



TAFA TECH.
MARINE REPAIRS – METAL SPRAY



**Your Solution Partner In Engine Reconditioning And
Machining Since 1991**

About Us

tafa technology Co. Is a Long Track of Marine Engineering History and Academic Certified Mechanical Studies in the World of (Marine Engineering Technical Services).

Which Relies on Strong Foundations of Technical Research Heritage and Extensive Studies From all Over the World.

Tafa technology Represents the Academic Engineering Experience Passed on From One Generation to the One After, Inheriting the Old School Work Ethics and Following on the Steps of Eng. Mahmoud El Ghamrawy (the Late Founder of Redsea Organization).

Consequently,

Eng. Hazem El Ghamrawy and his Sibling Eng. Ahmed El Ghamrawy Took the Lead and Continued the Developing of the Organization on an Academic Level by Studying Abroad and Applying Advanced New Technological Evolution and Mechanism to the Egyptian Market.

They Also Began Expanding the Business by Incubating New Advanced Machinery (Arc Spray , PTA welding , HVOF, CNC machining), Devices and Equipment Which Supports and Covers the Complete Overhaul of Marine Diesel Engines and the Full Scope of Repair and Maintenance Services.



High-Velocity Oxygen Fuel (HVOF)

Produces very dense and low-porosity coatings, Excellent adhesion to the base metal , High wear and corrosion resistance, Lower heat input → less thermal distortion of the base material.



(PTA of new satellite layer of marine engine exhaust valve and valve

Plasma Transferred Arc (PTA) Welding

True fusion with the base material (not just mechanical bonding), High control over layer thickness and chemical composition, Outstanding wear, corrosion, and high-temperature resistance.



Arc spray

Lower cost compared to HVOF and PTA, Fast coverage for large areas, Simpler equipment setup, Good corrosion protection, but coatings are less dense than HVOF.



CNC machining

It used for applications with High Precision and Accuracy, Capable of producing even the most complex parts, Less Dependability on Human Labor and Fewer Human Errors.

SOLUTIONS

Reconditioning of 2-stroke engine parts

- Piston crowns
- Piston skirts
- Piston rods
- Cylinder heads
- Exhaust valve spindle and seats
- Cylinder liners
- Water jackets



Reconditioning of 4-stroke engine parts

- Cylinder heads
- Pistons
- Connecting rods
- Cylinder liners
- Water jackets
- Crankshafts
- Engine blocks



On-site machining & alignment services

- On-site heat treatment (annealing service)
- 2&4-stroke main journal machining services
- 2&4-stroke main bearing bore in-line boring
- 2&4-stroke engine block surface machining and milling
- 2&4-stroke liner honing
- On-site liner diameter measurement
- Stern tube bore machining
- Propeller shaft's coupling bolt hole machining



- Hatch cover hinge pin hole machining
- Flange facing
- On-site drilling
- Engine main bearing bore alignment measurement
- Stern tube way bore alignment measurement
- Surface area flatness measurement
- Shaft alignment measurement
- On-site alignment measurement

SOLUTIONS

White metal bearing repairs

With its 20 years of experience in white metal (babbitt) bearing repairs,

Tafa Technology repairs most of bearings of all Egypt market including vessels / shipyards and power plants.

Tafa Technology offers a variety of white metal alloys used for application on heavy duty or high-speed bearing to achieve high bonding strength according to the needs of the client or maker.

Tafa Technology offers the fastest Stern tube repairs and manufacturing.

- Stern tube bearing
- Intermediate shaft bearing
- Alternator shaft bearing
- Main engine crankshaft journal bearings
- Crosshead bearings



Workshop machining activities



Mobile Teams

- On-site machining
- Crankshaft damage inspection
- Alignment measurement
- Main and aux. engine overhauls
- Engine failure troubleshooting
- 4-stroke cylinder head reconditioning
- PTA welding and thermal spraying



Services

4- stroke Engines

Cylinder head

- Inspection and reporting
- Chemical cleaning
- Pressure testing
- Inlet & exhaust valve grinding
- Valve seat removal and assembly
- Machining of seat pocket to oversize
- Injector sleeve removal and assembly
- Surface grinding
- Cast iron welding or metal spray on cylinder head
- Valve seat fabrication
- Reconditioning of rocker arms

Connecting Rod

- Connecting rod inspection, crack test, straightness check
- Big end bore reconditioning
- CNC machining of serration faces
- Small end bush replacement

Piston

- Inspection and reporting
- Reconditioning of ring grooves by PTA welding
- Machining of piston crown and skirt contact surfaces
- Polishing of piston and piston pin

Bedplate or engine block

- Engine block inspection
- Bore alignment measurement
- In-line boring of main bearing bores
- Castiron welding or thermal spray
- Grinding of line landing surface
- In-line boring of camshaft housing
- Broken stud removal by machining

Crankshaft

- Inspection (OD measurement, MPI crack test, hardness check, run-out measurement)
- Grinding in workshop
- Grinding in-situ (main journal)
- Polishing and super finishing
- Crankshaft straightening
- Annealing (heat treatment) of overhardened journals

Cylinder liner

- Inspection, crack test and reporting
- Liner honing
- Machining of liner bottom landing surface
- Local repairs by metal spray

Water jacket

- Inspection and reporting
- Reconditioning of water jackets by thermal spray

2- stroke Engines

Piston crown

- Ring groove reconditioning by PTA welding
- Top surface reconditioning by inconel 625

Piston rod

- Piston rod reconditioning by thermal spray

Piston skirt

- Piston skirt rubbing bandage replacement

Cylinder linear

- Cylinder liner honing
- LDM measurement in-situ

Cylinder head

- Water jacket O-ring groove area reconditioning
- Liner landing surface reconditioning
- Exhaust seat landing area reconditioning
- Injector hole crack repair by Inconel

Exhaust valve spindle & seat

- Exhaust valve spindle Inconel reconditioning
- Exhaust valve spindle stem reconditioning by thermal spraying and grinding
- Exhaust valve seat reconditioning



Our Clients





TAFATECH.
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