The legendary Red Arrow Railcar RAe 2/4 1001 flies again after a refurbishment at the ABB Sécheron Transformer Service Center in Geneva.

The story
The Red Arrow RAe 2/4 1001 is a Swiss railway legend. These eye-catching railcars first went into service at Swiss rail operator SBB (Schweizerische Bundesbahnen) in the mid-1930s. Of the two working examples still around today, one is owned by the SBB’s heritage foundation (SBB Historic).

Traction transformer damaged
This unit was earmarked for a number of special trips in summer 2009 to celebrate the 50th anniversary of the founding of the Swiss Museum of Transport. Then in September 2008, a “flashover” damaged the Red Arrow’s traction transformer so badly that there seemed no hope of repairing it in time for the celebrations.

Research - An efficient solution
With time ticking away, someone remembered the Red Arrow on display at the Swiss Museum of Transport in Lucerne (Switzerland). It had been out of service for a number of years – but might it be possible to get its transformer up and running again?

Transport to ABB transformer service center in Geneva
There was no other option, so the traction transformer was removed and transported to the ABB Transformer Service Center in Geneva where the experts from ABB Sécheron set to work.

With ABB responsiveness again driving efficiently and after various diagnostic measurements, active part inspection and service operations such as factory revision including oil and gaskets exchange, the transformer was successfully tested and handed over to SBB Historic with a fresh coat of paint.

The foundation’s Red Arrow has been running impeccably with the refurbished transformer since March 2009 and will now be able to take part in the summer’s anniversary celebrations.
Factory Remanufacturing/Repair
Transformer factories and workshops are characterized by their orderliness, cleanliness, heavy lifting equipment, special tools and fixtures, specialist experienced teams in each process area, drying facilities and test bays. We provide performance improvement and increased value of existing equipment due to full technical restoration, modernization and complete component check.

Repairing a traction transformer, instead of replacing it, can in certain cases lower your capital maintenance cost drastically and provide quicker turnaround than buying new.

Other advantages of remanufacturing
Remanufacturing is faster so the unit could in some cases be back in use before the new unit is even out of assembly. Improved lead-time by remanufacturing aged units in dedicated service factories or repaired directly at site. Transformers in critical condition that are remanufactured or repaired as a preventive measure, increase asset life and availability. Long lead time items can be ordered in advance because the design is already available. Transformer footprint and arrangement does not change. Short circuit performance is improved. Improved materials leading to improved efficiency.

Quality
ABB service factories are ISO 9001 and ISO 14001 certified. ABB believes and strictly applies quality systems, especially where the environment is concerned. ABB’s factories use special instructions to ensure proper handling of old and/or hazardous materials. The same Quality Plan is used for both new and remanufactured transformers. Quality documentation follows the unit from shipping to disassembly and all the way through the process back to shipping to the customer site.

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