

Group 6 Front suspension and steering

Group 60 Wheel alignment

General

Turning circle metres 9.9

Wheel alignment, front

Caster, without power steering	2° – 3°
with power steering	3° – 4°
Camber	1/4° – 1°
difference between right and left sides	max 1/2°
Toe-in, without power steering	24' ± 8'
measured at "A"	mm 4.5 ± 1.5
with power steering	16' ± 8'
measured at "A"	mm 3.0 ± 1.5

Ball joint

Max. axial play on normally loaded front end	mm 3.0
Max. radial play	mm 0.5

Group 61 Front wheel suspension

Tightening torque	Nm
Control arm bushing, rear, nut	55
Control arm bushing, rear, bracket	40
Control arm bushing, front bolt	75
Ball joint, to control arm	115
Ball joint, to attachment or spring strut	60
Ball joint attachment to spring strut	23
Steering rod to steering arm	60
Upper bearing, nut	20
Steering wheel nut	60
Wheel nuts	115

Group 64 Steering

Steering gear, mechanical		
Make	Cam Gear	ZF
No. of turns lock to lock	4.34	4.34
Ratio	21.4:1	21.4:1
Frictional torque, measured on input shaft..... Nm(ft. lbs)	0.6 - 1.7 (0.4 - 1.25)	0.6 - 1.7 (0.4 - 1.25)
Worm screw, pre-tensioning.....mm	0.1	
shim thicknesses	0.127, 0.191, 0.254	
Clearance between pre-tensioning piston and cover	0.02 - 0.15	
shim thicknesses	0.127, 0.254, 0.381, 0.508	0.6 - 1.7
Lubrication, type..... Grease, Volvo P/N	11 61 001-1	11 61 001-1

Steering gear, power		
Make	Cam Gear	
	cast iron	aluminium
No. of turns lock to lock	3.5	3.5
Ratio	17.2:1	17.2:1
Frictional torque, measured on input shaft..... Nm(ft. lbs)	0.9 - 1.7 (0.6 - 1.25)	0.9 - 1.7 (0.6 - 1.25)
Clearance between pre-tensioning piston and cover.....mm	0.05 - 0.15	0.05 - 0.15
shim thicknesses	0.051, 0.089, 0.127, 0.254	0.051, 0.127, 0.254
Checking service balance:		
pump pressure when reading steering axle torque ... Mpa	1.2	1.2
steering axle torque..... Nm(ft. lbs)	3.5 - 5.0 (2.6 - 3.7)	3.5 - 5.0 (2.6 - 3.7)
max. deviation between right and left locks. Nm(ft. lbs)	1.0 (0.7)	1.0 (0.7)
Lubricant , type	Grease, Volvo P/N	11 61 001-1
quantity	grams	100
Hydraulic oil , ATF oil..... type	F, G	F, G

Steering gear, power	
Make	TRW Cam Gear
No. of turns lock to lock	3.5
Ratio	17.2:1
Frictional torque, measured on input shaft..... Nm(ft.lbs)	0.9 - 1.7 (0.65 - 1.25)
Checking service balance:	
pump pressure when reading steering axle torque	Mpa 1.2
steering axle torque	Nm(ft. lbs) 3.5 - 5.0 (2.6 - 3.7)
max. deviation between right and left locks	Nm(ft. lbs) 1.0 (0.7)
Lubricant, type Grease, Volvo P/N	11 61 001-1
quantity	grams 100
Hydraulic oil, ATF oil	type F, G

Steering gear, power		
Make	ZF, fixed v/housing	ZF, removable v/housing
No. of turns lock to lock	3.5	3.5
Ratio	17.2:1	17.2:1
Frictional torque, measured on input shaft..... Ncm	15 - 25	
Spacer washer for adjusting pre-tensioning pinion - rack	mm 1.91 - 2.45	
variation in thickness of spacer washer.....	mm 0.01	
Pre-tensioning piston to cover clearance.....	mm 0.10 - 0.15	0.10 - 0.15
thickness spacer washer pre-tensioning piston - cover	mm 2.10 - 2.90	2.10 - 2.90
variation in thickness of spacer washer.....	mm 0.05	0.05
Checking service balance:		
pump pressure when reading steering axle torque	Mpa 2.0	2.0
steering axle torque	Nm(ft. lbs) 4.0 - 5.5 (3.0 - 4.1)	4.0 - 5.5 (3.1 - 4.1)
max. deviation between right and left locks	Nm(ft. lbs) 0.5 (0.4)	0.5 (0.4)
Lubricant, type	Grease, Volvo P/N 11 61 001-1	11 61 001-1
quantity	grams 100	100
Hydraulic oil, ATF oil	type F, G	F, G

Power steering pumps		
Manufacturer ZF (1975–1976)		
Max. pressure, early type.....	MPa	7.5
late type	MPa	5.8
Manufacturer Saginaw (1977–)		
Max. pressure, round body version	MPa	6.0 - 7.0
oval body version	MPa	7.6 - 8.3
separate reservoir (Saginaw TC)	MPa	9.3 - 10.0

Tightening torque, steering	Nm
Steering wheel nut	60
Bolts, front for steering column.....	20
steering shaft rubber couplings	20
steering shaft connection flange	23
Bolts/nuts, steering gear - front axle member	20
Nut, steering rod - outer ball joint.....	70
steering arm - outer ball joint.....	60
SRS module in steering wheel hub	6
ZF, pinion nut,	24
Cam Gear, pinion nut.....	37
pinion cover.....	19
cover for pre-tensioning piston	17
cover for valve housing	19