

November 21, 2017

## WESTINGHOUSE UTT UPGRADE SERIES

### Part 1 of 3: Upgrading to the RMT-1 Style Reversing Switch

Did you know that many affordable upgrades are available for your Westinghouse UTT Series load tap changer (LTC) that can be installed during your next maintenance rotation? These upgrades are designed to extend maintenance intervals while improving reliability of the unit. This is the first in a three-part series intended to introduce you to upgrades currently available for the Westinghouse UTT series. This installment will focus on upgrading to the RMT-1 style reversing switch.

Upgrading to the RMT-1 style reversing switch is highly recommended since the RMT-1 style is a self-aligning design that offers a higher current (amps) capacity than any other UTT design. Table 1 below contains a summary of the designations and ratings of Westinghouse UTT LTCs:

| DATE | MODEL | AMP RATING |
|------|-------|------------|
| 1966 | UTT   | 1000A      |
| 1968 | UTT-A | 500/1000A  |
| 1970 | UTT-A | 500/1000A  |
| 1972 | UTT-B | 500/1000A  |
| 1989 | RMT-1 | 1320A      |

Table 1

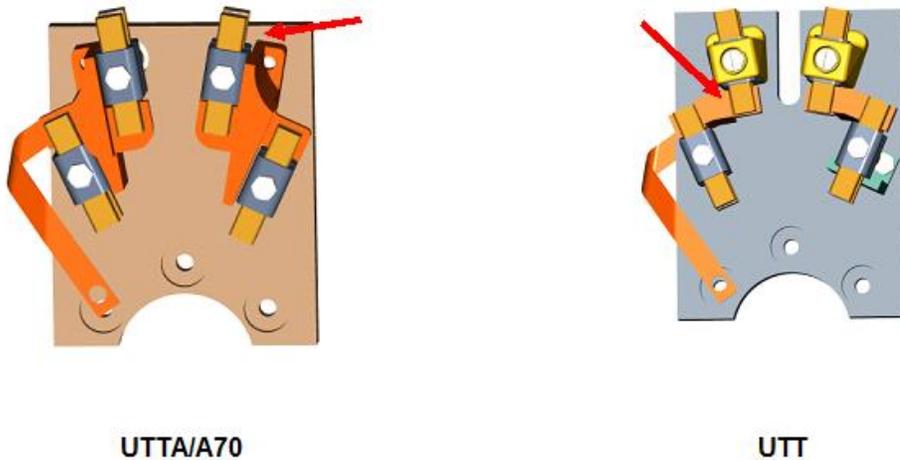
To quickly identify what type of tap changer model you have, use the following guidelines:

- UTT: Two windows into cam switch compartment front and side; position indicator from "ON POS" indication side
- UTT-A: One window through swinging door; position indicator front "ON-POS" indication, open door
- UTT-A70: One window through swinging door; side position indicator tilted down 30 degrees, "ON-POS" indication can only be seen when the cam switch compartment door is open
- UTT-B: No window through swinging door; side position indicator tilted down 30 degrees, "ON-POS" indication can only be seen when the cam switch compartment door is open
- RMT-1: No window through swinging door; side position indicator boss round

Below are 3-D models of phase panels for each of the different UTT Series LTC models. Red arrows indicate areas where overheating and coking typically occur. These arrows also help visually identify differences between the UTT models.

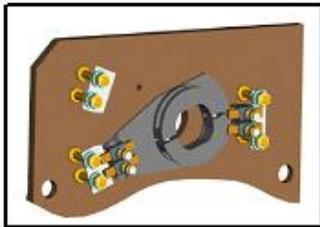


Below is a different view of the moving selector switches for the UTT-A/A70 and UTT. Red arrows again point out common areas most affected by overheating and coking.



Now that we have shown the different model types with their amperage ratings and how to identify them, we will describe the benefits of upgrading your standard reversing switch to the RMT-1 style.

The purpose of the reversing switch is to select raise or lower connection of a tapped winding section. Each phase will contain a reversing switch on a 3-phase LTC. The figures below show a side-by-side comparison of the standard reversing switch designs and the RMT-1.



UTT-A std reversing switch



UTT-B std reversing switch



RMT-1 reversing switch

Form, fit and function are exactly the same between the different designs, but the RMT-1 offers the following benefits:

- Offers increased current rating of 1320 amps vs 1000 amps
- Operates at lower temperatures for a given load current
- Self-aligns for better mechanical operation and smoother transition when
- passing through neutral
- Moving contact utilizes six pair of contact fingers with high spring pressure vs two pair for the UTT-B model and four pair for the UTT/UTT-A/UTT-A70 models, allowing more current paths with oil between them for better thermal performance
- Eliminates static, spring-loaded mating contact surfaces and replaces with moving contact surfaces that help ensure contact filming and heating are less likely to occur

Each upgrade kit from SPX Transformer Solutions' Components Group comes with detailed instructions for installing the upgraded designs. Our 30-year history of providing replacement parts for the majority of OEM LTCs allowed us to develop the capability to confidently engineer, manufacture and support a myriad of design-enhanced replacement parts. You can be confident that the SPX Transformer Solutions version of the RMT-1 style reversing switch will match the performance of the OEM part at a fraction of the cost.

Similar upgrades are available for the UTT, UTT-A and UTT-A70 selector and transfer switches. These other upgrades will be covered in detail in the second and third installments of this three-part Tech Tip series.

To learn more about all upgrades available for the UTT Series LTC, visit our website at [www.spxtransformersolutions.com](http://www.spxtransformersolutions.com) or contact a member of our sales team at 1-800-338-5526. Also, don't forget about our library of [easy-to-navigate, 3D catalogs](#) designed to help you quickly identify and locate hard-to-find components for LTCs and oil circuit breakers, while also including one for the SPX Transformer Solutions' line of Transformer Health Products®.



**AUTHOR:**  
**Damon Jones**  
*General Manager – Components Group*