



# HEAVY INDUSTRIES TAXILA

Strength Through Self Reliance

## PRODUCT PROFILE



**MARGALLA HEAVY INDUSTRIES LIMITED**

(A wholly owned subsidiary of Heavy Industries Taxila)



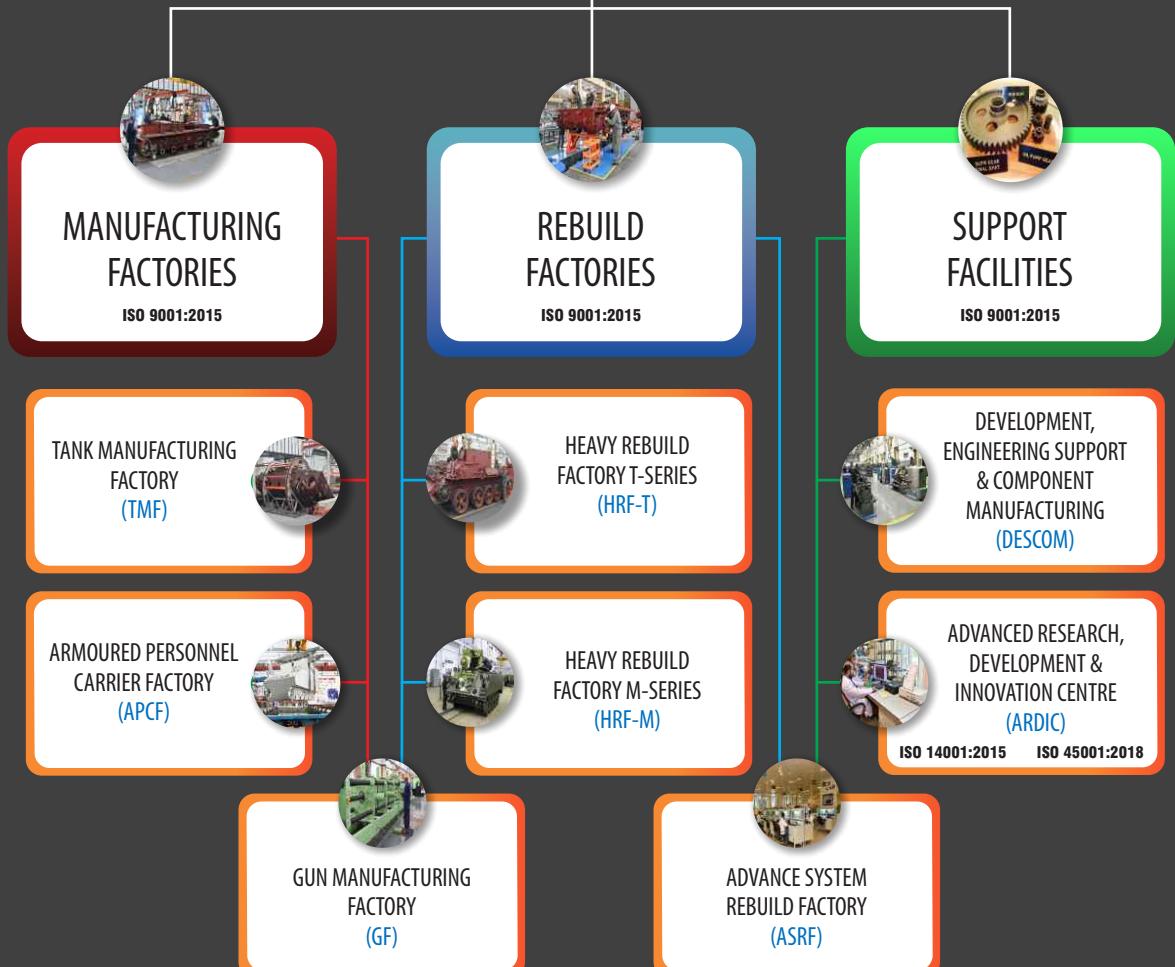
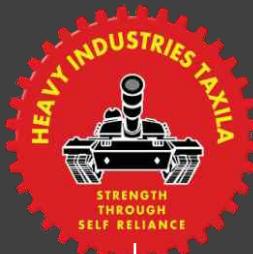


# MISSION

Manufacturing, Rebuild, Upgrade and Conduct  
R&D of Armoured Vehicles with emphasis on self  
reliance through indigenization and utilize HIT's  
commercial potential to meet requirements of  
civil sector and friendly countries

**UNWAVERING COMMITMENT TO  
NATIONAL SECURITY SINCE 1971**

# HIT Production Facilities



**Margalla Heavy Industries Limited (MHIL)** was established in **September 2020** as the commercial arm of Heavy Industries Taxila (HIT), Pakistan's premier defense production complex. While HIT provides the infrastructure, manufacturing plants, advanced machinery, and a highly skilled workforce, MHIL serves as the marketing and commercial face, bridging HIT's extensive capabilities with global markets.



# Tank Haider



## CHARACTERISTICS

### General Specification

Combat weight	53 ± 1 ton
Crew	3
Engine power	1200 hp
Power-to-weight ratio	22.64 hp / ton
Mean pressure to ground of track	2.85 kg/cm <sup>2</sup>
Cruising range (with additional fuel barrel)	300-350 km 400-450 km

### Running Gear

Track	Metal with removable rubber pad pivot turning available
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### Mobility / Performance

Maximum speed on highway	70 km/h
Cross-country speed	35-45 kn/h
Maximum reverse speed	Maximum-16.5 km/h
Trench clearance	2.7 m
Vertical obstacle negotiation	0.85 m
Gradient / Side Slope	60% / 40%

### Ammunition

Main Gun Ammunition	APFSDS, HE, HEAT, Guided / Gun-launched Missile
On board number of ammo	38 rounds

### Muzzle Reference System

Equipped with MRS	AAMG can be remotely controlled to acquire
AAMG Sighting System	track a target, measure and set the range automatically

### Protection

Armour protection	Composite armor
Secondary Protection	Semi Active Protection System (SAPS) integrated with countermeasures
NBC	Collective NBC Protection with Radiation detector
Fire Extinguishing and Explosion Suppression	Automatic, in engine fighting, and driver compartments

### Power Pack

Type	Four-stroke, Turbocharged, Intercooled, Electronically Controlled Diesel Engine
Rated Power	1200 hp
Transmission type	Hydro-Mechanical, Automatic
Steering	Dynamic-static hydraulic combined steering

### Suspension System

Type	Torsion Bars, Shock Absorbers
Bump Stop	Hydraulic Buffer

### Fire Power

Main Gun	125mm smooth bore chrome plated
Co-axial MG	7.62mm
AAMG	12.7 mm RCWS with Auto-Tracking

### Auto Loader

Automatic and digitized
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### FCS / GCS

Gunner's Day sight Type	Independent bi-axis stabilized with independent FOV stabilization with HMSS
FOV / Magnification	Wide FOV - 100 / 6 x Narrow FOV - 60 / 10 x
Gunner's Night sight type	Thermal Imager (576 x 4)
Night Sight Range	Detection: ≥ 12.2 km Recognition: ≥ 4.0 km Identification: ≥ 2.4 km
Commander Sight	View from Gunner's day and TI sights via Display/Control Terminal

### Misc

Front / Rear View System	
GPS and INS installed	
Advanced vehicle-borne information system	
Air Conditioning	



# Tank Al-Khalid 1



## CHARACTERISTICS

### General

Combat Weight	46-48 ton
Crew	3
Cruising range	400 km
Power to weight Ratio	18.3 kw/t
MMP	~270 kn/m <sup>2</sup>

### Power Pack (6TD-II)

Rated Power	882 kw (1200 hp)
Cooling	Water Cooled
Fuel	Diesel (Multiple Fuel)
Transmission Type	Hydraulically Operated Manual Shift Multiple Reverse Speed Pivot / Skid Planetary Type

### Performance

Max Speed	70 km/h
Acceleration	0-32 kmph in 10~12 Sec
Trench crossing	>2.7 m
Obstacle crossing	>0.85 m
Gradient / Side Slope	60% / 40%

### Armament

Main Gun	125mm Smooth Bore, Chrome Plated Autofrettaged, Ammunition type Separately Loaded (Split Type) APFSDS, HEAT, HE
Co-Axial MG	7.62 mm
AAMG	12.7 mm RCWS with Auto-Tracking
On board No of Ammo	48 rounds

### Auto Loader

Type	Circular Carousel (Cassette Type)
No of Rounds	22
Rate of Loading	6~8 Rounds / Minute
Control	Solid State

### Commander Sight

Type	Panoramic Bi-Axis Stabilized, LRF, 2 <sup>nd</sup> Generation IIT, Hunter Killer Capability, Override Capability
Magnification Field of View	Dual 6x to 10x 10° to 6°

### Head Mirror Stabilized Gunner Sight (HMSS)

Type	Independent Bi-Axis Image-Stabilized
Magnification	Dual. 6x to 10x
Field of view	10° to 6°

### Auto Tracker

Tracking error	< 0.1 mils
Interfaced with	Gunner & TI Sight
Target Locking	Auto / Manual

### Misc

Air Conditioner	Solid State Auto loader (SSAL)
Auxiliary Power Unit	Improved Fire Extinguishing & Explosion Suppression Thermal Smoke
Improved Muzzle Reference System	Improved Radiation Detector
FDU-Refueling Rate (70 + 10lit/min)	Armour Protection (ERA)
Fuel-Multi Fuel (Diesel, Petrol, Kerosene Oil)	DNVDs (TI Based)
Torque Multiplier Track Adjuster	
Digital Driver Panel	

### Additional Add Ons

Integrated Battle Field Management System
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# Tank Al-Zarrar



## Upgrading of Tank T-55, T-59, T-69

The Al-Zarrar upgrade project was initiated to maximize the potential of tank T-55 / T-59 / T-69 through extensive R&D and prototype trials. After successful evaluations, series production commenced in January 2003. More than 480 tanks T-55, T-59 & T-69 have been upgraded to AlZarrar configuration by HIT

## CHARACTERISTICS

### General:

Combat weight	42.7 tons
Crew	4
Power to weight ratio	17.1 hp/ton
Engine horse power	730 hp Diesel Engine
Maximum speed	55 km/h
Cruising range	400 km (with spare barrels)
gradient	60%
Side slope	30°
Vertical obstacle	0.8 m
Fording	1.4 m

### Running Gear

Track	Rubber
Support roller	3 each side
Shock absorber	Friction type (2 x each side)
Torsion bars	10
Buffer cylinder	4 (2 x each side)

### Armaments

Main Gun	125 mm Smooth Bore
Projectiles	APFSDS, HEAT, HE
Co-axial MG	7.62 mm
AAMG	12.7 mm RWS with Auto-Tracking
Loading system	Semi auto Loading/ Ramming System

### FCS/GCS

▪ Gun stabilization	Bi-Axis
▪ Firing modes	S-S, S-M, M-S, M-M
▪ ISFCS/SFCS	Both
▪ Muzzle reference system	Available

### Composition of Observation (Target Acquisition) System

#### a. Gunner Sight

Magnification	10 times
Angle of FOV	6° 30'
Range Finding	200~5000 m
Resolution in Azimuth	≤ 1.2 mrad
Resolution in Range	50 m

#### b. Thermal Imager Sight

2nd generation Thermal Imager	yes
System Control Panel	
Gunner Display Unit	
Commander Display Unit	
Automatic Brightness Control	
Installation kit	
DRI	

#### Field of View

Wide	8° x 6°
Narrow	3.2° x 2.4°

#### c. Periscopes for Driver, Gunner & Commander

Periscopic, High performance & periscopes	Unity
Rubber padded	
Magnification	
FOV	38 ± 2°

### Add-on Features

- Laser warning and vehicle obscuration system
- Remote controlled weapon system (12.7mm AAMG)
- Auto tracker system
- Driver observation system



## ARMOURED PERSONNEL CARRIER (APC)

# TALHA-1



APC SAKB  
(COMMAND VEHICLE)



APC AL-QASWA  
(LOGISTIC VEHICLE)



AL-HADEED  
(RECOVERY VEHICLE)

## Characteristics

### General

Combat Weight	12 ~ 14 ton
Curb Weight	10.5 ton
Pay Load	1.5 ~ 3.5 ton
Length	5,512 mm
Width	2,540 mm
Height	1,854 mm
Crew Capacity	13
Fuel Tank Capacity	360 Liters
Firing Ports	2 Each Side
Hull	Al Alloy, Monocoque

### Powerpack

Engine	6.6 Liters, 4 Cycle, V8, Diesel (275–350 hp)
Transmission	Automatic, 4 Speed

### Sub System / Accessories

Suspension Type	Torsion Bar
Steering	Differential or Pivot/Wheel
Pivot Brake Type	Disc
Alternator	100 Ah, 28 V DC
Batteries	2 x 12 V
Fire Extinguisher	CO <sub>2</sub> in Engine & Crew Compartment
Armament	7.62 / 12.7 mm MG

### Protection

Basic Level	B6
With Add on	Protection against 12.7 mm

### Performance

Speed (Level Ground)	70 km/h
Turning Radius	Pivot to Infinite
Slope / Side Slope	60% / 30%



**WHEELED ARMOURED PERSONNEL CARRIER**  
**FAARIS**



12.7mm Open Turret

30mm One Man Turret

105mm Turret

120mm Mortar

Ambulance

Recovery

## Characteristics

### General

Combat Weight	25 ton
Curb Weight	17.5 ton
Pay Load	7.5 ton
Length	7,200 mm
Width	3,000 mm
Height	2,400 mm
Crew Capacity	11
Fuel Tanks Capacity	510 liters
Firing Ports	2
Hull	Monocoque

### Power Pack

Engine	570 hp
Transmission	Automatic 7+1

### Sub System / Accessories

Suspension Type	Hydro-pneumatic Independent Suspension
Steering	Axle I / II
Brake Type	Pneumatic Disc
Alternator	10 kW, 28 V

### Batteries

Fire Extinguisher

2 x (24 V, 130 AH)

Automatic: Engine, Manual:

Crew Compartment

7.62 mm / 12.7 mm

### Protection

#### Ballistic

Basic: STANAG Level 1,

With Add On: STANAG

Level 4

STANAG Level 4

#### Blast

#### Mine Protection Seats

Yes

### Performance

Speed (Level Ground) 110 km/h

Turning Radius (mm) 10,000

Slope / Side Slope 30° / 17°

### Additional Features

Can Bus Yes

Navigation System Beidou+GPS



MINE - RESISTANT AMBUSH PROTECTED VEHICLE (MRAP)

# HISAAR



## Characteristics

### General

Combat Weight	14 ton
Curb Weight	12 ton
Pay Load	2 ton
Length	6,000 mm
Width	2,660 mm
Height - Excluding Turret	2,530 mm
Crew Capacity	10
Fuel Tank Capacity	200 liters
Firing Ports	13
Hull	Monocoque

### Powerpack

Engine	296 hp
Transmission	Automatic, 6 Speed

### Sub System / Accessories

Suspension Type	Independent
Steering	Power Assisted by Hydraulic
Brake Type	ABS Disc

### Alternator

200 A, 24 V

### Batteries

2 x 24 V

### Fire Extinguisher

Available

### Armament

12.7 mm

### Protection

#### Ballistic

Level 2, Up-gradable to Level 3

#### Blast

Level 3a/3b

### Performance

#### Speed (Level Ground)

110 km/h

#### Turning Radius

7,900 mm

#### Slope / Side Slope

60% / 30%



**ARMOURED SECURITY VEHICLE (ASV)****MOHAFIZ-V****Characteristics****General:**

Length	5400mm (Without Spare Wheel)
Width	2200 mm
Height	2100 mm (Without Turret), 2600 mm (With Turret)
Curb Weight	4.8 Ton
Combat Weight	5.6 Ton
Crew Cap	8

**Performance:**

Speed on Metalled Road	120 km/h
Clearance	220 mm
Drive System	4x4 (Part Time)
Minimum Turning Radius	7200 mm
Break System	Upgraded

**Power Pack**

Engine	202 hp
Engine Type	Diesel, 4.5L / 2.8L, 8 Cylinders, 4 Stroke, Water Cooled
Transmission	5 Speed Manual and 1 Reverse

**Protection**

Armour Level	Ballistic Steel B6 As per EN 1522/1523
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**Technology**

V8 Turbo Diesel with Intercooler
Toyota 5 speed Manual Transmission
4x2/ 4x4 High / 4x4 Low
Front/Rear upgraded Suspension
Run Flat Tyres
Front/Rear Upgraded Disc Brakes
Air Conditioner/Heater
Turret

**Features**

Heavy Duty Aluminum Alloy Rims
Heavy Duty Run Flats
Firing Ports and Sight Glasses
Rifle Racks
Public Address System
Search Light
Exhaust Fan
Roof Ventilators
Seat Belts
Tool Set
First Aid Box
Protection B6 - Standard (EN-1063)



# ARMoured SECURITY VEHICLE (ASV)

# PROTECTOR



Armoured Security Vehicle Protector, design & manufactured at HIT is based on the commercial chassis using light weight composite armour.

<b>Engine Type</b>	Water cooled Turbo -Diesel, 8 cylinder, 150 kw (202 hp) at 3400 rpm
<b>Transmission Type</b>	Manual, 5-speed forward and 1-reverse
<b>Drive System</b>	4-wheel drive (4x4)
<b>Ground Clearance</b>	200 mm
<b>Brake System</b>	Hydraulic power assisted brakes (Upgraded)
<b>Seating Capacity</b>	8(2 + 6)
<b>Suspension</b>	Heavy duty (Upgraded)
<b>Tires</b>	Run - flat tyres (4 + spare); meet NATO / FINABEL speed and distance standard of 50 km at 50 km/h
<b>Steering</b>	Power Assisted
<b>Exhaust Fan</b>	1
<b>Body Protection</b>	B7 Level
<b>Bullet Proof Glass</b>	B7 Level
<b>Firing Hatches</b>	2
<b>Rifle Racks</b>	Vertical rack(s) for a total of 5 full stock of AK-47 rifles
<b>Turret</b>	Centered position, Manned turret with B-7 protection. Demountable seat; minimum 14" height with hatch cover; 360° rotation, 7.62mm RCWS (Optional)
<b>Air Conditioner</b>	Available (Optimum air conditioning will be assured)
<b>Towing Hooks</b>	Optional
<b>Fire Extinguishers</b>	2
<b>First Aid Box</b>	1
<b>Public Address System</b>	1
<b>Siren System</b>	1
<b>Bumpers</b>	Heavy duty front bumper, RAM style; heavy duty rear bumper with rear steps
<b>Fuel tank Protection</b>	Yes (Capacity 90 liter)
<b>Lights Protection</b>	Head lights, rear brake lights, indicators and back lights protected with steel mesh
<b>Doors</b>	3 (2 front, 1 rear)
<b>Weight of Vehicle</b>	4900 Kg GVW



# AIMS

## (Advance Infantry Mortar System)



AIMS is designed to enhance precision, adaptability, and rapid response in modern combat. Mounted on 4x4 vehicles, it provides superior mobility with shoot-and-scoot capability, reducing vulnerability during operations. The system ensures high accuracy and reduced system wear through digital fire control and stabilization. It supports dual calibers (81mm and 120mm), allowing flexibility across mission needs, with rapid deployment and automated target alignment to reduce operator workload. Equipped with an integrated ammunition carrier, AIMS minimizes resupply dependence and enables prolonged engagement.

### Characteristics

Multi-Caliber Support	Configurable for 81mm and 120mm calibers	Deployment Time	Position to direct fire: < 50 sec
Firing Range	120mm Mortar: 6.5 km 81mm Mortar: 4.5 km	Re-aim: < 10 sec	New Target: < 10 sec
Ammunition Capacity	40 rounds (120 mm) 60 rounds (81 mm)	Withdrawal: < 25 sec	
Ammunition Carrier	Integrated with system for rapid reloading	Traversal / Elevation	110° traversal 50° – 85° elevation
Physical Dimensions	Platform requires 7' x 2.5' (L x W) on vehicle bed (adjustable as per user requirements)	Platform	Vehicle-mounted setup for versatile deployment on any 4x4 vehicle - reinforced suspension
System Weight	Less than 1300 kg (without ammunition)	Payload	1500 kg
		Digital FCS	Provides map visibility, reduces operator load, ensures precise targeting



## REMOTE CONTROLLED WEAPON SYSTEM (RCWS)

## ZARB

12.7mm  
RCWS7.62mm  
RCWS7.62mm RCWS  
Mounted on  
ASV Mohafiz-V

The RCWS family is engineered to provide precision firepower, superior safety, and versatility in modern battlefield operations. Configured for ground role missions, the systems can be integrated onto a wide range of military vehicles or operated from bunkers, offering border, perimeter, and asset protection. It delivers shoot-and-suppress capabilities while ensuring operator safety through remote control. Designed in-house, it ensures cost-effectiveness, rapid deployment, and accurate engagements in both offensive and defensive roles with calibers up to 12.7mm.

## Characteristics

Caliber	12.7mm / 7.62mm / AGL	Sighting System	Electro-optical sight (customizable), Thermal imager (optional)
Ammunition Capacity	Customizable as per user requirement	Fire Control	Touch-screen enabled auto-laying for quick engagements
Rate of Fire	Up to 600 rounds/min (customizable)	Weight	ZARB LV - 100kg ZARB M - 200kg ZARB H - 400kg
Operational Envelope	360° traverse; -20° to +60° elevation	Integration	Compatible with all military vehicles and ground-based roles
Firing Modes	Single shot and automatic		
Loading	One-time manual loading and cocking		



# TANK & ARTILLERY GUN BARRELS



## Gun Systems

### Tank Gun Barrel

- 105 mm mechanically autofrettage rifled tank gun barrel
- 125 mm chrome plated hydraulic autofrettage smooth bore tank gun barrel

## Gun Systems Parts

### 125 mm Tank Gun

Comprises of following distinct sub-assemblies meticulously manufactured, assembled and rigorously tested at the HIT, adhering to the highest standards of quality

- Recuperator
- Recoil
- Barrel
- Bore Evacuator
- Cradle
- Safeguard
- Cartridge Case Ejector
- Elevating Mechanism
- Recoil & Wedge Contact
- Thermal Sleeve
- Breech Ring
- Breech Block
- Worm Wheel Casing & Box

HIT also specialize in the manufacturing of following

- Steepled interrupted screw type breech blocks inclusive of the firing mechanism and breech ring for 155 mm artillery guns.



# DISCREET ARMOURING

## Ballistic / IED Protection - Military Vehicles



### Characteristics

#### General:

##### Specifications

	Single Cabin	Double Cabin
Length	5300 mm	5320 mm
Width	1800 mm	1800 mm
Height	2300 mm	2300 mm
Curb Weight	3500 kg	3700 kg
Combat Weight	4140 kg	4420 kg
Payload	640 kg	720 kg
Crew Capacity	2+6	5+4
Engine Horsepower (with Installation of Power Enhancement Kit)	220 hp	220 hp
Transmission	6 Speed Manual	6 Speed Manual

#### Protection

Armour	B6 Level Per CEN 1522, 1523 & 1063
Blast Protection	Protected Against IED Blast

#### Upgrades

Upgrades	Brakes
Suspension	Suspension
Clutch	Clutch
Run Flat Inserts	Run Flat Inserts
Power Enhancement Kit	Power Enhancement Kit
Firing Port	Available

#### Performance:

Gradability	60%
Side Slope	30%
Fording Depth	0.7 m
Approach Angle	40°
Departure Angle	45°



# DISCREET ARMOURING

**Bulletproofing of Commercial Vehicles  
(B6 Level Protection)**



MHIL offers high-end, quality discreet bulletproof protection for commercial vehicles. We turn regular commercial vehicles into extraordinary bulletproof machines. Our ballistic steel, ballistic glass and blast steel are certified internationally as well as by Inspectorate of Armament, GHQ.

With state of the art equipment, validated and approved manufacturing processes operated by highly skilled and qualified manpower, nothing is left to chance.

**Main feature of bullet proofing are as under:**

All around Cabin Protection including Bullet Proof

Glasses (B6 and B7 level)

**Run Flat Tyres**

**Upgraded Brakes**

**Upgraded Suspension**

**Floor Protection against 2 x DMI 51 Grenade**

**Installation of Engine Performance Enhancement kit**



# PERSONAL PROTECTIVE EQUIPMENTS (PPEs)

## Bulletproof Jacket without side HAPs PK Level III & IIIA

### Design Features

Protected Area	Front, Back, Neck, Shoulders and Groin pad
Vest opening	Both sides & 1 x shoulder using Velcro
Casualty drag handles	Available upon request
Protection plates	Front & Rear
Adjustable features	Waist & Shoulder
Ammunition Pockets	2 front pockets (can be customized) Shoulder padding for carrying guns Flexible & Easy to use Withstands rough handling



### Physical Properties

Level of Protection	Pk Std Level III, IIIA
Outer Cover	High Tenacity Fabric (1000-D)
Maximum Weight	Small 7.4 kg, Medium 9.1 kg & Large 11.25 kg
Blast trauma protection	Excellent stopping power with multi hit angle shot benefit
Size	Small, Medium, Large

### Hard Armour Plates

Protection Level	Pk Std Level III (In conjunction with Level IIIA soft armor_
Shock absorbent	Edge protection provided
Weight per plate	Small 1.7 kg, Med 2.3 kg & Large 2 kg Max
Size / Shape	Small 250 x 300 mm Med 300 x 350 mm Large 350 x 400 mm Max
Outer cover	Laminated with suitable water proof fabric
Protection level	Pk Std Level III (9 x bullets fired from 15 m) (3 x rounds of 7.62 x 51 mm - M80 Ball) (3 x rounds of 7.62 x 39 mm - AK-47) (3 x rounds of 5.56 x 45 mm - SS-109)

### Soft Armour

Material	HPPE (High Performance Poluethylene) / Aramid Fabric
Construction	Multiple layers of suitable material
Protection Level	Pk Std Level - IIIA 6 rounds of 7.62 x 25 mm TT Pistol bullet fired from 5 m



# PERSONAL PROTECTIVE EQUIPMENTS (PPEs)

## Bulletproof Vest (BPV) PK Level - IIIA

### Design Features

Protected Area	Front, Back
Vest opening	Both sides
Adjustable features	Waist only with optional shoulder adjustment
	Flexible & Easy to use withstands rough handling



### Physical Properties

Level of Protection	Pk Std Level IIIA
Outer Cover	High Tenacity Fabric (1000-D)
Maximum Weight	3.2 kg Max
Blast trauma protection	Excellent stopping power with multi hit angle shot benefit
Size	Small, Medium, Large & X Large

### Soft Armour

Material	HPPE (High Performance Polyethylene) / Aramid Fabric
Construction	Multi layers of suitable anti-ballistic material
Protection Level	Pk Std Level - IIIA 6 rounds of 7.62 x 25 mm TT Pistol bullet fired from 5 m
Size / Shape	Small 250 x 300 mm Med 300 x 350 mm Large 350 x 400 mm Max
Outer cover	Laminated with suitable water proof fabric
Protection level	Pk Std Level III (9 x bullets fired from 15 m) (3 x rounds of 7.62 x 51 mm - M80 Ball) (3 x rounds of 7.62 x 39 mm - AK-47) (3 x rounds of 5.56 x 45 mm - SS-109)

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# PERSONAL PROTECTIVE EQUIPMENTS (PPEs)

## Bulletproof Helmet NIJ Level 0106.01



### Ballistic Protection

The PASGT Helmet is available to meet NIJ Level 0106.01 as well as bespoke design to meet specific client needs.

### Fragmentation Protection

Should be capable to provide min V50 (0° obliquity) protection with 64 gr RCC (vel: 1750 ft/sec) and 17 gr FSP (vel: 2200 ft/sec)

### Sizes

The helmet should be of three sizes i.e. small, medium and large, with adjustable chin straps to suit head sizes as under, (these sizes are for inner fittings of helmets):-

Small	54.7cm and below
Medium	54.8cm to 57.5cm
Large	57.7cm and above

### Colours

Standard colours - black, navy blue & olive drab

### Maximum Weight

1.450 kg Max

### Material

Aramid, Kevlar or composite system of high strength textile

### Construction

Multiple layers of suitable anti - ballistic material

### Protection Level

Ballistic testing will be carried out as per NIJ 0106.01.

Following weapon / ammunition will be used:

- a. Weapon SMG MP5A2/A3
- b. Ammunition 9 x 19 mm Mk-22
- c. Firing Distance 5 meters

## Anti-Riot Kits

### Design Features

Helmet with visor	Impact-resistant, anti-fog, gas mask compatible
Body armor	Shock-absorbing, chest & abdomen protection
Arm & leg guards	Hinged, hard-shell with padding for mobility + protection
Groin protector	Optional, detachable
Gloves	Cut-resistant, reinforced knuckles, strong grip
Boots	Reinforced toes/ankles, slip-resistant, flame/chemical resistant
Shield	Transparent, shatterproof, lightweight, fire-resistant
Extras	Modular, flame-resistant, ventilated padding, reflective markings

### Physical Properties

High impact resistance	Protects against stones, sticks, and blunt objects
Lightweight construction	Allows mobility during long operations
Shock absorption	Foam lining reduces trauma from strikes
Flame resistance	Withstands fire or Molotov cocktails
Chemical resistance	Compatible with gas masks, some parts resist irritants
Transparency	Clear polycarbonate for visibility
Shatterproof	Visor and shield designed not to break into sharp fragments
Durability	Withstands repeated impacts without losing function
Ergonomic flexibility	Segmented plates and hinged joints for movement
Weather resistance	Usable in rain, heat, or humidity



# COMMERCIAL PRODUCTS

## Armoured Guard Post Aahan One & Two men



Armoured Guard Post (AGP) is manufactured to provide protection against 7.62mm NATO Ball (B6) & AP bullet (B7). Firing ports are provided on each side of the AGP in order to engage the targets in both sitting and standing position with view ports placed above the firing position. An optional 360 rotation turret can be provided with firing and view ports which can be mounted with 7.62mm machine gun. In order to provide comfort to the personnel on duty, air conditioning / heating system is made part of AGP. It is ideally suited for use at vulnerable localities and important government buildings like airports, defence installations, banks, communications centers, embassies, diplomatic enclosures and private bungalows etc. We can also manufacture custom designed Armoured Guard Posts.

## Characteristics

Spec	One man	One men
Length x width x ht	57 x 58 x 85 inch	85 x 59 x 85 inch
Wt	1200 / 2600 kg	2000 / 3500 kg
Rifle rack	1	2
PA sys	Aval	Aval
AC sys	Aval	Aval
Seating capacity	1 x foldable seat	2 x foldable seats
Adjustable Platform	Aval	Aval
Table	1 x foldable	2 x foldable
Viewports (sides + turret)	8+3	12 + 3
Firing Ports (sides + turret)	8+1	12 + 1



# COMMERCIAL PRODUCTS

## Modular Vehicle Barrier (2.5 Ton Truck Blocking Capacity)

### Characteristics

Length	3 m (10 ft)
Width	1 m (3.25 ft)
Height	0.9 m (3 ft)
Weight	250 kg (approx)
Assy Time	20 min
No of Modular Assy	6
Unit Weight of Modular Assy	40 kg
Dimensions of Modular Assy (L x W x H)	44 x 6.5 x 10 inches
Paint	Yellow (as per user requirements) with light reflectors

Once assembled, can be re-located easily by single person

Collision / impact with make vehicle (Car, Jeep, Truck) - Immobilize



## Portable Tyre Killer

### Compact Dimensions

Length	0.6 m (2 ft)
Width	0.5 m (1.6 ft)
Height	0.07 m (2.75 inches)

### Stretched Dimensions

Length	4.8 m (15.8 ft)
Width	0.15 m (0.5 ft)
Height	0.07 m (2.75 inches)
Deployment Time	01 min
Weight	28 kg (approx)
Paint	Yellow (as per user requirements)
Impact will burst tyres of vehicles, which will ultimately make vehicle immobilize. Complete tyre killer can be carried by 1 x person	





# AGRI-MECHANIZATION

## Central Pivot Irrigation System (CPIS)

MG 1001 LP Low Profile 8ft height	MG 1001 LP Standard Profile 12ft height	MG 3001 HP High Profile 15ft height
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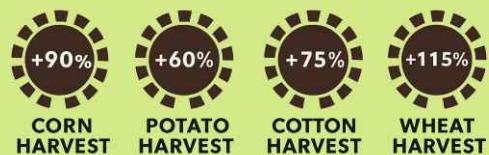
Configuration	Acre	Hectares
1: P+0+4*198.9	50	20
2: P+0+4*198(6")+2*180(8")	100	40
3: P+0+1*180(6")+7*180(8")	150	60
4: P+0+1*198(6")+8*180(8")	200	80
5: P+0+1*217(6")+9*180(8")	250	101

### Advantage

- Water Efficiency
- Labour & Time Saving
- Maximizing Crop Yield
- Fertigation & Chemigation



Pivot irrigation system can increase in yield



## Laser Land Leveler

Structure Type	- Traction type
Dimension	- 2650 x 1600 x 1320mm
Hitching	- PTO
Matched Power	- 65 hp
Control mode	- Laser control
Levelling shovel	- Straight shovel
Tyre size	- 23 x 8.50/12
Weight	- 900 kg



## Super Seeder

Matched power	- 65 hp (48.47 KW)
Dimensions	- 1600 x 2300 x 1400mm
Weight	- 1012 kg
Working width	- 200 cm
Working rows	- 12
Seeds/fertilizer tank capacity	- 60 kg
Seeds / dispatching qyt	- 12



## Agri Drones

Crop spraying, survey, monitoring and management  
Completely programmable  
AI based monitoring system  
50 Liter pesticide / spray tank





Solutions for  
Armoured Vehicles -  
from **Print to Build**



# OUR SERVICES



# Design, Analyze & Validate

## Design Centres

HIT has variety of specialized testing facilities in line with international requirements. These facilities are extensively used by HIT and other public/private organizations to conduct R&D, material analysis, prototype qualification and testing / authentication of final products.

### Mechanical Design Centre

- Design, analyze and validate engineering systems
- Simulation of new concepts and ideas or existing design (Static and Dynamic)
- Analysis of components, assemblies or overall product using CAD tools such as AutoCAD, CREO, ANSYS etc.
- Inspection parts using 3D Scanners, Faro Arm and Coordinate Measuring Machines

### Electrical Design Centre

Design and generate Gerber data for circuits using Altium Software and printing of PCB cards

### Rapid Prototyping

Fused Deposition Machine (FDM) to create solid models directly from 3d CAD files (STL) using materials like ABS, Plastic & Polycarbonate

# Testing Facilities

### Ballistic Effect Testing Lab (BETL)

To authenticate full range of armoured products in controlled lab environment

### Material Testing and Characterization

Materials Testing through spectrometer and wet analysis for ferrous and non-ferrous materials. Impact, Tensile and Hardness Testing of metals.

### Polymer and Rubber Testing

Testing of the mechanical properties of textile, rubber, board and composite material to measure tensile strength, elongation, flexural Strength, compressive Strength

### Calibration Facility

ISO certified calibration facility for mechanical gauges, pressure gauges, measurement tools and temperature sensors.



# Maintenance, Repair, Overhaul (MRO)

## Rebuilding / Upgradation of Tanks, APCs, ARVs and SP Guns

HIT is fully configured and capable of rebuild, upgrade and modernize Tanks / ARVs of Chinese (T-59, T-69, T-85, ARV W-653) & East European origin (T-80UD), APCs (M-113) and SP Guns (M109, M110). Rebuild process includes complete disassembly, testing / inspection of all assemblies, manufacturing / repair of unserviceable parts, final assembly and testing of tanks.

## Overhauling of Engines

HIT has state of the art engine test benches and is fully equipped / capable of rebuilding and testing V-type Chinese Engines (520 HP, 580 HP & 730 HP) and Horizontally opposed Ukrainian Engines (6TD-I, 1000 HP & 6TD-II, 1200 HP). US origin engines of APCs and SP Guns (Detroit Diesel: 275 & 450 HP) are also overhauled at our facilities.



# Manufacturing & Rebuilding of Tank & Artillery Guns

Gun Factory stands at the forefront of advanced manufacturing, specializing in the production of premium-quality gun barrels. Proficiency extends to the fabrication of tank and artillery gun barrels, exemplified by following: -

- Meticulously crafted 105 mm mechanically autofrettage rifled tank gun barrels designed for T-59 & T-69 II MP tanks.
- Precision-engineered 125 mm hydraulic autofrettage chrome-plated smooth bore tank gun barrels utilized in elite tanks.
- Our diverse capabilities encompass artillery gun barrels, offering options of 23 caliber, 39 caliber, and 52 caliber for 155 mm artillery guns.
- Excel in the production and rebuild of 125 mm smoothbore hydraulic autofrettage chrome-plated tank guns.
- Actively involved in the manufacturing of specialized tools and gauges tailored exclusively for the production of 155 mm artillery gun barrels.



# Manufacturing of Assemblies, Sub-Assemblies & Parts

## Electrical Systems

- Silicon Rectifier
- Temperature Control Box
- Smoke Screen Control Box
- Thermal Smoke Screen Box
- KS2 Steering Lamp Control Box
- Gun Laying Control Box
- Starting Device (PUS-403)
- Relay Starter / Generator (RSG-716)
- Gear Locking Unit (BA-711)

- Regulator (RN-504)
- Alarming Unit (BAS-701)
- Road Signal Unit (KDS-710)
- Time Relay (RV-704)
- Electro Magnet for Gear Locking (EM-30)
- Optical Sensor (OD-1)
- Master Switch (VR-11)
- Harness assembly

## Fire Control System

- Fire Control Computer
- Charge Temperature Sensor
- Angular Velocity Sensor
- UPS Power Supply

- UPS Battery
- Auto Tracker
- Wind Sensor
- Met Sensor



Fan



Silicon Rectifier



Temperature Control Box



Fire Control Computer



Met Sensor



Launching Smoke Screen Control Box



KS2 Steering Lamp Control Box



Thermal Smoke Screen Box



Angular Velocity Sensor



Charge Temperature Sensor

### Gun Control System

- Starting Distributor
- Transistor Driver
- PD Box
- Memory Unit
- Ammo Display Unit
- Anti-aircraft Machine Gun Horizontal Motor (ED-76)
- Anti-aircraft Machine Gun Vertical Motor (EDM-14)
- Gun Control Unit (BUK-1)
- Protection Unit (BZ-1)
- PT-800 with Regulator
- Turret Motor (EDM-16)
- Horizontal Drive Unit (BG-29)
- Vertical Drive Unit (BV-29)
- Gunner Panel (PN-43)
- Ammo Selector (IV-216)
- Joy Stick (BPV-29)
- Relay for Amplidyne (KP-1)
- Hatch Lock Sensor (DPL)
- Limit Sensor (D-30)
- Angle Limiter (OG)
- Switching Box (K2 Box)
- Conveyer Sensor (DPK-78)
- Turret Traversing Mechanism
- Smoke Screen (SPUZ-902)
- PP Actuating Device
- Linear Accelerometer
- Boiler Heating Motor (MBP-3N)
- Crew Fan Motor (DV-3)
- Fan Motor (MV-42)
- Blige Pump Motor (MVP-2A)
- Oil Pump Motor (MN-1)
- Electro Magnet for Commander Copula Locking (EK-718)



Vertical Drive Unit (BV-29)



Protection Unit (BZ-1)



PT-800 with Regulator



Memory Unit



Ammo Display Unit



Gun Control Unit (BUK-1)



Joy Stick (BPV-29)



Starting Distribution Box



Transistor Driver



Angle Limiter (OG)



Ammo Selector (IV-216)



Gunner Panel (PN-43)

### Optronics & Optical Sights

#### Crew Vision Sights (Periscopes)

- Driver Periscope
- Commander Vision Block
- Gunner Periscope



Commander Vision Block



Driver Periscope



Gunner Periscope

#### Gunner and Commander Sight PCBs

- Image Stabilizing Circuit Board
- Bottom Circuit Board
- Gyroscope Power Board
- Laser Power Board
- Safety Circuit Board
- Azimuth Servo Board
- Elevation Circuit Board
- Logic Circuit Board
- Logic Servo Board
- Amplifying Circuit Board



Gyroscope Power Board



Image Stabilizing Voltage Regulator Power Circuit Board



Laser Power Board



Control Board



Amplifier Board



Logic Circuit Board

- Gyroscope Circuit Board
- Counter Board
- Control Board
- Common Power Board
- Angular Velocity Board
- Code Receptor Board
- Electric Unit (Y7K)
- Time Interval Meter
- Indication Control Unit
- Electric Unit (TKN-4S)



# Maintenance, Repair, Overhaul (MRO)

## Manufacturing of Assemblies, Sub-Assemblies & Parts

### Mechanical Systems

#### Power Pack

- Gear All Types
- Oil Cooler
- Transfer Gear box
- Cam Shaft
- Cylinder Liner
- Water Pump
- Pistons
- Oil Pump
- Intake / Exhaust Valves

- Piston Rings
- Fuel Pipes
- Plunger / Sleeve (Fuel Pump)
- Intake / Exhaust Manifold
- Main Bearing
- Upper/Lower Shell
- Water Pump Drive
- Gear Bearing

- Fuel Booster Pump
- Tachometer Gen
- Drive
- Fuel Injection Pump
- Air Distributer Casing
- Injector Assembly
- Relief Valve
- Idle Gears
- Gaskets



Piston



Cylinder Liner



Oil Pump



Idler Gear



Super Charger



Bearing



Intake Manifold



Cam Shaft

#### Running Gear

- Top Rollers Assembly for Track Support
- Rubber Pads
- Track Metallic Portion – Rubberized
- Track Pin
- Road Wheel Rim Assy
- Sprocket
- Road Wheels
- Track



Road Wheel



Sprocket



Roller Assembly



Impeller Fan



Torsion Bar



Track Assembly



Radiator



# Maintenance, Repair, Overhaul (MRO)

## Manufacturing of Assemblies, Sub-Assemblies & Parts

### Mechanical Systems

#### Air Conditioning System

- Consists of
  - Inner Unit
  - Outer Unit
  - Control Boxes & Accessories
- Customizable Solution for all Vehicles
- Water Fording Capability
- Optimized for Military Vehicles for
  - Rugged Terrain
  - Extreme Temperatures



Control Boxes



Inner Unit

#### Auxiliary Power Unit

- Custom Made – 4 Stroke Diesel Engine
- Compatible with all Vehicles
- Generator Output: 6 – 10 Kw
- Fuel Tank Capacity: 8L



Control Boxes



Outer Unit

### Vehicle Water Drainage System

- Made as per Military Specifications
- Customizable Solution
- Compatible with all Vehicles



Smoke Grenade Launcher

### Nuclear Biological & Chemical Warfare System Filter With Activated Agents

- Filtration of Contaminated Air
- Absorbent Carbon Filtering Layer
- Affective against
  - Toxicants / Chemical Agents
  - Radioactive Dust
  - Biological Agent



Filter

### Fuel Dispensing Unit

- Fuel Refiling Pump
- On Vehicle Equipment Tool
- Easy to Use
- Fast Flow – 70 Lits / Min
- Submersible Sealed Pump
- Customizable for any Vehicle



Fuel Refiling Pump

# Manufacturing of Assemblies, Sub-Assemblies & Parts

## Machining Tools

### Tools & Jigs

HIT excels in the market by offering not only the best quality product but also the widest range in tooling. HIT's cutting geometries are optimized to achieve high metal removal rates and long life in universal applications. Versatile tools designed for high performance and secure machining in a variety of materials applications component size and shapes allow high efficiency and production rate. Intensive research and development activities which precisely match your requirements and work processes are able to provide the solutions for tomorrow. HIT offers following tools:-

- Index able Turning Tool holders
- Braze able Turning Tool
- End Mill Cutters Ø 6~63mm
- Drill Ø8~50mm
- Reamer Ø8~50mm
- Tap M5~M52mm
- Counter Sink Ø8~40mm
- Counter Bore Ø8~40mm
- Side & Face Cutter
- Spline Hub Cutter
- Forging Dies
- Investment Casting Die
- Thread Rolling Die
- Gauges
- Machine Fixtures
- Drill Jigs



# Hot Dip Galvanization

## Our Integral solutions have no limits

At HIT (Heavy Industry Taxila), we have consolidated a wide variety of products and services that complement our value proposition.

We offer an effective response for large scale projects with hot dip galvanization.



Protection of steel products against corrosion, long durability and integral coating of structure.

Our robust high-tech plant allows us to have full control of the processes, with an installed capacity of 500 tons /month, complying with ASTM quality standards.



## Pakistan Largest Galvanizing plant

State of the art automatic plant Hot dipped galvanized in molten zinc.

Crucible : 42 feet long | 2.5 feet wide | 4 feet dep

Galvanizing capacity 500ton/ month.



## Quality Standards

ASTM A123 | ASTM A153

Our capacity enables us to galvanize a wide range of items, including telecom towers, pipes, light poles, beams, fence, wind turbine, mobile towers, electric towers, high way steel guard rail and solar panel frames.





**HEAVY INDUSTRIES TAXILA**  
Taxila Cantt, Pakistan.

Tel: +92 (51) 9315333 Extn. 62933  
Fax: +92 (51) 9315151  
Email: [info@margallahil.com](mailto:info@margallahil.com)  
[www.margallahil.com](http://www.margallahil.com)

**MARGALLA HEAVY  
INDUSTRIES LIMITED**

