

CARBURETOR SET UP AND LEAN BEST IDLE ADJUSTMENT

Base line Settings

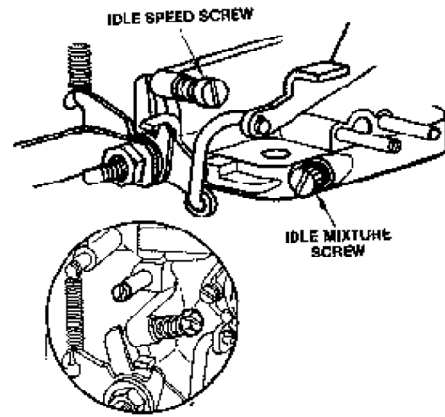
Speed Screw 1 to 1 1/2 turns

Mixture Screw 2 turns

Your settings with engine running

Speed Screw _____

Mixture Screw _____



It is important to follow all linkage and lever installation instructions. The number one and two reasons for tuning errors are improper linkage installations and over tightened linkage nut, causing a binding in linkage assembly.

CALIBRATIONS MAY VARY DUE TO REGIONAL FUELS AND STATE OF ENGINE TUNE AND PERFORMANCE. POOR RUNNING QUALITY DOES NOT MEAN A DEFECT IN THE CARBURETOR. AN ADVANTAGE OF THE WEBER CARBURETOR IS ITS EASE OF ADJUSTMENT AND TUNING.

SET UP ADJUSTMENTS

Start set up by confirming carb base line settings. Do not depend on the factory delivered settings. Check them before the carb is installed.

1. All settings are done with choke disengaged or warmed up so that the choke is fully opened and disengaged. This is done on automatic choke carburetors by first opening the choke butterfly by hand and inserting a wood block or wedge of some kind to hold open while the linkage is cycled (linkage operated through its full movement) to clear the choke cam. (You will hear a metallic click as the cam is released. You can check the fast Idle screw under the choke assembly to confirm that it is not in contact with the choke fast idle cam.)
2. Set the Idle stop screw (speed screw see fig 1) by backing out the Idle speed screw until it is not in contact with the throttle stop lever. Cycle the linkage again to be sure that the linkage comes to close without any assistance. (Checking for linkage bind) Now bring screw back into contact with the lever and continue to open or screwing in 1 turn no more than 1 1/2 turns.
3. Set the mixture screw (see Fig 1) by first screwing in until the screw stops, bottoms out. **DO NOT FORCE OR BIND AS THIS WILL CAUSE DAMAGE TO THE SCREW AND IT'S SEAT IN THE BODY OF CARBURETOR.** Back out the screw 2 full turns.

4. TUNING

BE SURE TO FOLLOW THE NEXT INSTRUCTIONS IN THE PROPER SEQUENCE, DEVIATION WILL CAUSE THE CARBURETOR TO NOT FUNCTION TO ITS IDEAL SPECIFICATIONS AND MAY NOT PROVIDE THE PERFORMANCE AND FUEL ECONOMY AS DESIGNED.

4a. Start the engine, the engine will run very slowly more like a tractor. As long as the engine stays running idle speed is not important at this point.

4b. The first thing to do is not set up the idle speed, but to set the Idle mixture screw to lean best idle setting. First, turn in the mixture screw until the engine dies or runs worse, then back out the screw (recommend

turning $\frac{1}{4}$ to $\frac{1}{2}$ turn at a time). The engine should pick up speed and begin to smooth out. Back out $\frac{1}{2}$ turn more, or until the screw does nothing or runs worse then turn back to the point where it ran its best. Use your ear, not a scope or tuning instruments at this point. You want to tune the engine by sound. Adjust to best, fastest and smoothest running point.

4c. Now that the mixture screw is at its best running location, you can adjust the Idle speed the screw. The screw will be sensitive and should only take $\frac{1}{4}$ to $\frac{1}{2}$ turns to achieve the idle speed you like. Check and set idle to your driving preference. Put the car in gear and apply slight load, (AC on) and set the Idle as you like it. Don't set it too high, as this will cause causes excessive clutch and brake wear. The Idle only needs to be 7 to 900 RPM with light load or AC on.

5. Recheck timing and vacuum hook ups. Recheck mixture screw to lean best idle again. If all is still best and smoothest idle then confirm and note the final settings. To confirm settings with the engine running. Start by screwing in the mixture screw and count the number of turns it takes to bottom out and note if the engine dies. If Idle Mixture screws are with in $\frac{1}{2}$ turn of base line setting then all is well and have fun. Also check the speed screw and note how many total turns from initial contact. You may have opened (turned in) the speed screw. Your final setting should be under 2 full turns. Reset the screws (back in) to the best final settings (Per your notes) and go on a test drive and have fun. If the settings are other than described then you may want to recalibrate the Idle circuit (low speed circuit) to your engines needs. This is done by following the rule of thumb BELOW.

Simple Rules for low speed calibration

If the mixture screw is more than 2 $\frac{1}{2}$ turns out turns then the Idle jet is too lean (too Small). When the mixture screw is less than 1 $\frac{1}{2}$ then the Idle jet is too rich (too large). These assumptions are based on the fact that the speed screw setting is not opened more than 1 $\frac{1}{2}$ turns. If the speed screw has to be opened 2 or more turns then this is also an indication of a lean condition usually requiring greater change. At times it may appear to be showing signs of richness or flooding it is really a lean condition. See pictures and notes in the tech 2 article supplied in the kit instructions, view and please understand the need to keep throttle plate as near to closed as possible so as not to prematurely expose the transition holes. This is what causes the visible rich condition, and confirms the need to increase the jet size.

EXAMPLE: With the speed screw set at no more than (1 $\frac{1}{2}$) turns in after contact with the stop lever; and the best idle occurring with the mixture screw set at 3 turns from bottom, indicates the need for a larger Idle jet. Achieving the best idle at under 2 turns indicates the need for a smaller idle jet.

The secret to understanding the critical nature of the carburetor set up and the advantages of a WEBER over other carburetors is the Idle circuit. Referred to as the low speed circuit by Weber, this circuit is responsible for 80% of the driving operation. This is the reason that the Weber should give a fuel economy improvement over most factory carbs along with significant performance gains. In the worst case you should not see a significant fuel economy loss over stock, while improving HP & Drivability.