

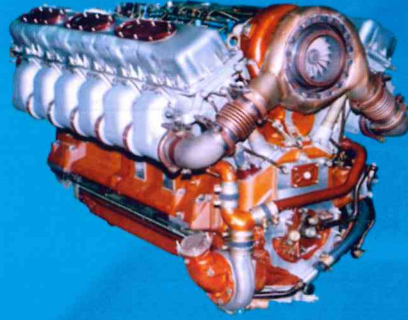
इंजिन निर्माणी आवडी ENGINE FACTORY AVADI

आर्मर्ड व्हीकल्स निगम लिमिटेड की इकाई UNIT OF ARMOURD VEHICLES NIGAM LIMITED

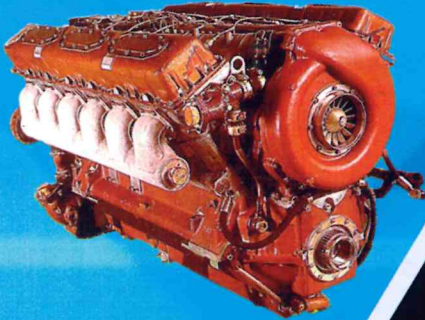
भारत सरकार का उद्यम A GOVERNMENT OF INDIA ENTERPRISE

रक्षा मंत्रालय MINISTRY OF DEFENCE

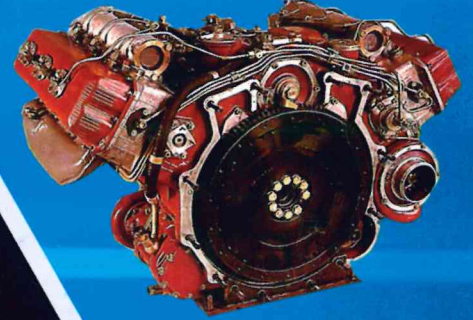
V92S2



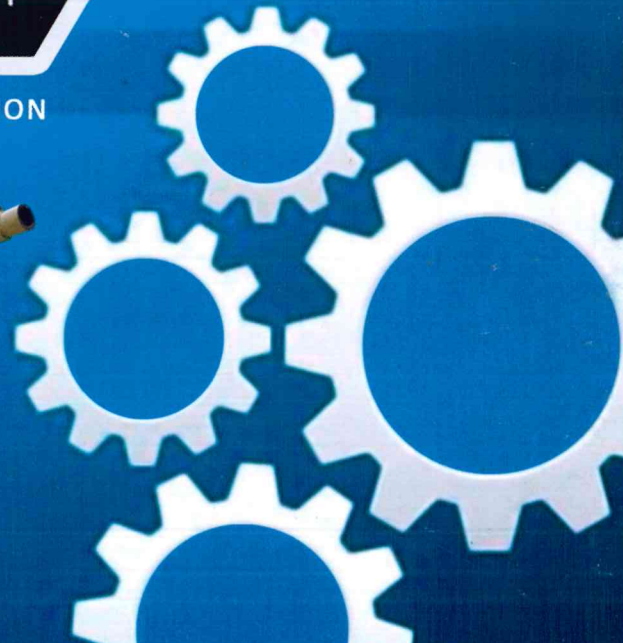
V46 - 6



UTD - 20



IMS CERTIFIED ORGANISATION





Engine Factory, Avadi (EFA), an IMS Organisation has been established in 1987 and was part of the family of Indian Ordnance Factories under OFB till September 2021, it has been converted to DPSU under AVNL w.e.f 01.10.2021 under MoD, Govt.of India.

The factory was set up as a dedicated unit for manufacturing of high power deisel engines for mainbattle tanks and infantry combat vehicles. It is an exclusive asset of the ministry of defence, which is dedicated for production of high power engines for main battle tanks and infantry combat vehicles. Presently the factory is engaged in production of UTD - 20 engines for Sarath infantry combat vehicle (BMP II), V46-6 engines for Ajeya tank (T-72) & its variants and V92S2 engines for Bhishma tank (T-90).

Mission :

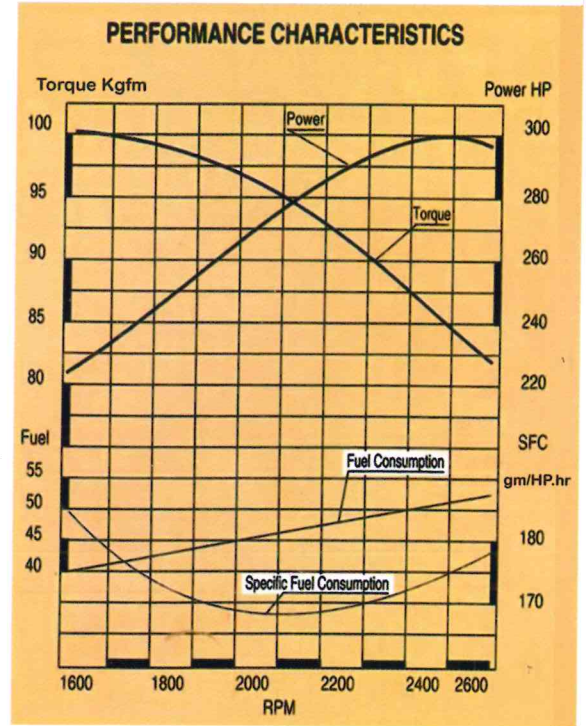
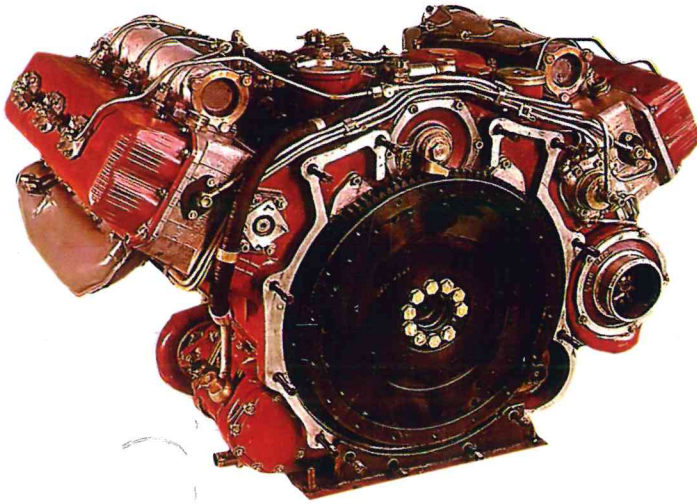
Production of State of the Art battle field equipments

Vision :

"To strive to be a world class armoured vehicles manufacturer and a trusted global brand for domestic and international customers"

UTD 20

VERSATILE | RELIABLE | ROBUST | COMPACT



UTD -20 ENGINE SPECIFICATION

Description	<ul style="list-style-type: none"> ◆ Naturally Aspirated , 6 Cylinder "V" Type 120° ◆ Direct Injection , Four Stroke ◆ Water Cooled, Diesel Engine
Rating	220 KW / 300 hp @ 2600 RPM
Max Torque	100 Kg fm @ 1500 - 1600 RPM
Bore / Stroke	150 / 150 mm
Specific Fuel Consumption	178 gm / hp.hr (243 gm / Kw.hr)
Starting System	Compressed Air / Electric
Power to Weight	0.32 : 1 KW / Kg
Specific Oil Consumption	8.15 gm / Kw.hr @ 2200 RPM
Compression Ratio	15.8
Weight	665 Kg
Engine Dimension	Length : 834 mm / Width: 1150 mm / Height : 757 mm
Fuel	Diesel (LSHF)
Used on	BMP-II, Armoured Personel Carriers, Heavy Trucks

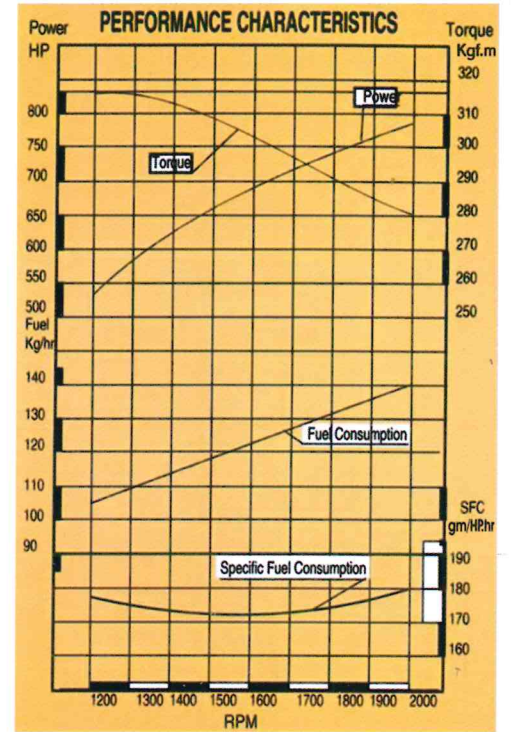
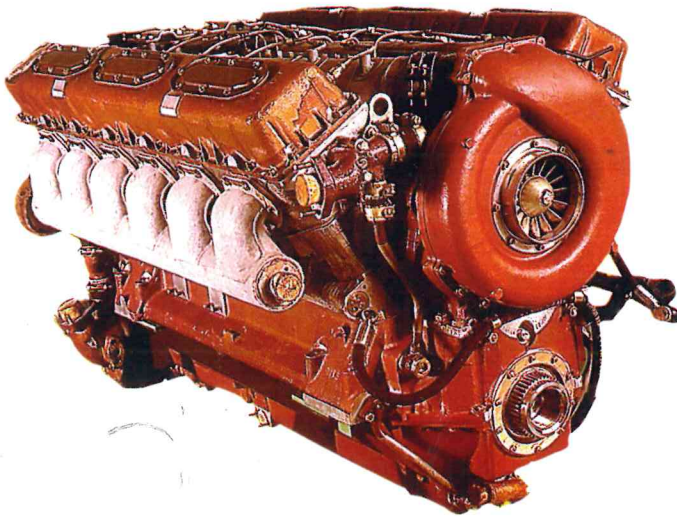
Sarath Vehicle - ICV



BMP - II

V46 - 6

HIGH POWER | HIGH TORQUE | COMPACT | RELIABLE



V46-6 ENGINE SPECIFICATION

Description	<ul style="list-style-type: none"> ◆ Multi Fuel , 12 Cylinder "V" Type 60° ◆ Direct Injection , Four Stroke ◆ Water Cooled, Super Charged Diesel Engine
Rating	575 Kw / 780 hp @ 2000 RPM
Max Torque	315 Kg.f.m @ 1300 - 1400 RPM
Bore / Stroke	150 / 180 mm
Specific Fuel Consumption	180 gm / Hp.hr (246 gm / Kw.hr)
Starting System	Compressed Air / Electric
Power to Weight	0.59 : 1 Kw / Kg
Specific Oil Consumption	6.8 gm / Kw.hr @ 1800 RPM
Compression Ratio	14
Weight	980 Kg
Engine Dimension	Length: 1480 mm - Width: 896 mm - Height: 903 mm
Fuel	Diesel (LSHF), Petrol, Kerosene
Used on	T-72 Tank, TRAWL, ARV

100%
INDIGENIZED ENGINE



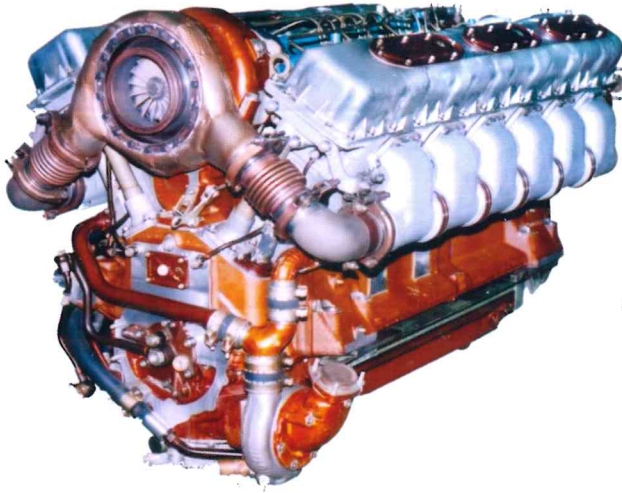
Ajeya Tank (T - 72)



T - 72 Tank

V92S2

HIGH POWER | HIGH TORQUE | COMPACT | RELIABLE

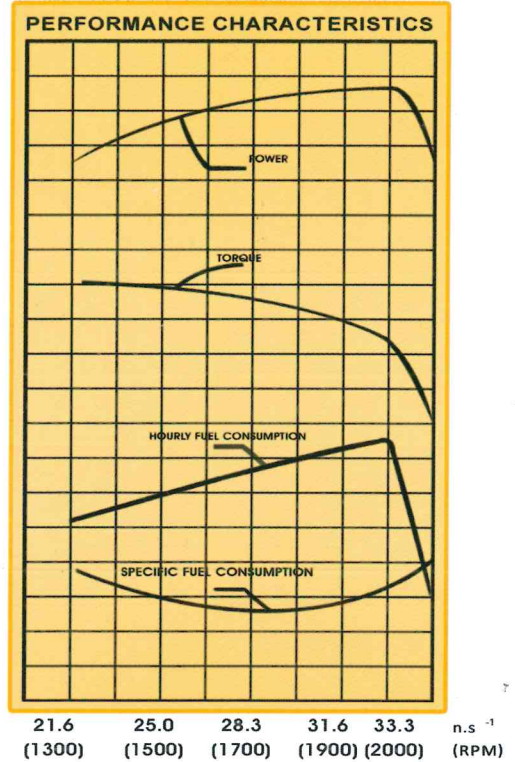


Kw (hp)
735 (1000)
662 (900)
588 (800)
515 (700)

N.m (Kgf.m)
3920 (400)
3430 (350)
2940 (300)

Kg/hr
160
150
140
130

gm/Kw.hr (gm/hp.hr)
231 (170)
218 (160)



V92S2 ENGINE SPECIFICATION

Description	<ul style="list-style-type: none"> Multi Fuel , 12 Cylinder "V" Type 60° Direct Injection , Four Stroke Water Cooled, Turbo Charged Diesel Engine
Rating	735 Kw / 1000 hp @ 2000 RPM
Max Torque	400 Kg.f.m @ 1300 -1400 RPM
Bore / Stroke	150 / 180 mm
Specific Fuel Consumption	212 gm / Hp.hr (156 gm / Kw.hr)
Starting System	Compressed Air / Electric
Power to Weight	0.7 : 1 Kw / Kg
Specific Oil Consumption	6.8 gm / Kw. hr @ 1800 RPM
Compression Ratio	14
Weight	1050 Kg
Engine Dimension	Length: 1466 mm - Width: 896 mm - Height: 903 mm
Fuel	Diesel (LSHF), Kerosene
Used on	T-90 Tank (Bhisma Battle Tank)

100%
INDIGENIZED ENGINE



MAKE IN INDIA

Bhisma Tank (T - 90)



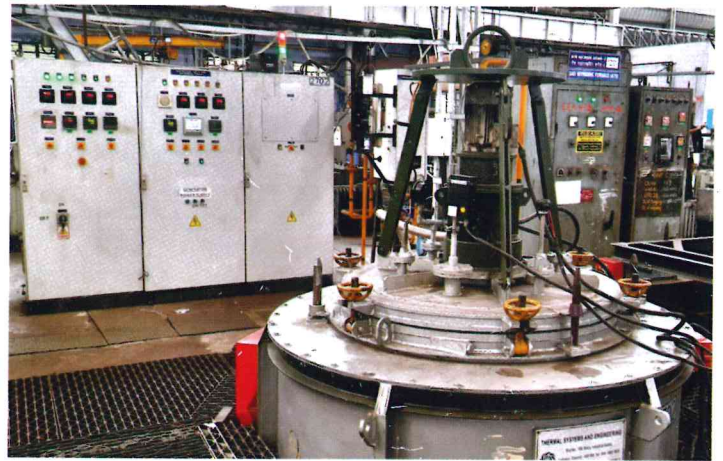
T - 90 Tank

QUALITY MANAGEMENT SYSTEM



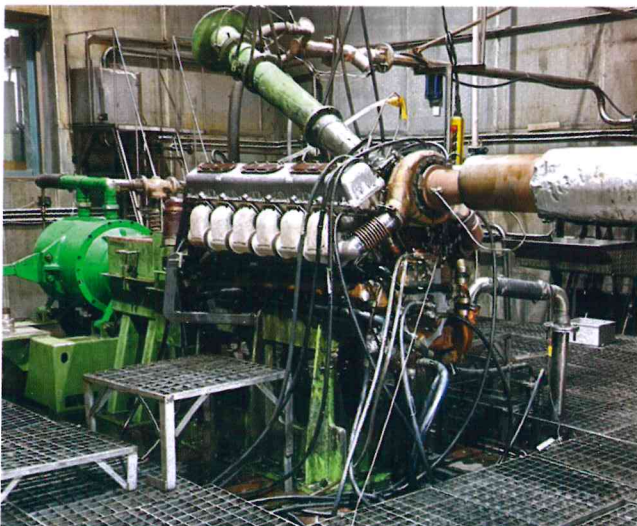
QMS of engine factory avadi is well established procedures and processes are in conformity with requirements of various ISO standards. EFA is equipped with precision INSPECTION & TESTING equipment including 3D Co-ordinating machine for checks of the components manufactured in house as well as bought out components / sub assemblies / assemblies.

EFA has got a well equipped electroplating plant and heat treatment shop. The heat treatment facilities include specialized processes such as induction hardening, nitriding, carburising, sub zero treatment upto -70°C apart from the complete set of furnaces for regular heat treatment processes. The electroplating facilities include the plants for oxidation, chrome, zinc, lead, copper and tin coating



ENGINE TEST HOUSE

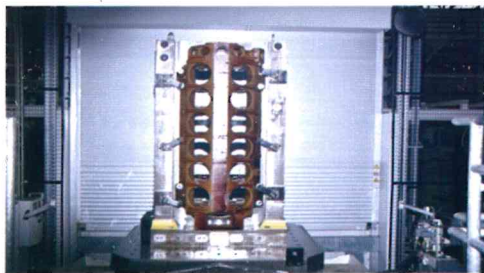
Engine testing is carried out of dedicated test cells that are fully equipped for testing the engine ranging from 300 hp to 1000 hp by encompassing all the engine testing parameters. Dedicated test facilities are available for each type of engine, well trained skilled man power is available to test the engine parameters.



IN HOUSE MANUFACTURING FACILITIES

The factory has in-house manufacturing facilities for all important structural and critical components of engines such as crank case, cylinder head, cylinder jacket, crank shaft, connecting rod, critical gears, various types of aggregates (oil pump & water pump). Crank shaft FIP parts, Super charger parts & Turbo charger parts.

FLEXIBLE MANUFACTURING SYSTEM



EFA has got a flexible manufacturing system with 2 sets of (4+4) horizontal machining centers which is unique asset of this type in the country it comprises of 8 machining centres, tool magazines, rail guided vehicles (RGV), automatic storage/retrieval system and a centralized computer. It enables the factory to achieve high volume of production of various critical structural elements of engines involving high precision and accuracy. 21 types of aluminium components are manufactured on these machine





5-Axis DMG MORI MACHINE



FIP TESTING (AVM 2 - PC)



NILES MACHINE



GEAR SPECT



OLD FMS



CAM LOBE TESTER



3D CO ORDINATE MEASURING MACHINE

TOP ROOF SOLAR PANEL SYSTEM AT ADMIN BUILDING & MPS BUILDING



Energy saving adopted

Two solar plants of capacity 500 Kw (at new MPS) & 100 Kw (at Admin building) installed & producing 60,000 units anually

निर्माणी का पता FACTORY ADDRESS

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