

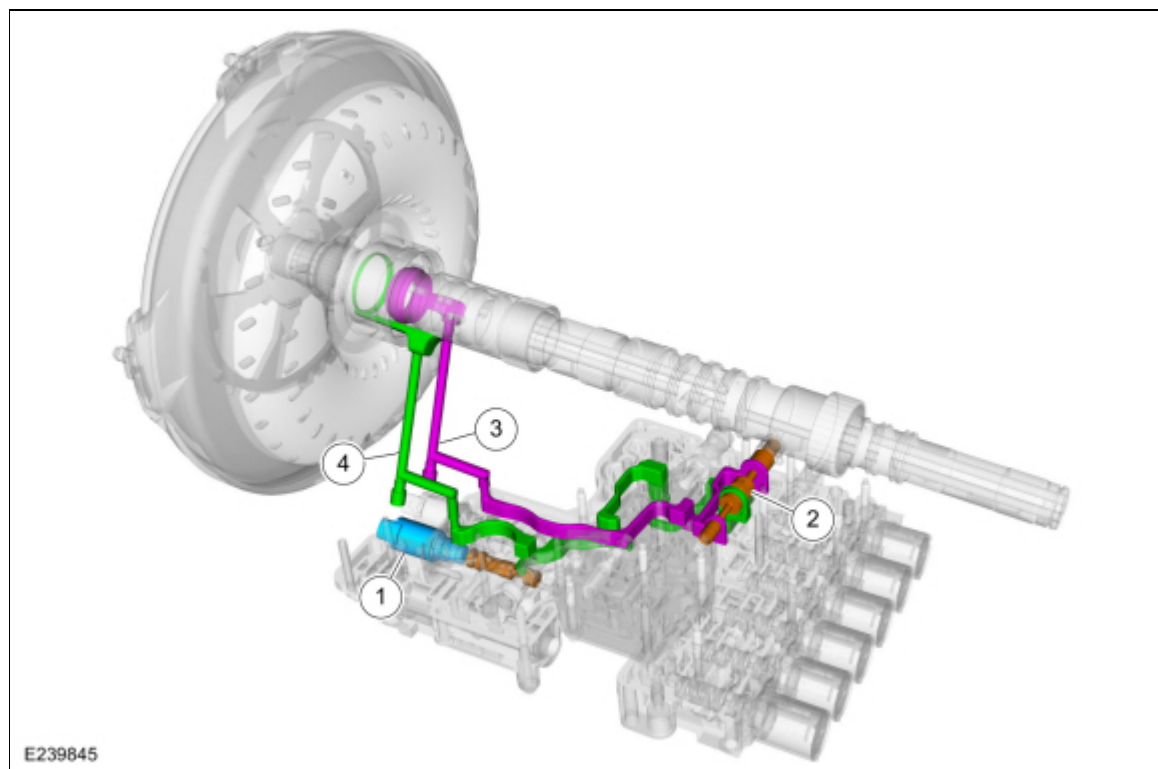
307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80  
Description and Operation

2019 Ranger  
Procedure revision date: 08/18/2016

### Torque Converter

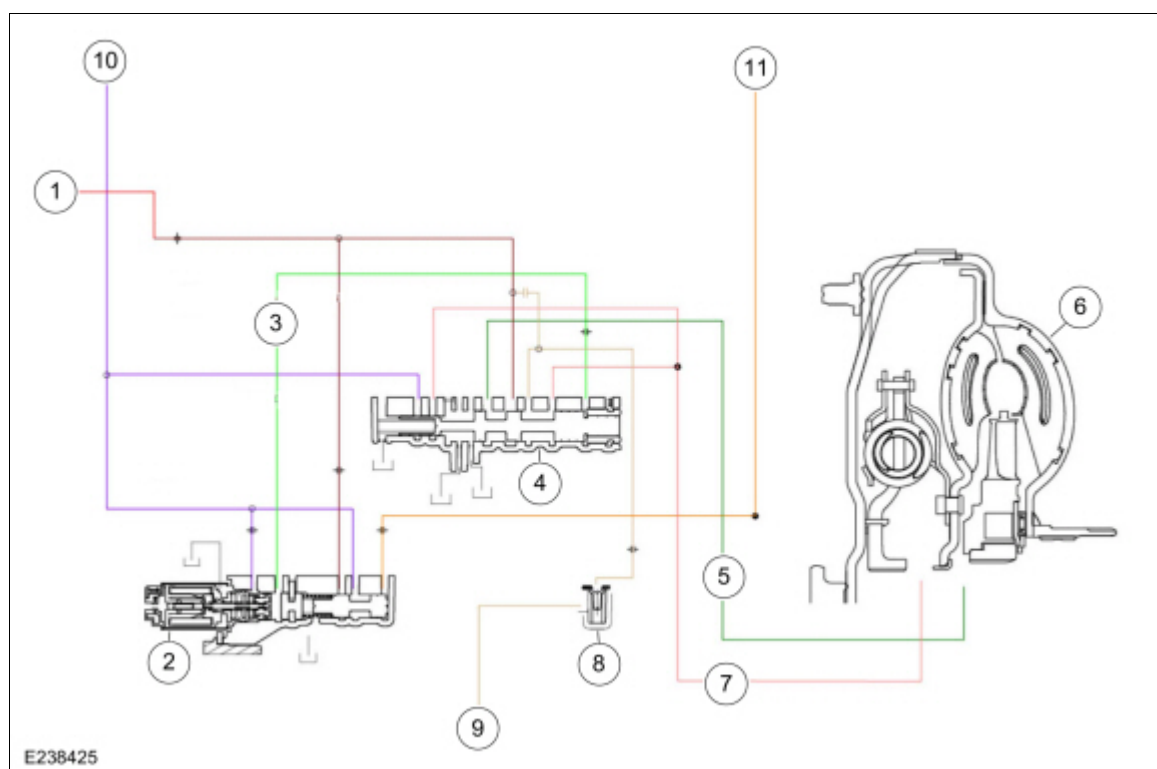
Base Part Number: 7902

#### Overview



Item	Description
1	<u>TCC</u> solenoid
2	<u>TCC</u> regulator valve assembly
3	<u>TCC</u> apply circuit
4	<u>TCC</u> release circuit

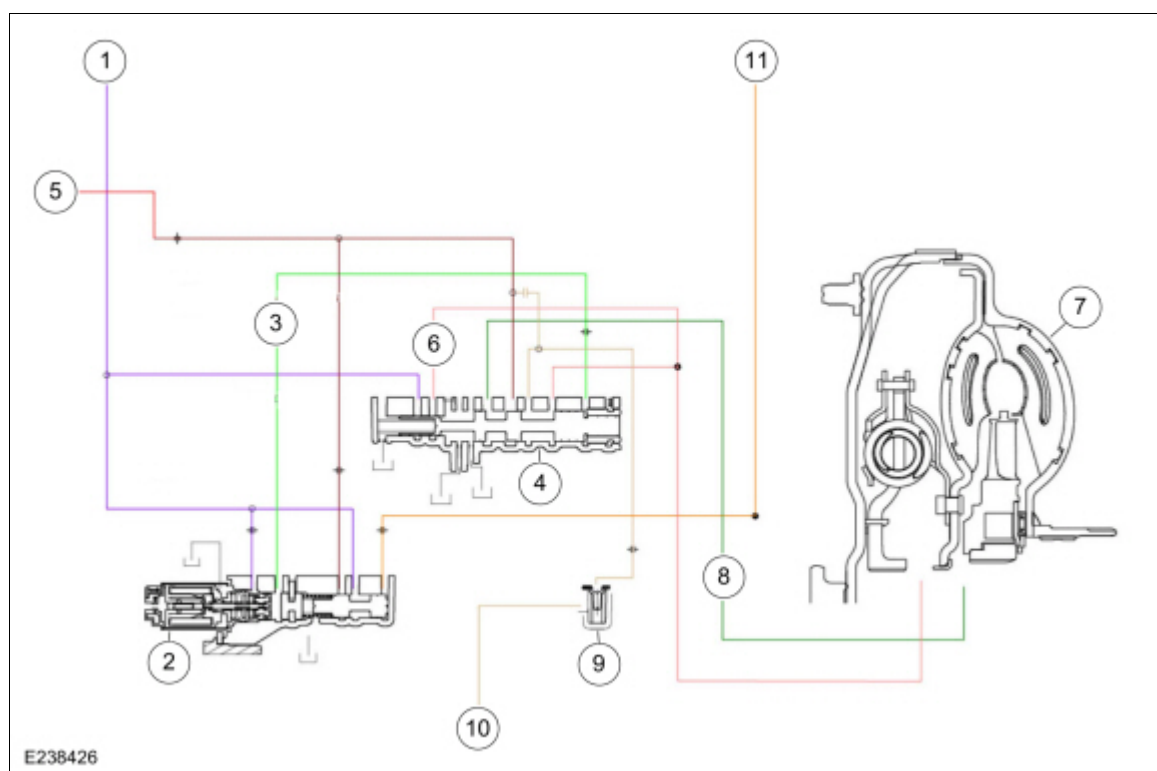
#### Torque Converter Hydraulic Circuits (TCC Released)



Item	Description
1	<u>LPC</u> pressure
2	<u>TCC</u> solenoid
3	<u>TCC</u> control pressure
4	<u>TCC</u> regulator valve
5	<u>TCC</u> release pressure
6	<u>TCC</u>
7	<u>TCC</u> exhaust to <u>TCC</u> regulator valve
8	Torque converter anti-drainback valve
9	<u>TCC</u> exhaust
10	Pump output
11	Decreased pressure from main regulator valve

Line pressure fills the converter feed circuit with fluid up to 160 PSI. The converter feed blow off valve prevents excessive pressure from reaching the torque converter. When the TCC solenoid is commanded off, the TCC regulator valve connects the converter feed circuit to the converter release circuit and fluid flows into the torque converter. Fluid exits the torque converter in the converter apply circuit. The TCC regulator valve connects the converter apply circuit and the from converter circuit. The from converter circuit flows past the converter anti-drainback valve and on to the cooler bypass valve.

#### Torque Converter Hydraulic Circuits (TCC Applied)

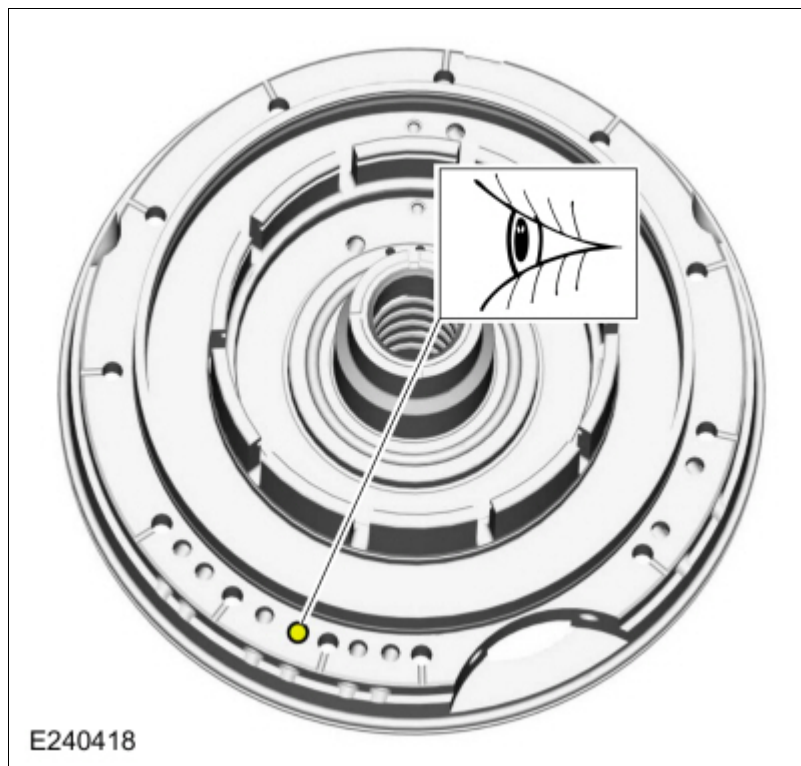
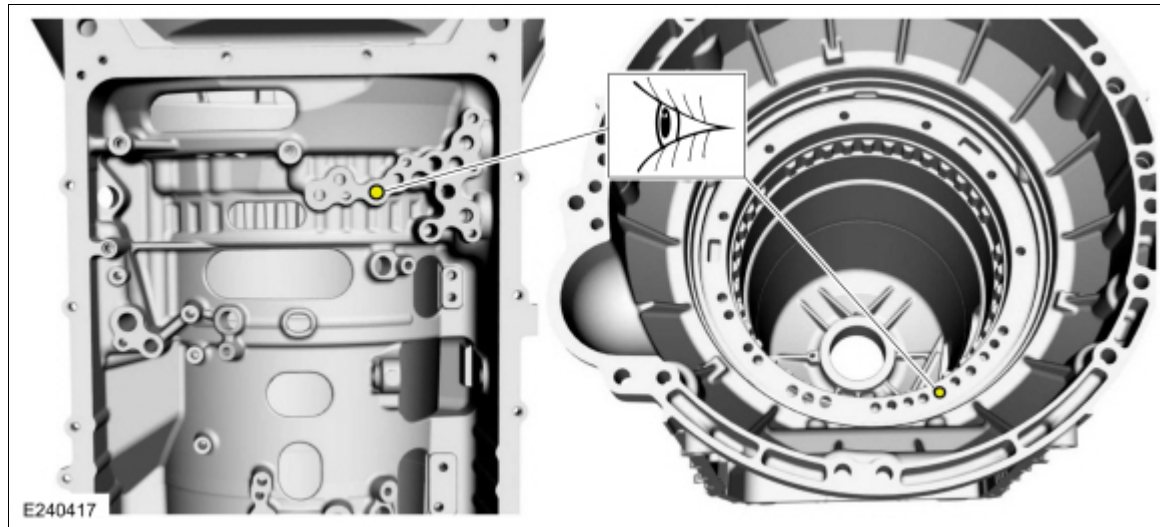


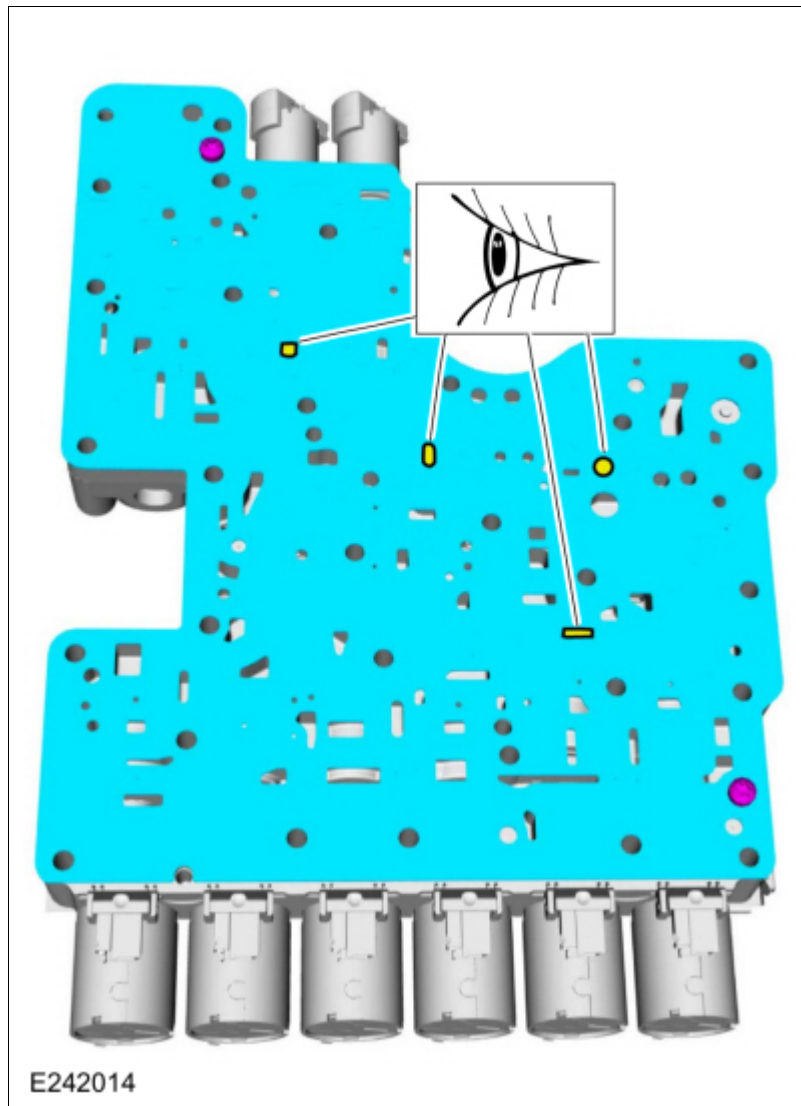
Item	Description
1	Pump output
2	<u>TCC</u> solenoid
3	<u>TCC</u> control pressure
4	<u>TCC</u> regulator valve
5	<u>LPC</u> pressure
6	<u>TCC</u> apply pressure
7	<u>TCC</u>
8	<u>TCC</u> exhaust to <u>TCC</u> regulator valve
9	Torque converter anti-drainback valve
10	<u>TCC</u> exhaust
11	Decreased pressure from main regulator valve

To apply to TCC, the TCC solenoid directs TCC control pressure to the TCC regulator valve, moving the valve to the left against the spring pressure. The TCC regulator valve is positioned to connect pump output to the converter apply circuit. Fluid in the apply circuit is routed to the converter and applies the TCC. Fluid exits the torque converter in the converter release circuit. The TCC regulator valve connects the converter release to exhaust and fluid returns to the sump.

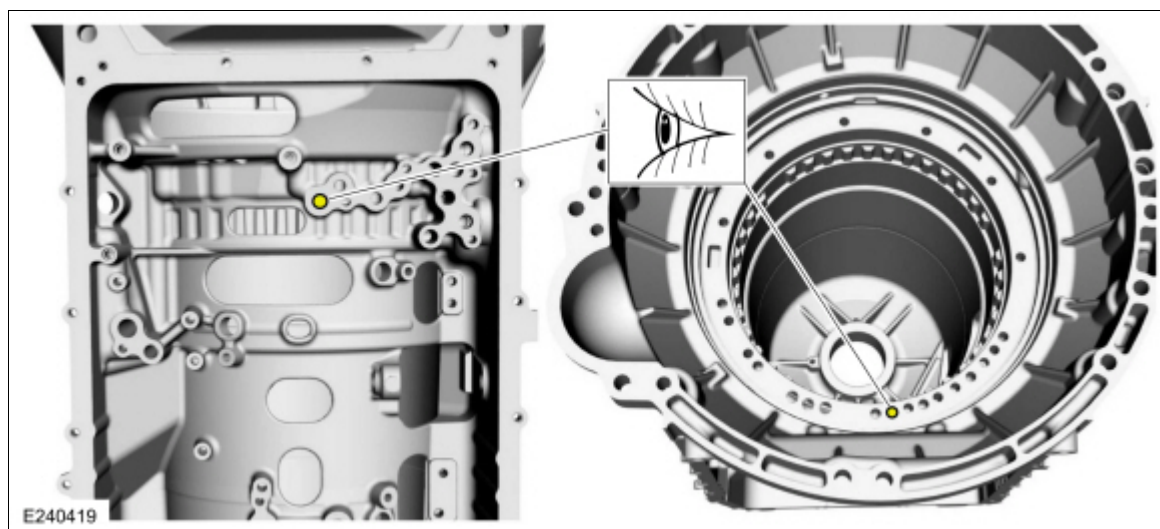
When the TCC regulator valve is in the TCC applied position, the converter feed circuit is connected to the from converter circuit allowing continued fluid flow to the cooler bypass valve.

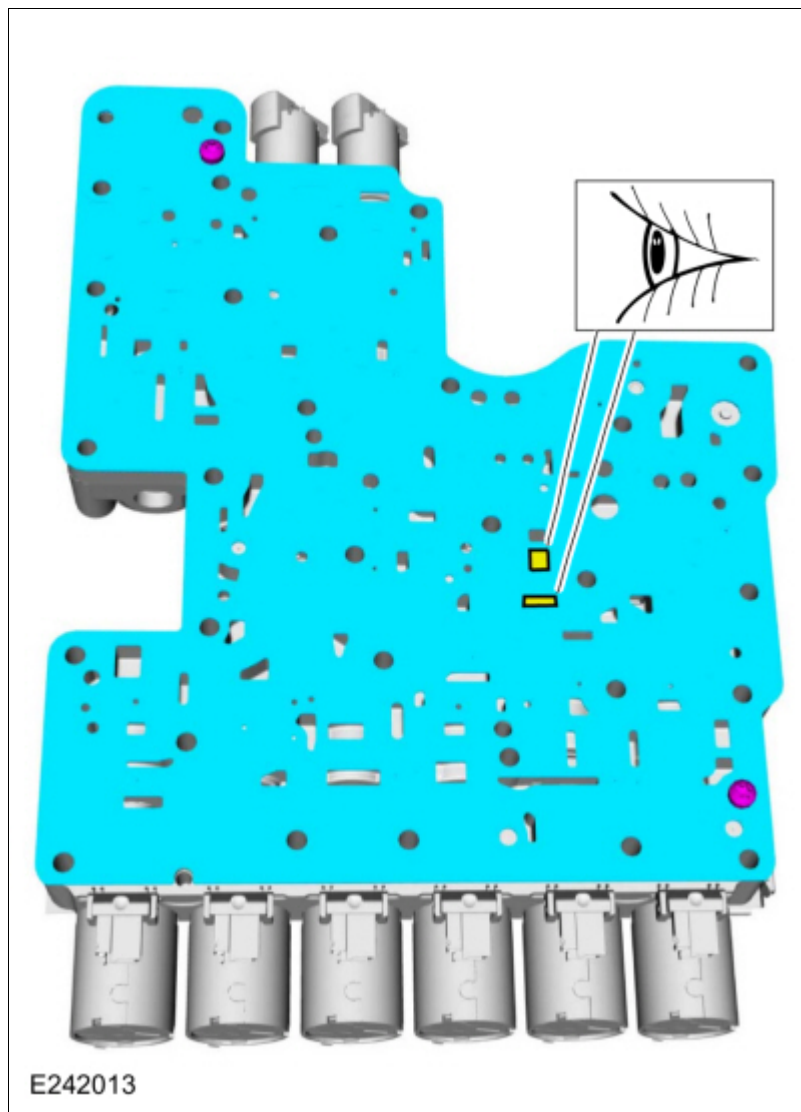
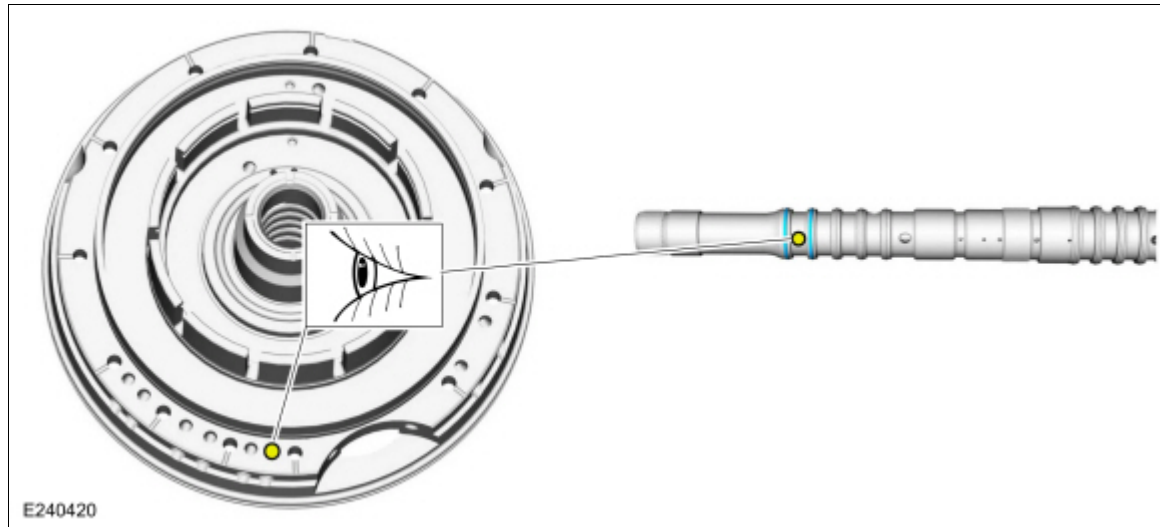
#### **Torque Converter Hydraulic Passages (TCC Released)**





**Torque Converter Hydraulic Passages (TCC Applied)**





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