ASSEMBLY TIP

Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don’t fit properly, sand as required for precision assembly.

PARTS AND SUPPLIES

Locate the parts shown below and lay them out on the table in front of you. In addition to the parts included in the kit you will need the supplies shown.

MODELING KNIFE  SCISSORS  PENCIL  RULER  WHITE GLUE  PLASTIC CEMENT  ENAMEL SPRAY PAINT (Gray & White)

ENGINE BLOCK  BODY TUBE  DIE-CUT FINNS  SPACER TUBE  NOSE CONE  NOSE CONE INSERT

LAUNCH LUG  SHOCK CORD  DECAL  TUBE COUPLER (2)
1. Stand the body tube upright on the fin guide and mark all the fin positions.
2. Find a groove such as a door jamb or open drawer.
3. Extend the marks approximately 4 inches down the length of the body tube.

2. Glue die-cut parts onto body tube in positions shown.
   A. Put a small line of white glue along the correct edge of a die-cut part and place on body tube pencil line.
   B. REMOVE, allow 15 seconds for glue to become tacky.
   C. Add a bit more glue and reposition die-cut part.
   D. Repeat with remainder of die-cut parts.

3. Make sure the parts are positioned as straight as possible. If they are crooked, remove them and try fitting them again. Use the fin guide to aid in checking alignment.

4. Mark spacer tube 1 4 inch from one end.
   B. Place a ring of glue on the inside of the body tube about 1 1/2 inches from the rear of the rocket.
   C. Insert engine block into end of tube.
   D. Use the spacer tube to push engine block into the tube until mark is even with end of tube.
   E. Remove spacer tube quickly before glue sets and discard it.
5. Set a tube coupler in position, without glue against the wing-body tube joint.
   A. Note where the parts touch.
   B. Remove the coupler, apply glue to it, and reposition in the proper place.
   C. Repeat for the other coupler.
   D. Allow the glue to dry.

6. Cut two slits in bottom forward end of body tube as shown.
   A. Insert shock cord into rear slot and tie knot in end. Apply glue to knot.
   B. Pull knot back inside tube.
   C. Insert other end of shock cord into forward slot.
   D. Put glue on tube between slits and pull cord taut.

7. Assemble nose cone and nose cone insert with plastic cement.
   A. When dry, tie free end of shock cord to nose loop with double knot.

8. Run a line of glue along one side of the launch lug, and place the lug against the bottom rudder/body tube joint.
   A. Smooth out the excess glue.
   B. Now run a small line of glue along both sides of each body tube-fin joint.
   C. Smooth out the excess glue with your fingertips. Allow to dry.

9. Paint the rocket gray. Paint nose cone white. After the paint is dry, apply decals.
   A. To apply decals, cut each out, dip in lukewarm water for 20 seconds and hold, until it uncurls. Refer to photograph on front page and/or on front of panel for decal placement. Slip decal off backing sheet and onto model. Blot away excess water. For best results, let decals dry overnight and apply a coat of clear spray paint to protect decals.
FLYING YOUR ROCKET
Choose a large field away from power lines, tall trees, and
low flying aircraft. Try to find a field at least 250 feet square.
The larger the launch area, the better your chance of recov-
ering your rocket. Football fields and playgrounds are
great.

Launch area must be free of dry weeds and brown grass.

Launch only during calm weather with little or no wind and
good visibility.

LAUNCH SUPPLIES
To launch your rocket you will need the following items:
—An Estes model rocket launching system
—Recommended Engines: 1/2A3-2T, A3-4T, or A10-3T
Use 1/2A3-2T engine for your first flight, to become familiar
with your rocket's flight pattern.

Use only Estes products to launch this rocket.

MISFIRES
Failure of the rocket engine to function properly is nearly al-
ways caused by a failure to install the igniter correctly.
This failure permits the igniter to heat and burn into two
pieces without igniting the engine.

PREPARE ENGINE
SEPARATE THE IGNITERS
ENGINE
INSERT IGNITER
IGNITER TIP MUST TOUCH
PROPELLANT DEEP INSIDE
NOZZLE OPENING
FOLD OVER

APPLY AND FIRMLY
PRESS MASKING TAPE IN PLACE

WRAP TAPE AROUND
REAR OF ENGINE FOR
FRICITION FIT

FOLD AND INSERT
SHOCK CORD.
INSTALL NOSE CONE

COUNTDOWN AND LAUNCH
5 REMOVE SAFETY KEY to disarm the launch controller.

4 Remove safety cap and slide launch lug over launch rod to
place rocket on launch pad. Make sure the rocket slides
freely on the launch rod.

3 Attach micro-clips to the igniter wires. Arrange the clips so
they do not touch each other or the metal blast deflector. At-
tch clips as close to protective tape on igniter as possible.

2 Move back from your rocket as far as launch wire will permit
(at least 15 feet).

1 INSERT SAFETY KEY to arm the launch controller.

LAUNCH!!! PUSH AND HOLD LAUNCH BUTTON UNTIL ENGINE IGNITES
Remove safety key—Replace cap on rod.
ASSEMBLY TIP
Read all instructions before beginning work on your model. Make sure you have all parts and supplies. Test-fit all parts together before applying any glue. If any parts don’t fit properly, sand as required for precision assembly.

PARTS AND SUPPLIES
Locate the parts shown below and lay them out on the table in front of you. In addition to the parts included in the kit you will need the supplies shown.

- MODELING KNIFE
- SCISSORS
- PENCIL
- RULER
- WHITE GLUE
- PLASTIC CEMENT
- ENAMEL SPRAY PAINT (Gray & White)
- SPRAY PAINT
- RAYO INT

ENGINE BLOCK (030222)
BODY TUBE (030305)
NOSE CONE (072600)
NOSE CONE INSERT (072601)
SPACER TUBE (035002)
DIE-CUT FINS (032466)
LAUNCH LUG (038175)
SHOCK CORD (085732)
DECAL (037451)
TUBE COUPLER (2) (030172)
1. Stand the body tube upright on the fin guide and mark all the fin positions.
2. Find a groove such as a door jamb or open drawer.
3. Extend the marks approximately 4" (102 mm) down the length of the body tube.

2. Glue die-cut parts onto body tube in positions shown.
   A. Put a small line of white glue along the correct edge of a die-cut part and place on body tube pencil line.
   B. REMOVE, allow 15 seconds for glue to become tacky.
   C. Add a bit more glue and reposition die-cut part.
   D. Repeat with remainder of die-cut parts.

3. Make sure the parts are positioned as straight as possible. If they are crooked, remove them and try fitting them again. Use the fin guide to aid in checking alignment.

**FINS MUST BE ATTACHED CORRECTLY FOR STABLE FLIGHT!**

4. Mark spacer tube 1/4" (6 mm) from one end.
5. Place a ring of glue on the inside of the body tube about 1 1/2" (38 mm) from the rear of the rocket.
6. Insert engine block into end of tube.
7. Use the spacer tube to push engine block into the tube until mark is even with end of tube.
8. Remove spacer tube quickly before glue sets and discard it.
5. Set a tube coupler in position, without glue against the wing-body tube joint.
   A. Note where the parts touch.
   B. Remove the coupler, apply glue to it, and reposition in the proper place.
   C. Repeat for the other coupler.
   D. Allow the glue to dry.

6. Cut two slits in bottom forward end of body tube as shown.
   A. Insert shock cord into rear slot and tie knot in end. Apply glue to knot.
   B. Pull knot back inside tube.
   C. Insert other end of shock cord into forward slot.
   D. Put glue on tube between slits and pull cord taut.

7. Assemble nose cone and nose cone insert with plastic cement.
   A. When dry, tie free end of shock cord to nose loop with double knot.

8. Run a line of glue along one side of the launch lug, and place the lug against the bottom rudder/body tube joint.
   A. Smooth out the excess glue.
   B. Now run a small line of glue along both sides of each body tube-fin joint.
   C. Smooth out the excess glue with your fingertips. Allow to dry.

9. Paint the rocket gray. Paint nose cone white. After the paint is dry, apply decals.
   To apply decals, cut each out, dip in lukewarm water for 20 seconds and hold, until it uncurls. Refer to photograph on front page and/or on front of panel for decal placement. Slip decal off backing sheet and onto model. Blot away excess water. For best results, let decals dry overnight and apply a coat of clear spray paint to protect decals.
FLYING YOUR ROCKET

Choose a large field away from power lines, tall trees, and low flying aircraft. Try to find a field at least 250 feet (76 meters) square. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great.

LAUNCH SUPPLIES

To launch your rocket you will need the following items:
—Estes Electrical Launch System and Launch Pad
—Recommended Engines: 1/2A3-2T, A3-4T, or A10-3T
Use 1/2A3-2T engine for your first flight, to become familiar with your rocket’s flight pattern.

Use only with Estes products.

MISFIRES

Failure of the model rocket engine to ignite is nearly always caused by incorrect igniter installation. An Estes igniter will function properly even if the coated tip is chipped. However, if the coated tip is not in direct contact with the engine propellant, it will only heat and not ignite the engine.

When an ignition failure occurs, remove the safety key from the launch control system and wait one minute before approaching the rocket. Remove the expended igniter from the engine and install a new one. Be certain the coated tip is in direct contact with the engine propellant, then tape the igniter leads firmly to base of engine as illustrated above. Repeat the countdown and launch procedure.

Always follow the NAR MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities.

PREPARE ENGINE

SEPARATE THE IGNITERS

IGNITER TIP MUST TOUCH PROPELLANT DEEP INSIDE NOZZLE OPENING

APPLY AND FIRMLY PRESS MASKING TAPE IN PLACE

WRAP TAPE AROUND REAR OF ENGINE FOR FRICTION FIT

FOLD AND INSERT SHOCK CORD. INSTALL NOSE CONE

PUSH ENGINE INTO ROCKET UNTIL IT IS AGAINST ENGINE BLOCK

COUNTDOWN AND LAUNCH

10. BE CERTAIN SAFETY KEY IS NOT IN LAUNCH CONTROLLER.

9. Remove safety cap and slide launch lug over launch rod to place rocket on launch pad. Make sure the rocket slides freely on the launch rod.

8. Attach micro-clips to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector, Attach clips as close to protective tape on igniter as possible.

7. Move back from your rocket as far as launch wire will permit (at least 15 feet - 5 meters).

6. INSERT SAFETY KEY to arm the launch controller.

Give audible countdown 5...4...3...2...1

LAUNCH!! PUSH AND HOLD LAUNCH BUTTON UNTIL ENGINE IGNITES

REMOVE SAFETY KEY FROM LAUNCH CONTROLLER. REPLACE SAFETY KEY AND SAFETY CAP ON LAUNCH ROD.
<table>
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<th>Quantity</th>
<th>Description</th>
<th>Type</th>
<th>Number</th>
<th>Details1</th>
<th>Details2</th>
<th>Details3</th>
<th>Details4</th>
<th>Comment</th>
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<tr>
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<td>6&quot; long</td>
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<td>0.541&quot; OD</td>
<td>0.013&quot; wall</td>
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<tr>
<td>2</td>
<td>STAGE COUPLER</td>
<td>JT-5C</td>
<td>30252</td>
<td>0.455&quot; ID</td>
<td>0.513&quot; OD</td>
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<td>PIN-5A</td>
<td>72601</td>
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<td>Base with shock cord attachment</td>
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<tr>
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<td>3130/30222</td>
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<tr>
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<td>SPACER TUBE</td>
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<td>35002</td>
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<td>Same size as mini-motor</td>
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<tr>
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<td>LAUNCH LUG</td>
<td>LL-2A</td>
<td>2321/38175</td>
<td>5/32&quot; ID</td>
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<td>1-1/4&quot; long</td>
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<td>Rubber</td>
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</table>

*1 The main body tube for this kit is 6" long but the plans show number 030305 which is 4" long. The correct number is 030303.

*2 The plans show number 030172 for the JT-5C couplers. The correct number for JT-5C is 030252.
HAWKEYE™
FLYING MODEL ROCKET
SKILL LEVEL 2
For the Experienced Modeler

Length: 8.5 in. (21.6 cm)
Diam: .541 in. (13.7 mm)
Weight: .42 oz. (.12 g)
Recommended Engines: H-2A/3-2T (First Flight), A2-4T, A/10-3T

This is a model kit requiring assembly. Glue and finishing supplies, launch system, and engines for flight are not included.

#0873