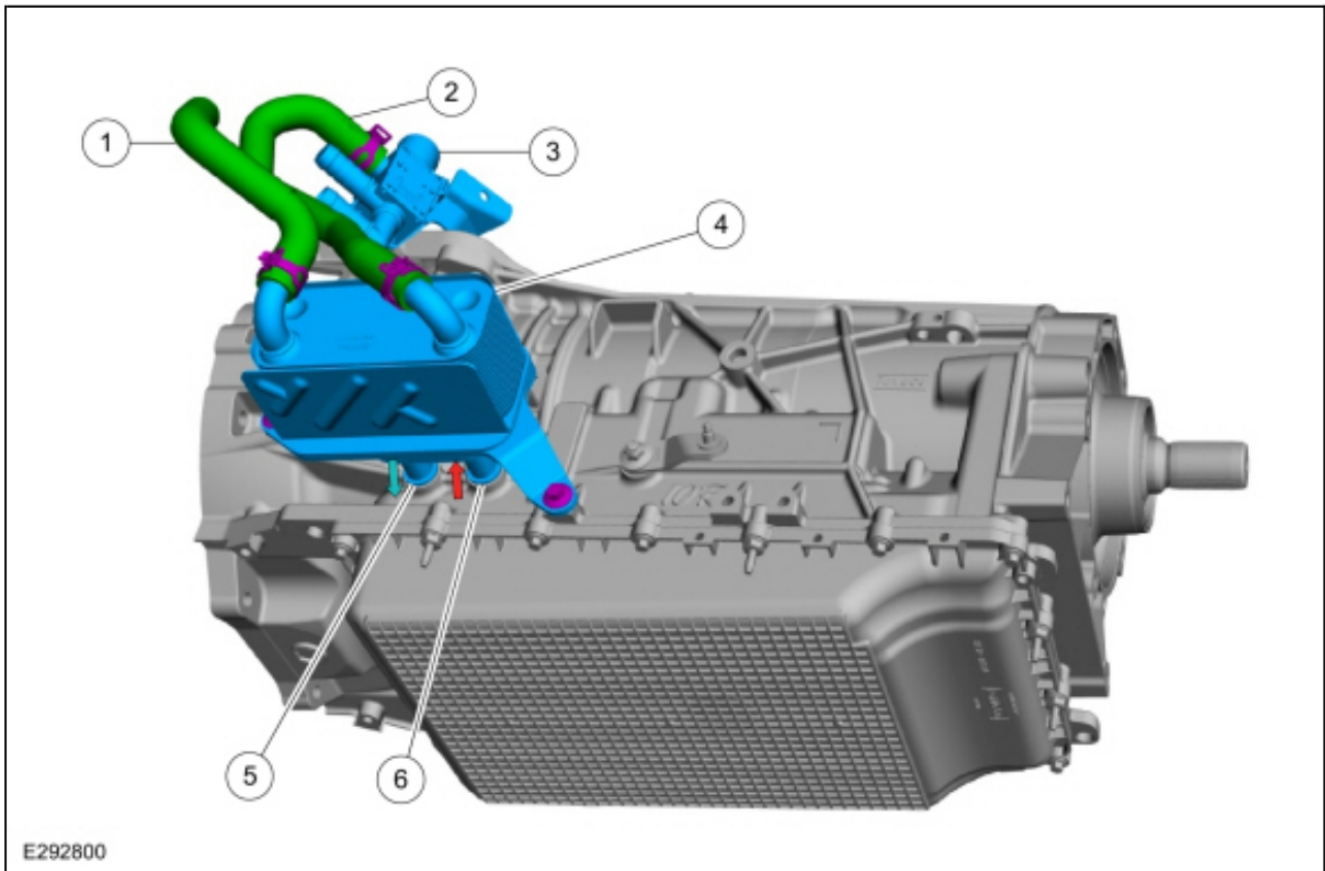


Transmission Cooling - Component Location



Item	Description
1	Transmission fluid cooler coolant outlet tube
2	Transmission fluid cooler coolant inlet tube
3	Transmission fluid cooler coolant control valve
4	Transmission fluid cooler
5	Transmission fluid cooler outlet tube
6	Transmission fluid cooler inlet tube

With the PPE deep pan, 170 deg engine thermostat, and trans cooler thermostat bypassed (because it's an external electrical component programmed to not allow coolant flow until 195 deg), I average in the low to mid 170's.

If heat soaked in rush hour traffic on a hot day, coolant temp is 183 and trans temp is 188, but with the aluminum pan radiating heat / increased fluid capacity / radiator fan running, it drops fluid temp back down to 179 very very quickly (like 2 miles down the road at 35mph quick).

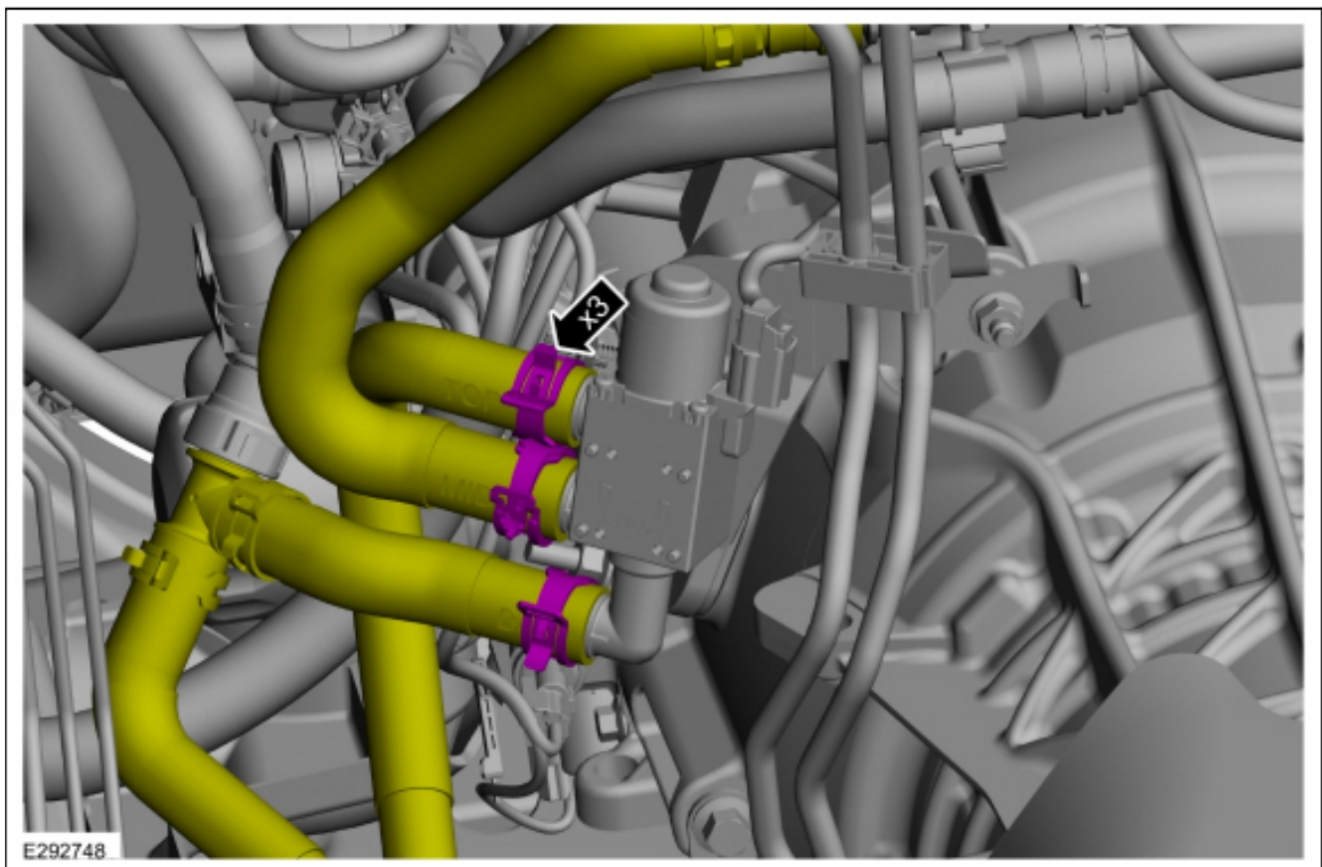
This a good article about 10r80 and info about ideal operating temps here:

<https://www.fordmuscle.com/tech-sto...t-10r80-transmissions-with-brady-performance/>

There are 3 ports on the external trans cooler thermostat.

I capped all 3 with large rubber vacuum caps and left the electrical plug plugged into it. This allows the ECU to not throw a fault code thinking there's an issue with the thermostat opening / closing.

Remove the line that left the thermostat port that loops coolant back into the system when it's bypassing the trans cooler and use a radiator rated rubber cap to cap off the part of the T fitting it utilizes in the main coolant hose tract.



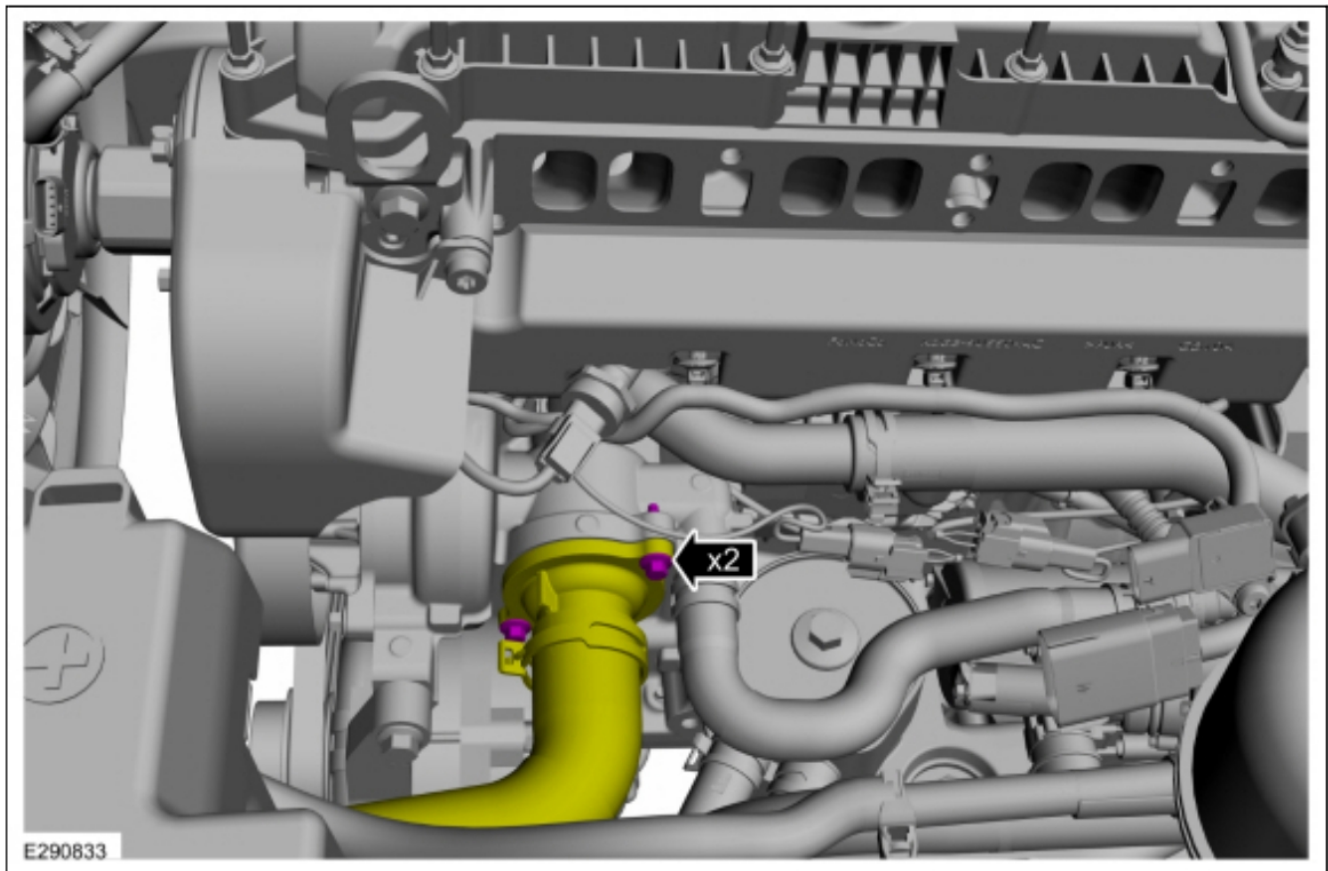
You then connect the coolant feed hose that was sending coolant into the thermostat to the thermostat output hose that leads to the trans cooler. I used a brass barb fitting from Lowe's to accomplish that.

You need to remove the drivers side front tire and inner fender liner that covers the oil filter to access everything.

Space is tight, hoses are a PITA to get off the thermostat, and you'll get a coolant bath (which you have to replenish and burp the coolant tank after due to coolant lost), but overall I'm happy with the end result.

Changing the Thermostat

Remove the two bolts below, disconnect hose, replace T-Stat, and reinstall the hose. See picture below.



Thermostat has worked well. I qualify that statement before everyone decides to come here saying that I'm endorsing it incorrectly and how OEM temp is perfect, etc to clarify that the part itself is functioning as intended. Here is the data I've observed scanning with the Ford Performance tune display. Please note for trans temps that the trans cooler thermostat is bypassed (it normally will not flow coolant to the trans cooler until trans fluid temp is 195 deg) and has the aluminum PPE deep transmission pan.

Avg coolant temp - 177 f

Avg cylinder head temp - 178 f

Avg Transmission fluid temp - 176 f

One day I decided to get into the gnarliest stop and go traffic I could for 30 min on a warm day here in GA to see what the temps would be with an extended heat soak.

Highest coolant temp - 185 f

Highest cylinder head temp - 185 f

Highest transmission temp - 188f

I am very pleased to say that without modifying the factory fan to kick on sooner (can't be done from research I could find from Ford F-250's that have similar electric fan clutch as us), the factory radiator does a nice job of dissipating the heat from the coolant and as soon as airflow comes into play when the truck starts to move again temps drop very quickly as well. The truck does reach closed loop with this cooler thermostat, and while I'm confident if I had the all aluminum radiator from Mishimoto I could get right down to 170 consistently, the research I could find on modern Fords said that some emission readiness monitors won't set until an operating temp of 170 is reached. Thus to not have that struggle I'm happy with the results of the stock radiator and 170 deg t-stat (esp considering that this radiator cools the engine, engine oil, EGR exhaust gases, and transmission).