CHAPTER IX

THE AUTOMATIC BLOCK SYSTEM

Note: - The sections on which trains are working on Automatic Block System on this Railway, are notified in Working Time Table in force.

A. RULES APPLICABLE TO DOUBLE LINE

9.01 ESSENTIALS OF THE AUTOMATIC BLOCK SYSTEM ON DOUBLE LINE.—

(1) Where trains on a double line are worked on the Automatic Block System.—

(a) the line shall be provided with continuous track circuiting or axle counters,

(b) the line between two adjacent block stations may, when required, be divided into a series of automatic block signalling sections each of which is the portion of the running line between two consecutive Stop signals, and the entry into each of which is governed by a Stop signal, and

(c) the track circuits or axle counters shall so control the Stop signal governing the entry into an automatic block signalling section that:

   (i) the signal shall not assume an ‘off’ aspect unless the line is clear not only upto the next Stop signal in advance but also for an adequate distance beyond it, and

   (ii) the signal is automatically placed to ‘on’ as soon as it is passed by the train.

(2) Unless otherwise directed by approved special instructions, the adequate distance referred to in sub-clause (i) of clause (c) of sub-rule (1) shall not be less than 120 metres.

(3) (a) under special instructions, one of the automatic stop signal between two stations in the automatic block signaling territory in each direction may be made as modified semi-automatic stop signal;
(b) the mid-section modified semi-automatic stop signal so provided shall be interlocked with the signals of the station ahead through track circuits or axle counters or both and shall be controlled by the Station Master of the station ahead, the relevant indications whether the signal is in normal automatic mode or modified semi-automatic mode shall be available to the Station Masters at both the ends;

(c) Advanced starter signal of the station in rear shall be interlocked with the mid-section modified semi-automatic stop signal in such a way that when working with ‘A’ sign extinguished, the Advanced starter shall assume ‘off’ aspect or be taken ‘off’ only when the line is clear upto an adequate distance beyond the mid-section modified semi-automatic stop signal; similarly the mid-section modified semi-automatic stop signal shall assume ‘off’ aspect automatically or be taken ‘off’ only when the line is clear upto an adequate distance beyond the Home signal of the station ahead;

(d) during abnormal conditions like fog, bad weather impairing visibility, the mid-section modified semi-automatic stop signal may be worked by extinguishing ‘A’ marker in the manner prescribed under special instructions and this action shall also ensure that the ‘A’ marker of the Advanced starter signal of the station in rear and Home signal of the station in advance shall also be extinguished;

(e) the adequate distance mentioned under clause (c) shall not be less than as prescribed under sub-rule (2);

(f) during normal conditions, mid-section modified semi-automatic stop signal shall work as normal automatic stop signal.

(4) when the Loco Pilot finds mid-section modified semi-automatic stop signal with ‘A’ marker extinguished in ‘on’ position, he shall stop his train in the rear of the signal and inform this fact to the Station Master of the station ahead on approved means of communication as prescribed under special instructions;
(b) the Station Master of the station ahead may authorise the Loco Pilot to pass the mid-section modified semi-automatic stop signal working with ‘A’ marker extinguished in ‘on’ position through approved means of communication after ensuring conditions and procedure prescribed under special instructions;

(c) in case the Loco Pilot is unable to contact the Station Master of station ahead, he shall pass the signal at ‘on’ after waiting for five minutes at the signal and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding ten kilometres an hour upto the next Signal and act as per aspect of this signal; and

(d) the Loco Pilot shall report the failure of mid-section modified semi-automatic stop signal to the Station Master of the station ahead.

9.02 DUTIES OF LOCO PILOT AND GUARD WHEN AN AUTOMATIC STOP SIGNAL ON DOUBLE LINE IS TO BE PASSED AT ‘ON’.—

(1) When a Loco Pilot finds an Automatic Stop signal with an ‘A’ marker at ‘on’, he shall bring his train to a stop in rear of the signal. After bringing his train to a stop in the rear of the signal, the Loco Pilot shall wait there for one minute by day and two minutes by night. If after waiting for this period, the signal continues to remain at ‘on’, he shall give the prescribed code of whistle and exchange signals with the Guard and then proceed ahead, as far as the line is clear, towards the next Stop signal in advance exercising great caution so as to stop short of any obstruction.

(2) The Guard shall show a Stop hand signal towards the rear when the train has been so stopped at an Automatic Stop signal, except as provided for in sub-rule (4).

(3) Where owing to the curvature of the line, fog, rain or dust storm, engine working the train pushing it, or other causes, the line ahead cannot be seen clearly, the Loco Pilot shall proceed at a very slow speed, which shall under no circumstances exceed 10 kilometres an hour. Under these circumstances, the Loco Pilot, when not accompanied by an Assistant Loco Pilot, and if he
considers necessary, may seek the assistance of the Guard by giving the prescribed code of whistle.

(4) When so sent for the Loco Pilot, the Guard shall accompany him on the engine cab, before he moves forward, to assist the Loco Pilot in keeping a sharp lookout.

(5) When an Automatic Stop signal has been passed at ‘on’, the Loco Pilot shall proceed with great caution until the next Stop signal is reached. Even if this signal is ‘off’, the Loco Pilot shall continue to look out that signal for any possible obstruction short of the same. He shall proceed cautiously upto that signal and shall act upon its indication only after he has reached it.

**B. RULES APPLICABLE TO SINGLE LINE**

**9.03 ESSENTIALS OF THE AUTOMATIC BLOCK SYSTEM ON SINGLE LINE.—**

(1) Where trains on a single lines are worked on the Automatic Block System.—

(a) the line shall be provided with continuous track circuiting or axle counters,

(b) the direction of traffic shall be established only after Line Clear has been obtained from the block station in advance.

(c) a train shall be started from one block station to another only after the direction of traffic has been established.

(d) it shall not be possible to obtain Line Clear unless the line is clear, at the block station from which Line Clear is obtained, not only upto the first Stop signal but also for an adequate distance beyond it,

(e) the line between two adjacent block stations may, where required, be divided into two or more automatic block signalling sections by provision of Stop signals,

(f) after the direction of traffic has been established, movement of trains into, through and out of each automatic block signalling section shall be controlled by the concerned Automatic Stop signal and the said Automatic Stop signal shall not assume ‘off’
position unless the line is clear up to the next Automatic Stop signal:

Provided further that where the next Stop signal is a Manual Stop signal, the line is clear for an adequate distance beyond it, and

(g) all Stop signals against the direction of traffic shall be at ‘on’.

(2) Unless otherwise directed by approved special instructions, the adequate distance referred to in clauses (d) and (f) of sub-rule (1) shall not be less than 180 metres.

(3)(a) under special instructions, one of the automatic stop signal between two stations in the automatic block signaling territory in each direction may be made as modified semi-automatic stop signal;

(b) the mid-section modified semi-automatic stop signal so provided shall be interlocked with the signals of the station ahead through track circuits or axle counters or both and shall be controlled by the Station Master of the station ahead, the relevant indications whether the signal is in normal automatic mode or modified semi-automatic mode shall be available to the Station Masters at both the ends;

(c) Advanced starter signal of the station in rear shall be interlocked with the mid-section modified semi-automatic stop signal in such a way that when working with ‘A’ sign extinguished, the Advanced starter shall assume ‘off’ aspect or be taken ‘off’ only when the line is clear up to an adequate distance beyond the mid-section modified semi-automatic stop signal; similarly the mid-section modified semi-automatic stop signal shall assume ‘off’ aspect automatically or be taken ‘off’ only when the line is clear up to an adequate distance beyond the Home signal of the station ahead;

(d) during abnormal conditions like fog, bad weather impairing visibility, the mid-section modified semi-automatic stop signal may be worked by extinguishing ‘A’ marker in the manner prescribed under special instructions and this action shall also ensure that the ‘A’ marker of the Advanced starter signal of the station in rear and Home signal of the station in advance shall also be extinguished;
(e) the adequate distance mentioned under clause (c) shall not be less than as prescribed under sub-rule (2);

(f) during normal conditions, mid-section modified semi-automatic stop signal shall work as normal automatic stop signal.

(4)(a) when the Loco Pilot finds mid-section modified semi-automatic stop signal with ‘A’ marker extinguished in ‘on’ position, he shall stop his train in the rear of the signal and inform this fact to the Station Master of the station ahead on approved means of communication as prescribed under special instructions;

(b) the Station Master of the station ahead may authorise the Loco Pilot to pass the mid-section modified semi-automatic stop signal working with ‘A’ marker extinguished in ‘on’ position through approved means of communication after ensuring conditions and procedure prescribed under special instructions;

(c) in case the Loco Pilot is unable to contact the Station Master of station ahead, he shall pass the signal at ‘on’ after waiting for five minutes at the signal and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding ten kilometres an hour upto the next Signal and act as per aspect of this signal; and

(d) the Loco Pilot shall report the failure of mid-section modified semi-automatic stop signal to the Station Master of the station ahead.

9.04 MINIMUM EQUIPMENT OF FIXED SIGNALS IN AUTOMATIC BLOCK TERRITORY ON SINGLE LINE.—The minimum equipment of fixed signals to be provided for each direction shall be as follows.—

(a) Manual Stop signals at a station

   (i) a Home,

   (ii) a Starter,

(b) An automatic Stop signal in rear of the Home signal of the station
Note: - Under approved special instructions, the Automatic Stop signal may be dispensed with.

9.05 ADDITIONAL FIXED SIGNALS IN AUTOMATIC BLOCK TERRITORY ON SINGLE LINE.—

(1) Besides the minimum equipment prescribed in Rule 9.04 one or more additional Automatic Stop signals, as are considered necessary, in between block stations, may be provided.

(2) In addition, such other fixed signals as may be necessary for the safe working of trains may be provided.

9.06 CONDITIONS FOR TAKING ‘OFF’ MANUAL STOP SIGNALS IN AUTOMATIC BLOCK TERRITORY ON SINGLE LINE.—

(1) HOME SIGNAL.—When a train is approaching a Home signal, otherwise than at a terminal station, the signal shall not be taken ‘off’ unless the line is clear not only upto the Starter but also for an adequate distance beyond it.

(2) LAST STOP SIGNAL.—The Last Stop signal shall not be taken ‘off’ for a train unless the direction of traffic has been established and the line is clear upto the next Automatic Stop signal, or when the next Stop signal is a Manual Stop signal for an adequate distance beyond it.

(3) The adequate distance referred to in sub-rules (1) and (2) shall never be less than 120 metres and 180 metres respectively unless otherwise directed by approved special instructions. A sand hump of approved design, or subject to the sanction of the Commissioner of Railway Safety, a derailing switch shall be deemed to be an efficient substitute for the adequate distance referred to in sub-rule (1).

9.07 DUTIES OF LOCO PILOT AND GUARD WHEN AN AUTOMATIC STOP SIGNAL ON SINGLE LINE IS TO BE PASSED AT ‘ON’.—

(1) When a Loco Pilot finds an Automatic Stop signal with an ‘A’ marker at ‘on’, he shall bring his train to a stop in rear of that signal and wait there for one minute by day and two minutes by night.
(2) If after waiting for this period, the signal continues to remain at ‘on’, and if telephone communication is provided near the signal, the Loco Pilot shall contact the Station Master of the next block station or the Centralised Traffic Control Operator of the section where Centralised Traffic Control is provided, and obtain his instructions. The Station Master or the Centralised Traffic Control Operator, as the case may be, shall, after ascertaining that there is no train ahead upto the next signal and that it is otherwise safe for the Loco Pilot to proceed so far as is known, give permission to the Loco Pilot to pass the signal in the ‘on’ position and proceed upto the next signal, as may be provided under special instructions.

(3) If no telephone communication is provided near the signal or if the telephone communication provided near the signal is out of order and cannot be made use of, the Loco Pilot shall give the prescribed code of whistle and exchange signals with the Guard and then proceed past the signal as far as the line is clear, upto the next Stop signal in advance, exercising great caution so as to stop short of any obstruction.

(4) The Guard shall show a Stop hand signal towards the rear when the train has been so stopped at an Automatic Stop signal, except as provided for under sub-rule (6).

(5) Where owing to the curvature of the line, fog, rain or dust storm, engine working the train pushing it, or other causes, the line ahead cannot be seen clearly, the Loco Pilot shall proceed at a very slow speed, which shall under no circumstances exceed 10 kilometre an hour. Under these circumstances, the Loco Pilot when not accompanied by an Assistant Loco Pilot, and if he considers it necessary, may seek the assistance of the Guard by giving the prescribed code of whistle.

(6) When so sent for by the Loco Pilot, the Guard shall accompany him on the engine cab, before he moves forward, to assist the Loco Pilot in keeping a sharp look out.

(7) When an Automatic Stop signal has been passed at ‘on’, the Loco Pilot shall proceed with great caution until the next Stop signal is reached. Even if this signal is ‘off’, the Loco Pilot shall continue to lookout for any possible obstruction short of the same. He shall proceed cautiously upto that signal and shall act upon its indication only after he has reached it.
CHAPTER IX
THE AUTOMATIC BLOCK SYSTEM

9.08 PERSON IN CHARGE OF WORKING TRAINS ON AUTOMATIC BLOCK SYSTEM ON SINGLE LINE.—

(1) Except where Centralised Traffic Control is in operation, the Station Master shall be responsible for the working of trains at and between stations.

(2) On a section where Centralised Traffic Control is in operation, the Centralised Traffic Control Operator shall be responsible for the working of trains on the entire section except as provided for in sub-rule (3).

(3) On a section where Centralised Traffic Control is in operation, the working of trains at a station or part of a station may be taken over by or handed over to the Station Master during emergency or as prescribed by special instructions. When such emergency control is transferred, the Station Master shall be the person in charge of working trains at the station or part of the station and the station shall be worked in accordance with sub-rule (1).

C. RULES APPLICABLE TO BOTH DOUBLE AND SINGLE LINES

9.09 WORKING OF TRAINS ON CENTRALISED TRAFFIC CONTROL TERRITORY.—On a section where Centralised Traffic Control is in operation, the working of trains shall be governed by special instructions.

9.10 PROTECTION OF A TRAIN STOPPED IN AN AUTOMATIC BLOCK SIGNALLING SECTION.—

(1) When a train is stopped in an Automatic block signalling section, the Guard shall immediately exhibit a Stop hand signal towards the rear and check up that the tailboard or taillight is correctly exhibited.

(2) If the stoppage is on account of accident, failure, or obstruction and the train cannot proceed, the Loco Pilot shall sound the prescribed code of whistle and the train shall be protected immediately as per Rule 6.03 except that for the protection of the occupied line one detonator shall be placed at 90 metres from the train on the way out and similarly two detonators, 10 metres apart, not less than 180 metres from the train or at such distance as has been fixed by special instructions.
9.11 LOCO PILOT TO REPORT FAILURES.—

(1) When a Loco Pilot has to pass an Automatic Stop signal at ‘on’ he shall stop his train at the next reporting station or cabin as prescribed by special instructions and report particulars of Automatic Stop signals passed at ‘on’ by him.

(2) The Station Master or person in charge of the reporting station or cabin shall promptly report the fact to the signal and operating officials concerned.

9.12 PROCEDURE DURING FAILURE OF AUTOMATIC SIGNALLING.—When a failure of Automatic signalling is likely to last for some time or cause serious delay, trains shall be worked from station-to-station over the section or sections concerned under special instructions.

9.13 MOVEMENT OF TRAINS AGAINST THE DIRECTION OF TRAFFIC ON THE AUTOMATIC BLOCK SYSTEM.—In Automatic signalling territory, trains shall run in the established direction of traffic only. Movement of trains against the established direction of traffic is not permitted. When in an emergency it becomes unavoidably necessary to move a train against the established direction of traffic, this shall be done only under special instructions which shall ensure that the line behind the said train upto the station in rear is clear and free from obstruction.

9.14 PROCEDURE WHEN SEMI-AUTOMATIC STOP SIGNAL IS ‘ON’.—

(1) When a Semi-Automatic Stop signal is worked as an Automatic Stop signal, Rule 9.02 or 9.07 shall apply, as the case may be.

(2) When a Semi-Automatic Stop signal is working as a Manual Stop signal and becomes defective, it may only be passed under relevant rules detailed in Chapter III, Section ‘H’.

(3) When a Loco Pilot is authorised to pass a Semi-Automatic Stop signal at ‘On’ by taking ‘Off’ the Calling-on signal fixed below it, he shall follow the precautions stipulated in Rule 9.02 or 9.07, as the case may be.
9.15 PASSING A GATE STOP SIGNAL AT ‘ON’ IN AUTOMATIC SIGNALLING TERRITORY.—If the Loco Pilot finds a gate Stop signal at ‘on’ in an Automatic signalling territory.—

(a) he shall comply with the provisions of Rule 9.02 or 9.07 as the case may be, if the ‘A’ marker is illuminated, or

(i) if the ‘A’ marker light is extinguished, he shall sound the prescribed code of whistle to warn the Gateman and bring his train to a stop in rear of the signal, and

(ii) if after waiting for one minute by day and two minutes by night, the signal is not taken ‘off’, he shall draw his train ahead cautiously up to the level crossing, and

(iii) if the Gateman is available and exhibiting hand signals, proceed further past the level crossing gate cautiously, or

(iv) if the Gateman is not available, or, is available but not exhibiting hand signals, stop in rear of the level crossing and after ascertaining that the gates are closed against road traffic and on getting hand signals from the Gateman, and in his absence from Assistant Loco Pilot, the Loco Pilot shall sound the prescribed code of whistle and cautiously proceed up to the next stop signal complying with the rule 9.02 or 9.07 as the case may be.

9.16 ILLUSTRATIVE DIAGRAMS.—Automatic change of sequence of aspects behind the train in three-aspect and four-aspect signalling is illustrated in the following diagrams, which are not drawn to scale.

Automatic change of sequence of aspects behind the train in
Three Aspect Signalling Territory

![Three Aspect Signalling Territory Diagram]

Automatic change of sequence of aspects behind the train in
Four Aspect Signalling Territory

![Four Aspect Signalling Territory Diagram]