

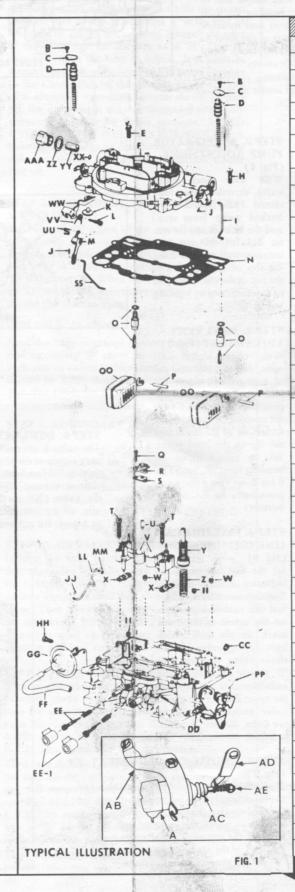
Jiffy Kit

SERVICE/INSTRUCTION WORK SHEET

TO REPAIR CARTER AVS TYPE CARBURETORS — 4 BARREL

HOW TO USE THIS INSTRUCTION SHEET

- 1. This worksheet has been designed to simplify your use of the HYGRADE Jiffy Kit to tune-up a carburetor. It is set up so that you can follow each step by checking it off as you perform it. If you are interrupted any time during your work, you will know where you are when you get back to it.
- 2. The steps of disassembly are shown in numerical order. Parts are illustrated at right and are identified in alphabetical order to make it easy to find. Thus the first part to be removed is at the top of this list and can be found in the exploded drawing by its letter designation. To reassemble proceed from the bottom of the list and check off operations in the right hand column.
- 3. The items contained in this kit are sufficient to replace the most frequently worn parts in the carburetor. The list of parts shown on this sheet DOES NOT reflect the contents of the kit.
- 4. This instruction sheet is applicable to all carburetors of this type. Since the illustration (Exploded View) is typical and minor variations occur between the different models, procedures will be essentially as described and the differences will be easily recognized. This kit may contain extra parts which are applicable to other carburetors in this group. Substitute identical replacement parts for original worn parts found on carburetor.
- Cover manifold hole while the carburetor is off to prevent dust and dirt from entering.
- 6. Soak throttle body, air horn assembly and earburetor body in carburetor cleaner for about ten minutes. Remove carbon and all loose particles using a stiff bristle brush.
- 7. CAUTION: Do not use any abrasives to clean carburetor parts. Items made of rubber, leather, nylon or plastic are not to be soaked in carburetor cleaner.
- Put small parts in strainer and allow to soak in a carburetor cleaner. Dry and place on paper towel.
- **9.** Remove parts from solvent, blow out all passages and jets with air gun.



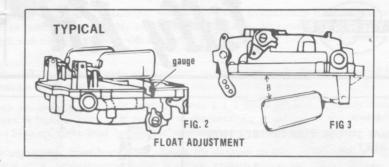
	Dis	assem	bly	
4	1	J	Fast Idle Rod Spring	
	2	1	Fast Idle Rod	
1	3	SS	Throttle Rod	
	4	JJ	Spring	
1	5	MM	Washer	
1	6	XX	Retainer	
	7	LL	Choke Diaph. Link	
	8	В	Screw	
1	9	C	Plate	
-	10	D	Piston & Rod Assy.	1
+	11	L	Pump Screw	
-	12	VV		
-	13	WW	Vent Spring Vent Arm	
-				
-	14	K	Vent Valve	
-	15	M	Pump Lever	
-	16	UU	Pump "S" Link	
	17	Н	Air Horn Screw	
	18	F	Air Horn Assy.	
	19	N	Air Horn Gasket	
	-20	P	Float Pin	
	21	00	Float	
and the same	22	0	Needle & Seat Assy.	
	23	E	Dashpot Bracket Screw	
	24	AAA	Fitting	
	25	ZZ	Gasket	
	26	YY	Filter	
	27	Y	Pump Piston	
	28	Z	Pump Piston Spring	100
	29	CC	Check Ball	
	30	T	Venturi Screws	
	31	٧	Venturi	1
1	32	X	Gasket	
	33	Q	Pump Jet Screw	
-	34	R	Pump Jet Housing	
	35	S	Gasket	1
	36	U	Pump Discharge Needle	
	37	11	Primary Meter. Jet	
	38	W	Secondary Meter. Jet	
	39	EE	Idle Mixture Screw	
	40	EE-1	Limiter Cap* #	
an"	41	НН	Choke Diaph. Screws	
	42	GG	Choke Diaphragm & Bracket	
	43	FF	Hose	1
	44	DD	Throttle Speed Screw	
	45	PP	Main Body	
		Α	Solenoid*	
-	= 4	AB	Bracket	
		AC	Stem*	
		AD	Lever*	
		AE	Adjuster*	
	180	* whe	re used Re-Assembly	////
			JTION: Avoid damage unless	VIEU
		Marine San	11 1 1 1 1	

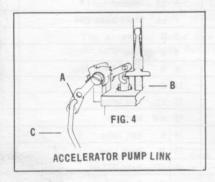
replacements are available.

STEP 1. FLOAT LEVEL &TRAVEL

Make this check with the gasket in place, air horn inverted and only the weight of the floats seating the needles. Fig. 2. Determine that the floats are parallel to the edges of the air horn and that they will fit into the bowl with ample side to side clearance. Set to the specified level by bending the float arm. Turn the air horn to its normal position and measure float drop distance "B", Fig. 3 from the top of the float to the parting surface of the air horn (gasket in place). Bend the stop tabs on the float to adjust to specifications.

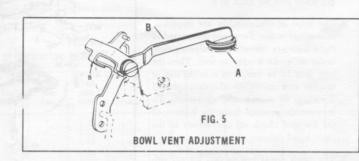
CAUTION: During the measuring and adjusting procedures, avoid any pressure on the VITON tipped needle as damage or false readings may result.





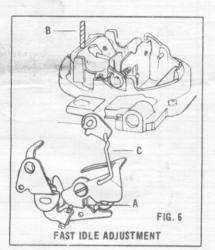
STEP 2. ACCELERATOR PUMP ADJUSTMENT

(Fig. 4) open choke With wide valve, throttle valves fully closed (idle speed screw backed away from stop) and the link set into the center hole of the arm "A", measure with scale "B" from the top of the air horn to the top of the pump rod. Set to specifications by bending rod at "C".



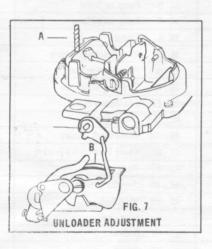
STEP 3. BOWL VENT ADJUSTMENT (Fig. 5)

With choke valve wide open, and fast idle cam out of engagement, screw the idle speed screw in to approximate curb idle. Gauge the opening "A" between the underside of the cover and the lip on the bowl cover. Set to specifications by bending lever "B". See STEP 6 for Bowl Vent Adjustment procedures on E.C.S. Carburetors.



The valve is internally secured in the bowlcover and it is necessary to remove a plug at the gauging opening on the top of the casting "A" just behind the fitting for the vent hose "B". Carefully slide a narrow scale rule "C" into the opening to just contact the valve ("D" in the insert). With throttle valves set at curb idle, off the cam, scale should read as specified. Bend lever "E" to adjust. Do not bend rod "F".

STEP 6. BOWL VENT ADJUSTMENT (E.C.S.) (Fig. 8)

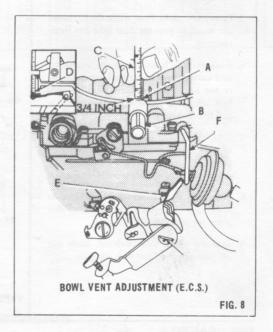


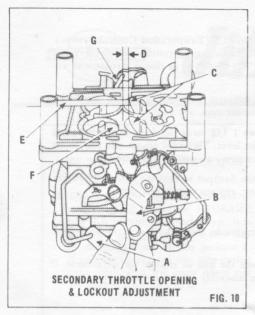
STEP 4. FAST IDLE CAM LINKAGE ADJUSTMENT (Fig. 6)

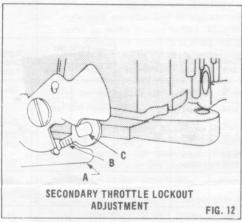
Set the fast idle screw as indicated in Cam column. Specification Chart. Where fast idle cam has no steps, set the screw to the index mark on the cam. With light closing pressure on the choke valve, specified drill "B" should drag slightly as withdrawn from between the upper edge of the choke valve and the wall of the air horn. Bend link at "C" to adjust.

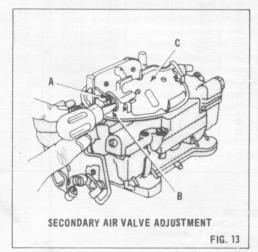


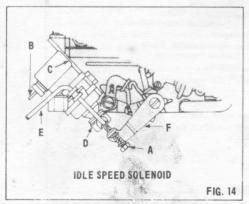
Hold choke valve lightly closed. Open the throttle valve. At full open position, the choke valve should crack open just enough to admit the specified drill "A" between the top edge of the valve and the wall of the air horn. Bend the tang "B" on the throttle lever to adjust.





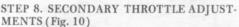






STEP 7. VACUUM KICK ADJUSTMENT

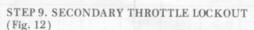
Choke valve and linkages must operate freely without binding from fully open to fully closed position. If this adjustment is made on the bench, an external source of vacuum (10") should be applied to the choke pull off "A" at fitting "F". Disconnect the fast idle link, set the throttle at curb idle, and move the choke "G" towards the closed position with lever "C". With link "I" at the end of the slot "D" gauge the opening between the edge of the valve and the air horn as at "H". Link "J can be bent at the loop to adjust. It is safer to remove this link when bending it to avoid damage to the Choke Pull off diaphragm. In the absence of a source of vacuum to actuate the choke pull off, the diaphragm may be depressed to its fully retracted position by finger pressure. AVOID USING STEM "E" FOR THIS PURPOSE. Check hose "F" for cracks or deterioration. If the unit is defective, replace with a new HYGRADE Choke Pull off.



To balance the action of the secondary throttle valves, two separate adjustments are required. Invert carburetor. Hold choke valve wide open with lever "A". Slowly open primary throttle valves "C" with lever "B". When scale "E" shows opening at "D" is 21/64", secondary throttle valves "F" should just start to open.

Bend rod "G" to adjust.

Next check the clearance between the primary "A" and secondary "B" shoes as at "C", Fig. 11, with both sets of valves tightly closed. Clearance here should be .020". Bend the secondary shoe to adjust. For 1966, See Fig. 15.



Set the lockout dog "A" on the primary throttle shaft to engage and lock the tang "B" on the secondary throttle shaft "C" when the choke is closed. Test to see that the lockout dog releases the tang when the choke is opened.

IMPORTANT: See ADJUSTMENT INSTRUCTIONS.** (Last page)

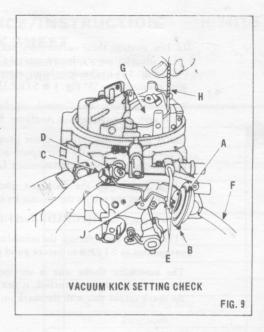
STEP 10. AIR VALVE ADJUSTMENT (Fig. 13) Loosen the shaft bearing retainer screw "A" so that the valve "C" falls freely when unscrewing the bearing screw "B", clockwise. Turn "B" back counter clockwise until the valve "C" just starts to close. Then continue turning counter clockwise an additional 2-2 1/8 turns (See Specification Chart) to wind up the spring. Hold "B" in this position and lock retainer.

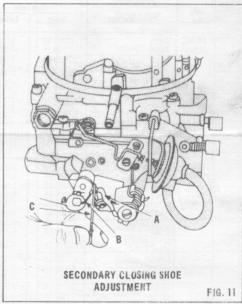
STEP 11. IDLE SPEED SOLENOID (Fig. 14)

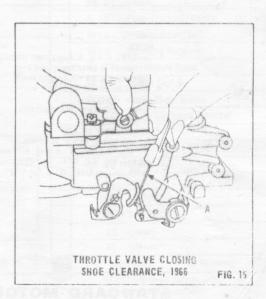
With engine running at normal operating temperature, choke fully open, and fast idle cam off, turn the solenoid adjusting screw "A" on the fast curb idle throttle lever to get 950 R.P.M. w/S.T. & 900 R.P.M. w/A.T., on the 340" Engines; 50 R.P.M. less on the 383" & 440" Engines.

Then turn the idle speed screw until it just touches the stop on the carburetor. Back this screw out one full turn. This should result in a curb idle speed of 650-700 R.P.M. Test for this lower idle R.P.M. by momentarily disconnecting terminal wire at "B" on the solenoid. R.P.M. should drop to the lower idle range.

This adjustment is important and necessary to prevent "after run" when the ignition key is turned off.







ADJUSTMENT INSTRUCTIONS

In late models, these carburetors are designed for use with CAS (Cleaner Air System) or ECS (Evaporation Control System). They incorporate a solenoid control ("C" Fig. 14) to raise curb idle speeds and to retard the timing by cutting off the current at ("D", Fig. 14) to the distributor centrifugal weight and vacuum advance devices (wire "E") (Fig. 14) at closed throttle with engine running (See "A" Fig. 1 & STEP 11).

Where Air Pollution Control regulations apply, all final adjustments as to air-fuel mixtures and curb idle speed should be made with an Exhaust Gas Analyzer. See Car Manuals for procedures when idle screw limiter caps are used.

Initial idle adjustments to insure proper warm up are made with the idle mixture screws 1 1/2 turns out from a lightly seated position, and with the idle speed screw 1/2 turn in from a "just touch" position at the lever. To avoid rough idle conditions on vehicles equipped with Automatic Level Control Systems, make final "on the car" adjustments as per the car manual.

Check and adjust the dash pot after all other adjustments have been made. Adjust the dashpot so that it's extended plunger just touches the tab on the throttle lever at 2000 R.P.M. If the dampening action is erratic, replace with a new unit.

Always use a new HYGRADE Fuel Filter (YY Fig. 1) to insure a trouble free job.

*Under fast acceleration, the secondary throttle may not function correctly due to interference by the lockout dog. Double check procedures in STEP 9 to assure good performance by Road Testing the vehicle.

The automatic choke unit is serviced as a complete assembly. Do not attempt to repair the unit or change the adjustment. If the setting has been disturbed, it can be reset by loosening the locknut and turning the assembly with a screwdriver to line up the mark on the disc with the mark on the bracket. See specifications. Tighten lock nut.

SPECIFICATION CHART

U. (f	Carburetor Nos.	Float	Level	Float Drop #	Accel. Pump	Bowl Vent	Fast Idle Cam	Fast Idle Choke	Unloader	Vacuum Kick	Auto Choke	Secondary Air Valve + Turns-	Engine Idle R.P.M.		Hygrade Choke
Jiffy Kit		Gauge	Setting										Hot•	Faste	Pulloff
A436C (435C)†	4401S 4424S 4425S	CT109-65 CT109-15 CT109-15	5/16 7/32 7/32	23/32 23/32 23/32	7/16 7/16 7/16	1/8 1/8 1/8	1 1 1	1/16 1/16 1/16	1/4 1/4 1/4	3/32 3/16 5/64	Index Index Index	2 2 2 2	650 700 650	1600 1700 1400	CPA-55
	4426\$ 4428\$ 4429\$ 4635\$ 4636\$ 4637\$	CT109-65 CT109-15 CT109-15 CT109-15 CT109-15	5/16 ² 7/32 5/16 7/32 7/32	23/32 23/32 23/32 23/32 23/32	7/16 7/16 7/16 7/16 7/16	1/8 1/8 1/8 1/8 1/8		1/16 1/16 1/16 1/16 1/16	1/4 1/4 1/4 1/4 1/4	3/16 5/32 3/32 5/64 5/32	Index Index Index Index Index	2 2 2 2 2 2 2 2	650 650 650 650 650	1600 1400 1400 1400 1400	CPA-55 CPA-55 CPA-55 CPA-55
441CA (672C);†	4027S.SA.4028S.SA 4695S.6117S 6310S	CT109-80 CT109-63	15/64 11/64 3/8	23/32 23/32 23/32	33/64 ⁶ 1/2 1/2	3/644	Index	1/64	14/64 11/64 1/4	5/3221	Index 1 lean	21/4-21/2	450-500' 500 500	2200 _ _	CPA-24 - -
446CB /446CA 510C 521C 545CA	4611S.4612S 4615S.4616S 4617S.4618S 4638S 4638S.4640S 4682S.4711S 4732S.4734S 4736S	CT109-15 CT109-65 CT109-15 CT109-65 CT109-15 CT109-65 CT109-65 CT109-15	7/32 5/16 7/32 5/16 7/32 5/16 5/16 5/16	23/32 23/32 23/32 23/32 23/32 23/32 23/32 23/32	7/16 7/16 7/16 7/16 7/16 7/16 7/16 9/16 9/16	1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	1 1 1 1 1 1	1/16 1/16 1/16 1/16 1/16 1/16 1/16 1/16	1/4 1/4 1/4 1/4 1/4 1/4 1/4	7/64 ⁸ 5/64 ¹⁰ 7/64 ⁸ 5/64 7/64 ⁸ 5/64 ¹⁰ 5/64	Index Index Index Index Index Index 2 rich 2 rich	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	700° 650° 700° 650° 700° 650° 700° 650° 700©	1700 1700 1700 1700 1700 1700 1700 1700	CPA-21 ¹ CPA-30 ¹ CPA-30 CPA-30 CPA-30 ¹ CPA-30 CPA-30
	4737S.4738S! 4737S.4738S! 4731S.4740S 4741S 4933 4934S.4935S 4936S 4937S 4966S 4967S 4968S 6125S	CT109-15 CT109-15 CT109-15 CT109-15 CT109-15 CT109-15 CT109-15 CT109-15 CT109-15 CT109-15 CT109-15	7/32 7/32 7/32 7/32 7/32 7/32 7/32 7/32	23/32 23/32 23/32 23/32 23/32 23/32 23/32 23/32 23/32 23/32 23/32	7/16 7/16 7/16 7/16 7/16 7/16 7/16 7/16	3/4 ¹³ 9/64 1/16 1/8 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1/16 1/16 1/16 1/16 1/16 1/16 1/16 1/16	1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4	5/32 5/32 7/64 5/64 5/64 5/64 5/64 5/32 5/32 5/32	2 rich 2 rich Index Index Index Index 2 rich 2 rich 2 rich 2 rich	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	80014 800 9500 9500 9500 9500 9000 9000 9000	1800 ¹⁵ 1800 2000 2000 2000 2000 1600 1800 2000 1800	CPA-31 ² — CPA-30 CPA-30 CPA-30 CPA-31 CPA-31 CPA-31 CPA-31

- See STEP 1, Fig. 3, Adjustment Instructions
- Kits shown in parenthesis have been superseded by the Kit directly above
- A.T. in Neutral, A.C. OFF
- ☐ Limiter cap type
- Speed screw on next to highest step
- 4428S set 7/32"
- SA Carburetors set 1/16"
- Set link in inner hole of pump arm
- Std. eng., A.C. ON; A.I.R. Eng. 4027 set 700, 4028 set 600, A.C. OFF.
- 8 4612S,39S, set 5/64"; 4617S, set 5/32"

- 4611S set 750, 4618S,40S, set 650
- 10 4615S, 4711S, set 7/64" 11 4615S, 4711S, set 700
- 13 4738S set 9/64"; 4737S set 1/16'
- 4739S set 900
- 4737S, 4739S set 2000
- 4732S set 1/32"
- 4612S, 39S, use CPA 30
- 19 4615S, 4711S, use CPA 31 20 4737S, 39S, only
- 21 4028S set 7/64'

ABBREVIATIONS

A.C.... Air Conditioning

Automatic Transmissions

A.V.S. .. Air Valve Secondary

Accel. Accelerator C.A.S. ... Cleaner Air System

. Evaporation Control System E.C.S. ..

. Engine Eng... R.P.M.

. Revolutions per Minute

Standard Transmission S.T...

Std. ... Standard

w/... with

ADJUSTMENT INSTRUCTIONS

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446CB 446CA 510C 521C 545CA	4611S.4612S 4615S.4616S 4617S.4618S 4638S 4638S 4638S.4640S 462S.4711S 4732S.4734S 4732S.4734S 4736S 4737S.4738S 4739S.4740S 4741S 4934S.4935S 4936S 4937S 4966S 4967S 4967S 4968S 6125S	CT109-15 CT109-65 CT109-65 CT109-65 CT109-65 CT109-65 CT109-15	7/32 5/16 7/32 5/16 5/16 5/16 5/16 5/16 7/32 7/32 7/32 7/32 7/32 7/32 7/32 7/32	23/32 23/32	7/16 7/16 7/16 7/16 7/16 7/16 7/16 9/16 9/16 7/16 7/16 7/16 7/16 7/16 7/16 7/16 7	1/8 1/8 1/8 1/8 1/8 1/8 1/32 3/4 ¹³ 9/64 1/16 1/8 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4		1/16 1/16 1/16 1/16 1/16 1/16 1/16 1/16	1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4	7/64* 5/64* 5/64* 5/64* 5/64* 5/64* 5/64 5/64 5/64 5/64 5/64 5/64 5/64 5/64	Index	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	700° 650' 700° 650 700° 650' 700° 8000 8000 9000 7500 9000 7500 9000 8000	1700 1700 1700 1700 1700 1700 1700 1700	CPA-21 ¹ CPA-30 ¹ CPA-30 ¹ CPA-30 CPA-31 CPA-31 CPA-31 CPA-31 CPA-31 CPA-31

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ABBREVIATIONS

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C.A.S. ... Cleaner Air System

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R.P.M. Revolutions per Minute

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w/ ... with