

# General Description

## AUTOMATIC TRANSMISSION

### 1. General Description

#### A: SPECIFICATION

##### 1. TORQUE CONVERTER CLUTCH

|                            |  |
|----------------------------|--|
| Type                       | Symmetric, 3 element, single stage, 2 phase torque converter |
| Stall torque ratio         | 1.8  |
| Nominal diameter           | 246 mm (9.69 in)   |
| Stall speed (at sea level) | 2,100 — 2,600 rpm  |
| One-way clutch             | Sprag type one-way clutch                                    |

##### 2. OIL PUMP

|                 |                                       |    |
|-----------------|---------------------------------------|----|
| Type            | Internal gear fixed displacement pump |    |
| Driving method  | Driven by engine                      |    |
| Number of teeth | Inner rotor                           | 9  |
|                 | Outer rotor                           | 10 |

##### 3. TRANSMISSION CONTROL ELEMENT

|                             |  |  |
|-----------------------------|--|--|
| Type                        | 5-forward, 1-reverse, double-row planetary gears |  |
| Multi-plate clutch          | 3 sets   |  |
| Multi-plate brake           | 3 sets   |  |
| One-way clutch (sprag type) | 2 sets   |  |

##### 4. TRANSMISSION GEAR RATIO

|      |       |
|------|-------|
| 1st  | 3.540 |
| 2nd  | 2.264 |
| 3rd  | 1.471 |
| 4th  | 1.000 |
| 5th  | 0.834 |
| Rev. | 2.370 |

##### 5. PLANETARY GEAR AND PLATE

|  |     |
|--|-----|
| Number of front internal gear teeth              | 106 |
| Number of front carrier teeth                    | 28  |
| Number of front sun gear teeth                   | 50  |
| Number of mid internal gear teeth                | 78  |
| Number of mid carrier teeth                      | 18  |
| Number of mid sun gear teeth                     | 42  |
| Number of rear internal gear teeth               | 110 |
| Number of rear carrier teeth                     | 24  |
| Number of rear sun gear teeth                    | 62  |
| Number of front brake drive plates               | 2   |
| Number of input clutch drive plates              | 6   |
| Number of high & low reverse clutch drive plates | 4   |
| Number of direct clutch drive plates             | 5   |
| Number of reverse brake drive plates             | 5   |
| Number of forward brake drive plates             | 5   |

##### 6. SELECTOR POSITION

|                 |  |
|-----------------|--|
| P (Park)        | Transmission is in neutral, output member is immovable, engine start is possible |
| R (Reverse)     | Transmission in reverse for backing  |
| N (Neutral)     | Transmission is in neutral and engine start is possible                          |
| D (Drive)       | Automatic gear change 1st ←→ 2nd ←→ 3rd ←→ 4th ←→ 5th                            |
| Manual mode (+) | Manual gear change 1st→ 2nd→ 3rd→ 4th→ 5th                                       |
| Manual mode (–) | Manual gear change 1st← 2nd← 3rd← 4th← 5th                                       |
| Control method  | Wire cable type  |

### 7. HYDRAULIC CONTROL AND LUBRICATION

|                                     |   |
|-------------------------------------|---|
| Type                                | Electronic/hydraulic control<br>[5 forward gear changes made by electronic signals of vehicle speed and accelerator (throttle) opening]   |
| Fluid                               | Specified fluid: SUBARU ATF<br>Recommended fluid: IDEMITSU ATF HP<br>NOTE:<br>Use of recommended fluid is permitted only when the specified fluid is not available in the local area. |
| Fluid capacity<br>ℓ (US qt, Imp qt) | 9.6 — 10.0<br>(10.1 — 10.6, 8.4 — 8.8)  |
| Lubrication system                  | Forced feed lubrication with oil pump   |

### 8. COOLING AND HARNESS

|                      |  |
|----------------------|--|
| Cooling system       | Liquid-cooler incorporated in radiator |
| Transmission harness | 20 + 8 poles                           |

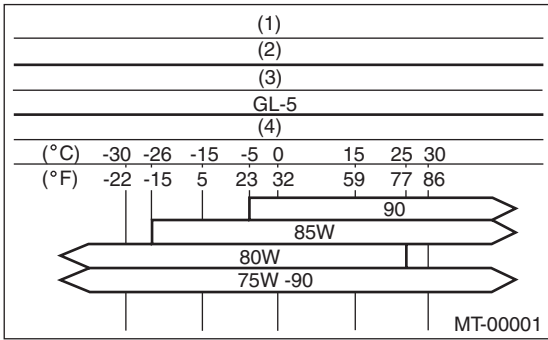
### 9. TRANSFER

|  |                                    |
|--|------------------------------------|
| Transfer type                                    | Variable torque distribution (VTD) |
| Number of transfer clutch drives & driven plates | 4                                  |
| Reduction gear ratio                             | 1.000 (41/41)                      |

### 10.FINAL REDUCTION GEAR

|                                  |       |
|----------------------------------|-------|
| Front final reduction gear ratio | 3.583 |
|----------------------------------|-------|

### 11.RECOMMENDED GEAR OIL

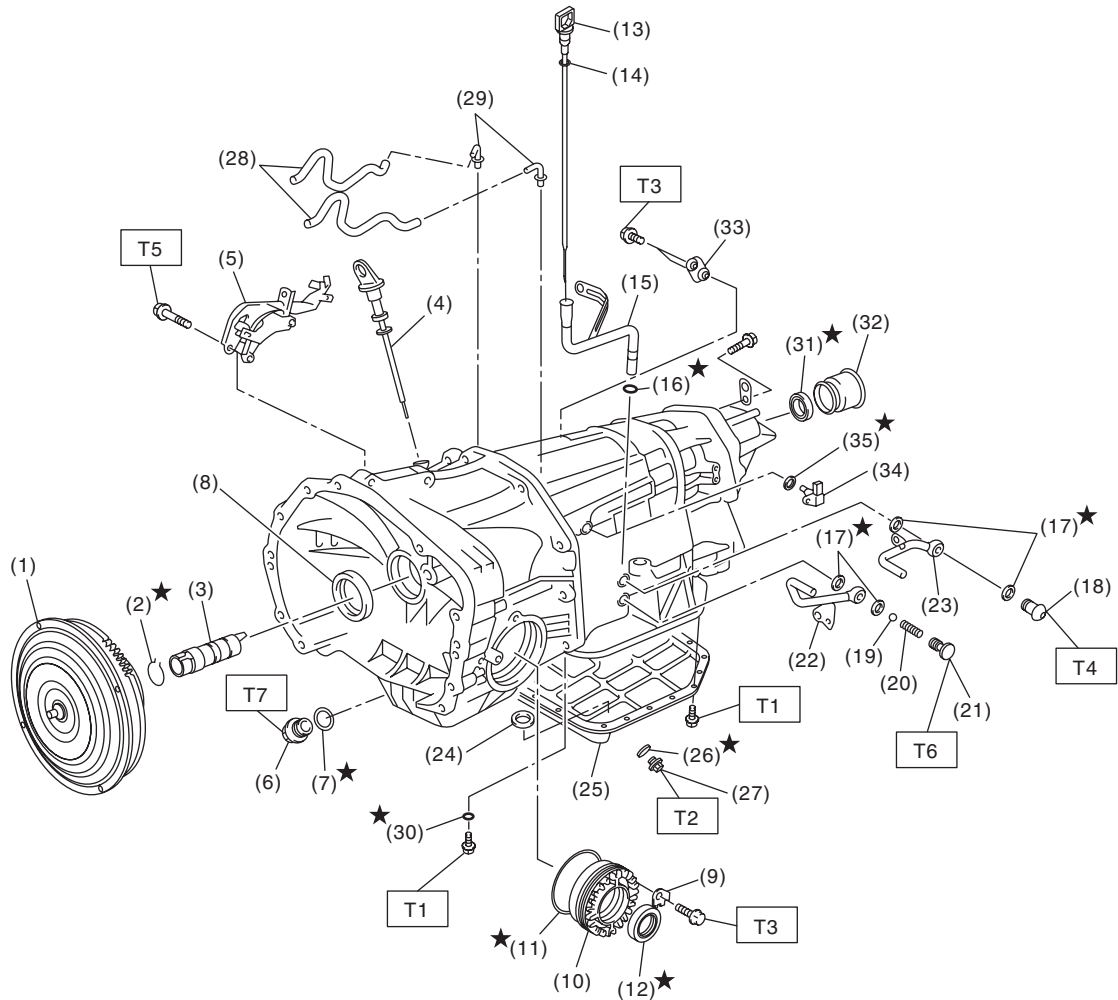
|   |  |
|---|--|
| Lubrication oil   |  <p>(1) Item<br/>(2) Front differential gear oil<br/>(3) API standard<br/>(4) SAE viscosity No. and applicable temperature</p> |
| Front differential gear oil capacity<br>ℓ (US qt, Imp qt) | 1.3 — 1.5 (1.4 — 1.6, 1.1 — 1.3)   |

# General Description

## AUTOMATIC TRANSMISSION

### B: COMPONENT

#### 1. TORQUE CONVERTER CLUTCH & TRANSMISSION ASSEMBLY



AT-05725

# General Description

## AUTOMATIC TRANSMISSION

|                                  |                      |                             |
|----------------------------------|----------------------|-----------------------------|
| (1) Torque converter ASSY        | (16) O-ring          | (31) Oil seal               |
| (2) Circlip                      | (17) Gasket          | (32) Dust cover             |
| (3) Oil pump shaft               | (18) Union screw     | (33) Floating bracket       |
| (4) Differential oil level gauge | (19) Ball            | (34) Turbine speed sensor 1 |
| (5) Pitching stopper bracket     | (20) Spring          | (35) O-ring                 |
| (6) Differential oil drain plug  | (21) Union screw     |                             |
| (7) Gasket                       | (22) ATF outlet pipe |                             |
| (8) Oil seal                     | (23) ATF inlet pipe  |                             |
| (9) Lock plate                   | (24) Magnet          |                             |
| (10) Side retainer               | (25) Oil pan         |                             |
| (11) O-ring                      | (26) Gasket          |                             |
| (12) Oil seal                    | (27) ATF drain plug  |                             |
| (13) ATF level gauge             | (28) Breather hose   |                             |
| (14) O-ring                      | (29) Nipple          |                             |
| (15) Oil charge pipe             | (30) O-ring          |                             |

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

***T1: 5 (0.5, 3.7)***

***T2: 20 (2.0, 14.8)***

***T3: 25 (2.5, 18.4)***

***T4: 40 (4.1, 29.5)***

***T5: 41 (4.2, 30.2)***

***T6: 45 (4.6, 33.2)***

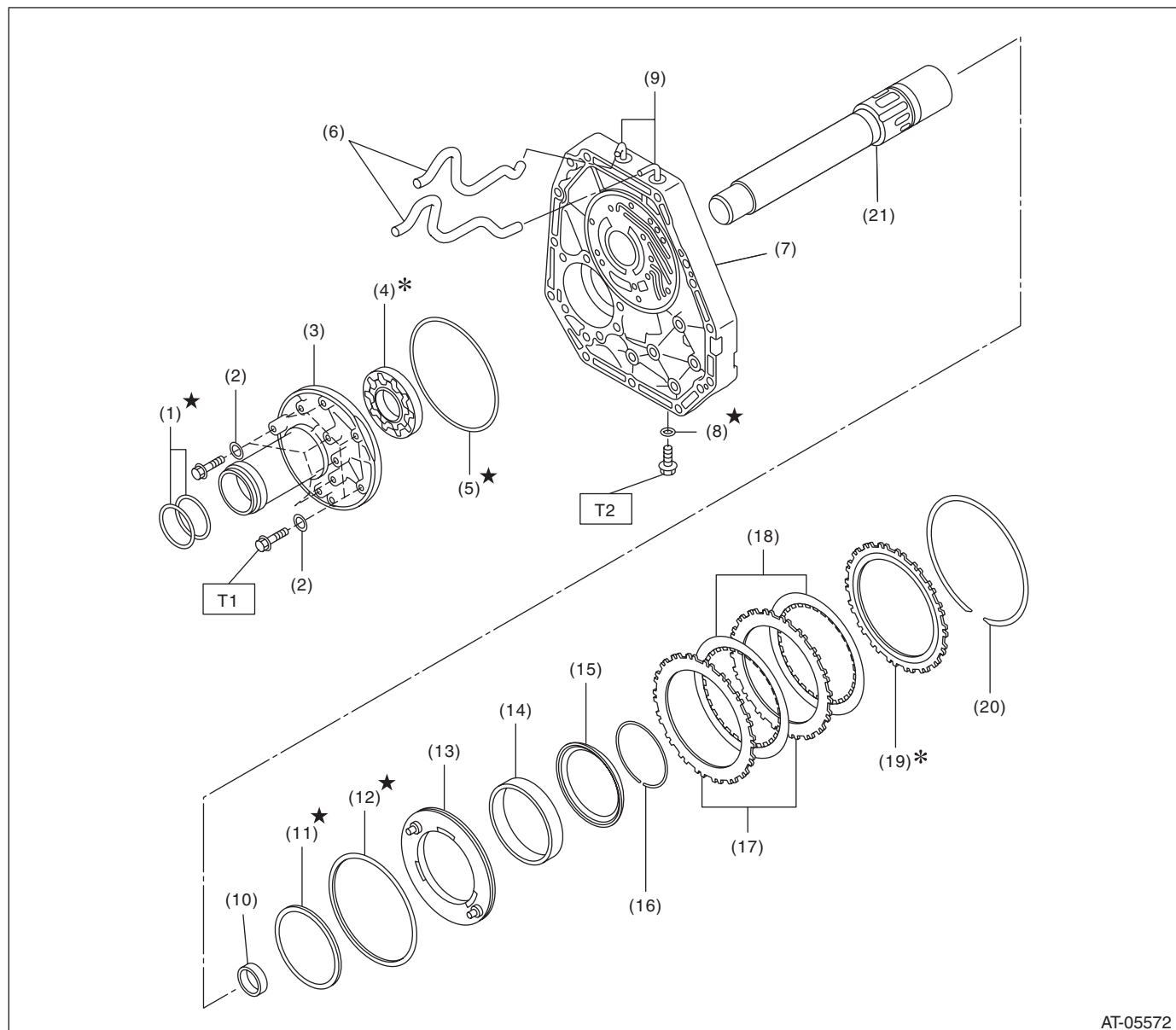
***T7: 70 (7.1, 51.6)***

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# General Description

## AUTOMATIC TRANSMISSION

### 2. OIL PUMP & FRONT BRAKE



AT-05572

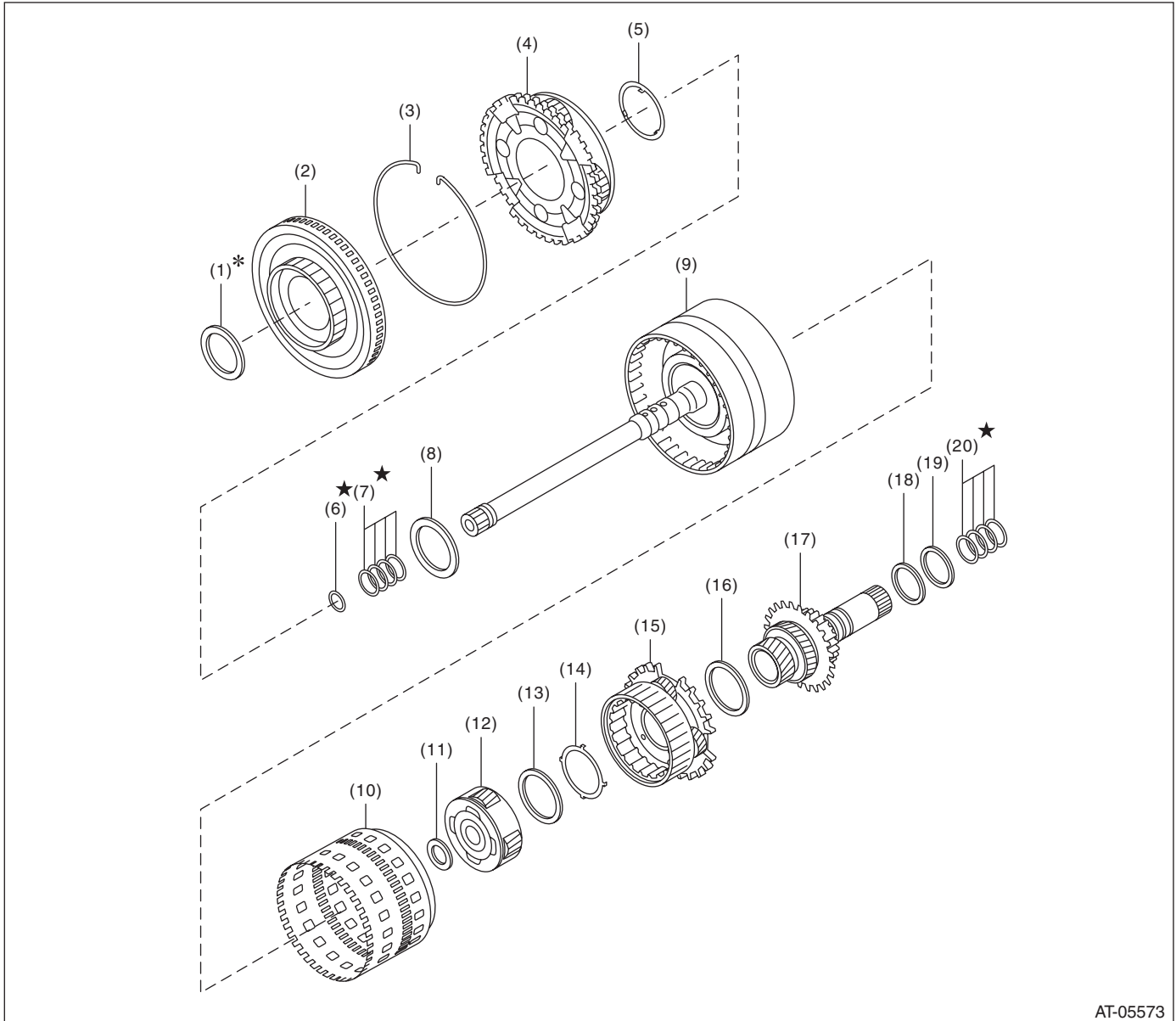
- |                       |                         |                      |
|-----------------------|-------------------------|----------------------|
| (1) O-ring            | (10) Needle bearing     | (19) Retaining plate |
| (2) Washer            | (11) D-ring (Inner)     | (20) Snap ring       |
| (3) Oil pump housing  | (12) D-ring (Outer)     | (21) Stator shaft    |
| (4) Oil pump rotor    | (13) Front brake piston |                      |
| (5) O-ring            | (14) Return spring      |                      |
| (6) Air breather hose | (15) Retainer           |                      |
| (7) Oil pump cover    | (16) Snap ring          |                      |
| (8) O-ring            | (17) Driven plate       |                      |
| (9) Nipple            | (18) Drive plate        |                      |

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

**T1: 10 (1.0, 7.4)**

**T2: 13 (1.3, 9.6)**

## 3. FRONT PLANETARY CARRIER AND MIDDLE & REAR PLANETARY CARRIER



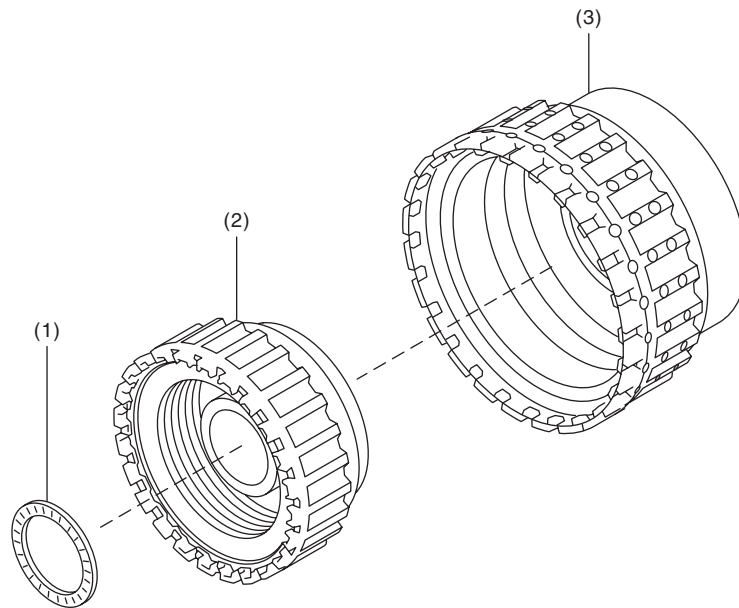
AT-05573

- |                         |                              |                                  |
|-------------------------|------------------------------|----------------------------------|
| (1) Thrust bearing      | (8) Thrust bearing           | (15) Rear carrier ASSY           |
| (2) Front sun gear ASSY | (9) Input clutch ASSY        | (16) Thrust bearing              |
| (3) Snap ring           | (10) Rear internal gear ASSY | (17) Middle & rear sun gear ASSY |
| (4) Front carrier ASSY  | (11) Thrust bearing          | (18) Washer                      |
| (5) Race bearing        | (12) Middle carrier ASSY     | (19) Thrust bearing              |
| (6) O-ring              | (13) Thrust bearing          | (20) Seal ring                   |
| (7) Seal ring           | (14) Race bearing            |                                  |

# General Description

## AUTOMATIC TRANSMISSION

### 4. DIRECT CLUTCH AND HIGH & LOW REVERSE CLUTCH



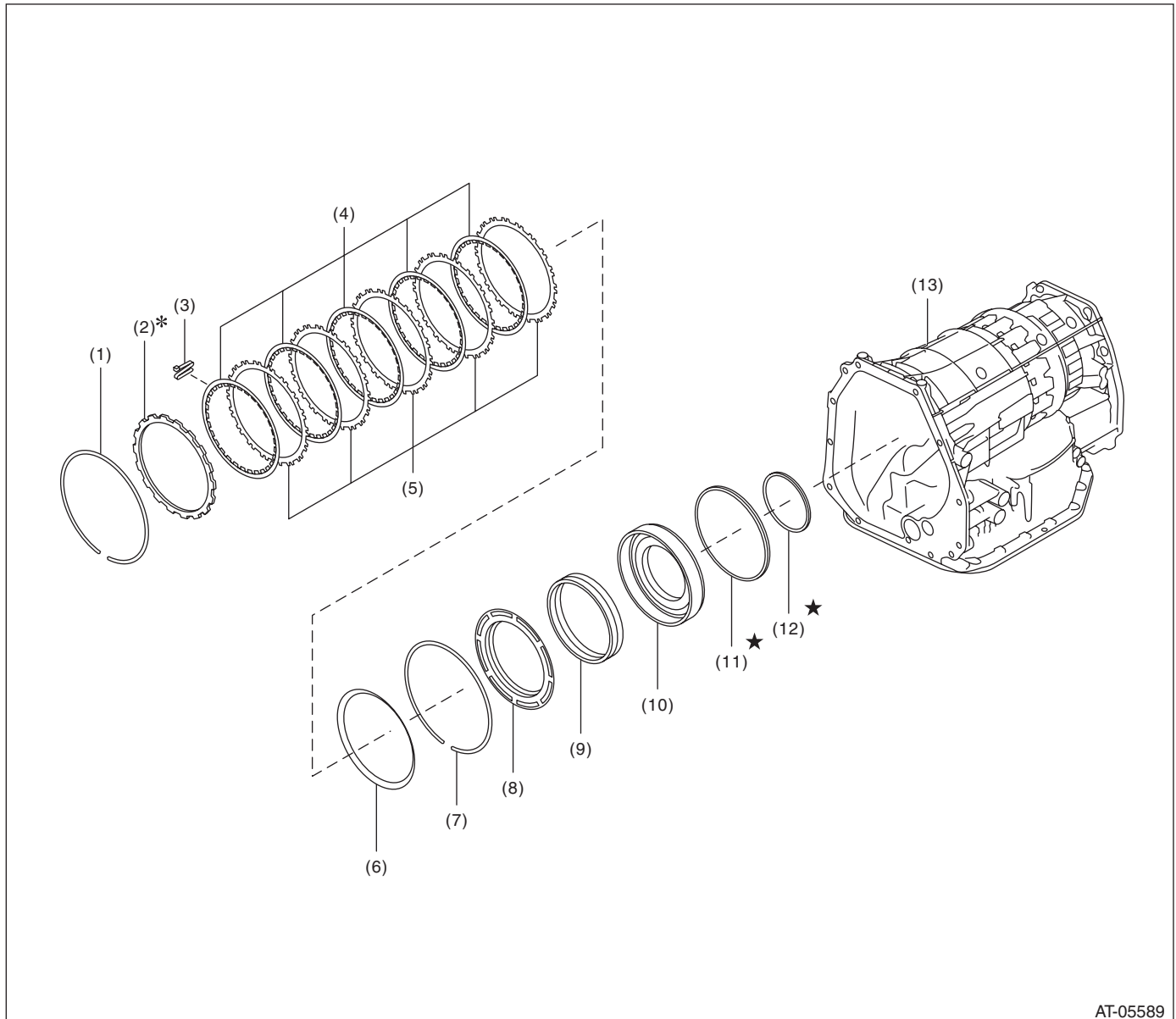
AT-02018

(1) Thrust bearing

(2) High & low reverse clutch ASSY

(3) Direct clutch ASSY

### 5. REVERSE BRAKE



AT-05589

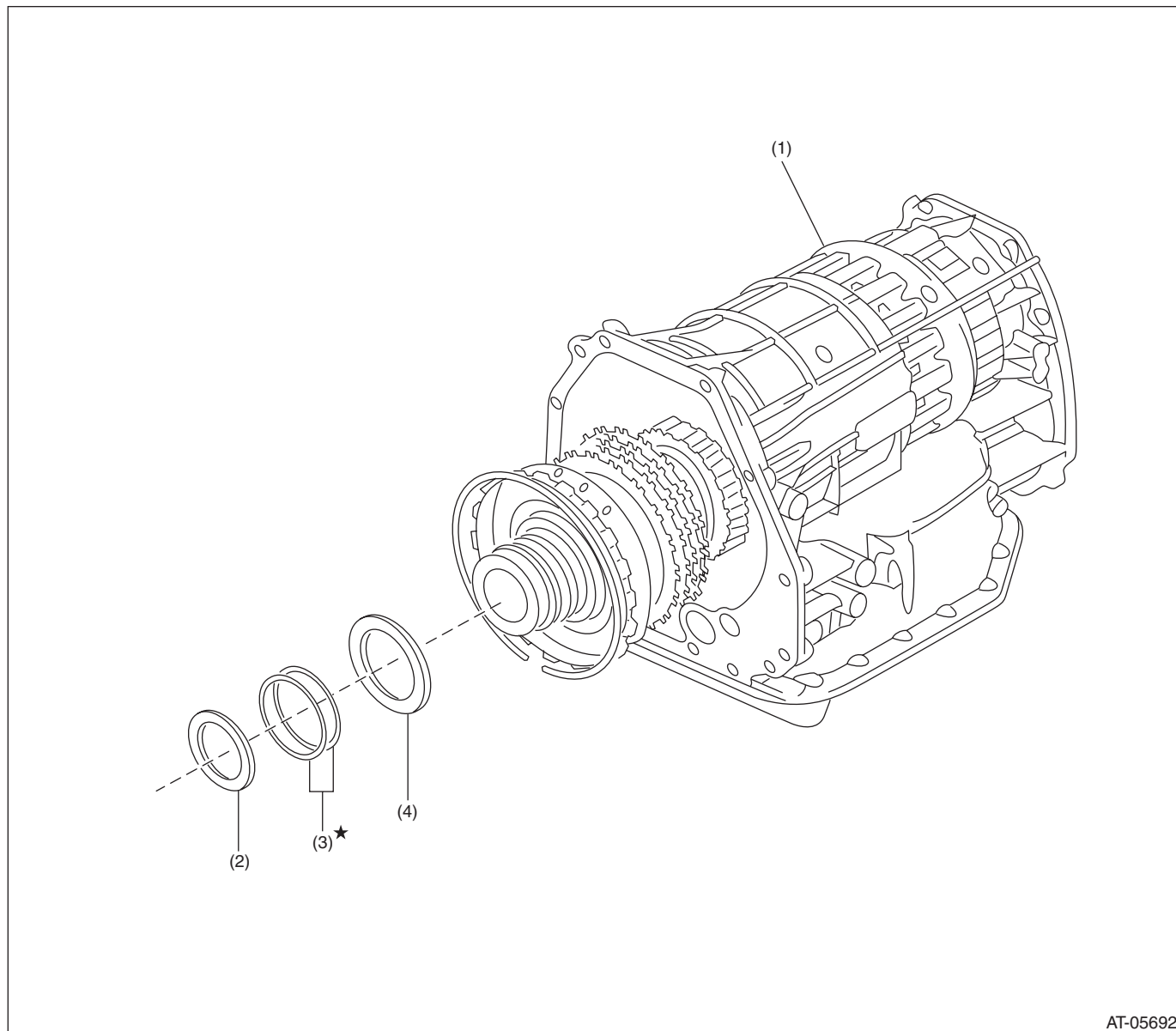
- |                     |                 |                           |
|---------------------|-----------------|---------------------------|
| (1) Snap ring       | (6) Dish plate  | (10) Reverse brake piston |
| (2) Retaining plate | (7) Snap ring   | (11) D-ring (Outer)       |
| (3) Leaf spring     | (8) Retainer    | (12) D-ring (Inner)       |
| (4) Drive plate     | (9) Leaf spring | (13) AT main case         |
| (5) Driven plate    |                 |                           |



# General Description

## AUTOMATIC TRANSMISSION

### 6. SHORT AT ASSEMBLY

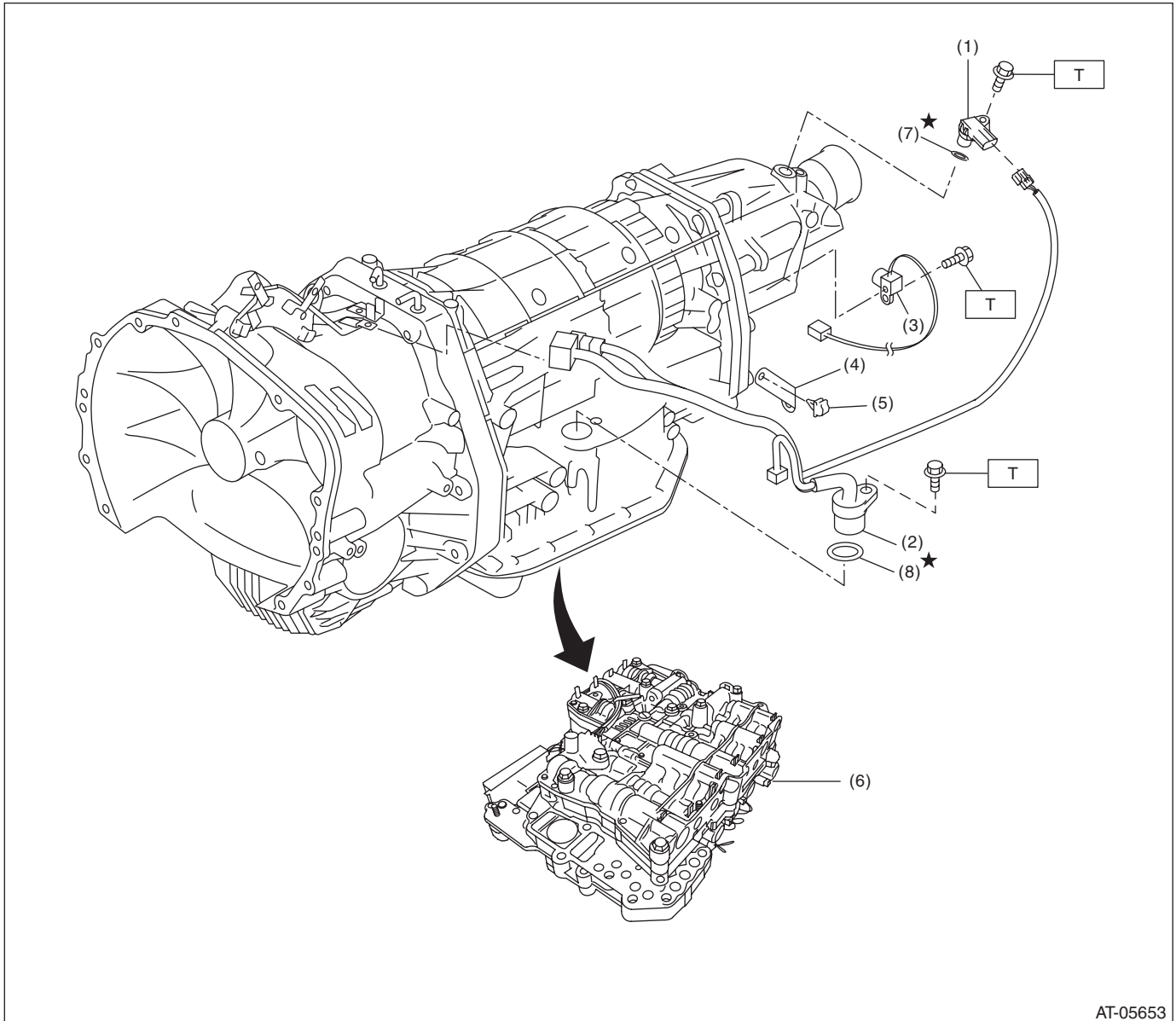


AT-05692

- (1) Short AT ASSY (non-disassembly) (3) Seal ring  
(2) Thrust bearing

- (4) Thrust bearing

## 7. CONTROL VALVE & TRANSMISSION HARNESS



AT-05653

- |                                |                        |
|--------------------------------|------------------------|
| (1) Rear vehicle speed sensor  | (5) Clip               |
| (2) Transmission harness ASSY  | (6) Control valve ASSY |
| (3) Front vehicle speed sensor | (7) O-ring             |
| (4) Harness bracket            | (8) O-ring             |

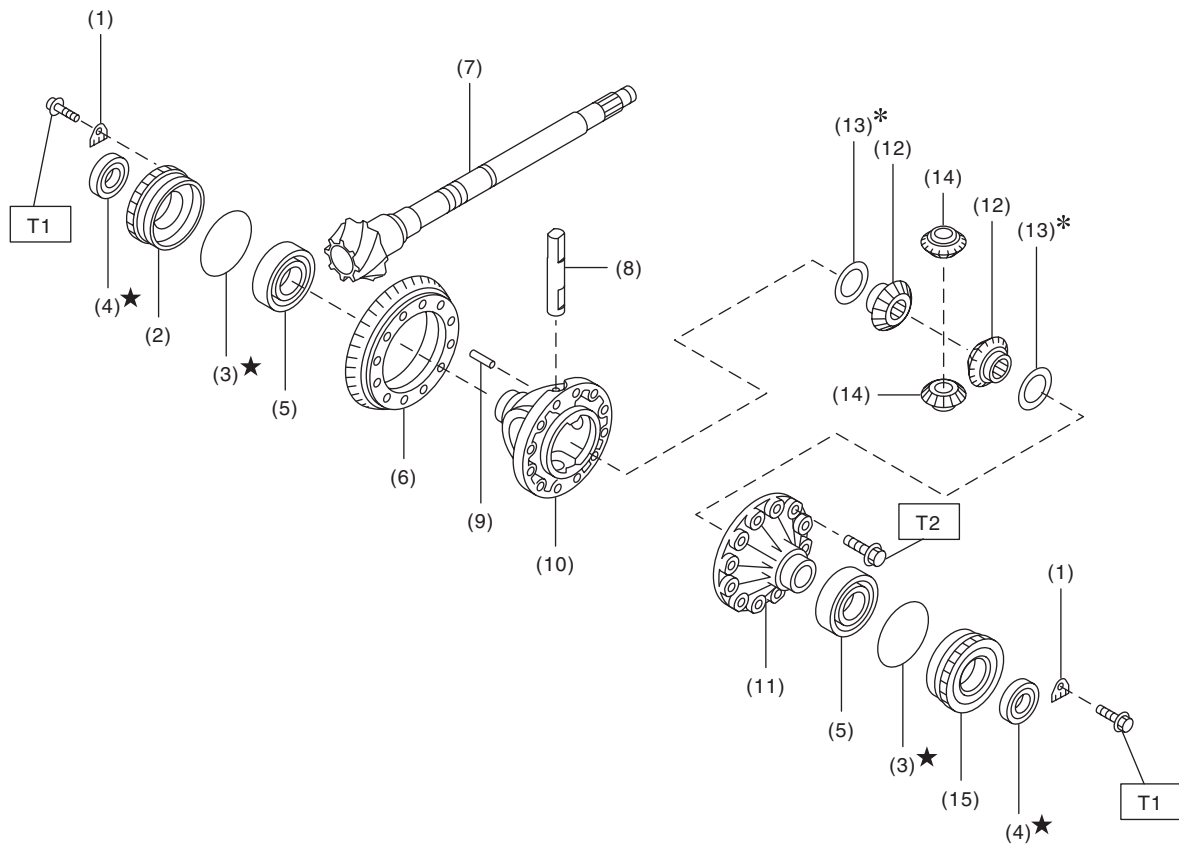
**Tightening torque: N·m (kgf-m, ft-lb)**

**T: 7 (0.7, 5.2)**

# General Description

## AUTOMATIC TRANSMISSION

### 8. DIFFERENTIAL GEAR



AT-03807

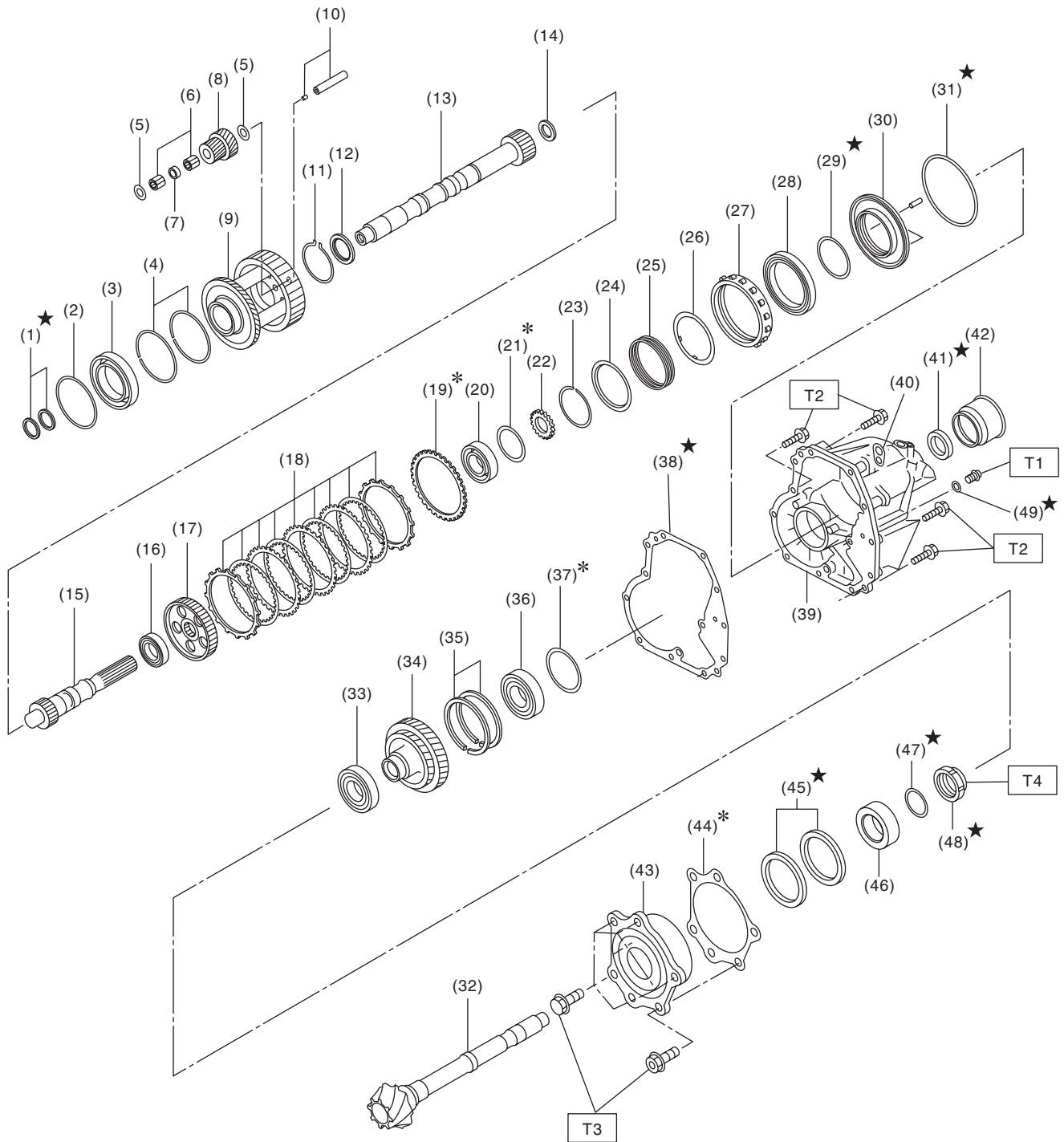
- |                                   |                                    |
|-----------------------------------|------------------------------------|
| (1) Lock plate                    | (9) Straight pin                   |
| (2) Differential side retainer RH | (10) Differential case RH          |
| (3) O-ring                        | (11) Differential case LH          |
| (4) Oil seal                      | (12) Differential bevel gear       |
| (5) Taper roller bearing          | (13) Washer                        |
| (6) Hypoid driven gear            | (14) Differential bevel pinion     |
| (7) Drive pinion shaft            | (15) Differential side retainer LH |
| (8) Pinion shaft                  |                                    |

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

**T1: 25 (2.5, 18.4)**

**T2: 70 (7.1, 51.6)**

## 9. TRANSFER CASE AND EXTENSION CASE & REDUCTION GEAR



AT-05726

## General Description

### AUTOMATIC TRANSMISSION

|                                  |                             |                           |
|----------------------------------|-----------------------------|---------------------------|
| (1) Seal ring                    | (20) Ball bearing           | (39) Extension case       |
| (2) Reduction gear shim          | (21) Rear drive shaft shim  | (40) Transmission hanger  |
| (3) Ball bearing                 | (22) Revolution gear        | (41) Oil seal             |
| (4) Snap ring                    | (23) Snap ring              | (42) Dust cover           |
| (5) Planetary pinion washer      | (24) Clutch spring retainer | (43) Taper roller bearing |
| (6) Needle bearing               | (25) Return spring          | (44) Drive pinion shim    |
| (7) Spacer                       | (26) Spring retainer        | (45) Oil seal             |
| (8) Pinion gear                  | (27) Pressure plate         | (46) Drive pinion collar  |
| (9) Planetary carrier ASSY       | (28) Ball bearing           | (47) O-ring               |
| (10) Planetary pinion shaft ASSY | (29) O-ring                 | (48) Lock nut             |
| (11) Snap ring                   | (30) Transfer clutch piston | (49) O-ring               |
| (12) Thrust bearing              | (31) D-ring                 |                           |
| (13) Intermediate shaft          | (32) Drive pinion shaft     |                           |
| (14) Thrust washer               | (33) Ball bearing           |                           |
| (15) Rear drive shaft            | (34) Reduction driven gear  |                           |
| (16) Ball bearing                | (35) Snap ring              |                           |
| (17) Transfer clutch hub         | (36) Ball bearing           |                           |
| (18) Transfer clutch plate       | (37) Shim                   |                           |
| (19) Driven plate No. 3.         | (38) Gasket                 |                           |

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

***T1: 13 (1.3, 9.6)***

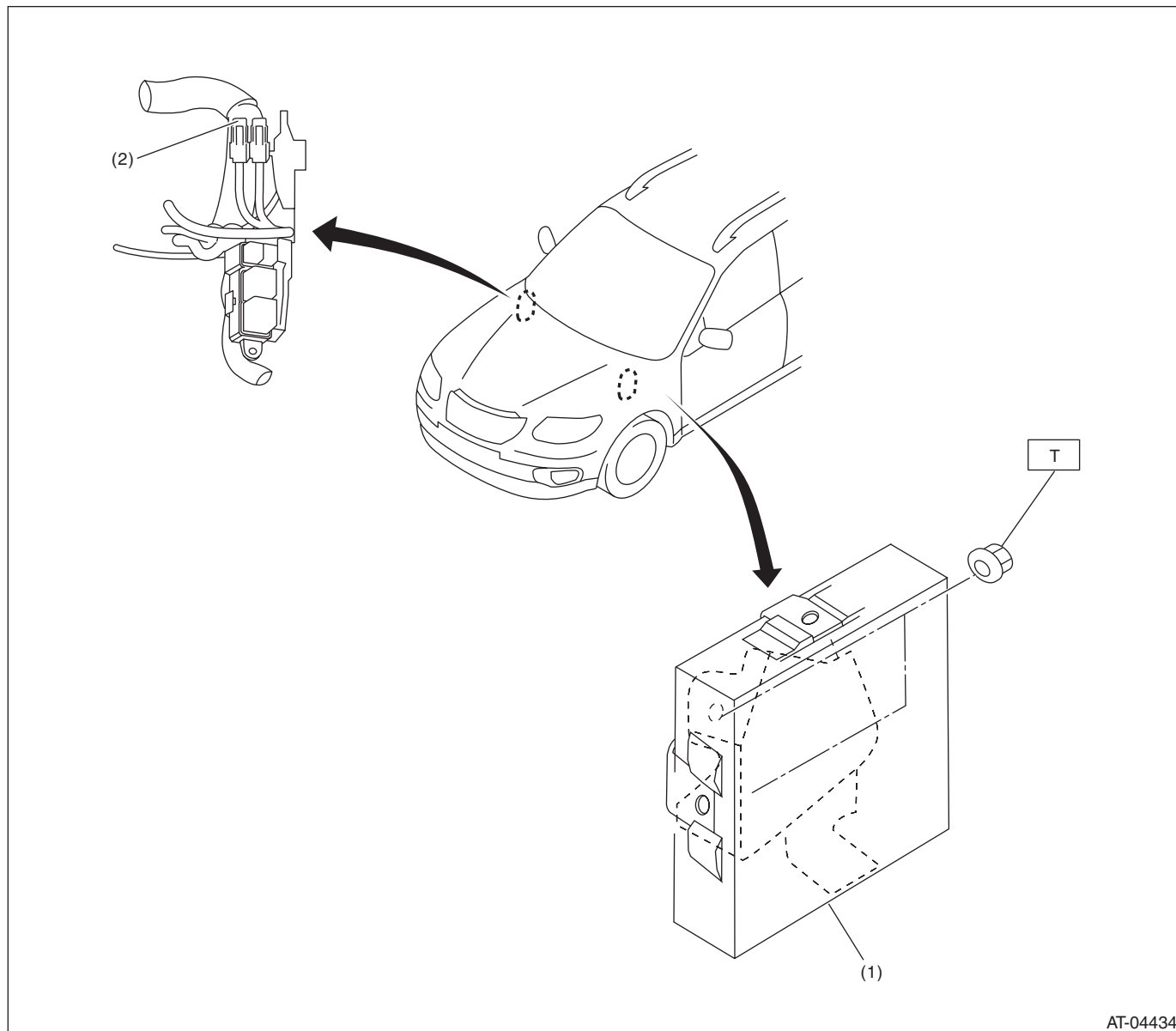
***T2: 25 (2.5, 18.4)***

***T3: 70 (7.1, 51.6)***

***T4: 116 (11.8, 85.6)***

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## 10.TRANSMISSION CONTROL MODULE



AT-04434

(1) Transmission control module (TCM)

(2) Relay

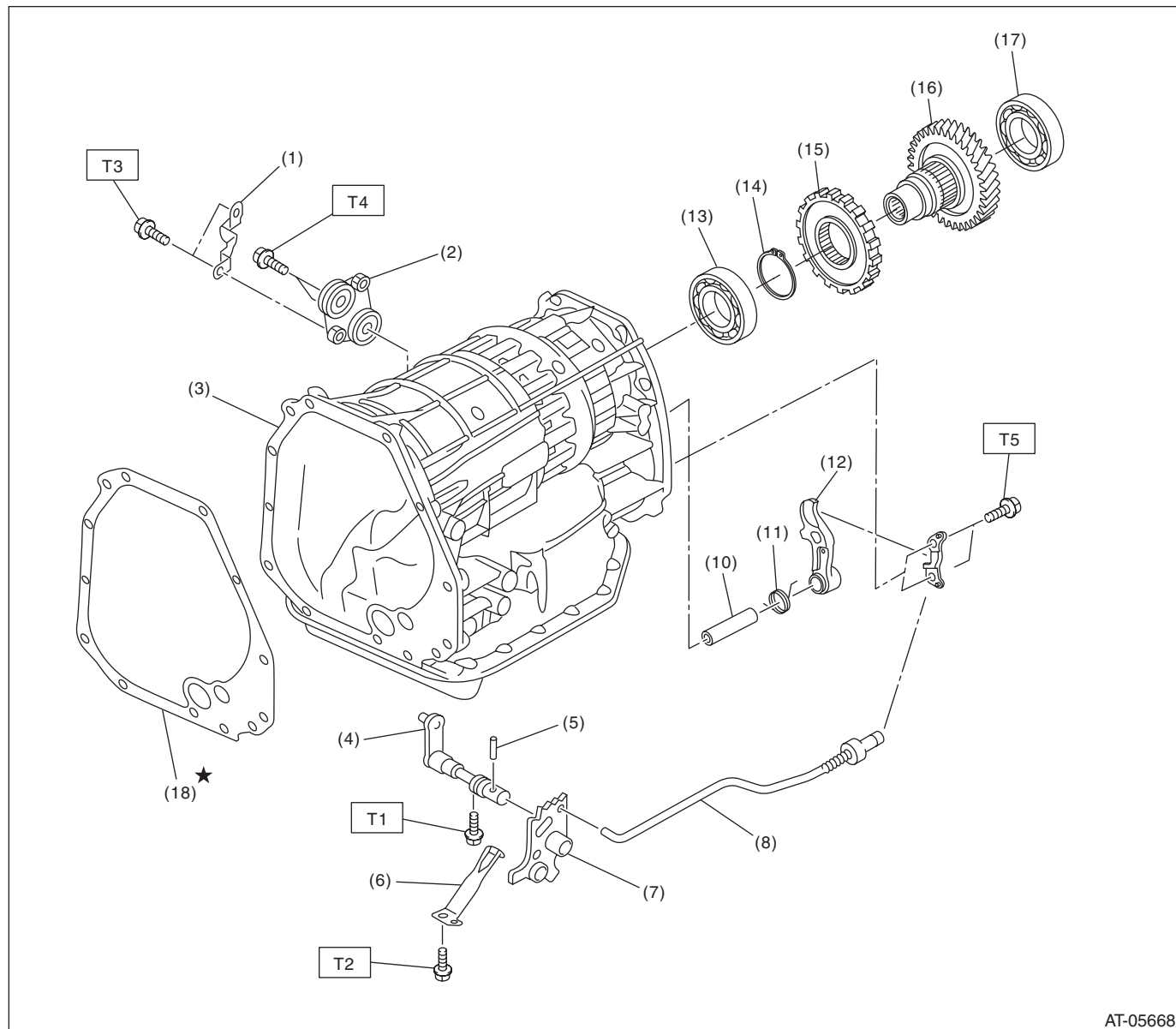
**Tightening torque: N·m (kgf-m, ft-lb)**

**T: 7.5 (0.8, 5.5)**

# General Description

## AUTOMATIC TRANSMISSION

### 11.TRANSMISSION CONTROL DEVICE & PARKING SUPPORT



AT-05668

- |                              |                            |
|------------------------------|----------------------------|
| (1) Bracket                  | (10) Parking pawl shaft    |
| (2) Floating bracket         | (11) Return spring         |
| (3) AT main case             | (12) Parking pawl          |
| (4) Range select lever       | (13) Ball bearing          |
| (5) Straight pin             | (14) Snap ring             |
| (6) Detent spring            | (15) Parking gear          |
| (7) Manual plate             | (16) Reduction driven gear |
| (8) Parking rod              | (17) Ball bearing          |
| (9) Parking support actuator | (18) Gasket                |

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

***T1: 6 (0.6, 4.4)***

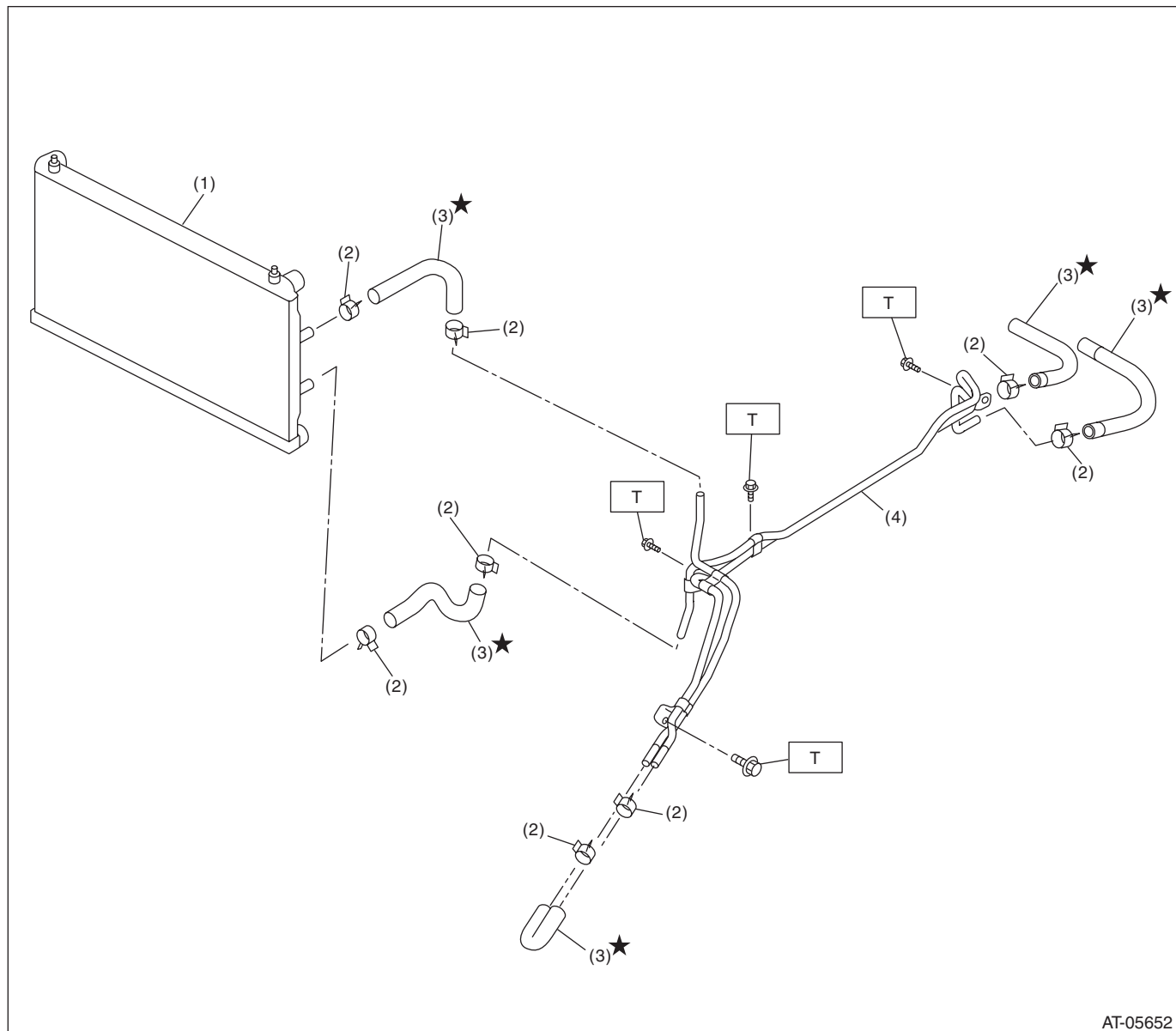
***T2: 7 (0.7, 5.2)***

***T3: 18 (1.8, 13.3)***

***T4: 25 (2.5, 18.4)***

***T5: <Ref. to 5AT-74, Parking Pawl.>***

## 12.OIL COOLER PIPE AND OIL COOLER



AT-05652

(1) Radiator

(2) Clip

(3) ATF hose

(4) ATF cooler pipe

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

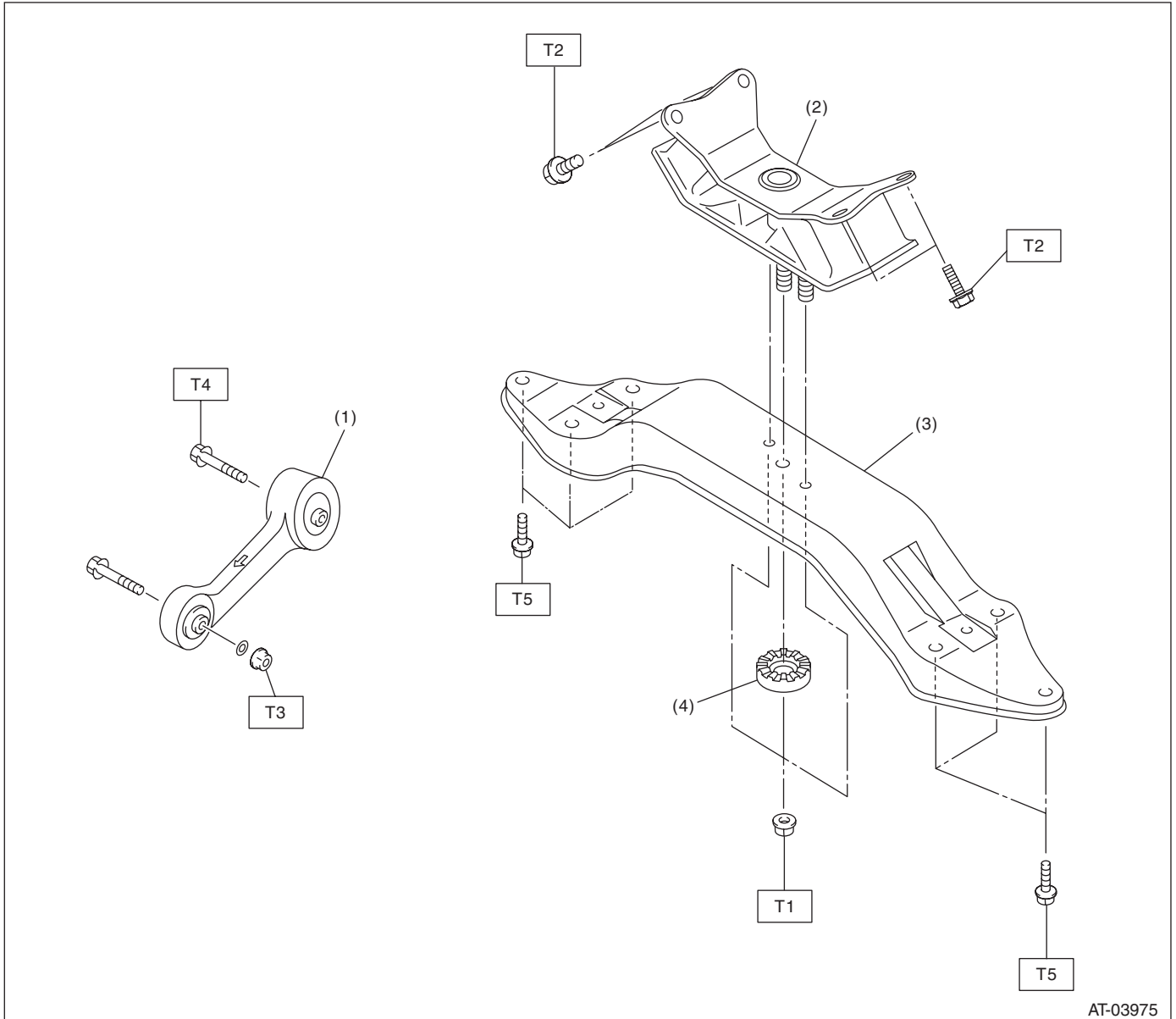
**T: 7.5 (0.8, 5.5)**



# General Description

## AUTOMATIC TRANSMISSION

### 13.TRANSMISSION MOUNTING



- (1) Pitching stopper  
(2) Rear cushion rubber

- (3) Crossmember  
(4) Stopper

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

**T1: 35 (3.6, 25.8)**

**T2: 40 (4.1, 29.5)**

**T3: 50 (5.1, 36.9)**

**T4: 58 (5.9, 42.8)**

**T5: 75 (7.6, 55.3)**

## C: CAUTION

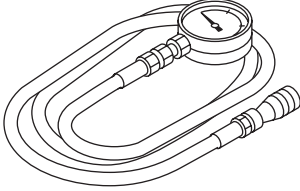
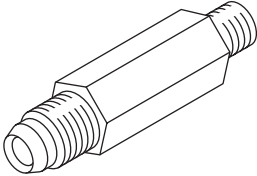
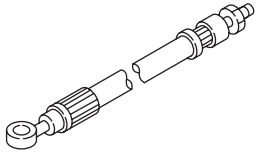
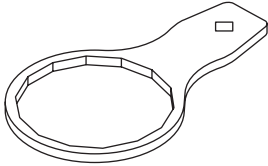
- Wear appropriate work clothing, including a cap, protective goggles and protective shoes when performing any work.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust and dirt.
- Until the 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, disassembly and replacement.
- When disassembling the case and other light alloy parts, disassemble them by slightly tapping with a plastic hammer. Do not pry apart with screwdrivers or other tools.
- Vehicle components are extremely hot after driving. Be wary of receiving burns from heated parts.
- Use SUBARU genuine gear oil, grease or equivalent. Do not mix them of different grades or manufacturers.
- Be sure to tighten bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.
- Apply gear oil onto sliding or revolving surfaces before installation.
- Replace deformed or damaged snap rings with new parts.
- 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 vise, place cushioning material such as wood blocks, aluminum plate, or cloth between the part and the vise.
- Avoid damaging the mating surface of the case.
- Before applying liquid gasket, completely remove the old liquid gasket.
- During disassembly or assembly, be sure to use nylon gloves or paper towels. Do not use cloth gloves or waste cloth.

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AUTOMATIC TRANSMISSION

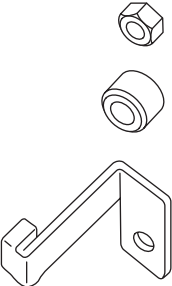
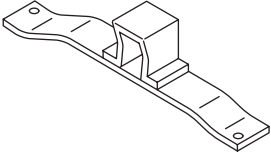
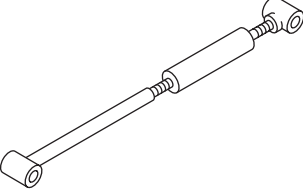
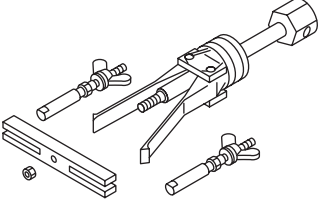
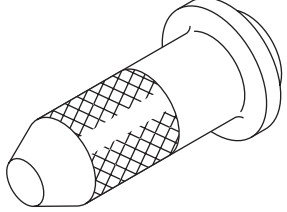
## D: PREPARATION TOOL

### 1. SPECIAL TOOL

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION                 | REMARKS  |
|---|-------------|-----------------------------|--|
| <br>ST-498575400   | 498575400   | OIL PRESSURE<br>GAUGE ASSY  | Used for measuring oil pressure.   |
| <br>ST-498897200   | 498897200   | OIL PRESSURE<br>ADAPTER     | Used together with oil pump cover installed on when measuring line pressure. |
| <br>ST-498897800 | 498897800   | OIL PRESSURE<br>ADAPTER SET | Used for measuring transfer clutch pressure.                                 |
| <br>ST-498545400 | 498545400   | FILTER WRENCH               | Used for removing and installing the ATF filter.                             |

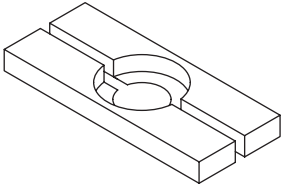
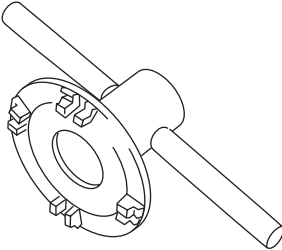
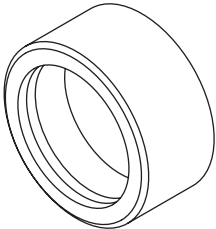
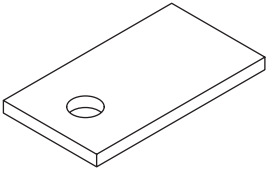
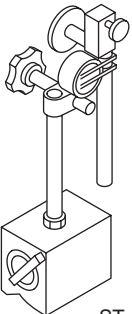
# General Description

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| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION            | REMARKS   |
|---|-------------|------------------------|---|
|  <p>ST-498277200</p>   | 498277200   | STOPPER SET            | Used for preventing the torque converter assembly from falling when removing and installing the automatic transmission assembly.  |
|  <p>ST41099AA010</p>   | 41099AA010  | ENGINE SUPPORT BRACKET | Used for supporting engine.   |
|  <p>ST41099AA020</p>  | 41099AA020  | ENGINE SUPPORT         | Used for supporting engine.   |
|  <p>ST-398527700</p> | 398527700   | PULLER ASSY            | <ul style="list-style-type: none"> <li>• Used for removing the extension case roller bearing.</li> <li>• Used for removing the extension oil seal.</li> <li>• Used for removing the front differential side retainer bearing outer race.</li> <li>• Used for removing the front differential side retainer oil seal.</li> </ul> |
|  <p>ST-498057300</p> | 498057300   | INSTALLER              | Used for installing the extension oil seal.   |

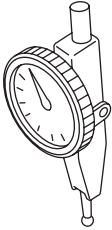
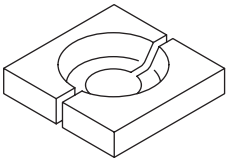
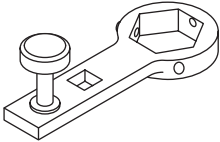
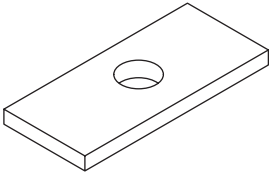
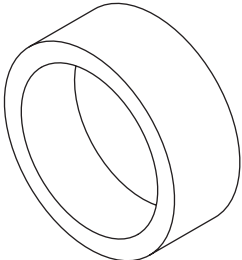
# General Description

## AUTOMATIC TRANSMISSION

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION              | REMARKS   |
|---|-------------|--------------------------|---|
| <br>ST-498077000   | 498077000   | REMOVER                  | Used for removing the differential taper roller bearing.  |
| <br>ST18630AA010   | 18630AA010  | WRENCH COMPL<br>RETAINER | Used for removing and installing the differential side retainer.  |
| <br>ST-398487700  | 398487700   | DRIFT                    | Used for installing the front differential taper roller bearing.  |
| <br>ST-498255400 | 498255400   | PLATE                    | Used for measuring the backlash of hypoid gear.   |
| <br>ST-498247001 | 498247001   | MAGNET BASE              | <ul style="list-style-type: none"> <li>Used for measuring the gear backlash.</li> <li>Used together with DIAL GAUGE (498247100).</li> </ul> |

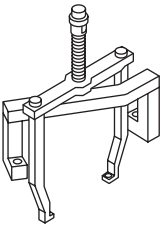
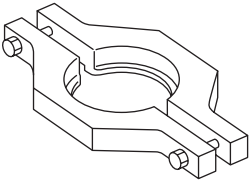
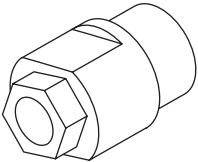
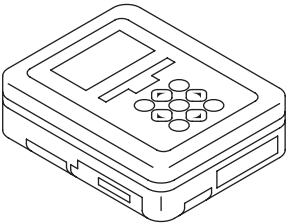
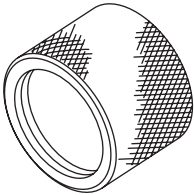
# General Description

AUTOMATIC TRANSMISSION

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION  | REMARKS  |
|---|-------------|--------------|--|
|  <p>ST-498247100</p>   | 498247100   | DIAL GAUGE   | <ul style="list-style-type: none"> <li>Used for measuring the gear backlash.</li> <li>Used together with MAGNET BASE (498247001).</li> </ul> |
|  <p>ST-498517000</p>   | 498517000   | REPLACER     | Used for removing the front roller bearing.  |
|  <p>ST-499787700</p> | 499787700   | WRENCH       | Used for removing and installing the drive pinion lock nut.  |
|  <p>ST-398643600</p> | 398643600   | GAUGE        | Used for measuring the total end play, extension end play and drive pinion height.   |
|  <p>ST-398744300</p> | 398744300   | PISTON GUIDE | Used for measuring height from mating surface of the main case to pressure plate.  |

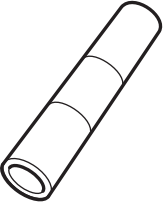
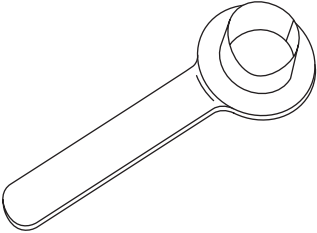
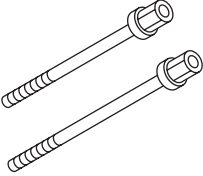

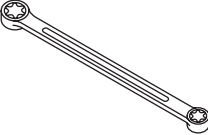
# General Description

## AUTOMATIC TRANSMISSION

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION                          | REMARKS   |
|---|-------------|--------------------------------------|---|
|  <p>ST-499737100</p>   | 499737100   | PULLER SET                           | Used for removing the reduction driven gear assembly.   |
|  <p>ST-498077600</p>   | 498077600   | REMOVER                              | Used for removing the ball bearing.   |
|  <p>ST18667AA010</p>  | 18667AA010  | HOLDER                               | <ul style="list-style-type: none"> <li>• Used for removing and installing the drive pinion lock nut.</li> <li>• Used as a handle to rotate gear when checking tooth contact.</li> </ul> |
|  <p>ST1B022XU0</p>   | 1B022XU0    | SUBARU SELECT MONITOR III KIT        | Used for troubleshooting the electrical system.   |
|  <p>ST18675AA000</p> | 18675AA000  | DIFFERENTIAL SIDE OIL SEAL INSTALLER | Used for installing the differential side retainer oil seal.  |

# General Description

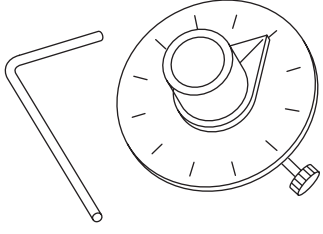
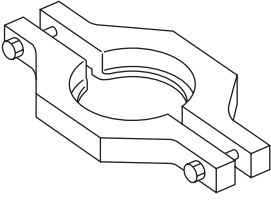
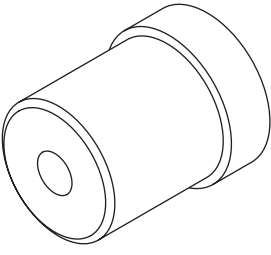
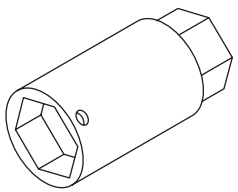
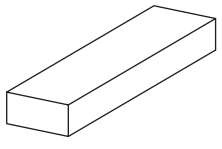
AUTOMATIC TRANSMISSION

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION        | REMARKS   |
|---|-------------|--------------------|---|
|  <p>ST18654AA000</p>   | 18654AA000  | INSTALLER          | Used for removing and installing the ball bearing.                |
|  <p>ST28399SA010</p>   | 28399SA010  | OIL SEAL PROTECTOR | Used for protecting oil seal when installing front drive shaft.   |
|  <p>ST18763AA000</p>  | 18763AA000  | COMPRESSOR SHAFT   | Used for disassembling multi-plate clutch for shift transmission. |
|  <p>ST18765AA000</p> | 18765AA000  | COMPRESSOR SUPPORT | Used for disassembling multi-plate clutch for shift transmission. |
|  <p>ST18676AA020</p> | 18676AA020  | TORX® WRENCH       | Used for disassembling torque converter case.                     |



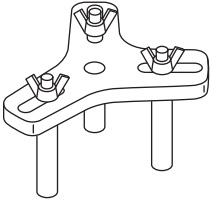
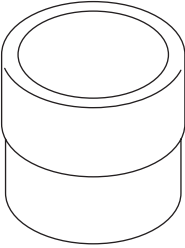
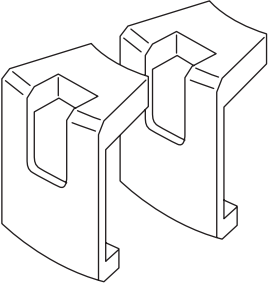
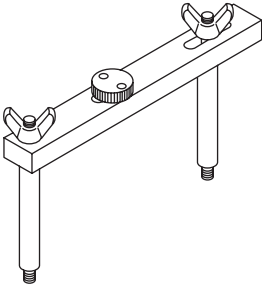
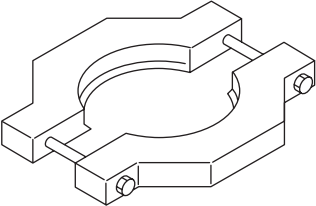
# General Description

## AUTOMATIC TRANSMISSION

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION           | REMARKS  |
|---|-------------|-----------------------|--|
|  <p>ST18854AA000</p>   | 18854AA000  | ANGLE GAUGE           | Used for tightening parking support.                     |
|  <p>ST-498077300</p>   | 498077300   | REMOVER               | Used for removing ball bearing of reduction driven gear. |
|  <p>ST-499587100</p>  | 499587100   | OIL SEAL<br>INSTALLER | Used for installing the oil seal.                        |
|  <p>ST-499787500</p> | 499787500   | ADAPTER               | Used for removing and installing drive pinion lock nut.  |
|  <p>ST-499575400</p> | 499575400   | GAUGE                 | Used for measuring height of total end play.             |

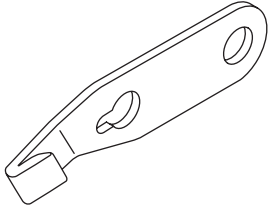
# General Description

## AUTOMATIC TRANSMISSION

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION                | REMARKS   |
|---|-------------|----------------------------|---|
|  <p>ST18762AA000</p>   | 18762AA000  | COMPRESSOR<br>SPECIAL TOOL | Used for disassembling multi-plate clutch for shift transmission.   |
|  <p>ST-499755602</p>   | 499755602   | PRESS                      | Used for installing the parking gear.   |
|  <p>ST18680AA010</p>  | 18680AA010  | HOLDER GEAR                | Used for removing reduction driven gear assembly. (2-piece set)   |
|  <p>ST18766AA000</p> | 18766AA000  | SUPPORT PULLER             | Used for removing reduction driven gear assembly.   |
|  <p>ST18767AA000</p> | 18767AA000  | REMOVER                    | <ul style="list-style-type: none"> <li>Used to pull out the parking gear.</li> <li>Used to pull out the bearing from the VTD assembly.</li> </ul> |

## General Description

### AUTOMATIC TRANSMISSION

| ILLUSTRATION  | TOOL NUMBER | DESCRIPTION        | REMARKS  |
|---|-------------|--------------------|--|
|  <p style="text-align: center;">ST-498497100</p> | 498497100   | CRANKSHAFT STOPPER | Used for stopping the drive plate rotation when removing and installing the drive plate. |

## 2. GENERAL TOOL

| TOOL NAME        | REMARKS  |
|------------------|--|
| Depth gauge      | Used for measuring the transmission end play.                      |
| Thickness gauge  | Used for measuring clearance of the clutch, brake and oil pump.    |
| Micrometer       | Used for measuring thickness of the drive pinion.                  |
| Spring scale     | Used for measuring the starting torque of the drive pinion.        |
| Circuit tester   | Used for measuring resistance and voltage.                         |
| TORX® T70        | Used for removing and installing differential gear oil drain plug. |
| Snap ring pliers | Used for removing and installing each snap ring.                   |