

## Innovative developments of an installation method for a mobile type ACROSS transmitter

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The innovative development is being made for a mobile type ACROSS transmitter, called HIT, which has been developed for field exploration works. The most important technical subject of the first prototype machine is the installation method of ground coupler plate that fits mechanically well with the ground surface with undulation without any slippage. A new innovation is the development of 'OZAB', a flexible/rigid sheet inserted between the coupler plate and ground surface. The OZAB contains sand between a thin flexible rubber sheet and a metal plate; it turns to be soft with the undulation of ground surface by injecting fluid into the OZAB and vibrating it by HIT; it turns to be stiff enough to sustain the stress of ACROSS signal by evacuating solid and fluid.

The innovative development is being made for a mobile type ACROSS transmitter, named HIT (handy illumination tool), which has been developed for field exploration works previously. The technical problems of the first prototype machine are reviewed critically and several essential points of the designing have been worked out. The most important subject is the installation method of ground coupler plate that fits mechanically well with the ground surface with undulation without any slippage. It demands a flat ground surface, so that the ground is to shape flat enough, on which the ground coupler plate is installed. Although it appears simple and hand actual work is not so at all for the real field works. A new innovation is the development of 'OZAB', a flexible/rigid sheet inserted between the coupler plate and ground surface. The OZAB contains sand of appropriate grain size between a thin flexible rubber sheet and a thin metal plate; it turns it be very soft of well with the undulation of ground surface by injecting fluid into the OZAB and vibrating it by operating the HIT machine; it turns to be stiff enough to sustain the stress of ACROSS signal by evacuating solid and fluid.