

Aegis *EcoTec*

Air Insulated Ring Main Unit up to 12kV
Operating & Maintenance Manual



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1. DOCUMENT SYMBOLS

The symbols shown below are found throughout this document, indicating awareness and hazard levels depending on the situation.

All symbols below are to ISO 3864-2.



INFORMATION: please pay special attention to this instruction.



CAUTION: Failure to follow this instruction may result in injury or damage to plant.



WARNING: Failure to follow this instruction may result in death or serious injury or damage to plant.



DANGER: Failure to follow this instruction will result in death or serious injury or damage to plant.

2. VALIDATION

2.1 Validity

This is not a commercial document, it is strictly a technical document provided by Lucy Electric Technical Department.

The objective of this publication is to provide directives for correct installation and operation procedures for the AegisEcoTec. Produced in July 2024, this manual applies to the AegisEcoTec only.

Due to Lucy Electrics policy of continuous research and development, Lucy Electric reserves the right to change the design and specification of products without prior notice.

2.2 Safety



Operators of this equipment must have experience and expertise with switchgear.

To prevent personal injury or equipment damage, this manual must be read carefully.



This manual MUST be readily available whenever the unit is handled or operated.

If this equipment suffers from any fault or damage, contact the manufacturer and/or supplier immediately.

- Before commencing any work, ensure that the necessary safety precautions, risk assessments and safety documents are in place.
- Installation must be carried out observing the Operational Safety Rules.
- Check substation earthing is intact - if missing, seek advice.
- In all instances Risk assessments should be undertaken prior to undertaking any new activity where potential hazards are concerned. This is particularly important in order to identify the necessity for specific Personal Protective Equipment (PPE), that may be required and that cannot be avoided even with safe systems of work in place.
- It is strongly recommended when undertaking any form of switching operation that the appropriate PPE is worn. Many PPE suppliers provide flash resistant or arc flash clothing for this purpose.

3. GENERAL PRODUCT INFORMATION

The AegisEcoTec is a Ring Main Unit with combination of switching functions, comprising of Vacuum Circuit Breakers and Load Break Switches, all contained within a common insulated stainless steel enclosure.

The AegisEcoTec units are designed to be used for indoor and outdoor can be used either as a free-standing unit or installed in a compact substation or kiosk.



Stainless steel gas enclosure – The gas enclosure is manufactured from stainless steel and fabricated utilising automatic 'robot laser welding' techniques to produce consistent leak-free equipment.

Circuit Breaker – Circuit Breaker comprises of three vacuum interrupters (which have fault make and break rating) and in series 3 position disconnecter incorporating an earthing switch. Opening of the Circuit Breaker automatically when a fault is detected or manually by pushing the trip button.

Interlocks – Positive integral safety interlocks are incorporated on all Load Break Switch and Circuit Breaker functions.

Housing – The housing of the AegisEcoTec is fully treated using zinc coated steel and electro-statically applied oven cured paint to resist weather and pollution attacks.

Load Break Switch – The switches utilise a shunt Vacuum interrupter for load breaking and has three positions 'MAIN ON', 'OFF' and 'EARTH ON'.

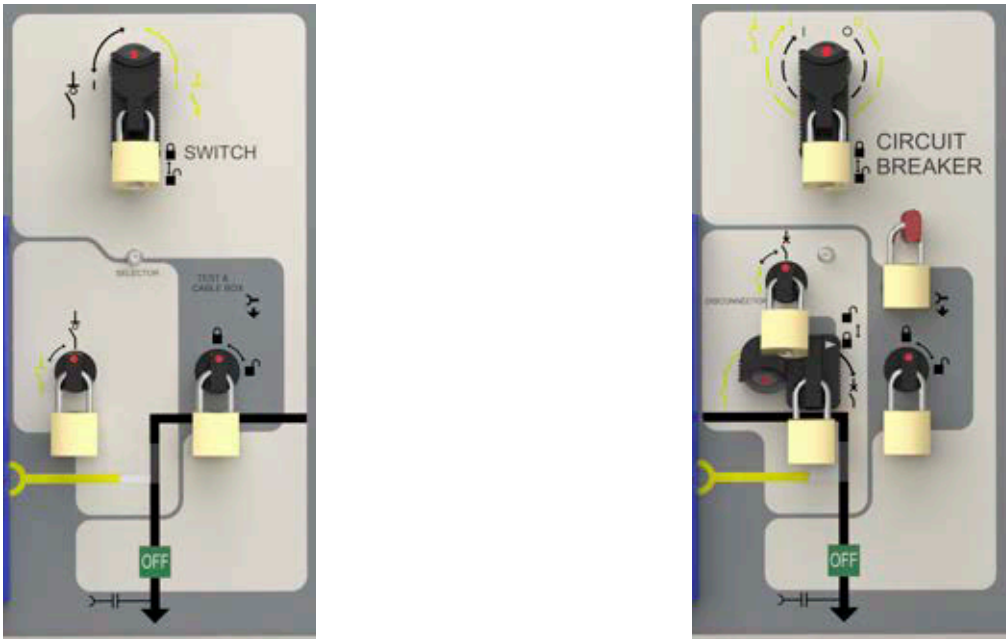
Operation – All operating positions and instructions are indicated on the main front fascia of the unit. Operation is by means of manually independent mechanisms, which are mounted externally to the gas enclosure.



If the operator does not follow the correct operating procedure whilst operating either mechanism's there is the potential for the fail-safe facility within the handle to operate and render the operating handle useless for further

3.1 Padlocks

All load break switches and circuit breaker mechanism inputs for the main operations and selectors can be padlocked in any position. The slide covers and rotating selectors have an 8.5mm hole suitable for 8mm padlock clasps.



3.2 Pressure Indicator

The AegisEcoTec unit has a pressure indicator available, see below for further information.



Alarm Contacts and Switching Power	
Number:	2 magnetic snap-action contacts.
Switching function:	1 Normally closed and 1 normally open contact.
Maximum switching voltage:	250 V
Switching power:	30V 50VA, Max. 1 A
Material of the contacts:	80% Ag 20% Ni, gold-plated
Switch Bounce:	Approx. 500mS
Switching accuracy in the temperature range -20... +40 °C	
Switch point= calibration pressure PE:	As measuring span
Switch point= calibration pressure PE:	Shifted parallel to calibration pressure
High-voltage test	2 kV, 50 Hz, 1 s (wiring against case)

4. FRONT PANEL LAYOUT



Key:

- 1 : Fault Indicator
- 2 : LV Panel
- 3 : Relay Protection
- 4 : Earth and Test Door
- 5 : Pressure Indication
- 6 : Switch Operation
- 7 : Switch Selector Operation
- 8 : Earth & Test Interlock (Switch)
- 9 : Switch Selector indication
- 10 : Switch Operation Indication
- 11 : VDS/VPIS
- 12 : Circuit Breaker Operation
- 13 : Push To Trip' Button
- 14 : Circuit Breaker Disconnect Operation
- 15 : Circuit Breaker Selector Operation
- 16 : Earth & Test Interlock (Circuit Breaker)
- 17 : Circuit Breaker Disconnect Indication
- 18 : Circuit Breaker Operation Indication
- 19 : Cable Box
- 20 : Operating Handle

Inside Left Hand Door



6. PRIOR TO ENERGISING



Check that the connection bushings are fitted with connectors or with insulating caps.

Check that the AegisEcoTec Unit is connected to the substation Earth.



Pressure check of the unit in operation



AegisEcoTec needle must be within the GREEN zone when checking the Pressure indicator.

If AegisEcoTec needle in the RED zone, the unit must not be energised and should be replaced immediately. Contact Lucy electric for further information.

7. OPERATING AEGISECOTEC

7.1 Aegis EcoTec Unit



7.1.1 Obtaining the Operating Handle

The Operating Handle can be located on the inside of the units door once open. Detach Operating Handle from support brackets by pulling the handle away or towards the unit.



The operating handle can be operated from any position, therefore the position in the following images are for guide purposes only.

7.2 Operation Indication Symbols



The Aegis EcoTec unit has standard indications symbols that are used in this manual. These may be different to unit supplied, depending on country and/or customer (This does not affect the operation on the unit). Refer to the short-form supplied with the unit for specific indication symbols.

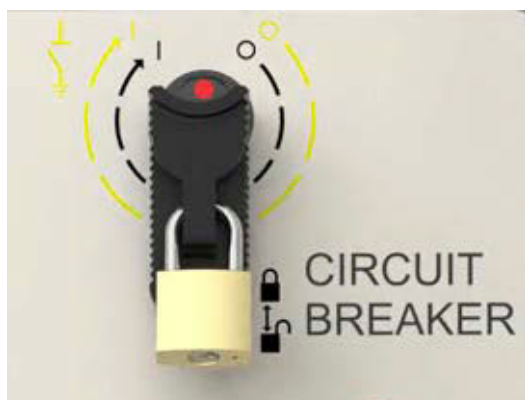


“If the operator does not follow the correct operating procedure whilst operating either mechanisms there is the potential for the fail-safe facility within the handle to operate and render the operating handle useless for

7.2.1 Padlocking

Padlock to Prevent Operation

Lock the '**CIRCUIT BREAKER**' slide cover in place using the padlock, as shown below



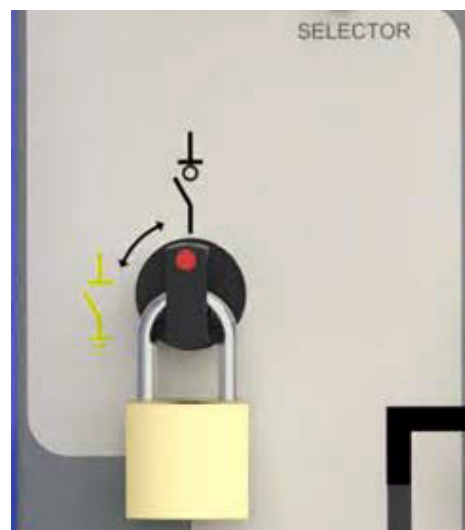
Lock the '**LOAD BREAK SWITCH**' slide cover in place using the padlock ,as shown below



Lock the '**DISCONNECTOR**' slide cover in place using the padlock ,as shown below



Lock the '**SELECTOR**' slide cover in place using the padlock ,as shown below



Lock the 'PUSH TO TRIP BUTTON' using the padlock, as show below.

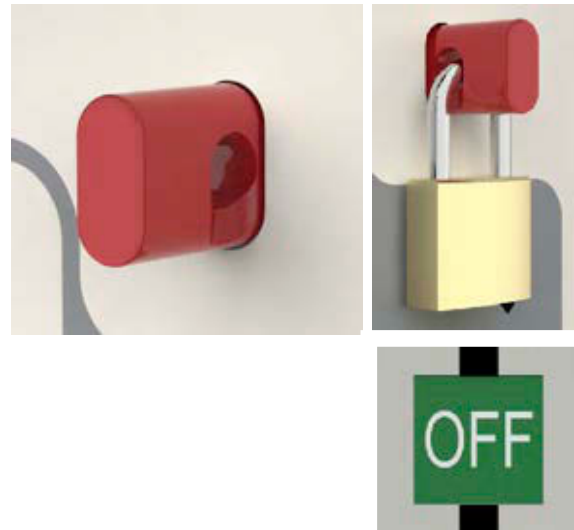
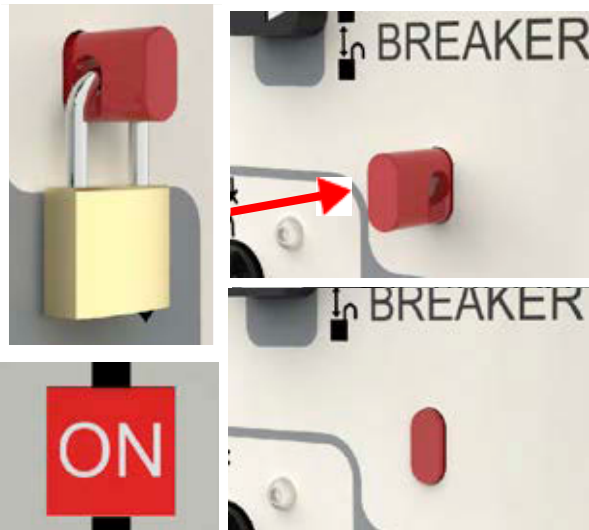


7.3 Circuit Breaker Operations

7.3.1 Circuit Breaker 'MAIN ON' to 'OFF'

1 : Remove padlock if fitted from Circuit Breaker Mechanism OFF button and Press in the Circuit Breaker Mechanism OFF button (**RED BUTTON**) to trip.

2 : Then release, once the Circuit Breaker has tripped.
(Optional) secure the Circuit Breaker Mechanism OFF button using a padlock.

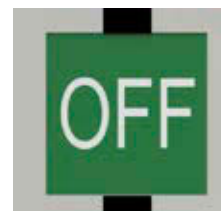


Do not use excessive force on the red button.

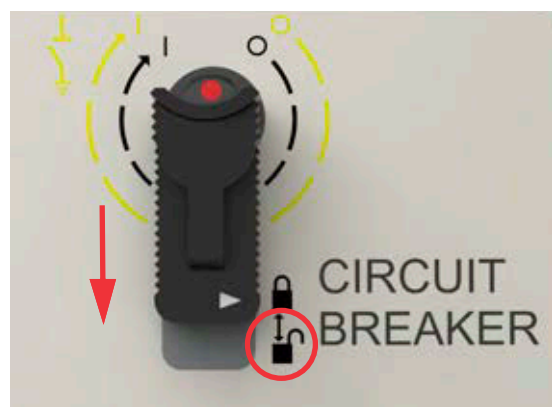
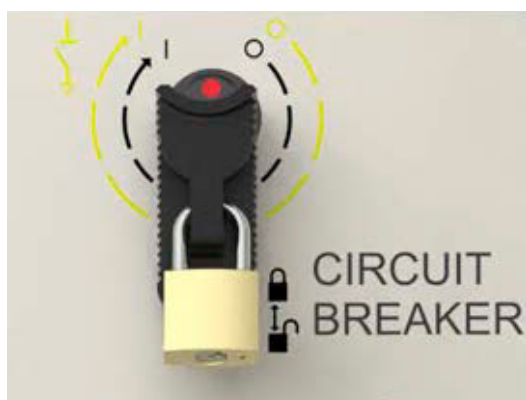
7.3.2 Circuit Breaker 'OFF' to 'MAIN ON'



For this operation, the 'Circuit Breaker' must be in its 'OFF' position.



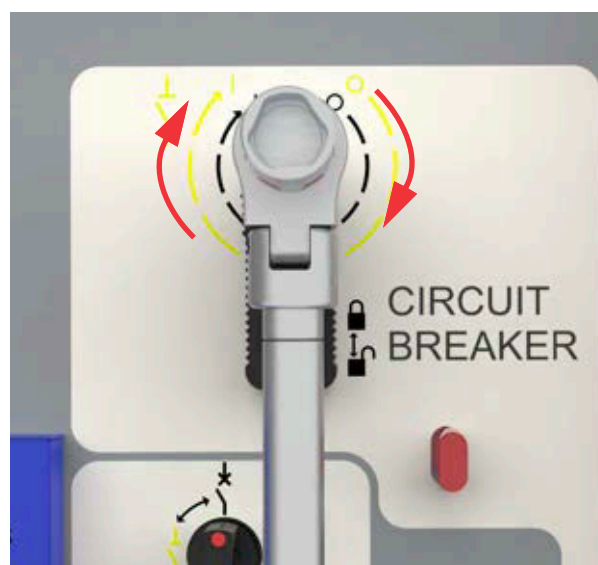
- 1 : Remove '**CIRCUIT BREAKER**' padlock if fitted and pull down the '**CIRCUIT BREAKER**' Slide Cover into the unlocked position.



- 2 : Insert operating handle onto '**CIRCUIT BREAKER**' boss.



- 3 : With the operating handle on the '**CIRCUIT BREAKER**' boss, rotate the ratchet mechanism 360° clockwise. The ratchet mechanism enables this operation to be carried out in multiple small rotations. At the end of the operation the '**CIRCUIT BREAKER**' will close to '**MAIN ON**'.



4 : At the end of the revolution, the '**CIRCUIT BREAKER**' will close to '**MAIN ON**'.

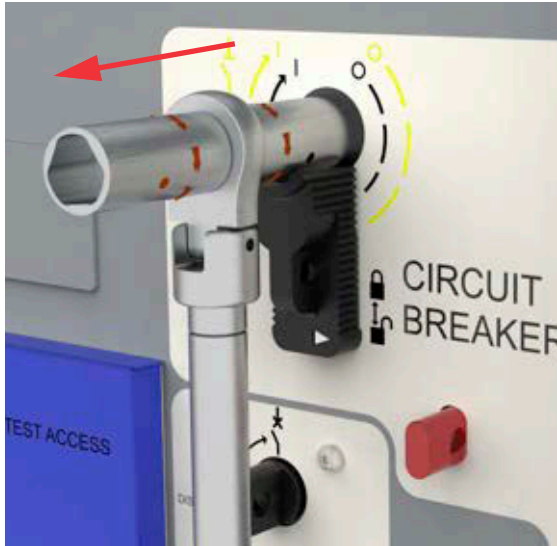


INFORMATION

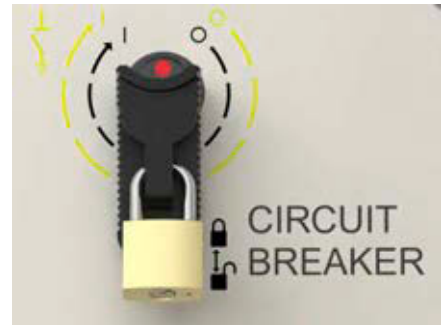
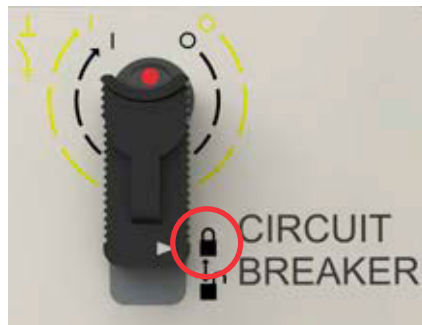
Indication now displays '**MAIN ON**'.



5 : Remove operating handle from '**CIRCUIT BREAKER**' boss.



6 : Push the operating '**CIRCUIT BREAKER**' slide cover up into the locked position (only applicable when function is motorised, otherwise it will automatically return). Optional Secure with Padlock.



INFORMATION

The round recess (red dot) on the '**Circuit Breaker**' boss (shown below) should be at 12 O'clock. If not at 12 O'clock then the Circuit Breaker mechanism is partially charged.



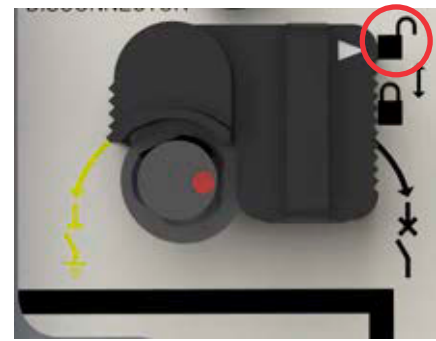
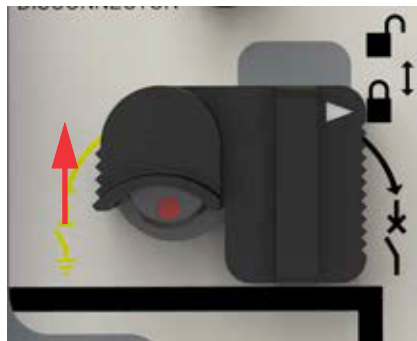
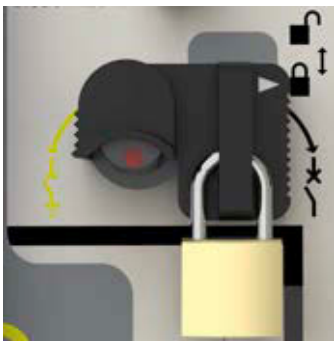
7.3.3 Circuit Breaker 'OFF' to 'EARTH ON'



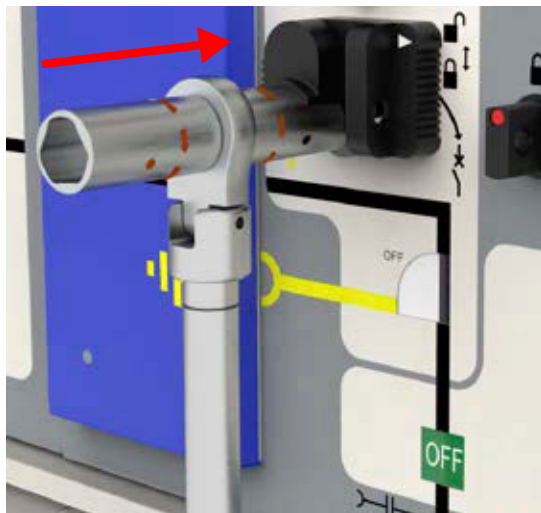
For this operation, the 'Circuit Breaker' must be in its 'OFF' position.



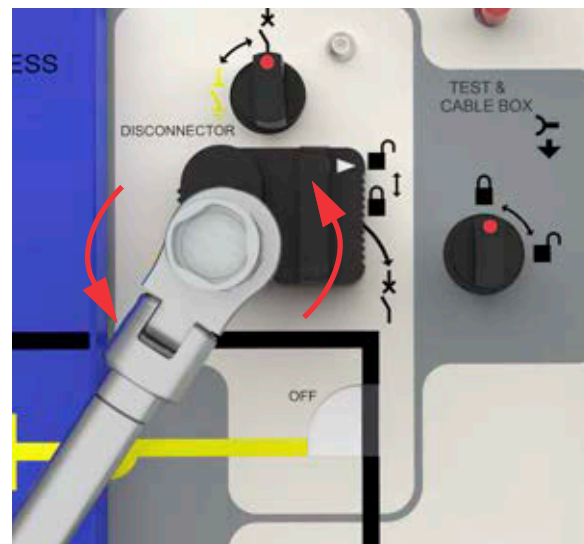
1 : Remove padlock if fitted and push the '**DISCONNECTOR**' Slide Cover up to unlock.



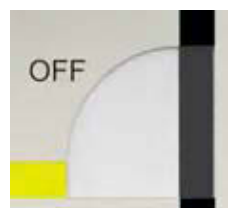
2 : Insert operating handle onto the '**DISCONNECTOR**' Boss.



3 : Rotate '**DISCONNECTOR**' handle anticlockwise to 60° from 'ON' to 'OFF'.



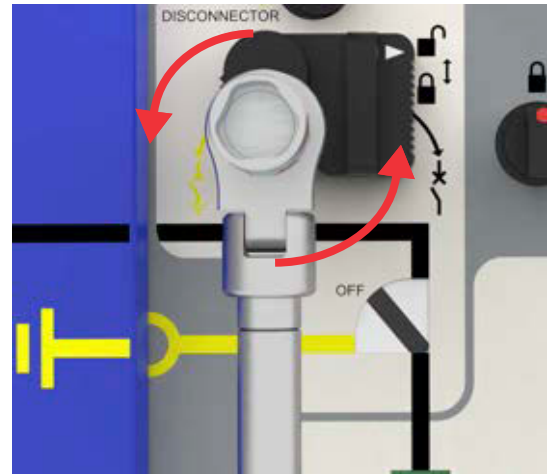
Mimic display now shows '**DISCONNECTOR**' connection to 'OFF'.



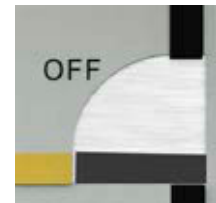
4 : Rotate the **disconnector** 'MAIN - EARTH' selector anticlockwise 90° to 'EARTH'



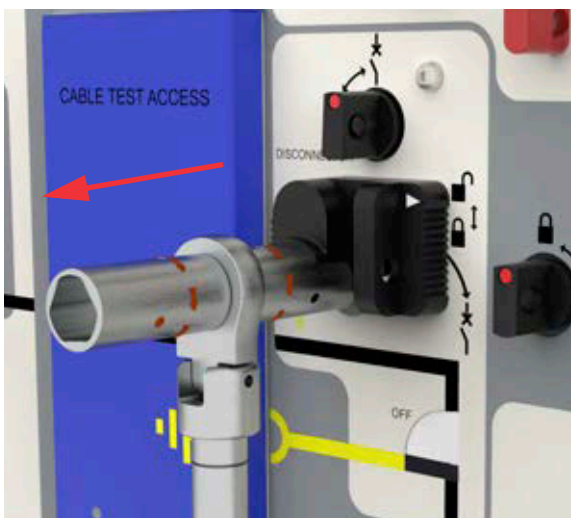
5 : Rotate the '**DISCONNECTOR**' boss anticlockwise 60° from 'OFF' to 'EARTH SELECTED'.



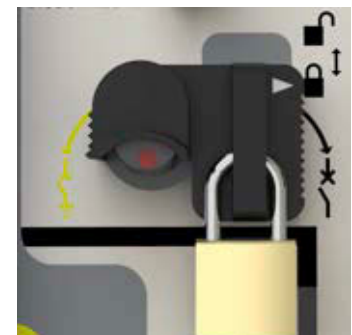
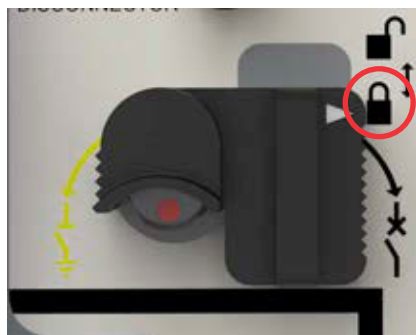
Mimic display now shows '**DISCONNECTOR**' connection to 'EARTH SELECTED'.



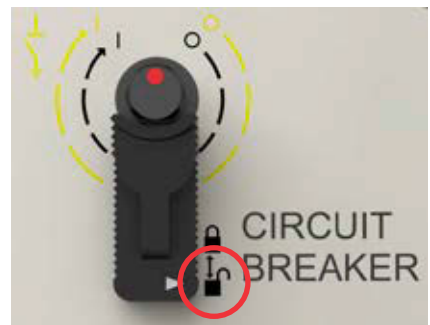
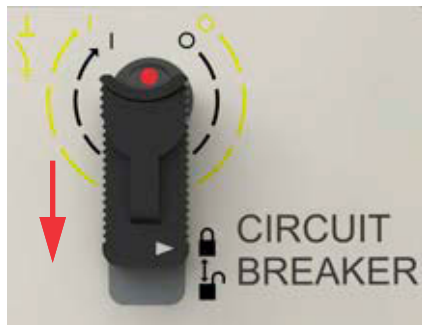
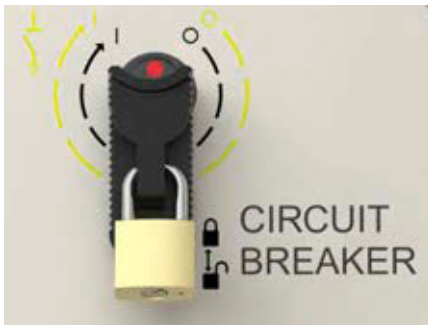
6 : Remove operating handle from '**DISCONNECTOR**' Boss.



7 : Pull the '**DISCONNECTOR**' Slide Cover down to lock. (Optional) secure using a padlock.

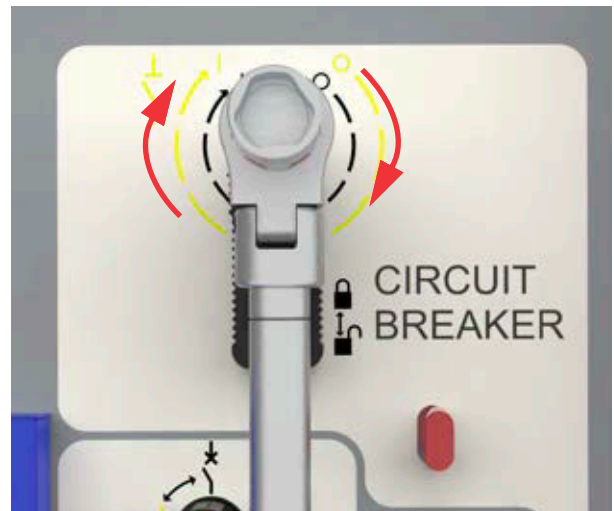
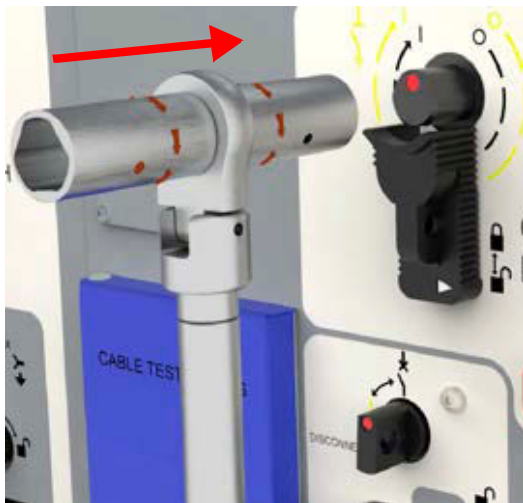


8 : Remove padlock if fitted and Pull down the '**CIRCUIT BREAKER**' Slide Cover to the unlock position.



9 : Insert operating handle onto the '**CIRCUIT BREAKER**' boss.

10 : Rotate handle clockwise one full revolution.



11 : At the end of the revolution, the '**CIRCUIT BREAKER**' will close 'EARTH ON'.

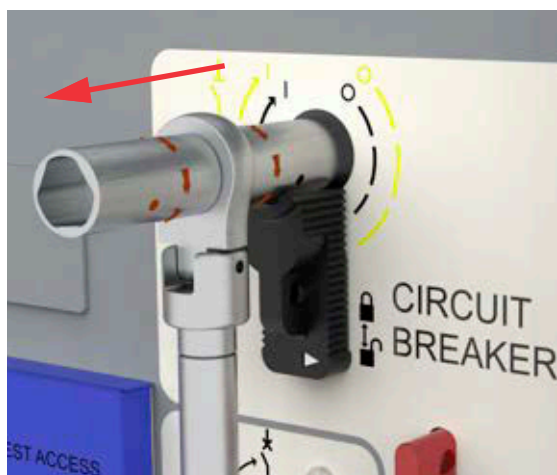


INFORMATION

Indication now displays 'EARTH ON'.



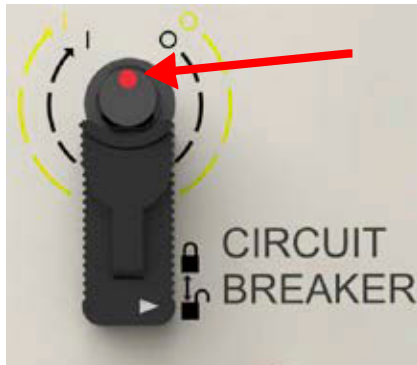
12 : Remove operating handle from '**CIRCUIT BREAKER**' boss.



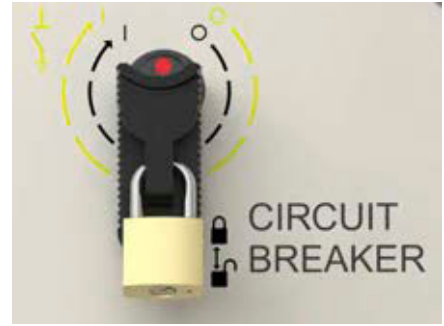
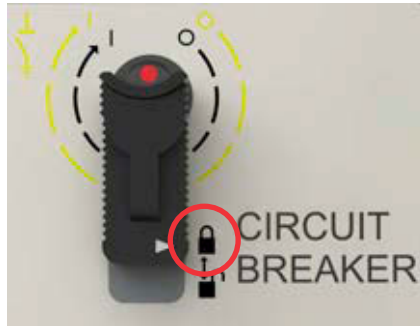


INFORMATION

The round recess (red dot) should always face 12 O'clock, if not, the mechanism has been only been partially charged.



13 : Push the '**CIRCUIT BREAKER**' Slide Cover up to lock. (Optional) Padlock '**CIRCUIT BREAKER**' Slide Cover.



7.3.4 Circuit Breaker from 'EARTH ON' to 'OFF'



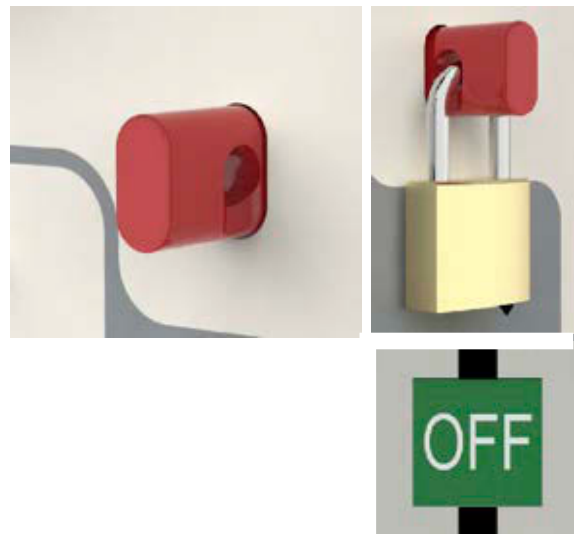
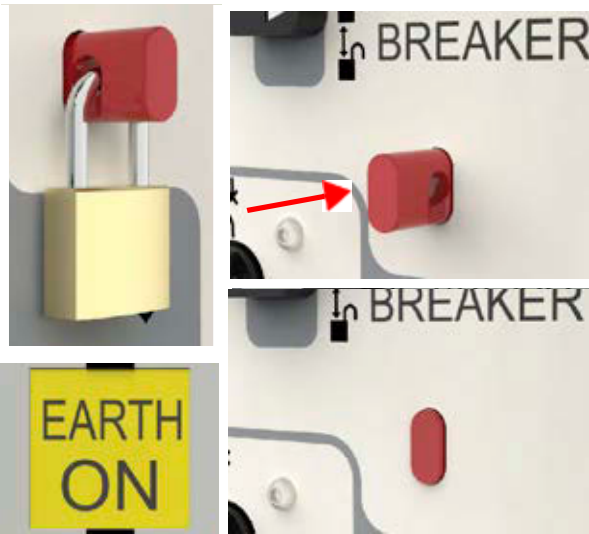
INFORMATION

For this operation, the 'Circuit Breaker' must be in the 'EARTH ON' position



1 : Remove padlock if fitted from Circuit Breaker Mechanism OFF button and Press in the Circuit Breaker Mechanism OFF button (**RED BUTTON**) to trip.

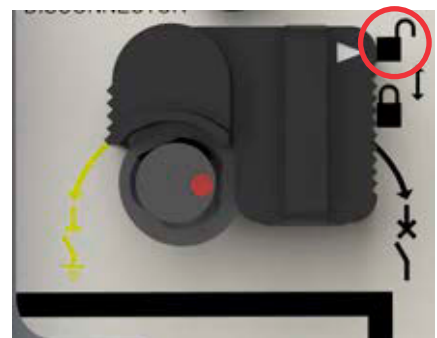
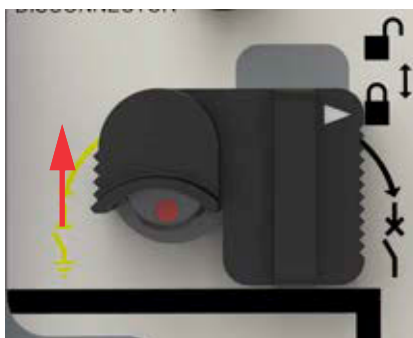
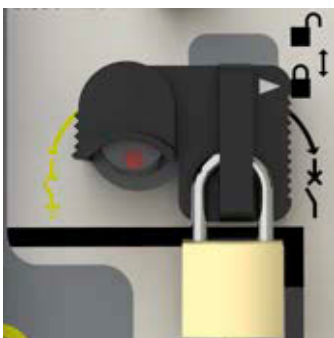
2 : Then release, once the Circuit Breaker has tripped.
(Optional) secure the Circuit Breaker Mechanism OFF button using a padlock.



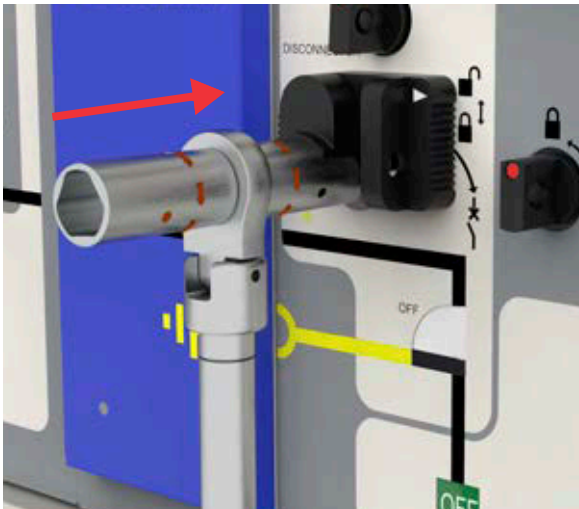
WARNING

Do not use excessive force on the red button.

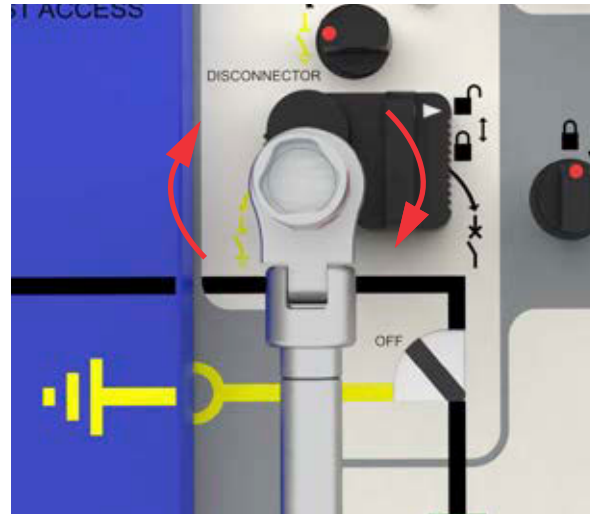
3 : Remove padlock if fitted and push the '**DISCONNECTOR**' Slide Cover up to unlock.



4 : Insert operating handle onto the '**DISCONNECTOR**' Boss.

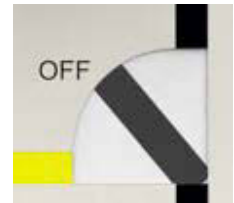


5 : Rotate the '**DISCONNECTOR**' boss clockwise 60° from 'EARTH SELECTED' to 'OFF'.



INFORMATION

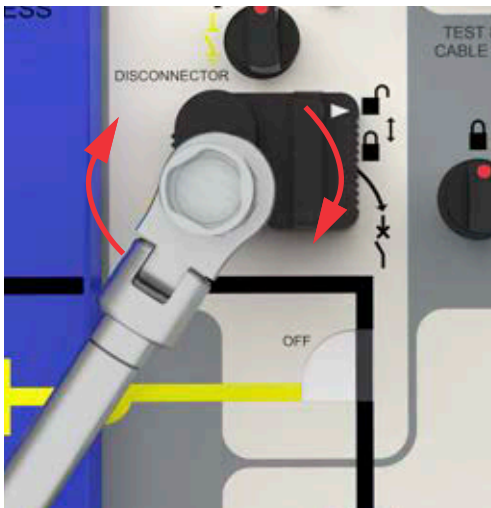
Mimic display now shows '**DISCONNECTOR**' connection to 'OFF'.



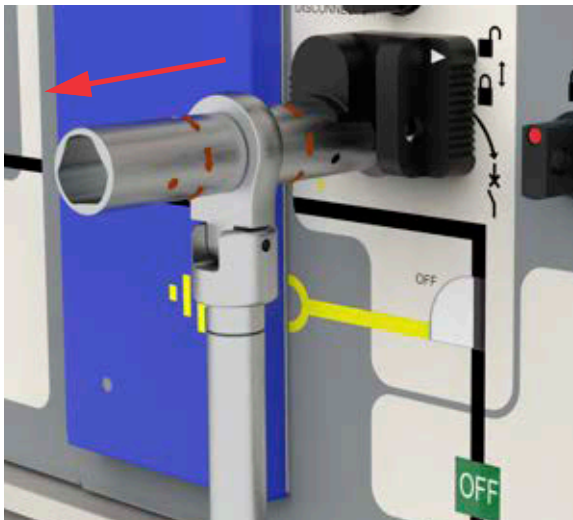
6 : Rotate the disconnecter 'MAIN - EARTH' selector clockwise 90° to '**OFF**'



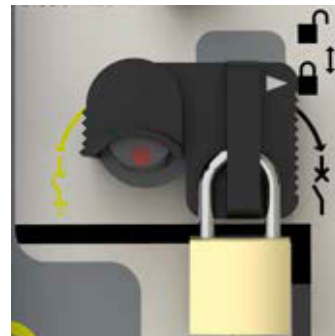
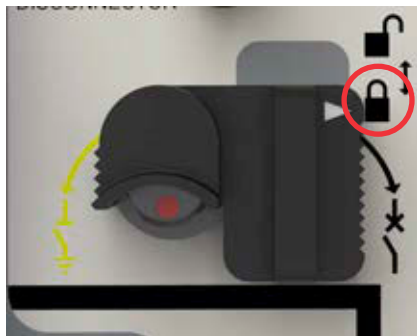
7 : Rotate '**DISCONNECTOR**' handle clockwise to 60° from 'OFF' to 'ON'.



8 : Remove operating handle from
'DISCONNECTOR' Boss.



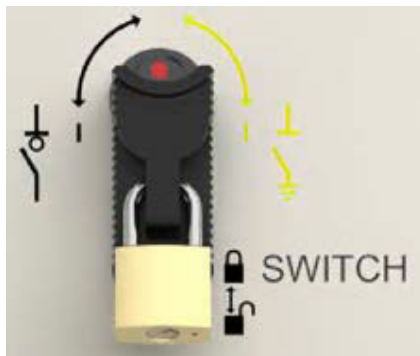
9 : Pull the 'DISCONNECTOR' Slide Cover down to lock. (Optional) secure using a padlock.



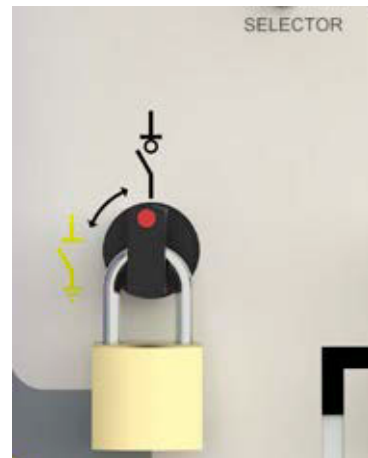
7.4 Load Switch Operation

7.4.1 Padlocking to Prevent Operation

1 : Lock '**LOAD SWITCH**' Slide Cover in position using a padlock as shown below.

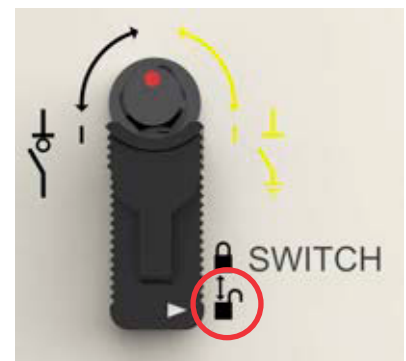
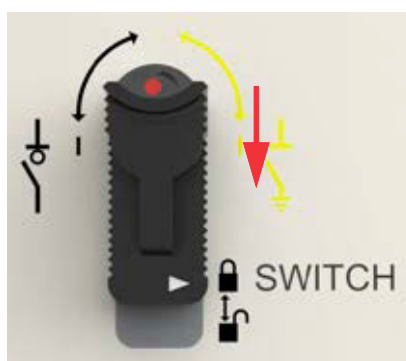
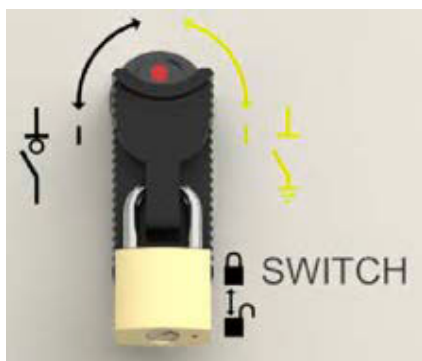


2 : Lock the '**SELECTOR**' Slide Cover in position using a padlock as shown below

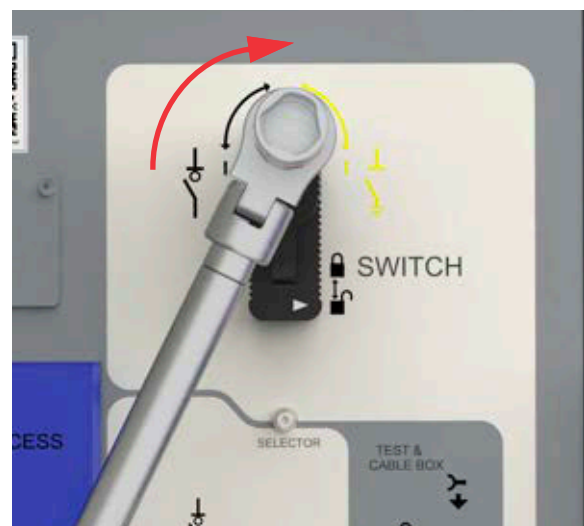
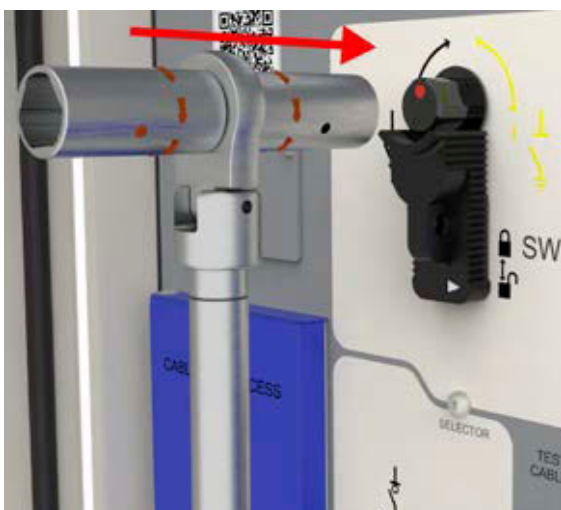


7.4.2 Load Switch from 'MAIN ON' to 'OFF'.

1 : Remove the padlock if fitted and pull down the '**LOAD SWITCH**' Slide Cover to unlock.



2 : Insert handle on to the '**LOAD SWITCH**' Boss. 3 : Rotate approx 90° clockwise to **O**.





INFORMATION

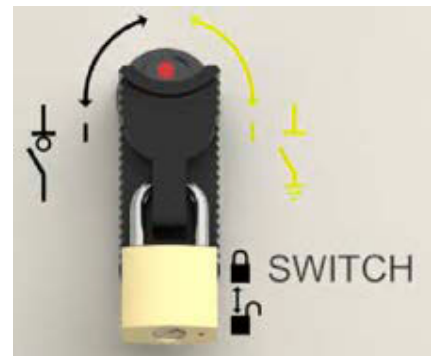
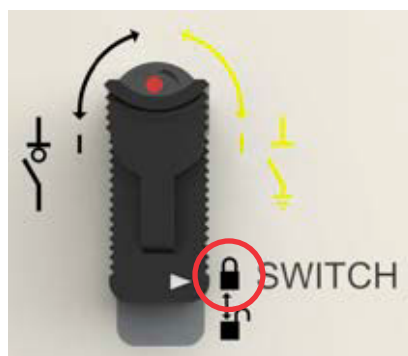
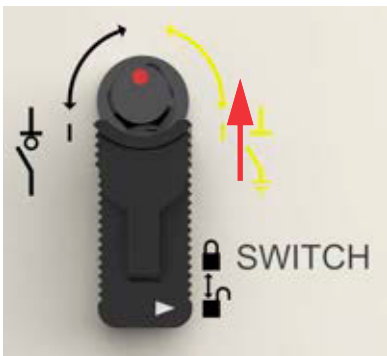
Indication now displays 'OFF'.



4 : Remove operating handle from '**LOAD SWITCH**' Boss.

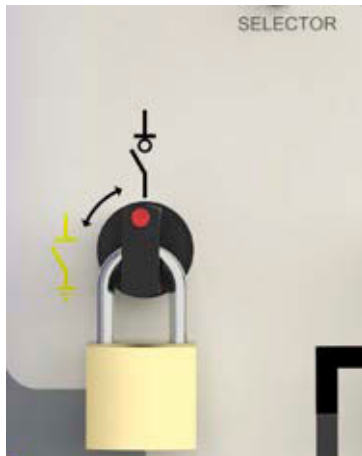


5 : Push up the Slide Cover to lock, (Optional) secure using a padlock.

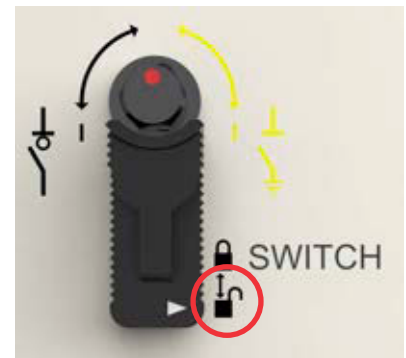
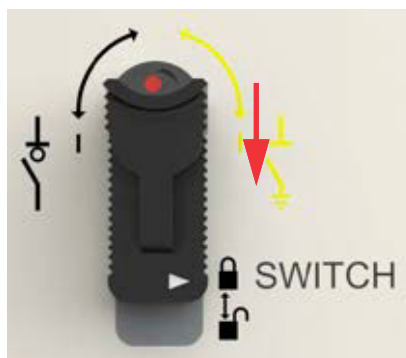
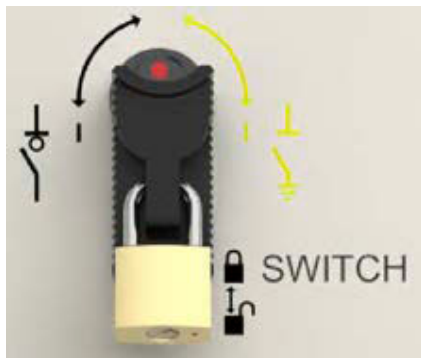


7.4.3 Load Switch from 'OFF' to 'MAIN ON'

1 : Ensure that the '**SELECTOR**' is in the '**MAIN ON/OFF**' position.

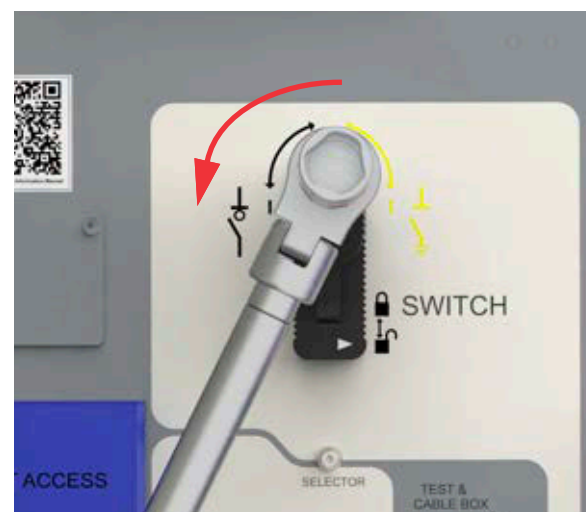
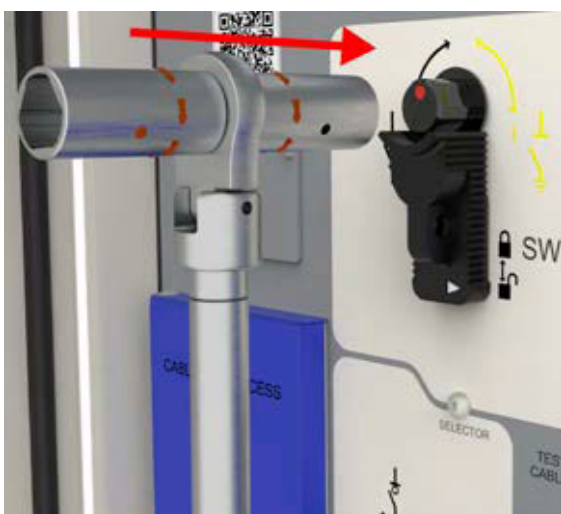


2 : Remove padlock if fitted and pull down the '**LOAD SWITCH**' Slide Cover to unlock.



3 : Insert handle on to the '**LOAD SWITCH**' Boss.

4 : Rotate operating handle 90° anti-clockwise until '**LOAD SWITCH**' closes '**MAIN ON**'.



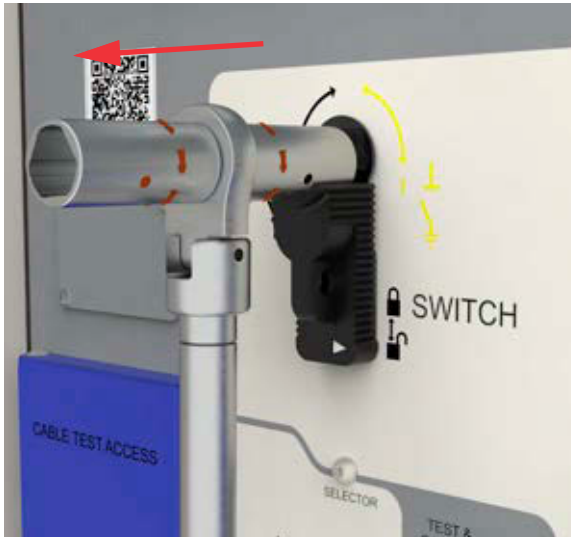


INFORMATION

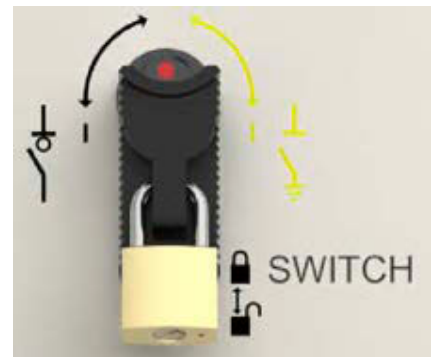
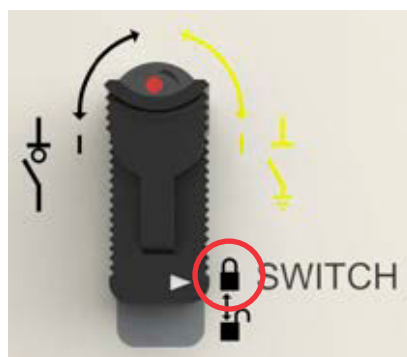
Indication now displays 'MAIN ON'.



5 : Remove handle from the '**LOAD SWITCH**' Boss.



6 : Push up the Slide Cover to lock. (Optional) Secure '**LOAD SWITCH**' Slide Cover using a padlock.



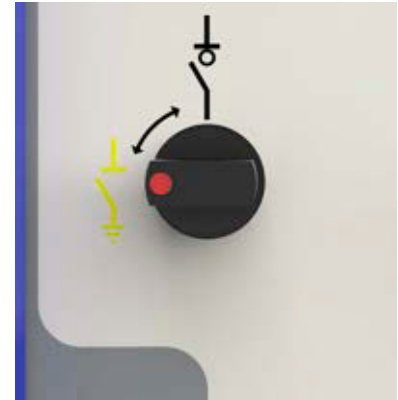
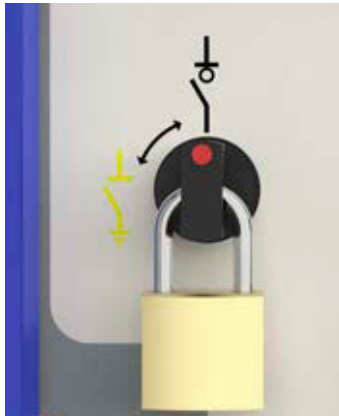
7.4.4 Load Switch from 'OFF' to 'EARTH ON'.



INFORMATION

For this operation, ensure the 'LOAD SWITCH' is in the 'OFF' position. See section [“Load Switch from 'MAIN ON to 'OFF'.”](#) on page 22

- 1 : Remove padlock if fitted from '**SELECTOR**' and Rotate knob anti-clockwise to '**EARTH**'. To prevent opening of Earthing switch fit padlock through '**SELECTOR**' knob.

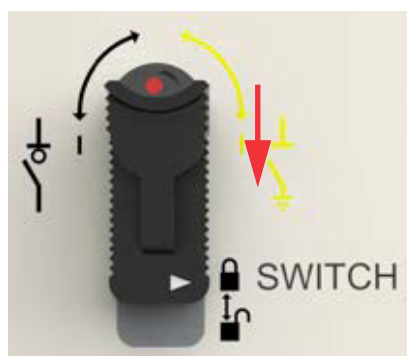
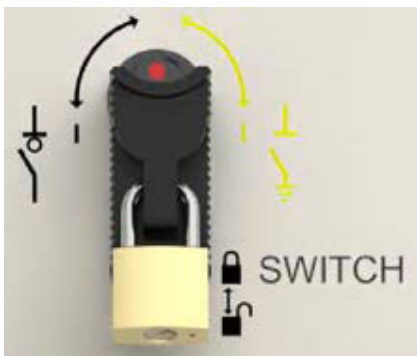


INFORMATION

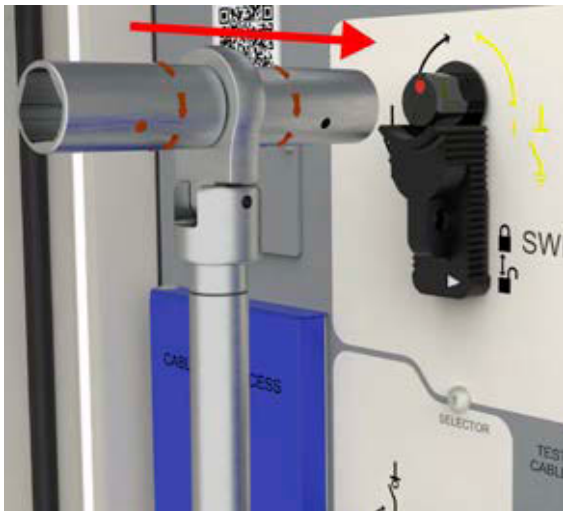
Mimic display now shows '**SELECTOR**' connection to '**EARTH SWITCH**'.



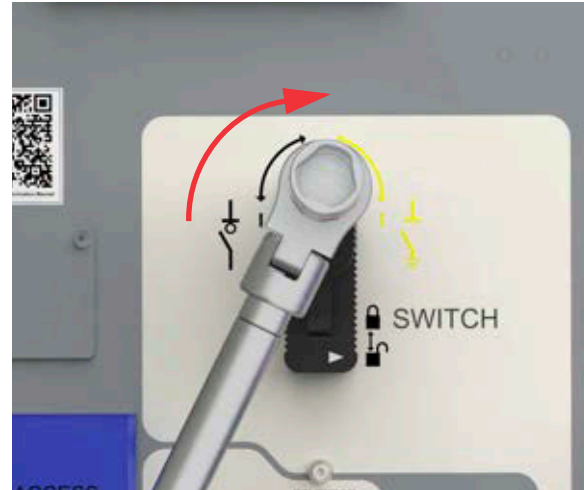
- 2 : Remove padlock if fitted from pull down '**LOAD SWITCH**' Slide Cover to unlock.



3 : Insert operating handle onto 'LOAD SWITCH' Boss.



4 : Rotate operating handle 90° clockwise until the 'LOAD SWITCH' closes 'EARTH ON'.

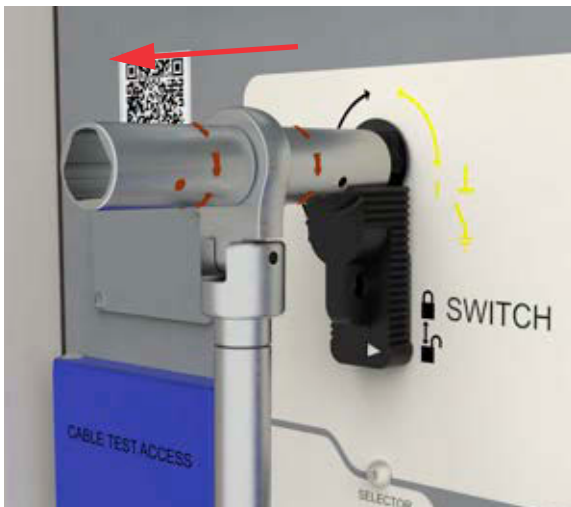


INFORMATION

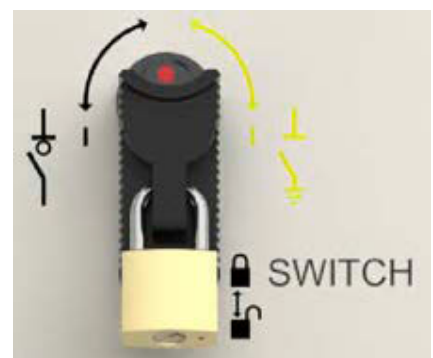
Indication now displays 'EARTH ON'.



5 : Remove handle from the 'LOAD SWITCH' Boss.

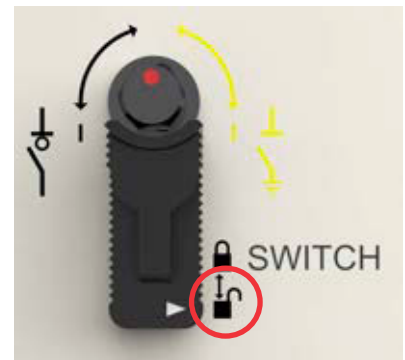
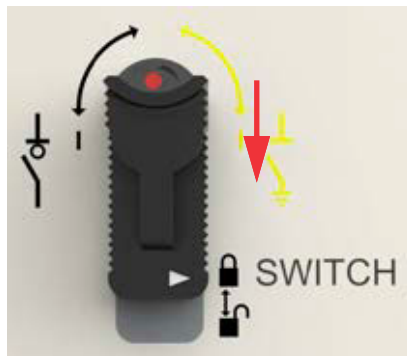
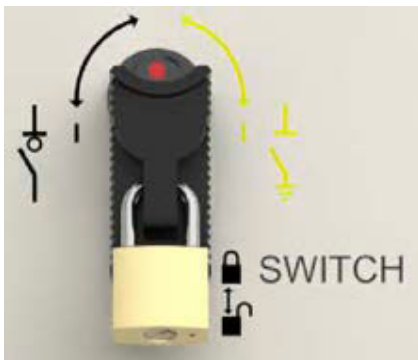


6 : Push up the Slide Cover to lock. (Optional) Secure 'LOAD SWITCH' Slide Cover using a padlock.



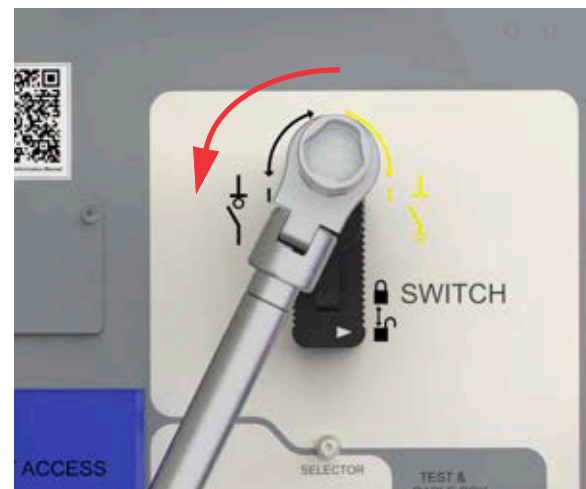
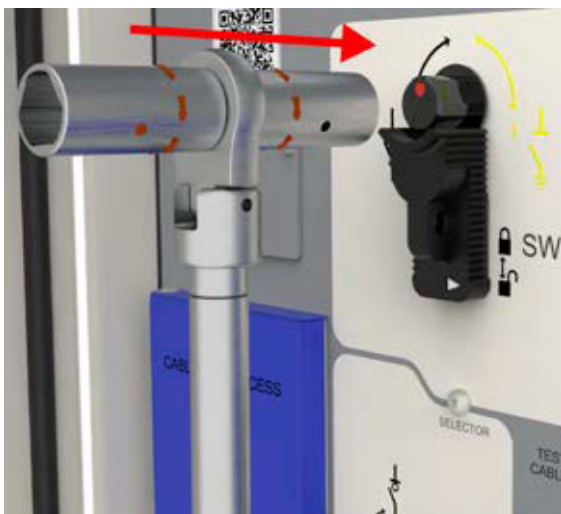
7.4.5 Load Switch from 'EARTH ON' to 'OFF'

1 : Remove padlock if fitted from pull down '**LOAD SWITCH**' Slide Cover to unlock.



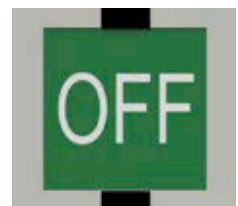
2 : Insert operating handle onto '**LOAD SWITCH**' Boss.

3 : Rotate operating handle 90° anti-clockwise until '**LOAD SWITCH**' to '**OFF**'.

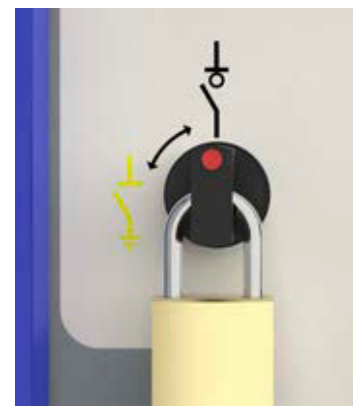
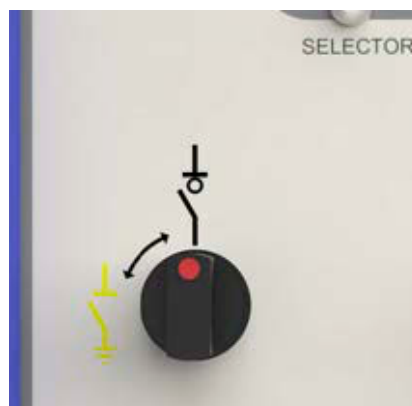
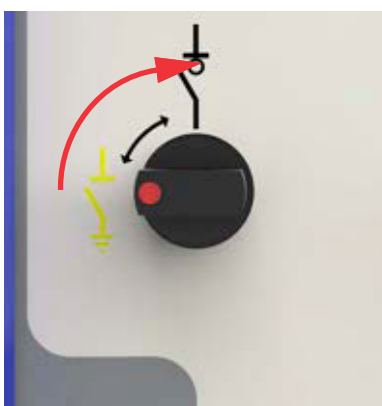


INFORMATION

Indication now displays '**OFF**'.



4 : Remove padlock if fitted from '**SELECTOR**' and Rotate knob (by hand) clockwise to '**OFF**'. To prevent opening of Earthing switch fit padlock through '**SELECTOR**' knob.



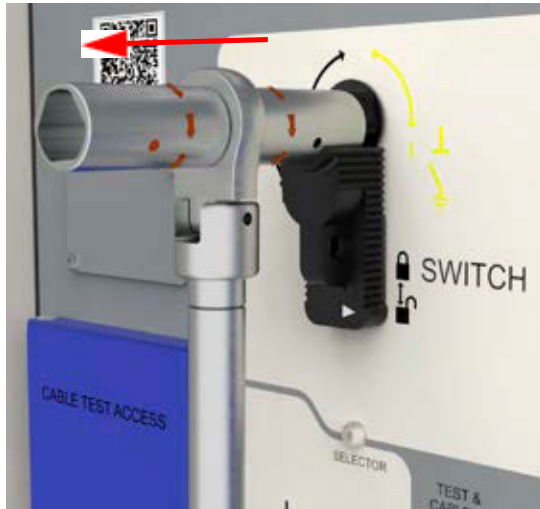


INFORMATION

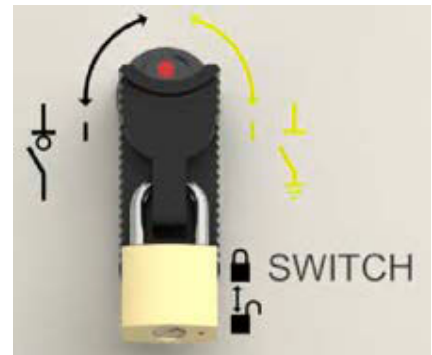
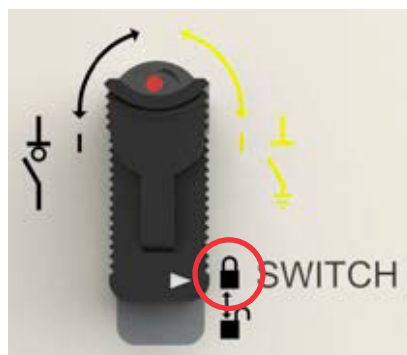
Mimic display now shows
'SELECTOR' connection to 'ON'.



5 : Remove handle from the '**LOAD SWITCH**' Boss.



6 : Push up the Slide Cover to lock. (Optional) Secure '**LOAD SWITCH**' Slide Cover using a padlock.



8. EARTH TEST CABLE INSTRUCTIONS



INFORMATION

This procedure is for earth & cable testing function cables when earth & test facility is available.

For this operation, ensure the relevant function is in the 'EARTH ON' position. See section "Circuit Breaker 'OFF' to 'EARTH ON'" on page 15 and "Load Switch from 'OFF' to 'EARTH ON'." on page 26.



WARNING

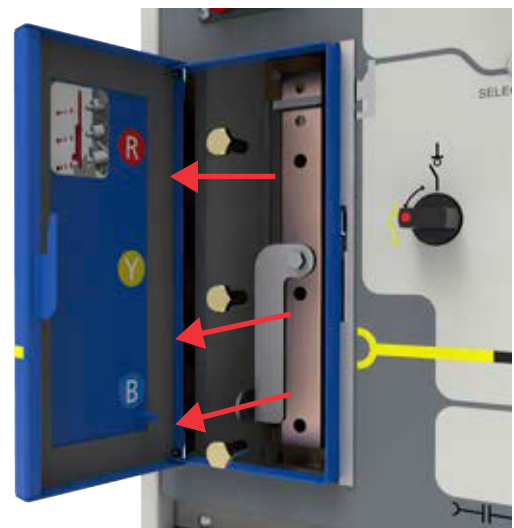
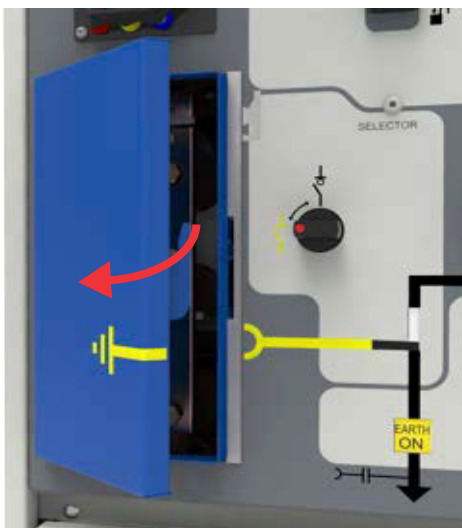
Access to the 'Earth and Test' and/or removal of 'Cable Box' cover are interlocked. To prevent removal of 'STARBAR' when in the 'EARTH ON' position, fit padlock through Test & Cable Box knob.

8.1 Opening of Cable test access door

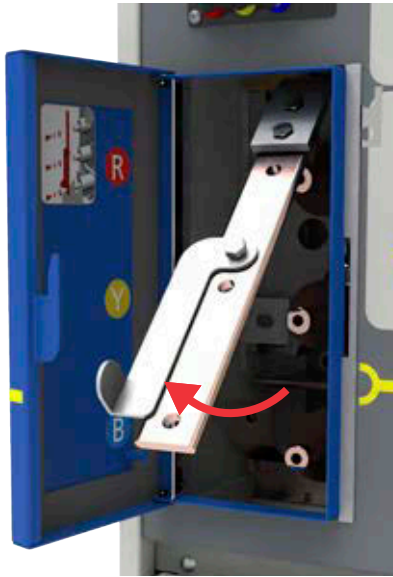


1 : Open the relevant function's test access door.

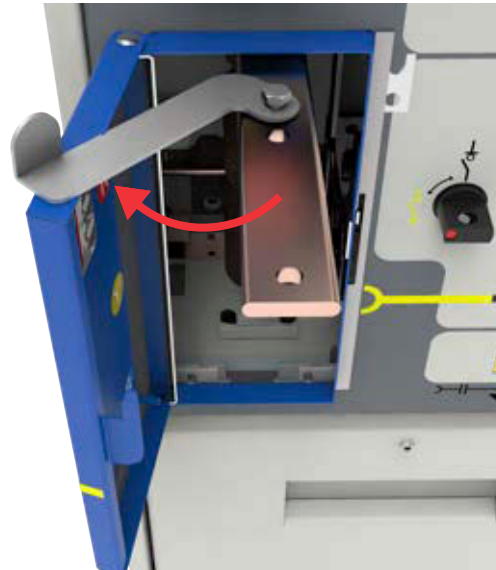
2 : Remove the three bushing bolts and washers from the Starbar.*



3 : Pull the silver handle up to a horizontal position.



4 : Rotate the earth & test clip over the earth & test access door, leave the clip to rest in this position. The test conductors are accessible.



INFORMATION

Relevant function cannot be removed from 'EARTH ON' until the test access door is closed.



INFORMATION

When refitting the earth bar's three bushing bolts and washers, tighten to a torque setting of 22Nm.

8.2 Insert test plug assembly



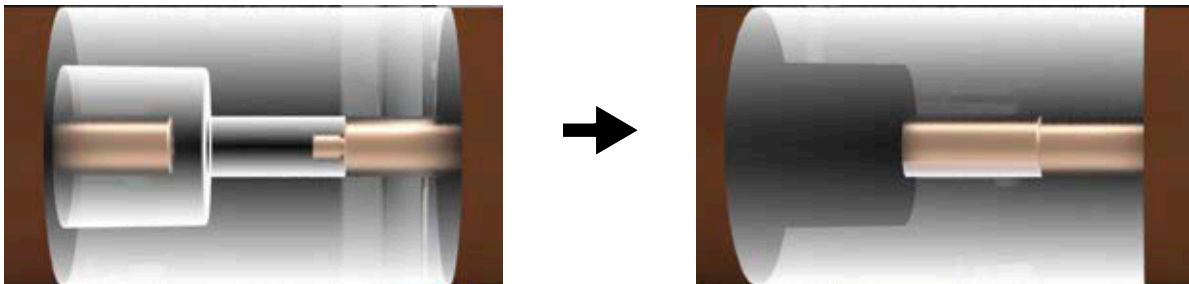
CAUTION

Ensure the bushing are kept clean during and after this procedure.

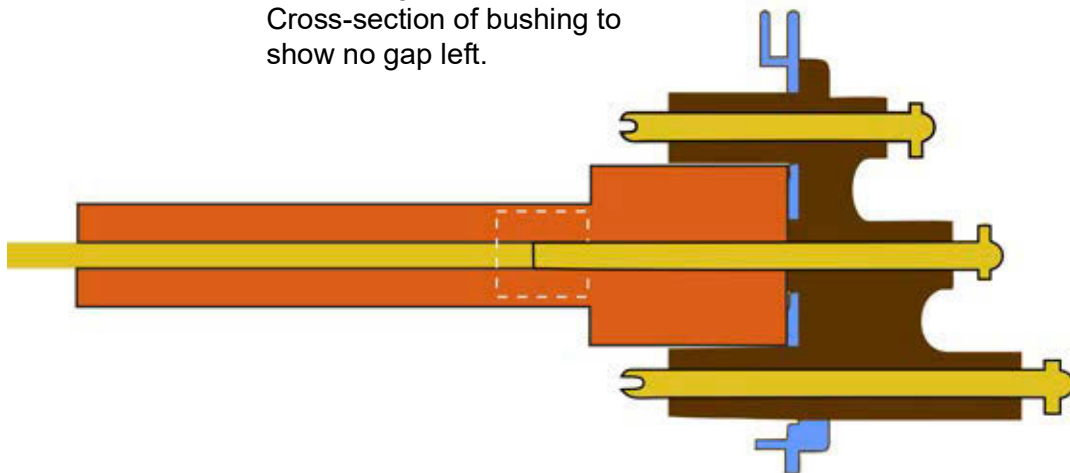
- 1 : Take care of proper cleanliness of the bushing while assembly. Only the test plug and bushing view shown for clarity.



- 2 : Test Plug is shown and make sure full engagement of M6 thread onto bushing as shown below.



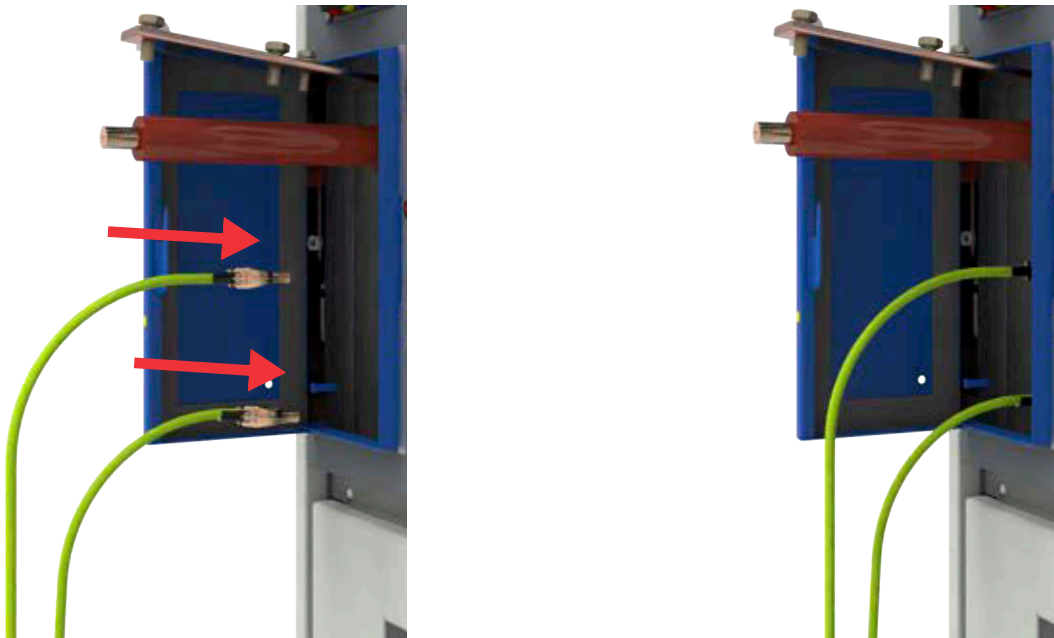
Leave no gap.
Cross-section of bushing to
show no gap left.



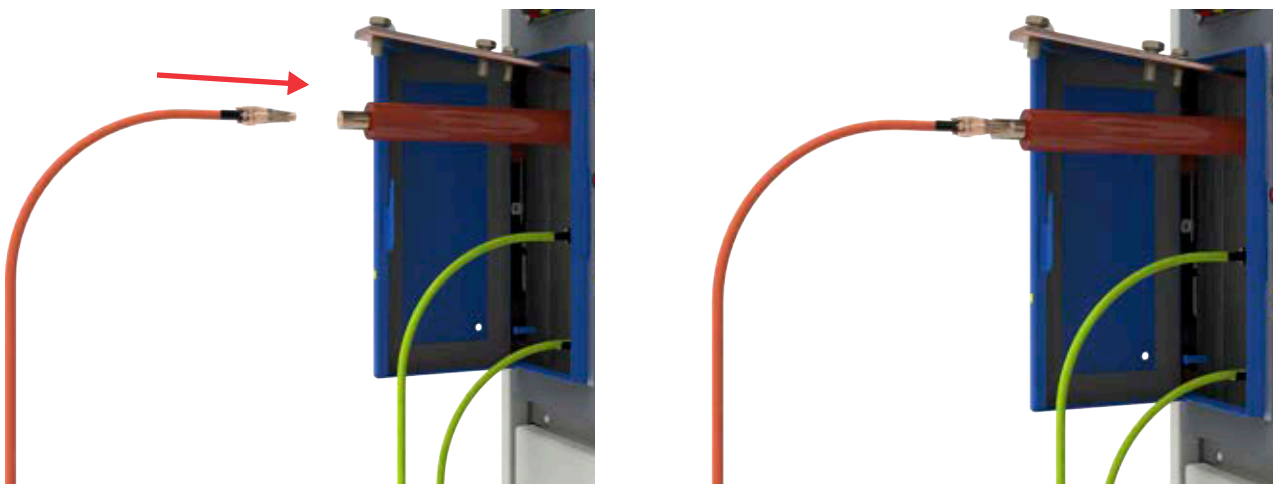
3 : Insert 'Cable Earth & Test' Test Plug assembly by hand on respective earth bushing for testing. Use lubricant Molycote (33 Medium) grease as applicable.



4 : Connect earth to the remaining phases using crocodile clips.

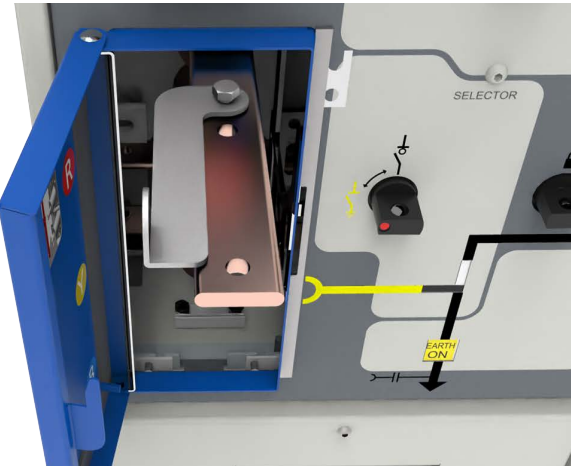
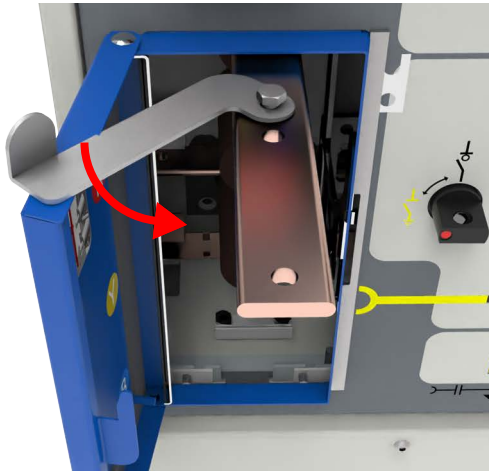


5 : Also apply earth connection to the tank and Apply test voltage to the test probe.



8.3 Closing of Cable test access door

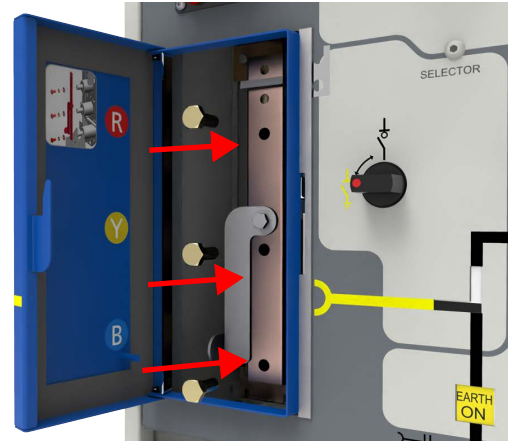
1 : Rotate the earth & test clip from it's resting position.



2 : Bring the silver handle down to a vertical position.



3 : Install the three bushing bolts and washers into the Starbar.



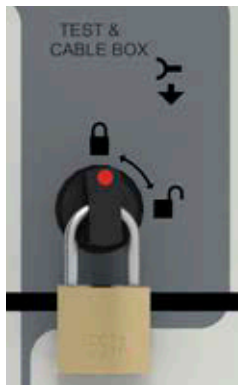
4 : Close the relevant function's test access door.



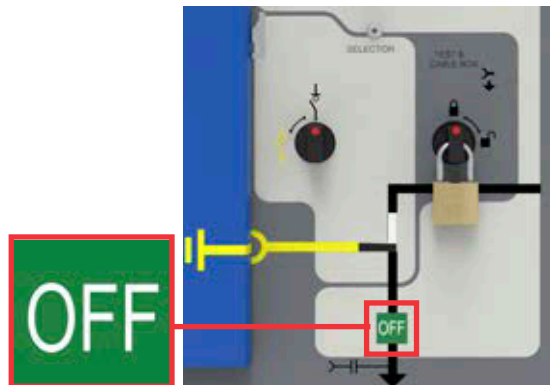
5 : Rotate the "test & cable box selector" anticlockwise 90° to lock position.



7 : Add padlocks to unused operating controls.



8 : The function can now be made '**OFF**'.
To achieve **OFF** for SW/CB refer Instruction
Operation manual.

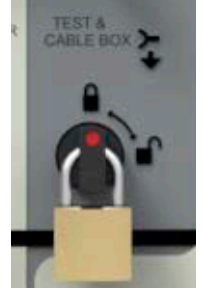


8.4 Cable Box Cover Removal



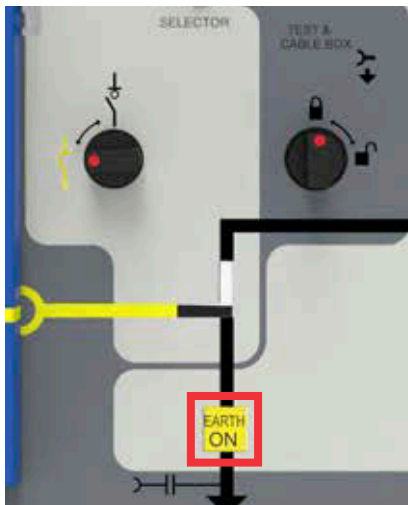
INFORMATION

Cable box door is interlocked.
To prevent removal of 'Cable Box' fit padlock through Test & Cable Box knob.

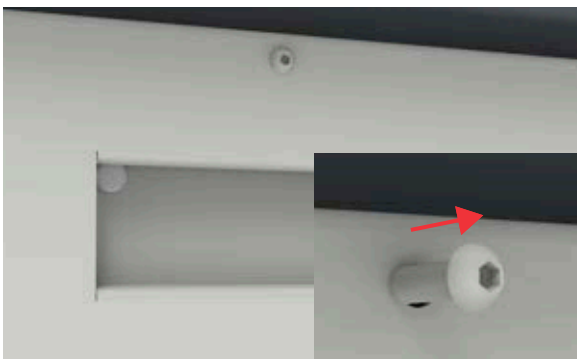


All functions must be switched to "Earth On"

- 1 : The relevant function must be in 'EARTH ON' (See section ["Operating AegisEcoTec" on page 10](#) for more information) and the Test & Cable Box selector in the unlocked position (See section ["Opening of Cable test access door" on page 30](#)) before the cable box panels can be removed.



- 2 : Locate the M6 socket headed screw, unscrew and remove (safely store the M6 Socket Screw away for when the cable box cover has to be refitted.).
- 3 : The cable box cover can be pulled away from the unit to reveal and gain access to the cable box.



CAUTION

This M6 socket headed screw **MUST** be re-tightened when the cable box cover is refitted.



INFORMATION

Relevant function cannot be removed from 'EARTH ON' until the cable box front panel is refitted.

9. MAINTENANCE

9.1 Preventative Maintenance

INFORMATION

Cleaning materials for specific areas of the AegisEcoTec unit Panelling - Cleaning - Cloth.

Unit panelling



The risk of using high pressure cleaning processes are damaging to the life of the AegisEcoTec unit. Lucy Electric cannot therefore guarantee the reliability of the AegisEcoTec equipment that have been cleaned in this manner.

Clean using a dry cloth.

9.2 Unit Maintenance

9.2.1 Maintenance warning



Ensure a proper safety maintenance checklist as per international standards & safe practices of switchgear operation is used with any maintenance work.

Lucy Electric recommends below in addition to the above working practices:

- isolate the supply to the unit before accessing it and clearly put a tag mentioning it on both ends of the circuit.
- Check the VPIS (neon) to re-ensure that there is no power flow through the unit. This is an additional checkpoint for units which have VPIS.
- Discharge the static power in the circuit by touching the earth rod to the bushing copper connection as well as the cable which is disconnected.

9.2.2 Operating conditions

'Ideal' in service conditions

- Unit is to be installed and commissioned in accordance with manufacturers instructions.
- Humidity to be below 40% with no dripping water.
- Indoors completely protected from the weather (unless installed in a outdoor clad unit).
- Minimal dust and adequate air circulation.
- Ambient temperature to be between -25°C and 40°C.
- No contact with chemical agents.
- No infestation of any animals.
- No contact with any plant life.
- No foundation movements.
- No damage to the unit of any kind.

'Standard' in-service conditions

- Unit is to be installed and commissioned in accordance with manufacturers instructions.
- Humidity to be below 60%.
- Unit to be used indoors or outdoors, but not subjected to extreme weather conditions eg: ice, snow, dust storms, heavy rain etc.
- Ambient temperature to be between -25°C and 40°C.
- No regular or thick covering of leaves or debris.
- No contact with chemical agents.
- No infestation of any animals.
- No contact with any plant life.
- No foundation movements.
- No damage to the unit of any kind.

Aggressive conditions - are any other conditions not covered in the descriptions of 'IDEAL' and 'Standard' conditions

9.3 Maintenance Checks

The following is the recommended maintenance checks for the AegisEcoTec unit.

Gas Enclosure: No routine maintenance required.

Unit Exterior:

- Check all external fixings are present and tight.
- Check all labels are present.
- Check all earth connections are present.
- Check the operation of the unit (including interlocks with the unit isolated).
- Clean the unit thoroughly.
- Touch-up paint work as necessary.
- Check that the gas indicator is in the green zone. If the indicator is in the red zone, See 9.4 below

Outdoor clad units:

- Check the condition of the door seal.
- Check inside the door for:
 - - heavy dust deposits
 - - water ingress
 - - contamination by animal, insects or plant life.
- Check all external fixings are present and tight.
- Check all labels are present.
- Check all earth connections are present.

9.4 Pressure Issues

Gas Leakage

If the unit suffers a loss of gas pressure the gauge pointer will be in the red zone. In this extremely unlikely event the unit should not be operated and you should contact your local Lucy Electric office immediately.



9.5 Maintenance Checklist



1

LV Area

Check for rust on any electrical parts.

Reasons:

Condensation and humidity presence.

Solutions:

Dry the environment.

Replace any damaged parts.

3

Trench

Check for presence of water in the trench.

Reasons:

Water ingress presence.

Solutions:

Pump out the water. Drain the trench.

Note: Take care that no additional stress is added to the bushings.

2

Cable Box Area

Check cable connections for any damage.

Reasons:

Presence of discharging.

Solutions:

Fit new cable connections

If a unit has not been operated for a considerable amount of time and it is practical to do so, operate the unit a few times to ensure that the unit is functioning correctly.

10. END-OF-LIFE-SERVICE

At the end of the service life of the switchgear, it must be disposed of in an environmentally friendly manner.

10.1 Switchgear Unit Recycling

Once the switchgear unit can then be dismantled by trained and competent personnel, then all component parts sorted and recycled. All parts must be disposed according to local site disposal procedures.

Main Component Scrap Materials

Steel	- cladding and mechanisms
Stainless Steel	- tank
Copper	- busbars and earthing bars
Brass	- connectors
Silver	- Instrument contacts
Cast Resin - Epoxy Resin	- bushings
Plastics	- handles, hinges, switching devices and trippers
Cables	- bushings, instruments.
Rubber	- seals, gaskets

Any auxiliary devices are to be recycled as electronic scrap.

All batteries are to be recycled appropriately.

10.2 End-Of-Life Services

Conscious of its environmental responsibilities, Lucy Electric has the skills and capability to provide decommissioning solutions for the equipment. End-of-life procedures include a safe Ring Main Unit site removal and disposal.

For more information on end-of-life services, please contact our Energy Services response centre:

Tel: +44 (0) 1844 267 256

Fax: +44 (0) 1844 267 223

Email: energyservices@lucyelectric.com

For technical support or additional information on our products, please contact our technical department:

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