

# 1. Automatic Transmission and Differential

## A: SPECIFICATIONS

Torque converter clutch	Type		Symmetric, 3 element, single stage, 2 phase torque converter clutch coupling		
	Stall torque ratio	2200 cc	2.1 — 2.3		
		2500 cc	1.8 — 2.0		
		2500 cc 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	2,300 — 2,700 rpm		
		2500 cc	2,200 — 2,600 rpm		
		2500 cc OUTBACK	2,400 — 2,800 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
				2500 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 2500 cc OUTBACK ... 5 2500 cc OUTBACK ... 6		
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			

# SPECIFICATIONS AND SERVICE DATA

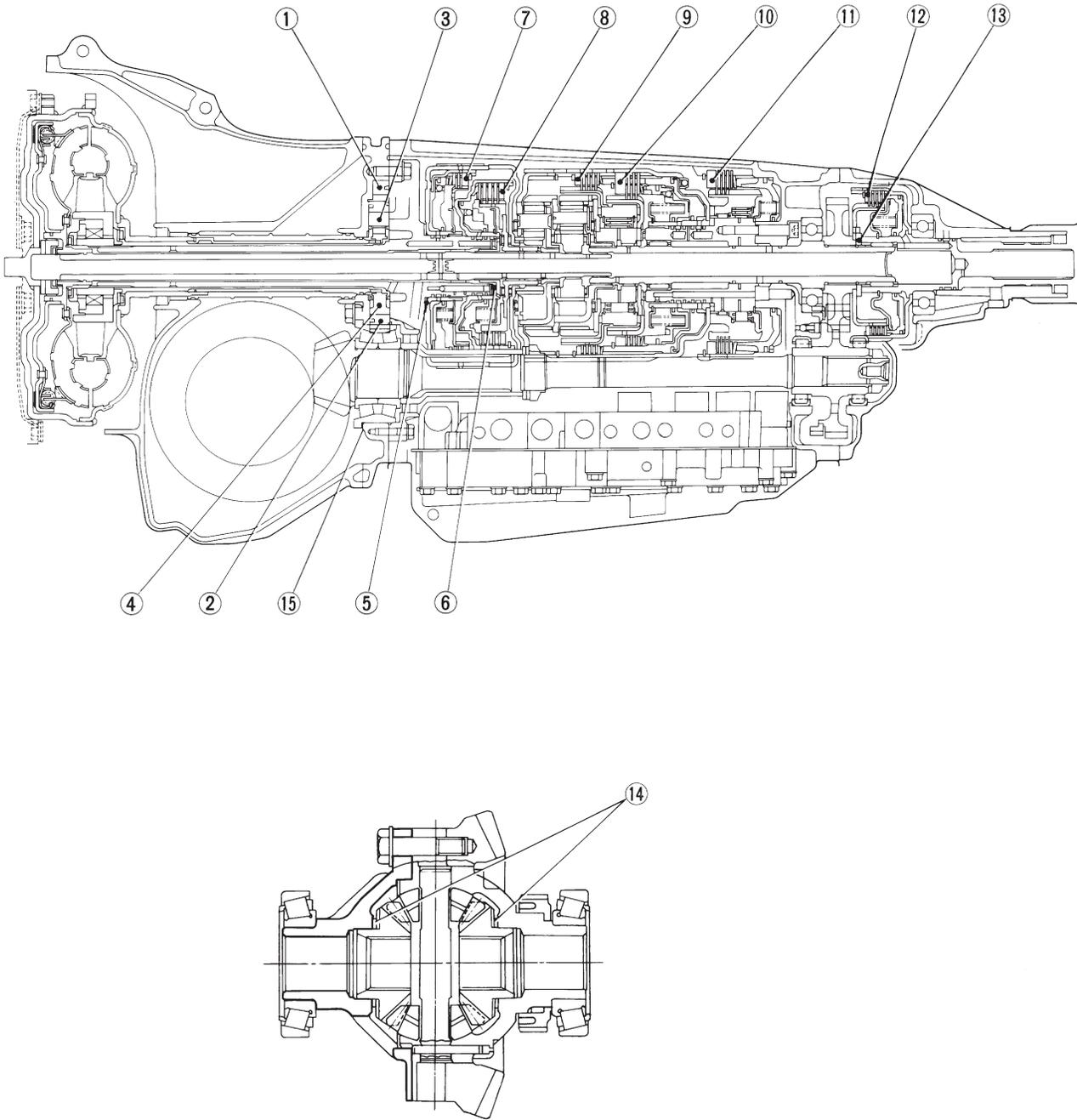
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## 1. Automatic Transmission and Differential

Automatic transmission	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)				
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 & 2500 cc		0.83 (19/23)		
		2500 cc OUTBACK		0.76 (19/25)		
	Lubrication oil		API, GL-5			
	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

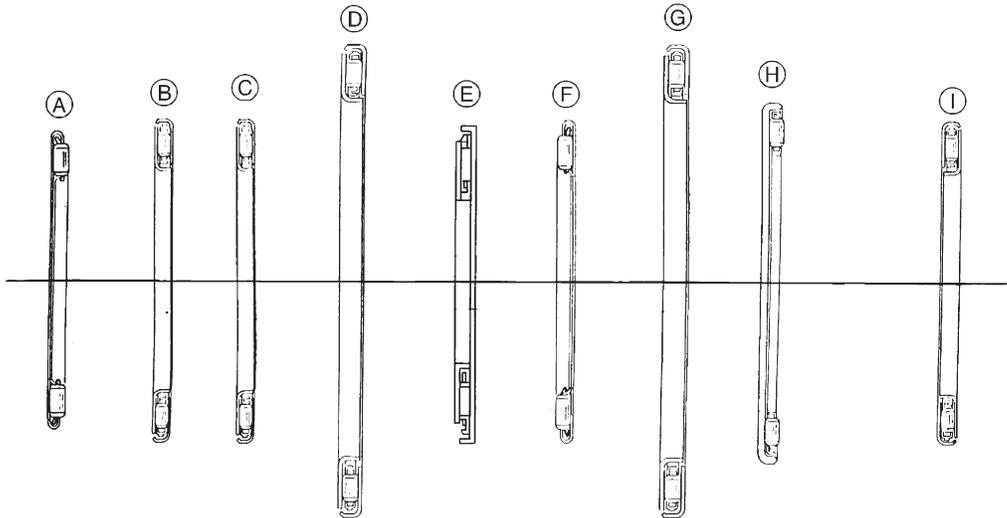
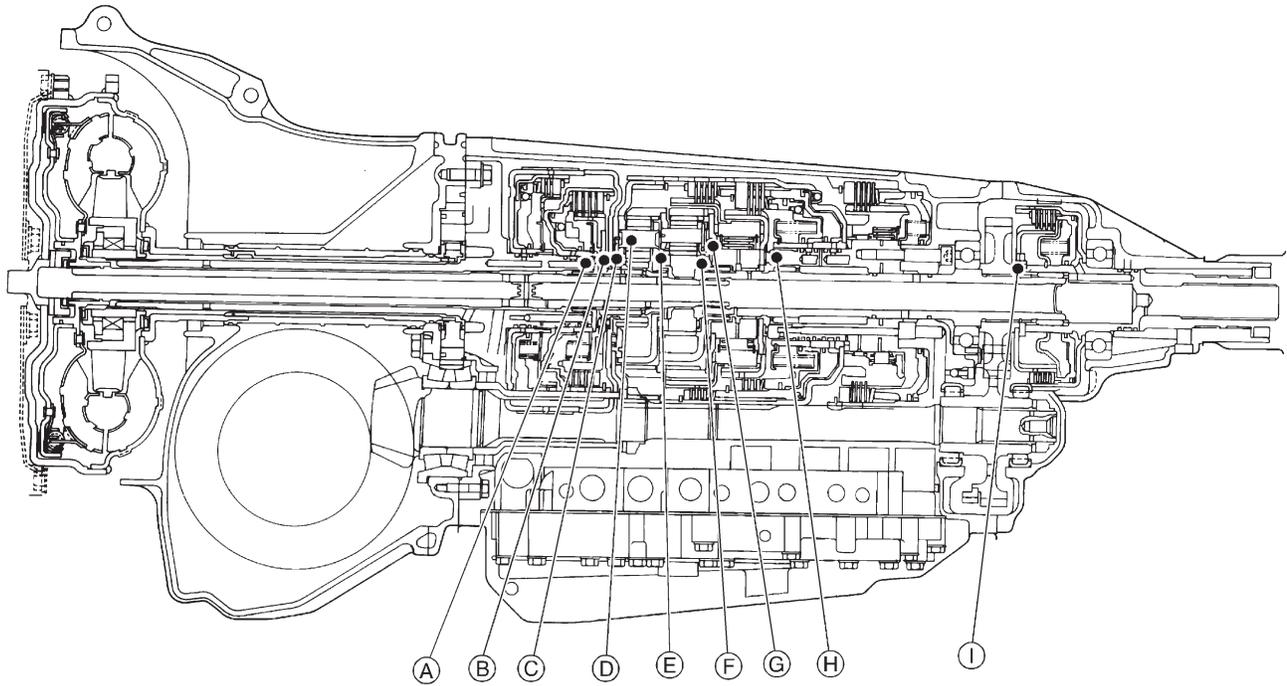
AWD



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No.	Part Name	Part Number	Dimension mm (in)	Application
1	Control piston	2500 cc	31235AA000 — 030	13.5 <sup>-0.030</sup> <sub>-0.037</sub> (0.5315 <sup>-0.0012</sup> <sub>-0.0015</sub> ), 13.5 <sup>-0.023</sup> <sub>-0.030</sub> (0.5315 <sup>-0.0009</sup> <sub>-0.0012</sub> ),
		2200 cc	31235AA040 — 070	13.5 <sup>-0.016</sup> <sub>-0.023</sub> (0.5315 <sup>-0.0006</sup> <sub>-0.0009</sub> ), 13.5 <sup>-0.009</sup> <sub>-0.016</sub> (0.5315 <sup>-0.0004</sup> <sub>-0.0006</sub> )
2	Cam ring	31241AA001 — 031	17 <sup>-0.010</sup> <sub>-0.017</sub> (0.6693 <sup>-0.0004</sup> <sub>-0.0007</sub> ), 17 <sup>-0.003</sup> <sub>-0.010</sub> (0.6693 <sup>-0.0001</sup> <sub>-0.0004</sub> ), 17 <sup>+0.004</sup> <sub>-0.003</sub> (0.6693 <sup>+0.0002</sup> <sub>-0.0001</sub> ), 17 <sup>+0.011</sup> <sub>+0.004</sub> (0.6693 <sup>+0.0004</sup> <sub>+0.0002</sub> )	
3	Vane (Oil pump)	31243AA000 — 030	17 <sup>-0.030</sup> <sub>-0.037</sub> (0.6693 <sup>-0.0012</sup> <sub>-0.0015</sub> ), 17 <sup>-0.023</sup> <sub>-0.030</sub> (0.6693 <sup>-0.0009</sup> <sub>-0.0012</sub> ), 17 <sup>-0.016</sup> <sub>-0.023</sub> (0.6693 <sup>-0.0006</sup> <sub>-0.0009</sub> ), 17 <sup>+0.009</sup> <sub>+0.016</sub> (0.6693 <sup>+0.0004</sup> <sub>+0.0006</sub> )	
4	Rotor (Oil pump)	31240AA000 — 030	17 <sup>-0.030</sup> <sub>-0.037</sub> (0.6693 <sup>-0.0012</sup> <sub>-0.0015</sub> ), 17 <sup>-0.023</sup> <sub>-0.030</sub> (0.6693 <sup>-0.0009</sup> <sub>-0.0012</sub> ), 17 <sup>-0.016</sup> <sub>-0.023</sub> (0.6693 <sup>-0.0006</sup> <sub>-0.0009</sub> ), 17 <sup>+0.009</sup> <sub>+0.016</sub> (0.6693 <sup>+0.0004</sup> <sub>+0.0006</sub> )	
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)	
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)	
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)	
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)	
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)	
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)	
11	Retaining plate No. 2	31667AA180 — 250	6.5, 6.8, 7.1, 7.4, 7.7, 8.0, 8.2, 8.4 (0.256, 0.268, 0.280, 0.291, 0.303, 0.315, 0.323, 0.331)	
12	Pressure plate (Front)	31593AA151 — 181	3.3, 3.7, 4.1, 4.5 (0.130, 0.146, 0.161, 0.177)	
13	Thrust bearing (35 x 53 x 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)	
14	Washer (38.1 x 50 x T)	803038021 — 023	0.95, 1.00, 1.05 (0.0374, 0.0394, 0.0413)	
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)	

C: LOCATION AND INSTALLING DIRECTION OF THRUST NEEDLE BEARING



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# SPECIFICATIONS AND SERVICE DATA

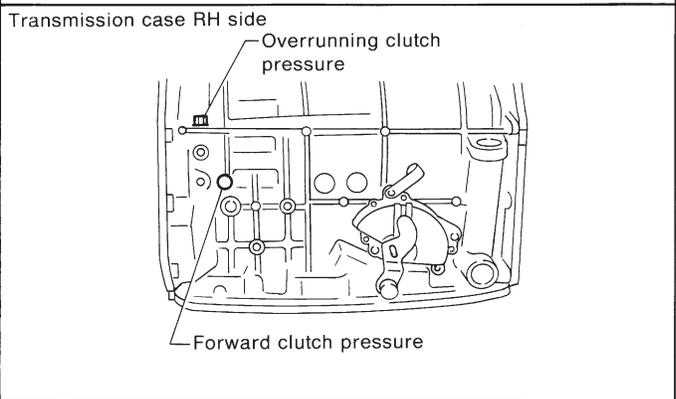
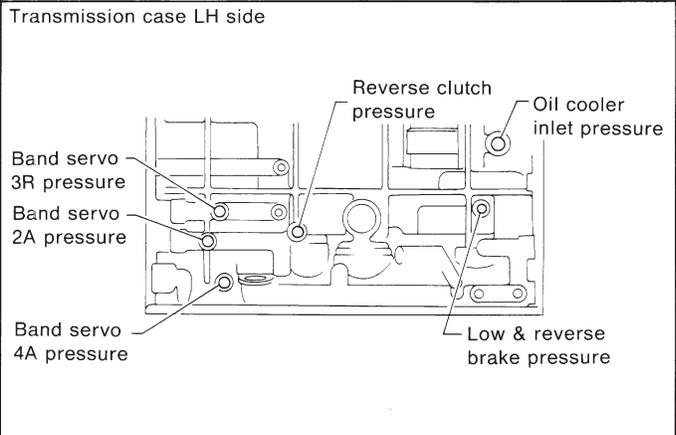
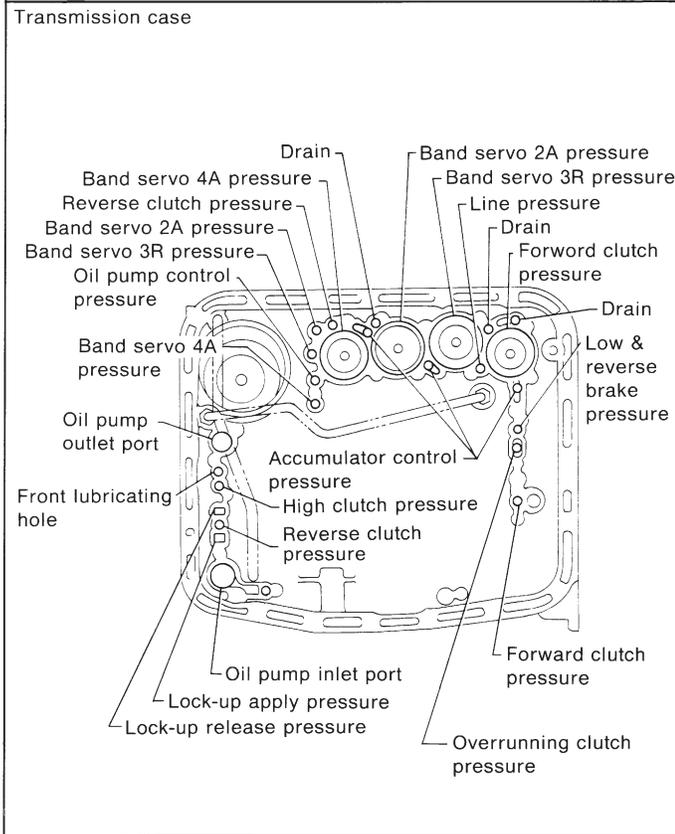
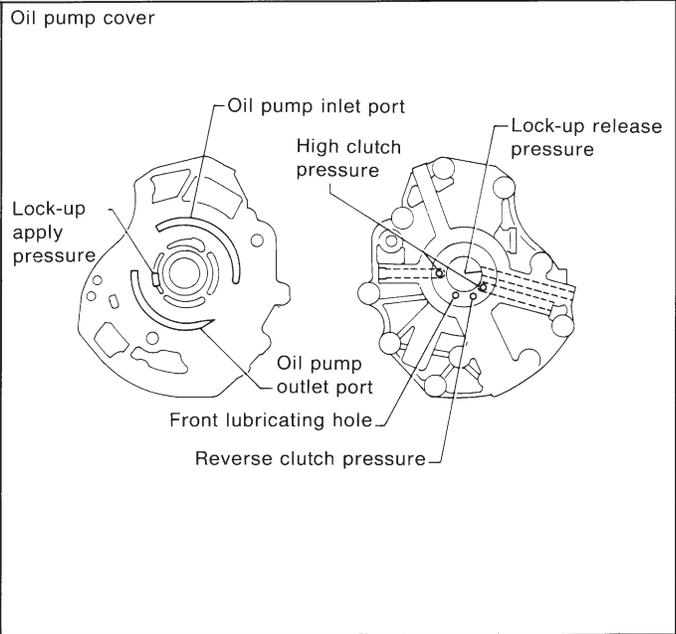
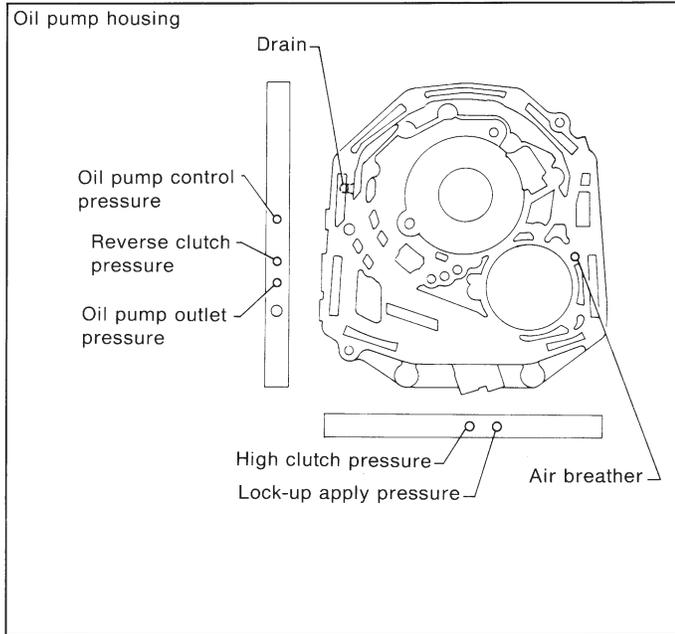
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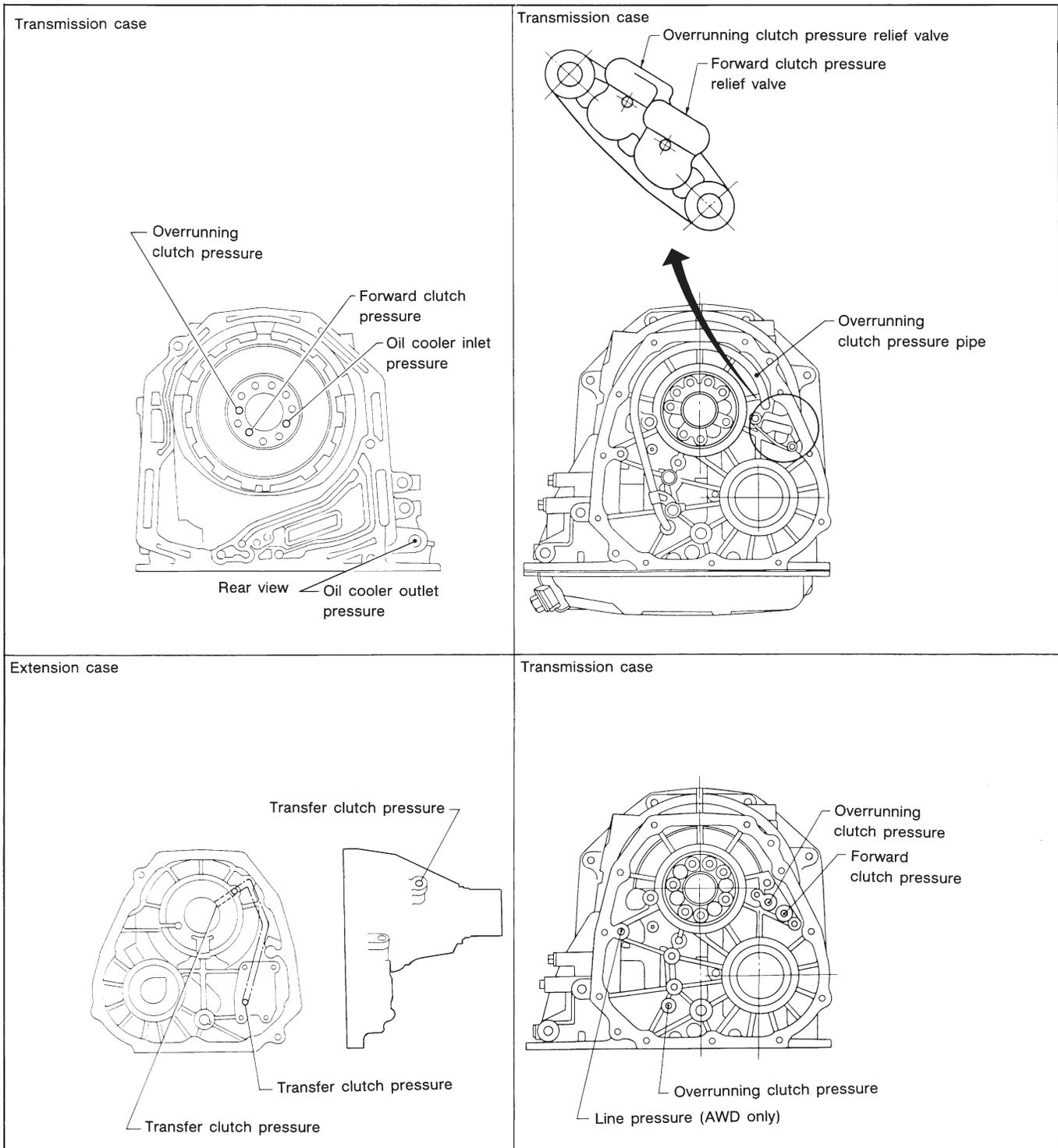
Unit: mm (in)

No.	Part Name	Part Number	Inside diameter	Outside diameter	Dimension	Application
A	Thrust needle bearing	806530020	30 (1.18)	47 (1.85)	3.3 (0.130)	A place of high clutch
B	Thrust needle bearing	806537010	38 (1.50)	53 (2.09)	3.2 (0.126)	A place of high clutch hub
C	Thrust needle bearing	806537010	38 (1.50)	53 (2.09)	3.2 (0.126)	A place of front sun gear
D	Thrust needle bearing	806558020	58 (2.28)	78 (3.07)	4.0 (0.157)	A place of front planetary carrier
E	Thrust needle bearing	806535120	35 (1.38)	53 (2.09)	4.8 (0.189)	A place of rear sun gear
F	Thrust needle bearing	806534010	34 (1.34)	53 (2.09)	3.37 (0.1327)	A place of rear internal gear
G	Thrust needle bearing	806558020	58 (2.28)	78 (3.07)	4.0 (0.157)	A place of overrunning clutch hub
H	Thrust needle bearing	806542010	42 (1.65)	59 (2.32)	3.6 (0.142)	A place of low & reverse brake
I	Thrust needle bearing	806536020 806535030 806535070 806535090	36 (1.42)	53 (2.09)	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

D: FLUID PASSAGES



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