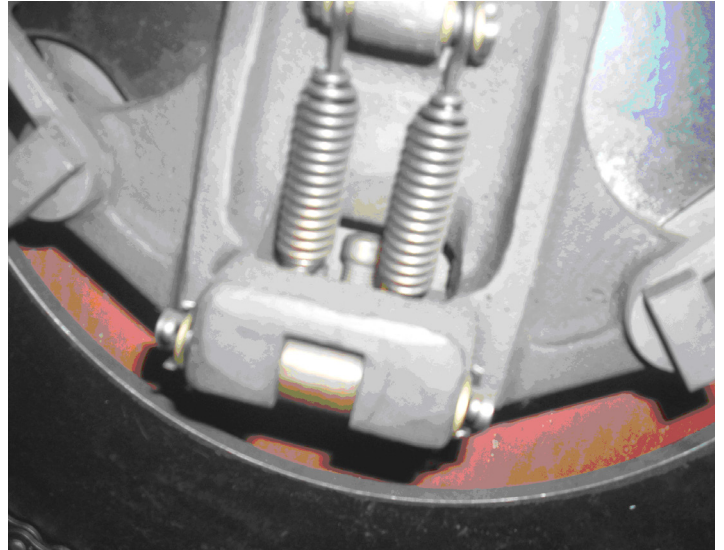


Transformer Remanufacturing and Engineering Services (TRES) Load tap changer retrofit kit solves recurrent problems

When an Allis Chalmers TLH21 load tap changer (LTC) had recurrent problems, ABB TRES was able to get to the root cause and deliver a solution.

Problem

All the moving contacts and some stationary contacts on an LTC needed replacement every six months. However, when the customer changed these contacts every six months, they were treating a symptom of the problem, not the cause. The contacts would burn because the LTC did not stop on position, resulting in incomplete electrical contact and excessive heating. This was happening because the accelerator latch assembly was malfunctioning. The stop latch mechanism pin, which is part of the accelerating latch assembly, is supposed to control the movement of the gears by fitting between the teeth of the LTC gears, thereby stopping the gears at the correct position. In this case, however, the stop pin was bent so it didn't fit between the gears and couldn't control them. So when the pin got the impulse to let the gears move, it would let the gears overrun. This resulted in misalignment of the contacts, incomplete electrical contact, heating and burning of the contacts.



LTC accelerating latch assembly

Solution

When the ABB TRES LTC specialists arrived on the customer site, the LTC was mechanically jammed. They disassembled the LTC, diagnosed the problem then explained that the latch mechanism stop pin had bent because it had been used for over 129,000 operations.

The ABB TRES team replaced the bent pin, but they did not stop there. The reversing switch and phase panels were scorched from all the excessive heating. The ABB TRES LTC specialists, therefore, installed a new ABB LTC Retrofit Kit that consists of all new moving contacts, stationary contacts and reversing switch as well as all new phase panels.

In addition, the door gasket and o-ring were worn out, the motor and capacitor assembly had a bent shaft and the motor drive chain was stretched. So the ABB TRES LTC specialists also installed a new door gasket, bushing and o-ring, motor and capacitor assembly, motor drive chain, all four positioning switches (hold-in micro-switches) and lead support assembly to completely remanufacture the LTC.

Before completing the project, the ABB TRES LTC specialists tested the remanufactured LTC mechanically and electrically then re-installed it on the transformer and tested it mechanically and electrically again.

For more information about ABB services, please contact your sales representative or call one of the numbers listed below:

ABB Inc.

**Transformer Remanufacturing
and Engineering Services (TRES)**

4350 Semple Avenue
Saint Louis, Missouri, USA
Phone: +1 800 HELP 365 (option 7)

ABB Ltd.

201 Westcreek Blvd.
Brampton, Ontario, Canada
Phone: +1 800 HELP 365 (option 7)

ABB S.A. DE C.V.

Av. Central No. 310, Parque Logístico.
78395 San Luis Potosí, San Luis Potosí, Mexico
Phone: +52-444-809-7200

www.abb.us/Service

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