

## Aisin A750E Special Instructions Ver 3.3B

This Transmission operate with a lever that has mechanical positions for 12DNRP. What Toyota did was making 2 slide slots in the shifter that make switches to tell the TCU what you want. Position 1 has a slot for 1 – 2 and Position D has a slot for 4 – 5.

To understand this, look at the following positions of the shifter.

Position D – Here the TCU can select between 1<sup>st</sup> to 5<sup>th</sup> gear and only 4<sup>th</sup> and 5<sup>th</sup> gear has engine brake.

Position 2 – Here the TCU can select between 1<sup>st</sup> and 2<sup>nd</sup> and 3<sup>rd</sup> gear and only 3<sup>rd</sup> gear has engine brake

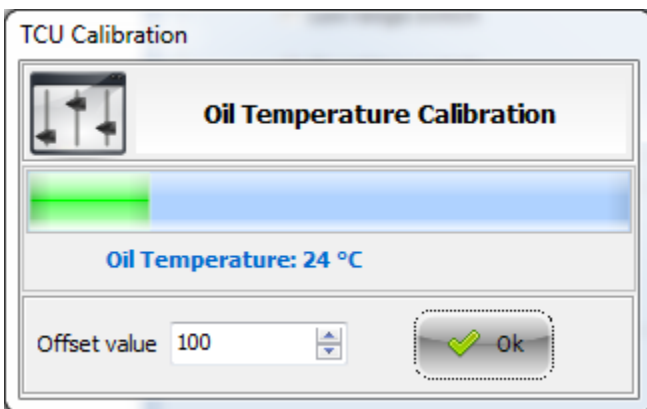
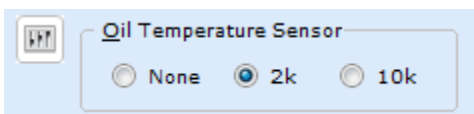
Position 1 – Here the TCU can select between 1<sup>st</sup> and 2<sup>nd</sup> gear. 2<sup>nd</sup> Gear will have engine brake and 1<sup>st</sup> not. If you want engine brake is 1<sup>st</sup> then you must select the tiptronic Max Gear to 1<sup>st</sup>. So this means if your shifter is in position 1 and you select 2<sup>nd</sup> then 1<sup>st</sup> will not have engine brake. If you force 1<sup>st</sup> then you will have engine brake. Tiptronic setting must be on one of the 3 modes.

There is a Retard output that signals the ECU to retard timing during shift conditions. For performance applications shift harshness must be tuned in the ECU.

The transmission is momentarily put in second when the lever moves from N to D to soften Squad engagement.

In Drive mode lockup can be used in 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> gears. In S4 it is used in 4<sup>th</sup> gear only.

The oil temperature sensor is a 3.5K sensor and the graph is calibrated for it. Put it on the 2K setting and the calibration value must be 100



Shifter positions on the display or real time block will be 1,2,D,N,R,P.

The SL1 Orange graph is used for 5<sup>th</sup> gear shift pressure. High line is high pressure. Low line is soft pressure. It should be tuned between approximately 40% to 70%. Start with 70% and lower if the shift is harsh.

The SL2 Green graph is used for 1<sup>st</sup> to 4<sup>th</sup> gear shift pressure. High line is high pressure. Low line is soft pressure. It should be tuned between approximately 40% to 70%. Start with 70% and lower if the shift is harsh.

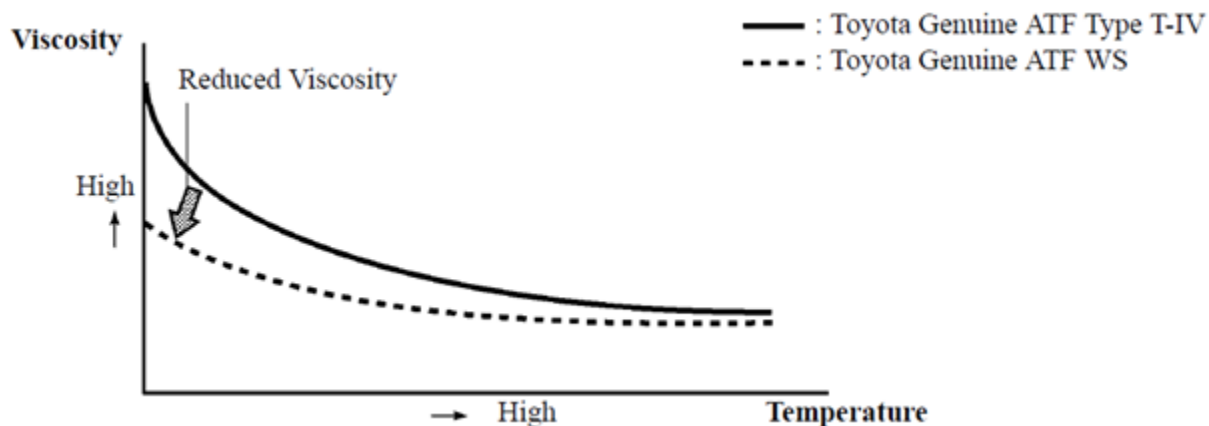
The SLT Blue line is line pressure. High line is soft pressure. Low line is high pressure.

### ► Specification ◀

Model		'03 Model	'02 Model
Transmission Type		A750F	A343F
Gear Ratio	1st	3.520	2.804
	2nd	2.042	1.531
	3rd	1.400	1.000
	4th	1.000	0.754
	5th	0.716	—
	Reverse	3.224	2.393
Fluid Capacity Liters (US qts, Imp. qts)		10.8 (11.4, 9.5)	12.0 (12.7, 10.6)
Fluid Type		ATF Type T-IV	ATF D-II or equivalent
Dry Weight	kg (lb)	79.9 (176.1)	78.6 (173.3)

### ● TOYOTA GENUINE ATF WS

- Toyota genuine ATF WS is used to reduce the resistance of the ATF and improve fuel economy by reducing its viscosity in the practical operating temperature range. At higher-fluid temperatures, the viscosity is the same as that of Toyota genuine ATF Type T-IV, to ensure the durability of the automatic transmission.
- There is no interchangeability between the Toyota genuine ATF WS and other types of ATF (Toyota Genuine ATF Type T-IV, D-II).



Courtesy Toyota manual