



ASSEMBLY INSTRUCTIONS

READ THESE INSTRUCTIONS CAREFULLY
BEFORE YOU START BUILDING

Additional materials and tools
required for construction:

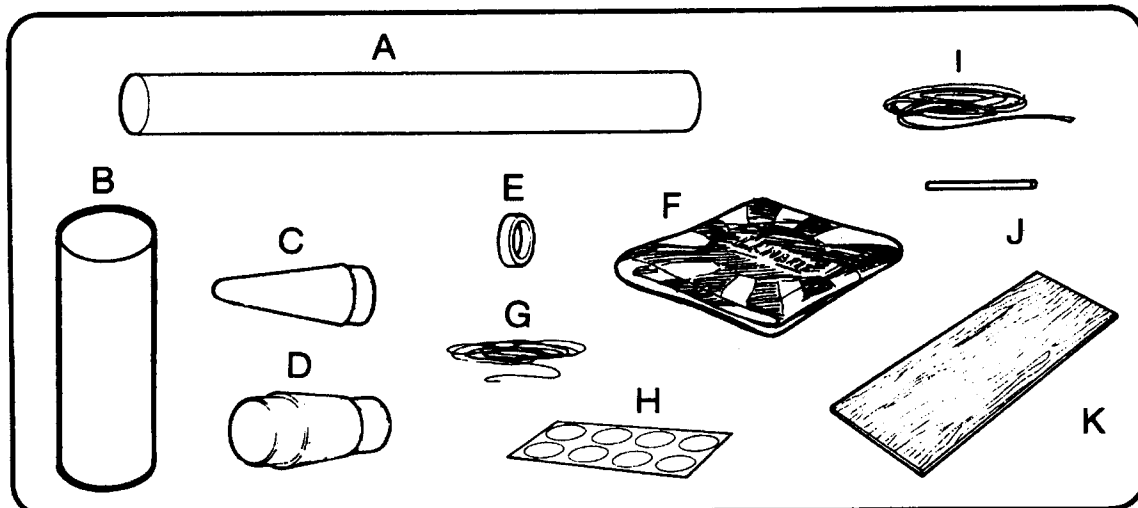
- modelling knife or
single edge razor blade
- white glue
- fine sandpaper
- butyrate dope
- cornstarch or talc
- sanding block
- masking tape
- scissors
- ruler
- engine casing
- plastic glue

Additional items required to
fly the Green Hornet are:

- Heat Wadding
- Trans-A-Pad Launcher
- Countdown Controller
- Canaroc Engines
- Masking Tape

PARTS LIST

- A) 1 - PT-100 Body Tube (21.1 cm)
- B) 1 - PT-200 Body Tube (7 cm)
- C) 1 - BN-200A Nose Cone
- D) 1 - BA-1020A Adapter
- E) 1 - Engine Block
- F) 1 - Parachute
- G) 1 - Shroud Line
- H) 8 - Tape Disks
- I) 1 - Shock Cord
- J) 1 - Launch Lug
- K) 1 - Balsa Sheet
- L) 1 - Decal Sheet (not shown)



- A Spread glue around in a ring on the inside of the tube, about 6cm from the rear. Insert the engine block, and slide it into position with an engine casing, until 5mm of the casing is left sticking out of the tube. (This will leave the engine block positioned 6.5cm from the rear). Pull out the casing immediately, before the glue sets.

CONSTRUCT THE FINS

- A Cut out the fin pattern from the pattern sheet.
- B Trace the pattern onto the balsa sheet. Make sure that the balsa grain direction is as shown on the pattern.
- C Carefully cut out each fin from the balsa using a modelling knife or single edge razor blade. DO NOT ATTEMPT TO CUT THE Balsa IN A SINGLE STROKE. When cutting balsa, run the blade lightly along the line to be cut, barely applying pressure on the first stroke. On each stroke afterward, apply more force on the blade. After three or four strokes, the balsa will have a smooth clean cut. Attempting to apply too much force and making the cut in one stroke will usually tear the balsa, giving the fin an unsightly appearance.
- D To improve the appearance of the fins, round the leading edge and trailing edge of the fins (as shown in Fig. 1) by gently sanding with fine sandpaper or an emery board.

- E The root edge of the fin, the edge that is attached to the body tube, must be perfectly flat if it is to have a strong joint when glued. Set a fin on the edge of a table, then holding the sanding block at right angles (90°) to the fin, sand the fin root very lightly with an up and down motion (Fig. 2). Do this until the root edge is completely flat. Test periodically by placing the root edge on a flat surface (such as a table top) to see if it sits flat. Repeat for the other fins.

Fig. 1

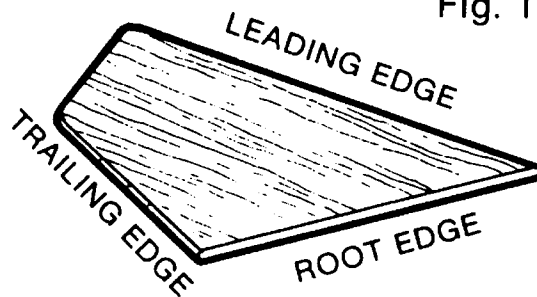
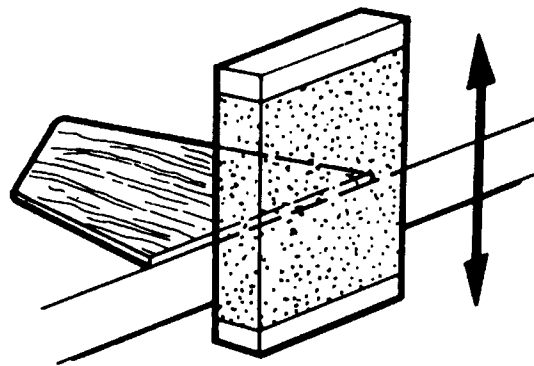


Fig. 2



MOUNTING THE FINS

- A Cut out the Fin Placement Guide from the pattern sheet.
- B Wrap the Guide around the rear of the body tube (the end with the engine mount), and tape the ends of the guide together.
- C Place a mark on the body tube where each fin position is shown by an arrow on the Guide. These marks will show you where to align the fins when gluing them to the tube (Fig. 3).
- D Place a line of glue along the root edge of a fin (Fig. 4). Place the fin on the rear of the tube along the alignment marks. Set aside until the glue has set. Be sure that the fin is sitting at 90° to the tube when viewed from the end (Fig. 5).
- E Repeat the procedure to glue on the other fins. All fins should be evenly spaced around the tube when completed.
- F Once all the fins have dried, lay a thin line of glue along each fin joint to form a "fillet" and strengthen the fin. Smooth out the line of glue neatly with the tip of your finger.

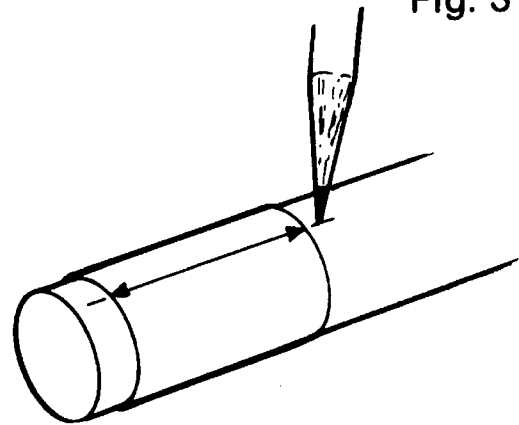


Fig. 3

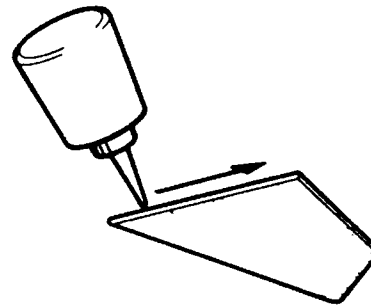


Fig. 4

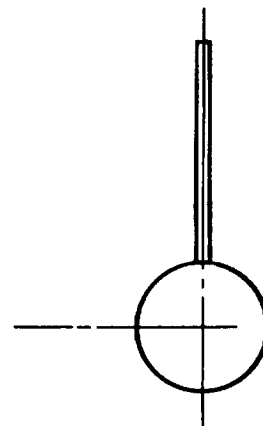


Fig. 5

LAUNCH LUG

Make a mark on one of the fins 5 mm from the root edge. Draw a line on the fin parallel to the root edge. Glue the launch lug to the fin along the line.

SHOCK CORD MOUNT

- A Cut out the Shock Cord Mount from the pattern sheet.
- B Construct the Mount as shown in Fig. 6. Glue and fold the panels so that the shock cord folds up with it.
- C Spread glue on the folded side of the Mount and insert it into the front of the main body tube at least 5 cm inside. Press it firmly against the wall of the tube (Fig. 7).

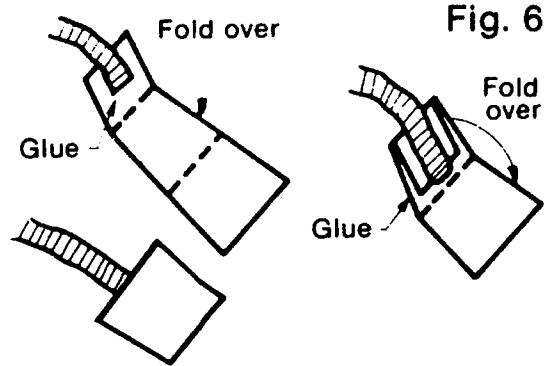


Fig. 6

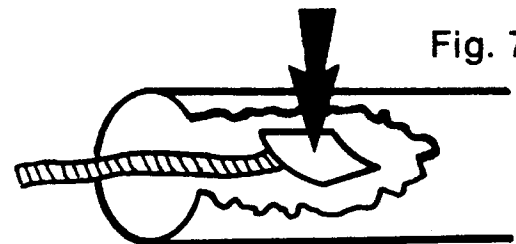
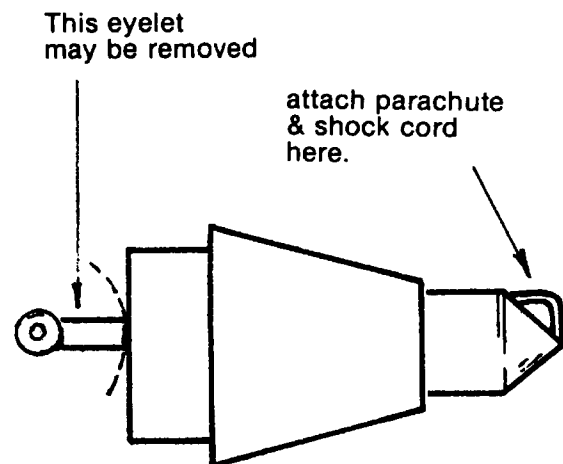


Fig. 7

CONSTRUCTING THE PAYLOAD SECTION

- A Roughen the shoulder of the adapter using a piece of fine sandpaper, then glue it, using plastic glue, into one end of the PT-200 tube. Check the fit of the nose cone in the other end of the payload section. It should fit very snugly. A strip of masking tape can be placed on the shoulder of the nose cone to tighten the fit.
- B Tie the free end of the shock cord to the eyelet at the base of the adapter and make a solid knot.

Fig. 8



PARACHUTE

- A Construct the parachute using the instructions on the parachute pattern.
- B Tie the knotted end of the parachute lines to the eyelet in the base of the adapter.

FINISHING THE BALSA PARTS

Raw balsa is unsightly, coarse and grainy, if painted before the grain is "filled" and the surface is "sealed". Model rockets look professional if the time is taken to finish the balsa. The **Guide to Space Modelling** contains tips on finishing and may be consulted for assistance.

A The most common method of finishing balsa is using butyrate dope, available from most hobby outlets. To assist in filling the balsa grain, cornstarch, talc, or baby powder may be rubbed into the balsa and worked into the grain. Brush on a thick coat of dope, be sure to do both sides of each fin at the same time in order to avoid warping.

B After the dope dries completely, lightly sand the balsa surfaces with fine sandpaper. The sanding operation removes the excess thickness of dope and speeds up the process of filling the grain.

C After repeating the doping/sanding operation three or four times, the balsa grain should be filled and the surfaces smooth. The last sanding operation should be done with extra fine sandpaper.

C When spray painting, hold the can about 20 cm to 30 cm from the model, and spray in even strokes. Do not apply the paint too thickly or it will "run" and leave a "sag" in the surface. When brushing, be sure that the paint is not too thick, so that it may be properly brushed out without leaving brush streaks on the surface.

D There is a **Painting Guide** provided on the pattern sheet to aid you in applying the Green Hornet's distinctive paint pattern. To use the **Painting Guide**, cut it out, then wrap it tightly about the rear of the model, and tape the ends together. Align the points of the **Guide** with the fins, and mark out the pattern on the model. Mask-off the pattern on the model as explained above.

E When the final coat is dry, remove the masking tape by slowly peeling it back against itself, being careful not to peel off the base coat.

DECALS

To apply decals, please follow instructions on back of decal sheet.

PAINTING

A Whether brushing or spraying, a base coat of white should always be applied. Paint should always be applied in thin coats to speed drying and prevent unsightly "sags".

B Final colors may be applied over the base coat when it has dried. Where necessary, masking tape may be used to separate colors. If spraying, cover the remaining areas with plastic wrap or paper.

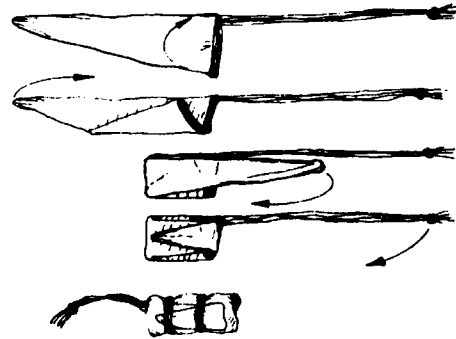
FLYING

A To install the engine, first wrap enough masking tape around the casing to ensure a tight friction fit, then insert it into the rear of the body tube. The engine must only stick out the tube 5 mm.

B Push down a piece of heat wadding into the top of the tube. The wadding serves to protect the plastic parachute from melting by the hot gases of the engines ejection charge. There should be about 3cm thickness of wadding to create a good piston between the parachute and the engine.

C Fold the parachute in the following manner:

- hold the tip of the parachute with one hand and the shroud lines with the other.
- gather together all of the free corners so that the parachute forms a triangle.
- fold over the corners.
- fold over the parachute into thirds.
- wrap shroud lines around the bundle.



D Insert the parachute into the tube. Push in the shock cord and remaining shroud lines, then slide on the nose cone.

E Install an igniter into the engine according to the instructions provided with the engine.

F Slide the rocket onto the launch rod, sliding the rod through the launch lug. This will guide the rocket at the moment of launch.

G Attach the igniter clips to the leads of the igniter.

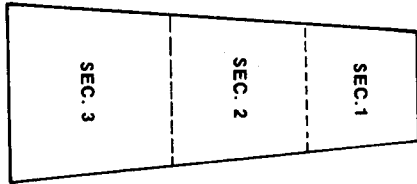
H Insert the safety key into your launch controller, give a 5-second countdown and press the button to launch your model.

For further tips see Canaroc's GUIDE TO SPACEMODELLING.

CANAROC



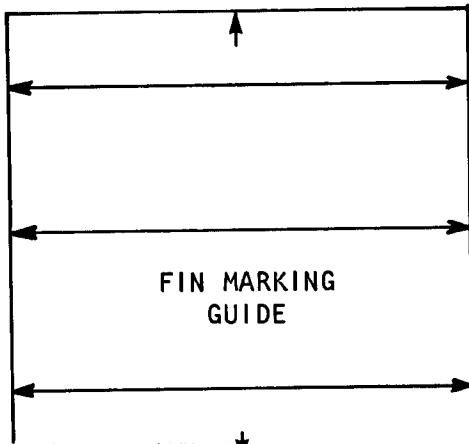
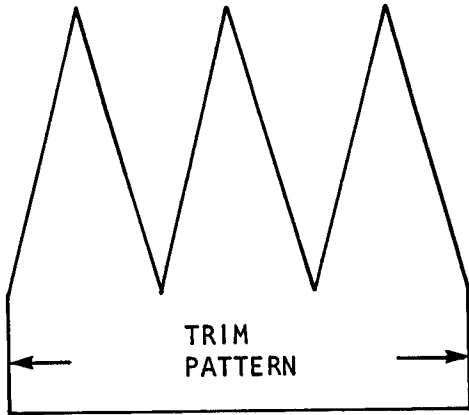
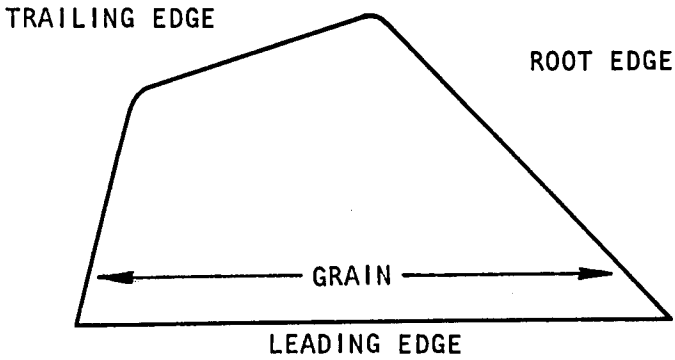
MANUFACTURED BY
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Toronto, Canada
M6K 1X6



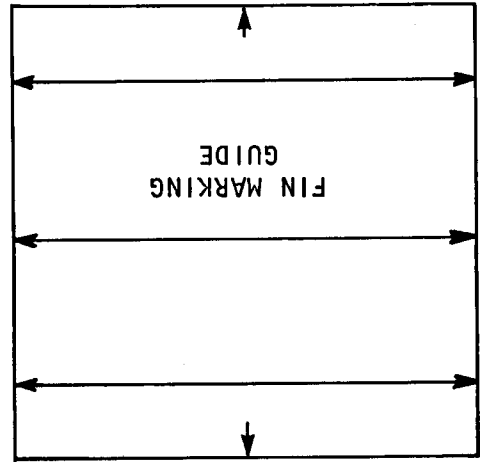
SHOCK CORD ANCHOR



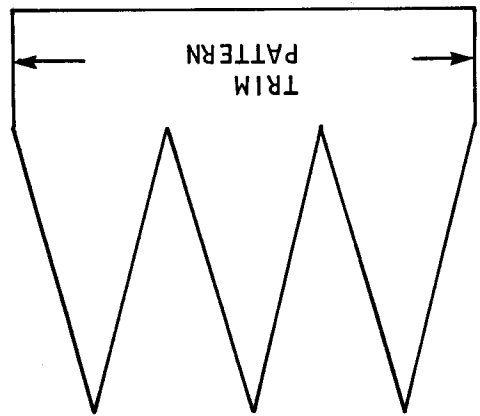
LAUNCH LUG STAND-OFF PATTERN



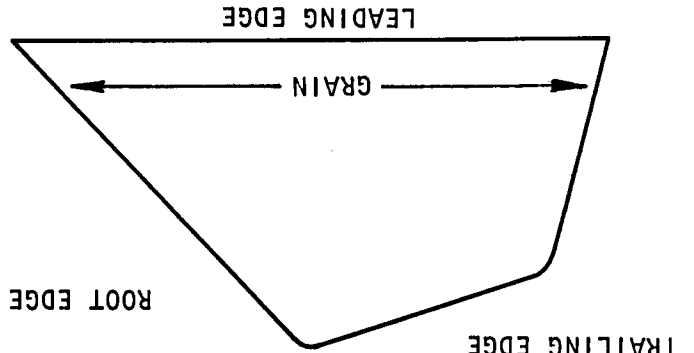
FIN MARKING GUIDE



FIN MARKING GUIDE

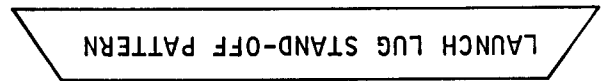


TRIM PATTERN



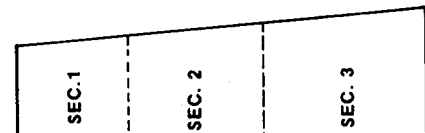
ROOT EDGE

TRAILING EDGE



LAUNCH LUG STAND-OFF PATTERN

SHOCK CORD ANCHOR



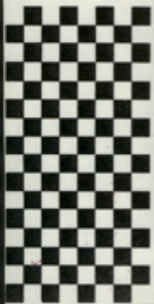
SEC. 1

SEC. 2

SEC. 3

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| MARCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| MAY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| JUNE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| JULY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| AUGUST | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| SEPTEMBER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| OCTOBER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| NOVEMBER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| DECEMBER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Green Hornet



B14-7

MODEL
ROCKET
ENGINES

CANAROC
INDUSTRIES LTD.

CONTAINS:

- 3 MODEL ROCKET ENGINES
- IGNITERS
- INSTRUCTIONS

Green Hornet

Parts List:

OEM Parts

- 1) PT-100 Body Tube 21.1 cm l.
- 2) PT-200 Body Tube 7 cm l.
- 3) PN-200A Nose Cone
- 4) BA1020A Adapter
- 5) EB-100A Engine block
- 5) PK-12 Parachute 30cm
- 6) SL-1 Shroudline
- 7) TS-1 Tape strips x 8
- 8) SC-1 Shock Chord
- 9) LL-2 Launch Lug
- 10) balsa sheets
- 11) Decal sheets

Parts currently available

- BT-20 8 5/15" l.
- BT-50 2.75" l.
- custom turned 'Challenger Style' balsa cone
- TA-2050 Transition
- CR-520
- 12" parachute
- shroudline 72" l.
- Tape discs x 6 or 8 depending on 6 or 8 sided chute
- 1/8" elastic chord 24" l.
- 1/8" Launch lug
- 1/16" balsa as needed
- repro decals