POWER ASSISTED SYSTEM (POWER STEERING)

PS

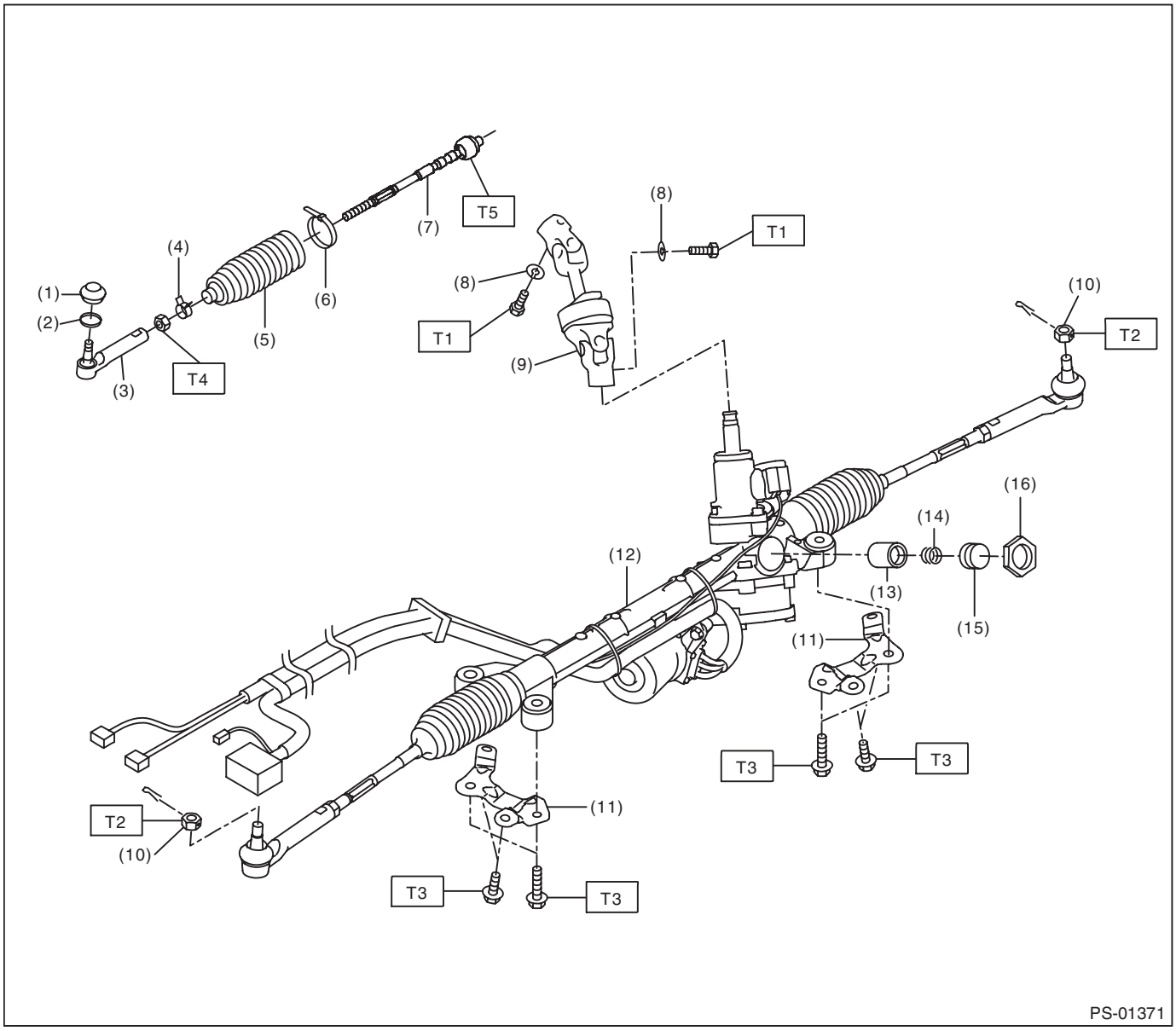
1. General Description

A: SPECIFICATION

Model				Except for XV model	XV model
Whole system	Minimum turning radius		m (ft)	5.3 (17.39)	
	Steering angle	Inner wheel		38.3°±1.5°	38.5°±1.5°
		Outer wheel		33.7°±1.5°	34.0°±1.5°
	Steering wheel diameter		mm (in)	375 (14.76)	
	Lock-to-lock revolution number			3.2	3.1
Gearbox	Type			Rack & pinion type	
	Backlash			0 (Automatic adjusting)	
Motor (Temperature 20°C (68°F))	Rated voltage		V	12	
	Rated torque		N·m (kgf-m, ft-lb)	4.5 (0.46, 3.31)	
	Rated revolution speed		rpm	1,140	
	Rated current		A	85	
	Rated output		W	561	

Model				Except for XV model	XV model
Steering wheel	Free play		mm (in)	17 (0.67) or less	
Steering shaft	Clearance between the steering wheel and column cover		mm (in)	4 — 6 (0.16 — 0.24)	
Steering gearbox (Power steering system)	Sliding resistance		N (kgf, lbf)	350 (36, 79) or less Difference between right and left sliding resistance: 20% or less	333 (34, 75) or less Difference between right and left sliding resistance: 20% or less
	Rack shaft play in the radial direction	Right-turn steering	mm (in)	Horizontal play: 0.6 (0.024) or less Vertical play: 0.4 (0.016) or less	
		Left-turn steering	mm (in)	0.4 (0.016) or less	
	Input shaft play	In radial direction	mm (in)	0.18 (0.0071) or less	
		In axial direction	mm (in)	0.27 (0.0106) or less	
	Rotational resistance		N (kgf, lbf)	Maximum allowable value: 18.3 (1.9, 4.1) or less Difference between right and left sliding resistance: 20% or less	Maximum allowable value: 17.7 (1.8, 4.0) or less Difference between right and left sliding resistance: 20% or less
Steering wheel effort (Power steering system)	At standstill with engine idling on paved road		N (kgf, lbf)	29.4 (3.0, 6.6) or less	
	At standstill with engine stalled on paved road		N (kgf, lbf)	294.2 (30, 66.2) or less	

2. STEERING GEARBOX



(1)	Dust seal	(9)	Universal joint ASSY - steering
(2)	Clip - boot tie-rod end B	(10)	Castle nut
(3)	Tie-rod end	(11)	Stiffener
(4)	Clip - boot tie-rod end A	(12)	Steering gearbox ASSY
(5)	Boot - steering gearbox	(13)	Pad - pressure
(6)	Band - boot	(14)	Spring - gearbox
(7)	Tie-rod	(15)	Adjusting screw
(8)	Spring washer	(16)	Lock nut

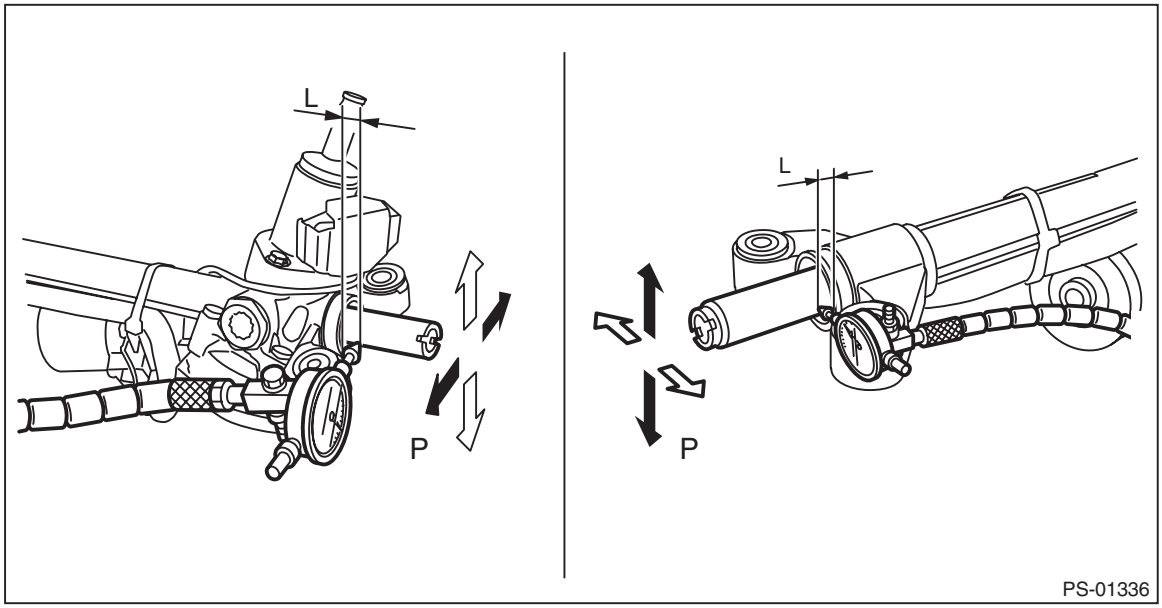
Tightening torque: N·m (kgf-m, ft-lb)
T1: 24 (2.45, 17.7)
T2: 27 (2.75, 19.9)
T3: 60 (6.12, 44.3)
T4: 85 (8.67, 62.7)
T5: 90 (9.18, 66.4)

3. RACK SHAFT PLAY IN THE RADIAL DIRECTION

Right-turn steering:
Service limit:
Direction ⬅ ➡: 0.4 mm (0.016 in) or less
Direction ⇦ ⇨: 0.6 mm (0.024 in) or less

Left-turn steering:
Service limit:
Direction ⇦ ⇨ ⬅ ➡: 0.4 mm (0.016 in) or less

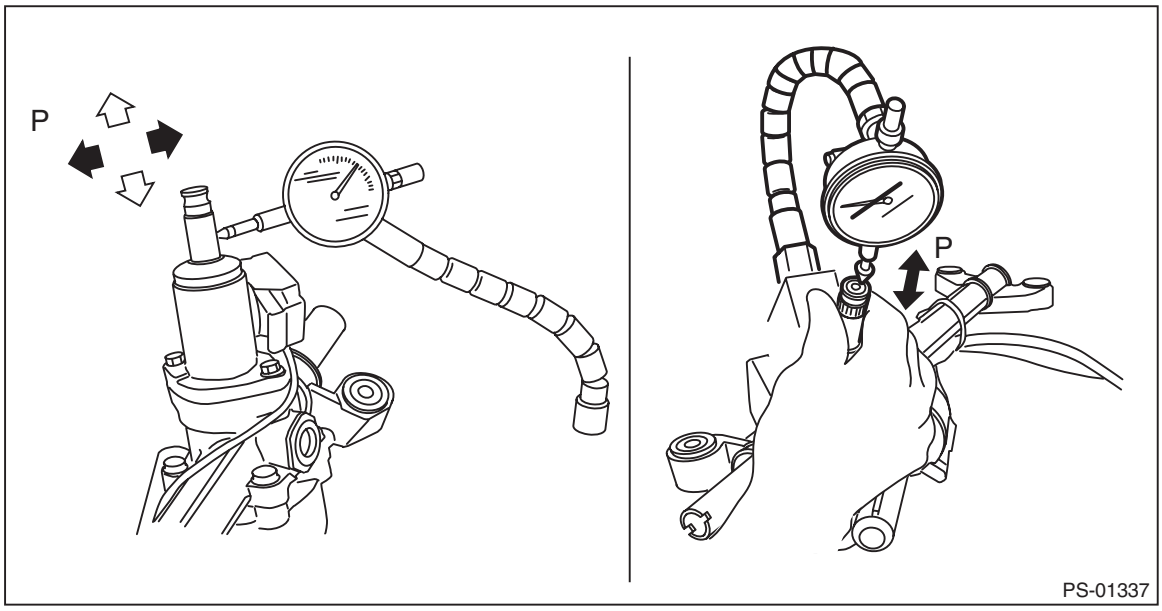
Condition:
L: 5 mm (0.20 in)
P: 98 N (10 kgf, 22 lbf)



4. INPUT SHAFT PLAY

In radial direction:
Wear limit: 0.18 mm (0.0071 in) or less
Condition: P = 98 N (10 kgf, 22 lbf)

In axial direction:
Service limit: 0.27 mm (0.0106 in) or less
Condition: P = 20 — 49 N (2 — 5 kgf, 4 — 11 lbf)



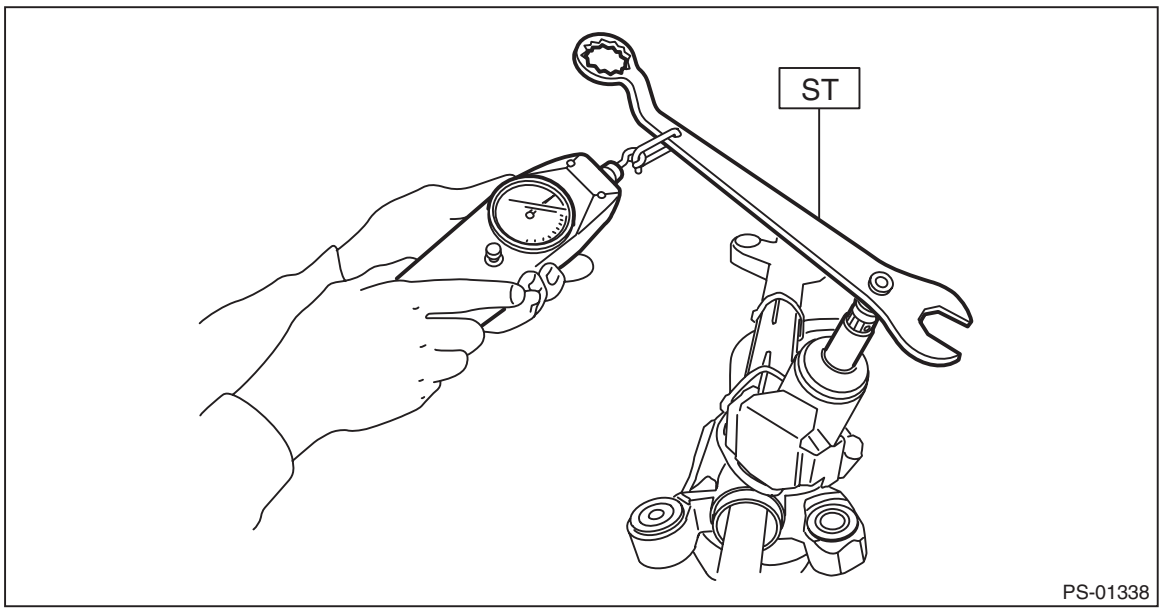
5. TURNING RESISTANCE OF GEARBOX

1) Using the ST, measure the rotational resistance of the steering gearbox assembly.

Preparation tool:
ST: SPANNER (34099PA100)

Service limit (Except for XV model):
Maximum allowable resistance: 18.3 N (1.9 kgf, 4.1 lbf) or less
Difference between right and left rotational resistance: 20% or less

Service limit (XV model):
Maximum allowable resistance: 17.7 N (1.8 kgf, 4.0 lbf) or less
Difference between right and left rotational resistance: 20% or less



F: ADJUSTMENT

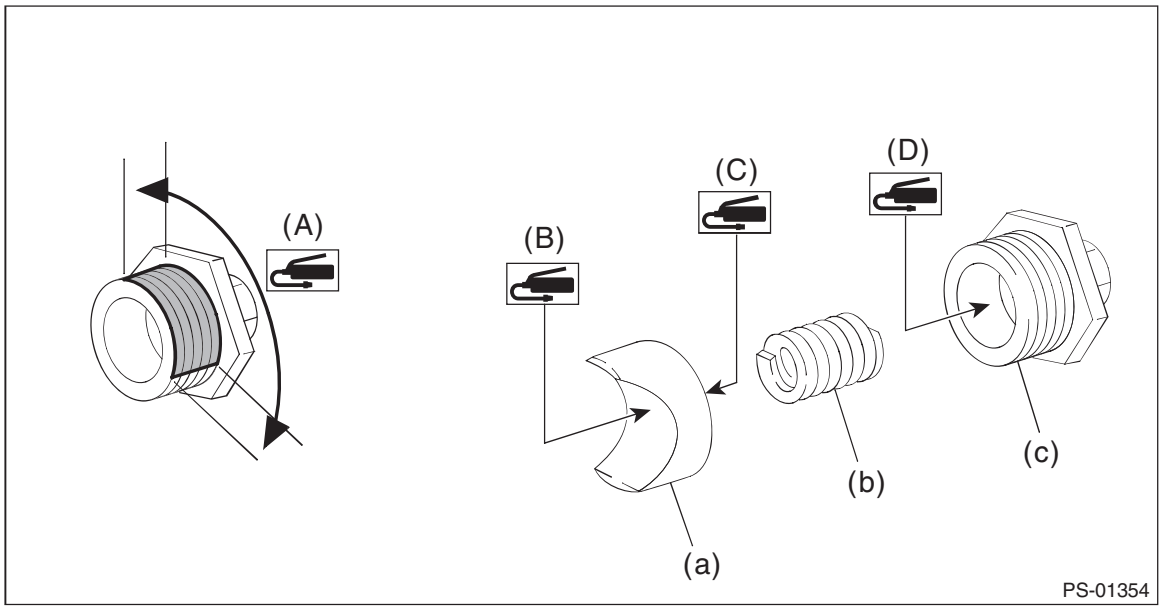
1. GEARBOX BACKLASH ADJUSTMENT

1) Remove the steering gearbox assembly. <Ref. to PS-26, REMOVAL, Electric Power Steering Gearbox.>
2) Loosen the lock nut and adjusting screw.
3) Apply a coat of grease to the sliding surface (B) of the pad - pressure (a) and seating surface (C) of spring - gearbox (b), and then insert the pad - pressure (a) into steering body.
4) Charge the adjusting screw (c) with grease (D), and then insert the spring - gearbox (b) into adjusting screw. Then install on the steering body.

Grease:
Multemp AC-P

5) Apply liquid gasket to 1/3 or more (A) of entire perimeter of adjusting screw thread (c).

Liquid gasket:
THREE BOND TB-1111B



6) Tighten the adjusting screw to 9.8 N·m (1.0 kgf-m, 7.2 ft-lb), then loosen it.
7) Tighten the adjusting screw to 6 N·m (0.6 kgf-m, 4.4 ft-lb).
8) Loosen the adjusting screw by 20°.
9) While fixing the adjusting screw, tighten the lock nuts.

Tightening torque:
49.4 N·m (5.04 kgf-m, 36.4 ft-lb)

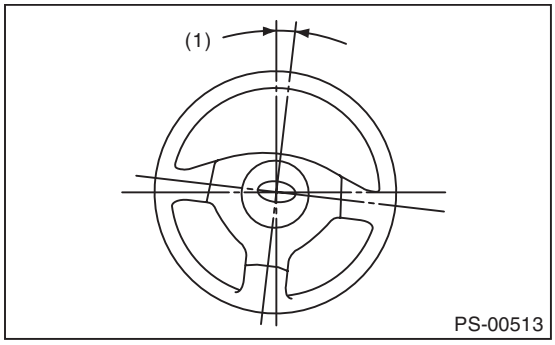
2. FRONT WHEEL ALIGNMENT ADJUSTMENT

1) Adjust the front toe. <Ref. to FS-15, FRONT WHEEL TOE-IN, ADJUSTMENT, Wheel Alignment.>
2) Check the steering angle of the wheels.

Standard of steering angle:

Model	*Except for XV model*	*XV model*
Inner wheel	*38.3°±1.5°*	*38.5°±1.5°*
Outer wheel	*33.7°±1.5°*	*34.0°±1.5°*

3) When the steering wheel is in the following condition, perform the steering wheel installation over again.
- When wheels are set in the straight ahead position, the steering wheel spokes are not horizontal.
- Error is more than 5° on the periphery of the steering wheel.



(1) 5° or less

4) If the steering wheel spokes are not horizontal with vehicle set in the straight ahead position after this adjustment, correct it by turning the right and left tie-rods in the opposite direction from each other by the same angle. Also check that there are no abnormal steering force, failure of the steering wheel to return or other faults.