MOTORCRAFT MODEL 2150 2-BARREL

CARBURETOR APPLICATION

FORD MOTOR CO.

Application	Ford Part No.①
255" (4.2 Liter) V8 Auto. Trans.	
Federal	
Without A/C	E0KE-DA, E0KE-HA, E0KE-KA
With A/C	E0KE-CA, E0KE-GA, E0KE-JA, E0BE-AUA
California	
Without A/C	E04E-RA, E0DE-TA
With A/C	E04E-PA, E0BE-ASA, E0DE-SA
302" (5.0 Liter) V8 Auto. Trans.	
Federal	
Without A/C	E0WE-CA, E0SE-HA
With A/C	E0WE-BA, E0SE-GA, E04E-CA
California	
Without A/C	E04E-FA
With A/C	E04E-CA, E04E-EA

① – Ford basic part number is 9510.

CARBURETOR IDENTIFICATION

Carburetor can be identified by a tag attached to the air horn by one screw. This tag contains number and design change codes in addition to the build date. Always refer to the tag number when ordering or replacing parts.

DESCRIPTION

Motorcraft 2150 carburetors are made up of 2 assemblies; the air horn and main body. Some models are equipped with an altitude compensating device. The air horn serves as the main body cover and contains choke plate and diaphragm assemblies and fuel bowl vents. The main body contains throttle plates, fuel bowl, enrichment valve assembly and high speed bleed system. Automatic choke housing and solenoid (if equipped) are attached to the main body.

Within each bore are main and booster venturi, main fuel and accelerator pump discharges, idle discharge and a throttle plate. High speed bleed openings with a mechanical bleed control are contained in the booster venturi. This provides more precise high speed operation and better low speed response. Most models use an all electric choke heater. Some are equipped with an exhaust heated choke in conjunction with an electric assist.

ADJUSTMENT

HOT (SLOW) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

IDLE MIXTURE

See appropriate article in TUNE-UP SERVICE PROCEDURES.

COLD (FAST) IDLE RPM

See appropriate article in TUNE-UP SERVICE PROCEDURES.

ACCELERATOR PUMP STROKE

Accelerator pump stroke has been preset at factory for each particular engine application. Additional holes are only provided for different engine applications. Check to be sure that pump connecting rod is in inner hole, (hole nearest carburetor body) of pump lever. On overtravel lever, connecting rod should be in specified hole on lever *(see Fig. 1)*.

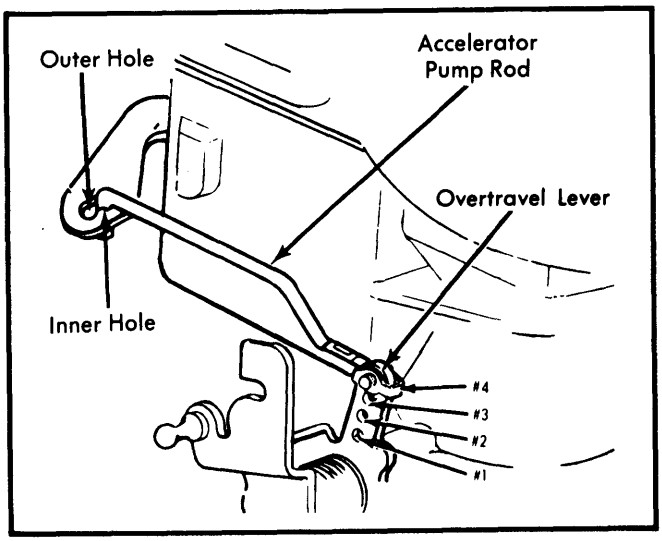

Fig. 1 Accelerator Pump Stroke

FLOAT LEVEL (DRY SETTING)

NOTE – *Dry float setting is preliminary adjustment only. Final adjustment (wet setting) must be made after carburetor is* installed on vehicle.

With air horn removed, depress float tab to seat fuel inlet needle. Measure distance from top of main body (gasket removed) to float, at point ⅛" from free end of toe. If adjustment is necessary, bend float tab. NOTE – *Do not allow float tab to contact needle while making adjustment as Viton needle tip may be damaged. See Fig. 2.*

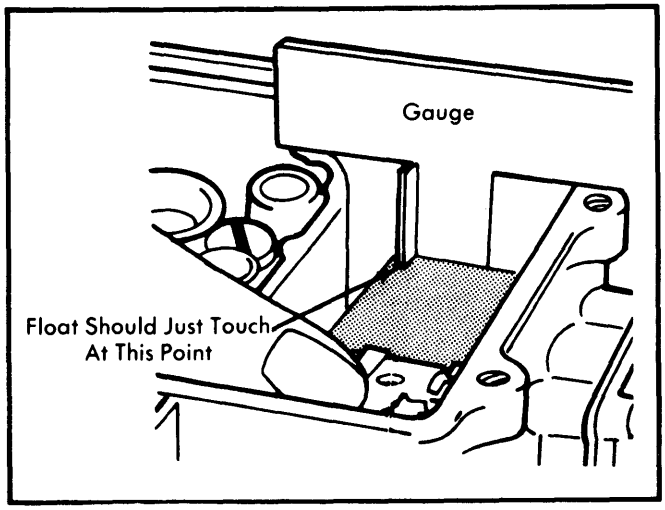

Fig. 2 Adjusting Float Level (Dry Setting)

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FLOAT LEVEL (WET SETTING)

1) Warm up engine to operating temperature. Ensure vehicle is on flat, level surface. Stop engine and remove air cleaner and air horn attaching screws. Leave air horn in position on carburetor. Start engine. *See Fig. 3.*

2) Allow engine to idle for a few minutes to stabilize fuel level. With engine idling, remove air horn and gasket.

3) Measure distance, with suitable "T" scale, from machined surface of main body to level of fuel in fuel bowl. Make measurement at least ¼" away from sides of bowl to be sure of accurate reading.

4) If level is not within specifications, adjustment is needed. Stop engine before adjusting to avoid fire danger from fuel spray. Bend float tab (contacting inlet valve) up to raise fuel level and down to lower level.

5) After each adjustment, install air horn with 2 screws, start engine and idle long enough for fuel level to adjust to new adjustment. Stop engine, recheck fuel level.

6) When correct level is obtained, install new air horn gasket; replace air horn (install I.D. tag). Be sure plastic dust seal on choke rod is positioned properly and does not bind rod.

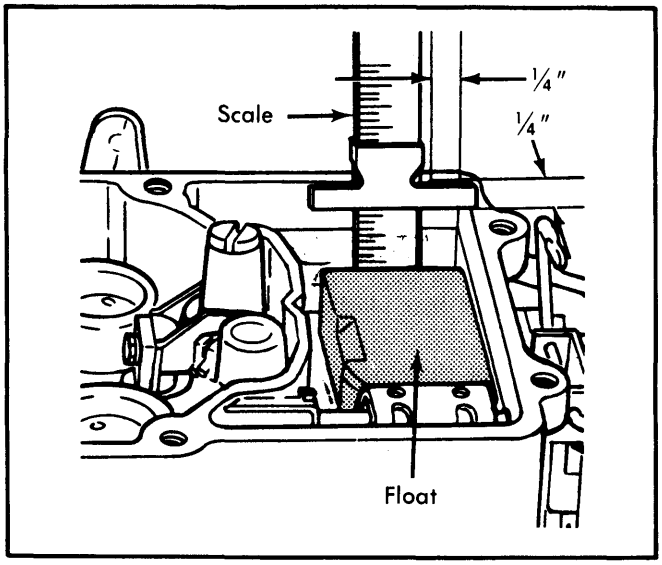

Fig. 3 Adjusting Float Level (Wet Setting)

CHOKE VALVE PULL-DOWN (INITIAL CHOKE VALVE CLEARANCE)

1) Position fast idle speed screw on high step of fast idle cam. Loosen choke cover retaining screws. Turn cover ¼ turn counterclockwise (rich) to close choke valve. Tighten retaining screws. *See Fig. 4.*

2) Apply an outside vacuum source to choke vacuum diaphragm or manually force diaphragm to the retracted position. Measure choke pull-down specified clearance between lower edge of choke valve and air horn wall.

3) If clearance is not to specification, adjust by turning screw in end of choke vacuum diaphragm. Turn adjusting screw clockwise to decrease clearance and counterclockwise to increase clearance.

NOTE – *Fast idle cam linkage must be checked and adjusted after choke valve pull-down adjustment. Do not adjust automatic choke until after fast idle cam is adjusted.*

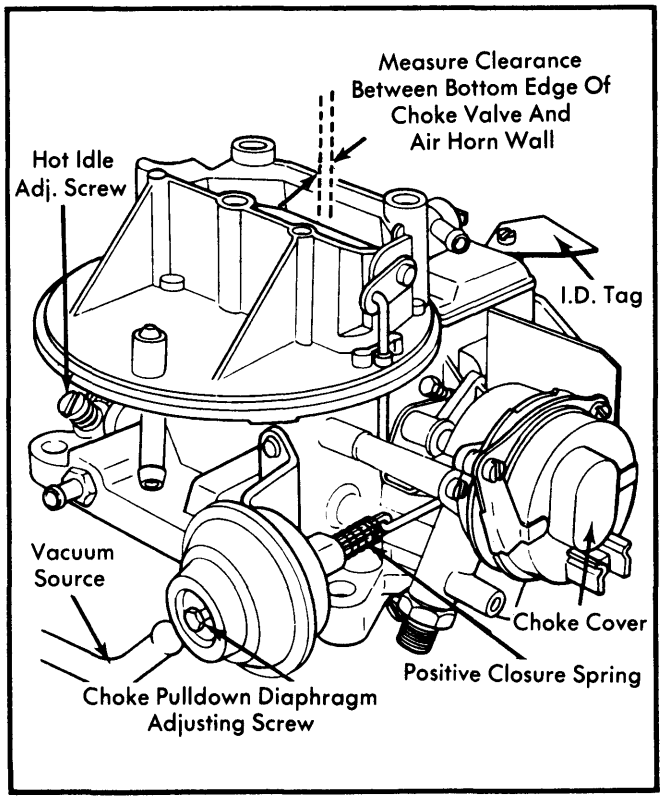

Fig. 4 Adjusting Choke Pull-Down Clearance

FAST IDLE CAM LINKAGE

1) Loosen choke cover retaining screws. Turn cover ¼ turn counterclockwise (rich) to close choke valve. Tighten retaining screws. *See Fig. 5.*

2) Open throttle and position fast idle speed screw on high step of fast idle cam. Apply an outside vacuum source to choke vacuum diaphragm or manually force diaphragm to the retracted position.

3) Open throttle and check movement of fast idle cam. Fast idle speed screw should drop down to the kickdown step of cam and align with "V" notch on cam.

4) To adjust, turn fast idle cam lever adjustment screw. Reconnect vacuum hose to vacuum diaphragm if disconnected. Adjust automatic choke.

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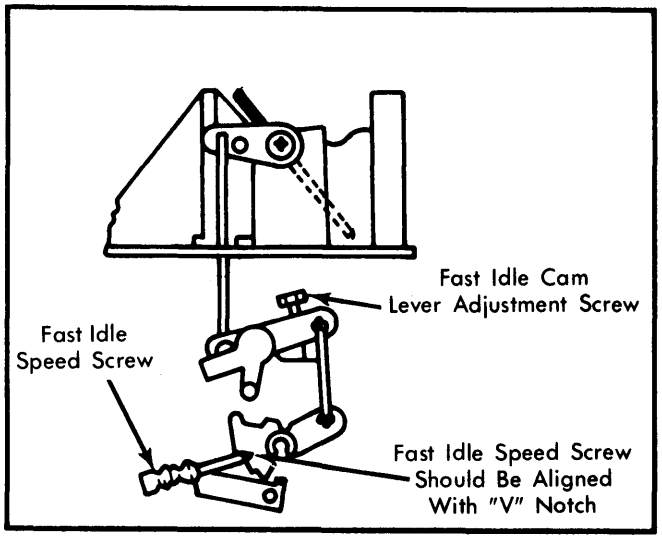

Fig. 5 Adjusting Fast Idle Cam Linkage

CHOKE UNLAODER

1) Hold throttle wide open. Measure specified choke unloader clearance between lower edge of choke valve and air horn wall. See *Fig. 6*.

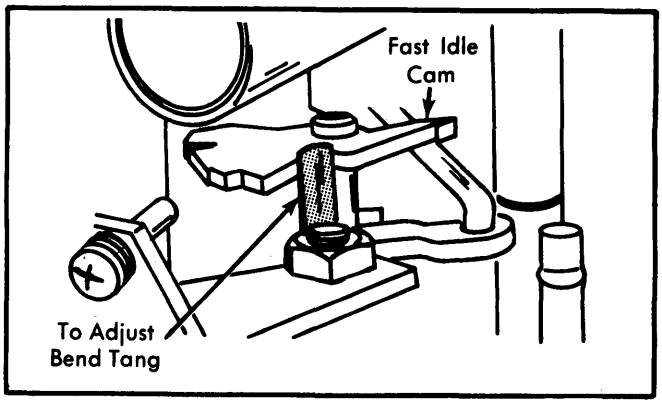

Fig. 6 Adjusting Choke Unloader

2) To adjust, bend choke unloader tang that contacts fast idle cam. Bend tang toward cam to increase clearance and away from cam to decrease clearance.

3) After adjustment is correct, open throttle until unloader tang is directly under fast idle cam pivot. Make sure there is .070" clearance between unloader tang and fast idle cam. See *Fig. 7*.

4) Operate throttle and make sure that tang does not stick or bind against any portion of the linkage or carburetor casting.

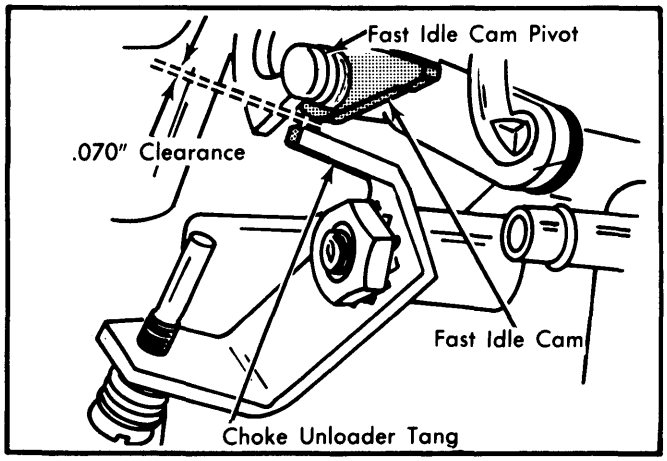

Fig. 7 Unloader-to-Fast Idle Cam Clearance

AUTOMATIC CHOKE

1) Loosen choke thermostat cover retaining screws.

2) Rotate cover assembly in "Rich" or "Lean" direction to align reference mark on cover with specified scale graduation on housing. Tighten cover screws.

OVERHAUL

DISASSEMBLY

Air Horn – 1) Remove air cleaner anchor screw and automatic choke control rod retainer. Remove air horn attaching screws, lock washers, carburetor I.D. tag, then remove air horn and gasket. Remove choke control rod by loosening screw securing choke shaft lever to choke shaft. Remove rod from air horn and slide plastic dust seal out of air horn.

2) Remove choke diaphragm assembly, then if necessary to remove choke plate, remove staking marks on attaching screws and remove screws. Remove choke plate by sliding it out of the shaft from the top of the air horn, then remove shaft from air horn.

3) On models equipped with altitude compensator, the bypass choke plate is removed in same way as main choke plate. To remove shaft, remove link retainer and slide shaft out of air horn.

Automatic Choke – 1) Remove fast idle cam retainer, thermostatic choke spring housing screws and then remove clamp, housing and gasket.

2) Remove choke housing assembly retaining screws, choke housing assembly, gasket and the fast idle cam rod and cam lever. Remove choke lever retaining screw and washer, then remove choke lever and fast idle cam lever.

Main Body – 1) Pry float shaft retainer from fuel inlet seat with a screwdriver, then remove float, float shaft retainer and fuel inlet needle assembly. Remove retainer and float shaft from float lever.

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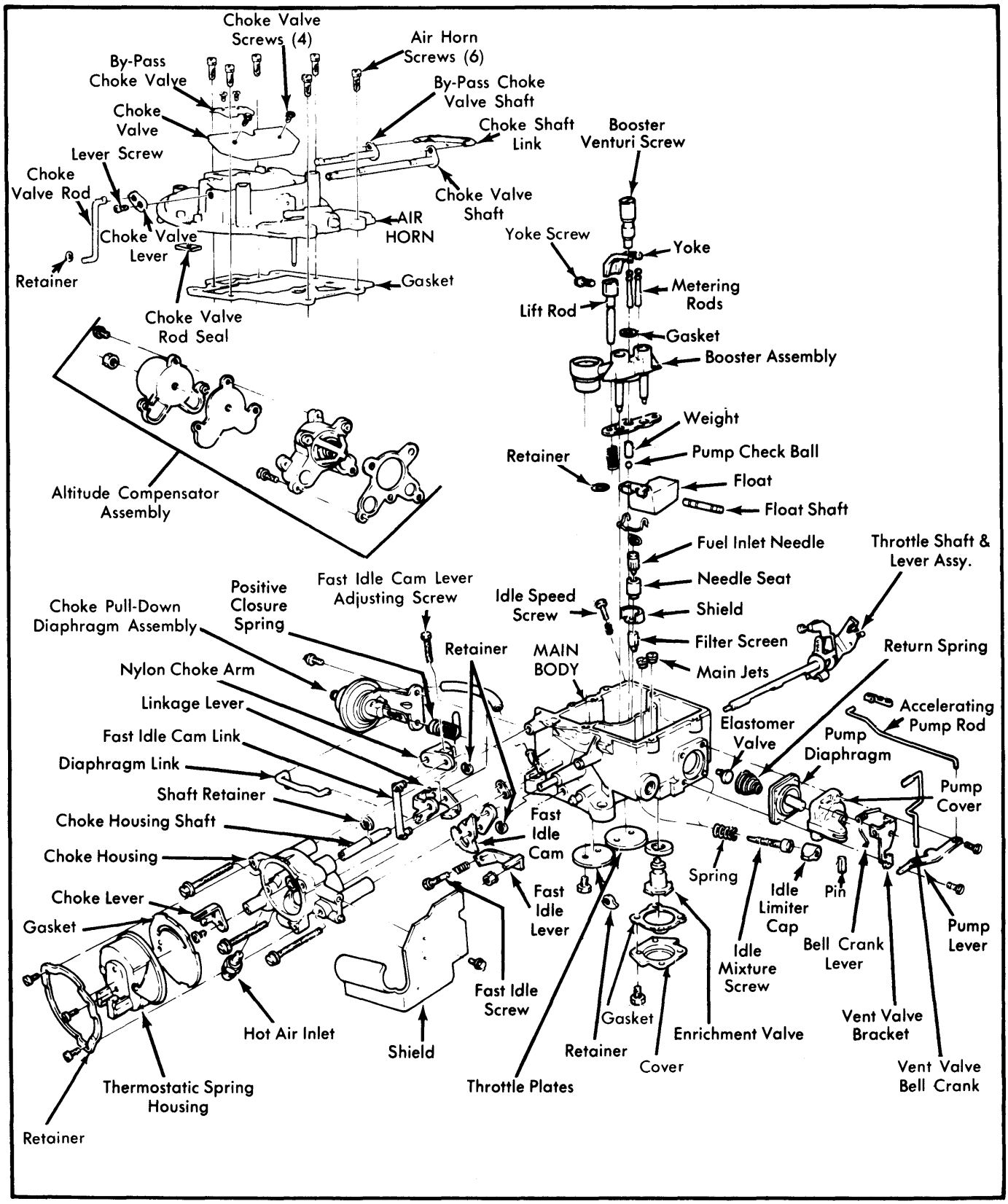

Fig. 8 Exploded View of Motorcraft Model 2150 Carburetor Assembly

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2) Remove fuel inlet needle, seat, filter screen and main jets. Remove booster venturi screw, booster venturi, metering rod assembly and gasket. To disassemble metering rod assembly, remove lift spring retaining clip and spring. Do not remove metering rod hanger from lift rod.

3) Invert main body and catch accelerator pump discharge weight and check ball. Remove accelerator pump operating rod from overtravel lever and retainer by pressing ends of retainer together, while at the same time, pressing rod away from retainer until it is free, then remove rod and retainer.

4) Remove accelerator pump cover screws. Remove bowl vent bell crank and bracket, accelerator pump cover, diaphragm assembly and spring. If necessary to remove Elastomer, grasp firmly and pull out.

NOTE – *If tip of elastomer valve broke off, make sure it is removed from fuel bowl. Elastomer valve must be replaced whenever it is removed.*

5) Remove enrichment valve cover and gasket, then remove enrichment valve and valve gasket using a box wrench. Remove mixture needle limiter caps, mixture needles and springs. If necessary, remove nut and washer securing fast idle adjusting lever and remove lever. Remove throttle positioner (if equipped).

6) If necessary to remove throttle plates, mark each throttle plate with its corresponding bore for reassembly. Slide throttle shaft from main body. Mechanical high speed bleed actuator will drop out. It is located between throttle plates. On altitude compensated carburetors, remove 4 attaching screws and remove aneroid and valve assembly with gasket.

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.
- Remove any residue after cleaning by rinsing components in a suitable solvent.
- Blow out all passages with dry compressed air.

REASSEMBLY

NOTE – *Use new gaskets and seals. Make sure that new gaskets fit correctly and that all holes and slots are punched through and correctly located. Replace Elastomer valve if removed from main body.*

To reassemble carburetor, reverse disassembly procedure and note the following:

1) When installing new Elastomer check valve (if removed), lubricate tip of new valve and insert tip into center hole of accelerator pump cavity. Use needle nose pliers inserted in fuel bowl and pull valve in until it is fully seated. Cut off excess valve tip at retaining shoulder and remove tip from fuel bowl.

2) When installing idle mixture needles and springs, turn screws in with fingers until lightly seated. Then back screws off seated position 1½ turns for an initial adjustment. Do not install idle limiter caps until final adjustments have been made.

CARBURETOR ADJUSTMENT SPECIFICATIONS

Application	Float Level		Accel. Pump Setting	Choke Pull-Down Setting	Fast Idle Cam Setting	Choke Unloader Setting	Auto. Choke Setting
	Dry Setting	Wet Setting					
E0WE-BA	①	13/16"	No. 2	.137"	③	.250"	3 Rich
E0WE-CA	①	13/16"	No. 2	.137"	③	.250"	3 Rich
E0SE-GA	①	13/16"	No. 2	.104"	③	.250"	3 Rich
E0SE-HA	①	13/16"	No. 2	.104"	③	.250"	3 Rich
E04E-CA	②	13/16"	No. 2	.104"	③	.250"	3 Rich
E04E-EA	②	13/16"	No. 2	.104"	③	.250"	3 Rich
E04E-FA	②	13/16"	No. 2	.104"	③	.250"	3 Rich

① – Using gauge No. DET-18, refer to adjustment procedure.
② – No adjustment required.
③ – Refer to adjustment procedure.