Manufacturing, Integration, Testing and Supply Of Canister Assembly

Research & Development Establishment (Engineers), Pune, a premier laboratory under Defence R&D Organization invites Expressions of Interest (EOI) from Indian industries having sufficient experience, expertise and willing to undertake Manufacturing, Integration, Testing and Supply Of Embossed Canister Assembly.

BRIEF DESCRIPTION:

The Canister Assembly is required to support and house the articles during Transportation, Articulation, Launching and Handling. The Canister Assembly would be used for launching of Article in Canisterised, Hot Launch mode from an inclined firing position.

The Canister serves both as a launch platform and as an environment protection container for article. All articles are stored in a ready to fire configuration, enabling instantaneous firing of any one of them, directly from their canisters, in fully automatic, computer controlled operational sequence.

The Article is launched directly from its fully sealed canister, which during the firing fulfills the function of a guide rail and provides article's mechanical interfaces as well as its electrical interface with Canister and MSU respectively, prior to launch.

Canister shall enable smooth and safe launch of article. Also, canister serves the purpose of transportation, storage and launching of missiles. These Canisters need to be filled with inert gases to provide protection from outside environment during Storage and transportation. The canister is provided with guiding rails for the article lugs to provide easy and smooth travel of article inside the canister during normal loading/unloading and during firing. The Canister is also provided wing rails for the folded wings for guidance and support of the folded wing in folded condition. The Canister is also provided with explosive bolt based hatch opening mechanism at the front and rear of the canister, umbilical connector panel, electromechanical based automatic missile front shoe lock, missile rear stopper, hermetically sealed connector panel for umbilical, Pressure gauge.

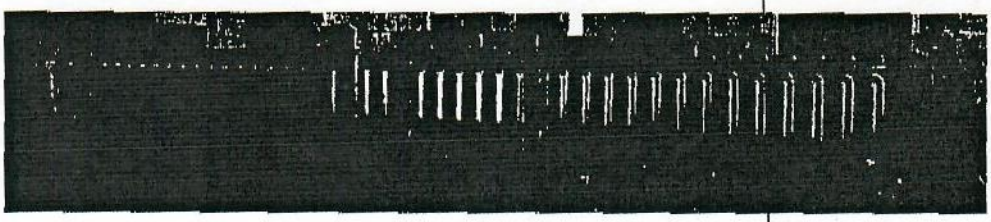
TECHNICAL DETAILS & SALIENT FEATURES:

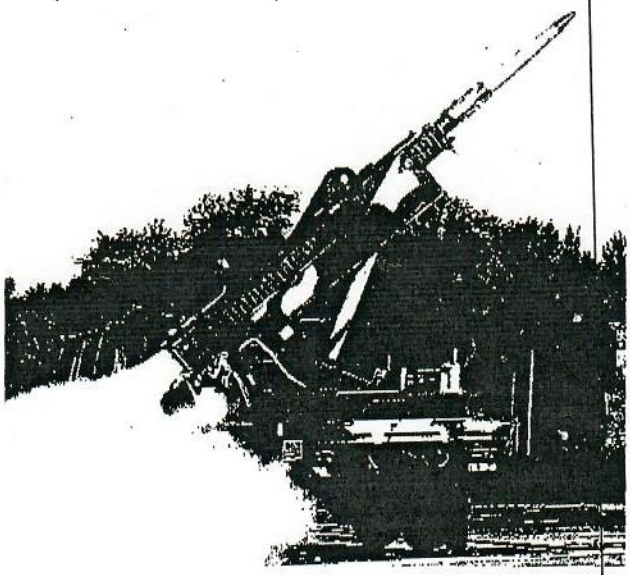
R&DE (E), Pune has designed and developed a simplified and fast manufacturing technique for the canister assembly.

A square shaped sheet metal embossed canister is required to house the article during its loading, transportation, articulation and handling. It is a hollow, square cross sectional structure, internally pressurized system to store as well as hold the article during articulation and transportation. The canister is to be manufactured using sheet metal which is embossed to increase the stiffness and strength of the canister. Initially the sheet metal is embossed using a high die punch on a Hydraulic press, then it is bended at two locations to form a inverted U type top section. Similarly matching U type bottom section is made. There are pads for guiderail mounting at the top of the canister in which

the article lugs are guided and pads for wing rails mounting on both sides of canister vertical wall for guiding article fins. The guide rail pads are welded to the top inverted U section and wing rail pads are welded to the vertical walls of the top U section. Then the canister mounting frame is welded to the top sections at the front and rear side. Initially the canister mounting pads are machined in one setting, then w.r.t to the canister mounting frame pads the guide rail and wing rail mounting pads are machined. Now both the top and bottom sections are welded to form the square cross section of the canister. The mounting frame is welded to the bottom U section and machined. Now the guide rail and wing rails are assembled inside the canister. After wards again the canister frame mounting pads are machined w.r.t the guide rail to ensure parallelism of the guide rail w.r.t the canister frame mounting pads. The Canister is provided with spring loaded pyro based automatic hatch opening mechanism at front and rear of the canister (or rear rupture disc) which are opened after articulation and prior to firing of the missile. The Canister is also provided with umbilical mechanism, electromechanical based automatic article front shoe locking mechanism, missile rear stopper and Canister locking mechanisms on Launch beam. All the openings and mechanism are covered by sheet metal covers and sealed for maintaining internal pressure of 0.2 bar (gauge) at NTP.

This technology is ready with us to transfer to any Indian Industry for supply of Canister Assembly to Indian Army. The photos of the canister are shown below:





Interested industries may respond along with their company profile, financial & technical capabilities etc. as per the following format :

(a) Memorandum and Articles of Association (Should be incorporated as per Indian Companies Act, 1956)
(b) Certificates of registration as a manufacturing unit, if any.
(c) Balance Sheet for the preceding three years.
(d) Income Tax returns for the preceding three year period
(e) Details of shareholding/ownership pattern especially foreign partners/ shareholders, foreign employees, directors, etc. The company must adhere to the prevailing Govt. of India policies and regulations on Foreign Direct Investment (FDI).
(f) Annual budget for R&D during last three years.
(g) Numbers and details of IPR or patents etc held by the company.
(h) Number of technically or professionally qualified personnel.
(i) Record of past performance (e.g Supply orders executed against Ministry of Defence orders, public sectors and paramilitary forces, if any.
(j) Availability of adequate infrastructure (List of machines and their production capacities) and technical expertise.
(k) List of Testing and Support equipments
(l) ISO/ ISI certification or any other certification
(m) Relevant clearances from the authorities/ ministries (if any)
(n) Capacity and capability to undertake developmental work and to accept attendant financial and commercial risks.
(o) Capacity/Capability to market the product through the marketing network, sales and service network, reliability to maintain confidentiality.

Eligible industries will be invited to sign Non-Disclosure Agreement with R&DE (Engrs) and for technical discussion, following which they shall be evaluated for giving Transfer of Technology (TOT) on non-exclusive basis. Criteria for choosing industry partner will include manufacturing capability, assurance on quality and capacity of production apart from other terms and conditions.

Interested industry may write to Director, R&DE(Engrs), Pune on the following address –

Director, R&DE(Engrs).

DRDO, Min. of Defence,

Alandi Road, Dighi,

Pune – 411015

They may also contact on phone – (020) 27044208, 27044622, 27044601

Email: director@rde.drdo.in , shivdasp@rde.drdo.in

Or

Director, DIITM,DRDO HQ,

Min. of Defence, DRDO Bhawan,

Room No. 447, B Block,
Rajaji Marg, New Delhi - 110011
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