State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-133-1
Relating to Exemptions under Section 27156
of the Vehicle Code

REDLINE, INC., A SUBSIDIARY OF IMPAC
WEBER CARBURETOR MODEL 32/34 DFT 9A

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the Weber 32/34 DFT 9A carburetor manufactured by Weber Carburetor has been found not to reduce the effectiveness of required motor vehicle pollution control devices and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for the vehicles listed below:

Year	Make	Model	Engine Desc.
78-79	Datsun	510	1952cc, L-20
77-79	Datsun	620 Pick-Up	1952cc, L-20
79-80	Datsun	720 Pick-Up	1952cc, L-20
77	Datsun	710	1952cc, L-20
77-79	Datsun	200 SX	1952cc, L-20

The original equipment Boost Controlled Deceleration Device (BCDD) is removed and not replaced with the installation of the Weber 32/34 DFT 9A carburetor.

This Executive Order is valid provided that installation instructions for this device will not recommend tuning the vehicle to specifications different from those submitted by the device manufacturer.

Changes made to the design or operating conditions of the device, as exempted by the Air Resources Board, that adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of this device using an identification other than that shown in this Executive Order or marketing of this device for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board. Exemption of a kit shall not be construed as an exemption to sell, offer for sale, or advertise any component of a kit as an individual device.

This Executive Order does not constitute any opinion as to the effect that the use of this device may have on any warranty either expressed or implied by the vehicle manufacturer.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF THE WEBER 32/34 DFT 9A CARBURETOR.

No claim of any kind, such as "Approved by Air Resources Board" may be made with respect to the action taken herein in any advertising or other oral or written communication.

Section 17500 of the Business and Professions Code makes untrue or misleading advertising unlawful, and Section 17534 makes violation punishable as a misdemeanor.

Section 43644 of the Health and Safety Code provides as follows:

> "43644. (a) No person shall install, sell, offer for sale, or advertise, or, except in an application to the state board for certification of a device, represent, any device as a motor vehicle pollution control device for use on any used motor vehicle unless that device has been certified by the state board. No person shall sell, offer for sale, advertise, or represent any motor vehicle pollution control device as a certified device which, in fact, is not a certified device. Any violation of this subdivision is a misdemeanor."

Any apparent violation of the conditions of this Executive Order will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at El Monte, California, this 20th day of March, 1984.

K. D. Drachand, Chief
Mobile Source Division

STATE OF CALIFORNIA

AIR RESOURCES BOARD

EVALUATION OF THE MODEL 32/34 DFT 9A WEBER CARBURETOR FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13 OF THE CALIFORNIA ADMINISTRATIVE CODE

MARCH, 1984

EVALUATION OF THE MODEL 32/34 DFT 9A WEBER CARBURETOR FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13 OF THE CALIFORNIA ADMINISTRATIVE CODE

by

Mobile Source Control Division
State of California
AIR RESOURCES BOARD
9528 Telstar Avenue
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(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commerical products constitute endorsement or recommendation for use.)

SUMMARY

Redline, Inc., a distributor of Italian made Weber carburetors, has applied for exemption from the prohibitions of Vehicle Code Section 27156 for the model 32/34 DFT 9A carburetor. Changes to the previously exempted model 32/34 DFT carburetor include different jetting to match the aftermarket carburetor with that of the original equipment Hitachi 340 carburetor found on limited 1977 to 1980 Datsun vehicles.

Comparative exhaust emission and bench flow tests demonstrate that the aftermarket Weber carburetor model 32/34 DFT 9A does not adversely affect emissions. Based on the results of the tests and the Board's evaluation of the model 32/34 DFT 9A, the staff recommends that the exemption be granted for the vehicles as requested.

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I. INTRODUCTION

Redline, Inc. of Torrance, California, a subsidiary of Imported Parts and Accessories Corporation (IMPAC), is a distributor of Italian-made Weber carburetors and has applied for exemption from the prohibitions of Vehicle Code Section 27156 for a single aftermarket carburetor designated as the Weber model 32/34 DFT 9A. Exemption is sought as an exchange carburetor for the original equipment (O.E.) Hitachi 340 carburetor as found on limited 1977-1980 Datsun (Nissan) vehicles equipped with the L-20 engines.

This report describes the evaluation of the Weber 32/34 DFT 9A carburetor and its findings.

II. CONCLUSIONS

Comparative exhaust emission data submitted by the applicant demonstrated that the Weber model 32/34 DFT 9A carburetor has the same low emission characteristic as that of a properly performing Hitachi 340 carburetor. The applicant also submitted air flow curves of the model 32/34 DFT 9A to demonstrate that the Weber aftermarket carburetor functions in a like manner as to similar Hitachi counterparts.

The Weber replacement carburetor is designed to match the flow characteristics of later model Hitachi 340 carburetors. Weber 32/34 DFT 9A carburetors simply exchange the existing carburetor without any modifications and the stock air cleaner housing is retained. The idle mixture screw has a limiting adjustment cap to prevent tampering as does the O.E. carburetor.

III. RECOMMENDATIONS

Based on the submitted comparative data of the Weber carburetor, the staff recommends that Redline, Inc. be granted exemption from the prohibitions of Vehicle Code Section 27156 for the Weber aftermarket carburetor model 32/34 DFT 9A for the years, make, and models of vehicles listed below:

Year(s)	Make	Models	Engine Description
78-79	Datsun	510	1952 cc, L-20
77-79	Datsun	620 Pick-Up	1952 cc, L-20
79-80	Datsun	720 Pick-Up	1952 cc, L-20
77	Datsun	710	1952 cc, L-20
77-79	Datsun	200 SX	1952 cc, L-20

IV. DEVICE DESCRIPTION

Both the Weber 32/34 DFT 9A and Hitachi 340 carburetors are progressive two-barrel down draft designs (see exploded view, Photo 1). The main differences between the carburetors are the manner in which the secondary throttle is activated and the choke butterflies. The Weber 32/34 DFT 9A uses a manually-operated secondary which starts to open after approximately 40° of primary throttle opening and uses twin choke butterflies, one for each venturi. The Hitachi 340, however, uses a vacuum operated secondary which can be opened after 50° of primary throttle opening and the corresponding manifold vacuum and a single choke butterfly only over the primary venturi.

The Hitachi 340 uses a Boost Controlled Deceleration Device (BCDD) to enrich the air/fuel mixture during decelerations. However, when the Weber 32/34 DFT 9A is installed the BCDD and its controlling components are no longer retained.

The Weber 32/34 DFT 9A includes several changes from the previously exempted 32/34 DFT model. The new model has larger primary and accelerator pump jets and two EGR ports (instead of one) are used. The power circuit remains unchanged from the previously exempted 32/34 DFT. The changes allow a closer air and fuel flow characteristic to that of later model Hitachi 340 carburetors.

V. EVALUATION PROGRAM

The applicant performed comparative CVS-75 exhaust emission tests at Import Certification Lab in Anaheim, California. A 1980 Datsun 720 P-U equipped with a L-20 (1952 cc) engine and automatic transmission was used.

During the evaluation, testing was performed on a representative production carburetor to show that the exhaust emission levels would not be adversely affected by the Weber 32/34 DFT 9A's use. The baseline test with the Hitachi 340 carburetor was performed to show that the stock vehicle was in proper working order and that emissions of the vehicle were within the applicable state standard for the 1980 model-year.

The applicant's submitted comparative exhaust emission and derived fuel economy data is given in Table 1.

Table 1

Applicant's Comparative Test Data

Condition	Exhaust Emissions gm/mi HC	CO	NOx	Fuel Economy mi/gal City
Baseline (Ave 2 Tests)	0.2	4.1	1.1	22.0
Production Weber	0.2	2.7	1.0	22.2
1980 Light-Duty Truck Std.	0.41	9.0	1.5(1)	-

(1) 2.0 gm/mi for four-wheel drive vehicles

The applicant also submitted comparative bench air flow data (Graph 1) for the Weber 32/34 DFT 9A and Hitachi 340 carburetors. For comparative purposes the curve for the previously exempted Weber carburetor was plotted also.

The Board did not perform confirmatory testing of the Weber 32/34 DFT 9A for this evaluation.

VI. DISCUSSION

The applicant's submitted comparative emission and bench test data is generally acceptable. Although there are some differences in which the two carburetors operate, the Weber 32/34 DFT 9A does not seem to adversely affect exhaust emissions. The submitted emission test data showed no significant increases and the small differences are considered, by staff, to be within the limits of testing variability.

The absence of the BCDD with the carburetor exchange did not seem to affect emissions even though the CVS-75 test contains more than 20 deceleration modes. Additionally, since NOx emissions did not increase, the staff did not feel that the operation of the EGR system was adversely affected with the suction change resulting from the twin ports machined into the exchange carburetor. The applicant explained that two EGR ports were used on the exchange carburetor since the O. E. carburetor also contained two ports.

The NOx emission standards for the model-years 1977-1980 were reduced from 2.0 gm/mi to 1.5 gm/mi requiring changes to the NOx controlling components and/or their subsystems.

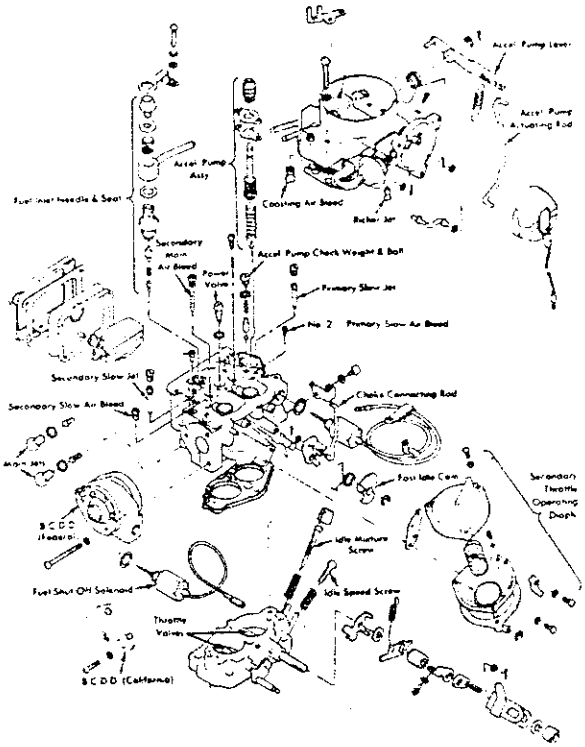
Driveability was not evaluated during the testing of the Weber 32/34 DFT 9A. However, if driveability was adversely impaired, emissions would have more than likely increased.

Since the installation of the Weber 32/34 DFT 9A is a simple remove-and-replace arrangement and no special adapters, other than the one for the air cleaner, are needed, the staff does not believe that improper installation or tampering would be anticipated. The idle mixture screw is pre-adjusted and then sealed by Redline preventing the installer from changing the production limits of the carburetor.

Although the test data of the Weber 32/34 DFT 9A reveals it to be functionally similar with regard to emissions to the later models of the Hitachi 340, it cannot be classified as an Aftermarket Replacement Part as differences are found in the bench air flow data, the carburetor choke and power circuits, and the absence of the BCDD system.

The Weber 32/34 DFT 9A carburetor is packaged in three separate kits identified as kits 8654, 8660 and 8666. The same carburetor is used in each kit, however, the connective throttle arrangements differ to facilitate various configuration found on vehicle models being applied for. Additionally, some kits include a thicker insulator gasket to match that of the O.E. application.

Hatachi 340



Weber 32/34 DFT

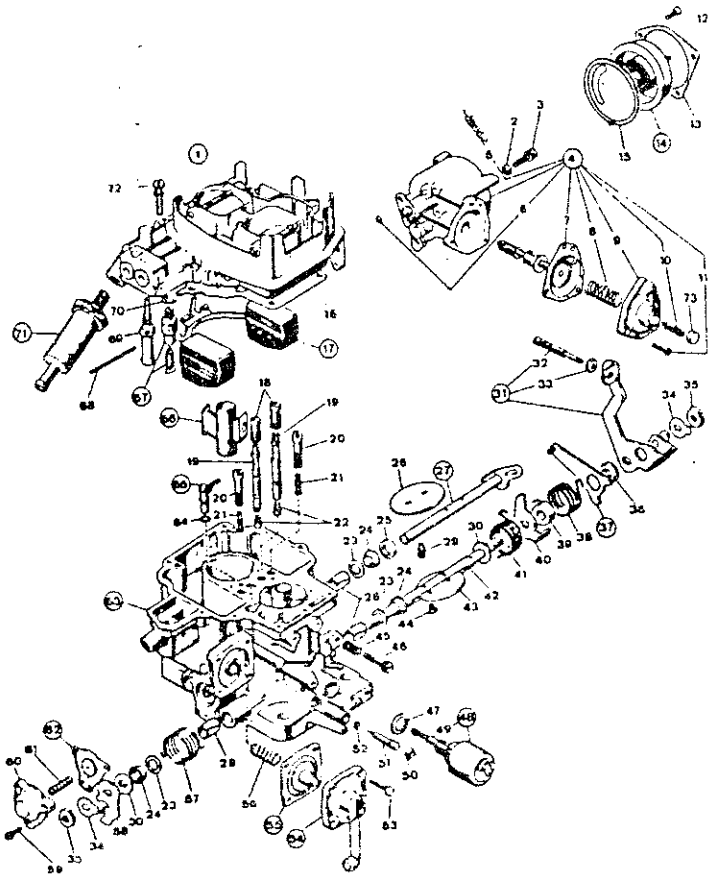


Photo 1
Exploded View

INSTALLATION INSTRUCTIONS

WEBER CARBURETORS

READ & UNDERSTAND ALL STEPS OF THESE INSTRUCTIONS BEFORE BEGINNING THIS INSTALLATION. AFTER UNPACKING, EXAMINE THE CARBURETOR AND OTHER COMPONENTS FOR SHIPPING DAMAGE.

DATSUN 510, 610, 620, 710, 720 & 200 SX

1977 TO 1980

L20B Engines, All Transmissions
For Kit Nos. K 8654 and 52-50515 (1977 &10)
K8660 and 52-50507 ('77-'79 620 and 200 SX; '78-'79 510)
K8666 and 52-50516 ('79-'80 720)

T OLS AND EQUIPMENT NEEDED

Combination, Box or Open-End Wrenches (metric)
Socket Set with 12mm Socket
Screwdrivers (regular and Phillips)
Pliers
Gasket Scraper
Wiping Rags
Cleaning Solvent
Knife
Gasket Sealer

PARTS SUPPLIED WITH INSTALLATION KIT:

1 - Weber 32/34 Carburetor

1 - Air Filter Adaptor

1 - Fuel Line

1 - Hardware Kit

TUNE-UP SPECIFICATIONS

All tune-up specifications for the Weber Carburetor remain the same as those specified by the Datsun Factory for the original unit. Emissions tune-up should be carried out by a suitably qualified Dealer or Independent garage, using infrared gas analyzing equipment.

NOTE: Late model vehicles fitted with Emission Control Systems have many vacuum lines and electrical connections in their fuel systems. It is essential when dismantling, that disconnected lines and wires be identified with a corresponding number tag or label system. To establish function, locate and identify the source of each line and wire.

This kit is sold under the provisions of California Air Resources Board Executive Order No. D-133-1 (C.A.R.B. E.O. No. D-133-1). Products with C.A.R.B. E.O. numbers are exempt from the prohibitions of Section 27156 of the California Vehicle Code. Performance kits so noted are legal for use on public highways in California.

C.A.R.B. E.O. No. D-133-1 is valid for Datsun: 510, 610, 620, 710, 720, 200SX (1977-1980) fitted with L20B engines.

PREPARATION FOR KIT INSTALLATION.

1. Remove the vehicle gas cap.

2. Raise the hood and disconnect the vehicle battery.

3. Remove the two air filter bracket bolts at the front of the air filter.

4. Disconnect the following lines from the air filter. Identify removed lines to aid in reassembly. See figure 1.

   a. Gulp Valve
   b. Cam Cover
   c. Air Pump
   d. Hot Air Tube
   e. Manifold Vacuum
   f. Evaporative Canister

5. Remove the air filter from the vehicle.

6. Disconnect the following carburetor lines and wires. Identify removed lines and wires to aid in reassembly. See figure 2.

   a. EGR (Exhaust Gas Recirculation) Vacuum
   b. Vacuum Advance to Distributor
   c. BCDD (Boost Control Deceleration Device) Vacuum
   d. Blue Choke Wire
   e. Red Anti-Dieseling, Idle Cutoff Solenoid Wire
   f. White BCDD Wire

7. Remove the fuel line and clamps.

NOTES:

- Some vehicles have altitude compensation devices which have two (2) vacuum lines connecting the carburetor with a unit mounted on the left inner fender, behind the BCDD unit. These lines may be discarded. See figures 2 and 3. The BCDD electrical wire will not be used on the Weber Carburetor and should be disconnected and discarded.

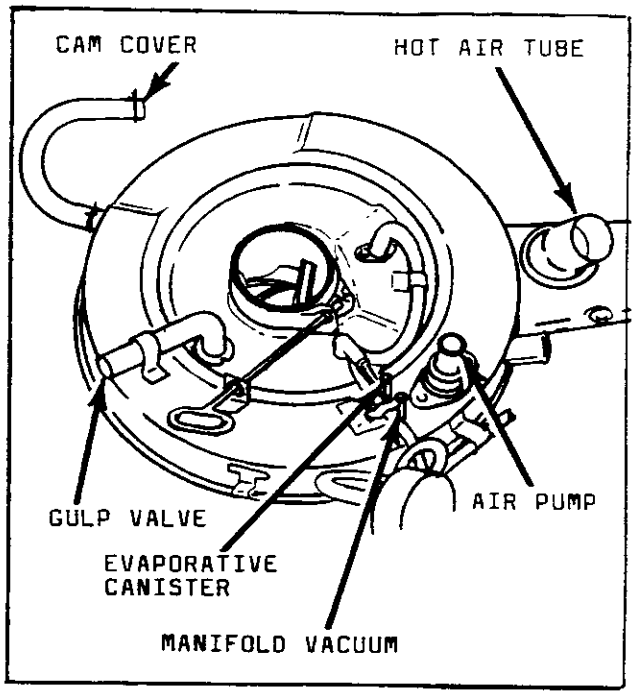


Figure 1

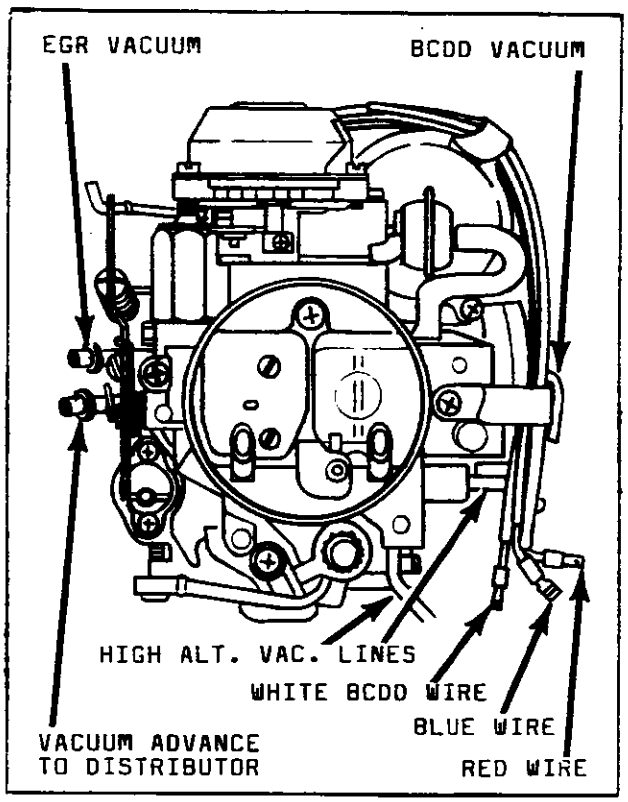


Figure 2

- On trucks with the BCDD mounted on left fender, the hose must be eliminated and the unit capped with vacuum caps supplied in kit.

8. Remove cotter pin, spring and washer from the carburetor linkage arm. On vehicles with cable throttle linkage, remove the cable from the throttle quadrant.

9. Remove carburetor flange nuts. Lift carburetor and gasket from the manifold.

10. Remove the four flange studs from the manifold, except on 720 pickups where original studs are used.

NOTE: **Flange studs are removed with a stud removal/installation tool or by a double-nut procedure. (Two nuts are threaded on stud to be removed and locked tightly together. The stud can then be unscrewed from the manifold).**

11. After the flange studs are removed, clean the manifold face.

KIT INSTALLATION.

12. With exception of 720 pickups where original studs are used, install the new flange studs supplied in kit, into the manifold flange.

13. Install the smaller of the two gaskets supplied, on the manifold flange.

14. Install the insulator/spacer, supplied in kit, on the manifold. Place the remaining gasket on the insulator/spacer.

NOTE: The insulator/spacer has a tapered hole which must match the original manifold at the bottom, and the carburetor at the top.

15. Remove one-way air valve and hose. Fit spacer and threaded adaptor as shown in figure 4. Shorten the air hose 1-1/2 inches. Refit hose and valve assembly as shown. If necessary, reposition air valve for clearance with choke solenoid.

16. Install Weber carburetor on manifold with choke assembly toward the front of the vehicle. See figure 5.

17. Secure carburetor with flange nuts and washers supplied in the kit.

18. Reconnect throttle arm with cotter pin and washer removed in step 8. On vehicles with cable throttle linkage, connect cable to throttle quadrant on Weber carburetor.

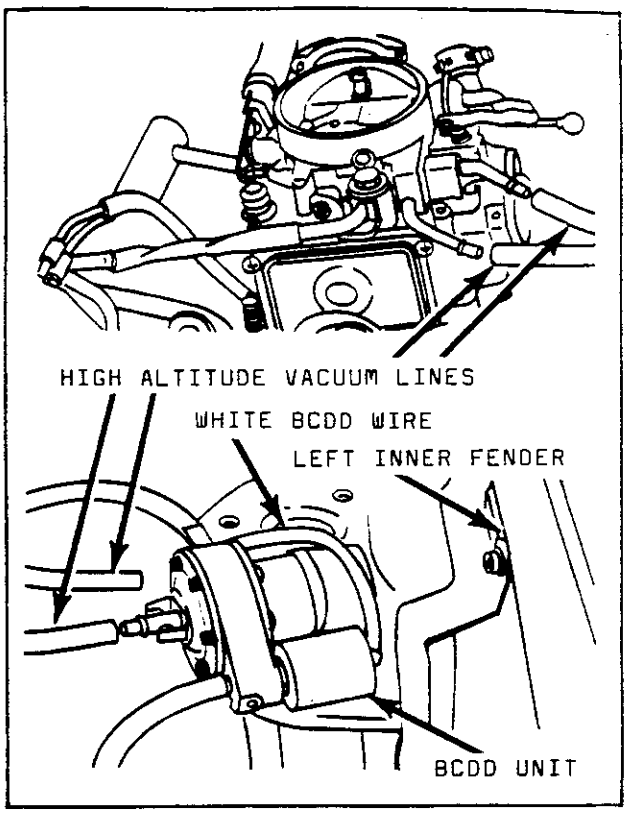


Figure 3

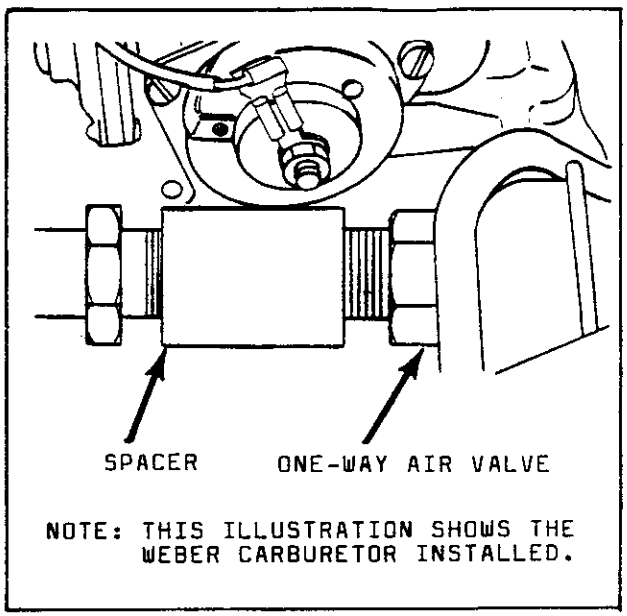


Figure 4

19. Reconnect blue electric choke wire and red idle-cutoff solenoid wire to corresponding units on the Weber carburetor. See figure 6.

20. Connect the fuel hose supplied in the kit from the stock Datsun fuel outlet to fuel inlet on the Weber carburetor. Secure hose with clamps supplied. See figure 6.

21. Connect the EGR and Vacuum Advance lines with the EGR line nearest the firewall and the Vacuum Advance line toward the front of the vehicle. See figure 6. On vehicles with charcoal canister the line labeled "Dist. Vacuum" must be connected to the Vacuum Advance line using the Tee fitting supplied.

22. Install the black and gold vacuum delay valve supplied, in the vacuum line that connects the EGR valve to the thermal switch by cutting 1/2 inch from center of hose and inserting delay valve with black side toward the EGR valve. On vehicles that have a stock black and brown delay valve, install the delay valve supplied with black side toward the thermal switch and gold side toward the stock delay valve (brown side). Black side of stock delay valve is connected to the EGR valve. See figure 7.

23. Install the air cleaner adaptor and air cleaner with the two oval air filter spacers and bolts supplied, and the two air filter bracket bolts removed in step 3.

24. Reconnect the lines removed in step 4, to the air cleaner (Fig. 1).

25. Reconnect the vehicle battery.

26. Depress the throttle fully, then release to initiate the cold-start device.

27. **START THE ENGINE.** After warm-up, check for leaks around the carburetor mounting base and correct as needed.

28. Check idle speed and adjust as necessary to 750 rpm. Idle mixture is preset at Weber factory.

29. CHECK FOR ADEQUATE HOOD CLEARANCE BEFORE CLOSING THE HOOD.

NOTE: If difficulties arise during kit installation, **WEBER U.S.** will make every effort to provide needed assistance. Contact our technical liaison through your distributor for this assistance.

Figure 5

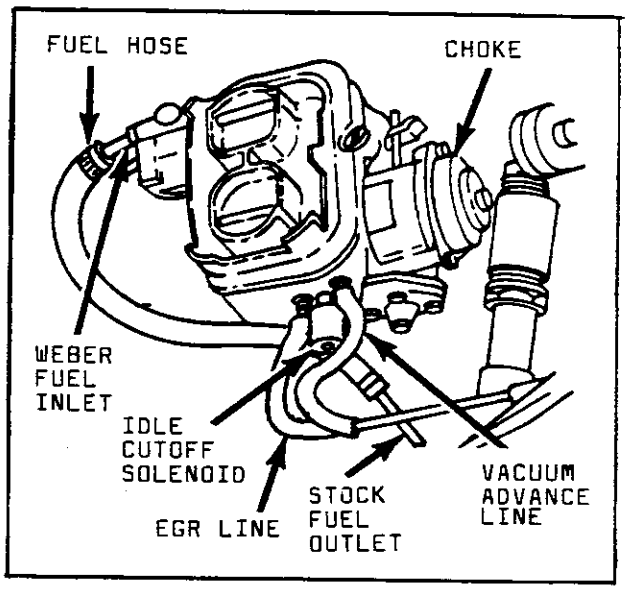


Figure 6

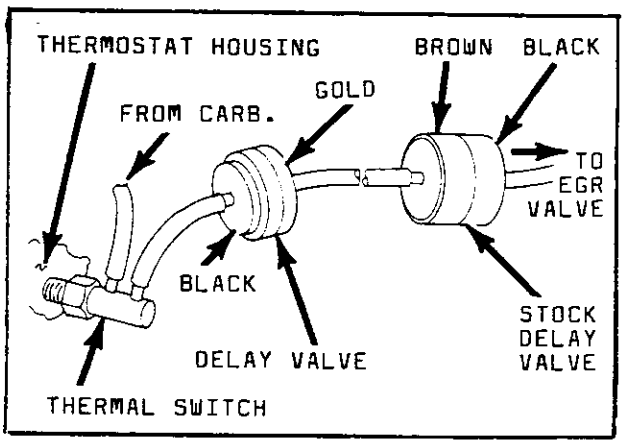


Figure 7