

language remains unchanged from the proposed rule.

C. Section 18.41(f)(2)

30 CFR 18.41(f)(2) is a new provision that provides for an alternate method for securing the battery plug to the receptacle. The final rule specifies that a plug which is held in place by a threaded ring or equivalent mechanical fastening will be acceptable provided that the threaded ring is secured in place with a device that is captive. It also requires a special tool to disengage the device and allows for the separation of the connector. It further requires a warning tag that states: "DO NOT DISENGAGE UNDER LOAD," or an equivalent statement.

One commenter questioned the requirement for using a "special tool" to separate the plug from the receptacle. The commenter questioned whether a special tool is necessary and whether an allen wrench would be considered a special tool.

Under the A&CC's 1987 policy that initially permitted the use of an alternate captive locking device in lieu of a padlock, it required that a special tool be used to ensure that the alternate device was locked in place. The requirement of a special tool also prevents the removal of the plug from the receptacle by unauthorized personnel. In order for a captive locking device to provide at least the same measure of protection as the padlock, it was determined that a special tool be required to remove the plug from the receptacle. An allen wrench has been determined by MSHA to be an acceptable special tool.

A commenter expressed concern about the requirement for a clearly visible warning tag that states "DO NOT DISENGAGE UNDER LOAD." The commenter alleged that it may be difficult to maintain such tags. Another commenter indicated that the language should be modified to be "less prescriptive and more performance oriented."

Warning tags are often used in association with safety related equipment. They are considered an acceptable means of mitigating potential hazards. It is MSHA's experience that, if good maintenance practices are followed, warning tags can be maintained with minimal difficulty.

In response to the commenter's concern about the specific warning tag language, MSHA has added language to §§ 18.41(f)(2) and 18.41(f)(3) to permit wording that is equivalent to "DO NOT DISENGAGE UNDER LOAD." One example of equivalent wording that

would be considered acceptable is "DO NOT DISCONNECT UNDER LOAD."

A commenter stated that a warning tag should not be required on each connector on a machine that could have two connectors, but that one in the "vicinity of the battery connectors" should be required.

MSHA does not agree with the commenter. A warning tag is only effective if it is at the location where the potential hazard exists. If the warning tag is provided on the battery connector, it would be located in the field of vision of the miner attempting to disconnect the plug from the receptacle. This would not be the case if the warning tag was provided somewhere "in the vicinity" of the connector.

Another commenter stated that the final rule must "provide and maintain the same level of protection to miners as required by section 101(a)(9) of the Federal Mine Safety and Health Act of 1977." No specific provisions of the final rule were addressed in this comment. MSHA evaluated both alternate locking devices allowed by this final rule and determined that, as stated previously, the alternate devices do not reduce the protection afforded by the existing standard.

D. Section 18.41(f)(3)

30 CFR 18.41(f)(3) is a new provision that provides for another alternate method for securing the battery plug to the receptacle. The rule states that a plug held in place by a spring-loaded or other locking device that maintains constant pressure against a threaded ring or equivalent mechanical fastening is acceptable provided that it secures the plug and prevents accidental separation. It further requires a warning tag that states: "DO NOT DISENGAGE UNDER LOAD," or an equivalent statement.

This section allows for the use of other locking devices that may become available in the future. The Agency has included this language to allow for acceptance of equally effective devices. Devices not explicitly defined in this rulemaking must be equally effective and provide at least the same measure of protection as those incorporated under this section. Innovative battery connector designs not covered by the provisions of § 18.41(f) will be evaluated for compliance under the provisions of existing § 18.20(b).

A commenter recommended a wording change to the final rule that would allow for future advancements in connector locking device technology. MSHA already had the necessary language in the proposed rule to address the commenter's concern. Section

18.41(f)(3) allows for "other locking devices" that are equally effective. The A&CC investigators will determine equal effectiveness during evaluations of new designs for alternate locking devices.

Neither of the alternatives in §§ 18.41(f)(2) and (f)(3) imposes additional requirements to the 1987 MSHA policy or the petitions for modification granted since 1990.

A commenter questioned the need for warning tags stating that they have battery-powered machines under several previously granted petitions for modification that did not require such warning tags. Under petitions granted prior to 1990, the conditions on the Proposed Decision and Order (PDO) emphasized training on the hazards associated with disconnecting the plug from the receptacle under load. This final rule is based on petitions granted since 1990 which all require a warning tag specifically stating "Do Not Disengage Under Load."

III. Petitions for Modification

On the effective date of the direct final rule, all existing petitions for modification for alternate locking devices for plug and receptacle-type connectors on mobile battery-powered machines will be superseded by this rule.

All existing mobile battery-powered machines must be in compliance with this final rule as of the effective date of the rule. All machines incorporating alternate locking devices that were accepted under petitions for modification will be considered in compliance provided that a warning tag is attached to the connector and meets the requirements of this rule. This is a change from the proposed rule (68 FR 2941) which would have allowed all equipment modified by previously granted petitions for modification to be in compliance with this rule. This change was precipitated when a commenter provided MSHA with several previously granted petitions for modification that allowed alternate locking devices but did not require warning tags. MSHA anticipates that this change will affect approximately 5% of the total granted petitions. All of these affected petitions were granted before 1990. MSHA has determined that warning tags are an essential safety requirement that must be provided when alternate locking devices for plug and receptacle-type connectors on mobile battery-powered machines are used.