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BY

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MAY 1964

GODDARD SPACE FLIGHT CENTER

GREENBELT, MARYLAND

OGO

EARTH ACQUISITION

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S. J. Paddack
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May 1964

Theoretical Division
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2357

ABSTRACT

The purpose of this document is to solve, in an analytical fashion, the problem of when the earth can be acquired by an earth orbiting satellite. To "acquire" the earth means that the earth will be visible to the satellite in a certain fashion. In the real case when the earth is properly seen by a satellite, the satellite will automatically lock on to the earth and track it.

The technique for predicting earth acquisition, described herein, is a mathematical method which is developed into a computer program. Through the use of the program it is possible to predict when, after a reference time, the earth can be acquired by a particular satellite in a given orbit. The technique is a function of the kind of earth-search and acquisition device, the orbit, the launch date and time of day. The technique is a function of the earth-searching and acquisition device inasmuch as the device will have certain mechanical or electronic limitations. It is a function of the orbit because it is easier to acquire from nearby than far away. And finally the technique is a function of the date and time of day because the satellites are first sun-oriented before starting the earth-search mode.

The technique is applied and results are shown for two satellites in the Orbiting Geophysical Observatory (OGO) family, namely for the Eccentric Orbiting Geophysical Observatory, EGO, S-49, and for the Polar Orbiting Geophysical Observatory, POGO, S-50.

The results indicate when the earth will be acquired for these two satellites as a function of launch time so that launch times can be selected for optimum results. As a result earth acquisition launch window maps are presented.

Author

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NOMENCLATURE

a	The semi-major axis of the satellite's orbit. Also used as an arbitrary constant.
a'	1 A.U. = 1.496×10^8 kilometers = the semi-major axis of the sun's orbit relative to the earth (Reference 8).
b	An arbitrary constant.
d	The number of days from 0.0 hours Universal Time on January 1, 1961 to the time in question.
d_i	A parameter for the ith sweep plane; it is defined by equation (18) for sweep planes 1 and 2.
E	The satellite's eccentric anomaly.
e	The eccentricity of the satellite's orbit.
e'	0.0167259 = the eccentricity of the sun's orbit relative to the earth. (Page 50 of Reference 9.)
g'	Mean anomaly of the sun relative to the earth.
$\bar{H}$	Angular momentum vector.
i	Inclination = the angle between the satellite's orbit plane and the equatorial plane.
$\bar{i}, \bar{j}, \bar{k}$	The unit vectors which correspond to X, Y and Z, respectively.
$\bar{i}_b, \bar{j}_b, \bar{k}_b$	The unit vectors which correspond to x_b, y_b, and z_b, respectively. (See Figure 2.)
$\bar{L}_i$	The sweep vector for the ith plane.
M	Mean anomaly.
$\bar{N}_i$	The unit normal to the ith sweep plane.
$\bar{P}, \bar{Q}, \bar{R}$	The unit vectors which correspond to x_w, y_w, and z_w, respectively.

P_X, P_Y, P_Z The components of the $\bar{P}$ unit vector in the (X, Y, Z) system.

Q_X, Q_Y, Q_Z The components of the $\bar{Q}$ unit vector in the (X, Y, Z) system.

R_e The equatorial radius of the earth.

$\bar{r}$ A position vector.

$\bar{r}_{se}$ The position vector which points from the center of the earth to the sun.

$\bar{r}_{ve}$ The position vector from the earth to the vehicle.

$\bar{r}_{vs}$ The position vector which points from the sun to the vehicle.

t Time

t_0 Time when earth-search begins.

$\bar{u}_{se} = \frac{\bar{r}_{se}}{|\bar{r}_{se}|}$ = The unit vector which points from the center of the earth to the sun.

$\bar{v}$ A velocity vector.

X, Y, Z Cartesian coordinates with the origin at the center of the earth, the X-axis in the direction of the vernal equinox, the Z-axis along the north pole of the earth, and the Y-axis forms a right hand set.

x_b, y_b, z_b This coordinate system is fixed to the main OGO box. (Figure 2.)

x_w, y_w, z_w Cartesian coordinates with the origin at the center of the earth, the x_w - axis is in the direction of perigee, the y_w - axis is advanced 90° in the direction of motion, and the z_w - axis is in the direction of the satellite's angular momentum vector.

α_v, α_h Blind zone angles (See Figure 8).

γ Flight path angle.

ϵ The angle between the equatorial plane and the ecliptic plane.

θ The satellite pitch angle.

θ_0 The value of θ at t_0.

λ' $= \nu' + \omega'$ = True longitude of the sun = the angle between the positive X-axis (vernal equinox) and the vector which points from the earth to the sun $\bar{r}_{se}$. It is measured in the direction of motion from the X-axis (equation B-8).

ν True anomaly.

ν' True anomaly of the sun = the angle between the vector which points from the center of the earth to the sun's perigee and the vector which points from the center of the earth to the sun. It is measured in the direction of motion of the sun.

ρ_{sv} Defined by equation (3).

τ A parameter.

Ω Longitude of the ascending node = the angular distance from the vernal equinox measured eastward in the equatorial plane to the point of intersection of the orbit plane where the satellite crosses from south to north.

ω The argument of perigee = the angular distance measured in the orbital plane from the line of nodes to the line of apsides.

ω The pitch rate of the satellite.

ω' The argument of perigee of the sun = the angle between the positive X-axis (Vernal Equinox) and the vector from the center of the earth to the sun's perigee measured in the direction motion from the X-axis.

INTRODUCTION

The Orbiting Geophysical Observatories are earth-oriented satellites. One face of the main body structure will always be perpendicular to the radius vector from the center of the earth to the satellite. This orientation is maintained through the use of momentum wheels and gas jets aboard the satellite.

After an OGO satellite is injected into orbit it is maneuvered about until one of its main body axes, $-y_b$, is directed toward the sun. The satellite is then caused to rotate about this axis to permit the earth horizon scanners to acquire the earth's horizon. Figure 1 shows the satellite lined up with the sun and rotating. Figure 2 shows the OGO

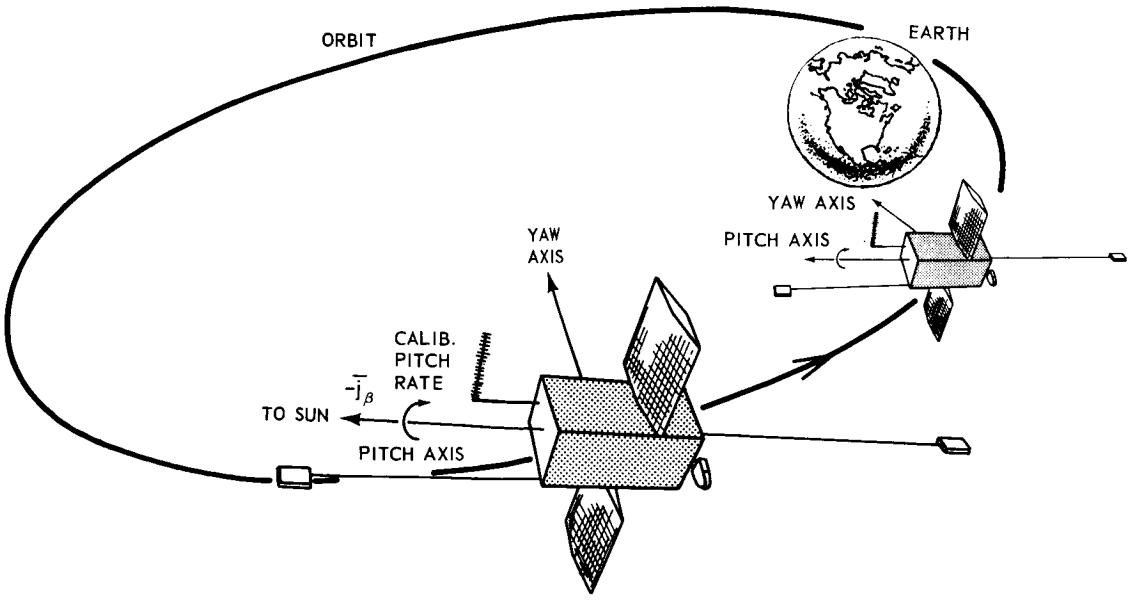


Figure 1 – Earth-Search Mode of Acquisition

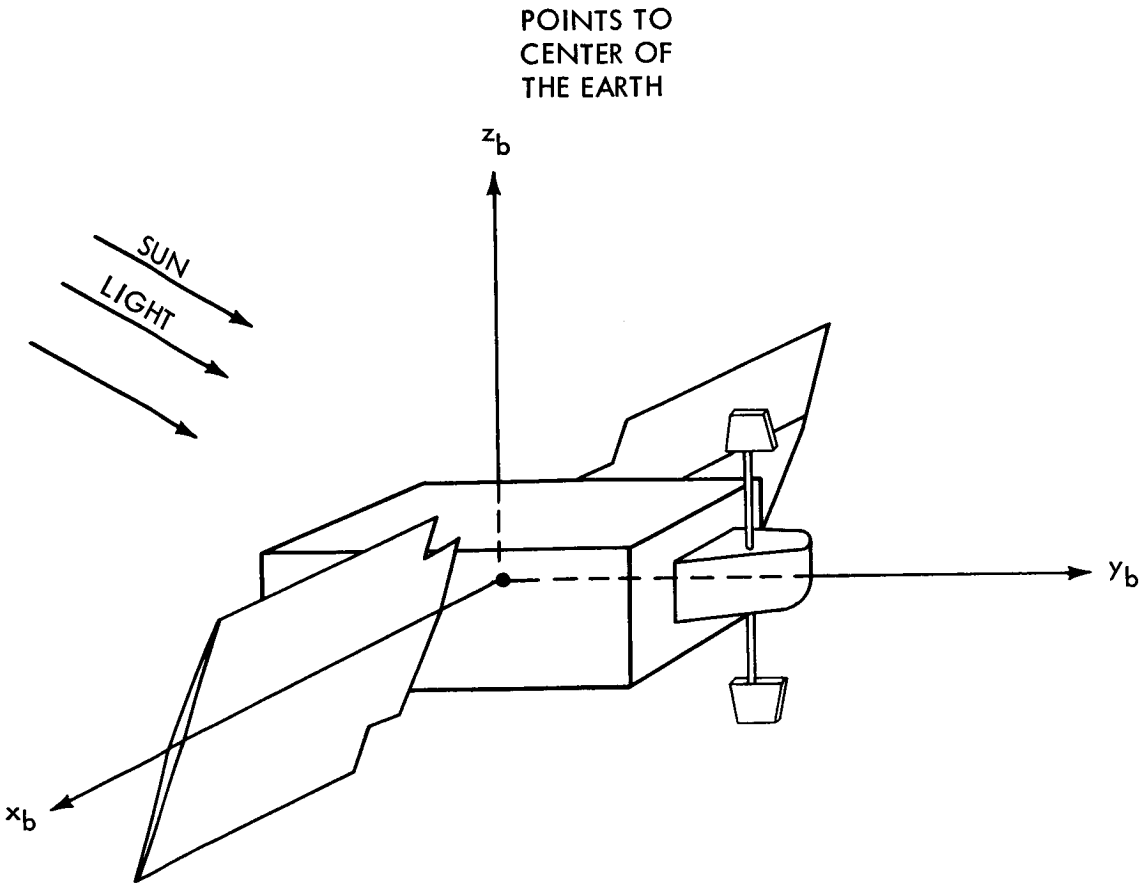


Figure 2 – Body Coordinate System

coordinate systems. If the planes which are scanned cut through the earth it may be possible for the satellite to acquire the earth. The earth horizon scanners are mounted on the satellite in two mutually perpendicular planes which are also perpendicular to the surface of the satellite. See Figure 3. There are two scanners in each plane and each scanner sweeps out an angle in its own plane. If the earth's horizon is within a scanner's sweep angle that scanner is said to have acquired the horizon. The earth is said to be acquired if three of the four scanners have acquired the horizon.

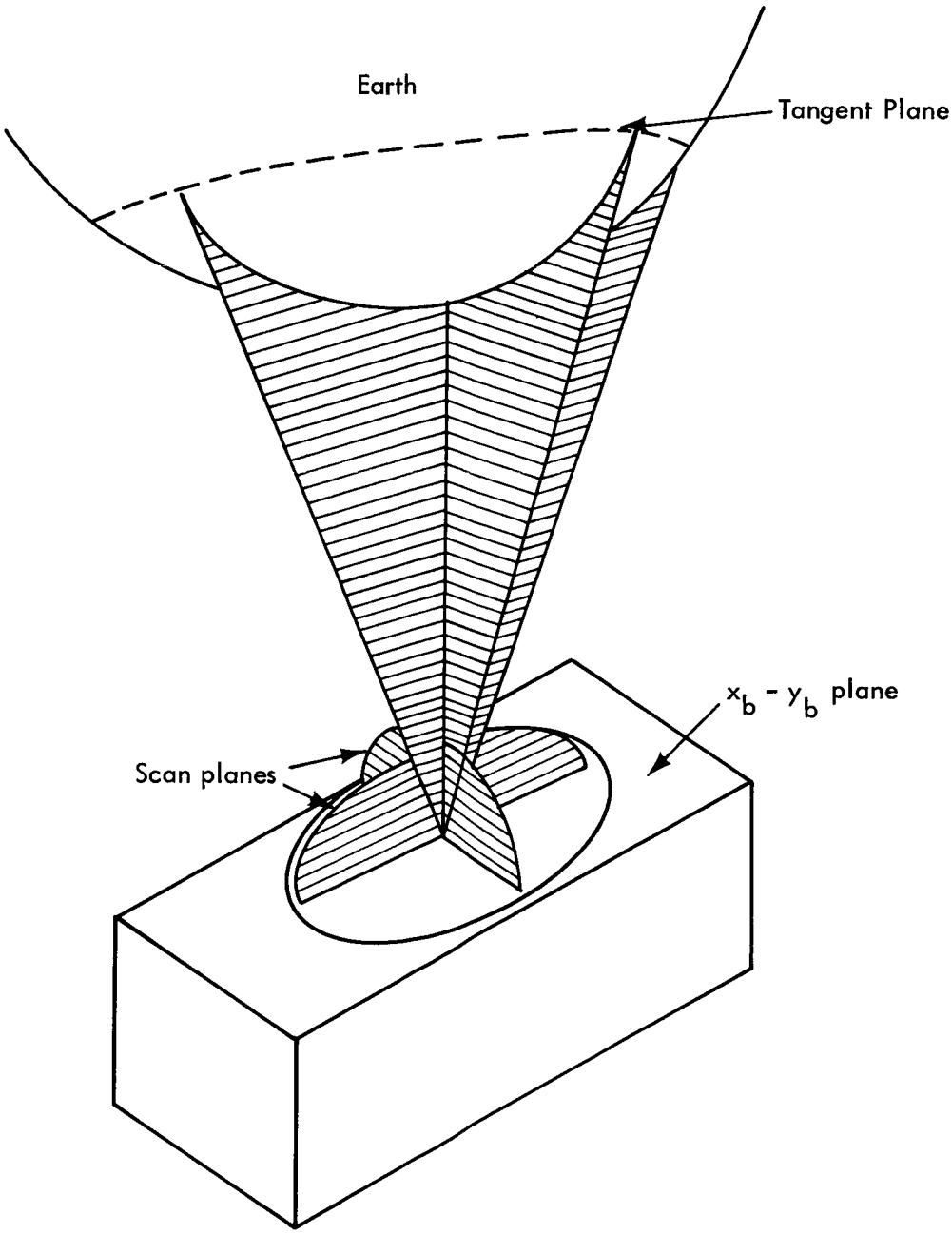


Figure 3 – The Horizon Scanners

This document presents a description of the earth-search mode and the mathematical technique used in the scanning and earth acquisition. Presented also is the amount of time or angle of true anomaly which elapses after a reference time (i.e. lift-off time, injection time or beginning of search) until earth acquisition occurs. The technique is quite naturally a function of the time of day and time of year since the sun's position defines the initial orientation of the satellite. In particular the results for two satellites of the OGO series are presented in this document (see Appendix A). The satellites considered are the S-49, Eccentric Orbiting Geophysical Observatory which has been acronymed EGO and the S-50 a polar orbiting OGO (hence POGO).

I. ASSUMPTIONS

A. The EGO Orbits

Two basic orbits are taken into consideration in this investigation for the EGO satellite. These orbits differ principally in apogee height. One case is referred to as the 60K orbit and has an apogee height of 60,000.0 nautical miles; the other is the 80K orbit and therefore has an 80,000.0 nautical mile apogee height.

The initial injection conditions for the two orbits are shown below. These injection conditions are assumed to be the same as the Agena (the last stage of the launch vehicle) burnout conditions. See References 1 and 2.

TABLE I

EGO INJECTION CONDITIONS

	60K	80K
Geocentric latitude	20°.28035 S.	20°.744573 S.
Longitude	111°.90188 E.	111°.11923 E.
Height	281.6216 km	279.2517 km
Speed	10.64527 km per sec	10.716286 km per sec
Azimuth	66°.35514	66°.445986
Flight path angle	1°.47148	1°.452111

The classical orbital elements associated with each of these orbits are shown in Table II below. These elements are the osculating elements at approximately apogee with the exception of the right ascension of the ascending node, Ω which is that of injection. The osculating elements at apogee are chosen to show the actual apogee attained after the satellite has been perturbed on its flight to that point. The program described in this document uses as input the apogee elements with exception of the node. The node at injection is chosen to maintain orbit plane alignment.

TABLE II

EGO ORBITAL ELEMENTS

	60K	80K
a	9.73117 earth radii	12.63422 earth radii
e	.8929018	.91701983
i	30°.80698	31°.020115
ω	-45°.59638	-46°.341235
Ω	144°.299963	138°.07048
EPOCH	Nov. 15, 1963 20.0 hrs UT	July 25, 1964 3.0 hrs UT

The epoch of July 25, 1964 at 3.0 hrs UT was chosen because it lies within the launch window defined by the perigee restraints. See

"S-49, EGO Launch Window and Orbit" (Reference 3) for a discussion of the restraints imposed on launch time and a diagram of the launch window map. The launch windows for the 60K and 80K n.m. apogee orbits do not differ greatly. Reference 3 shows the launch window map for the 60K n.m. apogee case.

Computer runs have been made comparing the orbits defined with injection conditions and apogee elements on two different computer programs. This comparison is discussed in the "EGO Launch Window Study," Reference 4.

B. The POGO Orbit

In the case of the POGO, S-50 only the nominal orbit is taken into consideration. Table III below shows the injection conditions and classical orbital elements (osculating elements at injection).

TABLE III

POGO, S-50 INJECTION CONDITIONS

Polar Coordinates		Classical Elements	
Latitude	16°98219 South	a, semi-major axis	1.09315 earth radii
Longitude	47°14414 East	e, eccentricity	.048267
Height	257.593 km	i, inclination	82°0
Speed	7.93526 km/sec	ω, argument of perigee	-17°32693
Azimuth	8°363	Ω, right ascension of the ascending node	105°63417
Flight Path Angle	0°00796	Epoch, March 1, 1964 17.1 hrs UT	

Since POGO is a close earth, low period satellite the osculating elements throughout the orbit do not differ greatly.

II. DESCRIPTION OF THE EARTH-SEARCH MODE

Reference 5 gives an elaborate discussion and description of the earth-search mode. The mode is briefly summarized here.

The OGO attitude control system orients the $\bar{k}_b$ vector of the main OGO box toward the center of the earth, and it orients the perpendicular to the solar array axis towards the sun. After separation from the Agena the $-\bar{j}_b$ axis of the main OGO box is aligned with the sun during the sun acquisition mode.

The earth-search mode is initiated after the sun acquisition mode. This occurs at a predetermined time after sun acquisition (either 29 minutes or 74 minutes). During the earth search mode, the $-\bar{j}_b$ vector is kept pointing toward the sun, and a pitch rate of ω (-0.49 degrees per second) is maintained about this axis. Thus, as the vehicle proceeds in orbit, the $\bar{k}_b$ axis is swept through space and at some point it will intersect the earth. This mode is illustrated in Figure 1.

The horizon scanner assembly consists of four independent scanner heads which individually search for, locate and track the earth's horizon. Figure 3 shows an illustration of the horizon scanner planes. Each scanner sweeps through a fixed field of view in its plane, searching for an earth-space gradient to track. The maximum scan angle of one scanner is approximately 90°. Four scanner heads are mounted in

a cruciform pattern about the $+z_b$-axis. Thus, in the search phase, the scanner system has a look angle of approximately 4π steradians since the vehicle rotates rapidly (ω = -0.49 degrees per second) about the y_b-axis.

III. MATHEMATICAL MODEL

A. Satellite Orientation

After the sun has been acquired, the $-y_b$ body axis is directed toward the sun, and a pitch rate ω about this axis is applied to the satellite. The attitude of the satellite is best described in a body-coordinate system described by the three unit vectors $\bar{i}_b'$, $\bar{j}_b'$, $\bar{k}_b'$ defined by:

$$\bar{j}_b' = -\frac{\bar{r}_{sv}}{|\bar{r}_{sv}|} = \left[-\frac{X_{sv}}{|\bar{r}_{sv}|}, -\frac{Y_{sv}}{|\bar{r}_{sv}|}, -\frac{Z_{sv}}{|\bar{r}_{sv}|} \right] . \tag{1}$$

The vector $\bar{r}_{sv}$ is the vector from the vehicle to the sun and can be determined from the following equation.

$$\bar{r}_{sv} = \bar{r}_{se} - \bar{r}_{ve} .$$

The vectors $\bar{r}_{se}$ and $\bar{r}_{ve}$ are the vectors from the earth to the sun and from the earth to the orbiting vehicle. Both $\bar{r}_{se}$ and $\bar{r}_{ve}$ are known quantities. These are shown in more detail in Appendix B.

$$\bar{i}_b' = \left[\frac{Y_{sv}}{\rho_{sv}}, -\frac{X_{sv}}{\rho_{sv}}, 0 \right] \tag{2}$$

where

$$\rho_{sv}^2 = X_{sv}^2 + Y_{sv}^2 \tag{3}$$

$$\bar{k}_b' = \left[\frac{X_{sv} Z_{sv}}{\rho_{sv} \left| \bar{r}_{sv} \right|}, \frac{Y_{sv} Z_{sv}}{\rho_{sv} \left| \bar{r}_{sv} \right|}, - \frac{\rho_{sv}}{\left| \bar{r}_{sv} \right|} \right] . \tag{4}$$

The base vectors $\bar{i}_b'$, $\bar{j}_b'$, $\bar{k}_b'$ originate in the satellite at the coordinate origin but these do not rotate with the satellite. Another coordinate system defined by $\bar{i}_b$, $\bar{j}_b$, $\bar{k}_b$ is defined at the same origin as the prime system above, however is fixed with respect to the satellite and hence rotates with the satellite. The $\bar{i}_b$ vector is aligned with solar paddle shaft, the $\bar{j}_b$ lies in the center of the satellite and parallel to the longest sides of the satellite. The $\bar{k}_b$ completes the right hand orthogonal set. Figure 2 shows the body-coordinate system.

The relationship between the two body coordinate systems for any time is given by the following set of equations.

$$\bar{i}_b = \bar{i}_b' \cos\theta - \bar{k}_b' \sin\theta \tag{5}$$

$$\bar{j}_b = \bar{j}_b' \tag{6}$$

$$\bar{k}_b = \bar{i}_b' \sin\theta + \bar{k}_b' \cos\theta \ . \tag{7}$$

At any time, t the value of θ is defined by:

$$\theta = \theta_0 + \omega\left(t - t_0\right) \tag{8}$$

where θ_0 = the initial pitch angle.

ω = the pitch rate.

t_0 = a reference time.

B. Sweep Planes and Lines

There are two mutually perpendicular planes swept out by the horizon scanners as shown in Figure 3. In terms of the rotating coordinate system $\bar{i}_b$, $\bar{j}_b$, $\bar{k}_b$ (equations 5, 6, 7) the two sweep planes are defined as follows:

Sweep plane (1) contains $\bar{i}_b$ and $\bar{k}_b$ axes, its normal is given by

$$\bar{N}_1 = \bar{j}_b \ . \tag{9}$$

Any vector in this sweep plane is given by:

$$\bar{L}_1 = a\bar{i}_b + b\bar{k}_b \ ; \tag{10}$$

a, b, are arbitrary constants. Sweep plane (2) contains the $\bar{j}_b$, $\bar{k}_b$ axes, its normal is given by:

$$\bar{N}_2 = \bar{i}_b \tag{11}$$

and an arbitrary vector in the sweep plane is:

$$\bar{L}_2 = a\bar{j}_b + b\bar{k}_b \ . \tag{12}$$

The parametric equation of an arbitrary straight line is given by:

$$\bar{r} = \bar{r}_{ve} + \bar{L}_i \tau \quad \text{where} \quad i = 1, 2 . \tag{13}$$

The $\bar{r}$ vector defines a point in space which lies in the sweep plane. By letting the parameter τ vary from $\pm\infty$ all points along any particular line are defined. Now, if all lines are considered a plane in space is swept out.

Figure 4 shows how an area is swept out in space for each sweep plane in accordance with equation (13). It can be deduced from

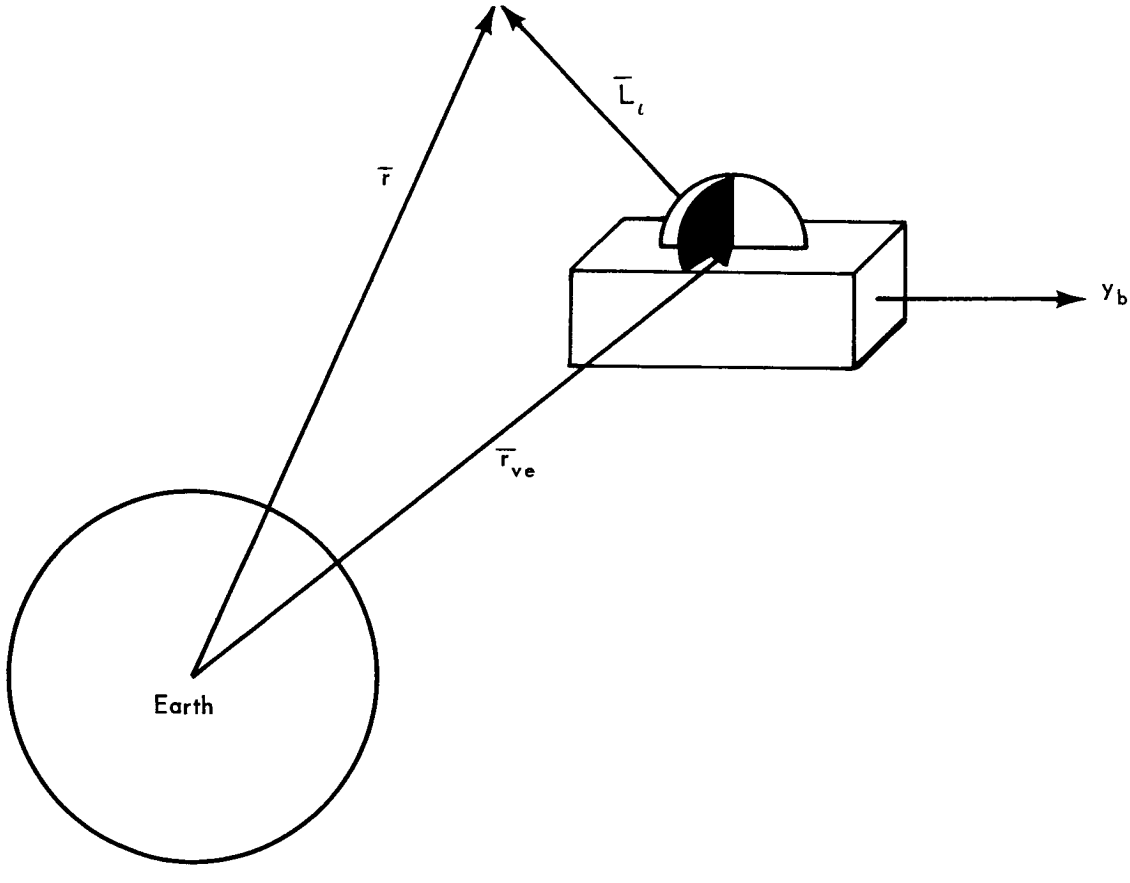


Figure 4 – The Sweep Planes

equation (13) and Figure 4 that some of the area swept out in space in each of the sweep planes is beyond the visibility range of the horizon scanners. There are times when the sweep plane cuts through the body of the satellite. There are also blind zones (null angles) in each of the scanners. These problems are discussed in a later section of this document. For the time being it is enough to realize that planes are swept out in space. The problem now is to test whether a line in a sweep plane intersects the earth.

C. Horizon Testing

In order for a line in a sweep plane to intersect the earth the sweep plane itself must cut through the earth. This is tested most easily by projecting the radius vector to the satellite from the earth, $\bar{r}_{ve}$ onto the normal, $\bar{N}_i$ to the sweep plane. If the magnitude of the projection, D is less than the earth's radius then the plane cuts through the earth; if the magnitude of the projection is equal to the earth's radius then the plane is tangent to the earth's horizon. If the projection is greater than the earth's radius then there is no intersection. In particular, if:

$$D = \left|\bar{N}_i \cdot \bar{r}_{ve}\right| \tag{14}$$

where D = the magnitude of the projection of the radius vector to the satellite onto the normal to the sweep plane. Then if,

$D < R_e$ intersection
$D = R_e$ tangency
$D > R_e$ no intersection

where R_e = the earth's radius.

The physical meaning of equation (14) is shown in Figure 5. For earth acquisition to occur both sweep planes must intersect the earth. This is a necessary condition but not sufficient. Consequently, for the

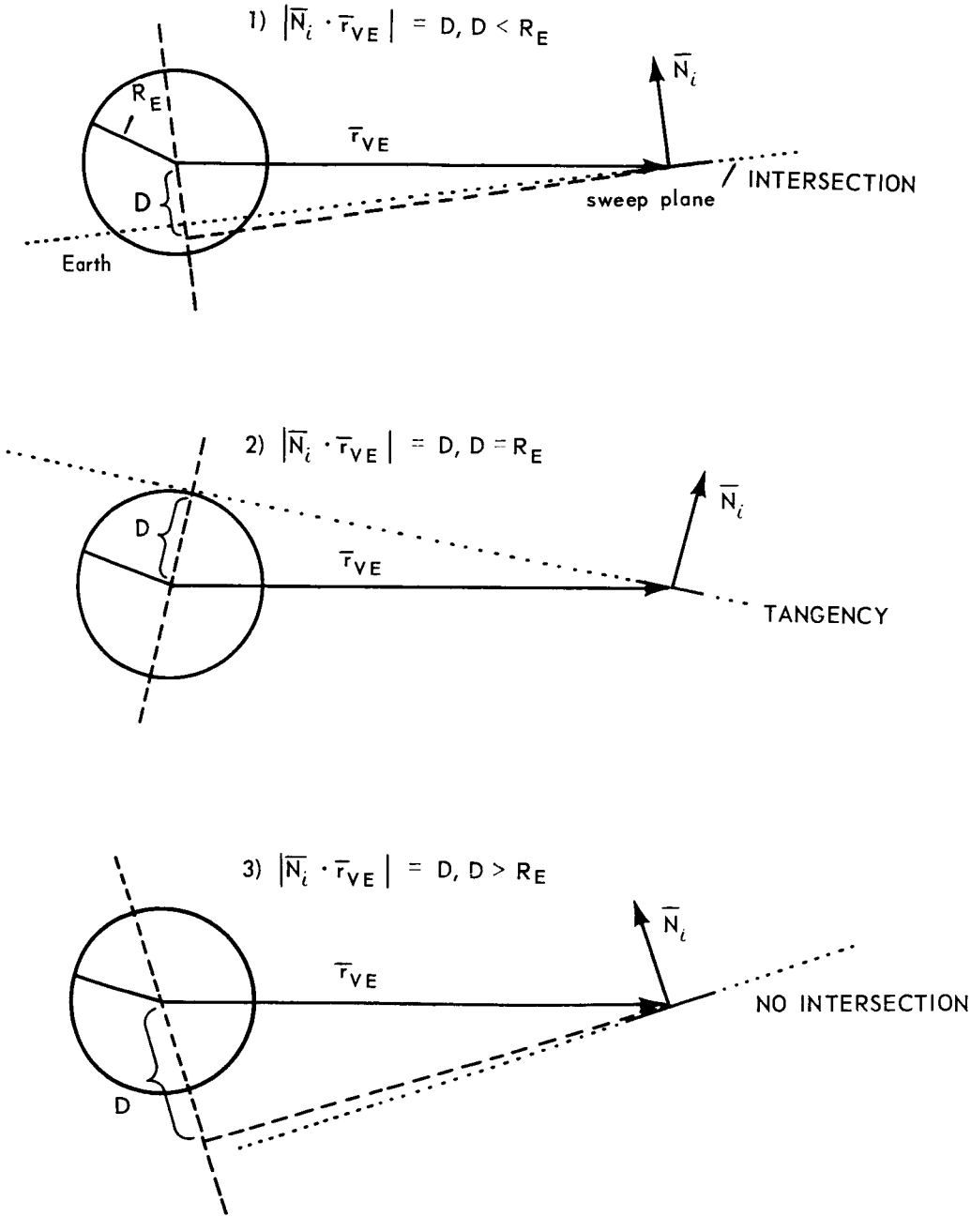


Figure 5 – Intersection/Tangency Test

cases of intersection and tangency further tests must be made to ascertain whether the vector from the satellite to the horizon lies within the sweep angle.

The values of τ for which $|\bar{r}| = R_e$ are given by:

$$\left(r_{ve} + \bar{L}_i \tau\right) \cdot \left(\bar{r}_{ve} + \bar{L}_i \tau\right) = R_e^2 \ . \tag{15}$$

A consequence of equation (15) is that if it is satisfied then the $\bar{L}$ line must be tangent to the horizon. In the case of tangency there is only one value for τ which satisfies equation (15). Consider the sketch, Figure 6 below where the sweep plane lies in the earth's equatorial

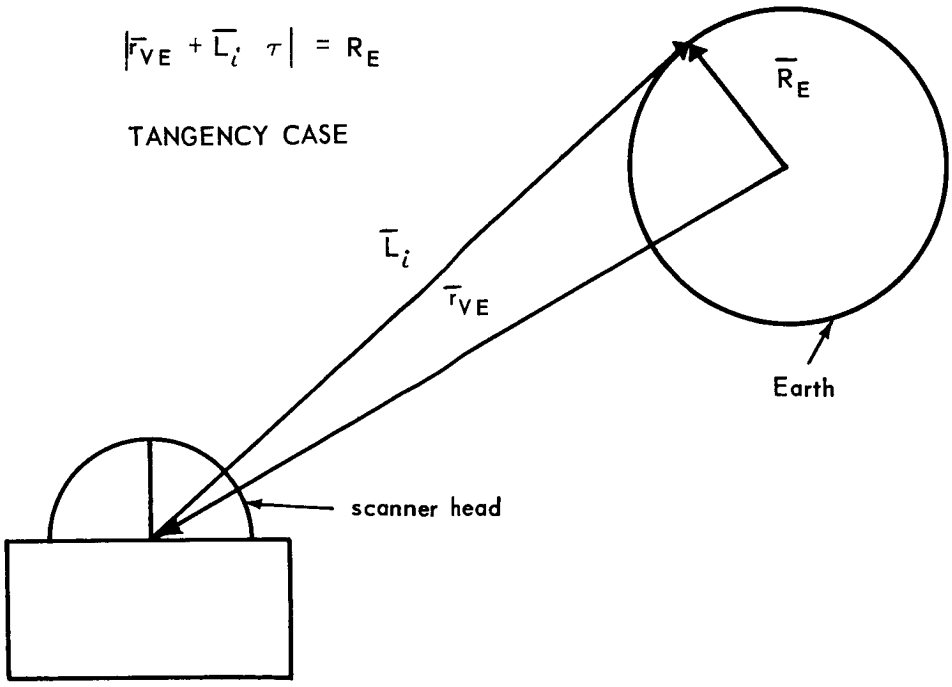


Figure 6 – Horizon Test

plane. Equation (15) is a quadratic which may be rewritten as:

$$\tau^2 L_i^2 + 2\tau \left(\bar{r}_{ve} \cdot \bar{L}_i\right) + \left(r_{ve}^2 - R_e^2\right) = 0 . \tag{16}$$

If equation (16) is satisfied the discriminant must also be zero, hence:

$$\left(\bar{r}_{ve} \cdot \bar{L}_i\right)^2 - L_i^2 \left(r_{ve}^2 - R_e^2\right) = 0 . \tag{17}$$

When equation (10) is substituted into the above equation the following results:

$$\left\{\bar{r}_{ve} \cdot \left(a\bar{i}_b + b\bar{k}_b\right)\right\}^2 - \left(a\bar{i}_b + b\bar{k}_b\right)^2 \left(r_{ve}^2 - R_e^2\right) = 0 .$$

Expanding this becomes:

$$a^2 \left(\bar{r}_{ve} \cdot \bar{i}_b\right)^2 + 2ab \left(\bar{r}_{ve} \cdot \bar{i}_b\right)\left(\bar{r}_{ve} \cdot \bar{k}_b\right) + b^2 \left(\bar{r}_{ve} \cdot \bar{k}_b\right)$$

$$- \left(a^2 + b^2\right)\left(\bar{r}_{ve}^2 - R_e^2\right) = 0 .$$

A similar equation can be developed by substituting equation (12) into equation (16). The only difference would be the replacement of $\bar{j}_b$ for $\bar{i}_b$. With the following definitions the above equation can be rewritten more simply. Let

$$\begin{aligned} d_1 &= \bar{r}_{ve} \cdot \bar{i}_b \\ d_2 &= \bar{r}_{ve} \cdot \bar{j}_b \\ d_3 &= \bar{r}_{ve} \cdot \bar{k}_b \end{aligned} \tag{18}$$

$$a^2\left(d_i^2 - r_{ve}^2 + R_e^2\right) + 2abd_i d_3 + b^2\left(d_3^2 - r_{ve}^2 + R_e^2\right) = 0 \qquad (19)$$

where i = 1, 2.

The angle, Φ that an $\bar{L}_i$ makes in the scanner head is defined by the following equations and is shown in Figure 7 below:

$$L_1 = a\bar{i}_b + b\bar{k}_b$$

$$L_2 = a\bar{j}_b + b\bar{k}_b$$

$$\tan\Phi = \frac{a}{b} .$$

If b is arbitrarily set equal to unity then:

$$b \equiv 1 \qquad \tan\Phi = a . \qquad (20)$$

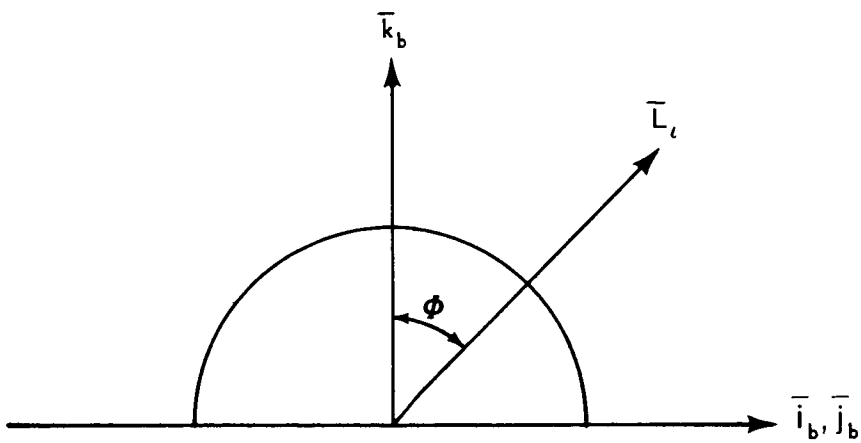


Figure 7 – Search Vector Angle, Φ

Substituting (20) into (19) yields the following equation:

$$\left(d_i^2 - r_{ve}^2 + R_e^2\right)\tan^2\Phi + 2d_i d_3 \tan\Phi + \left(d_3^2 - r_{ve}^2 + R_e^2\right) = 0 \qquad (21)$$

where $i = 1, 2$. There are two values of Φ which will satisfy equation (21) for each sweep plane. If the solution values of Φ have the same sign the solutions lie in the same scanner. If the signs are different then there is a solution in each scanner. Since equation (21) represents two equations, one for each sweep plane (each of which contains two scanners) there are four values of Φ which result from equation (21).

A special case arises when the coefficient of $\tan^2 \Phi$ goes to zero, i.e.

$$d_i^2 - r_{ve}^2 + R_e^2 = 0 .$$

In this case the quadratic formula may not be used. Then solutions are given by:

$$\Phi = \tan^{-1} \left\{ \frac{-d_3^2 + r_{ve}^2 - R_e^2}{2 d_i d_3} \right\} . \tag{22}$$

An additional test has to be made once Φ is determined, to ascertain whether the sweep line points toward rather than away from the horizon. This is achieved by computing $\bar{L}_i$ for the proper angle Φ and then

$$\begin{aligned} \bar{L}_i \cdot \bar{r}_{ve} &< 0 \quad \text{points toward the earth} \\ &> 0 \quad \text{points away from the earth.} \end{aligned} \tag{23}$$

Figure 6 clearly illustrates this test. If the $\bar{L}_i$ line is not tangent or piercing the earth then, obviously, the projection of $\bar{r}_{ve}$ onto $\bar{L}_i$, pointing in the same direction as $\bar{L}_i$, cannot point toward the earth.

One final test has to be made and that is to test whether Φ lies within the sweep range. There are blind zones or null angles on each scanner as shown below in Figure 8.

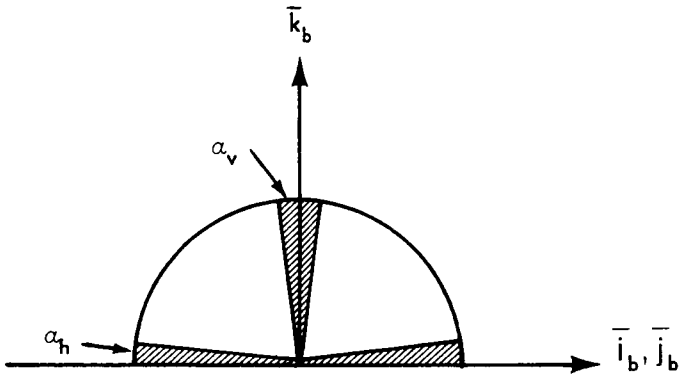


Figure 8 – The Blind Zones

Hence the final test is that Φ must:

$$\left(\frac{\pi}{2} - \alpha_h\right) \geq |\Phi| \geq \alpha_v \ . \tag{24}$$

The use of the equations presented thus far in this section now provide us with the necessary basic tools to perform an earth-acquisition

study. Equations (1) through (4) define a coordinate system that moves along the orbital path with the satellite but does not rotate with the satellite. Equations (5), (6) and (7) give a rotating coordinate system. Equation (14) tests whether the sweep planes intersect the earth. The angle that a line makes during acquisition is defined and tested by equations (21) through (24).

The next sections discuss how the process is carried out.

IV. COMPUTING AND TESTING

A. The Zones

After an OGO has acquired the sun it starts its earth-search mode during which it rotates in pitch as it goes around in its orbit. During this time it is rotating about the $\bar{j}_b$ vector. The $\bar{k}_b$ vector is coincident with the intersection of the two sweep planes. Consequently, two zones are cut out in the orbit during which acquisition may occur. The zones will differ as the relative position of the sun changes or in other words the zones will change as a function of injection time into orbit. Figure 9 shows the zones defined by three different injection times. In these diagrams a perigee injection is assumed, hence the local time given is the local perigee time.

The first step in the computing and testing sequence is to define the zones since it is only necessary to conduct earth-search in the zones. If earth-search begins in a zone then there will be three zones. If such is the case then the remaining portion of that zone is defined as zone 1; zone 2 remains as it is but a zone 3 is defined as that portion of the zone in which earth-search started which is searched as the satellite approaches that point in orbit where the earth-search mode started (in other words after almost a full orbit). Equation (14) tests whether the sweep planes intersect the earth, the equation can be

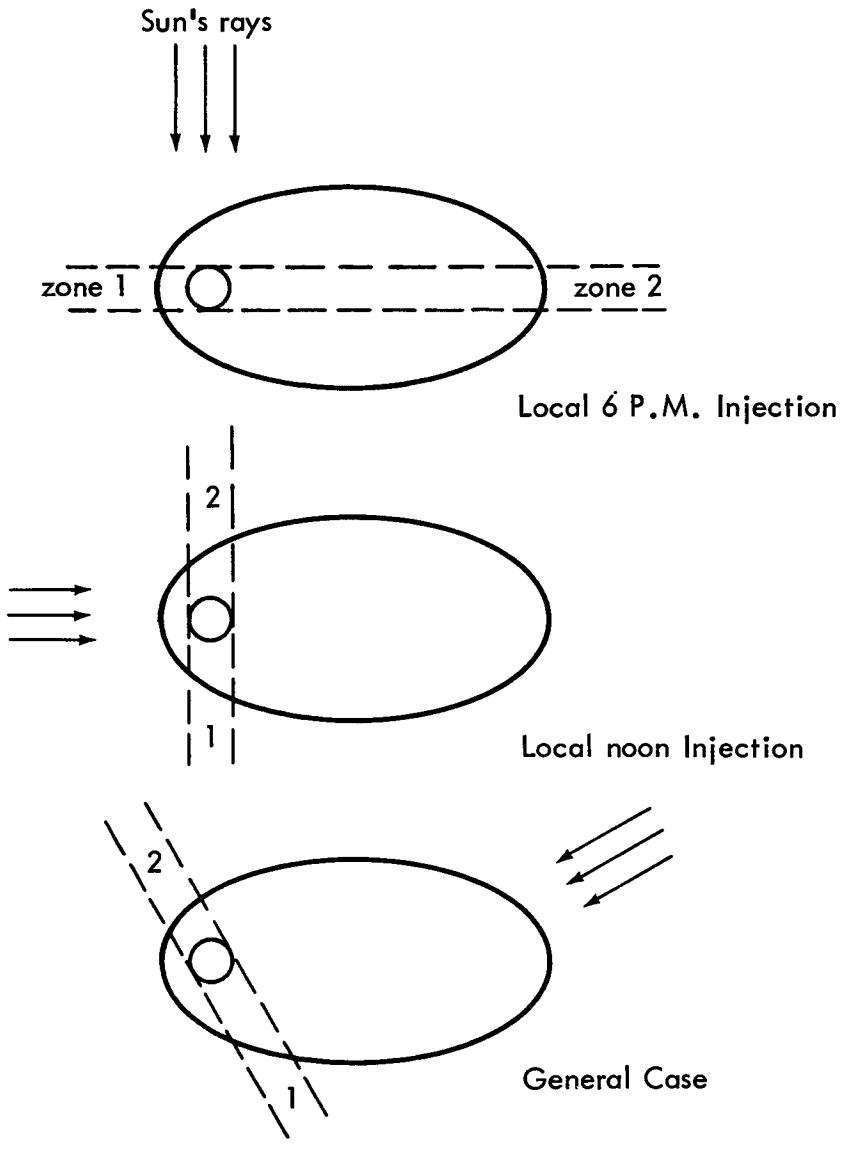


Figure 9 – Acquisition Zones

rewritten as:

$$C_{1,2} = \left| \bar{N}_{1,2} \cdot \frac{\bar{r}_{ve}\left(t_i\right)}{R_e} \right| \begin{matrix} < \\ = \\ > \end{matrix} \begin{matrix} 1 \\ 1 \\ 1 \end{matrix} \quad i = 1, 2, 3 \cdots n \, . \tag{25}$$

Acquisition may occur if $C_{1,2} < 1$ and no acquisition possible if $C_{1,2} \geq 1$. The boundaries of the zones occur when $C_{1,2} = 1$. When $C_{1,2} = 1$ the angle of eccentric anomaly, E is computed and hence the zones are defined. The eccentric anomaly goes into the make up of the radius vector to the satellite, $\bar{r}_{ve}(t_i)$. Where $\bar{r}_{ve}(t)$ is defined in terms of the orbital elements:

$$\bar{r}_{ve}(t_i) = \bar{P}\, a\left(\cos E_i - e\right) + \bar{Q}\, a\sqrt{1-e^2}\,\sin E_i \,. \tag{26}$$

The elements are defined as follows:

$\bar{P}, \bar{Q}$ = Unit vectors from the center of the earth to perigee and normal to perigee in the orbit plane in the direction of flight.

a, e, E = The classical orbital elements semi-major axis, eccentricity and eccentric anomaly.

$i = 1, 2, 3 \cdots n$.

The value of $\bar{r}_{ve}$ is computed from equation (26) by inputting E_i. The result then becomes input for equation (25). When equation (25) is satisfied the value of E_i that was used in equation (26) is stored and the process continues till all boundaries are defined. The eccentric anomaly is converted to true anomaly, ν by:

$$\sin\nu = \frac{\sqrt{1-e^2}\,\sin E}{1 - e\cos E} \qquad \cos\nu = \frac{\cos E - e}{1 - e\cos E} \,. \tag{27}$$

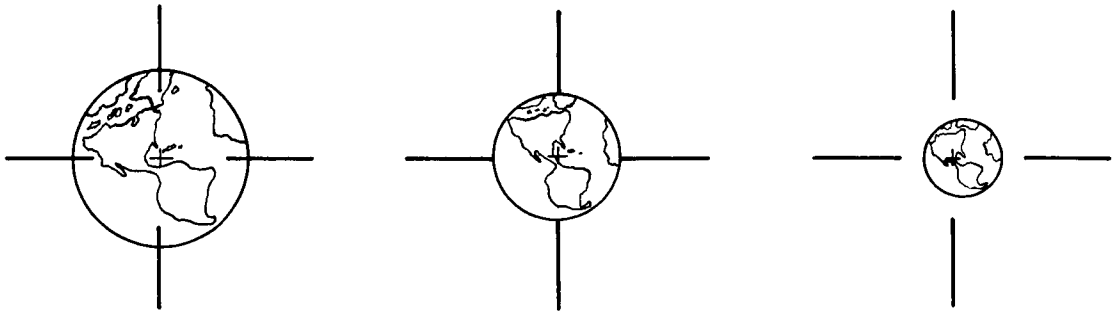
B. Scanner Limitation

There are times when an acquisition zone lies beyond the visibility range of the scanner due to the scanner null angles. Suppose that the satellite is in an acquisition zone but the entire visible earth lies in the scanner blind spot. Then acquisition is impossible even though the sweep planes are cutting the earth. The visibility limit is defined by the following equation:

$$\text{Visibility limit in earth radii} = \frac{1}{\tan \alpha_v} \tag{28}$$

where α_v = the null angle for one scanner (See figure 8).

The central null angles of the scanners cause a cone to be generated in space. If the earth, viewed through the scanner head, is contained within this cone or placed in it such that three scanners cannot see the earth at the same time then acquisition cannot occur. The figures below show the earth viewed through the scanner head.



r < L r = L r > L

L = visibility limit in e. r.

Figure 10 – Earth Viewed Through Scanner Head

C. Time in Zones and Minimum and Maximum Time

It is beneficial to know the amount of time spent in the acquisition zones because if for mechanical or electronic reasons the earth is not acquired when predicted by the mathematics it then becomes important to know if the spacecraft will spend enough time in that zone to have another chance at acquisition. The time spent in the zones is easily computed from Kepler's equation solved for time:

$$\text{Time in zone} = \frac{1}{n}\left\{E_2 - E_1 - e\left(\sin E_2 - \sin E_1\right)\right\} \tag{29}$$

where n = mean motion.

E_1, E_2 = The values of the eccentric anomaly at entering and leaving a zone.

e = eccentricity.

The time of acquisition is dependent on when the satellite arrives at an acquisition zone and also the rotational position of the satellite. For acquisition to occur the $\bar{k}_b$ vector must be pointing toward the earth. It is possible for the satellite to be in an acquisition zone but pitched in such an attitude that the scanner head is not pointing toward the earth. Since it is impossible to know the actual pitch angle of the satellite a series of angles are assumed. This is θ_0 in equation (8). The result is that of all θ_0 tried there will be one position which will acquire immediately or very soon and there will be a worst case. These minimum

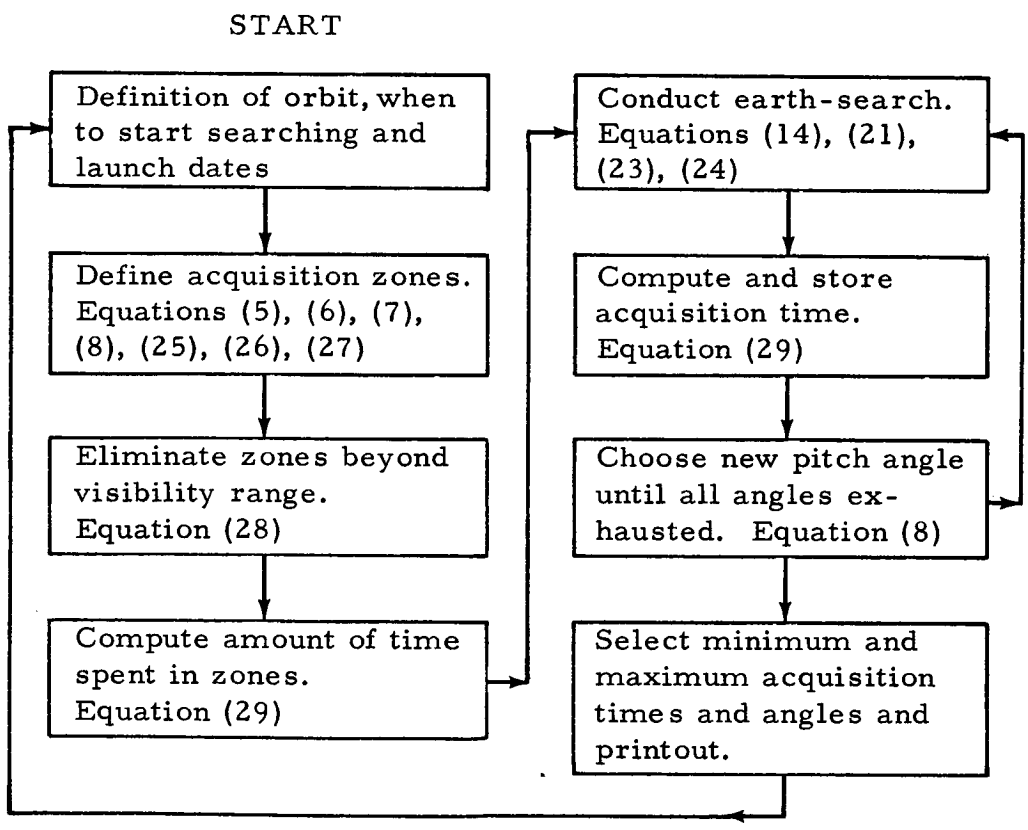
and maximum times that acquisition can occur are computed; these values are stored in the computer memory. The longest time between minimum and maximum is one revolution of the spacecraft. There are times when one revolution need not occur then the time span between minimum and maximum. This occurs when the spacecraft is near the earth and the earth appears large.

V. THE COMPUTER PROGRAM

An abbreviated flow of the logic is included here. The actual source program is written in Fortran-II computer language and consists of about 1200 IBM punch cards. The program was prepared for use on the IBM 7090 computer under the monitor system.

The program is supplied with the definition of the orbit in terms of classical elements, launch dates and when to begin earth search.

The process flow generally is as indicated in the chart below.



This flow chart is diagramatic and does not cover all the details. The diagram assumes that the satellite is moved along in its orbit. This is done in discrete steps in the program by incrementing the eccentric anomaly. For instance, the value of the eccentric anomaly, E at the beginning of earth search is defined and from this point the satellite is "flown" around the orbit in relatively large E steps (i.e. 5° to 10°) until acquisition zones are found. The boundaries of the zones are defined by an iterative process in which the E step is reduced by orders of magnitude. Once the zones are defined it is possible that a zone or a part of a zone may lie beyond the visibility range. Consider the sketches below.

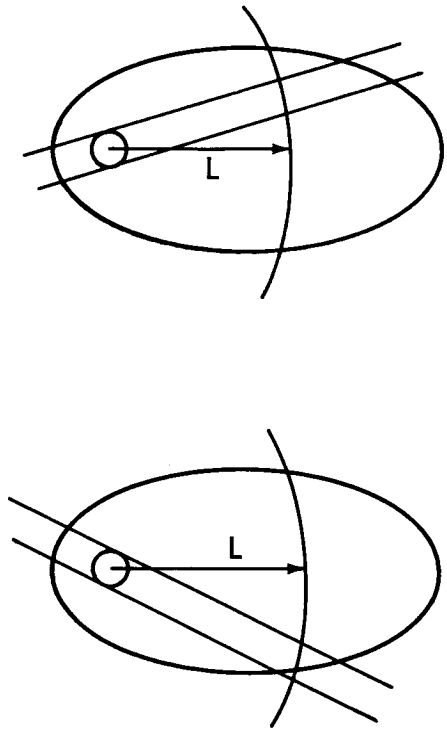


Figure 11 – Zone Elimination

The first sketch shows how a whole would-be-acquisition zone is eliminated by virtue of the visibility limit of the scanners. The second sketch shows where part of a zone is eliminated. In the first case one zone is eliminated and there is only one available zone. The program is set up in such a way that at least two zones must be defined. When there is only one zone available the program defines the same zone twice. Such an occurrance is not rare as can be seen from the results in Appendix A.

In the second instance where part of a would-be-acquisition zone is eliminated the "good" portion of that zone is defined as one zone and the other zone remains as it is.

VI. RESULTS AND DISCUSSION

The orbits for the EGO, S-49 and the POGO, S-50 were analyzed for earth-acquisition using the methods and the program described in this document. The results for EGO and POGO are shown in Appendix A. The results for EGO are shown graphically (Figures 12 through 15 in Appendix A) and in tabular form. Graphic results are not shown for POGO because earth-acquisition always occurs by at least 0.2 hours after the beginning of earth-search. This is due to the fact that the POGO orbit is of low eccentricity and close to the earth.

There is one basic question that these results immediately answer, namely: does earth-acquisition occur early after the beginning of earth-search or is it necessary to wait almost a full orbit. Quite naturally it is less desirable to wait a full orbit for acquisition especially for EGO since in the case of the 80K n.m. apogee orbit this is a wait of almost two and a half days and or in the case of the 60K n.m. apogee orbit about a two day wait. Figures 12 through 15 in Appendix A show the launch window maps generated by the early and late acquisition times for the EGO orbits.

The dotted outline upon which the early-late acquisition time scheme is drawn for the EGO orbits represents the launch window for the perigee restraint. The perigee restraint is that the satellite shall not go below 125 n.m. for one year. (See Reference 3).

The acquisition time is also function of when earth-search begins. Earth acquisition times have been computed taking into consideration two different times for the beginning of the earth-search mode. The two times considered are 29 minutes after sun-acquisition and 74 minutes after sun-acquisition. It is clear from figures 12 through 15 that the launch time available for EGO for early acquisition is considerably increased by use of the 29 minute timer.

The tabular results shown in Appendix A present information concerning earth-acquisition across a twenty-four hour period for several launch dates for EGO and POGO. The presented information includes the acquisition time measured from three reference times. The difference between any two reference times (lift-off, injection, start of earth-search) is a constant. The value of the true anomaly at earth-acquisition is shown and also the values of the true anomalies defining the boundaries of the zones are shown. The amount of time spent in the acquisition zones is also presented. The value of knowing how much time is spent in the zones is that if acquisition is not made according to this theory (for any mechanical, electronic or extraneous

cause) then it is possible to deduce how many more attempts can be made by the spacecraft at earth-acquisition while in a zone. The number of possible tries is simply the time spent in the zone divided by the pitch rate. Also shown on the tables is that portion of the orbit from which acquisition cannot occur due to the visibility limit of the scanners. This is given in terms of true anomaly.

Based on this investigation it becomes apparent that the satellites should have a choice of timers of when to start the earth-search mode. In fact, a variable timer may be desirable or perhaps a ground command capability. These results show that more launch time can be made available by changing the time to begin earth-search mode. But times when earth-search begin are really only known once the orbits are fully defined and in many cases this is not known till a few months before launch. Often orbits have to be redesigned or reshaped depending on the tasks the satellite is expected to perform or perhaps to satisfy the desires of particular experimenters.

Another method of increasing available acquisition time is to decrease the blind zones on the scanners or perhaps to rearrange the scanners such that the blind zones do not block out that portion of the orbit where the satellite spends most of its time. i.e. apogee.

Briefly, in summary, this document presents a flexible method of determining when earth-acquisition occurs; and it shows that early-late acquisition maps are generated. The method and program are flexible in that it easily may be adapted to another type of earth-search technique.

APPENDIX A

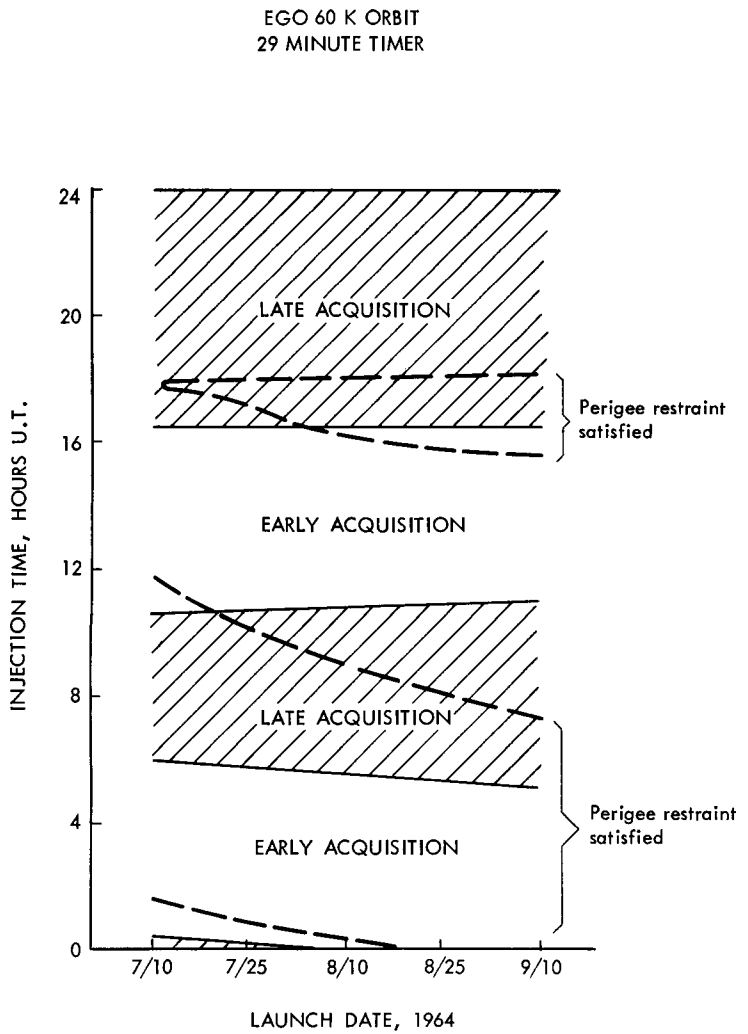


Figure 12 – EGO Acquisition Map, 60K Apogee 29 Minute Timer

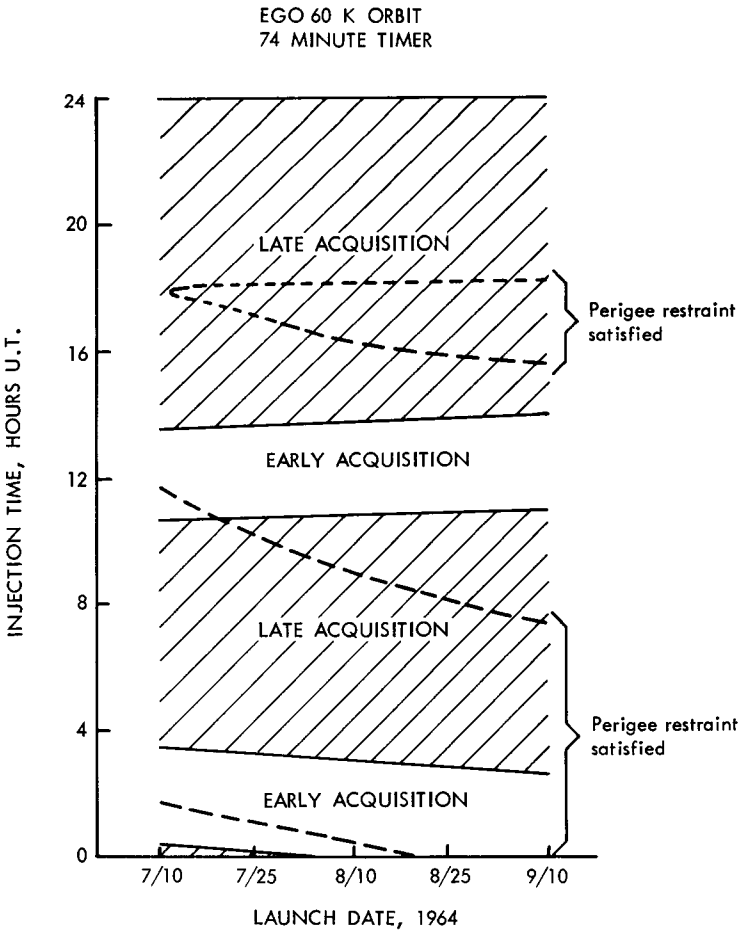


Figure 13 – EGO Acquisition Map, 60K Apogee 74 Minute Timer

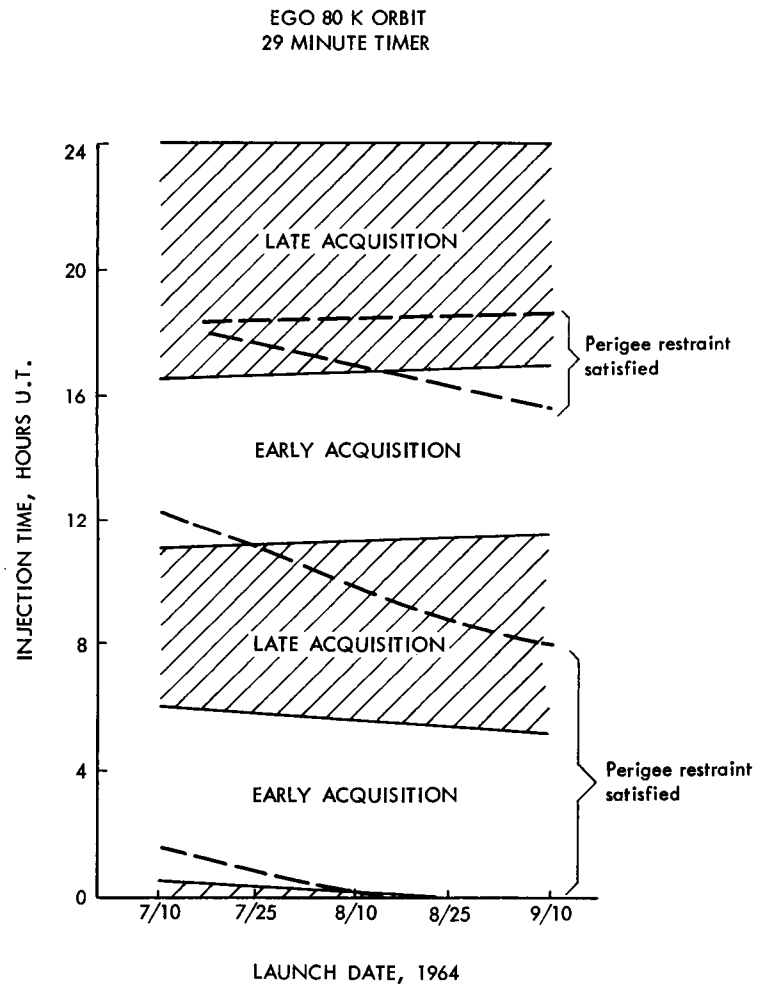


Figure 14 – EGO Acquisition Map, 80K Apogee 29 Minute Timer

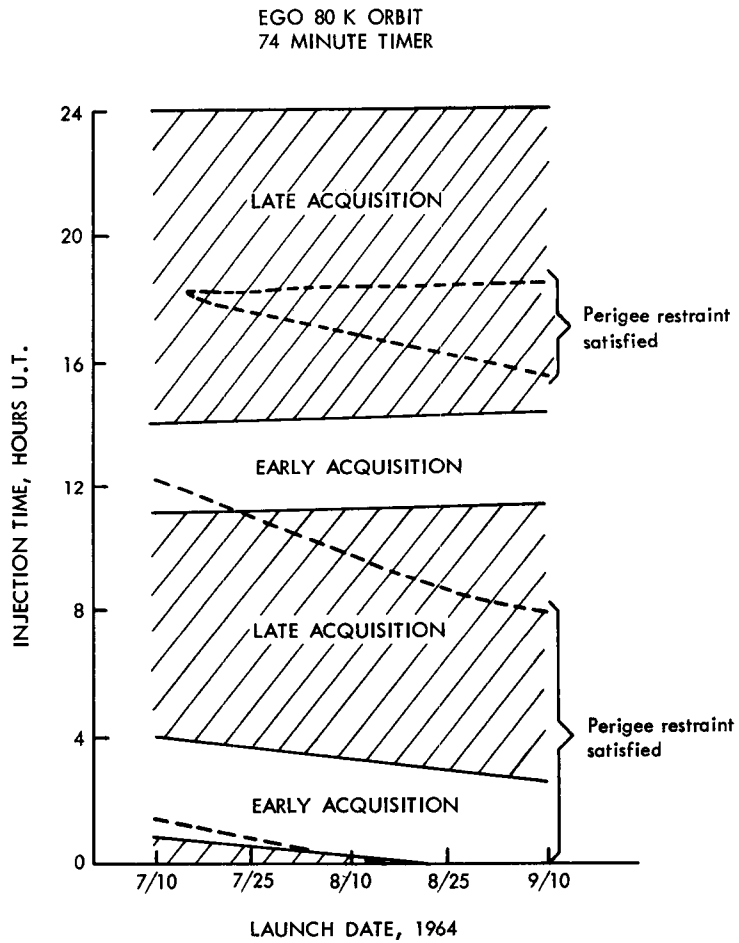


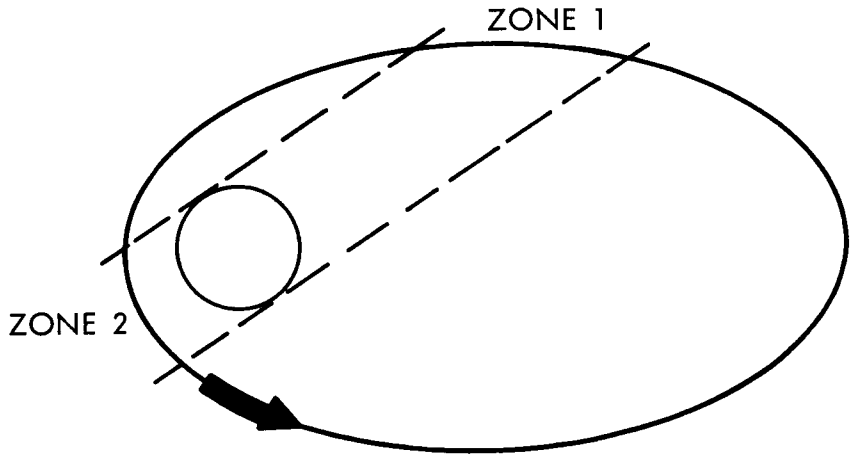
Figure 15 – EGO Acquisition Map, 80K Apogee 74 Minute Timer

Explanation of Printout

A few comments are necessary in order to clarify the "Acquisition Zones" part of the printout, i.e. columns 6 and 7.

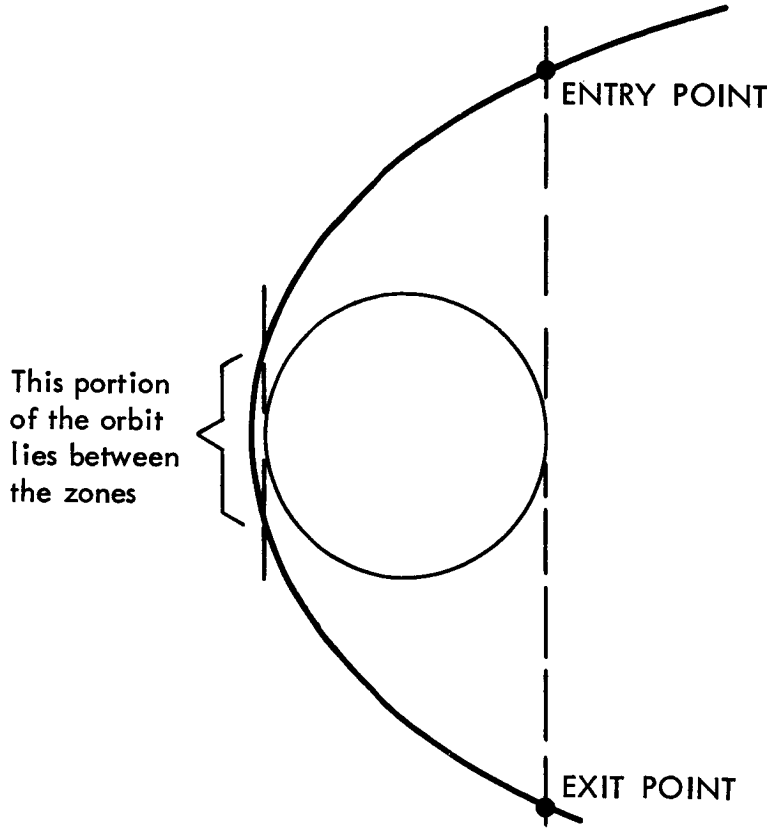
The acquisition zones are discussed in general in Section VI. This clearly shows how two zones are created. But neither the numbering of the zones is discussed nor is the one-zone case (i.e. the case of two identical zones.)

The first zone is defined as the first zone which the satellite enters after the beginning of earth-search. Consequently, it is possible to have just passed through a zone before starting the earth-search mode. In such a case the first zone would be in the vicinity of apogee. The sketch below illustrates this.



In the real case the initial perigee height is in the order of 5% of the earth's radius. As a result it is possible that the portion of the

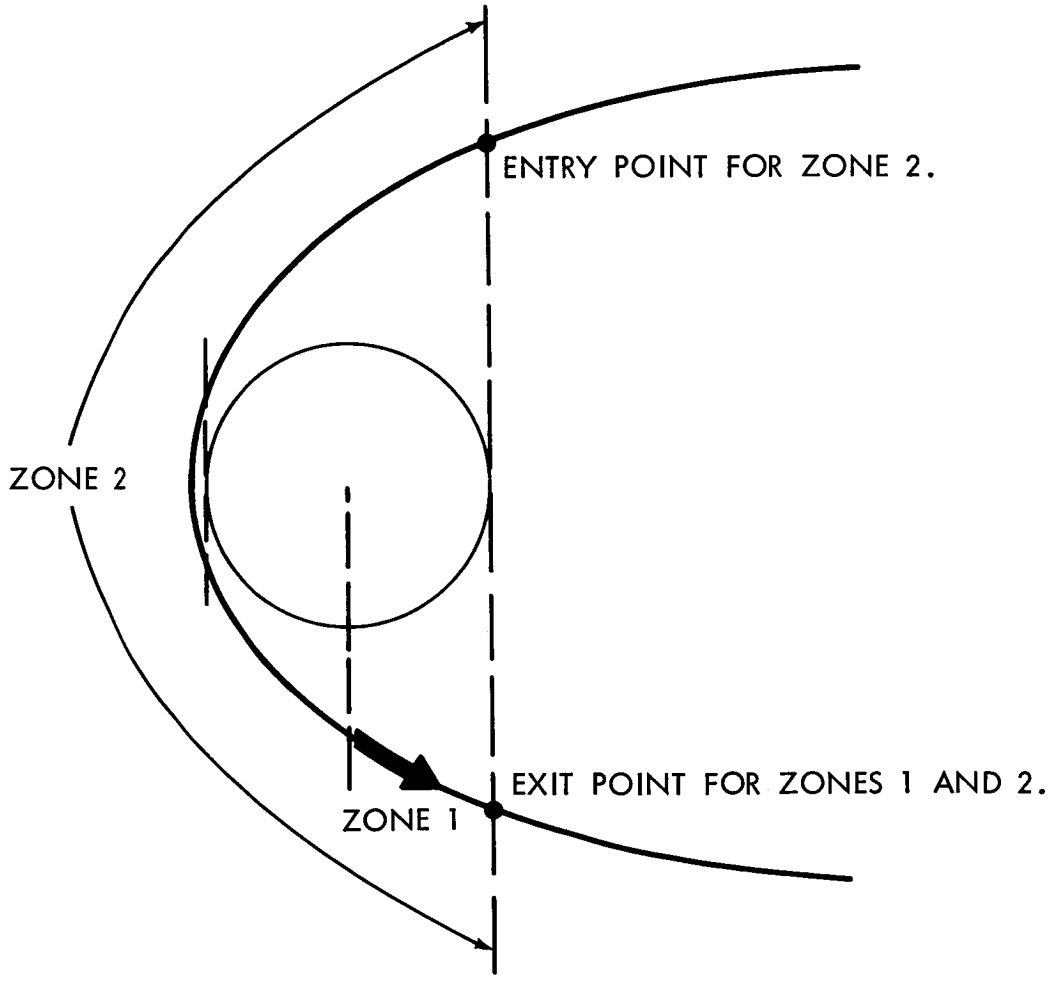
orbit between the zones will be "jumped over" because of the way the program is set up to take discreet steps around the orbit. See the sketch below.



In the case illustrated above there is only a small portion of the orbit in the vicinity of perigee which does not lie in a zone. Consequently the computed zone is defined as beginning at the entry point of one real zone and as ending at the exit point of the next real zone. The only consequence is that the small region between the zones ia also searched. In other words the program is acting in a fail-safe fashion.

The printout also shows cases where the exit points from the zones are identical but which have different entry points. These cases occur when the above described case occurs but that the earth-search mode starts in a zone.

In such cases the first zone is defined with an entry point at that point where the earth-search mode begins and with a normal exit point. The diagram below shows this case.



POGO has a low eccentricity close earth orbit. The satellite in the POGO orbit never exceeds the visibility limit. There are two possible cases with the POGO orbit, 1) when the satellite senses sunlight all the way around the orbit and 2) when it goes in and out of the shadow of the earth. In case 1) the whole orbit will be an acquisition zone. Since the program must find at least two zones it defines the same zone twice.

In case 2) it is possible to have the same occurrences as described above in the general cases.

EGO 60K ORBIT. 29 MINUTE TIMER

```
**** PROGRAM INPUT ****

INITIAL LIFT-OFF DATE **** =  7/10/64
FINAL LIFT-OFF DATE ****** =   9/10/64

INITIAL LIFT-OFF HOUR **** =  0.
HOUR INCREMENT *********** =  0.50000
FINAL LIFT-OFF HOUR ****** = 23.50000

EPOCH ASSOCIATED-  DATE ** = 11/15/63
WITH ELEMENTS      HOUR ** = 20.00000

SEMI-MAJOR AXIS ********** = 9.73116696 E.R.
ECCENTRICITY ************* = 0.89290179
INCLINATION ************** =  30.806976 DEG.
ARGUMENT OF PERIGEE ****** = -45.596384 DEG.
R.A. OF ASC. NODE ******** = 144.299963 DEG.
MEAN ANOMALY ************* =   0.       DEG.

ECCENTRIC ANOMALY AT TIME-
WHEN EARTH SEARCH BEGINS * =  28.885495 DEG.

DELTA ECCENTRIC ANOMALY ** =  10.000000 DEG.

TIME FROM LIFT-OFF TO-
BEGINNING OF EARTH SEARCH  =   1.385000 HOURS

TIME FROM LIFT-OFF TO-
INJECTION INTO ORBIT  **** =   0.901667 HOURS

NUMBER OF INCREMENTS ON-
THE INITIAL ROLL POSITION  =     8

CONSTANT ROLL RATE ******* = -0.3078778E 02 RAD./HR.

ITERATIONS ON DELTA E **** =    2

CENTER BLIND HALF ANGLE ** =   4.500000 DEG.
PERIPHERAL BLIND ANGLE *** =  88.000000 DEG.
```

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	0.	296.04/320.15	43.39/43.50	42.49/42.60	42.01/42.12	ZONE 1 ***	4.25	156.51	165.82
						ZONE 2 ***	0.38	295.98	41.08
7/10/64	0.500	148.62/149.53	4.46/ 4.64	3.56/ 3.74	3.07/ 3.25	ZONE 1 ***	3.52	148.60	160.49
						ZONE 2 ***	0.39	291.45	38.08
7/10/64	1.000	140.05/141.62	3.21/ 3.39	2.31/ 2.49	1.82/ 2.00	ZONE 1 ***	2.91	139.90	155.36
						ZONE 2 ***	0.41	287.14	35.80
7/10/64	1.500	130.05/132.77	2.39/ 2.57	1.49/ 1.67	1.01/ 1.18	ZONE 1 ***	2.43	130.03	150.40
						ZONE 2 ***	0.44	282.50	34.26
7/10/64	2.000	118.43/123.32	1.87/ 2.06	0.97/ 1.15	0.49/ 0.67	ZONE 1 ***	2.07	118.25	145.60
						ZONE 2 ***	0.47	277.88	33.87
7/10/64	2.500	103.05/110.96	1.51/ 1.67	0.61/ 0.77	0.12/ 0.28	ZONE 1 ***	1.79	102.98	140.87
						ZONE 2 ***	0.53	273.06	36.18
7/10/64	3.000	94.55/104.64	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.45	94.55	136.17
						ZONE 2 ***	0.62	267.91	45.84
7/10/64	3.500	94.55/104.73	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.10	94.55	131.51
						ZONE 2 ***	2.13	262.57	131.51
7/10/64	4.000	94.55/104.86	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.83	94.55	126.87
						ZONE 2 ***	1.95	256.97	126.87
7/10/64	4.500	94.55/104.95	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.63	94.55	122.27
						ZONE 2 ***	1.85	251.11	122.27
7/10/64	5.000	94.55/105.00	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.46	94.55	117.47
						ZONE 2 ***	1.84	244.77	117.47
7/10/64	5.500	94.55/105.10	1.38/ 1.55	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.32	94.55	112.64
						ZONE 2 ***	1.92	238.16	112.64
7/10/64	6.000	94.55/105.22	1.38/ 1.55	0.48/ 0.65	0. / 0.16	ZONE 1 ***	0.21	94.55	107.73
						ZONE 2 ***	2.13	231.29	107.73

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	6.500	94.55/225.59	1.38/41.84	0.48/40.93	0. /40.45	ZONE 1 ***	0.12	94.55	102.80
						ZONE 2 ***	2.55	223.89	102.80
7/10/64	7.000	94.55/217.42	1.38/41.02	0.48/40.12	0. /39.63	ZONE 1 ***	0.04	94.55	97.57
						ZONE 2 ***	3.33	216.12	97.57
7/10/64	7.500	207.99/208.78	39.33/39.52	38.43/38.62	37.95/38.13	ZONE 1 ***	4.78	207.95	92.24
						ZONE 2 ***	4.78	207.95	92.24
7/10/64	8.000	203.05/203.58	37.91/38.09	37.01/37.18	36.52/36.70	ZONE 1 ***	5.21	199.39	223.97
						ZONE 2 ***	0.75	280.67	86.64
7/10/64	8.500	203.35/203.89	38.01/38.19	37.11/37.29	36.62/36.80	ZONE 1 ***	2.16	198.90	204.71
						ZONE 2 ***	0.66	286.58	81.05
7/10/64	9.000	288.47/312.48	43.35/43.47	42.45/42.57	41.96/42.09	ZONE 1 ***	0.60	288.27	74.99
						ZONE 2 ***	0.60	288.27	74.99
7/10/64	9.500	288.44/314.31	43.35/43.48	42.45/42.58	41.96/42.10	ZONE 1 ***	0.56	288.27	69.05
						ZONE 2 ***	0.56	288.27	69.05
7/10/64	10.000	287.42/315.87	43.34/43.49	42.44/42.59	41.96/42.10	ZONE 1 ***	0.53	287.14	62.68
						ZONE 2 ***	0.53	287.14	62.68
7/10/64	10.500	152.00/152.72	5.19/ 5.37	4.29/ 4.47	3.80/ 3.98	ZONE 1 ***	3.07	151.94	161.10
						ZONE 2 ***	0.51	285.47	56.56
7/10/64	11.000	141.72/143.13	3.40/ 3.58	2.50/ 2.68	2.01/ 2.19	ZONE 1 ***	3.78	141.68	158.49
						ZONE 2 ***	0.49	283.57	50.09
7/10/64	11.500	131.21/133.65	2.46/ 2.63	1.56/ 1.73	1.08/ 1.25	ZONE 1 ***	2.85	131.15	152.50
						ZONE 2 ***	0.49	280.93	43.66
7/10/64	12.000	120.40/124.79	1.94/ 2.12	1.04/ 1.22	0.56/ 0.73	ZONE 1 ***	2.22	120.37	146.98
						ZONE 2 ***	0.49	278.13	37.32

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	12.500	109.21/115.52	1.63/ 1.79	0.73/ 0.88	0.24/ 0.40	ZONE 1 ***	1.78	109.16	141.81
						ZONE 2 ***	0.49	275.19	30.75
7/10/64	13.000	97.53/106.86	1.42/ 1.58	0.52/ 0.68	0.04/ 0.19	ZONE 1 ***	1.47	97.37	136.87
						ZONE 2 ***	0.50	271.91	24.39
7/10/64	13.500	94.55/105.63	1.38/ 1.56	0.48/ 0.65	0. / 0.17	ZONE 1 ***	1.13	94.55	132.05
						ZONE 2 ***	0.51	268.56	17.47
7/10/64	14.000	94.55/105.88	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.86	94.55	127.38
						ZONE 2 ***	0.53	264.98	10.84
7/10/64	14.500	94.55/105.88	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.65	94.55	122.85
						ZONE 2 ***	0.56	261.21	3.72
7/10/64	15.000	94.55/106.00	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.49	94.55	118.37
						ZONE 2 ***	0.60	257.15	356.74
7/10/64	15.500	94.55/104.61	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.36	94.55	113.98
						ZONE 2 ***	0.65	253.04	346.54
7/10/64	16.000	94.55/104.66	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.25	94.55	109.47
						ZONE 2 ***	0.71	248.65	335.49
7/10/64	16.500	94.55/104.69	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.16	94.55	105.07
						ZONE 2 ***	0.78	244.22	322.19
7/10/64	17.000	94.55/242.10	1.38/42.67	0.48/41.77	0. /41.28	ZONE 1 ***	0.08	94.55	100.62
						ZONE 2 ***	0.87	239.47	307.04
7/10/64	17.500	94.55/238.53	1.38/42.54	0.48/41.64	0. /41.16	ZONE 1 ***	0.02	94.55	96.18
						ZONE 2 ***	0.99	234.68	291.45
7/10/64	18.000	229.65/232.83	42.11/42.29	41.21/41.39	40.73/40.91	ZONE 1 ***	1.14	229.57	275.91
						ZONE 2 ***	0.50	348.62	91.81

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME		TRUE ANOMALY	TIME (HOURS) TO ACQUIRE EARTH AFTER -			ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.			
DATE	HOUR	MIN/MAX	LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX		HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	18.500	224.45/226.62	41.74/41.91	40.84/41.01	40.36/40.53	ZONE 1 ***	1.35	224.37	261.40
						ZONE 2 ***	0.47	343.24	87.34
7/10/64	19.000	219.14/220.82	41.23/41.41	40.32/40.51	39.84/40.02	ZONE 1 ***	1.62	219.04	248.05
						ZONE 2 ***	0.44	338.32	82.80
7/10/64	19.500	213.62/214.74	40.46/40.64	39.56/39.74	39.08/39.26	ZONE 1 ***	1.99	213.51	235.88
						ZONE 2 ***	0.42	333.49	78.21
7/10/64	20.000	207.93/208.68	39.32/39.50	38.42/38.60	37.93/38.11	ZONE 1 ***	2.47	207.90	224.93
						ZONE 2 ***	0.40	329.13	73.62
7/10/64	20.500	204.26/204.84	38.30/38.48	37.40/37.58	36.92/37.10	ZONE 1 ***	3.11	202.11	215.03
						ZONE 2 ***	0.39	324.86	69.34
7/10/64	21.000	199.51/199.93	36.55/36.72	35.64/35.82	35.16/35.34	ZONE 1 ***	2.57	198.90	206.13
						ZONE 2 ***	0.37	320.68	64.85
7/10/64	21.500	316.71/358.84	43.49/43.63	42.59/42.73	42.11/42.25	ZONE 1 ***	0.37	316.60	60.47
						ZONE 2 ***	0.37	316.60	60.47
7/10/64	22.000	312.59/350.66	43.47/43.61	42.57/42.70	42.09/42.22	ZONE 1 ***	0.36	312.27	56.23
						ZONE 2 ***	0.36	312.27	56.23
7/10/64	22.500	308.52/342.08	43.46/43.58	42.55/42.68	42.07/42.19	ZONE 1 ***	0.36	308.42	52.17
						ZONE 2 ***	0.36	308.42	52.17
7/10/64	23.000	304.41/332.33	43.44/43.55	42.54/42.65	42.05/42.16	ZONE 1 ***	0.36	304.34	47.98
						ZONE 2 ***	0.36	304.34	47.98
7/10/64	23.500	300.24/326.17	43.42/43.53	42.52/42.63	42.03/42.14	ZONE 1 ***	0.37	300.08	44.39
						ZONE 2 ***	0.37	300.08	44.39

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF DATE	TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	0.	155.32/155.90	6.09/ 6.27	5.19/ 5.37	4.71/ 4.89	ZONE 1 ***	2.17	155.28	161.10
						ZONE 2 ***	0.38	295.36	39.96
7/25/64	0.500	147.23/148.22	4.20/ 4.38	3.30/ 3.48	2.82/ 3.00	ZONE 1 ***	3.36	147.20	159.49
						ZONE 2 ***	0.39	291.16	36.94
7/25/64	1.000	138.41/140.15	3.04/ 3.22	2.14/ 2.32	1.65/ 1.83	ZONE 1 ***	2.76	138.31	154.29
						ZONE 2 ***	0.41	286.86	34.26
7/25/64	1.500	128.37/131.23	2.30/ 2.47	1.40/ 1.56	0.91/ 1.08	ZONE 1 ***	2.31	128.29	149.33
						ZONE 2 ***	0.43	282.24	32.32
7/25/64	2.000	116.50/121.37	1.81/ 1.98	0.91/ 1.08	0.43/ 0.59	ZONE 1 ***	1.95	116.41	144.47
						ZONE 2 ***	0.47	277.63	31.54
7/25/64	2.500	101.45/109.83	1.48/ 1.64	0.58/ 0.74	0.10/ 0.26	ZONE 1 ***	1.69	101.36	139.69
						ZONE 2 ***	0.52	272.83	32.71
7/25/64	3.000	94.55/104.66	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.35	94.55	134.96
						ZONE 2 ***	0.60	267.70	39.59
7/25/64	3.500	94.55/104.74	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.02	94.55	130.31
						ZONE 2 ***	2.06	262.37	130.31
7/25/64	4.000	94.55/104.86	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.77	94.55	125.61
						ZONE 2 ***	1.89	256.97	125.61
7/25/64	4.500	94.55/104.97	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.57	94.55	120.86
						ZONE 2 ***	1.80	251.11	120.86
7/25/64	5.000	94.55/104.98	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.42	94.55	116.14
						ZONE 2 ***	1.80	244.91	116.14
7/25/64	5.500	94.55/105.08	1.38/ 1.55	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.29	94.55	111.31
						ZONE 2 ***	1.88	238.39	111.31
7/25/64	6.000	94.55/105.19	1.38/ 1.55	0.48/ 0.65	0. / 0.16	ZONE 1 ***	0.18	94.55	106.25
						ZONE 2 ***	2.09	231.58	106.25

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	6.500	94.55/225.60	1.38/41.84	0.48/40.93	0. /40.45	ZONE 1 ***	0.09	94.55	101.17
						ZONE 2 ***	2.49	224.37	101.17
7/25/64	7.000	94.90/218.24	1.39/41.12	0.49/40.22	0.00/39.74	ZONE 1 ***	0.02	94.55	95.98
						ZONE 2 ***	3.21	216.81	95.98
7/25/64	7.500	208.97/209.78	39.56/39.74	38.66/38.84	38.18/38.36	ZONE 1 ***	4.53	208.90	90.50
						ZONE 2 ***	4.53	208.90	90.50
7/25/64	8.000	203.82/204.38	38.16/38.34	37.26/37.44	36.78/36.96	ZONE 1 ***	4.73	200.61	224.37
						ZONE 2 ***	0.69	286.58	84.98
7/25/64	8.500	204.79/205.40	38.47/38.65	37.57/37.75	37.08/37.26	ZONE 1 ***	2.59	198.90	206.17
						ZONE 2 ***	0.61	290.87	79.25
7/25/64	9.000	291.81/318.26	43.37/43.50	42.47/42.60	41.98/42.11	ZONE 1 ***	0.56	291.75	73.34
						ZONE 2 ***	0.56	291.75	73.34
7/25/64	9.500	291.25/321.13	43.37/43.51	42.46/42.61	41.98/42.12	ZONE 1 ***	0.53	291.16	67.27
						ZONE 2 ***	0.53	291.16	67.27
7/25/64	10.000	289.88/315.61	43.36/43.49	42.46/42.59	41.97/42.10	ZONE 1 ***	0.50	289.70	61.11
						ZONE 2 ***	0.50	289.70	61.11
7/25/64	10.500	287.90/316.97	43.34/43.49	42.44/42.59	41.96/42.11	ZONE 1 ***	2.29	154.85	161.10
						ZONE 2 ***	0.49	287.70	54.89
7/25/64	11.000	145.00/146.10	3.84/ 4.01	2.94/ 3.11	2.46/ 2.63	ZONE 1 ***	3.92	144.95	159.96
						ZONE 2 ***	0.47	285.47	48.69
7/25/64	11.500	134.82/136.82	2.72/ 2.89	1.82/ 1.99	1.34/ 1.50	ZONE 1 ***	2.96	134.80	153.90
						ZONE 2 ***	0.47	282.77	42.56
7/25/64	12.000	124.33/127.95	2.10/ 2.27	1.20/ 1.37	0.71/ 0.89	ZONE 1 ***	2.31	124.31	148.34
						ZONE 2 ***	0.47	279.90	36.18

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	12.500	113.43/118.87	1.73/ 1.39	0.83/ 0.99	0.34/ 0.50	ZONE 1 ***	1.84	113.36	143.04
						ZONE 2 ***	0.47	276.64	29.97
7/25/64	13.000	102.05/110.55	1.49/ 1.66	0.59/ 0.76	0.11/ 0.27	ZONE 1 ***	1.51	101.90	138.01
						ZONE 2 ***	0.48	273.29	23.58
7/25/64	13.500	94.55/105.64	1.38/ 1.56	0.48/ 0.65	0. / 0.17	ZONE 1 ***	1.21	94.55	133.19
						ZONE 2 ***	0.50	269.88	17.06
7/25/64	14.000	94.55/105.76	1.38/ 1.56	0.48/ 0.66	0. / 0.17	ZONE 1 ***	0.92	94.55	128.49
						ZONE 2 ***	0.52	266.22	10.84
7/25/64	14.500	94.55/105.90	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.69	94.55	123.87
						ZONE 2 ***	0.55	262.18	4.14
7/25/64	15.000	94.55/104.55	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.52	94.55	119.38
						ZONE 2 ***	0.59	258.23	356.58
7/25/64	15.500	94.55/104.73	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.38	94.55	114.91
						ZONE 2 ***	0.64	254.04	348.21
7/25/64	16.000	94.55/104.64	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.27	94.55	110.40
						ZONE 2 ***	0.70	249.56	337.92
7/25/64	16.500	94.55/104.67	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.18	94.55	105.91
						ZONE 2 ***	0.77	244.91	325.24
7/25/64	17.000	94.55/242.11	1.38/42.67	0.48/41.77	0. /41.28	ZONE 1 ***	0.10	94.55	101.36
						ZONE 2 ***	0.86	240.08	310.15
7/25/64	17.500	94.55/239.21	1.38/42.57	0.48/41.67	0. /41.18	ZONE 1 ***	0.03	94.55	96.98
						ZONE 2 ***	0.98	235.22	294.14
7/25/64	18.000	230.08/233.34	42.14/42.32	41.24/41.41	40.75/40.93	ZONE 1 ***	1.13	230.04	278.13
						ZONE 2 ***	0.50	347.79	92.24

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	18.500	224.76/226.97	41.77/41.94	40.87/41.04	40.38/40.55	ZONE 1 ***	1.34	224.69	262.97
						ZONE 2 ***	0.47	342.41	87.80
7/25/64	19.000	219.37/221.08	41.25/41.44	40.35/40.53	39.87/40.05	ZONE 1 ***	1.62	219.25	248.95
						ZONE 2 ***	0.44	337.51	83.04
7/25/64	19.500	213.66/214.74	40.47/40.64	39.57/39.74	39.09/39.26	ZONE 1 ***	1.99	213.63	236.32
						ZONE 2 ***	0.42	333.09	78.47
7/25/64	20.000	207.85/208.57	39.30/39.47	38.40/38.57	37.92/38.09	ZONE 1 ***	2.50	207.81	225.02
						ZONE 2 ***	0.40	328.35	73.89
7/25/64	20.500	204.10/204.67	38.25/38.43	37.35/37.53	36.87/37.05	ZONE 1 ***	3.17	201.88	214.85
						ZONE 2 ***	0.39	324.09	69.34
7/25/64	21.000	199.28/199.69	36.44/36.62	35.54/35.72	35.06/35.24	ZONE 1 ***	2.45	198.90	205.69
						ZONE 2 ***	0.38	319.93	64.85
7/25/64	21.500	316.13/ 5.61	43.49/43.65	42.59/42.75	42.10/42.27	ZONE 1 ***	0.37	315.87	60.15
						ZONE 2 ***	0.37	315.87	60.15
7/25/64	22.000	312.06/350.71	43.47/43.61	42.57/42.71	42.09/42.22	ZONE 1 ***	0.36	311.92	55.90
						ZONE 2 ***	0.36	311.92	55.90
7/25/64	22.500	308.00/340.48	43.45/43.57	42.55/42.67	42.07/42.19	ZONE 1 ***	0.36	307.73	51.48
						ZONE 2 ***	0.36	307.73	51.48
7/25/64	23.000	303.91/325.51	43.44/43.52	42.53/42.62	42.05/42.14	ZONE 1 ***	0.36	303.67	47.27
						ZONE 2 ***	0.36	303.67	47.27
7/25/64	23.500	299.79/326.48	43.41/43.53	42.51/42.63	42.03/42.14	ZONE 1 ***	0.37	299.76	43.66
						ZONE 2 ***	0.37	299.76	43.66

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	0.	152.56/153.25	5.33/ 5.51	4.42/ 4.60	3.94/ 4.12	ZONE 1 ***	2.93	152.50	161.10
						ZONE 2 ***	0.38	294.14	38.08
8/10/64	0.500	144.15/145.36	3.72/ 3.90	2.82/ 3.00	2.33/ 2.51	ZONE 1 ***	3.07	144.11	157.42
						ZONE 2 ***	0.39	289.99	34.64
8/10/64	1.000	134.98/136.96	2.73/ 2.90	1.83/ 2.00	1.35/ 1.52	ZONE 1 ***	2.51	134.96	152.23
						ZONE 2 ***	0.41	285.75	31.54
8/10/64	1.500	124.63/128.19	2.11/ 2.29	1.21/ 1.39	0.73/ 0.90	ZONE 1 ***	2.09	124.53	147.20
						ZONE 2 ***	0.43	281.19	29.18
8/10/64	2.000	112.68/118.45	1.71/ 1.88	0.81/ 0.97	0.32/ 0.49	ZONE 1 ***	1.77	112.35	142.27
						ZONE 2 ***	0.46	276.64	27.59
8/10/64	2.500	97.61/107.40	1.43/ 1.59	0.52/ 0.69	0.04/ 0.20	ZONE 1 ***	1.53	97.18	137.49
						ZONE 2 ***	0.51	271.91	27.59
8/10/64	3.000	94.55/104.71	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.18	94.55	132.76
						ZONE 2 ***	0.68	266.85	32.32
8/10/64	3.500	94.55/104.76	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.89	94.55	127.99
						ZONE 2 ***	1.93	261.60	127.99
8/10/64	4.000	94.55/104.85	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.67	94.55	123.31
						ZONE 2 ***	1.80	256.09	123.31
8/10/64	4.500	94.55/104.98	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.49	94.55	118.50
						ZONE 2 ***	1.74	250.33	118.50
8/10/64	5.000	94.55/104.97	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.35	94.55	113.65
						ZONE 2 ***	1.74	244.36	113.65
8/10/64	5.500	94.55/105.03	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.23	94.55	108.69
						ZONE 2 ***	1.84	238.04	108.69
8/10/64	6.000	94.55/231.94	1.38/42.24	0.48/41.34	0. /40.86	ZONE 1 ***	0.14	94.55	103.69
						ZONE 2 ***	2.05	231.39	103.69

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	6.500	94.55/225.60	1.38/41.84	0.48/40.93	0. /40.45	ZONE 1 ***	0.05	94.55	98.54
						ZONE 2 ***	2.44	224.45	98.54
8/10/64	7.000	217.23/218.67	40.09/41.17	40.09/40.27	39.61/39.79	ZONE 1 ***	3.13	217.13	93.30
						ZONE 2 ***	3.13	217.13	93.30
8/10/64	7.500	209.55/210.39	39.69/39.87	38.79/38.97	38.31/38.49	ZONE 1 ***	3.15	209.49	248.05
						ZONE 2 ***	0.71	287.99	87.80
8/10/64	8.000	201.55/204.89	37.37/38.50	36.47/37.59	35.98/37.11	ZONE 1 ***	4.26	201.54	223.11
						ZONE 2 ***	0.61	295.36	82.30
8/10/64	8.500	198.95/199.36	36.30/36.48	35.40/35.58	34.92/35.09	ZONE 1 ***	2.75	198.90	206.80
						ZONE 2 ***	0.56	296.91	76.62
8/10/64	9.000	296.63/328.46	43.40/43.53	42.50/42.63	42.01/42.15	ZONE 1 ***	0.52	296.60	70.79
						ZONE 2 ***	0.52	296.60	70.79
8/10/64	9.500	295.27/320.23	43.39/43.50	42.49/42.60	42.00/42.12	ZONE 1 ***	0.49	295.06	64.85
						ZONE 2 ***	0.49	295.06	64.85
8/10/64	10.000	293.30/322.68	43.38/43.51	42.48/42.61	41.99/42.13	ZONE 1 ***	0.47	293.24	58.86
						ZONE 2 ***	0.47	293.24	58.86
8/10/64	10.500	290.93/316.86	43.36/43.49	42.46/42.59	41.98/42.11	ZONE 1 ***	1.29	157.92	161.10
						ZONE 2 ***	0.45	290.87	52.52
8/10/64	11.000	148.57/149.48	4.45/ 4.63	3.55/ 3.73	3.06/ 3.24	ZONE 1 ***	3.81	148.50	161.10
						ZONE 2 ***	0.45	287.99	46.56
8/10/64	11.500	138.81/140.42	3.08/ 3.25	2.18/ 2.35	1.69/ 1.86	ZONE 1 ***	3.08	138.75	155.53
						ZONE 2 ***	0.44	285.20	40.33
8/10/64	12.000	128.90/131.85	2.33/ 2.51	1.42/ 1.60	0.94/ 1.12	ZONE 1 ***	2.39	128.68	149.85
						ZONE 2 ***	0.44	281.98	34.26

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	12.500	118.19/123.06	1.87/ 2.04	0.97/ 1.14	0.48/ 0.66	ZONE 1 ***	1.91	118.12	144.53
						ZONE 2 ***	0.45	278.63	28.39
8/10/64	13.000	107.06/114.70	1.58/ 1.76	0.68/ 0.86	0.20/ 0.38	ZONE 1 ***	1.57	106.91	139.47
						ZONE 2 ***	0.46	275.19	22.37
8/10/64	13.500	95.17/105.66	1.39/ 1.56	0.49/ 0.65	0.01/ 0.17	ZONE 1 ***	1.31	94.96	134.55
						ZONE 2 ***	0.48	271.45	16.64
8/10/64	14.000	94.55/105.78	1.38/ 1.56	0.48/ 0.66	0. / 0.17	ZONE 1 ***	0.99	94.55	129.75
						ZONE 2 ***	0.50	267.70	10.42
8/10/64	14.500	94.55/105.93	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.75	94.55	125.08
						ZONE 2 ***	0.53	263.56	4.56
8/10/64	15.000	94.55/104.55	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.56	94.55	120.49
						ZONE 2 ***	0.57	259.33	357.84
8/10/64	15.500	94.55/104.69	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.41	94.55	115.87
						ZONE 2 ***	0.63	254.88	350.71
8/10/64	16.000	94.55/104.62	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.29	94.55	111.31
						ZONE 2 ***	0.69	250.33	341.59
8/10/64	16.500	94.55/104.62	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.19	94.55	106.75
						ZONE 2 ***	0.77	245.60	329.52
8/10/64	17.000	94.82/242.12	1.39/42.67	0.49/41.77	0.00/41.28	ZONE 1 ***	0.11	94.55	102.26
						ZONE 2 ***	0.87	240.58	314.78
8/10/64	17.500	94.55/239.92	1.38/42.59	0.48/41.69	0. /41.21	ZONE 1 ***	0.04	94.55	97.57
						ZONE 2 ***	0.98	235.55	297.85
8/10/64	18.000	230.26/233.35	42.15/42.32	41.25/41.42	40.77/40.93	ZONE 1 ***	1.15	230.13	280.41
						ZONE 2 ***	0.52	345.72	92.88

EGO 60K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	18.500	224.76/226.98	41.77/41.94	40.87/41.04	40.38/40.55	ZONE 1 ***	1.36	224.69	264.16
						ZONE 2 ***	0.48	340.36	88.26
8/10/64	19.000	219.01/220.59	41.21/41.38	40.31/40.48	39.83/40.00	ZONE 1 ***	1.65	218.98	249.25
						ZONE 2 ***	0.45	335.49	83.53
8/10/64	19.500	213.16/214.25	40.39/40.57	39.49/39.66	39.00/39.18	ZONE 1 ***	2.06	213.12	235.99
						ZONE 2 ***	0.43	331.10	78.73
8/10/64	20.000	207.14/207.82	39.12/39.29	38.22/38.39	37.74/37.91	ZONE 1 ***	2.60	207.12	224.13
						ZONE 2 ***	0.41	326.79	73.89
8/10/64	20.500	203.32/203.86	38.00/38.18	37.10/37.27	36.61/36.79	ZONE 1 ***	3.32	200.94	213.57
						ZONE 2 ***	0.39	322.57	69.05
8/10/64	21.000	318.66/358.80	43.50/43.63	42.60/42.73	42.11/42.25	ZONE 1 ***	2.00	198.90	204.17
						ZONE 2 ***	0.38	318.44	64.24
8/10/64	21.500	314.64/350.67	43.48/43.61	42.58/42.70	42.10/42.22	ZONE 1 ***	0.37	314.42	59.51
						ZONE 2 ***	0.37	314.42	59.51
8/10/64	22.000	310.61/342.33	43.47/43.58	42.56/42.68	42.08/42.20	ZONE 1 ***	0.36	310.50	54.89
						ZONE 2 ***	0.36	310.50	54.89
8/10/64	22.500	306.60/335.53	43.45/43.56	42.55/42.66	42.06/42.17	ZONE 1 ***	0.36	306.36	50.44
						ZONE 2 ***	0.36	306.36	50.44
8/10/64	23.000	302.58/325.47	43.43/43.52	42.53/42.62	42.04/42.14	ZONE 1 ***	0.36	302.35	46.20
						ZONE 2 ***	0.36	302.35	46.20
8/10/64	23.500	298.52/319.82	43.41/43.50	42.51/42.60	42.02/42.12	ZONE 1 ***	0.43	160.10	161.10
						ZONE 2 ***	0.37	298.48	41.82

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	0.	148.66/149.53	4.47/ 4.64	3.56/ 3.74	3.08/ 3.25	ZONE 1 ***	3.39	148.6[illegible]	160.17
						ZONE 2 ***	0.38	292.34	36.18
8/25/64	0.500	139.90/141.40	3.19/ 3.36	2.29/ 2.46	1.81/ 1.98	ZONE 1 ***	2.73	139.83	154.73
						ZONE 2 ***	0.39	288.27	31.93
8/25/64	1.000	130.42/133.13	2.42/ 2.59	1.51/ 1.69	1.03/ 1.21	ZONE 1 ***	2.24	130.22	149.54
						ZONE 2 ***	0.41	284.11	28.39
8/25/64	1.500	119.62/123.94	1.91/ 2.08	1.01/ 1.18	0.53/ 0.70	ZONE 1 ***	1.86	119.38	144.47
						ZONE 2 ***	0.43	279.64	25.60
8/25/64	2.000	106.94/114.12	1.58/ 1.75	0.68/ 0.84	0.20/ 0.36	ZONE 1 ***	1.57	106.91	139.54
						ZONE 2 ***	0.46	274.95	23.18
8/25/64	2.500	94.55/104.69	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.33	94.55	134.71
						ZONE 2 ***	0.51	270.32	22.37
8/25/64	3.000	94.55/104.74	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.[illegible]0	94.55	129.94
						ZONE 2 ***	0.57	265.39	24.79
8/25/64	3.500	94.55/104.85	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.75	94.55	125.19
						ZONE 2 ***	1.81	260.26	125.19
8/25/64	4.000	94.55/104.86	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.56	94.55	120.37
						ZONE 2 ***	1.71	254.88	120.37
8/25/64	4.500	94.55/104.88	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.40	94.55	115.60
						ZONE 2 ***	1.67	249.25	115.60
8/25/64	5.000	94.55/104.93	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.28	94.55	110.70
						ZONE 2 ***	1.70	243.28	110.70
8/25/64	5.500	94.55/104.98	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.17	94.55	105.75
						ZONE 2 ***	1.82	237.12	105.75
8/25/64	6.000	94.55/231.95	1.38/42.25	0.48/41.34	0. /40.86	ZONE 1 ***	0. 8	94.55	100.62
						ZONE 2 ***	2. 4	230.70	100.62

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	6.500	94.58/225.61	1.39/41.84	0.48/40.94	0.00/40.45	ZONE 1 ***	0.[illegible]1	94.55	95.57
						ZONE 2 ***	2.45	223.89	95.57
8/25/64	7.000	216.90/218.25	40.95/41.12	40.05/40.22	39.57/39.74	ZONE 1 ***	2.29	216.87	274.00
						ZONE 2 ***	0.73	289.13	90.28
8/25/64	7.500	209.55/210.43	39.69/39.88	38.79/38.98	38.31/38.49	ZONE 1 ***	2.92	209.54	240.33
						ZONE 2 ***	0.60	301.70	84.74
8/25/64	8.000	201.96/205.14	37.52/38.57	36.62/37.67	36.14/37.19	ZONE 1 ***	3.93	201.91	221.08
						ZONE 2 ***	0.55	303.34	79.25
8/25/64	8.500	198.95/199.36	36.30/36.48	35.40/35.58	34.92/35.09	ZONE 1 ***	2.72	198.90	206.66
						ZONE 2 ***	0.50	303.01	73.62
8/25/64	9.000	301.44/339.14	43.42/43.57	42.52/42.67	42.04/42.19	ZONE 1 ***	0.48	301.37	67.87
						ZONE 2 ***	0.48	301.37	67.87
8/25/64	9.500	299.28/330.86	43.41/43.54	42.51/42.64	42.03/42.16	ZONE 1 ***	0.45	299.12	62.06
						ZONE 2 ***	0.45	299.12	62.06
8/25/64	10.000	296.73/322.34	43.40/43.51	42.50/42.61	42.01/42.13	ZONE 1 ***	0.44	296.60	56.23
						ZONE 2 ***	0.44	296.60	56.23
8/25/64	10.500	293.90/316.75	43.38/43.49	42.48/42.59	42.00/42.11	ZONE 1 ***	0.30	160.42	161.10
						ZONE 2 ***	0.43	293.84	50.44
8/25/64	11.000	151.47/152.25	5.06/ 5.25	4.16/ 4.35	3.68/ 3.86	ZONE 1 ***	3.20	151.42	161.10
						ZONE 2 ***	0.42	290.57	44.39
8/25/64	11.500	142.17/143.60	3.45/ 3.64	2.55/ 2.74	2.07/ 2.26	ZONE 1 ***	3.17	142.14	156.95
						ZONE 2 ***	0.42	287.42	38.83
8/25/64	12.000	132.61/135.03	2.56/ 2.74	1.66/ 1.84	1.17/ 1.35	ZONE 1 ***	2.47	132.41	151.28
						ZONE 2 ***	0.42	284.11	33.10

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
8/25/64	12.500	122.44/126.50	2.02/ 2.20	1.12/ 1.30	0.63/ 0.81	ZONE 1 ***	1.97	122.16	145.90
						ZONE 2 ***	0.43	280.41	27.19
8/25/64	13.000	111.37/117.36	1.68/ 1.84	0.78/ 0.94	0.29/ 0.46	ZONE 1 ***	1.62	111.31	140.80
						ZONE 2 ***	0.44	276.89	21.56
8/25/64	13.500	99.59/108.34	1.45/ 1.61	0.55/ 0.71	0.07/ 0.22	ZONE 1 ***	1.35	99.50	135.85
						ZONE 2 ***	0.46	272.83	16.23
8/25/64	14.000	94.55/104.40	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 ***	1.[illegible]6	94.55	130.96
						ZONE 2 ***	0.49	268.78	10.84
8/25/64	14.500	94.55/104.48	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.80	94.55	126.25
						ZONE 2 ***	0.52	264.57	5.40
8/25/64	15.000	94.55/104.57	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.60	94.55	121.57
						ZONE 2 ***	0.57	260.26	359.94
8/25/64	15.500	94.55/104.66	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.44	94.55	116.94
						ZONE 2 ***	0.62	255.74	354.06
8/25/64	16.000	94.55/104.61	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.32	94.55	112.35
						ZONE 2 ***	0.70	250.95	347.38
8/25/64	16.500	94.55/104.59	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.21	94.55	107.73
						ZONE 2 ***	0.78	246.03	337.11
8/25/64	17.000	94.77/242.15	1.39/42.67	0.49/41.77	0.00/41.28	ZONE 1 ***	0.12	94.55	102.98
						ZONE 2 ***	0.89	240.83	321.81
8/25/64	17.500	94.55/239.94	1.38/42.59	0.48/41.69	0. /41.21	ZONE 1 ***	0.[illegible]5	94.55	98.15
						ZONE 2 ***	1.[illegible]1	235.44	302.68
8/25/64	18.000	230.09/233.36	42.14/42.32	41.24/41.42	40.76/40.93	ZONE 1 ***	1.18	229.94	283.30
						ZONE 2 ***	0.54	341.18	93.51

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
8/25/64	18.500	224.34/226.63	41.74/41.91	40.83/41.01	40.35/40.53	ZONE 1 ***	1.42	224.13	265.18
						ZONE 2 ***	0.50	336.30	88.71
8/25/64	19.000	218.29/219.83	41.13/41.30	40.22/40.40	39.74/39.92	ZONE 1 ***	1.74	218.24	249.10
						ZONE 2 ***	0.47	331.89	83.78
8/25/64	19.500	212.15/213.16	40.21/40.39	39.31/39.49	38.83/39.00	ZONE 1 ***	2.19	212.07	234.89
						ZONE 2 ***	0.44	327.96	78.73
8/25/64	20.000	205.81/206.44	38.77/38.94	37.86/38.04	37.38/37.55	ZONE 1 ***	2.81	205.78	222.42
						ZONE 2 ***	0.42	323.71	73.89
8/25/64	20.500	201.94/202.43	37.51/37.69	36.61/36.79	36.13/36.31	ZONE 1 ***	3.61	199.32	211.43
						ZONE 2 ***	0.40	319.93	68.75
8/25/64	21.000	316.16/350.83	43.49/43.61	42.59/42.71	42.10/42.22	ZONE 1 ***	1.18	198.90	201.80
						ZONE 2 ***	0.39	315.87	63.93
8/25/64	21.500	312.31/351.04	43.47/43.61	42.57/42.71	42.09/42.22	ZONE 1 ***	0.38	312.27	58.86
						ZONE 2 ***	0.38	312.27	58.86
8/25/64	22.000	308.42/342.74	43.46/43.58	42.55/42.68	42.07/42.20	ZONE 1 ***	0.37	308.07	54.22
						ZONE 2 ***	0.37	308.07	54.22
8/25/64	22.500	304.51/330.27	43.44/43.54	42.54/42.64	42.05/42.16	ZONE 1 ***	0.37	304.34	49.39
						ZONE 2 ***	0.37	304.34	49.39
8/25/64	23.000	300.56/326.63	43.42/43.53	42.52/42.63	42.03/42.14	ZONE 1 ***	0.37	300.40	44.75
						ZONE 2 ***	0.37	300.40	44.75
8/25/64	23.500	296.57/320.60	43.40/43.51	42.50/42.60	42.01/42.12	ZONE 1 ***	1.78	156.51	161.10
						ZONE 2 ***	0.37	296.29	40.33

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	0.	143.42/144.68	3.62/ 3.80	2.72/ 2.89	2.23/ 2.41	ZONE 1 ***	2.96	143.30	156.79
						ZONE 2 ***	0.38	289.99	33.48
9/10/64	0.500	134.18/136.38	2.67/ 2.85	1.77/ 1.95	1.29/ 1.47	ZONE 1 ***	2.38	133.96	151.37
						ZONE 2 ***	0.40	285.75	29.18
9/10/64	1.000	123.95/127.72	2.08/ 2.26	1.18/ 1.36	0.70/ 0.88	ZONE 1 ***	1.95	123.87	146.18
						ZONE 2 ***	0.41	281.71	25.19
9/10/64	1.500	112.76/118.49	1.71/ 1.88	0.81/ 0.97	0.33/ 0.49	ZONE 1 ***	1.63	112.49	141.14
						ZONE 2 ***	0.44	277.38	21.56
9/10/64	2.000	99.57/108.73	1.45/ 1.62	0.55/ 0.72	0.07/ 0.23	ZONE 1 ***	1.39	99.50	136.25
						ZONE 2 ***	0.47	272.83	18.29
9/10/64	2.500	94.55/104.76	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.09	94.55	131.42
						ZONE 2 ***	0.51	268.13	16.23
9/10/64	3.000	94.70/104.88	1.39/ 1.54	0.49/ 0.64	0.00/ 0.16	ZONE 1 ***	0.82	94.55	126.67
						ZONE 2 ***	0.57	263.36	16.23
9/10/64	3.500	94.55/104.81	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.61	94.55	121.81
						ZONE 2 ***	1.70	258.23	121.81
9/10/64	4.000	94.55/104.91	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.45	94.55	117.08
						ZONE 2 ***	1.63	253.04	117.08
9/10/64	4.500	94.55/104.85	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.31	94.55	112.20
						ZONE 2 ***	1.62	247.46	112.20
9/10/64	5.000	94.55/104.88	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.20	94.55	107.40
						ZONE 2 ***	1.68	241.72	107.40
9/10/64	5.500	94.55/236.23	1.38/42.45	0.48/41.55	0. /41.07	ZONE 1 ***	0.11	94.55	102.44
						ZONE 2 ***	1.81	235.77	102.44
9/10/64	6.000	94.55/231.97	1.38/42.25	0.48/41.34	0. /40.86	ZONE 1 ***	0.[illegible]4	94.55	97.37
						ZONE 2 ***	2.[illegible]6	229.57	97.37

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	6.500	223.15/225.35	41.63/41.82	40.73/40.92	40.25/40.43	ZONE 1 ***	2.48	223.03	92.24
						ZONE 2 ***	2.48	223.03	92.24
9/10/64	7.000	216.28/217.64	40.87/41.05	39.97/40.14	39.48/39.66	ZONE 1 ***	2.12	216.25	254.88
						ZONE 2 ***	0.57	311.92	86.87
9/10/64	7.500	209.32/210.15	39.64/39.82	38.74/38.92	38.26/38.44	ZONE 1 ***	2.75	209.24	234.57
						ZONE 2 ***	0.52	312.27	81.55
9/10/64	8.000	204.55/205.14	38.39/38.57	37.49/37.67	37.01/37.19	ZONE 1 ***	3.67	201.99	218.91
						ZONE 2 ***	0.49	310.86	76.08
9/10/64	8.500	198.95/199.36	36.30/36.48	35.40/35.58	34.92/35.09	ZONE 1 ***	2.57	198.90	206.13
						ZONE 2 ***	0.46	308.42	70.79
9/10/64	9.000	306.09/349.87	43.45/43.60	42.54/42.70	42.06/42.22	ZONE 1 ***	0.44	306.02	65.16
						ZONE 2 ***	0.44	306.02	65.16
9/10/64	9.500	303.21/340.44	43.43/43.57	42.53/42.67	42.05/42.19	ZONE 1 ***	0.42	303.01	59.51
						ZONE 2 ***	0.42	303.01	59.51
9/10/64	10.000	300.11/322.23	43.42/43.51	42.51/42.61	42.03/42.13	ZONE 1 ***	0.41	300.08	53.88
						ZONE 2 ***	0.41	300.08	53.88
9/10/64	10.500	296.85/324.05	43.40/43.52	42.50/42.62	42.01/42.13	ZONE 1 ***	0.40	296.60	48.34
						ZONE 2 ***	0.40	296.60	48.34
9/10/64	11.000	154.16/154.78	5.75/ 5.93	4.85/ 5.03	4.37/ 4.55	ZONE 1 ***	2.51	154.12	161.10
						ZONE 2 ***	0.40	293.24	42.56
9/10/64	11.500	145.30/146.43	3.89/ 4.07	2.99/ 3.17	2.50/ 2.68	ZONE 1 ***	3.27	145.19	158.42
						ZONE 2 ***	0.40	289.70	37.32
9/10/64	12.000	135.96/137.96	2.81/ 2.99	1.91/ 2.09	1.43/ 1.61	ZONE 1 ***	2.56	135.85	152.73
						ZONE 2 ***	0.40	286.03	31.93

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
9/10/64	12.500	126.02/129.39	2.18/ 2.35	1.27/ 1.45	0.79/ 0.97	ZONE 1 ***	2.[illegible]5	125.93	147.36
						ZONE 2 ***	0.41	282.24	26.80
9/10/64	13.000	115.34/120.47	1.78/ 1.94	0.88/ 1.04	0.40/ 0.56	ZONE 1 ***	1.68	115.33	142.20
						ZONE 2 ***	0.43	278.38	21.96
9/10/64	13.500	103.96/111.82	1.53/ 1.69	0.62/ 0.79	0.14/ 0.30	ZONE 1 ***	1.41	103.51	137.26
						ZONE 2 ***	0.45	274.23	17.06
9/10/64	14.000	94.55/104.45	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 ***	1.16	94.55	132.41
						ZONE 2 ***	0.48	270.10	12.50
9/10/64	14.500	94.55/104.52	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.87	94.55	127.59
						ZONE 2 ***	0.52	265.59	7.91
9/10/64	15.000	94.55/104.59	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.65	94.55	122.85
						ZONE 2 ***	0.57	261.02	4.14
9/10/64	15.500	94.55/104.62	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.48	94.55	118.12
						ZONE 2 ***	0.64	256.26	1.20
9/10/64	16.000	94.55/104.57	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.34	94.55	113.36
						ZONE 2 ***	1.56	251.27	113.36
9/10/64	16.500	94.55/104.54	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.23	94.55	108.69
						ZONE 2 ***	1.58	246.03	108.69
9/10/64	17.000	94.65/242.18	1.39/42.67	0.48/41.77	0.00/41.28	ZONE 1 ***	0.14	94.55	103.86
						ZONE 2 ***	1.65	240.70	103.86
9/10/64	17.500	94.56/236.68	1.39/42.47	0.48/41.57	0.00/41.08	ZONE 1 ***	0.[illegible]6	94.55	99.12
						ZONE 2 ***	1.[illegible]9	235.11	315.87
9/10/64	18.000	229.28/232.38	42.09/42.27	41.19/41.37	40.71/40.88	ZONE 1 ***	1.26	229.19	288.55
						ZONE 2 ***	0.58	331.89	94.14

EGO 60K. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
9/10/64	18.500	223.27/225.29	41.64/41.81	40.74/40.91	40.26/40.43	ZONE 1 ***	1.52	223.18	266.85
						ZONE 2 ***	0.53	329.52	89.16
9/10/64	19.000	216.94/218.29	40.96/41.13	40.05/40.22	39.57/39.74	ZONE 1 ***	1.90	216.87	248.50
						ZONE 2 ***	0.49	326.02	84.02
9/10/64	19.500	210.47/211.34	39.89/40.06	38.98/39.16	38.50/38.67	ZONE 1 ***	2.42	210.45	233.00
						ZONE 2 ***	0.46	322.95	78.99
9/10/64	20.000	205.80/206.45	38.76/38.94	37.86/38.04	37.38/37.56	ZONE 1 ***	3.15	203.76	219.73
						ZONE 2 ***	0.44	319.56	73.89
9/10/64	20.500	200.17/200.61	36.83/37.00	35.92/36.10	35.44/35.62	ZONE 1 ***	3.15	198.90	208.37
						ZONE 2 ***	0.41	315.87	68.46
9/10/64	21.000	312.52/343.03	43.47/43.58	42.57/42.68	42.09/42.20	ZONE 1 ***	0.40	312.27	63.31
						ZONE 2 ***	0.40	312.27	63.31
9/10/64	21.500	308.90/343.07	43.46/43.58	42.56/42.68	42.07/42.20	ZONE 1 ***	0.39	308.76	58.21
						ZONE 2 ***	0.39	308.76	58.21
9/10/64	22.000	305.21/334.81	43.44/43.56	42.54/42.65	42.06/42.17	ZONE 1 ***	0.38	305.01	52.86
						ZONE 2 ***	0.38	305.01	52.86
9/10/64	22.500	301.50/326.48	43.42/43.53	42.52/42.63	42.04/42.14	ZONE 1 ***	0.38	301.37	47.98
						ZONE 2 ***	0.38	301.37	47.98
9/10/64	23.000	297.73/320.64	43.40/43.51	42.50/42.60	42.02/42.12	ZONE 1 ***	0.55	159.82	161.10
						ZONE 2 ***	0.37	297.54	42.93
9/10/64	23.500	151.62/152.36	5.10/ 5.28	4.20/ 4.37	3.71/ 3.89	ZONE 1 ***	3.15	151.61	161.10
						ZONE 2 ***	0.38	293.54	38.08

EGO 60K ORBIT. 74 MINUTE TIMER

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**** PROGRAM INPUT ****

INITIAL LIFT-OFF DATE **** =  7/10/64
FINAL LIFT-OFF DATE ****** =   9/10/64

INITIAL LIFT-OFF HOUR **** =  0.
HOUR INCREMENT *********** =  0.50000
FINAL LIFT-OFF HOUR ****** = 23.50000

EPOCH ASSOCIATED-  DATE ** = 11/15/63
WITH ELEMENTS      HOUR ** = 20.00000

SEMI-MAJOR AXIS ********** = 9.73116696 E.R.
ECCENTRICITY ************* = 0.89290179
INCLINATION ************** =  30.806976 DEG.
ARGUMENT OF PERIGEE ****** = -45.596384 DEG.
R.A. OF ASC. NODE ******** = 144.299963 DEG.
MEAN ANOMALY ************* =   0.       DEG.

ECCENTRIC ANOMALY AT TIME-
WHEN EARTH SEARCH BEGINS * =  49.383232 DEG.

DELTA ECCENTRIC ANOMALY ** =  10.000000 DEG.

TIME FROM LIFT-OFF TO-
BEGINNING OF EARTH SEARCH  =   2.134860 HOURS

TIME FROM LIFT-OFF TO-
INJECTION INTO ORBIT  **** =   0.901667 HOURS

NUMBER OF INCREMENTS ON-
THE INITIAL ROLL POSITION  =     8

CONSTANT ROLL RATE ******* = -0.3078778E 02 RAD./HR.

ITERATIONS ON DELTA E **** =    2

CENTER BLIND HALF ANGLE ** =   4.500000 DEG.
PERIPHERAL BLIND ANGLE *** =  88.000000 DEG.
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EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	0.	296.04/317.91	43.39/43.49	42.49/42.59	41.25/41.35	ZONE 1 ***	1.78	156.51	161.10
						ZONE 2 ***	0.38	295.97	41.07
7/10/64	0.500	148.62/149.49	4.45/ 4.62	3.55/ 3.72	2.32/ 2.49	ZONE 1 ***	3.52	148.60	160.49
						ZONE 2 ***	0.39	291.45	38.07
7/10/64	1.000	139.98/141.55	3.19/ 3.37	2.29/ 2.47	1.06/ 1.24	ZONE 1 ***	2.91	139.90	155.36
						ZONE 2 ***	0.41	287.13	35.79
7/10/64	1.500	130.04/132.65	2.38/ 2.55	1.48/ 1.65	0.25/ 0.42	ZONE 1 ***	2.43	130.03	150.40
						ZONE 2 ***	0.44	282.50	34.25
7/10/64	2.000	125.47/129.05	2.14/ 2.33	1.24/ 1.43	0.01/ 0.19	ZONE 1 ***	1.79	125.29	145.60
						ZONE 2 ***	0.47	277.87	33.86
7/10/64	2.500	125.54/129.02	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.16	125.29	140.87
						ZONE 2 ***	0.53	273.05	36.17
7/10/64	3.000	125.29/128.61	2.13/ 2.30	1.23/ 1.40	0. / 0.17	ZONE 1 ***	0.69	125.29	136.17
						ZONE 2 ***	0.62	267.91	45.83
7/10/64	3.500	125.29/128.61	2.13/ 2.30	1.23/ 1.40	0. / 0.17	ZONE 1 ***	0.34	125.29	131.51
						ZONE 2 ***	2.13	262.57	131.51
7/10/64	4.000	125.37/268.80	2.14/43.17	1.24/42.27	0.00/41.04	ZONE 1 ***	0.08	125.29	126.87
						ZONE 2 ***	1.95	256.96	126.87
7/10/64	4.500	251.14/260.92	42.90/43.07	42.00/42.17	40.76/40.94	ZONE 1 ***	1.85	251.11	122.27
						ZONE 2 ***	1.85	251.11	122.27
7/10/64	5.000	244.88/252.14	42.74/42.92	41.84/42.02	40.61/40.78	ZONE 1 ***	1.84	244.77	117.47
						ZONE 2 ***	1.84	244.77	117.47
7/10/64	5.500	238.27/243.00	42.53/42.69	41.62/41.79	40.39/40.55	ZONE 1 ***	1.92	238.16	112.64
						ZONE 2 ***	1.92	238.16	112.64
7/10/64	6.000	231.31/234.87	42.20/42.38	41.30/41.48	40.07/40.25	ZONE 1 ***	2.13	231.29	107.72
						ZONE 2 ***	2.13	231.29	107.72

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF DATE	TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	6.500	223.92/226.16	41.69/41.87	40.79/40.97	39.56/39.74	ZONE 1 ***	2.55	223.89	102.80
						ZONE 2 ***	2.55	223.89	102.80
7/10/64	7.000	216.21/217.56	40.85/41.03	39.95/40.13	38.71/38.89	ZONE 1 ***	3.33	216.12	97.56
						ZONE 2 ***	3.33	216.12	97.56
7/10/64	7.500	207.98/208.71	39.32/39.50	38.42/38.60	37.19/37.36	ZONE 1 ***	4.78	207.95	92.23
						ZONE 2 ***	4.78	207.95	92.23
7/10/64	8.000	202.88/203.40	37.84/38.02	36.94/37.12	35.71/35.89	ZONE 1 ***	5.20	199.43	224.04
						ZONE 2 ***	0.75	280.66	86.64
7/10/64	8.500	286.74/308.65	43.33/43.45	42.43/42.55	41.19/41.32	ZONE 1 ***	2.16	198.90	204.71
						ZONE 2 ***	0.66	286.58	81.04
7/10/64	9.000	288.49/317.18	43.34/43.49	42.44/42.58	41.21/41.35	ZONE 1 ***	0.60	288.26	74.99
						ZONE 2 ***	0.60	288.26	74.99
7/10/64	9.500	288.43/312.15	43.34/43.47	42.44/42.56	41.21/41.33	ZONE 1 ***	0.56	288.26	69.04
						ZONE 2 ***	0.56	288.26	69.04
7/10/64	10.000	287.42/313.69	43.33/43.47	42.43/42.57	41.20/41.34	ZONE 1 ***	0.53	287.13	62.68
						ZONE 2 ***	0.53	287.13	62.68
7/10/64	10.500	151.99/152.72	5.18/ 5.36	4.28/ 4.46	3.04/ 3.22	ZONE 1 ***	3.07	151.94	161.10
						ZONE 2 ***	0.51	285.47	56.55
7/10/64	11.000	141.73/143.07	3.39/ 3.56	2.49/ 2.66	1.26/ 1.43	ZONE 1 ***	3.78	141.68	158.49
						ZONE 2 ***	0.49	283.57	50.09
7/10/64	11.500	131.28/133.88	2.46/ 2.64	1.56/ 1.74	0.33/ 0.51	ZONE 1 ***	2.85	131.15	152.50
						ZONE 2 ***	0.49	280.92	43.65
7/10/64	12.000	125.31/128.74	2.14/ 2.31	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	2.02	125.29	146.97
						ZONE 2 ***	0.49	278.12	37.31

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	12.500	125.29/128.81	2.13/ 2.31	1.23/ 1.41	0. / 0.18	ZONE 1 ***	1.27	125.29	141.81
						ZONE 2 ***	0.49	275.18	30.75
7/10/64	13.000	125.29/128.83	2.13/ 2.31	1.23/ 1.41	0. / 0.18	ZONE 1 ***	0.75	125.29	136.87
						ZONE 2 ***	0.50	271.90	24.38
7/10/64	13.500	125.34/128.83	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	0.38	125.29	132.05
						ZONE 2 ***	0.51	268.56	17.87
7/10/64	14.000	125.32/273.08	2.14/43.22	1.23/42.32	0.00/41.08	ZONE 1 ***	0.11	125.29	127.48
						ZONE 2 ***	0.53	264.97	10.83
7/10/64	14.500	261.27/276.07	43.08/43.25	42.17/42.34	40.94/41.11	ZONE 1 ***	0.56	261.21	3.71
						ZONE 2 ***	0.93	58.85	122.85
7/10/64	15.000	257.29/268.84	43.01/43.17	42.11/42.27	40.88/41.04	ZONE 1 ***	0.60	257.14	355.73
						ZONE 2 ***	0.83	45.11	118.37
7/10/64	15.500	253.25/262.94	42.94/43.10	42.04/42.20	40.81/40.96	ZONE 1 ***	0.65	253.04	346.54
						ZONE 2 ***	0.75	31.92	113.93
7/10/64	16.000	248.78/256.56	42.84/43.00	41.94/42.10	40.71/40.87	ZONE 1 ***	0.71	248.64	335.48
						ZONE 2 ***	0.68	19.92	109.47
7/10/64	16.500	244.26/251.39	42.73/42.90	41.82/42.00	40.59/40.77	ZONE 1 ***	0.78	244.22	322.18
						ZONE 2 ***	0.63	9.58	105.06
7/10/64	17.000	239.63/245.24	42.58/42.75	41.67/41.85	40.44/40.62	ZONE 1 ***	0.87	239.47	307.03
						ZONE 2 ***	0.58	1.19	100.62
7/10/64	17.500	234.72/238.99	42.38/42.55	41.47/41.65	40.24/40.42	ZONE 1 ***	0.99	234.67	291.45
						ZONE 2 ***	0.53	354.47	96.18
7/10/64	18.000	229.68/232.68	42.11/42.28	41.21/41.37	39.97/40.14	ZONE 1 ***	1.15	229.56	276.15
						ZONE 2 ***	0.50	348.61	91.80

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
7/10/64	18.500	224.53/226.86	41.74/41.92	40.84/41.02	39.61/39.79	ZONE 1 ***	1.35	224.36	261.40
						ZONE 2 ***	0.47	343.23	87.33
7/10/64	19.000	219.08/220.70	41.21/41.39	40.31/40.49	39.08/39.25	ZONE 1 ***	1.62	219.04	248.05
						ZONE 2 ***	0.44	338.32	82.79
7/10/64	19.500	213.57/214.69	40.45/40.63	39.55/39.73	38.31/38.49	ZONE 1 ***	1.99	213.51	235.87
						ZONE 2 ***	0.42	333.48	78.20
7/10/64	20.000	207.92/208.65	39.31/39.48	38.41/38.58	37.18/37.35	ZONE 1 ***	2.47	207.90	224.93
						ZONE 2 ***	0.40	329.12	73.61
7/10/64	20.500	202.11/204.81	37.57/38.47	36.67/37.57	35.44/36.33	ZONE 1 ***	3.11	202.10	215.03
						ZONE 2 ***	0.39	324.85	69.33
7/10/64	21.000	199.49/199.91	36.53/36.71	35.63/35.81	34.40/34.57	ZONE 1 ***	2.57	198.90	206.13
						ZONE 2 ***	0.37	320.67	64.85
7/10/64	21.500	316.70/356.10	43.48/43.62	42.58/42.71	41.35/41.48	ZONE 1 ***	0.37	316.59	60.46
						ZONE 2 ***	0.37	316.59	60.46
7/10/64	22.000	312.62/ 3.29	43.47/43.64	42.57/42.74	41.33/41.50	ZONE 1 ***	0.36	312.26	56.22
						ZONE 2 ***	0.36	312.26	56.22
7/10/64	22.500	308.51/340.64	43.45/43.57	42.55/42.67	41.31/41.43	ZONE 1 ***	0.36	308.41	52.17
						ZONE 2 ***	0.36	308.41	52.17
7/10/64	23.000	304.40/329.63	43.43/43.53	42.53/42.63	41.30/41.40	ZONE 1 ***	0.36	304.33	47.97
						ZONE 2 ***	0.36	304.33	47.97
7/10/64	23.500	300.23/323.70	43.41/43.51	42.51/42.61	41.27/41.38	ZONE 1 ***	0.37	300.07	44.38
						ZONE 2 ***	0.37	300.07	44.38

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	0.	155.30/155.89	6.08/ 6.26	5.17/ 5.36	3.94/ 4.13	ZONE 1 ***	2.18	155.23	161.10
						ZONE 2 ***	0.38	295.36	39.95
7/25/64	0.500	147.22/148.18	4.20/ 4.37	3.29/ 3.47	2.06/ 2.23	ZONE 1 ***	3.35	147.20	159.45
						ZONE 2 ***	0.39	291.15	36.93
7/25/64	1.000	138.50/140.26	3.04/ 3.22	2.14/ 2.32	0.90/ 1.09	ZONE 1 ***	2.76	138.31	154.29
						ZONE 2 ***	0.41	286.85	34.25
7/25/64	1.500	128.49/131.50	2.30/ 2.48	1.39/ 1.57	0.16/ 0.34	ZONE 1 ***	2.31	128.29	149.33
						ZONE 2 ***	0.43	282.23	32.31
7/25/64	2.000	125.47/129.04	2.14/ 2.33	1.24/ 1.43	0.01/ 0.19	ZONE 1 ***	1.62	125.29	144.47
						ZONE 2 ***	0.47	277.62	31.53
7/25/64	2.500	125.53/129.01	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.03	125.29	139.68
						ZONE 2 ***	0.52	272.82	32.70
7/25/64	3.000	125.29/128.62	2.13/ 2.30	1.23/ 1.40	0. / 0.17	ZONE 1 ***	0.59	125.29	134.96
						ZONE 2 ***	0.60	267.69	39.58
7/25/64	3.500	125.35/128.60	2.14/ 2.30	1.24/ 1.40	0.00/ 0.17	ZONE 1 ***	0.27	125.29	130.31
						ZONE 2 ***	2.06	262.37	130.31
7/25/64	4.000	125.32/268.84	2.14/43.17	1.23/42.27	0.00/41.04	ZONE 1 ***	0.01	125.29	125.61
						ZONE 2 ***	1.89	256.96	125.61
7/25/64	4.500	251.14/260.94	42.90/43.07	42.00/42.17	40.76/40.94	ZONE 1 ***	1.80	251.11	120.85
						ZONE 2 ***	1.80	251.11	120.85
7/25/64	5.000	244.97/252.16	42.75/42.92	41.84/42.02	40.61/40.78	ZONE 1 ***	1.80	244.91	116.14
						ZONE 2 ***	1.80	244.91	116.14
7/25/64	5.500	238.51/243.87	42.53/42.71	41.63/41.81	40.40/40.58	ZONE 1 ***	1.88	238.39	111.30
						ZONE 2 ***	1.98	238.39	111.30
7/25/64	6.000	231.78/235.43	42.23/42.41	41.33/41.51	40.09/40.27	ZONE 1 ***	2.09	231.58	106.24
						ZONE 2 ***	2.09	231.58	106.24

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	6.500	224.53/226.87	41.74/41.92	40.84/41.02	39.61/39.79	ZONE 1 ***	2.49	224.36	101.17
						ZONE 2 ***	2.49	224.36	101.17
7/25/64	7.000	216.97/218.39	40.95/41.13	40.05/40.23	38.82/39.00	ZONE 1 ***	3.21	216.81	95.97
						ZONE 2 ***	3.21	216.81	95.97
7/25/64	7.500	208.93/209.78	39.55/39.73	38.65/38.83	37.41/37.60	ZONE 1 ***	4.53	208.90	90.49
						ZONE 2 ***	4.53	208.90	90.49
7/25/64	8.000	203.79/204.36	38.15/38.33	37.25/37.42	36.01/36.19	ZONE 1 ***	4.73	200.61	224.36
						ZONE 2 ***	0.69	286.58	84.98
7/25/64	8.500	290.89/323.51	43.36/43.51	42.45/42.61	41.22/41.37	ZONE 1 ***	2.59	198.90	206.17
						ZONE 2 ***	0.61	290.86	79.25
7/25/64	9.000	291.80/315.97	43.36/43.48	42.46/42.58	41.23/41.35	ZONE 1 ***	0.56	291.74	73.33
						ZONE 2 ***	0.56	291.74	73.33
7/25/64	9.500	291.27/318.69	43.36/43.49	42.46/42.59	41.22/41.36	ZONE 1 ***	0.53	291.15	67.27
						ZONE 2 ***	0.53	291.15	67.27
7/25/64	10.000	289.87/313.40	43.35/43.47	42.45/42.57	41.22/41.34	ZONE 1 ***	0.50	289.70	61.10
						ZONE 2 ***	0.50	289.70	61.10
7/25/64	10.500	154.92/155.51	5.96/ 6.14	5.06/ 5.24	3.83/ 4.01	ZONE 1 ***	2.29	154.85	161.10
						ZONE 2 ***	0.49	287.70	54.89
7/25/64	11.000	145.06/146.21	3.84/ 4.02	2.94/ 3.12	1.71/ 1.89	ZONE 1 ***	3.92	144.95	159.96
						ZONE 2 ***	0.47	285.47	48.68
7/25/64	11.500	134.89/137.13	2.72/ 2.91	1.82/ 2.01	0.58/ 0.77	ZONE 1 ***	2.97	134.79	153.94
						ZONE 2 ***	0.47	282.76	42.55
7/25/64	12.000	125.46/128.74	2.14/ 2.31	1.24/ 1.41	0.01/ 0.18	ZONE 1 ***	2.26	125.29	148.34
						ZONE 2 ***	0.47	279.89	36.17

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	12.500	125.31/128.82	2.14/ 2.31	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	1.42	125.29	143.04
						ZONE 2 ***	0.47	276.64	29.96
7/25/64	13.000	125.29/128.82	2.13/ 2.31	1.23/ 1.41	0. / 0.18	ZONE 1 ***	0.86	125.29	138.01
						ZONE 2 ***	0.48	273.29	23.57
7/25/64	13.500	125.32/128.90	2.14/ 2.32	1.23/ 1.42	0.00/ 0.18	ZONE 1 ***	0.46	125.29	133.19
						ZONE 2 ***	0.50	269.87	17.05
7/25/64	14.000	125.31/273.10	2.14/43.22	1.23/42.32	0.00/41.08	ZONE 1 ***	0.16	125.29	128.48
						ZONE 2 ***	0.52	266.21	10.83
7/25/64	14.500	262.39/276.07	43.09/43.25	42.19/42.34	40.96/41.11	ZONE 1 ***	0.55	262.37	4.13
						ZONE 2 ***	0.96	63.30	123.98
7/25/64	15.000	258.31/271.17	43.03/43.20	42.13/42.30	40.90/41.06	ZONE 1 ***	0.59	258.22	356.57
						ZONE 2 ***	0.85	49.39	119.38
7/25/64	15.500	254.05/264.85	42.96/43.12	42.05/42.22	40.82/40.99	ZONE 1 ***	0.64	254.03	348.20
						ZONE 2 ***	0.77	35.02	114.91
7/25/64	16.000	249.75/258.06	42.87/43.03	41.96/42.12	40.73/40.89	ZONE 1 ***	0.70	249.55	337.91
						ZONE 2 ***	0.70	21.95	110.40
7/25/64	16.500	245.00/251.41	42.75/42.90	41.85/42.00	40.61/40.77	ZONE 1 ***	0.77	244.91	325.24
						ZONE 2 ***	0.64	10.41	105.91
7/25/64	17.000	240.35/246.16	42.60/42.78	41.70/41.88	40.47/40.64	ZONE 1 ***	0.86	240.08	310.15
						ZONE 2 ***	0.59	1.61	101.35
7/25/64	17.500	235.28/239.69	42.40/42.58	41.50/41.68	40.27/40.44	ZONE 1 ***	0.98	235.21	294.14
						ZONE 2 ***	0.55	354.05	96.97
7/25/64	18.000	230.11/233.18	42.13/42.30	41.23/41.40	40.00/40.17	ZONE 1 ***	1.13	230.03	278.12
						ZONE 2 ***	0.50	347.78	92.23

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	18.500	224.85/227.28	41.77/41.95	40.87/41.05	39.63/39.82	ZONE 1 ***	1.34	224.69	262.96
						ZONE 2 ***	0.47	342.40	87.79
7/25/64	19.000	219.30/220.99	41.24/41.42	40.34/40.52	39.10/39.29	ZONE 1 ***	1.62	219.25	248.95
						ZONE 2 ***	0.44	337.50	83.04
7/25/64	19.500	213.72/214.85	40.47/40.65	39.57/39.75	38.34/38.52	ZONE 1 ***	1.99	213.63	236.32
						ZONE 2 ***	0.42	333.08	78.47
7/25/64	20.000	207.89/208.65	39.30/39.48	38.40/38.58	37.17/37.35	ZONE 1 ***	2.50	207.81	225.01
						ZONE 2 ***	0.40	328.34	73.89
7/25/64	20.500	201.90/204.65	37.50/38.42	36.59/37.51	35.36/36.28	ZONE 1 ***	3.17	201.87	214.85
						ZONE 2 ***	0.39	324.08	69.33
7/25/64	21.000	199.55/199.97	36.56/36.73	35.65/35.83	34.42/34.60	ZONE 1 ***	2.44	198.90	205.65
						ZONE 2 ***	0.38	319.92	64.85
7/25/64	21.500	316.12/356.23	43.48/43.62	42.58/42.71	41.35/41.48	ZONE 1 ***	0.37	315.86	60.14
						ZONE 2 ***	0.37	315.86	60.14
7/25/64	22.000	312.05/347.99	43.46/43.59	42.56/42.69	41.33/41.46	ZONE 1 ***	0.36	311.91	55.89
						ZONE 2 ***	0.36	311.91	55.89
7/25/64	22.500	307.99/339.62	43.45/43.56	42.55/42.66	41.31/41.43	ZONE 1 ***	0.36	307.72	51.48
						ZONE 2 ***	0.36	307.72	51.48
7/25/64	23.000	303.90/330.06	43.43/43.53	42.53/42.63	41.29/41.40	ZONE 1 ***	0.36	303.67	47.26
						ZONE 2 ***	0.36	303.67	47.26
7/25/64	23.500	299.78/324.08	43.41/43.51	42.51/42.61	41.27/41.38	ZONE 1 ***	0.37	299.75	43.65
						ZONE 2 ***	0.37	299.75	43.65

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	0.	152.53/153.22	5.31/ 5.49	4.41/ 4.59	3.18/ 3.35	ZONE 1 ***	2.93	152.50	161.10
						ZONE 2 ***	0.38	294.14	38.07
8/10/64	0.500	144.15/145.31	3.71/ 3.88	2.81/ 2.98	1.58/ 1.75	ZONE 1 ***	3.07	144.10	157.42
						ZONE 2 ***	0.39	289.99	34.63
8/10/64	1.000	135.05/137.15	2.73/ 2.91	1.83/ 2.01	0.60/ 0.78	ZONE 1 ***	2.51	134.96	152.22
						ZONE 2 ***	0.41	285.74	31.53
8/10/64	1.500	125.46/128.96	2.14/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	2.06	125.29	147.20
						ZONE 2 ***	0.43	281.18	29.17
8/10/64	2.000	125.56/129.02	2.15/ 2.33	1.25/ 1.42	0.01/ 0.19	ZONE 1 ***	1.32	125.29	142.27
						ZONE 2 ***	0.46	276.64	27.58
8/10/64	2.500	125.52/129.02	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	0.81	125.29	137.48
						ZONE 2 ***	0.51	271.90	27.58
8/10/64	3.000	125.58/129.11	2.15/ 2.33	1.25/ 1.43	0.01/ 0.20	ZONE 1 ***	0.43	125.29	132.76
						ZONE 2 ***	0.58	266.84	32.31
8/10/64	3.500	125.34/271.14	2.14/43.20	1.24/42.30	0.00/41.06	ZONE 1 ***	0.13	125.29	127.99
						ZONE 2 ***	1.93	261.59	127.99
8/10/64	4.000	256.23/266.70	43.00/43.15	42.09/42.25	40.86/41.01	ZONE 1 ***	1.80	256.09	123.19
						ZONE 2 ***	1.80	256.09	123.19
8/10/64	4.500	250.49/259.28	42.88/43.05	41.98/42.14	40.75/40.91	ZONE 1 ***	1.73	250.48	118.50
						ZONE 2 ***	1.73	250.48	118.50
8/10/64	5.000	244.45/250.96	42.73/42.89	41.83/41.99	40.60/40.76	ZONE 1 ***	1.74	244.36	113.64
						ZONE 2 ***	1.74	244.36	113.64
8/10/64	5.500	238.19/243.03	42.52/42.69	41.62/41.79	40.39/40.55	ZONE 1 ***	1.84	238.04	108.68
						ZONE 2 ***	1.84	238.04	108.68
8/10/64	6.000	231.52/234.88	42.21/42.38	41.31/41.48	40.08/40.25	ZONE 1 ***	2.05	231.38	103.68
						ZONE 2 ***	2.05	231.38	103.68

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	6.500	224.53/226.87	41.74/41.92	40.84/41.02	39.61/39.79	ZONE 1 ***	2.44	224.45	98.54
						ZONE 2 ***	2.44	224.45	98.54
8/10/64	7.000	217.17/218.60	40.98/41.16	40.08/40.26	38.84/39.02	ZONE 1 ***	3.13	217.13	93.30
						ZONE 2 ***	3.13	217.13	93.30
8/10/64	7.500	209.51/210.35	39.68/39.85	38.77/38.95	37.54/37.72	ZONE 1 ***	3.15	209.49	248.05
						ZONE 2 ***	0.71	287.98	87.79
8/10/64	8.000	201.59/204.86	37.38/38.48	36.48/37.58	35.24/36.35	ZONE 1 ***	4.26	201.53	223.10
						ZONE 2 ***	0.61	295.36	82.29
8/10/64	8.500	198.93/199.34	36.29/36.46	35.38/35.56	34.15/34.33	ZONE 1 ***	2.77	198.90	206.84
						ZONE 2 ***	0.56	296.91	76.61
8/10/64	9.000	296.62/335.44	43.39/43.55	42.49/42.65	41.26/41.42	ZONE 1 ***	0.52	296.59	70.78
						ZONE 2 ***	0.52	296.59	70.78
8/10/64	9.500	295.27/317.69	43.38/43.49	42.48/42.59	41.25/41.35	ZONE 1 ***	0.49	295.05	64.85
						ZONE 2 ***	0.49	295.05	64.85
8/10/64	10.000	293.32/320.22	43.37/43.50	42.47/42.60	41.24/41.36	ZONE 1 ***	0.47	293.23	58.85
						ZONE 2 ***	0.47	293.23	58.85
8/10/64	10.500	290.92/314.66	43.36/43.48	42.46/42.57	41.22/41.34	ZONE 1 ***	1.29	157.92	161.10
						ZONE 2 ***	0.45	290.86	52.51
8/10/64	11.000	148.53/149.44	4.43/ 4.61	3.53/ 3.71	2.30/ 2.48	ZONE 1 ***	3.81	148.50	161.10
						ZONE 2 ***	0.45	287.98	46.55
8/10/64	11.500	138.89/140.57	3.08/ 3.26	2.18/ 2.36	0.94/ 1.12	ZONE 1 ***	3.08	138.75	155.53
						ZONE 2 ***	0.44	285.19	40.33
8/10/64	12.000	128.75/131.72	2.31/ 2.49	1.41/ 1.59	0.18/ 0.36	ZONE 1 ***	2.39	128.68	149.84
						ZONE 2 ***	0.44	281.97	34.25

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	12.500	125.34/128.78	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.63	125.29	144.53
						ZONE 2 ***	0.45	278.62	28.38
8/10/64	13.000	125.30/128.82	2.14/ 2.31	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	1.00	125.29	139.47
						ZONE 2 ***	0.46	275.18	22.36
8/10/64	13.500	125.31/128.87	2.14/ 2.32	1.23/ 1.42	0.00/ 0.18	ZONE 1 ***	0.56	125.29	134.55
						ZONE 2 ***	0.48	271.44	16.63
8/10/64	14.000	125.31/128.84	2.14/ 2.32	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	0.23	125.29	129.74
						ZONE 2 ***	0.50	267.69	10.41
8/10/64	14.500	264.44/279.00	43.12/43.27	42.22/42.37	40.98/41.14	ZONE 1 ***	0.53	263.56	4.55
						ZONE 2 ***	0.98	68.45	125.07
8/10/64	15.000	259.43/271.19	43.05/43.20	42.15/42.30	40.91/41.06	ZONE 1 ***	0.57	259.32	357.83
						ZONE 2 ***	0.87	53.53	120.49
8/10/64	15.500	255.03/264.89	42.97/43.13	42.07/42.22	40.84/40.99	ZONE 1 ***	0.63	254.88	350.70
						ZONE 2 ***	0.79	38.07	116.00
8/10/64	16.000	250.45/259.67	42.88/43.05	41.98/42.15	40.75/40.92	ZONE 1 ***	0.69	250.32	341.58
						ZONE 2 ***	0.71	23.17	111.30
8/10/64	16.500	245.73/252.65	42.77/42.93	41.87/42.03	40.63/40.79	ZONE 1 ***	0.77	245.60	329.52
						ZONE 2 ***	0.66	10.00	106.74
8/10/64	17.000	240.75/246.19	42.62/42.78	41.71/41.88	40.48/40.64	ZONE 1 ***	0.87	240.58	314.77
						ZONE 2 ***	0.61	359.93	102.26
8/10/64	17.500	235.55/239.70	42.41/42.58	41.51/41.68	40.28/40.44	ZONE 1 ***	0.98	235.54	297.84
						ZONE 2 ***	0.56	351.95	97.56
8/10/64	18.000	230.38/233.70	42.15/42.33	41.25/41.43	40.01/40.19	ZONE 1 ***	1.15	230.13	280.41
						ZONE 2 ***	0.52	345.71	92.87

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	18.500	224.86/227.22	41.77/41.95	40.87/41.05	39.64/39.81	ZONE 1 ***	1.36	224.69	264.16
						ZONE 2 ***	0.48	340.35	88.25
8/10/64	19.000	219.08/220.75	41.21/41.39	40.31/40.49	39.08/39.26	ZONE 1 ***	1.65	218.97	249.25
						ZONE 2 ***	0.45	335.48	83.53
8/10/64	19.500	213.16/214.20	40.38/40.55	39.48/39.65	38.25/38.42	ZONE 1 ***	2.06	213.12	235.98
						ZONE 2 ***	0.43	331.09	78.73
8/10/64	20.000	207.18/207.90	39.13/39.30	38.22/38.40	36.99/37.17	ZONE 1 ***	2.60	207.11	224.12
						ZONE 2 ***	0.41	326.78	73.89
8/10/64	20.500	203.22/203.76	37.96/38.14	37.06/37.23	35.82/36.00	ZONE 1 ***	3.32	200.94	213.57
						ZONE 2 ***	0.39	322.56	69.04
8/10/64	21.000	198.97/199.37	36.30/36.48	35.40/35.58	34.17/34.34	ZONE 1 ***	1.98	198.90	204.13
						ZONE 2 ***	0.38	318.43	64.23
8/10/64	21.500	314.63/ 3.04	43.48/43.64	42.57/42.74	41.34/41.50	ZONE 1 ***	0.37	314.41	59.82
						ZONE 2 ***	0.37	314.41	59.82
8/10/64	22.000	310.60/348.15	43.46/43.59	42.56/42.69	41.32/41.46	ZONE 1 ***	0.36	310.50	54.89
						ZONE 2 ***	0.36	310.50	54.89
8/10/64	22.500	306.62/336.49	43.44/43.55	42.54/42.65	41.31/41.42	ZONE 1 ***	0.36	306.35	50.44
						ZONE 2 ***	0.36	306.35	50.44
8/10/64	23.000	302.58/323.40	43.42/43.51	42.52/42.61	41.29/41.37	ZONE 1 ***	0.36	302.35	46.19
						ZONE 2 ***	0.36	302.35	46.19
8/10/64	23.500	298.51/324.70	43.40/43.51	42.50/42.61	41.27/41.38	ZONE 1 ***	0.43	160.10	161.10
						ZONE 2 ***	0.37	298.48	41.81

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	0.	148.71/149.61	4.47/ 4.65	3.57/ 3.75	2.33/ 2.51	ZONE 1 *** 3.39	148.60	160.17
						ZONE 2 *** 0.38	292.34	36.17
8/25/64	0.500	139.98/141.55	3.19/ 3.37	2.29/ 2.47	1.06/ 1.24	ZONE 1 *** 2.73	139.83	154.72
						ZONE 2 *** 0.39	288.26	31.92
8/25/64	1.000	130.28/133.02	2.40/ 2.58	1.50/ 1.68	0.26/ 0.44	ZONE 1 *** 2.24	130.22	149.54
						ZONE 2 *** 0.41	284.10	28.38
8/25/64	1.500	125.47/128.97	2.14/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 *** 1.62	125.29	144.47
						ZONE 2 *** 0.43	279.64	25.59
8/25/64	2.000	125.53/129.00	2.15/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 *** 1.01	125.29	139.54
						ZONE 2 *** 0.46	274.94	23.17
8/25/64	2.500	125.53/129.05	2.15/ 2.33	1.24/ 1.43	0.01/ 0.19	ZONE 1 *** 0.57	125.29	134.71
						ZONE 2 *** 0.51	270.32	22.36
8/25/64	3.000	125.53/129.02	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 *** 0.24	125.29	129.93
						ZONE 2 *** 0.57	265.38	24.78
8/25/64	3.500	260.60/273.80	43.07/43.22	42.16/42.32	40.93/41.09	ZONE 1 *** 1.81	260.26	125.18
						ZONE 2 *** 1.81	260.26	125.18
8/25/64	4.000	254.95/266.78	42.97/43.15	42.07/42.25	40.84/41.01	ZONE 1 *** 1.71	254.88	120.37
						ZONE 2 *** 1.71	254.88	120.37
8/25/64	4.500	249.37/257.75	42.86/43.02	41.96/42.12	40.72/40.89	ZONE 1 *** 1.67	249.25	115.60
						ZONE 2 *** 1.67	249.25	115.60
8/25/64	5.000	243.49/249.83	42.70/42.87	41.80/41.97	40.57/40.73	ZONE 1 *** 1.70	243.28	110.70
						ZONE 2 *** 1.70	243.28	110.70
8/25/64	5.500	237.24/242.23	42.48/42.66	41.58/41.76	40.35/40.53	ZONE 1 *** 1.82	237.11	105.74
						ZONE 2 *** 1.82	237.11	105.74
8/25/64	6.000	230.88/234.34	42.18/42.36	41.28/41.46	40.04/40.22	ZONE 1 *** 2.[illegible]4	230.70	100.62
						ZONE 2 *** 2.[illegible]4	230.70	100.62

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	6.500	223.96/226.18	41.70/41.87	40.79/40.97	39.56/39.74	ZONE 1 ***	2.45	223.89	95.57
						ZONE 2 ***	2.45	223.89	95.57
8/25/64	7.000	216.97/218.40	40.95/41.13	40.05/40.23	38.82/39.00	ZONE 1 ***	2.29	216.87	273.99
						ZONE 2 ***	0.73	289.12	90.27
8/25/64	7.500	209.63/210.48	39.70/39.88	38.80/38.98	37.57/37.75	ZONE 1 ***	2.92	209.54	240.33
						ZONE 2 ***	0.60	301.69	84.74
8/25/64	8.000	201.95/204.94	37.51/38.51	36.61/37.60	35.38/36.37	ZONE 1 ***	3.93	201.91	221.08
						ZONE 2 ***	0.55	303.33	79.25
8/25/64	8.500	198.94/199.34	36.29/36.46	35.38/35.56	34.15/34.33	ZONE 1 ***	2.72	198.90	206.66
						ZONE 2 ***	0.50	303.00	73.61
8/25/64	9.000	301.46/335.80	43.42/43.55	42.51/42.65	41.28/41.42	ZONE 1 ***	0.48	301.37	67.86
						ZONE 2 ***	0.48	301.37	67.86
8/25/64	9.500	299.27/333.84	43.40/43.55	42.50/42.64	41.27/41.41	ZONE 1 ***	0.45	299.11	62.05
						ZONE 2 ***	0.45	299.11	62.05
8/25/64	10.000	296.75/319.81	43.39/43.50	42.49/42.59	41.26/41.36	ZONE 1 ***	0.44	296.59	56.22
						ZONE 2 ***	0.44	296.59	56.22
8/25/64	10.500	293.93/321.69	43.37/43.50	42.47/42.60	41.24/41.37	ZONE 1 ***	0.28	160.45	161.10
						ZONE 2 ***	0.43	293.83	50.44
8/25/64	11.000	151.55/152.29	5.07/ 5.25	4.17/ 4.35	2.94/ 3.12	ZONE 1 ***	3.18	151.47	161.10
						ZONE 2 ***	0.42	290.57	44.38
8/25/64	11.500	142.30/143.66	3.46/ 3.64	2.56/ 2.74	1.33/ 1.51	ZONE 1 ***	3.16	142.14	156.95
						ZONE 2 ***	0.42	287.42	38.83
8/25/64	12.000	132.49/134.92	2.54/ 2.72	1.64/ 1.82	0.41/ 0.59	ZONE 1 ***	2.47	132.41	151.28
						ZONE 2 ***	0.42	284.10	33.09

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.93 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
8/25/64	12.500	125.40/128.79	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.84	125.29	145.89
						ZONE 2 ***	0.43	280.41	27.19
8/25/64	13.000	125.33/128.83	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.15	125.29	140.80
						ZONE 2 ***	0.44	276.88	21.55
8/25/64	13.500	125.30/128.85	2.14/ 2.32	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	0.66	125.29	135.85
						ZONE 2 ***	0.46	272.82	16.22
8/25/64	14.000	125.38/128.83	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	0.31	125.29	131.05
						ZONE 2 ***	0.49	268.77	10.83
8/25/64	14.500	125.31/273.52	2.14/43.22	1.23/42.32	0.00/41.09	ZONE 1 ***	0.15	125.29	126.25
						ZONE 2 ***	0.52	264.56	5.39
8/25/64	15.000	260.92/273.73	43.07/43.22	42.17/42.32	40.94/41.09	ZONE 1 ***	0.57	260.26	359.93
						ZONE 2 ***	0.89	56.55	121.57
8/25/64	15.500	256.23/266.95	43.00/43.15	42.09/42.25	40.86/41.02	ZONE 1 ***	0.62	255.74	354.05
						ZONE 2 ***	0.81	39.58	116.94
8/25/64	16.000	251.03/259.71	42.89/43.05	41.99/42.15	40.76/40.92	ZONE 1 ***	0.70	250.95	347.37
						ZONE 2 ***	0.74	21.55	112.34
8/25/64	16.500	246.17/253.95	42.78/42.95	41.88/42.05	40.64/40.82	ZONE 1 ***	0.78	246.02	337.10
						ZONE 2 ***	0.69	5.39	107.72
8/25/64	17.000	240.89/246.21	42.62/42.78	41.72/41.88	40.49/40.64	ZONE 1 ***	0.89	240.83	321.80
						ZONE 2 ***	0.64	354.35	102.98
8/25/64	17.500	235.58/239.71	42.41/42.58	41.51/41.68	40.28/40.44	ZONE 1 ***	1.01	235.43	302.67
						ZONE 2 ***	0.58	346.95	98.15
8/25/64	18.000	229.96/233.20	42.12/42.30	41.22/41.40	39.99/40.17	ZONE 1 ***	1.18	229.94	283.30
						ZONE 2 ***	0.54	341.17	93.51

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
8/25/64	18.500	224.24/226.52	41.72/41.90	40.82/41.00	39.59/39.76	ZONE 1 ***	1.42	224.12	265.18
						ZONE 2 ***	0.50	336.29	88.71
8/25/64	19.000	218.29/219.80	41.12/41.29	40.22/40.39	38.98/39.16	ZONE 1 ***	1.74	218.24	249.10
						ZONE 2 ***	0.47	331.89	83.77
8/25/64	19.500	212.11/213.12	40.20/40.37	39.29/39.47	38.06/38.24	ZONE 1 ***	2.19	212.07	234.89
						ZONE 2 ***	0.44	327.95	78.73
8/25/64	20.000	205.85/206.50	38.77/38.95	37.87/38.05	36.63/36.81	ZONE 1 ***	2.81	205.78	222.42
						ZONE 2 ***	0.42	323.70	73.89
8/25/64	20.500	202.12/202.62	37.57/37.75	36.67/36.85	35.44/35.62	ZONE 1 ***	3.61	199.32	211.43
						ZONE 2 ***	0.40	319.92	68.75
8/25/64	21.000	316.19/348.11	43.48/43.59	42.58/42.69	41.35/41.46	ZONE 1 ***	1.18	198.90	201.80
						ZONE 2 ***	0.39	315.86	63.92
8/25/64	21.500	312.30/348.32	43.47/43.59	42.56/42.69	41.33/41.46	ZONE 1 ***	0.38	312.26	58.85
						ZONE 2 ***	0.38	312.26	58.85
8/25/64	22.000	308.41/340.02	43.45/43.57	42.55/42.66	41.31/41.43	ZONE 1 ***	0.37	308.06	54.21
						ZONE 2 ***	0.37	308.06	54.21
8/25/64	22.500	304.50/331.21	43.43/43.54	42.53/42.64	41.30/41.40	ZONE 1 ***	0.37	304.33	49.39
						ZONE 2 ***	0.37	304.33	49.39
8/25/64	23.000	300.55/324.27	43.41/43.51	42.51/42.61	41.28/41.38	ZONE 1 ***	0.37	300.39	44.74
						ZONE 2 ***	0.37	300.39	44.74
8/25/64	23.500	296.56/318.47	43.39/43.49	42.49/42.59	41.26/41.36	ZONE 1 ***	1.78	156.51	161.10
						ZONE 2 ***	0.37	296.28	40.33

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	0.	143.36/144.63	3.60/ 3.78	2.70/ 2.88	1.47/ 1.65	ZONE 1 ***	2.96	143.30	156.79
						ZONE 2 ***	0.38	289.99	33.48
9/10/64	0.500	134.07/136.36	2.66/ 2.84	1.75/ 1.94	0.52/ 0.71	ZONE 1 ***	2.38	133.96	151.37
						ZONE 2 ***	0.40	285.74	29.17
9/10/64	1.000	125.48/128.98	2.14/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.89	125.29	146.18
						ZONE 2 ***	0.41	281.71	25.18
9/10/64	1.500	125.48/129.01	2.14/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.19	125.29	141.14
						ZONE 2 ***	0.44	277.37	21.55
9/10/64	2.000	125.50/129.01	2.14/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	0.70	125.29	136.25
						ZONE 2 ***	0.47	272.82	18.28
9/10/64	2.500	125.57/129.00	2.15/ 2.32	1.25/ 1.42	0.01/ 0.19	ZONE 1 ***	0.34	125.29	131.42
						ZONE 2 ***	0.51	268.12	16.22
9/10/64	3.000	125.29/271.29	2.13/43.20	1.23/42.30	0. /41.06	ZONE 1 ***	0.37	125.29	126.66
						ZONE 2 ***	0.57	263.36	16.22
9/10/64	3.500	258.38/271.38	43.03/43.20	42.13/42.30	40.90/41.07	ZONE 1 ***	1.70	258.22	121.80
						ZONE 2 ***	1.70	258.22	121.80
9/10/64	4.000	253.12/262.86	42.94/43.10	42.04/42.20	40.80/40.96	ZONE 1 ***	1.63	253.04	117.07
						ZONE 2 ***	1.63	253.04	117.07
9/10/64	4.500	247.68/256.29	42.82/43.00	41.92/42.10	40.68/40.86	ZONE 1 ***	1.62	247.46	112.20
						ZONE 2 ***	1.62	247.46	112.20
9/10/64	5.000	241.86/247.71	42.65/42.82	41.75/41.92	40.52/40.68	ZONE 1 ***	1.68	241.84	107.40
						ZONE 2 ***	1.68	241.84	107.40
9/10/64	5.500	235.84/239.97	42.43/42.59	41.52/41.69	40.29/40.45	ZONE 1 ***	1.81	235.76	102.44
						ZONE 2 ***	1.81	235.76	102.44
9/10/64	6.000	229.59/232.79	42.10/42.28	41.20/41.38	39.97/40.15	ZONE 1 ***	2.[illegible]6	229.56	97.37
						ZONE 2 ***	2.[illegible]6	229.56	97.37

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	6.500	223.07/225.19	41.62/41.80	40.72/40.89	39.48/39.66	ZONE 1 ***	2.48	223.03	92.23
						ZONE 2 ***	2.48	223.03	92.23
9/10/64	7.000	216.28/217.57	40.86/41.03	39.96/40.13	38.72/38.90	ZONE 1 ***	2.12	216.25	255.05
						ZONE 2 ***	0.57	311.91	86.87
9/10/64	7.500	209.28/210.11	39.63/39.80	38.72/38.90	37.49/37.67	ZONE 1 ***	2.75	209.24	234.57
						ZONE 2 ***	0.52	312.26	81.54
9/10/64	8.000	202.02/205.03	37.54/38.53	36.64/37.63	35.40/36.40	ZONE 1 ***	3.67	201.99	218.91
						ZONE 2 ***	0.49	310.85	76.08
9/10/64	8.500	198.94/199.34	36.29/36.46	35.38/35.56	34.15/34.33	ZONE 1 ***	2.57	198.90	206.13
						ZONE 2 ***	0.46	308.41	70.78
9/10/64	9.000	306.12/346.66	43.44/43.59	42.54/42.69	41.30/41.45	ZONE 1 ***	0.44	306.01	65.15
						ZONE 2 ***	0.44	306.01	65.15
9/10/64	9.500	302.20/337.26	43.42/43.56	42.52/42.66	41.29/41.42	ZONE 1 ***	0.42	303.00	59.50
						ZONE 2 ***	0.42	303.00	59.50
9/10/64	10.000	300.10/327.60	43.41/43.52	42.51/42.62	41.27/41.39	ZONE 1 ***	0.41	300.07	53.87
						ZONE 2 ***	0.41	300.07	53.87
9/10/64	10.500	296.87/321.65	43.39/43.50	42.49/42.60	41.26/41.37	ZONE 1 ***	0.40	296.59	48.33
						ZONE 2 ***	0.40	296.59	48.33
9/10/64	11.000	154.13/154.76	5.74/ 5.92	4.84/ 5.01	3.60/ 3.78	ZONE 1 ***	2.51	154.12	161.10
						ZONE 2 ***	0.40	293.23	42.55
9/10/64	11.500	145.25/146.38	3.87/ 4.05	2.97/ 3.15	1.74/ 1.92	ZONE 1 ***	3.27	145.19	158.42
						ZONE 2 ***	0.40	289.70	37.31
9/10/64	12.000	135.98/137.93	2.81/ 2.98	1.91/ 2.08	0.67/ 0.85	ZONE 1 ***	2.56	135.85	152.73
						ZONE 2 ***	0.40	286.02	31.92

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	12.500	126.05/129.26	2.17/ 2.34	1.27/ 1.44	0.04/ 0.20	ZONE 1 ***	2.[illegible]5	125.93	147.36
						ZONE 2 ***	0.41	282.23	26.79
9/10/64	13.000	125.38/128.86	2.14/ 2.32	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.32	125.29	142.20
						ZONE 2 ***	0.43	278.37	21.95
9/10/64	13.500	125.31/128.84	2.14/ 2.32	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	0.79	125.29	137.25
						ZONE 2 ***	0.45	274.23	17.05
9/10/64	14.000	125.34/128.90	2.14/ 2.32	1.24/ 1.42	0.00/ 0.18	ZONE 1 ***	0.40	125.29	132.41
						ZONE 2 ***	0.48	270.10	12.49
9/10/64	14.500	125.30/273.62	2.14/43.22	1.23/42.32	0.00/41.09	ZONE 1 ***	0.11	125.29	127.58
						ZONE 2 ***	0.52	265.59	7.91
9/10/64	15.000	261.15/273.80	43.07/43.22	42.17/42.32	40.94/41.09	ZONE 1 ***	0.57	261.02	4.13
						ZONE 2 ***	0.94	58.20	122.85
9/10/64	15.500	256.37/267.01	43.00/43.15	42.10/42.25	40.86/41.02	ZONE 1 ***	0.64	256.26	1.19
						ZONE 2 ***	0.85	37.69	118.11
9/10/64	16.000	251.38/259.77	42.90/43.05	42.00/42.15	40.77/40.92	ZONE 1 ***	1.56	251.26	113.36
						ZONE 2 ***	1.56	251.26	113.36
9/10/64	16.500	246.21/254.00	42.78/42.95	41.88/42.05	40.64/40.82	ZONE 1 ***	1.58	246.02	108.68
						ZONE 2 ***	1.58	246.02	108.68
9/10/64	17.000	240.81/246.24	42.62/42.78	41.72/41.88	40.48/40.65	ZONE 1 ***	1.65	240.70	103.86
						ZONE 2 ***	1.65	240.70	103.86
9/10/64	17.500	235.12/239.05	42.39/42.55	41.49/41.65	40.26/40.42	ZONE 1 ***	1.[illegible]9	235.11	315.86
						ZONE 2 ***	0.65	331.49	99.11
9/10/64	18.000	229.31/232.23	42.09/42.25	41.18/41.35	39.95/40.12	ZONE 1 ***	1.26	229.19	288.55
						ZONE 2 ***	0.58	331.89	94.13

EGO 60K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 161.10 AND 198.90 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	18.500	223.20/225.25	41.63/41.80	40.73/40.90	39.50/39.67	ZONE 1 ***	1.52	223.18	266.84
						ZONE 2 ***	0.53	329.52	89.16
9/10/64	19.000	217.02/218.43	40.96/41.14	40.06/40.23	38.82/39.00	ZONE 1 ***	1.90	216.87	248.50
						ZONE 2 ***	0.49	326.01	84.01
9/10/64	19.500	210.52/211.43	39.89/40.07	38.99/39.17	37.76/37.93	ZONE 1 ***	2.42	210.44	232.99
						ZONE 2 ***	0.46	322.94	78.99
9/10/64	20.000	203.83/206.42	38.16/38.93	37.26/38.02	36.02/36.79	ZONE 1 ***	3.15	203.76	219.73
						ZONE 2 ***	0.44	319.55	73.89
9/10/64	20.500	200.21/200.65	36.84/37.01	35.93/36.11	34.70/34.88	ZONE 1 ***	3.15	198.90	208.37
						ZONE 2 ***	0.41	315.86	68.45
9/10/64	21.000	312.51/348.69	43.47/43.59	42.56/42.69	41.33/41.46	ZONE 1 ***	0.40	312.26	63.30
						ZONE 2 ***	0.40	312.26	63.30
9/10/64	21.500	308.89/340.39	43.45/43.57	42.55/42.67	41.32/41.43	ZONE 1 ***	0.39	308.75	58.20
						ZONE 2 ***	0.39	308.75	58.20
9/10/64	22.000	305.24/335.88	43.43/43.55	42.53/42.65	41.30/41.42	ZONE 1 ***	0.38	305.00	52.85
						ZONE 2 ***	0.38	305.00	52.85
9/10/64	22.500	301.50/324.04	43.42/43.51	42.51/42.61	41.28/41.38	ZONE 1 ***	0.38	301.37	47.97
						ZONE 2 ***	0.38	301.37	47.97
9/10/64	23.000	297.72/318.51	43.40/43.49	42.49/42.59	41.26/41.36	ZONE 1 ***	0.55	159.81	161.10
						ZONE 2 ***	0.37	297.53	42.92
9/10/64	23.500	151.61/152.32	5.09/ 5.26	4.19/ 4.36	2.95/ 3.13	ZONE 1 ***	3.15	151.61	161.10
						ZONE 2 ***	0.38	293.53	38.07

EGO 80K ORBIT. 29 MINUTE TIMER

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 **** PROGRAM INPUT ****

INITIAL LIFT-OFF DATE **** =  7/10/64
FINAL LIFT-OFF DATE ****** =  9/10/64

INITIAL LIFT-OFF HOUR **** =  0.
HOUR INCREMENT *********** =  0.50000
FINAL LIFT-OFF HOUR ****** = 23.50000

EPOCH ASSOCIATED-  DATE ** =  7/25/64
WITH ELEMENTS      HOUR ** =  3.00000

SEMI-MAJOR AXIS ********** =12.63422096 E.R.
ECCENTRICITY ************* = 0.91701983
INCLINATION ************** =  31.020115 DEG.
ARGUMENT OF PERIGEE ****** = -46.341235 DEG.
R.A. OF ASC. NODE ******** = 138.070478 DEG.
MEAN ANOMALY ************* =   0.051394 DEG.

ECCENTRIC ANOMALY AT TIME-
WHEN EARTH SEARCH BEGINS * =  25.042131 DEG.

DELTA ECCENTRIC ANOMALY ** =  10.000000 DEG.

TIME FROM LIFT-OFF TO-
BEGINNING OF EARTH SEARCH  =   1.385000 HOURS

TIME FROM LIFT-OFF TO-
INJECTION INTO ORBIT  **** =     .901753 hours

NUMBER OF INCREMENTS ON-
THE INITIAL ROLL POSITION  =     8

CONSTANT ROLL RATE ******* = -0.3078778E 02 RAD./HR.

ITERATIONS ON DELTA E **** =    2

CENTER BLIND HALF ANGLE ** =   4.500000 DEG.
PERIPHERAL BLIND ANGLE *** =  88.000000 DEG.
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EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	0.	296.97/324.90	63.89/64.62	62.99/63.11	62.51/62.63	ZONE 1 ***	0.38	296.55	41.20
						ZONE 2 ***	0.38	296.55	41.20
7/10/64	0.500	150.53/151.15	5.38/ 5.56	4.48/ 4.66	4.00/ 4.17	ZONE 1 ***	2.16	150.50	156.64
						ZONE 2 ***	0.39	292.40	38.20
7/10/64	1.000	142.03/143.22	3.67/ 3.85	2.77/ 2.95	2.28/ 2.46	ZONE 1 ***	3.32	141.97	155.33
						ZONE 2 ***	0.41	288.11	35.60
7/10/64	1.500	132.44/134.62	2.65/ 2.82	1.74/ 1.92	1.26/ 1.44	ZONE 1 ***	2.70	132.34	150.35
						ZONE 2 ***	0.43	283.41	33.84
7/10/64	2.000	121.00/124.98	2.01/ 2.18	1.11/ 1.28	0.62/ 0.80	ZONE 1 ***	2.25	120.95	145.56
						ZONE 2 ***	0.47	278.70	33.39
7/10/64	2.500	106.45/114.04	1.59/ 1.77	0.69/ 0.87	0.20/ 0.39	ZONE 1 ***	1.91	106.32	140.84
						ZONE 2 ***	0.52	274.00	35.16
7/10/64	3.000	93.74/103.74	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.58	93.74	136.13
						ZONE 2 ***	0.61	268.88	43.30
7/10/64	3.500	93.74/103.82	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.19	93.74	131.46
						ZONE 2 ***	2.21	263.47	131.46
7/10/64	4.000	93.74/103.98	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.90	93.74	126.82
						ZONE 2 ***	2.00	257.92	126.82
7/10/64	4.500	93.74/104.04	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.67	93.74	122.12
						ZONE 2 ***	1.89	252.00	122.12
7/10/64	5.000	93.74/104.10	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.49	93.74	117.34
						ZONE 2 ***	1.86	245.80	117.34
7/10/64	5.500	93.74/104.21	1.38/ 1.55	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.35	93.74	112.58
						ZONE 2 ***	1.94	239.30	112.58
7/10/64	6.000	93.74/104.31	1.38/ 1.55	0.48/ 0.65	0. / 0.16	ZONE 1 ***	0.23	93.74	107.61
						ZONE 2 ***	2.16	232.27	107.61

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
7/10/64	6.500	93.74/225.92	1.38/62.24	0.48/61.34	0. /60.86	ZONE 1 ***	0.13	93.74	102.45
						ZONE 2 ***	2.59	224.98	102.45
7/10/64	7.000	93.74/218.48	1.38/61.43	0.48/60.53	0. /60.04	ZONE 1 ***	0.05	93.74	97.39
						ZONE 2 ***	3.42	217.26	97.39
7/10/64	7.500	209.22/209.85	59.57/59.74	58.67/58.84	58.18/58.36	ZONE 1 ***	5.04	209.19	91.82
						ZONE 2 ***	5.04	209.19	91.82
7/10/64	8.000	204.79/205.25	58.09/58.27	57.19/57.36	56.70/56.88	ZONE 1 ***	4.45	203.36	222.69
						ZONE 2 ***	0.75	281.61	86.22
7/10/64	8.500	287.53/314.85	63.83/63.98	62.93/63.08	62.45/62.59	ZONE 1 ***	0.17	203.36	203.76
						ZONE 2 ***	0.65	287.47	80.68
7/10/64	9.000	289.24/317.13	63.85/63.99	62.94/63.08	62.46/62.60	ZONE 1 ***	0.60	289.08	74.69
						ZONE 2 ***	0.60	289.08	74.69
7/10/64	9.500	289.21/319.03	63.84/63.99	62.94/63.09	62.46/62.61	ZONE 1 ***	0.55	289.08	68.56
						ZONE 2 ***	0.55	289.08	68.56
7/10/64	10.000	288.17/313.57	63.84/63.97	62.94/63.07	62.45/62.59	ZONE 1 ***	0.52	288.11	62.33
						ZONE 2 ***	0.52	288.11	62.33
7/10/64	10.500	286.48/314.80	63.83/63.98	62.92/63.08	62.44/62.59	ZONE 1 ***	1.11	153.86	156.64
						ZONE 2 ***	0.51	286.20	56.06
7/10/64	11.000	143.81/144.82	3.94/ 4.12	3.04/ 3.21	2.56/ 2.73	ZONE 1 ***	3.60	143.79	156.64
						ZONE 2 ***	0.49	284.33	49.44
7/10/64	11.500	133.56/135.72	2.73/ 2.92	1.83/ 2.02	1.35/ 1.54	ZONE 1 ***	3.16	133.37	152.22
						ZONE 2 ***	0.48	281.61	42.88
7/10/64	12.000	122.81/126.23	2.08/ 2.25	1.18/ 1.35	0.70/ 0.86	ZONE 1 ***	2.40	122.76	146.75
						ZONE 2 ***	0.48	278.98	36.47

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
7/10/64	12.500	111.80/117.81	1.71/ 1.89	0.81/ 0.99	0.33/ 0.50	ZONE 1 ***	1.90	111.76	141.62
						ZONE 2 ***	0.48	275.90	30.27
7/10/64	13.000	100.30/108.43	1.48/ 1.63	0.58/ 0.73	0.09/ 0.25	ZONE 1 ***	1.55	100.19	136.72
						ZONE 2 ***	0.49	272.68	23.44
7/10/64	13.500	93.74/104.73	1.38/ 1.56	0.48/ 0.65	0. / 0.17	ZONE 1 ***	1.22	93.74	131.95
						ZONE 2 ***	0.51	269.37	16.91
7/10/64	14.000	93.74/104.87	1.38/ 1.56	0.48/ 0.66	0. / 0.17	ZONE 1 ***	0.93	93.74	127.38
						ZONE 2 ***	0.53	265.76	10.27
7/10/64	14.500	93.74/105.00	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.70	93.74	122.89
						ZONE 2 ***	0.56	261.92	3.09
7/10/64	15.000	93.74/105.10	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.52	93.74	118.35
						ZONE 2 ***	0.60	258.12	354.92
7/10/64	15.500	93.74/103.86	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.39	93.74	114.02
						ZONE 2 ***	0.65	253.83	345.85
7/10/64	16.000	93.74/103.78	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.27	93.74	109.56
						ZONE 2 ***	0.71	249.55	335.11
7/10/64	16.500	93.74/103.82	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.18	93.74	105.19
						ZONE 2 ***	0.78	245.02	321.73
7/10/64	17.000	93.74/246.07	1.38/63.25	0.48/62.35	0. /61.87	ZONE 1 ***	0.10	93.74	100.61
						ZONE 2 ***	0.87	240.38	306.95
7/10/64	17.500	93.74/239.97	1.38/63.05	0.48/62.15	0. /61.67	ZONE 1 ***	0.03	93.74	96.27
						ZONE 2 ***	0.99	235.61	291.39
7/10/64	18.000	230.75/233.90	62.60/62.78	61.70/61.88	61.21/61.40	ZONE 1 ***	1.16	230.55	276.17
						ZONE 2 ***	0.50	349.66	91.82

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
7/10/64	18.500	225.45/227.50	62.20/62.37	61.30/61.47	60.82/60.99	ZONE 1 ***	1.37	225.43	261.48
						ZONE 2 ***	0.47	344.43	87.28
7/10/64	19.000	220.25/221.81	61.66/61.84	60.76/60.94	60.28/60.46	ZONE 1 ***	1.66	220.11	248.04
						ZONE 2 ***	0.44	339.27	82.67
7/10/64	19.500	214.71/215.77	60.82/61.01	59.92/60.11	59.44/59.62	ZONE 1 ***	2.07	214.62	235.86
						ZONE 2 ***	0.42	334.65	78.34
7/10/64	20.000	209.06/209.70	59.52/59.70	58.62/58.80	58.14/58.32	ZONE 1 ***	2.64	208.99	224.81
						ZONE 2 ***	0.40	330.11	73.75
7/10/64	20.500	205.76/206.25	58.46/58.64	57.56/57.73	57.07/57.25	ZONE 1 ***	3.37	203.36	214.93
						ZONE 2 ***	0.38	325.65	69.22
7/10/64	21.000	321.69/ 3.47	64.00/64.14	63.10/63.24	62.62/62.75	ZONE 1 ***	1.06	203.36	206.00
						ZONE 2 ***	0.37	321.30	64.80
7/10/64	21.500	317.56/355.54	63.99/64.12	63.09/63.21	62.60/62.73	ZONE 1 ***	0.36	317.47	60.52
						ZONE 2 ***	0.36	317.47	60.52
7/10/64	22.000	313.45/347.27	63.97/64.09	63.07/63.19	62.59/62.70	ZONE 1 ***	0.36	313.33	56.06
						ZONE 2 ***	0.36	313.33	56.06
7/10/64	22.500	309.34/340.11	63.95/64.07	63.05/63.17	62.57/62.68	ZONE 1 ***	0.36	309.30	52.21
						ZONE 2 ***	0.36	309.30	52.21
7/10/64	23.000	305.25/329.39	63.93/64.03	63.03/63.13	62.55/62.65	ZONE 1 ***	0.36	305.02	48.23
						ZONE 2 ***	0.36	305.02	48.23
7/10/64	23.500	301.11/323.59	63.91/64.01	63.01/63.11	62.53/62.63	ZONE 1 ***	0.37	300.89	44.55
						ZONE 2 ***	0.37	300.89	44.55

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	0.	296.48/318.10	63.89/63.99	62.99/63.09	62.50/62.60	ZONE 1 ***	0.37	296.20	39.92
						ZONE 2 ***	0.37	296.20	39.92
7/25/64	0.500	149.14/149.84	5.02/ 5.20	4.12/ 4.30	3.64/ 3.81	ZONE 1 ***	2.52	149.10	156.64
						ZONE 2 ***	0.39	292.06	36.90
7/25/64	1.000	140.55/141.86	3.46/ 3.64	2.56/ 2.74	2.08/ 2.26	ZONE 1 ***	3.13	140.40	154.26
						ZONE 2 ***	0.40	287.79	33.84
7/25/64	1.500	130.69/133.09	2.52/ 2.70	1.62/ 1.80	1.13/ 1.31	ZONE 1 ***	2.53	130.66	149.26
						ZONE 2 ***	0.43	283.11	32.06
7/25/64	2.000	119.23/123.36	1.94/ 2.11	1.04/ 1.21	0.55/ 0.72	ZONE 1 ***	2.11	119.19	144.44
						ZONE 2 ***	0.46	278.41	31.17
7/25/64	2.500	104.73/112.13	1.56/ 1.72	0.65/ 0.82	0.17/ 0.33	ZONE 1 ***	1.80	104.62	139.65
						ZONE 2 ***	0.51	273.74	32.06
7/25/64	3.000	93.74/103.76	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.47	93.74	134.91
						ZONE 2 ***	0.59	268.63	37.77
7/25/64	3.500	93.74/103.84	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.10	93.74	130.26
						ZONE 2 ***	2.13	263.24	130.26
7/25/64	4.000	93.74/103.98	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.83	93.74	125.56
						ZONE 2 ***	1.94	257.72	125.56
7/25/64	4.500	93.74/104.04	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.61	93.74	120.82
						ZONE 2 ***	1.84	252.00	120.82
7/25/64	5.000	93.74/104.10	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.45	93.74	116.02
						ZONE 2 ***	1.82	245.95	116.02
7/25/64	5.500	93.74/104.17	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.31	93.74	111.10
						ZONE 2 ***	1.90	239.43	111.10
7/25/64	6.000	93.74/104.27	1.38/ 1.55	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.20	93.74	106.14
						ZONE 2 ***	2.11	232.60	106.14

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	6.500	93.74/227.84	1.38/62.40	0.48/61.50	0. /61.01	ZONE 1 ***	0.10	93.74	101.03
						ZONE 2 ***	2.52	225.52	101.03
7/25/64	7.000	94.07/219.42	1.39/61.55	0.49/60.65	0.00/60.17	ZONE 1 ***	0.03	93.74	95.82
						ZONE 2 ***	3.30	217.95	95.82
7/25/64	7.500	210.15/210.85	59.82/60.00	58.92/59.10	58.43/58.61	ZONE 1 ***	4.77	210.10	90.34
						ZONE 2 ***	4.77	210.10	90.34
7/25/64	8.000	205.66/206.15	58.42/58.60	57.52/57.70	57.03/57.21	ZONE 1 ***	4.52	203.36	223.35
						ZONE 2 ***	0.69	287.47	84.61
7/25/64	8.500	291.66/322.85	63.86/64.01	62.96/63.11	62.48/62.62	ZONE 1 ***	0.82	203.36	205.34
						ZONE 2 ***	0.61	291.39	78.94
7/25/64	9.000	292.57/316.13	63.87/63.98	62.96/63.08	62.48/62.60	ZONE 1 ***	0.56	292.40	73.12
						ZONE 2 ***	0.56	292.40	73.12
7/25/64	9.500	292.00/318.61	63.86/63.99	62.96/63.09	62.48/62.61	ZONE 1 ***	0.53	291.73	66.87
						ZONE 2 ***	0.53	291.73	66.87
7/25/64	10.000	290.63/320.35	63.85/64.00	62.95/63.10	62.47/62.61	ZONE 1 ***	0.50	290.39	60.89
						ZONE 2 ***	0.50	290.39	60.89
7/25/64	10.500	288.66/314.68	63.84/63.98	62.94/63.07	62.46/62.59	ZONE 1 ***	0.48	288.43	54.54
						ZONE 2 ***	0.48	288.43	54.54
7/25/64	11.000	146.94/147.78	4.52/ 4.70	3.62/ 3.80	3.14/ 3.32	ZONE 1 ***	3.01	146.93	156.64
						ZONE 2 ***	0.47	286.20	48.23
7/25/64	11.500	136.99/138.57	3.05/ 3.22	2.15/ 2.32	1.67/ 1.84	ZONE 1 ***	3.31	136.88	153.64
						ZONE 2 ***	0.46	283.41	42.04
7/25/64	12.000	126.71/129.72	2.27/ 2.45	1.37/ 1.55	0.89/ 1.07	ZONE 1 ***	2.51	126.59	148.12
						ZONE 2 ***	0.46	280.72	35.60

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
7/25/64	12.500	115.87/120.64	1.83/ 1.99	0.92/ 1.09	0.44/ 0.61	ZONE 1 ***	1.97	115.72	142.86
						ZONE 2 ***	0.47	277.56	29.37
7/25/64	13.000	104.60/111.73	1.55/ 1.71	0.65/ 0.81	0.17/ 0.32	ZONE 1 ***	1.60	104.43	137.94
						ZONE 2 ***	0.47	274.27	22.97
7/25/64	13.500	93.92/104.73	1.39/ 1.56	0.49/ 0.65	0.00/ 0.17	ZONE 1 ***	1.31	93.74	133.09
						ZONE 2 ***	0.49	270.62	16.44
7/25/64	14.000	93.74/104.87	1.38/ 1.56	0.48/ 0.66	0. / 0.17	ZONE 1 ***	0.99	93.74	128.48
						ZONE 2 ***	0.52	266.94	10.27
7/25/64	14.500	93.74/105.02	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.75	93.74	123.88
						ZONE 2 ***	0.55	263.02	3.57
7/25/64	15.000	93.74/103.67	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.56	93.74	119.33
						ZONE 2 ***	0.58	259.15	355.88
7/25/64	15.500	93.74/103.82	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.41	93.74	114.80
						ZONE 2 ***	0.63	254.78	347.75
7/25/64	16.000	93.74/103.78	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.29	93.74	110.42
						ZONE 2 ***	0.69	250.41	337.42
7/25/64	16.500	93.74/103.80	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.19	93.74	105.95
						ZONE 2 ***	0.77	245.80	324.77
7/25/64	17.000	93.74/246.99	1.38/63.28	0.48/62.38	0. /61.89	ZONE 1 ***	0.11	93.74	101.44
						ZONE 2 ***	0.86	241.07	310.10
7/25/64	17.500	93.74/240.65	1.38/63.08	0.48/62.18	0. /61.69	ZONE 1 ***	0.04	93.74	96.95
						ZONE 2 ***	0.99	236.10	294.11
7/25/64	18.000	231.15/234.31	62.62/62.80	61.72/61.90	61.24/61.42	ZONE 1 ***	1.15	230.97	278.13
						ZONE 2 ***	0.51	349.18	92.30

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	18.500	225.93/228.24	62.24/62.43	61.34/61.53	60.86/61.04	ZONE 1 ***	1.37	225.70	263.02
						ZONE 2 ***	0.47	343.49	87.80
7/25/64	19.000	220.31/221.77	61.67/61.84	60.77/60.94	60.28/60.45	ZONE 1 ***	1.67	220.26	249.04
						ZONE 2 ***	0.45	338.34	83.23
7/25/64	19.500	214.71/215.72	60.82/61.00	59.92/60.10	59.44/59.61	ZONE 1 ***	2.08	214.68	236.22
						ZONE 2 ***	0.42	333.73	78.64
7/25/64	20.000	208.97/209.61	59.50/59.68	58.60/58.77	58.11/58.29	ZONE 1 ***	2.66	208.94	224.90
						ZONE 2 ***	0.40	329.21	73.75
7/25/64	20.500	205.69/206.18	58.43/58.61	57.53/57.71	57.05/57.22	ZONE 1 ***	3.33	203.36	214.68
						ZONE 2 ***	0.39	325.21	69.22
7/25/64	21.000	321.08/ 10.84	64.00/64.16	63.10/63.26	62.62/62.78	ZONE 1 ***	0.90	203.36	205.56
						ZONE 2 ***	0.38	320.87	64.80
7/25/64	21.500	316.97/355.68	63.99/64.12	63.08/63.21	62.60/62.73	ZONE 1 ***	0.37	316.63	60.16
						ZONE 2 ***	0.37	316.63	60.16
7/25/64	22.000	312.88/ 3.18	63.97/64.14	63.07/63.24	62.58/62.75	ZONE 1 ***	0.36	312.51	55.68
						ZONE 2 ***	0.36	312.51	55.68
7/25/64	22.500	308.83/339.13	63.95/64.06	63.05/63.16	62.57/62.68	ZONE 1 ***	0.36	308.51	51.42
						ZONE 2 ***	0.36	308.51	51.42
7/25/64	23.000	304.71/329.93	63.93/64.03	63.03/63.13	62.55/62.65	ZONE 1 ***	0.36	304.64	47.42
						ZONE 2 ***	0.36	304.64	47.42
7/25/64	23.500	300.59/323.98	63.91/64.01	63.01/63.11	62.53/62.63	ZONE 1 ***	0.36	300.52	43.72
						ZONE 2 ***	0.36	300.52	43.72

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	0.	295.29/318.61	63.88/63.99	62.98/63.09	62.50/62.61	ZONE 1 ***	0.96	154.26	156.64
						ZONE 2 ***	0.37	295.15	38.20
8/10/64	0.500	146.11/147.00	4.36/ 4.54	3.46/ 3.63	2.97/ 3.15	ZONE 1 ***	3.19	146.04	156.64
						ZONE 2 ***	0.39	290.73	34.72
8/10/64	1.000	137.11/138.68	3.06/ 3.23	2.16/ 2.33	1.68/ 1.85	ZONE 1 ***	2.81	137.05	152.17
						ZONE 2 ***	0.40	286.51	31.62
8/10/64	1.500	126.97/129.92	2.29/ 2.47	1.39/ 1.56	0.90/ 1.08	ZONE 1 ***	2.28	126.93	147.16
						ZONE 2 ***	0.43	282.21	28.92
8/10/64	2.000	115.15/120.28	1.80/ 1.98	0.90/ 1.08	0.42/ 0.59	ZONE 1 ***	1.90	115.11	142.25
						ZONE 2 ***	0.46	277.56	27.11
8/10/64	2.500	100.51/108.93	1.48/ 1.64	0.58/ 0.74	0.10/ 0.26	ZONE 1 ***	1.62	100.40	137.46
						ZONE 2 ***	0.50	272.68	27.11
8/10/64	3.000	93.74/103.80	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.28	93.74	132.72
						ZONE 2 ***	0.57	267.66	30.72
8/10/64	3.500	93.74/103.86	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.96	93.74	127.93
						ZONE 2 ***	1.99	262.58	127.93
8/10/64	4.000	93.74/103.96	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.72	93.74	123.26
						ZONE 2 ***	1.84	257.12	123.26
8/10/64	4.500	93.74/104.06	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.53	93.74	118.49
						ZONE 2 ***	1.76	251.29	118.49
8/10/64	5.000	93.74/104.06	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.37	93.74	113.55
						ZONE 2 ***	1.76	245.33	113.55
8/10/64	5.500	93.74/104.13	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.25	93.74	108.68
						ZONE 2 ***	1.86	239.03	108.68
8/10/64	6.000	93.74/235.42	1.38/62.86	0.48/61.96	0. /61.47	ZONE 1 ***	0.15	93.74	103.65
						ZONE 2 ***	2.07	232.38	103.65

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	6.500	93.74/227.85	1.38/62.40	0.48/61.50	0. /61.01	ZONE 1 ***	0.07	93.74	98.48
						ZONE 2 ***	2.48	225.52	98.48
8/10/64	7.000	218.30/219.62	61.40/61.58	60.50/60.68	60.02/60.20	ZONE 1 ***	3.22	218.23	93.02
						ZONE 2 ***	3.22	218.23	93.02
8/10/64	7.500	210.75/211.49	59.97/60.15	59.07/59.25	58.59/58.77	ZONE 1 ***	3.33	210.63	246.91
						ZONE 2 ***	0.71	288.75	87.54
8/10/64	8.000	206.22/206.73	58.62/58.80	57.72/57.90	57.24/57.42	ZONE 1 ***	4.41	203.36	222.29
						ZONE 2 ***	0.61	296.20	82.11
8/10/64	8.500	297.76/333.23	63.90/64.04	62.99/63.14	62.51/62.66	ZONE 1 ***	1.10	203.36	206.13
						ZONE 2 ***	0.56	297.62	76.24
8/10/64	9.000	297.37/334.69	63.89/64.05	62.99/63.15	62.51/62.66	ZONE 1 ***	0.52	297.26	70.54
						ZONE 2 ***	0.52	297.26	70.54
8/10/64	9.500	296.02/325.74	63.89/64.02	62.98/63.12	62.50/62.63	ZONE 1 ***	0.49	295.85	64.45
						ZONE 2 ***	0.49	295.85	64.45
8/10/64	10.000	294.04/320.05	63.88/64.00	62.97/63.10	62.49/62.61	ZONE 1 ***	0.47	293.76	58.32
						ZONE 2 ***	0.47	293.76	58.32
8/10/64	10.500	291.66/321.55	63.86/64.00	62.96/63.10	62.48/62.62	ZONE 1 ***	0.45	291.39	52.21
						ZONE 2 ***	0.45	291.39	52.21
8/10/64	11.000	150.38/151.02	5.34/ 5.52	4.44/ 4.62	3.96/ 4.14	ZONE 1 ***	2.20	150.35	156.64
						ZONE 2 ***	0.44	288.75	46.20
8/10/64	11.500	140.85/142.13	3.50/ 3.68	2.60/ 2.78	2.12/ 2.30	ZONE 1 ***	3.47	140.76	155.29
						ZONE 2 ***	0.44	285.88	39.92
8/10/64	12.000	130.88/133.27	2.53/ 2.71	1.63/ 1.81	1.15/ 1.33	ZONE 1 ***	2.63	130.77	149.68
						ZONE 2 ***	0.44	282.81	33.84

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
8/10/64	12.500	120.64/124.76	1.99/ 2.17	1.09/ 1.27	0.61/ 0.79	ZONE 1 ***	2.05	120.42	144.37
						ZONE 2 ***	0.44	279.56	28.01
8/10/64	13.000	109.51/115.47	1.66/ 1.81	0.75/ 0.91	0.27/ 0.43	ZONE 1 ***	1.66	109.39	139.35
						ZONE 2 ***	0.46	275.90	22.05
8/10/64	13.500	98.16/107.37	1.45/ 1.61	0.54/ 0.71	0.06/ 0.22	ZONE 1 ***	1.37	97.61	134.47
						ZONE 2 ***	0.47	272.16	15.96
8/10/64	14.000	93.81/104.89	1.39/ 1.56	0.48/ 0.66	0.00/ 0.17	ZONE 1 ***	1.07	93.74	129.74
						ZONE 2 ***	0.50	268.39	10.27
8/10/64	14.500	93.74/105.06	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 ***	0.80	93.74	125.09
						ZONE 2 ***	0.53	264.37	4.05
8/10/64	15.000	93.74/103.68	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.60	93.74	120.55
						ZONE 2 ***	0.57	260.20	357.32
8/10/64	15.500	93.74/103.78	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.44	93.74	115.87
						ZONE 2 ***	0.62	255.74	350.13
8/10/64	16.000	93.74/103.76	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.32	93.74	111.43
						ZONE 2 ***	0.69	251.29	341.14
8/10/64	16.500	93.74/103.76	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.21	93.74	106.88
						ZONE 2 ***	0.77	246.43	329.21
8/10/64	17.000	93.74/247.01	1.38/63.28	0.48/62.38	0. /61.89	ZONE 1 ***	0.13	93.74	102.25
						ZONE 2 ***	0.86	241.63	314.56
8/10/64	17.500	93.74/240.66	1.38/63.08	0.48/62.18	0. /61.69	ZONE 1 ***	0.05	93.74	97.61
						ZONE 2 ***	0.99	236.47	297.98
8/10/64	18.000	231.20/234.31	62.63/62.80	61.72/61.90	61.24/61.42	ZONE 1 ***	1.16	231.19	280.72
						ZONE 2 ***	0.52	346.80	93.02

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	18.500	225.74/227.84	62.23/62.40	61.33/61.50	60.84/61.01	ZONE 1 ***	1.38	225.70	264.14
						ZONE 2 ***	0.49	341.61	88.31
8/10/64	19.000	220.06/221.59	61.64/61.82	60.73/60.92	60.25/60.43	ZONE 1 ***	1.70	220.04	249.21
						ZONE 2 ***	0.46	336.49	83.51
8/10/64	19.500	214.31/215.28	60.75/60.92	59.84/60.02	59.36/59.54	ZONE 1 ***	2.15	214.19	235.86
						ZONE 2 ***	0.43	331.91	78.64
8/10/64	20.000	208.27/208.88	59.29/59.47	58.39/58.57	57.91/58.09	ZONE 1 ***	2.79	208.21	223.94
						ZONE 2 ***	0.41	327.42	73.75
8/10/64	20.500	205.02/205.48	58.18/58.35	57.27/57.45	56.79/56.97	ZONE 1 ***	3.08	203.36	213.41
						ZONE 2 ***	0.39	323.46	69.22
8/10/64	21.000	319.50/355.59	64.00/64.12	63.09/63.21	62.61/62.73	ZONE 1 ***	0.28	203.36	204.01
						ZONE 2 ***	0.38	319.16	64.45
8/10/64	21.500	315.43/355.97	63.98/64.12	63.08/63.21	62.59/62.73	ZONE 1 ***	0.37	315.39	59.79
						ZONE 2 ***	0.37	315.39	59.79
8/10/64	22.000	311.42/347.56	63.96/64.09	63.06/63.19	62.58/62.71	ZONE 1 ***	0.36	311.30	54.92
						ZONE 2 ***	0.36	311.30	54.92
8/10/64	22.500	307.42/335.98	63.94/64.05	63.04/63.15	62.56/62.67	ZONE 1 ***	0.36	307.34	50.63
						ZONE 2 ***	0.36	307.34	50.63
8/10/64	23.000	303.38/330.83	63.93/64.04	63.02/63.13	62.54/62.65	ZONE 1 ***	0.36	303.12	46.20
						ZONE 2 ***	0.36	303.12	46.20
8/10/64	23.500	299.31/324.60	63.90/64.01	63.00/63.11	62.52/62.63	ZONE 1 ***	0.37	299.06	42.04
						ZONE 2 ***	0.37	299.06	42.04

EGO 80X ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	0.	150.44/151.06	5.36/ 5.53	4.46/ 4.63	3.97/ 4.15	ZONE 1 ***	2.19	150.40	156.64
						ZONE 2 ***	0.37	293.42	36.03
8/25/64	0.500	141.86/143.05	3.64/ 3.82	2.74/ 2.92	2.26/ 2.44	ZONE 1 ***	3.11	141.76	154.69
						ZONE 2 ***	0.39	289.08	32.06
8/25/64	1.000	132.44/134.62	2.65/ 2.82	1.74/ 1.92	1.26/ 1.44	ZONE 1 ***	2.47	132.34	149.47
						ZONE 2 ***	0.40	284.95	28.47
8/25/64	1.500	121.87/125.51	2.04/ 2.21	1.14/ 1.31	0.66/ 0.83	ZONE 1 ***	2.01	121.74	144.44
						ZONE 2 ***	0.43	280.43	25.28
8/25/64	2.000	109.59/115.82	1.66/ 1.82	0.76/ 0.92	0.27/ 0.44	ZONE 1 ***	1.68	109.56	139.58
						ZONE 2 ***	0.46	275.90	22.97
8/25/64	2.500	94.95/105.21	1.40/ 1.56	0.50/ 0.66	0.02/ 0.18	ZONE 1 ***	1.44	94.44	134.74
						ZONE 2 ***	0.50	271.13	22.05
8/25/64	3.000	93.74/103.84	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.08	93.74	129.95
						ZONE 2 ***	0.57	266.23	23.44
8/25/64	3.500	93.74/103.96	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.81	93.74	125.20
						ZONE 2 ***	1.87	261.05	125.20
8/25/64	4.000	93.74/103.96	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.60	93.74	120.42
						ZONE 2 ***	1.74	255.74	120.42
8/25/64	4.500	93.74/103.98	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.43	93.74	115.56
						ZONE 2 ***	1.69	250.24	115.56
8/25/64	5.000	93.74/104.04	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.30	93.74	110.76
						ZONE 2 ***	1.72	244.26	110.76
8/25/64	5.500	93.74/104.10	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.19	93.74	105.76
						ZONE 2 ***	1.83	238.11	105.76
8/25/64	6.000	93.74/234.91	1.38/62.83	0.48/61.93	0. /61.45	ZONE 1 ***	0.10	93.74	100.61
						ZONE 2 ***	2.06	231.72	100.61

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	6.500	93.74/227.19	1.39/62.35	0.48/61.45	0.00/60.96	ZONE 1 ***	0.02	93.74	95.36
						ZONE 2 ***	2.48	224.98	95.36
8/25/64	7.000	218.00/219.24	61.36/61.53	60.46/60.63	59.97/60.15	ZONE 1 ***	2.36	217.95	272.68
						ZONE 2 ***	0.72	290.72	90.09
8/25/64	7.500	210.75/211.49	59.97/60.15	59.07/59.25	58.59/58.77	ZONE 1 ***	3.09	210.68	239.70
						ZONE 2 ***	0.60	302.37	84.61
8/25/64	8.000	206.22/206.74	58.62/58.80	57.72/57.90	57.24/57.42	ZONE 1 ***	4.20	203.36	220.49
						ZONE 2 ***	0.54	304.26	79.23
8/25/64	8.500	303.76/344.43	63.93/64.08	63.03/63.18	62.54/62.70	ZONE 1 ***	1.10	203.36	206.13
						ZONE 2 ***	0.50	303.50	73.44
8/25/64	9.000	302.18/345.42	63.92/64.08	63.02/63.18	62.53/62.70	ZONE 1 ***	0.47	302.00	67.55
						ZONE 2 ***	0.47	302.00	67.55
8/25/64	9.500	300.00/331.32	63.91/64.04	63.01/63.14	62.52/62.65	ZONE 1 ***	0.45	299.78	61.97
						ZONE 2 ***	0.45	299.78	61.97
8/25/64	10.000	297.48/319.67	63.89/64.00	62.99/63.09	62.51/62.61	ZONE 1 ***	0.44	297.26	56.06
						ZONE 2 ***	0.44	297.26	56.06
8/25/64	10.500	294.66/321.51	63.88/64.00	62.98/63.10	62.49/62.62	ZONE 1 ***	0.43	294.45	50.24
						ZONE 2 ***	0.43	294.45	50.24
8/25/64	11.000	153.24/291.61	6.21/63.86	5.31/62.96	4.83/62.48	ZONE 1 ***	1.34	153.19	156.64
						ZONE 2 ***	0.42	291.39	44.13
8/25/64	11.500	144.09/145.11	3.99/ 4.17	3.09/ 3.27	2.60/ 2.78	ZONE 1 ***	3.55	144.05	156.64
						ZONE 2 ***	0.42	288.11	38.20
8/25/64	12.000	134.50/136.42	2.81/ 2.99	1.91/ 2.09	1.43/ 1.61	ZONE 1 ***	2.73	134.47	151.10
						ZONE 2 ***	0.42	284.95	32.51

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	12.500	124.48/127.67	2.16/ 2.33	1.26/ 1.43	0.77/ 0.94	ZONE 1 ***	2.14	124.37	145.80
						ZONE 2 ***	0.43	281.31	27.11
8/25/64	13.000	113.72/119.35	1.76/ 1.94	0.86/ 1.04	0.38/ 0.56	ZONE 1 ***	1.72	113.55	140.69
						ZONE 2 ***	0.44	277.56	21.58
8/25/64	13.500	102.11/109.75	1.51/ 1.66	0.61/ 0.76	0.12/ 0.28	ZONE 1 ***	1.42	102.05	135.79
						ZONE 2 ***	0.46	273.74	15.96
8/25/64	14.000	93.74/103.51	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 ***	1.15	93.74	130.97
						ZONE 2 ***	0.48	269.62	10.75
8/25/64	14.500	93.74/103.61	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.86	93.74	126.25
						ZONE 2 ***	0.52	265.52	5.01
8/25/64	15.000	93.74/103.70	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.65	93.74	121.61
						ZONE 2 ***	0.56	261.05	359.72
8/25/64	15.500	93.74/103.76	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.47	93.74	116.91
						ZONE 2 ***	0.62	256.52	353.48
8/25/64	16.000	93.74/103.74	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.34	93.74	112.26
						ZONE 2 ***	0.69	251.82	346.33
8/25/64	16.500	93.74/103.72	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.23	93.74	107.61
						ZONE 2 ***	1.57	246.91	107.61
8/25/64	17.000	93.74/247.03	1.38/63.28	0.48/62.38	0. /61.89	ZONE 1 ***	0.14	93.74	103.05
						ZONE 2 ***	1.64	241.77	103.05
8/25/64	17.500	93.74/240.68	1.38/63.08	0.48/62.18	0. /61.69	ZONE 1 ***	0.06	93.74	98.27
						ZONE 2 ***	1.02	236.47	302.75
8/25/64	18.000	230.94/233.92	62.61/62.78	61.71/61.88	61.23/61.40	ZONE 1 ***	1.20	230.87	283.41
						ZONE 2 ***	0.54	342.55	93.50

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	18.500	225.36/227.57	62.19/62.38	61.29/61.48	60.81/60.99	ZONE 1 ***	1.45	225.16	265.29
						ZONE 2 ***	0.50	337.42	88.57
8/25/64	19.000	219.33/220.68	61.54/61.71	60.64/60.81	60.16/60.33	ZONE 1 ***	1.80	219.23	249.04
						ZONE 2 ***	0.47	332.82	83.78
8/25/64	19.500	213.27/214.17	60.54/60.72	59.64/59.82	59.16/59.34	ZONE 1 ***	2.30	213.18	234.66
						ZONE 2 ***	0.44	328.76	78.64
8/25/64	20.000	206.99/209.53	58.89/59.65	57.99/58.75	57.50/58.27	ZONE 1 ***	3.02	206.94	222.21
						ZONE 2 ***	0.42	324.77	73.75
8/25/64	20.500	204.20/204.63	57.85/58.02	56.94/57.12	56.46/56.64	ZONE 1 ***	2.61	203.36	211.27
						ZONE 2 ***	0.40	320.87	68.89
8/25/64	21.000	316.97/356.02	63.99/64.12	63.08/63.22	62.60/62.73	ZONE 1 ***	0.39	316.63	63.75
						ZONE 2 ***	0.39	316.63	63.75
8/25/64	21.500	313.08/347.84	63.97/64.09	63.07/63.19	62.58/62.71	ZONE 1 ***	0.38	312.92	59.06
						ZONE 2 ***	0.38	312.92	59.06
8/25/64	22.000	309.22/339.55	63.95/64.07	63.05/63.16	62.57/62.68	ZONE 1 ***	0.37	308.91	54.15
						ZONE 2 ***	0.37	308.91	54.15
8/25/64	22.500	305.29/330.74	63.93/64.04	63.03/63.13	62.55/62.65	ZONE 1 ***	0.36	305.02	49.04
						ZONE 2 ***	0.36	305.02	49.04
8/25/64	23.000	301.37/324.20	63.92/64.01	63.01/63.11	62.53/62.63	ZONE 1 ***	0.36	301.25	44.55
						ZONE 2 ***	0.36	301.25	44.55
8/25/64	23.500	297.37/318.40	63.89/63.99	62.99/63.09	62.51/62.61	ZONE 1 ***	0.37	297.26	39.92
						ZONE 2 ***	0.37	297.26	39.92

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF DATE	TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
9/10/64	0.	145.17/146.12	4.18/ 4.36	3.28/ 3.46	2.79/ 2.97	ZONE 1 ***	3.36	145.13	156.64
						ZONE 2 ***	0.38	290.73	33.39
9/10/64	0.500	136.10/137.77	2.96/ 3.13	2.06/ 2.23	1.58/ 1.75	ZONE 1 ***	2.67	135.96	151.35
						ZONE 2 ***	0.39	286.51	28.92
9/10/64	1.000	126.22/129.14	2.25/ 2.42	1.35/ 1.51	0.86/ 1.03	ZONE 1 ***	2.13	126.02	146.16
						ZONE 2 ***	0.41	282.51	24.82
9/10/64	1.500	115.02/120.31	1.80/ 1.98	0.90/ 1.08	0.41/ 0.59	ZONE 1 ***	1.74	114.95	141.12
						ZONE 2 ***	0.43	278.13	21.12
9/10/64	2.000	102.25/110.11	1.51/ 1.67	0.61/ 0.77	0.13/ 0.28	ZONE 1 ***	1.47	102.05	136.21
						ZONE 2 ***	0.46	273.74	17.85
9/10/64	2.500	93.74/103.88	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	1.18	93.74	131.36
						ZONE 2 ***	0.51	269.12	15.96
9/10/64	3.000	93.83/104.02	1.39/ 1.54	0.48/ 0.64	0.00/ 0.16	ZONE 1 ***	0.88	93.74	126.59
						ZONE 2 ***	0.57	264.14	15.49
9/10/64	3.500	93.74/103.94	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.66	93.74	121.87
						ZONE 2 ***	1.74	259.15	121.87
9/10/64	4.000	93.74/104.00	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.48	93.74	117.05
						ZONE 2 ***	1.66	253.83	117.05
9/10/64	4.500	93.74/103.96	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.34	93.74	112.26
						ZONE 2 ***	1.64	248.38	112.26
9/10/64	5.000	93.74/103.98	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 ***	0.22	93.74	107.43
						ZONE 2 ***	1.69	242.78	107.43
9/10/64	5.500	93.99/240.23	1.39/63.06	0.49/62.16	0.00/61.68	ZONE 1 ***	0.13	93.74	102.45
						ZONE 2 ***	1.83	236.72	102.45
9/10/64	6.000	93.74/233.45	1.38/62.76	0.48/61.85	0. /61.37	ZONE 1 ***	0.05	93.74	97.39
						ZONE 2 ***	2.08	230.55	97.39

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	6.500	224.24/226.25	62.09/62.27	61.19/61.37	60.71/60.89	ZONE 1 ***	1.76	224.03	286.83
						ZONE 2 ***	0.67	304.26	92.06
9/10/64	7.000	217.44/218.67	61.28/61.45	60.37/60.55	59.89/60.07	ZONE 1 ***	2.19	217.33	254.59
						ZONE 2 ***	0.58	312.51	87.01
9/10/64	7.500	210.45/211.17	59.90/60.08	59.00/59.17	58.51/58.69	ZONE 1 ***	2.92	210.36	234.19
						ZONE 2 ***	0.52	312.92	81.54
9/10/64	8.000	206.01/206.51	58.55/58.73	57.65/57.82	57.16/57.34	ZONE 1 ***	3.93	203.36	218.44
						ZONE 2 ***	0.49	311.30	75.93
9/10/64	8.500	309.46/355.30	63.95/64.11	63.05/63.21	62.57/62.73	ZONE 1 ***	0.96	203.36	205.73
						ZONE 2 ***	0.46	309.30	70.54
9/10/64	9.000	306.83/345.85	63.94/64.09	63.04/63.18	62.56/62.70	ZONE 1 ***	0.44	306.56	64.80
						ZONE 2 ***	0.44	306.56	64.80
9/10/64	9.500	303.95/338.11	63.93/64.06	63.03/63.16	62.54/62.68	ZONE 1 ***	0.42	303.88	59.42
						ZONE 2 ***	0.42	303.88	59.42
9/10/64	10.000	300.85/327.38	63.91/64.02	63.01/63.12	62.53/62.64	ZONE 1 ***	0.41	300.52	53.77
						ZONE 2 ***	0.41	300.52	53.77
9/10/64	10.500	297.62/321.47	63.90/64.00	62.99/63.10	62.51/62.62	ZONE 1 ***	0.40	297.26	48.23
						ZONE 2 ***	0.40	297.26	48.23
9/10/64	11.000	294.21/322.68	63.88/64.01	62.97/63.11	62.49/62.62	ZONE 1 ***	0.37	155.78	156.64
						ZONE 2 ***	0.39	294.11	42.46
9/10/64	11.500	147.08/147.93	4.55/ 4.74	3.65/ 3.84	3.17/ 3.35	ZONE 1 ***	2.99	147.04	156.64
						ZONE 2 ***	0.40	290.39	36.90
9/10/64	12.000	137.91/139.46	3.15/ 3.33	2.25/ 2.42	1.76/ 1.94	ZONE 1 ***	2.88	137.78	152.64
						ZONE 2 ***	0.40	286.83	31.62

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	12.500	128.12/130.92	2.35/ 2.53	1.45/ 1.63	0.97/ 1.15	ZONE 1 ***	2.24	128.04	147.27
						ZONE 2 ***	0.41	283.11	26.65
9/10/64	13.000	117.60/121.99	1.88/ 2.05	0.98/ 1.15	0.50/ 0.66	ZONE 1 ***	1.81	117.49	142.18
						ZONE 2 ***	0.42	279.27	21.58
9/10/64	13.500	106.08/112.88	1.58/ 1.74	0.68/ 0.84	0.20/ 0.35	ZONE 1 ***	1.49	105.95	137.21
						ZONE 2 ***	0.45	275.08	16.91
9/10/64	14.000	93.74/103.57	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 ***	1.25	93.74	132.34
						ZONE 2 ***	0.48	270.88	12.17
9/10/64	14.500	93.74/103.65	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.94	93.74	127.60
						ZONE 2 ***	0.51	266.46	7.88
9/10/64	15.000	93.74/103.74	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.70	93.74	122.89
						ZONE 2 ***	0.56	261.92	3.57
9/10/64	15.500	93.74/103.74	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 ***	0.52	93.74	118.21
						ZONE 2 ***	0.63	257.12	0.20
9/10/64	16.000	93.74/103.70	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.37	93.74	113.39
						ZONE 2 ***	1.59	252.18	113.39
9/10/64	16.500	93.74/103.68	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 ***	0.25	93.74	108.68
						ZONE 2 ***	1.59	247.07	108.68
9/10/64	17.000	93.83/103.65	1.39/ 1.54	0.48/ 0.63	0.00/ 0.15	ZONE 1 ***	0.15	93.74	103.84
						ZONE 2 ***	1.66	241.63	103.84
9/10/64	17.500	93.80/240.02	1.39/63.05	0.48/62.15	0.00/61.67	ZONE 1 ***	0.07	93.74	99.13
						ZONE 2 ***	1.81	235.98	99.13
9/10/64	18.000	93.74/233.37	1.38/62.75	0.48/61.85	0. /61.37	ZONE 1 ***	0.01	93.74	94.21
						ZONE 2 ***	1.28	230.24	288.75

EGO 80K ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
9/10/64	18.500	224.25/226.25	62.09/62.27	61.19/61.37	60.71/60.89	ZONE 1 ***	1.56	224.20	266.94
						ZONE 2 ***	0.53	330.11	89.08
9/10/64	19.000	218.00/219.27	61.36/61.53	60.46/60.63	59.97/60.15	ZONE 1 ***	1.96	217.95	248.38
						ZONE 2 ***	0.49	326.98	84.06
9/10/64	19.500	211.64/212.43	60.19/60.36	59.28/59.46	58.80/58.98	ZONE 1 ***	2.55	211.54	232.71
						ZONE 2 ***	0.46	323.46	78.94
9/10/64	20.000	207.39/207.95	59.02/59.20	58.12/58.29	57.63/57.81	ZONE 1 ***	3.43	204.92	219.52
						ZONE 2 ***	0.44	320.01	73.75
9/10/64	20.500	316.84/348.18	63.98/64.09	63.08/63.19	62.60/62.71	ZONE 1 ***	1.76	203.36	208.11
						ZONE 2 ***	0.41	316.63	68.56
9/10/64	21.000	313.29/348.22	63.97/64.09	63.07/63.19	62.59/62.71	ZONE 1 ***	0.40	312.92	63.39
						ZONE 2 ***	0.40	312.92	63.39
9/10/64	21.500	309.66/339.97	63.95/64.07	63.05/63.17	62.57/62.68	ZONE 1 ***	0.39	309.30	57.94
						ZONE 2 ***	0.39	309.30	57.94
9/10/64	22.000	305.98/335.02	63.94/64.05	63.04/63.15	62.55/62.67	ZONE 1 ***	0.38	305.79	52.99
						ZONE 2 ***	0.38	305.79	52.99
9/10/64	22.500	302.30/324.03	63.92/64.01	63.02/63.11	62.54/62.63	ZONE 1 ***	0.37	302.00	47.83
						ZONE 2 ***	0.37	302.00	47.83
9/10/64	23.000	298.48/318.48	63.90/63.99	63.00/63.09	62.52/62.61	ZONE 1 ***	0.37	298.34	42.88
						ZONE 2 ***	0.37	298.34	42.88
9/10/64	23.500	294.63/319.20	63.88/63.99	62.98/63.09	62.49/62.61	ZONE 1 ***	1.29	153.33	156.64
						ZONE 2 ***	0.38	294.45	38.20

EGO 80K ORBIT. 74 MINUTE TIMER

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**** PROGRAM INPUT ****

INITIAL LIFT-OFF DATE **** =   7/10/64
FINAL LIFT-OFF DATE ****** =   9/10/64

INITIAL LIFT-OFF HOUR **** =   0.0
HOUR INCREMENT *********** =   0.50000
FINAL LIFT-OFF HOUR ****** = 23.50000

EPOCH ASSOCIATED-  DATE ** =   7/25/64
WITH ELEMENTS      HOUR ** =   3.00000

SEMI-MAJOR AXIS ********** =12.63422096 E.R.
ECCENTRICITY ************* = 0.91701983
INCLINATION ************** =  31.020115 DEG.
ARGUMENT OF PERIGEE ****** = -46.341235 DEG.
R.A. OF ASC. NODE ******** = 138.070478 DEG.
MEAN ANOMALY ************* =   0.051394 DEG.

ECCENTRIC ANOMALY AT TIME-
WHEN EARTH SEARCH BEGINS * =  42.706375 DEG.

DELTA ECCENTRIC ANOMALY ** =  10.000000 DEG.

TIME FROM LIFT-OFF TO-
BEGINNING OF EARTH SEARCH  =   2.135000 HOURS

TIME FROM LIFT-OFF TO-
INJECTION INTO ORBIT  **** =    .901753 hours

NUMBER OF INCREMENTS ON-
THE INITIAL ROLL POSITION  =     8

CONSTANT ROLL RATE ******* = -0.3078778E 02 RAD./HR.

ITERATIONS ON DELTA E **** =    2

CENTER BLIND HALF ANGLE ** =   4.500000 DEG.
PERIPHERAL BLIND ANGLE *** =  88.000000 DEG.
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EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	0.	296.89/320.54	63.89/64.00	62.99/63.10	61.76/61.86	ZONE 1 ***	0.37	296.78	41.04
						ZONE 2 ***	0.37	296.78	41.04
7/10/64	0.500	150.55/151.18	5.39/ 5.57	4.49/ 4.67	3.25/ 3.43	ZONE 1 ***	2.16	150.49	156.64
						ZONE 2 ***	0.39	292.28	38.05
7/10/64	1.000	142.10/143.28	3.68/ 3.86	2.78/ 2.96	1.54/ 1.72	ZONE 1 ***	3.31	142.02	155.31
						ZONE 2 ***	0.41	287.99	35.44
7/10/64	1.500	132.57/134.80	2.66/ 2.84	1.75/ 1.94	0.52/ 0.71	ZONE 1 ***	2.71	132.30	150.38
						ZONE 2 ***	0.43	283.61	34.12
7/10/64	2.000	124.13/127.59	2.14/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	2.11	123.96	145.54
						ZONE 2 ***	0.47	278.88	33.68
7/10/64	2.500	124.15/127.64	2.14/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.36	123.96	140.81
						ZONE 2 ***	0.52	273.91	35.44
7/10/64	3.000	123.96/127.21	2.13/ 2.30	1.23/ 1.40	0. / 0.17	ZONE 1 ***	0.83	123.96	136.18
						ZONE 2 ***	0.61	268.79	43.15
7/10/64	3.500	123.96/127.30	2.13/ 2.31	1.23/ 1.41	0. / 0.17	ZONE 1 ***	0.44	123.96	131.53
						ZONE 2 ***	2.21	263.61	131.53
7/10/64	4.000	124.04/263.85	2.14/63.61	1.24/62.70	0.00/61.47	ZONE 1 ***	0.15	123.96	126.89
						ZONE 2 ***	2.01	257.85	126.89
7/10/64	4.500	252.12/262.17	63.40/63.58	62.50/62.68	61.27/61.45	ZONE 1 ***	1.89	251.94	122.21
						ZONE 2 ***	1.89	251.94	122.21
7/10/64	5.000	246.90/253.34	63.25/63.43	62.35/62.53	61.11/61.29	ZONE 1 ***	1.87	245.74	117.44
						ZONE 2 ***	1.87	245.74	117.44
7/10/64	5.500	239.42/244.22	63.03/63.20	62.13/62.30	60.90/61.06	ZONE 1 ***	1.94	239.25	112.53
						ZONE 2 ***	1.94	239.25	112.53
7/10/64	6.000	232.41/235.62	62.70/62.87	61.80/61.97	60.56/60.73	ZONE 1 ***	2.15	232.34	107.54
						ZONE 2 ***	2.15	232.34	107.54

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	6.500	225.16/227.38	62.18/62.36	61.28/61.46	60.04/60.23	ZONE 1 ***	2.59	224.95	102.58
						ZONE 2 ***	2.59	224.95	102.58
7/10/64	7.000	217.32/218.55	61.26/61.44	60.36/60.54	59.12/59.30	ZONE 1 ***	3.41	217.31	97.31
						ZONE 2 ***	3.41	217.31	97.31
7/10/64	7.500	209.23/209.89	59.57/59.75	58.67/58.85	57.44/57.62	ZONE 1 ***	5.03	209.22	91.98
						ZONE 2 ***	5.03	209.22	91.98
7/10/64	8.000	204.82/205.28	58.10/58.28	57.20/57.37	55.96/56.14	ZONE 1 ***	4.46	203.36	222.75
						ZONE 2 ***	0.75	281.50	86.39
7/10/64	8.500	287.54/311.07	63.83/63.96	62.93/63.06	61.70/61.83	ZONE 1 ***	0.19	203.36	203.79
						ZONE 2 ***	0.65	287.35	80.58
7/10/64	9.000	289.26/312.94	63.85/63.97	62.94/63.07	61.71/61.83	ZONE 1 ***	0.60	288.96	74.58
						ZONE 2 ***	0.60	288.96	74.58
7/10/64	9.500	289.19/314.70	63.85/63.98	62.94/63.07	61.71/61.84	ZONE 1 ***	0.55	288.96	68.44
						ZONE 2 ***	0.55	288.96	68.44
7/10/64	10.000	288.15/316.23	63.84/63.98	62.94/63.08	61.70/61.85	ZONE 1 ***	0.52	287.99	62.20
						ZONE 2 ***	0.52	287.99	62.20
7/10/64	10.500	286.49/310.87	63.83/63.96	62.93/63.06	61.69/61.83	ZONE 1 ***	1.10	153.89	156.64
						ZONE 2 ***	0.50	286.40	55.93
7/10/64	11.000	143.83/144.87	3.95/ 4.13	3.04/ 3.22	1.81/ 1.99	ZONE 1 ***	3.60	143.77	156.64
						ZONE 2 ***	0.49	284.22	49.70
7/10/64	11.500	133.47/135.44	2.73/ 2.90	1.83/ 2.00	0.59/ 0.76	ZONE 1 ***	3.16	133.43	152.25
						ZONE 2 ***	0.48	281.80	43.15
7/10/64	12.000	124.12/127.35	2.14/ 2.31	1.24/ 1.41	0.01/ 0.17	ZONE 1 ***	2.36	123.96	148.79
						ZONE 2 ***	0.48	278.88	36.75

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	12.500	123.97/127.43	2.14/ 2.31	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	1.47	123.96	141.60
						ZONE 2 ***	0.48	276.07	30.11
7/10/64	13.000	123.96/127.43	2.13/ 2.31	1.23/ 1.41	0. / 0.18	ZONE 1 ***	0.88	123.96	136.69
						ZONE 2 ***	0.49	272.85	23.73
7/10/64	13.500	123.98/127.51	2.14/ 2.32	1.23/ 1.42	0.00/ 0.18	ZONE 1 ***	0.48	123.96	132.01
						ZONE 2 ***	0.51	269.28	16.74
7/10/64	14.000	123.98/265.89	2.14/63.63	1.23/62.73	0.00/61.50	ZONE 1 ***	0.17	123.96	127.34
						ZONE 2 ***	0.53	265.67	10.10
7/10/64	14.500	262.12/274.77	63.58/63.73	62.68/62.83	61.45/61.60	ZONE 1 ***	0.56	262.06	2.91
						ZONE 2 ***	0.96	62.20	122.84
7/10/64	15.000	258.66/270.16	63.53/63.68	62.63/62.78	61.39/61.55	ZONE 1 ***	0.60	258.05	355.23
						ZONE 2 ***	0.85	48.49	118.44
7/10/64	15.500	253.99/264.20	63.44/63.61	62.54/62.71	61.31/61.47	ZONE 1 ***	0.65	253.95	346.16
						ZONE 2 ***	0.76	35.00	113.97
7/10/64	16.000	249.82/257.75	63.35/63.51	62.45/62.61	61.22/61.38	ZONE 1 ***	0.70	249.66	334.95
						ZONE 2 ***	0.69	22.81	109.50
7/10/64	16.500	245.17/251.42	63.23/63.39	62.33/62.49	61.09/61.25	ZONE 1 ***	0.78	246.12	322.01
						ZONE 2 ***	0.63	12.00	105.13
7/10/64	17.000	240.51/245.54	63.07/63.24	62.17/62.34	60.94/61.10	ZONE 1 ***	0.87	240.46	307.20
						ZONE 2 ***	0.58	3.39	100.74
7/10/64	17.500	235.72/239.57	62.87/63.04	61.97/62.14	60.74/60.90	ZONE 1 ***	1.00	235.57	291.61
						ZONE 2 ***	0.54	355.71	96.19
7/10/64	18.000	230.66/233.53	62.59/62.76	61.69/61.86	60.46/60.63	ZONE 1 ***	1.15	230.62	276.07
						ZONE 2 ***	0.50	349.96	91.73

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/10/64	18.500	225.46/227.69	62.20/62.39	61.30/61.48	60.07/60.25	ZONE 1 ***	1.37	225.40	261.62
						ZONE 2 ***	0.47	344.26	87.18
7/10/64	19.000	220.13/221.68	61.65/61.83	60.74/60.93	59.51/59.69	ZONE 1 ***	1.67	220.08	247.99
						ZONE 2 ***	0.44	339.11	82.85
7/10/64	19.500	214.67/215.63	60.81/60.98	59.91/60.08	58.68/58.85	ZONE 1 ***	2.08	214.59	235.81
						ZONE 2 ***	0.42	334.49	78.24
7/10/64	20.000	209.09/211.37	59.53/60.12	58.63/59.22	57.40/57.99	ZONE 1 ***	2.64	209.02	224.86
						ZONE 2 ***	0.40	329.95	73.64
7/10/64	20.500	205.86/206.35	58.49/58.67	57.59/57.77	56.36/56.54	ZONE 1 ***	3.38	203.36	214.97
						ZONE 2 ***	0.38	325.50	69.10
7/10/64	21.000	321.70/358.35	64.00/64.12	63.10/63.22	61.87/61.99	ZONE 1 ***	1.05	203.36	205.98
						ZONE 2 ***	0.37	321.58	64.67
7/10/64	21.500	317.53/358.63	63.99/64.12	63.09/63.22	61.85/61.99	ZONE 1 ***	0.36	317.32	60.39
						ZONE 2 ***	0.36	317.32	60.39
7/10/64	22.000	313.43/350.77	63.97/64.10	63.07/63.20	61.84/61.97	ZONE 1 ***	0.36	313.18	56.31
						ZONE 2 ***	0.36	313.18	56.31
7/10/64	22.500	309.36/341.49	63.95/64.07	63.05/63.17	61.82/61.94	ZONE 1 ***	0.36	309.16	52.07
						ZONE 2 ***	0.36	309.16	52.07
7/10/64	23.000	305.23/332.84	63.93/64.04	63.03/63.14	61.80/61.91	ZONE 1 ***	0.36	304.88	48.09
						ZONE 2 ***	0.36	304.88	48.09
7/10/64	23.500	301.09/326.60	63.91/64.02	63.01/63.12	61.78/61.89	ZONE 1 ***	0.37	300.75	44.40
						ZONE 2 ***	0.37	300.75	44.40

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	0.	296.46/320.80	63.89/64.00	62.99/63.10	61.75/61.87	ZONE 1 ***	0.37	296.43	40.19
						ZONE 2 ***	0.37	296.43	40.19
7/25/64	0.500	149.18/149.88	5.03/ 5.21	4.13/ 4.31	2.90/ 3.07	ZONE 1 ***	2.53	149.08	156.64
						ZONE 2 ***	0.39	291.94	36.75
7/25/64	1.000	140.49/141.75	3.46/ 3.63	2.55/ 2.73	1.32/ 1.49	ZONE 1 ***	3.12	140.44	154.24
						ZONE 2 ***	0.40	287.67	34.12
7/25/64	1.500	130.82/133.22	2.53/ 2.71	1.63/ 1.81	0.39/ 0.57	ZONE 1 ***	2.55	130.63	149.29
						ZONE 2 ***	0.43	283.00	31.90
7/25/64	2.000	124.13/127.59	2.14/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.91	123.96	144.41
						ZONE 2 ***	0.46	278.59	31.01
7/25/64	2.500	124.20/127.63	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.21	123.96	139.62
						ZONE 2 ***	0.51	273.64	31.90
7/25/64	3.000	123.96/127.21	2.13/ 2.30	1.23/ 1.40	0. / 0.17	ZONE 1 ***	0.72	123.96	134.97
						ZONE 2 ***	0.59	268.54	37.62
7/25/64	3.500	124.29/127.66	2.15/ 2.33	1.25/ 1.43	0.02/ 0.19	ZONE 1 ***	0.35	123.96	130.22
						ZONE 2 ***	2.12	263.39	130.22
7/25/64	4.000	124.02/263.89	2.14/63.61	1.24/62.70	0.00/61.47	ZONE 1 ***	0.08	123.96	125.52
						ZONE 2 ***	1.93	257.85	125.52
7/25/64	4.500	252.10/262.19	63.40/63.58	62.50/62.68	61.27/61.45	ZONE 1 ***	1.83	251.94	120.77
						ZONE 2 ***	1.83	251.94	120.77
7/25/64	5.000	245.98/253.36	63.25/63.43	62.35/62.53	61.12/61.29	ZONE 1 ***	1.82	245.90	115.96
						ZONE 2 ***	1.82	245.90	115.96
7/25/64	5.500	239.51/244.24	63.04/63.20	62.13/62.30	60.90/61.06	ZONE 1 ***	1.90	239.38	111.21
						ZONE 2 ***	1.90	239.38	111.21
7/25/64	6.000	232.71/236.17	62.72/62.89	61.81/61.99	60.58/60.76	ZONE 1 ***	2.10	232.67	106.07
						ZONE 2 ***	2.10	232.67	106.07

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME		TRUE ANOMALY	TIME (HOURS) TO ACQUIRE EARTH AFTER -			ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.		
DATE	HOUR	MIN/MAX	LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX		HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	6.5C0	225.55/227.64	62.21/62.38	61.31/61.48	60.08/60.25	ZONE 1 ***	2.52	225.48	100.95
						ZONE 2 ***	2.52	225.48	100.95
7/25/64	7.CC0	218.02/219.31	61.36/61.54	60.46/60.64	59.23/59.40	ZONE 1 ***	3.29	217.99	95.74
						ZONE 2 ***	3.29	217.99	95.74
7/25/64	7.5C0	210.18/210.89	59.83/60.01	58.93/59.11	57.69/57.87	ZONE 1 ***	4.76	210.14	90.25
						ZONE 2 ***	4.76	210.14	90.25
7/25/64	8.CC0	205.75/206.25	58.45/58.63	57.55/57.73	56.32/56.50	ZONE 1 ***	4.52	203.36	223.32
						ZONE 2 ***	0.69	287.35	84.78
7/25/64	8.5C0	291.67/326.77	63.86/64.02	62.96/63.12	61.73/61.89	ZONE 1 ***	0.81	203.36	205.33
						ZONE 2 ***	0.61	291.61	78.83
7/25/64	9.CC0	292.55/318.97	63.87/63.99	62.96/63.09	61.73/61.86	ZONE 1 ***	0.56	292.28	73.01
						ZONE 2 ***	0.56	292.28	73.01
7/25/64	9.5C0	292.01/321.53	63.86/64.00	62.96/63.10	61.73/61.87	ZONE 1 ***	0.53	291.94	67.08
						ZONE 2 ***	0.53	291.94	67.08
7/25/64	10.CC0	290.61/315.98	63.85/63.98	62.95/63.08	61.72/61.85	ZONE 1 ***	0.50	290.28	60.76
						ZONE 2 ***	0.50	290.28	60.76
7/25/64	10.5C0	288.67/317.32	63.84/63.99	62.94/63.09	61.71/61.85	ZONE 1 ***	0.48	288.64	54.40
						ZONE 2 ***	0.48	288.64	54.40
7/25/64	11.0C0	146.99/147.82	4.53/ 4.71	3.63/ 3.81	2.40/ 2.58	ZONE 1 ***	3.02	146.91	156.64
						ZONE 2 ***	0.47	286.08	48.09
7/25/64	11.5C0	137.01/138.66	3.05/ 3.23	2.15/ 2.33	0.92/ 1.10	ZONE 1 ***	3.32	136.94	153.67
						ZONE 2 ***	0.46	283.61	41.89
7/25/64	12.CC0	126.62/129.49	2.27/ 2.44	1.37/ 1.54	0.13/ 0.30	ZONE 1 ***	2.51	126.55	148.10
						ZONE 2 ***	0.46	280.62	35.44

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	12.500	124.00/127.45	2.14/ 2.32	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.66	123.96	142.91
						ZONE 2 ***	0.47	277.46	29.21
7/25/64	13.000	123.96/127.43	2.13/ 2.31	1.23/ 1.41	0. / 0.18	ZONE 1 ***	1.01	123.96	137.91
						ZONE 2 ***	0.48	274.18	22.81
7/25/64	13.500	123.97/127.49	2.14/ 2.32	1.23/ 1.42	0.00/ 0.18	ZONE 1 ***	0.57	123.96	133.15
						ZONE 2 ***	0.49	270.79	16.74
7/25/64	14.000	124.07/127.45	2.14/ 2.32	1.24/ 1.41	0.01/ 0.18	ZONE 1 ***	0.24	123.96	128.44
						ZONE 2 ***	0.51	267.09	10.10
7/25/64	14.500	263.59/277.49	63.60/63.76	62.70/62.85	61.47/61.62	ZONE 1 ***	0.54	263.16	3.39
						ZONE 2 ***	0.98	66.40	123.84
7/25/64	15.000	259.16/270.16	63.54/63.68	62.63/62.78	61.40/61.55	ZONE 1 ***	0.58	259.08	356.19
						ZONE 2 ***	0.87	52.46	119.41
7/25/64	15.500	254.94/264.20	63.46/63.61	62.56/62.71	61.33/61.47	ZONE 1 ***	0.63	254.90	347.58
						ZONE 2 ***	0.78	38.05	114.90
7/25/64	16.000	250.51/259.26	63.37/63.54	62.47/62.64	61.23/61.40	ZONE 1 ***	0.70	250.35	337.71
						ZONE 2 ***	0.71	24.65	110.36
7/25/64	16.500	245.98/252.59	63.25/63.41	62.35/62.51	61.12/61.28	ZONE 1 ***	0.77	245.90	325.06
						ZONE 2 ***	0.65	12.95	105.88
7/25/64	17.000	241.24/246.43	63.10/63.26	62.20/62.36	60.97/61.13	ZONE 1 ***	0.87	241.02	310.35
						ZONE 2 ***	0.59	3.39	101.36
7/25/64	17.500	236.27/240.25	62.90/63.06	62.00/62.16	60.76/60.93	ZONE 1 ***	0.98	236.18	294.33
						ZONE 2 ***	0.55	355.71	96.87
7/25/64	18.000	231.06/234.01	62.62/62.79	61.72/61.88	60.48/60.65	ZONE 1 ***	1.15	231.04	278.31
						ZONE 2 ***	0.51	349.01	92.46

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
7/25/64	18.500	225.77/228.03	62.23/62.41	61.33/61.51	60.10/60.28	ZONE 1 ***	1.36	225.75	262.94
						ZONE 2 ***	0.47	343.79	87.70
7/25/64	19.000	220.33/221.86	61.67/61.85	60.77/60.95	59.54/59.71	ZONE 1 ***	1.66	220.31	248.98
						ZONE 2 ***	0.45	338.64	83.13
7/25/64	19.500	214.77/215.78	60.83/61.01	59.93/60.11	58.70/58.88	ZONE 1 ***	2.09	214.66	236.30
						ZONE 2 ***	0.42	334.03	78.53
7/25/64	20.000	209.00/209.65	59.51/59.69	58.61/58.78	57.37/57.55	ZONE 1 ***	2.67	208.92	224.86
						ZONE 2 ***	0.40	329.50	73.96
7/25/64	20.500	205.72/206.21	58.44/58.62	57.54/57.72	56.31/56.49	ZONE 1 ***	3.34	203.36	214.72
						ZONE 2 ***	0.39	325.06	69.44
7/25/64	21.000	321.10/358.54	64.00/64.12	63.10/63.22	61.87/61.99	ZONE 1 ***	0.89	203.36	205.54
						ZONE 2 ***	0.38	320.72	64.67
7/25/64	21.500	316.94/357.96	63.99/64.12	63.08/63.22	61.85/61.99	ZONE 1 ***	0.37	316.90	60.39
						ZONE 2 ***	0.37	316.90	60.39
7/25/64	22.000	312.90/350.05	63.97/64.10	63.07/63.20	61.83/61.96	ZONE 1 ***	0.36	312.77	55.93
						ZONE 2 ***	0.36	312.77	55.93
7/25/64	22.500	308.81/339.80	63.95/64.07	63.05/63.16	61.82/61.93	ZONE 1 ***	0.36	308.77	51.68
						ZONE 2 ***	0.36	308.77	51.68
7/25/64	23.000	304.73/333.25	63.93/64.05	63.03/63.14	61.80/61.91	ZONE 1 ***	0.36	304.50	47.28
						ZONE 2 ***	0.36	304.50	47.28
7/25/64	23.500	300.61/326.91	63.91/64.02	63.01/63.12	61.78/61.89	ZONE 1 ***	0.36	300.39	43.57
						ZONE 2 ***	0.36	300.39	43.57

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	0.	295.27/321.23	63.88/64.00	62.98/63.10	61.75/61.87	ZONE 1 ***	0.97	154.24	156.64
						ZONE 2 ***	0.37	295.02	38.05
8/10/64	0.500	146.07/146.96	4.35/ 4.53	3.45/ 3.63	2.21/ 2.39	ZONE 1 ***	3.20	146.02	156.64
						ZONE 2 ***	0.38	290.94	34.56
8/10/64	1.000	137.13/138.77	3.06/ 3.24	2.16/ 2.34	0.93/ 1.11	ZONE 1 ***	2.82	137.02	152.20
						ZONE 2 ***	0.40	286.40	31.46
8/10/64	1.500	127.13/130.08	2.30/ 2.48	1.40/ 1.58	0.16/ 0.34	ZONE 1 ***	2.28	126.89	147.14
						ZONE 2 ***	0.43	282.10	28.76
8/10/64	2.000	124.14/127.65	2.14/ 2.33	1.24/ 1.43	0.01/ 0.19	ZONE 1 ***	1.57	123.96	142.29
						ZONE 2 ***	0.46	277.46	27.40
8/10/64	2.500	124.19/127.62	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	0.96	123.96	137.43
						ZONE 2 ***	0.50	272.59	26.94
8/10/64	3.000	124.21/127.70	2.15/ 2.33	1.25/ 1.43	0.01/ 0.19	ZONE 1 ***	0.53	123.96	132.68
						ZONE 2 ***	0.57	267.81	31.01
8/10/64	3.500	124.01/127.21	2.14/ 2.30	1.24/ 1.40	0.00/ 0.17	ZONE 1 ***	0.21	123.96	128.00
						ZONE 2 ***	2.00	262.50	128.00
8/10/64	4.000	257.16/268.01	63.50/63.66	62.60/62.76	61.37/61.52	ZONE 1 ***	1.84	257.04	123.22
						ZONE 2 ***	1.84	257.04	123.22
8/10/64	4.500	251.71/260.52	63.39/63.56	62.49/62.66	61.26/61.42	ZONE 1 ***	1.76	251.40	118.44
						ZONE 2 ***	1.76	251.40	118.44
8/10/64	5.000	245.55/252.15	63.24/63.40	62.34/62.50	61.10/61.27	ZONE 1 ***	1.77	245.27	113.65
						ZONE 2 ***	1.77	245.27	113.65
8/10/64	5.500	239.13/244.25	63.02/63.20	62.12/62.30	60.89/61.06	ZONE 1 ***	1.86	238.98	108.62
						ZONE 2 ***	1.86	238.98	108.62
8/10/64	6.000	232.68/236.18	62.71/62.89	61.81/61.99	60.58/60.76	ZONE 1 ***	2.07	232.45	103.58
						ZONE 2 ***	2.07	232.45	103.58

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	6.500	225.56/227.64	62.21/62.38	61.31/61.48	60.08/60.25	ZONE 1 ***	2.48	225.48	98.41
						ZONE 2 ***	2.48	225.48	98.41
8/10/64	7.000	218.37/219.70	61.41/61.59	60.51/60.69	59.28/59.46	ZONE 1 ***	3.23	218.20	93.18
						ZONE 2 ***	3.23	218.20	93.18
8/10/64	7.500	210.69/211.42	59.96/60.14	59.06/59.23	57.82/58.00	ZONE 1 ***	3.33	210.66	247.01
						ZONE 2 ***	0.71	288.96	87.70
8/10/64	8.000	206.10/206.61	58.58/58.76	57.68/57.86	56.45/56.63	ZONE 1 ***	4.41	203.36	222.34
						ZONE 2 ***	0.61	296.07	82.01
8/10/64	8.500	297.78/337.43	63.90/64.06	62.99/63.16	61.76/61.92	ZONE 1 ***	1.11	203.36	206.16
						ZONE 2 ***	0.56	297.49	76.43
8/10/64	9.000	297.38/328.51	63.89/64.03	62.99/63.13	61.76/61.89	ZONE 1 ***	0.52	297.13	70.42
						ZONE 2 ***	0.52	297.13	70.42
8/10/64	9.500	296.00/320.76	63.89/64.00	62.99/63.10	61.75/61.87	ZONE 1 ***	0.49	295.72	64.32
						ZONE 2 ***	0.49	295.72	64.32
8/10/64	10.000	294.05/323.04	63.88/64.01	62.97/63.11	61.74/61.87	ZONE 1 ***	0.47	293.99	58.55
						ZONE 2 ***	0.47	293.99	58.55
8/10/64	10.500	291.67/317.24	63.86/63.99	62.96/63.09	61.73/61.85	ZONE 1 ***	0.45	291.61	52.46
						ZONE 2 ***	0.45	291.61	52.46
8/10/64	11.000	289.00/318.33	63.84/63.99	62.94/63.09	61.71/61.86	ZONE 1 ***	2.21	150.33	156.64
						ZONE 2 ***	0.44	288.96	46.05
8/10/64	11.500	140.80/142.03	3.50/ 3.67	2.60/ 2.77	1.36/ 1.53	ZONE 1 ***	3.49	140.74	155.31
						ZONE 2 ***	0.44	285.77	40.19
8/10/64	12.000	131.02/133.40	2.54/ 2.72	1.64/ 1.82	0.41/ 0.59	ZONE 1 ***	2.63	130.83	149.66
						ZONE 2 ***	0.44	282.70	34.12

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	12.500	124.03/127.39	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.91	123.96	144.41
						ZONE 2 ***	0.44	279.46	27.85
8/10/64	13.000	124.00/127.44	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.17	123.96	139.32
						ZONE 2 ***	0.46	275.80	21.88
8/10/64	13.500	123.97/127.46	2.14/ 2.32	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	0.67	123.96	134.44
						ZONE 2 ***	0.47	272.33	16.27
8/10/64	14.000	124.04/127.45	2.14/ 2.32	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	0.32	123.96	129.71
						ZONE 2 ***	0.50	268.30	10.10
8/10/64	14.500	123.99/277.53	2.14/63.76	1.23/62.85	0.00/61.62	ZONE 1 ***	0.05	123.96	125.04
						ZONE 2 ***	0.53	264.29	3.87
8/10/64	15.000	260.29/272.54	63.55/63.71	62.65/62.81	61.42/61.57	ZONE 1 ***	0.57	260.12	357.15
						ZONE 2 ***	0.89	56.68	120.50
8/10/64	15.500	255.92/266.14	63.48/63.64	62.58/62.73	61.34/61.50	ZONE 1 ***	0.62	255.86	349.96
						ZONE 2 ***	0.80	41.04	115.96
8/10/64	16.000	251.33/259.30	63.39/63.54	62.48/62.64	61.25/61.40	ZONE 1 ***	0.69	251.23	340.97
						ZONE 2 ***	0.73	26.03	111.37
8/10/64	16.500	246.58/253.82	63.27/63.44	62.37/62.54	61.13/61.30	ZONE 1 ***	0.77	246.53	329.50
						ZONE 2 ***	0.67	12.48	106.81
8/10/64	17.000	241.64/247.38	63.11/63.29	62.21/62.39	60.98/61.15	ZONE 1 ***	0.87	241.58	314.82
						ZONE 2 ***	0.61	1.95	102.18
8/10/64	17.500	236.57/240.93	62.91/63.09	62.01/62.19	60.78/60.95	ZONE 1 ***	0.99	236.43	297.85
						ZONE 2 ***	0.56	353.31	97.63
8/10/64	18.000	231.33/234.59	62.63/62.82	61.73/61.91	60.50/60.68	ZONE 1 ***	1.16	231.15	280.62
						ZONE 2 ***	0.52	347.11	92.94

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/10/64	18.500	225.75/227.97	62.23/62.41	61.33/61.51	60.09/60.27	ZONE 1 ***	1.39	225.66	264.29
						ZONE 2 ***	0.49	341.44	88.22
8/10/64	19.000	220.13/221.63	61.65/61.82	60.74/60.92	59.51/59.69	ZONE 1 ***	1.71	220.01	249.32
						ZONE 2 ***	0.46	336.33	83.41
8/10/64	19.500	214.23/215.19	60.73/60.91	59.83/60.01	58.60/58.77	ZONE 1 ***	2.16	214.17	235.93
						ZONE 2 ***	0.43	331.75	78.83
8/10/64	20.000	210.54/211.27	59.92/60.10	59.02/59.20	57.78/57.96	ZONE 1 ***	2.79	208.24	224.00
						ZONE 2 ***	0.41	327.71	73.96
8/10/64	20.500	205.79/206.28	58.47/58.64	57.57/57.74	56.33/56.51	ZONE 1 ***	3.08	203.36	213.39
						ZONE 2 ***	0.39	323.31	69.10
8/10/64	21.000	319.46/358.84	64.00/64.13	63.09/63.22	61.86/61.99	ZONE 1 ***	0.27	203.36	203.99
						ZONE 2 ***	0.38	319.43	64.32
8/10/64	21.500	315.44/350.77	63.98/64.10	63.08/63.20	61.84/61.97	ZONE 1 ***	0.37	315.24	59.66
						ZONE 2 ***	0.37	315.24	59.66
8/10/64	22.000	311.44/347.01	63.96/64.09	63.06/63.19	61.83/61.95	ZONE 1 ***	0.36	311.16	55.17
						ZONE 2 ***	0.36	311.16	55.17
8/10/64	22.500	307.43/334.58	63.94/64.05	63.04/63.15	61.81/61.91	ZONE 1 ***	0.36	307.20	50.49
						ZONE 2 ***	0.36	307.20	50.49
8/10/64	23.000	303.40/325.98	63.93/64.02	63.02/63.12	61.79/61.88	ZONE 1 ***	0.36	303.36	46.05
						ZONE 2 ***	0.36	303.36	46.05
8/10/64	23.500	299.33/320.29	63.90/64.00	63.00/63.10	61.77/61.86	ZONE 1 ***	0.36	299.29	41.89
						ZONE 2 ***	0.36	299.29	41.89

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	0.	150.45/151.09	5.36/ 5.54	4.46/ 4.64	3.23/ 3.41	ZONE 1 ***	2.19	150.38	156.64
						ZONE 2 ***	0.37	293.30	35.88
8/25/64	0.500	141.80/142.95	3.63/ 3.81	2.73/ 2.90	1.50/ 1.67	ZONE 1 ***	3.10	141.74	154.68
						ZONE 2 ***	0.39	288.96	31.90
8/25/64	1.000	132.40/134.45	2.64/ 2.81	1.74/ 1.91	0.51/ 0.67	ZONE 1 ***	2.48	132.30	149.51
						ZONE 2 ***	0.40	284.84	28.31
8/25/64	1.500	124.14/127.59	2.14/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.92	123.96	144.48
						ZONE 2 ***	0.43	280.33	25.11
8/25/64	2.000	124.21/127.63	2.15/ 2.33	1.25/ 1.42	0.01/ 0.19	ZONE 1 ***	1.20	123.96	139.55
						ZONE 2 ***	0.46	275.80	22.81
8/25/64	2.500	124.18/127.64	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	0.70	123.96	134.71
						ZONE 2 ***	0.50	271.04	21.88
8/25/64	3.000	124.25/127.63	2.15/ 2.33	1.25/ 1.42	0.01/ 0.19	ZONE 1 ***	0.33	123.96	129.91
						ZONE 2 ***	0.57	266.14	23.73
8/25/64	3.500	123.97/275.21	2.14/63.73	1.23/62.83	0.00/61.60	ZONE 1 ***	0.06	123.96	125.16
						ZONE 2 ***	1.86	261.19	125.16
8/25/64	4.000	255.86/266.00	63.48/63.63	62.58/62.73	61.34/61.50	ZONE 1 ***	1.74	255.67	120.37
						ZONE 2 ***	1.74	255.67	120.37
8/25/64	4.500	250.25/258.97	63.36/63.53	62.46/62.63	61.23/61.40	ZONE 1 ***	1.69	250.18	115.51
						ZONE 2 ***	1.69	250.18	115.51
8/25/64	5.000	244.37/251.03	63.20/63.38	62.30/62.48	61.07/61.24	ZONE 1 ***	1.72	244.36	110.70
						ZONE 2 ***	1.72	244.36	110.70
8/25/64	5.500	238.21/242.67	62.98/63.15	62.08/62.25	60.85/61.01	ZONE 1 ***	1.83	238.20	105.69
						ZONE 2 ***	1.83	238.20	105.69
8/25/64	6.000	231.81/235.13	62.66/62.84	61.76/61.94	60.53/60.71	ZONE 1 ***	2.06	231.68	100.54
						ZONE 2 ***	2.06	231.68	100.54

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	6.500	225.17/227.32	62.18/62.36	61.28/61.46	60.04/60.22	ZONE 1 ***	2.49	224.95	95.51
						ZONE 2 ***	2.49	224.95	95.51
8/25/64	7.000	218.02/219.31	61.36/61.54	60.46/60.64	59.23/59.41	ZONE 1 ***	2.35	217.99	272.59
						ZONE 2 ***	0.72	290.94	90.25
8/25/64	7.500	210.71/211.43	59.96/60.14	59.06/59.23	57.83/58.00	ZONE 1 ***	3.09	210.66	239.65
						ZONE 2 ***	0.60	302.61	84.78
8/25/64	8.000	206.25/206.76	58.63/58.81	57.73/57.91	56.50/56.68	ZONE 1 ***	4.21	203.36	220.54
						ZONE 2 ***	0.54	304.12	79.13
8/25/64	8.500	303.78/348.58	63.93/64.09	63.03/63.19	61.79/61.96	ZONE 1 ***	1.11	203.36	206.16
						ZONE 2 ***	0.50	303.74	73.32
8/25/64	9.000	302.20/339.10	63.92/64.06	63.02/63.16	61.78/61.93	ZONE 1 ***	0.48	301.86	67.76
						ZONE 2 ***	0.48	301.86	67.76
8/25/64	9.500	300.02/330.12	63.91/64.03	63.01/63.13	61.77/61.90	ZONE 1 ***	0.45	299.65	61.84
						ZONE 2 ***	0.45	299.65	61.84
8/25/64	10.000	297.49/322.74	63.89/64.01	62.99/63.11	61.76/61.87	ZONE 1 ***	0.44	297.13	55.93
						ZONE 2 ***	0.44	297.13	55.93
8/25/64	10.500	294.68/324.44	63.88/64.01	62.98/63.11	61.74/61.88	ZONE 1 ***	0.43	294.33	50.09
						ZONE 2 ***	0.43	294.33	50.09
8/25/64	11.000	153.27/291.61	6.22/63.86	5.32/62.96	4.09/61.73	ZONE 1 ***	1.33	153.22	156.64
						ZONE 2 ***	0.42	291.61	44.40
8/25/64	11.500	144.15/145.17	4.00/ 4.18	3.10/ 3.28	1.86/ 2.04	ZONE 1 ***	3.56	144.03	156.64
						ZONE 2 ***	0.42	288.32	38.48
8/25/64	12.000	134.62/136.58	2.82/ 3.01	1.92/ 2.11	0.69/ 0.87	ZONE 1 ***	2.74	134.44	151.14
						ZONE 2 ***	0.42	284.84	32.79

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	12.500	124.44/127.85	2.16/ 2.34	1.26/ 1.44	0.02/ 0.20	ZONE 1 ***	2.14	124.32	145.78
						ZONE 2 ***	0.43	281.21	26.94
8/25/64	13.000	124.03/127.46	2.14/ 2.32	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	1.34	123.96	140.66
						ZONE 2 ***	0.44	277.46	21.42
8/25/64	13.500	123.98/127.45	2.14/ 2.32	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	0.79	123.96	135.76
						ZONE 2 ***	0.46	273.64	15.80
8/25/64	14.000	124.02/127.44	2.14/ 2.31	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	0.40	123.96	130.93
						ZONE 2 ***	0.48	269.78	10.58
8/25/64	14.500	123.98/280.51	2.14/63.78	1.23/62.88	0.00/61.65	ZONE 1 ***	0.11	123.96	126.21
						ZONE 2 ***	0.52	265.44	5.31
8/25/64	15.000	261.23/275.12	63.57/63.73	62.67/62.83	61.43/61.60	ZONE 1 ***	0.56	261.19	359.55
						ZONE 2 ***	0.92	59.66	121.56
8/25/64	15.500	256.67/268.25	63.49/63.66	62.59/62.76	61.36/61.53	ZONE 1 ***	0.62	256.65	353.79
						ZONE 2 ***	0.83	42.73	117.00
8/25/64	16.000	252.21/260.93	63.40/63.56	62.50/62.66	61.27/61.43	ZONE 1 ***	0.69	251.76	346.63
						ZONE 2 ***	0.76	24.65	112.36
8/25/64	16.500	246.96/253.86	63.28/63.44	62.38/62.54	61.14/61.30	ZONE 1 ***	1.58	246.85	107.72
						ZONE 2 ***	1.58	246.85	107.72
8/25/64	17.000	242.03/247.40	63.13/63.29	62.23/62.39	60.99/61.15	ZONE 1 ***	1.64	241.72	102.98
						ZONE 2 ***	1.64	241.72	102.98
8/25/64	17.500	236.60/240.95	62.91/63.09	62.01/62.19	60.78/60.95	ZONE 1 ***	1.02	236.43	302.61
						ZONE 2 ***	0.59	348.53	98.19
8/25/64	18.000	230.94/234.02	62.61/62.79	61.71/61.89	60.48/60.65	ZONE 1 ***	1.20	230.83	283.30
						ZONE 2 ***	0.54	342.38	93.41

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
8/25/64	18.500	225.21/227.38	62.18/62.36	61.28/61.46	60.05/60.23	ZONE 1 ***	1.45	225.13	265.21
						ZONE 2 ***	0.50	337.71	88.48
8/25/64	19.000	219.34/220.76	61.54/61.72	60.64/60.82	59.41/59.59	ZONE 1 ***	1.80	219.27	248.98
						ZONE 2 ***	0.47	333.12	83.69
8/25/64	19.500	213.20/214.09	60.53/60.71	59.63/59.80	58.39/58.57	ZONE 1 ***	2.31	213.16	234.73
						ZONE 2 ***	0.44	328.60	78.83
8/25/64	20.000	206.94/209.56	58.87/59.66	57.97/58.76	56.74/57.53	ZONE 1 ***	3.02	206.92	222.18
						ZONE 2 ***	0.42	324.62	73.64
8/25/64	20.500	203.86/204.28	57.70/57.88	56.80/56.98	55.57/55.75	ZONE 1 ***	2.61	203.36	211.25
						ZONE 2 ***	0.40	320.72	68.77
8/25/64	21.000	316.99/ 4.35	63.99/64.14	63.08/63.24	61.85/62.01	ZONE 1 ***	0.39	316.90	63.97
						ZONE 2 ***	0.39	316.90	63.97
8/25/64	21.500	313.10/351.15	63.97/64.10	63.07/63.20	61.83/61.97	ZONE 1 ***	0.38	312.77	58.92
						ZONE 2 ***	0.38	312.77	58.92
8/25/64	22.000	309.20/342.90	63.95/64.08	63.05/63.17	61.82/61.94	ZONE 1 ***	0.37	309.16	54.01
						ZONE 2 ***	0.37	309.16	54.01
8/25/64	22.500	305.30/329.67	63.93/64.03	63.03/63.13	61.80/61.90	ZONE 1 ***	0.36	305.26	49.30
						ZONE 2 ***	0.36	305.26	49.30
8/25/64	23.000	301.34/327.08	63.92/64.02	63.01/63.12	61.78/61.89	ZONE 1 ***	0.36	301.12	44.40
						ZONE 2 ***	0.36	301.12	44.40
8/25/64	23.500	297.38/321.06	63.89/64.00	62.99/63.10	61.76/61.87	ZONE 1 ***	0.37	297.13	40.19
						ZONE 2 ***	0.37	297.13	40.19

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	0.	145.22/146.17	4.19/ 4.37	3.29/ 3.47	2.05/ 2.23	ZONE 1 ***	3.37	145.10	156.64
						ZONE 2 ***	0.38	290.61	33.68
9/10/64	0.500	136.12/137.91	2.96/ 3.15	2.06/ 2.25	0.83/ 1.01	ZONE 1 ***	2.66	136.01	151.33
						ZONE 2 ***	0.39	286.72	29.21
9/10/64	1.000	126.20/129.29	2.25/ 2.43	1.35/ 1.52	0.11/ 0.29	ZONE 1 ***	2.13	125.98	146.14
						ZONE 2 ***	0.41	282.40	25.11
9/10/64	1.500	124.15/127.64	2.14/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	1.40	123.96	141.10
						ZONE 2 ***	0.44	278.03	21.42
9/10/64	2.000	124.18/127.62	2.15/ 2.33	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	0.84	123.96	136.27
						ZONE 2 ***	0.47	273.64	18.15
9/10/64	2.500	124.20/127.61	2.15/ 2.32	1.24/ 1.42	0.01/ 0.19	ZONE 1 ***	0.44	123.96	134.43
						ZONE 2 ***	0.51	269.04	15.80
9/10/64	3.000	123.96/264.31	2.13/63.61	1.23/62.71	0. /61.48	ZONE 1 ***	0.14	123.96	126.67
						ZONE 2 ***	0.56	264.29	15.32
9/10/64	3.500	259.28/272.75	63.54/63.71	62.64/62.81	61.40/61.58	ZONE 1 ***	1.74	259.08	121.82
						ZONE 2 ***	1.74	259.08	121.82
9/10/64	4.000	254.31/264.13	63.45/63.61	62.55/62.71	61.31/61.47	ZONE 1 ***	1.66	253.95	117.00
						ZONE 2 ***	1.66	253.95	117.00
9/10/64	4.500	248.53/256.06	63.32/63.48	62.42/62.58	61.18/61.35	ZONE 1 ***	1.64	248.48	112.20
						ZONE 2 ***	1.64	248.48	112.20
9/10/64	5.000	242.81/248.90	63.15/63.33	62.25/62.43	61.02/61.19	ZONE 1 ***	1.69	242.73	107.36
						ZONE 2 ***	1.69	242.73	107.36
9/10/64	5.500	236.82/241.21	62.92/63.10	62.02/62.20	60.79/60.96	ZONE 1 ***	1.83	236.80	102.38
						ZONE 2 ***	1.83	236.80	102.38
9/10/64	6.000	230.59/233.64	62.59/62.77	61.69/61.87	60.45/60.63	ZONE 1 ***	2.09	230.51	97.31
						ZONE 2 ***	2.09	230.51	97.31

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	6.500	224.17/226.06	62.09/62.26	61.18/61.35	59.95/60.12	ZONE 1 ***	1.75	224.08	287.03
						ZONE 2 ***	0.67	304.50	92.22
9/10/64	7.000	217.38/218.56	61.27/61.44	60.37/60.54	59.13/59.30	ZONE 1 ***	2.20	217.31	254.52
						ZONE 2 ***	0.58	312.77	86.92
9/10/64	7.500	210.41/211.11	59.89/60.06	58.99/59.16	57.75/57.93	ZONE 1 ***	2.92	210.34	234.15
						ZONE 2 ***	0.52	312.77	81.44
9/10/64	8.000	206.18/206.69	58.61/58.79	57.71/57.89	56.47/56.65	ZONE 1 ***	3.94	203.36	218.48
						ZONE 2 ***	0.49	311.56	76.13
9/10/64	8.500	309.48/349.10	63.95/64.10	63.05/63.19	61.82/61.96	ZONE 1 ***	0.97	203.36	205.76
						ZONE 2 ***	0.46	309.16	70.42
9/10/64	9.000	306.85/349.82	63.94/64.10	63.04/63.20	61.81/61.96	ZONE 1 ***	0.44	306.81	65.02
						ZONE 2 ***	0.44	306.81	65.02
9/10/64	9.500	303.97/339.52	63.93/64.07	63.03/63.16	61.79/61.93	ZONE 1 ***	0.42	303.74	59.29
						ZONE 2 ***	0.42	303.74	59.29
9/10/64	10.000	300.86/330.80	63.91/64.04	63.01/63.14	61.78/61.90	ZONE 1 ***	0.41	300.75	53.63
						ZONE 2 ***	0.41	300.75	53.63
9/10/64	10.500	297.63/324.44	63.90/64.01	62.99/63.11	61.76/61.88	ZONE 1 ***	0.40	297.49	48.09
						ZONE 2 ***	0.40	297.49	48.09
9/10/64	11.000	294.23/318.42	63.88/63.99	62.97/63.09	61.74/61.86	ZONE 1 ***	0.36	155.81	156.64
						ZONE 2 ***	0.40	293.99	42.73
9/10/64	11.500	147.12/147.95	4.56/ 4.74	3.66/ 3.84	2.43/ 2.61	ZONE 1 ***	2.99	147.02	156.64
						ZONE 2 ***	0.40	290.61	37.18
9/10/64	12.000	138.00/139.54	3.16/ 3.34	2.26/ 2.43	1.02/ 1.20	ZONE 1 ***	2.87	137.83	152.62
						ZONE 2 ***	0.40	287.03	31.90

POGO NOMINAL ORBIT. 29 MINUTE TIMER

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 **** PROGRAM INPUT ****

INITIAL LIFT-OFF DATE **** =  2/ 1/65

FINAL LIFT-OFF DATE ****** =  3/ 1/65

INITIAL LIFT-OFF HOUR **** =  0.
HOUR INCREMENT *********** =  0.50000
FINAL LIFT-OFF HOUR ****** = 23.50000

EPOCH ASSOCIATED-  DATE ** =  3/ 1/65
WITH ELEMENTS      HOUR ** = 17.10000

SEMI-MAJOR AXIS ********** = 1.09309249 E.R.
ECCENTRICITY ************* = 0.04756226
INCLINATION ************** =  82.000000 DEG.
ARGUMENT OF PERIGEE ****** = -17.020596 DEG.
R.A. OF ASC. NODE ******** = 105.634171 DEG.
MEAN ANOMALY ************* =-171.292950 DEG.

ECCENTRIC ANOMALY AT TIME-
WHEN EARTH SEARCH BEGINS * = 110.825640 DEG.

DELTA ECCENTRIC ANOMALY ** =  10.000000 DEG.

TIME FROM LIFT-OFF TO-
BEGINNING OF EARTH SEARCH  =   1.385000 HOURS

TIME FROM LIFT-OFF TO-
INJECTION INTO ORBIT  **** =   0.901666 HOURS

NUMBER OF INCREMENTS ON-
THE INITIAL ROLL POSITION  =     8

CONSTANT ROLL RATE ******* = -0.3078778E 02 RAD./HR.

ITERATIONS ON DELTA E **** =    2

CENTER BLIND HALF ANGLE ** =   0.       DEG.
PERIPHERAL BLIND ANGLE *** =  88.000000 DEG.
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EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	18.500	224.36/226.43	62.10/62.29	61.20/61.38	59.97/60.15	ZONE 1 ***	1.56	224.17	266.85
						ZONE 2 ***	0.53	330.40	89.24
9/10/64	19.000	218.06/219.35	61.37/61.54	60.47/60.64	59.23/59.41	ZONE 1 ***	1.96	217.99	248.32
						ZONE 2 ***	0.49	327.26	83.96
9/10/64	19.500	211.57/212.36	60.17/60.35	59.27/59.45	58.04/58.21	ZONE 1 ***	2.56	211.52	232.78
						ZONE 2 ***	0.46	323.74	78.83
9/10/64	20.000	207.42/207.98	59.03/59.21	58.13/58.30	56.89/57.07	ZONE 1 ***	3.43	204.90	219.49
						ZONE 2 ***	0.43	320.29	73.64
9/10/64	20.500	316.86/351.39	63.99/64.10	63.08/63.20	61.85/61.97	ZONE 1 ***	1.77	203.36	208.14
						ZONE 2 ***	0.41	316.48	68.44
9/10/64	21.000	313.26/343.18	63.97/64.08	63.07/63.18	61.84/61.94	ZONE 1 ***	0.40	313.18	63.27
						ZONE 2 ***	0.40	313.18	63.27
9/10/64	21.500	309.68/343.23	63.96/64.08	63.05/63.18	61.82/61.94	ZONE 1 ***	0.39	309.56	58.18
						ZONE 2 ***	0.39	309.56	58.18
9/10/64	22.000	306.00/335.04	63.94/64.05	63.04/63.15	61.80/61.92	ZONE 1 ***	0.38	305.65	52.85
						ZONE 2 ***	0.38	305.65	52.85
9/10/64	22.500	302.27/326.95	63.92/64.02	63.02/63.12	61.79/61.89	ZONE 1 ***	0.37	302.24	47.68
						ZONE 2 ***	0.37	302.24	47.68
9/10/64	23.000	298.49/321.06	63.90/64.00	63.00/63.10	61.77/61.87	ZONE 1 ***	0.37	298.21	42.73
						ZONE 2 ***	0.37	298.21	42.73
9/10/64	23.500	294.64/315.36	63.88/63.98	62.98/63.08	61.74/61.84	ZONE 1 ***	1.30	153.31	156.64
						ZONE 2 ***	0.38	294.33	38.05

EGO 80K ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 156.64 AND 203.36 DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
9/10/64	12.500	128.30/131.06	2.36/ 2.54	1.46/ 1.64	0.23/ 0.41	ZONE 1 ***	2.24	128.11	147.25
						ZONE 2 ***	0.41	283.00	26.49
9/10/64	13.000	123.96/127.50	2.13/ 2.32	1.23/ 1.42	0. / 0.18	ZONE 1 ***	1.55	123.96	142.15
						ZONE 2 ***	0.43	279.17	21.42
9/10/64	13.500	124.00/127.45	2.14/ 2.32	1.24/ 1.41	0.00/ 0.18	ZONE 1 ***	0.94	123.96	137.18
						ZONE 2 ***	0.45	274.98	16.74
9/10/64	14.000	124.00/127.50	2.14/ 2.32	1.24/ 1.42	0.00/ 0.18	ZONE 1 ***	0.50	123.96	132.30
						ZONE 2 ***	0.48	270.79	12.00
9/10/64	14.500	123.97/127.44	2.14/ 2.31	1.23/ 1.41	0.00/ 0.18	ZONE 1 ***	0.19	123.96	127.56
						ZONE 2 ***	0.51	266.38	7.71
9/10/64	15.000	262.01/275.17	63.58/63.73	62.68/62.83	61.44/61.60	ZONE 1 ***	0.56	261.84	3.87
						ZONE 2 ***	0.96	61.48	122.84
9/10/64	15.500	257.44/268.30	63.51/63.66	62.60/62.76	61.37/61.53	ZONE 1 ***	0.63	257.04	0.03
						ZONE 2 ***	0.87	41.47	118.15
9/10/64	16.000	252.28/260.97	63.41/63.56	62.50/62.66	61.27/61.43	ZONE 1 ***	1.59	252.12	113.49
						ZONE 2 ***	1.59	252.12	113.49
9/10/64	16.500	247.09/253.90	63.28/63.44	62.38/62.54	61.15/61.31	ZONE 1 ***	1.59	247.01	108.62
						ZONE 2 ***	1.59	247.01	108.62
9/10/64	17.000	241.69/247.43	63.12/63.29	62.21/62.39	60.98/61.16	ZONE 1 ***	1.67	241.58	103.97
						ZONE 2 ***	1.67	241.58	103.97
9/10/64	17.500	236.09/240.29	62.89/63.07	61.99/62.16	60.75/60.93	ZONE 1 ***	1.81	236.06	99.05
						ZONE 2 ***	1.81	236.06	99.05
9/10/64	18.000	230.31/233.10	62.57/62.74	61.67/61.84	60.44/60.60	ZONE 1 ***	1.28	230.20	288.64
						ZONE 2 ***	0.58	333.12	94.12

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. NOTE -- ACQUISITION IS IMPOSSIBLE BETWEEN 0. AND 0. DUE TO SCANNER NULL ANGLE.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
2/ 1/65	0.	113.35/136.24	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	0.500	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	1.000	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	1.500	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	2.000	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	2.500	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	3.000	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	3.500	113.35/134.31	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	4.000	113.35/133.83	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	4.500	113.35/133.34	1.38/ 1.48	0.48/ 0.58	0. / 0.09	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	5.000	113.35/138.66	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	5.500	113.35/138.66	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	6.000	113.35/138.66	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
2/ 1/65	6.500	113.35/138.46	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.25	113.35	164.66
						ZONE 2 *** 1.44	198.54	164.66
2/ 1/65	7.000	113.35/138.66	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.21	113.35	157.59
						ZONE 2 *** 1.38	205.05	157.59
2/ 1/65	7.500	113.35/138.93	1.38/ 1.51	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.19	113.35	153.66
						ZONE 2 *** 0.62	207.92	347.45
2/ 1/65	8.000	113.35/139.31	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 *** 0.18	113.35	151.55
						ZONE 2 *** 0.60	208.50	343.68
2/ 1/65	8.500	113.35/139.84	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 *** 0.18	113.35	150.78
						ZONE 2 *** 0.60	207.15	343.05
2/ 1/65	9.000	113.35/145.14	1.38/ 1.54	0.48/ 0.63	0. / 0.15	ZONE 1 *** 0.18	113.35	151.36
						ZONE 2 *** 0.63	203.90	345.98
2/ 1/65	9.500	113.35/146.26	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 *** 0.19	113.35	153.76
						ZONE 2 *** 1.39	198.25	153.76
2/ 1/65	10.000	113.35/147.60	1.38/ 1.55	0.48/ 0.65	0. / 0.16	ZONE 1 *** 0.22	113.35	159.79
						ZONE 2 *** 1.47	188.04	159.79
2/ 1/65	10.500	113.35/149.25	1.38/ 1.56	0.48/ 0.65	0. / 0.17	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	11.000	113.35/150.69	1.38/ 1.56	0.48/ 0.66	0. / 0.18	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	11.500	113.35/151.65	1.38/ 1.57	0.48/ 0.67	0. / 0.18	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	12.000	113.35/152.61	1.38/ 1.57	0.48/ 0.67	0. / 0.19	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
2/ 1/65	12.500	113.35/153.09	1.38/ 1.57	0.48/ 0.67	0. / 0.19	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	13.000	113.35/153.57	1.38/ 1.58	0.48/ 0.67	0. / 0.19	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	13.500	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	14.000	113.35/142.03	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	14.500	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	15.000	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	15.500	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	16.000	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	16.500	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	17.000	113.35/142.03	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	17.500	113.35/141.55	1.38/ 1.52	0.48/ 0.62	0. / 0.13	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/ 1/65	18.000	113.35/140.87	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.45	113.35	207.25
						ZONE 2 *** 1.50	229.81	207.25

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER – LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF – EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0.	HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
2/ 1/65	18.500	113.35/140.34	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 ***	0.40	113.35	195.58
						ZONE 2 ***	1.41	237.30	195.58
2/ 1/65	19.000	113.35/139.80	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 ***	0.37	113.35	189.56
						ZONE 2 ***	0.61	240.13	24.12
2/ 1/65	19.500	113.35/139.25	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 ***	0.35	113.35	186.13
						ZONE 2 ***	0.59	240.92	18.99
2/ 1/65	20.000	113.35/138.73	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 ***	0.34	113.35	184.70
						ZONE 2 ***	0.59	240.13	17.42
2/ 1/65	20.500	113.35/138.23	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 ***	0.35	113.35	185.27
						ZONE 2 ***	0.60	237.98	19.20
2/ 1/65	21.000	113.35/137.78	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 ***	0.36	113.35	188.13
						ZONE 2 ***	0.66	233.99	27.77
2/ 1/65	21.500	113.35/137.36	1.38/ 1.50	0.48/ 0.60	0. / 0.11	ZONE 1 ***	0.39	113.35	194.91
						ZONE 2 ***	1.46	226.42	194.91
2/ 1/65	22.000	113.35/137.21	1.38/ 1.50	0.48/ 0.60	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	22.500	113.35/136.73	1.38/ 1.50	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	23.000	113.35/136.73	1.38/ 1.50	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/ 1/65	23.500	113.35/136.24	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND	HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE 0. DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
2/15/65	0.	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	0.500	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	1.000	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	1.500	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	2.000	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	2.500	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	3.000	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	3.500	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	4.000	113.35/134.31	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	4.500	113.35/134.31	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	5.000	113.35/133.83	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	5.500	113.35/132.86	1.38/ 1.48	0.48/ 0.57	0. / 0.09	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
2/15/65	6.000	113.35/139.14	1.38/ 1.51	0.48/ 0.60	0. / 0.12	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
2/15/65	6.500	113.35/138.88	1.38/ 1.51	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.27	113.35	169.34
						ZONE 2 *** 1.44	203.23	169.34
2/15/65	7.000	113.35/139.12	1.38/ 1.51	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.23	113.35	161.89
						ZONE 2 *** 1.38	209.55	161.89
2/15/65	7.500	113.35/139.44	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 *** 0.21	113.35	157.88
						ZONE 2 *** 0.61	212.24	351.85
2/15/65	8.000	113.35/139.85	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.20	113.35	155.77
						ZONE 2 *** 0.60	212.72	348.18
2/15/65	8.500	113.35/140.39	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.20	113.35	155.10
						ZONE 2 *** 0.60	211.28	347.87
2/15/65	9.000	113.35/141.06	1.38/ 1.52	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.20	113.35	155.96
						ZONE 2 *** 0.63	207.92	351.53
2/15/65	9.500	113.35/141.86	1.38/ 1.52	0.48/ 0.62	0. / 0.13	ZONE 1 *** 0.22	113.35	158.93
						ZONE 2 *** 1.40	201.79	158.93
2/15/65	10.000	113.35/142.76	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 0.26	113.35	166.67
						ZONE 2 *** 1.49	190.23	166.67
2/15/65	10.500	113.35/143.96	1.38/ 1.53	0.48/ 0.63	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	11.000	113.35/144.92	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	11.500	113.35/145.89	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	12.000	113.35/146.37	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
2/15/65	12.500	113.35/146.85	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	13.000	113.35/140.59	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	13.500	113.35/141.55	1.38/ 1.52	0.48/ 0.62	0. / 0.13	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	14.000	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	14.500	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	15.000	113.35/143.00	1.38/ 1.53	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	15.500	113.35/143.00	1.38/ 1.53	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	16.000	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	16.500	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	17.000	113.35/142.03	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	17.500	113.35/141.55	1.38/ 1.52	0.48/ 0.62	0. / 0.13	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	18.000	113.35/140.71	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.45	113.35	205.91
						ZONE 2 *** 1.53	222.07	205.91

NOTE -- ACQUISITION IS IMPOSSIBLE 0. DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
2/15/65	18.500	113.35/140.12	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.38	113.35	192.04
						ZONE 2 *** 1.42	232.14	192.04
2/15/65	19.000	113.35/139.54	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 *** 0.35	113.35	185.46
						ZONE 2 *** 0.62	235.64	21.09
2/15/65	19.500	113.35/138.95	1.38/ 1.51	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.33	113.35	181.84
						ZONE 2 *** 0.59	236.72	15.02
2/15/65	20.000	113.35/138.39	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.32	113.35	180.31
						ZONE 2 *** 0.59	236.13	13.13
2/15/65	20.500	113.35/137.89	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.32	113.35	180.60
						ZONE 2 *** 0.60	234.09	14.60
2/15/65	21.000	113.35/137.43	1.38/ 1.50	0.48/ 0.60	0. / 0.11	ZONE 1 *** 0.34	113.35	183.17
						ZONE 2 *** 0.65	230.00	22.76
2/15/65	21.500	113.35/137.04	1.38/ 1.50	0.48/ 0.59	0. / 0.11	ZONE 1 *** 0.37	113.35	189.47
						ZONE 2 *** 1.45	222.55	189.47
2/15/65	22.000	113.35/136.73	1.38/ 1.50	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	22.500	113.35/136.73	1.38/ 1.50	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	23.000	113.35/136.24	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
2/15/65	23.500	113.35/136.24	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
3/ 1/65	0.	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	0.500	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	1.000	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	1.500	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	2.000	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	2.500	113.35/135.28	1.38/ 1.49	0.48/ 0.59	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	3.000	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	3.500	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	4.000	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	4.500	113.35/134.79	1.38/ 1.49	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	5.000	113.35/134.31	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	5.500	113.35/134.31	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	6.000	113.35/133.83	1.38/ 1.48	0.48/ 0.58	0. / 0.10	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
3/ 1/65	6.500	113.35/139.29	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 *** 0.29	113.35	173.64
						ZONE 2 *** 1.43	209.36	173.64
3/ 1/65	7.000	113.35/139.57	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 *** 0.25	113.35	166.48
						ZONE 2 *** 0.66	215.03	6.63
3/ 1/65	7.500	113.35/139.94	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.24	113.35	162.56
						ZONE 2 *** 0.61	217.34	356.36
3/ 1/65	8.000	113.35/140.38	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.23	113.35	160.55
						ZONE 2 *** 0.59	217.44	353.21
3/ 1/65	8.500	113.35/140.93	1.38/ 1.52	0.48/ 0.61	0. / 0.13	ZONE 1 *** 0.22	113.35	160.17
						ZONE 2 *** 0.60	215.80	353.42
3/ 1/65	9.000	113.35/141.59	1.38/ 1.52	0.48/ 0.62	0. / 0.13	ZONE 1 *** 0.23	113.35	161.51
						ZONE 2 *** 0.64	212.05	358.66
3/ 1/65	9.500	113.35/142.33	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 *** 0.25	113.35	165.33
						ZONE 2 *** 1.41	205.33	165.33
3/ 1/65	10.000	113.35/143.14	1.38/ 1.53	0.48/ 0.62	0. / 0.14	ZONE 1 *** 0.31	113.35	177.16
						ZONE 2 *** 1.55	190.04	177.16
3/ 1/65	10.500	113.35/144.44	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	11.000	113.35/144.92	1.38/ 1.53	0.48/ 0.63	0. / 0.15	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	11.500	113.35/145.89	1.38/ 1.54	0.48/ 0.64	0. / 0.15	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	12.000	113.35/146.37	1.38/ 1.54	0.48/ 0.64	0. / 0.16	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0.	HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
3/ 1/65	12.500	113.35/140.59	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	13.000	113.35/141.55	1.38/ 1.52	0.48/ 0.62	0. / 0.13	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	13.500	113.35/142.03	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	14.000	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	14.500	113.35/143.00	1.38/ 1.53	0.48/ 0.62	0. / 0.14	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	15.000	113.35/143.00	1.38/ 1.53	0.48/ 0.62	0. / 0.14	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	15.500	113.35/143.00	1.38/ 1.53	0.48/ 0.62	0. / 0.14	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	16.000	113.35/142.52	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	16.500	113.35/142.03	1.38/ 1.52	0.48/ 0.62	0. / 0.14	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	17.000	113.35/141.55	1.38/ 1.52	0.48/ 0.62	0. / 0.13	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	17.500	113.35/141.07	1.38/ 1.52	0.48/ 0.61	0. / 0.13	ZONE 1 ***	1.61	113.35	113.35
						ZONE 2 ***	1.61	113.35	113.35
3/ 1/65	18.000	113.35/140.38	1.38/ 1.51	0.48/ 0.61	0. / 0.13	ZONE 1 ***	0.43	113.35	202.84
						ZONE 2 ***	1.55	214.16	202.84

POGO NOMINAL ORBIT. 29 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
3/ 1/65	18.500	113.35/139.71	1.38/ 1.51	0.48/ 0.61	0. / 0.12	ZONE 1 *** 0.36	113.35	187.18
						ZONE 2 *** 1.42	226.61	187.18
3/ 1/65	19.000	113.35/139.02	1.38/ 1.51	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.32	113.35	180.50
						ZONE 2 *** 0.63	230.59	16.80
3/ 1/65	19.500	113.35/138.37	1.38/ 1.50	0.48/ 0.60	0. / 0.12	ZONE 1 *** 0.30	113.35	176.78
						ZONE 2 *** 0.59	231.85	10.20
3/ 1/65	20.000	113.35/137.76	1.38/ 1.50	0.48/ 0.60	0. / 0.11	ZONE 1 *** 0.30	113.35	175.16
						ZONE 2 *** 0.59	231.46	8.10
3/ 1/65	20.500	113.35/137.23	1.38/ 1.50	0.48/ 0.60	0. / 0.11	ZONE 1 *** 0.30	113.35	175.35
						ZONE 2 *** 0.60	229.33	9.46
3/ 1/65	21.000	113.35/136.79	1.38/ 1.50	0.48/ 0.59	0. / 0.11	ZONE 1 *** 0.31	113.35	177.74
						ZONE 2 *** 0.66	225.16	18.26
3/ 1/65	21.500	113.35/136.44	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 0.34	113.35	183.84
						ZONE 2 *** 1.45	217.44	183.84
3/ 1/65	22.000	113.35/136.24	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	22.500	113.35/136.24	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	23.000	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35
3/ 1/65	23.500	113.35/135.76	1.38/ 1.49	0.48/ 0.59	0. / 0.11	ZONE 1 *** 1.61	113.35	113.35
						ZONE 2 *** 1.61	113.35	113.35

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 74 MINUTE TIMER

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**** PROGRAM INPUT ****

INITIAL LIFT-OFF DATE **** =  2/ 1/65

FINAL LIFT-OFF DATE ****** =  3/ 1/65

INITIAL LIFT-OFF HOUR **** =  0.
HOUR INCREMENT *********** =  0.50000
FINAL LIFT-OFF HOUR ****** = 23.50000

EPOCH ASSOCIATED-  DATE ** =  3/ 1/65
WITH ELEMENTS      HOUR ** = 17.10000

SEMI-MAJOR AXIS ********** = 1.09309249 E.R.
ECCENTRICITY ************* = 0.04756226
INCLINATION *************** =  82.000000 DEG.
ARGUMENT OF PERIGEE ****** = -17.020596 DEG.
R.A. OF ASC. NODE ******** = 105.634171 DEG.
MEAN ANOMALY ************* =-171.292950 DEG.

ECCENTRIC ANOMALY AT TIME-
WHEN EARTH SEARCH BEGINS * = 273.292870 DEG.

DELTA ECCENTRIC ANOMALY ** =  10.000000 DEG.

TIME FROM LIFT-OFF TO-
BEGINNING OF EARTH SEARCH  =   2.134833 HOURS

TIME FROM LIFT-OFF TO-
INJECTION INTO ORBIT  **** =   0.901666 HOURS

NUMBER OF INCREMENTS ON-
THE INITIAL ROLL POSITION  =     8

CONSTANT ROLL RATE ******* = -0.3078778E 02 RAD./HR.

ITERATIONS ON DELTA E **** =    2

CENTER BLIND HALF ANGLE ** =   0.        DEG.
PERIPHERAL BLIND ANGLE *** =  88.000000 DEG.
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POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
2/ 1/65	0.	270.57/290.76	2.13/ 2.22	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	0.500	270.57/290.76	2.13/ 2.22	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	1.000	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	1.500	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	2.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	2.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	3.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	3.500	270.57/294.84	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	4.000	270.57/294.84	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	4.500	270.57/294.84	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	5.000	270.57/294.33	2.13/ 2.24	1.23/ 1.34	0. / 0.10	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	5.500	270.57/294.33	2.13/ 2.24	1.23/ 1.34	0. / 0.10	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	6.000	270.57/293.82	2.13/ 2.24	1.23/ 1.33	0. / 0.10	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
2/ 1/65	6.500	270.57/293.46	2.13/ 2.23	1.23/ 1.33	0. / 0.10	ZONE 1 *** 1.11	270.57	164.73
						ZONE 2 *** 1.44	198.60	164.73
2/ 1/65	7.000	270.57/293.08	2.13/ 2.23	1.23/ 1.33	0. / 0.10	ZONE 1 *** 1.07	270.57	157.56
						ZONE 2 *** 1.38	205.11	157.56
2/ 1/65	7.500	270.57/301.59	2.13/ 2.27	1.23/ 1.37	0. / 0.13	ZONE 1 *** 0.32	270.57	347.41
						ZONE 2 *** 0.62	14.35	153.73
2/ 1/65	8.000	270.57/301.81	2.13/ 2.27	1.23/ 1.37	0. / 0.14	ZONE 1 *** 0.31	270.57	343.64
						ZONE 2 *** 0.60	16.34	151.62
2/ 1/65	8.500	270.57/302.08	2.13/ 2.27	1.23/ 1.37	0. / 0.14	ZONE 1 *** 0.31	270.57	343.01
						ZONE 2 *** 0.60	14.67	150.75
2/ 1/65	9.000	270.57/302.39	2.13/ 2.27	1.23/ 1.37	0. / 0.14	ZONE 1 *** 0.32	270.57	345.95
						ZONE 2 *** 0.63	8.91	151.33
2/ 1/65	9.500	270.57/302.75	2.13/ 2.27	1.23/ 1.37	0. / 0.14	ZONE 1 *** 1.05	270.57	153.73
						ZONE 2 *** 1.39	198.22	153.73
2/ 1/65	10.000	270.57/303.14	2.13/ 2.28	1.23/ 1.37	0. / 0.14	ZONE 1 *** 1.08	270.57	159.85
						ZONE 2 *** 1.47	188.00	159.85
2/ 1/65	10.500	270.57/304.06	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	11.000	270.57/304.06	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	11.500	270.57/304.58	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	12.000	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
2/ 1/65	12.500	270.57/305.61	2.13/ 2.29	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	13.000	270.57/306.12	2.13/ 2.29	1.23/ 1.39	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	13.500	270.57/306.12	2.13/ 2.29	1.23/ 1.39	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	14.000	270.57/313.86	2.13/ 2.32	1.23/ 1.42	0. / 0.19	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	14.500	270.57/313.86	2.13/ 2.32	1.23/ 1.42	0. / 0.19	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	15.000	270.57/306.64	2.13/ 2.29	1.23/ 1.39	0. / 0.16	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	15.500	270.57/304.06	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	16.000	270.57/304.58	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	16.500	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	17.000	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	17.500	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	18.000	270.57/304.52	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.31	270.57	207.31
						ZONE 2 *** 1.50	229.78	207.31

NOTE -- ACQUISITION IS IMPOSSIBLE 0. DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
2/ 1/65	18.500	270.57/304.34	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.26	270.57	195.64
						ZONE 2 *** 1.41	237.37	195.64
2/ 1/65	19.000	270.57/304.11	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 0.47	270.57	24.08
						ZONE 2 *** 0.64	51.60	189.53
2/ 1/65	19.500	270.57/303.86	2.13/ 2.28	1.23/ 1.38	0. / 0.14	ZONE 1 *** 0.45	270.57	18.96
						ZONE 2 *** 0.61	53.86	186.10
2/ 1/65	20.000	270.57/303.58	2.13/ 2.28	1.23/ 1.38	0. / 0.14	ZONE 1 *** 0.45	270.57	17.39
						ZONE 2 *** 0.61	53.04	184.76
2/ 1/65	20.500	270.57/303.29	2.13/ 2.28	1.23/ 1.38	0. / 0.14	ZONE 1 *** 0.45	270.57	19.17
						ZONE 2 *** 0.63	49.64	185.24
2/ 1/65	21.000	270.57/303.00	2.13/ 2.28	1.23/ 1.37	0. / 0.14	ZONE 1 *** 0.49	270.57	27.74
						ZONE 2 *** 0.68	39.81	188.10
2/ 1/65	21.500	270.57/297.04	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.25	270.57	194.88
						ZONE 2 *** 1.46	226.39	194.88
2/ 1/65	22.000	270.57/296.89	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	22.500	270.57/296.89	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	23.000	270.57/291.27	2.13/ 2.23	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/ 1/65	23.500	270.57/291.27	2.13/ 2.23	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
2/15/65	0.	270.57/296.38	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	0.500	270.57/296.38	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	1.000	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	1.500	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	2.000	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	2.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	3.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	3.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	4.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	4.500	270.57/294.84	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	5.000	270.57/294.84	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	5.500	270.57/294.84	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	6.000	270.57/294.84	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
2/15/65	6.500	270.57/294.29	2.13/ 2.24	1.23/ 1.34	0. / 0.10	ZONE 1 *** 1.13	270.57	169.31
						ZONE 2 *** 1.44	203.19	169.31
2/15/65	7.000	270.57/294.16	2.13/ 2.24	1.23/ 1.34	0. / 0.10	ZONE 1 *** 1.09	270.57	161.96
						ZONE 2 *** 1.38	209.62	161.96
2/15/65	7.500	270.57/294.02	2.13/ 2.24	1.23/ 1.34	0. / 0.10	ZONE 1 *** 0.34	270.57	351.81
						ZONE 2 *** 0.62	19.27	157.94
2/15/65	8.000	270.57/293.86	2.13/ 2.24	1.23/ 1.33	0. / 0.10	ZONE 1 *** 0.33	270.57	348.15
						ZONE 2 *** 0.60	21.05	155.74
2/15/65	8.500	270.57/293.66	2.13/ 2.24	1.23/ 1.33	0. / 0.10	ZONE 1 *** 0.33	270.57	347.83
						ZONE 2 *** 0.60	19.17	155.07
2/15/65	9.000	270.57/293.37	2.13/ 2.23	1.23/ 1.33	0. / 0.10	ZONE 1 *** 0.34	270.57	351.50
						ZONE 2 *** 0.64	12.68	155.93
2/15/65	9.500	270.57/302.92	2.13/ 2.28	1.23/ 1.37	0. / 0.14	ZONE 1 *** 1.08	270.57	158.90
						ZONE 2 *** 1.40	201.85	158.90
2/15/65	10.000	270.57/303.30	2.13/ 2.28	1.23/ 1.38	0. / 0.14	ZONE 1 *** 1.11	270.57	166.64
						ZONE 2 *** 1.49	190.20	166.64
2/15/65	10.500	270.57/304.06	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	11.000	270.57/304.58	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	11.500	270.57/304.58	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	12.000	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
2/15/65	12.500	270.57/305.61	2.13/ 2.29	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	13.000	270.57/306.12	2.13/ 2.29	1.23/ 1.39	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	13.500	270.57/306.12	2.13/ 2.29	1.23/ 1.39	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	14.000	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	14.500	270.57/296.89	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	15.000	270.57/304.58	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	15.500	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	16.000	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	16.500	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	17.000	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	17.500	270.57/305.09	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	18.000	270.57/304.61	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.31	270.57	205.88
						ZONE 2 *** 1.53	222.03	205.88

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	LEAVE
2/15/65	18.500	270.57/304.38	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 1.24	270.57	192.01
						ZONE 2 *** 1.42	232.21	192.01
2/15/65	19.000	270.57/304.12	2.13/ 2.28	1.23/ 1.38	0. / 0.15	ZONE 1 *** 0.46	270.57	21.05
						ZONE 2 *** 0.65	45.51	185.52
2/15/65	19.500	270.57/303.84	2.13/ 2.28	1.23/ 1.38	0. / 0.14	ZONE 1 *** 0.44	270.57	14.98
						ZONE 2 *** 0.61	48.61	181.90
2/15/65	20.000	270.57/297.68	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 *** 0.43	270.57	13.10
						ZONE 2 *** 0.61	48.30	180.28
2/15/65	20.500	270.57/297.50	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 *** 0.43	270.57	14.56
						ZONE 2 *** 0.62	44.88	180.57
2/15/65	21.000	270.57/297.30	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 *** 0.47	270.57	22.83
						ZONE 2 *** 0.68	35.24	183.14
2/15/65	21.500	270.57/291.46	2.13/ 2.23	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.23	270.57	189.44
						ZONE 2 *** 1.45	222.52	189.44
2/15/65	22.000	270.57/291.78	2.13/ 2.23	1.23/ 1.33	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	22.500	270.57/291.27	2.13/ 2.23	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	23.000	270.57/291.27	2.13/ 2.23	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
2/15/65	23.500	270.57/291.27	2.13/ 2.23	1.23/ 1.32	0. / 0.09	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57

NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND	HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE 0. DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
3/ 1/65	0.	270.57/296.38	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	0.500	270.57/296.38	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	1.000	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	1.500	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	2.000	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	2.500	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	3.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	3.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	4.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	4.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	5.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	5.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	6.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
3/ 1/65	6.500	270.57/294.82	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.15	270.57	173.60
						ZONE 2 *** 1.43	209.42	173.60
3/ 1/65	7.000	270.57/294.78	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 0.40	270.57	6.60
						ZONE 2 *** 0.67	16.97	166.45
3/ 1/65	7.500	270.57/294.75	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 0.36	270.57	356.32
						ZONE 2 *** 0.62	25.34	162.53
3/ 1/65	8.000	270.57/294.73	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 0.35	270.57	353.18
						ZONE 2 *** 0.60	26.48	160.52
3/ 1/65	8.500	270.57/294.73	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 0.35	270.57	353.49
						ZONE 2 *** 0.61	23.98	160.14
3/ 1/65	9.000	270.57/294.74	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 0.37	270.57	358.73
						ZONE 2 *** 0.65	16.03	161.48
3/ 1/65	9.500	270.57/294.77	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.11	270.57	165.30
						ZONE 2 *** 1.41	205.30	165.30
3/ 1/65	10.000	270.57/294.83	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.17	270.57	177.23
						ZONE 2 *** 1.55	190.10	177.23
3/ 1/65	10.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	11.000	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	11.500	270.57/295.35	2.13/ 2.24	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	12.000	270.57/295.86	2.13/ 2.25	1.23/ 1.34	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND 0. HOURS SPENT IN ZONES	TRUE ANOMALY ENTER	TRUE ANOMALY LEAVE
3/ 1/65	12.500	270.57/296.38	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	13.000	270.57/296.38	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	13.500	270.57/296.89	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	14.000	270.57/297.40	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	14.500	270.57/297.91	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	15.000	270.57/297.91	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	15.500	270.57/298.42	2.13/ 2.26	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	16.000	270.57/298.42	2.13/ 2.26	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	16.500	270.57/298.42	2.13/ 2.26	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	17.000	270.57/298.42	2.13/ 2.26	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	17.500	270.57/298.42	2.13/ 2.26	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.61	270.57	270.57
						ZONE 2 *** 1.61	270.57	270.57
3/ 1/65	18.000	270.57/298.28	2.13/ 2.26	1.23/ 1.35	0. / 0.12	ZONE 1 *** 1.29	270.57	202.81
						ZONE 2 *** 1.55	214.13	202.81

NOTE -- ACQUISITION IS IMPOSSIBLE 0. DUE TO SCANNER NULL ANGLE.

POGO NOMINAL ORBIT. 74 MINUTE TIMER

LIFT-OFF TIME DATE	LIFT-OFF TIME HOUR	TRUE ANOMALY MIN/MAX	TIME (HOURS) TO ACQUIRE EARTH AFTER - LIFT-OFF MIN/MAX	INJECTION MIN/MAX	START OF - EARTH SEARCH MIN/MAX	ACQUISITION ZONES. BETWEEN 0. AND	HOURS SPENT IN ZONES	NOTE -- ACQUISITION IS IMPOSSIBLE 0. DUE TO SCANNER NULL ANGLE. TRUE ANOMALY ENTER	LEAVE
3/ 1/65	18.500	270.57/298.16	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 ***	1.22	270.57	187.15
						ZONE 2 ***	1.42	226.68	187.15
3/ 1/65	19.000	270.57/298.01	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 ***	0.44	270.57	16.87
						ZONE 2 ***	0.65	38.87	180.47
3/ 1/65	19.500	270.57/297.84	2.13/ 2.25	1.23/ 1.35	0. / 0.12	ZONE 1 ***	0.42	270.57	10.16
						ZONE 2 ***	0.61	42.81	176.85
3/ 1/65	20.000	270.57/291.81	2.13/ 2.23	1.23/ 1.33	0. / 0.09	ZONE 1 ***	0.41	270.57	8.07
						ZONE 2 ***	0.61	42.61	175.13
3/ 1/65	20.500	270.57/291.73	2.13/ 2.23	1.23/ 1.33	0. / 0.09	ZONE 1 ***	0.41	270.57	9.43
						ZONE 2 ***	0.62	39.18	175.42
3/ 1/65	21.000	270.57/291.63	2.13/ 2.23	1.23/ 1.33	0. / 0.09	ZONE 1 ***	0.45	270.57	18.23
						ZONE 2 ***	0.68	28.67	177.80
3/ 1/65	21.500	270.57/291.52	2.13/ 2.23	1.23/ 1.32	0. / 0.09	ZONE 1 ***	1.20	270.57	183.81
						ZONE 2 ***	1.45	217.50	183.81
3/ 1/65	22.000	270.57/296.89	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	22.500	270.57/296.89	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	23.000	270.57/296.89	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57
3/ 1/65	23.500	270.57/296.38	2.13/ 2.25	1.23/ 1.35	0. / 0.11	ZONE 1 ***	1.61	270.57	270.57
						ZONE 2 ***	1.61	270.57	270.57

APPENDIX B

1. The Earth-Vehicle Vector, $\bar{r}_{ve}$

The vector from the center of the earth to the vehicle at time t is given by:

$$\bar{r}_{ve} = X_{ve}\,\bar{i} + Y_{ve}\,\bar{j} + Z_{ve}\,\bar{k} \tag{B-1}$$

where

$$\begin{bmatrix} X_{ve} \\ Y_{ve} \\ Z_{ve} \end{bmatrix} = \begin{bmatrix} P_x & Q_x \\ P_y & Q_y \\ P_z & Q_z \end{bmatrix} \begin{bmatrix} x_w \\ y_w \end{bmatrix} . \tag{B-2}$$

The formulas for P_x, P_y, P_z, Q_x, Q_y, Q_z are given on page 33 of Reference 6 and

$$x_w = a(\cos E - e) \tag{B-3}$$

$$y_w = a\sqrt{1 - e^2}\,\sin E \tag{B-4}$$

2. The Earth-Sun Vector

The vector which points from the center of the earth to the sun is given by (Reference 7):

$$\bar{r}_{se} = X_{se}\,\bar{i} + Y_{se}\,\bar{j} + Z_{se}\,\bar{k} \tag{B-5}$$

where

$$\begin{bmatrix} X_{se} \\ Y_{se} \\ Z_{se} \end{bmatrix} = r_{se} \begin{bmatrix} \cos \lambda' \\ \cos \epsilon \sin \lambda' \\ \sin \epsilon \sin \lambda' \end{bmatrix} \tag{B-6}$$

$$r_{se} = \frac{a' \left(1 - e'^2\right)}{1 + e' \cos \nu'} \tag{B-7}$$

$$\begin{aligned} \lambda' &= 4.894117 + 0.017202791\, d \\ &\quad + .03345099 \sin \left[- 0.0324191 + 0.01720197\, d\right] \end{aligned} \tag{B-8}$$

$$\nu' = g' + 2e' \sin g' \tag{B-9}$$

$$g' = - 3.2419100 \times 10^{-2} + 1.7201970 \times 10^{-2}\, d\ . \tag{B-10}$$

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