

General Description

POWER ASSISTED SYSTEM (POWER STEERING)

1. General Description

A: SPECIFICATION

Model			Non-turbo model	Turbo model
Whole system	Minimum turning radius m (ft)		5.3 (17.4)	
	Steering angle	Inner wheel	38.3°±1.5°	
		Outer wheel	33.8°±1.5°	
	Steering wheel diameter mm (in)		375 (14.76)	
	Lock to lock rotation		3.2	
Gearbox	Type		Rack and Pinion, Integral	
	Backlash		0 (Automatic adjusting)	
	Valve (Power steering system)		Rotary valve	
Pump (Power steering system)	Type		Vane pump	
	Oil tank		Installed on body	
	Specific output cm ³ (cu in)/rev.		7.2 (0.439)	8.5 (0.519)
	Relief pressure kPa (kgf/cm ² , psi)		7,350 — 8,050 (75 — 82, 1,066 — 1,167)	8,100 — 8,800 (83 — 90, 1,174 — 1,276)
	Hydraulic fluid control		Engine speed sensitive	
	Hydraulic fluid ℓ (US qt, Imp qt)		1,000 rpm: 6.5 (6.9, 5.7) 3,000 rpm: 5 (5.3, 4.4)	1,000 rpm: 6.3 (6.7, 5.5) 3,000 rpm: 5.9 (6.2, 5.2)
	RPM range rpm		680 — 9,800	680 — 9,600
	Direction of rotation		Clockwise	
Hydraulic oil (Power steering system)	Capacity ℓ (US qt, Imp qt)	Oil tank	0.2 (0.2, 0.2)	
		Whole system	0.7 (0.7, 0.6)	

Steering wheel	Free play mm (in)		17 (0.67)	
Steering shaft	Clearance between the steering wheel and column cover mm (in)		2 — 4 (0.08 — 0.16)	
Steering gearbox (Power steering system)	Sliding resistance N (kgf, lbf)		314(32, 71) or less Difference between right and left sliding resistance: 20%	
	Rack shaft play in the radial direction	Right-turn steering mm (in)	Deflection in the horizontal direction 0.6 (0.024) or less Deflection in the vertical direction. 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	
	Rotation resistance N (kgf, lbf)		Maximum allowable value: 13 (1.3, 2.9) or less Difference between right and left sliding resistance: 20%	
Oil pump (Power steering system)	Pulley shaft	Radial play mm (in)	0.4 (0.016) or less	
		Axial play mm (in)	0.9 (0.035) or less	
	Pulley	Ditch deflection mm (in)	1.0 (0.039) or less	
		Rotation resistance N (kgf, lbf)	9.22(0.94, 2.07) or less	
	Regular pressure (Unloaded) kPa (kgf/cm ² , psi)		981(10, 142) 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	

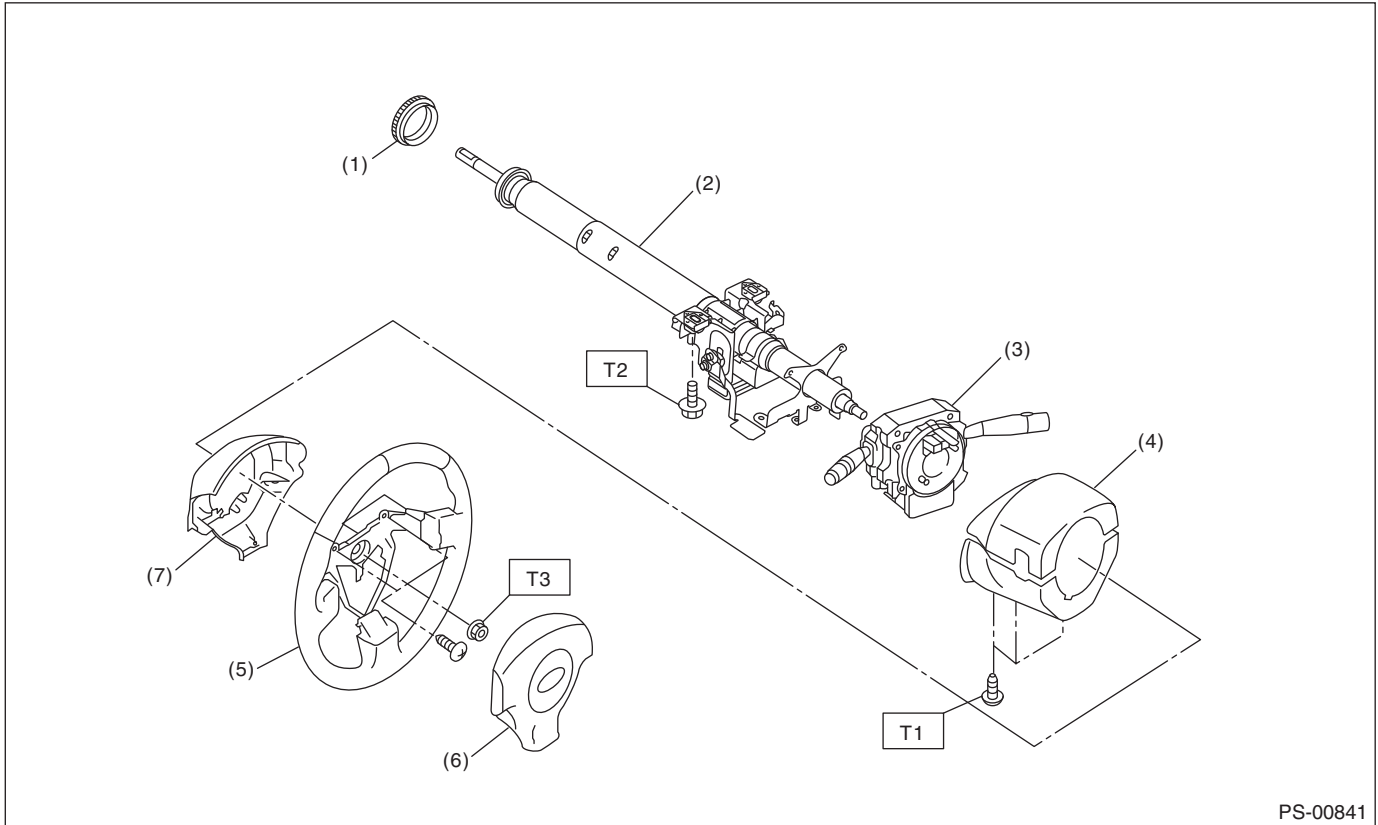
Recommended power steering fluid
SUBARU ATF or DEXRON III

General Description

POWER ASSISTED SYSTEM (POWER STEERING)

B: COMPONENT

1. STEERING WHEEL AND COLUMN



- | | |
|-----------------------------|--------------------------------|
| (1) Bushing | (5) Steering wheel |
| (2) Steering shaft | (6) Airbag module |
| (3) Steering roll connector | (7) Steering wheel lower cover |
| (4) Column cover | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 1.2 (0.12, 0.9)

T2: 25 (2.5, 18.4)

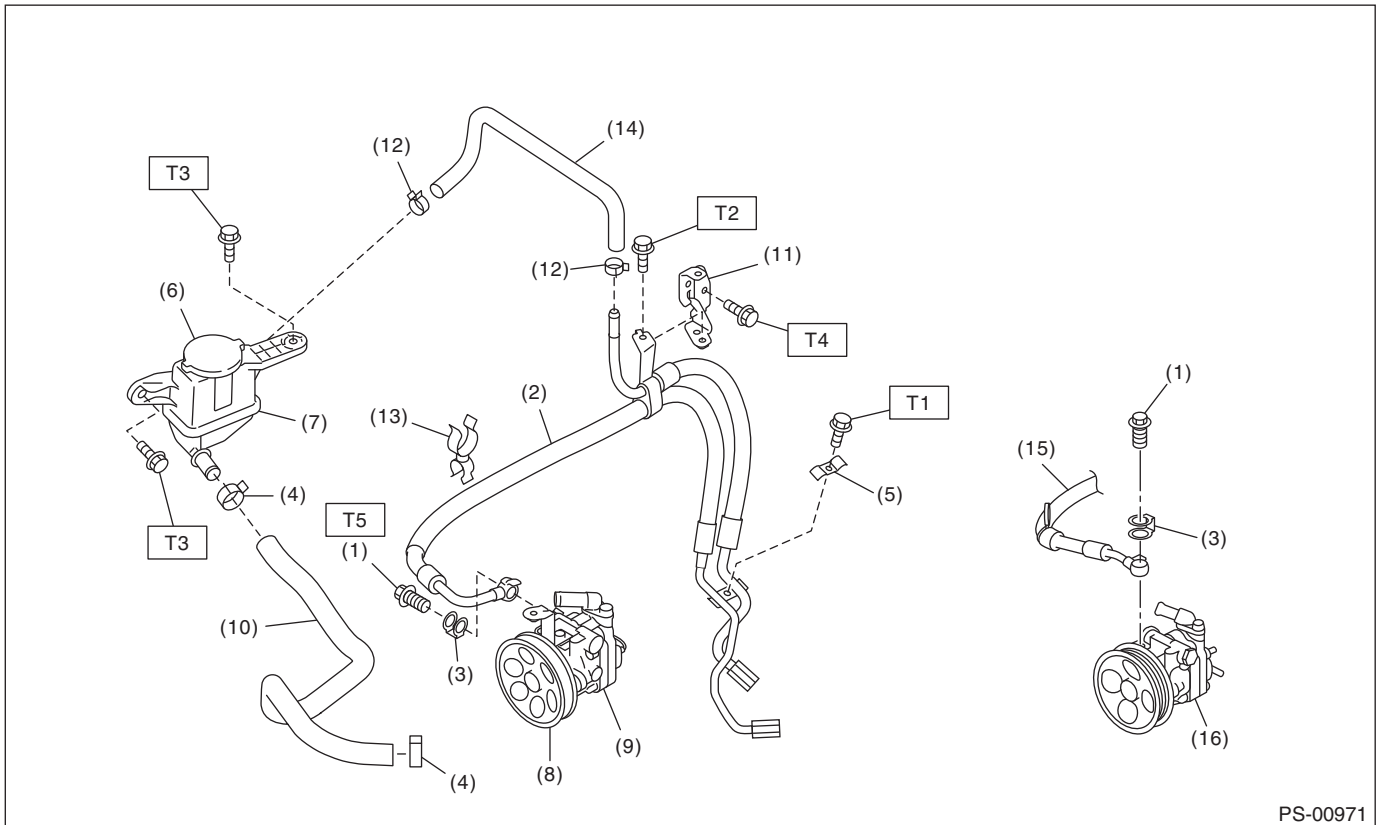
T3: 39 (4.0, 28.8)

General Description

POWER ASSISTED SYSTEM (POWER STEERING)

2. POWER ASSISTED SYSTEM

- Hose and tank



PS-00971

- | | |
|------------------------|---------------------------------|
| (1) Eye bolt | (9) Oil pump (Turbo model) |
| (2) Hose (Turbo model) | (10) Suction hose |
| (3) Eye bolt gasket | (11) Hose bracket |
| (4) Clip | (12) Clip |
| (5) Clamp E | (13) Clip |
| (6) Cap | (14) Return hose |
| (7) Reservoir tank | (15) Hose (Non-turbo model) |
| (8) Pulley | (16) Oil pump (Non-turbo model) |

Tightening torque:N·m (kgf-m, ft-lb)

T1: 7.5 (0.76, 5.53)

T2: 10 (1.02, 7.4)

T3: 13 (1.32, 9.6)

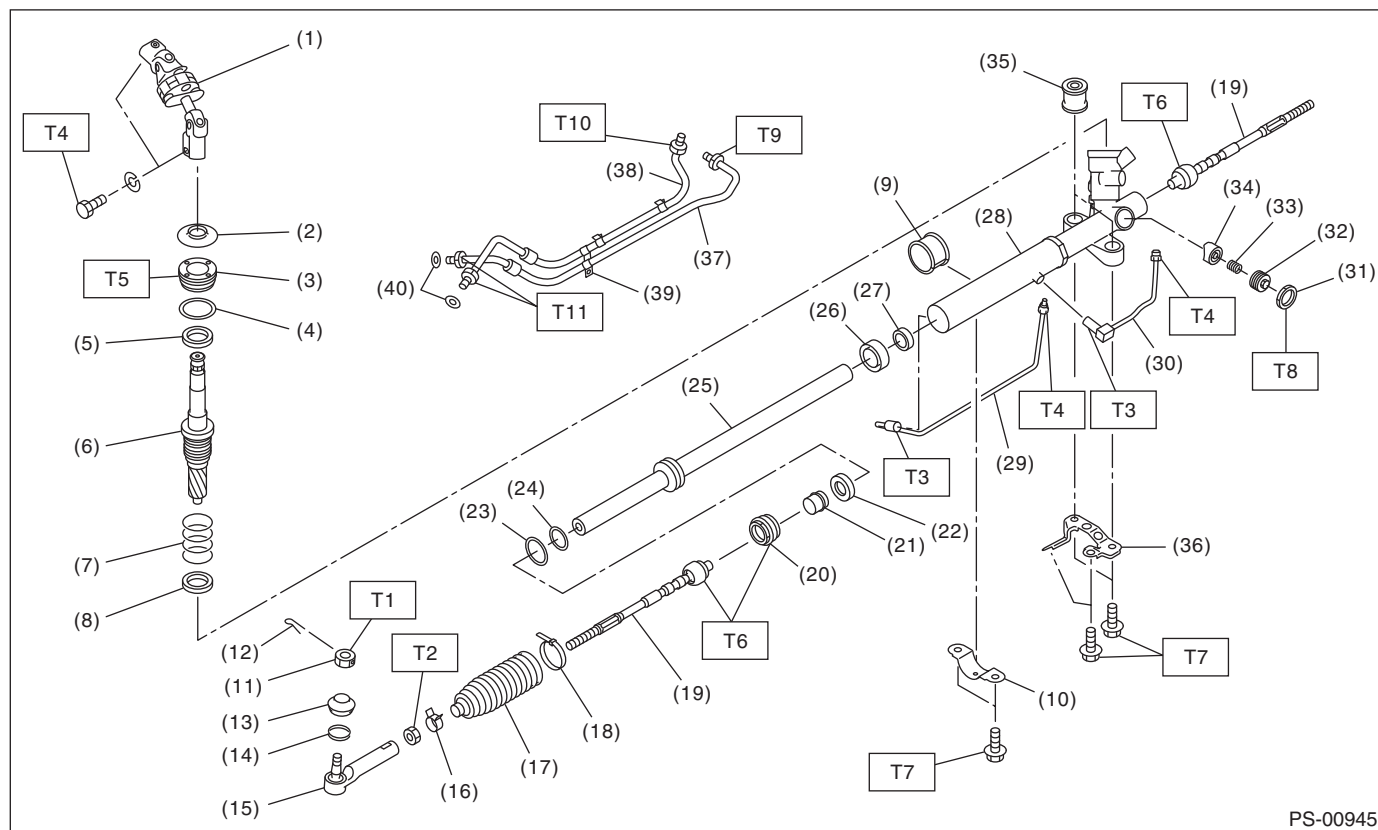
T4: 18 (1.84, 13.3)

T5: 40 (4.1, 29.5)

General Description

POWER ASSISTED SYSTEM (POWER STEERING)

• Gearbox



- (1) Universal joint
- (2) Dust cover
- (3) Plug
- (4) O-ring
- (5) Oil seal
- (6) Control valve
- (7) Seal ring
- (8) Oil seal
- (9) Adapter
- (10) Clamp
- (11) Castle nut
- (12) Cotter pin
- (13) Dust seal
- (14) Clip
- (15) Tie-rod end
- (16) Clip
- (17) Boot
- (18) Band

- (19) Tie-rod
- (20) Holder
- (21) Bushing
- (22) Oil seal
- (23) Seal ring
- (24) O-ring
- (25) Rack
- (26) Oil seal
- (27) Back-up washer
- (28) Steering body
- (29) Pipe A
- (30) Pipe B
- (31) Lock nut
- (32) Adjusting screw
- (33) Spring
- (34) Sleeve
- (35) Bushing
- (36) Stiffener

- (37) Pipe C
- (38) Pipe D
- (39) Clamp plate
- (40) O-ring

Tightening torque: N·m (kgf-m, ft-lb)

T1: 27 (2.75, 19.9)

T2: 85 (8.7, 63)

T3: 20 (2.0, 14.5)

T4: 24 (2.4, 17.4)

T5: 64 (6.5, 47.0)

T6: 90 (9.1, 65.7)

T7: 60 (6.1, 44.1)

T8: 39 (4.0, 28.9)

T9: 15 (1.5, 11.1)

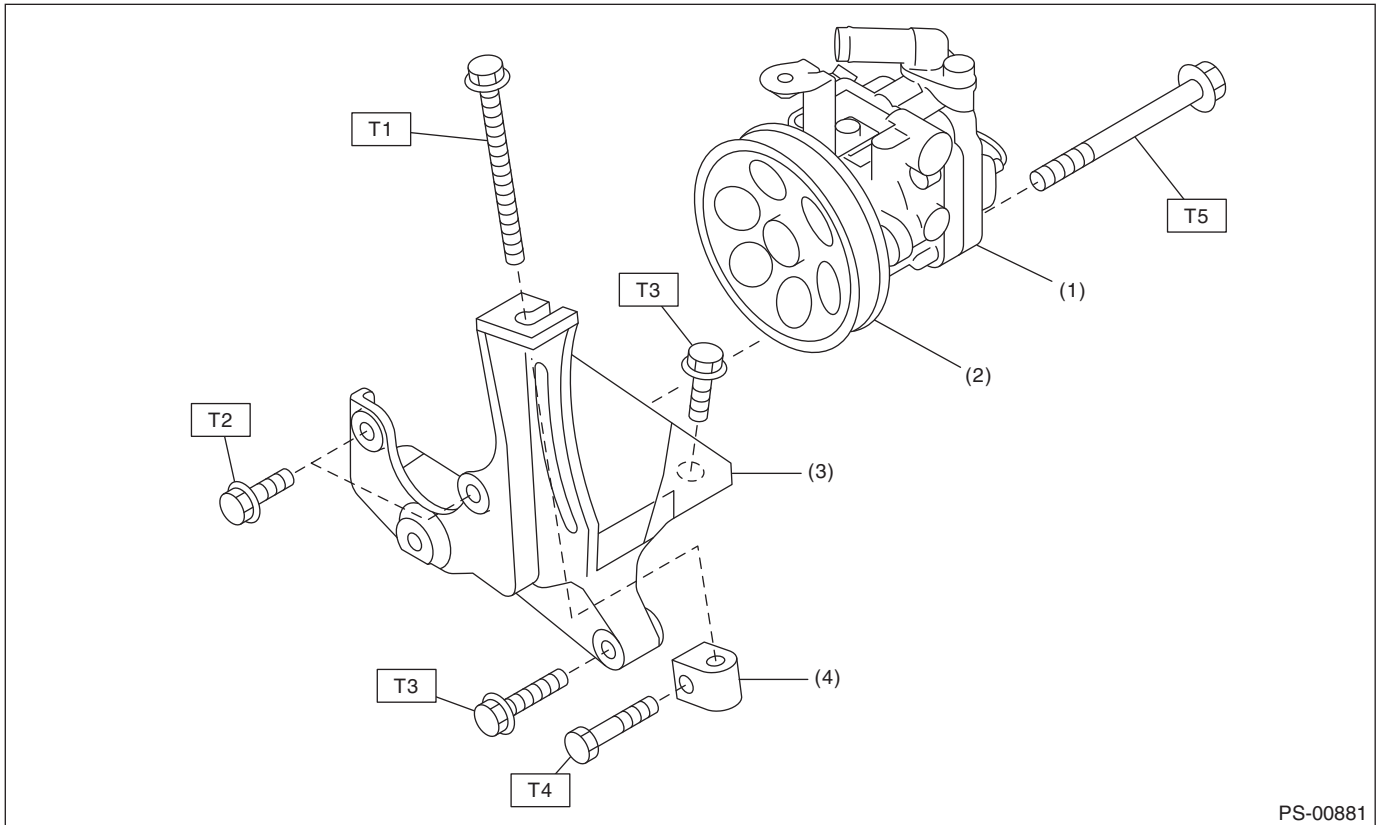
T10: 25 (2.5, 18.4)

T11: 18 (1.8, 13.3)

General Description

POWER ASSISTED SYSTEM (POWER STEERING)

3. OIL PUMP



PS-00881

- (1) Oil pump
(2) Pulley

- (3) Bracket
(4) Belt tension nut

Tightening torque: N·m (kgf-m, ft-lb)

T1: 8 (0.8, 5.8)

T2: 16 (1.6, 11.8)

T3: 22 (2.2, 15.9)

T4: 25 (2.5, 18.4)

T5: 36 (3.7, 26.6) (Non-turbo model)

48 (4.9, 35.4) (Turbo model)

General Description

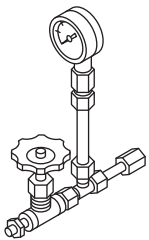
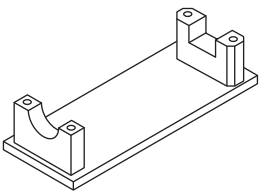
POWER ASSISTED SYSTEM (POWER STEERING)

C: CAUTION

- Wear appropriate work clothing, including a cap, 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.
- Vehicle components are extremely hot after driving. Be wary of receiving burns from heated parts.
- Use SUBARU genuine power steering fluid, grease etc. or the equivalent. Do not mix fluid, grease etc. of different grades or manufacturers.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.
- Before securing a part on a vise, place cushioning material such as wooden blocks, aluminum plate or cloth between the part and the vise.

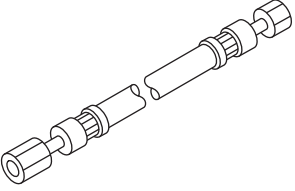
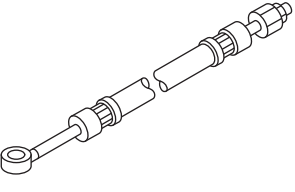
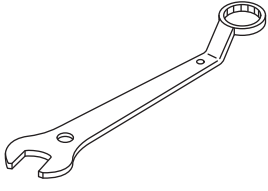
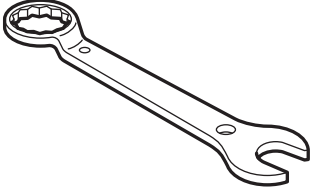
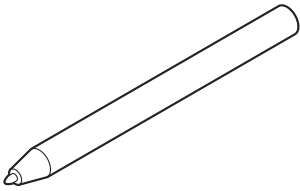
D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST-925711000	925711000	PRESSURE GAUGE	Used for measuring oil pressure.
 ST-926200000	926200000	STAND	• Used when inspecting characteristic of gear-box assembly and disassembling it. • Used together with BOSS D (34199AG000).

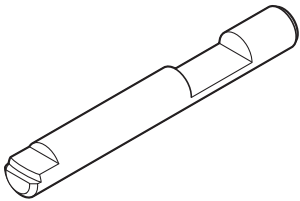
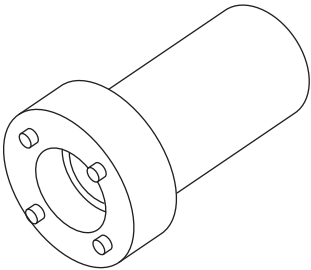
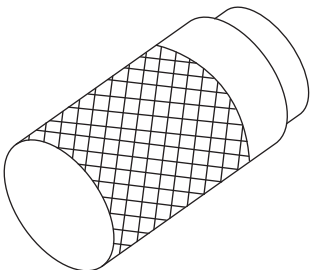
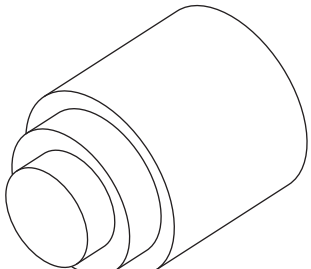
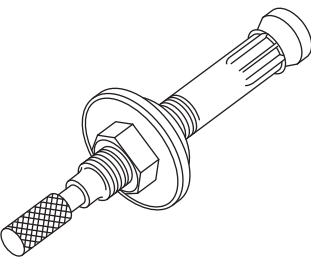
General Description

POWER ASSISTED SYSTEM (POWER STEERING)

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST34099AC010	34099AC010	ADAPTER HOSE A	Used together with PRESSURE GAUGE (925711000).
 ST34099AC020	34099AC020	ADAPTER HOSE B	Used together with PRESSURE GAUGE (925711000).
 ST-926230000	926230000	SPANNER	For the lock nut when adjusting backlash of gearbox.
 ST34099PA100	34099PA100	SPANNER	Used when measuring the rotating resistance of gearbox assembly.
 ST34099FA060	34099FA060	PUNCH HOLDER	Used for crimping.

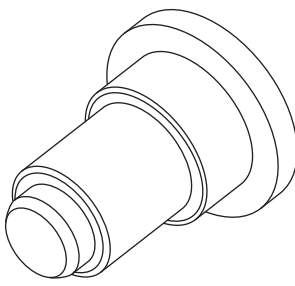
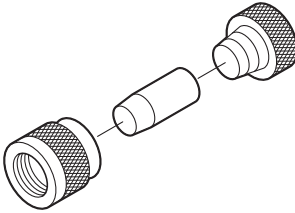
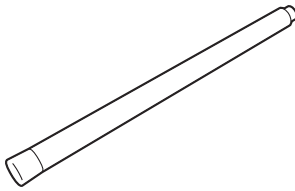
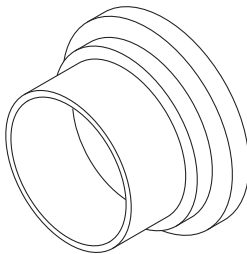
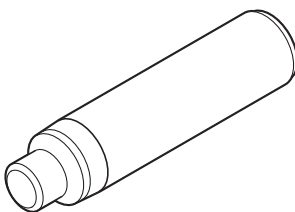
General Description

POWER ASSISTED SYSTEM (POWER STEERING)

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST34099FA080	34099FA080	PUNCH	Used to remove crimps.
 ST34199AE090	34199AE090	PLUG WRENCH	Used for removing the plug.
 ST34199AE100	34199AE100	OIL SEAL PLUG REMOVER	Used for removing oil seal plug.
 ST34199AE110	34199AE110	OIL SEAL PLUG INSTALLER	Used for installing the oil seal plug.
 ST34199AE120	34199AE120	GEAR BOX OIL SEAL REMOVER	Used to remove the oil seal of the gearbox.

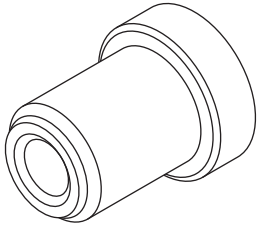
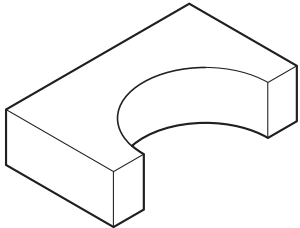
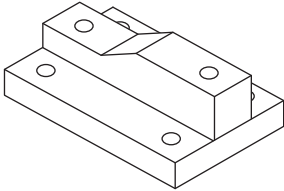
General Description

POWER ASSISTED SYSTEM (POWER STEERING)

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST34199AE130	34199AE130	GEAR BOX OIL SEAL INSTALLER	Used for attaching the gear box oil seal.
 ST34199FE040	34199FE040	INSTALLER A, B, C	Used for installing the oil seal to the rack assembly.
 ST34199FE010	34199FE010	REMOVER	Used to remove the backup ring and oil seal.
 ST34199FE050	34199FE050	GUIDE	Used for installing the rack and seal to the housing assembly.
 ST34199FE000	34199FE000	INSTALLER & REMOVER	Used for removing and installing the rack oil seal (outer & inner).

General Description

POWER ASSISTED SYSTEM (POWER STEERING)

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST34199FE060	34199FE060	INSTALLER	Used for installing the rack oil seal (outer).
 ST34199FE020	34199FE020	BASE	Used for crimping.
 ST34199AG000	34199AG000	BOSS D	• Used when inspecting characteristic of gear-box assembly and disassembling it. • Used together with STAND (926200000).