Thank you for purchasing our **Mini DINO** entry level, multi-purpose glider.

Wingspan: 780mm Length: 596mm Weight: Min. 75g Designed and produced by Hiesbok S.R.O.

The Mini DINO glider is quick and easy to build, and the model exhibits excellent flight characteristics for its size. The completed model is ideal for flying in mild and thermal weather. It is structurally designed to be as lightweight as possible to achieve the best possible flight performance. The Mini DINO is intended for relatively inexperienced modelers of all ages and is an excellent choice for learning the basics of aerodynamics.

The elevator and rudder are fixed to the fuselage using the supplied flexible wire hinges and this enables you to easily adjust and set the **pitch** (nose up and down) and **yaw** (nose left and right) controls prior to each flight. This provides a very useful means of determining and teaching the effect of control inputs for inexperienced modelers.

Building and finishing the model: This building guide should be used in conjunction with the detailed plans which are included with the kit. You will notice that all component parts are clearly marked with part numbers consisting of a letter and a number. Each bag containing smaller parts is also colour-coded to the detailed plan for ease of identification and correct placement. Please examine each part and cross-reference it to the image on the plan. Make a mental note of where each part fits prior to starting the assembly process.

To complete the model, you will require the following additional items:

- A good quality, fast curing wood adhesive. We recommend Deluxe Materials Aliphatic glue as it is easy to use and allows rapid bonding of balsa and ply parts. It is superior to PVA glue as it is much easier to sand once cured. Visit www.deluxematerials.com for details.
- Modelling pins for temporarily holding assembled items whilst glue sets.
- Fine sandpaper or emery paper for shaping the model where indicated.
- Materials for finishing the model such as acrylic paint and varnish.
- Flat building board to protect the surface below from glue, etc.
- Grease proof paper or similar non-stick material.
- Clothes pegs or small clamps.
- Hobby knife.

Wing construction:

The construction of the wing is very straightforward and involves a total of five parts. It is important to note that the wings must be built with the correct amount of **dihedral** (this is the angle between the wings which provides stability in flight and aids turns caused by rudder input). Please see the diagram inset over the wing section of the detailed plan showing how to achieve the correct dihedral and wingtip angle.

Step 1:
Cover your building board with greaseproof paper or similar non-stick material.
Take the major wing panels, parts C.1 & C.2 and notice that one end of each panel has a 45-degree chamfer for locating the wing tip at the correct angle. Refer to the diagram inset over the wing section of the detailed plan which shows the correct position of the wingtip on the end of the wing panel. Apply glue to one edge and pin the components together to temporarily hold them whilst the glue cures.

Step 2:
Refer to the diagram inset over the wing section of the detailed plan to see how the wing panels are joined at the centre to achieve a dihedral of 15mm (measured from the surface of your board to the underneath of the wing panel and the wingtip joint. Place the wing panels on your flat building board and temporarily secure one panel to the board using pins. Apply glue to the centre joint of one wing panel and raise the other wing tip up by 15mm from the board surface. Place an item under the wing to maintain this 15mm dimension and push the wing panels together to complete the glued joint. Secure the centre of the raised wing panel to the building board using pins. Double check for the correct amount of dihedral. Allow to dry fully before moving.

Step 3:
Fit the wing reinforcement part C.4 in place over the rear top centre part of the wings and glue into place. This provides additional strength at the point where the rubber bands secure the wing to the fuselage.

The wing construction is now complete apart from final sanding and applying your desired paint finish.

Fuselage construction:

Step 4:
The front section of the fuselage, comprising parts C.5 x 2, C.6 x 2 and C.7 x 2 has been taped together to show the order of assembly. Carefully remove the tape but make a note of the order in which the parts go together. It may be necessary to slightly enlarge the dowel holes through the various layers using a 3mm drill bit.

Important: Prior to final assembly and gluing of these parts, cut a slot through the top of the two parts C.7 at the point shown on the fuselage plan view (shown as a small grey rectangle). This slot provides an access point for pouring the ballast weights into the model for adjusting the centre of gravity prior to flight).

Apply glue to the surfaces of parts C.6 x 2 and C.7 x 2 and fit them together. Now fit the front dowel through the holes in these parts to ensure a perfect alignment of the parts. Ensure that the dowel is fitted with an equal amount protruding from each side of the assembly. Now glue and fit parts C.8 on

each side of this assembly and check for perfect alignment of all parts. Secure using clothes pegs or clamps which the glue fully dries.

Now fit parts C.8 onto the front dowel and align with the other layers before gluing in place.

Step 5:
If desired, sand the rear of parts C.5 to a rounded shape prior to gluing into place whilst ensuring they are perfectly aligned with the other layers of the nose section. NOTE: If you wish to convert your Mini DINO into a radio-controlled glider, do not glue parts C.5 in place at this time. This is where the R/C gear will be housed.

Step 6:
The rear section of the fuselage, comprising parts C.10 x 2 and C.11 have been taped together to show the order of assembly. Carefully remove the tape but make a note of the order in which the parts go together. It may be necessary to slightly enlarge the dowel holes through the various layers using a 3mm drill bit.

Apply glue to the surfaces of parts C.10 x 2 and C.11 and fit them together. Take care to ensure perfect alignment of the parts, particularly at the rear where the horizontal stabiliser will eventually be fitted. Use pins, cloths pegs or small clamps to hold the parts together accurately which the glue dries. Once the glue has fully dried, lightly sand the rear fuselage assembly to achieve the desired finish.

Step 7:
Glue the rear section of the fuselage to the front section and fit the rear dowel through these assembled parts to ensure perfect alignment. Again, ensure that the dowel is fitted with an equal amount protruding from each side of the assembly. Temporarily secure the joint using one or two clothes pegs. Now check for prefect alignment of the fuselage and allow to dry fully. Trim the ends of both dowels but leave plenty of dowel to securely hold the wing fixing rubber bands.

Step 8:
Glue together parts C.14 and C.15 to form the vertical fin and rudder. Lightly sand the assembly and then carefully cut the rudder and trim tab away from the vertical fin. The positions of the wire hinges have been marked on the fin, rudder and trim tab. Use a pin to create holes for the wire hinges at the marked positions, ensuring that they are in the centre of the trailing edge of the fin and leading edge of the rudder and trim tab. Now glue the wire hinges in place, fit the rudder and trim tabs and ensure full control movement in both directions. Allow to dry fully.

Step 9:
Glue the tail skid part C.12 onto the underneath of the rear fuselage as shown on the detailed plan. Now cut the elevator section away from the horizontal stabilizer sheet part C.16. Then cut the trim tab from the elevator section. Use a pin to create holes for the wire hinges at the marked positions, ensuring that they are in the centre of the leading and trailing edges. Glue the wire hinges in position and fit the elevator and trim tabs. Ensure for full movement in both directions. Allow to dry fully. When dry, lightly sand the assembly and create a rounded leading edge on the horizontal stabiliser.

Step 10:
Glue the horizontal stabiliser in place on top of the rear fuselage section as shown on the detailed plan. Ensure that this is perfectly aligned with the fuselage.

Step 11:
Glue the vertical fin and rudder assembly in place in front of the horizontal stabiliser as shown on the detailed plan. Ensure that this is perfectly vertical and perpendicular (at 90 degrees) to the horizontal stabiliser.

Step 12:
Fit the completed wing to the fuselage using the supplied rubber band and check for correct alignment with the horizontal stabiliser.

The construction of your Mini DINO glider is now complete and it is ready for you to apply your desired finish together with the supplied decals.

Trimming the model for flight:
It is important to achieve the correct CENTRE OF GRAVITY (COG) for any aircraft. This kit includes a bag of ballast balls which are used to adjust the COG to the point where the most efficient glide ratio is achieved. Start by pouring around half of the ballast into the hole created on the top of parts C.7. Temporarily plug the hole with a piece of scrap balsa or similar. Choose an outdoor area with long grass or a forgiving surface. **Ensure that the rudder and elevator and the trim tabs are set in the neutral position.** Point the nose of the glider into a very gentle breeze and throw it forward keeping it straight and level. If the nose pitches up, add more ballast until you achieve a reasonably smooth and stable flight. It the nose drops, remove ballast to achieve the correct COG.

The model can be used as a chuck glider or, if preferred, fit the metal tow hook at the position marked on the detailed plan and launch using 3 meters of 3 x 2mm rubber and approximately 15 meters of chord or strong fishing line, fitted with a small ring on the end.

Congratulations on completing your Mini DINO model glider. We wish you many hours of fun flying your new model. Please keep an eye on our website as we will be adding further exciting model gliders and powered aircraft to our range in the coming months.

www.craftyproducts.co.uk