



1  
00:00:16,516 --> 00:00:17,217  
>> THAT WAS AWESOME!

2  
00:00:17,217 --> 00:00:21,254  
JUST LIKE BEING IN NASCAR.

3  
00:00:21,254 --> 00:00:22,589  
>> Beth: MARTY, YOU HAVE TO GO

4  
00:00:22,589 --> 00:00:23,490  
FASTER TO GET THE NASCAR

5  
00:00:23,490 --> 00:00:25,825  
EXPERIENCE TO FEEL THE

6  
00:00:25,825 --> 00:00:27,927  
DOWNFORCE, DRAFT AND DRAG.

7  
00:00:27,927 --> 00:00:30,563  
>> THESE AREA DYNAMIC, THESE ARE

8  
00:00:30,563 --> 00:00:31,664  
RACE CARS.

9  
00:00:31,664 --> 00:00:35,535  
>> UF TO KEEP THE THREE D'S IN

10  
00:00:35,535 --> 00:00:35,869  
MIND.

11  
00:00:35,869 --> 00:00:38,371  
>> Marty: DO WE HAVE TIME TO

12  
00:00:38,371 --> 00:00:39,739  
RACE AGAIN?

13  
00:00:39,739 --> 00:00:41,107

>> Beth: WE SURE DO.

14

00:00:41,107 --> 00:00:46,980  
THIS IS "STEM IN 30".

15

00:00:46,980 --> 00:01:04,597  
■ [ MUSIC ] ■■

16

00:01:05,064 --> 00:01:23,750  
>> THIS IS "STEM IN 30".

17

00:01:24,083 --> 00:01:25,351  
>> Beth: I MEAN BETH WILSON.

18

00:01:25,351 --> 00:01:26,453  
>> Marty: I'M MARTY KELSEY.

19

00:01:26,453 --> 00:01:27,620  
>> Beth: WE'RE COMING LIVE FROM

20

00:01:27,620 --> 00:01:29,456  
THE NASCAR HALL OF FAME IN

21

00:01:29,456 --> 00:01:30,390  
CHARLOTTE, NORTH CAROLINA.

22

00:01:30,390 --> 00:01:32,025  
>> Marty: WE'RE STANDING ON

23

00:01:32,025 --> 00:01:33,293  
GLORY ROAD AND THE TRACK IS

24

00:01:33,293 --> 00:01:35,562  
BANKED AT 33 DEGREES HERE JUST

25

00:01:35,562 --> 00:01:38,231  
LIKE IN TALLADEGA.

26

00:01:38,231 --> 00:01:40,266

GLORY ROAD IS A SNAPSHOT OF

27

00:01:40,266 --> 00:01:41,301

NASCAR HISTORY.

28

00:01:41,301 --> 00:01:42,335

>> Beth: HERE YOU CAN SEE CARS

29

00:01:42,335 --> 00:01:44,737

THAT HAVE BEEN DRIVEN BY KYLE

30

00:01:44,737 --> 00:01:47,540

BUSCH, JIMMIE JOHNSON AND JEFF

31

00:01:47,540 --> 00:01:47,874

GORDON.

32

00:01:47,874 --> 00:01:49,843

>> Marty: AND THE NUMBER

33

00:01:49,843 --> 00:01:53,246

THREE-CAR DRIVEN BY DALE

34

00:01:53,246 --> 00:01:53,646

EARNHARDT.

35

00:01:53,646 --> 00:01:54,681

>> Beth: THESE CARS CHANGE SO

36

00:01:54,681 --> 00:01:57,283

YOU NEVER NOAH YOU'LL SEE ON

37

00:01:57,283 --> 00:01:58,251

GLORY ROAD AT THE NASCAR HALL OF

38

00:01:58,251 --> 00:01:58,551

FAME.

39

00:01:58,551 --> 00:02:00,453

WE WANT TO REMIND ALL OF YOU

40

00:02:00,453 --> 00:02:02,121

WATCHING ON LINE THAT YOU CAN

41

00:02:02,121 --> 00:02:03,857

SUBMIT QUESTIONS LIVE AND WE MAY

42

00:02:03,857 --> 00:02:05,825

TAKE THEM ON THE AIR.

43

00:02:05,825 --> 00:02:06,726

>> Marty: WE HAVE GREAT STUDENTS

44

00:02:06,726 --> 00:02:12,065

FROM CANNON SCHOOL JOINING US

45

00:02:12,065 --> 00:02:12,632

TODAY.

46

00:02:12,632 --> 00:02:12,932

WHOO.

47

00:02:12,932 --> 00:02:14,968

>> Marty: HERE REVVED UP AND

48

00:02:14,968 --> 00:02:15,969

READY TO GO AND HAVE GREAT

49

00:02:15,969 --> 00:02:18,204

QUESTIONS FOR OUR EXPERTS.

50

00:02:18,204 --> 00:02:19,172

>> Beth: BEFORE WE GET STARTED

51  
00:02:19,172 --> 00:02:22,475  
LET'S TAKE A QUICK TOUR OF THE

52  
00:02:22,475 --> 00:02:29,182  
NASCAR HALL OF FAME.

53  
00:02:29,182 --> 00:02:30,583  
>>> I'M SCALISE SCALISE.

54  
00:02:30,583 --> 00:02:32,051  
THE NASCAR HALL OF FAME HOPED IN

55  
00:02:32,051 --> 00:02:38,358  
SWING OF 2010 AS PLACE OF

56  
00:02:38,358 --> 00:02:39,092  
CONVERSING.

57  
00:02:39,092 --> 00:02:40,560  
40 LEGENDARY FIGURES FROM

58  
00:02:40,560 --> 00:02:42,161  
DRIVERS AND TEAM OWNERS AND CREW

59  
00:02:42,161 --> 00:02:43,963  
CHIEF HAVE BEEN INDUCTED INTO

60  
00:02:43,963 --> 00:02:44,731  
THE HALL OF FAME.

61  
00:02:44,731 --> 00:02:46,432  
WE'RE PROUD TO SHARE THEIR

62  
00:02:46,432 --> 00:02:47,400  
STORIES WITH FANS FROM ALL OVER

63  
00:02:47,400 --> 00:02:48,067

THE WORLD.

64

00:02:48,067 --> 00:02:54,807  
>> OUR STATE-OF-THE-ART FACILITY

65

00:02:54,807 --> 00:02:56,075  
FEATURES EXHIBITS LIKE VISITORS

66

00:02:56,075 --> 00:02:58,177  
CHANGING A TIRE AND FILLING GAS

67

00:02:58,177 --> 00:02:59,479  
AS FAST AS THEY CAN.

68

00:02:59,479 --> 00:03:01,881  
OUR RACING STIMULATOR THAT PUTS

69

00:03:01,881 --> 00:03:02,949  
GUESTS BEHIND THE WHEEL OF A

70

00:03:02,949 --> 00:03:04,117  
RACE CAR.

71

00:03:04,117 --> 00:03:07,387  
OUR HUGE HIGH OCTANE FEEDER

72

00:03:07,387 --> 00:03:09,455  
FEATURES A CURVE SCREEN,

73

00:03:09,455 --> 00:03:11,124  
SURROUND SOUND AND AUDIO MAKING

74

00:03:11,124 --> 00:03:12,759  
IT GREAT TO WATCH A RACE.

75

00:03:12,759 --> 00:03:15,261  
POSING FOR A PICTURE IN FRONT OF

76

00:03:15,261 --> 00:03:16,462

GLORY ROAD IS A MUST.

77

00:03:16,462 --> 00:03:20,633

THE TRACK INCREASES FROM ZERO TO

78

00:03:20,633 --> 00:03:23,102

33 IT DEGREES, WITH TRACKS

79

00:03:23,102 --> 00:03:24,170

REPRESENTED FROM AROUND THE

80

00:03:24,170 --> 00:03:26,940

NATION AND 18 CARS.

81

00:03:26,940 --> 00:03:31,010

THE HALL OF HONOR, THE RECENT

82

00:03:31,010 --> 00:03:33,179

HALL OF FAME CLASS REPRESENTED

83

00:03:33,179 --> 00:03:34,414

THROUGH VIDEOS AND ARTIFACTS

84

00:03:34,414 --> 00:03:36,482

THAT PAINT THE PICTURE OF THEIR

85

00:03:36,482 --> 00:03:36,849

CAREERS.

86

00:03:36,849 --> 00:03:44,090

WE'RE PROUD TO OFFER FUN,

87

00:03:44,090 --> 00:03:44,891

EDUCATIONAL OPPORTUNITIES:

88

00:03:44,891 --> 00:03:46,759

THERE'S SOMETHING FOR EVERYONE.

89

00:03:46,759 --> 00:03:48,561

WHETHER YOU FOLLOW A FAVORITE

90

00:03:48,561 --> 00:03:52,231

DRIVER FOR DECADES OR WITNESSED

91

00:03:52,231 --> 00:03:54,467

A RACE, WE ENCOURAGE YOU TO

92

00:03:54,467 --> 00:03:58,071

EXPERIENCE ALL THE HALL HAS TO

93

00:03:58,071 --> 00:03:58,838

OFFER.

94

00:03:58,838 --> 00:04:02,108

>> Beth: I'M JOINED BY KURT

95

00:04:02,108 --> 00:04:02,809

ROMBERG, CHIEF AERODYNAMICIST,

96

00:04:02,809 --> 00:04:03,543

ROUSH FENWAY RACING, THANK YOU

97

00:04:03,543 --> 00:04:04,978

SO MUCH FOR BEING HERE.

98

00:04:04,978 --> 00:04:06,279

>> MY PLEASURE.

99

00:04:06,279 --> 00:04:09,482

>> WHAT IS AN AERODYNAMICIST?

100

00:04:09,482 --> 00:04:11,417

>> IT'S AN ENGINEER, I'M

101  
00:04:11,417 --> 00:04:14,420  
SCHOOLED AS AN ENGINEER AND WORK

102  
00:04:14,420 --> 00:04:16,656  
AT ROUCHE FENWAY TO MAKE THE

103  
00:04:16,656 --> 00:04:18,524  
RACE CARS GO FASTER.

104  
00:04:18,524 --> 00:04:20,793  
WE CAN DESIGN THE CARS AND SHAPE

105  
00:04:20,793 --> 00:04:23,296  
THE CARS SO WHEN AIR GOES OVER

106  
00:04:23,296 --> 00:04:25,198  
THEM IT PUSHES DOWN ON THE CAR.

107  
00:04:25,198 --> 00:04:26,532  
WHAT THAT DOES IS GIVES THE

108  
00:04:26,532 --> 00:04:27,467  
TIRES MORE GRIP.

109  
00:04:27,467 --> 00:04:29,068  
WHEN TIRES HAVE MORE GRIP IT

110  
00:04:29,068 --> 00:04:30,637  
ALLOWS THE DRIVERS TO GO AROUND

111  
00:04:30,637 --> 00:04:32,071  
THE RACETRACK FASTER.

112  
00:04:32,071 --> 00:04:34,507  
WE'RE TRYING TO SHAPE THE CARS

113  
00:04:34,507 --> 00:04:36,609

SUCH THAT WE GIVE THE CAR MORE

114

00:04:36,609 --> 00:04:36,943

GRIP.

115

00:04:36,943 --> 00:04:41,114

>> Beth: YOU USE ONE OF THESE,

116

00:04:41,114 --> 00:04:41,781

IS THAT CORRECT?

117

00:04:41,781 --> 00:04:44,651

>> YES, WE DO, THIS IS A SCALE

118

00:04:44,651 --> 00:04:46,853

WIND TUNNEL AND THIS IS THE TEST

119

00:04:46,853 --> 00:04:49,889

ARTICLE IN THE WIND TUNNEL

120

00:04:49,889 --> 00:04:50,456

PROPER.

121

00:04:50,456 --> 00:04:52,258

IN A MINUTE WE'LL FIRE THIS UP

122

00:04:52,258 --> 00:04:53,259

SO YOU CAN SEE.

123

00:04:53,259 --> 00:04:55,094

WE'VE GOT STREAMERS TAPED TO THE

124

00:04:55,094 --> 00:04:56,596

SIDE SO YOU CAN SEE WHAT THE AIR

125

00:04:56,596 --> 00:04:59,132

DOES AS IT GOES OVER THE CAR.

126

00:04:59,132 --> 00:05:02,769

>> Beth: LET'S HAVE CHLOE PUSH

127

00:05:02,769 --> 00:05:06,072

DOWN ON THE BACK AND TALK ABOUT

128

00:05:06,072 --> 00:05:07,774

WHAT'S GOING ON.

129

00:05:07,774 --> 00:05:09,776

>> WE'RE MEASURING DOWN FORCE AT

130

00:05:09,776 --> 00:05:13,312

THE FRONT AXLE AND HE REAR AXLE.

131

00:05:13,312 --> 00:05:16,015

UNDERNEATH EACH AXLE WE HAVE A

132

00:05:16,015 --> 00:05:18,751

METERED, MUCH LIKE A BATHROOM

133

00:05:18,751 --> 00:05:20,153

SCALE AT HOMES.

134

00:05:20,153 --> 00:05:22,088

IT MEASURES HOW MUCH FORCE IS

135

00:05:22,088 --> 00:05:23,656

PUSHING DOWN.

136

00:05:23,656 --> 00:05:25,324

AS KHLOE PUSHES DOWN, THIS GOES

137

00:05:25,324 --> 00:05:25,692

UP.

138

00:05:25,692 --> 00:05:28,227

IF SHE HAD LONG ARMS SHE COULD

139

00:05:28,227 --> 00:05:30,229

PUSH DOWN ON THE FRONT AND THIS

140

00:05:30,229 --> 00:05:31,898

METER WOULD GO UP TOO.

141

00:05:31,898 --> 00:05:33,866

WHEN TUNING CARS, WE WANT TO

142

00:05:33,866 --> 00:05:35,268

KNOW HOW MUCH DOWN FORCE ON THE

143

00:05:35,268 --> 00:05:36,536

FRONT AND HOW MUCH IT PUSHING

144

00:05:36,536 --> 00:05:38,337

DOWN ON THE BACK.

145

00:05:38,337 --> 00:05:40,306

>> Beth: SHOW US HOW THE WIND

146

00:05:40,306 --> 00:05:43,409

TUNNEL WORKS.

147

00:05:43,409 --> 00:05:44,610

>> WE'RE GOING TO HAVE GRAHAM

148

00:05:44,610 --> 00:05:47,580

FIRE UP THE FAN AND IT BLOWS AIR

149

00:05:47,580 --> 00:05:48,381

OVER THE CAR.

150

00:05:48,381 --> 00:05:51,617

YOU CAN WATCH THESE NUMBERS

151  
00:05:51,617 --> 00:05:51,951  
CHANGE.

152  
00:05:51,951 --> 00:05:53,219  
YOU CAN SEE THE NUMBERS ARE

153  
00:05:53,219 --> 00:05:54,520  
ACTUALLY GOING UP BECAUSE THE

154  
00:05:54,520 --> 00:05:57,023  
AIR IS PUSHING DOWN ON THE CAR.

155  
00:05:57,023 --> 00:05:58,925  
OVER ON THIS SIDE ON REAR DOWN

156  
00:05:58,925 --> 00:06:00,727  
FORCE, YOU CAN SEE THERE'S ABOUT

157  
00:06:00,727 --> 00:06:04,130  
A LITTLE OVER .7 POUNDS OF DOWN

158  
00:06:04,130 --> 00:06:05,665  
FORCE THE AIR IS CREATING ON THE

159  
00:06:05,665 --> 00:06:06,399  
BACK OF THE CAR.

160  
00:06:06,399 --> 00:06:07,934  
AT THE FRONT, YOU CAN SEE

161  
00:06:07,934 --> 00:06:11,637  
THERE'S A LITTLE OVER .2, CHLOE

162  
00:06:11,637 --> 00:06:13,706  
IS GOING TO HELP US BECAUSE

163  
00:06:13,706 --> 00:06:16,075

WE'RE GOING TO CHANGE THE SHAPE

164

00:06:16,075 --> 00:06:18,144

TO MAKE MORE REAR DOWN FORCE,

165

00:06:18,144 --> 00:06:19,812

WE'LL ADD A LARGER SPOILER TO

166

00:06:19,812 --> 00:06:24,150

THE BACK OF THE CAR.

167

00:06:24,150 --> 00:06:25,752

AND YOU CAN SEE THE REAR DOWN

168

00:06:25,752 --> 00:06:28,221

FORCE THAT USED TO BE ABOUT .7

169

00:06:28,221 --> 00:06:33,126

IS NOW UP IN THE 1.1, ALMOST 1.2

170

00:06:33,126 --> 00:06:33,459

RANGE.

171

00:06:33,459 --> 00:06:35,695

WE INCREASED THE REAR DOWN FORCE

172

00:06:35,695 --> 00:06:38,698

WHICH MAKES THE REAR TIRES GRIP

173

00:06:38,698 --> 00:06:40,600

THE RACETRACK AND ALLOW THE CAR

174

00:06:40,600 --> 00:06:42,301

TO GO FASTER.

175

00:06:42,301 --> 00:06:43,636

>> Beth: DOWN FORCE IS ALL ABOUT

176  
00:06:43,636 --> 00:06:44,737  
GOING FASTER.

177  
00:06:44,737 --> 00:06:46,005  
>> YES.

178  
00:06:46,005 --> 00:06:49,375  
>> RECENTLY WE GOT CHANCE TO

179  
00:06:49,375 --> 00:06:53,412  
TALK TO JACOB WALLACE, NASCAR

180  
00:06:53,412 --> 00:06:54,380  
K&N SERIES DRIVER.

181  
00:06:54,380 --> 00:06:57,583  
HE TALKED ABOUT HOW DOWN FORCE

182  
00:06:57,583 --> 00:07:00,987  
EFFECTS HIM ON THE TRACK.

183  
00:07:00,987 --> 00:07:02,421  
>> DOWN FORCE AFFECTS DRIVING

184  
00:07:02,421 --> 00:07:03,890  
CONDITIONS ON DIFFERENT TRACKS,

185  
00:07:03,890 --> 00:07:05,024  
DEPENDING ON THE SIZE.

186  
00:07:05,024 --> 00:07:06,926  
ON A SMALL TRACK WHERE YOU HAVE

187  
00:07:06,926 --> 00:07:11,430  
VERY TIGHT CORNERS, YOUR

188  
00:07:11,430 --> 00:07:13,032

STRAIGHT' WAYS AREN'T AS LONG SO

189

00:07:13,032 --> 00:07:14,467

YOU DON'T FEEL THE SPEED AS YOU

190

00:07:14,467 --> 00:07:15,935

WOULD ON A BIGGER TRACK.

191

00:07:15,935 --> 00:07:17,637

THE CORNERS, WHERE YOU'RE

192

00:07:17,637 --> 00:07:19,472

PRODUCING A LOT OF DOWN FORCE

193

00:07:19,472 --> 00:07:21,407

AND SIDE FORCE, YOU GET PUSHED

194

00:07:21,407 --> 00:07:23,042

DOWN INTO YOUR SEAT WHEN

195

00:07:23,042 --> 00:07:23,409

CORNERING.

196

00:07:23,409 --> 00:07:26,245

ON A BIGGER TRACK, SAY GOING

197

00:07:26,245 --> 00:07:28,381

DOWN THE STRAIGHT AWAY, YOU

198

00:07:28,381 --> 00:07:30,983

DON'T FEEL THAT FORCE PUSHING

199

00:07:30,983 --> 00:07:32,351

INTO YOU.

200

00:07:32,351 --> 00:07:34,987

WHAT YOU DO FEEL IS THE CAR --

201  
00:07:34,987 --> 00:07:36,923  
IT'S ALMOST LIKE A DELAY TO THE

202  
00:07:36,923 --> 00:07:37,223  
LEFT.

203  
00:07:37,223 --> 00:07:38,724  
YOU HAVE MORE AIR THAT'S RUSHING

204  
00:07:38,724 --> 00:07:41,761  
OVER THE CAR AND UNDER THE CAR

205  
00:07:41,761 --> 00:07:44,096  
AND IDEALLY YOU WANT YOUR CAR

206  
00:07:44,096 --> 00:07:45,932  
PUSHED DOWN AS MUCH INTO THE

207  
00:07:45,932 --> 00:07:47,066  
TRACK BUT THERE'S GOING TO BE

208  
00:07:47,066 --> 00:07:49,202  
AIR COMING UNDER THE CAR AS

209  
00:07:49,202 --> 00:07:49,502  
WELL.

210  
00:07:49,502 --> 00:07:51,771  
THAT STARTS TO LIFT THE CAR UP

211  
00:07:51,771 --> 00:07:53,172  
DOWN FORCE HELPS DELIVER SPEED

212  
00:07:53,172 --> 00:07:54,941  
AND SPEED IS GOOD.

213  
00:07:54,941 --> 00:07:57,176

ALONG WITH DOWN FORCE COMES

214

00:08:02,114 --> 00:07:57,476

DRAG.

215

00:08:02,114 --> 00:08:04,183

>> I'VE GOT TO FRIEND THAT WILL

216

00:08:04,183 --> 00:08:05,952

HELP ME, CHASE, WAY UP AT THE

217

00:08:05,952 --> 00:08:07,620

TOP OF GLORY ROAD.

218

00:08:07,620 --> 00:08:09,255

I SAW CHASE WALK IN AND I WAS

219

00:08:09,255 --> 00:08:11,490

LIKE, THERE IS A FAST DUDE.

220

00:08:11,490 --> 00:08:12,992

AND HE'S SO FAST THAT HE'S GOING

221

00:08:12,992 --> 00:08:14,093

TO RUN FOR US.

222

00:08:14,093 --> 00:08:15,761

BUT WE DECIDED WE PROBABLY

223

00:08:15,761 --> 00:08:17,597

NEEDED TO SLOW HIM DOWN A LITTLE

224

00:08:17,597 --> 00:08:20,032

BIT SO WE ATTACHED A PARACHUTE

225

00:08:20,032 --> 00:08:21,033

TO HIS BACK.

226

00:08:21,033 --> 00:08:22,668

NICK IS HELPING HIM.

227

00:08:22,668 --> 00:08:24,337

HE'S LIKE THE PIT CREW.

228

00:08:24,337 --> 00:08:25,938

I'M GOING TO TELL CHASE TO GO

229

00:08:25,938 --> 00:08:27,840

AND HE'S GOING TO RUN AS FAST AS

230

00:08:27,840 --> 00:08:29,308

HE CAN AND WE'RE GOING TO SEE

231

00:08:29,308 --> 00:08:31,711

WHAT HAPPENS WITH THE PARACHUTE.

232

00:08:31,711 --> 00:08:34,280

CHASE, ARE YOU READY?

233

00:08:34,280 --> 00:08:36,616

ON YOUR MARK, GET SET, GO!

234

00:08:36,616 --> 00:08:38,184

HERE HE COMES.

235

00:08:38,184 --> 00:08:39,752

HE'S GIVING IT SOME GAS.

236

00:08:39,752 --> 00:08:43,055

COME ON AROUND THE CURVE.

237

00:08:43,055 --> 00:08:44,857

ALL RIGHT, NICE JOB.

238

00:08:44,857 --> 00:08:46,859

COME ON BACK, CHASE.

239

00:08:46,859 --> 00:08:48,861

THAT WAS REALLY GOOD.

240

00:08:48,861 --> 00:08:50,129

HOW DID THAT FEEL?

241

00:08:50,129 --> 00:08:51,063

>> IT WAS TOUGH WITH THE

242

00:08:51,063 --> 00:08:51,831

PARACHUTE ON.

243

00:08:51,831 --> 00:08:52,331

>> WHY?

244

00:08:52,331 --> 00:08:53,799

>> BECAUSE THE FORCE OF THE AIR

245

00:08:53,799 --> 00:08:56,936

IN THE PARACHUTE SLOWED ME DOWN.

246

00:08:56,936 --> 00:08:58,638

>> YOU'VE RUN WITH A PARACHUTE

247

00:08:58,638 --> 00:08:59,639

BEFORE?

248

00:08:59,639 --> 00:09:00,039

>> YES.

249

00:09:00,039 --> 00:09:00,606

>> FOR TRAINING.

250

00:09:00,606 --> 00:09:01,974

>> BECAUSE YOU'RE A RUNNER.

251

00:09:01,974 --> 00:09:02,375

>> YES.

252

00:09:02,375 --> 00:09:04,610

>> KURT AND BETH, WHY IS THAT SO

253

00:09:04,610 --> 00:09:07,346

MUCH HARDER TO RUN WITH A

254

00:09:07,346 --> 00:09:09,849

PARACHUTE?

255

00:09:09,849 --> 00:09:10,349

>> Beth: WHY?

256

00:09:10,349 --> 00:09:11,217

>> Marty: LIKE JACOB SAID, DRAG

257

00:09:11,217 --> 00:09:11,617

IS DRAG.

258

00:09:11,617 --> 00:09:13,019

YOU COULD SEE THROUGH CHASE THAT

259

00:09:13,019 --> 00:09:14,453

THAT PARACHUTE WAS PULLING HIM

260

00:09:14,453 --> 00:09:17,490

BACK AND THE FORCES PULLING HIM

261

00:09:17,490 --> 00:09:19,692

BACK IS AERODYNAMIC DRAMATIC.

262

00:09:19,692 --> 00:09:22,161

WE ADDED DRAG TO CHASE, WHICH IS

263

00:09:22,161 --> 00:09:23,796

THE OPPOSITE-OF-WHAT WE WANT TO

264

00:09:23,796 --> 00:09:25,131

DO TO THE RACE CARS.

265

00:09:25,131 --> 00:09:26,999

THE RACE CARS HAVE MOTORS THAT

266

00:09:26,999 --> 00:09:28,868

PRODUCE HORSEPOWER AND THAT

267

00:09:28,868 --> 00:09:33,172

HORSEPOWER IS USED TO OVERCOME

268

00:09:33,172 --> 00:09:35,341

THE AERODYNAMIC DRAG.

269

00:09:35,341 --> 00:09:37,143

IF UF 300 POUNDS, YOU HAVE TO

270

00:09:37,143 --> 00:09:39,779

HAVE MORE THAN 300 POUNDS GOING

271

00:09:39,779 --> 00:09:42,148

FORWARD CREATED BY THE THE

272

00:09:42,148 --> 00:09:42,715

ENGINE.

273

00:09:42,715 --> 00:09:45,918

IF WE MINIMIZE THE DRAG WE MAKE

274

00:09:45,918 --> 00:09:47,053

THE CARGO FASTER.

275

00:09:47,053 --> 00:09:48,554

>> Beth: IS THAT WHY WE DON'T

276

00:09:48,554 --> 00:09:53,326

HAVE SIDE VIEW MIRRORS AND

277

00:09:53,326 --> 00:09:54,060

HEADLIGHTS.

278

00:09:54,060 --> 00:09:54,527

>> EXACTLY.

279

00:09:54,527 --> 00:09:56,429

IF YOU LOOK ON YOUR MOM AND

280

00:09:56,429 --> 00:09:59,365

DAD'S CARS, YOU SEE SIDE VIEW

281

00:09:59,365 --> 00:10:00,866

MIRRORS, HEADLIGHTS RIGHT HERE,

282

00:10:00,866 --> 00:10:01,968

DOOR HANDLES IN HERE.

283

00:10:01,968 --> 00:10:03,669

THE RACE CARS DON'T HAVE THOSE.

284

00:10:03,669 --> 00:10:06,572

BUT FOR ONE REASON, IT'S TO

285

00:10:06,572 --> 00:10:08,274

REDUCE THE AERODYNAMIC DRAG.

286

00:10:08,274 --> 00:10:09,575

THERE'S A LOT OF THINGS ON THE

287

00:10:09,575 --> 00:10:12,545

CARS WE TAKE OFF SO IN CASE OF

288

00:10:12,545 --> 00:10:15,448

AN ACCIDENT, THOSE PARTS DON'T

289

00:10:15,448 --> 00:10:16,382

FLY INTO THE OTHER CARS.

290

00:10:16,382 --> 00:10:19,352

IN THIS CASE WE'RE LOOKING AT

291

00:10:19,352 --> 00:10:22,621

AERODYNAMIC DRAG AND REDUCING IT

292

00:10:22,621 --> 00:10:24,290

TO GO FASTER.

293

00:10:24,290 --> 00:10:26,525

>> Beth: NASCAR NEEDS TO REDUCE

294

00:10:26,525 --> 00:10:29,295

DRAG BUT NASA HAS TO THINK ABOUT

295

00:10:29,295 --> 00:10:29,662

DRAGS.

296

00:10:29,662 --> 00:10:31,664

IT OVER COMES DRAG TO GET OFF

297

00:10:31,664 --> 00:10:35,167

THE PLANET BUT USES TO LAND ON

298

00:10:35,167 --> 00:10:36,135

ANOTHER PLANET.

299

00:10:36,135 --> 00:10:41,607

RECENTLY WE TALKED TO NASA

300

00:10:41,607 --> 00:10:43,075

SCIENTIST RICK DAVIS.

301  
00:10:43,075 --> 00:10:45,578  
>> HOW DOES DRAG AFFECT ROCKETS?

302  
00:10:45,578 --> 00:10:47,413  
IT'S ACTUALLY INCREDIBLY

303  
00:10:47,413 --> 00:10:48,247  
IMPORTANT TO DEAL WITH.

304  
00:10:48,247 --> 00:10:49,448  
IF YOU THINK ABOUT WHEN YOU

305  
00:10:49,448 --> 00:10:52,318  
DRIVE AROUND IN YOUR CAR AND YOU

306  
00:10:52,318 --> 00:10:54,153  
STICK YOUR HAND OUT THE WINDOW

307  
00:10:54,153 --> 00:10:58,057  
AND PRESENT A FLAT SURFACE,

308  
00:10:58,057 --> 00:10:59,525  
THAT'S THE FORCE OF DRAG.

309  
00:10:59,525 --> 00:11:02,795  
WITH ROCKETS WE SPEND -- THIS IS

310  
00:11:02,795 --> 00:11:04,930  
VERY SLEEK AND SPINDLE.

311  
00:11:04,930 --> 00:11:07,266  
THE TOP, THE FIRST PART HITTING

312  
00:11:07,266 --> 00:11:09,969  
THE AIR IS LITERALLY EASING THE

313  
00:11:09,969 --> 00:11:12,271

AIR AROUND HERE SO IT'S NOT A

314

00:11:12,271 --> 00:11:14,673

BIG, FLAT SURFACE HITTING THE

315

00:11:14,673 --> 00:11:16,075

AIR STRAIGHT ON.

316

00:11:16,075 --> 00:11:17,543

THAT'S CRUCIAL FOR ALLOWING US

317

00:11:17,543 --> 00:11:19,078

TO SUCCESSFULLY GET INTO SPACE.

318

00:11:19,078 --> 00:11:21,280

THERE ARE A COUPLE WAYS WE USE

319

00:11:21,280 --> 00:11:21,580

DRAG.

320

00:11:21,580 --> 00:11:24,150

I'M GOING TO TALK ABOUT LANDING

321

00:11:24,150 --> 00:11:25,751

ON MARS.

322

00:11:25,751 --> 00:11:28,287

WHEN WE APPROACH MARS WE'RE

323

00:11:28,287 --> 00:11:29,655

GOING 13,000 MILES AN HOUR,

324

00:11:29,655 --> 00:11:30,022

SCREAMING.

325

00:11:30,022 --> 00:11:31,624

WE HAVE TO SLOW THAT SPACECRAFT

326

00:11:31,624 --> 00:11:34,226  
FROM THAT SPEED TO ZERO.

327

00:11:34,226 --> 00:11:35,628  
AND SO THERE ARE ESSENTIALLY

328

00:11:35,628 --> 00:11:37,630  
THREE WAYS THAT WE CURRENTLY USE

329

00:11:37,630 --> 00:11:39,565  
DRAG TO MAKE THAT POSSIBLE.

330

00:11:39,565 --> 00:11:41,267  
FIRST OF ALL, WHEN WE COME INTO

331

00:11:41,267 --> 00:11:42,668  
THE ATMOSPHERE SOMETIMES WE CAN

332

00:11:42,668 --> 00:11:44,603  
EVEN GO DIPPING INTO THE

333

00:11:44,603 --> 00:11:45,504  
ATMOSPHERE SEVERAL TIMES AND

334

00:11:45,504 --> 00:11:47,606  
EVERY TIME WE PASS THROUGH THE

335

00:11:47,606 --> 00:11:49,375  
ATMOSPHERE, IT'S AMAZING, IT

336

00:11:49,375 --> 00:11:51,677  
HELPS SLOW THE SPACECRAFT DOWN.

337

00:11:51,677 --> 00:11:53,479  
FINALLY WHEN WE'RE READY TO

338

00:11:53,479 --> 00:11:57,283

LAND, THE NEXT THING WE DO IS

339

00:11:57,283 --> 00:11:59,685

WE -- THESE -- TYPICALLY WE HAVE

340

00:11:59,685 --> 00:12:01,821

A CAPSULELIKE STRUCTURE WITH A

341

00:12:01,821 --> 00:12:03,322

BOTTOM SIDE WHICH IS A SHIELD.

342

00:12:03,322 --> 00:12:05,891

THE SHIELD IS DESIGNED TO BE

343

00:12:05,891 --> 00:12:06,425

BURNT.

344

00:12:06,425 --> 00:12:07,927

AND WHEN IT IS COMING DOWN

345

00:12:07,927 --> 00:12:10,196

THROUGH THE ATMOSPHERE, AND THAT

346

00:12:10,196 --> 00:12:11,530

ENERGY -- THE ENERGY COMING ON

347

00:12:11,530 --> 00:12:13,666

TO THIS WILL SLOW IT DOWN AND

348

00:12:13,666 --> 00:12:15,634

IT'S -- IT GETS ITS SPEED

349

00:12:15,634 --> 00:12:16,836

COMPLETELY UNDER CONTROL.

350

00:12:16,836 --> 00:12:18,537

THAT IS NOT THE ONLY THING WE

351

00:12:18,537 --> 00:12:19,705

USE DRAG FOR, THOUGH.

352

00:12:19,705 --> 00:12:21,440

THE NEXT THING WE DO IS WHEN WE

353

00:12:21,440 --> 00:12:23,709

GET THIS THING SLOW ENOUGH WE

354

00:12:23,709 --> 00:12:27,880

RELEASE THESE ENORMOUS CHUTES,

355

00:12:27,880 --> 00:12:30,049

PARACHUTES, THAT HELP SLOW IT

356

00:12:30,049 --> 00:12:31,684

DOWN AND GENTLE DROP IT ON THE

357

00:12:31,684 --> 00:12:32,017

SURFACE.

358

00:12:32,017 --> 00:12:35,855

ALL THOSE THINGS ARE USING DRAG

359

00:12:35,855 --> 00:12:37,690

FUNDAMENTALLY TO ALLOW US TO DO

360

00:12:37,690 --> 00:12:38,924

SOMETHING COOL LIKE LAND ON

361

00:12:38,924 --> 00:12:42,628

ANOTHER PLANET.

362

00:12:42,628 --> 00:12:43,929

>> Beth: KURT, SHOULD WE TAKE

363

00:12:43,929 --> 00:12:45,064

QUESTIONS?

364

00:12:45,064 --> 00:12:45,464

>> SURE.

365

00:12:45,464 --> 00:12:46,899

>> Beth: LET'S START WITH A

366

00:12:46,899 --> 00:12:47,466

VIDEO QUESTION.

367

00:12:47,466 --> 00:12:50,169

>> I'M ELLA AND I'M WONDERING

368

00:12:50,169 --> 00:12:51,437

HOW MANY MEMBERS ARE ON A PIT

369

00:12:51,437 --> 00:12:53,906

CREW AND WHAT ARE THEIR ROLES?

370

00:12:53,906 --> 00:12:54,707

>> GOOD QUESTION.

371

00:12:54,707 --> 00:12:56,308

HOW MANY MEMBERS ARE ON A PIT

372

00:12:56,308 --> 00:12:56,609

CREW?

373

00:12:56,609 --> 00:12:59,178

WHAT WE HAVE IS WE'VE GOT SEVEN

374

00:12:59,178 --> 00:13:01,380

MEMBERS GOING OVER THE WALL.

375

00:13:01,380 --> 00:13:03,015

THERE'S A SHORT WALL ON PIT

376  
00:13:03,015 --> 00:13:03,315  
ROAD.

377  
00:13:03,315 --> 00:13:05,317  
WHEN THE CAR COMES IN, SEVEN

378  
00:13:05,317 --> 00:13:07,019  
CARS GO OVER THE WALL.

379  
00:13:07,019 --> 00:13:09,155  
A REAR TIRE CHANGER AND REAR

380  
00:13:09,155 --> 00:13:11,390  
TIRE CARRIER, A FRONT TIRE

381  
00:13:11,390 --> 00:13:13,092  
CHANGER AND FRONT TIRE CARRIER

382  
00:13:13,092 --> 00:13:14,860  
THAT CHANGE THE FRONT TIRES.

383  
00:13:14,860 --> 00:13:16,996  
A JACK MANBACKS THE CAR UP AND A

384  
00:13:16,996 --> 00:13:19,798  
FUEL MAN PUTS GAS IN THE CAR,

385  
00:13:19,798 --> 00:13:21,800  
THE SEVENTH MEMBER IS FOR DRIVER

386  
00:13:21,800 --> 00:13:22,134  
COMFORT.

387  
00:13:22,134 --> 00:13:24,403  
WE SEND HIM OVER THE WALL TO

388  
00:13:24,403 --> 00:13:26,805

PULL A TEAROFF OFF THE

389

00:13:26,805 --> 00:13:28,474

WINDSHIELD, CLEANING THE

390

00:13:28,474 --> 00:13:28,874

WINDSHIELD.

391

00:13:28,874 --> 00:13:30,309

WE HAVE PLASTIC WRAP ON THE

392

00:13:30,309 --> 00:13:31,911

WINDSHIELD AND THERE'S TIRE AND

393

00:13:31,911 --> 00:13:33,412

DEBRIS THAT COMES OFF THE TRACK

394

00:13:33,412 --> 00:13:36,048

AND GETS ON THE WINDSHIELD SO WE

395

00:13:36,048 --> 00:13:37,783

PULL A TEAROFF OFF.

396

00:13:37,783 --> 00:13:39,385

ALL THAT IN LESS THAN 12

397

00:13:39,385 --> 00:13:40,452

SECONDS.

398

00:13:40,452 --> 00:13:42,221

>> Beth: YOU TALK ABOUT SEVEN

399

00:13:42,221 --> 00:13:43,756

MEN, WHAT IS THE WALL FOR?

400

00:13:43,756 --> 00:13:45,357

>> THE WALL IS TO SEPARATE THE

401  
00:13:45,357 --> 00:13:47,393  
RACE CAR FROM THE TEAMS.

402  
00:13:47,393 --> 00:13:48,694  
IT'S A SAFETY DEVICE.

403  
00:13:48,694 --> 00:13:51,630  
SO IF A CAR COMES SPINNING, IT

404  
00:13:51,630 --> 00:13:53,265  
HITS THE WALL AND DOESN'T GET

405  
00:13:53,265 --> 00:13:54,200  
INTO THE GUYS.

406  
00:13:54,200 --> 00:13:54,700  
>> Beth: OKAY.

407  
00:13:54,700 --> 00:13:55,968  
>> IT'S REALLY THERE TO PROTECT

408  
00:13:55,968 --> 00:13:57,703  
THE PEOPLE BEHIND THE WALL.

409  
00:13:57,703 --> 00:14:00,072  
>> Beth: LET'S TAKE AN ONLINE

410  
00:14:00,072 --> 00:14:01,006  
QUESTION.

411  
00:14:01,006 --> 00:14:04,210  
WHY NOT USE A DESIGN SIMILAR TO

412  
00:14:04,210 --> 00:14:07,112  
F1 CARS?

413  
00:14:07,112 --> 00:14:08,447

WOULD THEIR SLEEK DESIGN CUT

414

00:14:08,447 --> 00:14:10,516

DOWN ON WIND RESISTANCE?

415

00:14:10,516 --> 00:14:11,550

>> THAT'S A GREAT QUESTION.

416

00:14:11,550 --> 00:14:13,052

IF YOU FOLLOW FORMULA ONE YOU

417

00:14:13,052 --> 00:14:14,920

CAN SEE THE HUGE DIFFERENCE

418

00:14:14,920 --> 00:14:16,422

BETWEEN FORMULA ONE CARS AND

419

00:14:16,422 --> 00:14:18,224

WHAT WE CALL STOCK CARS, THESE

420

00:14:18,224 --> 00:14:19,225

OVER HERE.

421

00:14:19,225 --> 00:14:22,528

FORMULA ONE CARS HAVE OPEN

422

00:14:22,528 --> 00:14:22,861

WHEELS.

423

00:14:22,861 --> 00:14:24,296

WHILE THESE AREN'T FORMULA ONE

424

00:14:24,296 --> 00:14:25,297

THEY LOOK LIKE THAT.

425

00:14:25,297 --> 00:14:27,299

THE WHEELS ARE NOT COVERED.

426  
00:14:27,299 --> 00:14:29,101  
BY THE WAY THEY HAVE GOT MORE

427  
00:14:29,101 --> 00:14:30,803  
DRAG THAN OUR CARS DO.

428  
00:14:30,803 --> 00:14:32,104  
SIGNIFICANTLY MORE DRAG.

429  
00:14:32,104 --> 00:14:34,073  
THEY'VE GOT MORE HORSEPOWER BUT

430  
00:14:34,073 --> 00:14:34,840  
MORE DRAG.

431  
00:14:34,840 --> 00:14:37,610  
THEY ALSO PRODUCE MORE

432  
00:14:37,610 --> 00:14:38,010  
DOWNFORCE.

433  
00:14:38,010 --> 00:14:39,411  
THE WINGS IN THE FRONT AND BACK,

434  
00:14:39,411 --> 00:14:42,448  
WE HAVE A SPOILER AND A VALANCE.

435  
00:14:42,448 --> 00:14:43,983  
THE REASON THESE CARS LOOK THAT

436  
00:14:43,983 --> 00:14:46,518  
WAY IS BECAUSE THIS RACING WAS

437  
00:14:46,518 --> 00:14:47,620  
BASED ON PRODUCTION CARS, THE

438  
00:14:47,620 --> 00:14:49,488

CARS YOUR MOTHER AND FATHER

439

00:14:49,488 --> 00:14:51,223

WOULD DRIVE YEARS AGO.

440

00:14:51,223 --> 00:14:54,994

SO THE MANUFACTURERS AND NASCAR

441

00:14:54,994 --> 00:14:56,528

WANTED TO MAINTAIN THE JUMP

442

00:14:56,528 --> 00:14:57,630

BETWEEN A PRODUCTION CAR AND

443

00:14:57,630 --> 00:14:58,697

RACE CAR.

444

00:14:58,697 --> 00:15:00,633

SO THE RULES FOR FORMULA ONE

445

00:15:00,633 --> 00:15:02,701

CARS ARE WIDE OPEN IN SHAPES.

446

00:15:02,701 --> 00:15:05,371

BUT THE RULES FOR STOCK CARS,

447

00:15:05,371 --> 00:15:06,939

THEY WANT TO MAINTAIN THE

448

00:15:06,939 --> 00:15:07,773

CONNECTION BETWEEN A PRODUCTION

449

00:15:07,773 --> 00:15:09,208

CAR AND RACE CAR.

450

00:15:09,208 --> 00:15:11,644

>> Beth: DO THE SAME PEOPLE WHO

451

00:15:11,644 --> 00:15:13,045

BUILD MY CAR THAT I DRIVE TO

452

00:15:13,045 --> 00:15:16,015

WORK, DO THEY BUILD THE NASCAR

453

00:15:16,015 --> 00:15:16,682

CARS?

454

00:15:16,682 --> 00:15:19,752

>> THE ORIGINAL MANUFACTURER --

455

00:15:19,752 --> 00:15:21,086

FOR INSTANCE AT ROUCHE FENWAY WE

456

00:15:21,086 --> 00:15:22,821

GET THE A LOT OF PARTS AND

457

00:15:22,821 --> 00:15:24,089

SUPPORT FROM THE MANUFACTURER.

458

00:15:24,089 --> 00:15:25,724

DO THEY BUILD THE CARS?

459

00:15:25,724 --> 00:15:28,193

THEY BUILD A LOT OF STAMPINGS,

460

00:15:28,193 --> 00:15:28,927

STEEL BODY PARTS.

461

00:15:28,927 --> 00:15:33,065

BUT THE REST OF IT HAS ALL

462

00:15:33,065 --> 00:15:34,833

MIGRATED TOWARD A RACING TYPE OF

463

00:15:34,833 --> 00:15:36,335

OPERATION RATHER THAN

464

00:15:36,335 --> 00:15:37,403  
PRODUCTION.

465

00:15:37,403 --> 00:15:38,003  
>> Beth: OKAY.

466

00:15:38,003 --> 00:15:40,039  
WHO HAS MY FIRST AUDIENCE

467

00:15:40,039 --> 00:15:40,406  
QUESTION?

468

00:15:40,406 --> 00:15:41,907  
COME ON UP.

469

00:15:41,907 --> 00:15:43,242  
>> I WAS WONDERING HOW THE BUILD

470

00:15:43,242 --> 00:15:44,576  
OF A REGULAR CAR IS DIFFERENT

471

00:15:44,576 --> 00:15:46,145  
FROM A RACE CAR.

472

00:15:46,145 --> 00:15:47,446  
>> WELL, THERE'S ACTUALLY QUITE

473

00:15:47,446 --> 00:15:48,314  
A FEW THINGS.

474

00:15:48,314 --> 00:15:49,481  
IF YOU THINK ABOUT THE CAR THAT

475

00:15:49,481 --> 00:15:51,884  
YOUR MOM AND DAD DRIVE, YOU GET

476

00:15:51,884 --> 00:15:53,185

IN AND THERE'S SEATS IN THE

477

00:15:53,185 --> 00:15:54,486

FRONT AND SEATS IN THE BACK.

478

00:15:54,486 --> 00:15:56,689

IN A RACE CAR THERE'S ONE SEAT,

479

00:15:56,689 --> 00:15:58,023

JUST THE DRIVER.

480

00:15:58,023 --> 00:15:59,591

WHEN YOU'RE DRIVING DOWN THE

481

00:15:59,591 --> 00:16:01,026

ROAD AND YOU'RE WARM, YOU CAN

482

00:16:01,026 --> 00:16:03,329

TURN THE AIR CONDITIONER ON,

483

00:16:03,329 --> 00:16:03,662

RIGHT?

484

00:16:03,662 --> 00:16:05,597

NO AIR CONDITIONERS IN RACE

485

00:16:05,597 --> 00:16:05,898

CARS.

486

00:16:05,898 --> 00:16:07,266

YOU CAN ROLL THE WINDOW DOWN BUT

487

00:16:07,266 --> 00:16:08,701

YOU CAN'T IN RACE CARS.

488

00:16:08,701 --> 00:16:10,703

EVERYTHING ON THE INSIDE OF THE

489

00:16:10,703 --> 00:16:12,237

CAR IS TAKEN OUT.

490

00:16:12,237 --> 00:16:13,906

IT'S VERY SPARTAN.

491

00:16:13,906 --> 00:16:15,674

NOT VERY MUCH TO KEEP IT LIGHT.

492

00:16:15,674 --> 00:16:17,276

WE WANT TO KEEP THE CARS VERY

493

00:16:17,276 --> 00:16:19,511

LIGHT BUT STRONG.

494

00:16:19,511 --> 00:16:24,083

THE STRUCTURE OF A RACE CAR IS

495

00:16:24,083 --> 00:16:25,451

TUBE STEEL WELDED TOGETHER.

496

00:16:25,451 --> 00:16:27,453

THE STRUCTURE OF YOUR MOM AND

497

00:16:27,453 --> 00:16:29,121

DAD'S CAR IS STAMPED STEEL

498

00:16:29,121 --> 00:16:31,890

WELDED TOGETHER BUT THE STAMP

499

00:16:31,890 --> 00:16:33,692

STEEL CAR HAS MORE ROOM INSIDE.

500

00:16:33,692 --> 00:16:35,327

YOU CAN KEEP YOUR BROTHERS AND

501  
00:16:35,327 --> 00:16:36,362  
SISTERS IN THE BACK.

502  
00:16:36,362 --> 00:16:37,796  
THERE'S NO BACKSEAT IN THESE

503  
00:16:37,796 --> 00:16:38,097  
CARS.

504  
00:16:38,097 --> 00:16:39,498  
SO THAT'S A LITTLE BIT OF A

505  
00:16:39,498 --> 00:16:41,200  
DIFFERENCE BETWEEN PRODUCTION

506  
00:16:41,200 --> 00:16:42,501  
AND RACE CARS.

507  
00:16:42,501 --> 00:16:43,102  
GREAT QUESTION.

508  
00:16:43,102 --> 00:16:45,337  
>> Beth: LET'S TAKE A VIDEO

509  
00:16:45,337 --> 00:16:46,071  
QUESTION.

510  
00:16:46,071 --> 00:16:47,639  
>> HI, I'M SARAH.

511  
00:16:47,639 --> 00:16:49,208  
MY QUESTION IS CARS HAVE TIRES

512  
00:16:49,208 --> 00:16:51,143  
THAT ARE FILLED WITH OXYGEN AND

513  
00:16:51,143 --> 00:16:55,647

NITROGEN, WHICH WORKS ABOUT

514

00:16:55,647 --> 00:16:56,448

BETTER FOR NASCAR.

515

00:16:56,448 --> 00:16:59,184

>> THE QUESTION IS DO WE RUN

516

00:16:59,184 --> 00:17:01,253

NITROGEN AND OXYGEN INSIDE THE

517

00:17:01,253 --> 00:17:02,121

TIRES?

518

00:17:02,121 --> 00:17:04,957

NO, WE USE PRIMELY NITROGEN.

519

00:17:04,957 --> 00:17:06,458

NITROGEN IS INERT GAS WHICH

520

00:17:06,458 --> 00:17:08,761

MEANS AS IT HEATS UP, IT DOESN'T

521

00:17:08,761 --> 00:17:10,229

EXPAND VERY MUCH.

522

00:17:10,229 --> 00:17:11,997

IT EXPANDS A LITTLE BUT NOT

523

00:17:11,997 --> 00:17:12,331

MUCH.

524

00:17:12,331 --> 00:17:14,166

THE REASON WE LIKE THAT IS

525

00:17:14,166 --> 00:17:16,101

BECAUSE THE TIRE IS A MAJOR

526

00:17:16,101 --> 00:17:18,103

PORTION OF HOW THE CAR HANDLES.

527

00:17:18,103 --> 00:17:20,739

AND THE TIRE BASED ON ITS

528

00:17:20,739 --> 00:17:22,074

CONSTRUCTION, HAS A SPRING RATE

529

00:17:22,074 --> 00:17:23,709

TO IT.

530

00:17:23,709 --> 00:17:26,612

WE CHANGE -- ON A PIT STOP WE'LL

531

00:17:26,612 --> 00:17:28,247

CHANGE A QUARTER POUND OF AIR IN

532

00:17:28,247 --> 00:17:29,748

THE TIRES AS AN ADJUSTMENT.

533

00:17:29,748 --> 00:17:35,087

A VERY, VERY MINUTE ADJUSTMENT

534

00:17:35,087 --> 00:17:37,055

BUT IT CHANGES HOW THE CAR

535

00:17:37,055 --> 00:17:37,389

HANDLES.

536

00:17:37,389 --> 00:17:38,924

THE DRIVER SAYS IT DOES ONE

537

00:17:38,924 --> 00:17:42,461

THING, WE CORRECT IT ON A PIT

538

00:17:42,461 --> 00:17:42,761

STOP.

539

00:17:42,761 --> 00:17:46,999

WE USE NITROGEN MAKE THEM GO

540

00:17:46,999 --> 00:17:47,332

FASTER.

541

00:17:47,332 --> 00:17:48,267

>> Beth: WE HAVE TALKED ABOUT

542

00:17:48,267 --> 00:17:49,968

DOWN FORCE AND DRAG BUT THERE'S

543

00:17:49,968 --> 00:17:51,837

ONE MORE D, DRAFTING.

544

00:17:51,837 --> 00:17:54,907

AND WE TALKED TO JACOB WALLACE

545

00:17:54,907 --> 00:17:55,774

ABOUT DRAFTING.

546

00:17:55,774 --> 00:17:57,176

>> THE BEST WAY TO EXPLAIN

547

00:17:57,176 --> 00:18:04,216

DRAFTING IS TO THINK OF AIR AS

548

00:18:04,216 --> 00:18:07,286

MOLD USELESS.

549

00:18:07,286 --> 00:18:08,454

-- MOLECULES.

550

00:18:08,454 --> 00:18:09,855

YOU HAVE TO MOVE THEM OUT OF THE

551  
00:18:09,855 --> 00:18:10,122  
WAY.

552  
00:18:10,122 --> 00:18:13,959  
THE WAY DRAFTING HELPS IS BY

553  
00:18:13,959 --> 00:18:15,527  
HAVING TWO CARS GET IN LINE.

554  
00:18:15,527 --> 00:18:17,563  
THE FIRST CAR IS MOVING THE AIR

555  
00:18:17,563 --> 00:18:20,165  
MOLECULES OUT OF THE WAY AND THE

556  
00:18:20,165 --> 00:18:22,301  
SECOND CAR BEHIND, THOSE AIR

557  
00:18:22,301 --> 00:18:25,003  
MOLECULES FLOAT OVER THE SECOND

558  
00:18:25,003 --> 00:18:26,405  
CAR WITHOUT BOUNCING INTO THE

559  
00:18:26,405 --> 00:18:28,740  
FRONT BUMPER.

560  
00:18:28,740 --> 00:18:31,610  
DRAFTING IS LIKE DRAFTING BUT

561  
00:18:31,610 --> 00:18:33,879  
BEING AS CLOSE AS POSSIBLE TO

562  
00:18:33,879 --> 00:18:39,017  
THE DRIVER IN FRONT OF YOU.

563  
00:18:39,017 --> 00:18:40,552

RIGHT ON THE BUMPER.

564

00:18:40,552 --> 00:18:42,621

THE FEELING OF BUMP DRAFTING, IF

565

00:18:42,621 --> 00:18:45,257

YOU'RE THE BUMPER, ISN'T THAT

566

00:18:45,257 --> 00:18:47,759

SCARY BECAUSE YOU FEEL LIKE YOU

567

00:18:47,759 --> 00:18:48,827

HAVE MORE CONTROL BECAUSE YOU'RE

568

00:18:48,827 --> 00:18:51,063

THE ONE DOING THE BUMPING.

569

00:18:51,063 --> 00:18:53,565

IT'S MUCH SCARE YOUR IF YOU'RE

570

00:18:53,565 --> 00:18:54,933

BEING BUMPED BECAUSE YOU CAN SEE

571

00:18:54,933 --> 00:18:56,268

THE CAR COMING IN YOUR REARVIEW

572

00:18:56,268 --> 00:18:59,571

MIRROR BUT YOU'RE NOT 100% SURE

573

00:18:59,571 --> 00:19:00,739

HOW MUCH FORCE THEY'RE GOING TO

574

00:19:00,739 --> 00:19:02,241

HIT YOU WITH AND YOU'RE NOT SURE

575

00:19:02,241 --> 00:19:05,010

IF IT'S GOING TO BE ENOUGH FORCE

576

00:19:05,010 --> 00:19:11,250

TO GET YOUR CAR UNSETTLED.

577

00:19:11,250 --> 00:19:14,019

>> LAYTON IS PUTTING ON A RACE

578

00:19:14,019 --> 00:19:17,723

WORN SUIT WORN BY KYLE BUSCH AND

579

00:19:17,723 --> 00:19:22,361

THERE IS COOL.Y

580

00:19:22,361 --> 00:19:23,228

IT'S A FIRE SUIT.

581

00:19:23,228 --> 00:19:25,163

>> IT'S IN CASE OF AN ACCIDENT.

582

00:19:25,163 --> 00:19:27,499

WE CARRY 22 GALLONS OF FUEL AND

583

00:19:27,499 --> 00:19:29,268

IF THERE'S ACCIDENTS, THAT FUEL

584

00:19:29,268 --> 00:19:31,670

CAN SPILL AND SLOSH ALL OVER.

585

00:19:31,670 --> 00:19:34,139

THERE'S A SMALL CHANCE THAT IT A

586

00:19:34,139 --> 00:19:35,173

DRIVER COULD BE INSIDE A CAR

587

00:19:35,173 --> 00:19:37,576

WITH A FIRE INSIDE OF IT.

588

00:19:37,576 --> 00:19:40,145

THESE FIRE SUITS, THEY'RE NOT

589

00:19:40,145 --> 00:19:41,813

FIRE -- THEY'RE FIRE PROTECTION,

590

00:19:41,813 --> 00:19:44,550

THEY'RE NOT FIRE -- YOU CAN

591

00:19:44,550 --> 00:19:46,351

EVENTUALLY GET HARMED BUT THESE

592

00:19:46,351 --> 00:19:48,654

ARE MADE OF MATERIALS FROM SFI

593

00:19:48,654 --> 00:19:51,490

WITH A RESISTANCE RATING,

594

00:19:51,490 --> 00:19:52,958

WHETHER 30 SECONDS OR A MINUTE.

595

00:19:52,958 --> 00:19:54,226

A DRIVER CAN BE INSIDE A FIRE

596

00:19:54,226 --> 00:19:55,460

AND BECAUSE HE'S COVERED FROM

597

00:19:55,460 --> 00:19:57,963

HEAD TO TOE BETWEEN THE HELMET,

598

00:19:57,963 --> 00:20:00,365

THE SUIT, GLOVES AND FOOTWEAR

599

00:20:00,365 --> 00:20:02,034

HE'S SAFE UP TO A MINUTE INSIDE

600

00:20:02,034 --> 00:20:03,468

OF A BURNING CAR.

601  
00:20:03,468 --> 00:20:05,637  
THAT GIVES HIM THE OPPORTUNITY

602  
00:20:05,637 --> 00:20:07,606  
TO GET THE WINDOW NET DOWN AND

603  
00:20:07,606 --> 00:20:08,907  
GET OUT.

604  
00:20:08,907 --> 00:20:11,376  
>> HOW DOES THAT FEEL?

605  
00:20:11,376 --> 00:20:12,511  
>> IT'S HOT AND HALF.

606  
00:20:12,511 --> 00:20:14,246  
>> IT LOOKS HOT AND HEAVY.

607  
00:20:14,246 --> 00:20:15,581  
>> IT IS HOT AND HEAVY.

608  
00:20:15,581 --> 00:20:18,750  
THE DRIVERS ALSO HAVE A SET OF

609  
00:20:18,750 --> 00:20:19,585  
UNDERGARMENTS, SHIRTS AND PANTS,

610  
00:20:19,585 --> 00:20:20,652  
THAT ARE UNDERNEATH THIS AND

611  
00:20:20,652 --> 00:20:22,387  
MAKES IT EVEN HOTTER.

612  
00:20:22,387 --> 00:20:26,325  
INSIDE A RACE CAR IT CAN BE 130,

613  
00:20:26,325 --> 00:20:27,626

140 DEGREES FOR UP TO FOUR HOURS

614

00:20:27,626 --> 00:20:31,129

SO IT'S HOT INSIDE.

615

00:20:31,129 --> 00:20:31,964

IT'S A TRADE OFF.

616

00:20:31,964 --> 00:20:35,334

YOU WANT TO KEEP THEM SAFE BUT

617

00:20:35,334 --> 00:20:35,734

COMFORTABLE.

618

00:20:35,734 --> 00:20:37,035

>> Marty: AND ENGINE BEHIND US

619

00:20:37,035 --> 00:20:37,603

GATES HOT.

620

00:20:37,603 --> 00:20:39,237

>> EVERYTHING ABOUT THE CAR IS

621

00:20:39,237 --> 00:20:39,504

HOT.

622

00:20:39,504 --> 00:20:41,073

>> Marty: A SUIT LIKE THIS HAS A

623

00:20:41,073 --> 00:20:42,507

STRONG CONNECTION TO NASA.

624

00:20:42,507 --> 00:20:46,578

>> IT DOES, THIS IS A FIRE

625

00:20:46,578 --> 00:20:48,513

RESISTANT SUIT.

626  
00:20:48,513 --> 00:20:49,314  
THE ASTRONAUTS WEAR SOMETHING

627  
00:20:49,314 --> 00:20:50,082  
LIKE THIS.

628  
00:20:50,082 --> 00:20:53,819  
THEY'RE ON TOP OF A ROMAN CANDLE

629  
00:20:53,819 --> 00:20:55,587  
AND THERE'S A POSSIBILITY OF AN

630  
00:20:55,587 --> 00:20:55,988  
ACCIDENTAL.

631  
00:20:55,988 --> 00:20:57,155  
YOU HAVE TO GIVE THEM TIME TO

632  
00:20:57,155 --> 00:20:59,291  
GET AWAY OF THE SPACECRAFT.

633  
00:20:59,291 --> 00:21:00,492  
>> Marty: BETH GOT A CHANCE TO

634  
00:21:00,492 --> 00:21:03,895  
WEAR A SUIT LIKE THIS AND I'M A

635  
00:21:03,895 --> 00:21:06,098  
LITTLE BIT JEALOUS BECAUSE SHE

636  
00:21:06,098 --> 00:21:09,034  
GOT TO GO ON A NASCAR RIDE

637  
00:21:09,034 --> 00:21:09,334  
ALONG.

638  
00:21:09,334 --> 00:21:12,270

CHECK THIS OUT.

639

00:21:12,270 --> 00:21:15,874

>> AT ATLANTA, I HAD TOO MUCH

640

00:21:15,874 --> 00:21:18,677

WEIGHT DOWN THE BACK STRETCH.

641

00:21:18,677 --> 00:21:19,344

>> Beth: OH, GOSH.

642

00:21:19,344 --> 00:21:20,979

SHUT UP.

643

00:21:20,979 --> 00:21:22,781

TODAY I'M AT THE RICHMOND

644

00:21:22,781 --> 00:21:23,482

INTERNATIONAL RACEWAY WITH

645

00:21:23,482 --> 00:21:26,485

WARREN LIPFORD, MY DRIVER ON

646

00:21:26,485 --> 00:21:27,519

THIS ADVENTURE.

647

00:21:27,519 --> 00:21:27,919

THANK YOU.

648

00:21:27,919 --> 00:21:29,287

>> NO PROBLEM.

649

00:21:29,287 --> 00:21:32,190

>> HOW FAST ARE WE GOING TO GO?

650

00:21:32,190 --> 00:21:34,626

>> PROBABLE IS 135, 140.

651  
00:21:34,626 --> 00:21:36,461  
>> Beth: TYPICALLY WHEN YOU'RE

652  
00:21:36,461 --> 00:21:38,196  
RACING, HOW FAST DO YOU GO?

653  
00:21:38,196 --> 00:21:42,768  
>> HITTING CLOSE TO 160, 170.

654  
00:21:42,768 --> 00:21:44,369  
WHEN YOU DRIVE, YOU JUST GO IN

655  
00:21:44,369 --> 00:21:47,539  
THE CORNER, GIVE IT GAS, LET

656  
00:21:47,539 --> 00:21:47,806  
OFF.

657  
00:21:47,806 --> 00:21:51,176  
YOU FEEL THE G'S AND TRY NOT TO

658  
00:21:51,176 --> 00:21:51,476  
WRECK.

659  
00:21:51,476 --> 00:21:52,978  
SEE HOW SHE GOES.

660  
00:21:52,978 --> 00:21:53,879  
>> Beth: ALL RIGHT.

661  
00:21:53,879 --> 00:21:55,914  
I'M NERVOUS ABOUT THIS BUT LET'S

662  
00:21:55,914 --> 00:22:04,189  
JUST DO IT.

663  
00:22:04,189 --> 00:22:04,623

>> READY?

664

00:22:04,623 --> 00:22:06,291

>> Beth: READY AS I'M GOING TO

665

00:22:06,291 --> 00:22:23,608

BE.

666

00:23:03,849 --> 00:23:04,883

THAT WAS A RIDE AROUND RICHMOND.

667

00:23:04,883 --> 00:23:09,287

>> Beth: THAT WAS AWESOME.

668

00:23:09,287 --> 00:23:13,325

COMPLETELY AWESOME!

669

00:23:13,325 --> 00:23:14,426

OKAY.

670

00:23:14,426 --> 00:23:16,361

SO I'VE GOT TO SAY THIS RIDE

671

00:23:16,361 --> 00:23:17,896

ALONG WITH TOTALLY AWESOME.

672

00:23:17,896 --> 00:23:21,500

WARREN, THANK YOU SO MUCH.

673

00:23:21,500 --> 00:23:22,801

KURT, SHOULD WE TAKE MORE

674

00:23:22,801 --> 00:23:23,802

QUESTIONS?

675

00:23:23,802 --> 00:23:24,202

>> SURE.

676  
00:23:24,202 --> 00:23:26,138  
>> LET'S START WITH A VIDEO

677  
00:23:26,138 --> 00:23:26,538  
QUESTION.

678  
00:23:26,538 --> 00:23:29,141  
>> I'M ADAM, MY QUESTION IS WHY

679  
00:23:29,141 --> 00:23:31,543  
DON'T A ANY OF THE OTHER CARS

680  
00:23:31,543 --> 00:23:32,878  
HAVE ANY DOORS.

681  
00:23:32,878 --> 00:23:33,812  
>> GREAT QUESTION, ADAM.

682  
00:23:33,812 --> 00:23:35,247  
THE CARS DON'T HAVE DOORS.

683  
00:23:35,247 --> 00:23:38,150  
THEY STARTED HAVING DOORS BUT

684  
00:23:38,150 --> 00:23:41,553  
NASCAR MADE THE GUYS WELD THOSE

685  
00:23:41,553 --> 00:23:43,622  
UP AND SUBSEQUENTLY WE MOVED

686  
00:23:43,622 --> 00:23:47,092  
AWAY FROM DOORS AS A SAFETY

687  
00:23:47,092 --> 00:23:47,392  
ITEM.

688  
00:23:47,392 --> 00:23:50,962

THE CARS TEND TO WRECK A LOT AND

689

00:23:50,962 --> 00:23:52,664

A LOT TIMES THE DOORS WOULD FLY

690

00:23:52,664 --> 00:23:55,200

OPEN AND PRESENT A SAFE ISSUE SO

691

00:23:55,200 --> 00:23:57,068

NASCAR IS MANDATED TO THE RACE

692

00:23:57,068 --> 00:23:58,570

TEAMS THERE WILL NOT BE DOORS ON

693

00:23:58,570 --> 00:23:59,971

THE RACE CARS.

694

00:23:59,971 --> 00:24:01,740

YOU MIGHT WONDER HOW WE GET IN

695

00:24:01,740 --> 00:24:03,708

AND OUT, JUST CLIMB THROUGH THE

696

00:24:03,708 --> 00:24:04,042

WINDOW.

697

00:24:04,042 --> 00:24:05,310

>> Beth: WE HAVE AN ONLINE

698

00:24:05,310 --> 00:24:06,211

QUESTION.

699

00:24:06,211 --> 00:24:08,013

>> IS CARBON FIBER USED IN

700

00:24:08,013 --> 00:24:08,346

NASCAR?

701  
00:24:08,346 --> 00:24:11,917  
>> YES ACTUALLY.

702  
00:24:11,917 --> 00:24:13,652  
CARBON FIRE IS USED A LOT.

703  
00:24:13,652 --> 00:24:15,520  
THE CARBON SEATS THAT DRIVERS

704  
00:24:15,520 --> 00:24:16,588  
SIT IN OR CARBON.

705  
00:24:16,588 --> 00:24:18,356  
THERE ARE A LOT OF LITTLE THINGS

706  
00:24:18,356 --> 00:24:20,358  
AROUND THE RACE CAR MADE OF

707  
00:24:20,358 --> 00:24:20,692  
CARBON.

708  
00:24:20,692 --> 00:24:23,395  
IN TODAY'S WORLD, THE HOODS AND

709  
00:24:23,395 --> 00:24:25,530  
THE DECK LIDS OR TRUNK LIDS ARE

710  
00:24:25,530 --> 00:24:27,098  
MADE OF CARBON.

711  
00:24:27,098 --> 00:24:29,034  
CARBON IS FINDING ITS WAY INTO

712  
00:24:29,034 --> 00:24:29,734  
THE SPORT.

713  
00:24:29,734 --> 00:24:30,869

NASCAR HAS KEPT IT OUT OF THE

714

00:24:30,869 --> 00:24:32,504

SPORT FOR A LONG TIME BECAUSE

715

00:24:32,504 --> 00:24:34,639

CARBON IS VERY EXPENSIVE BUT

716

00:24:34,639 --> 00:24:36,208

THEY'RE FINDING OUT THE WEIGHT

717

00:24:36,208 --> 00:24:38,310

SAVINGS OFFSETS THE MONETARY

718

00:24:38,310 --> 00:24:39,177

INCREASE.

719

00:24:39,177 --> 00:24:39,911

>> Beth: OKAY.

720

00:24:39,911 --> 00:24:44,816

WHO HAS MY NEXT AUDIENCE

721

00:24:44,816 --> 00:24:45,183

QUESTION?

722

00:24:45,183 --> 00:24:49,988

>> WOULD USING A LIGHTER CAR

723

00:24:49,988 --> 00:24:53,625

MAKE THE CASH GO FASTER BUT

724

00:24:53,625 --> 00:24:54,025

FLIP?

725

00:24:54,025 --> 00:24:55,327

>> GREAT QUESTION.

726

00:24:55,327 --> 00:24:57,696

CARBON FIBERS ARE -- IS A MUCH

727

00:24:57,696 --> 00:24:58,496

LIGHTER MATERIAL.

728

00:24:58,496 --> 00:25:01,466

WE DO USE THEM, ONE, TO MAKE THE

729

00:25:01,466 --> 00:25:03,535

CAR LIGHTER SO IT GOES FASTER.

730

00:25:03,535 --> 00:25:05,070

THEN YOU ASKED WOULD IT HELP IF

731

00:25:05,070 --> 00:25:05,637

IT FLIPS.

732

00:25:05,637 --> 00:25:08,373

A CAR THAT FLIPS IS A FUNCTION

733

00:25:08,373 --> 00:25:10,175

OF HOW IT SPINS AND HOW THE AIR

734

00:25:10,175 --> 00:25:13,712

GOES OVER THE CAR WHEN IT SPINS.

735

00:25:13,712 --> 00:25:15,614

CARBON WON'T NECESSARILY CHANGE

736

00:25:15,614 --> 00:25:15,914

THAT.

737

00:25:15,914 --> 00:25:17,482

WHAT YOU CAN DO IS YOU CAN MAKE

738

00:25:17,482 --> 00:25:20,886

## SOME OF THE PARTS OF THE CARING

739

00:25:20,886 --> 00:25:21,453

CARBON.

740

00:25:21,453 --> 00:25:23,021

EXCHANGE ALUMINUM FOR CARBON AND

741

00:25:23,021 --> 00:25:24,522

SOME PARTS CAN BE USED TO STOP

742

00:25:24,522 --> 00:25:25,523

THE CAR FROM FLIPPING.

743

00:25:25,523 --> 00:25:27,425

IF YOU LOOK AT THESE CARS OVER

744

00:25:27,425 --> 00:25:29,461

HERE, YOU'LL SEE ALONG THE TOP,

745

00:25:29,461 --> 00:25:31,229

THERE ARE ROOF RAILS AND THOSE

746

00:25:31,229 --> 00:25:33,131

HELP THE CAR THAT IS SPINNING

747

00:25:33,131 --> 00:25:34,966

FROM FLIPPING.

748

00:25:34,966 --> 00:25:36,968

>> Beth: THIS POPS OFF.

749

00:25:36,968 --> 00:25:38,603

>> THERE ARE ROOF FLAPS THAT POP

750

00:25:38,603 --> 00:25:38,970

UP.

751  
00:25:38,970 --> 00:25:40,972  
THE RAILS ARE STATIONARY BUT THE

752  
00:25:40,972 --> 00:25:42,207  
FLAPS POP UP.

753  
00:25:42,207 --> 00:25:43,575  
THAT'S A MAJOR CONTRIBUTOR TO

754  
00:25:43,575 --> 00:25:46,544  
KEEPING CARS ON THE GROUND.

755  
00:25:46,544 --> 00:25:47,212  
>> Beth: GOOD QUESTION.

756  
00:25:47,212 --> 00:25:48,713  
LET'S TAKE ANOTHER VIDEO

757  
00:25:48,713 --> 00:25:49,915  
QUESTION.

758  
00:25:49,915 --> 00:25:53,618  
>> HI, I'M ADEN AND I WAS

759  
00:25:53,618 --> 00:25:55,987  
WONDERING ARE THEY LIMITED ON

760  
00:25:55,987 --> 00:25:56,922  
PIT STOPS?

761  
00:25:56,922 --> 00:25:58,390  
>> WE'RE NOT LIMITED ON HOW MANY

762  
00:25:58,390 --> 00:26:01,526  
TIMES WE COME IN FOR A PIT STOP

763  
00:26:01,526 --> 00:26:02,661

BUT WE'RE LIMITED ON HOW MANY

764

00:26:02,661 --> 00:26:04,663

GUYS WE SEND OVER THE WALL,

765

00:26:04,663 --> 00:26:05,697

SEVEN GUYS.

766

00:26:05,697 --> 00:26:06,898

WE'RE ALSO LIMITED ON WHAT WE

767

00:26:06,898 --> 00:26:08,533

CAN DO ON A PIT STOP.

768

00:26:08,533 --> 00:26:10,535

LAST YEAR IN THE YEARS PAST WE

769

00:26:10,535 --> 00:26:13,071

COULD DO ALMOST ANYTHING.

770

00:26:13,071 --> 00:26:15,507

NOT CHANGE A MOTOR BUT REPLACE

771

00:26:15,507 --> 00:26:16,675

PARTS DAMAGED ON THE CAR.

772

00:26:16,675 --> 00:26:19,044

THIS YEAR NASCAR HAS NEW RULES

773

00:26:19,044 --> 00:26:20,412

THAT SAY WE DON'T WANT YOU

774

00:26:20,412 --> 00:26:22,180

FIXING YOUR CAR ON PIT ROW

775

00:26:22,180 --> 00:26:23,748

BECAUSE IT POSES A DANGER TO THE

776

00:26:23,748 --> 00:26:25,083  
GUYS OUT THERE WORKING.

777

00:26:25,083 --> 00:26:26,985  
SO WE CAN NO LONGER TAKE PARTS

778

00:26:26,985 --> 00:26:30,422  
OVER THE WALL AND PUT NEW PARTS

779

00:26:30,422 --> 00:26:30,689  
ON.

780

00:26:30,689 --> 00:26:32,424  
WE CAN USE WHAT PARTS ARE LEFT

781

00:26:32,424 --> 00:26:34,759  
AND REATTACH THEM BUT WE CAN'T

782

00:26:34,759 --> 00:26:35,527  
ADD PARTS.

783

00:26:35,527 --> 00:26:37,329  
THE ANSWER IS THERE'S A LOT OF

784

00:26:37,329 --> 00:26:38,830  
LIMITATIONS ON WHAT YOU CAN DO

785

00:26:38,830 --> 00:26:40,265  
ON PIT ROAD.

786

00:26:40,265 --> 00:26:43,234  
>> Beth: DUCT TAPE IS A FRIEND.

787

00:26:43,234 --> 00:26:44,636  
>> WE USE A LOT.

788

00:26:44,636 --> 00:26:45,637

>> KURT, THANK YOU FOR BEING

789

00:26:45,637 --> 00:26:46,004  
WITH US.

790

00:26:46,004 --> 00:26:48,974  
I WOULD LIKE TO THANK THE NASCAR

791

00:26:48,974 --> 00:26:53,244  
HALL OF FAME, CRVA, OUR SPONSOR,

792

00:26:53,244 --> 00:26:56,348  
THE GERTRUDE E SKELLY

793

00:26:56,348 --> 00:26:56,948  
FOUNDATION.

794

00:26:56,948 --> 00:26:58,783  
NEXT WEEK WE'LL LOOK AT WOMEN

795

00:26:58,783 --> 00:27:00,452  
PAVING THE WAY TO MARS.

796

00:27:00,452 --> 00:27:02,520  
>> CHECK THIS OUT!

797

00:27:02,520 --> 00:27:06,458  
THIS IS SALLY RIDE'S P38 HELMET.

798

00:27:06,458 --> 00:27:08,059  
AMERICA'S FIRST WOMAN IN SPACE.

799

00:27:08,059 --> 00:27:10,595  
SHE USED TO WEAR THIS WHEN SHE

800

00:27:10,595 --> 00:27:15,433  
FLEW ON THE NASA T38 JET.

801  
00:27:15,433 --> 00:27:17,168  
>> Beth: ONE THING ABOUT SALLY'S

802  
00:27:17,168 --> 00:27:18,737  
HELMET IS THE COLOR.

803  
00:27:18,737 --> 00:27:22,540  
SHE PICKED IT TO MATCH HER

804  
00:27:22,540 --> 00:27:24,542  
PERSONALITY AND WANTED A NICER

805  
00:27:24,542 --> 00:27:24,876  
SCRIPT.

806  
00:27:24,876 --> 00:27:27,245  
IN JUNE 1983 SHE FLEW ON

807  
00:27:27,245 --> 00:27:29,614  
CHALLENGER BRIDGING THE GENDER

808  
00:27:29,614 --> 00:27:30,115  
GAP.

809  
00:27:30,115 --> 00:27:31,649  
THE ACCOMPLISHED WOMEN HAVE

810  
00:27:31,649 --> 00:27:32,884  
FLOWN IN SPACE SINCE AND MORE

811  
00:27:32,884 --> 00:27:34,819  
ARE PREPARING TO FOLLOW IN THE

812  
00:27:34,819 --> 00:27:35,153  
FUTURE.

813  
00:27:35,153 --> 00:27:36,654

YOU THINK THIS IS INTERESTING?

814

00:27:36,654 --> 00:27:40,125

JOIN US FOR "STEM IN 30".

815

00:27:46,631 --> 00:27:47,465

>> Beth: TODAY AS WE CLOSE OUT

816

00:27:47,465 --> 00:27:48,533

WE WILL LEAVE YOU WITH MORE

817

00:27:48,533 --> 00:27:51,036

SIGHTS AND SOUNDS OF MY RIDE

818

00:27:51,036 --> 00:27:51,369

ALONG.

819

00:27:51,369 --> 00:27:52,637

>> Marty: STICK OUT AFTER THE

820

00:27:52,637 --> 00:27:54,105

CREDITS AS WE TALK TO KURT MORE

821

00:27:54,105 --> 00:27:56,041

AND TAKE A FEW MORE QUESTIONS.