

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-133-3
Relating to Exemptions under Section 27156
of the Vehicle Code

REDLINE, INC., A SUBSIDIARY OF IMPAC

REDLINE CARBURETOR EXCHANGE KIT USING
WEBER MODEL 32/36 DGV 5A CARBURETORS

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 Redline Carburetor Exchange Kit No. K8688 using two (2) Weber 32/36 DGV 5A carburetors 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:

<u>Year</u>	<u>Make</u>	<u>Model</u>	<u>Redline Kit No.</u>	<u>Weber Carburetor</u>
1970-1973	Datsun	240Z	K8688	32/36 DGV 5A
1974	Datsun	260Z	K8688	32/36 DGV 5A

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 REDLINE CARBURETOR EXCHANGE KIT NO. K8688.

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 8th day of May, 1985.


K. D. Drachand, Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF THE REDLINE CARBURETOR EXCHANGE KIT
NO. K8688 USING MODEL 32/36 DGV 5A
WEBER CARBURETORS FOR EXEMPTION FROM THE
PROHIBITIONS OF VEHICLE CODE SECTION 27156
IN ACCORDANCE WITH SECTION 2222, TITLE 13
OF THE CALIFORNIA ADMINISTRATIVE CODE

APRIL, 1985

EVALUATION OF THE REDLINE CARBURETOR EXCHANGE
KIT NO. K8688 USING MODEL 32/36 DGV 5A
WEBER CARBURETORS 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 Division
State of California
AIR RESOURCES BOARD
9528 Telstar Avenue
El Monte, CA 91731

(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 commercial 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 Redline Carburetor Exchange Kit No. K8688 using two (2) Weber model 32/36 DGV 5A carburetors.

The Redline Carburetor Exchange Kit replaces the original equipment Hitachi carburetors on 1970-74 Datsun 240Z/260Z model vehicles. The carburetor dashpot, hot air intake and deceleration device are not retained in the Redline Kit installation. A delay valve is added in the exhaust gas recirculation valve vacuum control line for the 1973 and 1974 model-year vehicles which use exhaust gas recirculation systems. Exhaust gas recirculation was not used on 1970-1972 model-year vehicles. Due to space limitations the original equipment air cleaner cannot be accommodated. The Redline Carburetor Exchange Kit utilizes an open type air cleaner.

Comparative exhaust and evaporative emission tests demonstrate that the aftermarket Redline Carburetor Exchange Kit using Weber model 32/36 DGV 5A carburetors does not adversely affect emissions. Based on the results of the tests and the evaluation of the Redline Carburetor Exchange Kit, the staff recommends that the exemption be granted as requested for the Datsun 1970-1973 model-year 240Z model and the 1974 model-year 260Z model vehicles.

CONTENTS

	<u>Page Number</u>
<u>SUMMARY</u>	i.
<u>CONTENTS</u>	ii.
I. <u>INTRODUCTION</u>	1.
II. <u>CONCLUSIONS</u>	1.
III. <u>RECOMMENDATIONS</u>	1.
IV. <u>DEVICE DESCRIPTION</u>	2.
V. <u>EVALUATION PROGRAM</u>	3.
VI. <u>DISCUSSION</u>	5.
APPENDIX	
Carburetor Diagrams	A-1

EVALUATION OF THE REDLINE CARBURETOR EXCHANGE KIT NO. K8688 USING MODEL 32/36 DGV 5A WEBER CARBURETORS FOR EXEMPTION FROM THE PROHIBITIONS OF VEHICLE CODE SECTION 27156 IN ACCORDANCE WITH SECTION 2222, TITLE 13 OF THE CALIFORNIA ADMINISTRATIVE CODE

I. INTRODUCTION

Redline, Inc. of Torrance, California, a subsidiary of Imported Parts and Accessories Corporation (IMPAC), is a distributor of Italian-made Weber carburetors. The company has applied for exemption from the prohibitions of Vehicle Code Section 27156 for a Carburetor Exchange Kit designated as Redline Kit No. K8688 utilizing two (2) Weber model 32/36 DGV 5A carburetors. The Carburetor Exchange Kit is designed to replace the original equipment manufacturer (OEM) Hitachi HJG46W and HMB46W carburetors as found on 1970-1974 Datsun (Nissan) 240Z and 260Z vehicles equipped with 146 and 156.5 cubic inch displacement (CID) engines.

This report describes the evaluation of the Redline Carburetor Exchange Kit and the findings.

II. CONCLUSIONS

Comparative exhaust emission data and other information submitted by the applicant demonstrated that the Redline kit using two (2) Weber model 32/36 DGV 5A carburetors meets the Air Resources Board (ARB) requirements for exemption from the prohibitions of Vehicle Code Section 27156.

III. RECOMMENDATIONS

Based on the submitted comparative data of the Redline Carburetor Exchange Kit, the staff recommends that Redline, Inc. be granted exemption from the prohibitions of Vehicle Code Section 27156 for the Redline Carburetor Exchange Kit No. K8688 using two (2) model 32/36 DGV 5A Weber carburetors for the years, make, and models of vehicles listed below:

<u>Year(s)</u>	<u>Make</u>	<u>Model</u>	<u>Engine Description</u>
1970-1973	Datsun	240Z	146 CID
1974	Datsun	260Z	156.5 CID

IV. DEVICE DESCRIPTION

The Redline Carburetor Exchange Kit No. K8688 uses two Weber Model 32/36 DGV 5V carburetors to replace the two OEM Hitachi Model HJG46W or HMB46W carburetors. The HJG46W carburetor is used on 1970-1972 vehicles and the HMB46W is used on the 1973-1974 vehicles. The Hitachi carburetor is a single barrel sidedraft carburetor; its venturi area is automatically changed according to engine air intake. The amount of fuel passing through the main jet is governed by a tapered needle. A power valve is provided to improve performance during acceleration from medium speed. A choke valve and auxiliary nozzle is used for cold starting. Main components of the carburetor consist of: a float chamber, suction chamber, suction piston, piston damper, metering needle and jet, throttle valve body, power valve, choke valve and auxiliary nozzle. The two Hitachi carburetor models are similar in design. The newer model HMB46W has provision for exhaust gas recirculation (EGR) and refined fuel metering valve for improved emissions control. EGR was not utilized in the 1970-1972 model-years.

The Weber 32/36 DGV 5A carburetor is a progressive two-barrel down draft design (see Appendix A). The Weber carburetor uses a mechanically-operated secondary which starts to open after the primary throttle opens approximately 68 percent.

The Hitachi HMB46W carburetor on 1974 model-year vehicles uses a boost controlled deceleration device (BCDD) to slow throttle closing to control the

air/fuel mixture during decelerations. Earlier model-year vehicles have similar throttle closing systems but they were not specifically designated as BCCD systems. When the Weber 32/36 DGV 5A carburetors are installed, the throttle closing devices are no longer retained. The Weber installation does not retain the Hitachi carburetor dashpot, hot idle compensator, or hot air intake. A delay valve is added in the EGR valve vacuum control line for 1973-1974 Datsuns. This valve acts to smooth out the application of the vacuum signal during transient conditions. It has no effect during steady throttle conditions. Due to space limitations the OEM air cleaner unit cannot be accommodated. The Redline Carburetor Exchange Kit utilizes an "open" type air cleaner.

V. EVALUATION PROGRAM

A. METHOD

The applicant performed comparative CVS-75 exhaust emission and evaporative emission tests at Import Certification Laboratories (ICL) in Anaheim, California. A 1974 Datsun 260Z equipped with a 156.5 CID engine and 4-speed manual transmission was used. The baseline test was performed with the Hitachi HMB46W carburetor. A representative production Redline Kit was used for the comparative testing.

Confirmatory testing was conducted at the ARB Haagen-Smit Laboratory on a second 1974 Datsun 260Z.

A 1974 model-year vehicle was used as the test vehicle since vehicles of this model-year were required to meet a more stringent NOx standard. It would be expected that vehicles of previous model-years would meet the respective emissions standards using the same Redline Kit.

Evaporative emissions testing was conducted to evaluate any emission changes which might result from the use of the open type air cleaner. The carbon-trap procedure was used for testing at ICL. This was the evaporative emission test procedure applicable to 1977 and older model-year vehicles. The testing at the Haagen-Smit Laboratory was conducted using the Sealed Housing Evaporative Determination (SHED) procedure which has been utilized for evaporative emission testing commencing with the 1978 model-year. The introduction of this procedure made the carbon-trap method obsolete.

B. TEST RESULTS

The applicant's submitted comparative exhaust emission and evaporative emission data are given in Table 1.

Table 1
Emission Test Data

Condition	Exhaust Emissions			Fuel Economy City mi/gal	Carbon Trap Evaporative Emissions gm/test
	HC	CO gm/mi	NOx		
Baseline	6.5	68.5	1.4	13.6	0.5
Redline Kit	2.2	25.5	1.2	16.2	0.67
1974 Passenger Car Standards	3.2	39	2.0	--	2.0

Confirmatory test results are contained in Table 2.

Table 2
Emission Test Data

Condition	Exhaust Emissions			Fuel Economy City mi/gal	SHED Evaporative Emissions gm/test
	HC	CO gm/mi	NOx		
Baseline	5.3	58.3	1.3	14.9	10.7
Redline Kit	3.1	39.4	1.3	14.4	9.0
1974 Passenger Car Standards	3.2	39	2.0	--	--

VI. DISCUSSION

The applicant's submitted comparative emission test data are generally acceptable. The vehicle baseline exhaust emissions for hydrocarbons and carbon monoxide exceeded standards by a factor of approximately two. The exhaust emissions of the test vehicle with the Redline Kit No. K8688 are lower than the baseline emissions with the OEM carburetors; they are also below the 1974 emission standards. There was a 0.17 gram/test increase in evaporative emissions but the 0.67 gram/test level is well below the 2.0 gram/test standard.

During the confirmatory testing at the ARB laboratory, the idle mixture setting procedure specified in the submitted Redline installation instructions was used for adjusting the Weber carburetors on the test vehicle. The Redline instructions specified that the vehicle manufacturer's procedure was to be used to set the idle mixture. The vehicle manufacturer's instructions specify setting the mixture at 1,400 rpm engine speed to $1.3\% \pm 0.3\%$ carbon monoxide without air injection. The mixture was then to be checked at idle engine speed with air injection. The carbon monoxide level should be less than 2.7%. The idle mixture setting of the test vehicle as set by using the above procedure was very lean (hydrocarbons - 0.13 ppm). The vehicle stalled on the first acceleration and did not restart within the specified limit of one minute.

Subsequently, Redline submitted revised idle mixture setting instructions. These instructions reflected the method Redline had used during its test program. The idle mixture is set at idle engine speed to $2.0 \pm 0.3\%$ carbon monoxide with air injection. The test vehicle was reset using the revised procedure and retested. The vehicle, however, experienced difficult

start and stalling problems again. As a result, another retest was conducted following the same revised idle mixture setting procedure. This time there was a less severe starting problem and time limits for starting and accelerations were not exceeded.

The above tests were run using the original Redline Kit manual choke starting procedure:

"Pull choke lever back 1/2 way. Pump the accelerator pedal 2 full times. Start engine."

To alleviate the potential driveability problem exhibited during the above tests, Redline changed to the following starting procedure:

"Cold Start

Pump the accelerator pedal two full times. Beginning with 2/3 choke lever travel, adjust as needed to achieve proper cold start. Start engine. As soon as practical disengage choke lever.

Hot Start

Depress the accelerator pedal 1/2 way to the floor and hold at this point. Start engine. Choke should remain disengaged."

The staff is of the opinion that these changes in the starting procedure should not cause the emissions to increase (see Table 2) from HC/CO of 3.1/39 grams per mile to the extent that the baseline emissions HC/CO of 5.3/58 grams per mile would be exceeded.

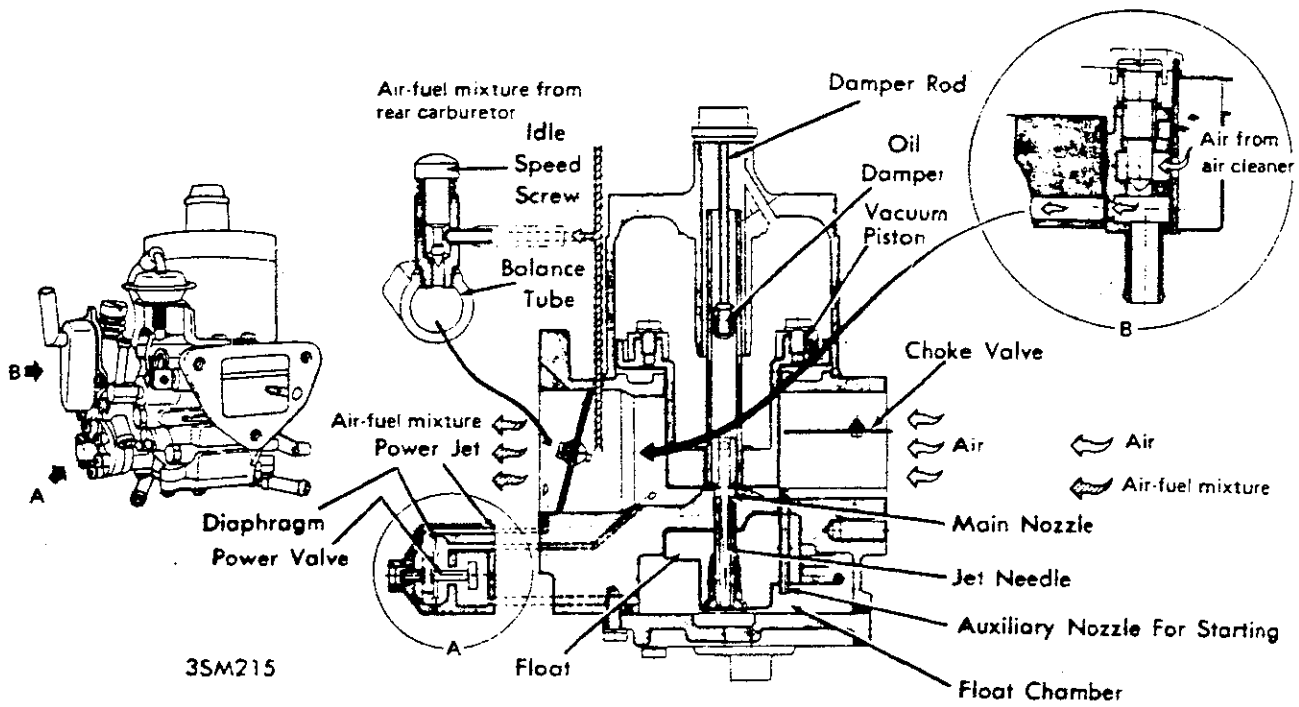
The absence of the BCDD with the carburetor exchange did not seem to affect emissions even though the CVS-75 test contains more than 20 deceleration modes. (The oxides of nitrogen emissions did not increase).

The confirmatory evaporative emissions test conducted by the ARB laboratory utilized the SHED procedure which has been used for conducting evaporative emissions tests commencing with the 1978 model-year. Although

there are no specific evaporative emissions standards for 1974 model-year vehicles using the SHED procedure, the back-to-back test indicated an evaporative emissions decrease with the Redline kit installed.

The Redline Carburetor Exchange Kit is identified as Kit No. K8688. The kit uses the same Weber Model 32/36 DGV 5A carburetors to replace the Hitachi HJG46W and HMB46W carburetors for the specified vehicle models. The OEM throttle actuation arrangements for the different Hitachi carburetors vary in the various vehicle models. The Redline kit supplies hardware including control rods, left and right rod ends and a throttle control bell crank to allow the throttle linkage for all vehicle models to function with the Weber carburetors in a manner similar to the OEM Hitachi carburetors.

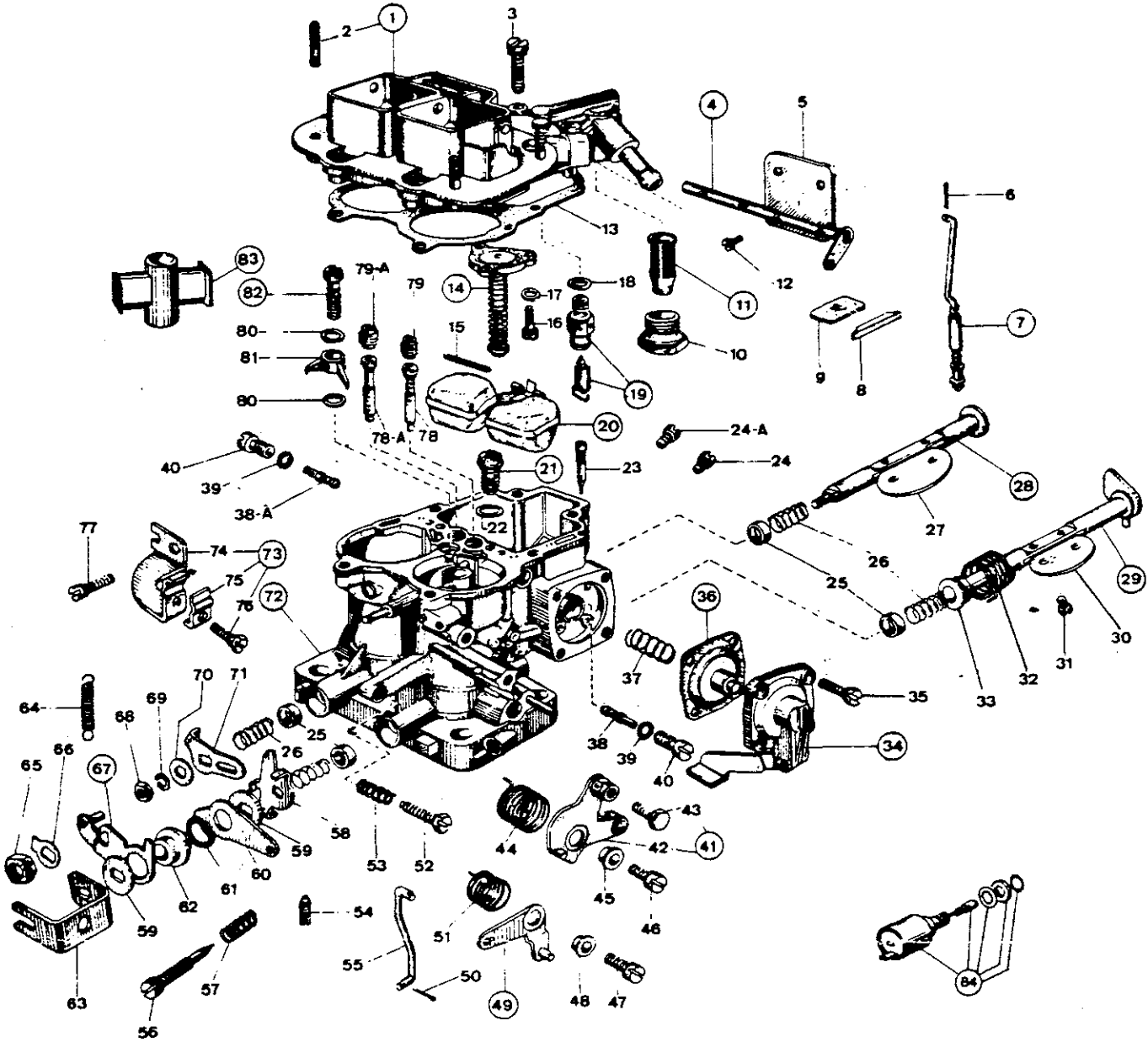
APPENDIX A



HITACHI S.U. TYPE CARBURETOR
(SECTIONAL VIEW)



TYPICAL VIEW 32/36 DGV



REDLINE INC.

The Weber Importers

INSTALLATION INSTRUCTIONS



READ & UNDERSTAND ALL STEPS OF THESE INSTRUCTIONS BEFORE BEGINNING THIS INSTALLATION. After unpacking, examine the carburetor and other components for shipping damage. If any damage is found, notify shipper/supplier immediately.

DATSUN 240, 260Z (1970-1974)

For Kit Nos. K8688, 52-50510
Using (2) Weber 32/36 DGV-5A

TOOLS AND EQUIPMENT NEEDED:

Combination, box or open end wrenches
(metric and standard)
Socket set with 12 mm socket
Screwdriver (regular and Phillips)
Pliers
Gasket Scraper
Rags
Cleaning Solvent
Knife

PARTS SUPPLIED WITH INSTALLATION KIT

1 - Hardware Kit
2 - Weber 32/36 DGV-5A Carburetors
2 - Carburetor Adapters
2 - Air Filter Assemblies

NOTE: Obtain a new fuel filter and install it when installing this kit.

TUNE-UP SPECIFICATIONS

All tune-up specifications for the Weber Carburetor remain the same as those specified by the Factory EXCEPT FOR IDLE MIXTURE SETTING. Refer to the Information Tag supplied in this kit labeled "Engine Tune-Up Specifications" for idle mixture setting. 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.

1. Remove the vehicle's gas cap.
2. Disconnect the battery.
3. Disconnect and remove the factory air filter assembly.

4. **1973-74 Vehicles Only:** Remove the radiator cap and drain the engine's coolant system. Remove the coolant hoses that run to the base of the stock carburetor. (Fig. A). **CAUTION: Be sure engine is cold when performing this step to avoid possible injuries from hot water.**

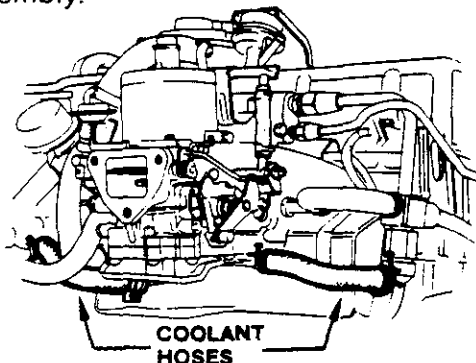
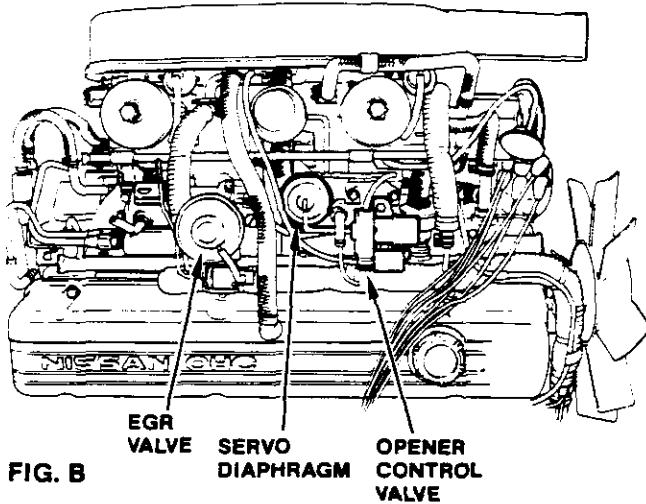


FIG. A

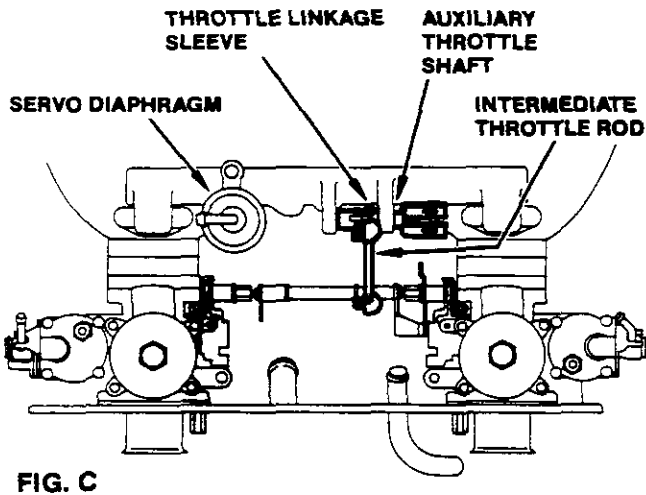
This is sold under the provisions of California Air Resources Board Executive Order No. D-133-3 (C.A.R.B. E.O. No. D-133-3 Products with C.A.R.B. E.O. numbers are exempt from the prohibitions of Section 27156 of the California Vehicle Code. Performance kits so noted are legal for use on public highways in California.

WEBER DISTRIBUTION

5. Disconnect and remove the stock fuel hoses. Plug the fuel lines.
6. Disconnect the servo-diaphragm from the throttle linkage and remove it from the intake manifold. Retain the bolts for use later. (Fig. B)
7. Disconnect and remove the Opener Control Valve assembly. (Fig. B)

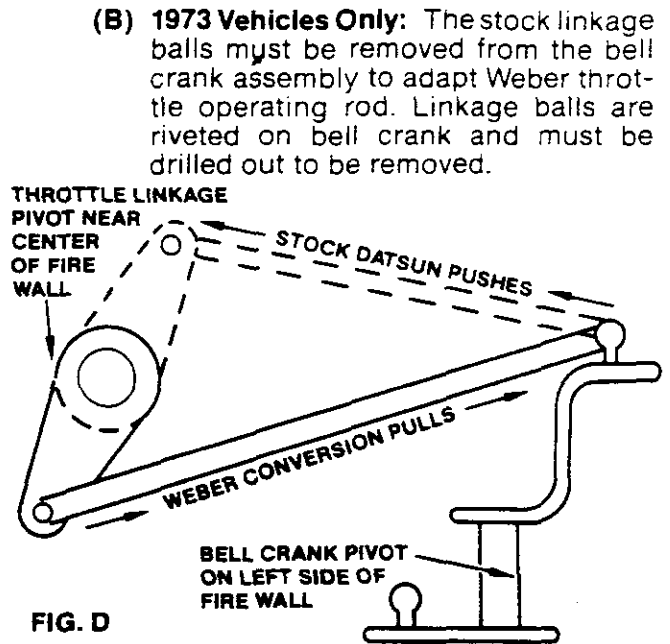


8. Disconnect the choke cables from the stock carburetors.
9. Disconnect the intermediate throttle rod from the auxiliary throttle shaft assembly. Remove the screw from the throttle linkage sleeve and slide out this assembly. (Fig. C)

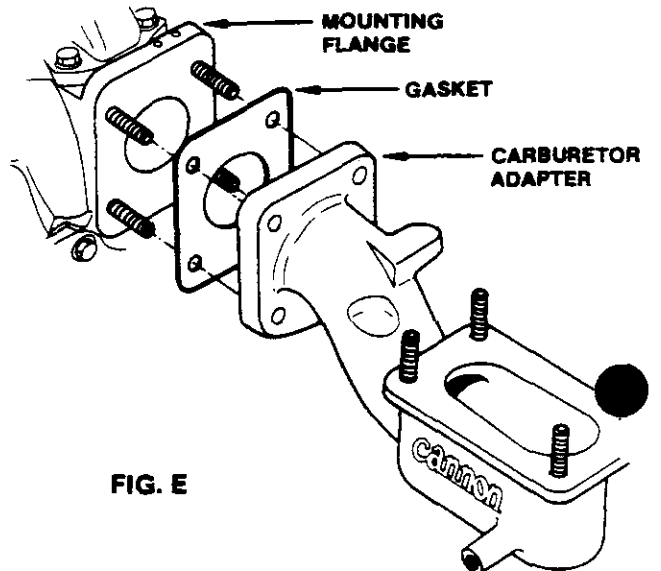


10. Remove the four (4) nuts securing each carburetor to the intake manifold and retain for use later. Remove the carburetors and linkage parts as one unit.
11. Insert a clean rag into the manifold ports to prevent debris from entering the engine. Clean the mounting surface thoroughly with a gasket scraper.

12. Rotate the throttle linkage at the firewall 180°. (Fig. D)
13. (A) Install the throttle operating rod, supplied in the kit, through the existing holes and lock it into the stock linkage from the firewall. (Fig. D)



- (B) 1973 Vehicles Only: The stock linkage balls must be removed from the bell crank assembly to adapt Weber throttle operating rod. Linkage balls are riveted on bell crank and must be drilled out to be removed.
14. BENCH ASSEMBLY: Install the carburetor mounting studs in the adapters using the thread locking compound supplied. If the proper stud tool is not available, the "double-nut" method can be used. (Take 2 nuts and lock them together 1/3 the way down the stud using a suitable wrench on the top nut, tighten the stud into the manifold.) Do Not Over Tighten Studs.
15. Remove the rags from the stock intake ports and install the carburetor adapters using the gaskets supplied in the kit. Use the original carburetor nuts to secure the carburetor adapters in place. (Fig. E)



16. Install the Weber carburetors on the adapters using the carburetor flange gaskets provided. **(NOTE: Carburetor throttle linkage should be facing the firewall.)** Secure the carburetors in place using the nuts provided. Tighten each nut in small increments using a criss-cross pattern (*left-front, right-rear...*) **Do Not Over Tighten Nuts.**
17. Install the carburetor linkage rods to the throttle operating rod. Do not connect them to the carburetors at this time. Connect the choke cables to the carburetors.
18. Install the support bracket for the throttle operating rod where the Servo-Diaphragm was originally mounted. Use the original bolts from the diaphragm to secure the support bracket. **(Fig. F)**
19. **1973-74 Vehicles:** Reconnect the coolant circulation system using the hose and clamps provided in the kit. **Do Not Refill the Radiator At This Time.**
20. Install the vacuum delay valve in the EGR vacuum hose. **NOTE: The gold side of the delay valve must face towards the EGR Valve.**
21. Remove the plugs from the stock fuel lines and install the new fuel hoses to the carburetors using the clamps from the kit to secure them. A new fuel filter should be installed at this time.

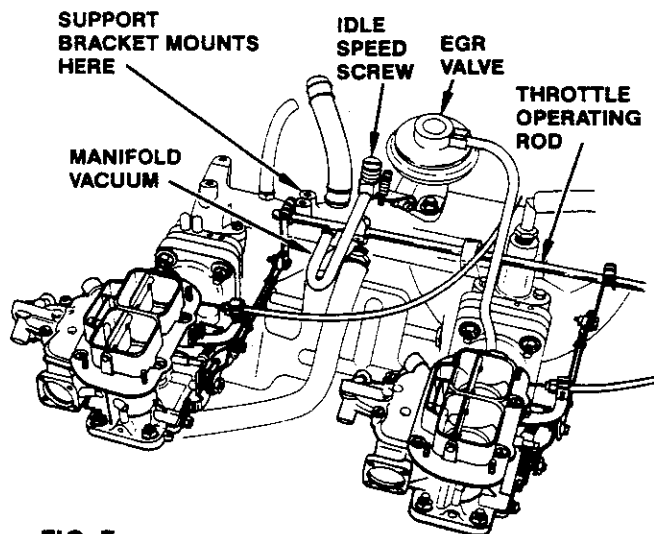


FIG. F

22. Bypass the stock Idle Speed Screw (I.S.S.) on the intake manifold (*located next to EGR valve*) by installing a piece of hose on the vacuum fitting directly below the I.S.S. and connecting it to the I.S.S. base. Use some clamps from the kit to secure the hose in place. **(Fig. F)**
23. Connect the distributor vacuum advance hose to the port on the front carburetor. **NOTE: 1974 model vehicles should tee-in the charcoal canister to this port.**
24. Before installing the air filter bases on the carburetors, remove the knock out plugs and install the elbow fittings. **(Fig. G)**
25. Install the second vacuum delay valve from the kit in the vacuum line for the Anti-Backfire Valve. **NOTE: Black Side of Delay Valve Must Face Towards the Anti-Backfire Valve. (Fig. G).**

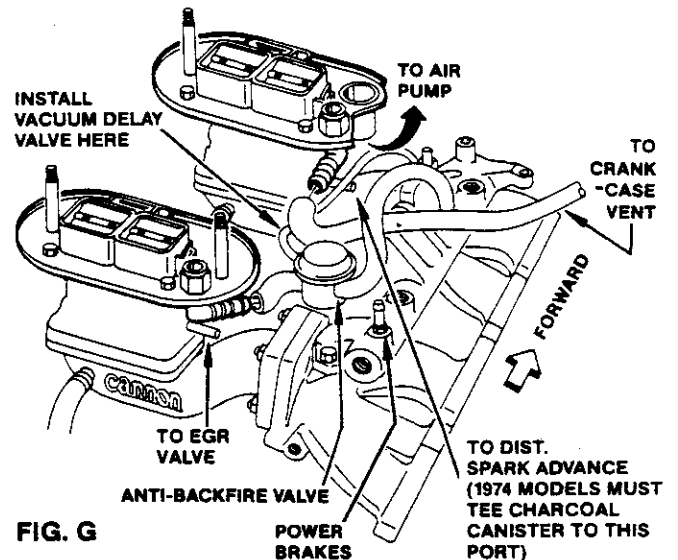
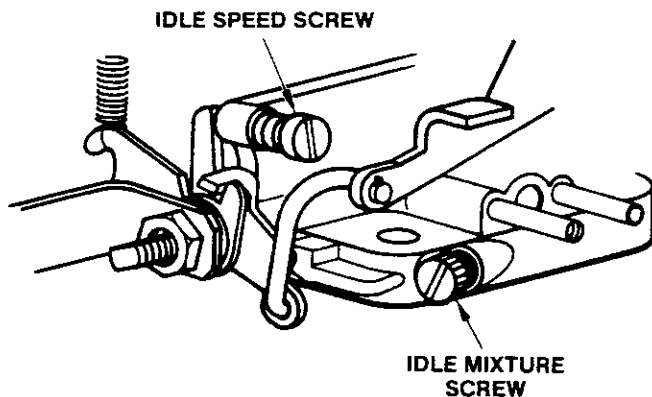


FIG. G

26. Install the Crankcase Vent, Air Pump, and Anti-Backfire Valve hoses to the correct air filter base location as shown in **Fig. G**. Bolt the filter bases to the carburetors using the hardware provided. Install the filters and tops and secure them using the cap nuts provided.
27. Refill the radiator and replace the radiator cap.
28. Reconnect the battery and replace the gas cap.
29. Turn "out" the idle speed screw on each carburetor until the tip of the screw is flush with casting (**Fig. H**). Check for binding or sticking of the throttle plates (**with the idle speed screw turned out, the throttle plates should be completely closed in the bores**). Correct any misalignment or binding **before proceeding.**



30. Turn "in" the idle speed screw until the tip of the screw just touches the carburetor lever. From this "contact" point turn the idle speed screw "in" one (1) full turn. Set each carburetor in this manner. This is your preliminary set point.
31. Install a Redline Syncrometer, or other reliable carburetor syncrometer, according to the manufacturer's directions.
32. Start the engine (**CAUTION: Be sure loose throttle rods are not interfering with other linkage components**).
33. To synchronize the carburetors, adjust each idle speed screw until a balanced reading is obtained on the Syncrometer.
34. After the carburetors have been synchronized, install the throttle linkage rods on the carburetor levers. Ensure the carburetor levers have not moved from their preset position. If the linkage rod length is incorrect, loosen the right and left handed nuts and turn the rod shaft to shorten or lengthen as needed. **When correctly adjusted the syncrometer reading will remain as originally set in step #33.** When tuning is complete lock the rod nuts in place.
35. Adjust the idle speed to the Factory Specified RPM by turning the idle speed screws in the appropriate direction. Turn each screw equally. Recheck the linkage rod position if screws are adjusted.
36. Using an infrared exhaust gas analyzer adjust the **Idle mixture** screws to obtain a reading of $2.0\% \pm 0.3\%$ **with** Air Injection.
37. Apply the "Tune-Up Specifications" decal supplied in the kit next to the original "Tune-Up Specifications" decal.
38. Check for free throttle operation and correct, if necessary, before starting engine. Start engine and check for fuel and vacuum leaks.

39. Check for adequate hood clearance before closing hood.

40. **Manual Choke Starting Procedure:**

Cold Start

Pump the accelerator pedal **2 full times**. Beginning with 2/3 choke lever travel, adjust as needed to achieve proper cold start. Start engine. As soon as practical disengage choke lever.

Hot Start

Depress the accelerator pedal 1/2 way to the floor and hold at this point. Start engine. Choke should remain disengaged.

CARBURETOR SYNCHROMETER

An extraordinary—new calibration instrument that even works on multi-barrel, progressive carburetors.

EASY TO READ

A large, easy to read face, numerically calibrated in kilograms-per-hour delivers fast, precision air flow measurement for all types of carburetors, regardless of position.

SECRET'S IN THE SLEEVE

The secret to the success of Syncrometer is a rubber sleeve that fits directly into the carburetor air horn. You get a positive airtight seal. All incoming air must pass through the Syncrometer. Best of all, special adapters let you service irregular and multiple venturi carburetors.

TWO MODELS

Type SK—primarily designed for small to medium displacement engines that flow a low volume of air through the carburetor in a single or multiple intake systems. Calibration range is: 1 to 30 kg/h. **Part No. STE SK**

SPECIAL ADAPTORS

All special adaptors are designed to fit tightly in the carburetor intakes. This feature allows you to have both hands free for tuning and makes the use of multiple instruments possible.

Model	Adaptor
32/36 DFAV Series	STE 49
32/36 DGV Series	STE 40
34 ICT	STE 54+8
40 DCN	STE 13
40, 42, 44 DCNF	STE 118
40, 44, 48 IDF	STE 118
40, 42, 45, 48 DCOE	STE 118
48 IDA	STE 118
50, 55 DCO/SP W/SK	STE 10
50, 55 DCO/SP W/BK	Not Req'd