Instructions

RAIL LEVEL CROSSING H0 5300

2.10.53001 Y03.00
RR00030901.P65

Attention: Do not remove transport safety clip before barriers are assembled and string is connected to drive!

Busch railroad barriers are true replications of the original railroad crossing barriers of the fifties. Some are still in use today. All parts are reduced exactly to scale including the string coil and lever arm. Please read instructions carefully and take good care of fragile parts.

Working voltage : 14 - 16 V ~
Rated output : 75 mA

Only operate with a transformer providig the required voltage (14 - 16 volts) and in compliance with EN 60 742. Not suitable for children under 8 years of age. Please retain these instructions.

Functions:
Figure 1 shows function and assembly of railroad barriers. The string (7) is attached to a spring (5) and rolled twice in counterclockwise direction around spring coil (13). When string (7) is pulled, barriers will open via spring coil (13), at the same time spring will be stretched. If tension is released from string it is pulled back by spring and barriers will close. Spring will always provide a certain tension to string. Function may be tested by slightly pulling string with care. *Make sure to replace safety clip after testing.*

Function of drive:
Remove lid from drive. Electric motor drives spindle (17) and moves sliding carriage (15) either back or forward. Carriage moves *forward* if the *red* and *light red* wires are connected to a power supply unit (14 - 16 volts AC/DC). An automatic shut-off terminates movement. If the *red* and *yellow* wires are now connected, sliding carriage will pull back to opposite position.

Installation and putting into operation:
Place base and barriers into location on your railroad

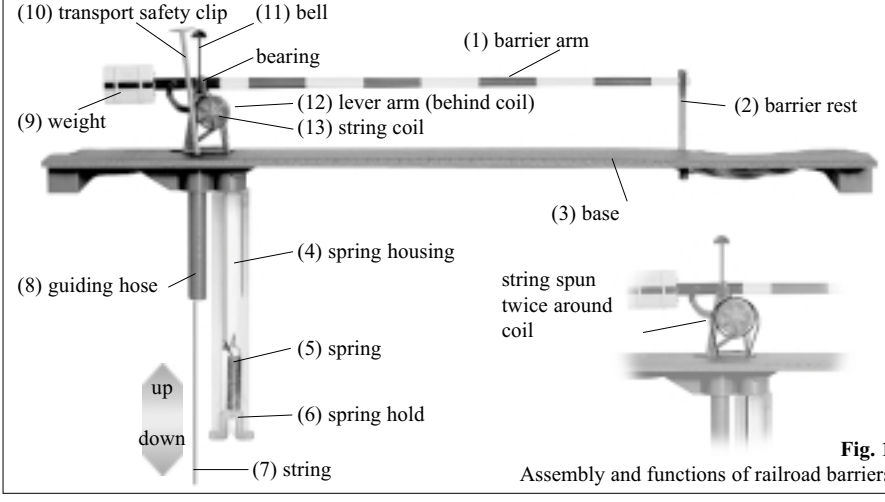


Fig. 1
Assembly and functions of railroad barriers

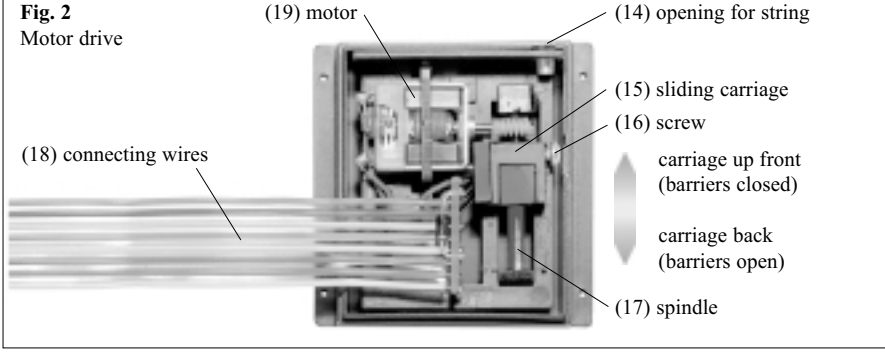


Fig. 2
Motor drive

layout providing drill holes of 10 mm diameter to fit spring housings. Move sliding carriage into front position (red and yellow wires connected). Fix drive unit from underneath your layout providing a similar angle between spring housing holes and opening for strings (14) at your drive unit. Insert strings into opening. Lift screw (16) by turning one rotation, place both strings (stretch slightly) underneath screw and tighten screw.

Adjustment and putting into operation:
Remove transport safety clip (10). Use a small screwdriver to lift lever arm (12) to close barriers (if necessary pull barrier weights carefully). If the red and light red wires are now connected to power unit, barriers will open and must remain in upright position due to automatic shut-off (readjust if necessary). If now the red and yellow wires are connected, barriers will close again.

Installation of bell:
Glue bell onto trestle of one barrier using only a small amount of adhesive. Be careful not to let adhesive drip into bearing!

General information
Speed of movement of barriers depends on working voltage. 16 volts will increase speed whereas speed is much lower at 12 volts.

Manual control
Figure 5 shows how to connect barriers to Busch control unit 5708 for manual use. Light indicators of control unit show a red light for open barriers and a green light when barriers are closed.

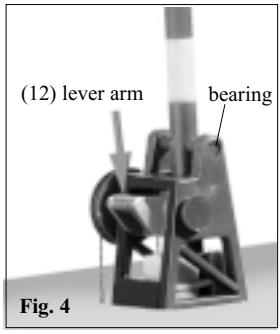


Fig. 4

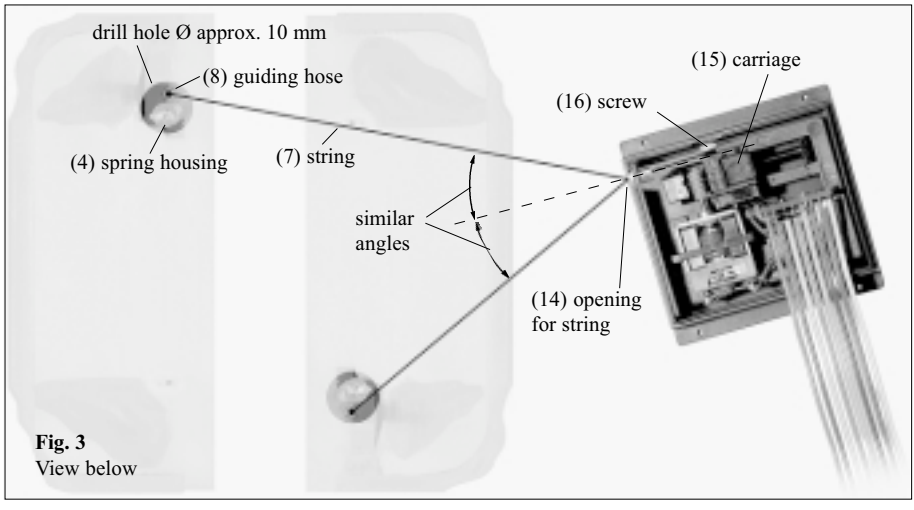
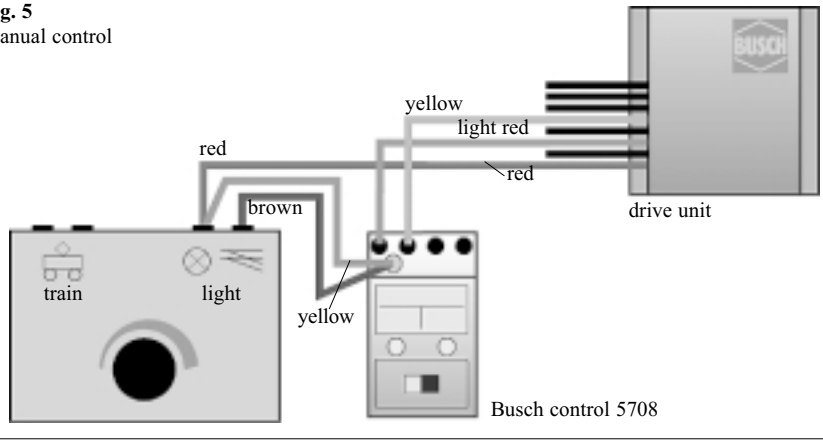


Fig. 3
View below

Automatic control
Figure 6 shows an automatic control scheme. If a train approaches a rail contact (1), barriers will close via relay. When train approaches a second rail contact (2), barriers will open again.
Distance between rail contacts must be larger than maximum length of passing trains to ensure that barriers will not open before last car of train has passed railroad crossing. Control unit is not applicable for double lane tracks and/or trains moving in both directions.
Figure 7 shows how to connect barrier drive to Busch relay 5740. To activate relay either rail contacts, reed contacts or IR-units may be used. Installation

Fig. 5
Manual control

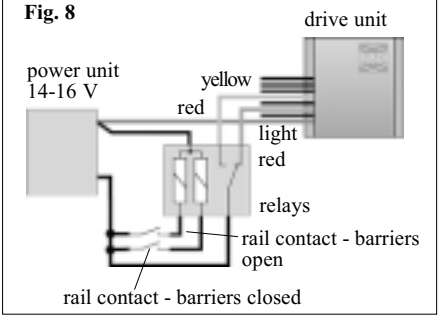


schemes are indicated in the 5740 relay instruction leaflet. Other switch-contact relays may also be used (figure 8 shows a general connection scheme).

Infra-red controlled railroad barriers

Barriers may easily be controlled by using two Busch IR-units in connection with a timer (5961) and a special relay (5964) enabling single or multiple track motion even in opposite directions. An IR-unit consists of a transmitter emitting infra-red light and a receiver. When beam of infra-red light is interrupted by a passing train the timer will close barriers. Within an adjustable time interval (2 - 24 seconds) the barriers will open automatically unless beam is still interrupted. Proper connection of IR-units is explained in the timer instruction leaflet. Figure 10 explains proper connection of barrier drive unit.

Fig. 8



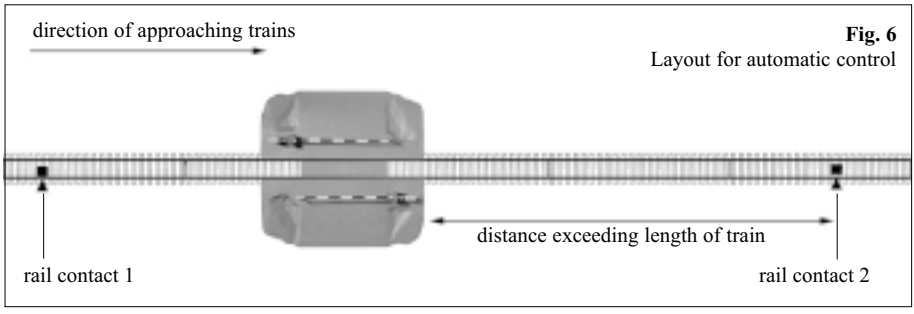
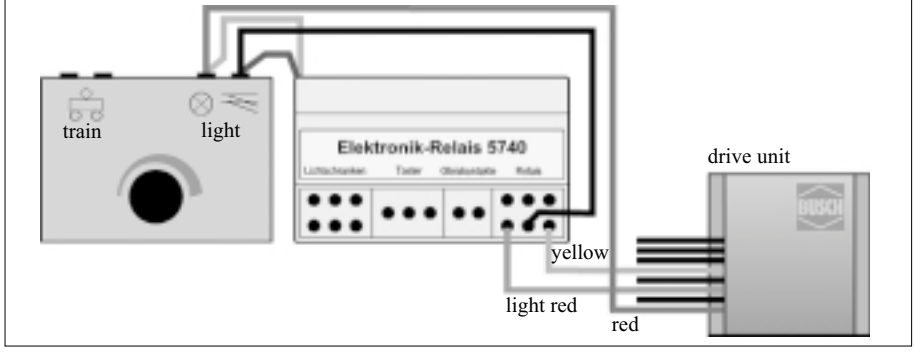


Fig. 6
Layout for automatic control

Fig. 7
Automatic control



Connection of additional warning blinkers to barrier drive

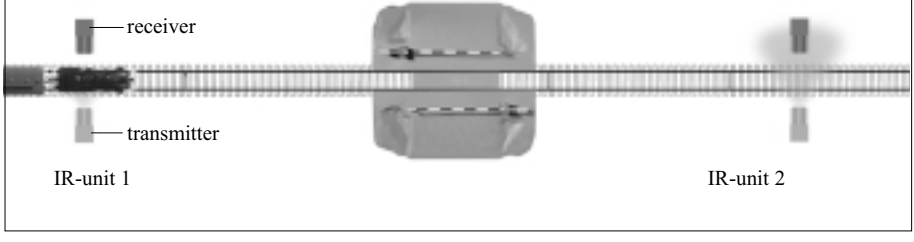
Your barrier drive unit contains a non-potential switch for the additional connection of warning blinkers (Busch items 5903 or 5913). They will be activated when barriers close (fig. 11).

Connection of Realistic Sound module

Figure 12 shows how to connect a Busch Realistic Sound module (5760, »Railway station«) to your barrier drive to enable the sound of ringing bells while barriers are closed.

Attention: No external current must lead to the Realistic Sound module! Simultaneous connection

Fig. 9 Layout for IR-controlled barriers



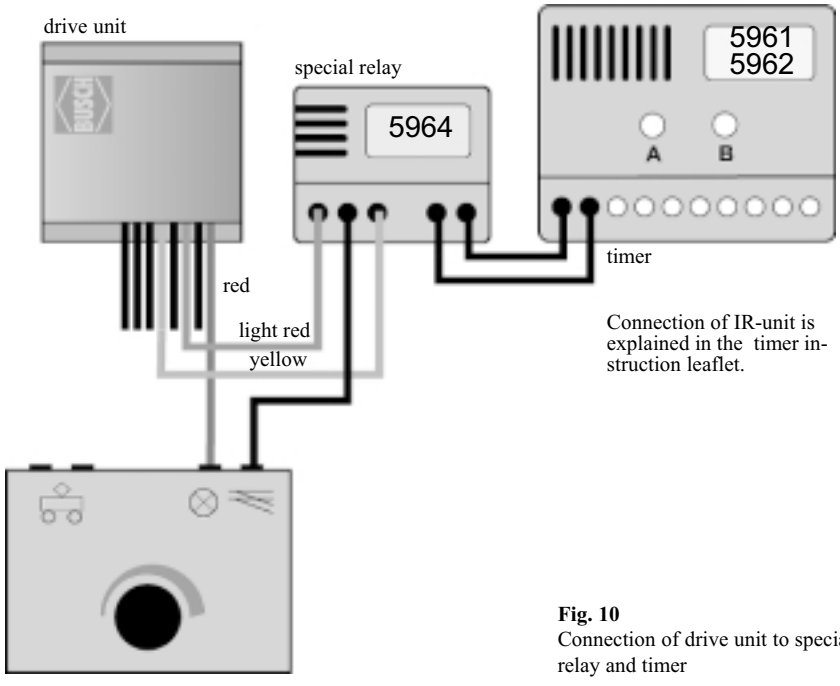


Fig. 10
Connection of drive unit to special relay and timer

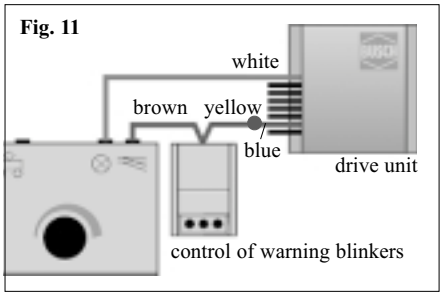


Fig. 11

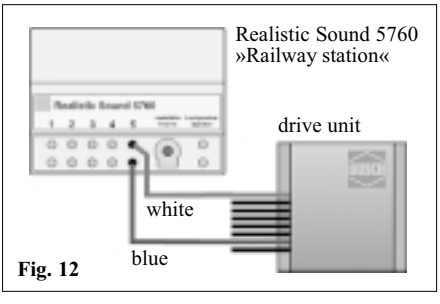


Fig. 12

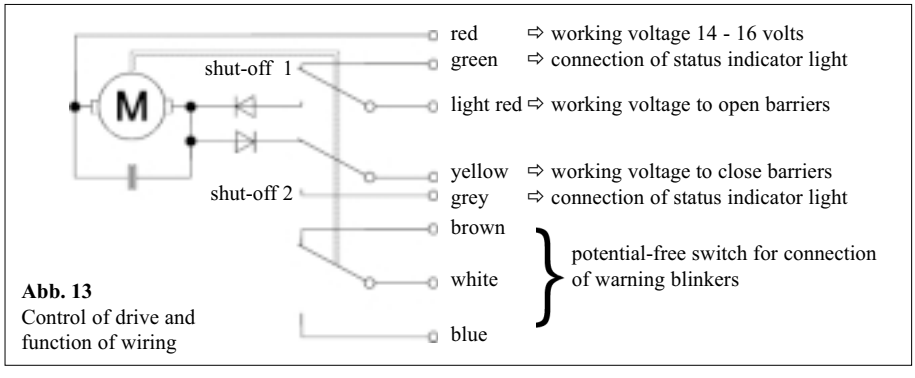


Abb. 13
Control of drive and function of wiring

of sound module *and* warning blinkers *is not possible!* However if your barriers should be controlled by a separate special relay (according to fig. 10), the warning blinkers may thus be connected.