

MANUAL TRANSMISSION AND DIFFERENTIAL

6MT

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GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

1. General Description

A: SPECIFICATION

1. MANUAL TRANSMISSION AND FRONT DIFFERENTIAL

Item		STD	OP
Type		6-forward speeds and 1-reverse	
Transmission gear ratio	1st	3.636	
	2nd	2.375	
	3rd	1.761	
	4th	1.346	
	5th	0.971 [1.062]	
	6th	0.756 [0.842]	
	Reverse	3.545	
Front reduction gear	Final	Type of gear	Hypoid
		Gear ratio	3.900
Rear reduction gear	Transfer	Type of gear	Helical
		Gear ratio	1.100 [1.000]
	Final	Type of gear	Hypoid
		Gear ratio	3.545 [3.900]
Front differential	Type and number of gear	Straight bevel gear (Bevel pinion: 2, Bevel gear: 2)	SURETRAC®
Center differential	Type and number of gear	Straight bevel gear (Bevel pinion: 2, Bevel gear: 2 and viscous coupling)	
Transmission gear oil		GL-5	
Transmission gear oil capacity		4.1 ℓ (4.3 US qt, 3.6 Imp qt)	

[]: Australia model

2. TRANSMISSION GEAR OIL

Recommended oil

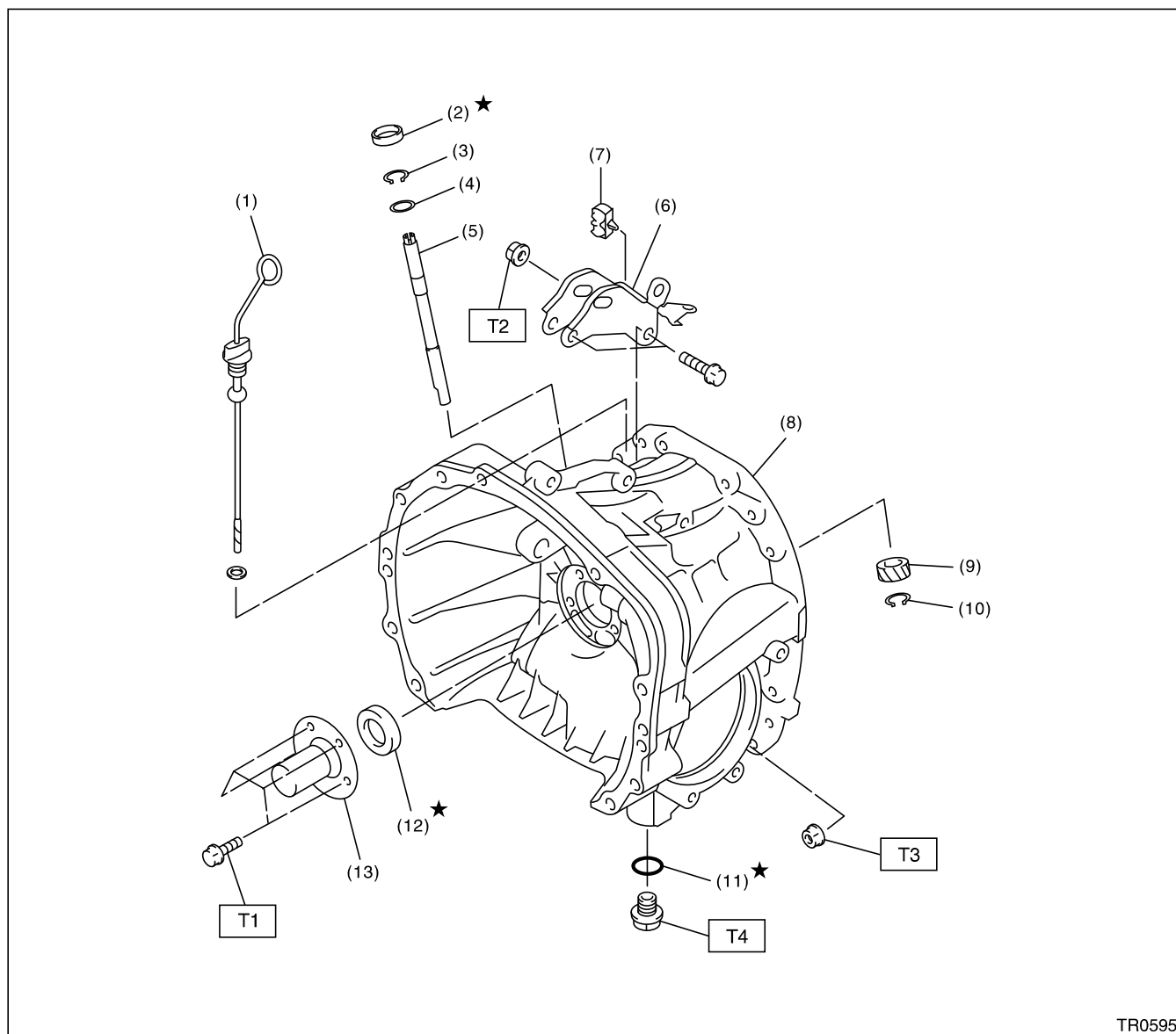
ITEM									
• Transmission gear oil									
API Classification									
GL - 5									
SAE Viscosity No. and Applicable Temperature									
(°C)	-30	-26	-15	-5	0	15	25	30	
(°F)	-22	-15	5	23	32	59	77	86	
B1H0024									

GENERAL DESCRIPTION

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B: COMPONENT

1. CLUTCH HOUSING



TR0595

- | | |
|------------------------------|-----------------------------------|
| (1) Oil level gauge | (9) Speedometer driven gear |
| (2) Oil seal | (10) Snap ring |
| (3) Snap ring | (11) Gasket |
| (4) Washer | (12) Oil seal |
| (5) Speedometer gear shaft | (13) Clutch release bearing guide |
| (6) Pitching stopper bracket | |
| (7) Clip | |
| (8) Clutch housing | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 6.4 (0.65, 4.7)

T2: 41 (4.2, 30.2)

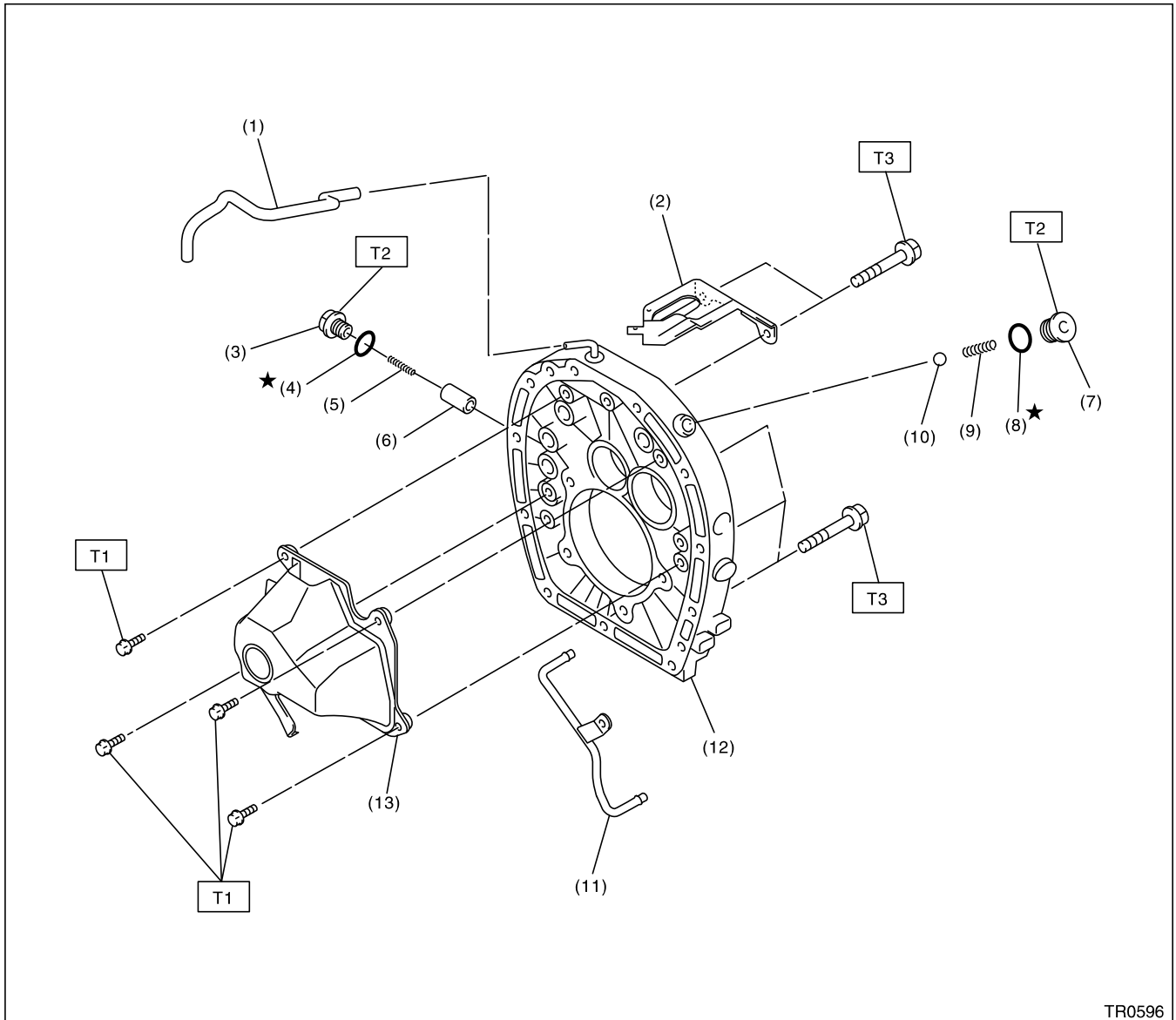
T3: 50 (5.1, 36.9)

T4: 70 (7.1, 51.6)

GENERAL DESCRIPTION

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2. ADAPTER PLATE



TR0596

- | | |
|-------------------------------|-----------------------|
| (1) Breather hose | (8) Gasket |
| (2) Transmission harness stay | (9) Spring |
| (3) Plug | (10) Ball |
| (4) Gasket | (11) Lubrication pipe |
| (5) Spring | (12) Adapter plate |
| (6) Plunger | (13) Oil chamber |
| (7) Plug | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 6.4 (0.65, 4.7)

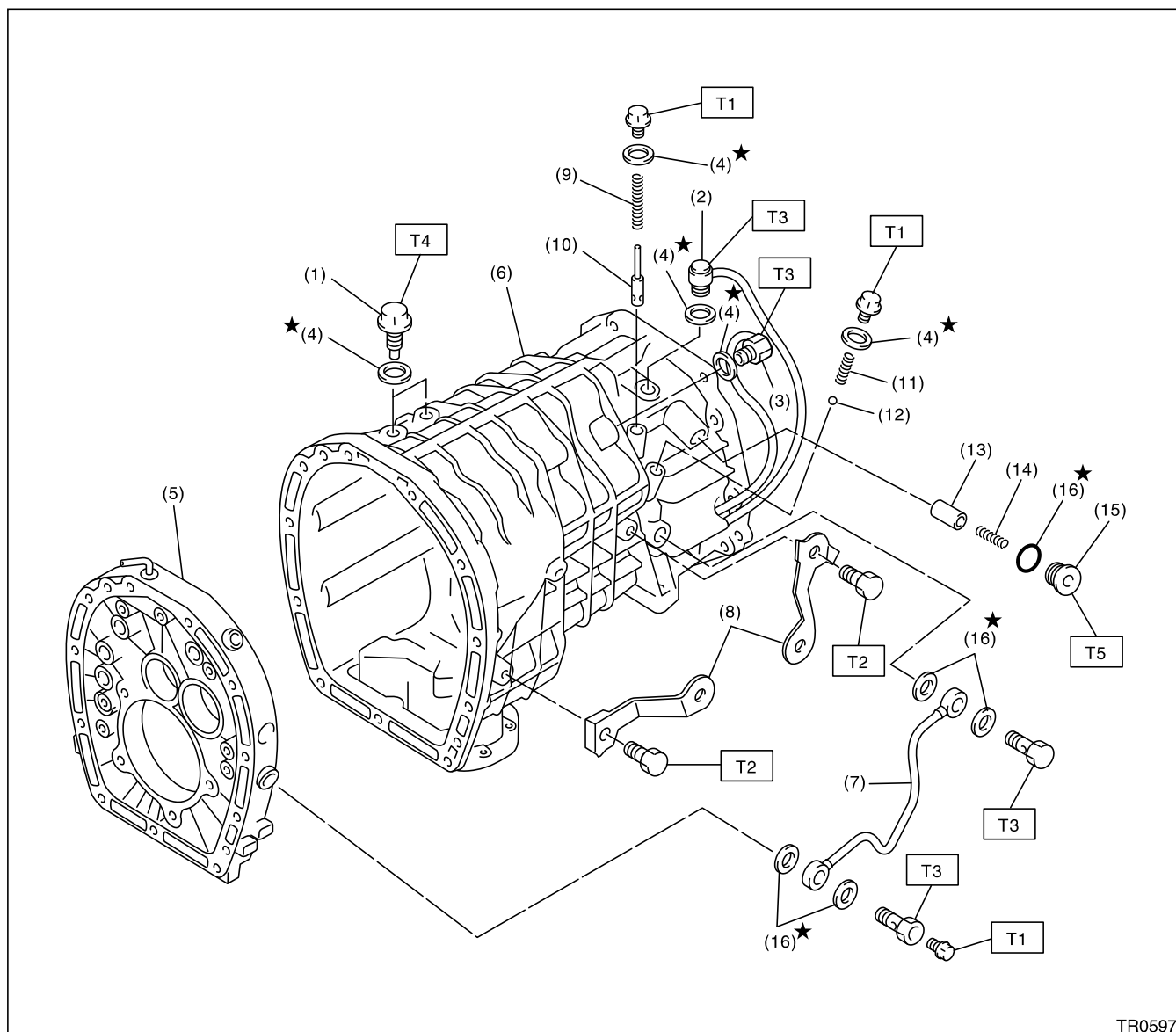
T2: 37 (3.8, 27.3)

T3: 50 (5.1, 36.9)

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

3. TRANSMISSION CASE



TR0597

- | | |
|--------------------------|----------------------------|
| (1) Pilot bolt | (9) Return spring |
| (2) Neutral switch | (10) Pressure relief valve |
| (3) Back-up light switch | (11) Return spring |
| (4) O-ring | (12) Ball |
| (5) Adapter plate | (13) Plunger |
| (6) Transmission case | (14) Spring |
| (7) Oil pipe | (15) Plug |
| (8) Harness bracket | (16) Gasket |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 13 (1.3, 9.6)

T2: 16 (1.6, 11.8)

T3: 32 (3.3, 23.6)

T4: 34 (3.5, 25.1)

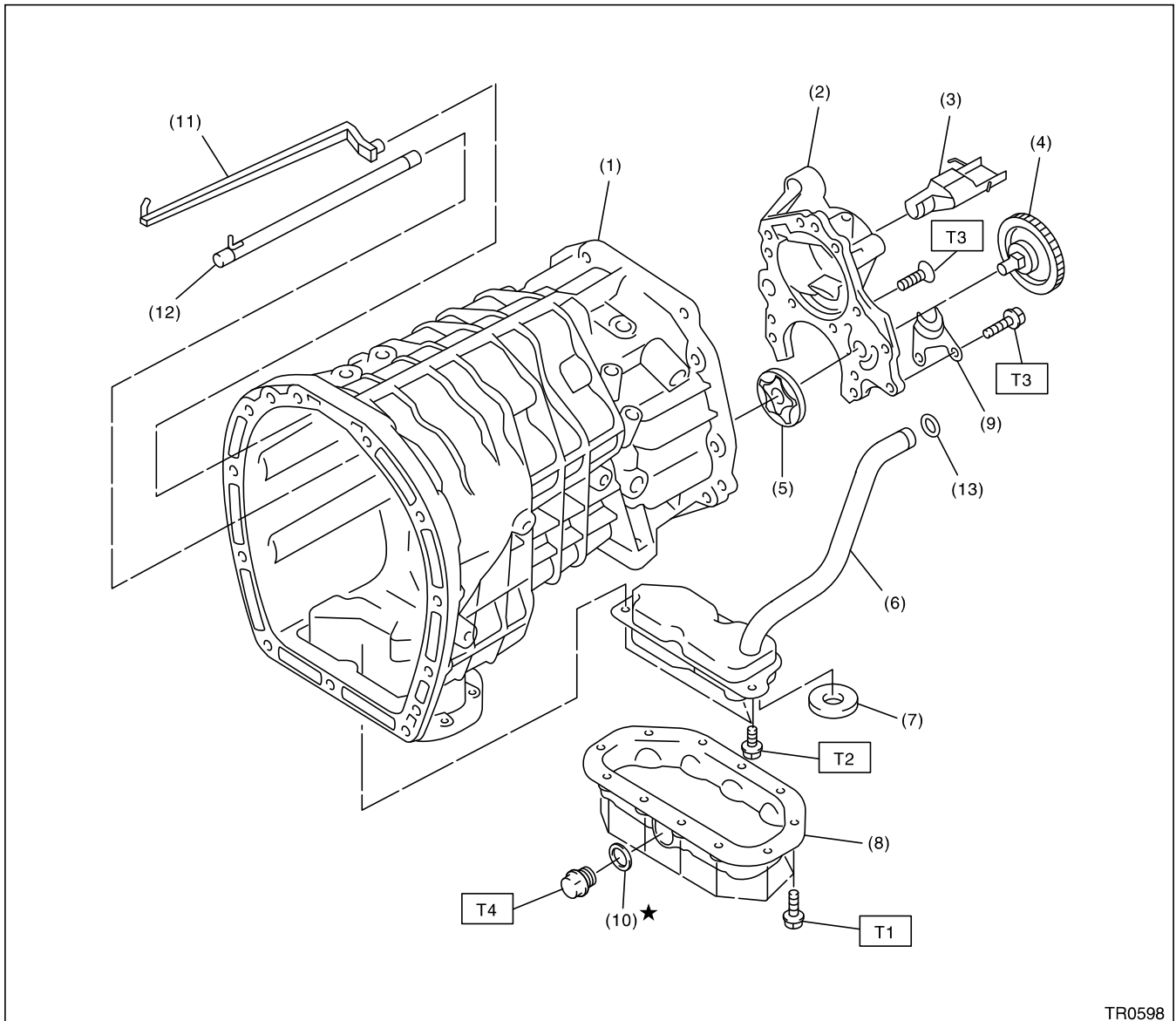
T5: 41 (4.2, 30.2)

6MT-5

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

4. OIL PAN AND OIL PUMP



TR0598

- | | |
|-------------------------------|----------------|
| (1) Main case | (8) Oil pan |
| (2) Oil pump cover | (9) Plate |
| (3) Oil guide | (10) Gasket |
| (4) Oil pump driven gear ASSY | (11) Oil guide |
| (5) Oil pump rotor ASSY | (12) Oil pipe |
| (6) Strainer ASSY | (13) O-ring |
| (7) Magnet | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 6.4 (0.65, 4.7)

T2: 10 (1.0, 7.4)

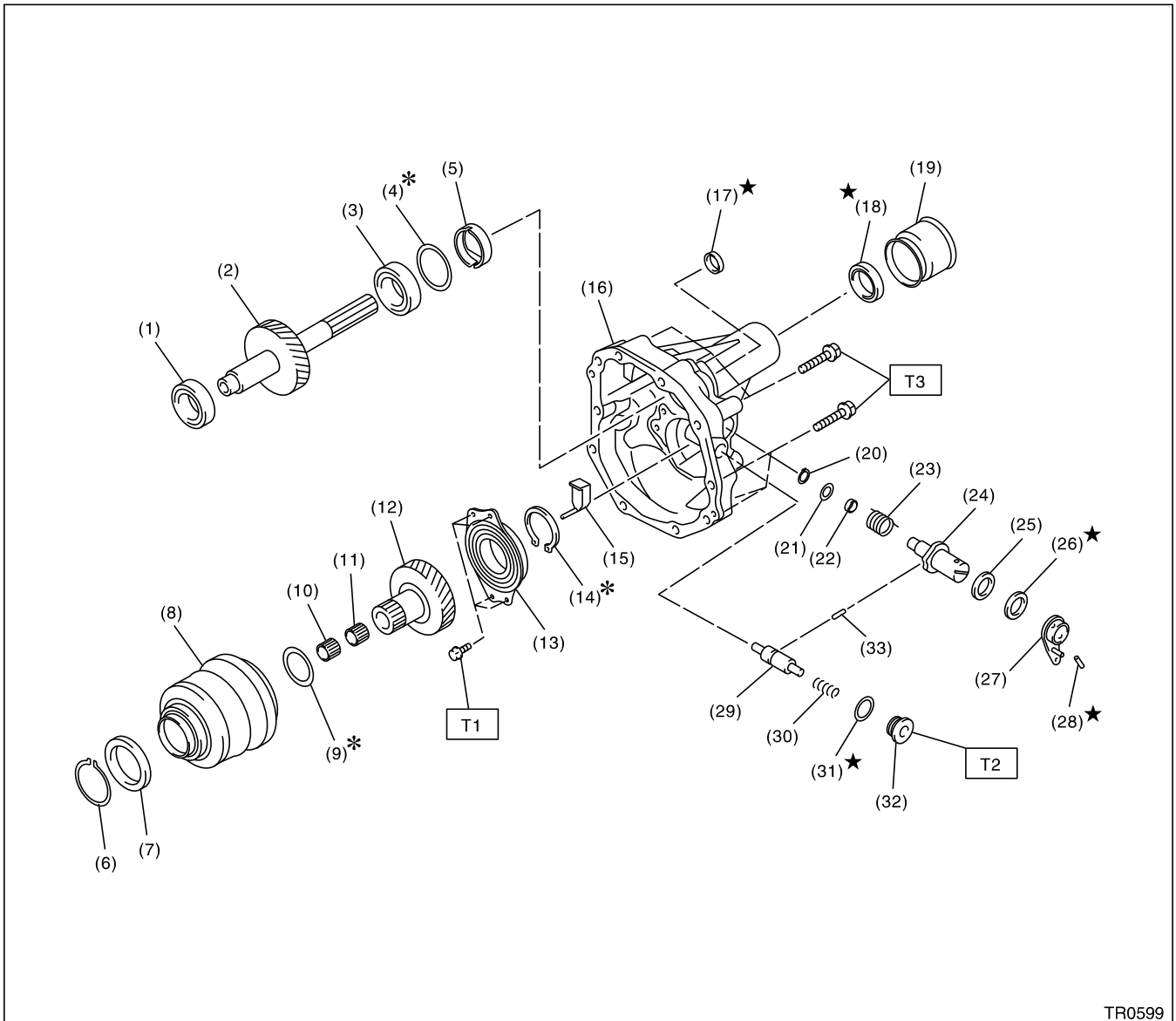
T3: 25 (2.5, 18.1)

T4: 44 (4.5, 32.5)

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

5. EXTENSION CASE AND CENTER DIFFERENTIAL



TR0599

- | | |
|---------------------------------|--------------------------------|
| (1) Taper roller bearing | (15) Extension guide |
| (2) Transfer driven gear | (16) Extension case |
| (3) Taper roller bearing | (17) Oil seal |
| (4) Shim | (18) Oil seal |
| (5) Oil plate | (19) Dust cover |
| (6) Snap ring | (20) Snap ring |
| (7) Oil pump drive gear | (21) Washer |
| (8) Center differential | (22) Bush |
| (9) Shim | (23) Spring |
| (10) Needle bearing | (24) Reverse check shaft |
| (11) Needle bearing | (25) Ball bearing |
| (12) Transfer drive gear | (26) Oil seal |
| (13) Ball bearing (with flange) | (27) Reverse check lever COMPL |
| (14) Snap ring | (28) Straight pin |

- | |
|-------------------------|
| (29) Reverse check plug |
| (30) Spring |
| (31) Gasket |
| (32) Plug |
| (33) Plunger |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 25 (2.5, 18.1)

T2: 41 (4.2, 30.2)

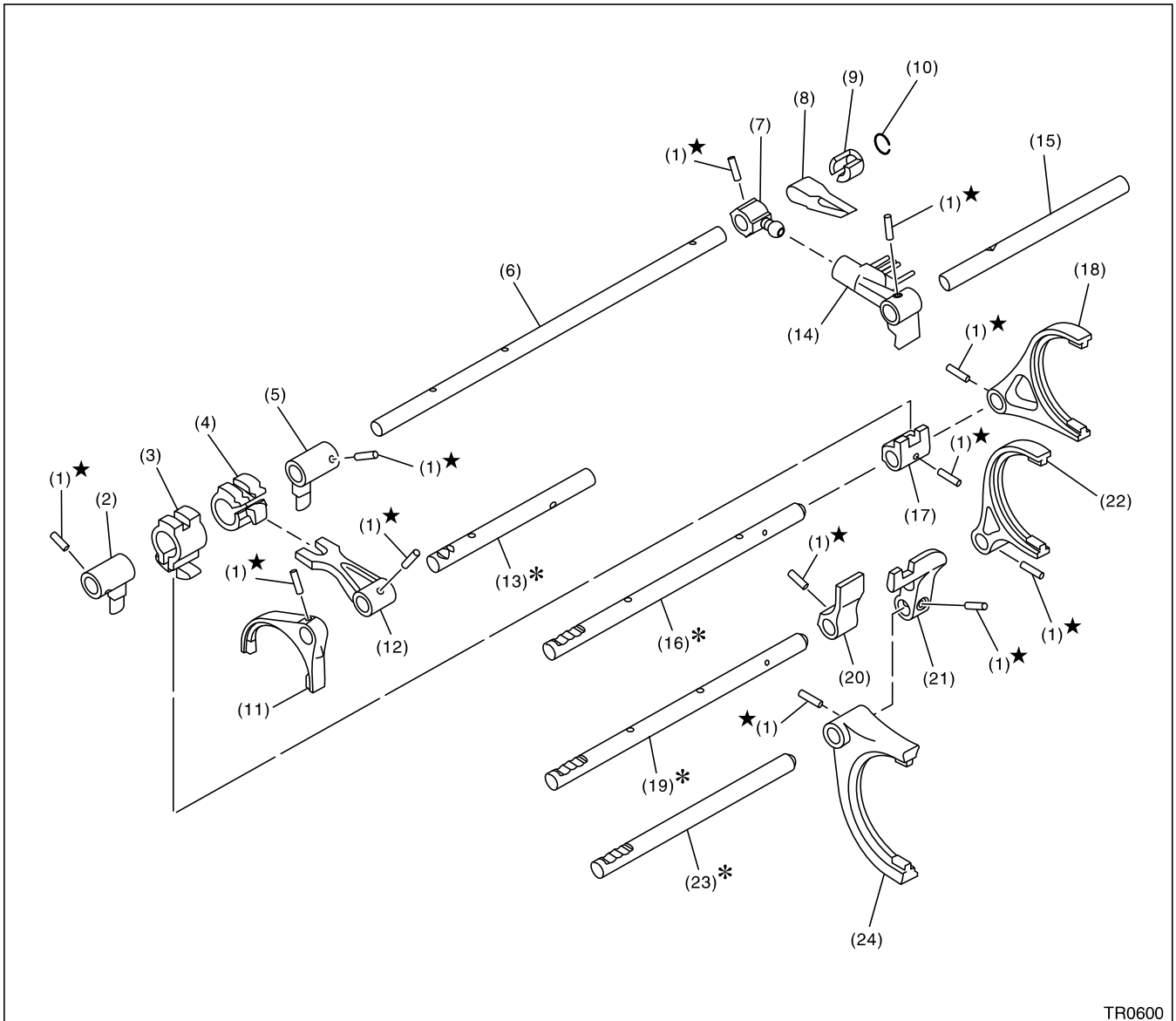
T3: 48 (4.9, 35.4)

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GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

6. SHIFTER FORK AND FORK ROD



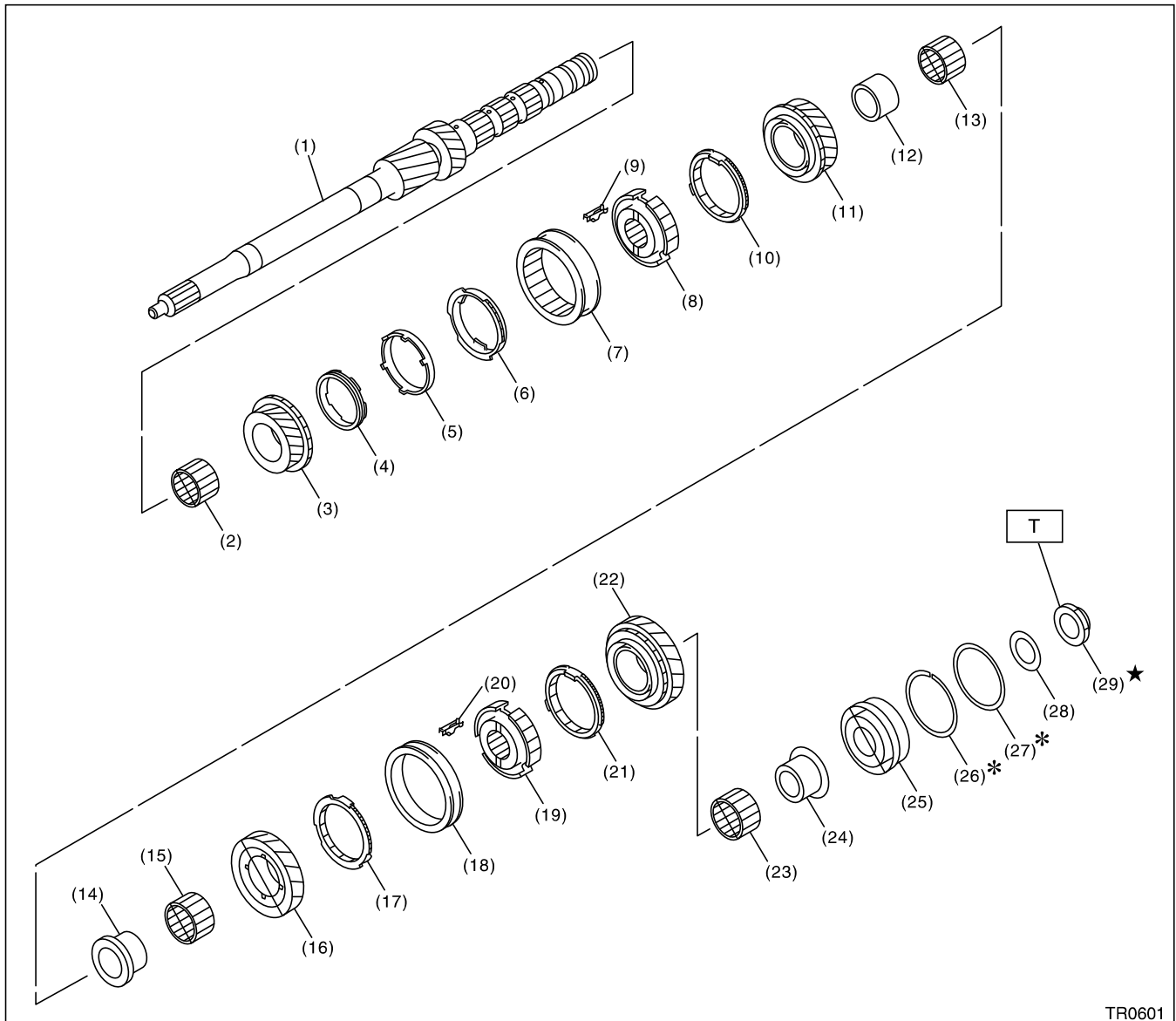
TR0600

- | | | |
|-----------------------------|--------------------------|--------------------------|
| (1) Spring pin | (9) Support | (17) 5th-6th shifter arm |
| (2) Interlock arm | (10) Snap ring | (18) 5th-6th fork COMPL |
| (3) Interlock block | (11) Reverse fork COMPL | (19) 3rd-4th fork rod |
| (4) Reverse interlock block | (12) Reverse shifter arm | (20) 3rd-4th shifter arm |
| (5) Interlock arm | (13) Reverse fork rod | (21) 1st-2nd shifter arm |
| (6) Striking rod | (14) Selector arm COMPL | (22) 3rd-4th fork COMPL |
| (7) Selector arm No.2 | (15) Shifter arm shaft | (23) 1st-2nd fork rod |
| (8) Neutral set spring | (16) 5th-6th fork rod | (24) 1st-2nd fork COMPL |

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

7. MAIN SHAFT ASSY



TR0601

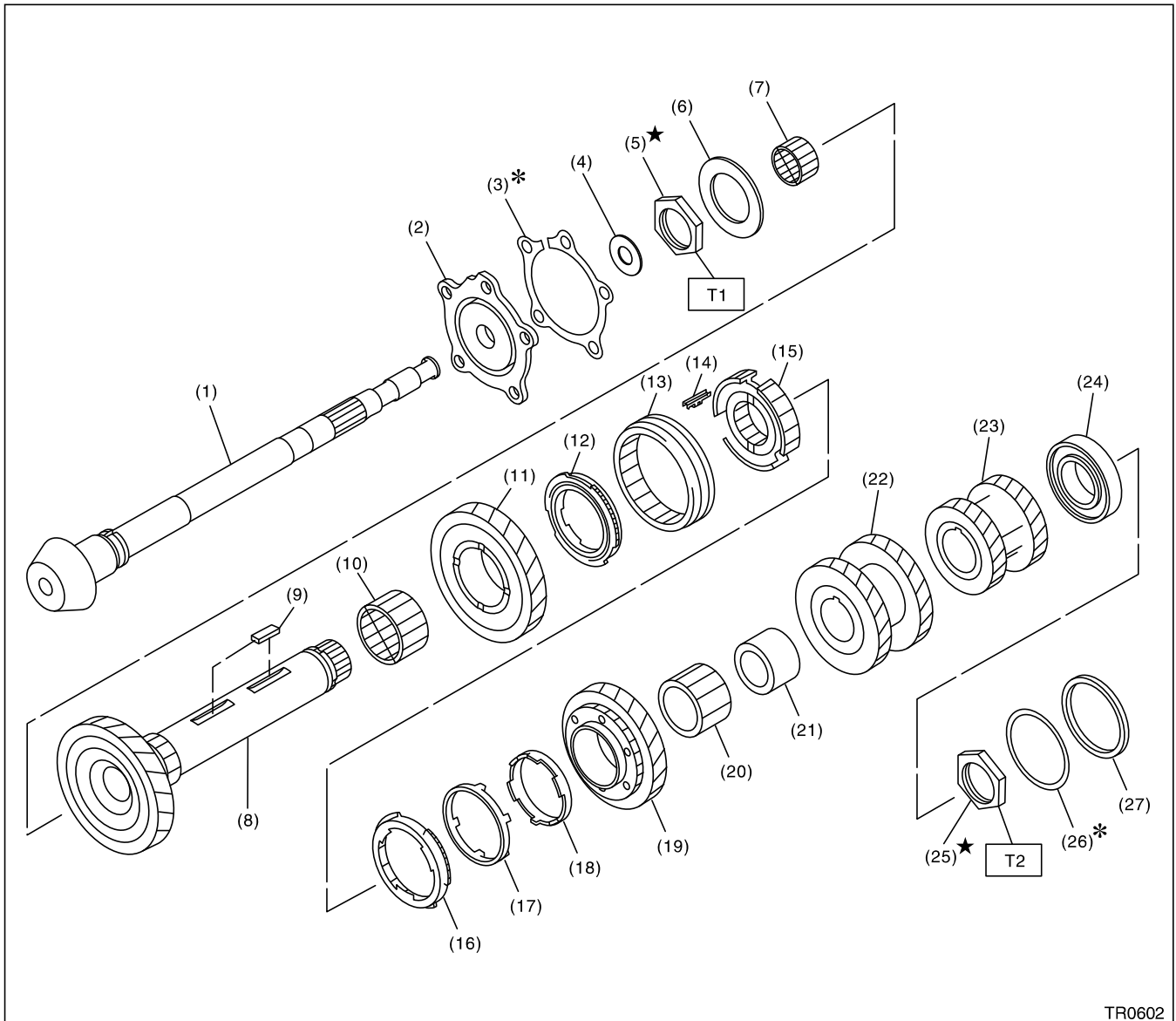
- | | | |
|----------------------|----------------------|---------------------------|
| (1) Main shaft | (12) 4th bush | (23) 6th bush |
| (2) Needle bearing | (13) Needle bearing | (24) 6th bush |
| (3) 3rd drive gear | (14) 5th bush | (25) Taper roller bearing |
| (4) Inner baulk ring | (15) Needle bearing | (26) Snap ring |
| (5) Synchro cone | (16) 5th drive gear | (27) Washer |
| (6) Outer baulk ring | (17) 5th baulk ring | (28) Washer |
| (7) 3rd-4th sleeve | (18) 5th-6th sleeve | (29) Lock nut |
| (8) 3rd-4th hub | (19) 5th-6th hub | |
| (9) Shifting insert | (20) Shifting sleeve | |
| (10) 4th baulk ring | (21) 6th baulk ring | |
| (11) 4th gear | (22) 6th drive gear | |

Tightening torque: N·m (kgf-m, ft-lb)
T: 392 (40.0, 289)

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

8. DRIVE PINION AND DRIVEN SHAFT ASSY



TR0602

- | | |
|----------------------------|--------------------------|
| (1) Drive pinion shaft | (13) 1st-2nd sleeve |
| (2) Taper roller bearing | (14) Shifting insert |
| (3) Shim | (15) 1st-2nd hub |
| (4) Washer | (16) Outer baulk ring |
| (5) Lock nut | (17) Synchro cone |
| (6) Thrust bearing | (18) Inner baulk ring |
| (7) Needle bearing | (19) 2nd driven gear |
| (8) Driven shaft | (20) Needle bearing |
| (9) Key | (21) 2nd bush |
| (10) Needle bearing | (22) 3rd-4th driven gear |
| (11) 1st driven gear | (23) 5th-6th driven gear |
| (12) 1st synchro ring ASSY | (24) Ball bearing |

- | |
|---------------|
| (25) Lock nut |
| (26) Shim |
| (27) Collar |

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

T1: 285 (29.1, 210)
*** 265 (27.0, 195)**

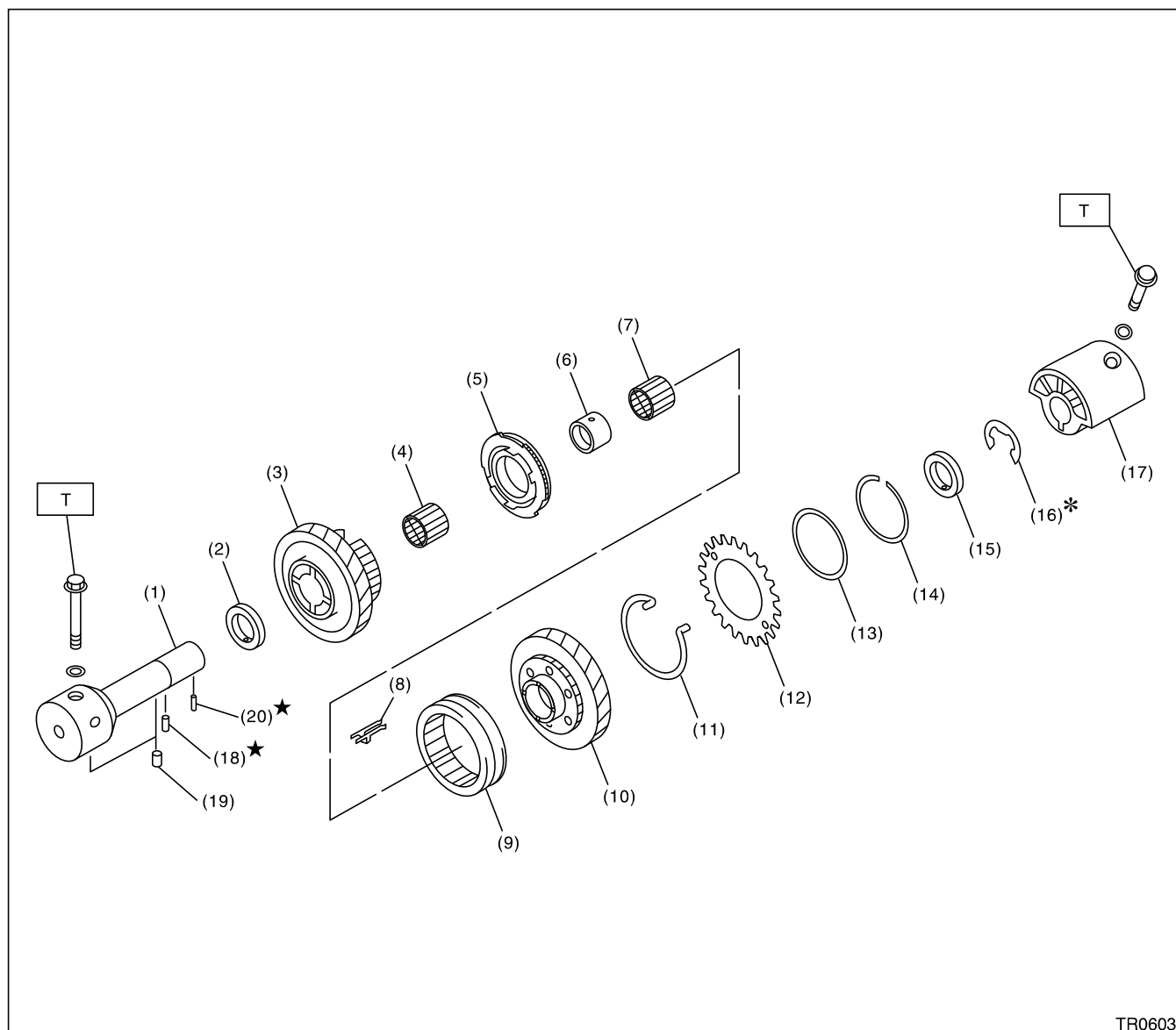
T2: 570 (58.1, 420)
*** 530 (54.0, 391)**

* Tightening torque when ST used.

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

9. REVERSE IDLER GEAR ASSY



TR0603

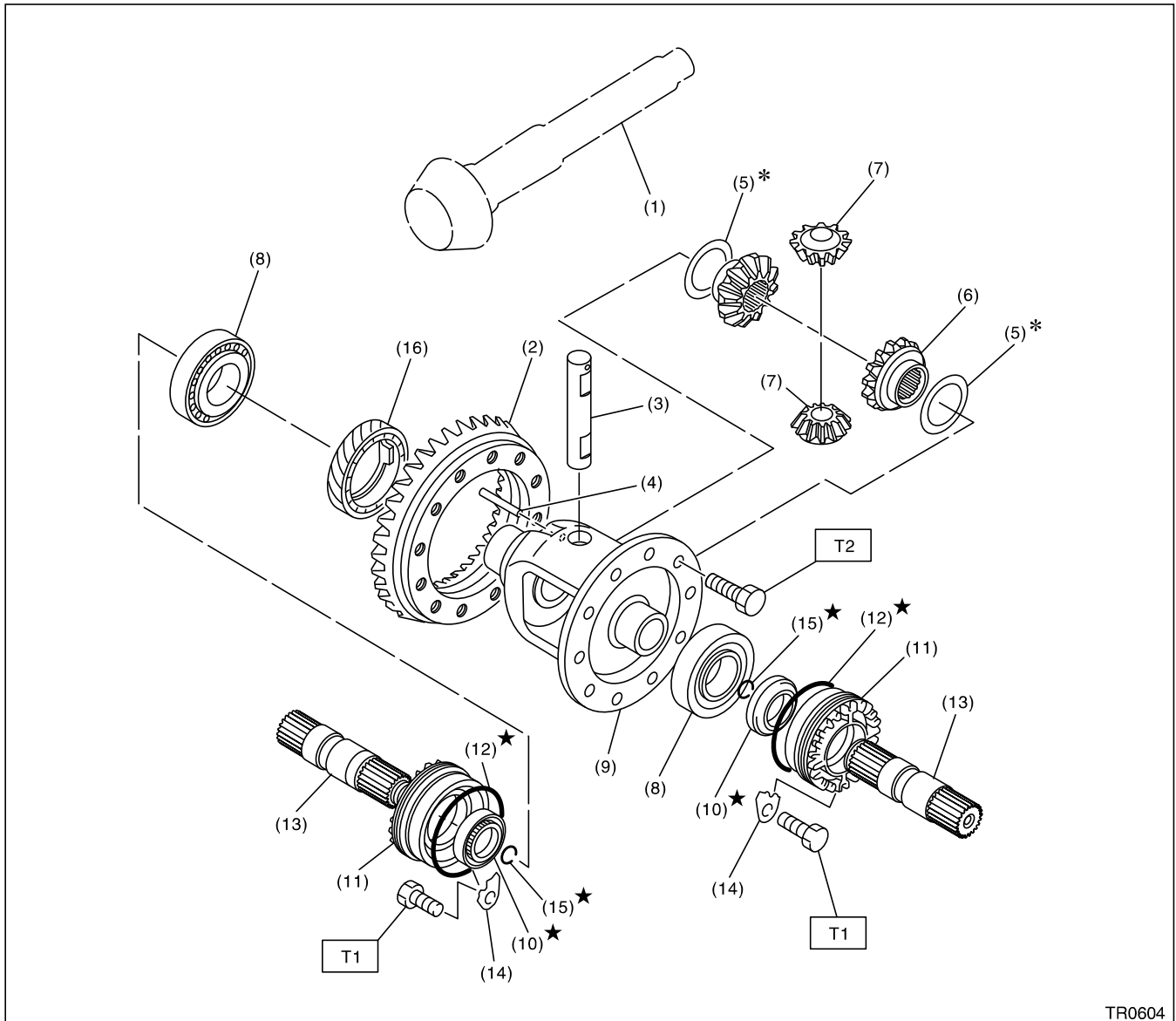
- | | | |
|-------------------------------|-----------------------------|---------------------------|
| (1) Base COMPL | (9) Reverse coupling sleeve | (17) Reverse idler holder |
| (2) Washer | (10) Reverse idler gear | (18) Spring pin |
| (3) Reverse idler gear No.2 | (11) Spring | (19) Knock pin |
| (4) Needle bearing | (12) Sub gear | (20) Spring pin |
| (5) Reverse idler synchro set | (13) Friction plate | |
| (6) Reverse idler gear bush | (14) Snap ring | |
| (7) Needle bearing | (15) Washer | |
| (8) Shifting insert | (16) Snap ring | |

Tightening torque: N-m (kgf-m, ft-lb)
T: 25 (2.5, 18.1)

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

10.FRONT DIFFERENTIAL WITHOUT LSD



TR0604

- | | | |
|-------------------------------|---------------------------------|-----------------------------|
| (1) Drive pinion shaft | (8) Roller bearing | (15) Circlip |
| (2) Hypoid driven gear | (9) Differential case | (16) Speedometer drive gear |
| (3) Pinion shaft | (10) Oil seal | |
| (4) Straight pin | (11) Differential side retainer | |
| (5) Washer | (12) O-ring | |
| (6) Differential bevel gear | (13) Axle drive shaft | |
| (7) Differential bevel pinion | (14) Retainer lock plate | |

Tightening torque: N·m (kgf-m, ft-lb)

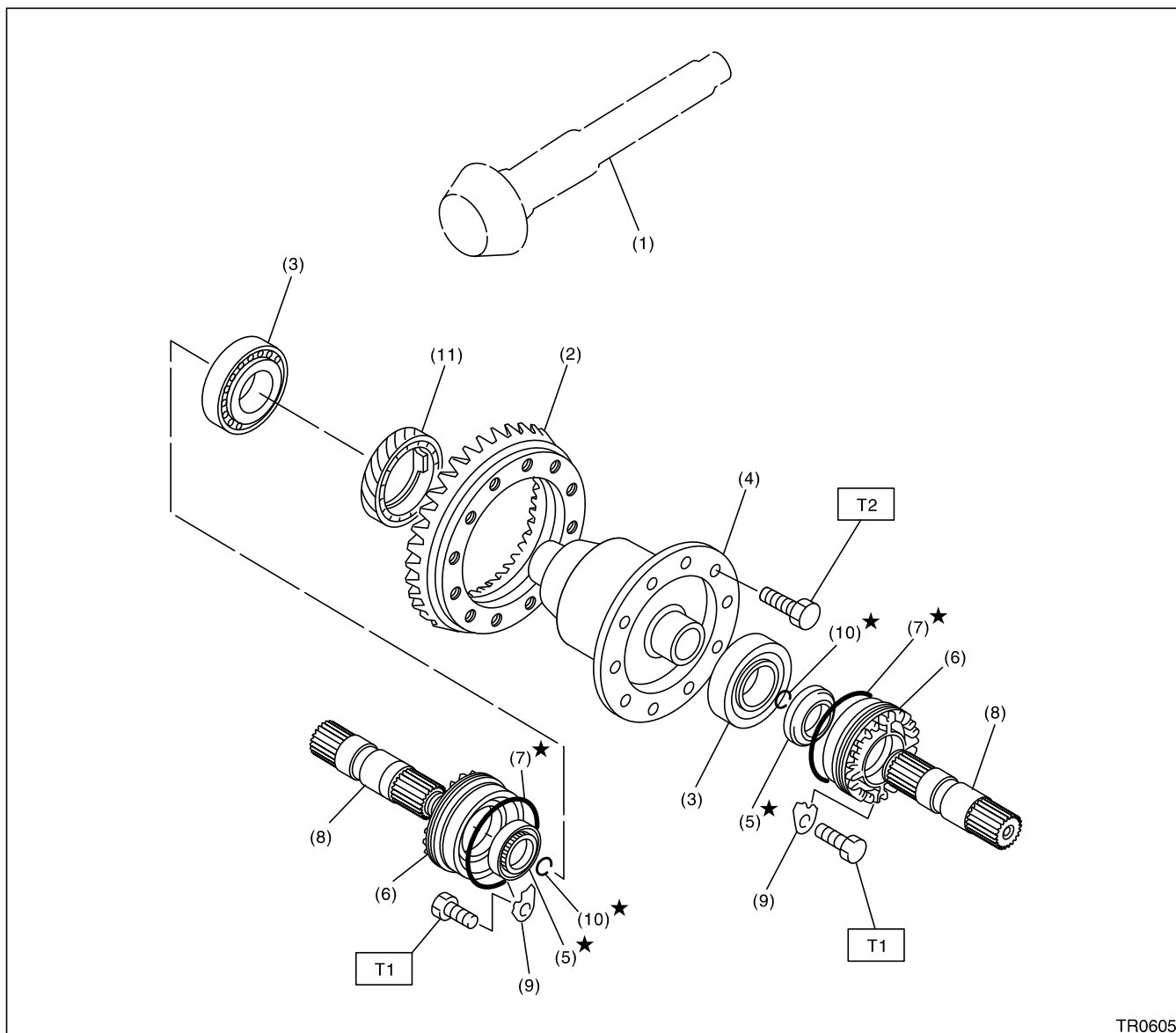
T1: 25 (2.5, 18.1)

T2: 69 (7.0, 50.9)

GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

11.FRONT DIFFERENTIAL WITH LSD



TR0605

- (1) Drive pinion shaft
- (2) Hypoid driven gear
- (3) Roller bearing
- (4) Differential case ASSY
- (5) Oil seal

- (6) Differential side retainer
- (7) O-ring
- (8) Axle drive shaft
- (9) Retainer lock plate
- (10) Circlip

- (11) Speedometer drive gear

Tightening torque: N·m (kgf-m, ft-lb)

T1: 25 (2.5, 18.1)

T2: 69 (7.0, 50.9)

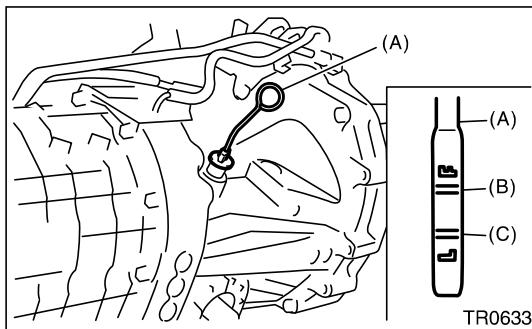
TRANSMISSION GEAR OIL

MANUAL TRANSMISSION AND DIFFERENTIAL

2. Transmission Gear Oil

A: INSPECTION

- 1) Park the vehicle on a level surface.
- 2) Turn the ignition switch to OFF, and wait until the engine cools.
- 3) Remove the oil level gauge and wipe it clean.
- 4) Reinsert the level gauge all the way. Be sure that the level gauge is correctly inserted and in the proper direction.
- 5) Pull out the oil level gauge again and check the oil level on it. If it is below the lower level, add oil through the oil level gauge hole to bring the level up to the upper level.



- (A) Oil level gauge
(B) Upper level
(C) Low level

B: REPLACEMENT

- 1) Pull out the oil level gauge.
- 2) Lift-up the vehicle.
- 3) Remove the transmission under cover.
- 4) Drain the transmission gear oil completely.

CAUTION:

Directly after the engine has been running, the transmission gear oil is hot. Be careful not to burn yourself.

NOTE:

- Tighten the transmission gear oil drain plug after draining transmission gear oil.
- Always use a new gasket.

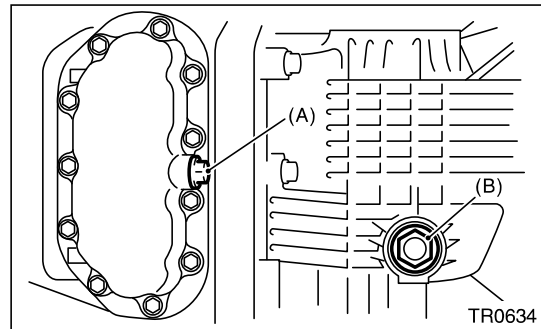
Tightening torque:

Oil pan side

44 N·m (4.5 kgf-m, 32.5 ft-lb)

Clutch housing side

70 N·m (7.1 kgf-m, 51.6 ft-lb)



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

- 5) Lower the vehicle.
- 6) Pour gear oil into the gauge hole.

Recommended gear oil:

Use GL-5 or equivalent.

Gear oil capacity:

4.1 ℓ (4.3 US qt, 3.6 Imp qt)

- 7) Check the level of the transmission gear oil.

CAUTION:

When inserting the level gauge into transmission gear, align the protrusion on the side of the top part of the level gauge with the notch in the gauge hole.

NOTE:

The level should be within the specified range marked on the gauge.