

Model Rocket News

BOX 227 — PENROSE, COLORADO — PHONE: SUNSET 4-6345

VOLUME 2 No. 1 EDITION 2

THE MODEL ROCKET NEWS IS PUBLISHED APPROXIMATELY 4 TIMES ANNUALLY BY ESTES INDUSTRIES INC., BOX 227, PENROSE, COLORADO. IT IS DISTRIBUTED FREE OF CHARGE TO ALL OF OUR MAIL ORDER CUSTOMERS FROM WHOM WE HAVE RECEIVED ORDERS WITHIN A PERIOD OF ONE YEAR. THE MODEL ROCKET NEWS IS DISTRIBUTED FOR THE PURPOSE OF ADVERTISING AND PROMOTING A SAFE FORM OF YOUTH ROCKETS, AND FOR INFORMING YOU OF NEW PRODUCTS AND SERVICES AVAILABLE FROM OUR FIRM. YOU ROCKETEERS CAN CONTRIBUTE IN THREE WAYS TO HELP US IN ADVANCING THIS SCIENTIFIC HOBBY.

- (1). WRITE US CONCERNING THINGS YOU AND YOUR CLUB ARE DOING IN THIS FIELD WHICH YOU THINK WOULD BE OF INTEREST TO OTHERS.
- (2). KEEP SUPPORTING US IN OUR DEVELOPMENT PROGRAM BY PURCHASING YOUR ROCKET SUPPLIES FROM US. WE ARE WORKING AS FAST AS WE CAN. EVERY SPARE DIME WE GET GOES BACK INTO RESEARCH AND DEVELOPMENT BUT IT TAKES A HECK OF A LOT OF DIMES TO DEVELOP A NEW KIT OR A NEW ROCKET ENGINE.
- (3). WRITE US ABOUT OUR PRODUCTS, WHAT YOU LIKE, WHAT YOU DON'T LIKE, NEW IDEAS, SUGGESTIONS, ETC. WE MAY NOT HAVE TIME TO ANSWER ALL OF YOU PERSONALLY BUT BELIEVE ME WE WILL READ EVERY WORD.

N.A.R. AT THE CROSSROADS

BY WILLIAM S. ROE, VICE PRESIDENT OF THE N.A.R.

AS THE YEAR 1962 BEGINS, THE NATIONAL ASSOCIATION OF ROCKETRY FINDS ITSELF AT THE BRIDGE IT WASN'T GOING TO CROSS UNTIL IT CAME TO IT. IN ORDER TO LEARN WHAT THIS BRIDGE IS AND SEE HOW THIS CAME ABOUT, LET'S REVIEW A LITTLE OF THE HISTORY OF THE N.A.R., ITS PRESENT PROGRESS, AND SEE WHERE IT PLANS TO GO FROM HERE.

IT ALL BEGAN IN OCTOBER OF 1957 WHEN SPUTNIK I WENT INTO ORBIT. EVERY SCIENTIFIC MINDED YOUNG MAN IN AMERICA SUDDENLY FOUND HIMSELF WITH THE DESIRE TO BUILD AND FLY HIS OWN ROCKETS. ALMOST IMMEDIATELY, NEWSPAPERS AND MAGAZINES WERE FILLED WITH HORRIFYING STORIES OF YOUNG MEN BEING INJURED AND KILLED BY EXPLODING ROCKETS AND CHEMICALS. A SMALL GROUP OF ADULTS BECAME CONCERNED BY THESE ACCIDENTS AND DECIDED TO DO SOMETHING ABOUT IT.

THE RESULT OF THIS CONCERN WAS THE ORGANIZATION OF THE GROUP THAT BECAME THE NAR. THE ASSOCIATION HAS COME A LONG WAY SINCE THAT BEGINNING. IT HAS DEVELOPED A PROGRAM WHICH HAS PROVEN TO BE EFFECTIVE. IT NOW HAS HUNDREDS OF MEMBERS THROUGHOUT THE COUNTRY. IT HAS SECTIONS (ROCKET CLUBS) ORGANIZED THROUGHOUT THE COUNTRY. IT HAS A SET OF MODEL PLANS, SOME TWENTY IN NUMBER, WHICH ENABLE A MEMBER TO BUILD A SAFE AND FLYABLE ROCKET. IT PUBLISHES A MONTHLY NEWS LETTER AND A NUMBER OF TECHNICAL REPORTS TO HELP ITS MEMBERS UNDERSTAND THE PROBLEMS OF ROCKETRY. IT HAS HELD THREE NATIONAL MEETS WITH ATTENDANCE INCREASING STEADILY. WITHIN THE LAST YEAR, THE NAR WAS RECOGNIZED BY THE UNITED STATES AIR FORCE AS THE MODEL ROCKET ORGANIZATION IN THE NATION, AND ALL MODEL ROCKET ACTIVITIES IN THE AIR FORCE MUST BE CONDUCTED UNDER THE RULES OF THE NAR.

THE ONE SINGLE THING THAT CONTRIBUTED MOST TO ENABLING THE NAR TO GET ITS PROGRAM UNDER WAY WAS THE DEVELOPMENT BY MANUFACTURERS OF A SAFE, STANDARDIZED ROCKET ENGINE. THIS REMOVED THE DANGER OF MIXING PROPELLANTS; MADE FOR AN INEXPENSIVE, EFFECTIVE SYSTEM OF POWER PACKAGES, AND

(CONTINUED ON PAGE 2)

Mousetronauts Perish In Separate Flights

TWO RECENT ATTEMPTS TO SEND MOUSETRONAUTS, SEALED WITHIN SPECIAL SPACE CAPSULES, INTO INNER SPACE RESULTED IN DEATH FOR TWO SPACE PILOTS WHEN PARACHUTES FAILED TO RETURN THEM SAFELY TO EARTH. THE TWO MOUSETRONAUTS WERE KILLED IN SEPARATE ACCIDENTS AT LITITZ, PENNSYLVANIA AND PUYALLUP, WASHINGTON WHEN ATTEMPTING TO TEST NEW RECOVERY METHODS.

OFFICIALS IN WASHINGTON, D. C. HAVE NOT MADE COMMENT ABOUT THE POSSIBILITY OF SABOTAGE, BUT THE SIMILARITY OF THE TIME AND CAUSES OF THE TWO MALFUNCTIONS SHOULD UNDOUBTEDLY CREATE OFFICIAL INVESTIGATIONS.

LITITZ, PENN. (MRN) --- YOUNG SCIENTISTS, IN CHARGE OF THE RECENT SPACE FLIGHT, REPORTED THAT "ARIES", THE

(CONTINUED ON PAGE 3)



ENABLED CONTESTS TO BE HELD IN A SPORTING MANNER BECAUSE ALL CONTESTANTS WERE USING IDENTICAL ENGINES. SEVERAL MANUFACTURERS ARE BEGINNING TO COME INTO THE PICTURE AND ARE CONSULTING THE N.A.R. AS TO WHAT IS REQUIRED TO HAVE THE SEAL OF APPROVAL FOR THEIR ENGINES.

THE NAR WELCOMES SUCH INQUIRIES FROM MANUFACTURERS, AND ENCOURAGES ANY COMPANY THINKING OF GOING INTO THE MODEL ROCKET BUSINESS TO SHARE THE KNOWLEDGE GAINED. SINCE NO OFFICER OR TRUSTEE OF THE NAR IS ALLOWED TO PROFIT FROM SUCH MANUFACTURE, THE ADVICE AND HELP GIVEN IS IMPARTIAL AND WILL REMAIN SO. AT THE PRESENT TIME, THE NAR IS ENCOURAGING THE DEVELOPMENT OF A MANUFACTURERS ASSOCIATION TO MAINTAIN THE ETHICAL STANDARDS NECESSARY TO KEEP MODEL ROCKETRY ON ITS PRESENT HIGH PLANE, AND TO PREVENT ANYONE FROM TAKING ADVANTAGE OF ROCKETEERS ONLY FOR A QUICK DOLLAR.

UP TO THIS POINT ALL OF THE WORK NECESSARY TO DEVELOP AND MAINTAIN THE PROGRAM OF THE N.A.R. HAS BEEN DONE BY VOLUNTEERS. MOST OF THESE VOLUNTEERS ARE BUSY MEN AND WOMEN, WHO HOLD ONE OR MORE FULL TIME JOBS. THEY ARE DEDICATED INDIVIDUALS WHO HAVE DONATED ENDLESS HOURS, AND MONEY FROM THEIR OWN POCKETS FOR THE PURCHASE OF MACHINERY, OFFICE SUPPLIES AND FILMS. NONE OF THIS HAS BEEN REGRETTED OR GIVEN A SECOND THOUGHT. HOWEVER, AS THE NAR CONTINUES TO EXPAND, THE VOLUNTEERS NO LONGER CAN CARRY THE LOAD. HEADQUARTERS IS FLOODED WITH MAIL WHICH MUST BE ANSWERED. NEW MEMBERSHIPS AND RENEWALS POUR IN EVERY DAY. THEY ALL MUST BE PROCESSED.

THE NAR HAS MANY PROJECTS IN MIND FOR THE FUTURE WHICH ARE DESIGNED TO ACCOMMODATE YOUTHS AT ALL AGE LEVELS. THESE PROGRAMS ARE BEING DESIGNED TO STIMULATE THE INTEREST OF YOUNGSTERS IN ROCKETRY AND ASSOCIATED SPACE PROBLEMS; BUT THESE PROGRAMS CANNOT GET UNDER WAY WITHOUT MONEY TO HELP THEM ALONG. THE ASSOCIATION HAS ATTRACTED THE MINDS OF MANY SCIENTIFICALLY INCLINED YOUNGSTERS ALREADY, AND CAN OFFER A PROGRAM DESIGNED FOR ALL OF THEM IF IT HAS THE CHANCE.

THIS IS THE CROSSROADS OF THE NAR. THE ASSOCIATION NEEDS HELP. IT NEEDS HELP IN THE FORM OF MONEY TO HIRE PEOPLE TO DO THE WORK TO CARRY ON THE PROGRAM. THE TRUSTEES OF THE NAR DO NOT FEEL THAT THE NECESSARY OPERATING EXPENSES SHOULD COME FROM INCREASED MEMBERSHIP DUES. THEY FEEL THAT THE ROCKET AND AERO-SPACE INDUSTRIES (THE COMPANIES THAT BUILD LARGE ROCKETS) OF THE COUNTRY SHOULD HELP SUPPORT THE NAR. THIS BELIEF IS BASED ON THIS FACT: THAT BY STIMULATING INTEREST, BY PREVENTING ACCIDENTS, AND BY POSITIVE TRAINING PROGRAMS THE NAR IS MAKING AVAILABLE A SOURCE OF POTENTIAL TECHNICIANS FOR THESE SAME INDUSTRIES.

INDUSTRIES HAVE SUPPORTED THE MODEL AIRPLANE ASSOCIATIONS FOR YEARS AND HAVE REAPED THE BENEFITS OF SUCH SUPPORT. THE PLEA OF THE NAR TO INDUSTRIES IS FOR SIMILAR SUPPORT SO THAT THE UNITED STATES CAN CONTINUE ITS RIGHTFUL PLACE IN THE ADVANCE OF HUMANITY INTO OTHER NEW AND UNEXPLORED WORLDS.

WE WISH TO THANK BILL (WM. ROE) FOR FURNISHING US WITH THE PRECEDING ARTICLE ABOUT THE N.A.R.

FOR SOME TIME NOW WE HAVE BEEN LOOKING FOR A WAY WE MIGHT HELP THE N.A.R. AS YOU MAY HAVE GUESSED, WE CANNOT DONATE ANY MONEY DIRECTLY TO THE N.A.R. FOR TWO REASONS. FIRST, BECAUSE OF THEIR "FREEDOM FROM STRINGS" POLICY, THEY WILL NOT ACCEPT ANY DONATION FROM ANY MANUFACTURER OF MODEL ROCKET SUPPLIES; AND SECOND, WE JUST DON'T HAVE ENOUGH MONEY TO GIVE ANYWAY. (ALL OUR PROFITS HAVE, AND ARE, GOING INTO THE DEVELOPMENT OF NEW AND BETTER PRODUCTS.) WE REALIZE THE IMPORTANCE OF THE WORK BEING DONE BY THE NAR AND HOPE YOU ROCKETEERS CAN HELP OUT IN ONE OR MORE OF THE FOLLOWING WAYS:

1. SUPPORT THE N.A.R. BY BECOMING A MEMBER. THE SERVICE TO MEMBERS IS WORTH FAR MORE THAN THE SMALL MEMBERSHIP FEE.
 2. SPEAK TO ANYONE YOU MAY KNOW IN THE AERO-SPACE INDUSTRIES, WHO IS IN A POSITION TO DIRECT THEIR DONATIONS TOWARD THIS WORTHY CAUSE.
 3. IF YOU HAVE A FEW BUCKS OF YOUR OWN YOU DON'T NEED, SEND IN A DONATION TO N.A.R. HEADQUARTERS, SUITE 1962, 11 WEST 42ND STREET, NEW YORK 36, N.Y. (NOT TO US). THEY WILL BE VERY HAPPY TO SEND YOU A RECEIPT AND A BIG "THANK YOU".
- THE GOAL FOR 1962 IS APPROXIMATELY \$25,000.00; AND THIS SHOULDN'T BE TOO HARD TO RAISE, IF WE ALL GET TOGETHER AND WORK ON IT.

AS POINTED OUT IN THE PRECEDING ARTICLE, IT IS THE PURPOSE OF THE N.A.R. TO ENCOURAGE INTEREST IN THE STUDY OF ROCKETRY AND OTHER RELATED SCIENTIFIC SUBJECTS, AND TO DO THIS WITHOUT SUBJECTING YOU ROCKETEERS TO EXCESSIVE DANGERS. THE IMPORTANCE OF YOUR EDUCATION CANNOT BE OVER EMPHASIZED. IF WE, THE UNITED STATES, ARE TO REMAIN LEADERS IN THE FIELDS OF SCIENCE AND SPACE EXPLORATION, WE MUST HAVE A GOOD SUPPLY OF WELL TRAINED SCIENTISTS AND ENGINEERS. WE AMERICANS ALL ARE LOOKING FORWARD TO YOU ROCKETEERS, AND OTHERS LIKE YOU, TO FILL THESE NEEDS.

THE N.A.R. PLAYS A VERY IMPORTANT PART IN THE YOUTH ROCKETRY PROGRAMS BEING OFFERED IN AMERICA TODAY. SOME OF THE WORK THEY ARE DOING CANNOT BE DONE BY US, OR BY ANY OTHER BUSINESS ORGANIZATION, BUT MUST BE ACCOMPLISHED THROUGH A NON-PROFIT ORGANIZATION SUCH AS THE N.A.R.

THE FOLLOWING IS A REPRINT OF AN ARTICLE WHICH APPEARED IN THE JANUARY ISSUE OF THE "AEROSPACE" PUBLICATION. THIS WILL GIVE YOU A BETTER UNDERSTANDING OF WHAT THE SITUATION MAY BE LIKE IN A FEW YEARS IF OUR PRESENT SCIENTIFIC PROGRAM IS NOT INCREASED.

Foundation Reports USSR Leads U. S. in Scientific and Technical Graduates

THE NATIONAL SCIENCE FOUNDATION SAYS RUSSIA IS PRODUCING TWO TO THREE TIMES AS MANY SCIENTIFIC AND TECHNICAL PROFESSIONAL GRADUATES ANNUALLY AS THE UNITED STATES, AND THE SOVIET PACE IS EXPECTED TO ACCELERATE THROUGHOUT THIS DECADE.

(CONTINUED ON PAGE 3)

USSR (CONTINUED FROM PAGE 2)

IN AN ANALYSIS OF SOVIET EDUCATION, THE SCIENCE FOUNDATION FOUND THAT THEIR EDUCATIONAL SYSTEM REFLECTS "THE TOTAL SOVIET COMMITMENT TO DEVELOPING SCIENCE AND TECHNOLOGY AS ECONOMIC AND POLITICAL WEAPONS OF THE STATE."

THE RUSSIAN EMPHASIS UPON SCIENCE AND TECHNOLOGY IS SEEN BY THE FACT THAT 57 PER CENT OF ALL 1959 SOVIET GRADUATES AT THE BACHELOR'S LEVEL WERE IN ENGINEERING, SCIENCES, AND SELECTED APPLIED SCIENCE FIELDS. IN COMPARISON, ONLY 24 PER CENT OF THE UNITED STATES GRADUATES RECEIVED DEGREES IN THOSE FIELDS.

WHILE THE INSTRUCTIONS IN FUNDAMENTALS OF SCIENCE AND ENGINEERING WAS FOUND TO BE EXTENSIVE IN RUSSIA, CURRICULA WERE DIRECTED TOWARD NARROWLY DEFINED SPECIALTIES FOR THE PURPOSE OF EQUIPPING THE INDIVIDUAL STUDENT TO PERFORM SPECIFIC TECHNICAL AND SCIENTIFIC JOBS, THE REPORT SAID.

Mousetronauts

(CONTINUED FROM PAGE 1)

MOUSETRONAUT WHO HAD PREVIOUSLY MADE A VERY SUCCESSFUL FLIGHT INTO INNER SPACE, WAS KILLED INSTANTLY WHEN HIS SPACE CAPSULE FAILED TO DETACH FROM THE ROCKET DURING A ROUTINE FLIGHT EARLY THIS YEAR. SPECTATORS REPORTED THAT THE ROCKET CRASHED NOT FAR FROM THE LAUNCHING SITE, "AND THAT THERE WAS NO INJURY TO ANYONE OTHER THAN 'ARIES'!"

THE SCIENTISTS REPORTED THAT THE SPACE CAPSULE WAS PUT INTO FLIGHT BY A SECRET EXPERIMENTAL TWO ENGINE BOOSTER. THE MAIN ROCKET WAS POWERED BY A SINGLE ENGINE. THE SCIENTISTS, RICHARD GUNDRUM AND CARL SHENK, JR., DID NOT COMMENT ON THE CAUSE OR CAUSES OF THE ILL-FATED FLIGHT. THE PASSING OF "ARIES" WAS A HARD BLOW TO THE PEOPLE OF LITITZ, AS "ARIES" WAS A LIFELONG RESIDENT OF LITITZ, HAD BEEN THE FIRST MOUSETRONAUT TO MAKE A SUCCESSFUL FLIGHT OVER THE STATE OF PENNSYLVANIA.

PUYALLUP, WASHINGTON (MRN) -- TIGHT SECURITY PLACED UPON THIS INCIDENT HAS SERIOUSLY RESTRICTED NEWS COVERAGE, BUT OUR CORRESPONDENT, STEVEN BOONE, REPORTS THAT ON JANUARY 13TH, MOUSETRONAUT "X", A RESIDENT OF A SMALL FIELD NEAR PUYALLUP, WAS KILLED IN AN UNSUCCESSFUL EFFORT TO RETURN FROM SPACE WHEN HIS PARACHUTE RECOVERY SYSTEM DID NOT FUNCTION PROPERLY. ALL THAT IS NOW KNOWN IS THAT "X" DIED WHEN HIS ROCKET, WITH CAPSULE STILL ATTACHED, CAME TO AN EARTHSHAKING CRASH THAT SHOOK THE COMMUNITY OF PUYALLUP.

(OFFICIALS AT THE ESTES INDUSTRIES PLANT AT PENROSE, COLORADO, MANUFACTURERS OF THE ROCKET ENGINES THAT SUPPLIED THE POWER FOR THE TWO SEPARATE FLIGHTS, WHEN QUESTIONED ABOUT THE CAUSE OF THE ACCIDENTS, WOULD ONLY SAY, "THE NOSE CONES MUST HAVE BEEN TOO TIGHT".)



BIG DESIGN CONTEST!

WIN A "DREAM SPECIAL" OR OTHER VALUABLE PRIZE

SEND TO US YOUR OWN SINGLE-STAGE MODEL ROCKET DESIGN, AND WIN ONE OF THESE "FREE" PRIZES!

- 1ST PLACE - "DREAM SPECIAL"
 - 2ND PRIZE - "EXPERIMENTERS' SPECIAL"
 - 3RD PRIZE - ELECTRO-LAUNCH
 - 4TH PRIZE - ASTRON SPACE PLANE
- PLUS 5 ADDITIONAL PRIZES OF ASTRON SCOUT KITS.

CONTEST RULES

- 1) ALL PLANS MUST BE DRAWN TO SCALE. PENCIL OR INK DRAWINGS ARE ACCEPTABLE.
- 2) A PARTS LIST MUST ACCOMPANY ENTRY.
- 3) ALL ENTRIES MUST BE FLIGHT TESTED TO ASSURE THEY HAVE SUITABLE FLIGHT CHARACTERISTICS.
- 4) ONLY SINGLE-STAGE DESIGNS WILL BE QUALIFIED.
- 5) THE DECISION OF THE JUDGES IS FINAL.
- 6) ENTRIES MUST BE MAILED NO LATER THAN MIDNIGHT, APRIL 30, 1962.
- 7) ALL PLANS SUBMITTED BECOME THE PROPERTY OF ESTES INDUSTRIES, INC.
- 8) NO PLANS OR DESIGNS WILL BE RETURNED.

CONTEST RESULTS AND THE WINNING DESIGN WILL BE PUBLISHED IN THE NEXT ISSUE OF THE "MODEL ROCKET NEWS".

Start Now



DESIGN YOUR OWN MODEL ROCKET AND WIN ONE OF THESE FINE PRIZES

FUTURE CONTESTS WILL BE HELD FOR OTHER TYPES OF ROCKETS.

Air Force Approves Model Rocketry Program

THE AIR FORCE PROGRAM OF MODEL ROCKETRY OFFICIALLY GOT UNDER WAY ON JULY 3, 1961, WHEN COLONEL RUSSELL G. PANKEY SENT OUT A LETTER TO ALL OF THE MAJOR AIR FORCE COMMANDS THROUGHOUT THE WORLD.

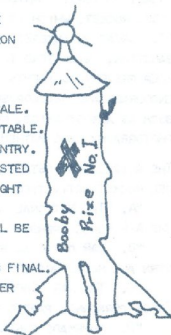
COLONEL PANKEY'S LETTER STATED THAT:

"1. THIS HEADQUARTERS ENCOURAGES THE DEVELOPMENT OF MODEL ROCKET CLUBS AND SOCIETIES FOR HOBBYISTS, IN VIEW OF THE EXPANDING MISSILE PROGRAM AND INCREASED INTEREST IN ROCKETRY.

"2. THE ESTABLISHMENT OF MODEL ROCKET COMPETITION, AS A PART OF THE SPECIAL SERVICES PROGRAM, IS ALSO BEING CONSIDERED AT THIS TIME. IT SHOULD BE NOTED THAT UNSUPERVISED EXPERIMENTAL OR AMATEUR ROCKETRY IS DANGEROUS. MODEL ROCKETRY, ON THE OTHER HAND, IS ESSENTIALLY SAFE.

(CONTINUED ON PAGE 4)

FEBRUARY, 1962 PAGE 3



Air Force (CONTINUED FROM PAGE 3).

AMATEUR ROCKETRY, UTILIZING LARGE METALLIC ROCKETS POWERED BY HOMEMADE FUELS AND ROCKET MOTORS, REQUIRES EXTENSIVE SAFETY PRECAUTIONS, EXPERT PROFESSIONAL SUPERVISION, AND LARGE TRACTS OF LAND FOR FLIGHT. MODEL ROCKETRY IS CONCERNED WITH SMALL, LIGHT, INEXPENSIVE ROCKETS MADE OF PAPER, BALSA, PLASTIC, AND OTHER NON-METALLIC MATERIALS, POWERED BY COMMERCIALY AVAILABLE ROCKET MOTORS. ANYONE WITH HOBBY TOOLS CAN BUILD A MODEL ROCKET, WHICH IS AKIN TO MODEL AIRPLANES.

"3. CREATING INTEREST IN MODEL ROCKETRY, UNDER OFFICIAL SANCTION, WILL TEND TO DISCOURAGE AMATEUR ROCKETRY AND HELP PREVENT ACCIDENTS. IN TURN, MODEL ROCKETRY WILL ENCOURAGE AND DEVELOP SKILLS USEFUL TO THE ARMED FORCES, SUCH AS AERODYNAMICS, METEOROLOGY, ELECTRONICS, OPTICS, PHOTOGRAPHY, AND MATHEMATICS."

THE GUIDELINES ESTABLISHED BY THE AIR FORCE FOR ITS MODEL ROCKET ACTIVITIES ARE:

"A. THE NATIONAL ASSOCIATION OF ROCKETRY (NAR) IS THE AIR FORCE APPROVED ORGANIZATION FOR MODEL ROCKETRY.

"B. NAR OFFICIAL STANDARDS AND REGULATIONS WILL GOVERN ALL MODEL ROCKETRY ACTIVITY ON AIR FORCE BASES.

"C. THE NAR SAFETY CODE IS MANDATORY FOR ALL AIR FORCE PERSONNEL PARTICIPATING IN MODEL ROCKETRY.

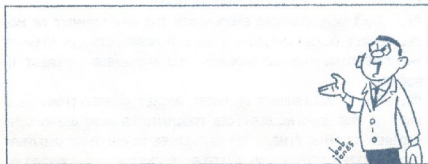
"D. HOMEMADE ENGINES ARE PROHIBITED.

"E. ONLY THOSE ENGINES APPROVED BY THE STANDARDS AND TESTING COMMITTEE OF THE NAR WILL BE USED IN MODEL ROCKET ACTIVITY.

"F. METAL PARTS OF ANY TYPE WILL NOT BE USED IN THE FABRICATION OF ANY PART OF A MODEL ROCKET. A COMPLETE BRIEFING, PRODUCTS LIST, BIBLIOGRAPHY, SAFETY CODE, AND NAR OFFICIAL STANDARDS AND REGULATIONS MAY BE OBTAINED FROM NAR, SUITE 1962, 11 WEST 42ND STREET, NEW YORK 36, NEW YORK. THERE IS NO CHARGE TO MAJOR AIR COMMANDS WHO REQUEST THIS INFORMATION.

"G. THE UNIT PERSONNEL SERVICES OFFICER HAVING COGNIZANCE OVER MODEL ROCKET ACTIVITY WILL COORDINATE THE SELECTION OF A SUITABLE LAUNCH AREA AND OTHER LAUNCH ACTIVITIES WITH THE APPROPRIATE BASE SAFETY OFFICE."

WE WISH TO CONGRATULATE THE NAR FOR ESTABLISHING AND MAINTAINING A PROGRAM OF ROCKETRY WHICH THE AIR FORCE FEELS IS WORTHY OF ITS PARTICIPATION. WE ALSO WISH TO CONGRATULATE THE AIR FORCE PERSONNEL FOR TAKING THE TIME AND EFFORT TO DIFFERENTIATE BETWEEN MODEL ROCKETRY AND AMATEUR ROCKETRY, AND FOR RECOGNIZING THE MERITS OF A SAFE, NON-PROFESSIONAL ROCKETRY PROGRAM.



"What's so fascinating about space?"

NOTES FROM THE BOSS



BUSINESS IS BOOMING, THANKS TO YOU WONDERFUL FELLOWS. WE ARE KEEPING OUR HEADS ABOVE WATER AND TRYING TO GIVE YOU THE BEST SERVICE WE CAN. YOU ARE ALL PARTICIPANTS IN THE FASTEST GROWING HOBBY IN AMERICA TODAY, SO IF WE GOOF UP ONCE IN A WHILE, PLEASE TRY TO FORGIVE US.

SPEAKING OF GOOFS! WE MADE A GOODIE. WE FAILED TO EXPLAIN THE IMPORTANCE OF BALANCE IN OUR ORIGINAL ASTRON SPACE PLANE ASSEMBLY INSTRUCTIONS, AND AS A RESULT, THEY FLEW FINE WHEN CONTAINING A SMALL PAYLOAD; BUT WHEN THERE WAS NO PAYLOAD, THEY DIDN'T FLY WORTH A TOOT! UNLESS WEIGHT WAS ADDED TO THE NOSE CONE. THOSE OF YOU WHO HAD DIFFICULTY GETTING YOUR SPACE PLANE TO FLY PROPERLY, WRITE US, AND WE WILL SEND YOU REVISED INSTRUCTIONS ON BALANCING. ALL KITS ARE NOW BEING SENT OUT WITH THE NEW INSTRUCTIONS. SORRY!



OUR NEW CATALOG SHOULD BE OUT ABOUT THE END OF JUNE. A LOT OF NEW ITEMS AND KITS WILL BE LISTED---MOST AT YOUR REQUESTS. ONE OF THE NEW ITEMS WILL BE A LARGER DIAMETER BODY TUBE WHICH WILL ACCOMMODATE A THREE ENGINE CLUSTER. THE NEW SURVEY FROM THE QUESTIONNAIRE SENT OUT WITH THE FIRST EDITION OF THIS ISSUE BROUGHT TO OUR ATTENTION MANY NEW PRODUCTS YOU ROCKETEERS WOULD LIKE TO HAVE... THIS HAS DELAYED PUBLICATION OF THE NEW CATALOG. PLEASE BE PATIENT.

HOPE THAT YOU LIKE G. HARRY STINE'S DIRTY BIRD III. WE CHANGED HARRY'S PLANS A LITTLE ON THE ENGINE BLOCK, BUT IT IS STILL THE SAME OLD DIRTY BIRD III. THERE WAS A FINE ARTICLE IN THE FEBRUARY ISSUE OF AMERICAN MODELER MAGAZINE ABOUT THIS ROCKET. THE VINYL NOSE CONE USED IN THIS ROCKET IS NOT EXACTLY PERFECT DUE TO A POOR MOLD, BUT IT STILL LOOKS OK, AND FLIES LIKE THE DICKENS.

WE HAVE HIRED A LOT OF NEW PEOPLE IN THE PAST FEW MONTHS. EVERY ONE HAS BECOME A REAL MODEL ROCKET BUG, AND SOME OF THE ROCKETS THEY BUILD ARE REALLY OUT OF THIS WORLD; AT LEAST THEY USUALLY CAN'T FIND THEM, ESPECIALLY THE BIG THREE-STAGE JOBS.

FROM THE LOOKS OF THINGS, IT WILL BE A WHILE BEFORE WE HAVE A CLASS "C" ENGINE OR A CAMERA ROCKET. PLEASE TRY TO BE PATIENT. WE ARE DEVELOPING NEW PRODUCTS AS FAST AS WE CAN. THERE WILL BE AN INEXPENSIVE TRACKING DEVICE IN THE NEXT CATALOG--WATCH FOR IT! EACH OF YOU WILL RECEIVE A COPY OF #621. IT SHOULD BE SENT OUT IN ABOUT 45 TO 60 DAYS. THIS IS A NEW NUMBERING SYSTEM; SO DON'T WRITE FOR CATALOGS BETWEEN 261 AND 621, AS THEY DON'T EXIST.

(CONTINUED ON PAGE 6)

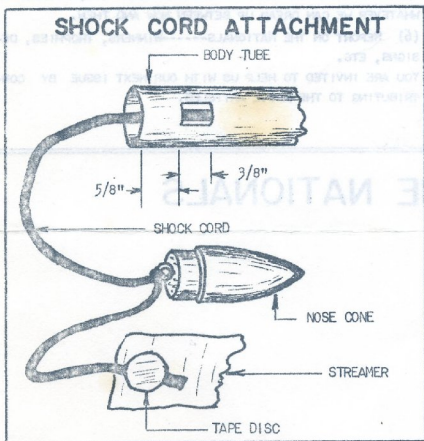
GENTLEMEN:

AT A FIRING TODAY, I LOST A PARACHUTE, NOSE CONE, AND CONTEST RUBBER BECAUSE MY METHOD OF FASTENING THE WHOLE THING TO THE ROCKET WAS UNSATISFACTORY. IT WOULD BE NICE IF YOU'D BRING OUT SOMETHING WITH WHICH TO FASTEN PARACHUTES AND THINGS TO THE BODY TUBE---SOMETHING THAT WOULD SLIP IN AND COULD BE ANCHORED WITH TWO FINISHING NAILS AND WOULD ALLOW THE EJECTION CHARGE TO PASS THROUGH. HOW ABOUT IT?

VERY TRULY YOURS,
DAVID C. ROBERTS
NAR #930

DEAR DAVID:

ONE OF THE METHODS USED TO SECURE THE SHOCK CORD TO THE BODY TUBE IS SHOWN BELOW. USING A RAZOR BLADE OR BALSA SAW, MAKE TWO SHORT CUTS THROUGH ONE SIDE OF THE BODY TUBE. CAVE IN THIS SMALL SECTION SO THE SHOCK CORD CAN BE INSERTED. LOOP THE CORD AROUND THE CAVED IN SECTION AND KNOT SECURELY. NEXT, PUSH OUT THE CAVED IN PORTION.



REPAIR THE BODY TUBE BY COVERING THE AREA WITH MODEL AIRPLANE CEMENT AND REINFORCE WITH SILK SPAN, GAUZE REINFORCING, OR A PIECE OF PAPER. ALSO, SHOWN IN THE DRAWING IS AN EASY WAY OF ATTACHING THE STREAMER SECURELY BY PLACING A TAPE DISC OR PIECE OF TAPE OVER AN EXTENDED LENGTH OF SHOCK CORD.

SINCERELY,
VERNON ESTES

DEAR SIR:

YOU WROTE IN YOUR LETTER THAT YOU WANTED TO KNOW HOW THE ACCIDENT HAPPENED THAT I TOLD YOU ABOUT. THE BOY WAS MY FRIEND WHO LIKED TO DO STUFF LIKE MAKE BOMBS AND SO ON. I TOLD HIM TO WISE UP AND MAKE SOME STUFF SENSIBLE LIKE ROCKETS THAT YOU CAN BUY ALREADY MADE. AT FIRST HE DID AND WE HAD SOME FUN FLYING THEM. THEN AFTER ABOUT A MONTH, HE WENT BACK TO THE GO-GO-GO- ATTITUDE. HE SAYS HE COULD MAKE MUCH MORE POWERFUL STUFF THAN YOU CAN BUY. SO HE BOUGHT A BUNCH OF CHEMICALS LIKE ZINC DUST, SULPHUR, CHARCOAL AND POTASSIUM PERCHLORATE. THE DAY HE WAS MIXING IT TO MAKE A POWERFUL FUEL WAS THE DAY HE LOST THE TOP OF HIS FINGER. ON THE BOTTLE OF POTASSIUM PERCHLORATE IT SAID THE LEAST SHOCK WOULD SET IT OFF. BUT I GUESS WISE OLD HIM DIDN'T READ IT. AFTER MIXING IT ALL TOGETHER HE PUT IT IN A METAL TUBE. HE WENT TO PUT ONE OF HIS BRAINY HOMEMADE FUSES IN AND IT WAS JUST A LITTLE TOO TIGHT SO HIM, LIKE A NUT, HAMMERED IT IN AND B-A-N-G, WHAT AN EXPLOSION. THERE WENT THE END OF HIS FINGER. HE TRIED TO TELL ME THAT THE LITTLE SHOCK OF HIS HAMMER WAS NOT ENOUGH TO SET IT OFF. BUT BOY, WHAT A BANG THAT WAS. I HOPE TO TELL YOU THAT HE WILL NEVER DO THAT AGAIN. ALSO, IN THE LETTER IT SAID YOU WERE GOING TO WRITE A REPORT ON ALL THE ACCIDENTS. WOULD YOU PLEASE SEND ME A COPY. THANK YOU.

SINCERELY,
KENNY DOUGLASS

DEAR KENNY:

WELL, I GUESS HE LEARNED!!!! DIDN'T HE?

SINCERELY,
VERNON ESTES

CUT ALONG LINE

CATALOG REQUEST

DO YOU HAVE A FRIEND OR BUDDY WHO IS INTERESTED IN MODEL ROCKETRY? IF SO, FILL OUT THIS SPECIAL CATALOG REQUEST FORM. WE WILL SEND HIM (HER) A CATALOG FREE OF CHARGE. ADDITIONAL REQUESTS FOR CATALOGS MAY BE LISTED ON THE REVERSE SIDE OF THIS FORM.

YOUR NAME

NAME

ADDRESS

CITY, ZONE AND STATE

SEND CATALOG TO:

NAME

ADDRESS

CITY, ZONE AND STATE

Notes From The Boss

(CONTINUED FROM PAGE 4)

THE LATEST WE HAVE HEARD IS THAT THE N.A.R. NATIONALS WILL BE HELD AT AN AIR FORCE BASE NEAR NEW YORK CITY THIS YEAR. CAN'T YOU JUST SEE THIS COWBOY IN THE BIG CITY! ONE OF OUR NEWER STAFF MEMBERS SAYS HE IS GOING TO TAKE THE NEW BOOST-GLIDE CHAMPIONSHIP WITH HIS VARIATION OF THE ASTRON SPACE PLANE---SO BE READY FOR HIM!

WE WOULD APPRECIATE VERY MUCH YOUR SENDING US ANY COPIES OF NEWSPAPER CLIPPINGS PERTAINING TO MODEL ROCKETRY THAT YOU MIGHT FIND IN YOUR LOCAL PAPERS.

IF YOU WOULD LIKE OUR PRODUCTS AVAILABLE LOCALLY, SPEAK TO YOUR LOCAL HOBBY DEALER, AND HAVE HIM WRITE TO US.

I WANT TO THANK YOU FOR THE MANY FINE LETTERS WE HAVE RECEIVED. I APPRECIATE SO VERY MUCH THE MANY COMPLIMENTS YOU SO GENEROUSLY BESTOW. THE PLANS AND IDEAS YOU SEND ARE FINE, AND WE ONLY WISH THAT WE COULD PUBLISH EVERY ONE. KEEP WRITING AND WE WILL TRY TO KEEP ANSWERING

Letters (CONTINUED FROM PAGE 5)

DEAR SIR:

MY MOTHER AND FATHER WERE AT MY FIRST LAUNCHING SUNDAY ALONG WITH SEVERAL OF MY FRIENDS. WHEN I FIRED THE ROCKET IT DISAPPEARED, HEADING LIKE ALL-GET-OUT FOR THE HEAVENS. MY MOTHER AND ESPECIALLY MY FATHER WERE IMPRESSED.

MY FATHER COMMENTED THAT YOUR ROCKET ENGINES WERE QUITE AN IMPROVEMENT OVER MY MATCH-HEAD ROCKETS, AND SAID THAT HE WOULD RATHER HAVE ME USING THEM.

SINCERELY,
DOUG RIEFFEL
KINGSBURG, CALIFORNIA

DEAR DOUG:

I AM PLEASED THAT YOU HAVE DISCOVERED HOW SAFE, AS WELL AS DEPENDABLE, ARE OUR ROCKET ENGINES. MY ADVICE IS TO STAY AWAY FROM MATCH HEADS AND ALL OTHER HOMEMADE PROPELLANTS. MATCH HEAD ROCKETS ARE ESPECIALLY DANGEROUS AND HAVE KILLED MANY YOUNG ROCKETEERS.

SINCERELY,
VERNON ESTES

DEAR GENTLEMEN:

TODAY I LAUNCHED THE NEW ASTRON SPACE PLANE. IT WAS LIKE ANY OTHER EXCEPT IT CARRIED A LIVE MOUSE AS A PAYLOAD.

I IGNITED THE ROCKET AND ZOOM UP INTO THE WILD BLUE YONDER IT FLEW. AT THE APEX OF ITS FLIGHT, THE ENGINE BLEW OUT AND IT STARTED ITS LONG LAZY FLIGHT TO EARTH.

GRACEFUL AS A BIRD IT SWOOPED DOWN AND LANDED. WE ALL RAN TOWARD IT TO SEE IF THE MOUSE WAS ALIVE. IT WAS! WHAT A SUCCESS.

SINCERELY,
BREN SCHULTEN
DARIEN, CONNECTICUT

P.S. A TRUE STORY.

DEAR BREN:

CONGRATULATIONS! TO THE BEST OF OUR KNOWLEDGE, YOU ARE THE FIRST TO HAVE SUCCESSFULLY LAUNCHED A LIVE PAYLOAD UNDER ROCKET POWER AND HAD IT RETURN BY THE GLIDE RE-ENTRY METHOD. YOU BEAT THE DYNA-SOAR PROJECT TO THE PUNCH.

SINCERELY,
VERNON ESTES

DEAR MR. ESTES:

MY FRIEND AND I USED TO MAKE ROCKETS, BUT NEVER GOT ONE OFF THE GROUND. WE TRIED FOR ABOUT TWO YEARS TO MAKE A SUCCESSFUL ROCKET BUT FOUND THAT THEY EITHER BLEW UP OR BURNT. FROM THEN ON WE FOUND IT EASIER TO MAKE A BOMB THAN A ROCKET, SO WE MADE BOMBS. I ADMIT WE DID STUPID THINGS, BUT NOW WE USE NAR TYPE MOTORS AND FIND THEY PERFORM A LOT BETTER AND ARE A LOT SAFER.

SINCERELY,
N.H.

DEAR N.H.:

WE ARE PLEASED THAT YOU HAVE GIVEN UP MAKING BOMBS, AND ARE GLAD YOU WERE NEVER HURT.

SINCERELY,
VERNON ESTES

DEAR M. ESTES:

WE HAVE ACCOMPLISHED MUCH SINCE THE FORMATION OF OUR CLUB. WE STARTED OFF WITH A FEW OF YOUR EXCELLENT ASTRON SCOUT KITS. SOON WE WERE MAKING HIGH ALTITUDE SINGLE-STAGE ROCKETS OF OUR OWN DESIGN. FROM THESE WE PROGRESSED TO TWO-STAGE ROCKETS OF WHICH WE HAVE LAUNCHED OVER TWENTY. WITH TEST FIRINGS ALMOST DAILY, WE SOON BECAME ALMOST EXPERTS IN MULTI-STAGE DESIGN. WE THEN BUILT AND LAUNCHED A FEW THREE-STAGE ROCKETS SUCCESSFULLY. ONE OF OUR VERY ACTIVE MEMBERS LAUNCHED A FOUR STAGE ROCKET. IT WENT OVER A MILE HIGH, WHILE ANOTHER MEMBER, SEEKING A NEW CHALLENGE, SUCCESSFULLY FIRED A ROCKET FROM UNDER WATER THIS VERY DAY.

VERY SINCERELY YOURS,
DAVID TOAL NAR 1414
WOODBERRY FOREST SCHOOL,
VIRGINIA

DEAR DAVID:

THANK YOU FOR YOUR MOST INTERESTING LETTER. WE HERE AT ESTES INDUSTRIES ARE ALWAYS PLEASED TO HEAR OF A GROUP THAT HAS MADE SUCH EXCELLENT PROGRESS. COULD YOU SEND US SOME INFORMATION ABOUT THE UNDERWATER LAUNCH. (CONTINUED ON PAGE 7)

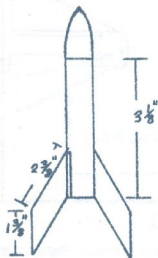
Letters (CONTINUED FROM PAGE 6)

DAVID TOAL SENT US FULL PLANS ON HIS "THE ORANGE AND BLACK" UNDERWATER ROCKET. HERE IT IS, IF YOU, TOO, WANT TO TRY AN UNDERWATER LAUNCHING.

THE ORANGE AND BLACK (AN UNDERWATER ROCKET)

BY DAVID TOAL, NAR 1414

PARTS LIST
NOSE CONE, 261-BNC-1
BODY TUBE, 261-BT-3
LAUNCHING LUG,
261-LL-1A
3 FINS, 261-BF-1



THE PARTS FOR THIS ROCKET ARE ABOUT THE SAME AS FOR THE ASTRON SCOUT. CARE MUST BE TAKEN TO GLUE THE NOSE CONE VERY SECURELY IN PLACE. TWO OR THREE COATS OF FIRE PROOF AND WATERPROOF GLUE MUST BE USED, FOR THE ROCKET MUST BE COMPLETELY WATERPROOF TO LAST FOR ANY NUMBER OF LAUNCHINGS. THE ROCKET EMPLOYS THE FEATHERWEIGHT RECOVERY SYSTEM.

PREPARING UNDERWATER IGNITION

FIRST STEP: MAKE A GOOD STRONG CONNECTION OR SOLDER THE BELL WIRE TO THE ENDS OF A TWO INCH PIECE OF NICHROME WIRE, 261-NM-1A. ATTACH THE OPPOSITE ENDS TO AN ELECTRO LAUNCH.

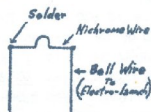
SECOND STEP: WRAP A 1/2" PIECE OF JETEX AROUND THE CENTER OF THE NICHROME WIRE AND INSERT INTO THE ENGINE NOZZLE.

THIRD STEP: DRIP MELTED PARAFFIN ON THE NICHROME ASSEMBLY. DO NOT USE REAL HOT WAX. KEEP DRIPPING WAX UNTIL IT IS LEVEL WITH THE END OF THE ENGINE. NO NICHROME SHOULD STICK OUT OF THE WAX (ONLY THE BELL WIRE).

FOURTH STEP: NOW INSERT ENGINE AND IGNITION ASSEMBLY INTO THE ROCKET BODY. APPLY A THIN UNIFORM LAYER OF WAX BETWEEN THE END OF THE ENGINE AND THE END OF THE ROCKET BODY. THIS HOLDS THE ENGINE IN PLACE (THE ENGINE SHOULD SLIDE FREELY IN BODY TUBE BEFORE WAXING) AND WATERPROOFS THE INSIDE OF THE ROCKET.

FIFTH STEP: PLACE ROCKET ON A LAUNCHING ROD AND TAPE BELL WIRES FROM ROCKET TO THE ROD ABOUT FOUR INCHES FROM THE END OF THE ROD. THIS WILL HOLD THE ROCKET. CONNECT BELL WIRE TO ELECTRO LAUNCH. INSERT LAUNCHING ROD AND ROCKET INTO WATER WITH THE TIP OF ROD PROJECTING OUT OF THE WATER. FIRE AT WILL. THE FIRING MAY TAKE A LITTLE LONGER BECAUSE OF THE COOLING EFFECT OF THE WATER ON THE NICHROME WIRE.

(EDITOR'S COMMENT: TIME HAS NOT ALLOWED US TO FLIGHT TEST DAVID'S DESIGN. IT WOULD SEEM THAT A MORE SATIS-



FACTORY UNDERWATER ROCKET COULD BE BUILT ALONG THE LINES OF THE PEE WEE WHICH APPEARED IN THE OCTOBER, 1961, ISSUE OF THE MODEL ROCKET NEWS. THE PEE WEE IS DESIGNED FOR A FEATHERWEIGHT RECOVERY WITH A BLUNT NOSE CONE, WHILE THE ORANGE AND BLACK WOULD HAVE A POINTED CONE, WHICH IS NOT RECOMMENDED FOR THE 'FEATHER WEIGHT' SYSTEM.

DEAR SIRS:

I READ THE ARTICLE ON THE TOADENNAUTS IN YOUR OCTOBER ISSUE OF MODEL ROCKET NEWS AND BECAME VERY ENTHUSIASTIC.

I CAUGHT SEVERAL SPIDERS IN MY BASEMENT, AND THE NEXT DAY I CHOSE TWO TO MAKE THE HISTORICAL FLIGHT. THE TWO ASTROSPIDERS MADE A SUCCESSFUL FLIGHT AND CAME BACK WITH NO INJURIES. AN ARTICLE OF THE GREAT EVENT WAS PUT ON THE FRONT PAGE OF MY HOME-TOWN DAILY NEWSPAPER THE MARTINSVILLE BULLETIN, COPY OF WHICH I ENCLOSE HEREWITH.

CORDIALLY YOURS,
TONE A. DEL PAPA
MARTINSVILLE, VIRGINIA

Astrospider A-OK After Trip Into Inner Space

By DOROTHY CLEAL
... Bulletin Staff Writer

A spider with a split personality has been put aloft in a homemade rocket and brought back alive by a Martinsville teenager.

"Charlotte," the astrospider, was minding her own business in a basement web at 702 Prospect Hill Drive when drafted by the young man of the house to live up a standard rocket kit he got for Christmas.

Tone Del Papa, 15-year-old high school freshman, was the experimenter.

"Charlotte" was lucky," quoth Tone, "I had to recover some models from a tree, but the one with her capsule landed right in the backyard."

Charlotte, languidly toying with a crumb of cake and sadly neglecting her web, refused to be quoted. But young

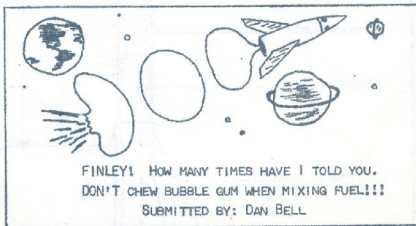
Tone estimates that his astrospider ascended at least 1,200 ft. . . . "Out of sight, anyway."

This is Tone's first dip into thins scientific. His father, an electrical engineer, signed permission for purchase of an approval rocket kit advertised in a national science magazine last fall.

The model is composed of fiber board tubes fired aloft by a solid fuel engine. To eject the rocket from his backyard launching pad, Tone backs off 15 feet and plugs a cord into a porch outlet. Addition of the plastic nose cone was the local boy's own improvisation on the original unannounced vehicle.

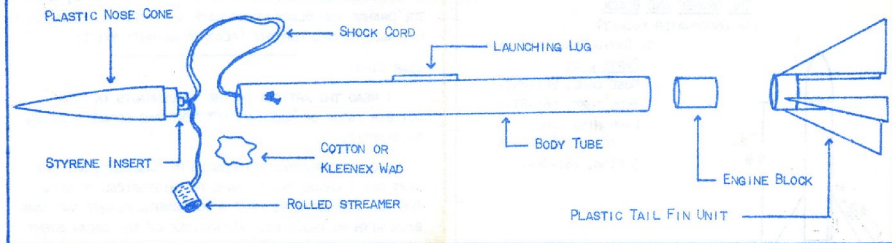
With Charlotte safely recovered, other atmospheric adventures are being eyed.

So far the Del Papa mice have been wary.



Dirty Bird III

ASSEMBLY ORDER



PARTS LIST

VINYL PLASTIC NOSE CONE - PART #PUC-400
 BODY TUBE - PART #BT-10
 SHOCK CORD - PART #SC-1 OR #SC-1
 STREAMER MATERIAL - PART #SM-1
 PLASTIC FINNS - PART #PF-40A
 ENGINE BLOCK - PART #EB-40
 LAUNCHING LUG - PART #LL-1B

DIRTY BIRD III

THE DIRTY BIRD III, DESIGNED BY G. HARRY STINE, PRESIDENT OF THE NAR, IS ONE OF HIS FAVORITES, AS IT IS SO VERY EASY TO FLY AND ASSEMBLE. HERE IS HOW IT IS DONE. . .

FIRST CUT A BODY TUBE 9 1/4" IN LENGTH. THEN GLUE THE ENGINE BLOCK IN PLACE AT A DISTANCE OF 2 3/4" FROM THE REAR OF THE BODY TUBE (SEE ILLUSTRATION). TO DO THIS, PLACE A LARGE DAB OF GLUE ON THE END OF YOUR LITTLE FINGER, REACH THRU THE END OF THE BODY TUBE AND SPREAD THE GLUE AROUND THE INSIDE OF THE TUBE AS FAR FORWARD AS POSSIBLE. BE VERY CAREFUL NOT TO GET ANY GLUE NEAR THE END OF THE TUBE. INSERT THE ENGINE BLOCK IN THE END OF THE TUBE AND USING AN ENGINE CASING PUSH IT FORWARD UNTIL IT IS 2 3/4" FROM THE REAR. WHEN INSERTING THE ENGINE BLOCK DO NOT STOP UNTIL IT IS IN ITS PROPER POSITION. SOME GLUES SET VERY QUICKLY, AND STOPPING FOR A MOMENT MAY CAUSE THE BLOCK TO SET IN THE WRONG PLACE. BE SURE TO IMMEDIATELY REMOVE THE ENGINE CASING.

PUNCH A SMALL HOLE IN SIDE OF THE BODY TUBE ABOUT 1" FROM THE FRONT END. THEN TIE A KNOT IN ONE END OF THE SHOCK CORD, AND PUT THE OTHER END DOWN THROUGH THE HOLE IN THE BODY TUBE. REACH IN AND PULL THE SHOCK CORD THROUGH UNTIL THE KNOT COMES UP SNUG AGAINST THE BODY TUBE. PLACE THE STYRENE INSERT INTO THE NOSE CONE AND TIE THE MIDDLE OF THE SHOCK CORD TO THE EYELET. USE A TAPE DISC TO ATTACH THE OTHER END OF THE SHOCK CORD TO A 12" LENGTH OF STREAMER MATERIAL. CAREFULLY ALIGN AND GLUE THE LAUNCHING LUG TO THE SIDE OF THE BODY TUBE ABOUT HALF WAY ALONG THE TUBE. AFTER PLACING AN ENGINE IN THE END OF THE BODY TUBE, PUT ON THE TAIL FIN UNIT. TO ASSURE A TIGHT FRICTION FIT, IT MAY BE NECESSARY TO WRAP THE END OF THE BODY TUBE WITH SCOTCH OR MASKING TAPE.

THE DIRTY BIRD FLYS BEST WITH "B" TYPE ENGINES (B 8-4 AND B 16-5). THE A 8-3 IS FINE IF YOU HAVE A LIMITED FLYING AREA OR DON'T WANT TOO MUCH PERFORMANCE. MAKE SURE THE FINNS FIT VERY TIGHTLY WHEN YOU USE THE B 16-5 ENGINE.

LAUNCH THE DIRTY BIRD III FROM ANY STANDARD MODEL ROCKET LAUNCHING DEVICE. THIS MODEL WILL GIVE YOU MANY HOURS OF FLYING PLEASURE AND IS NEARLY INDESTRUCTABLE.

