TRAC News

May 2024 Issue

President's Comments

Fun Fly Cancelled

A disappointing turnout resulted in cancellation of the Fun Fly April 27. Better luck next year.

Lost Plane

I was recently contacted by a club member who informed me that his plane had apparently lost signal and flew off into the horizon. He was bummed about losing his plane and asked me to let him know if someone found it and contacted us. I asked him if he had his identification on or in the plane and he said no.
People, per the AMA Safety Handbook, your UAS should have either your name and address and/or AMA number in or on it. One step further, per the FAA, your UAS should also have your FAA registration number on it, clearly visible without removing any part of the craft.
Let's all start paying more attention to this . Hopefully your UAS will not be lost, but if it is, identification will give yu a much better chance of getting it back.

Hydrate, Sunscreen

As the weather heats up, remember to drink plenty of water to keep yourself hydrated. Also, use sunscreen to protect yourself from the blazing sun.

Safe Flying

Don Riek

Upcoming Events

TRAC - Club Meeting at Field, Saturday, May 11, at 11:00AM
TRAC - Club Meeting at Field, Saturday, June 8, at 11:00AM
TRAC - Club Meeting at Field, Saturday, July 13 at 11:00AM
TRAC - Club Meeting at Field, Saturday, August 10 at 11:00AM
TRAC - Club Meeting at Field, Saturday, September 14 at 11:00AM

TRAC MINUTES

April 13, 2024

Meeting Call to Order

Meeting called to order by Pres. Don Riek at 11:00 a.m. with 27 signed-in members present.

Motion to accept minutes of last meeting was made, seconded, and passed.

Treasury Report

Don Riek presented a detailed treasury report and break down of expenses.

Beginning Balance	$ XXXX
Income	$ 460.97
Expenses	$ 177.47
Closing Balance	$ XXXX
Runway Fund	$ 60.00

Motion to accept the Treasurer's Report was made, seconded, and passed.

New Members/New Pilots

Ryan Jeffcoat

Safety block

All dogs brought to the field must be kept on a leash and attended to, meaning you can't just tie them up and walk away from them.

Old Business

1) Warbird Event is still in planning stage, Vince Sr. will have more updates soon

New Business

1) County Use Agreement has been re-applied for (yearly requirement)

2) Someone had some interest in the old generator stored in the shed and the club allowed them to buy it for $15.00.

3) There was an inquiry about having the helicopter pad expanded for control line flyers and adding a small landing strip for them, Steve Watson will present plans to the club soon.

Show-and-Tell:

Frank showed off his Ziroli 94" wingspan Red Bull Corsair, it has Robart Air retracts and will most likely get a Moki 180 twin gas engine. Frank hand painted all the details including the starts and the Red Bull logo.

Adjournment 11:15 am

The **Junkers Ju 88** is a German World War II *Luftwaffe* twin-engined multirole combat aircraft. Junkers Aircraft and Motor Works (JFM) designed the plane in the mid-1930s as a so-called *Schnellbomber* ("fast bomber") that would be too fast for fighters of its era to intercept. It suffered from technical problems during its development and early operational periods but became one of the most versatile combat aircraft of the war. Like a number of other *Luftwaffe* bombers, it served as a bomber, dive bomber, night fighter, torpedo bomber, reconnaissance aircraft, heavy fighter and at the end of the war, as a flying bomb.[2]

Despite a protracted development, it became one of the *Luftwaffe*'s most important aircraft. The assembly line ran constantly from 1936 to 1945 and more than 15,000 Ju 88s were built in dozens of variants, more than any other twin-engine German aircraft of the period.

Design was initiated by Junkers Chief Designer Ernst Zindel.[8] He was assisted by Wilhelm Heinrich Evers and American engineer Alfred Gassner.[9] Evers and Gassner had worked together at Fokker Aircraft Corporation of America where Gassner had been Chief Engineer.[*citation needed*] Junkers presented their initial design in June 1936, and were given clearance to build two prototypes (Werknummer 4941 and 4942).[5] The first two aircraft were to have a range of 2,000 km (1,200 mi) and were to be powered by two DB 600s. Three further aircraft, Werknummer *4943*, *4944* and *4945*, were to be powered by Jumo 211 engines.[5] The first two prototypes, Ju 88 V1 and V2, differed from the V3, V4 and V5 in that the latter three models were equipped with three defensive armament positions to the rear of the cockpit, and were able to carry two 1,000 kg (2,200 lb) bombs, one under each inner wing panel.

The aircraft's first flight was made by the prototype Ju 88 V1, which bore the civil registration D-AQEN, on 21 December 1936. When it first flew, it managed about 580 km/h (360 mph) and Hermann Göring, head of the Luftwaffe was ecstatic. It was an aircraft that could finally fulfill the promise of the *Schnellbomber*, a high-speed bomber. The streamlined fuselage was modeled after its contemporary, the Dornier Do 17, but with fewer defensive guns because the belief still held that it could outrun late 1930s-era fighters. The fifth prototype set a 1,000 km (620 mi) closed-circuit record in March 1939, carrying a 2,000 kg (4,400 lb) payload at a speed of 517 km/h (321 mph).[10]

In October 1937 *Generalluftzeugmeister* Ernst Udet had ordered the development of the Ju 88 as a heavy dive bomber. This decision was influenced by the success of the Ju 87 *Stuka* in this role. The Junkers development center at Dessau gave priority to the study of pull-out systems and dive brakes.[13] The first prototype to be tested as a dive bomber was the Ju 88 V4 followed by the V5 and V6. These models became the planned prototype for the A-1 series. The V5 made its maiden flight on 13 April 1938, and the V6 on 28 June 1938. Both the V5 and V6 were fitted with four-blade propellers, an extra bomb bay and a central "control system".[13] As a dive bomber, the Ju 88 was capable of pinpoint deliveries of heavy loads; however, despite all the modifications, dive bombing still proved too stressful for the airframe, and in 1943, tactics were changed so that bombs were delivered from a shallower, 45° diving angle.

The Ju 88C series of standard fighter-bomber versions from the C-2 onwards culminated in the **Ju 88 C-6**, applying experience acquired with the A-4 bomber, equipped with the same Jumo 211J engines but replacing the "beetle's eye" nose glazing with a smoothly curved all-metal nose, pierced only by the barrels of its forward-firing offensive armament. The C-6 was used mostly as fighter-bomber and therefore assigned to bomber units. As a reaction to the increasing number of attacks on German shipping, especially on U-boats in the Bay of Biscay, from July 1942 it started flying anti-shipping patrols and escort missions from bases in France.[15] *V./Kampfgeschwader 40* being formed to operate the C-6.

The **Ju 88P** was a specialized variant for ground attack and to function as a bomber destroyer, designed starting from 1942[20] and produced in small numbers, using examples of the *Bordkanone* heavy calibre aviation autocannon series, which required the omission of the *Bola* undernose gondola for clearance. The prototype, derived from a standard Ju 88 A-4, was armed with a 7.5 cm (3.0 in) anti-tank gun derived from the 7.5 cm PaK 40 installed in a large conformal gun pod under the fuselage. This was followed by a small batch of **Ju 88 P-1**, which standardized

the solid sheet metal nose of the C version for all known examples of the P-series, and used the new 7.5 cm PaK 40L semi-automatic gun, also known as the *Bordkanone* BK 7,5,[21] which was also meant for use in both the later Henschel Hs 129B-3 dedicated anti-armor aircraft, and a never-achieved production version of the He 177A-3/R5 ground-attack *Flak*-suppression *Stalingradtyp* field-improvised version.

The Ju 88C was originally intended as a fighter-bomber and heavy fighter by adding fixed, forward-firing guns to the nose while retaining some bomb carrying ability of the A-series bomber. The C-series had a solid metal nose, typically housing one 20 mm (0.787 in) MG FF cannon and three 7.92 mm (0.312 in) MG 17 machine guns. The aircraft retained the ventral *Bola* gondola under the crew compartment though individual units sometimes removed this to reduce weight and drag to enhance performance. The Ju 88C was later used as a night fighter, and this became its main role.
The **C-6** as night fighter was typically equipped with FuG 202 *Lichtenstein* BC low-UHF band airborne intercept radar, using the complex 32-dipole *Matratze* antennas. The first four C-6 night fighters were tested in early 1942 by NJG 2. The trials were successful and the aircraft was ordered into production. In October 1943, many C-6s were upgraded with new radar systems. The first new radar equipment was the FuG 212 Lichtenstein C-1. After the UHF-band Lichtenstein radars had been compromised to the Allies in the late spring of 1943, the next development in German AI radar was the VHF-band FuG 220 *Lichtenstein* SN-2, discarding the 32-dipole *Matratze* antennae for the much larger eight-dipole *Hirschgeweih* (stag's antlers) aerials, required for the longer wavelength SN-2 system.
Many Ju 88C's had their Bola gondolas modified to hold up to two forward firing 20 mm (0.787 in) cannons. Several C-6 night fighters were equipped with two "Schräge-Musik" upward-firing 20 mm cannons in trial fittings, and from mid 1943 onward, there was an official field modification kit available for this arrangement.
The Ju 88R series night fighters were basically versions of the Ju 88 C-6, powered by unitized BMW 801 radial engines. The R-1 had 1,147 kW (1,539 hp) BMW 801L engines and the R-2 had 1,250 kW (1,677 hp) BMW 801 G-2 engines.
One of the first aircraft from the R-1 series that went into service (*Werknummer* 360 043) was involved in one of the most significant defections from the Luftwaffe. On 9 May 1943, this night fighter (D5+EV), which was stationed with 10./NJG 3 in Aalborg Denmark, flew to the RAF Station at Dyce (now Aberdeen Airport) with its entire crew and complete electronic equipment on board. The fact that Spitfire Vb fighters No.165 (Ceylon) Squadron escorted it towards the end of its flight could indicate that its arrival had been expected. It was immediately transferred to Farnborough Airfield, received RAF markings and serial number PJ876, and was tested in great detail.[1]

By August 1940, A-1s and A-5s were reaching operational units just as the battle was intensifying.
The Battle of Britain proved very costly. Its higher speed did not prevent Ju 88 losses from exceeding those of its Dornier Do 17 and Heinkel He 111 stablemates despite being deployed in smaller numbers than either. Ju 88 losses over Britain in 1940 totaled 303 aircraft between July and October 1940.
By the summer of 1941, most of the units equipped with the Dornier Do 17 were upgrading to the Ju 88. With a few exceptions, most of the German bomber units were now flying the He 111 and Ju 88. The Ju 88 was to prove a very capable and valuable asset to the Luftwaffe in the east. The Ju 88 units met with instant success, attacking enemy airfields and positions at low level and causing enormous losses for little damage in return. 3./*Kampfgeschwader* 3 attacked Pinsk airfield in the morning of the 22 June 1941. It caught, and claimed destroyed, 60 Soviet bombers on the ground. The 39 SBAP Regiment of the 10 Division SAD actually lost 43 Tupolev SBa and five Petlyakov Pe-2s. Ju 88s from *Kampfgeschwader 51* destroyed over 100 aircraft after dispatching 80 Ju 88s to hit airfields. In general the Soviet aircraft were not dispersed and the Luftwaffe found them easy targets.[3]

General characteristics

Crew: 4 (pilot, bombardier/front gunner, radio operator/rear gunner, navigator/ventral gunner)
Length: 14.4 m (47 ft 3 in)
Wingspan: 20 m (65 ft 7 in)
Height: 4.8 m (15 ft 9 in)
Wing area: 54.5 m^2 (587 sq ft)
Empty weight: 9,860 kg (21,737 lb)
Gross weight: 12,105 kg (26,686 lb)
Max takeoff weight: 14,000 kg (30,865 lb)
Powerplant: 2 × Junkers Jumo 211J-1 or 211J-2 V-12 liquid-cooled inverted piston engine, 1,000 kW (1,340 hp) each for take-off
1,010 kW (1,350 hp) at 250 m (820 ft)
790 kW (1,060 hp) at 5,200 m (17,000 ft)
Propellers: 3-bladed VDM variable-pitch propeller

Performance

Maximum speed: 470 km/h (290 mph, 250 kn) at 5,300 m (17,390 ft) and 12,500 kg (27,557 lb)
Cruise speed: 370 km/h (230 mph, 200 kn) at 5,300 m (17,390 ft) economical cruising speed

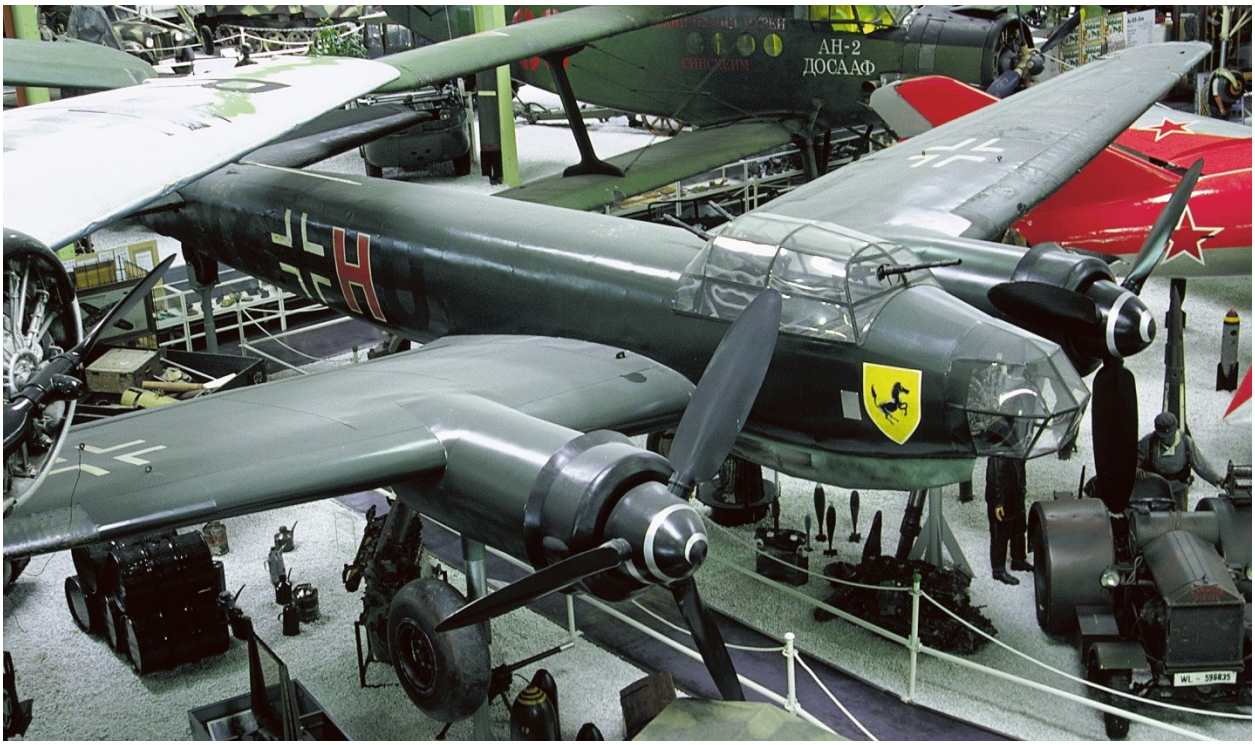
Range: 1,790 km (1,110 mi, 970 nmi) with 2,896 L (765 US gal; 637 imp gal)
Ferry range: 2,730 km (1,700 mi, 1,470 nmi) with 4,028 L (1,064 US gal; 886 imp gal)
Service ceiling: 8,200 m (26,900 ft)
Time to altitude: 5,400 m (17,700 ft) in 23 minutes
Wing loading: 220 kg/m^2 (45 lb/sq ft)
Power/mass: 0.100 hp/lb (0.164 kW/kg)

Armament

Guns:

- 1 × 7.92 mm MG 81J machine gun on flexible mount in front windscreen, firing forward with 1,000 rounds.[N 4]
- 1 × 7.92 mm MG 81J machine gun on flexible mount in lower fuselage nose glazing, firing forward with 1,000 rounds.
- 2 × 7.92 mm MG 81J machine guns on flexible mount in the rear of the cockpit canopy, firing aft with 1,000 rounds each.[69]
- 1 × 7.92 mm MG 81Z twin machine gun on flexible mount in the rear ventral *Bola* position, firing aft with 1,000 rounds.[70][69]

Bombs: Up to 1,400 kilograms (3,100 lb) of ordnance internally in two bomb bays rated at 900 kg (2,000 lb) and 500 kg (1,100 lb) or up to 3,000 kg (6,600 lb) externally. Carrying bombs externally increased weight and drag and impaired the aircraft's performance. Carrying the maximum load usually required rocket-assisted take-off.




124
MPH