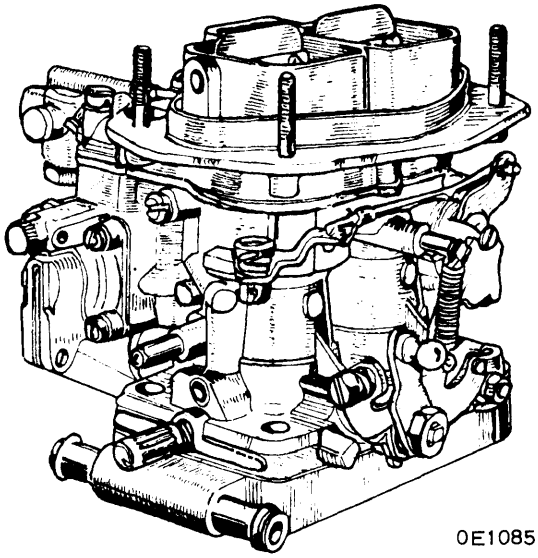
WEBER 32 DIR 2-BARREL

Renault Caravelle R-1133 (1965-67)

DESCRIPTION

Weber dual downdraft carburetor has an idling, a main, and a full load enrichment system. A diaphragm type accelerator pump provides extra fuel for acceleration. Idle speed, off-idle speed, and normal cruising operation is accomplished in primary barrel with smaller venturi. Fuel, air, and air/fuel mixture systems of secondary throttle are similar to primary except there is no idle mixture port or adjusting screw below throttle plate. Operation of secondary throttle begins when primary throttle is approximately two-thirds open. Linkage design speeds further opening of secondary throttle, so that both throttles reach full-open position at same time. A manual "flap valve" type choke provides richer mixture required for cold starting, and faster idle speed needed until engine has reached normal operating temperature.



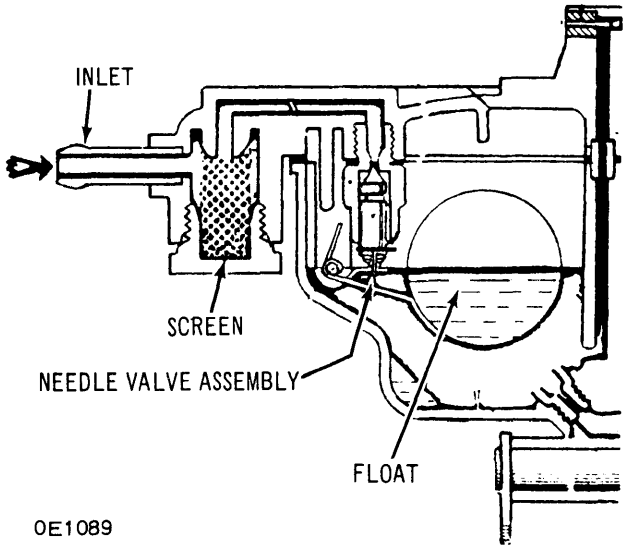
OE1085

WEBER 32 DIR CARBURETOR

OPERATION

Fuel Supply

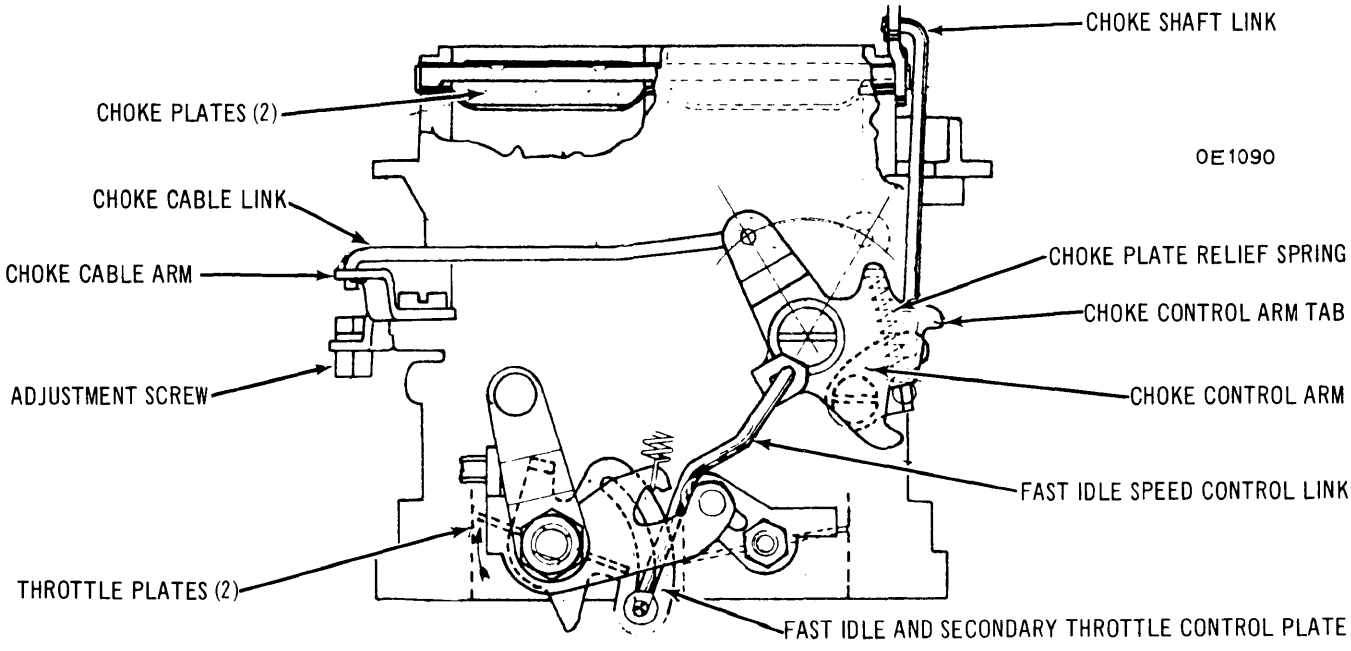
Fuel is delivered under pressure by fuel pump through inlet fitting with filter screen and through needle valve assembly. Fuel level in carburetor bowl is controlled by action of float opening and closing needle valve.



FUEL SUPPLY SYSTEM

Manual Choke System

Provided to supply richer mixture required for starting a cold engine. Actuating choke moves choke control arm, causing both choke plates to be held in closed position. Once engine has started, increased vacuum opens choke plates, against tension of choke plate relief spring, which permits increased air flow. When engine has reached normal operating temperature and choke has been released, choke control arm has returned to normal position and tab on control arm pulls on choke shaft link to hold choke plates completely open.



CHOKE AND FAST IDLE LINKAGE

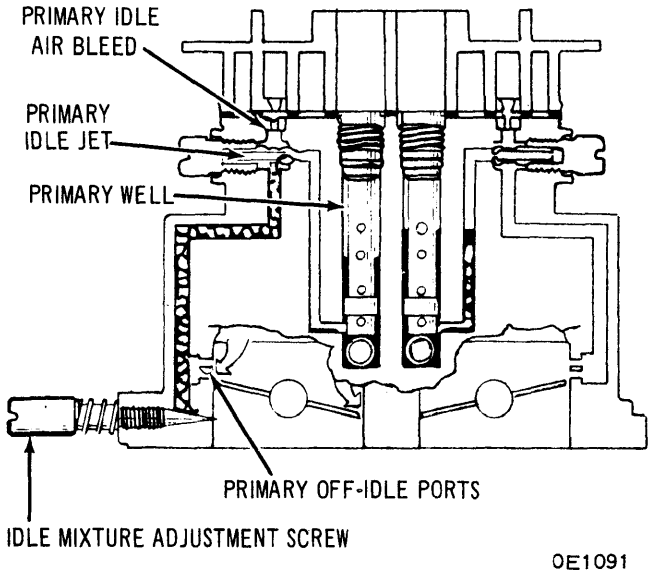
WEBER 32 DIR 2-BARREL (Cont.)

Fast Idle System

Actuating manual choke causes fast idle speed control link to be pushed down in slot of fast idle and secondary throttle control plate which opens primary throttle plate slightly, increasing idle RPM. When engine has reached normal operating temperature and manual choke has been released, fast idle speed control link is moved upward, permitting primary throttle plate to close to normal idle speed adjustment position.

Idling And Power Transition

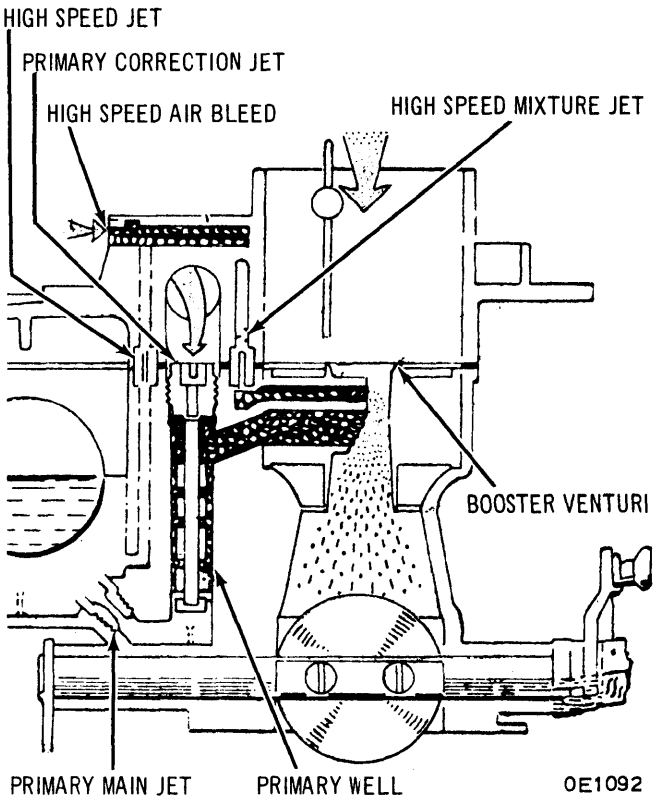
At normal idle speed, fuel from carburetor bowl passes through primary main jet, into primary well, and up to primary idle jet. Air from primary idle air bleed mixes with fuel as it goes down to idle port controlled by idle mixture adjustment screw below throttle plate. More air is added to mixture as it passes two primary off-idle ports above throttle plate. As throttle plate is opened for off-idle engine operation, these two ports change from adding air to mixture, to providing additional air/fuel mixture. As throttle plate is opened toward normal cruising operation, the greatest area of vacuum moves up from below throttle plate to venturi area. Idle ports and off-idle ports become inactive at this time. Fuel from carburetor bowl is metered through primary main jet to primary well, where it is mixed with air metered through primary correction jet. Air/fuel mixture is then drawn into air stream passing through booster venturi.



IDLING AND POWER TRANSITION

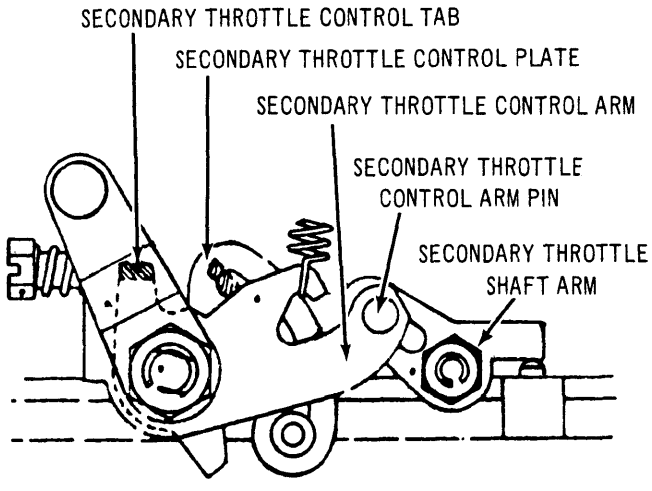
High Speed Operation

For high speed operation (full throttle), additional fuel is metered through the high speed jet, mixed with air metered through high speed air bleed and high speed mixture jet, to air stream in booster venturi.



CRUISING AND HIGH SPEED CIRCUITS

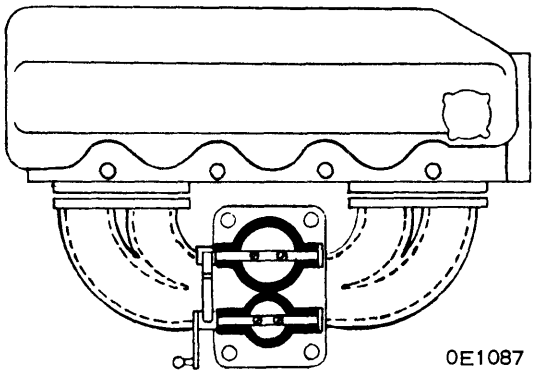
Secondary Throttle System – Fuel, air, and air/fuel mixture systems of secondary throttle are similar to those of primary, except there is no idle mixture port below throttle plate, or any idle mixture adjustment screw. Operation of secondary throttle begins when primary throttle is approximately two-thirds open. Secondary throttle control tab on fast idle and secondary throttle control plate comes in contact with secondary throttle control arm, and pushes it



SECONDARY THROTTLE LINKAGE

WEBER 32 DIR 2-BARREL (Cont.)

down. Secondary throttle control arm pin, in slot of shaft arm, then begins to open secondary throttle. Because of linkage design, opening of secondary throttle progresses more rapidly than further opening of primary throttle, so that both throttles reach full-open position at same time.



INTAKE MANIFOLD (TYPICAL)

Acceleration

Extra fuel for acceleration is provided by a diaphragm type accelerating pump, activated by a cam on primary throttle shaft. When throttle is closed, position of cam is such that accelerating pump arm does not exert any pressure on diaphragm assembly. Pressure of accelerating pump spring on diaphragm draws fuel from carburetor bowl past inlet ball check valve. As throttle is opened, action of accelerating pump cam on roller of accelerating pump arm applies pressure to diaphragm assembly. The fuel, prevented by inlet ball check valve from returning to bowl is pushed through passage to accelerating pump nozzle screw and sprayed from pump nozzle into primary venturi. When throttle is fully open, and no more pressure is exerted by accelerating pump arm, pressure on diaphragm is continued by accelerating pump override spring, lengthening duration of spray. Excess fuel under accelerating pump pressure is relieved by being returned to carburetor bowl through accelerating pump metered vent. When pressure on diaphragm is released, outlet ball check valve in accelerating pump nozzle screw closes to prevent spring action of diaphragm from drawing air through accelerating pump nozzle.

MAINTENANCE

At 1,000, 6,000 and every 6,000 miles thereafter, with engine cold, make sure the four nuts holding carburetor base to manifold are tight, and that there is no air leak at this point (do not overtighten). At same intervals, remove inlet filter screen, wash in gasoline, blow it dry, and replace. Remove cover body to clean out any sediment which may have accumulated in carburetor bowl.

ADJUSTMENT

Idle Speed Adjustment

Adjustments made with engine at operating temperature, choke control knob in (choke plates fully open) and tachometer connected. Adjust idle speed screw to obtain 600-650 engine RPM.

Idle Mixture Adjustment

Turn idle mixture screw in until engine begins to "lope". Turn screw out until engine roughness just disappears. If idle speed has now increased, reset to specified RPM and repeat idle mixture adjustment until best quality idle has been obtained.

Choke Cable And Housing

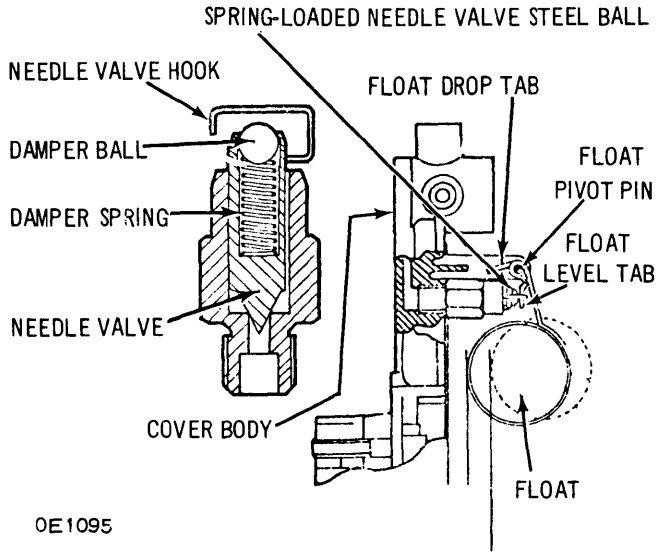
Install housing into tower on accelerating pump cover as far as it will go, and tighten set screw. Install end of cable in choke cable adjustment. Push choke control knob fully in, then pull it out approximately 1/16" (1.59 mm). Be sure choke control arm is holding choke plates fully open, then tighten choke cable adjustment screw. Move choke control knob in and out several times to be sure there is no binding, and that choke plates open and close fully.

Fast Idle Speed Adjustment

This adjustment is preset at factory and should not be changed unless it has been altered for some reason. Adjustment is a function of fast idle speed control link length, which is controlled by amount of bend in link. When properly adjusted, with choke control knob pulled fully out, there should be approximately 5/64" (1.98 mm) between stop on fast idle and secondary throttle control plate and idle speed adjustment screw.

Secondary Throttle Adjustment

This adjustment is made with carburetor removed. While holding throttle plate closed, tighten adjusting screw until it just touches secondary throttle shaft arm.



CARBURETOR FLOAT AND NEEDLE VALVE

WEBER 32 DIR 2-BARREL (Cont.)

Float Adjustment

Float Level – Float must bear proper weight identification (11 gr) marked on float drop tab, and is in good condition without leaks or distortion. Needle valve assembly must be properly seated in cover body, and spring-loaded needle valve steel ball must not bind. Hold cover body vertical, so that weight of float closes valve, but without pushing in on needle valve steel ball. Float should be .276" (7 mm) from cover gasket held against cover body. To obtain this dimension, bend float level tab, being sure that tab surface remains perpendicular to axis of needle valve.

Float Drop – After adjustment for float level has been obtained, measure travel of float, which should be approximately 5/16" (8 mm). With cover body held vertical, lift float until it stops. Measurement from float to cover gasket should be approximately 19/32" (15 mm). To obtain this dimension, bend float drop tab.

NOTE – When float adjustments have been completed, be sure needle valve spring hook does not bind in any position. As cover body is being installed on main body, be sure that float is free, and does not rub on walls of carburetor bowl.

SPECIFICATIONS

Engine Idle RPM	600-650
Fast Idle Setting	5/64" (1.98 mm)
Primary Venturi	.8062" (23.0 mm)
Secondary Venturi	.9456" (24.0 mm)
Primary Main Jet	.0493" (1.25 mm)
Secondary Main Jet	.0493" (1.25 mm)
Primary Idle Jet	.0197" (0.50 mm)
Secondary Idle Jet	.0236" (0.60 mm)
Accelerating Pump Nozzle	.0158" (0.40 mm)
Primary Correction Jet	.0630" (1.60 mm)
Secondary Correction Jet	.0591" (1.50 mm)
Needle Valve	.0690" (1.75 mm)
Air/Fuel Mixture Tube	F9
Float Weight	.388 oz. (11 gram)
Float Level	.276" (7.0 mm)
Float Travel	5/16" (8.0 mm)
Float Drop	19/32" (15.0 mm)

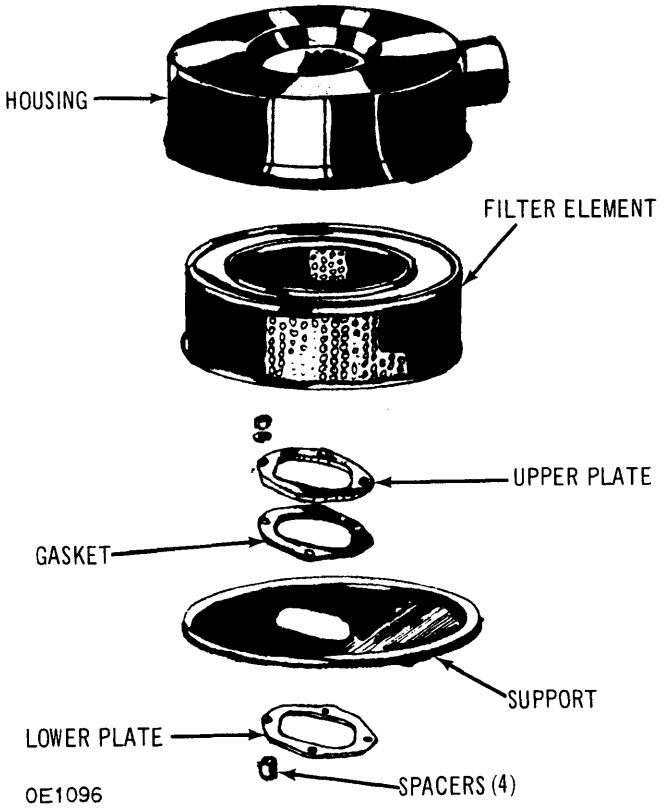
REMOVAL AND REPLACEMENT

1) Loosen three clamps (press downward), on air filter housing, and remove housing. Usually it will not be necessary to remove air intake duct from housing. Remove air filter cartridge.

2) Remove nut and lock washer from each of four air filter studs. In following order, remove upper plate, upper plate gasket, air filter support (disconnect tubing for crankcase ventilation), lower plate, and four spacers.

3) Disconnect fuel line from inlet fitting. Disconnect distributor vacuum line. Disconnect throttle link from throttle control arm. Loosen choke cable housing set screw and choke cable adjustment screw. Remove choke cable and housing from carburetor.

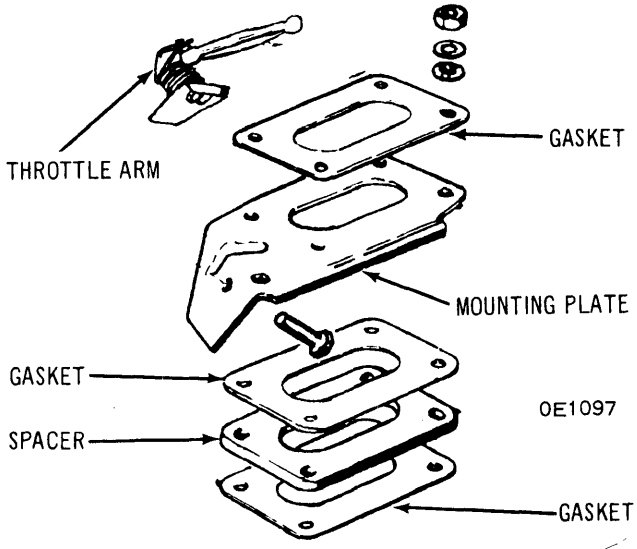
4) Remove nut and two washers from each of four studs attaching carburetor to intake manifold. Lift carburetor straight up to clear studs, and turn it to one side to permit removing two coolant circulation body screws. *NOTE – It is preferable not to remove coolant circulation body unless it requires servicing. If necessary to remove, care must be taken to avoid loss of coolant or admitting air to cooling system.*



CARBURETOR AIR CLEANER

5) Inspect carburetor gaskets, throttle cable arm mounting plate, and spacer to be sure of a good seal against air leaks.

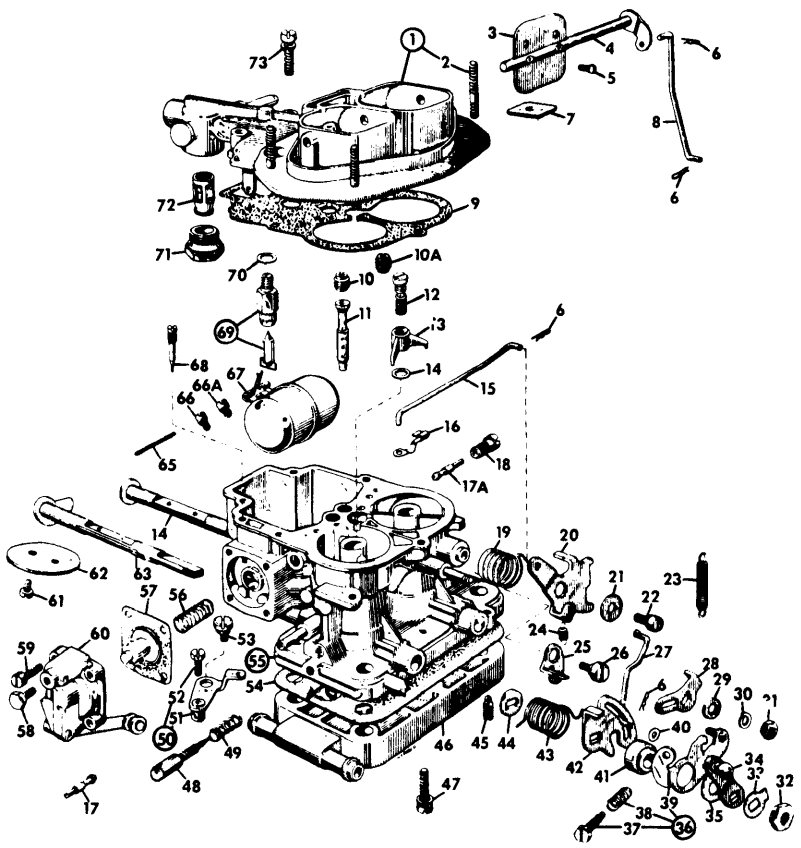
6) To replace, reverse removal procedure.



THROTTLE ARM AND PLATE

WEBER 32 DIR 2-BARREL (Cont.)

1 – COVER BODY
2 – AIR CLEANER STUDS (4)
3 – CHOKE PLATES (2)
4 – CHOKE PLATE SHAFT
5 – CHOKE PLATE SCREWS (4)
6 – HAIRPIN CLIPS (4)
7 – DUST COVER
8 – CHOKE SHAFT LINK
9 – COVER GASKET
10 – PRIMARY CORRECTION JET
10A– SECONDARY CORRECTION JET
11 – AIR/FUEL MIXTURE TUBE (2)
12 – ACCELERATING PUMP NOZZLE SCREW
13 – ACCELERATING PUMP NOZZLE
14 – ACCELERATING PUMP NOZZLE SEAL
15 – CHOKE CABLE LINK
16 – CHOKE CABLE LINK CLIP
17 – PRIMARY IDLE JET
17A– SECONDARY IDLE JET
18 – IDLE JET SCREW (2)
19 – CHOKE CONTROL ARM SPRING
20 – CHOKE CONTROL ARM
21 – CHOKE CONTROL ARM WASHER
22 – CHOKE CONTROL ARM SCREW
23 – SECONDARY THROTTLE CONTROL ARM SPRING
24 – CHOKE PLATE RELIEF SPRING
25 – CHOKE SHAFT LINK FREE ARM
26 – CHOKE SHAFT LINK FREE ARM SHOULDER SCREW
27 – FAST IDLE SPEED CONTROL LINK
28 – SECONDARY THROTTLE SHAFT ARM
29 – SECONDARY THROTTLE SHAFT WASHER
30 – SECONDARY THROTTLE SHAFT LOCK WASHER
31 – SECONDARY THROTTLE SHAFT NUT
32 – PRIMARY THROTTLE SHAFT NUT
33 – PRIMARY THROTTLE SHAFT LOCK TAB
34 – THROTTLE CONTROL ARM
35 – FREE ARM SPACER
36 – IDLE SPEED ADJUSTMENT
37 – IDLE SPEED ADJUSTMENT SCREW
38 – IDLE SPEED ADJUSTMENT SPRING
39 – SECONDARY THROTTLE CONTROL ARM
40 – FAST IDLE SPEED CONTROL LINK WASHER
41 – SECONDARY THROTTLE CONTROL ARM BUSHING
42 – FAST IDLE AND SECONDARY THROTTLE CONTROL PLATE
43 – PRIMARY THROTTLE RETURN SPRING



0E1086

44 – PRIMARY THROTTLE SHAFT SPACER
45 – SECONDARY THROTTLE ADJUSTMENT SCREW
46 – COOLANT CIRCULATION BODY
47 – COOLANT CIRCULATION BODY SCREWS (2)
48 – IDLE MIXTURE ADJUSTMENT SCREW
49 – IDLE MIXTURE ADJUSTMENT SPRING
50 – CHOKE CABLE ARM
51 – CHOKE CABLE ADJUSTMENT
52 – CHOKE CABLE ADJUSTMENT SCREW
53 – CHOKE CABLE ARM SHOULDER SCREW
54 – MAIN BODY GASKET
55 – MAIN BODY
56 – ACCELERATING PUMP SPRING
57 – ACCELERATING PUMP DIAPHRAGM ASSEMBLY
58 – CHOKE CABLE HOUSING SET SCREW
59 – ACCELERATING PUMP COVER SCREWS (4)
60 – ACCELERATING PUMP COVER
61 – THROTTLE PLATE SCREWS (4)
62 – THROTTLE PLATES (2)
63 – PRIMARY THROTTLE SHAFT
64 – SECONDARY THROTTLE SHAFT
65 – FLOAT PIN
66 – PRIMARY MAIN JET
66A– SECONDARY MAIN JET
67 – FLOAT
68 – ACCELERATING PUMP DISCHARGE METERING SCREW
69 – NEEDLE VALVE ASSEMBLY
70 – NEEDLE VALVE ASSEMBLY SEAL
71 – INLET SCREEN PLUG
72 – INLET SCREEN
73 – COVER BODY SCREWS (5)

WEBER 32 DIR CARBURETOR

WEBER 32 DIR 2-BARREL (Cont.)

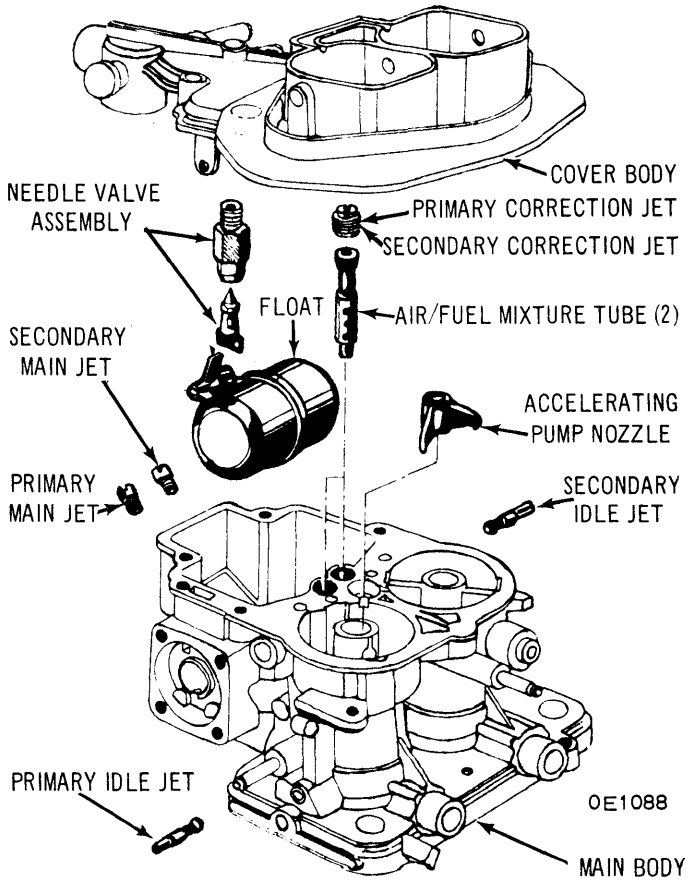
OVERHAUL

►*NOTE – Following procedure covers a complete overhaul with carburetor removed from vehicle. In servicing in the field, it is not practical nor desirable to perform some of the operations unless prior examination reveals that it will be necessary to use new parts.*

Disassembly

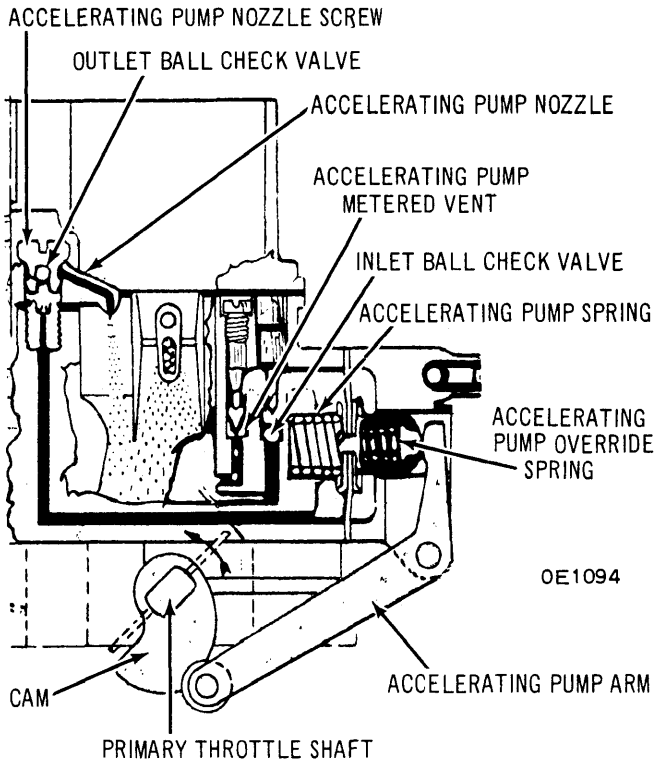
1) Remove hairpin clip from lower end of choke shaft link. Remove five cover body screws and lift cover body from main body. Use care to prevent damage to cover gasket or float. Remove float pin, float, and needle valve from float. Remove cover gasket. Remove needle valve seat and seal. Remove inlet filter screen plug and filter screen. Remove hairpin clip from upper end of choke shaft link, and remove link. Remove sliding dust cover. The four choke plate screws have been peened to prevent them from loosening. If it is necessary to remove these screws, be certain that new ones are available for reassembly. Remove screws and lift two choke plates from choke plate shaft. Slide choke plate out, link end first.

2) Remove accelerating pump nozzle screw, accelerating pump nozzle, and its seal. Remove primary correction jet and secondary correction jet. Turn main body upside-down and tap it lightly on palm of hand to remove two air/fuel mixture tubes. Remove two idle jet screws, with primary idle jet, and secondary idle jet. Remove primary main jet, and secondary main jet.



WEBER 32 DIR CARBURETOR

3) Remove four accelerating pump cover screws and cover. Use care, because diaphragm under cover is under spring tension. Remove choke cable housing set screw. Remove accelerating pump diaphragm assembly and pump spring. Remove idle mixture adjustment screw and spring. Remove accelerating pump discharge metering screw. Remove choke cable link clip, hairpin clip, and choke cable link. Remove choke cable arm shoulder screw and choke cable arm. Remove choke cable adjustment screw.



ACCELERATING PUMP

4) Straighten primary throttle shaft lock tab and remove it after removing primary throttle shaft nut. Remove throttle control arm and the free arm spacer. Remove secondary throttle control arm spring and secondary throttle control arm. Remove idle speed adjustment screw and spring from arm. Remove secondary throttle control arm bushing. Move fast idle and secondary throttle control plate toward end of primary throttle shaft just enough to provide clearance to disengage primary throttle return spring. After spring has been disengaged, remove hairpin clip and fast idle speed control link washer. Disengage fast idle speed control link and remove fast idle and secondary throttle control plate. Remove primary throttle return spring and primary throttle shaft spacer. Remove secondary throttle shaft nut, lock washer, and washer. Remove secondary throttle shaft arm.

5) Remove choke control arm screw with lock washer, and washer. Carefully remove choke control arm, gradually relieving tension of choke control arm spring. Be careful, also, to avoid over-stretching choke plate relief spring. Disengage choke plate relief spring. Turn fast idle control link to align key slot and remove link. Remove choke control arm spring. Remove choke shaft link free arm with its shoulder screw.

WEBER 32 DIR 2-BARREL (Cont.)

6) The four throttle plate screws have been peened to prevent them from loosening. If it is necessary to remove these screws, be certain that new ones are available for reassembly. Mark the two throttle plates, primary throttle shaft, and secondary throttle shaft, as reference for later assembly. Remove four throttle plate screws. Slide the two throttle plates out of shafts; slide shafts out of main body. Remove secondary throttle adjustment screw.

7) If coolant circulation body was removed with carburetor, separate it from main body by removing two screws and lock washers. Remove main body gasket.

8) Clean all metal parts in a suitable solvent, and blow dry with air. Inspect to be sure that all passages are clear, that all mating surfaces are flat and make good contact; and that jets are clear, serviceable, and in accordance with specifications. Check all seals, diaphragms and gaskets to determine if they can be reused, or must be replaced.

Reassembly

1) Fasten coolant circulation body and gasket to main body, using two screws and lock washers. *NOTE - Hose fittings on coolant circulation body are to be on primary throttle side.* Slide primary throttle shaft and secondary throttle shaft in place. Slide two throttle plates in place according to reference marks made before disassembling. Fasten in place with four new throttle plate screws. As screws are being tightened, tap throttle plates lightly in place in their bores, to assure proper alignment of plates. Peen screws to prevent them from loosening. *NOTE - Be sure that this is done without causing distortion to shafts or plates.*

2) Install choke shaft link free arm with its shoulder screw. Install choke control arm spring, engaging straight end in recess provided in main body. Insert keyed end of fast idle control link in slotted hole of tab on choke control arm. Engage this tab, in hook end of choke control arm spring. Turn choke control arm one quarter of a turn against spring tension, and install choke control arm screw with lock washer and washer. Install choke plate relief spring.

3) Install secondary throttle adjustment screw. While holding throttle plate closed, tighten screw until it just touches secondary throttle shaft arm.

4) Install primary throttle shaft spacer. Put primary throttle return spring loosely in place. Engage loop end of this spring on tongue of fast idle and secondary throttle control plate and install plate on shaft. As plate is installed in place on shaft, bring straight end of spring, under tension, to bear against base of main body. Also, be sure that lower end of fast idle speed control link is in its groove.

5) Install secondary throttle control arm bushing, secondary throttle control arm (with its pin engaged in groove of secondary throttle shaft arm), the free arm spacer, throttle control arm, and primary throttle shaft nut with its lock tab. Tighten nut, be sure that linkage is operating properly, and bend tab to lock nut.

6) Install fast idle speed control link washer and a hairpin clip in lower end of fast idle speed control link. Install secondary throttle control arm spring. Install idle speed adjustment screw and spring. Tighten one turn beyond point where screw begins opening throttle plate, for a preliminary adjustment. Install choke cable adjustment screw and choke cable arm with its shoulder screw. Install choke cable link, with its clip and hairpin clip. Install idle mixture adjustment screw and spring. Seat needle lightly (do not distort needle by excessive tightening). Back off one and a half to two turns for preliminary setting.

7) Place accelerating pump spring in recess provided for it. Install accelerating pump diaphragm assembly, being sure it is aligned with screw holes. Install pump cover with four screws. Be sure roller on actuating arm makes proper contact with cam on end of primary throttle shaft. Install choke cable housing set screw.

8) Install primary main jet and secondary main jet. Install two idle jet screws with primary idle jet and secondary idle jet. Install two air/fuel mixture tubes, primary correction jet and secondary correction jet. Install accelerating pump nozzle seal, nozzle, and its screw. Install acclerating pump discharge metering screw.

9) Slide choke plate shaft into cover body. Insert two choke plates in shaft, and fasten in place with four new choke plate screws. Peen screws to prevent them from loosening. (Be sure this is done without causing distortion to shaft or plates.) Insert sliding dust cover in cover body. Install choke shaft link through dust cover and in arm on choke plate shaft. Fasten in place with hairpin clip.

10) Install inlet filter screen and plug. Install needle valve seat and valve assembly seal. Install cover gasket on cover body. Install needle valve on float and install assembly on cover body with float pin. Install cover body on main body and fasten with five screws and lock washers. Engage lower end of choke shaft link and install hairpin clip.