Holley 1920 carburetor manual

Holley fuel identification numbers are usually stamped next to the airhorn. If the fuel was issued by factory, it may have several numbers, including the manufacturer's part number, date and application code. The only four-digit number is Holley's identification number. As of April 2015, no other manufacturer uses a four-digit model number. Holley has produced fuels in various styles for more than 100 years, and some of the models may not have an ID number printed on them. A visual inspection can determine the model of the fuel in question. Carburetion.com illustrations and diagrams of most Holley fuels to help users identify the model. Properly adjusting the air/fuel mixture of a Holley fuel is one of the most commonly ignored and important considerations. A mixture that is too rich, meaning the mixture does not have the right amount of air, can result in foul spark plugs and bad gas mileage. If the mixture is too lean, which means the mixture has too much air, the mixture can actually destroy the engine if left un corrected. Fortunately, adjusting the mixture in a Holley fuel is quite simple, as the mixing screws are on the outside of the fuel and can be quickly adjusted with a screwdriver. Locate the two air/fuel mixing screws in measuring blocks. Holley fuels consist of a body and several components that adhere to the body. The body of the fuel is the large central section in the square shape of the fuel. There is only one floating bowl at the front and the back of the body. Between the body and each floating bowl there is a rectangular block, approximately 3/4 of an inch wide, called the measurement block. Next to each measuring block is a single screw. These two screws work together to control the air/fuel mixture of the fuel. Put the two air/fuel mixing screws to a reference point so that the mixture can be adjusted while the engine is up and running. To set the reference point, rotate each screw in the direction of the clock needles with a flat head screwdriver to each screw seat, and then screw the two screws again 1-1/2 laps. When igniting the engine and allowing it to be idle. Rotate each inactive mixing screw, one at a time, in the direction of clockwise 90 degrees. Keep turning on each screw in 90-degree increments while listening to the inactive speed of the engine. Once the inactive speed of the engine has started to slow down, again each unoccupied mixture screws 90 degrees to complete the process. A carburetor, or carbohydrate, is an extremely reliable and simple machine, and today it works as it did when it was originally built in 1888 by Karl Benz, inventor of the Car. All the air of admission passes through the barrels of one or more fuels. As the air passes through the venturi, it accelerates, creating an area of low pressure. The fuel is thrown into this low pressure area and distributed to the cylinders for combustion. While modern cars use electronic fuel injection, muscle cars, race race Motorcycles, and most small power equipment and electric toys, use fuels to mix air and fuel as they enter intake. Here, we can see various parts of a simplified fuel. The admission air (blue) flows from top to bottom through a venturi, where the low pressure pulls fuel (green) into the air current and beyond the acceleration plate (brown). Dorling Kindersley/Getty Images Exactly how much fuel is thrown through the fuel depends on several factors, such as air temperature, barometric pressure, choking opening, accelerator opening, inactive air bypass opening, idle jet adjustment and fuel jet size. Two- and four-gun fuels have individual adjustments for fuel mixing. When it comes to fine-tuning or adjusting a fuel, the goal is to balance the air-fuel ratio, the fuel mass delivered by air mass, balance energy production, fuel economy, emissions and engine longevity. The ideal chemical-fuel ratio, in which all fuel is oxidized, is 14.7:1, i.e. 14.7 parts of air to 1 part of fuel. A rich condition means more fuel is being used, an air-fuel ratio of less than 14.7, while a lean condition means less fuel is being used, an air-fuel ratio greater than 14.7. To get the best power, most engines run rich, 12.5 to 13.5 at full speed. For the best low-load cruise fuel economy, engines usually run higher than 15. The right balance is critical, however, since running higher than 14.7 in conditions of high full acceleration charge could lead to engine damage. This type of destruction could be caused by a poorly adjusted fuel, running too inclined into high-load driving. Bukk / Wikimedia Commons There are a couple of ways to adjust a fuel. There is the time-tested testing and error method, which is subjective and based on how the vehicle feels to drive, dedicated track time and a consistent driving pattern, as well as reading the admission vacuum, spark plug condition, exhaust smell and engine operation. The scientific method is a more accurate procedure, and includes the use of feedback from air-fuel ratio sensors, exhaust gas analysis and a dynamometer. Know your way around the fuel. Scheinwerfermann / Wikimedia Commons When adjusting a fuel, it is important to start on a known baseline, perhaps the configuration of actions. You may need to make some initial rough adjustments to get the engine running at all, then move on to tuning once the engine is at operating temperature. Heat the engine to operating temperature and the level of float. If the fuel in the bowl is higher or lower, the air-fuel ratio will be affected. The high level of fuel will lead to a rich condition, while the low fuel level will lead to a lean condition, both of which are undesirable. Adjust or repair the carburetor and fuel delivery system to ensure a consistent fuel level. Adjust the inactive mixing screw to maximize the idle speed, and then adjust the idle air bypass or inactive speed down to a soft RPM 600-800. You will need to make multiple back-and-forth adjustments to get the right idle mix//// Combination. In multi-barrel fuels or multiple fuels, be sure to adjust all inactive mixing screws and overlook the same amount, usually a quarter per fit. Wait a minute or two after each adjustment to stabilize the engine operation. Enricorate the inactive mixture if you experience unoccupied stumbles. Adjusting jets and needles is where you will really get intimate with your carburetor, as this requires dismantling to get to the heart of carbs. Be sure to work in a clean area to prevent pollution and lost parts. Dial-a-Jet type fuels allow external adjustments to primary and secondary adjustments to fuel mixing, but most fuels require dismantling. Dynamometer tests can tell you how fuel adjustments affect performance, fuel economy and emissions. shaunl/Getty Images Again, the key to adjusting a carburetor are small steps, followed by repeatable feedback, whether an air-fuel ratio sensor or track timer. We propose the scientific method and the adjustment to feel but work with what you have. When adjusting jet sizes, larger jets enrich the mix, smaller jets vice versa. Most experts suggest jumping two jet sizes to rough-in in the right air fuel ratio, then individual jet sizes to tune in. For fuels with primary and secondary circuits, be sure to adjust and test individually, making the same changes and going through the same testing procedures after each adjustment. Note, if you get more than six jet sizes out of stock settings and still can't get the right air-fuel ratio, you may have another problem with fuel, fuel pump, intake, cylinders or ignition. With multiple fuels, be sure to tune each carburetor with the others for the best balance of cylinders. Brian Stablyk /Getty Images Finally, because the fuel is a fixed fuel measurement device, it cannot be adjusted for different driving conditions, weather changes, fuel tanks or engine wear. If any of these things change, you'll need to adjust the fuel to match the new conditions. Not adjusting the fuel could lead to a reduction in energy production, poor fuel economy, higher emissions, or even engine damage. That's why modern vehicles use electronic fuel injection to achieve unprecedented power, fuel economy and emissions. You don't have to be an experienced mechanic to rebuild a carburetor. If your car is slow to start with, you are doubting or stopping or if the engine is flooding or eating too much gas, it may be time to get your hands dirty and rebuild the of your car [source: AA1car]. Follow the easy steps below to save a lot of money and get your car to work again. What you'll need: Announcement Rebuild fuel kitWrench setScrewdriver Safety glassesGlovesCarburetor cleanerWaterTowels This is what you have to do: Remove the fuel and put it on your desktop. Make sure your workroom is ventilated correctly; fuels can release the fumes that leave you dizzy or worse. Read the instructions in your reconstruction fuel kit. The kits can be purchased online or in car parts stores. There are many different types of fuels for various vehicles. Be sure to buy the kit that is suitable for your car's fuel. Unhook the pump from the accelerator and remove the cover. Dismantle the fuel by removing the shock and removing all hoses and screws [source: Sieman]. Pay close attention to dismantling the fuel so you can put everything back together again when it's over. Clean all parts of the fuel with fuel cleaner. Remember to wear your safety goggles and gloves to avoid injury. Rinse all the parts in water and let them dry thoroughly. Wet parts will prevent the fuel from working properly, so make sure all the parts are completely dry before proceeding to the next step. Reassemble the fuel using the instructions provided in the kit. Hook the pump back to the body of the carburetor and connect all hoses and shock cables. Use the key and screwdriver, but do not apply excessive force [source: Sieman]. Replace the fuel and start the engine. Engine.