GROUND SHOCK SIMULATOR

MAEHOENEN,T.;LAINE,P.

To simulate the ground shocks we have at VT. developed a ground shock simulator that generates a vertical or horizontal, nearly instantaneous, damped sinusodial vibration. The simulator is planned for the forces up to 500 kN. In the system 16 flat bar steels are operating like springs. The force is effected by two hydraulic cylinders. The pump is used to fill the cylinders with oil. The force aims to hexaonbolt. By changing the hexagon-bolt´s strength we can vary the initial bending of flat bar steels. Maximum magnitude of the initial bending is 25 mm but it can also be limited smaller.

To measure the characteristics of the shock we use accelerometers, pre-amplifiers and the 6-channel vibrationmeter. To recording we use either the oscillograph or oscilloscopes. The displacement, velocity and acceleration of the testingboard and testing object are recorded.

We have been testing the resistance to shock of shelter ventilation aggregates, ABC-Filters, light fittings, etc. We have also done the transmission tests to different shock absorbers.