

## **TURBO BELL 47**

### **Bell 47 Soloy, well appreciated**

The Bell 47 is a legend and a pioneer in helicopter flying adventure which actually started at 08 March 1946 when the type was certified for commercial purpose. While it is possible to find still examples for civilian use the type has for the military been withdrawn from use or recently out phased (Malta). However, when searching carefully one can find a complete operational squadron in Indonesia, only not in the classical piston concept but in the modified turbine version.

### **Soloy concept**

Many examples were produced, up to 16.000 and not fabricated with Bell Textron only, also under licence agreement with Agusta in Italy, Westland Aircraft in the United Kingdom and Kawasaki Heavy Industries in Japan. Records were earned by the type which managed to fly over the Swiss Alps as the first helicopter. Many different versions saw daylight but only a few persons know about the story of John Soloy with his Soloy Aviation Solutions Company in Olympia, Washington who converted after gaining experience on the Hiller 12 over 140 Bell 47 examples to turbine versions. The result was a potent helicopter. The package included the installing of a 420 Hp Allison 250 C20B turbine engine with centrifugal compressor and some small modifications on the mainframe.

The big advantage of the concept is a powerful engine in a light weighted airframe. The power capacity of the main transmission and rotor system was not increased but thanks to a new Soloy speed reducing gearbox the power was much more balanced. This resulted in a moderate workload for the Allison engine while not asking the limits of the engine, applying 270 hp of his total capacity of 420 hp at take off and 220 hp continuously, leaving a tremendous power margin for hot and high conditions. Fuel cost savings and better engine life were the new appealing aspects. The servicing interval was doubled from 50 hours with the piston engine to 100 hours with the Soloy conversion. Soloy also provided a complete new 24 V electrical system with forward mounted battery and a new low profile instrument pedestal enabling dual control while on the outside two new crash proof fuel tanks and breakaway tank mountings were fitted. The first example flew for the first time in 1979 and today a few are still in the air.

### **Multi Role over Java**

Indonesia received 12 Bell 47G-3 from Australia and in 1984 they were refurbished to Bell 47G-3B-1 Soloy conversion. This was smart because the type became much better to exploit with more economic use of fuel, increasing of range and up rated engine life. Thanks to the much better capability in the mountainous area a very suitable helicopter for search and rescue tasks above Java's landscape of volcanos. They are stationed at Suryadharma, West Java, known as Kalijatie during Dutch occupancy and fly with Skuadron Udara 7. They perform the so called multirole, indicating the variety of tasks possible with the type. The Bell's operates alongside

very modern Eurocopter Kolibrie helicopters. Thanks to double handling of controls capability it is easy to learn the skills in conversion and the Soloy is hereby very suitable for basic helicopter training. Another feature is a standard cargo hook enabling the helicopter to carry load with a sling. There are examples with floats in the inventory and training with landing at the water surface can be performed in the training course especially to students for the navy. Recently the Indonesian Air Force was painfully touched when one Bell crashed (nr. H-4712) killing the Pilot Captain lettu Pnb. Engky. S. Jaya leaving only eleven Bells at Suryadharma.

When experienced the little helicopter with 'bubble canopy' either by flying or by watching it flying will reserve a memory for this one.

### **Bell 47 Soloy**

Length:	9.63m
Height:	2.83m
Length rotor:	13.30m.
Rotor diameter:	11.32m
Tail rotor diameter:	9.63m
Passengers:	1-2
Engine:	Allison 250 C20 B
Max. Take off power:	420 Hp
Max. Continuous power:	370 Hp
Range:	337 km.
Normal speed:	137 km/u
Cargo load:	300 kg.

### **Kees Otten & Wim Das**

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