State of California
AIR RESOURCES BOARD

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

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

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 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.
72-73	Datsun	610	1700cc, L-18
73-74	Datsun	710	1700cc, L-18
73-74	Datsun	620 Pick-Up	1700cc, L-18
73-76	Datsun	610	1952cc, L-20
74-76	Datsun	710	1952cc, L-20
74-76	Datsun	620 Pick-Up	1952cc, L-20

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 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 14th day of July, 1983.

K. D. Drachand, Chief
Mobile Source Control Division

STATE OF CALIFORNIA

AIR RESOURCES BOARD

EVALUATION OF THE MODEL 32/34 DFT WEBER CARBURETOR FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156

JUNE, 1983

EVALUATION OF THE MODEL 32/34 DFT WEBER CARBURETOR FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156

by

Mobile Source Control Division
State of California
AIR RESOURCES BOARD
9528 Telstar Avenue
El Monte, CA 91731

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

CONTENTS

EVALUATION OF THE MODEL 32/34 DFT WEBER CARBURETOR FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156

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. Exemption is sought as a replacement carburetor for the O.E.M. Hitachi 340 carburetor as found on limited 1972-1976 Datsun (Nissan) vehicles equipped with either the L18 or L20 engines.

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

II. CONCLUSIONS

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

The Weber replacement carburetor is designed simply to replace 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 OEM carburetor.

III. RECOMMENDATIONS

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

Years	Make	Models	Engine Description
72-73	Datsun	610	1700 cc, L-18
73-74	Datsun	710	1700 cc, L-18
73-74	Datsun	620 Pick-Up	1700 cc, L-18
73-76	Datsun	610	1952 cc, L-20
74-76	Datsun	710	1952 cc, L-20
74-76	Datsun	620 Pick-Up	1952 cc, L-20

IV. DEVICE DESCRIPTION

Both the Weber 32/34 DFT 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 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 is installed the BCDD and its controlling components are no longer retained.

V. EVALUATION PROGRAM

The applicant performed comparative CVS-75 exhaust emission tests at Import Certification Lab in Anaheim, California. A 1976 Datsun 710 equipped with a L-20 (1952 cc) engine and four-speed manual transmission was used.

During the evaluation, testing was performed on both a prototype carburetor and a representative production carburetor to show that the exhaust emission levels would not be adversely affected by the Weber 32/34 DFT'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 1976 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	0.8	4.6	2.2	18.8
Prototype Weber	0.8	8.9	1.9	19.1
Production Weber	0.9	4.8	1.8	19.4
Re-Run of Production Weber	0.9	5.1	1.7	19.6
1976 P/C Std.	0.9	9.0	2.0	-

The applicant also submitted comparative bench air flow data (Graph 1) and comparative bench EGR flow data (Graph 2) for the Weber 32/34 DFT and Hitachi 340 carburetors.

The Board did not perform confirmatory testing of the Weber 32/34 DFT 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 does not seem to adversely affect exhaust emissions. The submitted emission test data does not reveal any significant increases and the small differences are considered, by staff, to be within the limits of testing variability.

The submitted bench flow data reveals that the Weber 32/34 DFT is slightly leaner (1 A/F ratio) at W.O.T. than the Hitachi 340. However, since the change in A/F ratio is during the rich operation of the carburetor, the change would not adversely affect NOx or HC emissions.

The bench data also reveals a greater EGR port strength with the Weber 32/34 DFT. In order to prevent a driveability problem and possible emission increases with the early induction of recycled exhaust gas, a 1.0 to 1.5 second delay valve is installed in series between the carburetor and the EGR valve. The delay valve does not change the strength of the signal but only prevents the EGR valve from opening early. The staff plotted the EGR flow vs. port strength curves and found them to be within 20%. The emission data of the production carburetor was performed with the delay valve installed.

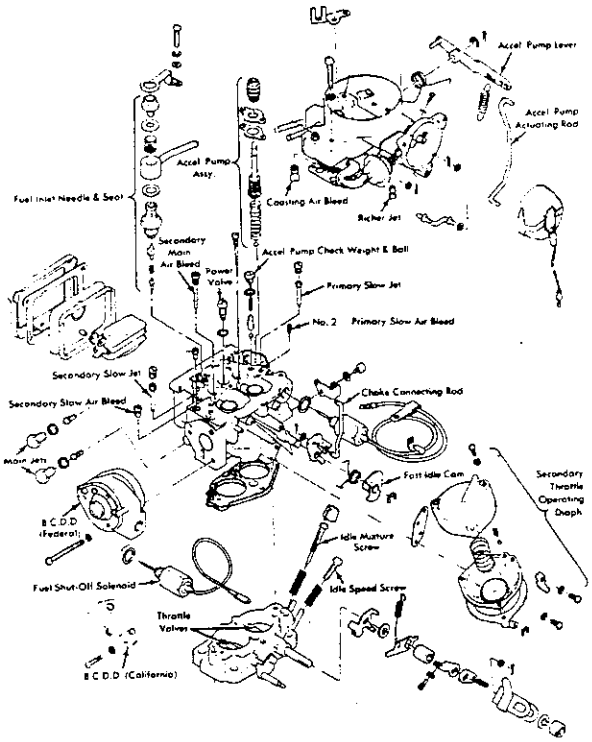
The absence of the BCDD on the Weber 32/34 DFT did not seem to affect emissions even though the CVS-75 test contains more than twenty acceleration and deceleration modes.

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

Since the installation of the Weber 32/34 DFT 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 encouraged. The idle mixture screw is pre-adjusted and then sealed preventing the installer from changing the production limits of the carburetor.

Although the test data of the Weber 32/34 DFT reveals it to be functionally similar with regard to emissions to 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.

Hatachi 340



Weber 32/34 DFT

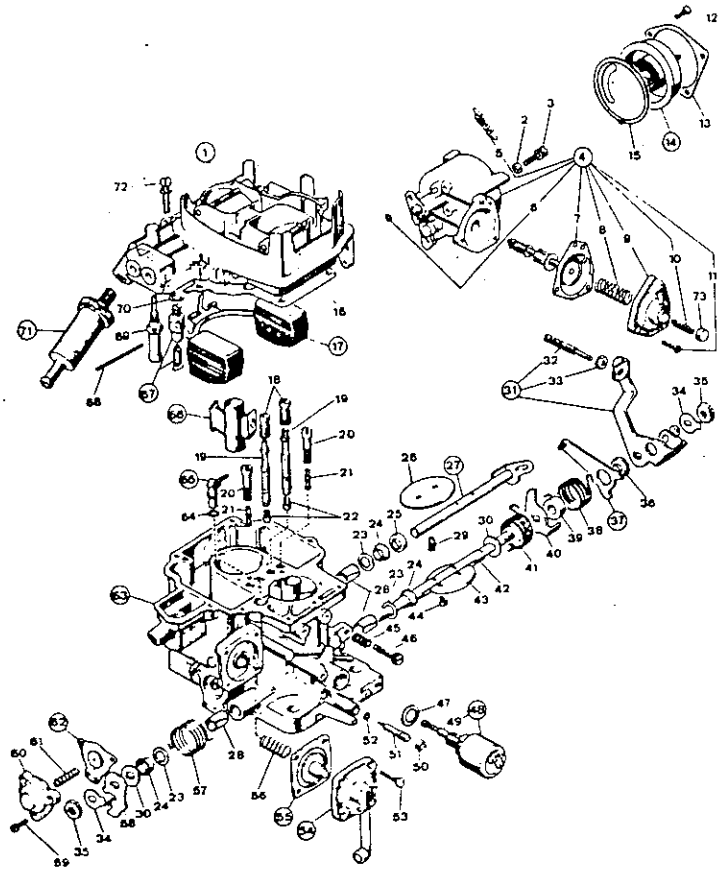


Photo 1
Exploded View

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

DATSUN 610, 620, AND 710
1972 TO 1976

L18 and L20B Engines, All Transmissions
For Kit Nos. K 8640 and 52-50514 (Pickup)
K8650 and 52-50512 (Sedan)

TOOLS 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 DFT 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 be identified with a corresponding number tag or label system. To establish function, locate and identify the source of each line.

This kit is sold under the provisions of California Air Resources Board Executive Order No. D-133 (C.A.R.B. E.O. No. D-133). 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 is valid for Datsun: 610, 620, 710 (72-76) fitted with L18, or L20B engines.

PREPARATION FOR KIT INSTALLATION.

1. Remove the vehicle gas cap.

2. Raise the hood and disconnect the vehicle battery.

3. Remove the fuel line and clamps.

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

5. 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. Hot Air Tube
d. Air Pump
e. Manifold Vacuum
f. Evaporative Canister

6. Remove the air filter from the vehicle.

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

NOTE: 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.

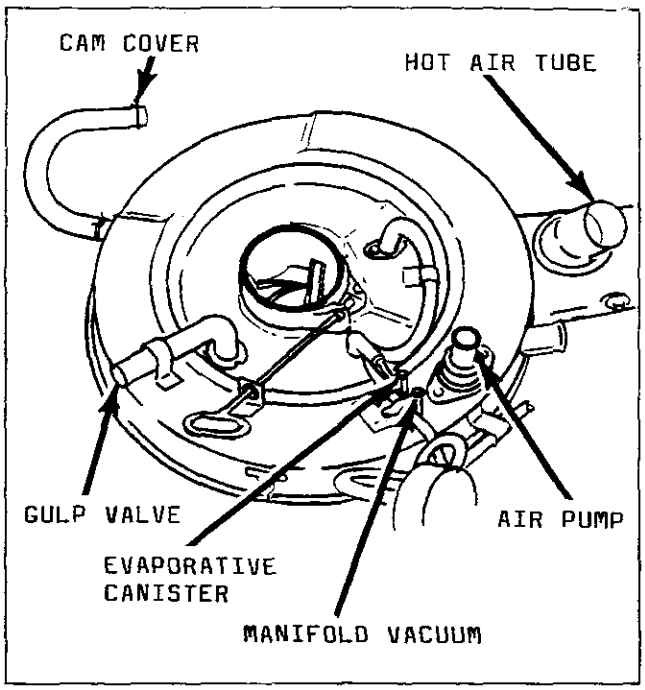


Figure 1

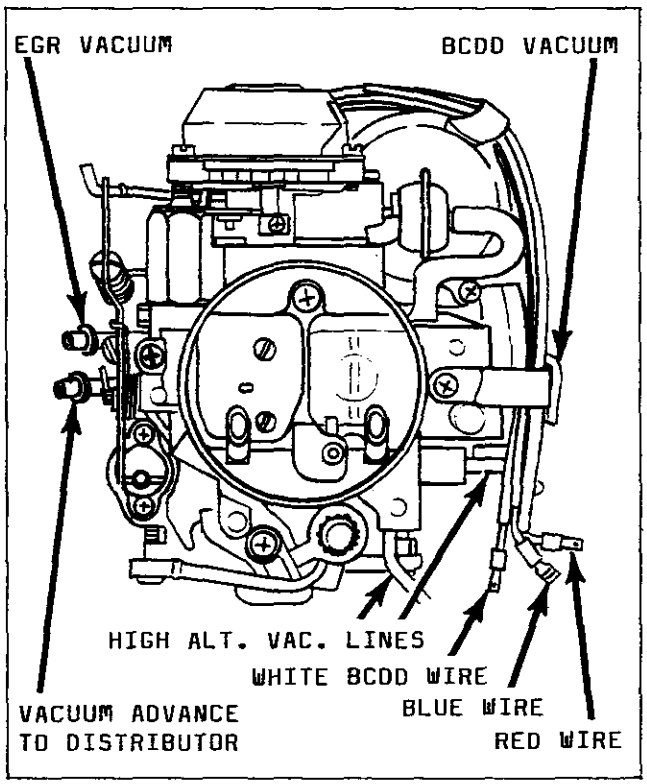


Figure 2

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 and lift carburetor and flange gasket from the intake manifold.

10. Remove the four flange studs from the intake manifold.

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. Use stud removal/installation tool or the double-nut procedure and install the new flange studs supplied in the kit, in the manifold flange.

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

14. Install the plastic insulator block, supplied in kit, on the manifold. Place the remaining gasket on the insulator block.

NOTE: The insulator block 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, spring, and washer removed in step No. 8. On vehicles with cable throttle linkage, connect cable to throttle quadrant on Weber carburetor.

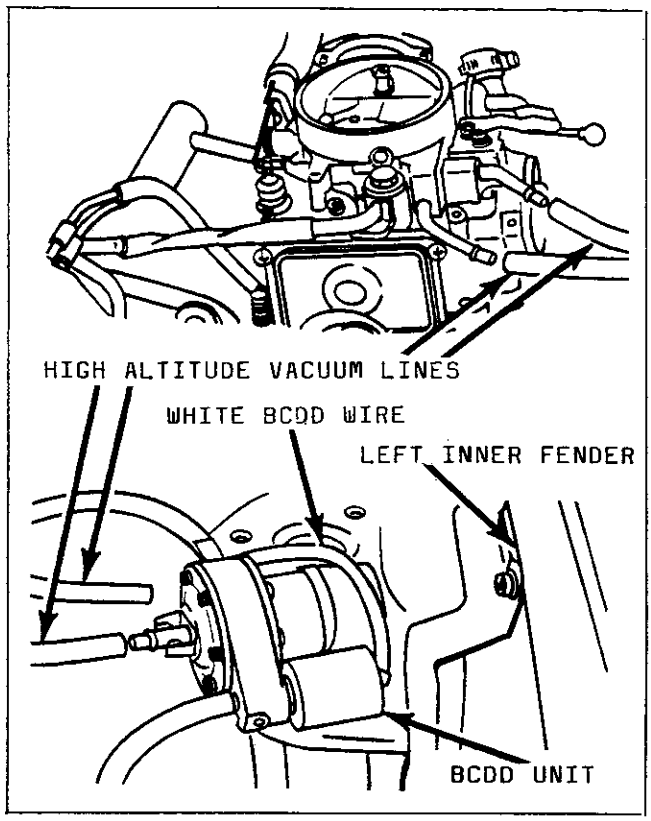


Figure 3

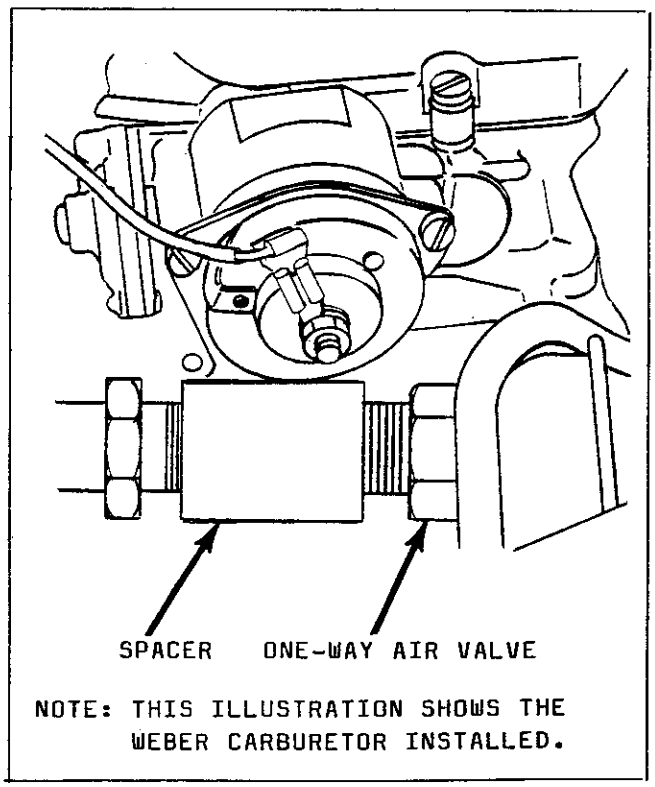


Figure 4

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.

22. Install the black and gold vacuum delay valve supplied in the kit in the vacuum line that connects the EGR valve to the thermal switch. Install the vacuum delay valve by cutting a 1/2-inch piece out of the vacuum line and installing the delay valve in the line. Install the delay valve with the black side toward the thermal switch and the gold side toward the EGR valve.

23. Reconnect the lines removed in steps 5a through 5f to the air cleaner. See figure 1.

24. Install the air cleaner adaptor and air cleaner with the two oval air filter spacers supplied and the two air filter bracket bolts removed in step 4.

25. Tighten the two bracket bolts to secure the air filter.

26. Reconnect the vehicle battery.

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

28. START THE ENGINE. After warmup check for leaks around the carburetor mounting base and correct as necessary. With engine idling, use a spray can of carburetor cleaner with hose attachment to isolate a leak. Spray cleaner around carburetor mounting base. If any of the spray is entering the induction system, the idle speed will change.

29. Check idle speed and adjust as necessary to 750 rpm. Idle mixture is preset at Weber factory. Refer to Tune-Up Specifications on page 1.

Figure 5

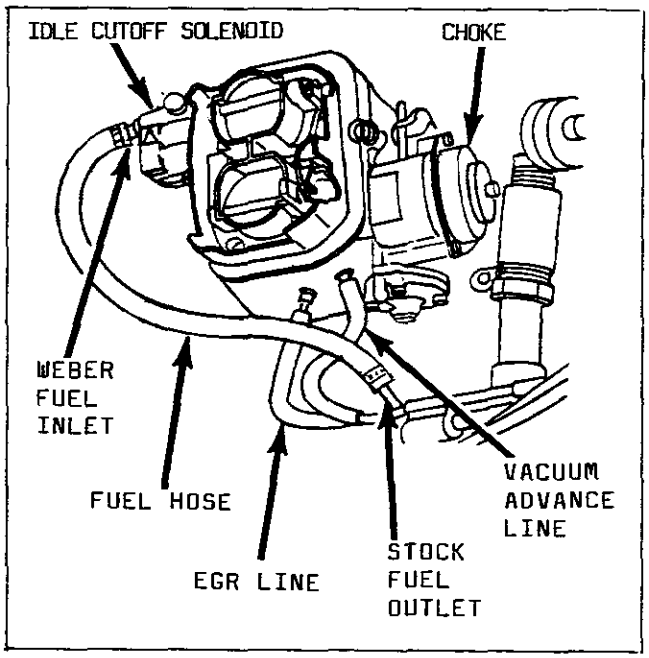


Figure 6

30. 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.