

FORD E4OD/4R100/5R110/5R55S/W/N/5R55E

TCC RELEASE OIL COMPLAINTS

COMPLAINT: After overhaul a Ford transmission has one of the following complaints. No movement, engine lugs or stalls when cold, the transmission runs hot in traffic, repeated and premature torque converter clutch lining failure.

CAUSE 1: The converter release and fill channels that are behind the front stator bushing in the pump stator tube are restricted or blocked with debris. Along with no movement the oil level may be overfull. See figure 1.

CAUSE 2: The front stator bushing is installed at the incorrect depth. See figure 2.

CAUSE 3: The wrong stator bushing was installed on a A4LD, 4R44E and 5R55S/W/N series only See figure 3.

CORRECTION 1: Remove the bushing and clean out the debris from the oil channels and install a new bushing at the proper depth.

CORRECTION 2: Reposition or reinstall the front stator bushing at the proper depth. Depth specification is .883" + or -.015".

CORRECTION 3: Install the correct bushing with the oil channels on the outside diameter. A4LD, 4R44E or 5R55S/W/ and N models.

THEORY: 98% of all the automatic transmissions that we work on have a floating clutch in the torque converter, while a few other transmissions have a captive converter clutch. The torque converters that have a floating clutch require "release or front" oil pressure to keep the converter clutch released or off. Another aspect of the floating clutch converter is the release oil flow is ALSO the converter fill oil while the converter clutch is released (there are exceptions to this), see figure 4 for proper flow of release or front oil in the stator tube of these Ford units. When the converter clutch is commanded on from the ECM the hydraulic system will exhaust or dump the release or front oil and re direct the oil the flow into the "apply or rear" side of the converter clutch, see figure 5. If there is inadequate release or front oil to the converter clutch it will drag when it should be off. This dragging leads to premature lining failure or overheating and converter clutch slippage codes. There are many other causes for inadequate converter release oil and premature clutch lining failure, that will be the topic of future bulletin.

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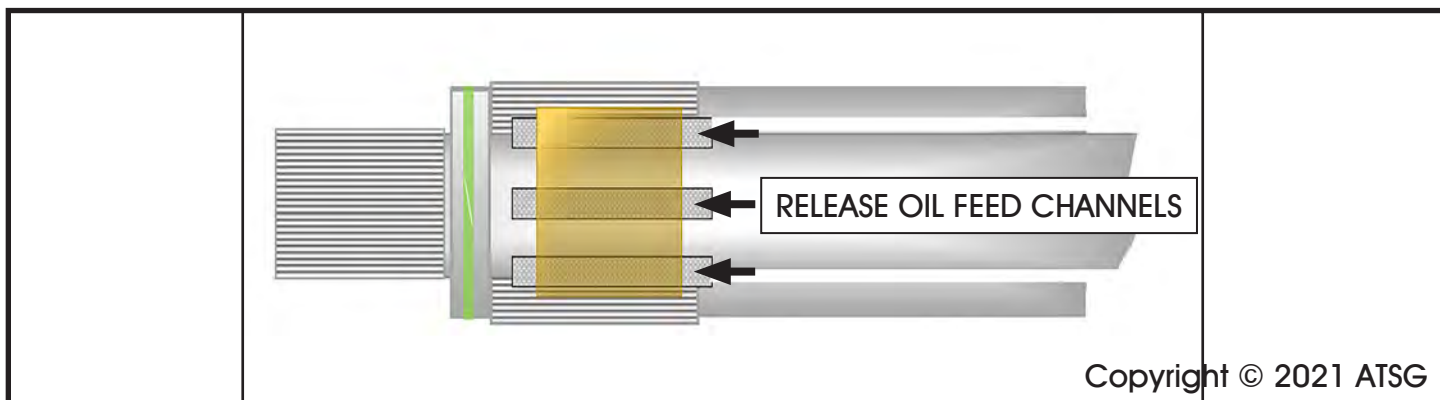


Figure 1

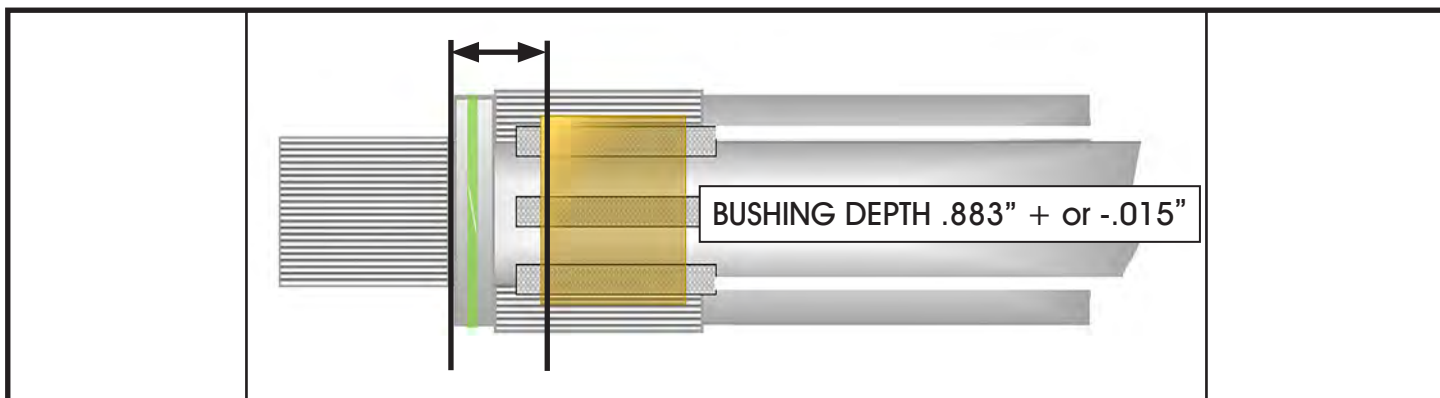


Figure 2



Figure 3

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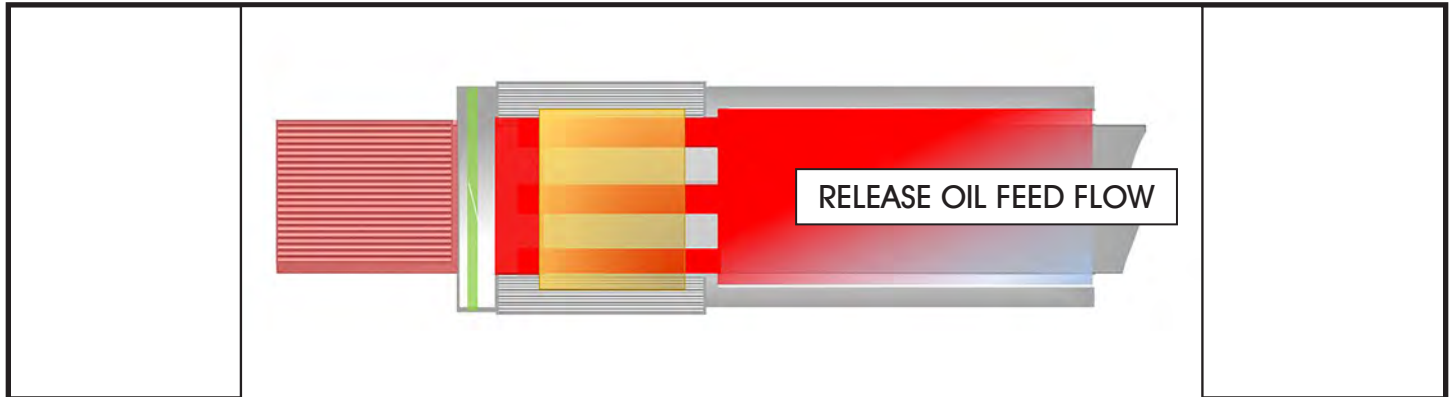


Figure 4

THIS OPENING IS CONVERTER OIL OUT, TO THE COOLER WHEN THE CONVERTER CLUTCH IS RELEASED.

THIS OPENING IS ALSO THE CONVERTER FILL AND CLUTCH APPLY OIL WHEN THE CONVERTER CLUTCH IS COMMANDED ON.

THIS OPENING AND THE PASSAGE TO IT TENDS TO COLLECT A LOT OF DEBRIS AFTER A CONVERTER FAILURE. IT'S ADVISABLE TO REMOVE THE TCC APPLY VALVE AND THOROUGHLY CLEAN OUT THE PASSAGES. A RESRTICTION HERE WILL CAUSE STALLING LUGGING, OVERHEATING OR TCC SLIP.



Figure 5

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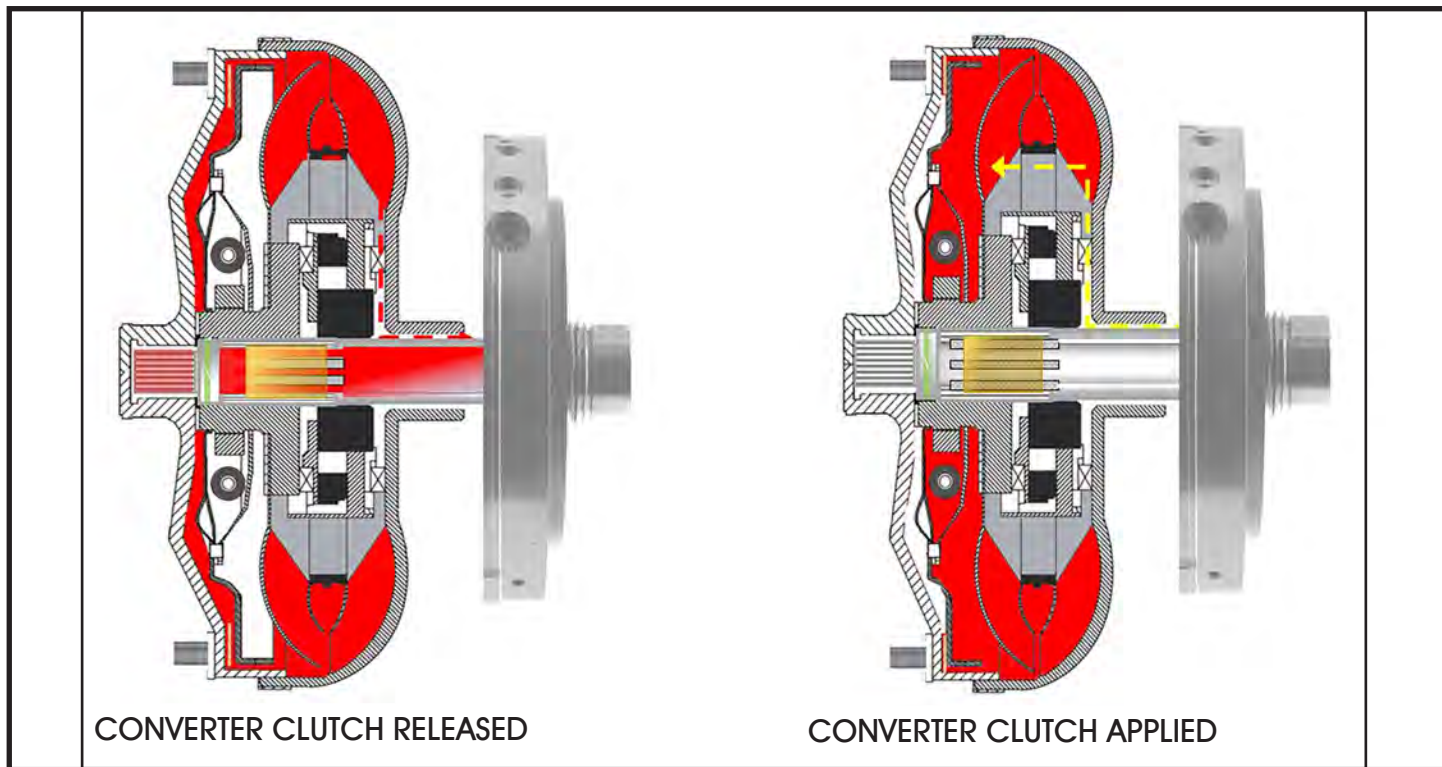


Figure 6