

SHOP NOTES King Midget Maintenance and Restoration

G-16 Transmissions Again *By Bob Daves and others*

MY *SHOP NOTES* CAME YESTERDAY and I could not be happier. What a great compilation!

Two days earlier I had completely disassembled a KM transmission and it's a good thing I did. It's an old unit I purchased on eBay and I must admit, I actually laughed when I separated the two speed pulley system. "So that's how it works!"

Since my KM doesn't have the original two pulley centrifugal clutch or the two-speed pulleys, I was in uncharted water. When I saw the spring in the hub assembly I knew there must be a ball on the floor near my feet! Sure enough, there it was and as the light bulb finally went on I suddenly understood all I've read on about the 'click' and ratchet sounds from this two-speed system and how some authors misunderstand the two-speed as just forward/reverse. The design is so perfectly simple it made me laugh out loud!

Although the pulleys are rusted beyond any possible reuse or restoration, the fact that I could visually inspect and disassemble a complete transmission has given me a great appreciation for the invention.

I'll most likely be using a comet 94C or 780 in my setup.

It's a good thing I disassembled the transmission because the dried oil in the unit prevents the bearings from turning. So it seemed the unit was turning fine, just not shifting, in reality, the shafts were both turning inside the inner bearing race. If this condition had not been corrected before re-using this tranny, the shafts would have spun and burned up the shafts, and more.

They are ball bearing type and not beveled type bearings such as in the wheels. Not sure if this denotes a year or years. I'm assuming I have an older Type 2 transmission since there is no sleeve in the housing and no adjustment bolts on the bearing end of the transmission housing. Not sure if this is OK to use in a Model III but I'll let you all know! I freed up the bearings, but one has a slight chatter so I am planning on replacing both and the seals as well. I have ordered and received a pair of Packard bearings which are the same dimensions and NOS only cost about 10 bucks. They already arrived so I'm pretty close to putting this tranny back together.

So now, I have a shop manual and can tackle these projects with a little more information going in! It's a great read and well put together. I'm really enjoying reading this thing.

I'm noticing a fair amount of wear on the reverse sliding gear (square peg) and the square hole in the drive gear/sprocket. I thought I would just visit midgetmotors.com and see if they have replacements before trying the more difficult weld/grind procedure to correct the wear (especially the reverse sliding gear). However, it appears that site is no longer selling parts.

Do you have any suggestions on where I might look for these two gears or should I begin thinking about repairing and or re-machining these? I don't have a lathe but I do have drill presses, welder, etc. and a fair amount of nerves to think I could tackle it!

Thanks again for *Shop Notes*. It's far and above anything I expected or could hope for! *Bob Daves*

Responses sent: Thanks for your kind words.

Yes, it sounds like you have an older transmission, but it should be fine in your M3 if you rebuild and take care of it.

As for that wear on the "square peg," I'm afraid that is typical of transmissions that have endured abuse over the years—and they're easy to abuse. You can probably estimate from the photos in *Shop Notes* if the wear is too much to live with. If badly worn, your car will jump out of gear. It can be rebuilt but not something I'd suggest attempting without the proper machining tools. Yes, Midget Motors Supply closed their doors [recently reopened] but Paul Gerhardt can supply the parts you need and also rebuild your transmission if needed. *Bob V.*

Hi Bob Daves: I'm also pleased that you found *Shop Notes* an asset to maintaining your KM.

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This site, www.kingmidgetswest.club has some videos under:

Tech Stuff

8. Transmission Repair

which may be of interest to you: In particular:

1. Shaft Bushing
2. Detent Ball and Spring

Be sure to check that the shaft bushing is well seated and doesn't rotate with the input shaft.

The five transmissions I've repaired all required a new bushing. Of those five only one needed new engagement gears. They were beat really really bad. Burrs were raised on both gears. Paul Gerhardt was able to provide replacements, thank goodness.

If you switch to a CVT, I think Bob and Gert would recommend the 44 series.

Anyway, the transmission input shaft is too short for attaching the CVT. There are several easy work arounds and the best I've seen is from Lee Seats. *Randy Chesnutt* ■