UTILITY SOLUTIONS
POWER(FUL) INNOVATION™

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LOAD-RANGER® FLEX-LT® LOAD BREAK TOOL

OPERATION MANUAL - 2ND GENERATION

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SECTION PAGE

SAFETY ALERT MESSAGES

Several types of safety alert messages may appear throughout this instruction sheet and on the label of the Load-Ranger® FLEX-LT® tool. Review the following messages carefully and familiarize yourself with the importance of the content.

⚠ DANGER

"DANGER" identifies the most serious and immediate hazards that will likely result in serious personal injury or death if instructions and recommended precautions are not followed.

⚠ WARNING

"WARNING" identifies hazards or unsafe practices that can result in serious personal injury or death if instructions and recommended precautions are not followed.

⚠ CAUTION

"CAUTION" identifies hazards or unsafe practices that can result in minor personal injury if instructions and recommended precautions are not followed.

NOTICE

"NOTICE" identifies procedures or practices that can result in product or property damage if instructions are not followed.

FOLLOWING SAFETY INSTRUCTIONS

If you do not fully understand any portion of the following instruction manual, reach out to Utility Solutions, Inc. for assistance. To reach out by telephone, call (828) 323-8914, or send an email to sales@utilitysolutionsinc.com.

READ & RETAIN INSTRUCTION SHEET

NOTICE

Read this instruction sheet thoroughly and carefully before operating the Load-Ranger® FLEX-LT® tool. This instruction sheet is a permanent part of your Load-Ranger® FLEX-LT® tool. Designate a storage location for this sheet where it may be easily accessed.

QUALIFIED PERSONS

⚠ WARNING

Only trained and qualified personnel should operate, inspect and maintain this device. These instructions are not intended to be a substitute for adequate training and experience in safety procedures for the operation of this type of equipment.

APPLICATIONS

The Load-Ranger® FLEX-LT® Portable Load Break Tool is designed to be used on "hook-equipped" disconnects, cutouts, switches and power fuses up to 34.5 kV and 150 Basic Insulation Level (BIL) or less.

The Load-Ranger® FLEX-LT® load break tool can safely:

- Break associated cable charging currents, line charging currents, and transformer magnetizing currents provided the transformers carry greater than 5% load.
- Switch magnetizing current of undergrounded primary transformers provided the transformers carry greater than 5% load.
- Operate switches and fuses in metal enclosures and switchgear such as padmounted gear up to 25kV. It is recommended that the tool is fitted with an optional insulated extension hood (-E version) or a padmount option is available with an extended hood and low profile mounting arm (-P version).
- Switch single capacitor banks found on distribution systems.

⚠ DANGER

The Load-Ranger® FLEX-LT® load break tool is used to switch equipment that operates at high voltages. Contact with high voltage can cause grievous personal injury or death if necessary precautions and safety practices are not followed. Only use this device in accordance with safe operating practices around energized lines and equipment.

CAPACITOR RATINGS

Catalog Number	Capacitor Bank Rating kVAR Three-Phase	Nominal System Voltage Three-Phase (kV)	Capacitor Bank Connection	System
USLR-FLEX-1	1800	Up to 14.4	Grounded Wye Connected	Grounded System
USLR-FLEX-1	2400	Up to 16	Grounded Wye Connected	Grounded System
USLR-FLEX-1	3000	Up to 23.9	Grounded Wye Connected	Grounded System
USLR-FLEX-1	1800	Up to 26	Grounded Wye Connected	Grounded System
USLR-FLEX-1	1800	Up to 14.4	Ungrounded Wye Connected	Grounded System
USLR-FLEX-1	2400	Up to 16	Ungrounded Wye Connected	Grounded System
USLR-FLEX-1	1800	Up to 14.4	Ungrounded Wye Connected	Ungrounded System
USLR-FLEX-1	2400	Up to 16	Ungrounded Wye Connected	Ungrounded System
USLR-FLEX-2	3000	Up to 23.9	Grounded Wye Connected	Grounded System
USLR-FLEX-2	3600	Up to 27.6	Grounded Wye Connected	Grounded System
USLR-FLEX-2	4800	Up to 34.5	Grounded Wye Connected	Grounded System
USLR-FLEX-2	3000	Up to 23.9	Ungrounded Wye Connected	Grounded System
USLR-FLEX-2	3600	Up to 27.6	Ungrounded Wye Connected	Grounded System
USLR-FLEX-2	3000	Up to 23.9	Ungrounded Wye Connected	Ungrounded System
USLR-FLEX-2	3600	Up to 27.6	Ungrounded Wye Connected	Ungrounded System

Single bank capacitors only. Do not use LOAD-RANGER® FLEX-LT™ Portable Load Break tools for switching back-to-back / parallel capacitor banks.

SINGLE-POLE SWITCHING

The nature of any single pole switching on distribution circuits has the potential for excessive voltages due to a variety of factors, such as kVA, loading and transformer connections. For applications on ungrounded primaries or single phase units connected in a delta configuration above 21.96kV, any single pole switching should only be performed if each phase is carrying at least 5% load; or if the primary neutral is grounded during switching operations. The primary neutral shall also be grounded prior to any single pole switching of lightly loaded banks rated 150kVA or less (3PH) or 50kVA or less (1PH) at voltages above 21.96kV.

SAFETY PROCEDURES

⚠ WARNING

Do not use this tool on applications where the maximum system voltage exceeds the maximum design voltage rating of the tool. Likewise, do not use a tool that is "over-rated" for the application.

NOTICE

The USLR-FLEX-2 model should NOT be used inside padgear or cabinets, even if fitted with an extended hood.

Acquaint yourself with all operation features prior to use. It is also recommended that the user practice using the tool on unenergized equipment to gain familiarity with proper operations.

COUNTER

Utility Solutions, Inc. offers the Load-Ranger® with or without a mechanical counter. The counter is designed to track pulls for the purposes of determining a tool's end of life. After 1500-2000 operations, spring fatigue and component degradation begin to occur. Some utilities use the counter for purposes of inspection or tool maintenance. While this can be a useful reference point, it should not be the only basis for repair. There are many factors which can impact the condition of a tool and a holistic approach should be taken with regard to maintenance. Utility Solutions, Inc. recommends relying on time as the primary basis of inspection. See the Inspection section in this manual for further details.

INSPECTION

All Load-Ranger® FLEX-LT® tools ship with an Inspection Reminder sticker. Load-Ranger® tools should be disassembled and inspected every 2 years in accordance with the date stamped on the sticker. The sticker should be replaced after inspection. To reorder, call Utility Solutions, Inc. at 828-323-8914 and reference part number B-02373.

For disassembly and inspection instructions, please reference the Maintenance Manual located on our website, at www.utilitysolutionsinc.com.

STORAGE

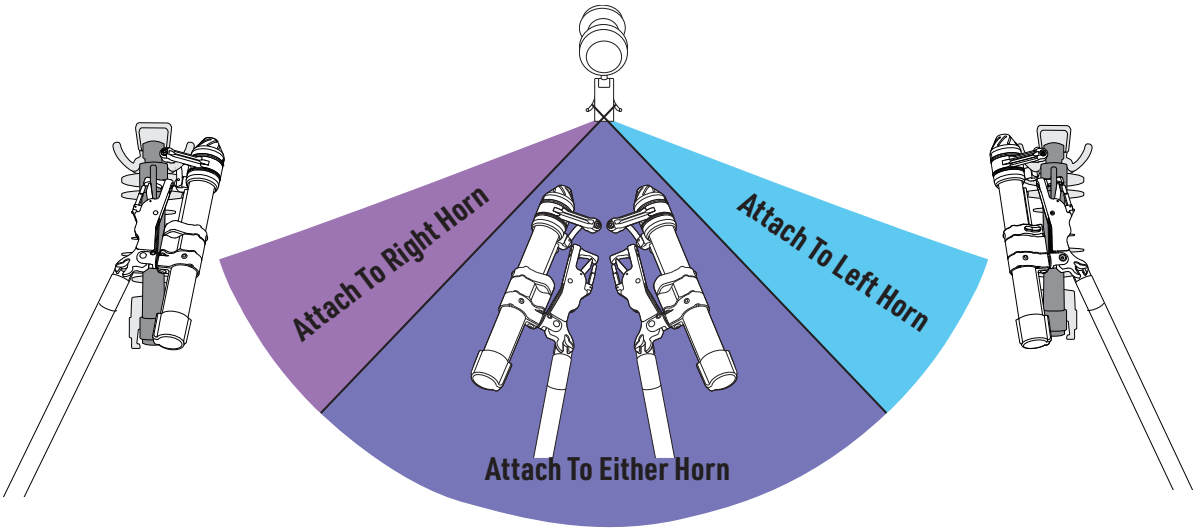
The LOAD-RANGER® FLEX-LT® Portable Load Break Tool should be stored in a clean, dry place. Damp and/or high humidity environments should be avoided. Utility Solutions recommends storing in the hard case (USLR-XLT-HARDCASE).

TOOL OPERATION

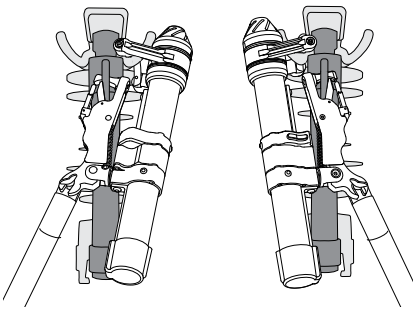
Traditional Load Break operation practices specify that the tool should always be installed on the arcing horn opposite the operator as to reduce binding positions and stress on the tool. While this practice remains sound, the innovative design of the Load-Ranger® FLEX-LT® allows a much broader range of operation than traditional load break tools. The rotating head of the Load-Ranger® FLEX-LT® greatly reduces or eliminates most binding positions, tool stresses, and greatly improves flexibility when attaching the tool.

The below graphic offers a helpful reference when determining proper attachment. If a discrepancy exists between this manual and your work methods, always follow the procedures set forth by your work methods. For questions, contact Utility Solutions, Inc. at 828-323-8914.

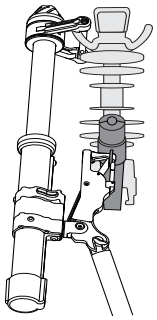
(Cutout Top View)



1) Reference the graphic above and install the tool accordingly by first hooking on to the arcing horn followed by the fuse ring.



2) Pull in a smooth, steady motion until the tool is fully extended and the load has been broken.



3) Rotate the tool upward to release the fuse ring, then lift the tool from the arcing horn. The tool can now be reset for the next operation.