

Page 22 1 of higher torque capacities, it would wear at a much 2 lower rate so that you could obtain approximately 3 twice the life of the clutch. The negatives to it 4 were it was slightly more aggressive in engagement and 5 it had the potential to machine or cut the mating 6 surfaces such as the flywheel. 7 Q. What other materials did you use besides 8 ceramic? 9 A. When we moved away from asbestos lining, we 10 moved into a glass type of fiber lining. 11 Q. So up from the beginning in the 1940's until 12 1985, the only two uses of materials you had was 13 either asbestos-containing or ceramic for the 14 flywheels -- 15 MR. RADCLIFFE: Object to the form. 16 Q. -- is that correct? 17 A. In 1983 we offered the asbestos -- the 18 nonasbestos fiberglass type material. 19 Q. And how well did that perform? 20 A. It performed very nearly the same as the 21 asbestos material. That's what we eventually 22 superseded the asbestos material with, and it was a 23 matter of convincing our customers that it was capable 24 of doing the same type of job as the asbestos material 25 was.	Page 24 1 but you keep on saying "flywheel," and I think that 2 Mr. Dickson has indicated that it's actually the 3 driven disc that may be asbestos-containing and not 4 the flywheel, just to be technically correct. 5 Q. Well, why don't we be really technically 6 correct and have you explain for me on the record, 7 Mr. Dickson, what is the part of the manual 8 transmission that contained asbestos. 9 MR. RADCLIFFE: Object to the form. 10 A. The manual transmission doesn't contain 11 asbestos that I know of. 12 Q. All right. What is the part of the clutch 13 that's incorporated into the manual transmission that 14 contains asbestos? 15 A. The clutch is a separate component in the 16 power train. There's an engine, a clutch, a 17 transmission, a drive line and an axle. A clutch is 18 bolted to the flywheel and the clutch contains -- 19 typical clutch contains, in a heavy truck, two driven 20 discs, an intermediate plate and what we call a 21 flywheel ring or clutch cover. And that's what's 22 bolted to the flywheel. 23 Q. What do you mean by a "driven disc"? 24 A. Driven discs are the discs that are driven -- 25 that -- that basically drive the input shaft of the
Page 23 1 Q. So in 1983 when you introduced the fiberglass 2 substance, you actually had three alternatives: A 3 customer could purchase either the ceramic, the 4 fiberglass or the asbestos-containing; is that 5 correct? 6 A. That's correct. 7 Q. And then by 1985 you had phased out the 8 asbestos-containing? 9 MR. RADCLIFFE: Object to the form. Go 10 ahead. 11 A. 1984 -- January 1, 1984 we stopped providing 12 asbestos-faced material. 13 Q. Did you -- did Dana take any steps to recall 14 or retrieve the asbestos-containing flywheels that had 15 been marketed prior to January 1 of 1984? 16 A. No. The -- we did not feel there was any 17 problem with the asbestos-containing driven discs. It 18 was a matter of moving to another type of material 19 that was not as -- as objectionable to some of the 20 public. 21 Q. Could the fiberglass-containing flywheels be 22 used as replacement parts for those vehicles that had 23 been originally manufactured with the 24 asbestos-containing flywheels? 25 MR. RADCLIFFE: I don't mean to interrupt,	Page 25 1 transmission. The clutch is bolted to the flywheel. 2 When the pedal is down in the cab, the clutch is 3 released, which means the plate load, or spring load 4 of the clutch, is taken -- is taken off of it so that 5 the driven disc is free to turn separately from the 6 flywheel. As the driver engages the clutch, it 7 squeezes the driven disc, the intermediate plate and 8 the flywheel together to lock them up. 9 Q. So in that transmission -- in that clutch 10 there are two -- two discs, one for each driven -- 11 A. In a -- in a typical 14-inch clutch, which 12 was the major seller at that time for heavy truck, 13 there were two driven discs, an intermediate plate, a 14 clutch cover assembly, yes. 15 Q. Did each of the driven discs contain a -- in 16 those trucks where you used asbestos as a material on 17 a disc, did each of those discs contain that material? 18 MR. RADCLIFFE: Object to the form. 19 A. Yes, the disc would -- would contain the same 20 material on both discs. 21 Q. And back to my original question, which is if 22 you were repairing a truck that had originally been 23 equipped with a clutch that had the asbestos material 24 on those two driven discs, could you use your 25 fiberglass material as a replacement when a repair was