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# THE RICEBIRD

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## The Ricebird

After world war two an airplane industry came alive in Indonesia with the name PT industri Pesawat Terbang Nurtanio (Nurtanio Aircraft Industry). In Bandung the production was started of own designs but also assemblage under licence. One of the types was the PZL-104 'Gelatik' (Ricebird).

## Production facility in Indonesia.

In 1961 a contract was signed between PZL Okecie (Patowe Zaklady Lotnicze) in Warsaw and Lembaga Persiapan Industri Penerbangan (LAPIP) in Bandung concerning the production of the Polish PZL-104 Wilga in Indonesia. The contract covered the establishment of an aircraft manufacturing facility, later on called Lembaga Industri Penerbangan Nurtanio (LIPNUR), production under licence and training & support. Indonesia already acquired some Wilga C (2C) variants from Poland and some examples of this type were also assembled in the Bandung factory. The main production however concerned the Wilga 32 (first flight 1967) which was modified at some small items and called in Indonesia the Gelatik 32. This variant was like the Wilga 2C fitted with a 172 Kw American Continental 0-470 K/R six cylinder horizontally opposed air-cooled engine providing a top speed of 203 km/h and a range of 800 km. This was different from the examples flying in Poland which country was under the influence of Russia and American engines were not in their reach. In Poland the type was fitted with the radial nine cylinder PZL-Ivchenko AI-14RA engine which was sufficient, however the Continental engine was more economical and more in line with the design.

## All metal bird

The production of the cantilever high-wing monoplane aircraft complied with FAR-23 rules. The airframe is a semi-monocoque all metal body with small longitudinal fins across the whole body to strength the mainframe and to extend its life. Also the manufacturer tried to keep the weight as low as possible and the big wing gives much lift and great STOL capability. The leading edge slats and the unique wing design enable the Wilga to fly as slow as 35 knots and the aircraft will not stall. The landing gear is conventional, was improved in earlier stage and fixed with a tail wheel the aircraft is real tail-dragger. On the engine a wooden propeller with two blades is mounted and in the wings there are two fuel tanks of 195 litres each to feed the engine. The cockpit is analogue and suitable to fly under visual flight rules (VFR) conditions. Eventually 44 examples were produced in Indonesia.

## Sportive use

The airplane was designed especially for parachutist droppings and aero club activities. The cockpit which was revised in the later versions like the Gelatik 32 has

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two big doors which can be opened outwards to above enabling an easy step out. The aircraft can fly longer time with the doors open for a better observation or performing parachute jumps easily. Apart from the pilot maximal three persons can be taken as passengers. The aircraft came into service with the Indonesian air force and today some six examples survived and fly with FASI which is the military aero club. Gelatiks were used for liaison and light transport, observation flights, pilot training, para training and some were utilised as agricultural aircraft equipped with a 500 litres hopper for dust or liquid application. The latter flew with the so called Angkatan Udara Pertanian (Air Force agricultural unit). With FASI the Gelatiks are in use for small charter flights and sightseeing flights above the capitol Jakarta and to tow gliders (Pusdiklat Terbang laying = glider unit of the air force) which task is very well dedicated to the Gelatik with its standard tow hook at the tail and his capacity of slow flying.

**Ricebird:**

|                  |                |
|------------------|----------------|
| Length           | 8.46m          |
| Height           | 2.96m          |
| Span             | 11.12m         |
| Wing area        | 15.5 square m. |
| Doors dimensions | 1.63 x 0.95 m. |
| Empty weight     | 900 kg.        |
| Take-off weight  | 1300 kg.       |
| Cruise speed     | 142 km/h       |
| Max. Speed       | 210 km/h       |
| Min. Speed       | 66 km/h        |
| Ceilling         | 6.700 m        |
| Cruise altitude  | 4.500 m        |
| Rate of climb    | 378 m./minute  |
| Take off run     | 80 m           |
| Landing run      | 95 m           |

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