

MODELS: Grumman (Navy) TBF-1, TBF-1C, TBM-1, TBM-1C, TBM-3, TBM-3E
(Approved 3/17/47)

SPEC. NUMBER: L-8-2

(Eligible for Certification in Limited Category Only.)

(Holder of Limited Type Certificate, Air Trading Corp., New York, NY.)

Engines	Wright R-2600-8 or -20
Fuel	Grade 100/130
Engine limits	R-2600-8: Maximum, except takeoff (low blower) (Sea level) 39.5 in. Hg., 2400 rpm (1500 hp) (6700 ft.) 37.5 in. Hg., 2400 rpm (1500 hp) Maximum, except takeoff (high blower) (9700 ft.) 42 in. Hg., 2400 rpm (1350 hp) (13,000 ft.) 41 in. Hg., 2400 rpm (1350 hp) Takeoff (five minutes) (low blower) (Sea level) 44.5 in. Hg., 2600 rpm (1700 hp) 44.5 in. Hg., 2800 rpm (1700 hp) R-2600-20: Maximum, except takeoff (low blower) (Sea level) 42 in. Hg., 2400 rpm (1600 hp) (4800 ft.) 40 in. Hg., 2400 rpm (1600 hp) Maximum, except takeoff (high blower) (9400 ft.) 40.5 in. Hg., 2400 rpm (1350 hp) (14,800 ft.) 39.0 in. Hg., 2400 rpm (1350 hp) Takeoff (five minutes) (low blower) (Sea level) 46.5 in. Hg., 2600 rpm (1900 hp) 46.5 in. Hg., 2800 rpm (1900 hp)
Propellers	Hamilton Standard 23E50-311, or -489 hub; 6359A-12 or 6507A blades. (6501A blades may be used in place of 6507A blades if Navy TBF/TBM Change No. 216 complied with.) Diameter 13'1". Governor 4G10
Airspeed limits	(See NOTE 2) Glide or dive - 355 mph
Maximum weight	Landing 15,500 lbs. Takeoff 17,600 lbs.
C.G. range	TBF-1, TBF-1C, TBM-1 and TBM-1C 25 percent to 32.1 percent MAC (wheels down) TBM-3 and TBM-3E 24 percent to 33 percent MAC (wheels down)
Datum	105.5 inches forward of jig point on leading edge of wing
MAC	117.18 inches, L.E. MAC 115.83 inches
Other Operating Limitations	Navy Technical Order 49-45 "Restrictions and Permissible Maneuvers" dated 5/23/45
Certification basis	Limited Type Certificate No. 8 (CAR 9 effective 11/21/46)
Production basis	None may be produced under this approval
Export eligibility	Not eligible for a Certificate of Airworthiness for Export

EQUIPMENT:

No equipment other than engines and propellers are specified. However, such equipment as required by Civil Air Regulations Part 43.30 for the particular operation authorized for NC aircraft must be installed. Also, any additional equipment necessary for the proper operation of the aircraft.

In addition, the aircraft may incorporate such military equipment (except armament) as was originally incorporated in the type for military or naval service. Additional equipment may be installed as can be substantiated on the basis that it presents no obvious hazard to safety.

NOTE 1. Weight and Balance Report including list of equipment included in the certificated empty weight must be submitted for each aircraft. Weight records in current condition may be submitted in lieu of an actual weight. The equipment list need include no more than the following:

(a) Required equipment as defined under "EQUIPMENT" above.

- (b) Additional items as may be reasonably considered removable and are so located or of such weight that their removal or addition could noticeably affect the weight and balance of the aircraft. Items built into the aircraft structure need not be listed. The equipment list must be prepared by the applicant for the approval of the certificating C.A.A. representative, and in such form that it can be attached to the C.A.A. Operation Limitations.

NOTE 2. The following placards must be prominently displayed in the positions indicated:

- (a) In full view of passengers: "This is a military type aircraft and under the Civil Air Regulations shall not be used for the carriage of passengers or cargo for compensation or hire."
- (b) In the cockpit in full view of the pilot:
 - "Do not extend flaps above 150 mph."
 - "Do not extend aileron flaps full throw above 230 mph."
 - "Do not extend landing gear above 230 mph."

 - "Do not raise landing gear above 170 mph."

NOTE 3. The following statement must appear on the Operation Limitations: "This airplane must be operated at all times within the limitations set forth in Navy Technical Order No. 49-45 (5/23/45) except for limitations specifically called out in aircraft specification AL-8 in which the values given in the specification must be observed. A copy of the pertinent Navy Technical Orders and Aircraft Specification AL-7 must be carried during flight." In all cases it will be the responsibility of the applicant to secure a copy of the correct Navy Technical and Navy Service Change Orders. The CAA Does not have these documents available for distribution.

NOTE 4. If any repairs or modifications are made prior to or subsequent to NL certification, it is the responsibility of the owner to furnish sufficient evidence to a Civil Aeronautics Administration representative to show that the modified airplane maintains the same degree of airworthiness as the original. The C.A.A. can give no technical assistance on such matters since complete structural data for NL aircraft are not required by Part 9 and therefore are not available in the C.A.A.

NOTE 5. Prior to obtaining certification for night operation, the following modifications to the exterior lighting must be made in order to comply with the general requirements of the Civil Air Regulations.

- (1) Position Lights
 - (a) Wing Tip - The AN-3033-9 or AN-3033-1 through -4 or the AN-3032-1 through -4 light assemblies are satisfactory without modification.
 - (b) Tail - If Type D-1 (AN-3091-1 through -3) or the Type D-2 (AN-3092-1 through -3) light assembly is installed it must be replaced with a type certificated unit.
- (2) Position Light Installation
 - The position lights shall be installed to comply with the requirements of the CAR, Parts 15.2 and 3.538.
- (3) Position Light Circuit and Control
 - The position lights (wing tips and tail) shall be controlled by one SPST switch. The Circuit should be protected by its own fuse or circuit breaker. The individual wing tip and tail light switches with dim and bright positions must be removed and the dimming resistors shall be disconnected.
- (4) Other Exterior Lights
 - With the exception of the landing lights, any other exterior lights are not required and may be removed if so desired.

No original NL airworthiness certificates may be issued after 8/31/49. The list of mandatory changes required prior to original certification may be obtained from CAA Aircraft Service, Washington 25, D.C. Attn: A-298.