

MATRIX CHART OF PROBLEM SYMPTOMS

If a normal code is displayed during the diagnostic trouble code check but the trouble still occurs, check the circuits for each symptom in the order given in the charts on the following pages and proceed to the page given for troubleshooting.

The Matrix Chart is divided into 3 chapters.

Chapter 1: Electronic Circuit Matrix Chart

Chapter 2: On-Vehicle Repair Matrix Chart

Chapter 3: Off-Vehicle Repair Matrix Chart

When troubleshooting, check Chapter 1 first. If instructions are given in Chapter 1 to proceed to Chapter 2 or 3, proceed as instructed.

1. If the instruction "Proceed to next circuit inspection shown on matrix chart" is given in the flow chart for each circuit, proceed to the circuit with the next highest number in the table to continue the check.
2. If the trouble still occurs even though there are no abnormalities in any of the other circuits, then check or replace the ECM.

Chapter 1. Electronic Circuit

See Page		AT-70	AT-79	AT-73	AT-77	EG-258	AT-82	AT-94
Suspect Area		No. 1 vehicle speed sensor circuit	No. 2 vehicle speed sensor circuit	Shift solenoid valve No. 1, No. 2 circuit	Shift solenoid valve SL circuit	Throttle position sensor circuit	Park / neutral position switch circuit	Stop light switch circuit
Symptom								
Vehicle does not move in any forward position and reverse position								
Vehicle does not move in a particular position or positions								
No up-shift	1st → 2nd	3	4	1		2	6	
	2nd → 3rd	3	4	1		2	6	
	3rd → O/D	3	4	2		5	6	
No down-shift	O/D → 3rd	3	4	1		2		
	3rd → 2nd	3	4	1		2		
	2nd → 1st	3	4	1		2		
Lock-up does not engage		3	4		1	2	6	5
Lock-up does not disengage		3	4		1	2		5
Shift point too high or too low		3	4			1		
Up-shifts to 2nd while in L position Up-shifts to 3rd while in L position							1	
Up-shifts to O/D from 3rd while O/D main switch is OFF								
Up-shifts to O/D from 3rd while engine is cold								
Harsh engagement	N → D				1	3	4	
	Lock-up	3	4		1	2		
	Any driving position	4	5		1	3		
Slip or Shudder	Forward and reverse							
	A particular position							
No engine braking								
Poor acceleration		2	3	4	5	1		
No kick-down		2		3		1		
No pattern select								
No 2nd start				2				
Large shift shock or engine stalls when starting off or stopping					1			2

AT-90 AT-92	Pattern select switch circuit						
AT-87	O/D main Switch & O/D OFF indicator light circuit					1	2
AT-85	O/D cancel signal circuit						
AT-68	A/T fluid temperature sensor circuit						
EG-253	Engine coolant temperature sensor circuit						
AT-59	ECM						
AT-64	On-vehicle repair matrix chart						
AT-66	Off-vehicle repair matrix chart						
						1	2
						1	2
					8	5	7
					8	5	7
	1	7		8	11	9	10
					6	5	
					6	5	
					7	5	6
				7	10	8	9
					8	6	7
2					5		
					2		
	1				2		
				1	4	2	3
			2		7	5	6
					7	5	6
			2		8	6	7
						1	2
						1	2
						1	2
						7	6
					5		4
1					2		
1					3		
					4		3

Chapter 2. On-Vehicle Repair

★ : A340E, A340F, A340H AUTOMATIC TRANSMISSION Repair Manual (Pub.No.RM391U)

See Page		AT-51	AT-51	★	★	★	★	★	★
Suspect Area		Throttle cable	Transmission control rod	Oil strainer	Parking lock pawl	Manual valve	Throttle valve	1-2 shift valve	2-3 shift valve
Symptom									
Vehicle does not move in any forward position and reverse position		1	2		5	3			
Vehicle does not move in R position									
Vehicle does not move in a particular positions or positions (except R position)									
No up-shift	1st → 2nd							1	
	2nd → 3rd								1
	3rd → O/D								
No down-shift	O/D → 3rd								
	3rd → 2nd								1
	2nd → 1st							1	
Lock-up does not engage or Lock-up does not disengage									
Harsh engagement	N → D								
	Lock-up								
	N → R								
	N → L								
	1st → 2nd (D position)								
	1st → 2nd (2 position)								
	2nd → 3rd → O/D								
	1st → 2nd → 3rd → O/D								
	3rd → O/D						1		
	2nd → 3rd								
	3rd → O/D								
	O/D → 3rd								
Slip or Shudder	Forward and Reverse	1	2	3					
	Particular position	1	2						
No engine braking	1st								
	2nd								
No kick-down								1	2

★	3-4 shift valve															AT-68
★	Primary regulator valve	4														
★	Lock-up relay valve															
★	Accumulator control valve															
★	Cut-back valve															
★	C ₂ accumulator															
★	Low coast modulator valve															
★	B ₂ accumulator															
★	2nd coast modulator valve															
★	B ₀ accumulator															
★	C ₀ accumulator															
★	Pressure relief valve															
	Off-vehicle repair matrix chart	6	1	1	2	2	2									

Chapter 3. Off-Vehicle Repair

★ : A340E, A340F, A340H AUTOMATIC TRANSMISSION Repair Manual (Pub.No.RM391U)

See Page		★	★	★	★	★	★
Suspect Area							
Symptom		O/D one-way clutch (Fo)	O/D brake (Bo)	O/D direct clutch (Co)	O/D planetary gear unit	Torque converter clutch	1st and reverse brake (B3)
Vehicle does not move in any forward position and reverse position		1	2	3	4	5	
Vehicle does not move in R position				5			4
Vehicle does not move in	D, 2 and L positions						
	D and 2 positions						
	2 position						1
	L position						
No up-shift	1st → 2nd						
	2nd → 3rd						
	3rd → O/D		1				
No down-shift	2nd → 1st						
Lock-up does not engage or Lock-up does not disengage						1	
Harsh engagement	N → D						
	N → R						2
	2nd → 3rd						
	3rd → O/D		2	1	3		
	O/D → 3rd		1				
	Lock-up					1	
Slip or Shudder	Forward and Reverse (After warm-up)	2		3		1	
	Forward and Reverse (Just after engine starts)					1	
	R position						2
	1st						
	2nd						
	3rd						
	O/D		1				
No engine braking	1st ~ 3rd			1			
	1st						1
	2nd						
Poor acceleration	All positions					1	
	O/D			1	2		
	Other than O/D		1				
	Other than 2nd						
	1st and 2nd						
	L and R positions						1
	R position						
Engine stalls when starting off or stopping						1	

★	★	★	★	★	★	★
2nd coast brake (B ₁)	Direct clutch (C ₂)	Front and rear planetary gear unit	Forward clutch (C ₁)	No. 2 one-way clutch (F ₂)	2nd brake (B ₂)	No. 1 one-way clutch (F ₁)
1	3	2				
			1			
				1		
2	3				1	
					1	2
	1					
1					2	
			1			
	1					
1						
	1					
			1	2		
2					1	3
	1					
1						
1					2	
	1					
			1			