

# 1982 Holley Carburetors

2-35

## HOLLEY 4180-C 4-BARREL

### CARBURETOR APPLICATION

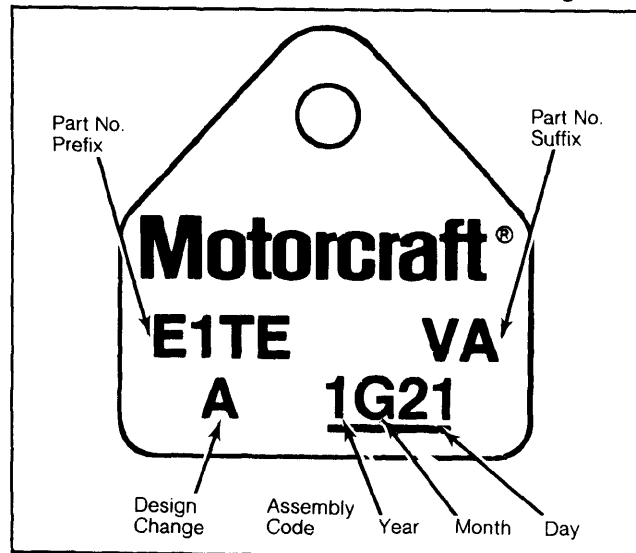
#### FORD MOTOR CO. CARBURETOR NO.

Application	Man. Trans.	Auto. Trans.
7.5L V8		
Federal .....	E1UE-RA .....	E1UE-RA

### CARBURETOR IDENTIFICATION

A carburetor identification tag is attached to carburetor. The tag contains part number prefix and suffix. Basic part number for all carburetors is 9510. A design change code (if any) is also stamped on the tag. An assembly date code (year, month and day) is also stamped on the tag. See Fig. 1.

Fig. 1: Ford Motor Co. Carburetor Identification Tag



Identification tag is attached to carburetor.

### DESCRIPTION

The Holley 4180-C 4-Barrel is a downdraft 2 stage carburetor. It can be considered as 2 separate carburetors: one supplying air/fuel mixture throughout entire range of engine operation (primary stage); the other functioning only when a greater supply of air/fuel is needed (secondary stage).

The primary stage (front section) of carburetor contains a fuel bowl, metering block, and accelerator pump assembly. The secondary (rear) section of carburetor contains a fuel bowl, metering body, and secondary throttle operating diaphragm assembly.

This model carburetor has a modulated power valve system. The system ensures power valve opening when manifold vacuum increases (during full acceleration) beyond the point where power valve would start to close. Vacuum will bleed off whenever throttle valve opening is 50° or more.

Vehicles over 8500 lbs. GVW use a decel throttle modulator which keeps throttle plates from closing on deceleration for improved emission control. All models use a hot air operated automatic choke system.

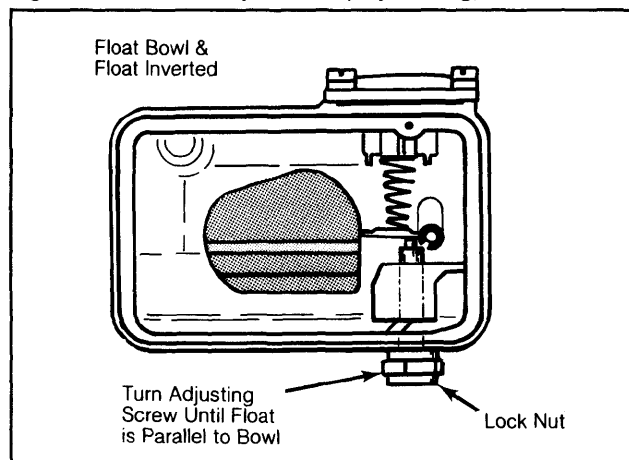
### ADJUSTMENT

**NOTE:** For all on-vehicle adjustments, see TUNE-UP SERVICE PROCEDURES.

#### FLOAT LEVEL (DRY SETTING)

1) Remove float bowl. Hold upside-down. Float is adjusted correctly if top of float is parallel with float bowl. See Fig. 2.

Fig. 2: Float Level Adjustment (Dry Setting)



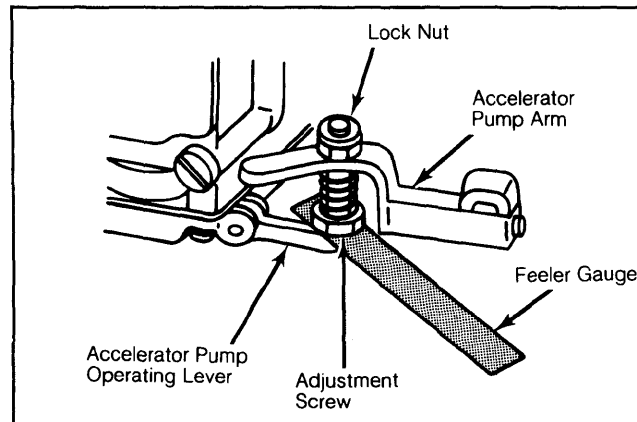
Float is adjusted correctly if top of float is parallel with float bowl when turned upside-down.

2) To adjust, loosen lock nut and turn adjusting screw until float is parallel.

#### ACCELERATOR PUMP LEVER

1) Place throttle valves in wide open position. Using a feeler gauge, measure specified clearance between the lever adjustment screw head and pump arm with the pump arm manually open. See Fig. 3.

Fig. 3: Accelerator Pump Lever Adjustment



Each 1/2 turn of adjustment screw equals .015".

2) To adjust, loosen adjustment screw lock nut. Turn adjusting screw in to increase clearance and out to decrease clearance. Each 1/2 turn of adjustment screw equals .015". Tighten lock nut.

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### ACCELERATOR PUMP STROKE

**NOTE:** Accelerator pump stroke has been preset at factory. Setting should not be changed. If original setting has been changed, adjust as follows:

1) Check that plastic accelerator pump cam is aligned with correct hole (top or bottom) in throttle lever. Plastic accelerator pump cam is located behind throttle lever.

2) If not aligned with correct hole, remove screw. Reposition in correct hole. Install and tighten screw.

### SECONDARY THROTTLE VALVES

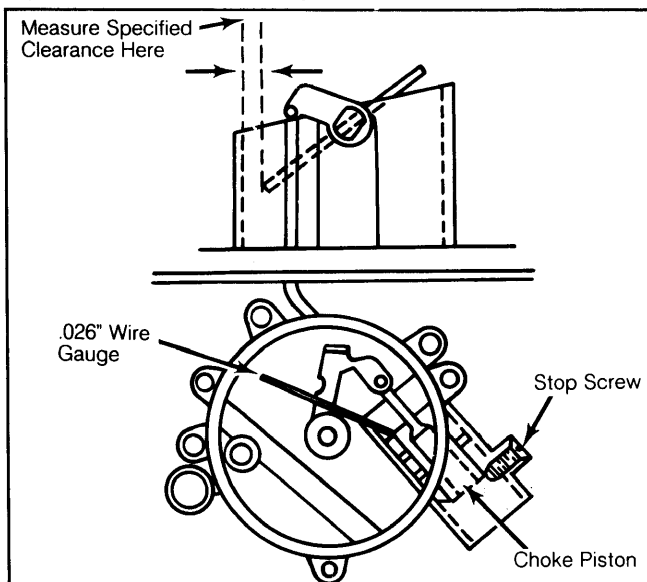
1) Hold secondary throttle valves closed. Turn secondary throttle valve stop screw out until secondary throttle valves seat in throttle bores.

2) Turn screw in until it just contacts secondary throttle valve lever. Then turn screw in an additional  $\frac{1}{4}$  turn.

### CHOKE PULLDOWN

1) Remove choke thermostat housing, gasket and retainer. Insert a .026" wire gauge into choke piston bore. This moves choke piston down against stop screw. See Fig. 4.

**Fig. 4: Choke Pulldown Adjustment**



Use .026" wire gauge to hold choke piston down against stop screw.

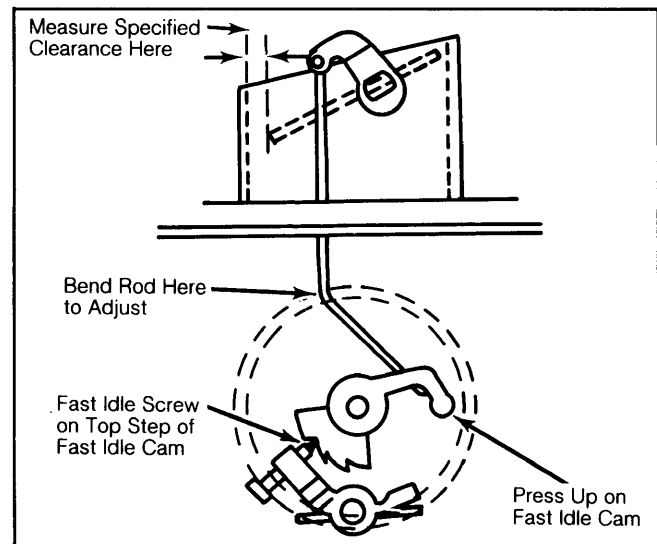
2) Hold choke valve toward closed position. Measure specified choke pulldown clearance between lower edge of choke valve and air horn wall.

3) If adjustment is required, remove putty covering stop screw. Turn screw clockwise to decrease clearance and counterclockwise to increase clearance.

### FAST IDLE CAM POSITION

1) Loosen choke thermostat housing screws. Rotate housing  $45^\circ$  counterclockwise (rich) to close choke valve. Tighten choke housing screws. See Fig. 5.

**Fig. 5: Adjusting Fast Idle Cam Position**



Fast idle speed screw must be on high step of fast idle cam for adjustment.

2) Open and then close throttle. This will position fast idle speed screw on top step of fast idle cam. Insert specified gauge between lower edge of choke valve and air horn wall. Open and close throttle to allow fast idle cam to drop.

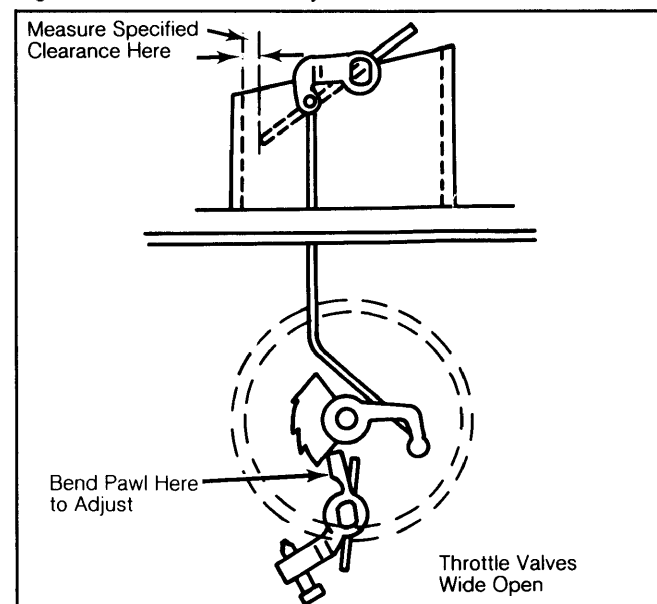
3) Press up on fast idle cam. There should be little or no movement. This indicates that fast idle screw is on 2nd (kickdown) step of cam, against first step.

4) To adjust, bend choke control rod until fast idle screw is in correct position on fast idle cam. Readjust automatic choke to correct setting and tighten screws.

### CHOKE UNLOADER

1) Hold throttle valves wide open. Apply light closing pressure on choke valve. See Fig. 6.

**Fig. 6: Choke Unloader Adjustment**

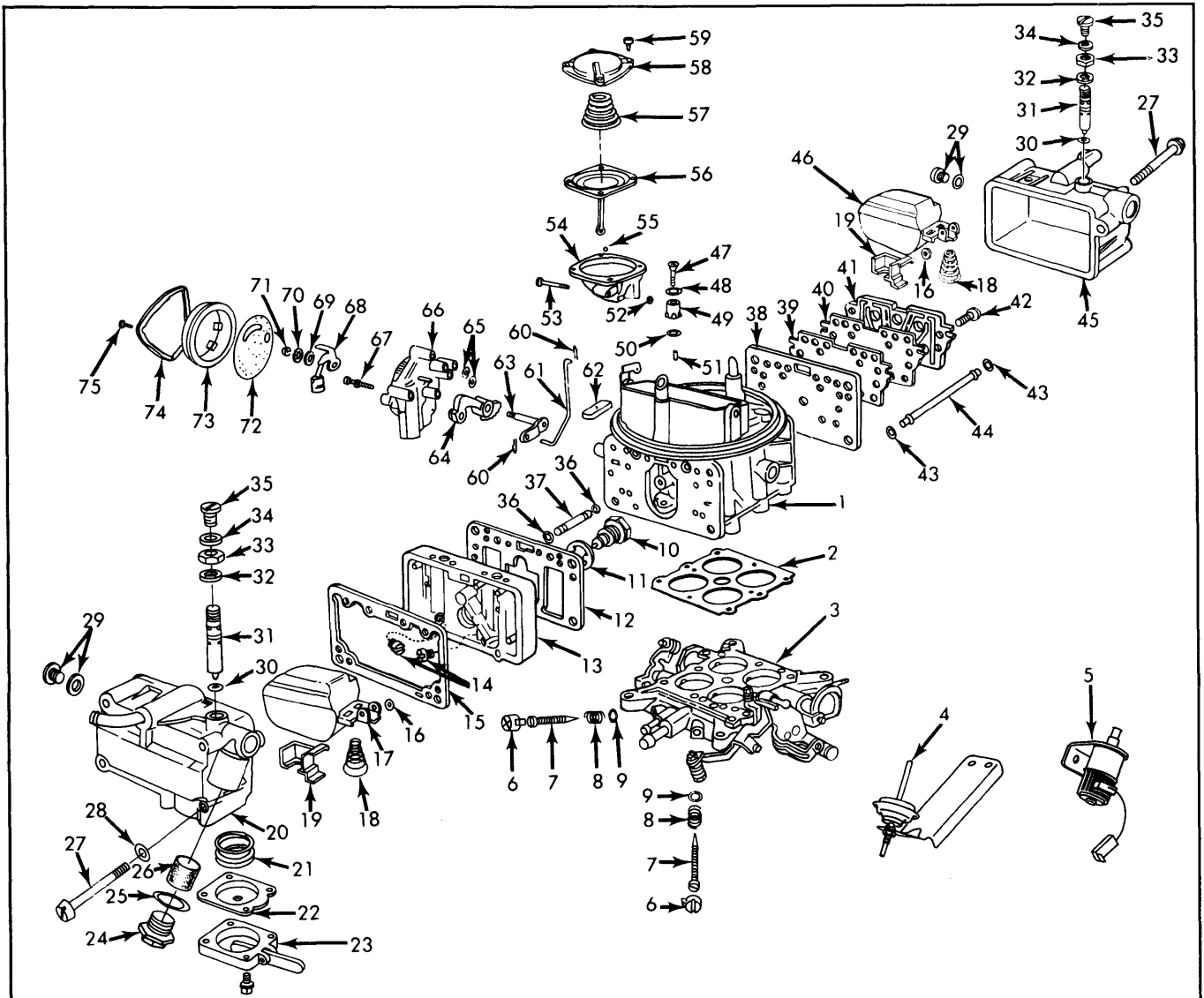


Throttle valves must be in wide open position.

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## HOLLEY 4180-C 4-BARREL (Cont.)

Fig. 7: Exploded View of Holley Model 4180-C 4-Barrel Carburetor



- |  |   |   |
|--|---|---|
| 1. Main Body   | 25. Fuel Inlet Fitting Gasket                 | 51. Accel. Pump Discharge Needle              |
| 2. Throttle Body Gasket  | 26. Fuel Filter                               | 52. Secondary Vacuum Diaphragm Housing Gasket |
| 3. Throttle Body   | 27. Fuel Bowl Screw                           | 53. Secondary Vacuum Diaphragm Housing Screw  |
| 4. Decel Throttle Modulator (Vehicles Over 8500 Lbs. GVW)      | 28. Fuel Bowl Screw Gasket                    | 54. Secondary Vacuum Diaphragm Housing        |
| 5. Solenoid Throttle Positioner (Vehicles Under 8500 Lbs. GVW) | 29. Fuel Bowl Sight Plug & Gasket             | 55. Secondary Vacuum Diaphragm Check Ball     |
| 6. Idle Limiter Cap  | 30. Needle & Seat "O" Ring                    | 56. Secondary Vacuum Diaphragm                |
| 7. Idle Mixture Screw  | 31. Needle & Seat Assembly                    | 57. Secondary Vacuum Diaphragm Spring         |
| 8. Idle Mixture Screw Spring                                   | 32. Fuel Level Adjustment Lock Nut Gasket     | 58. Secondary Vacuum Diaphragm Cover          |
| 9. Idle Mixture Screw Gasket                                   | 33. Fuel Level Adjustment Lock Nut            | 59. Secondary Vacuum Diaphragm Cover Screw    |
| 10. Power Valve  | 34. Fuel Level Adjustment Screw Gasket        | 60. Choke Rod Clip                            |
| 11. Power Valve Gasket   | 35. Fuel Level Adjustment Screw               | 61. Choke Rod                                 |
| 12. Primary Metering Block Gasket                              | 36. Accel. Pump Transfer Tube "O" Ring        | 62. Choke Rod Seal                            |
| 13. Primary Metering Block                                     | 37. Accel. Pump Transfer Tube                 | 63. Choke Rod Shaft & Lever                   |
| 14. Main Jets  | 38. Secondary Plate Gasket                    | 64. Fast Idle Cam                             |
| 15. Primary Fuel Bowl Gasket                                   | 39. Secondary Plate                           | 65. Choke Housing Gasket                      |
| 16. Float Retainer   | 40. Secondary Metering Block Gasket           | 66. Choke Housing                             |
| 17. Primary Float  | 41. Secondary Metering Block                  | 67. Choke Housing Screw                       |
| 18. Float Spring   | 42. Secondary Metering Block Screw            | 68. Choke Thermostat Lever & Piston           |
| 19. Baffle Plate   | 43. Fuel Transfer Tube "O" Ring               | 69. Washer                                    |
| 20. Primary Float Bowl   | 44. Fuel Transfer Tube                        | 70. Spacer                                    |
| 21. Accel. Pump Spring   | 45. Secondary Float Bowl                      | 71. Nut                                       |
| 22. Accel. Pump Diaphragm                                      | 46. Secondary Float                           | 72. Choke Thermostat Cover Gasket             |
| 23. Accel. Pump Cover  | 47. Accel. Pump Discharge Nozzle Screw        | 73. Choke Thermostat Cover                    |
| 24. Fuel Inlet Fitting   | 48. Accel. Pump Discharge Nozzle Screw Gasket | 74. Choke Thermostat Cover Retainer           |
|  | 49. Accel. Pump Discharge Nozzle              | 75. Choke Thermostat Cover Retainer Screw     |
|  | 50. Accel. Pump Discharge Nozzle Gasket       |   |

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2) Measure specified choke unloader clearance between lower edge of choke valve and air horn wall. To adjust, bend pawl on fast idle cam lever.

### AUTOMATIC CHOKE

Loosen choke thermostat cover retaining screws. Rotate cover assembly in "Rich" or "Lean" direction to align reference mark on cover with specified scale graduation in housing. Tighten cover screws.

## OVERHAUL

### DISASSEMBLY

#### Primary Fuel Bowl & Metering Block

1) Remove primary fuel bowl and gasket. Remove metering block and gasket. Discard gaskets.

2) Remove pump transfer tube and "O" rings from main body if it was not removed with metering block. Remove fuel line tube and "O" rings. Discard "O" rings.

3) Using a jet wrench, remove main jets and power valve from metering block. Using a socket wrench, remove power valve and gasket.

4) Remove fuel level adjustment screw and gasket. Turn lock nut counterclockwise and remove nut and gasket. Remove fuel inlet needle and seat assembly. Do not disassemble needle and seat, they are replaced as an assembly.

5) Using needle nose pliers, remove float shaft retainer clip. Slide float off shaft and remove spring from float. Remove baffle plate from fuel bowl. Remove fuel level sight plug and gasket.

6) Remove fuel inlet fitting, gasket and filter. Invert fuel bowl and remove accelerator pump cover, diaphragm and spring. Do not remove accelerator pump inlet check ball. Check ball is not serviced separately.

#### Secondary Fuel Bowl & Metering Block

Remove fuel bowl. Using a clutch type screwdriver, remove metering block screws. Remove metering block, plate and gaskets. Discard gaskets. Disassemble fuel bowl by following steps 4 and 5) in Primary Fuel Bowl and Metering Block.

#### Main Body

1) Remove air cleaner stud. Remove secondary diaphragm link retainer. Invert carburetor and remove throttle body retaining screws and lock washers. Lift off throttle body and discard throttle body gasket.

2) Remove choke rod cotter pin from choke housing shaft and lever assembly. Remove choke cover,

thermostatic spring and gasket. Remove choke main housing and gaskets from main body.

3) Remove choke housing shaft nut, lock washer and spacer. Remove shaft and fast idle cam. Remove choke piston and lever assembly.

4) If it is necessary to remove choke valve and shaft, tips of choke valve screws may have to be filed because they are staked into shaft. After removing screws, remove valve and slide out choke shaft.

5) Remove secondary diaphragm housing and gasket. Secondary diaphragm housing must be removed before attempting to remove cover. Remove diaphragm housing cover, spring diaphragm and vacuum check ball.

6) Remove accelerator pump discharge nozzle screw. Lift off discharge nozzle and gaskets. Invert main body and catch accelerator pump discharge needle as it falls out of bore in main body.

#### Throttle Body

Components of throttle body are matched to meet emission control standards. Manufacturer does not recommend disassembly of throttle body.

### CLEANING & INSPECTION

- Use a regular carburetor cleaning solution. Soak components long enough to thoroughly clean all surfaces and passages of foreign matter.
- Do not soak any components containing rubber, leather or plastic.
- Do not use wire, drill or any hard parts to clean passages and orifices in carburetor.
- Remove any residue after cleaning by rinsing components in suitable solvent.
- Blow out all passages with dry compressed air.

### REASSEMBLY

Use new gaskets and seals. Make sure that new gaskets fit correctly and that all holes and slots are punched through and correctly located. To reassemble carburetor, reverse disassembly procedure and note the following:

1) Apply petroleum jelly to all "O" rings before installation.

2) Make sure projection on the choke rod is positioned under the fast idle cam. This will ensure that fast idle cam will be raised up when the choke valve closes.

3) It will be necessary to install the secondary diaphragm housing cover and all 4 screws before diaphragm housing is installed onto main body.

### CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Accelerator Pump		Choke Pulldown Setting	Fast Idle Cam Setting	Choke Unloader Setting	Auto. Choke Setting
	Lever (Clearance)	Stroke (Hole No.)				
E1UE-RA	.015"	#1	.200-.220"	.....	.295-335"	2 Rich