

The A-26

INVADER



The Douglas A-26 Invader has been described as a glorified A-20, a fighter-bomber, and a cross between a B-26 and an A-20. Actually, the Invader is a new airplane, one of the first of the planes designed to meet the tactical requirements of the theater commanders. The A-26 attack bomber has tremendous striking power. One of the most versatile aircraft ever designed, it approaches the speed of a fighter and has the range and bomb load of a medium bomber, in addition to packing a nose-full of concentrated cannon and machine gun firepower.

Combat

While the Invader was born of combat experience, it has not yet had the opportunity to

measure up to, or exceed, the tremendous results that the designers and the AAF theater commanders expect of it. As this book is being written the first A-26 groups are leaving for combat. You, as a new A-26 pilot, soon will be a member of one of those groups. So it is up to you to write the combat section with results. Make no mistake about it, the Invader is not a small boy's flying machine. It is a high-speed airplane with a high wingloading. It requires exact procedures, top flying technique, and headwork to exploit its great striking power. So use this manual, study it, learn it! It represents the combined experience to date of the factory engineering test pilots, AAF test pilots, and your instructors, who have many hundreds of hours of A-26 know-how on which to draw.

RESTRICTED

General Description

The A-26 is a 2-engine mid-wing attack bomber of all-metal construction.

WINGS

Two-spar, full cantilever, laminar flow. (Span, 70 feet; maximum width, 10 feet; maximum depth, 18½ inches.)

FUSELAGE

All-metal structure of alclad skin shaped and reinforced by aluminum alloy ribs, bulkheads, and longitudinal members. (Length with bombardier nose, 51 feet 3 inches; length with all-purpose nose, 50 feet 9 inches; maximum width, 5 feet 2 inches; height, 5 feet 10 inches.)



ENGINES

Two Pratt & Whitney R-2800-27 Double Wasp, developing 2000 brake Hp each on takeoff.

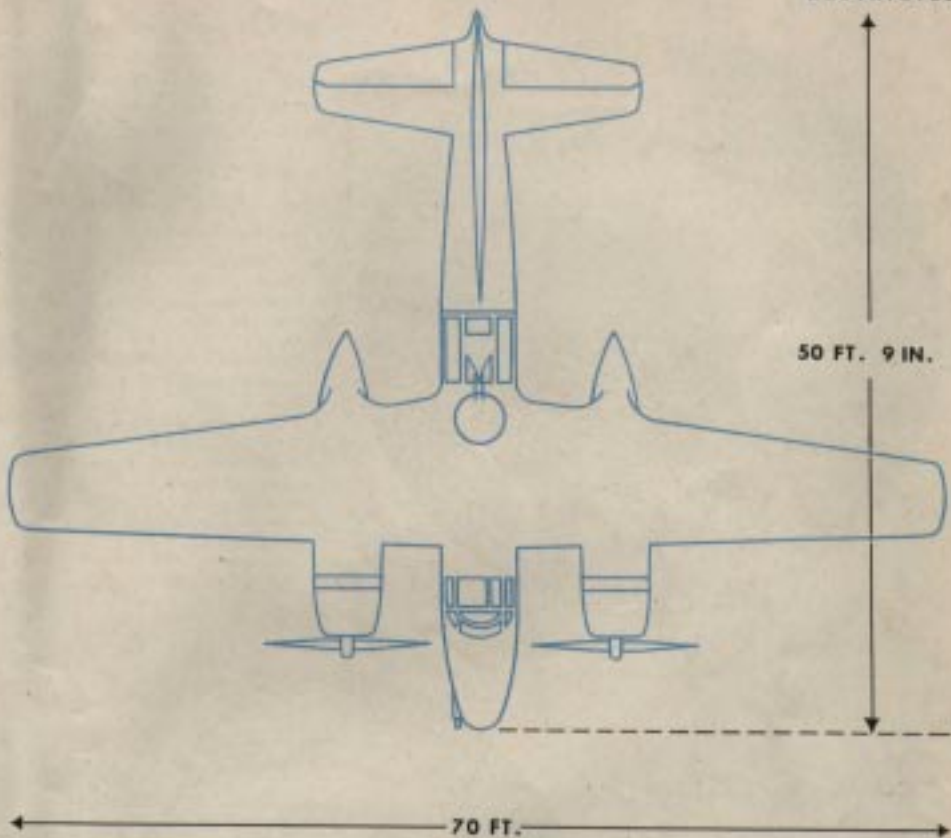
PROPELLERS

Three-bladed (12 feet 7 inches in diameter), constant-speed, full-feathering hydromatic Hamilton Standard.

LANDING GEAR

Full retractable, hydraulic tricycle gear.

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The A-26 is an extremely versatile airplane. It is designed with two interchangeable nose sections to meet exact tactical requirements.

1. ALL-PURPOSE NOSE.

There are six combinations of armament, as follows:

- a. Six .50-cal. machine guns.
Crew 2
- b. One 37-mm. cannon and four .50-cal. machine guns.
Crew 2
- c. One 37-mm. cannon and two .50-cal. machine guns.
Crew 2
- d. Two 37-mm. cannon.
Crew 2
- e. One 75-mm. cannon and one 37-mm. cannon.
Crew 3
- f. One 75-mm. cannon and two .50-cal. machine guns.
Crew 3

Nose Section

2. BOMBARDIER NOSE.

Crew 3

Plexiglas nose.

Fitted with bombsight and controls, and two fixed .50-cal. machine guns.



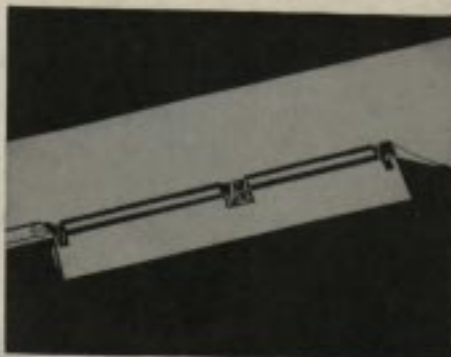
OUTSTANDING FEATURES OF THE A-26

LAMINAR FLOW WING

The laminar flow airfoil is shaped with its thickest dimension nearer the trailing edge of the wing than in the normal airfoil. The laminar flow airfoil is more efficient at high speeds approaching compressibility. It is the most modern and best designed high-speed wing known today.



NEW HIGHLY EFFICIENT FLAP



This new Douglas double-slotted flap is described by the designers as "the flap of the future." It extends outward and downward, causing greater lift and much greater drag than conventional flaps.

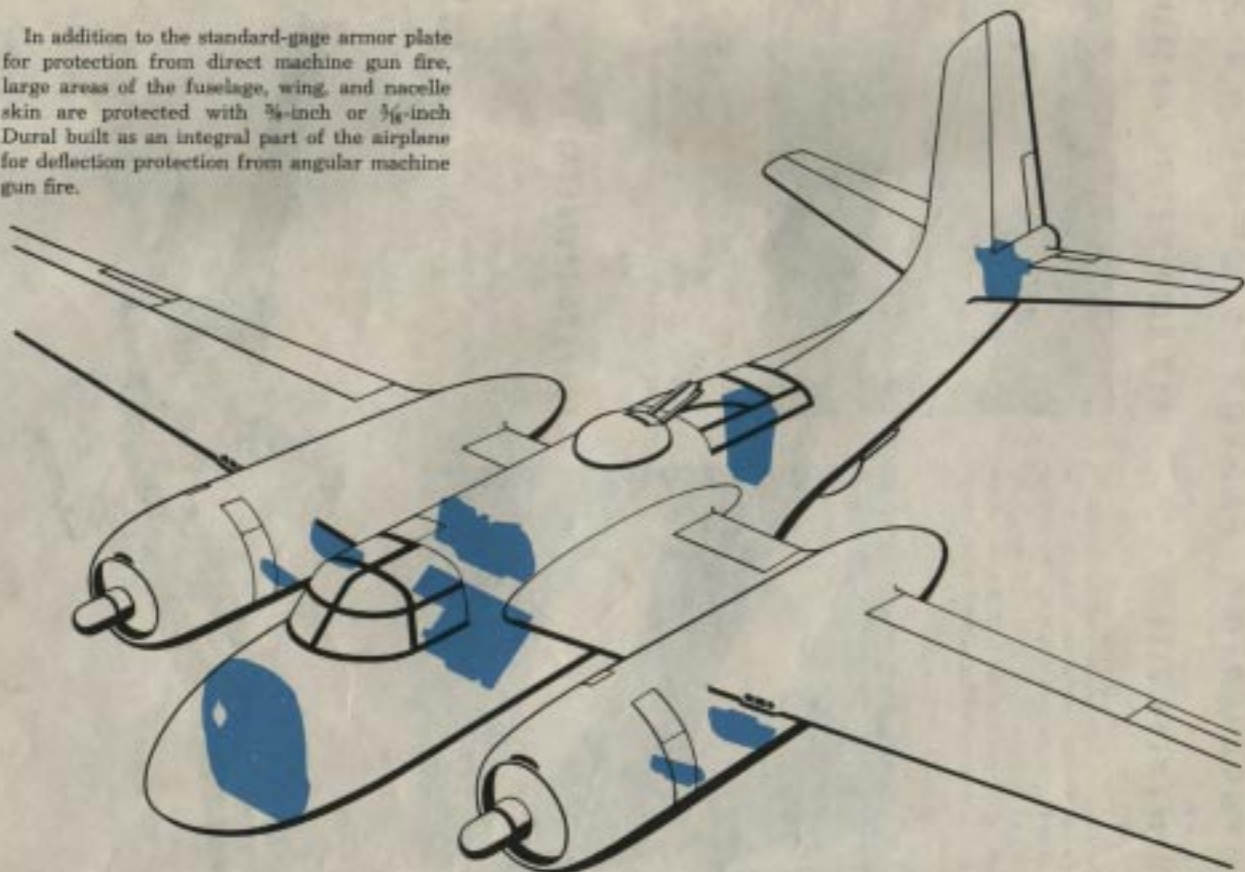
TORPEDO INSTALLATION

Two torpedoes may be carried in the bomb bay, released electrically by pilot with the same pushbutton he uses for bomb release. A special torpedo director sight is installed for pilot's use.



10 **BUILT-IN ARMOR PLATE**

In addition to the standard-gage armor plate for protection from direct machine gun fire, large areas of the fuselage, wing, and nacelle skin are protected with $\frac{3}{8}$ -inch or $\frac{1}{2}$ -inch Dural built as an integral part of the airplane for deflection protection from angular machine gun fire.

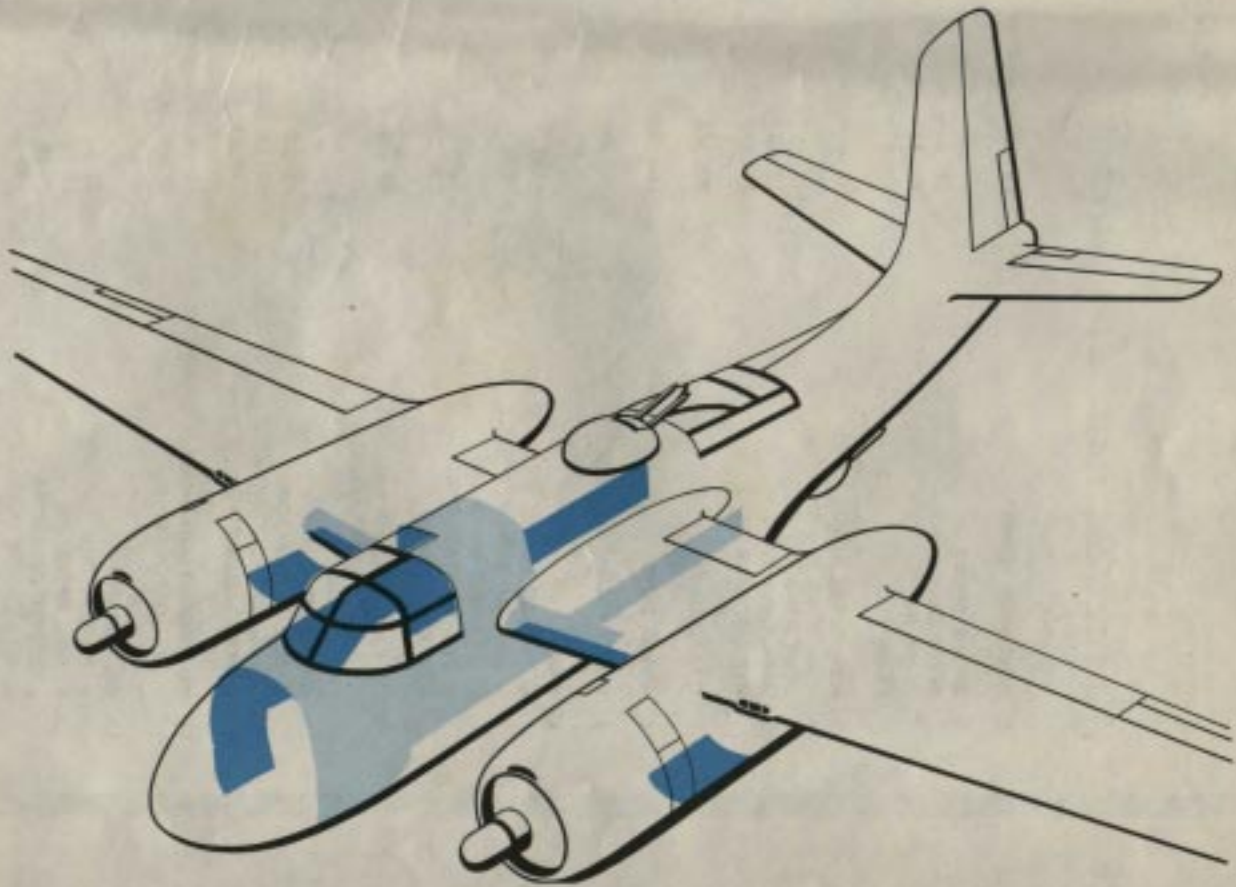


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ARMOR PLATE

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DURAL PLATE

A-26

Capacities and Limitations

1. NOSEWHEEL SWING	36° either direction
2. DIVING SPEEDS	
26,000 lbs. Gross	425 IAS
32,000 lbs.	400 IAS
35,500 lbs.	360 IAS
3. LEVEL-FLIGHT SPEED	No limitation
4. OPEN BOMB BAY DOORS	
WITH SPOILERS	425 IAS
WITHOUT SPOILERS	240 IAS
5. FLAPS DOWN	208 IAS
6. WHEELS DOWN	160 IAS
7. TAKEOFF MANIFOLD PRESSURE	52" Hg.
8. RPM	
a. TAKEOFF AT FULL INCREASE RPM	2700
b. GROUND RUN-UP APPROX. 25"	2000
c. MAGNETO CHECK LOSS	100
d. FULL DECREASE RPM	1200 + or - 50
e. IDLING	550-700
9. OIL CAPACITY (each tank) FULL	30 gals.
4.5 gals. FOR EXPANSION	
10. OIL TEMPERATURES	
a. MIN. FOR TAKEOFF	40°C
b. DESIRED OPERATING	60-75°C
c. MAX. ALLOWABLE	100°C
11. OIL CONSUMPTION—NORMAL OPERATING	10 qts./hr/engine
RATED POWER	27 qts./hr/engine
12. OIL PRESSURE	
a. NORMAL IDLE	25 psi
b. MIN. OPERATING	50 psi
c. DESIRED OPERATING	70-80 psi
d. MAX. ALLOWABLE	100 psi

13. FUEL CAPACITY
- | | | |
|----------------------------|--------|------------|
| a. MAIN TANKS | (each) | 300 gals. |
| b. AUX. TANKS | (each) | 100 gals. |
| c. BOMB BAY TANK | | 125 gals. |
| TOTAL NORMAL | | 925 gals. |
| d. FERRY TANK | | 675 gals. |
| TOTAL FERRY | | 1600 gals. |
14. FUEL PRESSURE
- | | | |
|--------------------------------|--|----------------|
| a. MIN. ALLOWABLE | | 13 psi |
| b. DESIRED OPERATING | | 16-18 psi |
| c. FUEL BOOSTER PUMP | | |
| ENGINE NOT RUNNING | | LOW 7-9 psi |
| ENGINE NOT RUNNING | | HIGH 15-18 psi |
15. FUEL CONSUMPTION—NORMAL CRUISE approx. 150 GPH
16. CYLINDER-HEAD TEMPERATURE
- | | | |
|------------------------------------|--|--------------------|
| a. MIN. BEFORE RUN-UP | | 120°C |
| b. MIN. BEFORE MAG CHECK | | 150°C |
| c. MAX. BEFORE TAKEOFF | | 205°C |
| d. MAX. ALLOWABLE (AUTO RICH) | | 260°C (1 hr. only) |
| (AUTO LEAN) | | 232°C |
| e. MAX. BEFORE STOP | | 150°C |
17. HYDRAULIC
- | | | |
|--|--|-----------------|
| a. CAPACITY OF SYSTEM | | approx. 8 gals. |
| b. SYSTEM PRESSURE | | 850-1000 psi |
| c. ACCUMULATOR | | 650 psi |
| d. EMERGENCY AIR PRESSURE | | 450-575 psi |
| e. GEAR EXTEND AND RETRACT 160 IAS | | 12 sec. |
18. ELECTRIC
- | | | |
|---|--|--------------------|
| a. FLAPS EXTEND AND RETRACT 160 IAS | | 12 sec. |
| b. COWL FLAPS | | 5-10 sec. |
| c. OIL COOLER DOORS | | 15-20 sec. |
| d. VOLTMETER AT 1700 RPM | | 26-28.5 volts |
| e. AMMETERS (200 MAX. EACH) | | max. 20 amp. diff. |
19. INSTRUMENT SUCTION 4.2" Hg. + or — .5"
20. WEIGHT AND BALANCE
- | | | |
|------------------------------|--|-------------|
| MAC | | 97.5 inches |
| CG—LIMITS % OF MAC | | 18-32 |