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SIL 10-1K2K-21, Rev. A
December 21, 2021
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SUBJECT: Changes to C1 Piston Housing, P3 Ring Gear, and Common Retaining Ring

MODELS AFFECTED: 1000 and 2000 Series Transmissions

SERIAL NUMBERS AFFECTED:

	Indianapolis	Chennai
New P3 Ring Gear	6311971905 through 6311971920 6311971930 through 6311971980 6311971985 through 6311971988 6311972909 and later	TBD
New C1 Piston Housing	6311982635 and later	TBD

Introduction:

In an effort to commonize components between the 1000 and 2000 Series and the upcoming MD 9-speed, Allison Transmission, Inc. is making the following product changes. The retaining ring for the balance piston retention in the C1 piston housing is common with the P2 and P3 ring gears' retention. A new retaining ring was designed for the P2 and P3 ring gears. This new/current retaining ring is similar to the former production retaining ring, but now incorporates a 0.14 mm larger corner radius for increased thrust capabilities. In order to use this current, common retaining ring in 1000 and 2000 Series 6-speed products, the current C1 piston housing and P3 ring gear retaining ring grooves were altered and new part numbers released. [Figure 1](#) shows the common retaining ring in the location of the C1 piston housing, P2 ring gear, and P3 ring gear.

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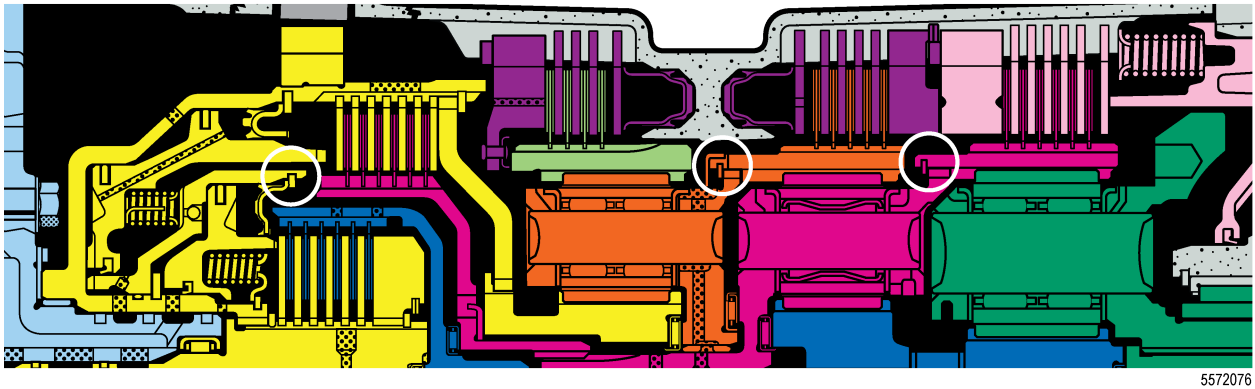


Figure 1. Common Retaining Ring Locations

COMPATIBILITY:

See [Table 1](#) for part compatibility of former and current designs.

The former retaining ring P/N 29541011 can be used with both C1 piston housing designs listed in [Table 1](#). The current C1 piston housing can be used with either retaining ring. The only incompatible combination for C1 is the current retaining ring P/N 29565830 with the former C1 piston housing P/N 29546277.



WARNING: Failure to use the correct retaining ring for each distinct C1 piston housing design can lead to unseating of the retaining ring from the C1 piston housing groove, premature failure of C1 clutch, and other downstream issues can occur.



NOTE: There is no required orientation needed for the retaining ring in the C1 clutch housing, P2 Ring Gear or the P3 Ring Gear, and no orientation needed with respect to the cut-off end of the retaining ring within the housing or ring gears.

The current retaining ring P/N 29565830 can be used with former and current P2 and P3 ring gear designs shown in [Table 1](#). Current P3 ring gear can only be used with the current retaining ring P/N 29565830. The former retaining ring P/N 29541011 is incompatible with the current P3 ring gear P/N 29565831.



WARNING: Failure to use the correct retaining ring for the P3 ring gear design can lead to unseating of the retaining ring from the ring gear groove. Premature failure of the P3 ring gear and other failures can occur.

Table 1. Compatibility Matrix - C1 Piston Housings and P2/P3 Ring Gears with Retaining Rings

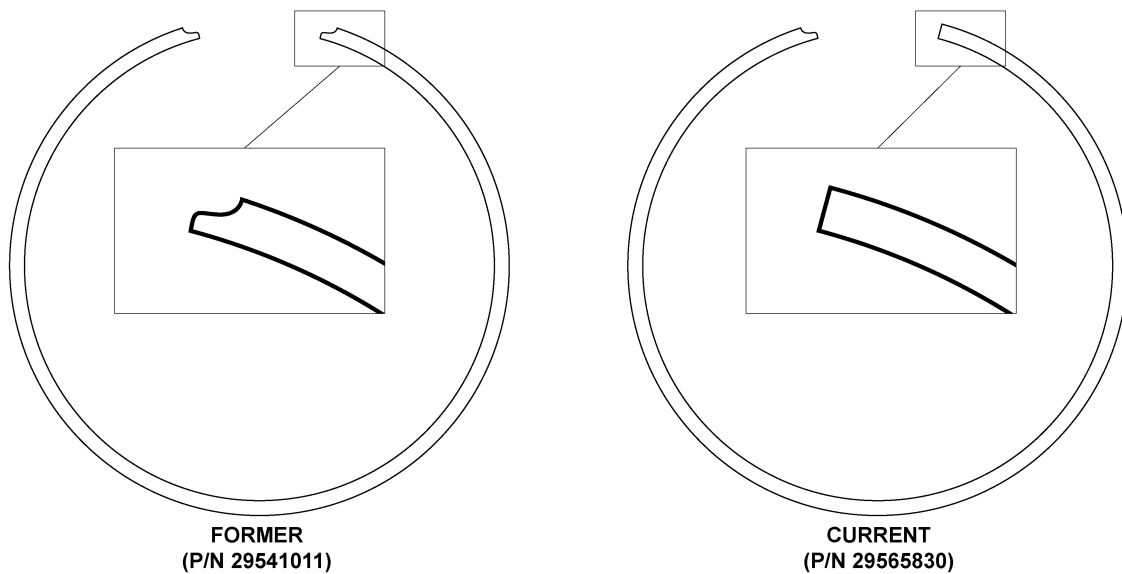
			Retaining Ring	
			Former	Current
			29541011	29565830
C1 Piston Housing	Former	29546277	Compatible	Incompatible
	Current	29567337	Compatible	Compatible

Table 1. Compatibility Matrix - C1 Piston Housings and P2/P3 Ring Gears with Retaining Rings (cont'd)

			Retaining Ring	
			Former	Current
			29541011	29565830
P2 Ring Gear	Former	29541818	Compatible	Compatible
	Current	29566406	Compatible	Compatible
P3 Ring Gear	Former	29541010	Compatible	Compatible
	Current	29565831	Incompatible	Compatible

PART IDENTIFICATIONS:

The current retaining ring P/N 29565830 has been given a unique feature to distinguish it from the former retaining ring P/N 29541011 since the two retaining ring designs are not completely interchangeable with the mating parts. To distinguish the current retaining ring from the former retaining ring, one end of the current retaining ring (P/N 29565830) contains a straight end cut. See [Figure 2](#) for retaining ring identification.



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Figure 2. Retaining Ring Comparison Showing End Cut Differentiation

Former and current C1 piston housings and P3 ring gears do not provide physical part number identification. To help identify which piston housing or ring gear is being used during a repair, an identification groove has been added to each part. Refer to [Figure 3](#) for current C1 piston housing identification groove location and [Figure 4](#) for current P3 ring gear identification groove and its location.



NOTE: There is no major change to the P2 ring gear design that warrants a marking identifier, despite having a new part number association. Both P2 ring gears are compatible with either retaining ring.

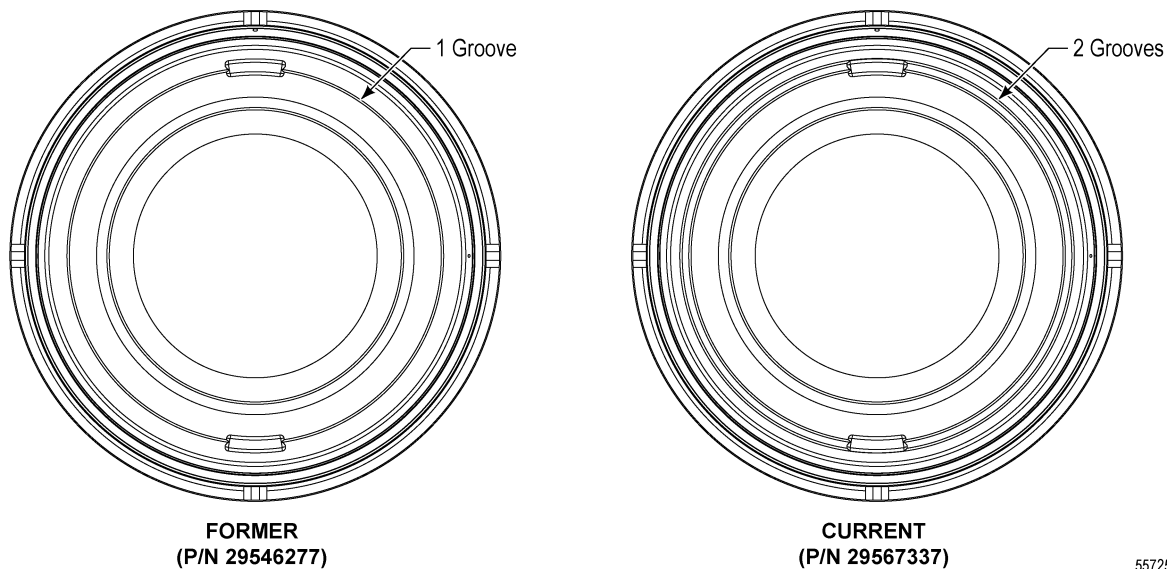
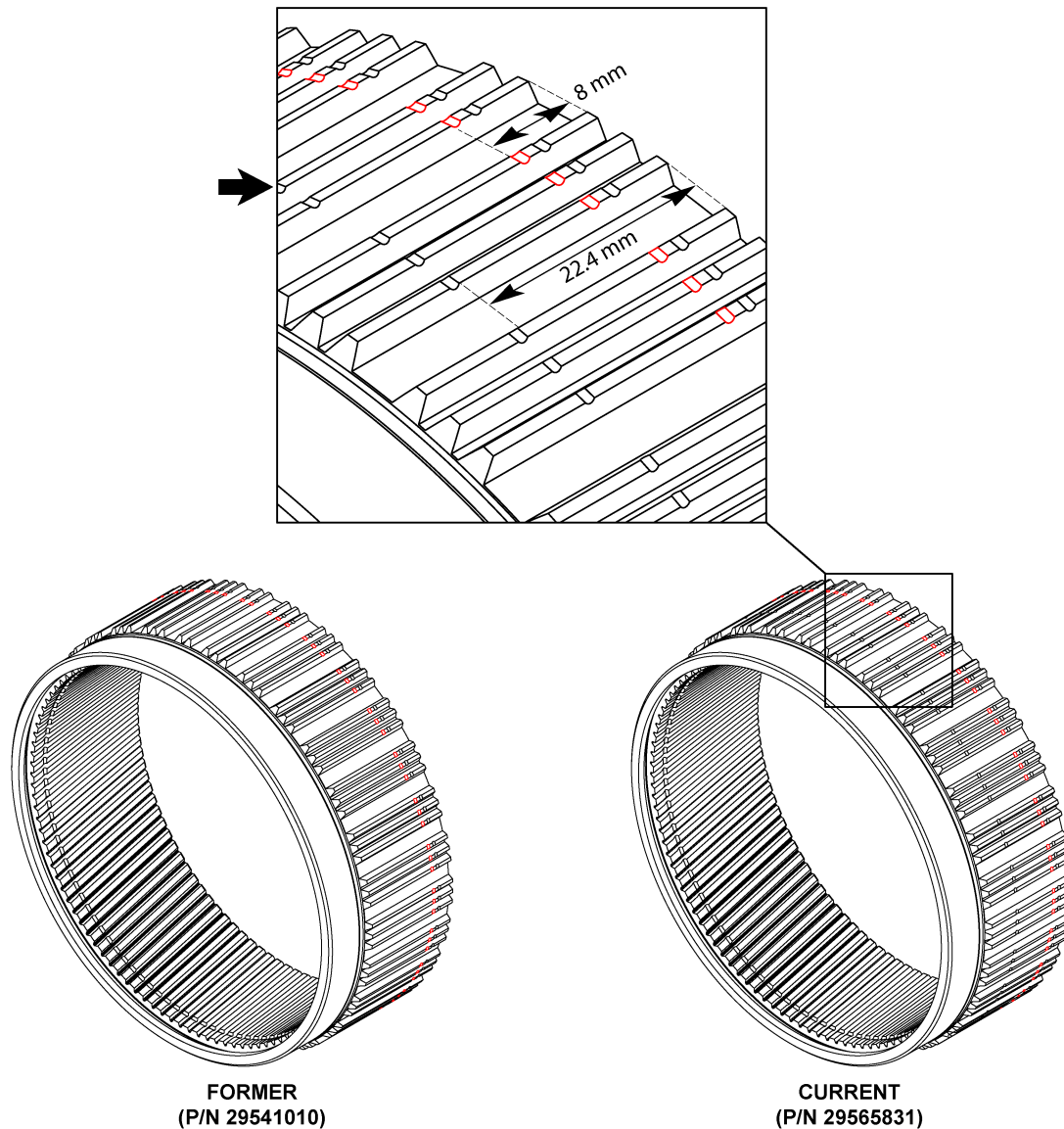


Figure 3. Groove Markings on C1 Piston Housing



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Figure 4. Groove Markings on P3 Ring Gears

The former P3 ring gears contain one or two grooves for traceability, depending on where it was manufactured. These identifiers are located approximately 8 mm from the back edge of the ring gear.

Additionally, the current P3 ring gear will contain an additional groove identifier 22.4 mm from the back edge of the ring gear. Refer to [Figure 4](#). This groove should be used to identify the P/N 29565831 P3 ring gear.