Catenary elements

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1 Catenary

1.1 Definition

Catenary element: A catenary element is the catenary itself or the chain of catenaries from one catenary pole to the next pole in line. In the Map Editor the catenary is placed element wise from suspension to suspension. This affects the single line catenary and the double catenary.

1.2 Single line catenary

Single line catenaries are just normal splines, the only speciality is the object class "Catenary" when importing. The 3d model of a single line catenary is very simple, so there is no extra setting needed. The 3d model has to be alongside the y-axis starting in x=0 and y=0.

1.3 Double line catenary

The 3d model of a double line catenary contains a single object with all parts and wires for the catenary. The category when importing is also "Catenary", but there are three differences:

- To attach the catenary at the poles you have to set the height of the secondary wire within the general object settings. This is the height at the start and the end of the catenary element
- The catenary can only be placed as the whole segment so the "step count" should have the value "-1"
- The scaling of a very complex catenary element is visible, so you have to build several catenary elements for several distances. The map creator then can select the matching one

2 Catenary poles

Important: When moving a catenary pole within the map editor, the attached wires remain at their position. The attach points are only a simplification, but they create no logical connection.

2.1 Create attach points in the Content Tool

Click on General settings, then object properties. Add a "Static attach point" and answer the upcoming question, if the changes should be applied with "Yes". Now there is a new attach point you can configure.

2.2 Attach point for single line catenary

This is the easiest way. You have to define one or more attach points, which defines the exact position of the catenary in the Map Editor. The only disadvantage of this method is, that the position is set before and the

height of the catenary is defined by the height of the catenary pole. The position on the x-axis depends also on this position of the mast relative to the railtrack.

2.3 Attach points for double line catenary

This case is basically like the one before. You can set the position for the attach point of the lower wire. The difference is now, that you mark the flag "For double line catenary" und set the position of the second wire. When placing the catenary in the Map Editor the catenary gets manipulated in its shape depending on the attach points. If the height of the secondary line is massively different to the height at the pole, the catenary gets scaled, so the appearance could be odd.