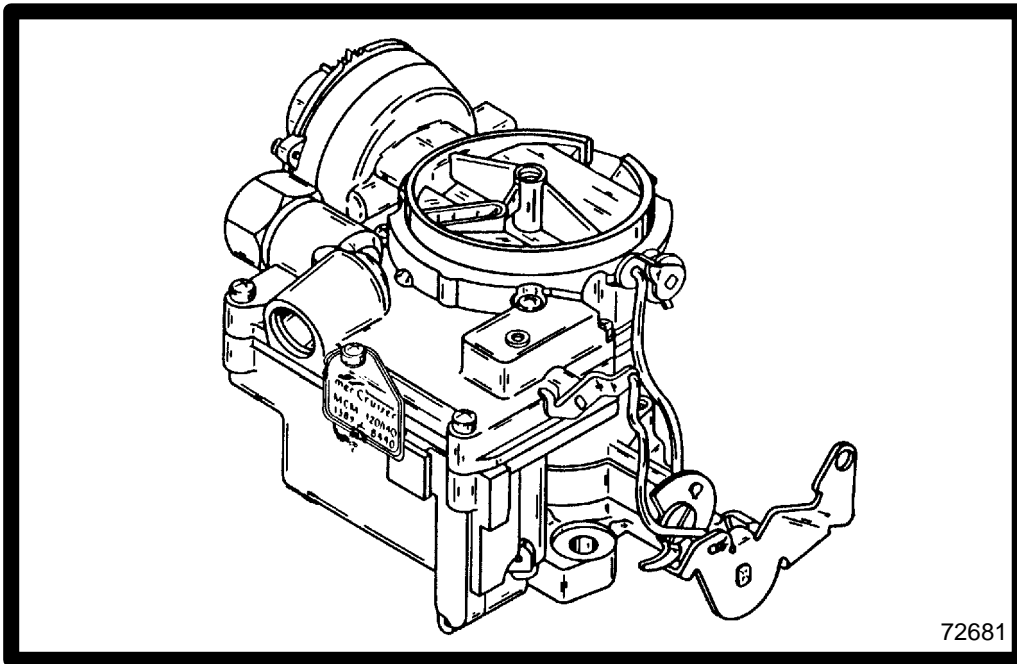


FUEL SYSTEM



**MERCARB® 2 BARREL
CARBURETOR**

5

B

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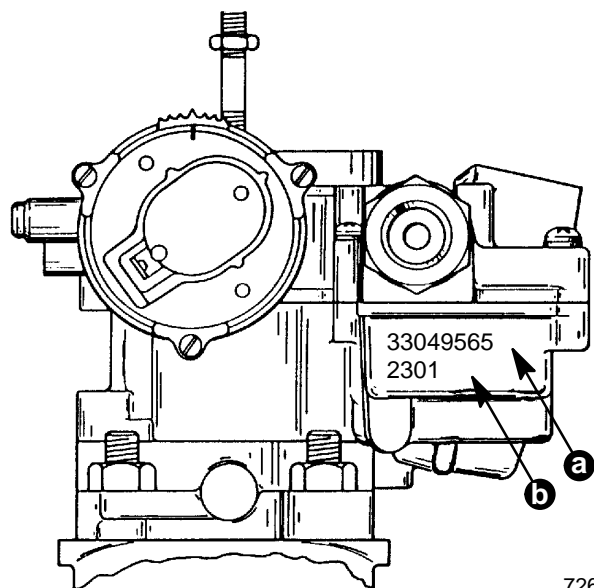
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NOTICE

For information and procedures on troubleshooting, refer to SECTION 1C.

Identification



72680

- a - Part Number
- b - Date Code

Carburetor Part Number Location

Data Code Explanation: Example 2301

First Figure is Year:

2 = 1992, 3 = 1993, etc.

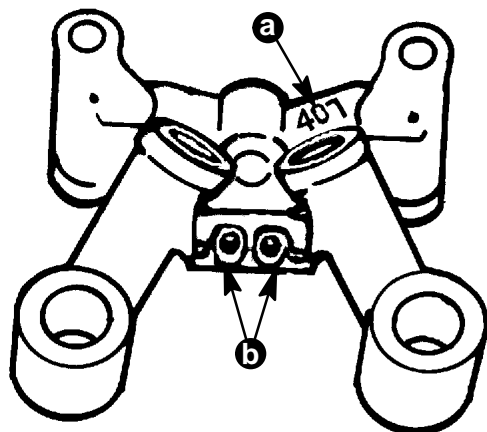
Second Figure is Month:

2 = February, 3 = March, etc.

X = October, Y = November, Z = December

Third and Fourth Figures are Day of Month:

01 = First day, 02 = Second day, etc.



72779

- a - Identification Number (See Specifications)
- b - Accelerator Pump Discharge Holes

Venturi Cluster Identification

Replacement Parts Warning

⚠ WARNING

Electrical, ignition and fuel system components on your MerCruiser are designed and manufactured to comply with U.S. Coast Guard Rules and Regulations to minimize risks of fire and explosion.

Use of replacement electrical, ignition or fuel system components, which do not comply with these rules and regulations, could result in a fire or explosion hazard and should be avoided.

Torque Specifications

Description	lb. ft.	N·m
Carburetor To Manifold	20	27
Fuel Line to Carburetor	18	24
Fuel Inlet Filter Nut	18	24

Tools

Description	Part Number
Tachometer	79-17391A1
Universal Carburetor Gauge	91-36392
Borroughs Special Tool and Equipment Inc. 2429 N. Burdick Street Kalamazoo, MI 49007 (616) 345-5163	
BT 8128 B	Float Gram Scale

Specifications

UNIT OF MEASUREMENT In. (mm)

CARBURETOR ADJUSTMENT SPECIFICATIONS

Engine Model	3.0L		3.0LX	
Carburetor Type	MerCarb 36mm	MerCarb 43mm	MerCab 43mm	MerCab 43mm
Carburetor Number	1389-9562 3310-806077	1389-815396 3310-806078	3310-805924	1389-815397
Float Level	3/8 (10)			
Spring Loaded Needle	9/16 (14) (See Note)			
Float Drop	1-3/32 (27) (See Note)			
Pump Rod	1-5/32 (29)			
Choke Setting	Two Marks To The Lean Side			
Choke Unloader	5/64 [080] (2)			
Idle Mixture Screws	1-1/4 Turns			
Float Weight	9 Grams Maximum			
Primary Jet Size	1.45mm	1.60mm	1.60mm	1.65mm
Power Valve Size	0.74mm	0.74mm	0.74mm	0.84mm
Venturi Cluster I.D. Number	442	592	464	593
Accelerator Pump Discharge Hole Size	.025 (0.635)			

All measurements are $\pm 1/64$ in. (0.4 mm).

NOTE: Float drop measured from air horn (with gasket in place) to toe of float.

High Altitude Re-Jetting

Engine flooding problems, at idle RPM, are generally related to the altitude (above sea level) at which they are operated. If engine is running too rich at higher elevation, order a smaller jet from the chart. A jet stamped "165" is a 1.65 mm jet.

Model	Carburetor Part Number	500 Ft. (1525 m) and Below	5000-9000 Ft. (1525-2745 m)	9000 (2745 m) and Above
3.0L	1389-9562 3310-806077	1.45 mm Stock Jets	1.40 mm	1.35 mm
3.0L/3.0LX	1389-815396 3310-806078 3310-805924	1.60 mm	1.50 mm	1.45 mm
3.0LX	1389-815397	1.65 mm	1.55 mm	1.50 mm

JET SIZES

Jet Size	Quicksilver Part Number
1.30	3302-811849
1.35	3302-811850
1.40	3302-811851
1.45	3302-9050
1.50	3302-811852
1.55	3302-811853
1.60	3302810923
1.65	3302-9058
1.70	3302-9055
1.75	3302-881854
1.80	3302-811855
1.85	3302-811856
1.90	3302-811857

Important Service Information

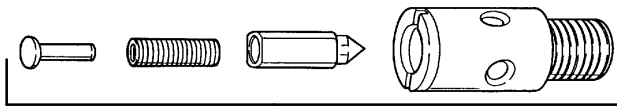
Flooding at Idle RPM

If your engine floods at idle RPM, check the following:

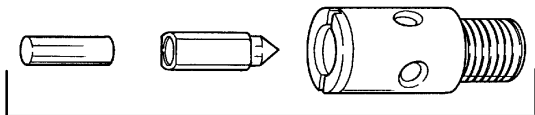
1. Problem in ignition system causing engine to run rough.
2. Idle mixture screw adjusted incorrectly.
3. Bad needle and seat.
4. Incorrect float level drop.

Needle/Seat Change

If the preceding steps failed to correct the problem, change the needle/seat to the other type. MerCarbs are equipped with either the solid or the spring loaded needle.



a



b

72290

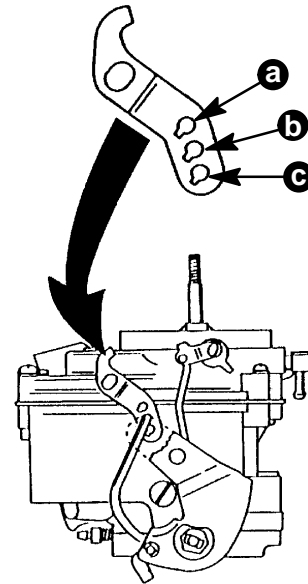
a - Spring Loaded Type Needle (Kit 3302-9029)

b - Solid Type Needle (Kit 3302-9407)

Needle and Seat Assemblies

Adjustable Accelerator Pump Lever

This new 3-holed lever will allow you to change the amount of fuel delivered to the engine by the accelerator pump. The hole closest to the lever's shaft will give the same amount of fuel as the single hole lever did. The center hole gives approximately 0.5 cc less fuel and the hole farthest away will give about 1.0 cc less fuel.



73131

a - Full Accelerator Pump Stroke

b - 0.5 cc Less Fuel per Stroke

c - 1.0 cc Less Fuel per Stroke

The technician should be able to correct most “bogging” problems with this 3-holed lever, providing the “bogging” is caused by the carburetor. When installing the 3-holed lever, remove any metal ball that someone may have put in the accelerator pump well to limit pump travel. Also, make sure that the duration spring on the accelerator pump is stock and hasn't had several coils cut off. Make sure the venturi cluster is the correct one as outlined previously under “Specifications.”

Description

This MerCarb carburetor is a two bore carburetor and has a separate fuel feed for each venturi. This model also is equipped with an electric choke. A removable venturi cluster (secured to float bowl assembly) has the calibrated main well tubes and pump jets built into it. The venturi cluster is serviced as a unit. The serviceable main metering jets are bleeds to properly meter the correct fuel/air mixture to the engine.

Precautions

WARNING

Always disconnect battery cables from battery **BEFORE** working on fuel system to prevent fire or explosion.

WARNING

Be careful when cleaning flame arrestor and crankcase ventilation hose; gasoline is extremely flammable and highly explosive under certain conditions. Be sure that ignition key is OFF. **DO NOT** smoke or allow sources of spark or open flame in area when cleaning flame arrestor and crankcase ventilation hose.

WARNING

Be careful when changing fuel system components; gasoline is extremely flammable and highly explosive under certain conditions. Be sure that ignition key is OFF. **DO NOT** smoke or allow sources of spark or flame in the area while changing fuel filter. Wipe up any spilled fuel immediately.

WARNING

Make sure no fuel leaks exist, before closing engine hatch.

Fuel Supply Connections

CAUTION

DO NOT operate engine without cooling water being supplied to water pickup holes in gear housing, or water pump impeller will be damaged and subsequent overheating damage to engine may result.

Maintenance

Flame Arrestor with Carburetor Cover

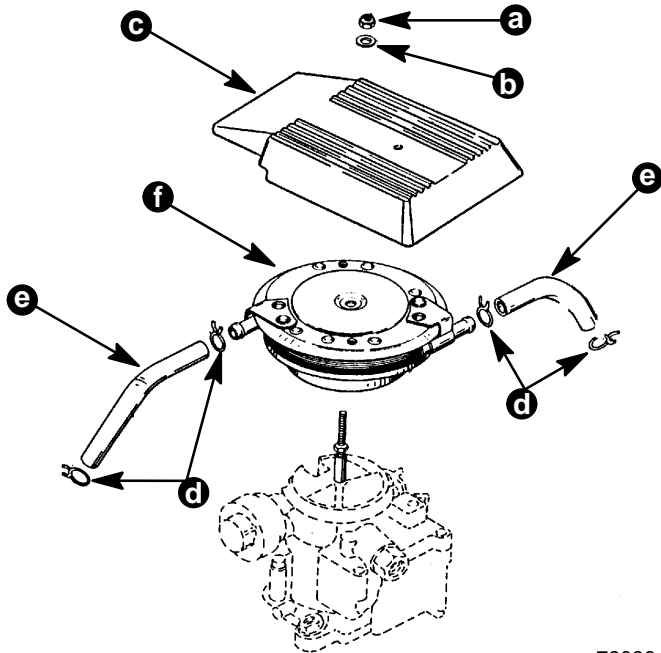
NOTICE

Refer to “Precautions,” in this section, **BEFORE** proceeding.

1. Remove in the following order:
 - a. Nut.
 - b. Sealing washer.
 - c. Carburetor cover.
 - d. Crankcase ventilation hoses from flame arrestor and rocker arm covers.
 - e. Flame arrestor.

2. Clean and inspect:
 - a. Clean flame arrestor in solvent and blow dry with compressed air.
 - b. Clean crankcase ventilation hoses.
 - c. Inspect crankcase ventilation hoses for cracks or deterioration, and replace if necessary.

3. Install in the following order:
 - a. Flame arrestor.
 - b. Crankcase ventilation hoses to flame arrestor and rocker arm covers.
 - c. Carburetor cover.
 - d. Sealing washer.
 - e. Nut (tighten securely).



72086

- a - Nut
- b - Sealing Washer
- c - Carburetor Cover
- d - Cable Tie
- e - Crankcase Ventilation Hose
- f - Flame Arrestor

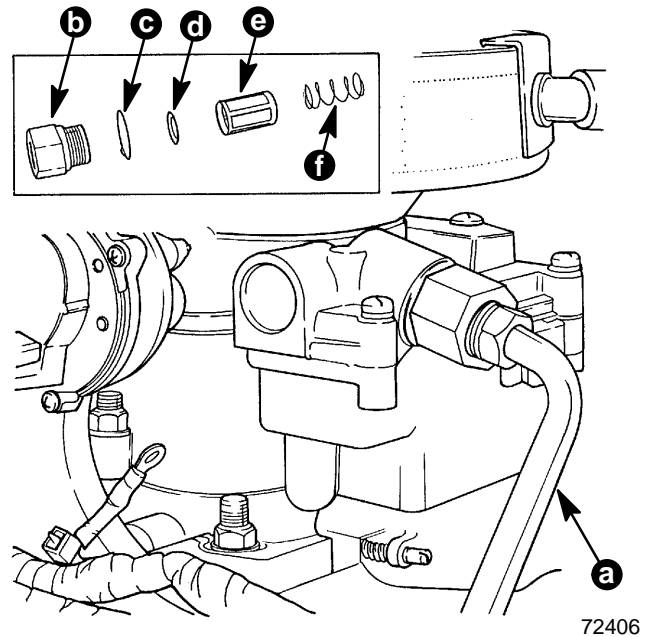
Fuel Inlet Filter

NOTICE

Refer to "Precautions," in this section, BEFORE proceeding.

1. Remove in the following order:
 - a. Fuel line from fuel inlet filter nut.

- b. Fuel inlet filter nut and small gasket.
- c. Large gasket.
- d. Filter.
- e. Spring.
- f. Small gasket - from inside filter nut.



- a - Fuel Line
- b - Fuel Inlet Filter Nut
- c - Gasket (Large)
- d - Gasket (Small)
- e - Filter
- f - Spring

2. Clean filter nut and spring in solvent and dry with compressed air.
3. Install in the following order:
 - a. Spring - place in carburetor body.
 - b. Filter - open end to inlet filter nut.
 - c. Small gasket - place inside filter nut.
 - d. Large gasket - place over filter nut threads.
 - e. Fuel inlet filter nut - torque nut to 18 lb. ft. (24 N·m).
 - f. Fuel line - torque to 18 lb. ft. (24 N·m).

Choke Inspection

The choke does not require any periodic maintenance; however, if a choke malfunction is suspected, the following should be done:

1. With engine turned OFF, remove flame arrestor.
2. Open and close choke several times, and check for binding, loose or disconnected linkages, or other signs of damage.
3. If choke or linkage binds, sticks, or works sluggishly, clean with carburetor choke cleaner. Follow directions on can.

IMPORTANT: Choke valve and shaft and lever assembly is not serviceable. If valve and/or shaft and lever assembly is worn or damaged, air horn assembly must be replaced.

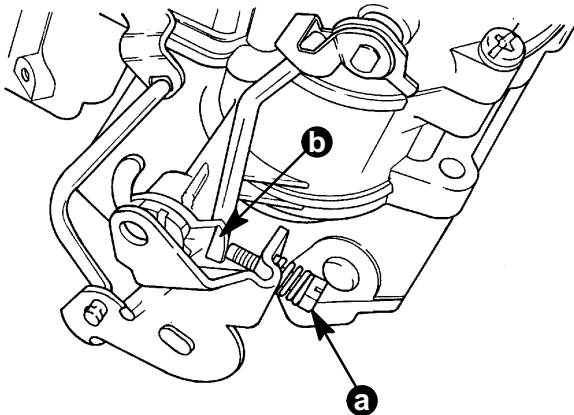
Adjustments

NOTICE

Refer to "Precautions," in this section, **BEFORE** proceeding.

Pump Rod

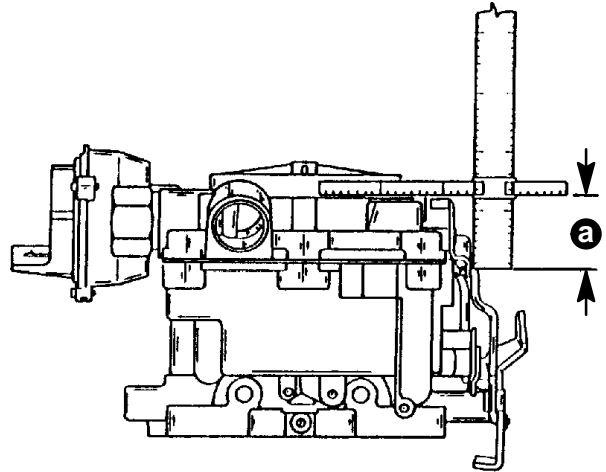
1. Back out idle speed screw until it no longer contacts idle cam.



72284

a - Idle Speed Screw
b - Idle Cam

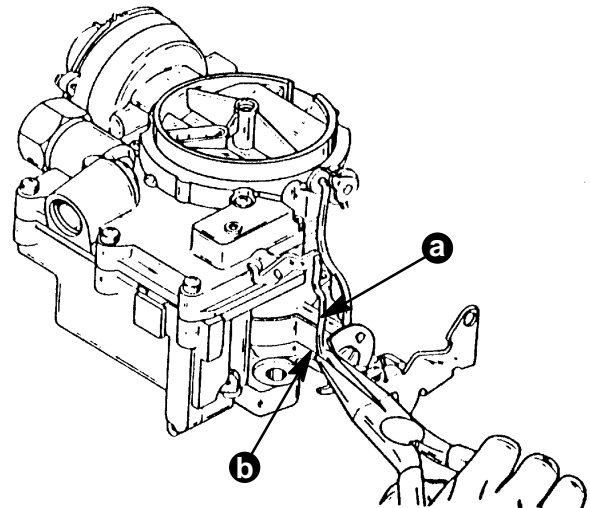
2. With throttle valves completely closed, measure from flame arrestor mounting surface to top of pump rod.



72682

a - See Specifications

3. Carefully bend pump rod (where shown) to obtain specified dimension.

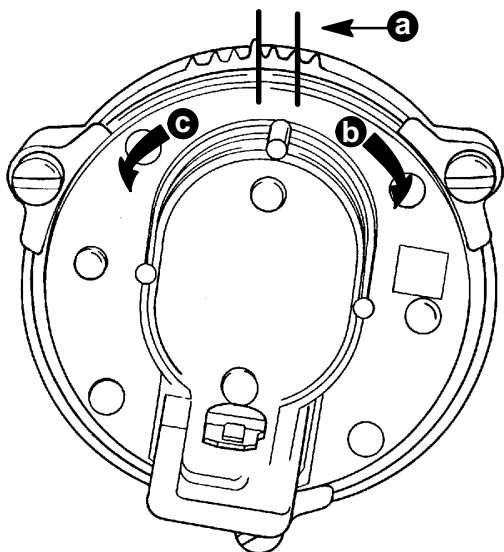


72683

a - Pump Rod
b - Bend Here

Choke Setting

Normal choke setting is such that scribed mark on cover is in line with long case mark on choke housing.



72403

- a - Scribed Mark
- b - More Choke
- c - Less Choke

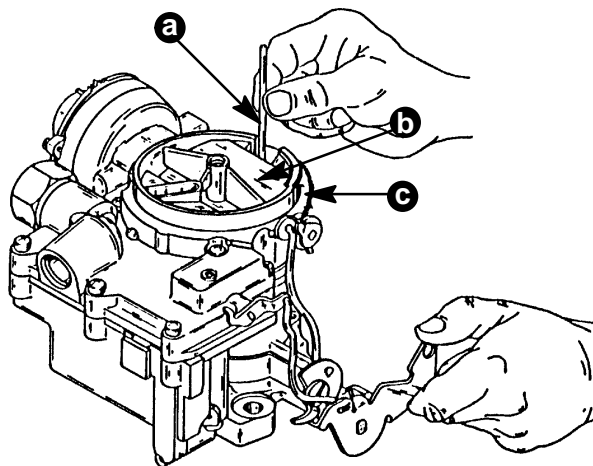
If choke adjustment is necessary:

1. Loosen three choke cover retaining screws and adjust as shown.
2. Tighten three choke cover retaining screws securely.

Choke Unloader

1. Hold throttle valves completely open.
2. Gently press down on choke plate.

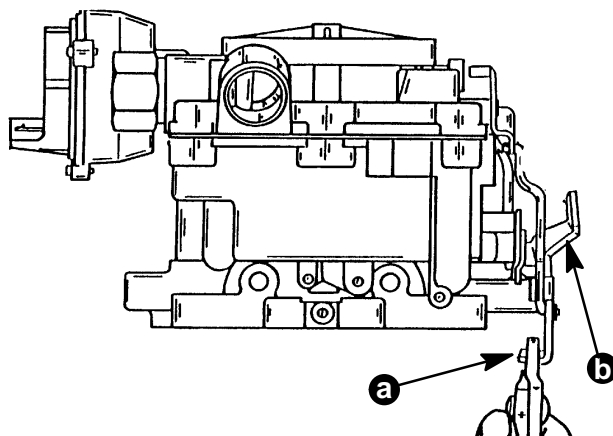
3. Using a .080 (5/64) in. drill rod, or or appropriate gauge, slide rod between upper edge of choke plate and air horn assembly. Rod should just slide through.



72684

- a - .080 In. (0.2 mm) Drill Rod
- b - Choke Plate
- c - Air Horn

4. Bend tang on throttle lever, if necessary, to obtain specified dimension.



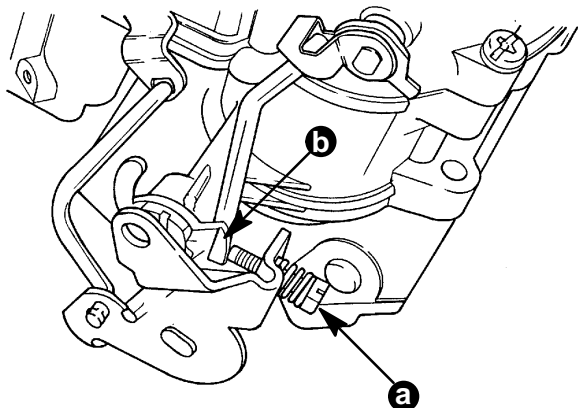
72685

- a - Tang
- b - Throttle Level

Preliminary Idle Speed and Mixture

IMPORTANT: The following adjustments will provide a sufficient idle speed and mixture for starting engine. Final adjustments must be made with engine running.

1. Back out idle speed screw until it no longer contacts idle cam. Turn idle speed screw in until it just contacts idle cam, then turn screw in an additional two turns.

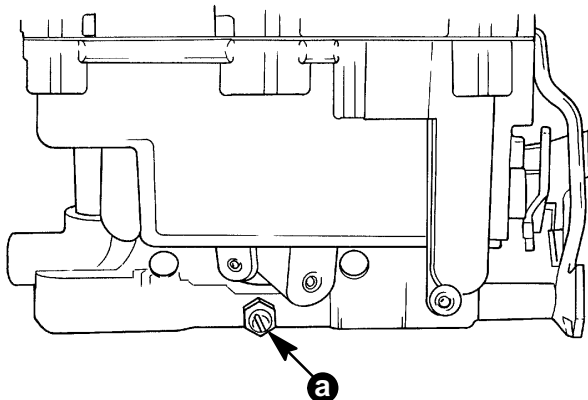


72284

a - Idle Speed Screw
b - Idle Cam

IMPORTANT: DO NOT turn idle mixture needle tightly against seat (in the following step), as damage to seat and/or needle may result.

2. Turn idle mixture needle in until lightly seated, then back needle out 1-1/4 turns.



72281

a - Idle Mixture Needle

Final Idle Speed and Mixture

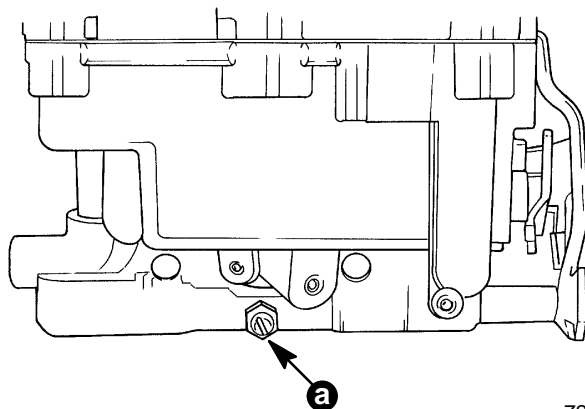
IMPORTANT: Boat must be in the water and engine at normal operating temperature to accurately check and adjust idle speed and mixture.

Carburetor should be set so that engine idles smoothly within range given under "Specifications," with boat in the water, engine at normal operating temperature and drive unit in forward gear. To adjust idle speed and mixture, proceed as follows:

IMPORTANT: DO NOT attempt to compensate for other engine problems (incorrect ignition timing, faulty ignition components, low compression, vacuum leaks, etc.) with carburetor adjustments. This will only cover the problem, which must be corrected if engine is to achieve maximum fuel economy and performance.

1. Connect an accurate shop tachometer to engine.

IMPORTANT: DO NOT turn idle mixture needle tightly into seat, as damage to needle and/or seat may result.



72281

a - Idle Mixture Needle

2. If new or rebuilt carburetor has been installed, turn idle mixture needle in (clockwise) until it lightly contacts seat, then back out needle 1-1/4 turns. This will provide a sufficient setting to allow starting engine.
3. Start engine and run at 1500 RPM until engine reaches normal operating temperature.

⚠ WARNING

DO NOT leave the helm unattended while performing idle speed and mixture adjustments, following. **BE CAREFUL NOT TO ACCIDENTALLY ACCELERATE ENGINE WHILE PERFORMING ADJUSTMENTS.**

4. With boat in open water, place remote control in forward gear, idle position.
5. Disconnect throttle cable barrel from anchor stud. Be sure not to lose spacer on anchor stud.
6. Adjust idle speed adjustment screw to obtain 550-600 RPM, in neutral gear.
7. With engine running at specified RPM, adjust idle mixture needle as follows:
 - a. Turn idle mixture needle in (clockwise) until the engine speed begins to drop due to lean mixture.
 - b. Turn idle mixture screw out (counterclockwise) until the speed begins to drop due to rich mixture.
 - c. Turn screw in to a point between these two extremes to obtain maximum engine smoothness and RPM.
 - d. Readjust idle speed adjustment screw until engine idles at 650-700 RPM in forward gear.

IMPORTANT: Refer to Section 2 - "Removal and Installation" for throttle cable installation and adjustment.

Repair

NOTICE

Refer to "Precautions," in this section, **BEFORE** proceeding.

Removal

IMPORTANT: Carburetor malfunctions are, in many cases, caused by the presence of dirt, water or other foreign matter in carburetor. To aid in diagnosis, carefully remove carburetor from engine without draining fuel from bowl. Contents of fuel bowl may then be inspected for contamination as carburetor is disassembled.

1. Remove ventilation hose from flame arrestor, then remove flame arrestor.

IMPORTANT: Place a clean cloth in bores of carburetor to prevent dirt and foreign material from falling into bores.

2. Turn fuel supply off at fuel tank.
3. Disconnect throttle cable from carburetor.
4. Remove fuel line from fuel inlet nut, using wrench to stabilize fuel inlet nut.
5. Remove fuel pump sight tube from carburetor.
6. Disconnect electric choke.
7. Remove carburetor attaching nuts and washers and remove carburetor.

IMPORTANT: Place a clean cloth over intake manifold opening to prevent dirt or foreign material from entering manifold.

8. Remove and discard gaskets.

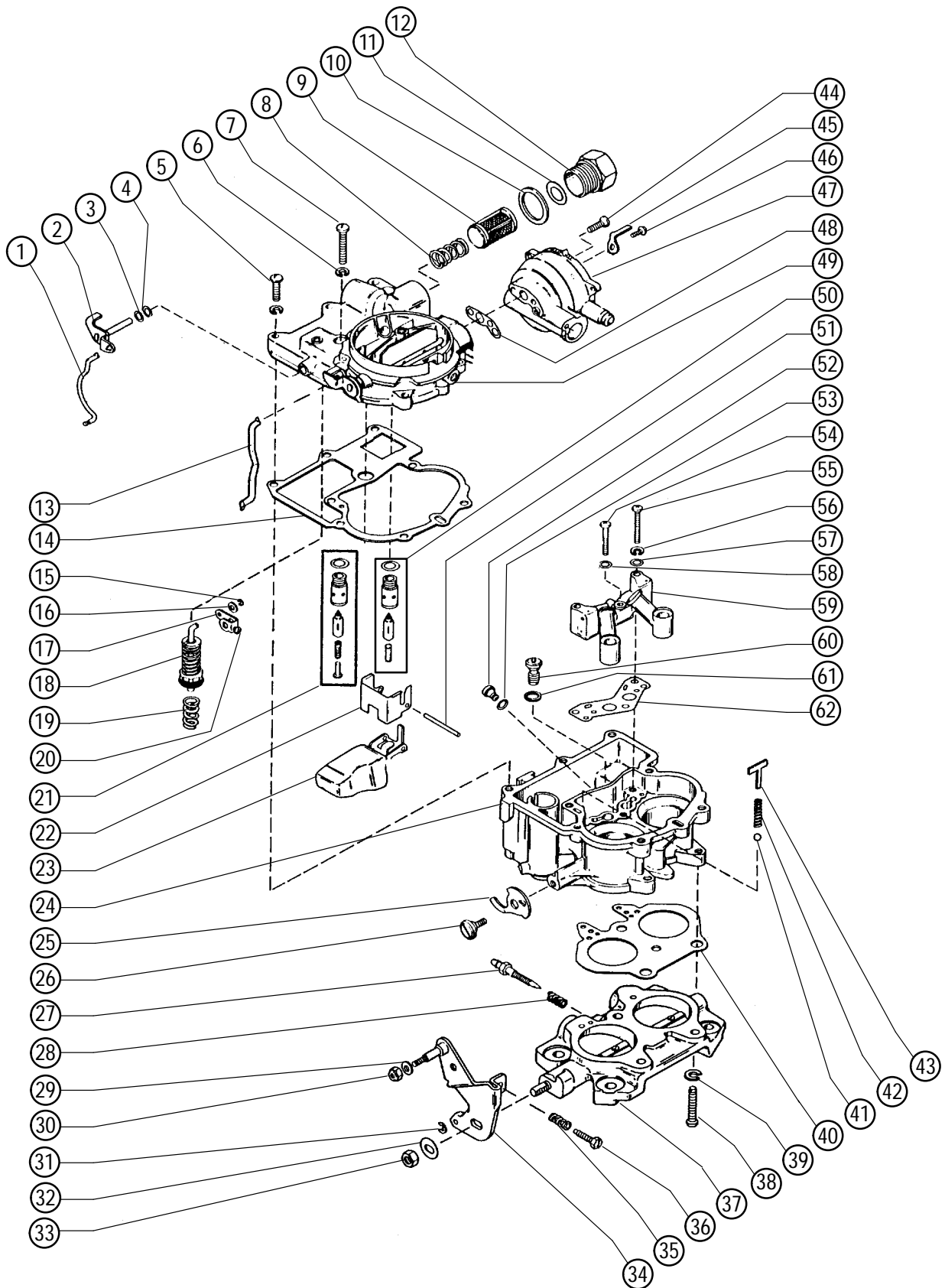
Installation

1. Thoroughly clean gasket surfaces.
2. Place new carburetor base gasket on intake manifold. Install carburetor and secure with nuts and washers. Torque to 132 lb. in. (15 N·m).
3. If fuel inlet filter nut was disturbed, remove; clean all threads with brush and carburetor cleaner or Quicksilver Leveler.
4. Connect fuel line to fuel inlet filter nut, and while stabilizing filter nut with wrench, tighten fuel line fitting securely.
5. Connect fuel pump sight tube to fitting on carburetor.
6. Connect electric choke wires to choke cover.

7. Install throttle cable as explained in Section 2.
8. Install flame arrestor and crankcase ventilation hose.
9. Reconnect battery cables to battery.
10. Ensure that water is supplied to cooling system. Start engine and check for gasoline leaks. If leaks exist, STOP ENGINE IMMEDIATELY and re-check connections.
11. Adjust idle speed and idle mixture, as outlined under "Adjustments" as previously outlined.

The following is a step-by-step procedure for completely overhauling carburetor removed from engine. In many cases, however, complete overhaul is not necessary and, in these cases, only the steps required to repair the carburetor malfunction should be performed. Read the instructions carefully to prevent doing any unnecessary steps.

IMPORTANT: Before performing any service on carburetor, it is essential that carburetor be placed in a holding fixture to prevent possible damage to throttle valves.



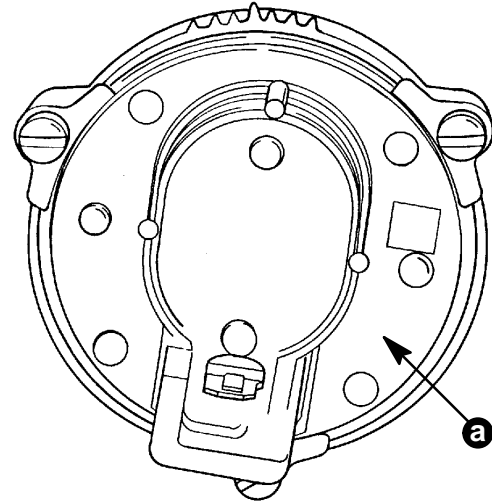
72686

Exploded View Parts List

- 1- Rod - Accelerator Pump
- 2- Accelerator Pump Shaft and Lever Assembly
- 3- Washer (Outer)
- 4 Washer (Inner)
- 5- Screw
- 6- Washer
- 7- Screw
- 8- Spring
- 9- Filter
- 10-Gasket
- 11 -Gasket
- 12-Nut-Fuel Inlet
- 13-Choke-Rod
- 14-Gasket
- 15-Clip - Retainer
- 16-Washer
- 17-Pump Shaft and Lever Assembly
- 18-Accelerator Pump Assembly
- 19-Spring
- 20-Screw
- 21-Inlet Needle and Seat (Spring Loaded - Optional)
- 22-Baffle Plate
- 23-Float
- 24-Float Bowl
- 25-Cam-Idle
- 26-Screw
- 27-Idle Mixture Adjusting Needle
- 28-Spring
- 29-Washer
- 30-Nut
- 31-Clip-Pump Rod
- 32-Washer-Locking
- 33-Nut
- 34-Throttle Lever
- 35-Spring
- 36-Screw - Idle Speed Adjustment
- 37-Throttle Body
- 38-Screw
- 39-Washer
- 40-Gasket
- 41-Check Ball
- 42-Spring
- 43-Retainer
- 44-Screw
- 45-Lever Assembly
- 46-Screw
- 47-Choke/Housing
- 48-Gasket
- 49-Air Horn
- 50-Inlet Needle And Seat
- 51-Pin
- 52-Screw
- 53-Gasket
- 54-Screw
- 55-Screw
- 56-Flat Washer
- 57-Lock Washer
- 58-Gasket
- 59-Venturi Cluster
- 60-Power Valve Assembly
- 61-Gasket
- 62-Gasket

CHOKE HOUSING ASSEMBLY

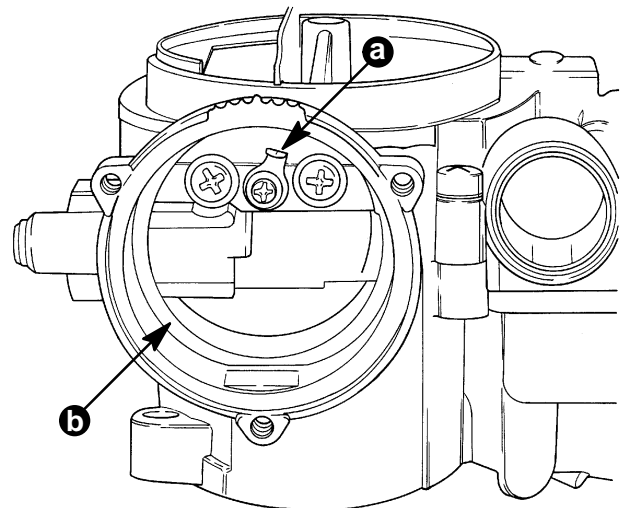
1. Remove choke cover.



72403

a - Choke Cover

2. Remove choke lever. Remove choke housing.



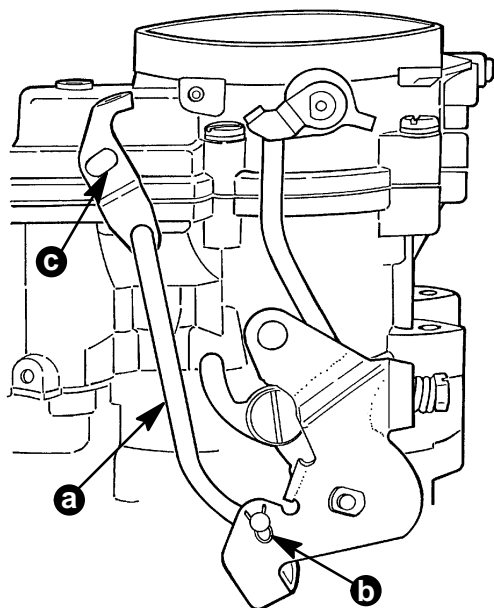
72401

a - Choke Lever
b - Choke Housing

AIR HORN ASSEMBLY

1. Remove fuel inlet filter nut, washers, spring, and filter, as outlined previously.

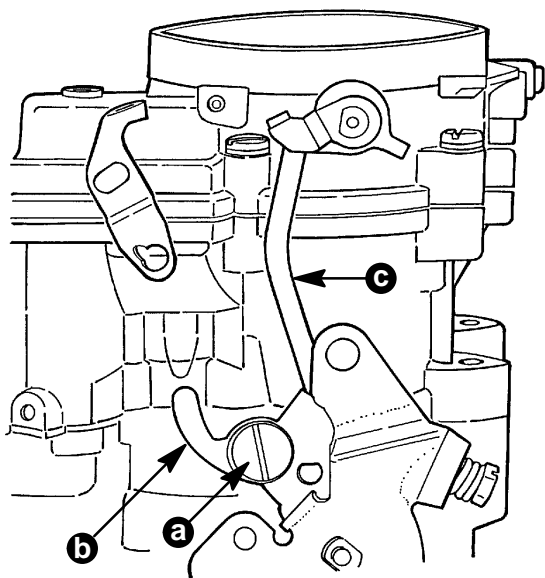
2. Remove accelerator pump rod retaining clip. Pivot rod (as required) until retaining ear on rod and slot in pump shaft and lever assembly align, allowing rod to be pulled out.



72283

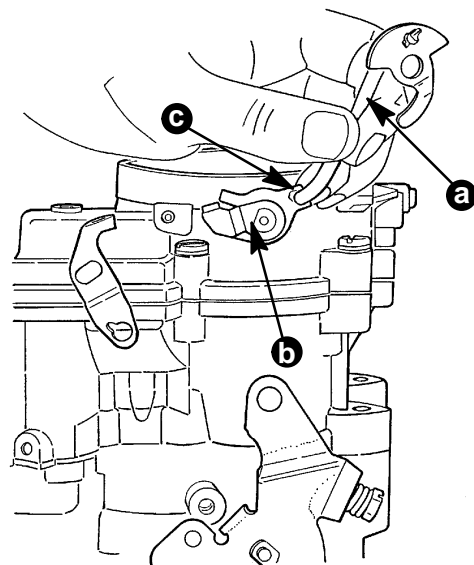
- a - Accelerator Pump Rod
- b - Retainer Clip
- c - Pump Shaft and Lever Assembly

3. Remove idle cam screw. Also, remove choke rod by pivoting rod (as required) until retaining ear on rod and slot in choke lever align, allowing rod to be pulled out.



72282

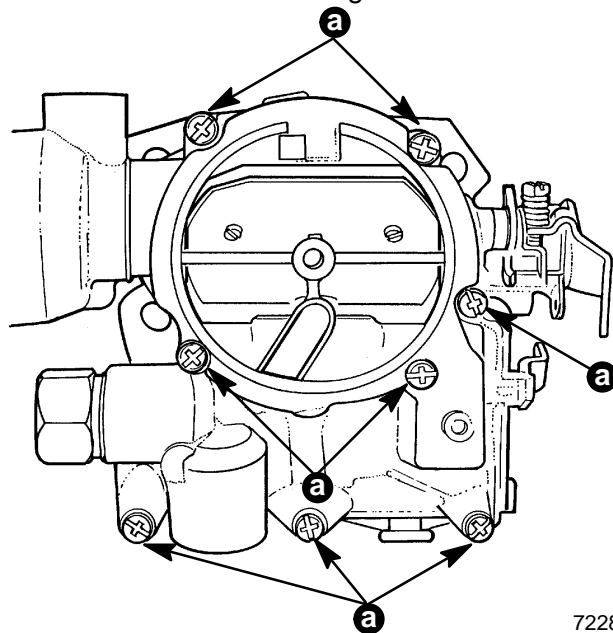
- a - Idle Cam Screw
- b - Idle Cam
- c - Choke Rod



72286

- a - Choke Rod
- b - Choke Lever
- c - Slot

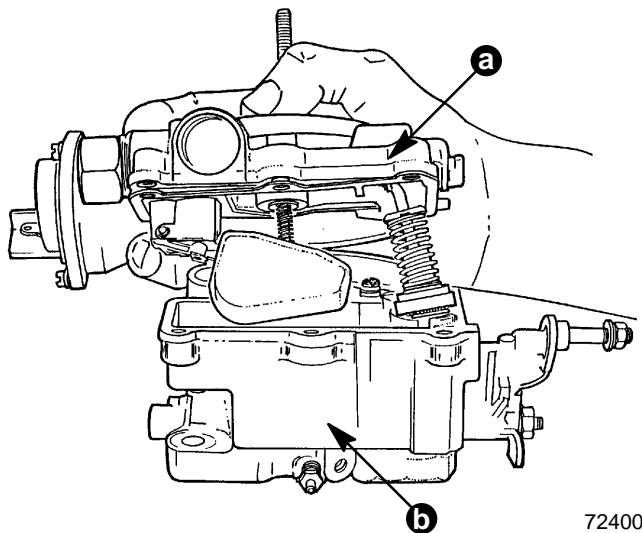
4. Remove air horn attaching screws as shown.



72280

- a - Air Horn Attaching Screws

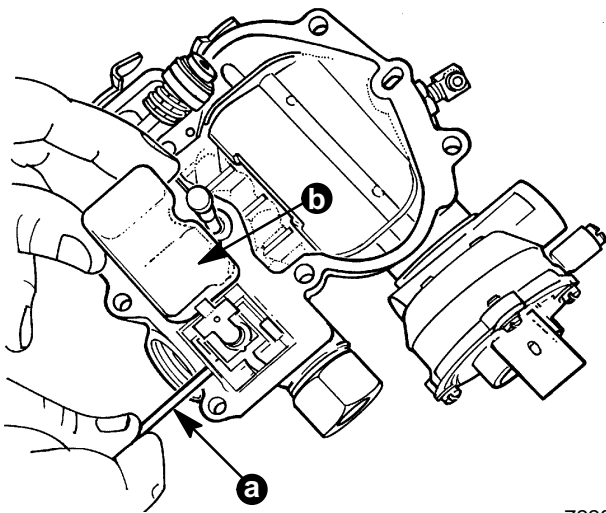
5. Carefully lift air horn from float bowl assembly.



a - Air Horn Assembly
b - Float Bowl Assembly

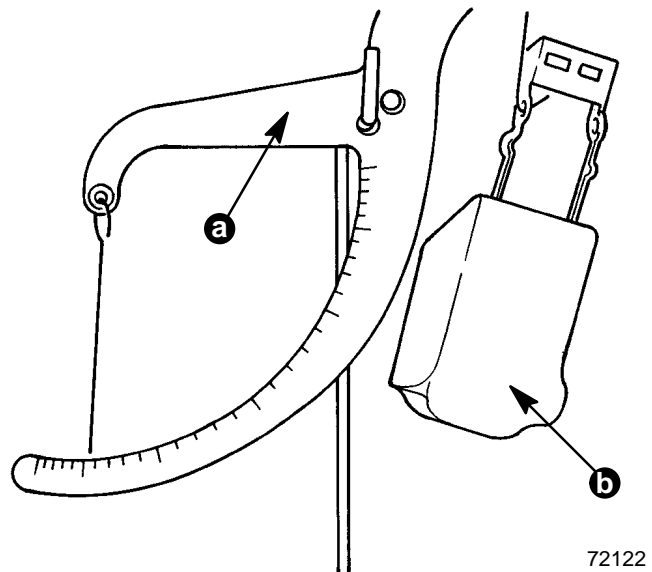
6. Invert air horn and carefully lay on bench.

7. Remove float hinge pin and lift float assembly from air horn.



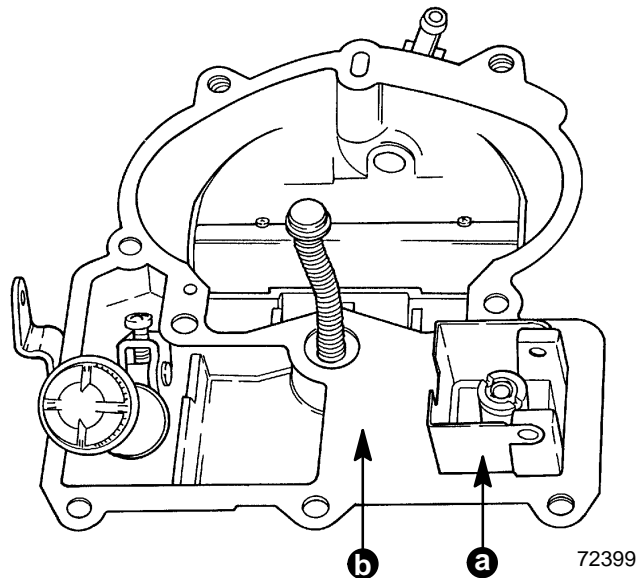
a - Float Hinge Pin
b - Float Assembly

8. Check float weight as shown.



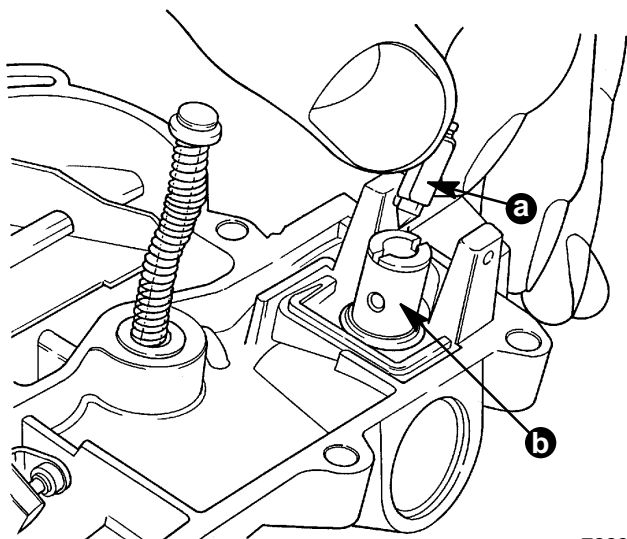
a - Grams Scale
b - Float

9. Remove air horn gasket and baffle.



a - Baffle
b - Air Horn Gasket

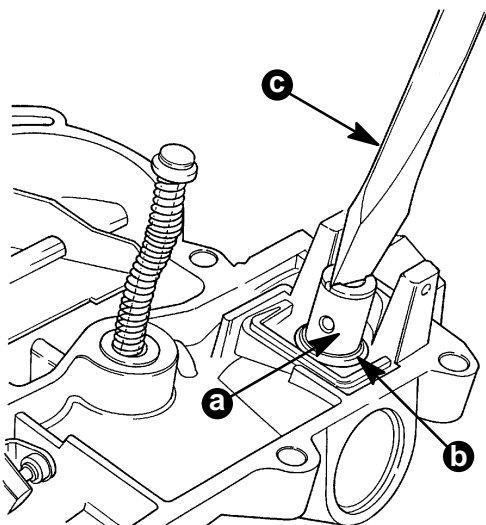
10. Remove needle assembly.



72287

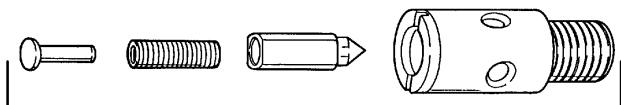
- a - Needle Assembly
- b - Needle Seat

11. Remove needle seat.

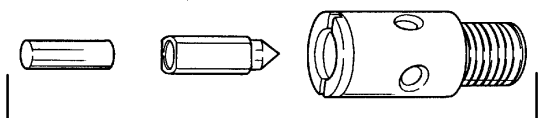


72289

- a - Needle Seat
- b - Gasket
- c - Screwdriver



a



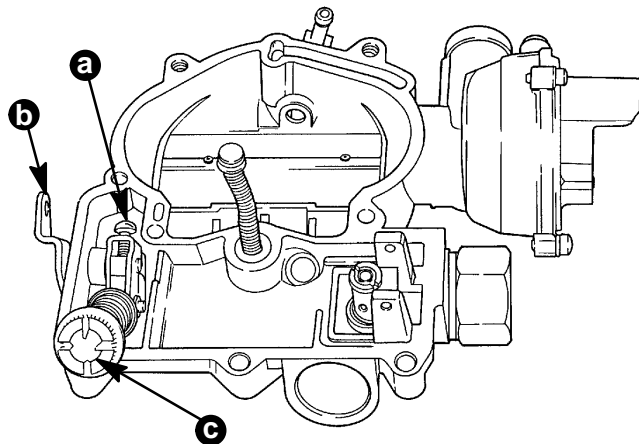
b

72290

- a - Spring Loaded Type Needle (Kit 3302-9029)
- b - Solid Type Needle (Kit 3302-9407)

Needle and Seat Assemblies

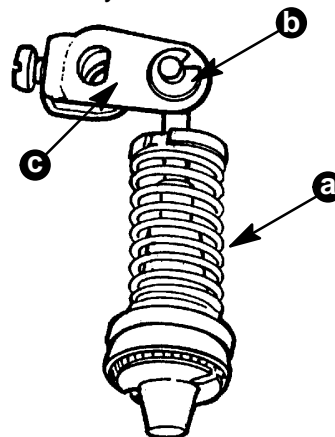
12. Loosen accelerator pump screw. Slide pump shaft and lever assembly (and washer) out of air horn, then remove accelerator pump assembly.



72398

- a - Setscrew
- b - Lever Assembly
- c - Pump Assembly

13. Remove retainer clip and washer from pump shaft and lever assembly, then remove accelerator pump assembly.

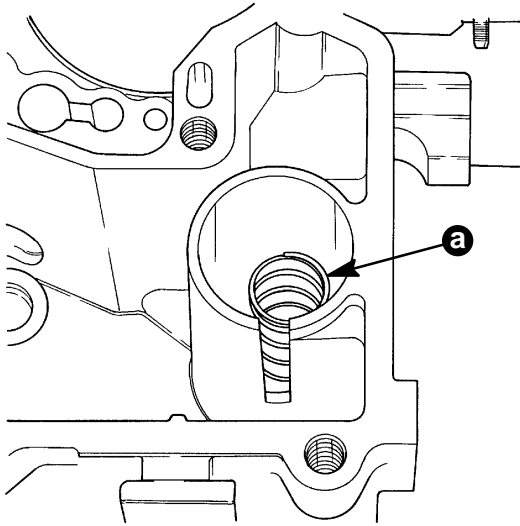


72409

- a - Pump Assembly
- b - Retainer Clip
- c - Lever Assembly

FLOAT BOWL ASSEMBLY

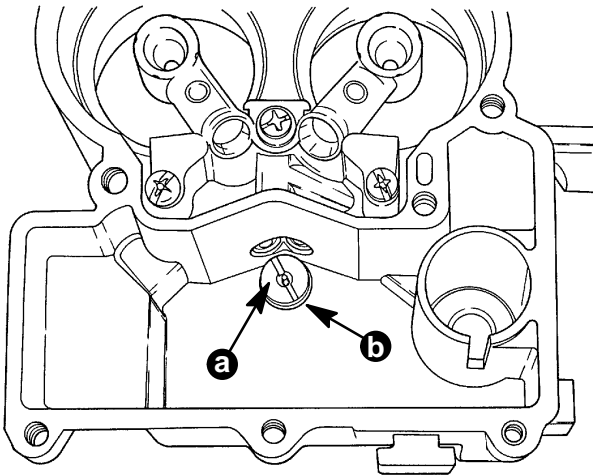
1. Remove accelerator pump return spring from pump well.



72402

a - Accelerator Pump Spring

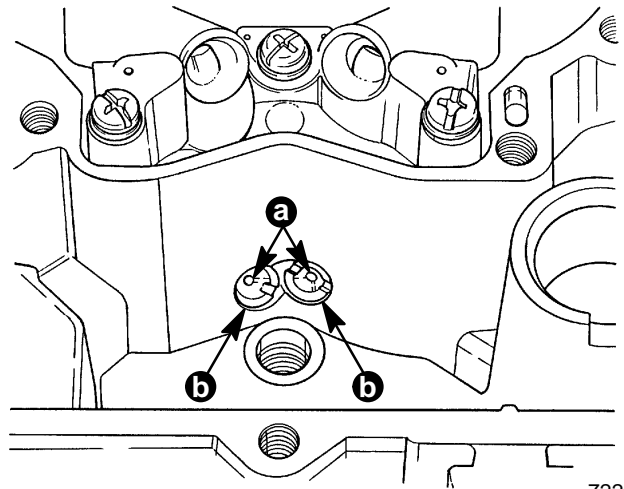
2. Remove power valve assembly and gasket.



72404

a - Power Valve Assembly
b - Gasket (Not Shown)

3. Remove main metering jets.

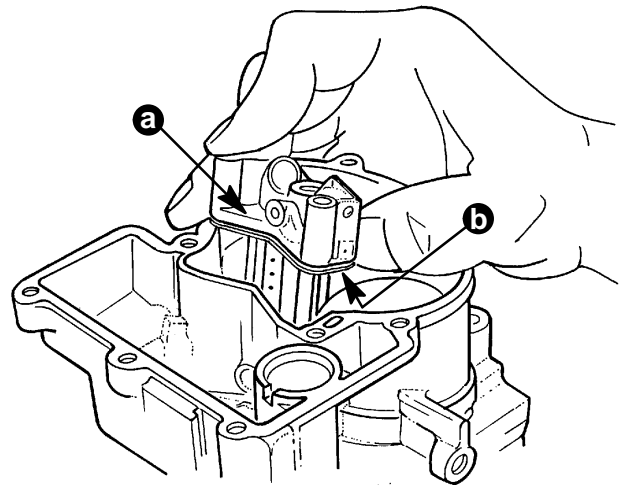


72291

a - Main Metering Jets
b - Gaskets (Not Shown)

IMPORTANT: Use care when removing venturi cluster to prevent damaging brass tubes which protrude from bottom of cluster. **DO NOT REMOVE TUBES.** These tubes are permanently pressed into the venturi cluster and are not replaceable.

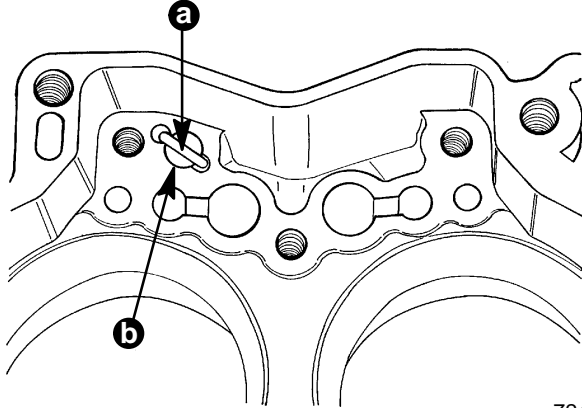
4. Remove three venturi cluster screws, and carefully lift cluster and venturi gasket straight up.



72292

a - Venturi Cluster Brass Tubes
b - Gasket

- Using a needle-nose pliers, remove accelerator pump check ball spring retainer. Turn float bowl over to remove spring and check ball.



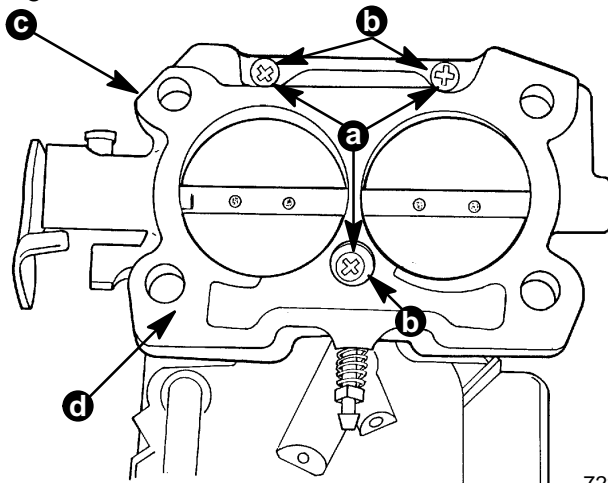
72407

- a - Spring Retainer
- b - Spring and Check Ball (Not Shown)

THROTTLE BODY ASSEMBLY

IMPORTANT: Use extreme care when handling throttle body, so as not to damage throttle valves.

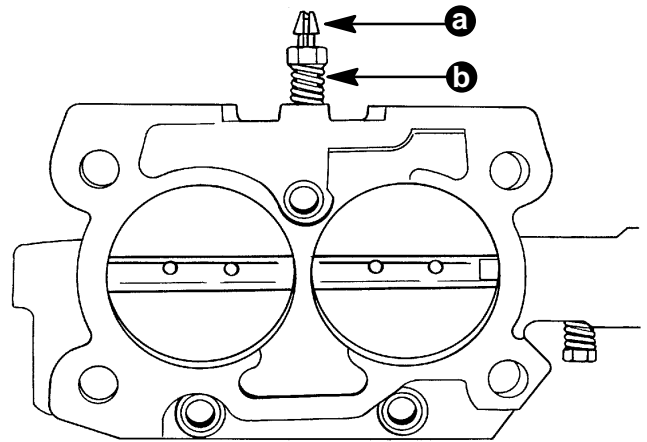
- Place float bowl assembly upside down. Remove three throttle body assembly attaching screws and lockwashers, and remove throttle body and gasket from float bowl.



72294

- a - Screws
- b - Lockwashers (Not Shown)
- c - Throttle Body
- d - Gasket (Not Shown)

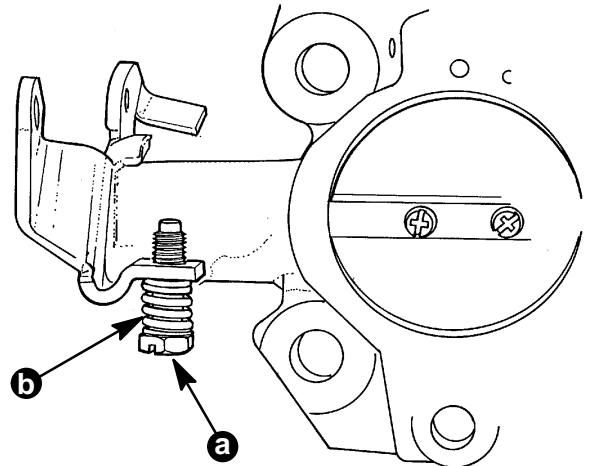
- Remove idle mixture adjusting needle and spring.



72293

- a - Idle Mixture Adjusting Needle
- b - Spring

- Remove idle speed adjustment screw and spring, if replacement is necessary.



72395

- a - Idle Speed Screw
- b - Spring

IMPORTANT: DO NOT remove throttle valves. If any of the throttle body parts are found to be worn or damaged, complete throttle body assembly MUST BE replaced. Throttle body assembly can be cleaned in carburetor cleaner.

Cleaning and Inspection

IMPORTANT: DO NOT use a wire or drill to clean jet passages or tubes in carburetor, as this may enlarge orifices and seriously affect carburetor calibration.

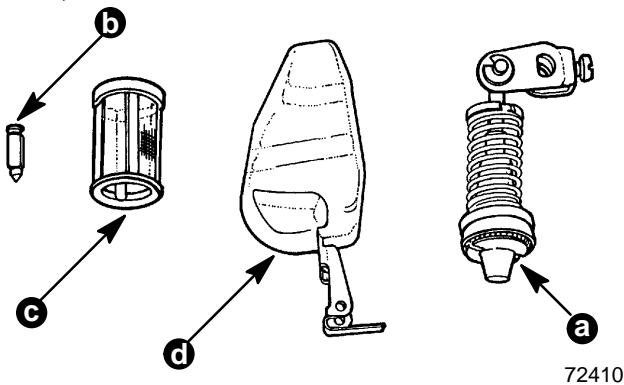
⚠ CAUTION

To avoid damage to carburetor DO NOT leave carburetor in immersion type carburetor cleaner for more than two hours.

IMPORTANT: DO NOT clean float bowl gasket surfaces with a gasket scraper or knife, as sealing bead will be damaged and float bowl replacement will be necessary.

⚠ CAUTION

The float assembly, float needle, accelerator pump plunger, and fuel filter **MUST NOT BE** immersed in carburetor cleaner, as they will swell, harden, and/or distort.



- a - Accelerator Pump Plunger
- b - Float Needle
- c - Fuel Filter
- d - Float Assembly

⚠ WARNING

Avoid personal injury by always wearing safety goggles when using compressed air.

1. Thoroughly clean all metal parts in a commercial carburetor cleaner, until all deposits have been removed. Follow cleaner manufacturer's instructions for proper cleaning and rinsing procedure. Dry parts with compressed air.
2. Using compressed air, blow out all passages in carburetor to remove any foreign material.
3. Wipe off all parts that cannot be cleaned in carburetor cleaner with a clean, dry cloth.

4. Carefully inspect all carburetor parts for wear and damage; pay particular attention to the following:
 - a. **Float Needle and Seat:** If float needle or seat is worn or damaged, replace with new needle and seat assembly.

IMPORTANT: Float needle and seat are factory matched and tested and should be replaced as a set only.

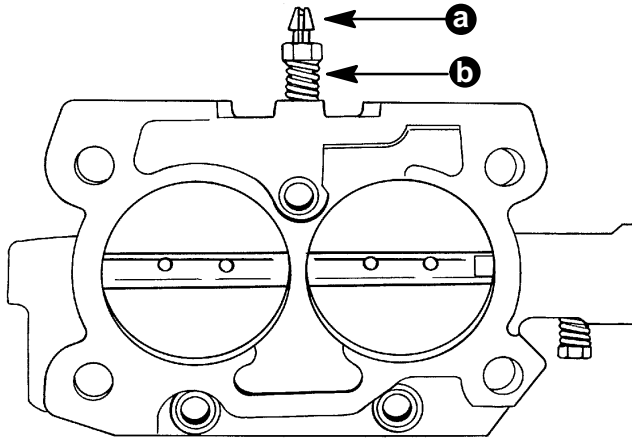
- b. **Float Assembly and Hinge Pin:** Check float density (to see if it is saturated with fuel) by comparing weight of float with specifications. If weight is high, float assembly must be replaced. Check hinge pin and holes for wear.
- c. **Fuel and Air Passages:** Passages must be perfectly clean for proper carburetor operation.
- d. **Accelerator Pump Plunger and Return Spring:** Inspect pump plunger cup, pump plunger spring (on pump assembly) and return spring.
- e. **Power Piston Spring:** Check power piston spring for weakness or distortion.
- f. **Idle Mixture Needle:** Inspect idle mixture needle. If damaged, needle must be replaced.
- g. **Levers and Linkages:** Check levers, links and rods for wear.
- h. **Throttle Valve and Shaft:** Check throttle shaft for excessive looseness in throttle body. Check throttle valve and shaft for binding through entire operating range, making sure valve opens and closes completely. Throttle body assembly must be replaced if throttle valve and shaft are worn or damaged.
- i. **Choke Valve and Shaft and Lever Assembly:** Check shaft and lever assembly for excessive looseness in air horn assembly. Check choke valve and shaft and lever assembly for binding through entire operating range, making sure valve opens and closes completely. Air horn assembly must be replaced if choke valve and shaft and lever assembly are worn or damaged.
- j. **Inspect Casting** for visible damage. Inspect gasket surfaces. Inspect accelerator pump plunger well for scoring or deposits.

Reassembly

THROTTLE BODY ASSEMBLY

IMPORTANT: DO NOT force idle mixture needle against seat as damage to needle and/or seat will result.

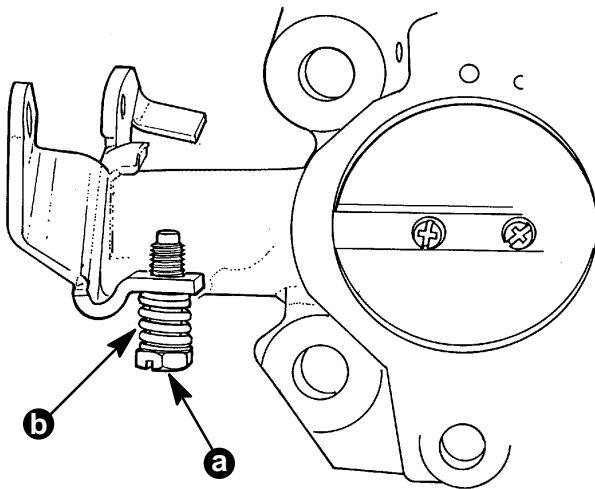
1. Screw idle mixture needle (and spring) into throttle body until they lightly seat, then back out needle 1-1/4 turns as a preliminary idle mixture setting. Final adjustment will be made with engine running. Refer to "Adjustments."



72293

- a - Idle Mixture Adjusting Needle
b - Spring

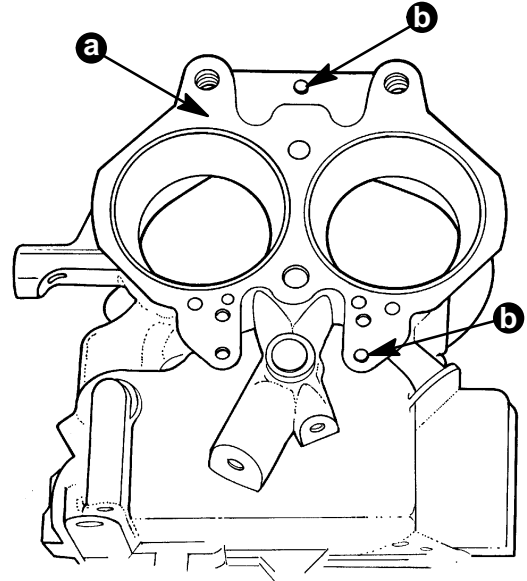
2. Thread idle speed adjustment screw and spring into throttle lever.



72395

- a - Idle Speed Screw
b - Spring

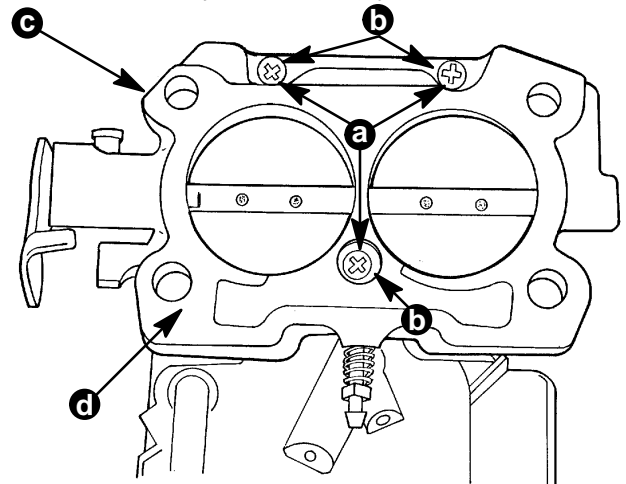
3. Turn float bowl assembly upside down and place new throttle body gasket on bowl, making sure gasket is properly positioned on location dowels.



72295

- a - Throttle Body Gasket
b - Locating Dowels

4. Install throttle body assembly on float bowl assembly, making sure that screw holes in gasket line up with screw holes in throttle body. Tighten screws evenly and securely.



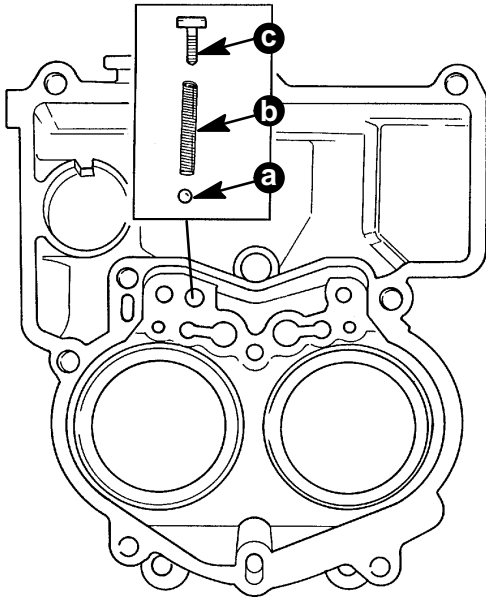
72294

- a - Screws
b - Lockwashers (Not Shown)
c - Throttle Body Assembly
d - Gasket

FLOAT BOWL ASSEMBLY

IMPORTANT: Place float bowl and throttle assemblies in holding fixture to prevent throttle valves from being damaged.

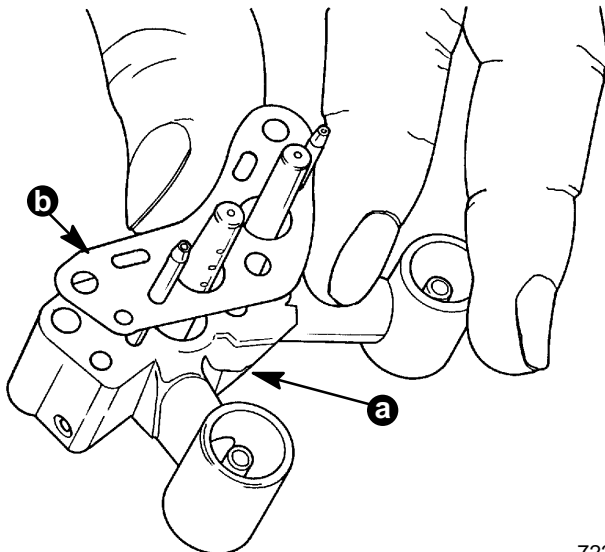
1. Install check ball, spring, and retainer in passage as shown. Push retainer firmly into slots.



72408

- a - Check Ball
- b - Spring
- c - Retainer

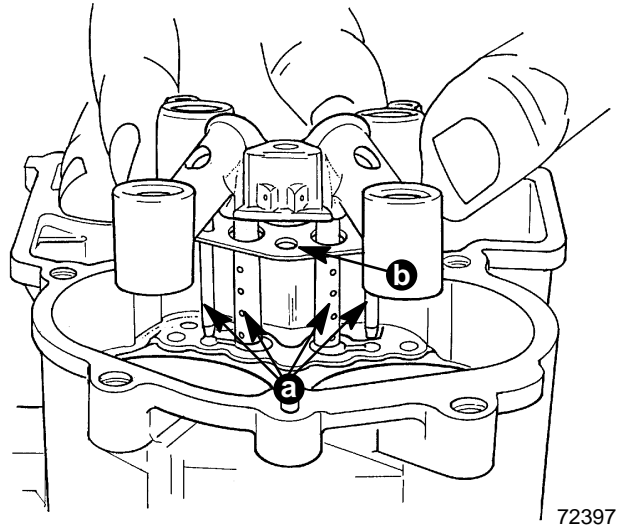
2. Install new gasket on venturi cluster as shown.



72296

- a - Venturi Cluster (I.D. No. 421)
- b - Gasket

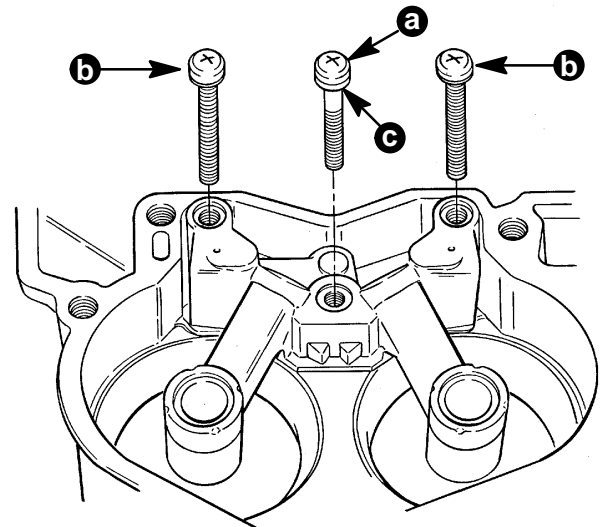
3. Install venturi cluster in carburetor as shown.



72397

- a - Venturi Cluster
- b - Gasket

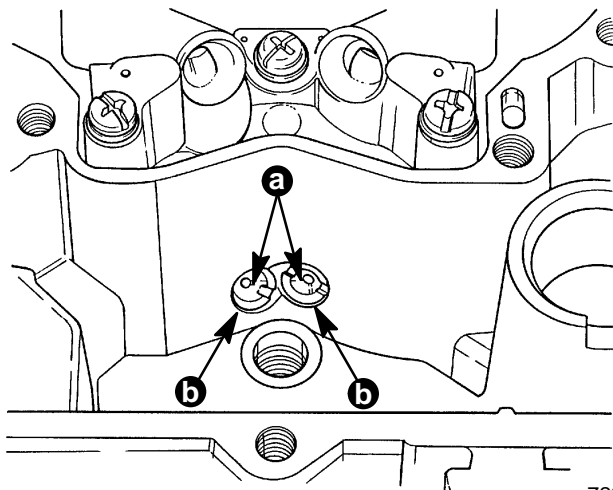
4. Install flat washer and new fiber washer on center screw. Lockwashers and flat washers are used on outer screws. Tighten screws evenly and securely.



72405

- a - Center Screw
- b - Outside Screws
- c - Fiber Washer

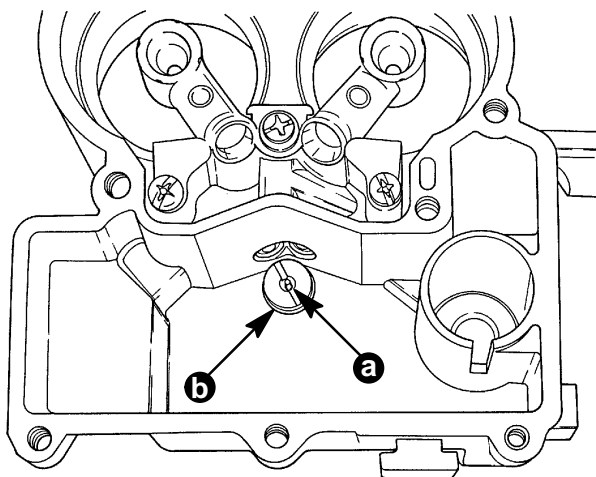
5. Install main metering jets with gaskets as shown. Tighten securely.



72291

- a - Main Metering Jets
- b - Gaskets (Not Shown)

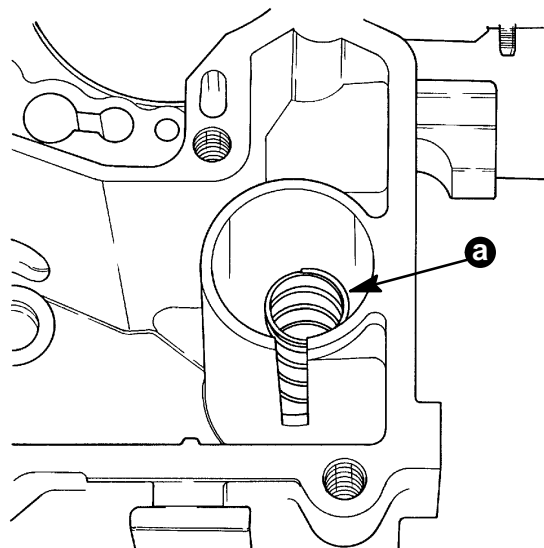
6. Install power valve with new gasket. Tighten securely.



72404

- a - Power Valve
- b - Gasket (Not Shown)

7. Place accelerator pump spring in pump well.



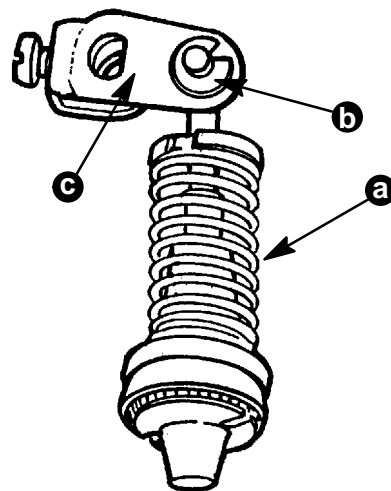
72402

- a - Accelerator Pump Spring

AIR HORN ASSEMBLY

IMPORTANT: Accelerator pump assembly **MUST BE** installed correctly. If pump assembly is installed incorrectly, top of pump assembly will contact air horn casting.

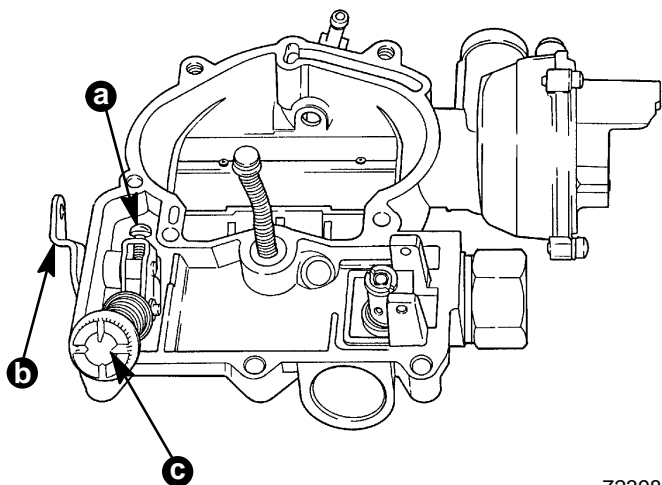
1. If accelerator pump assembly was removed from pump lever, secure pump assembly to pump lever with washer and retainer clip, as shown.



72409

- a - Pump Assembly
- b - Retainer Clip
- c - Pump Lever

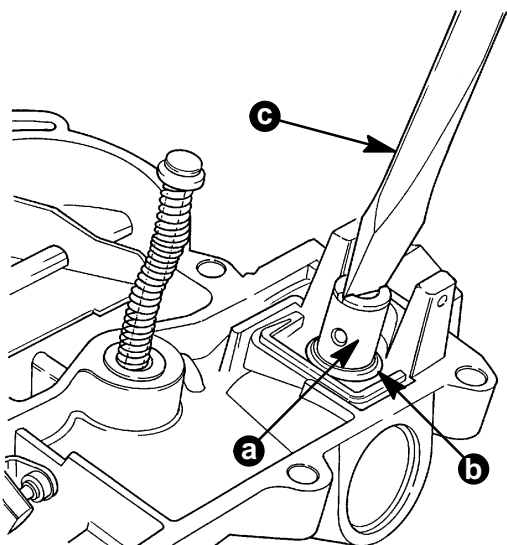
2. Insert pump shaft and lever assembly (and washer) into air horn; then, align indexed hole in pump lever with shaft and lever assembly and slide shaft all the way into lever so that shoulder on shaft is hitting lever. Tighten setscrew securely.



72398

- a - Setscrew
- b - Lever Assembly
- c - Pump Assembly

3. Install needle seat and gasket. Tighten securely.

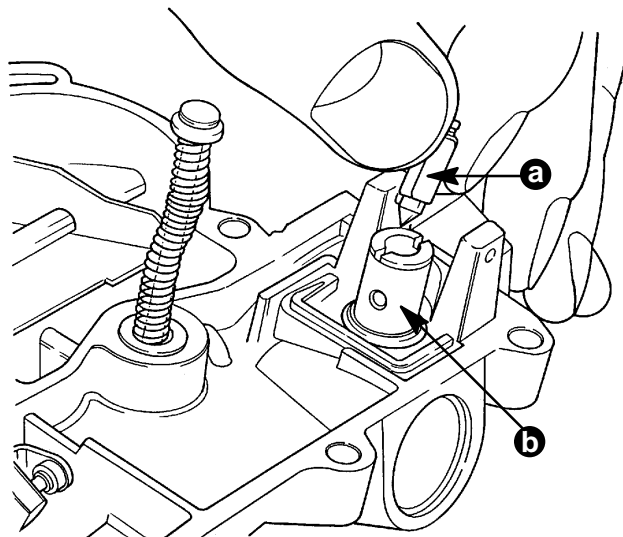


72289

- a - Needle Seat
- b - Gasket
- c - Screwdriver

IMPORTANT: Float needle and needle seat are factory matched and tested and should be replaced as a set only.

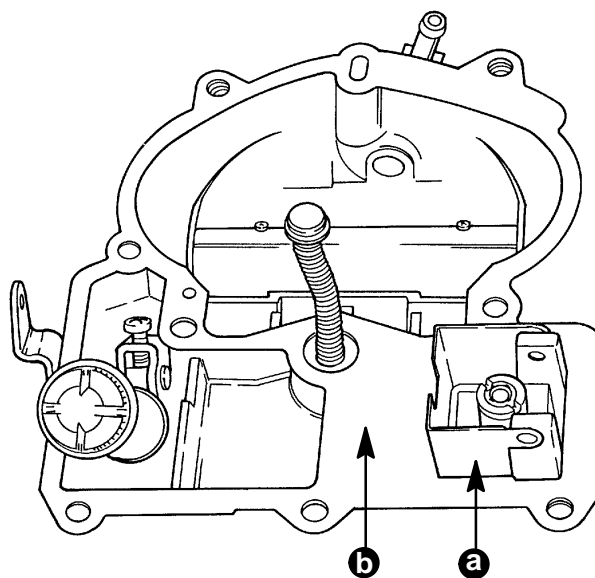
4. Place needle assembly in needle seat.



72287

- a - Needle Assembly
- b - Needle Seat

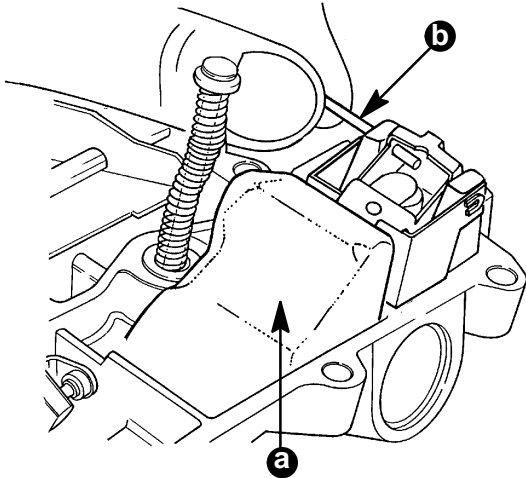
5. Install baffle and gasket.



72399

- a - Baffle
- b - Gasket

6. Install float assembly and hinge pin. Pivot float assembly up and down on hinge pin to ensure it moves freely.



72297

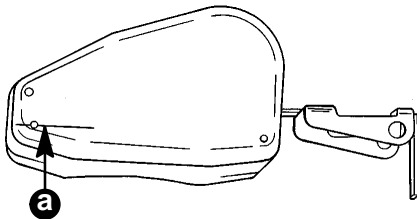
a - Float Assembly
b - Float Hinge Pin

FLOAT LEVEL

1. Turn air horn upside down. Pivot float assembly up and down on hinge pin to ensure it moves freely.

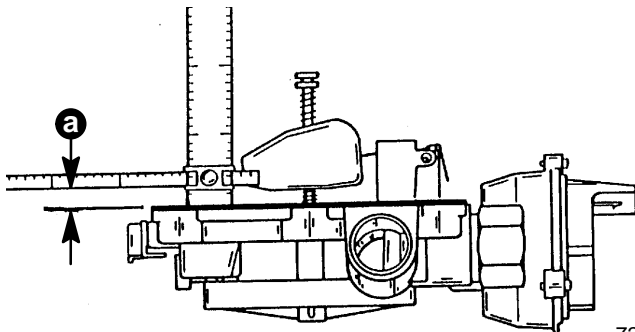
IMPORTANT: Before checking float level, raise float and allow it to fall; however, DO NOT force downward by hand.

2. Measure float level using Universal Carburetor Gauge (91-36392). Measure from gasket to toe of float.



72298

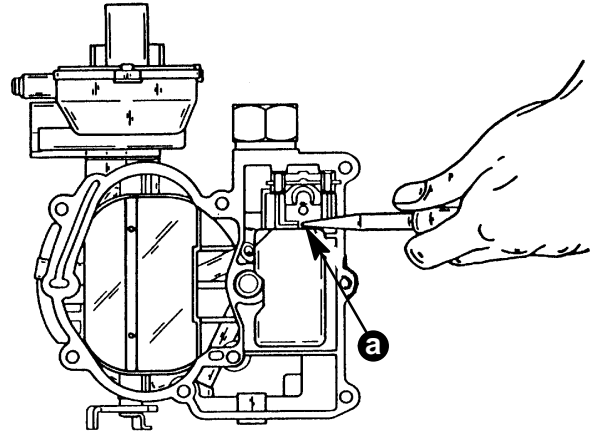
a - Measure from This Point to Gasket



72687

a - Measurement With 2 Piece Solid Inlet Needle - 3/8 in.
(10 mm)
Measurement With Spring Loaded Inlet Needle - 9/16 in.
(14 mm)

3. Bend float arm up or down at point shown to obtain specified dimension.



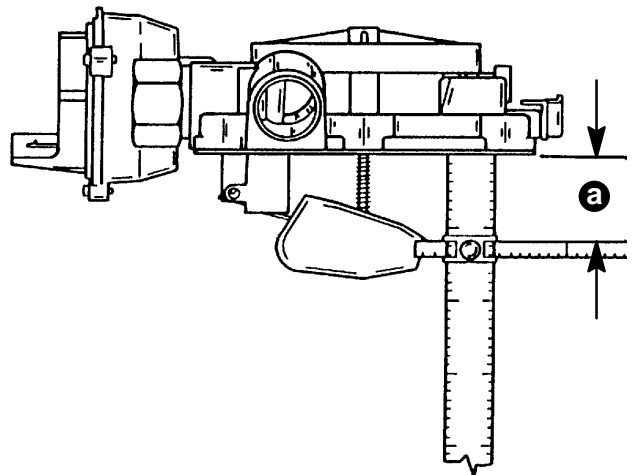
72688

a - Bend Float Arm at This Point

4. Visually check float alignment after adjustment.

FLOAT DROP

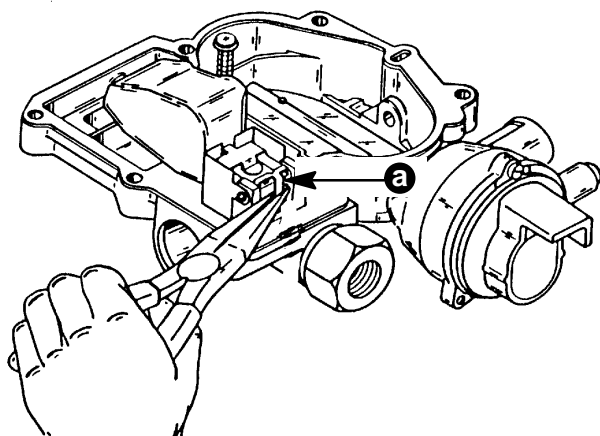
1. Hold air horn right side up to allow float to hang free.
2. Measure float drop using Universal Carburetor Gauge (91-36392). Measure from gasket to toe of float.



72689

a - Measurement - 1-3/32 in. (27 mm)

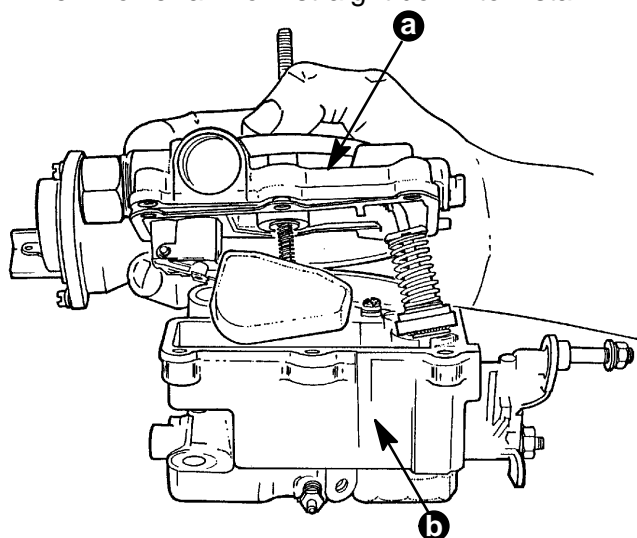
3. Bend float assembly tang, as shown, to obtain specified dimension.



72690

a - Float Assembly Tang

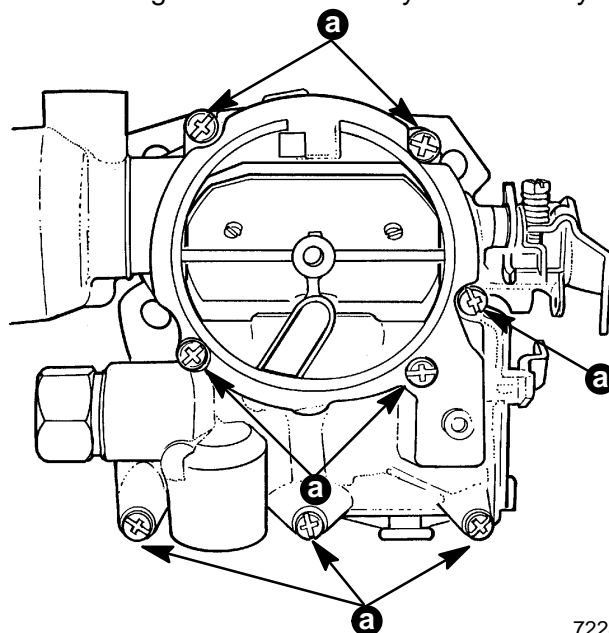
4. Recheck BOTH float level and float drop.
5. Carefully place air horn on float bowl, making sure accelerator pump is correctly positioned in fuel well. Lower air horn straight down to install.



72400

a - Air Horn Assembly
b - Float Bowl Assembly

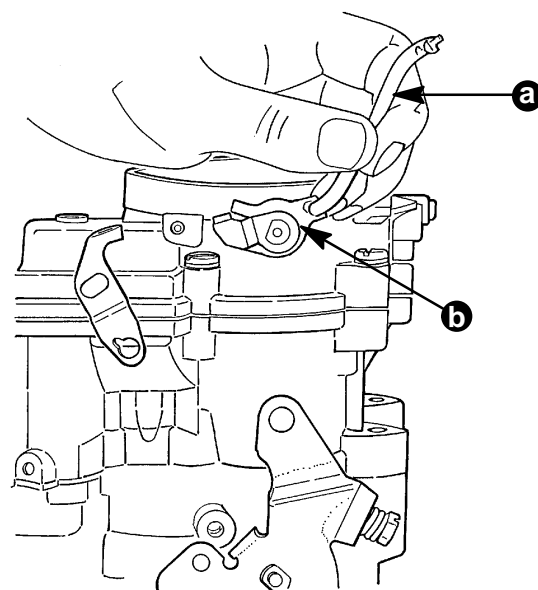
6. Install seven short and one long air horn attaching screws. Tighten screws evenly and securely.



72280

a - Air Horn Attaching Screws

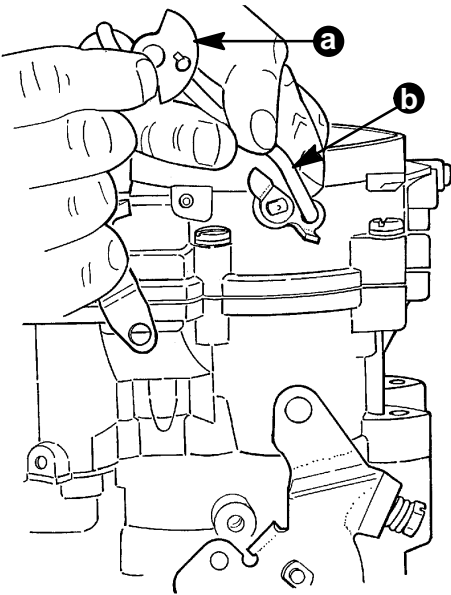
7. Place end of choke rod in choke lever and collar assembly.



72299

a - Choke Rod
b - Choke Lever and Collar Assembly

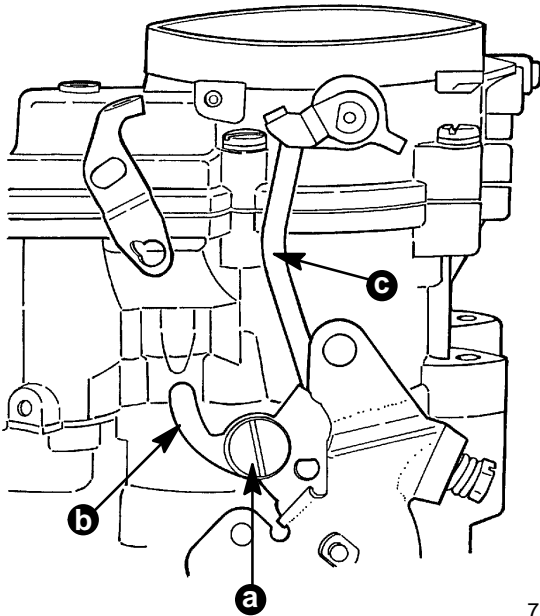
8. Place idle cam on choke rod.



72392

a - Idle Cam
b - Choke Rod

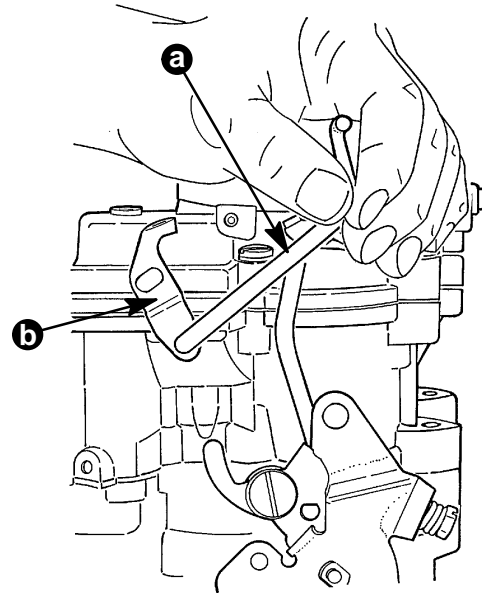
9. Secure idle cam (with choke rod installed on cam) on float bowl assembly, using screw. Check that cam is free to move without binding.



72282

a - Screw
b - Idle Cam
c - Choke Rod

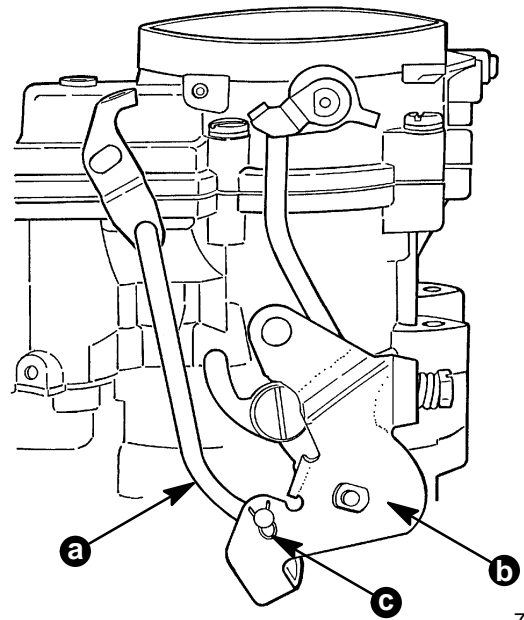
10. Place accelerator pump rod (end with ear) in hole in pump shaft and lever assembly.



72393

a - Accelerator Pump Rod
b - Pump Shaft and Lever Assembly

11. Insert remaining end of accelerator pump rod into hole in throttle lever and secure with retainer clip.

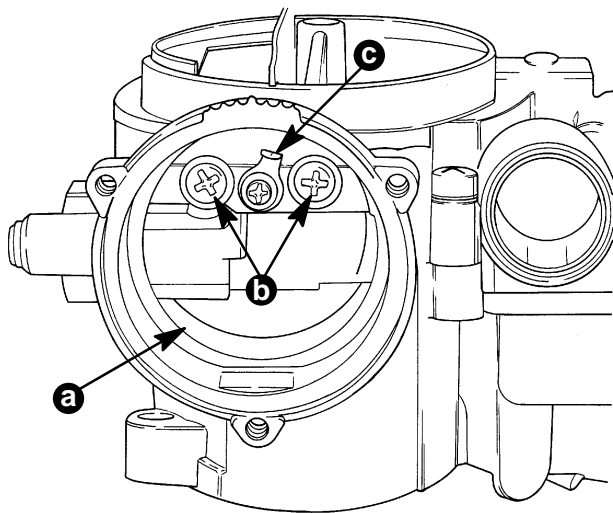


72283

a - Accelerator Pump Rod
b - Throttle Lever
c - Retainer Clip

CHOKE HOUSING ASSEMBLY

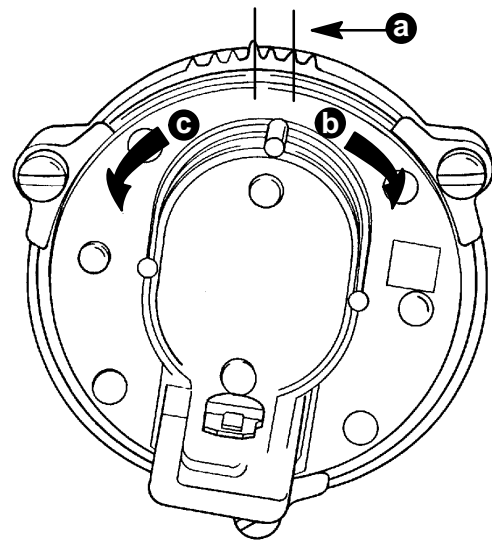
1. Install choke housing on air horn; tighten screws securely. Install choke lever; tighten screw securely.



72401

- a - Choke Housing
- b - Choke Housing Attaching Screws
- c - Choke Lever

2. Install choke cover. Make sure hook on end of choke coil engages with choke lever. Rotate choke cover until index marks align as shown. Tighten screws securely.



72403

- a - Scribed Mark
- b - More Choke
- c - Less Choke