

DROP AND BLOCK WIRING

B DROP WIRE RULE

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1. GENERAL

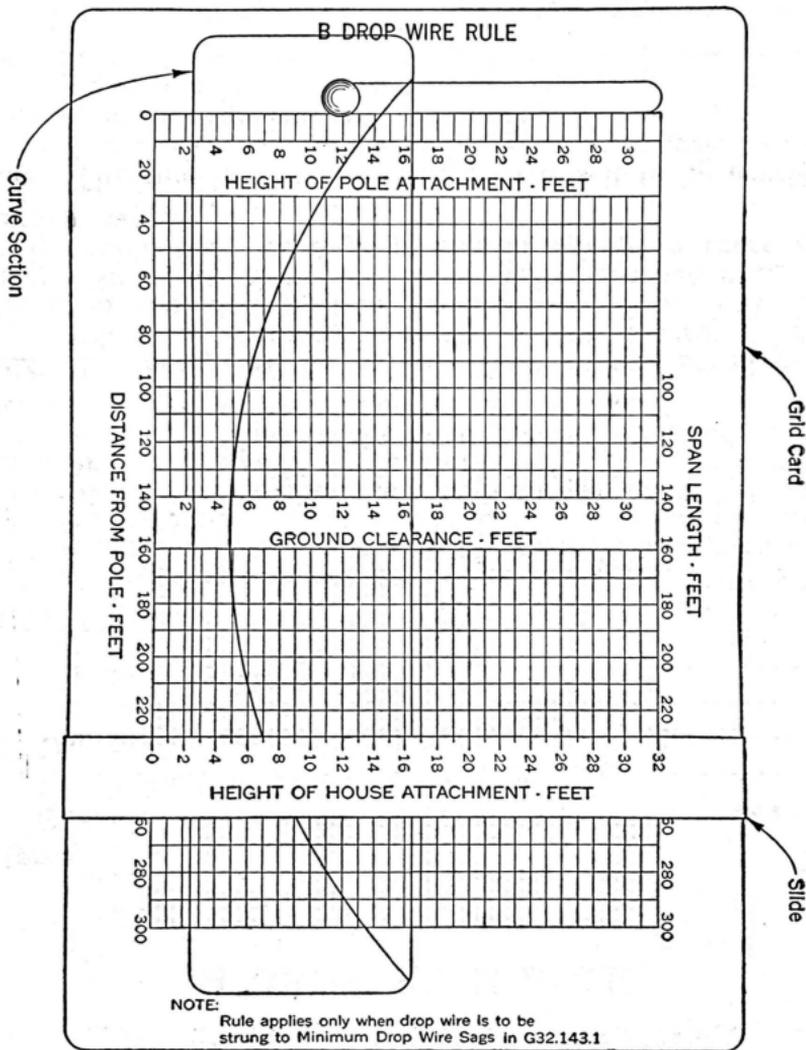
1.01 This section covers the use of the B Drop Wire Rule which permits a workman to ascertain before stringing drop wire if required ground clearance at any point under a span of drop wire is obtainable with the available heights of attachments at pole and house. Conversely for a given ground clearance at any point in the span the rule will indicate the necessary heights of attachment at pole and house.

1.02 The design of the B Drop Wire Rule is based on the **minimum stringing sags** for NP or C Drop Wire as covered in the Bell System Practices on Drop and Block Wiring—Stringing Sags for Drop Wire. Consequently this rule is usable only when drop wire is strung to these small stringing sags.

1.03 The rule is of a size which permits it to be carried in the binder containing Bell System Practices.

2. DESCRIPTION OF B DROP WIRE RULE

2.01 The B Drop Wire Rule is shown in the following illustration.



2.02 The rule consists of a grid card, a slide and a curve section of clear plastic. The grid card has two vertical scales covering "Height of Pole Attachment" and "Ground Clearance" and two horizontal scales covering "Span Length" and "Distance from Pole."

2.03 The slide is made to slip over the card so the rule can be set to the span length in which the drop wire is to be strung.

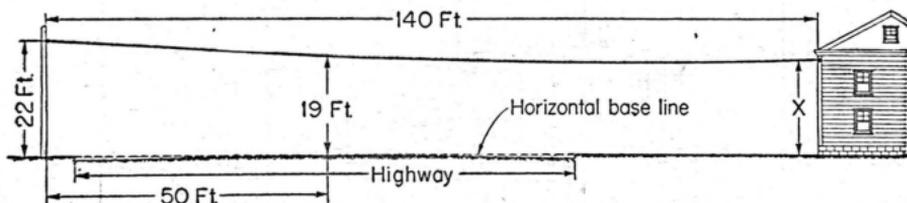
2.04 The curve section is pivoted to the grid card and this pivot is free to move in a vertical slot in order to obtain the desired setting for height of pole attachment.

3. USE OF B DROP WIRE RULE

3.01 The use of the B Drop Wire Rule is best explained by going through solutions of specific examples of drop wire installation.

Pole to House Spans over Highways

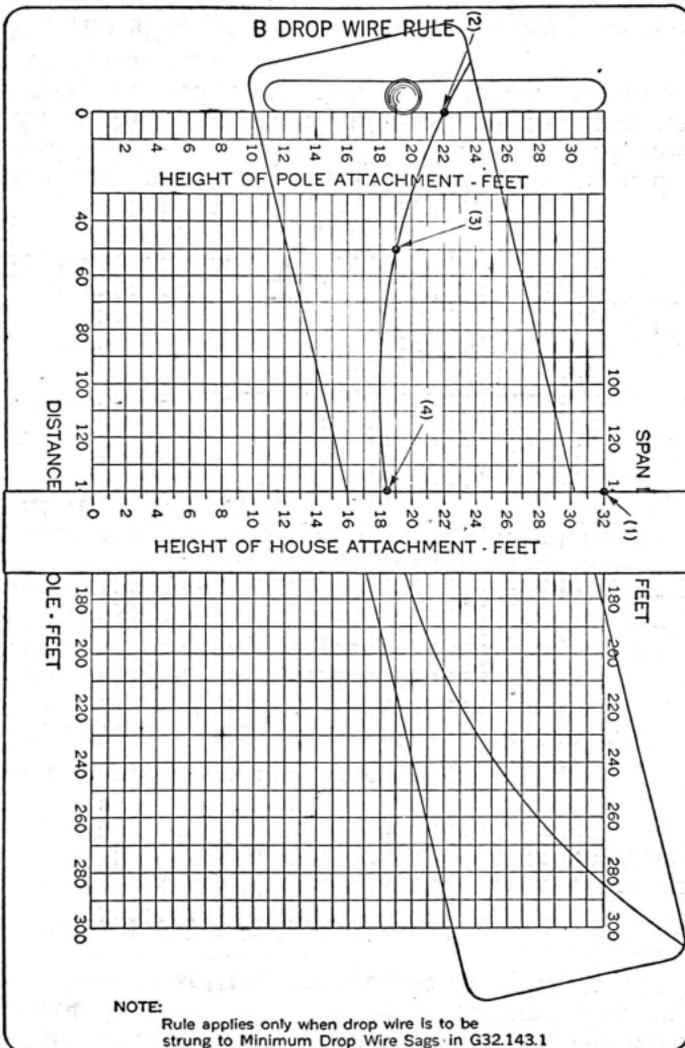
3.02 In a typical pole to house drop wire span shown below, it is assumed that the drive hook on the pole is located 22 ft. above ground, the distance from pole to house is 140 ft. and it is desired to obtain a ground clearance of 19 ft. over the middle of the street 50 ft. from the pole. The problem is to predetermine the height of house attachment (shown at "X") required to obtain the necessary ground clearance of 19 ft. It is assumed that the ground at the pole, middle of the highway and house is at the same level.



3.03 Set the known heights and distances in the foregoing problem on the drop wire rule and read the required height (X) of the first attachment on the building as follows: (The illustration following will be helpful in understanding these instructions.)

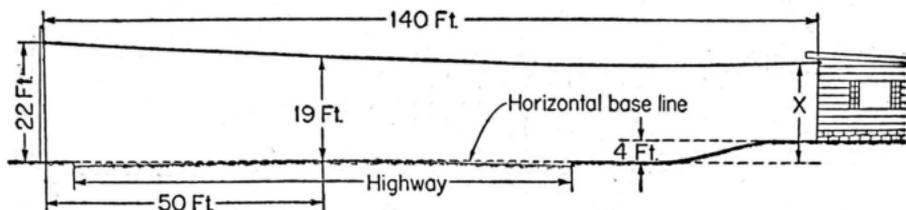
- (1) Set the slide of the B Drop Wire Rule so its left edge coincides with the 140-ft. vertical line on the grid card. This represents the given distance from pole to house.
- (2) At the extreme left of the grid card, spot 22 ft. as the "Height of Pole Attachment."
- (3) On the grid card, spot a second point at the intersection of the 19-ft. horizontal "Ground Clearance" line with the 50-ft. vertical line representing "Distance from Pole."

- (4) Position curve section of rule so that curve line passes through the two points spotted on the grid card in accordance with (2) and (3) on preceding page. Where the curve line crosses the left edge of the slide, read the "Height of House Attachment." The reading is about 18-1/2 ft.
- (5) The complete setting on the rule is shown below.

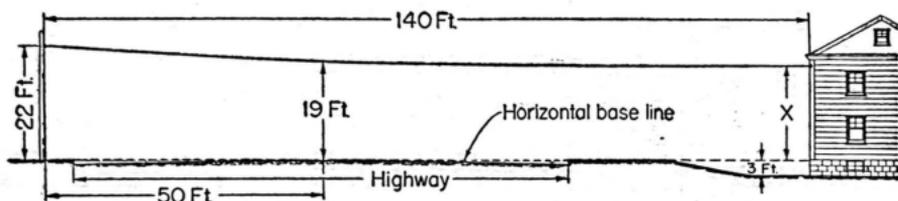


3.04 Where the house is situated on a terrace, the amount of rise above a horizontal base line drawn through the pole at the ground line would be subtracted from the reading

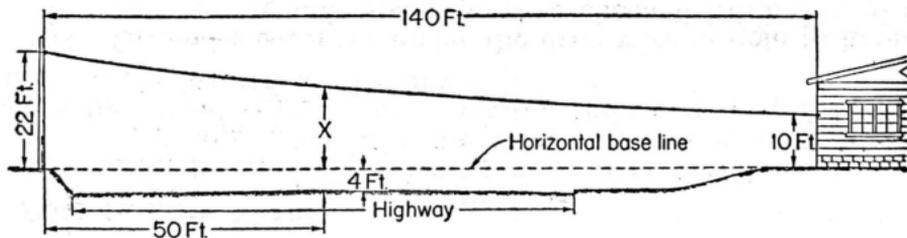
for height of house attachment obtained as in Paragraph 3.03. For the condition shown in the following example the height of house attachment would be $18\text{-}1/2$ ft. minus 4 ft. of terrace or $14\text{-}1/2$ ft.



3.05 Where the house is situated in a depression below a horizontal base line drawn through the pole at the ground line the amount of the drop would be added to the reading of the rule obtained as in Paragraph 3.03 for the level ground condition. The height of house attachment for this condition shown below would be $18\text{-}1/2$ ft. plus 3 ft. or $21\text{-}1/2$ ft.



3.06 Where the heights of pole and house attachments are established as in the following example and it is desired to ascertain ground clearance under the drop wire at a point 50 ft. from the pole, set the curve section of the rule with the curve line passing through the known pole and house attachment heights. Correct the ground clearance reading on the rule ($15\text{-}1/2$ ft.) by the amount of rise or drop of the ground in the span with respect to the horizontal base line drawn through the pole at the ground line.



Pole to Pole Spans

3.07 Drop wire ground clearances in pole to pole spans are ascertained in the same manner as in pole to house spans by considering the scale on the slide as applying to the second pole instead of the house.

3.08 Ground clearances under the drop wire in pole to house and pole to pole spans may be checked by means of a measuring line or its equivalent following the placing of the drop wire. Checking results particularly in the early stages of its use should enable workmen to become more skillful in the use of the B Drop Wire Rule.