

## CHAPTER 5: BRAKE SYSTEM

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# CHAPTER 5: BRAKE SYSTEM

## 5-1: BRAKE SYSTEM SPECIFICATIONS AND STANDARDS

		SEDAN	CUSTOM
Brake Type	Front	Two-leading	(same as sedan)
	Rear	Leading and trailing shoes	"
	Pedal	Hydraulic on 4 wheels	"
	Hand (parking)	Mechanical on rear wheels	"
Master Cylinder	Body Material	Cast Aluminum Alloy	"
	Piston Material	Zinc Die-cast	"
	Inside Diameter	19.05 mm (0.75 in)	"
Clearance between and Piston	Master Cylinder	0.019-0.086 mm (0.0007-0.0034 in)	"
Front Wheel Cyl.	Material	Cast Aluminum Alloy	"
	Inner Diameter	20.64 mm (13/16")	"
Rear Wheel Cyl.	Material	Cast Aluminum Alloy	"
	Inner Diameter	17.46 mm (11/16")	"
Brake Drum	(front & rear)	170 mm (6.69 in)	"
	Inner Diameter (Usable limit)	170.5 mm(6.71 in)	"
Brake Drum	(front & rear)		"
	Eccentricity	Under 0.05mm (0.0020in)	
Thickness at Brake Steel Pipe Opening		Over 1.3mm - 1.5mm (0.05in - 0.059in)	"
Tightening Torque at Tapered Union		1.5-2.0 kg-m (10.9-14.4 lb-ft)	"
Tightening Torque of Union Bolt through flat Packing		1.2-2.2 kg-m (9.8-15.9 lb-ft)	"
Brake Lining Thickness	After bonding and finishing	4.8 mm (0.19 in)	"
	(all brakes) For servicing	5.0 mm (0.20 in)	"

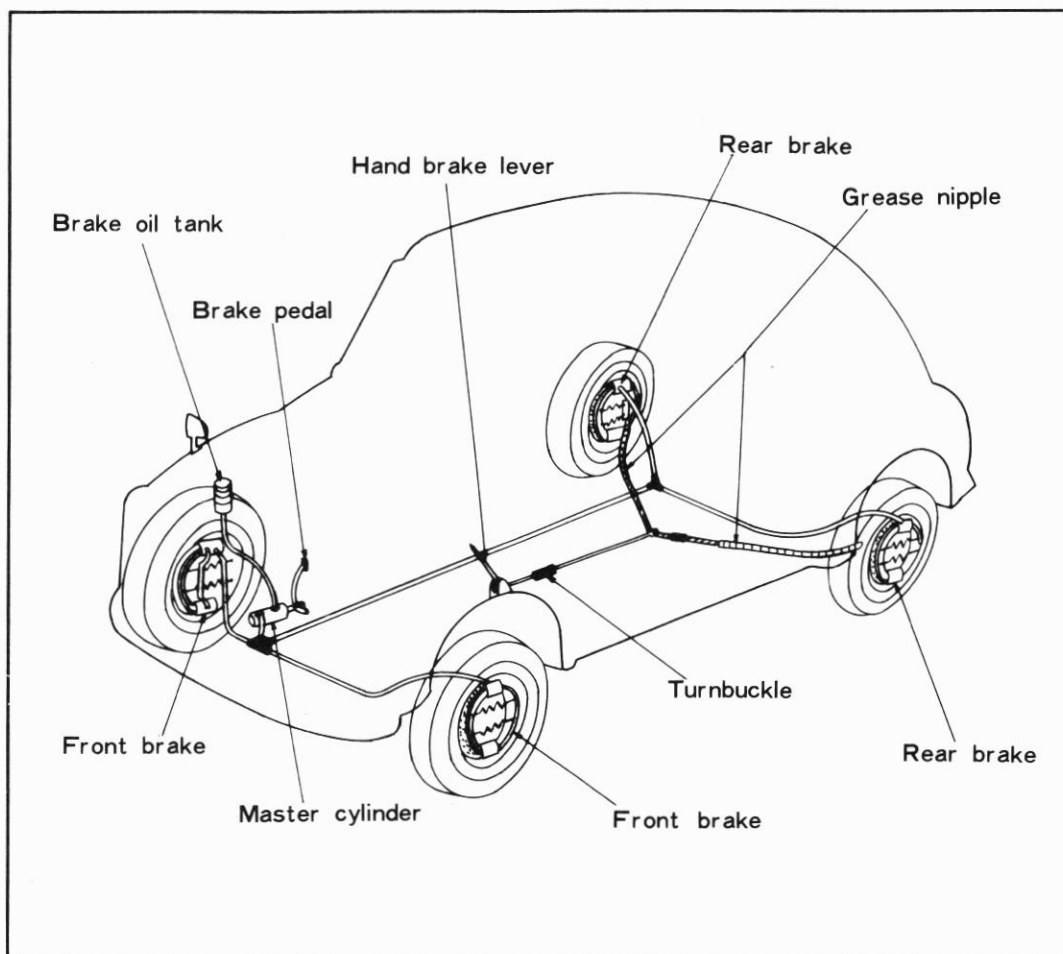
Brake Lining	Usable Limit	1.0 mm (0.04 in)	(same as sedan)
	Width	30 mm (1.18 in)	"
	Length-Front	156 mm (6.14 in)	"
	Rear	180 mm (7.09 in)	"
	Installation	Bonding	"
Clearance between Brake Lining and Drum		0.1-0.15 mm (0.004-0.006 in)	"
Brake Oil Volume (To oil tank level mark)		0.45 (0.95 US pt) (0.79 Imp pt)	"
Brake Pedal Play		20-25 mm (0.79-0.98 in)	"
Brake Pedal Play Adjustment Limit		40-50 mm (1.57-1.97 in)	"
Clearance between Pedal Bushing and Shaft		0.020-0.083 mm (0.0008-0.0083 in)	"
Adjustment Standard for Pulling Range of Hand Brake		3 to 4 steps	"
Hand Brake Cable Diameter		2.5 mm (0.1 in)	"
Hand Brake Cable Length	Right Side	971 mm	"
	Left Side	925 mm	"

## General Data:

The brake is an essential part of any motor vehicle. It is given top priority as a pre-operation check point. Periodical checks and daily cares must be made on the brake system for proper functioning at all times for safer driving.

The Subaru employs two types of brakes, the hydraulically operated main brakes and the mechanically operated hand brake on the rear wheels for parking.

Brake shoes for the front and rear are of the simple construction and reliable floating shoe type. Since the greater part of the vehicle weight is sustained on the front wheels when brakes are applied, the front wheel cylinder diameter are made larger than the rear. These factors assure stability even when sudden braking is applied at high speeds. It is also recommended that on slippery roads, refrain from applying sudden brakes.



## 5-2: PRECAUTIONS WHEN SERVICING BRKE SYSTEM

- (a) Do not mix oil of different brands.
- (b) If a different brand of oil must be used, disassemble the brake assembly and wash in clean alcohol together with the brake pipings. In this process, be careful not to allow dirt or grease to infiltrate into the piping or cylinder.  
After reassembly, do not forget to bleed the air out of the pipings.

- (c) If the brake pipe junction bolt is tightened excessively, the cone-shaped pipe opening may become deformed and weakened. Tighten with the proper torque.

THE PROPER TIGHTENING TORQUE 1.5-2.0 kg-m(10.9-14.4 lb-ft).

- (d) Do not handle the brake lining with oily hands or allow it to become wet.
- (e) In order to attain balanced braking, it is recommended that the brake linings on all four wheels be changed together.
- (f) The inner surfaces of the brake drum should be smooth and dry.
- (g) Check for damages on the inner surfaces of the brake drum. If there are damages, new linings will be meaningless. Correct or replace with new brake drums.

USABLE LIMIT OF BRAKE DRUMS: Inner Diameter 170.5mm (6.71 in)

- (h) After adjustment of the brake shoes, the linings should not be in contact with the drum.
- (i) Brake pedal operation is determined by the following three factors:
  - (1) Brake pedal play (Clearances between pedal and pedal shaft, and piston and push rod)
  - (2) Clearance between brake shoe and drum.
  - (3) Transmission of hydraulic force (compression of brake oil and expansion of brake hose)
- (j) Refer to the following chart for determining the nature of your brake trouble and the appropriate countermeasures.