QUASAR
KIT NO. 0650

PARTS LIST

A  1  Engine Mount Tube (type BT-20J)  30326
B  1  Engine Hook (type EH-2) .........  35025
C  1  Plastic Retainer Ring
    (type HR-20) ...............  30168
D  1  Split Adapter Ring
    (type AR-2050) ...........  80425
E  1  Body Tube (type BT-50H) .......  30360
F  1  Decal Wrap-On (type KDM1) ....  37201
G  1  Launch Lug (type LL-2A) .......  38175
H  1  Plastic Fin Unit (type PFM-1) ...  32408
I  1  Adapter Ring (type AR-2050) ...  30164
J  1  Shock Cord Mount (type SCM-50) 84444
K  1  Shock Cord (type SC-1) ........  85730
L  1  Screw Eye (type SE-3A) .........  38253
M  1  Plastic Nose Cone (type PNC-M1) 71004
N  1  Parachute (type PK-12A) .......  85564
O  1  Shroud Line (type SLT-72).......  38237
P  1  Strip of 6 Tape Discs
    (type TD-3F) .............  38406

In addition to the materials supplied with this kit you will also need a model knife, scissors and white glue. A ruler is printed on the back of this instruction sheet for your convenience.

IMPORTANT:
Read all instructions before beginning work on your model. Make sure you have all parts and materials. When you are thoroughly familiar with the assembly procedure, begin construction. Check off each step as you complete it. In each step, testfit the parts together before applying any glue. If some part doesn’t fit properly, sand lightly or build up as appropriate for precision assembly.

RECOMMENDED ENGINES: 1/2A6-2, A8-3, A8-5, B4-4, B6-4, or G8-5. (Use A8-3 for first flight.)

ESTES
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ESTES INDUSTRIES
PENROSE, COLO. 81240 USA
1. Insert the screw eye (part L) into the hole in the base of the nose cone (part M). Turn the eye so it is parallel to the near side of the nose cone.

2. Draw a line, parallel to the body tube (part E) along its entire length (a drawer sill or doorframe provides an excellent guide). This becomes the decal wrap-on (part F) alignment line.

3. Carefully peel the backing paper part way from the decal and cut away approximately 1/2" from the backing edge as shown. Allow the remaining backing to return to the decal. Place the decal edge CAREFULLY along the alignment line and smooth into place. Slowly peel away the backing and wrap the decal around the body tube, smoothing away any bubbles or wrinkles as you go.

4. Glue the launch lug (part G) onto the body tube in the bare slot left by the decal wrap-on. Align it straight along the body tube.

5. Glue the split adapter ring (part D) to one end of the engine mount tube (part A) by spreading a line of glue around the end of the tube and sliding the split adapter ring over the tube so the ends are even. Press the split ends of the ring snugly on the tube.

Cut a 1/8" wide slit in the engine mount tube, directly in line with the gap in the split ring and 1/4" from the opposite end of the engine mount tube.

6. Insert one end of the engine hook (part B) into the slit. Lay the engine hook along the tube so the other end passes through the gap in the split adapter ring. Holding the engine hook in place, apply a line of glue around the middle of the tube and slide the plastic retainer ring (part C) over the tube and engine hook onto the glue. Apply another drop of glue over the forward end of the engine hook. Set this sub-assembly aside to dry.

7. Spread glue here and fold forward to allow for nose cone
7 Cut out the shock cord mount (part J). Pre-fold it on the dotted lines. Apply glue to section 1 and lay the shock cord (part K) end into the glue. Fold this first section over. Spread glue over the back of the first section and the exposed part of section 2. Lay the shock cord as shown and fold over again. Clamp the unit together with your fingers until the glue sets.

8 Apply glue to the inside of the body tube over an area approximately 1" to 1-3/4" from the end opposite the launch lug. The glue should cover a shape approximately the same as the shock cord mount. Press the mount into the glue and hold it until the glue sets.

9 Cut out the parachute (part N) along the edge lines marked on the plastic. Cut three 24" lengths of shroud line (part O) and attach one to each point of the parachute with a tape disc (part P) as shown.

10 Insert the engine mount assembly into the fin unit (part H) from the rear. The split adapter ring should fit all the way into the tube portion of the fin unit, the engine hook should be centered between two fins, and the front of the engine mount tube should project 1/4" from the front of the fin unit. Apply glue around the projecting portion of the engine mount tube and slide the remaining adapter ring over the tube until it fits tightly against the front of the fin unit.

11 Spread glue around the inside of the main body tube at the same end as the launch lug. The glue should cover an area extending 1/2" into the tube. Line up the tube and fin unit so the launch lug is between two of the fins and insert the front of the fin unit into the rear of the body tube.

12 Tie the free end of the shock cord and shroud lines securely to the screw eye on the nose cone.

NOTE: If a fin should become warped it may be easily straightened. Bend it in the direction opposite the warp and hold it in that position for a few seconds. Repeat as needed until the fin is straight.
PREFLIGHT PREPARATION
AND RECOVERY TIPS

RECOVERY WADDING

This material is used to protect your parachute from the heat of the engine's ejection charge. Recovery Wadding (Cat. No. 2274) is flame resistant.

For maximum efficiency use enough wadding to fill the rocket body tube for a distance of twice the body diameter. Usually four or five squares will be adequate for this model rocket. When preparing the rocket for flight, crumple the wadding loosely to get the maximum bulk from it and still obtain a good seal against the wall of the tube. Pack the chute in over the wadding.

PARACHUTE

Hold the parachute at its center and pass the other hand down it to form a "spike" shape. Fold this spike in two and pack into the tube on top of the wadding. Pack the shroud lines and shock cord in on top of the parachute and slip the nose cone into place.

NOTE: DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the chute with ordinary talcum powder before each flight, especially in colder weather.

ENGINE FIT

To activate parachute recovery system correctly, the engine MUST be held in place SECURELY.

Make sure the end of the engine hook latches securely over the end of the engine.

COUNTDOWN CHECKLIST

T-10 Select an engine. Use an A8-3 for the first flight. Later flights may be made with 1/2A6-2, A8-5, B4-4, B6-4, and C6-5 engines. Install an igniter in the engine as directed in the instructions which came with it.

T-9 Insert the engine into the engine holder tube, springing the engine holder up enough to admit the front of the engine. Secure end of engine holder over rear of engine.

T-8 Place the rocket on the launcher. Check to be sure the launch controller is disarmed -- remove the safety key. Clean and attach the micro-clips to the igniter leads.

T-7 Clear the launch area, check for low flying aircraft, and alert recovery and tracking crews.

T-6 Arm the launch controller -- insert safety key.

-5-4-3-2-1-LAUNCH!!

MISFIRE PROCEDURE

Occasionally an igniter will heat and burn into two parts without igniting the engine. This is almost always caused by a failure to install it correctly. Disarm launch panel, remove the model, clean igniter residue from nozzle, and install a new igniter. Follow launching procedure again.

RULER FOR CHECKING DIMENSIONS IN STEPS 2, 5, 8, 10, and 11.

IMPORTANT—IMPORTANT—IMPORTANT

Be sure to follow the "HIAA-NAR Model Rocketry Safety Code when carrying out your model rocket activities.

*HIAA-NAR - Hobby Industry Association of America
- National Association of Rocketry
Welcome to the world of model rocketry!! Your Citation "QUASAR" was especially designed with the beginner and sport flyer in mind. Its simplicity and ease of construction gets you out into the field and flying in a minimum of time. Pre-printed metallized mylar wrap-on for body tube requires no painting at all while hi-strength plastic fins and nose cone add up to many flights and many enjoyable hours.

READ THE INSTRUCTIONS CAREFULLY BEFORE YOU BEGIN CONSTRUCTION.

In addition to the materials supplied with this kit you will also need a modeling knife, scissors and white glue. RECOMMENDED ENGINES: A-3, B-4, or C-5 (Use A-3 for first flights.)
ASSEMBLY INSTRUCTIONS

PART NO. | PARTS LIST
1       | 1) ENGINE MOUNT TUBE
2       | 1) ENGINE HOLDER
3       | 1) MYLAR RETAINER RING
4       | 1) SPLIT ADAPTER RING
5       | 1) BODY TUBE
6       | 1) DECAL WRAP-ON
7       | 1) LAUNCH LUG
8       | 1) PLASTIC FIN UNIT
9       | 1) ADAPTER RING
10      | 1) SHOCK CORD MOUNT
11      | 1) SHOCK CORD
12      | 1) SCREW EYE
13      | 1) PLASTIC NOSE CONE
14      | 1) 12" PLASTIC PARACHUTE
15      | 1) PARACHUTE SHROUD LINE (72"
16      | 6) PARACHUTE TAPE DISCS

KIT ALSO INCLUDES:
COUNTDOWN CHECKLIST CARD

1. Slit the engine mount tube (1) as shown in Fig. 1. Insert the metal engine holder (2) and slide the mylar retainer ring (3) into position. Glue the engine holder and retainer ring securely. Glue the split adapter ring (4) onto the engine mount tube rear. Allow the engine mount assembly to dry completely.

2. Draw a line, parallel to the body tube (5) along its entire length (a drawer sill or door frame provides an excellent guide). This becomes the decal wrap-on (6) alignment line.
   Carefully peel the backing paper part way from the decal and cut away approximately 1/2" from the backing edge as shown. Allow the remaining backing to return to the decal. Place the decal edge CAREFULLY along the alignment line and smooth into place. Slowly peel away the backing and wrap the decal around the body tube, smoothing away any bubbles, or wrinkles as you go.

3. Glue the launch lug (7) onto the body tube in the bare slot left by the decal wrap-on. Align it straight along the body tube.

4. Slide the engine mount assembly into the plastic fin unit rear (8) until the split adapter ring end is even with the fin unit end as shown. (Center the metal engine holder between two fins.) Glue the remaining adapter ring (9) onto the exposed forward end of the engine mount tube (1) BE SURE that the adapter ring (9) is snug against the plastic fin unit!

5. Spread glue just inside the rocket body tube rear (launch lug end). Slide the fin assembly into the tube until the body tube end stops firmly against the fin unit. (BE SURE to center the launch lug between two fins.)

6. Cut out the shock cord mount (10) and pre-fold along the dotted lines. Glue the shock cord end (11) into place and assemble as shown in Fig. 6. Glue the completed mount into the forward end of the body tube. (Hold the mount in place until the glue sets.)

7. Turn the screw eye (12) into the plastic nose cone (13). BE SURE that the screw eye is parallel to the nose cone side.

8. Assemble the parachute (14) as directed in the parachute instructions. Tie the parachute shroud lines (15) and shock cord to the nose cone screw eye.
PRE-FLIGHT PREPARATION

☐ T-15 Pack four (4) squares of crumpled recovery wadding loosely into rocket body tube.

☐ T-14 Fold the parachute into a triangular shape. Roll ‘chute tightly as shown and wrap shroud lines around it. If ‘chute is too large, unroll and repack until it slides easily into the rocket. A very tight fit may prevent parachute from ejecting properly.

☐ T-13 Slide nose cone into place. Nose cone should separate easily from rocket body tube, but not be extremely loose. If fit is too tight, sand inside of body tube end and shoulder of nose cone with fine sandpaper.

If nose cone is too loose, add a wrapping of transparent tape to the shoulder of the nose cone.

☐ T-12 Select an engine and install an igniter. Estes standard NW-T1 igniters are supplied in strips and should be cut apart (scissors will work) midway between the coated sections. Bend the igniter at the middle as shown and push it into the engine nozzle as far as it will go.

To operate properly igniter must touch the propellant grain. Spread the leads and apply a square of masking tape or tape disc to the nozzle and leads as shown. The eraser on the end of a pencil is good for pressing the tape securely into place.

☐ T-11 The recommended engines for use with this rocket are A-3, B-4 and G-6. Use A-3 engine for first flight. You may also use Estes standard AB-3, BA-4, BB-4 and CB-5 model rocket engines.

☐ T-10 Insert engine into rocket. Engine hook must latch securely over the end of the engine.

☐ T-9 Disarm the launch panel – remove safety key.

☐ T-8 Place rocket on launch pad making sure rocket slides freely on launch rod. Clean the micro-clips, then clip one to each lead of the igniter. The clips must not touch each other and the igniter leads must not cross. The rocket may be supported with a scrap of wood or an empty engine casing to make it easier to attach the clips and to keep the clips from touching the blast deflector plate and short-circuiting.

☐ T-7 Clear the launch area, alert recovery crew and trackers. Check for low flying aircraft and unauthorized persons in the recovery area.

☐ T-6 Arm the launch panel – insert safety key.

5 . . . . 4 . . . . 3 . . . . 2 . . . . 1 . . . . LAUNCH!!

Important: Misfire Procedure

Occasionally the igniter will heat and burn in two without igniting the engine. This is almost always caused by a failure to install it correctly. Disarm the launch panel, remove the model, clean the igniter residue from the nozzle and install a new igniter. Follow the launching procedure again.
QUASAR
FLYING MODEL ROCKET

Skill Level 1:
1 - Beginner  2 - Intermediate  3 - Craftsman
4 - Advanced  5 - Expert

Dramatic, easy-to-build model rocket especially designed for beginners. Features bright white plastic nose cone and fin assembly with pre-printed metalized-mylar wrap-on-decal for the body tube. Quick finish decor requires no painting. Includes quick-release engine mount and 12" parachute recovery. Ready-to-fly in less than an hour for exciting flight-after-flight enjoyment.

Specifications:
Length 14" (35.6cm)
Diameter 0.976" (24.8mm)
Weight 1.5 oz. (42 g)

Recommended Engines:
A8-3 (First Flight)
B4-2  C6-5

This is a hobby kit requiring construction. Recommended for ages 10 to adult. Engines, launch rod, and igniter are not included with this kit.

Made in U.S.A.