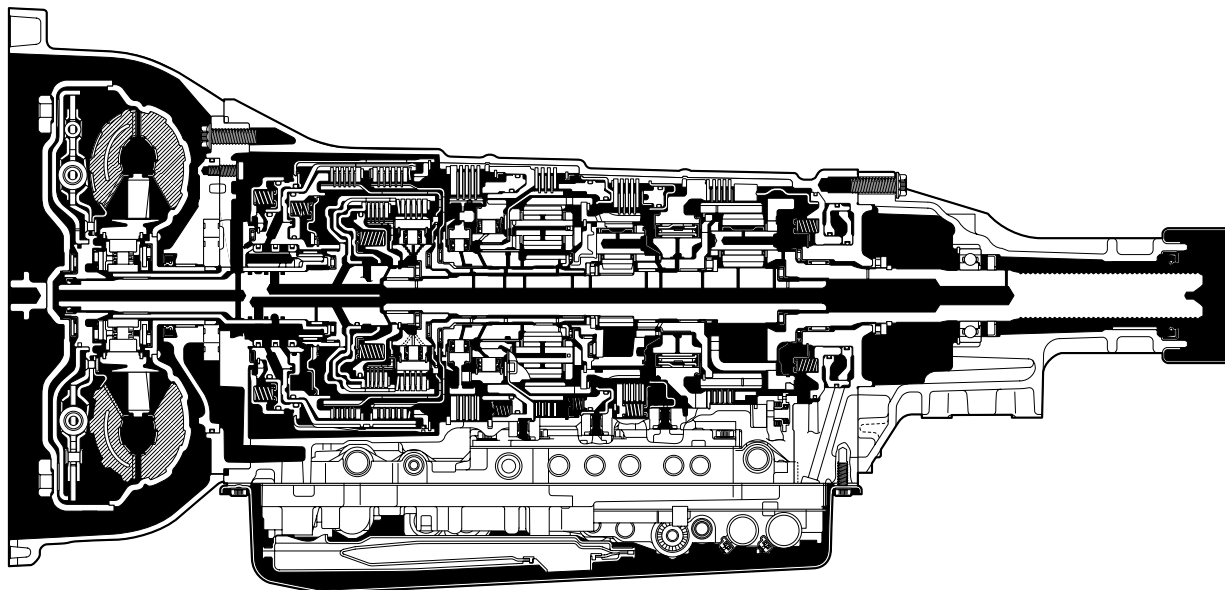


OUTLINE

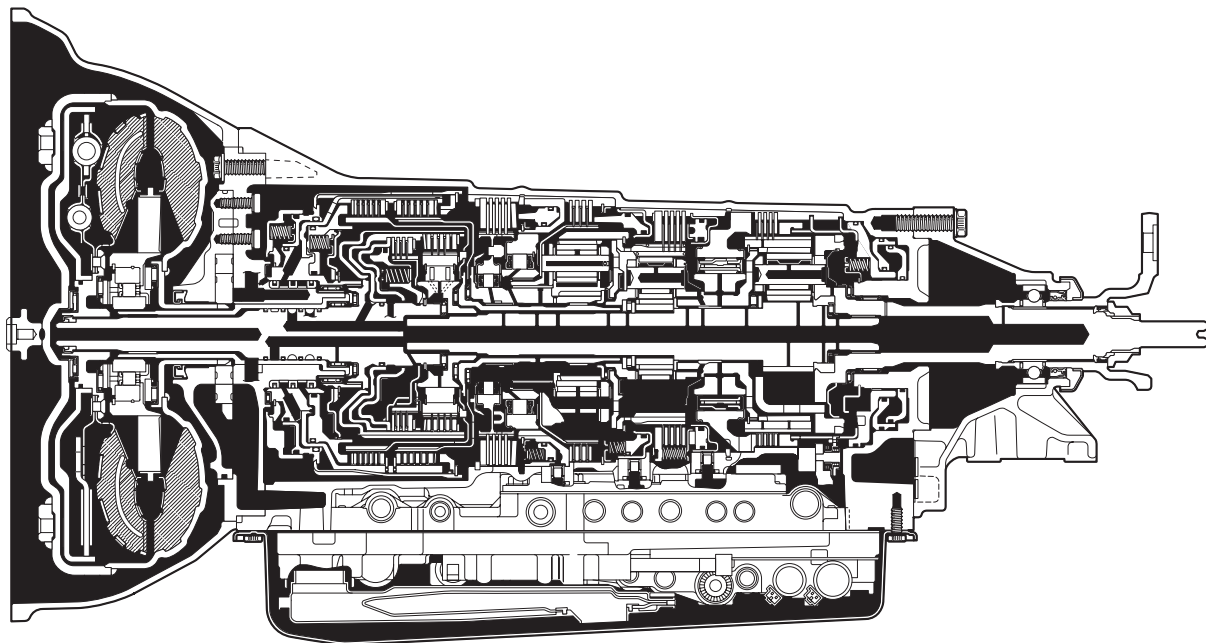
Automatic Transmission Outline

- The following types of 6-speed automatic transmission (6 Super ECT) are used: A761E on the 3UZ-FE engine models, A960E on the 3GR-FSE engine models, and A760E on the 3GR-FE engine models.
- These transmissions contain higher capacity gear trains and hydraulic control mechanisms and use the latest electronic control technology in order to realize both smooth shifting characteristics and superior fuel economy performance.
- They use a new, WS genuine Toyota automatic transmission fluid. This fluid has the same high-temperature viscosity as the conventional ATF to ensure the proper durability of the automatic transmission. Meanwhile, its viscosity in the actual operating temperature range has been lowered to reduce drag loss and improve fuel economy.
- They have discontinued the use of the automatic transmission oil filler tube and the level gauge. Instead, they use a oil level detection mechanism called an "overflow system".

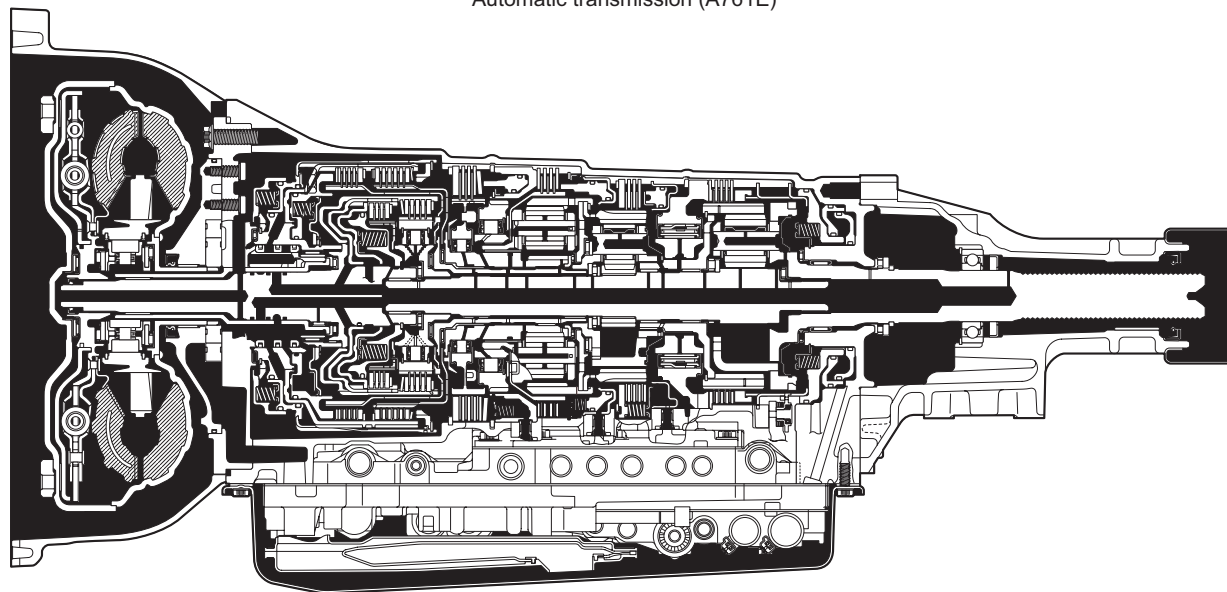


Automatic transmission (A960E)

A4270303P



Automatic transmission (A761E)



Automatic transmission (A760E)

A4270421P

Torque converter specifications

Transmission Model	A761E (6 Super ECT)	A760E(6 Super ECT)	A960E(6 Super ECT)
Engine	3UZ-FE	3GR-FE	3GR-FSE
Type	3-Element, 1-Step, 2-phase (with lock-up mechanism)	←	←
Stall torque ratio	1.85	1.90	1.85

Transmission specifications

Transmission type		A761E (6 Super ECT)	A760E(6 Super ECT)	A960E (6 Super ECT)
Engine		3UZ-FE	3GR-FE	3GR-FSE
Format		Electronically Controlled Planetary Gear Type	←	←
Gear ratio	1st	3.296	3.520	3.538
	2nd	1.958	2.042	2.060
	3rd	1.348	1.400	1.404
	4th	1.000	1.000	1.000
	5th	0.725	0.716	0.713
	6th	0.582	0.586	0.582
	Reverse	2.951	3.224	3.168
Fluid type		Toyota Genuine WS automatic transmission fluid	←	←

Planetary gear specifications

Transmission type		A761E (6 Super ECT)	A760E (6 Super ECT)	A960E (6 Super ECT)
Engine		3UZ-FE	3GR-FE	3GR-FSE
Front planetary gear	The No of Sun gear	43	40	33
	The No of Pin-ion gear (inner)	22	22	19
	The No of Pin-ion gear (outer)	21	21	18
	The No of Ring gear	91	91	75
Center planetary gear	The No of Sun gear	33	31	26
	The No of Pin-ion gear	23	23	20
	The No of Ring gear	78	77	66
Rear planetary gear	The No of Sun gear	27	25	26
	The No of Pin-ion gear	18	19	20
	The No of Ring gear	62	63	66

Clutch specifications

Transmission type		A761E (6 Super ECT)	A760E (6 Super ECT)	A960E (6 Super ECT)
Engine		3UZ-FE	3GR-FE	3GR-FSE
One-way clutch No.1	F1	18	←	21
One-way clutch No.2	F2	25	←	22
One-way clutch No.3	F3	26	←	22
One-way clutch No.4	F4	27	←	25

Friction element specifications

Transmission type		A761E (6 Super ECT)	A760E (6 Super ECT)	A960E (6 Super ECT)
Engine		3UZ-FE	3GR-FE	3GR-FSE
Clutch No.1	C1	4	←	←
Clutch No.2	C2	5	4	5
Clutch No.3	C3	5	←	←
Clutch No.4	C4	3	←	4
Brake No.1	B1	3	←	←
Brake No.2	B2	4	←	←
Brake No.3	B3	4	4	4
Brake No.4	B4	4	←	5

Development Objectives

Revolutionary improvement of dynamic performance
Excellent fuel economy in various driving conditions
Top-level compact and lightweight package in the class
A fluid and smooth shift feel
Superior drivability
Overwhelming quietness during high-speed driving

List of development items

Item	Dynami c Perform ance	Fuel Econom y	Compac t & Lightwei ght	Shift Feel	Drivabili ty	Maneuverability	Quietne ss	Quality
6-Speed Gear Train	○	○	○	○	○	-	○	-
Newly Developed Torque Converter	○	○	○	-	-	-	-	-
Use of Aluminum Alloy Carrier (front planetary)	-	-	○	-	-	-	-	-
Use of New Friction Material	-	○	-	-	-	-	-	-
Use of cage & roller bearings	-	○	-	-	-	-	-	-
Use of Non-Crescent Type Oil Pump	-	○	○	-	-	-	-	-
Use of Aluminum Oil Pump Cover	-	-	○	-	-	-	-	-
Use of Compact Transmission Solenoids	-	-	○	-	-	-	-	-
Use of Plastic Accumulator	-	-	○	-	-	-	-	-
Use of Felt Strainer	-	-	○	-	-	-	-	○
Use of High-Precision Fluid Control System	-	-	○	○	-	-	-	-
Deceleration Downshift Control	-	○	-	-	-	-	-	-
Lockup Control	-	○	-	-	-	-	-	-
Flex Lockup Control	-	○	-	-	-	-	-	-
AI-Shift Control	-	-	-	-	○	-	-	-
AI-Shift Sport Driving Support Control	○	-	-	-	○	-	-	-
Lubrication Orifice Selector Control	-	-	-	-	-	-	-	○
Use of New ATF	-	○	-	-	-	-	-	-
Multi-mode Automatic Transmission	-	-	-	-	-	○	-	-
Use of Oil Level Detection Mechanism	-	-	-	-	-	-	-	○