Performance Audit of Working of Army Base Workshops Union Government (Ministry of Defence)

Comptroller & Auditor General of India Report No. 36 of 2016
The Constitution of India has provided a framework for accountability of the Executive to the Legislature through the institution of the Comptroller and Auditor General (C&AG) of India. The C&AG discharges this responsibility through the auditing functions which include financial audit, regularity audit and performance audit.

Performance audit is an independent assessment or examination of the extent to which an organisation, programme or scheme operates economically, efficiently and effectively.

This Performance Audit report was laid in both the houses of the Parliament on 10 March 2016. This booklet brings out salient audit findings and related recommendations contained in the audit report.
Introduction

The Indian Army has a large inventory of weapon systems and equipment which need to be maintained and sustained to keep the Indian Army operationally ready. Repairs and overhaul of the weapons, vehicles and equipment are carried out in Army Base Workshops.

There are eight Army Base Workshops (ABWs), of which seven are responsible for repair and overhaul of equipment/weapons and one workshop has been tasked with the responsibility of indigenisation and manufacture of spares.
Audit Objectives and Scope

Performance Audit of “Working of Army Base Workshops” was conducted to assess the effectiveness of the workshops with regard to timeliness of overhaul, adequacy of infrastructure, timely availability of spares and quality of the repairs.

Audit was conducted during July 2015 to December 2015 covering a period of 06 years from 2010-11 to 2015-16. Audit was carried out at five ABWs at Delhi, Agra, Meerut, Kirkee and Bengaluru.
Backlog in overhaul of fighting/signal equipment

The periodicity of overhauling an equipment is based on the maintenance philosophy promulgated at the time of induction for the envisaged life cycle. We noticed prolonged delays and backlog in overhaul of important equipment.

- In case of Tank T-72, the quantum of backlog of overhaul has significantly reduced from 713 at the end of 2010-11 to 479 at the end of 2015-16 which constitutes around 20 per cent of total holding.
● In case of BMP-II and BMP-IIK tanks and also in case of Armoured Recovery Vehicle viz., ARV WZT-2, the backlog of overhaul has declined during this period though in a muted manner. 802 BMPs constituting around 33 per cent of total holding and 200 ARV WZT-2 constituting 90 per cent of total holding were due for overhaul, reducing the effective availability of the fleet for the operations to that extent.

● In case of signal equipment, there was backlog of 18 per cent in first overhaul of Radar Fly Catcher, 34 per cent of Radar TC Reporter and 21 per cent of Battle Field Surveillance Radar. Backlog of 25 per cent was noticed in second overhaul of Radar Fly Catcher.
Lack of facilities for repair/overhaul of MBT Arjun

124 numbers of Main Battle Tanks (MBT) Arjun were inducted into the Army from 2004-05 onwards. At the time of induction, 69 per cent components were imported. Combat Vehicle Research Development Establishment (CVRDE) and Heavy Vehicle Factory (HVF) were responsible for providing the components required to sustain the fleet during its life cycle through indigenization or import. However, owing to the failure of CVRDE in indigenizing the required components, HVF could not supply any spares. In the absence of spare support, MBT Arjun was not being operational since 2013.
Non formulation of overhaul policy for non-fighting vehicles

No overhaul policy for non-fighting vehicles like Scania, Kraz-255 B/B1 and Tatra T-815 was available. Presently, Base workshops are accepting these vehicles of eight years vintage and above for overhaul as per the direction of Electronics and Mechanical Engineering (EME) Directorate.
Non-achievement of overhaul targets by ABWs

At ABW-New Delhi, overhaul in respect of Tank T-72, during the period from 2010-11 to 2015-16 ranged between 60 to 83 per cent of original targets excepting 2011-12 when 10 Tanks were overhauled against a target of 50.

At ABW-Kirkee, there was shortfall in achieving the targets vis a vis original targets in respect of BMP ranging from 13 to 62 per cent.
At ABW-Agra, there were shortfalls in achieving the targets *vis a vis* original targets up to 50 *per cent* in respect of Radar Fly Catcher and up to 60 *per cent* in respect of Radar TC Reporter.

ABW-Meerut had generally turned out respectable performance except that its achievement in respect of overhaul of Heavy Recovery Vehicle *viz.*, HRV AV15 during 2014-15 was merely 10 *per cent* of the original targets. There was all round commendable performance during 2015-16.
Against the norm of 153 days, overhaul of BMPs was inordinately delayed and the ABW took up to 1512 days for the overhauls. Similarly, for Tanks T-72, the delay ranged up to 836 days against the norm of 144 days. The average time taken for overhaul of each UTD-20 engine for BMP was 308 days which was 10 times of the stipulated time frame of 30 days. Overhaul of Radar and its variants also experienced delays up to 921 days.
Low Quality Index for overhauled BMPs

Quality Index (QI) for overhauled BMP should be 95. However, the QI achieved was far below this. Even during 2015-16 when QI was relatively much better than earlier years, QI for BMP was between 70.28 and 77.4.
Delay in dispatch of overhauled equipment to Units

Backlog and delay in overhauls were further compounded by late issue of release orders by Army HQ and delay in dispatch of the equipment by the Ordnance Depots.

This delay was mainly due to absence of a laid down norms and time frame for these activities.
Non-availability of testing facilities at the ABWs

As per Original Equipment Manufacturer (OEM) recommendation, test firing of overhauled guns was a mandatory requirement.

The BMPs and Tanks T-72 overhauled by ABWs were issued to user units without test firing as the ABWs did not have the requisite test facility.

Amphibious capability, an important feature of BMP, could not be tested in respect of overhauled BMPs for want of dip testing facility.
Inordinate delay in execution of Work Orders at ABW, Bengaluru

The primary role of ABW, Bengaluru is to undertake manufacture and indigenization of spares for various equipment held by Indian Army.

The ABW could complete only 27 per cent Work Orders of ‘Operational Immediate’ category within the laid down time frame. In certain cases, the time taken was up to 93 months against the laid down ceiling of 12 months, thereby defeating the operational urgency.

In respect of ‘Priority’ work orders, the percentage of completion within time frame was 65 per cent only.
Non-existence of cost accounting system

While the guidelines issued by the Ministry stipulated that the cost of overhaul of vehicle and engine would in no case exceed 30 per cent of the cost of new vehicle/engine, no cost accounting mechanism was in place in the ABWs to ensure the cost effectiveness of the repairs and overhauls.
Inordinate delay in creation of Overhaul facilities

- Facility for overhaul of ARV WZT-2 was set up in March 2009 after 28 years of its introduction. The vehicle was due for overhaul since 1996-97, but only 22 ARV WZT-2 could be overhauled against the total strength of 222. The equipment was likely to be de-inducted by 2018.

- Due to delays in initiation and sanction of the Component Level Repair project for Tank T-90, not only the project cost escalated from ₹ 287 crore in 2004 to ₹ 1835 crore in 2011 but also the first Medium Repair of Tank T-90 which was due in 2012 was pending.
- Project Tulip, for establishment of additional facilities at ABW-Kirkee, as a nucleus for repairs/overhaul of communication and night vision devices for BMP II/IJK was sanctioned by the Ministry in January 2003 at a cost of ₹ 22.54 crore. The project was yet to be fully implemented even after a lapse of thirteen years.
Non-utilization of shooting gallery

- Shooting gallery constructed at a cost of ₹ 6.53 crore in November 2013 could not be taken over by 512 ABW as it did not have electrical and water connections.

- Besides, 512 ABW did not have authorization of ammunition for test firing of the overhauled guns.
Deviation sanctions were accorded by Master General of Ordnance at Army HQ in respect of 398 overhauled BMPs and 179 Tanks T-72. This was necessitated due to non-availability of critical spares and assemblies. The deviations were accorded for vision devices, communication sets, tracks etc., thereby impacting the capability of BMPs and T-72 tanks.
● In the absence of a policy on overhaul of non-fighting vehicles in Army, these vehicles are overhauled by the workshops on case to case basis. Ministry may formulate the overhaul policy for these vehicles.

● As MBT Arjun Tanks are due for overhaul from 2020-21, Ministry should explore and expedite indigenous development of components of MBT Arjun and creation of repair and overhaul facilities.
Since the issue of T-72 and BMP tanks overhauled by workshops to units without certain vital tests such as proof firing and dip testing have serious operational and quality implications, facilities for these testing must be created at the concerned workshops. Army HQ should expedite operationalisation of shooting gallery at ABW, Kirkee and necessary authorization of ammunition for test firing of overhauled guns.

Ministry should expedite the Component Level Repair project for supporting Tank T-90 with repair facilities.
Overhaul of vision devices is now being carried out at Opto-Electronics Factory, Dehradun as they had accepted the responsibility of overhaul of complete requirement of vision devices of BMP. In view of this development, Ministry may review the scope and implementation of Project Tulip for establishment of additional facilities at 512 ABW.

Cost accounting system should be introduced in the workshops to ensure optimum utilization of resources viz., man-power, machines and materials and to assess the cost effectiveness of overhauls.
● As regards urgent requirement of augmenting availability of spares, constraints in the availability of spares need to be identified and process of making spares available through manufacturing or procurement from Trade/Ordnance Factories need to be streamlined. Reasons for delays in execution of Work Orders at ABW, Bengaluru need to be diagnosed and addressed.

● Quality Index of Overhauled BMP tanks despite improvement during 2015-16 still remains low and needs to be further improved.