

Appendix A

GLOSSARY OF TERMS

A

Accumulator — Used in transmission hydraulic systems to control shift quality. Absorbs the shock of pressure surges within a hydraulic circuit.

Axis — The center line around which a gear or shaft rotates.

C

Cam-Cut Drum — A one-way roller clutch drum whose inner surface is machined with a series of ramped grooves into which rollers are wedged.

Centrifugal Force — The tendency of objects to move away from the center of rotation when rotated.

Clutch Pack — The assembly of clutch discs and steel plates that provides the frictional surfaces in a multiplate clutch or brake.

Cut-Back Pressure — Modulated throttle pressure controlled by governor pressure and is used to reduce throttle pressure. Reduced throttle pressure results in a reduction of line pressure.

Coupling Range — The range of torque converter operation when there is no torque multiplication and the stator rotates with the impeller and turbine at nearly the same speed.

D

Differential — The assembly of a carrier, pinion gears and side gears that allows the drive axles to rotate at different speeds as a vehicle turns a corner.

Direct Drive — A one to one (1:1) gear ratio in which the input shaft and output shaft rotate at the same speed.

E

Endplay — The total amount of axial (fore and aft) movement in a shaft.

F

Flexplate — The thin metal plate used in place of the flywheel that connects the engine crankshaft to the torque converter.

G

Gear Ratio — The number of turns made by a drive gear compared to the number of turns by the driven gear. Computed by the number of driven gear teeth divided by the number of drive gear teeth.

Gear Reduction — A condition when the drive gear rotates faster than the driven gear. Speed is reduced but torque is increased.

Governor Pressure — Modified line pressure that is directly related to vehicle speed. Governor pressure increases as vehicle speed increases and is one of the principle pressures used to control shift points.

H

Holding Device — Hydraulically operated bands, multiplate clutches, multiplate brakes and mechanically operated one-way clutches that hold members of the planetary gear set.

Hysteresis — The range between the switching on and switching off point of an actuator or sensor. This range prevents a condition in which the sensor closes and opens repeatedly.

I

Internal Ring Gear — A gear with teeth on its inner circumference.

L

Land — The large outer circumference of a valve spool that slides against the valve bore. Each land is separated by a valley.

Line Pressure — Pressure developed by the transmission oil pump and regulated by the primary regulator valve. Line pressure applies all clutches and brakes. The source of all other pressures in the hydraulic system.

M

Multiplate Brake — Consists of alternating friction discs and steel plates, forced together by hydraulic pressure. Holds a planetary component to the transmission case.

Multiplate Clutch — A clutch consisting of alternating friction discs and steel plates, forced together by hydraulic pressure. Holds one rotating planetary component to another rotating component.

O

One-Way Clutch — A mechanical holding device that prevents rotation of a planetary component in one direction and freewheels in the other direction.

Orifice — A small opening or restriction in a hydraulic passage used to regulate pressure and flow.

Overdrive — Occurs when the drive gear rotates at a slower speed than the driven gear. Speed of the driven gear is increased but torque is decreased.

P

Planetary Gear Set — A gear assembly consisting of a sun gear, ring gear and carrier assembly with planetary pinion gears.

Planetary Gear Unit — The assembly which includes the planetary gear set, holding devices and shafts which provide different gear ratios in the automatic transmission.

Planetary Carrier — Member of the planetary gear set that houses the planetary pinion gears.

Planetary Pinion Gears — Mounted to the planetary carrier by pinion shafts.

R

Rotary Flow — The flow of oil in a torque converter that is in the same direction as the rotation of the impeller. Causes the stator to unlock and rotate.

S

Simpson Planetary Gear Set — Two planetary gear sets which share a common sun gear.

Sprag — A figure-eight shaped locking element of a one-way sprag clutch. Multiple sprags are used to maintain the distance between the inner and outer race of the sprag clutch.

Stall Speed — The maximum possible engine speed, measured in rpm with the turbine held stationary and the engine throttle wide open.

Sun Gear — The center gear of a planetary gear set around which the other gears rotate.

T

Torque — Twisting or turning force measured in foot-pounds or inch-pounds.

Throttle Pressure — Modified line pressure which is directly related to engine load. Throttle pressure increases with throttle opening. It is one of the major pressures used to control shift points.

Torque Converter — A fluid coupling used to connect the engine crankshaft and the input shaft of an automatic transmission. It is capable of increasing the torque developed by the engine by redirecting the flow of fluid to the vanes of the impeller.

V

Valley — The small diameter of the spool valve located between two lands. Fluid flows past these valleys when the lands expose fluid passages as they are moved within their bore of the valve body.

Valve Body — An aluminum casting which houses the valves in the transmission hydraulic system. Provides the passages for the flow of transmission fluid.

Viscosity — The tendency of a liquid to resist flowing. High viscosity fluid is thick. Low viscosity fluid flows easily.

Vortex Flow — The path of oil flow in the torque converter that is at a right angle to the rotation of the impeller. The fluid flows from the impeller to the turbine and back to the impeller through the stator.

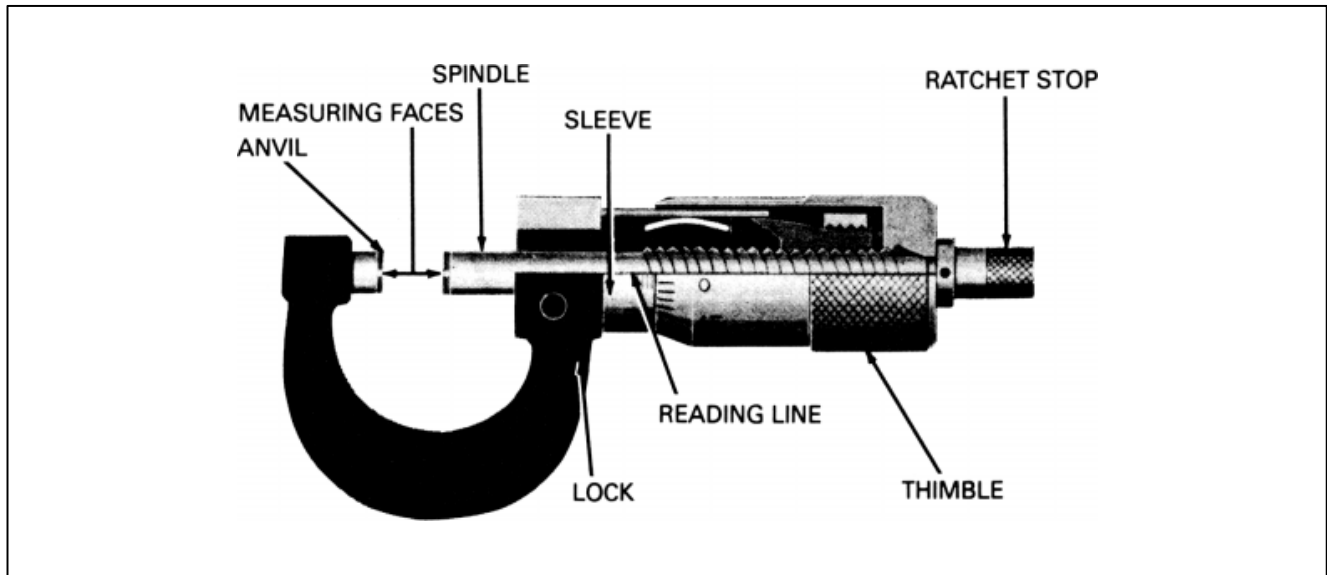


Notes

Appendix B

MICROMETERS

The outside micrometer illustrated below is used to measure the outside diameter or thickness of material. It can also be used to measure the inside diameter when used in conjunction with a snap gauge as illustrated in the section on transmission oil pumps.



The object to be measured is placed between the anvil and the spindle of the micrometer. The spindle moves closer to the anvil and the object placed between them as the thimble turns. The ratchet stop is used to provide the same pressure on the spindle each time something is measured. When the ratchet begins to click, the spindle is touching the object with sufficient pressure to determine the thickness. Use the lock to secure the spindle so the measurement can be made without accidentally moving the thimble.

Micrometers can be found in english, and read in thousandths of an inch or metric, and read in hundredths of a millimeter.

English Each number division on the reading line equals 0.1 inch or 100/1000 inch. There are ten number divisions which total 1000/1000 of one inch. Between each number division is a half way point marked by a line. For example, between 0 and 1 is a line which signifies half of 100/1000, which is 50/1000 inch (0.050 inch.) Between this point and the next number division is another line which is half of 50/1000. This line represents the smallest increment on the number line which is 25/1000 inch or 0.025 inch. Each division on the reading line of the sleeve equals 0.025 inch or 25/1000 of an inch. The table below represents how each division is pronounced.

$100/1000 = 0.100 =$ one hundred thousandths

$50/1000 = 0.050 =$ fifty thousandths

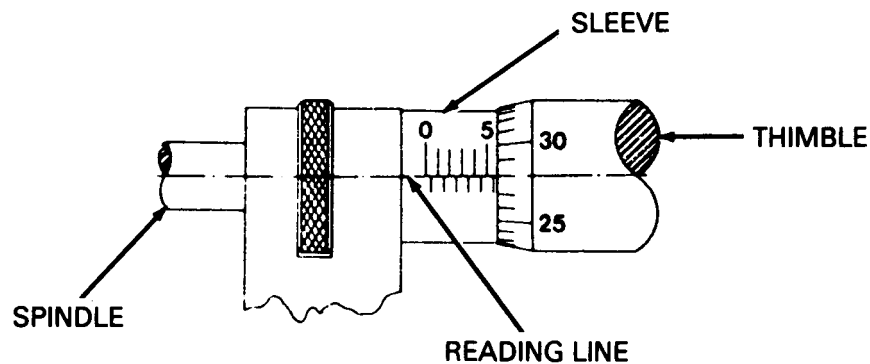
$25/1000 = 0.025 =$ twenty-five thousandths

As the thimble rotates one complete revolution, it will move the spindle 0.025 of an inch. The nose of the thimble is divided into 25 increments. Each increment is equal to 1/1000 of an inch (0.001 of an inch.) The line on the nose of the thimble that aligns with the read line, represents the increments in one thousandths between the thimble nose and the last visible line on the sleeve.

Metric Each number division along the top of the reading line equals 1 millimeter. There are ten number divisions which total 100/100 or one millimeter. Between each number division is a half way point marked by a line. For example, between 0 and 1 is a line which signifies half of 100/100, which is 50/100 mm (0.50 mm). Each division on the reading line of the sleeve equals 0.50 mm or 50/100 of a millimeter. The table below represents how each division is pronounced.

100/100 = 1.00 = one hundred hundredths or one millimeter
 50/100 = 0.50 = fifty hundredths millimeter
 25/100 = 0.25 = twenty-five hundredths millimeter
 1/100 = 0.01 = one hundredths millimeter

As the thimble rotates one complete revolution, it will move the spindle 0.050 millimeter. The nose of the thimble is divided into 50 increments. Each increment is equal to 1/100 of a millimeter (0.01 of a millimeter.) The line on the nose of the thimble that aligns with the read line, represents the increments in one hundredths between the thimble nose and the last visible line on the sleeve.



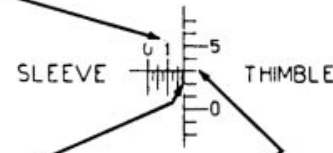
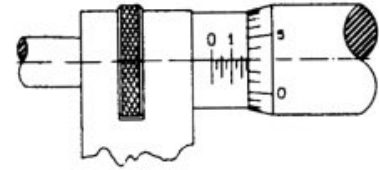
Reading a Micrometer

There are three steps to reading a micrometer. Using the illustrations shown below, it will be easy to understand how the measurement is read. The distance being measured appears between the zero on the number line and the edge of the thimble.

English

1. Count the number of one hundred thousandth (0.100) divisions that are visible on the reading line = 1 or 0.100
2. Count the number of twenty-five thousandth (0.025) divisions that are visible on the reading line between 1 and the edge of the thimble = 3 or 0.075
3. Count the number of one thousandth (0.001) divisions on the thimble from 0 to the reading line = 3 or 0.003

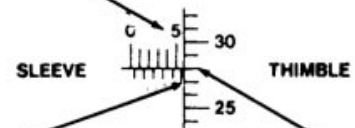
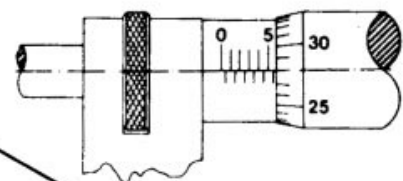
Add the three values = 1.178"



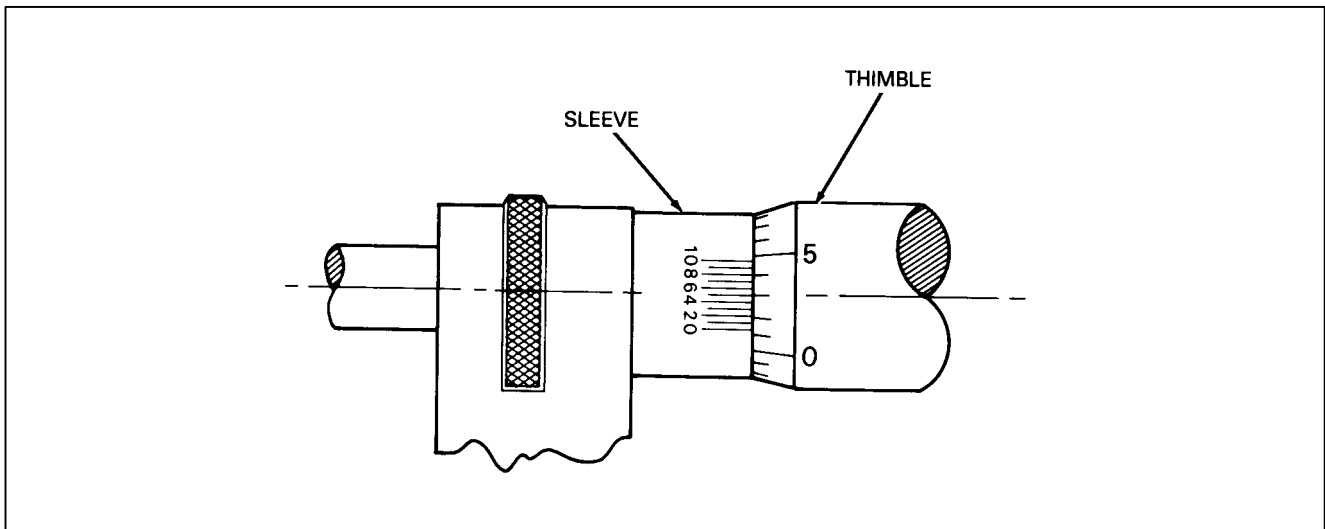
Metric

1. Count the number of millimeter divisions visible on the reading line = 5 or 5.00
2. Count the number of fifty hundredth millimeter divisions that are visible on the reading line between the last millimeter division and the edge of the thimble = 1 or 0.50
3. Count the number of one hundredth (0.01) millimeter divisions on the thimble from 0 to the reading line = 28 or 0.28

Add the three values = 5.78 mm



Some outside micrometers are available to measure to the nearest one ten thousandths of an inch (0.0001). The veneir scale is on the sleeve of the micrometer and has ten divisions equaling 0.0001" each.



To determine the number of ten thousandths increments, compare the lines on the nose of the thimble and the lines of the vernier scale to determine the one that lines up. For example, in the illustration above the 0.004" mark lines up with the 8 mark on the vernier scale which equals eight ten thousandths of an inch (0.0008") which is added to the measurement.

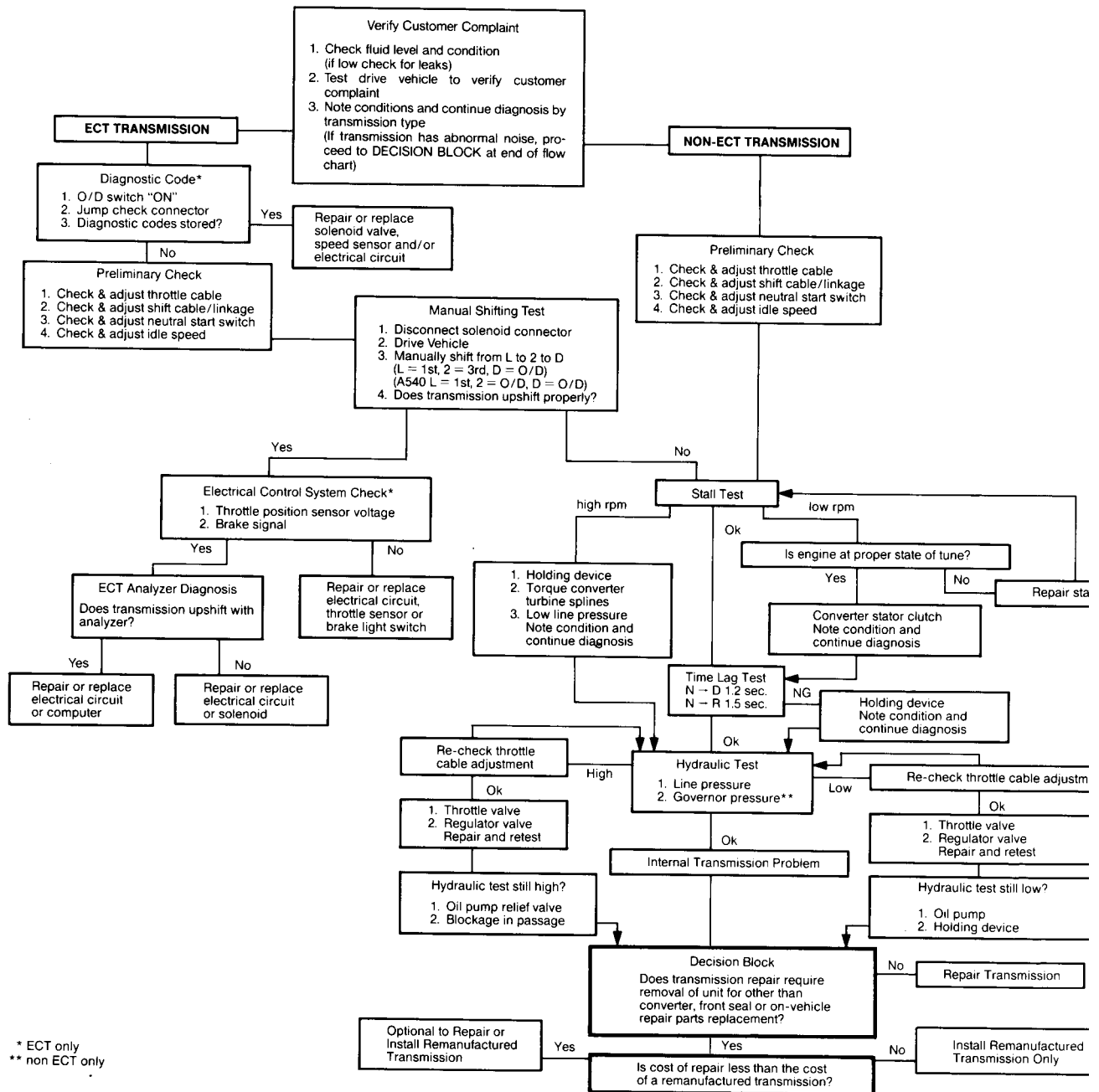


Notes

Appendix C

DIAGNOSTIC REFERENCE

AUTOMATIC TRANSMISSION TROUBLESHOOTING



* ECT only
** non ECT only

AUTOMATIC TRANSMISSION CLUTCH APPLICATION CHART

A132L EL, AE

Shift lever position	Gear position	C ₁	C ₂	B ₁	B ₂	B ₃	F ₁	F ₂
P	Parking							
R	Reverse							
N	Neutral							
D	1st							
	2nd							
	3rd							
2	1st							
	2nd							
L	1st							
	2nd*							

*Downshift in L range, 2nd gear only - no upshift.

A140L, A140E, A540E, A540H SV, VV, ST

Shift lever position	Gear position	C ₀	C ₁	C ₂	B ₀	B ₁	B ₂	B ₃	F ₀	F ₁	F ₂
P	Parking										
R	Reverse										
N	Neutral										
D	1st										
	2nd										
	3rd										
	O/D										
	1st										
2	2nd										
	3rd										
	1st										
L	2nd*										
	1st										

*Downshift only - no upshift. *Does Not Apply to A140L.

A240E, A240L, A241E, A241H AW, AE

Shift lever position	Gear position	C ₁	C ₂	C ₃	B ₁	B ₂	B ₃	B ₄	F ₁	F ₂	F ₃
P	Parking										
R	Reverse										
N	Neutral										
D	1st										
	2nd										
	3rd										
	O/D										
2	1st										
	2nd										
	3rd										
L	1st										
	2nd										

*AW Only

A241E.

A340E, A340H MX, MA, RN, VN

Shift lever position	Gear position	C ₀	C ₁	C ₂	B ₀	B ₁	B ₂	B ₃		F ₀	F ₁	F ₂
								I.P.	O.P.			
P	Parking											
R	Reverse											
N	Neutral											
D	1st											
	2nd											
	3rd											
	O/D											
2	1st											
	2nd											
	3rd											
L	1st											
	2nd*											

*Downshift only in the L range and 2nd gear - no upshift.

A43D RN

Shift lever position	Gear position	C ₀	C ₁	C ₂		B ₀	B ₁	B ₂	B ₃		F ₀	F ₁	F ₂
				I.P.	O.P.				I.P.	O.P.			
P	Parking												
R	Reverse												
N	Neutral												
D	1st												
	2nd												
	3rd												
	O/D												
2	1st												
	2nd												
L	1st												

A45DL, A45DF YR, A43DE, A44DL MX, MA

Shift lever position	Gear position	C ₀	C ₁	C ₂		B ₀	B ₁	B ₂	B ₃		F ₀	F ₁	F ₂
				I.P.	O.P.				I.P.	O.P.			
P	Parking												
R	Reverse												
N	Neutral												
D	1st												
	2nd												
	3rd												
	O/D												
2	1st												
	2nd												
L	1st												

TRANSFER

CLUTCH, BRAKE AND SOLENOID

Transfer gear position	No. 4 Solenoid	C ₃	C ₄	B ₄
H2	OFF			
H4	OFF			
L4	ON			

I.P. Inner Piston
O.P. Outer Piston



ECT DIAGNOSTIC INFORMATION

Transmission Model	Engine Model	Vehicle Model	U.S., Canada	Driving Mode	Throttle Position Sensor	N - D Squat Control	Diagnostic Codes	Cancel Out Diagnostic Codes	Check Terminal*	OD Cancel Temp. (3rd)	Manual Mode "L," "2," "D," "R"	ECU
A340E	22R-TE	85 thru 88 TRUCK	•	P, N	IDL, VTA, E, Vcc	3rd — 1st	42 thru 64 (5)	STOP 10A	DG	122°F	1st, 3rd, OD, R	ECT
	3VZ-E	89 thru 92 TRUCK	•					EFI 15A	ECT, TE ₁			TCCS
	7M-GE	86 thru 92 SUPRA	•					RADIO No. 1 15A	ECT	140°F (95°F)		ECT
	7M-GTE	89 thru 92 CRESSIDA	•					EFI 15A	TT, TE ₁			TCCS
	5M-GE	87 thru 92 SUPRA	•					RADIO No. 1 15A	ECT			ECT
A340H	22R-E	87, 88 TRUCK	•	P, N	IDL, VTA, E, Vcc	Without	42 thru 65 (6)	STOP 10A	DG	122°F	1st, 3rd, OD, R	ECT
		89 thru 92 TRUCK	•			3rd — 1st						
		86 TRUCK	•			Without		EFI 15A	ECT, TE ₁			TCCS
		87 TRUCK	•			3rd — 1st		STOP 10A	DG			ECT
		88 TRUCK	•									
A340F	22R-E	90 thru 92 TRUCK	•	P, N	IDL, VTA, E, Vcc	3rd — 1st	42 thru 64 (5)	EFI 15A	ECT, TE ₁	122°F	1st, 3rd, OD, R	TCCS
	5M-GE	85, 86 CRESSIDA	•	P, N	IDL, VTA, E, Vcc	3rd — 1st	42 thru 64 (5)	DOME 7.5A	ECT	145°F (95°F)	1st, 3rd, OD, R	ECT
A46DE, A46DF	2TZ-FE	91 PREVIA	•	N	IDL, VTA, E, Vcc	3rd — 1st	42 thru 64 (5)	ECU B 15A	DG	122°F	1st, 3rd, OD, R	TCCS
	2S-E	85 CAMRY	•	P, N	IDL, L ₁ , L ₂ , L ₃	Without	0, 4, 8 Volt (3)	Ignition S/W Off	ECT	158°F	1st, 3rd, OD, R	ECT
		86 CAMRY	Canada					ECU B 15A				
		86 CAMRY	US					RADIO No. 1 15A		122°F		
	3S-FE	87, 88 CAMRY	•		IDL, VTA, E, Vcc	2nd — 1st	42 thru 64 (5)	DOME 20A				
A141E	3S-GE	89 thru 91 CAMRY	•					RADIO No. 1 15A		158°F		
		86, 87 CELICA	•					DOME 20A				
		88, 89 CELICA	•					RADIO No. 1 15A				
	5S-FE	92 CAMRY	•	P, N	IDL, VTA, E, Vcc	2nd — 1st	42 thru 64 (5)	DOME 20A				
	4A-GE	86 MR2	•	P, N	IDL, VTA, E, Vcc	2nd — 1st	42 thru 64 (5)	EFI 15A	ECT, TE ₁	122°F	1st, 3rd, OD, R	TCCS
A240E	4A-GE	87 thru 89 MR2	•	P, N	IDL, VTA, E, Vcc	2nd — 1st	42 thru 64 (5)	AM ₂ 7.5A	ECT	122°F	1st, 3rd, OD, R	ECT
		87, 88 FX	US					AM ₂ 7.5A	ECT	122°F	1st, 3rd, OD, R	ECT
		88, 89 MR2						STOP 15A				
A241E	4A-GZE	88, 89 MR2	US	P, N	IDL, VTA, E, Vcc	2nd — 1st	42 thru 64 (5)	AM ₂ 7.5A	ECT	162°F	1st, 3rd, OD, R	ECT
	5S-FE	90 thru 92 CELICA	•	N				EFI 15A	ECT, TE ₁	122°F		TCCS
A244E	5E-FE	92 PASEO	•	P, N	IDL, VTA, E, Vcc	2nd — 1st	42 thru 64 (5)	EFI 15A	ECT, TT	122°F	1st, 3rd, OD, R	TCCS
A540E	2VZ-FE	88 thru 91 CAMRY	•	P, N	IDL, VTA, E, Vcc	2nd — 1st	42 thru 64 (5)	EFI 15A	ECT, TE ₁	145°F (100°F)	1st, OD, OD, R	TCCS
	3VZ-FE	92 CAMRY	•							140°F		
A540H	3S-FE	89 thru 92 CAMRY	•	P, N	IDL, VTA, E, Vcc	2nd — 1st	44 thru 74 (7)	DOME 20A	ECT	122°F	1st, OD, OD, R	ECT

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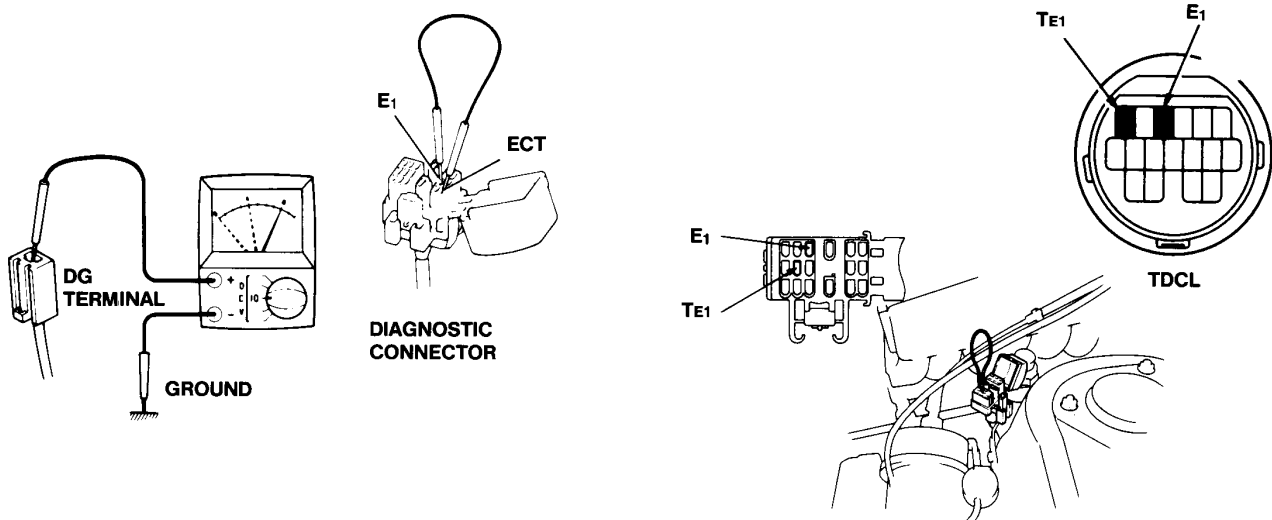
() Number of codes
W: W in the check connector

DG: DG 2 pin connector
TE₁: T or TE₁ in the check connectors or TDCL

* ECT: ECT or TT in the check connector
TT: TT in the TDCL

• US and Canada

ECT DIAGNOSTIC INFORMATION



CODE	OD OFF INDICATOR	DIAGNOSIS
42		Speed sensor No. 1 (back-up speed sensor) bad, or wire in its wire harness disconnected or shorted
44*		Rear wheel speed sensor bad (no speed sensor signal), wire in harness disconnected/shorted
61		Speed sensor No. 2 (main speed sensor) bad, no "FR" signal (on All-Trac Camry), or wire in harness disconnected/shorted
62		Wiring of solenoid valve No. 1 disconnected/shorted, or wire in its wire harness disconnected/shorted
63		Wiring of solenoid valve No. 2 disconnected/shorted, or wire in its wire harness disconnected/shorted
64		Wiring of solenoid valve No. 3 disconnected/shorted, or wire in its wire harness disconnected/shorted
65**		Severed No. 4 solenoid or short circuit, or severed wire harness or short circuit
73*		Wiring of No. 1 center differential control solenoid valve disconnected/shorted, or wire in its wire harness disconnected/shorted
74*		Wiring of No. 2 center differential control solenoid valve disconnected/shorted, or wire in its wire harness disconnected/shorted
-		Normal

* A540H All-Trac Camry Only

** A340H 4x4 Truck Only

[illegible]

3. Off-Vehicle Repair

See page	Torque converter	Parking lock pawl	C ₀ O/D direct clutch	C ₁ Forward clutch	C ₂ Direct clutch	B ₀ O/D brake	B ₁ 2nd coast brake	B ₂ Second brake	B ₃ 1st and reverse brake	F ₀ O/D one-way clutch	F ₁ No.1 one-way clutch	F ₂ No.2 one-way clutch	O/D planetary gear	Front planetary gear	Rear planetary gear
Suspect Area															
Symptom															
Vehicle does not move in any forward range															
Vehicle does not move in reverse range		1	5		4	4	1		6	2			7	5	6
Vehicle does not move in any forward range and reverse range			3												
No lock-up	1														
No lock-up OFF	1														
Large shock during lock-up	1														
E/G stalls when starting off and stopping	1														
1st → 2nd								1			2				
2nd → 3rd						1									
3rd → O/D						1									
No up-shift															
No down shift 2nd → 1st							1								
N → R					1				2						
N → D				1											
1st → 2nd (D range)									1						
2nd → 3rd							1								
3rd → O/D													3		
Forward and reverse (After warm-up)	1		1			2					2				
Forward and reverse (Directly after E/G start)	1														
R range			2		1					3					
1st				1								2			
2nd								1			2				
2nd → 3rd (Up-shift)					1										
3rd					1										
O/D						1									
1st ~ 3rd			1												
1st									1						
2nd							1								
No engine braking															
All ranges	1														
O/D			1										2		
Other than O/D						1							2		
Other than 2nd							1	2							
1st and 2nd						1									
1st and R range									1						
R range				1											

* : Refer to '92 A540E Automatic Transaxle Repair Manual (Pub. No. RM245U)

* : Refer to '92 CAMRY Repair Manual Volume 2 (Pub. No. RM222U2)

2. On-Vehicle Repair

See page	Oil strainer	Manual valve	1-2 shift valve	2-3 shift valve	3-4 shift valve	C ₁ accumulator	B ₂ accumulator	C ₂ accumulator	B ₀ accumulator	C ₀ accumulator	Accumulator control valve	Low modulator valve	2nd modulator valve	Throttle modulator valve	Lock-up relay valve	Throttle valve	Cut back valve	Primary regulator valve	OFF-Vehicle repair matrix chart
Suspect Area	Symptom		1	2															
		Vehicle does not move in R range	1															2	3
Vehicle does not move in any forward range or reverse range	Vehicle does not move in any forward range or reverse range	1																	
	No lock-up														1				2
	No lock-up OFF														1				2
	No kick-down		1	2	3														
No engine braking	1st											1							2
	2nd												1						2
	1st → 2nd		1																2
	2nd → 3rd			1															2
No up-shift	3rd → O/D				1														2
	O/D → 3rd																		
	3rd → 2nd			1															
	2nd → 1st		1																2
No down-shift	N → R							2			1					3			4
	N → D					1										2			3
	N → L															1			
	1st → 2nd (D range)						1												2
Harsh engagement	1st → 2nd (2 range)																		
	1st → 2nd → 3rd																		
	1st → 2nd → 3rd → O/D											4	3	1		2	5		
	2nd → 3rd							1											
	3rd → O/D								1										2
	O/D → 3rd								2	1									
	3rd → 2nd						1		3	2			4						5
	Slip or shudder in forward and reverse (Directly after E/G start)	2														1			2

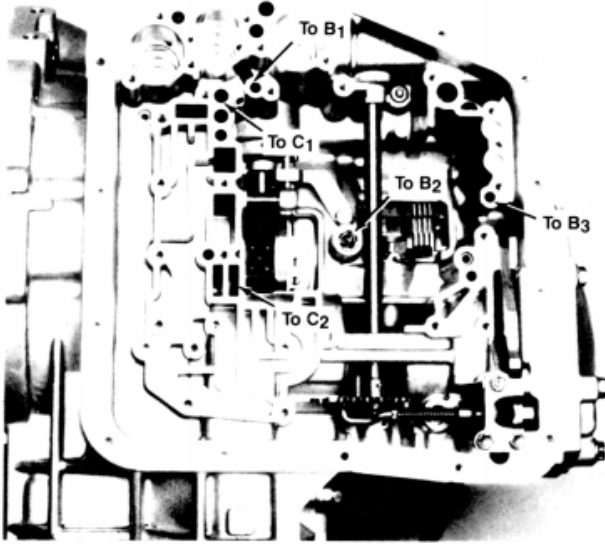
* : Refer to '92 A540E Automatic Transaxle Repair Manual (Pub. No. RM245U)

* : Refer to '92 CAMRY Repair Manual Volume 2 (Pub. No. RM222U2)

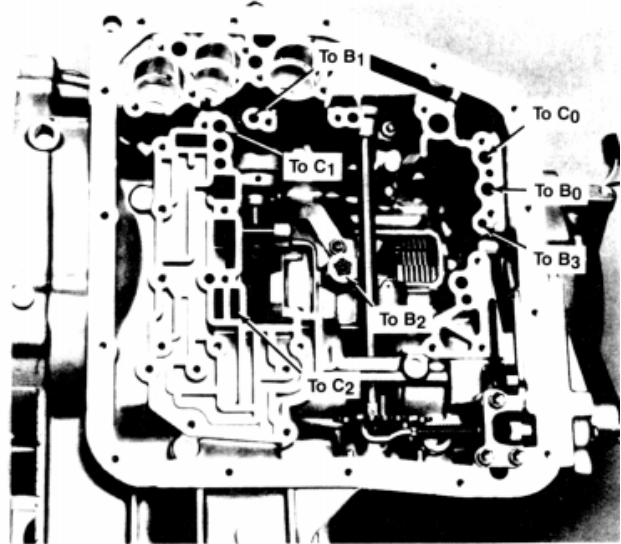


Notes

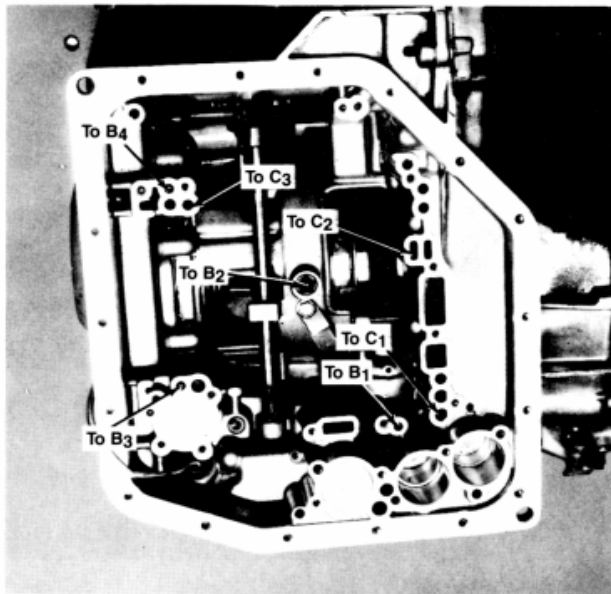
AUTOMATIC TRANSMISSION AIR CHECK



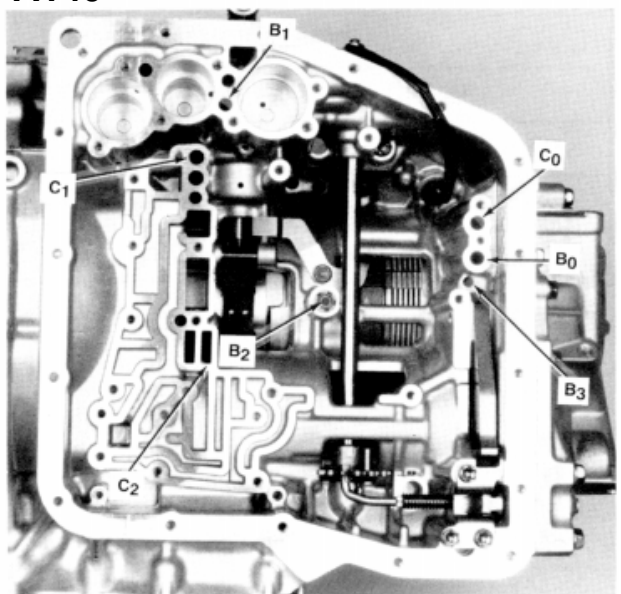
A130



A140



A240

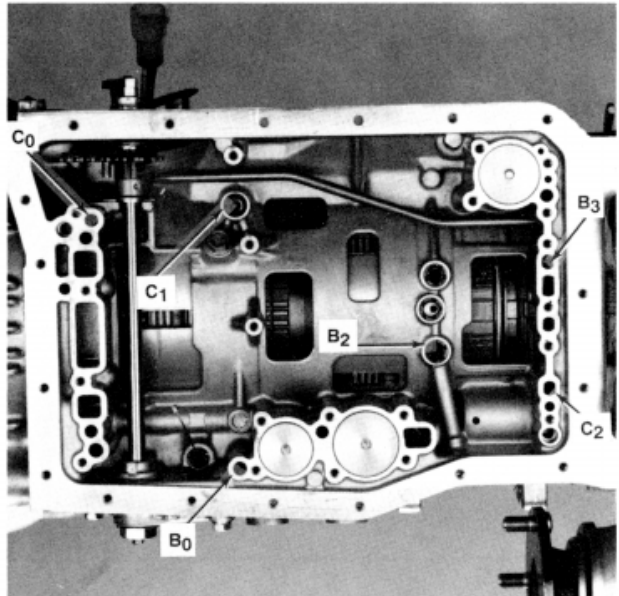
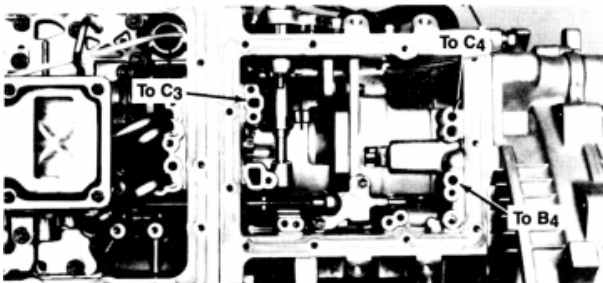
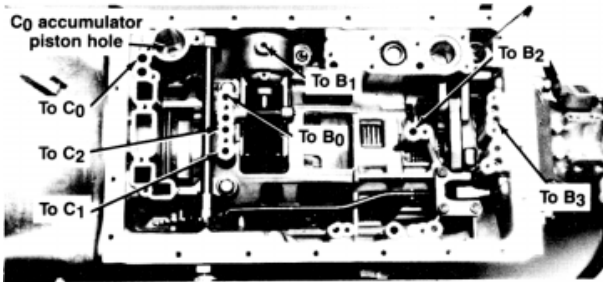
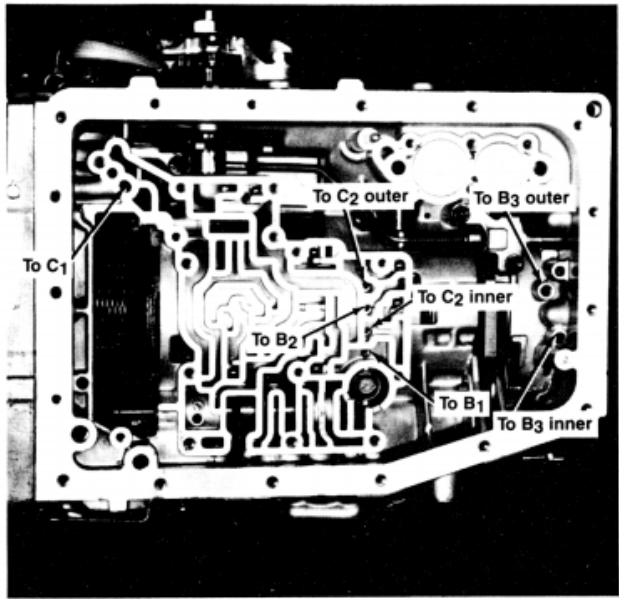
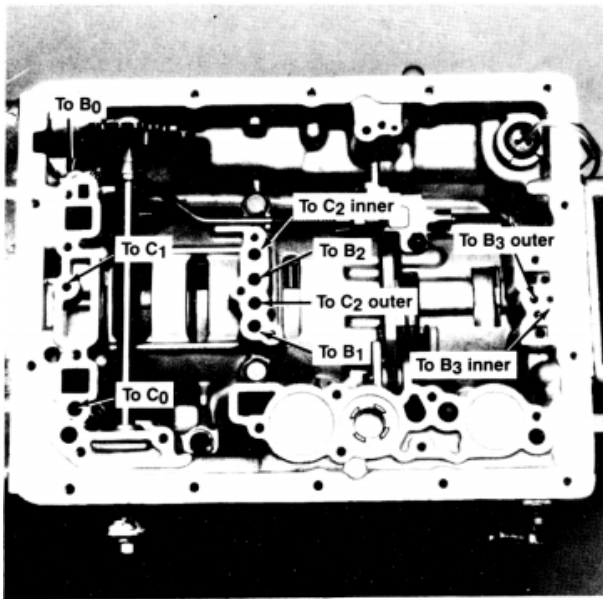


A540

Test Sequence

1. Use rubber tip air nozzle to form seal with test point.
2. Apply 30-50 psi air pressure DO NOT exceed psi specifications!
3. Result at each point:
 - A. "Dull thud"- System O.K.
 - B. "Hissing"- System leak.

Use compressed air to check clutch, brake and servo function and as diagnostic step in conjunction with stall, road or pressure test.



C0	Overdrive Direct Clutch
C1	Forward Clutch
C2	Direct and Reverse Clutch
C3	Underdrive Direct Clutch
B0	Overdrive Brake
B1	2nd Coast Brake
B2	2nd Brake
B3	1 st and Reverse Brake
B4	Underdrive Brake

F0	Overdrive One-Way Clutch
F1	One-Way Clutch #1
F2	One-Way Clutch #2
F3	Underdrive One-Way Clutch

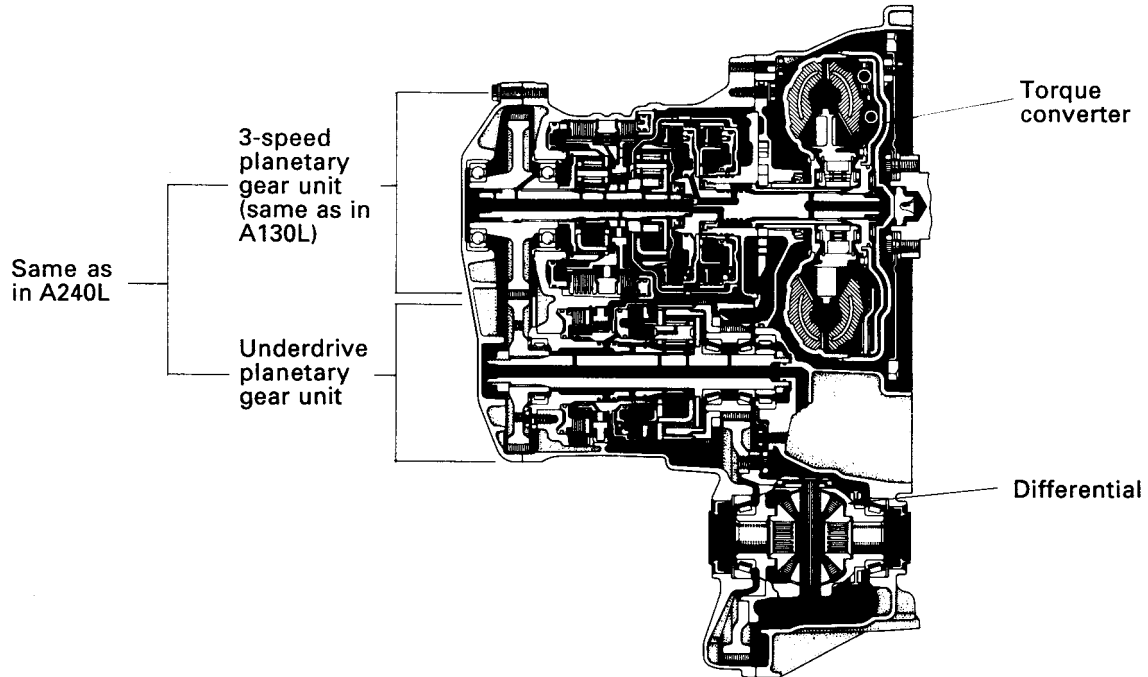
Appendix E

GENERAL REFERENCE

CONSTRUCTION OF ECTs

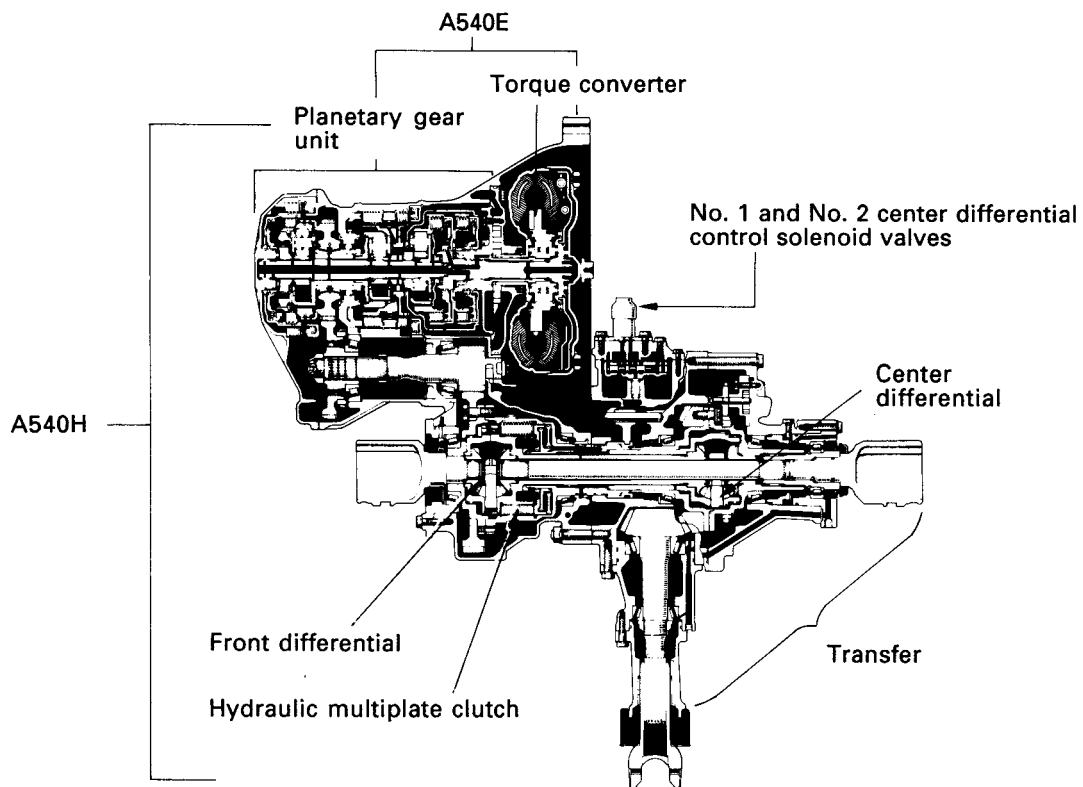
1. A240E and A241E

The main difference between the A240E and the A241E is in the final reduction ratios.



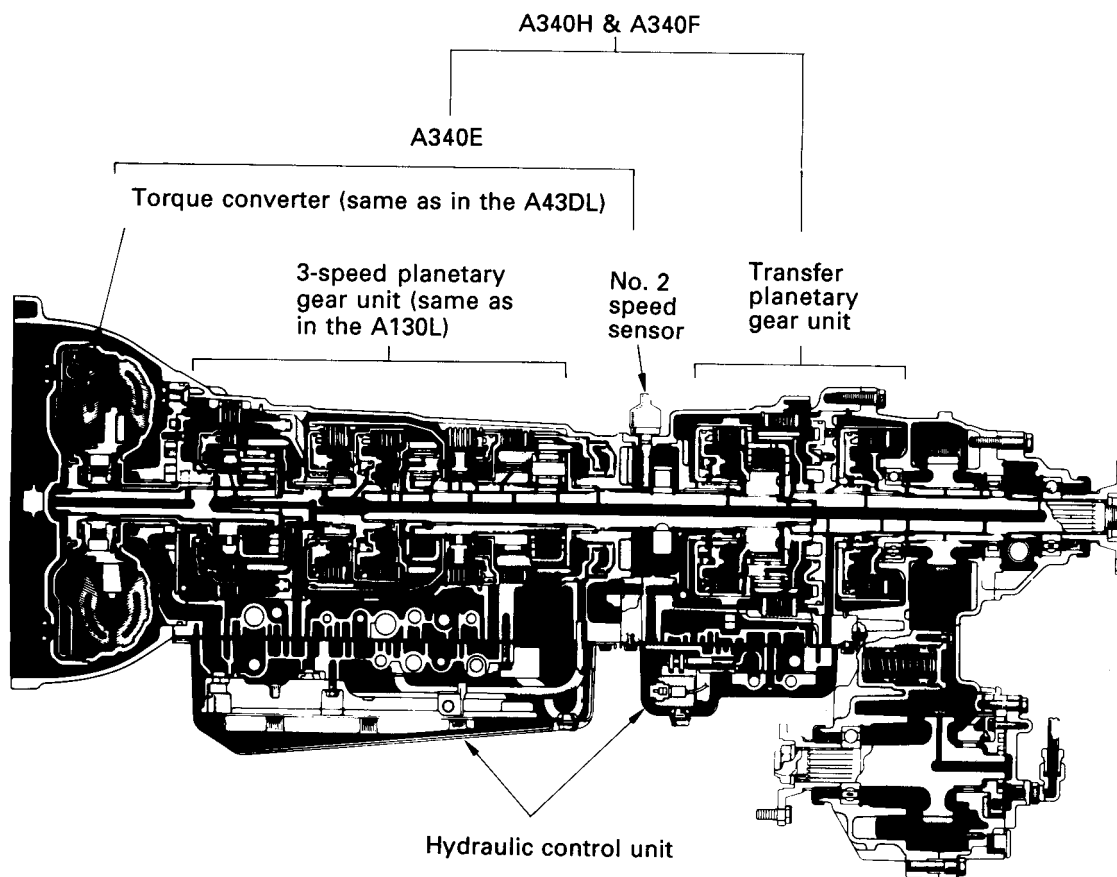
2. A540E and A540H

The A540H is basically the A540E with a transfer added to it to make it a 4WD transmission.



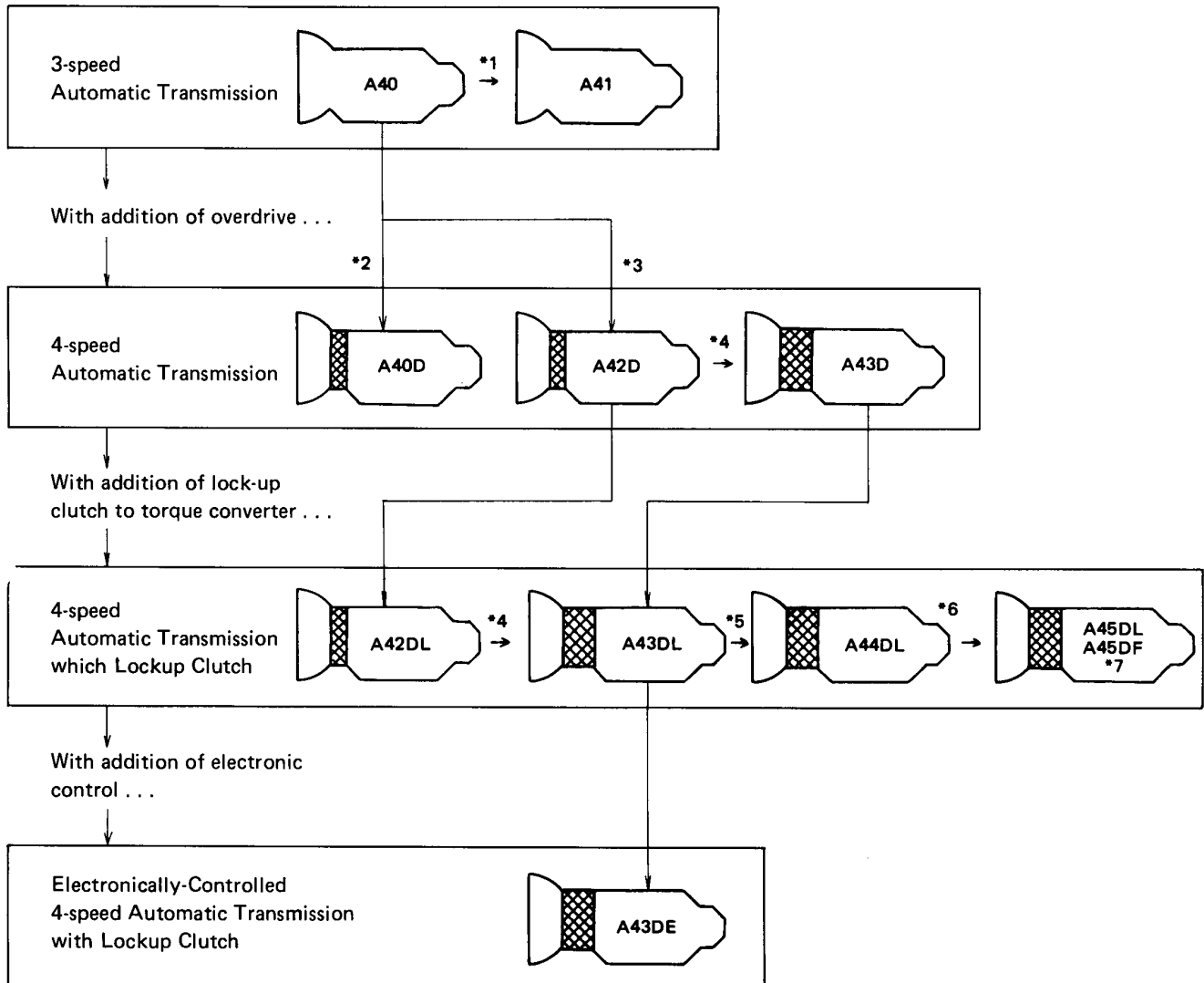
3. A340E, A340H and A340F

The transfer in the A340F is a manual shift transfer. The transfer in the A340H is an automatic shift transfer. The illustration shows the A340H.



OVERALL COMPARISON OF TOYOTA'S VARIOUS AUTOMATIC TRANSMISSIONS

1. A40 SERIES



*1 The gear ratio has been changed.

*2 The A40D is an A40 with added overdrive unit, but without brake No. 2 (B2) and one-way clutch No. 1 (F1).

*3 The A42D is an A40 (including brake No. 2 (B2) and one-way clutch No. 1 (F1) with added overdrive unit.

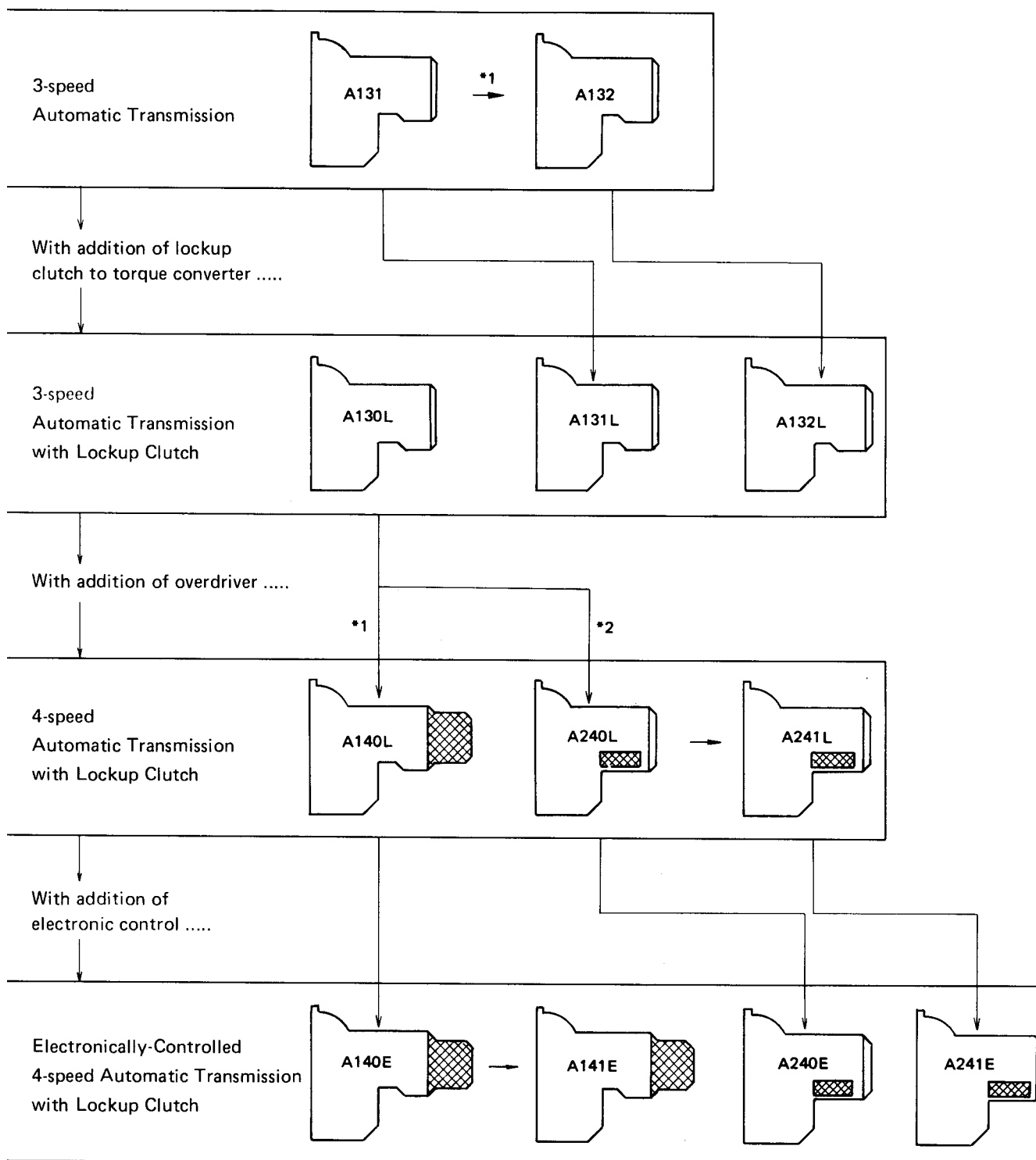
*4 To enable it to be used with larger, higher-performance engines, the capacity and performance of the A42D have been upgraded (i.e., the planetary gear has been made larger, the number of discs used has been increased, the two C2 pistons have been combined into one double-acting piston, and the surface area of this piston to which hydraulic pressure is applied in 3rd gear or overdrive (in the "D" range) has been increased).

*5 The gear ratio has been changed and a three-stage governor valve used.

*6 The gear ratio has been changed.

*7 The A45DF is on A45DL modified for 4WD vehicles.

5. A100, 200 SERIES



*1 The A140L is an A130L with added overdrive unit on the rear of transaxle case.

*2 The A240L is an A130L with added underdrive (4th speed) unit on the inside of transaxle case.