Howard DGA 15P

The Howard DGA15P is a wood high wing, rag and tube, radial engine tail dragger from another era. Old timers are expected to be frail and only a shell of their former self. Expectations often color our perceptions. When I approached this aircraft for the first time, I felt that I should help it across the taxiway like a senior citizen with a walker. I could not have been more wrong.

After 300 hours of living with N67722, I am left with the feeling that this plane surpasses modern GA aircraft in, comfort, visibility, and many performance parameters. Cruising speed is on par with the faster end of modern fixed gear singles. Challenging landing traits and low fuel economy are the only vices.
How can this vintage aircraft remain competitive in performance with today's aircraft? The big Pratt & Whitney R-985 radial is a perfect match for the Howard airframe. The character and reliability are legendary. 450 hp and a big propeller give this aircraft a 1800ft/minute climb rate, astounding compared to any single short of an aerobatic hot rod.

Walking up to the aircraft, one notices first the tall height and extreme deck angle. This aircraft seems huge! Inside the cabin, there is an excess of shoulder, head, and leg room. Overstuffed seats coddle the occupants. Visibility in level flight is more like a helicopter than a fixed wing aircraft. The ability to stretch the legs out straight in the rear seat gives a passenger the feeling that they are in a luxury limousine. Fuel tanks in the belly of the fuselage mitigate the high center of gravity of such a tall aircraft.

In preflight, pull the prop through 9 blades to prevent a hydraulic lock. Hot or cold starts are simple. Warm-up takes about 10 minutes, more than flat engine pilots are used to. Taxi is effortless using brakes with the steerable tail wheel unlocked. The pilot can sight the left side of the runway when straight but must S turn to see it all. Once on the runway, the tail wheel must be locked to gain steering with rudder pedals.

Take-off runs demonstrate high static thrust and acceleration. The tail will come up to flight attitude all by itself or require a hard right rudder pressure to move it up faster. due to the strong gyroscopic forces created by a heavy prop. 20-degree flaps are needed for a 900 foot takeoff run. Forget the flaps and it will take twice that long. Flying a climb-out at Vy, the aircraft seems to levitate in a flatter pitch attitude than expected. With the supercharged engine, initial climb rate is largely maintained up to 10,000ft, forcing you to pull back the power to allow modern piston singles in high altitude formation to keep up. Raise electric flaps and the pilot must turn the ceiling elevator trim about 2 ½ turns to maintain 95 mph. There is significantly more adverse yaw to deal with than a modern airplane, reminding the pilot what feet are for, a lost skill in these times. And, for those with weak legs, there is electric rudder trim.

Using max cruise power settings and a lot of fuel, the Howard will approach 190mph true airspeed (165 knots) at 11,500'. Not bad for a 1942 "marshmallow truck", my nickname for the Howard. With 151 gallons of fuel, we flight plan 140 knots true airspeed at 20gph, if we can get up to 11.5 or 12.5K. That gives a bladder

busting 1000nm, 7 hour range. A Payload of 1700lb allows full fuel, four adults and 4 big, full suitcases, or a fifth passenger.
Controls are heavy but well harmonized. Pitch stability is very high. Power changes and / or trim changes are customary for even a 200 foot altitude change. This could be a great IFR platform.
There is no slop in the controls. Turn the yoke and you will instantly get roll response. There is no delay as in so many primary trainers and STOL aircraft. Roll rate is fast, with no tendency to overbank. It is ready to boogie if you feel aggressive. Formation flights with a T6 or Harvard feel right, with same speeds at similar power settings, same drag, and the same acceleration as the T6, but due to the extreme pitch stability, make you work harder.

Massive spars and struts allow a 4.3 G pullout from a 270 mph dive! This would tear the wings off virtually any other GA single, short of an Extra 300L It is comforting to know that the Howard was designed to be strong enough to allow basic aerobatics, though spins are prohibited, due to the heavy prop. Despite high wing loading, the Vso is around 52 mph indicated. Vs is 58 mph. Approach 85mph for a wheel landing or 80 mph for a 3 point. Use 75mph for short fields with good results. Power off glide without flaps yields about a 1000 ft descent in a 180 degree turn. There is no such thing as being "too high".

Landing behavior is dominated by the heavy rudder effort required to steer the tail wheel on roll out. If you have good leg strength, there is always enough rudder. At first, most pilots under-control it on roll out and have to chase it a bit. Not difficult, but different.
Stick to a 15-knot crosswind limit until seasoned. Get off the centerline by 10 feet in a crosswind and try to return, and you are likely to tip a wing due to a high center of gravity and loss of aileron effectiveness at lower speeds. There is strong gyroscopic effect when the tail comes down from a wheel landing at idle power. Cleveland brakes work very well and are not grabby. Directional stability starts to get challenging around 20 or 30 mph. Our landing gear has an important STC for modern shock absorbers and this makes the reputation for bouncing go away. In fact, the gear is perfect, absorbing virtually any impact. It does not feel spongy or springy. The DGA can easily use a 1700 foot grass strip at gross weight.

Landing after a 6 hour non stop flight, a passenger is so comfortable and rested, they are likely to want to stay in the aircraft and sit a bit longer, enjoying the feel of another era, when life was not so rushed. The Howard pilot, arm hanging out of the roll-down side window, always appears to be basking in the magnificence of this classic.