



Incendiary Operations Using New "Primo" Incendiary Capsules

For Information:

Aerial incendiary machines have been in use for many years by the Department and are used to dispense a 'ping pong' style incendiary capsules. The capsules are a 1¼" diameter hollow polystyrene sphere as shown in Fig 1 below and contain potassium permanganate crystals.

The capsules in currently in use are sourced from a company in Queensland and are easy to identify having a large hole plugged with a yellow adhesive as can be seen in Figure 1. (Below).

The Department is currently evaluating a new type of capsule from Canada. The 'Primo' capsules are manufactured with the potassium permanganate crystals inside and so do not have a filling hole making them easy to distinguish from the Queensland type. Shown in Figure 2 (Below).



Figure. 1.



Figure. 2.

Although similar in size and construction to the Queensland capsules, the Primo capsules have a distinct ignition process and when the chemical reaction occurs inside the capsules it creates a large amount of gas. The ignition process of the Queensland capsule causes the shell to melt deforming and rupturing the capsule to dissipate gas pressure. During the ignition process of the Primo capsule it retains its' shape for much longer allowing gas pressures to build up inside and making the needle hole act as a high pressure vent. The result is a capsule that becomes self-propelling with enough speed to fly 20-30 metres.

Caution with New "Primo" Incendiary Capsules

Due to the inherent dangers of self-propelling capsules, bombardiers performing live testing of capsules must follow the procedures detailed in the Air Operations Manual and in addition:

1. Ensure the incendiary machine has the delay function "OFF" before commencing the test.
2. No more than 5 capsules are to be ejected during each test.
3. Once the capsules have been ejected from the machine they must be put in the supplied billy as soon as possible and covered with either the lid from the billy or a metal mesh.
4. Ensure complete ignition before removing cover
5. Live testing of Primo capsules is NOT to be performed unless a suitable covered receptacle is used.

A mesh shroud will be added to the accessories in each incendiary machine case to facilitate the testing of Primo capsules.

If you have any queries in relation to this matter please contact Don Relf, State Aircraft Unit, telephone 03 94124888.