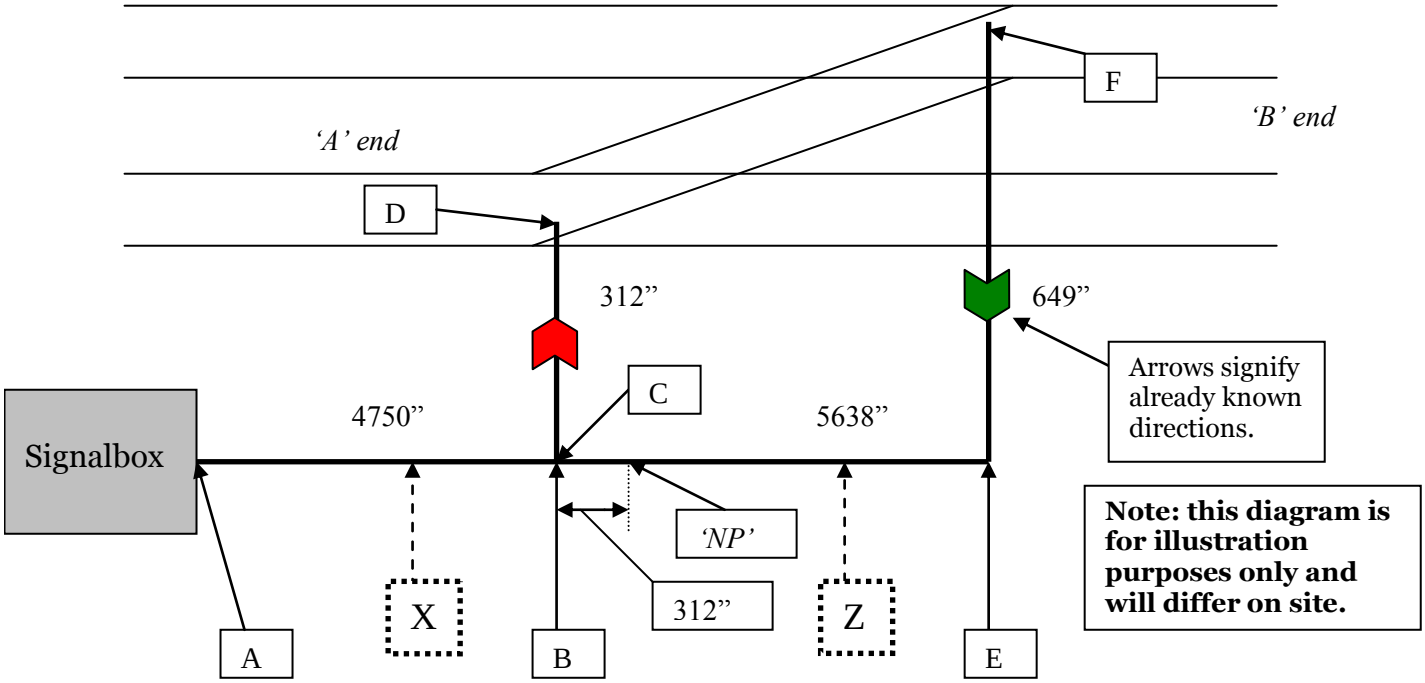
Useful Notes:

Mechanical Points Compensation

These notes are uncontrolled and NOT Network Rail endorsed, they are for information and guidance ONLY, NOT for testing or commissioning purposes.

Mechanical Points Compensation



The working out should be done in two halves; the signalbox end first between A & D, (the rodding in the signalbox is disregarded as this is in a cool place and not subject to direct sunlight so is not affected by temperature changes). After this is done the second part is worked out from B to F, also using part of the first end (C-D).

Note: disregard all push & pull directions, the only directions you should consider are the final lengths of rodding to point ends i.e. E to F & C to D, as these cannot be altered.
Warning: this method of working out is based on equal (non-adjustable) cranks being fitted throughout the run, if any adjustable cranks are used, there is another method used.

Working out first part:
The measurements have been provided:
A-B: 4750"
C-D: 312"
Total= 5062" This is then halved so push=pull (5062/2=2531")
However, we already know that C-D is a PUSH direction, so that must be subtracted from the halved amount (2531" – 312"=2219")
So compensation is PULL: 2531" & PUSH: 2219"
Now you have the measurements, you now have to work out where the compensator crank will go, this depends on whether you are working out compensation on a existing set of points with the rodding in situe or designing compensation for a new set.
Using the diagram above we know that C-D is push, so we could in this instance say that A-B is all pull. So from point D measure 2219". This should then leave 2531" of pull. At this point of change the compensator would go here *(marked 'X' on diagram - although this approximate).*
If the points are in design stages, this would be much easier as you could state which parts of the rodding will be push & pull using the dimensions worked out above.

Working out second part:
The measurements have been provided:
C-D: 312"
B-E: 5638"
E-F: 649"
Total: 6599" This is then halved so push=pull (6599/2=3299.5")
This time we know that point E-F is 649" of pull so subtract this from one half of 3299.5" this is then 2650.5" of pull required. The push is the remaining half but now we have to subtract the known push which is C-D as this has been worked out already in the first part above so 312" – 3299.5 = 2987.5".
So we now have the measurements; PUSH=2987.5" & PULL: 2650.5".
Neutral Point:
Because we subtracted section C-D from the push measurement, this is then disregarded from the second part, the point at which is called the neutral point ('NP' on diagram). So the compensator location will be positioned between points 'NP' and 'F' using the push/pull dimensions worked out above. *Referring to the diagram above it is marked 'Z' although this is approximate.*
If the points are single-ended, the first part of the diagram will be used only. Remember if the compensation is worked out incorrectly and put into practice – in hot weather, the points could move without signaller intervention leading to possible derailment.

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