



*The*  
**Great**  
**Arc**

**A rally to test man  
and machine**

[www.greatarc.co.uk](http://www.greatarc.co.uk)

# The Great Arc Rally of India: Lambton's Route

## Cape Comorin to Hyderabad - 1000 Kilometres in a straight line



**C**an you drive in a straight line across the plains, rivers, hills and deserts of India? Are you ingenious enough to overcome natural obstacles? Are you determined enough to take the hard decision when the going gets tough? Are you a pioneer when others just follow? If you can answer yes to these questions, then The Great Arc competition is for you.

The Great Arc Rally aims to take up the spirit of the Great Trigonometric Survey of India by asking competitors to drive in as straight a line as possible from near the tip of India, outside Cape Comorin, to



Hyderabad. The route follows in the footsteps of William Lambton, the father of the survey which was hailed as one of the greatest scientific undertakings ever. In future years we will extend the route to take in George Everest's route to Mussoorie in the Himalayas.

For two weeks you will be battling the terrain and the elements to find the straightest route possible along The Great Arc on the meridian. Night stops will be on

or near the line of the Great Arc to give you the best possible chance of creating the perfect straight line. Sometimes you will rest your head on feather pillows in exotic hotels while other nights will be spent in our (secure) camps set in Indian villages under the stars.

To help with the navigation we will provide a default route on GPS but to win the event you will have to use your ingenuity, determination, stamina and a hefty dose of luck to find a shorter route between the night stops. Any delays, off course routes, failed river crossing, unclimbed mountain ranges and you could pick up penalty points. And points don't mean prizes.

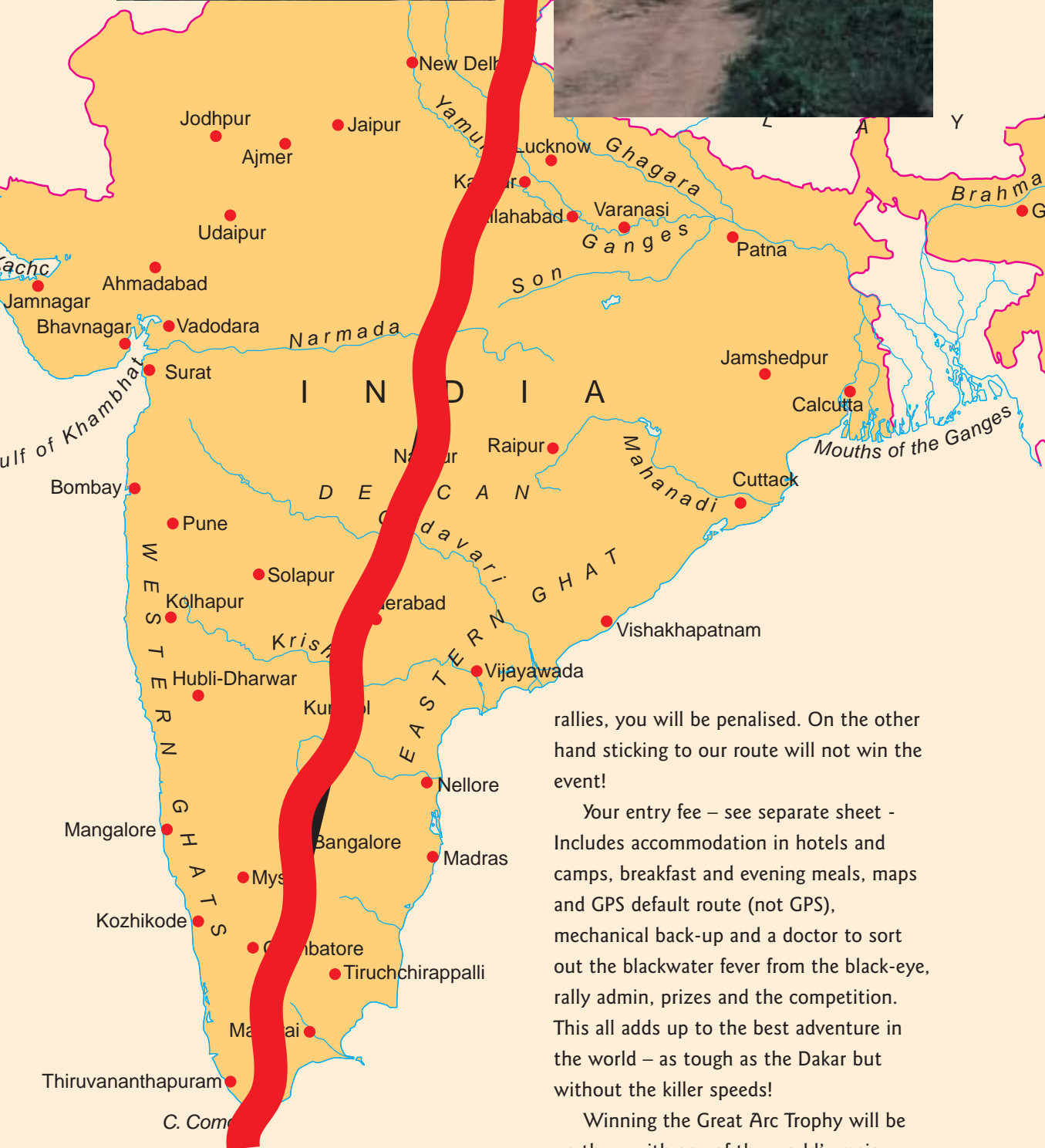
Our default route will be on GPS and will follow the roads, tracks, cross country terrain and river beds, but you will have the luxury of going off-piste and using your ingenuity, specialist knowledge and imagination to shorten our route.

The competition is so tough that it is reserved for only rugged 4x4's and enduro motorcycles. With calculations and equations nearly as complicated as the survey itself we will be monitoring the progress of the competitors on a minute by minute basis. We will give you enough time each day to improve our route but if you arrive after your allotted time, as with all





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rallies, you will be penalised. On the other hand sticking to our route will not win the event!

Your entry fee – see separate sheet - Includes accommodation in hotels and camps, breakfast and evening meals, maps and GPS default route (not GPS), mechanical back-up and a doctor to sort out the blackwater fever from the black-eye, rally admin, prizes and the competition. This all adds up to the best adventure in the world – as tough as the Dakar but without the killer speeds!

Winning the Great Arc Trophy will be up there with any of the world's major enduro motoring triumphs and inducts you into the Fellowship of the Great Arc Rally along with the spiritual founders, Lambton and Everest.

## Why is it called the The Great Arc?



**E**ach generation throws up a passion for doing something unique and throughout the 19th century it was the accurate measurement of the dimensions of the earth with the aim of locating important

geographical features in terms of latitude and longitude. After all, who we are, is intimately associated with where we are.

In April 1802, the relatively comfortable cool days of winter were giving way to rising temperatures and increasing humidity while the sultry Indian summer loomed endlessly ahead. As fellow British officers explored ways to escape the heat, Colonel William Lambton made plans to measure the Empire's greatest treasure as well as the curvature of the earth . He hoped to settle the argument about the shape of the earth – is it a ball or is it a grapefruit? This ambitious and seemingly impossible plan was to measure the arc of the meridian, by trigonometric survey. Little did he know at



the time that the task would take nearly 40 years and it would be his successor, George Everest (after whom a small mountain was named), who would see it finally completed, while Lambton, the father of the survey, would be long forgotten.

Malaria, tigers, swamp fever and a host of other ills took their toll but the survey, in the true British never-give-up-spirit, marched on and on mapping the sub-continent from the tip of India in the south to the very Himalayas themselves.

The 2,500 kilometres of inch-perfect surveying was, and still remains, one of the



greatest human endeavours ever undertaken. Braving forest, flood and fever for nearly 50 years, the British surveyors and their Indian staff carried instruments weighing more than half a ton to make possible the mapping of the entire Indian sub-continent. Half-a-century of dedicated effort consumed the lives of more men than most contemporary wars.

The equations that they used to calculate the curvature of the earth are more complex than any that had been

formulated in the pre-computer age, and have been likened to as much of a technological achievement as man stepping foot on the moon in 1969. Precision was the mantra; and it was so rigorously maintained that even today, despite more sophisticated mapping equipment and survey methods, the values arrived at then, using those techniques, cannot be disputed.

The plan succeeded, and today, nearly 200 years later, we will celebrate and acknowledge the creation of what has come to be known as The Great Arc, by driving parallel to the  $78^{\circ}14'$  meridian, upon which, modern mapping and surveying of the Indian peninsula is still based.





**INDEX CHART  
TO THE  
GREAT TRIGONOMETRICAL  
OF  
INDIA**

SHOWING COLONEL LAMON'S NET WORK OF TRIANGULATION  
THE MERIDIONAL & TRANSVERSAL CHAINS OF PRINCIPAL  
THE BASE 1 1/2" MEASURED WITH THE COLBY AT  
THE LINE OF THE SPIRIT-LEVELLING OPERATED  
THE AERIAL-PENDULUM & TIDAL STATION  
AND THE SECONDARY TRIANGULATION TO FIX THE  
THE MALAYAN & THE SOOLIMAN RANGES  
Completed to 27 October 1870.

Scale of 1:100,000 feet or 1:30,480  
1:100,000

**EXPLANATION**

The names of all other countries in places from which the  
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# The Timeline of the Great Trigonometrical Survey

**1802** – William Lambton, the father of the Great Trigonometrical Survey creates the base-line measurement outside Madras.

**1804** – First triangulation of The Great Arc

**1808** – The half ton theodolite, used for the triangulation measurements falls and is damaged whilst being hoisted to the top of Brihadishwara temple at Tanjore.

**1809** – Cape Comorin base lines completed.

**1815** – The Great Arc completed to Bidar (west of Hyderabad) and the Arc, becomes 'the longest that has ever been measurement on the surface of the globe'

**1817** – Pindari and Third Maratha wars extend British control and increased the importance of The Great Arc survey.

**1818** – Boxing Day; Lieutenant George Everest arrives in Hyderabad as Lambton's assistant. Cost of The Great Arc running at £6,000 p.a. with no end in sight.

– January; William Lambton returns to Hyderabad never to return to The Great Arc. Everest left in full control of the Arc

**1819-20** – Everest struck down by Yellapuram fever in the jungles of Kistna-Godavari

**1822** – Everest taken ill and spends a year convalescing at the Cape.

**1823** – 19th January, William Lambton dies at Hinganghat. Everest confirmed as Superintendent of the Great Trigonometrical Survey.

**1825** – Camp hit by typhoon. Great theodolite damaged.

**1829** – Poor record of 15 dead in a single season.



**1830** – Great Trigonometrical Survey is questioned as it is thought impossible to cross the heart of central India and vast Ganges – Jamna plain.

**1831** – A successful demonstration in Calcutta to the influential of British India finds new support for The Great Arc and more importantly, new funds are granted to push The Great Arc north through central India.

**1833** – The Great Arc starts again across the plains of Hindustan. George Everest, two assistants, three sub-assistants, four elephants, 42 camels, 30 horses, 700 natives make up the survey party

**1834** – The Great Arc reaches Fatehpur Sikri. For the first time the position of the Taj Mahal in Agra is precisely recorded.

**1835** – Four successive attacks of fever





confines Everest to his bed for six months. 'During which time I was once bled to fainting, had upwards of 1000 leeches.....'

**1835-37** – Sixteen great towers from 40 to 60 feet high are completed across northern India to support the half ton theodolite.

**1836** – The Great Arc now 1000 men strong.

**1837** – Last step in the triangulation needed to measure the heights of the Himalaya Range.

**1839-40** – Everest installs the 'Astronomical Circles' in specially built observatories at Sironj and Kalia to establish the latitude and longitude of the Arc's extremities.

**1840-41** – Same procedure followed at Bidar and Sironj. To the success of the Arc Everest notes 'no two elements in nature more definitively known'

**1841-43** – Everest works on the Arc data concluding that semi-diameter of the equator at nearly 21 million feet exceeded the northern hemisphere's diameter by exactly 67,260 feet. The compression of the poles in terms of the diameter of the equator is thus 1:311.044. Therefore the earth is shaped like a grapefruit and not a ball.

**1856** – Peak XV in the Himalaya Range identified.

Height above sea level 29,002.

Peak XV named Mount Everest.

**1861** – George Everest knighted





## What you get

- 11 nights camping – to include breakfast & evening meal, primitive temporary toilets and washing facilities
- Hotels on remaining days
- GPS prepared Arc default route. (not GPS unit)
- Specially prepared Arc maps (Roller maps for bikes)
- Doctor
- Mechanical support
- Daily results
- Fuel dumps (fuel cost not included)
- Transport of limited personal equipment, tents, spares and tools between camps – one standard size box per competitor

- Help with organising shipping and Carnets
- Celebration party Hyderabad
- Last but not least, a bloody good adventure!

### **Not included**

- Your fuel
- Flights
- Camp beer and drinks other than at parties
- Indian Visas
- Shipping, Marine insurance, Carnets, and Carnet indemnity insurance – Shipper to be used is Reisa Freight.
- Carnets through RAC in the UK.
- Everything else



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