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Roco geoLINE

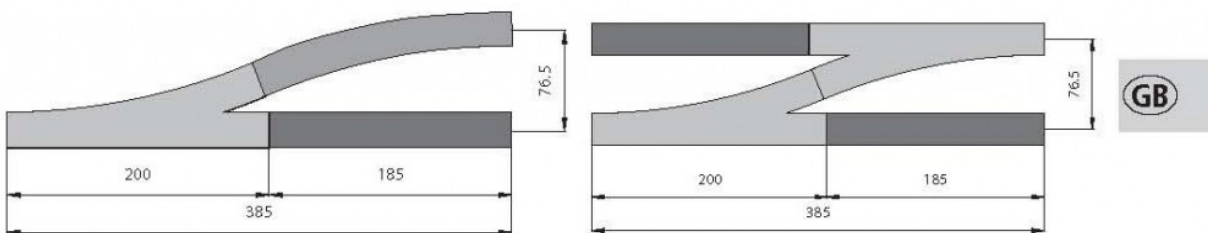
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Roco

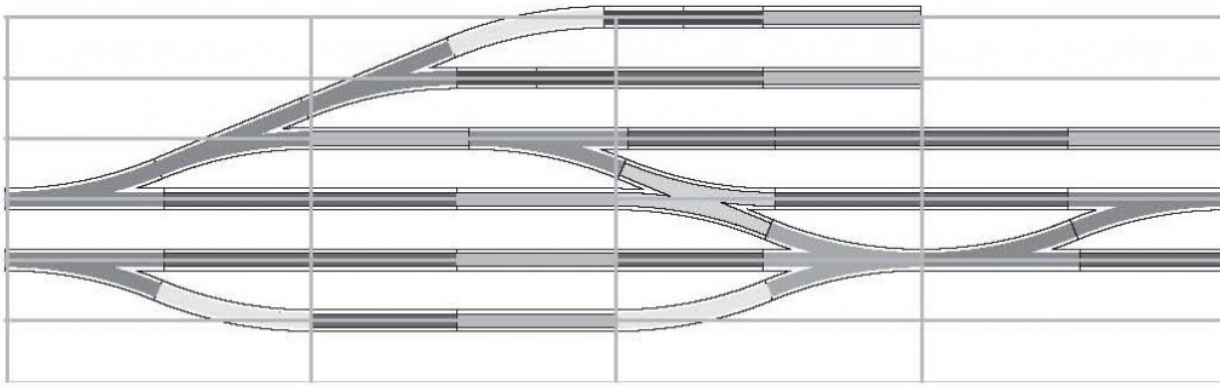
ROCO GEOLINE - AN INNOVATIVE CONCEPT WITH MANY POSSIBILITIES

The Roco geoLINE System Grid

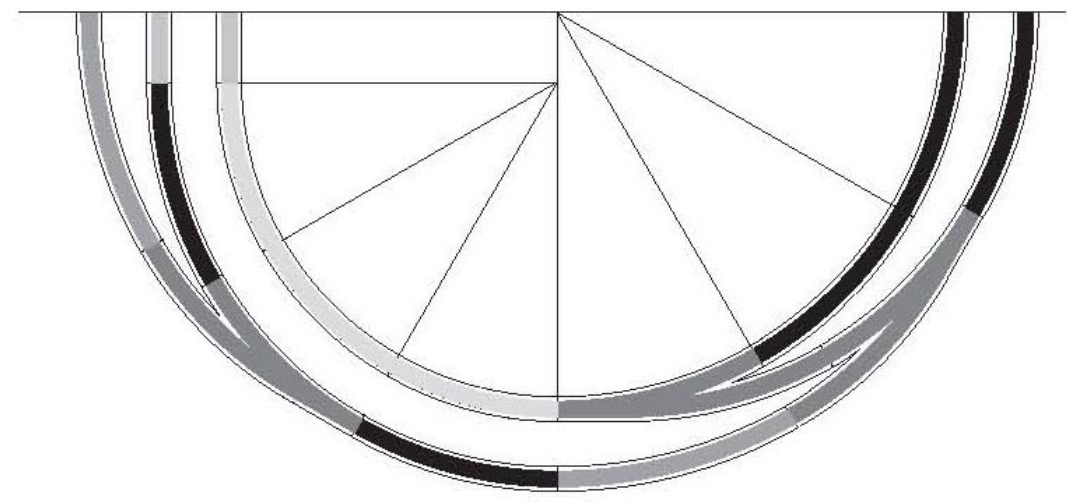
A right angle with the dimensions of 385 x 76.5 mm is the basis for the System Grid from Roco geoLINE. This grid has been calculated from the length of 22.5° points (200 mm), an equalizing straight (185 mm) and the opposite arc to the parallel track, where the opposite arc corresponds to the junction radius of the points. A parallel track separation of 76.5 mm then arises from this combination.



All other types of points, such as the crossing points and the three-way points are adjusted to this grid. This allows the construction of unlimited route management without the additional use of equalizing rails of different lengths. All the following track elements remain in the System Grid, even in the case of the diagonal installation position of a set of points.

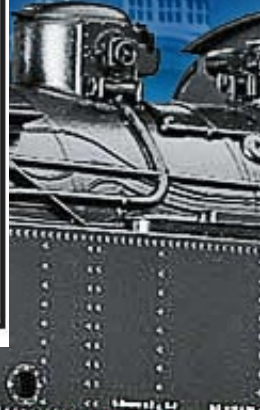
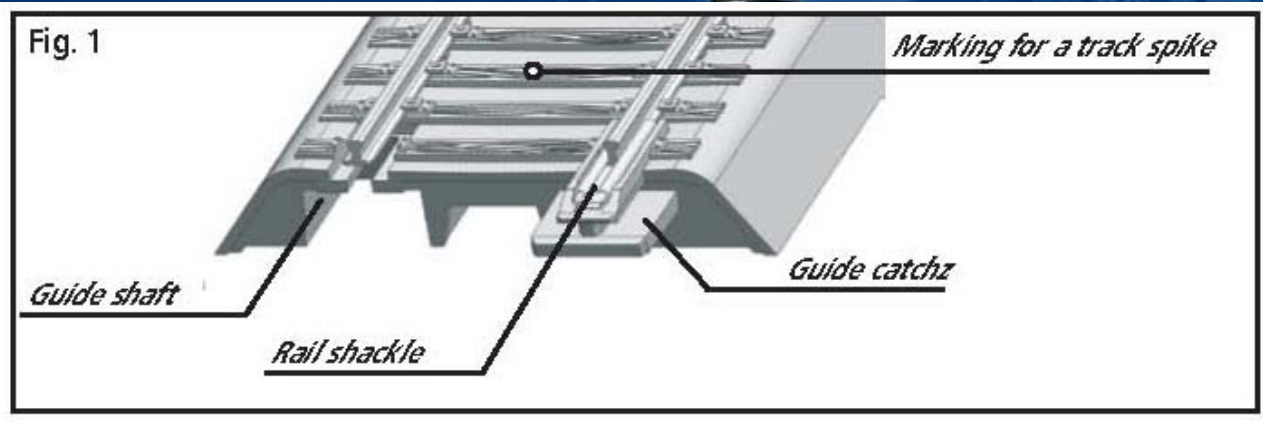


The R2, R3 and R4 basic radii of the new track geometry are also constructed on the basis of the parallel track separation of 76.5 mm. The curved tracks have a sector angle of 30°; thus, a complete 360° circle can be formed from 12 curved sections. The left and the right curved sets of points are intended for the transition between the R3 and R4 radii. Their geometry has been conceived so that, augmented with the R3 and R4 curved tracks, a 90° circular section again arises. The parallel track of 76.5 mm enables an unhindered driving operation of long tractive stock and wagons in the radii.



Simple assembly

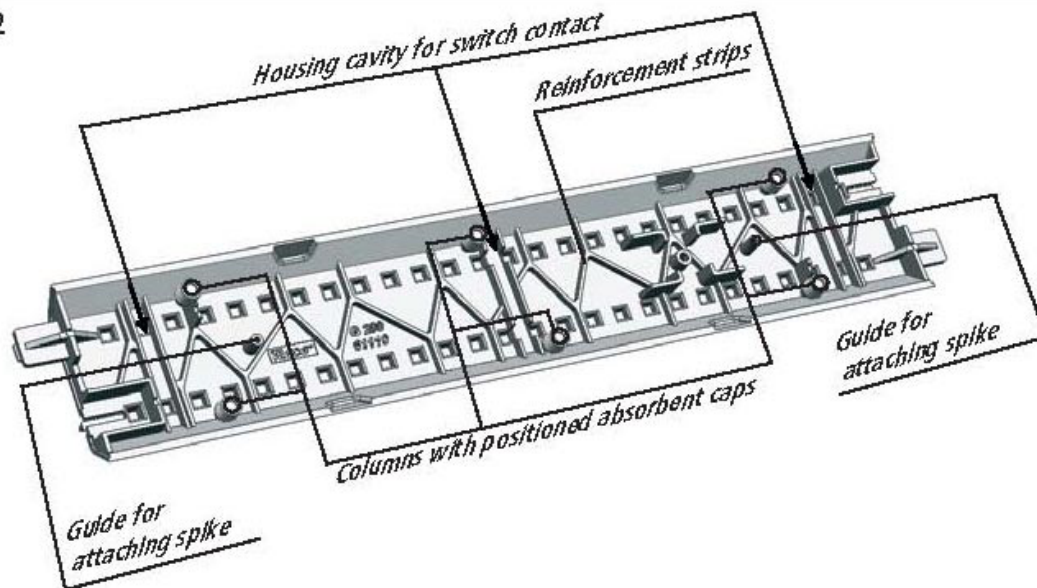
The assembly of the individual track elements is made easier and thus a safer positioning of the rail shackles is guaranteed, because of the guide catches on both faces of the track bed (Fig. 1). The rail shackle is completely embedded in the guide catches; the danger of injury because of it is prevented to the greatest extent through this.



A firm bed for the track

The unevenly attached reinforcement strips, which ensure a stable track frame on the one hand and also contribute significantly to reducing noise, are noticeable in the foundation of the track bed (Fig. 2). An additional reduction in noise is achieved by putting on absorbent caps (Art. No.: 61181) onto the columns distributed in the sub-base. These absorbent caps prevent the ballast frame lying directly on the plant plate and consequently the transmission of potential resonances. The absorbent caps can be fixed with a cyanoacrylate adhesive (fast adhesive) to hold them more effectively.

Fig. 2



Covered spike holes, through which an attachment to the plant plate can take place, are provided at certain sleepers, to attach the individual track elements with the corresponding spikes (Art. No. : 10001). The covered spike holes can be recognized by a marking on the upper side of the corresponding sleeper (see Fig. 1). However, it is recommended to penetrate the thin cover with a spike through the guide provided for the track spike (Fig. 2), to find them more easily. This will also make positioning the track spike easier. The track spike should only be driven in until it is impossible for the track frame to shift. Spikes driven in too far will lead to the bending of the sleeper and suspend the absorbing characteristics of the absorbent caps.

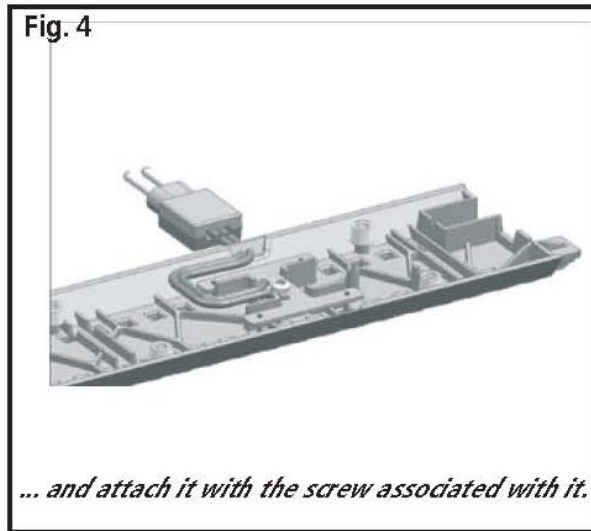
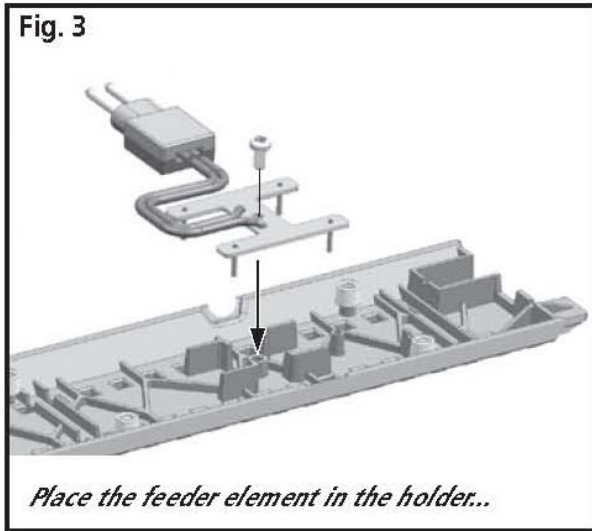
Connection of the drive voltage

A separate connection track is necessary to supply electricity to the rails. The power can be supplied through any track element (except in the case of points or decoupling tracks), by means of the installation of a feeder element equipped with a connection cable. The feeder element is attached to the holder provided for it with a screw (Figs. 3 and 4). The contact to the rail takes place across the contact pin on the circuit board here.

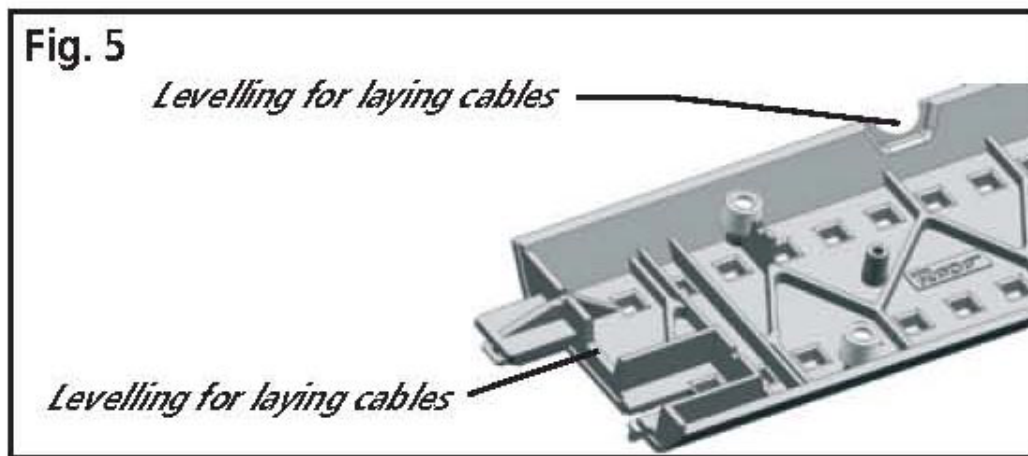
Attention must be paid to the fact that different feeder elements must be used for analog or digital operation.

The feeder element for analog use (Art. No.: 61191) is equipped with a suppressor capacitor and has a connection cable with a hollow connector.

The feeder element for digital use (Art. No.: 61190) is without a suppressor capacitor and has a connection cable with a dual-terminal connector.



Openings have been made in the area of the faces for laying the connection cable in the sub-base of the track bed. The connection cable can also be guided to the outside at positions on the acclivity provided for this apart from this. The acclivity is laid thinner at these points and can be levelled to the corresponding size with a file (fig. 5).

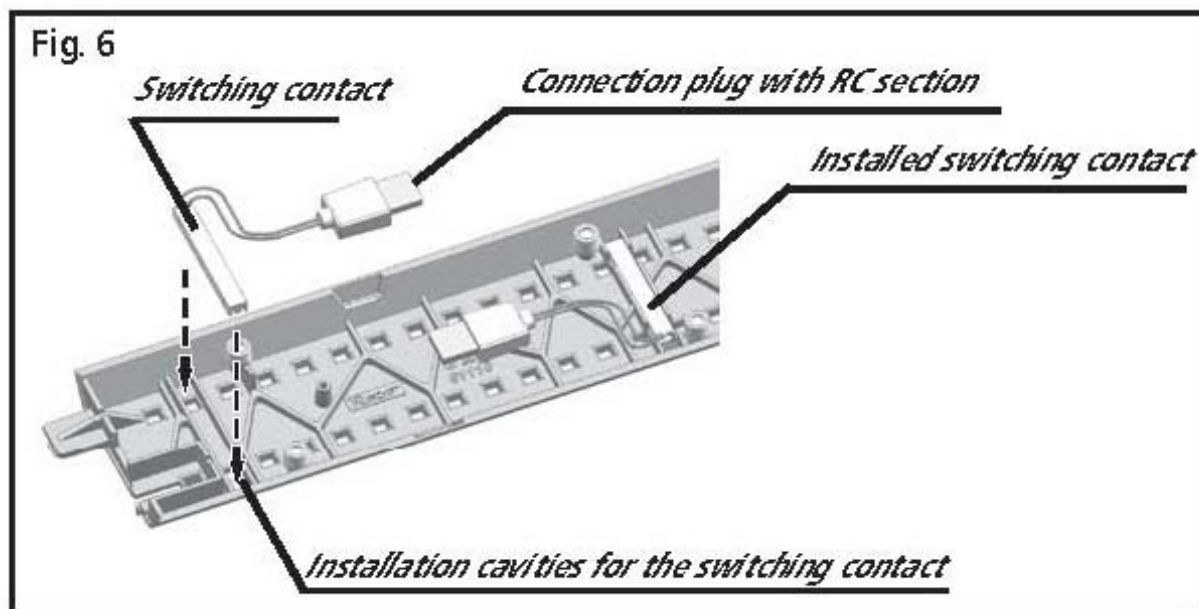


Roco Switching Contact

The Roco switching contact is an operating voltage independent reed contact and can be used wherever operating railcars are to trigger switching pulses with magnets. Small dimensions and reliable switching functions characterize the switching contact. The glass body of the reed contact is embedded in a case of plastic and equipped with a 30-cm long connection cable. A Roco connection plug is attached to the end of the connection cable. This connection plug features a protective circuit (RC section) preventing fusing of the contact studs in the reed contact.

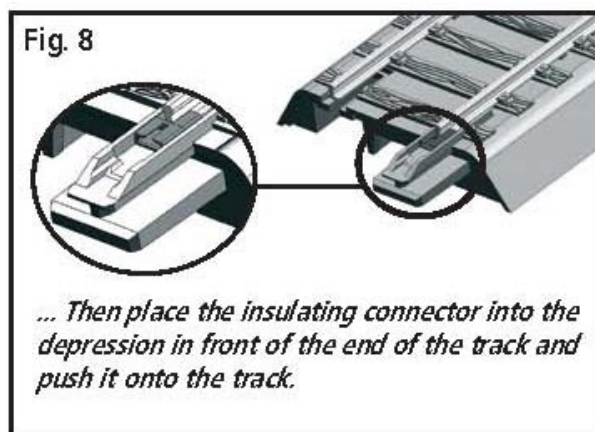
Warning! Do not remove this plug under any circumstances.

An unobtrusive installation is achieved by placing the Roco switching contact into the lower part of the bedding into the provided installation cavities (Fig. 1). Additional cabling is possible with the Roco plug (Art. No. 10 603).



Circuit separation

Insulating connectors can be used at the end of tracks, in order to separate power circuits. The steel cover plate must be removed with the stripping tool accompanying the packaging unit and replaced by the insulating connector (Art. No. 61192), in order to be able to position the insulating connector (Figs. 1 and 2).



The Roco geoLINE points

All Roco geoLINE points are equipped with a mechanical drive, with which the position of the points can be changed by means of the adjusting lever on the side of the acclivity, in the state of delivery. The manual drive attached with screws can be replaced with an electrical points actuator (Art. 61195), where this is the same for both types of points. Columns for attaching the absorbent caps and guides for the attaching spikes are found in the sub-base of the points and installation hollows for the switch connectors are found in the arrival and departure area of the points, apart from the attachment elements for the points actuator.

Fig. 9

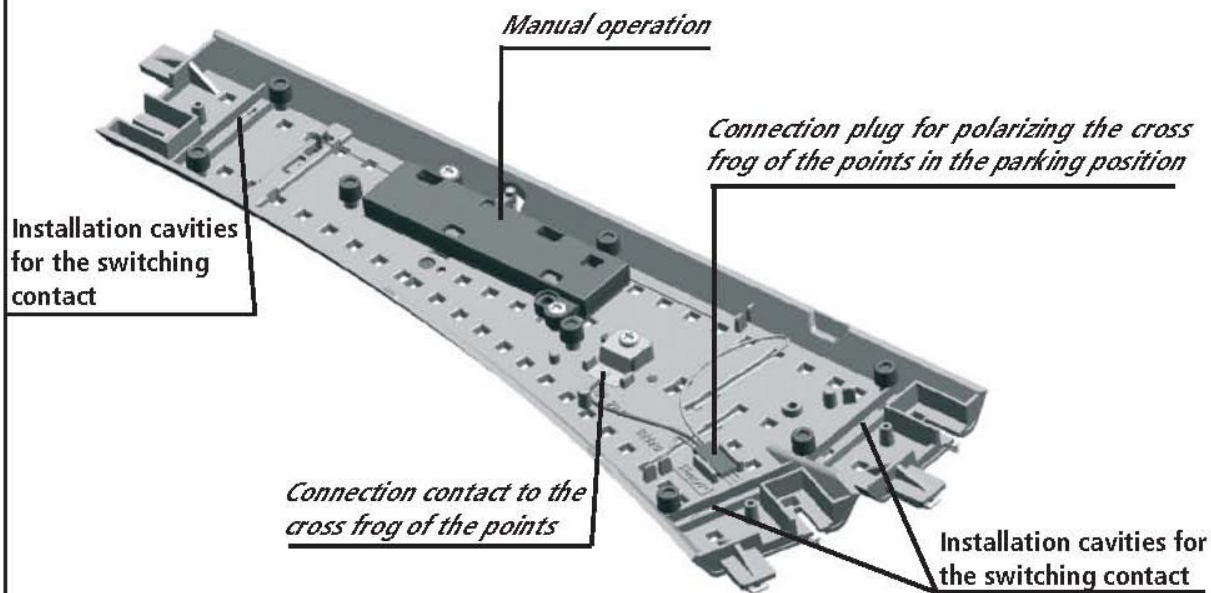
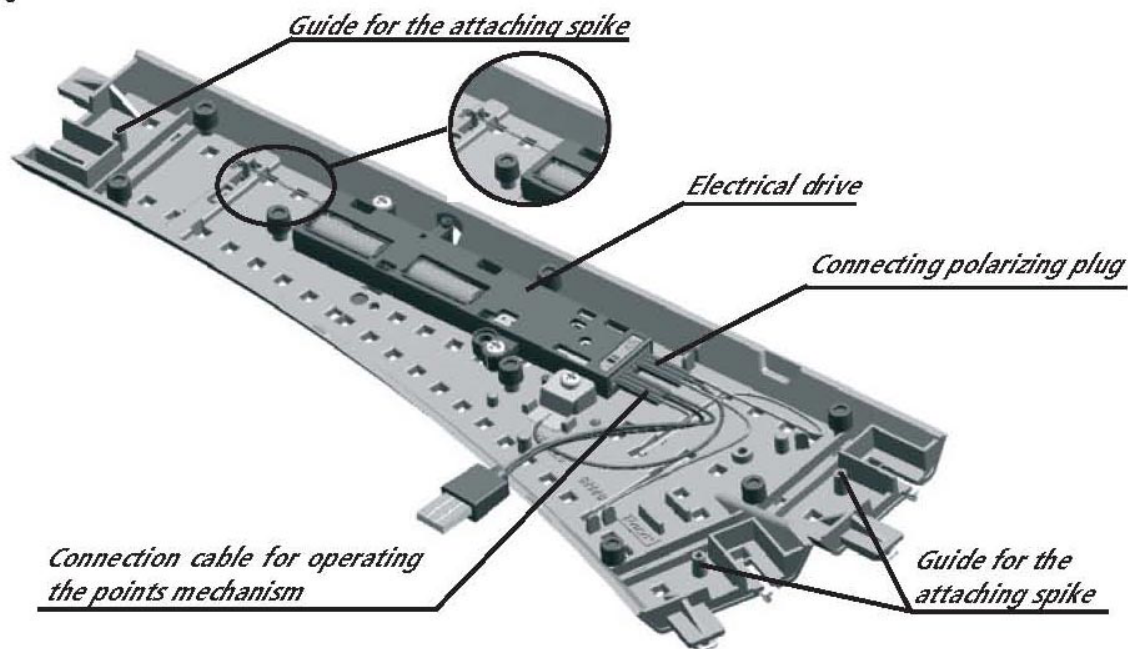


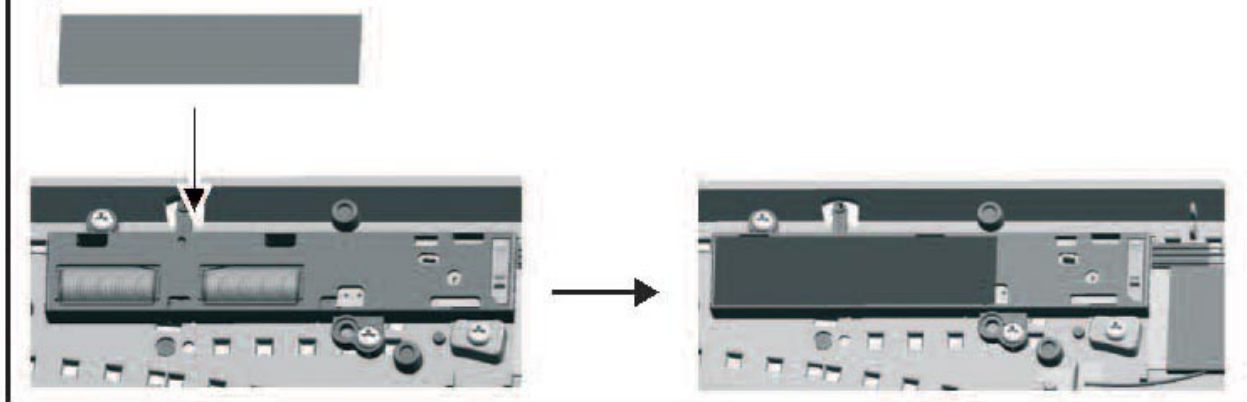
Fig. 10



Installation of the electrical drive

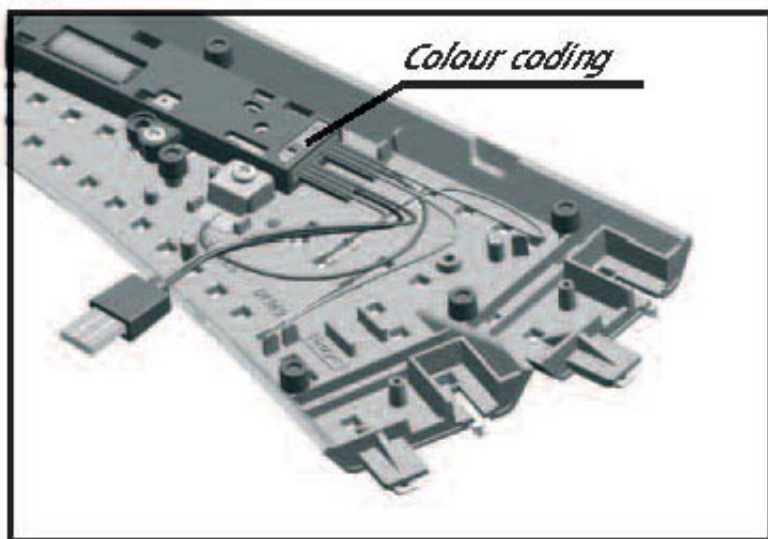
The manual operation can be removed after loosening the attachment screws. The adjustment spring is introduced into the lug (Fig. 10) of the sliding valve first and the electrical drive is only then positioned above the fixing columns with the screw shackles, to insert the electrical drive. The electrical drive can be attached with the screws in turn after it has taken its correct position. It is recommended to attach the sticker enclosed (Fig. 11) accordingly, to protect the coils.

Fig. 11



The electrical operation of the points is equipped with a limit stop for reasons of safety. This prevents a lack of voltage at the respective coil after the completed adjustment procedure and overheating is thus avoided. The electrical actuator of the points also contains a switch element, with which the polarizing of the cross frog of the points is enabled.

Fig. 12

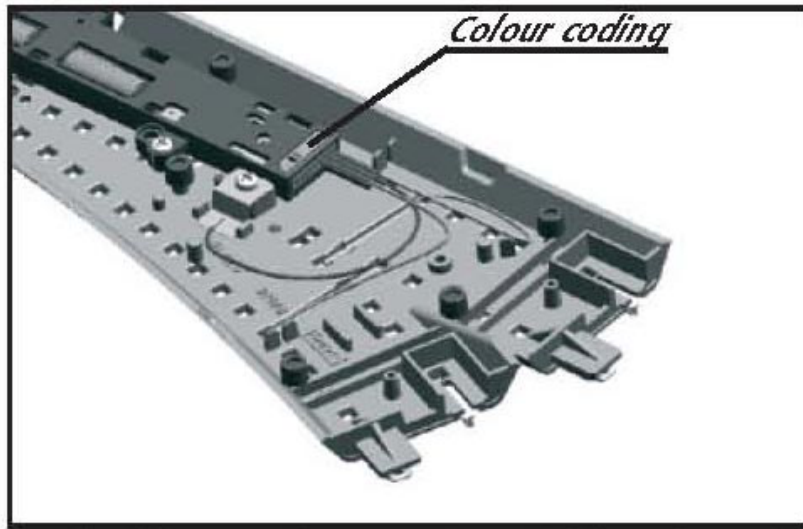


The connection plug of the connection cable is plugged into the sockets on the face of the electrical drive, to bring the points into operation electrically by means of a points actuator (Art. 10520). Attention must be paid at the same time that the colours of the cable agree with the colours of the colour coding positioned above the sockets (Fig. 12). The installation plant represented in Fig. 12 corresponds to that of left-branching points. The actuator is installed turned by 180° in the case of right-branching points.

Polarizing of the cross frog of the points

The cross frog is separated from the drive power circuit and thus currentless, to avoid short circuits, because both terminals of the drive current meet in the area of the cross frog. The power supply can be impaired when the cross frog is crossed over for this reason, primarily in the case of short locomotives. The correct polarity of the drive voltage, depending on the points setting, can be allocated to the cross frog, in order to prevent this.

Fig. 13



The connection plug for polarizing is removed from its parking position and plugged into the socket at the end of the electrical drive, in order to polarize the cross frog. Attention must be paid here that the colours of the cable agree with the colours of the colour coding positioned above the socket (Fig. 13).

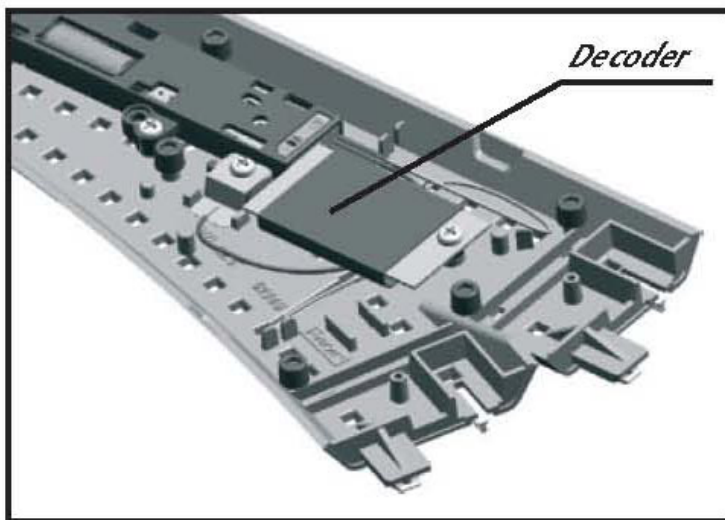
In principle, attention must be paid that the setting of the points must correspond to the drive direction, in the case of polarized points, because otherwise a short circuit can occur in the area of the cross frog when the points are run through.

It is recommended not to polarize the cross frog if it is not guaranteed that a set of points always takes the correct points setting to the passage.

The geoLINE points in digital operation

The points actuator must be equipped with a points decoder (Art. 61196), in order to bring a set of geoLINE points into operation digitally. All geoLINE points are designed so that the installation of a decoder is possible without additional cabling.

Fig. 14



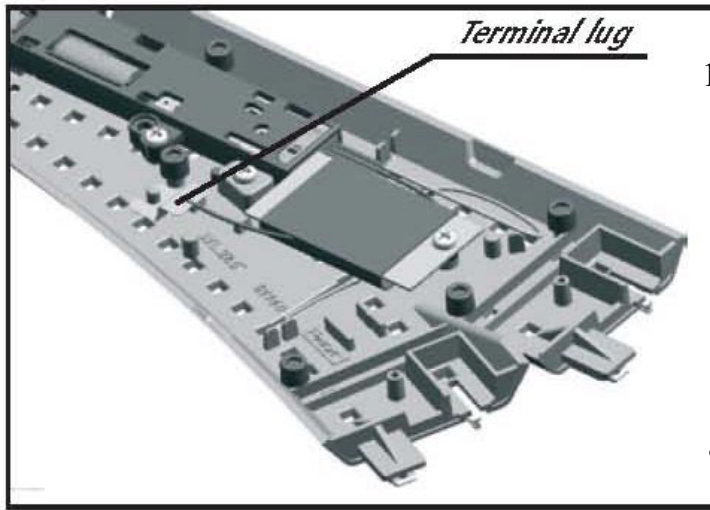
The five-terminal connector of the points decoder is plugged into the free socket of the socket strip next to the polarizing plug. The polarizing plug must not be removed during this, because the supply of power for the points decoder takes place through it. The points decoder is attached with the screw associated with it after it has been positioned. The cross frog will have been polarized in this type of connection.

The screw serving to attach the cross frog must be loosened and the connection contact for polarizing must be pulled out, in order to depolarize the points. The terminal lug can be pushed onto the plastic peg to keep it safe (Fig. 15). The screw of the cross frog must, of course, be retightened afterwards.

Roco

ROCO GEOLINE - AN INNOVATIVE CONCEPT WITH MANY POSSIBILITIES

Fig. 15



2 Responses to *Roco geoLINE*

1. ☐ *Eddie O Sullivan* says:

[March 8, 2016 at 8:55 am](#)

I want to put a simple passing loop in a Roco Geoline track. If I'm running a train on the main line can I store another loco on the passing loop without it moving? Do I have to use insulating fishplates?

[Reply](#)

☐ *admin* says:

[March 8, 2016 at 9:48 am](#)

That depends on whether you are using a digital controller and running digital locomotives — or you are running analog equipment with an analog controller. In digital mode, you do not need insulated joiners; for analog equipment, you do.

Digital lets you individually control several locomotives on the same track. In analog operation, each locomotive needs to be in an insulated block.

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