Some of our customers:

Tirosh David
Quality Castings Ltd.

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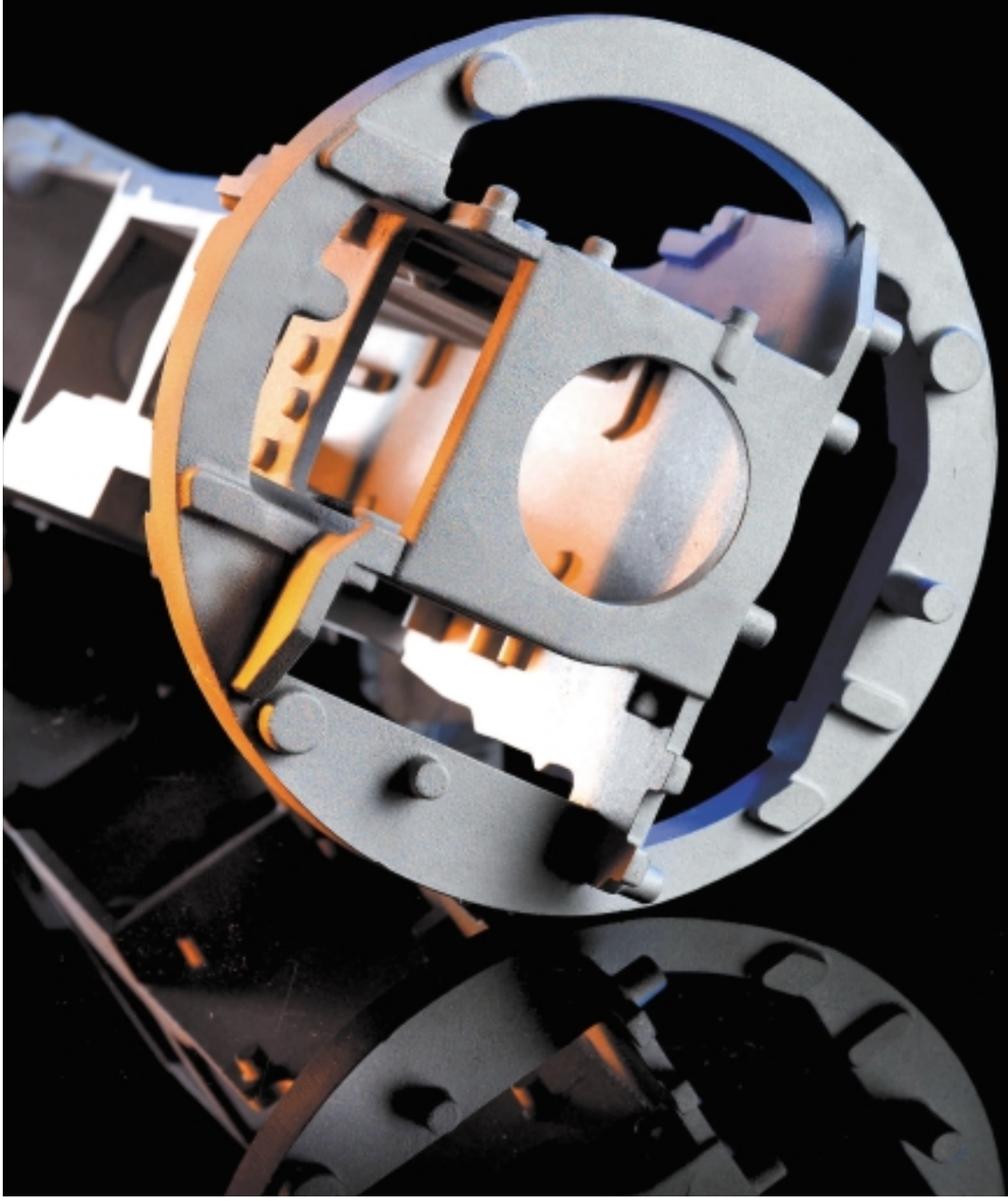
Tirosh David
Quality Castings Ltd.



Three decades of casting expertise...

Tirosh David Quality Castings Ltd is a privately – owned company, which specializes in manufacturing premium quality aluminum precision sand castings. Technological innovations are implemented constantly to meet new customers' requirements. By committing to quality and service, we have attained an excellent reputation.

We are involved in the entire production chain, from early development to the finished product. Participation in our customers' initial design enables us to contribute our expertise to minimize overall costs.

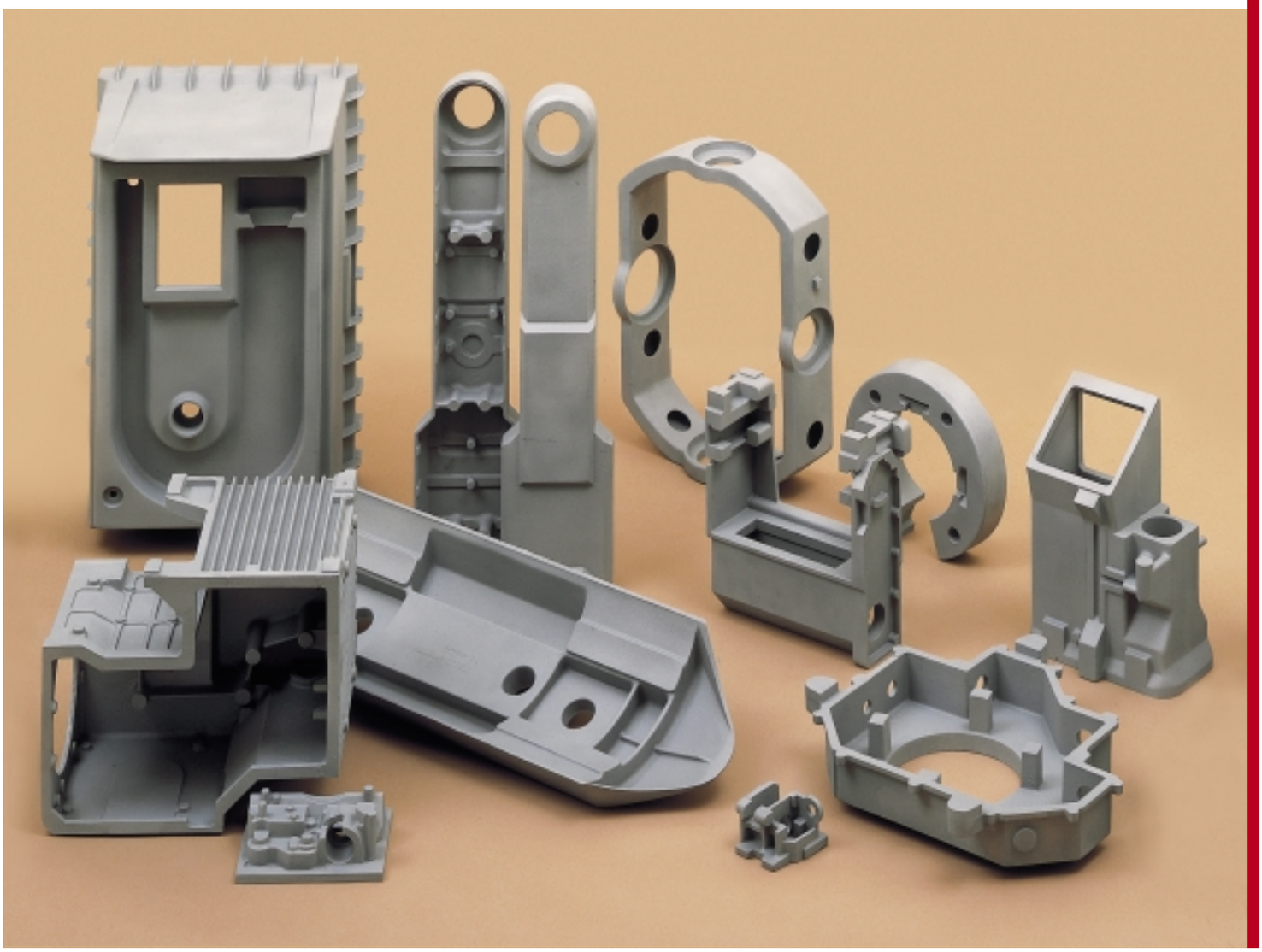
We have mastered producing large and complex castings with high strength, close tolerances, and near perfect integrity, primarily for aerospace and defense applications. Furthermore, we also produce parts for commercial industries: communications, medical and printing equipment, the automotive industry, chips manufacturing equipment and much more.

We bring to our customers three decades of experience in using advanced casting technologies to solve their most complex problems.

We are strongly focused on achieving customers satisfaction anytime. We have been able to meet our customers' demands and expectations over the years, through our belief that **we are always here to serve them.**

Our extensive expertise in casting design and manufacturing, combined with 5,000 square meters of manufacturing space and extensive automation are ready to meet your expectations.

Challenge us to respond to your needs. We'll be glad to cooperate with you.



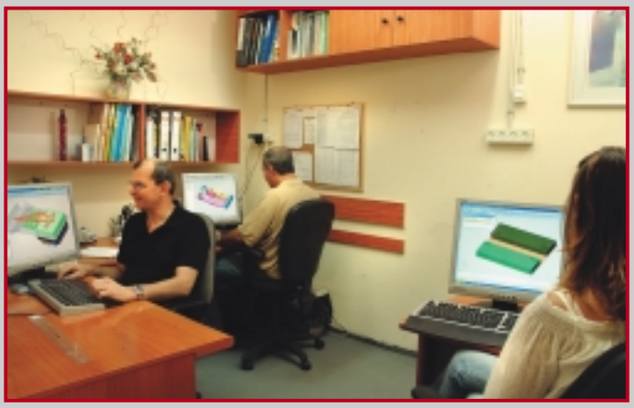
Design & Engineering

Tirosh's pattern Tooling design team utilizes the most advanced CAD/CAM Equipment.

Our engineers are involved in the entire chain: from participation in our customer's initial design to the finished product.

Our expert casting engineers ensure the final part design grants maximum manufacturability and meets the required performances.

Results are achieved through concurrent engineering and early involvement on new programs.



Our design assistance includes:

- Material and quality Spec. recommendations.
- Conversion of machined items to sand Casting technology.
- More "producible" casting designs.
- Cost effective casting applications.

Let us be a part of your design team...

Pattern tooling capabilities

We have developed our pattern tooling capabilities to meet the most stringent requirements of our customers.

CNC modeling Department
Our experienced CNC modeling department can deal with the most complicated geometric cast shapes.
The polyurethane patterns are retrieved directly from customer's 3D CAD files, using advanced rapid four-axis machining centers.

Pattern workshop
In addition to our CNC modeling department, we operate a conventional pattern workshop, manned with professional staff of Pattern Makers.
This department provides In-house capabilities for gating and feeding of pattern equipment, repair and maintenance.

The combination between these two departments ensures flexibility, promt response and efficiency.

We have managed to dramatically reduce lead time to first article: Our average yearly output is one new pattern every two days.

At Tirosh, we build only the best tools, made of the best materials, to provide our customers with quality castings, year after year.

1. Squeeze Moulding Machine.
The pattern plates are inserted in pattern bolsters.The moulding box and filling frame are placed onto the pattern bolster, loosely filled with sand and moved by a turntable into the moulding station.The lifting table of the machine lifts the filled moulding box with the pattern plate and presses it against the squeeze head. The mould is hermetically sealed. The pressed air passes through the sand. The air current pushes the grains of the sand downwards in the direction of the pattern. As a result, maximum compaction of the sand is achieved in the area closest to the pattern. Exceptionally high compaction at this first stage, followed by hydraulic squeezing, produces moulds of excellent quality.

2. Core Setting Area
All mould halves are turned through 180 degrees in a moulding box turnover and then pass through a core setting area with the mould cavity facing up to allow setting of cores and for inspection. Feeders are CNC drilled in the cope.

3. Closing Device
At the end of the core setting area, a second turnover turns the cope back- mould cavity facing downwards. The closing device places the drag onto a transfer truck and then closes the mould using the subsequent cope.

Automatic Moulding Line

Our brand new Heinrich Wagner Sinto automatic moulding line, combined with Gustav Eirich Sand Preparation Plant are among the best of their kind in the world.
Speed: 30 moulds/hour.
Moulding box sizes:
800 x 650 x (250 + 300) mm.

The Moulding Line main advantages:

- **Designed for jobbing:** Short setup time and rapid turnaround increases flexibility and efficiency.
- **Versatility:** Adaptable for small size jobbing series as well as for high volume long series.
- **Cost effectiveness:** Due to saving on materials and manpower, we are able to maintain good cost effectiveness, keeping castings costs relatively low.
- **Supreme quality:** The minimization of dependence on the human factor ensures:
  - Tighter tolerances.
  - Better dimensional stability and repeatability.
  - Decreased lead-times and scrap.

4. The Pouring & Cooling Area
The transfer truck takes the complete mould to the pouring and cooling line. A cylinder pushes the mould in the required sequence first to the pouring position and then through the cooling area.

5. The Punch-out & Shake-out Station
At the end of the cooling area the poured and cooled mould is raised to higher level by an elevator. A punch-out and separating device presses the mould with the casting out of the box, cleans the inner walls and separates the cope and drag, which are then fed in sequence back through the moulding line.


primafond

Precision Dry Sand Division

Precision Dry Sand casting is a process using chemically bonded sands to produce moulds.

It is considered the best choice for applications requiring complex parts, intricate coring, high metallurgic integrity, dimensional accuracy, repeatability and stability.

Maximum Versatility: Due to our modern, well equipped dry sand layout, we can manufacture technologically complex castings of various shapes and sizes, without any dimensional limitations, ranging from tens of grams up to 1000 Kg and more. We can handle small series, medium-sized and high volume long series.

Post Casting Processes

Heat Treatment Department

Our well equipped department performs Common heat treatments, such as T6, T5, T7. Dimensions: up to 1300x1300x1800mm.

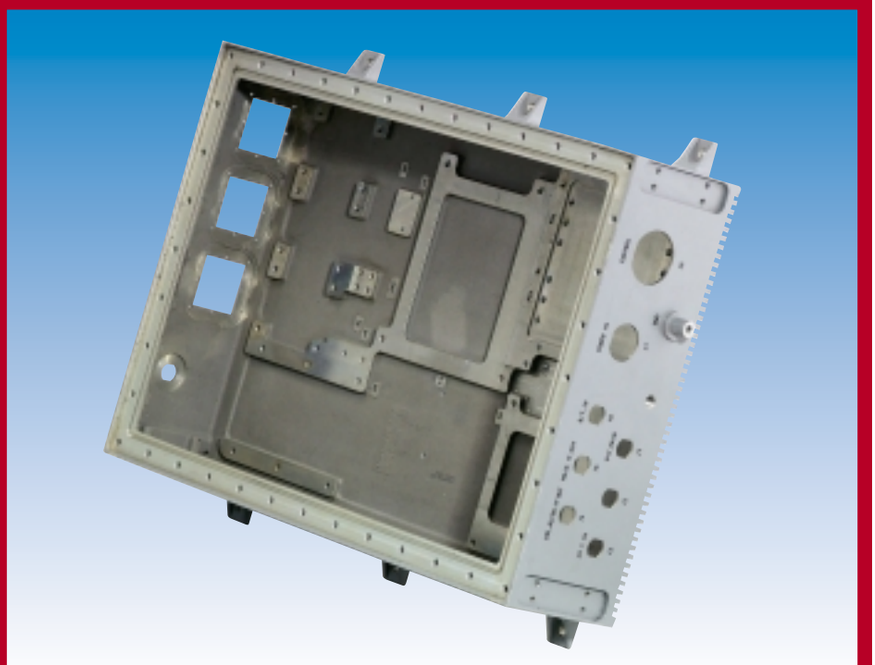
The H.T process is NADCAP certified.

Machining Capabilities

Our machining department is equipped with state of the art HASS machining centers (1600x820x1030 mm), operated by professional team, expertise in complementary machining of castings.

Finishing

We also provide surface treatments, painting and finishing operations as required, through our approved Sub-contractors.



Dimensional Inspection Department

Our digital dimensional inspection department is fully equipped with the spear head of measuring technology.

Castings and patterns are measured by two layouts of digital Faro Arm Measuring Machines, using compare to CAD inspection system.

Machined parts are inspected using L.K.'s CNC Coordinate Measuring Machine.

Non-Destructive Tests Department

Our in-house NDT laboratories enable fast response and tight supervision at all stages.
Our laboratories are NADCAP certified.

Liquid-penetrant (PT) laboratory

Radiographic laboratory (RT)
(Philips 320 Kvp)

Boroscopic inspection of
long and narrow core passages.

Metallurgical Laboratory

Our in- House, well- equipped metallurgical laboratory carries out chemical analysis using modern optical spectrometer, as well as mechanical properties tests (tensile and hardness).

World-Class Quality

At Tirosh David Quality Castings, Q.A management is an integral part of our management system.

Our quality control and equipment meet the highest international standards of quality:

NADCAP (HT)

NADCAP (NDT)

AS9100

Our most important driving forces are increased customer satisfaction and increased process efficiency.

Our aim is not only to secure and improve product quality, but also to understand and fulfill all customer expectations.

With this in mind, we apply modern and innovative methods of quality management in all our products and service-related processes.

Tirosh David Quality Castings Ltd was audited, authorized and granted firm approvals from leading aerospace manufacturers. Among them:

BOEING (COMMERCIAL & DEFENSE)

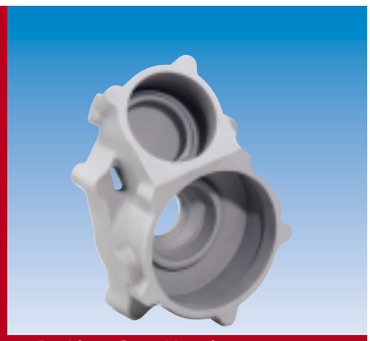
LIEBHERR AEROSPACE

IAI

Electro-Optical Housing
A201–T7
400 x 400 x 510 mm

Missile Fuselage Section
A356–T6
440 x 350 x 110 mm

Electronic Box
A356–T6
600 x 300 x 250 mm

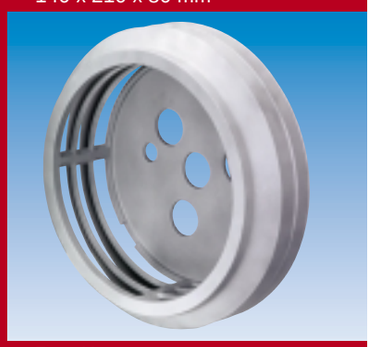


Jet Liner Gear Housing
A357–T6
140 x 210 x 80 mm

Missile Tail Section
A356–T6
600 x 600 x 390 mm

Tank Transmission Turbine
A356–T6
Ø 460 x 100 mm

Electronic Box
A356–T6
600 x 330 x 130 mm



Filter Housing
A356–T6
Ø 540 x 180 mm

Missile Optical Bench
A356–T6
Ø 500 x 320 mm

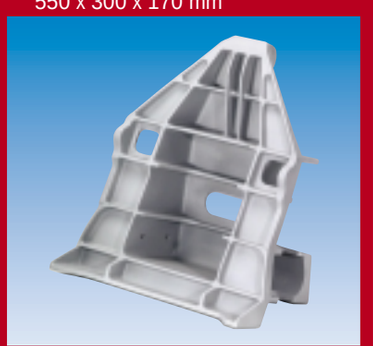
Optical Bench
A357–T6
Ø 360 x 270 mm

Jet Fighter Fuel Tank Grip
A357–T6
550 x 300 x 170 mm

Printing Machine Base
Unifont 90
1680 x 580 x 260 mm

Missile Tail Section
A356–T6
670 x 670 x 380 mm

Jet Liner Gear Housing
A356–T6
600 x 260 x 300 mm



Jet Fighter Fuselage Section
A356–T6
440 x 200 x 350 mm

Electro-Optical Base
A356–T6
250 x 180 x 150 mm

Tank Engine Manifold
C355–T7
250 x 330 x 120 mm

Jet Liner Gear Housing
A356–T6
200 x 180 x 180 mm

Electro-Optical Housing
A356–T6
Ø 400 x 320 mm

Naval Electronic Box
A356–T6
Ø 380 x 130