

# Golden Circle Air T-Bird

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The **Golden Circle Air T-Bird** is a family of high-wing, strut-braced, pusher configuration ultralight aircraft that was produced by Teratorn Aircraft of Clear Lake, Iowa from 1983 to 1989 and then Golden Circle Air of De Soto, Iowa from 1989 until the mid-2000s. In 2011 the aircraft were back in production by Indy Aircraft. The aircraft is produced as a kit for amateur construction.<sup>[1][2][3][4][5][6][7][8][9][10][11][12]</sup>

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## Design and development

The original version of the T-Bird family was the Teratorn Tierra which was introduced in 1983. The aircraft achieved early success in the ultralight market, particularly in its side-by-side seating version, the Tierra II. The design passed from Teratorn to Golden Circle Air in 1989 and the aircraft was renamed the *T-Bird*. Golden Circle Air went out of business in the mid-2000s and the design was out of production until 2011, when Indy Aircraft resumed building them. Over 4000 of all models have been built.<sup>[1][4][5][6][7][8][10][11]</sup>

The T-Bird is constructed from 6061-T6 aluminium tubing, bolted together, with the wing and tail surfaces covered in pre-sewn Mylar-coated Dacron envelopes. The cockpit area has a Lexan windshield and optional zippered cloth doors. The basic versions have conventional landing gear, with some models offering tricycle gear as an option. The cockpit controls consist of conventional rudder pedals and yoke control wheels. Construction time for the T-Bird I was reported as 60 hours.<sup>[1][2][4]</sup>

The Tierra II introduced a 13-position trim system and also 13-position flaps.<sup>[2]</sup>

The T-Bird I can qualify for the US FAR 103 Ultralight Vehicles category if equipped with a light enough engine, such as the 28 hp (21 kW) Rotax 277, although reviewers have indicated that due to the high-drag design the aircraft is under-powered.<sup>[1]</sup>

### Golden Circle Air T-Bird



Teratorn Tierra II

<b>Role</b>	Ultralight aircraft
<b>National origin</b>	United States
<b>Manufacturer</b>	Teratorn Aircraft Golden Circle Air Indy Aircraft
<b>Introduction</b>	1983
<b>Status</b>	In production
<b>Number built</b>	Over 4000
<b>Unit cost</b>	US\$18,360 (T-Bird II, 2005 price)

PilotMix describes the T-Bird I as "the most respected kit in the industry, and for good reason. It is absolutely the strongest and the easiest ultralight to build." Reviewer Andre Cliche calls it "robust...heavy and solid".<sup>[1][3]</sup>

## Variants

### Teratorn Tierra I

Original single seat model that first flew in 1983.<sup>[1]</sup>

### Teratorn Tierra II

Two seats in side-by-side configuration ultralight trainer with a choice of a 50 hp (37 kW) Rotax 503 or 64 hp (48 kW) Rotax 532 engine. First flew in 1983.<sup>[2][6]</sup>

### Golden Circle Air T-Bird I

Single seat development of the Tierra I with an acceptable power range of 28 to 65 hp (21 to 48 kW), the standard engine is the 50 hp (37 kW) Rotax 503. Other engine options include the 40 hp (30 kW) Rotax 447 and 64 hp (48 kW) Rotax 582.<sup>[1][3][4][6]</sup>

### Golden Circle Air T-Bird II

Two seats in side-by-side configuration ultralight trainer, developed from the Tierra II. An acceptable power range of 64 to 115 hp (48 to 86 kW), the standard engine is the 64 hp (48 kW) Rotax 582 with the 80 hp (60 kW) Rotax 912 optional. Also marketed as the *T-Bird Side-By-Side*.<sup>[1][4][5][6]</sup>

### Golden Circle Air T-Bird III

Three seats, with two front seats in side-by-side configuration and one rear seat or optional extended cargo space. The standard engine is the 64 hp (48 kW) Rotax 582. Optional equipment includes agricultural spray gear, strut fairings and tundra tires. First flown in 1990, 78 were reported flying in 2004. Also marketed as the *T-Bird Cargo*.<sup>[4][6][8][9][10]</sup>

### Golden Circle Air T-Bird Tandem TBT06

Two seats in tandem configuration. The standard engine is the 64 hp (48 kW) Rotax 582. Optional equipment includes agricultural spray gear, strut fairings and tundra tires. First flew in 1992 and there were 21 reported flying in 1998. Discontinued around 2000.<sup>[4][6][7]</sup>

### Indy Aircraft T-Bird I

Current production single seat model. The standard engine is the 40 hp (30 kW) Rotax 447. Construction time 100 hours.<sup>[11][12]</sup>

### Indy Aircraft T-Bird II

Current production two seat model. The standard engine is the 64 hp (48 kW) Rotax 582. Construction time 140 hours.<sup>[11][12]</sup>



Teratorn Tierra II

## Specifications (Tierra II)

## General characteristics

- **Crew:** one
- **Capacity:** one passenger
- **Length:** 18 ft 0 in (5.49 m)
- **Wingspan:** 31 ft 0 in (9.45 m)
- **Height:** 6 ft 0 in (1.83 m)
- **Wing area:** 190 sq ft (18 m<sup>2</sup>)
- **Empty weight:** 410 lb (186 kg)
- **Gross weight:** 1,000 lb (454 kg)
- **Powerplant:** 1 × Rotax 532 twin-cylinder, two-stroke liquid-cooled aircraft engine, 64 hp (48 kW)
- **Propellers:** 2-bladed ground adjustable pitch

## Performance

- **Cruise speed:** 70 mph (61 kn; 113 km/h)
- **Stall speed:** 36 mph (31 kn; 58 km/h)
- **Never exceed speed:** 85 mph (74 kn; 137 km/h)
- **Rate of climb:** 600 ft/min (3.0 m/s)

## References

1. <sup>^ a b c d e f g h</sup> Cliche, Andre: *Ultralight Aircraft Shopper's Guide* 8th Edition, page B-60 & B-106. Cybair Limited Publishing, 2001. ISBN 0-9680628-1-4
2. <sup>^ a b c d e</sup> Teratorn Aircraft: *1984 Teratorn Tierra II The Legend Continues...*, Teratorn Aircraft pamphlet, 1984.
3. <sup>^ a b c</sup> Pilot Mix (undated). "Golden Circle Air, Inc T-Bird I" (<http://www.pilotmix.com/index.php?pgid=11&lang=en&maxInfo=127>). Retrieved 22 January 2011.
4. <sup>^ a b c d e f g</sup> Purdy, Don: *AeroCrafter - Homebuilt Aircraft Sourcebook*, page 168-169. BAI Communications. ISBN 0-9636409-4-1
5. <sup>^ a b c</sup> Bertrand, Noel; Rene Coulon; et al: *World Directory of Leisure Aviation 2003-04*, page 142. Pagefast Ltd, Lancaster OK, 2003. ISSN 1368-485X
6. <sup>^ a b c d e f g</sup> Downey, Julia: *1999 Kit Aircraft Directory*, Kitplanes, Volume 15, Number 12, December 1998, page 50. Primedia Publications. ISSN 0891-1851
7. <sup>^ a b c</sup> Downey, Julia: *2001 Kit Aircraft Directory*, Kitplanes, Volume 17, Number 12, December 2000, page 54. Kitplanes Acquisition Company. ISSN 0891-1851

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9. <sup>a b</sup> Newby-Gonzalez, Tori: *2004 Kit Aircraft Directory*, Kitplanes, Volume 20, Number 12, December 2003, page 59. Belvoir Publications. ISSN 0891-1851
10. <sup>a b c</sup> Downey, Julia: *2005 Kit Aircraft Directory*, Kitplanes, Volume 21, Number 12, December 2004, page 61. Belvoir Publications. ISSN 0891-1851
11. <sup>a b c d</sup> Vandermeullen, Richard: *2011 Kit Aircraft Buyer's Guide*, Kitplanes, Volume 28, Number 12, December 2011, page 56. Belvoir Publications. ISSN 0891-1851
12. <sup>a b c</sup> Bayerl, Robby; Martin Berkemeier; et al: *World Directory of Leisure Aviation 2011-12*, page 60. WDLA UK, Lancaster UK, 2011. ISSN 1368-485X

## External links

- Official website (<http://indyaircraftltd.net/products.php?cid=27>)
- Photo of Golden Circle T-Bird (<http://www.avweb.com/newspics/galleries/airventure2010/ultralights/large/18.jpg>)



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Categories: United States ultralight aircraft 1980–1989

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