

## DOUGLAS HIGH WINGS REVISITED

A photo study of a certain type of airplane can show many things, but not all. In the JOURNAL, Vol. 8, No. 3, pps 205-209, we presented via photos a good part of the story of the Douglas High Wing Observation Planes. Here, through the skill of one of aviation's finest and most accurate artists, Walter M. Jefferies, Jr., we present via the drawings appearing on pages 278 to 281 (and supplemented by the three photos opposite) the full evolution of the Douglas high wing observation aircraft from the YO-31A to the O-46A.

The first drawing, page 278 shows YO-31A, serial number 31-604, in its original form when it left the factory in January 1932. Delivered to Wright Field, the aircraft was redesignated XO-31A for flight tests, and Wright Field emblem was applied to fuselage (as on XO-31C, first drawing, page 280). It was at Wright until May 1932, then at NACA Langley for tests and was returned to Douglas in July 1932. At that time it was fitted with a new gull wing section and a new tail. Testing at Wright and NACA Langley on 31-604 concentrating on tests of the wing in four different positions which was responsible for the step by step growth of the tail and eventually led to the adoption of the full parasol wing on the Y10-43.

The second drawing, page 278, shows 31-604 as an O-31A with the intermediate tail. It bears the markings of the 1st Observation Squadron (unidentified in the photo at the top of page 207 in Vol. 8, No. 3), of the 9th Observation Group. Finish is blue and yellow.

Third drawing, page 278, shows the O-31A, 31-606, as it appeared, 25 February 1937, when assigned to the 22nd Observation Squadron, 12th Observation Group, at Brooks Field, Texas. It has a smaller gull fairing and the inboard wing struts, previously covered by the fairing, are now exposed. It is fitted with the third tail design (which became standard about March 1933 for the O-31A models, the O-31B and the YO-31C), and has a new tail wheel installation. The plane is also equipped with "long" exhaust stacks found necessary to protect the pilot from engine fumes of the "short" stack and probably initiated as a depot fitting. Finish on 31-606 is a blue fuselage, yellow wings and tail, and a red nose flash and wheels. Wheel punts came and went, according to where the aircraft was being operated.

An inboard profile of the YO-31A, original configuration, is shown at the top of page 279. Second drawing, page 279, shows the YO-31B, 32-231, as originally equipped with the intermediate tail but with the original wing fairing. Aircraft carries the markings of a command plane, Militia Bureau, U. S. War Department, and is finished with dark blue fuselage and rudder, and yellow wings and horizontal tail.

Third drawing on page 279 shows the same aircraft, 32-231, with the final wing, tail and tail wheel installation. Markings are still those of the Militia Bureau, but at a later time this plane served with the 108th Observation Squadron but still retained the Aircraft Number "60" from its Militia Bureau days.

At top of page 280 is the only YO-31C, 31-608, shown in the markings of Wright Field where, in July 1933, it was delivered for flight tests and officially redesignated as XO-31C for the period of flight tests only. Second drawing, page 280, is O-31C, 31-608, with blue fuselage and yellow wings and tail. Here, the plane bears markings of the 1st Wing Headquarters, GHQ Air Force, Langley Field, Virginia. At a later time this same "51" carried the number "82" with one of the observation squadrons.

Third drawing, page 280, shows O-43, 32-293, in the markings of the 12th Observation Squadron, 12th Observation Group, at Brooks Field, Texas in 1938. Colors are blue fuselage, yellow tails and wing, white nose flash and white wheels.

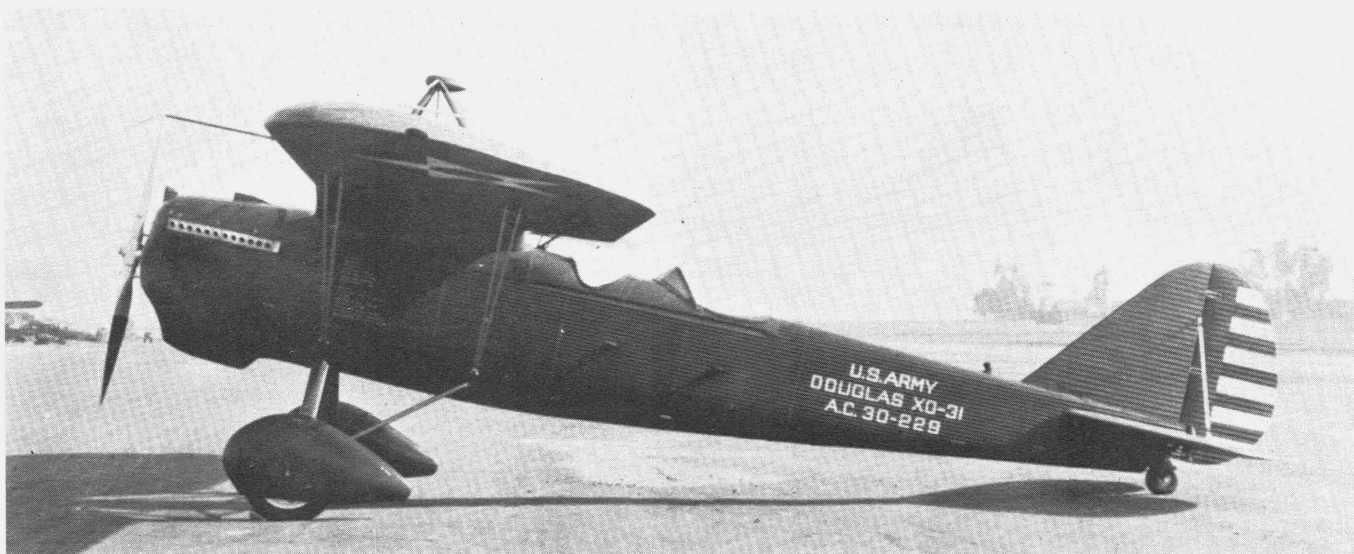
Atop page 281 is an O-43A, serial unknown, of the 12th Observation Group and bearing the markings of the February 1935 winter maneuvers at Grand Forks, N. D. where aircraft operated on combination wheel-skis. This plane has red nose flash with yellow trim.

Second drawing, page 281, shows the XO-46, 33-291, bearing the markings of Wright Field where it arrived for tests in April 1935. This aircraft was delivered with a three blade, ground adjustable propeller, but was later equipped with a three blade, Hamilton Standard, constant speed propeller, as shown in the drawing. The last drawing, page 281, shows O-46A, 36-144, of the 104th Observation Squadron, Maryland National Guard, Logan Field, Baltimore, Maryland. Insignia on fuselage and repeated on wheel covers is blue and grey emblem of the 29th Division.

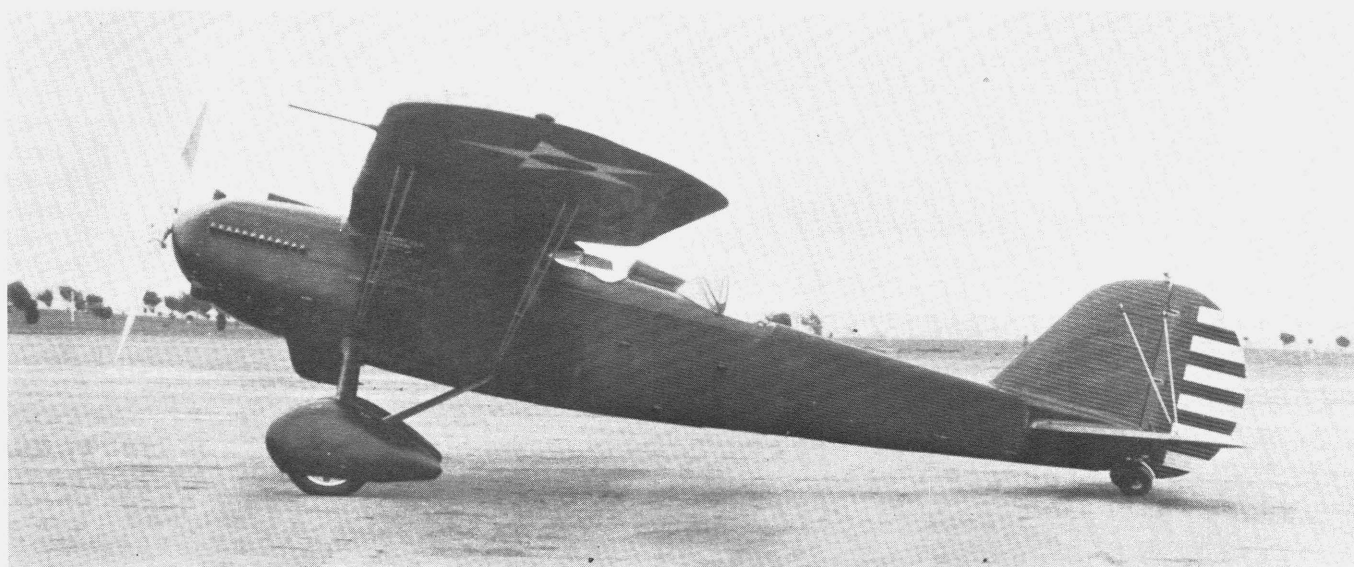
To complete our story, a full listing of all the Douglas high wing observation aircraft, excluding the two experimental models, follows:

| Serial Number: | Acceptance Date: | Final Disposition: | Final Date: | Total Hours: | Misc. |
|----------------|------------------|--------------------|-------------|--------------|-------|
| 31-604         | 1-32             | US School          | 10-40       | 2288         | O-31A |
| 31-605         | 3-32             | US Wrckd           | 7-33        | 237          | O-31A |
| 31-606         | 5-32             | US Wrckd           | 5-38        | 1584         | O-31A |
| 31-607         | 5-32             | US Wrckd           | 8-37        | 1280         | O-31A |
| 31-608         | 7-32             | US School          | 7-40        | 1907         | O-31C |
| 32-231         | 4-32             | US School          | 5-42        | 1679         | O-31B |
| 32-291         | 2-33             | US Wrckd           | 12-35       | 770          | O-43  |
| 32-292         | 3-33             | US School          | 3-41        | 2850         | O-43  |
| 32-293         | 3-33             | US Wrckd           | 2-39        | 2562         | O-43  |
| 32-294         | 3-33             | US Wrckd           | 11-33       | 183          | O-43  |
| 32-295         | 4-33             | US Wrckd           | 3-36        | 629          | O-43  |
| 33-268         | 7-34             | US Wrckd           | 5-35        | 326          | O-43A |
| 33-269         | 7-34             | US School          | 6-42        | 2105         | O-43A |
| 33-270         | 9-34             | US School          | 3-44        | 3158         | O-43A |
| 33-271         | 10-34            | US Wrckd           | 12-40       | 3163         | O-43A |
| 33-272         | 9-34             | US Wrckd           | 8-41        | 2745         | O-43A |
| 33-273         | 10-34            | US Wrckd           | 11-37       | 1999         | O-43A |
| 33-274         | 9-34             | US Wrckd           | 2-41        | 3187         | O-43A |
| 33-275         | 10-34            | US School          | 3-42        | 3289         | O-43A |
| 33-276         | 10-34            | US Wrckd           | 3-41        | 3251         | O-43A |
| 33-277         | 10-34            | US Wrckd           | 1-37        | 1408         | O-43A |
| 33-278         | 10-34            | US Wrckd           | 3-41        | 2617         | O-43A |
| 33-279         | 10-34            | US Wrckd           | 1-42        | 3169         | O-43A |
| 33-280         | 10-34            | US Wrckd           | 5-41        | 2347         | O-43A |
| 33-281         | 11-34            | US School          | 2-43        | 3060         | O-43A |
| 33-282         | 10-34            | US School          | 6-42        | 2562         | O-43A |
| 33-283         | 11-34            | US School          | 6-42        | 2334         | O-43A |
| 33-284         | 11-34            | US Wrckd           | 5-36        | 375          | O-43A |
| 33-285         | 11-34            | US School          | 9-42        | 2304         | O-43A |
| 33-286         | 11-34            | US Survey          | 2-41        | 2088         | O-43A |
| 33-287         | 11-34            | US School          | 7-42        | 2490         | O-43A |
| 33-288         | 11-34            | US School          | 5-42        | 2266         | O-43A |
| 33-289         | 11-34            | US School          | 6-42        | 2590         | O-43A |
| 33-290         | 11-34            | US School          | 6-42        | 1969         | O-43A |
| 33-291         | 10-34            | US School          | 11-40       | 1548         | O-46  |

(Continued page 282)



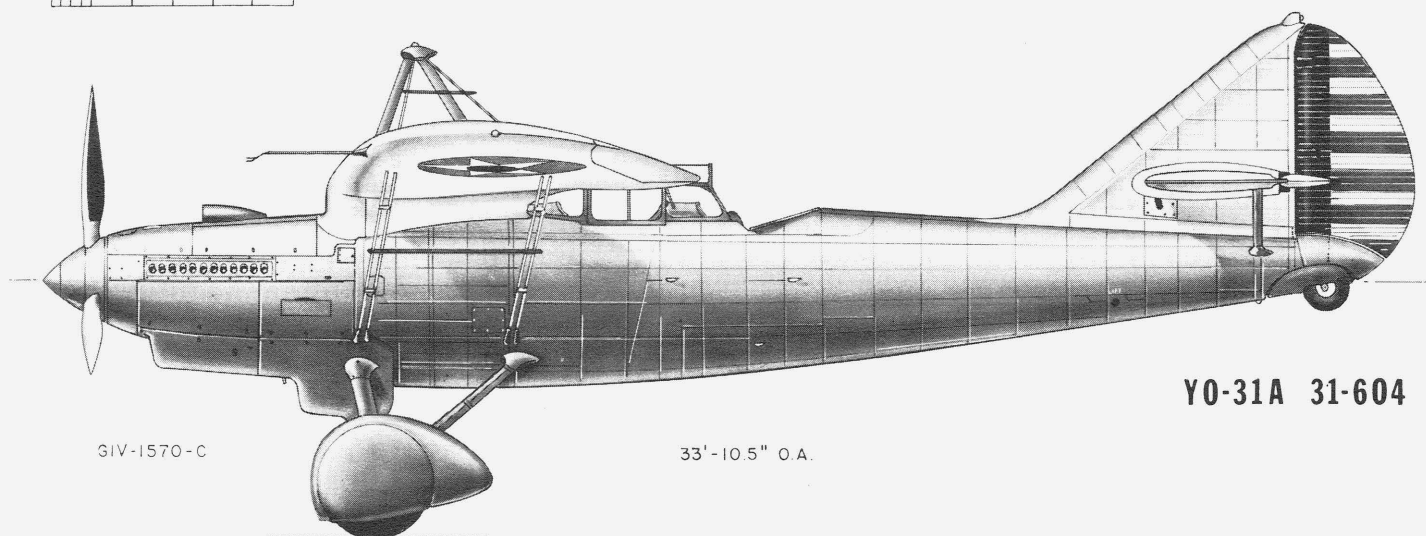
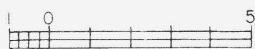
The first Douglas High Wing Observation Plane, the XO-31, as it appeared at the factory, 17 Dec. 1930. (Douglas)



The Douglas YO-31, serial 30-230, on 24 April 1931 and showing a number of changes from the prototype. (Douglas)



The Douglas XO-31, 30-229, in 1937 with the Wright Field Emblem where it served from 1931 thru 1937. (Strasser)

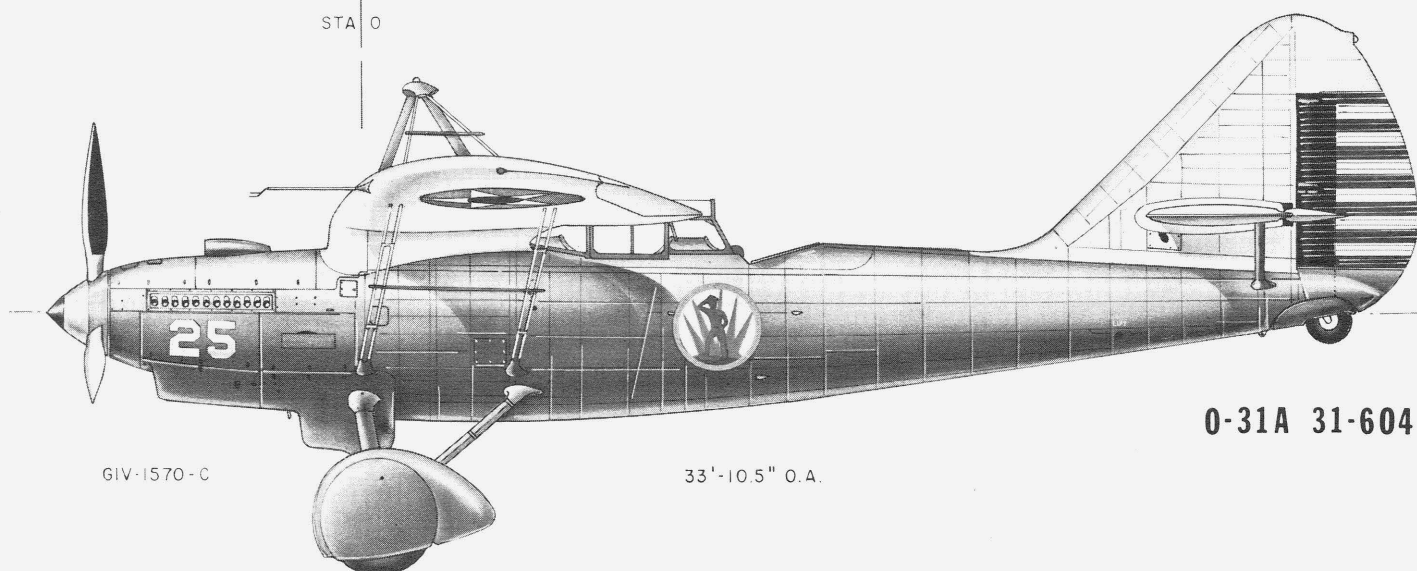


Y0-31A 31-604

GIV-1570-C

33'-10.5" O.A.

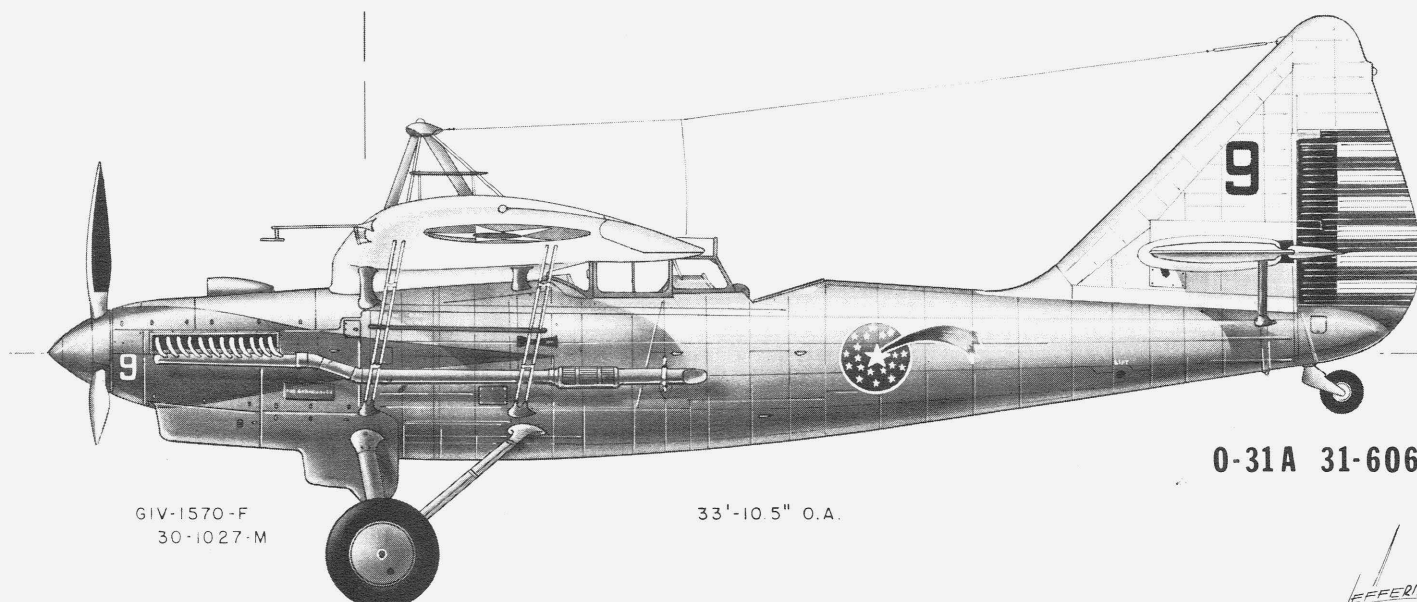
STA 0



O-31A 31-604

GIV-1570-C

33'-10.5" O.A.

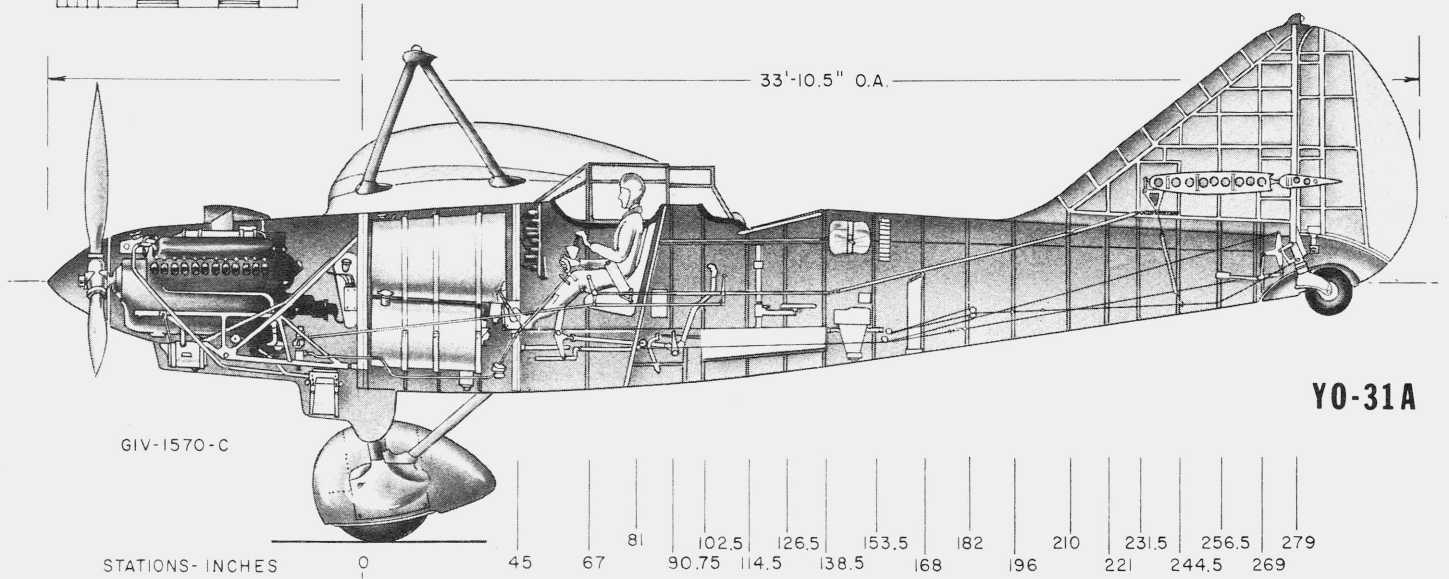


O-31A 31-606

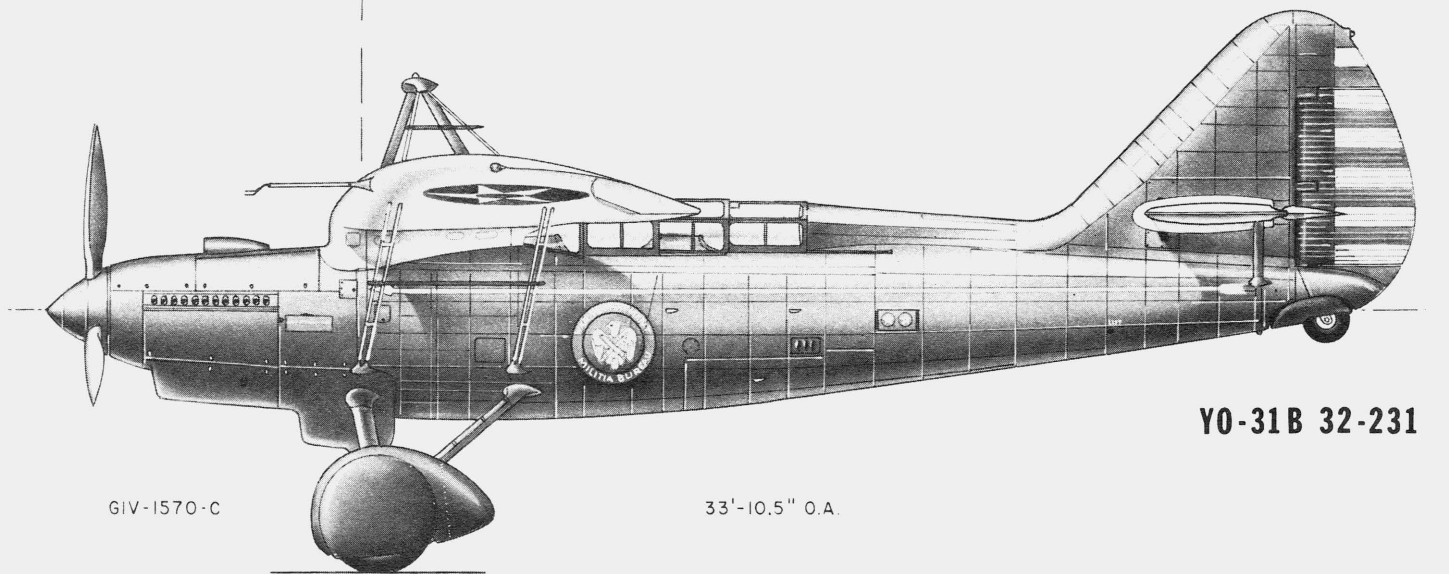
GIV-1570-F  
30-1027-M

33'-10.5" O.A.

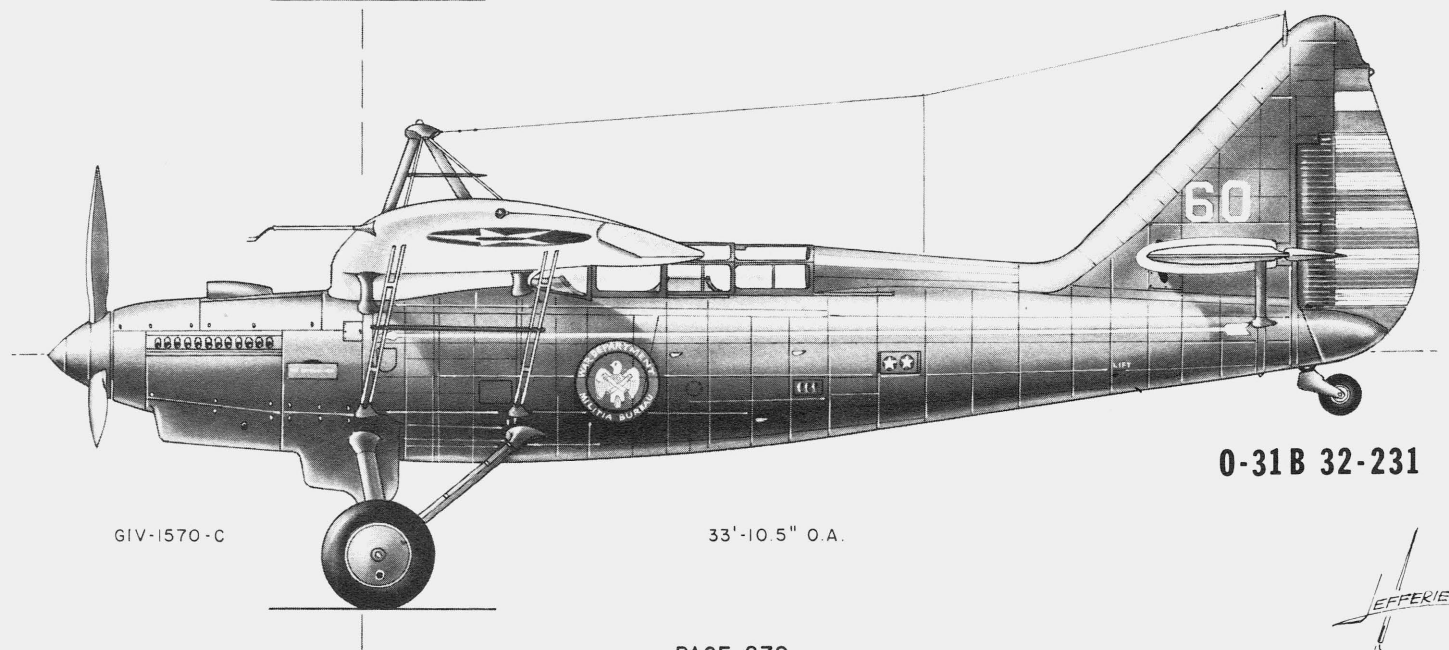




**YO-31A**



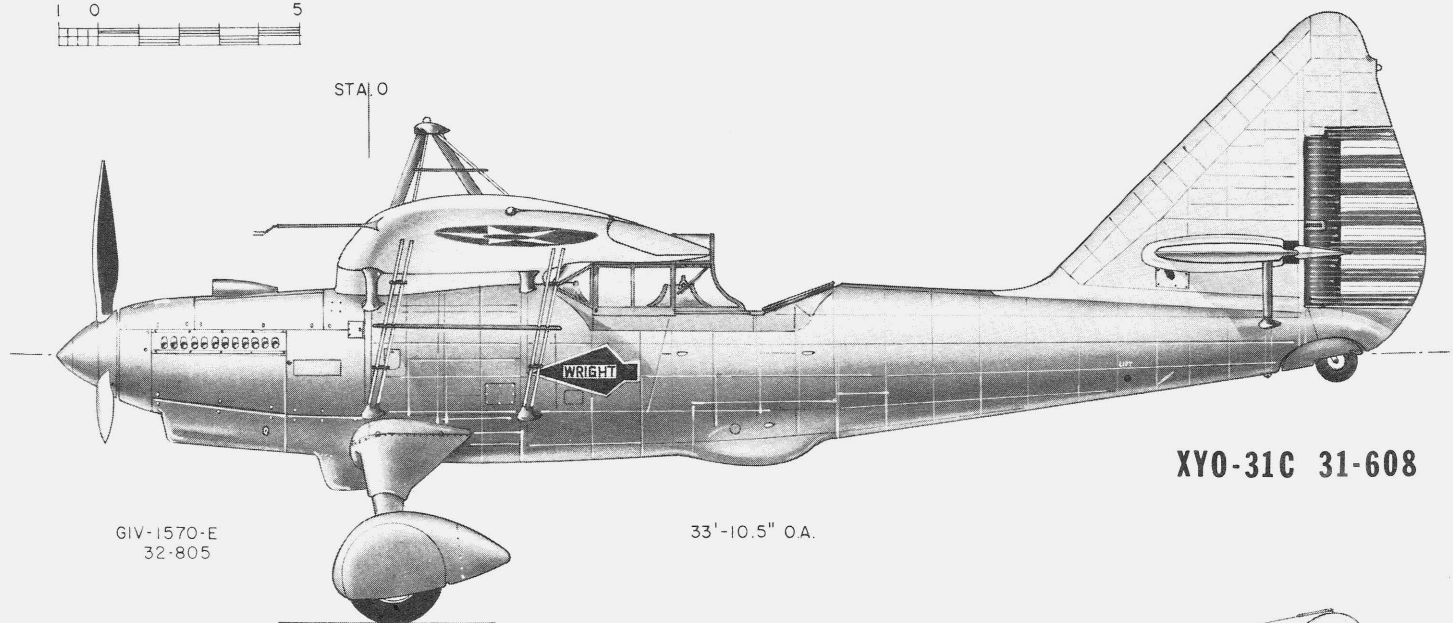
**YO-31B 32-231**



**O-31B 32-231**



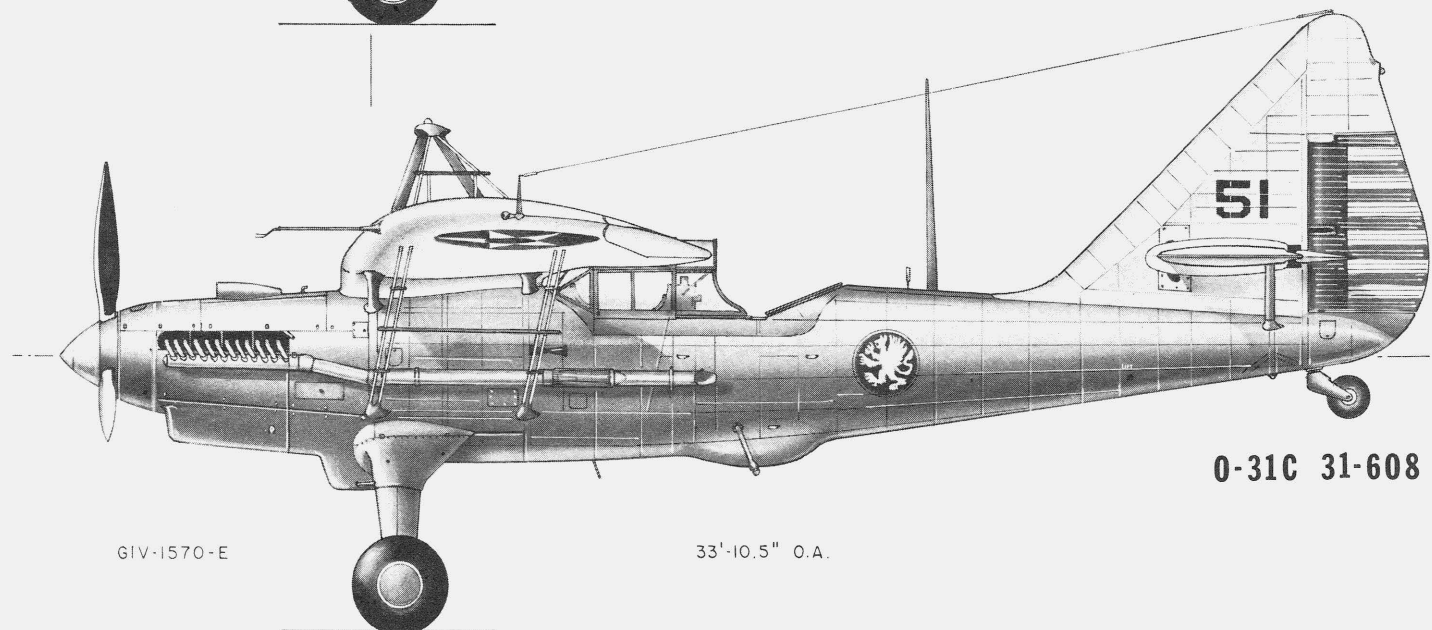
STA 0



XYO-31C 31-608

GIV-1570-E  
32-805

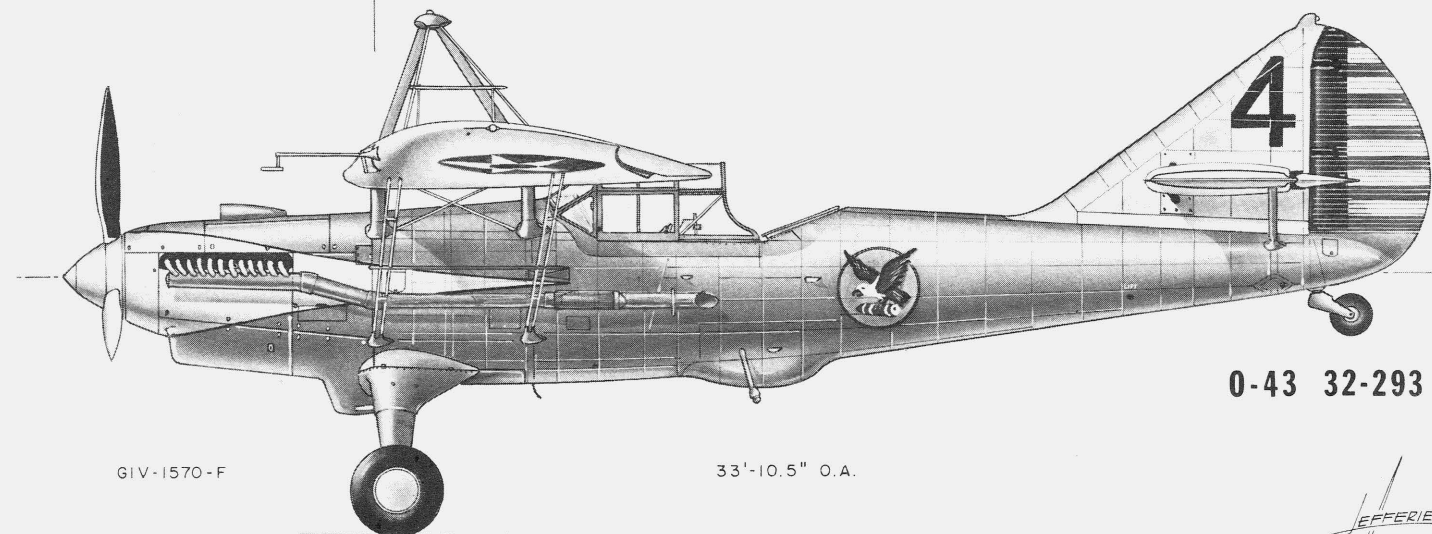
33'-10.5" O.A.



O-31C 31-608

GIV-1570-E

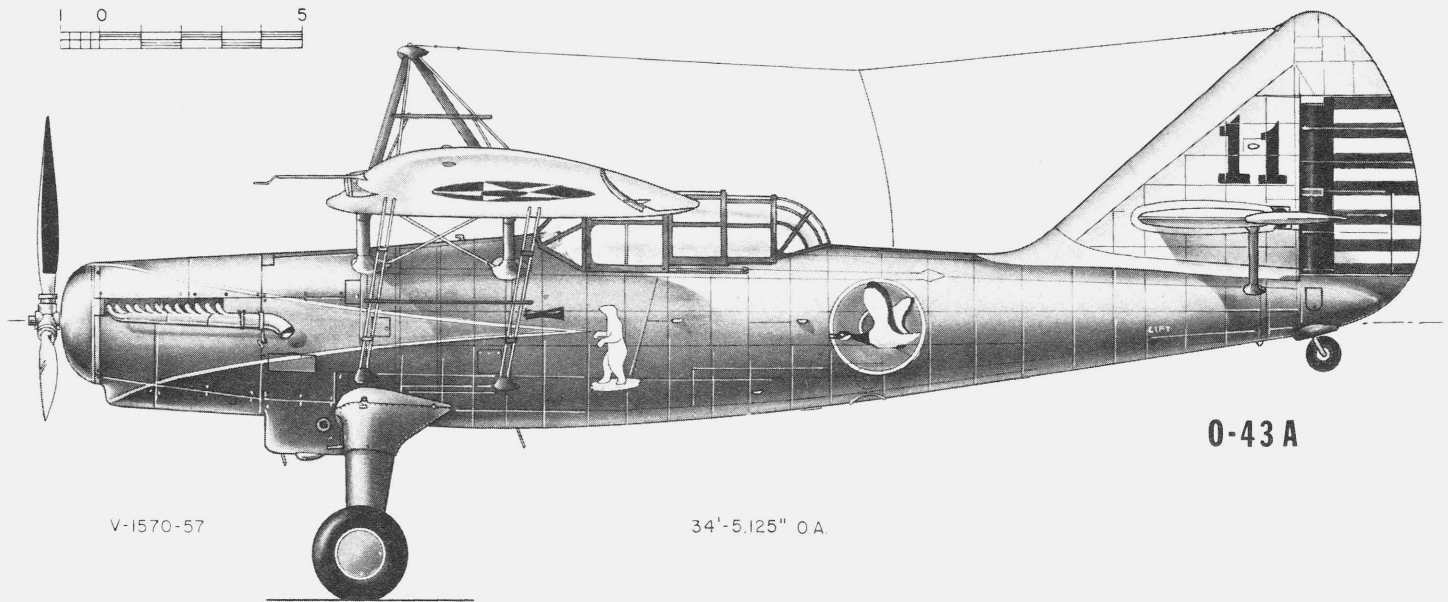
33'-10.5" O.A.



O-43 32-293

GIV-1570-F

33'-10.5" O.A.

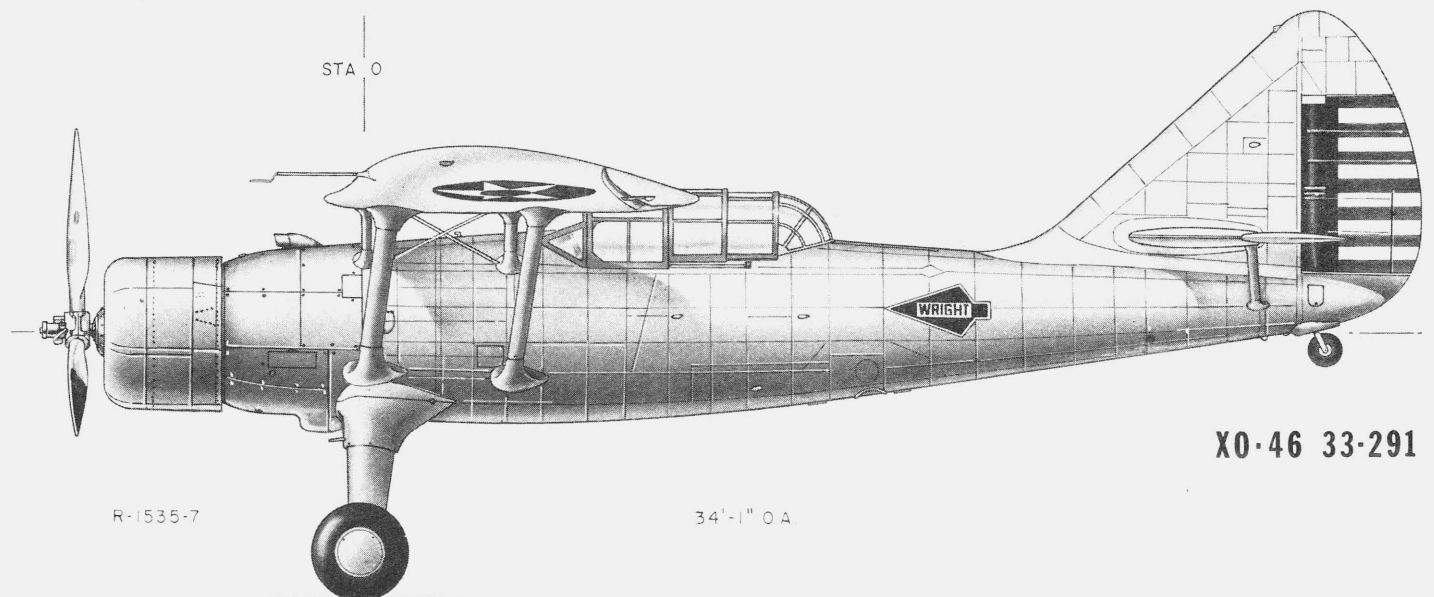


O-43A

V-1570-57

34'-5.125" O.A.

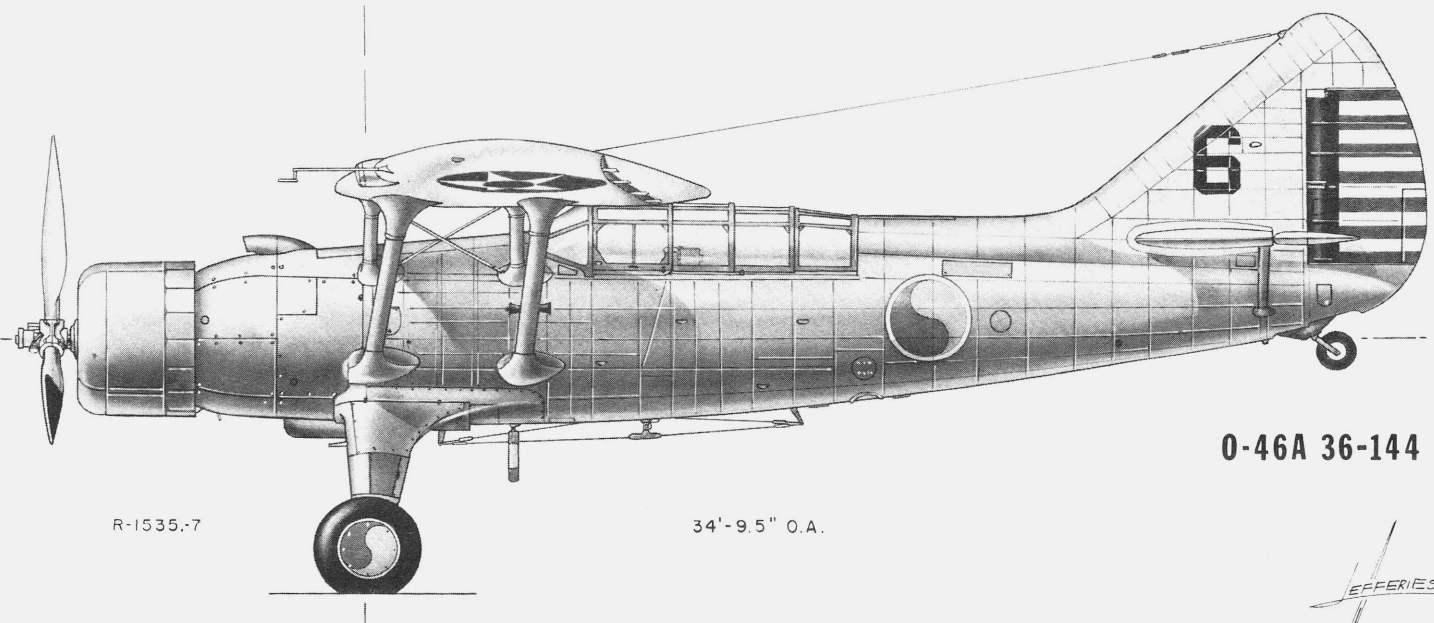
STA. 0



XO-46 33-291

R-1535-7

34'-1" O.A.



O-46A 36-144

R-1535-7

34'-9.5" O.A.

|        |       |              |       |      |        |        |       |              |       |      |        |
|--------|-------|--------------|-------|------|--------|--------|-------|--------------|-------|------|--------|
| 35-161 | 5-36  | US School    | 8-36  | 135  | 0-46A  | 35-212 | 11-36 | US Wreckd    | 11-41 | 1564 | 0-46A  |
| 35-162 | 7-36  | OS Cndmnd    | 11-42 | 1661 | 0-46A  | 35-213 | 11-36 | US School    | 8-42  | 2299 | 0-46A  |
| 35-163 | 7-36  | OS Cndmnd    | 11-42 | 1689 | 0-46A  | 35-214 | 11-36 | US Wreckd    | 1-42  | 1903 | 0-46A  |
| 35-164 | 7-36  | R F C        | 9-44  | 2279 | 0-46A  | 35-215 | 12-36 | US Cndmnd    | 12-42 | 2250 | 0-46A  |
| 35-165 | 7-36  | OS Cndmnd    | 12-41 | 1776 | 0-46A  | 35-216 | 11-36 | US School    | 3-43  | 1869 | 0-46A  |
| 35-166 | 7-36  | US Wreckd    | 8-36  | 17   | 0-46A  | 35-217 | 12-36 | Donated Sch  | 1-46  | 1682 | RO-46A |
| 35-167 | 7-36  | US Wreckd    | 3-41  | 1535 | 0-46A  | 35-218 | 12-36 | US School    | 10-42 | 1690 | 0-46A  |
| 35-168 | 7-36  | OS Cndmnd    | 12-41 | 1813 | 0-46A  | 35-219 | 12-36 | US ReclComp  | 6-45  | 2079 | RO-46A |
| 35-169 | 7-36  | OS Cndmnd    | 12-41 | 2076 | 0-46A  | 35-220 | 12-36 | US ReclComp  | 10-45 | 1914 | RO-46A |
| 35-170 | 7-36  | US Recl Comp | 10-44 | 3776 | RO-46A | 35-221 | 12-36 | US School    | 4-43  | 1895 | 0-46A  |
| 35-171 | 7-36  | US Recl Comp | 6-45  | 966  | RO-46A | 35-222 | 12-36 | US School    | 4-43  | 1479 | 0-46A  |
| 35-172 | 9-36  | OS Cndmnd    | 9-41  | 2279 | 0-46A  | 35-223 | 12-36 | US School    | 4-43  | 1799 | 0-46A  |
| 35-173 | 9-36  | OS Cndmnd    | 11-42 | 3215 | 0-46A  | 35-224 | 12-36 | US Wreckd    | 11-38 | 807  | 0-46A  |
| 35-174 | 9-36  | R F C        | 11-44 | 1936 | RO-46A | 35-225 | 12-36 | US School    | 8-43  | 1594 | 0-46A  |
| 35-175 | 10-36 | OS Wreckd    | 7-41  | 1874 | 0-46A  | 35-226 | 12-36 | US School    | 9-43  | 1578 | 0-46A  |
| 35-176 | 9-36  | US Wreckd    | 1-38  | 747  | 0-46A  | 35-227 | 12-36 | US School    | 8-43  | 2096 | 0-46A  |
| 35-177 | 9-36  | US Cndmnd    | 2-44  | 4123 | RO-46A | 35-228 | 12-36 | US School    | 3-44  | 1785 | 0-46A  |
| 35-178 | 9-36  | OS Cndmnd    | 12-41 | 2091 | 0-46A  | 35-229 | 12-36 | US Wreckd    | 12-41 | 1303 | 0-46A  |
| 35-179 | 9-36  | US School    | 5-43  | 3006 | 0-46A  | 35-230 | 12-36 | US Cndmnd    | 8042  | 1759 | 0-46A  |
| 35-180 | 9-36  | US Wreckd    | 5-41  | 2213 | 0-46A  | 35-231 | 12-36 | US Wreckd    | 6-37  | 128  | 0-46A  |
| 35-181 | 9-36  | OS Cndmnd    | 1-42  | 2037 | 0-46A  |        |       |              |       |      |        |
| 35-182 | 9-36  | US School    | 8-43  | 3255 | 0-46A  | 36-128 | 12-36 | US School    | 8-42  | 1460 | 0-46A  |
| 35-183 | 9-36  | US Survey    | 4-43  | 2923 | 0-46A  | 36-129 | 12-36 | US School    | 8-42  | 1876 | 0-46A  |
| 35-184 | 9-36  | US Wreckd    | 12-41 | 3015 | 0-46A  | 36-130 | 12-36 | US School    | 7-42  | 1696 | 0-46A  |
| 35-185 | 10-36 | US School    | 7-42  | 2479 | 0-46A  | 36-131 | 12-36 | US School    | 4-42  | 1501 | 0-46A  |
| 35-186 | 10-36 | US Survey    | 5-42  | 2656 | 0-46A  | 36-132 | 12-36 | DPC McKellar | 8-44  | ---- | RO-46A |
| 35-187 | 10-36 | R F C        | 10-44 | 3048 | 0-46A  | 36-133 | 12-36 | US Survey    | 4-43  | ---- | 0-46A  |
| 35-188 | 10-36 | US School    | 3-42  | 2124 | 0-46A  | 36-134 | 12-36 | US ReclComp  | 4-46  | ---- | 0-46A  |
| 35-189 | 10-36 | US School    | 5-43  | 2968 | 0-46A  | 36-135 | 12-36 | US School    | 11-42 | 1963 | 0-46A  |
| 35-190 | 10-36 | US Wreckd    | 8-39  | 1210 | 0-46A  | 36-136 | 12-36 | US Wreckd    | 11-41 | 1573 | 0-46A  |
| 35-191 | 10-36 | ParksAirCol  | 1-42  | 2646 | 0-46A  | 36-137 | 12-36 | US School    | 8-43  | ---- | 0-46A  |
| 35-192 | 10-36 | US Wreckd    | 1-40  | 1733 | 0-46A  | 36-138 | 12-36 | US School    | 6-43  | ---- | 0-46A  |
| 35-193 | 10-36 | US ReclComp  | 10-45 | 3110 | RO-46A | 36-139 | 12-36 | Avia Tech    | 1-42  | 1368 | 0-46A  |
| 35-194 | 10-36 | US School    | 8-43  | 3101 | 0-46A  | 36-140 | 12-36 | US Wreckd    | 12-41 | 1379 | 0-46A  |
| 35-195 | 10-36 | ParksAirCol  | 1-42  | 1703 | 0-46A  | 36-141 | 1-37  | US School    | 5-43  | ---- | 0-46A  |
| 35-196 | 10-36 | OS Cndmnd    | 10-41 | 2013 | 0-46A  | 36-142 | 1-37  | US Wreckd    | 12-41 | 1436 | 0-46A  |
| 35-197 | 10-36 | US Wreckd    | 8-42  | 2516 | 0-46A  | 36-143 | 2-37  | US School    | 8-43  | ---- | 0-46A  |
| 35-198 | 10-36 | US ReclComp  | 7-45  | 2705 | RO-46A | 36-144 | 2-37  | US School    | 12-42 | ---- | 0-46A  |
| 35-199 | 10-36 | US School    | 4-43  | 1225 | 0-46A  | 36-147 | 2-37  | US School    | 9-42  | 1880 | 0-46A  |
| 35-200 | 10-36 | US Wreckd    | 6-43  | 1758 | 0-46A  | 36-148 | 4-37  | US Wreckd    | 12-41 | 991  | 0-46A  |
| 35-201 | 10-36 | US Wreckd    | 9-38  | 534  | 0-46A  |        |       |              |       |      |        |
| 35-202 | 11-36 | DPC McKellar | 8-44  | 2221 | RO-46A |        |       |              |       |      |        |
| 35-203 | 11-36 | US Wreckd    | 1-43  | 2509 | 0-46A  |        |       |              |       |      |        |
| 35-204 | 11-36 | US School    | 5-42  | 2512 | 0-46A  |        |       |              |       |      |        |
| 35-205 | 11-36 | US School    | 4-43  | 2757 | 0-46A  |        |       |              |       |      |        |
| 35-206 | 11-36 | US School    | 5-43  | 2710 | 0-46A  |        |       |              |       |      |        |
| 35-207 | 11-36 | US ReclComp  | 9-45  | 2160 | RO-46A |        |       |              |       |      |        |
| 35-208 | 11-36 | US Wreckd    | 12-38 | 593  | 0-46A  |        |       |              |       |      |        |
| 35-209 | 11-36 | US School    | 6-43  | 2305 | 0-46A  |        |       |              |       |      |        |
| 35-210 | 11-36 | US Wreckd    | 1-37  | 89   | 0-46A  |        |       |              |       |      |        |
| 35-211 | 11-36 | US Wreckd    | 8-41  | 1305 | 0-46A  |        |       |              |       |      |        |

In the foregoing list, under "Final Disposition", it is indicated whether the aircraft ended its service life by being sent to a "School" to be used as a training airframe for ground instruction; by being "Wrecked"; by being "Surveyed" as no longer maintainable; by being "Condemned"; or by being disposed of in other ways, indicated. Under "Misc" the designation of the aircraft when it reached Final Disposition, at the specified Final Date, is given. "OS" indicates "Overseas" and "US" indicates Zone of the Interior.

## THOSE THUNDERBOLTS

Subject for the photo spread on the next 3 pages is the Republic P-47 Thunderbolt with the 8th Air Force in England during WW II. In plane to plane combat, the P-47 was equal to any enemy fighter it met, and superior after paddle blade propellers came into use on 4 January 1944. For strafing, the P-47 was unexcelled as a gun platform and it packed a terrific punch with its eight 50 caliber machine guns. Most important, the P-47 could take far more punishment than any other fighter type and still return its pilot to base. Hampered in range at the beginning, the P-47D was developed to escort bombers to almost any target in Germany.

First operational use of the P-47 in the 8th AF occurred on 10 March 1943 when the 4th Fighter Group took 14 P-47s (with 12 Spitfires) on an offensive sweep over France. On 8 April, pilots of the 56th and 78th Fighter Groups joined the 4th for a Rodeo to St. Omer. One week later, Donald J. M. Blakeslee, of the 4th destroyed an

FW 190, first enemy plane to fall to a Thunderbolt.

Other P-47 groups joined the 8th AF later in 1943--the 353rd in August, the 352nd and 355th in September, the 356th in October, and the 358th and 359th in December (the former going to the 9th AF in February 1944). In January 1944, the 361st joined the 8th and became its last P-47 unit. By February 1944 a trend was begun to equip the 8th AF mostly with P-51 Mustangs and the 9th (tactical) AF with P-47s. The 4th converted to P-51s in February, the 355th in March, the 352nd in April, the 359th and the 361st in May, the 353rd in September, the 356th in November, and the 78th in December 1944. Only the 56th continued to operate P-47s within the 8th until the end of the war. Additionally, P-47s were used in the 495th Fighter Training Group in northern England.

The photos on the next three pages have been made available to the JOURNAL by Ray E. Bowers, to whom we are most deeply and sincerely grateful.