

explosive train is located under the pressure plate mechanism. When the shutter of the arming plug is in the armed position, a force applied on the pressure plate of the mine will depress the pressure plate and the fuse springs will snap into reverse driving the firing pin into the detonator which in turn initiates the booster and thereby the main charge.

Retrofitting of the M15 anti-tank mine will require replacing the pressure fuse with an electronic fuse having a self destruct or self neutralizing device. Intertek Laboratories Inc. in United States has done a mine modernization program by replacing the pressure fuse with a IL-115A mine fuse (Figure 16). The modified mine is shown in Figure 17. The pressure fuse is changed to a seismic/magnetic influence detection fuse which is directly adaptable to the M15 mine. The fuse is programmable with a self neutralization time. The mine is then field recoverable and reusable.

### *5.2.3 Tilt Rod fused Anti-Tank Mine M21*

A cross section of the tilt rod fused anti-tank mine M21 is shown in Figure 18. The mine is fitted with a mechanical fusing which incorporates an expelling charge used to drive a firing pin, a delay in order to allow the tank to move further for a belly attack. The basic principles of a tilt rod mechanism are shown in Figure 19. The M21 tilt rod mechanism is located outside and above the mine casing, while the expelling charge, the delay and the booster are located on the centerline axis. The mine is equipped with a safety pin on the tilt rod mechanism to prevent accidental initiation. The tilt rod mechanism is no longer popular, since the rod is easy to locate from a distance.

The retrofit of the M21 mine would require a change to the tilt rod mechanism, the expelling charge and the explosive train. These modifications would lead to reusing only the main explosive charge and the mine body. The entire tilt rod fusing mechanism and firing train could be retrofitted with an electronic impulse pressure fuse or an electronic influence fuse with self destruct or self neutralizing devices.