



MSHA's Accident Prevention Program Safety Idea

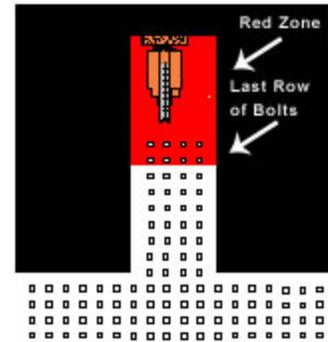
Safety and
Health are
Values!

Remote Control Mining Machine Safety Features

Category : **Section Face Equipment**

Mine Type: **Underground Coal/Underground Metal/Non-Metal**

Safety features have been developed for some remote controlled continuous mining machines used in extended cut operations. During the mining cycle, these machines may be under unsupported roof when the main machine or tram breaker trips or the methane monitor malfunctions. Temporary roof supports would then be required in the unsupported areas so miners could access the machine to reset the breakers or repair the machine. The latest safety features are engineered so a disabled mining machine can be safely trammed from unsupported roof areas.



The following safety features allow the machine operator to safely tram the machine to areas of supported roof:

- 1) **Main Machine Circuit-Interrupting Device** reduces hazards associated with the main machine breaker trips when the machine is under unsupported roof. The feature provides a means to reset the breaker at the power center eliminating the need for the operator to manually reset the breaker on the machine.
- 2) **Remote Traction Motor Circuit Breaker Reset** resets a tripped traction circuit breaker when a machine is under unsupported roof. The breaker handle is operated mechanically by a hydraulic cylinder on the machine. The cylinder is activated by energizing solenoids from the portable hand carried remote control.
- 3) **Emergency Stop Override** permits the machine operator to tram the machine to an area of supported roof to manually reset the emergency stop switch. At times the switch is accidentally activated by action of the machine against the rib.

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- 4) **Methane Monitor Failure Override** will automatically shut down the machine and provide a signal to the operator if the methane monitoring system malfunctions. The machine operator is given the option to tram the machine back to supported roof for repair of the monitor. The override feature will not operate when the machine de-energizes due to high methane. In this situation, the machine **can not** be trammed back to supported roof until the methane is reduced.

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