

5.0 TECHNOLOGICAL IMPLICATIONS OF RETROFITTING EXISTING LANDMINES IN CANADIAN FORCES INVENTORY

The Canadian Forces inventory of landmines consists of three types of anti-personnel mines and four types of anti-tank mines. All these mines have conventional fuses with no special features such as self destruct or self neutralizing or passive self deactivation devices. The landmines in Canadian Forces inventory are listed in Table 6. The anti-personnel mines C3/C3A1 and M18A1 and the anti-tank mine M21 were manufactured in Canada. The rest of the mines were purchased from either the United States, Germany or United Kingdom.

The technological implications of upgrading the existing fusing of the mines in the Canadian Forces inventory to incorporate self destruct, self neutralizing and passive self deactivation devices are presented in this section. A short description and functioning mechanisms of these mines are presented in order to provide necessary background for retrofitting these mines with special features. The information contained in the "Ammunition and Explosive Technical Information" manuals of Department of National Defence is used in the analysis.

Although the Canadian Forces inventory is used as the basis for retrofitting existing landmines, the generic types of mines indicate that the conclusions are relatively applicable to other similar mines in worldwide inventory.

5.1 Anti-Personnel Mines in Canadian Forces Inventory

The physical characteristics of anti-personnel mines in the Canadian Forces inventory are listed in Table 7.

5.1.1 Single Impulse Pressure fused Anti-Personnel Mine C3/C3A1

A single impulse pressure fused anti-personnel mine C3 is shown in Figure 3. The mine consists of a small shaped charge explosive activated by a pressure fuse and contained in a non-metallic casing. The C3 mine has a metal detector ring which is attached to the mine. A later version of this mine is designated as C3A1, where the metal detector ring can be removed during laying of the mine. The mine C3A1 is shown in Figure 4.