

OPTICAL SET - APPLICATION

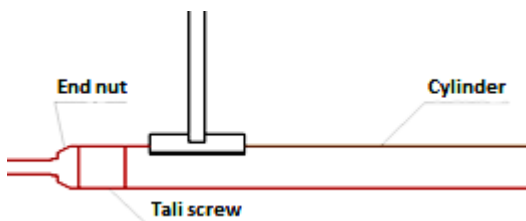
1. Application.

Optical Kit is an indispensable tool for obtaining high precision of jacking, especially when we are dealing with longer distances of jacking.

2. Operation.

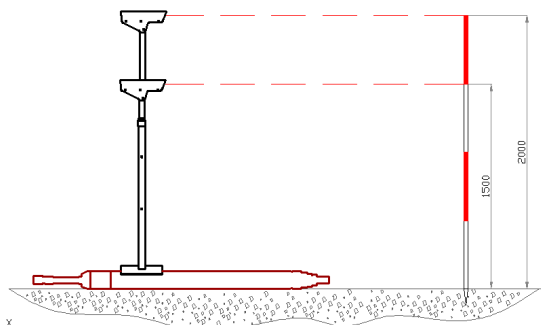
The kit consists of an optical instrument and measuring rod. Measuring Rod placed vertically in end pit to the full depth of the tip.

Optical set should be placed on the back of mole's cylinder (Drawing 1). Make sure that the contact surface with the mole is clean.



Drawing 1

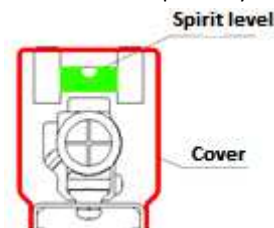
Depending on the depth of installation, Optical set has two position options: for depth up to 1.5 m and for depth over 1.5 m (Drawing 2).



Drawing 2

After setting the **Optical set** on mole, the position of mole should be changing until an aiming the riflescope on the correct point on **measuring rod** (Drawing 2).

CAUTION: Optical set should be perfectly in vertical position.

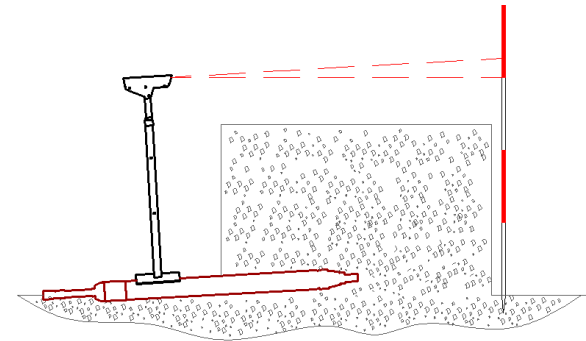


Drawing 3

For the verification of vertical position, use the **Spirit level** inside the Optical set (Drawing 3).

3. How to achieve the best results.

Depending on the type and density of the soil, the mole may tend to the minimal change of course. This is a natural effect to move the mole as the lightest trajectory. Usually, the closer to the ground level, the soil is less compacted. For achieve the best accuracy, it is worth to make correction of the mole trajectory. In order to do, the mole should be aimed described in **Operation** section, then stop the machine when about 1/2 of mole will be under ground. Next step should be checking the trajectory using **Optical set** again, like described in **Operation** section (Drawing 4).



Drawing 4

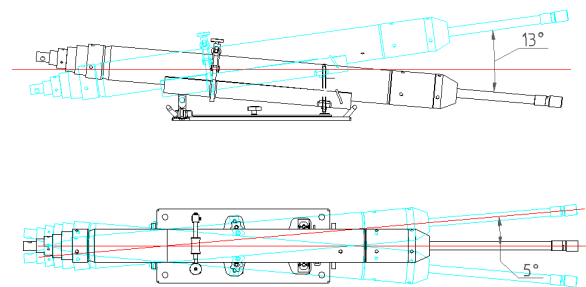
For changing direction to predetermined trajectory, should be used soil, boards or other hard elements.

For beginner users very helpful should be Starting Platform, described in **Other accessories**.

In very strong ground conditions, we recommend check the trajectory two times: first, when mole is in the ground about 1/3 of length, and second time, when the mole is about 1/2 of length.

4. Other accessories.

For the best results we recommend using the Starting Platform. This solution allow to set the mole in accordance with planned trajectory of our installation (Drawing 5).



Drawing 5

If the ground conditions are very muddy, boggy, fully of water, the Starting Platform allow to put the mole above the water surface.