My SL55 AMG Now with Coil-Overs and Anti-Roll Bars

Front :	double wishbones
	coil springs
	anti-roll bar
Rear :	five-link
	coil springs
	anti-roll bar

- Originally with ABC (Active Body Control), *but now converted to OEM SL350 Coil-Overs and Anti-Roll/Sway Bars*.
- All OEM M-Benz parts used in conversion are purchased through Canadian M-Benz dealer network parts dept.
- An SL350 coil-over conversion with sway/anti-roll bars, will more than handle the power of the SL55 AMG.

Comparing Weights with Coil-Overs or ABC

	SL350	*SL55 AMG*
Engine Weight (lb) :	449	485
Vehicle Weight (lb) :	3,719	4,310
ABC Parts Removed Weight (lb) :	n/a	176
Coil-Over + Sway Bars (lb) :	n/a	66
Vehicle Weight Reduction (lb) :	n/a	110
Vehicle Weight After Conversion (lb) :	n/a	4,200

Overview of SL (R230) Suspension Types

- *SL350 R230 from 2003 to 2012* came standard, except for North America, with coil-overs, front and rear anti-roll bars, *but could be optionally ordered with Active Body Control (ABC)*



- *SL350 R231 from 2012* came standard, except for North America, with coil-overs, front and rear anti-roll bars, but could be optionally ordered with Active Body Control (ABC)
- *All other SLs, came standard with ABC,* with one exception, the later SL65 Black Series editions, which did not offer ABC at all, coming from the Mercedes-Benz factory ONLY with KW Variant 3 adjustable (height and damping) coil-overs and anti-roll bars (*to install the BS front ant-roll bar on an SL55, requires two brackets to be welded to front subframe, to attach the front sway/anti-roll bar*)

NOTE : *1) takes roughly 15 hours dealer labour to install front and rear coil-overs, including sway/anti-roll bars*
2) compare that to 24 hours dealer labour for ABC full repairs
3) for OEM coil-overs, maintain regular ABC lowest height setting (F-27.0"; R-27.5" - ground to under fender/ arch top edge)

Decisions....Decisions - Why I Converted to "Coil-Overs"

My 2003 SL55 AMG was purchased in 2008 and even in 2021, I remain content in its ownership. However, at the end of 2017, a rear ABC strut failed. My local MB dealer quoted c$6,600 for ONLY both rears to be replaced, so I compared the retention of standard ABC or going to an alternative "coil-over" suspension.

Having checked ABC parts/labour costs compared to Mercedes-Benz "OEM" coil-overs from the SL320, with anti-roll/sway bar from back in 2012, I judged my better option was to have my MB dealer carry out the latter option, not justifying ABC replacement costs in a almost twenty year old car. (see ABC replacement costs for 2012 in table below - more expensive now!) :

	OEM PART #	# OF	PRICE	HRS	LABOUR	TOTAL
ABC Left Front Strut	230-320-45-13	1	$2,340	3.5	$455	*$2,795*
ABC Right Front Strut	230-320-44-13	1	$2,340	3.5	$455	*$2,795*
ABC Left Rear Strut	230-320-47-13	1	$2,340	2.2	$286	*$2,626*
ABC Right Rear Strut	230-320-46-13	1	$2,340	2.2	$286	*$2,626*
ABC Front Valve Block (2009on)	220-320-12-58	1	$1,871	2.2	$286	*$2,157*
Plate for Front Valve Block	220-327-02-86	1	$28	0.5	$65	*$93*
ABC Rear Valve Block (2009on)	220-320-12-58	1	$1,871	2.2	$286	*$2,157*
Oil Line for Rear Valve Block	230-320-98-53	1	$141	1.0	$130	*$271*
Oil Line for Rear Valve Block	230-320-99-53	1	$141	1.0	$130	*$271*
Oil Line for Rear Valve Block	230-320-16-54	1	$156	1.0	$130	*$286*
ABC Tandem Pump	003-466-50-01	1	$2,149	4.0	$520	*$2,669*

ABC Front Accumulators	220-327-01-15	2	$318	1.5	$195	***$513***
ABC Rear Accumulator (L)	220-327-02-15	1	$237	1.5	$195	***$432***
ABC Rear Accumulator (R)	220-327-04-15	1	$303	1.5	$195	***$498***
ABC Filter	003-184-61-01	1	$47	1.0	$130	***$177***
ABC Fluid Flush + Rodeo		1	$410	1.0	$130	***$540***
Engine Mounts		2	$140	3.0	$390	***$530***
Transmission Mount		1	$70	2.0	$260	***$330***
Total Cost+Labour (ABC replacement parts) :						***$21,766***

My choice was to to go to coil-overs, with one proviso, *stay with ALL Mercedes-Benz OEM parts*. My local dealer and MB Canada worked with me, to get the German parts lists put on the Canadian MB computers. I was then able to order all the parts from Germany (arrived within 6 weeks). All installed by my MB dealer for under c$10,000, including imported parts and labour.

MB "OEM" PARTS - Engine and Transmission Mounts

NOTE : *it is advisable to always replace your engine and transmission mounts during the OEM coil-over retrofit*

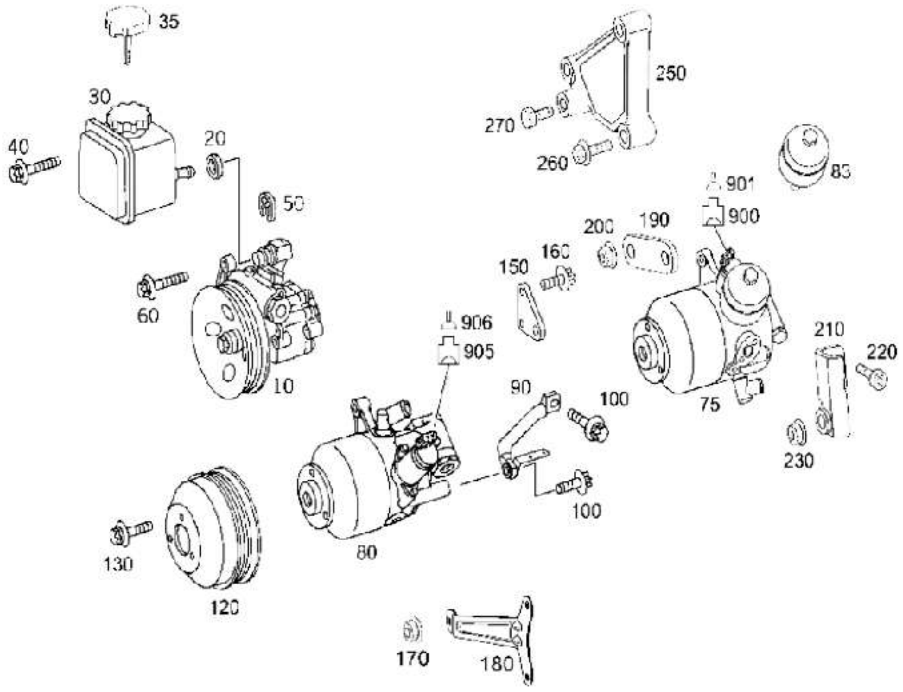
Eng./Trans Mounts :	Description	Draw. #	Item	List c$	My c$	#	Total c$
OEM Part #							
A 220 240 27 17	*SL55 AMG Engine Mounts*			$208.00	$176.80	2	$353.60
N 000 000 000 428	*Hex Head Bolt Bracket to Frame (M10x35)*				$0.00	2	$0.00
A 212 240 04 18	*SL55 AMG Transmission Mount*			$84.40	$71.74	1	$71.74
N 000 000 000 295	*Hex Head Bolt Trans Case to Trans (M10x70)*				$0.00	2	$0.00
					Total :		**$425.34**

MB "OEM" PARTS - Single Power Steering Pump

Single (new p/s pump)

Tandem (deleted)

#10 is single PS pump, while #75 is an ABC/PS tandem pump



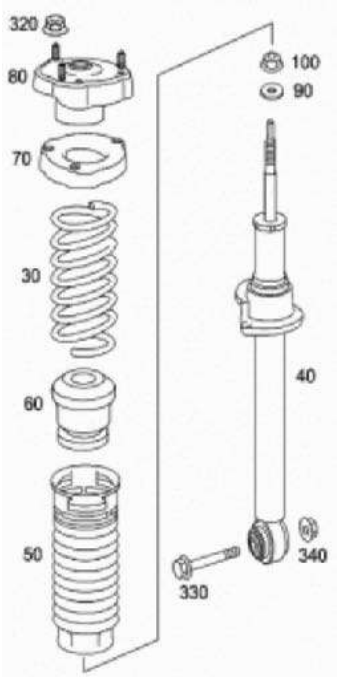
P/S Pump/Bracket :	Description	Draw. #	Item	List c$	My c$	#	Total c$
OEM Part #							
005 466 40 01 80	*Single P/S Pump (w220) - (tandem pump bracket is swapped to new pump)*			$884.00	$751.40	1	$751.40
?	*W220 P/S Bracket*				$0.00	1	$0.00
					Total :		**$751.40**

This marked “triangle mount” on pump (above right) is the missing link between the pump and engine (the bracket can be taken from a w220 S500 "Airmatic" circa 2001 P/S pump). The new P/S pump can be now installed, with the W220 bracket (as basically the same M113 engine of V8 configuration). Now use W220 P/S oil lines to feed from pump to steering rack and return to P/S pump.

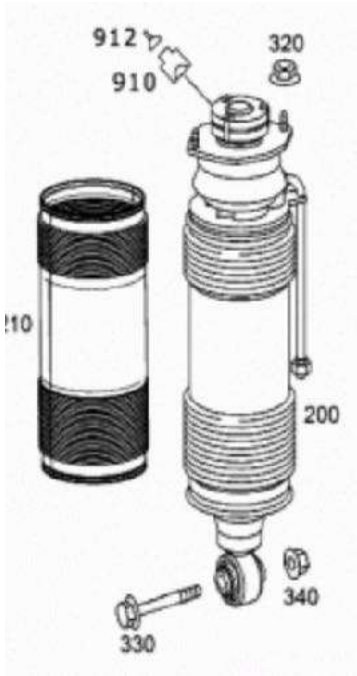
NOTE : *once the single P/S pump is installed, all ABC fittings are redundant and I have had all components removed, including all the hydraulic ABC lines (by my MB dealer)*

MB "OEM" PARTS - REAR Strut / Damper Strut / Coil-Over :

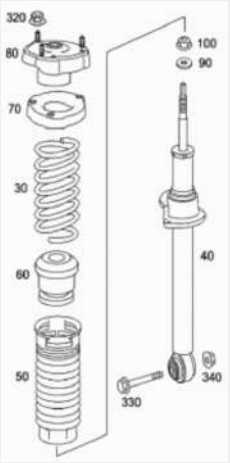
Coil-Over Strut



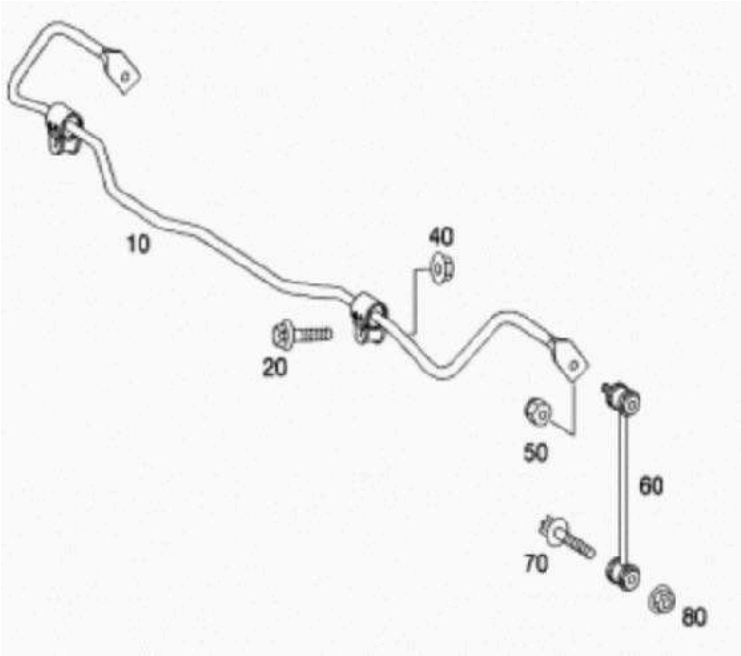
ABC Strut

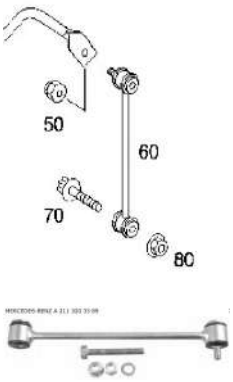


Rear Coil-Overs :	Description	Draw. #	Item	List c$	My c$	#	Total c$
OEM Part #							

Rear Coil-Overs :	Description	Draw. #	Item	List c$	My c$	#	Total c$
A 230 326 09 00	*REAR Damper/Shock Absorber Strut*	*#40*		$432.00	$367.20	2	$734.40
N 910 105 014 016	*Hex Head Bolt - REAR Lower Spring Leg to Spring Control Arm (same as ABC strut nut, so reuse) (M14x1.5x90)*	*#330*		$12.34	$10.49	2	$20.98
N 000 000 003 277	*Nut (for above bolt) - REAR Lower Spring Leg to Spring Control Arm (M14X1.5) (same as ABC strut nut, so reuse)*	*#340*				2	$0.00
N 910 113 010 002	*Hex Nut (strut top)*	*#100*		$2.79	$2.37	2	$4.74
N 000 000 003 386	*Washer (strut top)*	*#90*		$1.51	$1.28	2	$2.56
A 230 324 02 04	*REAR Coil Spring*	*#30*		$146.50	$124.52	2	$249.04
A 230 326 00 64	*Step-Bearing - REAR Strut Mount*	*#80*		$141.20	$120.02	2	$240.04
A 230 325 00 84	*REAR Strut Shim*	#70		$43.50	$36.97	2	$73.94
A 230 326 00 68	*REAR Strut Rubber Bumper*	*#60*		$25.10	$21.33	2	$42.66
A 230 323 00 92	*REAR Strut Rubber Boot Cover*	*#50*		$29.90	$25.41	2	$50.82
N 000 000 003 175	*Hex Nut - REAR Spring Srut to Body (M8) Replaced by: A 1689900151 (same nuts used on top of ABC strut)*	*#320*		$0.62	$0.53	6	$3.18
					Total :		**$1422.36**

MB "OEM" *PARTS - REAR Sway Bar and Links*



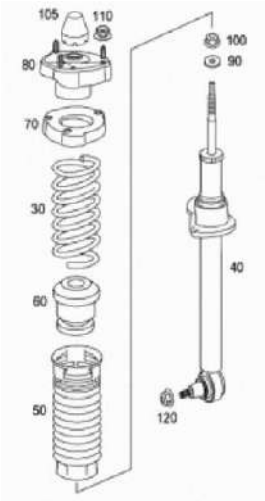
Rear Sway Bar :	Description	# on Draw.	Item	List c$	My c$	#	Total c$
OEM Part #							
A 230 320 05 11	*REAR Sway/Anti-Roll/Torsion Bar*	*#10*		$192.30	$163.45	1	$163.45
A 211 320 33 89	*REAR Sway/Anti-Roll/Torsion Bar Rod Link Stabiliser (left and right)* *(from E-Class W211)*	*#60*		$32.50	$27.62	2	$55.24
N 910 105 012 012	*Screw/ Hex Head Bolt - Sway/ Torsion Bar to Rear Axle Carrier* *(M12x1.5x80)*	*#20*		$10.24	$8.70	2	$17.40
N 913 023 012 002	*Nut -Sway/Torsion Bar to Rear Axle Carrier* *(M12x1.5)*	*#40*		$2.79	$2.37	2	$4.74
A 140 990 06 51	*Hex Nut - Rod to Sway/Torsion Bar*	*#50*				2	$0.00
N 910 105 010 010	*Hex Head Bolt - Rod to Wheel Carrier* *(M10x70)*	*#70*				2	$0.00
N 913 023 010 002	*Nut - Rod to Wheel Carrier* *(M10)*	*#80*				2	$0.00
N 910 113 010 001	*Hex Nut* *(size M10)*	*#??*				2	$0.00
N 910 113 010 003	*Hex Nut* *(size M10)*	*#??*				6	$0.00

Rear Sway Bar :	Description	# on Draw.	Item	List c$	My c$	#	Total c$
002 990 35 54	*Nut*	*#??*		$3.43	$2.92	2	$5.84
168 990 01 51	*Nut*	*#??*		$1.81	$1.54	6	$9.24
N 000 000 000 428	*Hex Head Bolt*	*#??*		$5.83	$4.96	2	$9.92
202 990 22 01	*Screw/Hex Bolt*	*#??*		$4.55	$3.87	2	$7.74
N 910 113 010 001	*Hex Nut*	*#??*		$2.47	$2.10	2	$4.20
N 000 000 000 295	*Hex Nut*	*#??*		$3.95	$3.36	2	$6.72
					Total :		**$284.49**

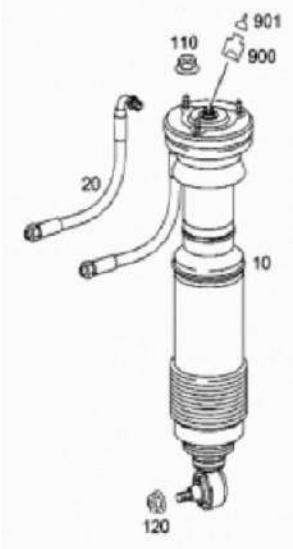
NOTE : *after REAR installation, you may experience a slight flutter under rear, on moving off, at light throttle, up to around 60 kph (but not apparent at idle or revving while at standstill). This can be caused by the fuel filter mounting bracket contacting the rear ant-roll/sway bar. Simply adjust fuel filter bracket slightly to clear the new sway bar*

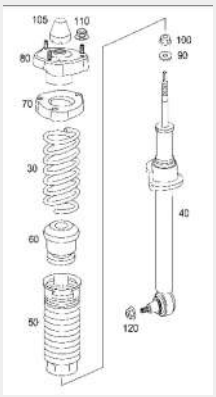
MB "oem" PARTS - FRONT Strut / Damper Strut / Coil-Over :

Coil-Over Strut



ABC Strut

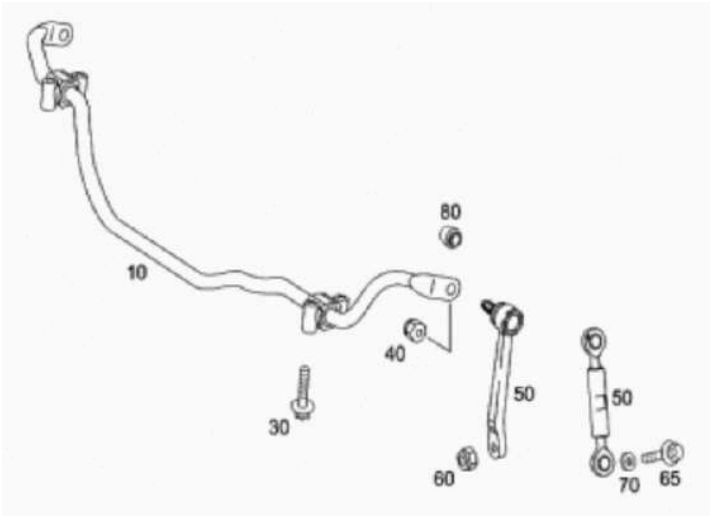


FRONT Coil-Overs :	Description	Draw. #	Item	List c$	My c$	#	Total c$
OEM Part #							
A 230 323 08 00	*FRONT Damper/Strut*	#40		$432.00	$367.20	2	$734.40
N 000000 005 265	*Nut - FRONT Lower Spring Leg to Spring Control Arm (same as ABC strut nut, so can reuse)*	#120		$5.83	$4.96	2	$9.92
N 910 113 010 002	*Hex Nut (strut top)*	#100				2	$0.00
N 000 000 003 386	*Washer (strut top)*	#90		$1.51	$1.28	2	$2.56
A 230 321 02 04	*FRONT Coil Spring*	#30		$146.50	$124.52	2	$249.04

FRONT Coil-Overs :	Description	Draw. #	Item	List c$	My c$	#	Total c$
A 230 323 00 20	*FRONT Strut Seat/Mounting/ Bearing*	#80		$115.60	$98.26	2	$196.52
A 230 321 01 84	*FRONT Strut Shim*	#70		$43.50	$36.97	2	$73.94
A 230 323 00 44	*FRONT Strut Rubber Bumper*	#60		$49.30	$41.90	2	$83.80
A 230 323 00 92	*FRONT Strut Rubber Boot Cover*	#50		$29.90	$25.41	2	$50.82
A 211 323 00 38	*FRONT Strut Upper Dust Cap/Nut Cover*	#105		$4.80	$4.08	2	$8.16
A 002 990 24 54 (*now* A 168 990 01 51)	*Hex Nut - Spring Strut to Body (M8) (same nuts used on top of ABC strut, so can be reused)*	#110				6	$0.00
					Total :		**$1409.16**

MB "OEM" PARTS - FRONT Sway Bar and Links

NOTE : *optional adjustable link #50 shown on drawing (not using here)*



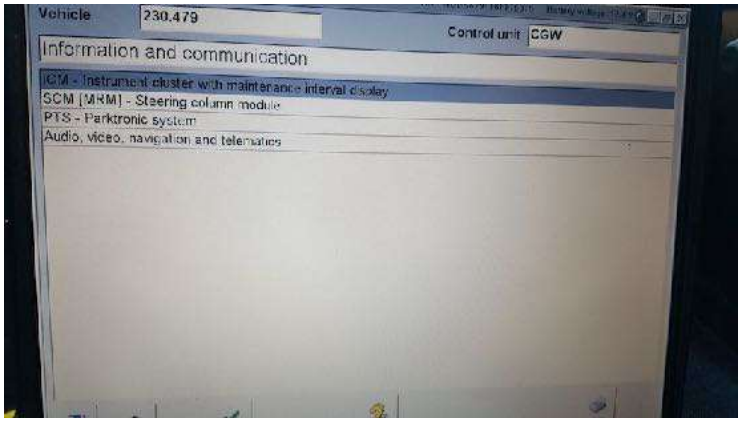
FRONT Sway Bar :	Description	Draw. #	Item	List c$	My c$	#	Total c$
OEM Part #		#s in sway bar drawing					
A 230 320 21 11	*FRONT Sway/Anti-Roll/Torsion Bar (SL350 bar thickness: 25mm/1") (opt. adj. link also on drawing, but using fixed link #50)*	#10		$282.00	$239.70	1	$239.70
A 230 320 05 89	*LEFT FRONT Sway/Anti-Roll/Torsion Bar Linkage*	#50		$78.60	$66.81	1	$66.81
A 230 320 06 89	*RIGHT FRONT Sway/Anti-Roll/ Torsion Bar Linkage*	#50		$78.60	$66.81	1	$66.81
N 910 143 008 010	*Orig. Hex Bolt for Retainer on front sway/torsion bar(x4) (M8X80-20 AN thread pitch)*	#30				4	$0.00
N 000 000 003 279	*Hex Nut - Sway/Torsion Bar to Rod (M10)*	#40				2	$0.00
N 000 000 005 272	*Hex Nut - Rod to Spring Control Arm*	#60				4	$0.00
N 910 143 008 010	*Hex Bolt - Rod at Spring Control Arm and Body (x4) (M8x80 with 20 AN Thread Pitch)*	#65		$4.07	$3.46	4	$13.84
N 000 000 003 386	*Washer - Rod to Spring Control Arm*	#70				2	$0.00
A 230 333 01 50	*Bushing for Sway/Torsion Bar (Replaced by : A 2303330250 ?)*	#80				2	$0.00
A 211 323 00 68	*FRONT Lower Sway/Anti-Roll/ Torsion Arm Ball Joint*	#??		$39.60	$33.66	2	$67.32
					Total :		**$454.48**

Coding Out ABC Instructions - R230 ONLY

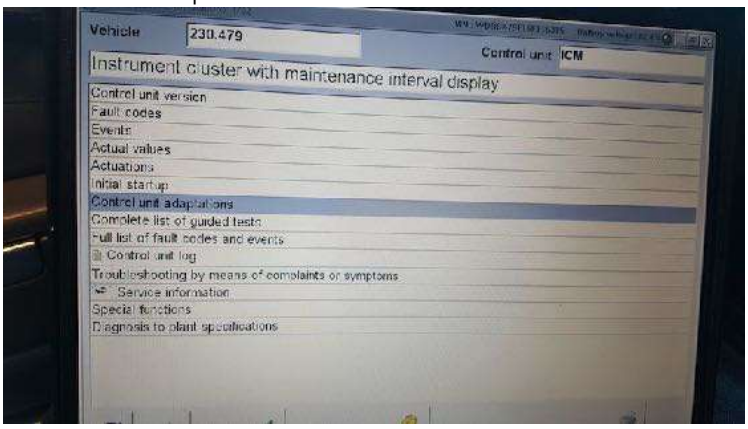
After conversion, the ABC option can be removed from the car system by coding (see coding notes further below), using a Mercedes Star Das scanner. For example, on the Black Series SL65 with standard coil-overs, when you do a "quick test" via the dealer Star Diagnosis, there are current fault codes in control units that say "this fault code can be ignored in Black Series models"

Procedure :

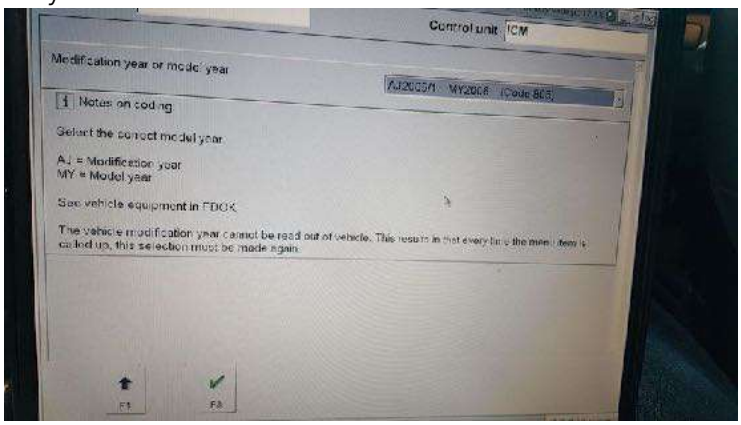
- To do this, you need a Star with Developer mode. Hook up SDS to your car and when it reads your car, select Control Units, pick Information and Communication and you will see ICM :



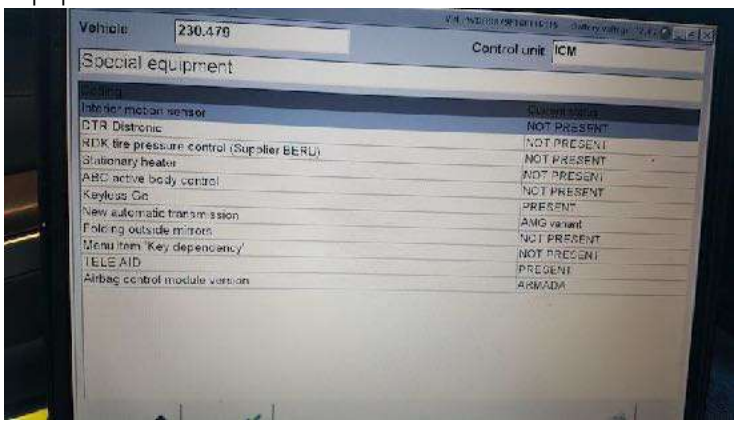
- After ICM, you will see Control Unit Adaptions :



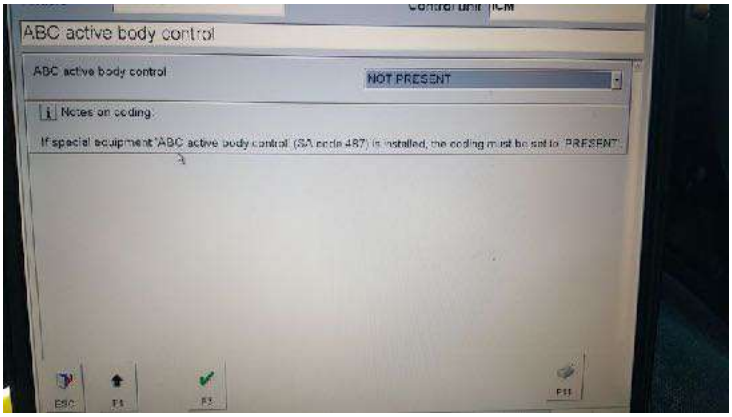
- From there, pick the year of your model :



- From there, pick Special Equipment :



- Pick ABC :

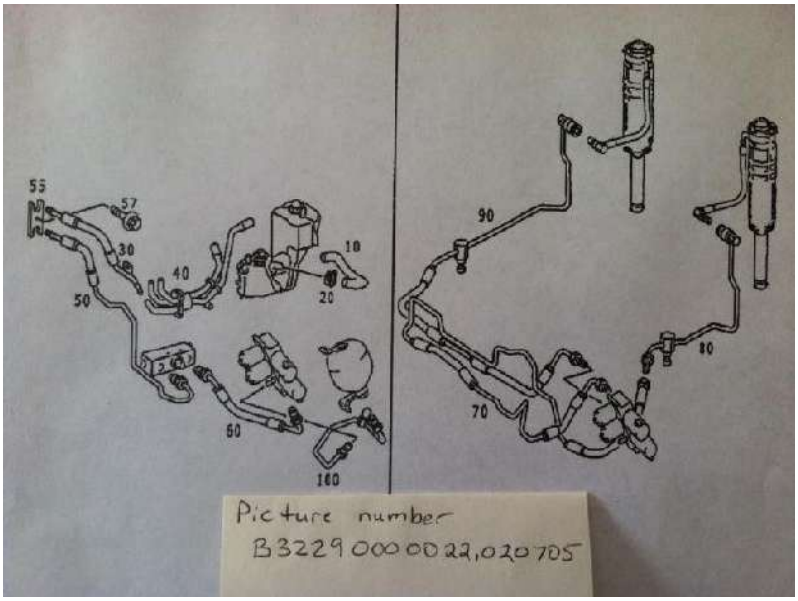


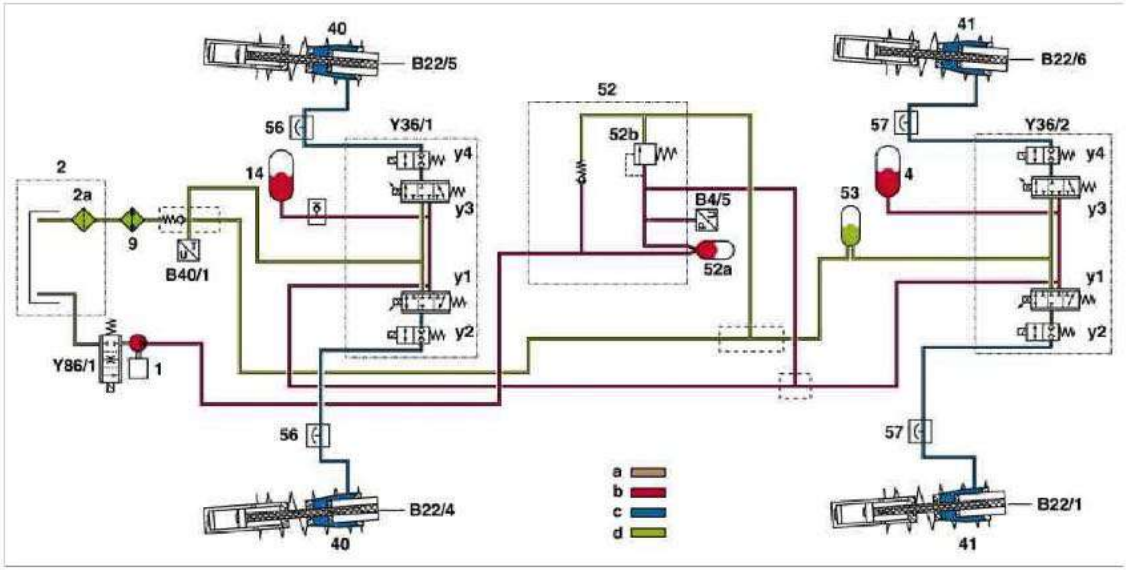
- Then go to the drop down tab and change it from PRESENT to NOT PRESENT, and click F3.
- After that, turn off the car, with the doors closed.
- Wait 1-2 mins and start the car back up (no more ABC codes and no white or red lights).

Deleted ABC Components :

Total Removal of all ABC Parts Such as :

- struts
- tandem pump
- 23 ABC pipes
- front valve block
- rear valve block
- 4 accumulators
- etc.





a	*Suction pipe*	*52*	*Pressure supply valve unit*	*Y 36/1*	*ABC front axle valve unit*
b	*Working pressure*	*52a*	*Pulsation damper*	*y1*	*Left front suspension strut control valve*
c	*Control pressure*	*52b*	*Valve pressure limiting valve*	*y2*	*Left front suspension strut shut-off valve*
d	*Return flow*	*53*	*Return flow pressure reservoir*	*y3*	*Right front suspension strut control valve*
		56	*Front bleeder screw*	*y4*	*Right front suspension strut shut-off valve*
1	*Radial piston pump*	*57*	*Rear bleeder screw*	*Y36/2*	*ABC rear axle valve unit*
2	*Oil reservoir*	*B4/5*	*ABC pressure sensor*	*y1*	*Left rear suspension strut control valve*
2a	*Oil filter*	*B22/1*	*Left rear plunger travel sensor*	*y2*	*Left rear suspension strut shut-off valve*
9	*Oil cooler*	*B22/4*	*Left front plunger travel sensor*	*y3*	*Right rear suspension strut control valve*
14	*Front axle pressure reservoir*	*B22/5*	*Right front plunger travel sensor*	*y4*	*Right rear suspension strut shut-off valve*
40	*Front suspension strut*	*B22/6*	*Right rear plunger travel sensor*	*Y86/1*	*ABC suction restrictor valve*
41	*Rear suspension strut*	*B40/1*	*ABC oil temperature sensor*		

Driving my SL55 AMG with Mercedes-Benz SL350 "OEM" Suspension

NOTE : *1) completed conversion in January 2018*
2) for "OEM" coil-overs, I have maintained regular ABC lowest height setting of F-27.0" R-27.5" (ground to under fender/arch top edge)
3) plenty of great handling cars, such as Jaguar E-Type, original Mini Cooper S, Fiat X1/9, etc., did not use anti-roll/sway bars (and many drift racers remove them even today), but I have still chosen to install both front and rear anti-roll/sway bars

The steering responds quickly to driver input, making the big SL handle pretty nicely. I have no trouble taking the car around country roads, where handling is a necessity, but remember, the SL55 AMG is a cruiser at heart; they're all biased towards relaxed driving and has never been a "track car". Handling feels safe and secure at all times, with a little body roll, but it's easy to tell that the suspension is tuned for comfort.

I didn't like ABC, especially on smaller surface imperfections, where it's inability to absorb ridges, etc. was sadly a poor reflection on the factory's ABC design and implementation. Now with coil-overs and superb ride, as an added bonus, I can now forget about ABC complexity, unreliability and costs of replacement.

- the car is handles far better and is more stable than the ten years, before conversion, when I drove it with ABC
- no more harsh than the hydraulic ABC
- now superb and even nicer to drive in all conditions
- I can summarise the suspension, handling and steering qualities all in one word : smooth
- I am reassured that all parts installed, are M-Benz factory "OEM", as installed standard on their SL350

- now a reliable SL; I can now forget about ABC complexity, unreliability and costs of ABC replacement
- it's wonderful on "coil-overs"; I am so happy I did this and now, I will be keeping my SL55 AMG longterm

NOTE : on my OEM coil-overs, maintained ABC lowest height settings (ground to under fender/arch top edge) :

Front 27.0inch
Rear 27.5inch

What Is An Anti-Roll/Sway Bar and How Does It Work?

Anti-roll bars permit two key functions :

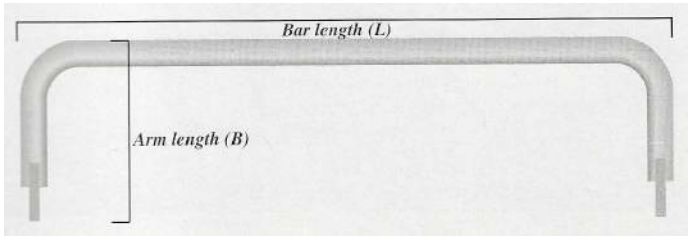
- reduce body roll.
- adjust a car's handling, by redistributing cornering loads between the front and rear wheels

Keeping body roll under control is essential in a high-performance car, because doing so restricts the vertical suspension motions that occur when a car is subjected to extreme cornering loads. Reducing body roll keeps the suspension links closer to their optimum zone of operation.

An anti-roll bar affects the roll stiffness of the suspension to which it's attached, which determines the percentage of the total cornering load that will be supported by that end or the car. Thus, anti-roll bars can be used to change the relationship between front and rear cornering loads, which in turn allows the car's understeer/oversteer characteristics to be adjusted as desired.

Anti-roll bar stiffness can be expressed by the formula :

$$K=\frac{1{,}125{,}000(D^4)}{L(B^2)}$$



Where :

- K is the rate of the anti-roll bar in pounds per inch (measured at the end of one arm)
- D is the main bar diameter
- L is the bar length
- B is the arm length.

What this handy formula tells us, is that the bar diameter has the biggest impact on anti-roll bar stiffness. Since the stiffness increases to the fourth power of the bar diameter, doubling the diameter would yield an anti-roll bar that is 2x2x2x2, or 16 times stiffer. This relationship shows that an increase in diameter of just a few millimeters will produce a significantly stiffer anti-roll bar.

Examining the other parameters in the equation, we find that increasing the length of the arms (B) decreases the stiffness of the anti-roll bar by an amount equal to the square of the change in length; therefore, doubling the arm length will result in one-fourth the stiffness. Finally, we see that anti-roll bar stiffness is inversely proportional to the bar length (L), and that doubling the length of the bar will cut the stiffness in half.

Major changes in roll stiffness can be achieved by fitting anti-roll bars of various diameters, while fine-tuning can be accomplished by designing adjustability into the anti-roll bar. Adjustability is normally attained by making the arm lengths variable. Since the effective arm length is determined by the point at which the end links are fastened to the arms, the end links can be attached to sliding collars that can be secured anywhere along the arms.

It's important that the anti-roll bar should not be pre-loaded when the car is resting at its static ride height with the driver on board, since pre-loading causes a difference in handling between right and left turns. Pre-loading of the anti-roll bar occurs when the bar has to be twisted to connect the end links to the suspension. This problem is a result of a mismatch in the geometry of the anti-roll bar and the mounting points of the end links on the suspension. Pre-loading can be avoided by using adjustable-length end links to dial-in the precise length required to avoid twisting of the anti-roll bar.

Effects on Handling :
When a stiffer anti-roll bar is installed at one end of the car, that end will carry a greater percentage of the total load transferred during cornering. All else being equal, cornering power at the stiffened end will suffer while cornering power at the other end will be enhanced.

- stiffening the front anti-roll bar will therefore lead towards understeer
- stiffening the rear anti-roll bar will lead towards oversteer

Roll stiffness goes up, the compliance of the suspension goes down. A suspension with little compliance will prevent the tires from responding to road irregularities (the car will skip over the top of even minor bumps, constantly losing and gaining traction as it does so).

Front Sway/Anti-Roll Bar - Installation on My SL55 AMG

Front Sway Bar Installation Difficulties :

- rear SL350 anti-roll/sway bar fits SL55 AMG perfectly, but front SL350 anti-roll/sway bar (for smaller V6 engine) does not fit SL55 AMG V8 engine, due to extra sump clearance required (will fit SL500 with spacers)
- may be possible in SL55 AMG, if you also add longer "drop-links" and add spacers?

NOTE : *plenty of great handling cars however, such as Jaguar E-Type, original Mini Cooper S, Fiat X1/9, etc., did not use anti-roll/sway bars (and many drift racers remove them even today)*

Option 1 - SL65 AMG Black Series Sway/Anti-Roll

Additional OEM Parts to Install Front Torsion Bar from BlackSeries :

- 1x A230 320 23 11 - Torsion bar
- 4x N910 143 008 010 - Screws for torsion bar
- 2x N000 000 003 279 - Hexagon nut (torsion bar to rod)
- 2x A230 333 02 50 - Bushing
- 2x A230 323 00 17 - Torsion bar linkage left and right

ECS Part :

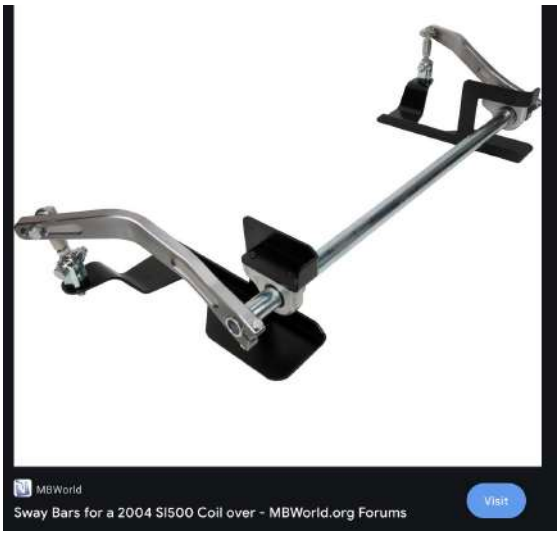
- ECS Part # ES#1795802 cost - us$967 from ECS Tuning (Includes new bushings)

NOTE : *it is possible to install the SL65 BS front sway bar on the SL55 AMG, but it requires two brackets, to be welded to front subframe, for the sway bar location*

Offered from Rebuild Master Tech :

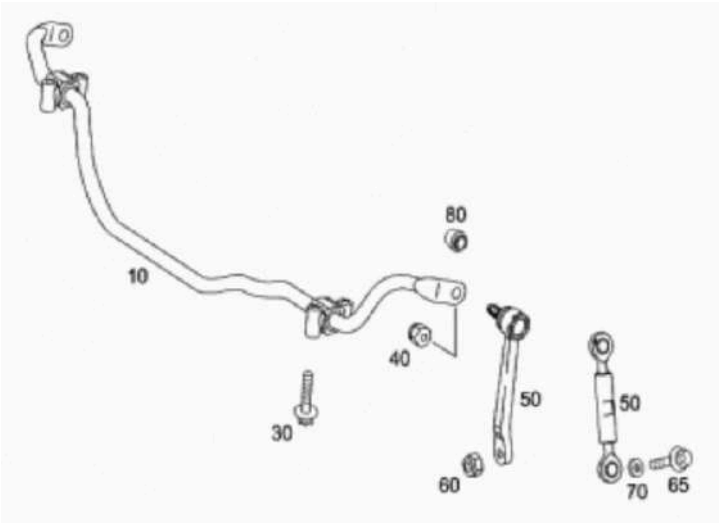
Option 2 - Custom Sway Bar for SL55 ?

Need to check on this.....not sure if genuine? :

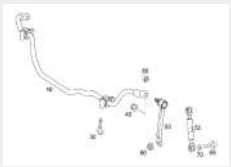


Option 3 - SL350 Front Sway/Anti-Roll Bar

Install standard SL350 front anti-roll/sway bar with some modifications, to allow clearance for the deeper SL55 AMG V8 engine sump (it's even deeper than larger SL500 V8 sump). *The SL350 & SL500 have shallower sumps than SL55 AMG*



My Current Part Inventory (M-Benz OEM) :

FRONT Sway Bar :	Description	Draw. #	Item	List c$	My c$	#	Total c$
OEM Part #		# in sway bar drawing above					
A 230 320 21 11	*FRONT Sway/Anti-Roll/Torsion Bar (OEM SL350 bar thickness: 25mm/ 1") (opt. adj. link also on drawing, but using fixed link #50)*	#10		$282.00	$239.70	1	$239.70
N 910 143 008 010	*Orig. Hex Bolt for Retainer on front sway/torsion bar(x4) (M8X80-20 AN thread pitch)*	#30				4	$0.00
A 230 320 ***05*** 89	*LEFT FRONT Sway/Anti-Roll/Torsion Bar Linkage*	#50		$78.60	$66.81	1	$66.81
A 230 320 ***06*** 89	*RIGHT FRONT Sway/Anti-Roll/ Torsion Bar Linkage*	#50		$78.60	$66.81	1	$66.81
A 211 323 00 68	*FRONT Lower Sway/Anti-Roll/ Torsion Arm Ball Joint*	#12		$39.60	$33.66	2	$67.32
					Total :		**$440.64**

Still Required to Purchase OEM Parts (if fitting SL350 Sway bar) :

FRONT Sway Bar :	Description	Draw. #	Item	List c$	My c$	#	Total c$
OEM Part #		# in sway bar drawing above					

FRONT Sway Bar :	Description	Draw. #	Item	List c$	My c$	#	Total c$
N 000 000 003 279	*Hex Nut - Sway/Torsion Bar to Rod (M10)*	#40				2	$0.00
N 000 000 005 272	*Hex Nut - Rod to Spring Control Arm (M8)*	#60				4	$0.00
N 910 143 008 010?	*Hex Bolt*	#65		$4.07	$3.46	4	$13.84
N 000 000 003 386	*Washer - Rod to Spring Control Arm*	#70				2	$0.00
	Adjustable Drop Link	#50					$0.00
	Longer Hex Bolt for Retainer on front sway/torsion bar(x4) (M8X80mm long-20 AN thread pitch)	was #30	Bolt needs to be long enough to fit 15mm into chassis (current #30- is 80mm long so add plate/spacer thickness i.e. 10mm to make it a 90mm long bolt)			4	$0.00
A 230 333 01 50	*Bushing for Sway/Torsion Bar (Replaced by : A 2303330250 ?)*	#80				2	$0.00
					Total :		**$13.84**

NOTE : *the oil sump on the SL350 is narrow (sway bar kinks upwards around it), but the SL55 AMG sump is wider (sway bar must be straight at the bottom and not kinked). Unfortunately, on the SL55 AMG, the SL350 sway bar will hit the engine sump, even with 10mm spacers (although adding an extra shimming of 3/16" / 0.188'' or 4.78 mm and/or adjustable drop links appears to work for some people?)*

Front Sway Fitting Procedure :

- Have 2 alloy 10mm thick "spacers blocks" added to front mounts (*requires new engine/trans mounts at same time - I've already fitted those*)

Rebuild Master Tech (Florida) - kit includes SL350 sway bar and 10mm thick spacers :

My actual drawing of 10mm thick alloy spacers :

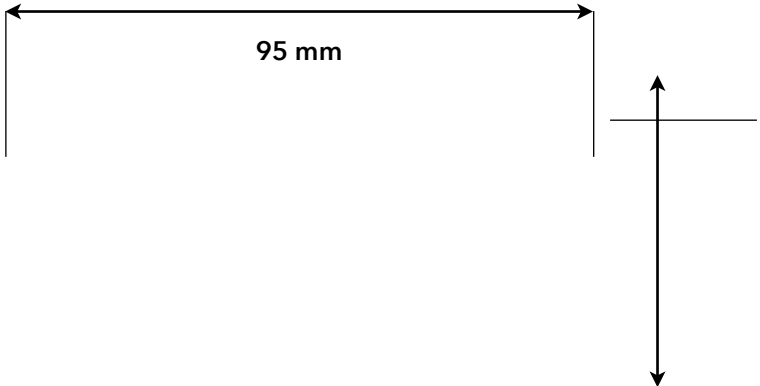
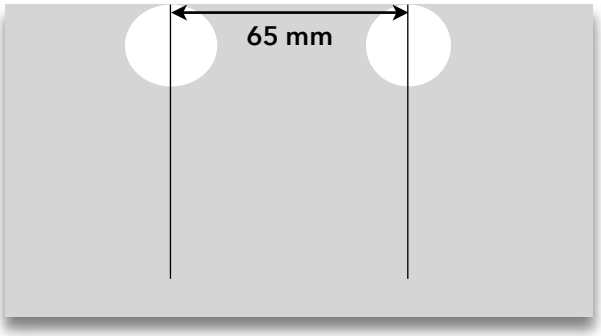
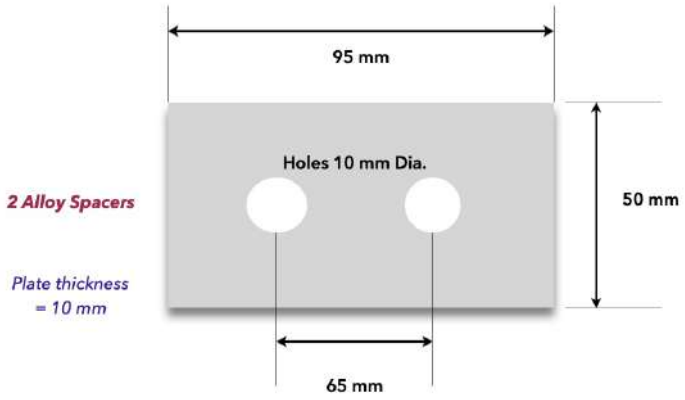


Plate thickness = 10 mm



My jpg of drawing above :



- install plate/spacer with anti-roll/sway bar bracket/bushing/shims and new extended bolts (**NOTE :** *shimming both sides of sway bar down another 3/16"/0.188'' or 4.78 mm (say 5mm) should get the clearance needed*) :
  - Four original (#30) M8 x 80mm long bolts, used for original bar mounting, now need to be longer :
    - *15mm into car chassis*
    - *+ 65mm for bracket/bushing thickness*
    - *+ 10mm for spacer thickness*
    - *+ 1mm for washer)*
    - *+ 5mm for shimming*
    - *i.e new bolt length is M8 x **96mm long** bolts (x4)*
- the spacers under each anti-roll/sway chassis mounts, are 10mm max. thickness (before interference), but the real key, is to extend the "drop-links", so that the "at rest/ride height", provides 12mm of under sump clearance :

- Even with this though, at full droop there's zero clearance under the sump (so it's a case of fit them on the ground). The "at rest" position, may show that the drop links need to be about 1" longer to avoid the sway bar resting on the sump (get longer drop link or buy/make adjustable drop-links) :



- once all the parts are fitted and the car lowered back onto the ground, the bar will have a good few MM of clearance :

Option 4 - VVK Nordic Car Design "STREET" Sway/Anti-Roll Bar

The VVK sway bar is flat across the bottom, giving better clearance for the deeper SL55 AMG V8 engine sump.

NOTE : *the VVK bars are the the only ones that are custom made to fit the V8 SL55 AMG properly (but, get lighter, thinner bar "STREET" sway bar to match rear SL350 (DO NOT GET "SPORT", as it's too stiff)*

Front OEM SL350 sway bar (bar thickness of 25mm / 1in) :

Front "Street" (lower black sway bar) :

Front "Sport" (lower red sway bar) :

VVK-USA Nordic Car Design, Jupiter, FL (U.S.A) (+1)-561-542-2810 (Sean) vvk.usa.contact@gmail.com
Authorised dealer : www.tuner-store.com

Front & Rear sway bars (including all links, brackets, bushings and balljoints) - c$1,299
Sean has confirm by email that they are available separately, but order on-line doesn't specify that nor choice of "Street" or "Sport" ?

Decision on Front Sway Bar :

NOTE : *currently I am waiting until "Pandemic" is over, to finish up front anti-roll/sway bar.....as of 2022, I'm leaning towards OEM SL350 front sway bar with spacers and adjustable drop links.....*