

# GENERAL DESCRIPTION

Automatic Transmission

## 1. General Description S502001

### A: SPECIFICATIONS S502001E49

#### 1. TORQUE CONVERTER CLUTCH S502001E4901

Model	2500 cc	2200 cc
Type	Symmetric, 3 element, single stage, 2 phase torque converter	
Stall torque ratio	1.9 — 2.1	2.1 — 2.3
Nominal diameter	246 mm (9.69 in)	236 mm (9.29 in)
Stall speed (at sea level)	2,100 — 2,600 rpm	2,000 — 2,500 rpm
One-way clutch	Sprague type one-way clutch	

#### 2. OIL PUMP S502001E4902

Type	Trochoid constant-displacement pump	
Driving method	Driven by engine	
Number of teeth	Inner rotor	9
	Outer rotor	10

#### 3. TRANSMISSION CONTROL ELEMENT S502001E4903

Type	4-forward, 1-reverse, double-row planetary gears	
Multi-plate clutch	3 sets	
Multi-plate brake	2 sets	
One-way clutch (sprague type)	1 sets	

#### 4. TRANSMISSION GEAR RATIO S502001E4904

Model	2200 cc	2500 cc
1st	2.785	3.027
2nd	1.545	1.619
3rd		1.000
4th		0.694
Rev		2.272

## 5. PLANETARY GEAR AND PLATE S502001E4905

	2200 cc	2500 cc
Tooth number of front sun gear	33	
Tooth number of front pinion	21	
Tooth number of front internal gear	75	
Tooth number of rear sun gear	42	37
Tooth number of rear pinion	17	19
Tooth number of rear internal gear		75
Drive plate number of high clutch	4	5
Drive plate number of low clutch	5	6
Drive plate number of reverse clutch		2
Drive plate number of 2-4 brake		3
Drive plate number of low & reverse brake	5	6

## 6. SELECTOR POSITION S502001E4906

P (Park)	Transmission in neutral, output member immovable, and engine start possible
R (Reverse)	Transmission in reverse for backing
N (Neutral)	Transmission in neutral and engine start possible
D (Drive)	Automatic gear change 1st $\leftarrow \rightarrow$ 2nd $\leftarrow \rightarrow$ 3rd $\leftarrow \rightarrow$ 4th
3 (3rd)	Automatic gear change 1st $\leftarrow \rightarrow$ 2nd $\leftarrow \rightarrow$ 3rd $\leftarrow \rightarrow$ 4th
2 (2nd)	2nd gear locked (Deceleration possible 2nd $\leftarrow$ 3rd $\leftarrow$ 4th)
1 (1st)	1st gear locked (Deceleration possible 1st $\leftarrow$ 2nd $\leftarrow$ 3rd $\leftarrow$ 4th)
Control method	Wire cable

# GENERAL DESCRIPTION

Automatic Transmission

## 7. HYDRAULIC CONTROL AND LUBRICATION S502001E4907

Type	Electronic/hydraulic control [Four forward speed changes by electrical signals of vehicle speed and accelerator (throttle) opening]	
Fluid	Dexron IIIE or Dexron III type Automatic transmission fluid	
Fluid capacity	2200 cc	8.4 — 8.7 ℥ (8.9 — 9.2 US qt, 7.4 — 7.7 Imp qt)
	2500 cc	9.3 — 9.6 ℥ (9.8 — 10.1 US qt, 8.2 — 8.4 Imp qt)
Lubrication system	Forced feed lubrication with oil pump	
Oil	Automatic transmission fluid (above mentioned)	

## 8. COOLING AND HARNESS S502001E4908

Cooling system	Liquid-cooled cooler incorporated in radiator
ATF cooling system (Radiation capacity)	4.630 kW (3,981 kcal/h, 15,797 BTU/h)
Inhibitor switch	12 poles
Transmission harness	20 poles

## 9. TRANSFER S502001E4909

Transfer clutch	Hydraulic multi-plate clutch
Drive & driven plate number of transfer clutch	5
Control method	Electronic, hydraulic type
Lubricant	The same Automatic transmission fluid used in automatic transmission
1st reduction gear ratio	1.000 (53/53)

## 10. FINAL REDUCTION S502001E4910

Model	2200 cc	2500 cc
Front final gear ratio	4.111 (37/9)	4.444 (40/9)
ITEM		
• Front differential gear oil		
API Classification		
GL - 5		
SAE Viscosity No. and Applicable Temperature		
(°C) -30 -26 -15 -5 0 15 25 30		
(°F) -22 -15 5 23 32 59 77 86		
90		
85W		
80W		
80W-90		
H3M1235A		
Front differential oil capacity	1.2 ℥ (1.3 US qt, 1.1 Imp qt)	

# GENERAL DESCRIPTION

## Automatic Transmission

### B: COMPONENT

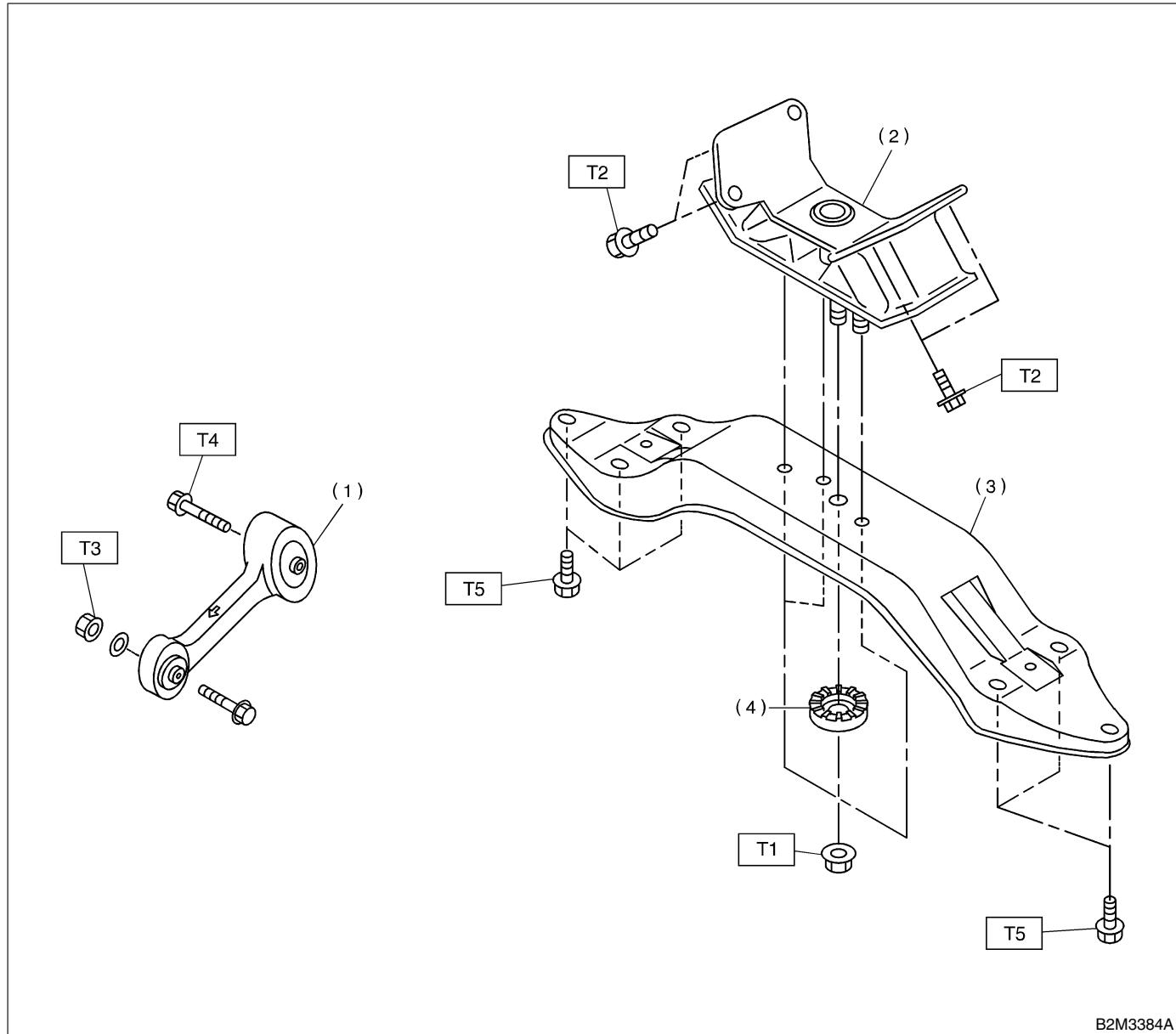
S502001A05

#### NOTE:

For information about other transmission mounting components, refer to "AT" section, a separate publication.

#### 1. TRANSMISSION MOUNTING

S502001A0501



- (1) Pitching stopper
- (2) Rear cushion rubber
- (3) Crossmember
- (4) Stopper

**Tightening torque: N·m (kgf·m, ft-lb)**

T1: 34 (3.5, 25.3)

T2: 38 (3.9, 28)

T3: 49 (5.0, 36.2)

T4: 57 (5.8, 42)

T5: 69 (7.0, 51)

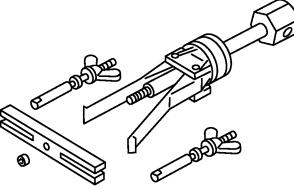
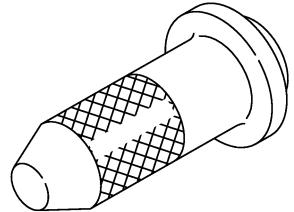
**C: CAUTION** S502001A03

- Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation, and disassembly.
- Keep the disassembled parts in order and protect them from dust or dirt.
- Until the oil pan is removed, do not place with the oil pan side facing up to prevent foreign matter from entering the valve body.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly and replacement.
- When disassembling the case and other light alloy parts, use a plastic hammer to force it apart. Do not pry it apart with a screwdriver or other tool.
- Be careful not to burn your hands, because each part on the vehicle is hot after running.
- Use SUBARU genuine gear oil, grease etc. or the equivalent. Do not mix gear oil, grease etc. with

that of another grade or from other manufacturers.

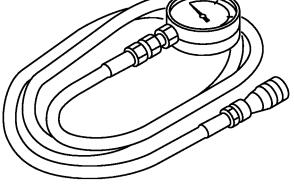
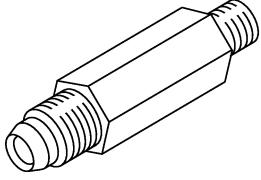
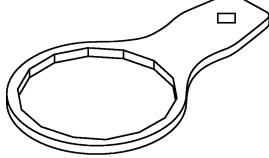
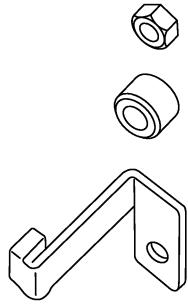
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or safety stands at the specified points.
- Apply gear oil onto sliding or revolution surfaces before installation.
- Replace deformed or otherwise damaged snap rings with new ones.
- Before installing O-rings or oil seals, apply sufficient amount of ATF fluid to avoid damage and deformation.
- Be careful not to incorrectly install or fail to install O-rings, snap rings and other such parts.
- Before securing a part on a vice, place cushioning material such as wood blocks, aluminum plate, or shop cloth between the part and the vice.
- Avoid damaging the mating surface of the case.
- Before applying sealant, completely remove the old seal.

**D: PREPARATION TOOL** S502001A17**1. SPECIAL TOOL** S502001A1701

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B3M1977	398527700	PULLER ASSY	Used for removing and installing extension case roller bearing.
 B3M1972	498057300	INSTALLER	Used for installing extension oil seal.

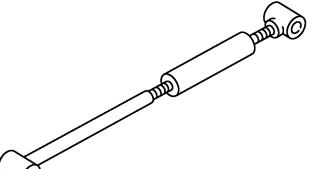
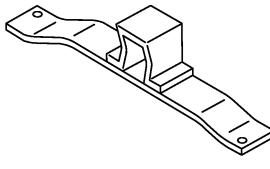
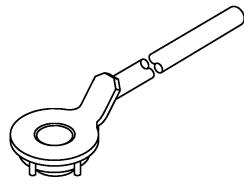
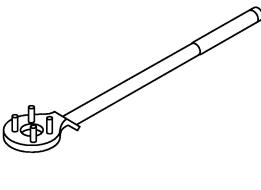
## GENERAL DESCRIPTION

### Automatic Transmission

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B3M2040	498575400	OIL PRESSURE GAUGE ASSY	Used for measuring oil pressure.
 B3M2041	498897200	ADAPTER	Used oil pump housing when measuring reverse clutch pressure and line pressure.
 B3M2042	498545400	FILTER WRENCH	Used for removing and installing ATF filter.
 B3M2043	498277200	STOPPER SET	Used for installing automatic transmission assembly to engine.

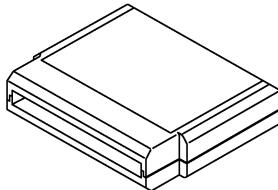
# GENERAL DESCRIPTION

Automatic Transmission

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
	41099AA020	ENGINE SUPPORT	Used for supporting engine.
	41099AA010	ENGINE SUPPORT BRACKET	Used for supporting engine.
	499977300	CRANK PULLEY WRENCH	<ul style="list-style-type: none"> <li>Used for stopping rotating of crankshaft pulley when loosening and tightening crankshaft pulley bolts.</li> <li>For 2200 cc engine.</li> </ul>
	499977100	CRANK PULLEY WRENCH	<ul style="list-style-type: none"> <li>Used for stopping rotating of crankshaft pulley when loosening and tightening crankshaft pulley bolts.</li> <li>For 2500 cc engine.</li> </ul>

# GENERAL DESCRIPTION

Automatic Transmission

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 B2M3876	24082AA150	CARTRIDGE	Troubleshooting for electrical systems.
 B2M3877	22771AA030	SELECT MONITOR KIT	Troubleshooting for electrical systems. • English: 22771AA030 (Without printer) • German: 22771AA070 (Without printer) • French: 22771AA080 (Without printer) • Spanish: 22771AA090 (Without printer)

## 2. GENERAL TOOL S502001A1702

TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance, voltage and ampere.