GAUGEMASTER ®

MODEL SS-3 AUTOMATIC OPERATING SYSTEM

This unit is designed to allow two locomotives to be run on one circuit of track yet not collide with one another due to different running speeds. This is accomplished by dividing the track into five sections and connecting the unit in line between these and a controlled output. The system is then monitored by reed switches installed under the track at various points which are triggered by magnets under the locomotives. The two locomotives can then be run simultaneously, each only being able to proceed onto the following section when it is safe to do so. A soft start and stop have been incorporated to enhance the operation.
There is also an optional facility to install two aspect colour light signals at each section.
Bypass switches can also be added to allow locomotives to be reversed in and out of sidings if desired.

INSTALLATION

TRACK:- The circuit that is to be used must first be divided into five sections. This can be done by cutting just the positive rail at five various places and inserting plastic isolating fish plates at the gaps. The rail which is to be cut depends on the direction of travel to be achieved. Most locomotives run forward when the right hand rail is positive. Therefore if the direction is to be clockwise, the inside rail will be the one which needs to be cut, being the positive, (Fig 1). If counter clockwise, then divide the outer rail, (Fig 2). The sections do not have to be equal in length but each should not be shorter than approximately five times the length of the largest locomotive to be used on the circuit. This length is needed to allow the locomotive a stopping distance after it has passed the gap. Where rolling stock is to be used, the length of each section should ideally be longer than the total length of the train. The other rail should be left in tact as this is to be the common supply rail. Once the circuit has been divided, designate each section a number from 1 to 5 in the direction of travel.

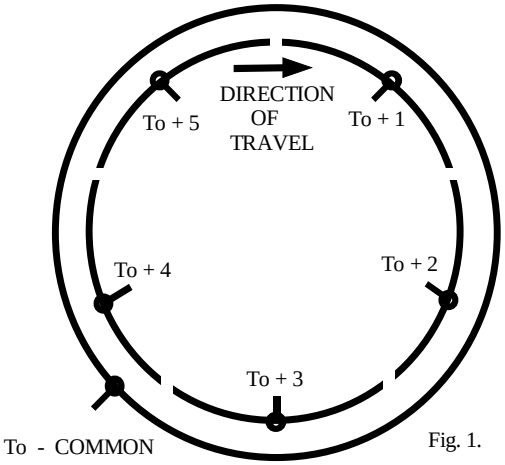

Fig. 1.

REED SWITCHES:- One of these must be installed in each section. The position of these is not vital except that they must be at least the length of a locomotive away from the start or finish of the section, (Fig 3). They are best embedded across the sleepers down the centre of the two rails, but can be positioned under the sleepers if stronger magnets are used on the locomotives.

SIGNALS:- The installation of these is optional as the unit will still operate if not fitted. Where signals are to be used, they need to be two aspect and a type that incorporate L.E.D's which light according to polarity, i.e. two wire operation. These should be placed approx. four times the length of the locomotive away from the start of each section. Alternatively this facility could be used to light L.E.D's on a control board, indicating if a section is live or not.

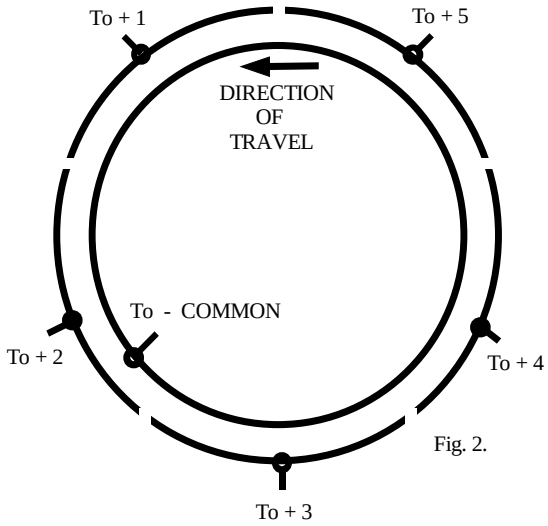

Fig. 2.

BYPASS SWITCHES:- This is another optional feature, utilising additional 'spst' switches which will allow a locomotive to be reversed in the section switched to bypass. This could be useful if turnouts are incorporated in any section as you can change one of the locomotives on the circuit while the other locomotive waits at the previous section until the procedure is complete and the new one is running.

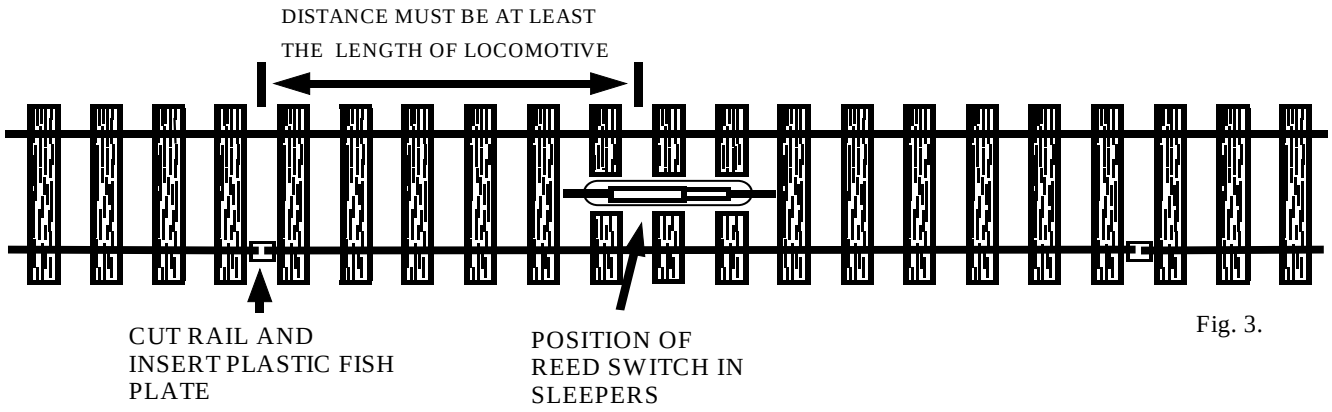

Fig. 3.

CONNECTING THE UNIT

TRACK:- There will be six wires in total, i.e. one common and one from each section. Connect the common rail to terminal marked as such and each section according to its designated section number on the unit.

REED SWITCHES:- Connect one side of each switch to the unit according to its designated section number. Connect the remaining side of each switch together to form a common and connect to terminal marked as such on unit. If signals are being installed do not connect to unit at this stage. (See signal check)

SIGNALS:- Connect each signal to the unit according to the designated section number.

BYPASS SWITCHES:- Only the sections to be bypassed need to be connected to an 'on - off ' switch.

CONTROLLER:- Connect the two wires from the controllers controlled output to the unit where marked. '12v DC input'. Polarity can be changed by direction switch if this is connected the wrong way. If it is the wrong way the circuit will simply remain dead, unless bypass switches are used and turned on.
Connect the two terminals marked '16v AC input' to a constant supply of 16v AC.

SIGNAL CHECK:- When the 16v AC is turned on at this stage, all the signals should be showing green. If any show red, the two wires for that signal must be reversed. When all are showing green, the common wire from the reed switches can be connected to terminal marked as such on the unit.

PREPARING THE LOCOMOTIVES

Each locomotive to be run on the circuit needs a magnet to be installed somewhere under the chassis in a position that enables it to pass closely over each of the reed switches.

RUNNING THE CIRCUIT

First ensure the unit is reset. This is done by removing the power from the 16v AC for a moment. When this is done, the signals if used will show green. With the controller set at zero, place the two locomotives on two different sections with a clear section in between them. Increase the power on the controller and both of the locomotives will start moving. If they do not, change the direction switch to the opposite direction. The circuit is now operational and the locomotives should continue running and never meet. This is achieved as the section behind each train is switched off until the next one on is clear. The locomotives will stop and start as required.

GUARANTEE:

We undertake to replace, free of charge, any parts found defective within the lifetime of the unit, providing the item has not been tampered with and parts are still available for such a repair. This guarantee covers only the supply of replacement parts, labour cost for fitting of the same and the cost of returning the unit to the customer or retailer.
This Guarantee does not affect your statutory Rights.
We reserve the right to vary design or specification without notice.

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