

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

1. General Description

A: SPECIFICATIONS

1. TORQUE CONVERTER CLUTCH

Model	2.5 L model		3.0 L model
	Except OUT-BACK	OUTBACK	
Type	Symmetric, 3 element, single stage, 2 phase torque converter		
Stall torque ratio	1.9 — 2.1	2.1 — 2.3	1.8 — 2.0
Nominal diameter	246 mm (9.69 in)		
Stall speed (at sea level)	2,100 — 2,600 rpm	2,200 — 2,700 rpm	2,000 — 2,500 rpm
One-way clutch	Sprague type one-way clutch		

2. OIL PUMP

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

3. TRANSMISSION CONTROL ELEMENT

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

Model	BRIGHTEN, L, OUT-BACK (3.0 L model)	GT, OUTBACK (2.5 L model)
1st	2.785	3.027
2nd	1.545	1.619
3rd	1.000	
4th	0.694	
Rev	2.272	

5. PLANETARY GEAR AND PLATE

	BRIGHTEN, L	GT, OUT-BACK (2.5 L model)	3.0 L model
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	42
Tooth number of rear pinion	17	19	17
Tooth number of rear internal gear	75		
Drive & driven plate number of high clutch	4		5
Drive & driven plate number of low clutch	6		7
Drive & driven plate number of reverse clutch	2		
Drive & driven plate number of 2-4 brake	3		4
Drive & driven plate number of low & reverse brake	6		7

6. SELECTOR POSITION

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 2nd \leftarrow 3rd \leftarrow 4th
3 (3rd)	Automatic gear change 1st \leftarrow 2nd \leftarrow 3rd \leftarrow 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	Hydraulic remote control

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7. HYDRAULIC CONTROL AND LUBRICATION

Type	Electronic/hydraulic control [Four forward speed changes by electrical signals of vehicle speed and accelerator (throttle) opening]
Fluid	Dexron III type Automatic transmission fluid
Fluid capacity	9.3 — 9.6 ℓ (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

Cooling system	Liquid-cooled cooler incorporated in radiator
Inhibitor switch	12 poles
Transmission harness	20 poles

10.FINAL REDUCTION

Front final gear ratio	4.444 (40/9)																		
Lubrication oil	<p>ITEM</p> <ul style="list-style-type: none"> • Front differential gear oil <p>API Classification</p> <p>GL-5</p> <p>SAE Viscosity No. and Applicable Temperature</p> <table border="1"> <tr> <td>(°C)</td> <td>-30</td> <td>-26</td> <td>-15</td> <td>-5</td> <td>0</td> <td>15</td> <td>25</td> <td>30</td> </tr> <tr> <td>(°F)</td> <td>-22</td> <td>-15</td> <td>5</td> <td>23</td> <td>32</td> <td>59</td> <td>77</td> <td>86</td> </tr> </table> <p>AT-00001</p>	(°C)	-30	-26	-15	-5	0	15	25	30	(°F)	-22	-15	5	23	32	59	77	86
(°C)	-30	-26	-15	-5	0	15	25	30											
(°F)	-22	-15	5	23	32	59	77	86											
Front differential oil capacity	1.1 — 1.3 ℓ (1.2 — 1.4 US qt, 1.0 — 1.1 Imp qt)																		

9. TRANSFER

	MPT model		VTD model
	2.5 L model	3.0 L model	
Transfer type	Multi-plate transfer		Variable torque distribution
Drive & driven plate number of transfer clutch	5	6	3
Control method	Electronic, hydraulic type		
Lubricant	The same Automatic transmission fluid used in automatic transmission		
1st reduction gear ratio	1.000 (53/53)		

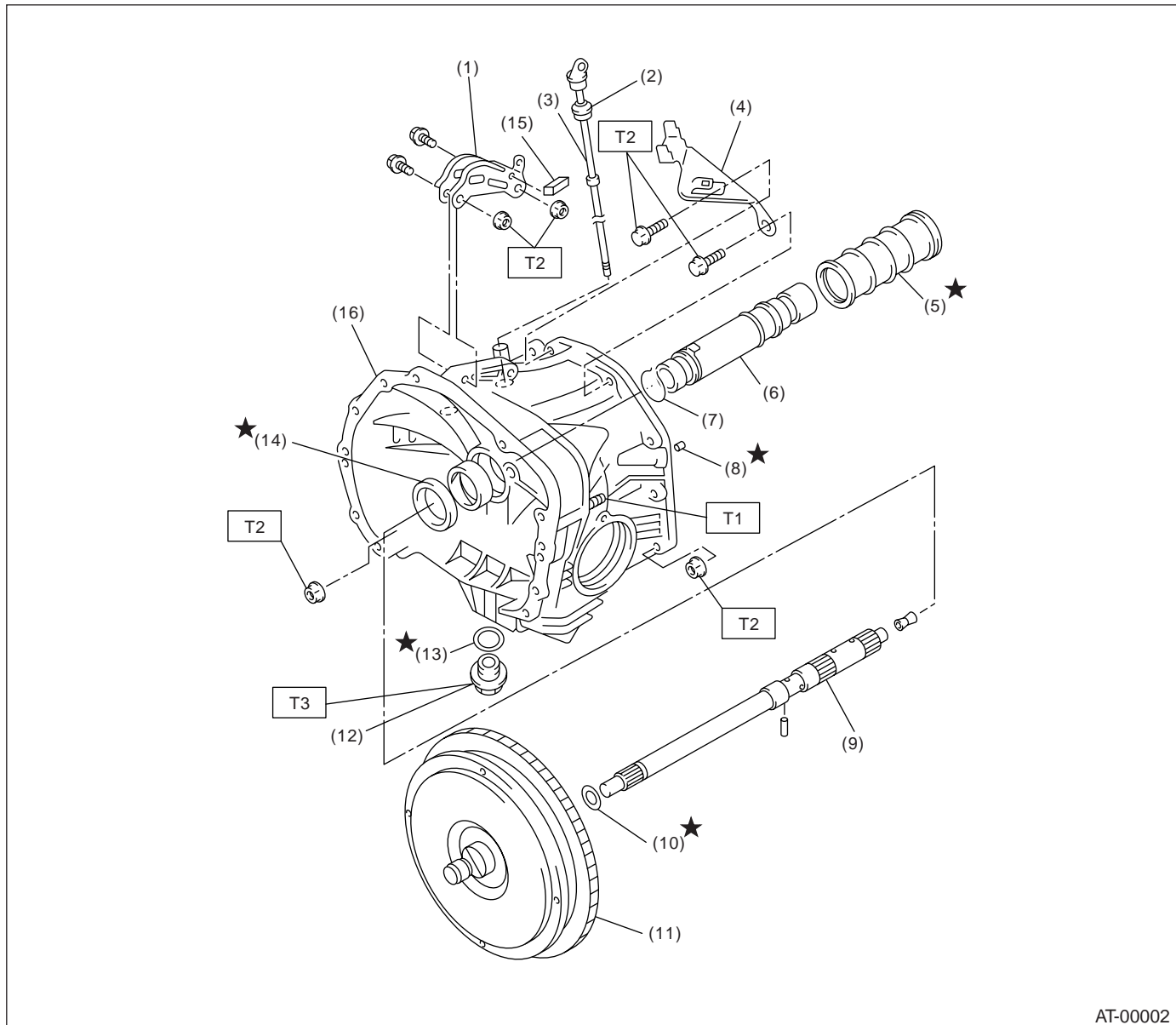
AT-3

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

B: COMPONENT

1. TORQUE CONVERTER CLUTCH AND CASE



AT-00002

- | | | |
|----------------------------------|-----------------------------------|-----------------------------------|
| (1) Pitching stopper bracket | (8) Oil drain pipe | (15) Clip |
| (2) O-ring | (9) Input shaft | (16) Torque converter clutch case |
| (3) Differential oil level gauge | (10) O-ring | |
| (4) Stay | (11) Torque converter clutch ASSY | |
| (5) Seal pipe | (12) Drain plug | |
| (6) Oil pump shaft | (13) Gasket | |
| (7) Clip | (14) Oil seal | |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 18 (1.8, 13.0)

T2: 41 (4.2, 30.4)

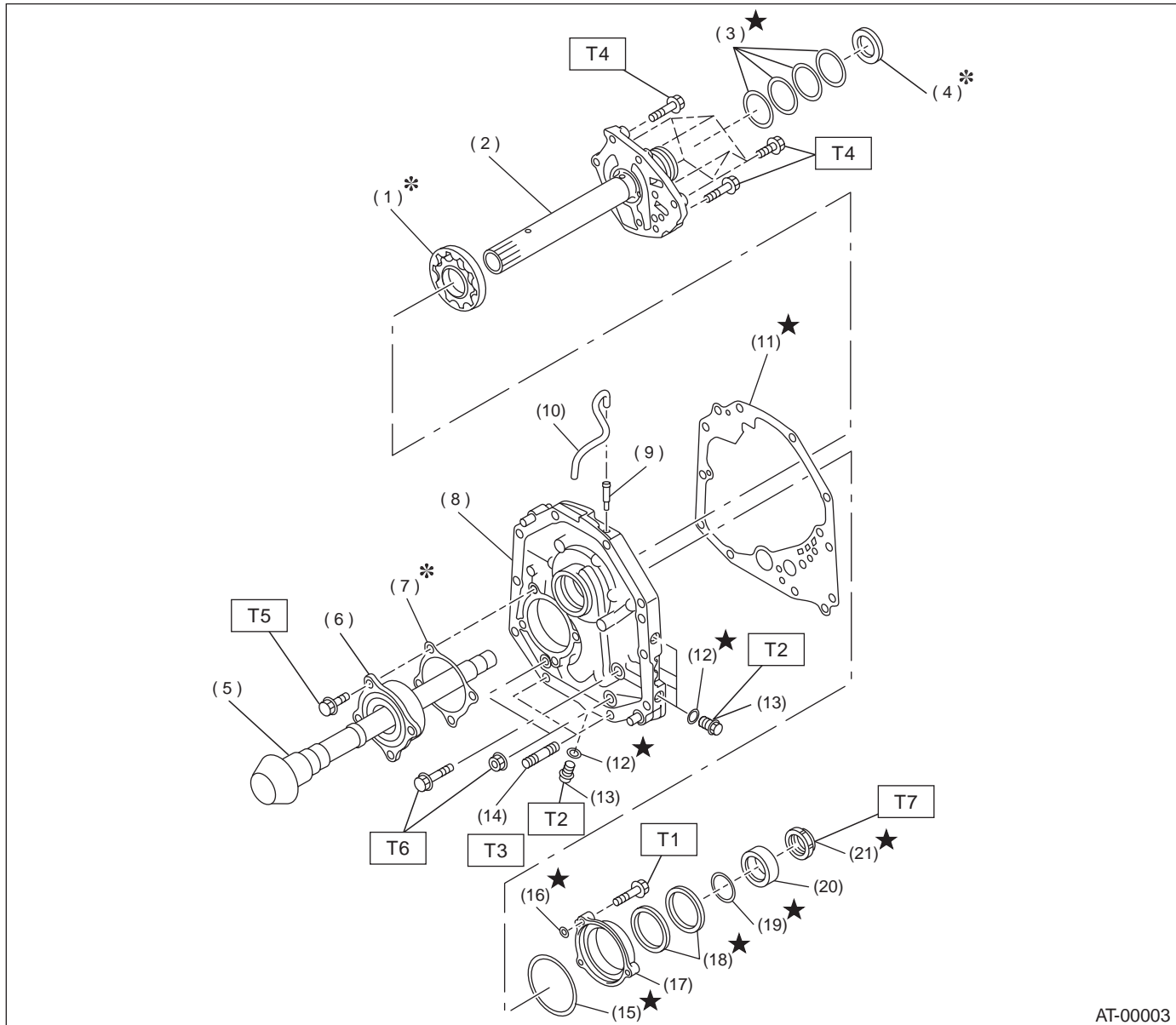
T3: 44 (4.5, 32.5)

AT-4

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

2. OIL PUMP



AT-00003

- | | |
|---------------------------|--------------------------|
| (1) Oil pump rotor | (12) O-ring |
| (2) Oil pump cover | (13) Test plug |
| (3) Seal ring | (14) Stud bolt |
| (4) Thrust needle bearing | (15) O-ring |
| (5) Drive pinion shaft | (16) O-ring |
| (6) Roller bearing | (17) Oil seal retainer |
| (7) Shim | (18) Oil seal |
| (8) Oil pump housing | (19) O-ring |
| (9) Nipple | (20) Drive pinion collar |
| (10) Air breather hose | (21) Lock nut |
| (11) Gasket | |

Tightening torque: N·m (kgf·m, ft·lb)

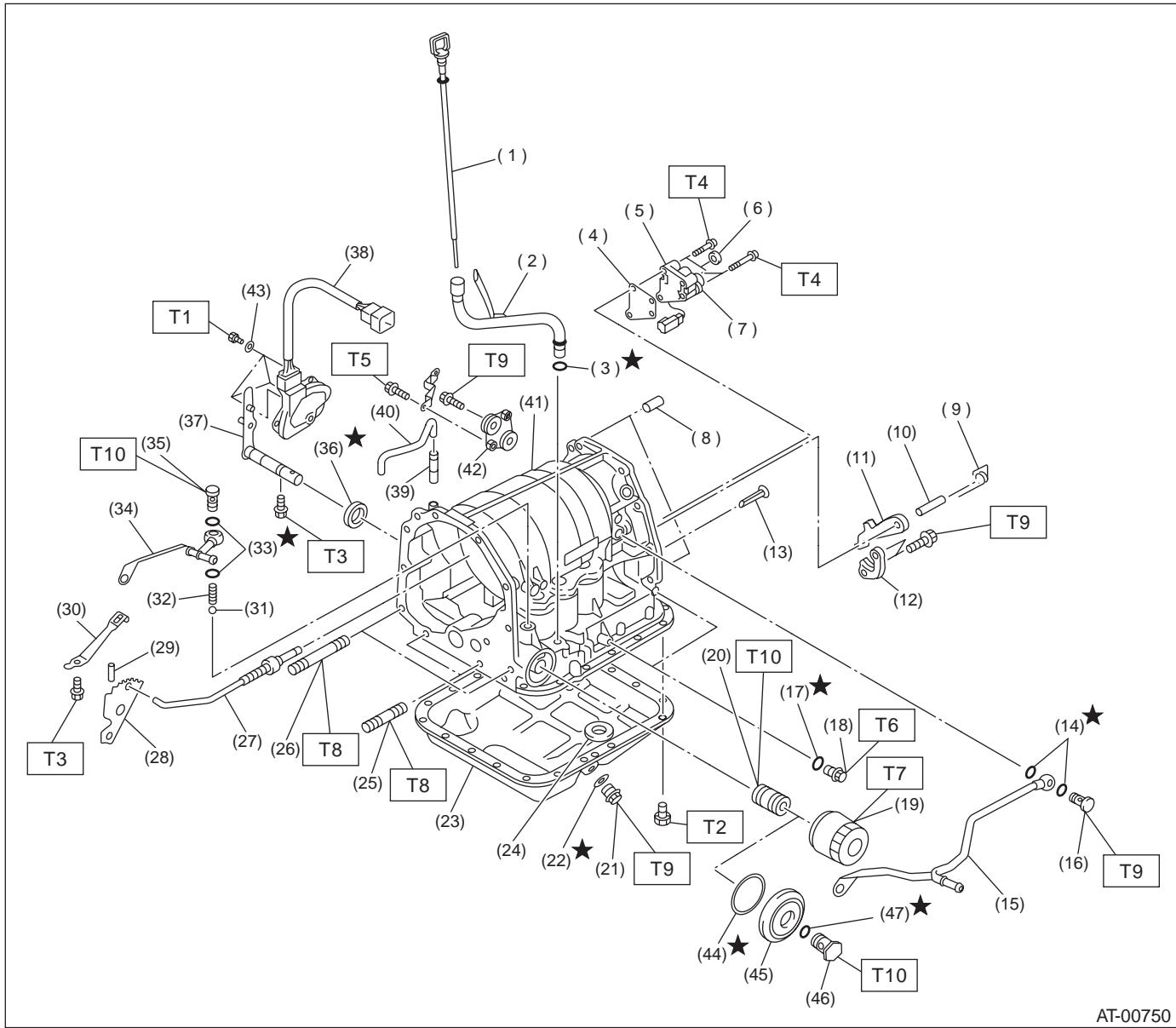
- T1: 7 (0.7, 5.1)**
T2: 13 (1.3, 9.4)
T3: 18 (1.8, 13.0)
T4: 25 (2.5, 18.1)
T5: 40 (4.1, 30)
T6: 42 (4.3, 31)
T7: 116 (11.8, 85)

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GENERAL DESCRIPTION

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3. TRANSMISSION CASE AND CONTROL DEVICE



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GENERAL DESCRIPTION

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(1) ATF level gauge	(21) Drain plug	(40) Air breather hose
(2) ATF charger pipe	(22) Gasket	(41) Transmission case
(3) O-ring	(23) Oil pan	(42) Plate ASSY
(4) Transfer valve plate	(24) Magnet	(43) Washer
(5) Transfer valve ASSY	(25) Stud bolt (Short)	(44) O-ring (3.0 L model)
(6) Transfer clutch seal	(26) Stud bolt (Long)	(45) Cover (3.0 L model)
(7) Transfer duty solenoid	(27) Parking rod	(46) Union screw
(8) Straight pin	(28) Manual plate	(47) Gasket
(9) Return spring	(29) Spring pin	
(10) Shaft	(30) Detention spring	
(11) Parking pawl	(31) Ball	
(12) Parking support	(32) Spring	
(13) Inlet filter	(33) Gasket	
(14) Gasket	(34) Outlet pipe	
(15) Inlet pipe	(35) Union screw	
(16) Union screw	(22) Gasket	
(17) O-ring	(36) Oil seal	
(18) Test plug	(37) Select lever	
(19) Oil filter (2.5 L model)	(38) Inhibitor switch ASSY	
(20) Oil filter stud bolt	(39) Nipple	

Tightening torque: N·m (kgf-m, ft-lb)

T1: 3.4 (0.35, 2.5)

T2: 5 (0.5, 3.6)

T3: 6 (0.6, 4)

T4: 8 (0.8, 6)

T5: 12 (1.2, 8.7)

T6: 13 (1.3, 10)

T7: 14 (1.4, 10)

T8: 18 (1.8, 13)

T9: 25 (2.6, 18)

T10: 44 (4.5, 32)

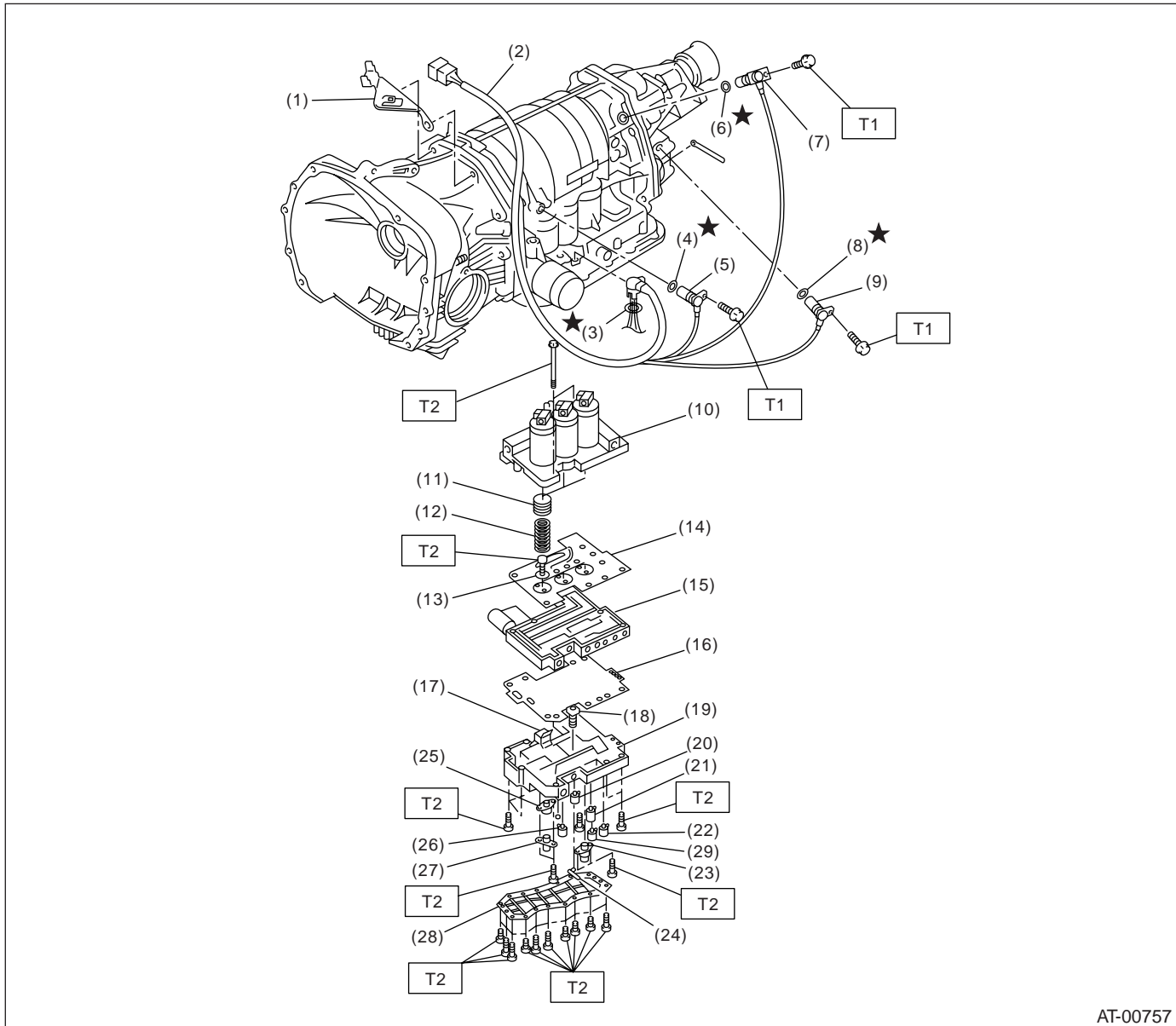
AT-7

Vehicle-id:
SIE-id::B:COMPONENT

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

4. CONTROL VALVE AND HARNESS ROUTING



- | | | |
|---|-------------------------|---|
| (1) Stay | (11) Accumulator piston | (22) 2-4 brake timing solenoid |
| (2) Transmission harness | (12) Accumulator spring | (23) 2-4 brake duty solenoid |
| (3) O-ring | (13) Side plate | (24) ATF temperature sensor |
| (4) O-ring | (14) Separate plate | (25) Line pressure duty solenoid |
| (5) Torque converter turbine speed sensor | (15) Middle valve body | (26) Low clutch timing solenoid |
| (6) O-ring | (16) Separate plate | (27) Lock-up duty solenoid |
| (7) Front vehicle speed sensor | (17) Fluid filter | (28) Oil strainer |
| (8) O-ring | (18) Fluid filter | (29) SPORT shift solenoid (if equipped) |
| (9) Rear vehicle speed sensor | (19) Lower valve body | |
| (10) Upper valve body | (20) Shift solenoid 2 | |
| | (21) Shift solenoid 1 | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 7 (0.7, 5.1)

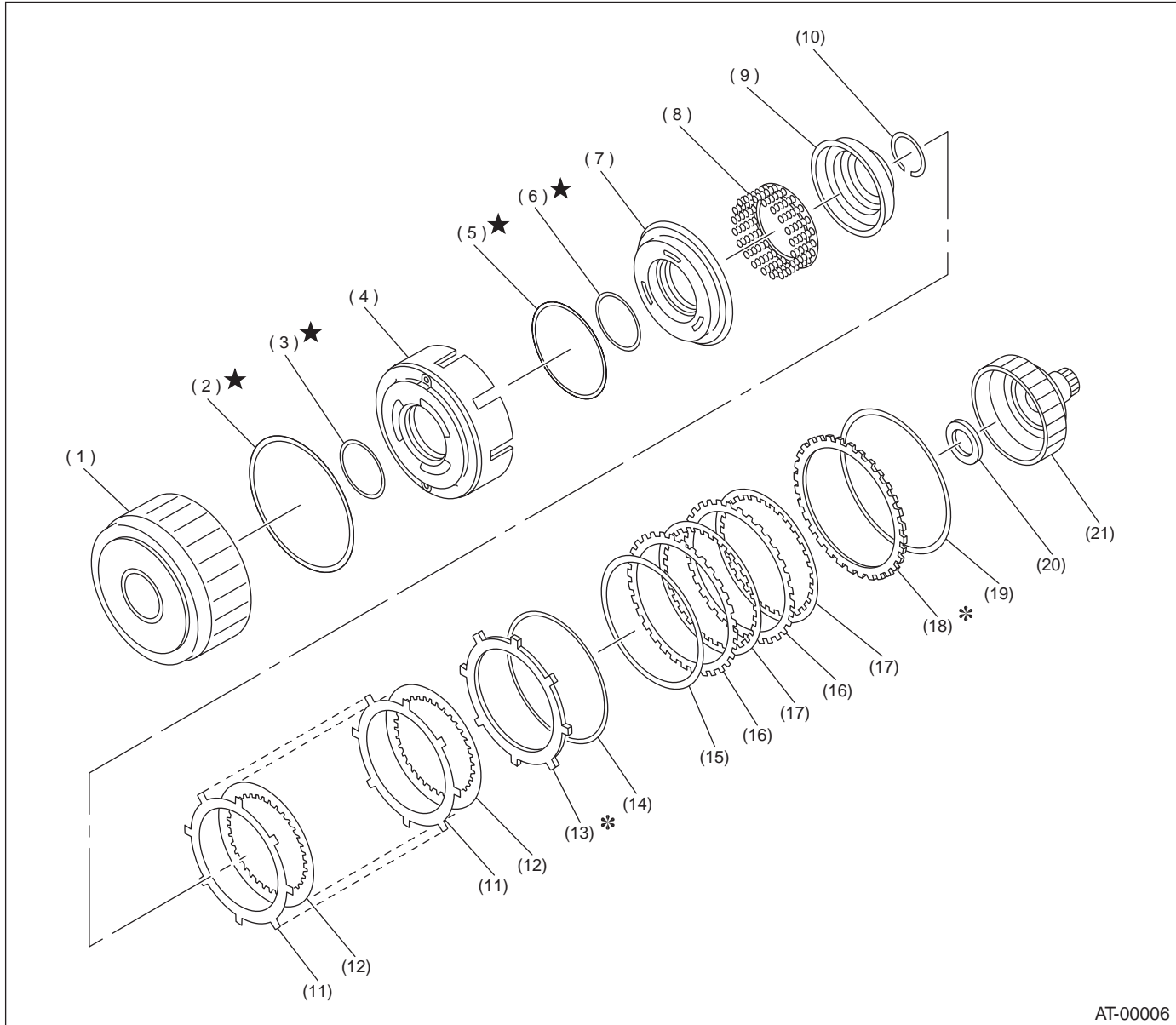
T2: 8 (0.8, 5.8)

AT-8

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

5. HIGH CLUTCH AND REVERSE CLUTCH



AT-00006

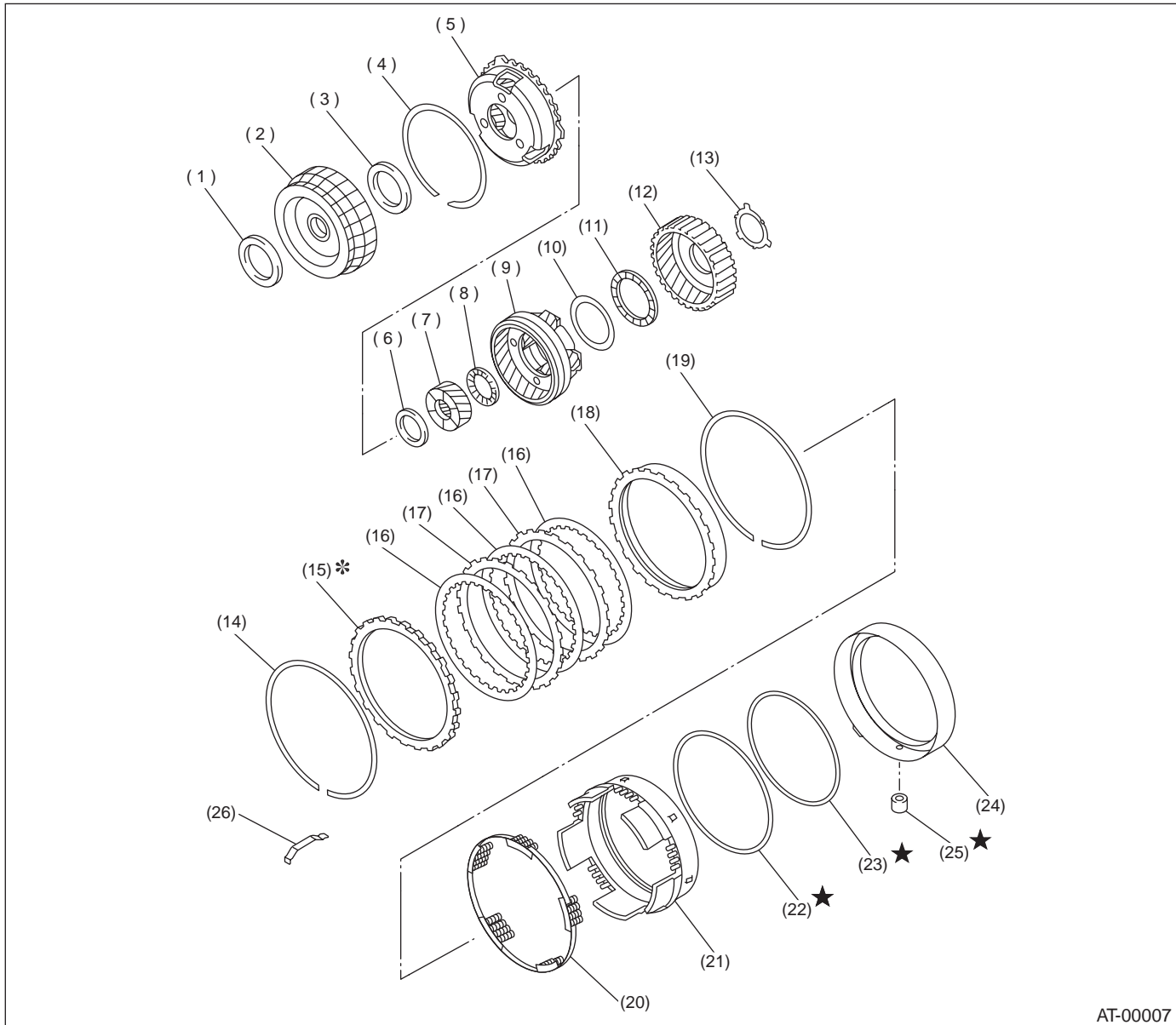
- | | | |
|---------------------------|----------------------|----------------------------|
| (1) High clutch drum | (8) Spring retainer | (15) Dish plate |
| (2) Lip seal | (9) Cover | (16) Driven plate |
| (3) Lathe cut seal ring | (10) Snap ring | (17) Drive plate |
| (4) Reverse clutch piston | (11) Driven plate | (18) Retaining plate |
| (5) Lathe cut seal ring | (12) Drive plate | (19) Snap ring |
| (6) Lathe cut seal ring | (13) Retaining plate | (20) Thrust needle bearing |
| (7) High clutch piston | (14) Snap ring | (21) High clutch hub |

AT-9

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

6. PLANETARY GEAR AND 2-4 BRAKE



AT-00007

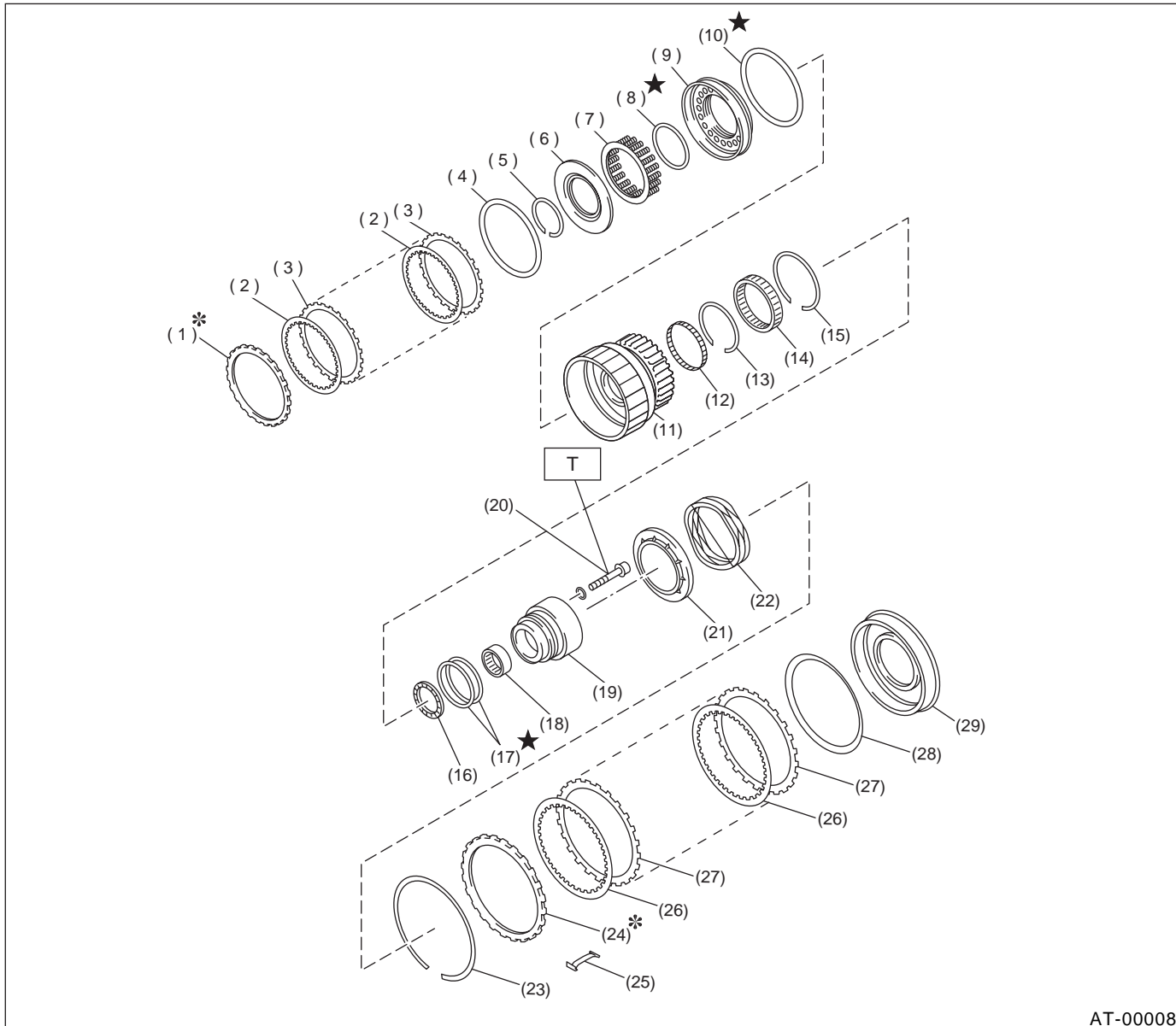
- | | | |
|-----------------------------|----------------------------|--------------------------------|
| (1) Thrust needle bearing | (10) Washer | (19) Snap ring |
| (2) Front sun gear | (11) Thrust needle bearing | (20) Spring retainer |
| (3) Thrust needle bearing | (12) Rear internal gear | (21) 2-4 brake piston |
| (4) Snap ring | (13) Washer | (22) Lathe cut seal ring |
| (5) Front planetary carrier | (14) Snap ring | (23) Lathe cut seal ring |
| (6) Thrust needle bearing | (15) Retaining plate | (24) 2-4 brake piston retainer |
| (7) Rear sun gear | (16) Drive plate | (25) 2-4 brake seal |
| (8) Thrust needle bearing | (17) Driven plate | (26) Leaf spring |
| (9) Rear planetary carrier | (18) Pressure rear plate | |

AT-10

GENERAL DESCRIPTION

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7. LOW CLUTCH AND LOW & REVERSE BRAKE



AT-00008

- | | | |
|--------------------------|--------------------------------|-----------------------------------|
| (1) Retaining plate | (12) Needle bearing | (23) Snap ring |
| (2) Drive plate | (13) Inner snap ring | (24) Retaining plate |
| (3) Driven plate | (14) One-way clutch | (25) Leaf spring |
| (4) Dish plate | (15) Outer snap ring | (26) Drive plate |
| (5) Snap ring | (16) Thrust needle bearing | (27) Driven plate |
| (6) Cover | (17) Seal ring | (28) Dish plate |
| (7) Spring retainer | (18) Needle bearing | (29) Low and reverse brake piston |
| (8) Lathe cut seal ring | (19) One-way clutch inner race | |
| (9) Low clutch piston | (20) Socket bolt | |
| (10) Lathe cut seal ring | (21) Spring retainer | |
| (11) Low clutch drum | (22) Return spring | |

Tightening torque: N·m (kgf-m, ft-lb)

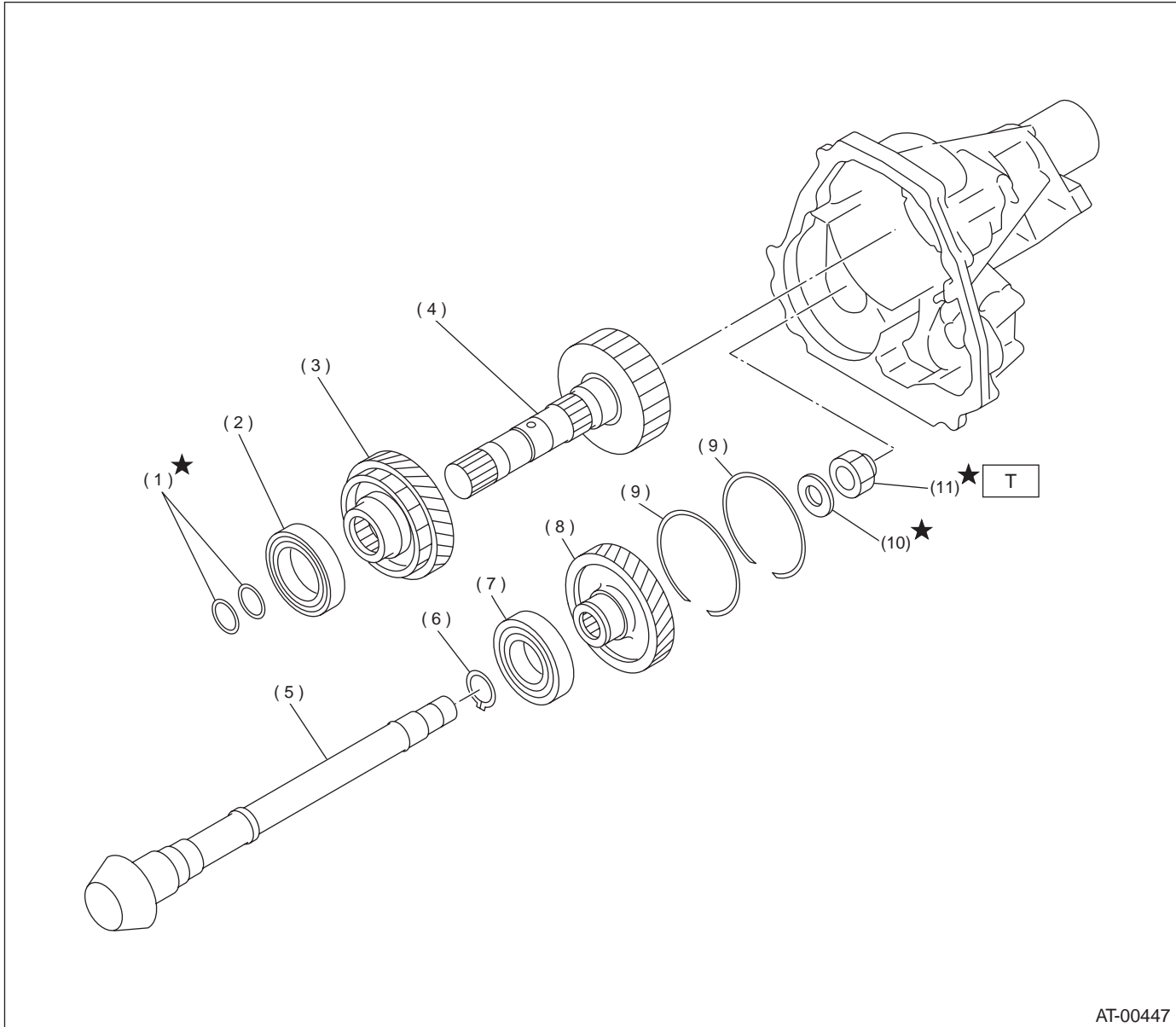
T: 25 (2.5, 18.1)

AT-11

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

8. REDUCTION GEAR (MPT)



AT-00447

- (1) Seal ring
- (2) Ball bearing
- (3) Reduction drive gear
- (4) Reduction drive shaft
- (5) Drive pinion shaft

- (6) Snap ring
- (7) Ball bearing
- (8) Reduction driven gear
- (9) Snap ring
- (10) Washer

- (11) Lock nut

Tightening torque: N·m (kgf-m, ft-lb)

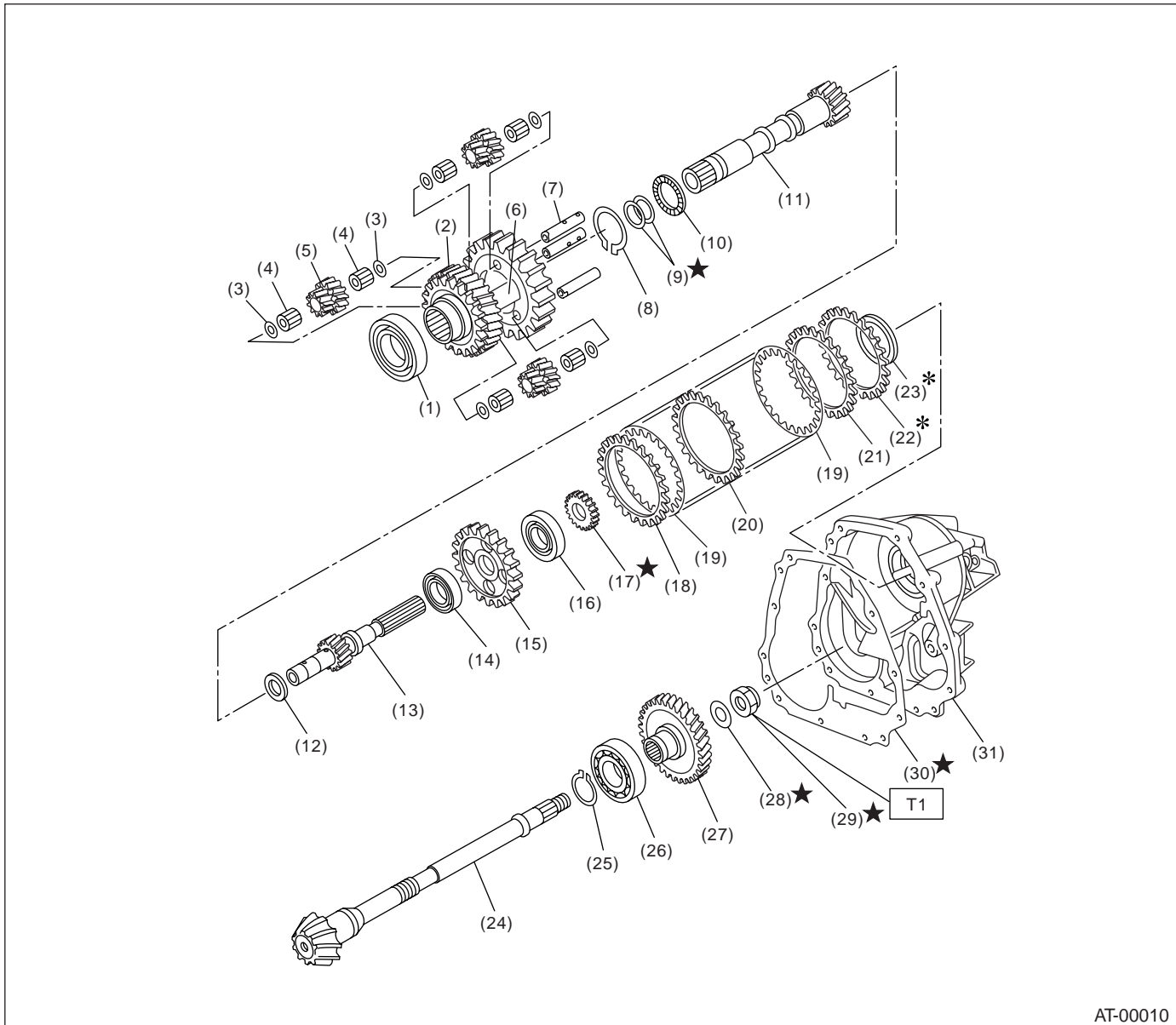
T: 100 (10.2, 73.8)

AT-12

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

9. REDUCTION GEAR (VTD)



AT-00010

- | | | |
|----------------------------|-----------------------------------|----------------------------|
| (1) Ball bearing | (13) Rear drive shaft | (25) Snap ring |
| (2) Reduction drive gear | (14) Ball bearing | (26) Ball bearing |
| (3) Washer | (15) Multi-plate clutch (LSD) hub | (27) Reduction driven gear |
| (4) Needle bearing | (16) Ball bearing | (28) Lock washer |
| (5) Pinion gear | (17) Revolution gear | (29) Lock nut |
| (6) Carrier | (18) Driven plate (Thick) | (30) Gasket |
| (7) Planetary pinion shaft | (19) Driven plate | (31) Extension case |
| (8) Snap ring | (20) Driven plate (Thin) | |
| (9) Seal ring | (21) Driven plate (Thick) | |
| (10) Thrust needle bearing | (22) Pressure plate | |
| (11) Intermediate shaft | (23) Rear drive shaft shim | |
| (12) Thrust washer | (24) Drive pinion shaft | |

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

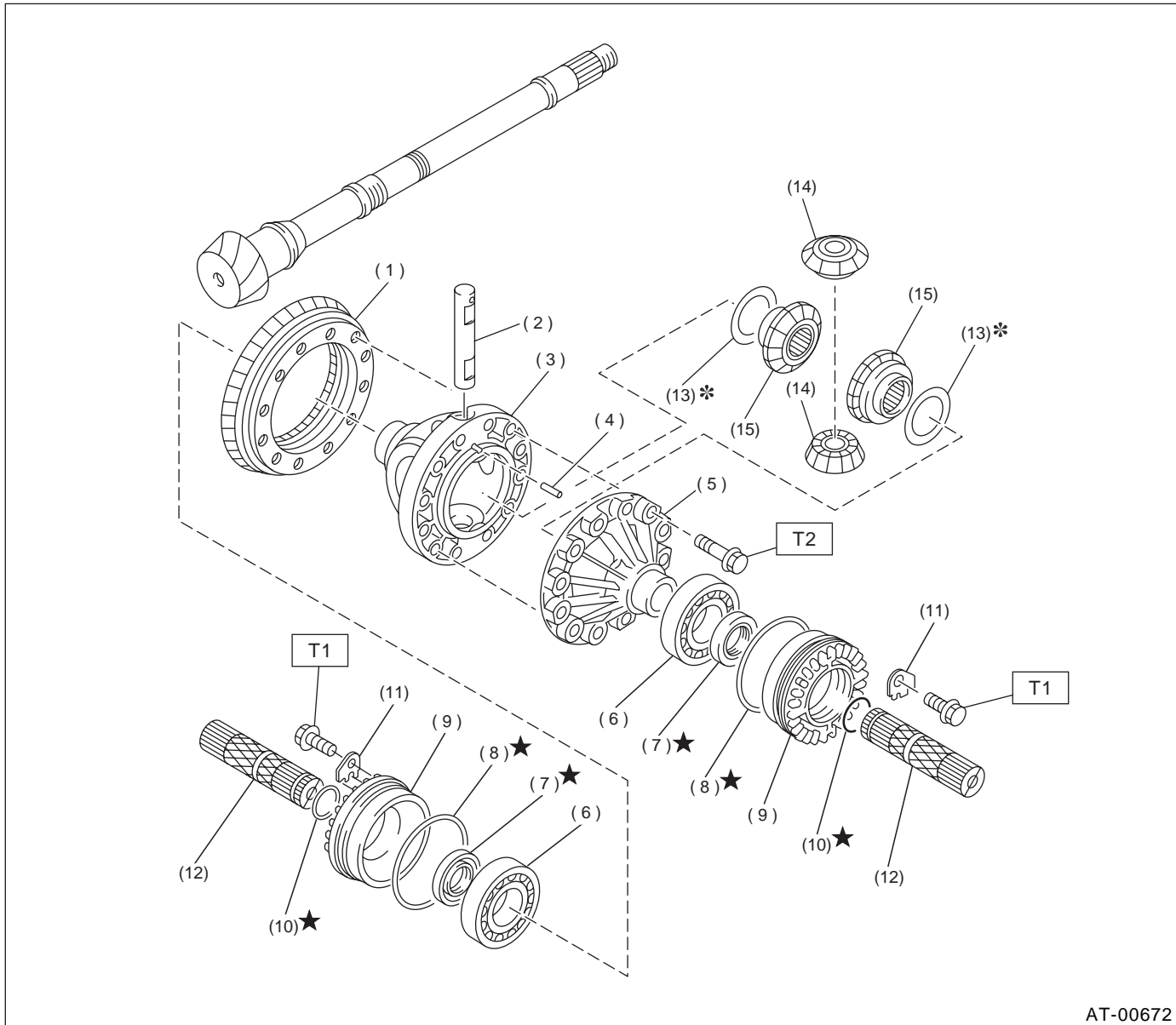
T: 100 (10.2, 73.8)

AT-13

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

10.DIFFERENTIAL GEAR



AT-00672

- (1) Crown gear
- (2) Pinion shaft
- (3) Differential case (RH)
- (4) Straight pin
- (5) Differential case (LH)
- (6) Taper roller bearing
- (7) Oil seal

- (8) O-ring
- (9) Differential side retainer
- (10) Circlip
- (11) Lock plate
- (12) Axle shaft
- (13) Washer
- (14) Differential bevel pinion

- (15) Differential bevel gear

Tightening torque: N·m (kgf·m, ft·lb)

T1: 25 (2.5, 18.1)

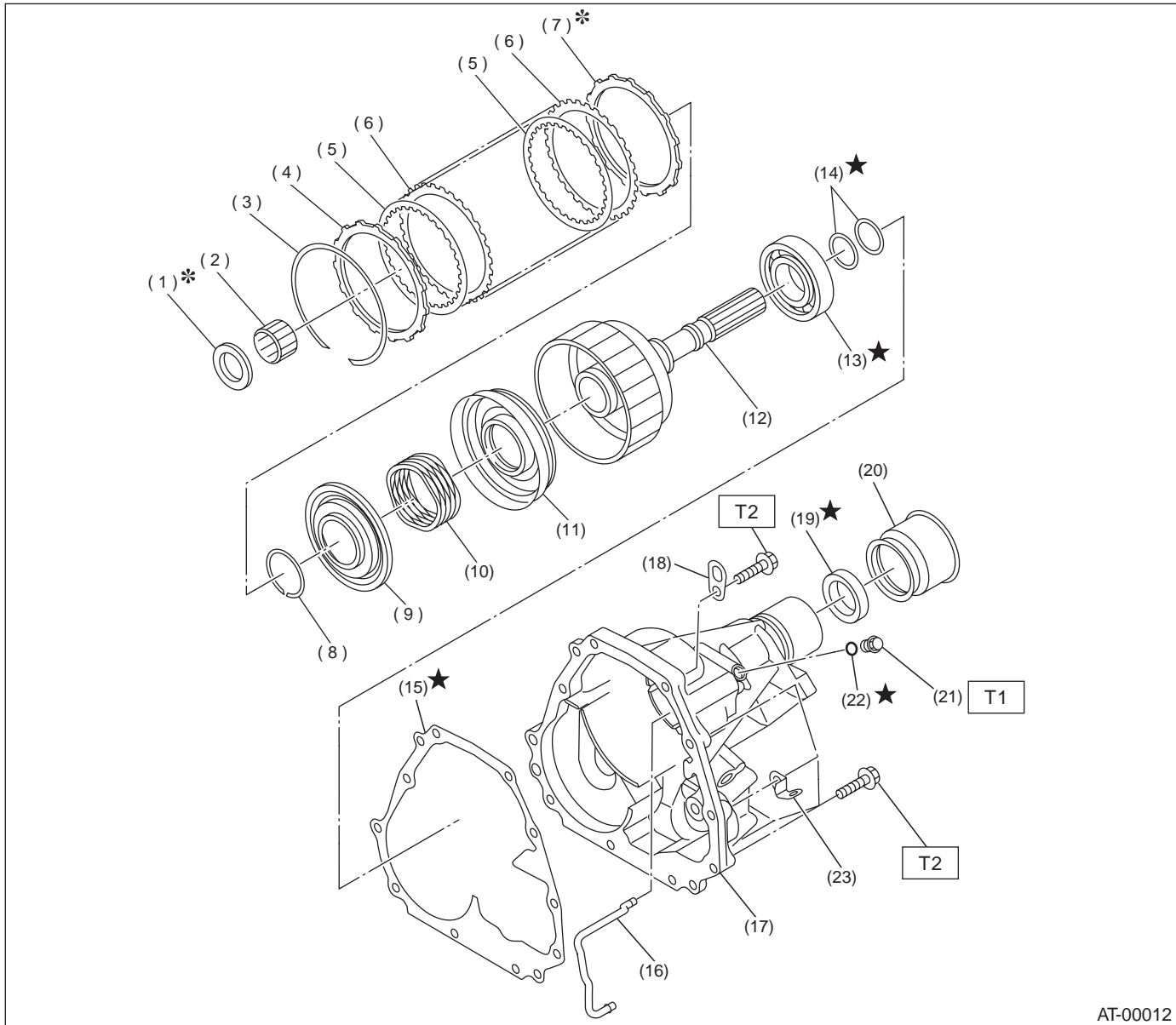
T2: 62 (6.3, 45.6)

AT-14

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

11. TRANSFER AND EXTENSION CASE (MPT)



AT-00012

- (1) Thrust needle bearing
- (2) Needle bearing
- (3) Snap ring
- (4) Pressure plate
- (5) Drive plate
- (6) Driven plate
- (7) Pressure plate
- (8) Snap ring
- (9) Transfer piston seal

- (10) Return spring
- (11) Transfer clutch piston
- (12) Rear drive shaft
- (13) Ball bearing
- (14) Seal ring
- (15) Gasket
- (16) Transfer clutch pipe
- (17) Extension case
- (18) Transmission hanger

- (19) Oil seal
- (20) Dust cover
- (21) Test plug
- (22) O-ring
- (23) Clip

Tightening torque: N·m (kgf·m, ft·lb)

T1: 13 (1.3, 9.4)

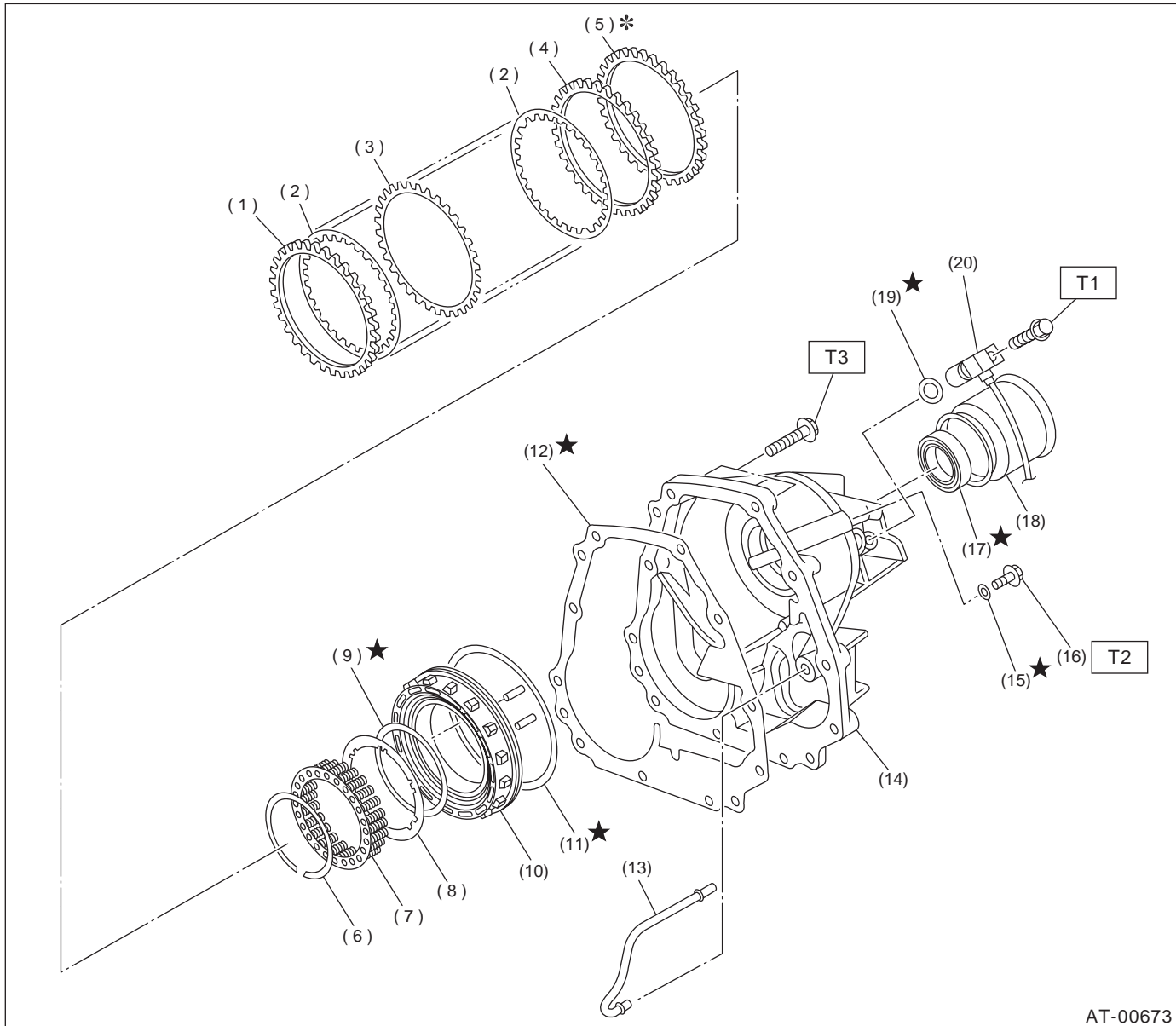
T2: 25 (2.5, 18.1)

AT-15

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

12.TRANSFER AND EXTENSION CASE (VTD)



AT-00673

- | | | |
|--------------------------|--------------------------------------|------------------------|
| (1) Driven plate (Thick) | (10) Multi-plate clutch (LSD) piston | (19) O-ring |
| (2) Driven plate | (11) Raise cut seal ring | (20) Rear wheel sensor |
| (3) Driven plate (Thin) | (12) Gasket | |
| (4) Driven plate (Thick) | (13) Multi-plate clutch (LSD) pipe | |
| (5) Adjust plate | (14) Extension case | |
| (6) Snap ring | (15) O-ring | |
| (7) Spring retainer | (16) Test plug | |
| (8) Plate | (17) Oil seal | |
| (9) Raise cut seal ring | (18) Dust cover | |

Tightening torque: N·m (kgf·m)

T1: 7 (0.7, 5.1)

T2: 13 (1.3, 9.4)

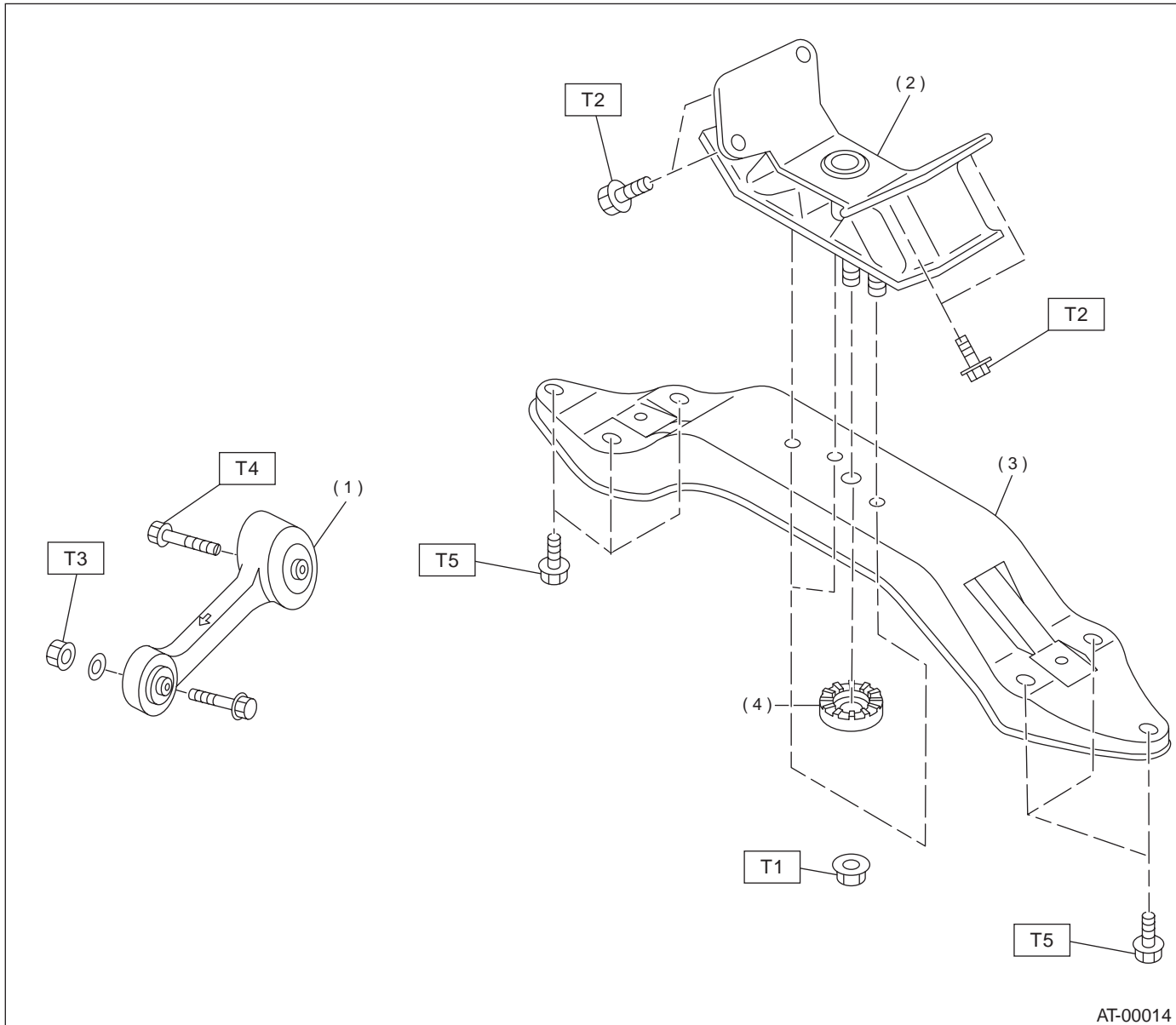
T3: 25 (2.5, 18, 1)

AT-16

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

13.TRANSMISSION MOUNTING



AT-00014

- (1) Pitching stopper
- (2) Rear cushion rubber
- (3) Transmission rear crossmember
- (4) Stopper

Tightening torque: N·m (kgf·m, ft·lb)

T1: 35 (3.6, 26)

T2: 39 (4.0, 29)

T3: 50 (5.1, 37)

T4: 58 (5.9, 43)

T5: 75 (7.6, 55)

AT-17

GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

C: CAUTION

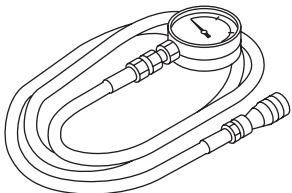
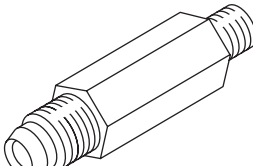
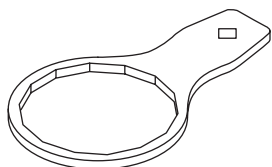
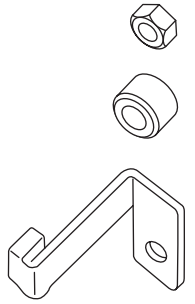
- Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation, and disassembly.
- Keep the disassembled parts in order and protect them from dust or dirt.
- Until the oil pan is removed, 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 vise, place cushioning material such as wood blocks, aluminum plate, or shop cloth between the part and the vise.
- Avoid damaging the mating surface of the case.
- Before applying sealant, completely remove the old seal.

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GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

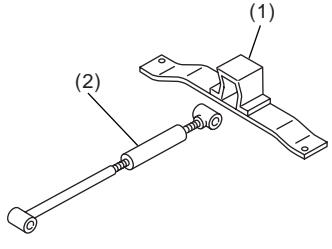
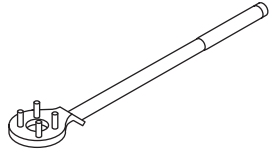
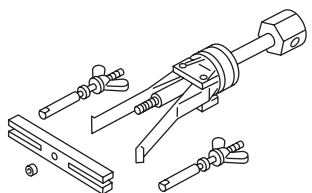
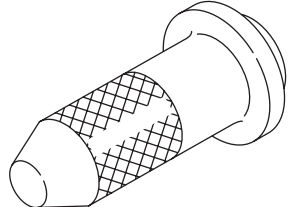
D: PREPARATION TOOL**1. SPECIAL TOOLS**

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

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GENERAL DESCRIPTION

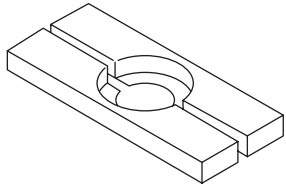
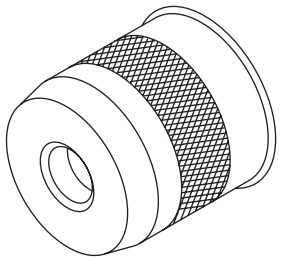
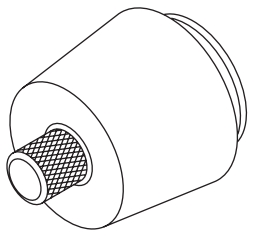
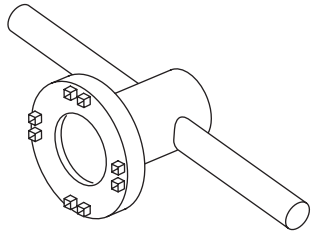
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST41099AA000</p>	41099AA000	ENGINE SUPPORT ASSY	Used for supporting engine. (1) ENGINE SUPPORT BRACKET (41099AA010) (2) ENGINE SUPPORT (41099AA020)
 <p style="text-align: center;">ST-499977100</p>	49977100	CRANKSHAFT PULLEY WRENCH	Use for rotating crankshaft.
 <p style="text-align: center;">ST-398527700</p>	398527700	PULLER ASSY	<ul style="list-style-type: none"> • Used for removing extension case roller bearing. • Used for removing extension oil seal. • Used for removing front differential side retainer bearing outer race. • Used for removing front differential side retainer bearing outer ball race.
 <p style="text-align: center;">ST-498057300</p>	498057300	INSTALLER	Used for installing extension oil seal.

AT-20

GENERAL DESCRIPTION

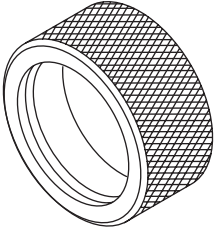
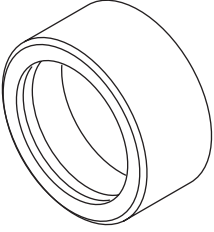
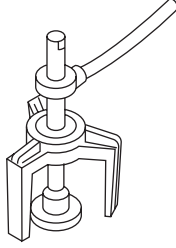
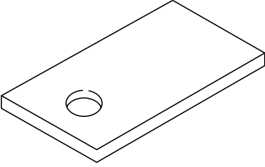
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498077000</p>	498077000	REMOVER	Used for removing differential taper roller bearing.
 <p>ST-499247400</p>	499247400	INSTALLER	<ul style="list-style-type: none"> Used for installing transfer outer snap ring. Used with GUIDE (499257300).
 <p>ST-499257300</p>	499257300	SNAP RING OUTER GUIDE	<ul style="list-style-type: none"> Used for installing transfer outer snap ring. Used with INSTALLER (499247400).
 <p>ST-499787000</p>	499787000	WRENCH ASSY	Used for removing and installing differential side retainer.

AT-21

GENERAL DESCRIPTION

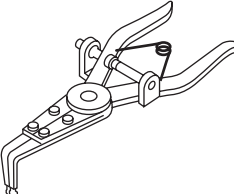
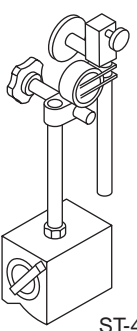
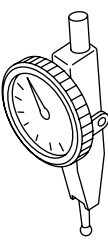
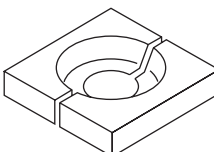
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-398437700</p>	398437700	DRIFT	Used for installing converter case oil seal.
 <p style="text-align: center;">ST-398487700</p>	398487700	INSTALLER	Used for installing taper roller bearing of front differential.
 <p style="text-align: center;">ST-398673600</p>	398673600	COMPRESSOR	Used for removing and installing clutch spring.
 <p style="text-align: center;">ST-498255400</p>	498255400	PLATE	Used for measuring backlash of hypoid gear.

AT-22

GENERAL DESCRIPTION

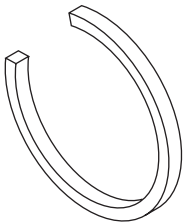
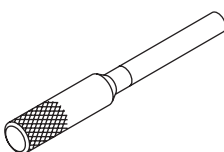
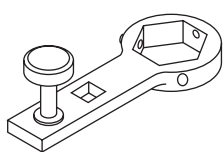
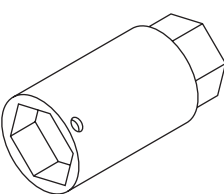
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-399893600</p>	399893600	PLIERS	Used for removing and installing clutch spring.
 <p>ST-498247001</p>	498247001	MAGNET BASE	<ul style="list-style-type: none"> Used for measuring gear backlash. Used with DIAL GAUGE (498247100).
 <p>ST-498247100</p>	498247100	DIAL GAUGE	<ul style="list-style-type: none"> Used for measuring gear backlash. Used with MAGNET BASE (498247001).
 <p>ST-498517000</p>	498517000	REPLACER	Used for removing front roller bearing.

AT-23

GENERAL DESCRIPTION

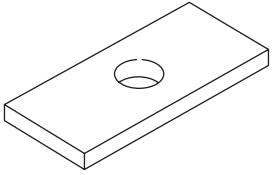
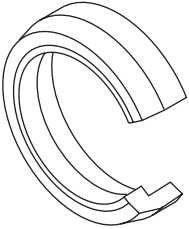
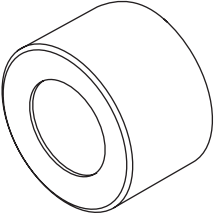
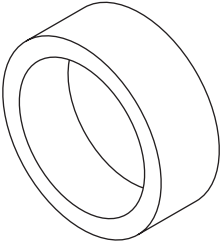
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-398623600</p>	398623600	SEAT	Used for removing spring of transfer clutch piston.
 <p style="text-align: center;">ST-499267300</p>	499267300	STOPPER PIN	Used for installing inhibitor switch.
 <p style="text-align: center;">ST-499787700</p>	499787700	WRENCH	Used for removing and installing drive pinion lock nut.
 <p style="text-align: center;">ST-499787500</p>	499787500	ADAPTER	Used for removing and installing drive pinion lock nut.

AT-24

GENERAL DESCRIPTION

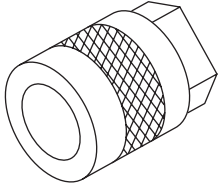
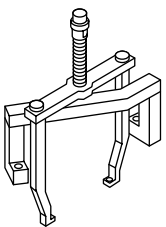
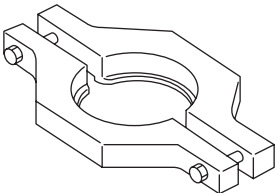
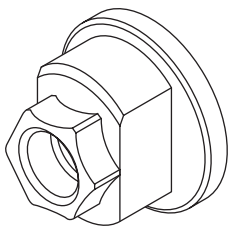
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-398643600	398643600	GAUGE	Used for measuring total end play, extension end play and drive pinion height.
 ST-498627100	498627100	SEAT	Used for holding low clutch piston retainer spring when installing snap ring.
 ST-499577000	499577000	GAUGE	Used for measuring the transmission case mating surface to the reduction gear end surface.
 ST-398744300	398744300	GAUGE	<ul style="list-style-type: none"> • Use for measuring contact face between multi-plate clutch end and transmission. • VTD model

AT-25

GENERAL DESCRIPTION

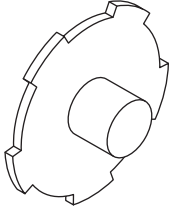
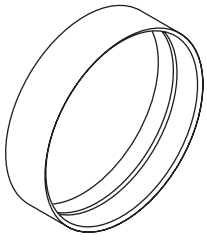
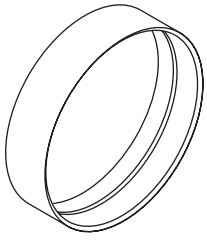
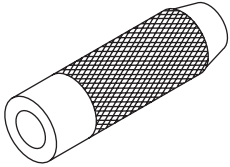
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-499737000</p>	499737000	PULLER	Used for removing reduction driven gear assembly.
 <p style="text-align: center;">ST-499737100</p>	499737100	PULLER SET	Used for removing reduction drive gear assembly.
 <p style="text-align: center;">ST-498077600</p>	498077600	REMOVER	Used for removing ball bearing.
 <p style="text-align: center;">ST-498937110</p>	498937110	HOLDER	Used for removing and installing drive pinion lock nut.

AT-26

GENERAL DESCRIPTION

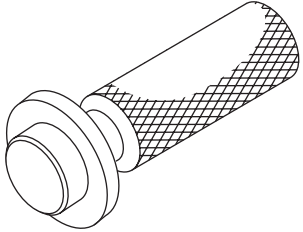
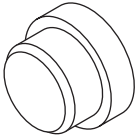
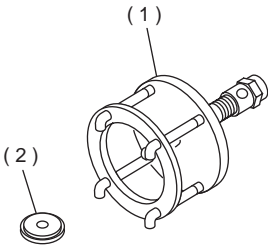
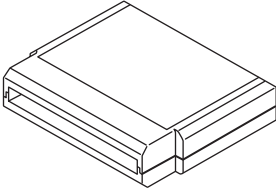
AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498677100</p>	498677100	COMPRESSOR	Used for installing 2-4 brake snap ring.
 <p>ST-498437000</p>	498437000	HIGH CLUTCH PISTON GUIDE	Used for installing high clutch piston.
 <p>ST-498437100</p>	498437100	LOW CLUTCH PISTON GUIDE	Used for installing low clutch piston.
 <p>ST-899580100</p>	899580100	INSTALLER	Used for press-fitting the ball bearing for transfer clutch.

AT-27

GENERAL DESCRIPTION


AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-499797000</p>	499797000	DIFFERENTIAL OIL SEAL INSTALLER	Used for installing differential side retainer oil seal.
 <p style="text-align: center;">ST-398497701</p>	398497701	SEAT	Used for installing needle bearing.
 <p style="text-align: center;">ST-899524100</p>	899524100	PULLER SET	<ul style="list-style-type: none"> • Using the bolt only. (1) Bolt • Used with PULLER SET (499737100). • Used with PULLER (499737000). (1) Puller (2) Cap
 <p style="text-align: center;">ST24082AA210</p>	24082AA210 <Newly adopted tool>	CARTRIDGE	Troubleshooting for electrical systems.

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GENERAL DESCRIPTION

AUTOMATIC TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST22771AA010</p>	22771AA010	SELECT MONI- TOR KIT	Troubleshooting for electrical systems.

2. GENERAL PURPOSE TOOLS

TOOL NAME	REMARKS
Depth gauge	Used for measuring transmission end play.
Thickness gauge	Used for measuring clearances of clutch, brake and oil pump.
Micro meter	Used for measuring thickness of drive pinion.
Spring balance	Used for measuring starting torque of drive pinion.
Circuit tester	Used for measuring resistance and voltage.

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