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# MOOSEAIR #6


Version 1.0.0

## SIEBEL SI-202 B „HUMMEL“ (BUMBLEBEE)

**The „Hummel“ was a side-by-side two-seat light cabin monoplane designed by Friedrich Fecher of the Siebel Flugzeugwerke KG of Halle in the late 1930s. Built entirely of wood, it possessed innocuous handling characteristics, making it a safe aircraft to fly even for inexperienced pilots. In the beginning of 1939, two world altitude records were set by the „Hummel“.**


| | |
|---|---|
| **Type** | Sports & Training |
| **Manufacturer** | Siebel Flugzeugwerke |
| **Maiden Flight:** | 26 April 1938 |
| **Number built:** | 66 (1938 - 1941) |

The Si 202 „Hummel“ (bumblebee) was a side-by-side two-seat light cabin monoplane designed by Friedrich Fecher of the Siebel Flugzeugwerke KG of Halle. The nickname „Hummel“ came from the stubby silhouette of the plane and its resemblance to the insect. First appearing in 1938, the Si 202 Hummel was designed to bean economical single-engine sporting aircraft for two persons with the emphasis on ease of handling.

The Si 202 was entirely of wooden construction with a single-spar plywood-and fabric-covered wing, a plywood-covered fuselage, plywood-covered ailerons, fin and tail-plane, and fabric-covered rudder and elevator. The cabin seated two persons side-by-side with central control column and dual rudder pedals. The fuel tank in the fuselage behind the fireproof bulkhead was of 45 l capacity. The cockpit was equipped with only the most important flight and engine instruments, which were more than adequate for visual flight.

The first prototype, the Si 202 V1 (D-ESFH) made its maiden flight on 26 April 1938 with pilot Wolfgang Ziese. The flight test program was continued in May 1938 with a 45 hp Samson AD 9b nine-cylinder radial air-cooled engine, this and the Si 202 V4 (D-EHCB) which was similarly powered serving as prototypes for the Si 202A production model.

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The Si 202 V3 (D-EKDQ) was powered by a 62 hp Walter Mikron II four-cylinder inline air-cooled engine, but the principal version was the Si 202B with a 50 hp Zündapp 9-092 four-cylinder inline air-cooled engine, prototypes of this. model including the Vl1 (D-EEJD), V12 (D-ERHN) and V13 (D-EFLC). A further version was the Si 202C with a 60 hp Hirth HM 515 engine. The engine power was sufficient to provide the aircraft, which weighted just 290 kilograms empty, with an excellent performance and good fuel consumption.

Twenty-five Si 202s were delivered during the course of 1939 and a further 41 had been manufactured when production terminated in March 1941. At the time, one could buy a „Hummel“ for merely 6000 Reichsmark. Most of the planes remained in Germany, although a few were exported, for example to Hungary or Slovakia.

At the beginning of 1939 the Si 202 set two world altitude records: on 31 January pilot Wolfgang Zeise reached with „Hummel“ 5,982 meters with two persons and only a few days later he reached 7,043 meters with one person – both new world records in its class (see below). Later in the summer of 1939 pilot Christoph Hilliger even maneuvered the „Hummel“ to an impressive new world record of 7,500 m (single person). The small aircraft also won first place in its class in numerous air races, rallies and endurance flights.

***Sources:***

- http://de.wikipedia.org/wiki/Siebel_Si_202
- http://sv.wikipedia.org/wiki/Siebel_Si_202
- http://www.histaviation.com/Siebel_Si_202_Hummel.html
- Peter W. Cohausz: „German Aircraft Cockpits 1911 - 1970“, Schiffer Military History Book, p. 128 f. (2003)

**D-EMDR used for altitude records to the right record pilot Christoph Hilliger**

## „Two Altitude World Records with the Siebel-“Hummel“:

**Zwei Höhenweltrekorde mit der Siebel-„Hummel“**

Wie wir kurz vor Redaktionsschluß erfahren, haben der Chefpilot der Siebel-Flugzeugwerke Halle und ein Begleiter mit dem Flugzeug Si 202 „Hummel“ mit 50 PS Zündapp-Motor eine Höhe von 5982 m erreicht. Diese Leistung überbietet den bisher in dieser Klasse von der Tschecho-Slowakei gehaltenen Höhen-Weltrekord um 1110 m. Wenige Tage später erreichte dasselbe Flugzeug einsitzig eine Höhe von 7043 m und überbot den bestehenden Rekord um annähernd 1200 m. Beide Flüge wurden der FAI zur Anerkennung gemeldet.

Nachdem in Deutschland vordringliche Aufgaben zu erledigen waren, wird sich damit der deutsche Kleinflugzeugbau erstmalig wieder in die Weltrekordliste eintragen. In letzter Zeit haben sich verschiedene Werke in Deutschland mit der Entwicklung leichter Flugzeuge befaßt, und es ist ein erfreuliches Zeichen, daß die deutsche Luftfahrtindustrie schon in so kurzer Zeit auch auf diesem Gebiet wieder zu Weltrekorderfolgen gelangen konnte.

Das Flugzeug Si 202 „Hummel“, das unsere Leser schon aus früheren Veröffentlichungen (Heft 7 1938, Seite 32) kennen (damals mit dem 45-PS-Salmson-Motor ausgerüstet), hat nunmehr den 50 PS Zündapp-Motor von weniger als 2 Liter Hubvolumen erhalten. Es ist als Klein-Kabinenflugzeug von dem Chefkonstrukteur der Siebel-Werke Fecher für Schule, Sport und Reise konstruiert worden und dürfte mit diesem Flug bewiesen haben, daß es den gewünschten Anforderungen entspricht.

Die erstaunliche Verbesserung des bisher bestehenden Rekordes den Flugkapitän Ziese mit einem Fluggast aufstellte, verdient besondere Beachtung dadurch, daß zweisitzig geflogen auch die bisher vom Ausland gehaltene Bestleistung für einsitzige Flugzeuge überboten wurde. Das Flugzeug zeichnet sich durch einfachen Aufbau und billigen Herstellungspreis aus.

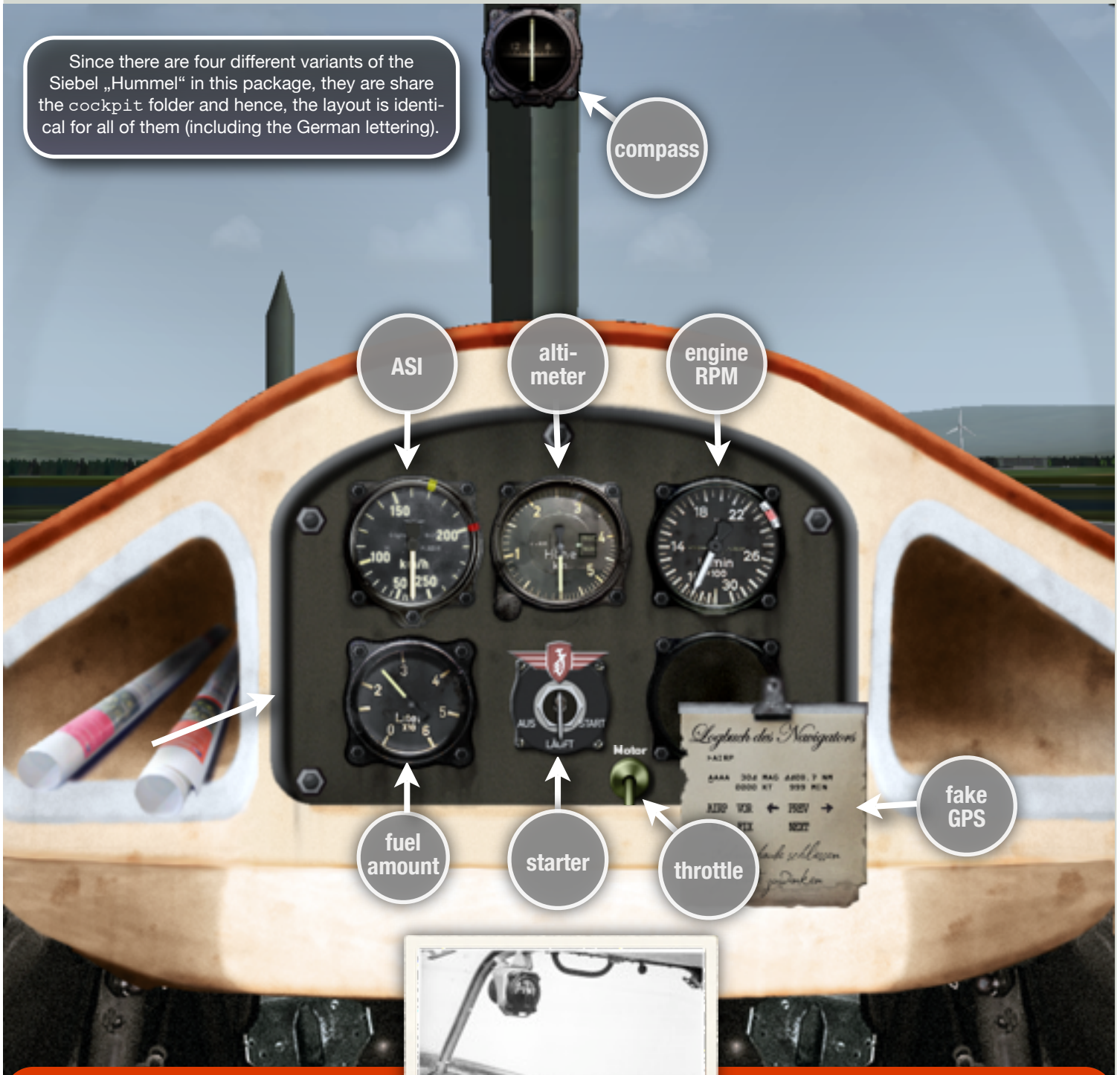
Dieser neueste Erfolg der deutschen Luftfahrtindustrie läßt auch das deutsche Kleinflugzeug wieder in den Vordergrund treten. Wir hoffen, daß dieser erfreuliche Start nur der Anfang zu einer Serie von Erfolgen ist, die sich würdig an die großen Leistungen unserer wiedererstandenen deutschen Luftfahrt anschließen.

Die gleiche Anerkennung wie das Flugzeug verdient selbstverständlich der neue Zündapp-Motor. Dr. Popp, der Konstrukteur der Zündapp-Werke, hat mit diesem mit viel Liebe entwickelten Motor das Produktionsprogramm der Zündapp-Werke auch auf Flugmotoren erfolgreich auszudehnen verstanden. Dieser Motor wird auch in mehreren anderen neuen deutschen Kleinflugzeugen eingebaut. Wir wollen hoffen, daß er so noch recht vielgestaltig als Rekordmotor in Erscheinung tritt.

**Just before press date, we have learned that the chief pilot of the Siebel-Flugzeugwerke Halle and a co-pilot have reached the height of 5982 m with the Si 202 „Hummel“ equipped with a 50 PS Zündapp engine. This achievement surpasses the existing world record in this classe held by Czech-Slovakian by 1110 m. A few day later the same plane reached single-seated 7043 m and surpassed the existing record ba 1200 m. The FAI has been notified with respect to approval of those flights. (...) The plane Si 202 „Hummel“ is now equipped with a 50 PS Zündapp engine with less than 2 liters cylinder capacity. It is a small cabin place that has been designed by the chief designer of the Siebel factory, Fecher, for school, sports and travling. With these flights, the place has proven that it is confirms to those requirements. The amazing improvement of the existing altitude records by flight captain Ziese and his co-pilot is even more amazing since he even surpassed the existing single-seat altitude record. The plane is characterized by its simple set-up and low production price. (...) Tribute has also to be paid to the Zündapp engine and its designer, Dr. Popp from the Zündapp company.**

# THE PANEL

Since there are four different variants of the Siebel „Hummel“ in this package, they are share the `cockpit` folder and hence, the layout is identical for all of them (including the German lettering).




## PANEL & INSTRUMENTS

In the book by Peter Cohausz is a nice photo and description of the actual Hummel panel (see to the right) which I used as inspiration for the Photoshop and then Planemaker version. Most of the instruments are accurate, however, for some I had to use slightly different FL numbers since the ones mentioned in the Cohausz book were not available to me.

## 360° VIEWS

...are not included but due to the cockpit object you can still look around and even get a glimpse at the pilot and co-pilot (thanks to Beber).

# Overview of Included „Hummel“ Versions

Germany

1


| CALLSIGN | SOURCE | FILENAME |
|---|---|---|
| D-EDFQ | Wings Palette | (base) |

used for international press flight to Rome in June 1939

Germany

2

| CALLSIGN | SOURCE | FILENAME |
|---|---|---|
| D-EMDR | Histaviation | _EMDR |

used for world altitude record flight in 1939 by pilot Christoph Hilliger

Hungary

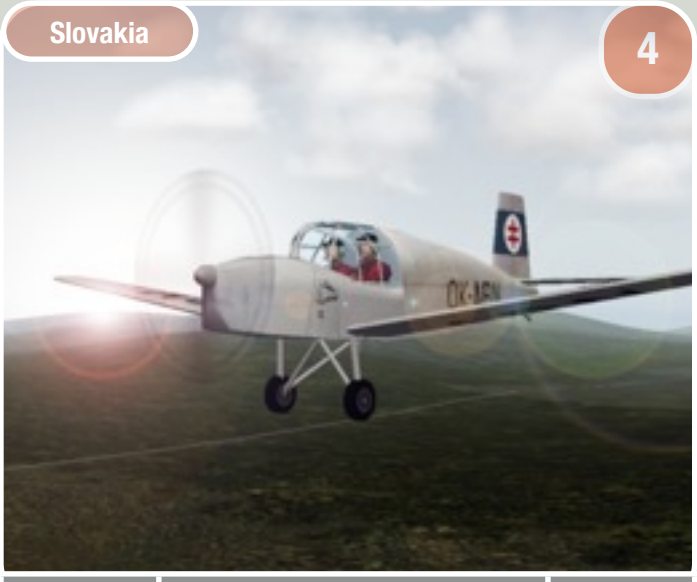
3


| CALLSIGN | SOURCE | FILENAME |
|---|---|---|
| HA-MAE | Cohausz: „German...“ | _HUN |

Plane was used by Hungarian Air Force at the Eastern front (hence the yellow band)

Slovakia

4



| CALLSIGN | SOURCE | FILENAME |
|---|---|---|
| OK-ABN | Wings Palette | _SLO |

One of three „Hummel“ of the Slovakian Air Forces, shown is Werknr. 32

| SI-202... | A | B | C |
|---|---|---|---|
| Engine | Salmson AD-9 (59 PS) | Zündapp Z 9-092 (55 PS) | Hirth HM 515 (60 PS) |
| Dimensions | Wing span: 10.5 m, length: 6.3 m | | Span: 10.6 m, l = 6.5 m |
| Weights | Empty: 320 kg, max: 550 kg | | 355 / 620 kg |
| Performance | Max 155 km/h | Max 160 km/h | Max 180 km/H |

# THANKS AND KUDOS

**I like to thank the following people for their valuable contributions:**

- **Beber** for his amazing pilot figures...
- **Peter** from **Peter's Airplanes** who put up the idea for a **Goodway Compatible Clipboard** on his site, an idea that I borrowed for the simple Notepad-GPS that is on the panel of the Hummel.

## BUG

- the main cockpit window object is slightly shifted to the left. I did not realize that until very late in the process: main reason was that early on I accidentally rotated the fuselage 1 degree, then made the object, then completed the plane, then realized the rotation. So the cockpit object was slightly tilted which I more or less tried to conceal (alternative would have been to basically start from scratch, which I was reluctant to do...).

## HELPFUL HINTS

- Since none of the wheels can steer, you will have to apply quite a bit of rudder to keep the „Hummel“ straight during take-off and touch-down.
- I found the center-of-gravity setting quite sensitive this time, so you might want to experiment a little bit yourself to get the handling that suits you best (can be done within X-Plane).

*While looking for Hummel-related information I found this page: http://www.rotecradialengines.com/customers/WolfgangKnobloch.htm that showcases a modern-day re-built of the Siebel Hummel, actually a radial engine driven Si 202 C variant.*


„The Hummel S202C was designed in 1938 as a multi purpose light airplane for use in the private aviation; though originally powered by a 4 cylinder Zuendapp the design and archive material do include mention of suitability for the use of a radial powerplant. This particular craft has been rebuilt from original plans and photos. A superb plane that deserves a radial (its going to be the Rotec R2800) and we'll be looking forward to seeing the conversion/change in character. I'll predict that it will be nothing short of dramatic. We are looking forward to progress as it occurs. Having received the Rotec R2800 early 2007 by August 2007 Woolgang moved to larger premises & had the engine trial mounted.“