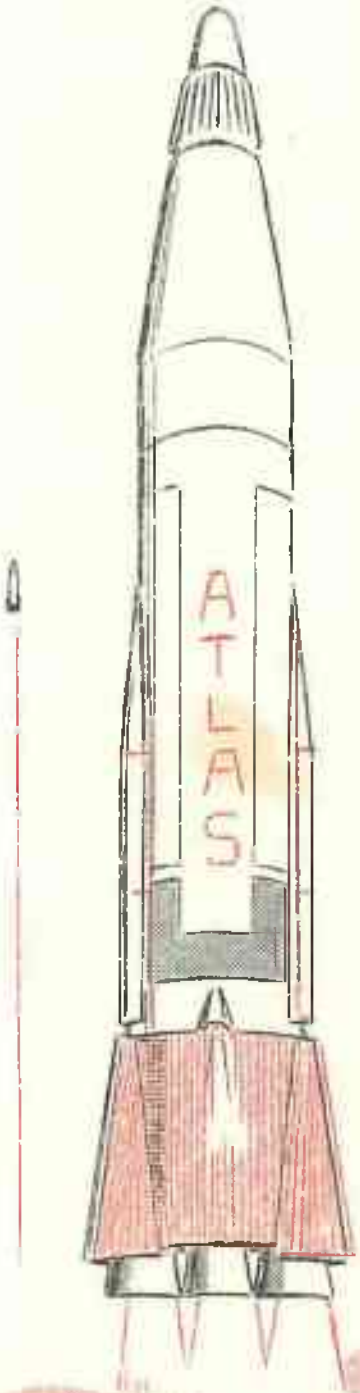
ERG

NUMBER NINE



Satellite Issue

ERG

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ERGOTORIAL

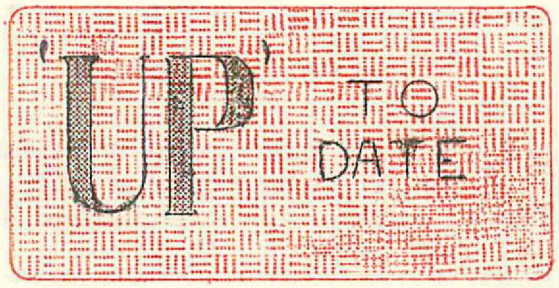
The majority of launching vehicles to date have been ballistic missiles and their modifications. In spite of this 'swords-into-ploughshares' technique, their less aggressive role has in general proved highly successful. In point of fact, America's first satellite was orbited by a rather hasty modification of a Redstone rocket, when the 'peaceful' Vanguard ran into teething troubles, and wound up with only 3 successes out of 11 tries.... just about the lowest batting average of any launching vehicle to date.

From another viewpoint, the use of military weapons to launch satellites and probes has the advantage of furthering the testing and development of the 'bird'. If a particular missile costs £xxxx then only a limited number can be tested to destruction down the firing range. Perhaps half-a-dozen may be written off in this fashion before the rocket goes into production. Then the inevitable modifications appear....will they make a radical alteration in the performance ? Bang goes another to find out. Now if such additional tests can perform an extra function such as satellite launching, then some of the 'wasted' money will have been put to a more useful purpose than just a proving flight.

Many people (peripatetic banner carriers in particular) will claim that NO money expended on space research can serve a useful purpose. Such people are beyond arguments, to them, any new step is sinful.....long range radar and radio navigation are terrible concepts, World wide TV is twice as bad as the local variety, and weather forecasting smacks of witchcraft. These and many other benefits which are appearing from the satellite programs must give such people a thin time. Let such people snuggle up with the Luddites..let them hoist their banners and march against aircraft, against steamships. May they ban the stage coach, the velocipede plastics and painless childbirth with equal impartiality. Down with toga and trident. No doubt the Magna Carta is subversive, and even the NEW Testament arouses their suspicions.

Whatever your particular viewpoint, space research is part of life today, taking its place alongside TV, Nuclear Weapons, Teenagers and Football Pools. Partly because of this, but largely because I have long been a space-travel fanatic, this issue of ERG is devoted to a minor survey of current progress in that field.

Some of you will like this issue (and I know some won't), but whichever way you lean, why not WRITE and let me know your views.. ..nothing is worse than trying to carry on a correspondence with a vacuum, so let's be hearing from you.



A complete listing of Satellites and Space Probes launched to date.

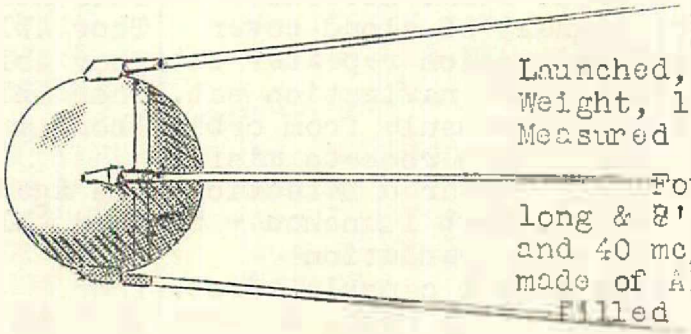
Satellites in Capitals
Space Probes in Lower Case

TITLE	DATE	WEIGHT (in lbs)	PERIGEE both in	APOGEE miles	LIFE
1957					
SPUTNIK 1.	Oct.4	184	145	560	92 days
SPUTNIK 2.	Nov.3	1,120	145	1,054	6 months
1958					
EXPLORER 1.	Jan.31	31	224	1,573	3 to 4 years
VANGUARD 1.	Mar.17	3·2	409	2,453	1,000 years
EXPLORER 3.	Mar.26	31	121	1,746	3 months
SPUTNIK 3.	May.15	2,926	140	1,160	23 months
EXPLORER 4.	Jul.26	38	180	1,400	15 months
Pioneer.1.	Oct.11	84	Reached	71,300 miles	43 hours
Pioneer.2.	Nov.10	84	Reached	970 miles	42 mins.
Pioneer.3.	Dec.6	13	Reached	63,600 miles	38 hours
SCORE (Atlas)	Dec.18	8,750	125	650	1 month
1959					
Lunik 1.	Jan.2	796·5	91×10^6	122×10^6	Solar orbit
VANGUARD 2.	Feb.17	20·7	347	2,064	10 yrs +
DISCOVERER 1.	Feb.28	1,300	176	519	5 days
Pioneer 4.	Mar.3	13·4	91×10^6	106×10^6	Solar orbit
DISCOVERER 2	Apr.13	1,600	142	220	13 days
EXPLORER 6	Aug.7	142	157	26,383	1 year
DISCOVERER 5.	Aug.13	1700+300	136	450	6 weeks
DISCOVERER 6.	Aug.19	1700+300	139	537	2 months
Lunik 2.	Sep.12	858·4	First instrumented Moon Landing		
VANGUARD 3.	Sep.18	150	319	2329	40 yr +
Lunik 3.	Oct.4	614	30,000	298,000	6 months
EXPLORER 7	Oct.13	91·5	341	679	20 yr +
DISCOVERER 7	Nov.7	1700+300	100	524	19 days
DISCOVERER 8	Nov.20	1700+300	115	1042	4 months

Date down	Orbital Period	Angle to Equator	General Comments	Launching Vehicle
Jan.4 58	90 mtes	65°	Internal temp.& press. measured.	--
Apr.14 58		65°	Dog 'Laika' Heart,resp,temp.	--
- - -	114 mtes	33°	Discovered van Allen belt	Jupiter C
- - -	- -	34°	Solar batteries/ temp. meas.	USN TV3
Jun.28 58	- -	33°	Cosmics, int. temp/press.	Jupiter C
Apr.6 60	106 mts	65°	Solar cells. Int. meas.	????
Oct.23 59	- -	50°	Radiation, & Int. Temp	Jupiter C
Oct.13 58	Lunar probe which failed.			Thor-Able
Nov.10 58	Lunar probe failure, 3rd stage no ignition			Thor-Able
Dec.7 58	Lunar probe failure. Motor cut 3 secs early			Juno 2
Jan.21 59	Signal Communications Orbital Relay Exp. 33°			Atlas 10b
--------	450 days		'Mechta' passed 4,600 miles	from Moon
--------	125 mts	33°	Photo all weather reconn.	USN TV3
Mar.5 59		87°	Polar orbit. Guidance tests	Thor Agena
--------	406 days.	Measured	radiation, cosmics etc.	Juno 2
Apr.26 59	- - -	89°	Ejected capsule/air catch	Thor Agena
- - - -	12½ hrs	47°	Meas. 3 radiation leves	Thor Able
Sep.28 59	- - -	80°	Capsule ejection & catch	Thor Agena
Oct.20 59	- - -	84°	Capsule ejection & catch	Thor Agena
FIRST LANDING AT 10.02 pm Sep.14th 1959 after 34 hr trip.				
---------	- - -	33°	Earth's mag field & Solar	USN TV3
Earth Moon orbit, Photographed far side of moon.				
---------	- - -	50°	Cosmic rays	Juno 2
Nov.26 59	- - -	82°	Capsule ejection & catch	Thor Agena
---------	- - -	81°	Capsule ejection & catch	Thor Agena

TITLE	DATE	WEIGHT	PERIGEE	APOGEE	LIFE

SATELLITE SKETCHES



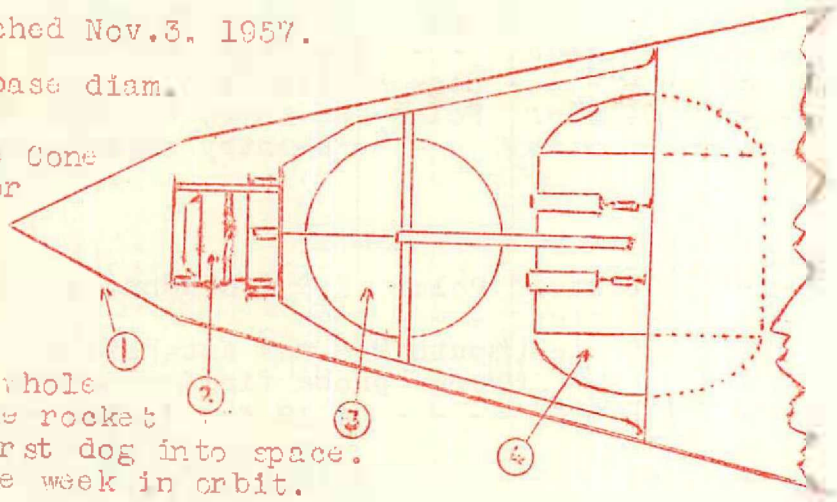
SPUTNIK 1.

Launched, Oct.4.1957. Diam.22"
Weight, 184 lbs.
Measured internal temp. & press.
Four aerials (appx. 9' long & 8'long) transmitted on 20 and 40 mc/s. The satellite was made of Aluminium alloy, and filled with Nitrogen.

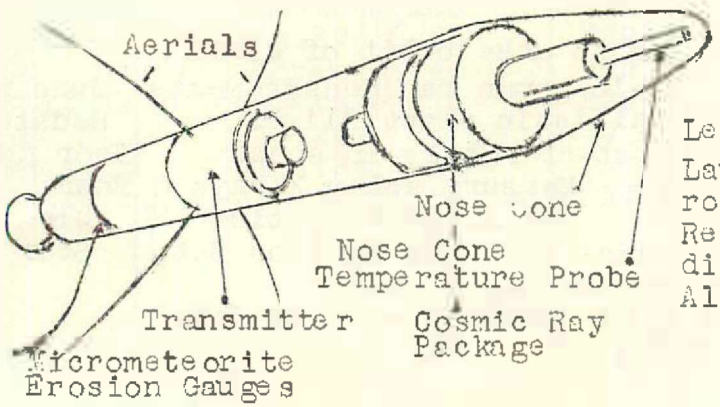
SPUTNIK 2. Launched Nov.3. 1957.

7 ft. long, 3'6" base diam.
Weight 1,120 lbs.

1. Detachable Nose Cone
2. Measurements for u/v, cosmic, and X rays
3. Radio in sphere
4. Cabin for Laika



Sputnik 2 was the whole nose section of the rocket and carried the first dog into space. Laika lived for one week in orbit.



EXPLORER 1.

Launched Jan.31.58
Length..6'8" Diam. 6"
Launched by Jupiter C rocket (modified Redstone) and discovered the van Allen radiation belts.

Comment

Since Sputnik.1. amazed the Western world when it went into orbit in October 1957, the number, size and sophistication of of artificial satellites has continued to increase. Some idea of the wide variety may be gained from the sketches in these pages. I have neither the inclination nor the ability to describe each one in detail, but a few assorted comments will probably add point to the illustrations.

Explorer.1. was a hurried stop-gap which was rushed into the breech left by the Vanguard. What really seemed unfair, was that the Jupiter C launcher which did the job, had been turned down by powers-that-be about a year earlier on the flimsy grounds that the Jupiter was basically a missile, whereas Vanguard was a purely peaceful programme. Sputnik's arrival caused the hasty removal of Jupiter's dust covers, and what could have been the world's first satellite came in third. Even so, Explorer.1. did some good work and among other things, discovered the van Allen radiation belt.

Three months after Explorer, the 3.2 lb Vanguard.1. entered its orbit to be followed a few days later by Explorer.3, which weighed in at 31 pounds. By this time, satellites were no longer news, and had dropped to a tiny box on the front paves of sympathetic papers. The scene changed again in May.1958, when Sputnik 3 lumbered into orbit with a weight of 2,926 lbs. The year rolled slowly by, with Russia resting on her laurels, while over in America the Pioneer series 1, 2 and 3 thundered assorted distances into space ostensibly headed for the moon, but in actual fact, back to earth after their sojourn in space. Things looked like being a 1958 win for Russia. Project SCORE altered that. The complete upper staging of an Atlas ICBM lifted itself into orbit 'by its own bootstraps', and to add to the fun, buried somewhere within its 8,000 + lbs of weight it carried a radio receiver, tape recorder and transmitter. That year, the President spoke to the people of the USA from a relay in space.

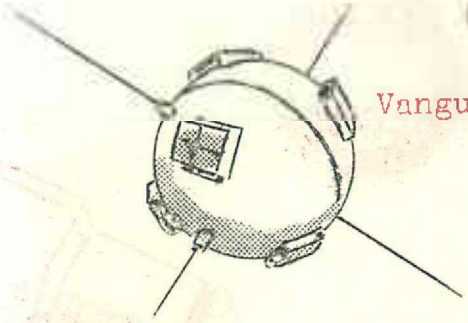
1959 opened with a bang, Lunik.1. narrowly missed the moon, and ended up in orbit around the Sun. Satisfied for a while that they were once again at the top of the prestige parade, the Russians sat back while America orbited sundry highly sophisticated (and highly miniaturised) pieces of expensive equipment. Notable among this hardware was the Discoverer series which carried 300lb packs of recording equipment. These packs could be recovered from orbit by the firing of retro-rockets. The packs dropped to Earth beneath a parachute, and were caught in a huge net towed behind a transport aircraft. This highly spectacular technical achievement made a surprisingly high series of successes, but was overlooked largely by the lay press. Lunik.2. caught their interest however, when it made the first instrumented hard landing on the Moon, and was followed a month later by Lunik 3 which orbited the moon, and sent back the first pictures of the other side.

With 1960, came a successful Pioneer 5, which achieved Escape Velocity, and entered a Solar Orbit. Then Tiros.1. sent back photos of the Earth's cloud cover (including on of a squarecloud) In May, the first Soviet 'Spaceship', Lunik.4 weighing 4½ tons carried a 'dummy' into orbit, but a failure of the retro rockets left it there. In June, America launched its first double-satellite when 'Greb' and Transit were orbited together and separated in space. Echo.1., a 100 ft. diameter metal-foil balloon went into orbit and proved the feasibility of bouncing radio and vision signals from a satellite. In August, Sputnik.5. entered orbit, left it, and safely returned the two dogs 'Belka and Strelka' to Earth. Any jubilation caused by this feat was slightly dampened in December, when a repeat performance resulted in a burn out on re-entry, however, the writing was on the wall.

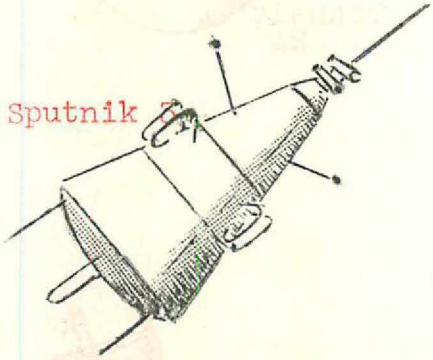
Came 1961, and although at the time of writing, we're only half way through the year, it has all ready marke d itself off as the one that goes into the history books. Sputnik 7 went into orbit, but little information came out of Russia. Sputnik.8. went into orbit, and from this insecure platform in space, achieved the fantastic accuracy required to launch a space probe on its way to Venus. Explorers and Discoverers cluttered the orbits once again and then two more Sputniks, 9 & 10 made their orbits and returned their dogs to Earth. Since up to now, the Russians had not done any repeat work, and the American Astronauts were limbering up at Canaveral, it was obvious that Something Was either UP, or about to go that way. A few Rumours flew around, so did Explorer 10, and then the news broke. 'Vostok' carrying Major Yuri Gagarin had orbited the earth and made a safe re-entry. This magnificent achievement was slightly sullied by certain unsubstantiated rumours about it not being the first man in orbit, but lacking evidence, these soon died away. Major Gagarin was still enjoying his spell in the limelight when Mercury Capsule 'Freedom 7' hoisted Major Alan Shepard 300 miles down the range in a ballistic trajectory, to be followed two months later by Virgil Grissom. In between the two American astronauts a mixture of satellites had been orbited, but perhaps the most newsworthy was the three-in-one satellite launching on June.29, when a Thor-Ablestar hoisted Greb, Injun and Transit into orbit. Greb and Injun failed to separate, but Transit 1Va went happily about its business powered by a nuclear power source using Pu238, and known as SNAP.

The current score at the time of writing, is something like 52 satellites put into orbit, 1 Lunar orbit, I Lunar landing, 1 probe to Venus, 2 or 3 Solar orbits, 2 ballistic manned flights, and one near complete Earth orbit (I wonder who'll make the first complete one...Gagarin landed West of his take off point, and you have to remember his paths into and out of orbit didn't form part of the orbit) Not a had set of achievements to llok back on, particularly when you remember the first one only went into orbit less than four years ago !

DRAWINGS ARE NOT TO SCALE

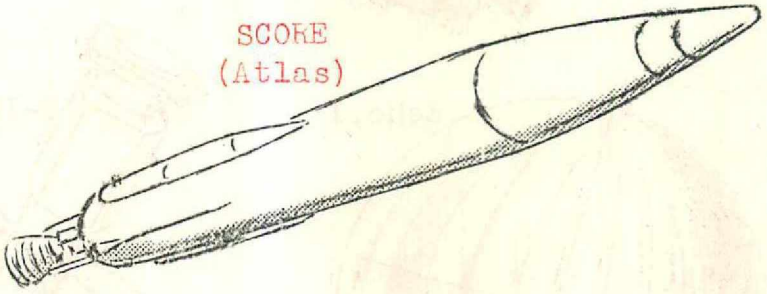


Vanguard 1



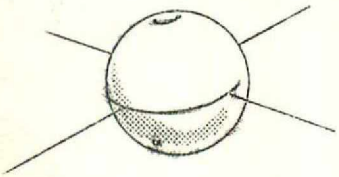
Sputnik 3

SCORE
(Atlas)

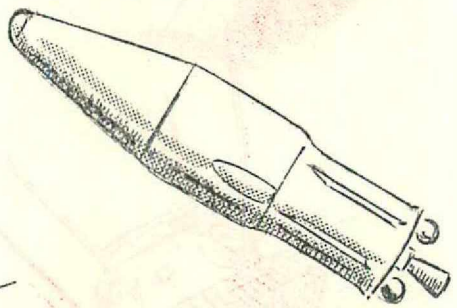


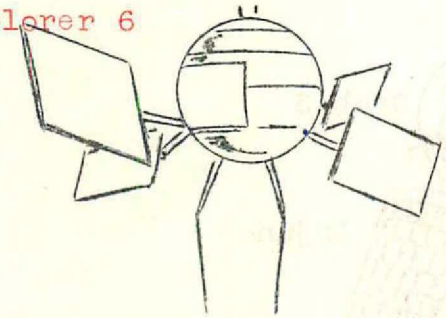
Lunik 1.

Vanguard 2.



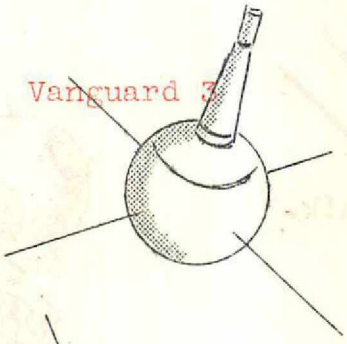
Discoverer





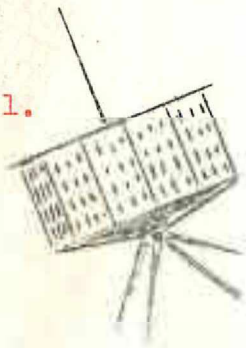
Explorer 6

Vanguard 3

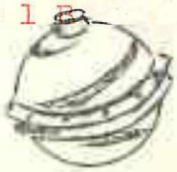


Explorer 7

Tiros 1.

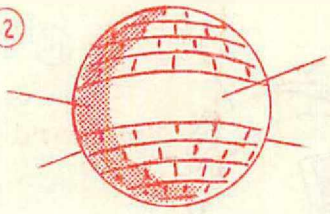


Transit 1 B

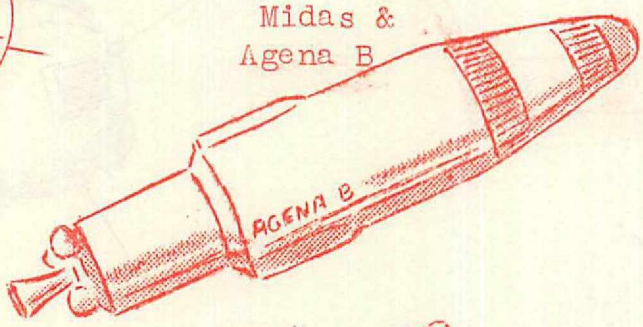


Courier 1B

(12)



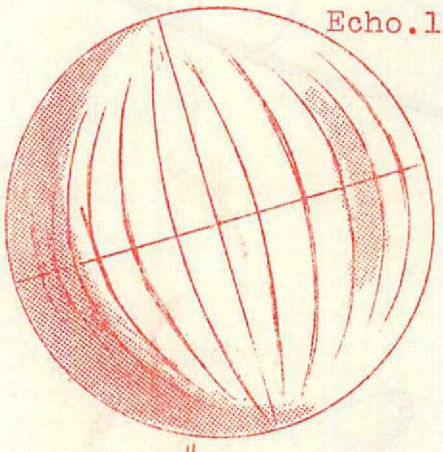
Midas &
Agena B

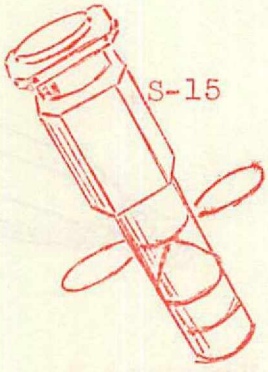


Greb

Transit
2A

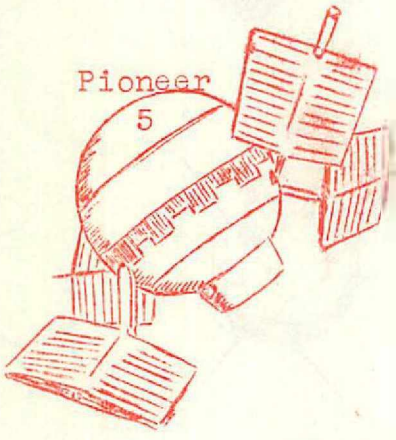
Echo.1

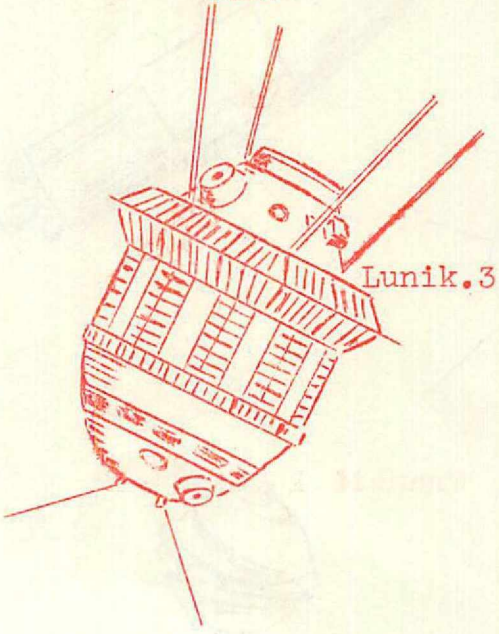




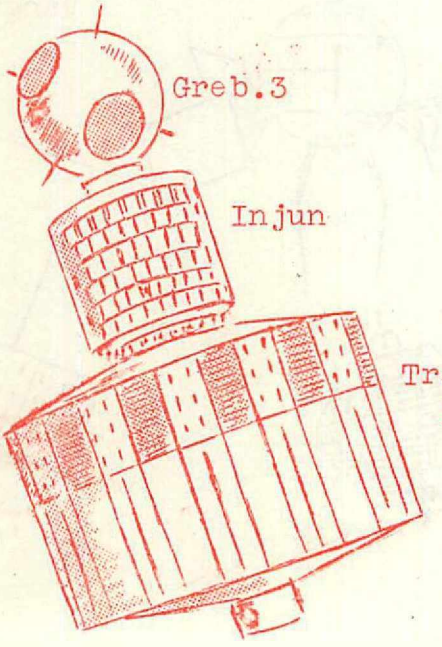
S-15

Pioneer
5





Lunik.3



Greb.3

Injun

Transit
1V A

VEHICLES

JUPITER C is a modified Redstone rocket with increased tankage. in addition to launching Explorer.1., was also the vehicle used to launch Shepard and Grissom on their ballistic trajectories in the Mercury capsule. 68' long, 4 stages.

VANGUARD is actually the name of the Project, and the satellites it orbits. The vehicle itself is actually the Navy TV-3, and out of 11 tries, made 3 successes. 72' long, 3 stages.

THOR is an I.R.B.M. with a 1,500 mile range. 65' long, and with liquid fuel, it became operational in Britain in 1959, and there are now 60 of these rockets deployed among 4 squadrons.

THOR-ABLE Now obsolete, was a 92 ft 3 stage (2 liquid, 1 solid) vehicle capable of putting 200lbs into a300 mile orbit. Thor Able actually used the upper stages developed for the Vanguard TV-3

THOR)ABLE STAR a 90' long 3 stage (2 liquid, 1 solid) vehicle using a scaled up, re-startable in orbit Able rocket. Capable of putting 1,400 lbs in the 300 mile orbit, and was used in the Transit programme, and to launch the Courier satellites

THOR-DELTA 92',3 stage, capable of putting 500 lbs in the 300 mile orbit. Used to orbit Echo.1. Tiros.1. & Explorer 10

THOR-AGENA A 79' 2 stage, liquid fuel. Can put 300lbs in 300 mile orbit.

THOR-AGENA B 86' 2 stage, liquid. Can put 1,600 lb in 300 mile orbit. Both the A and B models were used in the Discoverer programme.

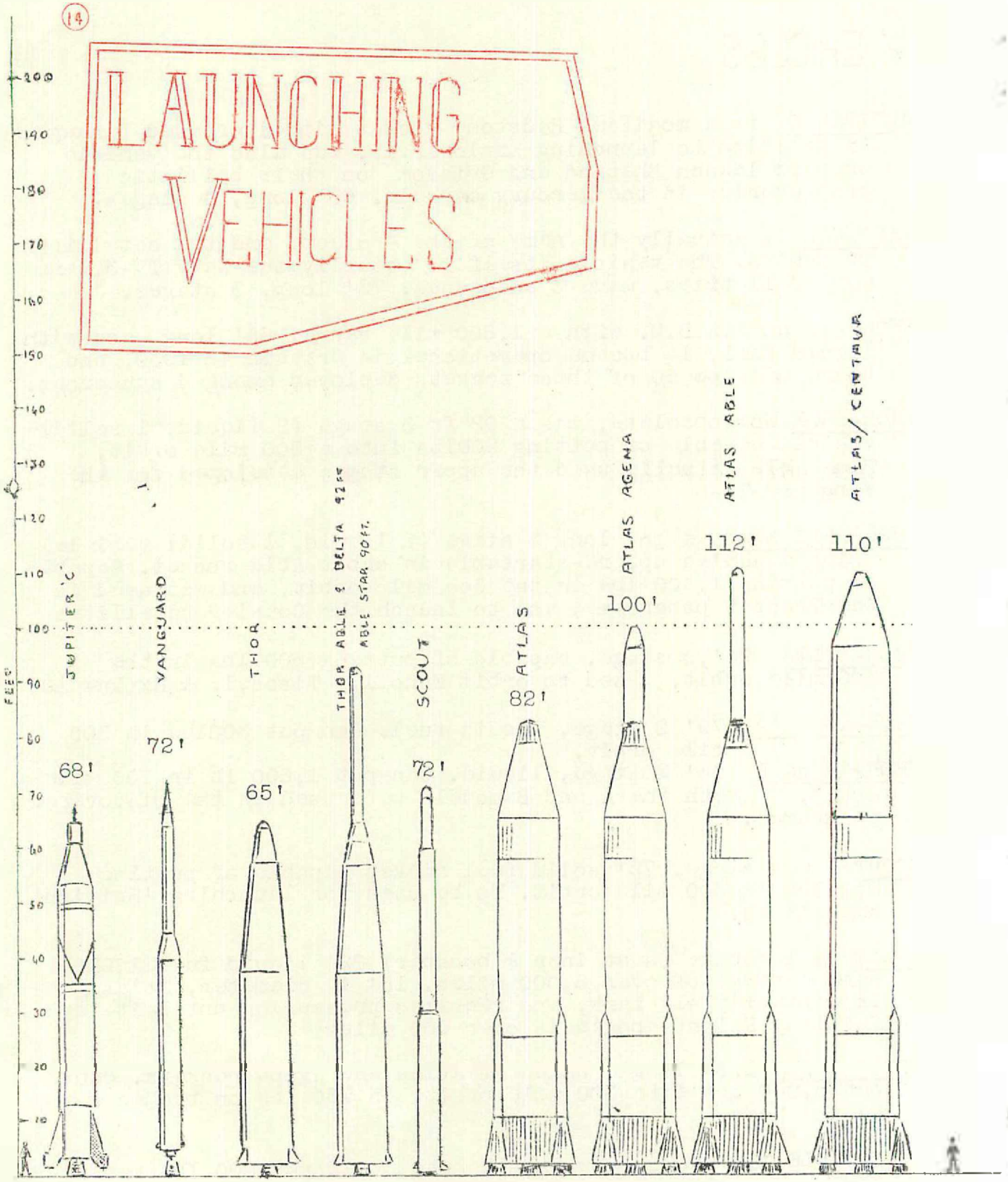
SCOUT a 4 stage, 72' solid fuel rocket capable of putting 150 lbs in 300 mile orbit. To be used for launching 'British' satellites.

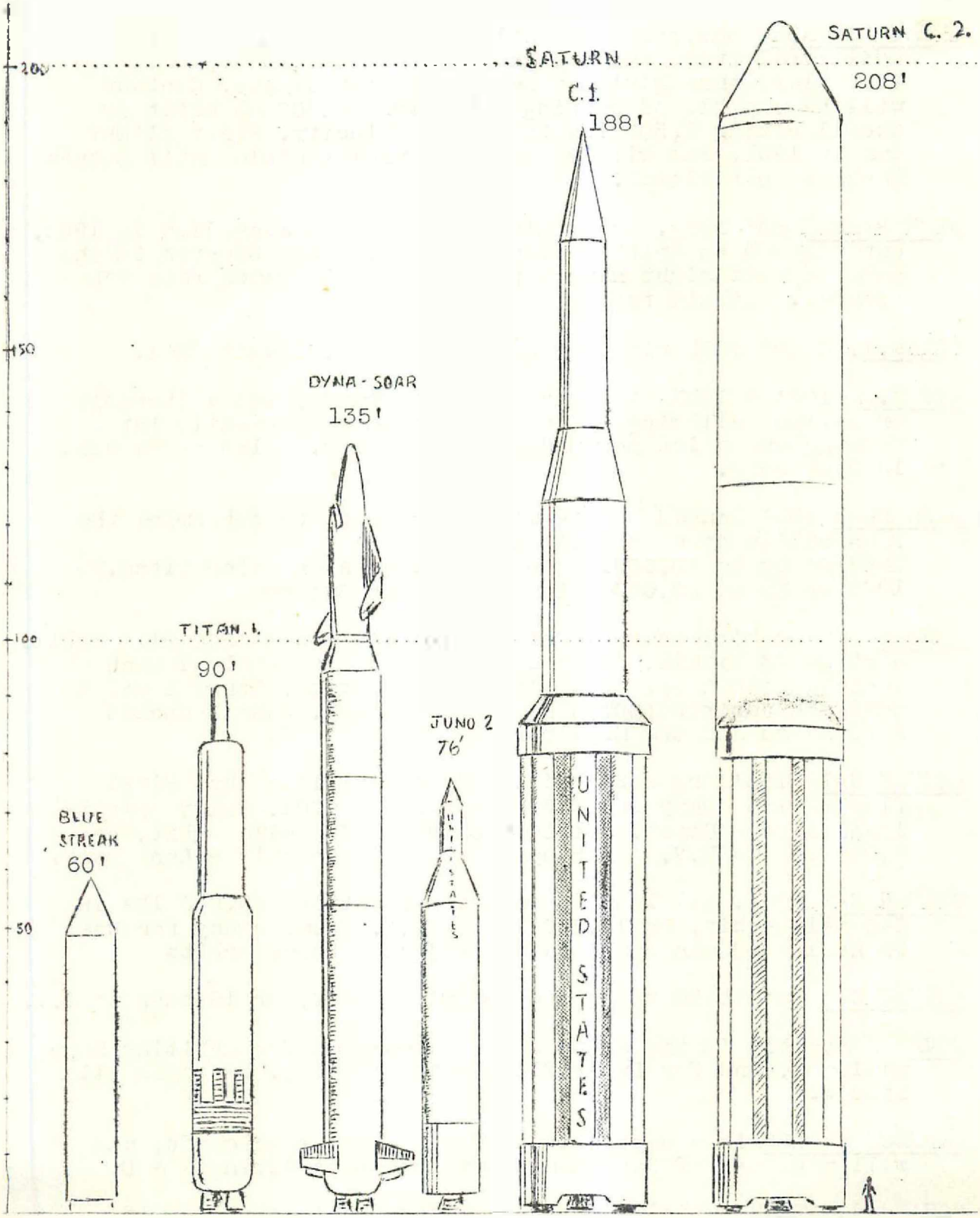
ATLAS a 1½ stage (sustainer & booster) 82' liquid fuel ICBM with a range of over 8,000 miles. 10' in diameter, Atlas is virtually all tank, and requires pressuring until it is fuelled. Flight apogee is over 600 miles

ATLAS AGENA 100' long , union of Atlas and Agena rockets. Can put 5,000 lbs into 300 mile orbit, or 750 lbs on trajectory to the Moon.

ATLAS ABLE 112' long, now phased out. Could put 800 lbs past Escape Velocity. Had 2 liquid stages and 1 solid.

LAUNCHING VEHICLES




SATURN C. 2.
208'
SATURN
C.1.
188'
DYNA - SOAR
135'
TITAN I.
90'
JUNO 2
76'
BLUE
STREAK
60'
200
150
100
50
UNITED STATES

(14)

ATLAS CENTAUR Basically, an Atlas rocket extended to 110'. The additional stage was designed to the same 10' diameter as the Atlas, thus giving a smooth unionof stages. Centaur will be capable of putting 8,500 lbs in 300 ml orbit or accellerating 2,500 lbs to Escape Velocity. First flight due in 1961, and will be most powerful vehicle until Saturn becomes operational.

BLUE STREAK 60' long. Britain's IRBM. Program cancelled in 1960, but allowed to dribble along to develop the booster in the hope that it might have a possible use in space research someday. Liquid fuel.

TITAN.1. A 98' ICBM with a 5,500 mile range. Liquid fuel.

TITAN.2 100' + ICBM will have a lohger range, and a storable propellant allowing it to be deployed more readily into underground silos now under construction. Also to be used in Dyna Soar.

DYNA SOAR 135' Manned boost-glide spacecraft to determine the feasibility of an orbital bomber.
1963/64 Up to 10,0001b sub orbital version using Titan.2
1964/65 Up to 20,0001b in orbit using Saturn

JUNO 2 77' vehicle capable of putting 100 lbs in 300 mile orbit. 4 stage (3 liquid, one solid) Juno was an early launch vehicle with a spin stabilised upper stage. Stage 1 was a modified Jupiter (NOT a Redstone) rocket. Juno launched 3 Pioneers and one Explorer.

SATURN C-1 188'long x 22' dia. Weight 1 million lbs. First flight with dummy 2nd & 3rd stages due 1961. Fully operational 1964. Capable of 20,000 lbs in 300 mile orbit, or 5,000 lbs to E.V. For space station assembly & Luna work.

SATURN C-2 208'. all liquid, capable of putting 45,000 lbs in 300 mile orbit, or 15,000 lbs to E.V. Under study for use on Apollo (3 man spacecraft) project & Lunar orbits

SATURN C-3 To put 50 tons into 300 mile orbit, or 19 tons to E.V.

NOVA Currently in the study stage. Intended for orbiting heavy payloads, and for Lunar flights and landing. 5 stages all liquid.

PROJECT APOLLO is a design study for a 3 man spacecraft, and will make use of Saturn and Nova boosters during R & D.

NOVA and SATRUN vehicles may also embody nuclear stages if these are developed in time.

FUTURE PLANS

AEROSPACE PLANE is a Study project for a spacecraft for orbital bombing and satellite rendezvous. The ASP will take off from standard B-52 runways using rocket power and then accelerate up to supersonic speeds where its rocket/ramjet engines will go over to ramjet operation. Operating in this state, the ASP will proceed to scoop up air and liquefy out the Oxygen, thus taking on a greater fuel load than it was capable of lifting from the deck. Using this LOX, and internal stores of liquid Hydrogen, the ASP will then convert back to rocket flight, and accelerate up to orbital velocity. On leaving orbit it will we capable of returning to land at its own base.

APOLLO is a follow on to the Mercury programme. It is currently in the R&D stage, and is a design for a 3 man Ballistic vehicle weighing some 12,500 lbs using Saturn and Nova boosters to launch it on its mission. The design calls for :-

1. Manned earth orbit of two weeks duration 1965/66
2. Manned craft to orbit moon and return.....1967/68
3. Manned Lunar landing and return 1969/70

This programme has recently received an added boost, by the Kennedy Administration officially embarking on a 'Man on Moon' space race, and increasing the funding needed. The Nova booster to be used in the ultimate steps of the project, consists of a cluster of six F-1 engines, each with a thrust of 1½ million pounds.

VOYAGER an unmanned interplanetary spacecraft. A 2400 lb craft to orbit Venus & Mars and eject 700 lbs capsule for ground exploration. To use Saturn booster, and first flight in 1967.

MARINER a 600-1200 lb probe for neat fly-by flights of Venus and Mars. Atlas/Agena and Centaur launching by August 1962.

PROSPECTOR A Lunar soft-landing spacecraft using Saturn booster and possibly to return samples of surface. By 1966.

RANGER Lunar impact craft. 300 lbs to rough land on moon. Launched by Atlas Agen B. Five flights to start in 1961

THESE are some of the more spectacular projects, but ascan be seen above, the Prospector project will very likely be scrapped owing to the accelerated Apollo programme which will make it redundant. Similarly, the Voyager/Mariner projects are really only different facets of the same programme, and as such may be merged into one continuing development.

DYNA-SOAR is intended to be a skip-glide orbital bomber.

A delta wing glider, 35' long and with a span of 20'. First flight tests will be by air-drop from a B-52 bomber (as for the X-15). Operational launchings will be made first by a Titan-2, which will heft a 10,000 lbs Dyna Soar into sub-orbital flight around 1963/64. When the Saturn C-1 is available, a 20,000 lb. craft can be given fully orbital flight in the 1964/65 period. Dyna Soar is designed to skip across the top of the atmosphere in much the same way as a pebble can be 'skipped' across water.

A possible follow up to Dyna Soar, is SLOLAR (Space Logistics Maintenance & Repair) which is under study, and would carry five men against Dyna)Soar Is one.

X-15 is an air-launched (B-52) rocket plane with a range of 400 n. miles, a maximum speed of 4,000 mph, and a ceiling of 50-100 miles. The length is 50', Span 22', and launching weight 31,275 lbs. This has dropped to 12,971 by the time the X-15 glides to a landing on skids as opposed to the normal landing gear. The actual ceiling is limited by the re-entry temperature the X-15 can stand. Designed for up to 1200°F, the flight testing calls for neaerer and nearer approaches to this figure as flights reach higher and higher altitudes. This may be little over 50 miles, as temperatures of between 500 and 600° have been reached in flights up to 32 miles. Current records include :- 3690 mph and an altitude of 169,600 feet.

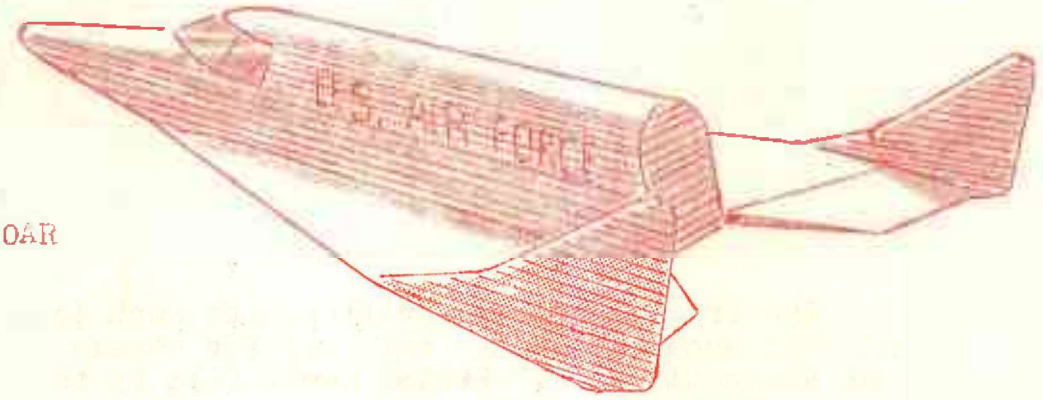
MERCURY is to be America's first manned satellite.

Two sub orbital flights in ballistic trajectorys have been made so far, both using Redstone rockets. Plans to use the Atlas have been delayed through the explosion of one vehicle in the test series, but if test shots (one empty, and one with a chimpanzee) can be carried out successfully, then a manned orbital flight may be achieved by late '61 or early '62. The Mercury capsule is 9·5 feet long and 6·5' in dia. It weighs around 2,000 lbs, and is designed to orbit at around 120 miles, can be turned in orbit, and make a parachute landing in water.

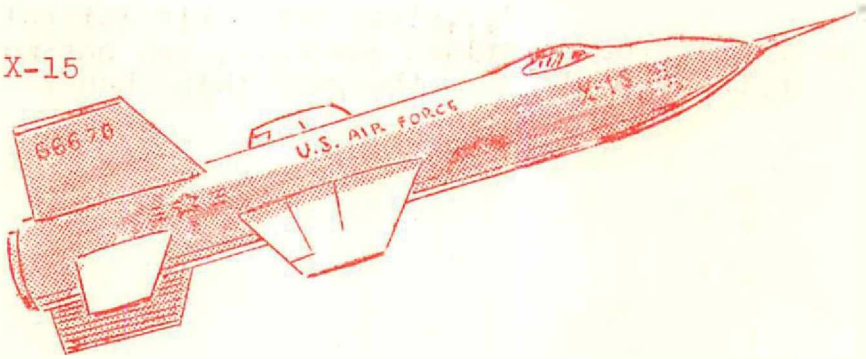
May.5. 1961. Major Alan Shepard made first ballistic flight.
Jly.21 1961 Captain Virgil Grissom duplicated the flight.

Commander John J Glenn may be chosen for No.3, and from these three men, the astronaut for the first Mercury Atlas orbital flight will be chosen.

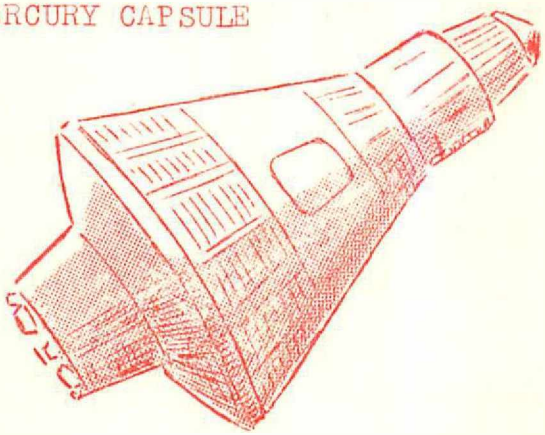
DYNA-SOAR



X-15



MERCURY CAPSULE



You are receiving this issue of ERG, because it was sent to you. Ompa members will have collected this issue in the regular mailing. If you are not a member of Ompa, you are getting this because I just thought you might be interested...or else I feel that you are a nice sort of person and deserve a copy.

If you fall into the latter category, why not make sure you stay there by writing a

LETTER OF COMMENT ?

The free list is re-written with each issue, and dead wood removed to make way for people who want the next issue. PLEASE don't fall by the way side...let me hear from you instead.

OMPA members...I'd appreciate comments on this part of the mailing, but let's be concrete...

"...nice, but a bit frothy"

and

"...nice, but a bit 'gitty' "

are samples of pointless comments, and not much use to anybody. Let's have the real thing huh ?

EXTRA COPIES of ERG may be obtained from the publisher for 2/- post free.

OFF-TRAILS Sorry the duplicate voting form got dropped this time..will it be back in future, its handy for reference.

AMBLE Never met Jean Steer's 'werps' as far as I can recall but I'm glad to say the pseudo aoggies seem to have ended their brief existence. Liked the Courtney episode too,but some of those puns....oooch, worse than Bentcliffe. Then I fell in love with all of page 10.

BULLFROG BUGLE 99% for that cover (she was just a teeny bit too fat for a full 100%..otherwise super. Was that motor car letter for real ? I slurped over it. Has Bentcliffe told you he was over here this weekend, and among others showed some slides of you ? You shake my faith in steak eating America..you just ain't got any steak eating room.

BURP Slender thissue, but again, a good cover. The serial was a trifle disjointed though..I'm beginning to feel that this idea ought to be presented all together in a one-shot for full impact. HIGHER PAY FOR TEACHERS !

WE MOVED This had an extra fascination, as having just bought and moved into, an older type house (with 4 bedrooms, bath, toilet, dining room, living room, kithcen and two cellars) a similar amount of make do and mend faces me. I liked.

CONVERSATIONS These I like, and regret muchly that the number of ideas sparked off just haven't the time to get worked over owing to settling into this new house + the preparations for the baby due in October + ERG itself. I could use a personal time machine if you have one handy.

DEFENESTRATION I hate that for a title - Top marks to Jim Caughran's 'Frank'. NIGEL MOLESWORTH IS A STROKE OF GENIUS..would that I could illo it for you. MORE ! But watch that tail end..it faded a trifle when compared with the wonderful first half..became fannish type stuff egad.

ERG.8. Vote for EDDIE JONES FOR TAFF IN '62

KOBOLD Thanks for the credits Brian..better luck next time huh ?..and you can turn the handle. Enjoyed the encounter with the Roneo man..just think of the fun a fan could have with various salesmen given (a) unlimited finance and (b) a Brass neck..."Well it was working perfectly until we refilled the ink tank with Pale Ale..."

PACKRAT" I enjoyed your account of entering fandom..with a smile for the 'saw the "orldcon advt., but never went there' That Scottish quote will put Ethel on your neck, but how true it is.

PHENOTYPE Was fascinated by the voting system..can't tell you ours in detail, as I have deliberately refrained from voting for several years...I don't support ANY of the parties who have stood...however, we do have a slightly more streamlined method. Never having broiled Soggies,I can't vouch for their taste. Liked this issue muchly, but can't really work up a lot of comment on reports even when as good as these were.

RANDOM What a cover..Valerie only lets me drool over it once a week. The bacover hadn't been handled so well however.. are they original, or did Rakkham adapt existing pics ? His golden ball story was an old one of the Western Bros..one of my favourites. The C-S Monitor has no propaganda at all but I must admit I had expected the thing to be full of it just as you did..must send you a copy to let you see. Agree with you about 'trashy' newspapers. Our local rag is a prime example (we take one copy a week, for the film ads)

RUNNING JUMPING & LIKE THAT. gets the Oscar for the longest title..if you send one to the Grasshopper film group, then it will reach Peter Sellars who is their new Chairman. I like your policy of having words in each issue, but couldn't you relax a little and let the occasional figure in (for preference, make it female) Doc's piece was too highbrow for me, but your editorial was stimulating, naturally I fully agree with everything you say,apart from the numerous points on which we differ...and seriously, your article is VERY like the stuff Bertrand Russell writes..but a lot better, more please. You can develop your own cine-films, lots of people do, but I think this is limited to black and white. Developing still colour films isn't sloshy, but it is rather tedious and time consuming..still, it can be done. Re your Burp comments on stuffing things into the Postal System..I again agree. As a youth, I had a touching faith in Systems and Their Operators. The Doctor knows all, British Railways get you there..and so on. I've grown up, and can now outbungle any of em, plus use their own bungling to further my foul ends.

SCOTTISHE A fine multi coloured cover (sez 'e with visions of Ethel handing out crayons to conscripts of the L-O) Liked your mailing comments, nice and brief. I enjoyed the Con report by Joe Patrizio..sign him up for 62.

SIZAR. Remember I said I was criticising Lady C from memory, but I still feel all the hullaballoo was much ado about a pretty poor piece of work. Liked your bacover illo, but wore out two finger nails trying to separate the pages before I found it was an extra thick sheet. Bah!

GORDIAN KNOT. I've voted for this Constitution and against increasing membership and decreasing page requirements. OMPA should not aim at getting sheer wordage, but a final membership which will produce meaty contributions..if we have to plough through half of fandom by the wayside to get there, O.K.

VAGARY The maths problem for AMBle is only an example of adding the wrong quantities. Between them, the men paid out 9x3 shillings..27shillings. Of these, the boy kept two shillings, and the shopkeeper 25/- thus the totals balance after all. I'm looking forward to seeing the explanation of 'Camp Crazy'..right now I list it with UFO's and like that

VIPER Top marks for part 2 of the asf story..nostalgia I love it. Sad to say I've msilaid my copy of part.1. Any chance of a spare ? The Aptitude Test I just didn't dig..too strained for me. Inskidentally, what happens to your art work ? something seems to go haywire in the cutting. Also, how do you manage to produce 40 page mailings ? Send your secret in a sealed envelope.

? IS A FAN is obviously so large, that I haven't had time to more than scane it as yet, and since next deadline is only a week or so ahead I won't have time to read it before commenting. In answer to the unspoken query, I only just got this substitute mailing - the original went astray in my move to the new place. ? Fan is a marvellous production quality wise. An impeccable and worthwhile product. I'm pretty sure it will prove the same way on reading. Once again, we're indebted to Lynn Hickman.

EDDIE JONES FOR TAFF in 1962.. EDDIE JONES IS A GOOD MAN

ZOUNDS..the colour work proved tough to read I'm afraid Bob, is this because of the number of copies, or a second hand carbon when cutting ? For my Ego, I'd rather have a small size, high quality OMPA mailing than a huge load of crud. Personally, I try to put WORK into ERG (no pun intended) rather than sit down and hack out a covey of stencils as seems to be a common practice so often these days.

THROUGH THE POST BOX .....

BLUSH I've acknowledged this by letter, but I'l like to repeat here...a darned good effort Bill, and one I hope you'll repeat for us each year. Was surprised tp see Barr and Cawthorne below me in the art section..but I aure ain't bitching.

AXE The Official Organ of the Willis Fund, is again packed with news, and bids fair to outdo Skyrack. The write up it gives the Atomanthology has spurred me into trying to find the cash for a copy.

SPACE CHARGE Which Al Lewis are you ? I know you said the East Coast one, but the East Coast of where ? Agree with you about HeinleIn's propaganda..it has rather spoilt many of his recent stories for me. Incidentally, that repro you use..ditto ?..can you not put several colours on the same master by changing carbons ?. It looks like the Banda type work which we once used for Space Times.

DIE STAATENGESCHICHTE WISSENSCHAFT UND ICH.2 neatly shoves MalAsh out of the longest title stakes. Literally translated means.."The Starting Switch Whizzed Off The Shaft and Itches"...I think. A nice ocver, fabulous Metzger illos, and a MidwesCon report. Nice.

BUG EYE RUNS TO NEAR 40 pages, and includes a wide variety of material. A couple of open letters on Gerfandom both lean invvrtically opposite directions. An interesting off-trail John Berry piece. Alan Burns defending Witch craft, and loads of other material..a must for the completist

HABAKKUK 101 pages from the tireless Bill DonahO. HOW DO you manage it Bill. A beautifully duplicated piece of work, including a tomgue-in-cheek Rotsler folio. An interesting facet is Bill's comment on how he printed all letters, so this led to more of them..which he printed..so he got more...which he printed...then gace up the rat race. Interesting, when most fen are crying out loud for letters and can't get 'em. That makes another secret Bill must be keeping..how do you get all those letters ? Didn't care for Ray Nelson's pledge, it struck me as too pretentious, and also like the sundry 'Codes of Living' scattered in the ARRL handbook and such like. Such a pledge as this one makes me go 'Ecch!' and hunt out the cuspidor. The idea is basically good, but it smakks of hunting up your best pal, and offering to exchhange buddy-vows of eternal palsy walsiness. Ray's Beatnik article was more interesting though beyond the realm of belief. YOU MUST GET HABDAKUK..this is only a fraction of what's in it, and the rest is even better.

NORB'S NOTES Is a bit beyond me, but as far as I can make out is from the Comic reading fan segment. It has a Tarzan Xword, a Buck Rogers Xword, and bits on Planet comics, ERB and suchlike material. Not in my orbit I'm afraid, but if you are a comic buff, write to Charles Reinsel, 120 8th Ave. Clarion Penna.

NORTHLIGHT.12 This would have been dealt with earlier, but it got lost in the move from Sharrard Grove. Having now unearthed it, here goes, Cover..Ken McIntyre, but this suffers from being undercut. Interiors suffered the same way, and my copy had been carefully inked in by hand at the missing bits..over 40 words, so if Alan did that for every copy..... Dick Schultz has one of those "..we did this 'n that" articles, amd then we get to Alan's own piece on witchcraft...I've corresponded about this on tape with Alan..and I'm still slightly bewildered. This time I get the impression that witchcraft, like a fannish party, is a way of letting off steam, and moreover, that witchcraft..like many other walks of life..has its more normals (Alan, Sandra Hall etc) and the more highly publicised, black magic witches. These latter get the whole lot a bad name. Yep, much like fandom with You-Know-Who doing the black magic. Enjoyable Alan, though I would still like to know WHAT your personal beliefs in this matter are.

AND THAT'S THE LOT. and remember

EDDIE JONES FOR TAFF in 1962