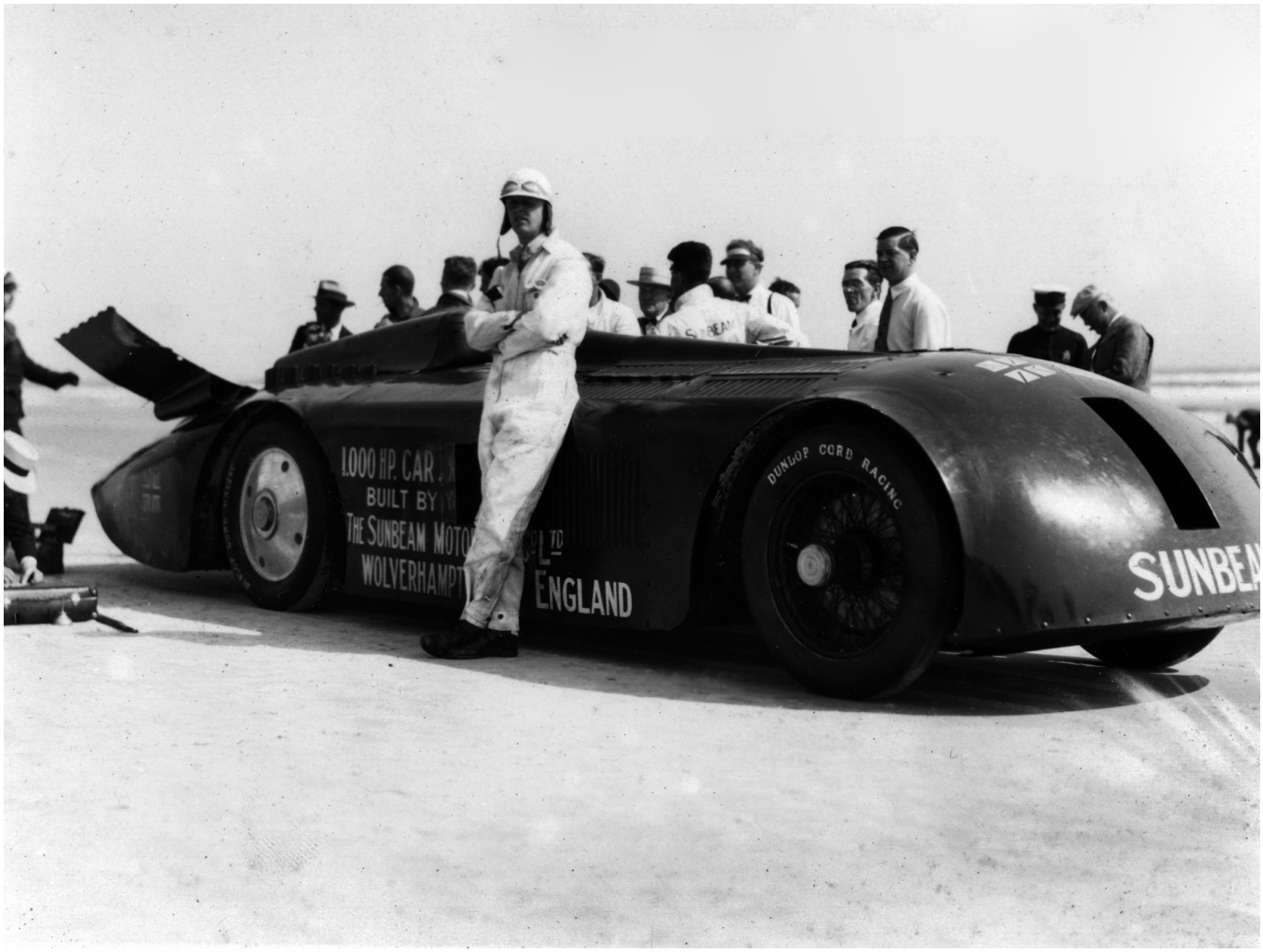
Restoration race is on after damage was discovered in the Sunbeam 1000HP Land Speed Record breaker's front engine

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Major Henry Segrave with Sunbeam 1000hp at Daytona Beach in Florida.

The National Motor Museum tells us…

(All words and photographs from The National Motor Museum).

National Motor Museum engineers have discovered cracks in all four engine blocks, drop damage and camshafts glued by oil in the restoration of the second engine of World Land Speed Record breaker Sunbeam 1000hp.

Dismantling the front engine has revealed more problems than expected in the latest stage of the restoration. Work follows the momentous start-up of the rear engine for the first time in 90 years, as crowds at last year's Beaulieu International Autojumble heard Sunbeam roar again.



Front engine awaiting restoration.

National Motor Museum Senior Engineer Ian Stanfield said: “This engine’s had a hard life and looks as though it’s been dropped at some stage, then repaired before coming to Beaulieu.”

He added: “We knew we were going to find differences between the two engines but the amount of damage we’ve uncovered, while taking apart this second engine, is creating problems and means it will be more time-consuming to restore.”

Cracks discovered in the four engine blocks were caused by frost, after water had frozen in the system during Sunbeam’s earlier life.



Frost damaged engine block.



One of the cracks in a front engine block.

Weeks of assessments have been carried out, as well as many hours of soaking camshafts in a hot detergent tank to unglue parts which had been stuck together by Castrol R oil.



National Motor Museum Senior Engineer Ian Stanfield soaks camshaft glued by oil.

Ian explained: “Soaking has to be carried out for just the right amount of time, so the detergent doesn’t eat into the aluminium.

“However, the good news is that while piston rings in the first engine had to be replaced, we’ve managed to get the majority of those in the second engine out intact, so have a complete set ready for the rebuild.”

Other engine parts have been taken off-site to be worked on by experts at Marcos Motor Company’s Formhalls Engine Services, whose craftsmanship and unique skills in white metal bearings also helped with the restoration of Sunbeam’s first engine.

There are no manuals or documentation to help with the Sunbeam 1000hp restoration and while knowledge and experience gained from the National Motor Museum engineers’ rebuild of the first engine, both engines are unique. For example, Sunbeam’s two colossal 22.5 litre Matabele V12 aero engines each run in opposite directions.


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National Motor Museum workshop volunteer Chris Buet cleans a Sunbeam 1000hp front engine block.

Race to complete restoration

The race is now on to complete the restoration in time for Sunbeam 1000hp to be shipped to the USA, ready to take centre stage at the Pebble Beach Concours d' Elegance in California in August.

The aim of the Sunbeam 1000hp Restoration Campaign is to complete the restoration of 'The Slug' then take it back to Daytona for the centenary of its World Land Speed Record-breaking run in March 2027.

Funds are needed to complete the full restoration project. Donations can be made online at https://nationalmotormuseum.org.uk/sunbeam-1000hp-restoration-campaign/.

As work on the front engine continues in the workshop, the rebuilt rear engine and exposed chassis can be seen by visitors to Beaulieu on display in the National Motor Museum. For tickets and details see Beaulieu | Home to National Motor Museum | New Forest, Hampshire.*

More information:

National Motor Museum

The National Motor Museum is an Accredited Museum and all of its collections have been designated by Arts Council England as being of national and international importance. Its internationally-acclaimed collection of more than 1.9 million items is cared for by the National Motor Museum Trust and includes historically important vehicles, motoring artefacts, film footage, images, documents and books. After marking the museum's 50th anniversary in 2022, work has started on ambitious plans to upgrade facilities and open

up even more of its collections to visitors.

Beaulieu

*Your ticket to Beaulieu includes entry to the National Motor Museum with its collection of over 285 cars, new exhibitions Disney and Pixar *Cars* and We Had One Of Those, Montagu family home Palace House with its recently refurbished rooms in the former private wing, fun adventure playground Little Beaulieu, 13th century Beaulieu Abbey, the Secret Army Exhibition, unlimited rides on the monorail and beautiful grounds and gardens. For tickets and details see www.beaulieu.co.uk or call 01590 612345.

Formhalls Engine Services

Special thanks to Formhalls Engine Services for their exceptional craftsmanship, unique skills in white metal bearings and expertise in engine restoration. Their dedication to preserving automotive heritage has helped make this project possible.

For more details on how they can help with restorations, performance enhancement, complex repairs and re-engineering see https://formhalls.com/.