System Start-Up , Operational And Shut-Down Modes.

Part One - The Start-Up Mode.

Bear in mind that , in reference to the fundamental physics involved, there is no basic difference between the converting of this System from idle to operational status, which this work chooses to call the Start-Up Mode, and the launching of a Shuttle Craft into its operational orbit from its idle status on the launch ramp. The objective of the two systems is identical, that is , to establish those conditions of matter in circular motion that will permit inertia to establish its clearly defined field of influence with precisely the correct strength of radially outward attraction that will permit the system to achieve its perpetual operational function without further injection of external energy into the system.

That function for the Shuttle Craft System is to neutralize earth's gravitational attraction and suspend the Shuttle Craft at a specific height above the earth's surface,with it and its contents in a state of complete weightlessness , due to the precise equilibrium between earth's gravitational field attracting radially inward <u>toward</u> earth's center with a strength of <u>one G</u> and inertia's field of influence attracting radially outward <u>away</u> from earth's center with a strength of <u>one G</u>. The inertial or kinetic energy of the Craft's forward motion, injected into it by the launching rockets, will remain constant at $\frac{m\,v^2}{2}$ perpetually , totally unaffected by earth's and inertia's opposing attractions or by the zero resistance to forward motion in the vacuum of outer space. This permits inertia to perform its other perpetual function , that of precise maintenance of orbital velocity. Both functions are free natural energy gifts to the orbiting Shuttle Craft.

That function for the Inertial-Pneumatic Electric Power System is to generate a pneumatic pressure increase, Pi , from Ep at Pneumatic Mass inner surface to Ep + Pi at Pneumatic Mass outer surface and at Thruster entrances. Since Ep + Pi - Ep , Ep being Rotor Assembly Environmental Pressure, defines the pressure differential across Thrusters at all times,it follows that Pi defines both pressure increase across Pneumatic Mass and pressure decrease , or differential , across Thrusters.

Pressure increase Pi is generated because of the precise equilibrium between Inertia's field of influence attracting the atoms or particles, of the Pneumatic Mass within the Rotor Assembly, radially outward with a maximum field strength of 548,724 G's and the inner surface of the Restraining Agent resisting that attraction radially inward with a maximum force of 548,724 G's .

Because of this action of the Inertial Field and the equal and opposite reaction of the Restraining Agent, the atoms , or particles, of the Pneumatic Mass are attracted to the inner surface of the Restraining Agent with a maximum force 548,724 times the maximum earth gravity weight of the entire Pneumatic Mass, or 548,724 times 2.084 or 1,143,541 pounds, distributed uniformly over the 215.985 square inches area of the inner surface of the Restraining Agent.

Thus, the maximum uniform pneumatic pressure , generated by the Inertial Field's powerful attraction, against each square inch of the inner surface, is 1,143,541 divided by 215.985 or 5,295 psig , pounds per square inch gauge. This is the all-important Pi , pressure increase across Pneumatic Mass, pressure differential across Thrusters , Prime Mover of the Inertial-Pneumatic Electric Power System and free natural energy gift to electric power consumers, courtesy of Inertia.

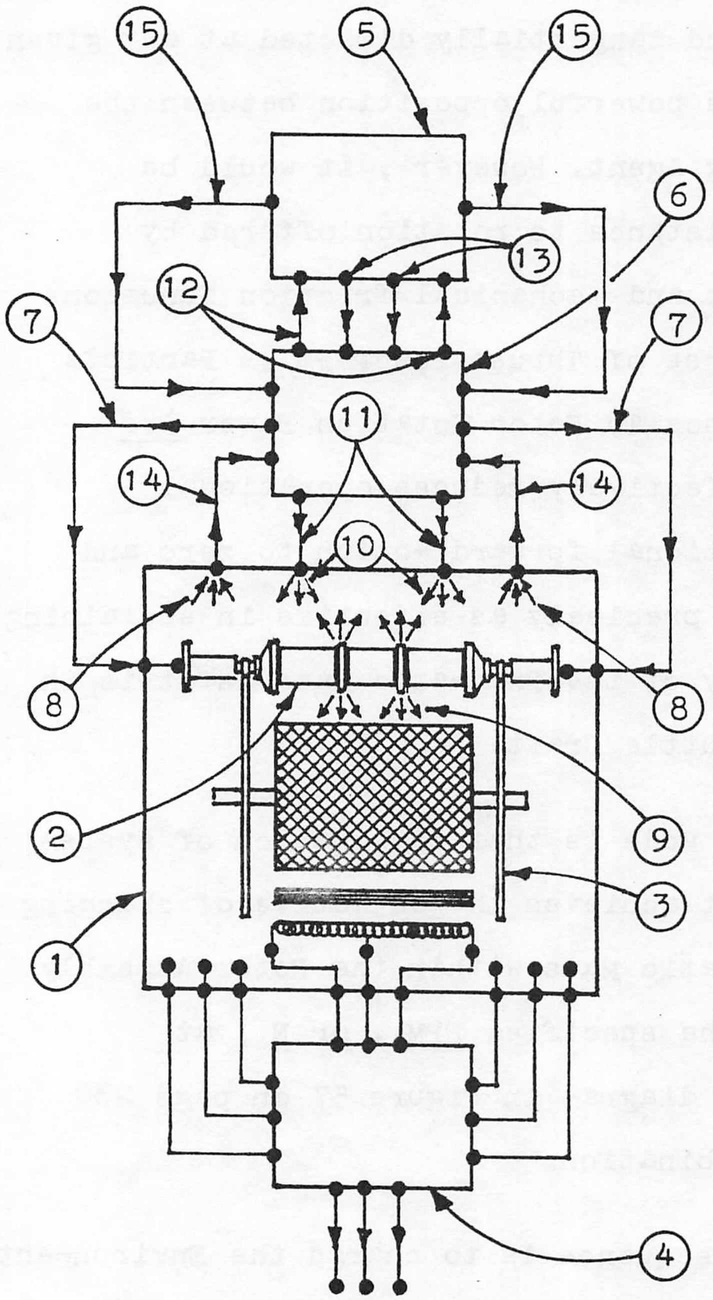
The inertial or kinetic energy, which is injected into the Rotor Assembly and the Pneumatic Mass within it during the Start-Up Mode by the very brief injection of external pneumatic pressure combined with rapidly increasing value of Pt , permits inertia to perform its other **perpetual** function, that of precise maintenance of orbital or rotational velocity. It will remain constant at $\frac{m v^2}{2}$ and tangentially directed at any given instant, totally unaffected by the powerful opposition between the Inertial Field and the Restraining Agent. However , it would be significantly affected by the resistance to rotation offered by the pneumatic particle replacement and mechanical friction functions of the system but for the assistance of Thrust Power Pt . Particle Replacement Power Ppr and Resistance To Rotor Rotation Power Prr contributed by Thrust Power Pt effectively reduces operational resistance to Rotor Assembly rotational forward motion to zero and inertia's second function becomes precisely as effective in sustaining the orbital or rotational velocity of the Pneumatic Mass as it is in sustaining that of an orbiting Shuttle Craft.

In actual practice , the Start-Up Mode is that combination of system elements and system functions that achieves the objective of changing the rotational speed of the Pneumatic Mass within the Rotor Assembly from zero RPM at idle status to the specified RPM , or N , at operational status. The schematic diagram in Figure 57 on page 230 symbolically illustrates that combination.

The initial step in the start-up sequence is to charge the Environmental Control Vessel 1 with the specified Ep , which in this case is 2000 psig pneumatic pressure at 52° F. temperature. The pneumatic storage and compressor section 5 will have previously accumulated the necessary supply of external high pressure air to accomplish this objective.

Figure 57

Schematic Diagram - System Start-Up Mode.



LEGEND:

1) Environmental Control Vessel Assembly.
2) Rotor Assembly.
3) Driven Gears And Generator Assembly.
4) Program Controller, Electrical And Electronic Controls.
5) Pneumatic Storage And Compressor.
6) Pneumatic Controls
7) Start-Up Lines , Pneumatic Controls-To-Rotor Assembly.
8) Excess Ep Outflow.
9) Thruster Discharge Inflow.
10) Charge Ep Inflow.
11) Charge Ep Lines , Pneumatic Controls-To-Vessel.
12) Excess Ep Lines, Pneumatic Controls-To-Storage.
13) Charge Ep Lines, Storage-To-Controls.
14) Excess Ep Lines, Vessel-To-Controls.
15) Start-Up Pneumatic Transfer Lines, Storage-To-Pneumatic Controls.

Figure 57A

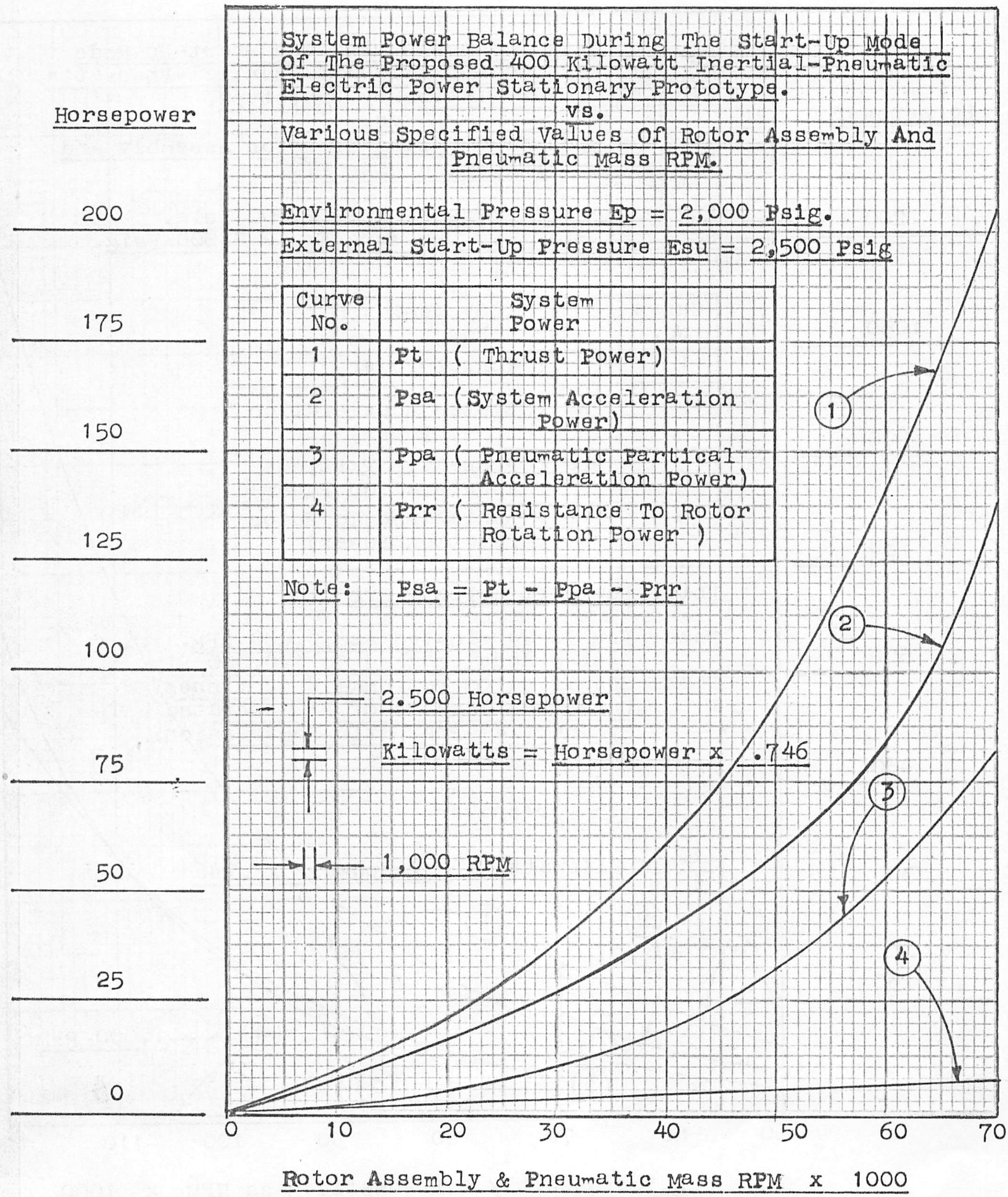

System Power Balance During The Start-Up Mode
Of The Proposed 400 Kilowatt Inertial-Pneumatic
Electric Power Stationary Prototype.
vs.
Various Specified Values Of Rotor Assembly And
Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure Esu = 2,500 Psig
Curve No.
System Power
1
Pt (Thrust Power)
2
Psa (System Acceleration Power)
3
Ppa (Pneumatic Partical Acceleration Power)
4
Prr (Resistance To Rotor Rotation Power)
Note: Psa = Pt - Ppa - Prr
2.500 Horsepower
Kilowatts = Horsepower x .746
1,000 RPM
Horsepower
200
175
150
125
100
75
50
25
0
0
10
20
30
40
50
60
70
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57B

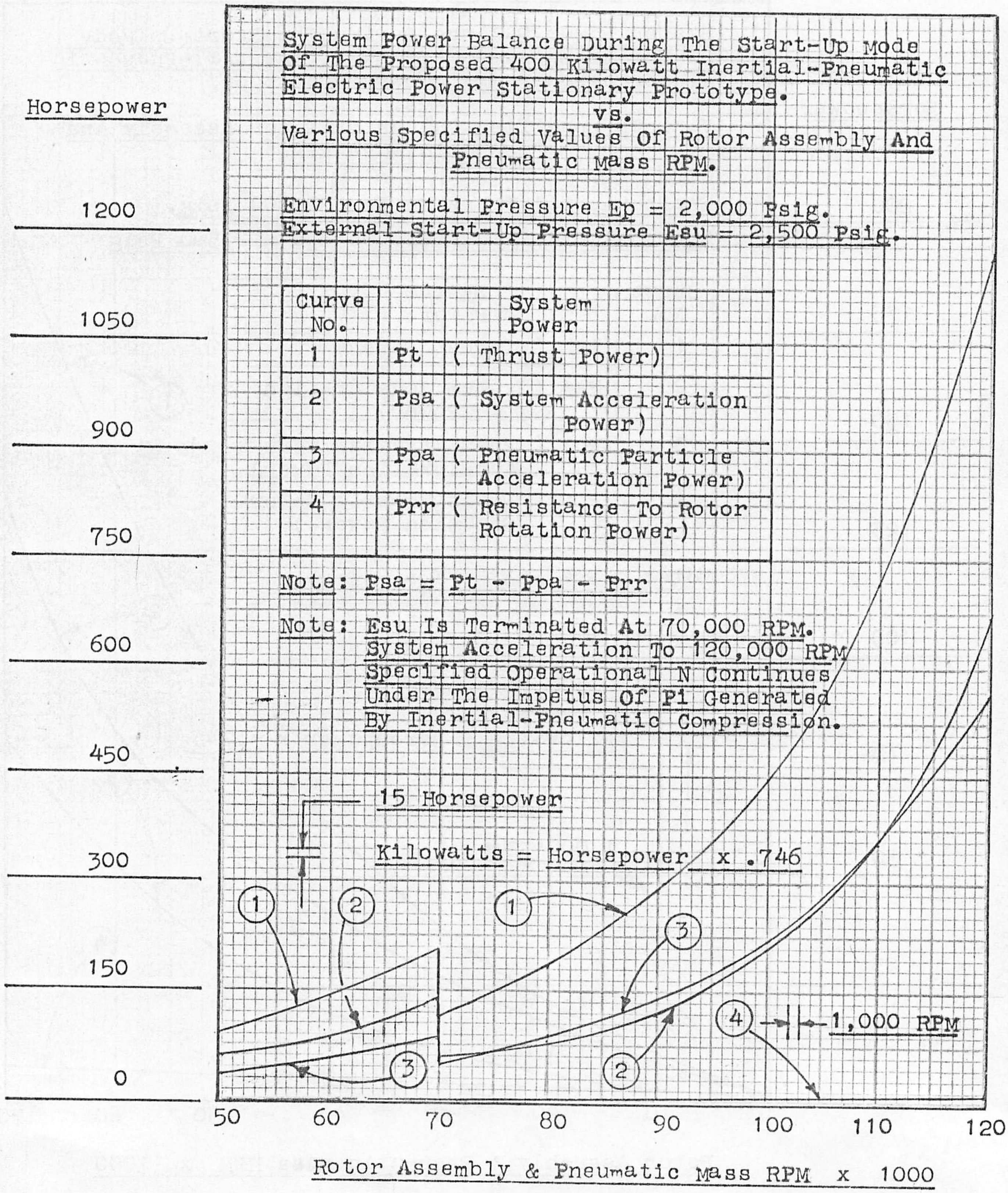

System Power Balance During The Start-Up Mode
Of The Proposed 400 Kilowatt Inertial-Pneumatic
Electric Power Stationary Prototype.
vs.
Various Specified Values Of Rotor Assembly And
Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure Esu = 2,500 Psig.
Curve No. | System Power
1 | Pt (Thrust Power)
2 | Psa (System Acceleration Power)
3 | Ppa (Pneumatic Particle Acceleration Power)
4 | Prr (Resistance To Rotor Rotation Power)
Note: Psa = Pt - Ppa - Prr
Note: Esu Is Terminated At 70,000 RPM. System Acceleration To 120,000 RPM Specified Operational N Continues Under The Impetus Of Pi Generated By Inertial-Pneumatic Compression.
15 Horsepower
Kilowatts = Horsepower x .746
1,000 RPM
Horsepower
1200
1050
900
750
600
450
300
150
0
1
2
3
4
50
60
70
80
90
100
110
120
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57C

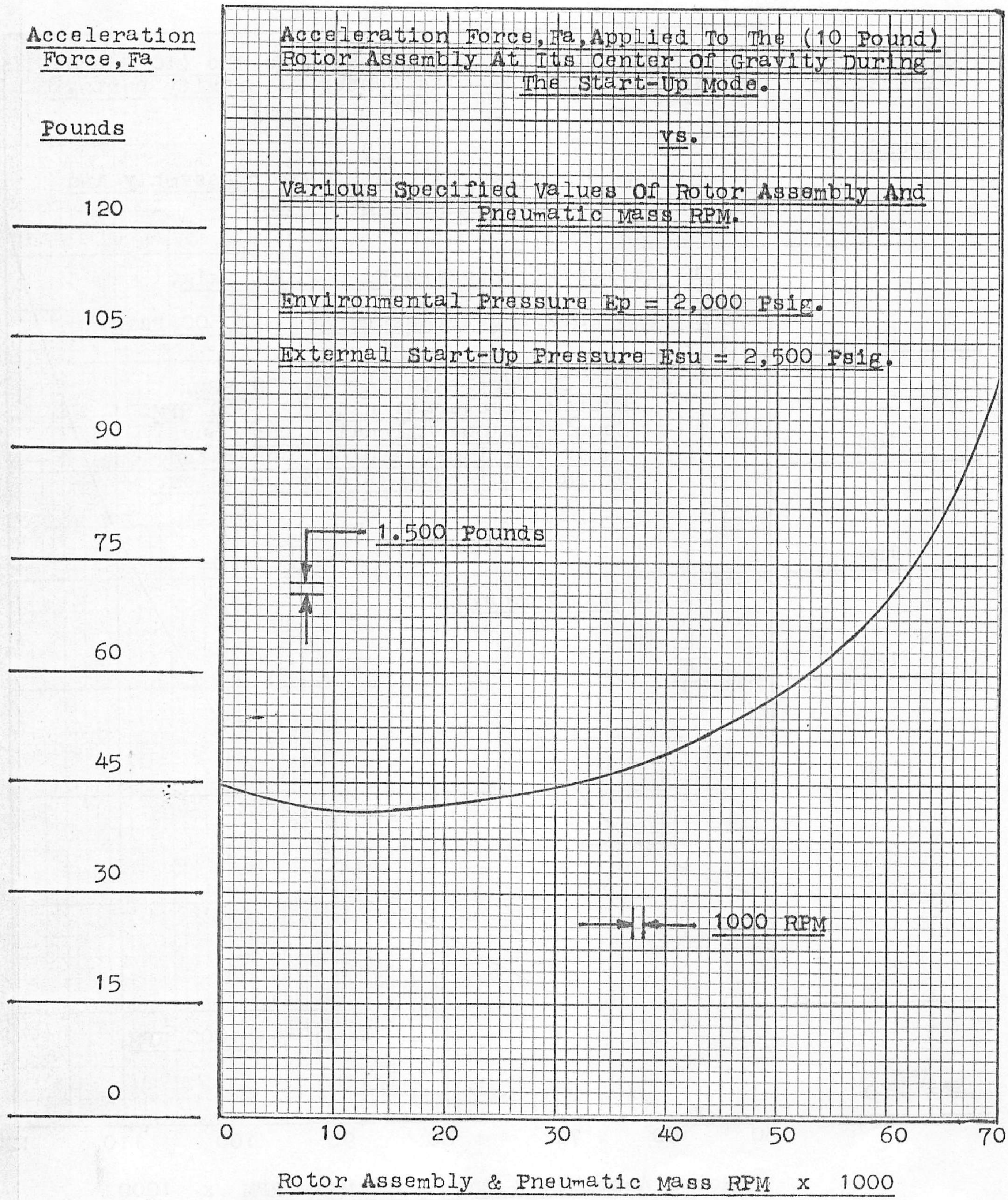

Acceleration Force, Fa
Pounds
120
105
90
75
60
45
30
15
0
Acceleration Force, Fa, Applied To The (10 Pound) Rotor Assembly At Its Center Of Gravity During The Start-Up Mode.
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure Esu = 2,500 Psig.
1.500 Pounds
1000 RPM
0
10
20
30
40
50
60
70
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57D

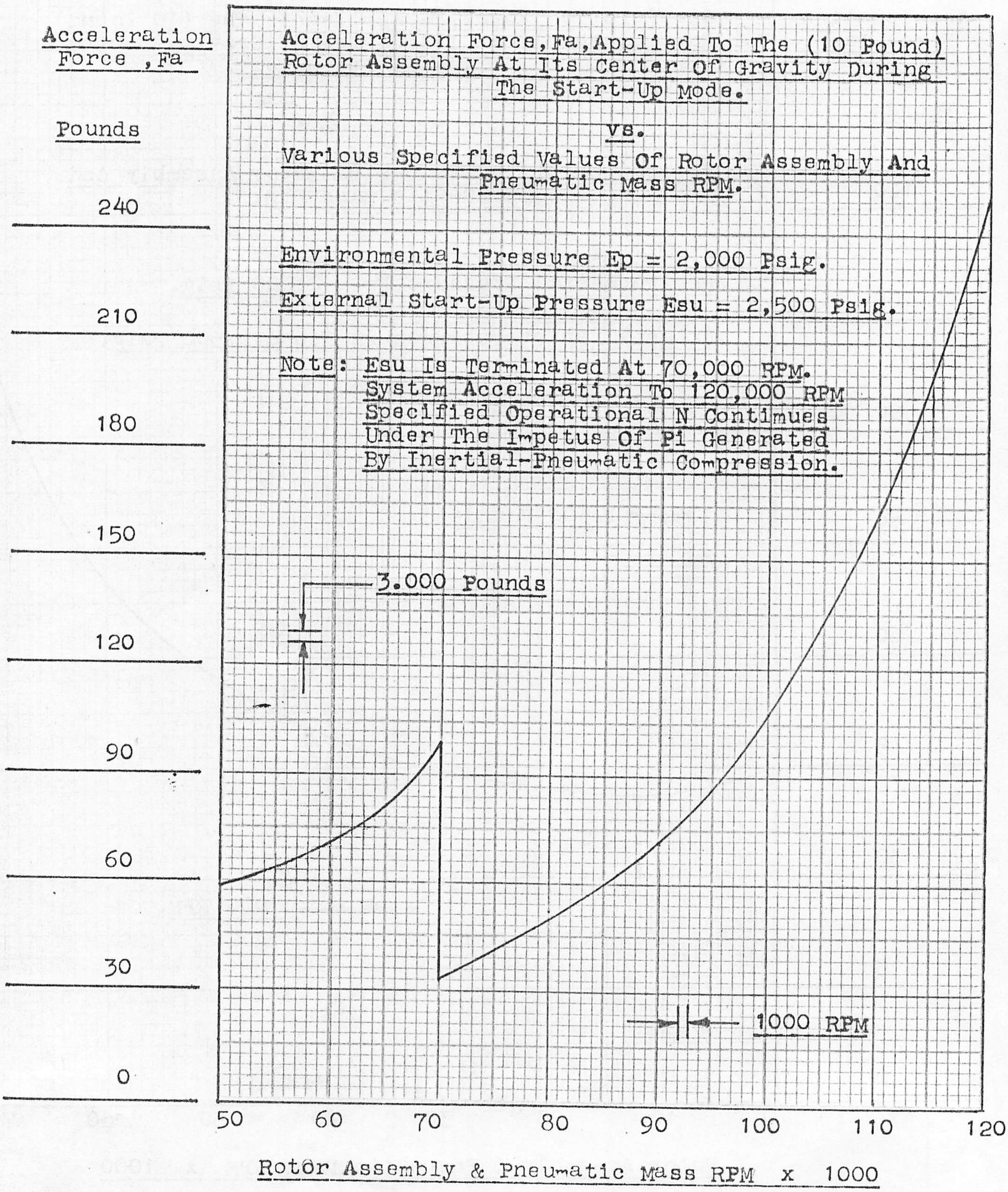

Acceleration Force ,Fa
Pounds
Acceleration Force,Fa,Applied To The (10 Pound) Rotor Assembly At Its Center Of Gravity During The Start-Up Mode.
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure Esu = 2,500 Psig.
Note: Esu Is Terminated At 70,000 RPM. System Acceleration To 120,000 RPM Specified Operational N Continues Under The Impetus Of Pi Generated By Inertial-Pneumatic Compression.
3.000 Pounds
1000 RPM
240
210
180
150
120
90
60
30
0
50
60
70
80
90
100
110
120
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57E

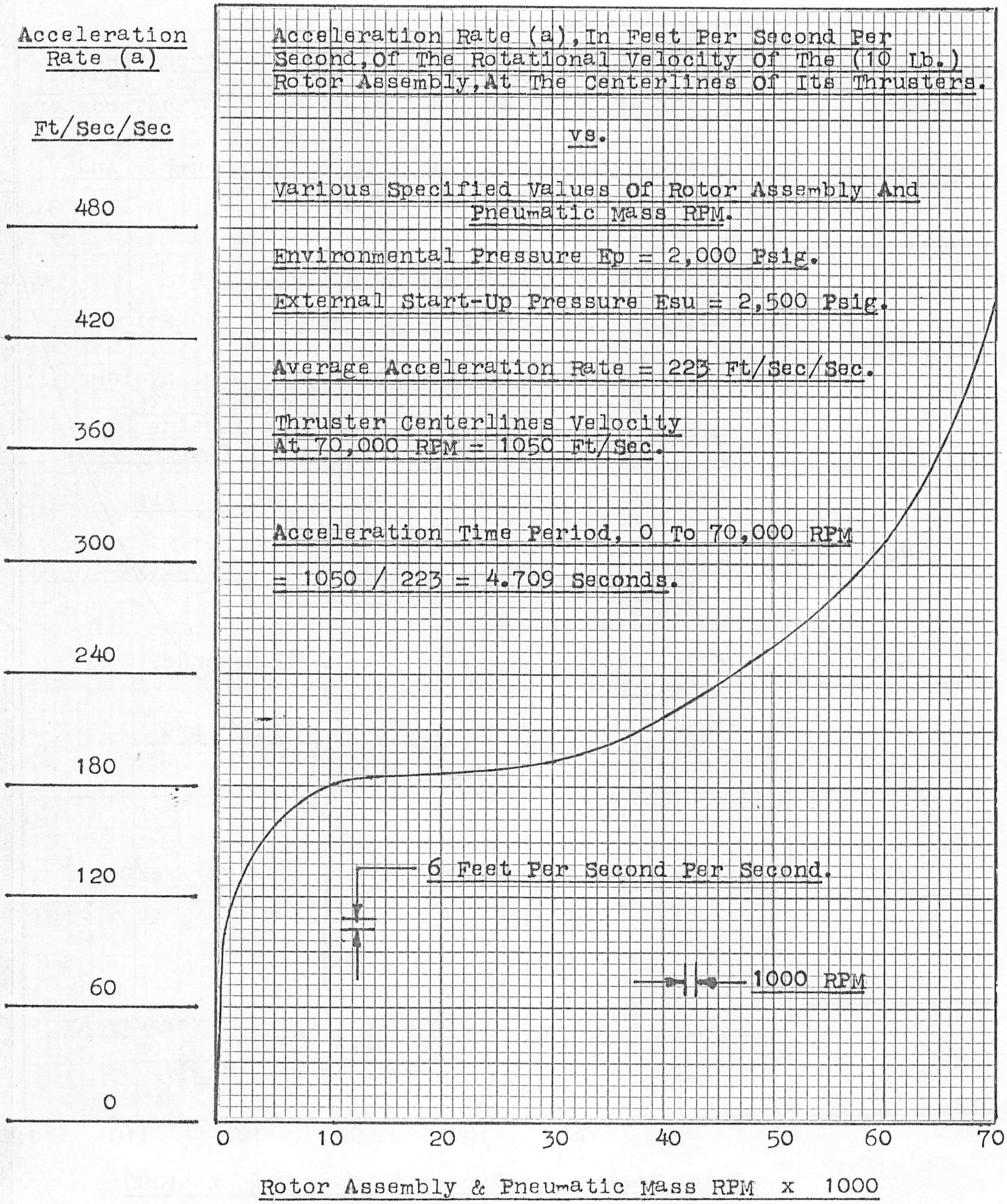

Acceleration Rate (a)
Ft/Sec/Sec
Acceleration Rate (a), In Feet Per Second Per Second, Of The Rotational Velocity Of The (10 Lb.) Rotor Assembly, At The Centerlines Of Its Thrusters.
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure Esu = 2,500 Psig.
Average Acceleration Rate = 223 Ft/Sec/Sec.
Thruster Centerlines Velocity At 70,000 RPM = 1050 Ft/Sec.
Acceleration Time Period, 0 To 70,000 RPM
= 1050 / 223 = 4.709 Seconds.
6 Feet Per Second Per Second.
1000 RPM
480
420
360
300
240
180
120
60
0
0
10
20
30
40
50
60
70
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57F

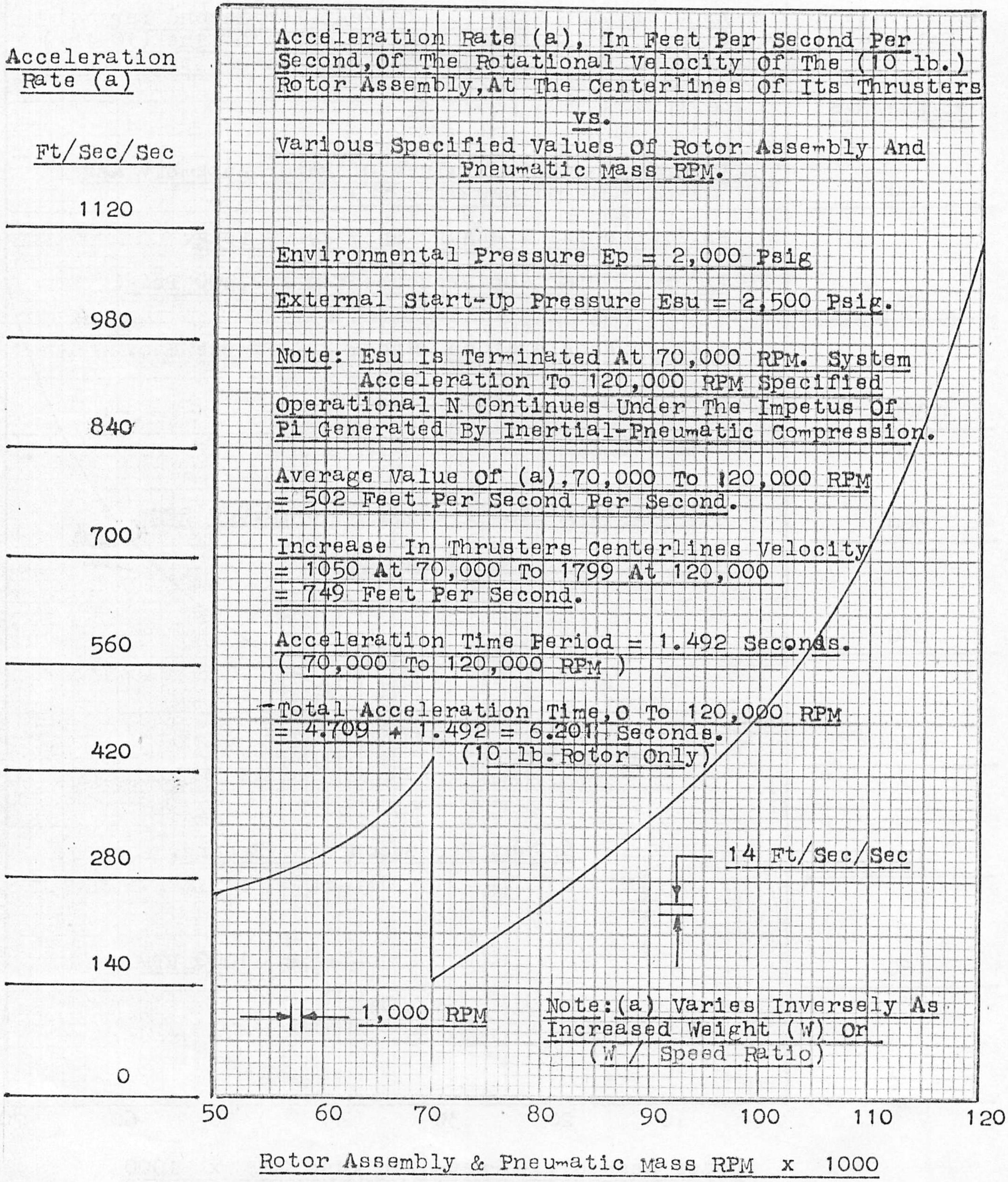

Acceleration Rate (a)
Ft/Sec/Sec
1120
980
840
700
560
420
280
140
0
Acceleration Rate (a), In Feet Per Second Per Second, Of The Rotational Velocity Of The (10 lb.) Rotor Assembly, At The Centerlines Of Its Thrusters
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig
External Start-Up Pressure Esu = 2,500 Psig.
Note: Esu Is Terminated At 70,000 RPM. System Acceleration To 120,000 RPM Specified Operational N Continues Under The Impetus Of Pi Generated By Inertial-Pneumatic Compression.
Average Value Of (a), 70,000 To 120,000 RPM = 502 Feet Per Second Per Second.
Increase In Thrusters Centerlines Velocity = 1050 At 70,000 To 1799 At 120,000 = 749 Feet Per Second.
Acceleration Time Period = 1.492 Seconds. (70,000 To 120,000 RPM)
Total Acceleration Time, 0 To 120,000 RPM = 4.709 + 1.492 = 6.201 Seconds. (10 lb. Rotor Only)
14 Ft/Sec/Sec
1,000 RPM
Note: (a) Varies Inversely As Increased Weight (W) Or (W / Speed Ratio)
50
60
70
80
90
100
110
120
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57G

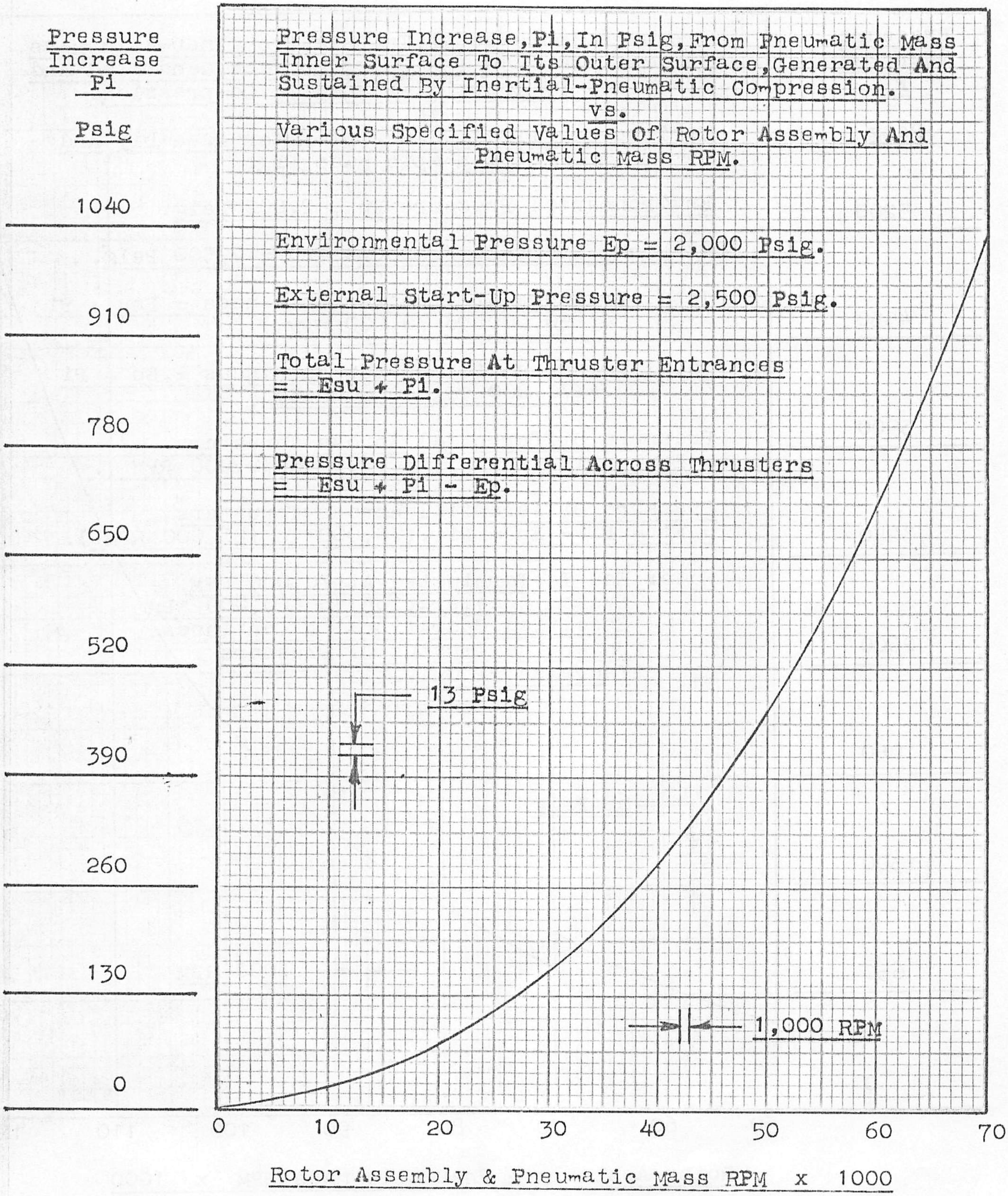

Pressure Increase Pi
Psig
1040
910
780
650
520
390
260
130
0
Pressure Increase, Pi, In Psig, From Pneumatic Mass Inner Surface To Its Outer Surface, Generated And Sustained By Inertial-Pneumatic Compression.
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure = 2,500 Psig.
Total Pressure At Thruster Entrances = Esu + Pi.
Pressure Differential Across Thrusters = Esu + Pi - Ep.
13 Psig
1,000 RPM
0
10
20
30
40
50
60
70
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57H

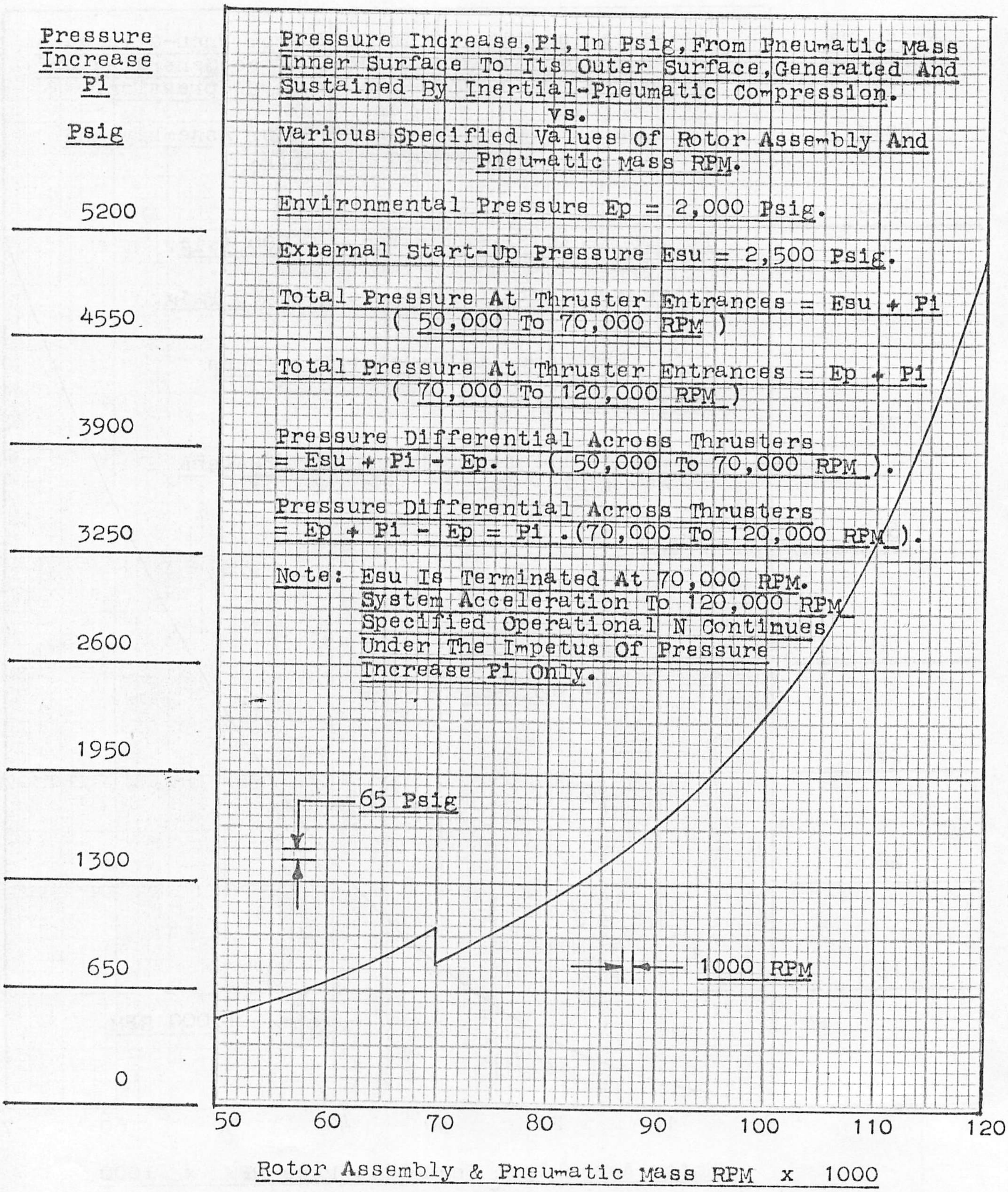

Pressure Increase Pi
Psig
5200
4550
3900
3250
2600
1950
1300
650
0
Pressure Increase, Pi, In Psig, From Pneumatic Mass Inner Surface To Its Outer Surface, Generated And Sustained By Inertial-Pneumatic Compression.
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure Esu = 2,500 Psig.
Total Pressure At Thruster Entrances = Esu + Pi (50,000 To 70,000 RPM)
Total Pressure At Thruster Entrances = Ep + Pi (70,000 To 120,000 RPM)
Pressure Differential Across Thrusters = Esu + Pi - Ep. (50,000 To 70,000 RPM).
Pressure Differential Across Thrusters = Ep + Pi - Ep = Pi .(70,000 To 120,000 RPM).
Note: Esu Is Terminated At 70,000 RPM. System Acceleration To 120,000 RPM Specified Operational N Continues Under The Impetus Of Pressure Increase Pi Only.
65 Psig
1000 RPM
50
60
70
80
90
100
110
120
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57I

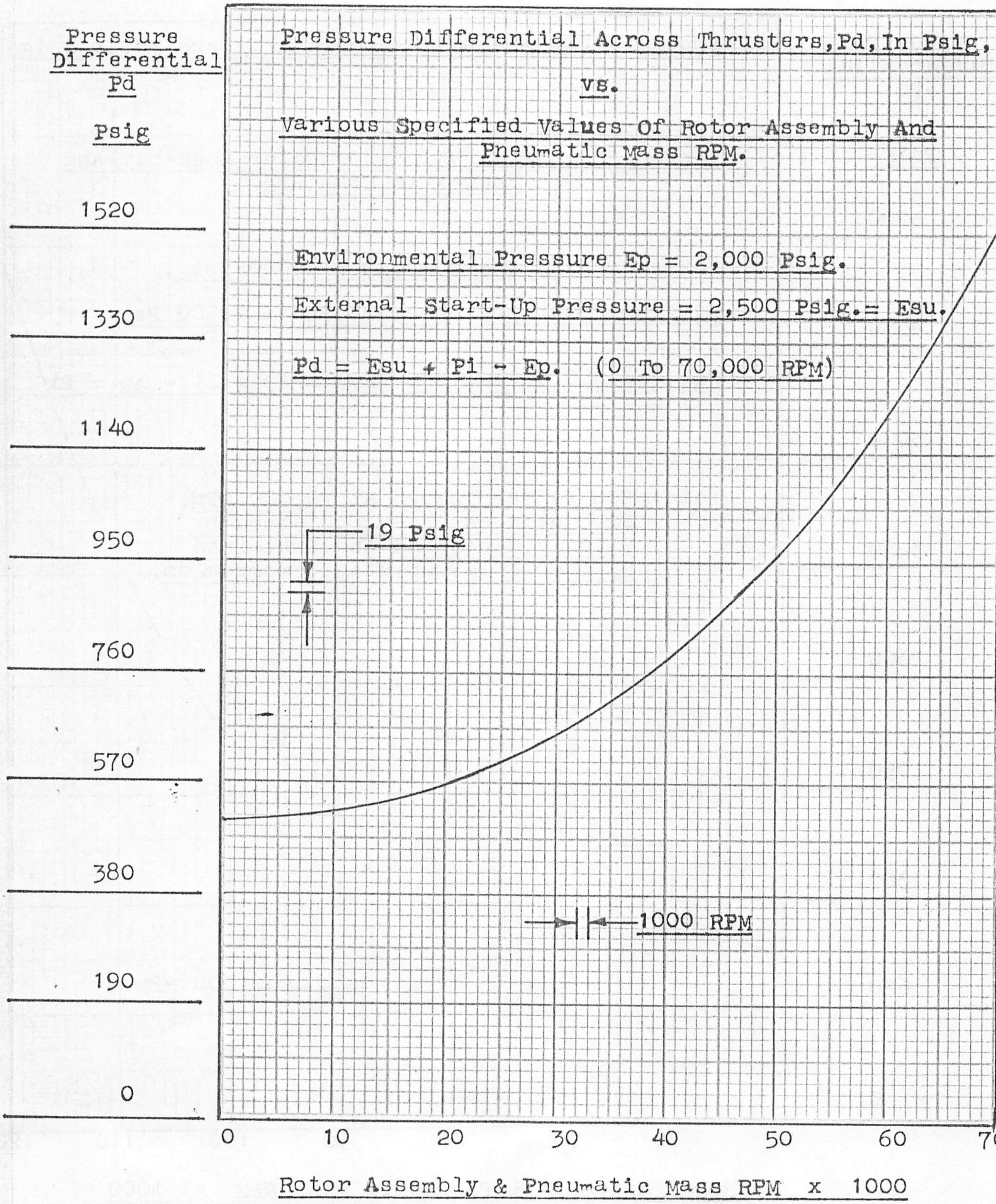

Pressure Differential Pd Psig
1520
1330
1140
950
760
570
380
190
0
Pressure Differential Across Thrusters, Pd, In Psig,
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure Ep = 2,000 Psig.
External Start-Up Pressure = 2,500 Psig. = Esu.
Pd = Esu + Pi - Ep. (0 To 70,000 RPM)
19 Psig
1000 RPM
0
10
20
30
40
50
60
70
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57J

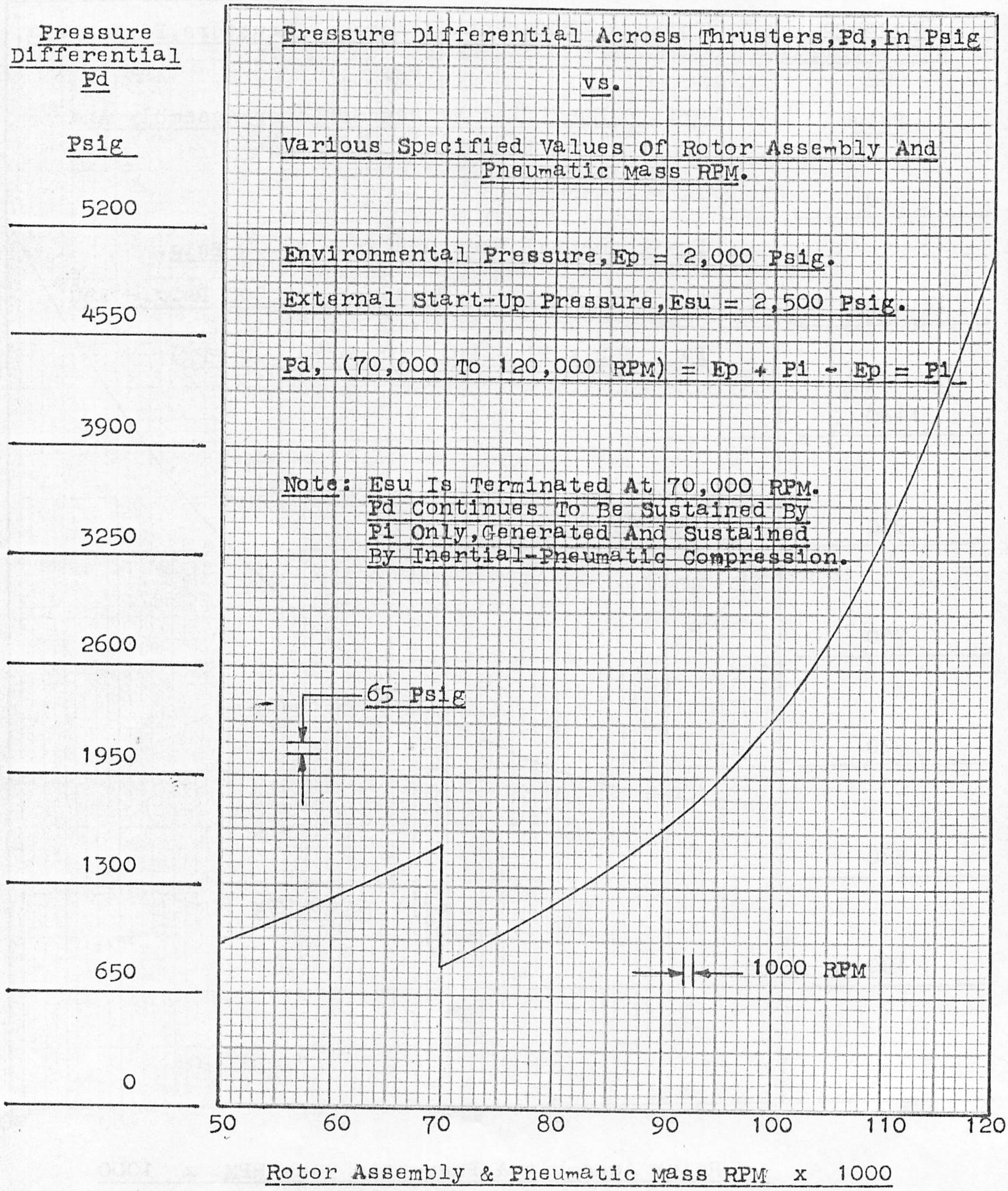

Pressure Differential Pd
Psig
5200
4550
3900
3250
2600
1950
1300
650
0
Pressure Differential Across Thrusters,Pd,In Psig
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure,Ep = 2,000 Psig.
External Start-Up Pressure,Esu = 2,500 Psig.
Pd, (70,000 To 120,000 RPM) = Ep + Pi - Ep = Pi
Note: Esu Is Terminated At 70,000 RPM.
Pd Continues To Be Sustained By
Pi Only,Generated And Sustained
By Inertial-Pneumatic Compression.
65 Psig
1000 RPM
50
60
70
80
90
100
110
120
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57K

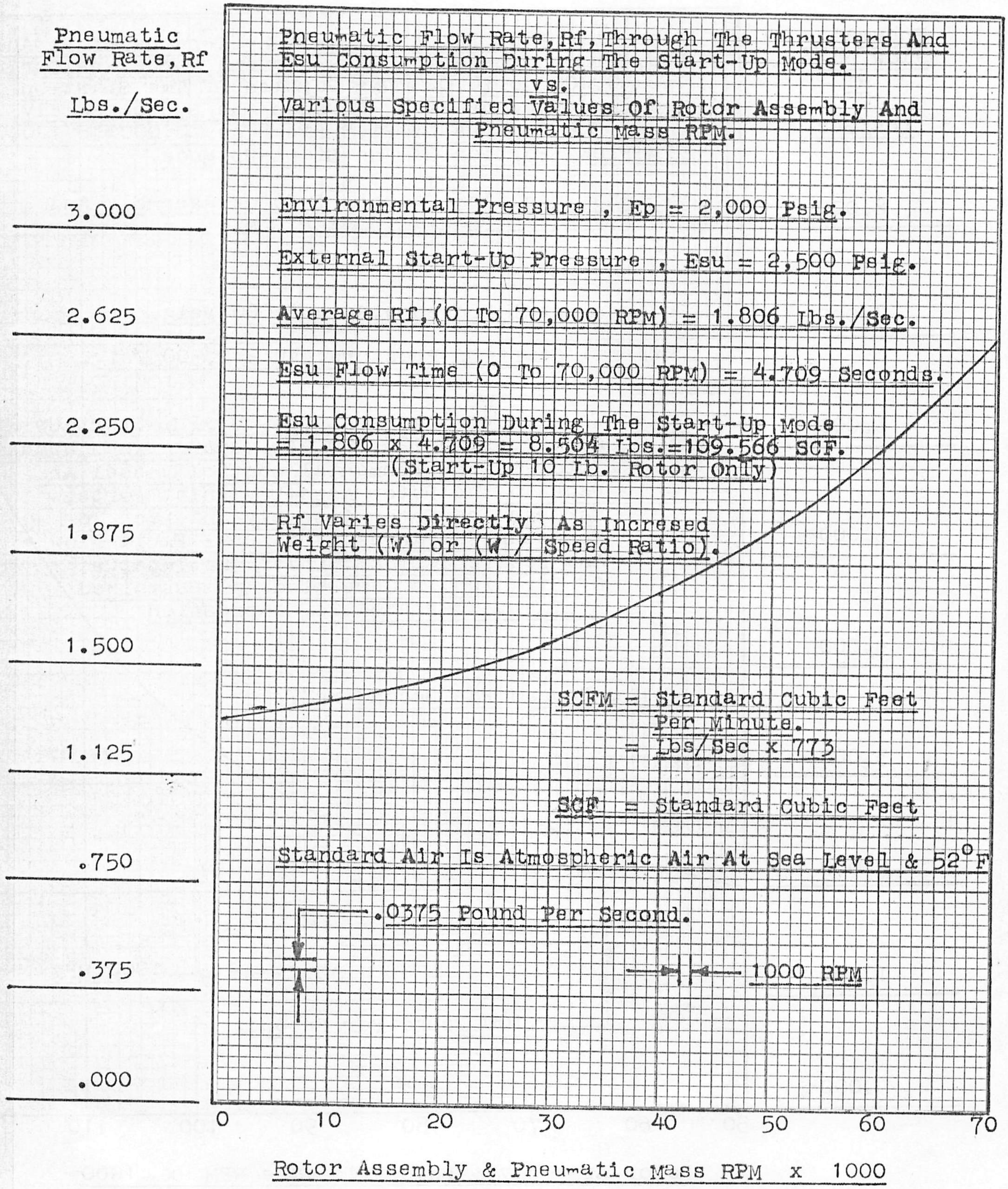
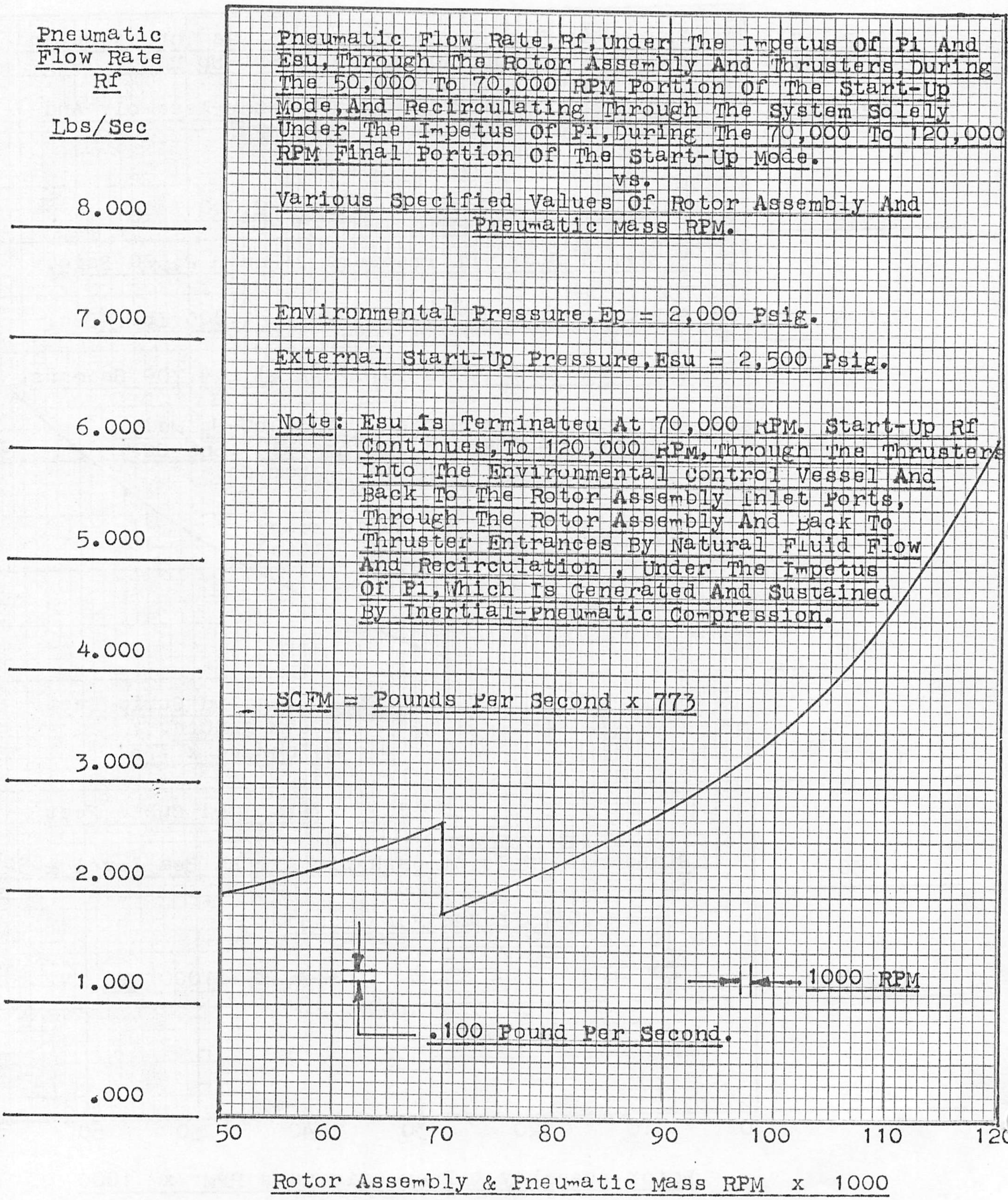

Pneumatic Flow Rate, Rf
Lbs./Sec.
3.000
2.625
2.250
1.875
1.500
1.125
.750
.375
.000
Pneumatic Flow Rate, Rf, Through The Thrusters And Esu Consumption During The Start-Up Mode.
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure , Ep = 2,000 Psig.
External Start-Up Pressure , Esu = 2,500 Psig.
Average Rf, (0 To 70,000 RPM) = 1.806 Lbs./Sec.
Esu Flow Time (0 To 70,000 RPM) = 4.709 Seconds.
Esu Consumption During The Start-Up Mode
= 1.806 x 4.709 = 8.504 Lbs. = 109.566 SCF.
(Start-Up 10 Lb. Rotor Only)
Rf Varies Directly As Incresed Weight (W) or (W / Speed Ratio).
SCFM = Standard Cubic Feet Per Minute.
= Lbs/Sec x 773
SCF = Standard Cubic Feet
Standard Air Is Atmospheric Air At Sea Level & 52°F
.0375 Pound Per Second.
1000 RPM
0
10
20
30
40
50
60
70
Rotor Assembly & Pneumatic Mass RPM x 1000

Figure 57L


Pneumatic Flow Rate Rf Lbs/Sec
Pneumatic Flow Rate, Rf, Under The Impetus Of Pi And Esu, Through The Rotor Assembly And Thrusters, During The 50,000 To 70,000 RPM Portion Of The Start-Up Mode, And Recirculating Through The System Solely Under The Impetus Of Pi, During The 70,000 To 120,000 RPM Final Portion Of The Start-Up Mode.
vs.
Various Specified Values Of Rotor Assembly And Pneumatic Mass RPM.
Environmental Pressure, Ep = 2,000 Psig.
External Start-Up Pressure, Esu = 2,500 Psig.
Note: Esu Is Terminated At 70,000 RPM. Start-Up Rf Continues, To 120,000 RPM, Through The Thrusters Into The Environmental Control Vessel And Back To The Rotor Assembly Inlet Ports, Through The Rotor Assembly And Back To Thruster Entrances By Natural Fluid Flow And Recirculation , Under The Impetus Of Pi, Which Is Generated And Sustained By Inertial-Pneumatic Compression.
SCFM = Pounds Per Second x 773
1000 RPM
.100 Pound Per Second.
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
.000
50
60
70
80
90
100
110
120
Rotor Assembly & Pneumatic Mass RPM x 1000

The Program Controller, in section 4 of the system, has been programmed previously to execute the start-up procedure automatically whenever the operator on duty decides that the time is appropriate for it and closes the "Start" switch on the control panel.

Referring again to Figure 57 , its first control activity would be to shift Pneumatic Controls 6 such that Ep charge pressure would flow from Pneumatic Storage 5 through transfer lines 13 to Pneumatic Controls 6 and thence through transfer lines 11 into Environmental Control Vessel 1 , as shown at Charge Ep Inflows 10.

As soon as Vessel 1's internal pressure Ep achieves its specified level of 2000 psig , the Program Controller will again shift Pneumatic Controls 6 such that Ep Charge Flow ceases and Start-Up Pneumatic Pressure, at the specified 2500 psig level, will begin to flow out of Pneumatic Storage 5 through transfer lines 15 to Pneumatic Controls 6 and thence through Start-Up transfer lines 7 to the two entrances of Rotor Assembly 2.

Since Ep is at the 2000 psig level and the pressure within the Rotor Assembly has now increased to 2500 psig , the pressure differential across the two Thrusters has also increased from zero psig to 500 psig. This is more than sufficient to initiate rotation of the Rotor Assembly 2 and Driven Gears and Generator Assembly 3 .

Initially, the Program Controller would not apply an electrical load to Generator 3 until an appropriate rotational speed has been achieved. However the Program Controller will monitor Rotor Assembly N very closely and at the appropriate level it will begin to apply the appropriate electrical load to Generator 3 that will provide an effective brake that will keep the value of N under full control.

Then when the value of N approaches the specified operational level, precisely the right electrical load will be applied to Generator 3 to securely hold the value of N at operational level, in this case, at 120,000 RPM.

If ,for any reason, the imposed electrical controlling load should fail, then the Program Controller would automatically shift emergency control valves among Pneumatic Controls 6 which would interrupt pneumatic flow through transfer lines 7 into the two entrances of Rotor Assembly 2 and N acceleration would cease before it could achieve levels that would be threatening to the structural strength of Rotor Assembly 2 .

Through out the Start-Up mode, excess Ep , generated by Rotor Assembly discharges 9 , will automatically be removed through outflows 8 , transfer lines 14 , Pneumatic Controls 6 , transfer lines 12 and back to Pneumatic Storage 5.

Actually , acceleration by the external high pressure flow from Pneumatic Storage 5 will be very brief , probably for a period of no more than five seconds. At the end of that period, the Rotor Assembly will have achieved a speed of approximately 70,000 RPM. Natural Thrust Power Pt will have developed to approximately 85 kilowatts , or 114 horsepower, which would provide approximately 35 kilowatts of Generator Drive Power Pgd , equivalent to 47 horsepower. This is more than sufficient for Pt to assume further acceleration of Rotor Assembly N to operational level, 120,000 RPM.

For this reason, the Program Controller will probably shift the valves in Pneumatic Controls 6 at this point in the Start-Up program so as to terminate start-up flow out of Pneumatic Storage 5 , which has been, through out the five second period, at the rate of one pound per second, approximately, or 773 SCFM, standard cubic feet per minute. Thus a mere 64 SCF , standard cubic feet , of supply from section 5 has been consumed by the Start-Up program. As the system assumes its operational mode, the compressor in section 5 will be functioning , slowly but surely and at its liesure, to restore Pneumatic Storage 5 to its normal level , ready for the next start-up program.

Note the analogy. At the end of this system's start-up program when operational status has been fully established , Inertia has assumed the role of system prime mover , perpetually providing an adequate supply of Pneumatic Pressure Power Ppp , without injection of energy from section 5 ever again required. At the end of Shuttle Craft's start-up program as operational status becomes fully established , Inertia has assumed the role of system prime mover , perpetually providing an adequate supply of gravity neutralization , without injection of energy from the launching rockets ever again required.

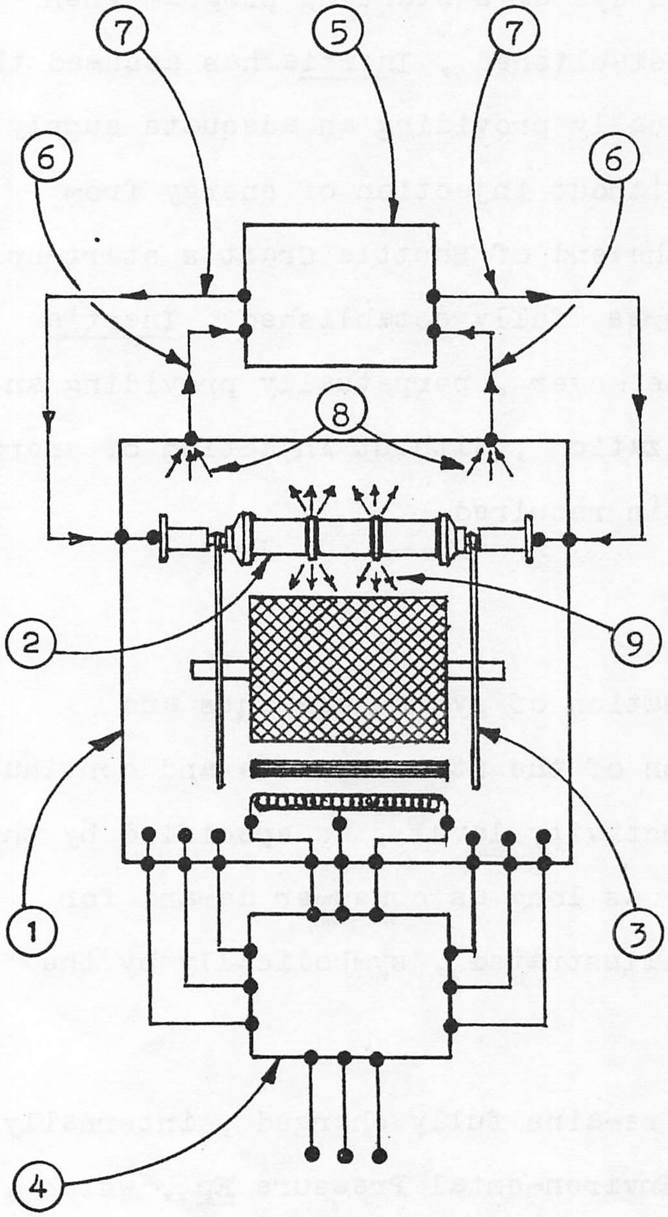
Part Two - The Operational Mode .

The operational mode is that combination of system elements and functions that begins at termination of the Start-Up mode and continues, uninterrupted, at its maximum productivity level , as specified by the system's finalizing designers , for as long as consumer demand for electric power continues. This is illustrated , symbolically by the schematic in Figure 58 on page 234.

The Environmental Control Vessel 1 remains fully charged , internally, with the specified Rotor Assembly Environmental Pressure Ep , which , in this case, is precisely sustained,by the Program Controller in section 4 and by Pneumatic Controls 5 , at 2000 psig.

Figure 58

Schematic Diagram - System Operational Mode.



LEGEND:

1) Environmental Control Vessel Assembly.

2) Rotor Assembly.

3) Driven Gears And Generator Assembly.

4) Program Controller, Electrical And Electronic Controls.

5) Pneumatic Controls.

6) Ep Recycle "Out" Lines.

7) Ep Recycle " In " Lines.

8) Ep Outflow.

9) Thrusters Discharge Inflow.

The Rotor Assembly 2 rotates continually precisely at its specified safe maximum N of 120,000 RPM closely controlled and monitored by the Program Controller in section 4 , as it performs the dual functions of perfectly matching electrical load on the Generator 3 to the rotational speed of Rotor Assembly 2 .

Within the Rotor Assembly 2 , powerful Inertial-Pneumatic Compression , 548,724 times as strong as the Earth Gravity Compression that pressurizes water for hydro-electric facilities, is continuously applied radially outward to all of the atoms , or particles , of the Pneumatic Mass within the Rotor Assembly 2 .

This not only provides a more than adequate supply of pneumatic pressure energy, in the form of Pneumatic Pressure Power Ppp , to the two Thrusters for their vital energy conversion function , but also provides the impetus for the constant pneumatic flow through the Recycle Transfer System , which begins at the inside surface of the Pneumatic Mass , continues radially outward to the outer surface of the Pneumatic Mass, into and through the two Thrusters , into the Environmental Control Vessel via discharge from Thruster exits , item 9 in Figure 58 , out of Environmental Control Vessel 1 , via Ep outflows 8 into transfer lines 6 and into and through Pneumatic Controls 5 , into and through transfer lines 7 and thence into the entrances , infeed bores and Pneumatic Conduits of Rotor Assembly 2 , and back to the place of beginning , the inner surface of the Pneumatic Mass , thereby completing the cycle.

The N and Ep specifications, in this system example , indicate that its continuous electric power productivity Pep is at its maximum 400 kilowatt capacity. This continuous output is routed through a dummy electric power load on Generator 3, located within the same production facility but outside of section 4 , which serves both as Rotor Assembly N control and the means to shift portions of the output to the working load of consumer demand for electric power as required.

Part 3 - The Shut-Down Mode.

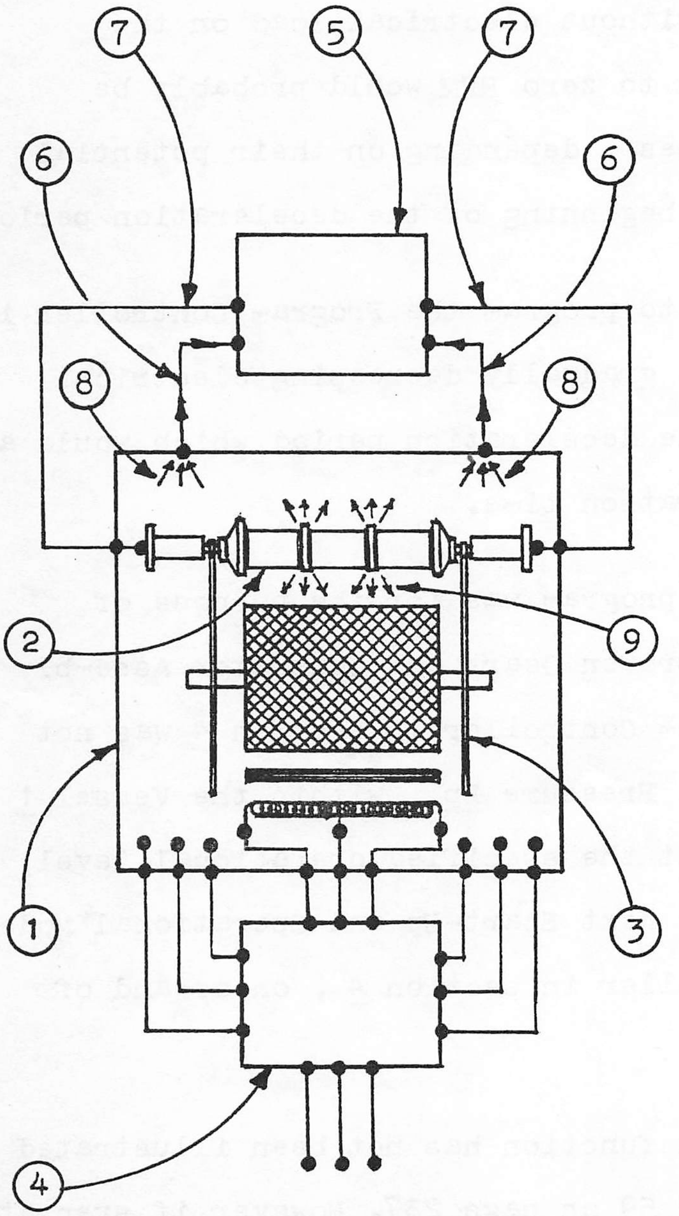
The Shut-Down Mode is that combination of system elements and functions that change the rotational N of the Rotor Assembly from its operational value to zero value and returns the entire system to idle and non-productive status. Since the system is designed and fabricated for continuous duty at maximum capacity , it will probably be in the Shut-Down Mode only very rarely. However, if and when this does occur, the status of the system is illustrated symbolically in the Schematic Diagram in Figure 59 on page 237.

The Program Controller in section 4 has been programmed to execute the Shut-Down sequence on demand from the operator on duty. It will then shift appropriate valves in Pneumatic Controls 5 into the closed position so as to totally interrupt all Ep recycle flow through outflows 8 , transfer lines 6 , Pneumatic Controls 5 and transfer lines 7 into the entrances of the Rotor Assembly.

With near zero pneumatic flow into the entrances of the Rotor Assembly , Inertial-Pneumatic Compression almost instantaneously empties the Rotor Assembly interior , via discharge through the two Thrusters , and the Pneumatic Mass within the Rotor Assembly, that has been precisely sustained through out the Operational Mode , now very quickly disappears, its earth gravity weight W of 2.084 pounds, as well as its enormous inertial-pneumatic compression weight of 1,143,541 pounds , have been reduced to zero pounds in an instant.

Figure 59

Schematic Diagram - System Shut-Down Mode



LEGEND:

1) Environmental Control Vessel Assembly.

2) Rotor Assembly.

3) Driven Gears And Generator Assembly.

4) Program Controller , Electrical And Electronic Controls.

5) Pneumatic Controls, With Ep Recycle Valves Closed.

6) Ep Recycle "Out" Lines, Vessel-To-Pneumatic Controls , Zero Flow.

7) Ep Recycle " In " Lines, Pneumatic Controls-To-Rotor Assembly , Empty , Zero Flow.

8) Ep Recycle Outflow, Zero Rf.

9) Thruster Discharge Inflow, Zero Rf.

Obviously , this will terminate Inertial-Pneumatic Compression and Pneumatic Pressure Power Ppp as well as Thrust Power Pt . Without Pt to sustain its operational N , the Rotor Assembly will instantly begin deceleration from N , 120,000 RPM , back to zero RPM and idle status.

If the Rotor Assembly 2 and Driven Gears And Generator Assembly 3 are permitted to decelerate freely , without electrical load on the Generator , deceleration time back to zero RPM would probably be approximately ten to fifteen minutes , depending on their potential kinetic or inertial energy at the beginning of the deceleration period.

Operators on duty may have chosen to program the Program Controller in section 4 so that it would apply a gradually decreasing electrical load on the Generator 3 through the deceleration period which would act as a brake so as to reduce deceleration time.

Unless execution of the Shut-Down program was for the purpose of servicing of Rotor Assembly 2 or Driven Gears And Generator Assembly 3 , it is quite likely that the Program Controller in section 4 was not programmed to reduce Environmental Pressure Ep , within the Vessel 1 , and it will remain fully charged at the specified operational level, in this case 2000 psig , until the next Start-Up and Operational Modes are executed by the Program Controller in section 4 , on demand of operators on duty.

For this reason , the Ep reduction function has not been illustrated in the Schematic Diagram in Figure 59 on page 237. However if evacuation of Ep from Vessel 1 was required , for any reason , refer to the Schematic Diagram in Figure 57 on page 230 for illustration of the Program Controller's execution of the evacuation function.

On operator's demand , it would shift valves in Pneumatic Controls 6 so that Ep would begin to flow out of the Vessel 1,via outflows 8 , transfer lines 14 , Pneumatic Controls 6 , through transfer lines 12 and back into Pneumatic Storage 5 from whence it originally came.

This concludes Chapter Eight of this work , which has carefully examined the Start-Up , Operational and Shut-Down Modes of the proposed 400 kilowatt prototype Inertial-Pneumatic Electric Power System. Chapter Nine of this work will address the productivity potential beyond the successful prototype system.

Before proceeding with Chapter Nine , however , this work pauses to confirm that all innovative data included in this work is strictly original with the author , as far as could be determined by very extensive research among published documentary sources and a number of searches of the U.S. Patent Office files.

Consequently , this work is believed to be legitimately entitled to whatever copyright protection that is extended to it at its initial publication.

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