

Chapter 1 : How long does a clutch last? | HowStuffWorks

*The license plate light assembly is supposed to last as long as your car does, but in some cases it will not due to damage. There are a number of things that can damage this light. In some cases, the seal that goes around the housing of the light will begin to leak and can cause a variety of different damages.*

Do Vibration Plates Really Work? Fitday Editor Equipment Vibration Plates are becoming increasingly popular in gyms around the nation. Praised by celebrities and even tested by NASA, the idea behind vibration plates is that you can tone and define muscles faster by using vibration. NASA has studied vibration plates as a possible antidote to the muscle atrophy and bone loss that astronauts suffer while in space. Advocates of vibration plates also love them because they claim to reduce workout time by two thirds, a welcome concept to folks who struggle to fit workouts into already-busy days. But is all this just hype? Do vibration plates really work? What Is a Vibration Plate? Power Plate, one brand of vibration plate, vibrates in 3 directions, 20 to 50 times per second. It increases G-forces on the body, and its manufacturer claims that its use increases the effectiveness of exercises performed while standing on it. Vibration plate workouts are not aerobic. They are similar to weightlifting without using weights. In the study, obese women who followed a healthy diet and exercised using vibration plates lost more weight long-term, including more hard-to-lose belly fat, than women who followed a healthy diet and conventional exercise. The group who used vibration plates performed basic moves such as squats, push-ups, calf rises, lunges and ab crunches on the machines. They performed each type of 10 exercises for 30 seconds each, and gradually built up to 60 seconds each. They followed this program for 6 months. The group using vibration plates also lost the most belly fat. Additionally, the group using vibration plates maintained their weight loss 6 months after the initial 6-month study ended. Supervision Needed After reading these results, you may be ready to try out vibration plates. However, Dirk Vissers, who helped run the study, cautions that for maximum effectiveness, the vibration plate machines must be used properly. Not a Sure Bet? Despite the study results, not all researchers are sold on vibration plate machines. Injuries ranging from back pain and cartilage damage to possible brain damage from the shaking have been reported and warned of. Some scientists feel that more research is necessary before the machines can be safely recommended. You still need to eat healthy foods and exercise regularly in order to achieve and maintain weight loss, regardless of the exercise method you choose.

Chapter 2 : License plate expiration date..?!? | Yahoo Answers

*Fabulous article. I had always wondered what plate tectonics really was, since my former brother-in-law is a geologist whose company contracts for the oil companies (finding great places to drill for oil offshore, specifically deep-water drilling).*

The first and foremost is not to set the bias current so high as to exceed plate dissipation at any portion of the tubes operation, as indicated by that nice warm red glow of melting plates and the sound of a cash register ringing up a new set of tubes. The second is to not set the bias current so low as to sound bad, which generally means approaching or exceeding class B operation as indicated by the onset of heavy crossover distortion. Any point in between these two is fair game and is subject to personal taste. There is no single "correct" bias point.

**Biasing methods**

**The negative grid voltage method:** This method involves measuring the DC voltage on the grid of the output tubes, and setting it to a recommended value. Biasing by negative grid voltage is highly inaccurate because the same grid voltage can produce drastically different plate currents in different tubes of the same type. This method should be avoided.

**The crossover distortion method:** Biasing by the crossover distortion method as indicated in the Pittman book and other literature is also extremely inaccurate because the point at which crossover distortion appears is very hard to detect and is subject to changes with load impedance, amount of negative feedback, and, in particular, with grid drive if the phase inverter is AC coupled to the output tube grids as it is in almost all guitar amps. Following are additional reasons why this method should be avoided: When driven into the positive grid region at clipping, the output tube grid acts as a forward biased diode and clamps the positive peaks of the grid waveform to a point slightly above the cathode voltage. As the input signal level is increased, the clamping action forces the average value of the grid waveform downward, effectively increasing the average negative grid bias. This results in more crossover distortion, even if the amp is biased higher into class AB. Because of this clamping effect, the amount of crossover distortion that you are trying to "bias out" will change depending upon how far into clipping you set the grid drive. If you keep trying to eliminate the "notch", you will bias the amplifier too hot, and your tubes will be destroyed. This method gives no indication of the actual bias current or plate dissipation in the tubes, so you have no idea whether or not your amp is biased into a safe region of operation. If you have two class AB amplifiers, one with a plate voltage of  $V_1$ , the other with a plate voltage of  $V_2$ , and set them both using this method, the amplifier with the  $V_1$  plate voltage may be biased too cold, while the amp with the  $V_2$  plate voltage may be biased too hot. If you try to bias a push-pull class A amplifier using this method, you will end up biased right to the cold side of class AB operation, and you will no longer have a class A amplifier! If you have a single-ended amplifier, there is no crossover notch to be seen, so this method is useless. In some cases, particularly with large amounts of negative feedback, the notch on a class AB amplifier cannot be seen, either.

The only truly accurate method of consistently setting the bias is to measure the quiescent plate current and set it to a point within the acceptable range for the plate voltage the tube is operating at and the desired class of operation. This can be done in one of several ways. The plate current can be measured by inserting a DC ammeter in series with each plate lead, which allows a direct reading of the plate current. This method is not very practical because it requires desoldering the plate connections, and is dangerous due to the high voltages involved, and should be avoided. It can also cause error-inducing or potentially damaging oscillations if the meter leads get close to other parts of the circuitry. However, there is a commercially available device that uses this principle, the Alessandro Bias Meter. The actual plate current can then be measured as the voltage drop across this resistor. If a 1 ohm resistor is used, the plate current in milliamps is equal to the voltage across the resistor in millivolts. 50mV across the 1 ohm resistor indicates 50mA plate current. This method is practical, but can also be dangerous because of the high voltages on the plate. The plate current can also be measured using the "shunt" approach, where an ammeter is paralleled across each side of the output transformer. Since the internal shunt resistance of the ammeter is usually small in comparison to the resistance of the primary winding of the output transformer, most of the current is diverted through the ammeter, giving a fairly accurate reading of the actual plate current. This can also be dangerous because of the high voltages

involved. One slip of the probe, and your expensive output transformer primary is shorted to ground through the low resistance of your multimeter. At best, you will blow the fuse in the meter. At worst, the output transformer primary winding will burn out in order to protect the multimeter fuse. Some digital multimeters have fairly high internal shunt resistances particularly on the lower current ranges, which will result in a reading that is lower than the actual plate current. This can result in setting the actual bias current too high, which can cause premature tube failure. Note that the shunt current measured on each side of the output transformer will be the total current drawn by all the tubes on that side, so if there are two tubes on each side, you must divide the measured shunt current by two. The plate current can also be measured by first measuring the resistance across each side of the output transformer primary it will usually be different on each side with the power off. Make a note of the resistance on each side, and then, with the amplifier on, measure the DC voltage drop across each side of the output transformer. Divide this number by the previously measured resistance, and you end up with the plate current for the tubes on that side. Again, if there is more than one tube on each side, you must divide the total current by the number of tubes. You can also make a safer measurement by clipping the negative side of the voltmeter on ground, and measuring the center-tap voltage of the output transformer and the voltage at the plate of each output tube. Subtract the plate voltage from the center-tap voltage and you have the voltage drop across each side, and can then use this to calculate the current in each tube, again dividing by the number of tubes on each side. The plate current can be indirectly measured by determining the cathode current in the tube. Since no appreciable current flows in the control grid of the tube, all of the plate current must also flow in the cathode. The cathode current, however, will also have all of the screen grid current flowing in it as well, since the cathode current is the sum of the plate and screen currents. Typically, the screen current in most commonly used pentodes is around 5mA this varies, of course, depending upon the class of operation, the bias point, and the type of tube used. If you install a 1 ohm resistor in the cathode lead of each output tube, you can measure the voltage drop across it to get the cathode current, as described above in the plate resistor measurement. The advantage of this method is that there are no high voltages involved, since there will only be a few millivolts difference between ground and the other side of the 1 ohm resistor. The disadvantage is that you must subtract the screen current in order to accurately determine the plate current. However, since the screen current is only a few mA, it can usually be ignored, and the error will be in the conservative direction, i. This method of biasing is the most highly recommended. These devices have socket adapters that go in between the tube and the socket to make it easy to measure the bias current on an amplifier without having to modify it. The other important factor in setting the bias is to know the acceptable range of currents at which the tube can be safely operated, known as the "safe operating area" of the tube. Unfortunately, without some technical knowledge, you cannot usually look at a schematic or tube type and tell what the correct bias current range is. The manufacturer should provide a recommended bias current or range of currents for each particular amplifier. Some "gurus" will tell you that an EL34, for example, needs around 40mA of bias. For instance, an EL34, in class AB operation at V, with a 4K plate-to-plate primary impedance, would be biased at 40mA, while the same EL34 tube, used in a true class A circuit at V, might be biased at around mA. For example, the aforementioned EL34 tube has a plate dissipation of 25W, so at V class AB operation, it should be biased no higher than 0. In some cases, if the voltage is high enough, there is no bias setting that will result in safe operation without exceeding the maximum plate dissipation of the tube. For example, in a W EL34 amp with V on the plates and a 1. If you double the primary impedance to 3. It also may not sound as good, because the screen voltage should ideally be decreased so the loadline intersects the "knee" of the curves if not, the nonlinearity increases drastically. The bottom line is that you have to take into account not only the plate voltage and plate current, but also the primary impedance to find out the safe bias area. Note that a class A amplifier does not necessarily have to be run at the maximum ratings. You could design a true class A amplifier at lower plate voltages and higher currents, but there is a limit to how high the plate voltage can be without exceeding dissipation ratings, or having to go to class AB. There is also a limit at how high the plate or cathode current can be for a particular tube. A class B amplifier should be biased right at cutoff, or perhaps a few mA standing current, to minimize crossover distortion. Class B amplifiers usually have extremely high plate voltages in order to maximize the output power, so they must

be biased right at cutoff to prevent over-dissipation at full power. If in doubt about the actual operating conditions of the circuit, call the manufacturer or refer servicing to a qualified amp technician. Note that what most manufacturers pass off as "true Class A" or "pure Class A" push-pull operation is, in reality, merely cathode-biased class AB push-pull operation. If you use the class A biasing rules for these amplifiers, you may burn up the tubes. These amplifiers should be biased according to the class AB rule of thumb, but can sometimes be biased a bit hotter due to the larger voltage drop that occurs across the cathode resistor under full signal conditions. The operating point in a true class A amplifier is chosen to correspond to a point on the load line where the load line intersects the maximum plate dissipation curve in such a way as to provide relatively symmetrical swing at the output. This maximizes the output power before clipping and makes the amplifier relatively linear. This results in highly nonlinear operation at lower grid bias voltages for example, the separation of grid bias curves is smaller from 0 to -4V than it is from -4V to -8V. After biasing an amplifier, be sure to carefully look at the plates of the output tubes for any signs of reddish-orange glow, usually in the center of the plate, which is the large grey metal piece surrounding the tube elements. If you see signs of plate glowing, you have biased the amplifier too hot, and you must reduce the plate current. In some cases, particularly with older high-power amplifiers, the tubes will run hot no matter what you do, and the tubes fail frequently, unless you bias the amp very cold. These amps generally have no series screen resistors on the output tubes. In these cases, you should add a 1K 5W resistor in series with the screen grid wire on each output tube. This resistor should be soldered directly to the pin of the socket, with short leads. Also, the wires going to the screen and plate pins should be kept well away from the wire going to the control grid pin. What about screen voltage? Does it change the bias current? The screen has much more control over the plate current in a pentode than does the plate voltage. However, it does not have as much control as the grid voltage does. However, you must take into account the duty cycle factor of the class of operation. For most guitar amplifiers, the screen voltage is the same as the plate voltage, and the amplifier is biased in a moderately hot class AB. As a side note, the screen grid has dissipation limits as well, and you must insure they are not exceeded. If you see the screens glowing brightly when you apply a signal, you are likely exceeding their dissipation ratings. A measurement of the voltage drop across the screen grid resistor under signal conditions will allow you to calculate the screen dissipation. In some amplifiers, the plate voltage is made very high, higher than the maximum allowable screen voltage, so the screen must be run at a lower voltage in order to avoid over-dissipation of the screen grid element, or internal arcing between elements. In this case, the amplifier is usually biased in class B, or a very cold AB, in order to take advantage of the greater power output capability provided by the higher plate voltage. The maximum dissipation point does not necessarily occur at full power, typically it is closer to midscale. For further details, see this article - Idle Current Biasing - Why 70 percent? As you can see, the screen voltage can affect the maximum allowable bias current, but it is dependent on the plate voltage and the class of operation.

**Chapter 3 : Do Vibration Plates Really Work? / Fitness / Equipment**

*36 chapter 2 The Way the Earth Works: Plate Tectonics twenty distinct pieces, or plates, that slowly move relative to and dropped off enough supplies to last the.*

Or you could just look it up on Wikipedia. British number plates are arranged in the format of two letters, followed by two numbers, followed by three letters eg "XX 00 XXX". The British number plate in all its glory Wikipedia The first two letters show where the car was first registered The first two letters are an area code, which originally referred to the DVLA office where the car was first registered. However, the DVLA closed all its regional offices in the name of progress and efficiency at the end of , and now handles registrations directly with new car dealerships through an online system. Still, dealers tend to be allocated registration numbers by the DVLA that reflect their traditional area code, so for example if you are buying a new car from a London dealership, you will almost certainly be allocated a number plate starting with an L LA " LY, excluding LI, LQ and LZ, which are not used as I, Q and Z can easily be confused for other letters or numbers. Other regions of England have their own letter codes; Yorkshire-registered cars start with the letter Y, Hampshire-registered cars start with an H, and so on. For cars registered in Wales, it will start with a C for Cymru. The numbers show when the car was first registered The two numbers are an age identifier, which tells you in which six-month period the car was first registered. This initially seems confusing, but you quickly get your head around it The numbers change every six months, in March and September. The March codes are easy to remember as they follow the year of registration so a car registered between March and August in will have the number 18, a car that was registered between March and August has the number 05, and so on. The numeric code equals the year as of September plus So, the six-monthly sequence follows this pattern: For the next few years, it will be: The last three letters are random The last three letters are officially random. When they have used up all of those numbers, they will be allocated another batch. Personalised number plates are a whole different story and are not covered here. You may also like: This is fairly common with people trying to make words out of their number plate, or owners trying to conceal how old their car really is. You can also transfer your current registration number onto your new car. It simply involves giving the DVLA an unnecessarily large amount of money, filling in an unnecessarily large amount of paperwork and waiting an unnecessarily long time for them to get around to processing it! Z is only used as a random letter, never in an area code. It is illegal to use different fonts or space the letters in any way other than illustrated above, despite the fact that thousands of car owners do it. It is also illegal to alter the digits or strategically use mounting screws to make the plates look like they read something different. Again, this is poorly enforced. Why does Britain have such a pointlessly complicated number plate system?

## Chapter 4 : The Last Word On Biasing

*Let us know how often you'd like to cook and what you like to eat. Skip weeks, swap recipes, and cancel anytime—only order what and when you want. No commitments. Fits Your Schedule Cook anywhere from twice a week to every night. Change your delivery day for any week. More to Share Enjoy dishes.*

A lease transfer is a simple process in which the name on a lease account is changed for the duration of the term. Other than the registered driver and the name on the lease, the remainder of the lease contract is unchanged. This includes mileage restrictions, wear-and-tear restrictions and the total length of the lease in months. In order to initiate a lease transfer, the driver who wishes to transfer their lease must contact their finance company to make sure that a lease transfer is possible. Documentation In order to transfer a lease, the consumer looking to assume the lease must complete a credit application with the leasing company. If a consumer does not qualify for credit approval, the car lease assumption may not be completed. When credit approval is granted, certain forms must be completed to take over a lease. These forms vary by finance company. In addition, the consumer assuming the lease may be required to pay a lease transfer fee; however, transfer fees are not uniform between finance companies, and they change regularly. The consumer assuming the lease will also be required to visit the Department of Motor Vehicles in order to transfer the registration into their name. Depending on the state, the old license plate may go with the original lessee, requiring the new driver to get a new license plate. In other states, license plates remain with the leased vehicle and not with the driver. Benefits Although the document transfer fees can seem like a hassle, a lease transfer is an easy way to drive a vehicle more expensive than you could otherwise afford. With lease payments continually rising, some consumers have low lease payments but must still get rid of their vehicles. In these cases, a lease transfer is an easy way to get a fancy leased vehicle at an affordable price. Additionally, if the current driver is well under their mileage allowance, you can take advantage of the low mileage and drive the vehicle more than if you started a new lease yourself. Considerations Before completing a lease transfer, be sure to inspect the vehicle for wear and tear. When you assume the lease, you are also assuming responsibility for lease-end charges, which can include fees for excess wear and tear on the vehicle. Additionally, if the vehicle is nearing the mileage limit on the lease, make sure that you will not go over the miles. If, after assuming the lease, you go over the allowed miles, you will be charged a per-mile fee that varies by leasing company. Additionally, when assuming a lease, check if the current driver can contribute toward the lease transfer fee. If they are in a financial position where they must get rid of the vehicle quickly, they may pay the lease transfer fee. Finally, remember, if a lease assumption deal sounds too good to be true, it probably is.

**Chapter 5 : How Long Does a License Plate Light Last? | YourMechanic Advice**

*At last the completed rod was delivered to the erecting shop. On Friday morning, May 13, at AM Nickel Plate Road Number steamed through the gates of the Lima Locomotive Works at South Lima and was turned over to the NKP roundhouse foreman.*

Would you tell me, please, which way I ought to go from here? Without subduction, plate tectonics could not exist. The scientists you employ with tax dollars and university fees, who have conspired to provide us noble answers to eternal questions. True science is paid for by tax dollars, and reviewed by a group of people who have everything to lose if their research is challenged. That makes it dependable, stable, and resilient. Pseudo-science, on the other hand, is not funded by tax-payers, and anyone in the world with a theory or idea can present it! This is hardly the same thing as the stately peer-review process that benefits real science by stabilizing it and keeping the untrained upstarts in line. Now that we understand the ground rules for science, we can proceed in a search for truth. So, here is the truth as we know it from rigorous scientific investigation. These are scientific facts, well-reviewed and tested. First, there was nothing, which exploded. The Big Bang is a proven theory. They did this according to a model first proposed by the kindly old philosopher, Immanuel Kant. Good news, he was right! Here are some NASA scientists to explain it: If you look under your bed, you find that little bits of dust are collecting together into large dust balls. And something like that must be what happened in the solar system, too. If they collide slowly, they can add up to a larger object and gradually grow. With enough collisions, dust grew into pebbles and pebbles grew into rocks. And as the rocks grew larger, so did the collisions. But other times, the rocks stuck together. And the larger they got, the stronger their gravity became. Gradually, they grow from golf ball size to rugby ball size and then house size and then township size. And then one or two of these objects would get large faster than anything else and become the big boys on the block. Eventually, some of these planetesimals grew as big as our moon. And then they combined to form the four small, rocky planets closest to the sun: Mercury, Venus, Mars and Earth. They were then made to spin and separate, so they did not just become one giant dust-bunny-rock in space. If they had endlessly accumulated, we would not be here, so that did not happen, clearly. Dust swirled around and became planets. Some of these critics contend that space is in fact a coursing sea of electromagnetic currents, whose shape and energetic patterns are clearly visible, and reproducible in experiment. They argue that electromagnetic force is trillions and trillions and trillions and trillions times stronger than gravity, and is the only force capable of rendering matter into stars and planets. They believe that these currents are known to form the spiral shape of galaxies, whose currents feed stars, which then expel rocky planets, under electrical disequilibrium and stress. These critics also believe such pseudo-scientific notions as large planets and comets enacting close fly-bys of Earth in ancient times, which caused wild electrical flaring, in the form of filamentary plasma tails and lightning release. Rogue planets in the sky? And so, with no major objections, we can sum up and move on. Theory – A supposition or a system of ideas intended to explain something, esp. Forests of complex and obtuse answers were swept away. At present, none of the proposed mechanisms can explain all the facets of plate movement; because these forces are buried so deeply, no mechanism can be tested directly and proven beyond reasonable doubt. The fact that the tectonic plates have moved in the past and are still moving today is beyond dispute, but the details of why and how they move will continue to challenge scientists far into the future. It had been made hot from all of the dust accumulation. It was hottest in the center, and the heat was lost through its outer layers. So how did it become the Earth we know today? The most common analogy used by scientists for the development of Earth is the following: A pot of boiling water. In the above image, you can see the convection zones, looping from the core to the mantle, and back from the mantle to the core. Witness the long loops of heat transfer, from the bottom, to the top – just as in a liquid, except in densely packed rock. This is what makes subduction possible on Earth, but on no other planet. But What is Convection? When you boil liquid, nature organizes and subdivides the heated material into well-ordered zones and patterns. It forms small, discrete hexagons. Nature – always ordering and organizing. Now you can see them. But the Earth is made of rock, of course, not liquid, so there are bound to

be differences. As you can now see, the Earth is covered, like an armadillo, or a knight-errant, in hard thick plates. These consist of the continents that we live on, and the ocean floors ,too. These plates rest and float on the upper surface of the planet, and appear to sail around, smashing into each other “ but slowly, very, very slowly. Here are scientifically reconstructed images of the continents moving around wildly, but very, very slowly: Accurate scientific reconstruction of ancient supercontinent Pangaea “ Above: Time-lapse reconstruction of sailing tectonic plates over million years, credit National Geographic video documentary. But it remains a fact. Their role is essential. The plates are pulled along by the convecting currents they form. That is, if the plates did not dive under other plates, then the Earth would be expanding. New material is added to the ocean floor here at the ridges. The ocean floor is pushed up, but it then slides away from the split, like a broad-shouldered footballer, or a heavy shopping cart loaded with groceries drifting out-of-control in the parking lot, shoving the rest of the ocean floor, which is made of rock, away from the seam. Thousands of miles away, where the other side of that same slab of ocean floor meets a continent, that little shove causes the ocean floor to slide over, and then down beneath another piece of ocean floor but slowly! Subduction is what happens when the ocean floor dives under another piece of ocean floor. Or, when the ocean floor dives underneath a continent. Continents can never dive beneath ocean crust, except once in a while, but usually not. And if they do, the diving ocean crust and ocean floor just change places, so that the ocean floor is diving and not the continent. For instance, imagine a situation where you have one piece of oceanic plate subducting beneath another. That subduction is occurring and you create an ocean island arc of volcanism. Well at that point it can no longer subduct. That continent, which is too buoyant to sink, has clogged up the subduction zone. Well if the region is still under compression, the subduction which had been going one way will stop, and then subduction of the ocean under the continental fragment will begin going the other way! It turns out that this is very important, in the whole cycle, how oceans go through this life cycle, where they close up before then opening back up again. Indeed, if they stopped at that point, the ocean would never get any smaller. Wyession, Washington University in St. If one subducting plate touches another, which contains some continental material, they will simply trade places, and the one that was being subducted will now do the subducting. It is, perhaps, cutting-edge information, which is a little hard to understand the first time. Here is a slightly exaggerated model of how the young Earth might have looked because of all the heavy convection that was forming it. Note you can still see the convective cells on the surface, and still make out their shapes where they cooled, before the oceans filled the planet. The exaggeration is only slight, and is only done in order to demonstrate the convection patterns of Earth. The real Earth has also been affected by extraneous forces, such as impact with rogue meteors and planet-sized asteroids, which have probably significantly altered its original form. The convection cells stand out clearly. But a question remains: How did the oceans arrive? Scientists are still puzzling that out. Some contend that rogue asteroids made of ice battered the Earth and made the oceans. This is the leading hypothesis at present. In that sense, boiling water may not be the best model for Earth, because Earth is made of rock, minerals and metals. Scientists have therefore devised a more complex and accurate model than boiling water. They favor hot soup, pea soup, or oatmeal. Here is a field geologist explaining how the plate swapping and diving occurs, and can be visualized in a soup model: Gaze into your bowl of miso soup as it cools “ and “ if you have an imagination like mine “ you can see dark little zones of subduction lacing the surface of your meal. Increasing Complexity “ the Counter-Intuitive Facts Of course, the Earth is probably still a little more complex even than soup, because while soup and porridge are mostly liquid, the Earth is solid, made of hard, packed, dense, hot and cold rock and ore mixtures, that reach straight down for hundreds and hundreds of miles. Maybe all the way to the core. We are familiar with images of molten rock magma.

*The Baldwin Locomotive Works (BLW) was an American manufacturer of railroad locomotives from to Originally located in Philadelphia, it moved to nearby Eddystone, Pennsylvania, in the early 20th century.*

Beginning[ edit ] Matthias W. Baldwin The Baldwin Locomotive Works had a humble beginning. Baldwin then designed and constructed for his own use a small stationary engine, the workmanship of which was so excellent and its efficiency so great that he was solicited to build others like it for various parties, and thus led to turn his attention to steam engineering. The original engine was in use and powered many departments of the works for well over 60 years, and is currently on display at the Smithsonian Institution in Washington, DC. In , at the request of the Philadelphia Museum , Baldwin built a miniature locomotive for exhibition which was such a success that he received that year an order from a railway company for a locomotive to run on a short line to the suburbs of Philadelphia. Stevens when Baldwin visited the spot. He inspected the detached parts and made notes of the principal dimensions. The difficulties attending the execution of this first order were such that they are not easily understood by present-day mechanics. Modern machine tools simply did not exist; the cylinders were bored by a chisel fixed in a block of wood and turned by hand; the workmen had to be taught how to do nearly all the work; and Baldwin himself did a great deal of it with his own hands. It was under such circumstances that his first locomotive, christened Old Ironsides , was completed and tried on the Philadelphia, Germantown and Norristown Railroad on November 23, It was at once put in active service, and did duty for over 20 years. It was a four-wheeled engine, weighing a little over five tons ; the driving wheels were 54 inches 1. The wheels were of heavy cast iron hubs, with wooden spokes and rims, and wrought iron tires, and the frame was made of wood placed outside the wheels. It had a 30 inches 0. Production fell from 40 locomotives in to just nine in and the company was heavily in debt. Although the partnerships proved relatively short-lived, they helped Baldwin pull through the economic hard times. Zerah Colburn was one of many engineers who had a close association with Baldwin Locomotive Works. Between and the start of his weekly paper, the Railroad Advocate and , when Colburn went to work more or less permanently in London , England , the journalist was in frequent touch with M. Baldwin, as recorded in Zerah Colburn: The Spirit of Darkness. In the s, railroad building became a national obsession, [7] with many new carriers starting up, particularly in the Midwest and South. While this helped drive up demand for Baldwin products, it also increased competition as more companies entered the locomotive production field. By , the company turned out 66 locomotives and employed men. But another economic downturn, this time the Panic of , cut into business again. Output fell by 50 percent in According to John K. Brown in The Baldwin Locomotive Works, A Study in American Industrial Practice, at the start of the conflict Baldwin had a great dependence on Southern railways as its primary market. Military Railroads and the Pennsylvania Railroad , which saw its traffic soar, as Baldwin produced more than engines for carriers during the – war. Burton commented, that "in the Baldwin Locomotive Works Some rates have remained unchanged for the past twenty years, and a workman is there more highly esteemed when he can, by his own exertions and ability, increase his weekly earnings. He has an absolute incentive to increase his output as much as he possibly can, because he knows that he will not, by increasing his own income, lead to cutting piece-work rates, and so be forced to make still further exertions in order to maintain the same weekly wage. Broad Street was constricted, but even so, it was a huge complex, occupying the better part of 8 square city blocks from Broad to 18th Streets and Spring Garden Street to the Reading tracks just past Noble Street. Eddystone on the other hand was spread out over acres. Its capacity was well over locomotives per year. The move from Broad Street was completed in the late s. Preserved at Steamtown National Historic Site. California Western Railroad 45 builder of , is a "Mikado" locomotive still in use on the Skunk Train The American railroad industry expanded significantly between and , with domestic demand for locomotives hitting its highest point in Despite this boom, Baldwin faced many challenges including the constraints of space in the Philadelphia facility, inflation, increased labor costs, Labor tensions, the substantial increase in the size of the locomotives being manufactured and the formation of the American Locomotive Company, an aggressive competitor which eventually became known simply as Alco.

In the Hepburn Act authorized greater governmental authority over railroad companies, and revitalized the Interstate Commerce Commission ICC , which stepped up its activities. This may have been a factor in precipitating the Panic of , which in turn disrupted finance and investment in new plants. Baldwin built 5, locomotives for the Allies including separate designs for Russian, French, British and United States trench railways. Baldwin built railway gun carriages for the United States Navy and manufactured 6,, artillery shells for Russia, England and the United States. This locomotive burned coal, and had Vanderbilt tenders and an enclosed all-weather cab. During the s the major locomotive manufacturers had strong incentives to maintain the dominance of the steam engine. The road locomotives, Canadian National No. Whitcomb Company , a small manufacturer of gasoline and diesel industrial locomotives in Rochelle, Illinois , Baldwin agreed to participate in a recapitalization program, purchasing about half of the issued stock. By March the small firm was in financial trouble and Baldwin filed a voluntary bankruptcy for Whitcomb with Baldwin gaining complete control and creating a new subsidiary, the Whitcomb Locomotive Company. This action would lead to financial losses, an ugly court battle between Baldwin and William Whitcomb, the former owner of the company, and bankruptcy for both parties. When Baldwin emerged from bankruptcy in it underwent a drastic change in management. By this time, GM-EMC was already ramping up production of diesel passenger locomotives and developing its first diesel road freight locomotive. All three continued to acquire passenger steam locomotives into the early postwar years, as dieselization was gaining momentum elsewhere in the rail industry. It proved difficult to operate, unreliable, costly to maintain, and unsuited for its intended service. Baldwin developed a revision of the same basic design with the T1 , introduced in The whole S1-T1 venture resulted in losses for PRR and investment in a dead-end development effort for Baldwin at a critical time for both companies. In the early s Baldwin embarked upon its efforts to develop steam turbine power, producing the S2 direct-drive turbine locomotive in Longtime GM chairman Alfred P. Kettering of the GM Research Corporation. In Baldwin launched its belated road Diesel program, producing a prototype "Centipede" locomotive which was later rebuilt to introduce their first major product in the postwar market. A Baldwin subsidiary, the Whitcomb Locomotive Company, produced hundreds of ton diesel electric locomotives for the Army and received the Army-Navy "E" award for production. Baldwin used the money to cover various debts. Westinghouse vice president Marvin W. In a move to diversify into the construction equipment market, Baldwin merged with Lima-Hamilton on December 4, , to become Baldwin-Lima-Hamilton. In Westinghouse discontinued building electrical traction equipment, so Baldwin was forced to reconfigure their drive systems based on General Electric equipment. In , during which time they were being virtually shut out of the diesel market, Baldwin delivered one steam turbine-electric locomotive to the Norfolk and Western railroad, which proved unsatisfactory in service. In , after years of continuous locomotive production, Baldwin closed most of its Eddystone plant and ceased producing locomotives. The company instead concentrated on production of heavy construction equipment. In Baldwin became a wholly owned subsidiary of Armour and Company.

**Chapter 7 : Do Red Plates for Dementia Really Help People Eat More? - Home Sweet Home Care Inc.**

*The British number plate in all its glory (Wikipedia) The first two letters show where the car was first registered. The first two letters are an area code, which originally referred to the DVLA office where the car was first registered.*

Elenathewise Once again, the media has taken hold of an isolated study and the Internet has run rampant with advice on the topic. According to an article that covered the study: A private company has even marketed special red plates for seniors with visual impairment. Because some dementia patients struggle with eating enough food to maintain good health, and presumably using red plates caused these people to eat more. But are red plates the solution? However, the article reminded me of a piece I had read sometime in the 70s or 80s, where plate color was discussed as a dieting aid for everyone. I remember the older article suggesting it was the contrast between the food and the plate that had an influence on the amount of food one consumed. I decided to do some digging for the article I had read years ago. I was unable to find it, but I did find a newer study by those same people who are now saying that blue plates work, too. However, I eventually found another study that I think tells the whole story. One you should be aware of before you buy red or blue plates for dementia patients or you might be disappointed in the results from your purchase. If you are not familiar, the Delboeuf illusion is an optical illusion of relative size perception. The best-known image exemplifying this illusion is two circles of identical size placed near to each other and one is surrounded with another circle. The one surrounded by another circle looks larger when in fact it is not. However, they did make the following suggestions to people who are trying to encourage the elderly, and others, to eat more: Use larger dinnerware to serve meals. Larger plates makes it seem like there is less food on the plate. Use dinnerware that contrasts greatly in color to the food e. A direct quote from the actual study emphasis mine: Important danger to note is with individuals who have eating disorders or who otherwise need to eat more to maintain their health such as the elderly. The tendency of these people would be to take smaller dinnerware. Yet just as larger dinnerware leads to overserving compared to what would be typical , smaller dinnerware leads to underserving. The result is that smaller dinnerware would lead these vulnerable populations to serve and consume even less than they otherwise would. One possible solution is to provide these people with larger dinnerware. Alternatively, provide them with dinnerware that contrasts with the food, or replace the tablecloth with one that minimizes the color contrast with the dinnerware. Thus the solution suggesting that you use red plates for dementia patients is only accurate if you are serving light colored foods, such as mashed potatoes. Whereas fresh tomatoes, strawberries, and tomato soup, which are themselves bright red would be better served on white or bright non-red plates. Serving these foods on red plates would not increase food consumption because there would be insufficient contrast between the food and the serving dish. So increasing the contrast between food and the item it is being served with will assist them in both seeing and consuming the food or liquid. As you can see, the newer study offers greater insight, into what works. However it is also receiving reporting by the media that is confusing and even contradictory. That is because the study was testing how sizes and colors influence eating AND how they influence self-serving of food. Some media outlets have reported you will increase food consumption if you serve food on plates with minimal contrast. This is based on the result that the study showed we have a strong tendency to over serve ourselves if we are placing food onto a plate that has little contrast to the food. Thus if you are serving yourself and you want to eat more greens then you should use a green plate. In the process of self-serving you will put more greens onto a green plate than you would a white plate. And if you want to eat less Alfredo, then serve yourself Alfredo on a red plate. With a red plate you are better equipped to see how much Alfredo you are serving yourself. The contrast between food and plate means you are more likely to make the serving smaller, and thus eat less. This was only the self-serving portion of the study, and it would be helpful if the media made this clear. High contrast or low contrast? As with all things, it depends on what your goal is. If it is serving yourself smaller portions, then you want high-contrast between your plate and your food. It helps you delineate your food from your plate and is likely to cause you to serve yourself less food. If the goal is encouraging the elderly to eat more, then the study shows that a high contrast between plate and food will encourage the elder to eat more because they can see

the food. The authors of the study clearly state this in their study summary, which was included earlier in this article. Same Serving Size looks like less food. Pears stand out more. Rafa Irusta Looks like a lot more fruit and pears disappear on plate. Rafa Irusta By making it more likely for the elderly to see and enjoy their foods, we can accomplish increasing their food consumption with a greater success rate. So when serving the elderly, remember that a high color contrast between the food and plate will naturally influence you to serve smaller portions. However when the food is placed before the elderly the high contrast will make the food appear more enticing and make it highly visible. Remember, too, that if you place a serving on a larger plate it will look like a smaller serving. This can also be utilized to increase the amount a senior eats. Now you not only have a method of helping your favorite elder eat more, you also have a method for helping you eat less.

**Chapter 8 : How does the UK number plate system work? | The Car Expert**

*Get the latest news and video from Lawrence O'Donnell, and join The Last Word's community. Get the latest news and video from Lawrence O'Donnell, and join The Last Word's community.*

Giampietrino is thought to have worked closely with Leonardo when he was in Milan. The painting hung in the chapel of Magdalen College, Oxford from 1572. The theme was a traditional one for refectories, although the room was not a refectory at the time that Leonardo painted it. The main church building had only recently been completed in 1468, but was remodeled by Bramante, hired by Ludovico Sforza to build a Sforza family mausoleum. The opposite wall of the refectory is covered by the Crucifixion fresco by Giovanni Donato da Montorfano, to which Leonardo added figures of the Sforza family in tempera. These figures have deteriorated in much the same way as has *The Last Supper*. Leonardo began work on *The Last Supper* in 1495 and completed it in 1498—he did not work on the painting continuously. The beginning date is not certain, as the archives of the convent for the period have been destroyed, and a document dated 1495 indicates that the painting was nearly completed at that date. He wrote to the head of the monastery, explaining he had been struggling to find the perfect villainous face for Judas, and that if he could not find a face corresponding with what he had in mind, he would use the features of the prior who complained. All twelve apostles have different reactions to the news, with various degrees of anger and shock. The apostles are identified from a manuscript [9] *The Notebooks of Leonardo da Vinci* p. 15. Before this, only Judas, Peter, John and Jesus were positively identified. Judas Iscariot, Peter, and John form another group of three. Judas is wearing green and blue and is in shadow, looking rather withdrawn and taken aback by the sudden revelation of his plan. He is clutching a small bag, perhaps signifying the silver given to him as payment to betray Jesus, or perhaps a reference to his role within the 12 disciples as treasurer. He is the only person to have his elbow on the table and his head is also horizontally the lowest of anyone in the painting. The youngest apostle, John, appears to swoon. Apostle Thomas, James the Greater, and Philip are the next group of three. Thomas is clearly upset; the raised index finger foreshadows his incredulity of the Resurrection. James the Greater looks stunned, with his arms in the air. Meanwhile, Philip appears to be requesting some explanation. Matthew, Jude Thaddeus, and Simon the Zealot are the final group of three. Both Jude Thaddeus and Matthew are turned toward Simon, perhaps to find out if he has any answer to their initial questions. In common with other depictions of the Last Supper from this period, Leonardo seats the diners on one side of the table, so that none of them has his back to the viewer. Most previous depictions excluded Judas by placing him alone on the opposite side of the table from the other eleven disciples and Jesus, or placing halos around all the disciples except Judas. Leonardo instead has Judas lean back into shadow. Jesus is predicting that his betrayer will take the bread at the same time he does to Saints Thomas and James to his left, who react in horror as Jesus points with his left hand to a piece of bread before them. Distracted by the conversation between John and Peter, Judas reaches for a different piece of bread not noticing Jesus too stretching out with his right hand towards it Matthew. The angles and lighting draw attention to Jesus, whose turned right cheek is located at the vanishing point for all perspective lines; his hands are located at the golden ratio of half the height of the composition. The painting can also be interpreted using the Fibonacci series: The copies are almost the size of the original, and have survived with a wealth of original detail still intact. Ambrogio in Ponte Capriasca, Switzerland. A third copy oil on canvas is painted by Andrea Solari c. 1500. Medium[ edit ] For this work, Leonardo sought a greater detail and luminosity than could be achieved with traditional fresco. Because a fresco cannot be modified as the artist works, Leonardo instead chose to seal the stone wall with a double layer of dried plaster. This was a method that had been described previously, by Cennino Cennini in the 14th century. However, Cennini had recommended the use of *secco* for the final touches alone. Damage and restorations[ edit ] This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. May Learn how and when to remove this template message A protective structure was built in front of the da Vinci wall fresco. This photo shows the bombing damage in 1983, suggesting the magnitude of the greater damage that was averted. Because the painting was on a thin exterior wall, the effects of humidity were

felt more keenly, and the paint failed to properly adhere to the wall. Because of the method used, soon after the painting was completed on February 9, it began to deteriorate. By the second half of the sixteenth century Gian Paolo Lomazzo stated that "the painting is all ruined". In 1568, a curtain was hung over the painting for the purpose of protection; it instead trapped moisture on the surface, and whenever the curtain was pulled back, it scratched the flaking paint. A first restoration was attempted in 1627 by Michelangelo Bellotti, who filled in missing sections with oil paint then varnished the whole mural. This repair did not last well and another restoration was attempted in 1680 by an otherwise unknown artist named Giuseppe Mazza. The refectory was then later used as a prison; it is not known if any of the prisoners may have damaged the painting. Barezzi then attempted to reattach damaged sections with glue. From 1760 to 1765, Luigi Cavenaghi first completed a careful study of the structure of the painting, then began cleaning it. In 1765, Oreste Silvestri did further cleaning, and stabilised some parts with stucco. During World War II, on August 15, 1943, the refectory was struck by Allied bombing; protective sandbagging prevented the painting from being struck by bomb splinters, but it may have been damaged further by the vibration. From 1943 to 1945, another clean-and-stabilise restoration was undertaken by Mauro Pelliccioli. From 1945 to 1947, Pinin Brambilla Barcilon guided a major restoration project which undertook to stabilize the painting, and reverse the damage caused by dirt and pollution. The 18th- and 19th-century restoration attempts were also reverted. Since it had proved impractical to move the painting to a more controlled environment, the refectory was instead converted to a sealed, climate-controlled environment, which meant bricking up the windows. Some areas were deemed unrestorable. These were re-painted using watercolor in subdued colors intended to indicate they were not original work, while not being too distracting. This restoration took 21 years and, on 28 May 1948, the painting was returned to display. Intending visitors were required to book ahead and could only stay for 15 minutes. When it was unveiled, considerable controversy was aroused by the dramatic changes in colors, tones, and even some facial shapes. James Beck, professor of art history at Columbia University and founder of ArtWatch International, had been a particularly strong critic. Some of the more notable examples are: Painting, mosaic, and photography[ edit ] A 16th-century oil on canvas copy is conserved in the abbey of Tongerlo, Antwerp, Belgium. It reveals many details that are no longer visible on the original. It is reputed to be one of the most popular paintings in the collection of the National Gallery of Art in Washington, D. In 1968, Andy Warhol was commissioned to produce a series of paintings based on The Last Supper that were exhibited initially in Milan. This was his last series of paintings before his death. First we visited the fading inimitable fresco of Leonardo da Vinci. How vain are copies! Majesty and love—these are the words that would describe it—joined to an absence of all guile that expresses the divine nature more visibly than I ever saw it in any other picture. This scene contributed to its refusal by the Vatican who called it "blasphemous. The various doctors, all in surgical scrubs, pose in imitation of the painting. John the Baptist painted c.

## Chapter 9 : Baldwin Locomotive Works - Wikipedia

*Vibration Plates are becoming increasingly popular in gyms around the nation. Praised by celebrities and even tested by NASA, the idea behind vibration plates is that you can tone and define muscles faster by using vibration. NASA has studied vibration plates as a possible antidote to the muscle.*