

# Carter Carburetors

## CARTER BBS SINGLE BARREL

### 1959 MODELS

DODGE & PLYMOUTH	Carter Carburetor No.	
	Synchro-mesh	Auto. Trans.
230" 6 Cyl.....	2567S	2569S
Overdrive.....	2568S	
City Traffic.....	2403S	
Taxicab.....	2410S	2771S

### 1960 MODELS

DODGE DART & PLYMOUTH		
225" 6 Cyl.....	2985S,SA,SB	2986S,SA,SB
Taxicab.....	3053S,SA,SB	3053S,SA,SB

VALIANT		
170" 6 Cyl.....	2900S	2901S
170" & 225" Taxicab.....	3053S,SA,SB	3053S,SA,SB

### 1961 MODELS

#### DODGE DART & PLYMOUTH

225" 6 Cyl.....	3098S	3099S
With CCV Ⓞ.....	3128S	3128S
Taxicab.....	3097S	3097S
With CCV Ⓞ.....	3129S	3129S

#### LANCER & VALIANT

170" 6 Cyl.....	3093S	3094S
With CCV Ⓞ.....	3127S	3127S
225" 6 Cyl.....	3098S	3099S
With CCV Ⓞ.....	3128S	3128S
Taxicab.....	3097S	3097S
With CCV Ⓞ.....	3129S	3129S

### 1962 MODELS

#### DODGE DART & PLYMOUTH

225" 6 Cyl.....	3231S	3232S
With CCV Ⓞ.....	3235S	3235S
170" & 225" Taxicab.....	3233S	3233S
With CCV Ⓞ.....	3236S	3236S

#### LANCER & VALIANT

170" 6 Cyl.....	3229S	3230S
With CCV Ⓞ.....	3234S	3234S
170" Taxicab.....	3286S	3286S
With CCV Ⓞ.....	3287S	3287S
225" 6 Cyl.....	3237S	3238S
With CCV Ⓞ.....	3239S	3239S

### 1963 MODELS

#### DODGE DART & PLYMOUTH VALIANT

170" 6 Cyl.....	3462S	3463S
Taxicab.....	3287S,SA	3287S,SA
Fleet Cars.....	3590S	
225" 6 Cyl.....	3464S	3465S

#### DODGE & PLYMOUTH SIX

225" 6 Cyl.....	3466S	3468S
170" & 225" Taxicab.....	3236S	3236S

### 1964 MODELS

#### DODGE DART & PLYMOUTH VALIANT

170" 6 Cyl.....	3675S	3676S
225" 6 Cyl.....	3677S	3678S,SA
225" Fleet Cars.....	3681S	

#### DODGE & PLYMOUTH SIX

225" 6 Cyl.....	3679S	3680S,SA
170" & 225" Taxicab.....	3664S	

### 1965 MODELS

#### DART, VALIANT, BARRACUDA Carter Carburetor No.

170" 6 Cyl.	Synchro-mesh Auto. Trans.	
	Synchro-mesh	Auto. Trans.
Without Air Cond.....	3833S	3834S
With Air Cond.....	3835S	3836S
With Air Cond. & RHD.....	3964S	3965S

225" 6 Cyl.		
Without Air Cond.....	3837S	3838S
With Air Cond.....	3839S	3840S
With Air Cond. & RHD.....	3966S	3967S
Taxicab (All Engines).....	3841S	3841S

#### DODGE & PLYMOUTH SIX

225" 6 Cyl.....	3839S	3840S
Taxicab (All Engines).....	3841S	3841S

### 1966 MODELS

#### DODGE DART & PLYMOUTH VALIANT

170" 6 Cyl. (Std. - No "CAP")		
Without Air Cond.....	4099S	4100S
With Air Cond.....	4103S	4104S
170" 6 Cyl. (With "CAP")		
Without Air Cond.....	4101S	4102S
With Air Cond.....	4105S	4106S
225" 6 Cyl. (Export).....	4183S	4184S
Taxicab.....	4173S	4173S

### 1967 MODELS

#### DODGE DART & PLYMOUTH VALIANT

170" 6 Cyl. Engine		
Std. (No "CAP").....	4286S	4287S
With "CAP".....	4302S	4303S
Canadian Cars.....	4288S	4289S
225" 6 Cyl. Engine		
Taxicab.....	4173S	4173S
Canadian Cars.....	4111S	4112S
	4290S	4291S
Export Cars.....	4292S	4293S

#### DODGE & PLYMOUTH

225" 6 Cyl. Export Cars.....	4218S	4219S
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Ⓞ - Cars with "Closed Crankcase Vent" system.

### ► CHANGES, CAUTIONS, CORRECTIONS

► **"CAP" CARBURETOR NOTE** - These "CAP" carburetors are special units used on cars with "Cleaner Air Package" and require special adjustment procedure for Idle Speed & Mixture Adjustment and Fast Idle Speed Adjustment. See *Adjustments*.

► **HARD COLD STARTING CORRECTION** (Carburetors with Choke Vacuum Piston located in air horn): May be caused by choke piston sticking due to gum formation. Correct by removing air horn and squirting carburetor cleaner, lacquer thinner, or alcohol through piston link opening while operating choke by hand to clean out gum formation and free choke piston.

► **1962 ENGINE HARD COLD STARTING & SLOW WARM-UP CORRECTION**: Make certain that correct automatic Choke Assembly, Carter No. 170BC-716S (Except Taxicab), No. 170BC-717S (Taxicab), is installed. These chokes have slightly shorter choke rods than corresponding 1961 types.

(Continued)

## CARTER BBS SINGLE BARREL (Continued)

- **1964 EARLY 225" ENGINE SURGE CORRECTION (With Carter 3678S or 3680S Carburetors):** Install Step-Up Wire, Carter No. 75-1593, and change identification tag number to 3678SA or 3680SA. If engine equipped with distributor, Chrysler No. 2444254, set ignition timing at  $7\frac{1}{2}^\circ$  BTDC (unless excessive detonation noted). If engine equipped with distributor, Chrysler No. 2444684, do not change ignition timing from  $2\frac{1}{2}^\circ$  BTDC.

### CARBURETOR IDENTIFICATION

Carter number stamped on tag attached to carburetor by air horn screw. Standard suffix "S" indicates basic carburetor design, "SA", "SB", etc. indicate changes in parts, jet calibration or adjustment. **NOTE** - "CAP" carburetors have a GREEN tag.

### DESCRIPTION

Single barrel downdraft type with non-adjustable vacuum controlled step-up rod. These carburetors have various design differences and different adjustments as follows:

**Fast Idle** - 1960 and earlier carburetors do not have a separate fast idle screw and must be adjusted to correct throttle opening with carburetor "Off Engine" (fast idle speed will be correct when hot idle speed adjusted on engine). Some 1960 and all later carburetors have separate fast idle adjusting screw and fast idle speed can be adjusted on the engine.

**Automatic Choke** - 1959 and earlier carburetors have "Integral" automatic choke mounted on air horn with choke vacuum piston located in choke housing. 1960 and later carburetors are used with separate "Cross-over" or well type automatic choke. These carburetors have choke vacuum piston located in air horn and linked directly to choke valve (except with vacuum diaphragm control).

**Bowl Vent** - 1962 and later carburetors have bowl vent built-in accelerating pump assembly. Bowl vent is adjusted as part of Accelerating Pump adjustment on carburetors with this feature.

**Vacuum Kick (Choke Vacuum Diaphragm)** - 1964 and later carburetors have vacuum unit instead of choke piston to provide initial choke opening.

**Spring-Staged Choke** - 1963 and later carburetors (some models only) have this feature to reduce choke closing torque at low temperatures and to provide a better starting mixture at low and moderate temperatures. See *Adjustments*.

### ADJUSTMENT

**ADJUSTMENT NOTE** - All adjustments, except *Float Level* and *Fast Idle* (carburetors without separate fast idle adjusting screw) can be made with carburetor on engine. See *DESCRIPTION* for differences in adjustments required on various carburetors.

**"CAP" CARBURETOR CAUTION** - Idle mixture screws have limited travel (lock at approximately 2 turns open) and will be broken if any attempt made to remove them from carburetor.

### Idle Speed & Mixture

**NOTE** - Adjust with engine at normal operating temperature with Headlights on High Beam (cars with alternator) and Air Conditioning ON (if so equipped). On automatic transmission cars, unsnap ball joint connection at accelerator shaft bellcrank before adjusting idle speed.

After adjustment completed, adjust ball joint connector to mate exactly with socket and snap it into place.

**Std. Carburetors** - With engine at normal operating temperature (choke valve wide open and fast idle screw not contacting fast idle cam), adjust idle speed to correct engine RPM (see Specifications), adjust idle mixture screw for highest engine RPM, then turn screw in to lean mixture until speed begins to drop off, finally turn screw out to richen mixture just enough to recover lost engine speed. *This will ensure leanest possible fuel mixture for smooth idling.* Recheck idle speed. If necessary to readjust idle speed, repeat idle mixture adjustment.

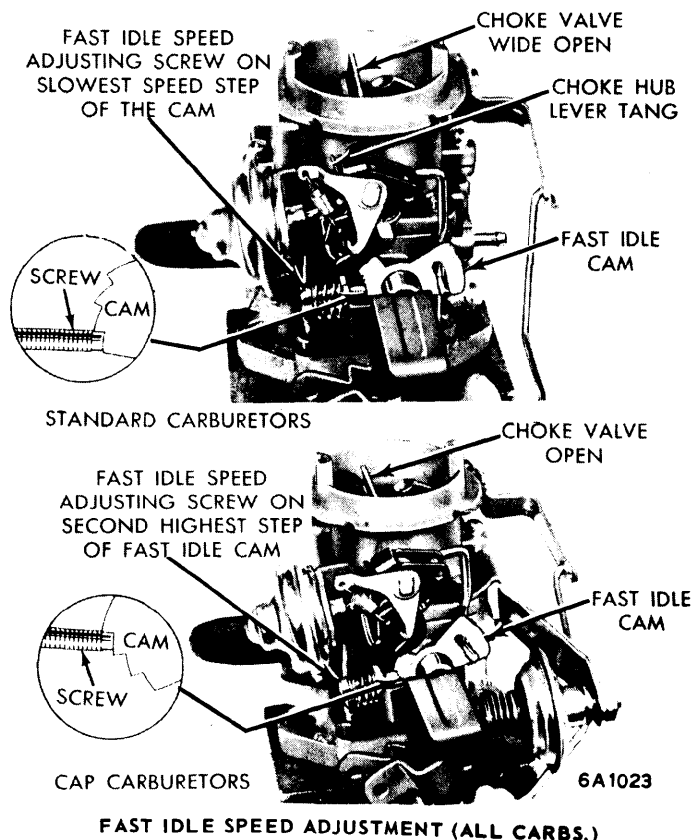
**"CAP" Carburetors** - *Exhaust Analyser must be used to assure correct fuel mixture setting.*

### Fast Idle Speed (On Engine)

**NOTE** - *This adjustment required only on carburetors with separate fast idle adjusting screw. On carburetors with external fast idle cam but without separate fast idle adjusting screw, fast idle speed will be correct when throttle stopscrew set for correct hot or slow idle speed. For carburetors with integral automatic choke (with fast idle cam within choke housing), see "Fast Idle (Off Engine)" data.*

**Std. Carburetors (with Separate Fast Idle Adjusting Screw)** - With engine at normal operating temperature, open throttle slightly to free fast idle cam, position cam so that fast idle screw is on correct step of cam as listed in Specifications, release throttle, turn fast idle adjusting screw in or out for correct fast idle speed (see Specifications).

**NOTE** - *On carburetors with external fast idle cam but*



## Carter Carburetors

## CARTER BBS SINGLE BARREL (Continued)

CARBURETOR ADJUSTMENT SPECIFICATIONS									
Carter Carb. No.	Idle Speed (Engine RPM)		Initial Idle Mixture ⑦	Fast Idle Cam Linkage	Pump Stroke & Bowl Vent ⑧ ⑨	Float Level	Unloader Setting	Auto. Choke Setting	Vacuum Kick Setting
	Hot ③	Fast							
2403S	450-500	②	1/2-1 3/4		27/32" ①	9/32"	9/64"	Index	
2410S	450-500	②	1-2		26/32" ①	9/32"	9/64"	Index	
2567S	450-500	②	1/2-1 3/4		27/32" ①	7/32"	9/64"	Index	
2568S	450-500	②	1/2-1 3/4		27/32" ①	7/32"	9/64"	Index	
2569S	475-500	②	1/2-1 3/4		27/32" ①	7/32"	9/64"	Index	
2771S	475-500	②	1-2		27/32" ①	9/32"	9/64"	Index	
2900S,SA	550	②	1/4-1 1/2		1/16"	7/32"	11/64"	Index	
2901S,SA	500	②	1/4-1 1/2		1/16"	7/32"	11/64"	Index	
2985S,SA	550	②	1/8-2 1/2		1/16"	7/32"	11/64"	Index	
2985SB	550	1400 ⑤ ⑩	1/8-2 1/2		1/16"	7/32"	11/64"	Index	
2986S,SA	500	②	1/8-2 1/2		1/16"	7/32"	11/64"	Index	
2986SB	500	1400 ⑤ ⑩	1/8-2 1/2		1/16"	7/32"	11/64"	Index	
3053S,SA	550 ⑫	②	1-2 1/4		1/16" ⑭	9/32"	11/64"	Index	
3053SB	550 ⑫	1800 ⑤	1-2 1/4		1/16" ⑭	9/32"	11/64"	Index	
3093S	550	1800 ⑤	1/4-1 1/2		1/16"	7/32"	11/64"	Index	
3094S	550	1600 ⑤	1/4-1 1/2		1/16"	7/32"	11/64"	Index	
3097S	550	1800 ⑤ ⑥	1-2 1/4		1/16" ⑭	9/32"	3/16"	Index	
3098S	550	1800 ⑤	1/8-2 1/2		1/16"	7/32"	11/64"	Index	
3099S	550	1600 ⑤	1/4-1 1/2		1/16"	7/32"	11/64"	Index	
3127S	550	1800 ⑤ ⑥	1/4-1 1/2		1/16"	7/32"	11/64"	Index	
3128S	550	1800 ⑤ ⑥	1/8-2 1/2		1/16"	7/32"	11/64"	Index	
3129S	550	1800 ⑤ ⑥	1-2 1/4		1/16" ⑭	9/32"	3/16"	Index	
3229S	550	1400 ⑤	1/4-1 3/4		1/16"	7/32"	3/16"	2 Rich	
3230S	550	1300 ⑤	1/4-1 3/4		1/16"	7/32"	3/16"	2 Rich	
3231S	550	1300 ⑤	1/8-2 1/2		1/16"	7/32"	3/16"	2 Rich	
3232S	550	1400 ⑤	1/8-2 1/2		1/16"	7/32"	3/16"	2 Rich	
3233S	550	1300 ⑤ ⑭	1-2 1/4		1/16" ⑭	9/32"	3/16"	2 Rich	
3234S	550	1400 ⑤	1/4-1 3/4		1/16"	7/32"	3/16"	2 Rich	
3235S	550	1300 ⑤ ⑭	1/8-2 1/2		1/16"	7/32"	3/16"	2 Rich	
3236S	550	1300 ⑤ ⑭	1-2 1/4		1/16" ⑭	9/32"	3/16"	⑮	
3237S	550	1300 ⑤	1/4-2 3/4		1/16"	7/32"	3/16"	2 Rich	
3238S	550	1400 ⑤	1/4-2 3/4		1/16"	7/32"	3/16"	2 Rich	
3239S	550	1300 ⑤ ⑭	1/4-2 3/4		1/16"	7/32"	3/16"	2 Rich	
3286S	550	1400 ⑤	1/2-2 1/4		1/16" ⑭	9/32"	3/16"	2 Rich	
3287S,SA	550	1400 ⑤	1/2-2 1/4		1/16" ⑭	9/32"	3/16"	⑮	
3462S	550	1500 ⑤	1/4-1 3/4		1/16"	7/32"	3/16"	4 Rich	
3463S	550	1400 ⑤	1/4-1 3/4		1/16"	7/32"	3/16"	4 Rich	
3464S	550	1400 ⑤	1/4-2 3/4		1/16"	7/32"	3/16"	4 Rich	
3465S	550	1400 ⑤	1/4-2 3/4		1/16"	7/32"	3/16"	4 Rich	
3466S	550	1400 ⑤	1/8-2 1/2		1/16"	7/32"	3/16"	4 Rich	
3468S	550	1400 ⑤	1/8-2 1/2		1/16"	7/32"	3/16"	4 Rich	
3590S	550	1400 ⑤	1/2-2 1/4		1/16"	7/32"	3/16"	4 Rich	
3664S	550	700 ⑪	1/4-3 1/4	15/64" ⑯	1/16" ⑭	5/16"	3/16"	2 Rich	11/64"
3675S	550	700 ⑪	1/4-3 1/4	15/64" ⑯	1/16"	1/4"	3/16"	2 Rich	11/64"
3676S	550	700 ⑪	1/4-3 1/4	7/32" ⑯	1/16"	1/4"	3/16"	2 Rich	1/8"
3677S	550	700 ⑪	1/4-3 1/4	7/32" ⑯	1/16"	1/4"	3/16"	2 Rich	11/64"
3678S,SA	550	700 ⑪	1/4-3 1/4	3/16" ⑯	1/16"	1/4"	3/16"	2 Rich	1/8"
3679S	550	700 ⑪	1/4-3 1/4	7/32" ⑯	1/16"	1/4"	3/16"	2 Rich	11/64"
3680S,SA	550	700 ⑪	1/4-3 1/4	3/16" ⑯	1/16"	1/4"	3/16"	2 Rich	1/8"
3681S	550	700 ⑪	1/4-3 1/4	15/64" ⑯	1/16"	1/4"	3/16"	2 Rich	11/64"

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## CARTER BBS SINGLE BARREL (Continued)

CARBURETOR ADJUSTMENT SPECIFICATIONS (Cont.)									
Carter Carb. No.	Idle Speed (Engine RPM)		Initial Idle Mixture ⑦	Fast Idle Cam Linkage	Pump Stroke & Bowl Vent ⑧⑨	Float Level	Unloader Setting	Auto. Choke Setting	Vacuum Kick Setting
	Hot ⑩	Fast							
3833S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
3834S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
3835S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
3836S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
3837S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	1/8"
3838S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
3839S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	1/8"
3840S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
3841S	550	700 ⑪	1/2-3	5/64" ⑮	1/16" ⑭	5/16" ⑬	3/16"	2 Rich	9/64"
3964S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
3965S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
3966S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	1/8"
3967S	550	700 ⑪	1/2-3	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
4099S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	5/32"
4100S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	7/64"
4101S	700	1550 ⑤	2-3	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	5/32"
4102S	650	1550 ⑤	1-2	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	9/64"
4103S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	5/32"
4104S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	7/64"
4105S	700	1550 ⑤	2-3	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	5/32"
4106S	650	1550 ⑤	1-2	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	9/64"
4111S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
4112S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	7/64"
4173S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16" ⑭	5/16" ⑬	3/16"	2 Rich	5/32"
4183S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
4184S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	7/64"
4218S	550	700 ⑪	1/2-3 1/4	.....	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
4219S	550	700 ⑪	1/2-3 1/4	.....	1/16"	1/4" ⑬	3/16"	2 Rich	7/64"
4286S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	5/32"
4287S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
4288S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	5/32"
4289S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	3/32"
4290S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
4291S	550	700 ⑪	1/2-3 1/4	5/64" ⑮	1/16"	1/4" ⑬	3/16"	2 Rich	7/64"
4292S	550	700 ⑪	1/2-3 1/4	.....	1/16"	1/4" ⑬	3/16"	2 Rich	9/64"
4293S	550	700 ⑪	1/2-3 1/4	.....	1/16"	1/4" ⑬	3/16"	2 Rich	7/64"
4302S	700	1550 ⑤	2-3	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	5/32"
4303S	650	1900 ⑤	2-3	5/64" ⑮	1/16" ⑬	1/4" ⑬	3/16"	2 Rich	9/64"

- ① - Pump Plunger Shaft Height (no bowl vent).
- ② - Will be correct when slow idle speed adjusted.
- ③ - Synchro-mesh & Auto. Trans. (except as noted).
- ④ - 1400 RPM for Auto. Trans. cars .
- ⑤ - Fast idle screw on SECOND step of fast idle cam.
- ⑥ - 1600 RPM for Auto. Trans. cars.
- ⑦ - Turns open from lightly seated position.
- ⑧ - Bowl Vent Clearance (except as noted).
- ⑨ - With connector rod in CENTER hole (except as noted).
- ⑩ - 1300 RPM for Auto. Trans. cars.
- ⑪ - Fast idle screw on LOW step of fast idle cam.
- ⑫ - 500 RPM for Auto. Trans. cars.
- ⑬ - With connector rod in OUTER hole.
- ⑭ - With connector rod in INNER hole.
- ⑮ - 2 Rich (1962 models), 4 Rich (1963 models).
- ⑯ - With fast idle screw on LOW step and against shoulder of second step of fast idle cam.
- ⑰ - With fast idle screw on SECOND step and against shoulder of first step on fast idle cam.
- ⑱ - With Viton Needle. 3/8" with resilient seat.
- ⑲ - With Viton Needle. 5/16" with resilient seat.

# Carter Carburetors

## CARTER BBS SINGLE BARREL (Continued)

without separate adjusting screw, fast idle speed will be correct when throttle stopscrew adjusted for correct hot or slow idle speed.

**"CAP" Carburetors (with Separate Fast Idle Adjusting Screw)** - Ignition timing and Distributor Control Valve adjustments must be correct before adjusting fast idle. Adjust in same manner as Std. Carburetors (above) with fast idle screw on second step of fast idle cam (see illustration and Specifications).

### Fast Idle (Off Engine)

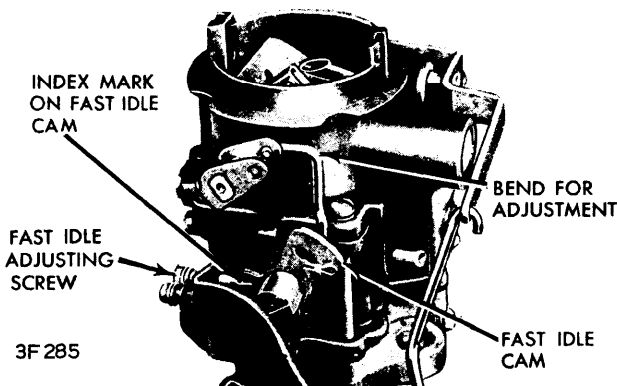
**Carburetors with Fast Idle Cam in Choke Housing (Integral Choke)** - Remove choke coil housing assembly, gasket, and baffle plate, back out throttle stopscrew so that throttle valve tightly closed. Open throttle, close choke valve fully to rotate fast idle cam to fast idle position, close throttle valve (**CAUTION - Cam trip lever must be all the way in piston housing with lug contacting cam**). Throttle valve opening or clearance between edge of valve and carburetor wall on side opposite idle ports should be as shown in table below. Adjust by bending choke connector rod at lower angle. Then adjust Unloader.

#### Fast Idle Setting

Carburetor	Throttle Valve Opening
2567S, 2568S, 2569S .....	.028-.032"
2403S, 2410S, 2771S.....	.016-.020"

### Fast Idle Cam Linkage

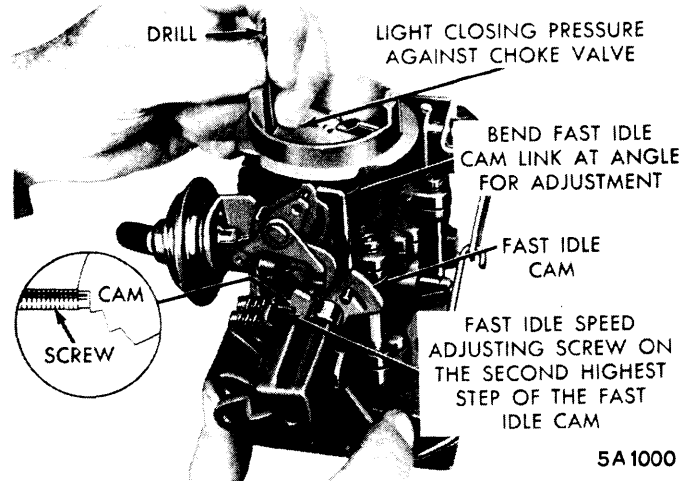
**Cam Index (1963 & Earlier Carburetors with External Fast Idle Cam)** - Crack throttle valve to free fast idle cam, close choke valve tightly to rotate cam to fast idle position. With choke connector rod in upper end of slot in fast idle cam, center of fast idle adjusting screw (or throttle stopscrew on early models) should be in line with index mark on cam (see illustration). Adjust by bending choke connector rod at upper angle.



FAST IDLE CAM INDEX ADJUSTMENT

**Choke Opening (1964 & Later Carburetors with Vacuum Kick Diaphragm)** - Position fast idle speed adjusting screw on correct step of fast idle cam as listed in Specifications and against the shoulder of the next highest step, move choke valve toward closed position as far as possible with light pressure (see illustration). Measure choke valve opening by inserting drill or gauge of correct size (see Specifications) between edge of valve and air horn wall. A slight drag should be felt as the drill or gauge is

withdrawn. Adjust by bending choke connector rod at upper angle. With choke valve fully closed, there should be slight clearance between tang on choke lever and stop on air horn.

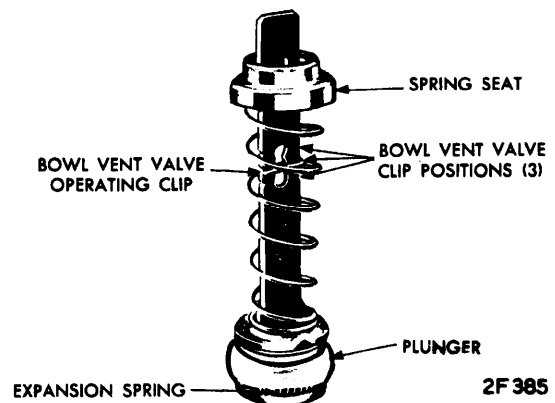


FAST IDLE CAM LINKAGE ADJUSTMENT (CHOKE VALVE OPENING)

### Accelerating Pump & Bowl Vent

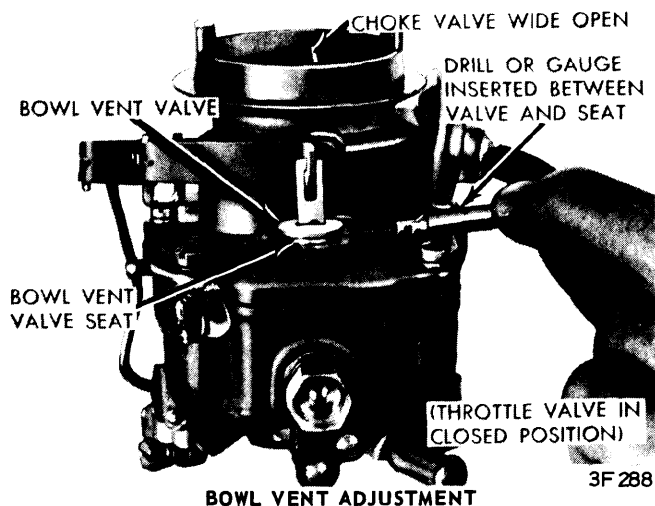
**Carburetors Without Bowl Vent** - Back out throttle stopscrew so that throttle valve tightly closed. Make certain that pump connector rod engaged in center hole of throttle lever. Use scale to measure distance from top surface of bowl cover to top of pump plunger shaft. If distance not correct (see Specifications), adjust by bending pump connector rod at lower angle.

**Carburetors With Bowl Vent** - Back off throttle stopscrew so that throttle valve tightly closed. Make certain that pump connector rod engaged in correct hole of throttle lever (see Specifications) and that bowl vent pin or hairpin clip engaged in correspondingly correct groove of pump plunger shaft (see Note below). Measure clearance between bowl vent and top surface of bowl cover (see illustration). If clearance not correct (see Specifications), adjust by bending pump connector rod at lower angle. This adjustment will ensure correct pump plunger height above bowl cover. (Continued)



PUMP PLUNGER ASSEMBLY

## CARTER BBS SINGLE BARREL (Continued)



**BOWL VENT CLIP NOTE** - Whenever pump connector rod moved from one throttle lever hole to another, clip must be shifted to correct groove in pump plunger shaft as follows: Center Hole (Center Groove), Inner Hole (Upper Groove), Outer Hole (Lower Groove).

**Pump Seasonal Adjustment** - See *CARBURETION on Car Model Tune-Up* pages for recommended settings.

### Vacuum Kick (Choke Vacuum Diaphragm)

**All Carburetors - NOTE** - A separate vacuum source (Distributor Tester or another engine) with minimum vacuum of 10" of Hg. must be used to energize the diaphragm for adjustment.

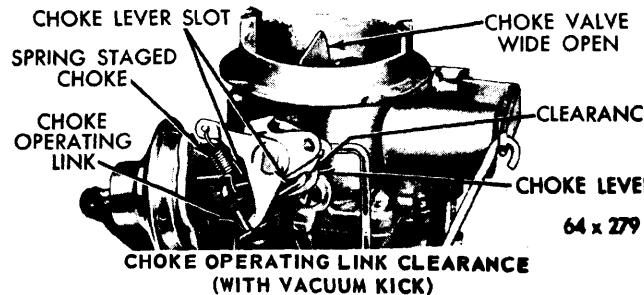
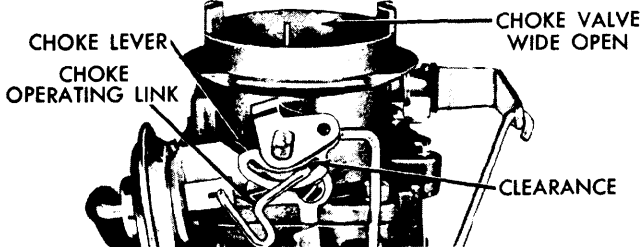
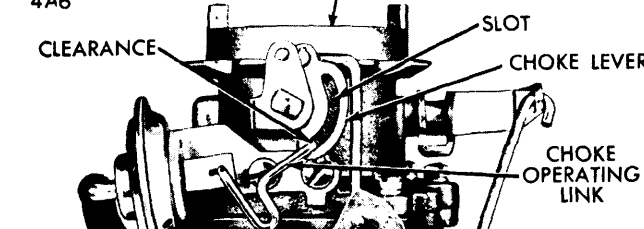
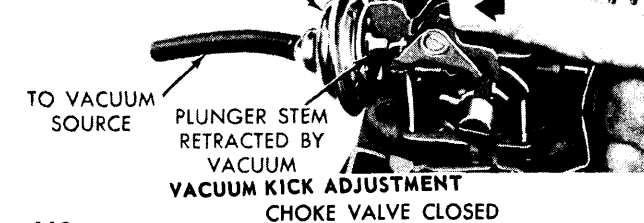
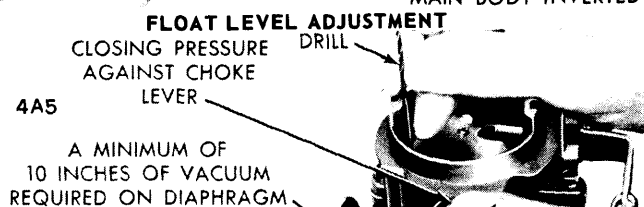
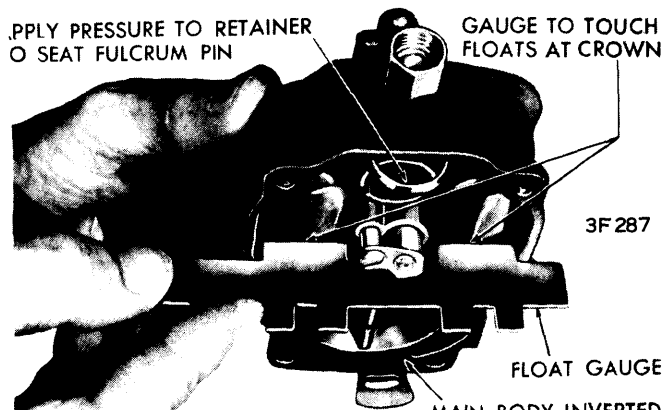
**Checking** - With engine not running, open throttle and move choke valve to closed position. Disconnect vacuum hose from diaphragm and connect hose from test vacuum source at this point. Insert a gauge or drill rod of correct size (see Specifications) between edge of choke valve and air horn wall, apply closing pressure on choke shaft lever to secure smallest choke valve opening possible without distorting diaphragm link (**CAUTION** - Diaphragm internal spring must be fully compressed which will be noted by extension of diaphragm stem). At this point, a slight drag should be noted as gauge is withdrawn from choke valve. If choke valve opening not correct, adjust diaphragm link as follows:

**Adjustment** - Disengage and remove choke operating link from diaphragm and choke lever (**CAUTION** - Damage will result if attempt made to bend link on carburetor). Bend operating link at the angle to provide correct choke valve opening (see illustration). **NOTE** - A .010" change in link length will change choke valve opening .015" - use 2" micrometer to check original and adjusted length. Reinstall link and recheck choke valve opening.

**Final Check** - Reinstall vacuum hose on diaphragm fitting. With no vacuum applied to diaphragm, some clearance should exist between choke operating link and choke lever slot in both the open and closed valve positions (see illustration) to allow full opening and closing of choke valve. With vacuum applied (engine running), choke valve must have free movement between kick position and wide open choke position. If binding exists, link has been improperly bent. Correct as necessary.

### Float Level

With air horn and bowl cover removed, invert carburetor so that weight of floats only is holding inlet needle against seat (hold finger on retainer to fully seat float



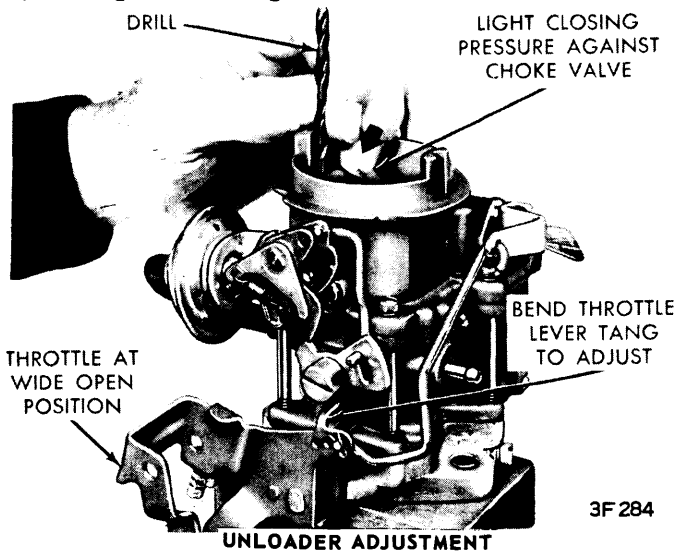
## CARTER BBS SINGLE BARREL (Continued)

fulcrum pin). Use suitable gauge or "T" scale to measure from top edge of fuel bowl to crown of each float at center (see illustration). If float setting not correct (see Specifications), remove float and bend float lever lip as required. **CAUTION** - Do not attempt to adjust float without removing it from carburetor (inlet needle has synthetic rubber tip which may be compressed sufficiently to cause a false setting).

## Unloader

**Carburetors with Fast Idle Cam in Choke Housing (Integral Choke)** - After completing fast idle adjustment (above), hold throttle valve in wide open position and close choke valve as far as possible without forcing. Choke valve opening or clearance between upper edge of valve and air horn wall should be correct as shown in Specifications (check with gauge or drill rod of correct size, there should be a slight drag on the gauge). Adjust by bending arm on choke trip lever which actuates choke lever. Reassemble and adjust automatic choke.

**Carburetors with External Fast Idle Cam** - After adjusting fast idle linkage, hold throttle valve in wide open position. Choke valve opening or clearance between upper edge of valve and air horn wall should be correct as shown in Specifications (check with gauge or drill rod of correct size, there should be a slight drag on the gauge). Adjust by bending unloader tang on throttle lever.



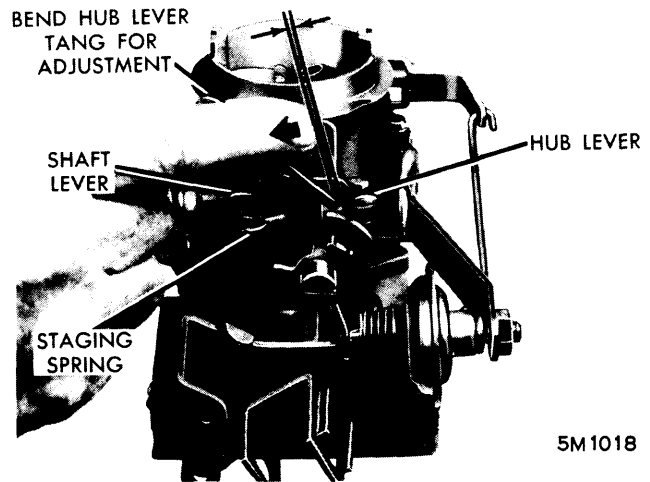
## Spring-Staged Choke

**NOTE** - Not used on all carburetors. With choke valve closed, press on hub lever (see illustration) and check clearance between shaft and hub levers with a feeler gauge. Clearance should be .010-.040" (all carburetors). If clearance not correct, adjust by bending hub lever tang.

## Automatic Choke

**Integral Type (On Air Horn)** - **CAUTION** - When loosening hot air tube on choke cover, hold fitting on cover with wrench while loosening tube nut to avoid distorting or breaking cover. With hot air tube and retaining ring screws loosened, rotate cover and coil assembly to align reference mark on cover with center graduation of scale on housing ("Index" setting). See Specifications.

**"Cross-over" Well Type (In Manifold)** - See Specifications. **CAUTION** - This unit serviced as a complete assembly and should not require adjustment. Do not attempt to repair unit.



SPRING-STAGED CHOKE ADJUSTMENT-

## OVERHAUL

## (Carburetors with Integral Automatic Choke)

**NOTE** - Service automatic choke assembly (on air horn) as directed below. For remainder of carburetor, refer to "Carburetors with Separate Automatic Choke" following.

**Automatic Choke Disassembly** - Remove choke cover and coil assembly, gasket, and baffle plate, slide unloader arm and trip lever out. Remove choke valve screw staking, remove screws and choke valve. Rotate choke shaft until vacuum piston clears cylinder, withdraw shaft and piston assembly, slide fast idle cam and spring off shaft. Thermostatic coil and heat retainer plate can be removed from cover by rapping assembly hard against palm of hand. **CAUTION** - Do not attempt to remove thermostatic coil from heat retainer plate.

**Automatic Choke Reassembly** - Assemble fast idle cam and spring on choke shaft, slide shaft and piston assembly into air horn, rotate shaft to enter piston in cylinder. Install choke valve using new screws, then with screws loose, close valve and tap lightly to centralize valve in bore, tighten screws securely and stake by squeezing with pliers. Check for free operation (choke should open of own weight with air horn upright). Install unloader arm and trip lever in choke housing. Install baffle plate and gasket, then install thermostatic coil and cover assembly with index mark downward, rotate cover counterclockwise to align index mark on cover with center graduation on scale on housing, install cover retaining screws, adjust choke setting (see Specifications). (Continued)

## CARTER BBS SINGLE BARREL (Continued)

### OVERHAUL

(Carburetors with Separate Automatic Choke)

► "CAP" CARBURETOR IDLE MIXTURE SCREW CAUTION & REPLACEMENT PROCEDURE: Screws have limited travel and will be damaged or broken if any attempt made to remove them from carburetor. For replacement of damaged or broken screws, refer to "Chrysler Corp. CAP Carter Carburetor Idle Mixture Screw Replacement"

#### Disassembly

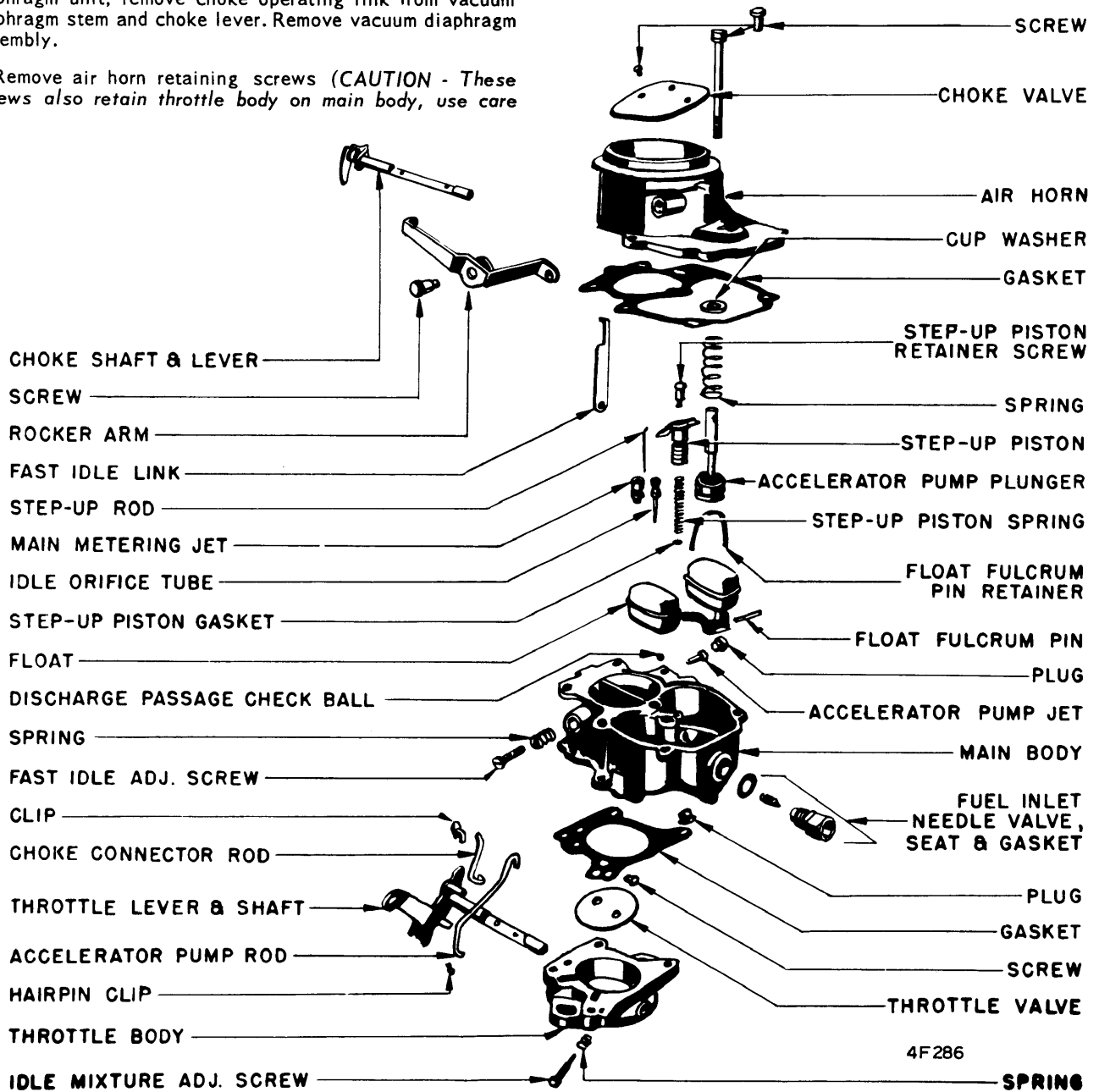
1) Disengage and remove accelerating pump operating rod. Remove vacuum hose from main body fitting and vacuum diaphragm unit, remove choke operating link from vacuum diaphragm stem and choke lever. Remove vacuum diaphragm assembly.

2) Remove air horn retaining screws (CAUTION - These screws also retain throttle body on main body, use care

that throttle body is not damaged when screws taken out), remove dashpot (if used). Tilt air horn toward throttle lever to disengage fast idle link from fast idle cam, then lift air horn straight up off main body, remove and discard air horn gasket.

3) Disengage pump plunger from rocker arm by pushing up on plunger and disengaging rocker arm hook. NOTE - If old plunger to be reinstalled, or new plunger used, place plunger assembly in clean gasoline or kerosene to prevent plunger leather drying out.

4) Remove float fulcrum pin retainer, lift out floats and fulcrum pin assembly. Remove fuel inlet needle valve,



CARTER "BBS" CARBURETOR ASSEMBLY (TYPICAL)

**CARTER BBS SINGLE BARREL (Continued)**

seat, and gasket. Take out step-up piston retaining screw, slide step-up piston and rod out of well, lift out step-up piston spring and remove piston gasket from bottom of well.

5) Remove main metering jet and gasket, remove idle tube. Invert main body and drop out pump discharge check ball (in channel in main body) and inlet check ball (in bottom of pump cylinder). Use suitable plug remover (T109-43) to remove accelerating pump jet plug, then use Tool T109-59T to remove pump jet. Do not remove idle mixture adjusting screw from throttle body.

6) Do not remove throttle valve or shaft unless new parts being installed (replacement of throttle body is recommended if wear is extreme). To remove valve, mark position of valve in bore for correct installation, remove valve screws (**CAUTION - Screws are staked and care must be used not to break them off in shaft**), slide valve out, slide throttle shaft out of throttle body.

**Cleaning & Inspection**

Clean all parts except vacuum kick diaphragm in suitable solvent and blow dry with air, blow out all passages with air. Do not use wire or drills to clean or gauge jets and passages. Do not immerse vacuum kick diaphragm in any liquid, clean external surfaces with clean cloth or soft

wire brush and shake dirt from stem side of diaphragm with diaphragm depressed; if air used to remove loose dirt, do not direct air stream in vacuum diaphragm fitting. Inspect all parts for wear or damage.

**Reassembly**

Reverse disassembly procedure and note the following:

**Throttle Valve Installation** - Install throttle valve to marks made at disassembly, install new screws loosely, move valve to closed position and tap valve lightly to seat it in throttle bore, then tighten screws securely and stake screws by squeezing with pliers.

**Choke Valve Installation** - Install valve in same manner as throttle valve (above), check for binding by moving choke lever through entire travel.

**Vacuum Kick Diaphragm** - Before installing, check for internal leakage by depressing diaphragm stem and placing finger over vacuum fitting to seal passage, then release stem. If stem moves more than 1/16" in 10 seconds, leakage is excessive and unit should be replaced.

**Step-up Piston & Rod Assembly** - Make certain that rod is free on piston plate (must swing freely in vertical position) and see that rod enters metering jet when piston installed. Piston must move freely in cylinder.

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## **CHRYSLER CORP. "CAP" CARTER CARBURETORS IDLE MIXTURE SCREW REPLACEMENT**

**NOTE:** All Carter Carburetors (BBS, BBD, AFB) used on Chrysler Corp. "CAP" engines have limiting lockscrew on each idle Mixture Adjusting Screw which limits the screw adjusting range. *Turning adjusting screw out hard against limiting screw, or any attempt to remove adjusting screw, will damage or break the screw.* Damaged or broken screws can be replaced by using proper kit and installing parts as detailed below. Carburetor must be removed from engine for this operation.

**Idle Mixture Screw Repair Kit**

Carter No. 30A-154U (BBS Carburetors), 30A-155U (BBD Carburetors), 30A-156U (AFB Carburetors). Kit consists of one each: Adjusting Screw and Spring, Lockscrew, and Lead Ball.

**Adjusting Screw Replacement**

**Removal of Broken Screw** - 1) Drill out lead plug in lock-screw socket using No. 36 (.1065") drill, clean out lead particles with 1/16" drill (**CAUTION - Install drills in pin vise and turn by hand to avoid damage to casting hole and threads**). Remove lockscrew with a 1/16" Allen wrench. **NOTE** - When replacing one screw on a two or four barrel carburetor, drill out other lead ball also and back other lockscrew out one or two turns so that this screw can also be reset.

2) Remove broken idle mixture screw by drilling 5/64" hole in end of screw and using "Easy Out" to extract screw. **NOTE** - To prevent damage to threads in screw hole, it is recommended that a drill bushing be made up by drilling 5/64" hole through center of outer section of broken screw and installing this in hole to act as a drill guide.

**Installation of New Screw** - 1) Install new idle mixture screw and spring. Install lockscrew (**CAUTION - Turn screw in part way only so that mixture screw is free**).

2) Reinstall carburetor on engine. Install tachometer and combustion analyser as required for idle mixture and speed adjustment. Set idle mixture screw (or both screws on two and four barrel carburetors) for preliminary setting (approximately 1½ turns open from lightly seated position).

3) Adjust idle mixture screws and idle speed screw for 13.4-13.6 Air-Fuel ratio at specified idle speed, turning each screw the same amount.

4) Turn each lockscrew in until it lightly seats against its idle mixture screw (**CAUTION - Lockscrew must not bind the mixture screw**). Drive new lead plugs into holes over lockscrews (small piece of solder can be used if lead balls not available).

5) Make final idle mixture and idle speed adjustment. Refer to Chrysler Corp. "Cleaner Air Package" data. **NOTE** - Final setting should be 14.0-14.2 Air-Fuel ratio at specified idle speed.