

PR-Yorkshire

More than happy to share my experience on gear design and testing, its what this forum is all about.

In 15 years testing gears and transmission systems for British Coal and truck gearboxes and back axles I saw most types of failure.

Not sure if Mazda has fell into the same mistake but many manufacturers will take a reliable transmission, make a few changes, put it into a different application and suddenly make a reliable gearbox into an unreliable one. Seen this all too many times.

Looking more and more like gram technology taken too far where it shouldn't have been used in the first place.

Layshaft flexing because it's too thin to be rigid causing stress fractures in the unnecessary undercut on the teeth.

Does that sum it up for you?

And a few recent comments from the forum - https://www.mx5oc.co.uk/forum/yaf_postst101157_The-first-Mk4-built-for-racing-now-up-for-sale.aspx

Parker

I must admit to being quite perplexed as to how on earth Mazda Design Engineers with the analytical and modelling tools available today such as finite element stress analysis etc. can get it so wrong if the problem is a design problem rather than a quality problem. Gearbox design is a mature technology and to have reliability problems due to their "Gram" strategy as they seem to have is not excusable in this day and age. They should not try to save weight at the expense of reliability on such expensive and critical parts. The use of lighter wheels for example would have been a better strategy and with additional benefits such as less un-sprung weight

Drumtochy

In any large organisation those at the top are 10,000 miles away from the engineers doing design, not real miles but they may as well be.

That organisation from the top will have certain instructions and in the case of the ND there would be at least three, reduce weight, reduce cost get it produced on time.

In my time in large companies if the MX5 gearbox senior transmission engineer dug his heels in he would have been listened too for a few months.

There would be a number of senior engineers moved around to different departments to gain a wider knowledge of the organisation as part of their career development.

A person who knew their place would be moved in to that position of senior transmission engineer and they would tell the team to reduce weight, costs etc. The existing team would explain why that was not possible and give the proof of this to the new senior engineer.

The new man knew what happened to the last guy and he will just get the team together and say something like reduce the weight of everything by 8%.

If the gearbox did not break after an hour of use. The new senior engineer would not go back to the top and say it cannot be done. He would advise it has been done and it is running.

Top management would not say run it for three months and report back.

They would then be more interested in the final colour choice for the production run as that gearbox weight issue is behind them.

Facts and complicated computer design systems are soon put in their place when it does not suit senior management.

Parker

That's a very depressing scenario you've described there Drumtochty. Frown Let's hope that Mazda are taking better care of their reputation for reliability than that but, as per First rider, who knows?

Scottishfiver

I've just read through the more bullet-pointed Wink posts in this thread.

Rather shocking all in all. I'm slightly confused given NDs are built still in Hiroshima (?) which I considered to be a more specialist product facility, that such issues still arise in terms of product engineering R&D, & pre-release sign offs. I also wonder if these boxes are shared by other Mazda vehicles and if so are they too causing issues since the SkyActive mill is common enough elsewhere. Or, is the issue unique to certain ND installations? Perhaps so, given Rodders information about torque via the diff. The point Rodders made regarding banging more F1 performance is a valid one indeed. One wonders if, given the known issues, Mazda UK will (if they have covertly not already done so) invalidate future ND G/box warranty claims the second an engineer flips the bonnet. Given the current situation, would it be wise not to spend money boosting any of them meantime?

Mazda UK have had as we all know quality control issues abound in the past. My wife and I were caught up the the famous Mk2.5 clutch failures. It took 3 kits & installs to cure ours, but cure it they did and that assembly has soldiered on for another 50,000 miles over 11 years without fault. That was a warranty recall. So was the premature boot-light area rot that eventually they went 50/50 on. Mk3's? Who needs the list of Mazda UK proving difficult..ranging from premature seat bolster wear, soft paint and leaky front screens. Epic.

As for ND undercracker rot proofing (or appalling lack of it)...I've said before only one treated & rectified as IanH's, or Enjoy's recently purchased RF would get my interest pre-owned, but that is another subject. Mazda would do well to realise that long-built reputations can be destroyed very quickly...but they will not be too fussed as before.

It's a real pity the ND is coming with an increasing list of caveat emptors from new...beancounted or not as all mass produced cars are.

I came away from the VIP launch drives with the view the Mk1 was reborn..for the 21st century, on a number of positive levels.Good luck to everyone who owns one, but this debacle is one typical reason why I, purely as a personal choice, do not buy new cars.

Being a tight Scots git the thought of a groat of depreciation out my sporran is enough to give me palpitations!

A few days back, VW announced a scrappage scheme to heavily discount devil-oilers following their debacle, so my message to Mazda UK would be to avoid getting close to a similar situation at any percentage. These matters have a habit of growing arms and legs.Top quality & durability is a rightful expectation, but the public will not forgive in the long term. I wonder...how the Mazda UK fleet of launch cars which were caned senseless up and down the country,and by me and a few hundred other "VIP"'s over a few weeks, are fairing. Not sure if they were scrapped or sold on. Just a thought.

I note through this thread an apparent absence of visible input from some Club PR representative.

There may well have been background activity shaking up Mazda UK of course, yet to be announced.

As a former member, currently not an active one, it is a mere observation and no more.

My apologies if I have wrongly accredited text to the wrong author whilst editing the text from the forum Burton