

# Carburetor Set Up and LeanBest Idle Adjustment



## Base line Settings

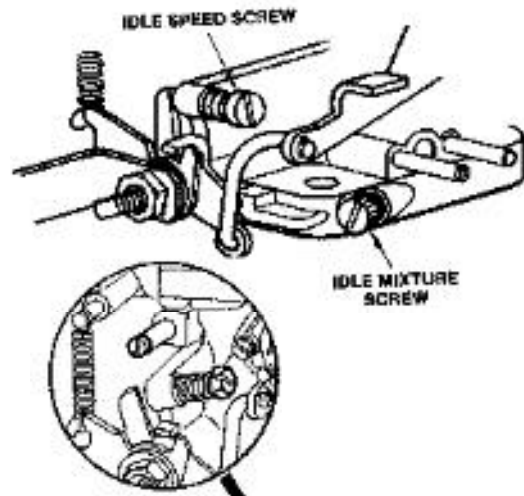
Speed Screw 1 to 1-1/2 turns

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.

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.)

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.

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.

## TUNING

1. 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.
2. 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.
3. 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 1/4 to 1/2 turn at a time). The engine should pick up speed and begin to smooth out. Back out 1/2 turn more, or until the screw does nothing or runs worse then turn back to the point where it ran its best.
4. 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.

## Carburetor Set Up and LeanBest Idle Adjustment



5. 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.
6. 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 excessive clutch and brake wear. The Idle only needs to be 7 to 900 RPM with light load or AC on.
7. 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.
8. 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 within  $\frac{1}{2}$  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**

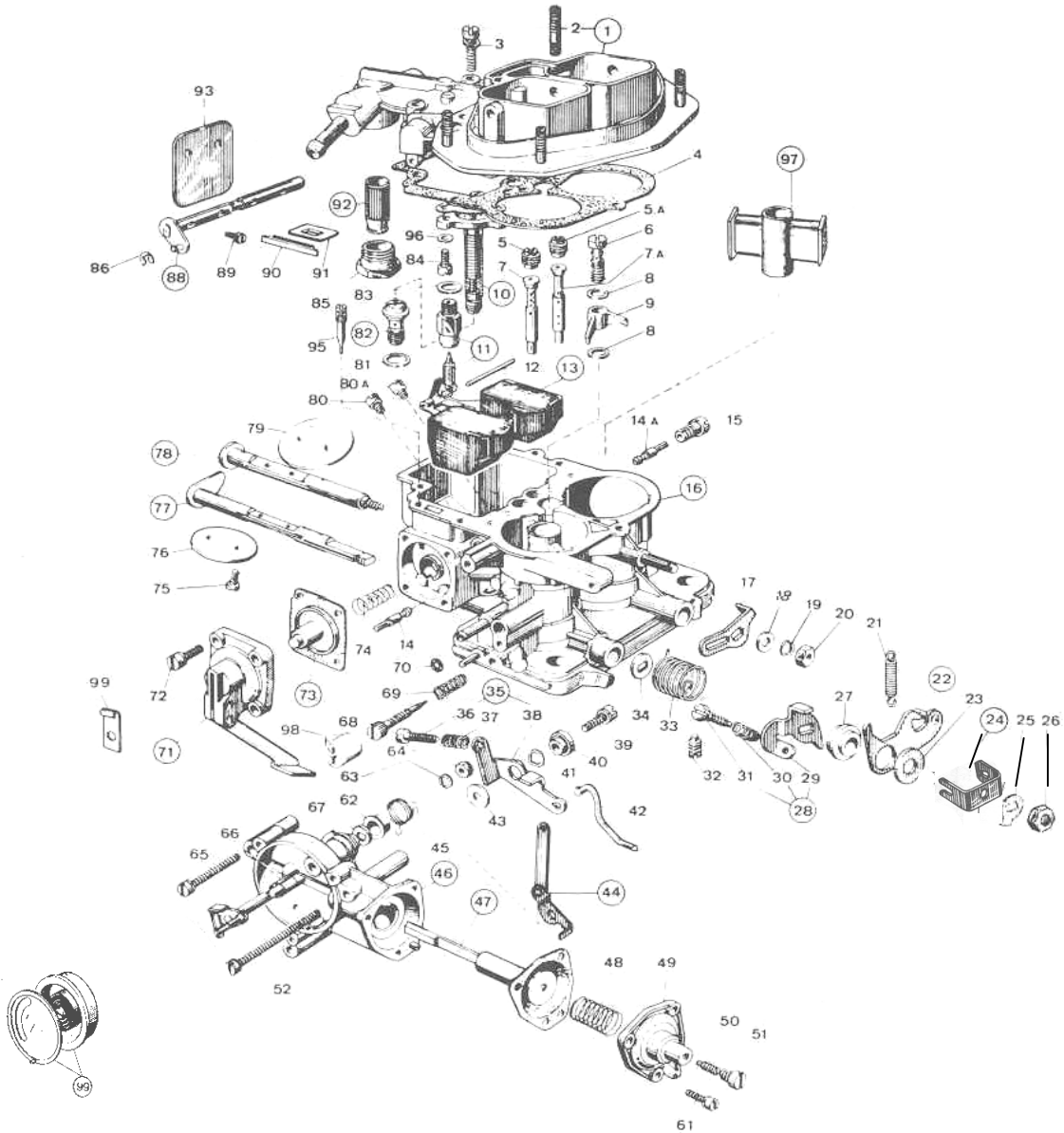
If the mixture screw is more than  $2\frac{1}{2}$  turns out turns then the Idle jet is too lean (too Small). When the mixture screw is less than  $1\frac{1}{2}$  then the Idle jet is too rich (too large). These assumptions are based on the fact that the speed screw setting is not opened more than  $1\frac{1}{2}$  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. JET KITS are available if needed.

### **EXAMPLE**

With the speed screw set at no more than two (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.

The Weber Carburetor is a sequentially timed device to the motor like the distributor. Time taken in the setup will provide more fun later



### ORIGINAL SETTINGS

Primary Venturi	26 mm	Primary Emulsion Tube	F66
Secondary Venturi	27 mm	Secondary Emulsion Tube	F50
Primary Auxiliary Venturi	3.50 mm	Primary Idle Jet	.60 mm
Secondary Auxiliary Venturi	3.50 mm	Secondary Idle Jet	.50 mm
Primary Main Jet	1.37 mm	Pump Jet	.55 mm
Secondary Main Jet	1.40 mm	Needle Valve	2.00 mm
Primary Air Corrector Jet	1.65 mm	Float Measurement	38.50 mm
Secondary Air Corrector Jet	1.60 mm		



# WEBER

## WEBER CARBURETOR PARTS LIST 32/36 DFEV 22680.070

KEY NO.	QTY	DESCRIPTION	PART NUMBER	KEY NO.	QTY	DESCRIPTION	PART NUMBER
1	1	Cover Assembly	31716.221	48	1	Spring	47600.141
2	4	Stud	64955.002	49	1	Cover	32384.022
3	5	Screw	64700.005	50	1	Screw	64595.005
4	1	Gasket	41705.034	51	1	Screw Plug	61015.003
5	1	Primary Air Jet	77201*	52	1	Screw	64700.015
5-A	1	Secondary Air Jet	77201*	53	1	Gasket	41640.005
6	1	Pump Delivery Valve	64290.017	54	1	Auto-choke Thermo Assy	57804.076
7	1	Primary Emulsion Tube	61440.220	55	1	Thermostat Ring	52135.006
7-A	1	Second Emulsion Tube	61440.216	56	1	Gasket	41555.001
8	2	Gasket	41530.012	57	1	Screw	64615.001
9	1	Accelerating Pump Jet	76211*	58	1	Gasket	41530.002
10	1	Power Valve	57804.096	59	1	Water Chamber	32444.010
11	1	Needle Valve	79519.200	60	1	Choke Shaft	10085.040
12	1	Float Pin	52000.015	61	3	Screw	64700.007
13	1	Float	41030.022	62	1	Spring	58000.018
14	1	Primary Idling Jet	74403*	63	1	Washer	55525.003
14-A	1	Secondary Idling Jet	74403*	64	1	Nut	34715.016
15	2	Jet Holder	52570.005	65	2	Screw	64700.023
16	1	Carburetor Body	Not Supplied	66	1	Plate	52130.012
17	1	Secondary Lever	45032.013	67	1	Washer	55555.029
18	1	Washer	55510.046	68	1	Screw	64750.028
19	1	Washer	55525.001	69	1	Spring	47600.007
20	1	Nut	34705.001	70	1	Gasket	41565.008
21	1	Spring	47605.010	71	1	Pump Cover	32486.034
22	1	Loose Lever	45069.006	72	4	Screw	64700.004
23	1	Washer	55510.061	73	1	Diaphragm	47407.016
24	1	Throttle Lever	45041.097	74	1	Spring	47600.107
25	1	Washer	55520.002	75	4	Screw	64520.023
26	1	Nut	34715.014	76	1	Primary Throttle Plate	64005.090
27	1	Bushing	12775.006	77	1	Primary Shaft	10015.484
28	1	Lever Assembly	45041.029	78	1	Secondary Shaft	10015.413
29	1	Lever	45039.022	79	1	Secondary Throttle Plate	64005.034
30	1	Spring	47600.073	80	1	Primary Main Jet	73801*
31	1	Screw	64625.006	80-A	1	Secondary Main Jet	73801*
32	1	Screw	64595.005	81	1	Gasket	41530.013
33	1	Spring	47610.012	85	1	Power Valve Assy	64235.016
34	1	Washer	55555.016	83	1	Gasket	41535.015
35	1	Lever	45041.047	84	3	Screw	64700.007
36	1	Screw	64590.004	85	1	Strainer Plug	61002.018
37	1	Spring	47600.007	86	1	Ring	10140.501
38	1	Lever	45039.049	88	1	Choke Shaft	10020.214
39	1	Screw	64700.014	89	2	Screw	64525.003
40	1	Bushing	12765.042	90	1	Plug	61070.002
41	1	Washer	55530.005	91	1	Plate	52135.018
42	1	Rod	61280.042	92	1	Strainer	37022.010
43	1	Washer	55510.003	93	2	Choke Plate	64010.006
44	1	Choke Lever	45034.063	94	3	Screw	64615.009
45	1	Spring	47610.083	95	1	Pump Needle	64900.001
46	1	Auto-choke Body Assy	Not Supplied	96	3	Washer	55510.038
47	1	Diaphragm	47407.080	97	2	Auxiliary Venturi	71110*
	1	Gasket Set	92.0105.05	99	1	Electric Choke	57804.332J
	1	Repair Kit	92.1130.05			* Calibrated Parts	



# WEBER