

# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

### 1. General Description

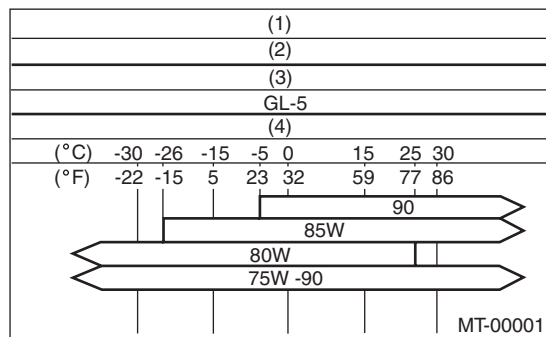
#### A: SPECIFICATION

##### 1. MANUAL TRANSMISSION AND DIFFERENTIAL

Model		Non-turbo		Turbo		
Type		5-forward speeds with synchromesh and 1-reverse				
Transmission gear ratio		1st	3.454			
		2nd	2.062		1.947	
		3rd	1.448		1.366	
		4th	1.088		0.972	
		5th	0.780		0.738	
		Rev.	3.333			
Front reduction gear	Final	Type of gear	Hypoid			
		Gear ratio	4.111		4.444	
Rear reduction gear	Transfer	Type of gear	Helical			
		Gear ratio	1.000			
	Final	Type of gear	Hypoid			
		Gear ratio	4.111		4.444	
Front differential	Type and number of gear		Straight bevel gear (Bevel pinion: 2, Bevel gear: 2)			
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		3.5 ℓ (3.7 US qt, 3.1 Imp qt)				

##### 2. TRANSMISSION GEAR OIL

###### Recommended oil



- (1) Item
- (2) Transmission gear oil
- (3) API classification
- (4) SAE viscosity No. and applicable temperature

##### 3. TRANSMISSION CASE ASSEMBLY

###### Drive pinion shim adjustment

###### Hypoid gear backlash:

**0.13 — 0.18 mm (0.0051 — 0.0071 in)**

Drive pinion shim			
Part No.	Thickness mm (in)	Part No.	Thickness mm (in)
32295AA031	0.150 (0.0059)	32295AA071	0.250 (0.0098)
32295AA041	0.175 (0.0069)	32295AA081	0.275 (0.0108)
32295AA051	0.200 (0.0079)	32295AA091	0.300 (0.0118)
32295AA061	0.225 (0.0089)	32295AA101	0.500 (0.0197)

###### Selection of main shaft rear plate

Main shaft rear plate		
Dimension "A" mm (in)	Part No.	Mark
4.00 — 4.13 (0.1575 — 0.1626)	32294AA041	1
3.87 — 3.99 (0.1524 — 0.1571)	32294AA051	2

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#### 4. DRIVE PINION ASSEMBLY

Preload adjustment of thrust bearing

##### **Starting torque:**

**0.3 — 0.8 N·m (0.03 — 0.08 kgf·m, 0.2 — 0.6 ft-lb)**

Adjusting washer No. 1	
Part No.	Thickness mm (in)
803025051	3.925 (0.1545)
803025052	3.950 (0.1555)
803025053	3.975 (0.1565)
803025054	4.000 (0.1575)
803025055	4.025 (0.1585)
803025056	4.050 (0.1594)
803025057	4.075 (0.1604)

Adjusting washer No. 2	
Part No.	Thickness mm (in)
803025059	3.850 (0.1516)
803025054	4.000 (0.1575)
803025058	4.150 (0.1634)

#### 5. REVERSE IDLER GEAR

Adjustment of reverse idler gear position

##### **Reverse idler gear to transmission case (LH) wall clearance**

**6.0 — 7.5 mm (0.236 — 0.295 in)**

Reverse shifter lever		
Part No.	Mark	Remarks
32820AA070	7	Further from case wall
32820AA080	8	Standard
32820AA090	9	Closer to the case wall

After installing a suitable reverse shifter lever, adjust the clearance using washers.

##### **Reverse idler gear to transmission case wall clearance**

**0 — 0.5 mm (0 — 0.020 in)**

Washer (20.5 × 26 × t)			
Part No.	Thickness mm (in)	Part No.	Thickness mm (in)
803020151	0.4 (0.016)	803020154	1.9 (0.075)
803020152	1.1 (0.043)	803020155	2.3 (0.091)
803020153	1.5 (0.059)	—	—

#### 6. SHIFTER FORK AND ROD

Select a suitable shifter fork so that both the coupling sleeve and reverse driven gear are positioned in the center of their synchromesh mechanisms.

##### **Rod end clearance**

###### **A: 3rd-4th — 5th**

**0.5 — 1.3 mm (0.020 — 0.051 in)**

###### **B: 1st-2nd — 3rd-4th**

**0.4 — 1.4 mm (0.016 — 0.055 in)**

1st-2nd shifter fork		
Part No.	Mark	Remarks
32804AA060	1	Approaches 1st gear by 0.2 mm (0.008 in).
32804AA070	No mark	Standard
32804AA080	3	Approaches 2nd gear by 0.2 mm (0.008 in)

3rd-4th shifter fork		
Part No.	Mark	Remarks
32810AA061	1	Approaches 4th gear by 0.2 mm (0.008 in).
32810AA071	No mark	Standard
32810AA101	3	Approaches 3rd gear by 0.2 mm (0.008 in)

5th shifter fork (non-turbo) / identifying paint (pink)		
Part No.	Mark	Remarks
32812AA201	7	Approaches 5th gear by 0.2 mm (0.008 in).
32812AA211	No mark	Standard
32812AA221	9	Moves away from 5th gear by 0.2 mm (0.008 in).

5th shifter fork (turbo) / identifying paint (blue)		
Part No.	Mark	Remarks
32812AA231	7	Approaches 5th gear by 0.2 mm (0.008 in).
32812AA241	No mark	Standard
32812AA251	9	Moves away from 5th gear by 0.2 mm (0.008 in).

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### 7. TRANSFER CASE

#### Neutral position adjustment

Adjusting shim	
Part No.	Thickness mm (in)
32190AA000	0.15 (0.0059)
32190AA010	0.30 (0.0118)

Reverse accent shaft		
Part No.	Mark	Remarks
32188AA130	S	Neutral position is closer to 1st.
32188AA140	T	Standard
32188AA150	U	Neutral position is closer to reverse gear.

#### Reverse check plate adjustment

Reverse check plate			
Part No.	Mark	Angleθ	Remarks
32189AA000	0	28°	Arm stops closer to 5th gear.
32189AA010	1	31°	Arm stops closer to 5th gear.
33189AA020	2	34°	Arm stops in the center.
32189AA030	3	37°	Arm stops closer to reverse gear.
32189AA040	4	40°	Arm stops closer to reverse gear.

### 8. EXTENSION ASSEMBLY

#### Preload of the taper roller bearing (amount of standard protrusion):

**0.15 — 0.20 mm (0.006 — 0.008 in)**

#### NOTE:

Be sure that the amount of preload is within the standard value.

Thrust washer (50 × 61 × t)	
Part No.	Thickness mm (in)
803050060	0.50 (0.0197)
803050061	0.55 (0.0217)
803050062	0.60 (0.0236)
803050063	0.65 (0.0256)
803050064	0.70 (0.0276)
803050065	0.75 (0.0295)
803050066	0.80 (0.0315)
803050067	0.85 (0.0335)
803050068	0.90 (0.0354)
803050069	0.95 (0.0374)
803050070	1.00 (0.0394)
803050071	1.05 (0.0413)
803050072	1.10 (0.0433)
803050073	1.15 (0.0453)

Thrust washer (50 × 61 × t)	
Part No.	Thickness mm (in)
803050074	1.20 (0.0472)
803050075	1.25 (0.0492)
803050076	1.30 (0.0512)
803050077	1.35 (0.0531)
803050078	1.40 (0.0551)
803050079	1.45 (0.0571)

#### Thrust washer to center differential side clearance:

**0.15 — 0.35 mm (0.0059 — 0.0138 in)**

Thrust washer	
Part No.	Thickness mm (in)
803036050	0.9 (0.035)
803036054	1.0 (0.039)
803036051	1.1 (0.043)
803036055	1.2 (0.047)
803036052	1.3 (0.051)
803036056	1.4 (0.055)
803036053	1.5 (0.059)
803036057	1.6 (0.063)
803036058	1.7 (0.067)

### 9. FRONT DIFFERENTIAL

#### Bevel gear to pinion backlash:

**0.13 — 0.18 mm (0.0051 — 0.0071 in)**

Washer (38.1 × 50 × t)			
Part No.	Thickness mm (in)	Part No.	Thickness mm (in)
803038021	0.925 — 0.950 (0.0364 — 0.0374)	803038023	1.025 — 1.050 (0.0404 — 0.0413)
803038022	0.975 — 1.000 (0.0384 — 0.0394)	—	—

### 10. TRANSFER DRIVE GEAR

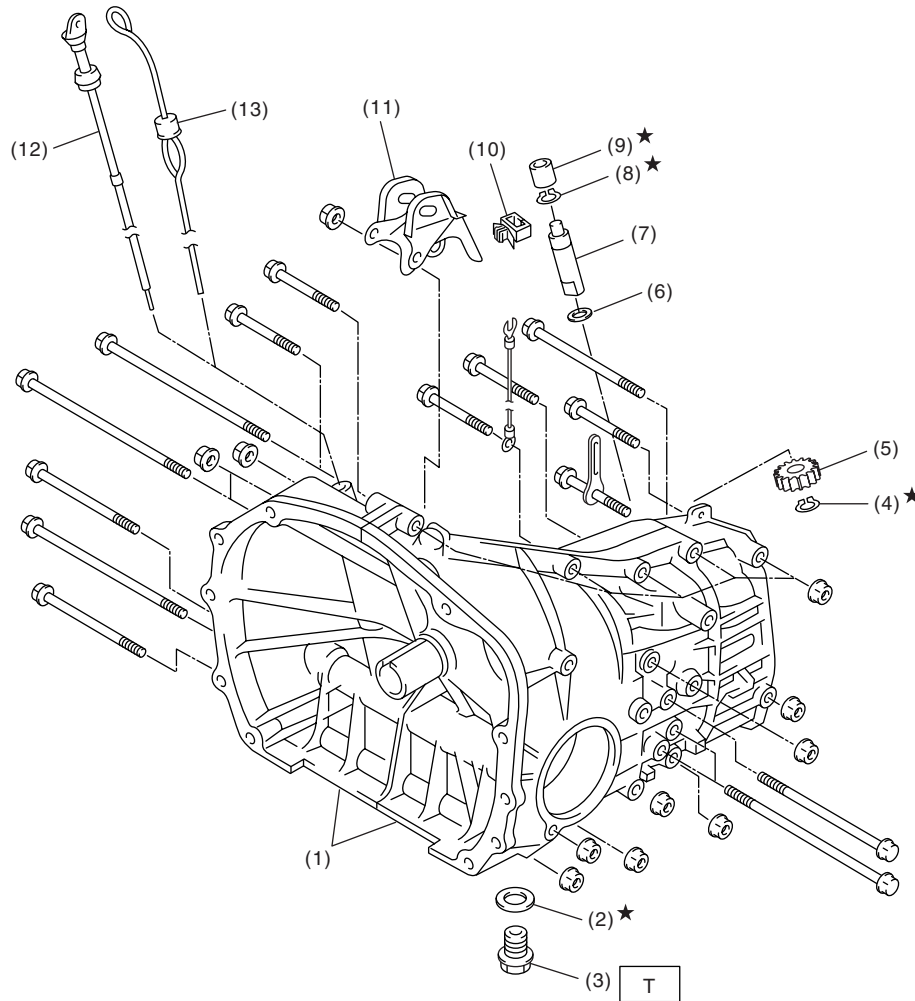
#### Snap ring (Outer-30) to ball bearing inner race clearance:

**0.01 — 0.15 mm (0.0004 — 0.0059 in)**

Snap ring (Outer-30)	
Part No.	Thickness mm (in)
805030041	1.53 (0.0602)
805030042	1.65 (0.0650)
805030043	1.77 (0.0697)

### B: COMPONENT

#### 1. TRANSMISSION CASE



MT-01395

- |                             |  |                                    |
|-----------------------------|--|------------------------------------|
| (1) Transmission case ASSY  | (7) Speedometer shaft                  | (13) Oil level gauge (Turbo model) |
| (2) Gasket                  | (8) Snap ring (Outer)                  |                                    |
| (3) Drain plug              | (9) Oil seal                           |                                    |
| (4) Snap ring (Outer)       | (10) Clamp                             |                                    |
| (5) Speedometer driven gear | (11) Pitching stopper bracket          |                                    |
| (6) Washer                  | (12) Oil level gauge (Non-turbo model) |                                    |

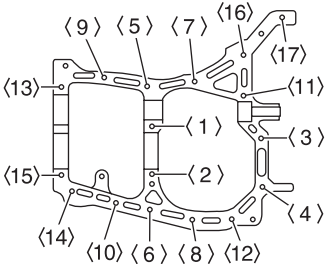
**Tightening torque: N·m (kgf-m, ft-lb)**

**T: 44 (4.5, 32.5) (Aluminum gasket)**  
**70 (7.1, 51.6) (Copper gasket)**

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TRANSMISSION CASE TIGHTENING TORQUE

 MT-00003	Bolt No.	Bolt size	Tightening torque: N·m (kgf-m, ft-lb)
	<5> — <15>	8 mm	25 (2.5, 18.1)
	<1> — <4> <16>, <17>	10 mm	39 (4.0, 28.9)

## MANUAL TRANSMISSION AND DIFFERENTIAL

This exploded view diagram illustrates the assembly of a mechanical component, likely a transmission or gearbox. The parts are numbered 1 through 37. The assembly is shown in three main sections, separated by dashed lines, indicating the order of assembly from left to right.

- Top Section:** Shows the input shaft assembly (1) being inserted into the housing. It includes a series of gears (2, 3, 4, 5) and a larger gear (6) that meshes with the input shaft.
- Middle Section:** Shows the intermediate shaft assembly (7) being inserted into the housing. It includes a series of gears (8, 9, 10, 11, 12, 13, 14) and a larger gear (15) that meshes with the intermediate shaft. A torque specification **T1** is indicated for the assembly of the intermediate shaft.
- Bottom Section:** Shows the output shaft assembly (16) being inserted into the housing. It includes a series of gears (17, 18, 19, 20, 21, 22, 23, 24\*) and a larger gear (25) that meshes with the output shaft. A torque specification **T2** is indicated for the assembly of the output shaft.

The diagram also includes three torque specifications:

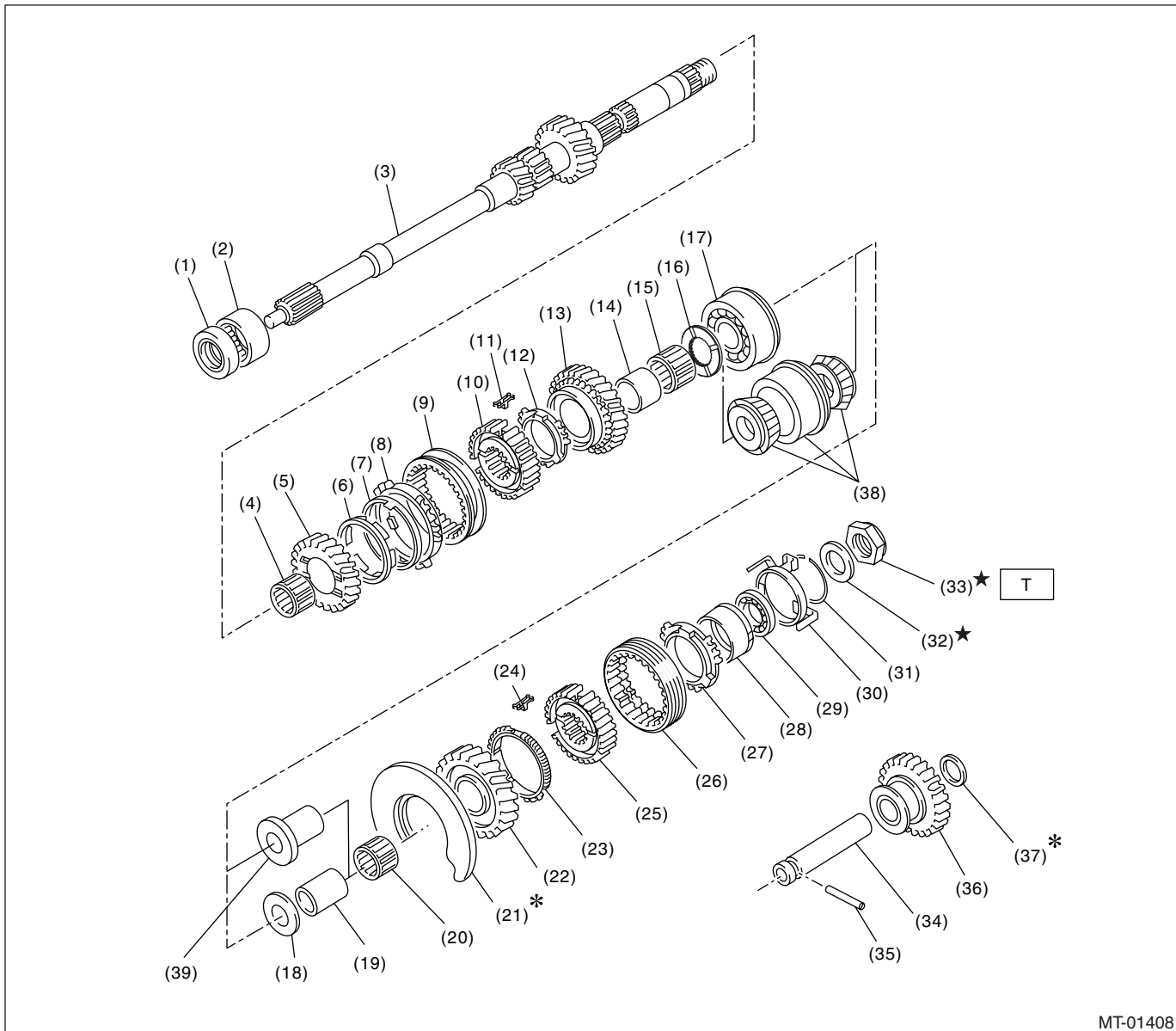
- T1:** Indicated for the assembly of the intermediate shaft.
- T2:** Indicated for the assembly of the output shaft.
- T3:** Indicated for the assembly of the output shaft housing.

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

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## MANUAL TRANSMISSION AND DIFFERENTIAL

### 3. MAIN SHAFT ASSEMBLY (SINGLE-RANGE)



MT-01408

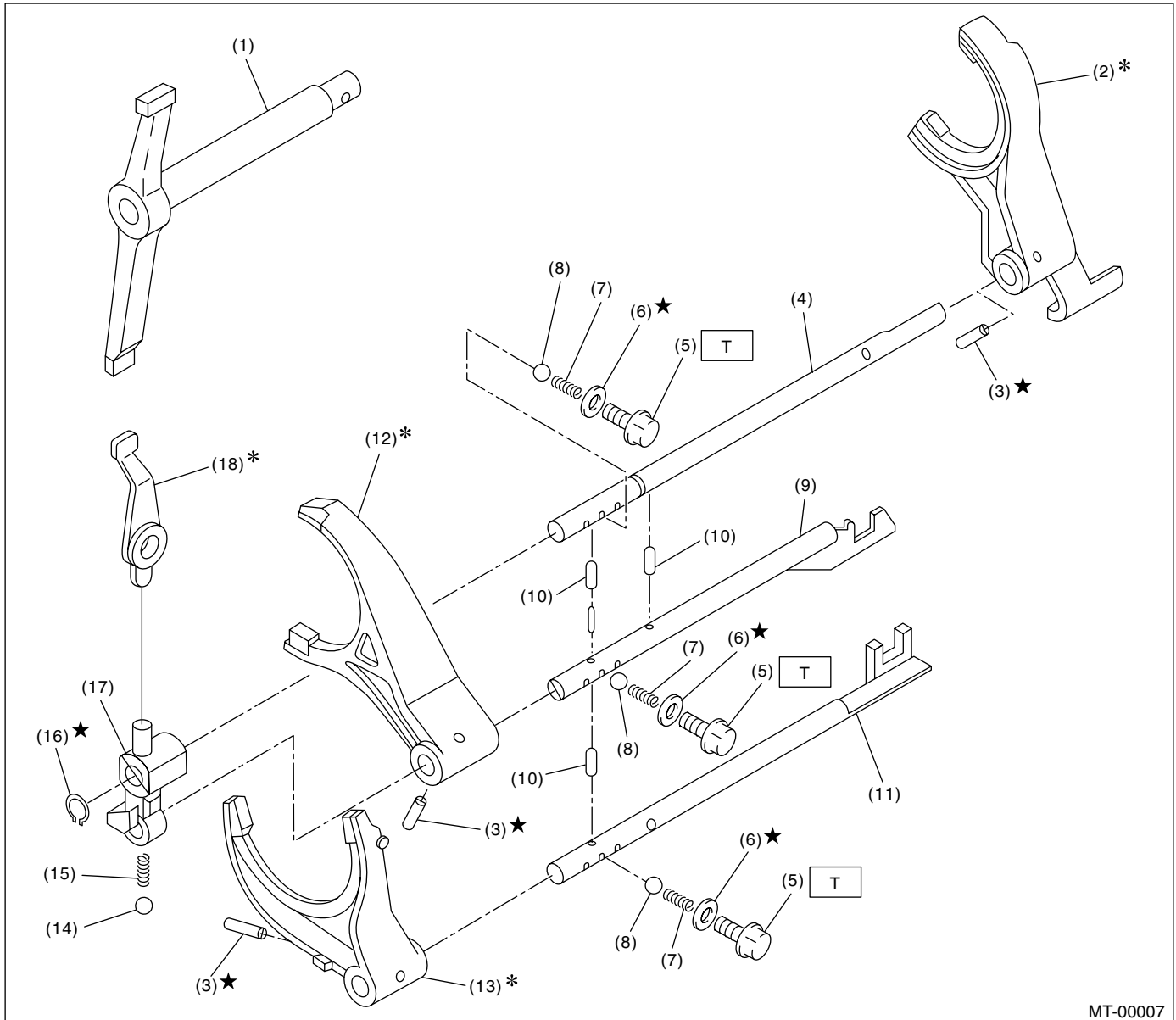
(1) Oil seal	(16) 4th gear thrust washer	(29) Ball bearing
(2) Needle bearing	(17) Ball bearing (Non-turbo model)	(30) Synchro cone stopper
(3) Transmission main shaft	(18) 5th gear thrust washer (Non-turbo model)	(31) Snap ring
(4) Needle bearing	(19) 5th needle bearing race (Non-turbo model)	(32) Lock washer
(5) 3rd drive gear	(20) Needle bearing	(33) Lock nut
(6) Inner baulk ring	(21) Main shaft rear plate	(34) Reverse idler gear shaft
(7) 3rd synchro cone	(22) 5th drive gear	(35) Straight pin
(8) Outer baulk ring	(23) 5th baulk ring	(36) Reverse idler gear
(9) 3rd-4th coupling sleeve	(24) 5th-Rev shifting insert key	(37) Washer
(10) 3rd-4th synchronizer hub	(25) 5th-Rev synchronizer hub	(38) Taper roller bearing (Turbo model)
(11) 3rd-4th shifting insert key	(26) 5th-Rev coupling sleeve	(39) 5th needle bearing race (Turbo model)
(12) 4th baulk ring	(27) Reverse baulk ring	
(13) 4th drive gear	(28) Reverse synchro cone	
(14) 4th needle bearing race		
(15) Needle bearing		

**Tightening torque: N·m (kgf·m, ft·lb)**  
**T: 120 (12.2, 88.5)**

# General Description

MANUAL TRANSMISSION AND DIFFERENTIAL

## 4. SHIFTER FORK AND SHIFTER ROD



MT-00007

- |                          |                           |                            |
|--------------------------|---------------------------|----------------------------|
| (1) Shifter arm          | (8) Ball                  | (15) Spring                |
| (2) 5th shifter fork     | (9) 3rd-4th fork rod      | (16) Snap ring (Outer)     |
| (3) Straight pin         | (10) Interlock plunger    | (17) Reverse fork rod arm  |
| (4) Reverse fork rod     | (11) 1st-2nd fork rod     | (18) Reverse shifter lever |
| (5) Checking ball plug   | (12) 3rd-4th shifter fork |                            |
| (6) Gasket               | (13) 1st-2nd shifter fork |                            |
| (7) Checking ball spring | (14) Ball                 |                            |

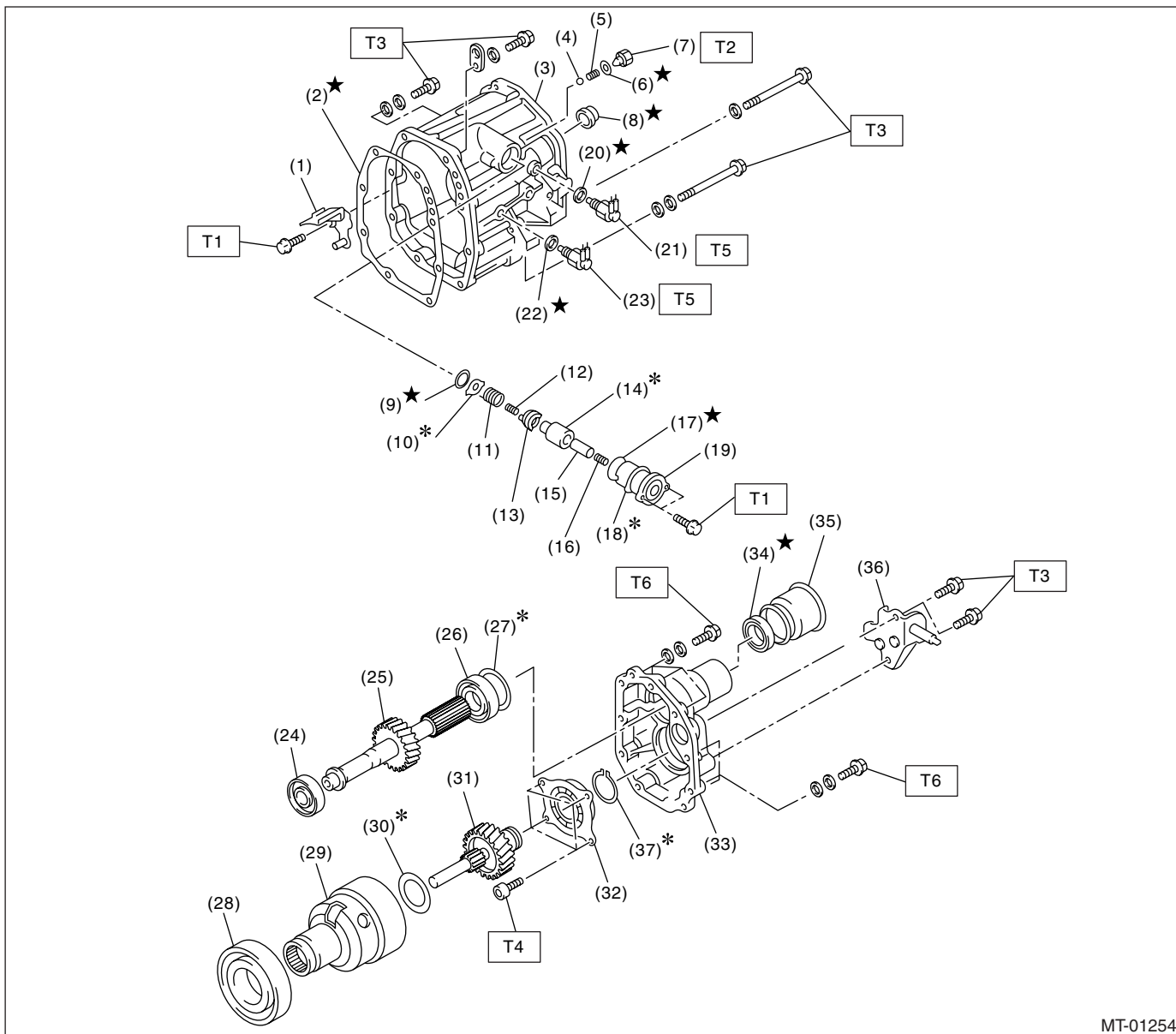
**Tightening torque: N·m (kgf-m, ft-lb)**  
**T: 20 (2.0, 14.5)**



# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

### 5. TRANSFER CASE AND EXTENSION



MT-01254

- |                            |                              |                          |
|----------------------------|------------------------------|--------------------------|
| (1) Oil guide              | (16) Return spring           | (31) Transfer drive gear |
| (2) Gasket                 | (17) O-ring                  | (32) Ball bearing        |
| (3) Transfer case          | (18) Adjusting select shim   | (33) Extension case      |
| (4) Ball                   | (19) Reverse check sleeve    | (34) Oil seal            |
| (5) Reverse accent spring  | (20) Gasket                  | (35) Dust cover          |
| (6) Gasket                 | (21) Neutral position switch | (36) Shift bracket       |
| (7) Plug                   | (22) Gasket                  | (37) Snap ring           |
| (8) Oil seal               | (23) Back-up light switch    |                          |
| (9) Snap ring (Inner)      | (24) Roller bearing          |                          |
| (10) Reverse check plate   | (25) Transfer driven gear    |                          |
| (11) Reverse check spring  | (26) Roller bearing          |                          |
| (12) Reverse return spring | (27) Adjusting washer        |                          |
| (13) Reverse check cam     | (28) Ball bearing            |                          |
| (14) Reverse accent shaft  | (29) Center differential     |                          |
| (15) Return spring cap     | (30) Adjusting washer        |                          |

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

**T1: 6.4 (0.65, 4.7)**

**T2: 9.75 (1.0, 7.2)**

**T3: 24.5 (2.5, 18.1)**

**T4: 26 (2.7, 20)**

**T5: 32.3 (3.3, 23.8)**

**T6: 40 (4.1, 30)**

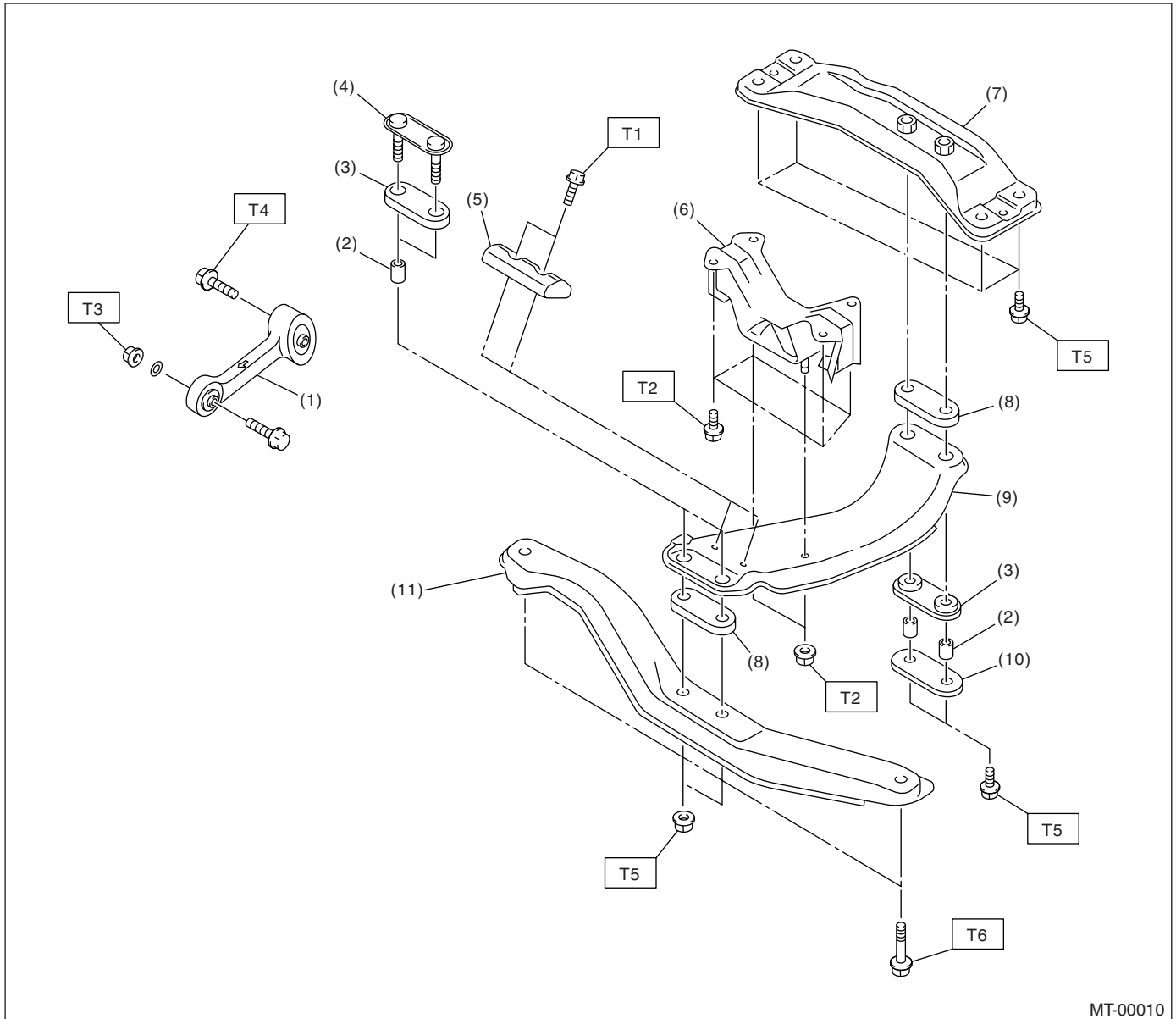
## MANUAL TRANSMISSION AND DIFFERENTIAL

- Tightening torque: N·m (kgf·m, ft·lb)**  
**T1: 25 (2.5, 18.1)**  
**T2: 62 (6.3, 45.6)**

# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

### 7. TRANSMISSION MOUNTING



MT-00010

- |                                  |                        |
|----------------------------------|------------------------|
| (1) Pitching stopper             | (8) Cushion D          |
| (2) Spacer                       | (9) Center crossmember |
| (3) Cushion C                    | (10) Rear plate        |
| (4) Front plate                  | (11) Front crossmember |
| (5) Dynamic damper (Turbo model) |                        |
| (6) Rear cushion rubber          |                        |
| (7) Rear crossmember             |                        |

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

***T1: 7.5 (0.76, 5.5)***

***T2: 35 (3.6, 26)***

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

***T4: 58 (5.9, 43)***

***T5: 70 (7.1, 51)***

***T6: 140 (14.3, 103)***

## General Description

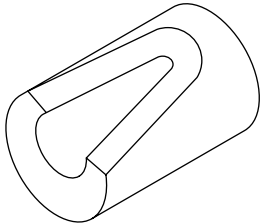
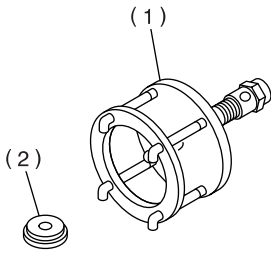
### MANUAL TRANSMISSION AND DIFFERENTIAL

#### C: CAUTION

- Wear work clothing, including a cap, protective goggles and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust and dirt.
- 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.
- Be careful not to burn yourself, because each part on the vehicle is hot after running.
- Use SUBARU genuine gear oil, grease or the equivalent. Do not mix fluid, 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 rigid racks at the specified points.
- Apply gear oil onto sliding or revolution surfaces before installation.
- Replace deformed or damaged snap rings with new ones.
- Before installing O-rings or oil seals, apply sufficient amount of gear oil 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 a cushioning material such as wood blocks, aluminum plates, or shop cloth between the part and the vise.
- Avoid damaging the mating surface of the case.
- Before applying liquid gasket, completely remove the liquid gasket.

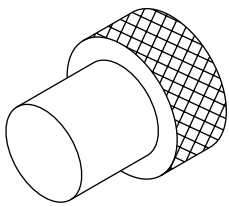
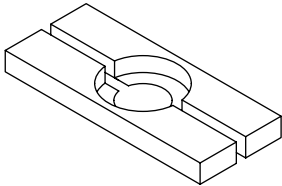
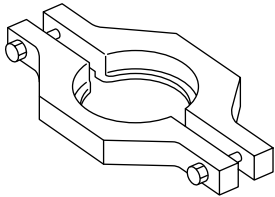
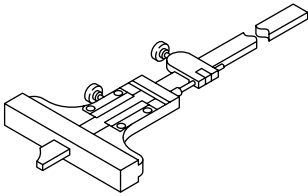
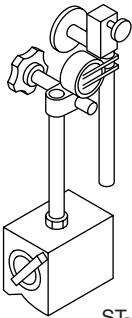
#### D: PREPARATION TOOL

##### 1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-399411700	399411700	ACCENT BALL INSTALLER	Used for installing reverse shifter rail arm.
 ST-899524100	899524100	PULLER SET	Used for removing and installing the roller bearing (Differential). (1) Puller (2) Cap

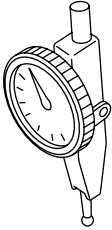
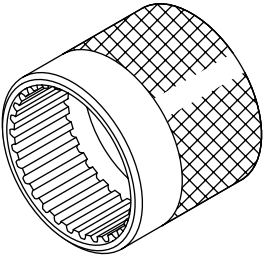
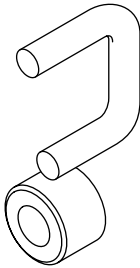
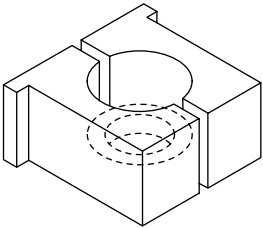
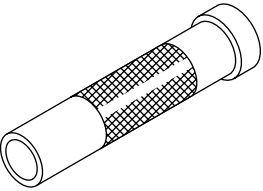
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 ST-399780104	399780104	WEIGHT	Used for measuring preload on the roller bearing.
 ST-498077000	498077000	REMOVER	Used for removing the roller bearing of the drive pinion shaft.
 ST-498077300	498077300	CENTER DIFFERENTIAL BEARING REMOVER	Used for removing the center differential cover ball bearing.
 ST-498147000	498147000	DEPTH GAUGE	Used for adjusting the main shaft axial end play.
 ST-498247001	498247001	MAGNET BASE	<ul style="list-style-type: none"> <li>• Used for measuring backlash between the side gear and pinion, and the hypoid gear.</li> <li>• Used with the DIAL GAUGE (498247100).</li> </ul>

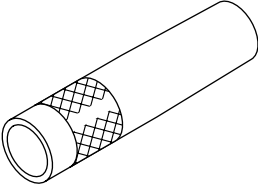
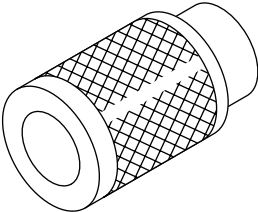
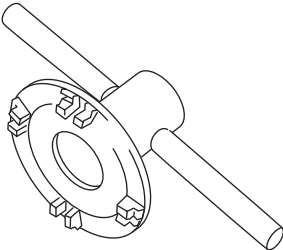
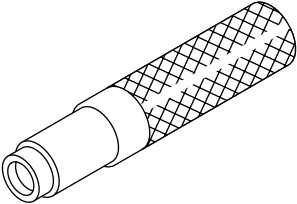
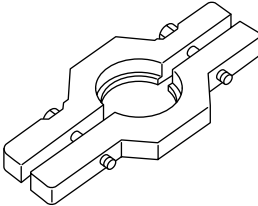
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## MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498247100</p>	498247100	DIAL GAUGE	<ul style="list-style-type: none"> <li>Used for measuring backlash between the side gear and pinion, and the hypoid gear.</li> <li>Used with the MAGNET BASE (498247001).</li> </ul>
 <p>ST-498247400</p>	498427400	STOPPER	Used for securing the drive pinion shaft assembly and the driven gear assembly when removing the drive pinion shaft assembly lock nut.
 <p>ST-498787100</p>	498787100	MAIN SHAFT STOPPER	Used for removing and installing the lock nut of the transmission main shaft.
 <p>ST-498937000</p>	498937000	TRANSMISSION HOLDER	Used for removing and installing the lock nut of the transmission main shaft.
 <p>ST-499277100</p>	499277100	BUSHING 1-2 INSTALLER	<ul style="list-style-type: none"> <li>Used for installing the 1st driven gear thrust plate and the 1st-2nd driven gear bushing.</li> <li>Used for installing the roller bearing outer race to the differential case.</li> </ul>

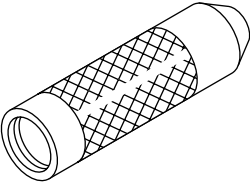
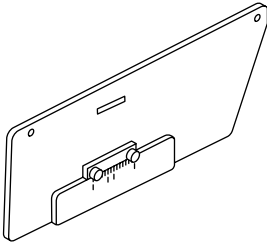
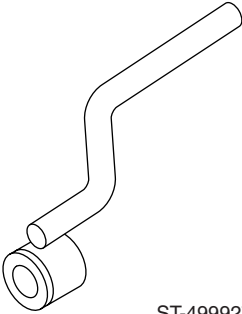
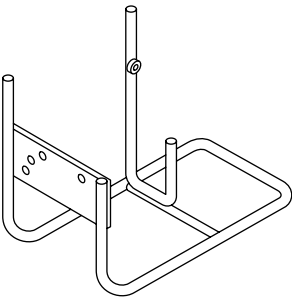
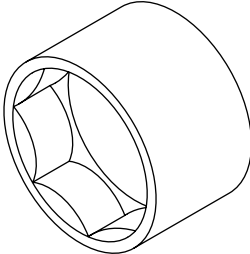
# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-499277200	499277200	INSTALLER	Used for press-fitting the 2nd driven gear, roller bearings and the 5th driven gear onto the driven shaft.
 ST-499757002	499757002	INSTALLER	<ul style="list-style-type: none"> <li>Used for installing the snap ring (OUT 25), and ball bearing (25 × 26 × 17).</li> <li>Used for installing the bearing cone of the transfer driven gear (extension core side).</li> </ul>
 ST18630AA010	18630AA010	WRENCH COMPL RETAINER	<ul style="list-style-type: none"> <li>Used for removing and installing the differential side retainer.</li> <li>WRENCH ASSEMBLY (499787000) can also be used.</li> </ul>
 ST-499827000	499827000	PRESS	Used for installing the speedometer oil seal when attaching the speedometer cable to the transmission.
 ST-499857000	499857000	5TH DRIVEN GEAR REMOVER	Used for removing the 5th driven gear.

# General Description

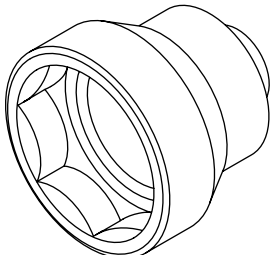
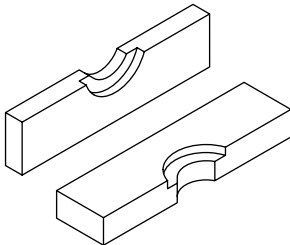
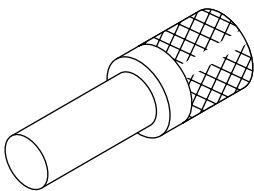
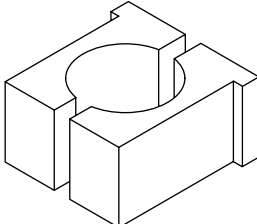
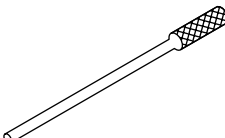
## MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-499877000</p>	499877000	RACE 4-5 INSTALLER	<ul style="list-style-type: none"> <li>Used for installing the 4th needle bearing race and ball bearing onto the transmission main shaft.</li> <li>Used with REMOVER (899714110).</li> </ul>
 <p>ST-499917500</p>	499917500	DRIVE PINION GAUGE ASSY	Used for adjusting the drive pinion shim.
 <p>ST-499927100</p>	499927100	HANDLE	Used for fitting the transmission main shaft.
 <p>ST-499937100</p>	499937100	TRANSMISSION STAND	Used for disassembling and assembling the transmission.
 <p>ST-499987003</p>	499987003	SOCKET WRENCH (35)	Used for removing and installing the driven pinion lock nut and main shaft lock nut.



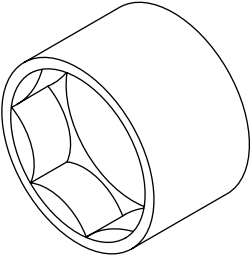
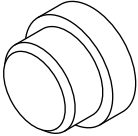
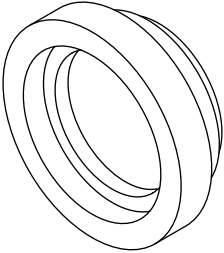
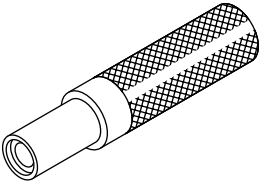
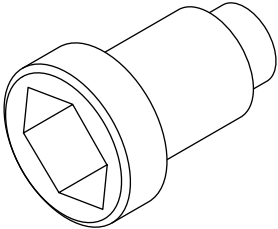
# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-499987300</p>	499987300	SOCKET WRENCH (50)	Used for removing and installing the driven gear assembly lock nut.
 <p>ST-899714110</p>	899714110	REMOVER	Used for fixing the transmission main shaft, drive pinion, rear drive shaft.
 <p>ST-899864100</p>	899864100	REMOVER	Used for removing transmission main shaft and drive pinion parts.
 <p>ST-899884100</p>	899884100	HOLDER	Used for tightening the lock nut on the sleeve.
 <p>ST-899904100</p>	899904100	REMOVER	Used for removing and installing the straight pin.

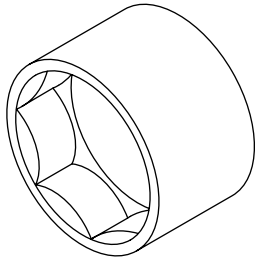
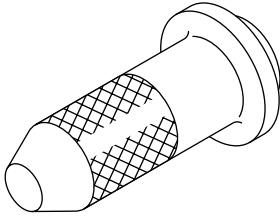
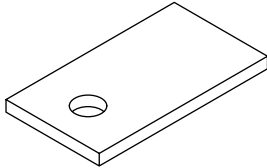
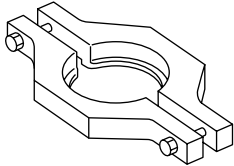
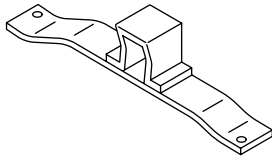
# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-899988608	899988608	SOCKET WRENCH (27)	Used for removing and installing the drive pinion lock nut.
 ST-398497701	398497701	ADAPTER	<ul style="list-style-type: none"> <li>Used for installing roller bearing onto the differential case.</li> <li>Used with the INSTALLER (499277100).</li> </ul>
 ST-499587000	499587000	INSTALLER	Used for installing the driven gears to the driven shaft.
 ST-899824100	899824100	PRESS	Used for installing the speedometer shaft oil seal.
 ST-499987100	499987100	SOCKET WRENCH (35)	Used for removing and installing the drive pinion lock nut.

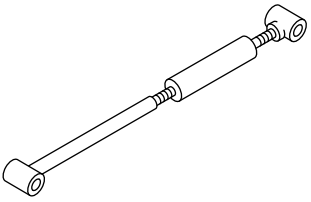
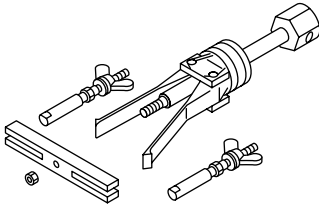
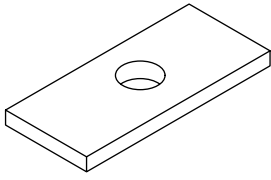
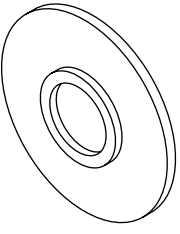
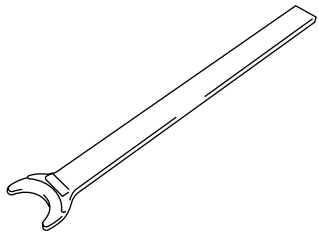
# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-899984103</p>	899984103	SOCKET WRENCH (35)	Used for removing and installing the drive pinion lock nut.
 <p>ST-498057300</p>	498057300	INSTALLER	Used for installing the extension oil seal.
 <p>ST-498255400</p>	498255400	PLATE	Used for measuring backlash.
 <p>ST-498077400</p>	498077400	SYNCHRONIZER CONE REMOVER	<ul style="list-style-type: none"> <li>• Used for removing the synchronizer cone of the main shaft.</li> <li>• Used for removing 5th driven gear of the drive pinion shaft.</li> </ul>
 <p>ST41099AA010</p>	41099AA010	ENGINE SUPPORT BRACKET	Used for supporting the engine.

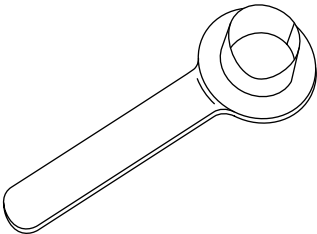
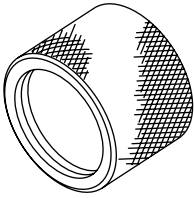
# General Description

## MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST41099AA020	41099AA020	ENGINE SUPPORT	Used for supporting the engine.
 ST-398527700	398527700	PULLER ASSY	<ul style="list-style-type: none"> <li>• Used for removing the extension case roller bearing.</li> <li>• Used for removing the front differential side retainer bearing outer race.</li> <li>• Used for removing the front differential side retainer oil seal.</li> </ul>
 ST-398643600	398643600	GAUGE	Used for measuring the total end play, extension end play and drive pinion height.
 ST-398177700	398177700	INSTALLER	<ul style="list-style-type: none"> <li>• Used for installing the bearing cone of transfer driven gear (transfer case side).</li> <li>• Used for installing the ball bearing of the transfer drive gear.</li> </ul>
 ST28399SA000	28399SA000	FRONT DRIVE SHAFT REMOVER	Used for removing the front drive shaft. (common for the MT model, and the AT model)

## General Description

### MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST28399SA010	28399SA010	FRONT DRIVE SHAFT OIL SEAL PROTECTOR	Used for protecting the oil seal from damage when inserting the front drive shaft.
 ST18675AA000	18675AA000	DIFFERENTIAL SIDE OIL SEAL INSTALLER	Used for installing the differential side retainer oil seal.

## 2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.