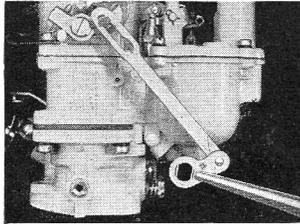


## SERVICE PROCEDURE

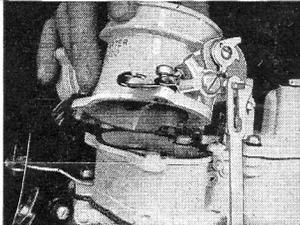
# 1939 AND LATER WDO DUAL CLIMATIC CONTROL

### CARBURETER WITH VACUUM OPERATED METERING ROD AND CARTER STARTER SWITCH

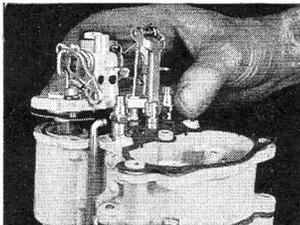
Use Carter tool kit.



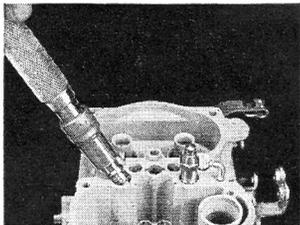
1. Remove throttle shaft arm and screw assembly and fast idle connector link.



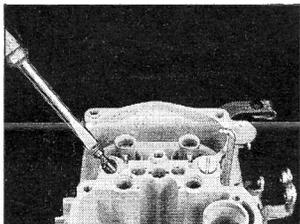
2. Remove air horn with all parts attached.  
Attaching screw in air horn beneath choke valve must be removed.



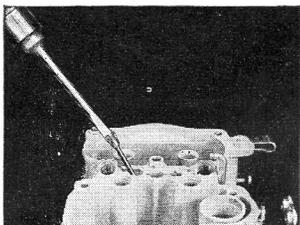
3. Disconnect throttle connector rod at upper end and remove bowl cover, with vacuum piston and link assembly and all attached parts.  
Remove bowl cover gasket and vacuum piston spring.



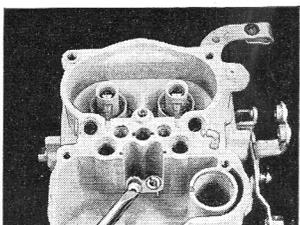
4. Remove both anti-percussion valve assemblies.  
(Omit when servicing Buick 440S.)



5. Remove both pump jet plugs and pump jets.  
All metering jets in dual carbureters are in duplicate. Illustrations shows removal of only one.

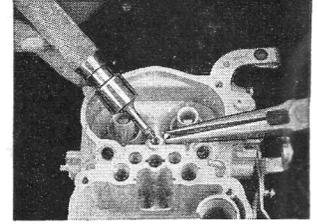


6. ★Remove both by-pass bleed-off plugs and low speed jets.

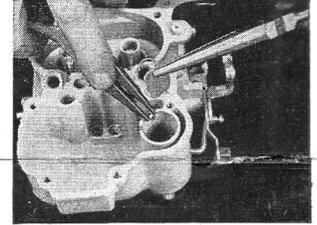


7. Remove both metering rod jet and gasket assemblies.

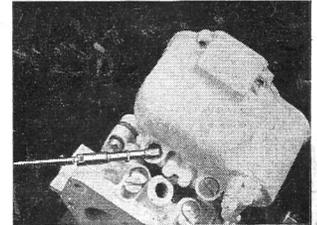
8. Remove pump discharge ball retainer plug and check ball.



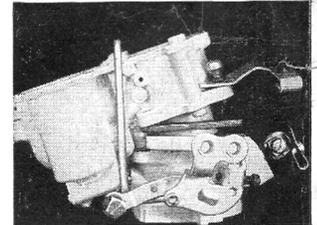
9. Remove pump strainer, pump check ball retainer ring and check ball.  
(Use tool No. T109-56.)



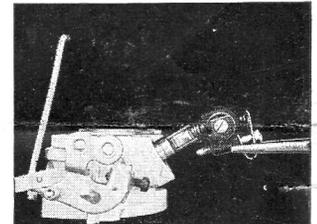
10. Remove nozzle passage plugs, nozzle retainer plugs and nozzles.  
See that small nozzle gaskets are removed from casting.



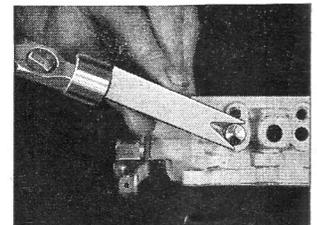
11. Separate body flange assembly from body.  
Remove body flange gasket.



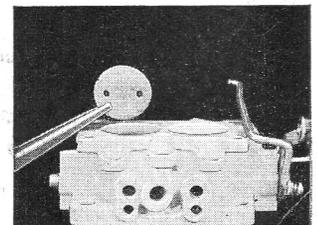
12. Loosen terminal cap attaching screw and remove entire switch assembly from body casting.

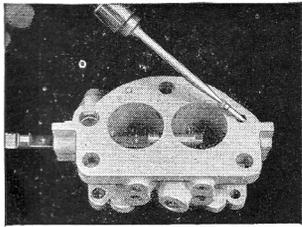


13. Remove idle adjustment screws and springs and idle port plugs.



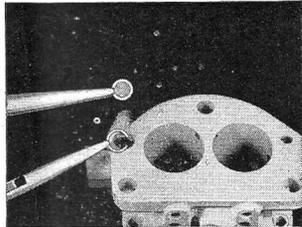
14. Remove throttle valve screws and throttle valves.



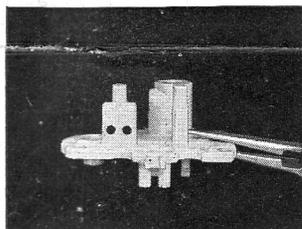


15. Remove throttle centering screw, then throttle shaft and lever assembly.\*

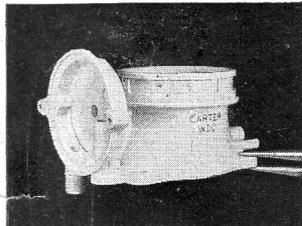
Check shaft for wear, loose lever and throttle rod holes in lever for wear.



16. Remove switch strainer retainer ring and strainer.

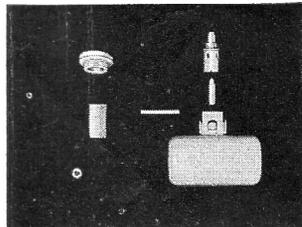


17. Remove all parts from bowl cover.

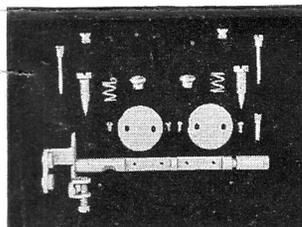


18. Remove all parts from air horn and piston housing. (See note at bottom of page.)

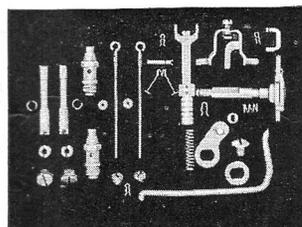
TO REASSEMBLE



19. Group all parts controlling gasoline level.  
No. 1. Float circuit.



20. Group all parts controlling idle operation.  
No. 2. Low speed circuit.



21. Group all parts controlling high speed operation.  
No. 3. High speed circuit.

22. Group all parts controlling pump operation.

No. 4. Pump circuit.

23. Group all parts controlling choke operation.

No. 5. Choke circuit.

24. Group all parts controlling car starter switch.

Examine each part in all the groups and replace any part that shows wear or does not meet specifications.

25. Install bowl cover strainer gauze, strainer nut and gasket assembly.

Use new gasket.

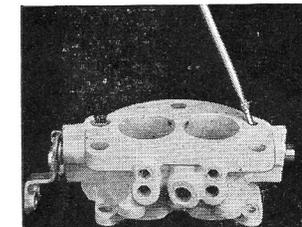
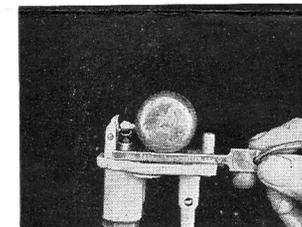
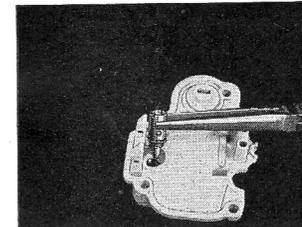
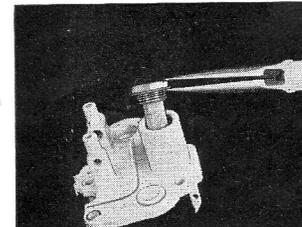
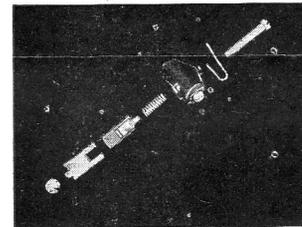
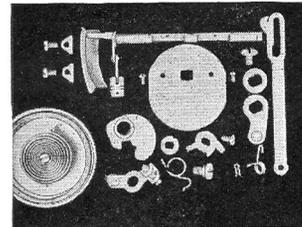
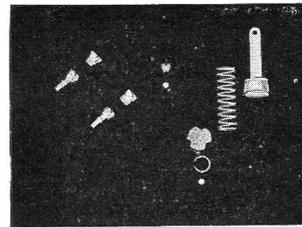
26. Install needle seat and gasket assembly.

Use new gasket.

27. Install needle, float pin and float and lever assembly. Check float for dents and wear on lip and float pin for wear. Check bowl cover for warpage and wear in countershaft hole. If needle shows groove on seating surface, replace both needle and seat. Set float level by gauging at both ends of float. Adjust by bending float lip—not float.

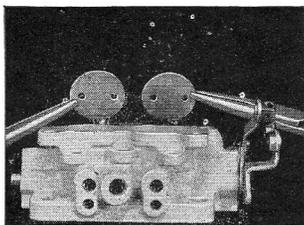
28. Install throttle shaft and lever assembly, loose throttle lever and throttle centering screw.\*

Back out throttle lever adjusting screw.

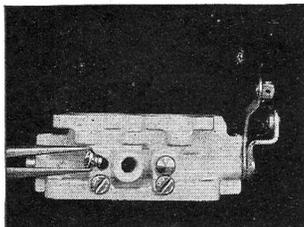


**NOTE:** Clean casting and all parts thoroughly (except cork pieces), with clean gasoline. Clean throttle bores with sandpaper and gasoline. Paint outside of body casting with Carter Special Body Finish. Do not restrict passages when painting. All relief passages to outside must be clean.

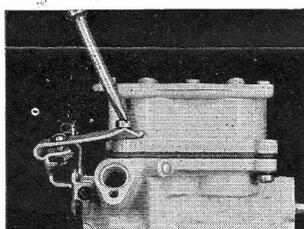
\*Late models use throttle centering washer—refer to specification page for installation instructions.



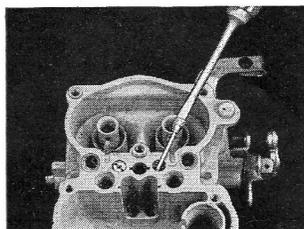
**29. Install throttle valve.**  
Small "c" in circle (or part number) should be toward idle port when viewing casting from manifold side. Center throttle valves by tapping lightly and hold in place with fingers before tightening screws. Always use new screws.



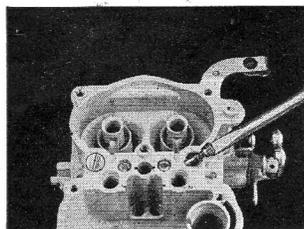
**30. Install idle port plugs, then idle adjustment screws and springs.**  
Set idle adjusting screws to specifications.



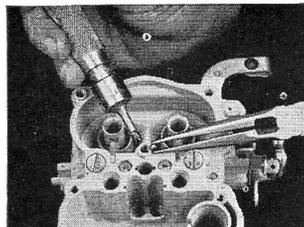
**31. Install body on body flange assembly.**  
Use new gasket. Be sure tube clamp assembly is in place.



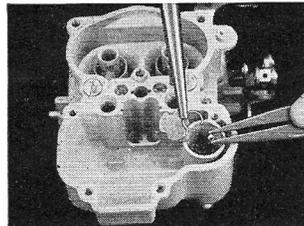
**32. \*Install low speed jet and by-pass bleeder plugs.**  
Jets must seat in casting.



**33. Install pump jets and pump jet plugs.**  
Make certain jets are clear of all restriction and seat properly. No washers are used beneath plugs. Check to see that outside bleed hole in casting is not restricted.

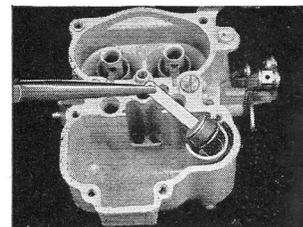


**34. Install check ball and pump discharge ball retainer plug.**



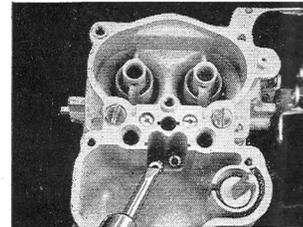
**35. Install intake check ball, pump check ball retainer ring and pump strainer.**  
(Use tool No. T109-122U.)

**36. Install pump spring and pump plunger and rod assembly.**



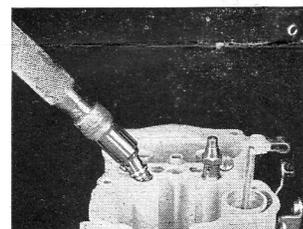
Replace entire plunger assembly if leather shows wear or mutilation. No pump loading cylinder is necessary.

**37. Install metering rod jet and gasket assemblies.**

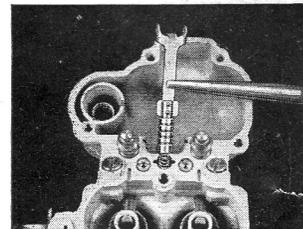


Metering rod jets must be installed snugly, but not so tightly as to cause distortion.

**38. Install anti-percolator valves.**  
No gaskets are used. (Omit when servicing Buick 440S.)

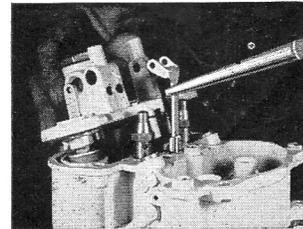


**39. Install vacuum piston spring and vacuum piston and link assembly.**

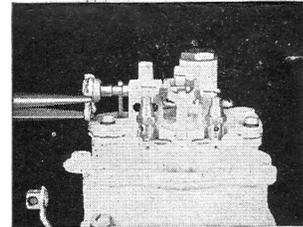


It is usually advisable to replace vacuum piston spring each time carburetor is serviced.

**40. Raise vacuum piston and link assembly and install bowl cover with parts attached.**  
Use new bowl cover gasket.

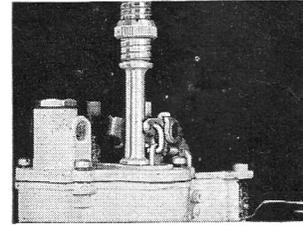


**41. Install anti-percolator arm and screw assembly, pump operating lever and countershaft assembly and pump arm and collar assembly.**

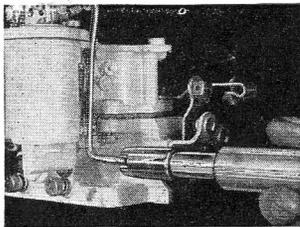


Install pump link in proper hole in pump arm.

**42. Install throttle connector rod. Gauge pump stroke.**



Check throttle connector rod for wear on both ends. (To check pump stroke- see note on page 4.)



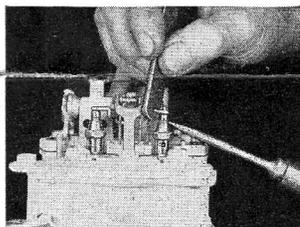
**43.**  
Bend throttle connector rod as shown for pump stroke adjustment.

Use tool T109-75



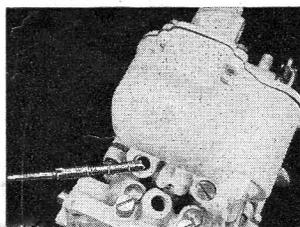
**44.**  
Adjust metering rods.

(See note below.)



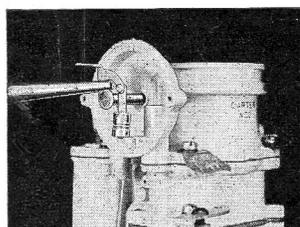
**45.**  
Adjust anti-percolator valves.

See Specification Sheet for adjustment.



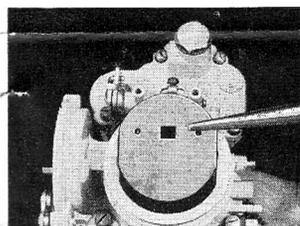
**46.**  
Install nozzles, nozzle retainer plugs and nozzle passage plugs.

Install with flat side of nozzle up. Use new gaskets



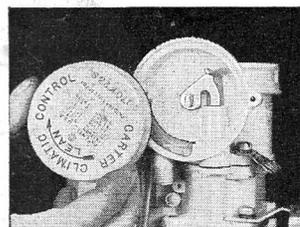
**47.**  
Install air horn and piston housing on body. Then install choke piston lever, link and shaft assembly.

Use new air horn gasket.



**48.**  
Install choke valve.

Use new screws. Seat choke valve by tapping lightly and hold in place with finger before tightening screws. Valve or shaft must not bind in any position.

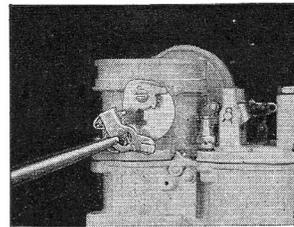


**49.**  
Install piston housing strainer and thermostatic coil and housing assembly.

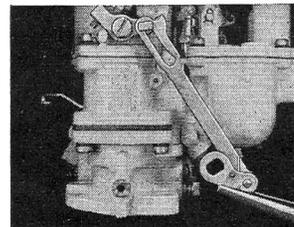
Install housing with indicator mark at bottom. Revolve housing counter clockwise and set index mark as stated in specification sheet, then tighten attaching screws.

**50.**  
Install fast idle cam, washer and choke trip lever on choke shaft.

Then install fast idle arm, pin and screw assembly and fast idle arm spring.

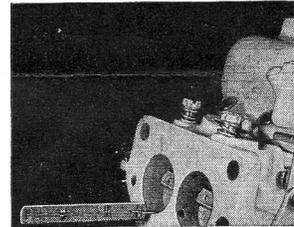


**51.**  
Install fast idle connector link, throttle shaft arm and pin assembly, washer and spring.

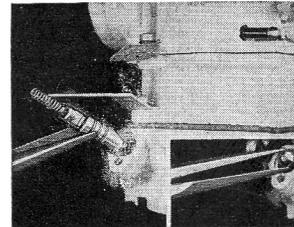


**52.**  
Adjust fast idle.

Hold choke valve tightly closed and adjust fast idle arm screw to give specified clearance between edge of throttle valve and bore of carburetor, side opposite port.

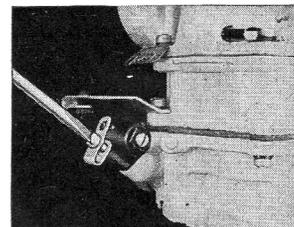


**53.**  
Install switch strainer and retainer ring (See Fig. 16). Then switch ball, switch plunger, guide block, contact spring and return spring.



**54.**  
Install terminal cap assembly, hold down clip and terminal cap attaching screw.

Use tool T109-155S to qualify switch



**PUMP ADJUSTMENT:** With pump connector link in proper hole in pump arm, throttle adjustment screw backed out, pump plunger should travel specified distance from closed to wide open position. Adjustment can be made by bending throttle connector rod at lower angle as shown on Fig. 43. (Use tool T109-75.) Travel can be measured with tool T109-117S. Indicator ear of gauge should be placed on top surface of connector link at pump shaft.

**METERING ROD ADJUSTMENT:** Back out throttle lever adjusting screw so that throttle valves seat, insert metering rod pin in vacuum piston shaft and then insert metering rod gauge in place of metering rod, making sure that gauge seats in metering rod jet. Depress vacuum piston shaft lightly until contact is made with tongue on anti-percolator arm, using tool No. T109-105, bend tongue on anti-percolator arm until there is less than .005" clearance between metering rod pin and shoulder of notch in gauge. (See Fig. 44.) Remove gauge and install metering rods, discs and metering rod spring. Use pin spring on metering rod pin.

Always use complete new gasket assortment when servicing a Carter Carburetor.

**NO CARBURETER CAN DELIVER GOOD MILEAGE OR PERFORMANCE UNLESS COMPRESSION IS NORMAL AND THE MOTOR IS PROPERLY TUNED.**