



Technical Service Information

FORD 5R110W

NO MOVEMENT

COMPLAINT: (1) After overhaul the vehicle has no movement. Transmission removal reveals that the torque converter has not been filled with fluid.

(2) After overhaul the transmission exhibits a sluggishness or engine stall.

CAUSE: A 2005 or Later longer Converter Clutch Control Valve installed into a 2003 - 2004 pump cover can cause the above two possible complaints (see figure 1).

SUMMARY: There are two different length converter clutch control valves for the 5R110W.

2003-2004 transmissions have a valve that has an overall length of 3.568" and has a valve bore depth of 5.265".

2005 and Later has a converter clutch control valve that has an overall length of 3.768" and has a valve bore depth of 5.465" (figure 2).

It is the valve spool opposite the spring that makes the difference, the 2003-2004 valve spool has a length of .775" while the 2005 and Later has a valve spool length of .975" (figure 2).

The shorter valve in the longer bore allows the valve to float between the spring retainer and the bottom of the bore (figure 3). THIS WILL CAUSE NO MALFUNCTION!

The longer valve in the shorter bore would result in no converter fill causing no engagements and consequently no movement. The converter may also become slightly air bound causing a sluggish feel and could possibly allow the converter clutch to stall the engine.

CORRECTION: If the converter clutch control valve or pump cover requires replacement be sure to check the Rough Forge (RF) number on the pump casting (figure 4). Match the correct valve to the pump cover that is being installed.

A special thank you to Dean Mason of Superior Transmission Parts for his clarification on the hydraulic possibilities of this scenario.

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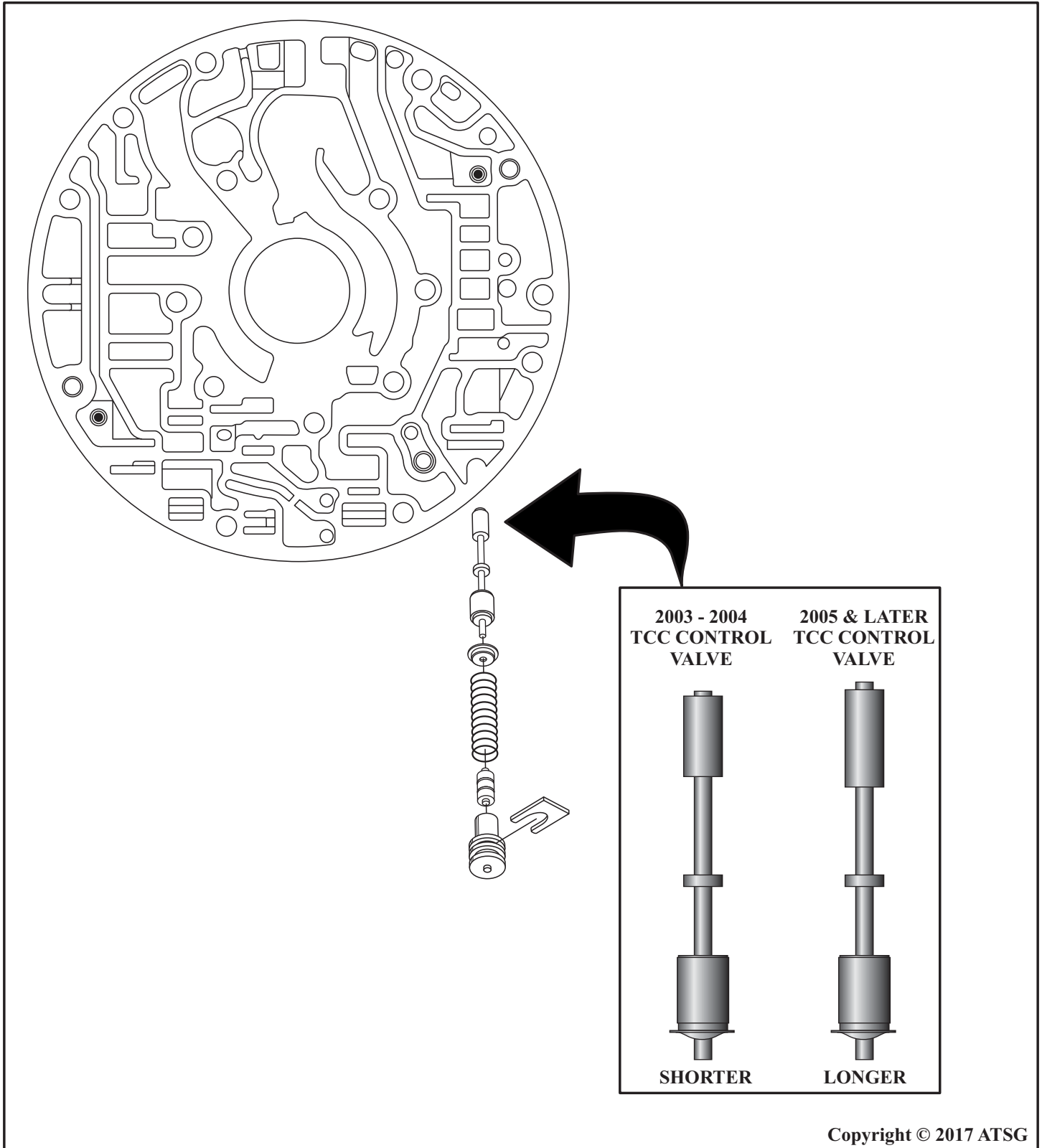


Figure 1

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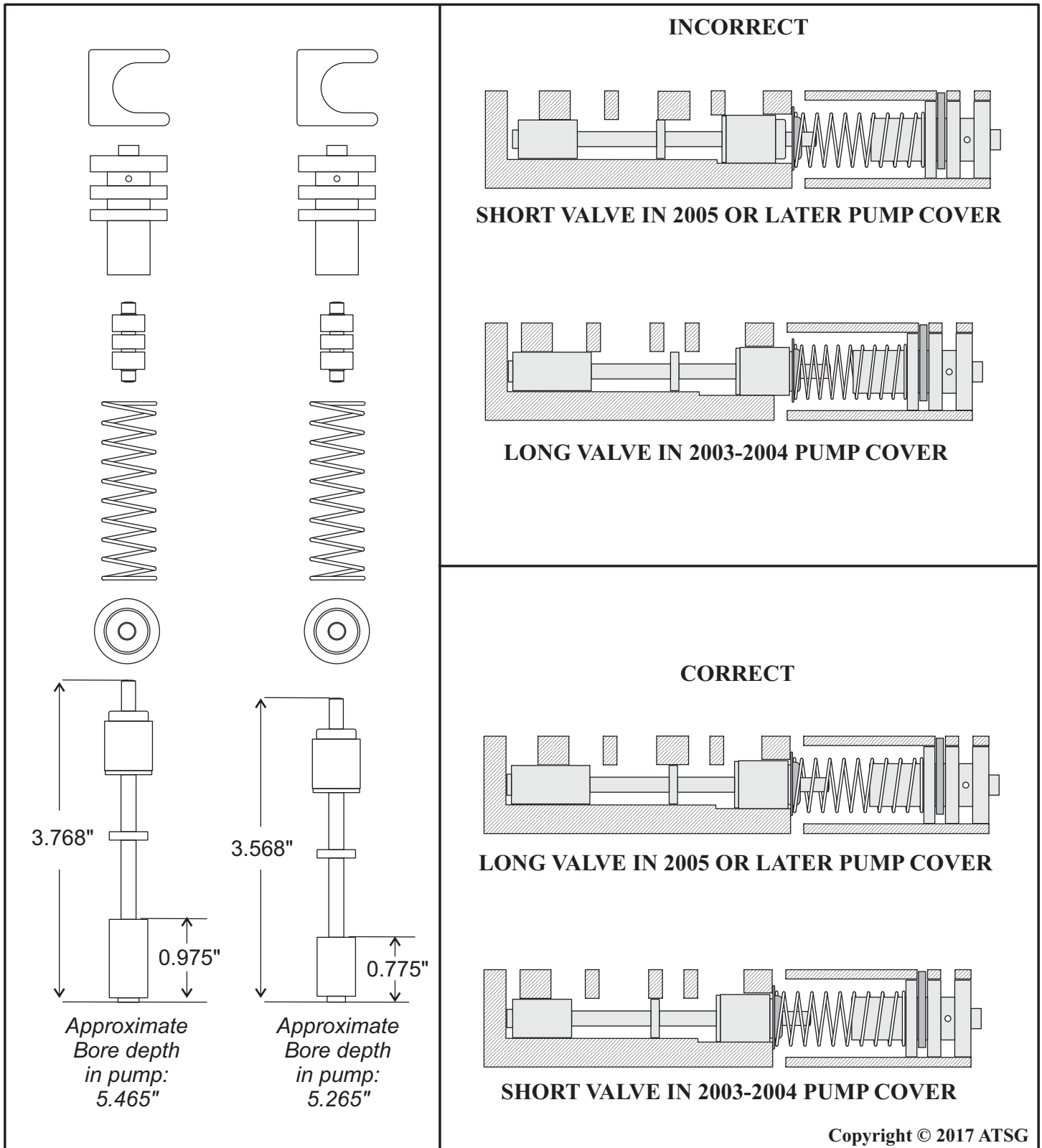
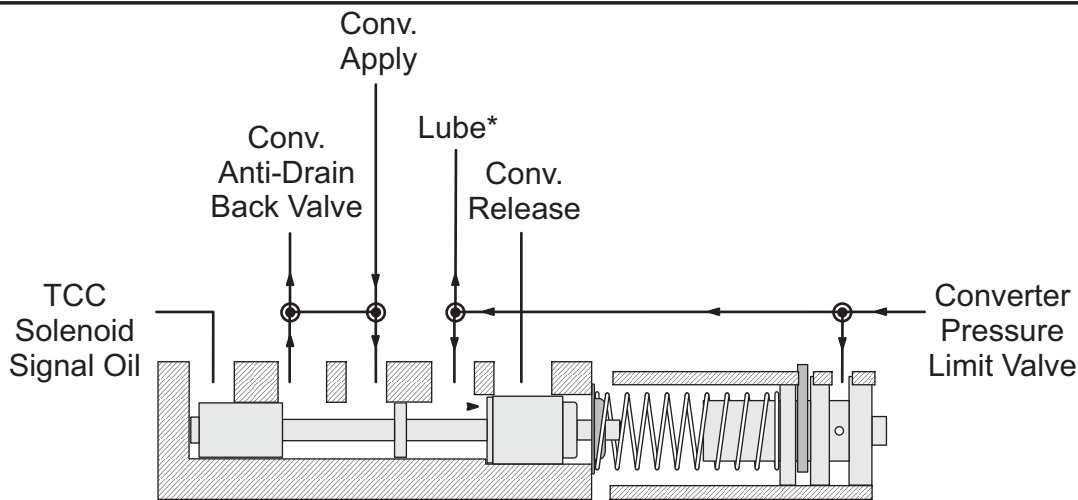


Figure 2

FORD 5R110W

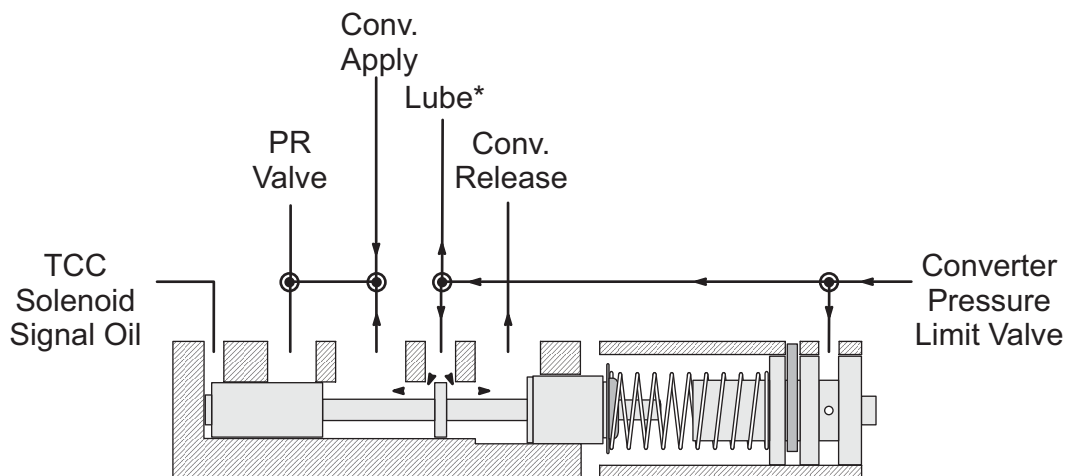
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2005 Pump with the 2003-2004 Converter Clutch Control Valve

The shorter valve in the longer bore allows the valve to float between the spring retainer and the bottom of the bore. When the engine shuts off, the valve will drop to the bottom of the bore. When the engine is restarted, converter supply oil will lift the valve against the spring seat while charging the converter clutch release oil circuit.

THIS WILL CAUSE NO MALFUNCTION!



2003-2004 Pump with the 2005 Converter Clutch Control Valve

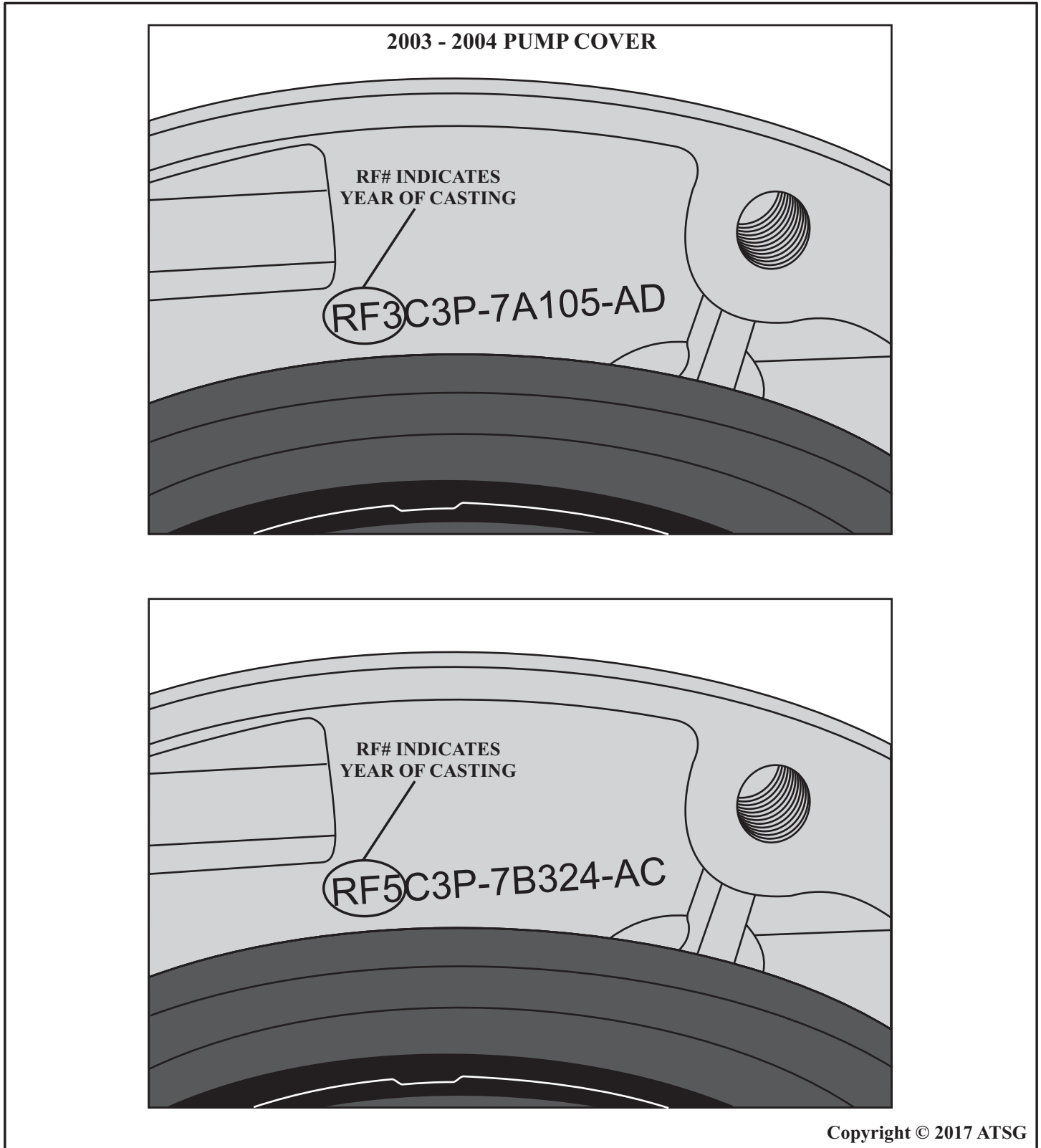
The longer valve in the shorter bore will have the #3 land open to converter apply oil circuit but is not quite closed at the converter release oil circuit. TC oil is being applied to both oil circuits at the same time. This causes the converter to become air bound which prevents converter clutch application, however, if the air were able to escape then converter clutch would apply and kill the engine.

Initially the symptoms caused by this TCC Valve mixup would be no engagement and no movement due to no converter charge.

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Figure 3

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Figure 4