

Repair Reporter



CALIFORNIA DEPARTMENT OF CONSUMER AFFAIRS

WINTER 2001

California's Energy Challenge

California is facing a major energy challenge, and we can all help reduce consumption and improve energy efficiency.

While California continues to experience electrical shortages and rolling blackouts, Governor Davis and leaders of the California Legislature are working with utilities, energy generators, and consumer groups to forge a long-term solution to this problem. In the short run, California's consumers and businesses can work to reduce electricity usage and use energy more efficiently.

In all State of California agencies, we've implemented a plan to reduce consumption by a minimum of 8 percent. During critical power shortages, State agencies will conserve 20 percent. The Governor also has asked all Californians to reduce their electricity use by at least 8 percent.

California has the power of nearly 35 million people and the sixth largest economy in the world. By implementing a few simple energy-saving measures, we

can avoid shortages, lower our energy bills, and have a major impact on the availability of electrical power.

We're asking you to flex your power. Each of us has an important role to play right now.

- Reduce usage during peak demand hours (5 a.m. to 9 a.m. and 4 p.m. to 7 p.m.)
- Turn off all non-essential lights and equipment. When you're not using it, turn it off. Unplug equipment not in regular use, such as VCRs and phone chargers. Putting computers in "sleep" mode can save up to 40 percent in energy consumption.
- Turn thermostats to 68° or lower during the day. At home, turn the temperature down to 55° before going to sleep or when gone for the day. For every one degree you lower your thermostat, you'll save up to 5 percent on your heating bill.
- At night, close shades and blinds to reduce heat lost through windows.



- Buy Energy Star® appliances, products, and lights, which are more energy efficient than older models.
- Seal off unused or storage areas from heating.

Kids also can save energy through their schools by turning off lights, computers, and other electrical equipment during recess and after school. Tell your kids: "Save a little, save a watt."

Together, each of these small steps add up. Whether at work or at home, we can make a dramatic difference in the energy crunch. ♦

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ON THE ROAD WITH THE ROADSIDE INSPECTION PROGRAM

By Ted Lenzie, BAR Technical Services—Roadside

During the early 1970s, the California Highway Patrol (CHP) performed roadside emission testing in conjunction with registration and safety equipment checks. They performed idle-speed-only emission tests for hydrocarbons (HC) and carbon monoxide (CO). The data were used by the Air Resources Board (ARB) to set emission limits for vehicles certified by Motor Vehicle Pollution Control (MVPC) stations, and to set pass/fail emission limits later enforced by CHP.

From 1975-78, BAR conducted about 150,000 voluntary loaded-mode tests

in Riverside to gather data for the Inspection/ Maintenance program. These data were used by ARB to set emission standards for the contractor-run, change-of-ownership inspection network operated in the South Coast Air Basin. The contractor performed several million loaded-mode tests.

Soon after the Smog Check program started in 1984, BAR and ARB partnered to perform roadside emission and tampering inspections for the purpose of comparing the results to those reported by Smog Check stations. BAR conducted about 2,000 inspections per year.

On the Road, continued page 7

Air Conditioning Regulations Approved

By Ken Wardlow, *BAR Investigations, South Headquarters*

After many months of tedious work by members of the automotive repair industry, trade organizations, equipment suppliers and Bureau of Automotive Repair (BAR) staff, the long-awaited air conditioning regulations have been adopted.

"We embarked on this regulatory project at the request of members of the automotive air conditioning service and repair industry," noted BAR Program Manager Ken Wardlow. "They were concerned that the "playing field" wasn't level in that segment of the repair industry and asked for BAR's regulatory help. They wanted a definition for an air conditioning service as well as

standardized equipment requirements." Workshops were held and draft regulations were developed. Public hearings were held and comments were received. The original regulatory proposal was ultimately modified and simplified. The Bureau thanks all who participated in this challenging endeavor. These regulations are intended to provide consistency in the advertising, service and diagnosis of automotive air conditioning systems. In addition, the minimum equipment requirements are intended to insure that service and diagnosis can adequately and consistently be performed by automotive industry technicians.

For the consumer, these regulations are intended to provide a minimum, consistent air conditioning service and/or diagnostic process no matter where they seek these services within the state.

The State's Office of Administrative Law approved the regulatory package on December 20, 2000 and the regulations became effective January 19, 2001.

The regulations, as adopted, are listed below:

BUREAU OF AUTOMOTIVE REPAIR ORDER OF ADOPTION

The Bureau of Automotive Repair hereby adopts the following regulations in Division 33 of Title 16 of the California Code of Regulations:

§3351.6. Equipment Requirements for Automotive Air Conditioning Repair Dealers.

All Automotive Repair Dealers engaged in the service or repair of automotive air conditioning systems in vehicles covered by the Act shall be subject to the following minimum requirements. An automotive repair dealer that is performing service or repair to a motor vehicle's air conditioning system, which involves evacuation or full or partial recharge of the air conditioning system, shall have all repair, measuring, testing and refrigerant recovery equipment and current reference manuals necessary to service or repair the system, including but not limited to:

- (a) Refrigerant identification equipment that meets or exceeds current Society of Automotive Engineers (S.A.E.) standard J1771 (Rev. Nov. 1998) which is hereby incorporated by reference.
- (b) Refrigerant leak detection equipment that meets or exceeds current Society of Automotive Engineers (S.A.E.) standard J1627 (Rev. Aug 1995) which is hereby incorporated by reference.

(c) Refrigerant recovery equipment that meets or exceeds current Society of Automotive Engineers (S.A.E.) standards J1732 (Rev. Nov. 1998), J1770 (Issued Oct. 1995), J1990 (Rev. Feb. 1999) and J2209 (Rev. Feb. 1999) which are hereby incorporated by reference.

(d) Low and high pressure gauges for the purpose of measuring pressure in a mobile air conditioning system. As a minimum, the low pressure gauge shall be capable of measuring from zero to thirty inches of vacuum Hg, and zero to 250 pounds of pressure per square inch (psi). As a minimum, the high pressure gauge shall be capable of measuring from zero to 500 pounds of pressure per square inch (psi).

(e) An air conditioning system vacuum pump. When connected to a sealed automotive system, the pump shall be capable of reducing system pressure to a minimum of 29.5 Hg (inches of vacuum) measured on the low pressure gauge at sea level.

(f) A thermometer capable of testing air conditioning system efficiency. As a minimum, the thermometer shall be capable of measuring air temperatures from 20 to 100 degrees Fahrenheit.

Note: Authority cited: Sections 9882 and 9884.19, Business and Professions Code. Reference: Sections 9884.7(a)(7), 9884.8 and 9884.9, Business and Professions Code.

(continued next page)

Bakersfield Auto Repair Shop Disciplined for Selling Unnecessary Parts and Service

By Patti Roberts, DCA Communications and Education Division

The California Department of Consumer Affairs, Bureau of Automotive Repair (BAR), suspended the repair license of a Bakersfield automotive repair dealer. In an undercover enforcement operation, the shop sold unnecessary parts and services to BAR investigators, according to BAR officials. The station's license suspension also was the focus of media coverage in the Bakersfield area.

The repair license for Econo Lube N Tune, located at 6901 White Lane, was suspended for seven days, beginning Jan. 4, 2001. Owner Kent Pillars agreed not to contest BAR charges of fraud, making false and misleading statements, and "overselling" unneeded parts and repairs.

Local residents found out about the suspension when the Bakersfield Californian (the region's daily newspaper), all three local television stations, and the local radio stations ran stories about the disciplinary action.

"In 2000, the BAR conducted 542 undercover enforcement operations to gather evidence of fraud and dishonesty," said BAR Chief Doug Laue. "Most auto repair shops are honest and hard working. But for those who prey on consumers, we take action to suspend their licenses and to keep them under surveillance during their probation."

During the seven-day suspension, Econo Lube N Tune had to post a prominent sign disclosing the reason for the disciplinary action. The penalty also included

placing the repair dealer on three years' probation and requiring the owner to reimburse BAR \$2,500 for the cost of the investigation.

The charges against the auto repair dealer included pressuring customers to make repairs that weren't needed, unnecessarily replacing working parts, and charging for services that were never performed.

The Bureau of Automotive Repair monitors automotive repair and Smog Check facilities for illegal and unscrupulous business practices. Any consumer who has a problem with an auto repair facility can file a complaint with the Department of Consumer Affairs, Bureau of Automotive Repair, by calling 1-800-952-5210. Consumers can also file complaints online at BAR's Web site at www.autorepair.ca.gov.

BAR ORDER OF ADOPTION, *continued*

§3366. Automotive Air Conditioning.

Any automotive repair dealer that advertises or performs, directly or through a sublet contractor, automotive air conditioning work and uses the words service, inspection, diagnosis, top off, performance check or any expression or term of like meaning in any form of advertising or on a written estimate or invoice shall only do so when all of the following work is done:

- (a) Exposed hoses, tubing and connections are examined for damage or leaks;
- (b) The compressor and clutch, when accessible, are examined for damage, missing bolts, missing hardware, broken housing and leaks;
- (c) The compressor is rotated to determine if it is seized or locked up;
- (d) Service ports are examined for missing caps, damaged threads and conformance with labeling;
- (e) The condenser coil is examined for damage, restrictions or leaks;
- (f) The expansion device, if accessible, is examined for physical damage or leaks;
- (g) The accumulator receiver dryer and in-line filter have been checked for damage, missing or loose hardware or leaks;

- (h) The drive belt system has been checked for damaged or missing pulleys or tensioners and for proper belt routing, tension, alignment, excessive wear or cracking;
- (i) The fan clutch has been examined for leakage, bearing wear and proper operation;
- (j) The cooling fan has been checked for bent or missing blades;
- (k) Accessible electrical connections have been examined for loose, burnt, broken or corroded parts;
- (l) The refrigerant in use has been identified and checked for contamination;
- (m) The system has been checked for leakage at a minimum of 50-PSI system pressure;
- (n) The compressor clutch, blower motor and air control doors have been checked for proper operation;
- (o) High and low side system operating pressures have been recorded on the final invoice; and,
- (p) The center air distribution outlet temperature has been recorded on the final invoice.

Note: Authority cited: Sections 9882 and 9884.19, Business and Professions Code. Reference: Sections 9884.7(a)(7), 9884.8 and 9884.9, Business and Professions Code.

OPEN EXAM FOR BAR PROGRAM REPRESENTATIVE I CLASSIFICATION

The Department of Consumer Affairs/Bureau of Automotive Repair (DCA/BAR) is now accepting applications to establish a civil service list for its Program Representative I classification. These positions perform the bulk of BAR's Field Operations and Enforcement functions, including complaint mediation, licensed station inspections, and formal investigations. The application process includes a written exam and an oral interview. Minimum qualifications to take the exam for a person not currently in state service include four years of automotive mechanical or collision repair. The final filing date for applications has been extended to **Friday, March 30, 2001**.

Applications must be postmarked no later than this date. A detailed bulletin and an application are available at State Personnel Board offices, local offices of the Employment Development Department, or any BAR field office. For more details, interested candidates can also visit the State Personnel Board's Web site at www.spb.ca.gov.

BAR COMPLAINTS GO ONLINE

In an effort to improve the consumer's access to the Department of Consumer Affairs and the Bureau of Automotive Repair (DCA/BAR), a system has recently been implemented that accepts consumer complaints over the Internet.

In the past, consumers were required to download a blank form, or have one mailed to them by calling the toll-free line. The consumer would then complete the form and mail it back to BAR. This manual process can take up to two weeks to complete. By allowing consumers to submit complaints over the Internet, 24 hours a day, seven days a week, the two weeks spent mailing complaint forms back and forth have been eliminated.

Within 48 hours of submitting a complaint online, consumers receive a

Automatic Transmission Regulations to be Brought into the New Millennium

By: *Jim Allen, BAR Legislation and Regulations Coordinator*

Today's automotive technology has begun to outpace some of the regulations promulgated by the Department of Consumer Affairs/Bureau of Automotive Repair (DCA/BAR). In particular, Section 3361.1, which deals with automatic transmissions, needs to be amended since these systems have become more sophisticated with the introduction of front wheel drive (trans axles) and advanced computer and electronic controls. BAR is proposing regulations that would clarify Section 3361.1 and bring it up to date with current technologies.

Section 3361.1 sets standards for the repair/replacement of automatic transmissions. The current regulation requires automatic transmission repair facilities to disclose the cost of a rebuilt exchange transmission, excluding hard parts, as provided in subsection (d)(2). Section 3361.1(d)(6), the "Important Notice," was originally designed as a protection for consumers to enable them to weigh the costs of having their transmission repaired against having it replaced. Although the "Important Notice" was

supposed to be used as a consumer protection device, it has not proven itself to be as effective as Section 3353. Instead, it has created a way for unscrupulous transmission repair facilities to charge for additional hard parts that the customer may not actually receive.

Furthermore, the additional estimate and disclosure requirements in Section 3361.1(d) are unnecessary and burdensome and, for the most part, duplicates the requirements of Section 3353. When Section 3361.1 was first adopted, there was a need to address the estimate and disclosure requirements. Over time, Section 3353 has been amended and clarified and now addresses the concerns that subsection (d) of Section 3361.1 was originally intended to address.

The Bureau is proposing regulation amendments that would eliminate the unnecessary duplication and burdensome "Important Notice" requirements. These proposed amendments would also apply the provisions of Section 3353 to automatic transmission work, including those provisions relating to revised estimates and additional authorization. The goals of these proposed regulations are to eliminate confusion and require automatic transmission repair facilities to disclose complete information regarding the total price to rebuild or replace an automatic transmission. Customers would no longer face the possibility of being surprised by hidden charges.

The proposed changes are currently undergoing internal review at the Bureau and the Department of Consumer Affairs. Further information and details should be available within the next 60 to 90 days. Make sure you are on the Bureau's Interested Parties mailing list by filling out and returning the form on page 5 so that you can receive notices about any proposed changes in this area. You can also check the Bureau Web site, www.autorepair.ca.gov, for information on any regulatory changes of interest to you and your business.

confirming e-mail message as to where their complaint will be handled, and who will handle it. The current conventional method sends this confirming message by mail. As a result of the online/e-mail method, another two days are saved.

This online complaint process is the first in a series of efforts to automate the services provided by the DCA/BAR. Staff are also working on methods of accepting license applications online. These efforts are part of a statewide program to provide easier access to state government services.

You can reach the online form at BAR's Web page, www.autorepair.ca.gov, by clicking on "How to File a Complaint Against a Repair Shop or Smog Check Station."

Interested Parties Mailing List Update

It's time once again to update our mailing list of interested parties. This list is used primarily to mail regulation workshop invitations and regulation hearing notices (not for mailing the *Repair Reporter* or *Smog Check Advisory*) and must be updated annually.

Recent changes in the Administrative Procedures Act now permit you to limit the notices you receive by specifying the particular subject matters you are interested in. We have provided several areas of interest below from which you may select. You may select as many categories as you wish or simply select the "General Interest" category to receive all notices.

If you wish to be added to the mailing list, please complete the bottom portion of this page, detach it, and return it to:

**Bureau of Automotive Repair
Attn: Regulations Coordinator
10240 Systems Parkway
Sacramento, CA 95827**

If you are already on the Bureau's interested parties mailing list, you do not need to reply. Thank you for your interest and cooperation.

✂ (Detach here)

Please check one or more categories. If no category is selected, "General Interest" will be used. Please complete, detach, and return.

- General Interest (*all notices*) Automotive Repair (*General*) Smog Check Program (*General*)
- Auto Body Repair Lamp/Brake Station Lamp/Brake Technician
- Smog Station Smog Technician Educational Institution/Instructor
- Equipment Manufacturer Consumer Assistance Program
- Other (*Please specify*): _____

Name: _____ Title: _____

Company/Organization: _____

Address: _____

City: _____ State: _____ ZIP Code: _____

Phone: _____ Fax: _____

Disciplinary Actions

Southern California

A-1 Adelanto Auto Repair Center—Adelanto

Yvonne Goytia, Owner
Order: ARD registration and smog check station license revoked. (8/21/00)

Brake Depot, Inc. #1—San Diego

Philip G. Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #2—San Diego

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #3—El Cajon

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #4—Chula Vista

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #5—Oceanside

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #8—San Diego

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #9—Encinitas

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #13—Vista

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #16—Poway

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc. #19—San Diego

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc.—Costa Mesa

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc.—El Cajon

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc.—Escondido

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc.—Lake Forest

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc.—National City

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Brake Depot, Inc.—San Diego

Philip Walby, President
Order: ARD registration permanently invalidated. (7/19/00)

Cerdas Mobile Auto & Accessories—Bakersfield

Michael Amador Cerda, Owner
Order: ARD registration permanently invalidated. (6/12/00)

K-1 Transmission—Wilmington

Chil Son Kim, Owner
Order: ARD registration is revoked. (7/3/00)

O's Auto Repair Center—Gardena

Se Won Oh, Owner
Order: ARD registration and smog check station license are revoked. (6/12/00)

Purrfect Auto Service—Altadena

Theresa C. Brown, President
Order: ARD registration and smog check station license revoked. (6/12/00)

Rubber Duck Automotive Centers—Thousand Oaks

Jerry Parsons, President
Order: ARD registration revoked, stayed and placed on three years' probation on the following terms and conditions: ARD suspended for 20 days, obey laws and regulations, report to BAR on prescribed schedule, report financial interest in any other automotive repair facility, reimburse BAR \$7,500 for cost of investigation and prosecution.

USA Auto Body & Paint—Los Angeles

Nazaret Muradyan, Former owner
Order: ARD registration revoked. (6/24/00)

Vozz Auto Body & Paint—Los Angeles

Xavier Nuques, President
Order: ARD registration permanently revoked. (3/10/99)

Northern California

Classic Autoworks and Towing—Redwood City

Juan Alberto Contreras, Owner
Order: ARD registration is permanently invalidated and ordered to pay \$32,438.03 to BAR. (6/12/00)

Purrfect Auto Service #75—Fremont

Santosh Wadhwa, President
Order: ARD registration revoked, stayed, placed on probation for three years on the following terms and conditions: ARD registration suspended for three days, post sign indicating dates of and reason for suspension, obey laws and regulations, must report to BAR on prescribed schedule, and report any financial interest in any other automotive repair business. (6/12/00)

SK Auto Body & Repair Shop—Fresno

Seng Vang, Owner
Order: ARD registration revoked. (4/4/99) ♦



On the Road *(continued from page 1)*

During the mid-1990s, the State of California and United States Environmental Protection Agency (USEPA) agreed on a new enhanced Inspection/Maintenance program (Smog Check II). In addition to participating in large studies in Sacramento and El Monte, BAR initiated roadside loaded-mode testing to evaluate the effectiveness of the new program.

BAR was the first to implement roadside Acceleration Simulation Mode (ASM) dynamometer testing. Implementing such a program provided many challenges for BAR's Engineering Branch. The testing methodology had to be established, and special customized portable ASM testing equipment had to be designed and fabricated. Finally, a staff of experienced Smog Check technicians had to be hired to ensure the accuracy of the roadside data collected.

BAR's analytical team developed the roadside testing methodology. Inspection sites were selected, setting specific criteria such as one site per Zip Code, and a vehicle population of no less than 1,000 per Zip Code. A random number table was used to select 130 Zip Codes throughout the state.

It is imperative that a completely random sample of vehicles is selected. This is accomplished by using an optimal random sampling routine programmed into a laptop computer. When a vehicle is directed into the roadside lane for possible testing, it is the random program that decides whether the vehicle qualifies. According to Roadside Program supervisor, Ed VanMil, stratified random sampling is an accepted, proven scientific method, which eliminates any possibility of targeting a specific vehicle group.

Building the roadside equipment provided a whole new set of challenges. The dynamometers and other test equipment had to be portable, relatively lightweight and easy to set up daily, while remaining within accuracy specifications. The equipment was designed and fabricated by a special group of BAR employed Air Quality Engineers (AQE), Air Quality Representatives (AQR), and engineering students. The first generation of roadside inspection equipment was built in 1996, and was a bit more cumbersome than today's equipment. This equipment was

adequate to collect program evaluation data and served as a prototype for today's roadside equipment. The first generation was much heavier, consisted of 15 major components, and required a team of four to operate efficiently. The Test Analyzer System (TAS) was a combination of the BAR-90 and the emerging BAR-97 technology. Today's roadside units are much lighter, having only seven major components, and require only three operators. The current equipment is based on production BAR-97 hardware.

Air Quality Representatives (AQR) perform the roadside testing. These operators have experience in the automotive repair industry and possess a current Advanced Smog Check Technician license. The AQRs continuously receive training as automotive and computer technology changes. In addition, the AQRs have more daily face-to-face contact with consumers than any other BAR employees. "This is why we insist AQRs have the special skills and training to deal professionally with motorists," says VanMil. "The AQR is one of the most important components of roadside testing."

The Roadside program maintains offices in Sacramento, Paramount, Ontario and Pacoima.

A roadside test lane looks very similar to



Roadside Inspection staff conduct RSD correlation testing.

a road construction area. There are cones and signs directing traffic into the left lane, with a CHP officer directing vehicles into the test lane. An AQR acts as a greeter, informing the consumer why and how they were selected. After asking to test the vehicle, the greeter states the program's purpose and that the test will take no longer than ten minutes. After the driver agrees to an inspection, the other two AQRs inspect the underhood components as well as perform a quick safety inspection. After

the vehicle is inspected, the data are entered into the Emissions Inspection System (EIS). The gas cap is tested and the vehicle is secured to the dynamometer. The ASM test is run much like any other Smog Check. After the loaded-mode test is completed, the vehicle is driven off the dynamometer and a Vehicle Inspection Report (VIR) is printed. The



Howard Pittman and Richard Erceg prepare a medium-duty vehicle (MDV) for testing.

AQR informs the consumer of the results and the consumer is on their way.

Through its Roadside program, BAR conducted a baseline study of Smog Check II by collecting about 10,000 ASM tests before ASM testing officially began at licensed stations in 1996. Almost the same number of roadside tests were performed after ASM testing commenced. This gave a comparison of emissions from the in-use fleet before and after ASM testing was implemented.

Besides their evaluation role, the roadside teams are constantly testing the durability of the emissions testing components. In addition, the teams participate in other special projects, such as feasibility studies designed to determine possible refinements or expansion to the test process. This expansion may include testing of evaporative systems, ASM testing of medium-duty vehicles, Remote Sensing Devices (RSD) and the second generation of On-Board Diagnostic (OBD II) systems.

Roadside testing is one of the most efficient and effective ways of determining the Smog Check Program's progress toward cleaner air.



State of California
Gray Davis, Governor

Department of Consumer Affairs
Kathleen Hamilton, Director

Bureau of Automotive Repair
Douglas E. Laue, Chief
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Sacramento, CA 95827

BAR FIELD OFFICE PHONE NUMBERS

Bakersfield (661) 833-6304
Canoga Park (818) 596-4400
Culver City (310) 410-0024
Fresno (559) 445-5015
Fullerton (714) 680-7851
Oceanside (760) 439-0942
Richmond (510) 243-9410
Riverside (909) 782-4250
Sacramento (916) 255-4200
San Jose (408) 277-1860
South El Monte (626) 575-6934

DCA Cashiering (916) 322-7002
DCA Licensing (916) 255-3145

Consumer Assistance and
Referee Centers... (800) 622-7733

DCA HOTLINE (800) 952-5210

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If you have news stories or other items to submit to the *Repair Reporter*, which is published quarterly, or to the monthly *Smog Check Advisory*, please send them to:

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Department of Consumer Affairs
400 R Street, Suite 3060
Sacramento, CA 95814

Submissions must be received by the 1st of each month and must include a current telephone number.

Everything you wanted to know about Dynamometers but were afraid to ask ...

... is available in the November edition of *Motor* magazine in an article titled, "Dynos: More Than a Smog Check Machine." Within the last few years, dynamometers have become commonplace in Smog Check stations. In addition, they can be a valuable asset for stations who use them to simulate road conditions without having a technician take the vehicle out of the shop. The *Motor* article focuses on the three major dyno systems: 1) power absorption, 2) vehicle support and rollers, and 3) control and measurement. Great tips are offered on how shop owners can use dynos to take advantage of profitable service opportunities. However, BAR does not recommend using "non-high performance" BAR-97 certified dynamometers for high performance vehicle testing. BAR believes that most dynamometer testing to repair emissions-related problems is well within the capability of "non-high performance" BAR-97 certified dynamometers. ❖