



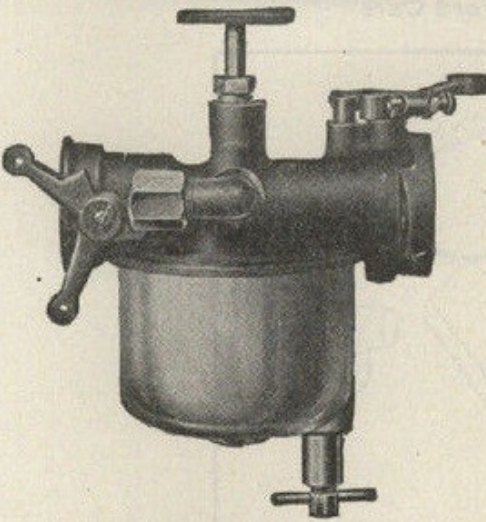
MODEL T FORD FIX

The Model T Ford enthusiast's best source for Model T history and technical information

JUNE 28, 2019 BY ROYCE PETERSON

Rebuilding the Holley NH Carburetor for your Model T Ford

HOLLEY CARBURETOR
For Ford Cars and Trucks and Chevrolet Cars



For many years the Holley Carburetor has been used as standard equipment on Ford engines. It meets the demands of Ford engines perfectly and contributes in no small measure to that efficient and economical performance which characterizes the Universal car in every part of the world. It is simple in construction, and gives trouble-free service throughout the life of the car.

No. NH —Holley Carburetor for Fords	Each, \$6. 76
In lots of 6	Each, 6. 00
No. SC —Model 1924 Holley Carburetors for all model Chevrolet cars	Each, \$15. 00
Lots of 6	Each, 13. 34

The most common of all Model T carburetors is the Holley NH. It was first used in the 1920 model year, the primary carburetor supplied for all Model T Fords and TT fords. This advertisement shows the earliest version used by Ford which has a so – called ‘straight thru’ venturi throat arrangement. It also uses the earlier style float bowl with side drain.

In this issue we will examine the simplest (and some say best) carburetor ever used on the Model T Ford. The Holley NH was introduced around 1916 as an accessory for the Model T, sold by Holley along with a special intake manifold. Eventually the NH replaced the earlier Holley Model G in regular production some time in 1920. Read on to see what a typical overhaul of one of these carburetors entails.



Our subject carburetor is dirty, but not too rusty. The bowl retains much of its original 'Raven' finish.

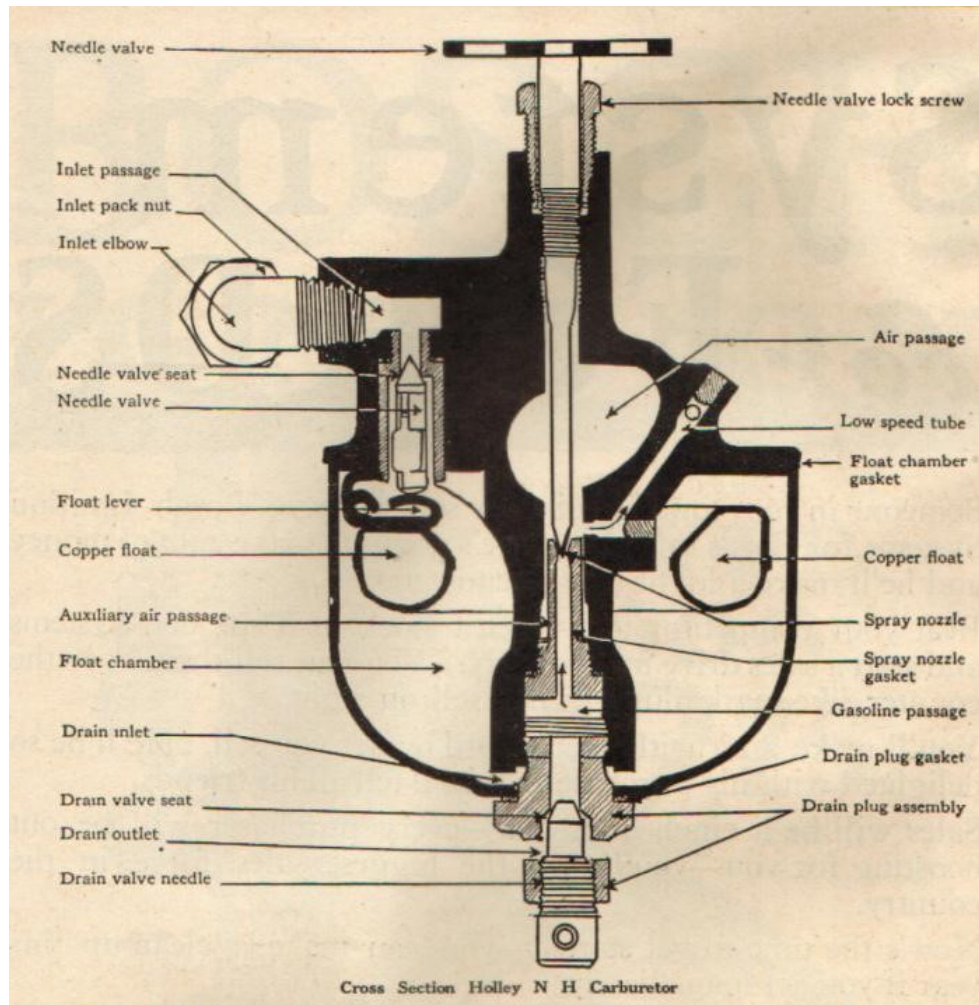




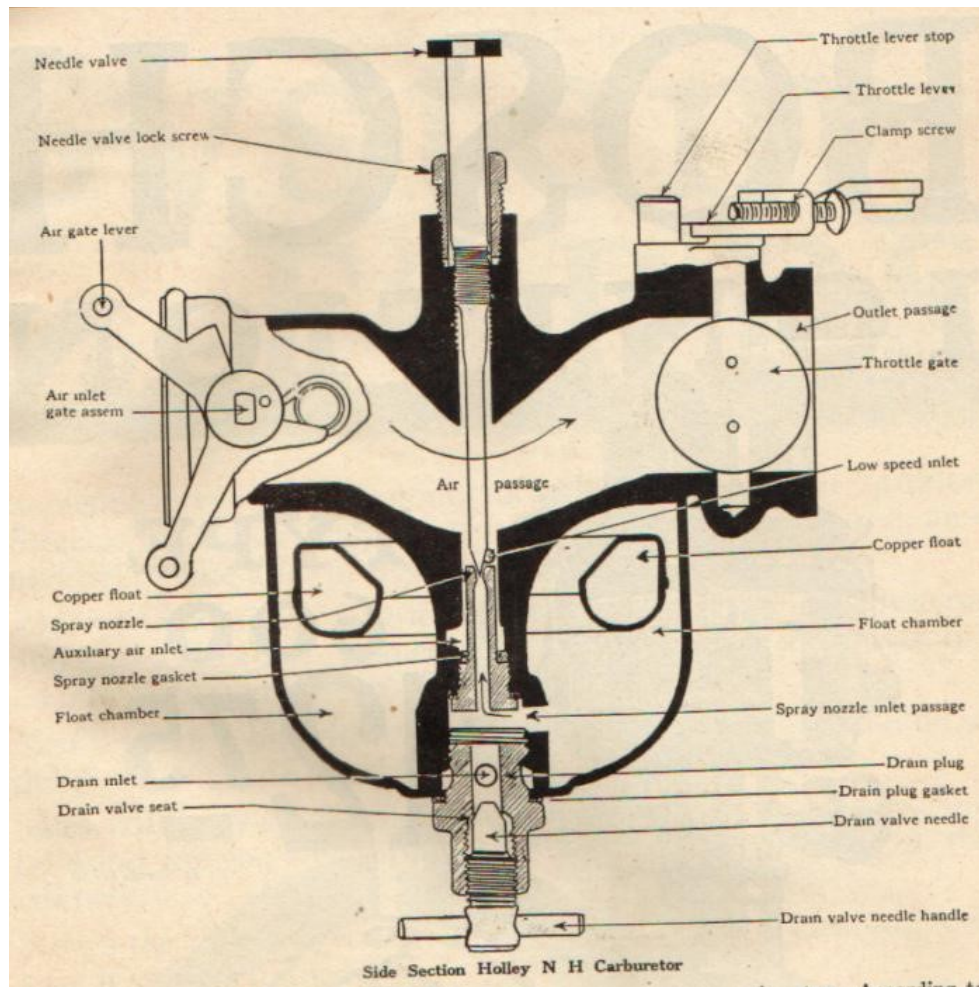
When selecting a carburetor to buy you want a greasy one, not a rusty one if there is a choice.



While the choke lever was present and usable, the choke return spring was broken.



Holley published this diagram showing the main parts and how they operate.



Another diagram provided by Holley showing the main parts and how they operate in a typical NH carburetor.



We start disassembly by straightening the clip securing the choke blade to its shaft.





Once the clip is high enough you can grab it with pliers and pull it out.



Then the blade can be pulled out and the shaft removed.





The throttle blade is the later style which does not use a clip; instead they have a bendable tab. To remove it the single inside tab is pushed to be inline with the slot.



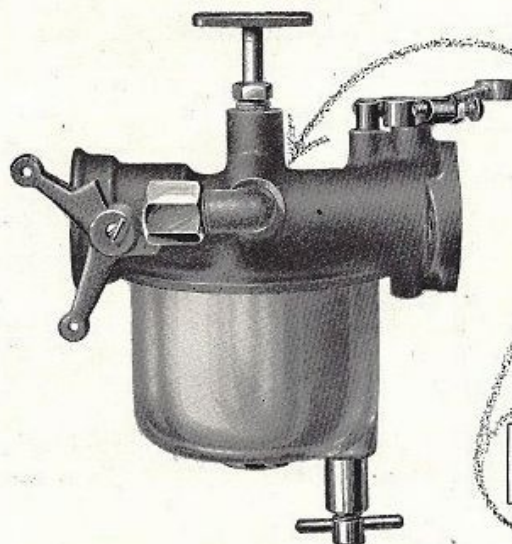
Then it can be pulled out with a pair of Vice Grip pliers.



The throttle shaft then comes right out. This is a really good one with minimal wear.

HOLLEY

Here's the Most Efficient Carburetor for Fords



*Our latest model bears
this nameplate; accept
no substitute.*



The most efficient carburetor ever designed for use on a Ford is the new Holley Model NH.

In designing it Holley engineers considered every requirement of a Ford motor. As a result this carburetor is the best that can be attached to a Ford motor.

It is so constructed that cold gasoline is lifted off the nozzle and into the main air stream, insuring a quick start at all

times. This Holley model enables the driver to accelerate the car to its maximum speed almost instantly.

Smoothness of operation and increased mileage are assured cars equipped with this new Holley carburetor. It is not an experiment—long and successful tests prove it to be the best carburetor for a Ford.

Our descriptive booklet will be sent upon request.

HOLLEY CARBURETOR COMPANY
DETROIT

(46)

HOLLEY MOTOR PRODUCTS
FOR TRUCKS TRACTORS AND AUTOMOBILES



We clamp the carburetor in the vice upside down for disassembly of the rest of the parts. Our bowl required penetrating oil on the drain assembly before it finally came loose.



It is common for these bowls to be so rusty around the drain that they cannot be re - used. This one is nice and clean with shiny steel below the gasket.



Inside the bowl is just what we like – no rust and a misadjusted float that probably caused this carburetor to be removed long ago.



We pull the float hinge pin so that the float can be removed.



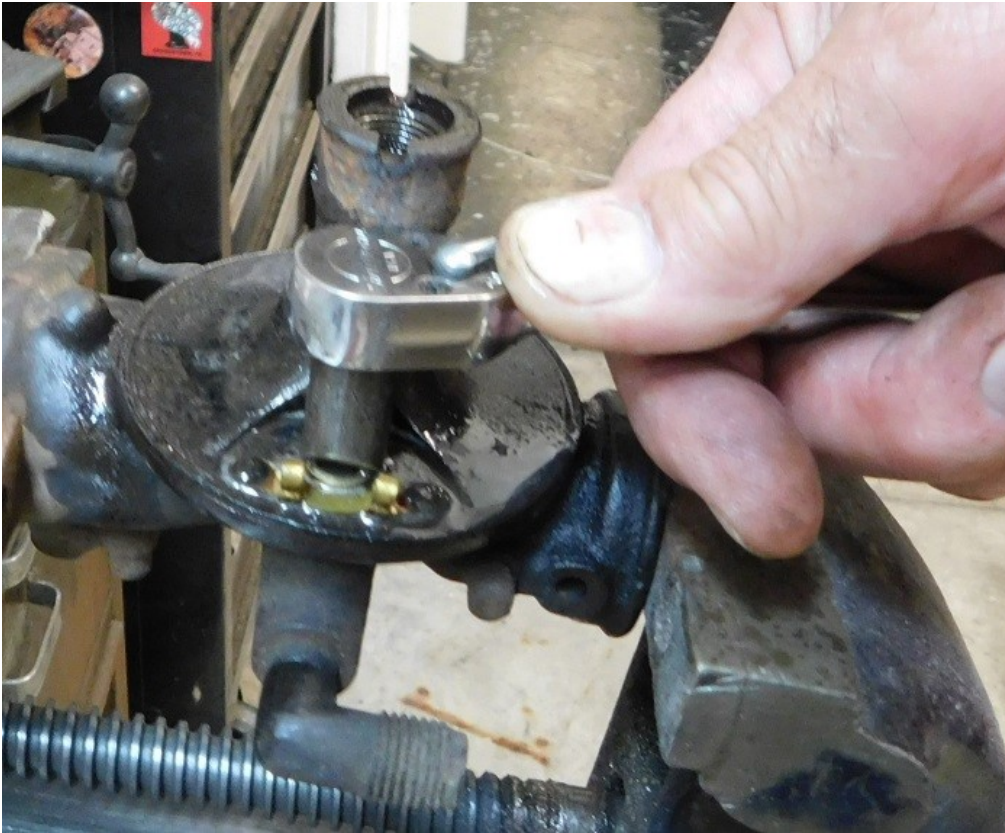
This exposes the fuel inlet needle and seat assembly.



The original needle and seat look like new. We are going to replace them, but these are good enough to serve in the future if needed. We will put them in the spares box.



The main jet is removed using a specially ground flat blade screwdriver tip and a 3/8" ratchet after applying some penetrating oil.



The inlet seat is removed using a special screwdriver tip in a 1/4" ratchet.



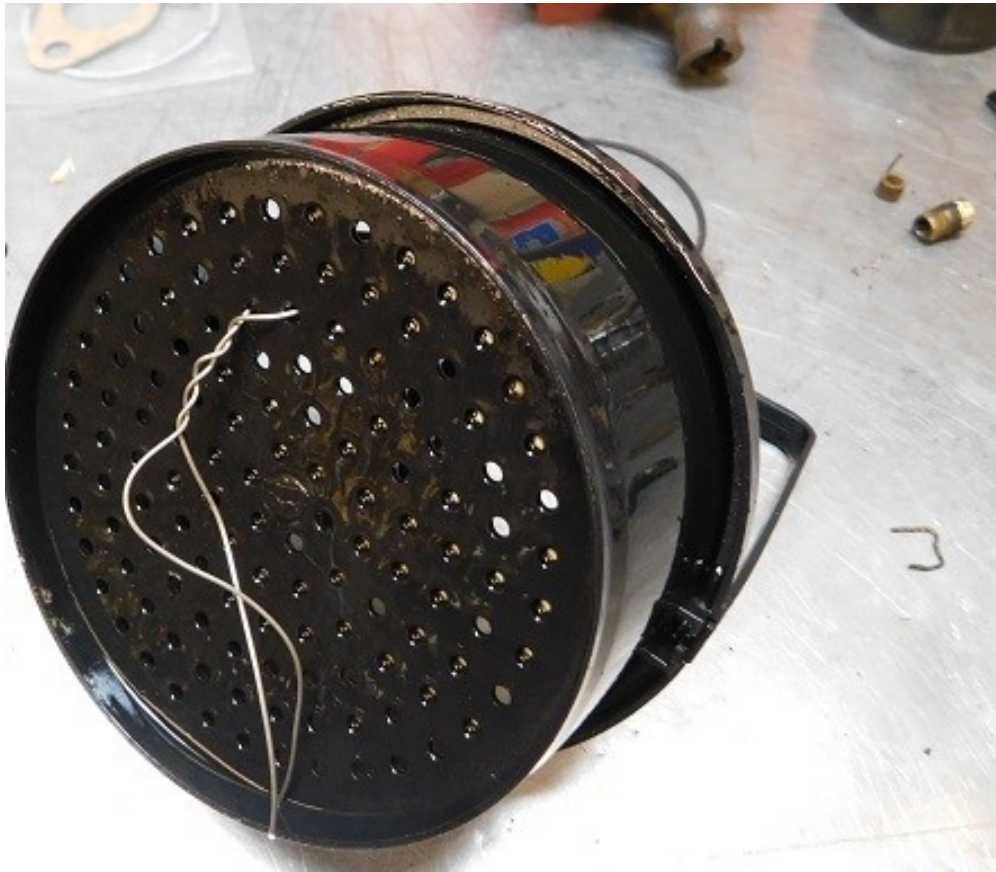
The tension adjuster for the mixture needle is stuck. We had to use Vice Grip pliers to get it out.



All the parts that were removed are now ready for their 24 hour stay in the carb cleaner can.



The float goes in the basket first.....



.....because it is safety wired to the bottom so it cannot float.



The rest of the parts are loaded in the basket and the lid goes on the extremely stinky can of nasty chemicals.



The parts are left overnight, then scrubbed with Scotch Brite and rinsed in hot water.



We bought a few new parts from Chaffins including the gasket set, needle and seat (original Smith brand) choke return spring, main jet and needle, and a throttle blade. Not shown, we laid out and drilled two holes on the original throttle shaft to accept the clip that retains the new throttle blade.



The carburetor bowl is installed temporarily using the old gasket and then we spend a little time masking it off for paint.





The Holley NH has two drilled passages that supply fuel to the inlet from the main jet well (arrow). Before assembling the carburetor they need to be checked to be sure they flow unrestricted. The forward passage supplies fuel at idle speeds, the rear one is exposed when the throttle opens.



Both passages are checked using Berryman's carburetor cleaner spray. Occasionally you will find one or both passages blocked by debris. If that happens the next thing to do is to drill out the brass plugs so that the passages can be cleaned with a drill bit. Fortunately ours were clear and we moved on to assembly.





The new main jet is tightened with a normal screwdriver. The slot in the reproduction jet is smaller than the special screwdriver that fits the originals.



The gasket is placed on the new fuel inlet seat so that it can be installed.



The fuel seat is tightened.



The throttle shaft and blade are installed. We made new clips from aircraft grade .041" stainless steel wire. Needle nose pliers are used to fold the ends inwards.



Small duck bill pliers finish the job.



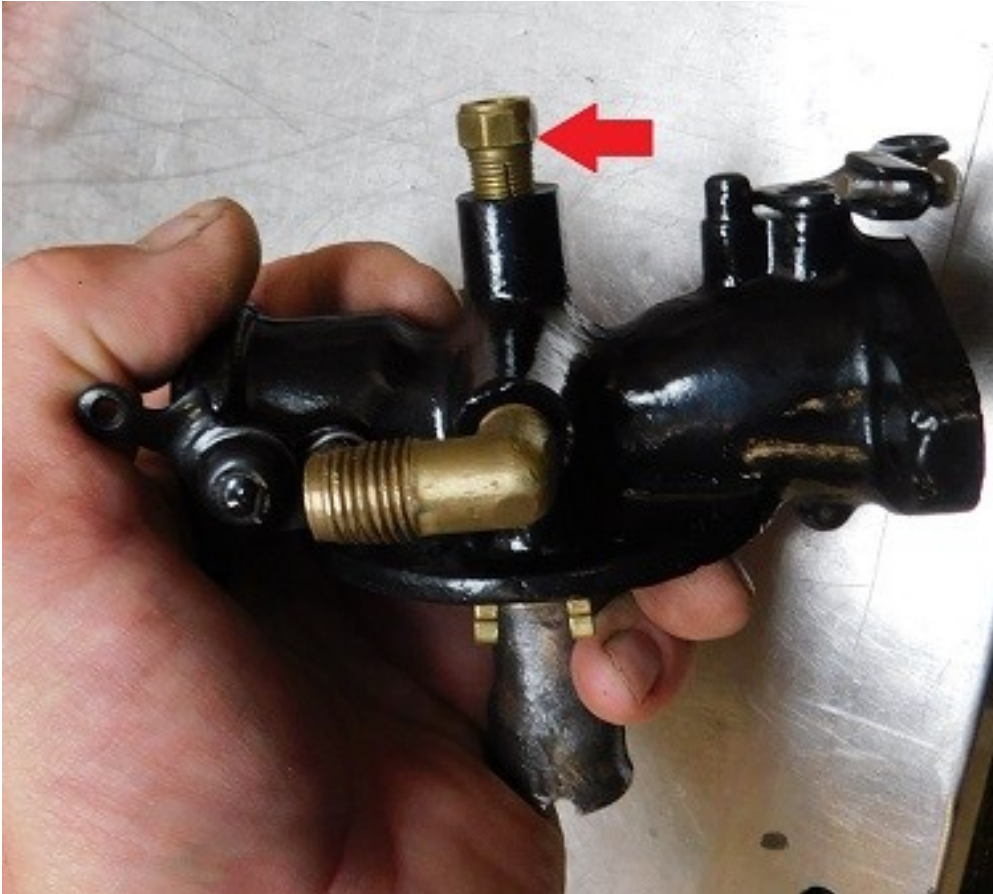
The new choke return spring is installed before the shaft is inserted. Then the blade and clip are installed just as the throttle blade was.



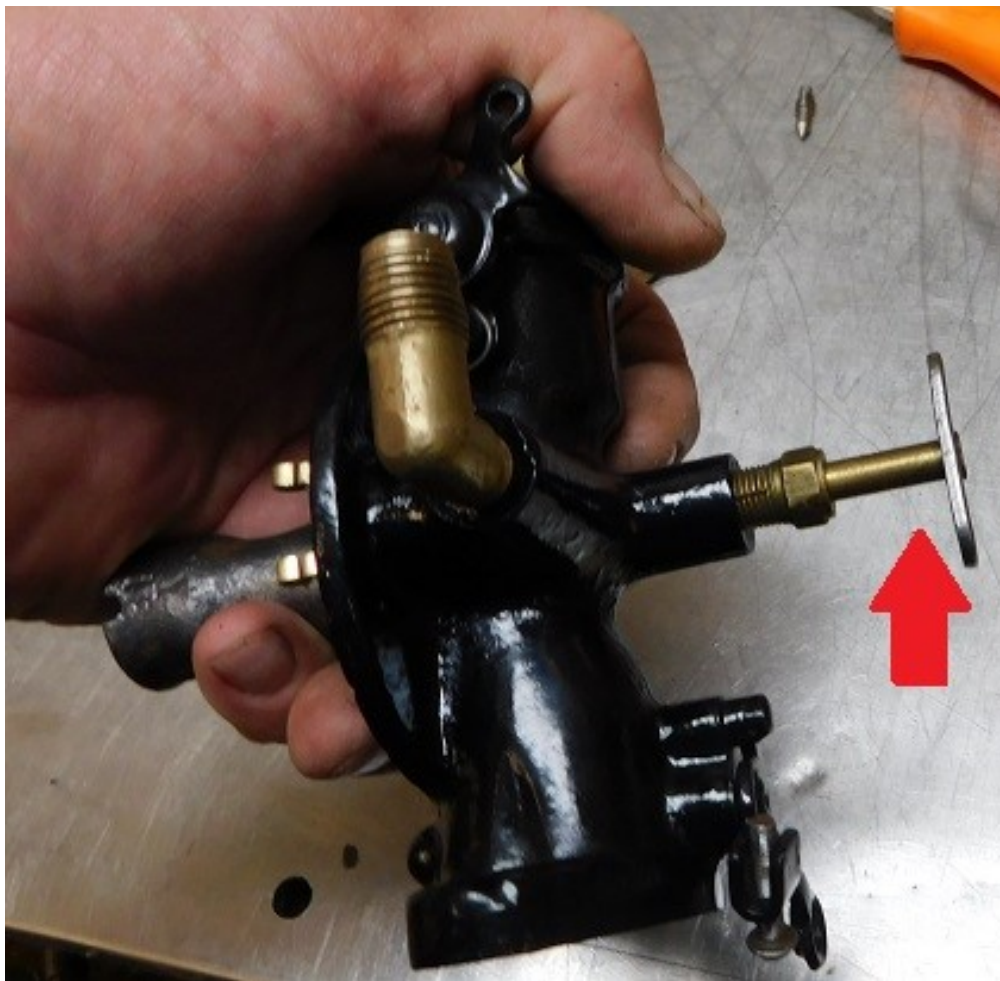
The fuel inlet fitting is installed finger tight, this is how far I got with fingers alone. We have found that using sealant on these pretty much guarantees a leak and might lubricate the fitting enough so that you will over – tighten the fitting, causing the carburetor body to split.



A wrench is used to turn the fitting only enough that it is pointed in the proper direction. Never tighten the fitting more than one turn or you risk splitting the carburetor body, which is the end of that carburetor.



Next we install the mixture tension nut finger tight (arrow).



The mixture needle is turned in carefully until it just bottoms out. Do not apply any force beyond the point where it just bottoms or you can easily ruin the main jet.



The tension nut is then carefully tightened with a wrench just until resistance is felt when turning the mixture adjustment.



The fuel inlet needle is dropped in place after we clamp the carb in the vice. Note: look hard at the tip of the needle. If it appears to be ridged or rough you may have to chuck it in a drill and polish it using fine emery cloth.



The needle should sit in the seat just about flush, barely protruding where the float touches it..



We install the float and secure it with its hinge pin.



The float dimension should be 1/4" at a point 180 degrees from the inlet valve. Ours needs adjustment.



Needle nose pliers are used to carefully bend the adjustment arm on our float. We end up removing and reinstalling the float a couple times before we get the setting right.



The float measures properly now at 1/4", and it is parallel with the bowl gasket surface all the way around too.



A new bowl gasket is checked for fit.



Finally the bowl is set in place, and the drain assembly is installed with a new gasket. Notice that on Holley NH carburetors the gasket goes on the outside of the bowl, which is the opposite of the way the bowl gasket is installed on Kingston L4 carburetors.



Our carburetor is done and ready for testing on the car.



We actually rebuilt two NH carburetors while we had all the tools out, so both need testing.

Holley's instruction sheet is as accurate today as it was when the carburetors were new. We followed the instructions.

Care and Adjustment of the Holley Model "NH" Carburetor



Holley Carburetor Company

Farmers and P. M. H. E.

Detroit, U. S. A.

Care and Adjustment of the Holley Model "NH" Carburetor

ONCE properly set there are no parts of the Holley carburetor to get out of adjustment. Compensation is secured automatically and without the use of moving parts, by the distinctive arrangement of the fuel passages with reference to the air passages. The needle valve in the fuel orifice is the only adjustment, and the effect of a change in its setting is manifest over the entire range of motor operation.

The quality of gasoline has been declining steadily for several years, making it increasingly difficult to vaporize. For this reason it is advisable that the carburetor needle setting be obtained with the motor thoroughly warmed up.

TO START WHEN MOTOR IS WARM, the throttle should be open very little beyond the idling position. The motor will automatically draw a slightly overrich priming charge, with usually an immediate start. If it should not immediately start, however, close the strangling shutter (NH-14) while the motor is being turned over once or twice, and then release. For power and economical running the strangling shutter should be in the wide-open position after the motor has warmed up.

TO START WHEN MOTOR IS COLD, as in winter weather, open the throttle but very little beyond the idling position; then close the strangling shutter (NH-14), and keep it closed while the motor is being turned over once or twice; then gradually open strangling shutter, being careful not to open it too soon, as in doing so the flow of fuel is

decreased and the motor will stop. While the motor is warming up, it will be necessary to keep the strangling shutter partly closed, but after the motor has warmed up, be sure that the strangling shutter is wide open.

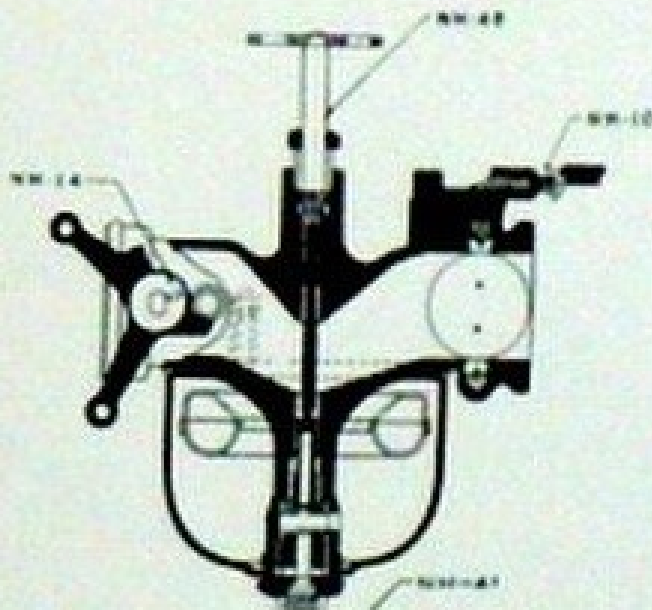
TO ADJUST THE CARBURETOR—The needle valve (NH-48), located on the top and center of the carburetor, is the only adjustment, and usually requires from $\frac{3}{8}$ to $1\frac{1}{8}$ turns; this, however, may vary somewhat for different motors, so, in preparing for starting, the needle valve should first be turned clockwise until it can be felt to come in light contact with its seat and then turned counter-clockwise one and one-quarter turns, which position should give a supply of gasoline sufficient for starting and a little in excess of that required for good operation. Now turn over the motor, and after it has started, allow it to run until it has become thoroughly warmed up and then make the needle setting. A proper needle setting is one that will give the least fuel consistent with proper acceleration without missing or back-firing.

TO SECURE A PROPER SETTING OF NEEDLE (NH-48), proceed as follows: With the throttle control lever slightly open and the spark lever set a little below center, turn the needle (NH-48) clockwise to cut down the gasoline supply, until the motor begins to slow down, miss or backfire. Then gradually increase the gasoline supply by turning the adjusting needle (NH-48) very slowly counter-clockwise until the motor picks up and runs regularly without missing, with spark lever about half way down on quadrant. To determine the final adjustment, open the hand throttle or accelerator suddenly while motor is idling. If the motor backfires or pops, increase the gasoline supply very slightly. Repeat the operation until the motor does

line adjustment, and remember that the Holley carburetor once properly set, automatically adjusts itself properly to all speeds and loads.

IDLE ADJUSTMENTS—If, after the final adjustment is secured, the motor should stop when the spark and throttle are fully retarded, or if the motor should run too fast when the hand throttle is at its lowest position, adjustment is necessary, directions for which are as follows: Place hand throttle in slowest position. If motor runs too fast the adjusting screw (NH-10) should be unscrewed to allow the throttle to close more, and if too slow it should be screwed in.

Occasionally drain the gasoline out of the carburetor by means of the drain valve (NH-41). It is put there for that purpose, and if used occasionally, will keep the carburetor free from water and dirt, thereby reducing the possibility of trouble.



Epilogue – We finished testing of both Holley NH's today on the 1910 touring. Both worked very well, with free starts a lot of the time, no leaks, and smooth operation. Once the car warmed up both carburetors seem to work best around 3/4 to about 1 full turn from closed which is certainly in line with the original Holley recommendations.

📁 **REPAIR AND MAINTENANCE OF THE MODEL T FORD**

CARBURETOR OVERHAUL MODEL T FORD, HOLLEY NH CARBURETOR, MODEL T FORD

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