

1. Automatic Transmission and Differential

A: SPECIFICATIONS

Torque converter clutch	Type		Symmetric, 3 element, single stage, 2 phase torque converter		
	Stall torque ratio	2200 cc	2.1 — 2.3		
		2500 cc	1.8 — 2.0		
		OUTBACK	2.2 — 2.4		
	Nominal diameter	2200 cc	236 mm (9.29 in)		
		2500 cc	246 mm (9.69 in)		
	Stall speed (at sea level)	2200 cc	2,200 — 2,600 rpm		
2500 cc		2,200 — 2,600 rpm			
OUTBACK		2,300 — 2,700 rpm			
One-way clutch		Sprague type one-way clutch			
Automatic transmission	Transmission	Type	4-forward, 1-reverse, double-row planetary gears		
		Control element	Multi-plate clutch		4 sets
			Multi-plate brake		1 set
			Band brake		1 set
			One-way clutch (sprague type)		2 sets
		Gear ratio	1st	2200 cc	2.785
				2500 cc	3.027
			2nd	2200 cc	1.545
				2500 cc	1.619
			3rd		1.000
	4th		0.694		
	Reverse		2.272		
	Tooth number of planetary gear	Front sun gear		33	
		Front pinion		21	
		Front internal gear		75	
		Rear sun gear	2200 cc	42	
			2200 cc	37	
		Rear pinion	2200 cc	17	
			2500 cc	19	
		Rear internal gear		75	
Clutch number of reverse clutch		Drive plate & driven plate	2		
Clutch number of high clutch		Drive plate & driven plate	2200 cc ... 4 2500 cc ... 5		
Clutch number of forward clutch		Drive plate & driven plate	5		
Clutch number of overrunning clutch		Drive plate & driven plate	3		
Clutch number of low & reverse brake		Drive plate & driven plate	Except OUTBACK ... 5 OUTBACK ... 6		

SPECIFICATIONS AND SERVICE DATA

[S1A0] 3-2

1. Automatic Transmission and Differential

Automatic transmission	Transmission	Selector position		P (Park)	Transmission in neutral, output member immovable, and engine start possible	
				R (Reverse)	Transmission in reverse for backing	
				N (Neutral)	Transmission in neutral, and engine start possible	
				D (Drive)	Automatic gear change 1st ← → 2nd ← → 3rd ← → 4th	
				3 (3rd)	Automatic gear change 1st ← → 2nd ← → 3rd ← 4th	
				2 (2nd)	2nd gear locked (Deceleration possible 4th → 3rd → 2nd)	
				1 (1st)	1st gear locked (Deceleration possible 4th → 3rd → 2nd → 1st)	
		Control method		Hydraulic remote control		
	Oil pump	Type		Variable-capacity type vane pump		
		Driving method		Driven by engine		
		Number of vanes		9 pieces		
	Hydraulic control	Type		Electronic/hydraulic control [Four forward speed changes by electrical signals of car speed and accelerator (throttle) opening]		
		Fluid		Dexron II or Dexron III type Automatic transmission fluid		
		Fluid capacity	2200 cc	7.9 ℓ (8.4 US qt, 7.0 Imp qt)		
	2500 cc		9.5 ℓ (10.0 US qt, 8.4 Imp qt)			
	Lubrication	Lubrication system		Forced feed lubrication with oil pump		
		Oil		Automatic transmission fluid (above mentioned.)		
	Cooling	Cooling system		Liquid-cooled cooler incorporated in radiator		
	Harness	Inhibitor switch		12 poles		
		Transmission harness		FWD ... 11 poles AWD ... 13 poles		
	Transfer	Transfer clutch		Hydraulic multi-plate clutch		
		Clutch number of transfer clutch		Drive plate & driven plate	5	
		Control method		Electronic, hydraulic type		
		Lubricant		The same Automatic Transmission Fluid used in automatic transmission.		
		1st reduction gear ratio		1.000 (53/53)		

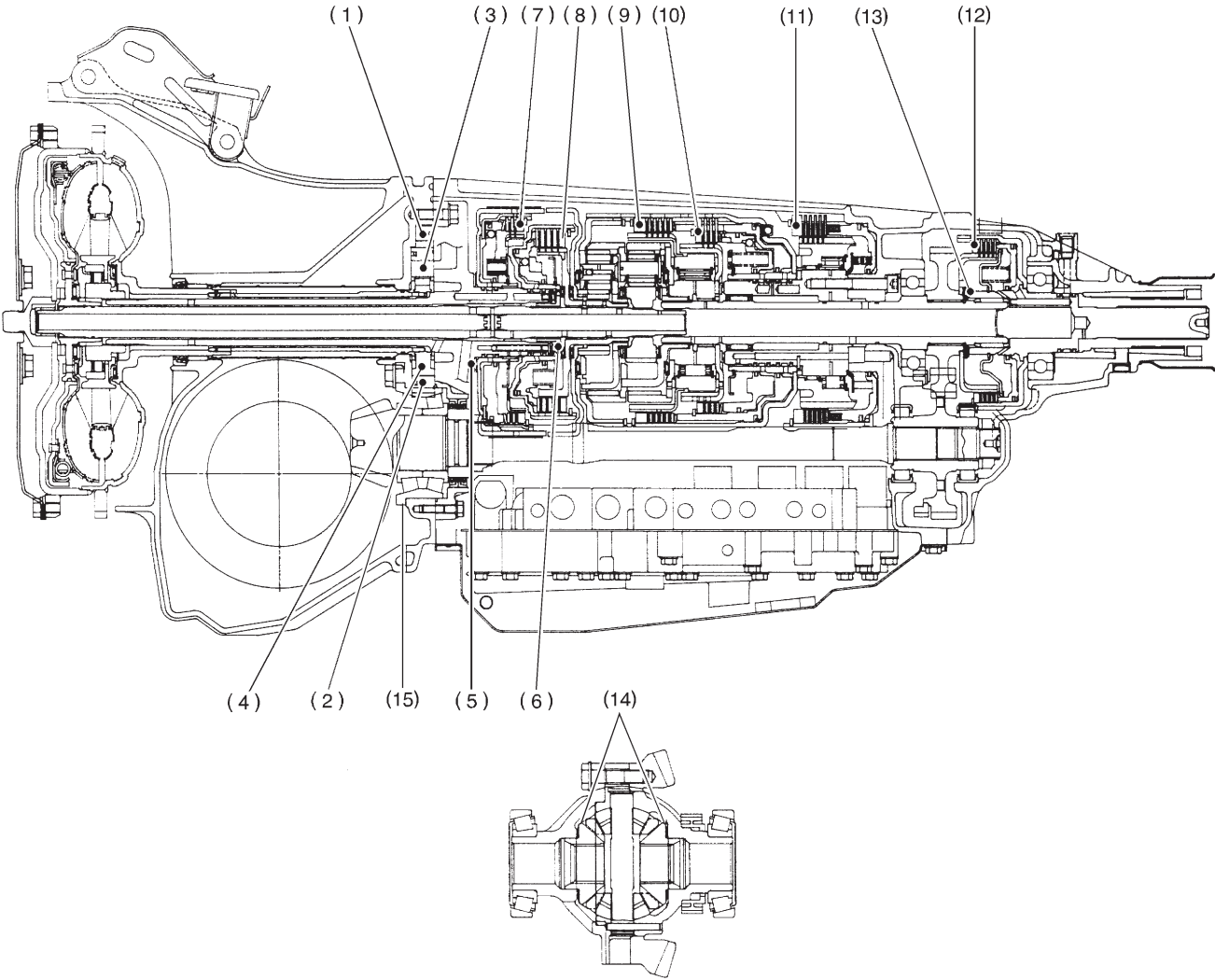
3-2 [S1A0]

SPECIFICATIONS AND SERVICE DATA

1. Automatic Transmission and Differential

Final reduction	Final gear ratio	Front drive	FWD		3.900 (39/10)																			
			AWD	2200 cc	4.111 (37/9)																			
				2500 cc	4.444 (40/9)																			
	Speedometer gear ratio	2200 cc & LSi		0.83 (19/23)																				
		GT		0.80 (20/25)																				
		OUTBACK		0.76 (19/25)																				
	Lubrication oil		<p style="text-align: center;">ITEM</p> <hr/> <ul style="list-style-type: none"> • Front differential gear oil <hr/> <p style="text-align: center;">API Classification</p> <hr/> <p style="text-align: center;">GL - 5</p> <hr/> <p style="text-align: center;">SAE Viscosity No. and Applicable Temperature</p> <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="text-align: center;">(°C)</td> <td style="text-align: center;">-30</td> <td style="text-align: center;">-26</td> <td style="text-align: center;">-15</td> <td style="text-align: center;">-5</td> <td style="text-align: center;">0</td> <td style="text-align: center;">15</td> <td style="text-align: center;">25</td> <td style="text-align: center;">30</td> </tr> <tr> <td style="text-align: center;">(°F)</td> <td style="text-align: center;">-22</td> <td style="text-align: center;">-15</td> <td style="text-align: center;">5</td> <td style="text-align: center;">23</td> <td style="text-align: center;">32</td> <td style="text-align: center;">59</td> <td style="text-align: center;">77</td> <td style="text-align: center;">86</td> </tr> </table> <p style="text-align: right;">H3M1235A</p>				(°C)	-30	-26	-15	-5	0	15	25	30	(°F)	-22	-15	5	23	32	59	77	86
	(°C)	-30	-26	-15	-5	0	15	25	30															
	(°F)	-22	-15	5	23	32	59	77	86															
	Oil capacity		Front drive	1.2 l (1.3 US qt, 1.1 Imp qt)																				
ATF cooling system		Radiation capacity	1.651 kW (1,420 kcal/h, 5,635 BTU/h)																					

B: ADJUSTING PARTS



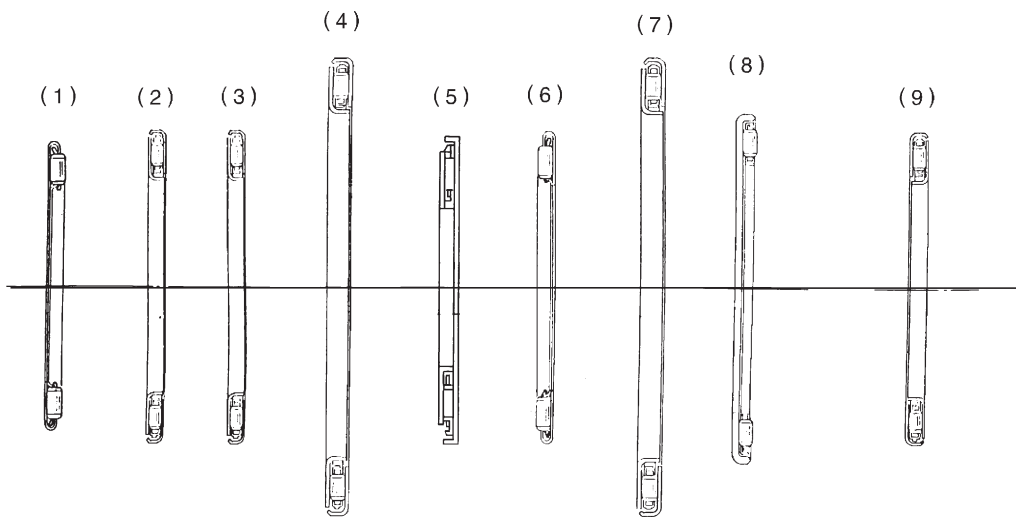
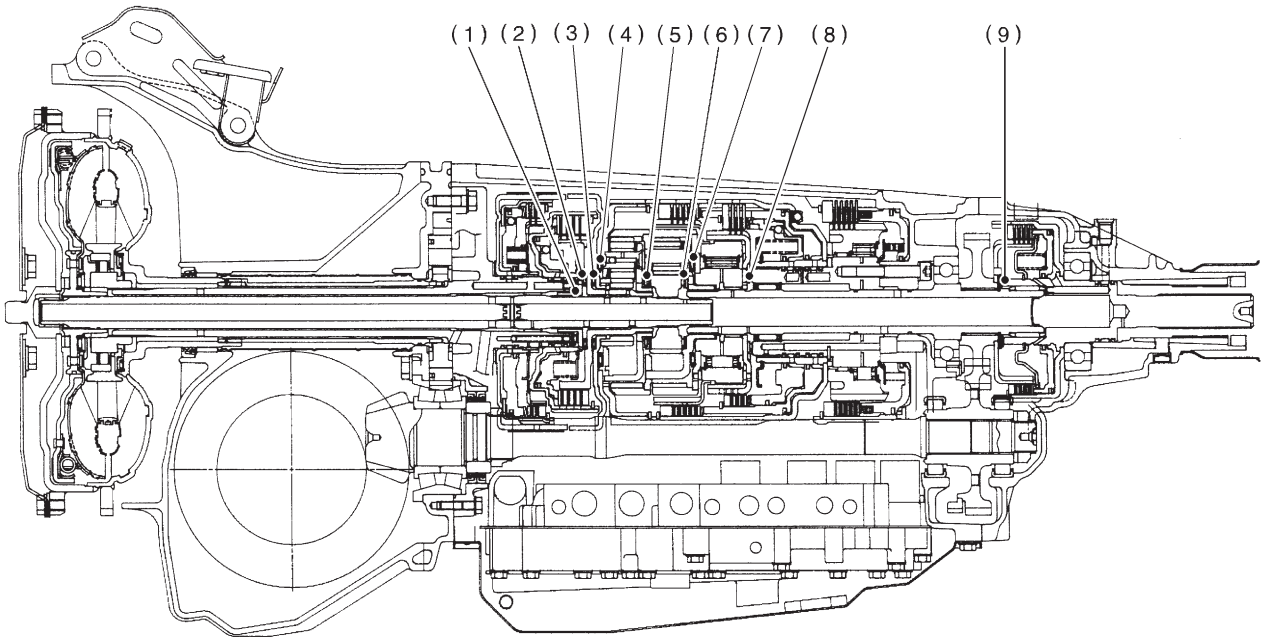
3-2 [S1B0]

SPECIFICATIONS AND SERVICE DATA

1. Automatic Transmission and Differential

No.	Part Name	Part Number	Dimension mm (in)	Application
1	Control piston	2500 cc 31235AA000 — 030	13.5 ^{-0.030} / _{-0.037} (0.5315 ^{-0.0012} / _{-0.0015}), 13.5 ^{-0.023} / _{-0.030} (0.5315 ^{-0.0009} / _{-0.0012}),	Adjusting side clearance of oil pump
		2200 cc 31235AA040 — 070	13.5 ^{-0.016} / _{-0.023} (0.5315 ^{-0.0006} / _{-0.0009}), 13.5 ^{-0.009} / _{-0.016} (0.5315 ^{-0.0004} / _{-0.0006})	
2	Cam ring	31241AA001 — 031	17 ^{-0.010} / _{-0.017} (0.6693 ^{-0.0004} / _{-0.0007}), 17 ^{-0.003} / _{-0.010} (0.6693 ^{-0.0001} / _{-0.0004}), 17 ^{+0.004} / _{-0.003} (0.6693 ^{+0.0002} / _{-0.0001}), 17 ^{+0.011} / _{+0.004} (0.6693 ^{+0.0004} / _{+0.0002})	Adjusting side clearance of oil pump
3	Vane (Oil pump)	31243AA000 — 030	17 ^{-0.030} / _{-0.037} (0.6693 ^{-0.0012} / _{-0.0015}), 17 ^{-0.023} / _{-0.030} (0.6693 ^{-0.0009} / _{-0.0012}), 17 ^{-0.016} / _{-0.023} (0.6693 ^{-0.0006} / _{-0.0009}), 17 ^{+0.009} / _{+0.016} (0.6693 ^{+0.0004} / _{+0.0006})	Adjusting side clearance of oil pump
4	Rotor (Oil pump)	31240AA000 — 030	17 ^{-0.030} / _{-0.037} (0.6693 ^{-0.0012} / _{-0.0015}), 17 ^{-0.023} / _{-0.030} (0.6693 ^{-0.0009} / _{-0.0012}), 17 ^{-0.016} / _{-0.023} (0.6693 ^{-0.0006} / _{-0.0009}), 17 ^{+0.009} / _{+0.016} (0.6693 ^{+0.0004} / _{+0.0006})	Adjusting side clearance of oil pump
5	Thrust washer (Reverse clutch)	31299AA000 — 060	0.7, 0.9, 1.1, 1.3, 1.5, 1.7, 1.9 (0.028, 0.035, 0.043, 0.051, 0.059, 0.067, 0.075)	Adjusting end play of reverse clutch drum
6	Bearing race	803031021 — 027	0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0 (0.031, 0.039, 0.047, 0.055, 0.063, 0.071, 0.079)	Adjusting total end play
7	Retaining plate	31567AA350 — 400	4.6, 4.8, 5.0, 5.2, 5.4, 5.6 (0.181, 0.189, 0.197, 0.205, 0.213, 0.220)	Adjusting clearance of reverse clutch
8	Retaining plate	31567AA340, 31567AA190 — 260	3.4, 3.6, 3.8, 4.0, 4.2, 4.4, 4.6, 4.8, 5.0 (0.134, 0.142, 0.150, 0.157, 0.165, 0.173, 0.181, 0.189, 0.197)	Adjusting clearance of high clutch
9	Retaining plate	31567AA010, 31567AA060 — 110	4.0, 4.2, 4.4, 4.6, 4.8, 5.0, 5.2 (0.157, 0.165, 0.173, 0.181, 0.189, 0.197, 0.205)	Adjusting clearance of forward clutch
10	Retaining plate	31567AA410 — 470	8.0, 8.2, 8.4, 8.6, 8.8, 9.0, 9.2 (0.315, 0.323, 0.331, 0.339, 0.346, 0.354, 0.362)	Adjusting clearance of overrunning clutch
11	Retaining plate No. 2	31667AA180 — 250, 31667AA310	6.5, 6.8, 7.1, 7.4, 7.7, 8.0, 8.2, 8.4, 8.6 (0.256, 0.268, 0.280, 0.291, 0.303, 0.315, 0.323, 0.331, 0.339)	Adjusting clearance of low and reverse brake
12	Pressure plate (Front)	31593AA151 — 181	3.3, 3.7, 4.1, 4.5 (0.130, 0.146, 0.161, 0.177)	Adjusting clearance of transfer clutch
13	Thrust bearing (35 × 53 × T)	806536020, 806535030 — 070, 090	3.8, 4.0, 4.2, 4.4, 4.6, 4.8, 5.0 (0.150, 0.157, 0.165, 0.173, 0.181, 0.189, 0.197)	Adjusting end play of transfer clutch
14	Washer (38.1 × 50 × T)	803038021 — 023	0.95, 1.00, 1.05 (0.0374, 0.0394, 0.0413)	Adjusting backlash of differential bevel gear
15	Drive pinion shim	31451AA050 — 100	0.150, 0.175, 0.200, 0.225, 0.250, 0.275 (0.0059, 0.0069, 0.0079, 0.0089, 0.0098, 0.0108)	Adjusting drive pinion height

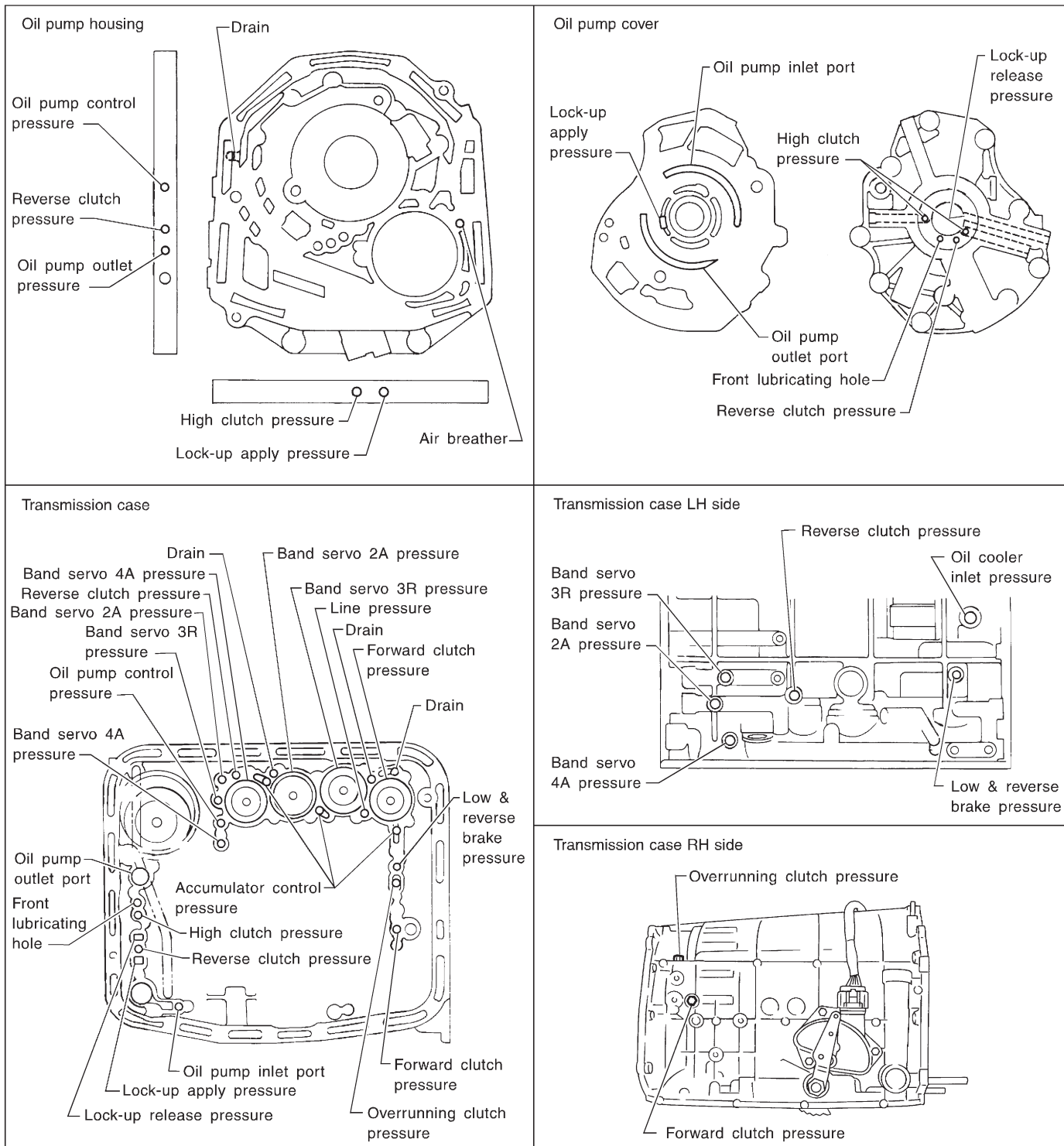
C: LOCATION AND INSTALLING DIRECTION OF THRUST NEEDLE BEARING



3-2 [S1C0]**SPECIFICATIONS AND SERVICE DATA****1. Automatic Transmission and Differential**

No.	Part Name	Part Number	Inside diameter mm (in)	Outside diameter mm (in)	Dimension mm (in)	Application
(1)	Thrust needle bearing	806530020	30 (1.18)	47 (1.85)	3.3 (0.130)	A place of high clutch
(2)	Thrust needle bearing	806537010	38 (1.50)	53 (2.09)	3.2 (0.126)	A place of high clutch hub
(3)	Thrust needle bearing	806537010	38 (1.50)	53 (2.09)	3.2 (0.126)	A place of front sun gear
(4)	Thrust needle bearing	806558020	58 (2.28)	78 (3.07)	4.0 (0.157)	A place of front planetary carrier
(5)	Thrust needle bearing	806535120	35 (1.38)	53 (2.09)	4.8 (0.189)	A place of rear sun gear
(6)	Thrust needle bearing	806534010	34 (1.34)	53 (2.09)	3.37 (0.1327)	A place of rear internal gear
(7)	Thrust needle bearing	806558020	58 (2.28)	78 (3.07)	4.0 (0.157)	A place of over-running clutch hub
(8)	Thrust needle bearing	806542010	42 (1.65)	59 (2.32)	3.6 (0.142)	A place of low & reverse brake
(9)	Thrust needle bearing	806536020	36 (1.42)	53 (2.09)	3.8 (0.150)	Adjusting end play of transfer clutch
		806535030			4.0 (0.157)	
		806535040			4.2 (0.165)	
		806535050			4.4 (0.173)	
		806535060			4.6 (0.181)	
		806535070			4.8 (0.189)	
		806535090			5.0 (0.197)	

D: FLUID PASSAGES

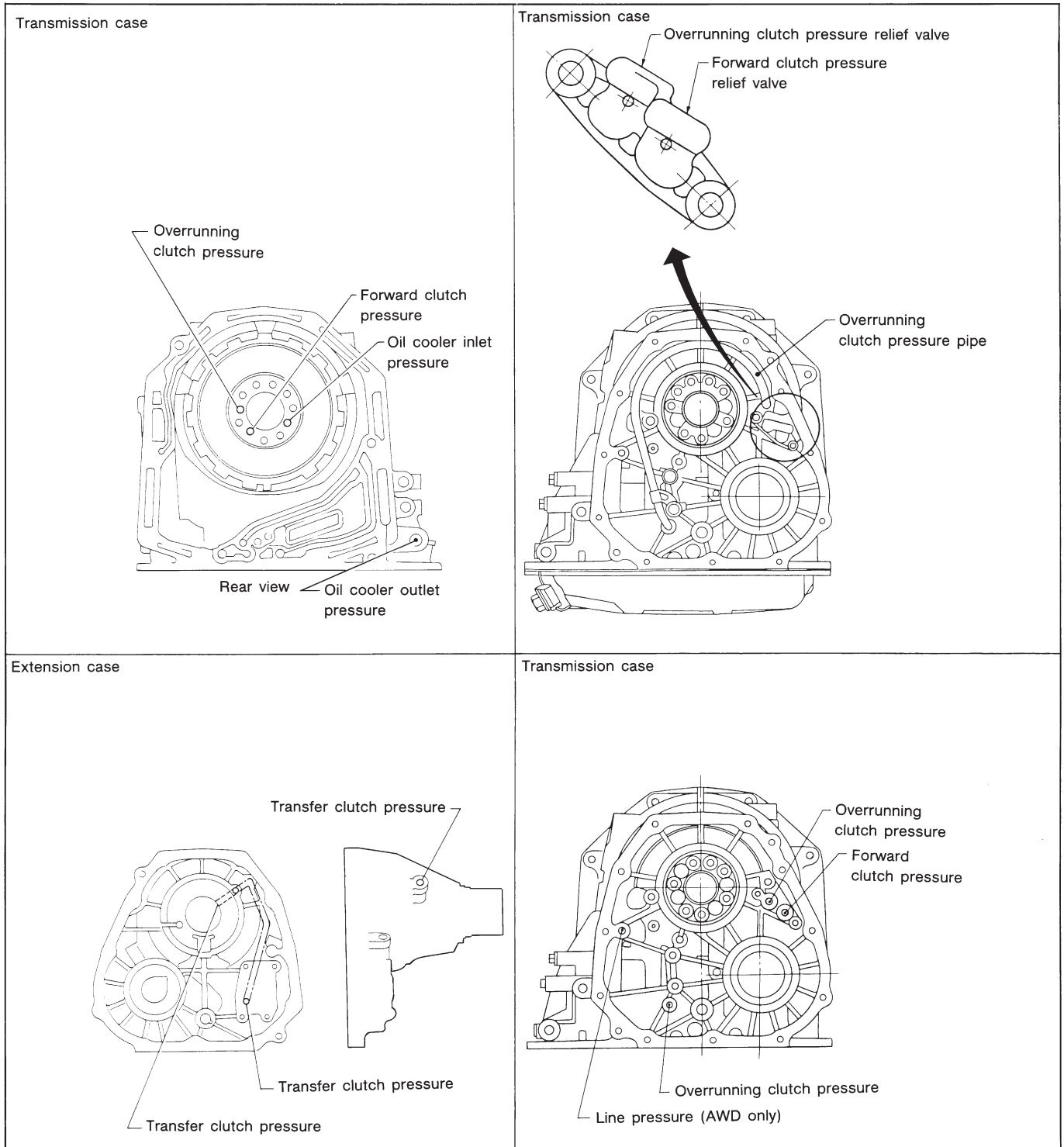


H3M1238A

3-2 [S1D0]

SPECIFICATIONS AND SERVICE DATA

1. Automatic Transmission and Differential



G3M0777