

**The
STANDARD CODE
of
OPERATING RULES
for
MODEL RAILROADS**

**M&Sw
EDITION OF JULY 2006**

Standard Code of Operating Rules for Model Railroads

*Mogollon & Southwestern RR
Arizona Southern System RR
Clarke Lumber Co.
South Pacific Coast RR
FC Arizona, Sonora y Pacifico*

GENERAL NOTICE

Safety is of the first importance in the discharge of duty.
Obedience to the rules is essential to safety.
Employees whose duties are prescribed by these rules
will be provided a copy.

GENERAL RULES

Rule A: Employees whose duties are prescribed by these rules must be conversant with and obey these rules and special instructions. If in doubt as to their meaning, they must apply to the proper authority for an explanation.

Rule B: Employees must pass any required oral or written exam.

Rule C: Violation of these rules must be reported to the Superintendent.

Rule D: Defects in track, bridges, signals, or equipment which may impact on safe operation must be reported immediately to the Dispatcher.

Rule F: Employees interacting with the visiting public must be clean and neat in appearance. If a Company shirt has been provided, then it should be worn.

Rule G: Use of intoxicants, narcotics, or tobacco on duty is prohibited. Employees under the influence of same will be relieved of duty.

Rule M: Employees must exercise caution to prevent injury to themselves or to others, and to prevent damages to Company-owned or loaned equipment.

Rule V: Visitors must exercise due courtesy and safe behavior during their visit; visitors failing to exercise same will be asked to leave.

Rule V (i): Visitors must have permission of the Superintendent or his designated representative before touching or handling the scenery, structures, track, locomotives, and rolling stock.

Rule V (ii): Visitors must not disturb the train crews, yard crews, or dispatcher, or pick nits, while trains are in operation.

DEFINITIONS

Absolute Signal: A block or interlocking signal without a number plate, the most restrictive indication of which is "STOP".

Block Signal: A fixed signal at the entrance of a block to govern trains entering and using that block.

Employee: an individual authorized by the Superintendent to play an active role in an Operating Session.

Engine: A unit propelled by any form of energy, or a combination of such units operated from a single control, used in train or yard service.

Extra Train: A train not authorized by timetable schedule.

Fixed Signal: A signal of fixed location, indicating a condition affecting the movement of a train or engine.

Interlocking Signal: A fixed signal used to govern the safe and proper sequencing of multiple trains through a protected block of joining or intersecting tracks; may be operated automatically or manually.

Main Track: A track extending through yards and between stations upon which trains are operated by timetable, train orders block signals, interlocking signals, or special instructions, and is under control of the dispatcher unless otherwise specified.

On-Duty: an employee is present and prepared to assume the duties assigned by the Superintendent during an Operating Session.

Pilot: A regular employee assigned to a train when the engineman may be unfamiliar with the physical or operating characteristics of the railroad or its rules.

Regular Train: a train authorized by timetable schedule.

Restricted Speed: Proceed at a speed not to exceed 15 scale miles per hour, being prepared to stop short of another train, obstacle, misaligned turnout, or other hazard.

Schedule: that portion of a timetable that prescribes the class, direction, number and movement of a regular train.

Siding: A track connected to the main track at two ends, ordinarily left clear, for the purpose of allowing one train to meet or pass another train.

Signal Aspect: the appearance of a fixed signal conveying an indication, as viewed by an approaching train.

Signal Indication: the meaning (information conveyed by) a signal aspect.

Station: a place designated on the timetable by name.

Train: An engine (or set of multiple engines), with or without cars, displaying markers.

OPERATING RULES

These rules apply to the following types of employees:

Conductor – To conductors and foremen of yard engine;

Trainmen – To conductors, brakemen, foremen of yard engines, switchmen, yard helpers;

Engineer – To the employee assigned to operate a train or engine, and also to any other employee operating an engine;

Flagman – To any employee assigned or instructed to provide flag protection.

STANDARD TIME, SCALE TIME, and SCALE SPEED

Rule 1: Standard time is shown on the designated master clock.

Rule 2: Scale time for timetable purposes is a 6:1 fast clock, i.e. 3 minutes scale time (station stop) equals 30 seconds of real time, unless otherwise stated.

Rule 3: Scale speed in miles per hour equals the number of actual feet traveled in one minute of real time; i.e. 10 scale MPH equals 10 real feet per minute.

TIMETABLES

Rule 4: Employees whose duty in any way is affected by the timetable must have a copy of the current timetable and timetable special instructions in their possession.

Rule 5: A train must not leave a station prior to the time shown on the timetable.

Rule 6: The following letters when placed before the time on the timetable indicate:

- Ar – time of arrival
- s – scheduled stop
- f – flag stop
- Lv – time of departure

Rule 6(a): The following letters placed in the columns provided in the timetable indicate:

- B – bulletins – general orders
- F – fuel available
- I -- Interlocking
- J – junction
- O – train office, agent, or operator
- P – telephone to dispatcher available
- R – train register
- S – siding
- T – turntable or wye
- W – water available
- X -- crossover
- Y – yard limits

HAND SIGNALS

Rule 7: Hand signals must be given sufficiently in advance to permit compliance, from a point where they may be plainly seen, and in such a way that they cannot be misunderstood. If there are doubts as to the meaning of a hand signal per the prescribed formats provided in this rule, or for whom the signal is intended, then the hand signal should be regarded as a “STOP” signal.

HAND, FLAG, & LANTERN SIGNALS

Rule 8: The following standard (model railroading) hand signals shall be used to communicate between train crew and engineer:

- **Back-up (reverse)** -- beckon toward self with circular motion.
- **Slowly (inching)** -- fingers come together.
- **Controlled stop** -- hands come together.
- **Stop** -- hold up closed hand with palm facing engineer – “halt!”
- **You are coupled up** -- make closed fist, shake once.
- **Go forward** – move hand up and down in “karate chops” away from you.
- **OK** -- thumbs-up /or/ circle
- **Highball (leave town)** -- pull virtual whistle cord twice (“Toot--Toot”).
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PROTECTION OF TRACK WORK

Rule 12: A yellow “flag” on the engineer’s (right) side of an approaching train is a “SLOW ORDER” signal, indicating slow to 10 scale miles per hour (restricted speed). Train may “RESUME SPEED” once it passes a green “flag” on the engineer’s (right) side. (Note: “flags” may be colored push pins).

Rule 14: A red “flag” on the engineer’s (right) side of an approaching train or between the rails is a signal to “STOP”. Train may proceed when verbal permission is given by competent authority.

ENGINE WHISTLE SIGNALS

Rule 15: The whistle signal must be given where required by rule or law. Exception: locomotives not equipped with a sound system. Unnecessary sounding of the whistle is prohibited. The following standard (model railroading) whistle signals are used:

- (a) _____ “All aboard”
- (b) _____ “Release brakes; train is departing”
- (c) _____ o _____ “Approaching public grade crossing”
- (d) _____ “Approaching Station Stop or Junction”
- (e) a repeated series of short sounds warns people or stock on track.

HEADLIGHTS

Rule 17: The headlight will be displayed to the front of every train by day or by night. It may be extinguished when the train clears to meet another train.

Rule 18: Yard engines and engines switching at stations may extinguish headlights during daylight hours. Headlights shall remain on at night.

MARKER & REAR-END LIGHTS

Rule 19: A caboose is required for every freight train operating outside the yard limits. For passenger trains, the last car in the train must be a passenger-carrying car. Exception is for engines running light in helper or relief service. Caboose used in ABS territory must be equipped with resistive wheel sets.

USE OF SIGNALS

Rule 27: A signal imperfectly displayed or the absence of a signal at a place where a signal is usually shown must be regarded as the most restrictive indication that can be given by that signal. Its condition must be reported to the train dispatcher as promptly as possible.

ENGINE BELL WARNING SIGNAL

Rule 30: The following only apply when sound systems are available and their use authorized by the Superintendent. Except when the start, stop, forward, or backward, is part of a switching movement, the engine bell must be rung: when the engine is about to move; while passing through stations, tunnels, or snow sheds; when approaching a public crossing at grade; and when directed by orders or special instructions. The unnecessary ringing of the engine bell is prohibited.

SUPERIORITY OF TRAINS

Rule S-71: A train is superior to another train by right, class, or direction.

Right is conferred by train order; class and direction are specified by timetable. Right is superior to class or direction; direction is superior between trains of the same class.

Rule 72: First class trains are superior to second class trains, second class trains superior to third, and so on.

Rule S-73: Trains in the direction specified in the timetable are superior to trains of the same class in the opposite direction.

Rule 73: Extra trains are inferior to regular trains.

MOVEMENT OF TRAINS

Rule 81: A main track must not be fouled or occupied without authority.

Rule 82: Timetable schedules are in effect for 12 hours after their time at each station unless fulfilled, annulled by train order, or abolished by general order. Regular trains more than 12 hours behind either their scheduled arriving or leaving time at any station lose both right and schedule, and can thereafter proceed only as authorized by train order.

Rule 82: A train may not depart from its initial station without clearance.

Rule 84: A train may not start until the proper signal is given.

Rule 86: Unless otherwise provide, an inferior train must be clear at the same time a superior train in the same direction is due to leave the next station in the rear where the time is shown.

Rule S-87: An inferior train must clear the time of opposing superior trains by not less than five scale minutes. An inferior train failing to clear the main track by the time required must be given flag protection at that time per **Rule 99**.

Rule 88: Extra trains will be governed by train orders with respect to opposing extra trains. The train order must specify which train will take the siding.

Rule S-89: Unless otherwise provided, the inferior train must take the siding at meeting points. The train must stop clear of both fouling points of the siding.

Rule 91: In non-ABS territory, trains must keep at least 10 scale minutes apart except when closing up stations. The following train is responsible for maintaining the 10 scale minute separation from the leading train.

Rule 92: A train may not leave a station prior to its scheduled departure time.

Rule 93: Yard limits will be indicated by yard limit signs. Within yard limits, the main track may be used for clearing first class trains. Second and third class trains, extra trains, and engines must move within yard limits at reduced speed unless the main track is known to be clear.

Rule 99: When a train stops under circumstances in which it may be overtaken by another train, or when other conditions require flag protection, a member of the crew must go out immediately a sufficient distance to ensure full protection. The front of the train must be protected in the same way when necessary.

Rule 103: Public road crossings, or vehicle drivers' view of approaching trains, must not be blocked by moving trains or standing cars longer than necessary.

Rule 104: Train crews are responsible for the position of turnouts used by them and members of their crew, except where control is remote. Turnouts must be properly lined after having been used. (Normally, to the main line).

Rule 105: Trains using a siding or any track other than a main track must travel at reduced speed and be prepared to stop short of a switch not properly lined. Capacity of Siding indicates number of cars of average length 49.5 feet that siding will hold between fouling points, plus one diesel unit and a caboose.

Rule 107: Trains or engines must run at restricted speed in passing a train receiving or discharging traffic at a station except where proper safeguards are provided, or the movement is otherwise protected. They must not pass between the standing train and the platform at which traffic is being received or discharged, unless the movement is properly protected.

Rule 108: In case of doubt or uncertainty, the safe course must be taken.

RULES FOR MOVEMENT BY TRAIN ORDERS

Rule 200: For movements not provided for in the time table, and / or movements requiring their use, train orders will be issued by the authority and over the signature of the Superintendent and contain information or instructions essential to such movements, briefly and clearly.

Rule 203: Train orders must be numbered consecutively each day, beginning at the start of each operating session.

Rule 206: In train orders, regular trains will be designated by number, thus: "No. 10." Following sections will be designated by spelling out number of section and using numerals for train numbers, thus: "Second 10." Extra trains will be designated by engine number and directions, thus: "Extra 3349 North".

TRAIN ORDER SIGNALS

Rule 222(a): A RED train order signal – or horizontal semaphore blade – means "STOP to pick up train orders" (Form 31), for which the conductor must sign.

Rule 222(b): A YELLOW train order signal – or 45-degree angled semaphore blade – means "Slow to pick up Form 19 train orders while in motion".

Rule 222(c): A GREEN train order signal -- or a vertical semaphore blade – means “Proceed, no orders at this station”.

BLOCK AND INTERLOCKING SIGNAL INDICATIONS

Rule 240(a): A RED signal – “STOP” – means -- Stop before any part of the train or engine passes the signal.

Rule 240(d): A YELLOW signal – “APPROACH” – means -- Proceed past the signal at reduced speed and be prepared to stop before any part of the train or engine passes the next signal.

Rule 240(e): A GREEN signal – “CLEAR” – means -- Proceed.

GENERAL SIGNAL RULES

Rule 244: Trains and engines must comply with all signals governing their movement. In the event of restricted visibility, the train must stop, if necessary, to determine the indication of the signal.

RULES GOVERNING OPPOSING AND FOLLOWING MOVEMENT OF TRAINS BY BLOCK SIGNALS

Rule 261: On portions of the railroad, and on designated tracks so specified in the timetable, trains will be governed by block signals whose indications will supersede the superiority of trains for both opposing and following movements on the same track.

ADDITIONAL GENERAL RULES

Rule 700: Employees will not be retained in the service who are careless, unsafe, disobedient, quarrelsome, or vicious.

Rule 701: Courteous, orderly conduct is required of all employees. Boisterous, profane, or vulgar language, ethnic slurs, or inappropriate behavior is prohibited.

Rule 701(d): Employees shall not pick nits while on duty.

Rule 701(e): Employees shall use only beverage holders for canned sodas.

Rule 702: Employees unable to attend an operating session for which they have volunteered and been scheduled must contact the Superintendent.

Rule 712: Employees must inspect moving trains for defects such as mismatched coupler heights, dragging glad hands, dragging or derailed wheels, or other unsafe conditions. If such conditions are observed, employee will notify train crew and dispatcher by the quickest means available.

Rule 713: When a train is stopped to be met or passed by another train, crew of standing train must inspect the passing train.

Rule 720: Permanent speed restrictions exist at certain locations on the railroad as defined by rules, signs, timetables, and other special instructions. It is the engineer’s responsibility to know the location of the restrictions and observe the restrictions of speed at those locations.

TRAIN AND YARD SERVICE

Rule 800: The general direction of and governance of a train is in charge of the conductor, and all persons employed on the train are subject to his instructions.

Rule 801: When there is no conductor, or when the conductor is incapacitated, the engineer will, unless otherwise directed, have charge of the train and will be governed by the rules prescribed for conductors.

Rule 803: When a yardmaster is employed, the general direction and government of the yard is in his charge. At such locations, employees in yard, train and engine service must comply with his instructions. When no yardmaster is employed, such employees will be governed by the senior regular employee working at that location.

Rule 805: Open-top or flatcars loaded with lumber, pipes, poles, or other lading which has a tendency to shift, must not be entrained next to a locomotive, caboose, occupied outfit car, or passenger car.

Rule 812: Trains and engines must be handled in a manner that will avoid shock or derailment from abrupt stopping, starting, excessive speed, or slack action, which might cause injury to persons or damage to property.

Rule 814: Train must not be left standing unattended on a grade, unless a retainer block is set on the low end of the train and the slack is bunched.
Before the engine is detached from the train, slack must be bunched and the train crew must verify that the retainer block is holding the train on grade.
When reattaching the engine to the train, the slack must be carefully taken up and the train moved away from the retainer block to verify that coupling is secure before retainer block is removed

Rule 904: When necessary to set out bad order cars, a report must be made promptly to the Superintendent, showing the reporting marks of the car and the general nature of the defect (if known).

ENGINE SERVICE

Rule 920: The engineer is responsible for the safe and efficient operation of the engine in his charge. **The engineer must keep ahead of or even with his moving engine at all times.**

Rule 922: Any defective condition of the engine must be promptly reported to the Road Foreman of Engines (if available) or the Superintendent.

STATION AGENTS AND OPERATORS

Rule 950: When there is no station agent assigned, the conductor performs those duties at the station where his train is located.

Rule 953(a): The agent must inform the dispatcher of the arrival, departure, or passing of trains and the direction of extra trains ("OS").

Rule 973: The Superintendent shall be notified of cars on the train manifest that were not located or not properly delivered at the end of the operating session.

TABLE OF CONTENTS

Page

General Notice 3

General Rules 3 and 12

Definitions 4

Operating Rules 5

Standard Time, Scale Time, Scale Speed 6

Timetables 6

Hand Signals 7

Hand, Flag, & Lantern Signals 7

Protection of Track Work 7

Engine Whistle Signals 8

Headlights 8

Marker & Rear-End Lights 8

Use of Signals 8

Use of Engine Warning Bell 9

Superiority of Trains 9

Movement of Trains 9

Rules for Movement by Train Orders 11

Train Order Signals 11

Block and Interlocking Signal Indications. 12

General Signal Rules. 12

Rules Governing Opposing & Following Movement
of Trains by Block Signals 12

Additional General Rules. 12

Train and Yard Service 13

Engine Service 14

Station Agents and Operators 15

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