

Chapter 1 : You can pilot a submarine (Book, ) [calendrierdelascience.com]

*This book "You can Pilot A Submarine" is about a submarine that visits the bottom of the ocean. On the way down to the bottom of the sea they sight a whole bunch of sea animals that they've never seen before.*

Advanced construction materials have allowed development of new personal submarines. Bond movie engineer Graham Hawke designed a personal sub called DeepFlight Dragon. CNN Imagine yourself strapped snugly inside your own personal submarine. Your head might be surrounded by a transparent canopy, giving you a degree view of an ocean wonderland. With the touch of a small lever near your left hand, you command this sleek, foot sub to go into a deep dive. On your right, a joystick lets you steer in any direction you choose: Options might include checking out an ancient shipwreck or snuggling up close to a gigantic whale. The sub is called the DeepFlight Dragon. Sir Richard Branson owns one. So does Red Bull co-founder Dietrich Mateschitz. Instead, right now, you can operate a DeepFlight submarine at a posh resort and be an explorer for a day. Operating the sub is relatively simple, designers say, requiring minimal training. The Dragon is just one of many personal submersibles now on the market. There are more than ever before, say experts, thanks to emerging technology. Some operate partly above and partly below the waterline, like the so-called semisubmarine, EGO-Compact. Another one, the Seabreacher X, jumps out of the water like a wild marlin on a hook. Amazing personal submarines

Amazing personal submarines are cheaper and more available than ever before. This personal submarine, called the Seabreacher X, jumps out of the water like a wild marlin on a hook. Click through the images to see other small subs on the market. Hide Caption 1 of 8 Photos: Pressure hulls can be fabricated with steel or titanium. A demonstrator prototype is shown here, called the Super Aviator. Hide Caption 2 of 8 Photos: Richard Branson owns one. Hide Caption 3 of 8 Photos: Amazing personal submarines SEAmagine

California-based SEAmagine offers several types of personal submersibles that accommodate two to four people. Hide Caption 4 of 8 Photos: Amazing personal submarines Pedal power

Scubster, which is constructed of advanced carbon-fiber material, comes in models powered by pedals as well as electric motors. It moves about 5 mph and can dive to around 20 feet. Hide Caption 5 of 8 Photos: Hide Caption 6 of 8 Photos: The EGO Compact is an electric boat with a basement! Sitting in the basement offers you a window underwater. Hide Caption 7 of 8 Photos: It seats a pilot and two passengers and dives to 3, feet. Hide Caption 8 of 8

These amazing watercraft may sound expensive, but never before have personal subs been so low-priced and widely available. Composite materials open new possibilities Why? One reason is strong, relatively new building materials that replace old-style metal. Salt water causes metal to corrode, which obviously is a bad thing for metal submarines. But what if most of the sub is made from something else? Next year, a company called OceanGate plans to begin offering a submersible featuring a 7-inch-thick carbon fiber hull using Boeing manufacturing technology. The underwater craft called The Scubster is also constructed of carbon fiber material, although it only dives to about 20 feet. It comes in models powered by pedals as well as electric motors. DeepFlight Dragon has a top speed of about 5 mph and is limited to a depth of about feet. Once you get below feet, you begin to lose sunlight from above. Going deeper would require your personal sub to be weighed down by heavy lighting equipment. In the s, TV viewers got all excited about submarines from adventure series like "The Thunderbirds" -- starring several puppets and toy models -- and "Voyage to the Bottom of the Sea. Well, that vehicle never actually worked. It was just a Hollywood trick. However, the founder of DeepFlight, ocean engineer Graham Hawke, actually designed a tiny submarine that was used in a Bond film. As the famous sci-fi writer Arthur C. Clarke once wrote, "Everyone who goes underwater becomes an amateur scientist.

**Chapter 2 : Consent Form | Popular Science**

*You Can Pilot A Submarine has 5 ratings and 1 review: Published by Merrigold Press, Board book. You Can Pilot A Submarine has 5 ratings and 1 review: Published.*

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**Chapter 3 : Submarine Pilot Salary and Career Advice | Chegg CareerMatch**

*Submarines take an entire crew to operate, so you can think of yourself as an underwater Ship Captain. Your main responsibility as a Submarine Pilot is directing your crew and planning your route. Different days find you buried in different tasks, from examining all systems to ensure they're working properly to charting your latest course to.*

Women on Submarines In , the Navy finally decided to allow women to serve on submarines, and admitted the first dozen female officers into the nuclear power training pipeline. However, those concerns have apparently been addressed and the barrier removed. Foreign navies have had women serving aboard their submarines for decades in some cases. Women should be easy. Speaking of women on submarines, below is a photo of my wife and me, atop the sail of USS Kamehameha in , while underway for a Dependents Day cruise. Return to List of Topics Topic 5: Once submarines return from deployment or patrol, the crew usually gets some well-deserved time off, personnel transfer and replacements arrive, and the crew begins the process of training and melding back into a finely tuned team. Submarine Deployments - Crew Certification Prior to patrol or deployment, the crew is certified by Squadron or Group personnel, typically during monitored scenarios in team-trainers ashore: A submarine is a complicated ship with thousands of pumps, motors, generators, turbines, and valves, etc, that have to be kept working properly. But every so often they enter drydock for more extensive maintenance. A whole lot easier. Submarine Deployments - Stuff for your Wife There are a lot of arrangements to be made before you depart for patrol or o deployment. Return to List of Topics Topic 6: Underwater Operations Welcome to Topic 6 of Submarine The Main Ballast Tank MBT vents will be opened, allowing air to escape and water to flood up through grates in the keel, and the sub will gradually sink into the ocean. After a submarine is in port for a long maintenance period, supplies and spares are loaded, and diesel fuel and water are topped off, etc. It can be difficult to estimate the exact weight of the submarine. Its depth is controlled primarily by putting an angle on the ship, then "driving" the ship up or down through the water. This angle is put on the submarine by its Stern Planes, mounted on the back, or stern of the ship, near the rudder. Underwater Ops - Going to Periscope Depth One of the most critical routine evolutions aboard a submarine is going to periscope depth. Sailboats, quiet warships, fishing trawlers with their engines idle, etc. Underwater Ops - Surfacing and Emergency Blow Prior to surfacing, the submarine will proceed to periscope depth and take a look around to ensure there are no surface ship contacts that pose a collision threat while surfacing. Underwater Ops - How do you know where you are? So how do they know where they are as they drive around for months on end? They can go to periscope depth and obtain a GPS fix from satellites in orbit. Two identical complicated machines that measure small changes in gravity to figure out in which direction the submarine is moving. These updates are fed to a navigation chart and compared to each other. These devices use small beryllium balls spinning around at thousands of revolutions per second, and variations of these navigation devices are also used on missiles. Send it to the missile and fire. Radar delivers both bearing and range information. Submarines however, normally use passive sonar, which provides only bearing information. It could be a mile away heading east, or ten miles away heading west. You need to figure things out. But it takes time. When two submarines engage in a cat-and-mouse game hunting each other, each one constantly changing course and speed, it can be a nerve-wracking and time-consuming ordeal until one submarine crew decides they have a firing solution. Return to List of Topics Topic 7: First up - The Watch Cycle. Submarines operate on a 6 hour "watch" cycle. The crew is divided into 3 "watch" sections, and each section stands watch for 6 hours, then gets 12 hours off. During those 12 hours off, a crew member eats, sleeps, trains, and conducts maintenance. As a result, the crew operates on an 18, vice 24 hour day. Engineering drills, Ship drills, and Fire Control Party drills. Drill after drill, with the crew combating a never-ending affliction of things going wrong. In the Engineering spaces, the "nukes" - nickname for the nuclear-trained personnel - run drill after drill combating casualties that take down or cripple the reactor or propulsion plants, restoring them to full operation as quickly as possible. The studying never ends. The Daily Routine - Maintenance Never-ending maintenance. A submarine is incredibly complex with a lot of equipment, and a certain percentage of it always breaks. Sorta like taking your car in for an oil change every

15, miles. One of the traditional naval card games is cribbage, although the photo looks like Saturday night poker, The Daily Routine - Working Out Is there time to work out on a submarine and the equipment to do so? Some of the SSBNs, which have more room, have a universal style weight machine, and a lot of submarines will have a work bench with adjustable dumb bells, maybe a weight bar. Everything is focused on cramming as much utility into as little space as possible. The Daily Routine - Sledding, Anyone? Okay, so submariners are still Big Kids, looking for ways to entertain themselves. Return to List of Topics Topic 8: Submarine Food Welcome to Topic 8 of Submarine ! So, like Santa, the cooks make their list and check it twice, and it includes a LOT of stuff. A typical loadout for an SSBN patrol includes: And nothing tastes better than pies and cookies right out of the oven. Submarine Food - The Menu and the "Meat Identifier" Submarines serve 4 meals each day - breakfast, lunch, dinner, and mid-rats, so that each watch section can eat either before or after watch. Applesauce in this case is - the "Meat Identifier". Submariners look forward to port calls not just for the liberty, but for fresh veggies and milk! In the old days, the milk would go next, replaced by powdered milk yuk! Submariners afraid of irradiated milk? The enlisted eat in the Crews Mess while the officers eat in the Wardroom. The officers are seated by seniority, with the Captain on one end of a rectangular table that seats 12 and the Supply Officer on the other end. The only exception is the 2 on-coming watch officers may eat ahead of the Captain, as they need to eat quickly so they can relieve the watch, and the two off-going watch officers eat at "second-sitting". The most essential piece of gear aboard a nuclear powered submarine is the ice cream machine. Submarine Food - What do you do with the Garbage? Garbage is segregated into 2 categories - biodegradable and not. The stuff that will decompose gets compacted into the metal cans you see hanging from the wall, and dropped out through the TDU - Trash Disposal Unit - on the left, which is about a one-foot diameter hole in the bottom of the submarine. Submarines - A Tasty Snack? A polar bear took notice, and apparently decided the submarine looked like a tasty snack, and tried to take a bite out of the rudder. Return to List of Topics Topic 9: Welcome to Topic 9 of Submarine ! Earlier I introduced you to submarine food. Submarines have to make all the water they need - for drinking, cooking, bathing, and most important aside from drinking - the propulsion plant. However, evaporators have been replaced with new Reverse Osmosis machines, which filters out the impurities in the seawater. Submarine Air and Water - Where does the oxygen you breath come from? The answer is - submarines make their own oxygen. The oxygen atoms combine to form breathable oxygen O<sub>2</sub> , and the hydrogen is pumped overboard. In addition to Carbon Dioxide Scrubbers, submarines also have Hydrocarbon "Burners", which remove lots of other impurities from the air. Submarine Air and Water - Smoke Break? When I joined the Submarine Force, smoking was still allowed on submarines and even on watch. But that gradually changed, and in , smoking was completely banned aboard submarines below decks. Return to List of Topics Topic The best type of training a submarine can get is "sub on sub" - two submarines going head-to-head against each other, attempting to detect and simulate shooting each other, and in some cases actually shooting Exercise torpedoes. These classes convene once a quarter and last 3 months plus an additional 3 months of refresher reactor plant training for the prospective commanding officers. Bonus points to anyone who identifies the teenagers in the Control Room of this submarine.

### Chapter 4 : Triton and Aston Martin Submarine to be Delivered in “ Robb Report

*Note: Citations are based on reference standards. However, formatting rules can vary widely between applications and fields of interest or study. The specific requirements or preferences of your reviewing publisher, classroom teacher, institution or organization should be applied.*

Why should a submarine be different? That is why your NEYK comes exactly as you specified it. Together with our technicians you can make your dream come through by any high end designer you like. And of course the complete interior will be built by a master craftsman team for a smashing result. Besides a unique and completely handcrafted interior at Ocean Submarine you have a lot more to choose to optimize your submarine. What about a pressure chamber to facilitate divers to leave and re-entre the submarine under water? Or some more power for extra speed, a higher battery reserve for extra long dives? Not to mention all kind of special electronics should you decide to go for the real thing like exploring shipwrecks? The hull is reinforced with rafters spaced at 60 centimetres apart for maximum security. The overall design guarantees a very low hydrodynamic drag, a high shock resistance and a very low noise signature. The bow section varies to order. The submarine has airplane like spaciouly dimensioned Acrylate portholes for excellent sight from the cockpit. The number and size of the portholes in the hull can vary to order. An additional hydraulically driven undercarriage expands the multi functionality of the submarine even more. Because of a retractable undercarriage, the submarine can also drive up a ramp by itself. The new NEYK submarine is completely built modular. The private versions have a single pressure hull that is only slightly tapered in the rear for maximum inner space. That is where the oxygen bottles are stored. All parts as mid ship, conning tower, stern and bow sections are made of high-yield steel HY produced by Marel to meet RNIN specifications. The bow section is not welded but bolted to the hull and can vary to order. For private use it standard is equipped with a large Acrylate dome for excellent view. Another revolutionary feature is the possibility to deploy three retractable wheels with hydraulic propulsion. This gives the submarine the possibility to drive up any elevations up to 7 degrees such as ramp. So you can start and end your adventures journeys from land. To make the most beautiful underwater pictures and movies, or just to stay at one spot and enjoy the view outside, the hoovering capabilities of the NEYK are second to none. This is because two revolutionary placed vertical thrusters in the dome on top of the conning tower.

### Chapter 5 : Poisson pilote -

*Triton and Aston Martin Are Cooking Up a Submarine You Can Pilot in Project Neptune brings the carmaker's style and technical breakthroughs to the ocean depths.*

Exploring the English Channel onboard a human powered submarine The Pilot Fish Project A dive across the English Channel, aboard what will probably be the smallest long-range autonomous submarine ever built, and the first human powered one Explore the deepest areas of the English Channel between 5 and 12 of August Film the seabed and share the images so that its biodiversity can be better understood and protected Promote energy soberness through a human powered example Attract curious kids towards science and engineering The project is now on track. If you would like to help us advancing and sharing the knowledge of our -often invisible- marine heritage attracting young kids towards engineering and science feel free to contact us: However, due to some technical issues, we made the decision to postpone it to next year. We had thoroughly planned this expedition for months, so what happened? One of the two acoustic pinger detectors we had rented for the two surface boats to track the submarine stopped working after a few days of tests. Whilst we were reconfiguring our surface tracking protocols, we noticed another issue. Our batteries, which should be gas tight, started emitting a bit of hydrogen gas for an unknown reason, which fooled a carbon monoxide sensor we had rented to track the slow accumulation and filtering of this highly toxic gas. We spent another two days to investigate this detection and reduce hydrogen emission, but time was running out to arrive in Saint-Malo with slow tide currents. So we made the prudent choice to postpone this big dive to next year. In the mean time, we made a few nice dives around Plymouth area, to get some more piloting experience on the submarine, which behaves perfectly! Here is the video of one of these dives. Without anyone inside, the pressure resistant hull was lowered in the sea down to more than meters water depth, for one hour. With the help of the Coquimar boat, and acceptance from authorities despite our late request. This test was key to validate the design and fabrication of the hull. It will allow us to dive down to meters water depth in serenity. We could check our cruising speed, in line with expectations. Going down to 10 meters water depth, we could also test the behavior of the submarine and its piloting. Hopefully it all goes well. We tested it this week end, there are only a cm or two between our feet and the hull. So here is the sub as it is today. Inside, we will install the drive train and all piping next month. The objective was to give some news of the project, and also to tell them how the basic laws of physics could have an influence on the design of the sub its size, speed, pedalling strategy, features. I talked a bit too long, so I need to come back to give more time to exchange. Emile did an incredible work. Paul Moorhouse, the designer of the sub was here too, as well as Charles Balsan representing our partner Wendel Participations. We had a couple of work sessions about the next steps of the design. Great and productive days. For the first time, we could get a feel for the available living space in the sub and successfully test switching seats between the pilot and pedaller seats. They do not look like much yet, but these pieces of metal will soon be the extremities of the pressure resistant hull of the future Pilot Fish submarine: Hot pressed, with a diameter of 1m and thickness around 1cm, they will be welded to the 2. The whole thing will only give just over 2 cubic meters of space to the pilots and all the equipment for a week! The position and level of effort W are comparable to those inside the sub. Plus, time flies on this little boat: You can check the detail of the drive train here. To answer the obvious question in advance: Wendel Participations, a family holding company whose history started over years ago in an eastern France foundry. Now a long term investor, the group values spirit of enterprise, search for performance and responsibility. Three values our project has in the cross hairs! What are you going to eat in the sub? How will you be clothed? We will come back to this, these seemingly benign subjects actually led us to dig up some scientific litterature about space flight and astronauts suits. All this is on our Partners page, where you will also enjoy, if you have not seen the video yet, watching Paul Moorhouse and John Ramsay, our partners in Plymouth, talking about the many subs they have worked on. You will find the article in French here.

*To begin, you must understand that a submarine pilot is not the same as an aircraft pilot. On an airliner, the pilot is also the plane's Captain, and responsible for the entire aircraft. A submarine pilot just drives the boat. A distinction that many civilians don't know or understand, is that.*

DebugSpawn cyclopsbridgefragment Be advised: Only experienced helms-people should attempt to pilot this vehicle solo. It is equipped with a vehicle bay capable of storing a Seamoth or Prawn Suit , and can be modified with a range of different upgrades. At feet long, 39 feet wide and 45 feet tall, the Cyclops is the largest vehicle available and capable of diving to depths of meters, or 1, meters fully upgraded. Contents [ show ] Overview Access is obtained either via the dive chamber located at the bow of the keel or via the docking bay when piloting a Seamoth or Prawn Suit. It is equipped with an onboard AI that will warn the player of danger and a beacon allowing the player to locate it at a distance. Blueprints Unlike most other Blueprints , the player must find and scan three different sets of fragments in order to craft. Each component is shown individually in the PDA. Features The submarine is equipped with three external cameras which are operated via the HUD. These cameras are located on the keel, conning tower, and screw, which in non-nautical terms are below, above and at the rear of the submarine, respectively. More information on noise can be found here: Noise The Bridge is located at the bow of vessel and features a large domed glass port which is the primary viewing port for navigating. A wall-mounted fire extinguisher can be located on the port wall and the player is able to access both the Upper midsection via a large bulkhead door and the keel via a dedicated ladder. There are several different HUDs located here. Much of the HUD available to the pilot is not visible until the player engages the controls. In addition, the speed settings are only visible on the HUD if the engine has been turned on. The Cyclops is incapable of movement if the engine is disabled, and will display "Engine off" in red on the HUD to remind the player. On the left of the window, the player can view the current speed, noise and health of the vessel. Using the controls on the left, the player can turn the engine on or off and adjust the speed of the Cyclops. The controls on the right of the window allow the player to look through the external cameras, activate Silent Running and activate modules such as the Shield Generator , Sonar and Decoy Launcher. Clicking the camera button will allow the player to control the external cameras, there are three in total; one under the keel, one on the back and one on the conning tower Very top. These cameras are best used for navigating around obstacles and for checking for predators. A hologram projector on the right of the window displays a hologram of the Cyclops, the locations of nearby hostile creatures and the scope of the noise emitted, represented by a blue sphere. Hostile creatures appear as red triangles if they are likely to attack the Cyclops, and yellow dots if they are ignoring the sub. A hologram displaying a side-view Cyclops can be found on the port side of the bridge. An alert will also be displayed here if there is at least one Lava Larva attached to the Hull. The Fire Suppression System can be activated from here if installed. The starboard HUD offers several more controls. The player can use the panel on the left side to customize the external color scheme and set a custom name of up to 14 characters for the Cyclops to be displayed on its exterior starboard side and on its beacon. The panel on the right side indicates the status of the exterior front-facing floodlights and internal lights. Both sets of lights can be toggled on and off using this panel. The upper midsection of the vessel grants access to the Bridge via a single large circular airlock, and to the port and starboard sides of the engine room via two bulkhead doors. The access port to the vehicle bay is located in the center of the large room and allows the player to disembark via a docked Seamoth or Prawn Suit. A console is also located in this room, which allows the player to manage upgrade modules on a docked vehicle. The health and energy of the vehicle can also be viewed on this console. This section is the largest open space on board. Thus it is a good place for the player to place large stationary items such as Fabricators , Lockers , or Indoor Growbeds. The engine room is located at the stern of the vessel. The engine takes up almost all of the space in the room, leaving only a narrow passageway at either end for the player to walk down. It functions similarly to the upgrade fabricator in the Vehicle Upgrade Console and Scanner Room , allowing the player to craft dedicated Cyclops Upgrade Modules , which can be installed at the upgrade console located in the port

side of the engine room. A wall-mounted fire extinguisher can be found on the port outer wall. The player can dock a Seamoth or Prawn Suit within the Cyclops by approaching the middle of the keel, similar to the Moonpool. There is only space for one vehicle to be docked at a time. The keel section of the Cyclops has five built-in Storage Lockers, each containing 18 3x6 units of space. The diving chamber is located here, which allows the player to embark and disembark from the vessel through a hatch. The Ramp Section is located beneath the Engine room, and serves as an access route between the Engine room and the Vehicle Bay. It has a small amount of room on the walls for smaller wall mounted objects like Fabricators.

### Chapter 7 : How Does a Submarine See Above Water? | Wonderopolis

*Thanks to relatively new construction materials, personal submarines are becoming accessible to people who aren't scientists or millionaires.*

### Chapter 8 : Amazing personal submarines you can actually pilot - CNN

*The question you are responding to asks for a single word that applies to "driving/flying tank, submarine, and plane." But your response, instead of suggesting a suitable word, discusses where English words come from.*

### Chapter 9 : Private | Ocean Submarine

*The control room of one of the Navy's most advanced submarines is filled with sophisticated computers, flat-screen monitors and sailors who grew up in a digital world. At times it can look a bit.*