

# Tips & Technology

## For Bosch Partners

Current topics for successful workshops No. 15/2010



**BOSCH**

Invented for Life

## Braking technology

### Coated brake disks

#### Quality first

When full braking from a speed of 80 mph, the braking system of a mid-range vehicle must deliver a braking power of over 500 kW. If we assume the vehicle has a power of 50 kW, the braking power is more than tenfold the engine power.

During a braking maneuver of this kind, temperatures of several hundred degrees Celsius may be reached between the brake pads and brake disk. Moreover, the braking system components are continually exposed to environmental influences such as wet, salt spray, dust and dirt. Despite all this, the car driver expects not just 100% reliability but also maximum braking comfort. Good responsiveness, precise control, no disturbing noise and constantly uniform braking are taken for granted.

Therefore: better stick with Bosch!

For many years, the name Bosch is synonymous with superior quality, technical expertise, innovative spirit and reliability.

#### The coating matters

Bosch offers a diverse range of coated brake disks for workshops and the aftermarket. As spare parts in OE quality, excellent braking performance, long lasting corrosion protection and minimal thickness tolerances are a matter of course.

The brake disks are supplied with two different coatings. Firstly, they can be supplied with a complete coating of Alutherm. Secondly, disks also come coated with zinc dust. The contact surface of these brake disks, which touch the brake pad, are not coated.

Both these coatings are made of environmentally friendly material and must **not** be removed by the workshop on installation.

A further advantage these coated disks bring the workshop is that they require no further treatment before installation. Work such as cleaning oily brake disks, for example, can be dispensed with.

The coated area of the brake disk remains protected against corrosion even after installation, ensuring an attractive and sporty appearance, particularly in combination with aluminum rims.

### **Important tips for running in brakes**

During brake run-in, please note the following instructions:

The disks no longer have to be degreased.

First perform 10-20 medium-strong braking operations from a speed of 30 mph. This is particularly important for fully coated brake disks (Alutherm), for only then can a normal coefficient of friction be achieved between the disk and the pad. Drive with care for the first 30 miles of driving after a change of brakes.

For assembly, treat the guide shafts, guide sleeves and possibly the inside edge of the taper with Bosch Superfit.

### **Bosch Superfit in a can**

The response of workshop professionals to the new Superfit special lubricant from Bosch was thoroughly positive. However, in the field, people repeatedly asked for it to be supplied in a workshop-friendly can, instead of a tube. In response to this request, Bosch Superfit is now available in a special can.

Bosch Superfit is a heavy duty permanent lubricant for preventing noise and resonance frequencies in disk and drum brakes. Its outstanding temperature characteristic, even at very low temperatures, ensures that it continues to function over a long period. In contrast to conventional products of this kind, Superfit does not harden even at -25°C. Its extremely low oil separation at high temperatures and its high washout resistance guarantee excellent lubrication for the long run. Bosch Superfit is free from fatty acids and metallic soaps; in other words, it is non-corrosive and is compatible with all metals and most O-ring materials.



Bosch Superfit is available under part number **5 000 000 163** in a 200 ml can and under number **5 000 000 150** in a 100 ml tube.

**Brief overview of coated brake disks**

Part number	Broad application
0986478114	MERCEDES 190, (W201)
0986478255	MERCEDES C 180 , C 200 compressor, C 220 (W202)
0986478262	MERCEDES C 180, C 200 Diesel, C 250 Diesel (W202)
0986478315	AUDI A8 2.5 TDI, 200 2.2, 100 2.2
0986478316	AUDI A8 2.5, 3.7, 4.2, Audi 100
0986478319	BMW 518i, 520i, 525td (E34)
0986478321	BMW M5 3.6, 518i, 520i (E34)
0986478330	MERCEDES 190 D, 190 E (W201)
0986478428	MERCEDES E 320, E 280 T, 300 GD (W124)
0986478437	OPEL Frontera 2.2 DTI, 2.2 i, Monterey 3.0 DTI
0986478461	AUDI A6 1.8, 2.4, 2.5 TDI
0986478467	AUDI TT 1.8, A3 1.8, S3 1.8; SEAT Leon 1.8, Toledo 1.9, Ibiza 1.8 T; SKODA Octavia 1.8; VW Golf IV 2.8, Bora 2.8
0986478482	Audi TT 3.2, 1.8 T; Seat Leon 1.8 T, 1.9 TDI, Toledo 1.6; Skoda Octavia 1.8; VW Bora 1.4, 2.0, Golf IV 1.8 GTI
0986478526	MERCEDES 600 SL, E 500, 300 SL (W124R129)
0986478566	MERCEDES CL 420, S 500, 600 SEC (W140; W220)
0986478607	MERCEDES S 280, S 320, 300 SE (W140)
0986478642	BMW 318i, 316i, 323i (E36,46)
0986478662	JAGUAR XK 8 4.0, XJ 8 4.0, XKR 8 4.0
0986478704	AUDI A6 2.5 TDI, 2.8, 1.8 T
0986478732	PEUGEOT 607 2.0, 2.0i, 2.2
0986478733	PEUGEOT 607 2.0, 2.0i, 2.3
0986478824	LAND ROVER Defender 130, Discovery 3.5, Range Rover I 3.6
0986478867	AUDI A3 1.6, 1.8, 1.9 TDI; SEAT Leon 1.8, Ibiza 1.4;

	SKODA Fabia 1.6, Roomster 1.9, Octavia 2.0; VW Golf IV 1.6i
0986478898	MITSUBISHI Carisma 1.3i,Spacestar 1.8 GDI; VOLVO S40, V40 1.9, V40 2.0
0986478971	RENAULT Vel Satis 2.0, 3.0, 3.5
0986478987	AUDI A4 1.8 T, 2.5 TDI, 2.4
0986478995	MERCEDES ML 430, ML 350 (W163)
0986479095	AUDI Q7 6.0; PORSCHE Cayenne 3.2; VW Touareg 3.0 TDI;
0986479116	BMW 750i, 850i, 540i, (E31, 32, 38, 39)
0986479138	MERCEDES Viano 3.2, CDI Vito (W639)
0986479143	OPEL Signum 3.0, Vectra 2.8
0986479146	LAND ROVER Discovery 2.5, 4.0i
0986479166	BMW X3 (E83)
0986479185	MERCEDES A 160 CDI, A 150 (W1169)
0986479193	PEUGEOT 407
0986479210	VOLVO S 60 D, S 80 I, V 70 II, XC 70
0986479216	BMW 320i, Z4, 120i ( E82, E87, E88, E90 )
0986479218	BMW 118d, 325i, 320 ( E81, E87, E90 )
0986479249	AUDI Q7 6.0; PORSCHE Cayenne 4.5; VW Touareg 6.0
0986479251	AUDI Q7 3.0; PORSCHE CAYENNE 4.5; VW Touareg 6.0
0986479258	AUDI 2.0, 3.0, 2.7 TDI
0986479309	VOLVO V 70, S 70
0986479329	MERCEDES ML 500, R 500, GL 500 ( W164, W251 )
0986479331	MERCEDES C 180, C 200 CDI, C 250 CDI ( W204 )
0986479332	MERCEDES E 280 CDI, E 500, CLS 280 ( W211, W219 )
0986479349	BMW X5 4.4, 4.6, 4.8 ( E53 )
0986479350	BMW X5 4.4, 4.6, 4.9 ( E53 )
0986479351	BMW 525d, 530d, 535i ( E60, E61 )
0986479375	LAND ROVER Discovery 2.7, 4.0, Range Rover IV
0986479397	VOLVO S80, V70, XC 72

0986479407	MERCEDES E250 CDI, C 220 CDI, C250CGI ( W204 )
0986479413	MERCEDES CL 500, S 350, S 320 ( W221 )
0986479414	MERCEDES CL 500, S 350, S 320 ( W221 )
0986479426	LEXUS GS 460 4.6, IS 350, GS 430
0986479429	LEXUS IS 200, Altezza Gita, Chaser 2.5
0986479433	LEXUS GS 460 4.6, GS 430, IS 350
0986479457	AUDI A6 2.7, A6 3.0 TDI, 4.2
0986478024	BMW 520d, 530i, 540i ( E39 )
0986478296	FORD Galaxy 2.8i; SEAT Alhambra 1.8 T; VW Sharan 2.8;
0986478418	PORSCHE 944 3.0, 944 2.5, 968 3.0
0986478419	PORSCHE 911 3.6, 944 2.5, 968 3.0
0986478426	BMW 520i, 528i, 530d ( E39 )
0986478468	MERCEDES ML 320, ML 430, ML 270 CDI
0986478469	MERCEDES ML 320, ML 350, ML 270 CDI
0986478470	MERCEDES S 430, S 400 CDI, CL 500
0986478471	MERCEDES S280, S 350, CL 500
0986478472	MERCEDES S 280, S 320, CL 500
0986478473	MERCEDES CL 500, S 400, S 500
0986478477	PORSCHE Boxster 2.5, 2.7
0986478495	VOLVO S 80, V70, XC 70
0986478546	AUDI A4, A6, 100; SEAT Exeo St 2.0; VW Passat 1.6
0986478570	BMW 318d, 320i, 328i
0986478592	PORSCHE 911 3.4, 911 3.6
0986478603	VOLVO C 70, S 70, V 90
0986478641	BMW 316i, 318 ti, 323 ti
0986478748	BMW M3, Z3
0986478762	BMW M3, Z4
0986478763	BMW M3, Z5
0986478874	MERCEDES A 140, A 160 CDI
0986478876	MERCEDES C 230, E 320, CLK 230

0986478899	MERCEDES E 200, E 208, E 270 CDI
0986478974	BMW X3, X5
0986478975	BMW 330, 325
0986478985	AUDI A4 2.0, A6 2.5; SEAT Exeo
0986478986	AUDI 80, A4
0986479003	BMW 730d, 745i, 760Li
0986479005	BMW 740d, 760i, 745Li
0986479037	FORD Galaxy 1.9; SEAT Alhambra 1.8; VW T4, Sharan 2.0 TDI
0986479038	MERCEDES E 220, E 200 CDI
0986479039	MERCEDES E 200, E 270 CDI, E 280 CDI
0986479040	MERCEDES E 320, CLS 320
0986479041	MERCEDES E 200 CDI, E270, E 350, E 500
0986479042	MERCEDES E 200 CDI, E270, E 350, E 500
0986479055	BMW 520i, 520d, 525
0986479056	BMW 520i, 520d, 523
0986479057	AUDI A4 2.4, A6 3.0; SEAT Exeo; SKODA Superb; VW Passat
0986479058	AUDI A3, TT; SEAT Leon, Altea; SKODA Octavia, Superb, Yeti; VW Golf V, Eos 2.0, Passat, Scirocco
0986479060	AUDI A8 2.5 TDI, A8 4.2
0986479079	PORSCHE Boxster
0986479113	OPEL Astra 2.0, Corsa 1.6, Zafira 1.6; SAAB 9-5
0986479115	BMW 520d, 530i, 525d
0986479157	SKODA Superb, VW Passat
0986479167	BMW X5
0986479215	BMW 320d, 325i, 330d
0986479217	BMW 116d, 116i, 118i

0986479252	AUDI A4 1.8, A4 2.0, A4 2.7
0986479299	AUDI A4 2.8, A4 3.0, A4 3.2
0986479300	AUDI A4 2.8, A4 3.0, A4 3.3
0986479301	AUDI A4 2.8, A4 3.0, A4 3.4
0986479330	MERCEDES ML 350, ML 500, R 280
0986479333	MERCEDES ML 350, ML 500, R 280
0986479334	MERCEDES S 430, E 500, E 280
0986479438	MINI Cooper D, Cooper Clubman, One
0986479439	BMW 325i, 320d, 330
0986479440	BMW 730d, 740i, 750i
0986479458	AUDI A6 2.7, A6 3.0
0986479465	AUDI TT 2.0, TT 3.3
0986479466	AUDI TT 2.0, TT 3.4
0986478192	BREDFORD Astra 1.6, Astramax 1.6; Opel Corsa, Astra, Vectra, Ascoma
0986478308	SEAT Cordoba 1.0, Ibiza 1.3; VW GOLF III 1.6, Lupo 1.4
0986478325	MERCEDES E 300, C 200, C 270 CDI
0986478421	FORD Galaxy 2.8; VW Sharan 1.9; SEAT Alhambra 1.8
0986478479	SMART Fortwo, Roadster, 0.7
0986478513	BMW Z4, 318i, 320i
0986478515	ALFA ROMEO 146 1.6, Siena 1.5; FIAT Punto, Brava; LANCIA Dedra
0986478561	BMW 316i, 318i, 320i
0986478590	RENAULT Megane 1.6, Clio 2.0 , Scenic 1.9
0986478598	RENAULT Megane 1.6, Laguna 2.0 , Scenic 1.10
0986478618	CITROEN C5 1.8, Berlingo 1.1; Peugeot 206 1.6
0986478624	MERCEDES C 200, C 280, E 300
0986478846	VW T4

0986478848	BMW 520, 523, 525
0986478853	AUDI A3; SEAT Leon; SKODA Octavia; VW Polo Jetta, New Beetle
0986478869	AUDI A4, A8; VW Passat
0986478871	VW T4
0986478875	MERCEDES A 140, A 160, A 170
0986478882	OPEL Astra 1.2, 1.6, 1.9
0986478883	OPEL Astra 1.2, 1.6, 1.9
0986478884	OPEL Astra 1.2, 1.6, 1.9
0986478896	CITROEN Jumpy 1.6i; FIAT Scudo 2.0; PEUGEOT Expert 2.0
0986478439	BMW Z3 1.8, 2.5i, 2.8 Coupe
0986478480	AUDI A6 1.8, 2.4, 2.8, VW Golf IV, Seat Leon, Toledo
0986478601	BMW Mini Cooper, One, John Cooper Works
0986479096	VW T5
0986479250	PORSCHE Cayenne 3.2; VW Touareg 3.0
0986479257	AUDI A6 2.0, 2.7, 3.0i
0986479321	VOLVO S 60, S 80, V 70
0986479347	Mercedes ML 270 CDI, 320, 350, 400 CDI, 500
0986479381	BMW 318 d, 320i, 325i ( E90, E91 )
0986479395	VOLVO S80, V70, XC 70
0986479398	VOLVO S80, V70, XC 73
0986479405	MERCEDES ML 500, 350, 430 ( W163 )
0986479406	MERCEDES C180, C200 ( W204 )
0986479408	MERCEDES 320 CDI, C 350, E 250 ( W204 )
0986479409	MERCEDES C 180, C 200 CDI, C 200 CGI ( W204 )
0986479410	MERCEDES C 180, C 230, C 280 ( W204 )
0986479411	MERCEDES C 250 CDI, C 350, E 350 CDI ( W204 )



0986479412	MERCEDES S 500, CL 500, E 420 CDI ( W211, W221, C216, R230 )
0986479415	MERCEDES SL 500, E 320 CDI, E 280 ( W211, W230 )
0986479437	MINI Cooper D, Cooper Clubman, One
0986479442	BMW X5 xDrive, X5, X6 ( E70, E71 )
0986479443	BMW X5 xDrive, X5 4.8i, X6 ( E70 / E71 )
0986479463	AUDI S4, A4; VW Passat
0986479467	AUDI A4 2.0, 2.7 TDI, A5 2.0
0986479475	LAND ROVER Range Rover III
0986479479	LAND ROVER Range Rover III
0986479489	LAND ROVER Range Rover III
0986479492	LAND ROVER Range Rover IV, Discovery 4.4
0986478310	PORSCHE 911 3.2
0986479464	AUDI TT 2.0, TT 3.2
0986478511	BMW Z3, 318i, 316i
0986479437	MINI Cooper D, Cooper Clubman, One
0986479442	BMW X5 xDrive, X5, X6 ( E70, E71 )

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