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A SWIFT ENTERPRISES INVENTION STORY

Damon Swift and the Mechanical Fish

By T. Edward Fox

Father of Tom Swift, Damon Swift, was inventing things for more than a decade before his son made his first mark in that arena. While Tom keeps very busy with everything he gets involved in, Damon doesn't just sit back, satisfied with the day-to-day running of Swift Enterprises.

Although most of his projects in recent years have been in the realm of space and satellites and planetary probes, it frequently happens that he turns a hand to more terrestrial inventions.

When the Australian Navy awards Enterprises with a contract to create a prototype of an absolutely unique submarine, and at a time when he finds himself with more spare time than he cares for, he pulls up the old CAD software and gets to work.

The only issue is that the Aussies are asking for something that is a bit more than "unique," it is downright freaky looking.

This story is dedicated to fathers who prove all the time that they are just as good as their kids, and often better, instead of just sitting back telling everyone that their best years are now behind them. With fifty now being the new thirty, I understand that old dogs don't just learn new tricks, we create them. I look forward to many more years of Damon Swift inventions.

Damon Swift and the Mechanical Fish

FOREWORD

Having only ever invented incredible and complex devices and labor-saving machines in my head, I can only imagine what the life of an inventor-for-hire must be like.

It would be one thing to think something up on your own and an entirely different thing to have to perform to someone else's ideas and specifications.

But, that is exactly the position Damon Swift finds himself in. While it may not be something he relishes, he finds this project to be too intriguing to pass up.

That is something even I can get my brain around.

For an author, it is probably equivalent to the difference between writing a book to someone else's outline and word count—been there, done that, and they didn't even have commemorative t-shirts back then—versus writing to your own whims and enjoyment.

Personally I don't know how all those who came before me did it. Except I can see how being told to limit yourself to just 40,000 words can focus your thought processes!

Anyway, after receiving some positive feedback on my previous Damon Swift story I looked for a good reason to give him his own new tale. I found it in one of Tom's other stories, just sitting there, waiting to be used. Taa-daa!

Victor Appleton II

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CHAPTER 1 /

JUST PLAIN WEIRD

DAMON SWIFT, father of Tom and Sandy Swift, and one of the best-known inventors of the day, was experiencing something he hadn't had for almost five years.

Boredom.

He looked around the office that he sometimes shared with his son, trying to spot anything that required his attention. There was nothing. His most recent project—a satellite that NASA planned to send to study the surface of Mercury—had been delivered three weeks ago, and had completed its testing and acceptance phases. He had finalized all of his paperwork and archived everything off for any future use.

The day before he had walked over to the Electronics department—slowly and by a roundabout path to use up a little more time—and signed off on the final storage of all the development jigs and specialty equipment.

Now, he was back in the office, his one and only meeting of the day finished after just fifteen minutes, and he had spare time to fill.

He let out a little snort. *Spare time, indeed!*

Tom was deep in preparation for his journey to what was being called the “Paradox Planet,” and had only been in the office, briefly, and that was four days earlier.

He almost jumped at the sound of the intercom beeping. He stabbed a finger down and asked, almost too eagerly, “What is it, Trent?”

“Well, firstly, are you all right, Mr. Swift? You sound a little agitated,” the secretary asked.

“I’m fine, just going a little stir-crazy with nothing to do. So, what is it?”

Munford Trent was Damon’s super-efficient secretary and personal assistant. He was the proverbial glue that held most of the executive functions at Swift Enterprises together.

“A courier just delivered a package to the front gate with your name on it. Harlan Ames’ people in Security are going out to get it and give it the once over, but I thought you might want to know that it could be here in as little as fifteen minutes. It’s from Australia, by the way.”

Damon sat down behind his desk. He was now very curious about the package. Typically, mail and parcels coming in from foreign nations, and from other companies or individuals arrived via traditional mail or overnight delivery services. On rare occasions some company or another in the state of New York might courier something to them, but generally these were expected.

“Did the gate give any indication whom it might be from?” he asked.

“I believe there was a mention of something along the lines of ‘R-A-N New South Wales.’ Does that mean anything to you?”

“Well, that sounds like it is from their Navy. Royal Australian Navy would be my interpretation of the R-A-N. Oh, well. Let me know when it arrives, please.”

About ten minutes later there was a knock on the large door between Trent’s outer office and the inner one. The secretary opened the door and crossed over to the desk.

“Here it is,” he announced, setting down an inch-high paper-wrapped box covered with only an address label. There were no stamps or a Duty declaration. It had already been carefully cut open at one end. “Mr. Ames says it is just a stack of papers. No traces of any foreign substances other than something he identified as a slightly sticky yeast and salt substance. It sounds like that disgusting Vegemite muck they eat down there.” He made a face before leaving Damon to the package.

With a chuckle Damon opened the end of the package and slid the contents onto his desk.

“Well,” he said to nobody in particular, “just as I thought. Aussie Navy, and it looks like it is from their Admiralty.” He read through the first page, merely a cover indicating that everything else below it was part of the package and listed the other major sections of pages he would find. It also bore a huge red stamp indication it was **HIGHEST SECRET**.

The next page included instructions regarding how he was to respond to: A) Having received the package, and; 2) His desire to lack thereof to respond to the contents.

He signed the "I've got it" page and took it out to Trent.

"They seem to want to use old-fashioned fax technology to get this. I'll assume we can still do that," he said making it sound like a question.

Trent nodded. "Yes," he sighed reaching over to the multi-function printer he kept on his credenza. "I can do that right here. I only hope they sent all the header numbers so I don't have to chase those down."

Damon handed him the page to send along with the instructions from the first page. "I suppose you should add a cover sheet. Go ahead and sign my name on it. And, thanks!"

He went back to his desk and began to read the rest of the papers in the package.

The first fifteen pages were the typical veiled and outright threats regarding unauthorized release of any of the contents of the package. He skimmed through them, setting them aside to be sent to Enterprises' Legal department.

He found he was beginning to nod off around page 35 so he got up and poured a cup of coffee from the carafe on a side table and paced back and forth a few mintues.

It wasn't until nearly page 47 that he sat up straight, suddenly interested in what the project's Request For Proposal was hinting at.

A new submarine!

But, a submarine unlike anything every created. In fact, a submarine propelled through the water in a manner unlike anything he had ever encountered. At least, mechanically speaking for something this size.

He rifled back through several pages to re-read them. When he got back to the current page he smiled. It was there in black and white:

THE END PRODUCT OF THIS DEVELOPMENT AND CONSTRUCTION PROJECT IS TO BE A TESTABLE, FULL-SIZE VERSION OF THIS SUBMARINE CAPABLE OF

CONVEYING AND MAINTAINING TWO SUBMARINERS FOR PERIODS UNDERWATER OF BETWEEN SEVERAL HOURS AND UP TO FOURTEEN (14) DAYS.

SAID SUBMARINE IS TO BE NO WIDER THAN 155 CM AT ITS BROADEST POINT, 765 CM IN OVERALL LENGTH AND A HEIGHT OF 400 CM.

Damon quickly did the calculations that showed it would be five feet wide, about twenty-five feet long and just over thirteen feet tall.

THE SUBMARINE IS TO BE DISGUISED AS AN AQUATIC ANIMAL, MAMMAL, OR FISH BOTH IN APPEARANCE AS WELL AS MOTILE ACTIONS.

THE SUBMARINE MUST BEHAVE IN AS EXACT A MANNER AS IS POSSIBLE TO ITS APPEARANCE AND BE DETECTABLE TO NORMAL SONAR AND UNDERWATER VISUAL MEANS AS LOOKING LIKE SAID LIVE BEING.

THE TARGET BEING MUST BE KNOWN TO BE NATIVE TO AUSTRALIAN WATERS AND BE CAPABLE OF SPEEDS OF UP TO FIFTEEN KILOMETERS PER HOUR IN SUSTAINED MOTION. THEREFORE, SHELLFISH SHOULD NOT BE CONSIDERED IN YOUR DESIGN.

It went on in the following pages to give details as to the mission of the submarine, mostly that of observation. Only small defensive weapons would be considered and those would need to be either readily available or designed specially for the submarine and made available in a quantity to be decided once the contract had been awarded.

That was both strange and disturbing to Damon.

To begin with, he disliked the thought of weapons in general but realized that many Swift products built for the military were eventually outfitted with such systems coming from other companies.

Secondly, should he consider the act of ramming to be a defensive possibility, or was the Australian Navy looking for something that could be shot from the new sub?

As he searched through the rest of the pages he found no answer to that question.

But, one thing he did find rather astounded him. At the back was a list of seven other companies and short descriptions of what they had already submitted. With each one was a handwritten note stating why these designs had not been accepted.

The reasons seemed straightforward.

In one case, the manufacturer suggested a mechanical squid that could shoot forward at high speed and then coast for a few seconds.

The note stated: *Probably make crew sick. Too cramped—Does not consider food storage and preparation, or toilet—Bonkers!*

Damon had to smile at that pronouncement as he pictured a twenty-five foot mechanical squid and its hapless crew being shoved around by the G-forces. It wasn't any wonder that had been unacceptable.

Others were rejected for failing to fit into the size restrictions. Three called for whales, of various species, to be built with all using the "blow hole" as the point where a periscope would rise.

He laughed at the note on one of them that stated, in part, *"What? Whose seen a whale with a screw out its arse?"*

He knew that a "screw" was a propeller.

Something also struck him so he set the papers aside and did a small amount of research on the species of whales that appeared in Australian waters. The result was he also knew why the other two cetacean entries had been rejected.

The whales mentioned were unknown in the vicinity of the island nation. One, not even from the Southern Hemisphere.

By the end of the day his eyes were tired and his brain exhausted from all the reading of facts, figures, contradictory statements and general lack of several meaningful points of information.

He left the office for home where he intended to make a phone call at nine that evening, a call that would be answered in Eastern Australia at eleven the following morning.

The call went through to the Naval base's switchboard in Sydney with relative ease. That is where things stopped being

straightforward.

"G'day. This is Lieutenant Spencer McDermott, ARN, and you've reached Operational HQ. What can I do for you, mate?"

"My name is Damon Swift and I am calling from the United States. I—"

"Crikey! What time is it there? I forget if you're tomorrow or yesterday."

"It is my nine p.m. in what would be your last evening. The reason for my call is my company has received a request for proposal to—"

"Nix on that, mate!" the man hurriedly told him. "No talking about anything like that on an unsecured line. Give me your particulars and I'll get somebody on the blower with you later."

Patiently, Damon gave both his home and work numbers but reminded the man, "If this is going to take more than an hour or so I will be asleep, so please have your people contact me at the office. Wait. That won't work either. The fourteen hour difference gives us a very small window. Just try to get somebody to call the home number in the next hour or perhaps two at most. Please."

"See what I can do, but it's the big guys are at the base boozing havin' a pint. I'll see if I can get anyone of the drongos to get back here for a yabber."

Damon told him, "You can cut the Ocker talk for a start. I've spent a lot of time in the land of Oz and understood what you said. I would think that a Naval officer would speak better than that! Especially of his superiors. Good day."

Damon hung up. Ten minutes later the phone rang.

"I'll pick that up in my office," he told his wife, Anne, as she started to get up from the sofa.

"This is Damon Swift," he identified himself to the caller. After listening a moment he replied, "Yes. That's fine, but as I told the lieutenant on the switchboard it is past nine here in New York and I would prefer to not have to remain up until past midnight. Please let your officer know that this has to do with the RFP we received at Swift Enterprises in Shopton, New York, this afternoon."

He listened again, this time for nearly a minute.

“Fine, but tell him that... Oh. Okay, tell *her* that we do wish to respond but I have several vital questions concerning the specifications. And, as the package states we must get back a will or will not participate message to you no later than midnight your time tomorrow.”

The person he was speaking to must have been apologizing because Damon cut him off with, “No need to say you’re sorry. But if the Royal Australian Navy wants us to participate in this project, then you folks are going to have to make some effort to help overcome the time difference. That, plus I do not consider having a beer to be more important than working on this. I’ll expect another call within the hour. Thank you.”

It came within the half hour and Damon reached over from his desk to pick the receiver up.

“I’ll assume this is someone with the Royal Australian Navy and not an attempt to sell me siding or life insurance at this hour of the evening.”

There was a momentary silence at the other end before a tentative female voice said, “Uhh. Is this the correct phone number for Mr. Damon Swift?”

The accent was unmistakably Australian, so he answered, “Yes. It is. And to whom do I have the privilege of speaking?”

“This is Lady Captain Penelope Schott, Mr. Swift. I am returning your call after attempting to decipher all the various notes that my underlings scribbled on a very small piece of paper. If I read things correctly this may be regarding a project—a *very secret project*, please—you ought to have just received paperwork for. Am I anywhere in the vicinity?”

With a small laugh, he replied, “Yes. You are. I’ll dispense with any wisecracks and assume Lady refers to title rather than gender.”

“You are correct.”

“Good. I phoned with the hopes of finding out a few things about the project. There are a few missing details in your paperwork package plus some very illuminating notations I am not certain we were meant to receive.”

“Ah. Right. Of course.” She seemed to not be able to directly address things and her words came out more like stallings than exclamations. “Well, that is odd that you feel there may be

missing items. Might I inquire as to whether the package was tampered with prior to your receipt?”

“As it was unsolicited, it went to our Security department where it was examined for anything potentially dangerous before they opened the package and sampled the insides for any toxic agents.”

“Goodness!” she exclaimed. “We would have never suspected it would garner so much scrutiny. But, if we might put that aside, I do not feel comfortable discussing this matter on an unsecured line. Is there some manner in which you might fly down here? This is an important project and one that has some priority over other things on my agenda.”

Damon tapped his teeth with his pencil before answering. “It should be about your 1150 hours. Correct?” She agreed that it was. “Fine. Then I will be at the front gate of your base in exactly twenty-four hours and ten minutes. I do have to make one stipulation, that being you or someone who can provide me with all the missing technical answers will be there and will openly share them with me. Swift Enterprises is always interested in, well, *unique* projects such as this but we do not have a great patience with being provided incomplete or cryptic information.”

Now, the woman on the other end laughed. “Your reputation in the world of technology and mechanical engineering feats is well known. And, while I am certain your own government and military can provide as beastly an experience as ours when dealing with bureaucracy, I shall see to it that your trip is as informational as you would like. Please do not travel with those papers either physical or electronic. As it is, they were brought into your country in a diplomatic pouch for our embassy in Washington and hand delivered to safeguard them.”

“I am curious about that,” he admitted to her. “To begin with, much of the proposal work we receive comes electronically these days. Paper seems to have gone out of style. Even when it is paper based they generally come by standard courier service. Is this that important to require this sort of handling?”

“Perhaps more than even I have been led to believe. I shall see you in twenty-four plus six. Good evening, Mr. Swift.”

CHAPTER 2 /**IF I BUILD IT *WILL* YOU BUY IT?**

WITH TOM and Bud away, Damon enlisted the help of Red Jones, Art Wiltessa and Hank Sterling to fly with him in Tom's *Sky Queen* triple-decker supersonic jet. All three were pilots and Art and Hank were both engineers who would most likely be on any project Enterprises might get from the trip.

Red was along as a pilot, but he was the most senior of all the Enterprises' pilots and had logged more flight hours than the three of them put together! He had also lived in Australia for a year as a young man.

The flight had been timed to get them to the airport in Sydney with two hours to spare. To their delight they discovered the Naval base, located on small isthmus of land known as Garden Island on the nearby bay was only a seven minute taxi ride. They opted to stop to have a late breakfast at a small bistro on Darlinghurst Road, along the main road to the base.

Over coffee and pastries they discussed what was going to occur.

"My guess is that our host is going to wish to keep things to as small a group as possible, so I am going to suggest that while she and I meet that you three be taken on a tour of the base. If you get the opportunity, ask a bit about anything the typical sailor thinks is lacking in their sub fleet. I know they aren't stationed at this base, but scuttlebutt travels fast in any Navy."

"What were those three huge stadiums we passed on the way here?" Art asked.

Red, the most world-traveled of the three pilots answered him. "Stadiums."

When that got him a withering stare he relented. "Okay. If I recall the order, the one farthest away that looks the oldest is their old cricket grounds. I don't believe it's been used for that for decades. Anyway, the one in the middle should be their AFL stadium, and that stands for Australian Rules Football. More like a combination of rugby and our football, it certainly isn't soccer. A heck of a lot more fun to watch if you get the chance."

"What about soccer?" Art asked.

"Stadium three along with half a dozen other stadiums in the area. And if I recall it has the somewhat descriptive name of Sydney Football Stadium, or something like that. Which is odd because they call soccer, soccer just as we do, and football is called AFL football." He shrugged.

They finished their coffees while they pondered this, decided there was nothing they could do about it, and hailed another cab outside.

The cabbie informed them, "Can't go on base, but I can drop you at the big one."

"Big one?" Hank questioned.

"Gate, mate. The big gate out front. But, fair warning, they don't like to see blow ins. Uh, that'd be what you Yanks call strangers. Un-inviteds."

"We're expected," Damon told him.

"Oh, well no worries, then!"

The main gate was a simple ten-foot fence set under a freeway overpass. Damon counted ten sailors, most with semi-automatic guns carried on straps against their chests.

Noticing that this was among the newest types of taxis, Damon simply tapped his credit card against a small pad and then keyed in a tip for the man.

"Thanks kindly, mate," the man told him when the amount came up on his dash screen. He pulled a card from his shirt pocket. "You call that number and ask for cab one-eleven. I'll be back on the pronto!"

He turned around short of the gate and disappeared back down the wide street.

Damon approached a window in the small building set just inside the fence and identified himself and his party. The young sailor—Damon believed him to be a pay grade three in the enlisted ranks—saluted and smiled at him.

"Her Ladyship the Captain said to be on the lookout for you and whoever you had tagging," he said. "Come right in and I'll get her adjutant on the blower."

He came back to them a minute later. “He’ll be out in about five minutes.” He looked around as if trying to find something that he knew was not there. “We’re short on seats, sir.”

“That’s fine. We can stand. But, say. While you’re here can I ask you something about Her Ladyship? I don’t want to get you into trouble, so if that subject is taboo...”

“No, sir. I don’t think it’s forbidden.” He paused.

“If anyone takes exception you can tell them who you were speaking to. I’m—”

Oh, *everybody* knows who you are, sir! Your Tom Swift’s father. No, she’ll be right. What do you want to know?”

“Well,” Damon began mentally laughing at the thought of just being *Tom Swift’s father*, “we’re here to speak to her about a potential Navy project. Is she the sort who shares information with possible contractors freely?”

The sailor’s face scrunched up in thought. “I really don’t know about that, sir.”

“Okay, then is she the sort who you can have a friendly conversation with rather than a formal one?”

“I really don’t know about that, sir.”

“Ah, I am sensing a pattern here. Is she blonde, brunette or redheaded?”

“I’ve only seen her Ladyship the Captain with her hair up under her cap, sir. I’d say it’s a little blonde and a little brown. In the middle, somewhere.”

He asked a few additional light questions only to be told again and again, “I really don’t know about that, sir.”

The adjutant arrived shortly after the sailor excused himself. His collar held the pins of rank of Lieutenant and of being with the submarine service. But he also had a special pin just above his right shirt pocket that Damon did not recognize.

After introductions and as they walked the two-hundred feet the where the car had been parked, Damon told him, “I don’t wish to be nosy, but I can’t say I’ve ever seen that shirt pin. I recognize the submarine service and your rank, but what is that?” he asked pointing at the golden pin depicting what

appeared to be a dollar sign on top of a spiral with an arrow going down and interwoven with crossed rockets or something like them. It was unlike any officer’s specialty badge in that it lacked the royal crown at the top.

Leftenant Stuart laughed. “Yeah. That’s a strange one. You see I am the Royal Australian Navy’s one and only Acoustic Warfare Analysis officer. Basically, I am a super Sonar analyst. I was enlisted for six years before getting ready to demob when —”

“Uh, pardon the interruption, but ‘demob’?”

Another laugh. “Demobilize. Get ready to leave the service. I found things getting too boring. I suppose once you get to the point where you can listen to a ship in the distance and know exactly who she is just by the sound of her screws, all the fun goes out of things. No new challenges.”

“I’ve heard of people like you. It’s a real gift to be able to do that.”

The officer nodded, a bit sadly. “Sure. But I was twenty-two and got stationed on a recommissioned sub, from a group we had a few decades ago that seemed to want to sink but not so much on the come back up. This one was spared the chopper and put into what I think you Yanks call mothballs? Anyway, what with the Indonesian thing back then we needed at least one extra submarine so the old *HMAS Sheean* was put back into mostly working condition and off we sailed.”

“Was that about the time you were supposed to leave the service?”

“Yes. I signed on for a six-month extension hoping to see some excitement.” He paused as they got into the car looking across the roof at Damon. “We burst a pipe and sank. I was one of the survivors. We lost nine good men down there. Anyway, I was given a field promotion to Ensign and stayed in. Sixteen years now all total.”

They were soon pulling into a marked parking space in front of a long building. A sports court was located across the road.

Inside, the Leftenant introduced them to an attractive if slightly younger than expected woman wearing the gold epaulets of command along with the oak leaf cluster of Captain.

She shook each of their hands before offering them chairs.

“Welcome to HMAS Kittabul, also known as Fleet Base East. It is very good of you to come quite literally half way around the world to see me. See us,” she told Damon. “While I would love to say I can give you my undivided attention and tell you anything you want, the truth is I can spare only about two hours today. Of course, if you could stretch your visit through tomorrow, that being Saturday, we could spend many more hours on this matter.”

Damon inclined his head before stating, “Let’s see what we can accomplish today. If not enough, then tomorrow is doable so long as I can call my wife to explain the situation.”

“Perfect!”

“Do we refer to you as Your Ladyship, Your Ladyship the Captain, Captain or what? I’m afraid the dual title is a bit foreign to all of us.

She laughed. “To me as well,” she admitted. “I was only honored with the appendage when I married my husband seven months ago. He is the Baron Thigpen of Oxfordshire in England. I live here while he maintains the residence there to keep the title. My title means practically nothing here but opens all sorts of doors over there! Just call me Captain.”

After about ten minutes of pleasantries that saw the delivery of a tray containing iced colas, beers and a berry tea for the Lady Captain, Damon got into the heart of the matter.

He pulled out his tablet computer on which he had a photograph of the pages that contained the strange notes. The actual details had been obliterated or erased leaving just the handwritten material. He slid it across the desk to her.

“In our RFP package we also received these pages at the end. While extremely illumination I can’t help but believe they were not meant to be in that box.”

She seemed to be scanning the notes. Every so often he could have sworn the corner of her mouth twitched as if trying to dissuade a grin from coming out. Finally she slid the computer back.

“Interesting notes,” she said looking him in the eyes. “But, can I offer to have your trio of friends here taken on a little tour

of the base? I’m certain they do not need to be here for the boring stuff.” She made a nod to the Lieutenant and he got up ushering Red, Hank and Art from the room.

When they were gone she looked back into Damon’s eyes as if searching for something. She finally said, “Speaking officially I must tell you that a terrible mistake seems to have been avoided when you refused to even read through pages that were obviously sent by mistake. I commend you for your actions and believe that the matter may now be left behind us. Speaking unofficially I have to admit that I put those in so you could see what sort of fools and idiots many of these companies seem to be... or take us for.” She let out a single laugh. “Scooting squid, propeller-driven mini whales, unrealistic giant sharks that somebody would most probably hunt and try to harpoon? Please tell me that you have a more rational approach.”

He smiled and nodded. “I believe I do. But I need a lot more information than you provided in what was probably the first round of distribution of this packet. For instance, does the vehicle have to be silent at all times? Or, masked to sound like its living counterpart every second of every day? I only ask because a lot of marine life is only moderately active during daytime when light filters down from the sun. Even sharks go into a semi-sleep mode and move very slowly at night.”

This made her go into a period of thought. It nearly made him laugh when he saw that she shared a characteristic both he and Tom had, that of gently rubbing her chin when thinking deeply.

“You make a compelling point, Damon. And, while it is just you and me, call me Penny. The truth is the specifications were put to paper by a committee and represent some conflicting viewpoints. For my own preference I would like to see the vehicle capable of traveling faster than what you see on paper. I also know that such extra speed comes with a pretty hefty penalty of noise. Cavitation bubbles from screws, humming from turbine drives, and electrical interference from worm drives”

“And, something this size can’t support the last method and might have power problems with the other two.”

“There is that,” she said.

“Okay, let’s set that aside for the time being. How about the submariners? You can’t expect them to simply sit for up to two weeks at a time. Not only will they get so jittery they won’t be able to sit still, but there is the possibility of developing anything from sores to blood clots. The specs mention nothing about mitigating that. Would we be free to make a suggestion or two, and incorporate those into the design?”

Penny Schott looked a little miserable. “Oh dear. We don’t come up looking very smart on this, do we?”

“Nobody can expect a committee to think of everything, but this one seems glaringly obvious. Committees frequently work against the good of the project in favor of their own, often petty, differences. Perhaps they ought to be made to sit still for even twelve hours to see what it is like. What I feel is missing from the paperwork is permission to, as we say in the U.S., go hog wild.”

“If that means to use initiative and imagination to best provide the most workable solution, then consider it to be added. Of course, to be fair to at least two of the previous entrants I will have to send the amended pages out asking if they intend to respond a second time with greater details or even with altered plans.”

He knew that she would have to do that.

“It would help if I had been allowed to bring my copy. I made rather copious notes on the pages. Can I borrow an RFP from you?”

She opened a side drawer on her desk and extracted a clipped-together stack of pages. Here.”

Damon flipped through the stack until he found the page he wanted. “This piece both bothers me as well as makes everything sound as if nobody thought it through. Let me read this: ‘The final vehicle must contain a volume of breathable air sufficient for a period of no less than four hours. Air scrubbers to remove excess carbon dioxide should be employed to stretch one cabin of air to up to twelve hours.’ That is the bit I don’t like,” he said. “Four hours of air? Scrubbed to triple the time? And just where are they supposed to store the massive numbers of scrubber filters? Most commercial systems can barely manage to stretch four into eight but it becomes a losing

proposition after that without supplying new oxygen into the atmosphere. I did the math.”

He tapped his screen and slid the tablet back to her.

“As you can see even if the sub is a rectangle using the maximum dimensions, if you take into consideration the need to resurface every twelve hours you will be forced to carry nearly five hundred pounds of oxygen for each man for each week. That is a ton of oxygen plus the containers for it. The number of CO₂ scrubber filters would be in the neighborhood of eighty-five taking up between everything, one-hundred and eight percent of the available inside space leaving... oh, that’s right. It doesn’t leave any room for the people, food, exercise equipment, toilet facilities and any number of other things.” He looked at her and shook his head.

Penny seemed to deflate at the news. “That will explain why two of the entrants specified constant snorkels and could offer only a maximum depth of fifteen feet.” She looked at him and also shook her head. “I don’t suppose that you have a way around this.”

He smiled and nodded. “Your committee may have to be tied down and gagged when they see what I believe we can do, but if they want that longevity of mission and hope to keep their submariners alive and healthy, they may have to swallow their pride and take what we can offer. The only thing then is, if I build it, will your people purchase it?”

CHAPTER 3 /**BUD NAMES IT**

“WHAT THE HECK is that?” Tom and Bud exclaimed in perfect unison as they entered the basement laboratory that Tom’s father had constructed in the Administration building when it was first constructed. After deciding that any explosive results from experiments gone awry could endanger everything above he had rebuilt another lab on the top floor, just above Tom’s large lab. This one had been locked and abandoned for a number of years.

Until today, Tom believed it had remained unused—Mr. Swift never mentioned it—and was off limits to anyone except for Damon Swift himself. But, the older scientist had called them both to come down to see him.

Turning his head part way around, he gave the two young men a smug grin. “What does it look like?” he asked them innocently.

“An amazing hologram,” Tom said at the same time Bud answered, “It’s a metal fish!”

Bud and Tom looked at each other and burst out laughing.

Damon joined them for few seconds, but then turned serious. “No. I really am interested in what you think this is. Tom says it is a hologram and Bud thinks it’s a fish. Well...” he made a little sucking sound through his teeth, “it’s both.”

“Mr. Swift?” Bud raised a hand. “Now that I see beyond the small picture may I change my answer?”

Chuckling, Damon replied, “Certainly, Bud. What do you think it is now?”

Bud took a deep breath before answering. He had been spending a lot of his non-flying time over at his small office researching many things on the Internet. He hoped that he could some day come up with smarter answers to many of Tom and Damon’s questions. So far, this didn’t look like that day.

“Well, now that I look at it, it might be a hologramatic computer display on which you have placed a moving image of

a three-dimensional mechanical fish.” He looked at Mr. Swift who now had his mouth slightly agape.

“Ah, don’t look at me like that. I *was* going to say it was a floating aquarium, but that would have sounded even more stupid.”

Mr. Swift began laughing. “No, Bud. Actually I was staring at you because you got it in one guess. Well done!”

Now, Tom looked slightly puzzled. “Is that really it, Dad? I mean if it is, then my guess would be that this is a display based maybe on my 3-D Telejector technology, but with much finer control of the picture—it’s even finer than the version I put in the 3D internal imagine devices like Doc Simpson uses—and that you’ve got it displaying some sort of 3-D moving CAD video.” He looked for a yes or no answer in his father’s eyes.

“Don’t let this get out, but I am extremely proud of the two of you. Yes, Bud, it is exactly what you said, and it is also doing what Tom says. I am using it, as you mentioned, as part of a CAD program for an underwater craft I am working on for the Australian Navy.”

He spent a few minutes describing the uses of the imaging technology, using something he termed MSLLED, or Multi-Spectrum Laser Light Emitting Diode to make a 2D image into a detailed 3D one. Tom immediately saw an application for his current project and that took several more minutes of discussion before they returned to the matter of the 3D fish.

Damon pointed at the floating image. “That fish is a two-man submarine they want to use for patrolling their territorial waters. It looks and swims like a very large sunray fish, will be coated with a new sensory material that will both act like a giant array of inputs as well as making it appear on any SONAR as an organic life form.”

He told them more about the configuration and how the project came to be.

Before the two left Tom asked, “You called and asked me to come over. But, you never said why.”

“Oh! My bad, Son. I called you to show you the MSLLED system and to tell you that it isn’t going to be classified, and I thought you might be able to use it as part of the instrument

package on the *Sutter*. It might help you find out what the heck is located on that planet before you touch down.”

Tom smiled and nodded. “I already put it on my Christmas list, Dad. Is it something the Electronics department can put together for me in the next week? That’s when I intend of taking off.”

“They’re already working on one for you. Oh, and I’ve seen your crew list. I’d like to make one suggestion. Actually, George Dilling and I want to make it. For your radioman, instead of taking Tim Moss—his wife is about to have their first child, you know—why don’t you ask young Mike Jayson? He’s both a skilled radioman as well as being former military. He can take orders.”

“I’ll keep that in mind, Dad. Oh, and thanks!”

Once the boys left Damon stood contemplating the image swimming in mid air. Like its live cousin it was disc-shaped and fairly thin. Unlike the real sunfish, this was going to be build more like an underwater tank. He reached over and tapped a key causing the “skin” of the device to disappear. Underneath was a nightmarish image with overlapping plates and a decidedly metallic appearance.

He smiled, nodded to himself, and turned the system off.

Tomorrow, he told himself, *you get the finishing touches.*

* * * * *

The next afternoon saw Damon in such deep concentration at this desk in the large office that he barely noticed, and did not react to, his secretary, Munford Trent, knocking on the door, opening it and poking his head inside. In fact it took three throat clearings and another more definite knock to get his head back from the world of mechanical systems and into reality.

“Huh? Oh. Trent. How long have I been away?” he asked with a slighy embarassed grin.

“Under a minute from the time I first knocked. You wanted me to let you know when the teleconference with Senator Quintana would be.” Trent now staped fully into the office allowing the door to close behind him. He crossed to Damon’s desk.

“Wonderful. So, when will he call?”

“In thirty-two minutes.” Trent set a thin folder on the desk. “Those are the talking points his aide just emailed. I’m afraid I couldn’t give any file identifiyers for you to pull up if you need any refresher on the subjects.”

After scanning through the two-page document Damon shook his head. “Not to worry. There really is nothing in the files, yet. Good job,” he complimented the man standing before him. “Thanks, Trent. Can you get me a fluffy coffee from Chow’s kitchen, please. I think a mocha—only one scoop of the cocoa, please, with three shots?”

Trent smiled. “And, no whipped cream, I know.”

“Good man!”

While Trent went down the hall to make the drink, Damon took a closer look at the list with its questions. He made a few notes in the margins and was just looking up the one file he wanted to have in front of him when Trent came back in.

“My thanks to you, Trent. When Communications gives you the signal, have them route it to the monitor in here. I’ll take it from there.”

He killed the next twenty-seven minutes by making a few additions to the mechanical fish design. These, he realized, would not be presented in the final design or prototype—things like header pipe exhausts coming out of both sides and razor-sharp teeth—but they amused him.

It wasn’t until three minutes before the call was to commence when it hit him that one of the additions, a pair of tip out turboprops for greater speed, might not be all that far fetched after all. But, that thought would have to wait.

“The call is coming in,” Trent said when he opened the door a few inches.

Sitting in one of the overstuffed conference area chairs Damon greeted the man who appeared on the large screen.

“Senator Quintana. How nice to see you. And, the three other people there, only one of whom I recognize.”

He had planned to greet the Senator as “Pete,” since the two had been friendes for more than fifteen years, but the appearance of others made him opt for formality.

“Hello, Damon. This group of rascals I have hovering around me are the other members of a little ad hoc committee that got thrown together just yesterday. You already know Congressman Weldon from Oregon, but the other two are fairly new, even to me. This lady to my right is Rebecca Wright-Davis of Ohio—their replacement for Congressman DePietro... the one who had the little run in with the law—and the other gentleman is Congressman Brighton from Alaska.”

“A pleasure,” Damon told them. “So, your aide sent us the list of talking points. Do we start at the top of the list?”

Pete Quintana nodded. “Right. So, and not to put too fine an emphasis on it, what in the name of Uncle Sam are you doing with the Aussie Navy?” He had leaned forward enough so that only Damon could see the twitches of a grin forming on his face.

“Just responding to a Request for Proposal, Senator. Well, actually it has gone slightly forward from there to the ‘Give us a design and bid,’ phase.”

The woman leaned in and spoke in a very loud voice. “But, what gives you the right to build military machines that could be turned against your own country?” Here eyes flared as did her nostrils.

“Pipe down, Rebecca. He might be hundreds of miles away but we have an incredibly good visual and audio technology available these days. You don’t need to shout,” Pete chastised her. “And, I wouldn’t go accusing Mr. Swift when you have absolutely no idea what he is doing. That is why we called, after all.”

She stood back looking as if she were about to pout but rallied and stood staring right into the camera as if challenging Damon to say anything out of line.

On a hunch, Damon asked, “May I assume that you were formerly either a teacher or a Public Defender, Madam?”

The question seemed to stun her. She nodded and her eyes narrowed. “Teacher. Why?”

Damon sighed. “At the risk of incurring your ire any further I had a teacher exactly like you years ago. Rather than asking if we had our homework finished she would stand at the front of the room and demand, ‘Tell me which of you failed in your

assignment, and I mean right this instant!’ It made for uncomfortable school days, ones that I would rather keep well in the past. But, to answer the less accusatory parts of your questions let’s start at the beginning.”

He told them about the RFP and how his visit to the Australian Navy had given him insights into a number of problems they faced, not the least of which was how to patrol and protect coastline that was either very shallow or ringed with delicate coral growths.

“So, their Navy wants a submarine that can do those patrols without being detected when it becomes necessary to go into their clear waters where anything or anyone overhead can positively locate and identify a traditional sub shape.”

Without breaking his confidentiality agreement with the RAN he gave them a brief description of the overall dimensions of the vehicle.

The Senator asked, “Is it anything we can use as well?”

“I’ve given that some thought in anticipation of someone down in D.C. calling. The truth is this can never be outfitted with any offensive weaponry. There isn’t any room. It will carry four small non-explosive underwater missiles that can be used to stick to an interloping ship or sub and then broadcast through the hull a warning, but that is about it. And, before anybody asks,” he added seeing the mouth of the Alaskan open, “if you took out the sounding and even the navigation circuits inside and replaced it with a high explosive, you could manage to have something with the power of an M-80 firecracker. That’s about it.”

The Alaskan politician would not be deterred from asking at least one question. “What about if you made it an automated submarine? Can we get a weapon system inside then?” he sounded far too eager for Damon’s liking.

“Hell, why not just make it a giant torpedo that scoots around out there? In fact, why not strap nuclear weapons on the noses of whales and train them?” Pete Quintana snorted in disgust. “Not everything this Government purchases has to be a weapon!”

“I suggest reigning in most of that gung-ho enthusiasm, Daniel,” Congressman Weldon suggested to his younger associate. “This isn’t the wilds of your untamed state.”

Damon answered several more of their questions before Senator Quintana declared that he was satisfied.

“I can see nothing in this that might be turned against us,” he said looking pointedly at the woman from Ohio, “nor can I see much in the way of applications for about ninety percent of our territorial waters. But, Damon,” he now looked back at the camera, “I would like to discuss, once you have fulfilled whatever contract you get from our friends Down Under, that perhaps a half dozen of these might enhance our patrolability in the Gulf of Mexico and even up in Alaska.”

The young man from that state suddenly beamed. Seeing that, Pete Quintana rolled his eyes and told him, “That isn’t going to mean a barrel of pork will be shipped to your fine state! It just means that we may have a new way to patrol the waters between our most western state borders and a certain unfriendly nation across the Bering Sea and beyond.”

The call ended with Damon promising to keep Senator Quintana advised as to degree of completeness everything was reaching on a weekly basis.

After disconnecting the call he went back to his desk and began to put the new features onto the design.

It was near quitting time when he called Enterprises’ chief model maker, Arv Hanson, and asked him to come to the office.

“Sure thing. I’ll be there in under ten minutes,” the man promised.

When he arrived Damon first gave him a rundown on the nature of the project and of the radical design. Then, he showed Arv what was on his screen.

The man let out an appreciative whistle before exclaiming, “Man! What a concept. And, you say two men will live and work inside that? How big is it anyway? What drives it along? And, how fast will it go?”

Damon laughed. “That’s a lot of questions, but in answer to the first, yes. It will have a two-man crew. Typically one man will be resting or asleep with the other piloting. It will be big enough to hold them plus equipment and supplies for a couple weeks. What drives it may be two things. For silent patrols it will use the same swimming motion of a large fish.”

“Undulating the tail?”

“That’s right. As to speed, they want it to travel at about fifteen KPH, or roughly nine knots. I hope to get at least twelve knots in standard drive mode, but here’s the little special bit I want to try to give them.”

He pointed to the side of the tail. There, a slight bulge had been added under the “skin” that he clicked with his cursor. The small tubular drive module flipped out.

“That, along with the matching one on the other side, should give the sub about a twenty knot speed, fast enough to keep up with most surface traffic when needed.”

Arv nodded. He had a good understanding of engineering, even underwater systems; he had been involved in all the development of Tom’s jetmarine, the seacopter and several other underwater craft.

“Can you keep the sound of those drives low enough to avoid detection?”

“Probably not, at least to nearby modern SONAR equipment. So, along with some precision shaping of the cowling and case I want to use a variation of Tom’s underwater drive system, the one from his hydrolung set up. We already know the power of that system and also know how to mask some of the noise with life sounds, so it seems a natural.”

He looked to see Arv’s reaction and noticed the smile.

“What, may I ask has you showing all your teeth like that?”

“It just hit me. We can also use the hydrolung unit, scaled up of course, to draw breathable gases from the very water they will travel through, even when only swimming if fishy mode. How soon do you want a model and to what scale?”

“How about three weeks and one quarter scale. I have the notion that is about as small as you can go and still give the full mobility.”

Arv thought a moment before answering. I can do that, but I might be able to go a little smaller. One-fifth? It would be easier to transport.”

Damon now smiled. “Remind me to give you a favorable performance review, Arv. And, very soon!”

CHAPTER 4/

SHAKEDOWN CRUISE

IN THE following two weeks, Damon sought to complete the design paperwork and all the CAD and schematics the Proposal called for. He had the gut feeling it was all pro forma, or just going through the motions, but he wanted Her Ladyship to have as much armament to sway any nay-sayers among her committee as possible.

Toward that end he intended to accompany the paperwork personally as well as to bring along the forthcoming scale model. In his career there had been very few times when something radical was presented that the people seeing it were baffled until they might see it in action.

Action was what he intended to give them.

That action would not just be in the form of the working model, it would incorporate some incredible 3D animation he intended to show them at the same time they witnessed the runing of the small prototype.

When Art called him to come to the large test tank a day later—in reality a pool some fifty meters across and one-hundred fifty meters long running nearly thirty feet deep—he jumped from his chair and raced from the office barely stopping long enough to explain where he would be to Trent.

A small tear came to the inventor's right eye when he saw the model. Although completely sealed, the clear skin gave it the impression of being just the metal frame,

It was beautiful if not just a little fierce looking.

They ran the miniature sub through a series of tests, each and every one passed with better than hoped for results. There were, of course, about a dozen small refinements he knew would like to have and the two men discussed these.

"I can work that up in about three days," Arv told him. "Everything but the trick with the skin. Is three okay?"

Damon told him it was just fine. "Tom will be back that day and I want him to see this before we pack it up and head back to Oz."

* * * * *

Tom did not make it back as scheduled. His mission into space and the exploration of a possible ersatz planet Pluto was taking far longer than had been hoped.

That afternoon he, Hank, Red and Zimby Coz—another of the Enterprises' stable of expert pilots—and Arv Hanson left in the *Sky Queen*. The five-foot-long model and the special video equipment sat in the hangar at the back of the aircraft.

This time, and for security reasons, they also brought along a small truck, the bed of which could be completely covered. The model would need to be loaded into the bed once they arrived as the combined height of that and the truck extended a few inches higher than the available space in the hangar.

A special pass had been arranged for the vehicle and separate Authorized Visitor badges for the men to wear.

The actual test was to take place inside one of the wider three-sided docking areas, normally occupied by the Navy's larger tanker and supply ships.

Once they parked along the quay wall a rolling crane was moved along its tracks to a position twenty feet away. It was going to be necessary to use the crane even though the four men had been able to get it lifted into the truck.

Getting it lowered down the eighteen feet to the water by hand was another thing.

The committee arrived in two official Navy vehicles and the seven people climbed out. At least three made no pretense about scowling at Damon and his team. But once they caught sight of the "fish," their looks changed to ones of curiosity and even disbelief.

Damon made a ten-minute introductory speech about the general design, how it fit in with their specifications, and how he Enterprises overcame several oversights in the documented requirements.

Finally, and after inviting them all to crowd around the sub model and to, "feel free to touch it," he announced the readiness to lower it into the water. One of the people in civilian attire—and one of the three he had mentally dubbed the "scowlies"—stayed next to the model finally balling up his

right fist and punching it in the side.

As he howled in pain, Her Ladyship Captain Schott informed him that it was his own bloody fault if his hand were broken and that a single further outburst would see him escorted from the base and off the committee.

“That goes for the lot of you,” she told the rest. “Mr. Swift came here in good faith and at his own expense. I believe what he is presenting to us has quite some merit.”

“It isn’t what we specified,” one woman called out.

“And, what you specified is not what the Navy needs, Mrs. Rushbart. I have a litany of deficiencies the committee left off the proposal, many of which would have seen future occupants either facing death, starvation or circulatory damage. Now, shut it and pay attention to the demonstration.”

The woman’s mouth gaped open but she said nothing further.

With Hank’s assistance and Arv running the model control board they set the submarine into action.

“If you will turn your attention to this large monitor once the sub goes underwater you will see a representation of what it will be like inside the vehicle. We have programmed both the physical demo and this video to synch up to each other so you can get a realtime idea.”

The video showed them everything from the pilots point of view, a side view of the main lower compartment with the second sailor fixing a meal and climbing into the bunk, and then how the two would exchange positions.

At the end of the half-hour trial, and as the submarine was being hoisted back to the dock, Damon took questions.

“How ever will two men be able to fit into that tiny sub?” Mrs. Rushbart asked, sounding genuinely worried.

Penny Schott said, “I can handle that one. As Mr. Swift stated *twice* during his introduction, this is a *model* of the final submarine. It is one-fifth the actual size. The ones I hope we agree to have him build will be *larger*. Five times *larger*.” She was explaining this as if speaking to a five-year-old.

Her tone was lost on the woman.

“When they come up for an air exchange, how long do they need to remain on the surface,” a man asked. He had been introduced as a vice-secretary from the Defense Ministry. “We are all hoping for less than a quarter hour.”

Damon smiled. “Zero time, sir. You see, rather than try to take up room with CO₂ scrubber machinery we will use a type of system that takes oxygen from the very seawater the sub travels through. It is used to replenish the atmosphere inside as it circulates through a special membrane designed to capture only the CO₂. That, in turn, is dissolved back into the water that exits the system meaning there are no telltale bubbles to escape and no need to surface to replace the air. Finally, we remove excess humidity and that also goes back out with the exiting water.”

“Stone me!” the man exclaimed when the meaning of this hit him. “Bloody brilliant!”

Several of the others agreed. Mrs. Rushbart, however, was scowling.

At the end of fifty minutes all questions had been answered and the committee members thanked the Enterprises men for coming.

“I have to tell you that you are up against very stiff competition,” Mrs. Rushbart told them after approaching Damon. “Very stiff indeed. I doubt that you will be able to meet some of the very attractive prices we’ve been given by our own Australian companies, but we shall see.”

Penny Schott, once the cars left, faced Damon and told him, “Mrs. Rushbart is one of those women who believe that because her husband is a minister—a very minor minister for secondary education by the way—that she is entitled to sit on many committees. In England I believe they are called QANGOs. Quasi-Autonomous Non-Governmental Organizations. Here we call them something not entirely polite. In any case these people get paid huge sums to sit in judgment of things they have no idea about and get their names in the newspapers. Unfortunately, Mister Husband Minister Rushbart got one of those assigned to this project, possibly to make my life miserable.”

“Do they or she have real power or does the Navy have the

final say?”

“We have the final say of what we can or will accept, but her committee will have the right to file a report contradicting our desires. If so, it all goes to Parliament. They are more interested in remaining in power than making correct decisions. It is how we ended up with an entire class of submarine known for sinking, and not it in the good way you want a sub to do that.”

* * * * *

“Jetz, Mr. Swift,” Bud said as he saw the finished prototype for the first time. He and Tom had just returned from their space mission and neither of them had seen the submarine in its finished form. “That’s what I call one strange fish. Is that really going to work?”

Three months had passed by, and the full-sized prototype of the mechanical fish was within days of completion.

Damon nodded. “Yes, Bud, it is. We had it over in the deep tank the other day and it was able to get up to ten knots in just the length of the pool. My computations had me believing that only about seven knots were possible in what I call Tail Mode. I’m quite happy with these results. Of course, an ocean test has to happen before we know what it really can do.”

He walked Tom and Bud around the mechanism pointing out as many of the details as he could. This included the twin flip-down hydrolung drive units—about five times the size of the ones Tom first used—that would drive the boat at speeds of nearly twenty-two knots when stealth wasn’t required. When they got back to the starting point, Bud was smiling broadly.

“What’s got you displaying all your teeth?” Tom asked.

“I’ve just thought of a name for it,” Bud replied. “Ready?” he looked from Tom to Damon.

“Actually, Bud, it already has a designation mandated by the Australian Navy,” Damon explained. “It is officially the *HMAS Edmund Barton* after their first Prime Minister. Sorry, but you’ll have to be satisfied with an in-house name that will never be told to them.”

Bud looked a little downcast but brightened. “Okay. I can live with that. I hereby dub thee the *SS Minnow*. Wriggle well

around all who sail in you!”

Tom groaned and Damon looked away trying to hide a smirk.

“Hey! Be grateful I didn’t go with my first thought. It’s going to be an Australian Submarine Ship, so... The *ASS Flounder!*” Bud giggled and walked away before either of the Swifts could say anything.

“Is that one going to stick?” Damon asked a little worriedly.

“They generally do,” Tom replied, “but I have the feeling that Bud has something else in mind. It’ll come out pretty soon.”

A week later found Tom and Damon sitting in the shared office reading through their emails, both pondering what they might do next. The younger Swift had completed his work in space five days earlier while his father was basking in the knowledge that the new submarine for the Australian Navy was ready to go. He looked over to Tom.

“Want to help me with the fish?”

“Sure. What’s on the agenda?”

“I thought a short test trip around Fearing Island and a little sped run would be a nice thing before taking it out for a really thorough shakedown. Will your new bride let you get away for a few days... maybe even a week?”

Tom and the former Bashalli Prandit had married four months before after dating for more than two years. She was very much in love with Tom but was mature enough to realize that his work sometimes meant he would be away from her. She accepted this with grace and looked forward to his returns.

“Well, after being out in space for weeks at a time she’s kind of happy to have me around, but I think she’ll understand.”

She did. In fact she was delighted that her Tom and her new “Father Swift” would get to spend some time together. “Go,” she had told him. “As long as you call every evening and tell me how much you love and adore me, I will just spend time, and money, with your sister, Sandra.”

A Swift cargo jet took the ready to test submarine to the island off the coast of Georgia for them that evening, and a team of technicians had it in the water at the dock by the time they arrived the next morning.

Tom had never been inside of the submarine so he was astounded at the efficient layout and appointments.

The sub was divided into three levels. At the bottom and taking up just fifteen inches at each end, was the power and drive machinery to operate the undulating tail and side fins. This also included the hydrolung apparatus to extract oxygen from the seawater and their fresh water making equipment.

Above that was the living space taking up all but the top four feet of the front third of the vessel. In this area was the small bunk, food prep area, exercise equipment and bathroom along with most of the food and water storage. It was tall enough to stand up, about twelve feet in length, and allowed free movement to the occupants. The most interesting aspect was the exercising equipment. It was a flat, padded device with a pedal-operated resistance trainer for the legs along with a flexible bar for keeping the upper body strong. And, it all fit on the underside of the bunk; the sailor would just pick up and flip the bunk over so they could exercise, and then flip it back for sleep.

The top level, taking up just the front thirty-five percent of the forward area, was the pilot station. The operator sat in a recumbent position operating the sub via a side-mounted joystick that controlled all motion. At the flick of a switch the tail could be stopped, the drive units extended, and the "fish" now became a fast and sleek submarine. Vision was provided by three wrap-around monitors and a series of six external cameras.

All around the sub were storage lockers, curved to give maximum fit and area in whatever portion of the body they were located. Only the very back end was not used for storage as it was full of the mechanics to operate the tail. It was also the only part of the "fish" that moved. The main living and work area remained stationary.

While Tom was admiring the setup, Damon closed and locked the hatch at the very top. He knelt behind his son who was now sitting in the pilot's seat looking over the controls as well as the detection equipment. Tom pointed at a small board to his right.

"Is that what I think it is?" he asked incredulously.

"Torpedoes?"

The Swifts disliked weapons. Exceptions were occasionally made as with the e-guns that could stun or disable a man at more than fifty feet.

"They are, but with a difference. By the way, they are based on your little hand-held mini-torpedoe missiles from when you were attacked down in the Gulf of Mexico." He described the sonic difference in these.

"Wow. So they aren't just going to race out and knock on the hull. They will actually ring the doorbell and yell at the people inside?"

"Right."

Twenty minutes later Damon, now in the pilot's seat, pulled them out and away from the dock. The trip around the island took about an hour with Tom piloting the second half of the trial run. Half way through they had run the boat at top speed away from the island. It topped twenty-two knots with ease.

When they got out back at the dock, both men had huge smiles plastered on their faces.

The "Fish" had swum perfectly.

That afternoon they took it out again, this time accompanied by a jetmarine to test the SONAR signal in real conditions. It already passed such tests in the controlled tank at Enterprises.

They swam away from the jetmarine until they reached a point about a mile away. After that it would be a cat-and-mouse game to see if the jetmarine, using only electronic means, could find them. Obviously with its clear nose the occupants of the jetmarine would be able to see the other sub visually if it came within range.

After the scheduled two hours the jetmarine surfaced only to receive a radio message from Damon.

"We are directly behind you by a hundred yards and have been for the past thirty minutes!"

"Well, I'll be danged!" came the return call from the sub's captain.

CHAPTER 5/**DELIVERY AND A PROBLEM**

THREE DAYS later the new submarine was fully stocked, flown from Enterprises to the island of New Caledonia and put into the water near a small town of Koumac on the western coast during the middle of the night.

Tom and Damon climbed into the top, sealed the hatch and soon disappeared beneath the calm waters. They navigated around a large sunken island just two miles off the coast and headed into the deeper water off the island's shelf. The trip to Sydney would take them over twelve-hundred miles.

The trip began with a direct angle to Brisbane, roughly 225 degrees. That leg would require about two days traveling at various speeds over the nine-hundred miles.

The specifications from the Navy and the committee called for the little submarine to be capable of depths of up to one-hundred feet. Damon had built his to withstand the pressures, and still be able to maneuver, found at three times that.

They kept to within fifty feet of the surface for the first six hours making certain that the air system was working and that all other aspects of the boat were fine.

They were.

“Are we going to stay underwater the entire time, Dad?”

Sitting at the controls, Damon nodded. “We are. I spoke with our Lady Captain the day before yesterday and arranged to be there on Monday. That gives us four days. About two to get to the coast and then we really only need another day to get down to Sydney. I gave us an extra day to play a little game.” He turned his head around for a moment and smiled while Tom arched an eyebrow.

“A game?”

“A game. We are going to sneak all around their waters off Brisbane where they are currently holding a Naval exercise. As I understand it there are five war ships, two supply ships and two submarines in the area.”

“Does this Lady Captain know about your... our plans?”

“She does, but *only* she does. I'm trusting that the plasticized tomasite polymer I came up with for the skin will make their locating us impossible. What better test to prove how well this little fish swims?”

They continued on, switching places about a half hour later. Damon had been awake since the start of the trip at Enterprises and had now been up for nearly twenty hours. He tumbled into the bunk and was fast asleep two minutes later.

While he slumbered, Tom put the sub through a few deeper dives and eventually brought the sub to within five feet of the surface where he extended a fiber optic rod only about the diameter of a dime. The end could be controlled electrically to twist and bend so to point anywhere on the waters around them as well as into the air.

He spotted a commercial jetliner heading northeast and was amused when he zoomed in only to find it was one of the new jets build from his Quieturbine SkyLiner designs.

Next, he used the portable Private Ear Radio system they brought along to call Bashalli. It has just turned seven a.m. back home and she was surprised to find him at the other end of a phone call being relayed by the switchboard at Enterprises.

He had to cut the call short five minutes later but she told him how much she loved him and thanked him for holding to his promise, “...even if it was to call me at night. Bye!”

By the time his father woke, nine hours later, Tom was feeling drowsy and gladly traded places. He brought a mug of hot coffee back up before turning in. Damon happily accepted it but asked if he might also have a packet of breakfast bars. Tom obliged.

When he got up, Damon heard him and called down. “Son? Can you flip the bed and try out the exercise rig, please? It's one thing I never got around to testing before it was installed.”

“Sure.” Tom pressed the unlock button on the corner of the bunk and picked up that side. Damon had put some sort of assist device in as the bunk swung up and over, clicking into place with practically no effort at all.

Twenty minutes later, and freshly wiped down with a

disposable cleansing towlette, Tom changed into a fresh t-shirt and climbed up to his father. “Works like a champ, Dad. I didn’t realize it has variable resistance until almost the end, but the whole thing ought to keep sailors in top condition and help work off nervous energy.”

They decided that six hour shifts would work best to keep the pilot attentive. It was about two shifts later, with Tom just getting back into the seat, when the first SONAR pings came through the speaker. With the entire skin acting like a receiver it was easy to determine the exact direction of the sender and a good idea of the distance. Tom quickly donned headphones and turned the speakers off. The sound was quite a way away, about three-hundred and twenty miles, and most probably not aimed in their direction. Tom grinned as he began to detect the difference between the outgoing pings and the return noises.

Wish I new a bit more about SONAR, he thought. I might be able to get a better mental picture of what’s going on. Oh, well.

A few hours later he turned the masking system on. Based on circuitry he created to disguise underwater communication with his hydrolung suit—as well as other Swift undersea vessels these days—anybody listening to the sounds underwater would detect a combination of light rumblings, clickings and other ocean noises. He smiled as he discovered his father had even set up the computer to provide noises appropriate to various areas around the globe.

After another hour the SONARs went silent. Tom checked their guidance system. It showed them to be just three hundred miles from the coast and that meant they were most likely to be just a hundred miles from the Navy ships and subs. Twenty minutes later Tom thought he heard a high pitched noise. He pressed a button to record it so he might play it back for his father. After running for about a minute there was a brief *ping* sound and then nothing.

After switching places Tom had Damon play back the recorded sounds.

“Ahhh. Sounds like a practice or dummy torpedo, Son. The whine is the turbine engine and propellers. Coincidentally, your great-great grandfather, Barton Swift, developed the very first version of that torpedo turbine. That ping at the end is the

dummy explosion. Had it been real it would probably have meant either a damaged ship or sunken submarine.”

Tom grabbed about three hours of sleep before getting back up. He wanted to be upstairs to observe as they entered the exercise zone.

Damon Swift hadn’t had so much fun for years. He put the little submarine through a series of maneuvers eventually culminating with them gliding just a few yards above the sea floor and within about a half mile of one of the submarines. Twice, ships had passed directly over them.

That sub apparently turned in their direction and sent a single ping of their SONAR out, but the skin of the fish absorbed it and the sub was soon heard to be turning and leaving the area at high speed.

“I’d say that was a successful test,” Damon declared.

“And, I’d say that I am completely and utterly impressed with this sub, Dad. It’s incredible.”

Tom could not see his father’s face, but if he could he would have seen it blush.

They headed on a mostly southerly course with Tom agreeing to go ahead and take his next turn at the controls an hour early.

As he settled in he heard the sounds of the bunk being turned over and the exercise equipment being used. Ten minutes later, Damon called up, “Well, enough of that. Wake me in six hours, Tom.”

“Will do,” the young inventor called back. There was no need to speak very loudly as the interior of the submarine was both quiet and soundproofed from outside noises.

It wasn’t very long before they passed over the final set of underwater mountains and into the relatively shallow waters running ten to fifteen miles off the coastline. Tom kept them about eight miles offshore as they passed by places such as Goal Coast and a long stretch of unspoiled and unbuilt land.

Damon woke on his own and brought his son a dinner meal packet.

Like much of food that astronauts ate, and due to storage and preparation limitations, a lot of what the sailors would consume would need to be pre-packaged and either dehydrated

or super-pasteurized and vacuum-packed. There was no room for a refrigerator. Tom found that he had been given a package of nicely-warmed beef stroganoff—with noodles that were a little mushy—and rehydrated corn and green beans.

They were flavorful but not the most appetizing.

He soon turned the controls over to his father.

By the next morning they had reached the waters off Sydney. At eight that day—Monday—having taken advantage of sitting just above the bottom and getting a good five hours sleep, Damon in the bunk and Tom in the reclined pilot's seat, they both cleaned up, changed into fresh clothes and now headed into the harbor. They came slowly in past the two points of land defining the entrance to the bay and harbor, past Shark Island and Clark Island, and up around the top of the Navy base.

Damon slipped them into the same area the first test of the model had taken place in and checked his watch.

“Two minutes to go. Shall we check to see if the group is waiting?”

Tom nodded, so Damon raised the fiber-optic periscope and put the image on the screen in front of him. Tom leaned over his shoulder.

“There they are!” Damon declared. “All standing looking miserable.”

“Except that very beautiful woman in the uniform.” Tom looked at this father. “Is *that* the Lady Captain? You never mentioned to me, or to mother I’m guessing, that she is beautiful!”

Feigning the innocence of a child, Damon replied, “Why, Son. Beautiful? I’m sure that I never noticed that. And that is my story that I’ll stick to!”

On the dock several of the committee were shuffling around.

“Well, they are late according to my very expensive Swiss watch!” Mrs. Rushbart said in a loud and haughty tone.

“Not they aren’t,” Her Ladyship told her. “Your watch is off. Besides, look!” She pointed to a spot just twenty meters in front of them.

A very large fish was surfacing.

Mrs. Rushbart swooned a little and had to be helped to sit down. Penny Schott noticed with some pleasure that the two who assisted her set her down in the edge of a puddle on the dock.

“Ahoy there!” came Damon’s voice as he popped the hatch and stood up. “Permission to dock and to come into your country.”

“Permission gladly granted, Mr. Swift. Welcome back to Australia!” Penny called over to him.

Tom, now at the controls, side-swam the fish to the dock and to a floating pontoon platform Damon had requested. Two sailors, scratching their heads but performing their duties, picked up the two thin lines that suddenly popped out of the nose and tail of the strange fish and tied them to cleats.

First Damon and then Tom climbed down from the top using a series of indents that had appeared in the hull as if by magic. They climbed the ladder up to the dock and shook hands with everyone, even Mrs. Rushbart who was standing with her back away from them as if hiding her damp backside.

Her Ladyship was first to be escorted down to go inside the new sub. She came out wiping a tear from her cheek, telling Damon, “It is fantastic. Probably the most brilliant thing I’ve seen in nineteen years of service!”

Most of the other satisfied themselves with brief peeks inside, but the surprise was Mrs. Rushbart who said, “Damn if I’m going to be left out. Get me up there.” She climbed, and with a little assistance from Tom she was straddling the fish just behind the hatch, and soon disappeared inside.

When her head came back out a minute later she stated, “I expected to see something drab and gray, like everything in the Navy, but this is like out of a space movie.”

They assembled in a conference room at the headquarters building ten minutes later. Damon told the group how they had traveled from New Caledonia to Sydney and even through the very heart of the Naval exercise. “I sent a video showing some of the ships to Her Ladyship’s email just to prove we were there.” Nobody seemed to doubt him.

As had been previously agreed, Damon and Tom were picked up from the Sydney airport the following afternoon and flew

home, weary but satisfied. The submarine would remain at the Navy base and would be tested out by two crews, both of which had received nearly ten hours of orientation in the operation of the vessel. Each of the three men and one woman had gone out with Tom for an hour to get them used to the controls. All returned to the base smiling broadly.

* * * * *

After several days of rest and appeasing of their wives, Damon set about making a few refinements to the design and the piloting systems while Tom turned his energies to a small side project he had been meaning to get to for a few months.

Over the first few days Damon met with the department heads who held responsibility for various parts of the mechanical fish. The first and fairly easy addition he wanted was to add Tom's amazing underwater light. Using wavelengths that could not be seen by any living creature, and not detected without the accompanying special lens and viewport coatings that were a top secret even within Enterprises, the light would illuminate large areas with near-daylight brilliance. It also had the advantage of not being affected or reflected by water so everything was as clear a thousand feet away as they were ten feet away.

The only difficulty was in the need to have a perfectly flat outer surface to the emitter lens. Inside it was a series of bumps and angles to amplify and spread out the light, but that flat surface might give off a light reflection if caught at the absolutely correct angle.

It was something nobody could find a way around and so after determining that the chances were very close to zero, it was shelved.

Other refinements were discussed, and Damon and a few engineers went to work turning words into designs that could be realized in building the next, and hopefully an entire run of the submarines.

Senator Pete Quintana had been kept advised regarding all aspects and was arranging for a contingent of U.S. Navy officers and men from the Submarine Fleet to fly down to Sydney to view the submarine in action two weeks later.

By the fourth day back at work all the changes had been

finalized, designed and were stored for use when needed.

Damon was sitting at his desk mentally going over everything, trying to find anything he might have missed.

The intercom buzzed.

"There's a call from Australia on line two. A man identifying himself as Admiral Robbins. He sounds perturbed," Trent said.

Damon wasn't expecting a call but he pressed the indicated button.

"Damon Swift here. Is this Admiral Robbins?"

A voice, sounding more angry than merely perturbed, replied. "Yes. And I want to know what in the name of the seven hells of the oceans do you think you're up to, Swift?"

In a steady and hopefully calming voice, Damon replied, "I can honestly say that this call takes me by surprise, sir. Can you tell me, please, what it is that prompted this?"

"You don't know?" The Admiral now sounded surprised. "That damnable woman didn't tell you?"

"I've received no call from anyone down there since returning home more than a week ago, sir. As to the 'woman,' are you referring to Her Ladyship Captain Schott or to the other woman, Mrs. Rushbart?"

"Schott. Captain Schott." Now the Navy man sounded bewildered. "No call, huh?"

"No. No call. What is this regarding?"

There was a pause as the Admiral had to shift mental gears. "Well, it's about that little fish thing of yours. First, is it some sort of joke? I mean, we want a surveillance submarine, not a glorified sunny!"

"I assume that means sunray fish, sir. And, the submarine specs called for it to be a mechanical analog of a living fish or other sea creature."

Another silence. "Let's put that to one side. Here's the bigger problem. That damn little toy sub sank today and nearly took two of my good men with it! It's a death trap!"

CHAPTER 6/**HAPPY LADY**

FLABBERGASTED, Damon took the phone away from his ear and looked at it. He brought it back and cautiously asked, “What happened, sir?”

“That’s just it. Nobody knows. We’ve had a hell of a record with submarines starting with that horrible Collins Class. I suppose you’ve heard about those?”

“Yes. I think everyone has. It was plagued with problems if I recall.”

The man at the other end snorted. “Problems? If you call sinking spontaneously and just about killing an entire crew a problem, then yes. We’ve had it up to our necks with submarine troubles, and now this prototype of yours sinks. Now, I am not known to be a reasonable man. In fact, I am reviled and hated around this Navy, but the one thing I do, and do damned well, is get things right! So, here is what you are going to do. First, you get down here and recover that sub of yours before it polutes my harbor. I won’t risk any of my sailors doing anything more with it. Then, if you want any contracts with the Australian Navy you will redesign that to be a real sub. Do I make myself clear?”

Damon counted to ten before responding. “I will bring a salvage team down in twenty-four hours and we will recover the submarine. After a debriefing with your submariners I will determine whether we will bother with any future projects. I will remind you, before you hit the ceiling again, that we received an authorized specification and request for proposal from the Royal Australian Navy for that submarine. Your own in-country companies failed miserably to even provide a working model of their entries. So, I bid you good day unless you wish to heap more vitriol on me.”

The tone of the Admiral changed completely. “You have to make this right. My career rides on the success or failure. I have sworn to our current government I would get a series of coastal patrol submarines in place by years’ end. They’re Labour and of course they want it produced domestically, but

none of our companies are up to it. There’s no more time.”

“Then, perhaps you need to examine your roughshod handling of vendors such as Swift Enterprises. I will do the recovery and find out the cause. That is all I will promise.”

He hung up and then walked to the door.

“Trent, I need you to notify the following people and departments. We have to go to Australia to pull our little submarine from the bottom where they managed to sink it.” He dictated a list of eleven people. “If Tom isn’t available, and I’ll assume he will not be, see if Bud Barclay is. If not him, we go with just the other ten. Thank you.”

When the *Sky Queen* arrived in Sydney it was just going on nine in the evening of the next day. Damon, Hank and Bud, who had been available in spite of Sandy Swift’s small foot-stamping display and really good pout over him being taken away, climbed into the atomicar that had been loaded in the hangar. They flew to the Navy base where Penny Schott had agreed to meet them in her office.

Damon didn’t bother with stopping at the gate and came in a sweeping turn over the water to land in front of the headquarters building. “Thanks, Bud. Great flying. Okay you two. Let’s go see Her Ladyship.”

“Well, so much for security,” she said as they entered her office. She stood and shook their hands noting that Bud’s reaction to her was the same as that of most young men. “The Admiral has let me know, in no uncertain terms, that I must get to the bottom of this sinking. If it turns out to be the submarine at fault, then he says to tell you that you have thirty days to make it right. Oh, did he mention that he hates the fish design?”

Her three visitors nodded with Damon replying, “He did more than hint at that. Which brings up the question of whether he had any idea what was going on with this project?” He raised a questioning eyebrow at the woman.

She sighed, heavily. “Oh, he knew and simply took himself out of the loop. No matter what I or anyone else sent him or requested, an aide would intercede and reply that we should do whatever it takes.” She looked embarrassed. “Makes us look like amateurs, doesn’t it?”

“No. Not amateurs, just people who live and work within a system that rarely knows what it is doing. In the U.S. we call that *politics as usual*. It is comforting to see we are not the only ones who fall foul of that syndrome.” He grinned ruefully.

The following morning the *Sky Queen* lifted off from the airport and headed out over the water to Point Piper a mile or so away from the base.

Penny Schott, now attired in civilian clothes had met them at the airport a little before seven and asked to be brought along.

“Of course,” Damon told her. “We have the coordinates, but it will be helpful to have someone with a knowledge of the waters with us.” He watched as Bud tried to surreptitiously check Penny out from stem to stern, as Navy men would put it. It made him grin.

As they came in for a hover over the supposed location she told them, “There is a trough along here with a current that flows in and out with the tides. Hopefully, when the sub sank, it didn’t drift into that. It could be as much as a kilometer off if it did.”

There were in luck. The mechanical fish submarine lay on its left side in about fifty feet of water. Bud and two other men brought along from Fearing Island’s team of expert divers were lowered from the hangar extension to the water. They took along a three-connector cable to be attached to the lifting points on the sub. Assuming, of course, they were free and accessible.

They were using Tom’s clear hydrolung suits so they jetted downward into the colder and dimmer waters below. Bud, carrying a portable version of Tom’s underwater light, shown it onto the body of the sub.

“It looks lonely and sad like this,” he said over the radio. “Let’s get her hooked up and gently back into the *Queen*.”

It took just a few minutes to get the cable ends attached. The signal was given to lift and the fish was soon upright. The lift paused while Bud and another diver maneuvered a bundled package down through the hatch and pulled a small lanyard.

It was a special inflatable system that nearly fit the interior contours of the unique submarine and had been hastily sewn

by the Uniforms department. A pressurized tank contained enough CO₂ to partially inflate the bag at the current depth. By the time it rose to the surface it would be close to full inflation with the lowered water pressure.

As the balloon unfolded and began to inflate, Bud ducked back inside, upside down with his feet sticking out of the hatch, to position it. He emerged and gave the thumbs up signal to his two companions.

“Ready to lift to surface,” he radioed.

Damon, having taken control of the winch, started reeling in the cable, slowly and steadily. His finger poised over the **STOP** button in case Bud or the others called out. It turned out to be unnecessary.

The top of the mechanical fish broke the surface and it was stopped right there. A pump was lowered. Bud pushed one end into the sub and down the to bottom of the cabin while the others positioned the exit hose to one side.

Another thumbs up sign was given and the pump began to *whirrrr*, the water soon being drawn out and pumped back into the surrounding waters.

With so much of the water displaced by the balloon it only took three minutes before the pump was shut off and everything drawn back up to the hovering jet.

Five minutes later the three men and the submarine were back inside and the hangar crew was securing the vessel.

“Is it going to be salvageable?” Penny asked Damon.

He ran his tongue around the inside of his mouth as he pondered the question. “Without being able to get it back to Enterprises, dried out and then everything checked, I can’t give you a definite answer. I didn’t see very much dirt or debris being pumped out and that should be a good sign, but...” He left the sentence incomplete.

The giant aircraft headed, at fairly slow speed, back to the Sydney Airport and the landing pad they had been assigned near the south-west corner of the paved areas.

After flying the atomicar back to the base, this time stopping to check in at the gate, Damon, Hank and Bud followed the

Captain upstairs to her office. As they walked down the hallway they could see four somewhat miserable-looking young people, three men and one woman, in their uniforms.

“You can guess at who those four are,” Penny told them before excusing herself to go into the next room to change into her own uniform. When she returned they were all sitting in chairs around her desk. “Good. So I suggest that we dispense with the Navy’s traditional way of interrogation, that being as a group. I’ve always wanted to do it the way you Yanks do in the movies and on TV. Separate them to see if you get conflicting stories. With your permission, Damon, I’d like to take your young Bud with me while you and Mr. Sterling shall take another room.”

“Uh,” Bud said raising his hand, “forgive me if I am new to all this, but do you mean to talk to them in pairs?”

She laughed. “Oh, no. Single attack. But, to keep them from conferring once either of our teams finish I shall arrange to have two additional rooms readied. We will simply move from room to room.”

“Taking their cell phones away?” Bud clapped his hand over his mouth. It had just slipped out and sounded more like a scold than a question.

She nodded, choosing to ignore the tone. “Very wise idea, Bud. I will enjoy having you at my side.”

The foursome was split up and escorted into separate rooms. Damon and Hank took the first room to the left of the office while the Captain and Bud entered the one across the hall.

Th first two were the female sailor and a red-headed young man, both wearing the chevrons of a Chief Petty Officer. These were the crewmates from the team that had *not* been in the sunken submarine. They had, however, already taken it out five times before the accident.

While neither was able to shed any light on the potential cause of the accident, she gave Damon a short list of four things she believed might improve the sub. Three of them had already been taken care of with the fourth being somewhat important given mixed-gender crew possibilities: some manner to block off sight of the swing out toilet for greater privacy.

Captain Schott and Bud fared no better. The male Chief had

only glowing things to report about the submarine. They left their sailor before Damon and Hank and went to the next room.

There, the sailor, an E5 Petty Officer, was extremely distressed. After a few minutes he managed to settle down explaining that he had been in the below position as they left the base and was so totally taken by surprise when the water had begun flooding in, he had panicked.

“Some submarine sailor I am, Ma’am,” he told his superior officer. “I love the sub service but I may be better off cashiered, or at least put to dry land.”

“Nonsense,” she told him. “While I won’t give you that Pom ‘stiff upper lip’ sort of thing, I will tell you that anybody in your position, below decks and taken by complete surprise, can be forgiven for a moment of... let’s call it indecision. Okay?”

Seeing something of a lifeline being thrown his way, the Petty Officer nodded vigorously. “Yes, Ma’am!”

He had little more to add to their knowledge and so she thanked him and told him to stand by.

Damon and Hank had a totally different experience. Their sailor, also a Petty Officer, started by being defiant and even accusing the Swift company of plotting to kill him. At one point he shoved his chair backward and stood up. He found himself sitting on the floor two seconds later when Hank reached across the table and gave him a mighty shove.

“A little less of the yahooing, sailor,” Hank commanded knowing it meant bad or boisterous behavior. “Just answer Mr. Swift’s nice questions as best you can. Now, get up.”

The sailor got back up and stood at attention. “Sir, yes sir!”

“Okay. Let’s try this again,” Damon told him. “Start from the beginning of getting to the dock and climbing aboard, please.”

“Yes, sir.” The man now looked upward as if trying to recall everything. “Petty Officer Hooper and I detached the lines fore and aft and climbed up and into the sub. He headed on down while I closed the hatch and got into the seat. Umm, next I reeled in the lines, set the steps back into flat position outside and got the computer going.”

“And all of the self checks gave you green lights?”

The sailor looked incredibly uncomfortable. “Permission to

speak off the record?”

Hank told him, “Nothing is on or off the record. We’re trying to get to the bottom of things. Just tell us what happened.”

“I was watching the lights go green when there was a banging at the hatch. I slid the chair back, turned around and opened it. It was the Admiral yelling at me to get the steps back into position so he could get off. I swear I didn’t know he was even on the sub. He must have come down just as we disappeared inside. Anyway, he yelled again as he was getting ready to go back down to stop lollygagging and get moving. He slammed the hatch hard and left.”

“I see,” Damon said beginning to get a picture of the unreasonable stress one of both of the sailors had been under. “Then?”

“Well,” he suddenly deflated, “then I forgot to check the rest of the lights and we headed out. I swear to god, sir, I didn’t mean to leave the hatch unlocked!”

Bingo! thought both Damon and Hank.

“So, when you started to submerge the air inside popped the hatch and you took on water. Is that it?”

The sailor had to lean forward to steady himself on the table. He looked up, face ashen. “Yes,” he barely managed to get out.

* * * * *

It required five weeks to get the submarine back into top working condition. Because of the incredible internal sealing work performed as she was constructed, much of the equipment and computers had remained dry inside. Some buttons and levers plus the entire joystick assembly had to be replaced, and a lot of salt cleaned out, but the rest was either drying things or replacing items such as the mattress from the bunk and the food and personal hygiene items.

Most of the things Damon had wanted to add or change were taken care of during this time as well as a new item: an automatic latching mechanism for the hatch. Once closed it would latch; if left open and the sub begin to dive, an actuator would swing it shut it in about two seconds and latch it.

Tom and Bud were enlisted to take her out for a four or five hour test.

When they got back there was nothing to report except success.

“Well, then,” Damon told them eagerly, “I’ll be personally delivering it to Her Ladyship myself the day after tomorrow!” When Tom looked at his father questioningly, he added, “As soon as your mother get her things packed so she can come with me.”

The *Sky Queen* was going to be busy with one of Tom’s errands so a Swift cargo jet, with the same vertical lifters as the *Queen*, was enlisted for the trip.

They received permission to hover above the dry dock in the center of the base to make their delivery. It was empty except to a special cradle, built to Damon’s specifications, to hold the submarine until she could be floated and taken to the dock.

“Why can’t we just hover over the water, dear,” Anne Swift inquired.

“They have several ships moored on the side docks, and the water motion might cause some problems,” he explained.

Penny Schott greeted them once they returned in the atomicar they previously lhad eft at the airport in her full dress uniform. There were more medals and gold braid than any one person ought to be made to wear. Her tricorn hat, also adorned with gold braid and fringe, sat straight on her head.

After introductions, during which Anne remarked, “Damon told me you were a stunner, Your Ladyship, but he didn’t do you justice.”

“Thank you, Anne, and thank you, Damon. And now, for a little news. As you can see Admiral Robbins is not here today even though this is a high Naval occasion and demands that senior rank be in attendance. I will save you the ‘guess why’ game and tell you that his resignation was accepted late last week.” She lowered her voice so only the Swifts might hear the next part.

“Down here, Admirals are not fired or let go, they retire. He retired at the insistence of the Minister of Military Operations and after a strongly worded letter from the committee you have dealt with, Damon. Signed by Mrs. Rushbart.” She smiled, as did Damon. Anne had not been told about Mrs. Rushbart but felt she probably understood the situation.

“Well then,” he asked their host, “who is the next senior officer? Another Admiral?”

“Not yet,” she stated enigmatically. “You can see the insignia on this uniform has been removed.” She looked to her left and right shoulders. Now, the Swifts noticed that her epaulet boards were simple black with no gold captains bars, and her dress blouse collars were bare.

At that moment a trio of military cars pulled up, one showing the three start of an Admiral. His driver climbed out and opened the rear door. A distinguished man got out, saluted his driver, and strode to where the Swifts and Her Ladyship stood.

She snapped to attention and gave him a salute which he promptly returned.

Introductions were made to the Swifts.

“I would imagine that Penny, here, has kept you apprised of out little, erm, situation with her previous superior?”

“Yes, she has but only within the limits of proper decorum,” Damon told him.

“Hmmm. I’ll wager that’s a stretch of the old truth, but it is all good. Can you take me to see this mechanical behemoth of ours?”

“Absolutely,” Damon answered, catching the *ours* versus *yours* and giving Penny a look that she returned with a little smile and a nod.

The Admiral and his retinue climbed down into the dry dock where he was given an exterior tour. He then surprised them all by climbing up on the cradle holding it.

“Is she safe for mounting?”

“Yes, sir,” came the answer from a dock hand.

Damon climbed up to stand next to the Navy man. He showed how to activate the steps and they both climbed up and entered the hatch.

The Admiral looked around. “Gad, I’m glad it’s a young man’s game. And, young woman’s as well,” he admitted after being shown the major features. Before they climbed back out he turned to face Damon. “I want you to know three things. First, that Robbins buffoon would never have been able to interfere with us ordering these. I’ve been kept abreast by

Penny all along the way. Second, I offer my apology for the way in which he behaved toward you and your fine organization. And third, the young Petty Officer responsible for the sinking of your first prototype has offered to resign from the service.”

“I hope that you refused,” Damon told him. “It wasn’t entirely his fault.”

“You don’t get to be a three star desk jockey with the RAN by letting good talent get away from you. Before he submitted the resignation I drafted for him, Robbins admitted he might have been one of the causes of that hatch not being dogged down.”

Damon nodded.

They got out of the sub and back to the floor of the dry dock. One of the Admiral’s people came up to him almost immediately, handing him a small case.

The senior officer turned to face the others. “Your Ladyship, please step forward.” She did so, saluting him again. He casually returned it. “Right. Fine. I hereby, and with the full agreement of Parliament and the Ministry, award you a star of the Admiralty.” He pinned the star to her lapel and stepped back. Handing her the box with the rest of her new insignia he saluted. “Welcome to senior staff, Admiral Penelope Schott, first Royal Australian Navy of the Submarine Fleet to also be a female, and about bloody well time!”

Five minutes later as they headed back up to ground level, Penny held Damon back a moment.

“I wanted you to know three things. First, I owe this to you. If you hadn’t come down here to tell us we didn’t know what we were doing, I’d still be a captain. Second, it won’t be announced for security reasons, but before you leave I will hand you a purchase order for twenty of your amazing mechanical fish. Three, I have been in contact with a senator from the U.S. Quintana? He is coming down next week to see our fish. I intend for him to get the best demonstration possible.”

“Oh,” she said after starting to turn away, but turning back again and kissing him on the cheek. “That is a personal thank you from me, and given to you with full permission of your charming wife!”