AIRCRAFT

FIGHTER

ENGINES

TRANSPORT

AVIONICS

AERO STRUCTURES

ACCESSORIES

MARINE GAS TURBINES

HELICOPTER

TRAINER

हिन्दुस्तान एरोनाटिक्स लिमिटेड
HINDUSTAN AERONAUTICS LIMITED

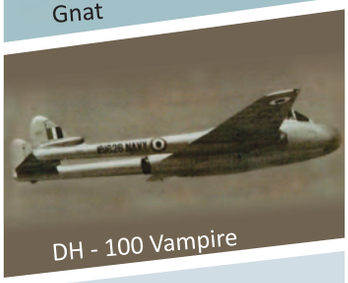
PERFORMANCE ....
when it matters most.

LICENCE/JV/JOINT DESIGN & DEVELOPMENT

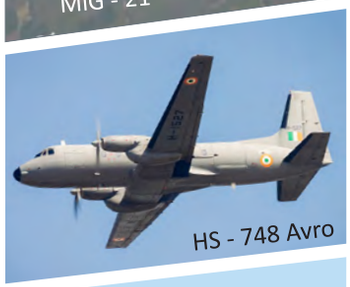

Prentice


Harlow PC - 5A


Gnat


DH - 100 Vampire


MiG - 21


HS - 748 Avro

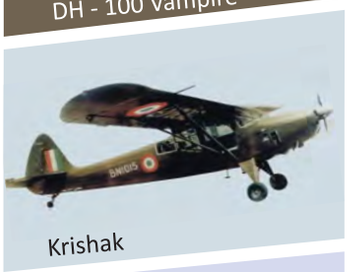

Chetak


Cheetah

INDEGENOUS PRODUCTS


HT - 2


G - 1 Glider


Krishak


Pushpak


HF - 24 Marut


Rohini Glider


HJT - 16 Kiran


Basant

OVERHAUL


B - 25 Mitchell


B - 24 Liberator


C - 47 / DC - 3 Dakota


DH - 112 Devon

1940 1950 1960 1970

- HAL has produced over 4100 aircraft & over 5000 engines, including 17 types of indigenous design.
- HAL has also overhauled over 11000 aircraft and 33000 engines.

- ISO 9001
- ISO 14000
- AS 9100D
- NADCAP Certifications

"Navratna" Company
- About 28,000 Employees
- Turnover more than 2.8 Billion USD
- Listed Company on BSE and NSE

Time Lines shown for some of the Aircraft may spread to other decades

MISSION

To achieve self reliance in design, development, manufacture, upgrade and maintenance of aerospace equipment, diversifying into related areas and managing the business in a climate of growing professional competence to achieve world class performance standards for global competitiveness and growth in exports.

VISION

To become a significant global player in the aerospace industry.

THE COMPANY

Hindustan Aeronautics Limited (HAL) is a premier aerospace company under the Ministry of Defence, Government of India, with its Corporate Office at Bangalore. The company has 20 production divisions and 11 Research & Design Centres spread across the country.

HAL had its origin in 1940 as a private limited company founded by a far-sighted industrialist Seth Walchand Hirachand to manufacture aircraft. Over the past Seventy Eight years, HAL has spread its wings to cover various activities in the areas of Design, Development, Manufacture and Overhaul of advanced fighters, trainers, helicopters, transport aircraft & associated aero engines, accessories, avionics and airborne systems. It has also diversified into manufacture of structures for space vehicles like Polar/ Geostationary Satellite Launch Vehicles, Indian Remote Sensing and other Satellites, Industrial & Marine Gas Turbines as well as Commercial services at the HAL Airports at Bangalore and Nasik.

ORGANISATION

BANGALORE COMPLEX

- Aircraft Division
- LCA TEJAS Division
- Engine Division
- Overhaul Division
- Foundry & Forge Division
- Aerospace Division
- Industrial & Marine Gas Turbine Division
- Airport Service Centre

DESIGN COMPLEX

- Aircraft R&D Centre (ARDC), Bangalore
- Mission & Combat System R&D Centre (MCSRDC), Bangalore
- Aero Engine R&D Centre (AERDC), Bangalore
- Rotary Wing R&D Centre, Bangalore
- Aircraft Upgrade Research & Design Centre (AURDC), Nasik
- Gas Turbine R&D Centre, Koraput
- Aerospace Systems and Eqpt. R&D Centre, Lucknow & Korwa
- Strategic Electronics R&D Centre, Hyderabad
- Central Materials & Process Laboratory
- Transport Aircraft R&D Centre, Kanpur

MiG COMPLEX

- Aircraft Mfg. Division, Nasik
- Aircraft Overhaul Division, Nasik
- Sukhoi Engine Division, Koraput
- Engine Division, Koraput

HELICOPTER COMPLEX

- Helicopter Division
- Barrackpore Division
- Helicopter MRO Division
- Aerospace Composites Division

ACCESSORIES COMPLEX

- Transport Aircraft Division, Kanpur
- Accessories Division, Lucknow
- Avionics Division, Hyderabad and Branch factory at Kasaragod
- Avionics Division, Korwa

PRODUCTION DIVISION	MAJOR PRODUCTS & SERVICES
AIRCRAFT DIVISION, BANGALORE	• Manufacture of Structural Work Packages for Export
LCA TEJAS DIVISION, BANGALORE	• Manufacture of Light Combat Aircraft (LCA) - Tejas
ENGINE DIVISION, BANGALORE	• Manufacture and Overhaul of Adour Mk 871, Shakti, Artouste IIIB & Garrett TPE 331-5 engines • Overhaul of Adour Mk 804/811, Dart, Gnome, Orpheus and TM332-2B2 engines
AIRCRAFT OVERHAUL DIVISION, BANGALORE	• Overhaul and Upgrade of Jaguar, Mirage-2000, Kiran & Hawk
FOUNDRY & FORGE DIVISION, BANGALORE	• Manufacture of Castings, Forgings, Rolled Rings
AEROSPACE DIVISION, BANGALORE	• Structural packages for Launch vehicles (PSLV, GSLV), Satellites (INSAT, IRS), Integration of Booster Rockets and Cryogenic Engines
IMGT DIVISION, BANGALORE	• Manufacture & Overhaul of LM 2500 Industrial & Marine Gas Turbine • Repair and Overhaul of SGT A20 AV (Industrial Avon) / SGT A05 (Industrial 501K) Engines
AIRCRAFT MFG. DIVISION, NASIK	• Manufacture of Su-30 MKI Aircraft
AIRCRAFT OVERHAUL DIVISION, NASIK	• Overhaul of MiG-21 Series, Su-30MKI Aircraft
SUKHOI ENGINE DIVISION, KORAPUT	• Manufacture & Overhaul of AL-31 FP engine for Su-30 MKI
ENGINE DIVISION, KORAPUT	• Manufacture of RD33 engine • Overhaul of R11, R25, R29B and RD33 engines
TRANSPORT AIRCRAFT DIVISION, KANPUR	• Manufacture of Do-228 Aircraft in both Civil & Military Version
ACCESSORIES DIVISION, LUCKNOW	• Manufacture & Overhaul of Mechanical, Electrical, Hydraulic and Fuel System
AVIONICS DIVISION, HYDERABAD	• Manufacture & ROH of Communication Systems, Primary Airborne Radar and Ground Radar Systems, Secondary Surveillance Radar Systems, Mission, Display and Radar Computers
AVIONICS DIVISION, KORWA	• Manufacture & ROH of Navigation and Attack Systems, Cockpit Displays Flight Data Recorders, Sensor package for Brahmos and Prithvi Missiles
HELICOPTER DIVISION, BANGALORE	• Manufacture of Advanced Light Helicopter (ALH Dhruv), Light Combat Helicopter (LCH), Cheetal and Chetak
BARRACKPORE DIVISION	• Overhaul & Servicing of Chetak, Cheetah, Lancer & Cheetal Helicopters
HELICOPTER MRO DIVISION, BANGALORE	• Maintenance, Repair & Overhaul facility for Helicopter
AEROSPACE COMPOSITES DIVISION, BANGALORE	• Manufacture of composite parts and assemblies. • Rubberised fuel tank for Helicopters (ALH)

DESIGN COMPLEX

R&D DIVISION	MAJOR ACTIVITIES
CENTRAL MATERIAL & PROCESS LABORATORY BANGALORE	• Development of Materials, Castings, Forgings and New Processes • NADCAP certified facilities for checking of material properties & NDT facilities
AIRCRAFT UPGRADE R&D CENTRE (AURDC), NASIK	• Aircraft / System Upgrade work on Russian Aircraft (like MiG Series & Su-30)
GAS TURBINE R&D CENTRE (GTRDC), KORAPUT	• Design Improvement of Russian Engines
AEROSPACE SYSTEM & EQPT R&D CENTRE, (ASERDC) LUCKNOW	• Design & Development of Mechanical, Hydraulic & Electrical accessories like Hydraulic Actuators, Starter, Generator & Ground Test Equipment
AEROSPACE SYSTEM & EQPT R&D CENTRE, (ASERDC) KORWA	• Design & Development of Avionics & Navigational System
TRANSPORT AIRCRAFT R&D CENTRE (TARDC), KANPUR	• Development & Modification / Upgrades of Transport Aircraft
STRATEGIC ELECTRONICS R&D CENTRE (SLRDC), HYDERABAD	• Design & Development of Communication, Navigation, Identification, Radar, Computers & Utility Management Systems. (V/UHF Radio, RAM, VOR TACAM, IFF, Transponder & Interrogator, CIT, AIR, Data Computer)
AIRCRAFT R&D CENTRE (ARDC), BANGALORE	• Design & Development of Fixed Wing Aircraft (LCA, IJT, UAV, HTT-40), Facility for Ground & Flight Testing, Wind Tunnel Testing, Unique Iron Bird Test Facility
AERO ENGINE R&D CENTRE (AERDC), BANGALORE	• Development & Upgrade of Aero Engines & Test Bed design
MISSION & COMBAT SYSTEM R&D CENTRE (MCSRDC), BANGALORE	• Design & Development of Mission Avionics Hardware, Mission Software, Algorithms for Navigation & Weapon Guidance. Integrated Avionics suite Aircraft Upgrade, Weapon & Sensor, Integration and Flight Simulators
ROTARY WING R&D CENTRE (RWRDC), BANGALORE	• Design & Development of Rotary Wing Platforms (ALH, ALH-WSI, LCH, LUH)

CURRENT MAJOR PROGRAMMES

DESIGN & DEVELOPMENT

- 'TEJAS' Light Combat Aircraft (LCA) Single Seater, Trainer and Naval Variants.
- Light Combat Helicopter - (LCH)
- Light Utility Helicopter - (LUH)
- Basic Turboprop Trainer HTT - 40
- Unmanned Aerial Vehicle (UAV)
- Do - 228 Civil Variant
- HTFE-25 Turbo Fan Engine
- HTSE-1200 Turbo Shaft Engine

UPGRADE PROGRAMMES

FIGHTER

- Mirage 2000 I / TI
- Jaguar Darin III
- HAWK-i

TRANSPORT

- Do-228 Glass Cockpit

OVERHAUL PROGRAMMES

- Su-30 MKI
- Hawk Mk132
- Jaguar
- Mirage-2000 T / TH
- Kiran HJT-16
- Do-228
- An-32
- HS-748
- ALH Dhruv
- Chetak / Cheetah / Lancer
- MiG-21 series

PRODUCTION

- Tejas Light Combat Aircraft (LCA)
- Su-30MKI - Two seater supersonic, multi-role fighter aircraft.
- Do-228 - Multi-role, Multi Mission, Light Transport Aircraft
- 'Dhruv' ALH- multi-role, multi-mission helicopter for military including weaponised version and civil roles
- Light Combat Helicopter (LCH)
- Chetak / Cheetal Helicopters

TEJAS

Light Combat Aircraft (LCA)

ENGINE : GE 404 IN20

The Light Combat Aircraft (LCA), named as 'Tejas', is light weight, multirole, supersonic combat aircraft. It has been designed and developed by Aeronautical Development Agency (ADA) and HAL to meet the stringent requirements of the Indian Air Force as its frontline, multi-mission, tactical aircraft for the coming decades. Composite material has been used extensively for the fuselage and the wings.

The Aircraft is also fitted with state of the art Indigenous Avionics equipment like TACAN, VOR-ILS, Mission Computer, Digital Video Recording System, Brake Control Hydraulic Engine and Electrical Monitoring System, Open Architecture Computer, Audio Management Unit, Radio Altimeter, Centralised Warning System, Identification Friend or Foe including Primary Radar.

The aircraft is powered by single GE 404 IN20 turbofan engine. Tejas has four variants namely Air Force (Fighter & Trainer) and Naval (Fighter & Trainer). Series Production of the aircraft for meeting the IAF's requirement is under progress.

Tejas Mark 1A is an advanced version which will have mid-air refueling probe, AESA Radar and Electronic Warfare (EW) sensor suite to enhance aircraft endurance and capability. To increase combat operations, it is enabled with BVR & ASRAAM missiles.

FEATURES

- Tail-less compound delta
- Quadruplex Digital Fly By Wire
- Open Architecture Avionics with Glass Cockpit
- Advanced Composites Structure

ROLES

- Supersonic fighter for air combat
- Offensive air support.
- Reconnaissance
- Anti-shipping missions

SPECIFICATIONS

- MTOW : 9900 Kg
- Payload : 3500 Kg
- Speed : 1.6 Mach
- Service Ceiling : 15 Km

SUKHOI

Su-30 MKI

The NPO Saturn AL-31 FP Engine is a twin spool, axial flow, low by-pass turbo fan engine incorporating afterburner system and variable area jet nozzle with thrust vectoring. It has an axis symmetric vectoring nozzle with a thrust vector angle of ±15° in the vertical plane providing super maneuverability of the aircraft.

The Su-30MKI is a twin seat, twin engine supersonic multipurpose aircraft capable of day and night flying under all weather conditions, The high wing of the aircraft has the advantage of producing high lift and low wing loading to give superb manoeuvrability. The aircraft achieves a high effectiveness due to the use of a whole range of progressive design.

The aircraft is powered by two powerful engines with high thrust vectoring capability, fly-by-wire control in all axes, capability for in-flight refuelling, etc. It can carry bombs and different types of guided and unguided missiles on 12 hard points. Multi-role capability as a Fighter, Interceptor, Bomber and Trainer exist.

The aircraft has a Global Positioning System (GPS) on board as navigational system which increases its positioning accuracy. In addition to this it has TACAN and VOR/ILS as navigational aids. Hence the aircraft is not dependent upon the conventional Automatic Direction Finder (ADF), but has a multisystem approach for navigation. Apart from the above, the Aircraft is fitted with state-of-the-art indigenous equipment like Identification Friend or Foe (IFF), Radio Altimeter (RAM), Radio Communication System, Mission Computer, Display Processor and Radar Computers.

Manufacture / Overhaul of the Su-30MKI is carried out at Aircraft / Overhaul Divisions of HAL at Nasik and the AL-31FP engine at HAL's Sukhoi Engine Division at Koraput.

HAWK

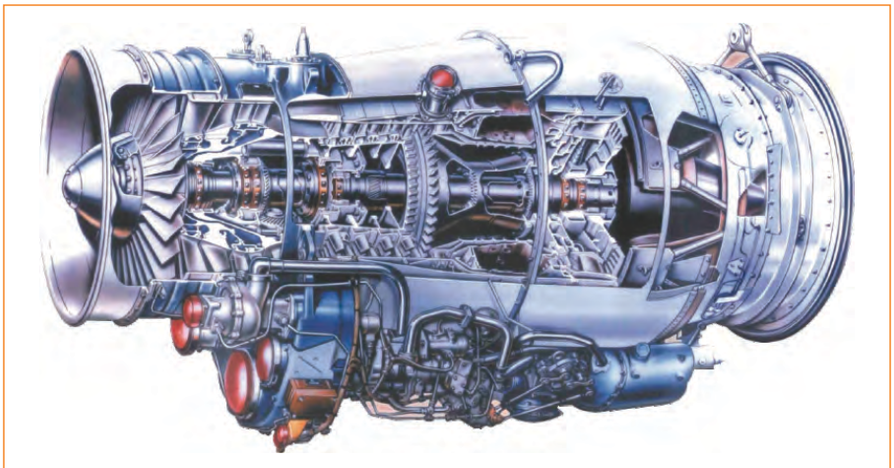
Mk 132 ADVANCED JET TRAINER (AJT)

The Hawk Mk132 manufactured by HAL under license from BAE Systems to meet the Advanced Jet Trainer requirement of the Indian Air Force. This is a transonic tandem-seat ground attack/trainer aircraft. The Hawk has excellent handling characteristics including consistent and positive spin recovery performance.

The aircraft is fitted with indigenously developed Avionics viz Radio Communication, Standby Communication, VOR-ILS, TACAN, Radio Altimeter and Identification of Friend or Foe (IFF).

The aircraft is fitted with a single twin spool Adour Mk871 turbofan engine of modular construction which is manufactured by HAL under licence from Rolls-Royce Turbomeca.

The engine has two stage low pressure and five stage high pressure axial flow compressors, which are driven by separate single stage high pressure and low pressure turbines.

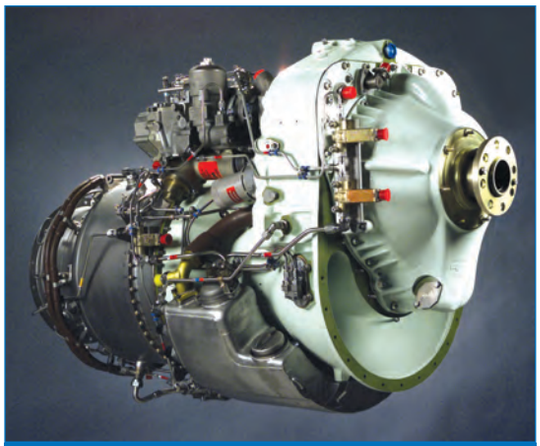


Adour Mk871-07 Engine

HTT-40

HINDUSTAN TURBO TRAINER - 40

The Hindustan Turbo Trainer (HTT) - 40 is an ab-initio trainer aircraft designed to meet primary training requirements. This fully aerobatic tandem seat turbo trainer will have an air-conditioned cockpit, modern avionics and zero-zero ejection seats. Built around a proven turbo prop engine, this aircraft is designed to have good low speed handling qualities for better training effectiveness. This aircraft will be certified to FAR-23 Standard.



Honeywell TPE331-12B

Salient features of HTT-40:

- Sturdy structure with a combination of light alloys and composites
- Single piece canopy giving both pilots good all-round vision
- Full glass cockpit
- Maximum speed 450 km/h
- Maximum load factor +6/-3 g
- Glide ratio of 11.5:1

Roles:

- Basic Training
- Aerobatics
- Navigation
- Instrument flying
- Close formation
- Night Flying

The aircraft is fitted with Glass Cockpit and indigenously developed Avionics viz Radio Communication, Standby Communication, VOR-ILS, TACAN, Radio Altimeter and Identification Friend or Foe (IFF) and ISIS.

The HTT-40 is powered by Honeywell TPE331-12B Turboprop engine.

Do-228
Military & Civil

HAL Do-228, is a highly versatile, multi-utility light transport aircraft manufactured at Transport Aircraft Division located at Kanpur. This highly fuel efficient, rugged, reliable, twin turbo-prop aircraft has been developed specifically to meet the manifold requirements of a variety of roles for military, paramilitary and civil operators.

Foraying into civil aviation market, HAL has manufactured civil Do-228-201 upgraded aircraft

GARRET TPE-331-10 ENGINE

- Optimum hot & high performance
- Optimum hot section life & durability
- Reduction in corrosion
- Reduction in hourly operating cost

5 BLADE COMPOSITE PROPELLER

- Less Weight than metallic propeller
- Reduced external & internal noise level
- Faster engine start
- Less lubrication requirement
- Faster Installation
- Better vibration dampening characteristics

FEATURES

- Fuel efficient engines
- State-of-the-art avionics
- Rugged and reliable structure
- Advanced technology wing
- Use of composite materials
- Comfortable and spacious cabin
- Suitable for operating in all weather conditions
- Short take-off and landing distance
- Low maintenance
- Low lifecycle cost
- Long range with high payload capacity

ROLES

- MRIW (Maritime Reconnaissance & Intelligence Warfare)
- Regional air connectivity/air taxi Troop Transport / Para Jumping
- Search & Rescue
- Cargo and logistics transport / Para drop
- Aerial Photography / Surveillance
- VIP/Executive Transport

DHRUV

Advanced Light Helicopter (ALH) - Mk III

Glass Cockpit

Naval wheeled variant

ALH - Army Utility skid variant

The Dhruv, designed and developed by HAL, is a multi-role, multi-mission, new generation helicopter in the 5.5 tonne weight class built to meet FAR standards. It is designed to meet the requirements of both civil and military operators.

The Dhruv is powered by two Shakti engines with sufficient power margins for single engine performance and CAT 'A' take-off and landing capability. Use of two engines provide increased safety and allows continued flight till safe landing.

Composites have been used extensively in the construction of the ALH. It also features a hingeless main rotor, bearingless tail rotor and anti resonance isolation system.

The Helicopter is fitted with indigenous Avionics viz Radio Communication System, Radio Altimeter and Identification Friend or Foe (IFF), Air Data Unit and Solid State Digital Video recording System.

The Dhruv is ideally suited for VIP transport, search and rescue, offshore operation, disaster relief, EMS and police roles. The ALH is in operation in Nepal, Mauritius and Maldives.

HAL has a dedicated Maintenance, Repair and Overhaul (MRO) facility at Bangalore.

RUDRA

Advanced Light Helicopter (ALH) - Mk IV

Advanced Light Helicopter Mk IV is the armed version of ALH designed to meet the requirements of Indian Army and Air Force with the following Weapons and Mission Sensors :

a. Turret Gun System with Ballistic Computer System (BCS)
b. Rocket System with fixed sight system
c. Air to Air Missile System
d. Anti Tank Guided Missile (ATGM) System
e. Electronic Warfare (EW) System consisting of RWR, LWR, MWR
f. Flare and Chaff Dispenser System (FCD)
g. Electro Optical System (EO) consisting of FLIR / CCD Camera, LRF/LD
h. Helmet Pointing System (HPS)
i. Solid State Data & Video Recorder (SSDVR)

The ALH Mk IV is a sophisticated weaponised platform designed to carry external stores up to 900 kg. ALH Mk IV is equipped with Integrated Architecture Display System (IADS) with Multi-Function Displays. The Helicopter is designed for self defense mode as well as attack mode. Three sighting system are available for aiming at the target which include Electro Optic pod, Fixed sight and helmet mounted sight. The sensors also include Electronic Warfare suite along with Flare and Chaff dispenser. The helicopter can be fitted with 4 rocket pods or two air to air missiles or four air to ground missiles apart from 20mm nose mounted Turret Gun. The mission sensors and the weapon electronics are integrated to the cockpit display system (IADS) through MIL 1553.

LCH
Light Combat Helicopter

Shakti Engine

The LCH is a dedicated attack helicopter developed by HAL. It is fitted with select weapon systems with in-built stealth characteristics. The helicopter features a narrow fuselage and tandem seating for the pilot and co-pilot. The machine is designed for low detection (reduced visual, aural, radar and infra-red signatures) and is fitted with crash worthy landing gear for better survivability.

The Helicopter is fitted with indigenous Avionics viz Radio Communication System, Radio Altimeter and Identification Friend or Foe (IFF).

Features:

- Powered by twin Shakti turboshaft engines
- Helmet mounted targeting systems, electronic warfare systems and advanced weapons systems
- Glass cockpit with multifunction displays, target acquisition and designation system with laser range-finder and laser designator
- Data link for network-centric operations facilitating transfer of mission data to other airborne platforms and ground stations
- 20 mm Turret gun, 68/70 mm rocket pods, Air to Surface and Air to Air Missiles

LUH
Light Utility Helicopter

Ardiden 1U Engine with FADEC

Light Utility Helicopter (LUH) is a new generation utility helicopter in the three tonne weight class designed by HAL to meet the requirements of both military and civil operators. LUH is powered by a single turbo shaft engine with adequate power margins to accomplish high altitude missions in the Himalayas with ease. Light Utility Helicopter is designed and developed by HAL as a fully indigenous product with features suitable for operations in diverse operating conditions.

Roles:

- Pilot Training
- Reconnaissance and surveillance
- Casualty Evacuation
- Utility
- Civil Aviation

Salient features of LUH are:

- Composite Airframe with crash worthy features
- Main & Tail Rotor blades made out of composite materials for damage tolerance capability
- The hinge less Rotor system ensures high agility and maneuverablity of the helicopter
- State of the art Avionics suite with smart MFDs and indigenously developed application software
- Spacious cabin ensuring enough room for troop transport up to 6 troops or 2 stretchers with a medical attendant or large volume internal cargo

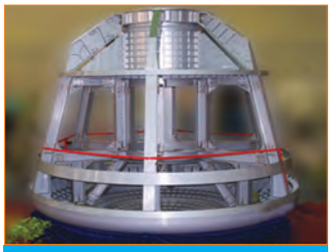
Prototypes of LUH are undergoing flight trials.

AEROSPACE
STRUCTURES

India's growing involvement in space exploration is reflected in the establishment of a world class manufacturing base for satellite launch vehicles and satellite related hardware. The Aerospace Division currently produces metallic and non-metallic structural packages and metallic propellant tankages for satellite launch vehicles like Polar Satellite Launch Vehicle (PSLV), Geostationary Satellite Launch Vehicle (GSLV Mk-II and GSLV Mk-III). The division also integrates the strap-on booster rockets for Satellite launch Vehicles. It manufactures the bus structure of IRS and INSAT class of Satellites. The division has delivered satellite bus structures for the prestigious missions like Mars Orbiter Mission (Mangalyaan), Chandrayaan and Human Space program. The division is upgraded with the facilities to manufacture cryogenic and semi - cryogenic engines for ISRO.

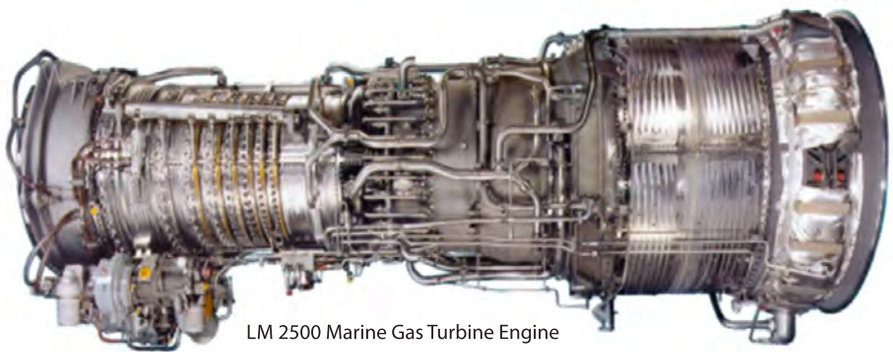
CFRP Heat Shield

Integration of Strap-on Booster Rocket



Structural Hardware for Human Space Program

IMGT
INDUSTRIAL AND MARINE GAS TURBINES



LM 2500 Marine Gas Turbine Engine

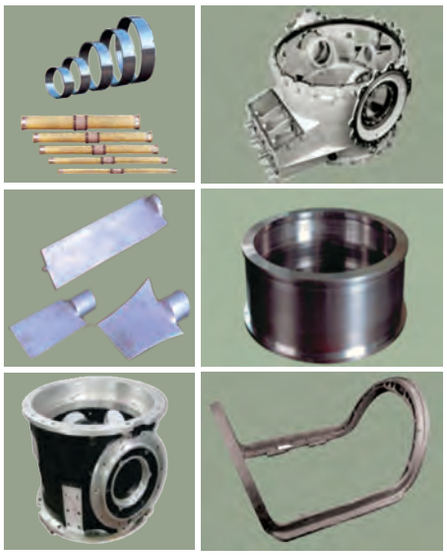
Industrial and Marine Gas Turbine facility is an independent entity to provide focused support to Industrial & Marine Gas Turbine users.

The current activities cover

- Repair, overhaul and on-site support of SGT A20 AV (Industrial Avon) Engines.
- Repair, overhaul and on-site support of SGT A05 (Industrial 501K) series engines.
- Assembly, test, repair and overhaul of LM2500 Industrial and Marine Gas Turbine.

FOUNDRY & FORGE

CASTINGS, FORGINGS & ROLLED RINGS



With continuous focus on Advanced Technology, Quality, Reliability and Skilled Manpower, HAL's Foundry and Forge Division has emerged as a World Class Manufacturer.

Products:

Forgings, Castings, Rolled Rings, Brake pads, Rubber products
Testing as per NABL for outside Organisations

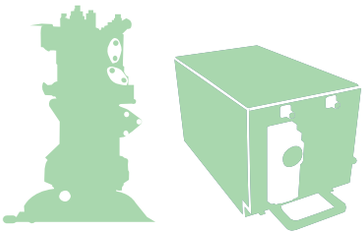
Focused Industries:

Aeronautics, Space, Defence Locomotive, Earth mover, Energy sector etc.,

- F & F Division is AS 9100D certified
- NADCAP approval for Heat Treatment, NDT and Chemical processing
- NABL approval for Testing & Calibration

With premium quality, time bound delivery and competitively priced products, HAL serves major global civil aerospace OEMs, apart from Indian Defence.

ACCESSORIES AND AVIONICS



ACCESSORIES

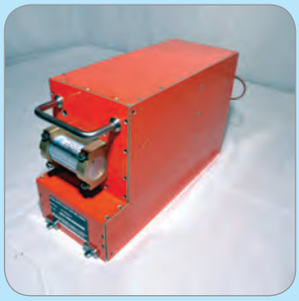
Environmental Control System

Main Fuel Pump

Reheat Fuel Control Unit

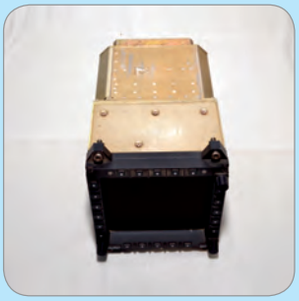
Carbon Brakes

AVIONICS



Solid State FDR

RAM 1770A LUH



MFD

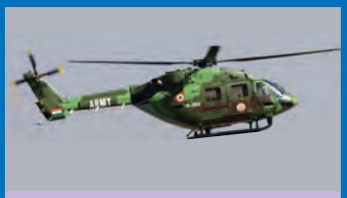
INCOM-1210A

CURRENT AIRCRAFT OVERHAUL & UPGRADE * PROGRAMMES

MiG-21 BISON

HAWK Mk - 132

CHEETAH



ALH-DHRUV

Do-228

Su-30MKI

HJT-16 KIRAN

CHETAK

AVRO HS-748

* JAGUAR DARIN III

* MIRAGE 2000I/TI

* HAWK i

JOINT VENTURES & SUBSIDIARY COMPANY

BAE HAL SOFTWARE LTD	Execute software projects for Indian & overseas markets
INDO RUSSIAN AVIATION LTD	Supply of spares and services for Russian origin fleet of aircraft.
SNECMA HAL AEROSPACE PVT. LTD	Centre of excellence for precision Aero-Engine parts
SAMTEL HAL DISPLAY SYSTEMS LTD.	Manufacture of new generation Display Systems for airborne & ground applications.
HAL EDGEWOOD TECHNOLOGIES PVT. LTD.	Development of high tech aerospace miniature electronic modules & avionics systems.
HALBIT AVIONICS PVT. LTD.	Design, development & marketing of aircraft simulators & avionic systems.
INFOTECH HAL LTD.	Offer Design & Engineering services for Aero-Engines.
HATSOFF HELICOPTER TRAINING PVT LTD.	Academy for training of helicopter pilots through operation of simulator.
TATA –HAL TECHNOLOGIES LTD.	Provide Design & Engineering services for Aero-Structure.
INTERNATIONAL AEROSPACE MANUFACTURING PVT. LTD.	Manufacture of shrouds & compressor casings for Aero-Engines.
MULTIROLE TRANSPORT AIRCRAFT LTD.	Design & Development of Multi- Role Transport Aircraft (MTA).
HELICOPTER MRO ENGINES PVT. LTD	Repair, Maintenance & RoH of Helicopter Engines
INDO RUSSIAN HELICOPTERS LIMITED	Supply & Production of Ka-226T helicopters.
AEROSPACE AND AVIATION SECTOR SKILL COUNCIL (SECTION 8 COMPANY)	Development of skilled manpower in Aerospace and Aviation Sector.
DEFENCE INNOVATION ORGANISATION (SECTION 8 COMPANY)	Implementing the Defence Innovation and Research Initiative.
SUBSIDIARY COMPANY NAINI AEROSPACE LIMITED	Fabrication of Looms for Helicopter & Aircraft.

EXPORTS & OFFSET

Exports include ...

- **Aircraft Platforms :**
  Fixed Wing :
  Do-228 in Commuter & Maritime roles including its spares & services.
  Rotary Wing : ALH - Dhruv, Chetak, Cheetal and its Spares & Services
- Aerostructures like Passenger Doors, Cargo Doors and Freighter Conversion Packages and Structural Assemblies.
- Design Work Packages/Software
- Castings & Forgings/Rolled Rings
- Aero Engines
- Avionic Systems
- Flying training for Rotary wing pilots
- Operation and Maintenance Training

OFFSET

HAL being India's leading Aerospace company, has a wide variety of offerings for Global OEMs and to facilitate them to liquidate their offset obligations.

NEW PROJECTS

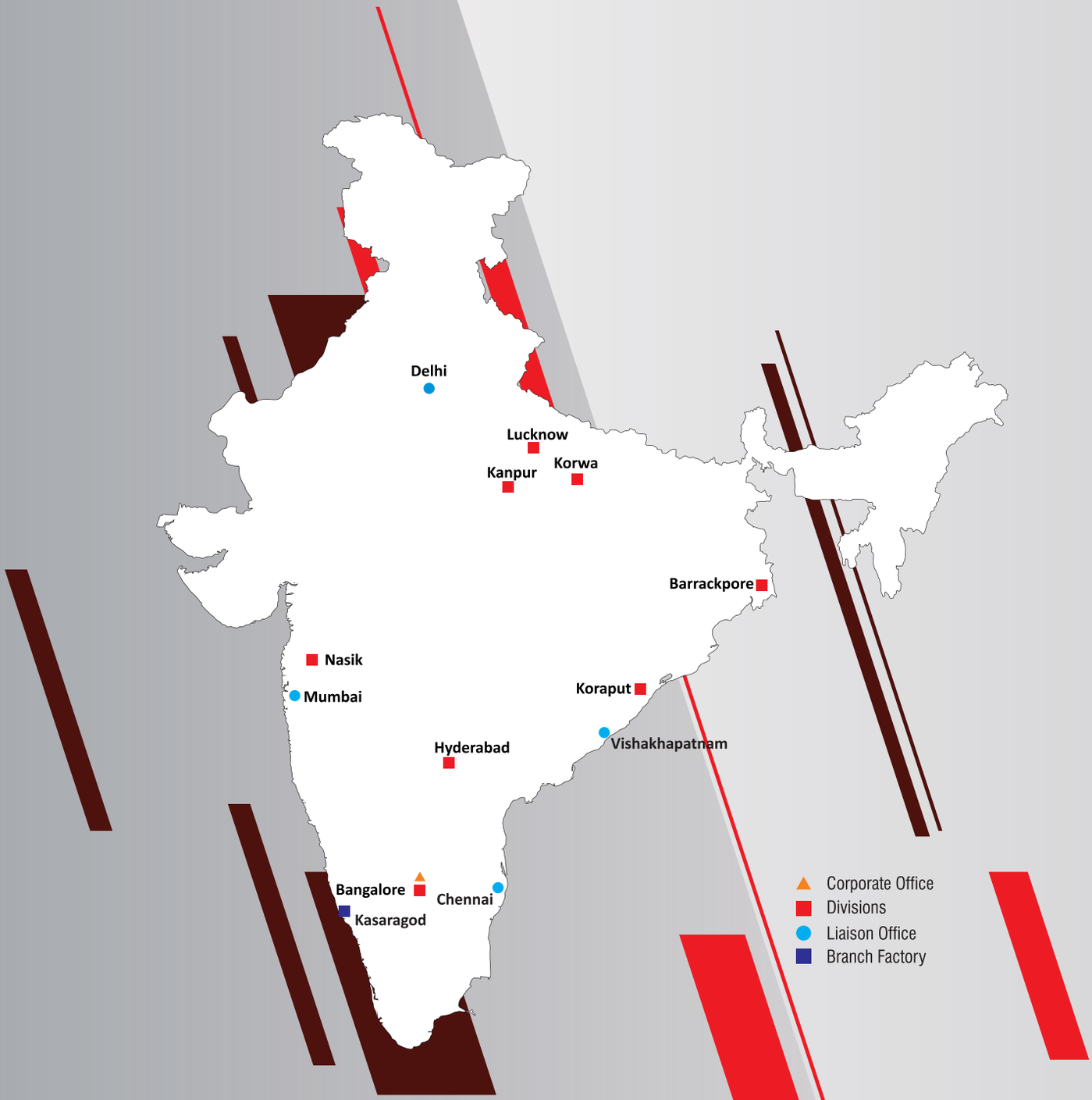
Hindustan Turbo Fan Engine (HTFE-25) : Hindustan Turbo Fan Engine is a twin spool engine of 25 kN thrust at ISA-SLS condition. Such medium thrust class engine finds application in military trainer aircraft, small Regional jets and unmanned applications.

Hindustan Turbo Shaft Engine (HTSE-1200) : Hindustan Turbo Shaft Engine is 2-shaft engine with 1200 kW shaft power at ISA-SLS condition. This class of engine finds application in 3 to 6.5 tonne class Helicopters.

Indian Multi-Role Helicopter (IMRH) : Indian Multi Role Helicopter is designed to meet the operational requirement of Indian Military services. It would incorporate advance technology features like Smart Cockpit display system, Four axis auto pilot, Crash worthy structure and extensive use of composites. IMRH is a new generation twin engine helicopter in 10-12 ton weight class. Army / Air Force version of IMRH will be a tactical troop transport platform, especially for high altitude. Navy version of IMRH will have three variants, Special operations, Anti submarine and Anti surface versions.

Unmanned Aerial Vehicle (UAV) : HAL has taken up indigenous in-house design of eight kg class fixed Wing Mini UAV for Military and Civil Application. It is proposed to be an electrically propelled, fully autonomous platform with light weight ground control station, secured data links and mission specific payloads, two-man portable, having 10-15 kms mission radius. This UAV is designed to carry out surveillance and reconnaissance missions.

MALE UAV-RUSTOM II : Rustom II - A multi-role, multi-mission UAV designed to meet the requirements of Army, Air Force and Navy. Capable of operating at medium to long range to gather near real time, high quality imagery and signal intelligence from areas of interest.



हिन्दुस्तान एरोनाटिक्स लिमिटेड

HINDUSTAN AERONAUTICS LIMITED

For more information, please contact :
General Manager (Marketing), Corporate Office

Hindustan Aeronautics Limited

15/1, Cubbon Road, Bangalore - 560 001. India.
Tel. : +91 80 2232 0197, 2232 0860, 2232 0017, 2232 0258. Fax : +91 80 2232 0140.
Email : marketing@hal-india.co.in
Web: www.hal-india.co.in