

PROFILE: North American T-6/SNJ/Harvard

AIRCRAFT DESCRIPTION

The T-6, one of the most popular warbird aircraft today, is an outstanding single engine trainer that has been used by air forces of over 30 countries. It is an excellent aircraft for anyone transitioning to a high horsepower tailwheel fighter.

BASIC SPECIFICATIONS

Engine:	Pratt & Whitney R-1340AN-1 engine, 600 HP
Propeller:	Hamilton Standard Two Blade 12D40 Propeller
Wing Span:	42' 5"
Length:	29' 6"
Height:	11' 9"
Normal Gross Weight:	5300 LBS.
G Loading:	+5.67, -2.33
Controls:	Dual

No. in Civilian Registry: 600
Avg. No Sold Per Year: 25

PERFORMANCE

Normal cruise speed is 155 MPH (30 GPH) at 8000'. The aircraft is stressed for aerobatics and is capable of most maneuvers with the exception of sustained inverted flight, snap rolls, outside loops, and inverted spins.

MODEL DIFFERENCES

The T-6/SNJ/Harvard aircraft have been produced in a number of model designations. Most of the changes are small and do not affect today's warbird operator. The following section is devoted to discussing the most common differences.

Fuel Capacity- The T-6 has 110 gallons on all models except the T-6G and Harvard MK IV, which have 140 gallons. With a cruise fuel burn of 30 GPH, 110 gallons is adequate for most operators.

Tail wheel steering/locking systems- The Navy type is lockable only. The pilot is able to lock the tailwheel to a straight-ahead position for take off and landing. Steering is accomplished by differential braking. The steerable type system (also called P-51 type) uses an interconnect from the rudder pedals to the tailwheel steering system. This system allows the pilot to steer the aircraft by use of the rudder pedals. Full forward stick movement unlocks this system. When unlocked the tailwheel becomes full swivel and steering is again by differential braking. Either of these systems is adequate for most civilian operators.

Hydraulic system- The original system incorporated a pilot controlled bypass. In order to use the gear or flaps, a small button must first be pushed before activation of the system. This button pressurizes the system and a time delay circuit depressurizes the system after approximately 45 seconds. Later aircraft (T6-G/Harvard MK-4) had a modified linkage that engaged the system automatically. For practical purposes, either system is satisfactory. There are several variations in other areas such as instrument panel layout and cockpit glass. Many aircraft have been modified to incorporate various combinations of the above systems. For the most part, any of these systems work well for the civilian operator.

WHAT TO LOOK FOR IN A T-6 SERIES AIRCRAFT

For the average civilian operator, the exact model should not be as big a concern as finding a good clean aircraft at the investment level desired. Most of these aircraft have been in civilian ownership for a number years; therefore, they have been well taken care of. A pre-purchase inspection by a qualified shop is always a good idea. General condition and lack of major corrosion are important. Since these aircraft were designed as trainers they may have had some damage in their lifetimes. If the damage was repaired and the appropriate parts were replaced, the damage history of the aircraft will not be a major issue. The level of restoration is a big variable and greatly affects the price of the aircraft. **It is best to acquire the most aircraft available for the investment and to not be overly specific on an exact model.**

COST OF OPERATION & MAINTENANCE

Fuel:	30 GPH @ 4.75 per gallon = \$142.50/hour	Oil:	2 quarts/hour
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These aircraft consist of simple electric and hydraulic systems and can be maintained very easily by most general aviation shops. There is no special test equipment required that is different from normal civilian aircraft. Parts are readily available from several sources. As a private owned Part 91 Aircraft, an Annual Inspection is required. Most aircraft in good condition can be inspected for around \$5,000 or less.

AD'S AND OTHER SERVICE INFORMATION- There are several one time AD's to be done as part of the original certification. Other AD's include AD 50-38-1, which calls for inspection at each annual for corrosion of the airframe. A normal Annual Inspection will cover this.

AD 2005-12-51 calls for an inspection of upper and lower wing attach angles. After initial inspection, this will be done each 200 hours for lower wing bolt. A revision is expected in 2010 that will extend the recurring inspection times. North American Trainer Association has approval for extending the inspection of upper bolts to 1000 hours.

AD 81-14-10 calls for inspection of the tail-attach fittings for cracks. This can be done at every annual inspection or the fitting can be replaced with a newer style,

which will eliminate the repetitive inspections. Most aircraft have the newer style fittings installed.

AD 99-11-2 for the Pratt & Whitney R-1340 engine calls for an inspection for cylinder head cracks. This again would be done at annual. There is also an AD on R-1340 crankshafts made by Air Tractor and installed *in certain engines at overhaul*.

CERTIFICATION BASIS

The American built aircraft are certified in the Standard Category in the USA. The Harvard MK-IV aircraft built in Canada by Canadian Car and Foundry are certified in the Experimental-Exhibition Category. Some early Harvard MK-II's were built in the US and can be certified in the Standard Category.

REFERENCE MATERIAL

There have been a number of books written about the T-6/SNJ/Harvard aircraft that will give prospective purchasers detailed information on the aircraft. Some recommended sources are:

"T-6 Texan in Action," Squadron/Signal Publications #94

"The incredible T-6 Pilot Maker," Walt Ohlrich and Jeff Ethell, Speciality Press

"T-6 Texan-The Immortal Pilot Trainer," William Jesse, Osprey Aerospace-England

"AT-6/Harvard," Len Morgan, Arco Famous Aircraft series.

"Harvard-The North American Trainers in Canada," David Fletcher and Doug MacPhail, DCF Books-Canada

"Story of the Texan AT-6," Aviation Publications

"Warbird Tech Series American NA16/AT-6/SNJ," Dan Hagerdorn, Specialty Press

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