



TOYOTA A-340 SERIES TRANSMISSION FLUID OVERHEATS

COMPLAINT: Some Toyota vehicles, equipped with the A-340 series transmissions, may exhibit a condition of Transmission Fluid Overheating due to poor cooler flow, while the Torque Converter Clutch is "ON."

CAUSE: The cause may be,

- A worn Primary Regulator Boost Valve Sleeve, causing line pressure to be higher than normal, placing the Primary Regulator Valve in a position where it restricts Converter Apply Pressure, that is sent to the Lock-up Relay Valve, as shown in the partial circuit diagram in Figure 1.
- A worn Lock-up Relay Valve Sleeve, causing a loss of Converter Apply Pressure and or Solenoid 3 signal pressure, as shown in the partial hydraulic circuit diagram in Figure 1.

CORRECTION: To correct this condition:

- Refer to Figure 2 and locate the Primary Regulator Valve Boost Sleeve and check for wear in the areas shown. Replace the sleeve as necessary.
- Refer to Figure 3 and locate the Lock-up Relay Valve line-up. Check for wear as shown and replace as necessary.

NOTE: Refer to Figure 4 and enlarge the orifice, in the Main Valve Body Spacer Plate, .040" to .050" larger than its original size (the size shown may vary model to model). This will help increase cooler flow.

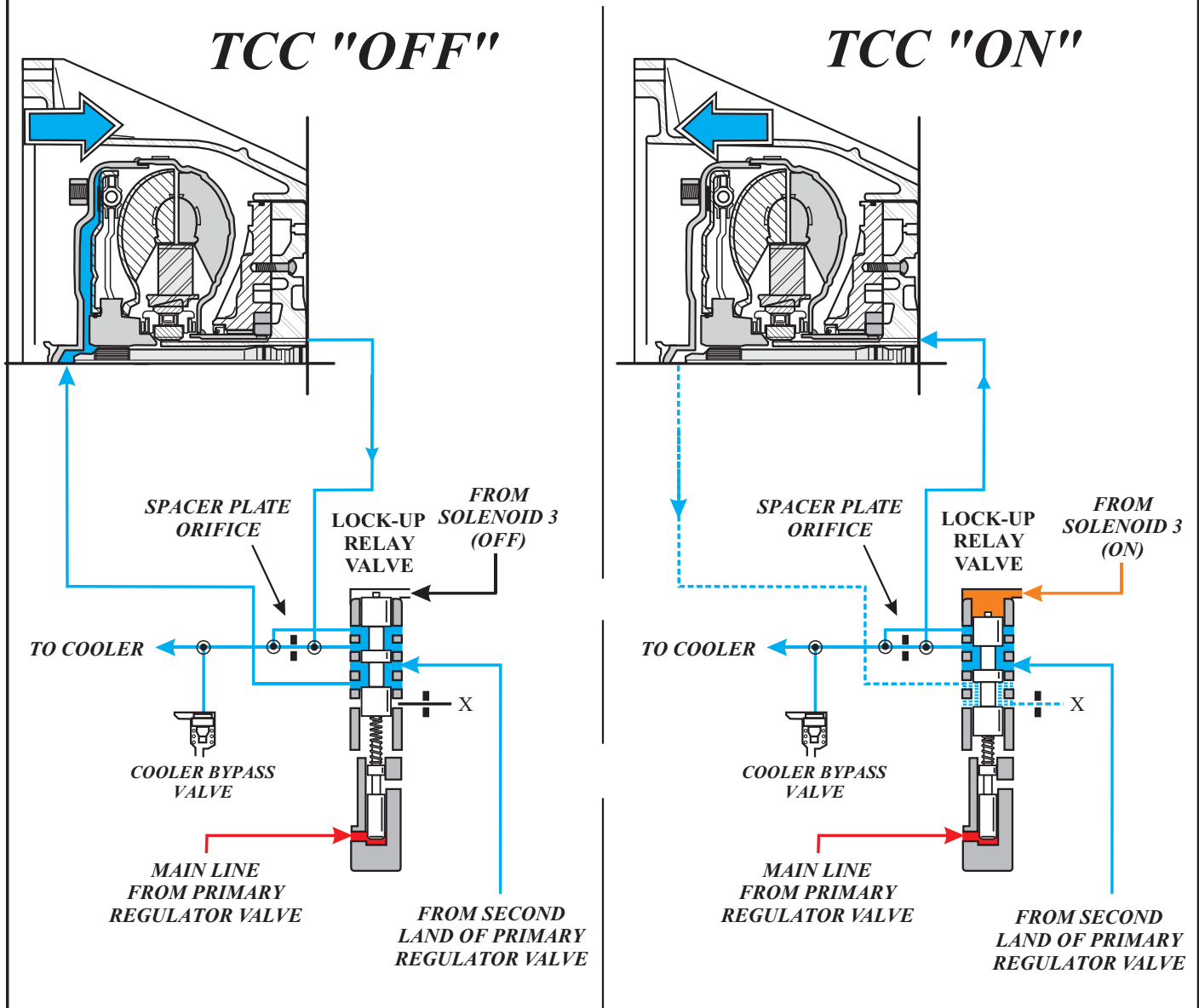
SERVICE INFORMATION:

Primary Regulator Boost Sleeve (Toyota part no.)35417-35010

NOTE: This part number is for the Boost Valve dimensions as shown in Figure 2.

Lock-Up Relay Valve Sleeve (Toyota part no.)35215-30020

PARTIAL HYDRAULIC SCHEMATIC OF TORQUE CONVERTER CLUTCH OPERATION



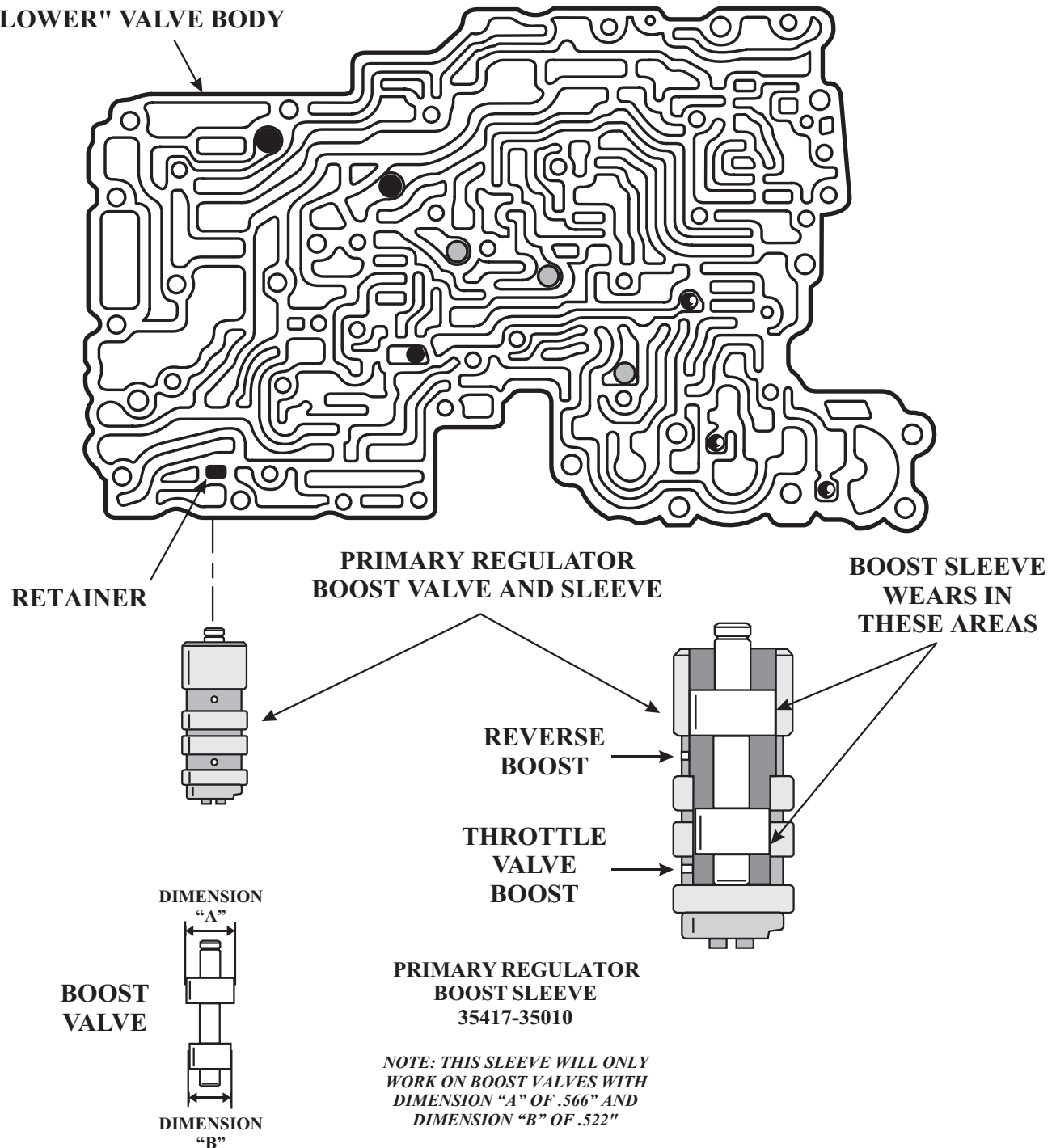
SUMMARY: When the Torque Converter Clutch is "OFF," Converter pressure, from the 2nd land of the Primary Regulator Valve goes thru the 2nd and 3rd land of the Lock-up relay valve, thru the torque Converter and returns to the Lock-up Relay Valve between the 1st and 2nd land where it is connected to the "To Cooler passage."

When the Torque Converter Clutch is "ON," Solenoid 3 is turned ON which strokes the Lock-up Relay Valve and switches the Converter pressure, from the 2nd land of the Primary Regulator Valve, to Converter Apply pressure. This pressure is directed thru the 1st and 2nd land of the Lock-up Relay Valve to apply side of the Torque Converter Clutch and, thru an orifice, to the "To Cooler Passage."

PROBLEM AREAS: The first problem area is from the Primary Regulator Boost Sleeve. Wear in this sleeve can cause Line pressure to be higher than normal minimizing Converter pressure from the 2nd land of the Primary Regulator Valve. The second problem area is wear in the Lock-up Relay Valve Sleeve. Wear in this sleeve may cause a loss of Converter Apply Pressure while in Lock-up and even a loss of Solenoid 3 signal pressure, which may not fully stroke the Lock-up Relay Valve against its spring.

PRIMARY REGULATOR VALVE LOCATION

"LOWER" VALVE BODY

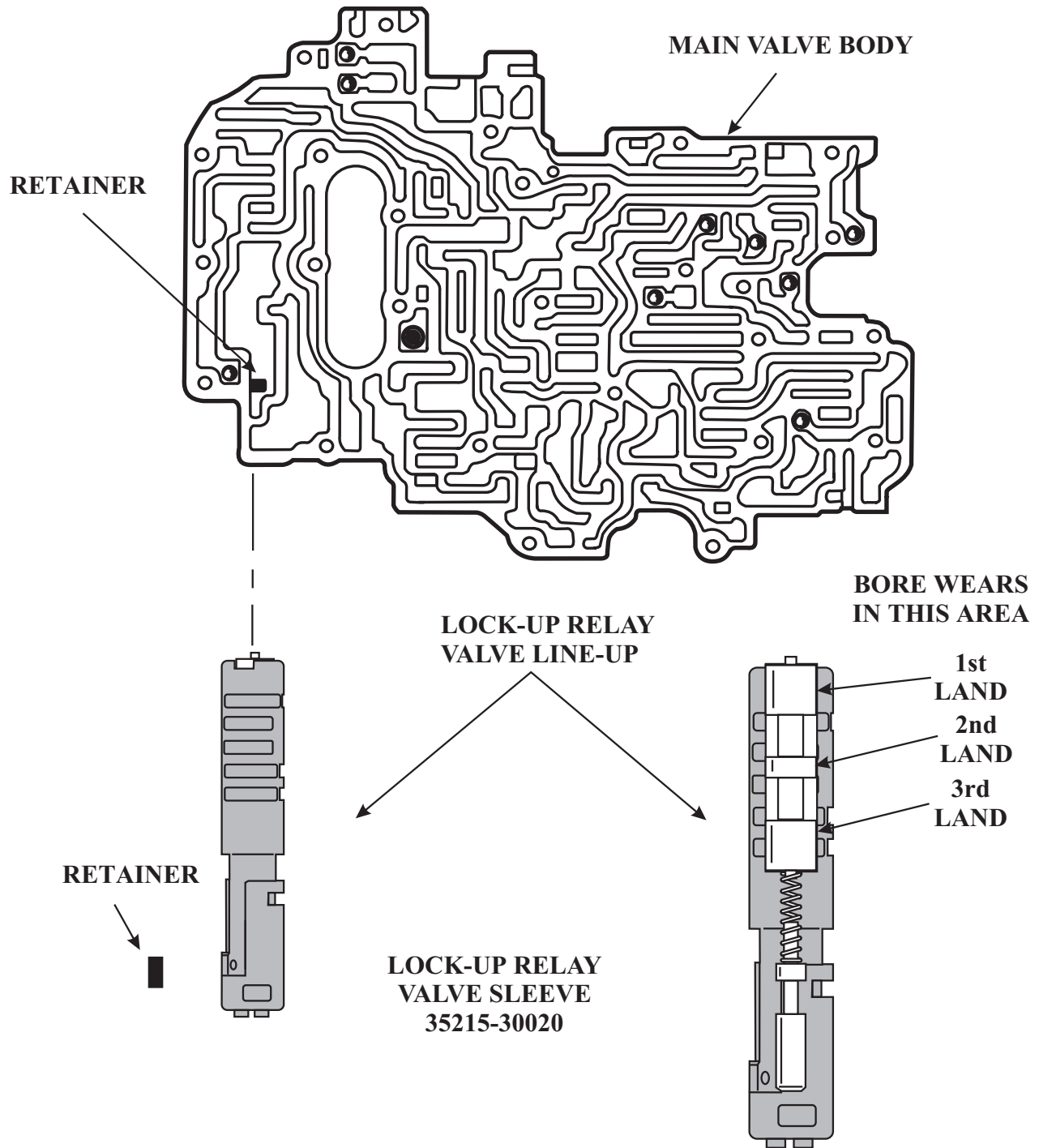


NOTE: Wear in the Primary Boost Valve Sleeve may place the Primary Regulator valve in a position which can cause higher than normal line pressure, which limits Torque Converter Apply Pressure as well as cooler flow.

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Figure 2

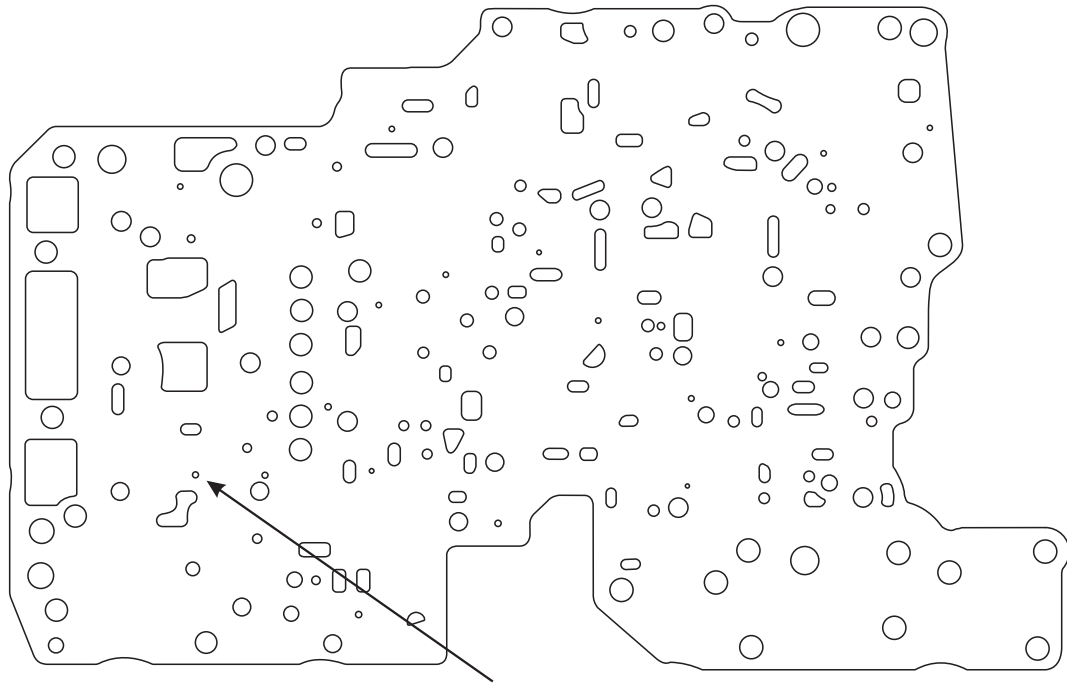
LOCK-UP RELAY VALVE LOCATION



Wear in the 1st land of the Lock-up Relay Valve bore may cause a loss of Solenoid no.3 signal pressure, which may place the valve into a partially stroked position instead of a fully stroked position, when the TCC is applied. Wear in the 2nd and 3rd land, while the TCC is ON, may cause Converter apply pressure to be connected to the already exhausting converter off pressure, which may cause a loss of converter apply pressure as well as cooler flow.

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Figure 3

MAIN CONTROL VALVE BODY SPACER PLATE

**TO COOLER
ORIFICE**

**ENLARGE THIS ORIFICE
.040" TO .050" LARGER
THAN THE ORIGINAL SIZE**

**O.E. DIAMETER
IS .059"
(ORIFICE SIZE MAY VARY)**

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Figure 4