SUSPENSION 4-1

1. Suspension

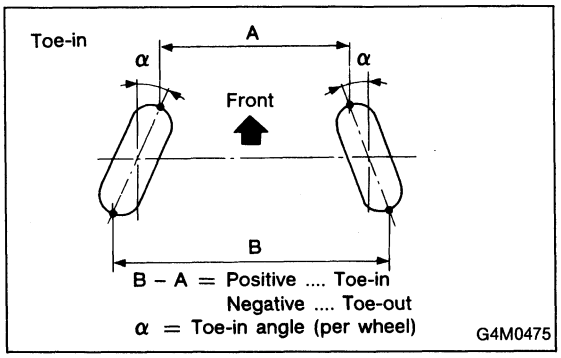
A: SPECIFICATIONS

1. STABILIZER

	Bar dia. mm (in)	
	Front	Rear
4 door Sedan	19 (0.75)	—
	19 (0.75)	13 (0.51)
4 door Sedan TURBO	19 (0.75)	17 (0.67)
5 door	19 (0.75)	—
5 door TURBO	19 (0.75)	17 (0.67)

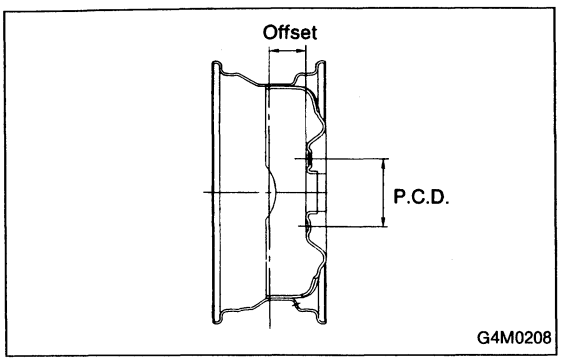
B: WHEEL ALIGNMENT

		4 door Sedan			5 door		
		FWD	AWD	TURBO	FWD	AWD	TURBO
Front	Camber (tolerance: ±0°30′)	–0°15′	0°	–0°25′	–0°15′	0°	–0°25′
	Caster (common difference: ±1°)	3°05′	3°	3°05′	2°50′	2°45′	3°05′
	Toe-in mm (in)	0±3 (0±0.12) Toe-in angle: –0°09′ [when toe-in is –3 (–0.12)] Toe-out angle: 0°09′ [when toe-out is 3 (0.12)]					
	Kingpin angle	14°20′	14°05′	14°40′	14°20′	14°05′	14°40′
	Wheel arch height [tolerance: $^{+12}_{-24}$ mm ($^{+0.47}_{-0.94}$ in)] mm (in)	381 (15.00)	391 (15.39)	371 (14.61)	381 (15.00)	391 (15.39)	371 (14.61)
Rear	Camber (tolerance: ±0°45′)	–1°	–0°55′	–1°10′	–0°50′	–0°50′	–1°10′
	Toe-in mm (in)	0±3 (0±0.12) Toe-in angle: –0°09′ [when toe-in is –3 (–0.12)] Toe-out angle: 0°09′ [when toe-out is 3 (0.12)]					
	Wheel arch height [tolerance: $^{+12}_{-24}$ mm ($^{+0.47}_{-0.94}$ in)] mm (in)	368 (14.49)	379 (14.92)	363 (14.29)	378 (14.88)	387 (15.24)	363 (14.29)



NOTE:
- Front and rear toe-ins and front camber can be adjusted. If toe-in or camber tolerance exceeds specifications, adjust toe-in and camber to the middle value of specifications.
- The other items indicated in the specification table cannot be adjusted. If the other items exceeds specifications, check suspension parts and connections for deformities; replace with new ones as required.

WHEELS AND AXLES 4-2



1. Wheels and Axles

A: SPECIFICATIONS

1. TIRE AND WHEEL SIZE

	Tire size	Rim size	Rim offset mm (in)	P.C.D. mm (in)
Front and Rear	165/80R13 82S 165R13 82T	13 x 5.00B	50 (1.97)	100 (3.94) dia.
	175/70R14 84T, 84H	14 x 5 1/2JJ	55 (2.17)	
	205/55R15 87V	15 x 6JJ	55 (2.17)	
T-type tire	T125/70D15	15 x 4T	53 (2.09)	
	T125/70D16	16 x 4T	50 (1.97)	
	T135/70D16	16 x 4T	50 (1.97)	

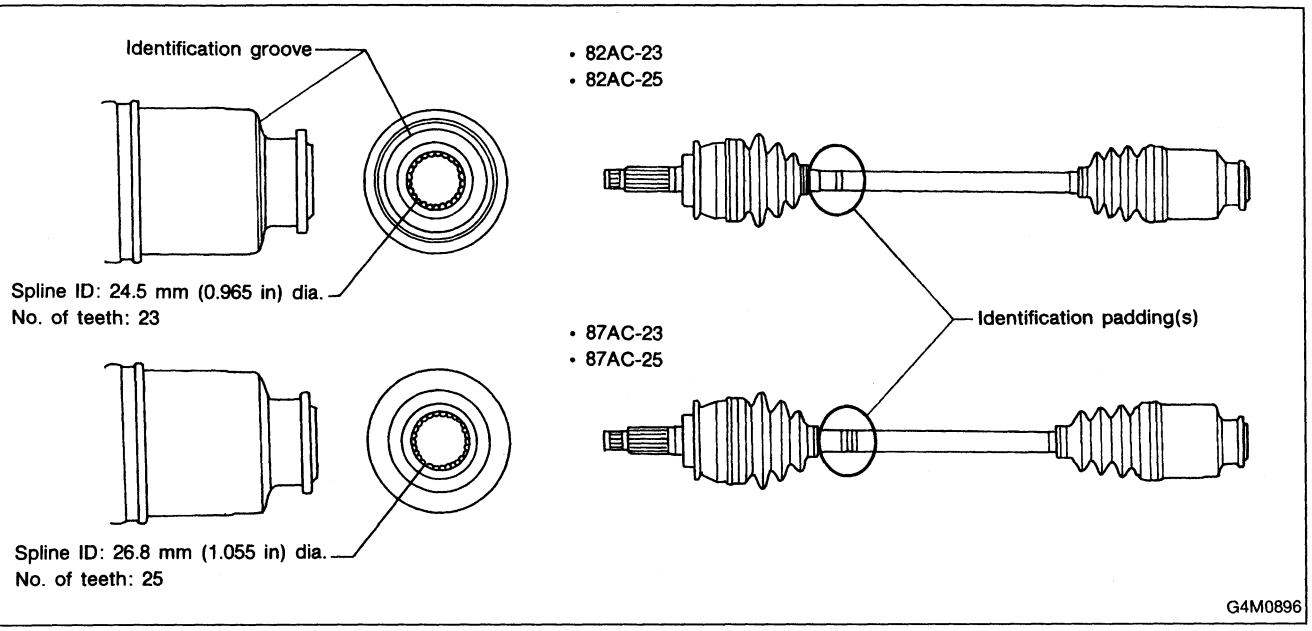
NOTE: "T-type" tire for temporary use is supplied as a spare tire.

2. TIRE INFLATION PRESSURE

	Tire size	Tire inflation pressure kPa (kg/cm^2, psi)	
		Light load	Full load
4 door Sedan 5 door	165/80R13 82S 165R13 82T 175/70R14 84T, 84H	Ft: 220 (2.2, 32) Rr: 200 (2.0, 29)	
4 door Sedan Turbo 5 door Turbo	205/55R15 87V	Ft: 230 (2.3, 33) Rr: 220 (2.2, 32)	
T-type tire	T125/70D15 T125/70D16 T135/70D16	420 (4.2, 60)	

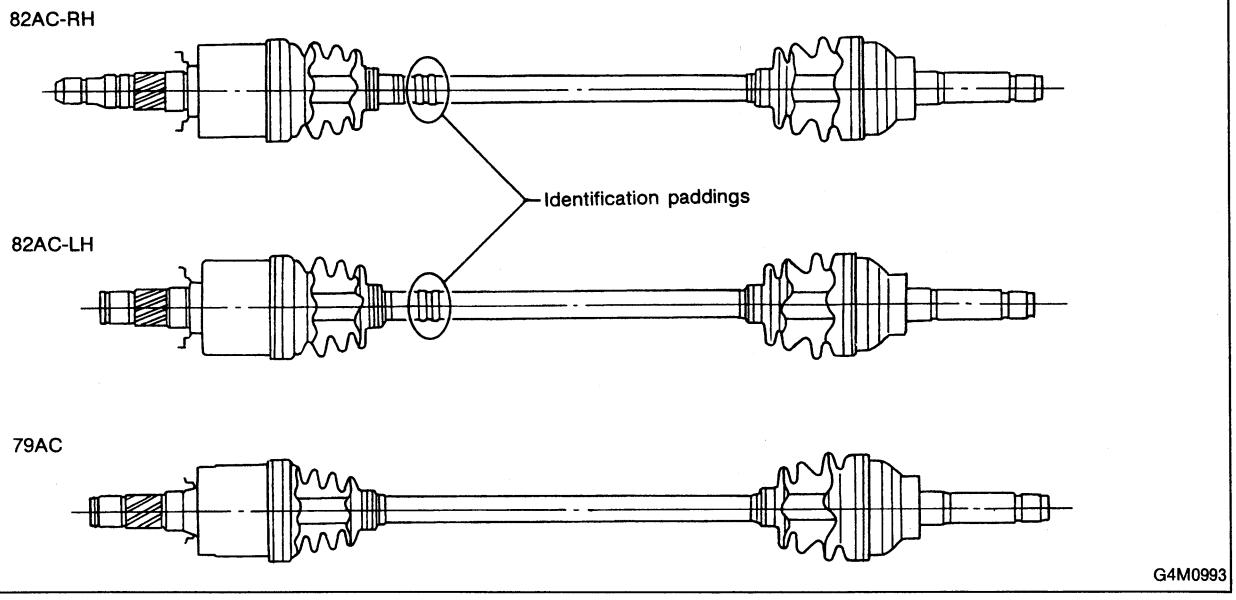
3. FRONT DRIVE SHAFT ASSEMBLY

Type of axle shaft assembly	SHAFT	DOJ
	No. of identification paddings on shaft	No. of spline teeth
82AC-23	1 (One)	23
82AC-25	1 (One)	25
87AC-23	2 (Two)	23
87AC-25	2 (Two)	25



4. REAR DRIVE SHAFT ASSEMBLY (AWD MODEL)

Type of axle shaft assembly	SHAFT
	No. of identification paddings on shaft
79AC	None
82AC-RH, 82AC-LH	2 (Two)



5. APPLICATION TABLE

Model	Power unit	Front drive shaft		Rear drive shaft
		5MT	4AT	
FWD	1600 cc	82AC-23	82AC-25	—
FWD	1800 cc	87AC-23	87AC-25	—
AWD	1600·1800 cc	82AC-25	82AC-25	79AC
AWD	2000 cc Turbo	87AC-25	—	82AC-RH, 82AC-LH

B: SERVICE DATA

Wheel balancing	Standard	Service limit
Dynamic unbalance	Less than 5 g (0.18 oz)	

1. STEEL WHEEL

Balance weight part number (For steel wheel)	Weight g (oz)
28101AA001	5 (0.18)
28101AA011	10 (0.35)
28101AA021	15 (0.53)
28101AA031	20 (0.71)
28101AA041	25 (0.88)
28101AA051	30 (1.06)
28101AA061	35 (1.23)
28101AA071	40 (1.41)
28101AA081	45 (1.59)
28101AA091	50 (1.76)
28101AA101	55 (1.94)
28101AA111	60 (2.12)

2. ALUMINUM WHEEL

Balance weight part number (For aluminum wheel)	Weight g (oz)
23141GA462	5 (0.18)
23141GA472	10 (0.35)
23141GA482	15 (0.53)
23141GA491	20 (0.71)
23141GA501	25 (0.88)
23141GA511	30 (1.06)
23141GA521	35 (1.23)
23141GA531	40 (1.41)
23141GA541	45 (1.59)
23141GA551	50 (1.76)
—	55 (1.94)
23141GA571	60 (2.12)

4. Front and Rear Drive Shafts

A: REMOVAL

2. REAR DRIVE SHAFT

1) Disconnect ground cable from battery.
2) Lift-up vehicle, and remove rear wheel cap and wheels.

CAUTION:
Be sure to loosen and retighten axle nut after removing wheel from vehicle. Failure to follow this rule may damage wheel bearings.

3) Unlock axle nut.
4) Loosen axle nut using a socket wrench.

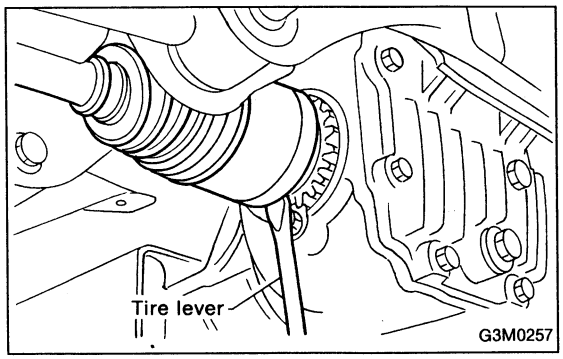
CAUTION:
Do not remove axle nut.

5) Remove A.B.S. sensor clamps and parking brake cable bracket.
6) Remove bolts which secure lateral link assembly to rear housing.

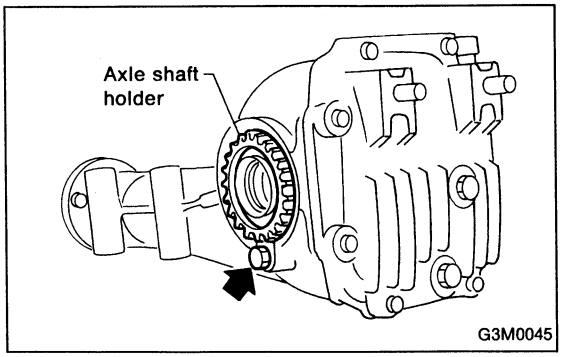
CAUTION:
Discard old self-locking nut. Replace with a new one.

7) Remove bolts which secure trailing link assembly to rear housing.

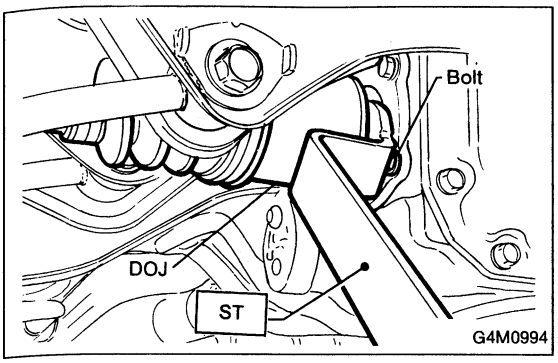
CAUTION:
Discard old self-locking nut. Replace with a new one.



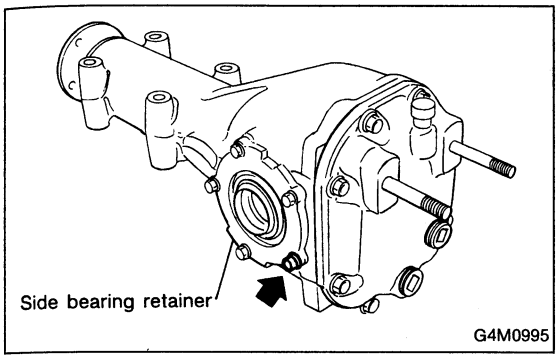
Non TURBO model: Perform step 8).
8) Remove DOJ from rear differential using tire lever.
NOTE:
The side spline shaft circlip comes out together with the shaft.



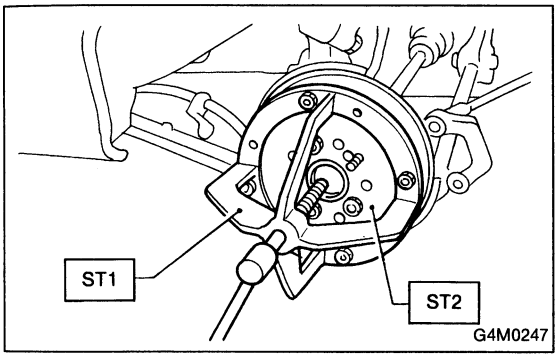
CAUTION:
When removing the DOJ from the rear differential, fit tire lever to the bolt as shown in figure so as not to damage the axle shaft holder.



TURBO model: Perform step 9).
9) Remove DOJ from rear differential using ST.
ST 28099PA100 DRIVE SHAFT REMOVER
NOTE:
Left spline end of DOJ is removed together with circlip. Do not remove right circlip attached to inside of differential.



CAUTION:
Be careful not to damage side bearing retainer. Always use bolt as supporting point for ST during removal.
ST 28099PA100 DRIVE SHAFT REMOVER



10) Remove axle nut and drive shaft. If it is hard to remove, use ST1 and ST2.
ST1 926470000 AXLE SHAFT PULLER
ST2 927140000 PLATE
CAUTION:
- **Be careful not to damage oil seal lip when removing rear drive shaft.**
- **When rear drive shaft is to be replaced, also replace inner oil seal with a new one.**

STEERING SYSTEM 4-3

PRECAUTION FOR SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

The Supplemental Restraint System "Airbag" helps to reduce the risk or severity of injury to the driver in a frontal collision.

The Supplemental Restraint System consists of an airbag module (located in the center of the steering wheel), sensors, a control module, warning light, wiring harness and roll connector.

Information necessary to service the safety is included in the "5-5. SUPPLEMENTAL RESTRAINT SYSTEM" of this Service Manual.

WARNING:

- **To avoid rendering the Airbag system inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized SUBARU dealer.**
- **Improper maintenance, including incorrect removal and installation of the Airbag system, can lead to personal injury caused by unintentional activation of the Airbag system.**
- **All Airbag system electrical wiring harnesses and connectors are covered with yellow outer insulation. Do not use electrical test equipment on any circuit related to the Supplemental Restraint System "Airbag".**

1. Steering System

A: SPECIFICATIONS

Model			Non TURBO	TURBO	
				LHD	RHD
Whole system	Minimum turning radius	m (ft)	5.1 (16.7)	5.4 (17.7)	5.2 (17.1)
	Steering angle (Inside-Outside)		37.5° — 32.6°	34.3° — 30.1°	36.5° — 31.8°
	Steering wheel diameter	mm (in)	With AIRBAG 385 (15.16)	370 (14.57)	
			Without AIRBAG 375 (14.76)		
	Overall gear ratio (Turns, lock to lock)		16.5 (3.2)	16.7 (3.0)	15 (2.8)
Gearbox	Type		Rack and pinion, Integral		
	Backlash		0 (Automatically adjustable)		
	Valve (Power steering system)		Rotary valve		
Pump (Power steering system)	Type		Vane pump		
	Oil tank		Installed on pump		
	Output	cm^3 (cu in)/rev.	7.2 (0.439)		
	Relief pressure	kPa (kg/cm^2, psi)	6,375 (65, 924)	7,355 (75, 1,067)	7,846 (80, 1,138)
	Hydraulic fluid control		Dropping in response to increased engine revolutions		Constant flow type
	Hydraulic fluid	ℓ (US qt, Imp qt)	1,000 rpm: 7 (7.4, 6.2) 3,000 rpm: 5 (5.3, 4.4)		7 (7.4, 6.2)
	Range of revolution	rpm	500 — 7,500		
	Revolving direction		Clockwise		
Working fluid (Power steering system)	Name		ATF DEXRON II or IIE		
	Capacity	Oil tank Total ℓ (US qt, Imp qt)	0.3 (0.3, 0.3) 0.7 (0.7, 0.6)		

B: SERVICE DATA

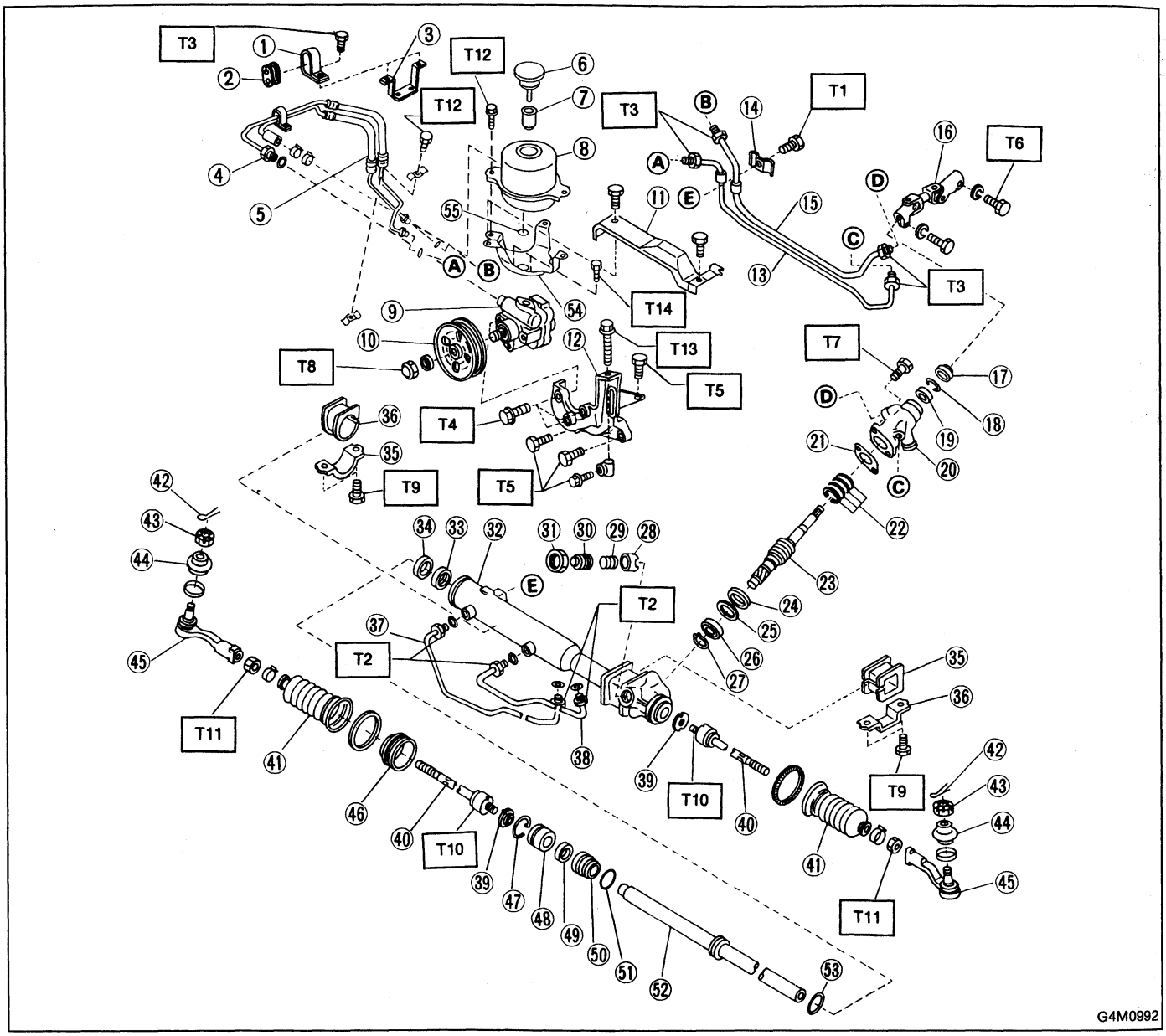
Model			Non TURBO		TURBO	
			LHD	RHD	LHD	RHD
Steering wheel	Free play mm (in)		17 (0.67)			
Turning angle	Inner tire & wheel		37.5°		34.3°	36.5°
	Outer tire & wheel		32.6°		30.1°	31.8°
Steering shaft	Clearance between steering wheel and column cover mm (in)		3.0 (0.118)			
Steering gearbox (Power steering system)	Sliding resistance N (kg, lb)		240.3 (24.5, 54.0) or less			314 (32, 71) or less
	Rack shaft play in radial direction mm (in)	Right-turn steering	0.19 (0.0075) or less	0.45 (0.0177) or less	0.19 (0.0075) or less	0.45 (0.0177) or less
		Left-turn steering	0.45 (0.0177) or less	0.19 (0.0075) or less	0.45 (0.0177) or less	0.19 (0.0075) or less
	Input shaft play mm (in) In radial direction In axial direction		0.18 (0.0071) or less 0.1 (0.004) or less			
	Turning resistance N (kg, lb)		Within 30 mm (1.18 in) from rack center in straight ahead position: Less than 11.18 (1.14, 2.51) Maximum allowable value: 12.7 (1.3, 2.9)			
Oil pump (Power steering system)	Pulley shaft mm (in) Radial play Axial play		0.4 (0.016) or less 0.9 (0.035) or less			
	Pulley Ditch deflection mm (in) Resistance to rotation N (kg, lb)		1.0 (0.039) or less 9.22 (0.94, 2.07) or less			
	Regular pressure kPa (kg/cm^2, psi)		981 (10, 142) or less			
	Relief pressure kPa (kg/cm^2, psi)		6,375 (65, 924)		7,355 (75, 1,067)	7,846 (80, 1,138)
Steering wheel effort (Power steering system)	At standstill with engine idling on a concrete road N (kg, lb)		31.4 (3.2, 7.1) or less			
	At standstill with engine stalled on a concrete road N (kg, lb)		147 (15, 33) or less			

C: RECOMMENDED POWER STEERING FLUID

Recommended power steering fluid	Manufacturer
ATF DEXRON II or ATF DEXRON IIE	B.P.
	CALTEX
	CASTROL
	MOBIL
	SHELL
	TEXACO

2. Power Steering System

1. LHD MODEL



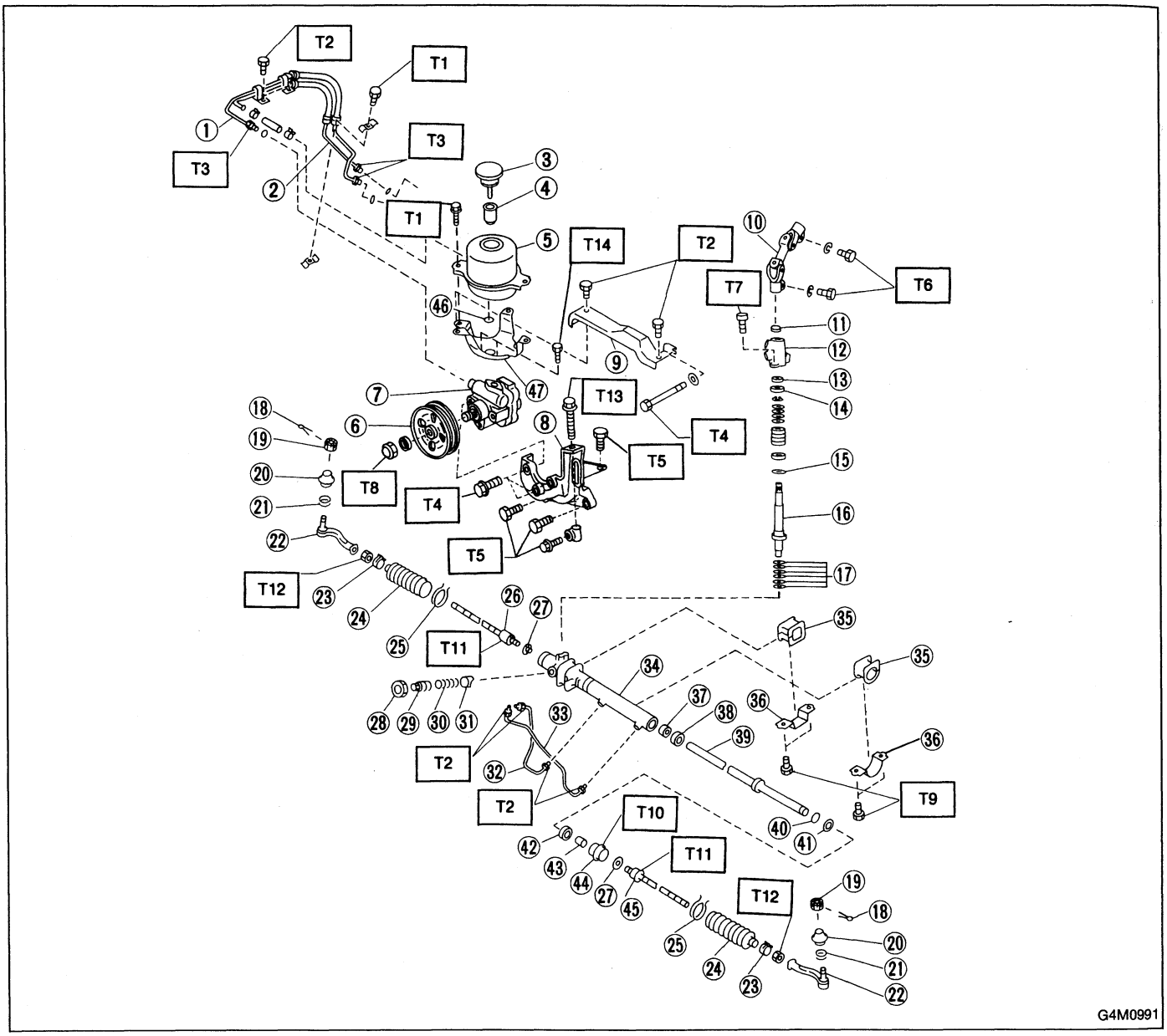
Tightening torque: N·m (kg-m, ft-lb)

- *T1: 5.4 ± 1.5 (0.55 ± 0.15, 4.0 ± 1.1)*
- *T2: 13 ± 3 (1.3 ± 0.3, 9.4 ± 2.2)*
- *T3: 15 ± 5 (1.5 ± 0.5, 10.8 ± 3.6)*
- *T4: 20.1 ± 2.5 (2.05 ± 0.25, 14.8 ± 1.8)*
- *T5: 22 ± 2 (2.2 ± 0.2, 15.9 ± 1.4)*
- *T6: 24 ± 3 (2.4 ± 0.3, 17.4 ± 2.2)*
- *T7: 25 ± 5 (2.5 ± 0.5, 18.1 ± 3.6)*
- *T8: 52 ± 10 (5.3 ± 1.0, 38 ± 7)*
- *T9: 59 ± 12 (6.0 ± 1.2, 43 ± 9)*
- *T10: 78 ± 10 (8.0 ± 1.0, 58 ± 7)*
- *T11: 83 ± 5 (8.5 ± 0.5, 61.5 ± 3.6)*
- *T12: 7.4 ± 2.0 (0.75 ± 0.20, 5.4 ± 1.4)*
- *T13: 8 ± 2 (0.8 ± 0.2, 5.8 ± 1.4)*
- *T14: 18^{+5}_{0} ($1.8^{+0.5}_{0}$, $13.0^{+3.6}_{0}$)*

① Clamp
② Adapter
③ Hose bracket
④ Pipe C
⑤ Pipe D
⑥ Cap
⑦ Strainer
⑧ Tank
⑨ Oil pump
⑩ Pulley
⑪ Belt cover
⑫ Bracket
⑬ Pipe E
⑭ Clamp plate
⑮ Pipe F
⑯ Universal joint
⑰ Dust seal
⑱ C-ring
⑲ Oil seal
⑳ Valve housing
㉑ Packing
㉒ Seal ring
㉓ Pinion and valve ASSY
㉔ Oil seal
㉕ Back-up washer
㉖ Ball bearing
㉗ Snap ring
㉘ Sleeve
㉙ Spring
㉚ Adjusting screw
㉛ Lock nut
㉜ Housing ASSY
㉝ Back-up washer
㉞ Oil seal
㉟ Adapter
㊱ Clamp
㊲ Pipe A
㊳ Pipe B
㊴ Lock washer
㊵ Tie-rod
㊶ Boot
㊷ Cotter pin
㊸ Castle nut
㊹ Dust seal
㊺ Tie-rod end
㊻ Spacer
㊼ Circlip
㊽ Rack stopper
㊾ Oil seal
㊿ Rack bushing
(51) O-ring
(52) Rack
(53) Piston ring
(54) Tank bracket
(55) O-ring

COMPONENT PARTS

2. RHD MODEL



Tightening torque: N·m (kg-m, ft-lb)

T1: 7.4 ± 2.0 (0.75 ± 0.2, 5.4 ± 1.4)
T2: 13 ± 3 (1.3 ± 0.3, 9.4 ± 2.2)
T3: 15 ± 5 (1.5 ± 0.5, 10.8 ± 3.6)
T4: 20.1 ± 2.5 (2.05 ± 0.25, 14.8 ± 1.8)
T5: 22 ± 2 (2.2 ± 0.2, 15.9 ± 1.4)
T6: 24 ± 3 (2.4 ± 0.3, 17.4 ± 2.2)
T7: 25 ± 5 (2.5 ± 0.5, 18.1 ± 3.6)
T8: 52 ± 10 (5.3 ± 1.0, 38 ± 7)
T9: 59 ± 12 (6.0 ± 1.2, 43 ± 9)
T10: 64 ± 10 (6.5 ± 1.0, 47 ± 7)
T11: 78 ± 10 (8.0 ± 1.0, 58 ± 7)
T12: 83 ± 5 (8.5 ± 0.5, 61.5 ± 3.6)
T13: 8 ± 2 (0.8 ± 0.2, 5.8 ± 1.4)
T14: 18^{+5}_{0} (1.8^{+5}_{0}, $13.0^{+3.6}_{0}$)

① Pipe C
② Pipe D
③ Cap
④ Strainer
⑤ Tank
⑥ Pulley
⑦ Oil pump
⑧ Bracket
⑨ Belt cover
⑩ Universal joint
⑪ Dust cover
⑫ Valve housing
⑬ Y-packing
⑭ Ball bearing
⑮ Spacer
⑯ Pinion
⑰ Shim
⑱ Cotter pin
⑲ Castle nut
⑳ Dust seal
㉑ Clip
㉒ Tie-rod end
㉓ Clip
㉔ Boot
㉕ Wire
㉖ Tie-rod RH
㉗ Lock washer
㉘ Lock nut
㉙ Adjusting screw
㉚ Spring
㉛ Sleeve
㉜ Pipe B
㉝ Pipe A
㉞ Housing ASSY
㉟ Adapter
㊱ Clamp
㊲ Back-up washer
㊳ Oil seal
㊴ Rack
㊵ O-ring
㊶ Oil seal
㊷ Y-packing
㊸ Bush
㊹ Holder
㊺ Tie-rod LH
㊻ O-ring
㊼ Tank bracket

BRAKES 4-4

Page

PRECAUTION FOR SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

The Supplemental Restraint System "Airbag" helps to reduce the risk or severity of injury to the driver in a frontal collision.

The Supplemental Restraint System consists of an airbag module (located in the center of the steering wheel), sensors, a control module, warning light, wiring harness and roll connector.

Information necessary to service the safety is included in the "5-5. SUPPLEMENTAL RESTRAINT SYSTEM" of this Service Manual.

WARNING:

- **To avoid rendering the Airbag system inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized SUBARU dealer.**
- **Improper maintenance, including incorrect removal and installation of the Airbag system, can lead to personal injury caused by unintentional activation of the Airbag system.**
- **All Airbag system electrical wiring harnesses and connectors are covered with yellow outer insulation. Do not use electrical test equipment on any circuit related to the Supplemental Restraint System "Airbag".**

1. Brakes

A: SPECIFICATIONS

1. MODELS WITH A.B.S.

	Model	4 Door Sedan					5 Door			
	Engine (cc)	1600		1600		1800	1600	1600		1800
	Driving system	FWD		AWD			FWD	AWD		
		LX	GL	LX	GL	GL	GL	LX	GL	GL
Front brake	Type	Disc (Floating type, ventilated)								
	Effective disc diameter mm (in)	210 (8.27)								
	Disc thickness x Outer diameter mm (in)	24 x 260 (0.94 x 10.24)								
	Effective cylinder diameter mm (in)	53.97 (2.125)								
	Pad dimensions (length x width x thickness) mm (in)	112.4 x 44.3 x 11.0 (4.43 x 1.744 x 0.433)								
	Clearance adjustment	Automatic adjustment								
Rear brake	Type	Disc (Floating type)								
	Effective disc diameter mm (in)	230 (9.06)								
	Disc thickness x Outer diameter mm (in)	10 x 266 (0.39 x 10.47)								
	Effective cylinder diameter mm (in)	34.93 (1.375)					38.10 (1.5000)			
	Pad dimensions (length x width x thickness) mm (in)	92.4 x 33.7 x 10.0 (3.638 x 1.327 x 0.394)								
	Clearance adjustment	Automatic adjustment								

	Model	4 Door Sedan					5 Door			
	Engine (cc)	1600		1600		1800	1600	1600		1800
	Driving system	FWD		AWD			FWD	AWD		
		LX	GL	LX	GL	GL	GL	LX	GL	GL
Parking brake	Type	Mechanical on rear brakes, drum in disc								
	Effective drum diameter mm (in)	170 (6.69)								
	Lining dimensions (length x width x thickness) mm (in)	162.6 x 30.0 x 3.2 (6.40 x 1.181 x 0.126)								
	Clearance adjustment	Manual adjustment								
Master cylinder	Type	Tandem								
	Effective diameter mm (in)	25.40 (1)								
	Reservoir type	Sealed type								
	Brake fluid reservoir capacity cm^3 (cu in)	190 (11.59)								
Brake booster	Type	Vacuum suspended								
	Effective diameter mm (in)	180 + 205 (7.09 + 8.07)								
Proportioning valve	Split point kPa (kg/cm^2, psi)	1,961 (20, 284)								
	Reducing ratio	0.4								
Brake line		Dual circuit system								
A.B.S.		OP								

2. MODELS WITHOUT A.B.S.

	Model	4 Door Sedan							5 Door					
	Engine (cc)	1600			1800	1600		1800	1600		1800	1600		1800
	Driving system	FWD				AWD			FWD			AWD		
		DL	LX	GL	GL	LX	GL	GL	LX	GL	GL	LX	GL	GL
Front brake	Type	Disc (Floating type, ventilated)												
	Effective disc diameter mm (in)	194 (7.64)		210 (8.27)					194 (7.64)		210 (8.27)			
	Disc thickness x Outer diameter mm (in)	18 x 242 (0.71 x 9.53)		24 x 260 (0.94 x 10.24)					18 x 242 (0.71 x 9.53)		24 x 260 (0.94 x 10.24)			
	Effective cylinder diameter mm (in)	53.97 (2.125)												
	Pad dimensions (length x width x thickness) mm (in)	112.4 x 44.3 x 11.0 (4.43 x 1.744 x 0.433)												
	Clearance adjustment	Automatic adjustment												
Rear brake	Type	Drum (Leading-Trailing type)												
	Effective drum diameter mm (in)	228.6 (9)												
	Effective cylinder diameter mm (in)	17.45 (0.6870)				19.05 (0.7500)			17.45 (0.6870)		19.05 (0.7500)			
	Lining dimensions (length x width x thickness) mm (in)	218.8 x 35.0 x 4.1 (8.61 x 1.378 x 0.161)												
	Clearance adjustment	Automatic adjustment												

	Model	4 Door Sedan							5 Door					
	Engine (cc)	1600			1800	1600		1800	1600		1800	1600		1800
	Driving system	FWD				AWD			FWD			AWD		
		DL	LX	GL	GL	LX	GL	GL	LX	GL	GL	LX	GL	GL
Parking brake	Type	Mechanical on rear brakes, drum in disc												
	Effective drum diameter mm (in)	228.6 (9)												
	Lining dimensions (length x width x thickness mm (in)	218.8 x 35.0 x 4.1 (8.61 x 1.378 x 0.161)												
	Clearance adjustment	Automatic adjustment												
Master cylinder	Type	Tandem												
	Effective diameter mm (in)	23.81 (0.9374)												
	Reservoir type	Sealed type												
	Brake fluid reservoir capacity cm^3 (cu in)	190 (11.59)												
Brake booster	Type	Vacuum suspended												
	Effective diameter mm (in)	230 (9.06)												
Proportioning valve	Split point kPa (kg/cm^2, psi)	2,942 (30.0, 427)												
	Reducing ratio	0.4												
Brake line		Dual circuit system												

3. TURBO MODEL

	Model	4 Door Sedan	5 Door
	Engine (cc)	2000	
	Driving system	AWD	
		TURBO	
Front brake	Type	Disc (Floating type, ventilated)	
	Effective disc diameter mm (in)	228 (8.98)	
	Disc thickness x Outer diameter mm (in)	24 x 277 (0.94 x 10.91)	
	Effective cylinder diameter mm (in)	42.86 (1.6874)	
	Pad dimensions (length x width x thickness) mm (in)	112.3 x 50.0 x 11.0 (4.42 x 1.969 x 0.433)	
	Clearance adjustment	Automatic adjustment	
Rear brake	Type	Disc (Floating type)	
	Effective disc diameter mm (in)	230 (9.06)	
	Disc thickness x Outer diameter mm (in)	10 x 266 (0.39 x 10.47)	
	Effective cylinder diameter mm (in)	38.10 (1.5000)	
	Pad dimensions (length x width x thickness) mm (in)	92.4 x 33.7 x 10.0 (3.638 x 1.327 x 0.394)	
	Clearance adjustment	Automatic adjustment	

	Model	4 Door Sedan	5 Door
	Engine (cc)	2000	
	Driving system	AWD	
		TURBO	
Parking brake	Type	Mechanical on rear brakes, drum in disc	
	Effective drum diameter mm (in)	170 (6.69)	
	Lining dimensions (length x width x thickness) mm (in)	162.6 x 30.0 x 3.2 (6.40 x 1.181 x 0.126)	
	Clearance adjustment	Manual adjustment	
Master cylinder	Type	Tandem	
	Effective diameter mm (in)	25.40 (1)	
	Reservoir type	Sealed type	
	Brake fluid reservoir capacity cm^3 (cu in)	190 (11.59)	
Brake booster	Type	Vacuum suspended	
	Effective diameter mm (in)	180 + 205 (7.09 + 8.07)	
Proportioning valve	Split point kPa (kg/cm^2, psi)	1,961 (20, 284)	
	Reducing ratio	0.4	
Brake line		Dual circuit system	
A.B.S.		OP	

B: SERVICE DATA

ITEM		STANDARD	SERVICE LIMIT
Front brake	Pad thickness (including back metal)	17 mm (0.67 in)	7.5 mm (0.295 in)
	Disc thickness	13-inch type: 18 mm (0.71 in) 15·14-inch type: 24 mm (0.94 in)	13-inch type: 16 mm (0.63 in) 15·14-inch type: 22 mm (0.87 in)
	Disc runout	—	0.075 mm (0.0030 in)
Rear brake (Disc type)	Pad thickness (including back metal)	15 mm (0.59 in)	6.5 mm (0.256 in)
	Disc thickness	10 mm (0.39 in)	8.5 mm (0.335 in)
	Disc runout	—	0.10 mm (0.0039 in)
Rear brake (Drum type)	Inside diameter	228.6 mm (9 in)	230.6 mm (9.079 in)
	Lining thickness	4.1 mm (0.161 in)	1.5 mm (0.059 in)
Rear brake (Disc type parking)	Inside diameter	170 mm (6.69 in)	171 mm (6.73 in)
	Lining thickness	3.2 mm (0.126 in)	1.5 mm (0.059 in)
Parking brake	Lever stroke	7 to 8 notches/196N (20 kg,44 lb)	

			Non TURBO model		TURBO model	
			Without A.B.S.	With A.B.S.	Without A.B.S.	With A.B.S.
Brake booster		Brake pedal force	Fluid pressure			
	Brake fluid pressure without engine running	147N (15 kg, 33 lb)	874.8 kPa (8.92 kg/cm^2, 126.8 psi)	770.8 kPa (7.86 kg/cm^2, 111.8 psi)	770.8 kPa (7.86 kg/cm^2, 111.8 psi)	770.8 kPa (7.86 kg/cm^2, 111.8 psi)
		294N (30kg, 66 lb)	2,267.4 kPa (23.12 kg/cm^2, 328.8 psi)	1,993.8 kPa (20.33 kg/cm^2, 289.1 psi)	1,993.8 kPa (20.33 kg/cm^2, 289.1 psi)	1,993.8 kPa (20.33 kg/cm^2, 289.1 psi)
	Brake fluid pressure with engine running and vacuum at 66.7 kPa (500 mmHg, 19.69 inHg)	147N (15 kg, 33 lb)	5,546.8 kPa (55.54 kg/cm^2, 789.8 psi)	5,483.1 kPa (55.91 kg/cm^2, 795.0 psi)	3,999.3 kPa (40.78 kg/cm^2, 579.9 psi)	4,787.8 kPa (48.82 kg/cm^2, 694.2 psi)
		294N (30kg, 66 lb)	8,361.4 kPa (85.26 kg/cm^2, 1,212.4 psi)	9,114.6 kPa (92.94 kg/cm^2, 1,321.6 psi)	8,892.0 kPa (90.67 kg/cm^2, 1,289.3 psi)	9,114.6 kPa (92.94 kg/cm^2, 1,321.6 psi)

C: RECOMMENDED BRAKE FLUID

FMVSS No. 116, fresh DOT3 or 4 brake fluid

CAUTION:

- **Avoid mixing brake fluid of different brands to prevent the fluid performance from degrading.**
- **When brake fluid is supplemented, be careful not to allow any dust into the reservoir.**
- **Use fresh DOT3 or 4 brake fluid when replacing or refilling the fluid.**

D: BRAKE FLUID LEVEL INDICATOR

Reserve tank with level indicator:

Residual fluid quantity at light ON

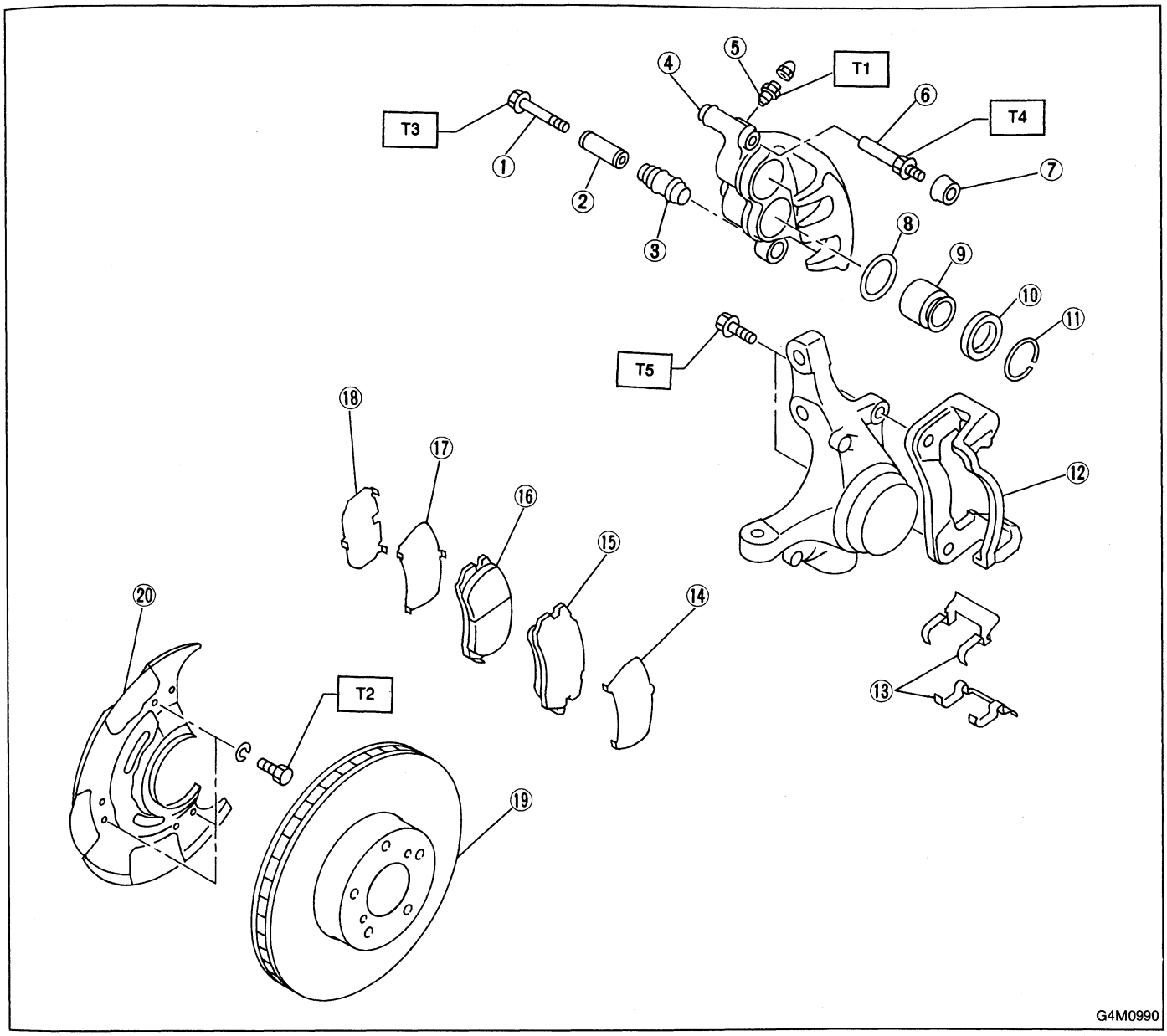
Approx. 80 cm^3 (80 cc, 4.88 cu in)

Tank capacity

190 cm^3 (190 cc, 11.59 cu in)

1. Front Disc Brake

2. TURBO MODEL



① Lock pin
② Lock pin sleeve
③ Lock pin boot
④ Caliper body
⑤ Air bleeder screw
⑥ Guide pin
⑦ Guide pin boot
⑧ Piston seal
⑨ Piston
⑩ Piston boot
⑪ Boot ring
⑫ Support
⑬ Pad clip
⑭ Outer shim
⑮ Pad (Outside)
⑯ Pad (Inside)
⑰ Inner shim
⑱ Shim
⑲ Disc rotor
⑳ Disc cover

Tightening torque: N·m (kg-m, ft-lb)
T1: 8 ± 1 (0.8 ± 0.1, 5.8 ± 0.7)
T2: 14 ± 4 (1.4 ± 0.4, 10.1 ± 2.9)
T3: 36 ± 5 (3.7 ± 0.5, 26.8 ± 3.6)
T4: 49 ± 5 (5.0 ± 0.5, 36.2 ± 3.6)
T5: 78 ± 10 (8.0 ± 1.0, 58 ± 7)

PEDAL SYSTEM AND CONTROL CABLES 4-5

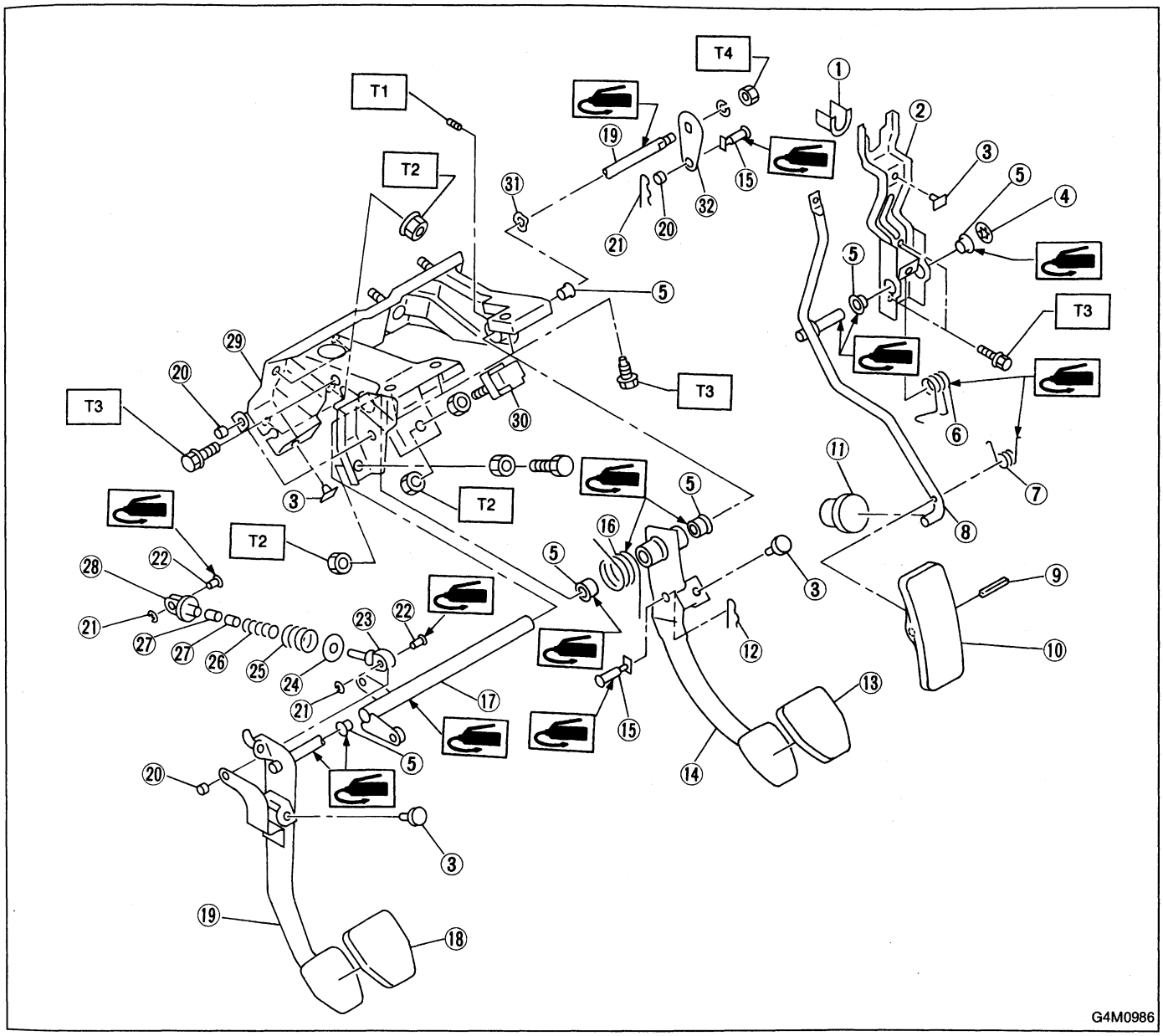
1. Pedal System

A: SERVICE DATA

Brake pedal	Free play		1 — 3 mm (0.04 — 0.12 in) [Depress brake pedal pad with a force of less than 10 N (1 kg, 2 lb).]
Clutch pedal	Free play	At clutch pedal pad	5 — 15 mm (0.20 — 0.59 in)
	Full stroke	At clutch pedal pad	LHD: 145 — 150 mm (5.71 — 5.91 in) RHD: 140 — 145 mm (5.51 — 5.71 in)
Accelerator pedal	Free play	At pedal pad	1 — 4 mm (0.04 — 0.16 in)
	Stroke	At pedal pad	46 — 50 mm (1.81 — 1.97 in)

1. Pedal (MT model)

3. LHD TURBO MODEL

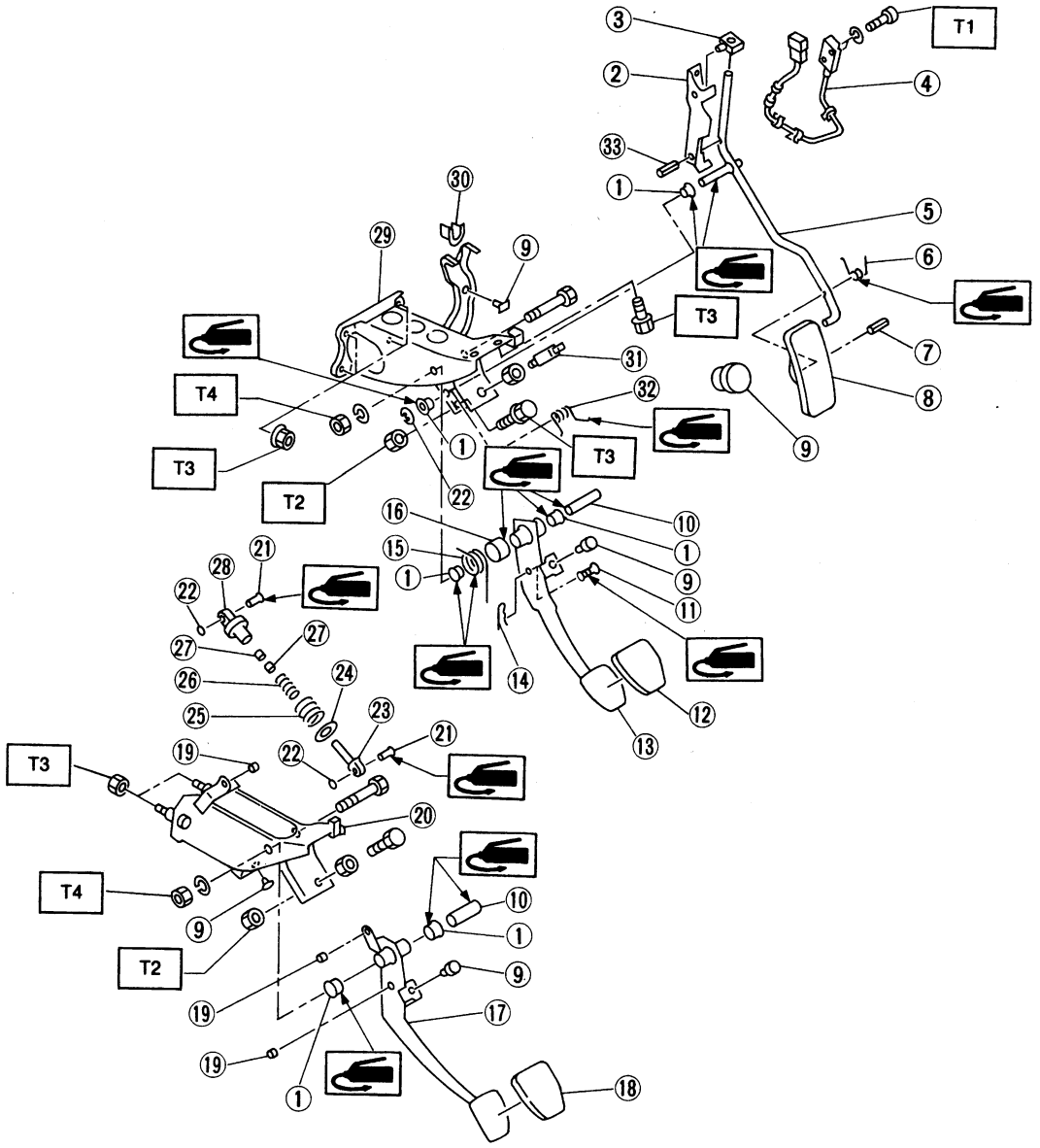


① Holder
② Accelerator bracket
③ Stopper
④ Clip
⑤ Bushing
⑥ Accelerator spring
⑦ Accelerator pedal spring
⑧ Accelerator pedal
⑨ Spring pin
⑩ Accelerator pedal pad
⑪ Accelerator stopper
⑫ Snap pin
⑬ Brake pedal pad
⑭ Brake pedal
⑮ Clevis pin
⑯ Brake pedal spring
⑰ Bracket shaft
⑱ Clutch pedal pad
⑲ Clutch pedal
⑳ Bushing C
㉑ Clip
㉒ Clutch clevis pin
㉓ Assist rod
㉔ Assist plate A
㉕ Assist spring A
㉖ Assist spring B
㉗ Assist bushing
㉘ Assist plate ASSY
㉙ Pedal bracket
㉚ Stop light switch
㉛ Wave washer
㉜ Lever

Tightening torque: N·m (kg-m, ft-lb)
T1: 2.2 ± 0.5 (0.22 ± 0.05, 1.6 ± 0.4)
T2: 8 ± 2 (0.8 ± 0.2, 5.8 ± 1.4)
T3: 18 ± 5 (1.8 ± 0.5, 13.0 ± 3.6)
T4: 29 ± 7 (3.0 ± 0.7, 21.7 ± 5.1)

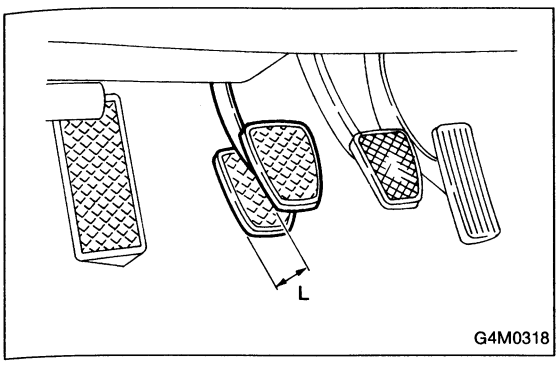
COMPONENT PARTS

4. RHD TURBO MODEL



① Bushing
② Accelerator lever
③ Clip
④ Accelerator switch
⑤ Accelerator pedal
⑥ Accelerator pedal spring
⑦ Spring pin
⑧ Accelerator pedal pad
⑨ Stopper
⑩ Spacer
⑪ Clevis pin
⑫ Brake pedal pad
⑬ Brake pedal
⑭ Snap pin
⑮ Brake pedal spring
⑯ Brake spacer
⑰ Clutch pedal
⑱ Clutch pedal pad
⑲ Bushing C
⑳ Clutch pedal bracket
㉑ Clutch clevis pin
㉒ Clip
㉓ Assist rod
㉔ Assist plate A
㉕ Assist spring A
㉖ Assist spring B
㉗ Assist bushing
㉘ Assist plate ASSY
㉙ Pedal bracket
㉚ Holder
㉛ Stop light switch
㉜ Accelerator spring
㉝ Spring pin

Tightening torque: N·m (kg-m, ft-lb)
T1: 0.5–0.6 (0.05–0.06, 0.4–0.4)
T2: 8 ± 2 (0.8 ± 0.2, 5.8 ± 1.4)
T3: 18 ± 5 (1.8 ± 0.5, 13.0 ± 3.6)
T4: 29 ± 7 (3.0 ± 0.7, 21.7 ± 5.1)



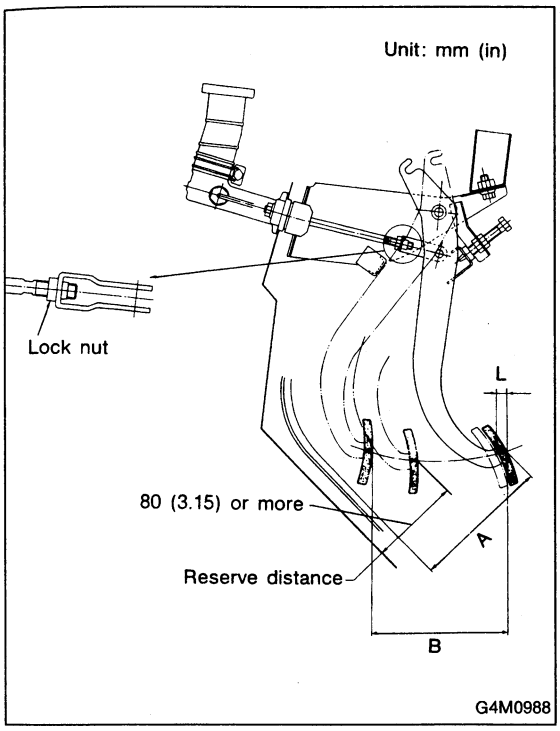
1. Pedal

A: ON-CAR SERVICE

4. CLUTCH PEDAL (Turbo model)

1) Check clutch pedal free play by operating pedal by hand.

Free play: L (At clutch pedal pad)
5 — 10 mm (0.20 — 0.39 in)



2) If it is out of specification, loosen lock nut for push rod and adjust push rod by turning in the direction that shortens or lengthens it.

Tightening torque (Adjusting nut):
10 ± 1 N·m (1.0 ± 0.1 kg-m, 7.2 — 0.7 ft-lb)

3) Check the fluid level on the outside of the clutch master cylinder tank. If the level is below "MIN", add clutch fluid to bring it up to "MAX".

Recommended clutch fluid:
FMVSS No. 116, fresh DOT 3 or DOT 4 brake fluid

Pedal free play: L
5 — 15 mm (0.20 — 0.59 in)

Pedal height: A
143 mm (5.63 in)

Pedal full stroke: B
RHD: 145 mm (5.71 in)
LHD: 150 mm (5.91 in)

B: REMOVAL

4. BRAKE AND CLUTCH PEDAL (LHD turbo model)

1) Remove steering bolts.
2) Raise vehicle on hoist and remove the two bolts which secure steering unit to underside of body.
3) Lower vehicle to floor.
4) Remove instrument panel lower cover from instrument panel.
5) Disconnect the following parts from pedal bracket.
- Operating rod of brake booster
- Electrical connectors (for stop lamp switch, etc.)

6) Remove clevis pin which secures lever to push rod.
7) Remove nut which secures clutch master cylinder.
8) Remove steering assembly.
9) Remove bolts and nuts which secure brake and clutch pedals, and remove pedal assembly.

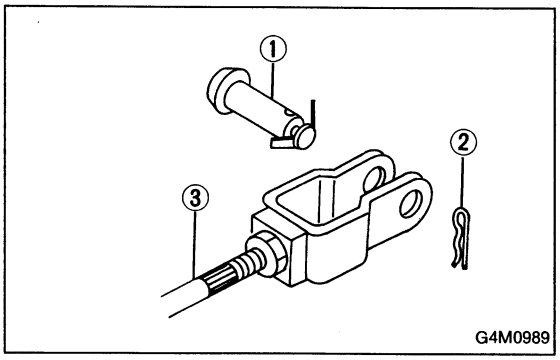
5. CLUTCH PEDAL (RHD turbo model)

1) Remove master cylinder cover.
2) Remove master cylinder mounting nuts.
3) Remove snap pin and clevis pin that join push rod and clutch pedal.
4) Remove clutch pedal and bracket as a unit.

E: INSTALLATION

3. BRAKE AND CLUTCH PEDAL (LHD turbo model)

1) Set pedal bracket above steering column.
2) Insert bolts of brake booster into holes on toe board, support it from engine room, and fit holes of pedal bracket onto the bolts.
At this time, operating rod of brake booster should be engaged with brake pedal.
3) While pushing pedal bracket upward firmly, tighten 4 nuts and 2 bolts at its upper surface.



4) Connect operating rod of brake booster to brake pedal using clevis pin and snap pin.
① Clevis pin
② Snap pin
③ Operating rod
5) Connect electrical connectors for stop light switch, etc.
6) Install steering column or steering assembly as before.
7) Install nut which secures clutch master cylinder.
8) Install clevis pin which secures lever to push rod.
9) Check pedal free play.
<Ref. to 4-5 [W1A1].>

4. CLUTCH PEDAL (RHD turbo model)

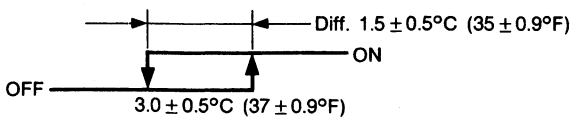
1) Clean clutch pedal shaft and bushing, and apply grease.
2) Install push rod and clutch pedal with clevis pin and snap pin.
3) Install master cylinder.
4) Install master cylinder cover.
5) Check clutch pedal free play.
Refer to ON-CAR SERVICE 4-5 [W1A2].

AIR CONDITIONING SYSTEM 4-7

*: HALIDE LEAK DETECTOR ([W804]) has been removed.

**: Sight Glass Inspection ([D201]—[D202]) has been removed.

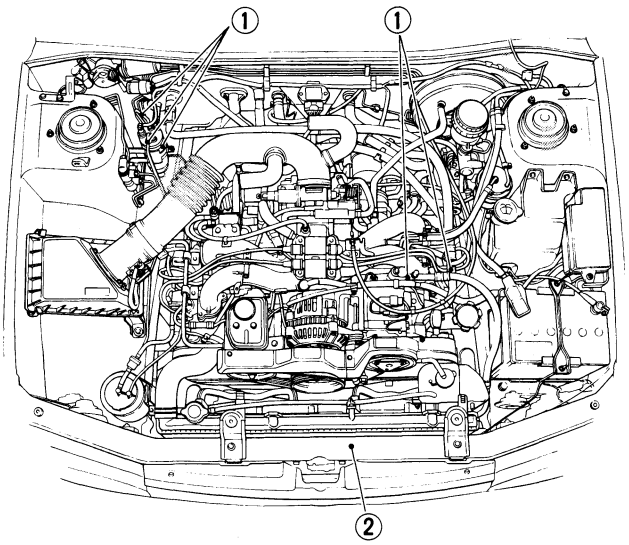
1. Air Conditioning System

Item			Specifications
Type of air conditioner			Reheat air-mix type
Cooling capacity (IMACA)			5.234 kW (4,500 kcal/h, 17,856 BTU/h)
Refrigerant			HFC-134a (CH_2FCF_3) [0.6 — 0.7 kg (1.3 — 1.5 lb)]
Compressor		Type	5-vane rotary, fix volume (CR-14)
		Discharge	144 cm^3 (8.79 cu in)/rev
		Max. permissible speed	7,000 rpm
Magnet clutch		Type	Dry, single-disc type
		Power consumption	47W
		Type of belt	V-Ribbed 4 PK
		Pulley dia. (effective dia.)	120 mm (4.72 in)
		Pulley ratio	1.8 model: 1.11, 1.6 model: 0.92
Condenser		Type	Corrugated fin (Multi-flow)
		Core face area	0.196 m^2 (2.1 sq ft)
		Core thickness	19 mm (0.75 in)
		Radiation area	4.7 m^2 (51 sq ft)
Receiver drier		Effective inner capacity	250 cm^3 (15.26 cu in)
Expansion valve		Type	External equalizing
Evaporator		Type	Single tank
		Dimensions (W x H x T)	86 x 222 x 235 mm (3.39 x 8.74 x 9.25 in)
Blower fan		Fan type	Sirocco fan
		Outer diameter x width	150 x 75 mm (5.91 x 2.95 in)
		Power consumption	230W at 12V
Condenser fan (Sub fan)		Motor type	Magnet
		Power consumption	120W at 12V
		Fan outer diameter	320 mm (12.60 in)
Radiator fan (Main fan)		Motor type	Magnet
		Power consumption	120W at 12V
		Fan outer diameter	320 mm (12.60 in)
Idling speed with F.I.C.D. in operation		MPFI model	850±50 rpm (700±50 rpm "D" range in AT model)
Dual switch (Pressure switch)	Low-pressure switch operating pressure kPa (kg/cm^2, psi)	ON → OFF	176±20 (1.80±0.20, 25.5±2.9)
		OFF → ON	186±29 (1.90±0.30, 27.0±4.2)
	High-pressure switch operating pressure kPa (kg/cm^2, psi)	ON → OFF	2,648±196 (27±2, 384±28)
		DIFF	588±196 (6±2, 85±28)
Compressor relief valve blow-out pressure kPa (kg/cm^2, psi)			3,727±196 (38±2.0, 540±28)
Thermo control amplifier working temperature (Evaporator outlet air)		 G4M0938	
Compressor thermocut temperature			140±5°C (284±9°F) Diff. 15±5°C (59±9°F)

1. Safety Precautions

1. HFC-134a AIR CONDITIONING SYSTEM

Component parts of the cooling system, refrigerant, compressor oil, and other parts are not the same for the HFC-134a system and the older CFC-12 system. Do not interchange parts or liquid.
Vehicles with HFC-134a air conditioning systems, use only HFC-134a parts that are indicated on a label attached to the vehicle. Before performing any maintenance, verify the type of air conditioning system installed in the vehicle.



① HFC134a 用
USE FOR
HFC134a

② SUBARU TOKYO JAPAN
AIR CONDITIONER (LI-TYPE)
REFRIGERANT CHARGE:
HFC134a, 21-25 OZ (0.6-0.7Kg)
COMPRESSOR OIL : DH-PR
COMPRESSOR BELT : 73013AA000 (1.8L)
73013PA000 (1.6L)
REFRIGERANT UNDER HIGH PRESSURE.
CONSULT SERVICE MANUAL.
CAUTION: SYSTEM TO BE SERVICED BY QUALIFIED PERSONNEL.
SAE J639

CAUTION: USE ONLY REFRIGERANT HFC134a AND OIL DH-PR FOR THIS AIR CONDITIONER. DON'T USE REFRIGERANT CFC12 AND OIL DH-150CX.
ATTENTION: UTILISEZ LE LIQUIDE RÉFRIGÉRANT HFC134a ET L'HUILE DH-PR DANS CE CLIMATISEUR. NE JAMAIS UTILISER LE RÉFRIGÉRANT CFC12 ET L'HUILE DH-150CX.
VORSICHT: NUR KÄL TEMITTEL HFC134a UND ÖL DH-PR FÜR DIESE KLIMAANLAGE VERWENDEN. NIEMALS KÄL TEMITTEL CFC12 UND ÖL DH-150CX.

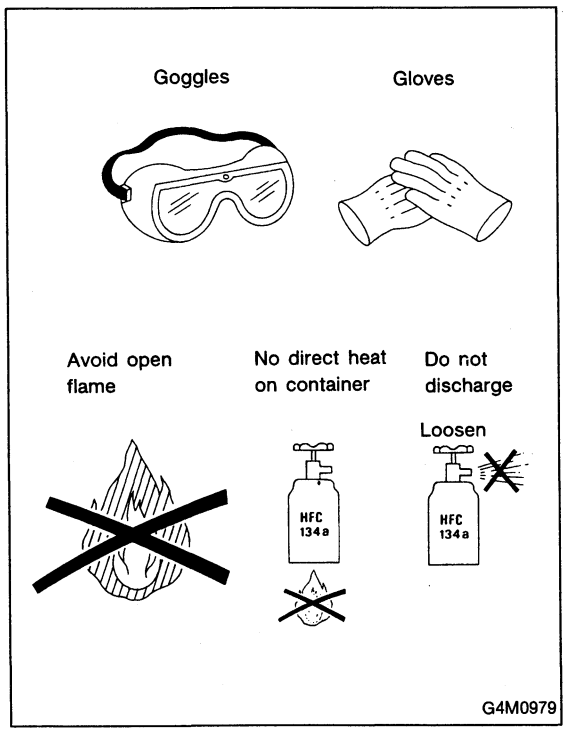
G4M0978

2. COMPRESSOR OIL

Do not use any compressor oil that is not specifically designated for the HFC-134a air conditioning system; only use DH-PR. Also, do not use HFC-134a compressor oil in the CFC-12 air conditioning system. If compression oils are mixed, poor lubrication will result and the compressor itself may be damaged.
Because HFC-134a compressor oil is very hygroscopic (easily absorbs moisture), when parts of the air conditioning system are being removed, quickly install a blind plug to prevent contact with the outside air. Also, always make sure that the service container for compressor oil is tightly closed except when in use. Store compressor oil in a tightly closed steel container.

3. REFRIGERANT

Do not put CFC-12 refrigerant into a HFC-134a air conditioning system. Also, do not put HFC-134a refrigerant into a CFC-12 air conditioning system. If the wrong refrigerant is used, poor lubrication will result and the compressor itself may be destroyed.



4. HANDLING OF REFRIGERANT

Because refrigerant boils at approx. –30°C (–22°F) at sea level, it is cold enough to give you severe frostbite. Always wear goggles to protect your eyes and gloves to protect your hands. Also, even under the pressures normally found in CFC-12 containers, refrigerant will boil with the addition of heat. This could raise the pressure inside the container to a dangerous level.

Never expose a can of HFC-134a to direct sunlight, or to temperatures over 40°C (104°F). One more thing to remember about HFC-134a is that when it is exposed to an open flame or to hot metal, it forms phosgene, a deadly gas. Do not discharge HFC-134a into the atmosphere on purpose. Always read and follow the precautions on the HFC-134a bottle.

3. Tools and Equipment

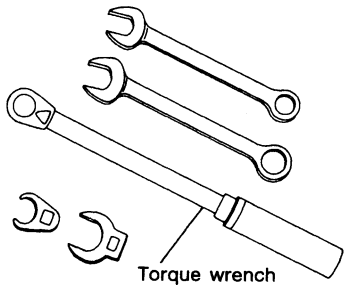
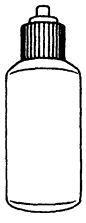
The following section provides information about the tools and equipment that will be necessary to properly service the A/C system.

Since equipment may vary slightly depending on the manufacturer, it is important to always read and follow the manufacturer's instructions.

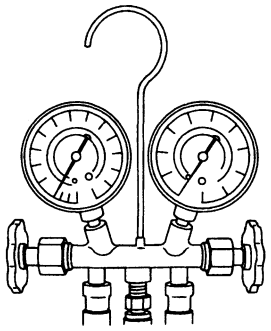
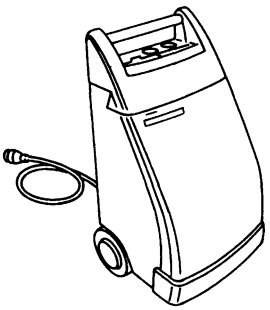
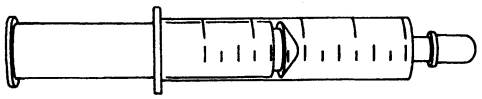
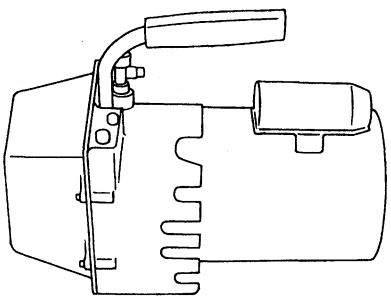
CAUTION:

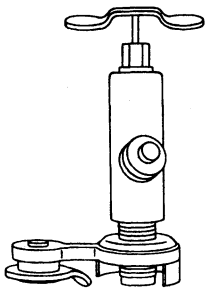
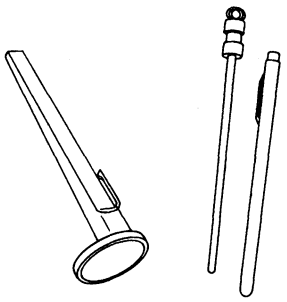
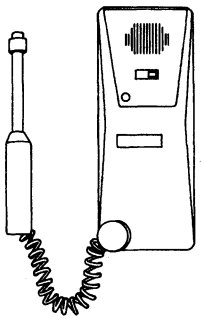
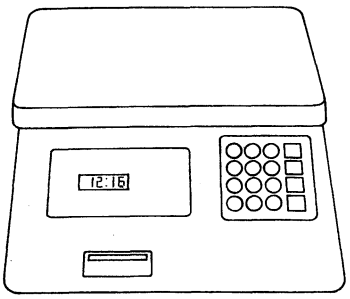
When working on vehicles with the HFC-134a system, only use HFC-134a specified tools and parts. Do not mix with CFC-12 tools and parts. If HFC-134a and CFC-12 refrigerant or compressor oil is mixed, poor lubrication will result and the compressor itself may be destroyed. In order to help prevent mixing HFC-134a and CFC-12 parts and liquid, the tool and screw type and the type of service valves used are different. The gas leak detectors for the HFC-134a and CFC-12 systems must also not be interchanged.

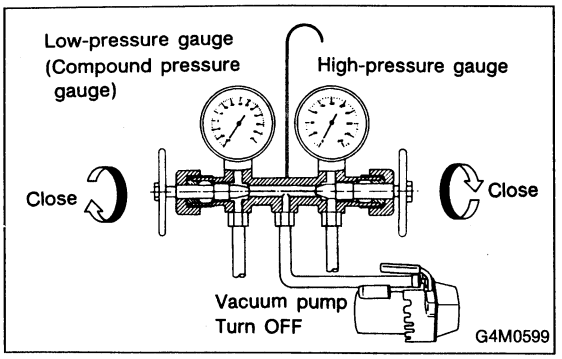
	HFC-134a	CFC-12
Tool & screw type	Millimeter size	Inch size
Valve type	Quick joint type	Screw-in type

Tools and Equipment	Description
• WRENCH Various **WRENCHES** will be required to service any A/C system. A 7 to 40 N·m (0.7 to 4.1 kg-m, 5 to 30 ft-lb) torque wrench with various crowfoot wrenches will be needed. Open end or flare nut wrenches will be needed for back-up on the tube and hose fittings.	 G4M0571
• APPLICATOR BOTTLE A small **APPLICATOR BOTTLE** is recommended to apply refrigerant oil to the various parts. They can be obtained at a hardware or drug store.	 G4M0572

SERVICE PROCEDURE

Tools and Equipment	Description
• MANIFOLD GAUGE SET A **MANIFOLD GAUGE SET** (with hoses) can be obtained from either a commercial refrigeration supply house or from an auto shop equipment supplier.	 G4M0573
• REFRIGERANT RECOVERY SYSTEM A **REFRIGERANT RECOVERY SYSTEM** is used for the recovery and reuse of A/C system refrigerant after contaminants and moisture have been removed from the refrigerant.	 G4M0574
• SYRINGE A graduated plastic **SYRINGE** will be needed to add oil back into the system. The syringe can be found at a pharmacy or drug store.	 G4M0575
• VACUUM PUMP A **VACUUM PUMP** (in good working condition) is necessary, and may be obtained from either a commercial refrigeration supply house or an automotive equipment supplier.	 G4M0576

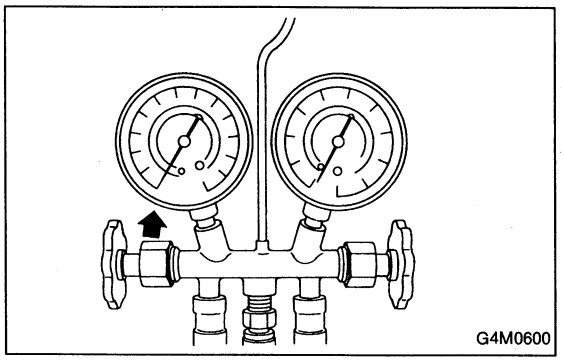
Tools and Equipment	Description
• CAN TAP A **CAN TAP** for the 397 g (14 oz) can is available from an auto supply store.	 G4M0577
• THERMOMETER Pocket **THERMOMETERS** are available from either industrial hardware store or commercial refrigeration supply houses.	 G4M0578
• ELECTRONIC LEAK DETECTOR An **ELECTRONIC LEAK DETECTOR** can be obtained from either a specialty tool supply or an A/C equipment supplier.	 G4M0579
• WEIGHT SCALE A **WEIGHT SCALE** such as an electronic charging scale or a bathroom scale with digital display will be needed if a 13.6 kg (30 lb) refrigerant container is used.	 G4M0580



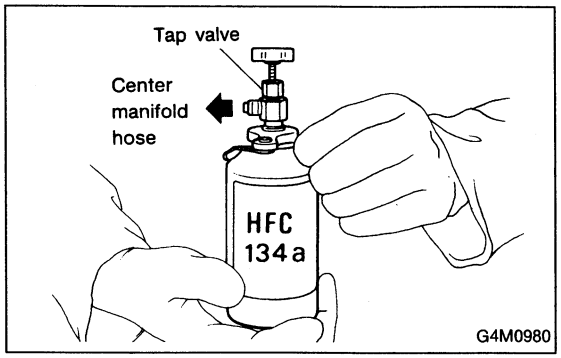
7. Evacuating and Charging

2. PERFORM A VACUUM LEAK TEST

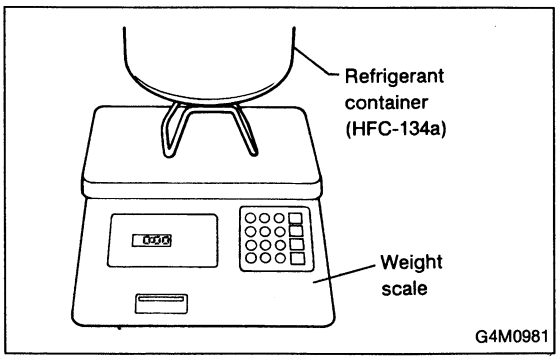
1) After 15 minutes (or more) of evacuation, close the high-pressure manifold valve.
2) Close the low-pressure manifold valve.
3) Turn off the vacuum pump.



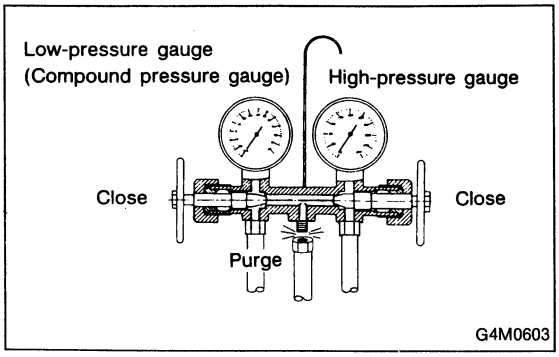
4) Note the low side gauge reading.
5) After 5 minutes, re-check the low-pressure gauge reading.
If the vacuum level has changed more than 4 kPa (25 mmHg, 1 inHg), perform an HFC-134a leak test.
If the vacuum reading is about the same as noted in step 2-4), continue on to step 2-6).



6) Carefully attach the can tap to the refrigerant can by following the can tap manufacturer's instructions.
7) Disconnect the center manifold hose from the vacuum pump and connect the hose to the tap valve.

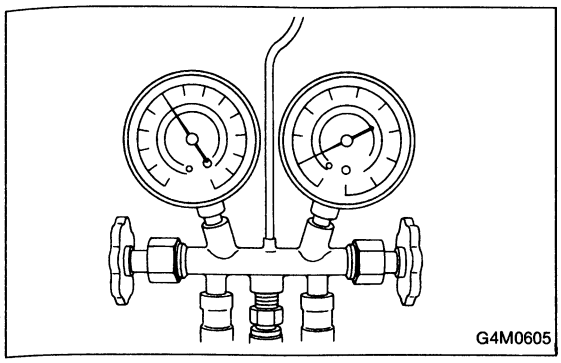


8) If a 13.6 kg (30 lb) container of refrigerant is used a weight scale will be needed. This scale is to determine the amount of refrigerant that is used.
Connect the center hose from the manifold to the valve. Place the 13.6 kg (30 lb) container on the scale, valve end down.



3. PURGE THE CENTER HOSE

1) Verify that all three hose connections are tight at the manifold gauge set.
2) Open the valve on the HFC-134a source.
3) **With safety equipment in place (goggles and gloves), use extreme caution** and loosen the center hose connection at the manifold and allow the HFC-134a to escape for no more than two or three seconds, then quickly retighten the hose fitting at the manifold.

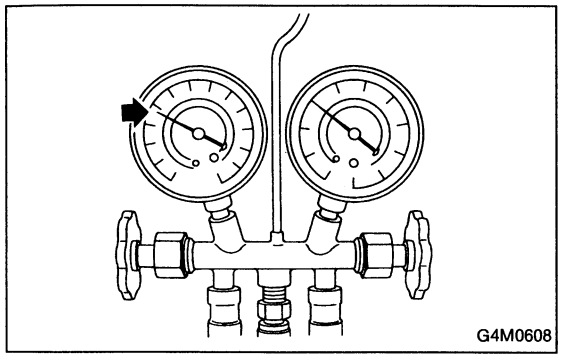


5. CHECK THE GAUGE READINGS

When both the high- and low-pressure gauge readings are about equal, or the HFC-134a source is empty, or the system has been filled to specifications, close the high-pressure manifold valve.

6. ADD ADDITIONAL CANS

If the HFC-134a source is exhausted, first close the high-pressure manifold valve, second, close the can tap valve, then slowly purge the refrigerant from the service hose by loosening the fitting at the can tap. Repeat steps 15 through 19 as necessary.



8. CHARGE THE SYSTEM

1) With the refrigerant source connected and the service hose purged, slowly open the low-pressure manifold valve, while checking the low-pressure gauge reading.

CAUTION:
The refrigerant source must be positioned for vapor (valve up).

2) Keep the low side pressure below 276 kPa (2.81 kg/cm^2, 40 psi) by using the low-pressure manifold valve to regulate the flow of refrigerant into the system.

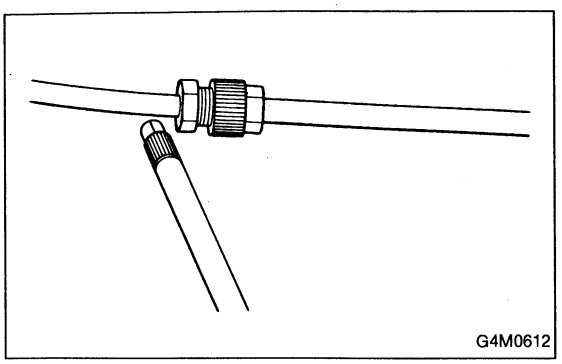
3) When the system is fully charged, close the low- pressure manifold valve.

4) Close the valve at the refrigerant source.

● Refrigerant capacity

Unit: kg (lb)

Refrigerant	Minimum	Maximum
HFC-134a	0.6 (1.3)	0.7 (1.5)


G4M0612

8. Leak Testing

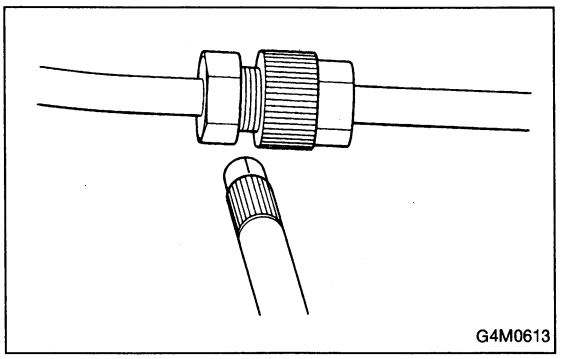
5. LEAK TEST — HIGH-PRESSURE SIDE

Operate the A/C system for approx. 10 minutes, then turn the engine off and begin the leak test.

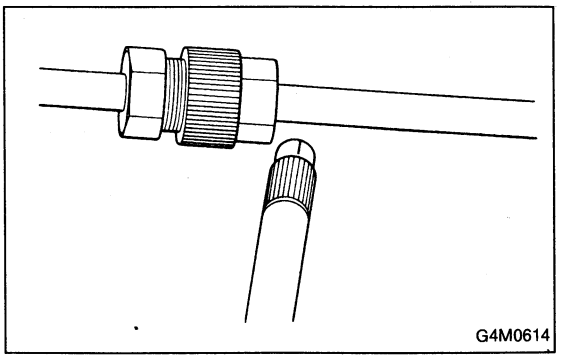
1) Begin at the connection of the high-pressure tube to the evaporator, and work your way along the high- pressure side of the system to the compressor. There are three places to check each tube connection.

2) Check the area.

(1) Check the area where the fitting meets the tube.


G4M0613

(2) Check the area where the two parts of the fitting join each other.


G4M0614

(3) Check the area where the nut meets the tube.

3) Check the area of the pressure switch (dual switch), and also check the seams of the receiver drier.

4) Check the connections of the tubes to the condenser, and also check any welded joints on the condenser.

CAUTION:
An oily area on the fins of the condenser may indicate a leak.

5) Check the area where the hoses attach to the compressor.

6) Check around the machined portions of the compressor (where the compressor sections join each other).
7) If equipped, check the thermal limiter on the compressor housing.
8) Check the compressor shaft seal by probing near the center of the compressor clutch pulley.
NOTE:
Some shaft seals have a very slight amount of normal leakage [approximately 28 g (1.0 oz) per year].

9. Lubrication

3. OIL REPLACEMENT

After stabilization and discharge, replace the component, adding the appropriate amount of oil (DH-PR) to the new component before installation.

Evaporator	114 mℓ (3.9 US fl oz, 4.0 Imp fl oz)
Receiver drier	5 mℓ (0.2 US fl oz, 0.2 Imp fl oz)
Condenser	2 mℓ (0.07 US fl oz, 0.07 Imp fl oz)
Hose	1 mℓ (0.03 US fl oz, 0.04 Imp fl oz)

If the compressor is replaced (after stabilization):
1) Drain and measure the oil from the original compressor.
2) Drain the oil from the replacement compressor and refill with the same amount that was drained from the original [20 mℓ (0.7 US fl oz, 0.7 Imp fl oz) minimum]. Always use DH-PR for the replacement oil.

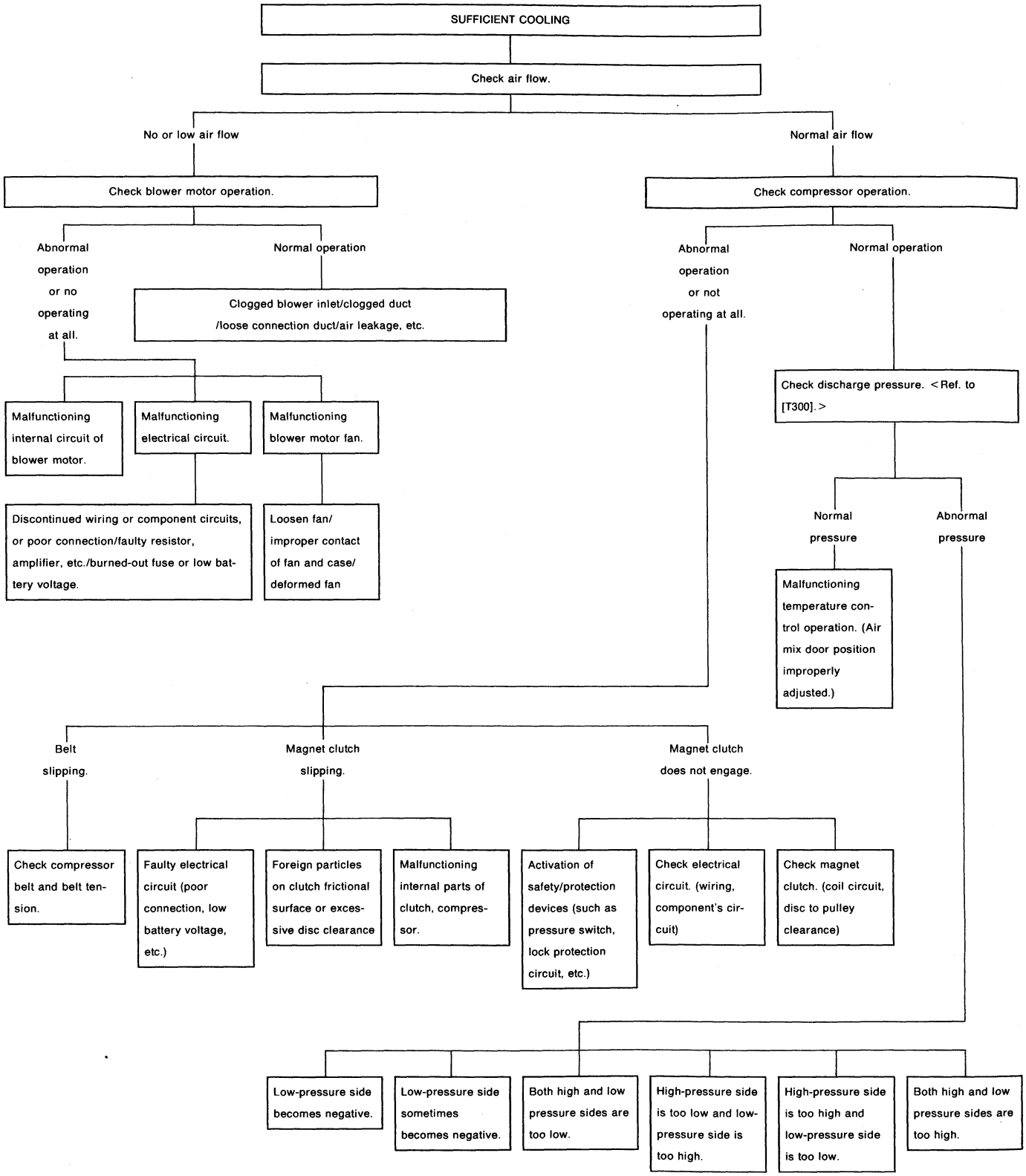
18. Pressure Switch (Dual Switch)

A: INSPECTION

1) Remove cap from high-pressure line service valve, and connect gauge manifold to service valve.
2) Disconnect pressure switch harness connector, and check pressure switch for proper ON-OFF operation. Use a circuit tester.

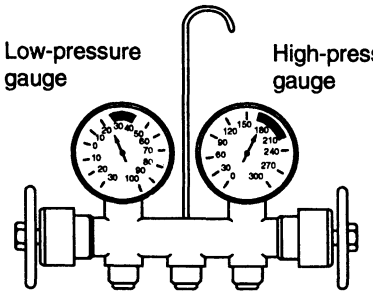
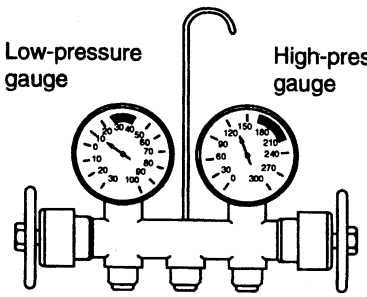
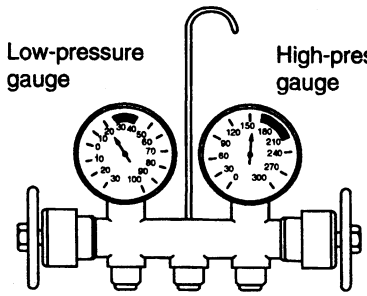
	Terminal	Operation	High-pressure side line pressure kPa (kg/cm^2, psi)
High and low pressure switch	①— ②	Turns OFF.	Increasing to 2,648 ± 196 (27 ± 2, 384 ± 28)
			Decreasing to 177 ± 20 (1.8 ± 0.2, 26 ± 2.8)
		Turns ON.	Increasing to 186 ± 29 (1.9 ± 0.3, 27 ± 4)
			Decreasing to 2,059 ± 196 (21 ± 2, 299 ± 28)

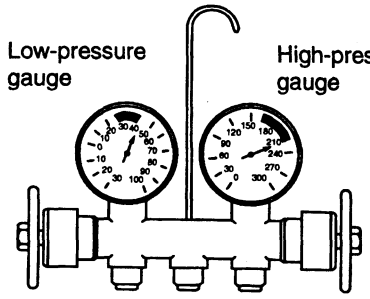
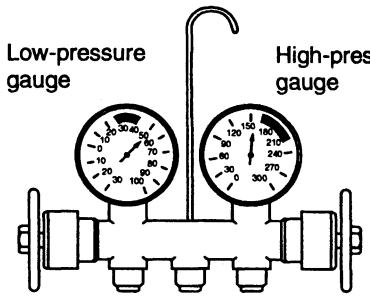
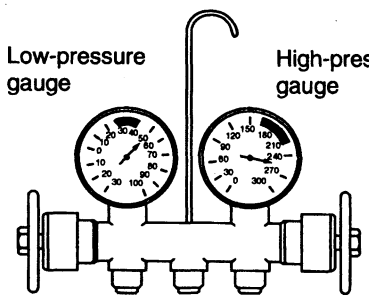
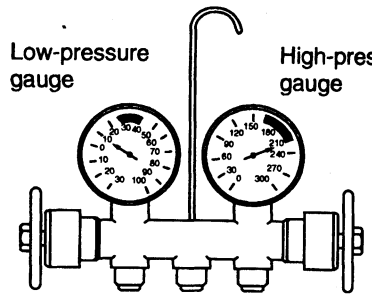
1. Air Conditioning System Diagnosis

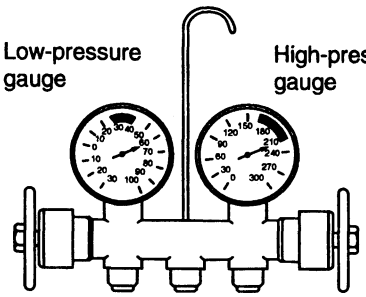
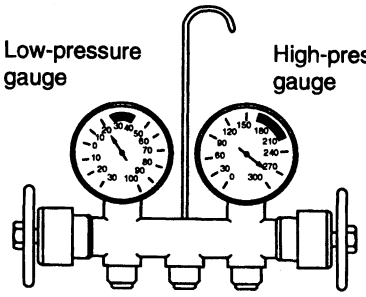
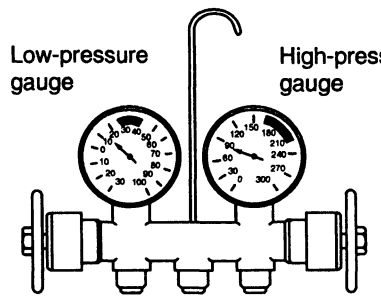


3. Performance Test Diagnosis

If various conditions caused to other air conditioning system, the characteristics revealed on manifold gauge reading are shown in the following.
As to the method of a performance test, refer to the item of "Performance Test".
Each shaded area on the following tables indicates a reading of the normal system when the temperature of outside air is 32.5°C (91°F).

Condition		Probable cause	Corrective action
INSUFFICIENT REFRIGERANT CHARGE  G4M0673	Insufficient cooling.	Refrigerant is small, or leaking a little.	1. Leak test. 2. Repair leak. 3. Charge system. **Evacuate, as necessary, and recharge system.**
ALMOST NO REFRIGERANT  G4M0674	No cooling action.	Serious refrigerant leak.	**Stop compressor immediately.** 1. Leak test. 2. Discharge system. 3. Repair leak(s). 4. Replace receiver drier if necessary. 5. Check oil level. 6. Evacuate and recharge system.
FAULTY EXPANSION VALVE  G4M0675	Slight cooling. Sweating or frosted expansion valve inlet.	Expansion valve restricts refrigerant flow. • Expansion valve is clogged. • Expansion valve is inoperative. Valve stuck closed. Thermal bulb has lost charge.	If valve inlet reveals sweat or frost: 1. Discharge system. 2. Remove valve and clean it. Replace it if necessary. 3. Evacuate system. 4. Charge system. If valve does not operate: 1. Discharge system. 2. Replace valve. 3. Evacuate and charge system.

Condition	Probable cause	Corrective action
 G4M0676  G4M0677 Insufficient cooling. Sweated suction line. No cooling. Sweating or frosted suction line.	Expansion valve allows too much refrigerant through evaporator. Faulty seal of O-ring in expansion valve.	Check valve for operation. If suction side does not show a pressure decrease, replace valve. 1. Discharge system. 2. Remove expansion valve and replace O-ring. 3. Evacuate and replace system.
AIR IN SYSTEM  G4M0678 Insufficient cooling.	Air mixed with refrigerant in system.	1. Discharge system. 2. Replace receiver drier. 3. Evacuate and charge system.
MOISTURE IN SYSTEM  G4M0679 After operation for a while, pressure on suction side may show vacuum pressure reading. During this condition, discharge air will be warm. As warning of this, reading shows 39 kPa (0.4 kg/cm^2, 6 psi) vibration.	Drier is saturated with moisture. Moisture has frozen at expansion valve. Refrigerant flow is restricted.	1. Discharge system. 2. Replace receiver drier (twice if necessary). 3. Evacuate system completely. (Repeat 30 minute evacuating three times.) 4. Recharge system.

Condition		Probable cause	Corrective action
FAULTY CONDENSER  G4M0680	No cooling action. Engine may overheat. Suction line is very hot.	Condenser is often found not functioning well.	• Check condenser cooling fan. • Check condenser for dirt accumulation. • Check engine cooling system for overheat. • Check for refrigerant overcharge. **If pressure remains high in spite of all above actions taken, remove and inspect the condenser for possible oil clogging.**
HIGH-PRESSURE LINE BLOCKED  G4M0681	Insufficient cooling. Frosted high-pressure liquid line.	Drier clogged, or restriction in high-pressure line.	1. Discharge system. 2. Remove receiver drier or strainer and replace it. 3. Evacuate and charge system.
FAULTY COMPRESSOR  G4M0682	Insufficient cooling.	Internal problem in compressor, or damaged gasket and valve.	1. Discharge system. 2. Remove and check compressor. 3. Repair or replace compressor. 4. Check oil level. 5. Replace receiver drier. 6. Evacuate and charge system.