



A SWIFT ENTERPRISES INVENTION STORY

## Tom Swift and the Earth Plunge

By T. Edward Fox

Many attempts have been made to increase the altitude of free fall skydiving over the years. Some have been successful and have broken records. Some have been less so and have broken the bodies of those who have tried.

Now, Tom Swift takes up the challenge: make the world's first free fall from Earth orbit a possibility for thrill seekers. No balloon ascent, no upper atmosphere, just jump out of a spaceship in orbit into the icy cold of space to plunge through the fiery and violent re-entry and land on their feet. Easy. Right?

Normally he would laugh off such a dare, but when a number of people, drawn in by the quarter-billion dollar prize, start to die just practicing, Tom ponders whether it can actually be done and offers to try to make it possible, safely.

But when he proposes to stop taking people up, even within the atmosphere, the backer won't hear of it until He issues Tom a challenge. Either do it himself, or no dough!

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This story is dedicated to the Felix Baumgartners and Joe Kittingers of the world. Where there are supposed to be no new frontiers, they managed to push existing ones beyond most reason, and lived to tell the tales.

## Tom Swift and the Earth Plunge

### FOREWORD

I know a couple things about high-altitude free fall. No... not from personal experience and probably not what you are thinking. These things include the fact that it took decades to break a record set before man ever put a boot print on the Moon, and that there are heavy dynamic forces that can make it impossible unless you are very skilled, and very lucky.

One more thing. I know that man loves a challenge, especially when there are:

- Bragging rights to being first or best
- Fabulous cash prizes to be earned

What one man or group can think up will be attempted by many unless it is just plain suicidal. Even then, there will always be a few who will strap on plywood, pitch and feathers and jump off of a bridge in an attempt to prove they have figured out how to fly.

Whether it is one man and a dream or a team of experts with ample money to make a serious attempt to do it right, somewhere along the way somebody or somebodys will probably die trying. We often say, "Well, it was his dream and he died happy trying," but I'll bet if they were with the victim just as things went horribly wrong, they might have another opinion about how that person felt.

At least, when you have somebody like Tom Swift working to make something accessible and safe, you know the best is with you.

*Victor Appleton II*

## CHAPTER 1 /

### THE PRIZE

BASHALLI SWIFT— young wife of the famous inventor Tom Swift —spun around from the sink where she had been washing out their oatmeal bowls. The sound of her husband crushing the morning's newspaper and swearing had both startled her and made her a little scared. It was something Tom had never done before in her presence.

"What is it, Tom?" she asked timidly.

Seeing the look on her face, he jumped up and came to her, apologizing. "I'm sorry, Bash. It's just the news. There's been another fatal accident and all because to that stupid new 'X' prize being offered. The organizers have just gotten too cocky and heady with the successes of previous contests. It makes me want to scream!"

She wrapped her arms around him and hugged him for a full minute before releasing him and stepping back.

"You will forgive my ignorance," the beautiful Pakistan-born, but U.S. raised, twenty-two year old said, "but I do not believe I know what Ex-prizes are about."

"Well, the 'X' as in the letter X prize was started years ago by a foundation to promote civilian interest in doing great scientific and engineering things. Like the famous Ansari X Prize that was awarded years ago for the first private company or team to fly a manned spaceship up to the edge of space twice in just a few days. You know how a few companies offer rides up to space to do anything from just floating in near zero-G for a few minutes to the ones that will take you around the world once or twice?"

She thought about it for a second and then recalled all the news stories over the years. "Oh. Yes, I do. Has there been another accident with one of their rockets?"

Tom shook his head. "No. With the exception of that one that happened when one of the smaller companies accidentally hit some old satellite debris and got stuck in orbit before it could plun—" He stopped not wishing to be too descriptive.

"Which you and Bud went up in the *Challenger* and saved most

of them—”

He smiled. “Yes. That Bud and I saved three of the five people before they ran out of oxygen. But this has nothing to do with that prize. No, the one that really burns me up is this new SkyFall Prize where they will give two-hundred and fifty million dollars to the first private team to create a free-fall suit that can let a man drop from one-hundred miles up, successfully make it through the re-entry heat, and then parachute to a controlled landing on the ground.”

“But, you built your evacuation balls for the Outpost to do that, and those come through perfectly fine.”

“They do,” Tom agreed, “but the prize committee has some pretty strict rules. Let me read a few to you.” He walked back to the table and picked up the paper, straightening out the front section. “Okay. Number one: Re-entry/free-fall, recovery suit shall be totally self-contained. Two: Recovery suit shall be man-shaped (i.e.; two arms, two legs, torso and head/helmet). Three: Recovery suit shall weigh no more than one-hundred twenty pounds empty. Four: Occupant must be capable of landing in an upright position (no deduction if he/she falls over once on the ground) and walking away under their own power.” He looked up at her.

“That all sounds like something you could create in a few days,” she said, a look of pride in her eyes.

“Yeah, I probably could except that rule... umm... here it is. Rule seventeen: Recovery suit must be designed and built by the team with no sponsorship or production work from existing industrial entities. And that,” he told his wife, “means no Swift Enterprises. They do this sort of thing to keep us from walking away with all the prizes.”

“How will they get up there?” she asked looking at the ceiling in their two-story home.

Now, Tom gave a rueful chuckle. “That’s the ironic part. They have asked that the first batch of entries be ready in three months from now and have contacted us to see if we might provide ferry services. At first dad and I were interested, but with each new death by people using balloons and then rockets to get more altitude, we have been discussing backing out.”

“The last thing you would wish to do is to take anyone up to

space only to have them die on the way down. I understand and support you on that,” she told him with an emphatic nod. “But, what did you say about balloons *and* rockets?”

Tom sat down and motioned for her to join him.

“Well, do you know what a RATO is?” When she shook her head, he continued. “That’s short for Rocket Assisted Take-Off. For years heavy airplanes and jets, especially if they needed to fly from short airfields, used a series of strap-on rockets to give them extra oomph! They would be anywhere from a couple feet to a few yards long and filled with solid propellant. When the pilot was ready to go he pushed a button that fired one or all of them at the same time he opened his throttles. As soon as the fuel was burned out, the RATOs would drop away and the aircraft would hopefully be airborne. Or, nearly so.”

Bashalli took a sip of her tea while she thought about this. “Something that small had enough power to push a large aircraft?”

Tom nodded. “They burned fast and powerful. There are people who’ve welded RATOs onto cars and tried to see how fast they could go on the salt flats. There is one story about a fool who tried it on the open road. He supposedly shot forward at high speed. The road turned, but he did not and all anyone found were flattened bits of metal on a rock face of a cliff a few hundred yards away.”

She shuddered at the thought.

“Don’t worry,” he told her. “Nobody has ever proven that this happened. But, these flying idiots are trying anything they can to gain altitude at fairly low costs. Helium balloons, even with the super pure helium we mine at Helium City under the Atlantic Ocean, have rarely topped forty miles up, and space starts about twenty more miles higher. This fellow,” he tapped the paper with the back of his right hand, “evidently went up in a sort of cage affair with a pair of RATO rockets strapped on either side of his seat, and all of that dangling under a balloon.”

“How did he breathe?”

“It says he also had oxygen tanks strapped to the outside of the cage along side of the RATOs. Nobody knows exactly what happened, but my guess is that he got as high as he could, ignited the RATOs and they may have ruptured an oxygen tank. It says that observers saw a fireball and then watched as the whole cage

assembly plummeted.”

“That is very sad. Did he have a family?”

“Doesn’t say. But it does tell me one thing. His suit would have never made the drop. If it couldn’t withstand that fireball, it would have burned up on entry.”

They sat for another five minutes before it was time to shower and get ready for work.

On the drive in Tom considered the options for Enterprises. The four-mile-square complex of runways, buildings, hangars and minor assembly buildings sat five miles outside the town of Shopton in upstate New York. Under the management of his father, Damon Swift—also a famous inventor and scientist—more than eleven-hundred employees designed and built some of the most complex and universally-used products in the world.

He checked in through the private gate used by senior management and headed for the Administration building where he walked into the large office he often shared with his father four minutes later.

After their standard morning greetings Tom asked if the older inventor had seen the paper.

“Yes I have,” Damon said somewhat sadly. “Another fool dropping from the sky without thinking things through. Why can’t these thrill seekers stop for a moment and list everything that might go wrong, and then come up with some contingency plans?”

Tom shook his head. “They didn’t have you for their father to make them see how vital doing that is. In fact, if it hadn’t been for that being drummed into my head for years and years I might have died a dozen time already.” He looked at his father and gave him a small grin. “If I haven’t said it enough times in the past, thank you!”

Damon smiled. He was rightfully proud of his son.

“So,” Tom went on, “what do we do? Do we back out of the whole ferry service thing on the grounds that too many people aren’t ready to do this and we don’t want to be part in their deaths?”

Damon shook his head slowly. “I don’t think that is wise. I agree that we can’t knowingly take men or women up who will perish,

but there will be a lot more like *that* fellow,” he said pointing at the newspaper on his desk, “who will die unless we can exercise some sanity in this whole thing.”

“How can we do that?”

Mr. Swift smiled. “Easy. We only take up people we’ve personally checked out and are fairly certain have something that will work.”

While Damon made several phone calls, the first to Enterprises’ own Legal department to ensure they *could* make such a stipulation, Tom wandered out of the office and down the hall to his large laboratory. There, he sat down at his desk and pulled over a pad of sketching paper and his set of colored pencils.

He had been tapping his teeth with the dark blue pencil for several minutes before leaning forward and beginning to draw.

Bashalli was right. He had created the small round evacuation balls for the Outpost in space that could bring an injured crewperson back to Earth safely and under full automatic control should they require emergency medical help. Those had been straight forward as their shape—and the ability to use small steering and stability rockets while out of the atmosphere plus both drogue and steerable parachutes to slow—let the pod deliver its cargo to a specific geographic position.

Well, that plus the incredible properties of Enterprises’ own tomasite plastic. Damon had originally developed that to be used as a shielding material for their nuclear research and power facility, the Citadel, in New Mexico. It not only proved to be three times more effective at containing radiation than lead—one inch of tomasite versus three feet of the heavy metal—it later was found to have properties that made it impervious to RADAR signals, could be used in liquid form to coat other things thus imparting both strength as well as its other properties, and when finely spun into threads, was weave-able and made for incredibly strong cloth.

Tom’s best friend and one of Enterprises’ top test pilots, Bud Barclay, walked into the lab an hour later.

“I hear you’re going to try to keep more of those idiots from killing themselves,” he stated ruefully. “What a bunch of incredible morons. It’s probably a good thing they are culling themselves from the herd!”

Tom looked at Bud, a little shocked at the callous way the flyer was speaking. One glance, however, and he could tell that Bud was saying those things only to bring Tom out of his concentration.

“They all seem to put too much emphasis on getting down and little thought of the dangers of going up,” Tom admitted. “In fact, I believe a lot of these daredevils can’t get the whole fiery dive into the atmosphere concept straight in their minds either. They equate it to just higher skydiving.” He reminded Bud that the two of them might be soon taking several potential participants up in the *Challenger*.

“Dad is trying to find out if we can enforce a few rules of our own on them. You know. Things like blast testing their suits for them and ensuring that all materials will withstand what they will encounter.”

Bud tilted his head to one side, a sign that he had a question he wasn’t certain how to ask.

“Yes, Bud?”

“Okay, so what happens if none of these numbskulls pass muster? CAN we tell them, ‘Sorry, but you are defective in both brain power and entry suit!’”

“Sadly, we can’t make them use Swift flight services for this, but I am hoping that everybody will see that we are their best way up and their best chance of surviving the drop through the atmosphere. After that it’s up to their skills to maintain control of spins, tumbles and open their chutes on time.”

“Can they set that all up to be automatically managed?”

“Just the drogue and main chute deployment. The suit wearer must be able to control his glide path and even land within a prescribed area. Then, he or she must stand up and walk away. If they are incapacitated they don’t qualify for the prize money.”

“Sounds too stupid to be true,” Bud said with a snort of derision.

It took eleven days for the organizers to get back to Damon, but their answer might just as well have never come. He read it to Tom that afternoon:

To: Mr. Damon Swift  
Swift Enterprises

From: Stockwell Anderson, Esq.  
Chief Organizer, SkyFall X-Prize

Sir;

Regarding your hesitance to follow through with your signed contract and commitment to provide flight support services for any and all applicants for our competition: You signed all the necessary papers several months ago and our competition has been allowed to continue by the graces of the U.S. Government only because of that.

Now, much to our shock and dismay you evidently wish to renege on that promise.

How dare you, sir? Your actions will now place the lives of each and every participant in jeopardy. Many more shall perish without your assistance. Assistance that we insist you provide to us.

I cannot tell you how badly this will make your organization look to the world if I am forced to take this to the press.

Should you refuse to follow through on our contract we will have no other options than to take your organization to court where we will sue for damages in the amount of all costs incurred to date in the running of this contest, the full prize monies, and payments to the survivors of all people who die in their attempts both in the past and future!

Tom looked at his father. “Is he crazy, bloodthirsty, or just plain insane?”

Damon Swift shook his head. “I’m not sure, Son. Perhaps our Mr. Stockwell is a little bit of all three.”

Now, Tom shook his head. “I’d say he’s *large* helping of all three! I just hope we don’t get dragged down into the mud it turns out he gets accused of outright murder!”

**CHAPTER 2 /****THE HEARTACHE**

TOM WAS flabbergasted.

“How can he try to turn this around and make us the bad guys?” he demanded.

“All I can tell you is that I have heard rumors that the smaller backers for the prize money have been quietly pulling out of the contest and someone unknown is pushing this. I suppose they are now facing the possibility of running a contest without having the funds to back up the thing, and he is probably grasping at straws. Just so you know, at no point in our communication with them this past couple of weeks have we mentioned abandoning the project or withholding our services.”

“I know. Jackson Rimmer up in Legal let me read the letter we sent them. All you said was that you want to change the terms of using us to include the mandatory safety checks. Right?”

“Yes,” Mr. Swift nodded. “And, we are going to do those for free plus put the potential entrants up in our guest quarters for the two days it will take for each suit to be thoroughly tested. I’ll make a phone call to the man, but I doubt it will do any good. We may have to appeal to the Federal agency overseeing this.”

Tom left to go back to his lab. The sketches he began eleven days earlier had undergone many changes and he was narrowing things down to what he hoped might be a design he could offer participants to be built by them.

Nowhere in the rules—a fifty page document he had studied over and over—did it say participants had to *design* their re-entry suits. It only stated that they must build them as individuals or small, private teams, with no assistance from outside organizations or companies. In fact, it also did not preclude purchasing specialty materials from an outside company.

He grinned to himself as he considered they probably meant to not put that sort of clause in so people wouldn’t think they couldn’t purchase materials from large companies. Actually, they actively suggested to purchase their air supply equipment and parachutes from reputable firms, including Swift Enterprises.

Fifteen minutes later his father wandered into the lab. He had a

small smile on his face.

“Triumph, Dad?”

Mr. Swift nodded. “Yes, or at least a partial win. And, a new discovery. Stockwell Anderson is a woman.”

Tom’s eyes went wide. “Really? I mean, I shouldn’t be surprised these days, but Stockwell is a pretty masculine name.”

Damon laughed. “It turns out that Stockwell is her maiden name and Anderson her former married name. She removed the hyphen and uses that combination as her business name. Officially her name is Olivia Stockwell. We had a fairly productive talk. I told her our reservations and also about my supposition regarding her financial position. I also mentioned that the press might be interested in her fiscal condition and willingness to let participants put themselves into danger. She finally admitted to having her back against the wall, but feels it is important that the contest be as wide open as possible so that it is hard for anyone to win.”

“Oh. So the whole ‘people will continue to die’ thing doesn’t phase her I suppose. Did she sound totally callous about that?”

Damon sighed. “If I had to be totally honest, she does seem to be more interested in her financial state than the health and welfare of the people she has enticed. But on the cold side of things I can see her point. If we try to make it as foolproof as possible then the first team to get here with a survivable suit will most likely win. That is counter to the ideals of making this an open contest.”

“So, do we step back and just provide the rides up?” Tom asked, now feeling a little dejected over the entire affair. “My feeling is that once I take off and get into international airspace that as captain of the ship I can impose whatever rules I see fit, and that includes a safety check. What do you think?”

“I’m afraid that Olivia Stockwell Anderson has already thought of that. We still have to hammer out the details, but she wants no part in anything like that.” He smiled at Tom. “Officially. She did not, however, tell me that we could not *do* just that. So I think that has to be our position. We do a ground check just to see if somebody is about to outright kill themselves, and then a final check in space before they are allowed out onto the porch.”

He referred to the rail-surrounded area just outside of the *Challenger’s* hangar, the interior space that took up about eighty

percent of the bottom floor of the three story tall control cube that rested inside of the circular rails of the repelatron-powered ship. The outer area was about thirty feet wide and eight feet from the hangar door to the front edge.

It was often used to haul up extra materials that would not fit inside the ship. For the upcoming use it would be set up with staging areas for up to three Entry-nauts, as the organizers had been calling contestants, at the same time. Nobody wanted to be in a position of flipping a coin to decide who could dive first and thereby affect the contest.

The younger inventor thought things over for a moment before asking, "When do we expect to take the first of these people skyward?"

Damon explained that the contest was ongoing and had numerous checkoff points before anyone could be certified as "ready to go."

That had not stopped at least fifteen attempts in the past few months, with three of them ending in death of the would-be Entry-naut and eleven being called off before they could reach any respectable altitude. The final entrant had disappeared.

He radioed that he had taken off from his ranch in Texas and was passing the 40,000 foot mark. Nothing else was heard from him and it was suspected that his flight was possibly a hoax. On investigation, the property he supposedly owned turned out to be owned by an older woman who hadn't heard of "Frank Osbourne," the name of the supposed entrant.

The weekend went by before Ms. Stockwell contacted Enterprises. She sounded desperate to both of the Swifts as they took her call on speaker phone.

"You have to save this competition. If not, I'll be ruined!" she practically wailed.

"Ms. Stockwell," Damon responded in a calm and level voice, "for starters we are not obligated to you or anyone to keep them from ruin. We are obligated, morally, to ensure that nobody dies in attempting your stunt, and to that end we will provide the contracted services to take your entrants up into space and to position them in a location that will let them find a safe landing location. And, nothing more."

They could hear her sobbing on the other end. Finally, and after

sniffing twice, she told them, "The National Aerospace Committee of the Senate has given me one week to provide a concrete plan to make certain that no more people die. But I can't. They practically want guarantees. What can I do?"

In an increasingly hard-edged voice Damon told her exactly what she could do, and it all started with mandatory checks of the suitability of the re-entry outfits of each potential entrant. Also, that all contestants must use the Swift's services for both suit checks as well as transportation. No people trying their own launching systems would be considered for the prize money, even if they succeeded.

Tom added, "We only want the best for the group of people your money has attracted. The problem is that money doesn't equate with common sense or even sanity. While we can't insist on a psychological test of these people our expertise in technology can easily spot anyone trying something dangerous or just plain foolish."

She admitted that she understood the underlying reasoning behind that and asked that the Swifts be prepared to check out two potential entrants in the next week.

"They have both indicated they are ready with their suits and launch vehicles based on home-built rockets. My guess is that the rockets won't pass muster, but perhaps their suits will."

"Tell them that as long as they pay their way to get here that we will put them up for the two days of checks. That won't include homebuilt rockets, though. If we deem them to be safely ready to attempt the drop, we will take them up. If not, they will need to pay their own way home."

"Agreed."

One week later a man who identified himself as Alpenrose Whittler arrived at the front gate of Swift Enterprises in a well-used motor home towing a long trailer. His appearance was both unscheduled and a flag raiser as he insisted he had an appointment with Tom. The guard, Davey, phoned the inventor and explained the situation.

"He looks harmless enough, Tom, but he's got this strange hand-drawn picture of a man hanging under a parachute with the words, 'Winner SkyFall' on the trailer. I didn't want to call Security just in case you are expecting him."

“Thanks. That’s probably best. I’ll call Harlan or Phil to get over there and we’ll come out there once they give the clear signal. Have him pull into the little lot out to the left of the gate and make him comfortable in the security room. Thanks!”

A call to the Security department got him connected to Phil Radnor, the number two man in the organization. He agreed to meet Tom in the Administration building’s parking lot.

“What’s really up?” he asked as they began walking out to the main gate together.

“You guys have been in on the whole space free fall thing, and it appears that we have our first entry. Unscheduled, but here. Perhaps even not officially signed up for the competition. I just wanted to have you with me in case there is anything funny going on.”

Phil grinned. “If there is, I’ll sit on him while you run out and lock the door behind you!”

Tom grinned in return. While not fat, Phil was not what anyone would call svelte. And he had, in the past, used his weight to help subdue more than one intruder.

Arriving at the gatehouse, the guard pointed at the small building to the left. “He’s in there, but take a look at his trailer first,” he suggested.

They did and Davey was correct. Not only was the drawing like something a five-year-old might do, the words were nearly unreadable and the first “l” in the end of the text was scratched so it looked like a lower case “i” and the whole thing now said, “Winner SkyFail.”

Phil looked at Tom and shrugged. “After me, I think,” he declared as they headed for the one and only door.

The man inside looked like a stereotypical movie kook or at least an absent-minded scientist. He was about fifty with thinning hair, but a long fringe of it stood out all around the sides of his head. He was dressed in neat and clean clothing and didn’t appear to neglect his personal hygiene, other than not taming his wild hair. When the door opened he sprang to his feet and came right up toward Tom.

Phil stepped in between them and shook his head. “Introductions and I.D. first and then you can go face-to-face with

Mr. Swift.”

The man gulped, but nodded and took a step back. “My name is Alpenrose Whittler, that’s with two t’s by the way, and I am currently living and working in Michigan. A small suburb just north of Detroit, actually. I was among the first three to sign up for the free fall competition being organized by the SkyFall people. I hear that I am supposed to let you check out my rocket and my freefall suit before I can launch.” He looked hopefully at Phil and then craned his neck around to see what Tom’s reaction was.

“Your identification?” Phil asked holding out his hand. Whittler pulled an overstuffed wallet out and extracted his driver’s license and a folded copy of his entry form. The Security man looked them over and nodded.

“I think I can take this, Phil,” Tom offered stepping forward and offering the man his hand. “I’m Tom Swift and firstly, I welcome you to Swift Enterprises but I also must tell you there may have been a little misunderstanding.”

Whittler looked worriedly at the inventor. “Ummm, what sort of misunderstanding. I mean, I hope this isn’t a wasted trip. I cashed in the last of my saving account to buy the gas to get here and back.”

Tom explained, “The misunderstanding is that while Swift Enterprises is now responsible for checking out each entered re-entry suit to make certain that they meet minimum safety and performance requirements, we will not be checking your rocket.”

The man blanched. “Bu-bu-but, I heard that you would check to see if I got things right,” he protested.

Tom placed a hand on the man’s shoulder. “Ah, no. You see *we* will provide the ride up to the drop off point. We are doing that for a couple of reasons but the main one is your safety. No matter what we might discover or not on your rocket, the truth is that unless it is a commercially-available model there is no way to ensure that it will safely reach the altitude necessary. Beyond that, we cannot be certain where it will land and the Government can’t have that. So, while I might look at it just from a personal point of view, we won’t certify any lifting device.”

He explained what the procedure would take place over the next two days.

“So, you will stay in our guest quarters tonight and even



tomorrow night if you would rather get a morning start back the following day. Food will be provided and we get a direct satellite broadcast of most of the major networks around the world coming down from our outpost, so I can promise you more than four hundred stations to watch in the evenings. I'll let Phil here take you over to the test hangar—that will be number six, Phil—before he get's you assigned a room and gives you your security pass and meal vouchers.”

He shook the man's hand again and promised to meet up with him in the test hangar in three hours.

The testing did not go well for Alpenrose Whittler.

For starters, Tom looked his rocket over and told the man it appeared to be well thought out but not well constructed. “I am glad we will be transporting you, assuming your suit passes muster, because I believe this rocket might fail sometime during the early part of its flight. The dynamic pressures that will build a minute or so into a flight could split those seams all around the upper part of your first stage.”

Whittler had gone pale at that announcement.

Things went from bad to worse for the man when his suit was checked over. It was a surplus Russian cosmonaut's suit that had been modified by the addition of a pressure bladder inside to maintain an Earth-like pressure on the man's body, and an outer triple layer of heavy Kevlar fabric, expertly stitched but in no visible way attached to the actual suit inside. It could be moved around far too much for Tom's liking. The clincher was that the man had used metal wire to stitch everything together.

“I am afraid I have bad news for you, sir,” he told the dejected man the next day. “Our testing included subjecting the suit to temperatures similar to those of re-entry. All the metal wiring used in your outer layer melted and the Kevlar outer cover fell apart. We got the flames turned off before they could damage the suit underneath, but there is just no way you would have survived if you re-entered in that suit the way it was constructed.”

Tom offered to send him home with a large spool of tomasite thread so he might stitch it back together. “Then, you can come back for a retest.”

Whittler was bitterly disappointed, but said nothing. He numbly collected his suit and the spool, climbed into his motor

home and drove out the main gate twenty minutes later.

Tom returned to the large office he and his father shared and placed a call to Olivia Stockwell. She was shocked that the man had appeared unannounced and so early in the process but sighed and told him, “Alpie is a strange case. He worked for NASA for a couple years at the very end of the Pegasus lifting body program and then was an engineer-for-hire for several of the private ventures. Worked for that old billionaire Cyrus Murphy who is supposed to have flown one of the rockets Alpie designed to the Moon and back. If you can believe such utter nonsense!”

Tom had to repress a snort. Cyrus Murphy *had* flown to the Moon in a small rocket. He had made it and had crashed in his zeal to get there faster to try to lay claim to a mineral deposit that Tom was already mining up there in the name of the U.S. Government. Only by the inventor's intervention had the billionaire been rescued and returned to Earth.

They spoke another minute before Tom hung up. And, for the next week and three days that was the end of it, or so he thought.

Then came the newspaper headline and story:

## **BACKYARD ROCKETEER PERISHES**

A private rocket scientist, Alpenrose Whittler of Warren, MI, and one of the would-be pioneers vying for the multi-million dollar SkyFall X-Prize to be the first man to perform a one man re-entry clad only in a space suit has died as his home-built rocket tore apart shortly after takeoff from a makeshift launch facility on the shore of Lake St. Claire yesterday.

Observers said it appeared to “just come apart” and then explode.

Tom felt sick to his stomach.

**CHAPTER 3 /****THE FINAL STRAW**

**BITTERLY ANGRY**, Tom yanked the phone from its cradle just as his father was entering the office. Seeing the paper on Tom's desk, and already knowing the content, he walked over and calmly placed a finger on the cutoff button. He looked down into the beet-red face of his furious son.

"I know," was all he said as he took his finger back off the phone and walked over to his desk.

Tom sat there seething in anger for nearly five minutes before he managed to get his emotions under control.

In a quiet yet tense voice he stated, "He was sort of a nut but I actually liked the man. There was no reason for him to die like this."

Damon Swift nodded. "I didn't get the opportunity, but from what you told me he was a little misguided but not a complete nut. I'm afraid the lure of the cash prize must have overcome his common sense. I'm sorry for his loss. But," he said standing back up and crossing to Tom's desk again, "that doesn't mean that an angry call to Ms. Stockwell is going to make things better. If you will, please allow me to look into things to see what I can find out. Okay?"

Tom was now feeling a little foolish for his near phone rampage and nodded his agreement. He was about to get up to go find Bud when his phone rang.

"Tom," he answered.

"It's Trent. You have a call on line seven. Olivia Stockwell and I have to tell you she seems right on the edge of hysteria."

Tom thanked their secretary and pressed the button. "Tom Swift."

There was a pause followed by a mostly-controlled voice. "I suspect that you have seen the papers today?"

He told her that he had.

"Fine. Then can you please explain how come Alpie is dead? I

mean," she continued, her voice becoming more strained and a bit louder and higher as she spoke, "you were supposed to make sure this thing didn't happen. Weren't you? Wasn't that the whole idea with you demanding to take control of things? WELL?"

Tom counted to ten.

"He did this on his own and against our verbal and written reports to him regarding the lack of fitness of both his suit and his rocket. Screaming at me right now isn't going to fix anything and five minutes ago it would have been me reading you the riot act at the top of my lungs over this. So, here is what happened at this end. I can only guess what occurred after."

He spent thirty minutes detailing each and every thing that had gone on including the unannounced appearance of the late man, the testing and state of his rocket and Tom's strenuous advice to not use it, and the failed test of his suit.

During this time all she said were a few "oh" and "well" monosyllable responses.

When he finished, Tom ended with, "We are all devastated over this. But the truth is that once he left here it wasn't a case of 'let's go catch him and give him a little shake to make him see the light' sort of thing. He was a grown man and responsible for his own actions. He chose to ignore what we told him." He paused before adding, "Money will do that to a person."

"So you're back to blaming me now!" she said to him. "When all else fails blame it on the stupid woman!"

Tom immediately sensed something more behind this. He decided he must tread carefully.

"I never equated this with gender nor did I specifically say this has to do with you. It is the general situation and the prize money that clouds peoples brains. I can only suggest one thing and that is to issue a new rule that everybody has to agree to or they are out of the competition. That is, if your suit does not pass the minimum levels for safety and protection, you cannot attempt to make a re-entry on your own. Doing so will disqualify you from the entire competition."

She didn't want to agree but saw no choice.

\* \* \* \* \*

Over the following month, eleven would-be Entry-nauts came to Enterprises. While most had sound ideas, their application mostly came up short.

Eight of the suits had heat-related failures that would have burned the occupants within the first two to ten miles of hitting the outer atmosphere, long before any drogue chute would be able to be deployed.

Two suits passed the heat test. Both also passed the stability test and had sufficient back-up systems. These were given a passing mark and told that the first jump date would be in ten days time.

The final suit passed the heat test but the control box to regulate the inside temperature and air in the suit suffered a small explosion inside. On opening it, Tom discovered that the system's cooling coil had ruptured.

"That copper you are using is far too lightweight and melts at too low a temperature," he told the contestant, the contest's only female, a former Russian cosmonaut. Tom suggested an alternate material and agreed to a retest in six days.

She passed that second test and was invited to take part in the first jump practice.

Ms. Stockwell had decided that a high-altitude jump should be made to ensure that each entry could maintain control once they were inside the atmosphere. These jumps would be made from the back of Tom's *Sky Queen* and from an altitude one thousand feet below the current world record.

The three entrants and their team members climbed aboard along with Olivia Stockwell, three people from her award committee and a man she introduced only as, "Mr. Daws, a benefactor." Tom almost refused to let the man come until more of an explanation could be made but Olivia Stockwell gave him a look and mouthed the word, "Please?"

Red Jones and Bud manned the cockpit and had the giant triple-decker jet in the air at one minute past eleven that morning. The National Weather Service reported that the best conditions would happen between one and one-thirty that day over the drop area in eastern Montana. As the *Queen* raced to the west, Tom gave the three participants and their small support teams a

combination lecture and pep talk.

He ended it with, "Now, there isn't anything that says you can't back out from this test and still make the next one. In fact, with no other teams currently in the running I can bring any of you back for another drop in a couple of days. After that, only the ones who succeed at this drop go up to space, but even that is two months or more off. Now, head back to the hangar and get ready. We open the back door in—" he checked his watch, "—twenty-two minutes!"

As the teams departed the lounge, Mr. Daws approached Tom.

"You are wondering why I am here. Do not deny it as I saw it in your eyes when Miss Stockwell introduced us. I am right. I know it."

Tom eyed the man. He was perhaps sixty, trim and athletic and the sort of looks that Bud would most likely have when he reached that age. The difference was that where his friend had hope, fun, friendship and appreciation of other in his face, Daws had the look of a man who would gladly hunt a fellow human just for the sport of it.

"I will be honest with you, Mr. Daws. From my first impression of you, I do not like you. And, I can see that is not the first time you have been told that. Perhaps it's even something you like to cultivate in people. Dislike me but stay on your toes? Is that it?"

Daws laughed. "You're perceptive, I'll give you that. Actually, I am the man behind this little competition. It's my money and my idea. Miss Stockwell is simply acting as my public face. She doesn't realize it and I'll deny it if you say anything to her. I've given her the belief that I am only one of several backers." He searched Tom's face to see how this information had been received. He changed his tactics.

"I have a proposition. Qualify all three of these people, take them up into space and let them jump at the same time. I want to see who has the guts to drop the fastest and open their parachute the lowest. I want this to be a media event and I want excitement and action. If I thought I could do it I'd hire someone to jump with them to take video of the entire thing. Interested?"

Tom placed his right index finger on the man's chest and pushed him back and into the nearest seat.

"Stay away from me. Stay away from any of my employees. And,

most of all, stay out of trying to corrupt an already dangerous game you've spawned with your money!"

Daws remained in the lounge as Tom went aft. He tried to make a phone call but the inventor had televoc'd Bud on his way out of the room and had the flyer turn on the blocking circuits.

In the hangar two of the three were ready. One man, Henry Ford Davidson—a five-times removed ancestor of Henry Ford IX—had frozen. His eyes were wide and he was salivating as he hyperventilated inside the closed hangar.

Doc Simpson, Enterprises chief physician, had come along and he now took the man to one side to check him out. A minute later he looked over to Tom and shook his head. He mouthed the word, "nerves" and then helped the man to stand, leading him from the room seconds later. Stunned, his two-person team followed them out.

*And then there were two*, Tom thought to himself.

From this point, according to the rules, nobody but a team member could touch anything on a suit or even communicate with an individual Entry-naut. Tom stood to one side along with Olivia Stockwell and the three-man Enterprise crew that would soon open the hangar door and provide the safety equipment to those remaining.

"It's time to go get into our pressure suits," Tom told her, nodding to his men who were already clad in them. They stepped out of the hatch and into the corridor where he handed her one of the smaller suits hanging in a locker and showed her how to get into it and seal the helmet.

A steaming mad Mr. Daws came storming down the corridor as Tom was about to reopen the hatch.

"What is the meaning of this outrage?" he shouted. "Why was I left in that godforsaken room upstairs? When was somebody coming to escort me down to be here?" He took a menacing step toward Tom who merely lifted his index finger and wagged it at the man. Daws looked at the ground and said nothing more as he climbed into the suit Tom now handed to him. As the disgruntled man turned to one side, Tom serepticiously flipped a small switch on the backpack thereby cutting off the 'send' feature of the suit's radio.

When the trio entered the hangar the technicians gave their suits a final check. It wouldn't be wise or healthy to allow anyone to be exposed to the sub-zero temperatures and near zero oxygen of the altitude they were hovering.

Over his radio Tom explained to everyone what was going to happen.

"In three minutes we depressurize this space. As you know if we don't do that and just open the door the escaping air will yank anything not secured right out into space. After depressurization I want each and every member of the teams plus my people and the organizers here to give me a thumb up or thumb down to indicate that you are ready to go. No talking. Only then will we open the big doors at the back."

He looked around and could only see eager and/or nervous faces plus one very angry one he chose to ignore.

"Okay. Once the doors are open we slide out the takeoff platform. Entry-nauts will be allowed to move to the back edge but no closer than the five foot mark until it is time to jump. Team members will remain behind the fifteen-foot mark, that double-dashed yellow line. I will call thirty-second readiness and I want the Entry-nauts to again go thumbs up or down. If you are thumbs down just back up to your team before turning around. Then, let us know if you have a problem or have decided to not jump today."

"I want a camera check," called out Tom's video tech who was standing to the side at a bank of monitors. Each Entry-naut was wearing four high-definition mini-cameras that would beam live images back to the *Sky Queen* starting at the 30-seconds to jump mark.

Along with a small "black box" Tom had insisted on including in their equipment packs to record rate of descent, any rotation or tumbling, oxygen consumption, heart rate and several other factors, they could provide necessary details should there be a problem with either of their jumps.

The male contestant—James Wilson—raised a hand. "Uh, Mr. Swift? Just a little question. What if I feel like spewing right now?"

Tom could see the man's face was a little pale but believed it to be from something like fear of flying.

"Well, up here we are at about one-half gravity. Inside your

helmet, if you do... well, let go of anything, it will tend to settle slowly and may cloud your vision. Best to hold it in.”

Everyone laughed and the man nodded with a sheepish grin on his face. He took several deep breaths and settled down.

With no further questions, individual safety straps were checked, the hangar was prepped for opening, and the doors finally parted and slid into the surrounding fuselage.

The half-minute countdown was made and the two contestants stepped forward. Although they had never been together until that morning, the two moved in a synchronous way that made it look as if they had rehearsed everything. They looked at each other and nodded.

At the fifteen-second mark two of the Enterprise team detached the safety lines from the backs of the contestants and moved back off the platform.

Tom counted the last five seconds.

“Five... four... three... two... one... you are clear to jump when ready!”

First to step forward and lean into empty space was Ludmilla Cherkova. She was followed in seconds by James Wilson.

Mr. Daws tried to rush forward to peer down at the rapidly disappearing pair but was restrained by his harness and safety line. He let loose with a string of unheard curses that only stopped when Tom physically grabbed his shoulders, spun him around and shoved him toward the bank of monitors.

As most of the people moved to the video screens, the doors closed and the hangar was flooded with warm and breathable air.

By the time people were beginning to remove their helmets the jumpers were nearly a fourth of the way down.

“Another seventy-three seconds,” Tom stated looking at the clock above the monitors, “and their drogue chutes will be released. I have to say that I won’t be nervous until that happens. In the past, that is the time where some jumpers have begun tumbling or spinning around uncontrollably.”

“If you’d shut up they might do a bit better,” Daws grumbled.

“Mr. Daws, Please do not speak like that to our host” Ms.

Stockwell told him. “Need I remind you that it is only because of his agreeing to do the safety checks and this wonderful opportunity to drop from a stable platform that we are in this position?”

“Need I tell you that it is *my money* that’s paying for all this?” Daws replied in a mocking voice.

They glared at each other for a few seconds before Olivia Stockwell told him, “As of right this moment I quit. I hope and pray for only the best for those two and anyone who comes behind them, but I will not be responsible for anything that happens. Good or bad it is now solely on your head, Daws. I only hope that our host will back me up on the precise time I quit when you inevitably take me to court!”

Tom shook his head and left the hangar. He hated things like this. A minute later he entered the cockpit three levels above and sat down in the navigator’s seat behind Bud.

“We’ve been watching and listening, skipper,” Red Jones told him as Bud steered in a wide spiral down toward the recovery area. “That Daws is a piece of work, isn’t he?”

Tom chuckled. “Yeah. So how are things looking?” he glanced at the small monitor in the middle of the wide control panel that both pilots had been watching. It was connected to the SuperSight system onboard that was bringing in images of the two as if they were just a thousand feet away and now seven miles below them.

“There goes one drogue,” Tom said. From the blue color of the helmet he knew it was James Wilson’s. A moment later the small stabilizing chute of the Russian entry came out. It appeared to be doing well but Tom let out a cry when it ripped away sending her into a tumbling spiral out of control and heading right toward the unsuspecting James Wilson.

Luckily for him his small chute was keeping his speed slower than hers and she passed under him by perhaps a hundred feet.

“Mayday,” his radio call came. “She’s gone completely out of control. Mayday, mayday!” At that same time his body began to slowly rotate to the right. In a few seconds he had made one full rotation and was starting his second.

“Ludmilla! Can you hear me?” Tom called out on the radio. He repeated the call three times. There was no answer and he now

feared that the violent motion might have knocked the woman unconscious. If that were the case, there was absolutely nothing anyone could do for her until her main chute opened. Even then, her higher speed could cause it to simply tear away from her suit.

With growing despair they all watched as James finally overcame his rotation and began a slow and very wide spiral pattern of his own. Far below him Ludmilla's body could be seen in the standard skydiver's layout position but there was still no answer from her on the radio.

To everyone's immense relief her chute popped open about the time she passed the 8,000 foot mark.

"We see her!" came the call from the ground recovery team. Three trauma doctors had been hired along with a trio of ambulances. All were standing by and it looked like they would be needed.

At the altitude of 12,000 feet, James pulled his ripcord—actually he activated an electronic circuit that did the same thing—and his extra-wide parabolic chute billowed out and he was soon steering it down for a safe landing.

Ludmilla's body hit the ground hard. She must have been unconscious—or worse—since she made no attempt to slow down as she approached the ground.

Five minutes later everyone was on the ground with Olivia running to see about Ludmilla's condition and Daws slapping James on the back and congratulating him.

By the time Tom managed to get over to where the ambulances and doctors were stationed the first vehicle was just driving off.

"How is she?" Tom asked, afraid to hear the answer.

One of the physicians shook his head. "She's alive but that landing broke her legs and her lower spine. She'll probably live but be paralyzed for the rest of her life!"

## CHAPTER 4 /

### THE GAUNTLET IS TOSSED

IN THE next three weeks five additional people and their equipment were tested and passed. In trios—the second group included the now more calm and prepared Henry Ford Davidson—were flown to Montana where they all managed to perform the jump and land with relative safety.

Only four of them announced their intention to continue. One, the only other female besides the injured Russian, had a very simple reason for quitting and one that was more important to her than anything else.

"I am going to have a baby," she told Tom as she was packing away her chute after the successful jump. "Just found out yesterday and I thought, 'what the heck,' but on the way down I sort of had a vision. I promised myself that if I got down in one piece I'd call it a day."

"Congratulations, and when are you going to tell the new organizer?"

Following the departure of Olivia Stockwell, a rather sleazy lawyer from Alabama had been hired. If anything, he was less caring and certainly less scrupulous than she had been.

Barbara, the departing entrant shrugged. "I'll probably just not show up for anything after today. I don't think mister greasy hair over there would be happy. He keeps telling me he's got a lot riding on having a girl, as he calls me, in this."

"Don't you think he's going to raise a fuss? Legally, I mean."

She shook her head. "Nope. He can't. The rulebook says anyone can quit at any time without notice. Buy, thanks an awful lot for allowing me to prove that I could do this. You may not know it but I was nearly an astronaut. Got cut out from the final one hundred when they named the thirty who made it."

Tom place a hand on each of her shoulders and squared up to face her. "I want to tell you that you can still be an astronaut if you want to. What I mean is that once you've had your baby and feel comfortable leaving him or her with your husband or whoever, call me. We have a beautiful space station up there that is always

looking for good people. By the way, what was your area of education?”

“Astrophysics with a secondary concentration on agriculture in zero-G.”

He patted her right shoulder and removed his hands. “Yes. Definitely call!”

At the end of the following month no more individuals or teams had stepped forward to attempt to qualify, and so the organizer, somewhat sourly Tom thought, made a public announcement that the people who had qualified could all expect to go up for their re-entry jumps in two weeks.

Tom, who was very put out by that announcement, phoned Mr. Daws.

“First of all, neither I nor Swift Enterprises likes being blind-sided like this. You had no right to make that announcement. We have other commitments and you didn’t have the decency to even ask if we could perform the lift duties on the date you announced. Second, we are still not satisfied that all of the suits and their wearers are ready for the kind of buffeting they will get on entry into the atmosphere. I have wanted to do tests using robot dummies to see what sort of stresses they might encounter.”

“What’s stopped you?”

Tom was momentarily silent. Then, he took a breath and replied, “Time and money. You are not paying us a thin dime to do any of this. We have been providing our services free of charge in order to keep more people from being killed in your crazed scheme. Before we take anyone else anywhere I want you to release a public statement, and make it as loud and as brassy as all of your other ones, that say you are taking all responsibility for everyone who tries to complete the contest.”

“Good luck with that, sonny!” Daws said and hung up on the inventor.

Tom, angry but knowing what he had to do next, got up and walked out of the office door, down the hall and upstairs to the Legal department. He asked the receptionist to see Jackson Rimmer, Senior Counsel for Enterprises.

“If you can wait here about five minutes, Tom,” she told him, “Mr. Rimmer is talking with your father.”

“Good,” he replied starting past her desk. “Dad needs to be in on this as well. I’ll take responsibility for breaking in on them.”

“Well, hello, Tom,” the tall lawyer greeted him as he knocked lightly and stepped inside the office.

“Hi, Son,” Damon Swift added. “If this has to do with anything other than the X-prize I’m afraid it will have to wait. We are talking about our legal exposure if we refuse to continue supporting their mad scheme.”

Tom sat down and related his phone conversation with Mr. Daws. The other men sat patiently, and Jackson took a few notes. When Tom finished, and took a deep breath to relax, Jackson spoke.

“Mr. Vincenzo Daws is a very wealthy man, Tom, and one with an enormous morals problem. He puts no value in the lives of others and only finds amusement in things such as this cockamamy parachute contest. A few years ago, down in Mexico, he sponsored a high diving competition. You’ve seen those cliff divers, right?”

Tom said he did.

“Fine. Daws talked about a dozen of them into seeing who was, as the saying goes, *mas macho* and could dive from the greatest height. He offered the heady prize of a million pesos—about a hundred thousand dollars at the then exchange rate—for the one making the highest successful dive.”

Tom let out a little groan. “Let me guess. Nobody was successful.”

Jackson Rimmer sadly shook his head. “Correct. Four died trying to dive out of a helicopter from nearly four-hundred feet, another four were horribly maimed and the others chickened out.”

Now, Tom snorted. “I’d say they were the only ones who came to their senses.”

“What happened to the injured men and the families of the dead ones?” Damon asked.

“Oh, Daws paid them off to keep their mouths shut. Paid the fellows who didn’t jump as well.”

“Why didn’t it make the news?” Tom asked, now sitting forward in his chair.

“Ah, well that’s the thing about Daws. He isn’t known for letting bad news get out. In fact it is only because we were involved in this contest that news of the Russian woman’s accident was made known. No, what Daws evidently did was to pick up the survivors and the bodies in the helicopter and whisk them away. He relocated the survivors hundreds of miles away and paid them to stay there. He then announced they were all going on a world tour so they would not be home for several years.”

“People bought that?”

“People in general have a short attention span. These were young men from small villages that have little news or television. Daws saw to it that checks, supposedly from each of the ten men, arrived in their villages every month along with a scribbled note probably telling everyone how happy and safe they were.”

“Wow,” Tom exclaimed as he sat back again. “I don’t suppose that is the only incident, is it?”

Jackson Rimmer shook his head. “There are at least five others that can be traced back to him or to organizations he has a hand in. The man is incredibly rich and there are far too many people who will do just about anything to get some of that money.”

The three men sat in silence for a few minutes, each lost in his own thoughts. Damon was the first to give his head a little shake and “come back” to the real world.

“Before you got here, Tom, Jackson was telling me that we can stop supporting the madness at any time, but that Daws will most likely make a huge and very public deal of things.”

“That’s right, Tom,” Jackson concurred. “Daws is the sort who will engage in a dirty smear campaign against us even though he ultimately knows he cannot win. In fact he would go into such a process knowing that we will sue him for big bucks. It’s all part of the game for him. He will start by moving his finances around so that only a small portion, say a billion dollars, will be visible to normal accounting investigation, drag us through the muck, let himself get sued—where he will make a big thing about the giant nasty company attacking an honest working man who made good and is now trying to ruin him—and settle for probably a half billion.”

“How can he get away with that?” Tom asked, his face showing

his complete lack of understanding of how anybody could be that way.

“It’s all part of the game, Tom. A game that he can afford to do over and over again.”

Damon now said, “We can’t even engage in any attacks on him or on the contest. Our contract has a ‘no public announcements or release of information, good or bad’ clause that Jackson says is very tight.”

“And, that’s it, huh?” Tom said, disgustedly. “We keep taking them up and they keep getting injured or killed and we have to take it all because some son of a— some rich man gets his jollies from it.” He stood up. “Count me out, please!”

As he turned to leave, Jackson cleared his throat. It got the young inventor’s attention. It was *that* sort of throat clearing noise. Tom sat back down.

“Okay. What am I missing?”

“Probably not a lot, but your father and I were coming up with a little plan when you arrived. Your recent conversation puts it in better perspective. Here’s what we were thinking...”

He spent the next twenty minutes describing to Tom what they had come up with. Each passing minute brought out a wider and wider grin on the young man’s face.

“It is slightly risky, Son, both for whoever takes that plunge and for our company, but we believe it is the best shot we can take right now to stop the Daws madness and perhaps shut this sort of thing down in the future.”

It took Tom five days to get to the point where he believed he had his part of the program well in hand. It was going to require he construct a special suit, to the specifications of the contest rules, so that the man wearing it would be as safe as humanly possible. Luckily, the materials available to him were known quantities and many of them were well-suited for the task at hand and the enormous pressures and heat that the man inside would be exposed to.

While he was doing his design work, Damon spent numerous hours talking to at least five different people, all of whom he felt might be willing to help.



The next week, while secret negotiations and work was happening, Tom was forced to take another entrant up for a test drop. The man's suit passed all of the tests but it was a lack of skydiving experience that bothered Tom to such an extent that he had Bud take the man up for ten practice jumps from heights ranging from about ten thousand feet up to thirty-thousand.

With each dive the man showed himself to be more skilled than his jump book—listing just twenty-eight previous skydives—would normally indicate.

“He's pretty good, skipper,” the flyer told Tom. “Very thorough in checking his gear, and he packs a really good chute. I even had him drop and come down on his emergency chute once. He got it out in record time without any line tangling. I'd say he's about five times better than he is experienced.”

So, on a Wednesday morning Tom and Bud stood in the hangar of the *Sky Queen* with the man and his one-person team—his girlfriend and fellow skydiver, Lisa—ready for him to step out for his first ever drop from anything approaching their current altitude.

“You ready, Scott?” Tom asked over their radios.

The helmet of the suit nodded. “I am, Tom. Uhh, can I say a couple things before I go out?”

“Sure. Fire away.”

“Okay. First, I love you, Lisa, and want to ask you to marry me. Will you? I know this is not exactly a romantic setting and I can't even get down on one knee to give you a ring right now, but I really want you to say yes. So?”

They all could hear her sobbing with joy and she told him over the radio, “Yes, yes, yes!”

He let out a sigh of relief. “Great! Okay, then the other thing I want to say is to thank Tom and his company and everyone here today for letting me have this opportunity. Uhh, other than that, I'm ready to go.”

On the count he stepped off the extended platform, leaned forward and disappeared. Everyone moved over to the monitors and watched as he made a nearly textbook initial drop, popped out the drogue chute at the proper altitude and cut it away just before deploying his main chute.

With the hangar now sealed and filled back with breathable air, they removed their pressure suits while Zimby Cox and Red Jones up in the cockpit took them back to the ground.

Lisa was the first out and let out a little scream. She immediately ran for the ambulance into which Scott was being loaded.

When Tom got there the young man blushed. “Perfect until the landing. My foot hit a rock and I snapped my ankle. Guess I'm out of the competition, but I really meant it when I said thank you.”

By the time the *Queen* got back to Enterprises, Tom was over being angry and had realized that this only meant one less person to possibly die.

He went to the shared office, told his father about the landing accident, and sat heavily on his chair.

“You have the look of a man with a mission in mind, son. Is it to do with what we've been working on?”

“Yes. I want to get it on the table before we take anybody else up. Can I?”

Damon nodded. “Jackson needs to be informed and wants to make that call, but he also wants us there.”

“Okay.”

Together they walked up to the Legal offices and were soon seated in front of Jackson Rimmer.

“Fine. We have the agreement of our man, and everything else is in place. Let's see what Vinny Daws thinks of it.” He pulled over a piece of paper and entered the phone number from into his phone. “Yes. Hello. This is Jackson Rimmer with Swift Enterprises. Is Mr. Daws available?... He is, huh? Well, can you transfer me to him?... Thank you.” He put his hand over the mouthpiece. “He's in Austria working on a 'skiing project.' Wonder what that could be about.”

They waited a minute before Jackson held up a finger. “Yes. I'm still here. Mr. Daws? Jackson Rimmer with the Swift organization. Do you have a few minutes to discuss the SkyFall X Prize situation?... Fine. May I place you on speaker phone so I can take some notes if necessary?... Thank you.” He clicked the button down.

“Okay, in case it hasn’t gotten to you yet, there has been another accident. Not a big one but you have another contestant out of the running.”

“What? Who is the idiot? I’ll sue the little—”

“MR. DAWS!” Jackson said in a warning voice. “A little less of the ‘I’ll sue,’ and more of the understanding, okay.”

“Yeah. Whatever. I’ve got a dinner engagement in ten minutes, so make this snappy, huh.”

“I’ll get right to the point then. Pursuant to a previous conversation where you threatened to sue the Swift organization for multiple billions of dollars for, as you put it then, ‘Ruining your good name,’ something I believe you do a good job of all by yourself, I am calling to tell you, once again, that we are dismayed at the callous attitude you seem to have, and want to offer a proposal to you.”

After a few seconds of silence, Daws asked warily, “What sort of proposal?”

“One we believe will both satisfy your lust for person fame and that will let us put a halt to any future part of this competition.”

“You think this is for my own fame? Ha! That’s a laugh. I do this to push people to their limits. Without guys like me this world would stagnate.”

“Without you, this world would have, now let me read this so I get it correct, four Mexican national cliff divers would still be alive, eleven tribesmen of the Masai Nation would not have perished in your Run a Thousand Miles stunt, a man by the name of Mike Roling would not have died trying to be the first man to waterski at more than one-hundred-fifty miles per hour... and the list continues. Interestingly, none of this has ever been released to the public. Hmmm. Wonder why?”

“Now you listen, shyster! You’ve got a contract that specifically prohibits you from—”

“I know what I’ve got and it only covers the current competition,” Jackson retorted angrily. “So, either accept our proposal or this all gets to the world press in about one hour. What we propose is to outfit a single man in a suit of our making to make a very well documented skydive from orbit. We know that anonymous people don’t make good news so we have reached an

agreement with Maroc Pettigrew, the Frenchman who broke Felix Baumgartner’s previous record two years ago. I’ll give you a moment to run that idea through your head, but I will add that the world’s press is already champing at the bit to see if he can outdo his old record.”

“A sure thing you say?”

“Nothing is a sure thing when dealing with this sort of altitude jump, but both we and he are confident. At least in his abilities and in the suit we intend to build.”

“Is that punk Tom Swift anywhere in your building? Go get him!”

At a nod from Rimmer, Tom spoke up. “The punk is here, Daws. What do you want with me?”

There was laughing from the other end.

“I’m not certain what you find amusing but this offer is in earnest. What Mr. Rimmer didn’t mention is that there are three stipulations on our part. First, the competition ends immediately. Second, you pay half of the offered prize money to the people who have already put their lives on the line, including the ones who died and the ones who will never walk again. Thirdly, you give Swift Enterprises full credit for both creating the winning suit and for all our attempts to make you game safe.”

“Now, you listen here, sonny. The money don’t mean you-know-what to me, so sure. And, I’ll stop the X-Prize thing, too. You want recognition, you got it, but with one stipulation of my own.”

“Fine,” Tom responded. “What is it?”

“Pettigrew don’t make the drop. He’s too much of safe bet.”

Suspicious now, Tom had to ask, “Then, who?”

“You!”

**CHAPTER 5 /****THE DROP**

“THAT’S PREPOSTEROUS!” Damon shouted at the phone. “Tom isn’t trained to parachute, and I’m not going to let my son risk his life just so you get your jollies!”

There was silence on both sides of the phone line. Finally, Daws spoke.

“That’s the deal. Take it or leave it, and I’m telling you that if you won’t do this, then I’ll make certain to ruin your little company. I don’t give a damn if your sonny boy, Tom Swift, there lives or dies as long as it’s him that jumps. Hell, I’d prefer it if he did die!” With that, the connection was broken.

Damon turned to Tom. “You will not be doing this,” he stated. “I won’t allow it, Bashalli won’t let you consider it, and if nothing else, our insurance won’t cover you.”

The younger Swift listened to his father showing no emotion on his face. In fact, he was feeling rather numb at the moment.

Jackson Rimmer was sitting back in his chair, fingers tapping both cheeks, making little puffing sounds. He let a breath out through his nose, loudly, before commenting on the situation. “I need to speak with a friend of mine who happens to be an associate justice with the current administration down in D.C. He has a direct line with the Attorney General, and he ought to be able to tell us what we now can or cannot do.”

Damon, still angry but now curious, asked, “What does all that mean, Jackson?”

“It means that I believe Vincenzo Daws just admitted that he is looking for someone to die in the attempt, and had even given his intended victim a name. Tom Swift. That, in my mind, is tantamount to premeditation and/or solicitation of murder through threat and/or intimidation. At the very least we can make things very uncomfortable for him both legally as well as publicly.”

Tom had been quiet until now. “I can do it, you know.”

“You will not!” Damon stated.

“I didn’t say I would, I said I could. The suit I have planned will

be within all the limits and specifications of the rules, and we were ready to risk Mr. Pettigrew in it. It’s just that I can add a little something extra to it to ensure that it all works perfectly for me.”

Jackson shook his head. “Let’s see what the legal options are before you go climbing into something that could kill you.”

In the two days it took for Rimmer to get an answer back from his contact, Tom went ahead—and against his father’s wishes—with the development of a thin exoskeleton that he could strap onto the front of his body.

Made from Durastress and magnetanium it would be capable of withstanding the buffeting and pressures of the re-entry—something Tom still believed would kill or incapacitate anyone “jumping” from one-hundred miles. The jumper’s arms and legs would be protected by it. It would also help manage the balance of keeping a free fall contestant warm in space and then switching over, appropriately to the amount of heat being built up in front of them, to a cooling system was something requiring incredibly precise computer engineering.

He phoned Arv Hanson in the Modeling department. “Got something for you to do a quick full-size prototype of, Arv. Come on over.”

Arv arrived and ooked over Tom’s sketches as he listened to the intent of the exoskeleton. At the end he whistled.

“Wow. Whoever is going to strap that on is just looking for trouble!”

Tom looked at him with a rueful grin. “And, that would be me,” he said flatly. He now explained the new level to which the X-Prize had descended. “While Legal works on their way to shut this guy down, I’m making sure that if pushed to it, I’ll be ready.”

“What about the enormous skill involved. Pardon me for saying, skipper, but I recall that you have performed exactly two jumps, and both times from disabled aircraft only a few thousand feet up. Not anywhere close to a hundred miles.” He now saw the grin on Tom’s face turn to one of some pleasure. “What?”

The inventor reached to his keyboard and pressed two keys. The picture on the screen changed. Now, the exoskeleton had added struts and what appeared to be pneumatic pistons.

“On the real one I’ll be adding full computer control to ensure

the arms, legs, torso, and even the skydiver's and feet all work in perfect harmony to keep me safe."

Arv smiled a little now. "The thing is, I seem to recall a weight limit. Will all this put the suit over that?"

"It shouldn't, Arv. The suit I want to build weighs in at about half that of the others' designs. This will be about thirty percent of the max weight, and I'm adding special life support stuff to allow me to step into space and, if not this time then the next, make it around the world once before coming down. If I'm going to do this, I'm going to do it on a grand scale!"

Word finally came back through Legal that Daws' conversation did represent a premeditated attempt to injure or kill Tom and so the conversation, recorded at the Enterprises end, was sent to Washington.

The other part of the judicial opinion issued by a triumvirate of Federal Court of Appeals judges in Washington stated that the release of information regarding Daws' other deadly contests was covered under U.S. Statute, and that Enterprises could be compelled to release that knowledge by the court. If necessary, a decree could be in Jackson Rimmer's hands inside of four hours.

"What my friend suggests, to keep our name low and in the background, is to turn over everything we know to him and the Attorney General. I have done this without asking for your permission," he told Damon, "but can withdraw it any time up to—" he looked at his watch, "—about fifteen minutes from now."

"After that?"

"A press conference had already been called at the Justice Department for three today to announce something about the trial of the three men who tried to blow up the Golden Gate Bridge last year. They will add this to that conference unless we tell them otherwise."

With a sly smile, Damon told him, "Let 'em do it!"

Within an hour of the Justice press conference the senior lawyer representing Vincenzo Daws was on the phone threatening Jackson Rimmer with everything from personal bankruptcy to the ruination of all of the Swift's holdings. Jackson listened patiently until the man began to run down, his voice going hoarse.

"Finished? Because even if you aren't here are a few things you

need to know. Firstly, it wasn't us releasing that information. It was the Justice Department and they only got hold of it because we were ordered by three judges, Federal judges, to turn it over. Secondly, because your client made a specific and named threat against Tom Swift, stating unconditionally that he preferred that Tom die fulfilling this challenge, we and the justices are of the opinion that any contract we had with Mr. Daws is null and void. Justice will be filing a criminal suit against the man, and I'd be happy to add your name to it, charging him with his premeditated crimes. And, if he or you believe you can renege on the agreements, also fully recorded, of payout of prize monies and cessation of this and future contests should I jump, we will file a civil suit that will break his bank."

"Mr. Daws only has a personal worth of just under half a billion dollars," the other lawyer stated. It sounded like a well-rehearsed line.

"And, we did our homework so we know that his actual worth, including the monies he has stashed in such locations as the Caymans and Seychelles totals nearly seventy-billion. Those institutions have recently received notification that they are to put holds on all of his money, particularly should he, or you, attempt to divert the majority of it. So, the question is, have you been assisting him in hiding this money? That's a Federal crime you know. Get you dis-Barred as well. I believe that concludes our call, councilor. Good day!"

With that, Jackson hung up his phone and giggled like a little girl for almost a minute.

As soon as the story was widely released, Daws and his people tried to do damage control by pointing fingers in all directions starting with the Swifts, Olivia Stockwell and the contestants. He made personal attacks against Tom and Damon claiming that their interference with the contest had led to the deaths.

Nobody was buying it.

Now that the truth about Vincenzo Daws was out nobody wanted anything to do with him.

His final attack came in the form of a public notice:

Tom Swift of Swift Enterprises is about to go back on a promise, one that would see the former contestants of

the SkyFall X-Prize, living, injured and the unfortunate souls who perished doing what they so loved to do, being given the money the SkyFall team so graciously wants to divide among them. He will ruin their chances for any form of recompensation by refusing to take a charity freefall skydive we have offered.

This was a promise he made to the chairman of the SkyFall X-Prize committee, Mr. V. Daws. In spite of Mr. Daws' please to the contrary, young Tom Swift has scorned the very people he was once so enthusiastic decided to take up, some to their personal glory and some to their doom!

Several leading newspapers printed editorials, some calling for Tom to live up to his promises and others insisting that Mr. V. Daws was a scoundrel and a crook, and this was most likely a publicity stunt or one meant to discredit the good name of the Swifts.

"At least the ones on our side are in the majority," Bud told Tom as he sat reading one of the papers in Tom's underground lab and office.

Tom slid a piece of paper over the desk. "Read this. It's our rebuttal and goes out today.

Tom Swift of Swift Enterprises was broadsided two days ago when the former SkyFall X-Prize chairman, Vincenzo Daws—now under Federal indictment for making a threat against Mr. Swift's life—released a factually-incorrect statement to the press. In it Mr. Daws made untrue claims about Tom Swift and about a challenge from Mr. Daws to Mr. Swift, that of completing the X-prize challenge personally.

Mr. Swift wishes to inform the world that it fully his intention to make good on the challenge, and he trusts that either Mr. Daws voluntarily, or at the insistence of the judicial system—should he, himself, renege—makes good his declaration to pay out the entire one-quarter-billion dollar (U.S. \$) prize to be split among those who took part in the early stages of the now-closed contest.

"Factually incorrect, huh? Is that the nice legal way of saying he's a liar and a cheat?"

"Pretty much," Tom told his friend. "Of course Dad hit the ceiling when I ran that past him this morning. He said some pretty un-gentlemanly things and used a few words I wasn't sure he knew."

Bud looked at Tom. He could see there was no indecision in his best friend's face. "So, he eventually gave in?"

The inventor shook his head. "Hasn't so far. I'm hoping that once he sees the suit and exoskeleton that he'll come around and see that I'm not really taking any chances. But, as the saying goes, we shall see."

\* \* \* \* \*

Two weeks later, with the world watching live and with rebroadcasts on all the news networks around the globe for the next twenty-four hours, Tom Swift climbed aboard the *Challenger*. It had been flown to Enterprises—only the third time this had happened—to make it easier for reporters and camera crews to attend the takeoff.

In his suit and standing on the outside deck of the hangar deck of the repelatron-powered spaceship, Tom addressed the international audience. He described the nature of the suit and of the mission. He discussed the heat shielding properties necessary for his survival and of the heating and cooling systems along with the tiny computer that controlled them.

He even discussed how he might, if conditions were favorable at some future date, return to space in the suit to take one or two orbits of the Earth. To become the first man to circle the globe in only a spacesuit.

"But, that isn't the plan today," he told them. "Today, I will ascend to the height of one-hundred miles. That is orbital height but we will not go into orbit. In fact, and because of the nature of the repelatron lifters of this ship, we will hold a stationary position over Shopton. I will step back out onto this area, the doorway behind me will close, and I will simply step into space."

There was an "Oooooo" murmur from a number of people in attendance.

"I must tell you that unlike the record jumps make by Joseph Kittinger, Felix Baumgartner and most recently Maroc Pettigrew, I will not immediately fall at any speed. At that altitude it will

require a minute or two before I drift more than a few yards, or meters for our international guests, downward. I will not use any sort of rocket or other means to shove me toward the Earth. That will happen naturally and with increasing speed.”

He told them about the heat and buffeting he would encounter and how his two chutes were set, within the rules of the former contest, to automatically deploy.

“All I need to do that final few feet is land upright and walk away.” He grinned, waved and headed into the ship, taking no questions.

Three minutes later the large ship lifted and headed straight up.

As was being explained to the audience while the ship was preparing to depart, cameras would remain on at all times showing Tom both inside the *Challenger*, his departure from it, and constant split-screen shots from a small camera in his chest pack as well as high-definition cameras onboard *Challenger* which would keep pace with him as he entered the atmosphere.

“You ready for this, skipper?” Bud asked from his position three decks above where he was piloting the ship.

Tom was outwardly cool and calm, but inside he felt worse than the first time he had been asked to stand in front of his second grade class to recite the first three lines of the Declaration of Independence from memory.

“I am, Bud. Tell me when we reach the position.”

“We’ll be there in four minutes.”

The time shot by for Bud and dragged into what felt like an hour for Tom.

“We’re here. I’m turning things over to Red Jones. Be down and in my suit in three.”

Tom spent the time sealing his suit and checking all the systems. There was no readout on his chest pack—it might melt or vibrations caused by looking down might prove deadly—so he wore two screens on his arms, near his elbows where they would remain in position even when his forearms needed to move about.

Five green lights shown on the left one and two on the right one.

Everything was ready.

Bud came in sealing his helmet before closing the hatch to the ship’s interior. He nodded at Tom and came over to give his friend a hug.

“See you on the ground,” he stated.

“Yep. That’s the plan,” Tom replied. He turned to the camera mounted on the nearby bulkhead and nodded. “This is for my wife, so nobody else around the world listen. Bash. I love you. You know I’ve always said I’ll come back to you and I mean it now as well. I should be back at Enterprises in one hour and five minutes.”

While he spoke the atmosphere had been pumped out of the hangar and his, and Bud’s, suits had puffed up a little.

The large door rolled up and Tom stepped forward. Another camera, this one mounted on the railing, picked up his image. Two more, one pointing down from above the porch and another showing the scene from the other side from the first rail-mounted camera were sending their video down and into the mass of news vehicles parked inside the grounds of Enterprises.

“For Alpie,” Tom said knowing only one person would understand. He stepped forward, turned to give Bud a thumbs up sign, and then stepped into space.

As he knew would happen, he slowly drifted down. *Challenger* had moved off some hundred yards and was keeping the same slow pace downward.

Because he realized it was expected of him. Tom began a commentary that ran for the next forty minutes. At that point he felt the first little buffet from the outer atmosphere. He reached over and pressed the face of his right readout. A third light blinked twice and then went to steady green.

He had just activated the second computer carried inside the suit and also the exoskeleton. His first reaction was to fight against the movement it now forced his arms and legs to perform, but he knew it was only a systems check. Presently, a fourth green light shown on his arm band. He smiled. *It will all be downhill from here*, he thought smiling at the small joke.

Within minutes Tom understood what would have happened to anyone foolish enough to try what he was doing in anything less than his suit.

The buffeting had been joined by a orange glow that surrounded him. If he didn't have the exoskeleton on his arms and legs might have been wrenched around and back, dislocation them or worse. As it was he still needed to keep them out as straight as possible using his muscles.

The orange glow was quickly replaced by red and then an eerie sort of half-red half a purple he had never seen before. It was beautiful. His helmet in which he installed a heads-up display thermometer and air circulation monitor showed his external temperature to be nearly 3,900° Fahrenheit, much cooler than a traditional space capsule coming down at around 5,000° due to his relatively smaller resistance area, but hot. Inside the suit the temperature had climbed to over one-hundred. He began to sweat a little and now hoped that he didn't let off so much moisture that when the outer temperature cooled down, his suit's coolant system wouldn't freeze the moisture to his skin.

The trip was both eerie and intriguing, overlaid with the nearly constant pushing and pulling on his extremities. As he approached thirty miles the fiery glow around him diminished and then disappeared. He was still feeling the vibration and buffeting but it was settling down.

"Oh, hello everybody. I was lost in thought and had to spend a lot of time keeping myself straight and even. I'm back and just passing through twenty-seven miles. If I recall my history, Joe Kittinger made his jump back in 1960 from about nineteen and a half miles, Felix Baumgartner from twenty-four and a quarter miles up and Madoc Pettigrew from an even twenty-six. Which I've passed and am coming up on twenty-five."

His suit was starting to cool and he felt much better. He took a moment to take a sip of water from the small tube next to his mouth.

"In about two minutes my drogue chute will deploy to stabilize me and slow me enough so my shoulders don't get dislocated when the main chute comes out." As soon as the words came out he wished he hadn't said them; Bashalli would now be worrying even more about his welfare.

He mentioned a few things he could see below. "From this height it looks as if commercial passenger jets have laid a latticework all across the sky below me. I see dozens of them all

intersecting like a fluffy spider's web. With the sun above me they look much more vivid than we see them from below. I hope my downward camera is getting them. Won't know until I download that video later. Oh, there goes the drogue and—WHOA!"

Tom's body began to rotate around his central axis. Within one rotation he was up to a speed that would see him going around and around at least once every three seconds.

"Little problem here," he called out through clenched teeth. "Can't... quite... control..."

It was the last thing he managed to get out. His head was filling with blood, his vision getting cloudy and his breathing strained.

Then, as suddenly as it began, the rotations slowed so that within two more turns he was stable again. It took a few seconds to clear his head, time during which he imagined the panic his wife and family must be going through.

"I'm back," he announced. "Had to try to remember where to put my arms and legs to stop that. It's done, now. Apologies for any scare I put anyone through."

Down below Bashalli had frozen when Tom cried out. Her breathing had stopped and she felt as if someone had doused her in ice water.

Now, with Tom's voice back, she looked over to Sandy Swift who had been squeezing her hand, rather tightly it turned out, and smiled. She then rolled her eyes up and slumped to the ground.

Sandy was pulled down with her and they both lay there while everyone around them was looking no place else but up.

Bashalli opened her eyes and found her sister-in-law sprawled across her middle. "Please get up, Sandra," she requested. "You're squishing my tummy."

"I was just down here giving you moral support, Bashi," the blond young woman told her. As she rose and helped Tom's wife back to her feet, she added, "Just trying to be supportive even if it was from on top of you!"

Hearing Tom's voice now keeping up a constant commentary relaxed them both and they were soon standing, holding hands again.

Onboard the *Challenger*, Bud was looking at a bit of a challenge

himself. Tom's recent out-of-control spinning had moved him off course by nearly a mile and the parachutist was now directly over the area Bud needed to land on.

"Skipper, It's Bud," he radioed out cutting Tom off in mid-comment about now coming up on the point his main chute would be deploying.

"Go ahead, Bud."

"I don't want to tell you what to do here, but you're coming down in my parking spot, Once you have steering can you move back to the landing zone?"

Tom laughed as he looked directly down. "Sure. Chute deployment coming up in three... two... one..."

Everybody could see the drogue chute cut loose and the main chute coming out a second later, the drogue being useful one final moment in pulling the main one out. The nylon chute billowed for a moment, swung to one side and then fully opened directly above Tom.

He made good his promise and pulled on his lines causing the chute to scoot him back to the thousand foot by thousand foot roped off area of dirt and grass between the south runways of Enterprises.

Bud hovered above the ground high enough so that his cameras caught Tom as he lightly touched down, standing up, and releasing his chute harness. After flipping up his visor the inventor started walking toward the three people running his direction.

Bashalli got to him first and threw herself into his arms, wrapping her legs around his body. She managed to get her face inside the helmet enough to kiss him.

Sandy got the next and stood to one side simply saying, "Nice job, bro!"

The third person was Tom's father, Damon. Tom put Bashalli back on the ground and faced his father.

"I know I told you not to do this, and I was certain that even if it could be done that you shouldn't be doing it, but I have to tell you how proud I am of you, Son." He shook Tom's hand before the younger man pulled him close and gave him a hug. "Also, a bit of news came in about the time you left the ship. Remember the

original organization front woman, Olivia Stockwell? She's promised the Justice Department to testify against our Mr. Daws."

"Thanks, Dad." Then, turning back to his wife and taking her by the hand he said to her, "See. I told you I'd be coming back. Always have and always will!"