

Document title Adjust camber and caster at the front axle

Document number ar4020p0263ew

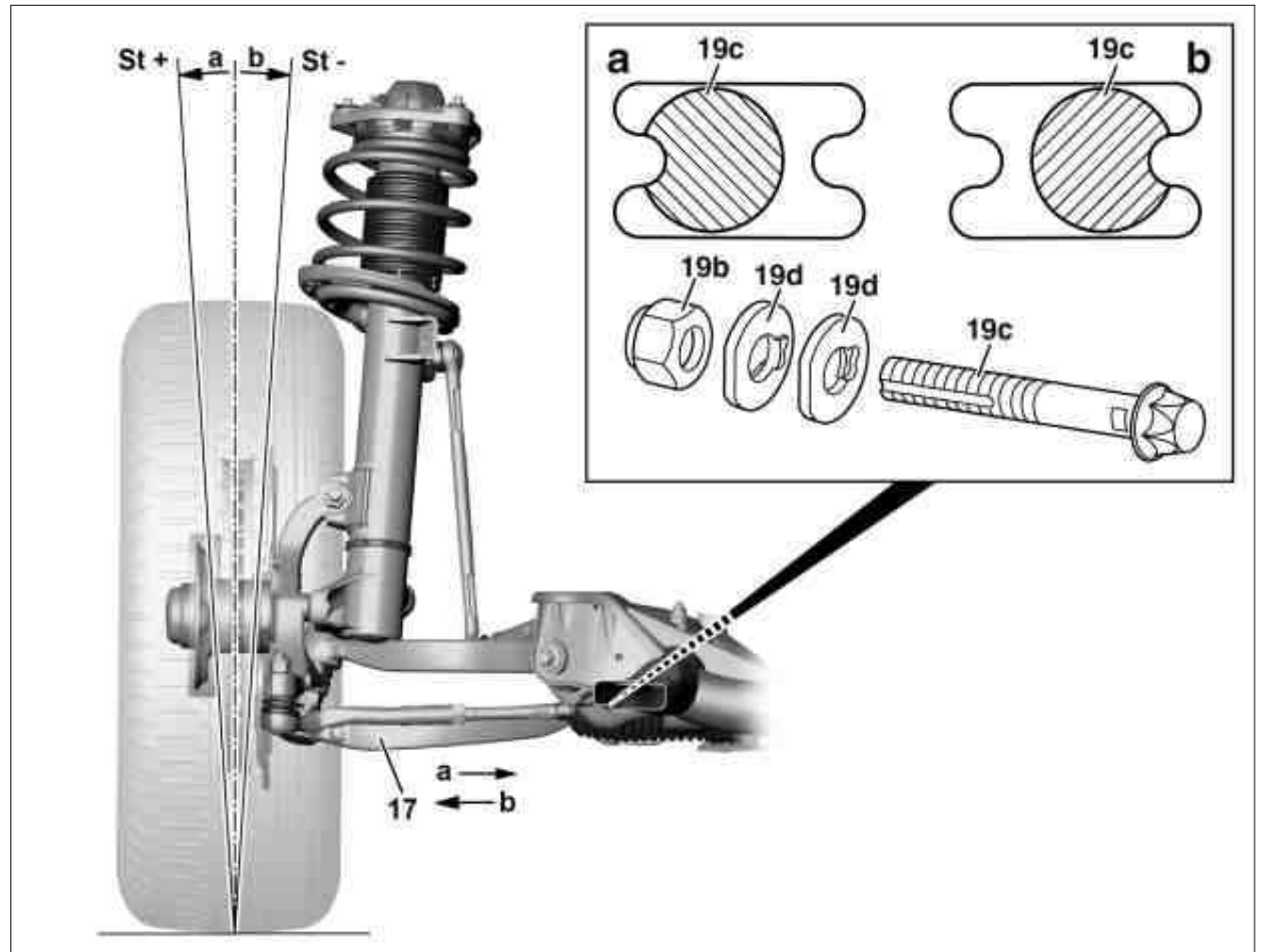
Model 212, 218

Modification notes

01.07.2013	Nachlaufwerte, Formular		BE40.20-P-1001-20E
01.07.2013	Zulässiger Unterschied Nachlauf zwischen rechter und linker Fahrzeugseite		BE40.20-P-1002-20E
01.07.2013	absolute Nachlauf-Toleranz		BE40.20-P-1003-20E

Camber, shown on vehicle except code 489 (AIRMATIC)

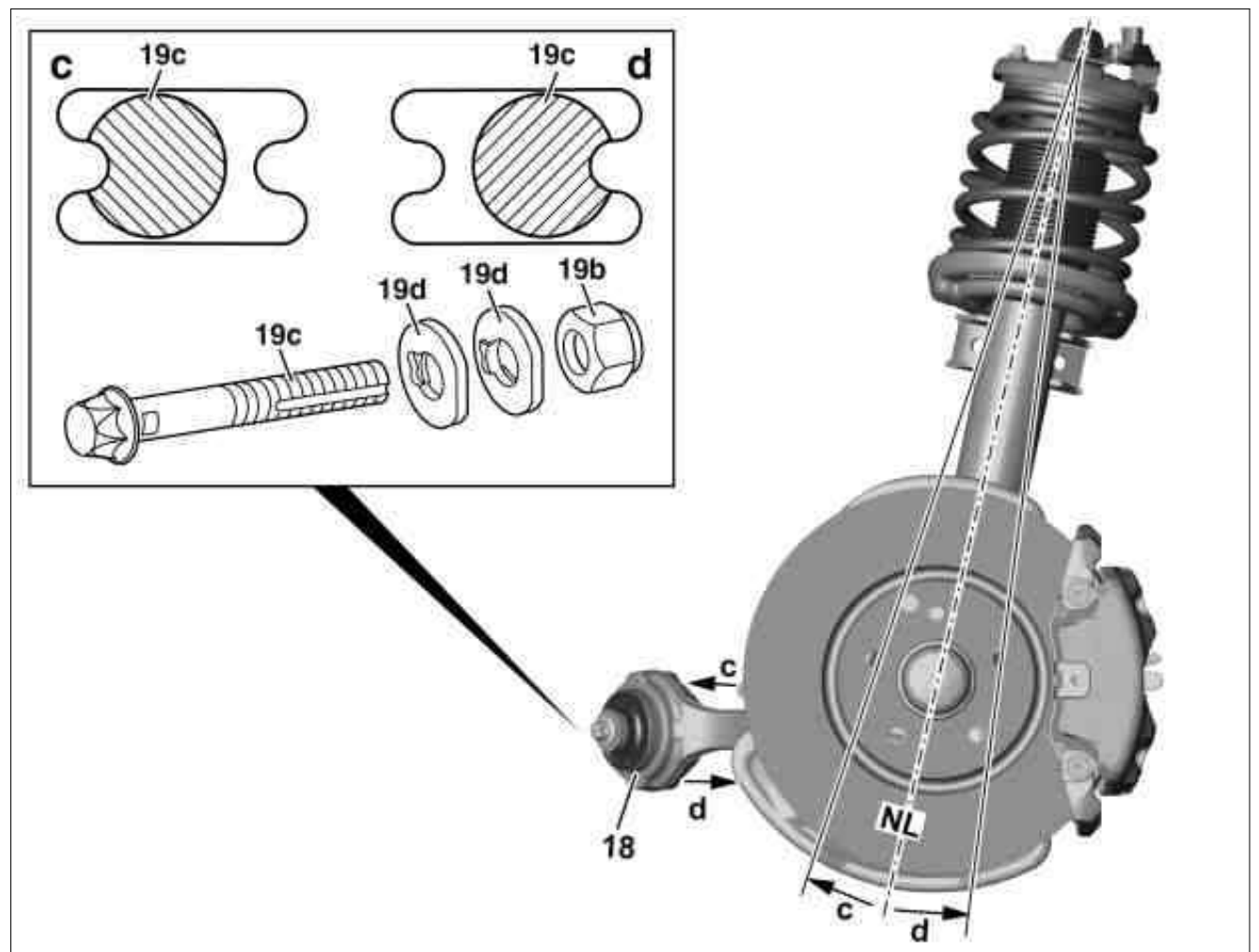
- 17 Cross strut
- 19b Nut
- 19c Repair bolt
- 19d Washer
- St+ Positive camber
- St- Negative camber



P40.20-2312-06
















Caster, shown on vehicle except code 489 (AIRMATIC)

- 18 Strut rod
- 19b Nut
- 19c Repair bolt
- 19d Washer
- NL Caster



P40.20-2434-06

	Check		
1	Perform wheel alignment check		AR40.20-P-0200EW
	Remove		

2.1	Remove engine compartment panels	Model 212 with engine 156, 157, 271, 272, 273, 274, 276, 278 Model 218 with engine 157, 274, 276, 278	AR61.20-P-1105EW
2.2	Remove bottom section of soundproofing	Model 212, 218 with engine 642, 651	AR94.30-P-5300EW
	Adjust		
3	Replace threaded connection of cross strut (17) on front axle carrier with repair bolt (19c) with washers (19d) and nuts (19b)	For camber correction  Pay attention to installation position of repair bolt (19c): Positive camber change (a) Negative camber change (b)  Screw on the nut (19b) of the repair bolt (19c) up to the contact surface, but do not tighten yet. Model 218 Permissible difference in front axle camber between right and left side of vehicle Model 218 Camber at vehicle level Model 212 Camber at vehicle level Model 212 Permissible difference in front axle camber between right and left side of vehicle	*BE40.20-P-1002-13S *BE40.20-P-1001-13S *BE40.20-P-1001-13P *BE40.20-P-1002-13P
4	Replace threaded connection of strut rod (18) on front axle carrier with repair bolt (19c) with washers (19d) and nuts (19b)	For caster correction  Pay attention to installation position of repair bolt (19c): Caster increase (c) Caster reduction (d)  Screw on the nut (19b) of the repair bolt (19c) up to the contact surface, but do not tighten yet. Model 212 Absolute caster tolerance Model 212 Permissible difference in caster between right and left side of vehicle Model 212 Caster values, form Model 218 Caster values, form Model 218 Permissible difference in caster between right and left side of vehicle Model 218 Absolute caster tolerance	*BE40.20-P-1003-20L *BE40.20-P-1002-20L *BE40.20-P-1001-20L *BE40.20-P-1001-20E *BE40.20-P-1002-20E *BE40.20-P-1003-20E
5	Lower vehicle onto its wheels and tighten nuts (19b) of repair bolts (19c)	 The repair bolt (19c) must not be twisted. Counterhold the repair bolt (19c) when tightening the nut (19b). Otherwise the lock tabs in the front axle carrier may be damaged.  Model 212 Bolt, strut rod to integral support  Model 212 Locknut (repair kit), strut rod to integral carrier  Model 212 Bolt, cross strut to integral carrier  Model 212 Locknut (repair kit), cross strut to integral carrier  Model 218 Bolt, strut rod to front axle carrier  Model 218 Self-locking nut (repair kit), strut rod to front axle carrier  Model 218 Screw/bolt, cross strut to front axle carrier  Model 218 Self-locking nut (repair kit), cross strut to front axle carrier	*BA33.20-P-1002-01O *BA33.20-P-1003-01O *BA33.20-P-1005-01O *BA33.20-P-1006-01O *BA33.20-P-1002-01Q *BA33.20-P-1003-01Q *BA33.20-P-1005-01Q *BA33.20-P-1006-01Q
	Check		
6	Perform wheel alignment check		AR40.20-P-0200EW
	Install		
7.1	Install engine compartment paneling.	Model 212 with engine 156, 157, 271, 272, 273, 274, 276, 278 Model 218 with engine 157, 274, 276, 278	AR61.20-P-1105EW
7.2	Install bottom sections of soundproofing	Model 212, 218 with engine 642, 651	AR94.30-P-5300EW

Test and adjustment values for front axle camber

Number	Designation	Model 212.0 with code 485, except 4MATIC	Model 212.0 with code 485, with 4MATIC
BE40.20-P-1001-13P	Camber at vehicle level	+5.80° \triangleleft °	-

+4.85°	∠°	-	-
+4.20°	∠°	-	-
+4.16°	∠°	-	-
+4.08°	∠°	-	-
+2.67°	∠°	-	0° -22' (±21')
+2.66°	∠°	-	-
+2.60°	∠°	-	-
+2.56°	∠°	0° -23' (±21')	-
+1.49°	∠°	-	-
+1.18°	∠°	-	-
+0.27°	∠°	-	-
+0.25°	∠°	-	-
+0.12°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			Model 212.0 with code 486/677, except 4MATIC	Model 212.0 with code 486/677, with 4MATIC
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	-
		+4.20°	∠°	-	-
		+4.16°	∠°	-	-
		+4.08°	∠°	-	-
		+2.67°	∠°	-	-
		+2.66°	∠°	-	-
		+2.60°	∠°	-	-
		+2.56°	∠°	-	-
		+1.49°	∠°	-	-
		+1.18°	∠°	-	-
		+0.27°	∠°	-	-
		+0.25°	∠°	-	0° -30' (±21')
+0.12°	∠°	0° -33' (±21')	-		

Test and adjustment values for front axle camber

Number	Designation			Model 212.002 with code P25	Model 212.0/2 with code 482
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	0° -12' (±21')
		+4.20°	∠°	-	-
		+4.16°	∠°	-	-
		+4.08°	∠°	-	-
		+2.67°	∠°	-	-
		+2.66°	∠°	-	-
		+2.60°	∠°	-	-
		+2.56°	∠°	-	-
		+1.49°	∠°	0° -27' (±21')	-
		+1.18°	∠°	-	-
		+0.27°	∠°	-	-
		+0.25°	∠°	-	-
+0.12°	∠°	-	-		

Test and adjustment values for front axle camber

Number	Designation			Model 212.0/2 with code 489, except 4MATIC	Model 212.0/2 with code 489, with 4MATIC
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	-
		+4.20°	∠°	-	-
		+4.16°	∠°	-	-
		+4.08°	∠°	-	-
		+2.67°	∠°	-	-
		+2.66°	∠°	-	-
		+2.60°	∠°	-	-
		+2.56°	∠°	-	-

+1.49°	∠°	-	-
+1.18°	∠°	-	-
+0.27°	∠°	0° -33' (±21')	-
+0.25°	∠°	-	0° -30' (±21')
+0.12°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			Model 212.1 with code 482	Model 212.1 with code 485
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	-
		+4.20°	∠°	-	-
		+4.16°	∠°	-	-
		+4.08°	∠°	0° -15' (±21')	-
		+2.67°	∠°	-	-
		+2.66°	∠°	-	-
		+2.60°	∠°	-	-
		+2.56°	∠°	-	0° -23' (±21')
		+1.49°	∠°	-	-
		+1.18°	∠°	-	-
		+0.27°	∠°	-	-
		+0.25°	∠°	-	-
		+0.12°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			Model 212.2 with code 485, except 4MATIC	Model 212.2 with code 485, with 4MATIC
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	-
		+4.20°	∠°	-	-
		+4.16°	∠°	-	-
		+4.08°	∠°	-	-
		+2.67°	∠°	-	-
		+2.66°	∠°	-	0° -33' (±21')
		+2.60°	∠°	-	-
		+2.56°	∠°	0° -23' (±21')	-
		+1.49°	∠°	-	-
		+1.18°	∠°	-	-
		+0.27°	∠°	-	-
		+0.25°	∠°	-	-
		+0.12°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			Model 212.2 with code 486/677, except 4MATIC	Model 212.2 with code 486/677, with 4MATIC
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	-
		+4.20°	∠°	-	-
		+4.16°	∠°	-	-
		+4.08°	∠°	-	-
		+2.67°	∠°	-	-
		+2.66°	∠°	-	-
		+2.60°	∠°	-	-
		+2.56°	∠°	-	-
		+1.49°	∠°	-	-
		+1.18°	∠°	-	-
		+0.27°	∠°	-	-
		+0.25°	∠°	-	0° -30' (±21')
		+0.12°	∠°	0° -33' (±21')	-

Test and adjustment values for front axle camber

Number	Designation			MODEL 212.025/056/072 with CODEZ04	Model 212 AMG up to 11.2011, except 4MATIC
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	-
		+4.20°	∠°	-	-
		+4.16°	∠°	-	-
		+4.08°	∠°	-	-
		+2.67°	∠°	-	-1,32' (±21')
		+2.66°	∠°	-	-
		+2.60°	∠°	-	-
		+2.56°	∠°	-	-
		+1.49°	∠°	-	-
		+1.18°	∠°	-	-
		+0.27°	∠°	0° -33' (±21')	-
		+0.25°	∠°	-	-
		+0.12°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			Model 212 AMG as of 12.2011, except 4MATIC	Model 212 AMG with 4MATIC
BE40.20-P-1001-13P	Camber at vehicle level	+5.80°	∠°	-	-
		+4.85°	∠°	-	-
		+4.20°	∠°	-	-1,47' (±21')
		+4.16°	∠°	-	-
		+4.08°	∠°	-	-
		+2.67°	∠°	-1,32' (±21')	-
		+2.66°	∠°	-	-
		+2.60°	∠°	-	-
		+2.56°	∠°	-	-
		+1.49°	∠°	-	-
		+1.18°	∠°	-	-
		+0.27°	∠°	-	-
		+0.25°	∠°	-	-
		+0.12°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			MODEL 218.3 except 4MATIC, except CODE 489	MODEL 218.9 except 4MATIC, except CODE 489
BE40.20-P-1001-13S	Camber at vehicle level	-1.16°	∠°	-	-
		-0.49°	∠°	-	-
		+0.18°	∠°	-	-
		+0.85°	∠°	-	-
		+1.08°	∠°	-0° 56' (±21')	-0° 56' (±21')
		+1.18°	∠°	-	-
		+1.52°	∠°	-	-
		+2.19°	∠°	-	-
		+2.59°	∠°	-0° 48' (±21')	-0° 48' (±21')
		+2.60°	∠°	-	-
		+2.67°	∠°	-	-
		+4.09°	∠°	-0° 38' (±21')	-0° 38' (±21')
		+4.16°	∠°	-	-
		+4.20°	∠°	-	-
		+5.80°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			MODEL 218 except 4MATIC, with CODE 489	MODEL 218.3 with 4MATIC, except CODE 489
BE40.20-P-1001-13S	Camber at vehicle level	-1.16°	∠°	-	-0° 53' (±21')
		-0.49°	∠°	-	-
		+0.18°	∠°	-	-0° 50' (±21')

+0.85°	∠°	-	-
+1.08°	∠°	-0° 56' (±21')	-
+1.18°	∠°	-	-
+1.52°	∠°	-	-0° 45' (±21')
+2.19°	∠°	-	-
+2.59°	∠°	-0° 48' (±21')	-
+2.60°	∠°	-	-
+2.67°	∠°	-	-
+4.09°	∠°	-0° 38' (±21')	-
+4.16°	∠°	-	-
+4.20°	∠°	-	-
+5.80°	∠°	-	-

Test and adjustment values for front axle camber

Number	Designation			MODEL 218.9 with 4MATIC, except CODE 489	MODEL 218 with 4MATIC, with CODE 489
BE40.20-P-1001-13S	Camber at vehicle level	-1.16°	∠°	-	-
		-0.49°	∠°	-0° 51' (±21')	-0° 51' (±21')
		+0.18°	∠°	-	-
		+0.85°	∠°	-0° 48' (±21')	-0° 48' (±21')
		+1.08°	∠°	-	-
		+1.18°	∠°	-	-
		+1.52°	∠°	-	-
		+2.19°	∠°	-0° 43' (±21')	-0° 43' (±21')
		+2.59°	∠°	-	-
		+2.60°	∠°	-	-
		+2.67°	∠°	-	-
		+4.09°	∠°	-	-
		+4.16°	∠°	-	-
		+4.20°	∠°	-	-
+5.80°	∠°	-	-		

Test and adjustment values for front axle camber

Number	Designation			MODEL 218.3 AMG up to 11.2011	MODEL 218.3 AMG as of 12.2011 except 4MATIC
BE40.20-P-1001-13S	Camber at vehicle level	-1.16°	∠°	-	-
		-0.49°	∠°	-	-
		+0.18°	∠°	-	-
		+0.85°	∠°	-	-
		+1.08°	∠°	-	-
		+1.18°	∠°	-1° 39' (±21')	-1° 39' (±21')
		+1.52°	∠°	-	-
		+2.19°	∠°	-	-
		+2.59°	∠°	-	-
		+2.60°	∠°	-	-
		+2.67°	∠°	-1° 32' (±21')	-1° 32' (±21')
		+4.09°	∠°	-	-
		+4.16°	∠°	-1° 23' (±21')	-1° 23' (±21')
		+4.20°	∠°	-	-
+5.80°	∠°	-	-		

Test and adjustment values for front axle camber

Number	Designation			MODEL 218.9 AMG except 4MATIC	MODEL 218.3/9 AMG with 4MATIC
BE40.20-P-1001-13S	Camber at vehicle level	-1.16°	∠°	-	-
		-0.49°	∠°	-	-1° 33' (±21')
		+0.18°	∠°	-	-
		+0.85°	∠°	-	-
		+1.08°	∠°	-	-
		+1.18°	∠°	-1° 39' (±21')	-
		+1.52°	∠°	-	-
		+2.19°	∠°	-	-

+2.59°	∠°	–	–
+2.60°	∠°	–	–1° 53' (±21')
+2.67°	∠°	–1° 32' (±21')	–
+4.09°	∠°	–	–
+4.16°	∠°	–1° 23' (±21')	–
+4.20°	∠°	–	–1° 47' (±21')
+5.80°	∠°	–	–1° 39' (±21')

Test and adjustment values for caster

Number	Designation	Model 218
BE40.20-P-1001-20E	Caster values, form	
	See	OF40.20-P-3000-00E F

Test and adjustment values for caster

Number	Designation	Model 212
BE40.20-P-1001-20L	Caster values, form	
	See	OF40.20-P-3000-00E W

Test and adjustment values for front axle camber

Number	Designation	Model 212.0 with code 485, except 4MATIC	Model 212.0 with code 485, with 4MATIC
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of ∠° vehicle	±0° 24'	±0° 24'

Test and adjustment values for front axle camber

Number	Designation	Model 212.0 with code 486/677, except 4MATIC	Model 212.0 with code 486/677, with 4MATIC
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of ∠° vehicle	±0° 24'	±0° 24'

Test and adjustment values for front axle camber

Number	Designation	Model 212.002 with code P25	Model 212.0/2 with code 482
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of ∠° vehicle	±0° 24'	±0° 24'

Test and adjustment values for front axle camber

Number	Designation	Model 212.0/2 with code 489, except 4MATIC	Model 212.0/2 with code 489, with 4MATIC
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of ∠° vehicle	±0° 24'	±0° 24'

Test and adjustment values for front axle camber

Number	Designation	Model 212.1 with code 482	Model 212.1 with code 485
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of ∠° vehicle	±0° 24'	±0° 24'

Test and adjustment values for front axle camber

Number	Designation	Model 212.2 with code 485, except 4MATIC	Model 212.2 with code 485, with 4MATIC

BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$
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Test and adjustment values for front axle camber

Number	Designation	Model 212.2 with code 486/677, except 4MATIC	Model 212.2 with code 486/677, with 4MATIC
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for front axle camber

Number	Designation	MODEL 212.025/056/072 with CODEZ04	Model 212 AMG up to 11.2011, except 4MATIC
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for front axle camber

Number	Designation	Model 212 AMG as of 12.2011, except 4MATIC	Model 212 AMG with 4MATIC
BE40.20-P-1002-13P	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for front axle camber

Number	Designation	MODEL 218.3 except 4MATIC, except CODE 489	MODEL 218.9 except 4MATIC, except CODE 489
BE40.20-P-1002-13S	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for front axle camber

Number	Designation	MODEL 218 except 4MATIC, with CODE 489	MODEL 218.3 with 4MATIC, except CODE 489
BE40.20-P-1002-13S	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for front axle camber

Number	Designation	MODEL 218.9 with 4MATIC, except CODE 489	MODEL 218 with 4MATIC, with CODE 489
BE40.20-P-1002-13S	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for front axle camber

Number	Designation	MODEL 218.3 AMG up to 11.2011	MODEL 218.3 AMG as of 12.2011 except 4MATIC
BE40.20-P-1002-13S	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for front axle camber

Number	Designation	MODEL 218.9 AMG except 4MATIC	MODEL 218.3/9 AMG with 4MATIC
BE40.20-P-1002-13S	Permissible difference in front axle camber between right and left side of \sphericalangle° vehicle	$\pm 0^\circ 24'$	$\pm 0^\circ 24'$

Test and adjustment values for caster

Number	Designation	Model 218
BE40.20-P-1002-20E	Permissible difference in caster between right and left side of vehicle \sphericalangle°	$\pm 30'$

Test and adjustment values for caster

Number	Designation	Model 212
BE40.20-P-1002-20L	Permissible difference in caster between right and left side of vehicle \sphericalangle°	$\pm 0^\circ 30'$

Test and adjustment values for caster

Number	Designation	Model 218
BE40.20-P-1003-20E	Absolute caster tolerance \sphericalangle°	$\pm 30'$

Test and adjustment values for caster

Number	Designation	Model 212
BE40.20-P-1003-20L	Absolute caster tolerance \sphericalangle°	$\pm 0^\circ 30'$

 Wheel control, hub

Number	Designation			Model 212 except 4MATIC	MODEL 212 with 4MATIC
		Stage	Nm / \sphericalangle°		
BA33.20-P-1002-01O	Bolt, strut rod to integral support	Stage 1	Nm	120	120
		Stage 2	\sphericalangle°	180	180

 Wheel control, hub

Number	Designation			MODEL 218 except 4MATIC	MODEL 218 with 4MATIC
		Stage	Nm / \sphericalangle°		
BA33.20-P-1002-01Q	Bolt, strut rod to front axle carrier	Stage 1	Nm	120	120
		Stage 2	\sphericalangle°	180	180

 Wheel control, hub

Number	Designation			Model 212 except 4MATIC	MODEL 212 with 4MATIC
		Stage	Nm / \sphericalangle°		
BA33.20-P-1003-01O	Locknut (repair kit), strut rod to integral carrier M14 × 1.5 × 11.9	Stage 1	Nm	100	100
		Stage 2	\sphericalangle°	180	180

 Wheel control, hub

Number	Designation			MODEL 218 except 4MATIC	MODEL 218 with 4MATIC
		Stage	Nm / \sphericalangle°		
BA33.20-P-1003-01Q	Self-locking nut (repair kit), Stage 1 strut rod to front axle carrier M14 × 120 × 11.9	Stage 1	Nm	100	100
		Stage 2	\sphericalangle°	180	180

 Wheel control, hub

Number	Designation			Model 212 except 4MATIC	MODEL 212 with 4MATIC
		Stage	Nm / \sphericalangle°		
BA33.20-P-1005-01O	Bolt, cross strut to integral carrier	Stage 1	Nm	120	120
		Stage 2	\sphericalangle°	180	180

Nm Wheel control, hub

Number	Designation			MODEL 218 except 4MATIC	MODEL 218 with 4MATIC
BA33.20-P-1005-01Q	Screw/bolt, cross strut to front axle carrier	Stage 1	Nm	120	120
		Stage 2	⌵°	180	180

Nm Wheel control, hub

Number	Designation			Model 212 except 4MATIC	MODEL 212 with 4MATIC
BA33.20-P-1006-01O	Locknut (repair kit), cross M14 × 120 × 11.9 strut to integral carrier	Stage 1	Nm	100	100
		Stage 2	⌵°	180	180

Nm Wheel control, hub

Number	Designation			MODEL 218 except 4MATIC	MODEL 218 with 4MATIC
BA33.20-P-1006-01Q	Self-locking nut (repair kit), Stage 1 cross strut to front axle carrier	M14 × 120 × 11.9	Nm	100	100
		Stage 2	⌵°	180	180