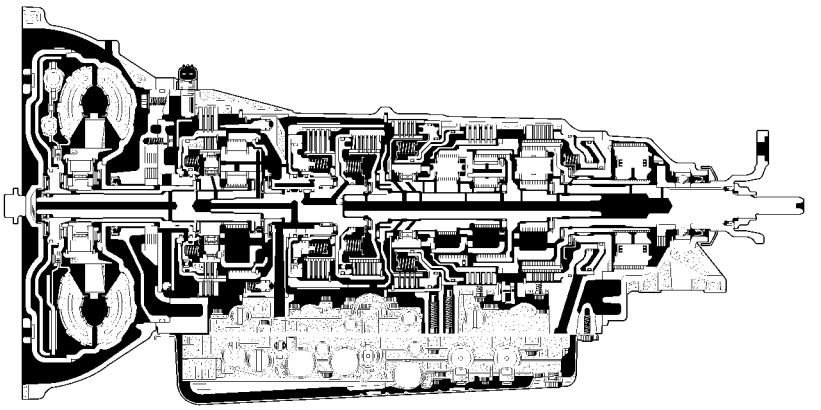
CHASSIS

A650E AUTOMATIC TRANSMISSION

■ DESCRIPTION

The A650E is a newly adopted 5-speed automatic transmission [Super ECT (Electronically Controlled Transmission)]. The basic construction and operation are the same as those of the LS400's A650E. For details, see the LS400 New Car Features Supplement (Pub. No. NCF144E). The A650E automatic transmission differs from the A343E automatic transmission of the previous model in the following areas:

- 4 planetary gear units are adopted.
- The throttle valve and throttle cable have been discontinued, and the line pressure is controlled by a linear solenoid valve.
- The flex lock-up clutch control is adopted.
- High response shift control is adopted.
- AI (Artificial Intelligence) - SHIFT control is adopted.
- A newly developed ATF type T-Ⅳ, which offers superior friction characteristics, has been adopted.
- The gate type shift lever is used.



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▶ Specifications ◀

Model / Transmission Type / Item		New	Previous	LS400
		A650E	A343E	A650E
Gear Ratio	1st	3.357	2.804	3.357
	2nd	2.180	1.531	2.180
	3rd	1.424	1.000	1.424
	4th	1.000	0.753	1.000
	5th	0.753	—	0.753
	Reverse	3.431	2.393	3.431
Fluid Capacity Liters (US qts, Imp. qts)		7.45 (7.9, 6.6)	7.9 (8.4, 7.0)	8.5 (9.0, 7.5)
Fluid Type		ATF Type T-Ⅳ or Equivalent	ATF Type T-II or Equivalent	ATF Type T-Ⅳ or Equivalent

■TORQUE CONVERTER

The torque converter supports flex lock-up clutch control, thus improving the fuel economy.

■PLANETARY GEAR UNIT

1. General

A new gear train construction, which uses 4 sets of planetary gear units, has been adopted.
Also, the 5-speed configuration has been achieved without increasing the number of one-way clutches, thus creating a 5-speed automatic transmission with practically the same size as the previous 4-speed automatic transmission.
For the purpose of improving dynamic performance and fuel economy, the gear ratio from the 1st to the 5th gear has been changed from a wide to a close gear ratio.
The 1st gear ratio has been increased to improve the acceleration performance during the startoff and in the low-to medium-speed range.
Also, the close gear ratio made shifting smoother to realize a smooth ride.