

## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

## 1. General Description

### A: SPECIFICATIONS

#### 1. MANUAL TRANSMISSION AND DIFFERENTIAL

ItemType		Model			
		BRIGHTON	L	GT	GT
Type		5-forward speeds with synchromesh and 1 reverse			
Transmission gear ratio		1st	3.454		
		2nd	2.062		
		3rd	1.448		
		4th	1.088		
		5th	0.780	0.871	
		Reverse	3.333		
Front reduction gear	Final	Type of gear	Hypoid		
		Gear ratio	3.900	4.111	
Rear reduction gear	Transfer	Type of gear	Helical		
		Gear ratio	1.000		
	Final	Type of gear	Hypoid		
		Gear ratio	3.900	4.111	
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)	
(2)	
(3)	
GL-5	
(4)	
(°C)	-30 -26 -15 -5 0 15 25 30
(°F)	-22 -15 5 23 32 59 77 86
MT-00001	

- (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 reverse idler gear to transmission case wall clearance to within 0 to 0.5 mm (0 to 0.020 in) using washers.

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

Rod end clearance

A: 1st-2nd — 3rd-4th

0.4 — 1.4 mm (0.016 — 0.055 in)

B: 3rd-4th — 5th

0.5 — 1.3 mm (0.020 — 0.051 in)

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

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

5th shifter fork		
Part No.	Mark	Remarks
32812AA201	7	Approach to 5th gear by 0.2 mm (0.008 in)
32812AA211	No mark	Standard
32812AA221	9	Become distant from 5th gear by 0.2 mm (0.008 in)

#### 7. TRANSFER CASE

Neutral position adjustment

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

Reverse accent shaft		
Part No.	Mark	Remarks
32188AA090	3	Neutral position is closer to 1st.
32188AA100	0	Standard
32188AA110	1	Neutral position is closer to reverse gear.

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#### Reverse check plate adjustment

Reverse check plate			
Part No.	Mark	Angle $\theta$	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

Thrust washer (50 × 61 × t) to taper roller bearing table outer race side clearance  
0.2 — 0.3 mm (0.008 — 0.012 in)

#### NOTE:

Value of clearance must be within the specified range.

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)
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)	—	—

Pinion shaft to axle drive shaft clearance  
0 — 0.2 mm (0 — 0.008 in)

Snap ring (Outer-28)			
Part No.	Thickness mm (in)	Part No.	Thickness mm (in)
805028011	1.05 (0.0413)	805028012	1.20 (0.0472)

### 10. TRANSFER DRIVE GEAR

Snap ring (Outer-30) to ball bearing clearance  
0.01 — 0.15 mm (0.004 — 0.0050 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)

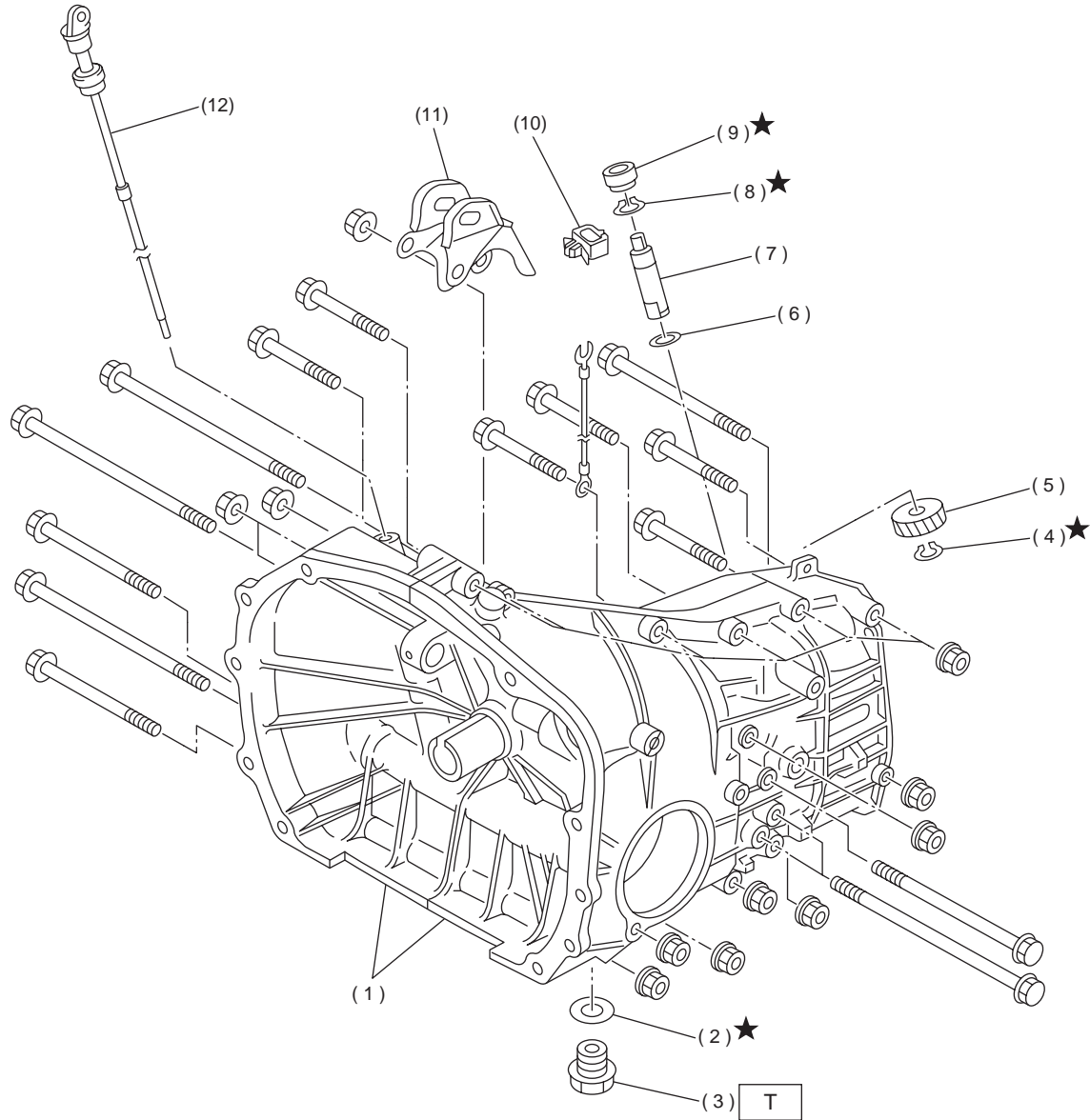
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## GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

### B: COMPONENT

#### 1. TRANSMISSION CASE



MT-00335

- (1) Transmission case ASSY
- (2) Gasket
- (3) Drain plug
- (4) Snap ring (Outer)
- (5) Speedometer driven gear

- (6) Washer
- (7) Speedometer shaft
- (8) Snap ring (Outer)
- (9) Oil seal
- (10) Clamp

- (11) Pitching stopper bracket
- (12) Oil level gauge

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

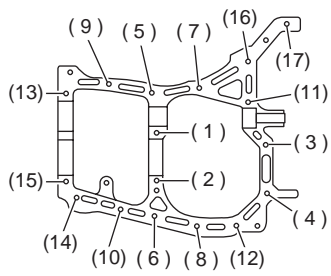
**T: 44 (4.5, 32.5)**

**MT-5**

## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

- Transmission case tightening torque

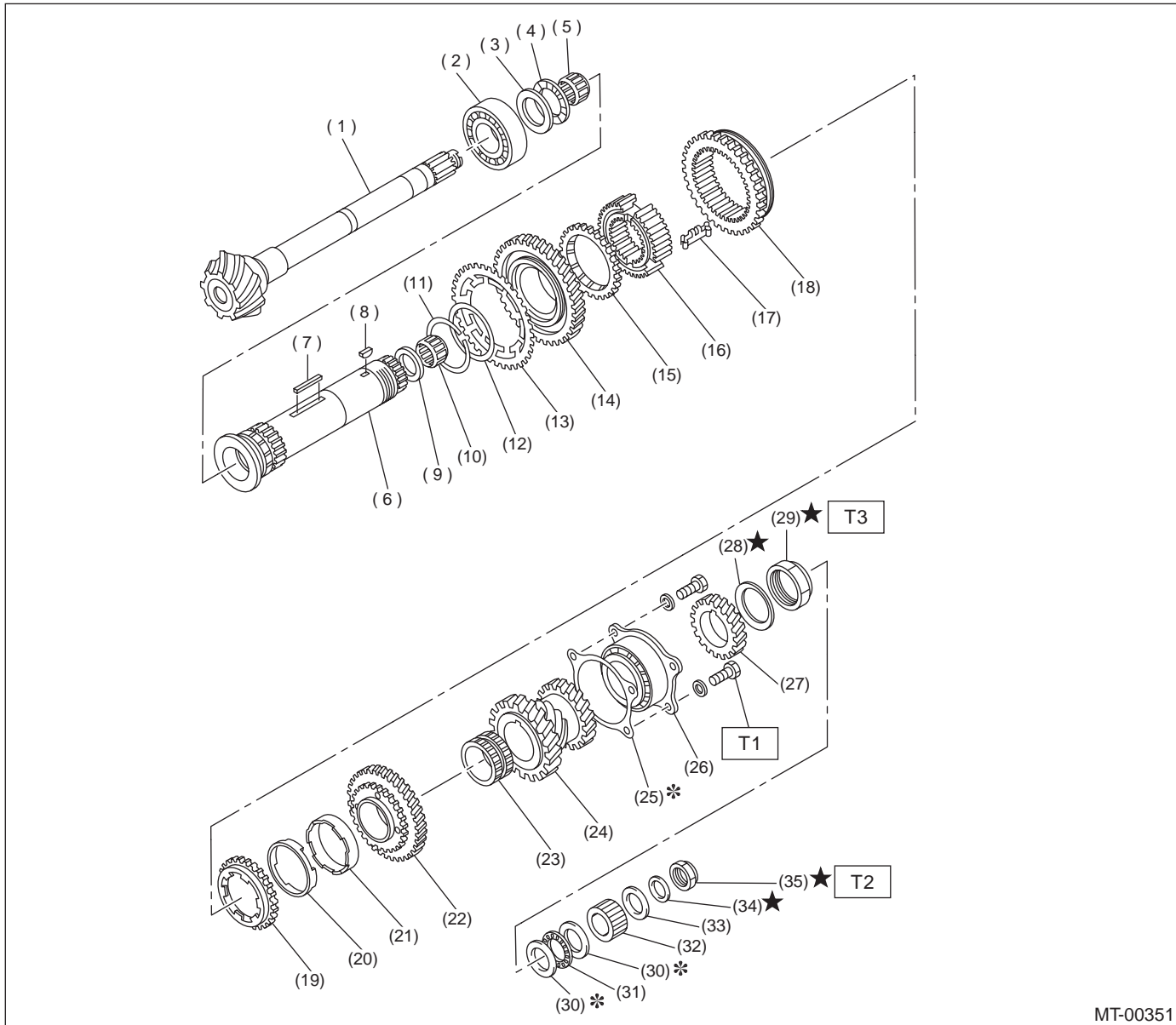
 MT-00003	Bolt No.	Bolt size	Tightening torque: N·m (kgf-m, ft-lb)
		<5> to <15>	8 mm
	<1> to <4> <16>, <17>	10 mm	39 (4.0, 28.9)

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## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

## 2. DRIVE PINION ASSEMBLY



MT-00351

- |                         |                               |                                     |
|-------------------------|-------------------------------|-------------------------------------|
| (1) Drive pinion shaft  | (15) Baulk ring               | (29) Lock nut                       |
| (2) Roller bearing      | (16) 1st-2nd synchronizer hub | (30) Washer                         |
| (3) Washer              | (17) Insert key               | (31) Thrust bearing                 |
| (4) Thrust bearing      | (18) Reverse driven gear      | (32) Differential bevel gear sleeve |
| (5) Needle bearing      | (19) Outer baulk ring         | (33) Washer                         |
| (6) Driven shaft        | (20) Synchro cone             | (34) Lock washer                    |
| (7) Key                 | (21) Inner baulk ring         | (35) Lock nut                       |
| (8) Woodruff key        | (22) 2nd driven gear          |                                     |
| (9) Drive pinion collar | (23) 2nd driven gear bush     |                                     |
| (10) Needle bearing     | (24) 3rd-4th driven gear      |                                     |
| (11) Snap ring (Outer)  | (25) Driven pinion shim       |                                     |
| (12) Washer             | (26) Roller bearing           |                                     |
| (13) Sub gear           | (27) 5th driven gear          |                                     |
| (14) 1st driven gear    | (28) Lock washer              |                                     |

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

**T1: 30 (3.1, 22.4)**

**T2: 120 (12.2, 88.2)**

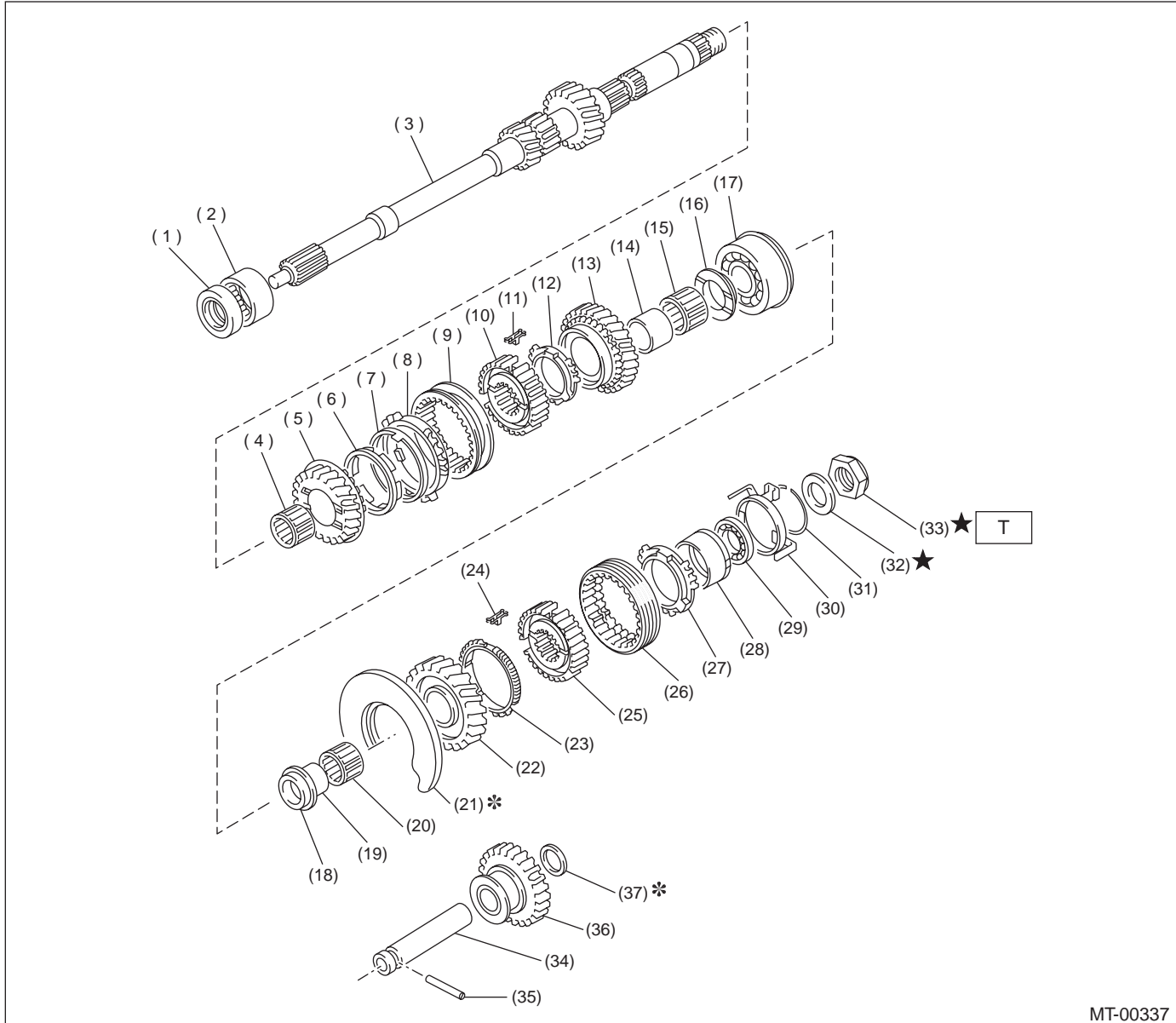
**T3: 260 (26.5, 191.7)**

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## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

#### 3. MAIN SHAFT ASSEMBLY



- (1) Oil seal
- (2) Needle bearing
- (3) Transmission main shaft
- (4) Needle bearing
- (5) 3rd drive gear
- (6) Inner baulk ring
- (7) 3rd synchro cone
- (8) Outer baulk ring
- (9) 3rd-4th coupling sleeve
- (10) 3rd-4th synchronizer hub
- (11) 3rd-4th shifting insert key
- (12) 4th baulk ring
- (13) 4th drive gear
- (14) 4th needle bearing race

- (15) Needle bearing
- (16) 4th gear thrust washer
- (17) Ball bearing
- (18) 5th gear thrust washer
- (19) 5th needle bearing race
- (20) Needle bearing
- (21) Main shaft rear plate
- (22) 5th drive gear
- (23) 5th baulk ring
- (24) 5th-Rev shifting insert key
- (25) 5th-Rev synchronizer hub
- (26) 5th-Rev coupling sleeve
- (27) Rev baulk ring
- (28) Rev synchro cone

- (29) Ball bearing
- (30) Synchro cone stopper
- (31) Snap ring
- (32) Lock washer
- (33) Lock nut
- (34) Reverse idler gear shaft
- (35) Straight pin
- (36) Reverse idler gear
- (37) Washer

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

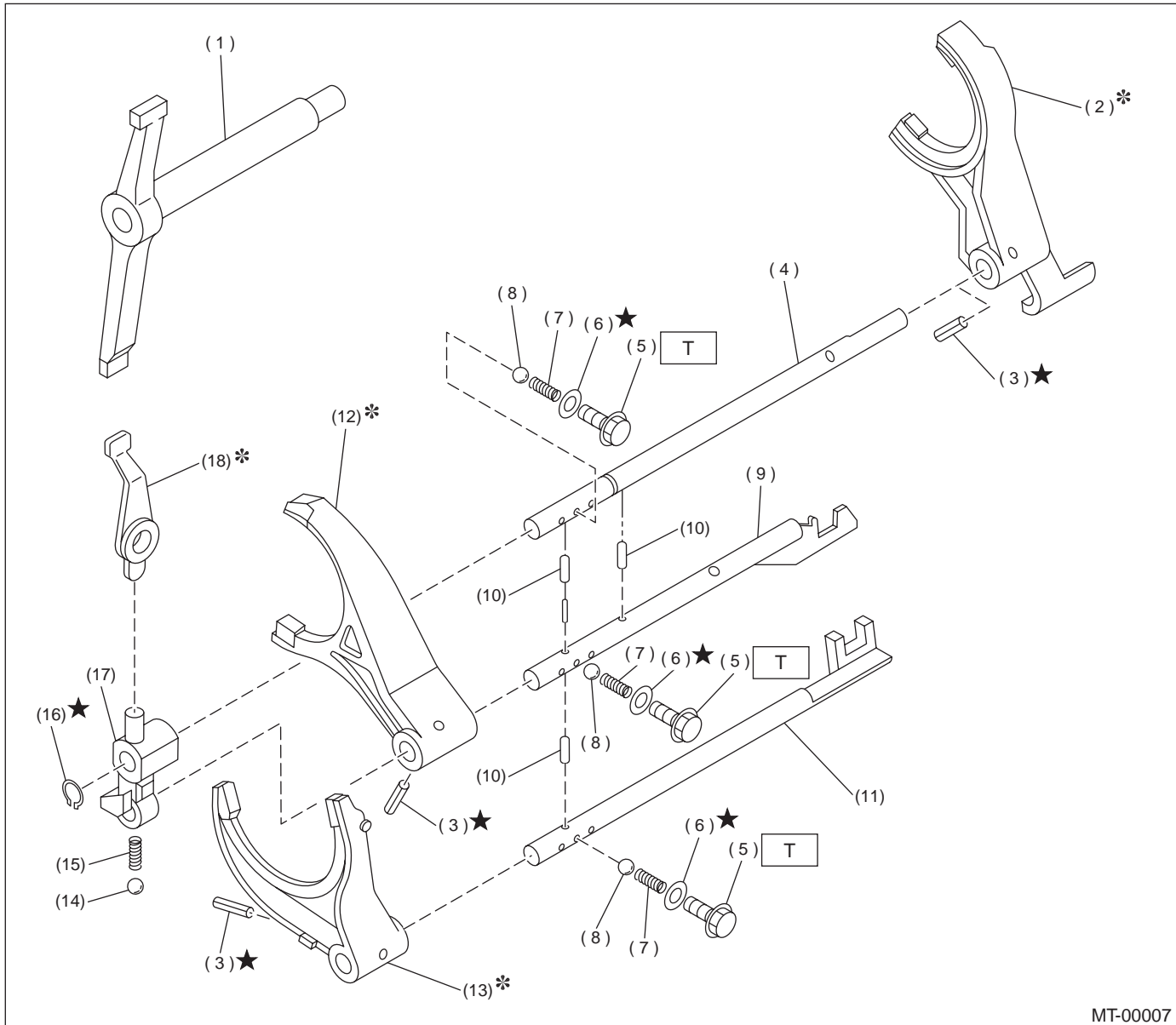
**T: 120 (12.2, 88.2)**

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## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

#### 4. SHIFTER FORK AND SHIFTER ROD



MT-00007

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

- |                            |
|----------------------------|
| (17) Reverse fork rod arm  |
| (18) Reverse shifter lever |

**Tightening torque: N·m (kgf·m, ft·lb)**  
**T: 20.0 (2.0, 14.5)**

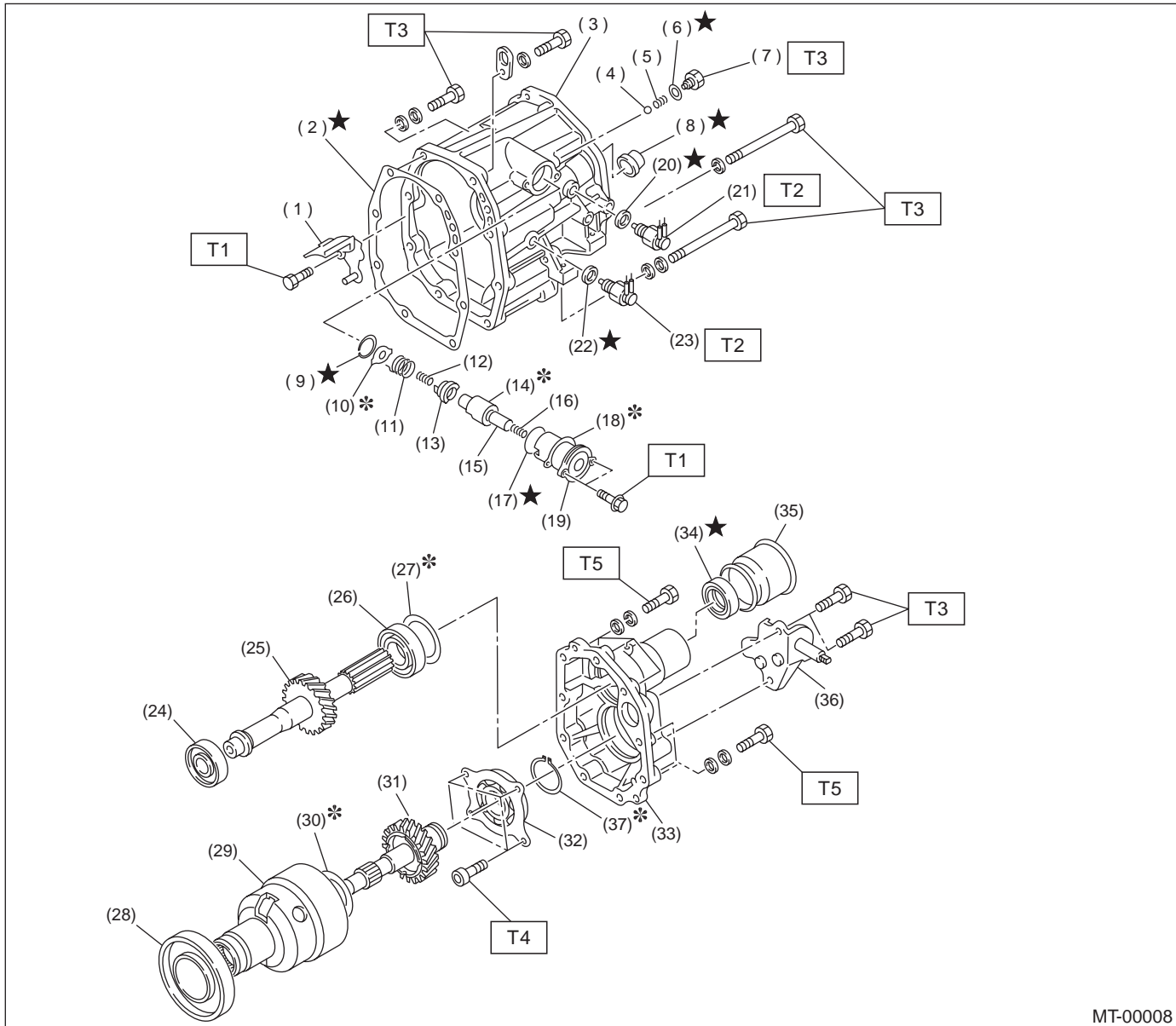
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## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

#### 5. TRANSFER CASE AND EXTENSION



MT-00008

- |                            |                            |                          |
|----------------------------|----------------------------|--------------------------|
| (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 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 (0.994, 7.2)**

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

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

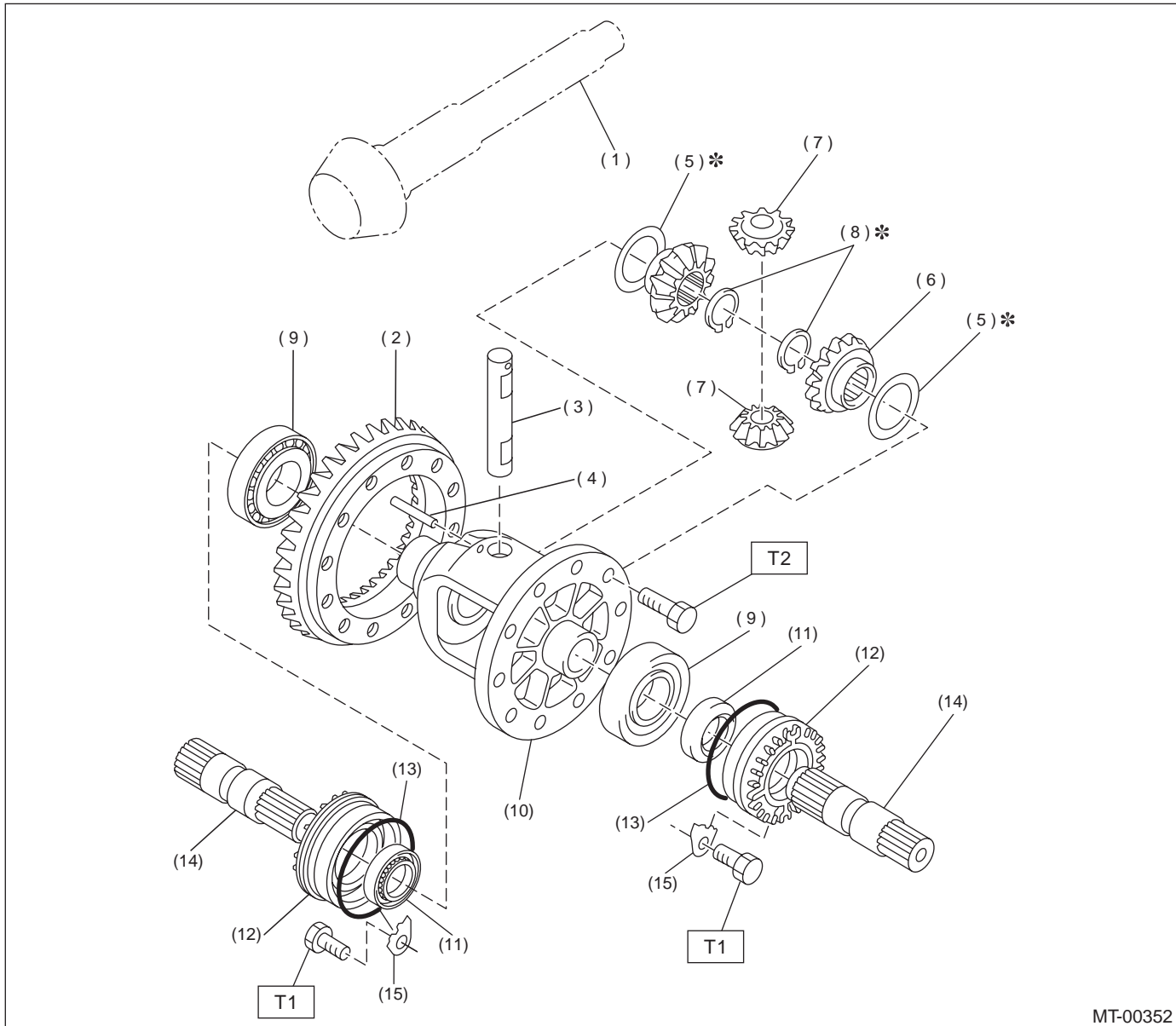
**T5: 40 (4.1, 29.7)**

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## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

#### 6. FRONT DIFFERENTIAL



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

- (15) Retainer lock plate

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

**T1: 25 (2.5, 18.1)**

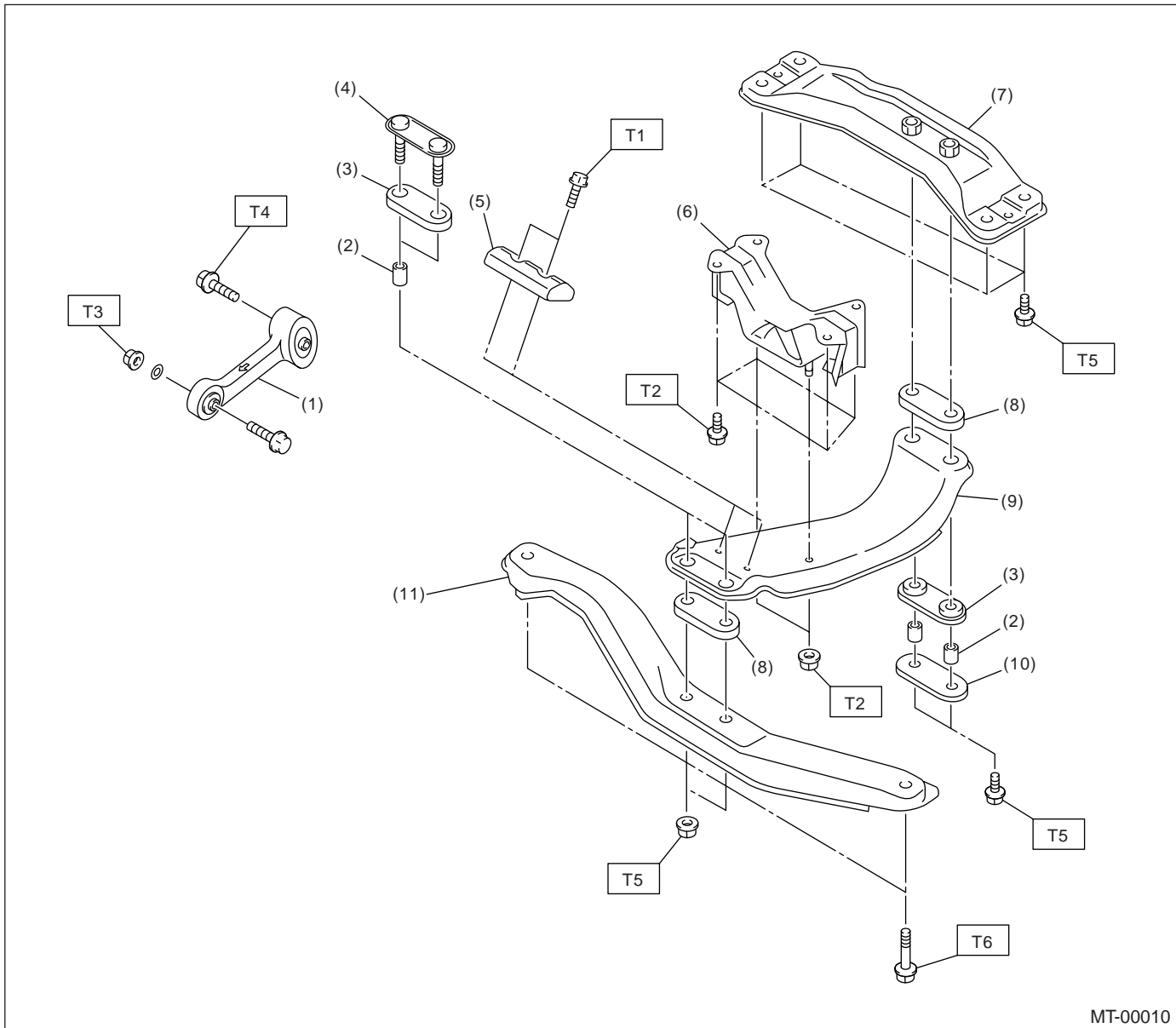
**T2: 62 (6.3, 45.6)**

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## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

#### 7. TRANSMISSION MOUNTING



MT-00010

- |                                    |                         |
|------------------------------------|-------------------------|
| (1) Pitching stopper               | (6) Rear cushion rubber |
| (2) Spacer                         | (7) Rear crossmember    |
| (3) Cushion C                      | (8) Cushion D           |
| (4) Front plate                    | (9) Center crossmember  |
| (5) Dynamic damper (OUTBACK model) | (10) Rear plate         |
|                                    | (11) Front 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, 37)**

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

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

**T6: 75 (7.6, 55)**

**T7: 140 (14.3, 103)**

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## GENERAL DESCRIPTION

MANUAL TRANSMISSION AND DIFFERENTIAL

### C: CAUTION

- Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation, and disassembly.
- Keep the disassembled parts in order and protect them from dust or dirt.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly and replacement.
- When disassembling the case and other light alloy parts, use a plastic hammer to force it apart. Do not pry it apart with a screwdriver or other tool.
- Be careful not to burn your hands, because each part on the vehicle is hot after running.
- Use SUBARU genuine gear oil, grease etc. or the equivalent. Do not mix gear oil, grease etc. with that of another grade or from other manufacturers.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or safety stands at the specified points.
- Apply gear oil onto sliding or revolution surfaces before installation.
- Replace deformed or otherwise damaged snap rings with new ones.
- Before installing O-rings or oil seals, apply sufficient amount of 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 cushioning material such as wood blocks, aluminum plate, or shop cloth between the part and the vise.
- Avoid damaging the mating surface of the case.
- Before applying sealant, completely remove the old seal.

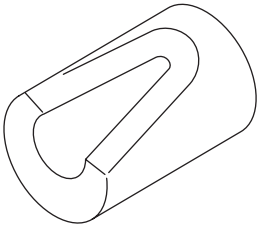
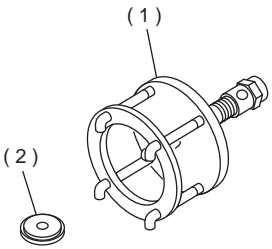
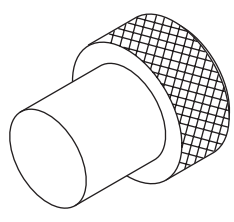
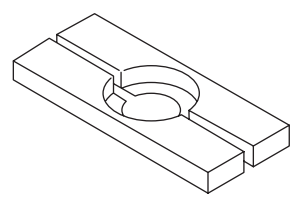
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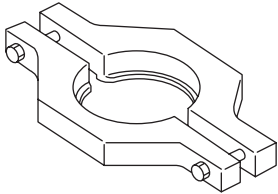
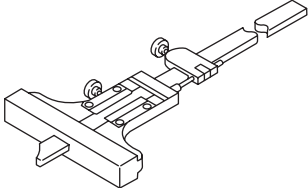
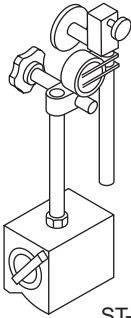
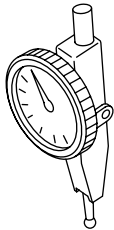
#### D: PREPARATION TOOL

##### 1. SPECIAL TOOLS

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-399411700</p>	399411700	ACCENT BALL INSTALLER	Used for installing reverse shifter rail arm.
 <p style="text-align: center;">ST-899524100</p>	899524100	PULLER SET	Used for removing and installing roller bearing (Differential). (1) PULLER (2) CAP
 <p style="text-align: center;">ST-399780104</p>	399780104	WEIGHT	Used for measuring preload on roller bearing.
 <p style="text-align: center;">ST-498077000</p>	498077000	5TH DRIVEN GEAR REMOVER	Used for removing roller bearing of drive pinion shaft.

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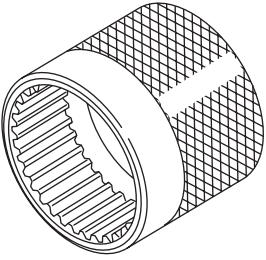
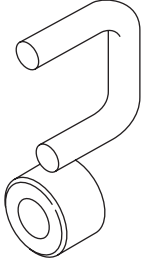
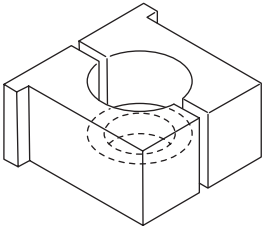
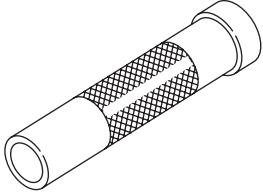
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ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-498077300</p>	498077300	CENTER DIFFERENTIAL BEARING REMOVER	Used for removing the center differential cover ball bearing.
 <p>ST-498147000</p>	498147000	DEPTH GAUGE	Used for adjusting main shaft axial end play.
 <p>ST-498247001</p>	498247001	MAGNET BASE	<ul style="list-style-type: none"> <li>Used for measuring backlash between side gear and pinion, and hypoid gear.</li> <li>Used with DIAL GAUGE (498247100).</li> </ul>
 <p>ST-498247100</p>	498247100	DIAL GAUGE	<ul style="list-style-type: none"> <li>Used for measuring backlash between side gear and pinion, and hypoid gear.</li> <li>Used with MAGNET BASE (498247001).</li> </ul>

**MT-15**

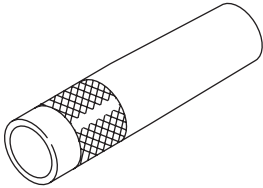
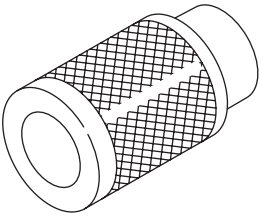
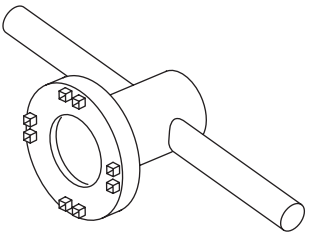
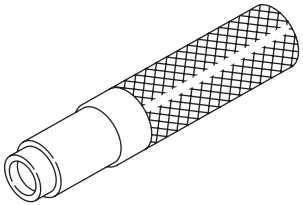
## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-498427100</p>	498427100	STOPPER	Used for securing the drive pinion shaft assembly and driven gear assembly when removing the drive pinion shaft assembly lock nut.
 <p style="text-align: center;">ST-498787100</p>	498787100	MAIN SHAFT STOPPER	Used for removing and installing transmission main shaft lock nut.
 <p style="text-align: center;">ST-498937000</p>	498937000	TRANSMISSION HOLDER	Used for removing and installing transmission main shaft lock nut.
 <p style="text-align: center;">ST-499277100</p>	499277100	BUSH 1-2 INSTALLER	<ul style="list-style-type: none"> <li>• Used for installing 1st driven gear thrust plate and 1st-2nd driven gear bush.</li> <li>• Used for installing roller bearing outer races to differential case.</li> </ul>

**MT-16**

**GENERAL DESCRIPTION****MANUAL TRANSMISSION AND DIFFERENTIAL**

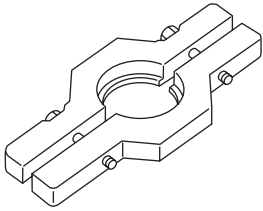
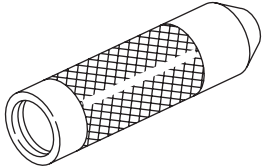
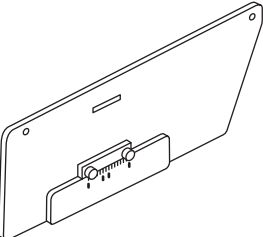
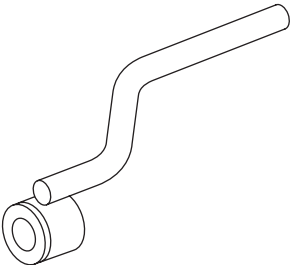
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-499277200	499277200	INSTALLER	Used for press-fitting the 2nd driven gear, roller bearings, and 5th driven gear onto the driven shaft.
 ST-499757002	499757002	INSTALLER	<ul style="list-style-type: none"> <li>Used for installing snap ring (OUT 25), and ball bearing (25 x 26 x 17).</li> <li>Used for installing bearing cone of transfer driven gear (extension core side).</li> </ul>
 ST-499787000	499787000	WRENCH ASSY	Used for removing and installing differential side retainer.
 ST-499827000	499827000	PRESS	Used for installing speedometer oil seal when installing speedometer cable to transmission.

**MT-17**



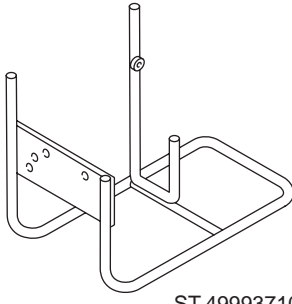
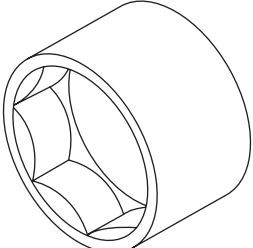
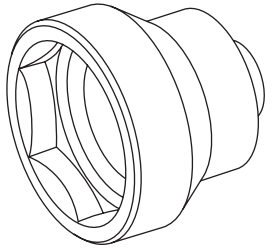
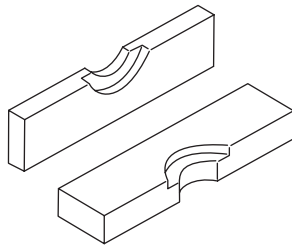
## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-499857000	499857000	5TH DRIVEN GEAR REMOVER	Used for removing 5th driven gear.
 ST-499877000	499877000	RACE 4-5 INSTALLER	<ul style="list-style-type: none"> <li>• Used for installing 4th needle bearing race and ball bearing onto transmission main shaft.</li> <li>• Used with REMOVER (899714110).</li> </ul>
 ST-499917500	499917500	DRIVE PINION GAUGE ASSY	Used for adjusting drive pinion shim.
 ST-499927100	499927100	HANDLE	Used for fitting transmission main shaft.

**MT-18**

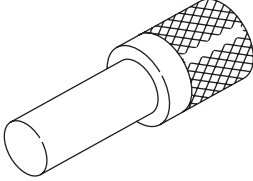
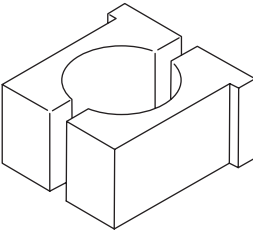
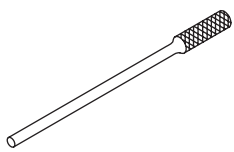
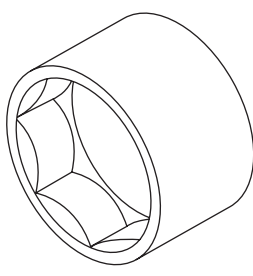
**GENERAL DESCRIPTION****MANUAL TRANSMISSION AND DIFFERENTIAL**

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-499937100</p>	499937100	TRANSMISSION STAND SET	Stand used for transmission disassembly and assembly.
 <p>ST-499987003</p>	499987003	SOCKET WRENCH (35)	Used for removing and installing driven pinion lock nut and main shaft lock nut.
 <p>ST-499987300</p>	499987300	SOCKET WRENCH (50)	Used for removing and installing driven gear assembly lock nut.
 <p>ST-899714110</p>	899714110	REMOVER	Used for fixing transmission main shaft, drive pinion, rear drive shaft.

**MT-19**

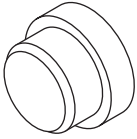
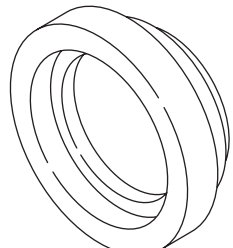
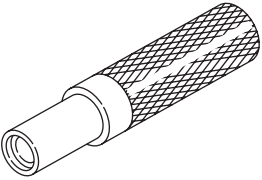
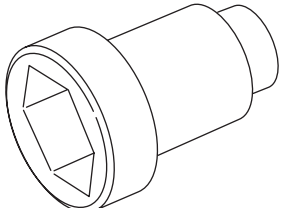
## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-899864100	899864100	REMOVER	Used for removing parts on transmission main shaft and drive pinion.
 ST-899884100	899884100	HOLDER	Used for tightening lock nut on sleeve.
 ST-899904100	899904100	REMOVER	Used for removing and installing straight pin.
 ST-899988608	899988608	SOCKET WRENCH (27)	Used for removing and installing drive pinion lock nut.

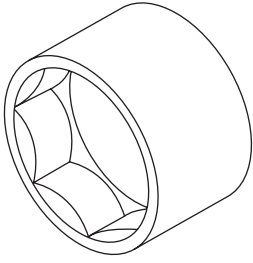
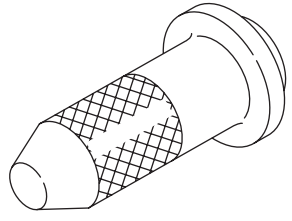
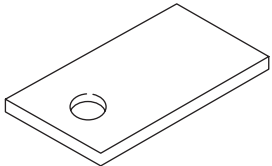
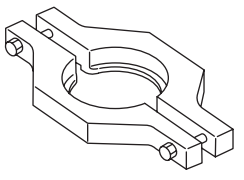
**MT-20**

**GENERAL DESCRIPTION****MANUAL TRANSMISSION AND DIFFERENTIAL**

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

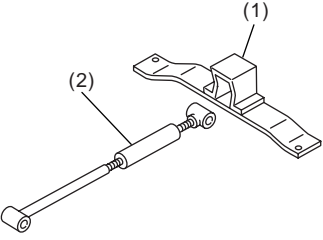
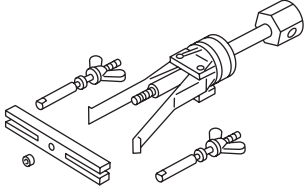
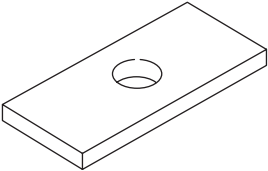
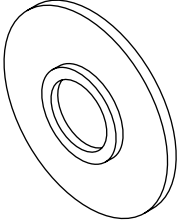
**MT-21**

**GENERAL DESCRIPTION****MANUAL TRANSMISSION AND DIFFERENTIAL**

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

**MT-22**

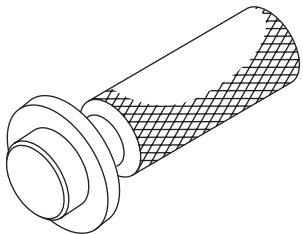
**GENERAL DESCRIPTION****MANUAL TRANSMISSION AND DIFFERENTIAL**

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-41099AA000</p>	41099AA000	ENGINE SUPPORT ASSY	Used for supporting engine. (1) ENGINE SUPPORT BRACKET (41099AA010) (2) ENGINE SUPPORT (41099AA020)
 <p>ST-398527700</p>	398527700	PULLER ASSY	<ul style="list-style-type: none"> <li>• Used for removing and extension case roller bearing.</li> <li>• Used for removing front idfferential side retainer bearing cup.</li> </ul>
 <p>ST-398643600</p>	398643600	GAUGE	Used for measuring total end play, extension end play and drive pinion height.
 <p>ST-398177700</p>	398177700	INSTALLER	Used for installing bearing cone of transfer driven gear (transfer case side).

**MT-23**

## GENERAL DESCRIPTION

### MANUAL TRANSMISSION AND DIFFERENTIAL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-499797000</p>	499797000	INSTALLER	Used for installing differential side retainer oil seal.

### 2. GENERAL PURPOSE TOOLS

TOOL NAME	REMARKS
Circuit Tester	Used for measuring resistance, voltage and ampere.

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