

**SPECIAL
STROMBERG CARBURETOR
EQUIPMENT**

WITH HOT SPOT FOR

FORDS

INSTRUCTIONS FOR INSTALLATION AND ADJUSTMENT

THE SPECIAL STROMBERG CARBURETOR

WITH HOT SPOT MANIFOLD

for **FORDS**

\$15.75 Complete

MANUFACTURED BY

STROMBERG MOTOR DEVICES COMPANY

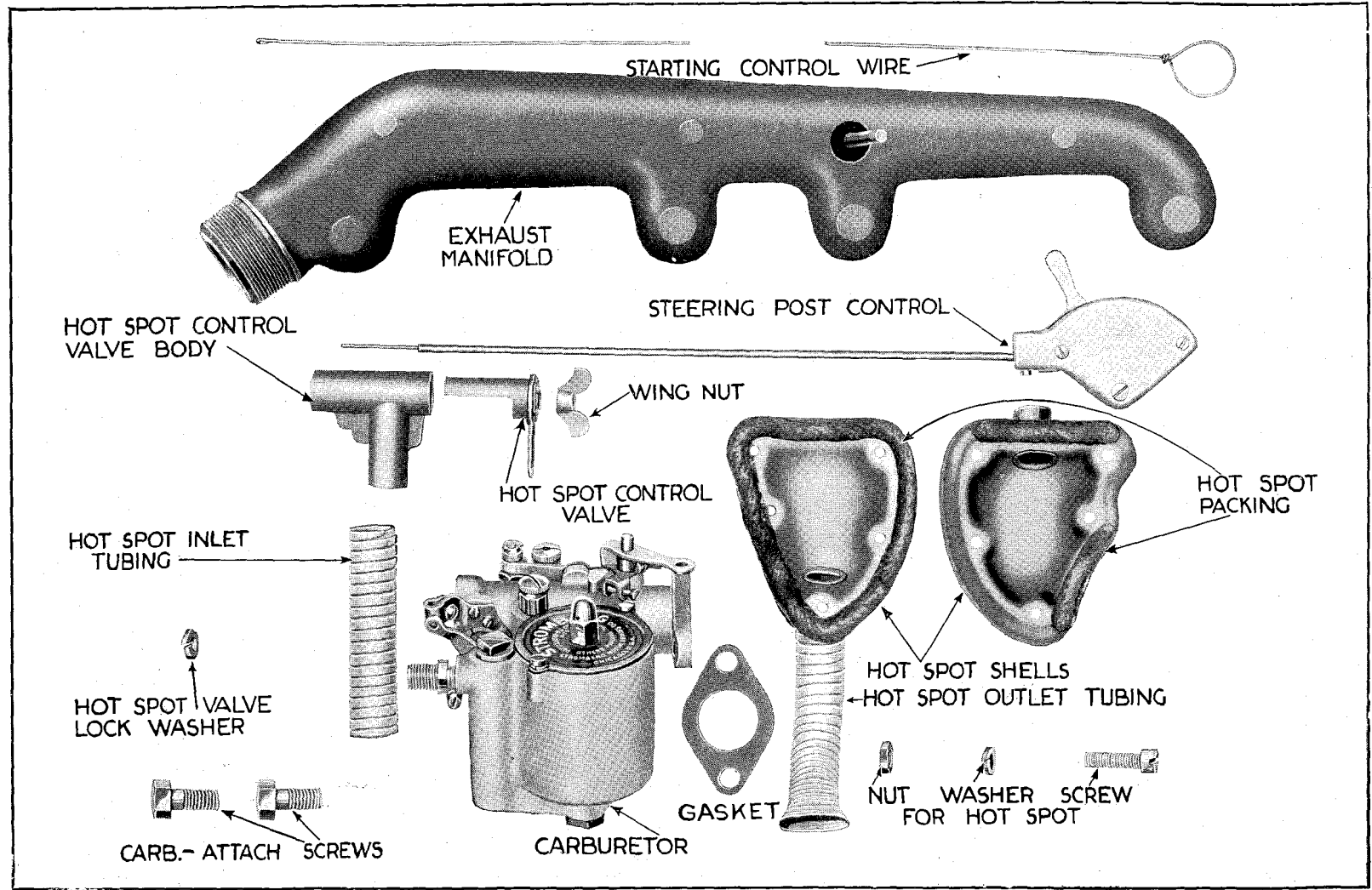
Branches

NEW YORK, 250 West 57th Street
BOSTON, 66 Brookline Avenue
DETROIT, 2739 Woodward Avenue
(Service Stations and Distributors
Everywhere)

58-68 EAST 25TH STREET
CHICAGO

Branches

SAN FRANCISCO, 1238-44 Van Ness Avenue
LOS ANGELES, 1200-4 South Grand Avenue
PORTLAND, Park and Flanders Streets
SEATTLE, 1400 12th Avenue



PRESENT DAY motor gasolines can only be utilized efficiently by the combination of a good carburetor and the proper application of exhaust heat to the mixture. This new Stromberg Equipment for Fords for the first time makes it possible to obtain, on Ford cars, improvements in Power, Flexibility, and Fuel Economy, heretofore found only in the newest models of cars of much higher price.

INSTALLATION AND ADJUSTMENT OF STROMBERG MODEL O-F CARBURETOR AND EQUIPMENT FOR FORD CARS

The Stromberg Model O-F carburetor equipment for Fords consists of the following material: (Note illustrations on opposite page.)

CARBURETOR—with gasket and two attaching cap screws.

STEERING POST CONTROL—for choking carburetor air inlet in starting and warming up motor.

HOT SPOT EXHAUST JACKET—in two shells, with packing and five attaching screws.

INLET AND OUTLET tubing connections for Hot Spot Jacket.

HOT SPOT CONTROL VALVE.

STANDARD FORD EXHAUST MANIFOLD—with stud and opening to receive the Hot Spot Jacket connection.

Note: The Hot Air Stove with tube that is on the car is used in connection with the STROMBERG carburetor.

DIRECTIONS FOR INSTALLATION:

Time will be saved by performing the various operations in order as follows:

1. Remove the Old Carburetor; shut off gasoline valve cock under gasoline tank under seat. Disconnect the gasoline line union at carburetor: remove the hot air stove from exhaust

manifold and carburetor after loosening rear clamp on exhaust; disconnect the throttle rod from throttle lever. The carburetor can now be removed, along with the Intake and Exhaust Manifolds.

2. Unscrew the large union nut at the rear of the exhaust manifold (if a wrench which fits this is not available, a Stillson or pipe wrench will be found most convenient); loosen the nuts and remove the brackets which hold the manifolds in place. In removing the manifolds be careful not to lose the gaskets between manifolds and cylinder block, as these will be needed when the manifolds are replaced.

3. Fit the Hot Spot Jacket to the Intake Manifold. This jacket is in two shells: lay the manifold, with old carburetor removed, on a flat surface with the flange of the motor connection downward. Place the inside shell of the hot spot jacket, the one with the tubing attached, on the bottom side of the manifold at the bend near the carburetor flange. Then fit on the other shell, being careful that asbestos packing is in its proper place in the grooves: the short pieces of packing have been purposely made to extend beyond their grooves, so that they will jam down tight in the corners where they meet the packing of the other shell. Before tightening up the screws, slide the jacket around the elbow one way or the other until the position of best fit is obtained; then draw up screws as tightly as possible.

4. Attach carburetor to its flange on the intake manifold, being careful that the gasket is in place between. Be sure to draw the cap screws or bolts up very tight.

Note: Change of Carburetor When Car is Equipped With Starter—On the carburetor as furnished, the mixture regulator tube holder has a small stop projection which makes it impossible to entirely close the choke valve with the steering column control, though it can be closed entirely by pulling on the wire which leads to the front of the radiator. When the carburetor is to be attached on a car equipped with a starter, this projection (marked Choke Bracket Stop Arm on illustration, page 6) should be broken off.

5. Place the new exhaust manifold furnished with the equipment on the motor and hold temporarily in place by drawing up two of the clamps in a vertical position, so that they will not interfere with a later attachment of the intake manifold. It will be found easier to first shellac the gaskets in place on the manifold, or if shellac is not available to stick them in place on the manifold with grease. Tighten up nut holding exhaust pipe to muffler to rear end of the exhaust manifold.

6. Clamp Steering Post Control in place on steering post about 8" below spark and throttle lever quadrants. Insert the tubing and wire in the opening between footboard and dash, and bring it around back of motor to carburetor, being careful not to make any sharp bends. Lay intake manifold and carburetor approximately in position, with carburetor out on hood sill where it can be easily reached, and slide end of control wire and tubing through choke tube holder, and the wire through the choke wire connector on choke lever. The end of the tube should come flush with the bottom of the choke tube holder and should be securely clamped there. With the lever on the steering post control all the way down, hold the choke valve lever all the way down and tighten the screw holding the control wire in the lever: it may be necessary to hold the choke wire connector with a pliers to keep it from turning when you tighten up the screw clamping the wire. Try working controls to see that

steering post control (if self-starter is fitted) closes choke valve all the way and permits it to open smoothly and without sticking.

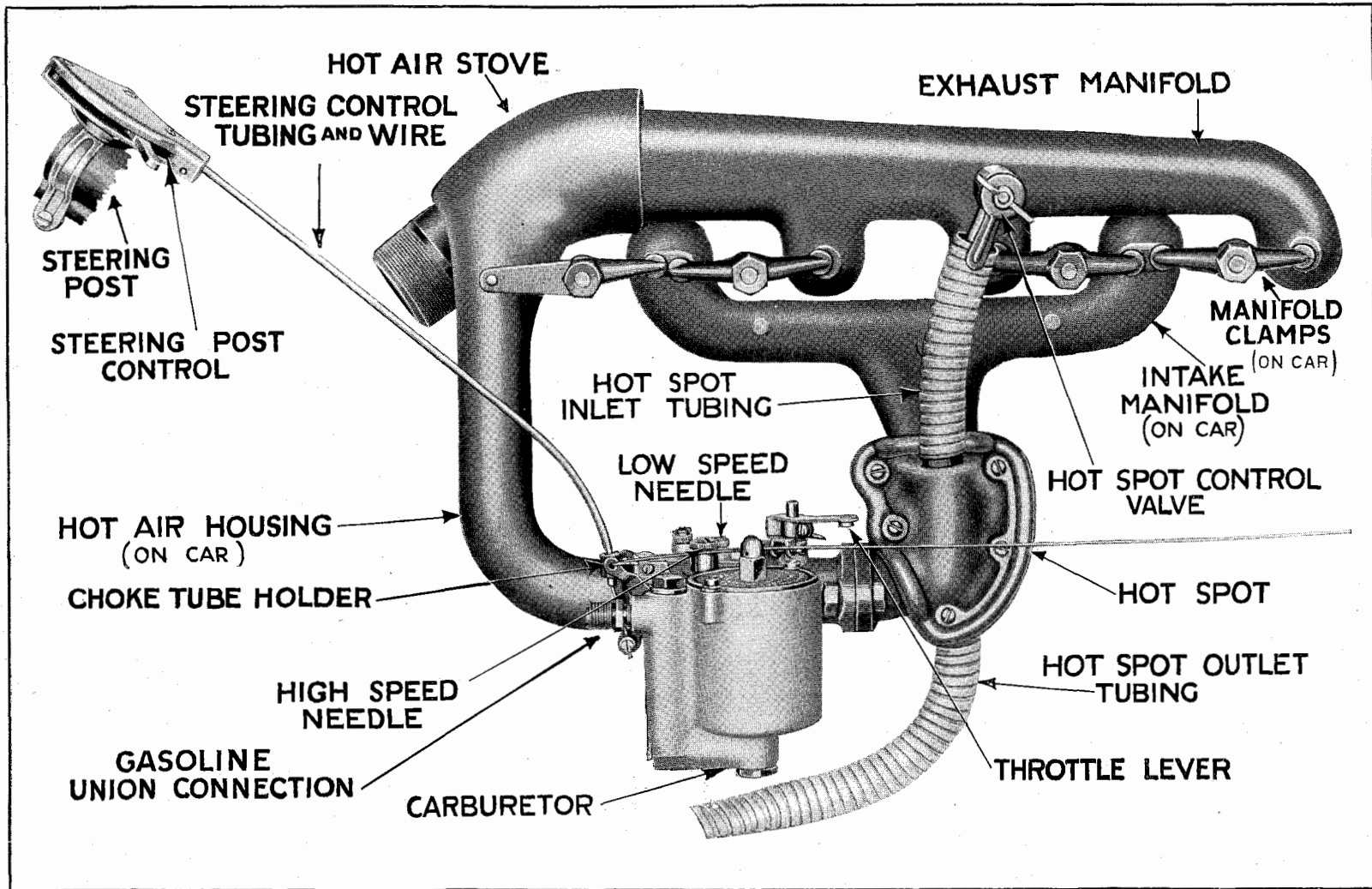
7. With control tube connected, place intake manifold with carburetor in position, making sure that gaskets at the cylinder ports are properly located, and tighten down all the clamps but the rear one. The outlet tube hanging down from the hot spot should extend down through the hole in the underpan. Be careful that float bowl of carburetor does not jam against frame sill; file away frame to give proper clearance at this point, if necessary.

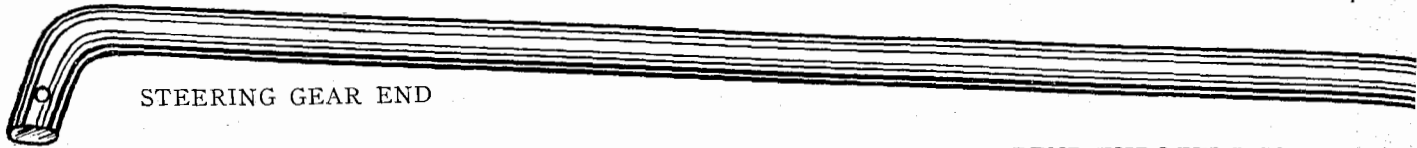
8. Fit the Hot Spot Control Valve, with its short length of flexible tubing, over stud and into opening on the exhaust manifold. Also fit the lower end of flexible tubing into the upper opening of the hot spot jacket. Control Valve arm should be down in line with tubing to give full opening for the exhaust gas. Hold it in position by securely tightening the wing nut.

9. Connect gasoline line to the gasoline union nipple on the carburetor. Turn on valve cock under the gasoline tank and observe that the connection does not leak. Connect throttle rod to the throttle lever on the carburetor, first bending throttle rod approximately to shape shown across top of pages 5 and 6. Fasten control rod with cotter pins. Work throttle lever on steering wheel quadrant all the way up and down to make sure that the throttle on the carburetor opens and closes all the way.

10. Pass the starting control wire through the radiator, in position similar to the original control wire, and connect it to the upper arm of the priming lever, making sure that it will permit the choke valve to stand wide open.

11. Replace the original hot air stove. The lower end of the hot air tube will fit in the air inlet opening of the carburetor. Tighten fourth, or rear, clamp on exhaust manifold over hot air stove.





STEERING GEAR END

BEND THROTTLE CONTROL

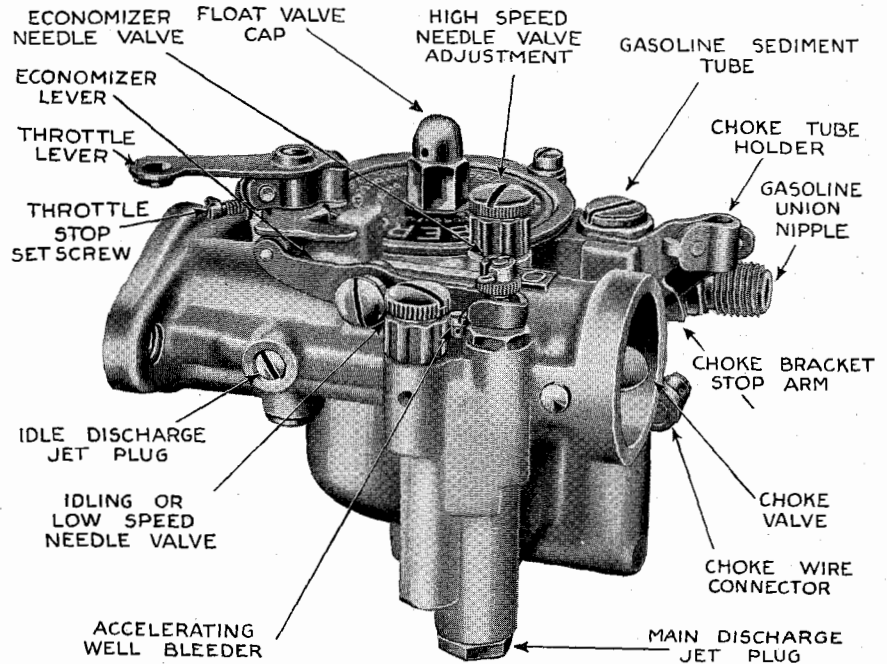
TO START MOTOR:

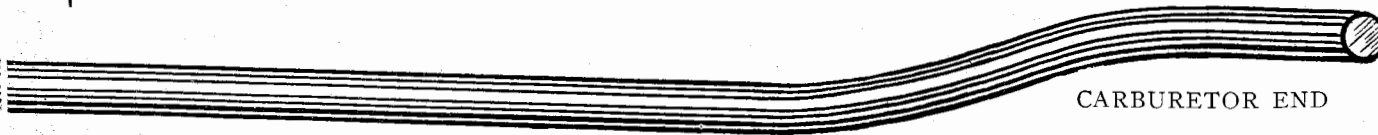
The carburetor, when removed from the package, should have the adjustments approximately correct. If these have been disturbed, a fair adjustment for starting may be obtained as follows:

Screw the idling jet adjustment inward, or clockwise, till it seats, then unscrew it nine (9) notches; screw the high speed adjustment downward, clockwise, till it seats, then unscrew it twenty-two (22) notches.

For Hand Cranking, pull down the throttle lever about $\frac{3}{4}$ " from the top of the quadrant. Retard spark lever to usual position for starting, and pull up steering post control lever as far as it will go. Then, if motor is very cold, hold starting valve shut by pulling the wire out as far as it will go, with the left hand, and crank the motor. This starting valve cuts off nearly the entire air supply to the carburetor and thereby gives a very rich mixture.

After motor starts, release starting wire and gradually move the steering post control down until the motor is firing evenly. As the motor warms up the control lever should be pushed down until it is at the





ROD TO THIS EXACT SHAPE

CARBURETOR END

lowest possible position, which leaves valve in air horn of carburetor wide open.

If motor is moderately warm, or high grade fuel (above 64°B Midwest gasoline or 56°B Pacific Coast gasoline) is being used, motor will probably start readily without pulling wire, or using choke. Always be careful not to hold choke valve closed more than necessary and thus overload the motor with gasoline. If this should occur, shut off the switch, lower the steering post control lever, open the throttle wide, and with starting valve wide open, crank the motor several times, which will pass fresh air into the cylinders; after which close the throttle and turn on the switch, when motor should start readily.

For Starting With an Electric Starter, open the throttle a little way, retard spark lever to usual position for starting, step on starter and as motor begins to turn over, pull up the steering column control lever till motor takes hold, then gradually return steering post control lever downward as the operation of the motor will permit. If weather is cold, the control should be pulled up all the way, for an instant only, then slightly open: if motor does not start immediately open throttle a little further, step on starter again and pull up control all the way again for a second or so. Do not crank motor continuously with control all the way shut.

FINAL CORRECT ADJUSTMENT

After motor is thoroughly warm, move steering post control down all the way so that the choke valve is wide open and adjust as follows:

Gradually close the throttle, with spark retarded about half way, until motor slows down to a low idling speed. At this time the throttle lever stop screw should be touching the throttle stop. If the motor does not hit evenly, screw the low speed adjustment in for a richer mixture, or out for leaner mixture, until the adjustment is obtained where the motor runs best. If the throttle does not close far enough and the engine runs too fast, at the lowest speed, unscrew the throttle stop screw, till the desired engine speed is reached. If the engine runs too slow, so that it is in danger of stalling, screw the throttle stop screw inward a little bit to give a larger minimum throttle opening.

For high speed adjustment, open throttle lever on the quadrant about one inch and advance spark to the regular running position. Then screw the high speed adjustment inward or clockwise until motor slows down perceptibly from too lean a mixture, then unscrew adjustment, counter-clockwise, until the maximum engine speed for that throttle position is reached, then go back one notch: that is, the adjustment should be such as to cut down the engine speed a little—a slight but perceptible

amount—at part throttle. At wide open throttle the economizer device will change the mixture to give full power. Such an adjustment will be the best adjustment for level road running, for hill pulling, and for high speed.

SUGGESTIONS

It is obvious that the fuel consumption must be somewhat in proportion to the power required to roll the car. The gasoline mileage will always be lower on rough roads, in snowy weather, or in hilly country, than with favorable road conditions.

For the same reason the careful driver will see that there is no drag in the rear wheel brake bands, or planetary transmission bands, to retard the free motion of the car. This can be noted by observing how easily the car rolls in neutral.

A considerable amount of gasoline may be wasted by allowing the motor to run idle for long periods. After the user has once learned to manipulate the controls for starting, there should be no occasion for allowing the motor to stand idling for fear of hard starting.

In extremely hot weather, or very warm climates, removal of the hot air stove may give increased power and keep the motor from overheating. When "casing head" gasoline, or fuel with low initial boiling point, is used, some warm weather trouble may be avoided by removal of the hot air stove. If after the hot air stove has been removed the mixture is too hot, the hot spot heat can be cut off by turning the regulating valve handle upward, but this should not be done until the removal of the hot air stove has been tried.

In cold weather the hot spot can be warmed up, and a condition of normal operation reached more quickly, by driving the first quarter to one-half mile with the spark well retarded; this will heat up the exhaust and throw more heat to the hot spot.

After a long period of use carbon soot may collect in the inside of the hot spot jacket to such an extent as to cut down the heating effect. Under such conditions the obvious remedy is to remove the hot spot shell and clean the carbon off the intake manifold, and also from the inlet and outlet flexible tubing; a light coating of carbon on the shells is not harmful, but improves the efficiency.

If the motor will run a little while and then stop, or will run steadily at low speeds but not at higher speeds, the trouble may be due to gasoline not reaching the carburetor. Removal of the round topped needle valve cap nut on top of the float chamber will show the upper end of the float needle valve: if this is down as far as it can go, this is a sign that the carburetor is full of gasoline, but if it is up, or nearly up as far as it can go, this is an indication that the carburetor is partly empty and is not receiving the normal supply of gasoline from the tank. This trouble is usually due to an accumulation of dirt in the gasoline line. Unscrewing the Gasoline Sediment Tube will permit removal of a cup which collects the dirt which comes to the carburetor from the gasoline line. This Sediment Tube should be removed and cleaned every month or so to prevent the gasoline channels of the carburetor from becoming stopped up.

For best economy in fuel, the spark lever should be well advanced at medium and high speeds. It will be found that the motor will pull better at low speeds under heavy load if the spark is somewhat retarded from the best level road driving position.

SUGGESTIONS FOR COLD WEATHER STARTING

In very cold weather the oil in the transmission may become so stiff that it is impossible to turn the motor over fast enough

to get compression and ignition, even though the gears are in neutral. The difficulty may be overcome by use of some of the following methods:

In very cold weather, when stopping motor, pull the steering post control lever up all the way for an instant before throwing off the switch. This will leave the engine cylinders primed with a rich mixture charge at the time of next starting.

After the engine is stopped, leave the hand brake lever forward in the high gear position, which will squeeze the oil out from between the clutch plates; when ready to start again, pull the lever back into neutral. This will reduce the tendency of the plates to drag when starting is cold. Light oil should be used in the engine and transmission during the colder months.

If motor is too stiff to turn over fast enough to start, with the gear level in neutral, jack or block up one rear wheel; with hand lever in high gear position, this will decrease drag from the cold oil in the transmission.

As a final resort, fill the engine water jacket and radiator with hot water; in a few minutes the heat will extend back to the transmission and loosen up the oil. Pouring hot water on the intake manifold may also help the starting.

IGNITION TROUBLES

Many motor faults which the inexperienced driver is apt to ascribe to the carburetor are in reality due to defects in ignition. In cases of failure to start or of engine missing, it is well to throw the switch on the battery and notice whether the vibrators of each cylinder in turn buzz. If they do not, the trouble is, of course, due to some fault in the electrical circuit.

Failure to start, or engine running very poorly, may be due to an accumulation of oil or water in the commutator.

Irregular operation of the engine at all speeds above 15 to 18 miles per hour, and inability to make high speed, are usually due to a worn or pitted commutator.

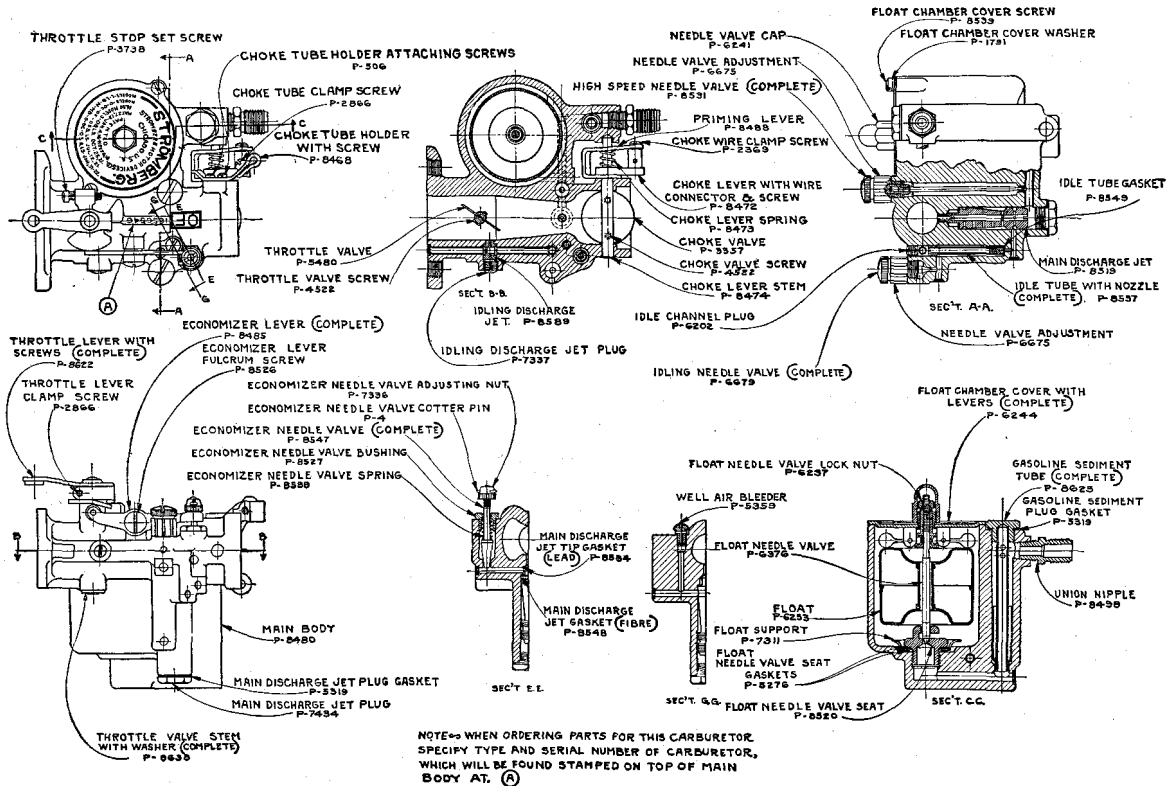
If motor misses irregularly or "jerks" under a heavy pull, the trouble may be due to a cracked or sooted spark plug. Set throttle so that engine will idle fairly fast and short circuit the spark plugs one after the other with a screw-driver. The plug which, when short circuited, causes the engine to lose the least speed, will probably be the offending one.

When the motor idles irregularly, or will idle a while and then stop, the trouble may be due to defective magnets in the fly wheel magneto, or to endwise play in the crankshaft bearings, permitting the action of the fly wheel magneto to vary.

For other points on ignition see regular Ford instruction booklet.

OTHER POINTS ESSENTIAL FOR BEST OPERATION OF MOTOR

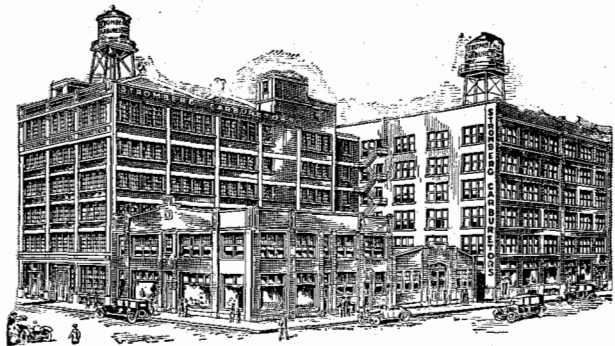
1. All cylinders should have full and equal compression. This can be ascertained by noting the resistance given by each cylinder, when cranking slowly with ignition switch off.
2. The spark plugs must be clean, and of the type originally furnished with the car (which we have found to be extremely satisfactory) the gap should be .028 of an inch or about the thickness of a worn dime.
3. Commutator must be clean and show a smooth track all around. Vibrator points should also be clean and have proper adjustment.



STROMBERG MOTOR DEVICES CO.

PRICE LIST OF PARTS USED ON O-F 3/4" FORD CARBURETOR

NAME Equipment	Pc. No.	Price	NAME Equipment	Pc. No.	Price
Carburetor with Complete Equipment.....		\$15.75	Needle Valve Cap	6241	\$0.20
Carburetor (only)		15.00	Needle Valve Adjustment	6675	.25
Choke Lever with Wire Connector and Screw.....	8472	.50	Priming Lever	8488	.15
Choke Wire Clamp Screw	2369	.05	Throttle Lever with Screws (Complete).....	8622	.75
Choke Lever Spring	8473	.10	Throttle Lever Clamp Screw.....	2866	.05
Choke Valve	3357	.25	Throttle Stop Set Screw.....	3738	.05
Choke Valve Screws (each)	4522	.05	Throttle Valve Stem with Washer (Complete).....	8638	.25
Choke Lever Stem	8474	.20	Throttle Valve	5480	.25
Choke Tube Holder with Screw	8468	.60	Throttle Valve Screws (each)	4522	.05
Choke Tube Clamp Screw	2866	.05	Union Nipple	8498	.38
Choke Tube Holder Attaching Screws (each).....	506	.05	Well Air Bleeder	5359	.20
Economizer Lever (Complete)	8485	.25	Carburetor Attaching Cap Screws (each).....	2974	.05
Economizer Fulcrum Screw	8526	.10	Exhaust Manifold with Hot Spot Control Valve.....	8542	2.50
Economizer Needle Valve (Complete).....	8547	.50	Exhaust Manifold	8532	2.00
Economizer Needle Valve Adjusting Nut	7336	.06	Hot Spot Control Valve.....	8477	.15
Economizer Needle Valve Cotter Pin	4	.05	Hot Spot Control Valve Body	8475	.10
Economizer Needle Valve Bushing	8527	.10	Hot Spot Control Valve Connecting Rod.....	8533	.10
Economizer Needle Valve Spring	8588	.10	Hot Spot Valve Lock Washer.....	3157	.05
Float	6233	1.10	Hot Spot Control Valve Wing Nut.....	8538	.05
Float Chamber Cover with Levers.....	6244	1.75	Flange Gasket	5626	.10
Float Chamber Cover Screws (each).....	8539	.05	Hot Spot with Outlet Tube (Complete).....	8624	3.50
Float Chamber Cover Washers (each)	1791	.05	Hot Spot Shell (inlet side)	8620	1.00
Float Needle Valve	6376	.80	Hot Spot Shell (outlet side)	8621	1.00
Float Needle Valve Lock Nut.....	6237	.05	Hot Spot Packing	8619	.15
Float Needle Valve Seat Gasket.....	5276	.05	Hot Spot Clamping Screws (each)	2229	.05
Float Needle Valve Seat	8520	.40	Hot Spot Clamping Screw Nuts (each).....	2290	.05
Float Support	7311	.30	Hot Spot Washers	1791	.05
Gasoline Sediment Tube (Complete).....	8625	1.25	Hot Spot Outlet Tubing	8540	.35
Gasoline Sediment Plug Gasket.....	5319	.05	Hot Spot Outlet Tubing Attaching Pin.....	8496	.05
High Speed Needle Valve (Complete).....	8531	.75	Hot Spot Inlet Tubing	8541	.15
Idling Needle Valve (Complete).....	6679	.80	Starting Control Wire	5564	.10
Idle Channel Plug	6202	.06	Steering Post Control (Complete).....	8640	2.25
Idle Tube with Nozzle (Complete).....	8537	.40	Steering Post Control Clamp (Clearance Hole)	5548	.40
Idle Tube Gasket	8549	.05	Steering Post Control Clamp (Tapped Hole)	5549	.40
Idling Discharge Jet	8589	.25	Steering Post Control Clamp Screw	2230	.05
Idling Discharge Jet Plug	7337	.05	Steering Post Control Cover	8353	.75
Main Body	8500	6.25	Steering Post Control Cover Screws (each).....	3703	.05
Main Discharge Jet	8519	.40	Steering Post Control Frame	8354	.50
Main Discharge Jet Tip Gasket (Lead).....	8534	.05	Steering Post Control Lever	8355	.28
Main Discharge Jet Gasket (Fibre).....	8548	.05	Steering Post Control Lever Fulcrum Screw	3743	.10
Main Discharge Jet Plug Gasket.....	5319	.05	Steering Post Control Tube with Union Nipple.....	8109	.75
Main Discharge Jet Plug	7434	.27	Steering Post Control Wire	2245	.02
			Steering Post Control Wire Fulcrum Stud.....	3807	.05



THE HOME OF THE STROMBERG CARBURETOR
58-68 EAST 25TH STREET
CHICAGO, ILL.

