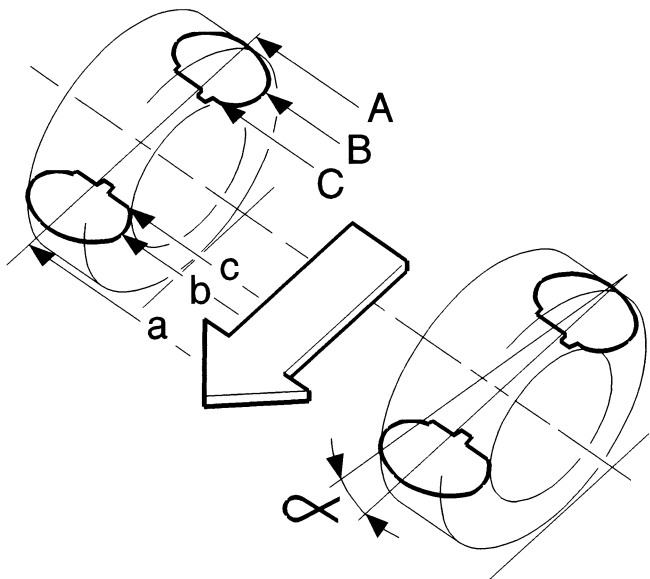


Section 6 Suspension and steering

Group 60 Wheel alignment

Turning circle, measured with tyre size 205	11.2 m (36.75 ft.)
Steering wheel turns, measured with tyre size 205	3.2

Wheel angles:	Checking and set values	Maximum difference between left and right-hand sides
Front:		
Camber	$0^{\circ} \pm 0.5^{\circ}$	$0.15^{\circ} \pm 0.5^{\circ}$
Caster	$4.0^{\circ} \pm 1^{\circ}$	
Toe-in, can be adjusted	$0.3^{\circ} \pm 0.1^{\circ}$	
Wheel deflection	$\pm 8^{\circ}$	
Inner wheel	34.5°	
Outer wheel	39.2°	
Rear:		
Camber	$-0.2^{\circ} \pm 0.75^{\circ}$	
Toe-in, can be adjusted	$0.2^{\circ} \pm 0.2^{\circ}$	
Thrust angle, can be adjusted	$0^{\circ} \pm 0.25^{\circ}$	



Conversion table for Toe-in from degrees to mm (inches)

Wheel size:	A – a mm (inches)	B – b mm (inches)	C – c mm (inches)
Front wheel 16"	3.6 ± 1.0 ($0.14" \pm 0.04"$)	2.8 ± 0.9 ($0.11" \pm 0.04"$)	2.3 ± 0.8 ($0.10" \pm 0.03"$)
Rear wheel 16"		1.9 ± 1.9 ($0.075" \pm 0.075"$)	1.5 ± 1.5 ($0.060" \pm 0.060"$)

Group 61 Front suspension

Designation	Tightening torques		
	Nm	ft. lb.	Dimension
Ball joint - Spring strut	50 ± 12	37 ± 9	M10
Ball joint - Control arm	80 ± 20	59 ± 15	M12
Control arm - Sub-frame, Left:			
Stage 1	65	48	M12
Stage 2 angle tightening	90°		
Control arm - Sub-frame, Right:			
Stage 1	65	48	M12
Stage 2 angle tightening	90°		
Control arm - Sub-frame:			
Stage 1	105	78	M14
Stage 2 angle tightening	90°		
Anti-roll bar - Sub-frame	50 ± 12	37 ± 9	M10
Anti-roll bar - Link	50 ± 12	37 ± 9	M10
Link - Spring strut	80 ± 20	59 ± 15	M12
Shock absorber - Steering arm:			
Stage 1	105	77	M14
Stage 2 angle tightening	60°		
Front wheel hub - Steering arm:			
Stage 1	20	15	M12
Stage 2	45	33	
Stage 3 angle tightening	60°		
Front wheel hub - Drive shaft	50 ± 12	37 ± 9	M10
Shock absorber - Upper bearing	70 ± 15	52 ± 11	M14

Group 64 Steering

Steering gear:	
Make	SMI
Turns of the steering wheel lock to lock:	
Tyre size: 205	3.17
Tyre size: 215	3.0
Tyre size: 225	2.87
Gear ratio	16.4:1
Friction torque, measured at input shaft, maximum	2.2 Nm (1.6 ft.lb)
Power steering balance check:	
Pump pressure at specified steering shaft torque	1.2 MPa
Torque on steering shaft	3.0 - 4.0 Nm (2.2 - 3 ft.lb)
Greatest permitted difference between right and left	0.7 Nm (0.5 ft.lb)
Lubricants:	
Grease	Volvo P/N: 11 61 001
Quantity	100 grammes (0.2 US lbs.)
Power steering fluid, power steering gear:	
Oil type: ENTOSIN, CHF 11S:	
Power steering fluid	Volvo P/N: 11 61 529
Quantity	0.9 liters (0.95 US quarts)
Power steering pump:	
Maximum pressure	11 MPa

Tightening torques

Mechanical component: Designation:	Tightening torques Nm	Tightening torques ft.lb.	Dimen- sion
Steering wheel - Steering column	40 ± 10	30 ± 7	M14
Airbag unit - Steering wheel . . .	10 ± 2.5	7 ± 2	M6
Steering shaft, lower - Steering column	25 ± 6	18 ± 4. 5	M8
Steering shaft, lower - Steering gear	25 ± 6	18 ± 4.5	M8
Steering column - X member . . .	25 ± 6	18 ± 4.5	M8
Steering gear - Sub-frame, side	50 ± 12	37 ± 9	M10
Steering gear - Mounting, centre	50 ± 12	37 ± 9	M10
Tie rod - Outer ball joint	70 ± 15	52 ± 11	M14
Tie rod ball joint - Steering arm, steel	70 ± 15	52 ± 11	M12
Tie rod ball joint - Steering arm, aluminium	80 ± 20	59 ± 15	M12
Bracket - Sub-frame	50 ± 12	37 ± 9	M10
Strut, steering column - Strut A post	25 ± 6	18 ± 4.5	M8
Heat deflector plate - Steering gear	6 ± 1.5	4.5 ± 1	M5
Mounting, centre - Sub-frame . . .	50 ± 12	37 ± 9	M10

Group 65 Rear suspension

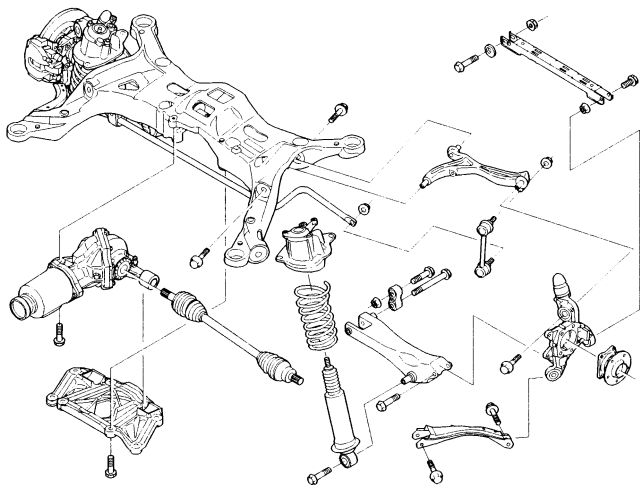
Mechanical component	Tightening torques	Tightening torques	Dimension
Designation:	Nm	ft.lb.	
Sub-frame - Lower control arm	80 ± 20	59 ± 15	M12
Control arm upper, rear - Sub-frame	80 ± 20	59 ± 15	M12
Control arm upper, front - Sub-frame	80 ± 20	59 ± 15	M12
Sub-frame - Track rod	80 ± 20	59 ± 15	M12
Anti-roll bar - Sub-frame	80 ± 20	59 ± 15	M12
Trailing link - Sub-frame	80 ± 20	59 ± 15	M12
Trailing link - Wheel unit	80 ± 20	59 ± 15	M12
Sub-frame, front - Car body	80 ± 20	59 ± 15	M12
Sub-frame, rear - Car body	80 ± 20	59 ± 15	M12
Shock absorber - Upper bearing	60 ± 15	44 ± 11	M12
Control arm, lower - Wheel unit	80 ± 20	59 ± 15	M12
Bottom flange - Body	80 ± 20	59 ± 15	M12
Track rod - Wheel unit	80 ± 20	59 ± 15	M12
Bracket, ABS cable - trailing link	2.4 ± 0.4	2 ± 0.2	ST4.8
Control arm, lower - Shock absorber	80 ± 20	59 ± 15	M12
Bearing, upper - Spring mounting	25 ± 6	18 ± 4.5	M8
Link - Anti-roll bar	80 ± 20	59 ± 15	M12
Control arm, upper - Link	80 ± 20	59 ± 15	M12
Rear wheel hub - Wheel bearing housing			M12
Stage 1	20	15	
Stage 2	45	33	
Stage 3 angle tightening	60°		
EVAP canister - Sub-frame	25 ± 6	18 ± 4.5	M8
Control arm, upper - Wheel unit	80 ± 20	59 ± 15	M12
Exhaust mounting - Sub-frame	25 ± 6	18 ± 4.5	M8
Bearing, upper - Car body	25 ± 6	18 ± 4.5	M8
Bracket, bump rubber - Car body	25 ± 6	18 ± 4.5	M8

V70

Group 6 5 Rear suspension

Mechanical component Designation:	Tightening torques Nm	Tightening torques ft.lb.	Dimension
Spring mounting - Body	50 ± 12	37 ± 9	M10
EVAP canister bracket - EVAP canister	10 ± 2.5	7 ± 2	M6

Rear axle, AWD



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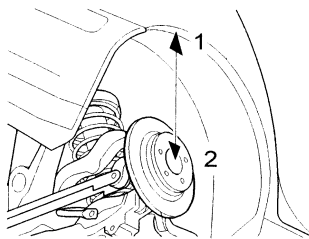
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Group 65 Rear suspension

Rear axle, AWD, tightening torques

Mechanical component Designation:	Tightening torques:		Dimension:
	Nm	ft.lb.	
Sub-frame - Lower control arm	80	59	M12
Control arm, upper rear - Sub-frame	80	59	M12
Control arm, upper front - Sub-frame	80	59	M12
Sub-frame - Track rod	80	59	M12
Anti-roll bar - Sub-frame	80	59	M12
Trailing link - Sub-frame	80	59	M12
Trailing link - Wheel unit	80	59	M12
Sub-frame, front - Car body	80	59	M12
Sub-frame, rear - Car body	80	59	M12
Shock absorber - Upper bearing	60	44	M12
Control arm, lower - Wheel unit	80	59	M12
Bottom flange - Body	80	59	M12
Track rod - Wheel unit	80	59	M12
Control arm, lower - Shock absorber	80	59	M12
Bearing, upper - Spring mounting	25	18	M8
Link - Anti-roll bar	80	59	M12
Control arm, upper - Link	80	59	M12
EVAP canister - Sub-frame	25	18	M8
Control arm, upper - Wheel unit	80	59	M12
Exhaust mounting - Sub-frame	25	18	M8
Bearing, upper - Car body	25	18	M8
Bracket, bump rubber - Car body	25	18	M8

Mechanical component Designation:	Tightening torques:		Dimension:
	Nm	ft.lb.	
Spring mounting - Body	50	37	M10
EVAP canister bracket - EVAP canister	10	7	M6
Sub-frame - Sub-frame cover	100	74	M12
Lower control arm - Sub-frame	80	59	M12
Link, lower control arm - Sub-frame	80	59	M12
Lower control arm - Shock absorber	80	59	M12
Sub-frame - Final drive	80	59	M12
Lower control arm - Wheel unit	80	59	M12
Rear wheel hub - Drive shaft	50	37	M10
Washer, upper bearing - Upper mounting	25	18	M8
Sub-frame - Collision protection system, EVAP canister	50	37	M10
Bracket, shut-off valve - Collision protection system	10	7	M6
Bracket, rear - Collision protection system	10	7	M6
ABS sensor - Wheel bearing housing	10	7	M6
Wheel bearing housing, ABS - Bracket	10	7	M6
Brake hose - Brake caliper	50	37	M10
Bracket, mechanical cable, parking brake - Sub-frame	20	15	M8
Bracket, mechanical cable, parking brake - Sub-frame	20	15	M8



Tightening screw fasteners

Tighten when the rear suspension is in its normal position:

The normal position for the rear suspension is when the distances from the edge of the wing **(1)**

to the centre of the wheel **(2)** are the following:

2WD	394 ± 1 mm (15.5" ± 0.04")
AWD	418 ± 1 mm (16.5" ± 0.04")