

which display aspects with indications more favorable than "proceed at restricted speed" have been opened directly or by shunting of track circuit.

NOTE: Each carrier subject to this rule is hereby authorized to remove electrical or mechanical locks now installed within the purview of §236.410 when either exception (1) or (2) of the present rule is satisfied, subject to the condition that the following procedures and actions be accomplished:

1. Each carrier intending to remove a lock under the findings made herein and based on the existence of one or more of the circumstances as set forth in exception (1) or (2) as contained in the revised section, shall:

(a) Notify the FRA by letter setting forth the location of the lock involved and the specific exception on which removal is based.

(b) Include in the letter to the FRA an assurance that the excepting circumstance relied upon will not be changed without either reinstallation of the electric or mechanical lock, or approval by the FRA of the changed circumstances.

(c) Publish in its Time Table the not-to-exceed 20 miles per hour speed limit covering the area of the switch, when that is the exception relied upon; or, where exception (2) is relied upon, publish either in the Special Instructions part of its Time Table or in separate printed Special Instructions the location of each hand-operated switch where electric or mechanical lock is removed and, where train movements are made in excess of twenty (20) miles per hour, concurrently issuing specific instructions, by stating therein, that trains are not to be permitted to clear the main track at such switch.

2. Following the foregoing, and upon acknowledgment of the letter to the FRA, such acknowledgment to be made promptly as an administrative action by the FRA's Bureau of Railroad Safety, and such acknowledging letter to be retained by the carrier as authority for the removal and as a record of the exception on which relied, the lock may then be removed.

(c) Where a signal is used in lieu of electric or mechanical lock to govern movements from auxiliary track to signaled track, the signal shall not display an aspect to proceed until after the control circuits of signals governing movement on main track in either direction over the switch have been opened, and either the approach locking circuits to the switch are unoccupied or a predetermined time interval has expired.

NOTE: Railroads shall bring all hand-operated switches that are not electrically or mechanically locked and that do not con-

form to the requirements of this section on the effective date of this part into conformity with this section in accordance with the following schedule:

Not less than 33% during calendar year 1984.

Not less than 66% during calendar year 1985.

The remainder during calendar year 1986.

[33 FR 19684, Dec. 25, 1968, as amended at 49 FR 3386, Jan. 26, 1984]

#### RULES AND INSTRUCTIONS

##### § 236.426 Interlocking rules and instructions applicable to traffic control systems.

The rules and instructions prescribed in §§236.327 and 236.328, §236.330 to §236.334, inclusive, and §236.342 shall apply to traffic control systems.

#### INSPECTION AND TESTS

##### § 236.476 Interlocking inspections and tests applicable to traffic control systems.

The inspections and tests prescribed in §§236.377 to 236.380, inclusive, and §§236.382, 236.383, and 236.386 shall apply to traffic control systems.

[49 FR 3386, Jan. 26, 1984]

#### Subpart E—Automatic Train Stop, Train Control and Cab Signal Systems

#### STANDARDS

##### § 236.501 Forestalling device and speed control.

(a) An automatic train stop system may include a device by means of which the automatic application of the brakes can be forestalled.

(b) Automatic train control system shall include one or more of the following features:

(1) Low-speed restriction, requiring the train to proceed under slow speed after it has either been stopped by an automatic application of the brakes, or under control of the engineman, its speed has been reduced to slow speed, until the apparatus is automatically restored to normal because the condition which caused the restriction no longer affects the movement of the train.

**§ 236.502**

(2) Medium-speed restriction, requiring the train to proceed under medium speed after passing a signal displaying an approach aspect or when approaching a signal requiring a stop, or a stop indication point, in order to prevent an automatic application of the brakes.

NOTE: Relief from the requirements of paragraphs (b) (1) and (2) of this section will be granted, insofar as speed limits fixed by definitions of Slow and Medium speeds are concerned, upon an adequate showing by an individual carrier where automatic train control systems now in service enforce speed restrictions higher than those required by definitions in §§ 236.700 to 236.838 inclusive.

(3) Maximum-speed restriction, effecting an automatic brake application whenever the predetermined maximum speed limit is exceeded.

**§ 236.502 Automatic brake application, initiation by restrictive block conditions stopping distance in advance.**

An automatic train-stop or train-control system shall operate to initiate an automatic brake application at least stopping distance from the entrance to a block, wherein any condition described in § 236.205 obtains, and at each main track signal requiring a reduction in speed.

**§ 236.503 Automatic brake application; initiation when predetermined rate of speed exceeded.**

An automatic train control system shall operate to initiate an automatic brake application when the speed of the train exceeds the predetermined rate as required by the setting of the speed control mechanism.

**§ 236.504 Operation interconnected with automatic block-signal system.**

(a) A continuous inductive automatic train stop or train control system shall operate in connection with an automatic block signal system and shall be so interconnected with the signal system as to perform its intended function in event of failure of the engineer to acknowledge or obey a restrictive wayside signal or a more restrictive cab signal.

(b) An intermittent inductive automatic train stop system shall operate in connection with an automatic block signal system and shall be so inter-

**49 CFR Ch. II (10-1-02 Edition)**

connected with the signal system that the failure of the engineer to acknowledge a restrictive wayside signal will cause the intermittent inductive automatic train stop system to perform its intended function.

[49 FR 3386, Jan. 26, 1984]

**§ 236.505 Proper operative relation between parts along roadway and parts on locomotive.**

Proper operative relation between the parts along the roadway and the parts on the locomotive shall obtain under all conditions of speed, weather, wear, oscillation, and shock.

**§ 236.506 Release of brakes after automatic application.**

The automatic train stop or train control apparatus shall prevent release of the brakes after automatic application until a reset device has been operated, or the speed of the train has been reduced to a predetermined rate, or the condition that caused the brake application no longer affects the movement of the train. If reset device is used it shall be arranged so that the brakes cannot be released until the train has been stopped, or it shall be located so that it cannot be operated by engineman without leaving his accustomed position in the cab.

**§ 236.507 Brake application; full service.**

The automatic train stop or train control apparatus shall, when operated, cause a full service application of the brakes.

**§ 236.508 Interference with application of brakes by means of brake valve.**

The automatic train stop, train control, or cab signal apparatus shall be so arranged as not to interfere with the application of the brakes by means of the brake valve and not to impair the efficiency of the brake system.

[49 FR 3386, Jan. 26, 1984]

**§ 236.509 Two or more locomotives coupled.**

The automatic train stop, train control or cab signal apparatus shall be arranged so that when two or more locomotives are coupled, or a pushing or

helping locomotive is used, it can be made operative only on the locomotive from which the brakes are controlled.

**§ 236.510 [Reserved]**

**§ 236.511 Cab signals controlled in accordance with block conditions stopping distance in advance.**

The automatic cab signal system shall be arranged so that cab signals will be continuously controlled in accordance with conditions described in § 236.205 that obtain at least stopping distance in advance.

**§ 236.512 Cab signal indication when locomotive enters block where restrictive conditions obtain.**

The automatic cab signal system shall be arranged so that when a locomotive enters or is within a block, wherein any condition described in § 236.205 obtains, the cab signals shall indicate "Proceed at Restricted Speed."

**§ 236.513 Audible indicator.**

(a) The automatic cab signal system shall be so arranged that when the cab signal changes to display a more restrictive aspect, an audible indicator will sound continuously until silenced by manual operation of an acknowledging device.

(b) The audible cab indicator of automatic cab signal, automatic train stop, or automatic train control system shall have a distinctive sound and be clearly audible throughout the cab under all operating conditions.

[49 FR 3386, Jan. 26, 1984]

**§ 236.514 Interconnection of cab signal system with roadway signal system.**

The automatic cab signal system shall be interconnected with the roadway-signal system so that the cab signal indication will not authorize operation of the train at a speed higher than that authorized by the indication of the roadway signal that governed the movement of a train into a block except when conditions affecting movement of trains in the block change after the train passes the signal.

**§ 236.515 Visibility of cab signals.**

The cab signals shall be plainly visible to member or members of the locomotive crew from their stations in the cab.

[49 FR 3386, Jan. 26, 1984]

**§ 236.516 Power supply.**

Automatic cab signal, train stop, or train control device hereafter installed shall operate from a separate or isolated power supply.

[49 FR 3386, Jan. 26, 1984]

**RULES AND INSTRUCTIONS; ROADWAY**

**§ 236.526 Roadway element not functioning properly.**

When a roadway element except track circuit of automatic train stop, train control or cab signal system is not functioning as intended, the signal associated with such roadway element shall be caused manually to display its most restrictive aspect until such element has been restored to normal operative condition.

**§ 236.527 Roadway element insulation resistance.**

Insulation resistance between roadway inductor and ground shall be maintained at not less than 10,000 ohms.

[49 FR 3386, Jan. 26, 1984]

**§ 236.528 Restrictive condition resulting from open hand-operated switch; requirement.**

When a facing point hand-operated switch is open one-fourth inch or more, a trailing point hand-operated switch three-eighths inch or more, or hand-operated switch is not locked where facing point lock with circuit controller is used, the resultant restrictive condition of an automatic train stop or train control device of the continuous type or the resultant restrictive cab signal indication of an automatic cab signal device on an approaching locomotive shall be maintained to within 300 feet of the points of the switch.

**§ 236.529 Roadway element inductor; height and distance from rail.**

Inductor of the inert roadway element type shall be maintained with the

**§ 236.530**

inductor pole faces at a height above the plane of the tops of the rails, and with its inner edge at a horizontal distance from the gage side of the nearest running rail, in accordance with specifications of the carrier.

[49 FR 3386, Jan. 26, 1984]

**§ 236.530 [Reserved]**

**§ 236.531 Trip arm; height and distance from rail.**

Trip arm of automatic train stop device when in the stop position shall be maintained at a height above the plane of the tops of the rails, and at a horizontal distance from its center line to gage side of the nearest running rail, in accordance with specifications of the carrier.

[49 FR 3386, Jan. 26, 1984]

**§ 236.532 Strap iron inductor; use restricted.**

No railroad shall use strap iron inductor or other roadway element with characteristics differing from its standard type on track where speed higher than restricted speed is permitted.

[49 FR 3386, Jan. 26, 1984]

**§ 236.533 [Reserved]**

**§ 236.534 Entrance to equipped territory; requirements.**

Where trains are not required to stop at the entrance to equipped territory, except when leaving yards and stations and speed until entering equipped territory does not exceed restricted speed, the automatic train stop, train control, or cab signal device shall be operative at least stopping distance from the entrance to such territory except where the approach thereto is governed by automatic approach signal.

**RULES AND INSTRUCTIONS; LOCOMOTIVES**

**§ 236.551 Power supply voltage; requirement.**

The voltage of power supply shall be maintained within 10 percent of rated voltage.

**49 CFR Ch. II (10-1-02 Edition)**

**§ 236.552 Insulation resistance; requirement.**

When periodic test prescribed in § 236.588 is performed, insulation resistance between wiring and ground of continuous inductive automatic cab signal system, automatic train control system, or automatic train stop system shall be not less than one megohm, and that of an intermittent inductive automatic train stop system, not less than 250,000 ohms. Insulation resistance values between periodic tests shall be not less than 250,000 ohms for a continuous inductive automatic cab signal system, automatic train control system, or automatic train stop system, and 20,000 ohms for an intermittent inductive automatic train stop system.

[49 FR 3387, Jan. 26, 1984]

**§ 236.553 Seal, where required.**

Seal shall be maintained on any device other than brake-pipe cut-out cock (double-heading cock), by means of which the operation of the pneumatic portion of automatic train-stop or train-control apparatus can be cut out.

**§ 236.554 Rate of pressure reduction; equalizing reservoir or brake pipe.**

The equalizing-reservoir pressure or brake-pipe pressure reduction during an automatic brake application shall be at a rate not less than that which results from a manual service application.

**§ 236.555 Repaired or rewound receiver coil.**

Receiver coil which has been repaired or rewound shall have the same operating characteristics which it possessed originally or as currently specified for new equipment.

**§ 236.556 Adjustment of relay.**

Change in adjustment of relay shall be made only in a shop equipped for that purpose except when receiver coils, electro-pneumatic valve, or other essential part of the equipment is replaced. Irregularities in power-supply voltage or other variable factors in the circuit shall not be compensated for by adjustment of the relay.

**§ 236.557 Receiver; location with respect to rail.**

(a) Receiver of intermittent inductive automatic train stop device of the inert roadway element type shall be maintained with bottom of the receiver at a height above the plane of the tops of the rails, and with its outer edge at a horizontal distance from the gage side of the nearest rail, in accordance with specifications of the carrier.

(b) Receiver of continuous inductive automatic cab signal, train stop, or train control device of locomotive equipped with onboard test equipment, shall be maintained with the bottom of the receiver at a height above the plane of the tops of the rails, and with its outer edge at a horizontal distance from the gage side of the nearest rail, in accordance with specifications of the carrier.

[49 FR 3387, Jan. 26, 1984]

**§§ 236.558–236.559 [Reserved]****§ 236.560 Contact element, mechanical trip type; location with respect to rail.**

Contact element of automatic train stop device of the mechanical trip type shall be maintained at a height above the plane of the tops of the rails, and at a horizontal distance from the gage side of the rail, in accordance with specifications of the carrier.

[49 FR 3387, Jan. 26, 1984]

**§ 236.561 [Reserved]****§ 236.562 Minimum rail current required.**

The minimum rail current required to restore the locomotive equipment of continuous inductive automatic train stop or train control device to normal condition or to obtain a proceed indication of automatic cab signal device (pick-up) shall be in accordance with specifications of the carrier.

[49 FR 3387, Jan. 26, 1984]

**§ 236.563 Delay time.**

Delay time of automatic train stop or train control system shall not exceed 8 seconds and the spacing of signals to meet the requirements of

§ 236.24 shall take into consideration the delay time.

**§ 236.564 Acknowledging time.**

Acknowledging time of intermittent automatic train-stop device shall be not more than 30 seconds.

**§ 236.565 Provision made for preventing operation of pneumatic brake-applying apparatus by double-heading cock; requirement.**

Where provision is made for preventing the operation of the pneumatic brake-applying apparatus of an automatic train stop or train control device when the double-heading cock is placed in double-heading position, the automatic train stop or train control device shall not be cut out before communication is closed between the engineman's automatic brake valve and the brake pipe, when operating double-heading cock toward double-heading position.

**§ 236.566 Locomotive of each train operating in train stop, train control or cab signal territory; equipped.**

The locomotive from which brakes are controlled, of each train operating in automatic train stop, train control, or cab signal territory shall be equipped with apparatus responsive to the roadway equipment installed on all or any part of the route traversed, and such apparatus shall be in operative condition.

**§ 236.567 Restrictions imposed when device fails and/or is cut out en route.**

Where an automatic train stop, train control, or cab signal device fails and/or is cut out enroute, train may proceed at restricted speed or if an automatic block signal system is in operation according to signal indication but not to exceed medium speed, to the next available point of communication where report must be made to a designated officer. Where no automatic block signal system is in use train shall be permitted to proceed at restricted speed or where automatic block signal system is in operation according to signal indication but not to exceed medium speed to a point where absolute block can be established. Where an absolute block is established in advance of the train on which the

**§ 236.568**

device is inoperative train may proceed at not to exceed 79 miles per hour.

**§ 236.568 Difference between speeds authorized by roadway signal and cab signal; action required.**

If for any reason a cab signal authorizes a speed different from that authorized by a roadway signal, when a train enters the block governed by such roadway signal, the lower speed shall not be exceeded.

INSPECTION AND TESTS; ROADWAY

**§ 236.576 Roadway element.**

Roadway elements, except track circuits, including those for test purposes, shall be gaged monthly for height and alinement, and shall be tested at least every 6 months.

**§ 236.577 Test, acknowledgement, and cut-in circuits.**

Test, acknowledgement, and cut-in circuits shall be tested at least once every twelve months.

[49 FR 3387, Jan. 26, 1984]

INSPECTION AND TESTS; LOCOMOTIVE

**§ 236.586 Daily or after trip test.**

(a) Except where tests prescribed by § 236.588 are performed at intervals of not more than 2 months, each locomotive equipped with an automatic cab signal or train stop or train control device operating in equipped territory shall be inspected for damage to the equipment and tested at least once each calendar day or within 24 hours before departure upon each trip.

(b) Each equipped locomotive shall be tested to determine the locomotive equipment is responsive to the wayside equipment and shall be cycled to determine the device functions as intended.

(c) Each locomotive equipped with intermittent inductive automatic train stop or non-coded continuous inductive automatic train stop or non-coded continuous inductive automatic train control device shall be tested to determine that the pickup of the device is within specified limits.

[49 FR 3387, Jan. 26, 1984]

**49 CFR Ch. II (10-1-02 Edition)**

**§ 236.587 Departure test.**

(a) The automatic train stop, train control, or cab signal apparatus on each locomotive, except a locomotive or a multiple-unit car equipped with mechanical trip stop, shall be tested using one of the following methods:

- (1) Operation over track elements;
- (2) Operation over test circuit;
- (3) Use of portable test equipment; or
- (4) Use of onboard test device.

(b) The test shall be made on departure of the locomotive from its initial terminal unless that apparatus will be cut out between the initial terminal and the equipped territory. If the apparatus is cut out between the initial terminal and the equipped territory the test shall be made prior to entering equipped territory.

(c) If a locomotive makes more than one trip in any 24-hour period, only one departure test is required in such 24-hour period.

(d)(1) Whoever performs the test shall certify in writing that such test was properly performed. The certification and the test results shall be posted in the cab of the locomotive and a copy of the certification and test results left at the test location for filing in the office of the supervisory official having jurisdiction.

(2) If it is impractical to leave a copy of the certification and test results at the location of the test, the test results shall be transmitted to either (i) the dispatcher or (ii) one other designated individual at each location, who shall keep a written record of the test results and the name of the person performing the test. These records shall be retained for at least 92 days.

[49 FR 3387, Jan. 26, 1984, as amended at 53 FR 37313, Sept. 26, 1988]

EFFECTIVE DATE NOTE: At 49 FR 3387, Jan. 26, 1984, § 236.587 was revised. This section contains information collection and record-keeping requirements and will not become effective until approval has been given by the Office of Management and Budget.

**§ 236.588 Periodic test.**

Except as provided in § 236.586, periodic test of the automatic train stop, train control, or cab signal apparatus shall be made at least once every 92

days, and on multiple-unit cars as specified by the carrier, subject to approval by the FRA.

[49 FR 3387, Jan. 26, 1984]

**§ 236.589 Relays.**

(a) Each relay shall be removed from service, subjected to thorough test, necessary repairs and adjustments made, and shall not be replaced in service unless its operating characteristics are in accordance with the limits within which such relay is designed to operate, as follows:

(1) Master or primary relays of torque type depending on spring tension to return contacts to deenergized position in noncoded continuous inductive automatic train stop or train control system, at least once every two years; and

(2) All other relays, at least once every six years.

(b) [Reserved]

[49 FR 3387, Jan. 26, 1984]

**§ 236.590 Pneumatic apparatus.**

Automatic train stop, train control, or cab signal pneumatic apparatus shall be inspected, cleaned, and the results of such inspection recorded as provided by § 229.29(a). When a locomotive with automatic train stop, train control, or cab signal pneumatic apparatus receives out-of-use credit pursuant to § 229.33, the automatic train stop, train control, or cab signal apparatus shall be tested in accordance with § 236.588 prior to the locomotive being placed in service.

[61 FR 33873, July 1, 1996]

**Subpart F—Dragging Equipment and Slide Detectors and Other Similar Protective Devices**

STANDARDS

**§ 236.601 Signals controlled by devices; location.**

Signals controlled by devices used to provide protection against unusual contingencies, such as landslides, dragging equipment, burned bridges or trestles and washouts shall be located so that stopping distance will be provided

between the signal and the point where it is necessary to stop the train.

**Subpart G—Definitions**

**§ 236.700 Definitions.**

For the purpose of these rules, standards, and instructions, the following definitions will apply.

**§ 236.701 Application, brake; full service.**

An application of the brakes resulting from a continuous or a split reduction in brake pipe pressure at a service rate until maximum brake cylinder pressure is developed. As applied to an automatic or electro-pneumatic brake with speed governor control, an application other than emergency which develops the maximum brake cylinder pressure, as determined by the design of the brake equipment for the speed at which the train is operating.

**§ 236.702 Arm, semaphore.**

The part of a semaphore signal displaying an aspect. It consists of a blade fastened to a spectacle.

**§ 236.703 Aspect.**

The appearance of a roadway signal conveying an indication as viewed from the direction of an approaching train; the appearance of a cab signal conveying an indication as viewed by an observer in the cab.

**§ 236.704 [Reserved]**

**§ 236.705 Bar, locking.**

A bar in an interlocking machine to which the locking dogs are attached.

**§ 236.706 Bed, locking.**

That part of an interlocking machine that contains or holds the tappets, locking bars, crosslocking, dogs and other apparatus used to interlock the levers.

**§ 236.707 Blade, semaphore.**

The extended part of a semaphore arm which shows the position of the arm.