

6.0 TECHNOLOGICAL IMPLICATIONS ASSOCIATED WITH RETROFITTING OF EXISTING LANDMINES WORLDWIDE

The following section describes the technological implications associated with retrofitting existing landmines worldwide with self destruct or self neutralizing devices and with incorporation of passive self deactivation device. Since the technological implications of replacing the existing fuse mechanisms on landmines in Canadian Forces inventory have been discussed on a specific item basis in section 5.0, only general technological challenges will be presented for worldwide landmine.

6.1 Anti-Personnel Mines

6.1.1 Single Impulse Pressure fused Anti-Personnel Mines

The single impulse pressure fused anti-personnel mines are classified as either ground emplaced or scatterable and are characterized as very small and relatively cheap devices which are used in large quantities. The first and second generation of anti-personnel mines have relatively simple mechanical fusing incorporated in mine body casings of relatively small diameter compared to their height. On the other hand, the third generation of anti-personnel mines are built with electronic components in the fusing mechanism which are much flatter as shown in Figure 23.

The analysis performed on the worldwide situation on landmines and presented in section 4.0 shows that the first and second generation of single impulse pressure fused anti-personnel mines worldwide have similar limitations like the C3/C3A1 mines. Retrofitting these mines with either a self destruct or self neutralizing device would require a major redesign of the mine thereby limiting the reuse of existing components. It would be more realistic to replace the existing first and second generation anti-personnel mines with a new generation of mines having self destruct devices.

In the case of the third generation electronic single impulse pressure fused anti-personnel ground emplaced or scatterable mines, the electronic fusing can be equipped with self destruct or self neutralizing devices as shown in Figure 24.