:19,839

in our footsteps

944

00:38:27,190 --> 00:38:21,839

to once again

945

00:38:31,030 --> 00:38:28,390

thank you we'll take one more question

946

00:38:35,589 --> 00:38:33,270

hi ron ludi with the san francisco

947

00:38:38,870 --> 00:38:35,599

business times

948

00:38:41,670 --> 00:38:38,880

you guys talked about a uh less than one

949

00:38:44,550 --> 00:38:41,680

cent per tax dollar commitment uh to

950

00:38:48,230 --> 00:38:44,560

nasa right now is there more of a public

951
00:38:52,470 --> 00:38:48,240
private solution needed to get to mars

952
00:38:56,710 --> 00:38:54,710
i think that

953
00:38:58,790 --> 00:38:56,720
having commercial

954
00:39:00,950 --> 00:38:58,800
operations to develop

955
00:39:02,870 --> 00:39:00,960
cargo carrying and the like

956
00:39:04,710 --> 00:39:02,880
maybe the only solution we got with the

957
00:39:05,990 --> 00:39:04,720
gap coming up maybe the only solution we

958
00:39:08,630 --> 00:39:06,000
have for

959
00:39:10,310 --> 00:39:08,640
resupplying with american technology the

960
00:39:12,870 --> 00:39:10,320
international space station but i think

961
00:39:15,670 --> 00:39:12,880
that when it comes to commercial

962
00:39:17,349 --> 00:39:15,680
manned operations i think

963
00:39:19,270 --> 00:39:17,359

that the companies out there today

964

00:39:22,390 --> 00:39:19,280

really have not even begun to scratch

965

00:39:23,750 --> 00:39:22,400

the surface and it'll be a a long time

966

00:39:26,950 --> 00:39:23,760

before

967

00:39:29,030 --> 00:39:26,960

they will match the same kind of

968

00:39:30,550 --> 00:39:29,040

emphasis technology

969

00:39:32,790 --> 00:39:30,560

safety requirements and what have you

970

00:39:37,430 --> 00:39:32,800

that we enjoyed at nasa that's my

971

00:39:40,950 --> 00:39:39,190

okay thank you we'll now take a question

972

00:39:41,910 --> 00:39:40,960

one more question from field centers we

973

00:39:46,069 --> 00:39:41,920

have one from langley and then we'll

974

00:39:49,510 --> 00:39:47,270

hi this is mike grouse from the

975

00:39:52,310 --> 00:39:49,520

virginian pilot newspaper my question is

976
00:39:54,630 --> 00:39:52,320
um what should nasa's priorities be once

977
00:39:55,750 --> 00:39:54,640
we land on mars are there studies or

978
00:39:58,230 --> 00:39:55,760
experiments

979
00:40:00,150 --> 00:39:58,240
that you feel we should be conducting or

980
00:40:00,950 --> 00:40:00,160
setting up tourism basis what whatever

981
00:40:04,790 --> 00:40:00,960
what are

982
00:40:06,870 --> 00:40:04,800
land on mars

983
00:40:09,030 --> 00:40:06,880
well i think we ought to wait till

984
00:40:09,750 --> 00:40:09,040
the augustine commission completes its

985
00:40:12,710 --> 00:40:09,760
uh

986
00:40:15,109 --> 00:40:12,720
recommendations there in august you'll

987
00:40:16,470 --> 00:40:15,119
come up with a series of options

988
00:40:18,710 --> 00:40:16,480

and that would be a better time

989

00:40:20,790 --> 00:40:18,720

everybody has their own idea now i think

990

00:40:23,990 --> 00:40:20,800

always kind of agree eventually

991

00:40:25,910 --> 00:40:24,000

to mars in what degree could vary but

992

00:40:28,550 --> 00:40:25,920

let's wait to see what augustine he's

993

00:40:30,630 --> 00:40:28,560

got some good people general les lyles

994

00:40:32,790 --> 00:40:30,640

and other people there on board that

995

00:40:34,950 --> 00:40:32,800

come up let's wait and see and have this

996

00:40:37,030 --> 00:40:34,960

discussion in august we got a goal we

997

00:40:38,470 --> 00:40:37,040

need to explore but let's look at the

998

00:40:39,430 --> 00:40:38,480

options

999

00:40:41,910 --> 00:40:39,440

tom

1000

00:40:45,109 --> 00:40:41,920

he's asking what we think

1001
00:40:46,790 --> 00:40:45,119
we should be doing on mars

1002
00:40:48,950 --> 00:40:46,800
we should wait until

1003
00:40:52,470 --> 00:40:48,960
augustine commission says we're going to

1004
00:40:57,510 --> 00:40:54,790
augustine will will obviously say that

1005
00:40:58,950 --> 00:40:57,520
this is some of their options yeah and

1006
00:41:01,109 --> 00:40:58,960
then

1007
00:41:02,550 --> 00:41:01,119
the management i think all of us are

1008
00:41:05,190 --> 00:41:02,560
here are pretty much

1009
00:41:07,910 --> 00:41:05,200
convinced that mars is a gold we should

1010
00:41:09,589 --> 00:41:07,920
shoot for to explore to go there how we

1011
00:41:10,950 --> 00:41:09,599
go there may have some different

1012
00:41:13,190 --> 00:41:10,960
approaches

1013
00:41:15,270 --> 00:41:13,200

and i'm sure he'll recommend that as one

1014

00:41:17,589 --> 00:41:15,280

of some of the options

1015

00:41:20,069 --> 00:41:17,599

but that was his charter from the white

1016

00:41:21,829 --> 00:41:20,079

house was to come up review all this

1017

00:41:23,910 --> 00:41:21,839

he's and also his

1018

00:41:25,910 --> 00:41:23,920

charter got expanded both the

1019

00:41:28,390 --> 00:41:25,920

constellation program review and

1020

00:41:29,349 --> 00:41:28,400

exploration and the station

1021

00:41:31,910 --> 00:41:29,359

so

1022

00:41:34,950 --> 00:41:31,920

there's no life on the moon

1023

00:41:37,190 --> 00:41:34,960

okay we don't know about mars right okay

1024

00:41:39,109 --> 00:41:37,200

there may be life on mars if there is

1025

00:41:41,190 --> 00:41:39,119

it's pretty i'm sure we ought to go

1026
00:41:43,750 --> 00:41:41,200
there and look at it right on okay when

1027
00:41:46,309 --> 00:41:43,760
we get there and we don't find any life

1028
00:41:48,390 --> 00:41:46,319
on mars from that point on there will be

1029
00:41:50,390 --> 00:41:48,400
life on mars because we'll bring it

1030
00:41:52,790 --> 00:41:50,400
there whether it's germs

1031
00:41:55,430 --> 00:41:52,800
and and leftover urine bags or or

1032
00:41:57,430 --> 00:41:55,440
whatever it is

1033
00:41:58,870 --> 00:41:57,440
there's already that

1034
00:42:00,150 --> 00:41:58,880
in that

1035
00:42:03,670 --> 00:42:00,160
lunar

1036
00:42:05,589 --> 00:42:03,680
modulus state snoopy this going around

1037
00:42:06,870 --> 00:42:05,599
in a heliocentric orbit right now you

1038
00:42:09,589 --> 00:42:06,880

can't ever tell what's going to evolve

1039

00:42:12,550 --> 00:42:11,430

answer your question what we're going to

1040

00:42:14,230 --> 00:42:12,560

do when we go

1041

00:42:17,030 --> 00:42:14,240

maybe that's where we're going to go

1042

00:42:19,349 --> 00:42:17,040

because we don't know yet

1043

00:42:21,430 --> 00:42:19,359

that's human exploration that's that's

1044

00:42:23,109 --> 00:42:21,440

curiosity is the essence of human

1045

00:42:25,190 --> 00:42:23,119

existence let's go and find out what we

1046

00:42:27,829 --> 00:42:25,200

need to do

1047

00:42:28,630 --> 00:42:27,839

things spirit and opportunity can't tell

1048

00:42:30,630 --> 00:42:28,640

us

1049

00:42:31,750 --> 00:42:30,640

put the human brain the human mind the

1050

00:42:33,349 --> 00:42:31,760

intellect

1051
00:42:36,069 --> 00:42:33,359
on mars and then we can answer that

1052
00:42:39,510 --> 00:42:37,510
okay thank you we have a question over

1053
00:42:42,309 --> 00:42:39,520
here i'm alison smith from the canadian

1054
00:42:43,270 --> 00:42:42,319
broadcasting corporation

1055
00:42:44,790 --> 00:42:43,280
the work

1056
00:42:47,190 --> 00:42:44,800
that you did

1057
00:42:48,870 --> 00:42:47,200
inspired more than a generation and some

1058
00:42:51,190 --> 00:42:48,880
of it we see around the international

1059
00:42:53,190 --> 00:42:51,200
space station you talked mr cernan about

1060
00:42:54,950 --> 00:42:53,200
the responsibility of that

1061
00:42:56,630 --> 00:42:54,960
but mr level you also talked about the

1062
00:42:58,950 --> 00:42:56,640
international space station as almost

1063
00:43:00,309 --> 00:42:58,960

being a white elephant i'm curious to

1064

00:43:03,589 --> 00:43:00,319

know

1065

00:43:05,990 --> 00:43:03,599

what you see in the space program today

1066

00:43:08,069 --> 00:43:06,000

that can be an inspiration for the next

1067

00:43:10,309 --> 00:43:08,079

generation

1068

00:43:11,270 --> 00:43:10,319

well i mentioned it as a white elephant

1069

00:43:13,430 --> 00:43:11,280

and i was

1070

00:43:15,510 --> 00:43:13,440

doing some of the initial studies of of

1071

00:43:16,550 --> 00:43:15,520

the space station when i was still with

1072

00:43:18,470 --> 00:43:16,560

nasa

1073

00:43:21,109 --> 00:43:18,480

and i'm saying that uh

1074

00:43:22,790 --> 00:43:21,119

as of to now uh the people up there are

1075

00:43:24,790 --> 00:43:22,800

merely maintaining that station and

1076

00:43:27,670 --> 00:43:24,800

building it up and we have

1077

00:43:29,670 --> 00:43:27,680

about a three or five year uh

1078

00:43:32,390 --> 00:43:29,680

period where we will not have the

1079

00:43:34,390 --> 00:43:32,400

orbiters to complete uh

1080

00:43:35,990 --> 00:43:34,400

the work that we're doing there so we

1081

00:43:37,990 --> 00:43:36,000

have a problem with the space station i

1082

00:43:40,230 --> 00:43:38,000

want to see the space station have a

1083

00:43:41,750 --> 00:43:40,240

return on our investment i think it can

1084

00:43:44,150 --> 00:43:41,760

be it can look back at the earth and

1085

00:43:46,390 --> 00:43:44,160

learn more about the earth it can be a

1086

00:43:48,390 --> 00:43:46,400

waypoint it can be we can look at other

1087

00:43:50,230 --> 00:43:48,400

things that the space station can use

1088

00:43:52,150 --> 00:43:50,240

things that we haven't thought about yet

1089

00:43:53,990 --> 00:43:52,160

so when i say it's a white elephant it

1090

00:43:56,309 --> 00:43:54,000

has been a white elephant we've been

1091

00:43:57,349 --> 00:43:56,319

building it up we have not gotten really

1092

00:43:59,750 --> 00:43:57,359

any

1093

00:44:02,309 --> 00:43:59,760

substantial uh

1094

00:44:04,630 --> 00:44:02,319

experimentation from it uh

1095

00:44:06,630 --> 00:44:04,640

we've used that as a waypoint sometimes

1096

00:44:08,630 --> 00:44:06,640

we've done a lot more with the hubble

1097

00:44:10,390 --> 00:44:08,640

space telescope which i think was one of

1098

00:44:14,470 --> 00:44:10,400

the greatest triumphs of the space

1099

00:44:18,870 --> 00:44:17,030

i see inspiration to use it yes it's up

1100

00:44:22,870 --> 00:44:18,880

there what it does

1101

00:44:24,630 --> 00:44:22,880

that is important is perhaps more uh

1102

00:44:26,950 --> 00:44:24,640

political in the fact that we have a

1103

00:44:28,870 --> 00:44:26,960

consortium of countries now

1104

00:44:31,750 --> 00:44:28,880

that can work at the space station we

1105

00:44:34,069 --> 00:44:31,760

have gotten japan and and and germany of

1106

00:44:37,510 --> 00:44:34,079

the union of the the european space

1107

00:44:39,750 --> 00:44:37,520

agencies uh the russia they're all

1108

00:44:41,190 --> 00:44:39,760

working together in some aspect the

1109

00:44:42,230 --> 00:44:41,200

intercourse of these countries working

1110

00:44:43,430 --> 00:44:42,240

together

1111

00:44:45,430 --> 00:44:43,440

has a

1112

00:44:47,190 --> 00:44:45,440

method of learning more about the

1113

00:44:51,270 --> 00:44:47,200

countries themselves and we're using

1114

00:44:52,950 --> 00:44:51,280

space as an item to do that uh and and i

1115

00:44:54,790 --> 00:44:52,960

in that respect the space station i

1116

00:44:57,190 --> 00:44:54,800

think has some merit to it

1117

00:45:00,390 --> 00:44:57,200

as a scientific tool i think that the

1118

00:45:01,910 --> 00:45:00,400

space station has a long way to go

1119

00:45:03,750 --> 00:45:01,920

here

1120

00:45:05,430 --> 00:45:03,760

i want to follow up my classmates my

1121

00:45:06,150 --> 00:45:05,440

naval academy and my colleague has to

1122

00:45:07,910 --> 00:45:06,160

say

1123

00:45:10,150 --> 00:45:07,920

and i'll take maybe a slightly different

1124

00:45:11,670 --> 00:45:10,160

approach since i chair the independent

1125

00:45:14,710 --> 00:45:11,680

oversight committee for international

1126
00:45:16,550 --> 00:45:14,720
space station for nasa's volunteer work

1127
00:45:19,190 --> 00:45:16,560
right now is the first time we finally

1128
00:45:21,109 --> 00:45:19,200
have a six-person crew up there

1129
00:45:22,630 --> 00:45:21,119
and the russians are committed over the

1130
00:45:24,390 --> 00:45:22,640
next seven

1131
00:45:27,510 --> 00:45:24,400
eighteen months to have seventeen

1132
00:45:29,990 --> 00:45:27,520
launches that's progresses and psi users

1133
00:45:33,030 --> 00:45:30,000
now and also we have an atv coming up

1134
00:45:36,470 --> 00:45:33,040
from a european space agency and we have

1135
00:45:38,950 --> 00:45:36,480
the japanese uh htv coming up that will

1136
00:45:40,390 --> 00:45:38,960
carry heavier payloads up or they will

1137
00:45:42,470 --> 00:45:40,400
be as good as the shuttle no but

1138
00:45:44,870 --> 00:45:42,480

there'll be a lot more of them so let's

1139

00:45:46,870 --> 00:45:44,880

see but they also they added one shuttle

1140

00:45:49,910 --> 00:45:46,880

flight that's very very significant

1141

00:45:52,870 --> 00:45:49,920

called the alpha magnetic spectrometer

1142

00:45:55,589 --> 00:45:52,880

developed by mit and this will be placed

1143

00:45:57,670 --> 00:45:55,599

on seven different locations seven

1144

00:46:00,790 --> 00:45:57,680

on the station to look out in the deep

1145

00:46:03,270 --> 00:46:00,800

space to look and determine potentials

1146

00:46:04,470 --> 00:46:03,280

of black matter in the formation of the

1147

00:46:06,870 --> 00:46:04,480

universe

1148

00:46:08,550 --> 00:46:06,880

in response to your question and also a

1149

00:46:10,710 --> 00:46:08,560

little bit in response to my friend jim

1150

00:46:12,870 --> 00:46:10,720

here

1151

00:46:15,190 --> 00:46:12,880

if the international space station has

1152

00:46:17,670 --> 00:46:15,200

some limited functionality going forward

1153

00:46:19,430 --> 00:46:17,680

other than just a laboratory

1154

00:46:21,990 --> 00:46:19,440

it's because of the decision that was

1155

00:46:23,589 --> 00:46:22,000

made to put it in a 51.6 degree

1156

00:46:26,710 --> 00:46:23,599

inclination orbit

1157

00:46:28,470 --> 00:46:26,720

that decision was pure simply politics

1158

00:46:30,950 --> 00:46:28,480

it was a decision made to bring the

1159

00:46:32,630 --> 00:46:30,960

russians in when the russians came in

1160

00:46:34,550 --> 00:46:32,640

there's the only way that they could

1161

00:46:36,630 --> 00:46:34,560

really take part in that that space

1162

00:46:38,710 --> 00:46:36,640

station so that was a political decision

1163

00:46:40,470 --> 00:46:38,720

once more half of it at least comes back

1164

00:46:42,390 --> 00:46:40,480

here to washington dc

1165

00:46:43,589 --> 00:46:42,400

and when when it comes to

1166

00:46:45,589 --> 00:46:43,599

the gap

1167

00:46:47,510 --> 00:46:45,599

the biggest problem that we have going

1168

00:46:49,750 --> 00:46:47,520

forward because all of these other

1169

00:46:50,870 --> 00:46:49,760

timelines that you hear downstream

1170

00:46:52,630 --> 00:46:50,880

they're all

1171

00:46:56,870 --> 00:46:52,640

artificial timelines there's nothing

1172

00:47:00,069 --> 00:46:56,880

magic about 2015 getting back up or 2016

1173

00:47:03,270 --> 00:47:00,079

or the moon by 2020 there's only one

1174

00:47:04,710 --> 00:47:03,280

real deadline that deadline is when they

1175

00:47:05,829 --> 00:47:04,720

quit flying the international space

1176

00:47:07,589 --> 00:47:05,839

station

1177

00:47:09,430 --> 00:47:07,599

i happen to believe that that is the

1178

00:47:10,630 --> 00:47:09,440

biggest mistake we've made in a long

1179

00:47:13,190 --> 00:47:10,640

long time

1180

00:47:15,829 --> 00:47:13,200

but it's also

1181

00:47:17,430 --> 00:47:15,839

kind of fruitless to try to to to get it

1182

00:47:19,589 --> 00:47:17,440

going people have been convinced the

1183

00:47:21,430 --> 00:47:19,599

congressman especially to quit funding

1184

00:47:23,430 --> 00:47:21,440

the international space station

1185

00:47:25,430 --> 00:47:23,440

big mistake

1186

00:47:27,190 --> 00:47:25,440

let me let me answer

1187

00:47:29,589 --> 00:47:27,200

let me bring up again

1188

00:47:31,990 --> 00:47:29,599

committee walt said it was political in

1189

00:47:35,030 --> 00:47:32,000

one way the main thing was we needed a

1190

00:47:36,470 --> 00:47:35,040

safety return a crew escape vehicle in

1191

00:47:38,549 --> 00:47:36,480

case something would happen to the

1192

00:47:39,750 --> 00:47:38,559

shuttle which you did you know on

1193

00:47:41,670 --> 00:47:39,760

columbia

1194

00:47:44,069 --> 00:47:41,680

and as a result of what happened there

1195

00:47:46,150 --> 00:47:44,079

on challenger and the only reliable

1196

00:47:48,870 --> 00:47:46,160

littlest thing that could get you back a

1197

00:47:50,309 --> 00:47:48,880

spacecraft capsule was the sius that's

1198

00:47:56,950 --> 00:47:50,319

the main reason

1199

00:48:01,430 --> 00:47:59,670

let me be cruelly honest

1200

00:48:03,750 --> 00:48:01,440

jim said it's a white elephant compared

1201

00:48:06,470 --> 00:48:03,760

to what not what we did what what

1202

00:48:09,190 --> 00:48:06,480

america did during apollo

1203

00:48:11,030 --> 00:48:09,200

we have today the brightest young men

1204

00:48:12,630 --> 00:48:11,040

and women in the space program and they

1205

00:48:14,150 --> 00:48:12,640

would put us to shame let me tell you

1206

00:48:15,910 --> 00:48:14,160

they're more educated they qualify

1207

00:48:17,349 --> 00:48:15,920

they've done everything there is to do

1208

00:48:20,150 --> 00:48:17,359

and i've done it in a shorter period of

1209

00:48:21,589 --> 00:48:20,160

time we kicked the door open and and

1210

00:48:23,670 --> 00:48:21,599

threw out a plum and they reeled in a

1211

00:48:25,589 --> 00:48:23,680

lemon that's the crews those are the

1212

00:48:28,710 --> 00:48:25,599

guys the gals i expected to take us back

1213

00:48:33,990 --> 00:48:28,720

to the moon and on mars the cruel the

1214

00:48:39,910 --> 00:48:37,190

everybody knows who john glenn is

1215

00:48:42,230 --> 00:48:39,920

I shepherd neil armstrong

1216

00:48:44,710 --> 00:48:42,240

buzz aldrin jim lovell everybody knows

1217

00:48:47,990 --> 00:48:44,720

who those guys are

1218

00:48:50,790 --> 00:48:48,000

i defy almost everyone in this room to

1219

00:48:54,069 --> 00:48:50,800

name one or two or three

1220

00:48:56,549 --> 00:48:54,079

members on a space station today

1221

00:48:58,309 --> 00:48:56,559

certainly a high school kid cannot but

1222

00:49:00,710 --> 00:48:58,319

certainly that high school kid knows who

1223

00:49:01,589 --> 00:49:00,720

jim lovell and daniel armstrong is or

1224

00:49:04,150 --> 00:49:01,599

are

1225

00:49:06,870 --> 00:49:04,160

and that's the difference we need to

1226

00:49:08,790 --> 00:49:06,880

reinspire that kind of spirit in the

1227

00:49:09,670 --> 00:49:08,800

minds and hearts the passion of these

1228

00:49:12,470 --> 00:49:09,680

kids

1229

00:49:14,390 --> 00:49:12,480

to once again do something unique space

1230

00:49:17,030 --> 00:49:14,400

shuttle goes up maybe someone shows it

1231

00:49:18,470 --> 00:49:17,040

on television maybe they don't it's over

1232

00:49:20,549 --> 00:49:18,480

no kids get out of school to watch

1233

00:49:22,309 --> 00:49:20,559

someone walk on the moon

1234

00:49:23,910 --> 00:49:22,319

going to space station tom and all

1235

00:49:26,069 --> 00:49:23,920

difference to you no i don't even know

1236

00:49:27,750 --> 00:49:26,079

what the spectrometer is okay i don't

1237

00:49:30,549 --> 00:49:27,760

know what it's going to tell me i don't

1238

00:49:32,710 --> 00:49:30,559

know the most interesting thing in the

1239

00:49:34,710 --> 00:49:32,720

last 25 years

1240

00:49:36,950 --> 00:49:34,720

is the mystery of what this hubble

1241

00:49:39,510 --> 00:49:36,960

telescope is showing us or we're looking

1242

00:49:40,630 --> 00:49:39,520

through time or distance or what beyond

1243

00:49:43,349 --> 00:49:40,640

that

1244

00:49:46,230 --> 00:49:43,359

unfortunately

1245

00:49:49,990 --> 00:49:46,240

science is dull gene no buck rogers no

1246

00:49:54,710 --> 00:49:51,750

i'll be i'll probably be chewed up for

1247

00:49:56,309 --> 00:49:54,720

that one but it's a fact

1248

00:49:57,510 --> 00:49:56,319

thank you let's uh remember to wait for

1249

00:49:59,750 --> 00:49:57,520

the microphone and we have a question

1250

00:50:01,990 --> 00:49:59,760

down here in the front

1251

00:50:03,750 --> 00:50:02,000

elizabeth howell apollo at 40.com uh

1252

00:50:05,829 --> 00:50:03,760

this this question is for all of you

1253

00:50:07,349 --> 00:50:05,839

gentlemen can you say uh what aspect of

1254

00:50:10,470 --> 00:50:07,359

the apollo program has been overlooked

1255

00:50:13,910 --> 00:50:12,230

has been overlooked has been overlooked

1256

00:50:19,670 --> 00:50:13,920

yes

1257

00:50:24,549 --> 00:50:22,069

when the buzz landed on the moon one of

1258

00:50:26,470 --> 00:50:24,559

the things they carried with them was

1259

00:50:28,309 --> 00:50:26,480

microfilm messages wasn't microfilm but

1260

00:50:31,829 --> 00:50:28,319

it was messages from the leaders of all

1261

00:50:33,990 --> 00:50:31,839

the freedom 72 leaders left messages on

1262

00:50:36,710 --> 00:50:34,000

the move and one of them was from prime

1263

00:50:37,589 --> 00:50:36,720

minister jack gordon of australia at the

1264

00:50:39,589 --> 00:50:37,599

time

1265

00:50:40,870 --> 00:50:39,599

and i will never forget what his message

1266

00:50:43,109 --> 00:50:40,880

had to say

1267

00:50:44,390 --> 00:50:43,119

it's the last sentence that's important

1268

00:50:45,829 --> 00:50:44,400

he says made the high courage and

1269

00:50:48,549 --> 00:50:45,839

technical genius which made this

1270

00:50:50,470 --> 00:50:48,559

achievement possible

1271

00:50:52,390 --> 00:50:50,480

be so used in the future that mankind

1272

00:50:55,030 --> 00:50:52,400

will live in a world in which peace

1273

00:50:56,390 --> 00:50:55,040

self-expression and this is the one

1274

00:50:58,790 --> 00:50:56,400

and the chance

1275

00:51:00,870 --> 00:50:58,800

of dangerous adventure are available to

1276

00:51:07,750 --> 00:51:00,880

all

1277

00:51:10,230 --> 00:51:07,760

a risk-averse society it's reflected

1278

00:51:12,069 --> 00:51:10,240

in nasa it's reflected in every aspect

1279

00:51:13,829 --> 00:51:12,079

of what we do today

1280

00:51:17,030 --> 00:51:13,839

you know they the reason they had such a

1281

00:51:20,069 --> 00:51:17,040

huge debate about the apollo the fourth

1282

00:51:21,910 --> 00:51:20,079

uh servicing mission to uh hubble

1283

00:51:24,870 --> 00:51:21,920

was because they couldn't get from the

1284

00:51:27,510 --> 00:51:24,880

hubble's uh orbit to the international

1285

00:51:29,349 --> 00:51:27,520

space station to save the lives if there

1286

00:51:31,190 --> 00:51:29,359

was some kind of a problem

1287

00:51:34,390 --> 00:51:31,200

now prior to that

1288

00:51:37,190 --> 00:51:34,400

time we had put 88

1289

00:51:40,069 --> 00:51:37,200

missions in r at the same or similar

1290

00:51:42,630 --> 00:51:40,079

orbits to the hubble space telescope

1291

00:51:44,710 --> 00:51:42,640

and we never once gave a thought to the

1292

00:51:47,589 --> 00:51:44,720

fact that we had to have some

1293

00:51:49,910 --> 00:51:47,599

safe haven to go to for 30 days so they

1294

00:51:51,750 --> 00:51:49,920

could send somebody back we need to get

1295

00:51:54,390 --> 00:51:51,760

back to the point where we are no longer

1296

00:51:55,990 --> 00:51:54,400

a risk-averse society and that will

1297

00:51:58,390 --> 00:51:56,000

recognize that there are some things in

1298

00:52:05,589 --> 00:51:58,400

life worth taking a chance for there are

1299

00:52:12,309 --> 00:52:06,790

hi

1300

00:52:13,670 --> 00:52:12,319

uh flight controller doing uh all the

1301

00:52:16,069 --> 00:52:13,680

apollo missions

1302

00:52:17,750 --> 00:52:16,079

and uh guys you know back then

1303

00:52:20,710 --> 00:52:17,760

unfortunately we're all older than most

1304

00:52:22,470 --> 00:52:20,720

of the people in this room

1305

00:52:24,790 --> 00:52:22,480

about you tom

1306

00:52:26,790 --> 00:52:24,800

but you know back then we were inspired

1307

00:52:29,990 --> 00:52:26,800

people were excited i mean people just

1308

00:52:34,069 --> 00:52:30,000

couldn't wait to watch the tv to watch a

1309

00:52:35,670 --> 00:52:34,079

space mission i know in apollo 13 uh

1310

00:52:37,190 --> 00:52:35,680

jim you know that was one of the things

1311

00:52:38,549 --> 00:52:37,200

that suddenly that nobody wanted to

1312

00:52:40,390 --> 00:52:38,559

watch the uh

1313

00:52:41,349 --> 00:52:40,400

uh the flight and then all of a sudden

1314

00:52:43,750 --> 00:52:41,359

it was

1315

00:52:45,670 --> 00:52:43,760

all the talk how do we inspire our young

1316

00:52:47,349 --> 00:52:45,680

people the people that go into science i

1317

00:52:49,829 --> 00:52:47,359

mean are we gonna allow this country to

1318

00:52:51,990 --> 00:52:49,839

get behind we were in a space race we

1319

00:52:55,109 --> 00:52:52,000

were everything was exciting how do we

1320

00:52:57,109 --> 00:52:55,119

get that that spirit back into america

1321

00:52:59,030 --> 00:52:57,119

well we try to do that i think most of

1322

00:53:02,309 --> 00:52:59,040

us are involved in uh

1323

00:53:04,470 --> 00:53:02,319

civic opportunities to to inspire young

1324

00:53:08,150 --> 00:53:04,480

people because most of the

1325

00:53:11,109 --> 00:53:08,160

various museums and planetariums and

1326
00:53:11,990 --> 00:53:11,119
things that we all share to do that type

1327
00:53:14,069 --> 00:53:12,000
of work

1328
00:53:15,670 --> 00:53:14,079
it's really an educational for the young

1329
00:53:18,230 --> 00:53:15,680
people to hopefully

1330
00:53:20,790 --> 00:53:18,240
get an inspiration be a so we're sort of

1331
00:53:22,950 --> 00:53:20,800
a catalyst for the people that say hey i

1332
00:53:25,670 --> 00:53:22,960
want to follow through because i can

1333
00:53:29,270 --> 00:53:25,680
recall now when we when we meet people

1334
00:53:31,030 --> 00:53:29,280
who are in their 40s 45 or 50s they said

1335
00:53:35,030 --> 00:53:31,040
hey i was just 10 years old when you

1336
00:53:37,670 --> 00:53:35,040
made that flight uh and uh but now i'm

1337
00:53:39,270 --> 00:53:37,680
an engineer or technician or a scientist

1338
00:53:41,190 --> 00:53:39,280

and that was sort of the inspiration

1339

00:53:43,109 --> 00:53:41,200

that got me started along that field and

1340

00:53:45,910 --> 00:53:43,119

that's what that's really what our job

1341

00:53:46,870 --> 00:53:45,920

is these days uh you look at a lot of

1342

00:53:53,349 --> 00:53:46,880

old

1343

00:53:55,670 --> 00:53:53,359

is to inspire the young people and

1344

00:53:57,589 --> 00:53:55,680

that's what we try to do the only way we

1345

00:53:59,190 --> 00:53:57,599

can get inspiration

1346

00:54:01,430 --> 00:53:59,200

you know what everybody is glued to

1347

00:54:04,950 --> 00:54:01,440

their tv sets is either to have an

1348

00:54:07,589 --> 00:54:04,960

accident like apollo 13 or really get

1349

00:54:09,589 --> 00:54:07,599

going on a mission that inspires

1350

00:54:10,630 --> 00:54:09,599

everybody because when we went to the

1351
00:54:11,829 --> 00:54:10,640
moon

1352
00:54:14,549 --> 00:54:11,839
you know people been thinking about

1353
00:54:15,990 --> 00:54:14,559
going to the moon for hundreds of years

1354
00:54:19,190 --> 00:54:16,000
and suddenly

1355
00:54:22,309 --> 00:54:19,200
towards the middle of last century

1356
00:54:24,790 --> 00:54:22,319
that reality or became a reality hey we

1357
00:54:26,549 --> 00:54:24,800
i think we can really do it and so you

1358
00:54:28,630 --> 00:54:26,559
know every time someone walked outside

1359
00:54:31,030 --> 00:54:28,640
and saw the moon that was the goal that

1360
00:54:33,910 --> 00:54:31,040
we were all striving for at the time

1361
00:54:37,349 --> 00:54:33,920
it's kind of hard to repeat that and of

1362
00:54:39,270 --> 00:54:37,359
course we also had a a contest with the

1363
00:54:42,069 --> 00:54:39,280

great soviet union at the time which

1364

00:54:44,230 --> 00:54:42,079

also inspired all of us for a challenge

1365

00:54:48,150 --> 00:54:44,240

that challenge now is is not there any

1366

00:54:50,470 --> 00:54:48,160

longer so uh it's it's hard to recreate

1367

00:54:52,230 --> 00:54:50,480

and that's why i think some of us are

1368

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

you know say hey mars is a good thing to

1369

00:54:56,710 --> 00:54:54,720

do because it is the other it is the

1370

00:54:59,430 --> 00:54:56,720

other moon that that we now have

1371

00:55:01,270 --> 00:54:59,440

conquered uh and so uh

1372

00:55:03,670 --> 00:55:01,280

and so that's the reason why we need the

1373

00:55:06,549 --> 00:55:03,680

inspiration i'd like to second jim's

1374

00:55:09,510 --> 00:55:06,559

comments and also say it's up to you

1375

00:55:10,950 --> 00:55:09,520

in the media and history in the press

1376

00:55:13,349 --> 00:55:10,960

to record

1377

00:55:14,789 --> 00:55:13,359

and sustain the legacy

1378

00:55:17,910 --> 00:55:14,799

we're going to be around for a few more

1379

00:55:20,710 --> 00:55:17,920

years but to inspire the kids i think

1380

00:55:23,190 --> 00:55:20,720

you have to continue this story and

1381

00:55:24,870 --> 00:55:23,200

understand why apollo happened how it

1382

00:55:27,109 --> 00:55:24,880

happened and all the people who

1383

00:55:29,349 --> 00:55:27,119

contributed to it to make it happen

1384

00:55:31,270 --> 00:55:29,359

which stimulated the young people and i

1385

00:55:33,430 --> 00:55:31,280

think it's the legacy of apollo that has

1386

00:55:34,870 --> 00:55:33,440

to go on until we get back to something

1387

00:55:36,789 --> 00:55:34,880

comparable

1388

00:55:40,630 --> 00:55:36,799

and and that's difficult because it's

1389

00:55:42,390 --> 00:55:40,640

good news not bad news

1390

00:55:44,230 --> 00:55:42,400

good point

1391

00:55:45,750 --> 00:55:44,240

how about the fact that in about two

1392

00:55:47,829 --> 00:55:45,760

years we're going to be

1393

00:55:50,069 --> 00:55:47,839

sitting like this to the soviet union

1394

00:55:52,069 --> 00:55:50,079

and china say by the way can you take us

1395

00:55:53,990 --> 00:55:52,079

back to our space station that might

1396

00:55:56,470 --> 00:55:54,000

inspire somebody

1397

00:55:58,870 --> 00:55:56,480

let's not wait until then i'm with you

1398

00:56:01,190 --> 00:55:58,880

both now i'm with you buzz actually

1399

00:56:04,710 --> 00:56:01,200

gene's got a good point as you probably

1400

00:56:07,510 --> 00:56:04,720

know uh the propulsion capability on the

1401

00:56:09,670 --> 00:56:07,520

space station is controlled by russia

1402

00:56:12,470 --> 00:56:09,680

and there that's the country that keeps

1403

00:56:14,150 --> 00:56:12,480

it up and keeps it moving

1404

00:56:15,750 --> 00:56:14,160

so we got to play those cards pretty

1405

00:56:18,710 --> 00:56:15,760

carefully

1406

00:56:20,870 --> 00:56:18,720

atv can do that

1407

00:56:22,150 --> 00:56:20,880

once in a while

1408

00:56:23,589 --> 00:56:22,160

htv

1409

00:56:25,510 --> 00:56:23,599

once in a while

1410

00:56:29,109 --> 00:56:25,520

detected the fact that we are don't have

1411

00:56:32,069 --> 00:56:30,630

it was that anything from the beginning

1412

00:56:35,750 --> 00:56:32,079

i was going to say that's the way it was

1413

00:56:38,950 --> 00:56:37,589

we have time as a team to carry out the

1414

00:56:40,870 --> 00:56:38,960

goals yeah

1415

00:56:42,230 --> 00:56:40,880

let me ask you that let me let me add

1416

00:56:44,950 --> 00:56:42,240

what walt said

1417

00:56:46,950 --> 00:56:44,960

apollo 13 apollo 11 apollo 13 the two

1418

00:56:49,349 --> 00:56:46,960

greatest examples we competed with each

1419

00:56:51,349 --> 00:56:49,359

other tooth and nail head to head to get

1420

00:56:52,549 --> 00:56:51,359

that seat on that spacecraft to get that

1421

00:56:54,630 --> 00:56:52,559

flight

1422

00:56:56,230 --> 00:56:54,640

but come apollo 11

1423

00:56:58,069 --> 00:56:56,240

we're all hitched the same way i get

1424

00:56:59,510 --> 00:56:58,079

pulled in the same direction came apollo

1425

00:57:02,309 --> 00:56:59,520

13

1426

00:57:04,230 --> 00:57:02,319

we were all all hitched to the same dir

1427

00:57:06,309 --> 00:57:04,240

wagon and you know this well and we

1428

00:57:08,390 --> 00:57:06,319

threw away the badges and we're all

1429

00:57:09,270 --> 00:57:08,400

headed in the same direction and and

1430

00:57:14,390 --> 00:57:09,280

that's

1431

00:57:16,630 --> 00:57:14,400

legacies of the space program itself we

1432

00:57:17,990 --> 00:57:16,640

can do those things when we need to do

1433

00:57:19,270 --> 00:57:18,000

them

1434

00:57:20,309 --> 00:57:19,280

thank you we have time for two more

1435

00:57:22,710 --> 00:57:20,319

questions then we're going to have to

1436

00:57:24,549 --> 00:57:22,720

wrap with one up here in the front

1437

00:57:26,789 --> 00:57:24,559

before i ask my question i just like to

1438

00:57:28,549 --> 00:57:26,799

say it's a distinct honor pleasure and

1439

00:57:30,789 --> 00:57:28,559

privilege to be with true american

1440

00:57:35,670 --> 00:57:30,799

heroes especially on this day and i

1441

00:57:35,680 --> 00:57:39,270

thank you

1442

00:57:42,549 --> 00:57:40,549

my question

1443

00:57:44,630 --> 00:57:42,559

relates a little bit to jobs a little

1444

00:57:47,589 --> 00:57:44,640

bit more of politics

1445

00:57:49,510 --> 00:57:47,599

in the 60s you saw a rise in technology

1446

00:57:52,390 --> 00:57:49,520

that created jobs

1447

00:57:54,630 --> 00:57:52,400

we just saw a multi-gazillion dollar

1448

00:57:56,710 --> 00:57:54,640

stimulus package

1449

00:57:58,470 --> 00:57:56,720

if we were all as your emissaries going

1450

00:58:01,030 --> 00:57:58,480

to our local congress

1451
00:58:03,030 --> 00:58:01,040
people members of congress senators and

1452
00:58:05,030 --> 00:58:03,040
saying you got to put up a

1453
00:58:06,789 --> 00:58:05,040
program to mars you know why because

1454
00:58:10,470 --> 00:58:06,799
it's going to create jobs

1455
00:58:12,630 --> 00:58:10,480
not just to the mit phd's but to the

1456
00:58:14,630 --> 00:58:12,640
people with high school diplomas

1457
00:58:15,670 --> 00:58:14,640
technical school diplomas and things

1458
00:58:18,789 --> 00:58:15,680
like that

1459
00:58:20,789 --> 00:58:18,799
what kind of jobs can we tell them that

1460
00:58:22,710 --> 00:58:20,799
a mission to mars is going to create for

1461
00:58:23,829 --> 00:58:22,720
their constituents so they'll put a

1462
00:58:25,990 --> 00:58:23,839
check mark

1463
00:58:28,710 --> 00:58:26,000

in i don't believe you go out

1464

00:58:31,270 --> 00:58:28,720

and try to quote create

1465

00:58:33,910 --> 00:58:31,280

jobs if you make the right investment

1466

00:58:36,710 --> 00:58:33,920

the jobs come it comes from the bottom

1467

00:58:39,750 --> 00:58:36,720

up what you have to do for example in

1468

00:58:41,990 --> 00:58:39,760

our country today if you would make

1469

00:58:44,630 --> 00:58:42,000

things better for small businesses

1470

00:58:48,470 --> 00:58:44,640

especially and let the small businesses

1471

00:58:49,990 --> 00:58:48,480

create the jobs not not phony jobs

1472

00:58:51,510 --> 00:58:50,000

if you make the investment and their

1473

00:58:53,750 --> 00:58:51,520

business starts growing and you allow

1474

00:58:55,030 --> 00:58:53,760

the competition they will create the

1475

00:58:57,349 --> 00:58:55,040

jobs it's happened throughout our

1476
00:58:59,510 --> 00:58:57,359
history why are we throwing that away

1477
00:59:02,630 --> 00:58:59,520
now

1478
00:59:04,150 --> 00:59:02,640
like i said earlier uh that capital

1479
00:59:05,109 --> 00:59:04,160
investment

1480
00:59:07,990 --> 00:59:05,119
that

1481
00:59:09,349 --> 00:59:08,000
all companies make is we make in our and

1482
00:59:12,950 --> 00:59:09,359
our

1483
00:59:14,870 --> 00:59:12,960
space program will create the jobs uh

1484
00:59:16,950 --> 00:59:14,880
the contractors will say i need to hire

1485
00:59:19,510 --> 00:59:16,960
you you you and you and it can be from a

1486
00:59:22,309 --> 00:59:19,520
janitor to the lead engineer

1487
00:59:25,910 --> 00:59:22,319
and so everybody will benefit and so

1488
00:59:27,589 --> 00:59:25,920

those 400 like in apollo 400 000 people

1489

00:59:30,390 --> 00:59:27,599

the ancillary

1490

00:59:32,230 --> 00:59:30,400

benefit from all of that with the

1491

00:59:34,390 --> 00:59:32,240

suppliers and this and that and the

1492

00:59:37,030 --> 00:59:34,400

other and the little moms and pops and

1493

00:59:37,750 --> 00:59:37,040

mcdonald's and all of that they genera

1494

00:59:39,910 --> 00:59:37,760

they

1495

00:59:42,549 --> 00:59:39,920

benefited from all of that

1496

00:59:45,190 --> 00:59:42,559

the money was returned over and over and

1497

00:59:46,710 --> 00:59:45,200

over again and so those are the kind of

1498

00:59:49,030 --> 00:59:46,720

lasting jobs

1499

00:59:51,670 --> 00:59:49,040

that we we create

1500

00:59:53,190 --> 00:59:51,680

and then that technology somebody's

1501
00:59:55,750 --> 00:59:53,200
going to have a bright idea well i'm

1502
00:59:57,829 --> 00:59:55,760
going to make a camera phone i'll uh or

1503
01:00:00,470 --> 00:59:57,839
i'm going to do something and taking

1504
01:00:02,069 --> 01:00:00,480
that technology and we can't even dream

1505
01:00:03,670 --> 01:00:02,079
of some of the things

1506
01:00:09,589 --> 01:00:03,680
that

1507
01:00:11,910 --> 01:00:09,599
for us in the future and by far the

1508
01:00:15,030 --> 01:00:11,920
majority of those jobs were in the

1509
01:00:17,829 --> 01:00:15,040
private sector not in government

1510
01:00:20,309 --> 01:00:17,839
by far the majority and a tribute to

1511
01:00:23,349 --> 01:00:20,319
american industry

1512
01:00:26,069 --> 01:00:23,359
to american ingenuity

1513
01:00:30,789 --> 01:00:26,079

is that everyone who went to the moon

1514

01:00:37,829 --> 01:00:32,470

in

1515

01:00:41,109 --> 01:00:37,839

to the moon to

1516

01:00:42,950 --> 01:00:41,119

build a reusable craft

1517

01:00:45,990 --> 01:00:42,960

two parts of it we're gonna land on a

1518

01:00:47,990 --> 01:00:46,000

runway but we kind of mucked up that one

1519

01:00:50,309 --> 01:00:48,000

uh and and uh

1520

01:00:52,069 --> 01:00:50,319

a couple of parts land in the salt water

1521

01:00:53,430 --> 01:00:52,079

and are towed back the other part lands

1522

01:00:55,670 --> 01:00:53,440

on a runway

1523

01:00:59,829 --> 01:00:55,680

i think that was a good decision

1524

01:01:02,630 --> 01:00:59,839

and we've been 28 years now and once

1525

01:01:05,589 --> 01:01:02,640

the spacecraft returns and becomes

1526

01:01:08,309 --> 01:01:05,599

subsonic we have maneuvered to a

1527

01:01:10,789 --> 01:01:08,319

precision landing on a runway

1528

01:01:13,670 --> 01:01:10,799

do you want to see the next 20 years

1529

01:01:15,670 --> 01:01:13,680

back in the ocean like mercury gemini

1530

01:01:17,510 --> 01:01:15,680

and apollo

1531

01:01:19,750 --> 01:01:17,520

the cots program

1532

01:01:21,190 --> 01:01:19,760

is going to take cargo up and cargo down

1533

01:01:23,829 --> 01:01:21,200

then they're going to take people up and

1534

01:01:25,750 --> 01:01:23,839

people down i can guarantee you that

1535

01:01:28,069 --> 01:01:25,760

it's going to be the cheapest way

1536

01:01:30,390 --> 01:01:28,079

possible just like mercury was the

1537

01:01:32,549 --> 01:01:30,400

cheapest way possible in germany and

1538

01:01:35,270 --> 01:01:32,559

apollo you're going to see our

1539

01:01:37,750 --> 01:01:35,280

astronauts in the future after we retire

1540

01:01:40,950 --> 01:01:37,760

the orbiter landing in the ocean or in

1541

01:01:43,109 --> 01:01:40,960

the desert is that what you want to see

1542

01:01:44,309 --> 01:01:43,119

it's the private sector

1543

01:01:46,470 --> 01:01:44,319

is going to

1544

01:01:49,109 --> 01:01:46,480

make the investment in partnership with

1545

01:01:52,870 --> 01:01:49,119

nasa we have studied orbital space

1546

01:01:56,950 --> 01:01:52,880

planes we've studied hermes on an ariane

1547

01:01:59,190 --> 01:01:56,960

a hope vehicle on a japanese h2 rocket

1548

01:02:01,829 --> 01:01:59,200

the indians would love to leapfrog ahead

1549

01:02:03,029 --> 01:02:01,839

of the chinese who are committed to a

1550

01:02:05,430 --> 01:02:03,039

shenzhou

1551

01:02:08,549 --> 01:02:05,440

like like a soyuz

1552

01:02:10,870 --> 01:02:08,559

there's an opportunity for commercial

1553

01:02:12,710 --> 01:02:10,880

international

1554

01:02:15,349 --> 01:02:12,720

space

1555

01:02:17,510 --> 01:02:15,359

craft that lands on a runway that

1556

01:02:20,069 --> 01:02:17,520

follows the pattern of the shuttle but

1557

01:02:22,630 --> 01:02:20,079

it only takes six or eight people that's

1558

01:02:24,470 --> 01:02:22,640

the opening of adventure travel into

1559

01:02:26,630 --> 01:02:24,480

orbit we're going to wait for richard

1560

01:02:29,190 --> 01:02:26,640

branson to do that are we going to do

1561

01:02:31,670 --> 01:02:29,200

that in this country

1562

01:02:33,510 --> 01:02:31,680

you need private investors absolutely

1563

01:02:35,829 --> 01:02:33,520

you do that

1564

01:02:37,270 --> 01:02:35,839

we're all part of a government program

1565

01:02:37,990 --> 01:02:37,280

and i agree with you

1566

01:02:40,710 --> 01:02:38,000

that

1567

01:02:42,870 --> 01:02:40,720

the privatization of space will occur

1568

01:02:44,870 --> 01:02:42,880

but it's only when the people who are

1569

01:02:47,349 --> 01:02:44,880

involved in that see a return on their

1570

01:02:48,950 --> 01:02:47,359

investment and we have privatization and

1571

01:02:52,710 --> 01:02:48,960

communication satellites weather

1572

01:02:55,670 --> 01:02:52,720

satellites gps we and all that is is is

1573

01:02:57,990 --> 01:02:55,680

well done but until we get uh a

1574

01:03:00,150 --> 01:02:58,000

privatization of you know transportation

1575

01:03:01,670 --> 01:03:00,160

to the space station and back again and

1576

01:03:04,390 --> 01:03:01,680

we see that those people who are

1577

01:03:06,470 --> 01:03:04,400

involved and invested in it see a return

1578

01:03:08,309 --> 01:03:06,480

you're not going to get it

1579

01:03:10,549 --> 01:03:08,319

unfortunately we are out of time so we

1580

01:03:11,829 --> 01:03:10,559

are not going to take any more questions

1581

01:03:13,270 --> 01:03:11,839

that will conclude today's news

1582

01:03:15,349 --> 01:03:13,280

conference on the apollo 40th

1583

01:03:18,109 --> 01:03:15,359

anniversary more information on apollo