



What's New?

New Engine = New Units = New Tools

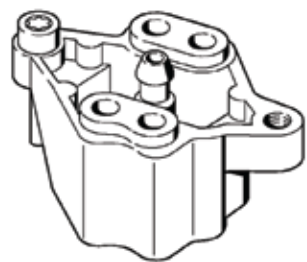
STIHL is introducing several new units this fall and into 2009. The 4241 Series features the new BG 56, BG 66, and BG 86. New trimmers in the 4144 series include the FS 56 in several versions. All the new units sport a stratified scavenging engine and will have lower hydrocarbon emissions.

Of course along with new units come new tools. We have two new tools that will be needed to repair these units, but they will work on some previous models, as well.

5910 893 0801 will be needed when dislodging the flywheel from the taper of the crankshaft. It is machined down on the flywheel side for clearance purposes. Use of the 1116 893 0800, which is being replaced by the above number, could result in damage to the flywheel.



5910 893 0801



5910 850 4200

The new pressure & vacuum flange 5910 850 4200 will be needed to clear the intake manifold. The specially-designed manifold separates the air for the stratified scavenging and use of any other tool will result in breakage of the manifold. The flange is machined to fit over the manifold without any damage.



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Tech Service Tips

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How to...

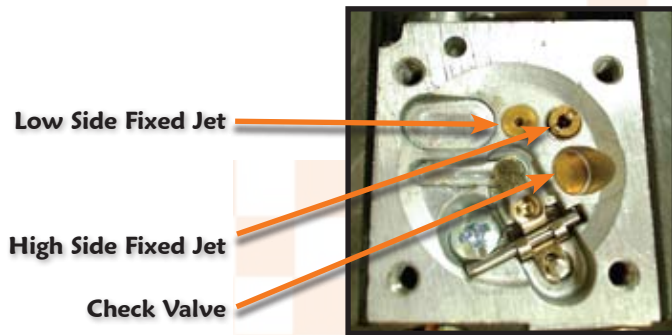
Test Non-Purge Carburetors

In the last edition of TechTips we discussed detail testing procedures for purge type carburetors. In this edition we will discuss testing of non-purge carburetors found on most chain saws.

1 In this C1Q carburetor both the High and Low circuits have fixed jets to allow only a fixed amount of fuel into the venturi. There are no adjustments so no manual change is necessary. Notice the **low fixed jet**. In the purge-type carburetors (ie., carburetors with a bulb), a check valve would be necessary for the purge pump to work. However, in the non-purge carburetor found on most chain saws, there is no need for a check valve because fuel would be flowing through this jet any time the engine is running.

On some carburetors, if a jet size were the same as a purge carburetor the manufacturer might use the purge-type check valve/jet. But...the check valve would be of no use in the non-purge carburetor because again, fuel would be flowing anytime the engine is running; if the check valve were to check "bad" it would have no effect on engine performance.

The high side circuit on this carburetor also has a **fixed jet**. It does need a **check valve** to keep air from entering the metering chamber when the engine is idling. If this check valve were to fail, it would cause the engine to have a high idle and stumble during roll out, or acceleration.

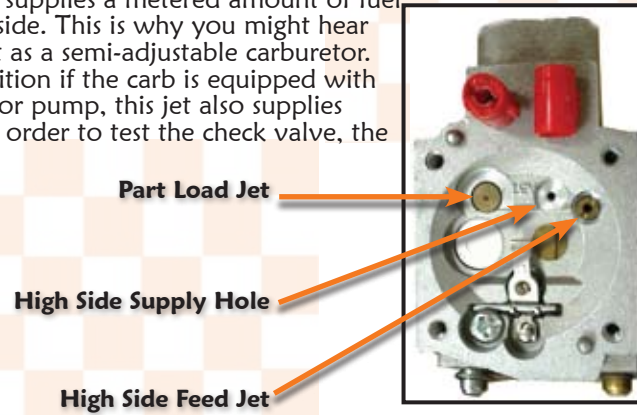


To test this check valve simply use your vacuum pump and pull a slight vacuum on the fixed jet and you should have little or no leak. The clamp used on purge type carburetors will not work in this case because there is no check valve on the low side and air will freely flow through the low side jet. A small piece of fuel hose used in conjunction with your test adaptor, as shown in the online video, will work well with these type carburetors.

2 This Walbro HD non-purge carburetor design is found on the mid range pro saws including the MS 361, MS 440 and MS 460 along with a few other STIHL models.

The low circuit on this design has no fixed orifice but is supplied fuel through the **high side feed jet**. The fuel travels through this jet past the low mixture screw and into the progression chamber and finally to the intake stream.

This jet also supplies a metered amount of fuel to the high side. This is why you might hear us refer to it as a semi-adjustable carburetor. And, in addition if the carb is equipped with an accelerator pump, this jet also supplies fuel to it. In order to test the check valve, the



high screw will need to be completely closed and apply a vacuum through this jet with your short fuel hose/adaptor.

The remainder of the fuel needed to adjust to climatic changes is supplied through the high side supply hole, past the high mixture screw, on to the high side check valve and finally to the venturi.

The **part load jet** supplies fuel to the air stream between the low side progression holes and the high side nozzle in the carburetor bore. This circuit helps the engine accelerate smoothly without any hesitation. It must not be confused with the low side fixed jet on the C1Q carb even though it looks virtually the same. This jet does have a check valve and if damaged will leak air into the metering chamber making the engine have an erratic idle and/or stumble on acceleration. Testing this check valve is simple; just apply a slight vacuum with your pump directly to the jet.

3 Testing of a check valve is quite simple. As you can see we have modified the vacuum connector in your tool kit with a short piece of fuel hose. We can now push down over the fixed orifice of this check valve and draw a slight vacuum on the internal disc inside the check valve body. It should show no sign of a leak when working properly. On check valves that are sealed on top, you will have to find the passageway that leads to the sealing disc as with Step 2.

Any leak here will cause the engine to run erratic at idle and/or stumble on acceleration.



this and that.....

As you perform work on STIHL units, are you sure it's really ready to go back out to the customer? All STIHL units have important safety labels attached to them and should any of those be missing when it comes in for repair, it shouldn't leave your dealership without them. The Product Liability Guidelines Booklet has a "Safety Education – Quick Reference List" provided for you on page 1 regarding safety related information. Listed below is that very list with descriptions about each one:

1. Product Liability Guidelines, 0457 979 0100

For dealership use only. This booklet explains safety, definition of product liability, you and the customer, chain saw details, dealer guidelines, warnings about all STIHL powered equipment and guidelines for reporting accidents.

2. White Decal, 0000 967 3613

Chain saw use. This label is to be used on any chain saw missing the original label on the hand guard. (full detail on page 3 of PLG)

3. Yellow Decal, 0000 967 3541

Power tool use. If any original warning labels are missing, this label can be affixed where it is clear for the operator to see.

4. Safety Manuals

Contains safety information for chain saws and power equipment. Can be given when equipment is being repaired or when older equipment is sold and no owner's manual is available regardless of brand.

Chain Saw – English 0457 184 3021; Spanish 0457 184 3121

Brushcutter – English 0457 187 3021; Spanish 0457 187 3121

Hedge Trimmer – English 0457 189 3021; Spanish 0457 189 3121

Cut-off Machine – 0457 186 3021; Spanish 0457 186 3121

5. Stihl Bar & Chain Catalog, 0461 005 0000

Has complete ANSI information regarding chain saw use. Discusses STIHL chain types, STIHL guide bars, STIHL sprockets, full application guide and competitive chain application information.

6. Disclaimer Forms for Chains, 0457 532 3023

This form also comes with chain reels. It is used for customers wanting professional chains other than low kickback. The customer should read the kickback warning, complete and sign the form.

7. DVD Chain Saw Safety, Maintenance and Operation, English 0463 901 0224; Spanish 0463 901 0245

This DVD is an excellent tool for any customer. Professionals can use it to assist in training users. Homeowner's can learn usage and safety information before their start-up.