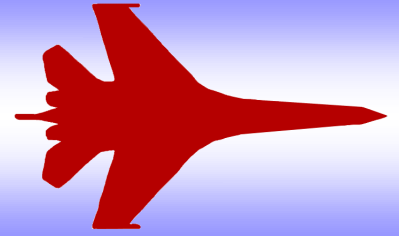


TRAC News



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October 2024 Issue

President's Comments

Open House in November

The annual TRAC Open House is scheduled for November 23rd. TRAC members are encouraged to participate and bring guests. A pot luck lunch will be available with TRAC club supplying burgers, hot dogs, and drinks. Members will bring a dish to share. A donation of \$5 gets a great lunch.

November Election of Officers

The annual election of TRAC officers will take place at the November club meeting. Offices up for election will be President, Vice-President, and Safety Director. As of this date, declared candidates are as follows: President, Steve Watson. Vice President Nick Levy and Devin Allen. (Devin would hold dual positions as VP and Secretary). Safety Director Billy Goucher. Please show up, voice your opinion and vote.

Change to TRAC Constitution

A motion was made at the September meeting to remove from the duties of the TRAC Vice-President the duties of Safety Director. A separate position of Safety Officer will be created. This change will be discussed at the October meeting and voted on at the November meeting.

Safe Flying

Don Riek

Upcoming Events

TRAC - Club Meeting at Field, Saturday, October 12, at 11:00AM

TRAC - Club Meeting at Field, Saturday, November 9, at 11:00AM

TRAC - Open House at Field, Saturday, November 23, at 9:00AM

TRAC - Club Meeting at Field, Saturday, December 14, at 11:00AM

TRAC - Club Meeting at Field, Saturday, January 11, at 11:00AM

TRAC - Club Meeting at Field, Saturday, February 8, at 11:00AM

TRAC MINUTES

September 14, 2024

Meeting Call to Order

Meeting called to order by Pres. Don Riek at 10:56 a.m. with 25 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	\$ 1092.43
Expenses	\$ 424.89
Closing Balance	\$ XXXX
Runway Fund	\$ 580.00

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

New Members/New Pilots

None

Safety block

If your plane goes down, **do not cross the runway to go get it until everyone has landed.**

Old Business

Open house will be November 23rd, please bring a covered dish and any donations for Metropolitan Ministries will be appreciated.

Officer candidates unless further noted President Steve Watson, Vice President Devin Allen, Secretary Devin Allen, Treasurer Tim Haas, Safety Officer Billy Goucher

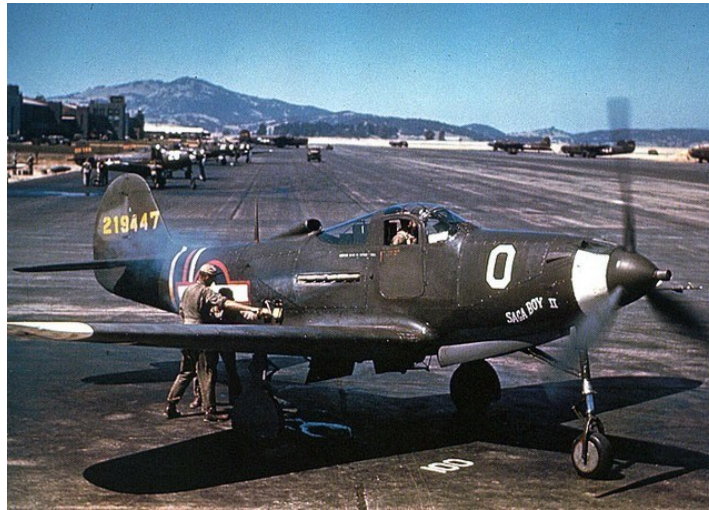
New Business

- 1) New charging stations were installed recently and recommendations were made to make them better.
- 2) A vote to remove the safety officer responsibilities from the vice president's position was motioned and approved.

Show-and-Tell:

Adjournment 11:17am

Bell P-39 Airacobra



The **Bell P-39 Airacobra** is a fighter produced by Bell Aircraft for the United States Army Air Forces during World War II. It was one of the principal American fighters in service when the United States entered combat. The P-39 was used by the Soviet Air Force, and enabled individual Soviet pilots to score the highest number of kills attributed to any U.S. fighter type flown by any air force in any conflict.^[N 2] Other major users of the type included the Free French, the Royal Air Force, and the Italian Co-Belligerent Air Force.^[4]

It had an unusual layout, with the engine installed in the center fuselage, behind the pilot, and driving a tractor propeller in the nose with a long shaft. It was also the first fighter fitted with a tricycle undercarriage.^[5] Although its mid-engine placement was innovative, the P-39 design was handicapped by the absence of an efficient turbo-supercharger, preventing it from performing high-altitude work.

The XP-39 made its maiden flight on 6 April 1938.^[1] at Wright Field, Ohio, achieving 390 mph (630 km/h) at 20,000 ft (6,100 m), reaching this altitude in only five minutes.^[15] However, the XP-39 was found to be short on performance at altitude. Flight testing had found its top speed at 20,000 ft (6,100 m) to be lower than the 400 mph (640 km/h) of the original proposal.^[2]

The Army ordered 12 YP-39s (with only single-stage, single-speed superchargers) for service evaluation^[23] and one YP-39A. After these trials were complete, which resulted in detail changes including deletion of the external radiator,^{[23][24]} and on advice from NACA,^[23] the prototype was modified as the XP-39B; after demonstrating a performance improvement,^[23] the 13 YP-39s were completed to this standard, adding two 0.30 in (7.62 mm) machine guns to the two existing 0.50 in (12.7 mm) guns.^[23] Lacking armor or self-sealing fuel tanks, the prototype was 2,000 lb (910 kg) lighter than the production fighters.^[25]

The production P-39 retained a single-stage, single-speed supercharger with a critical altitude (above which performance declined) of about 12,000 ft (3,700 m).^[26] As a result, the aircraft was simpler to produce and maintain. However, the removal of the turbo destroyed any chance that the P-39 could serve as a high-altitude front-line fighter. When deficiencies were noticed in 1940 and 1941, the lack of a turbo made it nearly impossible to improve upon the Airacobra's performance.^[N 4] The removal of the turbocharger and its drag-inducing inlet cured the drag problem but reduced performance overall.

The Airacobra was one of the first production fighters to be conceived as a "weapons system"; in this case the aircraft (known originally as the Bell Model 4) was designed to provide a platform for the 37 mm T9 cannon.^[29] This weapon, which was designed in 1934 by the American Armament Corporation, a division of Oldsmobile, fired a 1.3 lb (0.59 kg) projectile capable of piercing .8 in (20 mm) of armor at 500 yd (460 m) with armor-piercing rounds. The 90-inch-long (2.3 m), 200 lb (90 kg) weapon had to be rigidly mounted and fire parallel to and close to the centerline of the new fighter. It would have been impossible to mount the weapon in the fuselage, firing through the cylin-

der banks of the [Vee-configured engine](#) and the propeller hub as could be done with smaller 20 mm cannon. Weight, balance and visibility considerations meant that the cockpit could not be placed farther back in the fuselage, behind the engine and cannon.^[29] The solution adopted was to mount the cannon in the forward fuselage and the engine in the center fuselage, directly behind the pilot's seat. The tractor propeller was driven with a 10-foot-long (3.0 m) drive shaft made in two sections, incorporating a self-aligning bearing to accommodate fuselage deflection during violent maneuvers. This shaft ran through a tunnel in the cockpit floor and was connected to a gearbox in the nose of the fuselage which, in turn, drove the three- or (later) four-bladed propeller by way of a short central shaft. The gearbox was provided with its own lubrication system, separate from the engine; in later versions of the Airacobra the gearbox was provided with some armor protection.^[29] The [glycol-cooled radiator](#) was fitted in the wing center section, immediately beneath the engine; this was flanked on either side by a single drum-shaped oil cooler. Air for the radiator and oil coolers was drawn in through intakes in both wing-root leading edges and was directed via four ducts to the radiator faces. The air was then exhausted through three controllable hinged flaps near the trailing edge of the center section. Air for the [carburetor](#) was drawn in through a raised oval intake immediately aft of the rear canopy.^{[30][31]}

The Airacobra saw combat throughout the world, particularly in the Southwest Pacific, Mediterranean and Soviet theaters. Because its engine was equipped with only a single-stage, single-speed supercharger, the P-39 performed poorly above 17,000 feet (5,200 m) altitude. In both western Europe and the Pacific, the Airacobra found itself outclassed as an interceptor and the type was gradually relegated to other duties.^[5] It often was used at lower altitudes for such missions as ground strafing.

The United States requisitioned 200 of the aircraft being manufactured for the UK, adopting them as P-400s. After the [attack on Pearl Harbor](#), the P-400 was deployed to training units, but some saw combat in the Southwest Pacific including with the [Cactus Air Force](#) in the [Battle of Guadalcanal](#).^[50] Though outclassed by Japanese fighter aircraft, it performed well in strafing and bombing runs, often proving deadly in ground attacks on Japanese forces trying to retake [Henderson Field](#). Guns salvaged from P-39s were sometimes fitted to Navy [PT boats](#) to increase firepower. Pacific pilots often complained about problems of performance and unreliable armament, but by the end of 1942, the P-39 units of the Fifth Air Force had claimed about 80 Japanese aircraft, with a similar number of P-39s lost. Fifth and Thirteenth air force P-39s did not score more aerial victories in the Solomons due to the aircraft's limited range and poor high altitude performance.

The most successful and numerous use of the P-39 was by the [Soviet Air Forces](#). They received the considerably improved N and Q models via the [Alaska-Siberia ferry route](#). The tactical environment of the [Eastern Front](#) did not demand the high-altitude performance the RAF and AAF did. The comparatively low-speed, low-altitude nature of most air combat on the Eastern Front suited the P-39's strengths: sturdy construction, reliable radio gear, and good firepower.

General characteristics

Crew: One

Length: 30 ft 2 in (9.19 m)

Wingspan: 34 ft 0 in (10.36 m)

Height: 12 ft 5 in (3.78 m)

Wing area: 213 sq ft (19.8 m²)

Empty weight: 6,516 lb (2,956 kg)

Gross weight: 7,570 lb (3,434 kg)

Max takeoff weight: 8,400 lb (3,810 kg)

Powerplant: 1 × Allison V-1710-85 V-12 liquid-cooled piston engine, 1,200 hp (890 kW) at 9,000 ft (2,743 m) (emergency power)

Propellers: 3-bladed constant-speed propeller

Performance

Maximum speed: 389 mph (626 km/h, 338 kn)

Stall speed: 95 mph (153 km/h, 83 kn) power off, flaps and undercarriage down

Never exceed speed: 525 mph (845 km/h, 456 kn)

Range: 525 mi (845 km, 456 nmi) on internal fuel

Service ceiling: 35,000 ft (11,000 m)

Rate of climb: 3,805 ft/min (19.33 m/s) at 7,400 ft (2,300 m) (using emergency power)

Time to altitude: 15,000 ft (4,600 m) in 4 minutes 30 seconds, at 160 mph (260 km/h)

Wing loading: 34.6 lb/sq ft (169 kg/m²)

Power/mass: 0.16 hp/lb (0.26 kW/kg)

Armament

Guns:

1 × 37 mm M4 cannon firing through the propeller hub

2 × .50 caliber synchronized Browning M2 machine guns, nose-mounted

2 × .50 caliber Browning M2 machine guns one each wing

Bombs: Up to 500 lb (230 kg) of bombs under wings and belly



Safe Flying Goody

