

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

1. General Description

A: SPECIFICATION

1. TORQUE CONVERTER

Model	HEV	
Type	Symmetric, 3-element, single stage, 2-phase torque converter	
Stall torque ratio	2.07	
Nominal	mm (in)	236 (9.29)
Stall speed (at sea level)	r/min	2,000 — 2,750 (D range) 1,800 — 2,500 (R range)
One-way clutch	Sprag type one-way clutch	

2. OIL PUMP

Type	Internal gear pump	
Driving method	Driven by chain	
Number of teeth	Inner rotor	8
	Outer rotor	9

3. TRANSMISSION CONTROL ELEMENT

Type	Forward continuously variable speed change, 1 reverse, planetary gear	
Multi-plate clutch	1 set	
Multi-plate brake	1 set	

4. OUTPUT CLUTCH

Multi-plate clutch	1 set
Control method	Electronic hydraulic type

5. TRANSMISSION GEAR RATIO

Forward	3.420 — 0.544
Rev	3.502

6. PLATE

Number of forward clutch drive plates	3
Number of reverse brake drive plates	4
Number of output clutch drive plates	7

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7. SELECTOR POSITION

P (Park)	Transmission neutral, output shaft locked, engine start enabled
R (Reverse)	Rev
N (Neutral)	Transmission neutral, engine start enabled
D (Drive)	Forward continuously variable speed change
M (Manual mode) (paddle shift +side)	Manual gear change 1st → 2nd → 3rd → 4th → 5th → 6th
M (Manual mode) (paddle shift -side)	Manual gear change 1st ← 2nd ← 3rd ← 4th ← 5th ← 6th

8. HYDRAULIC CONTROL AND LUBRICATION

Type	Electronic hydraulic control (gear ratio is changed by signals of vehicle speed and accelerator opening angle.)
Fluid	Specified fluid: SUBARU CVT FLUID LINEARTRONIC II CAUTION: Always use specified CVTF. Using other fluid will cause malfunction.
Fluid capacity L (US qt, Imp qt)	13.67 — 14.17 (14.4 — 15.0, 12.0 — 12.5)
Lubrication system	Forced feed lubrication with oil pump

9. COOLING AND HARNESS

Cooling system	CVTF cooler (with warmer feature)
Inhibitor switch harness	16 poles
Transmission harness	12 poles
Drive motor harness	20 poles

10.DRIVE MOTOR

Kind	Three-phase AC synchronous motor
Rated voltage V	100

11.TRANSFER

Transfer type	Multi-plate transfer (MP-T)
Number of transfer clutch drives & driven plates	5
Control method	Electronic hydraulic type
Reduction gear ratio	1.000 (43/43)

12.REDUCTION GEAR RATIO

Front final reduction gear ratio	3.700
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13.RECOMMENDED GEAR OIL

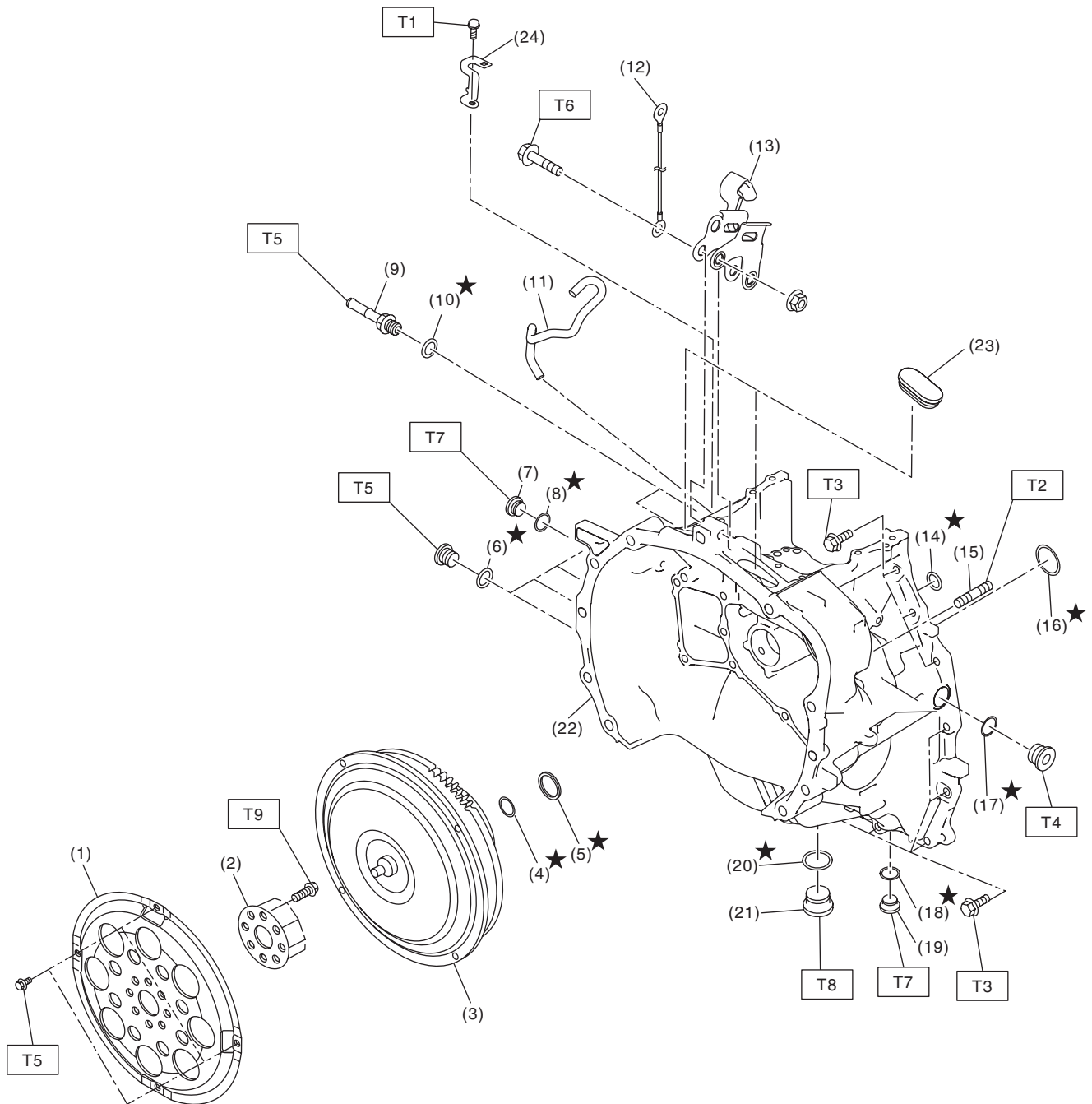
Lubrication oil	SUBARU GEAR OIL EXTRA MT or equivalent
Front differential oil capacity L (US qt, Imp qt)	1.3 — 1.4 (1.4 — 1.5, 1.1 — 1.2)

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B: COMPONENT

1. TORQUE CONVERTER ASSEMBLY AND CONVERTER CASE



CVT00309

General Description

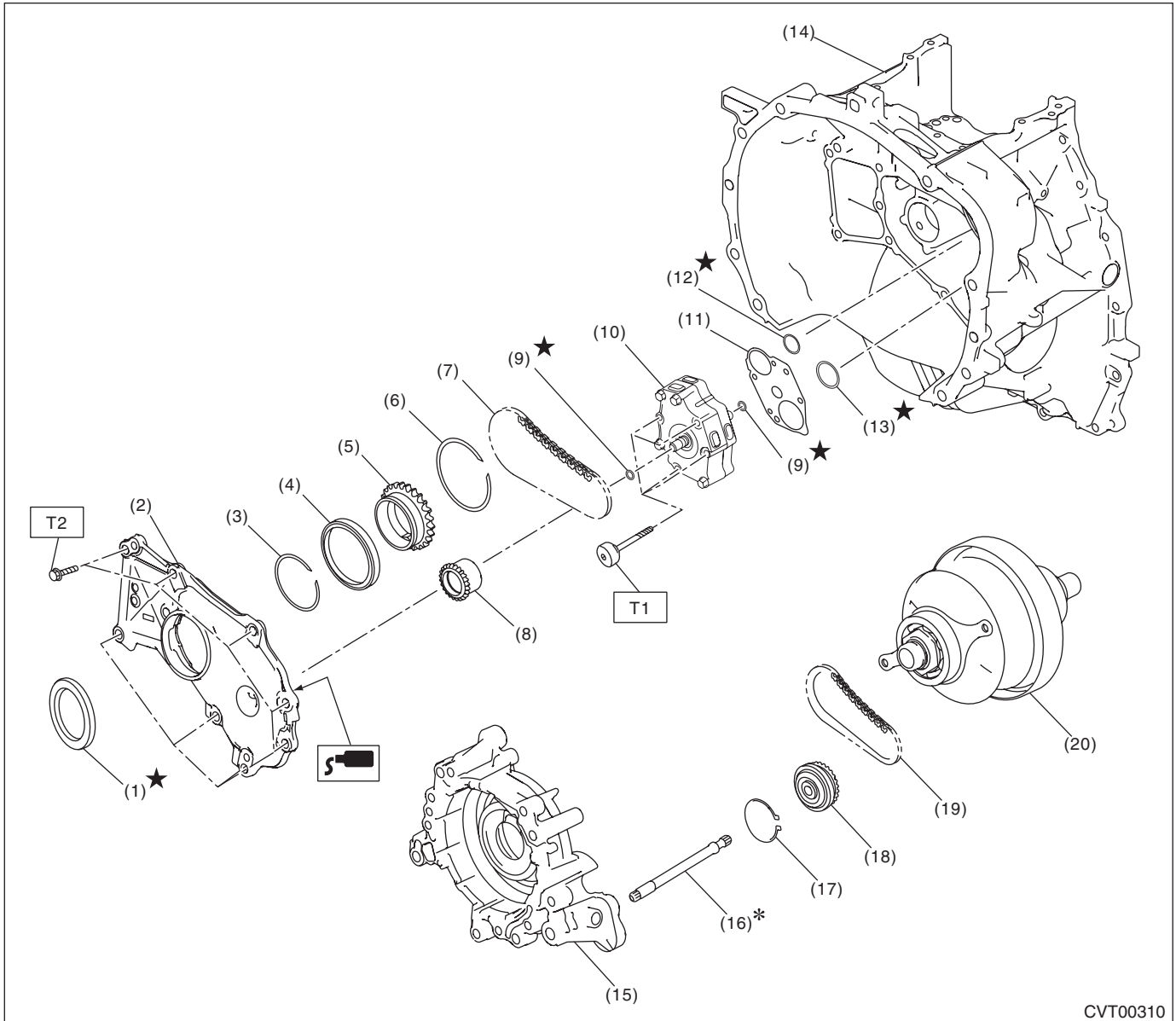
CONTINUOUSLY VARIABLE TRANSMISSION

(1) Drive plate	(13) Pitching stopper bracket	<i>Tightening torque: N·m (kgf-m, ft-lb)</i>
(2) Reinforcement drive plate	(14) O-ring	<i>T1: 7 (0.7, 5.2)</i>
(3) Torque converter ASSY	(15) Stud bolt	<i>T2: 18 (1.8, 13.3)</i>
(4) O-ring	(16) O-ring	<i>T3: 22 (2.2, 16.2)</i>
(5) Seal ring	(17) O-ring	<i>T4: 22.5 (2.3, 16.6)</i>
(6) O-ring	(18) Gasket	<i>T5: 25 (2.5, 18.4)</i>
(7) Front differential gear oil filler plug	(19) Overflow drain plug	<i>T6: 41 (4.2, 30.2)</i>
(8) O-ring	(20) Gasket	<i>T7: 50 (5.1, 36.9)</i>
(9) Oil cooler pipe	(21) Front differential gear oil drain plug	<i>T8: 70 (7.1, 51.6)</i>
(10) O-ring	(22) Converter case	<i>T9: <Ref. to CVT(TH58A)-176, INSTALLATION, Drive Plate.></i>
(11) Air breather hose	(23) Rubber cap	
(12) Transmission radio ground cord	(24) Drive motor harness stay	

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

2. OIL PUMP ASSEMBLY



- (1) Oil seal
- (2) Oil pump chain cover
- (3) Snap ring
- (4) Ball bearing
- (5) Drive sprocket
- (6) Snap ring
- (7) Oil pump chain front
- (8) Oil pump sprocket front

- (9) O-ring
- (10) Oil pump ASSY
- (11) Plate
- (12) O-ring (small)
- (13) O-ring (large)
- (14) Converter case
- (15) Reverse brake housing
- (16) Oil pump shaft

- (17) Snap ring
- (18) Oil pump sprocket rear
- (19) Oil pump chain rear
- (20) Primary pulley ASSY

Tightening torque: N·m (kgf-m, ft-lb)

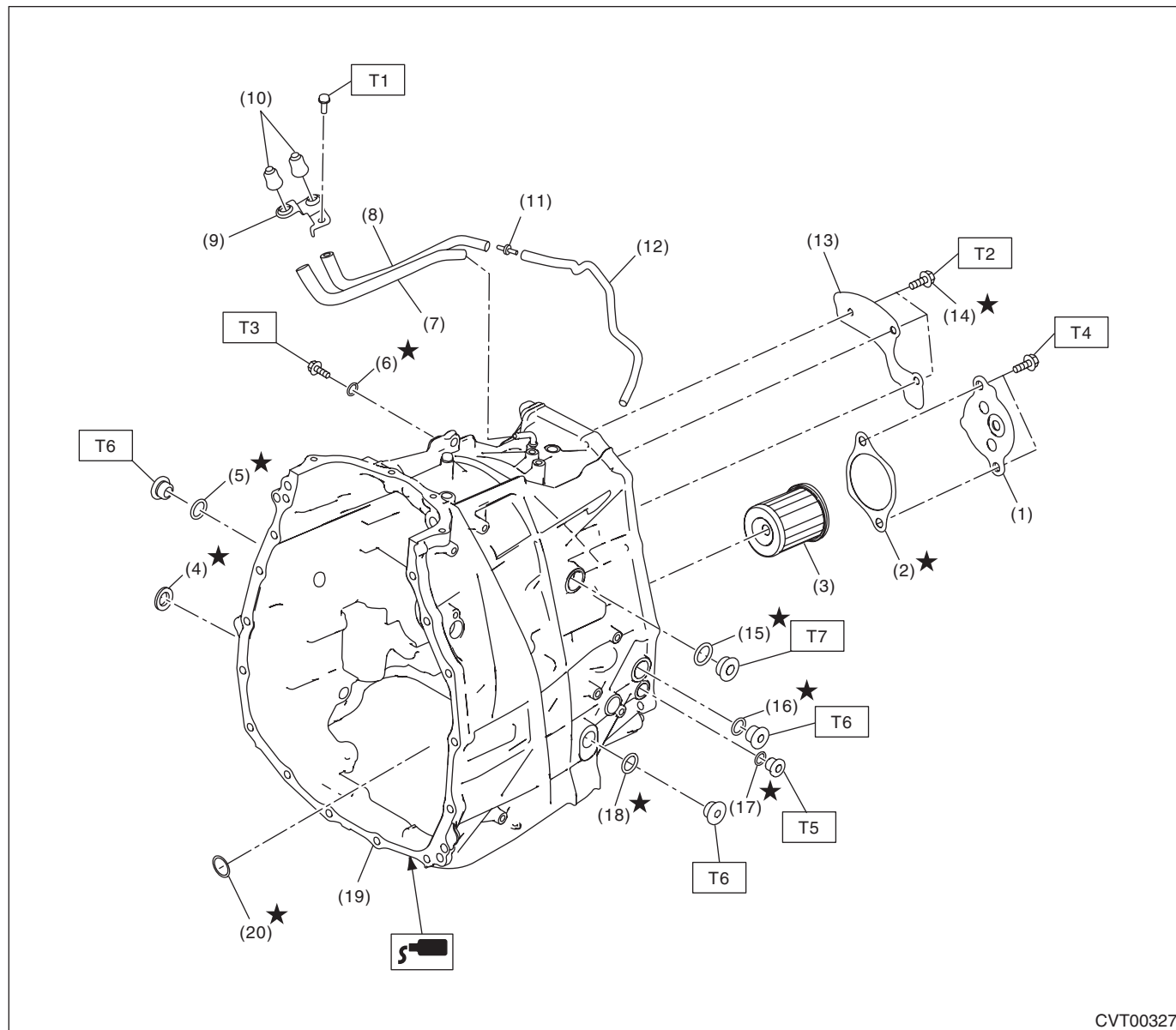
T1: 8.5 (0.9, 6.3)

T2: 21 (2.1, 15.5)

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

3. TRANSMISSION CASE



CVT00327

- | | |
|-----------------------|------------------------------|
| (1) CVTF filter cover | (11) Hose connector |
| (2) Gasket | (12) Air breather hose |
| (3) CVTF filter | (13) Oil stopper plate |
| (4) Oil seal | (14) Micro-encapsulated bolt |
| (5) Gasket | (15) Gasket |
| (6) O-ring | (16) O-ring |
| (7) Air breather hose | (17) O-ring |
| (8) Air breather hose | (18) Gasket |
| (9) Bracket | (19) Transmission case |
| (10) Air breather cap | (20) Seal ring |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 5 (0.5, 3.7)

T2: 9 (0.9, 6.6)

T3: 13 (1.3, 9.6)

T4: 17 (1.7, 12.5)

T5: 25 (2.5, 18.4)

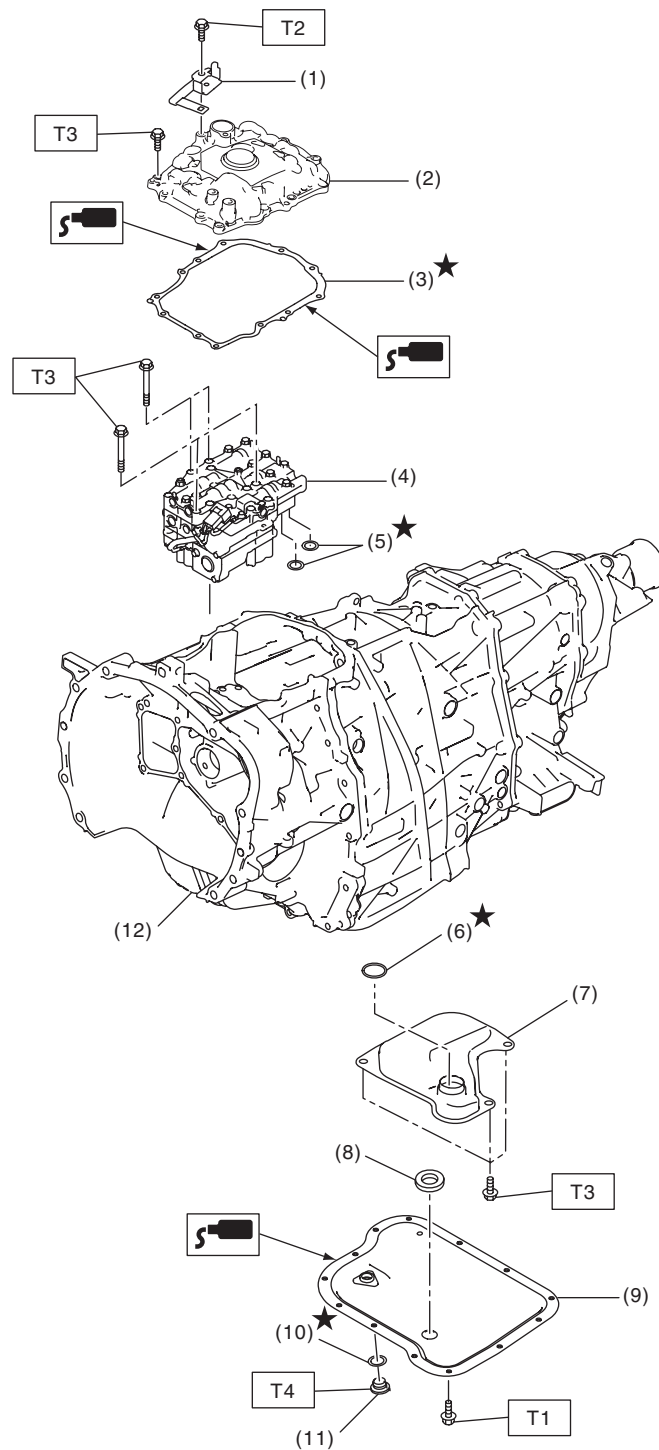
T6: 50 (5.1, 36.9)

T7: 60 (6.1, 44.3)

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

4. CONTROL VALVE BODY



CVT00311

- (1) Transmission harness stay
- (2) Valve cover
- (3) Gasket
- (4) Control valve body
- (5) O-ring
- (6) O-ring

- (7) Oil strainer
- (8) Magnet
- (9) Oil pan
- (10) Gasket
- (11) CVTF drain plug
- (12) Transmission ASSY

Tightening torque: N·m (kgf-m, ft-lb)

T1: 5 (0.5, 3.7)

T2: 7 (0.7, 5.2)

T3: 9 (0.9, 6.6)

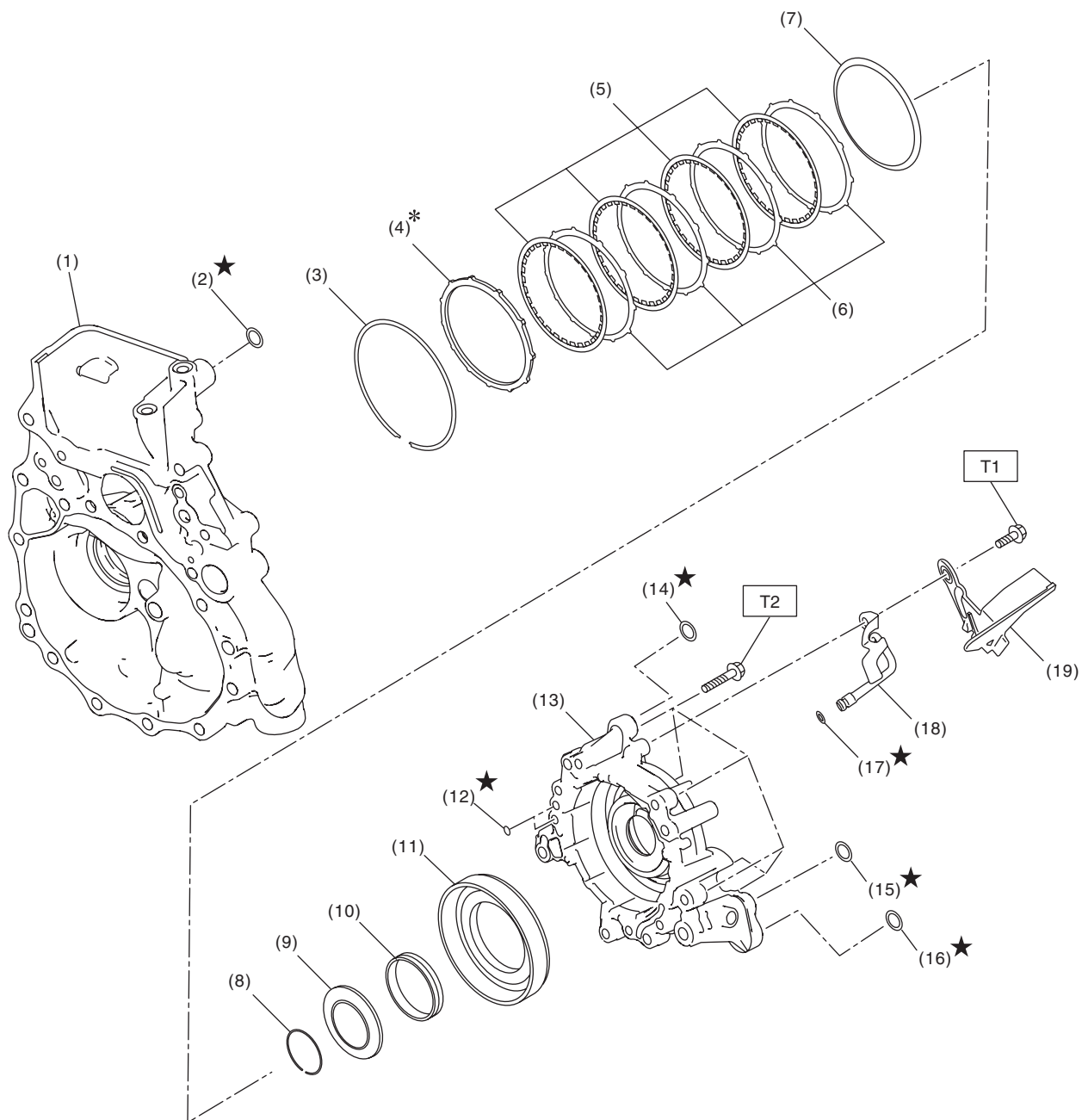
T4: 31 (3.2, 22.9)

CVT(TH58A)-9

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

5. REVERSE BRAKE ASSEMBLY



CVT00312

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

- (1) Drive pinion retainer
- (2) O-ring
- (3) Snap ring
- (4) Retaining plate
- (5) Drive plate
- (6) Driven plate
- (7) Dish plate
- (8) Snap ring

- (9) Spring retainer
- (10) Return spring
- (11) Reverse brake piston
- (12) O-ring
- (13) Reverse brake housing
- (14) O-ring
- (15) O-ring
- (16) O-ring

- (17) O-ring
- (18) Lubrication pipe
- (19) Oil guide

Tightening torque: N·m (kgf-m, ft-lb)

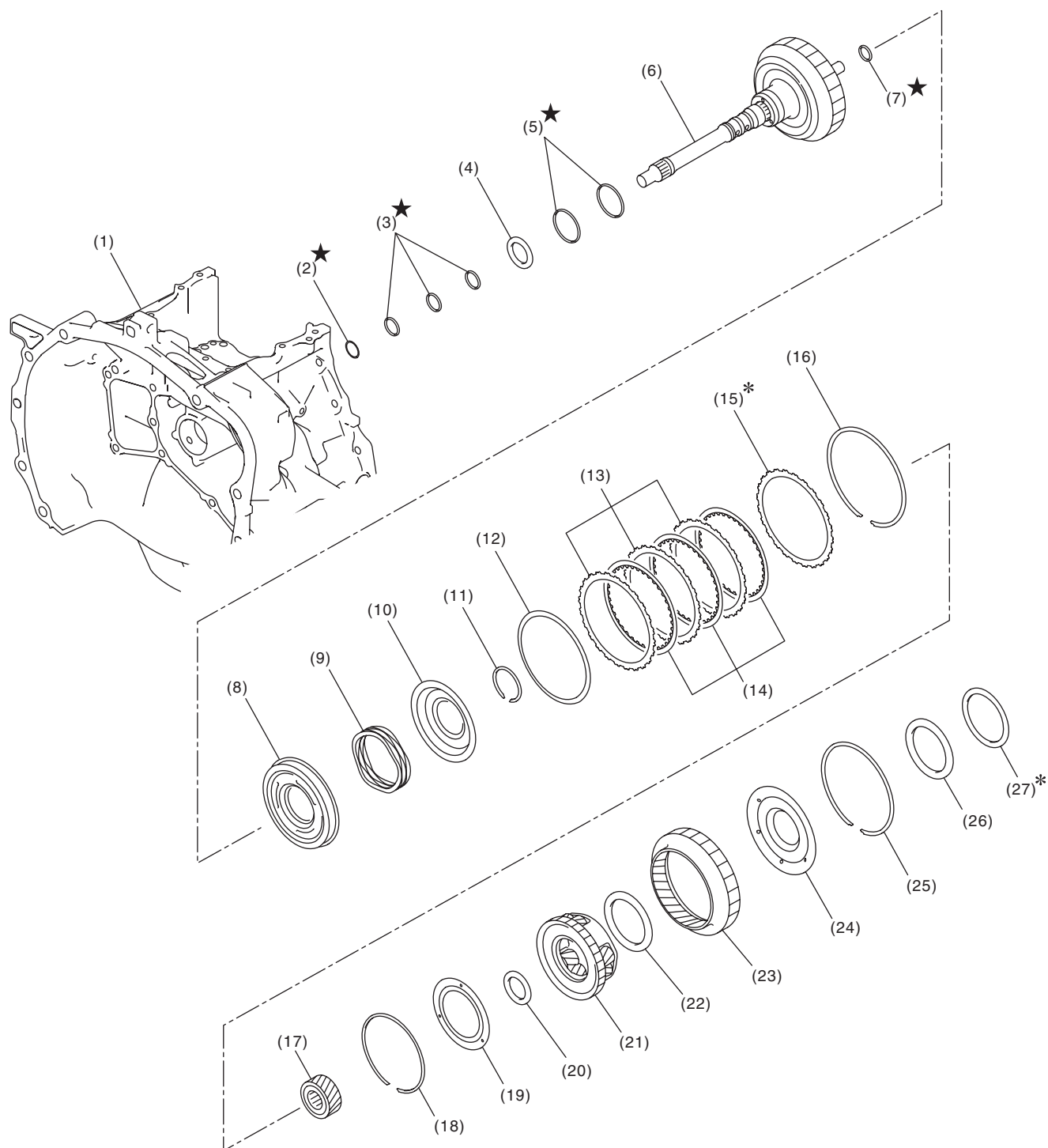
T1: 16 (1.6, 11.8)

T2: 37 (3.8, 27.3)

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

6. FORWARD CLUTCH ASSEMBLY



CVT00313

CVT(TH58A)-12

General Description

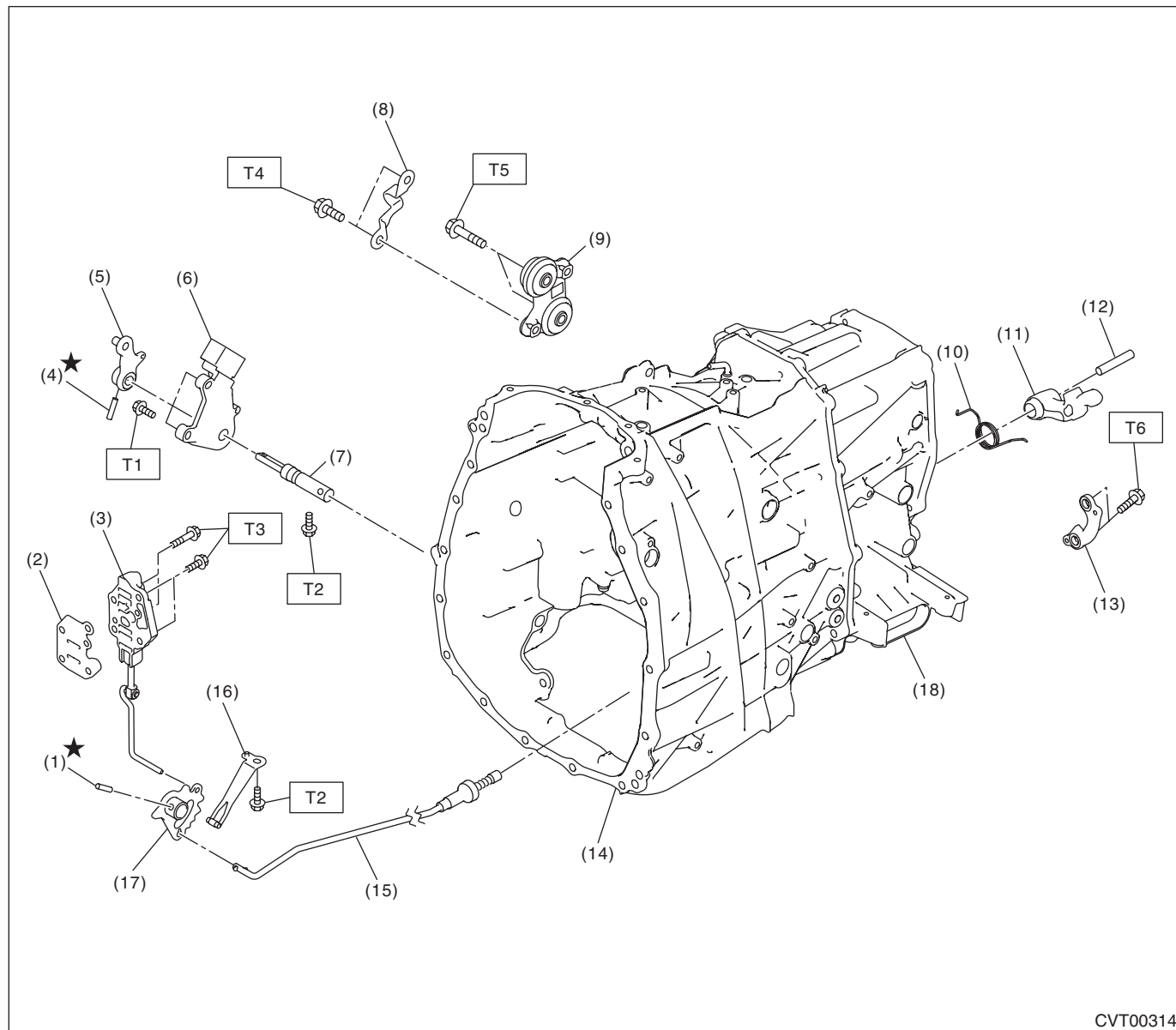
CONTINUOUSLY VARIABLE TRANSMISSION

(1) Converter case	(10) Chamber COMPL	(19) Balance oil guide
(2) O-ring	(11) Snap ring	(20) Thrust bearing
(3) Seal ring	(12) Dish plate	(21) Planetary carrier ASSY
(4) Thrust bearing	(13) Driven plate	(22) Thrust bearing
(5) Seal ring	(14) Drive plate	(23) Internal gear
(6) Forward clutch drum ASSY	(15) Retaining plate	(24) Thrust gear plate
(7) Seal ring	(16) Snap ring	(25) Snap ring
(8) Forward clutch piston	(17) Sun gear	(26) Thrust bearing
(9) Return spring	(18) Snap ring	(27) Washer

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

7. TRANSMISSION CONTROL DEVICE



CVT00314

- | | |
|-----------------------|------------------------|
| (1) Spring pin | (10) Return spring |
| (2) Separator plate | (11) Parking pawl |
| (3) Manual valve ASSY | (12) Shaft |
| (4) Spring pin | (13) Parking support |
| (5) Shifter arm | (14) Transmission case |
| (6) Inhibitor switch | (15) Parking rod |
| (7) Shifter arm shaft | (16) Detent spring |
| (8) Cable bracket | (17) Manual plate |
| (9) Plate ASSY | (18) Drive motor ASSY |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 5 (0.5, 3.7)

T2: 7 (0.7, 5.2)

T3: 9 (0.9, 6.6)

T4: 18 (1.8, 13.3)

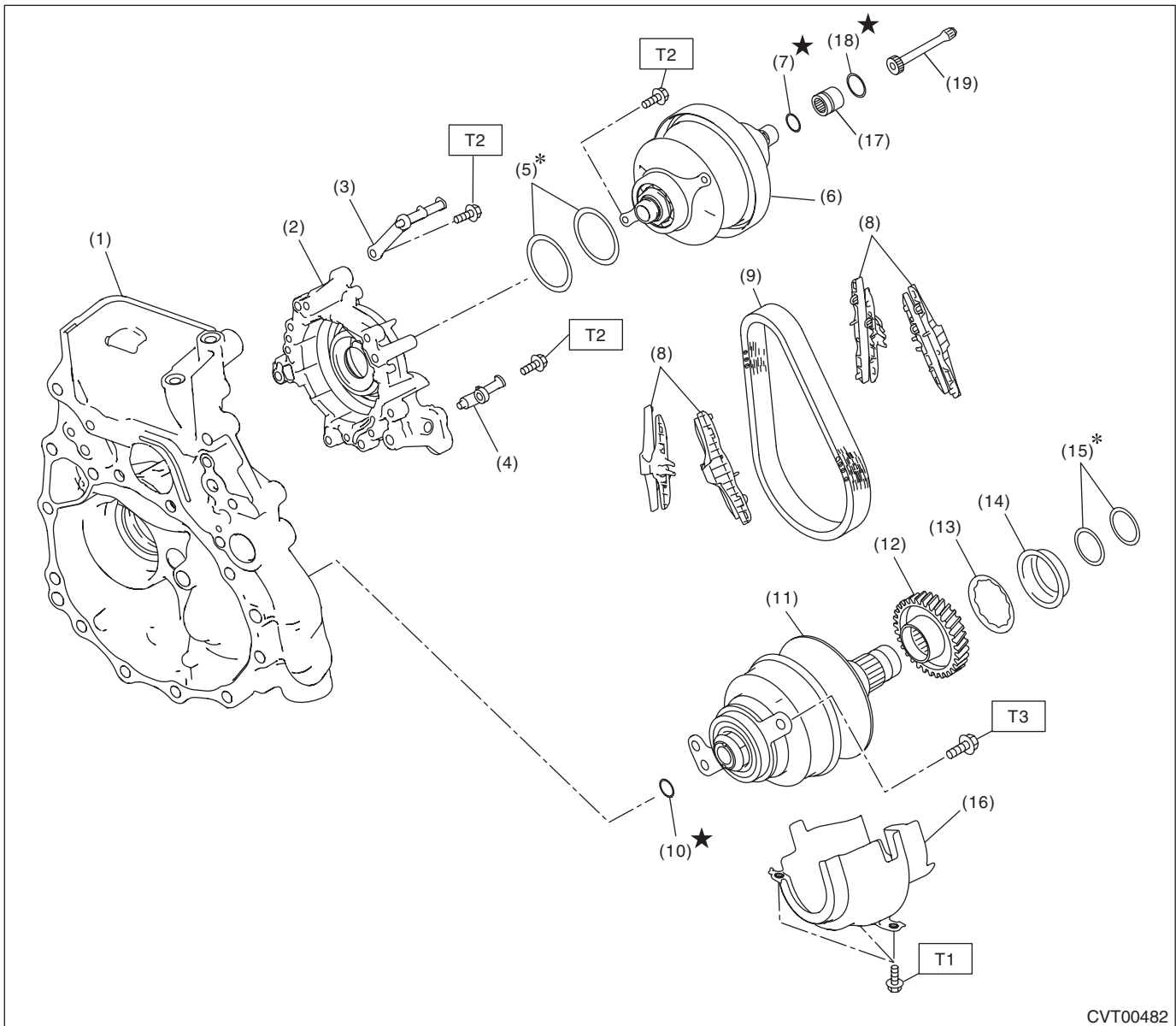
T5: 25 (2.5, 18.4)

**T6: <Ref. to CVT(TH58A)-213,
INSTALLATION, Transmission
Control Device.>**

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

8. PRIMARY PULLEY, SECONDARY PULLEY & VARIATOR CHAIN AND REDUCTION DRIVE GEAR



- | | | |
|---------------------------|----------------------------|-------------------------|
| (1) Drive pinion retainer | (9) Variator chain | (17) Sleeve |
| (2) Reverse brake housing | (10) Seal ring | (18) O-ring |
| (3) Support rod | (11) Secondary pulley ASSY | (19) Intermediate shaft |
| (4) Lubrication pipe | (12) Reduction drive gear | |
| (5) Primary pulley shim | (13) Dish plate | |
| (6) Primary pulley ASSY | (14) Spring retainer | |
| (7) O-ring | (15) Reduction gear shim | |
| (8) Chain guide | (16) Oil baffle | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 16 (1.6, 11.8)

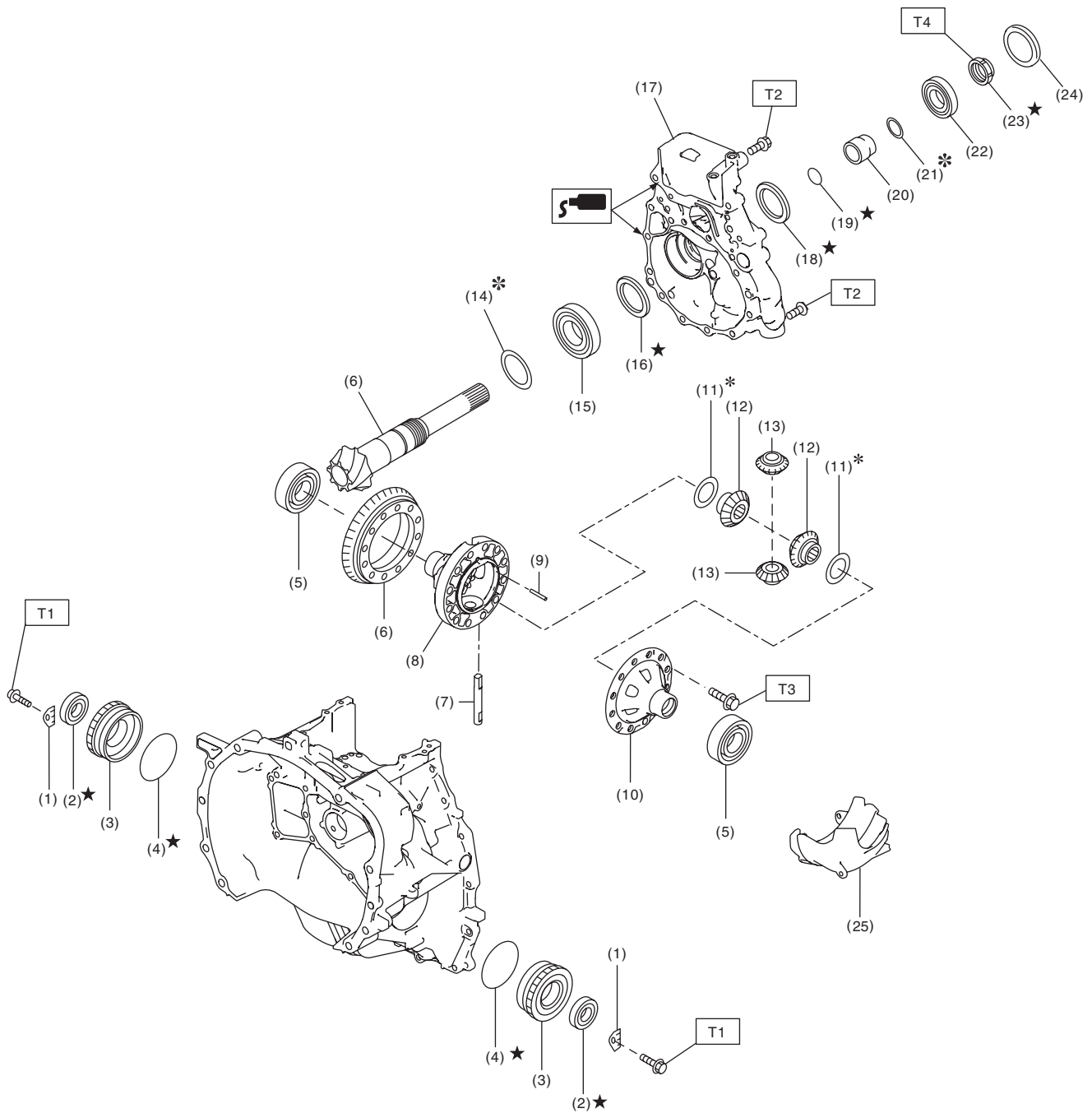
T2: 21 (2.1, 15.5)

T3: 67.5 (6.9, 49.8)

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

9. FRONT DIFFERENTIAL GEAR



CVT00316

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

(1) Lock plate	(12) Differential bevel gear	(23) Lock nut
(2) Oil seal	(13) Differential bevel pinion	(24) Plug
(3) Differential side retainer	(14) Drive pinion shim	(25) Oil baffle
(4) O-ring	(15) Taper roller bearing	
(5) Taper roller bearing	(16) Oil seal	
(6) Drive pinion gear set	(17) Drive pinion retainer	
(7) Pinion shaft	(18) Oil seal	
(8) Differential case RH	(19) O-ring	
(9) Straight pin	(20) Drive pinion spacer	
(10) Differential case LH	(21) Drive pinion washer	
(11) Washer	(22) Taper roller bearing	

Tightening torque: N·m (kgf-m, ft-lb)**T1: 25 (2.5, 18.4)****T2: 43 (4.4, 31.7)****T3: 64 (6.5, 47.2)****T4: <Ref. to CVT(TH58A)-331,
ASSEMBLY, Drive Pinion Shaft
Assembly.>**

General Description

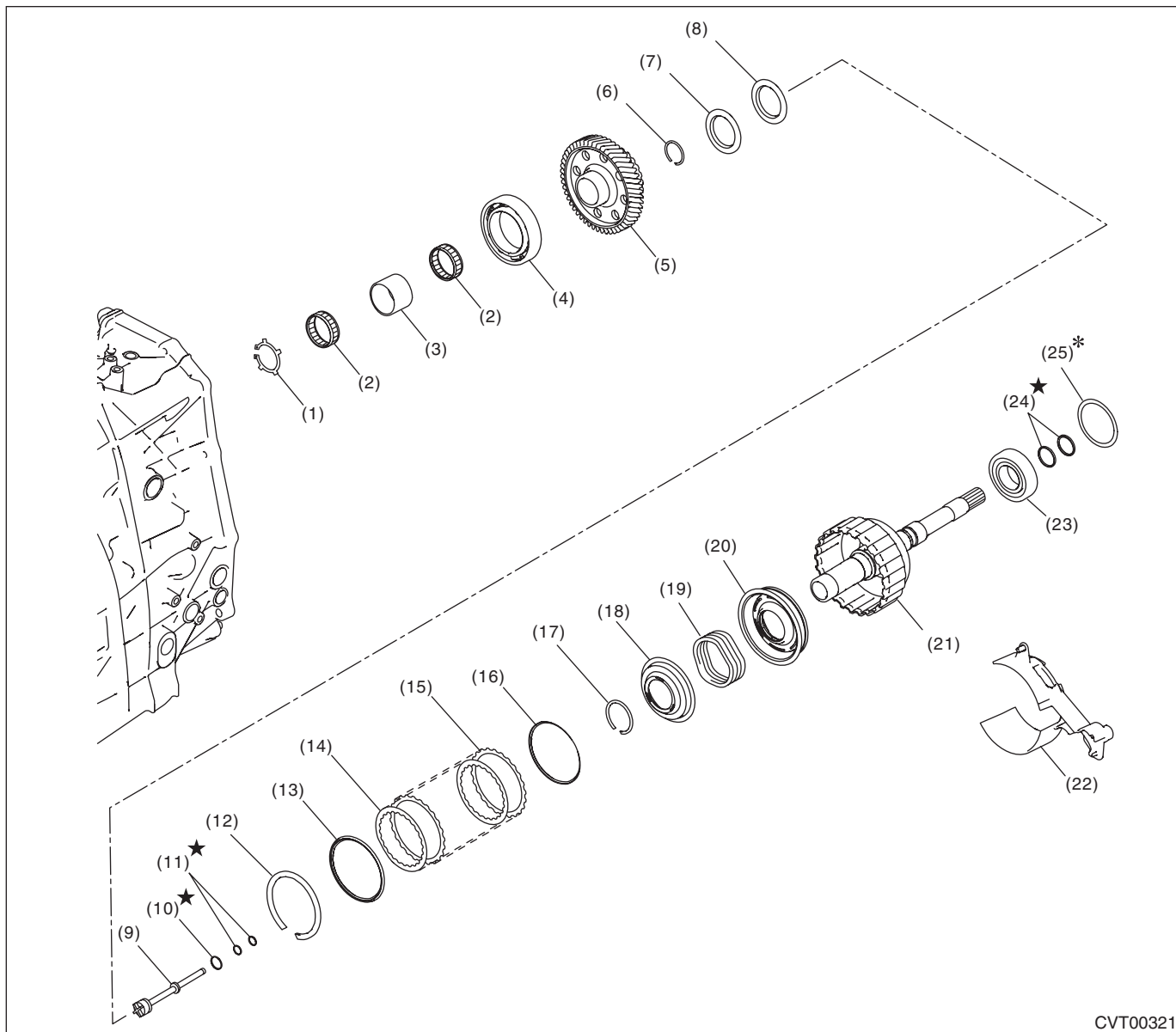
CONTINUOUSLY VARIABLE TRANSMISSION

(1) O-ring	(9) Gasket	(17) O-ring
(2) O-ring	(10) Power connect cover	(18) O-ring
(3) O-ring	(11) Oil spacer	
(4) Oil spacer	(12) Separator plate	<i>Tightening torque: N·m (kgf-m, ft-lb)</i>
(5) O-ring	(13) Output clutch control valve body	<i>T1: 5 (0.5, 3.7)</i>
(6) O-ring	(14) Magnet	<i>T2: 9 (0.9, 6.6)</i>
(7) O-ring	(15) Oil pan	<i>T3: 25 (2.5, 18.4)</i>
(8) O-ring	(16) Drive motor case ASSY	<i>T4: 50 (5.1, 36.9)</i>

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

11.OUTPUT CLUTCH ASSEMBLY



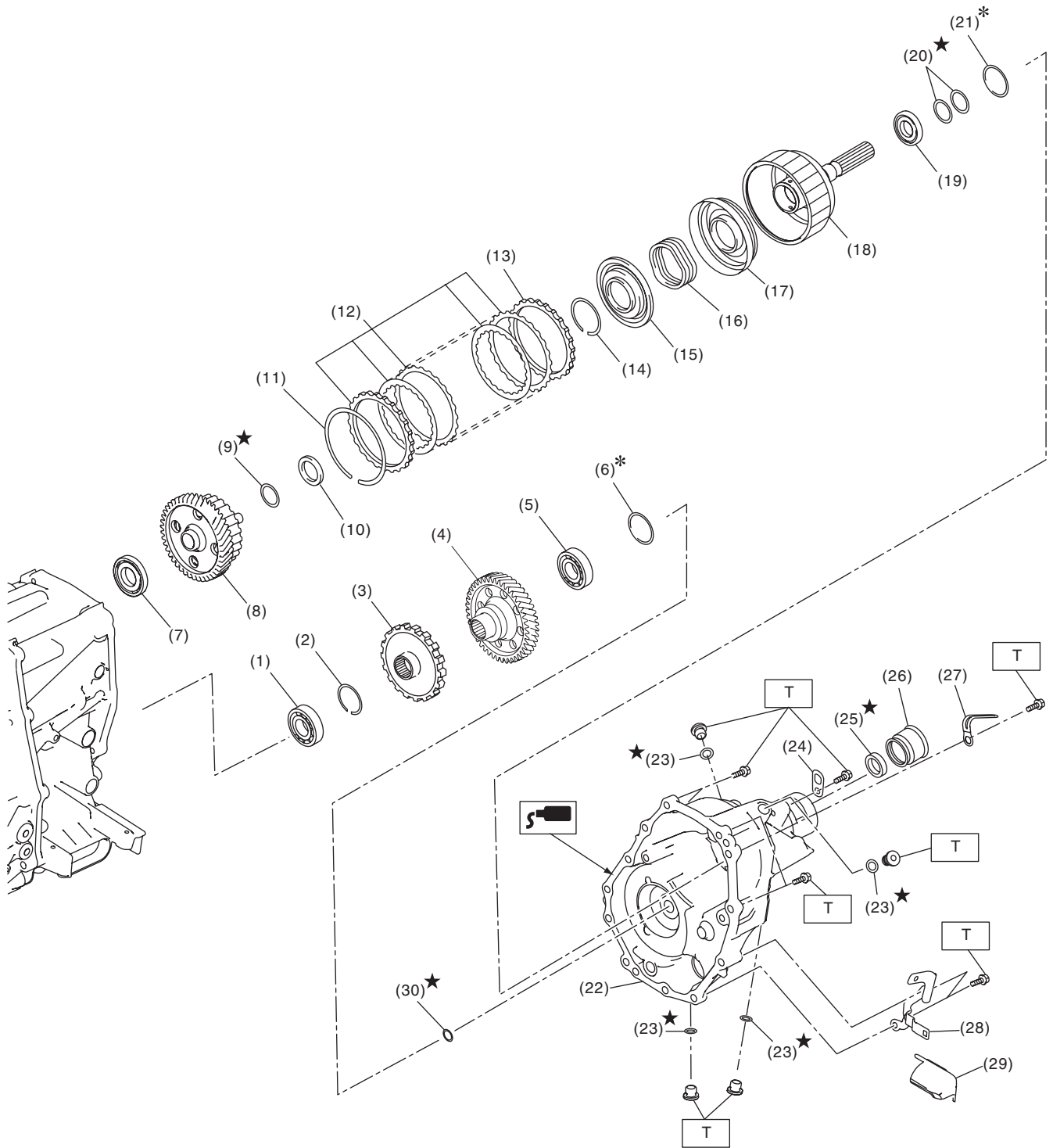
CVT00321

- | | | |
|-----------------------------------|----------------------|----------------------------------|
| (1) Snap ring | (10) O-ring | (19) Clutch piston return spring |
| (2) Needle bearing | (11) O-ring | (20) Clutch piston |
| (3) Reduction driven gear bushing | (12) Snap ring | (21) Driven shaft |
| (4) Ball bearing | (13) Retaining plate | (22) Oil baffle |
| (5) Reduction driven gear | (14) Drive plate | (23) Ball bearing |
| (6) Snap ring | (15) Driven plate | (24) Seal ring |
| (7) Thrust bearing | (16) Dish plate | (25) Reduction driven gear shim |
| (8) Thrust washer | (17) Snap ring | |
| (9) Oil pipe | (18) Balance chamber | |

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

12.TRANSFER AND EXTENSION CASE



CVT00317

General Description

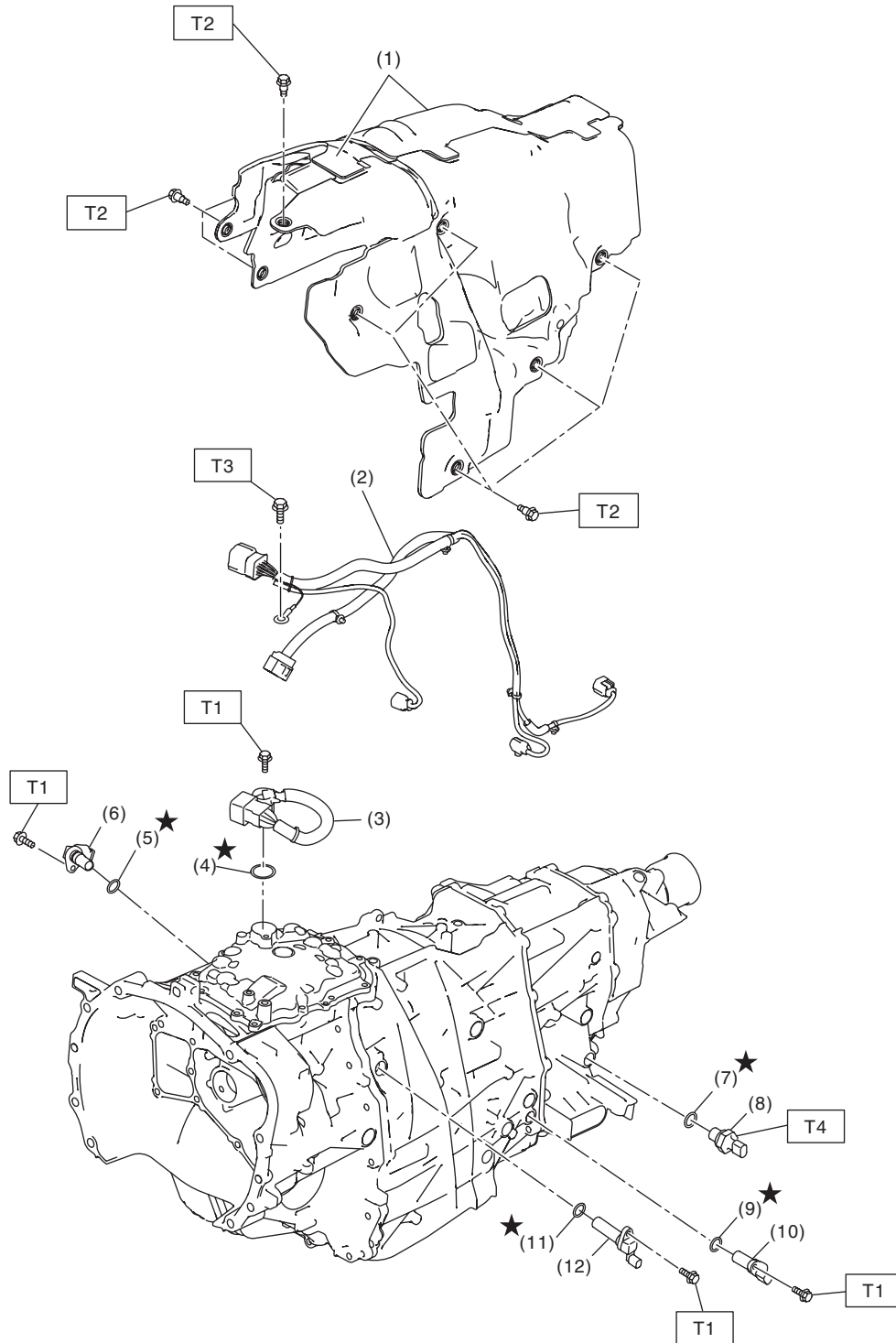
CONTINUOUSLY VARIABLE TRANSMISSION

(1) Ball bearing	(12) Transfer clutch plate set	(23) O-ring
(2) Snap ring	(13) Pressure plate	(24) Transmission hanger
(3) Parking gear	(14) Snap ring	(25) Oil seal
(4) Transfer drive gear	(15) Transfer clutch piston seal	(26) Dust cover
(5) Ball bearing	(16) Transfer clutch piston return spring	(27) Clip
(6) Transfer drive gear shim	(17) Transfer clutch piston	(28) Harness bracket
(7) Ball bearing	(18) Rear drive shaft	(29) Sensor cover
(8) Transfer driven gear	(19) Ball bearing	(30) Seal ring
(9) Seal ring	(20) Seal ring	
(10) Thrust bearing	(21) Transfer driven gear shim	
(11) Snap ring	(22) Extension case	

Tightening torque: N·m (kgf-m, ft-lb)

T: 25 (2.5, 18.4)

13.TRANSMISSION HARNESS AND SENSOR



CVT00318

- | | |
|------------------------------|-------------------------------|
| (1) Transmission case cover | (7) O-ring |
| (2) Inhibitor harness | (8) Secondary pressure sensor |
| (3) Transmission harness | (9) O-ring |
| (4) O-ring | (10) Secondary speed sensor |
| (5) O-ring | (11) O-ring |
| (6) Front wheel speed sensor | (12) Turbine speed sensor |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 7 (0.7, 3.7)

T2: 8 (0.8, 5.9)

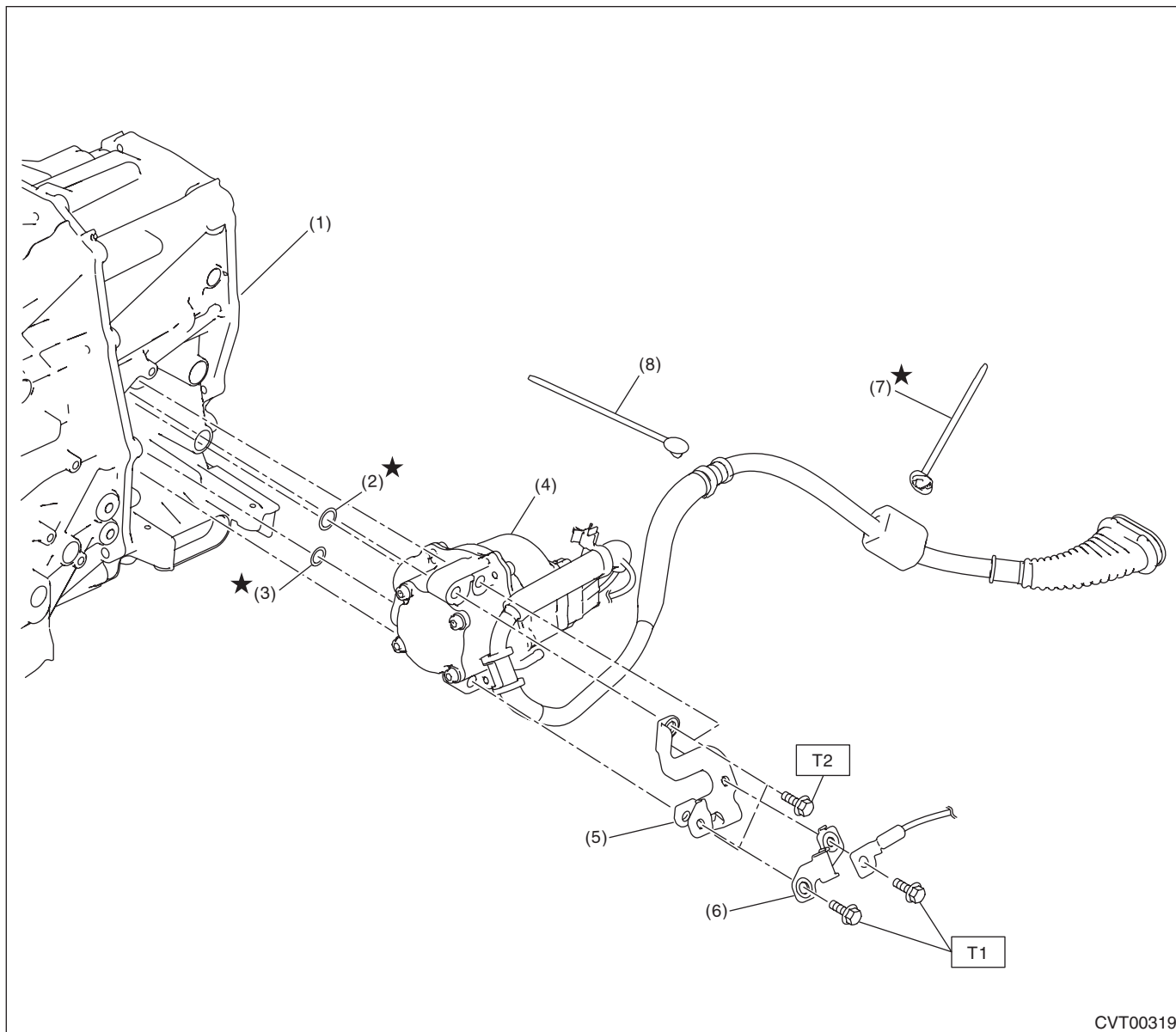
T3: 14 (1.4, 10.3)

T4: 39 (4.0, 28.8)

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14.ELECTRIC OIL PUMP



CVT00319

- (1) Drive motor ASSY
- (2) O-ring
- (3) O-ring
- (4) Electric oil pump ASSY

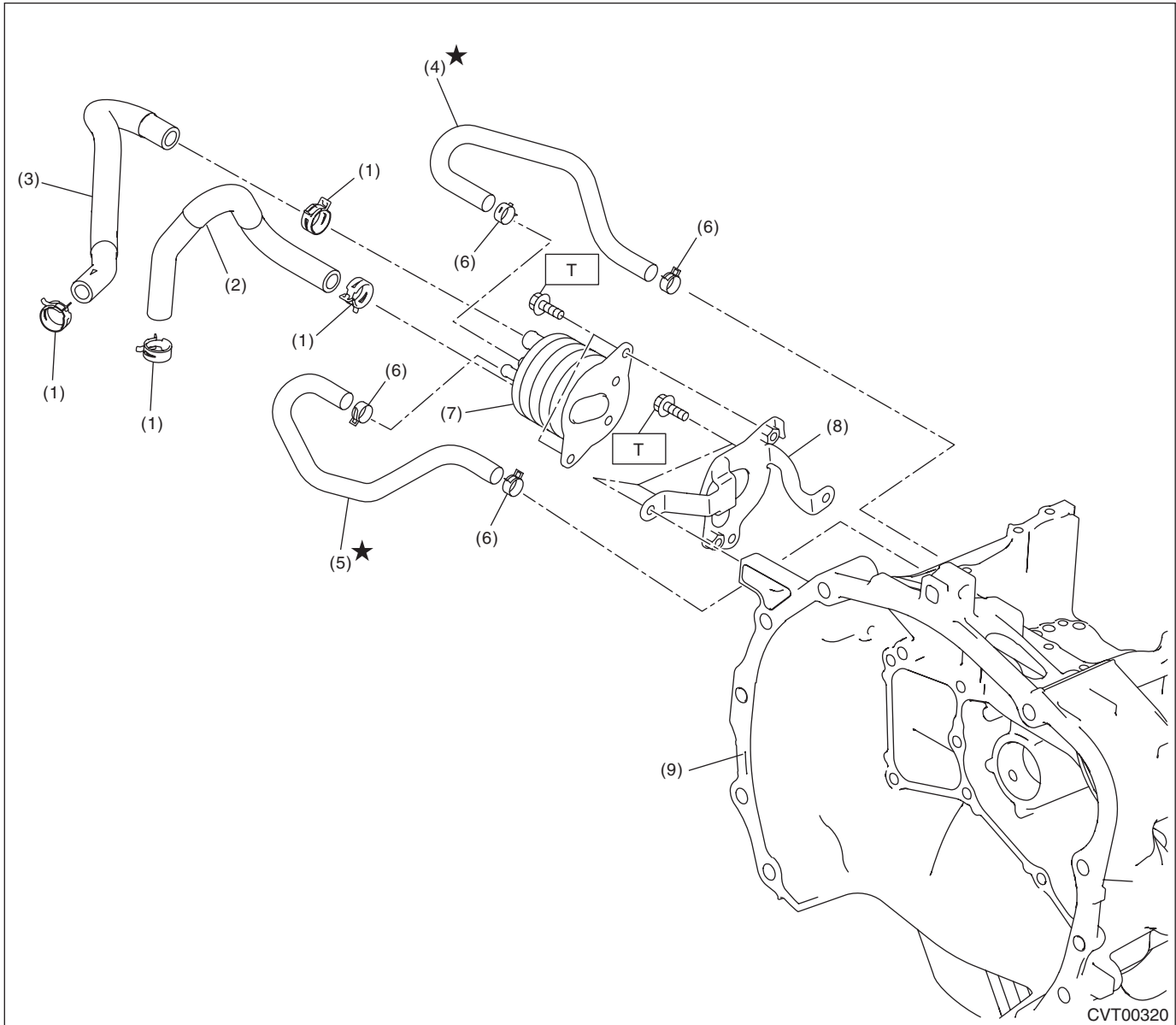
- (5) Harness bracket
- (6) Harness bracket COMP
- (7) Electric oil pump harness clip
- (8) Electric oil pump harness clip

Tightening torque: N·m (kgf-m, ft-lb)

T1: 8 (0.8, 5.2)

T2: 22 (2.2, 16.2)

15.CVTF COOLER (WITH WARMER FEATURE)



- | | |
|--------------------------------|---------------------------------------|
| (1) Hose clamp | (6) Hose clamp |
| (2) Engine coolant inlet hose | (7) CVTF cooler (with warmer feature) |
| (3) Engine coolant outlet hose | (8) CVTF cooler bracket |
| (4) CVTF cooler outlet hose | (9) Converter case |
| (5) CVTF cooler inlet hose | |

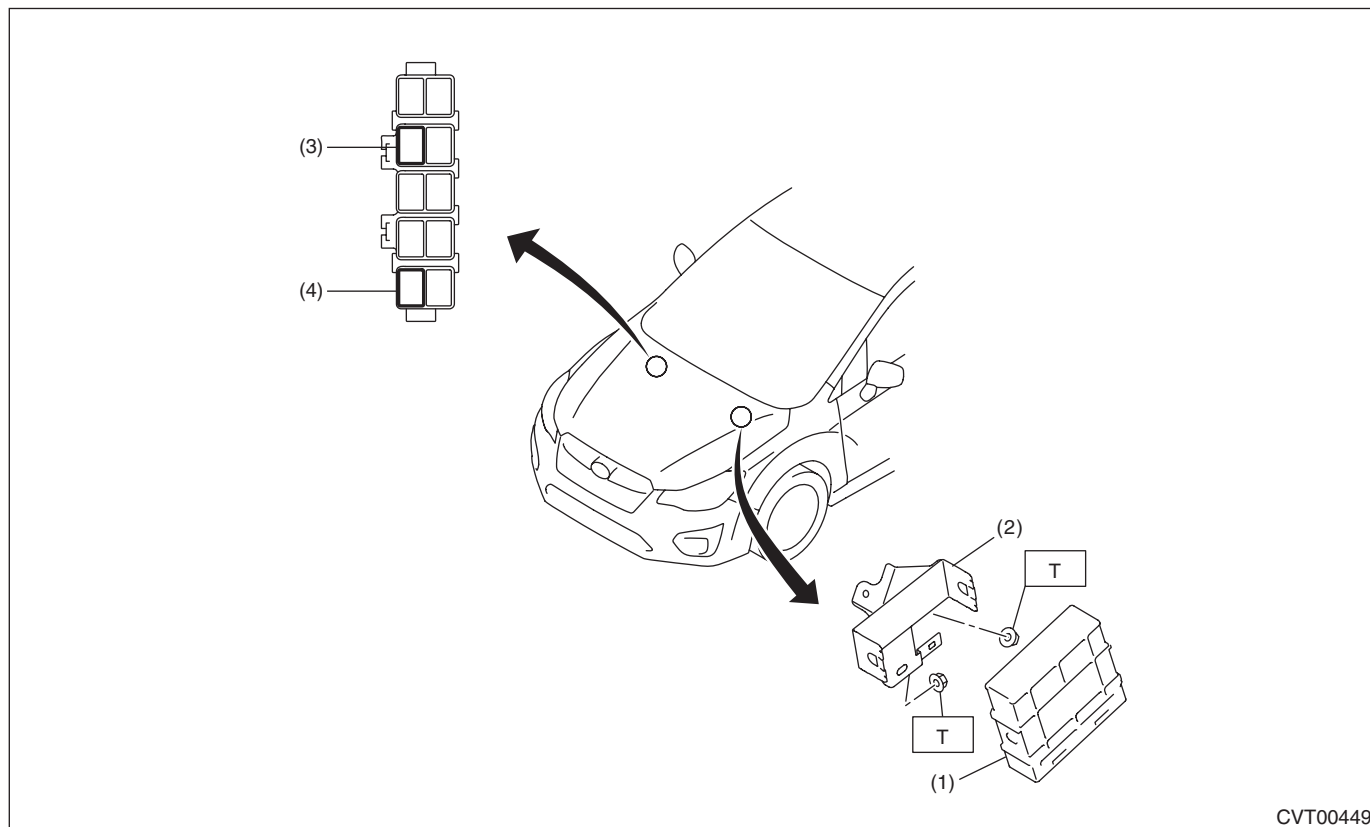
Tightening torque: N·m (kgf-m, ft-lb)

T: 23 (2.3, 17.0)

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

16.TRANSMISSION CONTROL MODULE



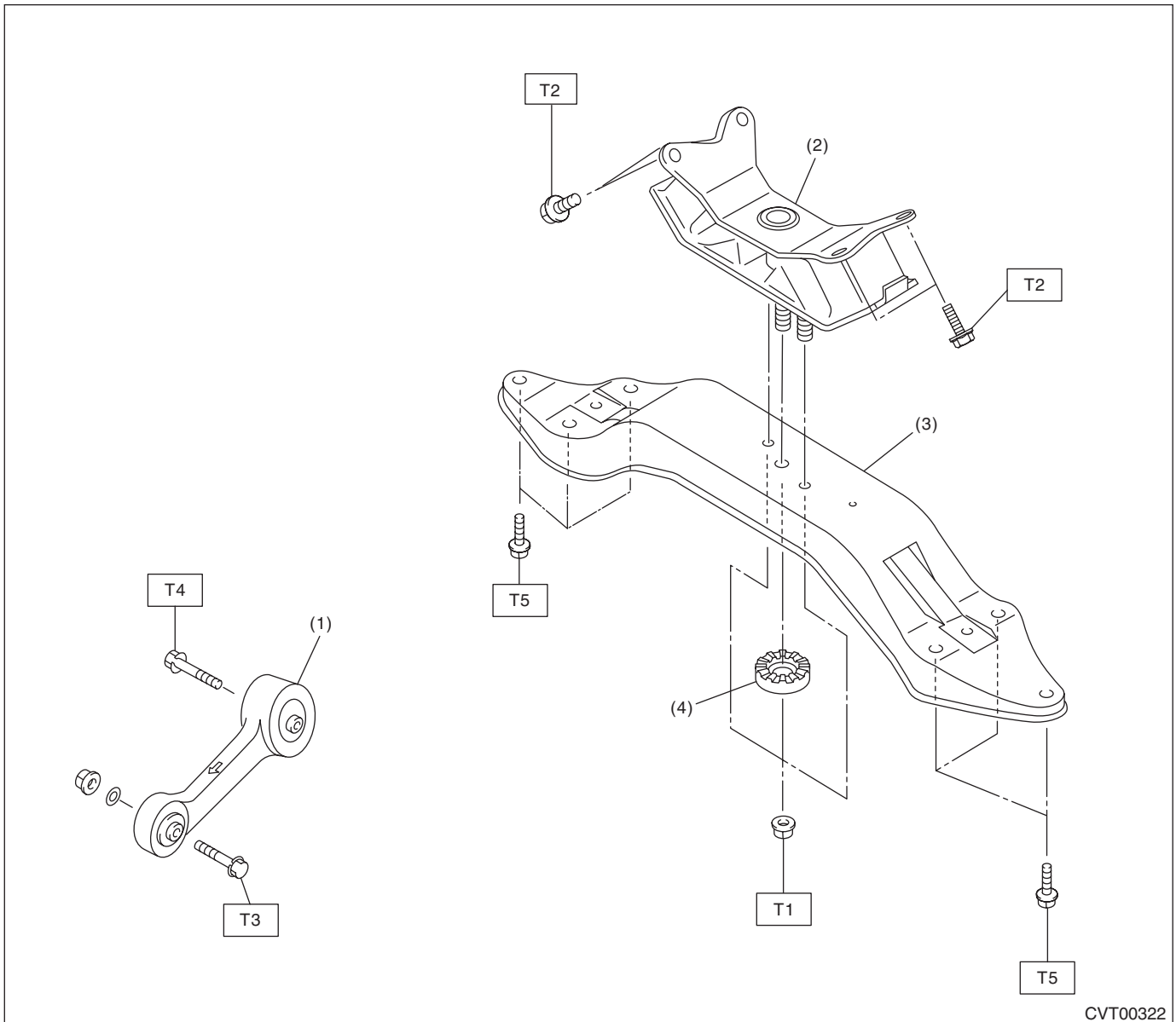
CVT00449

- | | |
|---------------------------------------|---------------------|
| (1) Transmission control module (TCM) | (3) Self shut relay |
| (2) TCM bracket | (4) R range relay |

Tightening torque: N·m (kgf-m, ft-lb)

T: 7.5 (0.8, 5.5)

17.TRANSMISSION MOUNTING



CVT00322

- | | |
|-------------------------|-----------------------------------|
| (1) Pitching stopper | (3) Transmission rear crossmember |
| (2) Rear cushion rubber | (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: 70 (7.1, 51.6)

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

C: CAUTION

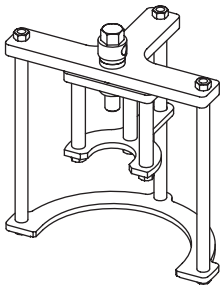
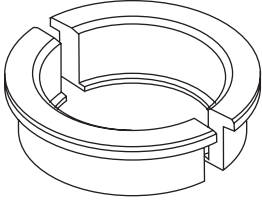
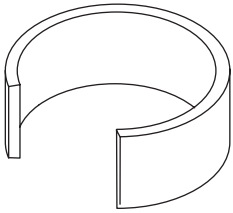
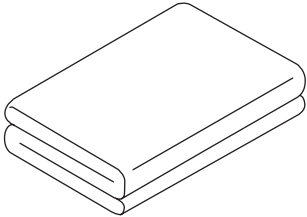
- **The hybrid system includes a high voltage circuit. Mishandling could cause accidents such as electric shock or leak. Always check “CAUTION (HYBRID SYSTEM)” and perform the proper operation. <Ref. to PC-7, CAUTION (HYBRID SYSTEM), Precaution.>**
- Wear appropriate work clothing, including insulated gloves, 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.
- Do not place the valve cover with its inner side facing up until it is installed, to prevent intrusion of foreign matter into the main control valve body.
- Do not place the oil pan with its inner side facing up until it is installed, to prevent intrusion of foreign matter into the output clutch control 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 apart with screwdrivers or other tools.
- Vehicle components are extremely hot after driving. Be wary of receiving burns from heated parts.
- Use SUBARU genuine CVTF and recommended grease. Do not mix CVTF, grease etc. of different grades or manufacturers.
- Be sure to tighten bolts and nuts to the specified torque.
- Apply CVTF 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 CVTF or gear oil to appropriate locations in order 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 and clean the area.
- After removing the sensors, breather hose and plugs, plug the holes to avoid foreign materials intruding as necessary.
- During disassembly or assembly, be sure to use nylon gloves or paper towels. Do not use cloth gloves or waste cloth.
- Be careful of handling the oil seal, O-ring and gasket. If the contact surface of them is damaged, oil leakage may occur.
- When replacing the taper roller bearing, replace the outer race and inner race as a set.
- When replacing the hypoid gear, replace the hypoid gear and drive pinion shaft as a set.
- Replace the bolts if the seating surface or the thread surface is excessively rusted.

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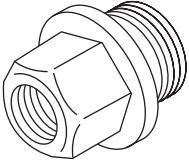
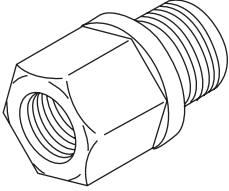
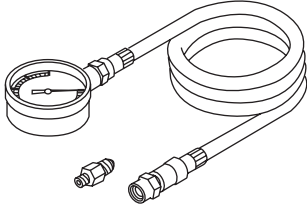
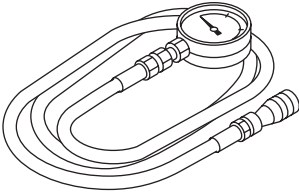
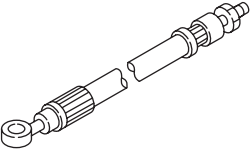
D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST18769AA010</p>	18769AA010	EXPANDER PULLEY	Used for removing and installing the secondary pulley assembly.
 <p>ST18767AA020</p>	18767AA020	BEARING REMOVER	Used for removing the ball bearing of transfer clutch assembly and the ball bearing of transfer driven gear.
 <p>ST18762AA010</p>	18762AA010	COMPRESSOR SPECIAL TOOL	Used for removing and installing snap ring of forward clutch assembly and output clutch assembly.
 <p>ST18761AA010</p>	18761AA010	SHEET SPECIAL TOOL	<ul style="list-style-type: none"> • Used for removing and installing control valve body. • Used for removing and installing valve cover. • Used for removing and installing transmission harness.

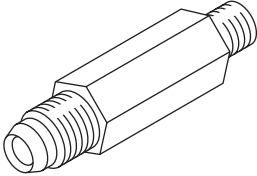
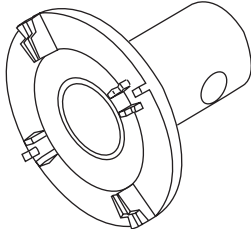
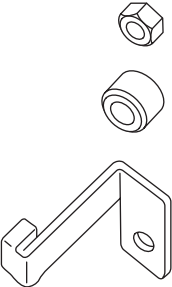
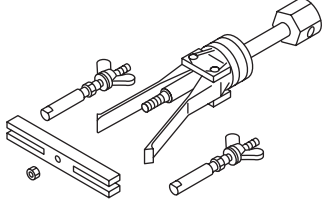
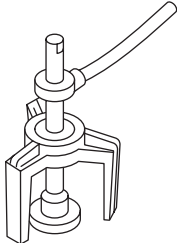
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST18681AA010</p>	18681AA010	PRESSURE GAUGE ADAPTER	Used for measuring the secondary pressure (line pressure). NOTE: Used together with the genuine O-ring (part No. 806916050).
 <p style="text-align: center;">ST18681AA000</p>	18681AA000	PRESSURE GAUGE ADAPTER	Used for measuring the hydraulic pressure of transfer clutch and output clutch pressure. NOTE: Used together with the genuine O-ring (part No. 806911080).
 <p style="text-align: center;">ST18801AA000</p>	18801AA000	OIL PRESSURE GAUGE ASSY	Used for measuring the hydraulic pressure of secondary pressure (line pressure) and output clutch pressure.
 <p style="text-align: center;">ST-498575400</p>	498575400	OIL PRESSURE GAUGE ASSY	Used for measuring the transfer clutch hydraulic pressure.
 <p style="text-align: center;">ST-498897800</p>	498897800	OIL PRESSURE ADAPTER	Used for measuring the output clutch hydraulic pressure.

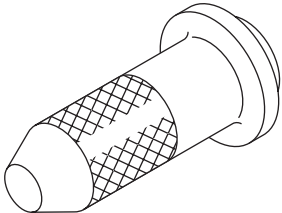
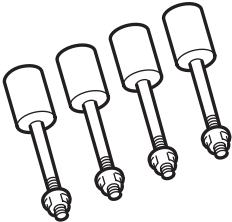
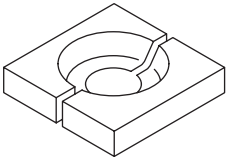
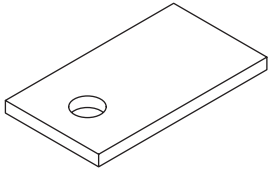
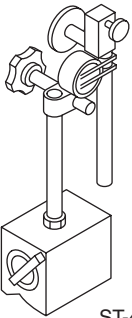
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498897200</p>	498897200	OIL PRESSURE GAUGE ASSY	Used for measuring the transfer clutch hydraulic pressure.
 <p>ST18658AA020</p>	18658AA020	WRENCH COMPL RETAINER	Used for removing and installing the differential side retainer.
 <p>ST-498277200</p>	498277200	STOPPER SET	<ul style="list-style-type: none"> • Used for removing and installing transmission assembly to engine. • Used for preventing the torque converter from dropping off.
 <p>ST-398527700</p>	398527700	PULLER ASSY	<ul style="list-style-type: none"> • Used for removing the extension case oil seal. • Used for removing the bearing outer race of the drive pinion shaft.
 <p>ST-398673600</p>	398673600	COMPRESSOR	Used for removing and installing snap ring of forward clutch assembly and output clutch.

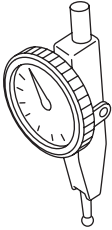
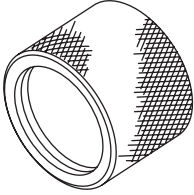
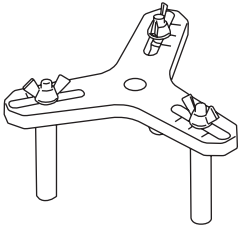
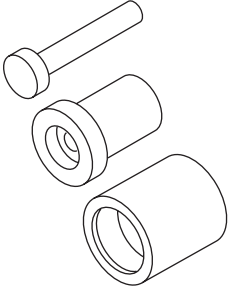
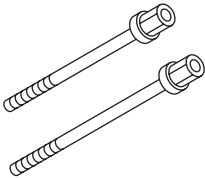
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498057300</p>	498057300	OIL SEAL INSTALLER	Used for installing the extension case oil seal.
 <p>ST18632AA000</p>	18632AA000	STAND ASSY	Used for disassembling and assembling the transmission.
 <p>ST-498515500</p>	498515500	REMOVER	Used for removing the bearing inner race of the drive pinion shaft.
 <p>ST-498255400</p>	498255400	PLATE	Used for measuring the backlash of hypoid gear.
 <p>ST-498247001</p>	498247001	MAGNET BASE	<ul style="list-style-type: none"> • Used for measuring the backlash of differential bevel pinion gear. • Used for measuring the backlash of hypoid gear. • Used together with DIAL GAUGE (498247100).

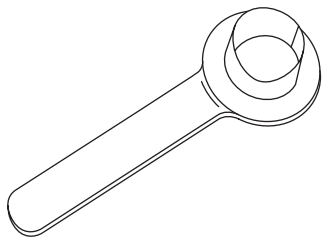
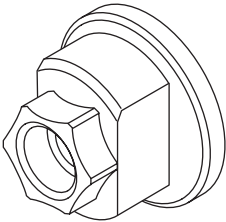
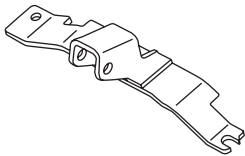
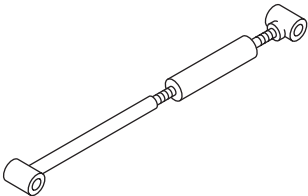
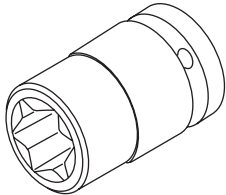
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498247100</p>	498247100	DIAL GAUGE	<ul style="list-style-type: none"> Used for measuring the backlash of differential bevel pinion gear. Used for measuring the backlash of hypoid gear. Used together with DIAL GAUGE (498247101).
 <p>ST18675AA000</p>	18675AA000	DIFFERENTIAL SIDE OIL SEAL INSTALLER	Used for installing the differential side retainer oil seal.
 <p>ST18762AA001</p>	18762AA001	COMPRESSOR SPECIAL TOOL	<ul style="list-style-type: none"> Used for disassembling and installing the multi-plate clutch piston. COMPRESSOR SPECIAL TOOL (18762AA000) can also be used.
 <p>ST-927720000</p>	927720000	HOUSING BUSHING INSTALLER AND REMOVER	<ul style="list-style-type: none"> Used for installing the oil seal. Use BUSHING SHAFT (927880000).
 <p>ST18763AA000</p>	18763AA000	COMPRESSOR SHAFT	Used for measuring the backlash of hypoid gear.

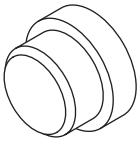
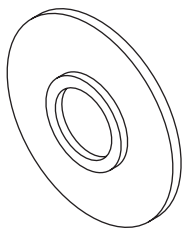
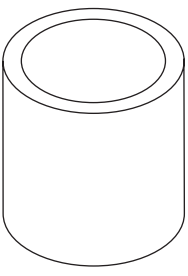
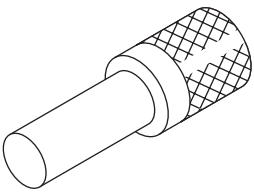
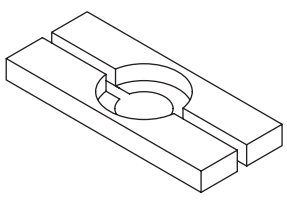
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST28399SA010	28399SA010	OIL SEAL PROTECTOR	Used for protecting oil seal when installing front drive shaft.
 ST-498937110	498937110	HOLDER	<ul style="list-style-type: none"> • Used for removing and installing the drive pinion lock nut. • Used as a holder to rotate gear when checking tooth contact.
 ST41099AA012	41099AA012 (Newly adopted tool)	ENGINE SUPPORT BRACKET	<ul style="list-style-type: none"> • Used for supporting the engine. • ENGINE SUPPORT BRACKET (41099AA011) can also be used.
 ST41099AA020	41099AA020	ENGINE SUPPORT	Used for supporting the engine.
 ST18270KA020	18270KA020	SOCKET (E20)	<ul style="list-style-type: none"> • Used for removing and installing the hypoid driven gear. • Used for removing and installing the drive pinion shaft retainer.

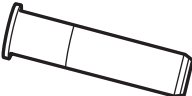
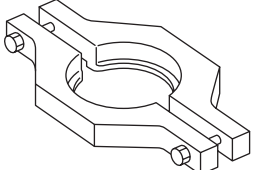
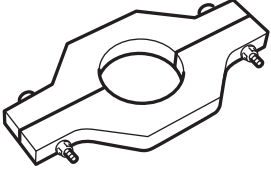
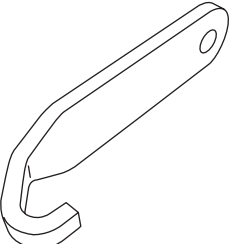
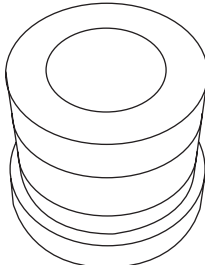
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-398497701</p>	398497701	SEAT	Used for removing and installing the bearing.
 <p>ST-398177700</p>	398177700	INSTALLER	<ul style="list-style-type: none"> • Used for installing the ball bearing. • Used for installing the bearing outer race. • Used for installing the plug.
 <p>ST28499TC010</p>	28499TC010	PRESS SNAP RING	Used for installing the bearing outer race of drive pinion shaft.
 <p>ST-899864100</p>	899864100	REMOVER	<ul style="list-style-type: none"> • Used for removing and installing the ball bearing. • Used for removing the transfer drive gear. • Used for removing the bearing inner race of the front differential.
 <p>ST-498077000</p>	498077000	REMOVER	Used for removing the bearing inner race of the front differential.

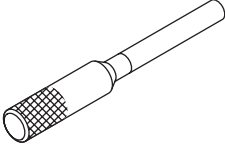
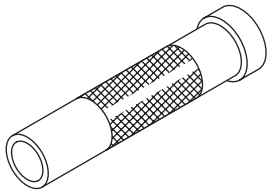
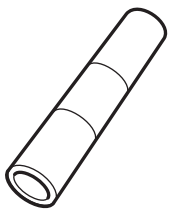
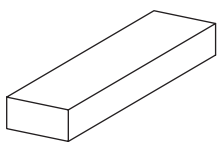
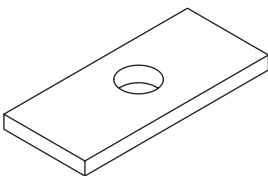
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18657AA010	18657AA010	INSTALLER	Used for installing the oil seal at shifter arm shaft portion.
 ST-498077600	498077600	REMOVER	Used for removing the ball bearing of drive sprocket.
 ST18723AA000	18723AA000	REMOVER	Used for removing the ball bearings of transfer clutch assembly and transfer driven gear.
 ST-498497300	498497300	CRANKSHAFT STOPPER	Used for stopping the drive plate rotation when removing and installing the drive plate.
 ST-399513600	399513600	INSTALLER	Used for removing the ball bearing of drive sprocket.

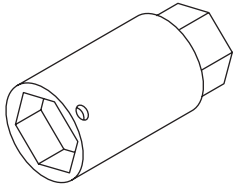
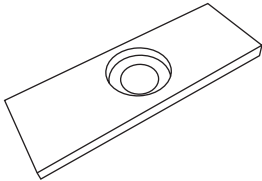
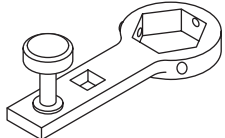
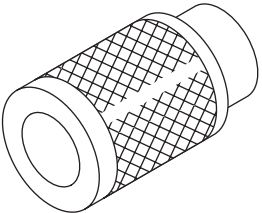
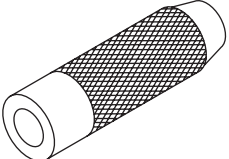
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-499267300	499267300	STOPPER PIN	Used for adjusting the inhibitor switch.
 ST-499277100	499277100	BUSHING 1-2 INSTALLER	<ul style="list-style-type: none"> • Used for installing the ball bearing. • Used for installing the bearing inner race.
 ST18651AA000	18651AA000	INSTALLER	Used for installing the ball bearing.
 ST-499575400	499575400	GAUGE	Used for measuring height of end play.
 ST-499575500	499575500	GAUGE	Used for measuring height of end play.

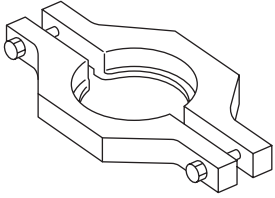
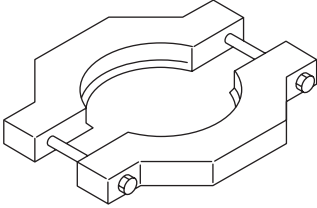
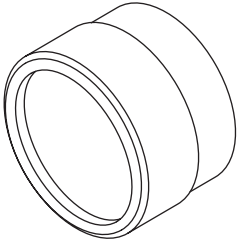
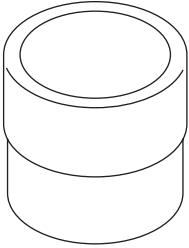
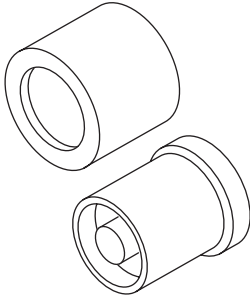
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-499787500	499787500	ADAPTER	<ul style="list-style-type: none"> • Used for removing and installing the drive pinion shaft lock nut. • Used for measuring the preload of the drive pinion shaft. • Used for measuring the backlash of hypoid gear.
 ST-499575600	499575600	GAUGE	Used for measuring height of end play.
 ST-499787700	499787700	WRENCH	<ul style="list-style-type: none"> • Used for removing and installing the drive pinion shaft lock nut. • Used for measuring the preload of the drive pinion shaft. • Used for measuring the backlash of hypoid gear.
 ST-499757002	499757002	INSTALLER	<ul style="list-style-type: none"> • Used for removing the bearing of reduction driven gear. • Used for installing the transfer drive gear.
 ST-899580100	899580100	INSTALLER	Used for installing the bearing inner race of drive pinion shaft.


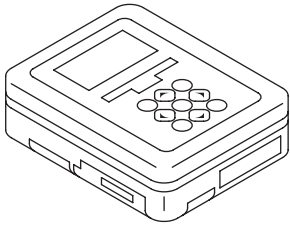
General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498077300</p>	498077300	REMOVER	Used for removing the ball bearings of the reduction driven gear and output clutch assembly.
 <p>ST18767AA000</p>	18767AA000	REMOVER	Used for removing the parking gear.
 <p>ST-499755502</p>	499755502	PRESS SNAP RING	Used for installing the drive sprocket ball bearing.
 <p>ST-499755602</p>	499755602	PRESS SNAP RING	<ul style="list-style-type: none"> • Used for installing the oil seal. • Used for installing the ball bearing and roller bearing. • Used for installing the plug. • Used for installing the parking gear.
 <p>ST20099AE020</p>	20099AE020	INSTALLER	Used for installing the bearing outer race of drive pinion shaft.

General Description

CONTINUOUSLY VARIABLE TRANSMISSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-927130000</p>	927130000	EXTENSION DRIVE SHAFT	Used for installing the bearing inner race of drive pinion shaft.
 <p style="text-align: center;">ST1B022XU0</p>	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of Subaru Select Monitor III, refer to "PC application help for Subaru Select Monitor".

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Thickness gauge	Used for measuring the clearance in reverse brake, forward clutch, output clutch and transfer clutch.
Oil pressure gauge	Used for measuring the electric oil pump hydraulic pressure.
Caliper	Used for measuring the dimension.
Spring scale	Used for measuring the starting torque of the drive pinion.
TORX® bit T70	Used for removing and installing differential gear oil drain plug.
Straight pin remover	Used for removing and installing the straight pin.
Push/pull gauge	Used for measuring clutch clearance.
Angle gauge	Used for installing the drive plate.
Insulated gloves	Used for high voltage system operation.
Insulated tools	Used for high voltage system operation.
Insulating tape	Used for insulation by wrapping high voltage system cable connectors and terminals with it.
Insulation multimeter	Used for measuring high voltage system resistance and voltage.