



Differential break-in instructions

Recommended fluids:

Castrol SAF XJ fluid is the only recommended fluid by Diffsonline for all applications except for Kaaz.

The Castrol SAF XJ fluid is available at any BMW dealer and the part # is 83 22 1 470 080. LSD Additive is already in the Castrol to the right blend for most applications. If you find your LSD is gripping too much for your taste, or you hear a slight binding noise in the diff go then, your local GM dealer and grab a bottle of LSD additive and add that to the fluid already inside.

We have not had a single problem with any Differential using Castrol SAF XJ and have with others, which consist of complaints of noises and such coming from the diff.

If you feel you require a different fluid feel free to email us for a recommendation for your particular application.

Kaaz differential oil (for use with Kaaz LSDs,)

Break in/Service differential:

Upon differential installation, and fluid top off, proceed to drive vehicle to a controlled area where several circles/figure eights can be performed. Drive vehicle (at idle speed) in 20 figure eights, full lock to full lock. Then drive (at idle speed) in 20 full lock circles left, 20 full lock circles right.

All Diffsonline differentials (excluding Kaaz LSDs) require a 1200 mile break in period. Do not exceed speeds of 85mph as bearings may overheat. Drive vehicle moderately without extreme load differences such as shocking (hard shifting with swift clutch use). After 1200 miles, change oil in differential with recommended fluids. Normal BMW recommended service intervals can be followed after break in. On 3 plate+ LSDs, change oil twice the BMW recommended interval.

For vehicles used for racing applications one day of track use is recommended break in. Follow normal circle/figure eight LSD break in initially before tracking vehicle. During break in period, drive vehicle moderately without extreme load differences such as shocking (hard shifting with swift clutch use). Maximum track speed should not be

achieved during break in process. After one day of track use, change oil in differential using recommended fluids.

Kaaz limited slip units require stringent break in procedures that are provided separately when this unit is used. Non compliance of provided instructions most definitely will cause driveability issues. Service intervals are also listed with provided instructions.

Normal operations:

During initial LSD break in (figure eights/circles), it is normal for the rear end to chatter (tire scrub/LSD noise) depending on the vehicles limited slip choice.

It is normal for some fresh rebuilt differentials to have “tight spots” rough turning before break in. Differentials are shipped/assembled dry. These mistaken imperfections remedy upon fluid fill and break in process.

High lock up (60%+) static LSDs have difficulties unlocking depending on driving surfaces (rain/snow/gravel/etc)

Ramped differentials may experience noise from acceleration/deceleration as ramped pieces move dependant of differential load (including Kaaz units).

Variable lock up differentials may influence handling dynamics of vehicle upon change in lockup based on differential load.

Differential mounting torques:

E36 (Front bolt p/n 33 17 6 750 780 blue locktight suggested)
Front 95nm
Rear 77nm

E30/E23/E32/E36 TI/E36 Z3
110nm (subframe)
77nm (through rubber mount)

E46 M3
Front 200nm
Rear 20nm, 90 degrees

E46
Front 95nm
Rear 174nm

Other tightening torques can be provided based on application