Australian Government
Department of Defence

DEFENCE UNEXPLODED ORDNANCE WEBSITE
ORDNANCE INFORMATION SHEET

ALL UXO MAY BE HAZARDOUS IF DISTURBED
DO NOT TOUCH – TAKE A PHOTO – MARK THE LOCATION – CALL THE POLICE

AIR-LAUNCHED ROCKET - 5 INCH

Description

- A variety of 5-inch rockets have been used by or in Australia including the following:
  - **5" Forward Firing Aircraft Rocket (FFAR)** (US) - Actually a 3.5 inch rocket motor but mounted a 5 inch anti-aircraft projectile. Developed c. 1943 as an Anti-Submarine rocket but also used for shore bombardment pending the introduction of 5 inch High Velocity Spinner Rocket (HVSR).
  - **5" High Velocity Aircraft Rocket (HVAR)** (US) - Developed during WWII to attack ground targets. Comprised a 5" inch rocket motor with a 5" warhead. Extensively used during both WWII and the Korean War and could penetrate 1m+ of concrete, was used to sink shipping, attack facilities and destroy land-based tanks, vehicles and transport.
  - **Zuni 5" Folding-Fin Aircraft Rocket (FFAR)** (US) - An air launched rocket designed in the late 1950s to replace the HVAR. Widely used in the ground-attack role during and after the Vietnam War. The Australian Government donated its Zuni rockets to the Australian Space Research Institute (ASRI) for student experiments.
- Used in Australia from the 1940s to recent times by US, RAAF and RAN aircraft including the Mitchell III B-25J, Bristol Beaufighter, P51 Mustang, De Havilland Vampire, Gloster Meteor, De Haviland Sea Venom, Lockheed Neptune, McDonnell Douglas A4G Skyhawk and Grumman Tracker.
- The munition typically consisted of a rocket motor and a warhead such as the following:
  - **High Explosive, General Purpose** (HE GP) – contains both nose and base fuses with ~3.4 kg of TNT; 5" rocket contains approx 10-11 kg of propellant.
  - **High Explosive, Semi Armour Piercing** (HE SAP) - contains a base fuse with a shaped-charge of High Explosive; 5" rocket contains approx 10-11 kg of propellant.
  - **Phosphorus** (WP) – White Phosphorus (WP) for marking/incendiary; Red Phosphorus (RP) for marking/signalling.
  - **Chemical** (Chem) – a 5" U.P. rocket used by the Australian Army to test chemical munitions; saw limited use in Australia and eventually handed over to the RAAF (not used).
- Unexploded items of this type are most often found in/near areas used for bombing or Air-to-Ground practices, on air force bases or occasionally found in the maritime environment.

Technical Data

- Munition length : 1700-2800mm (rocket and warhead); warhead approx 900mm
- Body diameter : Rocket - 127mm (5 inches); warhead – varied according to type fitted
- Total weight : 45-62 kg (rocket – approx 16-30 kg; warhead approx 20-22 kg)
- Filling : Warhead contains 3.0-3.5 kg high explosive (TNT or Comp B)
  Rocket motor contains approx 10-11 kg of propellant (Ballistite)
- Identification : Rocket motor constructed of sheet metal or aluminium/non-ferrous metal with steel/aluminium fins, steel nozzle and steel warhead. The motors may be painted olive drab, white, or gray. Hazardous warheads are often olive drab, light green or gray with yellow or other coloured bands. Other colours may have been used or colours may have faded over time - **treat all found munitions as dangerous**.

Images

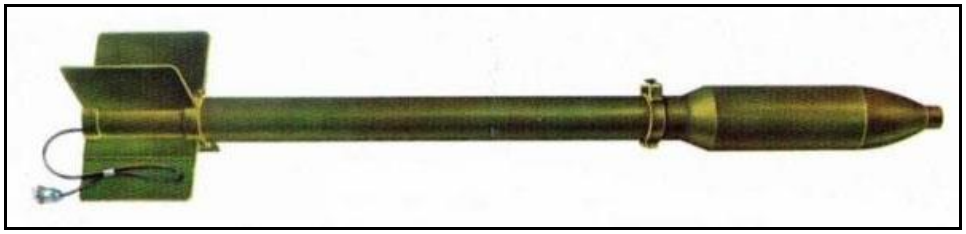

Figure 1 - Complete 5 inch FFAR (3.5” rocket motor and 5” warhead)

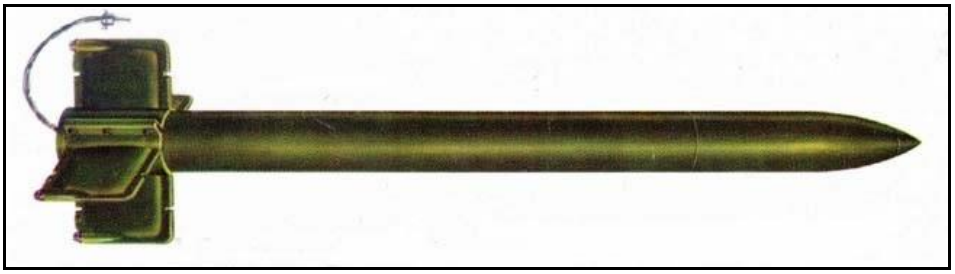

Figure 2 - Complete 5 inch HVAR (5” rocket motor and 5” warhead)

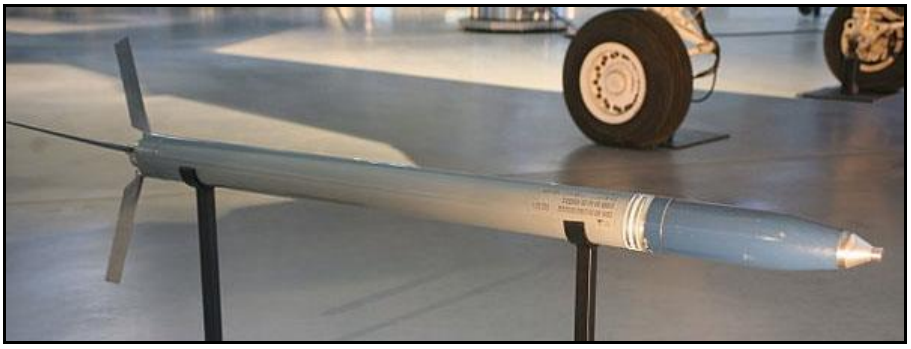

Figure 3 - Complete Zuni 5 inch FFAR (5” rocket and 5” warhead)

Figure 4 - 5 inch WP rocket warhead (without fuze fitted)

Figure 5 - RAAF P-51 Mustang armed with napalm tanks and 4 x 5” HVAR - Korea, 1950
(AWM ID number P00675.043)

Figure 6 – Armament personnel loading 5” HVAR onto a RAAF Mustang aircraft - Korea (AWM ID number P01254.110)

