**Brief Technical Description: 500 kg General Purpose Bomb**

**General Construction**

 500 kg General Purpose Bomb mainly consists of a Bomb body and Tail Unit. The Bomb Body is a steel casing of 356mm diameter and 1.9m length. The bomb body is to be manufactured either through forging or sand-less vacuum casting methods like 'Replicast'. In case of manufacturing through forging, deep boring of the forged body to a distance of 1.5 m with very close tolerances is carried out. The casing is filled with High Explosive (Torpex-4B). Bomb body has conduits for routing of cables between different units of impact delay fuze fitted at nose or tail with the Turbo Alternator Unit placed between the Lugs.

 Tail Unit mainly consists of a MS Tail Cone and Fin Assembly. The Tail cone is manufactured by rolling and welding of sheet metal and achieving close run-out. Fin assembly is welded on to the Tail cone. The fabrication involves use of special fixtures for welding various parts, maintaining high degree of concentricity/run-out.

The salient features of the 500 kg General Purpose bomb are given below:

* Bomb Diameter : 355.6 mm
* Bomb Length : 3031 mm
* Bomb Mass : 500 kg (Nominal)
* Filling : Main Filling: Torpex-4B

 Booster Charge: RDX/Wax (95/5)

* Type : General Purpose (Blast, Fragmentation and Concrete Penetration)

Figure: 500 kg General Purpose Bomb - General Construction

**Lethality:**

 The bomb is effective against targets such as Runways, Railway Tracks, Bridges, Docks and Moderately Protected Bunkers etc.

**Current Status:**

 The design and development of the bomb has been completed. Flight trials from Jaguar aircraft have been completed. Flight trials on Su-30 have been completed for limited cases. Flight trials for remaining cases from SU-30 aircraft are planned by Dec 2018. The bomb is likely to be inducted into IAF by Feb 2019.