1. General Description

A: SPECIFICATION

1. FRONT

• WRX model

Tire size		235/45R17
Wheel arch height (Tolerance: $^{+12\ mm}_{-24\ mm}$ ($^{+0.47\ in}_{-0.94\ in}$))	mm (in)	375 (14.76)
Camber (tolerance: ±0°30′ Differences between RH and LH: 30′ or less)		–0°45′
Caster (referential value)		6°30′
Steering angle (tolerance: ±1.5°)	Inner wheel	37.5°
	Outer wheel	32.9°
Toe-in	mm (in)	0±3 (0±0.12) Toe angle (sum of both wheels): 0°±0°16′
Kingpin angle (referential value)		15°14′

• STI model

Tire size		245/40R18
Wheel arch height (Tolerance: $^{+12\ mm}_{-24\ mm}$ ($^{+0.47\ in}_{-0.94\ in}$))	mm (in)	370 (14.57)
Camber (tolerance: ±0°30′ Differences between RH and LH: 30′ or less)		–0°45′
Caster (referential value)		6°33′
Steering angle (tolerance: ±1.5°)	Inner wheel	36.3°
	Outer wheel	32.0°
Toe-in	mm (in)	0±3 (0±0.12) Toe angle (sum of both wheels): 0°±0°16′
Kingpin angle (referential value)		15°22′

2. REAR

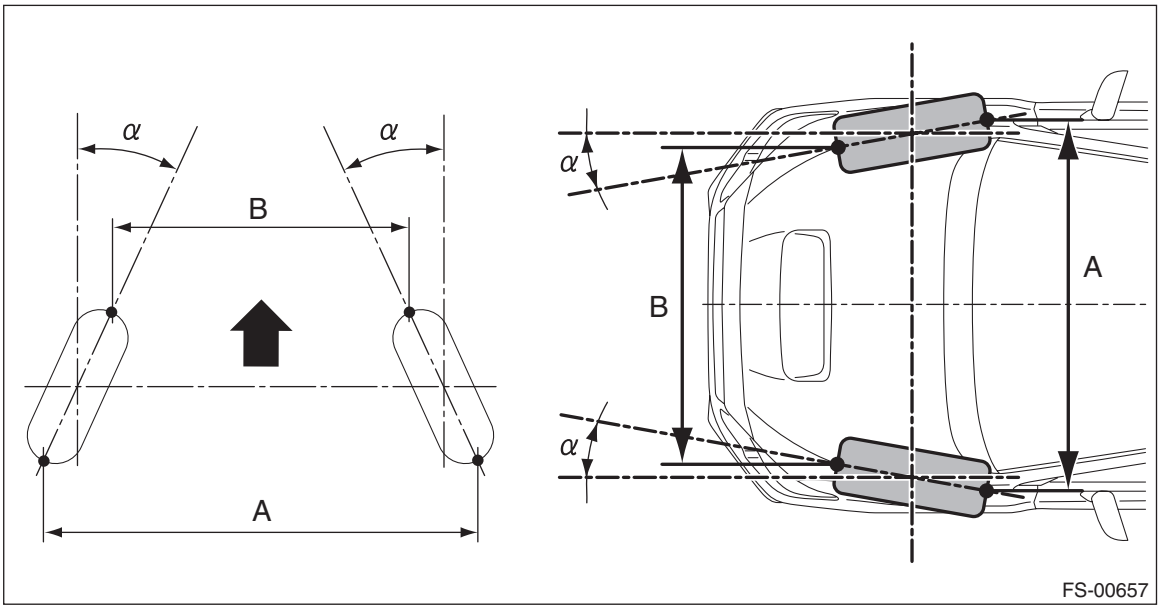
• WRX model

Tire size		235/45R17
Wheel arch height (Tolerance: $^{+12\ mm}_{-24\ mm}$ ($^{+0.47\ in}_{-0.94\ in}$))	mm (in)	367 (14.45)
Camber (tolerance: ±0°45′ Differences between RH and LH: 45′ or less)		–1°30′
Toe-in	mm (in)	IN3±3 (IN0.12±0.12)
		Toe angle (sum of both wheels): IN0°16′±16′
Thrust angle (tolerance: 0°00′±30′)		0°00′

• STI model

Tire size		245/40R18
Wheel arch height (Tolerance: $^{+12\ mm}_{-24\ mm}$ ($^{+0.47\ in}_{-0.94\ in}$))	mm (in)	362 (14.25)
Camber (tolerance: ±0°45′ Differences between RH and LH: 45′ or less)		–1°40′
Toe-in	mm (in)	IN3±3 (IN0.12±0.12)
		Toe angle (sum of both wheels): IN0°16′±16′
Thrust angle (tolerance: 0°00′±30′)		0°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.



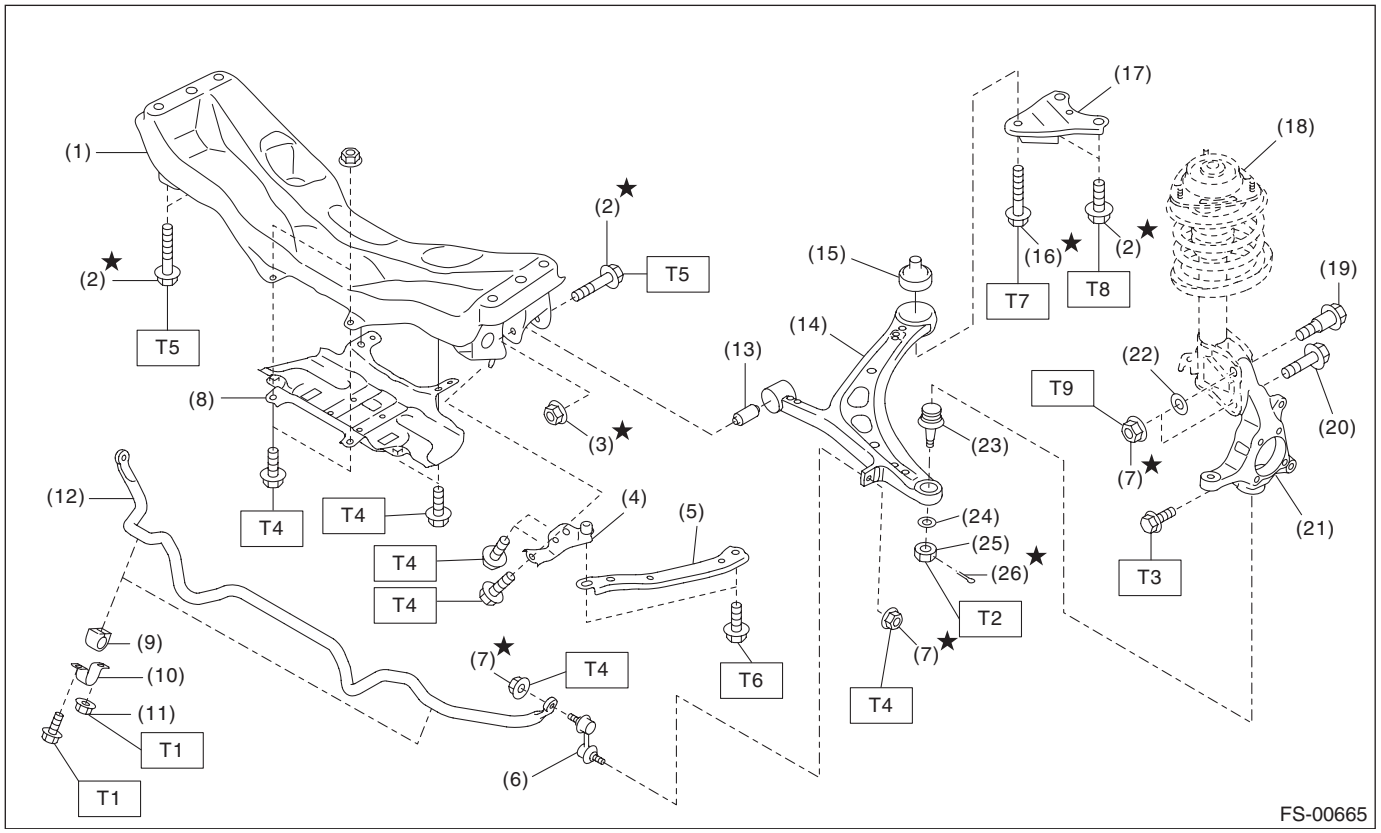
A – B = Positive: Toe-in, Negative: Toe-out

α = Individual toe angles

B: COMPONENT

1. FRONT SUSPENSION

- Electric power steering model

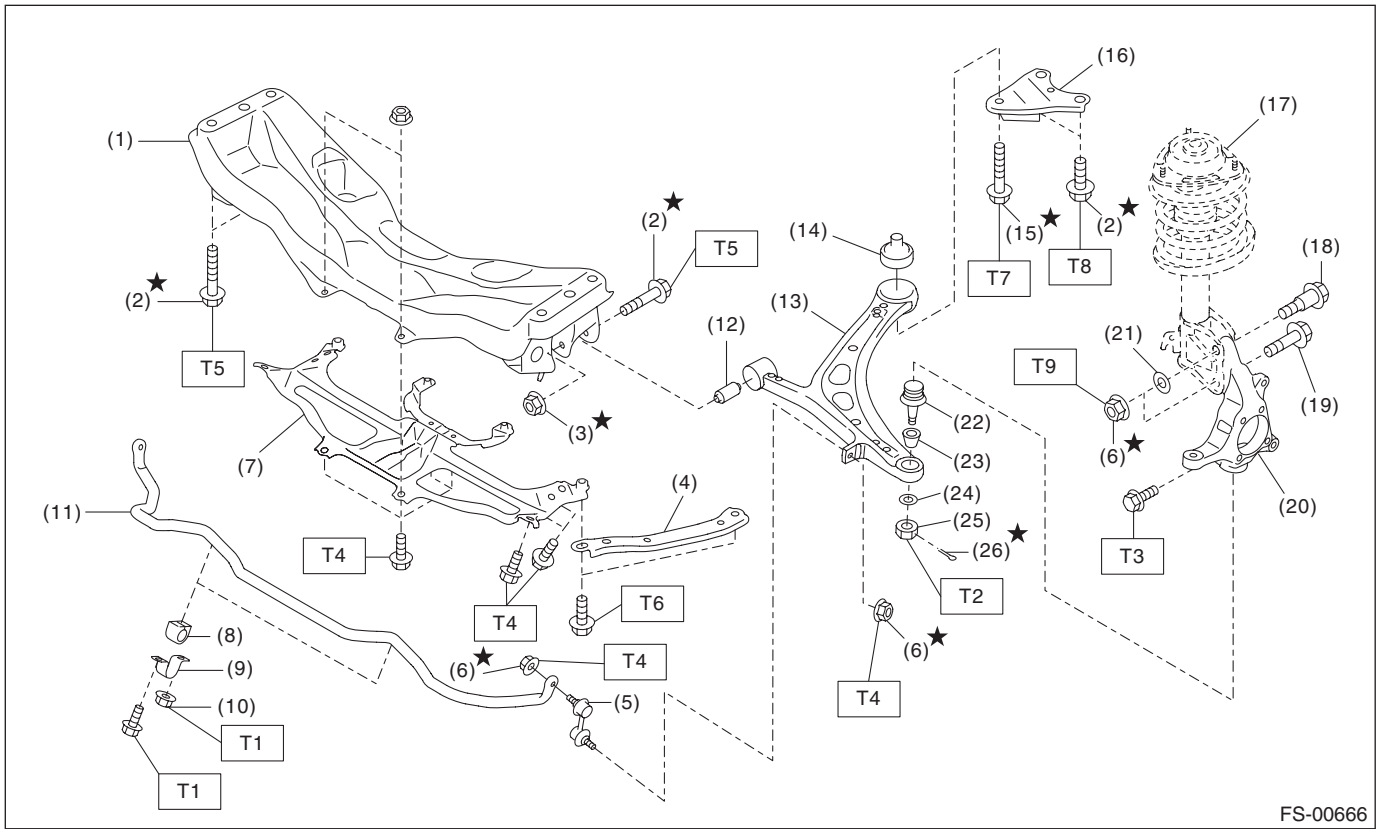


(1)	Front crossmember COMPL	(14)	Front arm ASSY
(2)	Flange bolt	(15)	Pillow ball bushing
(3)	Self-locking nut	(16)	Flange bolt
(4)	Support plate - front crossmember	(17)	Front arm rear plate
(5)	Front support	(18)	Front strut ASSY
(6)	Stabilizer link ASSY	(19)	Adjusting bolt
(7)	Flange nut	(20)	Flange bolt
(8)	Front crossmember support	(21)	Housing ASSY - front axle
(9)	Bushing - stabilizer	(22)	Adjusting washer
(10)	Clamp - stabilizer bushing	(23)	Ball joint ASSY
(11)	Flange nut	(24)	Washer
(12)	Front stabilizer	(25)	Castle nut
(13)	Bushing front - front arm	(26)	Cotter pin

Tightening torque: N·m (kgf-m, ft-lb)

T1: 25 (2.5, 18.4)
T2: 39 (4.0, 28.8)
T3: 50 (5.1, 36.9)
T4: 60 (6.1, 44.3)
T5: 95 (9.7, 70.1)
T6: 100 (10.2, 73.8)
T7: 140 (14.3, 103.3)
T8: 150 (15.3, 110.6)
T9: 155 (15.8, 114.3)

- Hydraulic power steering model

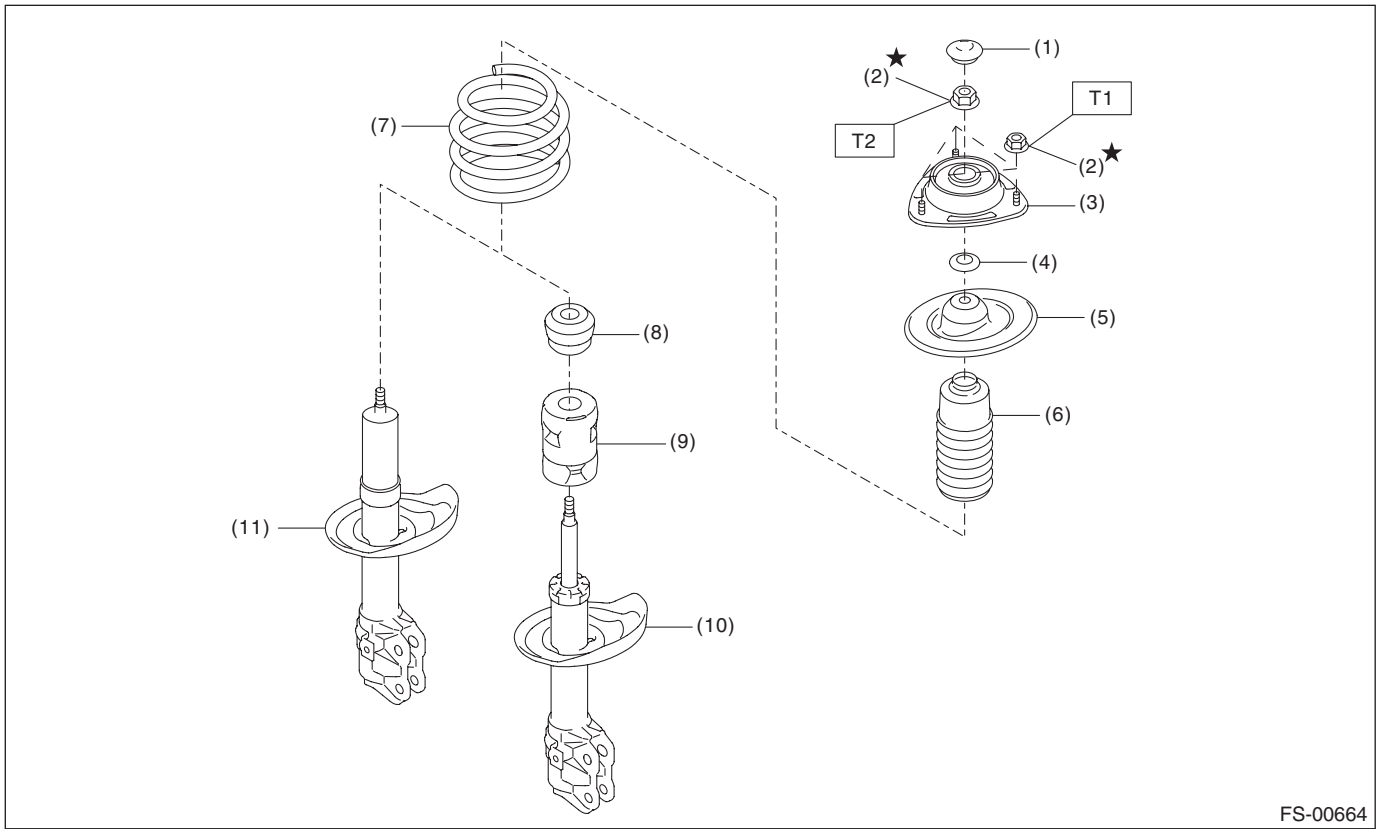


(1)	Front crossmember COMPL	(14)	Pillow ball bushing
(2)	Flange bolt	(15)	Flange bolt
(3)	Self-locking nut	(16)	Front arm rear plate
(4)	Front support	(17)	Front strut ASSY
(5)	Stabilizer link ASSY	(18)	Adjusting bolt
(6)	Flange nut	(19)	Flange bolt
(7)	Front crossmember support	(20)	Housing ASSY - front axle
(8)	Bushing - stabilizer	(21)	Adjusting washer
(9)	Clamp - stabilizer bushing	(22)	Ball joint ASSY
(10)	Flange nut	(23)	Boss - transverse link
(11)	Front stabilizer	(24)	Washer
(12)	Bushing front - front arm	(25)	Castle nut
(13)	Front arm ASSY	(26)	Cotter pin

Tightening torque: N·m (kgf-m, ft-lb)

T1: 25 (2.5, 18.4)
T2: 39 (4.0, 28.8)
T3: 50 (5.1, 36.9)
T4: 60 (6.1, 44.3)
T5: 95 (9.7, 70.1)
T6: 100 (10.2, 73.8)
T7: 140 (14.3, 103.3)
T8: 150 (15.3, 110.6)
T9: 155 (15.8, 114.3)

2. FRONT STRUT



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

Tightening torque: N·m (kgf-m, ft-lb)
T1: 20 (2.0, 14.8)
T2: 55 (5.6, 40.6)

C: CAUTION

- When performing any work, always wear work clothes, a work cap and protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
- When disposing of strut COMPL - front, be sure to bleed the oil or gas out completely. Also, do not expose to flames or fire.
- When performing a repair, identify the cause of trouble and avoid unnecessary removal, disassembly and replacement.
- Use SUBARU genuine grease, the recommended or equivalent. Do not mix grease etc. of different grades or manufacturers.
- Do not secure a part in a vise directly. Place cushioning materials such as wood pieces, blocks, aluminum plates, or waste cloth between the part and the vise.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Always use the jack-up point when the shop jacks or rigid racks are used to support the vehicle.
- When the suspension-related components have been removed/installed or replaced, perform “VDC sensor midpoint setting mode” of the VDC. <Ref. to VDC-16, VDC SENSOR MIDPOINT SETTING MODE, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
- For parts which are not reusable, always use new parts. Other parts should be replaced with new parts as required.
- When handling oil or fuel, adhere to the following to prevent unexpected accident.
  - Be careful with fire.
  - Prepare a container to catch grease or oil, etc. If any grease or oil spills, wipe it off and clean immediately to prevent from penetrating into floor or flowing outside.
  - Follow all government and local regulations concerning disposal of refuse when disposing.
- Be sure that the surface of brake disc or brake pad is free from grease or oil.
- Before disconnecting connectors of sensors or units, be sure to disconnect the ground cable from battery.
- Some vehicle components are extremely hot immediately after driving. Be wary of receiving burns from heated parts.

D: PREPARATION TOOL

1. SPECIAL TOOL

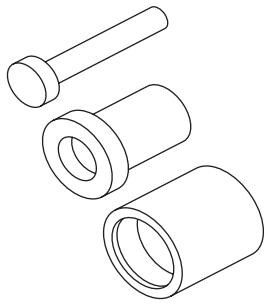
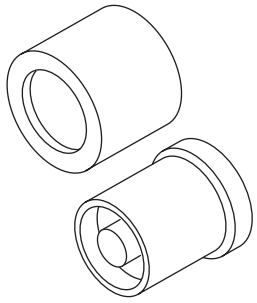
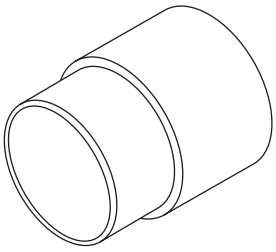
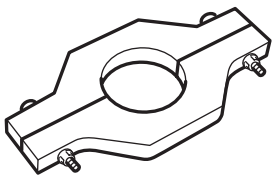
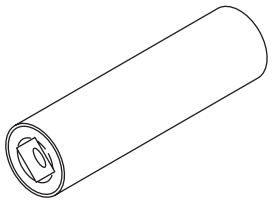
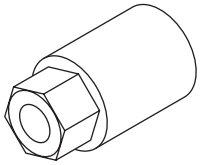
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-927680000	927680000	INSTALLER & REMOVER SET	Used for replacing the bushing front - front arm of front arm assembly.
 ST20099AE020	20099AE020	INSTALLER & REMOVER	Used for replacing pillow ball bushing of aluminum front arm.
 ST28099PA010	28099PA010	HOUSING STAND	• Used for removing pillow ball bushing of aluminum front arm. • Used together with INSTALLER & REMOVER (20099AE020).
 ST18723AA000	18723AA000	REMOVER	• Used for assembling pillow ball bushing of aluminum front arm. • Used together with INSTALLER & REMOVER (20099AE020).

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST20299AG020	20299AG020	STUD BOLT SOCKET	Used for removing and installing the stud bolt for front arm assembly installing portion.
 ST20399AG000	20399AG000	STRUT MOUNT SOCKET	• Used for disassembling and assembling strut assembly and shock absorber assembly. • Used for checking center nut torque of strut assembly and shock absorber assembly.

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 ball joint puller	Used for disconnecting tie-rod end.
Dial gauge	Used for damper strut measurement.
Coil spring compressor	Used for disassembling and assembling strut assembly and shock absorber assembly.
Shackle	• Two units used for hanging power unit. • Attached to both end of chain sling and connected to engine hook. • Load capacity: 250 kg (551 lb) or more
Sling belt	• Used for removing and installing crossmembers. • Width: 35 — 40 mm (1.38 — 1.57 in) • Length: 2 m (6.6 ft) • Load capacity: 1 t (2205 lb) or more

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-11, WHEEL ARCH HEIGHT, INSPECTION, Wheel Alignment.>
	↓	
2	Camber (front and rear wheels)	Inspection: <Ref. to FS-12, CAMBER, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-15, FRONT CAMBER, ADJUSTMENT, Wheel Alignment.>
	↓	
3	Caster (front wheel)	Inspection: <Ref. to FS-12, CASTER, INSPECTION, Wheel Alignment.>
	↓	
4	Steering angle	Inspection: <Ref. to FS-13, STEERING ANGLE, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-17, STEERING ANGLE, ADJUSTMENT, Wheel Alignment.>
	↓	
5	Front wheel toe-in	Inspection: <Ref. to FS-13, FRONT WHEEL TOE-IN, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-17, FRONT WHEEL TOE-IN, ADJUSTMENT, Wheel Alignment.>
	↓	
6	Rear wheel toe-in	Inspection: <Ref. to FS-11, WHEEL ARCH HEIGHT, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-18, REAR WHEEL TOE-IN, ADJUSTMENT, Wheel Alignment.>
	↓	
7	Thrust angle	Inspection: <Ref. to FS-14, THRUST ANGLE, INSPECTION, Wheel Alignment.> Adjustment: <Ref. to FS-20, THRUST ANGLE, ADJUSTMENT, Wheel Alignment.>