

# Federal Wage System Job Grading Standard For Braking Switching and Conducting, 5736

## Table of Contents

WORK COVERED .....	2
WORK NOT COVERED.....	2
TITLES .....	2
GRADE LEVELS .....	2
NOTE TO USERS.....	2
BRAKER-SWITCHER, GRADE 7 .....	3
CONDUCTOR, GRADE 9.....	5

## WORK COVERED

This standard is used to grade the nonsupervisory work involved in coordinating (onsite) the movement, make up, or break up of trains, locomotives, and train cars. The work requires knowledge of the layout of a railroad track system; knowledge of and ability to follow numerous safety, signaling, switching, track use, train car, and train movement procedures, restrictions, and requirements; and knowledge of the movement and braking characteristics of locomotives, train cars, and various sizes of trains under a variety of weather, visibility, speed, cargo, track, and other operating conditions. Some work covered also requires ability to plan efficient work sequences in making up, breaking up, and overseeing (onsite) the safe movement of trains; ability to coordinate the work of a train crew, and the ability to enforce numerous operational and safety procedures and requirements.

## WORK NOT COVERED

- Operation of locomotives. (See [Locomotive Engineering, 5737](#).)
- Maintaining railroad track. (See [Railroad Repairing, 3546](#))

## TITLES

The title, *Braker-Switcher* is to be used for work which involves helping to move locomotives and trains by throwing switches, setting brakes, coupling and uncoupling cars, observing for hazards, flagging, and signaling.

The title, *Conductor*, is to be used for work involving full responsibility, as crew chief, for monitoring and coordinating, onsite, the movement and work activities of a train and crew.

## GRADE LEVELS

This standard does not describe all possible grade levels for this occupation. If jobs differ substantially from the skill, knowledge, and other work requirements at the grade levels described in this standard, they may be graded at levels other than those described based on the application of sound job grading methods.

## NOTE TO USERS

Some conductors, on a regular and recurring basis, may be in charge of train crews that are larger than those described as typical in the grade 9 level of this standard. Such jobs should be reviewed to determine whether they fully meet the criteria for grading under the Office of Personnel Management [Job Grading Standard for Leader](#).

## **BRAKER-SWITCHER, GRADE 7**

*General:* The grade 7 braker-switchers perform individual switching, signaling, flagging, coupling, uncoupling, brake setting, observing, and safety tasks involved in the movement of locomotives, trains, and train cars under a variety of size, load, weather, and track conditions. They use a thorough knowledge of the layout of an installation track system and numerous safety and operational track use requirements and procedures. They maintain constant watch over their assigned area and equipment, checking continually for operating hazards, malfunctioning or defective equipment, or track obstructions, and when problems arise informs the conductor or engineer, through signals or other means, so that necessary action can be taken to resolve the problem. They give, pass, and respond to signals and instructions in both routine and emergency situations. They receive general directions from the conductor regarding the move to be made or the task to be done, and performs the tasks necessary to carry out the work with a minimum of further instructions.

*Skill and Knowledge:* The grade 7 braker-switchers apply a knowledge of the layout of an extensive track system such as the layout characteristics of 32 to 160 kilometers (20 to 100) miles of track with numerous pick up and set out points (sidings, loading ramps, warehouses, repair shops, or classification areas), crossovers, curves, busy grade crossings without protective gates, car storage areas, and switching points.

When informed of the trip destination and purpose, the braker-switchers know whether the track switches are properly set as the train approaches them, how to change those which are not, and how to reset them after the train passes or a car is set out or picked up. They know how and when to get on and off standing or moving trains; and how, when, and where to signal and flag. They know the approximate location of shops, warehouses and storage areas, sidings, etc., and the usual track routes and switch setting and leaving these areas.

Grade 7 braker-switchers know the operating characteristics of one or a few types of locomotives when pulling a variety of types and sizes of cars and cargo under various weather conditions, visual conditions, and track conditions. Using this knowledge, they apply skill in judging braking and stopping distances (e.g., in connection with coupling) in order to give signals in time for the engineer to react properly. Grade 7 braker-switchers know, give, pass, or respond to all required sound, sign, hand, light, fusee, torpedo, switch, color, and lantern signals for both normal and emergency conditions. For example, they select and use the proper signaling means or equipment, such as arms and hands, lanterns, lights, or flags; the various signal codes; and the proper techniques to give signals. These signals include, for example, those for the train to move forward, move backward, apply brakes, increase or decrease speed, and come to an immediate (emergency) stop; signals to ask the engineer for information, to warn motorists or pedestrians, and to alert others to accidents; and signals which indicate direction of train movement, presence of work crews or obstacles ahead, and defective running gear.

Grade 7 braker-switchers know and use a variety of standard procedures for setting out, transferring and picking up individual cars and groups of cars. They know procedures, such as rear and front end shoving, for placing a car in the desired area. They know how to move or place a car in a specific section or order in the train or set out area by uncoupling, controlling brakes, shunting, etc. The braker-switchers know the appropriate location for cars at warehouse ramps, turnouts, classification areas, and other setout points. They know how and when to set, release, and control car brakes, attach and release air brake hoses, close air line angle cock, and place and remove chocks. They can identify a wide variety of cars, such as various gondola, flat, tank, and box cars. They use this knowledge, along with signaling and observing ability and skill in estimating stopping and braking time or distance, to assist in picking up, setting out, switching, coupling, and moving ca in activities.

Grade 7 braker-switchers maintain a constant check for variety of common track and train operating conditions which can cause train breakdown, derailment, damage to cargo, operating failure or which could lead to other accidents. They detect defective switches, misaligned tracks, presence of track maintenance crews and vehicles, insecure cargo, and similar conditions. The braker-switchers look for unusual smoke, flame, or hot boxes; locked wheels; flat wheels; defective couplers and air hoses, derailed cars, and similar defective equipment. They also help the engineer check the operation of the sander and brakes by observing their operation.

*Responsibility:* Grade 7 braker-switchers receive instructions which indicate the crew to which he is assigned, destination points, and the duties he is to perform. They are required to know and follow numerous standard safety, signaling, and train movement procedures, and to respond to the signals of the conductor and locomotive engineer. They must be constantly alert to help avoid, or take appropriate actions for, track obstructions, track defects, train derailment, malfunctioning or defective equipment (e.g., hot boxes, locked wheels or defective air brake hoses), unscheduled track vehicles, unsealed cars, improperly marked cars, and other operating dangers.

The braker-switchers must be extremely watchful and careful, particularly when visibility is poor, track is slippery, cargo is hazardous or not fully secure, or clearances are tight. They must be able to independently signal, judge distances, judge extent of danger, and perform these and other tasks in stress situations, such as when anticipating a collision or detecting a derailment or track obstruction during operation. The braker-switchers must be able to keep pace with the train crew, and work effectively as part of a team.

The braker-switchers follow directions and instructions from higher grade employees, usually the conductor. Their work is observed and checked for compliance with operating and safety rules and instructions.

*Physical Effort:* Grade 7 braker-switchers use considerable physical agility and effort in pushing, pulling, lifting, positioning and turning various braking, switching, and coupling devices (e.g., draw bars); moving and lifting arms and devices to give signals; walking over rails and ties and running (over safe areas) to perform tasks; and climbing aboard locomotives and train cars, sometimes while they are moving or have slippery steps, rungs, and grab irons. They may lift and carry items weighing up to 23 kilograms (50 pounds) or put forth similar effort in pushing and removing obstacles from the railway.

*Working Conditions:* Grade 7 braker-switchers work under many adverse conditions in both good and bad weather. They are frequently exposed to conditions such as:

- Loud noise from the operating train, train whistle, and horn;
- Fumes and odors, such as those from diesel exhaust and creosote;
- Possible injury from accidental slipping and falling while working and walking over ties, railway slopes, rails, and while boarding, walking upon, and getting off both standing and moving trains;
- Possible injury from coupling and uncoupling devices and air brake hoses;
- Possible injury from motor vehicles or railway vehicles, and from train derailment or other accidents.

Grade 7 braker-switchers may wear protective clothing, such as safety shoes and gloves. They follow numerous safety procedures and requirements to offset some adverse conditions and avoid accidents or injury.

## **CONDUCTOR, GRADE 9**

*General:* As crew member in charge, grade 9 conductors monitor, onsite, the safe makeup, breakup, and movement of a train, typically including the activities of a braker-switchers and a locomotive engineer. The conductors:

- Plan the best sequence of arranging, picking up, and setting out cars, in order to accomplish work with the least number of moves, expedite train car use, save time, meet deadlines, and comply with the safety regulations and practices;
- Oversee the movement of fragile, hazardous, or insecure cargo;
- Implement procedures for special handling of cargo under a variety of conditions such as operating off agency property, passing through hazardous test areas, or operating in areas with unusually tight clearances;

- Coordinate minor rerailling operations;
- Conduct the train during bad weather, poor visibility, or night time operation;
- Insure that braker-switchers are properly placed and follow pertinent regulations, instructions, and requirements;
- Insure that cargo is secure or cars are properly sealed;
- Coordinate moves with a dispatcher or yardmaster, and records train, car, and crew activities; and
- Constantly check to insure that the entire crew is following safety and movement regulations, and insures that conditions are safe before he allows the train to move.

In addition, the conductor may perform many of the tasks described for braker-switcher.

*Skill and Knowledge:* Grade 9 conductors apply skill in monitoring and coordinating the work activities of the train and its crew. With assistance provided by the train crew, they coordinate the safe and efficient movement, breakup, and makeup of the train as necessary to complete work assignments. In addition to those required by grade 7 braker-switchers, the conductors use the following skills, knowledge, and abilities in planning and coordinating the work:

- Ability to place and continuously relocate themselves and the braker-switchers so that, with the participation of the locomotive engineer, the complete train can be observed and -- through signaling -- conducted before and during movement;
- Ability to get instant response and adherence to safety practices and operating requirements on the part of the train crew;
- Knowledge of efficient ways to make up a train, arrange cars, pick up and set out cars, and transport cargo when nonroutine procedures are involved; for example, they apply this knowledge in making changes to a busy trip schedule for most efficient use of time; arranging large numbers of different cars (as they are picked up) in best sequence for efficient drop off at numerous sites; planning how to proceed when cargo is hazardous, fragile, or not fully secured; and handling cars of unusual size;
- Skill in coordinating emergency and other difficult train activities such as those for rerailling (when locomotive or cars are not overturned); movement in bad weather, darkness, or fog; and safe movement of cargo extending over one car;
- Ability to train individual brakemen in the skills and knowledge required in their jobs; and
- Ability to complete work reports, switching lists, and accident reports.

Like the grade 7 braker-switchers grade 9 conductors have the ability to remain constantly alert. In addition, the conductors apply a more extensive, detailed knowledge of safety and operational procedures and the layout of the track system in constantly checking and coordinating the activities of the train crew.

*Responsibility:* Grade 9 conductors are responsible for onsite coordination of train makeup, movement, and train crew activities including enforcement of safety rules, operating restrictions, track use requirements, and work schedules.

In addition to the responsibilities described for the grade 7 Braker-Switchers, the conductors use judgment in planning efficient work sequences; for example, in arranging cars, selecting routes, and accommodating additional work or changes in work sequence within time limits or work priorities previously established.

The conductors are also responsible for insuring that the train is properly equipped with safety and signaling devices, that the crew follows safety and operational requirements, that conditions are safe for train movement before and during operation, and cargo is secure or cars are properly sealed.

The conductors receive work assignments from their supervisor for train operations in the form of worklists of cars to pick up and set out, and instructions received during the day by shortwave radio which add, delete, or change work assigned. Work contact with the supervisor typically involves reporting the status and progress of work operations and causes for delay. The conductor submits daily reports of completed work to their supervisor.

*Physical Effort:* The physical effort required at this grade is generally the same as that for the [grade 7](#) braker-switcher. However, some work at this level may involve more frequent movement and more intense concentration and observation to coordinate crew activities and ensure safe overall train movement, while at the same time performing duties similar to those described for the grade 7 braker-switcher.

*Working Conditions:* The working conditions described at this grade are the same as those described for the [grade 7](#) braker-switcher.