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The user must only carry out the maintenance and service work described in this manual. More extensive work must be carried out by an authorised service workshop.Carburetor adjustmentYour Husqvarna product has been designed and manufactured to specifications that reduce harmful emissions.Function•The carburetor governs the engine’s speed via the throttle control. Air and fuel are mixed in the carburetor. The air/fuel mixture is adjustable. Correct adjustment is essential to get the best performance from the machine.•The T-screw regulates the throttle setting at idle speed. If the T-screw is turned clockwise this gives a higher idle speed; turning it anti-clockwise gives a lower idle speed.Basic settings and running inThe basic carburetor settings are adjusted during testing at the factory. Fine adjustment should be carried out by a skilled technician.Rec. idle speed: See the Technical data section.Fine adjustment of the idling speed TAdjust the idle speed with the T-screw. If it is necessary to re-adjust, turn the T-screw clockwise while the engine is running, until the chain starts to rotate. Then turn counter- clockwise until the chain stops. A correctly adjusted idle speed setting occurs when the engine runs smoothly in every position. It should also be good margin to the rpm when the chain starts to rotate.WARNING! Contact your servicing! dealer, if the idle speed setting cannot be adjusted so that the chain stops at idle. Do not use the chain saw until it has been properly adjusted or repaired.Correctly adjusted carburetorWhen the carburetor is correctly adjusted the machine accelerates without hesitation and the machine 4-cycles a little at max. speed. It is also important that the chain does not rotate at idle. If the L-jet is set too lean it may cause starting difficulties and poor acceleration. If the H-jet is set too lean the machine will have less power, poor acceleration and could suffer damage to the engine.Checking, maintaining and servicing chain saw safety equipmentNote! All servicing and repair work on the machine requires special training. This is especially true of the machine’s safety equipment. If your machine fails any of the checks described below we recommend you to contact our servicing dealer.Chain brake and front hand guardChecking brake band wearBrush off any wood dust, resin and dirt from the chain brake and clutch drum. Dirt and wear can impair operation of the brake.Regularly check that the brake band is at least 0.024 inch (0.6 mm) thick at its thinnest point.Checking the front hand guardMake sure the front hand guard is not damaged and that there are no visible defects such as cracks.Move the front hand guard forwards and back to make sure it moves freely and that it is securely anchored to the clutch cover.Page 2WORKING TECHNIQUESKickback always occurs in the cutting plane of the bar. Normally the chain saw and bar are thrown backwards and upwards towards the user. However, the chain saw may move in a different direction depending on the way it was being used when the kickback zone of the bar touched the object.Kickback only occurs if the kickback zone of the bar touches an object.LimbingWARNING! A majority of kickback! accidents occur during limbing. Do not use the kickback zone of the guide bar. Be extremely cautious and avoid contacting the log, other limbs or objects with the nose of the guide bar. Be extremely cautious of limbs under tension. They can spring back toward you and cause loss of control resulting in injury.Make sure that you can stand and move about safely. Work on the left side of the trunk. Work as close as possible to the chain saw for maximum control. If possible, let the weight of the chain saw rest on the trunk.Keep the trunk between you and the chain saw as you move along the trunk.See instructions under the heading Basic cutting technique. The Husqvarna 435 is a powerful, efficient chainsaw designed for both homeowners and professionals seeking a reliable tool for cutting, trimming, and taking on various tasks in their outdoor spaces. It combines a lightweight design with high-performance technology, making it an ideal choice for anyone from the occasional user to those needing a dependable tool for frequent use.One of the standout features of the Husqvarna 435 is its X-Torq engine. This innovative motor delivers impressive power while significantly reducing fuel consumption and emissions compared to traditional two-stroke engines. With an engine displacement of 40.9cc, it produces a robust performance that allows the user to tackle even challenging cutting jobs with ease. The chainsaw's AutoTune technology is another noteworthy characteristic. This feature automatically adjusts the engine's settings for optimal performance according to the surrounding conditions, such as temperature, altitude, and humidity. AutoTune ensures that users can achieve maximum efficiency without the hassle of manual tuning, allowing for a more user-friendly experience.The Husqvarna 435 also boasts an ergonomic design, featuring a lightweight body that weighs only 9.4 lbs. This design promotes ease of handling and reduces fatigue during extended usage, making it suitable for long days of work. The integrated air filter system helps keep the engine clean, prolonging its life and ensuring reliable performance over time.Safety is paramount in chainsaw design, and the Husqvarna 435 comes equipped with several safety features. The chainsaw includes a chain brake that instantly stops the chain in the event of kickback, as well as a low-vibration system that minimizes operator fatigue while enhancing comfort. The transparent fuel tank allows for easy monitoring of fuel levels, preventing unexpected interruptions.Additionally, the saw features an easy-to-access chain tensioning system that simplifies chain adjustments, ensuring optimal cutting efficiency. The combination of a tool-less chain tensioner and a quick-release air filter cover makes maintenance straightforward, saving time and effort for users.In summary, the Husqvarna 435 is an excellent choice for those seeking a versatile chainsaw that balances power, efficiency, and safety. With advanced engine technology, ergonomic design, and user-friendly features, it stands out in the competitive market. Whether you're cutting firewood, trimming branches, or performing general landscaping tasks, the Husqvarna 435 proves to be a reliable and efficient companion. SELECT YOUR PRODUCT Brand Product Model SEARCH Husqvarna 435, 435E and 440E chainsaw carburetor adjustment, removal and refitting guide will help with any carburetor cleaning, replacement, inspection and correct running of the chainsaw. A Service Manual detailing the Carburetor removal and refitting procedures with full diagrams, as well as more complete chainsaw repair information, is available to download. Also a Husqvarna and 435, 435e and 440e Parts List, Operator Manual, and Zama carburetor manual are also available to view or download as a PDF which can be read on any device or easily printed. Fig 22 These show the principle for the design and function of the carburetor. Design The carburetor is based on three sub-systems: The metering unit, A. The mixing venturi, B. The pump unit, C. The jets and the fuel’s control functions are located in the metering unit (A). Here the correct quantity of fuel is adjusted for the actual speed and power output (see figure 22). Fig 23 The mixing venturi (B) houses the choke, throttle valve, and diffuser jets. Here the air is mixed with the fuel to give a fuel/air mixture that can be ignited by the ignition spark (see figure 23). In the pump unit (C), fuel is pumped from the fuel tank to the metering unit. One side of the pump diaphragm is connected to the crankcase and pulses in time with the pressure changes in the crankcase. The other side of the diaphragm pumps the fuel (see figure 24). Fig 24 Function Fig 25 The carburettor operates differently in the following modes: Cold start mode Idling mode Part throttle mode Full throttle mode In the cold start mode (see figure) the choke valve (H) is fully closed. This increases the vacuum in the carburettor so that fuel is sucked more easily from all the diffuser jets (D, E, and F). The throttle valve (I) is partly open. Extra air inlet (J) is closed (see figure 25). Fig 26 In the idling mode (see figure) the throttle valve (I and J) is closed and the choke valve (H) is open. Air is sucked in through an aperture in the throttle valve and a small amount of fuel is supplied through the diffuser jet (D) (see figure 26). In the part throttle mode (see figure below) the throttle valve (I) is partially open and the choke valve Fig 27 is open. Fuel is supplied through the diffuser jets (D and E). The throttle valve (J) starts to open (see figure 27). In full throttle mode (see figure below) all valves are open and fuel is supplied through all diffuser jets (D, E, F, and G). Extra air inlet (J) is also fully opened (see figure 28). Fig 28 Dismantling the carburetor Fig 29 Dismantle the cylinder cover and the air filter. Disassemble the handle holder (see figure 29). Push the throttle actuator rod out of the handle part. Unhook it from the carburettor (see figure 30). Fig 30 Remove the return hose (B) and suction hose (C). Loosen the fuel pump (D). Let the fuel hose (G) remain in place (see figure 31). Fig 31 NOTE! Take care when lifting out the carburetor so that the fuel hose does not become loose. Loosen the screws (E) and unhook the rubber mountings (F) (see figure 32). Fig 32 Disassemble the pump cover (G) over the measuring chamber cover (R) and carefully remove the control diaphragm (H) with gasket (J). Fig 33 Unscrew the screw (K) and remove the needle valve (L) with the lever (M), shaft (N) and spring (P). Unscrew the screw (Q) above the pump unit and carefully remove the gasket (S) and diaphragm (T). Use a needle or similar device and carefully pull up the fuel screen (U). Unscrew the high (V) and low jet screws (W) (see figure 34). If necessary, dismount the throttle valve (X), choke valve (Z) and air shutter (Y) and remove the shafts with levers and springs (see figure 34). Cleaning and inspection Clean all units in clean petrol. Use compressed air to dry the petrol on the components. Direct the air through all channels in the carburetor housing and ensure that they are not blocked. Check the following: That gaskets, pump, and control diaphragms are undamaged. That there is no play on the throttle and choke valve shafts. That the needle valve (L) and its lever (M) are not worn (see figure 33). That the fuel screen (U) is whole and clean (see figure 33). That the tips of the high (V) and low jet screws (W) are not damaged (see figure 34). That the intake manifold (R2) is undamaged (see figure 33). The carburetor has an extra air shutter connected in parallel with the ordinary throttle valve. Fig 34 Assembly Fig 35 Maintain a high level of cleanliness when assembling the carburetor. The slightest contamination can result in running problems. If the throttle and choke valves, together with levers and springs were removed, they should be refitted. The spring is tensioned 1-2 turns. Lubricate the shaft bearings with light oil. Fit the high (V) and low (W) speed needles and springs. Note! Do not fully tighten the screws. This will damage the seats and needle tips. Fit the fuel filter (U) by using the handle of a small screwdriver. (see figure 33) Fit pump cover (G), gasket (S) and measuring chamber cover (R) over the pump unit (see figure 33). Fit the needle valve (L) with the lever (M), shaft (N) and spring (P) and tighten the screw (K). Fit the expansion washer (F) (see figure 35). Fig 36 Check using a ruler or the like that the lever is level with the assembly plane on the cover. The lever arm can be bent if necessary (see figure 36). Fit the control diaphragm (T) with gasket (S) and measuring chamber cover (R) over the metering unit (see figure 37). Fig 37 Press in the screen (U). Fit the measuring chamber cover (R) and tighten the screw (Q) (see figure 37). Put together the gasket (J) and control diaphragm (H) and press up (see figure 37). Assemble all the parts and tighten the four screws (see figure 37). 11.. Carry out a pressure test. Pressure testing the carburetor Fig 38 Pressure testing should be carried out with the carburetor fully assembled. Testing should always be carried out after the carburetor has been repaired, but it can also be carried out as troubleshooting before dismantling the carburettor. See figure and carry out the test as follows: 1 Set the high and low jet screws two turns from the bottom. 2 Connect pressure tester to the carburettor’s fuel intake. 3 Lower the carburettor into a beaker of water (see figure 37). 4 Pump the pressure up to 50 kPa. 5 No leakage is permitted. If a leakage occurs refer to the table below. Leakage at Fault with Diffuser jets Leakage in impulse tube Ventilation hole on the metering unit. Needle valve Pump diaphragm Control diaphragm Assemble on the saw Fig 39 Press the carburettor down towards the partition wall. Make sure that it gets into the correct position. Fit the filter holder by hooking the choke control into the choke lever (A). Hook on the rubber mountings. Insert and tighten the screws. Insert the return hose (B) into its position in the filter holder. Fig 40 Press on the fuel diaphragm (D). Fit the suction hose (C) and return hose (B). Hook in the throttle actuator rod into the carburetor. Thread the handle holder into the throttle actuator rod (A). Push the rod forwards so that it can be inserted into the handle part. Fig 41 Push down the handle holder into the filter holder (see figure 42). Assemble the air filter and cylinder cover. Fig 42 Carburettor adjustment Conditions during adjustment Fig 43 The air filter should be clean and the cylinder cover fitted when adjustments are made. Adjusting the carburettor with a dirty air filter will give a too lean fuel mixture the next time the air filter is cleaned. This can result in serious damage to the engine. Mount, for this model, approved bar and chain combination (see Technical data in the Operator’s Manual). 435/e 16˝ 440e 16˝ The chain should not be tensioned more than that it remains ~ 0,2 inches to the bar. (See figure 43) Fig 44 Replacement of the H-needle or complete carburetor Carefully screw the new H-needle to the bottom and turn it anticlockwise ”A” turns. 435/e A = 2 440e A = 2 Start the engine. If necessary, adjust the idling speed with the T-screw until the chain stops. Adjust the H-needle to give a top speed of ”B” rpm. Use a tachometer. 435/e B = 12500 -13 000, speed limitation 440e B = 12500-13 000, speed limitation Use screwdriver 530 03 55-60. Let the engine run at ”B” rpm ~ 1 minute, until warm. Replacement of the L-needle 1. Screw the new L-needle to the bottom and then turn it counterclockwise ”D” turns. 435/e D = 2,5 440e D = 2,5 (See figure 44) Husqvarna 435, 435e, 440e Carburetor Adjustment and Repair