

DAKAR: WORLD'S MOST DEMANDING RALLY

Navigating Through the Desert

The beginning of 2008 - the January issue of GIM International is already lying on your desk- and more than a thousand men and women from nearly fifty countries are preparing to drive cars, trucks and motorbikes from Lisbon to Dakar. How do they find their way along the 6,000km of this mostly desert track? We asked Hans Stacey, winner of the 28th, 2007 rally.<P>

A massive number of fans approach the MAN truck stand to meet 2007 Dakar winner Hans Stacey during the European road and transport show held at Amsterdam RAI from 26th October to 3rd November 2007. Assisted by his wife Conny, Hans pleases many visitors by autographing books, flyers and gadgets. 'Fame has its price,' he laughs, 'but in contrast to non-stop manoeuvring truck horsepower over unpaved roads, sand, mud and Wadis at top speed, I can do this on auto-pilot!' Seventy-five trucks, 150 cars and two hundred motor cycles took part in the 2007 rally. Kick-off was on 6th January, and the fifteenth and last stage ended on 21st January 2007 in Dakar, capital of Senegal. Just half the vehicles that left the starting post in Lisbon, capital of Portugal, finished the rally.

MAN Trucks

'I am on the MAN stand,' explains Hans, 'because this is the manufacturer of the winning truck. Of course, we heavily modified MAN's original design to adjust the truck to the hostile rally conditions. For example, special shock absorbers have been installed. The 12-litre engine generates 700hp and goes from zero to 100km in just ten seconds, helped by a D26-series gearbox. Actually, I watched how the truck was born, right from the drawing board, and so it became part of myself.' Truck firm MAN is based in Munich, Germany, and produces around 100,000 trucks yearly. Their weights vary from 7.5 to 50 tons, and heavy-duty, special trucks may even reach 250 tons. Over the years the company has achieved a reputation for producing reliable, all-wheel drive, heavy-duty vehicles. Conny remarks, 'Hans has made huge progress since he decided to participate in the Dakar rally with a team of his own three years ago. The first year he did not reach the finish at all. Last year he came in second, and this year he was winner in the truck division of the world's most demanding rally.' Hans takes over the conversation from his proud wife. 'Of course, I do not do the work alone. I rely on my team of 35 dedicated people; we employ two race trucks, two rapid-assistance trucks, which also participate in the race, two service trucks and one hospitality truck, from which VIPs may observe our efforts from nearby, while driving along the service route.'

Dream Dakar

In 1977, motorcycle racer Thierry Sabine, born on 13th June 1949 in France, got lost in the Libyan Desert during the Abidjan-Nice race. Losing oneself may give rise to visionary dreams, and Sabine's was to wonder whether a desert rally might not be the ultimate challenge for every amateur racer to test their capabilities? The Dakar Rally was born. On 26th December 1978 the rally took off from the Place du Trocadéro, Paris. 'A challenge for those who go along, a dream for those who stay behind,' Sabine would have said. The thirtieth run will take place from 5th to 20th January 2008. Its founder died during the 1986 race, not racing, but as the result of a helicopter crash whilst monitoring the event.

Routes in Writing

'The rally is really teamwork,' Hans continues. 'As driver I completely rely on Charley Gotlib, my navigator, and Bernard der Kinderen, my mechanic. I want to have Charley sit next to me and next to him Bernard. Because properly communicating the route is essential; it can really make the difference. When we are driving at top speed, 150km/h (the truck can actually drive up to 200km/h but that is not allowed, 150km/h is the max) there is a hell of a noise in the cabin. When the intercom fails, I want to be sure that we move on in the right direction. Sitting next to me enables Charley to tell me, by yelling, pointing and physical contact, which way to drive. Like all navigators during the rally, Charley uses route descriptions in writing provided by the organisers. The instructions are in the form of "stay on the road for 1,850 metres, then take the turning to the right and continue for 6,700 metres at such and such a bearing". You can imagine what hard labour navigating becomes when the truck is jumping and dancing on gravel at top speed. Small mistakes can cause hours of delay.'

IriTrack

'Route descriptions in writing? No GNSS?' we ask. 'No GNSS, at least not for navigation. That is strictly forbidden and if they catch you with a GNSS system onboard, that's the bloody end, you can go home.' Hans makes the international gesture for beheading, and continues. 'But after successful testing in 2005, the organisers have since 2006 installed an IriTrack system in each vehicle during the technical check in Portugal; everybody must have one on board, it is mandatory.' IriTrack is a tracking system that measures vehicle location, speed, and situation and sends these observations in quasi real time via satellite to the control centre at headquarters. The unit consists of a GPS receiver, an Inclinator, a G-Force Meter, an Iridium Satellite Voice/Data Modem and a microcomputer. It automatically sends an alert if a vehicle stops, crashes, or takes a big hit. The data measured by the diverse sensors is recorded every five seconds, processed by the microcomputer, and the resulting information is sent to the control centre every two minutes via Iridium Satellite telephone. But all this information is concealed from the team, who might see heading and speed, but no positional data. In an emergency situation the control centre can call the team directly.

Colour Buttons

However, IriTrack is not solely a one-way communication system; it allows the team to manually send the control centre three types of alert message. 'In addition to a yellow button for switching the unit on and off, there is a red, green and yellow button,' Hans goes on. 'When the red button is pushed an alert is transmitted to the control centre that you require immediate emergency assistance. Although we are all competitors, in the case of crisis we have to help each other, and when we see somebody else in an emergency situation we push the green button. This will inform the control centre that at that GPS point a hazard has occurred. Pushing the blue button starts a telephone call with the centre via a built-in microphone. The system even enables the organisers to check whether speed limits are violated, and to warn us when we move too far away from the route. In that case you may even request your position, but this will cost you a time penalty of two hours... No, it is not strange that we are not allowed to use satellite navigation systems. That is all part of the game, it belongs to the culture. It is like top sport, and doing the rally is top sport, believe me; in top sport drugs might improve performance, but they are forbidden, and so it is with modern navigation in the Dakar Rally. Using modern navigation systems would reduce the challenge too much.'

Google Earth

'We have to pass certain "way points" on the track, which are sometimes hidden. We also have to pass checkpoints to receive a timestamp as proof that we have been there. When we are within a radius of 3km of a validation point, IriTrack is automatically activated and guides us right to that point, but after validation the system shuts down and Charley, my navigator, has to take up the written route description again. When approaching villages and cities, we might enter speed zones, and these are also indicated by the system. Missing validation points or exceeding speed limits will result in time penalties, or even disqualification.' The system also enables the general public to follow the progress of the rally in real time. For 2008, the plans are to put the real-time positions of participants on a map that may be displayed on Google Earth. So you, dear reader, will be able to follow the progress of the Dakar teams in geospatial dimensions. The 2008 Dakar Rally starts on 5th January in Lisbon and participants should be in Dakar by 20th January. For the 2008 event trucks will be categorised into "super trucks" and "standard trucks". My team will participate with two MAN trucks in each class.' 'Hans will be driving one of the two super trucks,' adds Connie.

Final Remarks

The Dakar organisation works closely with African partners, from determining the route to discussing the overall vision for the rally. Another matter for close collaboration is avoiding damage by all the vehicles to delicate environmental sites. According to the organisers, the rally brings north-west Africa not only financial benefits, but also an upbeat image through all the media coverage. This positive coverage is a world away from the desolate news usually reaching us through newspapers and TV channels. 'The beauty and problems of north-west Africa are, to be honest, not part of the mindset for Hans during the rally,' says his wife Conny. 'When Hans is manoeuvring his truck at top speed through the desert, it is the thought of the finishing line in Dakar that keeps him going.'

Information Box:

2007 Route from Lisbon to Dakar The Mediterranean is crossed by ferry from Malaga, Spain, to Nador, Morocco, where the first tricky stages are presented to the adventurers right from the moment they set wheels on African ground. The next leg, Mauritania, gives them the desert, where gaps between competitors become measured in hours. Although the scenery may be of breathtaking beauty, to stay in the race competitors need to keep their eyes firmly on navigating. Then comes the long haul through Senegal, an exercise in humility and patience, and finally the euphoria of crossing the finishing line.

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