

Post Impact delay fuze for air delivered bomb

TBRL has designed and developed a state of the art electronic post impact delay fuze for air delivered bomb. This fuze can find applications in concrete penetration bombs used for defeating hard and buried structures. EBW detonator based inline explosive train is incorporated in the fuze to enhance the safety during storage, transportation and usage. Use of no primary explosives in the fuze does not require complex moving/rotating Safety & Arming mechanisms. The developed fuze is compatible with the fuze well of existing bombs available with the Indian Air force. The developed fuze has the following salient features;

1.	Operational features	1. Instantaneous functioning on impact 2. Short delay – 10ms to 400 ms
2.	Compatibility	Rear mountable fuze for 2" fuze well
3.	Programmability	Manual knobs and RS-422 interface for setting mission parameters such as arming delay and post impact delay
4.	Safeties	1. Lanyard switch (In flight mechanical safety) 2. Turbo generator (Post launch safety)
5.	Explosive train	EBW based
6.	Shelf Life	15 Years
7.	Other features	Modular, fail safe design

It is a combination of mechanical and electrical sub systems for providing adequate safety to the bomb during all phases of its life. The fuze is divided into two subsystems namely Release sensing and arming system(RSAS) and fuzing system. RSAS is directly interfaced with the aircraft and is designed to provide safety to the fuze during handling and arm the fuze after verifying the release parameters. But the fuzing system is responsible for initiating the explosive train at a set delay after the impact/penetration. The fuzing section of the fuze is hardened to withstand high 'g' loads during impact and penetration of the target. The developed fuzing section has been subjected actual concrete penetration trials and functioned successfully. TBRL is need of producing more number of fuzes for user evaluation trials. The ToT partner is expected to produce required number of fuzes and get involved with the design team during RCMA clearance and flight trials. EBW detonator will be provided by TBRL at the prevailing cost at that time as the same is not part of development and is a restricted technology.

