

# General Description

## FRONT SUSPENSION

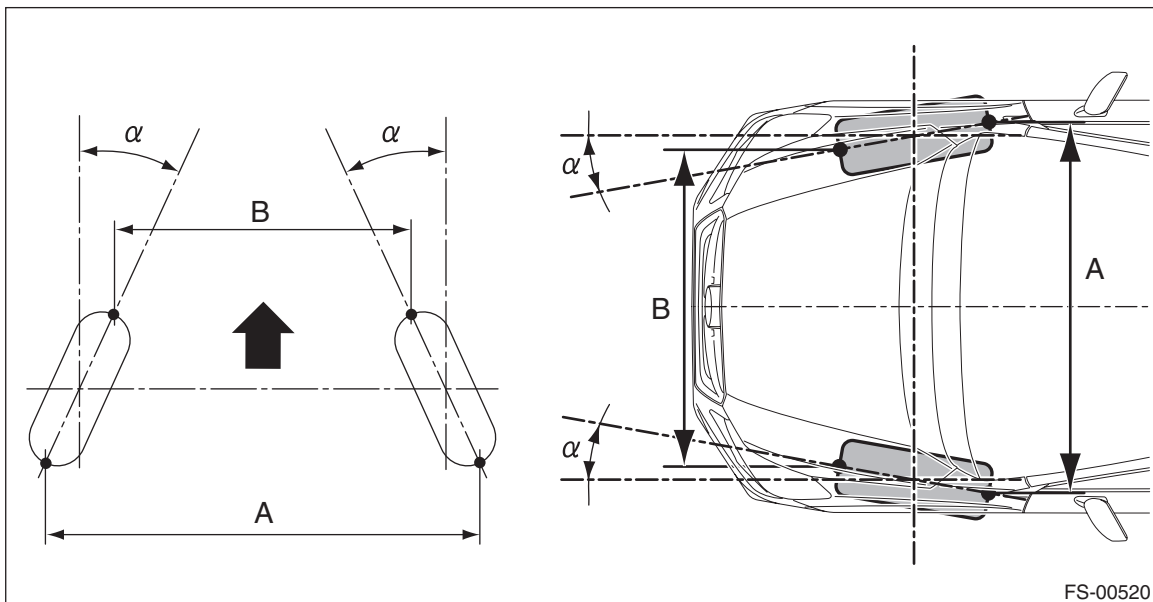
### 1. General Description

#### A: SPECIFICATION

Tire size			Except for SPORT	SPORT
			195/65R15 P205/55R16 P205/50R17	P205/50R17
Front	Wheel arch height (Tolerance: $+12\text{ mm}$ $-24\text{ mm}$ ( $+0.47\text{ in}$ $-0.94\text{ in}$ )) mm (in)		387 (15.24)	392 (15.43)
	Camber (Tolerance: $\pm 0^\circ 45'$ Differences between RH and LH: 45' or less)		$-0^\circ 20'$	$-0^\circ 15'$
	Caster (Referential Value)		$6^\circ 00'$	
	Steering angle (Tolerance: $\pm 1.5^\circ$ )	Inner wheel	$38.3^\circ$	
		Outer wheel	$33.7^\circ$	
	Toe-in	mm (in)	$0 \pm 3$ ( $0 \pm 0.12$ ) Toe angle (sum of both wheels): $0^\circ \pm 0^\circ 12'$	
Rear	Kingpin angle (Referential Value)		$13^\circ 50'$	$13^\circ 45'$
	Wheel arch height (Tolerance: $+12\text{ mm}$ $-24\text{ mm}$ ( $+0.47\text{ in}$ $-0.94\text{ in}$ )) mm (in)		368 (14.49)	371 (14.61)
	Camber (Tolerance: $\pm 0^\circ 45'$ Differences between RH and LH: 45' or less)		$-1^\circ 20'$	$-1^\circ 15'$
	Toe-in	mm (in)	IN $3 \pm 3$ (IN $0.12 \pm 0.12$ ) Toe angle (sum of both wheels): IN $0^\circ 12' \pm 12'$	
	Thrust angle (Tolerance: $0^\circ 00' \pm 30'$ )		$0^\circ 00'$	

#### NOTE:

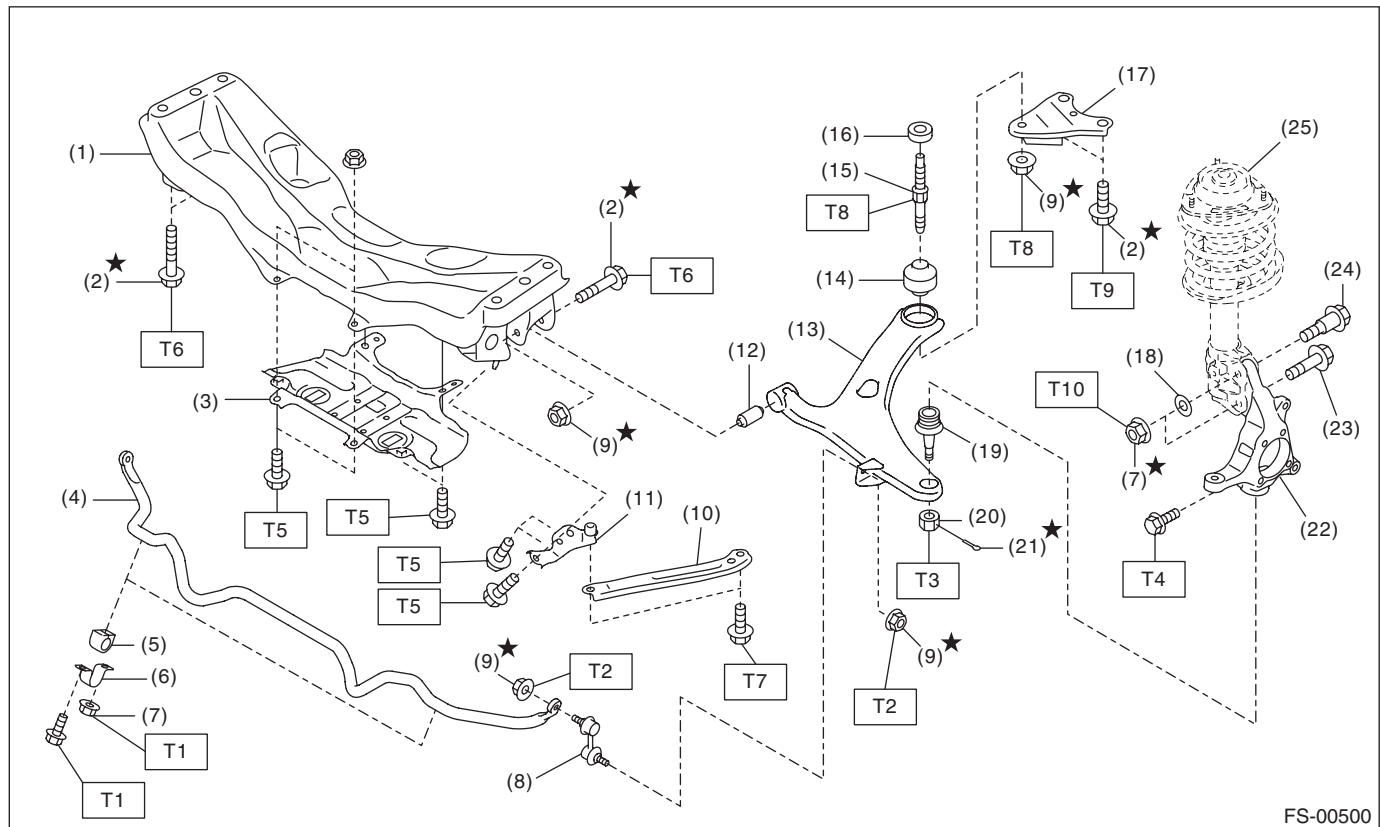
- Front toe-in, rear toe-in and front camber can be adjusted. Adjust if the value of toe-in or camber exceeds the tolerance range of the specification chart.
- Other items except for front toe-in, rear toe-in and front camber that are described in the specification chart cannot be adjusted. If other items exceed the tolerance range of the specification chart, check the suspension parts and connections for deformation. If defective, replace with new parts.



FS-00520

**A – B = Positive: Toe-in, Negative: Toe-out**

**α = Individual toe angles**

**B: COMPONENT****1. FRONT SUSPENSION**

FS-00500

- |  |                                       |
|--|---------------------------------------|
| (1) Front crossmember ASSY             | (14) Bushing rear - front arm         |
| (2) Flange bolt                        | (15) Stud bolt                        |
| (3) Front crossmember support          | (16) Stopper - front arm bushing rear |
| (4) Front stabilizer                   | (17) Front arm rear plate             |
| (5) Bushing - stabilizer               | (18) Adjusting washer                 |
| (6) Clamp - stabilizer bushing         | (19) Ball joint ASSY                  |
| (7) Flange nut                         | (20) Castle nut                       |
| (8) Stabilizer link ASSY               | (21) Cotter pin                       |
| (9) Self-locking nut                   | (22) Housing ASSY - front axle        |
| (10) Front support                     | (23) Flange bolt                      |
| (11) Support plate - front crossmember | (24) Adjusting bolt                   |
| (12) Bushing front - front arm         | (25) Front strut ASSY                 |
| (13) Front arm ASSY                    |                                       |

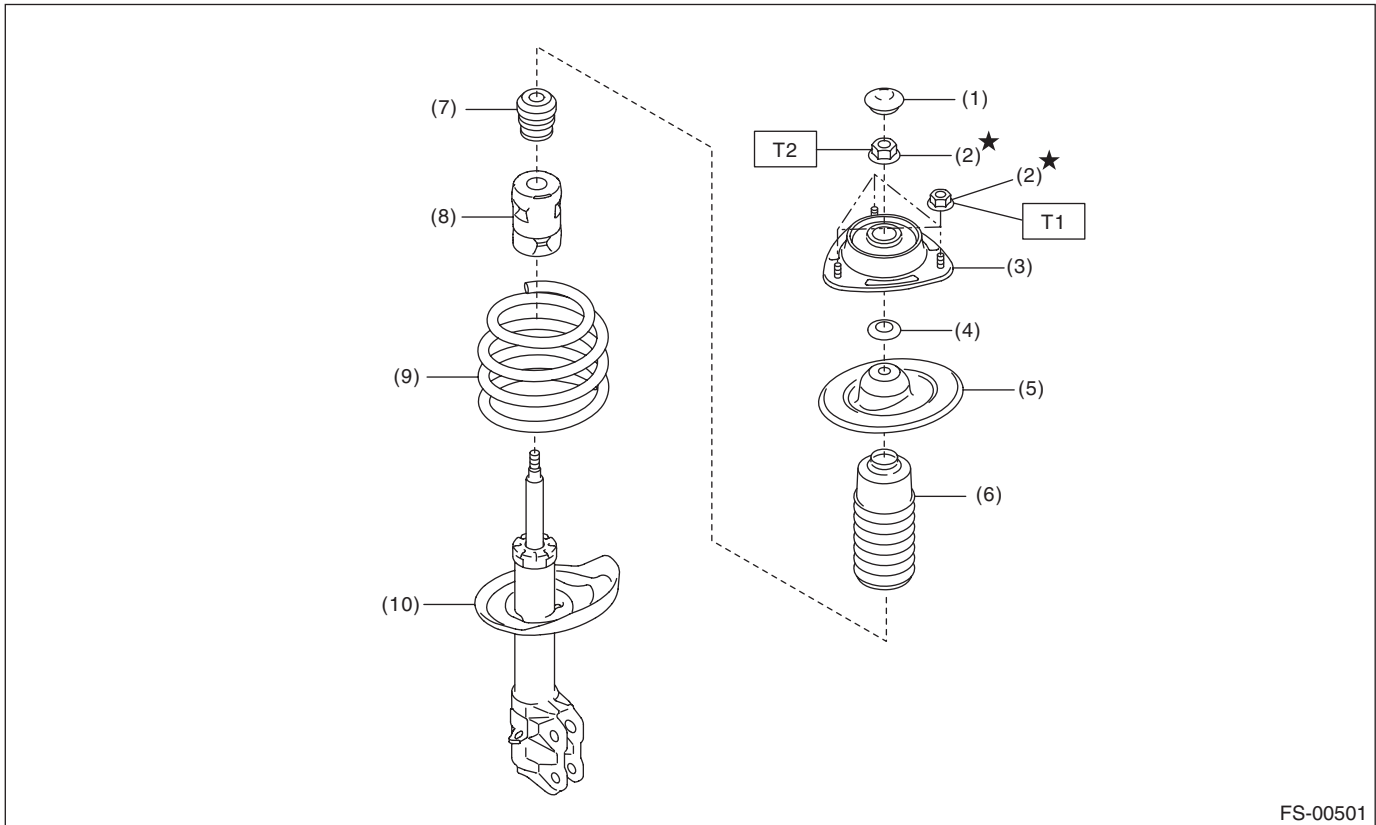
**Tightening torque: N·m (kgf-m, ft-lb)**

- T1: 25 (2.55, 18.4)**  
**T2: 38 (3.87, 28.0)**  
**T3: 39 (3.98, 28.8)**  
**T4: 50 (5.10, 36.9)**  
**T5: 60 (6.12, 44.3)**  
**T6: 95 (9.69, 70.1)**  
**T7: 100 (10.20, 73.8)**  
**T8: 110 (11.22, 81.1)**  
**T9: 150 (15.30, 110.6)**  
**T10: 155 (15.81, 114.3)**

# General Description

## FRONT SUSPENSION

### 2. FRONT STRUT



- |                                   |                              |
|-----------------------------------|------------------------------|
| (1) Dust seal - front strut       | (6) Dust cover - front strut |
| (2) Self-locking nut              | (7) Helper - front strut     |
| (3) Strut mount - front           | (8) Dust cover inner         |
| (4) Spacer - front strut          | (9) Coil spring - front      |
| (5) Spring seat - front strut UPR | (10) Strut COMPL - front     |

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

**T1: 20 (2.04, 14.8)**

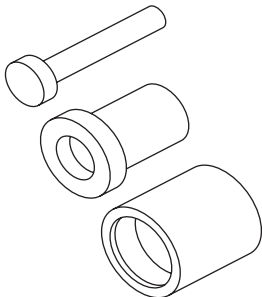
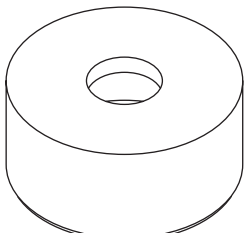
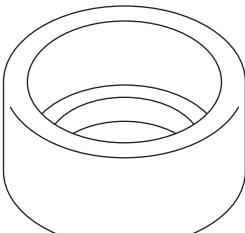
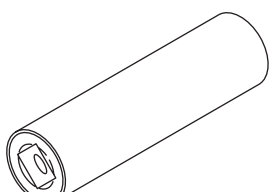
**T2: 55 (5.61, 40.6)**

### C: CAUTION

- Wear appropriate work clothing, including a helmet, protective goggles and protective shoes when performing any work.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly and replacement.
- Use SUBARU genuine grease etc. or equivalent. Do not mix grease etc. of different grades or manufacturers.
- Before securing a part on a vise, place cushioning material such as wood blocks, aluminum plate, or cloth between the part and the vise.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.
- When the suspension-related components have been replaced, perform "VDC sensor midpoint setting mode" of the VDC. <Ref. to VDC-18, VDC SENSOR MIDPOINT SETTING MODE, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>

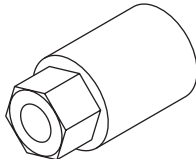
## D: PREPARATION TOOL

### 1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p>ST-927680000</p>	927680000	INSTALLER & REMOVER SET	Used for replacing the bushing front - front arm of front arm assembly.
 <p>ST20299AG000</p>	20299AG000	REMOVER	<ul style="list-style-type: none"> <li>Used for replacing the bushing rear - front arm of front arm assembly.</li> <li>Used together with BASE (20299AG010).</li> </ul>
 <p>ST20299AG010</p>	20299AG010	BASE	<ul style="list-style-type: none"> <li>Used for replacing the bushing rear - front arm of front arm assembly.</li> <li>Used together with REMOVER (20299AG000).</li> </ul>
 <p>ST20299AG020</p>	20299AG020	STUD BOLT SOCKET	Used for removing and installing the stud bolt for front arm assembly installing portion.

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### FRONT SUSPENSION

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
  ST20399AG000	20399AG000	STRUT MOUNT SOCKET	Used for disassembling and assembling strut mount.

## 2. GENERAL TOOL

TOOL NAME	REMARKS
Alignment gauge	Used for measuring wheel alignment.
Alignment gauge adapter	Used for measuring wheel alignment.
Turning radius gauge	Used for measuring wheel alignment.
Toe-in gauge	Used for toe-in measurement.
Tie-rod end puller	Used for disconnecting the tie-rod end.
Dial gauge	Used for damper strut measurement.
Coil spring compressor	Used for strut assembly/disassembly.

## 2. Wheel Alignment

### A: INSPECTION

Check the following items before performing the wheel alignment measurement.

- Tire inflation pressure
- Uneven wear of RH and LH tires, or difference of sizes
- Tire runout
- Excessive play and wear of ball joint
- Excessive play and wear of tie-rod end
- Excessive play of wheel bearing
- Right and left wheel base imbalance
- Deformation and excessive play of steering link
- Deformation and excessive play of suspension parts

Check, adjust and measure the wheel alignment in accordance with the following procedures.

1	Wheel arch height (front and rear wheels)	Inspection: <Ref. to FS-10, REAR WHEEL TOE-IN, INSPECTION, Wheel Alignment.>
↓		
2	Camber (front and rear wheels)	Inspection: <Ref. to FS-9, CAMBER, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-11, FRONT CAMBER, ADJUSTMENT, Wheel Alignment.>
↓		
3	Caster (front wheel)	Inspection: <Ref. to FS-9, CASTER, INSPECTION, Wheel Alignment.>
↓		
4	Steering angle	Inspection: <Ref. to FS-10, FRONT WHEEL TOE-IN, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-13, STEERING ANGLE, ADJUSTMENT, Wheel Alignment.>
↓		
5	Front wheel toe-in	Inspection: <Ref. to FS-10, STEERING ANGLE, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-13, FRONT WHEEL TOE-IN, ADJUSTMENT, Wheel Alignment.>
↓		
6	Rear wheel toe-in	Inspection: <Ref. to FS-8, WHEEL ARCH HEIGHT, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-14, REAR WHEEL TOE-IN, ADJUSTMENT, Wheel Alignment.>
↓		
7	Thrust angle	Inspection: <Ref. to FS-11, THRUST ANGLE, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-16, THRUST ANGLE, ADJUSTMENT, Wheel Alignment.>