

some jumping anti-personnel mines could be provided with a self destruct rather than a self neutralizing device.

The directional fragmentation anti-personnel mines could either be pull fused or command detonated which involve the use of an electric detonator actuated by a soldier, i.e a person in the loop. This type of mine is used as anti-personnel and/or anti-vehicle based on the steel ball size and penetration performance. Based on the available literature, no manufacturers have equipped such directional fragmentation pull fused anti-personnel mines with a self destruct, self neutralizing and/or passive self deactivation devices. After discussions with landmine manufacturers, it is assessed that a self destruct or self neutralizing device could be designed and incorporated to such pull fused mines.

6.2 Anti-Tank Mines

6.2.1 Single and Double Impulse Pressure fused Anti-Tank Mines

The first and second generation of single or double impulse pressure fused anti-tank mines are equipped with a simple mechanical fusing mechanism such as the Mk7A1, M15 and DM21 mines used by the Canadian Forces. The third generation of landmines are equipped with a safety and arming device, a misalignment mechanism acting on the detonator in respect with the rest of the explosive train and a self destruct or self neutralizing device. Such impulse pressure fused anti-tank mine is shown in Figure 27.

This first generation fusing mechanism could be replaced by an electronic fuse incorporating a self destruct or self neutralizing device which could fit the available space since the electronics require less space than any mechanical impulse devices (see Figures 28 and 29). The retrofit would also require to design an adaptor in order to fit the new electronic fuse with the current casing and to redesign the explosive train to insure proper initiation of the main explosive charge. Such retrofit with electronic impulse pressure fuses would also mean these anti-tank landmines will still only be active on vehicle tracks or wheels. If an electronic fuse equipped with a self neutralizing device and an expelling charge for neutralization and position identification were used to retrofit first and second generation of landmines, the size of such fusing system would be more voluminous than