POCKET GUIDE

12CM/14CM

FACEBOSS

Electrical Troubleshooting

JOY MINING MACHINERY
A Joy Global Inc. Company

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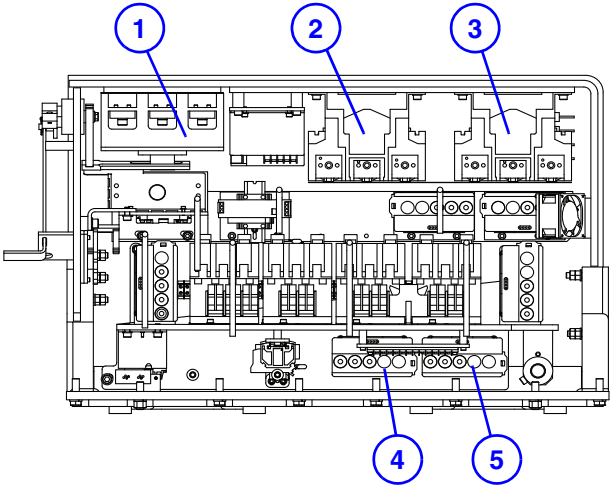
14CM15 R.H. Controller Case



1. Cutter Breaker (2CB)
2. L.H. Cutter Contactor (AC)
3. R.H. Cutter Contactor (BC)
4. L.H. Gathering Head/Conveyor MCT (HCT)
5. R.H. Gathering Head/Conveyor MCT (CCT)

ESR Faults

ESR Troubleshooting

All motor circuits are interfaced to the pump motor circuit. When the pump motor is commanded to start, a sequence of relay operations occurs to supply 110Vac to the MCTs. The relay sequence follows:

- The SER relay pulses on for less than one second to initially energize the ESR relay.
- The ESR relay is held energized through a set of its own contacts.

If the preceding sequence does not occur, troubleshooting the circuit is exclusive to the fault information sent by the CCU, which is viewable on the display. However, the following procedures are basic checks that can be made to ensure the external circuitry is available to allow the ESR to energize:

1. Apply machine power.
2. Attempt to start the pump motor.
3. Measure for 110Vac across the SER relay coil. This should occur only for less than one second. If this voltage appears on the coil but the relay does not energize, check the SER relay.

4. If 110Vac does not appear on the SER relay coil, refer to the display for troubleshooting information.
5. When the SER relay pulses on, check that the normally-open SER contacts briefly close.
6. Measure for 110Vac across the ESR relay coil. If this voltage appears on the coil, but the relay does not energize, check the ESR relay.
7. If the ESR relay energizes, but will not remain closed, replace the ESR relay.
8. A set of normally-open ESR contacts close to supply 110Vac to the motor MCTs. If the pump motor will not start after the ESR relay energizes, check the associated wiring. If this wiring is correct, replace the ESR relay. Refer to the display for troubleshooting information.
9. After the ESR relay energizes, measure for 24Vdc between terminals 1F1 and 1F4 on TB1 of Module A. If this voltage is not present, check the associated wiring. If this wiring is correct, replace the ESR relay. Refer to the display for troubleshooting information.