member -No. 2- to inner front body -No. 5-	M12 x 1.5/always use new bolts when re-tightening				
Stud to front body for lock nut - No. 6-	Stud, M12 x 1.5	Tightening torque	30 Nm (22 ftlb.)	Â	Â
Front-axle cross member -No. 2- to centre front body - No. 6-	Lock nut, M12 x 1.5/always use new nuts when retightening	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Front-axle cross member -No. 2- to centre front body - No. 6-	Lock nut, M12 x 1.5/always use new nuts when retightening	Final tightening	+90Â°	Â	Â
Steering gear to front-axle cross member	Hexagon-head bolt, M10 x 60/always use new bolts following removal	Tightening torque	70 Nm (52 ftlb.)	Â	Â
Holder for coolant pipes to front-axle cross member	Hexagon-head bolt, M6	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Holder for height sensor and coolant pipe to front-axle cross member	Hexagon-head bolt, M6	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â

Subframe

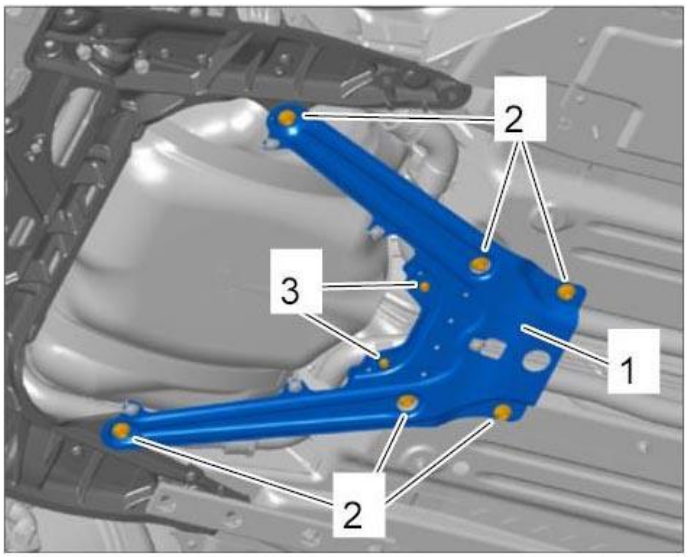

Fig. 12: Identifying Front-Axle Support
Courtesy of PORSCHE CARS NORTH AMERICA, INC.

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Subframe No. 1 to front-axle cross member and body	Hexagon nut/hexagon-head bolt, M10	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Coolant pipes to subframe	Hexagon-head bolt, M6	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â

Trailing Arm

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Wishbone to front-axle cross member	M12 x 1.5 x 90	Tightening torque	120 Nm (89 ftlb.)	Â	Â
Wishbone connection to longitudinal arm (diagonal arm)	M14 x 1.5/hexagon-head bolt and hexagon nut	Tightening torque	160 Nm (118 ftlb.)	Â	Â
Longitudinal arm (diagonal arm) with front-axle cross member to body	Hexagon-head bolt, M12 x 1.5 x 105/always use new	Initial tightening	90 Nm (67 ftlb.)	Â	Â

	bolts following removal				
Longitudinal arm (diagonal arm) with front-axle cross member to body	Hexagon-head bolt, M12 x 1.5 x 105/always use new bolts following removal	Final tightening	+180Â°	Â	Â
Wishbone to wheel carrier (ball joint)	Lock nut, M12 x 1.5	Tightening torque	85 Nm (63 ftlb.)	Â	Â
Wishbone to wheel carrier (911 GT3)	Hexagon-head bolt, M12 x 1.5 x 90	Tightening torque	120 Nm (89 ftlb.)	Â	Â
Basic camber setting on 2-part trailing arm (911 GT3)	M8 hexagon nut	Tightening torque	27 Nm (20 ftlb.)	Â	Â
Tie rod to wheel carrier (ball joint)	Lock nut, M12 x 1.5	Tightening torque	85 Nm (63 ftlb.)	Â	Â
Aluminum tie rod to axial joint	Lock nut, M14 x 1.5	Tightening torque	50 Nm (37 ftlb.)	Â	Â

Spring Strut

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Spring strut to wheel carrier	M12 x 1.5/conventional and PDCC	Tightening torque	85 Nm (63 ftlb.)	Â	Â
Spring strut to lower wheel carrier (only for 911 GT3)	M8 x 35 (only for 911 GT3)	Tightening torque	23 Nm (17 ftlb.)	Â	Â
Spring-strut supporting mount to body	Hexagon nut, M8	Tightening torque	33 Nm (24 ftlb.)	Â	Â
Spring-strut supporting mount to piston rod	Lock nut, M14 x 1.5	Tightening torque	70 Nm (52 ftlb.)	Â	Â
Height adjustment at spring strut/lock nut (911 GT3)	Lock nut, M52 x 1.5	Tightening torque	50 Nm (37 ftlb.)	Â	Â
Securing air connection to spring strut (911 GT3 with lift system)	Cheese head bolt, M6 x 16	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â

Wheel Bearing Housing (Wheel Carrier)

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Brake cover plate to wheel carrier	M6 screw	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Brake disc to wheel hub	M6 screw	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Wheel driver pin to wheel hub (central bolt on 911 Turbo/GTS)	Cheese head bolts, M6 x 30/always use new bolts following removal	Tightening torque	14 Nm (10.5 ftlb.)	Â	Â
Wheel driver pin to wheel hub (central bolt on 911 GT3)	Cheese head bolts, M8 x 32/always use new screws following removal	Tightening torque	31 Nm (23 ftlb.)	Â	Â
Brake calliper to wheel carrier	M12 x 1.5/always use new screws following removal	Tightening torque	85 Nm (63 ftlb.)	Â	Â
Speed sensor to wheel carrier	Cheese head bolt, M6 x 16	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Brake hose bracket to wheel carrier	M6 screw	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Retainer plate for wheel bearing to wheel carrier	Hexagon-head bolt, M8	Tightening torque	37 Nm (27 ftlb.)	Â	Â
Wheel bearing assembly with	Cheese head bolt, M12 x 1.25 x 45/always use new	Initial tightening	80 Nm (59 ftlb.)	Â	Â

housing to wheel carrier (911 GT3)	bolts when re-tightening				
Wheel bearing assembly with housing to wheel carrier (911 GT3)	Cheese head bolt, M12 x 1.25 x 45/always use new bolts when re-tightening	Final tightening	+120Â°	Â	Â
Wheel hub to wheel carrier (tension bolt for rear wheel drive)	Lock nut, M22 x 1.5/always use new lock nuts following removal	Tightening torque	460 Nm (340 ftlb.)	Â	Â
Drive shaft to wheel hub	Lock nut, M22 x 1.5/always use new lock nuts following removal	Tightening torque	460 Nm (340 ftlb.)	Â	Â

ANTI-ROLL BAR/FRONT CONNECTING LINK - WITHOUT PDCC

Also valid for 911 GT3 (991).

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Anti-roll bar clamp to front-axle cross member	Hexagon-head bolt, M10 x 60 + hexagon nut	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to spring strut (shock-absorber pipe clamp)	M12 x 1.5 thread	Tightening torque	85 Nm (63 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to anti-roll bar	Collar nut, M10 x 1.5/always use new collar nut following removal	Initial tightening	40 Nm (30 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to anti-roll bar	Collar nut, M10 x 1.5/always use new collar nut following removal	Final tightening	+30Â°	Â	Â

Anti-Roll Bar/Front Connecting Link - With PDCC

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Anti-roll bar clamp to front-axle cross member (PDCC)	Hexagon-head bolt, M10 x 60 + hexagon nut	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Connecting link (PDCC actuator) to anti-roll bar	Collar nut, M12 x 1.5/always use new collar nut following removal	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (PDCC actuator) to anti-roll bar	Collar nut, M12 x 1.5/always use new collar nut following removal	Final tightening	+50Â°	Â	Â
Connecting link (PDCC actuator) to spring strut (actuator holder)	Collar nut, M12 x 1.5/always use new collar nut following removal	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (PDCC actuator) to spring strut (actuator holder)	Collar nut, M12 x 1.5/always use new collar nut following removal	Final tightening	+50Â°	Â	Â
Actuator holder (PDCC) to spring strut (shock absorber pipe)	Hexagon-head bolt, M10 x 55	Tightening torque	46 Nm (34 ftlb.)	Â	Â
Hydraulic lines to connecting link (PDCC actuator)	Banjo bolt, M12 x 1.5	Tightening torque	26 Nm (19 ftlb.)	Â	Â
Holder for fixing device for pressure lines to connecting link (PDCC actuator)	Countersunk screw, M6 x 12	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â

Wheel Mounting

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Wheel to wheel hub on front and rear axle, M14 x 1.5	Do not grease thread, shank and under the head (between screw head bearing surface and spherical cap ring) of the wheel bolts. Do not grease bearing surface of the spherical cap facing the wheel. If heavily soiled, clean bolts first with a lint-free cloth. Replace damaged wheel bolts (rework not permitted).	Tightening torque	160 Nm (118 ftlb.)	Â	Â

WM 4X00IN TIGHTENING TORQUES FOR REAR AXLE (EXCEPT CARRERA "EDITION", CARRERA CABRIOLET "EDITION", CARRERA 4 "EDITION", CARRERA 4 CABRIOLET "EDITION")

TECHNICAL VALUES

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Stud for securing rear-axle carrier side section to body (rear)	M12 x 1.5 x 120	Tightening torque	30 Nm (22 ftlb.)	Â	Â
Carrier side section to body (rear)	M12 x 1.5/always use new hexagon nuts following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Carrier side section to body (rear)	M12 x 1.5/always use new hexagon nuts following removal	Final tightening	+90Â°	Â	Â
Carrier side section to body (centre and front)	M12 x 1.5/always use new hexagon-head bolts following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Carrier side section to body (centre and front)	M12 x 1.5/always use new hexagon-head bolts following removal	Final tightening	+90Â°	Â	Â
Rear-axle cross member to carrier side section (not for 911 GT3)	M12 x 1.5 x 95/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear-axle cross member to carrier side section (not for 911 GT3)	M12 x 1.5 x 95/always use new screws following removal	Final tightening	+90Â°	Â	Â
Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always replace screws following removal	Final tightening	+90Â°	Â	Â
Rear-axle cross member to carrier side section (not for 911 GT3)	M12 x 1.5 x 95/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear-axle cross member to carrier side section (not for 911 GT3)	M12 x 1.5 x 95/always use new screws following removal	Final tightening	+90Â°	Â	Â

Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always use new screws following removal	Final tightening	+90Â°	Â	Â
No. 2/Diagonal brace (No. 1) to rear-axle cross member	M12 x 1.5 x 45/always use new screws following removal	Initial tightening	30 Nm (22 ftlb.)	Â	Â
No. 2/Diagonal brace (No. 1) to rear-axle cross member	M12 x 1.5 x 45/always use new screws following removal	Final tightening	+90Â°	Â	Â
No. 3/Diagonal brace (No. 1) to body front	M12 x 1.5 x 40/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
No. 3/Diagonal brace (No. 1) to body front	M12 x 1.5 x 40/always use new screws following removal	Final tightening	+90Â°	Â	Â
Diagonal brace to outer body - Cabriolet only	Hexagon-head bolt, M8 x 25	Tightening torque	30 Nm (22 ftlb.)	Â	Â
No. 4/Diagonal brace (No. 1) to mounting for longitudinal arm (diagonal arm)/not on 911 GT3	Cheese head bolt, M10 x 45	Tightening torque	65 Nm (48 ftlb.)	Â	Â
No. 4/Diagonal brace (No. 1) to mounting for longitudinal arm (diagonal arm)/911 GT3	Cheese head bolt, M8 x 30	Tightening torque	23 Nm (17 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to mounting for longitudinal arm	M12 x 1.5 x 90/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to mounting for longitudinal arm	M12 x 1.5 x 90/always use new screws following removal	Final tightening	+90Â°	Â	Â
Lower longitudinal arm (diagonal arm) to wheel bearing housing	M12 x 1.5 x 90/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to wheel bearing housing	M12 x 1.5 x 90/always use new screws following removal	Final tightening	+90Â°	Â	Â
Support plate to diagonal brace and rear-axle cross member	Hexagon-head bolt, M8 x 25	Tightening torque	30 Nm (22 ftlb.)	Â	Â
Support plate to rear-axle cross member	Tapping screw	Tightening torque	3 Nm (2 ftlb.)	Â	Â
Toe control arm to wheel carrier (not for 911 GT3)	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Initial tightening	60 Nm (44 ftlb.)	Â	Â
Toe control arm to wheel carrier (not for 911 GT3)	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Final tightening	+90Â°	Â	Â
Toe control arm to	Hexagon nut, M12 x	Initial tightening	50 Nm (37 ftlb.)	Â	Â

wheel carrier (911 GT3)	1.5 (stud in wheel carrier)				
Toe control arm to wheel carrier (911 GT3)	Hexagon nut, M12 x 1.5 (stud in wheel carrier)	Final tightening	+50Â°	Â	Â
Toe control arm to rear-axle side section	Toe eccentric adjuster, M12 x 1.5	Tightening torque	100 Nm (74 ftlb.)	Â	Â
Upper longitudinal arm (diagonal arm) to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both pins on the longitudinal arm must be facing upwards	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Upper longitudinal arm (diagonal arm) to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both pins on the longitudinal arm must be facing upwards	Final tightening	+90Â°	Â	Â
Upper longitudinal arm (diagonal arm) to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both pins on the longitudinal arm must be facing upwards	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Upper longitudinal arm (diagonal arm) to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both pins on the longitudinal arm must be facing upwards	Final tightening	+90Â°	Â	Â
Upper wishbone to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Upper wishbone to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut	Final tightening	+90Â°	Â	Â
Upper wishbone to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Initial tightening	60 Nm (44 ftlb.)	Â	Â
Upper wishbone to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Final tightening	+90Â°	Â	Â
Lock nut securing ball sleeve joint to spindle on servo motor for rear axle steering	Micro-self-locking thread adhesive: Always replace ball sleeve joint and lock nut following removal.	Tightening torque	80 Nm (59 ftlb.)	+/-8 Nm (+/-6 ftlb.)	Â
Lower wishbone to rear-axle cross member (camber eccentric)	M12 x 1.5	Tightening torque	100 Nm (74 ftlb.)	Â	Â
Lower wishbone to rear-axle side section on 911 GT3 (camber eccentric)	M12 x 1.5	Tightening torque	100 Nm (74 ftlb.)	Â	Â
Lower wishbone to wheel carrier	M12 x 1.5 x 105/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower wishbone to wheel carrier	M12 x 1.5 x 105/always replace screws following removal	Final tightening	+90Â°	Â	Â

Basic camber setting on 2-part lower wishbone (911 GT3)	M10 hexagon nut	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to wheel carrier	M12 x 1.5 x 90/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to wheel carrier	M12 x 1.5 x 90/always replace screws following removal	Final tightening	+90Â°	Â	Â
Lower longitudinal arm (diagonal arm) to mounting (bracket)	M12 x 1.5 x 90/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to mounting (bracket)	M12 x 1.5 x 90/always replace screws following removal	Final tightening	+90Â°	Â	Â
Mounting (bracket) for lower longitudinal arm (diagonal arm) to body	M10	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Wheel bearing to wheel carrier (lid)	Hexagon-head bolt, M8 x 35	Tightening torque	37 Nm (27 ftlb.)	Â	Â
Wheel bearing with housing to wheel carrier (911 GT3)	Cheese head bolt, M12 x 1.25 x 45/always use new bolts following removal	Initial tightening	80 Nm (59 ftlb.)	Â	Â
Wheel bearing with housing to wheel carrier (911 GT3)	Cheese head bolt, M12 x 1.25 x 45/always use new bolts following removal	Final tightening	+120Â°	Â	Â
Speed sensor to wheel carrier	Cheese head bolt, M6 x 16	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Brake cover plate to wheel carrier	Screw, M6 x 16	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Retainer plate clamping brake shoes to wheel carrier	Screw, M6 x 16	Tightening torque	10 Nm	Â	Â
Brake disc to wheel hub	M6 screw	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Wheel driver pin to wheel hub (central bolt on 911 Turbo/GTS)	Cheese head bolts, M6 x 30/always use new bolts following removal	Tightening torque	14 Nm (10.5 ftlb.)	Â	Â
Wheel driver pin to wheel hub (central bolt on 911 GT3)	Cheese head bolts, M8 x 32/always use new bolts following removal	Tightening torque	31 Nm (23 ftlb.)	Â	Â
Brake calliper to wheel carrier (different screw lengths for PCCB and grey cast-iron brake callipers)	M12 x 1.5/always use new bolts on front and rear axle following removal	Tightening torque	85 Nm (63 ftlb.)	Â	Â
Holder securing combination wire to wheel carrier	M6	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Holder securing combination wire to rear-axle side section	M6	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Drive shaft to transmission flange (PDK and manual transmission)	Replace thread M10x1/after removal	Tightening torque	90 Nm	Â	Â
Drive shaft to wheel hub	M22 x 1.5 thread/always use	Tightening torque	460 Nm	Â	Â

	new lock nuts following removal/grease drive shaft toothing with Optimoly HT (copper grease)/do not grease thread!				
Anti-roll bar clamp to rear-axle cross member (conventional and PDCC anti-roll bar)	Hexagon-head bolt, M10	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to anti-roll bar	Collar nut, M10/always use new collar nut following removal	Initial tightening	40 Nm (30 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to anti-roll bar	Collar nut, M10/always use new collar nut following removal	Final tightening	+30Â°	Â	Â
Connecting link (conventional suspension/stabiliser) to wheel carrier	Hexagon nut, M12	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to wheel carrier	Hexagon nut, M12	Final tightening	+50Â°	Â	Â
Connecting link (PDCC actuator) to anti-roll bar	Collar nut, M12/always use new collar nut following removal	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (PDCC actuator) to anti-roll bar	Collar nut, M12/always use new collar nut following removal	Final tightening	+50Â°	Â	Â
Connecting link (PDCC actuator) to wheel carrier	Cheese head bolt with hexagon nut, M12	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (PDCC actuator) to wheel carrier	Cheese head bolt with hexagon nut, M12	Final tightening	+50Â°	Â	Â
Hydraulic lines to connecting link (PDCC actuator)	Banjo bolt, M12 x 1.5	Tightening torque	26 Nm (19 ftlb.)	Â	Â
Spring-strut mount to body	Hexagon nut, M8	Tightening torque	33 Nm (24 ftlb.)	Â	Â
Spring strut to wheel carrier	Cheese head bolt/hexagon nut, M12 x 1.5	Tightening torque	110 Nm (81.5 ftlb.)	Â	Â
Damper piston rod to spring-strut mount (with and without PASM)	Lock nut, M12 x 1	Tightening torque	approx.34 Nm (33.5) (25 (24.5) ftlb.)	Â	Â
Height adjustment at spring strut/lock nut (911 GT3)	Lock nut, M52 x 1.5	Tightening torque	50 Nm (37 ftlb.)	Â	Â
Wheel to wheel hub on front and rear axle, M14 x 1.5	Do not grease thread, shank and under the head (between screw head bearing surface and spherical cap ring) of the wheel bolts. Do not grease bearing surface of the spherical cap facing the wheel. If heavily soiled, clean bolts first with a lint-free cloth. Replace damaged wheel bolts	Tightening torque	160 Nm (118 ftlb.)	Â	Â

	(rework not permitted).				
Wheel to wheel hub/central bolt	All contact surfaces of the wheel, wheel hub and brake disc as well as the trapezoidal thread in the wheel hub must be free of abrasion, sand, dust or chips. Apply some aluminum paste (Optimoly TA) on the trapezoidal thread in the wheel hub if necessary. Grease the conical surface of the central bolt with a very light coating of aluminum paste before fitting each wheel. For advanced grease specifications (which are only necessary under certain conditions), refer to the description **440519 REMOVING AND INSTALLING WHEEL WITH CENTRAL BOLT** .	3-step tightening procedure (Step 1: Tighten to 600 Nm (444 ftlb.). Step 2: Loosen the central bolt again (slightly) by approx. 90 angular degrees (1/4 turn). Step 3: Tighten to 600 Nm (444 ftlb.)).	600 Nm	Â	Â
Wheel driver pin to wheel hub (911 Turbo)	Cheese head bolts, M6 x 30/always use new bolts following removal	Tightening torque	14 Nm (10.5 ftlb.)	Â	Â
Wheel driver pin to wheel hub (911 GT3)	Cheese head bolts, M8 x 32/always use new bolts following removal	Tightening torque	31 Nm (23 ftlb.)	Â	Â
No. 13/Engine mount to body	Hexagon-head bolt, M8 x 35 or M8 x 65 for active engine mounts (PADM)	Tightening torque	23 Nm (17 ftlb.)	Â	Â
No. 14/Engine carrier to engine mount	Collar nut, M12	Tightening torque	85 Nm (63 ftlb.)	Â	Â
No. 2/Brace plate (No. 1) to body	Hexagon-head bolt, M10 x 40	Initial tightening	30 Nm (22 ftlb.)	Â	Â
No. 2/Brace plate (No. 1) to body	Hexagon-head bolt, M10 x 40	Final tightening	+90Â°	Â	Â
No. 3/Transmission bracket to body	Hexagon-head bolt, M10 x 50	Tightening torque	65 Nm (48 ftlb.)	Â	Â
No. 4/Transmission support to body	Collar nut, M10	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Transmission support and transmission bracket to transmission mount	Screw, M12 x 140 with M12 collar nut	Tightening torque	120 Nm (89 ftlb.)	Â	Â
No. 3/Middle of brace plate (No. 1) to body	Hexagon-head bolt, M10 x 70	Initial tightening	30 Nm (22 ftlb.)	Â	Â
No. 3/Middle of brace plate (No. 1) to body	Hexagon-head bolt, M10 x 70	Final tightening	+90Â°	Â	Â
Middle of brace plate to body					

TIGHTENING TORQUES FOR REAR AXLE

Rear-Axle Carrier Side Section

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2

Stud for securing rear-axle carrier side section to body (rear)	M12 x 1.5 x 120	Tightening torque	30 Nm (22 ftlb.)	Â	Â
Carrier side section to body (rear)	M12 x 1.5/always use new hexagon nuts following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Carrier side section to body (rear)	M12 x 1.5/always use new hexagon nuts following removal	Final tightening	+90Â°	Â	Â
Carrier side section to body (centre and front)	M12 x 1.5/always use new hexagon-head bolts following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Carrier side section to body (centre and front)	M12 x 1.5/always use new hexagon-head bolts following removal	Final tightening	+90Â°	Â	Â
Rear-axle cross member to carrier side section (not for 911 GT3)	M12 x 1.5 x 95/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear-axle cross member to carrier side section (not for 911 GT3)	M12 x 1.5 x 95/always use new screws following removal	Final tightening	+90Â°	Â	Â
Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always replace screws following removal	Final tightening	+90Â°	Â	Â

Rear-Axle Cross Member, Diagonal Braces And Lower Longitudinal Arm (Diagonal Arm)

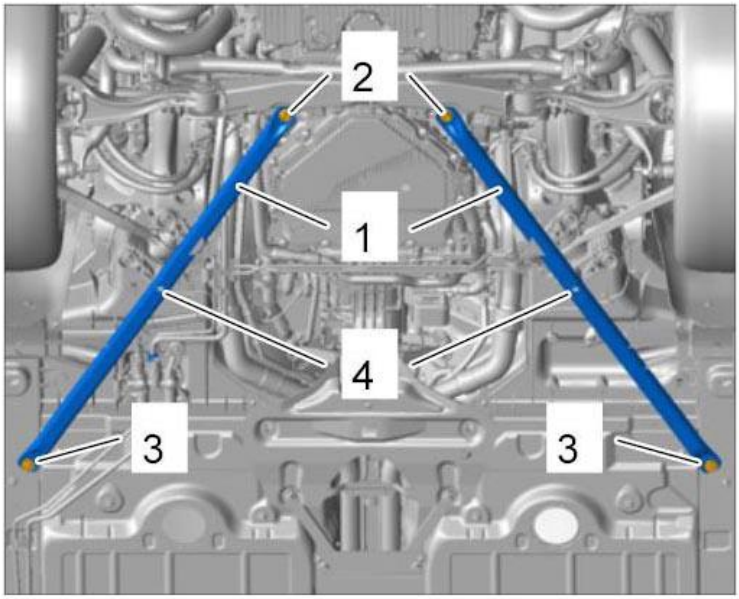

Fig. 13: Identifying Rear-Axle Cross Member Braces
Courtesy of PORSCHE CARS NORTH AMERICA, INC.

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Rear-axle cross member to carrier side section (not for 911 GT3)	M12 x 1.5 x 95/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear-axle cross	M12 x 1.5 x	Final tightening	+90Â°	Â	Â

member to carrier side section (not for 911 GT3)	95/always use new screws following removal				
Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Rear axle cross member to carrier side section (911 GT3)	2 x M12 x 1.5 x 80 (bottom) + 2 x M12 x 1.5 x 58 (top)/always use new screws following removal	Final tightening	+90Â°	Â	Â
No. 2/Diagonal brace (No. 1) to rear-axle cross member	M12 x 1.5 x 45/always use new screws following removal	Initial tightening	30 Nm (22 ftlb.)	Â	Â
No. 2/Diagonal brace (No. 1) to rear-axle cross member	M12 x 1.5 x 45/always use new screws following removal	Final tightening	+90Â°	Â	Â
No. 3/Diagonal brace (No. 1) to body front	M12 x 1.5 x 40/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
No. 3/Diagonal brace (No. 1) to body front	M12 x 1.5 x 40/always use new screws following removal	Final tightening	+90Â°	Â	Â
Diagonal brace to outer body - Cabriolet only	Hexagon-head bolt, M8 x 25	Tightening torque	30 Nm (22 ftlb.)	Â	Â
No. 4/Diagonal brace (No. 1) to mounting for longitudinal arm (diagonal arm)/not on 911 GT3	Cheese head bolt, M10 x 45	Tightening torque	65 Nm (48 ftlb.)	Â	Â
No. 4/Diagonal brace (No. 1) to mounting for longitudinal arm (diagonal arm)/911 GT3	Cheese head bolt, M8 x 30	Tightening torque	23 Nm (17 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to mounting for longitudinal arm	M12 x 1.5 x 90/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to mounting for longitudinal arm	M12 x 1.5 x 90/always use new screws following removal	Final tightening	+90Â°	Â	Â
Lower longitudinal arm (diagonal arm) to wheel bearing housing	M12 x 1.5 x 90/always use new screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to wheel bearing housing	M12 x 1.5 x 90/always use new screws following removal	Final tightening	+90Â°	Â	Â

Support Plate (Cabriolet And GT3 Only)

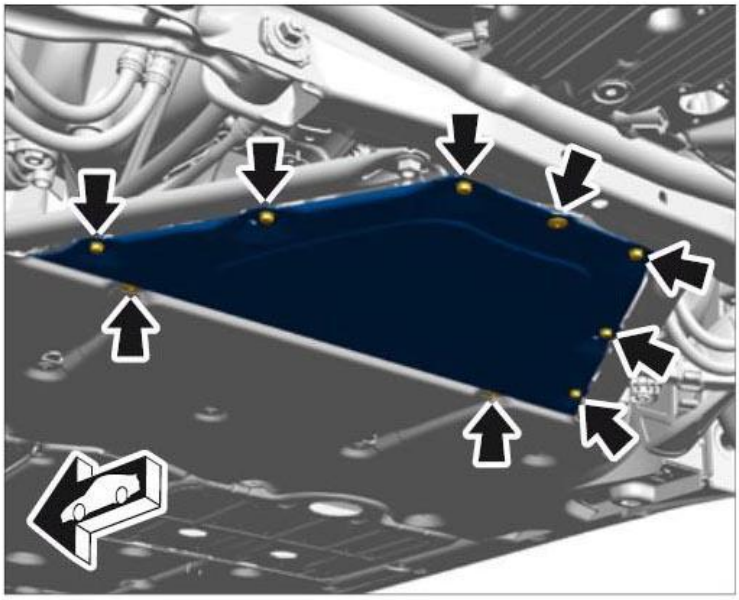

Fig. 14: Locating Support Plate
Courtesy of PORSCHE CARS NORTH AMERICA, INC.

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Support plate to diagonal brace and rear-axle cross member	Hexagon-head bolt, M8 x 25	Tightening torque	30 Nm (22 ftlb.)	Â	Â
Support plate to rear-axle cross member	Tapping screw	Tightening torque	3 Nm (2 ftlb.)	Â	Â

Upper Trailing Arm

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Toe control arm to wheel carrier (not for 911 GT3)	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Initial tightening	60 Nm (44 ftlb.)	Â	Â
Toe control arm to wheel carrier (not for 911 GT3)	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Final tightening	+90Â°	Â	Â
Toe control arm to wheel carrier (911 GT3)	Hexagon nut, M12 x 1.5 (stud in wheel carrier)	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Toe control arm to wheel carrier (911 GT3)	Hexagon nut, M12 x 1.5 (stud in wheel carrier)	Final tightening	+50Â°	Â	Â
Toe control arm to rear-axle side section	Toe eccentric adjuster, M12 x 1.5	Tightening torque	100 Nm (74 ftlb.)	Â	Â
Upper longitudinal arm (diagonal arm) to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both pins on the longitudinal arm must be facing upwards	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Upper longitudinal arm (diagonal arm) to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both pins on the longitudinal arm must be facing upwards	Final tightening	+90Â°	Â	Â
Upper longitudinal arm (diagonal arm) to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both	Initial tightening	90 Nm (67 ftlb.)	Â	Â

	pins on the longitudinal arm must be facing upwards				
Upper longitudinal arm (diagonal arm) to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut/both pins on the longitudinal arm must be facing upwards	Final tightening	+90Â°	Â	Â
Upper wishbone to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Upper wishbone to rear-axle side section	Hexagon-head bolt, M12 x 1.5 x 80 + hexagon nut	Final tightening	+90Â°	Â	Â
Upper wishbone to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Initial tightening	60 Nm (44 ftlb.)	Â	Â
Upper wishbone to wheel carrier	Hexagon-head bolt, M12 x 1.5 x 80 (thread in wheel carrier)	Final tightening	+90Â°	Â	Â
Lock nut securing ball sleeve joint to spindle on servo motor for rear axle steering	Micro-self-locking thread adhesive: Always replace ball sleeve joint and lock nut following removal.	Tightening torque	80 Nm (59 ftlb.)	+/-8 Nm (+/- 6 ftlb.)	Â

Lower Trailing Arm

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Lower wishbone to rear-axle cross member (camber eccentric)	M12 x 1.5	Tightening torque	100 Nm (74 ftlb.)	Â	Â
Lower wishbone to rear-axle side section on 911 GT3 (camber eccentric)	M12 x 1.5	Tightening torque	100 Nm (74 ftlb.)	Â	Â
Lower wishbone to wheel carrier	M12 x 1.5 x 105/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower wishbone to wheel carrier	M12 x 1.5 x 105/always replace screws following removal	Final tightening	+90Â°	Â	Â
Basic camber setting on 2-part lower wishbone (911 GT3)	M10 hexagon nut	Tightening torque	65 Nm (48 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to wheel carrier	M12 x 1.5 x 90/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to wheel carrier	M12 x 1.5 x 90/always replace screws following removal	Final tightening	+90Â°	Â	Â
Lower longitudinal arm (diagonal arm) to mounting (bracket)	M12 x 1.5 x 90/always replace screws following removal	Initial tightening	90 Nm (67 ftlb.)	Â	Â
Lower longitudinal arm (diagonal arm) to mounting (bracket)	M12 x 1.5 x 90/always replace screws following removal	Final tightening	+90Â°	Â	Â
Mounting (bracket)	M10	Tightening torque	65 Nm (48 ftlb.)	Â	Â

for lower longitudinal arm (diagonal arm) to body					

Rear Wheel Bearing Housing (Wheel Carrier)

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Wheel bearing to wheel carrier (lid)	Hexagon-head bolt, M8 x 35	Tightening torque	37 Nm (27 ftlb.)	Â	Â
Wheel bearing with housing to wheel carrier (911 GT3)	Cheese head bolt, M12 x 1.25 x 45/always use new bolts following removal	Initial tightening	80 Nm (59 ftlb.)	Â	Â
Wheel bearing with housing to wheel carrier (911 GT3)	Cheese head bolt, M12 x 1.25 x 45/always use new bolts following removal	Final tightening	+120Â°	Â	Â
Speed sensor to wheel carrier	Cheese head bolt, M6 x 16	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Brake cover plate to wheel carrier	Screw, M6 x 16	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Retainer plate clamping brake shoes to wheel carrier	Screw, M6 x 16	Tightening torque	10 Nm	Â	Â
Brake disc to wheel hub	M6 screw	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Wheel driver pin to wheel hub (central bolt on 911 Turbo/GTS)	Cheese head bolts, M6 x 30/always use new bolts following removal	Tightening torque	14 Nm (10.5 ftlb.)	Â	Â
Wheel driver pin to wheel hub (central bolt on 911 GT3)	Cheese head bolts, M8 x 32/always use new bolts following removal	Tightening torque	31 Nm (23 ftlb.)	Â	Â
Brake calliper to wheel carrier (different screw lengths for PCCB and grey cast-iron brake callipers)	M12 x 1.5/always use new bolts on front and rear axle following removal	Tightening torque	85 Nm (63 ftlb.)	Â	Â
Holder securing combination wire to wheel carrier	M6	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â
Holder securing combination wire to rear-axle side section	M6	Tightening torque	10 Nm (7.5 ftlb.)	Â	Â

Drive Shaft

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Drive shaft to transmission flange (PDK and manual transmission)	Replace thread M10x1/after removal	Tightening torque	90 Nm	Â	Â
Drive shaft to wheel hub	M22 x 1.5 thread/always use new lock nuts following removal/grease drive shaft toothing with Optimoly HT (copper grease)/do not grease thread!	Tightening torque	460 Nm	Â	Â

Anti-Roll Bar/Rear Connecting Link (Not For 911 GT3)

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Anti-roll bar clamp to rear-axle cross	Hexagon-head bolt, M10	Tightening torque	65 Nm (48 ftlb.)	Â	Â

member (conventional and PDCC anti-roll bar)					
Connecting link (conventional suspension/stabiliser) to anti-roll bar	Collar nut, M10/always use new collar nut following removal	Initial tightening	40 Nm (30 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to anti-roll bar	Collar nut, M10/always use new collar nut following removal	Final tightening	+30Â°	Â	Â
Connecting link (conventional suspension/stabiliser) to wheel carrier	Hexagon nut, M12	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (conventional suspension/stabiliser) to wheel carrier	Hexagon nut, M12	Final tightening	+50Â°	Â	Â
Connecting link (PDCC actuator) to anti-roll bar	Collar nut, M12/always use new collar nut following removal	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (PDCC actuator) to anti-roll bar	Collar nut, M12/always use new collar nut following removal	Final tightening	+50Â°	Â	Â
Connecting link (PDCC actuator) to wheel carrier	Cheese head bolt with hexagon nut, M12	Initial tightening	50 Nm (37 ftlb.)	Â	Â
Connecting link (PDCC actuator) to wheel carrier	Cheese head bolt with hexagon nut, M12	Final tightening	+50Â°	Â	Â
Hydraulic lines to connecting link (PDCC actuator)	Banjo bolt, M12 x 1.5	Tightening torque	26 Nm (19 ftlb.)	Â	Â

SPRING STRUT

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Spring-strut mount to body	Hexagon nut, M8	Tightening torque	33 Nm (24 ftlb.)	Â	Â
Spring strut to wheel carrier	Cheese head bolt/hexagon nut, M12 x 1.5	Tightening torque	110 Nm (81.5 ftlb.)	Â	Â
Damper piston rod to spring-strut mount (with and without PASM)	Lock nut, M12 x 1	Tightening torque	approx.34 Nm (33.5) (25 (24.5) ftlb.)	Â	Â
Height adjustment at spring strut/lock nut (911 GT3)	Lock nut, M52 x 1.5	Tightening torque	50 Nm (37 ftlb.)	Â	Â

Wheel Mounting

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Wheel to wheel hub on front and rear axle, M14 x 1.5	Do not grease thread, shank and under the head (between screw head bearing surface and spherical cap ring) of the wheel bolts. Do not grease bearing surface of the spherical cap facing the wheel. If heavily soiled, clean bolts first with a lint-free cloth. Replace damaged wheel bolts	Tightening torque	160 Nm (118 ftlb.)	Â	Â