

The Cobra Drivers Club presents

# THE SUSSEX GT AT GOODWOOD



A grand tour of the Sussex Downs and exclusive track day.



## The Sussex GT at Goodwood 17th & 18th May 2015

The Cobra Drivers Club is an umbrella organisation for owners of cars designed by Carroll Shelby.

The club takes its name from the Cobra 289 engine, which powered Cobras, Tigers, Mustangs and GT40s in the 1960s. The aim of the club is to celebrate all of the cars that Carroll Shelby was responsible for developing and enjoying them in a friendly environment with like-minded enthusiasts who love these cars and the V8 engine.

There is no membership fee to join; you simply become a member by taking part in one of our events.

The second running of **The Sussex GT** will be held on 17th & 18th May 2015 at The Goodwood Estate. **Day 1** will commence with breakfast and a run up the hill at Goodwood House, followed by a two stage scenic rally. Lunch is included, as is a private gala dinner, where we will be joined by our VIP guest, residing that evening at the Hilton Aislford Park Hotel.

Following breakfast, **Day 2** is a circuit track day at The Goodwood Motor Circuit. The Cobra Drivers Club has the exclusive use of Goodwood, the UK's most historic & prestigious motor circuit for the day where you will be able to explore the full capabilities of your car.

Entrant numbers are limited to **50 cars only**, with the following cars being eligible to participate:

Original, continuation and recreation Cobra 260, 289, 427 & Daytona, Sunbeam Tiger 260, 289 & Le Mans, Mustang 289, 350, 390 & 500 (of all variants) plus all models of the GT40 and Ford GT.

**For full details on this exciting event visit:**  
[www.thecobradriversclub.com](http://www.thecobradriversclub.com)

**Entry form:** [info@thecobradriversclub.com](mailto:info@thecobradriversclub.com)

**Telephone:** 0044 (0)1355 260422

**Mobile:** 0044 (0)7876 211785

**Facebook:** [www.facebook.com/jaguar/The-Cobra-Drivers-Club/156606747688655](https://www.facebook.com/jaguar/The-Cobra-Drivers-Club/156606747688655)



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### << 1016 and the Le Mans Classic

by Claude Nahum

progress, we told ourselves that this time we would get to the end of a Le Mans Classic. This time we will make sure we bring the car to the end, we would say.

At the end of March the second gearbox had still not been done and was waiting for new shafts to be manufactured.

These were finally ready in Charlotte at the end of May and the second box was to be shipped at the beginning of June. This was cutting things very fine, since Trevor wanted to have 2 valid boxes for Le Mans and one had already been used at Goodwood. The cars were to leave for Magny Cours on the way to Le Mans on 2<sup>nd</sup> July.

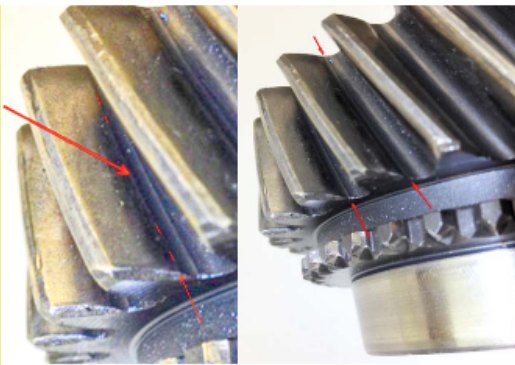
It was during my visits on a Tuesday evening during that first week in June that, while talking about the damaged gears he was showing me on his workbench, something attracted my attention. All the gears/teeth that failed had done so along a stress fracture that looked like it always started at the same level, along an imaginary line near the root of the teeth.

Using a magnifier with an inbuilt lamp, I examined one gear after another to see whether it had been damaged. They all had a line which was anything but imaginary. Some were more visible, others less so, but they all had a clear line, as can be seen below and right.

I knew by experience that the line, and especially the way I guessed it had been created, constituted a definite stress raiser. Such stress raisers or 'notches', depending on their sharpness, or how small the radius is, can increase stress concentration by 3 or 4 times. In other words, reduce by the same factor the load that the teeth can take or the number of cycles they can stand before failure.

As can be seen from the figure below, the maximum stress occurs at the root of the tooth (exactly where the 'fault' line existed on our teeth). A notch, fault, step or irregularity at that point was critical and reduced the load-carrying capacity to one third to a quarter of the design rating.

Photos: Claude Nahum



### Stress Concentrations for Bar with Fillet (cont.)

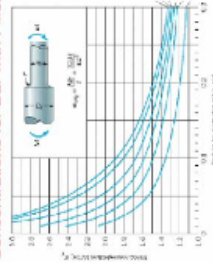


Figure 6.2 Stress concentration factor for round bar with fillet. (b) Bending. [Adapted from Collins (1981).]

The continuing story of Claude's work to achieve reliability, and the result in the 2014 Le Mans Classic, will appear in the next issue.