SUBARU

IMPREZA

2004 Model Year

PDF Service Manual

GENERAL INFORMATION SECTION (Pub.No.G1870GE1)

ENGINE SECTION 1 (Pub.No.G1870GE2)

ENGINE SECTION 2 (Pub.No.G1870GE3)

TRANSMISSION SECTION (Pub.No.G1870GE4)

CHASSIS SECTION (Pub.No.G1870GE5)

BODY SECTION (Pub.No.G1870GE6)

WIRING SYSTEM SECTION (Pub.No.G1870GE7)

GENERAL INFORMATION SECTION

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.
This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.
Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

FUJI HEAVY INDUSTRIES LTD. G1870GE1

FOREWORD

FW

1. Foreword

A: FOREWORD

These manuals are used when performing maintenance, repair, or diagnosis of the Subaru IMPREZA.

Applied model:
GD*****, GG***** from 2004MY

The manuals contain the latest information at the time of publication. Changes in specifications, methods, etc. may be made without notice.

HOW TO USE THIS MANUAL

HU

1. How to Use This Manual

A: HOW TO USE THIS MANUAL

1. STRUCTURE

Each section consists of SCT that are broken down into SC that are divided into sections for each component. The specification, maintenance and other information for the components are included, and diagnosis information has also been added where necessary.

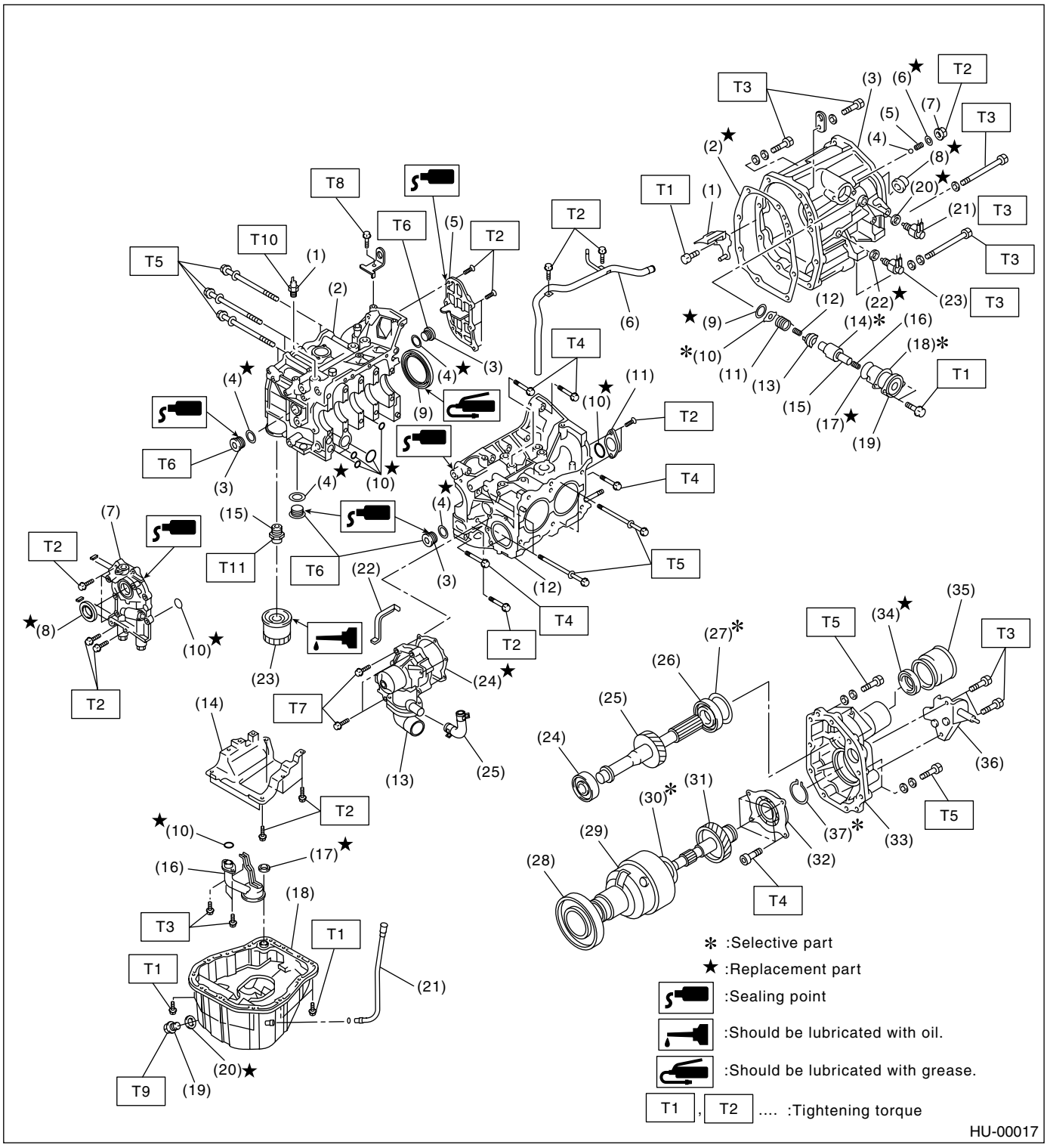
2. INDEX

The first page has an index with tabs.

3. COMPONENTS

Illustrations are listed for each component. The information necessary for repair work (tightening torque, grease up points, etc.) is described on these illustrations. Information is described using symbol. To order the parts, refer to parts catalogue.

Example:


T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
✻ :Selective part
★ :Replacement part
:Sealing point
:Should be lubricated with oil.
:Should be lubricated with grease.
T1 , T2 .... :Tightening torque
HU-00017

4. SPECIFICATIONS

If necessary, specifications are also included.

5. INSPECTION

Inspections are included to be carried out before and after maintenance.

6. MAINTENANCE

• Maintenance instructions for serviceable parts describes work area and detailed steps with illustration. It also describes the use of special tool, tightening torque, cautions for each procedure.
• If many serviceable parts are included in one service procedure, appropriate reference are provided for each part.

Example:

15.Main Shaft Assembly for Single-Range ← (A)

A: REMOVAL ← (B)

1) Remove the manual transmission assembly from vehicie. <Ref. to MT-33, REMOVAL, Manual Transmission Assembly.> ← (C)

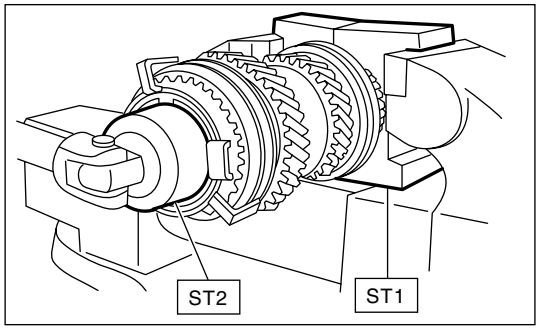
---

11) Tighten the lock nuts to the specified torque using ST1 and ST2.

NOTE: ← (D)
Secure the lock nuts in two Places affer tightening.

ST2 499987003 SOCKET WRENCH
ST1 498937000 (E) TRANSMISSION HOLDER (F)

Tightening torque:
118 N·m (12.0 kgf-m, 86.8 ft-lb) ← (G)



← (H)

HU-00002

(A) Component
(B) Process
(C) Reference
(D) Caution
(E) Tool number of special tool
(F) Name of special tool
(G) Tightening torque
(H) Illustration

7. DIAGNOSIS

Tables showing a step-by-step process make it easy to conduct diagnosis.

8. SI UNITS

Measurements in these manuals are according to the SI units. Metric and yard/pound measurements are also included.

Example:

Tightening torque:
44 N·m (4.5 kgf-m, 33 ft-lb)

Item	SI Units	Conventional unit	Remarks
Force	N (Newton)	kgf	1 kgf = 9.80655 N
Mass (Weight)	kg, g	kg, g	
Capacity	ℓ, mℓ or cm^3	ℓ or cc	1 cc = 1 cm^3 = 1 mℓ
Torque	N·m	kgf-m, kgf-cm	1 kgf-m = 9.80655 N·m
Rotating speed	rpm	rpm	
Pressure	kPa (kilopascal)	kgf/cm^2	1 kgf/cm^2 = 98.0655 kPa
		mmHg	1 mmHg = 0.133322 kPa
Power	W	PS	1 PS = 0.735499 kW
Calorie	W·h	cal	1 kcal = 1.16279 W·h
Fuel consumption rate	g/kw·h	g/PS·h	1 g/PS·h = 1.3596 g/kW·h

The figure used in this manuals are described in the SI units and conventional units are described in ( ).

9. EXPLANATION OF TERMINOLOGY

- **List**

AAI	:	Air Assist Injection
A/B	:	Airbag
ABS	:	Antilock Brake System
A/C	:	Air conditioner
A/F	:	Air Fuel Ratio
ALT	:	Generator
ASSY	:	Assembly
AT	:	Automatic transmission
ATF	:	Automatic transmission fluid
AVCS	:	Active Valve Control System
AWD	:	All Wheel Drive
BATT	:	Battery
CD-R/RW	:	CD Recordable/ReWritable
COMPL	:	Complete
CPU	:	Central Processing Unit
DOHC	:	Double Overhead Camshaft
ECM	:	Engine Control Module (ECM)
EGI	:	Electronic Gasoline Injection
E/G	:	Engine
EGR	:	Exhaust Gas Recirculation
ELR	:	Emergency Locking Retractor
F/B	:	Fuse & Joint Box
FL	:	Fusible Link
FWD	:	Front Wheel Drive
HID	:	High-Intensity Discharge
H/U	:	Hydraulic Unit
IG	:	Ignition
IN	:	Intake
INT	:	Intermittent
ISC	:	Idle Speed Control
LH	:	LH (Left Hand)
LSD	:	Limited Slip Differential
M/B	:	Main Fuse & Relay Box
MD	:	Mini Disc
MPi	:	Multi Point injection
MP-T	:	Multi-Plate Transfer
MT	:	Manual transmission
Non-turbo	:	Natural Aspiration
NC	:	Normal Close (Relay)
NO	:	Normal Open (Relay)
OP	:	Option Parts
P/S	:	Power Steering
P/W	:	Power Window
PCD	:	Pitch Circle Diameter
PCV	:	Positive Crankcase Ventilation
RH	:	RH (Right Hand)
SOHC	:	Single Overhead Camshaft
SRC	:	Supplemental Restraint System
SSM	:	Subaru Select Monitor
ST	:	Special Tool
SW	:	Switch
TGV	:	Tumble generated valve
T/M	:	Transmission
ViS-C	:	Viscous Coupling
VSV	:	Vacuum Switching Valve
VTD	:	Variable Torque Distribution
W/H	:	Wiring harness
Pr	:	Primary
2ndr	:	Secondary

SPECIFICATIONS

SPC

1. Impreza

A: DIMENSIONS

Model			Sedan	Wagon	OUTBACK	STi
Overall length		mm (in)	4,415 (173.8)			
Overall width		mm (in)	1,740 (68.4)	1,695 (66.7)	1,710 (67.3)	1,740 (68.1)
Overall height (at C.W.)		mm (in)	1,440 (56.7)	1,465 (57.7), 1,485 (58.5)★4	1,475 (58.1), 1,495 (58.9)★4	1,440 (56.7)
Compartment	Length	mm (in)	1,890 (74.4)	1,845 (72.6)		1,890 (74.4)
	Width	mm (in)	1,380 (54.3)			
	Height	mm (in)	1,180 (46.5), 1,125 (44.3)★5	1,200 (47.2), 1,150 (45.3)★5	1,200 (47.2), 1,150 (45.3)★5	1,180 (46.5)
Wheelbase		mm (in)	2,525 (99.4)			
Tread	Front	mm (in)	1,485 (58.5)	1,460 (57.5)★1, 1,465 (57.7)	1,460 (57.5)	1,490 (58.7)
	Rear	mm (in)	1,475 (58.1), 1,480 (58.3)★3	1,450 (57.1)★1, 1,455 (57.3)	1,455 (57.3)	1,480 (58.3)
Minimum road clearance	Without catalytic converter	mm (in)	150 (5.9), 155 (6.1)★2	150 (5.9), 155 (6.1)★2	160 (6.3)	—
	With catalytic converter	mm (in)	150 (5.9), 155 (6.1)★3	150 (5.9), 155 (6.1)★3	160 (6.3)	155 (6.1)

★1: 1.6 L
★2: 2.0 L
★3: 2.0 L Turbo
★4: With roof rail
★5: With sun roof

B: ENGINE

Model	1.6 L	Non-turbo 2.0 L	Turbo 2.0 L	2.5 L	STi
Engine type	Horizontally opposed, liquid cooled, 4-cylinder, 4-stroke gasoline engine				
Valve arrangement	Overhead camshaft type				
Bore × Stroke mm (in)	87.9 × 65.8 (3.461 × 2.591)	92 × 75 (3.62 × 2.95)		99.5 × 79 (3.92 × 3.11)	92 × 75 (3.62 × 2.95)
Displacement cm^3 (cu in)	1,597 (97.45)	1,994 (121.67)		2,457 (149.9)	1,994 (121.67)
Compression ratio	10.0±0.2		8.0±0.2	10.0±0.2	8.0±0.2
Firing order	1 — 3 — 2 — 4				
Idle speed at Park/Neutral position rpm	650±100★2 700±100★1	650±100★2 700±100★1	700±100★4 750±100	650±100	700±100
Maximum output kW (HP)/rpm	70 (94)/5,200	92 (123)/5,600	160 (215)/5,600 168 (225)/6,000★3 165 (221)/5,600★4	112 (150)/5,600	195 (261)/6,000
Maximum torque N·m (kgf-m, ft-lb) /rpm	143 (14.6, 105.5) /3,600	184 (18.8, 136.0) /3,600	292 (29.8, 215.4) /3,600 300 (30.6, 221.3) /3,600★3, 4,000★4	223 (22.7, 164.5) /3,600	343 (35.0, 253.0) /4,000

★1: Without OBD
★2: With OBD
★3: Australia model
★4: Europe model

C: ELECTRICAL

Model			1.6 L	Non-turbo 2.0 L	Turbo 2.0 L	2.5 L	STi
Ignition timing at idling BTDC			5°±10°	10°±10°	12°±10°	MT: 10°±10° AT: 15°±10°	12°±10°
Spark plug	Type and manufacturer	Without OBD	NGK: BKR6E (without catalyst) CHAMPION: RC8YC4 (with catalyst) NGK: BKR6E-11 (with catalyst)	NGK: BKR6E (without catalyst) CHAMPION: RC10YC4 (with catalyst) NGK: BKR5E-11 (with catalyst)	—	CHAMPION: RC10YC4 NGK: BKR5E-11	—
		With OBD	CHAMPION: RC8YC4 **Alternate** NGK: BKR6E-11	CHAMPION: RC10YC4 **Alternate** NGK: BKR5E-11	NGK: PFR6G	—	NGK: PFR6G
Generator			12V — 75A				
Battery	Type and capacity (5HR)	For Europe and South America	12V — 48AH (55D23L)	MT: 12V — 48AH (55D23L) AT: 12V — 52AH (65D23L)		—	12V — 48AH (55D23L)
		For Australia	—	12V — 27AH (34B19L)	12V — 40AH (50D20L)	12V — 27AH (34B19L)	12V — 40AH (50D20L)
		Others	12V — 27AH (34B19L)				—

D: TRANSMISSION

Model			1.6 L		Non-turbo 2.0 L		Turbo 2.0 L		2.5 L		STi
Transmission type			5MT	4AT	5MT	4AT	5MT	4AT	5MT	4AT	6MT
Clutch type			DSPD	TCC	DSPD	TCC	DSPD	TCC	DSPD	TCC	DSPD
Gear ratio		1st	3.454	2.785	3.454	2.785	3.454, 3.166★1	2.785	3.454	2.785	3.636
		2nd	2.062	1.545	2.062	1.545	1.947, 1.882★1	1.545	2.062	1.545	2.375
		3rd	1.448	1.000	1.448	1.000	1.366, 1.296★1	1.000	1.448	1.000	1.761
		4th	1.088	0.694	1.088	0.694	0.972	0.694	1.088	0.694	1.346
		5th	0.825	—	0.825	—	0.738	—	0.871, 0.780★1	—	0.971, 1.062★1
		6th	—	—	—	—	—	—	—	—	0.756, 0.842★1
		Reverse	3.333	2.272	3.333	2.272	3.333	2.272	3.333	2.272	3.545
		Dual range	1.447	—	1.447	—	—	—	—	—	—
Reduction gear (Front drive)	1st reduction	Type of gear	—	Helical	—	Helical	—	Helical	—	Helical	—
		Gear ratio	—	1.000	—	1.000	—	1.000	—	1.000	—
	Final reduction	Type of gear	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid
		Gear ratio	4.111	4.444	3.900	4.111	3.900, 4.444★1	4.444	4.111	4.111	3.900
Reduction gear (Rear drive) (AWD model)	Transfer reduction	Type of gear	Helical	—	Helical	—	Helical	—	Helical	—	Helical
		Gear ratio	1.000	—	1.000	—	1.100, 1.000★1	—	1.000	—	1.100, 1.000★1
	Final reduction	Type of gear	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid	Hypoid
		Gear ratio	4.111	4.444	3.900	4.111	3.545, 4.444★1	4.444	4.111	4.111	3.545, 3.900★1

5MT: 5-forward speeds with synchromesh and 1-reverse
4AT: Electronically controlled fully-automatic, 4-forward speeds and 1-reverse
6MT: 6-forward speeds with synchromesh and 1-reverse
DSPD: Dry Single Plate Diaphragm
TCC: Torque Converter Clutch
★1: Australia spec vehicle

E: STEERING

Model		Turbo 2.0 L, 2.5 L	OUTBACK	2.0 L NA, 1.6 L	STi
Type		Rack and Pinion			
Turns, lock to lock		RHD: 2.69 LHD: 3.02	3.02	3.22	2.69
Minimum turning circle m (ft)	Curb to curb	11 (36.1)	11 (36.1)	10.4 (34.1)	11 (36.1)
	Wall to wall	12.0 (39.4)	11.6 (38.1)	11.2 (36.7)	12.0 (39.4)

F: SUSPENSION

Front	Macpherson strut type, Independent, Coil spring
Rear	Dual-link type, Independent, Coil spring

G: BRAKE

Model	1.6 L	Non-turbo 2.0 L, 2.5 L	Turbo 2.0 L, STi
Service brake system	Dual circuit hydraulic with vacuum suspended power unit		
Front	Ventilated disc brake		
Rear	Drum brake	Disc brake	Ventilated disc brake
Parking brake	Mechanical on rear brakes		

H: TIRE

Model	BASE, TS	GX, TS	RS, WRX	OUTBACK	WRX	STi
Rim size	14 × 5 1/2JJ	15 × 6JJ	16 × 6 1/2JJ	16 × 6 1/2JJ	17 × 7JJ	17 × 7 1/2JJ
Tire size	185/70R14 88H	195/60R15 88H	205/50R16 87V	P205/55R16 89V	215/45R17 87W	225/45R17 90W
Type	Steel belted radial, Tubeless					

I: CAPACITY

Model			1.6 L FWD		1.6 L AWD		Non-turbo 2.0 L		Turbo 2.0 L		2.5 L		STi
			5MT	4AT	5MT	4AT	5MT	4AT	5MT	4AT	5MT	4AT	6MT
Fuel tank		ℓ (US gal, Imp gal)	50 (13.2, 11.0)						60 (15.9, 13.2)				
Engine oil	Total capacity	ℓ (US qt, Imp qt)	4.0 (4.2, 3.5)						4.5 (4.8, 4.0)		4.0 (4.2, 3.5)		4.5 (4.8, 4.0)
	Engine oil amount for refill	ℓ (US qt, Imp qt)	Approx. 4.0 (4.2, 3.5)										
Transmission gear oil		ℓ (US qt, Imp qt)	3.3 (3.5, 2.9)	—	3.5 (3.7, 3.1), 4.0 (4.2, 3.5)★1	—	3.5 (3.7, 3.1), 4.0 (4.2, 3.5)★1	—	3.5 (3.7, 3.1)	—	3.5 (3.7, 3.1)	—	4.1 (4.3, 3.6)
ATF		ℓ (US qt, Imp qt)	—	8.0 (8.5, 7.0)	—	8.4 (8.9, 7.4)	—	8.4 (8.9, 7.4)	—	9.3 (9.8, 8.2)	—	9.3 (9.8, 8.2)	—
Front differential gear oil		ℓ (US qt, Imp qt)	—	1.2 (1.3, 1.1)	—	1.2 (1.3, 1.1)	—	1.2 (1.3, 1.1)	—	1.2 (1.3, 1.1)	—	1.2 (1.3, 1.1)	—
Rear differential gear oil		ℓ (US qt, Imp qt)	—		0.8 (0.8, 0.7)								1.0 (1.1, 0.9)
Power steering fluid		ℓ (US qt, Imp qt)	0.7 (0.7, 0.6)										
Engine coolant		ℓ (US qt, Imp qt)	7.4 (7.8, 6.5)	7.3 (7.7, 6.4)	7.4 (7.8, 6.5)	7.3 (7.7, 6.4)	7.0 (7.4, 6.2)	6.9 (7.3, 6.1)	7.7 (8.1, 6.8)	7.6 (8.0, 6.7)	7.0 (7.4, 6.2)	6.9 (7.3, 6.1)	7.7 (8.1, 6.8)

★1: Dual range

J: WEIGHT

1. LHD MODEL

Sedan

Option code★1			E2			EC		K0	K4	KS
Model			1.6 L							
			FWD			AWD				
			Base			TS				
			5MT	4AT		5MT				
Curb weight (C.W.)	Front	kgf (lb)	720 (1,587)	765 (1,687)	770 (1,698)	735 (1,620)	755 (1,664)	750 (1,654)	750 (1,654)	740 (1,631)
	Rear	kgf (lb)	470 (1,036)	470 (1,036)	470 (1,036)	520 (1,146)	520 (1,146)	520 (1,146)	520 (1,146)	535 (1,179)
	Total	kgf (lb)	1,190 (2,624)	1,235 (2,723)	1,240 (2,734)	1,255 (2,756)	1,275 (2,810)	1,270 (2,800)	1,270 (2,800)	1,275 (2,810)
Maximum permissible axle weight (M.P.A.W.)	Front	kgf (lb)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)
	Rear	kgf (lb)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)
Maximum permissible weight (M.P.W.)	Total	kgf (lb)	1,660 (3,660)	1,660 (3,660)	1,660 (3,660)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)
Option	Air conditioner		❍	❍	❍	—	❍	❍	❍	❍
	ABS		—	—	❍	❍	❍	—	—	—
	Side airbag		—	—	—	—	—	—	—	—
	Sunroof		—	—	—	—	—	—	—	—
	Aluminium wheel		—	—	—	—	—	—	—	—
	Audio		—	—	—	—	—	—	—	—
	Seat in pure hide		—	—	—	—	—	—	—	—
	Rear spoiler		—	—	—	—	—	—	—	—
	Front LSD		—	—	—	—	—	—	—	—
	Driver's control center differential		—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1		EC		K0	K4	KS	EC		
Model		1.6 L					2.0 L		
		AWD							
		TS					GX		
		4AT					5MT		
Curb weight (C.W.)	Front kgf (lb)	755 (1,644)	775 (1,709)	770 (1,698)	770 (1,698)	760 (1,676)	750 (1,654)	770 (1,698)	765 (1,687)
	Rear kgf (lb)	520 (1,146)	520 (1,146)	520 (1,146)	520 (1,146)	530 (1,168)	535 (1,179)	535 (1,179)	535 (1,179)
	Total kgf (lb)	1,275 (2,810)	1,295 (2,855)	1,290 (2,844)	1,290 (2,844)	1,295 (2,855)	1,285 (2,833)	1,305 (2,877)	1,300 (2,866)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	950 (2,094)	950 (2,094)	950 (2,094)
	Rear kgf (lb)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	910 (2,006)	910 (2,066)	910 (2,066)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)
Option	Air conditioner	—	❍	❍	❍	❍	—	❍	❍
	ABS	❍	❍	—	—	—	❍	❍	❍
	Side airbag	—	—	—	—	—	—	—	❍
	Sunroof	—	—	—	—	—	—	—	—
	Aluminium wheel	—	—	—	—	—	—	—	❍
	Audio	—	—	—	—	—	—	—	—
	Seat in pure hide	—	—	—	—	—	—	—	—
	Rear spoiler	—	—	—	—	—	—	—	—
	Front LSD	—	—	—	—	—	—	—	—
	Driver's control center differential	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1		E2	K4		K0	KS	EC	
Model		2.0 L						
		AWD						
		GX						
		5MT					4AT	
Curb weight (C.W.)	Front kgf (lb)	770 (1,698)	765 (1,687)	770 (1,698)	765 (1,687)	760 (1,676)	765 (1,687)	775 (1,709)	795 (1,753)
	Rear kgf (lb)	535 (1,179)	535 (1,179)	535 (1,179)	530 (1,168)	525 (1,157)	560 (1,235)	530 (1,168)	530 (1,168)
	Total kgf (lb)	1,305 (2,877)	1,300 (2,866)	1,305 (2,877)	1,295 (2,855)	1,285 (2,833)	1,325 (2,921)	1,305 (2,877)	1,325 (2,921)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)
	Rear kgf (lb)	910 (2,066)	910 (2,066)	910 (2,066)	910 (2,066)	910 (2,066)	910 (2,066)	910 (2,006)	910 (2,006)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)
Option	Air conditioner	❍	❍	❍	❍	❍	❍	—	❍
	ABS	❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag	—	❍	—	—	—	—	—	—
	Sunroof	—	—	—	—	—	❍	—	—
	Aluminium wheel	—	❍	—	❍	—	—	—	—
	Audio	—	—	—	—	—	—	—	—
	Seat in pure hide	—	—	—	—	—	—	—	—
	Rear spoiler	—	—	—	—	—	❍	—	—
	Front LSD	—	—	—	—	—	—	—	—
	Driver's control center differential	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1		EC	E2		K4		K0	KS	EC
Model		2.0 L							2.0 L Turbo
		AWD							
		GX							WRX
		4AT							5MT
Curb weight (C.W.)	Front kgf (lb)	790 (1,742)	795 (1,742)	790 (1,742)	795 (1,753)	790 (1,742)	795 (1,753)	790 (1,753)	835 (1,841)
	Rear kgf (lb)	530 (1,168)	530 (1,168)	530 (1,168)	530 (1,168)	525 (1,157)	530 (1,168)	555 (1,224)	560 (1,235)
	Total kgf (lb)	1,320 (2,910)	1,325 (2,921)	1,320 (2,910)	1,325 (2,921)	1,315 (2,899)	1,325 (2,921)	1,325 (2,921)	1,395 (3,075)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	990 (2,185)
	Rear kgf (lb)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	920 (2,028)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,850 (4,079)
Option	Air conditioner	❍	❍	❍	❍	❍	❍	❍	❍
	ABS	❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag	❍	—	❍	—	—	—	—	—
	Sunroof	—	—	—	—	—	—	❍	—
	Aluminium wheel	❍	—	❍	—	❍	—	❍	—
	Audio	—	—	—	—	—	—	—	❍
	Seat in pure hide	—	—	—	—	—	—	—	—
	Rear spoiler	—	—	—	—	—	—	❍	❍
	Front LSD	—	—	—	—	—	—	—	—
	Driver's control center differential	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1		EC							
Model		2.0 L Turbo							
		AWD							
		WRX							
		5MT							
Curb weight (C.W.)	Front kgf (lb)	820 (1,808)	835 (1,841)	835 (1,841)	840 (1,852)	835 (1,840)	840 (1,852)	840 (1,852)	840 (1,852)
	Rear kgf (lb)	550 (1,213)	555 (1,224)	560 (1,235)	570 (1,257)	565 (1,246)	570 (1,257)	570 (1,257)	575 (1,268)
	Total kgf (lb)	1,370 (3,020)	1,390 (3,065)	1,395 (3,075)	1,410 (3,109)	1,400 (3,087)	1,410 (3,109)	1,410 (3,109)	1,415 (3,120)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	990 (2,185)	990 (2,185)	990 (2,185)	990 (2,185)	990 (2,185)	990 (2,185)	990 (2,183)	990 (2,183)
	Rear kgf (lb)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)
Option	Air conditioner	—	❍	❍	❍	❍	❍	❍	❍
	ABS	❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag	—	—	❍	❍	❍	—	—	❍
	Sunroof	—	—	—	❍	—	❍	❍	❍
	Aluminium wheel	—	—	—	—	—	—	—	—
	Audio	—	—	—	—	—	—	❍	❍
	Seat in pure hide	—	—	—	❍	—	—	—	❍
	Rear spoiler	—	—	—	—	❍	❍	❍	❍
	Front LSD	—	—	—	—	—	—	—	—
	Driver's control center differential	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1		K4			EC				
Model		2.0 L Turbo							
		AWD							
		WRX			STi				
		5MT							
Curb weight (C.W.)	Front kgf (lb)	835 (1,840)	840 (1,852)	840 (1,852)	885 (1,951)	865 (1,907)	885 (1,951)	885 (1,951)	865 (1,907)
	Rear kgf (lb)	560 (1,235)	575 (1,268)	575 (1,268)	585 (1,290)	585 (1,290)	585 (1,290)	585 (1,290)	585 (1,290)
	Total kgf (lb)	1,395 (3,075)	1,415 (3,120)	1,415 (3,120)	1,470 (3,241)	1,450 (3,197)	1,470 (3,241)	1,470 (3,241)	1,450 (3,197)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	990 (2,183)	990 (2,183)	990 (2,183)	1,030 (2,271)	1,030 (2,271)	1,030 (2,271)	1,030 (2,271)	1,030 (2,271)
	Rear kgf (lb)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,880 (4,145)	1,880 (4,145)	1,880 (4,145)	1,880 (4,145)	1,880 (4,145)
Option	Air conditioner	❍	❍	❍	❍	—	❍	❍	—
	ABS	❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag	—	❍	❍	—	—	—	—	—
	Sunroof	—	❍	❍	—	—	—	—	—
	Aluminium wheel	—	—	—	—	—	—	—	—
	Audio	—	—	—	—	—	❍	—	—
	Seat in pure hide	—	—	❍	—	—	—	—	—
	Rear spoiler	❍	❍	❍	—	—	—	—	—
	Front LSD	—	—	—	❍	❍	❍	❍	❍
	Driver's control center differential	—	—	—	—	—	—	❍	❍

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Wagon

Option code★1			EC			K0	K4	KS	EC	
Model			1.6 L							
			AWD							
			TS							
			5MT D/R						4AT	
Curb weight (C.W.)	Front	kgf (lb)	740 (1,631)	740 (1,631)	760 (1,676)	755 (1,664)	755 (1,664)	745 (1,643)	755 (1,664)	755 (1,664)
	Rear	kgf (lb)	545 (1,202)	550 (1,213)	545 (1,202)	545 (1,202)	545 (1,202)	560 (1,235)	545 (1,202)	550 (1,213)
	Total	kgf (lb)	1,285 (2,833)	1,290 (2,844)	1,305 (2,877)	1,300 (2,866)	1,300 (2,866)	1,305 (2,877)	1,300 (2,866)	1,305 (2,877)
Maximum permissible axle weight (M.P.A.W.)	Front	kgf (lb)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)
	Rear	kgf (lb)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)
Maximum permissible weight (M.P.W.)	Total	kgf (lb)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)
Option	Air conditioner		—	—	❍	❍	❍	❍	—	—
	ABS		❍	❍	❍	—	—	—	❍	❍
	Side airbag		—	❍	—	—	—	—	—	❍
	Sunroof		—	—	—	—	—	—	—	—
	Aluminium wheel		—	—	—	—	—	—	—	—
	Audio		—	❍	—	—	—	—	—	❍
	Seat in pure hide		—	—	—	—	—	—	—	—
	Spoiler pack		—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

Option code★1		EC	K0	K4	KS	EC			
Model		1.6 L				2.0 L			
		AWD							
		TS				GX			
		4AT				5MT D/R			
Curb weight (C.W.)	Front kgf (lb)	775 (1,709)	770 (1,698)	770 (1,698)	760 (1,676)	760 (1,676)	785 (1,731)	780 (1,720)	775 (1,709)
	Rear kgf (lb)	545 (1,202)	545 (1,202)	545 (1,202)	560 (1,235)	570 (1,257)	585 (1,290)	570 (1,257)	570 (1,257)
	Total kgf (lb)	1,320 (2,910)	1,315 (2,899)	1,315 (2,899)	1,320 (2,910)	1,330 (2,932)	1,370 (3,020)	1,350 (2,977)	1,345 (2,965)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)
	Rear kgf (lb)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	960 (2,0116)	960 (2,116)	960 (2,116)	960 (2,116)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)
Option	Air conditioner	❍	❍	❍	❍	—	❍	❍	❍
	ABS	❍	—	—	—	❍	❍	❍	❍
	Side airbag	—	—	—	—	—	❍	—	❍
	Sunroof	—	—	—	—	—	❍	—	—
	Aluminium wheel	—	—	—	—	—	—	—	❍
	Audio	—	—	—	—	—	❍	—	—
	Seat in pure hide	—	—	—	—	—	—	—	—
	Spoiler pack	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

Option code★1		K0	K4		KS	EC			
Model		2.0 L							
		AWD							
		GX							
		5MT D/R				4AT			
Curb weight (C.W.)	Front kgf (lb)	780 (1,720)	780 (1,720)	775 (1,709)	770 (1,698)	775 (1,709	800 (1,764)	795 (1,753)	790 (1,742)
	Rear kgf (lb)	570 (1,257)	570 (1,257)	565 (1,246)	590 (1,300)	565 (1,246)	580 (1,279)	565 (1,246)	565 (1,246)
	Total kgf (lb)	1,350 (2,977)	1,350 (2,977)	1,340 (2,955)	1,360 (2,999)	1,340 (2,955)	1,380 (3,042)	1,360 (2,999)	1,355 (2,987)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)
	Rear kgf (lb)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)
Option	Air conditioner	❍	❍	❍	❍	—	❍	❍	❍
	ABS	❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag	—	—	—	—	—	❍	—	❍
	Sunroof	—	—	—	❍	—	❍	—	—
	Aluminium wheel	—	—	❍	❍	—	—	—	❍
	Audio	—	—	—	—	—	❍	—	—
	Seat in pure hide	—	—	—	—	—	—	—	—
	Spoiler pack	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

Option code★1		K0	K4		KS	EC			
Model		2.0 L				2.0 L Turbo			
		AWD							
		GX				WRX			
		4AT				5MT			
Curb weight (C.W.)	Front kgf (lb)	795 (1,753)	795 (1,753)	790 (1,742)	790 (1,742)	805 (1,775)	825 (1,819)	830 (1,830)	830 (1,830)
	Rear kgf (lb)	565 (1,246)	565 (1,246)	560 (1,235)	580 (1,279)	585 (1,290)	585 (1,290)	600 (1,322)	600 (1,322)
	Total kgf (lb)	1,360 (2,999)	1,360 (2,999)	1,350 (2,977)	1,370 (3,020)	1,390 (3,065)	1,410 (3,109)	1,430 (3,153)	1,430 (3,153)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear kgf (lb)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,860 (4,101)	1,860 (4,101)	1,860 (4,101)	1,860 (4,101)
Option	Air conditioner	❍	❍	❍	❍	—	❍	❍	❍
	ABS	❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag	—	—	—	—	—	—	❍	❍
	Sunroof	—	—	—	❍	—	—	❍	❍
	Aluminium wheel	—	—	❍	❍	—	—	—	—
	Audio	—	—	—	—	—	—	—	❍
	Seat in pure hide	—	—	—	—	—	—	❍	—
	Spoiler pack	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

Option code★1		EC	K4
Model		2.0 L Turbo	
		AWD	
		WRX	
		5MT	
Curb weight (C.W.)	Front kgf (lb)	830 (1,830)	830 (1,830)
	Rear kgf (lb)	600 (1,322)	595 (1,311)
	Total kgf (lb)	1,430 (3,153)	1,425 (3,142)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	990 (2,183)	990 (2,183)
	Rear kgf (lb)	950 (2,094)	950 (2,094)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,860 (4,101)	1,860 (4,101)
Option	Air conditioner	❍	❍
	ABS	❍	❍
	Side airbag	❍	❍
	Sunroof	❍	❍
	Aluminium wheel	—	—
	Audio	❍	—
	Seat in pure hide	❍	—
	Spoiler pack	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

2. RHD MODEL

Sedan

Option code★1			EK			K1		EK		K1
Model			1.6 L					2.0 L		
			AWD							
			TS					GX		
			5MT		4AT	5MT	4AT	5MT	4AT	5MT
Curb weight (C.W.)	Front	kgf (lb)	740 (1,631)	760 (1,676)	760 (1,676)	750 (1,654)	770 (1,698)	770 (1,698)	795 (1,753)	770 (1,698)
	Rear	kgf (lb)	520 (1,146)	520 (1,146)	520 (1,146)	520 (1,146)	520 (1,146)	535 (1,179)	530 (1,168)	535 (1,179)
	Total	kgf (lb)	1,260 (2,778)	1,280 (2,822)	1,280 (2,822)	1,270 (2,800)	1,290 (2,844)	1,305 (2,877)	1,325 (2,921)	1,305 (2,877)
Maximum permissible axle weight (M.P.A.W.)	Front	kgf (lb)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	950 (2,094)	950 (2,094)	950 (2,094)
	Rear	kgf (lb)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	890 (1,962)	910 (2,006)	910 (2,006)	910 (2,006)
Maximum permissible weight (M.P.W.)	Total	kgf (lb)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,700 (3,748)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)
Option	Air conditioner		—	❍	—	❍	❍	❍	❍	❍
	ABS		❍	❍	❍	—	—	❍	❍	❍
	Side airbag		—	—	—	—	—	—	—	—
	Sunroof		—	—	—	—	—	—	—	—
	Aluminium wheel		—	—	—	—	—	❍	❍	—
	Audio		—	—	—	—	—	—	—	—
	Seat in pure hide		—	—	—	—	—	—	—	—
	Rear spoiler		—	—	—	—	—	❍	❍	—
	Spoiler pack		—	—	—	—	—	❍	❍	—
	Front LSD		—	—	—	—	—	—	—	—
	Cruise control		—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1			K1	EK					
Model			2.0 L	2.0 L Turbo					
			AWD						
			GX	WRX				STi	
			4AT	5MT				6MT	
Curb weight (C.W.)	Front	kgf (lb)	795 (1,753)	835 (1,841)	835 (1,841)	840 (1,852)	840 (1,852)	885 (1,952)	885 (1,952)
	Rear	kgf (lb)	530 (1,168)	565 (1,246)	560 (1,246)	570 (1,257)	575 (1,268)	585 (1,290)	585 (1,290)
	Total	kgf (lb)	1,325 (2,921)	1,400 (3,086)	1,395 (3,075)	1,410 (3,109)	1,415 (3,120)	1,470 (3,241)	1,470 (3,241)
Maximum permissible axle weight (M.P.A.W.)	Front	kgf (lb)	950 (2,094)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	1,030 (2,271)	1,030 (2,271)
	Rear	kgf (lb)	910 (2,006)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)
Maximum permissible weight (M.P.W.)	Total	kgf (lb)	1,760 (3,880)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,880 (4,145)	1,880 (4,145)
Option	Air conditioner		❍	❍	❍	❍	❍	❍	❍
	ABS		❍	❍	❍	❍	❍	❍	❍
	Side airbag		—	❍	—	❍	❍	—	—
	Sunroof		—	—	—	❍	❍	—	—
	Aluminium wheel		—	—	—	—	—	—	—
	Audio		—	—	—	—	—	—	—
	Seat in pure hide		—	—	—	—	❍	—	—
	Rear spoiler		—	❍	❍	❍	❍	—	—
	Spoiler pack		—	—	—	—	—	—	❍
	Front LSD		—	—	—	—	—	❍	—
	Cruise control		—	—	—	—	—	—	❍

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1		KA							
Model		2.0 L				2.5 L		2.0 L Turbo	
		AWD							
		GX				RS		WRX	
		5MT		4AT		5MT	4AT	5MT	
Unladen weight (U.W.)	Front kg (lb)	750 (1,654)	765 (1,687)	775 (1,709)	790 (1,742)	780 (1,720)	805 (1,775)	840 (1,852)	835 (1,841)
	Rear kg (lb)	535 (1,179)	535 (1,179)	530 (1,168)	530 (1,168)	540 (1,191)	535 (1,179)	575 (1,268)	560 (1,235)
	Total kg (lb)	1,285 (2,833)	1,300 (2,866)	1,305 (2,877)	1,320 (2,910)	1,320 (2,910)	1,340 (2,955)	1,415 (3,120)	1,395 (3,075)
Gross vehicle mass (G.V.M.)	Front kg (lb)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	990 (2,183)	990 (2,183)
	Rear kg (lb)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	920 (2,028)	920 (2,028)
	Total kg (lb)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,760 (3,880)	1,780 (3,924)	1,780 (3,924)	1,850 (4,079)	1,850 (4,079)
Option	Air conditioner	—	❍	—	❍	❍	❍	❍	❍
	ABS	❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag	—	—	—	—	—	—	❍	—
	Sunroof	—	—	—	—	—	—	❍	—
	Aluminium wheel	—	❍	—	❍	—	—	—	—
	Audio	—	—	—	—	—	—	—	—
	Seat in pure hide	—	—	—	—	—	—	❍	—
	Rear spoiler	—	❍	—	❍	❍	❍	❍	❍
	Spoiler pack	—	❍	—	❍	—	—	—	—
	Front LSD	—	—	—	—	—	—	—	—
	Cruise control	❍	❍	❍	❍	❍	❍	❍	❍
	Driver's control center differential	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Option code★1			KA					
Model			2.0 L Turbo					
			AWD					
			WRX				STi	
			5MT	4AT			6MT	
Unladen weight (U.W.)	Front	kg (lb)	840 (1,852)	860 (1,896)	865 (1,907)	865 (1,907)	885 (1,952)	885 (1,952)
	Rear	kg (lb)	570 (1,257)	555 (1,234)	565 (1,246)	570 (1,257)	585 (1,290)	585 (1,290)
	Total	kg (lb)	1,410 (3,109)	1,415 (3,120)	1,430 (3,153)	1,435 (3,164)	1,470 (3,241)	1,470 (3,241)
Gross vehicle mass (G.V.M.)	Front	kg (lb)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)	1,030 (2,271)	1,030 (2,271)
	Rear	kg (lb)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)	920 (2,028)
	Total	kg (lb)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,850 (4,079)	1,880 (4,145)	1,880 (4,145)
Option	Air conditioner		❍	❍	❍	❍	❍	❍
	ABS		❍	❍	❍	❍	❍	❍
	Side airbag		—	—	—	❍	—	—
	Sunroof		❍	—	❍	❍	—	—
	Aluminium wheel		—	—	—	—	—	—
	Audio		—	—	—	—	—	—
	Seat in pure hide		—	—	—	❍	—	—
	Rear spoiler		❍	❍	❍	❍	—	—
	Spoiler pack		—	—	—	—	—	—
	Front LSD		—	—	—	—	❍	❍
	Cruise control		❍	❍	❍	❍	❍	❍
	Driver's control center differential		—	—	—	—	—	❍

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>

Wagon

Option code★1		EK			K1		EK		K1
Model		1.6 L					2.0 L		
		AWD							
		TS					GX		
		5MT D/R		4AT	5MT D/R	4AT	5MT D/R	4AT	5MT D/R
Curb weight (C.W.)	Front kgf (lb)	745 (1,642)	765 (1,687)	760 (1,676)	755 (1,664)	770 (1,698)	780 (1,720)	795 (1,753)	780 (1,720)
	Rear kgf (lb)	545 (1,202)	545 (1,202)	545 (1,202)	545 (1,202)	545 (1,202)	570 (1,257)	565 (1,246)	570 (1,257)
	Total kgf (lb)	1,290 (2,844)	1,310 (2,888)	1,305 (2,877)	1,300 (2,866)	1,315 (2,899)	1,350 (2,977)	1,360 (2,999)	1,350 (2,977)
Maximum permissible axle weight (M.P.A.W.)	Front kgf (lb)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)	900 (1,984)	950 (2,094)	950 (2,094)	950 (2,094)
	Rear kgf (lb)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	910 (2,006)	960 (2,116)	960 (2,116)	960 (2,116)
Maximum permissible weight (M.P.W.)	Total kgf (lb)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,730 (1,609)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)
Option	Air conditioner	—	❍	—	❍	❍	❍	❍	❍
	ABS	❍	❍	❍	—	—	❍	❍	❍
	Side airbag	—	—	—	—	—	—	—	—
	Sunroof	—	—	—	—	—	—	—	—
	Aluminium wheel	—	—	—	—	—	❍	❍	—
	Audio	—	—	—	—	—	—	—	—
	Seat in pure hide	—	—	—	—	—	—	—	—
	Spoiler pack	—	—	—	—	—	❍	❍	—
	Cruise control	—	—	—	—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

Option code★1			K1	EK			
Model			2.0 L	2.0 L Turbo			
			AWD				
			GX	WRX			
			4AT	5MT			
Curb weight (C.W.)	Front	kgf (lb)	795 (1,753)	825 (1,819)	825 (1,819)	830 (1,830)	830 (1,830)
	Rear	kgf (lb)	565 (1,246)	585 (1,830)	590 (1,301)	600 (1,323)	600 (1,323)
	Total	kgf (lb)	1,360 (2,999)	1,410 (3,109)	1,415 (3,120)	1,430 (3,153)	1,430 (3,153)
Maximum permissible axle weight (M.P.A.W.)	Front	kgf (lb)	950 (2,094)	990 (2,183)	990 (2,183)	990 (2,183)	990 (2,183)
	Rear	kgf (lb)	960 (2,116)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)
Maximum permissible weight (M.P.W.)	Total	kgf (lb)	1,800 (3,969)	1,860 (4,101)	1,860 (4,101)	1,860 (4,101)	1,860 (4,101)
Option	Air conditioner		❍	❍	❍	❍	❍
	ABS		❍	❍	❍	❍	❍
	Side airbag		—	—	❍	❍	❍
	Sunroof		—	—	—	❍	❍
	Aluminium wheel		—	—	—	—	—
	Audio		—	—	—	—	—
	Seat in pure hide		—	—	—	—	❍
	Spoiler pack		—	—	—	—	—
	Cruise control		—	—	—	—	—

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

Option code★1			KA							
Model			2.0 L						2.0 L Turbo	
			AWD							
			GX				OUTBACK		WRX	
			5MT D/R		4AT		5MT D/R	4AT	5MT	4AT
Unladen weight (U.W.)	Front	kg (lb)	760 (1,676)	775 (1,709)	775 (1,709)	790 (1,742)	770 (1,698)	785 (1,731)	825 (1,819)	850 (1,874)
	Rear	kg (lb)	570 (1,257)	570 (1,257)	565 (1,246)	565 (1,246)	570 (1,257)	570 (1,257)	585 (1,830)	585 (1,830)
	Total	kg (lb)	1,330 (2,932)	1,345 (2,965)	1,340 (2,955)	1,355 (2,987)	1,340 (2,955)	1,355 (2,987)	1,410 (3,109)	1,435 (3,164)
Gross vehicle mass (G.V.M.)	Front	kg (lb)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	950 (2,094)	990 (2,183)	990 (2,183)
	Rear	kg (lb)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	960 (2,116)	950 (2,094)	950 (2,094)
	Total	kg (lb)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,800 (3,969)	1,860 (4,101)	1,860 (4,101)
Option	Air conditioner		—	❍	—	❍	❍	❍	❍	❍
	ABS		❍	❍	❍	❍	❍	❍	❍	❍
	Side airbag		—	—	—	—	—	—	—	—
	Sunroof		—	—	—	—	—	—	—	—
	Aluminium wheel		—	❍	—	❍	—	—	—	—
	Audio		—	—	—	—	—	—	—	—
	Seat in pure hide		—	—	—	—	—	—	—	—
	Spoiler pack		—	❍	—	❍	—	—	—	—
	Cruise control		❍	❍	❍	❍	❍	❍	❍	❍

★1: For option code, refer to ID section. <Ref. to ID-7, Option code.>
D/R: Dual range

PRECAUTION

PC

1. Precaution

A: PRECAUTION

Please clearly understand and adhere to the following general precautions. They must be strictly followed to avoid minor or serious injury to the person doing the work or people in the area.

1. ABS

Handle the ABS as a total system. Do not disassemble or attempt to repair parts which are not instructed in this manual. Follow the instructions in this manual during performing the maintenance of ABSCM&H/U. To disassemble parts without instructions could prevent the ABS system from operating when needed or cause it to operate incorrectly and result in injury.

2. BRAKE FLUID

If brake fluid gets in your eyes or on your skin, do the following:

- Wash out your eyes and seek immediate medical attention.
- Wash your skin with soap and then rinse thoroughly with water.

3. RADIATOR FAN

The radiator fan may rotate without warning, even when the engine is not on. Do not place your hand, cloth, tools, or other items near the fan at any time.

4. ROAD TESTS

Always conduct road tests in accordance with traffic rules and regulations to avoid bodily injury and interrupting traffic.

5. AIRBAG

To prevent bodily injury from unexpected deployment of airbags and unnecessary maintenance, follow the instructions in this manual when performing maintenance on the airbag components or nearby, and the airbag wiring harnesses or nearby.
To prevent unexpected deployment, turn the ignition switch to OFF and disconnect the ground cable from battery, then wait at lease 20 seconds to discharge electricity before beginning work.

6. AIRBAG DISPOSAL

To prevent bodily injury from unexpected airbag deployment, do not dispose airbag modules in the same way as other refuse. Follow the special instructions for disposal in this manual. Follow all government regulations concerning disposal of refuse.

7. AIRBAG MODULE

Adhere to the following when handling and storing the airbag module to prevent bodily injury from unexpected deployment:

- Do not hold the harnesses or connectors to carry module.
- Do not face the bag in the direction that it opens towards yourself or other people.
- Do not face the bag in the direction that it opens towards the floor or walls.

8. AIRBAG SPECIAL TOOLS

To prevent unexpected deployment, only use special tools.

9. WINDOW

Always wear safety glasses when working around any glass to prevent glass fragments from damaging your eyes.

10.WINDOW ADHESIVE

Always use the recommended or alternative adhesive when attaching glass to prevent it from coming loose and falling, resulting in accidents and injury.

NOTE

NT

1. Note

A: NOTE

This is information that can improve efficiency of maintenance and assure sound work.

1. FASTENER NOTICE

Fasteners are used to prevent parts from damage and dislocation due to looseness. Fasteners must be tightened to the specified torque.
Do not apply paint, lubricant, rust retardant, or other substances to the surface around bolts, fasteners, etc. Doing so will make it difficult to obtain the correct torque and result in looseness and other problems.

2. STATIC ELECTRICITY DAMAGE

Do not touch the control unit, connectors, logic boards, and other such parts when there is a risk of static electricity. Always use a static electricity prevention cord or touch grounded metal before conducting work.

3. BATTERY

When removing the battery cables, always be sure to turn the ignition off to prevent electrical damage to the control unit from rush current.

4. SERVICE PARTS

Use authentic service parts for maximum performance and maintenance, when conducting repairs. Subaru/FHI will not be responsible for poor performance resulting from the use of parts not specified by a genuine dealer.

5. PROTECTING VEHICLE UNDER MAINTENANCE

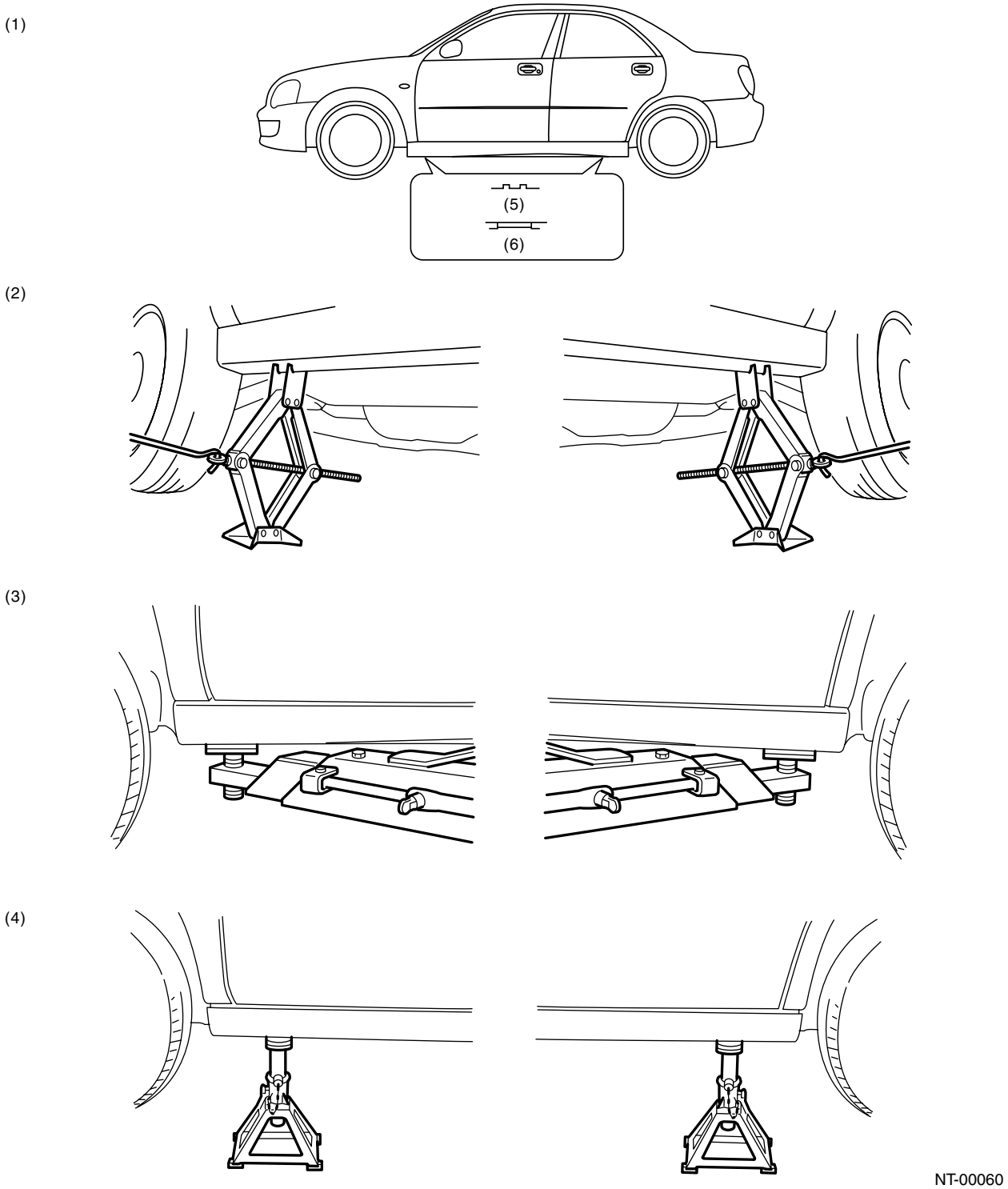
Make sure to attach the fender cover, seat covers, etc. before work.

6. ENSURING SAFETY DURING WORK

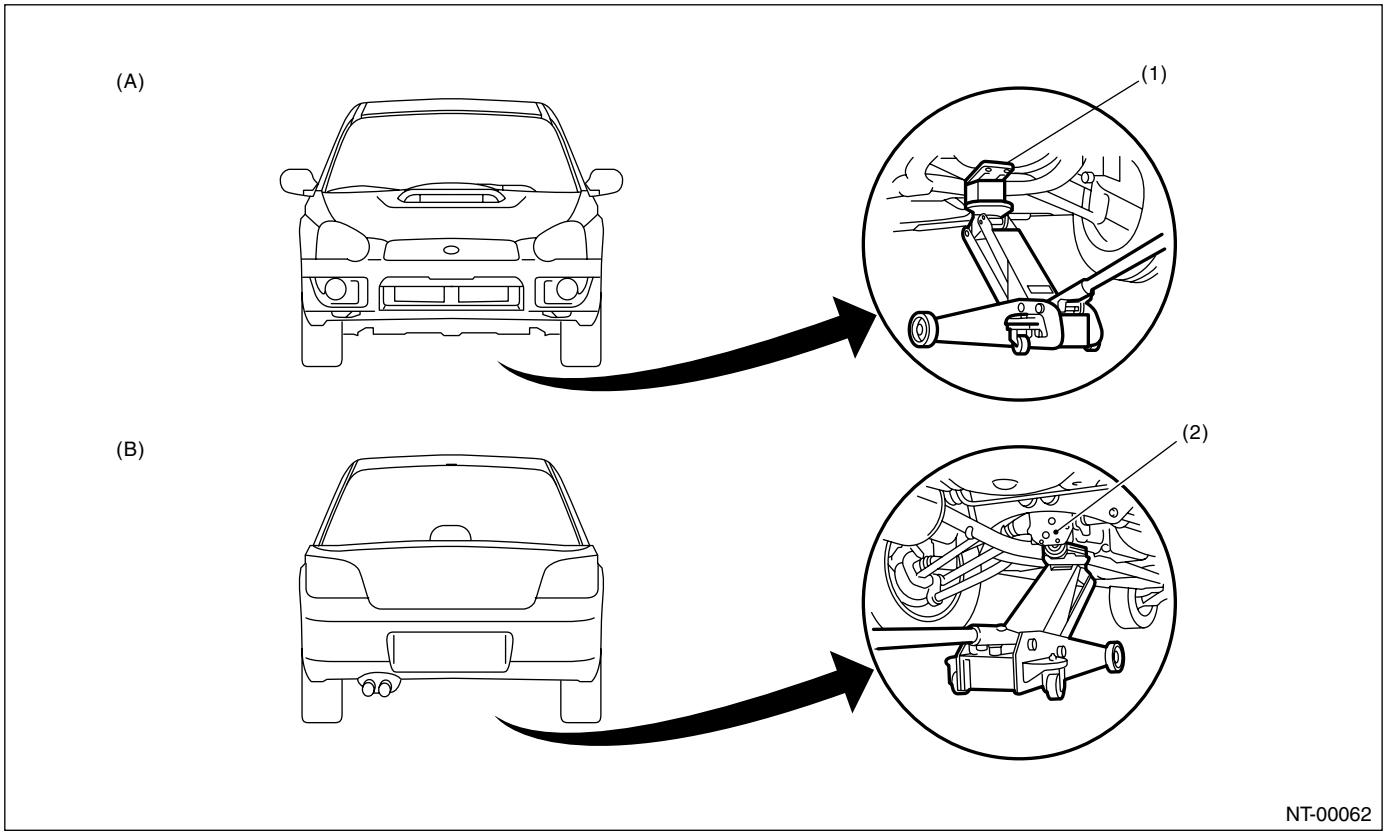
When working in a group of two or more, perform the work with calling each other to ensure mutual safety.

7. LIFTS AND JACKS

When using a lift or jack to raise a vehicle, always follow instructions concerning jack-up points and weight limits to prevent the vehicle from falling, which could result in injury. Be especially careful to make sure the vehicle is balanced before raising it.
Be sure to set the wheel stoppers when jacking-up only the front or rear of the vehicle.



(1) Support locations
(2) Pantograph jack
(3) Lift
(4) Rigid rack
(5) Without side sill cover
(6) With side sill cover

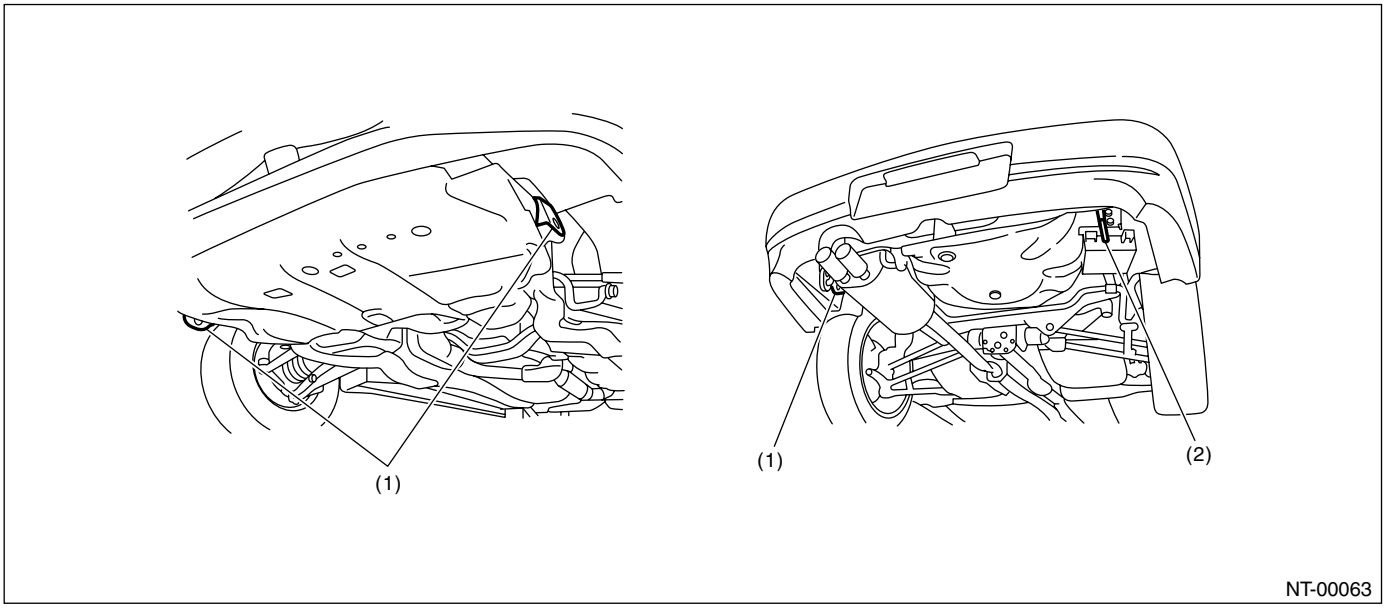


(A) Front
(B) Rear
(1) Front crossmember
(2) Rear differential

8. TIE-DOWNS

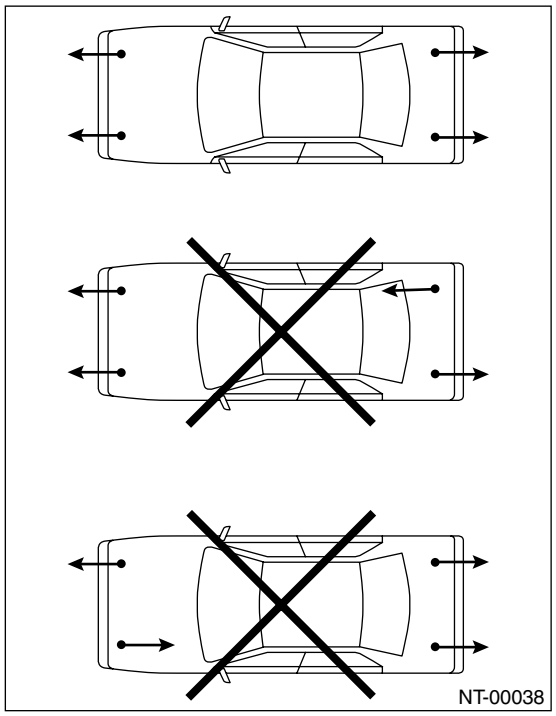
Tie downs are used when transporting vehicles and when using the chassis dynamo. Attach tie downs only to the specified points on the vehicle.

• Tie-down point

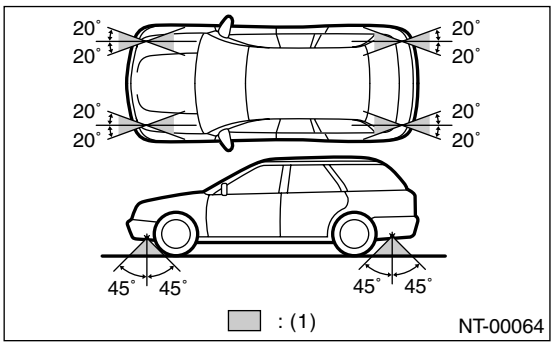


(1) Hook for tie-down
(2) Hook for towing and tie-down

• Chain direction at tie-down condition



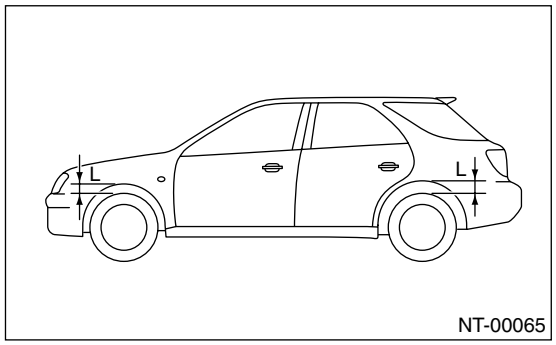
• Chain pulling range at tie-down condition



(1) Chain pulling range at tie-down condition

• Vehicle sinking volume at tie-down condition

Measure the distance L between tire highest point to arch highest point before tie-down and after tie-down. Difference of measurement value (drop height) shall be within 50.8 mm (1.97 in). Make sure to fix the vehicle securely.



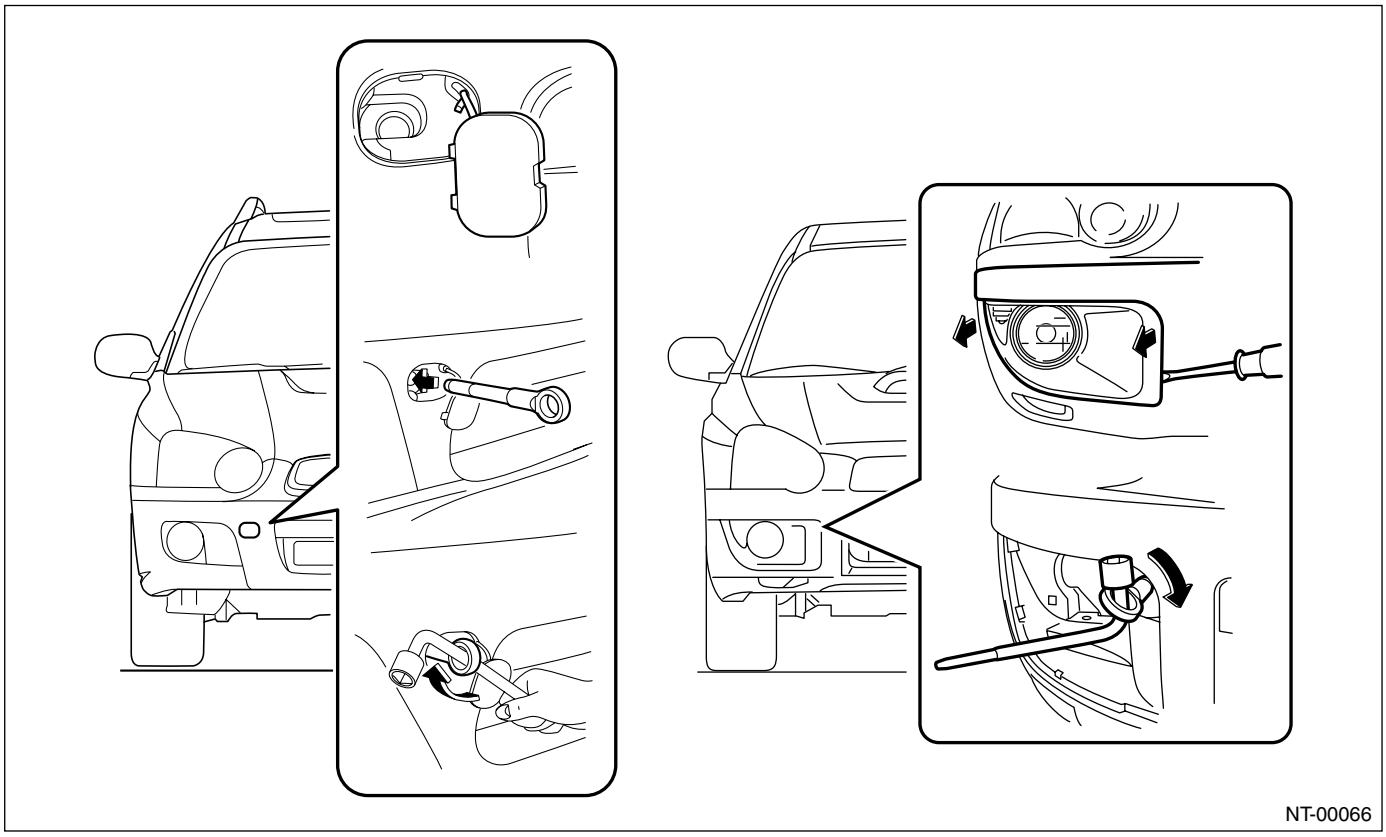
NOTE

9. TOWING

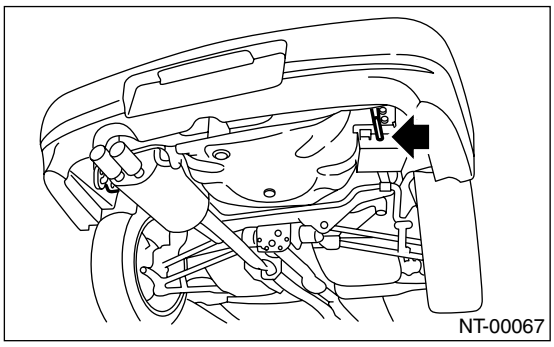
Avoid towing vehicles except when the vehicle cannot be driven. For models with AWD, AT, or VTD, use a loader instead of towing. When towing other vehicles, to prevent excessive weight from damaging the hook or vehicle:

- Do not tow other vehicles with a front hook for tie down.
- Make sure the vehicle towing is heavier that the vehicle being towed.

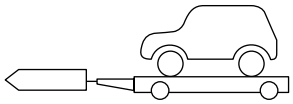
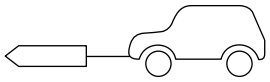
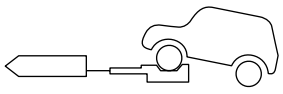
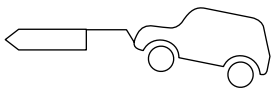
• Front



• Rear



• NOTES

Towing	Notes	MT	AT
Lifting up four wheels (On a trailer)  NT-00023	Towing the vehicle after lifting up all four wheels is a basic rule for AWD model.	❍	❍
Rope  NT-00024	• Check if both front and rear wheels are rotated normally. • AT model driving conditions: Allow driving speed less than 30 km/h (19 MPH). Allow driving distance less than 30 km (19 miles).	❍	▲
Raising the front wheels  NT-00025	Prohibited for full-time AWD model.	×	×
Lifting up the front wheels  NT-00026	• Prohibited, due to damage on bumper, front grille, etc. • Do not raise the vehicle with bumper.	×	×

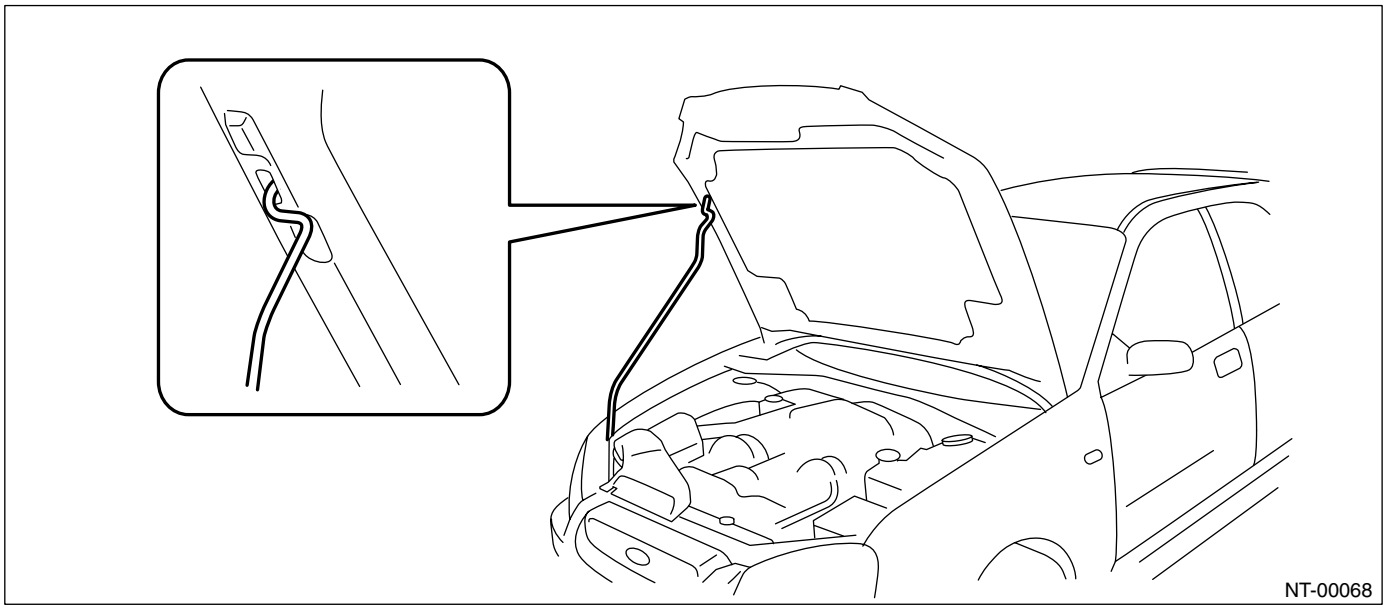
Marked ❍: OK, Marked ×: Prohibited, Marked ▲: Conditionally OK.

NOTE

CAUTION:
- **Check ATF, gear oil and rear differential oil before driving.**
- **Place the shift lever in "N" position during towing.**
- **Do not lift up the rear wheels to avoid unsteady rotation.**
- **Turn the ignition key to "ACC", then check the steering wheel moves freely.**
- **Release the parking brake to avoid tire dragging.**
- **Since the power steering does not work, be careful for the heavy steering effort (When engine is stopped)**
- **Since the servo brake does not work, be careful that the brake is not applied effectively. (When engine is stopped)**
- **In case of the malfunction of internal transmission or drive system, lift up four wheels (on a trailer) for towing.**

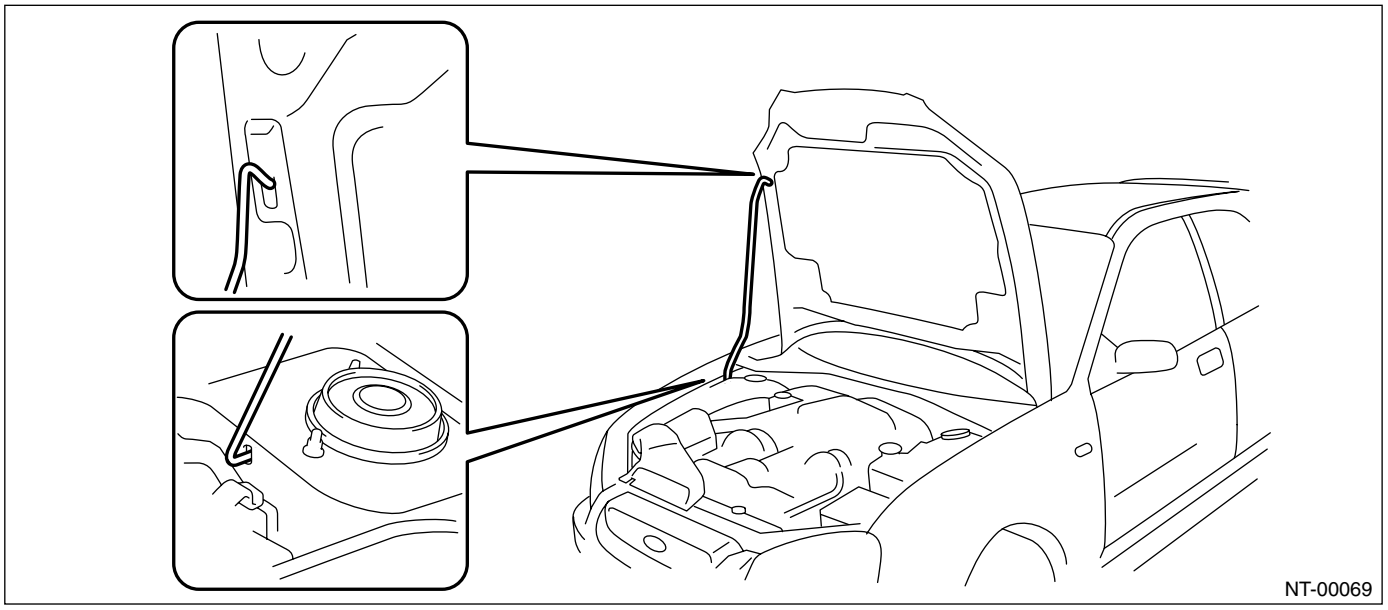
10.FRONT HOOD STAY INSTALLATION

• At the check and general maintenance



• When wider hood opening is necessary

Set stay into the hole of hood inner as shown in the figure below.



11.TRAINING

For information about training, contact a dealer or agent.

12.GENERAL SCAN TOOL

Using general scan tools will greatly improve efficiency of repairing engine electronic controls. The Subaru Select Monitor can be used to diagnose the engine and also the ABS, the air conditioner, and other parts.

NOTE

IDENTIFICATION

ID

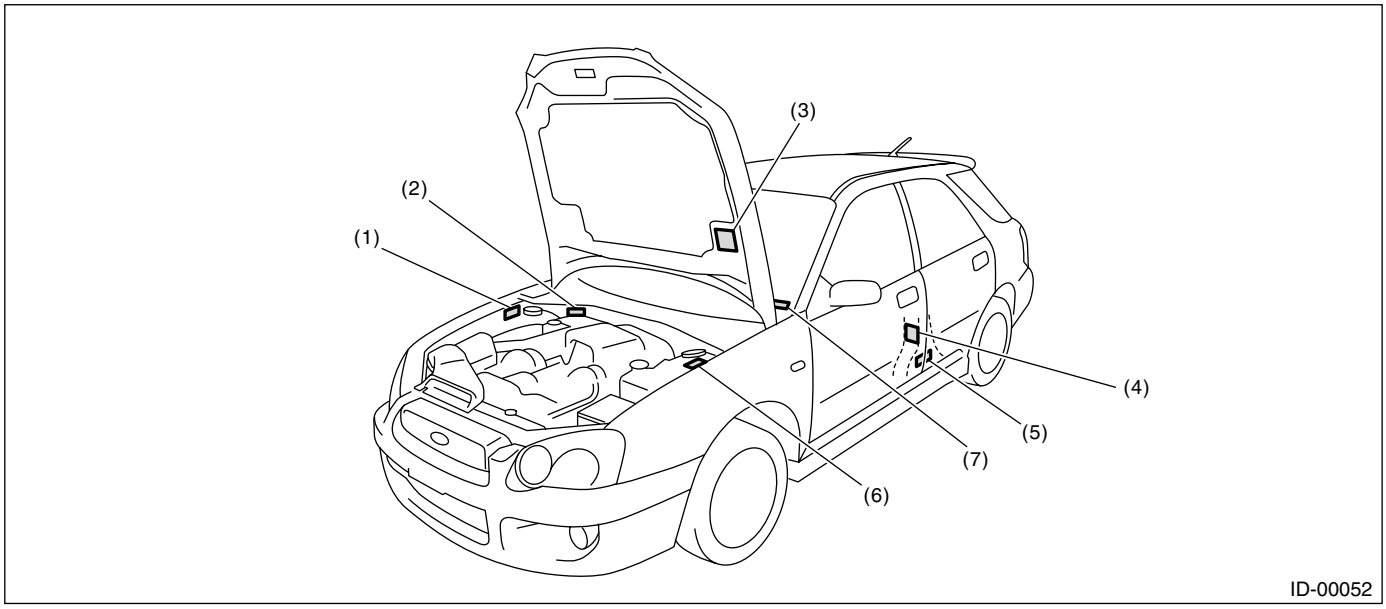
1. Identification

A: IDENTIFICATION

1. IDENTIFICATION NUMBER AND LABEL LOCATIONS

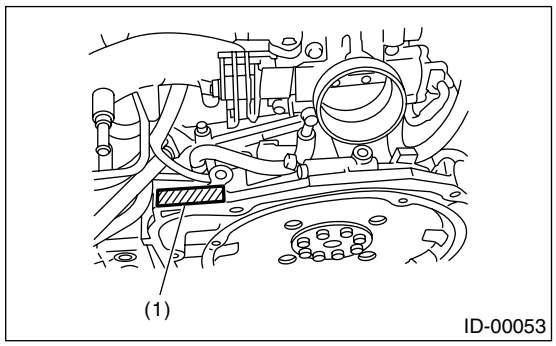
The VIN (Vehicle Identification Numbers) is used to classify the vehicle.

- **POSITIONING OF THE PLATE LABEL FOR IDENTIFICATION**



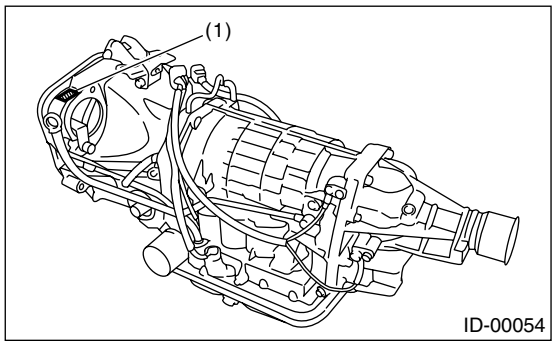
(1) ID plate (Europe model)
ADR compliance plate (Australia model)
(2) Vehicle identification number (VIN)
(3) Emission control label
(4) Tire inflation pressure label (Driver side) (Australia model)
Tire inflation pressure label (Driver side) (Except Australia model)
(5) Saudi Arabia plate (Saudi Arabia model)
Built date plate (Australia model)
(6) Model number plate
(7) Vehicle identification number (VIN) (Europe RHD model and Australia turbo model)

- **ENGINE**



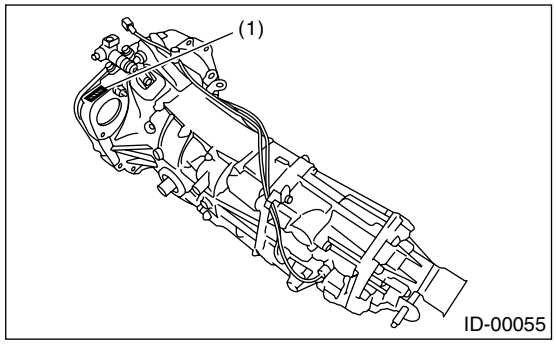
(1) Engine serial number

- **AUTOMATIC TRANSMISSION**



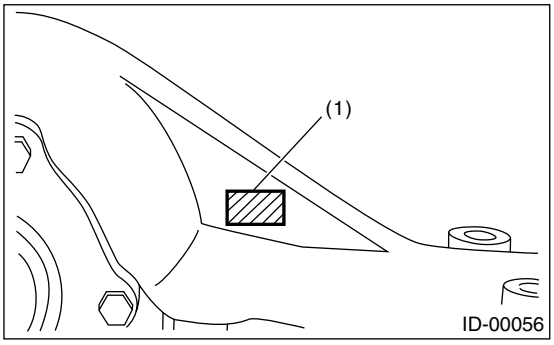
(1) Transmission serial number

- **MANUAL TRANSMISSION**



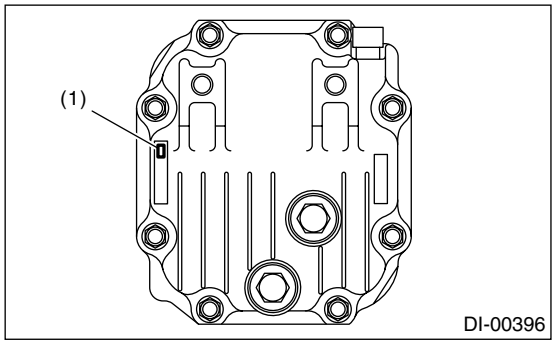
(1) Transmission serial number

- **REAR DIFFERENTIAL**
  - T-type



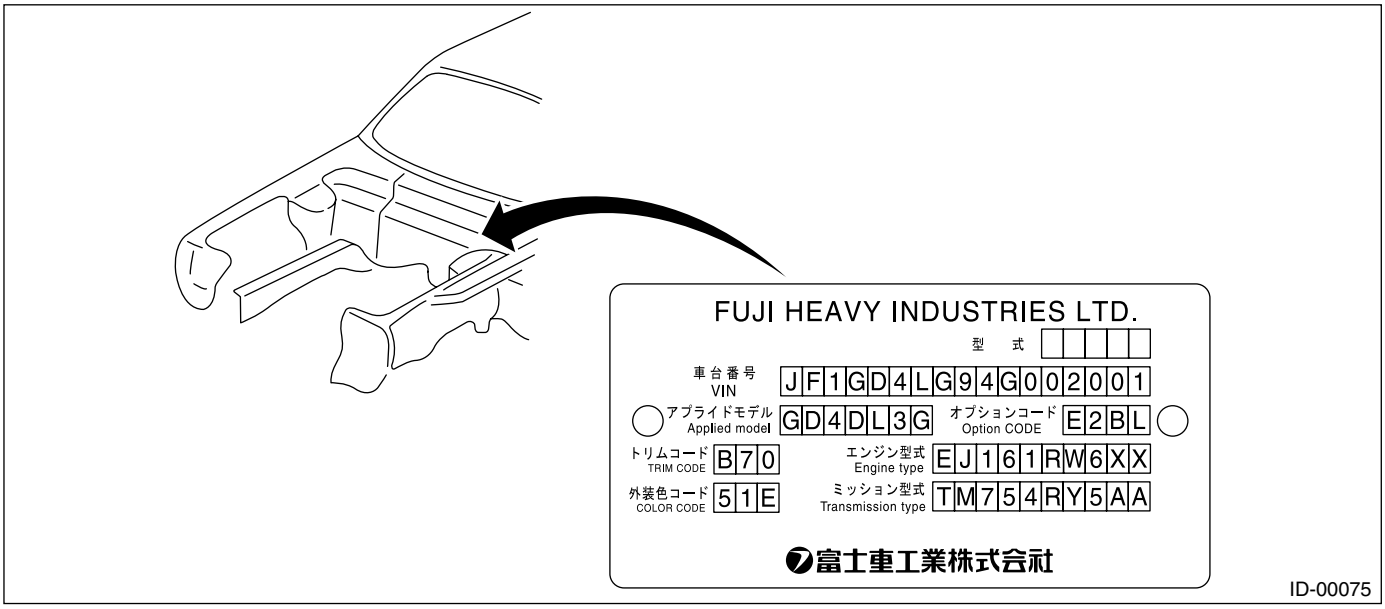
(1) Type (white paint)

  - VA-type



(1) Type (label)

- **MODEL NUMBER PLATE**



2. MEANING OF V.I.N.

The meaning of the VIN is as follows:

• Europe, Australia and General (Except GCC)

]JF1GD4LG94G002001[

The starting and ending brackets ( ][ ) are stop marks.

Digits	Code	Meaning	Details
1 to 3	JF1	Manufacturer body area	JF1: Passenger car, FHI made
4	G	Car line	IMPREZA
5	D	Body type	D: 4 Door Sedan G: Wagon
6	4	Displacement	4: 1.6 L FWD 5: 1.6 L AWD 9: 2.0 L AWD A: 2.0 L AWD Turbo B: 2.0 L AWD High power turbo E: 2.5 L AWD
7	L	Steering position	K: RHD (Right-hand drive model) L: LHD (Left-hand drive model)
8	G	Engine & transmission	G: SOHC MPI 5-speed MT R: SOHC MPI 4-speed AT J: SOHC MPI Full-time AWD 5-speed MT K: SOHC MPI Full-time AWD 5-speed MT Dual range D: DOHC Turbo Full-time AWD 5-speed MT H: DOHC Turbo Full-time AWD 6-speed MT T: DOHC Turbo 4-speed AT Sport Shift
9	9	Drive type	3: Full-time AWD Single range 4: Full-time AWD Dual range 5: AWD AT 9: FWD
10	4	Model year	4: 2004MY
11	G	Factory location	G: FHI (Gunma)
12 to 17	002001	Serial number	—

• GCC countries (Saudi Arabia, etc.)

]JF1GD45MX4G002001[

The starting and ending brackets ( ][ ) are stop marks.

Digits	Code	Meaning	Details
1 to 3	JF1	Manufacturer body area	JF1: Passenger car, FHI made
4	G	Car line	IMPREZA
5	D	Body type	D: 4 Door Sedan G: Wagon
6	4	Displacement	4: 1.6 L AWD 8: 2.0 L AWD
7	5	Grade	5: TS 7: GX
8	M	Restraint	M: Manual belts, dual airbag
9	X	Check digit	0 to 9 & X
10	4	Model year	4: 2004MY
11	G	Transmission type	G: Full-time AWD 5-speed MT single range H: Full-time AWD 4-speed AT J: Full-time AWD 5-speed MT dual range
12 to 17	002001	Serial number	—

3. MODEL NUMBER PLATE

The model number plate indicates: the applied model, the option code, the trim code, the engine type, the transmission type, and the exterior color code. This information is helpful when placing orders for parts.

GD9DL5R

Digits	Code	Meaning	Details
1	G	Series	IMPREZA
2	D	Body style	D: 4 Door Sedan G: Wagon
3	9	Engine displacement Drive system Suspension system	4: 1.6 L FWD 5: 1.6 L AWD 9: 2.0 L AWD A: 2.0 L AWD Turbo B: 2.0 L AWD High power turbo E: 2.5 L AWD
4	D	Model year	D: 2004MY
5	L	Destination	K: Right-hand drive model market L: Left-hand drive model market
6	5	Grade	3: BASE 4: TS 5: GX 6: RS 7: OUTBACK 8: WRX E: STi
7	R	Transmission, fuel feed system	K: SOHC MPI Dual range 5-speed MT G: SOHC MPI 5-speed MT R: SOHC MPI 4-speed AT T: DOHC B MPI 4-speed AT Sport Shift J: SOHC MPI 5-speed MT AWD D: DOHC B MPI 5-speed MT AWD H: DOHC B MPI 6-speed MT AWD

The engine and transmission type are as follows:

- **Engine**

EJ161RW6AA

Digits	Code	Meaning	Details
1 and 2	EJ	Engine type	EJ: 4 cylinders
3 and 4	16	Displacement	16: 1.6 L 20: 2.0 L 25: 2.5 L
5	1	Fuel feed system	1: D-MPI SOHC-A 5: MPI Turbo 7: MPI High power turbo
6	R	Detailed specifications	Used when ordering parts. See the parts catalog for details.
7	W	Transmission	W: MT X: AT
8 to 10	6AA	Detailed specifications	Used when ordering parts. See the parts catalog for details.

• Transmission

TM754RY5AA

Digits	Code	Meaning	Details	
1	T	Transmission	T: Transmission	
2	M	Transmission type	Y: Full-time AWD MT center differential V: Full-time AWD AT center differential Z: Full-time AWD AT MPT M: FWD MT A: FWD AT	
3 and 4	75	Classification	75: 5MT 85: 6MT 1A: AT 1B: AT	
5	4	Series	MT	4: 5MT 6: 6MT
			AT	4: AT
6	R	Transmission specifications	A: FWD 4-speed AT R: FWD Single Range 5-speed MT V: Full-time AWD 5-speed MT with viscous coupling center differential single range W: Full-time AWD 6-speed MT with viscous coupling center differential single range X: Full-time AWD 5-speed MT with viscous coupling center differential dual range Z: Full-time AWD 4-speed AT with MPT Y: Full-time AWD 4-speed AT with VTD	
7 to 10	Y5AA	Detailed specifications	Used when ordering parts. See the parts catalog for details.	

• Rear differential 1

VA-type

Code	Reduction gear ratio	LSD
XN	4.111	No
XP	4.444	No

• Rear differential 2

T-type

Code	Reduction gear ratio	LSD
EG	3.900	No
EM	4.444	SURETRAC®
EJ	4.111	Viscous
EF	3.545	Viscous
HJ	3.545	SURETRAC®
HG	3.900	SURETRAC®
HN	3.545	Mechanical
HK	3.900	Mechanical

• Option code

E2BL

Digits	Code	Meaning	Details
1 — 2	E2	Destination	EC: Europe model (LHD model) EK: Europe model (RHD model) EH: China model KS: Middle East model K4: Central and South America model KA: Australia model E2: Israel model K0: General model (LHD model) K1: General model (RHD model) Blank: Hong Kong model
3	B	Option equipment	A: Power window, Power door lock, ABS, Aluminum wheel B: Power window, Power door lock C: Power window, Power door lock, Cruise control, ABS, Aluminum wheel D: Power window, Power door lock, Cruise control, ABS, Front LSD, Driver's control center differential E: Power window, Power door lock, ABS F: Power window, Power door lock, Cruise control, ABS L: Power window, Power door lock, ABS, Roof rail, Aluminum wheel M: Power window, Power door lock, ABS, Roof rail N: Power window, Power door lock, Cruise control, ABS, Roof rail O: Power window, Power door lock, Cruise control, ABS, Roof rail, Aluminum wheel P: Power window, Power door lock, Aluminum wheel Q: Power window, Power door lock, Aluminum wheel R: Power window, Power door lock, Roof rail, Aluminum wheel T: Power window, Power door lock, Cruise control, ABS, Front LSD V: Power window, Power door lock, ABS, Front LSD Y: Power window, Power door lock, ABS, Front LSD, Driver's control center differential 6: Special edition model

Digits	Code	Meaning	Details
4	L	Option equipment	B: A/C, Airbag, Spoiler package C: A/C, Airbag, Rear spoiler F: A/C, Airbag, Sunroof G: A/C, Airbag, Side airbag I: A/C, Airbag, Audio, Rear spoiler J: A/C, Airbag, Spoiler package, Rear spoiler K: Airbag, Side airbag, Audio L: A/C, Airbag M: Airbag O: A/C, Sunroof, Airbag, Side airbag, Leather seat & door trim decorative woodturning, Audio, Rear spoiler P: A/C, Sunroof, Airbag, Side airbag, Rear spoiler Q: A/C, Sunroof, Airbag, Audio, Rear spoiler R: A/C, Airbag, Rear spoiler S: A/C, Airbag, Audio T: A/C, Sunroof, Airbag, Side airbag, Leather seat & door trim decorative woodturning, Audio U: A/C, Sunroof, Airbag, Side airbag V: A/C, Sunroof, Airbag, Side airbag, Leather seat & door trim decorative woodturning W: A/C, Sunroof, Airbag, Rear spoiler Y: A/C, Sunroof, Airbag, Side airbag, Audio Z: A/C, Sunroof, Airbag, Side airbag, Leather seat & door trim decorative woodturning, Rear spoiler 1: Special edition model 2: Special edition model 3: Special edition model

RECOMMENDED MATERIALS

RM

1. Recommended Materials

A: RECOMMENDED MATERIALS

1. GENERAL

To insure the best performance, always use the specified oil, gasoline, adhesive, sealant, etc. or a substitute of equivalent quality.

2. FUEL

Always use a gasoline of the same or higher octane value than specified in the owner's manual. Ignoring the specifications below will result in damage or poor operation of the engine and fuel injection system. Use the specified gasoline to correct performance.

• Unleaded gasoline

Use unleaded gasoline and not leaded gasoline on vehicles with catalytic converter installed to reduce air pollution. Using leaded gasoline will damage the catalytic converter.

Model	Petrol	RON
SOHC	Unleaded	More than 95 RON More than 90 RON*
DOHC turbo	Unleaded	More than 98 RON

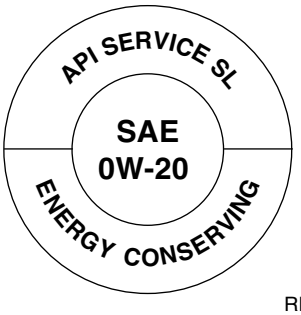
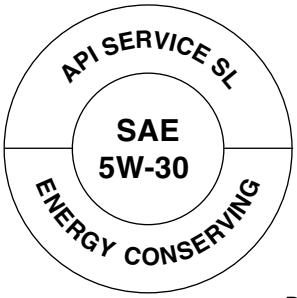
*: KA, KS model

• Leaded gasoline

On vehicles without catalytic converter, use leaded gasoline with an octane value of 90 RON or higher.

3. LUBRICANTS

Use either the lubricants in the table below or equivalent lubricants. See the table below to choose the correct SAE viscosity.

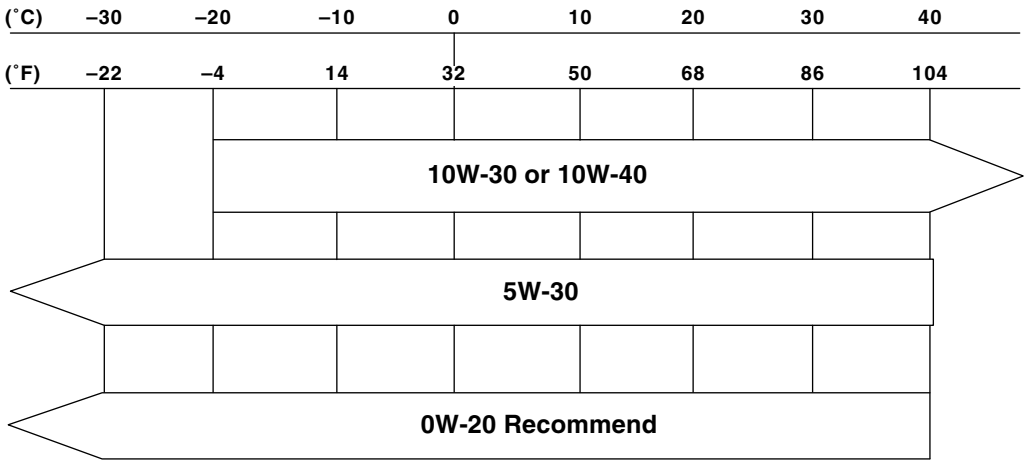
Lubricant	Recommended			Alternative
	API Spec.	CCMC Spec.	ACEA Spec.	API Spec.
Engine oil	SL, SJ Grade “Energy conserving”, or SH  RM-00006  RM-00001  RM-00002	G4 or G5	A1, A2 or A3	SG, SF
Manual transmission oil	GL-5	—	—	—
AT front differential gear oil	GL-5	—	—	—
Rear differential gear oil	GL-5★1	—	—	—

★1: Use LSD oil for model with driver’s control center differential.

SAE viscosity No. and applicable temperature

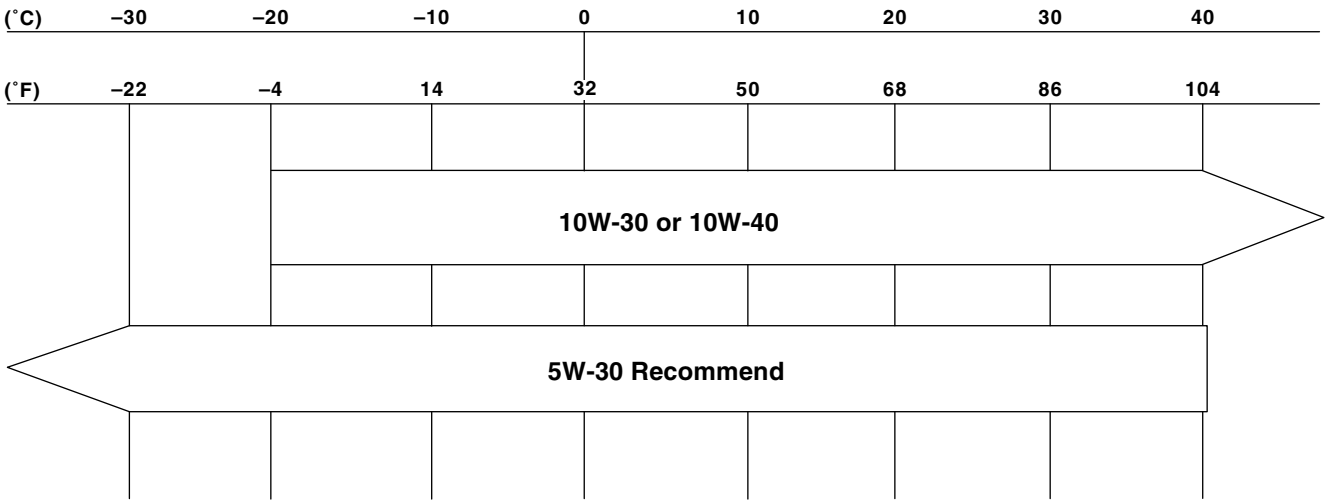
Engine oil

SOHC model



RM-00007

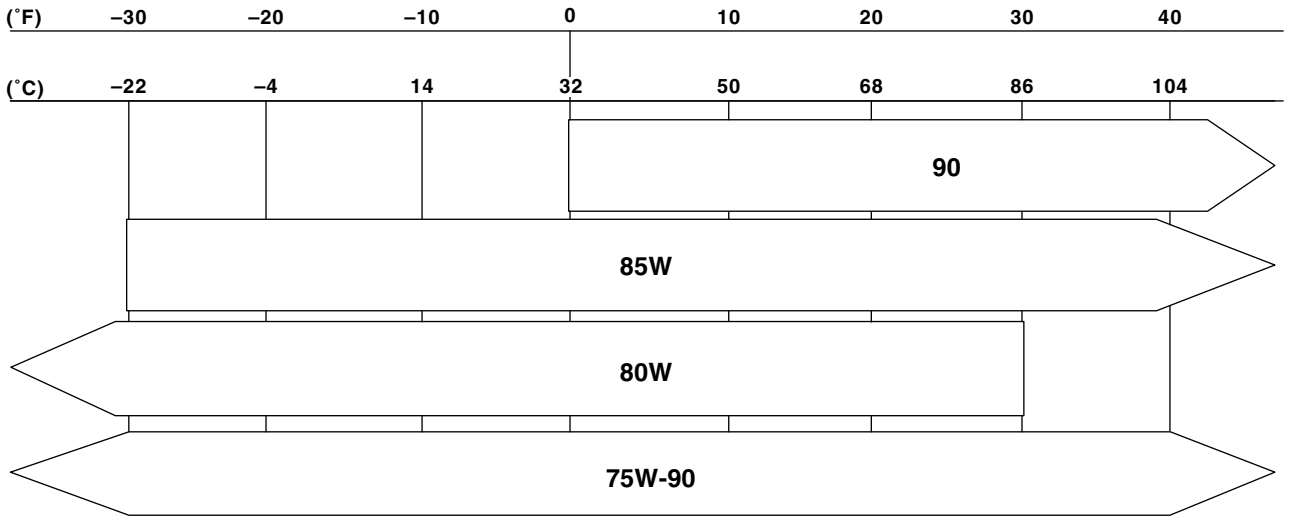
DOHC turbo model



RM-00003

SAE viscosity No. and applicable temperature

Manual transmission oil, AT front differential gear oil and rear differential gear oil



RM-00004

4. FLUID

Use the fluids specified in the table below. Do not mix two different kinds or makes of fluid.

Fluid	Recommended	Alternative	Remarks
Automatic transmission fluid	DEXRON III	—	—
Power steering fluid	DEXRON III	—	—
Brake fluid	FMVSS No. 116 DOT3	—	—
Clutch fluid	FMVSS No. 116 DOT3	FMVSS No. 116 DOT4	—

5. COOLANT

Use genuine coolant to protect the engine.

Coolant	Recommended	Item number	Alternative
Coolant	SUBARU coolant	000016218	None
Water for dilution	Distilled water	—	Tap water (Soft water)

6. REFRIGERANT

Standard air conditioners on Subaru vehicles use HFC134a refrigerant. Do not mix it with other refrigerants. Also, do not use any compressor oil except for DH-PR.

Air conditioner	Recommended	Item number	Alternative
Refrigerant	HFC134a	—	None
Compressor oil	DH-PR	—	None

7. GREASE

Use the grease and supplementary lubricants shown in the table below.

Grease	Application point	Recommended	Item number	Alternative
Supplementary lubricants	• O_2 sensor • Bolts, etc.	Spray type lubricant	—	—
Grease	MT main shaft	Clutch grease	K0879Y0501	—
	Clutch master cylinder push rod	Silicolube G-40M	004404003	—
	• Gear shift lever • Select lever • Clutch operating cylinder • Accelerator pedal • Clutch pedal • Brake pedal • Clutch bearing • Clutch release lever • Steering shaft bearing	SUNLIGHT2	003602010	—
	Steering gear box	Valiant grease M-2	003608001	—
	• Disc brake • Drum brake wheel cylinder	Niglube RX-2	K0779GA102	—
	• Drum brake • Brake shoe	Molykote No. 7439	003602001	—
	Brake pad	Molykote AS-880N	K0777YA010	—
	Front axle PTJ	NSG301	28395AG020	—
	• Front axle EBJ • Front axle BJ • Rear axle EBJ • Rear axle BJ	NTG2218-M	28395FE010	—
	• Front axle DOJ • Rear axle DOJ	NKG205	28395FE020	—
	Throttle cable end	Silicolube G-30M	004404002	—

8. ADHESIVES

Use the adhesives shown in the table below, or equivalent.

Adhesive	Application point	Recommended	Item number	Alternative
Adhesive	Windshield, rear window glass, rear quarter glass and body	Dow Automotive's Adhesive: Gurit-ESSEX Betaseal 1502 or equivalent Glass primer: Betawipe VP 04604, Betaprime 5001 Paint surface primer: Betaprime 5402	—	—
	Inner rearview mirror base	REPAIR KIT IN MR	65029FC000	—
	Soft vinyl	Cemedine 540	—	3M's EC-776, EC-847 or EC-1022 (Spray type)
	Momentary sealant	Cemedine 3000	—	Armstrong's Eastman 910

9. SEAL MATERIAL

Use seal material shown in the table below, or equivalent.

Seal material	Application point	Recommended	Item number	Alternative
Seal material	• Cylinder block • Torque converter clutch case • Transmission oil pan (6MT model)	Three Bond 1215B	004403007	Dow Corning's No. 7038
	Transmission oil pan (AT model)	Three Bond 1217B	K0877YA020	—
	Rear differential	Three Bond 1324	004403042	—
	Rear differential	Three Bond 1105	004403010	Dow Corning's No. 7038
	Steering adjusting screw	Three Bond 1141	004403006	—
	Camshaft cap	Three Bond 1280B	K0877YA018	—
	• Front sealing cover • Rear sealing cover	3M Butyl tape 8626	—	—

PRE-DELIVERY INSPECTION

PI

1. Pre-delivery Inspection

A: GENERAL DESCRIPTION

The purposes of the pre-delivery inspection (PDI) are as follows.

- Remove the additional parts used for ensuring the vehicle quality during transportation and restore the vehicle to its normal state.
- Check if the vehicle before delivery is in a normal state.
- Check for any damage to the vehicle or parts that may have taken place during transportation or storage.
- Check if the vehicle after repair is in a normal state.
- Make sure to provide a complete vehicle to the customer.

For the above reasons, all SUBARU dealers (dealerships) carry out the PDIs before delivering a vehicle.

B: PRE-DELIVERY INSPECTION (PDI) PROCEDURE

STATIC CHECKS JUST AFTER VEHICLE RECEIPT

PROCEDURE	Check point
1. Appearance check	(1) If the vehicle is covered with protective coating, visually check the vehicle body for damage and dents. If the protective coating has been removed, visually check the body paints for damage or stains in detail. (2) Visually check the glass and light lenses for any damage, cracks or excessive gaps to the body sheet metal. (3) Visually check the plated parts for any damage.
2. Tire check	(1) Check the tires for damage, abnormal conditions, and dents on the wheels. (2) Check the tire air pressure.
3. Fuse installation	If the vehicle is about to be delivered to the customer, attach a back-up fuse.
4. Air conditioner harness connection	If the vehicle is about to be delivered to the customer, connect air conditioner harness.
5. Check the doors for lock/unlock and open/close operations.	(1) Using the key, check if the trunk lid can be locked or unlocked normally. (2) Open and close all doors to see that there are no abnormal conditions. (3) Operate the power door lock switch to check that the door (rear gate) is locked and unlocked normally.
6. Double lock operation check	Check the double lock for normal operations.
7. Check the operation of child safety lock system	Check that the child safety lock system operates normally.
8. Check the trunk lid for open/close operations.	(1) Operate the trunk lock release lever to check that the trunk opens normally. (2) Open and close the trunk lid to see that there are no abnormal conditions.
9. Check the rear gate for lock/unlock and open/close operations.	(1) Check if the rear gate can be unlocked normally through the emergency hole. (2) Open and close the rear gate to see that there are no abnormal conditions.
10. Operation check of fuel lid opener lock release lever	Operate the fuel lid opener to check that the fuel lid is unlocked normally.
11. Accessory check	Check that the following accessories are provided. • Owner's manual • Warranty booklet • Maintenance note • Spare key • Jack • Tool set • Spare tire
12. Operation check of front hood lock release system	Operate the front hood lock release lever to check that the front hood is unlocked normally.
13. Battery	Check the battery terminals for any abnormal conditions such as rust and trace of battery fluid leaks.
14. Brake fluid	Check that the fluid level is normal.
15. Engine oil	Check that the oil level is normal.
16. Transmission gear oil	Check that the transmission gear oil level is normal.

PROCEDURE	Check point
17. AT front differential oil	Check that the AT front differential oil level is normal.
18. Engine coolant	Check that the engine coolant level is normal.
19. Clutch fluid	Check that the clutch fluid level is normal.
20. Window washer fluid	Check that the window washer fluid level is normal.
21. Front hood latch check	Check that the hood is closed and latched securely.
22. Keyless entry system	Check that the keyless entry system operates normally.
23. Seat	(1) Check the seat surfaces for stain or dirt. (2) Check the seat installation conditions and functionality.
24. Seat belt	Check the seat belt installation conditions and functionality.
25. Wheel alignment	Check that the wheel alignments are properly adjusted.

CHECKS WITH ENGINE RUNNING

PROCEDURE	Check point
26. Test mode connector	Test mode connectors
27. Immobilizer system	(1) Check that the engine starts with all keys that are equipped on vehicle. (2) 60 seconds after turning ignition switch from ON to ACC or OFF, or immediately after removing key, check that the security indicator light blinking.
28. Starting condition	Start the engine and check that the engine starts smoothly.
29. Exhaust system	Check that the exhaust noise is normal and no leaks are found.
30. Indicator and warning lights	Check that all the indicator and warning lights are gone out.
31. Clock	Check that the clock operates normally.
32. Audio	Check the radio, CD and MD player for normal operation.
33. Front accessory power supply socket	Check that the front accessory power socket operates normally.
34. Lighting system	Check that the lighting system operates normally.
35. Window washer	Check that the window washer system operates normally.
36. Wiper	Check that the wiper system operates normally.
37. Power window operation check	Check the power window for normal operations.
38. Sunroof	Check that the sunroof operates normally.
39. Door mirror	Check that the remote control mirror operates normally.

DYNAMIC TEST WITH VEHICLE RUNNING

PROCEDURE	Check point
40. Brake test	Check the foot brake for normal operations.
41. Parking brake	Check the parking brake for normal operations.
42. AT shift control	Check that the AT shift patterns are correct.
43. Heater & ventilation	Check that the heater & ventilation system operates normally.
44. Air conditioner	Check that the air conditioner operates normally.
45. Cruise control	Check that the cruise control system operates normally.

CHECKS AFTER DYNAMIC TEST

PROCEDURE	Check point
46. ATF level	Check that the ATF level is correct.
47. Power steering fluid level	Check that the power steering fluid level is normal.
48. Fluid leak check	Check for fluid/oil leaks.
49. Water leak test	Spray the vehicle with water and check for water leaks.
50. Appearance check 2	(1) Remove the protective coating (if any). (2) Check the body paints for damage and stain. (3) Check the plated parts for damage and rust.

1. APPEARANCE CHECK

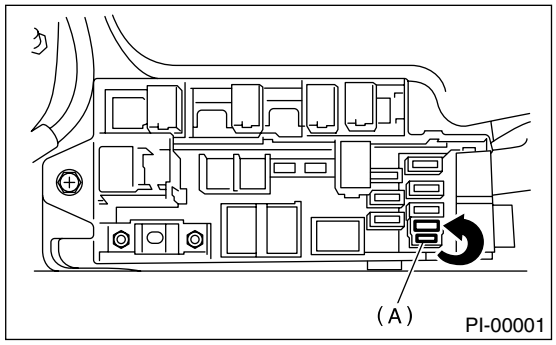
• If the vehicle is covered with protective coating, visually check the vehicle body for damage and dents.
• If there is no protective coating, check the body paints for small areas of damage or stains and repair as necessary.
• Check the window glass, door glass, and lights for any cracks or damage and repair or replace the parts as necessary.
• Check the plated parts, such as the grilles and door knobs, for damage or loss of gloss and repair or replace the parts as necessary.

2. TIRE CHECK

• Check the tires for damage, abnormal conditions, and dents on the wheels.
• Check the tire size, spare tire and tire air pressure described on the tire air pressure label (driver's side).

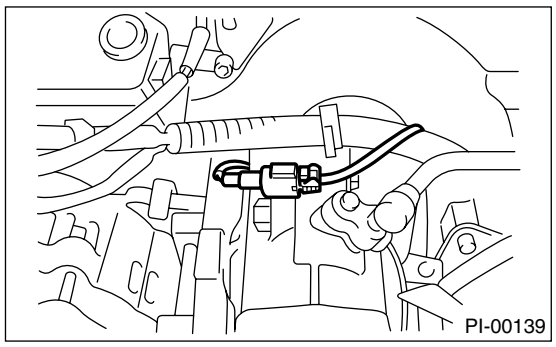
3. FUSE INSTALLATION

A vehicle just delivered has no fuse for the back-up circuit to prevent battery discharge. Attach a 15 A fuse (A) as shown in the figure.



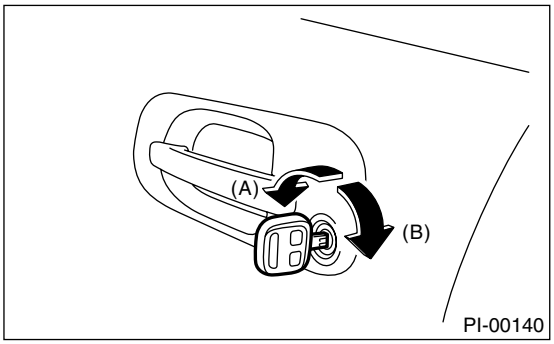
4. CONNECTION OF AIR CONDITIONER HARNESS

A vehicle just delivered has its air conditioner harness disconnected to protect the air conditioner compressor. Connect the harness as shown in the figure.



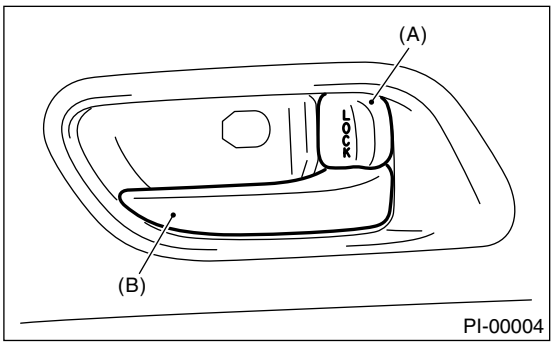
5. CHECK THE DOORS FOR LOCK/UNLOCK AND OPEN/CLOSE OPERATIONS

1) Using the key, lock and unlock the door several times to check for normal operation. Open and close the door several times for smooth movement.



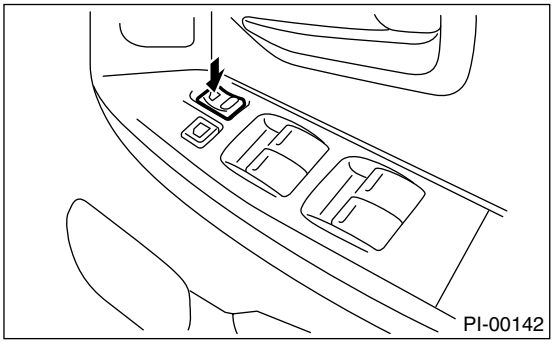
(A) Unlock
(B) Lock

2) Close the driver's door completely, and place the door lock knob (A) to the lock position. Then pull inner remotes (B) to ensure that doors will not open. For other doors, place the door lock knob (A) to the lock positions and then pull the inner remote to ensure that the doors will not open.

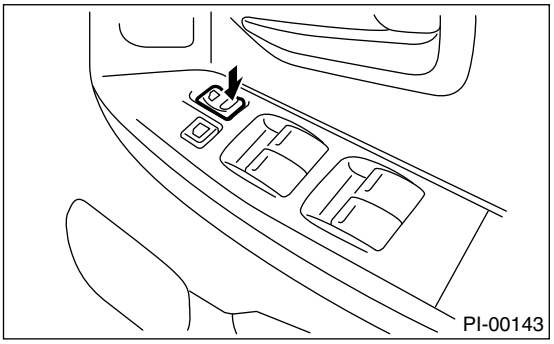


(A) Door lock knob
(B) Inner remote

3) Press the driver's side power door lock switch to lock side. Check that all doors including rear gate are locked.



4) Press the driver's side power door lock switch to unlock side. Check that all doors including rear gate are unlocked.

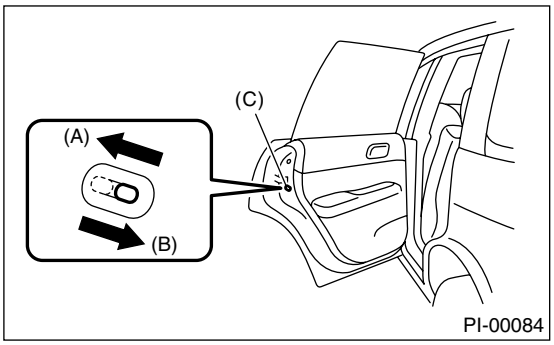


6. CHECK DOUBLE LOCK OPERATION

1) Fully open all the windows.
2) Remove the key.
3) Lock all the doors using the door key cylinder or transmitter.
4) Verify that all the doors including rear gate are not unlocked when pressing power door lock switch to unlock side.
5) Verify that the door is not opened when operating door lock knob to unlock position and pulling inner remote. Perform the same check for other doors.
6) Check that all the doors are unlocked when door is unlocked using door key cylinder or transmitter, or ignition switch is turned to ON.

7. CHECK THE OPERATION OF CHILD SAFETY LOCKS

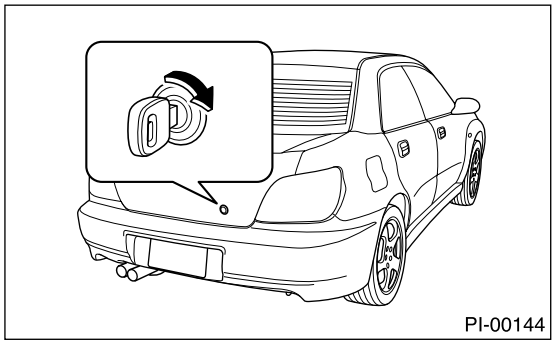
1) Set the child safety lock on both rear doors to the lock positions.
2) Close the rear doors completely.
3) Check that the lock levers of the rear doors are in the unlock positions. Then, pull the inner remotes of the rear doors to ensure that the doors will not open.
4) Next, pull the outside door handles of the rear doors to ensure that the doors will open.



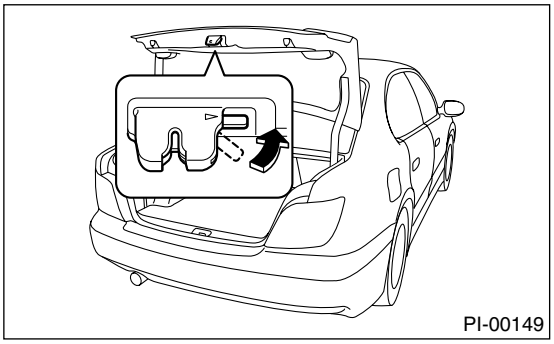
(A) Unlock
(B) Lock
(C) Child safety lock

8. CHECK THE TRUNK LID FOR OPEN/ CLOSE OPERATIONS

1) Operate the trunk lock release lever and verify that the trunk lid opens.
2) Using the key, open the trunk lid several times to check for normal operation.
3) Open and close the trunk lid several times for smooth movement.

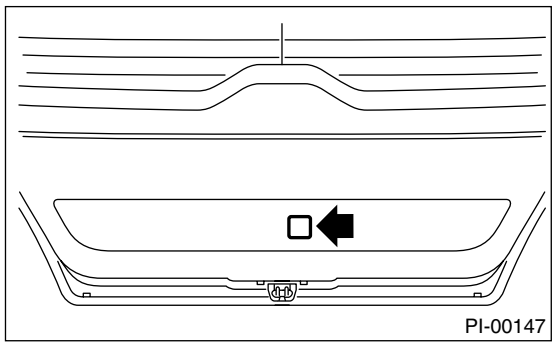


4) Set the trunk lid release lever to the cancel position, and check that the trunk lid can only be opened with the key.

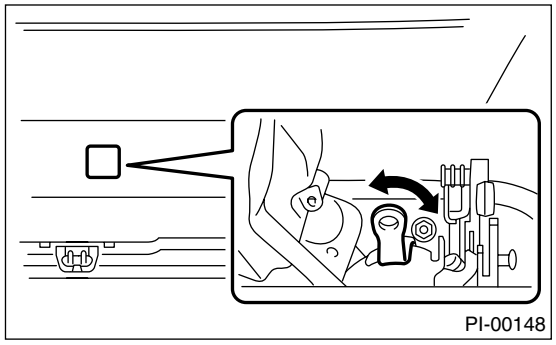


9. CHECK THE REAR GATE FOR LOCK/ UNLOCK AND OPEN/CLOSE OPERATIONS

1) Open and close the rear gate several times for smooth movement.
2) Operate the rear gate lever to check that the rear gate is locked and unlocked normally.
(1) Remove the blind cover inside the rear gate.


PI-00147

(2) Check that the rear gate is locked correctly when lever is operated using a finger.

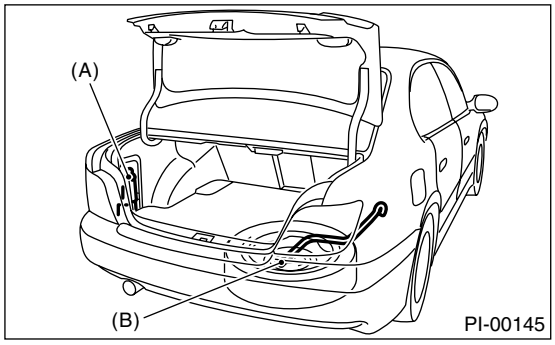

PI-00148

10.OPERATION CHECK OF FUEL LID OPENER LOCK RELEASE LEVER

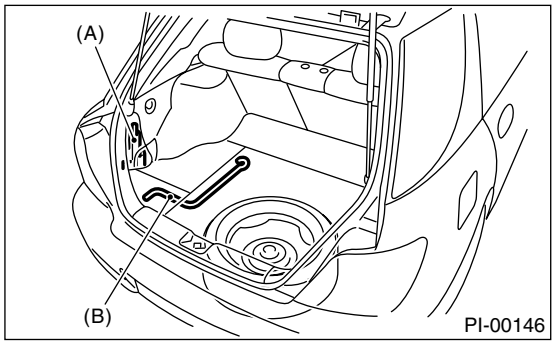
Operate the fuel lid opener and verify that the fuel lid opens normally. Check that the filler cap is securely closed.

11.ACCESSORY CHECK

Check that the following accessories are provided in the luggage compartment or cargo area.
- Owner's manual
- Warranty booklet
- Service booklet
- Spare key
- Jack
- Tool set
- Spare tire
- Immobilizer cover (EK model)
- Immobilizer relay (EK model)



PI-00145

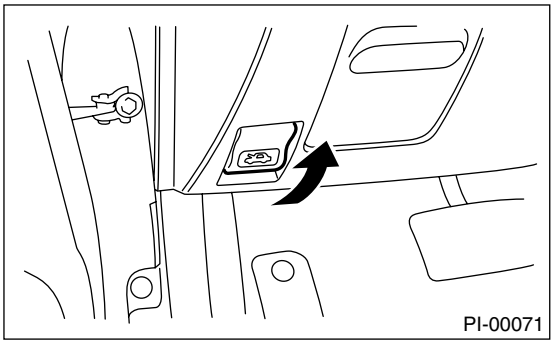


PI-00146

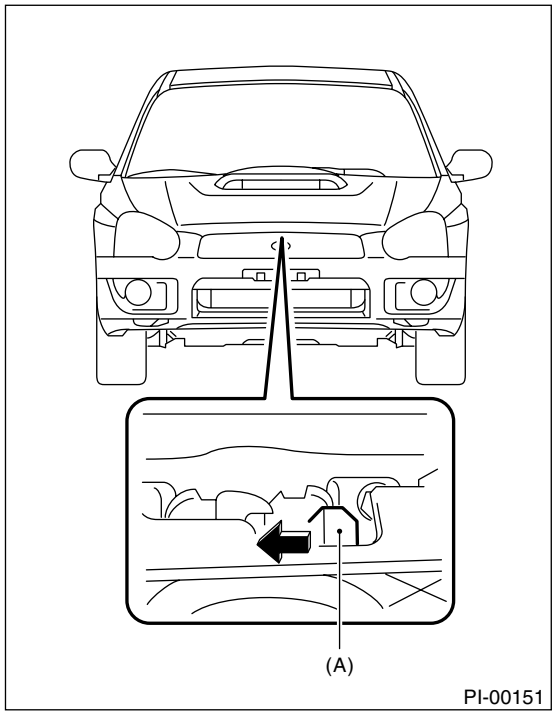
(A) Jack
(B) Jack handle

12.OPERATION CHECK OF HOOD LOCK RELEASE SYSTEM

Operate the hood release knob (A) and check that the hood is unlocked normally.

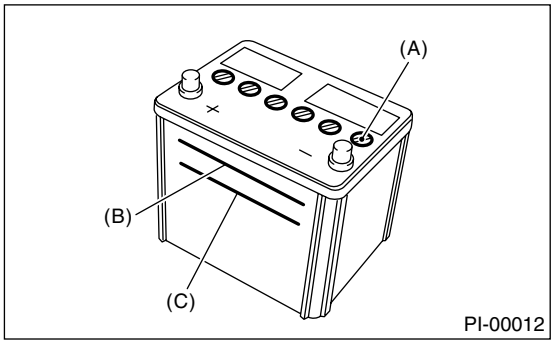

PI-00071

Operate the lever (A) and check that the hood is opened normally. Then support the hood with hood stay.



13.BATTERY

Check the battery terminals to make sure that no rust or corrosions due to fluid leaks are found. Check that the battery caps are securely tightened.



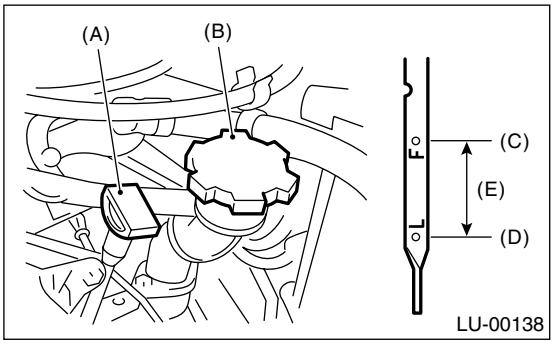
(A) Cap
(B) Upper level
(C) Lower level

14.BRAKE FLUID

Check the brake fluid amount. If the amount is insufficient, carry out a brake line test to identify brake fluid leaks and check the brake operation. After that, refill the brake fluid tank with the specified type of fluid.

15.ENGINE OIL

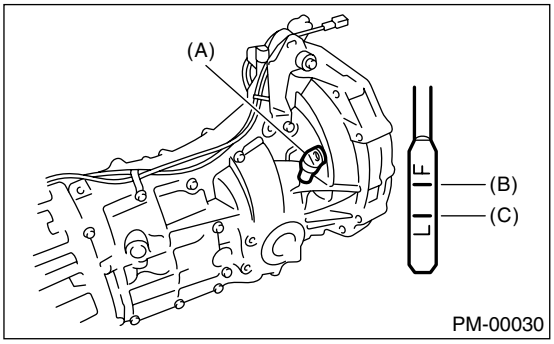
Check the engine oil amount. If the amount is insufficient, check that no leaks are found. Then, add the necessary amount of the specified engine oil.



(A) Oil level gauge
(B) Engine oil filler cap
(C) Upper level
(D) Lower level
(E) Approx. 1.0 ℓ (1.1 US qt, 0.9 Imp qt)

16.TRANSMISSION FLUID

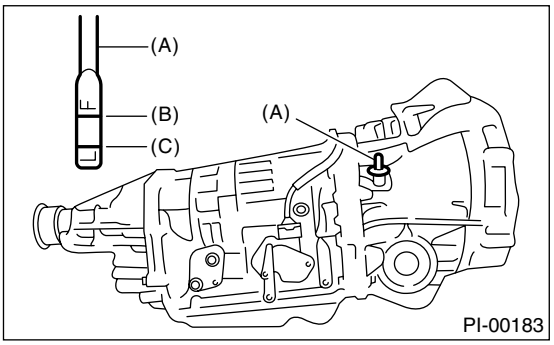
Check the transmission fluid amount. If the amount is insufficient, check that no leaks are found. Then, add the necessary amount of the specified fluid.



(A) Oil level gauge
(B) Upper level
(C) Lower level

17.AT FRONT DIFFERENTIAL OIL

Check the AT front differential oil amount. If the amount is insufficient, check that no leaks are found. Then, add the necessary amount of the specified AT front differential oil.



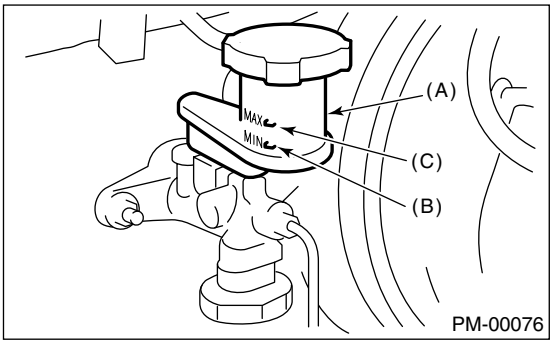
(A) Oil level gauge
(B) Upper level
(C) Lower level

18.COOLANT

Check the coolant amount on the reservoir. If the amount is insufficient, check that no leaks are found. Then, add the necessary amount of coolant with the specified concentration.

19.CLUTCH FLUID

Check the clutch fluid amount. If the amount is insufficient, check that no leaks are found. Then, add the necessary amount of the specified fluid.



(A) Reservoir tank
(B) MIN level
(C) MAX level

20.WINDOW WASHER FLUID

Check the window washer fluid amount. If the amount is insufficient, check that no leaks are found. Then, add the necessary amount of washer fluid commercially available.

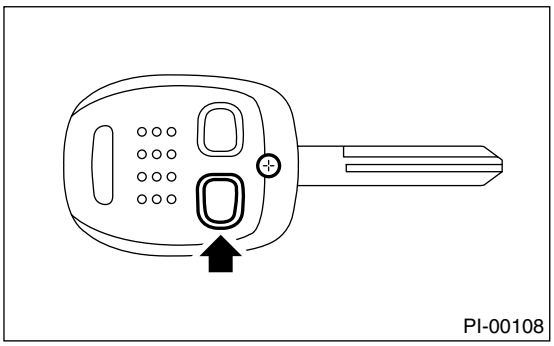
21.HOOD LATCH CHECK

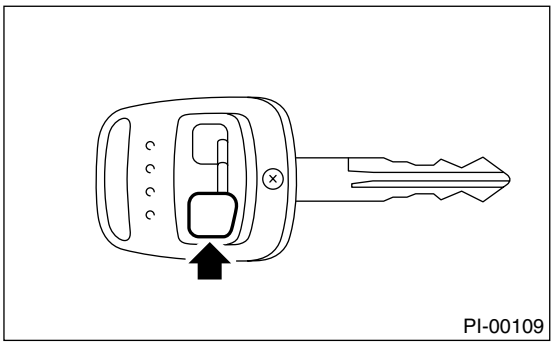
Retract the hood stay and close the hood. Check that the hood is securely latched.

22.KEYLESS ENTRY SYSTEM

Check the keyless entry system operations as follows.

• Remove the key from the ignition switch and close all the doors including rear gate (wagon model).
• Press the “LOCK” button on the transmitter momentarily once and check that all the doors are locked and the hazard light flashes once.





• Press the “OPEN” button on the transmitter momentarily once and check that all doors are unlocked, the hazard light flashes twice and the interior light illuminates.
• Close all doors and rear gate, press the “LOCK” button of the transmitter. Press the “OPEN” button of the transmitter and wait for 30 seconds. Check that all doors and the rear gate are automatically locked again.

23.SEAT

Check that each seat provides full functionality in sliding and reclining. Check all available functions of the rear seat such as a trunk-through center arm rest.

24.SEAT BELT

Pull out the seat belt and then release it. Check that the belt webbing retracts smoothly.

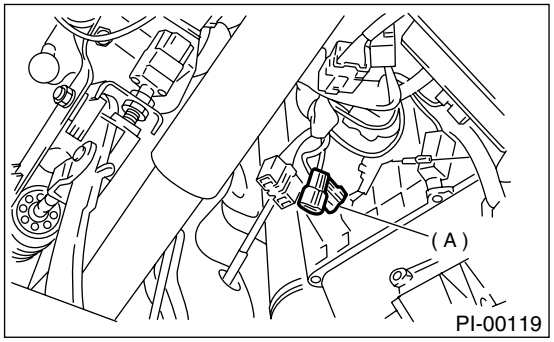
25.WHEEL ALIGNMENT

Check the wheel alignments. <Ref. to FS-6, Wheel Alignment.> and <Ref. to RS-10, Wheel Alignment.>

26.TEST MODE CONNECTOR

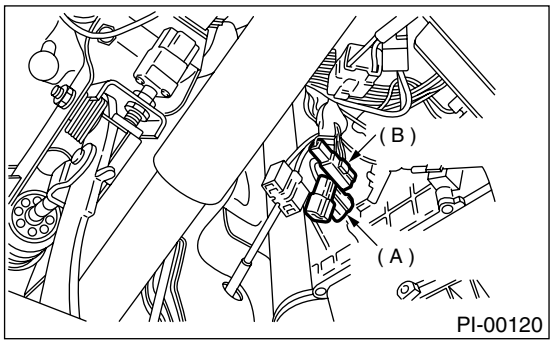
Turn the ignition switch to ON and check that the malfunction indicator light starts blinking. If the light blinks, return the ignition key to LOCK and disconnect the test mode connector. Then, turn the ignition key to ON again. If the malfunction indicator light blinks at that time in spite of the disconnected test mode connector, carry out an engine diagnosis.

- With OBD MODEL



(A) Test mode connector (Green)

- Without OBD MODEL



(A) Read memory connector (Black)
(B) Test mode connector (Green)

27.IMMOBILIZER SYSTEM

1) Check that the engine starts with all keys that are equipped on vehicle.
2) 60 seconds after turning the ignition switch from ON to ACC or OFF, or immediately after removing the key, check that the security indicator light blinking.

NOTE:
If malfunctions occur, refer to “IMMOBILIZER (DIAGNOSIS)”.

28.STARTING CONDITION

Start the engine and check that the engine starts smoothly. If any battery voltage problems are found, recharge or replace the battery. If any abnormal noises are observed, immediately stop the engine and check and repair the necessary components.

29.EXHAUST SYSTEM

Listen to the exhaust noise to see if no abnormal noises are observed.

30.INDICATOR LIGHT

Check that all the indicator lights are off.

31.CLOCK

Check the clock for normal operations and enough accuracy.

32.AUDIO

Check if the radio for functions fully, speaker emitts sound normally and noise level is normal. Also check the CD, MD unit operations.

33.FRONT ACCESSORY POWER SUPPLY SOCKET

Check the front accessory power supply socket operations.

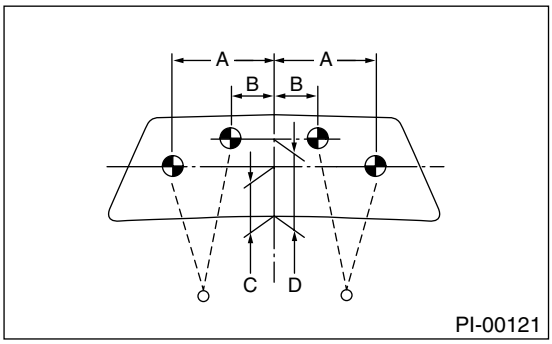
34.LIGHTING SYSTEM

- Check the headlight operations.
- Check the stop light operations.
- Check the other lights for normal operations.

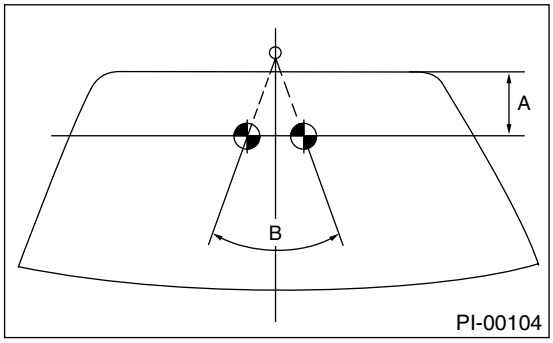
35.WINDOW WASHER

Check that the window washer system injects washer fluid to the specified area of windshield shown in the figure.

Front injection position:
A: 350 mm (13.78 in)
B: 162 mm (5.91 in)
C: 300 mm (11.81 in)
D: 500 mm (23.62 in)



Rear injection position:
A: 39 mm (2.36 in)
B: 72°



36.WIPER

Check the front and rear wipers for normal operations.

37.POWER WINDOW OPERATION CHECK

Manipulate the power window switches one by one to check that each of the power windows goes up and down with no abnormal noises.

38.SUNROOF

Check that the sunroof operates normally.

39.DOOR MIRROR

Check that the remote control mirror operates normally.

40.BRAKE TEST

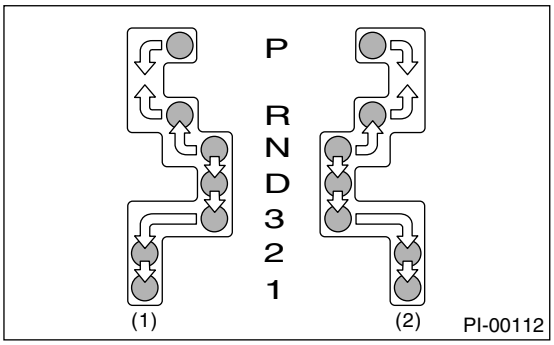
Check the foot brake for normal operations.

41.PARKING BRAKE

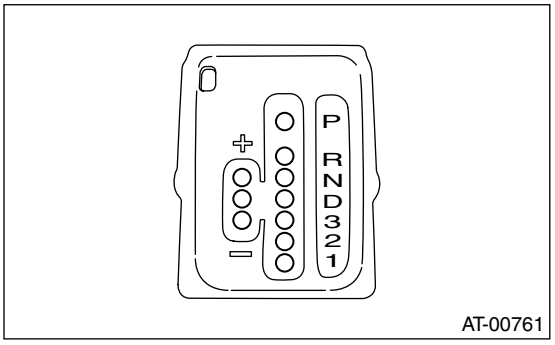
Check the parking brake for normal operations. When applying the parking brake with force of 196 N (20 kgf, 44 lb), check that the lever stroke of parking brake lever is 7 to 8 notches.

42.AT SHIFT CONTROL

Set the AT select lever to each gear position and check the shifting while driving the vehicle.



(1) RHD model
(2) LHD model



Selector Position	Gear Position			
	1st	2nd	3rd	4th
D	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	—
2	Yes	Yes	—	—
1	Yes	—	—	—
Sports shift	Yes	Yes	Yes	Yes

43.HEATER & VENTILATION

Operate the heater and ventilation system to check for normal outlet selection, air inlet selection, airflow and heating capacity.

44.AIR CONDITIONER

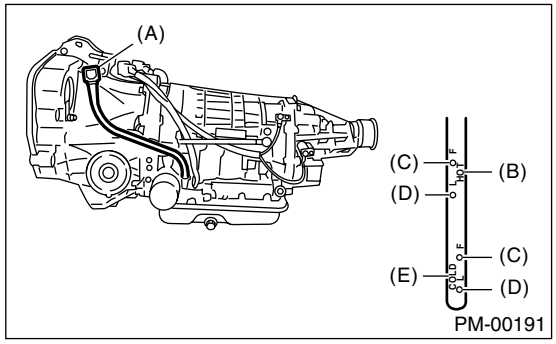
Operate the air conditioner. Check that the A/C compressor operates normally and enough cooling is provided.

45.CRUISE CONTROL

Operate the cruise control system. Check that the system is activated and deactivated correctly.

46.ATF LEVEL

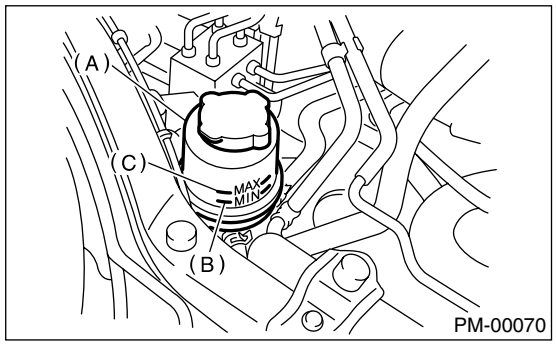
Check that the ATF level is normal when the engine at idle. If insufficient, check that no leaks are found. Then add the necessary amount of the specified ATF.



(A) Level gauge
(B) ATF level range when "HOT" [70 — 80°C (158 — 176°F)]
(C) Upper level
(D) Lower level
(E) ATF level range when "COLD" [20 — 30°C (68 — 86°F)]

47.POWER STEERING FLUID LEVEL

Check that the power steering fluid level is normal. If insufficient, check that no leaks are found. Then add the necessary amount of the specified power steering fluid.



(A) Reservoir tank
(B) MIN level
(C) MAX level

48.FLUID LEAK CHECK

Check the entire areas of the vehicle for any trace of coolant/oil/fluid leaks.

49.WATER LEAK TEST

Spray the vehicle with water and check that no water enters the passenger compartment.

- Before performing the water leakage test, remove anything that may obstruct the operation or which must be kept dry.
- Close all windows completely, and then close all doors tightly. Close the hood and trunk lid before starting the test.
- Connect a hose to a tap, and spray water on the vehicle. The rate of water discharge must be approx. 20 — 25 ℓ (5.3 — 6.6 US gal, 4.4 — 5.5 Imp gal) per minute.

When spraying water on areas adjacent to the floor and wheel house, increase the pressure. When directing water on areas other than the floor portion and wheel house, decrease the pressure. But the force of water must be made strong occasionally by pressing the end of the hose.

NOTE:
Be sure to keep the hose at least 10 cm (3.9 in) from the vehicle.

Check the following areas:

- Front window and body framework mating portion
- Door mating portions
- Glass mating portions
- Rear quarter window mating portions
- Rear window and body framework mating portion
- Around roof drips

If any dampness in the compartment is discovered after the water has been applied, carefully check all areas that may have possibly contributed to the leak.

50.APPEARANCE CHECK 2

1) Check the paint after removing the paint protective coating and washing the vehicle.

NOTE:

- Use of steam eases peeling off the warp guard.
- When performing on the vehicles left for a long time, or during low temperature period, sprinkle some water heated to 50 — 60°C (122 — 140°F) over the vehicle to raise its surface temperature before peeling off the wrap guard.

Do not use the water heated to over 60°C (140°F).

- If the adhesive remains on the coated surface, rub the portion with a flannel rag, etc. soaked with a coat of coating wax or a solvent, such as oil benzene and IPA, and then wipe it off.
- Avoid adhesion of the solvent to resin or rubber components. Do not use coating wax or a solvent while the component surface temperature is high due to hot weather, etc.

• If the coated surface is swollen out due to seams or moisture, expose the vehicle to the sun light for a few hours. Otherwise, heat the portion with seams or moisture using a dryer, etc.
• Dispose of the peeled wrap guard as burnable industrial garbage.

2) Check the whole vehicle body for stains, flaking, damage caused by transportation, rust, dirt, cracks, or blistering.

NOTE:
• It is better to determine an inspection pattern in order to avoid missing an area, since the total inspection area is wide.
• It is desirable not to make corrections to the body paint unless absolutely needed. However, if any corrections are required to remove scratches or rust, the area to be corrected must be limited as much as possible. Re-painting and spray painting must be avoided whenever possible.

3) Carefully check each window glass for scratches. Slight damage may be removed by polishing with cerium oxide. (Half-fill a cup with cerium oxide, and add warm water to it. Then agitate the content until it turn to wax. Apply this wax to a soft cloth, and polish the glass.)
4) Check each portion of the vehicle body and underside components for the formation of rust. If rust is discovered, remove it with #80 — #180 emery paper, and treat the surface with rust preventive. After this treatment is completed, flush the portion thoroughly, and prepare the surface for repair painting.
5) Check each portion of the body and all of the chrome parts for deformation or distortion. Also check each lamp lens for cracks.
6) Peel the protective tape, vinyl wrapping and identification seal attached to the following places.
• Seat
• Door trim
• Floor carpet
• Side sill
• Back of rear view mirror

PERIODIC MAINTENANCE SERVICES

PM

1. General Description

A: GENERAL

Be sure to perform periodic maintenance in order to maintain vehicle performance and find problems before they become serious.

2. Schedule

A: MAINTENANCE SCHEDULE 1

1. FOR EUROPE AREA

For periodic maintenance of over 120,000 km (75,000 miles) or 96 months, carry out inspection by referring to the following table. For a maintenance period gone beyond these tables, apply them repeatedly as a set of 120,000 km (75,000 miles) or 96 months.

			Maintenance interval [Number of months or km (miles), whichever occurs first]										
	Month				12	24	36	48	60	72	84	96	Remarks
	× 1,000 km		1.6	5	15	30	45	60	75	90	105	120	
	× 1,000 miles		1	3	9	19	28	38	47	56	66	75	
1	Engine oil				R	R	R	R	R	R	R	R	
2	Engine oil filter				R	R	R	R	R	R	R	R	
3	Spark plug	For Turbo									R		
		Others				R		R		R		R	
4	Drive belt(s)				I	I	I	I	I	I	I	I	
5	Camshaft drive belt										R		
6	Fuel line					I		I		I		I	
7	Fuel filter						R			R			
8	Air cleaner element				I	R	I	R	I	R	I	R	
9	Cooling system					I		I		I		I	
10	Coolant					R		R		R		R	
11	Clutch system					I		I		I		I	Adjust the clutch pedal free play every 1,600 km (1,000 miles)
12	Hill-holder system					I		I		I		I	
13	Transmission oil					I		R		I		R	
14	ATF					I		R		I		R	
15	Front & rear differential					I		R		I		R	
16	Brake line					I		I		I		I	
17	Brake fluid					R		R		R		R	
18	Disk brake pads & discs				I	I	I	I	I	I	I	I	
19	Brake linings & drums					I		I		I		I	
20	Parking brake					I		I		I		I	
21	Suspension					I		I		I		I	
22	Wheel bearing											(I)	
23	Axle boot & joint				I	I	I	I	I	I	I	I	
24	Steering system					I		I		I		I	
25	Clutch cable										R		

Symbols used:
R: Replace
I: Inspection
(I): Recommended service for safe vehicle operation.

NOTE:
(1) When the vehicle is used in extremely dusty conditions, the air cleaner element should be replaced more often.
(2) ATF filter is a maintenance free part. ATF filter needs replacement, when it is physically damaged or ATF leaked.

2. EXCEPT FOR EUROPE AREA

For periodic maintenance of over 50,000 km (30,000 miles) or 48 months, carry out inspections by referring to the following tables. For a maintenance period gone beyond these tables, apply them repeatedly as a set of 50,000 km (30,000 miles) or 48 months.

		Maintenance Interval [Number of months or km (miles), whichever occurs first]					
	Months		12	24	36	48	Remarks
	× 1,000 km	5	12.5	25	37.5	50	
	× 1,000 miles	3	7.5	15	22.5	30	
1	Engine oil		R	R	R	R	
2	Engine oil filter		R	R	R	R	

For periodic maintenance of over 100,000 km (60,000 miles) or 48 months, carry out inspections by referring to the following tables. For a maintenance period gone beyond these tables, apply them repeatedly as a set of 100,000 km (60,000 miles) or 48 months.

			Maintenance Interval [Number of months or km (miles), whichever occurs first]					
	Months			12	24	36	48	Remarks
	× 1,000 km		1.6	25	50	75	100	
	× 1,000 miles		1	15	30	45	60	
3	Spark plugs	For Turbo					R	
		Others		R	R	R	R	
4	Drive belt(s)			I	I	I	I	
5	Camshaft drive belt						R	
6	Fuel line				I		I	
7	Fuel filter				R		R	
8	Air cleaner element			I	R	I	R	
9	Cooling system				I		I	
10	Coolant				R		R	
11	Idle mixture		I	I	I	I	I	For models without catalyst converter
12	Clutch system			I	I	I	I	Adjust the clutch pedal free play every 1,600 km (1,000 miles)
13	Hill-holder system			I	I	I	I	
14	Transmission oil				R		R	
15	ATF				R		R	
16	Front & rear differential oil				R		R	
17	Brake line				I		I	
18	Brake fluid				R		R	
19	Disc brake pads & discs			I	I	I	I	
20	Brake linings and drums				I		I	
21	Parking brake			I	I	I	I	
22	Suspension			I	I	I	I	
23	Wheel bearing						(I)	
24	Axle boots & joints			I	I	I	I	
25	Steering system (Power steering)			I	I	I	I	
26	Clutch cable						R	

Symbols used:
R: Replace
I: Inspection
(R) or (I): Recommended service for safe vehicle operation.

NOTE:
(1) When the vehicle is used in extremely dusty conditions, the air cleaner element should be replaced more often.
(2) ATF filter is a maintenance free part. ATF filter needs replacement, when it is physically damaged or ATF leaked.

B: MAINTENANCE SCHEDULE 2

1. EUROPE AREA

Item	Every	Repeat short distance drive	Repeat rough/muddy road drive	Extremely cold weather area	Salt or other corrosive used or coastal area	High humidity or mountain area	Repeat towing trailer
Engine oil		Replace more frequently		Replace more frequently			Replace more frequently
Engine oil filter		Replace more frequently		Replace more frequently			Replace more frequently
Fuel line	12 months				I		
	15,000 km						
	9,000 miles						
Transmission oil							Replace more frequently
ATF							Replace more frequently
Front & rear differential oil							Replace more frequently
Brake line	12 months				I		
	15,000 km						
	9,000 miles						
Brake fluid	12 months					R	
	15,000 km						
	9,000 miles						
Brake pads	12 months	I	I		I		I
	15,000 km						
	9,000 miles						
Brake linings and drums	12 months	I	I		I		I
	15,000 km						
	9,000 miles						
Parking brake	12 months	I	I		I		I
	15,000 km						
	9,000 miles						
Suspension	12 months		I	I	I		
	15,000 km						
	9,000 miles						
Axle boots & joints	12 months	I	I		I		I
	15,000 km						
	9,000 miles						
Steering system (Power steering)	12 months		I	I	I		
	15,000 km						
	9,000 miles						

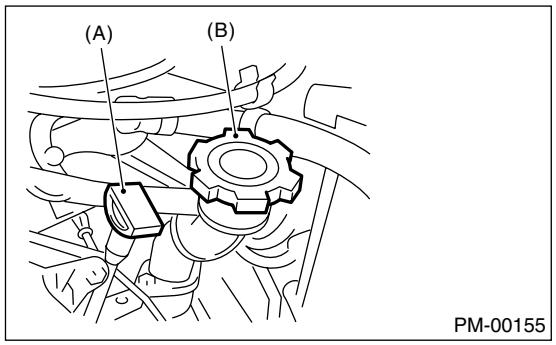
2. EXCEPT FOR EUROPE AREA

Item	Every	Repeat short distance drive	Repeat rough/muddy road drive	Extremely cold weather area	Salt or other corrosive used or coastal area	High humidity or mountain area	Repeat towing trailer
Engine oil		Replace more frequently		Replace more frequently			Replace more frequently
Engine oil filter		Replace more frequently		Replace more frequently			Replace more frequently
Fuel line	6 months				I		
	12,500 km						
	7,500 miles						
Transmission oil							Replace more frequently
ATF							Replace more frequently
Front & rear differential oil							Replace more frequently
Brake line	6 months				I		
	12,500 km						
	7,500 miles						
Brake fluid	12 months					R	
	25,000 km						
	15,000 miles						
Brake pads	6 months	I	I		I		I
	12,500 km						
	7,500 miles						
Brake linings and drums	6 months	I	I		I		I
	12,500 km						
	7,500 miles						
Parking brake	6 months	I	I		I		I
	12,500 km						
	7,500 miles						
Suspension	6 months		I	I	I		
	12,500 km						
	7,500 miles						
Axle boots & joints	6 months	I	I		I		I
	12,500 km						
	7,500 miles						
Steering system (Power steering)	6 months		I	I	I		
	12,500 km						
	7,500 miles						

3. Engine Oil

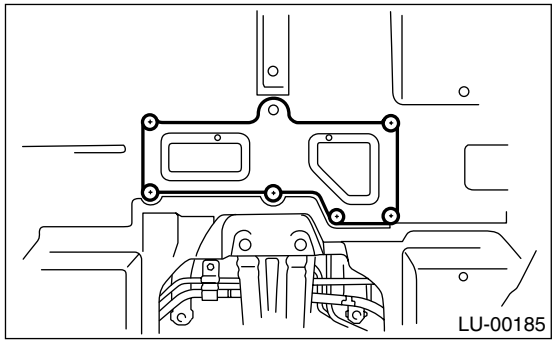
A: REPLACEMENT

1) Open the engine oil filler cap for quick draining of the engine oil.



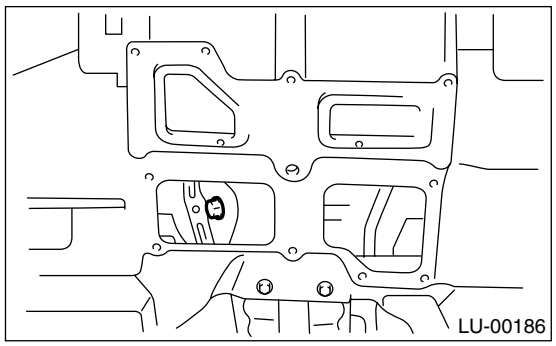
(A) Oil level gauge
(B) Oil filler cap

2) Remove the dip of service hole cover. (Turbo model)

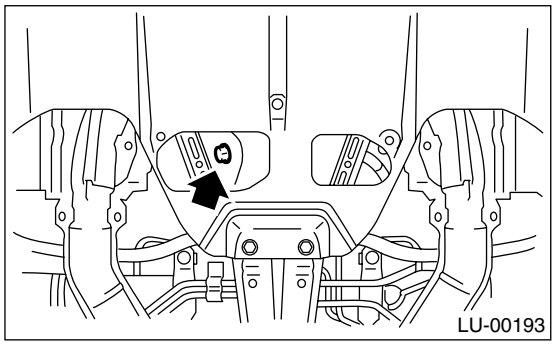


3) Drain the engine oil by loosening engine oil drain plug.

- DOHC TURBO MODEL



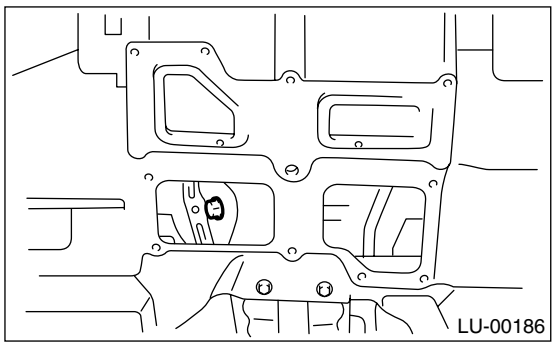
- SOHC MODEL



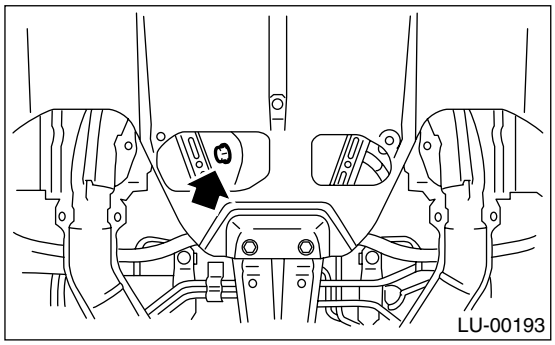
4) Replace the drain plug gasket.
5) Tighten the engine oil drain plug after draining engine oil.

Tightening torque:
44 N·m (4.5 kgf-m, 33 ft-lb)

- DOHC TURBO MODEL



- SOHC MODEL



6) Fill engine oil through the filler pipe up to center between upper level and lower level. Make sure that the vehicle is placed level when checking oil level. Use engine oil of proper quality and viscosity, selected in accordance with the table in figure.

Recommended oil

API classification

SL or SJ with the words "Energy Conserving or Energy conserving II", CCMC specification G4 or G5, ACEA specification A1, A2 or A3, or New API mark displayed on the container (If it is impossible to get SL or SJ grade, you may use SG or SH grade.)

Engine oil capacity

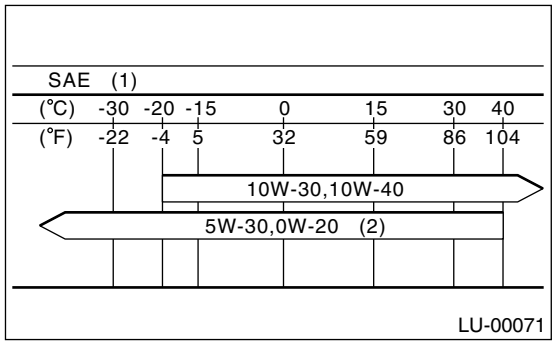
Upper level:

Approx. 4.0 ℓ (4.2 US qt, 3.5 Imp qt)

Lower level:

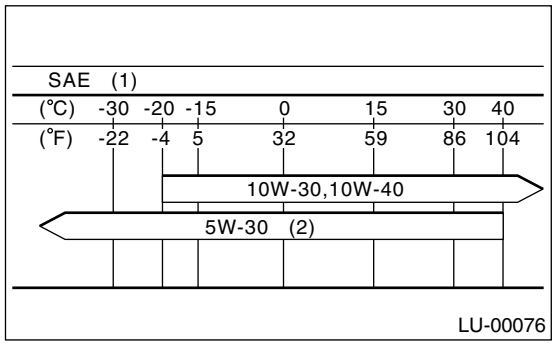
Approx. 3.0 ℓ (3.2 US qt, 2.6 Imp qt)

- SOHC MODEL



(1) Viscosity No. and applicable temperature
(2) Preferred

- EXCEPT FOR SOHC MODEL



(1) Viscosity No. and applicable temperature
(2) Preferred

The proper viscosity helps vehicle get good cold and hot starting by reducing viscous friction and thus increasing cranking speed.

NOTE:

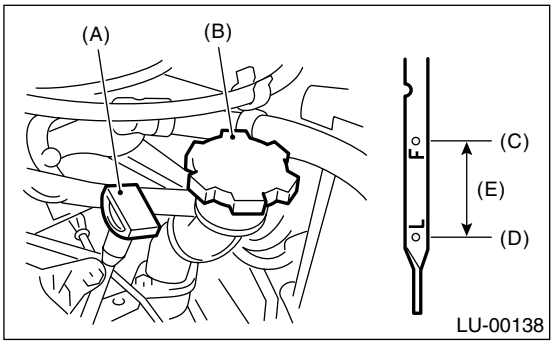
- When replenishing oil, it does not matter if the oil to be added is a different brand from that in the engine; however, use oil having the API classification and SAE viscosity No. designated by SUBARU.
- If vehicle is used in desert areas with very high temperatures or for other heavy duty applications, the following viscosity oils may be used:

API classification: SL or SJ.
SAE Viscosity No.: 30, 40, 10W-50, 20W-40, 20W-50

7) Close the engine oil filler cap.
8) Start the engine and warm it up for a time.
9) After the engine stops, recheck the oil level. <Ref. to PM-8, INSPECTION, Engine Oil.>

B: INSPECTION

1) Park the vehicle on a level surface.
2) Remove the oil level gauge and wipe it clean.
3) Reinsert the level gauge all the way. Be sure that the level gauge is correctly inserted and in the proper orientation.
4) Remove it again and note the reading. If the engine oil level is below the "L" line, add oil to bring the level up to the "F" line.



(A) Oil level gauge
(B) Oil filler cap
(C) Upper level
(D) Lower level
(E) Approx. 1 ℓ (1.1 Us qt, 0.9 Imp qt)

5) After turning off the engine, wait a few minutes for the oil to drain back into oil pan before checking the level.
6) Just after driving or while the engine is warm, engine oil level may show in the range between the "F" line and the notch mark. This is caused by thermal expansion of the engine oil.
7) To prevent overfilling the engine oil, do not add oil above the "F" line when the engine is cold.

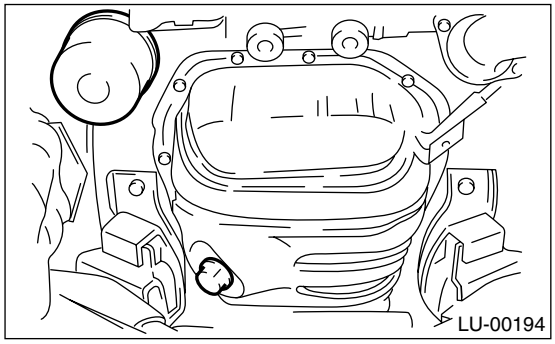
4. Engine Oil Filter

A: REPLACEMENT

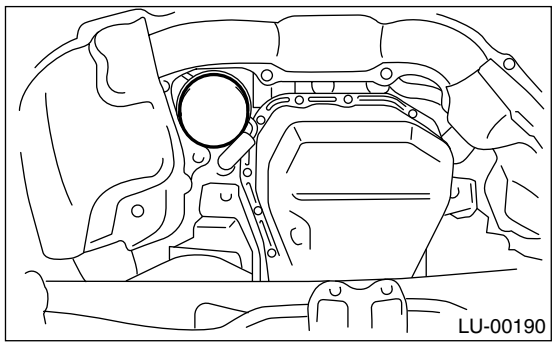
1) Remove the under cover.
2) Remove the oil filter with ST.

ST	498547000	OIL FILTER WRENCH (Outer diameter 80 mm (3.15 in))
ST	18332AA000	OIL FILTER WRENCH (Outer diameter 68 mm (2.68 in))
ST	18332AA010	OIL FILTER WRENCH (Outer diameter 65 mm (2.56 in))

- SOHC MODEL



- DOHC TURBO MODEL



3) Get a new oil filter and apply a thin coat of engine oil to the seal rubber.
4) Install the oil filter by turning it by hand, being careful not to damage the seal rubber.
5) Tighten more (approx. 1 turn for outer diameter 68 mm (2.68 in) oil filter, and 2/3 to 3/4 turn except for outer diameter 68 mm (2.68 in) oil filter) after the seal rubber contacts the cylinder block. Do not tighten excessively, or oil may leak.
6) After installing the oil filter, run the engine and make sure that no oil is leaking around seal rubber.

NOTE:
The filter element and filter case are permanently joined; therefore, interior cleaning is not necessary.

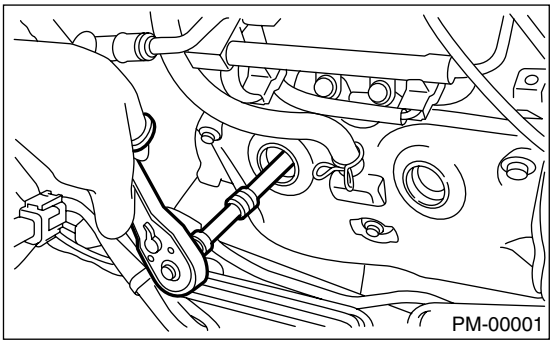
7) Check the engine oil level. <Ref. to PM-8, INSPECTION, Engine Oil.>

5. Spark Plugs

A: REPLACEMENT

1. SOHC MODEL

1) Remove the intake duct and intake chamber.
2) Remove the washer tank and put it aside.
3) Disconnect the spark plug cord.
4) Remove the spark plug with a plug-wrench.



5) Set the new spark plugs.

Recommended spark plug:
1.6 L SOHC model (with catalytic converter)
CHAMPION: RC8YC4
NGK: BKR6E-11 (Alternate)
1.6 L SOHC model (without catalytic converter)
NGK: BKR6E
2.0 and 2.5 L SOHC model (with catalytic converter)
CHAMPION: RC10YC4
NGK: BKR5E-11 (Alternate)
2.0 SOHC model (without catalytic converter)
NGK: BKR6E

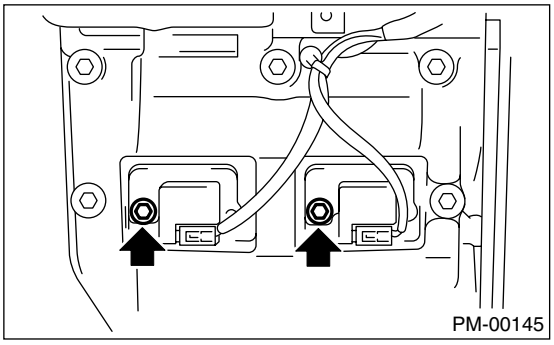
6) Tighten the spark plug lightly with hand, and then secure with a plug-wrench to the specified torque.

Tightening torque:
21 N·m (2.1 kgf-m, 15.2 ft-lb)

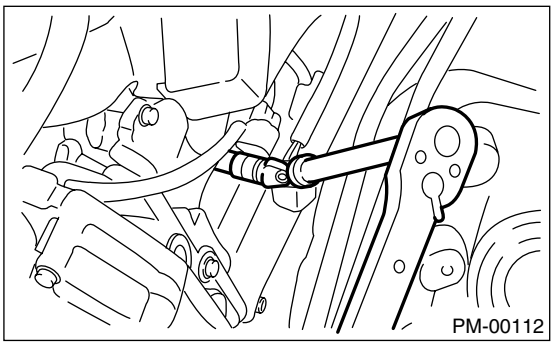
NOTE:
• Be sure to place the gasket between the cylinder head and spark plug.
• If a torque wrench is not available, tighten the spark plug until gasket contacts cylinder head; then tighten further 1/4 to 1/2 turns.

2. DOHC MODEL

1) Disconnect the battery cables, and then remove the battery and battery carrier.
2) Remove the washer tank and put it aside.
3) Remove the air cleaner lower case.
4) Disconnect the connector from ignition coil.
5) Remove the ignition coil.



6) Remove the spark plug with a spark plug socket.



7) Set new spark plugs.

Recommended spark plug:
2.0 L DOHC Turbo model
NGK: PFR6G

8) Tighten the spark plug lightly with hand, and then secure with a plug-wrench to the specified torque.

Tightening torque:
21 N·m (2.1 kgf-m, 15.2 ft-lb)

9) Tighten the ignition coil.

Tightening torque:
16 N·m (1.6 kgf-m, 11.7 ft-lb)

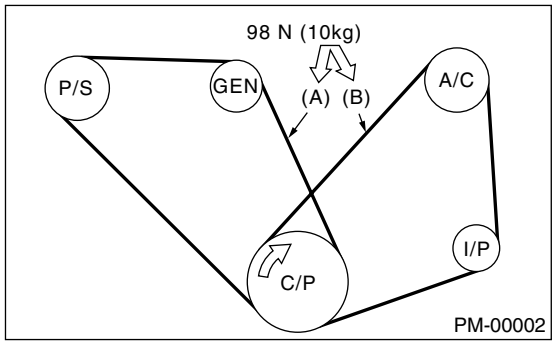
NOTE:
• Be sure to place the gasket between the cylinder head and spark plug.
• If a torque wrench is not available, tighten the spark plug until gasket contacts cylinder head: then tighten further 1/4 to 1/2 turns.

6. V-belt

A: INSPECTION

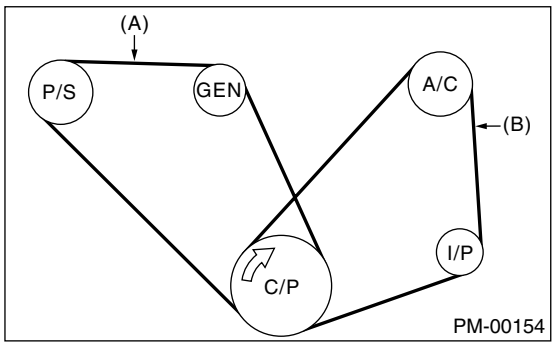
1) Replace the belts, if cracks, fraying or wear is found.
2) Check the V-belt tension and adjust it if necessary by changing the generator installing position and/or idler pulley installing position. <Ref. to PM-11, REPLACEMENT, V-belt.>

Belt tension (without belt tension gauge)
(A)
When installing new one: 7 — 9 mm (0.276 — 0.354 in)
At inspection: 9 — 11 mm (0.354 — 0.433 in)
(B)
When installing new one: 7.5 — 8.5 mm (0.295 — 0.335 in)
At inspection: 9.0 — 10.0 mm (0.354 — 0.394 in)



(A) Front side belt
(B) Rear side belt
C/P Crankshaft pulley
GEN Generator
P/S Power steering oil pump pulley
A/C Air conditioning compressor pulley
I/P Idler pulley

Belt tension (with belt tension gauge)
(A)
When installing new one: 640 — 785 N (65.3 — 80.0 kgf, 144 — 176 lb)
At inspection: 490 — 640 N (50 — 65 kgf, 110 — 144 lb)
(B)
When installing new one: 620 — 760 N (63 — 77 kgf, 140 — 170 lb)
At inspection: 350 — 450 N (36 — 46 kgf, 79 — 101 lb)

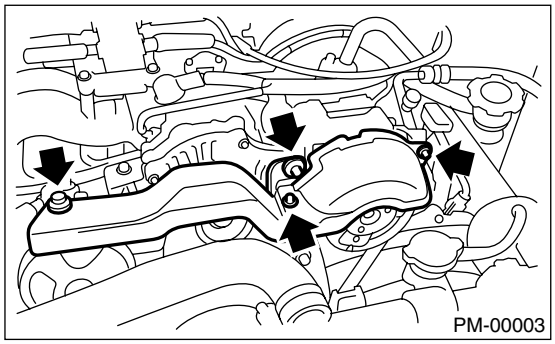


(A) Front side belt
(B) Rear side belt
C/P Crank pulley
GEN Generator
P/S Power steering oil pump pulley
A/C A/C compressor pulley
I/P Idler pulley

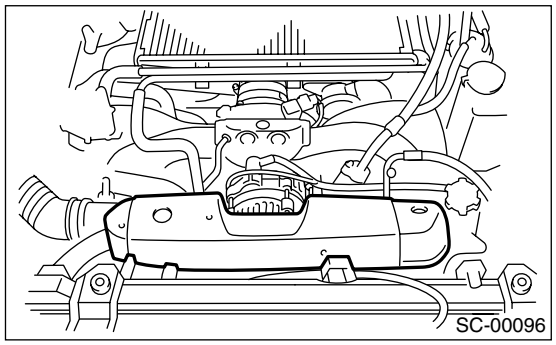
B: REPLACEMENT

1. FRONT SIDE BELT (DRIVING POWER STEERING OIL PUMP AND GENERATOR)

NOTE:
Wipe off any oil or water on the belt and pulley.
1) Remove the V-belt cover.
NON-TURBO MODEL

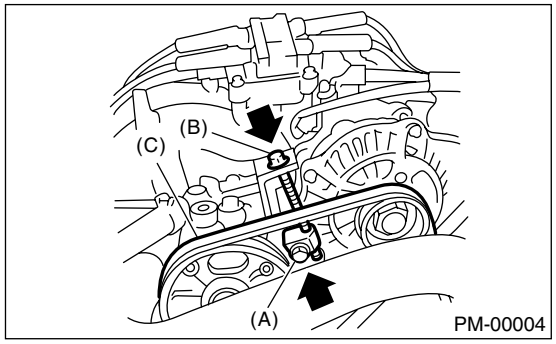


TURBO MODEL



2) Loosen the lock bolt (A).
3) Loosen the slider bolt (B).
4) Remove the front side belt (C).
5) Install a new belt, and tighten the slider bolt so as to obtain the specified belt tension.
6) Tighten the lock bolt (A).
7) Tighten the slider bolt (B).

Tightening torque:
Lock bolt:
25 N·m (2.5 kgf-m, 18 ft-lb)
Slider bolt:
8 N·m (0.8 kgf-m, 5.8 ft-lb)



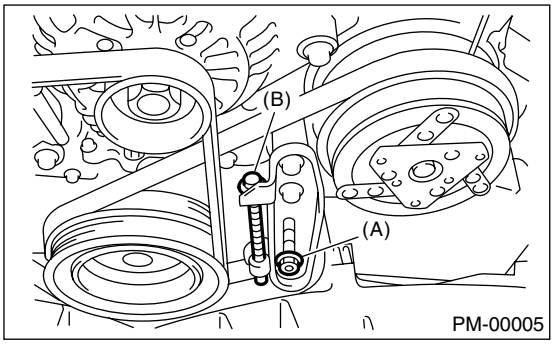
2. REAR SIDE BELT (DRIVING AIR CONDITIONER)

NOTE:
Wipe off any oil or water on the belt and pulley.

1) Remove the front side belt.
2) Loosen the lock nut (A).
3) Loosen the slider bolt (B).
4) Remove the rear side belt.
5) Install a new belt, and tighten the slider bolt so as to obtain the specified belt tension.
6) Tighten the lock nut (A).
7) Install the front side belt.

SOHC model
<Ref. to ME(H4SO)-43, FRONT SIDE BELT, INSTALLATION, V-belt.>
DOHC Turbo model
<Ref. to ME(H4DOTC)-54, FRONT SIDE BELT, INSTALLATION, V-belt.>

Tightening torque:
23 N·m (2.3 kgf-m, 17.0 ft-lb)

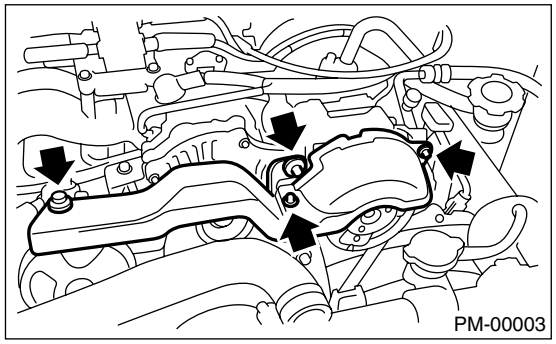


7. Timing Belt

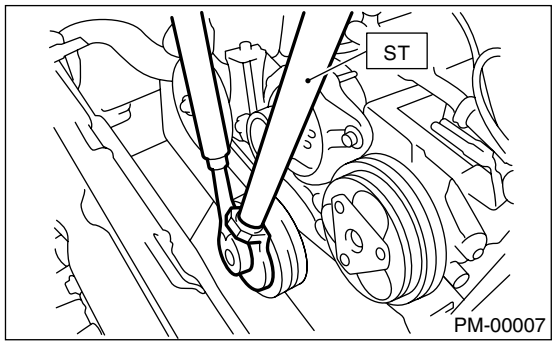
A: REPLACEMENT

1. NON-TURBO MODEL

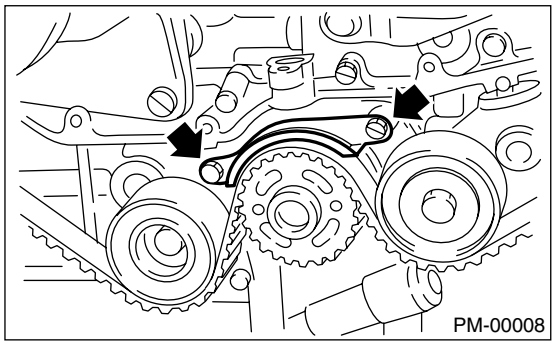
1) Remove the radiator fan and air conditioner fan. <Ref. to CO(H4SO)-23, Radiator Main Fan and Fan Motor.>, <Ref. to CO(H4SO)-24, Radiator Sub Fan and Fan Motor.>
2) Shield the radiator from any damage using cardboard and blanket.
3) Remove the V-belt cover.



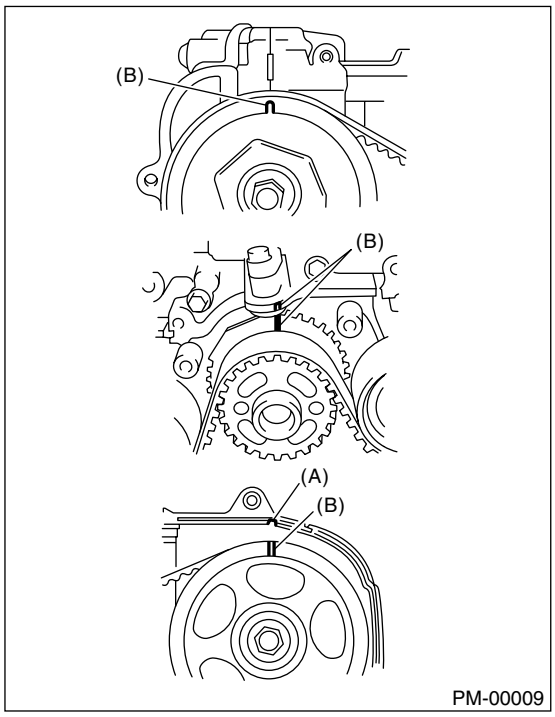
4) Remove the V-belts. <Ref. to ME(H4SO)-43, V-belt.>
5) Remove the air conditioning compressor drive belt tensioner.
6) To lock the crankshaft, use ST. Remove the pulley bolt.
2.5 L model:
ST 499977100 CRANKSHAFT PULLEY WRENCH
Except for 2.5 L model:
ST 499977400 CRANKSHAFT PULLEY WRENCH



7) Remove the crankshaft pulley.
8) Remove the left side belt cover.
9) Remove the front timing belt cover.
10) Remove the timing belt guide. (MT model)

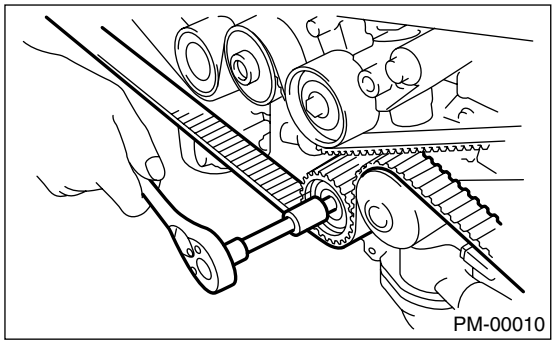


11) Turn the crankshaft and align alignment marks on crankshaft, and right and left camshaft sprockets with notches of belt cover and cylinder block.
ST 499987500 CRANKSHAFT SOCKET



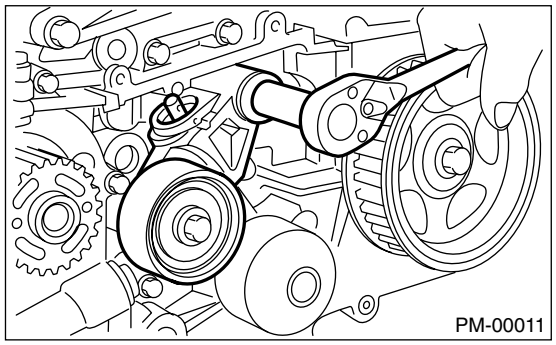
(A) Notch
(B) Alignment mark

12) Remove the belt idler.
13) Remove the belt idler (No. 2).



14) Remove the timing belt.

15) Remove the automatic belt tension adjuster assembly.



16) Install in the reverse order of removal. <Ref. to ME(H4SO)-49, INSTALLATION, Timing Belt Assembly.>

2. DOHC MODEL

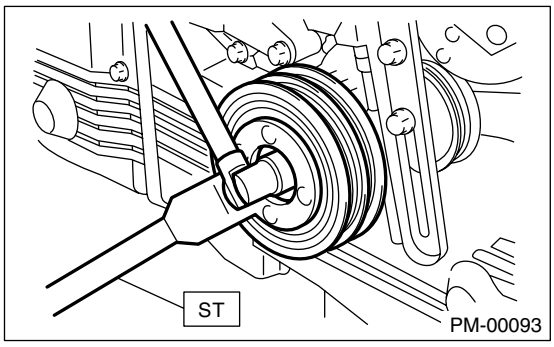
1) Remove the radiator fan and air conditioner fan. <Ref. to CO(H4DOTC)-28, Radiator Main Fan and Fan Motor.>, <Ref. to CO(H4DOTC)-30, Radiator Sub Fan and Fan Motor.>
2) Protect the radiator with cardboard and blanket.
3) Remove the V-belts. <Ref. to ME(H4DOTC)-54, V-belt.>
4) Remove the air conditioning compressor drive belt tensioner.
5) Remove the pulley bolt. To lock the crankshaft use ST.

Except for STi model:

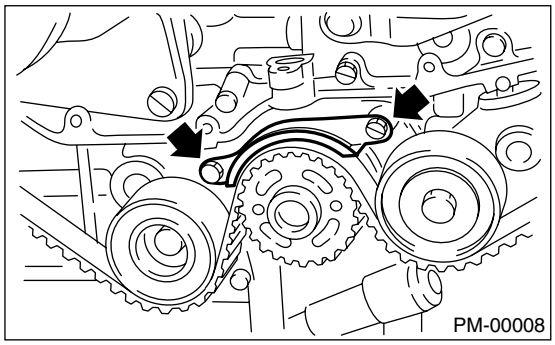
ST	499977300	CRANKSHAFT PULLEY WRENCH

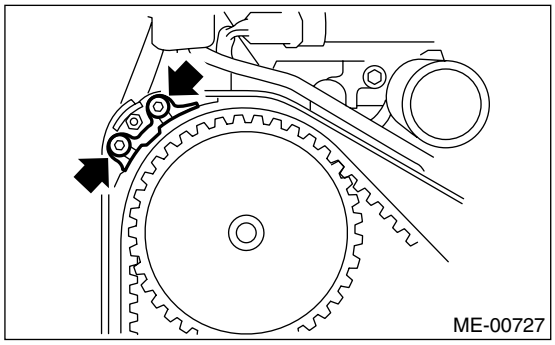
STi model:

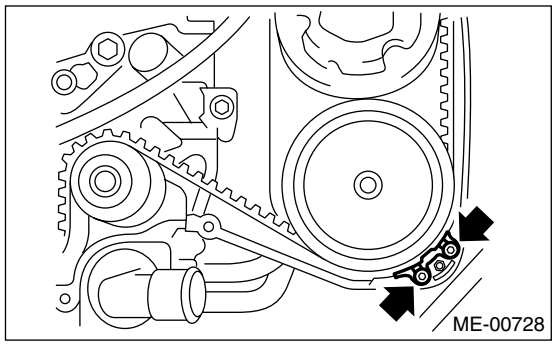
ST	499977300	CRANKSHAFT PULLEY WRENCH

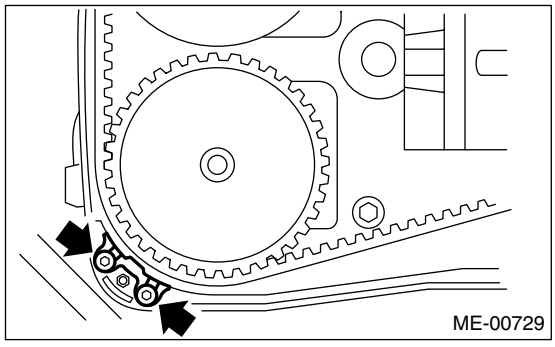


6) Remove the crankshaft pulley.
7) Remove the air conditioning compressor drive belt tensioner.
8) Remove the belt cover (LH).
9) Remove the belt cover (RH).
10) Remove the front belt cover.
11) Remove the timing belt guide. (MT model)



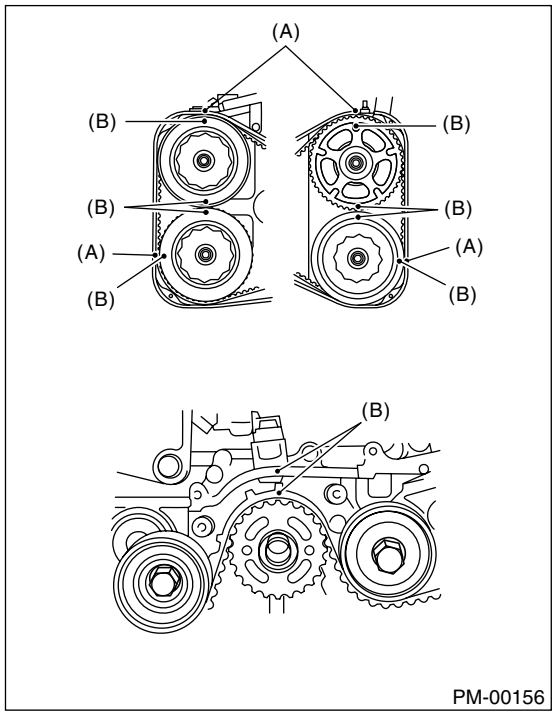






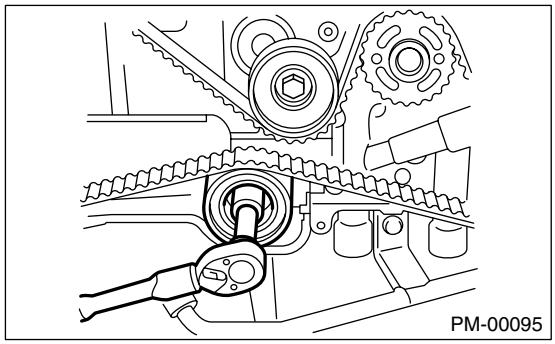
12) Turn the crankshaft and align alignment marks on crankshaft, and right and left camshaft sprockets with notches of belt cover and cylinder block. To turn the crankshaft, use ST.

ST 499987500 CRANKSHAFT SOCKET

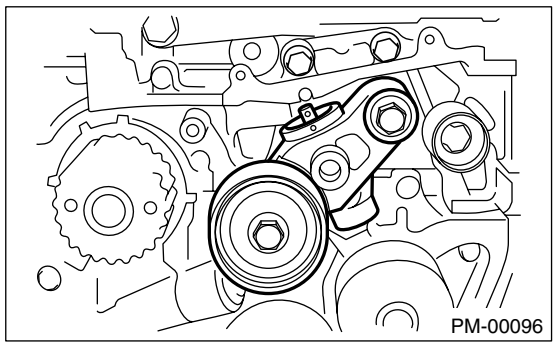


(A) Notch
(B) Alignment mark

13) Remove the belt idler.



14) Remove the timing belt.
15) Remove the automatic belt tension adjuster assembly.



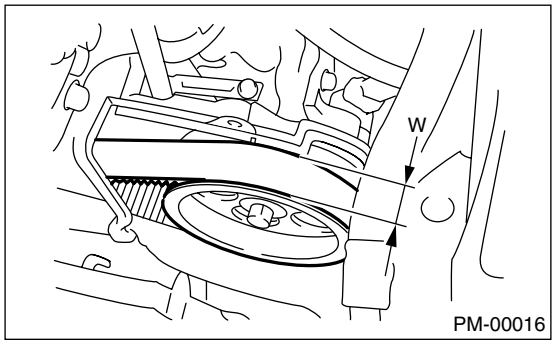
16) Install in the reverse order of removal. <Ref. to ME(H4DOTC)-58, Timing Belt Assembly.>

CAUTION:
When installing the timing belt, be sure to align all alignment marks on the belt with corresponding marks on the sprockets. If incorrectly installed, interference between pistons and valves may occur.

B: INSPECTION

1. SOHC MODEL

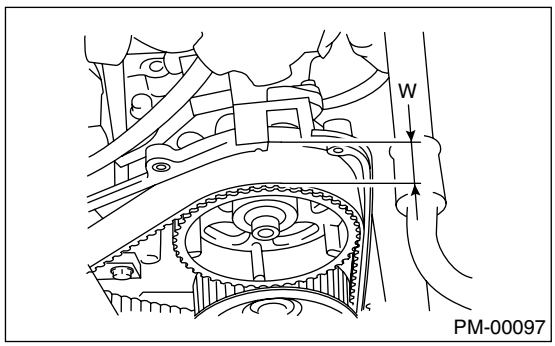
1) Remove the front timing belt cover and timing belt cover (LH).
2) While cranking the engine at least four rotations, check the timing belt back surface for cracks or damage. Replace the faulty timing belt as needed.
3) Measure the timing belt width W. If it is less than 27 mm (1.06 in), check idlers, tensioner, water pump pulley and cam sprocket to determine idler alignment (squareness). Replace the worn timing belt.



4) Install the front timing belt cover and timing belt cover (LH).

2. DOHC MODEL

1) Remove the timing belt cover (LH).
2) While cranking the engine at least four rotations, check the timing belt back surface for cracks or damage. Replace the faulty timing belt as needed.
3) Measure the timing belt width W. If it is less than 30 mm (1.18 in), check idlers, tensioner, water pump pulley and cam sprocket to determine idler alignment (squareness). Replace the worn timing belt.
4) Install the timing belt cover (LH).



8. Fuel Line

A: INSPECTION

The fuel line is located mostly internally, so check pipes, areas near pipes, and engine compartment piping for rust, hose damage, loose bands, etc. If faulty parts are found, repair or replace them.
SOHC model
<Ref. to FU(H4SO)-63, Fuel Delivery, Return and Evaporation Lines.>
DOHC Turbo model
<Ref. to FU(H4DOTC)-69, Fuel Delivery, Return and Evaporation Lines.>

9. Fuel Filter

A: REPLACEMENT

For fuel filter replacement procedures, refer to “FU” section.
SOHC model
<Ref. to FU(H4SO)-60, Fuel Filter.>
DOHC Turbo model
<Ref. to FU(H4DOTC)-66, Fuel Filter.>

B: INSPECTION

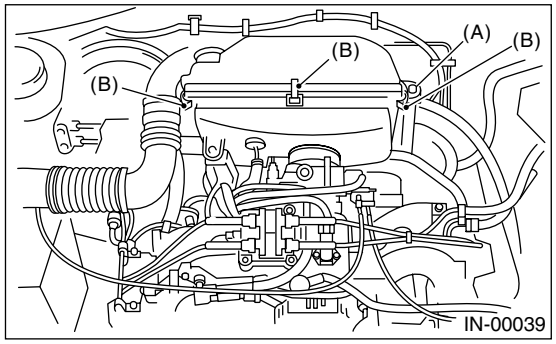
1) If it is clogged, or if replacement interval has been reached, replace it.
2) If water is found in it, shake and expel the water from inlet port.

10.Air Cleaner Element

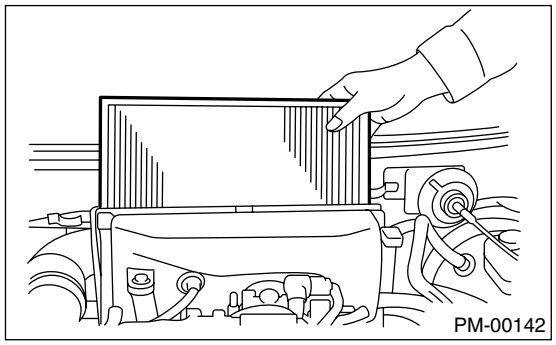
A: REPLACEMENT

1. NON-TURBO MODEL

1) Remove the air intake duct from air cleaner case.
2) Remove the bolt (A) which installs air cleaner case to stays.
3) Remove the clip (B) above the air cleaner case.



4) Remove the air cleaner.

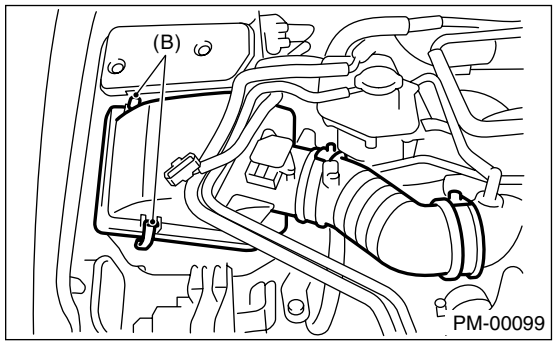


5) Install in the reverse order of removal.

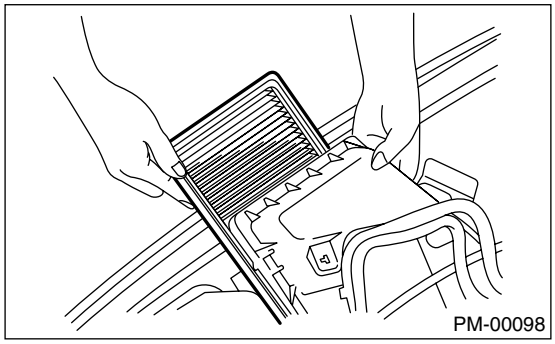
NOTE:
Fasten with a clip after inserting the lower tab of the case.

2. TURBO MODEL

1) Remove the clip (B) above the air cleaner case.

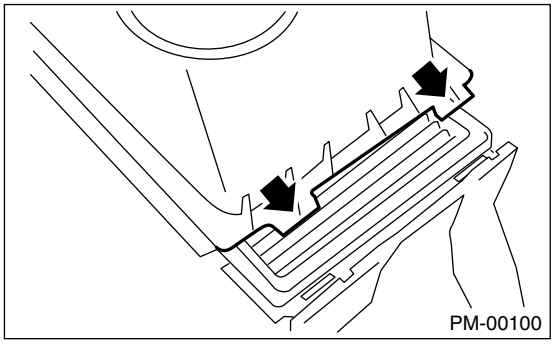


2) Remove the air cleaner.



3) Install in the reverse order of removal.

NOTE:
Align the protruding portion of air cleaner upper cover with holes of air cleaner lower case, then secure upper cover to case.



11.Cooling System

A: INSPECTION

1) Check the radiator for leakage, filling it with coolant and attach the radiator cap tester (A) to filler neck. Then apply a pressure.
Check the following points:

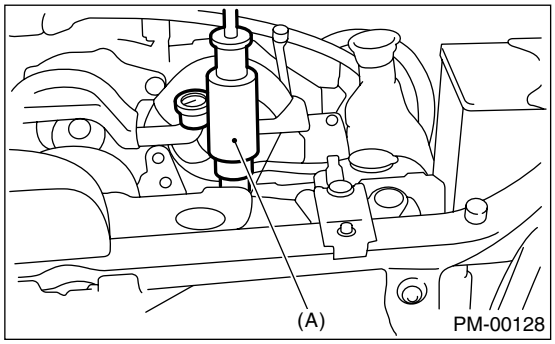
Non-turbo model
157 kPa (1.6 kg/cm^2, 23 psi)

Turbo model
122 kPa (1.2 kg/cm^2, 18 psi)

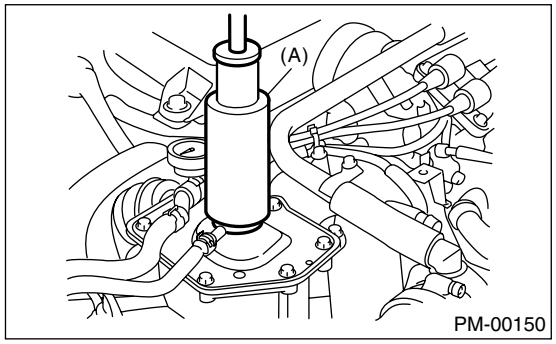
- Each portion of radiator for leakage
- Hose joints and other connections for leakage

NOTE:
- For turbo model, be sure to install the tester to filler tank side.
- When attaching or detaching tester and when operating tester, use special care not to deform radiator filler neck.

NON-TURBO MODEL



TURBO MODEL



- When performing this check, be sure to keep the engine stationary and fill the radiator with coolant.
- Wipe off check points before applying pressure.
- Use care not to spill coolant when detaching the tester from radiator.
- Do not remove the radiator side cap. (Turbo model)

2) Check the radiator cap valve open pressure using radiator cap tester.

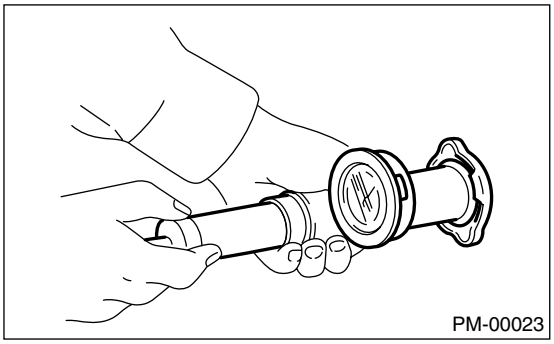
NOTE:
Rust or dirt on the cap may prevent the valve from functioning normally: be sure to clean the cap before testing.

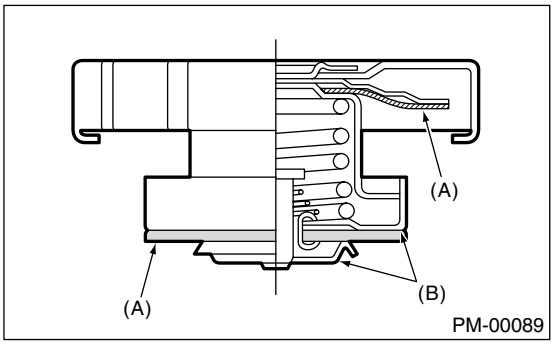
Raise the pressure until the needle of gauge stops and see if the pressure can be retained for 5 to 6 seconds. The radiator cap is normal if a pressure above the service limit value has been maintained for this period.

Radiator cap valve open pressure

Non-turbo model
Standard value:
93 — 123 kPa (0.95 — 1.25 kg/cm^2, 14 — 18 psi)
Service limit:
83 kPa (0.85 kg/cm^2, 12 psi)

Turbo model
Filler tank side:
Standard value:
93 — 123 kPa (0.95 — 1.25 kg/cm^2, 14 — 18 psi)
Service limit:
83 kPa (0.85 kg/cm^2, 12 psi)
Radiator side:
Standard value:
122 — 152 kPa (1.24 — 1.55 kg/cm^2, 18 — 22 psi)
Service limit:
112 kPa (1.14 kg/cm^2, 16 psi)





(A) Deformation
(B) Deformation, damage, rust

3) Start the engine, and then check it does not overheat or it is cooled excessively. If it overheats or it is cooled excessively, check the cooling system.
SOHC model
<Ref. to CO(H4SO)-15, Water Pump.>
<Ref. to CO(H4SO)-18, Thermostat.>
<Ref. to CO(H4SO)-19, Radiator.>
<Ref. to CO(H4SO)-22, Radiator Cap.>
DOHC Turbo model
<Ref. to CO(H4DOTC)-20, Water Pump.>
<Ref. to CO(H4DOTC)-22, Thermostat.>
<Ref. to CO(H4DOTC)-23, Radiator.>
<Ref. to CO(H4DOTC)-27, Radiator Cap.>
4) Check the electric fan operates using Subaru Select Monitor, when the coolant temperature exceeds 95°C (203°F). If not operate, check the electric fan system.
SOHC model
<Ref. to CO(H4SO)-6, Radiator Main Fan System.>
<Ref. to CO(H4SO)-9, Radiator Sub Fan System.>
DOHC Turbo model
<Ref. to CO(H4DOTC)-8, Radiator Main Fan System.>
<Ref. to CO(H4DOTC)-13, Radiator Sub Fan System.>

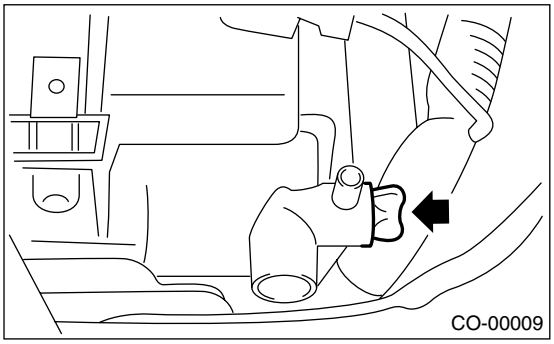
12.Coolant

A: REPLACEMENT

1. REPLACEMENT OF COOLANT

WARNING:
The radiator is of the pressurized type. Do not attempt to open the radiator cap immediately after the engine has been stopped.

1) Lift-up the vehicle.
2) Remove the under cover.
3) Place a container under drain pipe.
4) Loosen and remove the drain cock to drain engine coolant into container.



5) For quick draining, open the radiator cap.

NOTE:
Be careful not to spill coolant on the floor.

6) Drain the coolant from reservoir tank.
7) Tighten the radiator drain cock securely after draining coolant.
8) Pour the coolant to the filler neck of filler tank, and then pour into reservoir tank up to “FULL” level. (Turbo model)
9) Pour the coolant from radiator filler port to neck of filler, then pour into reservoir tank up to “FULL” level. (Non-turbo model)

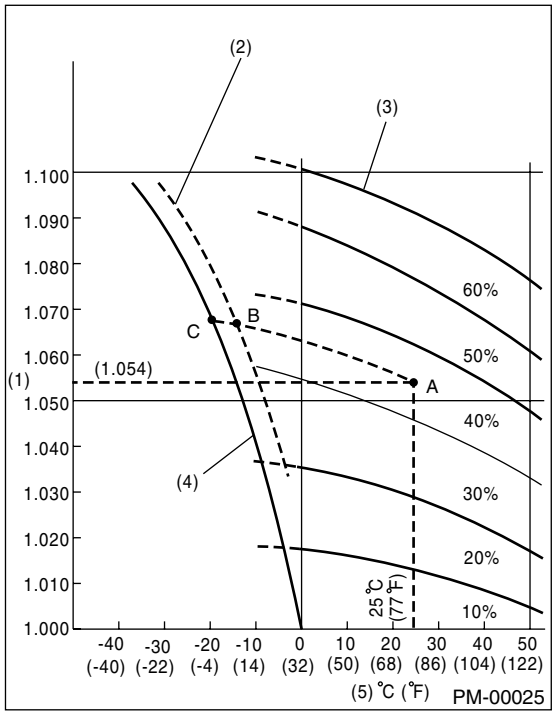
Coolant capacity (fill up to “FULL” level)
1.6 L AT model:
Approx. 7.3 ℓ (7.7 US qt, 6.4 Imp qt)
1.6 L MT model:
Approx. 7.4 ℓ (7.8 US qt, 6.5 Imp qt)
2.0 L Non-turbo AT model:
Approx. 6.9 ℓ (7.3 US qt, 6.1 Imp qt)
2.0 L Non-turbo MT model:
Approx. 7.0 ℓ (7.1 US qt, 6.2 Imp qt)
2.0 L Turbo AT model:
Approx. 7.6 ℓ (8.0 US qt, 6.7 Imp qt)
2.0 L Turbo MT model:
Approx. 7.7 ℓ (8.1 US qt, 6.8 Imp qt)
2.5 L AT model:
Approx. 6.9 ℓ (7.3 US qt, 6.1 Imp qt)
2.5 L MT model:
Approx. 7.0 ℓ (7.4 US qt, 6.2 Imp qt)

NOTE:
The SUBARU Genuine Coolant containing anti-freeze and anti-rust agents is especially made for SUBARU engine, which has an aluminum crankcase. Always use SUBARU Genuine Coolant, since other coolant may cause corrosion.

10) Securely install the radiator cap.
11) Run the engine for more than 5 minutes at 2,000 to 3,000 rpm. (Run the engine until radiator becomes hot in order to purge the air trapped in cooling system.)
12) Stop the engine and wait until coolant temperature lowers. Then open the radiator cap to check coolant level and add coolant up to radiator filler neck or filler tank filler neck. Next, add coolant into reservoir tank up to “FULL” level.
13) After adding coolant, securely install the radiator and reservoir tank caps.

2. RELATIONSHIP OF SUBARU COOLANT CONCENTRATION AND FREEZING TEMPERATURE

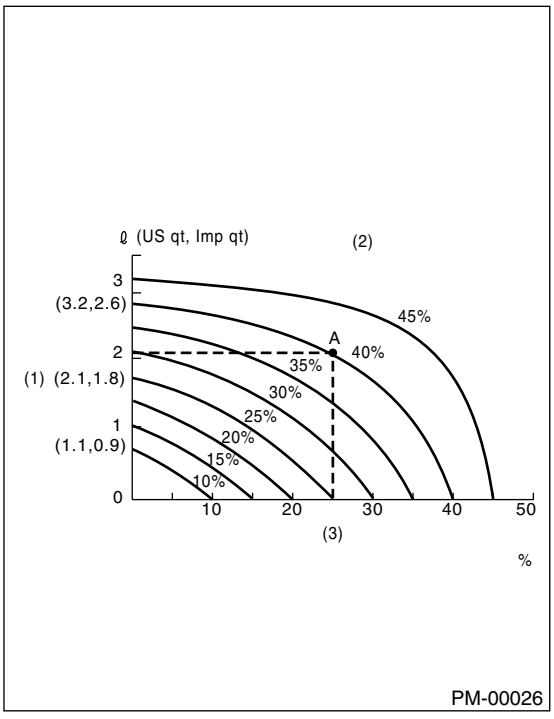
The concentration and safe operating temperature of the SUBARU coolant is shown in the diagram. Measuring the temperature and specific gravity of the coolant will provide this information.
[Example]
If the coolant temperature is 25°C (77°F) and its specific gravity is 1.054, the concentration is 35% (point A), the safe operating temperature is −14°C (7°F) (point B), and the freezing temperature is −20°C (−4°F) (point C).



(1) Coolant gravity
(2) Safe operating temperature
(3) Concentration of coolant
(4) Freezing temperature
(5) Coolant temperature

3. PROCEDURE TO ADJUST THE CONCENTRATION OF THE COOLANT

To adjust the concentration of the coolant according to temperature, find the proper fluid concentration in the above diagram and replace the necessary amount of coolant with an undiluted solution of SUBARU genuine coolant (concentration 50%).
The amount of coolant that should be replaced can be determined using the diagram.
[Example]
Assume that the coolant concentration must be increased from 25% to 40%. Find point A, where the 25% line of coolant concentration intersects with the 40% curve of the necessary coolant concentration, and read the scale on the vertical axis of the graph at height A. The quantity of coolant to be drained is 2.1 ℓ (2.2 US qt, 1.8 Imp qt). Drain 2.1 ℓ (2.2 US qt, 1.8 Imp qt) of coolant from the cooling system and add 2.1 ℓ (2.2 US qt, 1.8 Imp qt) of the undiluted solution of SUBARU coolant.
If a coolant concentration of 50% is needed, drain all the coolant and refill with the undiluted solution only.



(1) Quantity of coolant to be drained
(2) Necessary concentration of coolant
(3) Concentration of coolant in vehicle cooling system

13.Idle Mixture

A: INSPECTION AND ADJUSTMENT

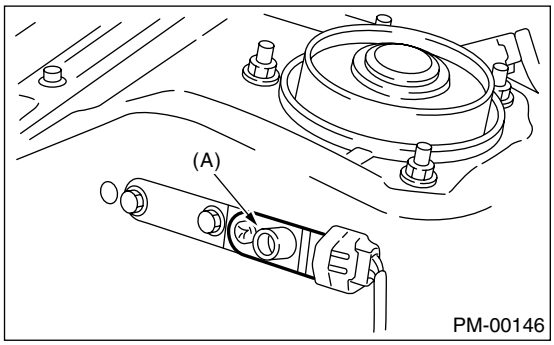
1. IDLE MIXTURE

Before measuring the idle mixture, make sure that the ignition timing and the engine idle speed are within specifications.
1) Set the gear position at “Neutral” for MT, or “N” or “P” for AT.
2) Warm up the engine sufficiently until cooling fan starts to operate.
3) Measure the idle mixture using CO meter.

Engine idle speed	CO
700±100 rpm	1.0±0.5%

4) If out of specification, adjust the idle mixture using CO adjusting screw of mass air flow sensor.
5) After adjusting the CO value, check and adjust the increment coefficient of CO resistor by using Select Monitor.
(1) Select “Current data display & Save” on the select monitor.
(2) If out of specified data, adjust the increment coefficient of CO resistor while rotating the CO adjusting screw (A).

Specified data:
0.28 — 4.22 V



NOTE:
If driving the vehicle on out of specified data, the “DTC 49” is indicated in many case.

14.Clutch System

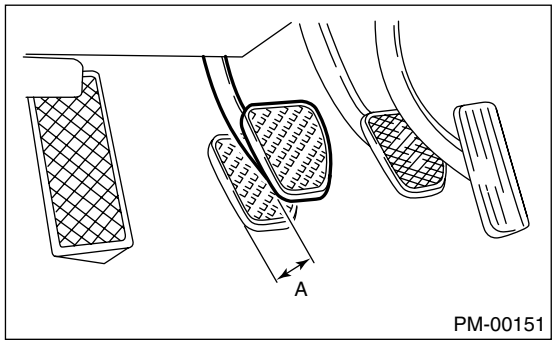
A: INSPECTION AND ADJUSTMENT

1. MECHANICAL CLUTCH TYPE

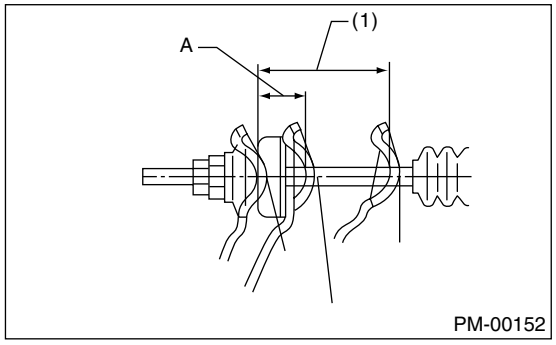
1) Inspect the free play of clutch pedal by operating pedal by hand.
If it is out of the specified value, adjust it by turning wing nut on engine side of clutch cable at release fork.

Tightening torque
(Adjusting nut on release fork):
4.4 — 7.4 N·m
(0.45 — 0.75 kgf-m, 3.3 — 5.4 ft-lb)

Standard free play A:
10 — 20 mm (0.39 — 0.79 in)



Fork lever free play allowance A:
2 — 4 mm (0.08 — 0.16 in)



(1) Full stroke: 25.5 mm (1 in)

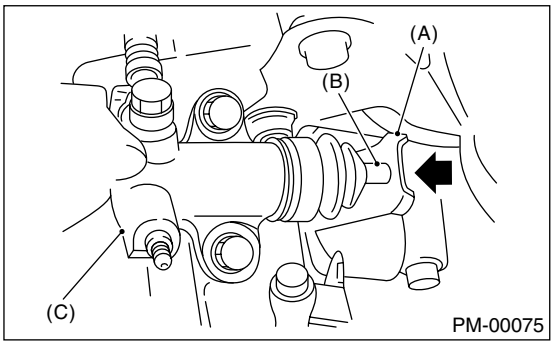
2) Pedal-to-floor plate gap in disengaged position.
(1) With the engine idling, pull the parking brake lever completely.
(2) Slowly depress the clutch pedal while moving shift lever into reverse.
(3) Stop depressing the clutch pedal when gearshifting is complete. With the clutch pedal in this position, measure the distance between the upper side of pedal pad and the lower end of front panel (intersection of front panel with floor). Check that the measured value is within the specification.

Standard:
80 mm (3.15 in) or more

3) Pedal height
Check that the clutch pedal pad surface is level with or higher than brake pedal pad surface.

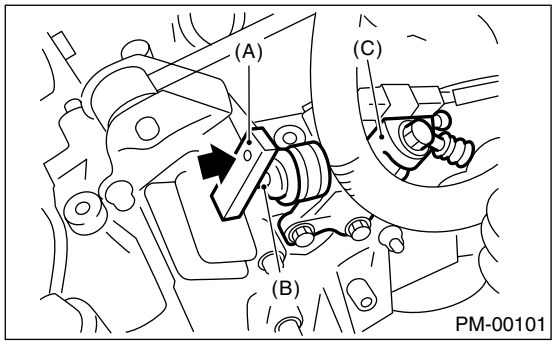
2. HYDRAULIC CLUTCH TYPE

1) Push the release lever to retract the push rod of the operating cylinder and check if the fluid level in the clutch reservoir tank rises or not.
NON-TURBO MODEL



(A) Release lever
(B) Push rod
(C) Operating cylinder

TURBO MODEL



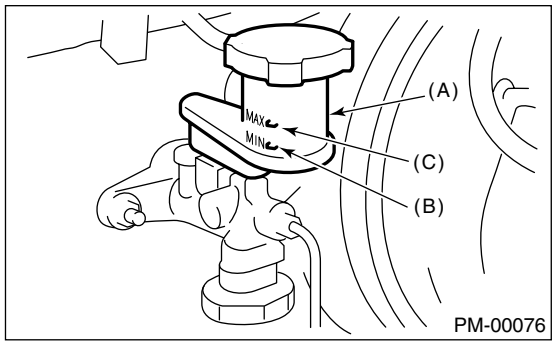
(A) Release lever
(B) Push rod
(C) Operating cylinder

2) If the fluid level rises, pedal free play is correct.
3) If the fluid level does not rise, or the push rod cannot be retracted, adjust the clutch pedal. <Ref. to CL-40, Clutch Pedal.>
4) Check the fluid level using the scale on the outside of the clutch master cylinder tank (A). If the level is below “MIN” (B), inspect the clutch master cylinder, operating cylinder and hydraulic line for fluid leaks. If fluid leaks are found, repair or replace. If fluid leaks are not found, add clutch fluid to bring it up to “MAX” (C) of clutch reservoir tank.

Recommended clutch fluid:
FMVSS No. 116, fresh DOT3 brake fluid

CAUTION:
Prevent the clutch fluid from being splashed over vehicle body. If the clutch fluid is splashed over vehicle body, flush it, and then wipe it up.

NOTE:
• Avoid mixing different brakes of brake fluid to prevent degradation of the fluid.
• Be careful not to allow dirt or dust to get into the reservoir tank.



(A) Reservoir tank
(B) MIN level
(C) MAX level

15.Transmission Gear Oil

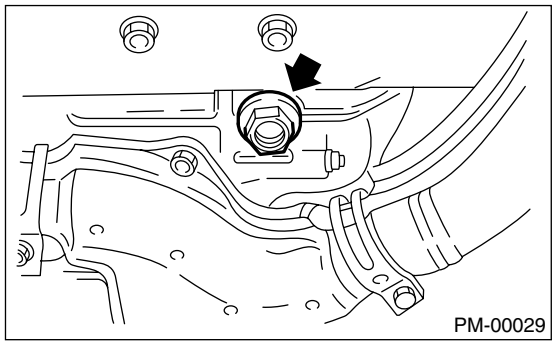
A: REPLACEMENT

1. MANUAL TRANSMISSION

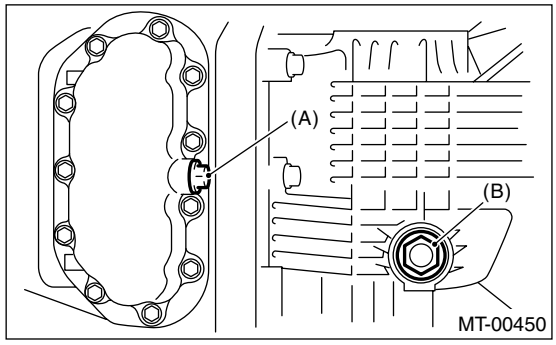
1) Drain the gear oil by removing drain plug.

NOTE:
• Before starting work, cool off the transmission gear oil well.
• If transmission gear oil adheres to the exhaust pipe, wipe it off completely.

5MT



6MT



(A) Drain plug (Oil pan side)
(B) Drain plug (Clutch housing side)

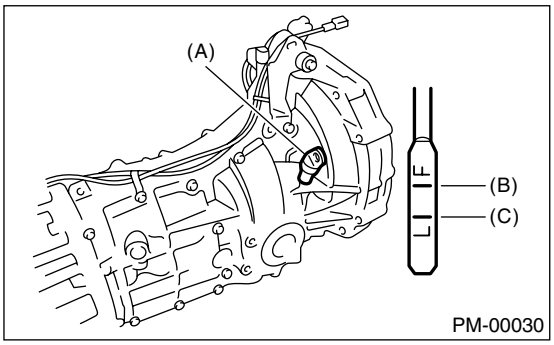
2) Replace the gasket with new one, and then tighten it to the specified torque.

Tightening torque:
5MT
70 N·m (7.1 kgf-m, 51.6 ft-lb)
6MT (Oil pan side):
44 N·m (4.5 kgf-m, 32.5ft-lb)
6MT (Clutch housing side):
70 N·m (7.1 kgf-m, 51.6 ft-lb)

3) Fill transmission gear oil through the oil level gauge hole up to the upper point of level gauge.

NOTE:
Each oil manufacturer has its base oil and additives. Thus, do not mix two or more brands.

Gear oil capacity:
FWD model
3.3 L (3.5 US qt, 2.5 Imp qt)
AWD model (5MT single range model):
3.5 L (3.7 US qt, 3.1 Imp qt)
AWD model (5MT dual range model):
4.0 L (4.2 US qt, 3.5 Imp qt)
6MT:
4.1 L (4.3 US qt, 3.6 Imp qt)



(A) Oil level gauge
(B) Upper level
(C) Lower level

16.Hill-holder System

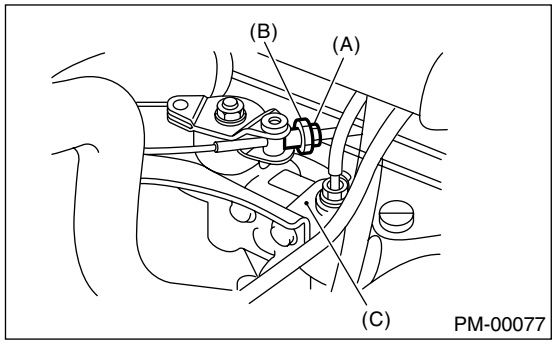
A: INSPECTION AND ADJUSTMENT

1) Confirm the stopping and starting performance by activating the hill-holder on an uphill road of 3° or higher inclination.

(1) When the vehicle does not stop;
Tighten the adjusting nut of PHV cable.

(2) When the vehicle does not start properly;
A; When the hill-holder is released later than engagement of clutch (engine tends to stall): Loosen the adjusting nut gradually until smooth starting is enabled.
B; When the hill-holder is released earlier than engagement to clutch (vehicle slips down slightly): Tighten the adjusting nut so that hill-holder is released later than engagement of clutch (status in A). Then make adjustment the same as in A.

NOTE:
• Whenever turning the adjusting nut, hold the inner cable with pliers to prevent it from turning.
• Replace the pressure hold valve (PHV) or PHV cable with a new one, if they are defective and/or damaged.



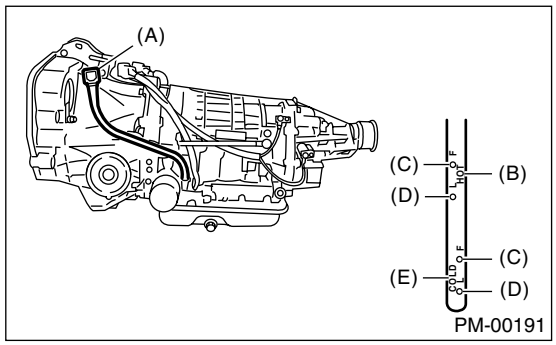
(A) Lock nut
(B) Adjusting nut
(C) Pressure hold valve

17.ATF

A: INSPECTION

CAUTION:
The level of ATF varies with fluid temperature. Pay attention to the fluid temperature when checking ATF level.

1) Raise the ATF temperature by driving a distance of 5 to 10 km (3 to 6 miles). Otherwise, idle the engine to raise ATF temperature to 70 — 80°C (158 — 176°F) on Subaru Select Monitor. <Ref. to 4AT(diag)-21, READ CURRENT DATA, OPERATION, Subaru Select Monitor.>
2) Make sure the vehicle is level.
3) After selecting all positions (P, R, N, D, 3, 2, 1), set the select lever in "P" range. Measure the ATF level with the engine idling for one or two minutes.



(A) Level gauge
(B) ATF level range at "HOT" [70 — 80°C (158 — 176°F)]
(C) Upper level
(D) Lower level
(E) ATF level range at "COLD" [20 — 30°C (68 — 86°F)]

4) Make sure that ATF level is the center of upper and lower level at "HOT" side.
If the ATF level is below lower level, check the transmission for leaks. If there are leaks, it is necessary to repair or replace gasket, oil seals, plugs or other parts.
5) If the ATF level is below the center between upper and lower level, add the recommended ATF until the ATF level is found above the center between upper and lower level.

CAUTION:
• Use care not to exceed the upper level.
• Addition of ATF to the upper level when the transmission is cold will result in overfilling of ATF, causing a transmission failure.

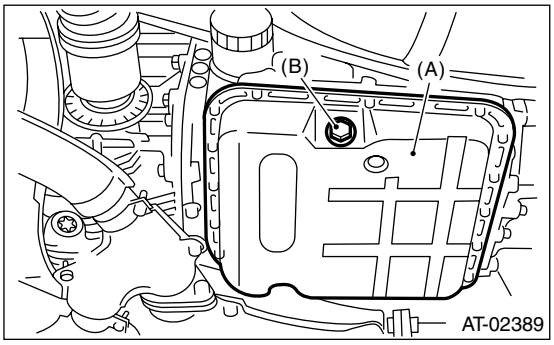
6) Check ATF level after raising ATF temperature to 70 — 80°C (158 —176°F) by running the vehicle or by idling the engine again.

B: REPLACEMENT

1. AUTOMATIC TRANSMISSION FLUID

1) Drain the ATF (Automatic Transmission Fluid) by removing drain plug.

NOTE:
• Before starting work, cool off the ATF well.
• Check the condition of ATF drained. <Ref. to 4AT-32, CONDITION CHECK, Automatic Transmission Fluid.>



(A) Oil pan
(B) ATF drain plug

2) Replace the gasket with a new one, and then tighten the specified torque.

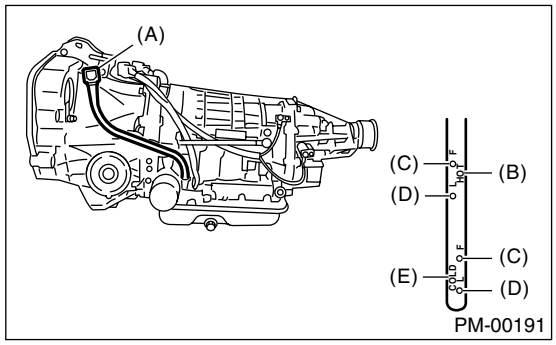
Tightening torque:
25 N·m (2.55 kgf-m, 18.4 ft-lb)

3) Fill ATF up to the middle of the "COLD" side on level gauge by using the gauge hole.

Recommended fluid:
Dexron III type automatic transmission fluid

Fluid capacity:
Fill the same amount drained from ATF drain plug hole.

4) Check the ATF level. <Ref. to PM-28, INSPECTION, ATF.>



(A) Level gauge
(B) ATF level range at “HOT” [70 — 80°C (158 — 176°F)]
(C) Upper level
(D) Lower level
(E) ATF level range at “COLD” [20 — 30°C (68 — 86°F)]

2. ATF FILTER

NOTE:
ATF filter is a maintenance free part. ATF filter needs replacement, when it has physically damaged or ATF leaked.

For the replacement procedures of the ATF filter: <Ref. to 4AT-73, ATF Filter.>

18. Front & Rear Differential Gear Oil

A: REPLACEMENT

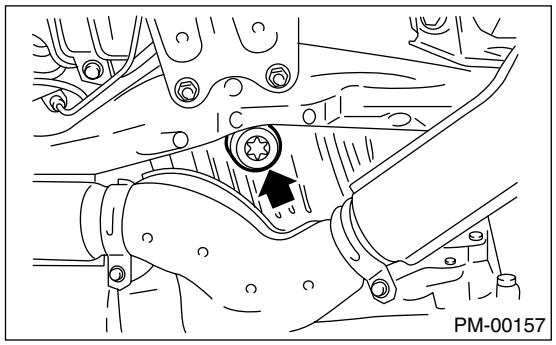
1. FRONT DIFFERENTIAL (MT MODEL)

Differential oil works as manual transmission oil to lubricate differential. Refer to "Transmission Oil". <Ref. to PM-26, Transmission Gear Oil.>

2. FRONT DIFFERENTIAL (AT MODEL)

1) Drain the differential gear oil by removing drain plug using TORX®.

NOTE:
• Before starting work, cool off the differential gear oil well.
• If front differential gear oil adheres to the exhaust pipe, wipe it off completely.



2) Replace the gasket with a new one, and then tighten the drain plug to specified torque.

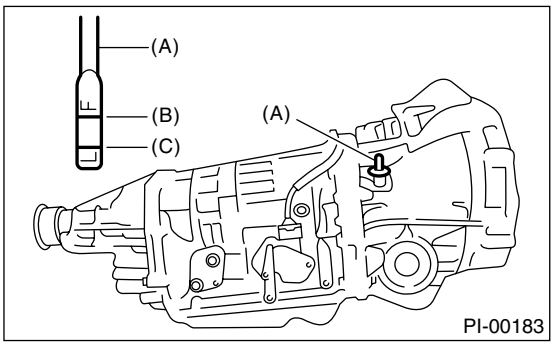
Tightening torque:
70 N·m (7.1 kgf-m, 51.6 ft-lb)

3) Fill differential gear oil through the oil level gauge hole up to the upper point of level gauge.

NOTE:
Each oil manufacturer has its base oil and additives. Thus, do not mix two or more brands.

Recommended gear oil:
GL-5 (75W-90) or equivalent

Differential gear oil capacity:
1.1 — 1.3 ℓ (1.2 — 1.4 US qt, 1.0 — 1.1 Imp qt)



(A) Oil level gauge
(B) Upper level
(C) Lower level

3. REAR DIFFERENTIAL

1) Drain the oil by removing drain plug.
2) Remove the filler plug or oil temperature switch for quick draining oil.
3) Install the drain plug after draining oil.

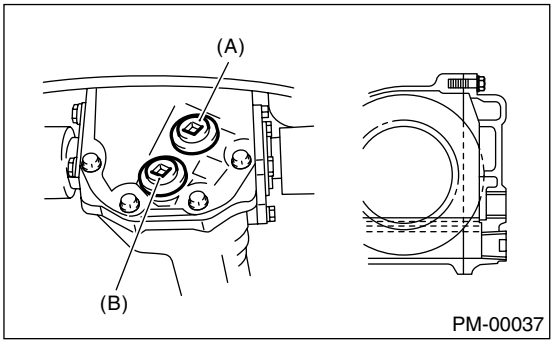
NOTE:
• Apply fluid packing to the drain plug threads for T type.

Fluid packing:
Three Bond 1105 (Part No. 004403010)

• Use a new aluminum gasket for VA type.

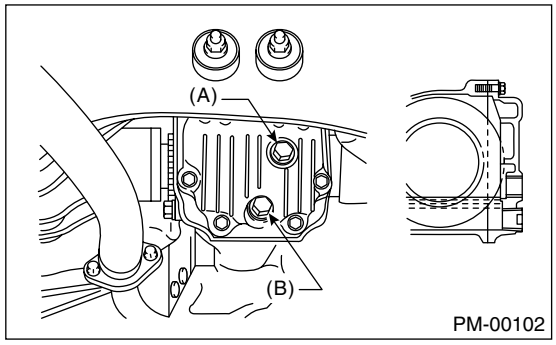
Tightening torque:
T type:
49.0 N·m (5.0 kgf-m, 36.2 ft-lb)
VA type:
34 N·m (3.5 kgf-m, 25.3 ft-lb)

4) After installing the drain plug onto rear differential gear case firmly, fill oil up fully to the mouth of filler plug.
T TYPE



(A) Filler plug
(B) Drain plug

VA TYPE



(A) Filler plug
(B) Drain plug

Recommended gear oil:
Except for STi model with driver's control center differential
GL-5 (75W-90) or equivalent
STi model with driver's control center differential
GL-5 [LSD oil (90)] or equivalent

Oil capacity:
Except for STi model:
0.8 ℓ (0.8 US qt, 0.7 Imp qt)
STi model:
0.9 — 1.1 ℓ
(1.0 — 1.2 US qt, 0.8 — 1.0 Imp qt)

NOTE:
• Each oil manufacturer has its base oil and additives. Thus, do not mix two or more brands.
• For STi model with driver's control center differential, use mechanical LSD model.

5) Install the filler plug or oil temperature switch onto rear differential gear case firmly.

NOTE:
• Apply fluid packing to the filler plug or oil temperature switch threads for T type.

Fluid packing:
Three Bond 1105 (Part No. 004403010)

• Use a new aluminum gasket for VA type.

Tightening torque:
T type:
49.0 N·m (5.0 kgf-m, 36.2 ft-lb)
VA type:
34 N·m (3.5 kgf-m, 25.3 ft-lb)

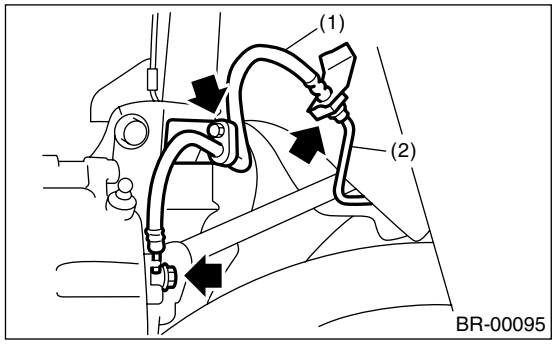
19.Brake Line

A: INSPECTION

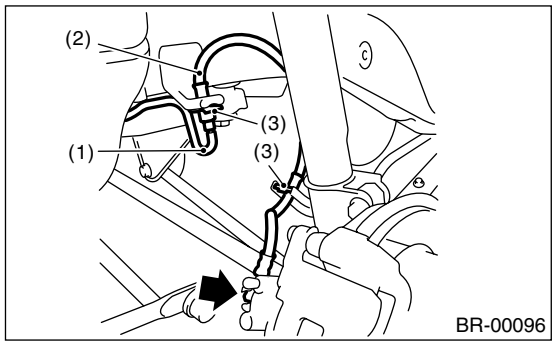
1. BRAKE LINE

1) Check scratches, swelling, corrosion, traces of fluid leakage on the brake hoses or pipe joints.
2) Check the possibility of adjacent parts interfering with brake pipes/hoses during driving, and loose connections/clamps.
3) Check any trace of fluid leakage, scratches, etc. on the master cylinder, wheel cylinder and pressure control valve.

NOTE:
• When the brake fluid level in the reservoir tank is lower than the specified limit, the brake fluid warning light on the combination meter will come on.
• Visually check the brake hose (using a mirror where it is difficult to see) for any damage.



(1) Front brake hose
(2) Front brake pipe



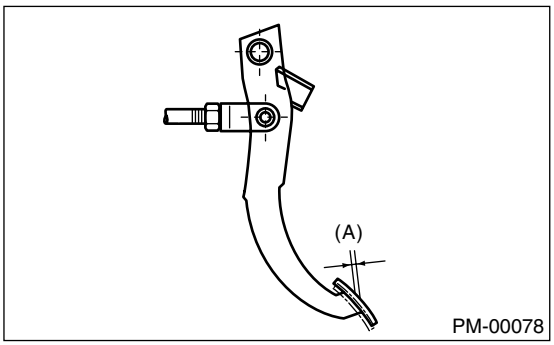
(1) Rear brake pipe
(2) Brake hose
(3) Clamp

B: CHECKING

1. SERVICE BRAKE

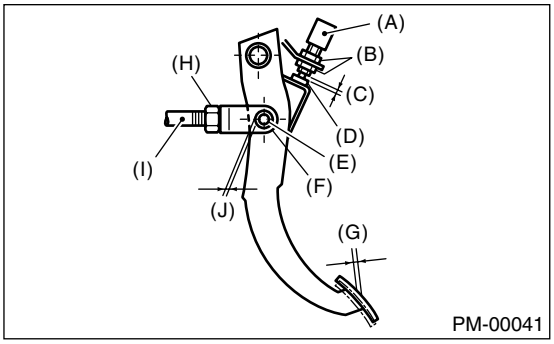
1) Check the free play of brake pedal with a force of less than 10 N (1 kgf, 2 lb).

Brake pedal free play:
0.5 — 2.0 mm (0.02 — 0.08 in)



(A) Brake pedal free play

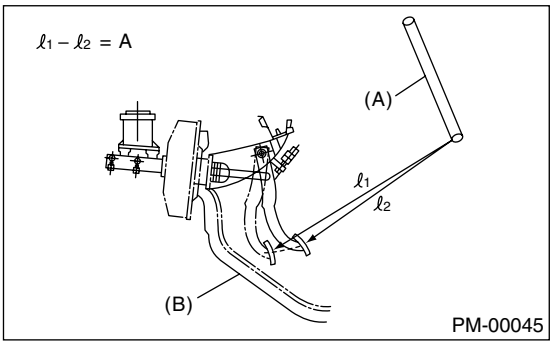
2) If the free play is out of specifications above, adjust the brake pedal as follows:
(1) Be sure the engine is off. (No vacuum is applied to brake booster.)
(2) There should be play between brake booster clevis and pin at brake pedal installing portion.
[Depress brake pedal pad with a force of less than 10 N (1 kgf, 2 lb) to a stroke of 0.5 to 2.0 mm (0.02 to 0.08 in).]
(3) Depress the surface of brake pad by hand.
(4) If there is no free play between clevis pin and clevis, turn the brake switch adjusting nut until the clearance between stopper and screw of brake switch becomes 0.3 mm (0.012 in).



(A) Brake switch
(B) Adjusting nut
(C) 0.3 mm (0.012 in)
(D) Stopper
(E) Clevis pin
(F) Clevis
(G) Brake pedal free play
(H) Lock nut
(I) Brake booster operating rod
(J) Play at pin

3) Check the pedal stroke.
While the engine is idling, depress the brake pedal with a 490 N (50 kgf, 110 lb) load and measure the distance between brake pedal and steering wheel. With the brake pedal released, measure the distance between pedal and steering wheel again. The difference between the two measurements must be less than specified value. If the distance is more than specified, there is possibility of air inside the hydraulic unit.

Brake pedal reserve distance: A
90 mm (3.54 in)/ 490 N (50 kgf, 110 lb) or less

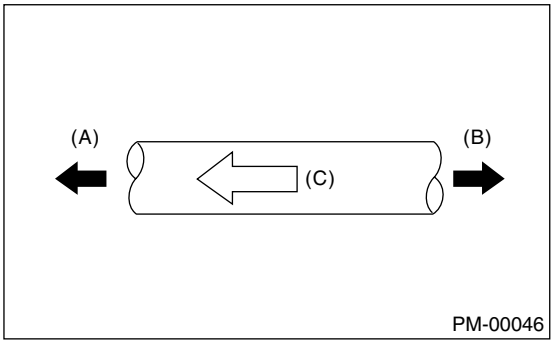


(A) Steering wheel
(B) Toe board

4) Check to see if air is in the hydraulic brake line by the feel of pedal operation. If air appears to exist in the line, bleed it from the system.
5) Check for even operation of all brakes, using a brake tester or by driving the vehicle for a short distance on a straight road.

2. BRAKE SERVO SYSTEM

1) With the engine off, depress the brake pedal several times applying the same pedal force: Make sure the travel distance should not change.
2) With the brake pedal depressed, start the engine: Make sure the pedal should move slightly toward the floor.
3) With the brake pedal depressed, stop the engine and keep the pedal depressed for 30 seconds: Make sure the pedal height should not change.
4) Check valve is built into the vacuum hose. Disconnect the vacuum hose to inspect function of check valve.
Blow air into the vacuum hose from its brake booster side end: Air must flow out of engine side end of hose. Next blow air into the hose from engine side: Air should not flow out of hose.
Replace both check valve and vacuum hose if the check valve is faulty. Engine side of vacuum hose is indicated by marking “ENG” as shown.



(A) Engine side
(B) Brake booster side
(C) ENG

5) Check the vacuum hose for cracks or other damage.

NOTE:
When installing the vacuum hose on the engine and brake booster, do not use soapy water or lubricating oil on their connections.

6) Check vacuum hose to make sure it is tight and secure.

20.Brake Fluid

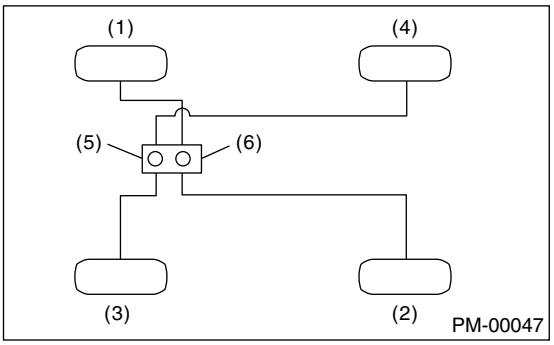
A: REPLACEMENT

1) Either jack-up the vehicle and place a safety stand under it, or lift-up the vehicle.
2) Remove both front and rear wheels.
3) Draw out the brake fluid from master cylinder with syringe.
4) Refill the reservoir tank with recommended brake fluid.

Recommended brake fluid:
FMVSS No. 116, fresh DOT3 brake fluid

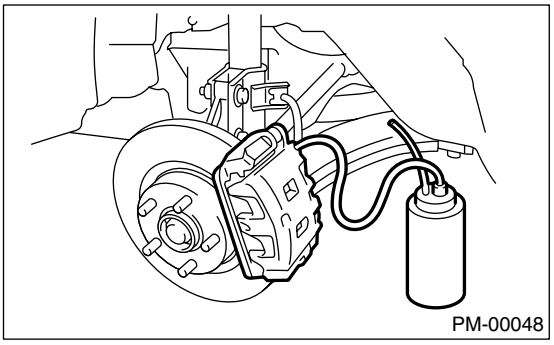
NOTE:
• Avoid mixing different brands of brake fluid to prevent degrading the quality of the fluid.
• Be careful not to allow dirt or dust to get into the reservoir tank.

Bleeding sequence (1) → (2) → (3) → (4)



(1) Front right
(2) Rear left
(3) Front left
(4) Rear right
(5) Secondary
(6) Primary

5) Install one end of a vinyl tube onto the air bleeder and insert the other end of the tube into a container to collect the brake fluid.



NOTE:
• Cover the bleeder with waste cloth, when loosening it, to prevent brake fluid from being splashed over surrounding parts.
• During the bleeding operation, keep the brake reservoir tank filled with brake fluid to eliminate entry of air.
• The brake pedal operating must be very slow.
• For convenience and safety, two people should do the work.
• The amount of brake fluid required is approx. 500 mℓ (16.9 US fl oz, 17.6 Imp fl oz) for total brake system.

6) Instruct your co-worker to depress the brake pedal slowly two or three times and then hold it depressed.
7) Loosen the bleeder screw approx. 1/4 turn until a small amount of brake fluid drains into container, and then quickly tighten the screw.
8) Repeat steps 6) and 7) above until there are no air bubbles in the drained brake fluid and new fluid flows through vinyl tube.

NOTE:
Add brake fluid as necessary while performing the air bleed operation, in order to prevent the tank from running short of brake fluid.

9) After completing the bleeding operation, hold brake pedal depressed and tighten the screw and install bleeder cap.

Tightening torque:
8 N·m (0.8 kgf-m, 5.8 ft-lb)

10) Bleed air from each wheel cylinder by following the previous 5 steps.
11) Depress the brake pedal with a force of approx. 294 N (30 kgf, 66 lb) and hold it there for approx. 20 seconds. At this time check the pedal to see if it makes any unusual movement. Visually inspect the bleeder screws and brake pipe joints to make sure that there is no fluid leakage.
12) Install the wheels, and drive the vehicle for a short distance between 2 to 3 km (1 to 2 miles) to make sure that brakes are operating properly.

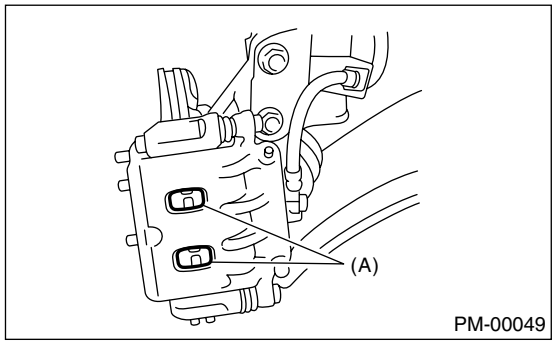
21.Disc Brake Pads and Discs

A: INSPECTION

1. DISC BRAKE PAD AND DISC

1) Jack-up the vehicle and support with rigid racks. Then remove the wheels.
2) Visually check the pad thickness through inspection hole of disc brake assembly. Replace the pad if necessary.

NOTE:
When replacing a pad, always replace the pads for both the right and left wheels at the same time. Also replace the pad clips if they are twisted or worn.



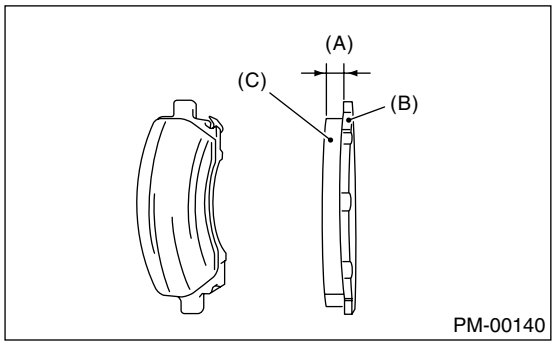
(A) Inspection hole

• Front

Pad thicknessmm (in)		
Standard	14, 15 inch	11 (0.43)
	16 inch	10 (0.39)
	17 inch	9.2 (0.36)
Service limit	14, 15 inch	1.5 (0.059)
	16 inch	1.5 (0.059)
	17 inch	1.2 (0.047)

• Rear

Pad thicknessmm (in)		
Standard	14 inch	9 (0.35)
	15 inch	11.5 (0.45)
	17 inch	9 (0.35)
Service limit	14 inch	1.5 (0.059)
	15 inch	1.5 (0.059)
	17 inch	1.2 (0.047)



(A) Thickness of pad
(B) Back metal
(C) Lining

3) Check the disc rotor, and correct or replace if it is damaged or worn.
• Front

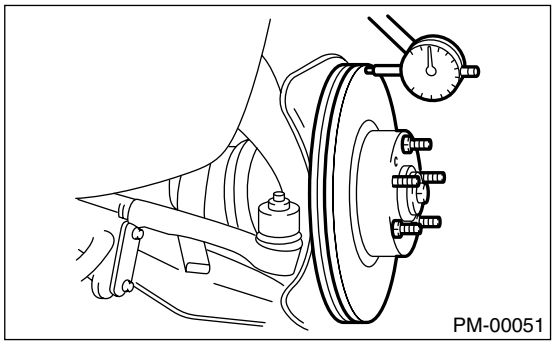
Disc rotor thicknessmm (in)		
Standard	14, 15, 16 inch	24 (0.94)
	17 inch	30 (1.18)
Service limit	14, 15, 16 inch	22 (0.87)
	17 inch	28 (1.10)

• Rear

Disc rotor thicknessmm (in)		
Standard	14 inch	10 (0.39)
	15 inch	18 (0.71)
	17 inch	20 (0.79)
Service limit	14 inch	8.5 (0.34)
	15 inch	16 (0.63)
	17 inch	18 (0.71)

4) Remove the caliper body. <Ref. to BR-31, Front Disc Brake Assembly.>, <Ref. to BR-42, Rear Disc Brake Assembly.>
5) Tighten the wheel nuts to secure disk rotor.
6) Set a dial gauge at a point less than 10 mm (0.39 in) from outer periphery of rotor, and then measure the disk rotor runout.

Disc rotor runout limit:
Front: 0.075 mm (0.0030 in)
Rear: 0.070 mm (0.0028 in)



22.Brake Linings and Drums

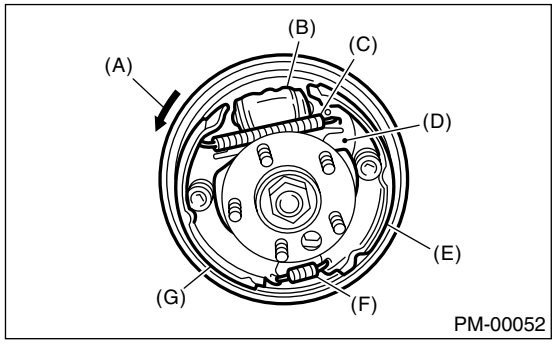
A: INSPECTION

1. REAR DRUM BRAKE

1) Remove the brake drum, and check that there is no fluid leakage from wheel cylinder.
If there is fluid leakage from wheel cylinder, inspect the wheel cylinder, and then repair or replace it.
2) Inspect the brake shoes for damage or deformities and check brake linings for wear.

NOTE:
• Always replace both leading and trailing brake shoes for the right and left wheels at the same time.
• When either the right and left brake assembly is replaced, always replace the leading shoe and trailing shoe of the other.

Thickness of lining (except back metal)
Standard value: 4.1 mm (0.161 in)
Service limit: 1.5 mm (0.059 in)

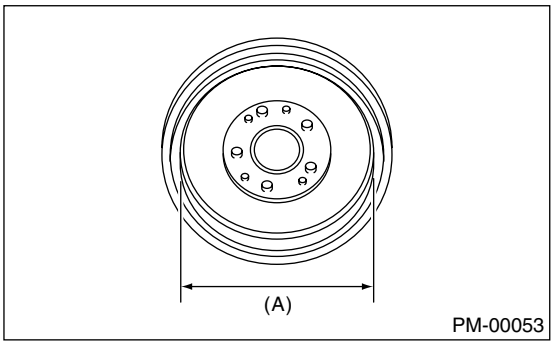


(A) Rotational direction of drum (Forward)
(B) Wheel cylinder
(C) Upper shoe return spring
(D) Adjusting lever
(E) Trailing shoe
(F) Lower shoe return spring
(G) Leading shoe

3) Check the brake drum for wear, dents or other damage.
If the inside surface of brake drum is streaked, correct the surface with emery cloth (#200 or more). If it is unevenly worn, tapered, or the outside surface of brake drum is damaged, correct or replace it.

Brake drum inner diameter
Standard value: 228.6 mm (9.000 in)
Service limit: 230.6 mm (9.079 in)

If deformation or wear of back plate, shoe, etc. is noticeable, replace the affected parts.



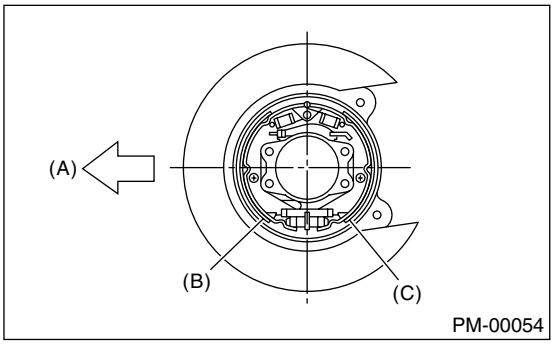
(A) Inside diameter

2. PARKING BRAKE (REAR DISC BRAKE)

Inspect the brake linings and drums of both sides of the rear brake at the same time by removing brake drums.
1) Inspect the brake shoes for damage or deformation and check brake linings for wear.

NOTE:
Always replace both primary and secondary brake shoes for the right and left wheels at the same time.

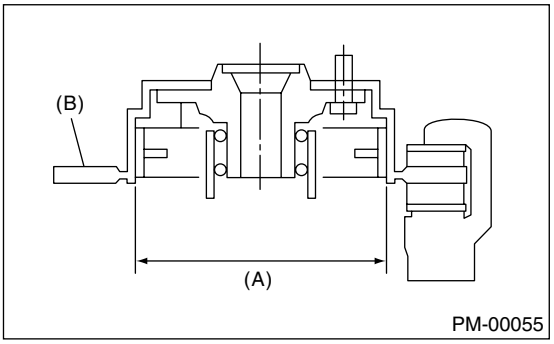
Brake lining thickness (except back metal)
Standard value: 3.2 mm (0.126 in)
Wear limit: 1.5 mm (0.059 in)



(A) Forward
(B) Brake shoe (Primary side)
(C) Brake shoe (Secondary side)

2) Check the disk rotor for wear, dents or other damage. If the inside surface of disk rotor is streaked, correct the surface with emery cloth (#200 or more). If it is unevenly worn or tapered, correct or replace it.

Brake drum inside diameter
Except for STi model
Standard value: 170 mm (6.69 in)
Wear limit: 171 mm (6.73 in)
STi model
Standard value: 190 mm (7.48 in)
Wear limit: 191 mm (7.52 in)



(A) Inside diameter
(B) Disk

3) If the deformation or wear of back plate, shoe, etc. is noticeable, replace them.
4) When the shoe return spring tension is excessively weakened, replace it.

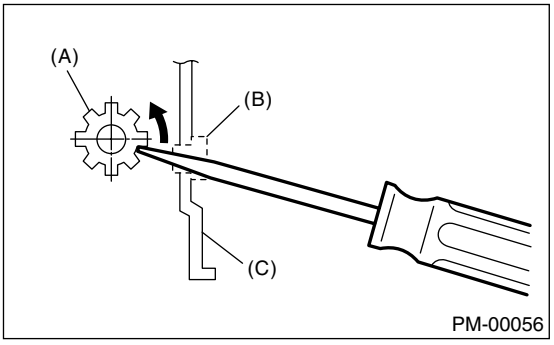
B: ADJUSTMENT

1. REAR DRUM BRAKE

The main brake is adjusted automatically, and so there is no need to adjust it.

2. PARKING BRAKE (REAR DISC BRAKE)

For rear disc brake, adjust the parking brake after bleeding air.
1) Remove the rear cover (rubber) installed at back plate.
2) Turn the adjuster toward arrow mark (upward) until it is locked slightly, by using a flat tip screwdriver as shown in illustration.



(A) Adjuster
(B) Cover (rubber)
(C) Back plate

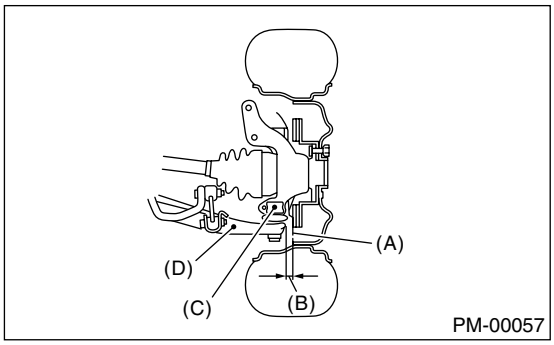
3) Turn back (downward) the adjuster 3 to 4 notches.
4) Install the cover (rubber) at original position correctly.

23.Suspension

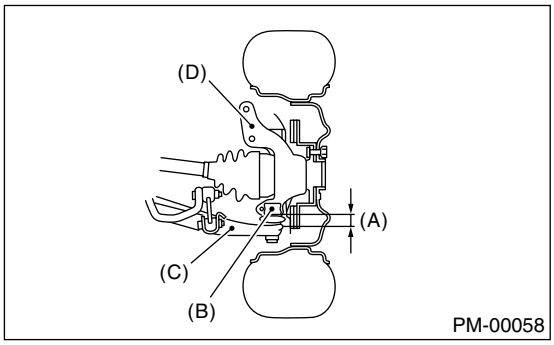
A: INSPECTION

1. SUSPENSION BALL JOINT

1) Jack-up the vehicle until front wheels are off ground.
2) Next, grasp the bottom of tire and move it in and out. If relative movement (B) is observed between the brake disc cover (A) and end of transverse link (D), ball joint (C) may be excessively worn.



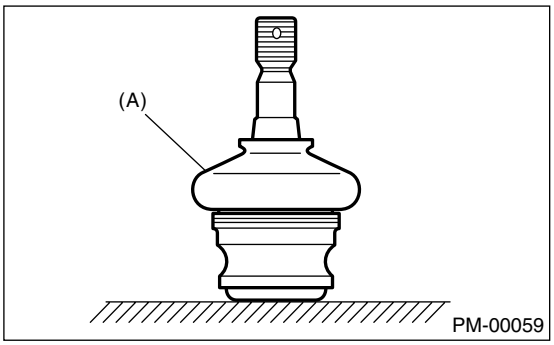
3) Next, grasp the end of transverse link and move it up and down. Relative movement (A) between the housing (D) and transverse link (C) boss indicates ball joint (B) may be excessively worn.



4) If relative movement is observed in the immediately preceding two steps, remove and inspect the ball joint. If free play exceeds standard, replace the ball joint. <Ref. to FS-18, Front Ball Joint.>
5) Damage of dust seal
Visually inspect the ball joint dust seal. If it is damaged, remove the transverse link. <Ref. to FS-15, Front Transverse Link.> And measure free play of ball joint. <Ref. to FS-18, Front Ball Joint.>

(1) When looseness exceeds standard value, replace the ball joint.
(2) If the dust seal is damaged, replace with the new ball joint.

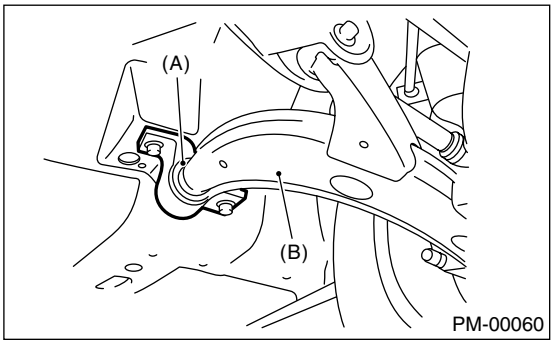
NOTE:
When the transverse link ball joint has been removed or replaced, check the toe-in of front wheel. If the front wheel toe-in is not at specified value, adjust the toe-in. <Ref. to FS-6, Wheel Alignment.>



(A) Dust seal

2. TRANSVERSE LINK'S REAR BUSHING

Check oil leaks at around liquid-filled bushing. If oil leaks, replace the bushing.



(A) Rear bushing
(B) Transverse link

3. WHEEL ARCH HEIGHT

1) Unload cargoes and set the vehicle in curb weight (empty) condition.
2) Then, check the wheel arch height of front and rear suspensions to ensure that they are within specified values. <Ref. to FS-6, Wheel Alignment.>
3) When the wheel arch height is out of standard, visually inspect the following components and replace deformed parts.
• Suspension components [Front strut assembly and rear shock absorber assembly]
• Parts connecting between suspension and body.
4) When no components are deformed, adjust the wheel arch height by replacing coil spring in the suspension which wheel arch height is out of standard. <Ref. to FS-6, Wheel Alignment.> <Ref. to RS-10, Wheel Alignment.>

4. WHEEL ALIGNMENT OF FRONT SUSPENSION

1) Check the alignment of front suspension to ensure that following items conform to standard values.
- Toe-in
- Camber angle
- Caster angle
- Steering angle

<Ref. to FS-6, Wheel Alignment.>
2) When the caster angle does not conform to reference, visually inspect the following components and replace deformed parts.
- Suspension components [Strut assembly, crossmember, transverse link, etc.]
- Body parts to which suspensions are installed.

3) When the toe-in and camber are out of standard value, adjust them so that they conform to respective service standard.
4) When the right-and-left turning angles of tire are out of standard, adjust to standard value.

5. WHEEL ALIGNMENT OF REAR SUSPENSION

1) Check the alignment of rear suspension to ensure that following items are within standard values.
- Toe-in
- Camber angle
- Thrust angle

<Ref. to RS-10, Wheel Alignment.>
2) When the camber angle does not conform to reference, visually inspect parts listed below. If deformation is observed, replace the damaged parts.
- Suspension components [Shock absorber, link F, link R, link UPR, arm R, sub frame, etc.]
- Body parts to which suspensions are installed.

3) When the toe-in and thrust angle are out of standard value, adjust them so that they conform to respective service standard.

6. OIL LEAKAGE OF STRUT

Visually inspect the front strut and rear strut for oil leakage as instructed. Replace front strut and rear strut if oil leaks excessively.

7. TIGHTNESS OF BOLTS AND NUTS

Check the bolts and nuts shown in the figure for looseness. Retighten the bolts and nuts to specified torque. If the self-lock nuts and bolts are removed, replace them with new ones.
Front suspension: <Ref. to FS-2, General Description.>
Rear suspension: <Ref. to RS-2, General Description.>

8. DAMAGE TO SUSPENSION PARTS

1) Check the following parts and the fastening portion of the vehicle body for deformation or excessive rusting which impairs the suspension. If necessary, replace the damaged parts with new ones. If minor rust formation, pitting, etc. are noted, remove the rust and apply remedial anti-corrosion measures.
- Front suspension
  - Transverse link
  - Crossmember
  - Strut
- Rear suspension
  - Crossmember
  - Lateral links
  - Trailing link
  - Strut
- In the district where salt is sprayed to melt snow on a road in winter, check suspension parts for damage caused by rust every 12 months after lapse of 60 months. Take rust prevention measure as required.

24.Wheel Bearing

A: INSPECTION

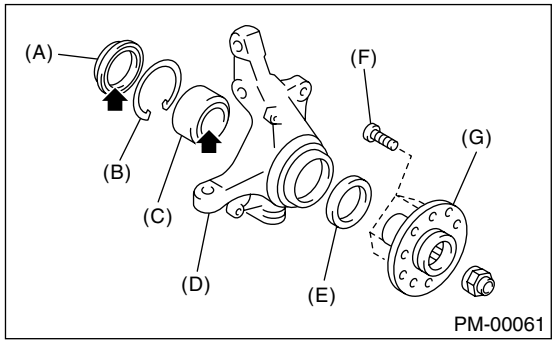
1. FRONT WHEEL BEARING

NOTE:
Inspect the condition of front wheel bearing grease.

1) Jack-up the front of vehicle.
2) While holding the front wheel by hand, swing it in and out to check bearing free play.
3) Loosen the wheel nuts and remove front wheel.
4) If bearing free play exists in step 2) above, attach a dial gauge to the hub and measure axial displacement in axial direction.

Service limit:
Straight-ahead position within 0.05 mm (0.0020 in)

5) Remove the bolts and self-locking nuts, and extract transverse link from front crossmember.
6) Remove the SFJ of front drive shaft from transmission. <Ref. to DS-19, Front Axle.>
7) While supporting the front drive shaft horizontally with one hand, turn the hub with the other to check for noise or binding.
If the hub is noisy or binds, disassemble the front axle and check condition of oil seals, bearing, etc.



(A) Inner oil seal
(B) Snap ring
(C) Bearing
(D) Housing
(E) Outer oil seal
(F) Hub bolt
(G) Hub

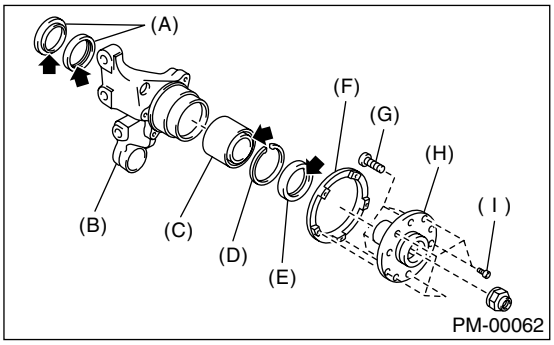
2. REAR WHEEL BEARING

• AWD

1) Jack-up the rear of vehicle.
2) While holding the rear wheel by hand, swing it in and out to check bearing free play.
3) Loosen the wheel nuts and remove rear wheel.
4) If the bearing free play exists in step 2) above, attach a dial gauge to the hub COMPL and measure axial displacement in axial direction.

Service limit:
Straight-ahead position within 0.05 mm (0.0020 in)

5) Remove the DOJ of rear drive shaft from rear differential. <Ref. to DS-44, Rear Drive Shaft.>
6) While supporting the rear drive shaft horizontally with one hand, turn the hub COMPL with the other to check for noise or binding.
If the hub COMPL is noisy or binds, disassemble the rear axle and check condition of oil seals, bearings, etc.



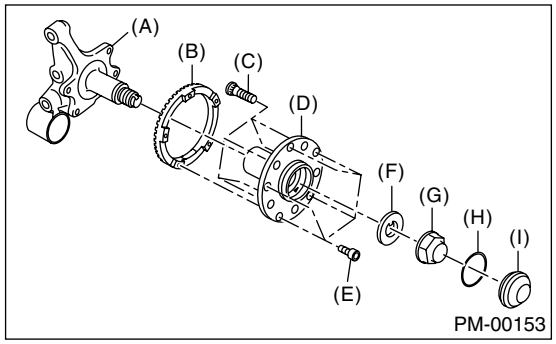
(A) Inner oil seal
(B) Rear housing
(C) Bearing
(D) Snap ring
(E) Outer oil seal
(F) Tone wheel
(G) Hub bolt
(H) Hub
(I) Socket bolt

• FWD

1) Jack-up the rear of vehicle.
2) While holding the rear wheel by hand, swing it in and out to check bearing free play.
3) Loosen the wheel nuts and remove rear wheel.
4) If the bearing free play exists in step 2) above, attach a dial gauge to the hub COMPL and measure axial displacement in axial direction.

Service limit:
Straight-ahead position within 0.05 mm (0.0020 in)

5) Turn the hub unit COMPL with hand to check for noise or binding.
If the hub unit COMPL is noisy or binds, replace the hub unit COMPL.



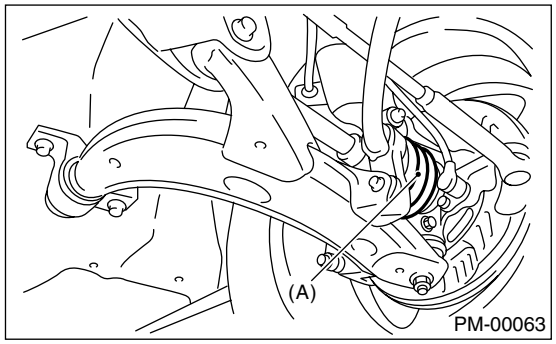
(A) Rear housing
(B) Tone wheel
(C) Hub bolt
(D) Hub unit COMPL
(E) Socket bolt
(F) Washer
(G) Hub nut
(H) O-ring
(I) Hub cap

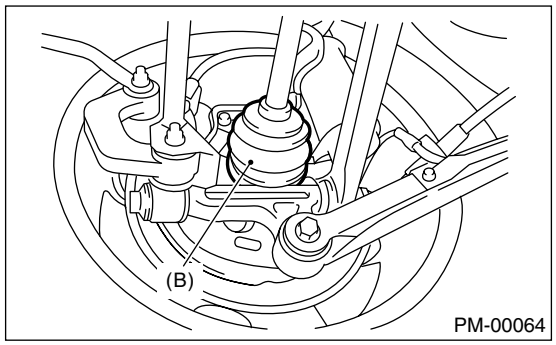
25.Axle Boots & Joints

A: INSPECTION

1. FRONT AND REAR AXLE BOOTS

Inspect the front axle boots (A) and rear axle boots (B) for deformation, damage or failure. If faulty, replace them with new ones. <Ref. to DS-36, Front Drive Shaft.> <Ref. to DS-44, Rear Drive Shaft.>





2. PROPELLER SHAFT

Inspect the propeller shaft for damage or failure. If faulty, replace with a new one. <Ref. to DS-16, Propeller Shaft.>

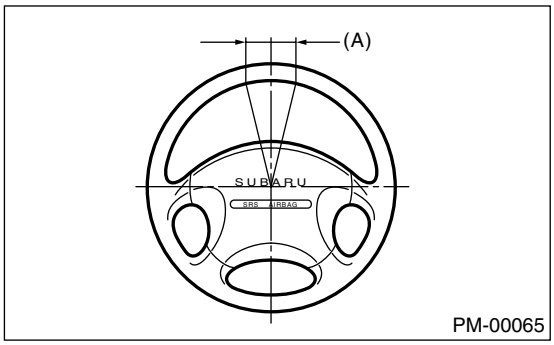
26.Steering System (Power Steering)

A: INSPECTION

1. STEERING WHEEL

1) Set the steering wheel in a straight-ahead position, and check the wheel spokes to make sure they are correctly set in their specified positions.
2) Lightly turn the steering wheel to the right and left to determine the point where front wheels start to move.
Measure the distance of the movement of steering wheel at the outer periphery of wheel.

Steering wheel free play:
0 — 17 mm (0 — 0.67 in)



(A) Steering wheel free play

Move the steering wheel vertically toward the shaft to ascertain if there is play in the direction.

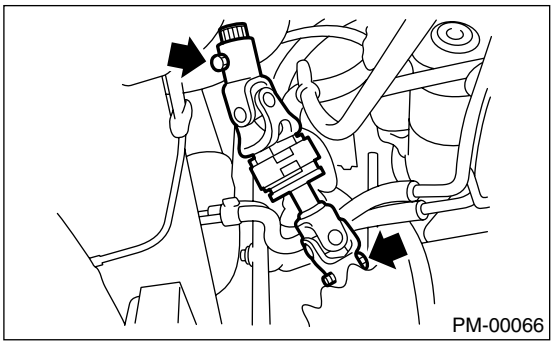
Maximum permissible play:
0.5 mm (0.020 in)

3) Drive the vehicle and check the following items during operation.
(1) Steering force:
The effort required for steering should be smooth and even at all points, and should not vary.
(2) Pull to one side:
Steering wheel should not be pulled to either side while driving on a level surface.
(3) Wheel runout:
Steering wheel should not show any sign of runout.
(4) Return factor:
Steering wheel should return to its original position after it has been turned and then released.

2. STEERING SHAFT JOINT

When the steering wheel free play is excessive, disconnect the universal joint of steering shaft and check it for any play and yawing torque (at the point of the crossing direction). Also inspect for any damage to sealing or worn serrations. If the joint is loose, retighten the mounting bolts to the specified torque.

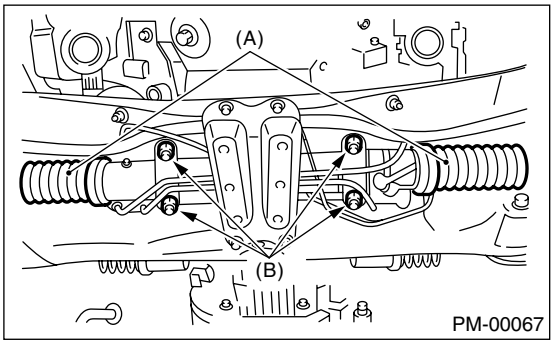
Tightening torque:
24 N·m (2.4 kgf-m, 17.4 ft-lb)



3. GEARBOX

1) With wheels placed on a level surface, turn the steering wheel 90° in both the right and left directions.
While the wheel is being rotated, reach under the vehicle and check for looseness in gearbox.

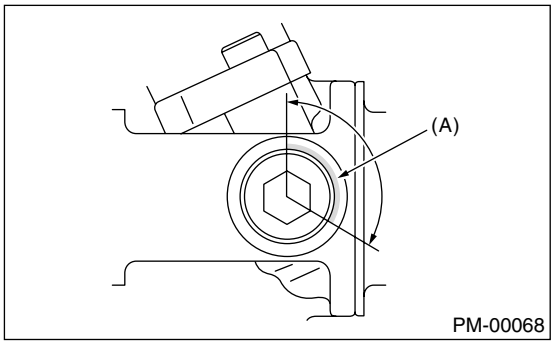
Tightening torque:
59 N·m (6.0 kgf-m, 43.4 ft-lb)



(A) Boot
(B) Gear box mounting bolt

2) Check the boot for damage, cracks or deterioration.
3) With the vehicle on a level surface, quickly turn the steering wheel to the right and left.
While the steering wheel is being rotated, check the gear backlash. If any unusual noise is noticed, adjust the gear backlash in the following manner.
(1) Tighten the adjusting screw to 7.4 N·m (0.75 kgf-m, 5.4 ft-lb) and then loosen. Repeat this operation twice.

(2) Retighten the adjusting screw to 7.4 N·m (0.75 kgf-m, 5.4 ft-lb) and back off 25°.
(3) Loosen the adjusting screw and apply liquid packing to at least 1/3 of entire perimeter of its thread.



(A) Apply liquid packing to at least 1/3 of entire perimeter

(4) Tighten the adjusting screw to 7.4 N·m (0.75 kgf-m, 5.4 ft-lb) and back off 25°.
(5) Install the lock nut. While holding the adjusting screw with a wrench, tighten the lock nut using ST.

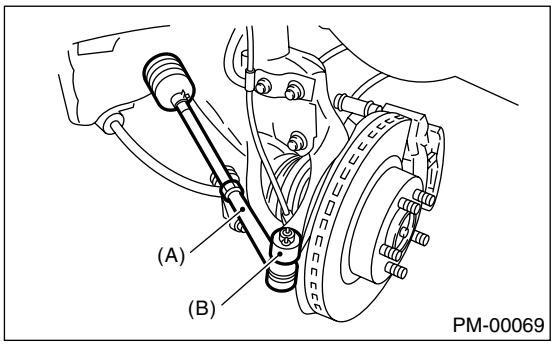
ST 926230000 SPANNER

Tightening torque (Lock nut):
39 N·m (4.0 kgf-m, 29 ft-lb)

Hold the adjusting screw with a wrench to prevent it from turning, while tightening the lock nut.

4. TIE-ROD

1) Check the tie-rod and tie-rod ends for bends, scratches or other damage.



(A) Tie-rod end
(B) Knuckle arm

2) Check the connections of knuckle ball joints for play, inspect for damage on dust seals, and check free play of ball studs. If the castle nut is loose, retighten it to the specified torque, then tighten further up to 60° until the cotter pin hole is aligned.

Tightening torque:
27 N·m (2.75 kgf-m, 19.9 ft-lb)

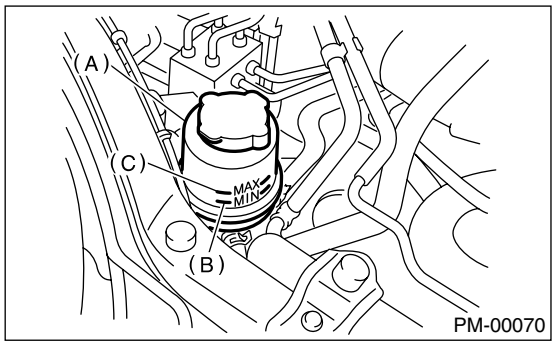
3) Check the lock nut on tie-rod end for tightness. If it is loose, retighten it to the specified torque.

Tightening torque:
83 N·m (8.5 kgf-m, 61.5 ft-lb)

5. POWER STEERING FLUID LEVEL

NOTE:
• Check at power steering fluid temperature 20°C (68°F); read the fluid level on the “COLD” side.
• Check at power steering fluid temperature 80°C (176°F); read the fluid level on the “HOT” side.

1) Place the vehicle with engine “OFF” on a flat and level surface.
2) Check the fluid level using the scale on the outside of reservoir tank (A). If the level is below “MIN” (B), add fluid to bring it up to “MAX” (C).



NOTE:
If the fluid level is at MAX level or above, drain fluid to keep the level in specified range of indicator by using a syringe or the like.

Recommended fluid:
Dexron III

Fluid capacity:
0.7 ℓ (0.7 US qt, 0.6 Imp qt)

6. POWER STEERING FLUID FOR LEAKS

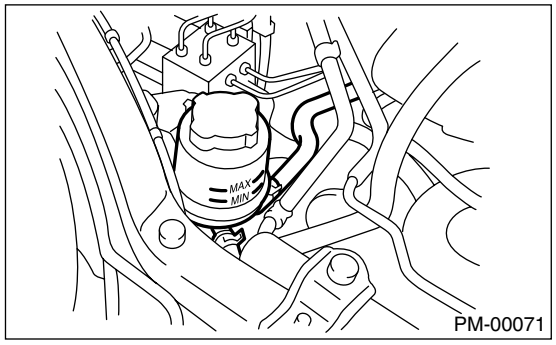
Inspect the underside of oil pump and gearbox for power steering system, hoses, piping and their couplings for fluid leaks.
If fluid leaks are found, correct them by retightening their fitting bolts (or nuts) and/or replacing their parts.

NOTE:
• Wipe the leakage fluid off after repairing fluid leaks, or a wrong diagnosis is taken later.
• Also pay attention to clearances between hoses (or pipings) and other parts when inspecting fluid leaks.

7. HOSES OF OIL PUMP FOR DAMAGES

Check the pressure hose and return hose of oil pump for crack, swell or damage. Replace the hose with a new one if necessary.

NOTE:
Prevent the hoses from revolving and/or turning when installing hoses.



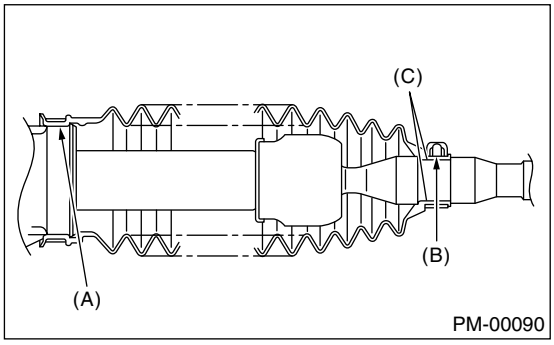
8. POWER STEERING PIPES FOR DAMAGE

Check the power steering pipes for corrosion and damage.
Replace the pipes with a new one if necessary.

9. GEARBOX BOOTS

Inspect both sides of gearbox boots as follows, and correct the defects if necessary.
1) (A) and (B) positions of gearbox boot are fitted correspondingly in (A) and (B) grooves of gearbox and the rod (C).
2) Clips are fitted outside of (A) and (B) positions of boot.
3) Boot does not have crack and hole.

NOTE:
Rotate (B) the position of gearbox boot against twist of it produced by adjustment of toe-in, etc.



10.FITTING BOLTS AND NUTS

Inspect the fitting bolts and nuts of oil pump and bracket for looseness, and retighten them if necessary.
Inspect and/or retighten them when engine is cold.