

# TECHNICAL GUIDELINES SUSPENSION-PROGRAM

L = Luxury Car, discount following Product Group II (Cup Kit)

1. Polo/Audi up to 8/97, use spring cup No. 861414113 B.
2. Audi 80 4-Cylinder up to Chassis-No. 8192278802. Use cylindrical front springs. These are available on request.
3. On models up to year 12/95 the rubber-pads from models 1/96-up have to be used
4. BMW 7 series, E23 from 9/76, diameter for front and rear springs need to be checked. These differ according to engine and level of equipment:  
Front: 174, 180, 190mm; Rear 114, 125mm (all dimensions in mm)
5. For Vehicles fitted with big dia. wheels use rubber pad „4 point“ on front axle. Restrict steering wheel lock if necessary.
6. Height adjustable the front axle only
7. Vehicles with high specifications which increase front axle load should use stronger front springs.
8. MB 190 E 2.3/16V. Due to higher engine weight and original equipment with self levelling system on rear axle, stiffer front and shorter rear springs will be supplied. Readjust levelling system.
9. Recommended only for vehicles with few extras that put no extra load on the axle (i.e. not with Automatic Gearbox, Air Condition).
10. Delivery includes only 2 front axle springs (VW-Bus, MB-M-Class, Ford Maverick, Mitsubishi Pajero, Nissan Terrano, Opel Frontera only 2 rear axle springs).
11. In order to achieve the indicated lowering the standard rubber pads should be exchanged if necessary (size 1-4). For Mercedes W 203 (part no. 31004-1) this refers to the rear axle only.
12. Vehicles fitted with BMW M-Technic, MB-Sportsline, Audi Sportsuspension etc. will show less lowering as they are already factory lowered.
13. With standard wheel/tyre combination and some aluminium wheels wheel spacers are required.
14. Ascona C, Monza-Senator, Sierra Salon, Sierra Estate. For these vehicles cylindrical springs are available on request.
15. We do not recommend these springs for Golf I Convertible, Diesel. If fitted to Golf I GTI, please ensure that only new shock absorbers are used.
16. Vehicles with large front spring cups (partly) also require additional Original-VW-Parts. Please confirm when ordering.
17. Adjustable suspension kit is height adjustable within the dimensions as specified in the report.
18. Attention: Rasp off the protrusion of the front axle washer or use new OE washer with round bore. Properly tie up the shock absorber wiring after installing the connectors. After fitment of the suspension the controller (OE-ECU) must be reprogrammed (to the status of models without PASM)!!! see picture.

32. Depending on engine, gearbox/transmission, equipment and vehicle tolerances lowering may differ from the values given.
33. Please note before purchase: This suspension is a very low version! Customer and/or workshop is responsible for clearance, necessary work and/or additional other modifications/changes.  
This rework and/or arising cost is not covered by H&R.
34. Lowering beyond the dimensions given in the approval may lead to contact of the driveshaft with the chassis. Any resulting damage.
35. OE torsion bars need to be adjusted to lower the vehicle.
38. Also for vehicles with automatic gearbox and/or air conditioning.
39. Golf III FA-spring cups to be exchanged. Please use OE VW-parts.  
Basis Suspension 80 mm - original VW part no. 191.412.341  
Plus Suspension 80 mm - original VW part no. 1H0.412.341  
Plus Suspension 60 mm - original VW part no. 357.412.341 A
40. For these vehicles we recommend the use of sport dampers. These are also available from H&R.
41. In the case of ordering complete struts these are only for 2.0 L 16 V, with wheel bearings dia. 72 mm and ABS brackets. Vehicles with bigger or smaller wheel bearings (i.e. wheel bearing dia. 64 mm, 66 mm, 74 mm) struts have to be sent in advance.
42. In the case of ordering complete struts, these are only for Polo B. However, they can also be used for Polo A. Send in Polo B struts only to get back deposit.
43. For proper function of the suspension the original rear torsion bar suspension must be removed.  
A report of sufficient strength of the modified rear suspension has been performed.
44. Send in existing front and rear struts without wheel bearings and other attachments. Refer also to note no. 23!
45. In case of ordering complete struts we need additional information:  
a) struts „with“ or „without“ stabilizer holder  
b) bore diameter at the brackets: 12 mm or 14 mm
48. The sway bar link on the front axle has to be shortened by 60 mm or the sway bar link OE Toyota-part no. 4883017050 has to be fitted.
49. Use rear upper spring-pad no. 4D0-512-297-6 if not OE fitted.
50. Front axle - Only if the distance of the bottom fastening point bracket (center of the hole) up to the centre line of the strut housing = 56 mm  
AND: If the distance of both fastening holes in the bracket = 54 mm (center of the hole).  
Take these dimensions carefully from the original strut!
51. Front axle - Only if the distance of the bottom fastening point bracket (center of the hole) up to the centre line of the strut housing = 61 mm  
AND: If the distance of both fastening holes in the bracket = 52 mm (center of the hole).  
Take these dimensions carefully from the original strut!
52. Front axle - Only if the distance of the bottom fastening point bracket (center of the hole) up to the centre line of the strut housing = 64 mm  
AND: If the distance of both fastening holes in the bracket = 54 mm (center of the hole).  
Take these dimensions carefully from the original strut!
55. When fitting H&R stabilizers use OE mounting parts if not co-packed. Check that these parts are in a like-new condition; renew them in case they are not.
56. This stabilizer set - including two sway bar links - is for use with coil-over 29 325-2 only and must be used for lowering beyond approx. 50 mm to achieve sufficient freedom of motion between driveshaft and stabilizer.
57. Cut out front inner plastic wheel house for sufficient freedom of motion
58. This stabilizer set may only be used (and is approved) with coil-over suspension. It is not allowed to use it with OE suspension, spring set or other suspension.
59. When fitting rear axle stabilizers together with non OE exhaust systems packaging problems might arise. A contact between stabilizer and exhaust is possible. This has to be checked prior to fitment and solved prior to first driving.
60. FA stabilizer may also be used without rear stabilizer. In this case vehicle might tend to understeer.

Note 18



19. The locking ring for the strut fixation can not be taken apart non-destructive. It has to be replaced by a new one., Opel/GM part no. 24402155.
20. For vehicles with factory mounted trailer coupling we recommend a stronger rear spring ( 29749-3/29749-4).
21. Golf/Scirocco up to 8/97 use OE spring cup no. 171412341 A.
22. Cup-Kit shock absorbers: Use OE bump-stop, spring-cup and dust cover if not co-packed.  
Check good condition of these items prior to fitment, exchange if in doubt.
23. Send in front strut housings without wheel bearings, ABS brackets, cartridges etc. Damaged strut housings will be either rejected or repaired for extra charge if possible. In case of in advance delivery by H&R a deposit between 244,- and 2.220,- EURO per strut will be required, see picture.
24. Cars equipped with rough road suspension (OE-part) are lowered approx. 15-20 mm more as they are higher in OE condition.
25. Not suitable for vehicles with factory fitted sport suspension.
26. On vehicles based on the VW Golf IV platform (VW Golf/Bora/Beetle, Seat Leon/Toledo, Skoda Octavia) from a lowering of appr. 30 mm onwards a contact between driveshaft and anti-roll bar can occur. In Case of contact the H&R anti-roll bar 33525-1 must be fitted. This anti-roll bar is mandatory from a lowering of 35 mm onwards (f.e. for Cup Kit and coil over suspensions).
27. Vehicles fitted with load dependant brake control require separate approval despite of ABE (In countries where approval or the like is required). In any case set brake control to required level after lowering! In any case set brake control to required level after lowering!

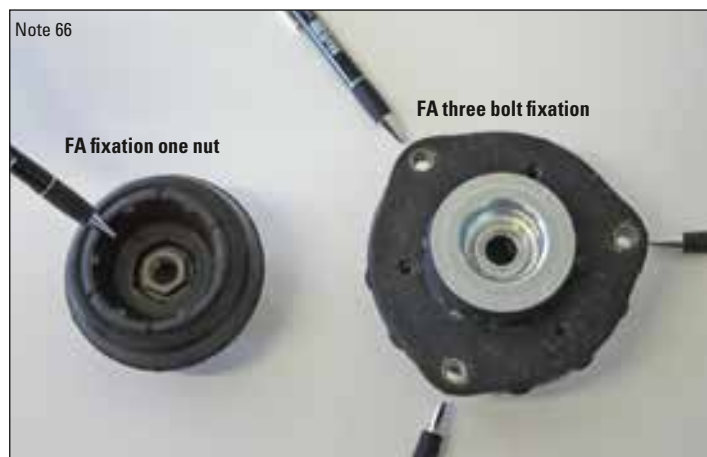
Note 23

delivered condition

after rebuilding



61. For cars BMW E30 without OE-rear axle stabilizer the following original BMW spare parts are needed for mounting the H&R stabilizer (2 of each)  
retaining clip stabilizer 33551129195  
hexagon screw with disc 07119915066  
sway bar link 33551126932  
hexagon screw 07119912501  
self locking hexagon nut 07129946400  
sway bar link holder 33321127717  
self locking collar nut 31331092887
62. for car with chassis number (last seven numbers) ....A497761/...F410043  
....R111834 the following original Mercedes retaining clamp must be used:  
Original MB-part number: A2033231240 (right)+ A2033231140 (left). These have to be exchanged against the original retaining clamps.
63. At too much lowering on the rear axle please use the upper spring mounts of the rough road suspension (BMW original parts)
64. Prior to ordering RA shock absorbers as spares please check and forward:  
> RA-Shock absorber with single spring or  
> RA-Shock absorber with double spring system
65. The lowering dates were determined from the test cars. Please note that the maximum lowering can not be reached with every car, please refer conditions and notes in the parts approval and also to the technical guidelines suspension program 12,17,32.
66. Before ordering please check the upper front shock fixation, see picture.



67. Attention: For the FA an OE-BMW spring compressor is necessary.
68. If the car is equipped with a two-layer leaf spring the single-layer leaf spring (VW-OE-P/N. 2K3511151E/optionally 2K5511151E for Maxi or 2K0511151N for Caddy/Caddy Life)
69. On the rear axle the height adjustment out of the coil over is used.
70. Not for cars with „Terrain-Tech“ package.
71. Change of upper FA-springplates. New inner diameter spring Ø83 mm, please measure!!! Old inner diameter spring Ø 100 mm.
72. For cars from vehicle identification number 1ZVBP8CF4B5113...
73. For model 2011, from 10th. Position of the chassis-no. „B“ and higher (C/D/E...)
74. In particular cases cars prior to Facelift 2010 (10th position of the chassis no. „B“) may have the OE front-support bearing with the long pin. Here, the front struts out of 29170-1 and -2 need to be used. Please check, prior to fitment, the length of the upper mount pin of the OE-front-strut: pin with 75mm length = shock part-no. 22 15 452 -1/1 of coil over 29170-3; -4 - pin with 45mm length = shock part no. 22 15 452 -2/1.
75. The installation of this suspension into cars with an electronic damping adjustment (DCC, Magnetic Ride etc.) must be done in an authorized (Audi-, VW-, etc.) workshop. The signal of the electronic damping adjustment in the display has to be deactivated (e.g. by interference-free complex resistance plugs which are connected to the valve



- connectors of the front and rear damping adjustment).
76. Hybrid and Battery Electric Vehicles may only be retrofitted in specialized workshops where the staff visited special trainings on high voltage systems in cars and work safely on cars with this technology.
77. Cars with adaptive suspension systems need to use the drop links/sway bar links of cars WITHOUT adaptive suspension (BMW original parts).
78. Lowering beyond the dimensions given in the type approval may result in damage. These damages are not covered by H&R.
79. „The minimum clearance between tires and suspension/body parts is 5 mm. If the clearance is less than 5 mm, it has to be restored with wheel spacers or reworking the bodywork. This bodywork and/or arising costs are not covered by H&R.“
80. In Germany a homologation may be possible. Please contact us in case of demand.

**All data subject to change. H&R is not responsible for typographical or photographic errors.**