

Getting a Firm Grip on the RE5R05A!

Nissan's RE5R05A is laced with traps waiting to snare you, but the corrections are fairly simple once you know where to look.



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We've been talking about the Nissan RE5R05A for some time now, but getting a grip on it has been as easy as grabbing a greased pig. And for those of you that haven't tried that, I'm sure you can find another simile.

It's time to get the harsh and flare shifts taken care of, the first time, so grab your coffee or soda, get comfortable, pay attention, and make your notes.

There are two areas we've been tracking: the 2-3 harsh shift and the 4-5 flare. Of the two, the 4-5 flare has been the most common. Don't worry; we're going to cover both.

2-3 Harsh Shift

The 2-3 harsh shift is caused by apply timing of the high and low-reverse clutch, not the front band. Here's why: The front band is holding in first and second, but is ineffective. In third gear, it's part of the applied state. The servo never loses pressure, so if the band were slipping it would cause a spin-up or neutral, not a flare.

The high and low-reverse clutch applies and the forward brake releases on the 2-3 shift. The timing between these two shift components is critical. The high and low-reverse clutch drum is splined to the direct clutch and is connected to the rear planetary. The forward brake is located in the back of the transmission and is splined to the case.



The problem is the clearance specifications, and there are plenty of them out there: We found at least three and they were all different. Having the wrong clearance — being too loose or too tight — will force you to remove the transmission again. And most of the clutch packs don't have a conventional selective plate.

So here's the fix: set the high and low-reverse clutch clearance to 0.050" and the direct clutch to 0.060", or as close as humanly possible (Figure 1).



Figure 1



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Where to go when you want to know.

Precision International's "state-of-the-part," interactive website, www.transmissionkits.com, is like having one of the world's foremost transmission repair experts working by your side. You've got questions? It has answers. You have installation problems? It has solutions. Need a part or kit pronto? Look it up. All you have to do is click.

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Getting a Firm Grip on the RE5R05A!

You can use AOD output shaft rings on the mid-sun gear shaft if you choose (Figure 2). You can also use a 4L60E servo ring (Teflon) on the support-to-direct drum. You'll have to butt cut the rings to fit. The combination of these changes will solve your problem.

But that's just the beginning. Make sure you drive the vehicle and reset the strategies. And always use the right fluid: Nissan Matic J (Figure 3).

One down, one to go...

4-5 Flare Shift

What a nightmare this problem can be: We've taken over 500 calls alone on this unit, opened 250-plus tickets, and

it seems like this transmission refuses to lie down easy. But fear not, we have the fixes.

The 4-5 flare can be a number of things: the band, the band adjustment, the input clutch, the fluid, the solenoids, and the clearances. All of these fall under the heading of a basic rebuild. Now don't be offended by this, but if you want to cut corners on this transmission, don't be upset when you have to pull it out a second, third, or fourth time. Seriously, just buckle up and get it done.

The band has been an issue: It releases in fourth and reapplies in fifth. The band material has been in question.

(Figure 4) The band adjustment has been in question: (Figure 5)

...don't be upset when you have to pull it out a second, third, or fourth time. Seriously, just buckle up and get it done.



Figure 2



Figure 3

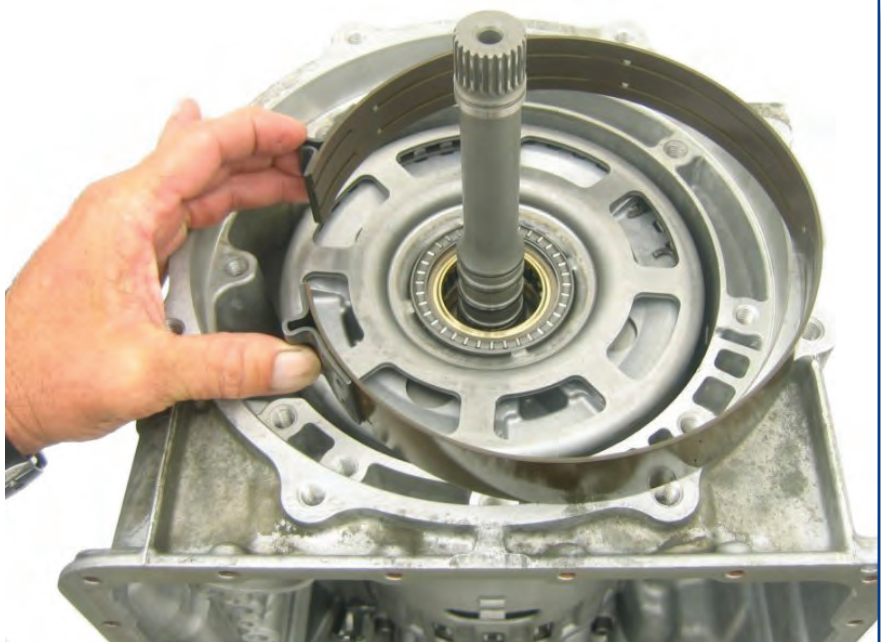
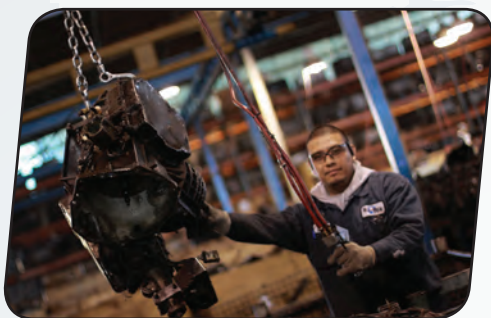


Figure 4



**Hard parts...need one? Need 100?
Can't find what you're looking for?**



Just Ask!

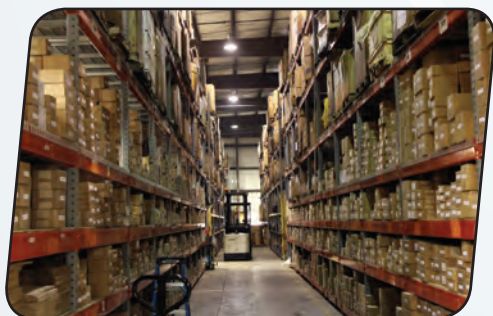
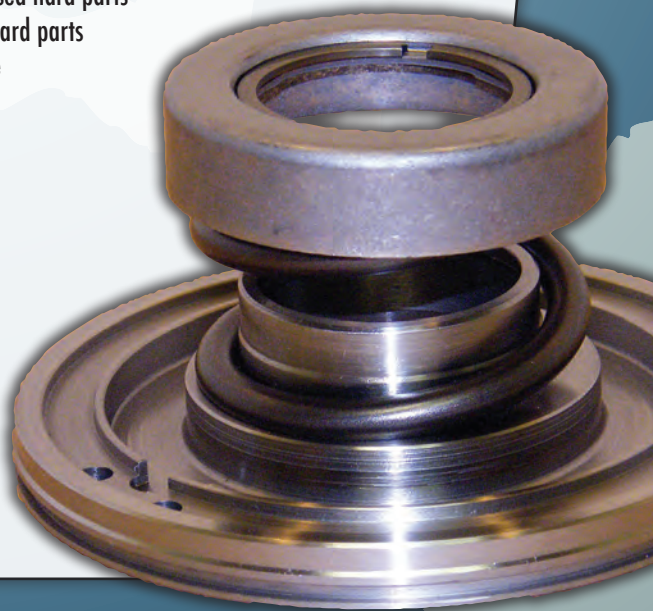
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02-05 50 In lbs
2 1/2 Turns Out
06-Up
44 In lbs
3 Turns Out

Figure 5

Bottom line? Make sure you have the right adjustment for the specific year and a quality brown band. You can't make this adjustment in the vehicle without some serious imagination.

Check the input clutch drum and shaft assembly with a fine tooth comb. Look for cracks and make sure the seals are doing their job (Figure 6). Check the stator support; there should be *no* grooves and *no* wear marks (figure 7a & 7b). If there's any sign of wear or leakage, replace it.

If the vehicle came into the shop with water damage, replace the valve body assembly with the TCM and solenoids.

Clearances, like I said earlier, there are at least three lists out there. Use these; they've been proven in the field:

Endplay Specifications

Input Clutch: 0.7 – 1.1 mm (0.028" - 0.045") no selective components available.

High and Low/Reverse Clutch: 1.0 – 1.5 mm (0.040" - 0.060") no selective components available.

Direct Clutch: 1.1 – 1.6 mm (0.045" - 0.065") no selective components available.

Reverse Brake Clutch: 1.1 – 1.6 mm (0.045" - 0.065")

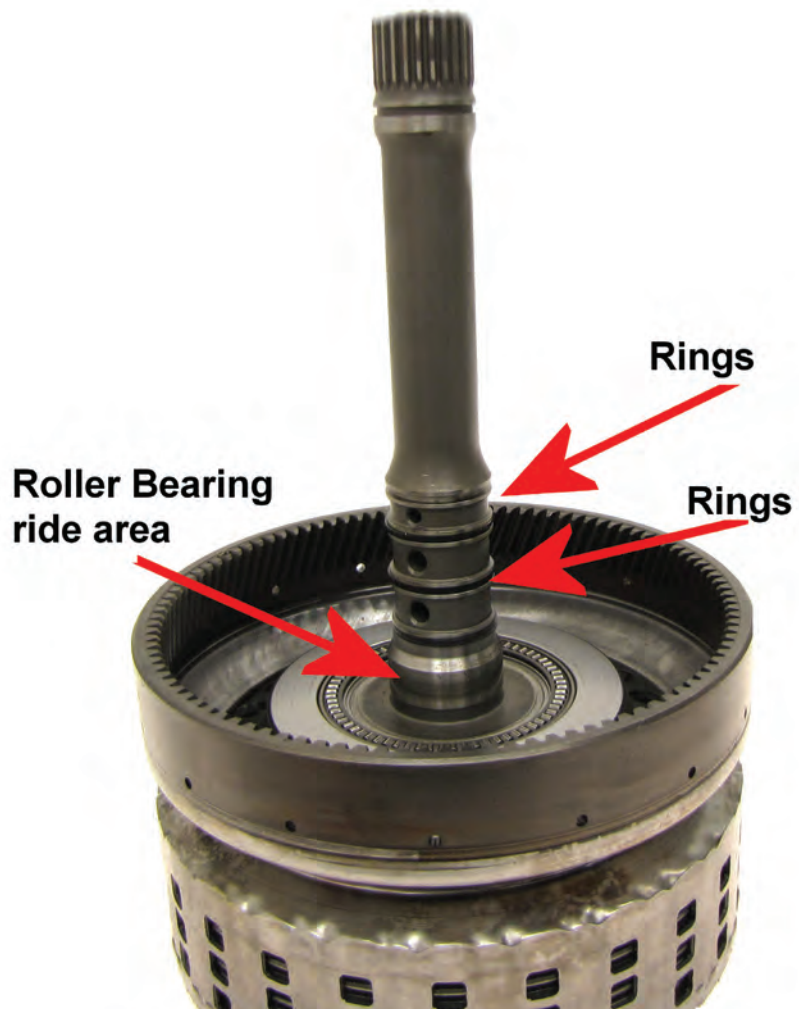


Figure 6

A GREAT KIT JUST GOT BETTER!

The Newly Updated 4F27E/FNR5 Kit

The 4F27E Kit that builders are using exclusively for four-speed 4F27, J39A, FN4A-EL has now been updated to cover FNR5/FS5A-EL transmissions. The updated Multi-Unit kit now covers the five-speed Ford FNR5 and the Mazda FS5A-EL transmissions. The FNR5 is found in the 2006-up Ford Fusion and Mercury Milan. The FS5A-EL is found in 2006-up Mazda 3 and 6 models, 2008-up Mazda 5 and several other Ford/Mazda models found internationally. Included in this kit is the new 4-5 Billet Accumulator Piston which prevents 5-4 flairs and shuttle shifts due to a worn or damaged accumulator bore.

The 4F27E/FNR5 kit includes Superior's patent pending billet sealing ring accumulator pistons. This kit also contains one of our patent pending Accumulator Buddy™ brushes so no other tools or fixtures are required. The pistons and brush allow you to reuse previously discarded cases that would not have sealed due to premature wear. The 4F27E/FNR5 kit also includes a new, stronger solenoid pressure regulator valve spring to replace the frequently broken stock spring.



PART# K4F27E

The 4F27E/FN4A-EL/FNR5/FS5A-EL Shift Correction Package helps to eliminate or correct the following problems:

- Soft shifts and flairs
- Premature band failure
- Code P0741 (T.C.C. slippage)
- Broken solenoid P.R. valve spring
- Worn or damaged accumulator bores
- Newly designed accumulator pistons included

Accumulator Buddy™ Brush included. No other special tools or fixtures required.

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Make sure you're using the right fluid. And if the vehicle came in with water damage, make sure the water is gone, completely gone: use a flusher.

Selective Backing Plates:

<u>Thickness</u>	<u>Part #</u>
4.2mm (0.165")	31 667 90X14
4.4mm (0.173")	31 667 90X15
4.6mm (0.181")	31 667 90X16
4.8mm (0.189")	31 667 90X17
5.0mm (0.197")	31 667 90X18
5.2mm (0.205")	31 667 90X19

Low Coast Brake Clutch: 0.5 - 1.0 mm (0.020" - 0.040") no selective components available.

Forward Brake Clutch: 1.0 - 1.3 mm (0.040" - 0.055") no selective components available.

Total Endplay: Use an H-gauge from pump surface to front sun gear drum 0.25 - 0.55 mm (0.010 - 0.022").

Make sure you're using the right fluid. And if the vehicle came in with water damage, make sure the water is gone, completely gone: use a flusher.

All right, let's put this into a perspective. This unit can have water damage only and still end up with these problems. This unit can come in for a normal service and you may need to go into the unit because of metal. No matter what the unit comes in for, make sure you follow these steps:

- Measure and adjust your clearances following the specs listed in this article.
- Make sure you're following good rebuilding techniques; no shortcuts. One wrong move and you're doomed to remove the transmission again.



Figure 7A



Figure 7B

- Make sure you're using quality parts, and never reuse a friction part that has been contaminated with water, even if it looks good.
- Replace the valve body, TCM, and solenoids if the failure was caused by water damage. Clean the heck out of all parts, cooler lines, and anywhere water can hide.
- Use the correct fluid.
- Make sure you warm the vehicle up before the test drive. This will cut the adaptive strategy time down.

Over the past three months, these techniques have proven themselves over and over. Cutting corners on this unit just isn't a good idea. Stay the course and you'll finally get rid of this vehicle... the first time.





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- The industry's tightest manufacturing specifications for trouble-free installation
- Withstands higher temperatures than the OE
- Made in the USA
- An OE replacement without the OE cost