



Aircraft Industries

An aerial photograph of a large industrial facility, likely an aircraft manufacturing plant, with various buildings, parking lots, and a runway visible. The image is overlaid with a dark blue gradient.

Production capabilities

CONTENT

INTRODUCTION	3
COMPANY HISTORY	4
REFERENCES	5
MANUFACTURING & TECHNOLOGICAL CAPABILITIES	
Aluminium sheet and profile forming	6
Steel forming	8
Machining	8
Welding	10
Reviting	10
Material cutting	13
Cabling production	13
Measuring	14
Calibration	15
KUNOVICE AIRPORT	16
CONTACT	19

INTRODUCTION

We are a company with more than 80 years of history in aviation and we are nowadays engaged in the development, manufacture, sales and servicing of L 410 aircraft. We put a lot of focus on research and development, cooperate with companies involved in various fields of business, operate a non-commercial international airport in Kunovice and we also run an Aviation High School.

- » DESIGN, DEVELOPMENT, PRODUCTION, SALES AND MAINTENANCE OF L 410
- » MAINTENANCE SERVICE
- » SPARE PARTS
- » SURFACE TREATMENT
- » SUBCONTRACTING
- » AIEROPORT OPERATION





COMPANY HISTORY

In 1936, a branch plant of the AVIA Letňany aircraft factory was established in Kunovice. After its establishment, it functioned as a repair plant for AVIA type aircraft.

After the occupation of Czechoslovakia, it also functioned as a repair plant, this time for the German army, mostly for Junkers W 34 and Arado Ar 96b machines. After the end of the war, the company was nationalized and repaired almost all types of aircraft that flew in Czechoslovakia at the time.

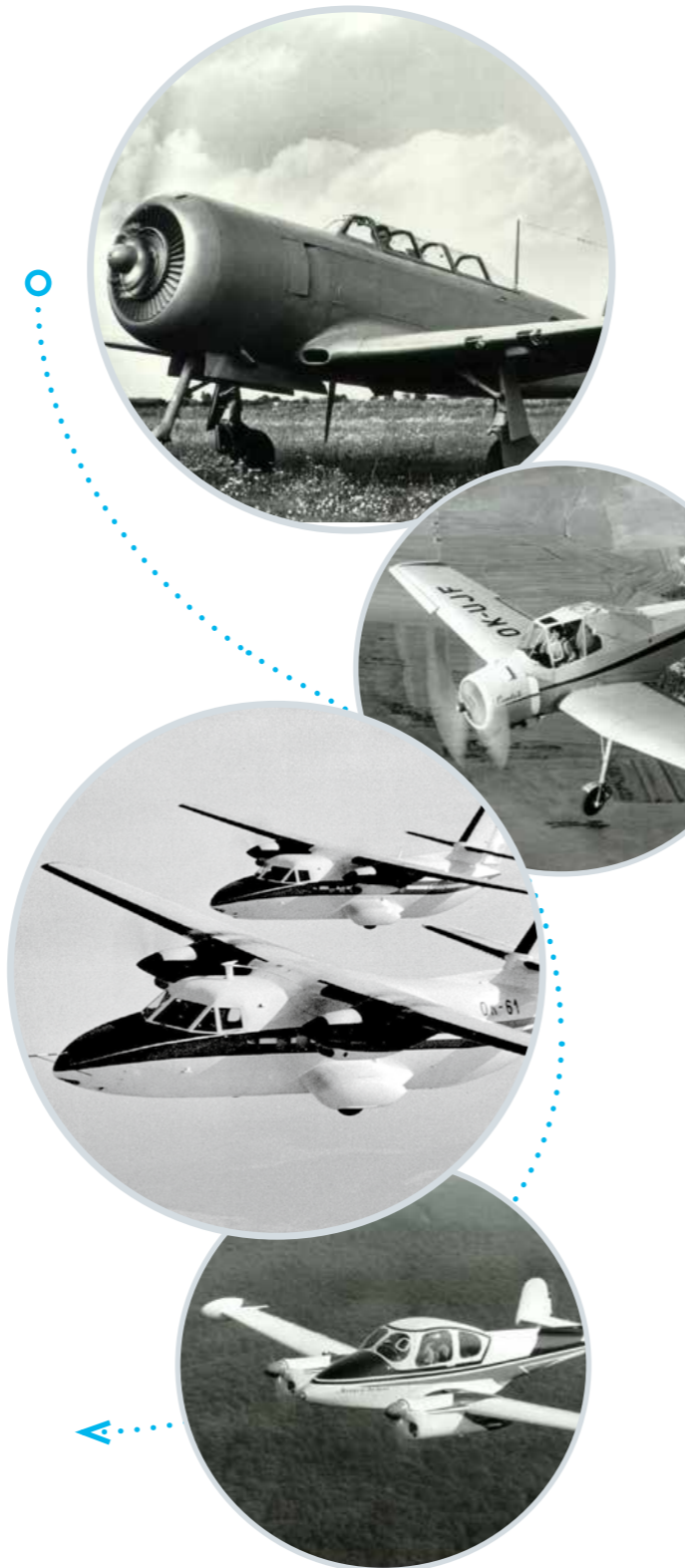
At the beginning of the 1950s, the construction of a new plant (today's company premises) was started, into which the production of the then-produced Soviet machine JAK 11 was moved. Later, the company produced a modernized version of the AERO Ae 45 aircraft or Ae 145. In 1957, the company began the construction of the first independent aircraft L 200 Morava and four years later the construction of the agricultural aircraft Z 37 Čmelák. The company also produced the training jet L 29.

In 1969, perhaps the most successful product of the company, the L 410 aircraft, was flown. Over 1 200 of this aircraft were produced in various versions and modifications. Since the beginning of the 90s of the last century, a new 40-seater L 610 aircraft has been developed and tested. Since its inception, the company has had in its program the production of non-motorized aircraft such as Z 124 Galánka, LF 109 Pionýr, Z 425 Šohaj.

The most successful glider of this company is the L 13 Blaník, exported to 43 countries. The two-seater all-metal L 23 has been produced since 1988 and the one-seater all-metal L 33 since 1991. In total, more than 2 600 gliders of various types have been produced. In its history, the company has also participated in various non-aeronautical productions from radar to the automotive industry. He is currently involved in projects in which he cooperates with renowned European and global aircraft manufacturers (see customer references).

At the beginning of the 1990s, the structure of the originally state-owned enterprise was changed to a joint-stock company and privatized.

Due to the circumstances related to the war in Ukraine, on April 21, 2022, the owners of the company agreed to sell 100% of the shares to the OMNIPOL group. The Aircraft Industries company returned to Czech ownership again.



REFERENCES

The versatility of technical equipment creates opportunities for production subcontracting. Aircraft Industries, a.s. supplies components for the aviation industry as well as for other industries. Producers which come to mind foremost in this respect are:

Aircraft manufactures:

- » GKN Aerospace Transparency Systems (GB)
 - » Aero Vodochody Aerospace, a. s.
 - » Evektor Aerotechnik, a. s.
 - » Jihlavan, a. s.

Other industries:

- » Škoda Vagonka, a. s.
- » Iveco Czech Republic, a. s.
 - » 5M, s. r. o.
 - » Algeco, s. r. o.
 - » Ray Service, a. s.



MANUFACTURING AND TECHNOLOGICAL CAPABILITIES

There are assembly and production facilities in Aircraft Industries, a.s. enabling manufacture of complete aircraft up to the following dimensions: 24m in length, 28 m wingspan, 8 m in height.

Manufacturing program consists of

- » Design, development, production, sales and maintenance of L 410 twin-engine commuter aircraft including full customer support
- » Manufacture of aircraft subassemblies for world leading airframe manufacturers
- » Other projects

Our complete manufacturing service includes

- » Fabrications that are part of riveted, spot welded, and adhesive bonded assemblies
- » Aircraft looms, inspection and debugging
- » Pipe manufacture
- » Control rods and linkage
- » Test equipment for electronic and mechanical aircraft systems
- » Components for complete cockpit and cabin interiors manufactured by AI

Additional services

Full surface protection is provided for detailed parts, sub assemblies and assemblies. During the pre-assembly and assembly operations, the company provides in-house debugging and in flight testing for all of the aircraft manufactured by AI.

ALUMINIUM SHEET AND PROFILE FORMING

Pressing of flat sheet

FLUID CELL PRESS

Parts up to	1 000 x 2 800 x 200 mm
Working pressure	25 Mpa
Height up the complexity	200 mm

HYDRAULIC PRESS MACHINE

Forming with rubber	
Maximum part dimensions	600 x 400 x 100 mm
Forming force	6 300 kN



Fluid Cell Press



Hydraulic Press

Sheet bending

PRESS BRAKE

Up to	4 000 mm
Thickness max.	3 mm

Sheet roll-bending

ROLL-BENDING MACHINE HAEUSLER

» Cylinder length :

Up to	4 400 mm
Minimum radius	22 mm
Thickness max	2 mm

» Cone and narrow surfaces using templates

Maximum length	4 200 mm
----------------	----------



Roll-Bending Machine HAEUSLER

Forming using stretch-forming presses

- » stretch forming presses RO-1M and transverse stretching using Dieffenbacher + FEKD machines
- » production of metal wing skin and leading edges

Max. dimension of skin	Wight (mm)	Lenght (mm)	Thickness (mm)	Cross-section (mm ²)
Longitudinal forming	1 500	6 500	3	4 500
Cross forming	4 000	6 000	5	13 000



FEKD 200/400

Section forming by stretching and rolling

Length up to	4 000 mm
Max. cross section	250 mm ²



Dieffenbacher PV250

Production of sections from sheet-metal strips through drawing die

Lenght up	7 000 mm
Sheet up to thick	2 mm
Max. material width	200 mm

STEEL FORMING

Steel sheets forming on eccentric presses

Shearing, bending, drawing, push broaching, extrusion, forging and trimming.

Work table dimension from	320 x 210 mm
Work table dimension to	1 000 x 720 mm
Ram stroke from - to	8 - 125 mm
Bent length up to	720 mm

Press brake forming

Bending, straightening and punching.

Sheet thickness	1 - 6 mm
Bent length up to	4 000 mm



Press form Safan



MAZAK QTS 100 MS

MACHINING

Turning operation

Standard centre

Max. diameter of turning	280 mm
Turning length	500 mm
Diameter of rod material up to	65 mm
Automatic lathes up to	20 mm

Drilling and boring

Drilling machines (max. diameter 32 mm 50 mm, max. distance between spindle and work table 630 mm)

Horizontal boring machines

Work table	1 000 x 1 200 mm
Height	0 - 900 mm

Coordinate boring machines

Work table	1 000 x 1 600 mm
------------	------------------

Grinding

Standard grinding machines

Centre grinding machines (external diameter up to 280 mm)

Centreless grinding machines (Ø 3 - 63 mm)

Plane grinding machines (parts max. 300 x 1 500 mm)



EMCO HYPERTURN 45

Milling

Standard milling machines (parts up to 425 x 2 000 x 500 mm)

Pantographic milling machine (220 x 440 mm, reduction 1:10)

CNC milling machines:

Indication	Control system		Work table (mm)	Material
MCFV 1050	Heidenhain 530	3 axes	1200 x 510	aluminium, steel
MCFV 2080	Heidenhain 530	3 axes	2200 x 780	aluminium, steel
FVU 800	Heidenhain 530	5 axes	Ø 800 mm	aluminium, steel
FVC 160/2	Heidenhain 530	5 axes	2 000 x 1 600	aluminium
FPPC 200/8	Heidenhain 530	5 axes	9 300 x 2 400	aluminium
FPPC 250/5	Heidenhain 530	5 axes	2 500 x 5 000	aluminium
HBZ 7/2	Sinumeric 840D	5 axes	7 000 x 2 000	aluminium



Tajmac MCFV2080



TYC FPPC 200/8 CNC



Handtmann HBZ 7/2

Routing

Milling NC centre Creno Aero

Bundle of sheets	3 600 mm x 1 500 mm
Thick up to	12 mm
Min milling tool diameter	4 mm



Creno NC Cente Aero

WELDING

Steel spot welding

- » for materials cl. 11, 12, 14, 15, 17
- » thicknesses from (0.8 + 0.8) to (3 + 3) mm
- » max. thickness ratio 3:1

Steel TIG welding

- » for materials cl. 11, 12, 14, 15, 17
- » thickness from 0.8 to 10 mm
- » copper, thickness from 1 to 10 mm

Aluminium and Al-alloy TIG welding

- » for weldable materials, thicknesses from 1.0 to 10 mm

Aluminium and Al-alloy spot welding

- » for aircraft parts from (0.8 mm + 0.8 mm) to (2.0 mm + 2.0 mm)
- » max. thickness ratio 3:1
- » tests are necessary for thicker materials



Welding machine AWECO

REVITING

Manual riveting

- » manual riveting for rivets up to 5 mm in diameter (Al-Alloy)
- » pneumatic bolt installation Hi-lock Ø 4.5 and 6.35 mm
- » Lockbolt GP and LGP Ø4 and Ø 5 mm

Machine riveting

- » machine riveting on hydraulic and pneumatic presses for parts up to 1 500 x 6 000 mm

Radial riveting

- » Al-alloys rivets up to Ø 5 mm (solid rivets) or Ø 10 mm (tubular rivets)

One-sided riveting

- » manual
- » pneumatic, rivets up to Ø 5 mm

Cold expansion

Stretching (compaction) of holes to increase the service life of the structure using the CB Cold Expansion method, for aluminium structures and medium-strength steels.



SPECIAL TECHNOLOGIES

SURFACE TREATMENT OF ALUMINIUM

Computer-controlled automated line with recording and archiving data for processes:

Yellow Chromating (Alumigold B)

- » this coating provides corrosion resistance of parts combined with excellent adhesion. Thus treated surface is suitable for coating systems or application of powder coating
- » usable internal dimensions of the bath: length 5 500 x width 1 900 x depth 600 mm

Colorless Chromating (Alodine 1500)

- » provides corrosion protection of aluminum and is an excellent binder for transparent organic surfaces. It is used when the characteristic appearance of aluminum is needed
- » usable internal dimensions of the tank: length 1 800 x depth 800 x width 700 mm
- » the line is complemented by a corrosion chamber workplace, where the results of corrosion resistance are regularly verified

Chromic acid anodising

- » this coating provides corrosion resistance of parts combined with excellent adhesion. Thus treated surface is suitable for coating systems or for gluing
- » the possibility of intervention in hot water
- » usable internal dimensions of the bath: length 3 400 x depth 1 400 x width 700 mm



Corrosion resistance testing

Environmental testing of corrosion resistance in Salt spray chamber Ascott.



HARDERING SHOP

Newly refurbished hardening shop, equipped with computer for monitoring, recording and archiving of data.

Heat treatment of aluminium

- » salt bath for heating and cooling (solution annealing) of sheet metal parts such as aircraft structures
- » processed materials of class 2xxx, 6xxx and 5xxx
- » max. size of parts: 5 800 x 2 000 x 5 00 mm

Heat treatment of steel

- » annealing, normalizing, hardening, cementation of the surface
- » carbon steel, alloyed up to class.16 AISI 4130, AISI 4340
- » max. size of parts: 1 200 x 600 x 450 mm



Technologie SOLO

In SOLO technology, it is possible to implement the following heat treatment processes:

- » austenitizing in a protective atmosphere with oil heat treatment
- » annealing in a protective atmosphere (various types)
- » refining in a protective atmosphere (heat treatment and tempering)
- » cementation
- » maximum batch dimensions: Ø 700, height 1 100 mm
- » max. batch weight: 500 kg (net batch weight 320)

PAINTING

- » painting with use of polyurethane, epoxy and acrylic synthetic coatings.
- » painting Boxes 6 x 4 m and 22 x 7 m (with the possibility to join three boxes to a size 22 x 24 m)
- » experience with painting interior parts for aircraft, buses, train units, etc.



MATERIAL CUTTING

Machine for water jet cutting.

The maximum size of workpiece	7 000 x 2 000 mm
Maximum thickness of workpiece	150 mm
Maximum weight of workpiece	4 000 kg



CABLING PRODUCTION

Production of cable harnesses for source system and navigation systems, production of VF cables, crimp connectors, soldered connectors, marking of conductors.



MEASURING

DEA GLOBAL 15.33.14

Three-coordinate measuring machine with high precision. Working space – length 3 300 mm, width 1 500 mm and height 1 400 mm. SW PC-DMIS.



Laser tracker Leica AT960+T-Probe+T-Scans

Working space (center point = tracker)

Tracker + reflector	max Ø 50 m
Tracker + t-probe	max Ø 50 m
Tracker + t-scan5	max Ø 50 m



[14]

CALIBRATION

- » Geometric Quantities
- » Pressure
- » Force, Moment of Force
- » T- Temperature, Humidity

NDT-PT ASTM E1417-05

- » working space 7 m x 2 m x 2 m
- » personal Certification and Qualification NAS410



NDT-RT

- » Rentgen: Isovolt Titan 160 kV and Andrex Smart 200 kV
- » foil IPS 150x300 mm
- » Scener: CRxVision
- » SW : Rhythm RT and Review GE
- » Wire Gauges EN 462-1 and ISO 19232-5
- » Personal Certification and Qualification NAS410



[15]

KUNOVICE INTERNATIONAL AIRPORT

The status of International aerodrome was granted to Kunovice by the Ministry of Transport in 1993 after fulfilment of number of conditions. Since mid-nineties, especially afterward the aerodrome data was published in the international navigation documentation Jeppesen, a number of aircraft from foreign countries flight in Kunovice, from light aircraft and powered gli-

ders to e.g. heavy transport aircraft of Lockheed C-130 Hercules, Boeing 737-800, BAE 146 type.

For explanation - there are seventeen international aerodromes in the Czech Republic, regular transport is performed only from aerodromes of Prague, Brno, Ostrava and Karlovy Vary.



Airport Specification

- » International airport with concrete runway
 - » IFR operation
 - » VFR operation mezinárodní směrovací značka ICAO: LKKU
- » International code ICAO: LKKU
- » International code IATA: UHE
- » Instrument approach procedure: NDB (GPS)

- » RUNWAYS:
 - » 20C/02C 2 000 x 30 m, concrete surface, load capacity PCN 33 /R/B/X/T
 - » 20L/02R 1 315 x 40 m, grass surface, load capacity 25 000 kg
 - » 20R/00L 1 315 x 40 m, grass surface, load capacity 25 000 kg
- » ARP coordinates of reference point 49 01 46 N 017 26 23 E
- » Elevation: 581 feet/ 177 m
- » Reference temperature: 21°C
- » Working hours: Monday - Friday, from 08.00 to 16.00 LT, otherwise upon request
- » TWR/ radar frequency 120,105 MHz
- » Controlled Traffic Region (CTR)
- » Distance from Kunovice aerodrome to particular towns in km:

Uherské Hradiště	4,5	Otrokovice	20	Luhačovice	25
Zlín	30	Kroměříž	37	Hodonín	38
Myjava	41	Vsetín	64	Púchov	79

Passenger clearance process - at present the aerodrome is able to accept aircraft with capacity of about 40 PAX

Service

Services Provided by Operator - Aircraft Industries

- » passengers and aircraft clearance
- » transport to airport
- » private aircraft clearance
- » aircraft technical clearance

Passengers and aircraft clearance

- » clearance of passengers and baggage after arrival and before departure
- » aircraft loading
- » elaboration of pre-flight documentation
- » services for customers of General aviation category

Transport to airport

- » individual transport of passengers by mini-buses or by taxi

Private aircraft clearance

- » Aircraft Industries, a.s. provides complex services for clearance of private aircraft in the area of aerodrome building (announcement required 24 hours beforehand)

Aircraft technical clearance

Procedures:

- » external power supplies
- » aircraft towing
- » snow removal

Equipment for technical clearance:

- » external power supplies
- » towing tractors
- » vans, cars and vehicles
- » high-lift trucks

CONTACT

Address

Aircraft Industries, a.s.

Na Zahonech 1177, Kunovice, Czech Republic, 686 04

Commercial department

Tel.: +420 572 816 111

Cooperation department

Tel.: +420 572 817 500, +420 572 817 310

Airport Kunovice

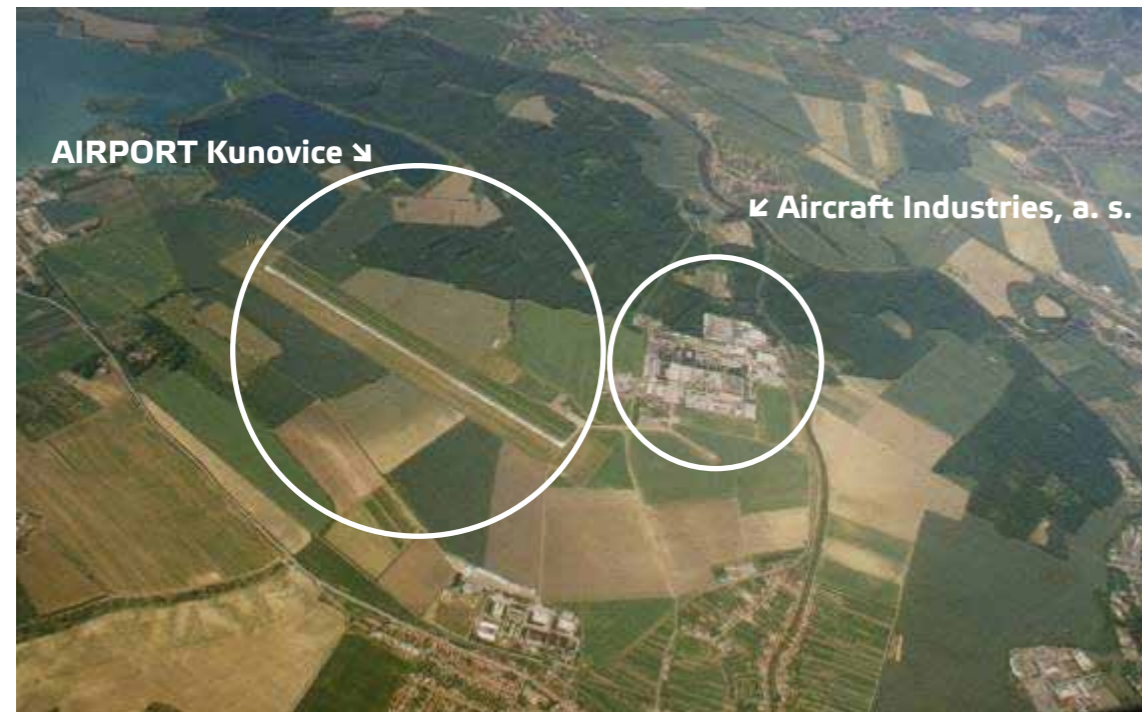
Tel.: +420 572 817 600

E-mail

let@let.cz

Web

www.let.cz





Aircraft Industries

