

Freedom Motors receives orders in two categories.

Category One:

These orders are random and come in almost every week. These orders do not require any work with the customer and almost in every case an off the shelf engine will suffice the need.  
FM estimates an average of 500-1,000 engines per month.

Category Two:

Companies (small, medium, & large) contact FM with interest to use our engine in their products. Most of these companies have a matured product but they're driven by changing their business model for variety of reasons including better efficiency of their product, meeting environmental goals, or creating a better overall product. This category requires FM to do a prototype project with the company to ensure proper integration is done with their product and the end goal is to ensure technological and economical feasibility is achieved.

Company Name	Estimated Engines required	Time period
OneH2 Corp	26,200	3 years
Alturair	50,000	5 years
Swedish Snomobile	20,425	5 years
Airship TG	1,000	5 years
Innotec Power	2,000	4 years
Epiphany Energy	25,000	5 years
Alife Air	3,400,000	5 years
Moller International	1,000	5 years

Low volume significantly high margin AAM VTOL Aircraft application.(Aviation Rotapower® Engine. Not in production plan)

Based on this model to initially produce Rotapower® 530cc engine, with the initial funding of \$6 million, the projected gross sales revenues is over \$51.4 million and cash on hand estimated at \$24.7 million, in 36 months.

This Financial Model presented in the spreadsheet is based on the initial demand for popular 530cc Rotapower® engine.

1. \$6 million to achieve modest production of FM's 530cc Rotapower® engine for non- aviation use.
2. Additional \$5 million to fully develop its 5 stroke Rotapower® engine which has the following additional attributes where noise is particularly important in the air taxi application.
3. Additional \$5 million as a contingency and to contribute to the integration of the 5 stroke Rotapower engine into the Skycar 100X.

This document is prepared to capture high level tasks and its associated sub-tasks with timelines for commencing manufacturing. The initial production is for 530cc engines and to cater the confirmed orders from OneH2 corporation.

The first year (production year) is divided into four phases to begin mass production of 30-50 engines a day starting the second year. The first year is the startup year to establish production and testing facilities and to beta produce approximately 200 engines.

#### **TASKS THAT ARE COMPLETED**

1. Leased space specifically for manufacturing (8,000 Sq. Ft)
  - Four small offices built, and carpeted
  - Air conditioning installed for the entire facility
  - Lighting improved
  - Floors coated with an epoxy paint
  - Installed several power sockets
  - Heavy Equipment moved in and installed
2. Completed 5,000 Sq. Ft. dyno test and inventory storage facility

The phases of the production ready plan are

#### **1. The Startup Phase**

This phase requires us to address hiring critical employees, contracting critical services, ordering equipment, contracting for permanent tooling, succession planning, among many other things. We envision this plan's timeline for 120 days (1-4 Months). This Startup plan will lay out the foundation for our beta production and subsequent mass production for OneH2 and other customers. The initial focus will be 530cc engine.

#### **2. Beta Phase (Test, Run, & Deploy Phase)**

This phase follows the Startup plan will have a timeline of 120 days (5-8 Months). The best fit definition of this phase is "**Initial Engine Quality Verification**". This is the time where major decisions of "**Make or Buy**" will be made, initial purchase of engine parts will be done after permanent molds for cast parts will be created, a Patent & IP Plan will be put into place. During this plan we also intend to accomplish endurance and calibration (cooling, lubrication, ignition, and fuel) testing, accessories qualification and integration, OEM collaboration, and Assembly plan (select an assembly line software).

#### **3. Production Readiness Phase**

This phase will also need 120 days (9-12 Months) where we will integrate everything done in the last two phases including lessons learned into a final production plan for mass producing for OneH2 and other customers. The tasks from the previous phase like Initial Engine Quality Verification, Engine parts orders and the patent process will continue in this phase.

#### **4. Beyond 12 Months Phase**

As we continue with our production and testing plan, this phase addresses additional equipment purchase, critical hiring, and casting & tooling, that is required to be production ready for all models of our engines. Limited production begins in this phase as we continue to file additional patents (Compound Engine related), and continue to perform Dyno endurance testing.

## THE STARTUP PHASE

**Start time:** Immediately after the availability of funds (please note that we should be able to start delivering engines by fall of 2023, so it is important to realize funds as soon as possible)

**Duration:** 120 days (1-4 months)

Please note that hirings will overlap phases. The task to hire critical personnel listed below will promptly start in this phase.

Tasks:	Annual Base Pay	Annual Burdened Pay (Calculated)	Off The Shelf	Lead Time (Days)	NOTES
<b>1 Critical hiring</b>					
a). Manufacturing Manager	\$150,000	\$212,491			Payroll for CEO, CTO & CE will begin in <b>first</b> month. The rest of the staff are anticipated to be on board by the <b>third</b> month.
b). CAD Engineer (1 individual initially and add another within this plan)	\$125,000	\$179,329			
c). General Mechanic	\$45,000	\$73,209			
(i). Electrical expertise					
(ii). Fabrication expertise					
d). Office Manager/Accountant (25% of the job is for HR management)	\$100,000	\$146,166			
e). Chief engineer (CE) ( <b>Onboard</b> )	\$120,000	\$172,696			
f). CTO & President ( <b>Onboard</b> )	\$150,000	\$212,491			
g). CEO ( <b>Onboard</b> )	\$150,000	\$212,491			
h). Job shop machinist	\$120,000	\$172,696			
	<b>Sub Total:</b>	<b>\$1,381,568</b>			
<b>2 Critical equipment purchases</b>					
<b>A). Manufacturing</b>					(1) Once the staff is on board in the <b>third</b> month, decisions will be made for the critical equipment selection and purchase made in the <b>fourth</b> month.  (2) The first dynameter installation will be done in house by the staff with materials purchase estimated.
i). 4-axis CNC		\$200,000	Y	60	
ii). Automated lathe	May need staff onboard to make selection	\$150,000	Y	45	
iii). Inspection equipment		\$110,000	Y	45	
iv). Lapping machine		\$75,000	Y	30	
v). Sand blaster		\$35,000	Y	30	
vi). Parts cleaner		\$5,000	Y	30	
vii). Broaching machine		\$40,000	Y	30	
viii). Plasma coater (purchase or contract)		\$160,000	Y	30	
ix). Hydraulic Press		\$15,000	Y	30	
x). Heat treatment equipment		\$75,000	Y	30	
xi). Degreasing system		\$60,000	Y	30	
	<b>Sub Total:</b>	<b>\$925,000</b>			
<b>B). Prototype and Beta purposes (Can be also used in manufacturing)</b>					
i). Two hand milling machines with digital read		\$30,000	Y	30	
ii). Lathe		\$18,000	Y	30	
iii). Hand brake	May need staff onboard to make selection	\$3,000	Y	30	
iv). Power shear		\$6,000	Y	30	
v). Band saw with automatic		\$35,000	Y	30	
vi). Gas welder		\$1,500	Y	30	
vii). Electric welder		\$10,000	Y	30	
viii). Tooling accessories		\$30,000	Y	30	
viii). First Dynameter installation		\$85,000	N	30	
	<b>Sub Total:</b>	<b>\$218,500</b>			
<b>3 Critical Tasks</b>					
i). Engine dimensions converted to metric			In House	90	Should begin immediately after the staff is on board.
ii). Castings designed for lost foam process			In House	90	
iii). Dyno installation and operating			In House	30	
<b>4 Critical Parts Procurement (This will overlap between the first and second phase. Details breakdown given in the second phase under materials purchase)</b>					
i). IKO Rotor bearings (lead time: 90 days) requires sizable order to keep price down			Y	90	Should begin immediately after the staff is on board.
ii). Apex, side and corner rotor seals and springs.			N	60	
<b>5 Critical Services (Outsourced)</b>					
i). HR and payroll service (Annual cost)		\$15,000			(1) The HR & Payroll, Financial, and IT related services costs will be incurred <b>annually</b> . (2) The Patent work costs will begin in <b>fourth</b> month (after the staff is on board) and spread out for <b>twelve</b> months thereafter. (3) The outside consultants will be hired in the <b>fourth</b> month. (4) The building lease costs are around \$20,000 with other overheads being \$5,000 ( <b>monthly</b> )
ii). Financial services (Annual cost)		\$15,000			
iii). IT services (Annual cost)		\$15,000			
iv). Business related attorney (retainer)		\$60,000			
v). Patent attorney (Average \$75,000 per patent. We have at least 6 patents in process)		\$450,000			
a). Develop patent package					
b). Patent related work					
c). Legal fees for US and International patents					
vi). Outside consultants		\$250,000			
a). Gas dynamics expert to create dynamic model of combustion process					
b). Casting expert					
c). ECU design expert					
d). 4 axis CNC machine center tooling expert					
vii). Building lease, power, water etc... overhead (throughout all the phases) (Annual cost)		\$300,000			
	<b>Sub Total:</b>	<b>\$1,105,000</b>			
<b>6 Debt Service</b>		\$1,000,000			Disbursement begin <b>First</b> month. Equal payments for <b>24</b> months
	<b>Sub Total:</b>	<b>\$1,000,000</b>			
	<b>Grand Total:</b>	<b>\$4,630,068</b>			

## THE BETA PHASE (TEST, RUN, & DEPLOY PHASE)

**Start time:** The Beta plan start will overlap the Startup plan at the tail end to maintain integrity of ongoing processes and seamless continuity.

**Duration:** 120 days (5-8 months)

Tasks:	Annual Base Pay	Annual Burdened Pay (Calculated)	Off The Shelf	Lead Time (Days)	NOTES
<b>7 Critical hiring</b>					
a). Power Plant Technician	\$60,000	\$93,106			The effort to hire the staff will begin in the startup phase and anticipate them to begin by <b>sixth</b> month.
b). Computer Aided Machinist	\$95,000	\$139,534			
c). Second CAD engineer	\$90,000	\$132,901			
d). Mechanical Engineer	\$90,000	\$132,901			
e). One miscellaneous service personnel	\$75,000	\$113,004			
<b>Sub Total:</b>		<b>\$611,445</b>			
<b>8 Materials purchase</b>		\$300,000			
<b>A). Parts purchased</b>					(1) The estimated outsourced CoGs for 530cc engine is approximately \$900. (2) It is planned to have materials inventory to last <b>90</b> days. (3) Purchase complete in <b>sixth</b> month
a). Main bearings			Y	60	
b). Main bearing seals			Y	60	
c). Various bolts			N	60	
d). Stationary gear			N	60	
e). Accessories					
i). water pump			Y	60	
ii). oil injection pump			N	60	
iii). generator			Y	60	
iv). ignition system			Y	60	
v). fuel system ECU			Y	60	
vi). starter			N	60	
<b>B). Parts produced in-house</b>					
a). Counterweights			Y		
b). Crankshaft			Y		
c). Rotor housing			Y		
d). End housings			Y		
e). Rotor			Y		
f). Flywheel for non-generator			Y		
<b>Second Dynameter Installation</b>		\$10,000	N		
<b>Sub Total:</b>		<b>\$310,000</b>			
<b>9 Castings &amp; Machine tooling (150cc &amp; 530cc) Contract</b>		\$175,000			Outsourced costs
<b>Sub Total:</b>		<b>\$175,000</b>			
<b>10 Patents and IP Management plan</b>					The cost is estimated in the startup phase ( <b>fourth</b> month) and the effort begins by the <b>fifth</b> month in this phase
a). Digitizing existing documentation (make it searchable and OCR readable) (Make or Buy decision). It is important to note that all the manuals, files and documents are already scanned and computerized. By digitizing it we are making it searchable across the repository including the content inside the documents.					
b). Patent plan with CTO as the lead.					
c). Initial submission of US patents and file for 18 months protection internationally and within that time go ahead with international patents.					
<b>11 Accessories Qualification &amp; Integration</b>			In House		
<b>12 Build test engines</b>			In House		
<b>13 Endurance test engines</b>			In House		
<b>14 Calibration of accessories during dyno testing</b>			In House		
a). Cooling					
b). Lubrication					
c). Ignition					
d). Fuel					
<b>15 OEM Colaboration</b>			In House		
<b>16 Assembly line software selection</b>		\$100,000			The software selection shall be made after the staff is on board ( <b>fifth</b> month). The lower estimate is around \$100,000. Procurement should be complete in <b>seventh</b> month
a). Example only ( <a href="https://comptekinc.com/assembly-line-statistical-process-control-spc-software-windows-part-manufacturing/">https://comptekinc.com/assembly-line-statistical-process-control-spc-software-windows-part-manufacturing/</a> )					
b). Generate assembly plan and accommodate it in the software					
<b>Sub Total</b>		<b>\$100,000</b>			
<b>Grand Total:</b>		<b>\$1,196,445</b>			

THE PRODUCTION READINESS PHASE

**Start time:** Immediately after the Beta plan  
**Duration:** 120 days

Tasks:	Annual Base Pay	Annual Burdened Pay (Calculated)	Off The Shelf	Lead Time (Days)	NOTES
<b>17 Critical hiring</b>					
a). COO (engine engineering expertise is critical)	\$150,000	\$212,491			Effort begins month <b>nine</b> and staff on board <b>tenth</b> month
b). VP of Engineering (CTO Candidate) (Succession planning for Dr. Moller)	\$150,000	\$212,491			
c). General Mechanic	\$45,000	\$73,209			
d). Quality Control Inspector	\$60,000	\$93,106			
e). Process Technician	\$60,000	\$93,106			
f). Precision Assembler/Manufacturing Technician	\$60,000	\$93,106			
g). Computer Aided Testing Technician	\$50,000	\$79,841			
h). Second miscellaneous service personnel	\$75,000	\$113,004			
	<b>Sub Total:</b>	<b>\$970,353</b>			
<b>18 Critical equipment purchases</b>					
a). Computer aided engine balancing		\$25,000			Staff evaluation of critical equipment done in the <b>ninth</b> month and procurement done in <b>tenth</b> month.
b). Digital Optical Comparator (Q&A)		\$90,000	<b>N</b>	<b>60</b>	
	<b>Sub Total:</b>	<b>\$115,000</b>			
<b>19 Consolidate all the tasks and lessons learned documented in Startup and Beta Plans</b>			<b>In House</b>		
<b>20 Crosscheck and ensure the assembly line software is up to date</b>			<b>In House</b>		
<b>21 Implement first production run with the assembly line software</b>			<b>In House</b>		
<b>22 Develop a Q&amp;A process for the production line</b>			<b>In House</b>		
<b>23 Final training to all employees</b>			<b>In House</b>		
<b>24 CEO, CTO &amp; COO sign off</b>			<b>In House</b>		Month <b>twelve</b>
	<b>Grand Total:</b>	<b>\$1,085,353</b>			

BEYOND 12 MONTH PHASE

**Start time:** This phase begins subsequent to the production readiness phase.  
**Duration:** 13-18 months

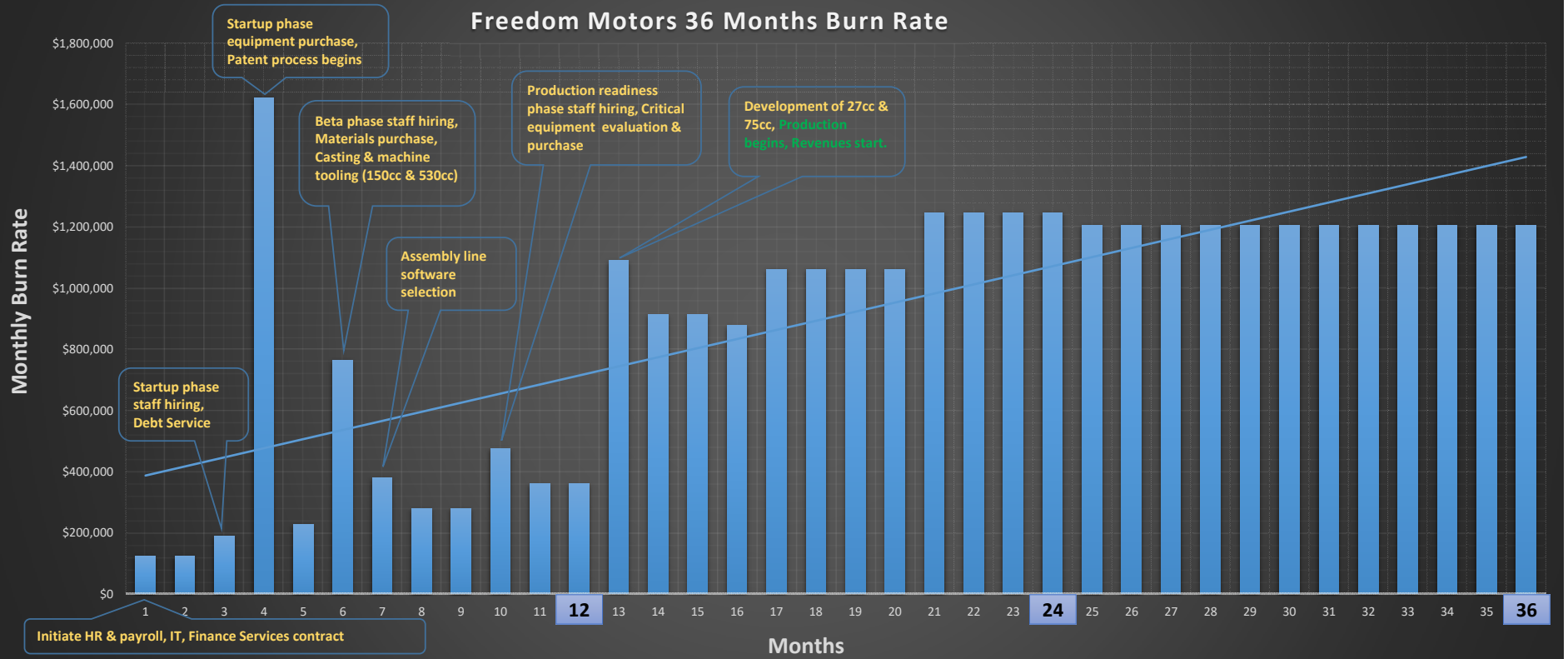
Tasks:	Annual Base Pay	Annual Burdened Pay (Calculated)	Off The Shelf/Custom	Lead Time (Days)	NOTES
<b>25 Critical hiring</b> a). Evaluate if any more staff are needed	\$0	\$0			<b>Thirteenth</b> month
	Sub Total:	\$0			
<b>26 Critical equipment purchases</b> a). Final evaluation to verify if any more purchases are needed		\$0	N	60	<b>Thirteenth</b> month
	Sub Total:	\$0			
<b>27 Development of 27cc &amp; 75cc</b> Cost associated with outsourced materials		\$175,000			Begins <b>Thirteenth</b>
	Sub Total:	\$175,000			month
	Grand Total:	\$175,000			

Average working days per month:	20
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	MSRP	Average Outsourced CoGs
150cc:	\$1,020	\$444
530cc:	\$2,380	\$924

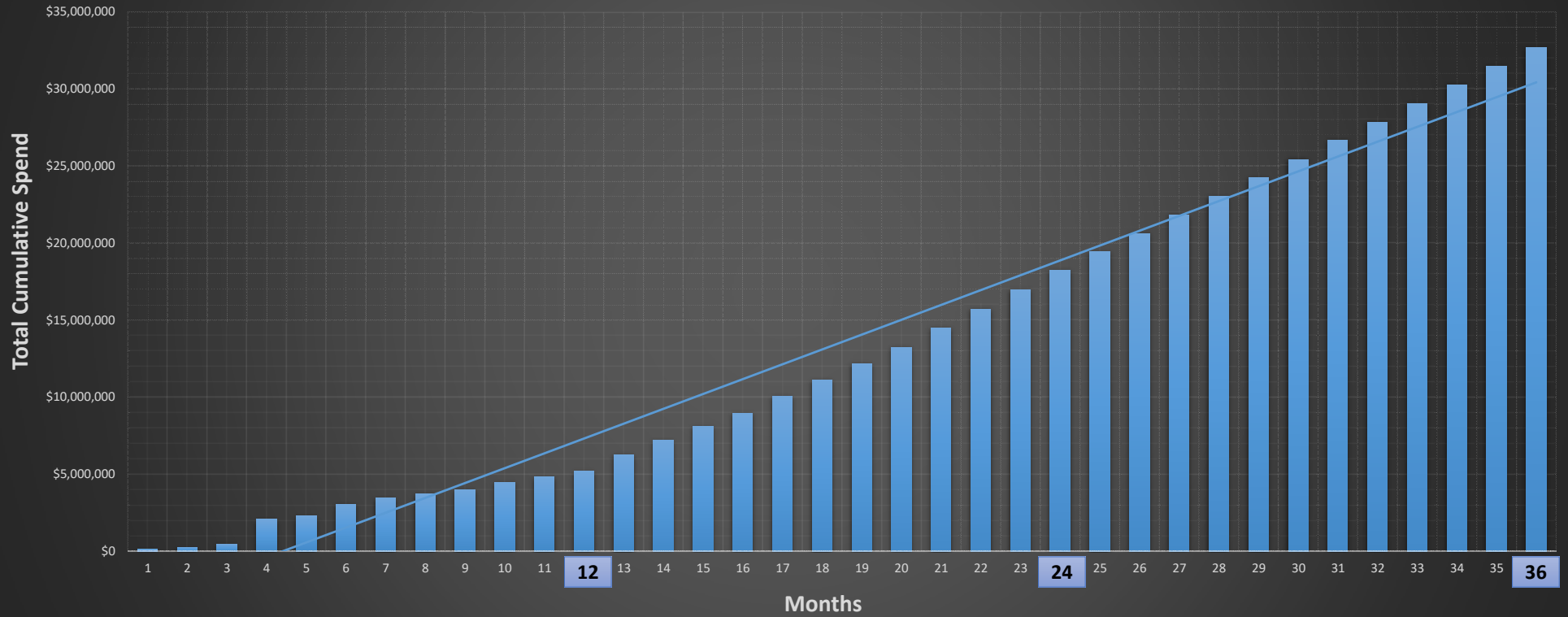
Monthly Burn Rate							NOTES	Raised Funds	150cc Produced per day	530cc Produced per day	150cc Produced per Month	530cc Produced per Month	Outsourced CoGs Monthly	Outsourced CoGs Cumulative	Sales Revenue	Cash Balance by end of month	
Month	Startup Phase	Beta Phase	Production Readiness Phase	Beyond 12 Months Phase	Monthly Burn Rate	Monthly Cumulative											
1	\$125,223				\$125,223	\$125,223	Lease & Overhead (Every month). CEO, CTO, & CE Payroll (Every month). Execute HR & Payroll, Finance, & IT Services contract. Retain Corporate attorney (Every month). Debt Services Begins (Equal payments for 24 months)	\$6,000,000							\$0	\$5,874,777	
2	\$125,223				\$125,223	\$250,446		\$0								\$0	\$5,749,554
3	\$190,547				\$190,547	\$440,994	Startup phase employees hired (Every month), payrolls start.	\$0								\$0	\$5,559,006
4	\$1,621,547				\$1,621,547	\$2,062,541	Patent process begins (Payment every month). Startup phase equipment purchase	\$0								\$0	\$3,937,459
5		\$228,047			\$228,047	\$2,290,588		\$0								\$0	\$3,709,412
6		\$764,001			\$764,001	\$3,054,589	Beta phase employees hired. Beta phase Materials purchased. Casting & Machine tooling (150cc & 530cc) contract initiated.	\$0								\$0	\$2,945,411
7		\$379,001			\$379,001	\$3,433,591	Assembly line software selection.	\$0								\$0	\$2,566,410
8		\$279,001			\$279,001	\$3,712,592		\$0								\$0	\$2,287,408
9				\$279,001	\$279,001	\$3,991,593		\$0								\$0	\$2,008,407
10				\$474,864	\$474,864	\$4,466,457	Production readiness phase employees hired. Equipment purchase evaluation & Purchase.	\$0								\$0	\$1,533,544
11				\$359,864	\$359,864	\$4,826,320		\$0								\$0	\$1,173,680
12				\$359,864	\$359,864	\$5,186,184		\$0								\$0	\$813,816
13				\$1,089,264	\$1,089,264	\$6,275,448	Development of 27cc & 75cc engines. Production begins. Included Outsourced CoGs	\$0	0	30	0	600	\$554,400	\$554,400	\$1,428,000	\$1,152,552	
14				\$914,264	\$914,264	\$7,189,712		\$0	0	30	0	600	\$554,400	\$1,108,800	\$1,428,000	\$1,666,288	
15				\$914,264	\$914,264	\$8,103,976		\$0	0	30	0	600	\$554,400	\$1,663,200	\$1,428,000	\$2,180,024	
16				\$876,764	\$876,764	\$8,980,740		\$0	0	30	0	600	\$554,400	\$2,217,600	\$1,428,000	\$2,731,261	
17				\$1,061,564	\$1,061,564	\$10,042,303		\$0	0	40	0	800	\$739,200	\$2,956,800	\$1,904,000	\$3,573,697	
18				\$1,061,564	\$1,061,564	\$11,103,867		\$0	0	40	0	800	\$739,200	\$3,696,000	\$1,904,000	\$4,416,133	
19				\$1,061,564	\$1,061,564	\$12,165,431		\$0	0	40	0	800	\$739,200	\$4,435,200	\$1,904,000	\$5,258,569	
20				\$1,061,564	\$1,061,564	\$13,226,995		\$0	0	40	0	800	\$739,200	\$5,174,400	\$1,904,000	\$6,101,005	
21				\$1,246,364	\$1,246,364	\$14,473,359		\$0	0	50	0	1,000	\$924,000	\$6,098,400	\$2,380,000	\$7,234,641	
22				\$1,246,364	\$1,246,364	\$15,719,723		\$0	0	50	0	1,000	\$924,000	\$7,022,400	\$2,380,000	\$8,368,277	
23				\$1,246,364	\$1,246,364	\$16,966,086		\$0	0	50	0	1,000	\$924,000	\$7,946,400	\$2,380,000	\$9,501,914	
24				\$1,246,364	\$1,246,364	\$18,212,450		\$0	0	50	0	1,000	\$924,000	\$8,870,400	\$2,380,000	\$10,635,550	
25				\$1,204,697	\$1,204,697	\$19,417,147		\$0	0	50	0	1,000	\$924,000	\$9,794,400	\$2,380,000	\$11,810,853	
26				\$1,204,697	\$1,204,697	\$20,621,845		\$0	0	50	0	1,000	\$924,000	\$10,718,400	\$2,380,000	\$12,986,156	
27				\$1,204,697	\$1,204,697	\$21,826,542		\$0	0	50	0	1,000	\$924,000	\$11,642,400	\$2,380,000	\$14,161,458	
28				\$1,204,697	\$1,204,697	\$23,031,239		\$0	0	50	0	1,000	\$924,000	\$12,566,400	\$2,380,000	\$15,336,761	
29				\$1,204,697	\$1,204,697	\$24,235,936		\$0	0	50	0	1,000	\$924,000	\$13,490,400	\$2,380,000	\$16,512,064	
30				\$1,204,697	\$1,204,697	\$25,440,633		\$0	0	50	0	1,000	\$924,000	\$14,414,400	\$2,380,000	\$17,687,367	
31				\$1,204,697	\$1,204,697	\$26,645,330		\$0	0	50	0	1,000	\$924,000	\$15,338,400	\$2,380,000	\$18,862,670	
32				\$1,204,697	\$1,204,697	\$27,850,028		\$0	0	50	0	1,000	\$924,000	\$16,262,400	\$2,380,000	\$20,037,973	
33				\$1,204,697	\$1,204,697	\$29,054,725		\$0	0	50	0	1,000	\$924,000	\$17,186,400	\$2,380,000	\$21,213,275	
34				\$1,204,697	\$1,204,697	\$30,259,422		\$0	0	50	0	1,000	\$924,000	\$18,110,400	\$2,380,000	\$22,388,578	
35				\$1,204,697	\$1,204,697	\$31,464,119		\$0	0	50	0	1,000	\$924,000	\$19,034,400	\$2,380,000	\$23,563,881	
36				\$1,204,697	\$1,204,697	\$32,668,816		\$0	0	50	0	1,000	\$924,000	\$19,958,400	\$2,380,000	\$24,739,184	
				Grand Total:	\$32,668,816						0	21,600	\$19,958,400		\$51,408,000	\$24,739,184	

## Freedom Motors 36 Months Burn Rate

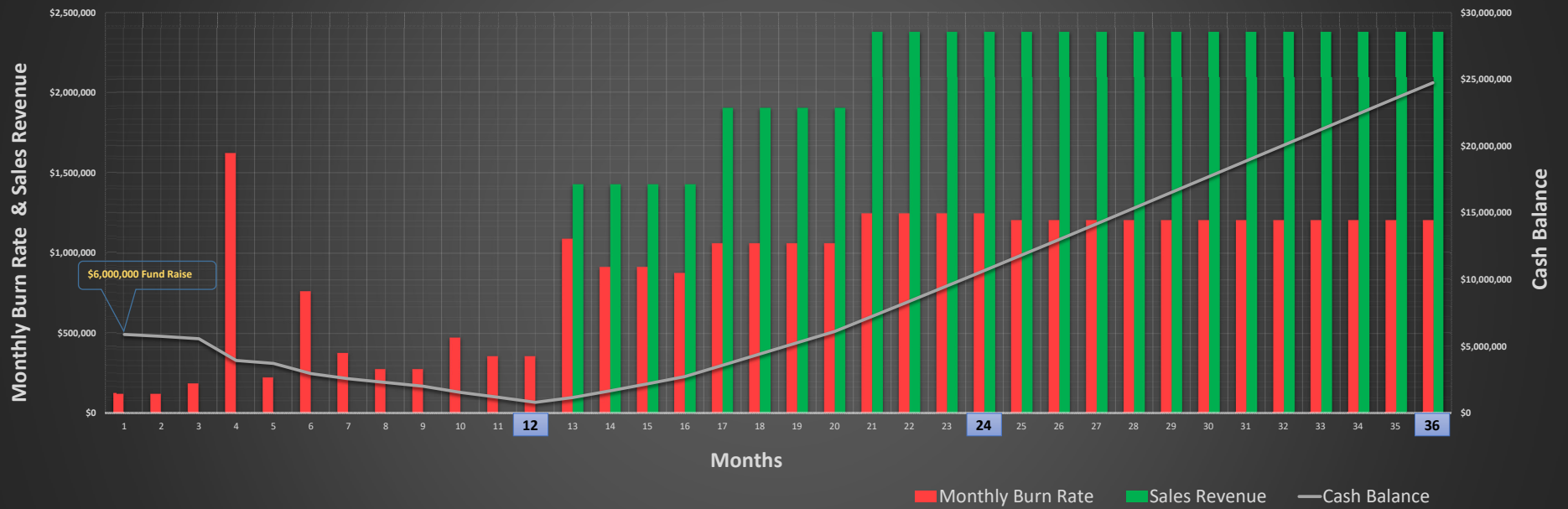




## Freedom Motors Cumulative Spend By Month



Burn Rate & Sales Revenue Versus Cash Balance



<b>Average Annual Salary:</b>		<b>\$75,000</b>
<b>Total Annual Working Hours:</b>	<b>2080</b>	
<b>Starting Wage (\$/Hr):</b>		<b>\$36.06</b>

**Fixed Costs**

FICA:	7.65%	<b>\$2.76</b>
FUTA:	6.20%	<b>\$2.24</b>
SUTA:	3.40%	<b>\$1.23</b>

**Insurance**

General Liability Insurance Rate (\$/1000):	\$4.00	<b>\$0.14</b>
Worker's Compensation Rate (\$/100):	\$15.00	<b>\$5.41</b>

<b>New Hourly Wage:</b>		<b>\$47.83</b>
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<b>Total Hourly Burden:</b>		<b>\$11.77</b>
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<b>Total Annual Pay:</b>		<b>\$99,488</b>
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Employer paid healthcare Insurance:	62.00%	
Health Care Insurance (Family):	\$21,800	<b>\$13,516</b>

<b>Burdened Annual Pay:</b>		<b>\$113,004</b>
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Burden % Without Healthcare:		<b>33%</b>
Burden % With Healthcare:		<b>51%</b>

**Instructions**

1. Change values in YELLOW boxes
2. Light BROWN boxes are calculated values
3. FICA is Federal Insurance Contributions Act
4. FUTA is Federal Unemployment Tax Act
5. SUTA is State Unemployment Tax Act
6. Healthcare Insurance survey says that the average annual costs is approximately \$21,800 and the employers paid 62% of it  
<https://www.kff.org/report-section/ehbs-2021-section-1-cost-of-health-insurance/>

FM plans to hire employees with experience in the industry and assumes that they will have a family and healthcare is plan is opted.

Federal Law ACA (Affordable Care Act) makes it optional for Small Businesses under 50 employees to provide healthcare.

If Healthcare is provided by small business, then it has to comply with ACA

In order to attract top level talent & stay competitive, one of the main perks small businesses provide is Healthcare